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United States Environmental Protection Agency
Region 9 Laboratory

1337 S. 46th Street Building 201
Richmond, CA 94804

Date: **5/20/2020**

Subject: **Analytical Testing Results - Project R20S18**
WorkOrder **2005002**

From: **Peter Husby, Director**
EPA Region 9 Laboratory
EMD-3-1

To: **Alana Lee**
California Site Cleanup Section 3
SFD-7-3

Attached are the results from the analysis of samples from the **MEW OU1 FY2020 Vapor Intrusion Investigation** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Audrey Johnson at the Region 9 Quality Assurance Office.

If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

Analyses included in this report:

Volatile Organic Compounds by GC/MS

United States Environmental Protection Agency
Region 9 Laboratory
1337 S. 46th Street, Building 201, Richmond, CA 94804
Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager: Alana Lee	**California Site Cleanup Section 3**	**WorkOrder: 2005002**
Project Number: R20S18	**75 Hawthorne Street**	**Reported:** 05/20/20 15:18
Project: MEW OU1 FY2020 Vapor Intrusion Investigation	**San Francisco CA, 94105**	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
277 Fairchild-SGR13-5-050620	2005002-01	Air	05/06/20 09:37	05/07/20 08:00
277 Fairchild-SGR11-5-050620	2005002-02	Air	05/06/20 10:05	05/07/20 08:00
277 Fairchild-SGR6-5-050620	2005002-03	Air	05/06/20 10:18	05/07/20 08:00
277 Fairchild-SGR2-5-050620	2005002-04	Air	05/06/20 10:32	05/07/20 08:00
277 Fairchild-SGR7-5-050620	2005002-05	Air	05/06/20 10:48	05/07/20 08:00
277 Fairchild-SGR8-5-050620	2005002-06	Air	05/06/20 11:06	05/07/20 08:00
277 Fairchild-F23-RR1-PP	2005002-07	Air	05/06/20 12:55	05/07/20 08:00
272 Ariana-MH3-SS-050620	2005002-08	Air	05/06/20 13:46	05/07/20 08:00
277 Fairchild-F23-SC-PP	2005002-09	Air	05/06/20 13:58	05/07/20 08:00
231 Ariana-MH5-SS-050620	2005002-10	Air	05/06/20 14:56	05/07/20 08:00
241 Ariana-MH4-SS-050620	2005002-11	Air	05/06/20 15:08	05/07/20 08:00
261 Fairchild-MH1-SS-050620	2005002-12	Air	05/06/20 15:17	05/07/20 08:00

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Project Manager: Alana Lee
Project Number: R20S18
Project: MEW OU1 FY2020 Vapor Intrusion Investigation

California Site Cleanup Section 3
75 Hawthorne Street
San Francisco CA, 94105

WorkOrder: 2005002
Reported: 05/20/20 15:18

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 2005002-01									**Air - Sampled: 05/06/20 09:37**
Sample ID: 277 Fairchild-SGR13-5-050620									**Volatile Organic Compounds by TO-15**
Vinyl chloride		ND	U	5	ug/m³ Air	B20E002	05/07/20	05/07/20	TO-15
1,1-Dichloroethene		ND	U	8	"	"	"	"	TO-15
trans-1,2-Dichloroethene		ND	U	8	"	"	"	"	TO-15
1,1-Dichloroethane		ND	U	8	"	"	"	"	TO-15
cis-1,2-Dichloroethene		90		8	"	"	"	"	TO-15
Chloroform		20		9	"	"	"	"	TO-15
Benzene		ND	U	6	"	"	"	"	TO-15
Trichloroethene	RE1	4,600		800	"	B20E003	05/08/20	05/08/20	TO-15
Tetrachloroethene		ND	U	10	"	B20E002	05/07/20	05/07/20	TO-15
Lab ID: 2005002-02									**Air - Sampled: 05/06/20 10:05**
Sample ID: 277 Fairchild-SGR11-5-050620									**Volatile Organic Compounds by TO-15**
Vinyl chloride		ND	U	6	ug/m³ Air	B20E002	05/07/20	05/07/20	TO-15
1,1-Dichloroethene		ND	U	9	"	"	"	"	TO-15
trans-1,2-Dichloroethene		ND	U	9	"	"	"	"	TO-15
1,1-Dichloroethane		ND	U	9	"	"	"	"	TO-15
cis-1,2-Dichloroethene		ND	U	9	"	"	"	"	TO-15
Chloroform		ND	U	10	"	"	"	"	TO-15
Benzene		ND	U	7	"	"	"	"	TO-15
Trichloroethene		200		10	"	"	"	"	TO-15
Tetrachloroethene		ND	U	20	"	"	"	"	TO-15
Lab ID: 2005002-03									**Air - Sampled: 05/06/20 10:18**
Sample ID: 277 Fairchild-SGR6-5-050620									**Volatile Organic Compounds by TO-15**
Vinyl chloride		ND	U	5	ug/m³ Air	B20E002	05/07/20	05/07/20	TO-15
1,1-Dichloroethene		ND	U	8	"	"	"	"	TO-15
trans-1,2-Dichloroethene		ND	U	8	"	"	"	"	TO-15
1,1-Dichloroethane		ND	U	8	"	"	"	"	TO-15
cis-1,2-Dichloroethene		7	C1, J	8	"	"	"	"	TO-15
Chloroform		ND	U	10	"	"	"	"	TO-15
Benzene		ND	U	6	"	"	"	"	TO-15
Trichloroethene	RE1	800		70	"	B20E003	05/08/20	05/08/20	TO-15
Tetrachloroethene		ND	U	10	"	B20E002	05/07/20	05/07/20	TO-15
Lab ID: 2005002-04									**Air - Sampled: 05/06/20 10:32**
Sample ID: 277 Fairchild-SGR2-5-050620									**Volatile Organic Compounds by TO-15**
Vinyl chloride		ND	U	5	ug/m³ Air	B20E002	05/07/20	05/07/20	TO-15
1,1-Dichloroethene		ND	U	8	"	"	"	"	TO-15
trans-1,2-Dichloroethene		ND	U	8	"	"	"	"	TO-15
1,1-Dichloroethane		ND	U	8	"	"	"	"	TO-15

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Project Manager: Alana Lee
Project Number: R20S18
Project: MEW OU1 FY2020 Vapor Intrusion Investigation

California Site Cleanup Section 3
75 Hawthorne Street
San Francisco CA, 94105

WorkOrder: 2005002
Reported: 05/20/20 15:18

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 2005002-04									**Air - Sampled: 05/06/20 10:32**
Sample ID: 277 Fairchild-SGR2-5-050620									**Volatile Organic Compounds by TO-15**
cis-1,2-Dichloroethene		ND	U	8	ug/m³ Air	B20E002	05/07/20	05/07/20	TO-15
Chloroform		ND	U	9	"	"	"	"	TO-15
Benzene		ND	U	6	"	"	"	"	TO-15
Trichloroethene		200		10	"	"	"	"	TO-15
Tetrachloroethene		ND	U	10	"	"	"	"	TO-15
Lab ID: 2005002-05									**Air - Sampled: 05/06/20 10:48**
Sample ID: 277 Fairchild-SGR7-5-050620									**Volatile Organic Compounds by TO-15**
Vinyl chloride		ND	U	5	ug/m³ Air	B20E002	05/07/20	05/07/20	TO-15
1,1-Dichloroethene		ND	U	8	"	"	"	"	TO-15
trans-1,2-Dichloroethene		ND	U	8	"	"	"	"	TO-15
1,1-Dichloroethane		ND	U	8	"	"	"	"	TO-15
cis-1,2-Dichloroethene		10		8	"	"	"	"	TO-15
Chloroform		ND	U	9	"	"	"	"	TO-15
Benzene		ND	U	6	"	"	"	"	TO-15
Trichloroethene		70		10	"	"	"	"	TO-15
Tetrachloroethene		ND	U	10	"	"	"	"	TO-15
Lab ID: 2005002-06									**Air - Sampled: 05/06/20 11:06**
Sample ID: 277 Fairchild-SGR8-5-050620									**Volatile Organic Compounds by TO-15**
Vinyl chloride		ND	U	5	ug/m³ Air	B20E002	05/07/20	05/07/20	TO-15
1,1-Dichloroethene		ND	U	8	"	"	"	"	TO-15
trans-1,2-Dichloroethene		ND	U	8	"	"	"	"	TO-15
1,1-Dichloroethane		ND	U	8	"	"	"	"	TO-15
cis-1,2-Dichloroethene		ND	U	8	"	"	"	"	TO-15
Chloroform		10		10	"	"	"	"	TO-15
Benzene		ND	U	6	"	"	"	"	TO-15
Trichloroethene		100		10	"	"	"	"	TO-15
Tetrachloroethene		ND	U	10	"	"	"	"	TO-15
Lab ID: 2005002-07									**Air - Sampled: 05/06/20 12:55**
Sample ID: 277 Fairchild-F23-RR1-PP									**Volatile Organic Compounds by TO-15**
Vinyl chloride		4	C1, J	5	ug/m³ Air	B20E002	05/07/20	05/07/20	TO-15
1,1-Dichloroethene		5	C1, J	8	"	"	"	"	TO-15
trans-1,2-Dichloroethene		4	C1, J	8	"	"	"	"	TO-15
1,1-Dichloroethane		4	C1, J	8	"	"	"	"	TO-15
cis-1,2-Dichloroethene		80		8	"	"	"	"	TO-15
Chloroform		40		9	"	"	"	"	TO-15
Benzene		ND	U	6	"	"	"	"	TO-15
Trichloroethene	RE1	300		70	"	B20E003	05/08/20	05/08/20	TO-15
Tetrachloroethene		9	C1, J	10	"	B20E002	05/07/20	05/07/20	TO-15

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Project: MEW OU1 FY2020 Vapor Intrusion Investigation

California Site Cleanup Section 3
75 Hawthorne Street
San Francisco CA, 94105

WorkOrder: 2005002
Reported: 05/20/20 15:18

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 2005002-08									**Air - Sampled: 05/06/20 13:46**
Sample ID: 272 Ariana-MH3-SS-050620									**Volatile Organic Compounds by TO-15**
Vinyl chloride		7		6	ug/m³ Air	B20E002	05/07/20	05/07/20	TO-15
1,1-Dichloroethene		10		9	"	"	"	"	TO-15
trans-1,2-Dichloroethene		7	C1, J	9	"	"	"	"	TO-15
1,1-Dichloroethane		7	C1, J	9	"	"	"	"	TO-15
cis-1,2-Dichloroethene		100		9	"	"	"	"	TO-15
Chloroform		100		10	"	"	"	"	TO-15
Benzene		ND	U	7	"	"	"	"	TO-15
Trichloroethene	RE1	300		80	"	B20E003	05/08/20	05/08/20	TO-15
Tetrachloroethene		8	C1, J	20	"	B20E002	05/07/20	05/07/20	TO-15
Lab ID: 2005002-09									**Air - Sampled: 05/06/20 13:58**
Sample ID: 277 Fairchild-F23-SC-PP									**Volatile Organic Compounds by TO-15**
Vinyl chloride		ND	U	5	ug/m³ Air	B20E002	05/07/20	05/08/20	TO-15
1,1-Dichloroethene		ND	U	8	"	"	"	"	TO-15
trans-1,2-Dichloroethene		ND	U	8	"	"	"	"	TO-15
1,1-Dichloroethane		ND	U	8	"	"	"	"	TO-15
cis-1,2-Dichloroethene		10		8	"	"	"	"	TO-15
Chloroform		30		10	"	"	"	"	TO-15
Benzene		ND	U	6	"	"	"	"	TO-15
Trichloroethene		60		10	"	"	"	"	TO-15
Tetrachloroethene		ND	U	10	"	"	"	"	TO-15
Lab ID: 2005002-10									**Air - Sampled: 05/06/20 14:56**
Sample ID: 231 Ariana-MH5-SS-050620									**Volatile Organic Compounds by TO-15**
Vinyl chloride		ND	U	5	ug/m³ Air	B20E002	05/07/20	05/08/20	TO-15
1,1-Dichloroethene		ND	U	8	"	"	"	"	TO-15
trans-1,2-Dichloroethene		ND	U	8	"	"	"	"	TO-15
1,1-Dichloroethane		ND	U	8	"	"	"	"	TO-15
cis-1,2-Dichloroethene		ND	U	8	"	"	"	"	TO-15
Chloroform		10		10	"	"	"	"	TO-15
Benzene		ND	U	7	"	"	"	"	TO-15
Trichloroethene		8	C1, J	10	"	"	"	"	TO-15
Tetrachloroethene		ND	U	10	"	"	"	"	TO-15
Lab ID: 2005002-11									**Air - Sampled: 05/06/20 15:08**
Sample ID: 241 Ariana-MH4-SS-050620									**Volatile Organic Compounds by TO-15**
Vinyl chloride		ND	U	5	ug/m³ Air	B20E002	05/07/20	05/08/20	TO-15
1,1-Dichloroethene		ND	U	8	"	"	"	"	TO-15
trans-1,2-Dichloroethene		ND	U	8	"	"	"	"	TO-15
1,1-Dichloroethane		ND	U	8	"	"	"	"	TO-15
cis-1,2-Dichloroethene		ND	U	8	"	"	"	"	TO-15

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Project: MEW OU1 FY2020 Vapor Intrusion Investigation

California Site Cleanup Section 3
75 Hawthorne Street
San Francisco CA, 94105

WorkOrder: 2005002
Reported: 05/20/20 15:18

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 2005002-11									**Air - Sampled: 05/06/20 15:08**
Sample ID: 241 Ariana-MH4-SS-050620									**Volatile Organic Compounds by TO-15**
Chloroform		40		10	ug/m³ Air	B20E002	05/07/20	05/08/20	TO-15
Benzene		ND	U	6	"	"	"	"	TO-15
Trichloroethene		6	C1, J	10	"	"	"	"	TO-15
Tetrachloroethene		ND	U	10	"	"	"	"	TO-15
Lab ID: 2005002-12									**Air - Sampled: 05/06/20 15:17**
Sample ID: 261 Fairchild-MH1-SS-050620									**Volatile Organic Compounds by TO-15**
Vinyl chloride		9		5	ug/m³ Air	B20E002	05/07/20	05/08/20	TO-15
1,1-Dichloroethene		10		8	"	"	"	"	TO-15
trans-1,2-Dichloroethene		8		8	"	"	"	"	TO-15
1,1-Dichloroethane		8		8	"	"	"	"	TO-15
cis-1,2-Dichloroethene	RE1	100		70	"	B20E003	05/08/20	05/08/20	TO-15
Chloroform		90		10	"	B20E002	05/07/20	05/08/20	TO-15
Benzene		ND	U	6	"	"	"	"	TO-15
Trichloroethene	RE1	300		100	"	B20E003	05/08/20	05/08/20	TO-15
Tetrachloroethene		7	C1, J	10	"	B20E002	05/07/20	05/08/20	TO-15

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Project Number: R20S18	**75 Hawthorne Street**	**Reported:** 05/20/20 15:18
Project: MEW OU1 FY2020 Vapor Intrusion Investigation	**San Francisco CA, 94105**	

Volatile Organic Compounds by TO-15 - Quality Control

EPA Region 9 Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B20E002 - Air_Can_Pressure										
Blank (B20E002-BLK1)				Prepared & Analyzed: 05/07/20						
Vinyl chloride	ND	3	ug/m³ Air							U
1,1-Dichloroethene	ND	4	ug/m³ Air							U
trans-1,2-Dichloroethene	ND	4	ug/m³ Air							U
1,1-Dichloroethane	ND	4	ug/m³ Air							U
cis-1,2-Dichloroethene	ND	4	ug/m³ Air							U
Chloroform	ND	5	ug/m³ Air							U
Benzene	ND	3	ug/m³ Air							U
Trichloroethene	ND	5	ug/m³ Air							U
Tetrachloroethene	ND	7	ug/m³ Air							U
LCS (B20E002-BS1)				Prepared & Analyzed: 05/07/20						
1,2-Dichlorotetrafluoroethane	65	7	ug/m³ Air	67.8		96	74-116			
Chloromethane	21	2	ug/m³ Air	22.3		92	73-113			
Vinyl chloride	26	3	ug/m³ Air	26.6		99	68-119			
Bromomethane	38	4	ug/m³ Air	39.6		96	71-122			
Chloroethane	25	3	ug/m³ Air	26.9		94	73-116			
Trichlorofluoromethane	52	6	ug/m³ Air	52.8		98	74-120			
1,1,2-Trichloro-1,2,2-trifluoroethane	76	8	ug/m³ Air	76.6		100	63-126			
1,1-Dichloroethene	39	4	ug/m³ Air	41.2		94	69-119			
Dichloromethane	31	7	ug/m³ Air	34.7		89	76-110			
1,1-Dichloroethane	37	4	ug/m³ Air	38.8		95	76-113			
cis-1,2-Dichloroethene	38	4	ug/m³ Air	40.0		96	74-116			
Chloroform	49	5	ug/m³ Air	50.7		98	77-115			
1,1,1-Trichloroethane	57	5	ug/m³ Air	56.7		100	77-117			
Carbon tetrachloride	63	6	ug/m³ Air	63.5		100	75-121			
Benzene	31	3	ug/m³ Air	32.6		94	81-115			
1,2-Dichloroethane	38	4	ug/m³ Air	40.0		94	74-128			
Trichloroethene	56	5	ug/m³ Air	58.0		97	82-113			
1,2-Dichloropropane	43	5	ug/m³ Air	46.6		93	78-119			
cis-1,3-Dichloropropene	42	5	ug/m³ Air	45.3		93	82-117			
Toluene	36	4	ug/m³ Air	38.4		94	80-120			
trans-1,3-Dichloropropene	39	5	ug/m³ Air	43.5		91	81-122			
1,1,2-Trichloroethane	52	5	ug/m³ Air	55.6		94	81-121			
Tetrachloroethene	67	7	ug/m³ Air	69.1		98	69-122			
1,2-Dibromoethane (EDB)	74	8	ug/m³ Air	79.8		93	81-121			
Chlorobenzene	45	5	ug/m³ Air	47.4		95	80-122			
Ethylbenzene	42	4	ug/m³ Air	44.7		94	80-125			
m&p-Xylene	85	9	ug/m³ Air	88.5		96	80-128			
o-Xylene	42	4	ug/m³ Air	43.4		96	79-130			
Styrene	39	4	ug/m³ Air	41.7		94	76-133			C3, J
1,1,2,2-Tetrachloroethane	65	7	ug/m³ Air	67.9		95	78-132			

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Volatile Organic Compounds by TO-15 - Quality Control

EPA Region 9 Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B20E002 - Air_Can_Pressure										
LCS (B20E002-BS1)				Prepared & Analyzed: 05/07/20						
1,3,5-Trimethylbenzene	50	5	ug/m³ Air	50.1		100	78-133			
1,2,4-Trimethylbenzene	50	5	ug/m³ Air	50.1		100	78-133			
1,3-Dichlorobenzene	58	6	ug/m³ Air	60.1		97	76-133			
1,4-Dichlorobenzene	57	6	ug/m³ Air	60.1		95	75-134			
1,2-Dichlorobenzene	58	6	ug/m³ Air	58.9		98	77-134			
1,2,4-Trichlorobenzene	57	7	ug/m³ Air	66.7		85	70-133			J, Q3
Hexachlorobutadiene	91	10	ug/m³ Air	98.0		92	74-130			
Duplicate (B20E002-DUP1)	**Source: 2005002-12**			Prepared: 05/07/20 Analyzed: 05/08/20						
Vinyl chloride	9	5	ug/m³ Air		9			2	20	
1,1-Dichloroethene	10	8	ug/m³ Air		10			1	20	
trans-1,2-Dichloroethene	9	8	ug/m³ Air		8			0.9	20	
1,1-Dichloroethane	8	8	ug/m³ Air		8			1	20	
Chloroform	90	10	ug/m³ Air		90			0.9	20	
Benzene	ND	6	ug/m³ Air		ND				20	U
Tetrachloroethene	ND	10	ug/m³ Air		7				20	U, C1
Batch B20E003 - Air_Can_Pressure										
Blank (B20E003-BLK1)				Prepared & Analyzed: 05/08/20						
Vinyl chloride	ND	3	ug/m³ Air							U
1,1-Dichloroethene	ND	4	ug/m³ Air							U
trans-1,2-Dichloroethene	ND	4	ug/m³ Air							U
1,1-Dichloroethane	ND	4	ug/m³ Air							U
cis-1,2-Dichloroethene	ND	4	ug/m³ Air							U
Chloroform	ND	5	ug/m³ Air							U
Benzene	ND	3	ug/m³ Air							U
Trichloroethene	ND	5	ug/m³ Air							U
Tetrachloroethene	ND	7	ug/m³ Air							U

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Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager: Alana Lee	**California Site Cleanup Section 3**	**WorkOrder: 2005002**
Project Number: R20S18	**75 Hawthorne Street**	**Reported:** 05/20/20 15:18
Project: MEW OU1 FY2020 Vapor Intrusion Investigation	**San Francisco CA, 94105**	

Volatile Organic Compounds by TO-15 - Quality Control

EPA Region 9 Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B20E003 - Air_Can_Pressure										
LCS (B20E003-BS1)				Prepared & Analyzed: 05/08/20						
1,2-Dichlorotetrafluoroethane	62	7	ug/m³ Air	67.8		92	74-116			
Chloromethane	20	2	ug/m³ Air	22.3		90	73-113			
Vinyl chloride	26	3	ug/m³ Air	26.6		98	68-119			
Bromomethane	36	4	ug/m³ Air	39.6		90	71-122			
Chloroethane	24	3	ug/m³ Air	26.9		90	73-116			
Trichlorofluoromethane	50	6	ug/m³ Air	52.8		95	74-120			
1,1,2-Trichloro-1,2,2-trifluoroethane	73	8	ug/m³ Air	76.6		95	63-126			
1,1-Dichloroethene	37	4	ug/m³ Air	41.2		90	69-119			
Dichloromethane	30	7	ug/m³ Air	34.7		87	76-110			
1,1-Dichloroethane	35	4	ug/m³ Air	38.8		91	76-113			
cis-1,2-Dichloroethene	37	4	ug/m³ Air	40.0		92	74-116			
Chloroform	48	5	ug/m³ Air	50.7		94	77-115			
1,1,1-Trichloroethane	55	5	ug/m³ Air	56.7		97	77-117			
Carbon tetrachloride	62	6	ug/m³ Air	63.5		98	75-121			
Benzene	30	3	ug/m³ Air	32.6		93	81-115			
1,2-Dichloroethane	39	4	ug/m³ Air	40.0		97	74-128			
Trichloroethene	55	5	ug/m³ Air	58.0		95	82-113			
1,2-Dichloropropane	43	5	ug/m³ Air	46.6		93	78-119			
cis-1,3-Dichloropropene	42	5	ug/m³ Air	45.3		93	82-117			
Toluene	36	4	ug/m³ Air	38.4		93	80-120			
trans-1,3-Dichloropropene	40	5	ug/m³ Air	43.5		91	81-122			
1,1,2-Trichloroethane	52	5	ug/m³ Air	55.6		93	81-121			
Tetrachloroethene	67	7	ug/m³ Air	69.1		97	69-122			
1,2-Dibromoethane (EDB)	74	8	ug/m³ Air	79.8		92	81-121			
Chlorobenzene	45	5	ug/m³ Air	47.4		94	80-122			
Ethylbenzene	42	4	ug/m³ Air	44.7		94	80-125			
m&p-Xylene	85	9	ug/m³ Air	88.5		96	80-128			
o-Xylene	42	4	ug/m³ Air	43.4		96	79-130			
Styrene	39	4	ug/m³ Air	41.7		93	76-133			
1,1,2,2-Tetrachloroethane	65	7	ug/m³ Air	67.9		96	78-132			
1,3,5-Trimethylbenzene	50	5	ug/m³ Air	50.1		100	78-133			
1,2,4-Trimethylbenzene	50	5	ug/m³ Air	50.1		99	78-133			
1,3-Dichlorobenzene	58	6	ug/m³ Air	60.1		96	76-133			
1,4-Dichlorobenzene	57	6	ug/m³ Air	60.1		94	75-134			
1,2-Dichlorobenzene	58	6	ug/m³ Air	58.9		98	77-134			
1,2,4-Trichlorobenzene	60	7	ug/m³ Air	66.7		91	70-133			
Hexachlorobutadiene	102	10	ug/m³ Air	98.0		104	74-130			

United States Environmental Protection Agency
Region 9 Laboratory
1337 S. 46th Street, Building 201, Richmond, CA 94804
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Project Manager: Alana Lee	**California Site Cleanup Section 3**	**WorkOrder: 2005002**
Project Number: R20S18	**75 Hawthorne Street**	**Reported:** 05/20/20 15:18
Project: MEW OU1 FY2020 Vapor Intrusion Investigation	**San Francisco CA, 94105**	

Volatile Organic Compounds by TO-15 - Quality Control

EPA Region 9 Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B20E003 - Air_Can_Pressure										
Duplicate (B20E003-DUP1)		**Source: 2005002-01RE1**		Prepared & Analyzed: 05/08/20						
Trichloroethene	4600	800	ug/m³ Air		4600			0.4	20	
Batch S20E003 - B20E002										
Instrument Blank (S20E003-IBL1)				Prepared & Analyzed: 05/07/20						
1,2-Dichlorotetrafluoroethane	ND	7	ppbv							U
Chloromethane	ND	2	ppbv							U
Vinyl chloride	ND	3	ppbv							U
Bromomethane	ND	4	ppbv							U
Chloroethane	ND	3	ppbv							U
Trichlorofluoromethane	ND	6	ppbv							U
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	8	ppbv							U
1,1-Dichloroethene	ND	4	ppbv							U
Dichloromethane	ND	7	ppbv							U
1,1-Dichloroethane	ND	4	ppbv							U
cis-1,2-Dichloroethene	ND	4	ppbv							U
Chloroform	ND	5	ppbv							U
1,1,1-Trichloroethane	ND	5	ppbv							U
Carbon tetrachloride	ND	6	ppbv							U
Benzene	ND	3	ppbv							U
1,2-Dichloroethane	ND	4	ppbv							U
Trichloroethene	ND	5	ppbv							U
1,2-Dichloropropane	ND	5	ppbv							U
cis-1,3-Dichloropropene	ND	5	ppbv							U
Toluene	ND	4	ppbv							U
trans-1,3-Dichloropropene	ND	5	ppbv							U
1,1,2-Trichloroethane	ND	5	ppbv							U
Tetrachloroethene	ND	7	ppbv							U
1,2-Dibromoethane (EDB)	ND	8	ppbv							U
Chlorobenzene	ND	5	ppbv							U
Ethylbenzene	ND	4	ppbv							U
m&p-Xylene	ND	9	ppbv							U
o-Xylene	ND	4	ppbv							U
Styrene	ND	4	ppbv							U, C3, J
1,1,2,2-Tetrachloroethane	ND	7	ppbv							U
1,3,5-Trimethylbenzene	ND	5	ppbv							U
1,2,4-Trimethylbenzene	ND	5	ppbv							U
1,3-Dichlorobenzene	ND	6	ppbv							U
1,4-Dichlorobenzene	ND	6	ppbv							U
1,2-Dichlorobenzene	ND	6	ppbv							U
1,2,4-Trichlorobenzene	ND	7	ppbv							U, J, Q3
Hexachlorobutadiene	ND	10	ppbv							U

United States Environmental Protection Agency
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1337 S. 46th Street, Building 201, Richmond, CA 94804
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Project Manager: Alana Lee	**California Site Cleanup Section 3**	**WorkOrder: 2005002**
Project Number: R20S18	**75 Hawthorne Street**	**Reported:** 05/20/20 15:18
Project: MEW OU1 FY2020 Vapor Intrusion Investigation	**San Francisco CA, 94105**	

Volatile Organic Compounds by TO-15 - Quality Control

EPA Region 9 Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch S20E003 - B20E002										
Instrument Blank (S20E003-IBL2)				Prepared & Analyzed: 05/07/20						
1,2-Dichlorotetrafluoroethane	ND	7	ppbv							U
Chloromethane	ND	2	ppbv							U
Vinyl chloride	ND	3	ppbv							U
Bromomethane	ND	4	ppbv							U
Chloroethane	ND	3	ppbv							U
Trichlorofluoromethane	ND	6	ppbv							U
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	8	ppbv							U
1,1-Dichloroethene	ND	4	ppbv							U
Dichloromethane	ND	7	ppbv							U
1,1-Dichloroethane	ND	4	ppbv							U
cis-1,2-Dichloroethene	ND	4	ppbv							U
Chloroform	ND	5	ppbv							U
1,1,1-Trichloroethane	ND	5	ppbv							U
Carbon tetrachloride	ND	6	ppbv							U
Benzene	ND	3	ppbv							U
1,2-Dichloroethane	ND	4	ppbv							U
Trichloroethene	ND	5	ppbv							U
1,2-Dichloropropane	ND	5	ppbv							U
cis-1,3-Dichloropropene	ND	5	ppbv							U
Toluene	ND	4	ppbv							U
trans-1,3-Dichloropropene	ND	5	ppbv							U
1,1,2-Trichloroethane	ND	5	ppbv							U
Tetrachloroethene	ND	7	ppbv							U
1,2-Dibromoethane (EDB)	ND	8	ppbv							U
Chlorobenzene	ND	5	ppbv							U
Ethylbenzene	ND	4	ppbv							U
m&p-Xylene	ND	9	ppbv							U
o-Xylene	ND	4	ppbv							U
Styrene	ND	4	ppbv							C3, J, U
1,1,2,2-Tetrachloroethane	ND	7	ppbv							U
1,3,5-Trimethylbenzene	ND	5	ppbv							U
1,2,4-Trimethylbenzene	ND	5	ppbv							U
1,3-Dichlorobenzene	ND	6	ppbv							U
1,4-Dichlorobenzene	ND	6	ppbv							U
1,2-Dichlorobenzene	ND	6	ppbv							U
1,2,4-Trichlorobenzene	ND	7	ppbv							J, Q3, U
Hexachlorobutadiene	ND	10	ppbv							U

United States Environmental Protection Agency
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Project Manager: Alana Lee	**California Site Cleanup Section 3**	**WorkOrder: 2005002**
Project Number: R20S18	**75 Hawthorne Street**	**Reported:** 05/20/20 15:18
Project: MEW OU1 FY2020 Vapor Intrusion Investigation	**San Francisco CA, 94105**	

Volatile Organic Compounds by TO-15 - Quality Control

EPA Region 9 Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch S20E003 - B20E002										
Instrument Blank (S20E003-IBL3)				Prepared & Analyzed: 05/07/20						
1,2-Dichlorotetrafluoroethane	ND	7	ppbv							U
Chloromethane	ND	2	ppbv							U
Vinyl chloride	ND	3	ppbv							U
Bromomethane	ND	4	ppbv							U
Chloroethane	ND	3	ppbv							U
Trichlorofluoromethane	ND	6	ppbv							U
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	8	ppbv							U
1,1-Dichloroethene	ND	4	ppbv							U
Dichloromethane	ND	7	ppbv							U
1,1-Dichloroethane	ND	4	ppbv							U
cis-1,2-Dichloroethene	ND	4	ppbv							U
Chloroform	ND	5	ppbv							U
1,1,1-Trichloroethane	ND	5	ppbv							U
Carbon tetrachloride	ND	6	ppbv							U
Benzene	ND	3	ppbv							U
1,2-Dichloroethane	ND	4	ppbv							U
Trichloroethene	ND	5	ppbv							U
1,2-Dichloropropane	ND	5	ppbv							U
cis-1,3-Dichloropropene	ND	5	ppbv							U
Toluene	ND	4	ppbv							U
trans-1,3-Dichloropropene	ND	5	ppbv							U
1,1,2-Trichloroethane	ND	5	ppbv							U
Tetrachloroethene	ND	7	ppbv							U
1,2-Dibromoethane (EDB)	ND	8	ppbv							U
Chlorobenzene	ND	5	ppbv							U
Ethylbenzene	ND	4	ppbv							U
m&p-Xylene	ND	9	ppbv							U
o-Xylene	ND	4	ppbv							U
Styrene	ND	4	ppbv							C3, J, U
1,1,2,2-Tetrachloroethane	ND	7	ppbv							U
1,3,5-Trimethylbenzene	ND	5	ppbv							U
1,2,4-Trimethylbenzene	ND	5	ppbv							U
1,3-Dichlorobenzene	ND	6	ppbv							U
1,4-Dichlorobenzene	ND	6	ppbv							U
1,2-Dichlorobenzene	ND	6	ppbv							U
1,2,4-Trichlorobenzene	ND	7	ppbv							J, Q3, U
Hexachlorobutadiene	ND	10	ppbv							U

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Project Manager: Alana Lee	**California Site Cleanup Section 3**	**WorkOrder: 2005002**
Project Number: R20S18	**75 Hawthorne Street**	**Reported:** 05/20/20 15:18
Project: MEW OU1 FY2020 Vapor Intrusion Investigation	**San Francisco CA, 94105**	

Volatile Organic Compounds by TO-15 - Quality Control

EPA Region 9 Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch S20E003 - B20E002										
Instrument Blank (S20E003-IBL4)				Prepared: 05/07/20 Analyzed: 05/08/20						
1,2-Dichlorotetrafluoroethane	ND	7	ppbv							U
Chloromethane	ND	2	ppbv							U
Vinyl chloride	ND	3	ppbv							U
Bromomethane	ND	4	ppbv							U
Chloroethane	ND	3	ppbv							U
Trichlorofluoromethane	ND	6	ppbv							U
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	8	ppbv							U
1,1-Dichloroethene	ND	4	ppbv							U
Dichloromethane	ND	7	ppbv							U
1,1-Dichloroethane	ND	4	ppbv							U
cis-1,2-Dichloroethene	ND	4	ppbv							U
Chloroform	ND	5	ppbv							U
1,1,1-Trichloroethane	ND	5	ppbv							U
Carbon tetrachloride	ND	6	ppbv							U
Benzene	ND	3	ppbv							U
1,2-Dichloroethane	ND	4	ppbv							U
Trichloroethene	ND	5	ppbv							U
1,2-Dichloropropane	ND	5	ppbv							U
cis-1,3-Dichloropropene	ND	5	ppbv							U
Toluene	ND	4	ppbv							U
trans-1,3-Dichloropropene	ND	5	ppbv							U
1,1,2-Trichloroethane	ND	5	ppbv							U
Tetrachloroethene	ND	7	ppbv							U
1,2-Dibromoethane (EDB)	ND	8	ppbv							U
Chlorobenzene	ND	5	ppbv							U
Ethylbenzene	ND	4	ppbv							U
m&p-Xylene	ND	9	ppbv							U
o-Xylene	ND	4	ppbv							U
Styrene	ND	4	ppbv							C3, J, U
1,1,2,2-Tetrachloroethane	ND	7	ppbv							U
1,3,5-Trimethylbenzene	ND	5	ppbv							U
1,2,4-Trimethylbenzene	ND	5	ppbv							U
1,3-Dichlorobenzene	ND	6	ppbv							U
1,4-Dichlorobenzene	ND	6	ppbv							U
1,2-Dichlorobenzene	ND	6	ppbv							U
1,2,4-Trichlorobenzene	ND	7	ppbv							J, Q3, U
Hexachlorobutadiene	ND	10	ppbv							U

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Project Manager: Alana Lee	**California Site Cleanup Section 3**	**WorkOrder: 2005002**
Project Number: R20S18	**75 Hawthorne Street**	**Reported:** 05/20/20 15:18
Project: MEW OU1 FY2020 Vapor Intrusion Investigation	**San Francisco CA, 94105**	

Qualifiers and Comments

Q3	The quantitation limit standard did not meet recovery criteria for this analyte.
J	The reported result for this analyte should be considered an estimated value.
C3	The initial calibration for this analyte did not meet calibration criteria.
C1	The reported concentration for this analyte is below the quantitation limit.
U	Not Detected
NR	Not Reported
RE1, RE2, etc:	Result is from a sample re-analysis.

United States Environmental Protection Agency
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Project Manager: Alana Lee	**California Site Cleanup Section 3**	**WorkOrder: 2005002**
Project Number: R20S18	**75 Hawthorne Street**	**Reported:** 05/20/20 15:18
Project: MEW OU1 FY2020 Vapor Intrusion Investigation	**San Francisco CA, 94105**	

Sample Receiving: Samples delivered to laboratory, disinfected, and placed on sample receiving counter for logging by Junn, ICF FASP in compliance with COVID-19 modified sample receiving protocol. All sample were assigned to generic shipping container "Modified COVID-19" since they were not received in a container. ZAR 05/07/20

WORK ORDER

Printed: 5/7/2020 11:52:36AM

2005002

EPA Region 9 Laboratory

Client: **California Site Cleanup Section 3** **Project Number:** **R20S18**
Project: **MEW OU1 FY2020 Vapor Intrusion Investigation**

Report To:
California Site Cleanup Section 3
Alana Lee
75 Hawthorne Street
San Francisco, CA 94105
Phone: (415) 972-3141
Fax: (415) 947-3526

Project Contact
California Site Cleanup Section 3
Alana Lee
75 Hawthorne Street
San Francisco, CA 94105
Phone :(415) 972-3141
Fax: (415) 947-3526

Shipping Containers	Description	Temp C	Custody Seals?	Containers Intact?	Labels COC Agree?	Preservation Confirmed?	Received on Ice?	Comments
Modified COVID-19	Modified COVID-19	23	No	Yes	Yes	No	No	

Date Due:	05/21/20 17:00 (14 day TAT)	SDG:	20128B
Received By:	Ziyad Rajabi	Date Received:	05/07/20 08:00
Logged In By:	Ziyad Rajabi	Date Logged In:	05/07/20 10:01

Analysis	Hold Time Expires	Comments
2005002-01 277 Fairchild-SGR13-5-050620 [Air] Sampled 05/06/20 09:37 (GMT-08:00) Pacific Time (US &		**Can #898**
VOCs, Soil Gas	06/05/20	check COC for requested analytes
2005002-02 277 Fairchild-SGR11-5-050620 [Air] Sampled 05/06/20 10:05 (GMT-08:00) Pacific Time (US &		**Can #664**
VOCs, Soil Gas	06/05/20	check COC for requested analytes
2005002-03 277 Fairchild-SGR6-5-050620 [Air] Sampled 05/06/20 10:18 (GMT-08:00) Pacific Time (US &		**Can #1100**
VOCs, Soil Gas	06/05/20	check COC for requested analytes
2005002-04 277 Fairchild-SGR2-5-050620 [Air] Sampled 05/06/20 10:32 (GMT-08:00) Pacific Time (US &		**Can #883**
VOCs, Soil Gas	06/05/20	check COC for requested analytes
2005002-05 277 Fairchild-SGR7-5-050620 [Air] Sampled 05/06/20 10:48 (GMT-08:00) Pacific Time (US &		**Can #852**
VOCs, Soil Gas	06/05/20	check COC for requested analytes
2005002-06 277 Fairchild-SGR8-5-050620 [Air] Sampled 05/06/20 11:06 (GMT-08:00) Pacific Time (US &		**Can #895**
VOCs, Soil Gas	06/05/20	check COC for requested analytes

WORK ORDER

Printed: 5/7/2020 11:52:36AM

2005002

EPA Region 9 Laboratory

Client: **California Site Cleanup Section 3** **Project Number:** **R20S18**
Project: **MEW OU1 FY2020 Vapor Intrusion Investigation**

Analysis	Hold Time Expires	Comments

Analysis	Expires	Comments

2005002-07 277 Fairchild-F23-RR1-PP [Air] Sampled 05/06/20 12:55 **Can #878**
(GMT-08:00) Pacific Time (US &

VOCs, Soil Gas	06/05/20	check COC for requested analytes

2005002-08 272 Ariana-MH-SS-050620 [Air] Sampled 05/06/20 13:46 **Can #876**
(GMT-08:00) Pacific Time (US &

VOCs, Soil Gas	06/05/20	check COC for requested analytes

2005002-09 277 Fairchild-F23-SC-PP [Air] Sampled 05/06/20 13:58 **Can #1982**
(GMT-08:00) Pacific Time (US &

VOCs, Soil Gas	06/05/20	check COC for requested analytes

2005002-10 251 Ariana-MH-SS-050620 [Air] Sampled 05/06/20 14:56 **Can #669**
(GMT-08:00) Pacific Time (US &

VOCs, Soil Gas	06/05/20	check COC for requested analytes

2005002-11 241 Ariana-MH-SS-050620 [Air] Sampled 05/06/20 15:08 **Can #663**
(GMT-08:00) Pacific Time (US &

VOCs, Soil Gas	06/05/20	check COC for requested analytes

2005002-12 261 Fairchild-MH-SS-050620 [Air] Sampled 05/06/20 15:17 **Can #1118**
(GMT-08:00) Pacific Time (US &

VOCs, Soil Gas	06/05/20	check COC for requested analytes

Reviewed By Date

Bauer, Richard

From: Lee, Alana
Sent: Wednesday, May 20, 2020 2:55 PM
To: Bauer, Richard
Subject: RE: MEW Response: 277 Fairchild Drive - EPA Testing - Preliminary TCE results

Hi Rich,

I noticed some sample ID that should be modified. Could you make these changes in the final report / EDDs.

Please let me know if you have any questions.

Thanks!

Alana

Lab ID 2005002-08 Change to 272Ariana-MH3-SS-050620
Lab ID 2005002-10 Change to 231 Ariana-MH5-SS-050620
Lab ID 2005002-11 Change to 241 Ariana-MH4-SS-050620
Lab ID 2005002-12 Change to 261 Fairchild-MH1-SS-050620

Lab ID 2005005-02 Change to 260 Ariana-MH2-SS-050820

Lab ID 2065008-01 Change to: D9-ShrDrn-PP-3d

From: Bauer, Richard <Bauer.Richard@epa.gov>
Sent: Wednesday, May 20, 2020 2:27 PM
To: Lee, Alana <lee.alana@epa.gov>
Subject: RE: MEW Response: 277 Fairchild Drive - EPA Testing - Preliminary TCE results

I'm at the lab now, generating reports, so if you have sample ID changes, please provide them.

Thanks

_____
Richard Bauer
US EPA Region 9 Laboratory
1337 South 46th Street, Building 201
Richmond, CA 94804
(510) 412-2312
_____

From: Lee, Alana <lee.alana@epa.gov>
Sent: Wednesday, May 20, 2020 10:30 AM
To: Bauer, Richard <Bauer.Richard@epa.gov>; Nagle, Greg <Nagle.Greg@epa.gov>; Hopeman, Bob <Hopeman.Bob@epa.gov>
Subject: RE: MEW Response: 277 Fairchild Drive - EPA Testing - Preliminary TCE results

Hi Rich,

Thanks for the update.

Also, I was reviewing some of the sample IDs and will be requesting some corrections. I will send shortly.

Thanks!
Alana

From: Bauer, Richard <Bauer.Richard@epa.gov>
Sent: Wednesday, May 20, 2020 10:05 AM
To: Lee, Alana <lee.alana@epa.gov>; Nagle, Greg <Nagle.Greg@epa.gov>; Hopeman, Bob <Hopeman.Bob@epa.gov>
Subject: RE: MEW Response: 277 Fairchild Drive - EPA Testing - Preliminary TCE results

Hi Alana:

Here's an update from the lab:

1) Jack Berges, the acting manager for our in-house contractor, will be in the lab today to review the lab data for the canisters and Radiellos and update status in our LIMS. Barring any problems, I should be able to go to the lab tomorrow and generate final reports, EDDs, and full raw data documentation pkgs for all of the MEW samples submitted to the lab. The full raw data documentation packages contain COC and sample login info, instrument calibration data, raw data for all sample and QC analysis runs, and fully traceable standard preparation information. I can post those to a OneDrive folder and give you a link.

2) The analyst who prepared Radiello cartridges and ran the analysis says she did not observe any visible moisture in or on any of the cartridges.

3) I ordered three more boxes of Radiello 130 cartridges for you. They should ship today or tomorrow from Pennsylvania.

Let me know if you need any additional info.

_____
Richard Bauer
US EPA Region 9 Laboratory
1337 South 46th Street, Building 201
Richmond, CA 94804
(510) 412-2312
_____

From: Lee, Alana <lee.alana@epa.gov>
Sent: Tuesday, May 19, 2020 5:34 PM
To: Dreyfus, Bethany <Dreyfus.Bethany@epa.gov>; Stralka, Daniel <Stralka.Daniel@epa.gov>; Plate, Mathew <Plate.Mathew@epa.gov>; Nagle, Greg <Nagle.Greg@epa.gov>; Hopeman, Bob <Hopeman.Bob@epa.gov>; Bauer, Richard <Bauer.Richard@epa.gov>
Subject: MEW Response: 277 Fairchild Drive - EPA Testing - Preliminary TCE results

I will contact you to discuss what we can provide.

Sent: Tuesday, May 19, 2020 5:19 PM
To: Lee, Alana <lee.alana@epa.gov>
Subject: RE: 277 Fairchild Drive - EPA Testing - Preliminary TCE results

Hi Alana,

Thank you for providing the preliminary data EPA obtained during the agency's sampling of the 277 Fairchild Drive property between 6 and 8 May 2020. According to the figure, EPA collected air samples from select manholes along the sanitary sewer, sewer cleanouts of different buildings, and inside select units within buildings that are unoccupied and/or still under construction. As we understand the site conditions during this period, the vapor intrusion mitigation (VIM) system was operational at Building E, but not at Building F.

The EPA data shows widely inconsistent concentrations of TCE being detected at each sample location 1) when using the same sampling instrument throughout a day, 2) between the sampling methods (i.e., different sampling equipment), 3) when samples were collected over consecutive days, and 4) compared to data the MEW Companies previously collected. At some sampling locations, the EPA concentrations reported vary up to three orders of magnitude.

To better understand the EPA data, and to determine which data results could be considered valid/representative, we would appreciate it if you could provide the following additional information:

- daily calibration logs for each instrument
- all field notes documenting the field activities, including specific sampling locations and time for each sample reported
- a map identifying the exact location of each sample collected
- data validation reports
- the intent of the sampling conducted at each location
- information about each sampling method used and the rationale for the use of that method
- the chain of custody forms and laboratory analytical reports, previously referenced

After we have a chance to review the above requested information, we would like to schedule a meeting to discuss the usability of the data obtained, and any proposed path forward.

Thank you for your assistance and working closely with the MEW Companies.

ENVIRONMENTAL PROTECTION AGENCY
Region 9 Laboratory

CHAIN OF CUSTODY RECORD

1337 S. 46th St., Bldg. 201
Richmond, CA 94804-4698

PROJ. NO.: R20S18
PROJECT NAME: MEWDUI FY2020
SAMPLERS: (Signature) Jess Caldeira, Junn Masongsong

	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NO. OF CONTAINERS	VOCs soilGas	TO15					REMARKS
1	05/01/20	9:37	Air		x	277Fairchild-SGR13-5-050620	400mL	x						Can#898
2	05/06/20	10:05	Air		x	277Fairchild-SGR11-5-050620	400mL	x						Can#664
3	05/06/20	10:18	Air		x	277Fairchild-SGR6-5-050620	400mL	x						Can#1100
4	05/06/20	10:32	Air		x	277Fairchild-SGR2-5-050620	400mL	x						Can#883
5	05/06/20	10:48	Air		x	277Fairchild-SGR7-5-050620	400mL	x						Can#852
6	05/06/20	11:06	Air		x	277Fairchild-SGR8-5-050620	400mL	x						Can#895
7	05/06/20	12:55	Air		x	277Fairchild-F23-RR1-PP	400mL	x						Can#878
	~~05/06/20~~	~~13:06~~	~~Air~~	~~x~~		~~277Fairchild-F15-out-050620~~	~~6L~~		~~x~~					~~Can#776, TC#01852e~~ 9C 05/06/20
8	05/06/20	13:46	Air		x	~~277Fairchild-272~~ Ariana-MH-SS-050620	400mL	x						~~Can#851~~ VOID Can#876
9	05/06/20	13:58	Air		x	277Fairchild-F23-SC-PP	400mL	x						Can#1982
10	05/06/20	14:56	Air		x	251Ariana-MH-SS-050620	400mL	x						Can#669 1ft
11	05/06/20	15:08	Air		x	241Ariana-MH-SS-050620	400mL	x						Can#663
12	05/06/20	15:17	Air		x	261Fairchild-MH-SS-050620	400mL	x						Can#1118

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Jess	05/07/20 18:10				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)

Received for Laboratory by: (Signature)	Date / Time	Temp.	Seals Intact (Y/N)	Conditions / Remarks
Ziyad Rajabi	05/07/20 08:00	23		

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

9-4824

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Cooler/Box/Env 1 of 1

U.S. Environmental Protection Agency
Region 9 Richmond Laboratory

1337 South 46th Street
Richmond, CA 94804

Sample Receipt Checklist

Note in WO memo any items outside acceptable limits.

Project No: R20 S18 **Work Order No(s):** 2005005 **Date:** 5/7/20 **by** TD

CUSTODY SEALS Are Intact? ☐ Yes ☐ No ☒ N/A-none

Check if applies: ☐ External Seals ☐ Internal Seals ☐ Hand Delivered

TEMPERATURE 23 **°C**

Within Acceptable Range? (If preservation is "store cool at 4°C," use 0-6°C for acceptable range.) ☐ Yes ☐ No ☒ Ambient OK

Measured by: ☒ IR thermometer ☐ Probe thermometer inserted in provided temp. blank

☐ Provided Temp Blank was not used because _____

Check if applies: ☐ No ice present ☐ Insufficient/Melted Ice ☐ Tissue Received Frozen

☐ Still cooling (sampled today & iced) ☐ Delivery Delay ☐ Previously Frozen

SAMPLE CONTAINERS Are Intact? ☒ Yes ☐ No

Check if applies and identify sample IDs in comments:

☐ Bottle/Jar/Vial broken ☐ Cap broken or loose ☐ Insufficient sample amount

☐ Other _____

CHAIN OF CUSTODY

COC forms are present? ☒ Yes ☐ No

COC forms are consistent with sample labels? ☒ Yes ☐ No ☐ N/A-no COC form

Check if applies: ☐ Missing "relinquished by" signature

TAT and analyses match TDF or scheduling? ☒ Yes ☐ No

Check if applies: ☐ Preliminary Results ☐ Rush Request ☐ 7-day TAT

Samples are received within hold times? ☒ Yes ☐ No ☐ N/A-no hold times

Check if applies: ☐ Expires soon; notify analyst ☐ Expired

All shipping and sample containers are accounted for? ☒ Yes ☐ No

PRESERVATION / FILTRATION

Samples were filtered in field? ☐ Yes ☐ No ☒ N/A

Filtration is correctly identified on samples? ☐ Yes ☐ No ☒ N/A

Check if applies: ☐ Analyst to filter

Check if applies: ☐ Notify analyst to check for methyl mercury analysis and low-level mercury analysis by 1631

Samples were preserved in field? ☐ Yes ☐ No ☒ N/A

Check if applies: ☐ Analyst to preserve ☐ Sample Receiving to preserve (see page 2)

Preservation is correctly identified on samples? ☐ Yes ☐ No ☒ N/A

Field-preserved samples (excluding VOA vials for VOC analyses) have correct pH? ☐ Yes ☐ No ☒ N/A

Check if verified:

☐ Sulfide: pH >9 NaOH/Zinc acetate

☐ Cyanide: pH >12 NaOH

☐ Metals: pH <2 HNO_3

☐ Ferrous Iron: pH <2 HCl

☐ TOC/DOC: pH <2 H_2SO_4/H_3PO_4 (not HCl)

☐ Ammonia / Nitrate/Nitrite / TKN / Phosphorus: pH <2 H2SO4

☐ Other: _____

FOLLOW-UP / COMMENTS / UNUSUAL CHARACTERISTICS OBSERVED (for example, sample is pink):

_____

_____

_____

_____

_____

_____

FORM #: Q016
REV #: 2
REV. DATE: 07/29/19

BATCH

B20E002

Batch Date: 05/07/2020

Batch Matrix: Air

Batch Analyses:

VOCs, Soil Gas

PREPARATION BENCH SHEET

B20E002

EPA Region 9 Laboratory

Project: R20S18

Printed: 5/8/2020 12:32:36PM

Matrix: Air **Analysis: VOCs, Soil Gas** **Prepared using: Air - Air_Can_Pressure**

Lab Number	Sample Name	Prepared	Initial	Final	Spike ID	Source ID	ul Spike	Can #	Initial PSI	Final PSI	Initial DF	Final DF	Prepared By	Extraction Comments
2005002-01 A	277 Fairchild-SG R13-5-050620	05/07/20 12:05	200	200				898	14.64	28.14	1.0	1.90	EM	check COC for requested analytes
2005002-02 A	277 Fairchild-SG R11-5-050620	05/07/20 12:10	200	200				664	12.49	28.14	1.0	2.25	EM	check COC for requested analytes
2005002-03 A	277 Fairchild-SG R6-5-050620	05/07/20 12:12	200	200				1100	14.06	28.32	1.0	2.01	EM	check COC for requested analytes
2005002-04 A	277 Fairchild-SG R2-5-050620	05/07/20 12:16	200	200				883	14.80	28.14	1.0	1.90	EM	check COC for requested analytes
2005002-05 A	277 Fairchild-SG R7-5-050620	05/07/20 13:36	200	200				852	14.62	28.34	1.0	1.94	EM	check COC for requested analytes
2005002-06 A	277 Fairchild-SG R8-5-050620	05/07/20 13:38	200	200				895	14.07	28.13	1.0	2.00	EM	check COC for requested analytes
2005002-07 A	277 Fairchild-F23 -RR1-PP	05/07/20 13:42	200	200				878	14.65	28.15	1.0	1.92	EM	check COC for requested analytes
2005002-08 A	272 Ariana-MH-S S-050620	05/07/20 13:45	200	200				876	12.46	28.16	1.0	2.26	EM	check COC for requested analytes

PREPARATION BENCH SHEET

B20E002

EPA Region 9 Laboratory

Project: R20S18

Printed: 5/8/2020 12:32:36PM

Matrix: Air **Analysis: VOCs, Soil Gas** **Prepared using: Air - Air_Can_Pressure**

Lab Number	Sample Name	Prepared	Initial	Final	Spike ID	Source ID	ul Spike	Can #	Initial PSI	Final PSI	Initial DF	Final DF	Prepared By	Extraction Comments
2005002-09 A	277 Fairchild-F23 -SC-PP	05/07/20 13:49	200	200				1982	14.17	28.03	1.0	1.98	EM	check COC for requested analytes
2005002-10 A	251 Ariana-MH-S S-050620	05/07/20 13:51	200	200				669	13.63	28.37	1.0	2.08	EM	check COC for requested analytes
2005002-11 A	241 Ariana-MH-S S-050620	05/07/20 13:54	200	200				663	14.44	28.18	1.0	1.95	EM	check COC for requested analytes
2005002-12 A	261 Fairchild-MH -SS-050620	05/07/20 13:57	200	200				1118	14.18	28.20	1.0	1.99	EM	check COC for requested analytes
B20E002-BLK1	Blank	05/07/20 10:32	200	200									EM	
B20E002-BS1	LCS	05/07/20 10:32	200	200	2018026		100000						EM	
B20E002-DUP1	Duplicate	05/07/20 10:32	200	200		2005002-12		1118	14.18	28.20	1.0	1.99	EM	

Batch Comments

PREPARATION BENCH SHEET

B20E002

EPA Region 9 Laboratory

Project: R20S18

Printed: 5/8/2020 12:32:36PM

Matrix: Air **Analysis: QC** **Prepared using: Air - Air_Can_Pressure**

Lab Number	Sample Name	Prepared	Initial	Final	Spike ID	Source ID	ul Spike	Can #	Initial PSI	Final PSI	Initial DF	Final DF	Prepared By	Extraction Comments

Reagents

Reagent #	Description

TO15 DILUTION LOGBOOK

#19020

DATE/ INITIAL	TIME	LAB SAMPLE #	CLIENT SAMPLE #	CAN ID	INITIAL PRESSURE (PSI)	INITIAL VOL (mL)	FINAL VOL (mL)	FINAL PRESSURE (PSI)	AMBIENT PRESSURE Hg/(PSI)	DILUTION FACTOR
5/7/20 EM	12:05	2005002-01	277 Fairchild SGR15-5	898	14.64	400	400	27.82	29.83/14.6	1.90
	12:10	-02	277 Fairchild SGR11-5	664	12.49	400	400	28.14	—	2.25
	12:12	-03	277 Fairchild SGR6-5	1100	14.06	400	400	28.32	—	2.01
	12:16	-04	277 Fairchild SGR2-5	883	14.80	400	400	28.14	—	1.90
	13:36	-05	277 Fairchild SGR7-5	852	14.62	400	400	28.34	—	1.94
	13:38	-06	277 Fairchild SGR8-5	895	14.07	400	400	28.18	—	2.00
	13:42	-07	277 Fairchild F23-RR1	878	14.65	400	400	28.15	—	1.92
	1345	-08	272 Ariana MHSS -	876	12.46	400	400	28.16	—	2.26
	13:49	-09	277 Fairchild F23SCAP	1982	14.17	400	400	28.05	—	1.98
	13:51	-10	251 Ariana MHSS -	669	13.63	400	400	28.37	—	2.08
	13:54	-11	241 Ariana MHSS -	665	14.44	400	400	28.18	—	1.95
	13:57	-12	261 Fairchild MHSS	1118	14.18	400	400	28.20	—	1.99
5/8/20 EM	9:57	2005002-03 REI	Repress	1100	17.04	400	400	28.08	29.77/14.62	1.65
	10:00	-07 REI	Repress	878	16.73	400	400	28.15	—	1.68
	10:13	-08 REI	Repress	876	16.42	400	400	28.28	—	1.72
	10:18	-12 REI	Repress	1118	6.17	400	400	28.53	—	4.62
	10:31	-01 REI	2nd can diln of can 898 → 1106		—	20	400	30.21	29.77/14.62	78.52

$\rightarrow \frac{30.21}{14.62} \times 400 \times 1.90$

2nd can DF = $\frac{\quad}{20mL}$ = 78.52

EM 5/8/20

USEPA REGION 9 LABORATORY

TO15 DILUTION LOGBOOK 12-14-16.xls

Reviewed by: [illegible]

Date: 05/08/20

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BATCH

B20E003

Batch Date: 05/07/2020

Batch Matrix: Air

Batch Analyses:

VOCs, Soil Gas

2nd CAN DILUTION CALCULATION FORM

05/08/20 EM

SAMPLE #	CAN #	VOL ADDED ml	CAN SIZE ml	FINAL PRESS	AMBIENT PRESS	ORIGINAL DF	2nd CAN DF
2005002-01RE1	1106	20	400	30.21	14.62	1.9	**78.52**

2nd CAN DF = $\dfrac{\text{FINAL PRESSURE}}{\text{AMBIENT PRESSURE}} \times \text{CAN VOL} \times \text{ORIG DF}$ / **VOL ADDED**

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PREPARATION BENCH SHEET

B20E003

EPA Region 9 Laboratory

Project: R20S18

Printed: 5/11/2020 12:09:22PM

Matrix: Air **Analysis: VOCs, Soil Gas** **Prepared using: Air - Air_Can_Pressure**

Lab Number	Sample Name	Prepared	Initial	Final	Spike ID	Source ID	ul Spike	Can #	Initial PSI	Final PSI	Initial DF	Final DF	Prepared By	Extraction Comments
2005002-01RE1 A	277 Fairchild-SG R13-5-050620	05/08/20 10:31	100	200				1106	20mL	30.21	1.9	78.52	EM	2ND CAN DILN
2005002-01RE2 A	277 Fairchild-SG R13-5-050620	05/08/20 10:31	20	200				1106	20mL	30.21	1.9	78.52	EM	2ND CAN DILN
2005002-03RE1 A	277 Fairchild-SG R6-5-050620	05/08/20 09:57	50	200				1100	17.04	28.08	2.01	3.32	EM	REPRESS
2005002-07RE1 A	277 Fairchild-F23 -RR1-PP	05/08/20 10:00	50	200				878	16.73	28.15	1.92	3.22	EM	REPRESS
2005002-08RE1 A	272 Ariana-MH-S S-050620	05/08/20 10:13	50	200				876	16.42	28.28	2.26	3.89	EM	REPRESS
2005002-12RE1 A	261 Fairchild-MH -SS-050620	05/08/20 10:18	100	200				1118	6.17	28.53	1.99	9.19	EM	REPRESS
B20E003-BLK1	Blank	05/08/20 10:03	200	200									EM	
B20E003-BS1	LCS	05/08/20 10:03	200	200	2018026		100000						EM	
B20E003-DUP1	Duplicate	05/08/20 10:03	100	200		2005002-01 RE1		1106	20mL	30.21	1.9	78.52	EM	2nd CAN DILN

PREPARATION BENCH SHEET

B20E003

EPA Region 9 Laboratory

Project: R20S18

Printed: 5/11/2020 12:09:22PM

Matrix: Air **Analysis: QC** **Prepared using: Air - Air_Can_Pressure**

Lab Number	Sample Name	Prepared	Initial	Final	Spike ID	Source ID	ul Spike	Can #	Initial PSI	Final PSI	Initial DF	Final DF	Prepared By	Extraction Comments

Batch Comments

Reagents

Reagent #	Description

Calibration

2004002

Calibration Date: 04/01/2020

Instrument: HP5973K

Calibration Analyses:

VOCs, Soil Gas

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Method Path : D:\msdchem\1\2020\METHOD\
Method File : 040120K_TO15AA.M
Title : TO15
Last Update : Thu Apr 02 09:57:00 2020
Response Via : Initial Calibration

REVIEWED
By LLH at 9:57 am, Apr 02, 2020

Calibration Files
1 =040120K07.D 2 =040120K08.D 5 =040120K09.D 10 =040120K10.D 15 =040120K11.D
20 =040120K12.D

		Compound	1	2	5	10	15	20	Avg	%RSD
1)	I	BROMOCHLOROMETHANE	----------ISTD----------							
2)	T	Propene	0.585	0.590	0.571	0.550	0.564	0.568	0.571	2.52
3)	T	Dichlorodifluo...	1.446	1.573	1.518	1.490	1.543	1.568	1.523	3.21
4)	T	1,2-Dichlorote...	1.664	1.764	1.736	1.699	1.761	1.813	1.739	3.04
5)	T	Chloromethane	0.577	0.610	0.586	0.573	0.592	0.594	0.589	2.29
6)	T	Vinyl chloride	0.744	0.814	0.778	0.760	0.768	0.778	0.774	3.02
7)	T	1,3-Butadiene	0.631	0.641	0.614	0.594	0.599	0.601	0.613	3.09
8)	T	Bromomethane	0.527	0.567	0.547	0.521	0.535	0.557	0.542	3.25
9)	T	Chloroethane	0.361	0.381	0.366	0.350	0.361	0.370	0.365	2.87
10)	T	Bromoethene	0.541	0.541	0.523	0.505	0.521	0.543	0.529	2.84
11)	T	Trichlorofluor...	1.406	1.540	1.467	1.402	1.423	1.466	1.450	3.60
12)	T	1,1,2-Trichlor...	1.008	1.075	1.033	0.989	1.008	1.040	1.026	2.97
13)	T	1,1-Dichloroet...	0.883	0.971	0.930	0.893	0.907	0.934	0.920	3.51
14)	T	Acetone	0.965	0.963	0.910	0.870	0.881	0.893	0.914	4.52
15)	T	Carbon disulfide	1.741	1.735	1.678	1.602	1.624	1.662	1.674	3.38
16)	T	2-Propanol	0.854	0.900	0.890	0.876	0.898	0.925	0.891	2.72
17)	T	Allyl chloride	0.827	0.844	0.821	0.792	0.809	0.821	0.819	2.14
18)	T	Dichloromethane	0.918	0.863	0.761	0.708	0.710	0.714	0.779	11.60
19)	T	tert-Butyl met...	1.811	1.816	1.767	1.706	1.760	1.805	1.777	2.37
20)	T	trans-1,2-Dich...	0.873	0.883	0.852	0.821	0.836	0.856	0.854	2.69
21)	T	Hexane	1.172	1.177	1.156	1.124	1.144	1.164	1.156	1.70
22)	T	1,1-Dichloroet...	1.144	1.257	1.192	1.140	1.157	1.177	1.178	3.68
23)	T	Vinyl acetate	1.378	1.431	1.430	1.415	1.452	1.480	1.431	2.40
24)	T	cis-1,2-Dichlo...	0.802	0.874	0.858	0.828	0.839	0.861	0.843	3.11
25)	T	2-Butanone (MEK)	0.336	0.350	0.344	0.337	0.345	0.352	0.344	1.89
26)	T	Ethyl acetate	0.220	0.231	0.211	0.205	0.208	0.211	0.214	4.38
27)	T	Tetrahydrofuran	0.815	0.839	0.827	0.796	0.804	0.818	0.816	1.91
28)	T	Chloroform	1.147	1.242	1.176	1.131	1.147	1.172	1.169	3.37
29)	T	Cyclohexane	1.187	1.200	1.161	1.126	1.143	1.165	1.164	2.34
30)	T	1,1,1-Trichlor...	1.114	1.217	1.172	1.130	1.149	1.173	1.159	3.16
31)	T	Carbon tetrach...	1.149	1.257	1.218	1.176	1.200	1.225	1.204	3.16
32)	I	1,4-DIFLUOROBENZENE	----------ISTD----------							
33)	T	Benzene	0.640	0.700	0.688	0.659	0.651	0.653	0.665	3.56
34)	T	2,2,4-Trimethy...	1.182	1.207	1.190	1.162	1.143	1.144	1.171	2.23
35)	T	1,2-Dichloroet...	0.248	0.276	0.269	0.260	0.256	0.255	0.261	3.86
36)	T	Heptane	0.429	0.439	0.438	0.428	0.421	0.418	0.429	2.06
37)	T	Trichloroethene	0.267	0.293	0.280	0.276	0.273	0.277	0.278	3.04
38)	T	1,2-Dichloropr...	0.239	0.260	0.254	0.249	0.244	0.247	0.249	3.01
39)	T	1,4-Dioxane	0.155	0.157	0.157	0.155	0.154	0.157	0.156	0.89
40)	T	Bromodichlorom...	0.429	0.443	0.435	0.429	0.424	0.429	0.431	1.55
41)	T	cis-1,3-Dichlo...	0.346	0.388	0.389	0.392	0.388	0.397	0.383	4.81
42)	T	4-Methyl-2-pen...	0.466	0.513	0.510	0.507	0.499	0.500	0.499	3.48
43)	I	CHLOROBENZENE-d5	----------ISTD----------							
44)	T	Toluene	0.836	0.915	0.892	0.860	0.848	0.852	0.867	3.46
45)	T	trans-1,3-Dich...	0.354	0.400	0.402	0.399	0.396	0.399	0.392	4.71
46)	T	1,1,2-Trichlor...	0.275	0.295	0.287	0.283	0.278	0.283	0.284	2.50
47)	T	Tetrachloroethene	0.425	0.463	0.446	0.437	0.435	0.445	0.442	2.92
48)	T	2-Hexanone	0.444	0.520	0.525	0.509	0.497	0.498	0.499	5.83
49)	T	Chlorodibromom...	0.467	0.483	0.478	0.472	0.470	0.478	0.475	1.20
50)	T	1,2-Dibromoeth...	0.391	0.434	0.422	0.415	0.412	0.418	0.415	3.46
51)	T	Chlorobenzene	0.687	0.753	0.725	0.708	0.697	0.703	0.712	3.35
52)	T	Ethylbenzene	1.082	1.205	1.169	1.139	1.119	1.128	1.140	3.73
53)	T	m&p-Xylene	0.807	0.909	0.892	0.875	0.861	0.870	0.869	4.00
54)	T	o-Xylene	0.822	0.921	0.917	0.903	0.895	0.899	0.893	4.03
55)	T	Styrene	0.392	0.456	0.461	0.462	0.461	0.467	0.450	6.29
56)	T	Bromoform	0.471	0.504	0.516	0.526	0.529	0.542	0.515	4.88
57)	T	1,1,2,2-Tetrac...	0.600	0.667	0.670	0.666	0.657	0.661	0.654	4.11
58)	T	4-Ethyltoluene	1.310	1.407	1.412	1.415	1.399	1.414	1.393	2.94
59)	T	1,3,5-Trimethy...	0.922	1.067	1.082	1.074	1.059	1.067	1.045	5.83

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Method Path : D:\msdchem\1\2020\METHOD\
Method File : 040120K_TO15AA.M
Title : TO15

60)	T	1,2,4-Trimethy...	0.907	1.065	1.092	1.095	1.082	1.090	1.055	6.95
61)	T	1,3-Dichlorobe...	0.670	0.778	0.801	0.804	0.803	0.815	0.778	7.03
62)	T	1,4-Dichlorobe...	0.667	0.771	0.797	0.806	0.800	0.811	0.775	7.06
63)	T	Benzyl chloride	0.625	0.801	0.886	0.917	0.915	0.924	0.845	13.84
64)	T	1,2-Dichlorobe...	0.658	0.757	0.790	0.790	0.785	0.793	0.762	6.89
65)	T	1,2,4-Trichlor...	0.487	0.587	0.658	0.707	0.732	0.770	0.657	15.94
66)	T	Hexachlorobuta...	0.601	0.678	0.703	0.730	0.741	0.770	0.704	8.45

(#) = Out of Range

REVIEWED
By LLH at 10:00 am, Apr 02, 2020

SCV REPORT

Instrument Name: HP5973K
Sample Name: S20D002-SCV1
Misc Info: 10ppbv
Date Acquired: 4/1/2020 22:24
QLast Update: Thu Apr 02 09:57:00 2020
Operator: LLH

2 OUT

#	Name	Ret Time	Amount	Concentration	%R	QC	LIMIT	STATUS	
1)	BROMOCHLOROMETHANE	16.31	#N/A	19.60	#N/A	70.0	130.0	#N/A	Internal
2)	Propene	5.00	10.00	11.54	115%	70.0	130.0	pass	Subset
3)	Dichlorodifluoromethane	5.10	11.00	11.27	102%	70.0	130.0	pass	Primary
4)	1,2-Dichlorotetrafluoroethane	5.48	11.00	10.29	94%	70.0	130.0	pass	Primary
5)	Chloromethane	5.73	12.00	11.44	95%	70.0	130.0	pass	Primary
6)	Vinyl chloride	6.07	10.00	10.91	109%	70.0	130.0	pass	Primary
7)	1,3-Butadiene	6.17	10.00	10.62	106%	70.0	130.0	pass	Subset
8)	Bromomethane	7.24	11.00	11.51	105%	70.0	130.0	pass	Primary
9)	Chloroethane	7.61	11.00	11.34	103%	70.0	130.0	pass	Primary
10)	Bromoethene	8.25	11.00	12.08	110%	70.0	130.0	pass	Subset
11)	Trichlorofluoromethane	8.38	11.00	10.44	95%	70.0	130.0	pass	Primary
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	10.37	11.00	11.30	103%	70.0	130.0	pass	Primary
13)	1,1-Dichloroethene	10.51	11.00	11.40	104%	70.0	130.0	pass	Primary
14)	Acetone	11.08	10.00	11.38	114%	70.0	130.0	pass	Subset
15)	Carbon disulfide	11.20	12.00	12.20	102%	70.0	130.0	pass	Subset
16)	2-Propanol	11.59	8.50	11.89	140%	70.0	130.0	FAIL	Subset
17)	Allyl chloride	11.96	12.00	11.66	97%	70.0	130.0	pass	Subset
18)	Dichloromethane	12.48	11.00	10.04	91%	70.0	130.0	pass	Primary
19)	tert-Butyl methyl ether (MTBE)	13.02	11.00	11.57	105%	70.0	130.0	pass	Subset
20)	trans-1,2-Dichloroethene	13.11	10.00	10.81	108%	70.0	130.0	pass	Subset
21)	Hexane	13.59	11.00	10.75	98%	70.0	130.0	pass	Subset
22)	1,1-Dichloroethane	14.40	11.00	10.66	97%	70.0	130.0	pass	Primary
23)	Vinyl acetate	14.49	11.00	12.02	109%	70.0	130.0	pass	Subset
24)	cis-1,2-Dichloroethene	15.78	11.00	11.82	107%	70.0	130.0	pass	Primary
25)	2-Butanone (MEK)	15.86	11.00	11.38	103%	70.0	130.0	pass	Subset
26)	Ethyl acetate	15.87	11.00	11.01	100%	70.0	130.0	pass	Subset
27)	Tetrahydrofuran	16.28	9.50	9.56	101%	70.0	130.0	pass	Subset
28)	Chloroform	16.44	11.00	11.17	102%	70.0	130.0	pass	Primary
29)	Cyclohexane	16.62	11.00	10.77	98%	70.0	130.0	pass	Subset
30)	1,1,1-Trichloroethane	16.70	11.00	10.53	96%	70.0	130.0	pass	Primary
31)	Carbon tetrachloride	16.93	11.00	10.93	99%	70.0	130.0	pass	Primary
32)	1,4-DIFLUOROBENZENE	18.22	#N/A	19.60	#N/A	70.0	130.0	#N/A	Internal
33)	Benzene	17.44	10.00	11.04	110%	70.0	130.0	pass	Primary
34)	2,2,4-Trimethylpentane	17.31	11.00	10.83	98%	70.0	130.0	pass	Subset
35)	1,2-Dichloroethane	17.66	11.00	10.51	96%	70.0	130.0	pass	Primary
36)	Heptane	17.68	11.00	10.75	98%	70.0	130.0	pass	Subset
37)	Trichloroethene	18.62	11.00	11.53	105%	70.0	130.0	pass	Primary
38)	1,2-Dichloropropane	19.14	10.00	10.83	108%	70.0	130.0	pass	Primary
39)	1,4-Dioxane	19.32	11.00	11.16	101%	70.0	130.0	pass	Subset
40)	Bromodichloromethane	19.60	11.00	10.56	96%	70.0	130.0	pass	Subset
41)	cis-1,3-Dichloropropene	20.35	10.00	11.08	111%	70.0	130.0	pass	Primary
42)	4-Methyl-2-pentanone (MIBK)	20.55	11.00	11.10	101%	70.0	130.0	pass	Subset
43)	CHLOROBENZENE-d5	23.08	#N/A	19.60	#N/A	70.0	130.0	#N/A	Internal
44)	Toluene	20.80	10.00	11.12	111%	70.0	130.0	pass	Primary
45)	trans-1,3-Dichloropropene	21.29	10.00	10.58	106%	70.0	130.0	pass	Primary
46)	1,1,2-Trichloroethane	21.60	10.00	11.10	111%	70.0	130.0	pass	Primary
47)	Tetrachloroethene	21.64	11.00	11.09	101%	70.0	130.0	pass	Primary
48)	2-Hexanone	21.89	11.00	10.85	99%	70.0	130.0	pass	Subset
49)	Chlorodibromomethane	22.21	11.00	11.03	100%	70.0	130.0	pass	Subset
50)	1,2-Dibromoethane (EDB)	22.45	10.00	11.21	112%	70.0	130.0	pass	Primary

51)	Chlorobenzene	23.13	11.00	10.95	100%	70.0	130.0	pass	Primary
52)	Ethylbenzene	23.20	11.00	11.14	101%	70.0	130.0	pass	Primary
53)	m&p-Xylene	23.38	22.00	22.01	100%	70.0	130.0	pass	Primary
54)	o-Xylene	24.03	10.00	10.91	109%	70.0	130.0	pass	Primary
55)	Styrene	24.08	10.00	18.16	182%	70.0	130.0	FAIL	Primary
56)	Bromoform	24.48	12.00	11.63	97%	70.0	130.0	pass	Subset
57)	1,1,2,2-Tetrachloroethane	25.16	9.90	10.85	110%	70.0	130.0	pass	Primary
58)	4-Ethyltoluene	25.37	11.00	10.92	99%	70.0	130.0	pass	Subset
59)	1,3,5-Trimethylbenzene	25.46	10.00	11.17	112%	70.0	130.0	pass	Primary
60)	1,2,4-Trimethylbenzene	26.07	10.00	11.36	114%	70.0	130.0	pass	Primary
61)	1,3-Dichlorobenzene	26.62	10.00	10.82	108%	70.0	130.0	pass	Primary
62)	1,4-Dichlorobenzene	26.77	9.90	10.75	109%	70.0	130.0	pass	Primary
63)	Benzyl chloride	27.00	11.00	12.97	118%	70.0	130.0	pass	Subset
64)	1,2-Dichlorobenzene	27.39	9.60	10.87	113%	70.0	130.0	pass	Primary
65)	1,2,4-Trichlorobenzene	29.85	9.30	10.38	112%	70.0	130.0	pass	Primary
66)	Hexachlorobutadiene	29.95	9.90	10.42	105%	70.0	130.0	pass	Primary

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RT DUPLICATE REPORT

Instrument Name: HP5973K
Sample Name: S20D002-CAL4
Misc Info: 10ppbv
Date Acquired: 4/1/2020 19:47
QLast Update: Thu Apr 02 09:57:00 2020
Operator: LLH

#	Name	RT	CONC	Qion	
1)	BROMOCHLOROMETHANE	16.313	19.600	49	16.283
2)	Propene	4.998	10.757	41.1	
3)	Dichlorodifluoromethane	5.095	9.971	85	
4)	1,2-Dichlorotetrafluoroethane	5.484	9.358	85	
5)	Chloromethane	5.728	10.614	50	
6)	Vinyl chloride	6.068	10.557	62	
7)	1,3-Butadiene	6.172	10.333	54.1	
8)	Bromomethane	7.237	9.372	93.9	
9)	Chloroethane	7.608	9.523	64	
10)	Bromoethene	8.252	9.855	105.9	
11)	Trichlorofluoromethane	8.374	8.868	100.9	
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	10.382	9.129	150.9	
13)	1,1-Dichloroethene	10.509	9.893	61	
14)	Acetone	11.081	10.209	43.1	
15)	Carbon disulfide	11.197	10.118	75.9	
16)	2-Propanol	11.586	10.791	45.1	
17)	Allyl chloride	11.957	10.517	41.1	
18)	Dichloromethane	12.481	9.015	49	
19)	tert-Butyl methyl ether (MTBE)	13.022	9.906	73.1	
20)	trans-1,2-Dichloroethene	13.107	10.255	61	
21)	Hexane	13.588	9.664	57.1	
22)	1,1-Dichloroethane	14.391	9.073	63	
23)	Vinyl acetate	14.494	10.819	43.1	
24)	cis-1,2-Dichloroethene	15.778	9.680	61	
25)	2-Butanone (MEK)	15.857	9.908	72.1	
26)	Ethyl acetate	15.869	9.687	61	
27)	Tetrahydrofuran	16.283	9.813	42.1	
28)	Chloroform	16.441	9.819	82.9	
29)	Cyclohexane	16.617	9.763	56.1	
30)	1,1,1-Trichloroethane	16.696	9.939	97	
31)	Carbon tetrachloride	16.934	9.808	116.9	
32)	1,4-DIFLUOROBENZENE	18.223	19.600	114	17.676
33)	Benzene	17.439	10.151	78	17.311
34)	2,2,4-Trimethylpentane	17.311	10.358	57.1	
35)	1,2-Dichloroethane	17.658	10.196	62	
36)	Heptane	17.676	10.631	43.1	
37)	Trichloroethene	18.625	10.620	129.9	
38)	1,2-Dichloropropane	19.148	10.233	63	
39)	1,4-Dioxane	19.319	10.329	88	
40)	Bromodichloromethane	19.598	10.506	82.9	
41)	cis-1,3-Dichloropropene	20.347	10.335	75	
42)	4-Methyl-2-pentanone (MIBK)	20.553	11.023	43.1	

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43)	CHLOROBENZENE-d5	23.084	19.600	117	22.439
44)	Toluene	20.803	10.017	91	
45)	trans-1,3-Dichloropropene	21.290	9.823	75	
46)	1,1,2-Trichloroethane	21.600	10.090	96.9	
47)	Tetrachloroethene	21.642	9.897	165.8	
48)	2-Hexanone	21.892	10.737	43.1	
49)	Chlorodibromomethane	22.208	10.907	128.9	
50)	1,2-Dibromoethane (EDB)	22.439	10.271	106.9	
51)	Chlorobenzene	23.133	10.119	112	
52)	Ethylbenzene	23.200	10.256	91	
53)	m&p-Xylene	23.376	20.586	91	
54)	o-Xylene	24.027	10.111	91	
55)	Styrene	24.070	9.854	104	
56)	Bromoform	24.483	11.542	172.8	
57)	1,1,2,2-Tetrachloroethane	25.159	10.138	82.9	
58)	4-Ethyltoluene	25.366	10.319	105.1	
59)	1,3,5-Trimethylbenzene	25.457	10.487	105.1	
60)	1,2,4-Trimethylbenzene	26.065	10.587	105.1	
61)	1,3-Dichlorobenzene	26.625	10.310	145.9	
62)	1,4-Dichlorobenzene	26.771	10.383	145.9	
63)	Benzyl chloride	26.996	12.448	91.1	0.000
64)	1,2-Dichlorobenzene	27.385	10.157	145.9	0.000
65)	1,2,4-Trichlorobenzene	29.849	9.656	179.9	0.000
66)	Hexachlorobutadiene	29.953	9.585	224.8	0.000

C:\MSDChem\1\DATA\10255KAA\10255KC4.D

CHEMSTATION CONCENTRATION REPORT

Instrument Name: HP5973K
Sample Name: S20D002-SCV1
Misc Info: 10ppbv
Date Acquired: 4/1/2020 22:24
QLast Update: Thu Apr 02 09:57:00 20
Operator: LLH

#	Name	L1	L2	L3	L4	L5	L6
1)	BROMOCHLOROMETHANE	19.60	19.60	19.60	19.60	19.60	19.60
2)	Propene	1.10	2.20	5.50	11.00	16.50	22.00
3)	Dichlorodifluoromethane	1.02	2.04	5.10	10.20	15.30	20.40
4)	1,2-Dichlorotetrafluoroethane	0.97	1.94	4.85	9.70	14.55	19.40
5)	Chloromethane	1.08	2.16	5.40	10.80	16.20	21.60
6)	Vinyl chloride	1.04	2.08	5.20	10.40	15.60	20.80
7)	1,3-Butadiene	1.03	2.06	5.15	10.30	15.45	20.60
8)	Bromomethane	1.02	2.04	5.10	10.20	15.30	20.40
9)	Chloroethane	1.02	2.04	5.10	10.20	15.30	20.40
10)	Bromoethene	1.09	2.18	5.45	10.90	16.35	21.80
11)	Trichlorofluoromethane	0.94	1.88	4.70	9.40	14.10	18.80
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	2.00	5.00	10.00	15.00	20.00
13)	1,1-Dichloroethene	1.04	2.08	5.20	10.40	15.60	20.80
14)	Acetone	1.08	2.16	5.40	10.80	16.20	21.60
15)	Carbon disulfide	1.10	2.20	5.50	11.00	16.50	22.00
16)	2-Propanol	1.10	2.20	5.50	11.00	16.50	22.00
17)	Allyl chloride	1.10	2.20	5.50	11.00	16.50	22.00
18)	Dichloromethane	1.00	2.00	5.00	10.00	15.00	20.00
19)	tert-Butyl methyl ether (MTBE)	1.07	2.14	5.35	10.70	16.05	21.40
20)	trans-1,2-Dichloroethene	1.09	2.18	5.45	10.90	16.35	21.80
21)	Hexane	1.02	2.04	5.10	10.20	15.30	20.40
22)	1,1-Dichloroethane	0.96	1.92	4.80	9.60	14.40	19.20
23)	Vinyl acetate	1.10	2.20	5.50	11.00	16.50	22.00
24)	cis-1,2-Dichloroethene	1.01	2.02	5.05	10.10	15.15	20.20
25)	2-Butanone (MEK)	1.05	2.10	5.25	10.50	15.75	21.00
26)	Ethyl acetate	1.03	2.06	5.15	10.30	15.45	20.60
27)	Tetrahydrofuran	1.01	2.02	5.05	10.10	15.15	20.20
28)	Chloroform	1.04	2.08	5.20	10.40	15.60	20.80
29)	Cyclohexane	1.03	2.06	5.15	10.30	15.45	20.60
30)	1,1,1-Trichloroethane	1.04	2.08	5.20	10.40	15.60	20.80
31)	Carbon tetrachloride	1.01	2.02	5.05	10.10	15.15	20.20
32)	1,4-DIFLUOROBENZENE	19.60	19.60	19.60	19.60	19.60	19.60
33)	Benzene	1.02	2.04	5.10	10.20	15.30	20.40
34)	2,2,4-Trimethylpentane	1.03	2.06	5.15	10.30	15.45	20.60
35)	1,2-Dichloroethane	0.99	1.98	4.95	9.90	14.85	19.80
36)	Heptane	1.03	2.06	5.15	10.30	15.45	20.60
37)	Trichloroethene	1.08	2.16	5.40	10.80	16.20	21.60
38)	1,2-Dichloropropane	1.01	2.02	5.05	10.10	15.15	20.20
39)	1,4-Dioxane	1.04	2.08	5.20	10.40	15.60	20.80
40)	Bromodichloromethane	1.04	2.08	5.20	10.40	15.60	20.80
41)	cis-1,3-Dichloropropene	1.00	2.00	5.00	10.00	15.00	20.00
42)	4-Methyl-2-pentanone (MIBK)	1.05	2.10	5.25	10.50	15.75	21.00

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43)	CHLOROBENZENE-d5	19.60	19.60	19.60	19.60	19.60	19.60
44)	Toluene	1.02	2.04	5.10	10.20	15.30	20.40
45)	trans-1,3-Dichloropropene	0.96	1.92	4.80	9.60	14.40	19.20
46)	1,1,2-Trichloroethane	1.02	2.04	5.10	10.20	15.30	20.40
47)	Tetrachloroethene	1.02	2.04	5.10	10.20	15.30	20.40
48)	2-Hexanone	1.03	2.06	5.15	10.30	15.45	20.60
49)	Chlorodibromomethane	1.09	2.18	5.45	10.90	16.35	21.80
50)	1,2-Dibromoethane (EDB)	1.04	2.08	5.20	10.40	15.60	20.80
51)	Chlorobenzene	1.03	2.06	5.15	10.30	15.45	20.60
52)	Ethylbenzene	1.03	2.06	5.15	10.30	15.45	20.60
53)	m&p-Xylene	2.04	4.08	10.20	20.40	30.60	40.80
54)	o-Xylene	1.00	2.00	5.00	10.00	15.00	20.00
55)	Styrene	0.98	1.96	4.90	9.80	14.70	19.60
56)	Bromoform	1.10	2.20	5.50	11.00	16.50	22.00
57)	1,1,2,2-Tetrachloroethane	0.99	1.98	4.95	9.90	14.85	19.80
58)	4-Ethyltoluene	1.02	2.04	5.10	10.20	15.30	20.40
59)	1,3,5-Trimethylbenzene	1.02	2.04	5.10	10.20	15.30	20.40
60)	1,2,4-Trimethylbenzene	1.02	2.04	5.10	10.20	15.30	20.40
61)	1,3-Dichlorobenzene	1.00	2.00	5.00	10.00	15.00	20.00
62)	1,4-Dichlorobenzene	1.00	2.00	5.00	10.00	15.00	20.00
63)	Benzyl chloride	1.10	2.20	5.50	11.00	16.50	22.00
64)	1,2-Dichlorobenzene	0.98	1.96	4.90	9.80	14.70	19.60
65)	1,2,4-Trichlorobenzene	0.90	1.80	4.50	9.00	13.50	18.00
66)	Hexachlorobutadiene	0.92	1.84	4.60	9.20	13.80	18.40

C:\MSDChem\1\DATA\10255KAA\10255KC4.D

CALIBRATION AREA REPORT

Instrument Name: HP5973K
Sample Name: S20D002-SCV1
Misc Info: 10ppbv
Date Acquired: 4/1/2020 22:24
QLast Update: Thu Apr 02 09:57:00 202
Operator: LLH

#	Name	L1	L2	L3	L4	L5	L6
1)	BROMOCHLOROMETHANE	288642	281363	283682	290286	292622	298225
2)	Propene	9472	18642	45424	89664	139020	190282
3)	Dichlorodifluoromethane	21718	46056	112015	225112	352411	486584
4)	1,2-Dichlorotetrafluoroethane	23763	49113	121829	244096	382639	535311
5)	Chloromethane	9172	18923	45828	91603	143177	195085
6)	Vinyl chloride	11393	24295	58584	117125	178918	246230
7)	1,3-Butadiene	9576	18947	45736	90677	138207	188278
8)	Bromomethane	7919	16595	40384	78749	122278	172951
9)	Chloroethane	5416	11165	26998	52857	82458	114710
10)	Bromoethene	8679	16933	41247	81594	127092	179996
11)	Trichlorofluoromethane	19459	41551	99794	195120	299527	419265
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	14851	30875	74733	146517	225753	316376
13)	1,1-Dichloroethene	13525	29006	69979	137598	211166	295691
14)	Acetone	15344	29872	71092	139084	213188	293400
15)	Carbon disulfide	28202	54789	133607	261015	400015	556264
16)	2-Propanol	13834	28416	70836	142662	221287	309800
17)	Allyl chloride	13402	26653	65392	128988	199339	274862
18)	Dichloromethane	13522	24778	55048	104812	159015	217341
19)	tert-Butyl methyl ether (MTBE)	28531	55784	136816	270292	421737	587705
20)	trans-1,2-Dichloroethene	14017	27642	67232	132599	204010	283793
21)	Hexane	17598	34457	85339	169753	261324	361381
22)	1,1-Dichloroethane	16178	34642	82809	162135	248766	343874
23)	Vinyl acetate	22323	45192	113818	230577	357766	495405
24)	cis-1,2-Dichloroethene	11923	25339	62690	123887	189705	264564
25)	2-Butanone (MEK)	5197	10547	26164	52408	81094	112474
26)	Ethyl acetate	3331	6825	15753	31318	47919	66250
27)	Tetrahydrofuran	12115	24332	60441	119012	181913	251455
28)	Chloroform	17561	37073	88506	174203	267049	370922
29)	Cyclohexane	18009	35490	86566	171808	263634	365035
30)	1,1,1-Trichloroethane	17060	36346	88178	174031	267699	371170
31)	Carbon tetrachloride	17091	36442	89061	175935	271498	376508
32)	1,4-DIFLUOROBENZENE	890972	860745	856372	865447	900340	930144
33)	Benzene	29664	62729	153339	296759	**457434**	631821
34)	2,2,4-Trimethylpentane	55323	109199	267838	528496	810850	1118236
35)	1,2-Dichloroethane	11153	23960	58160	113676	174427	240019
36)	Heptane	20072	39738	98668	194869	298484	408438
37)	Trichloroethene	13130	27763	66039	131721	203406	283918
38)	1,2-Dichloropropane	10978	23094	56094	111164	169845	236978
39)	1,4-Dioxane	7309	14326	35686	71270	110491	155346
40)	Bromodichloromethane	20265	40479	98886	196791	304152	423378
41)	cis-1,3-Dichloropropene	15744	34118	84951	173129	267525	376436
42)	4-Methyl-2-pentanone (MIBK)	22219	47309	117076	234938	360786	498511

C:\MSDChem\1\DATA\10255KAA\10255KC4.D

43)	CHLOROBENZENE-d5	795202	773186	780232	803106	843082	876910
44)	Toluene	34597	73609	181105	359510	557984	777859
45)	trans-1,3-Dichloropropene	13796	30261	76889	156760	245324	342965
46)	1,1,2-Trichloroethane	11391	23777	58343	118349	183171	258527
47)	Tetrachloroethene	17576	37260	90544	182553	286591	406059
48)	2-Hexanone	18548	42229	107554	214775	330606	458759
49)	Chlorodibromomethane	20650	41495	103641	211013	330765	465863
50)	1,2-Dibromoethane (EDB)	16488	35646	87433	176732	276561	388678
51)	Chlorobenzene	28693	61224	148644	298702	463480	648034
52)	Ethylbenzene	45195	97914	239627	480770	743910	1040045
53)	m&p-Xylene	66821	146280	362307	731542	1133129	1589007
54)	o-Xylene	33369	72703	182436	370125	577422	804546
55)	Styrene	15601	35230	89838	185526	291442	409226
56)	Bromoform	21012	43719	113080	237167	375705	533634
57)	1,1,2,2-Tetrachloroethane	24081	52114	132049	270188	419962	585991
58)	4-Ethyltoluene	54210	113216	286638	591258	920900	1290613
59)	1,3,5-Trimethylbenzene	38150	85881	219684	448975	697042	973801
60)	1,2,4-Trimethylbenzene	37541	85707	221660	457716	712165	994956
61)	1,3-Dichlorobenzene	27163	61390	159433	329641	518116	729073
62)	1,4-Dichlorobenzene	27071	60800	158718	330362	516124	725315
63)	Benzyl chloride	27890	69518	193883	413201	649632	909155
64)	1,2-Dichlorobenzene	26172	58542	154020	317029	496433	695249
65)	1,2,4-Trichlorobenzene	17782	41700	117870	260795	425298	620336
66)	Hexachlorobutadiene	22443	49233	128706	275262	439916	634275

CHEMSTATION VS LIMS CONCENTRATION REPORT

Instrument Name: HP5973K
Sample Name: S20D002-SCV1
Misc Info: 10ppbv
Date Acquired: 4/1/2020 22:24
QLast Update: Thu Apr 02 09:57:00 20
Operator: LLH

#	Name	L1	L2	L3	L4	L5	L6
		1	2	5	10	15	20
1)	BROMOCHLOROMETHANE						
2)	Propene	OK	OK	OK	OK	OK	OK
3)	Dichlorodifluoromethane	OK	OK	OK	OK	OK	OK
4)	1,2-Dichlorotetrafluoroethane	OK	OK	OK	OK	OK	OK
5)	Chloromethane	OK	OK	OK	OK	OK	OK
6)	Vinyl chloride	OK	OK	OK	OK	OK	OK
7)	1,3-Butadiene	OK	OK	OK	OK	OK	OK
8)	Bromomethane	OK	OK	OK	OK	OK	OK
9)	Chloroethane	OK	OK	OK	OK	OK	OK
10)	Bromoethene	OK	OK	OK	OK	OK	OK
11)	Trichlorofluoromethane	OK	OK	OK	OK	OK	OK
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	OK	OK	OK	OK	OK	OK
13)	1,1-Dichloroethene	OK	OK	OK	OK	OK	OK
14)	Acetone	OK	OK	OK	OK	OK	OK
15)	Carbon disulfide	OK	OK	OK	OK	OK	OK
16)	2-Propanol	OK	OK	OK	OK	OK	OK
17)	Allyl chloride	OK	OK	OK	OK	OK	OK
18)	Dichloromethane	OK	OK	OK	OK	OK	OK
19)	tert-Butyl methyl ether (MTBE)	OK	OK	OK	OK	OK	OK
20)	trans-1,2-Dichloroethene	OK	OK	OK	OK	OK	OK
21)	Hexane	OK	OK	OK	OK	OK	OK
22)	1,1-Dichloroethane	OK	OK	OK	OK	OK	OK
23)	Vinyl acetate	OK	OK	OK	OK	OK	OK
24)	cis-1,2-Dichloroethene	OK	OK	OK	OK	OK	OK
25)	2-Butanone (MEK)	OK	OK	OK	OK	OK	OK
26)	Ethyl acetate	OK	OK	OK	OK	OK	OK
27)	Tetrahydrofuran	OK	OK	OK	OK	OK	OK
28)	Chloroform	OK	OK	OK	OK	OK	OK
29)	Cyclohexane	OK	OK	OK	OK	OK	OK
30)	1,1,1-Trichloroethane	OK	OK	OK	OK	OK	OK
31)	Carbon tetrachloride	OK	OK	OK	OK	OK	OK
32)	1,4-DIFLUOROBENZENE						
33)	Benzene	OK	OK	OK	OK	OK	OK
34)	2,2,4-Trimethylpentane	OK	OK	OK	OK	OK	OK
35)	1,2-Dichloroethane	OK	OK	OK	OK	OK	OK
36)	Heptane	OK	OK	OK	OK	OK	OK
37)	Trichloroethene	OK	OK	OK	OK	OK	OK
38)	1,2-Dichloropropane	OK	OK	OK	OK	OK	OK
39)	1,4-Dioxane	OK	OK	OK	OK	OK	OK
40)	Bromodichloromethane	OK	OK	OK	OK	OK	OK
41)	cis-1,3-Dichloropropene	OK	OK	OK	OK	OK	OK
42)	4-Methyl-2-pentanone (MIBK)	OK	OK	OK	OK	OK	OK
43)	CHLOROBENZENE-d5						
44)	Toluene	OK	OK	OK	OK	OK	OK
45)	trans-1,3-Dichloropropene	OK	OK	OK	OK	OK	OK
46)	1,1,2-Trichloroethane	OK	OK	OK	OK	OK	OK
47)	Tetrachloroethene	OK	OK	OK	OK	OK	OK

48)	2-Hexanone	OK	OK	OK	OK	OK	OK
49)	Chlorodibromomethane	OK	OK	OK	OK	OK	OK
50)	1,2-Dibromoethane (EDB)	OK	OK	OK	OK	OK	OK
51)	Chlorobenzene	OK	OK	OK	OK	OK	OK
52)	Ethylbenzene	OK	OK	OK	OK	OK	OK
53)	m&p-Xylene	OK	OK	OK	OK	OK	OK
54)	o-Xylene	OK	OK	OK	OK	OK	OK
55)	Styrene	OK	OK	OK	OK	OK	OK
56)	Bromoform	OK	OK	OK	OK	OK	OK
57)	1,1,2,2-Tetrachloroethane	OK	OK	OK	OK	OK	OK
58)	4-Ethyltoluene	OK	OK	OK	OK	OK	OK
59)	1,3,5-Trimethylbenzene	OK	OK	OK	OK	OK	OK
60)	1,2,4-Trimethylbenzene	OK	OK	OK	OK	OK	OK
61)	1,3-Dichlorobenzene	OK	OK	OK	OK	OK	OK
62)	1,4-Dichlorobenzene	OK	OK	OK	OK	OK	OK
63)	Benzyl chloride	OK	OK	OK	OK	OK	OK
64)	1,2-Dichlorobenzene	OK	OK	OK	OK	OK	OK
65)	1,2,4-Trichlorobenzene	OK	OK	OK	OK	OK	OK
66)	Hexachlorobutadiene	OK	OK	OK	OK	OK	OK

LIMS CONCENTRATION REPORT

Instrument Name: HP5973K
Sample Name: S20D002-SCV1
Misc Info: 10ppbv
Date Acquired: 4/1/2020 22:24
QLast Update: Thu Apr 02 09:57:00 2(
Operator: LLH

#	Name	Amount	L1	L2	L3	L4	L5	L6
			1	2	5	10	15	20
1)	BROMOCHLOROMETHANE	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
2)	Propene	0.022	1.10	2.20	5.50	11.00	16.50	22.00
3)	Dichlorodifluoromethane	0.0204	1.02	2.04	5.10	10.20	15.30	20.40
4)	1,2-Dichlorotetrafluoroethane	0.0194	0.97	1.94	4.85	9.70	14.55	19.40
5)	Chloromethane	0.0216	1.08	2.16	5.40	10.80	16.20	21.60
6)	Vinyl chloride	0.0208	1.04	2.08	5.20	10.40	15.60	20.80
7)	1,3-Butadiene	0.0206	1.03	2.06	5.15	10.30	15.45	20.60
8)	Bromomethane	0.0204	1.02	2.04	5.10	10.20	15.30	20.40
9)	Chloroethane	0.0204	1.02	2.04	5.10	10.20	15.30	20.40
10)	Bromoethene	0.0218	1.09	2.18	5.45	10.90	16.35	21.80
11)	Trichlorofluoromethane	0.0188	0.94	1.88	4.70	9.40	14.10	18.80
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	0.02	1.00	2.00	5.00	10.00	15.00	20.00
13)	1,1-Dichloroethene	0.0208	1.04	2.08	5.20	10.40	15.60	20.80
14)	Acetone	0.0216	1.08	2.16	5.40	10.80	16.20	21.60
15)	Carbon disulfide	0.022	1.10	2.20	5.50	11.00	16.50	22.00
16)	2-Propanol	0.022	1.10	2.20	5.50	11.00	16.50	22.00
17)	Allyl chloride	0.022	1.10	2.20	5.50	11.00	16.50	22.00
18)	Dichloromethane	0.02	1.00	2.00	5.00	10.00	15.00	20.00
19)	tert-Butyl methyl ether (MTBE)	0.0214	1.07	2.14	5.35	10.70	16.05	21.40
20)	trans-1,2-Dichloroethene	0.0218	1.09	2.18	5.45	10.90	16.35	21.80
21)	Hexane	0.0204	1.02	2.04	5.10	10.20	15.30	20.40
22)	1,1-Dichloroethane	0.0192	0.96	1.92	4.80	9.60	14.40	19.20
23)	Vinyl acetate	0.022	1.10	2.20	5.50	11.00	16.50	22.00
24)	cis-1,2-Dichloroethene	0.0202	1.01	2.02	5.05	10.10	15.15	20.20
25)	2-Butanone (MEK)	0.021	1.05	2.10	5.25	10.50	15.75	21.00
26)	Ethyl acetate	0.0206	1.03	2.06	5.15	10.30	15.45	20.60
27)	Tetrahydrofuran	0.0202	1.01	2.02	5.05	10.10	15.15	20.20
28)	Chloroform	0.0208	1.04	2.08	5.20	10.40	15.60	20.80
29)	Cyclohexane	0.0206	1.03	2.06	5.15	10.30	15.45	20.60
30)	1,1,1-Trichloroethane	0.0208	1.04	2.08	5.20	10.40	15.60	20.80
31)	Carbon tetrachloride	0.0202	1.01	2.02	5.05	10.10	15.15	20.20
32)	1,4-DIFLUOROBENZENE	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
33)	Benzene	0.0204	1.02	2.04	5.10	10.20	15.30	20.40
34)	2,2,4-Trimethylpentane	0.0206	1.03	2.06	5.15	10.30	15.45	20.60
35)	1,2-Dichloroethane	0.0198	0.99	1.98	4.95	9.90	14.85	19.80
36)	Heptane	0.0206	1.03	2.06	5.15	10.30	15.45	20.60
37)	Trichloroethene	0.0216	1.08	2.16	5.40	10.80	16.20	21.60
38)	1,2-Dichloropropane	0.0202	1.01	2.02	5.05	10.10	15.15	20.20
39)	1,4-Dioxane	0.0208	1.04	2.08	5.20	10.40	15.60	20.80
40)	Bromodichloromethane	0.0208	1.04	2.08	5.20	10.40	15.60	20.80
41)	cis-1,3-Dichloropropene	0.02	1.00	2.00	5.00	10.00	15.00	20.00
42)	4-Methyl-2-pentanone (MIBK)	0.021	1.05	2.10	5.25	10.50	15.75	21.00
43)	CHLOROBENZENE-d5	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44)	Toluene	0.0204	1.02	2.04	5.10	10.20	15.30	20.40
45)	trans-1,3-Dichloropropene	0.0192	0.96	1.92	4.80	9.60	14.40	19.20
46)	1,1,2-Trichloroethane	0.0204	1.02	2.04	5.10	10.20	15.30	20.40
47)	Tetrachloroethene	0.0204	1.02	2.04	5.10	10.20	15.30	20.40
48)	2-Hexanone	0.0206	1.03	2.06	5.15	10.30	15.45	20.60
49)	Chlorodibromomethane	0.0218	1.09	2.18	5.45	10.90	16.35	21.80

50)	1,2-Dibromoethane (EDB)	0.0208	1.04	2.08	5.20	10.40	15.60	20.80
51)	Chlorobenzene	0.0206	1.03	2.06	5.15	10.30	15.45	20.60
52)	Ethylbenzene	0.0206	1.03	2.06	5.15	10.30	15.45	20.60
53)	m&p-Xylene	0.0408	2.04	4.08	10.20	20.40	30.60	40.80
54)	o-Xylene	0.02	1.00	2.00	5.00	10.00	15.00	20.00
55)	Styrene	0.0196	0.98	1.96	4.90	9.80	14.70	19.60
56)	Bromoform	0.022	1.10	2.20	5.50	11.00	16.50	22.00
57)	1,1,2,2-Tetrachloroethane	0.0198	0.99	1.98	4.95	9.90	14.85	19.80
58)	4-Ethyltoluene	0.0204	1.02	2.04	5.10	10.20	15.30	20.40
59)	1,3,5-Trimethylbenzene	0.0204	1.02	2.04	5.10	10.20	15.30	20.40
60)	1,2,4-Trimethylbenzene	0.0204	1.02	2.04	5.10	10.20	15.30	20.40
61)	1,3-Dichlorobenzene	0.02	1.00	2.00	5.00	10.00	15.00	20.00
62)	1,4-Dichlorobenzene	0.02	1.00	2.00	5.00	10.00	15.00	20.00
63)	Benzyl chloride	0.022	1.10	2.20	5.50	11.00	16.50	22.00
64)	1,2-Dichlorobenzene	0.0196	0.98	1.96	4.90	9.80	14.70	19.60
65)	1,2,4-Trichlorobenzene	0.018	0.90	1.80	4.50	9.00	13.50	18.00
66)	Hexachlorobutadiene	0.0184	0.92	1.84	4.60	9.20	13.80	18.40

SEQUENCE

S20D002

Sequence Date: 04/01/2020

Instrument: HP5973K

Sequence Analyses:

VOCs, Soil Gas

ANALYST / REVIEWER - DATA REVIEW CHECKLIST

BATCH #:	N / A	SEQUENCE #:	S20D002 04/01/20
BATCH #:	+ INITIAL CALIBRATION	ANALYSIS:	TO15 HP5973K

	CHECKLIST ITEM	N/A	ANALYST Y/N	REVIEWER Y/N	IDENTIFY OUTLIERS / COMMENTS
DOCUMENTATION	ANALYST: Bench sheet(s) attached? REVIEWER: Bench sheet(s) reviewed?	✔			
	ANALYST: Sequence log(s) attached? REVIEWER: Sequence log(s) reviewed?		Y	Y	
	ANALYST: Every run has a PDF in LIMS? REVIEWER: Every PDF reviewed?		Y	Y	
INITIAL CALIBRATION	Date of Initial Calibration used: If applicable, note date of "Last Update" in Comments.	04/01/20 Thu Apr 02, 2020 09:57:00			
	Initial Calibration ID (LIMS number):	2004002 / S20D002			
	ICAL within QC criteria?		Y	Y	OK
	SCV within QC criteria?		Y	Y	2-Propanol = 140%; Styrene = 182%
INSTRUMENT / QC CHECKS	Tune or degradation checks within QC criteria?		Y	Y	PASSED
	CCV(s) within QC criteria?	✔	Y	Y	
	QLS(s) within QC criteria?	✔	Y	Y	
	CB(s) or storage blank(s) within QC criteria?	✔			
	Other instrument checks within QC criteria? Specify if applicable.	✔			
BATCH QCs	Method blanks < 1/2 QL?	✔			
	LCS(s) or SRM(s) within QC criteria?	✔			
	MSs/MSDs and/or DUPs within QC criteria?	✔			
	Other method-specific QCs within QC criteria? Specify if applicable.	✔			

ANALYST / REVIEWER - DATA REVIEW CHECKLIST

BATCH #:	N / A	SEQUENCE #:	S20D002	04/01/20
BATCH #:	+ INITIAL CALIBRATION	ANALYSIS:	TO15	HP5973K

	CHECKLIST ITEM	N/A	ANALYST Y/N	REVIEWER Y/N	IDENTIFY OUTLIERS / COMMENTS
IS / SS	Internal standards within QC criteria?	☐	Y	Y	
	Surrogates within QC criteria?	✔			
SAMPLE DATA	Were samples prepared & analyzed within holding time?	✔			
	If samples need to be re-run, were RE(s) made in LIMS?	✔			
	Do any samples need to be re-digested or re-extracted?	✔			
	Were all data qualifiers appropriately applied?	✔			
	Are problems, anomalies, discrepancies documented in LIMS? Specify if applicable.	✔			
MANUAL INT	Were manual integrations performed and documented? Specify if applicable.	✔			

APPROVALS	ANALYST INITIALS & DATE:	LLH 04/02/20
	REVIEWED BY:	Rajabi, Ziyad Digitally signed by Rajabi, Ziyad Date: 2020.05.20 08:36:07 -07'00' SIGN HERE

COMMENTS

Injection Log

Directory: d:\msdchem\1\2020\DATA\040120K_FSAA

Table of Contents

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	33	040120K01.D	1.	IBL	BLANK	1 Apr 2020 10:22
2	33	040120K02.D	1.	IBL	BLANK	1 Apr 2020 12:46
3	27	040120K03.D	1.	PRIME	STD CHECK	1 Apr 2020 13:51
4	29	040120K04.D	1.	PRIME	STD CHECK	1 Apr 2020 14:42
5	38	040120K05.D	1.	PRIME	STD CHECK	1 Apr 2020 15:35
6	27	040120K06.D	1.	S20D002-TUN1	BFB 1901028	1 Apr 2020 16:26
7	27	040120K07.D	1.	S20D002-CAL1	1.0ppbv	1 Apr 2020 17:16
8	29	040120K08.D	1.	S20D002-CAL2	2.0ppbv	1 Apr 2020 18:06
9	29	040120K09.D	1.	S20D002-CAL3	5.0ppbv	1 Apr 2020 18:56
10	29	040120K10.D	1.	S20D002-CAL4	10ppbv	1 Apr 2020 19:47
11	29	040120K11.D	1.	S20D002-CAL5	15ppbv	1 Apr 2020 20:39
12	29	040120K12.D	1.	S20D002-CAL6	20ppbv	1 Apr 2020 21:31
13	38	040120K13.D	1.	S20D002-SCV1	10ppbv	1 Apr 2020 22:24
14	38	040120K14.D	1.	S20D002SCV1	10ppbv	1 Apr 2020 23:16
15	33	040120K15.D	1.	S20D002-IBL1	200ml BLANK	2 Apr 2020 00:09

GC/MS QA-QC Check Report

Table of Contents

Tune File : D:\msdchem\1\2020\DATA\040120K_FSAA\040120K06.D
Tune Time : 1 Apr 2020 4:26 pm

Daily Calibration File : D:\msdchem\1\2020\DATA\040120K_FSAA\040120K10.D

File	Sample	Surrogate Recovery %		Internal Standard Responses	
			290286	865447	803106
040120K07.D					
	S20D002-CAL1	288642	890972	795202	
040120K08.D					
	S20D002-CAL2	281363	860745	773186	
040120K09.D					
	S20D002-CAL3	283682	856372	780232	
040120K10.D					
	S20D002-CAL4	290286	865447	803106	
040120K11.D					
	S20D002-CAL5	292622	900340	843082	
040120K12.D					
	S20D002-CAL6	298225	930144	876910	
040120K13.D					
	S20D002-SCV1	314982	965414	886908	
040120K14.D					
	S20D002SCV1	305757	957898	881481	NOT USED
040120K15.D					
	S20D002-IBL1	306396	954164	829953	

(fails) - fails 24hr time check * - fails criteria

Created: Thu Apr 02 10:10:00 2020 HP5973K

Analysis Sequence

S20D002

Project:
Analysis:

Instrument: HP5973K **Calibration ID:** 2004002 Printed: 04/02/2020 10:19 am

Lab Number	Sample Name	Order	Analyzed Date	STD ID	ISTD ID	Sequenced By	File ID	Comments
S20D002-TUN1	BFB Tune	1	4/1/20 16:26	1901028		LLH	040120K06.D	
S20D002-CAL1	CAL STD	2	4/1/20 17:16	2014026		LLH	040120K07.D	
S20D002-CAL2	CAL STD	3	4/1/20 18:06	2014027		LLH	040120K08.D	
S20D002-CAL3	CAL STD	4	4/1/20 18:56	2014028		LLH	040120K09.D	
S20D002-CAL4	CAL STD	5	4/1/20 19:47	2014029		LLH	040120K10.D	
S20D002-CAL5	CAL STD	6	4/1/20 20:39	2014030		LLH	040120K11.D	
S20D002-CAL6	CAL STD	7	4/1/20 21:31	2014031		LLH	040120K12.D	
S20D002-SCV1	SCV	8	4/1/20 22:24	2014033		LLH	040120K13.D	
S20D002-IBL1	Instrument Blank	9	4/2/20 0:09		2006146	LLH	040120K15.D	

Sequence Comments

Reagents

Reagent # **Description**

Table of Contents

Sequence Report

I	Name	Inlet	Pos.	Int Std	Cal Std	Sample	Method	Inject	Status
	BLANK	Three	T3	40	0	200	TO-15_A.CTD3	4/1/2020 10:22:57 AM	Canceled
	BLANK	Three	T3	40	40	200	TO-15_A.CTD3	4/1/2020 12:46:43 PM	Canceled
	PRIME	Two	T7	40	0	200	TO-15_A.CTD3	4/1/2020 1:51:32 PM	Completed
	PRIME	Two	T9	40	0	100	TO-15_A.CTD3	4/1/2020 2:42:28 PM	Completed
	PRIME	Three	T8	40	0	200	TO-15_A.CTD3	4/1/2020 3:35:15 PM	Completed
	BFB	Two	T7	40	40	20	TO-15_A.CTD3	4/1/2020 4:26:36 PM	Completed
	CAL1	Two	T7	40	0	20	TO-15_A.CTD3	4/1/2020 5:16:34 PM	Completed
	CAL2	Two	T9	40	0	20	TO-15_A.CTD3	4/1/2020 6:06:22 PM	Completed
	CAL3	Two	T9	40	0	50	TO-15_A.CTD3	4/1/2020 6:56:30 PM	Completed
	CAL4	Two	T9	40	0	100	TO-15_A.CTD3	4/1/2020 7:47:24 PM	Completed
	CAL5	Two	T9	40	0	150	TO-15_A.CTD3	4/1/2020 8:39:12 PM	Completed
	CAL6	Two	T9	40	0	200	TO-15_A.CTD3	4/1/2020 9:31:45 PM	Completed
	SCV1	Three	T8	40	0	200	TO-15_A.CTD3	4/1/2020 10:24:14 PM	Completed
	SCV1	Three	T8	40	0	200	TO-15_A.CTD3	4/1/2020 11:16:43 PM	Completed
	BLANK	Three	T3	40	0	200	TO-15_A.CTD3	4/2/2020 12:09:13 AM	Completed

SEQUENCE DATA

S20D002

S20D002-TUN1

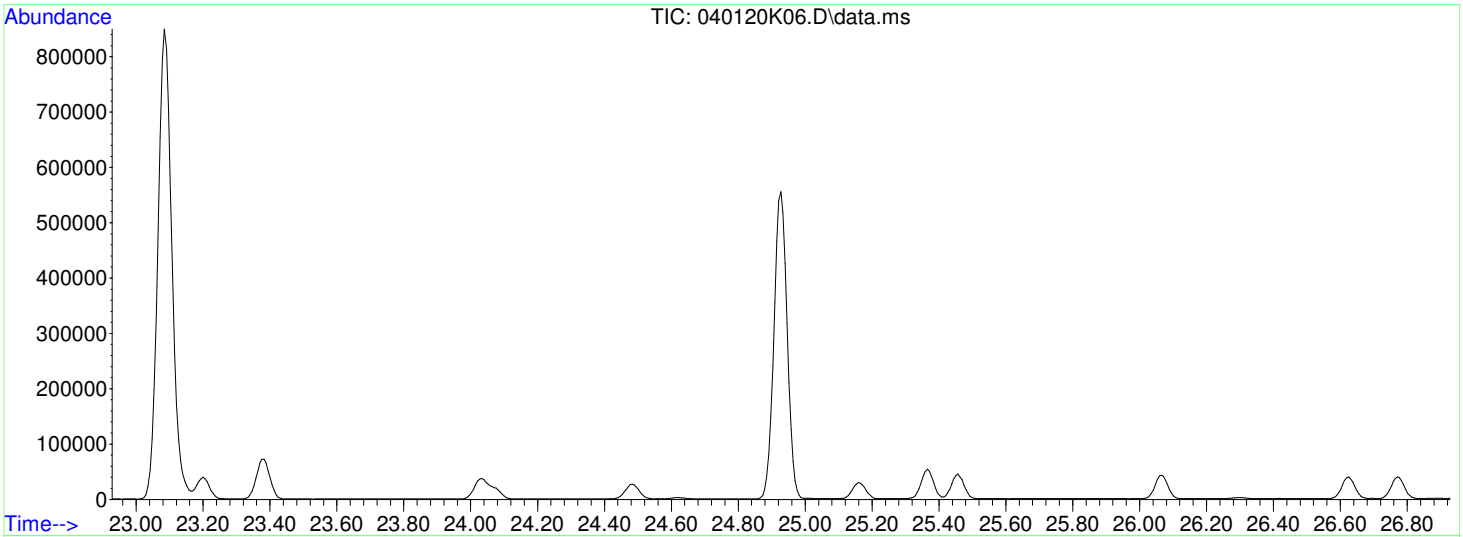
Table of Contents

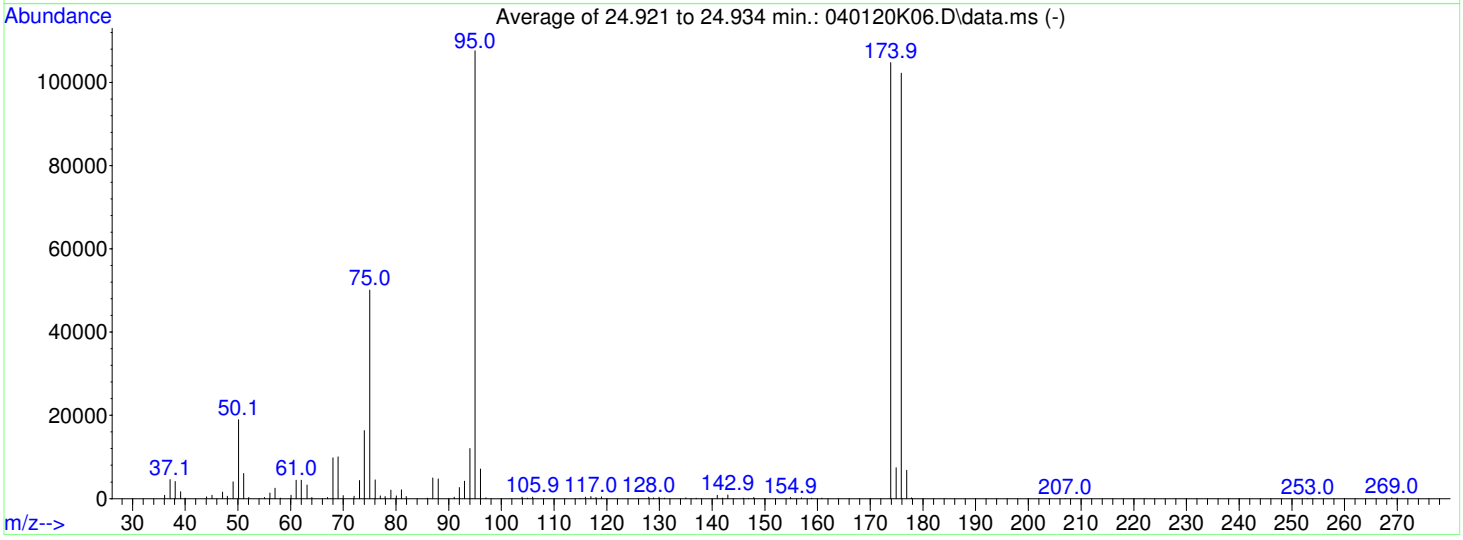
Data Path : D:\msdchem\1\2020\DATA\040120K_FSAA\
Data File : 040120K06.D
InstName : HP5973K
Acq On : 1 Apr 2020 4:26 pm
Operator : LLH
Sample : S20D002-TUN1
Misc : BFB 1901028
ALS Vial : 27 Sample Multiplier: 1

REVIEWED
By LLH at 9:45 am, Apr 02, 2020

Integration File: lscint.p

Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Title : TO15
Last Update : Fri Feb 14 10:34:59 2020





AutoFind: Scans 3327, 3328, 3329; Background Corrected with Scan 3312

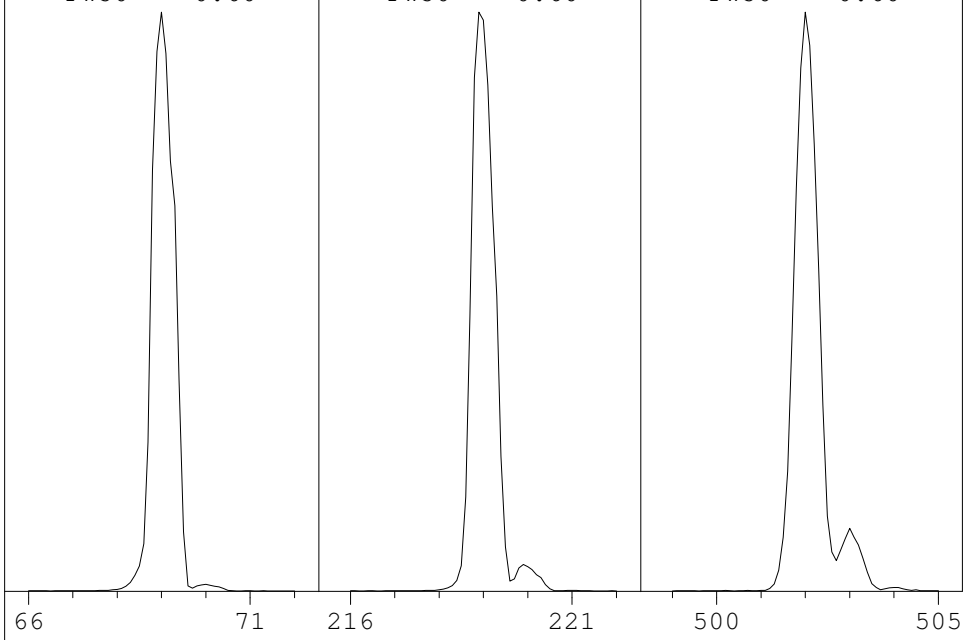
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.6	18984	PASS
75	95	30	66	46.5	50088	PASS
95	95	100	100	100.0	107637	PASS
96	95	5	9	6.6	7105	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	97.3	104757	PASS
175	174	4	9	7.1	7448	PASS
176	174	93	101	97.6	102232	PASS
177	176	5	9	6.6	6778	PASS

Autotune

Wed Apr 01 09:52:05 2020 Instrum

C:\MSDCHEM\1\5973N\atune.u US03960556

Mass	69.00	Mass	218.90	Mass	502.00
Ab	431638	Ab	321831	Ab	34280
Pw50	0.60	Pw50	0.60	Pw50	0.60

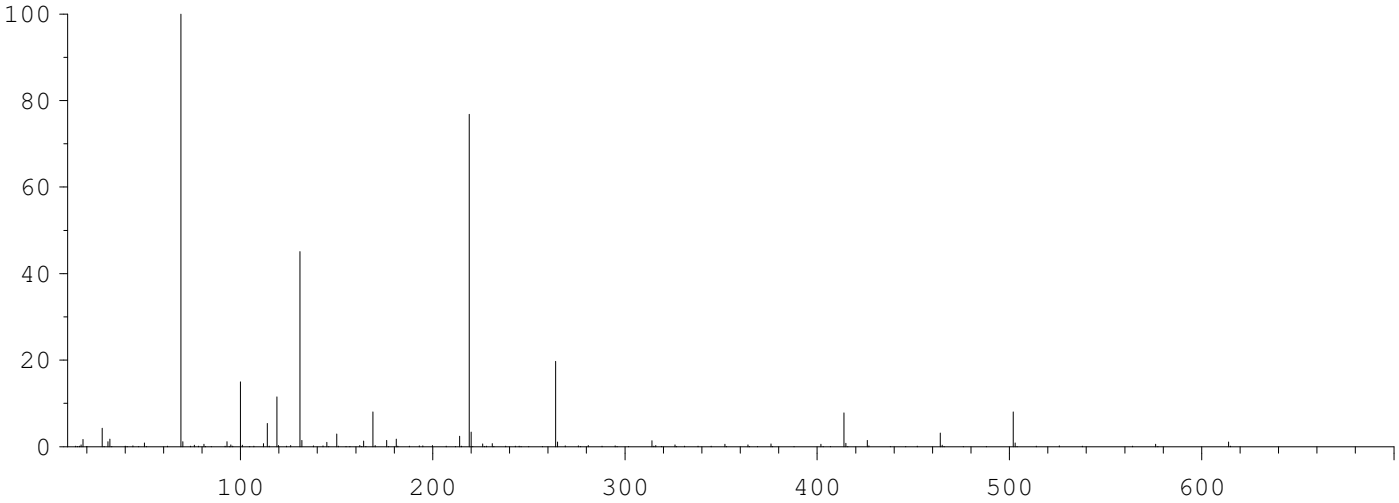


Ion Pol	Pos	MassGain	72
		MassOffs	-8
Emission	34.6	AmuGain	1990
EIEnrgy	69.9	AmuOffs	129
Filament	2	Wid219	-0.031
		DC Pol	Pos
Repeller	34.81		
IonFcus	90.2	HEDEnab	On
EntLens	19.0	EMVolts	1106
EntOffs	19.83		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	Turbo Speed	100
MS Quad	150		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
138 peaks Base: 69.00 Abundance: 380736



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	380736	100.00	70.00	4293	1.13
219.00	292480	76.82	220.00	12823	4.38
502.00	30640	8.05	503.00	3215	10.49

Air/Water Check: H20~1.68% N2~4.29% O2~1.76% CO2~0.20% N2/H2O~255.00%

Column(1) Flow: 1.492 Column(2): 0 ml/min. Interface Temp: 230

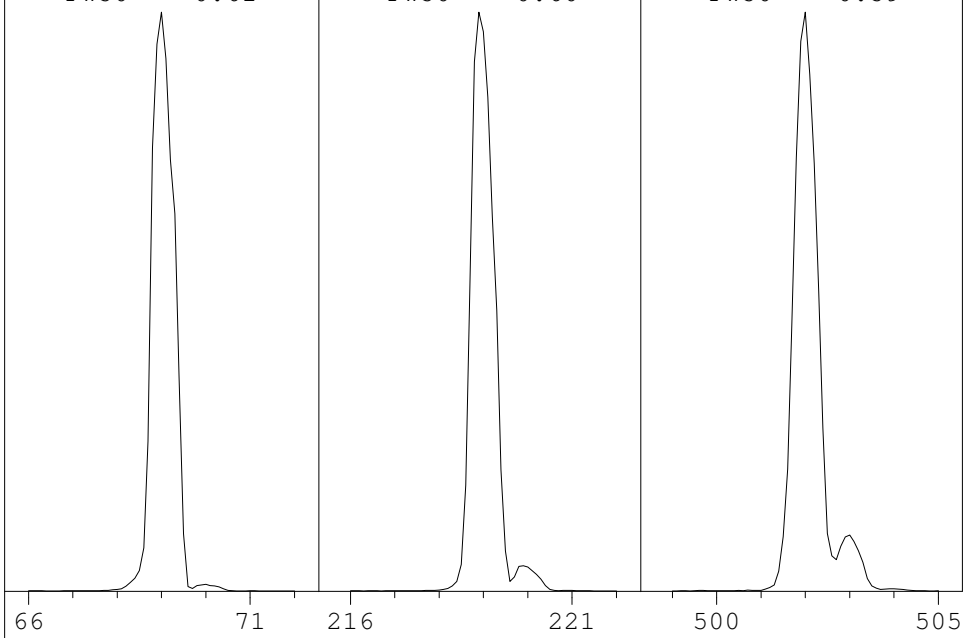
Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502; EM Gain 84340
Repeller Maximum 35 volts using ion 219; Gain Factor 0.84

MassGain Values(Samples): 72(3) 72(2) 72(1) 72(0) 72(FS)

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	129.0	129.0	129.0	129.0	129.0	129.0	129.0
Entrance Lens Offset:	19.8	19.8	19.8	19.8	19.8	19.8	19.8

Wed Apr 01 09:53:47 2020 Instrum
C:\msdchem\1\5973N\bfb040120K.U US03960556

Mass	69.00	Mass	218.90	Mass	502.00
Ab	571588	Ab	382842	Ab	41925
Pw50	0.61	Pw50	0.60	Pw50	0.59

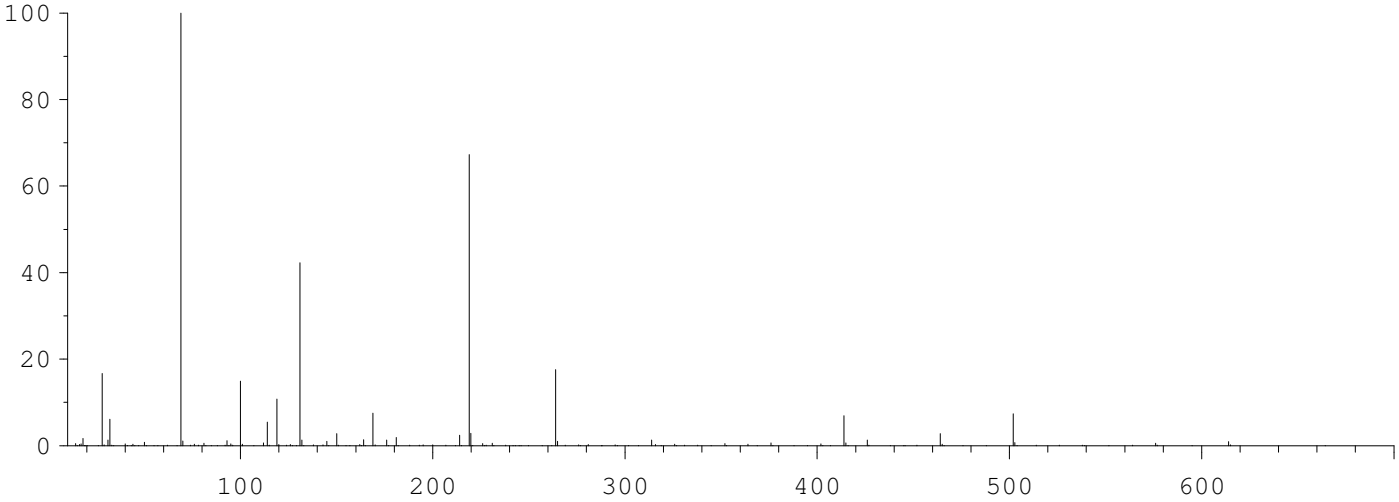


Ion Pol	Pos	MassGain	72
		MassOffs	-8
Emission	34.6	AmuGain	1990
EIEnrgy	69.9	AmuOffs	129
Filament	2	Wid219	-0.031
		DC Pol	Pos
Repeller	32.13		
IonFcus	90.2	HEDEnab	On
EntLens	19.0	EMVolts	1165
EntOffs	19.83		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	Turbo Speed	100
MS Quad	150		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
158 peaks Base: 69.00 Abundance: 510976



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	510976	100.00	70.00	5453	1.07
219.00	343936	67.31	219.90	14583	4.24
502.00	37816	7.40	502.90	3476	9.19

Air/Water Check: H20~1.69% N2~16.68% O2~6.10% CO2~0.35% N2/H2O~985.16%

Column(1) Flow: 1.492 Column(2): 0 ml/min. Interface Temp: 230

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502; EM Gain 131766
Repeller Maximum 35 volts using ion 219; Gain Factor 1.32

MassGain Values(Samples): 72(3) 72(2) 72(1) 72(0) 72(FS)

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	129.0	129.0	129.0	129.0	129.0	129.0	129.0
Entrance Lens Offset:	19.8	19.8	19.8	19.8	19.8	19.8	19.8

S20D002-CAL1

Data Path : D:\msdchem\1\2020\DATA\040120K_FSAA\
Data File : 040120K07.D
InstName : HP5973K
Acq On : 1 Apr 2020 5:16 pm
Operator : LLH
Sample : S20D002-CAL1
Misc : 1.0ppbv
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Apr 02 09:47:14 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:46:54 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	16.313	49	288642	19.60	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	18.223	114	890972	19.60	ppbv		0.00
43) CHLOROBENZENE-d5	23.084	117	795202	19.60	ppbv		0.00
Target Compounds							Qvalue
2) Propene	4.985	41	9472	1.14	ppbv		99
3) Dichlorodifluoromethane	5.089	85	21718	0.96	ppbv		100
4) 1,2-Dichlorotetrafluor...	5.484	85	23763	0.90	ppbv		100
5) Chloromethane	5.728	50	9172	1.08	ppbv		99
6) Vinyl chloride	6.068	62	11393	1.07	ppbv		99
7) 1,3-Butadiene	6.172	54	9576	1.14	ppbv		91
8) Bromomethane	7.236	94	7919	0.91	ppbv		99
9) Chloroethane	7.620	64	5416	0.96	ppbv		97
10) Bromoethene	8.252	106	8679	1.00	ppbv		99
11) Trichlorofluoromethane	8.386	101	19459	0.88	ppbv		100
12) 1,1,2-Trichloro-1,2,2-...	10.388	151	14851	0.89	ppbv		99
13) 1,1-Dichloroethene	10.497	61	13525	0.96	ppbv		99
14) Acetone	11.093	43	15344	1.14	ppbv		99
15) Carbon disulfide	11.203	76	28202	1.07	ppbv		98
16) 2-Propanol	11.617	45	13834	1.08	ppbv		95
17) Allyl chloride	11.957	41	13402	1.08	ppbv		98
18) Dichloromethane	12.480	49	13522	1.15	ppbv		99
19) tert-Butyl methyl ethe...	13.034	73	28531	1.02	ppbv		98
20) trans-1,2-Dichloroethene	13.107	61	14017	1.07	ppbv		99
21) Hexane	13.588	57	17598	0.96	ppbv		99
22) 1,1-Dichloroethane	14.391	63	16178	0.89	ppbv		100
23) Vinyl acetate	14.494	43	22323	1.08	ppbv		99
24) cis-1,2-Dichloroethene	15.772	61	11923	0.91	ppbv	#	97
25) 2-Butanone (MEK)	15.875	72	5197	0.96	ppbv	#	96
26) Ethyl acetate	15.869	61	3331	1.05	ppbv	#	89
27) Tetrahydrofuran	16.301	42	12115	1.01	ppbv		100
28) Chloroform	16.447	83	17561	0.98	ppbv		99
29) Cyclohexane	16.623	56	18009	1.01	ppbv		99
30) 1,1,1-Trichloroethane	16.702	97	17060	0.98	ppbv		100
31) Carbon tetrachloride	16.934	117	17091	1.01	ppbv		100
33) Benzene	17.439	78	29664	1.00	ppbv		99
34) 2,2,4-Trimethylpentane	17.311	57	55323	1.07	ppbv		99
35) 1,2-Dichloroethane	17.658	62	11153	1.01	ppbv		100
36) Heptane	17.682	43	20072	1.09	ppbv		100
37) Trichloroethene	18.631	130	13130	1.02	ppbv		99
38) 1,2-Dichloropropane	19.148	63	10978	1.00	ppbv		99
39) 1,4-Dioxane	19.324	88	7309	1.04	ppbv		98
40) Bromodichloromethane	19.604	83	20265	1.10	ppbv		100
41) cis-1,3-Dichloropropene	20.346	75	15744	0.93	ppbv		98
42) 4-Methyl-2-pentanone (...	20.559	43	22219	1.06	ppbv		99
44) Toluene	20.803	91	34597	0.96	ppbv		99
45) trans-1,3-Dichloropropene	21.289	75	13796	0.89	ppbv		99
46) 1,1,2-Trichloroethane	21.600	97	11391	0.97	ppbv		99
47) Tetrachloroethene	21.642	166	17576	0.94	ppbv		99
48) 2-Hexanone	21.892	43	18548	0.97	ppbv		96
49) Chlorodibromomethane	22.208	129	20650	1.15	ppbv		100
50) 1,2-Dibromoethane (EDB)	22.445	107	16488	0.96	ppbv		99
51) Chlorobenzene	23.133	112	28693	0.97	ppbv	#	82
52) Ethylbenzene	23.200	91	45195	0.97	ppbv		100
53) m&p-Xylene	23.376	91	66821	1.89	ppbv		98
54) o-Xylene	24.027	91	33369	0.91	ppbv		100

Data Path : D:\msdchem\1\2020\DATA\040120K_FSAA\
Data File : 040120K07.D
InstName : HP5973K
Acq On : 1 Apr 2020 5:16 pm
Operator : LLH
Sample : S20D002-CAL1
Misc : 1.0ppbv
ALS Vial : 27 Sample Multiplier: 1

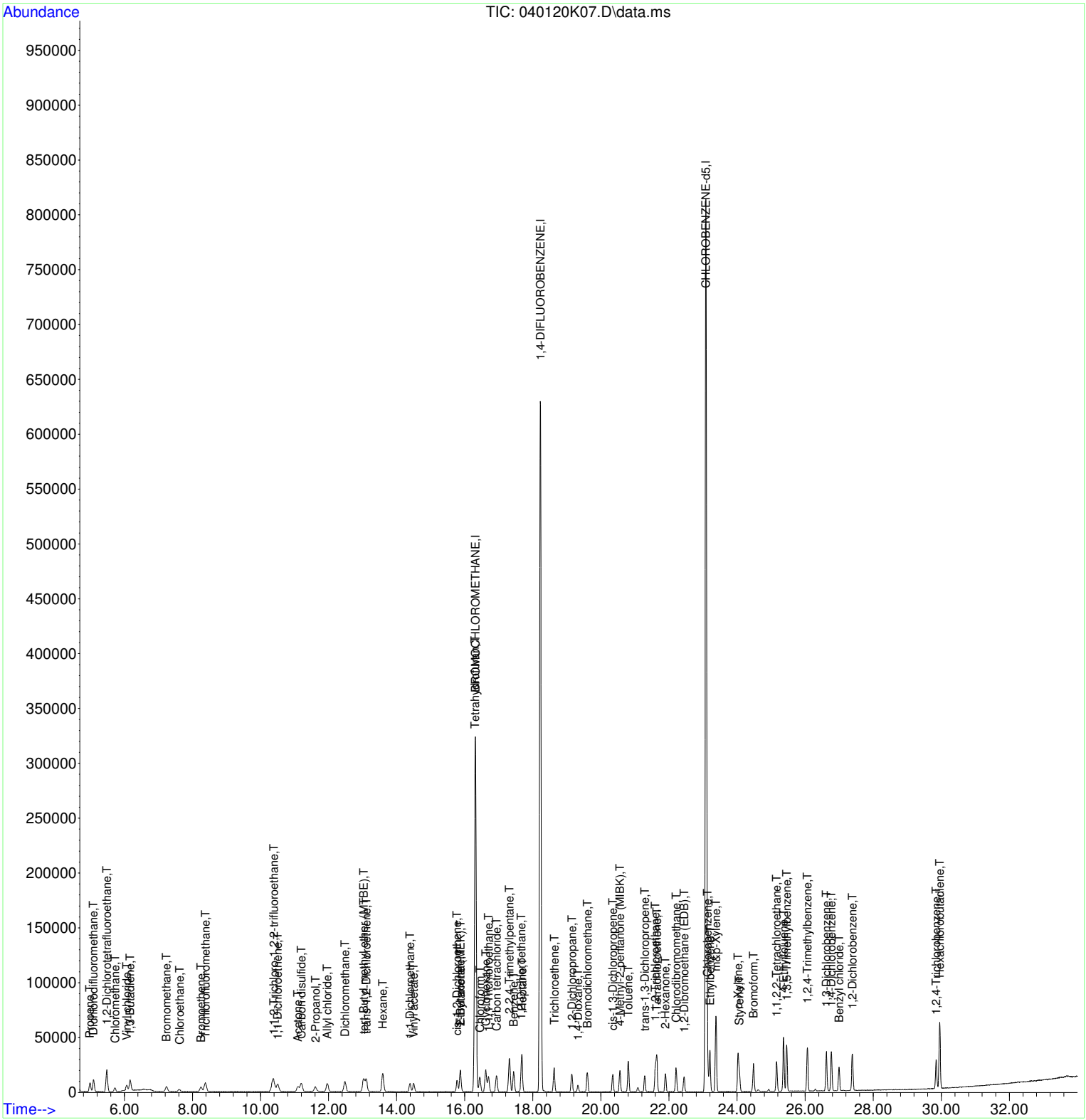
Quant Time: Apr 02 09:47:14 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:46:54 2020
Response via : Initial Calibration

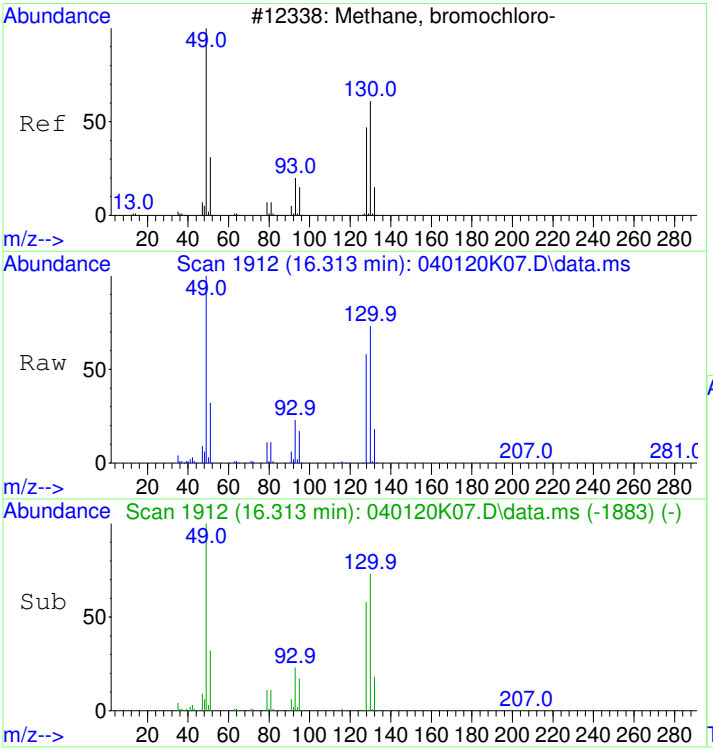
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
55) Styrene	24.070	104	15601	0.80 ppbv	98
56) Bromoform	24.483	173	21012	1.16 ppbv	99
57) 1,1,2,2-Tetrachloroethane	25.159	83	24081	0.91 ppbv	100
58) 4-Ethyltoluene	25.365	105	54210	0.95 ppbv	99
59) 1,3,5-Trimethylbenzene	25.457	105	38150	0.88 ppbv	100
60) 1,2,4-Trimethylbenzene	26.065	105	37541	0.86 ppbv	99
61) 1,3-Dichlorobenzene	26.625	146	27163	0.84 ppbv	100
62) 1,4-Dichlorobenzene	26.771	146	27071	0.85 ppbv	100
63) Benzyl chloride	26.996	91	27890	0.95 ppbv	98
64) 1,2-Dichlorobenzene	27.385	146	26172	0.83 ppbv	99
65) 1,2,4-Trichlorobenzene	29.849	180	17782	0.66 ppbv	99
66) Hexachlorobutadiene	29.952	225	22443	0.78 ppbv	99

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

Data Path : D:\msdchem\1\2020\DATA\040120K_FSAA\
Data File : 040120K07.D
InstName : HP5973K
Acq On : 1 Apr 2020 5:16 pm
Operator : LLH
Sample : S20D002-CAL1
Misc : 1.0ppbv
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Apr 02 09:47:14 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:46:54 2020
Response via : Initial Calibration

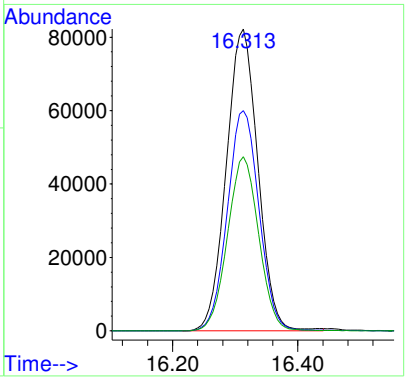


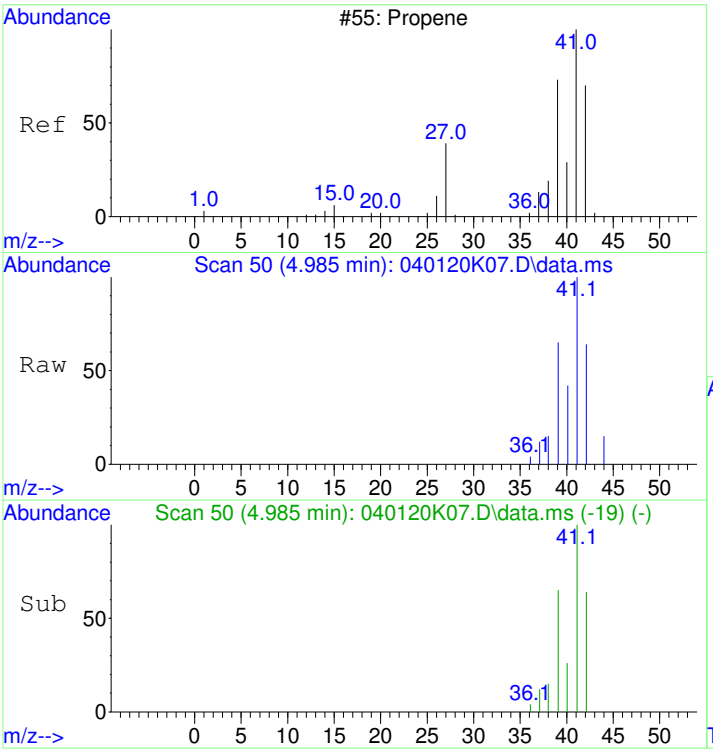


#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 16.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 49 Resp: 288642

Ion	Ratio	Lower	Upper
49	100		
130	73.2	51.1	91.1
128	56.5	35.0	75.0

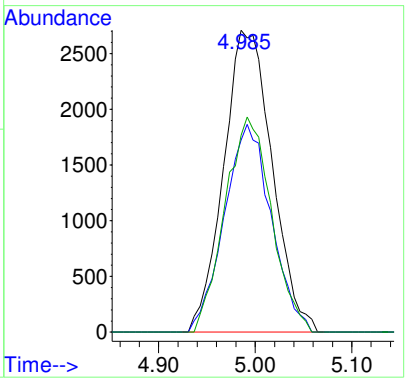


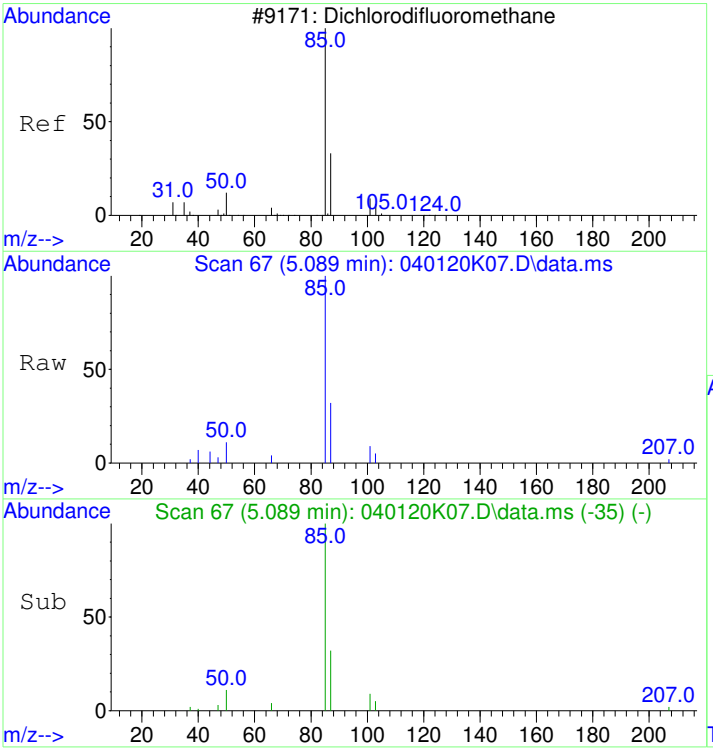


#2
Propene
Concen: 1.14 ppbv
RT: 4.985 min Scan# 50
Delta R.T. -0.012 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 41 Resp: 9472

Ion	Ratio	Lower	Upper
41	100		
42	66.4	47.4	87.4
39	68.2	47.3	87.3

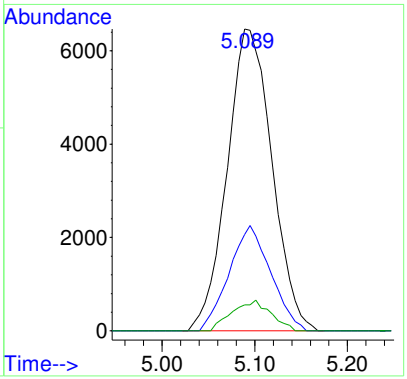


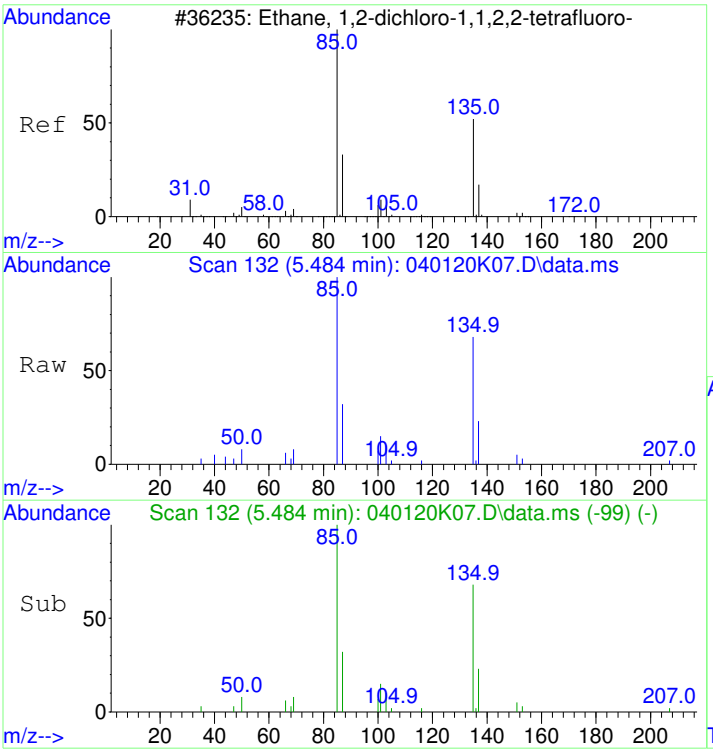


#3
Dichlorodifluoromethane
Concen: 0.96 ppbv
RT: 5.089 min Scan# 67
Delta R.T. -0.006 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 85 Resp: 21718

Ion	Ratio	Lower	Upper
85	100		
87	32.4	12.2	52.2
101	8.8	0.0	28.9

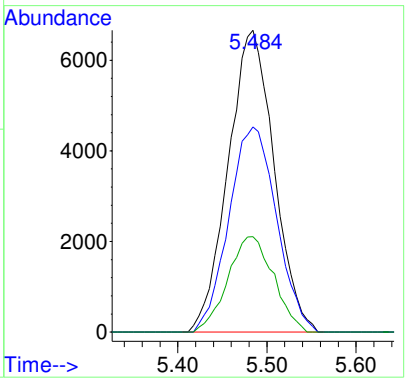


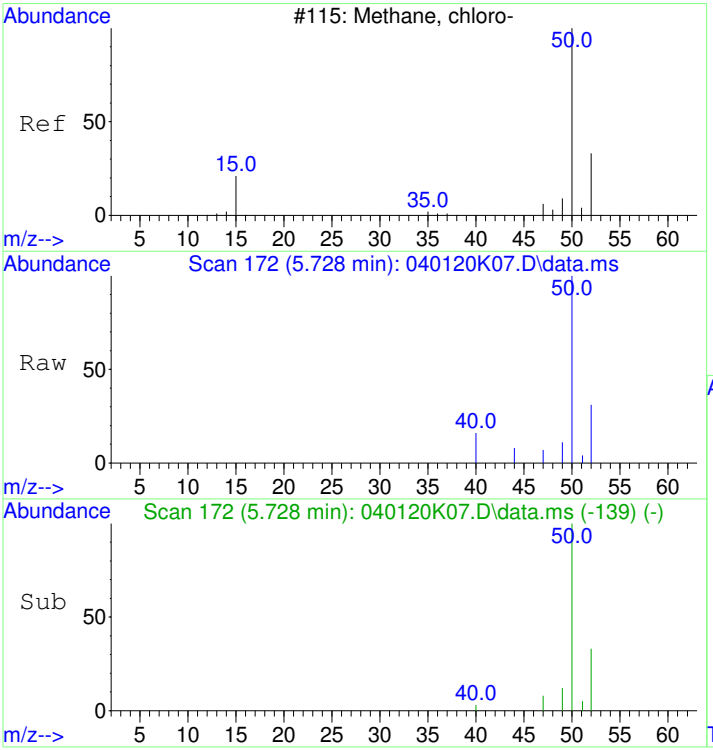


#4
1,2-Dichlorotetrafluoroethane
Concen: 0.90 ppbv
RT: 5.484 min Scan# 132
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 85 Resp: 23763

Ion	Ratio	Lower	Upper
85	100		
135	70.7	50.9	90.9
87	31.5	12.0	52.0

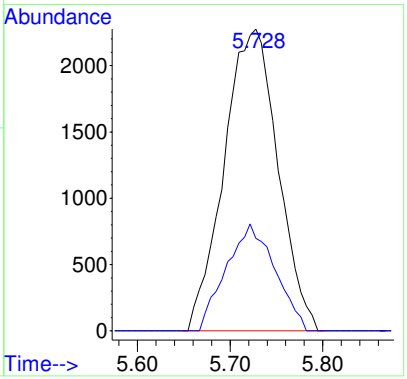


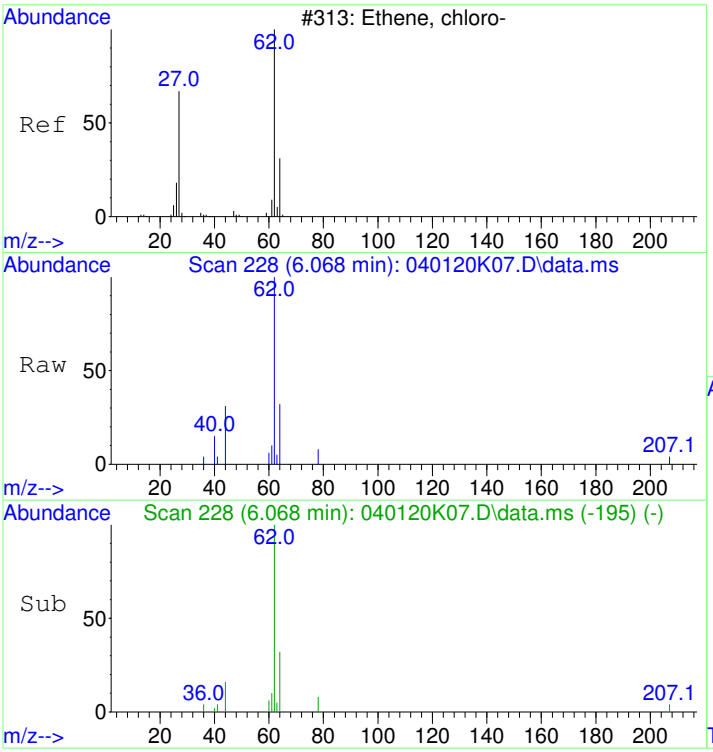


#5
Chloromethane
Concen: 1.08 ppbv
RT: 5.728 min Scan# 172
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 50 Resp: 9172

Ion	Ratio	Lower	Upper
50	100		
52	32.0	12.4	52.4

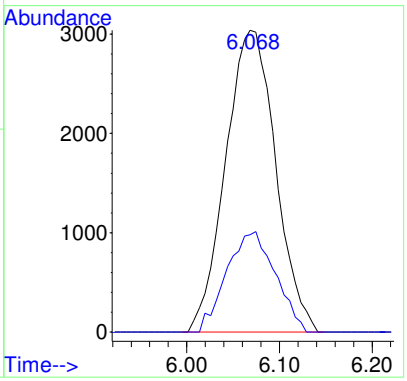


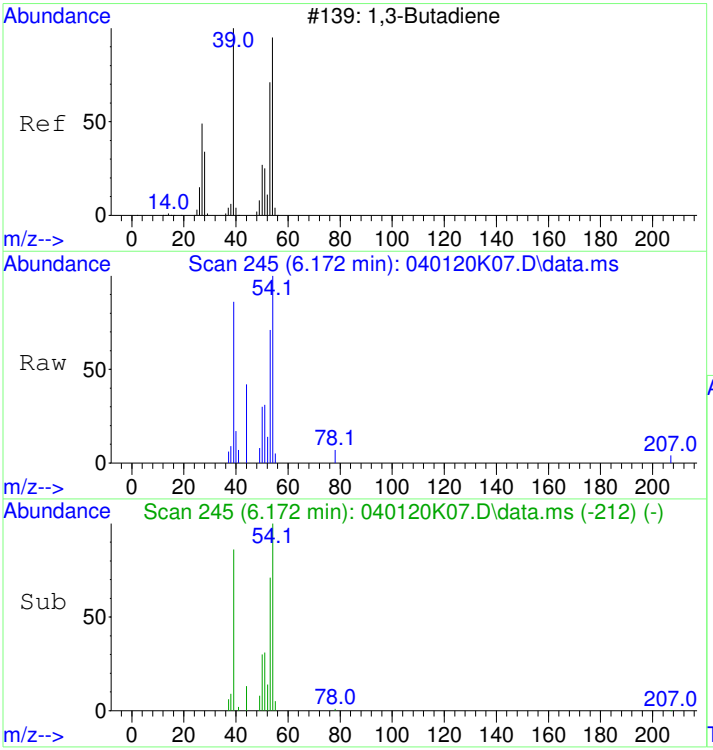


#6
Vinyl chloride
Concen: 1.07 ppbv
RT: 6.068 min Scan# 228
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 62 Resp: 11393

Ion	Ratio	Lower	Upper
62	100		
64	32.3	11.9	51.9

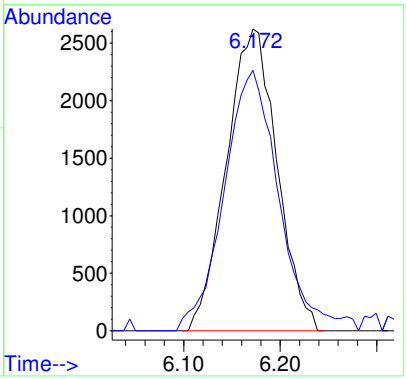


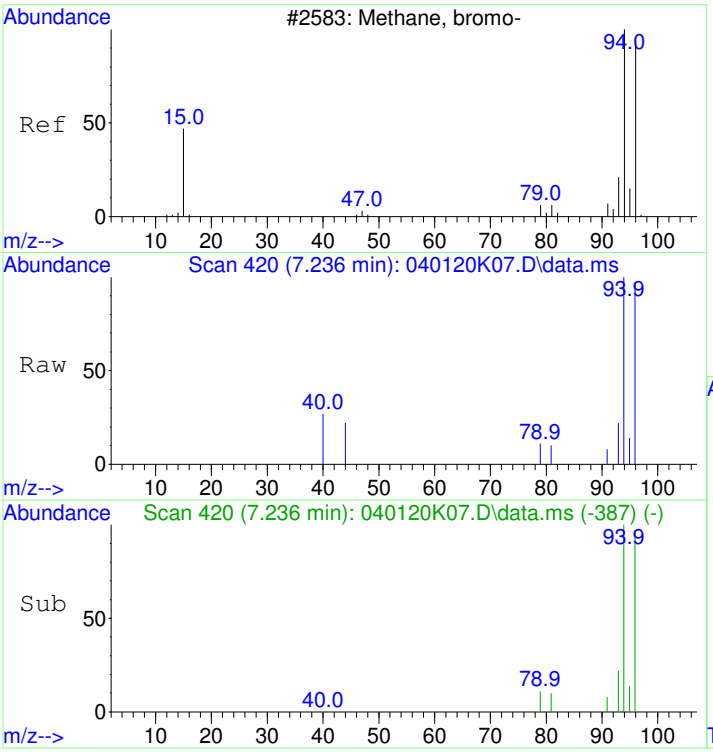


#7
1,3-Butadiene
Concen: 1.14 ppbv
RT: 6.172 min Scan# 245
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 54 Resp: 9576

Ion	Ratio	Lower	Upper
54	100		
39	93.3	65.4	105.4

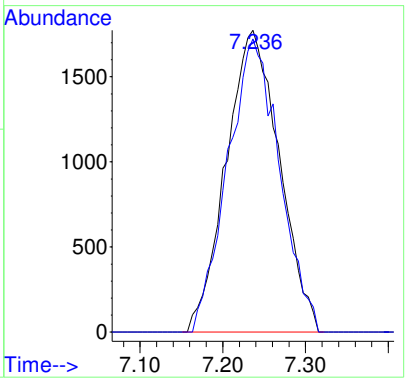


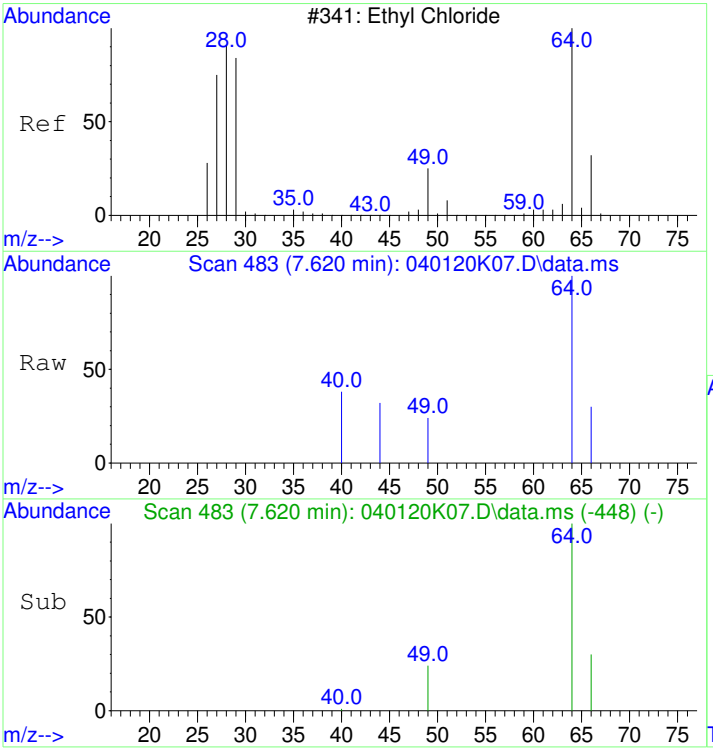


#8
Bromomethane
Concen: 0.91 ppbv
RT: 7.236 min Scan# 420
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 94 Resp: 7919

Ion	Ratio	Lower	Upper
94	100		
96	94.9	74.3	114.3

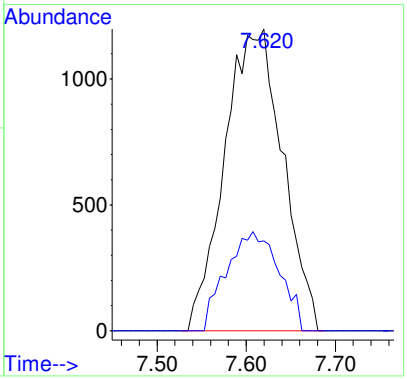


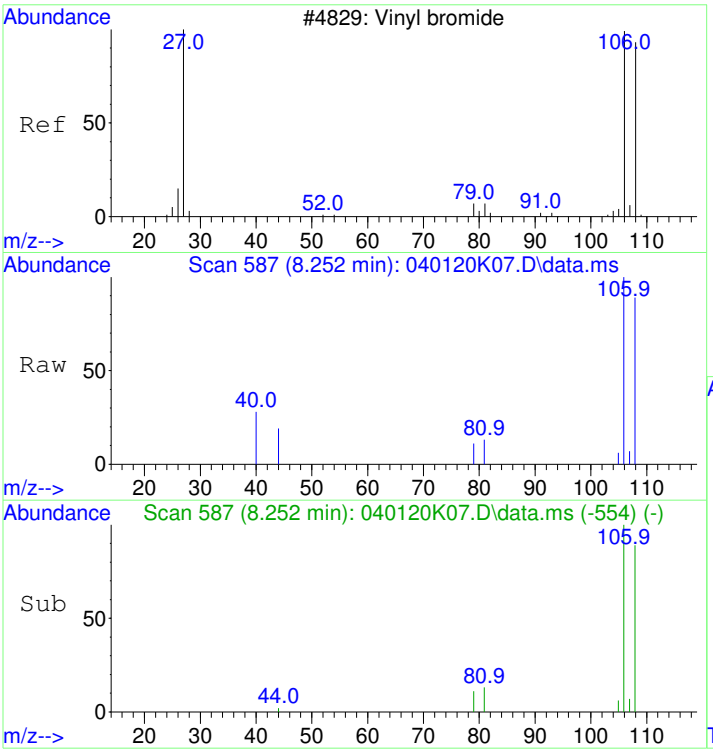


#9
Chloroethane
Concen: 0.96 ppbv
RT: 7.620 min Scan# 483
Delta R.T. 0.012 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 64 Resp: 5416

Ion	Ratio	Lower	Upper
64	100		
66	29.7	11.3	51.3

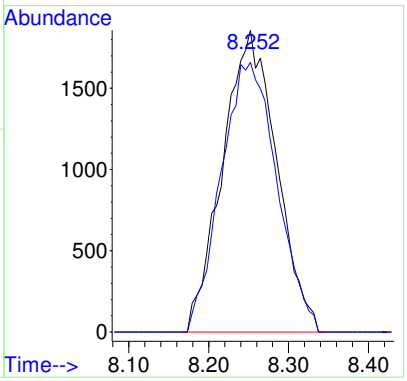


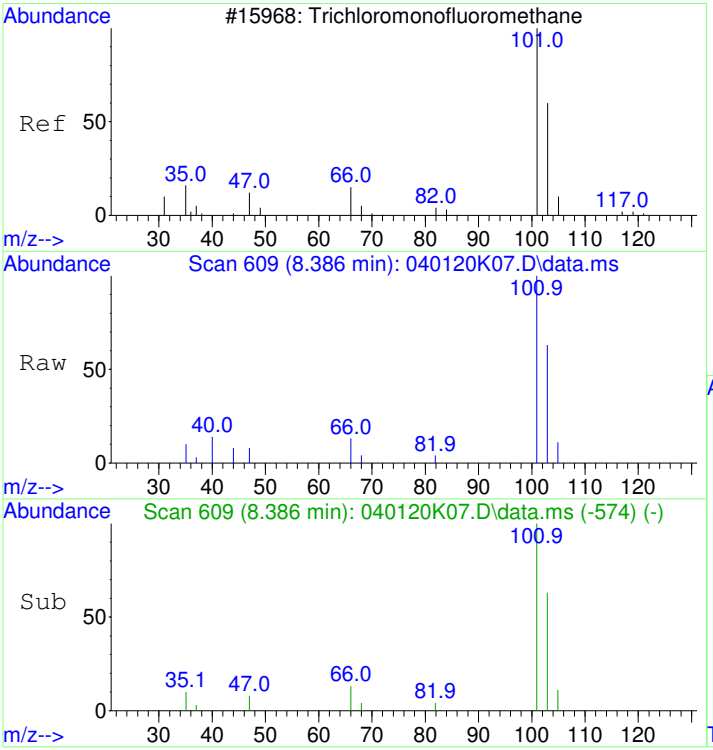


#10
Bromoethene
Concen: 1.00 ppbv
RT: 8.252 min Scan# 587
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion:106 Resp: 8679

Ion	Ratio	Lower	Upper
106	100		
108	92.8	0.0	214.2

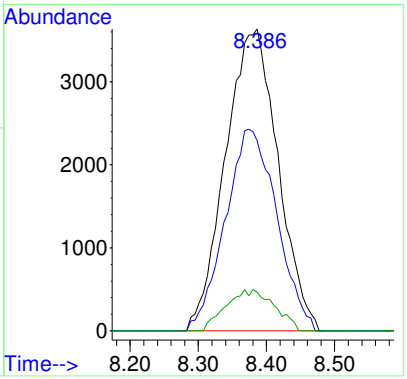


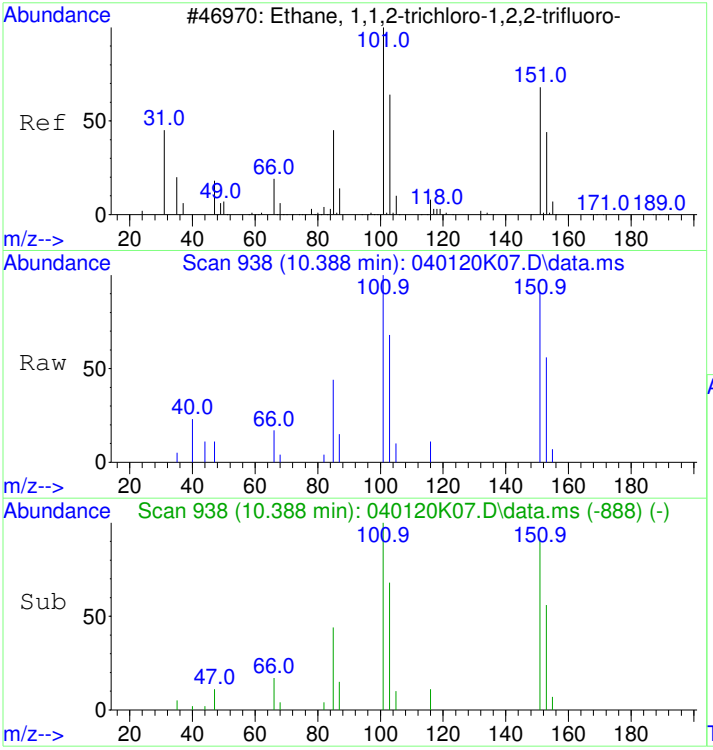


#11
Trichlorofluoromethane
Concen: 0.88 ppbv
RT: 8.386 min Scan# 609
Delta R.T. 0.012 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion:101 Resp: 19459

Ion	Ratio	Lower	Upper
101	100		
103	65.3	45.4	85.4
66	12.5	0.0	32.4

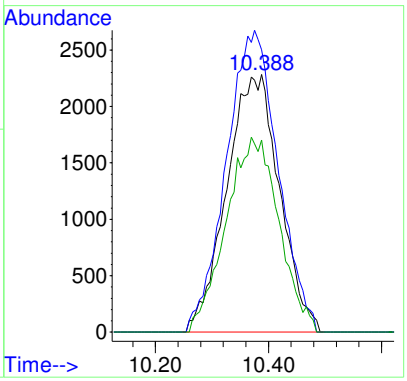


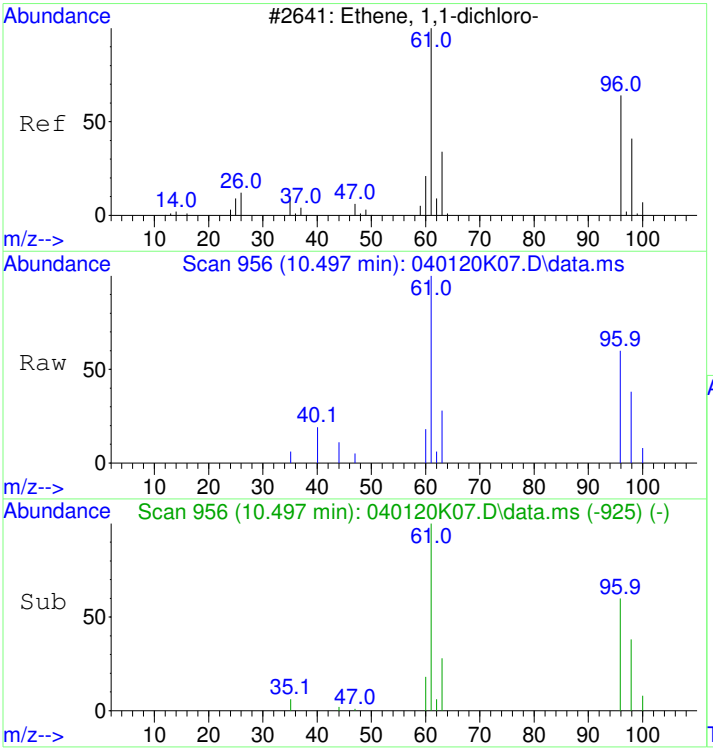


#12
1,1,2-Trichloro-1,2,2-trifluoroethane
Concen: 0.89 ppbv
RT: 10.388 min Scan# 938
Delta R.T. 0.006 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion:151 Resp: 14851

Ion	Ratio	Lower	Upper
151	100		
101	114.8	96.6	136.6
103	75.5	55.0	95.0

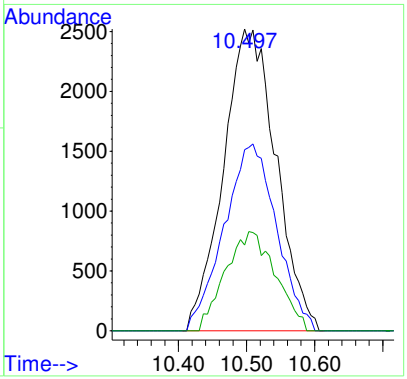


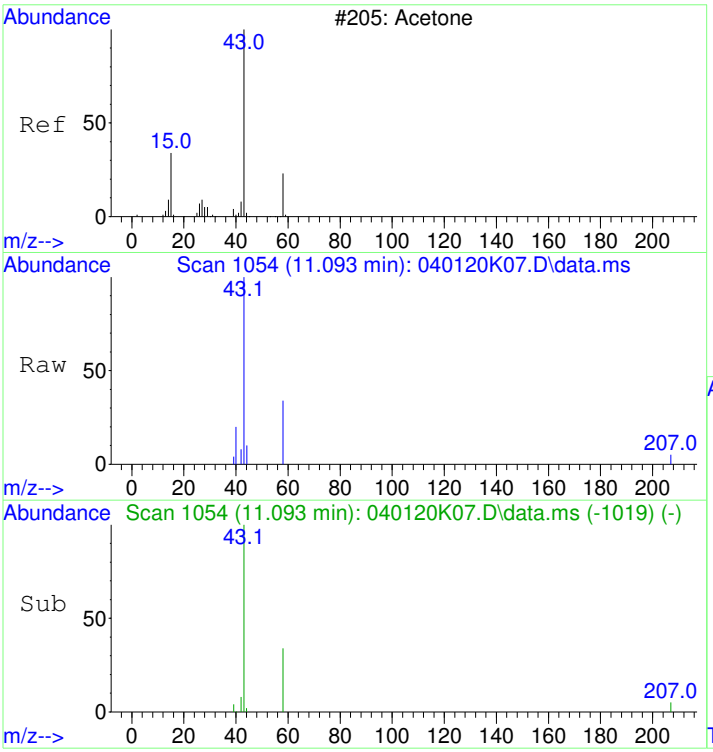


#13
1,1-Dichloroethene
Concen: 0.96 ppbv
RT: 10.497 min Scan# 956
Delta R.T. -0.012 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 61 Resp: 13525

Ion	Ratio	Lower	Upper
61	100		
96	61.5	41.2	81.2
63	31.2	11.9	51.9

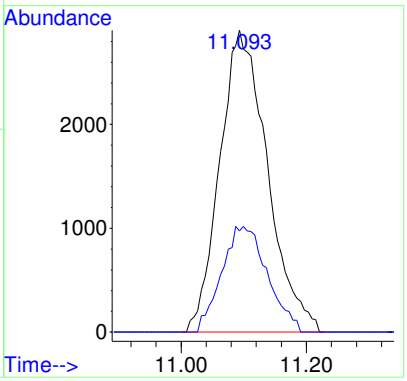


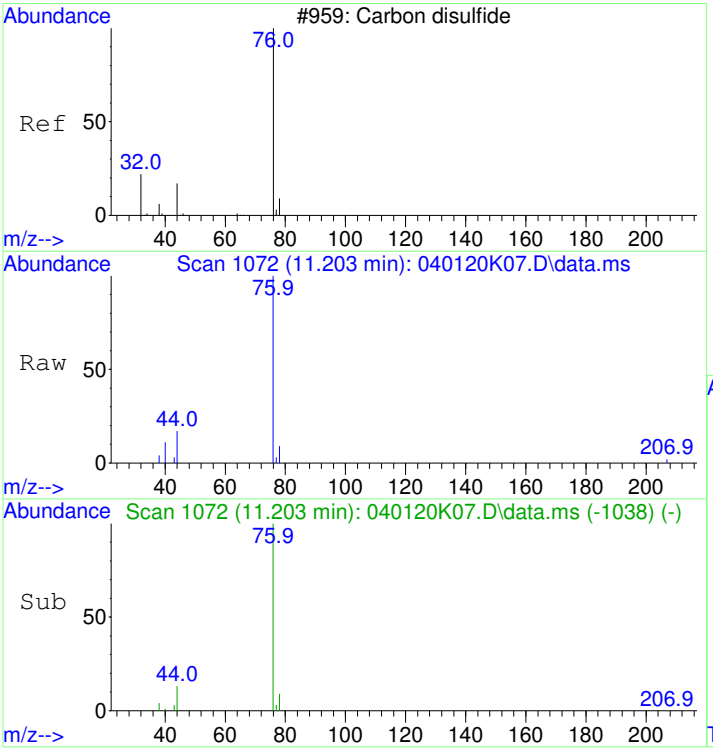


#14
Acetone
Concen: 1.14 ppbv
RT: 11.093 min Scan# 1054
Delta R.T. 0.012 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 43 Resp: 15344

Ion	Ratio	Lower	Upper
43	100		
58	33.6	14.0	54.0

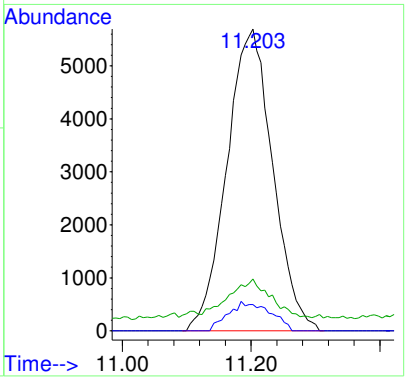


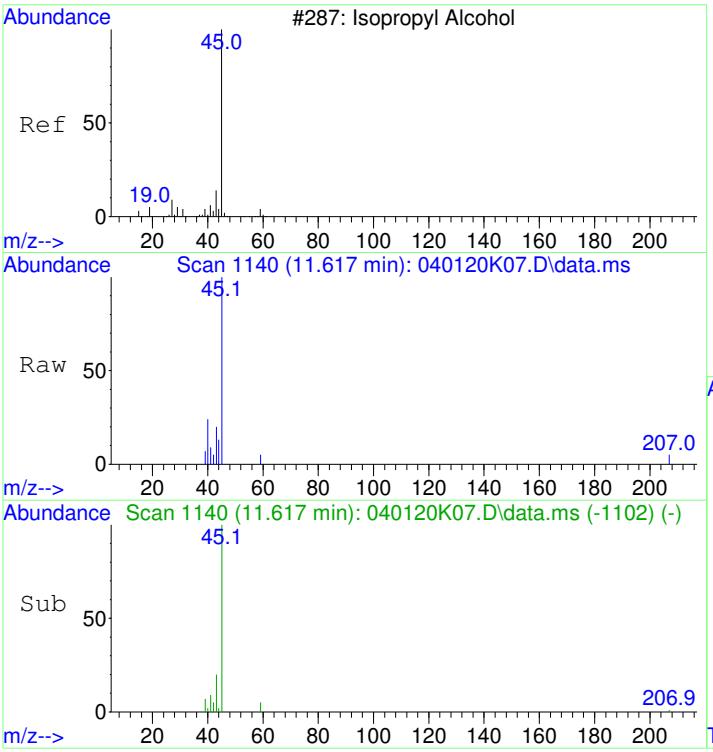


#15
Carbon disulfide
Concen: 1.07 ppbv
RT: 11.203 min Scan# 1072
Delta R.T. 0.006 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 76 Resp: 28202

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.1
44	14.1	0.0	32.9

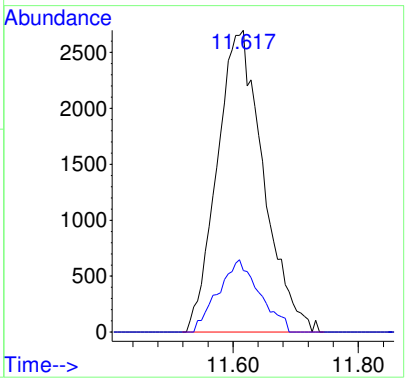


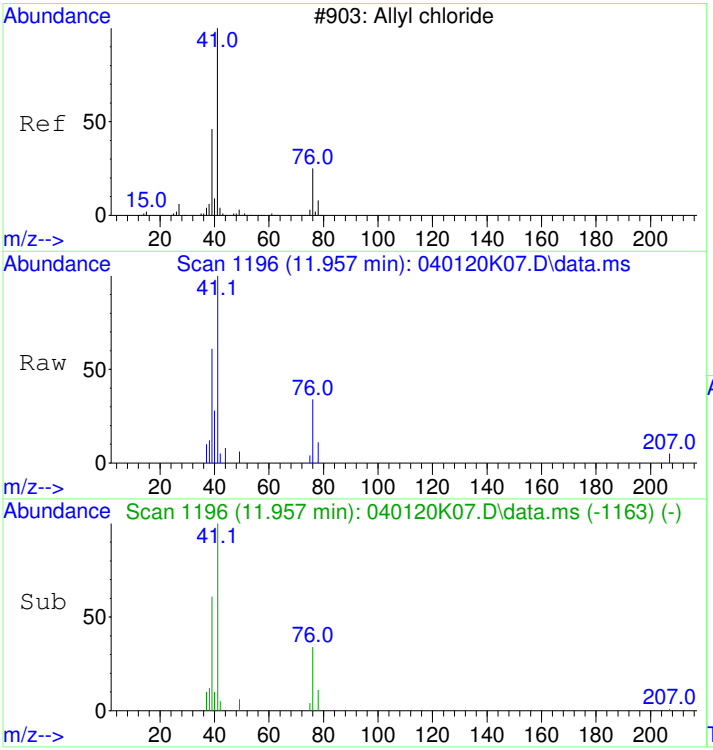


#16
2-Propanol
Concen: 1.08 ppbv
RT: 11.617 min Scan# 1140
Delta R.T. 0.030 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 45 Resp: 13834

Ion	Ratio	Lower	Upper
45	100		
43	21.4	0.0	39.0

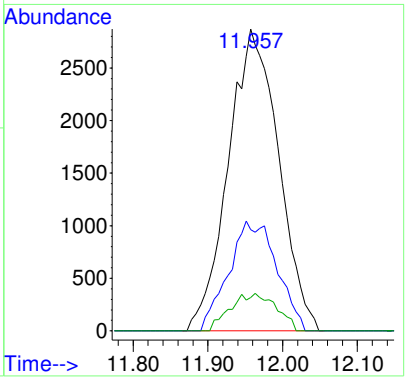


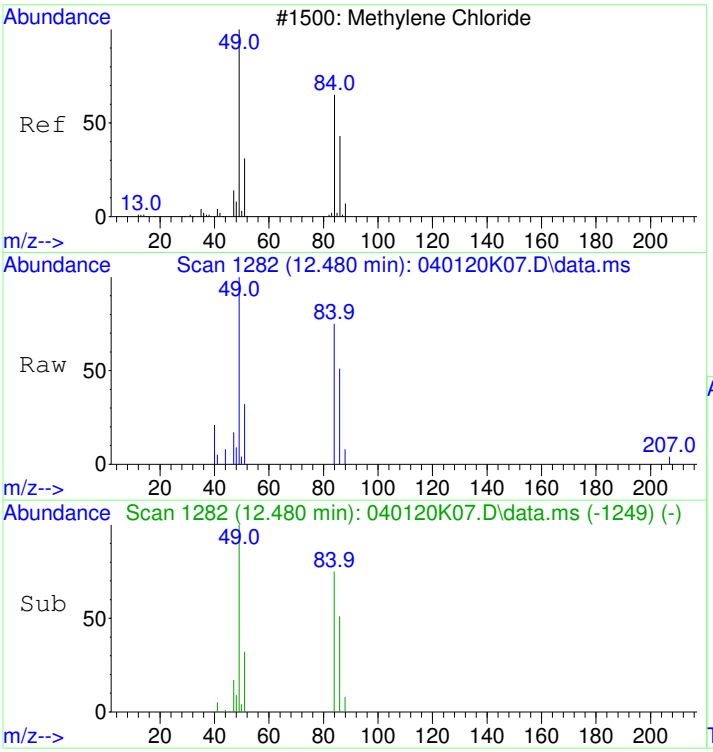


#17
Allyl chloride
Concen: 1.08 ppbv
RT: 11.957 min Scan# 1196
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 41 Resp: 13402

Ion	Ratio	Lower	Upper
41	100		
76	34.8	16.0	56.0
78	11.3	0.0	31.6

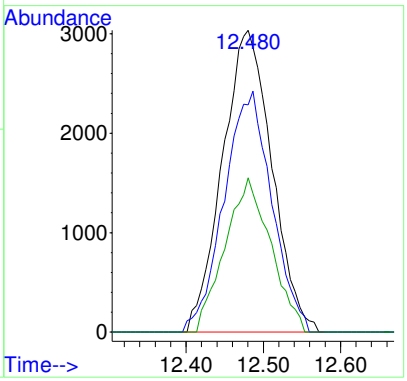


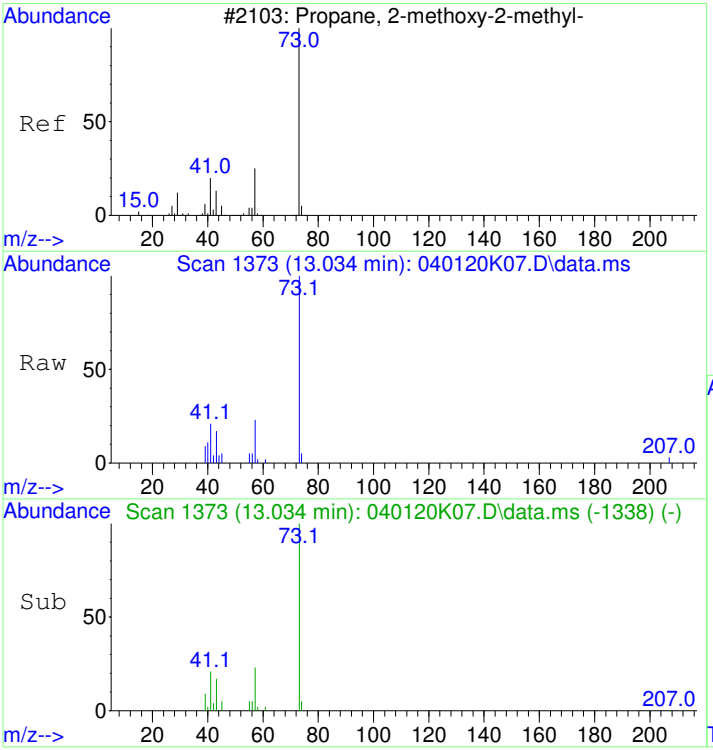


#18
Dichloromethane
Concen: 1.15 ppbv
RT: 12.480 min Scan# 1282
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 49 Resp: 13522

Ion	Ratio	Lower	Upper
49	100		
84	77.0	56.1	96.1
86	47.0	28.5	68.5

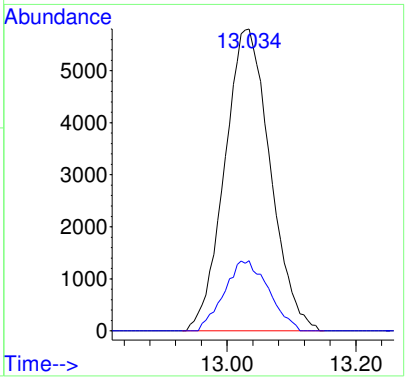


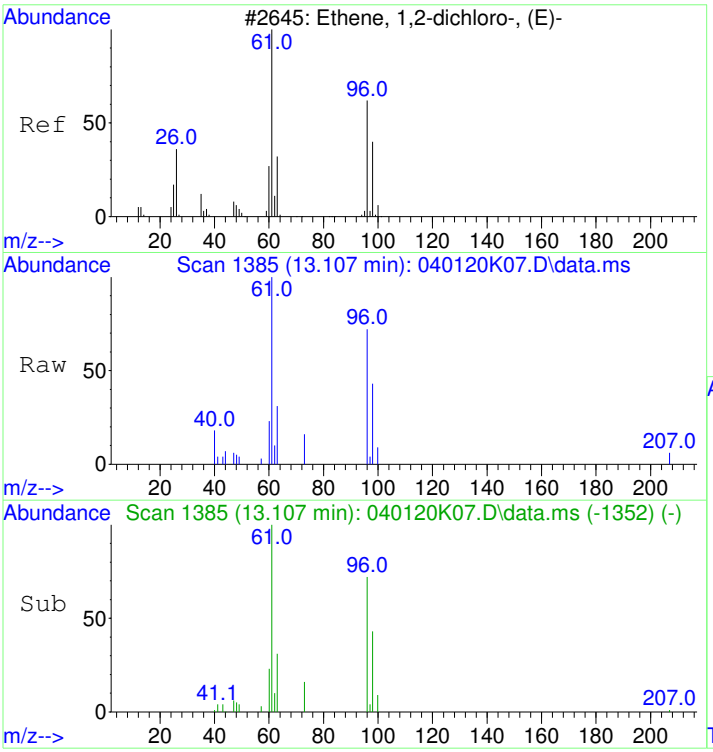


#19
tert-Butyl methyl ether (MTBE)
Concen: 1.02 ppbv
RT: 13.034 min Scan# 1373
Delta R.T. 0.012 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 73 Resp: 28531

Ion	Ratio	Lower	Upper
73	100		
57	22.6	3.7	43.7

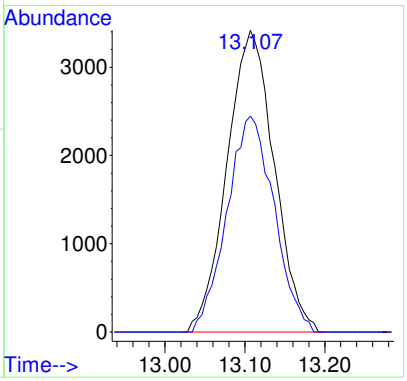


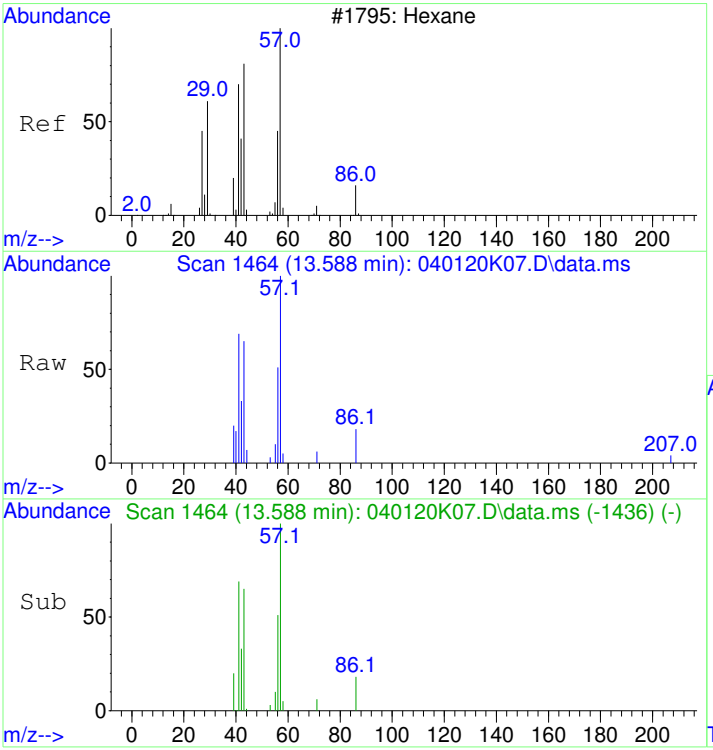


#20
trans-1,2-Dichloroethene
Concen: 1.07 ppbv
RT: 13.107 min Scan# 1385
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 61 Resp: 14017

Ion	Ratio	Lower	Upper
61	100		
96	71.6	50.6	90.6

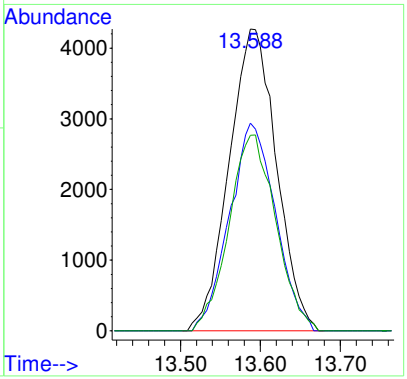


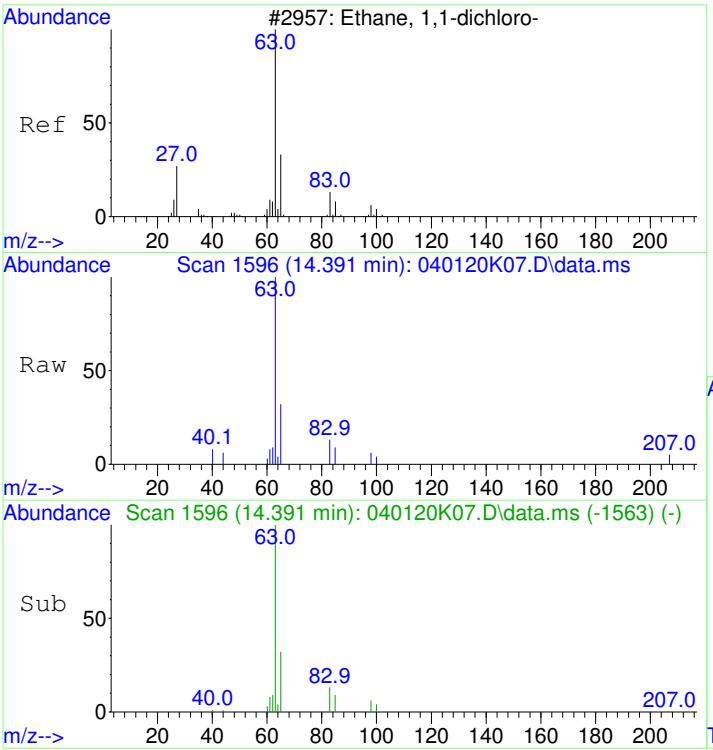


#21
Hexane
Concen: 0.96 ppbv
RT: 13.588 min Scan# 1464
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 57 Resp: 17598

Ion	Ratio	Lower	Upper
57	100		
41	67.0	45.4	85.4
43	64.1	43.4	83.4

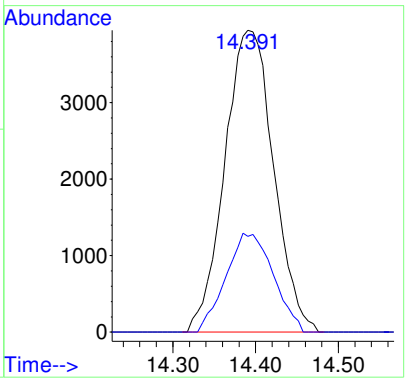


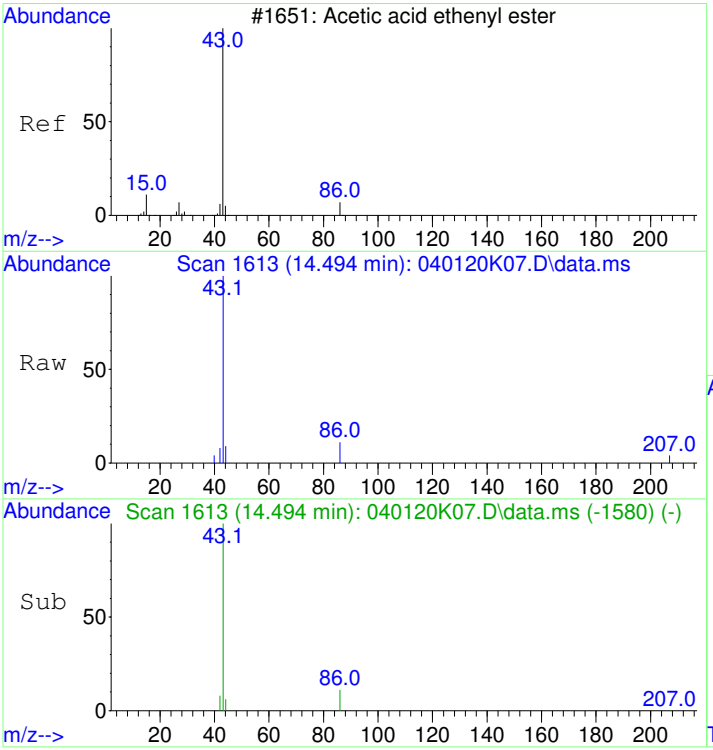


#22
1,1-Dichloroethane
Concen: 0.89 ppbv
RT: 14.391 min Scan# 1596
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 63 Resp: 16178

Ion	Ratio	Lower	Upper
63	100		
65	31.7	11.7	51.7

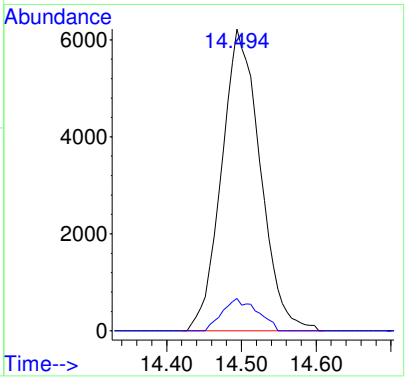


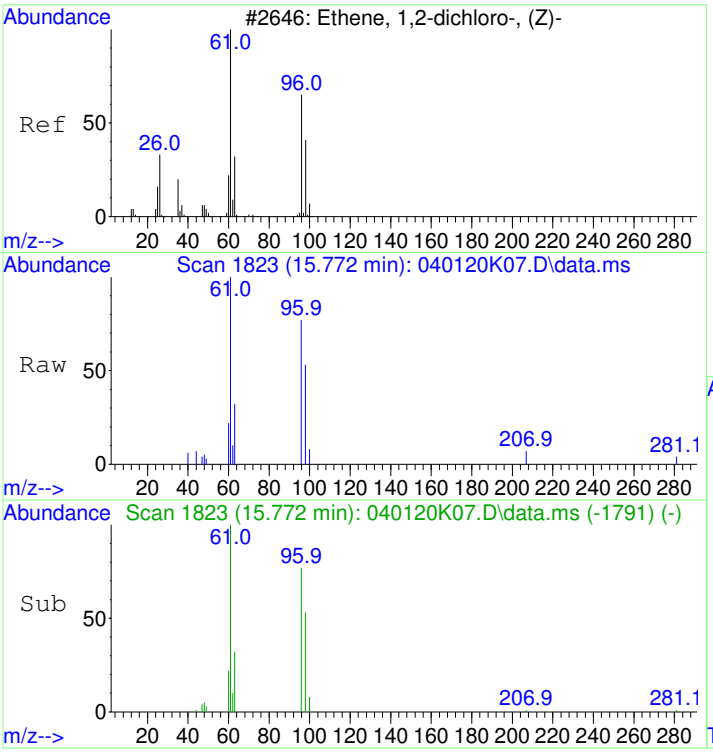


#23
Vinyl acetate
Concen: 1.08 ppbv
RT: 14.494 min Scan# 1613
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 43 Resp: 22323

Ion	Ratio	Lower	Upper
43	100		
86	9.7	0.0	30.0

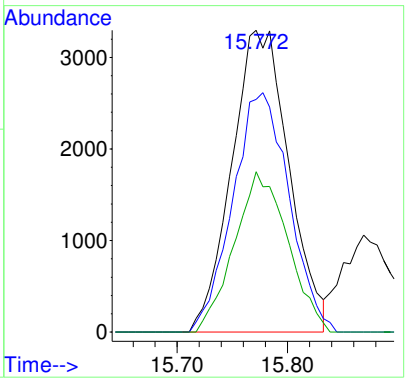


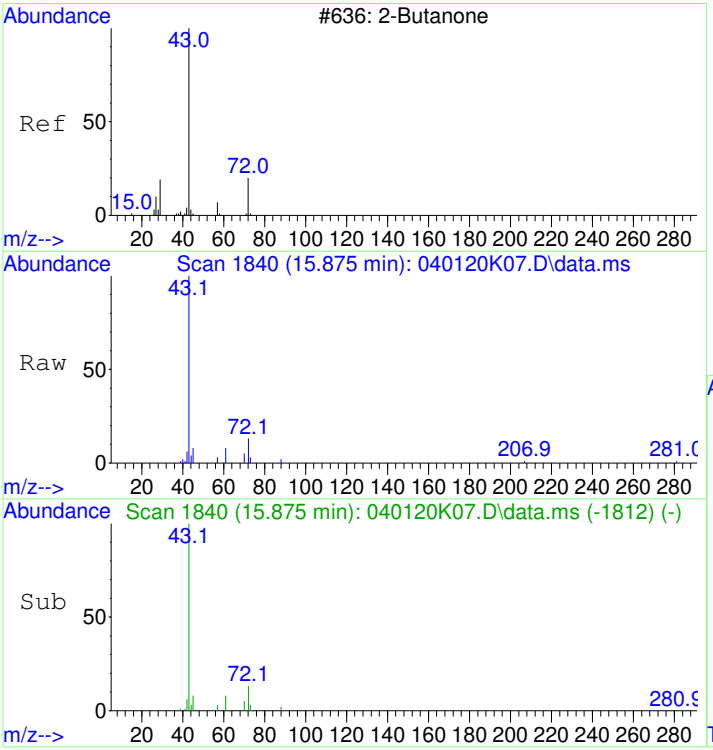


#24
cis-1,2-Dichloroethene
Concen: 0.91 ppbv
RT: 15.772 min Scan# 1823
Delta R.T. -0.006 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 61 Resp: 11923

Ion	Ratio	Lower	Upper
61	100		
96	78.2	55.7	95.7
98	0.0	0.0	20.0

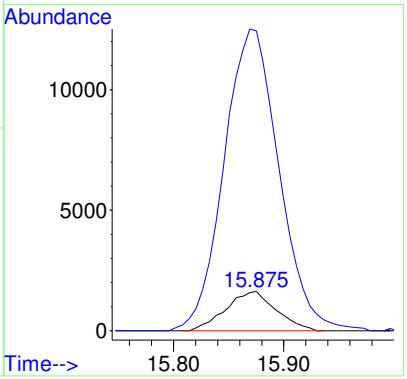


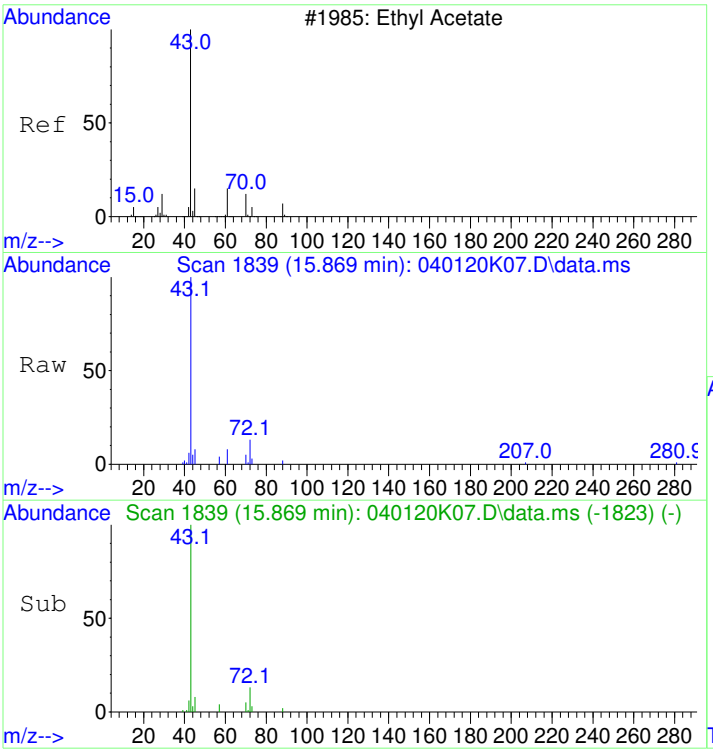


#25
2-Butanone (MEK)
Concen: 0.96 ppbv
RT: 15.875 min Scan# 1840
Delta R.T. 0.018 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 72 Resp: 5197

Ion	Ratio	Lower	Upper
72	100		
43	838.0	812.5	832.5#

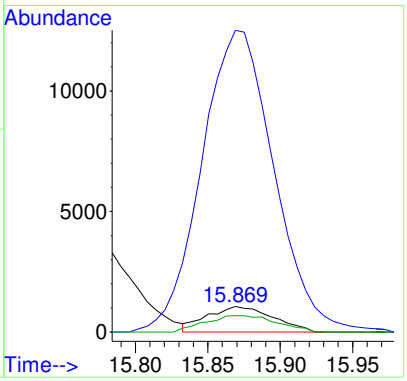


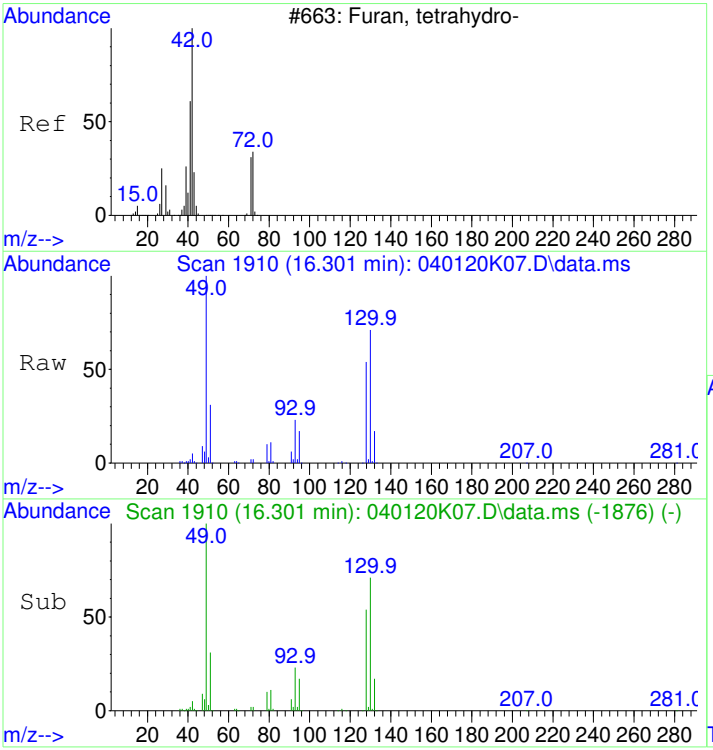


#26
Ethyl acetate
Concen: 1.05 ppbv
RT: 15.869 min Scan# 1839
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 61 Resp: 3331

Ion	Ratio	Lower	Upper
61	100		
43	1307.4	1358.3	1378.3#
70	70.2	66.7	86.7

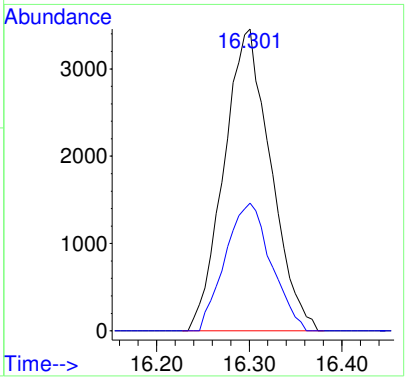


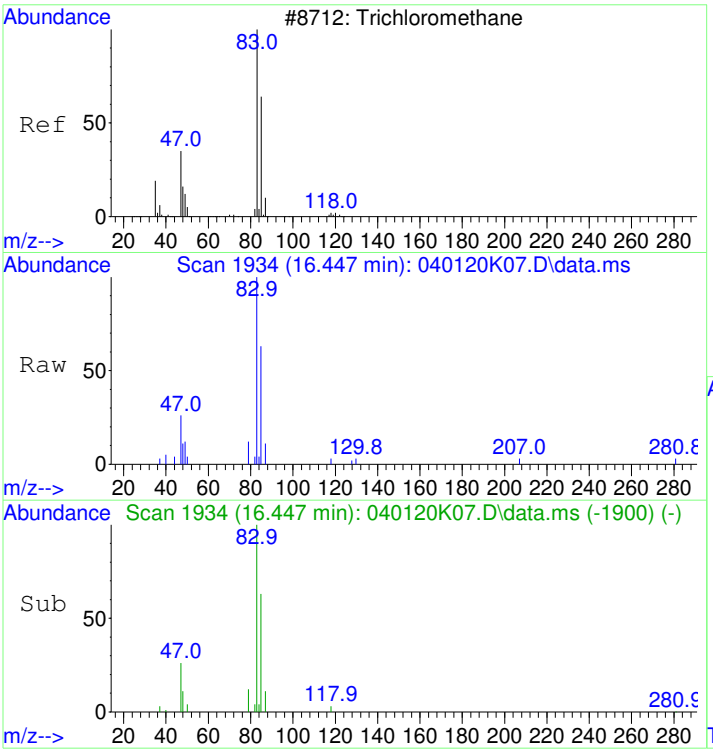


#27
Tetrahydrofuran
Concen: 1.01 ppbv
RT: 16.301 min Scan# 1910
Delta R.T. 0.018 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 42 Resp: 12115

Ion	Ratio	Lower	Upper
42	100		
72	41.5	21.2	61.2

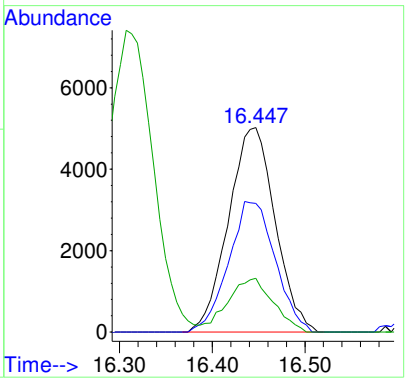


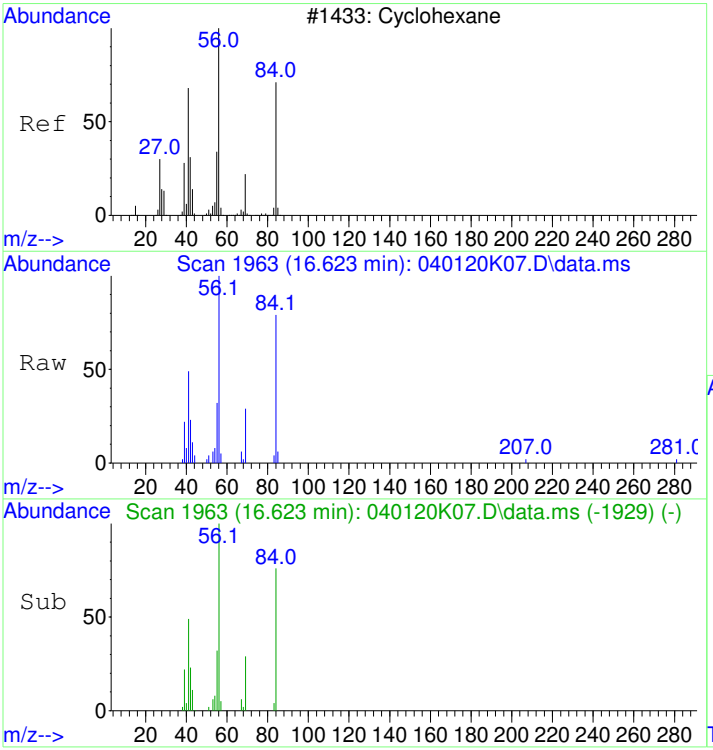


#28
Chloroform
Concen: 0.98 ppbv
RT: 16.447 min Scan# 1934
Delta R.T. 0.006 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 83 Resp: 17561

Ion	Ratio	Lower	Upper
83	100		
85	63.7	44.6	84.6
47	22.5	2.9	42.9

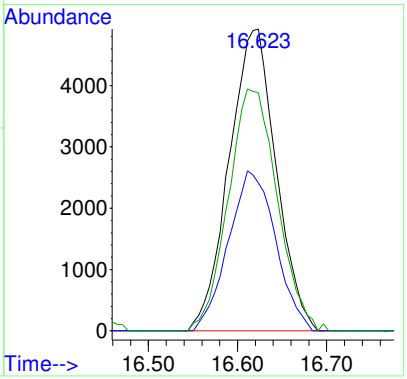


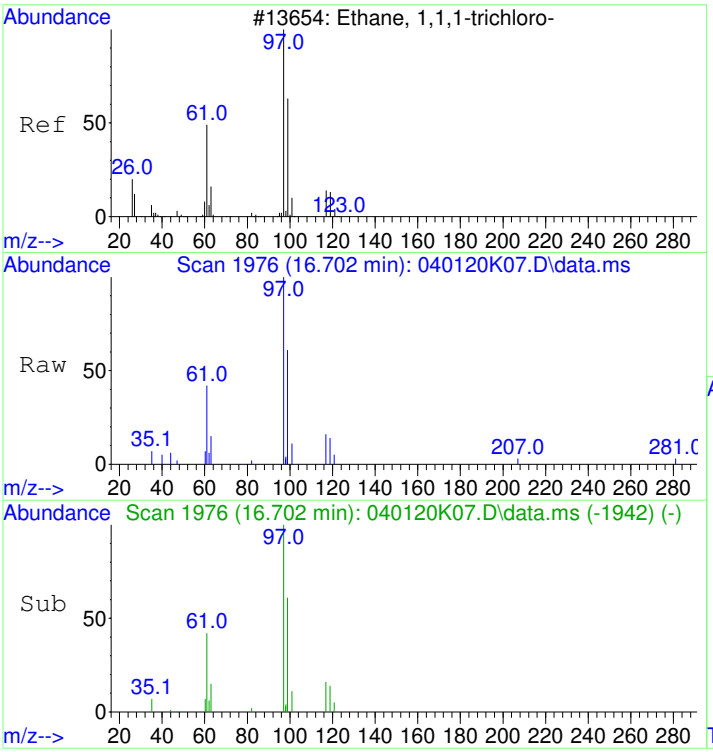


#29
Cyclohexane
Concen: 1.01 ppbv
RT: 16.623 min Scan# 1963
Delta R.T. 0.006 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 56 Resp: 18009

Ion	Ratio	Lower	Upper
56	100		
41	53.1	32.2	72.2
84	83.4	64.7	104.7

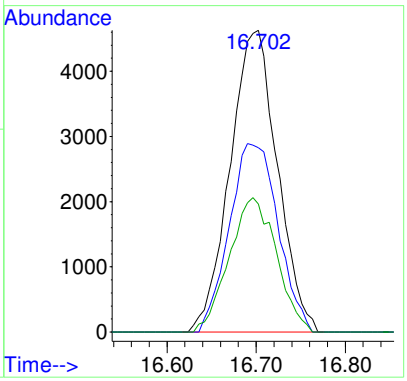


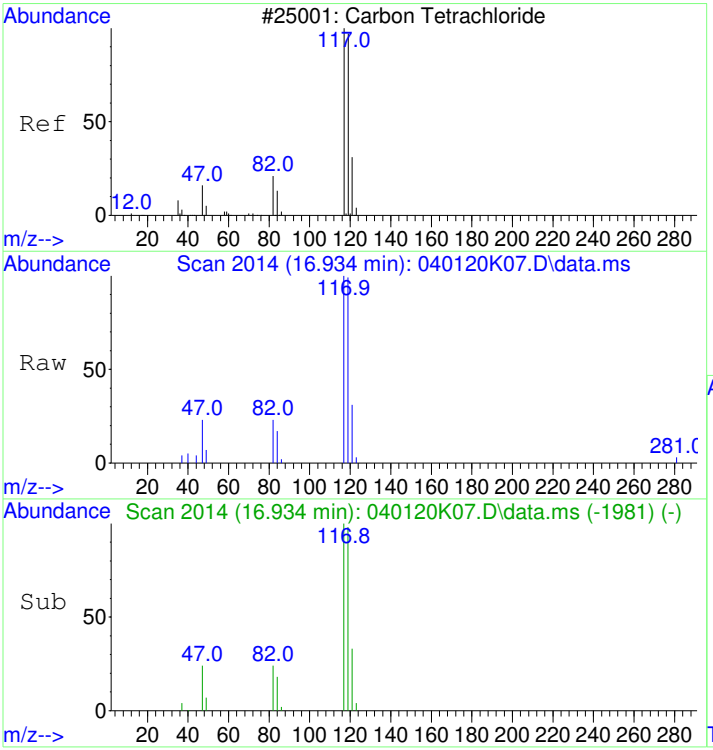


#30
1,1,1-Trichloroethane
Concen: 0.98 ppbv
RT: 16.702 min Scan# 1976
Delta R.T. 0.006 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 97 Resp: 17060

Ion	Ratio	Lower	Upper
97	100		
99	64.2	43.9	83.9
61	44.4	24.2	64.2

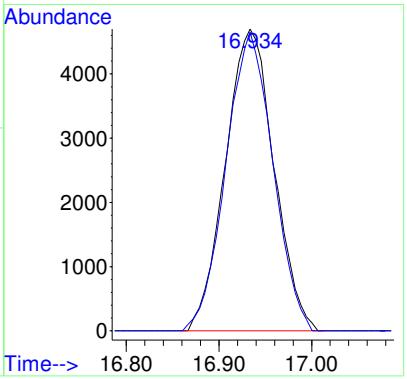


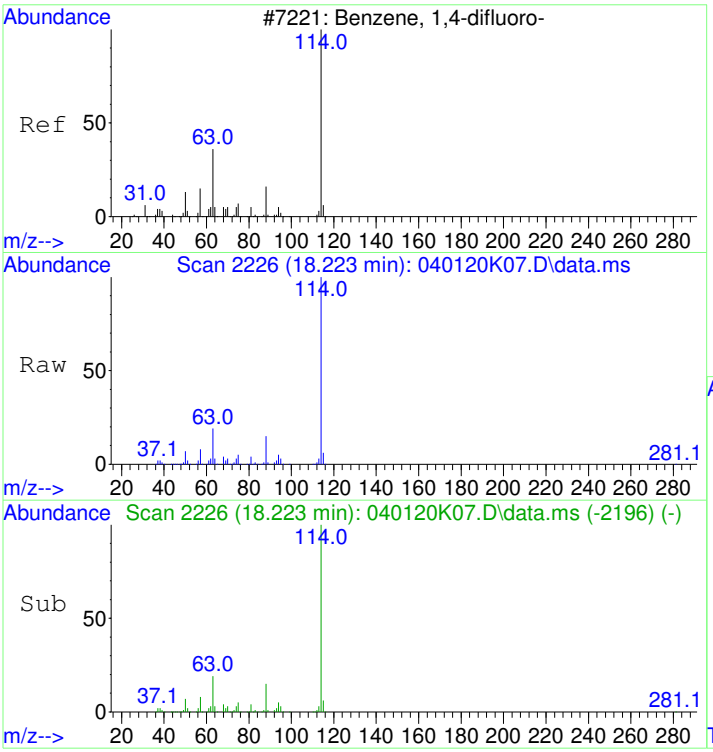


#31
Carbon tetrachloride
Concen: 1.01 ppbv
RT: 16.934 min Scan# 2014
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion:117 Resp: 17091

Ion	Ratio	Lower	Upper
117	100		
119	95.7	76.2	116.2

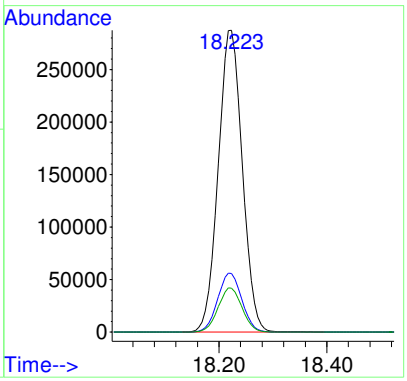


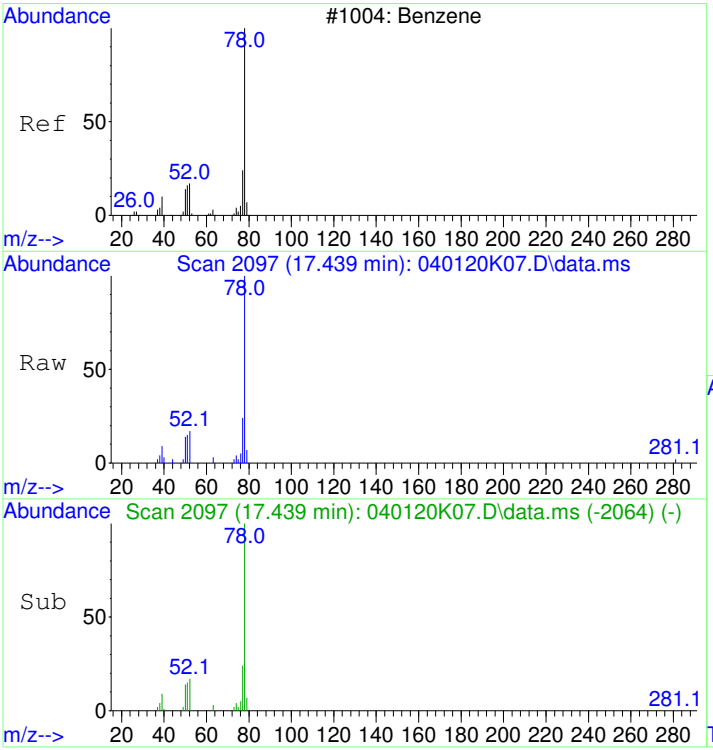


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 18.223 min Scan# 2226
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion:114 Resp: 890972

Ion	Ratio	Lower	Upper
114	100		
63	19.5	0.0	39.6
88	14.5	0.0	34.5

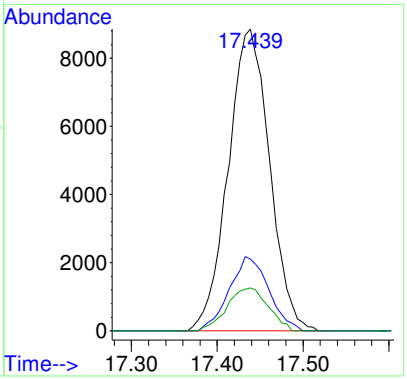


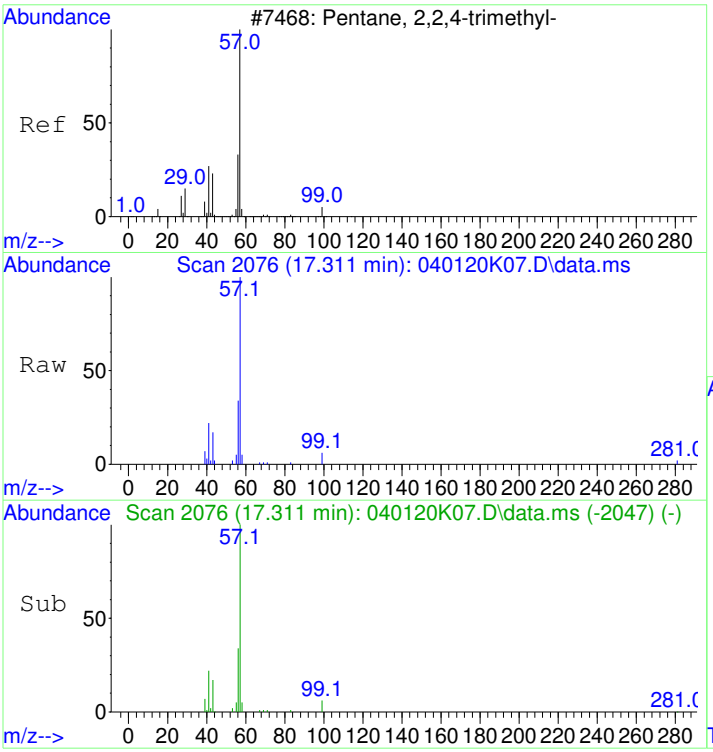


#33
Benzene
Concen: 1.00 ppbv
RT: 17.439 min Scan# 2097
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 78 Resp: 29664

Ion	Ratio	Lower	Upper
78	100		
77	23.4	3.0	43.0
50	14.1	0.0	34.0

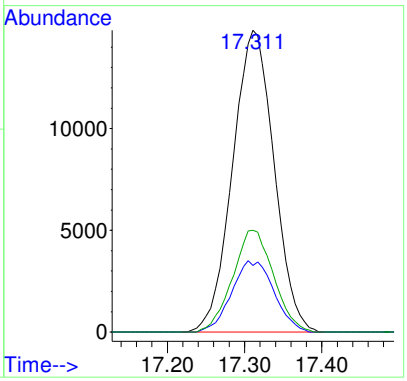


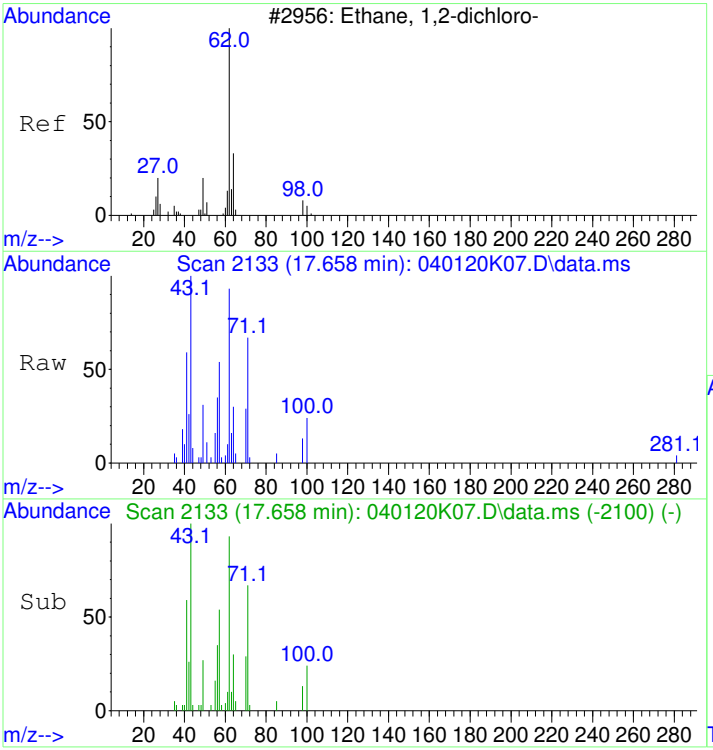


#34
2,2,4-Trimethylpentane
Concen: 1.07 ppbv
RT: 17.311 min Scan# 2076
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 57 Resp: 55323

Ion	Ratio	Lower	Upper
57	100		
41	24.2	3.7	43.7
56	33.4	13.5	53.5

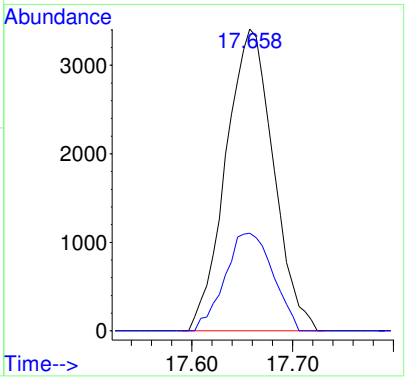


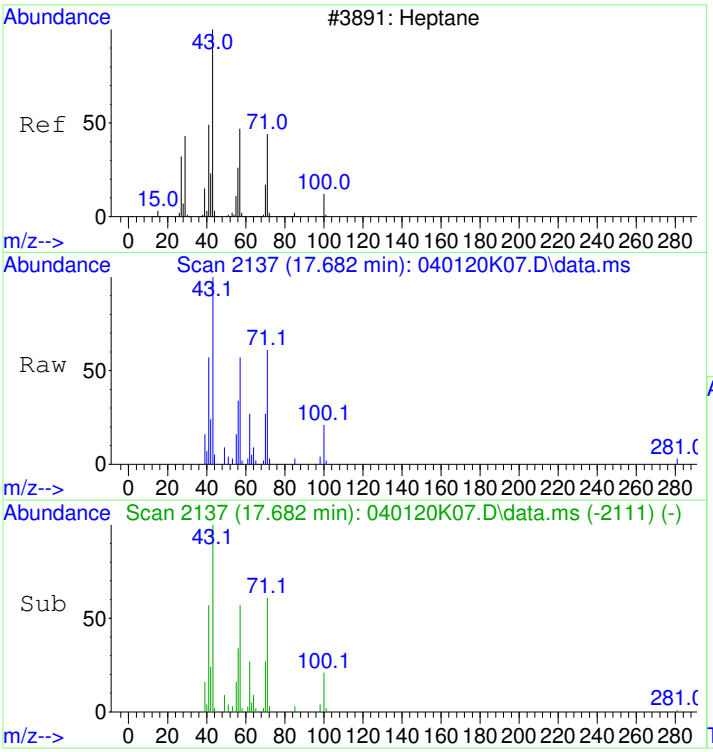


#35
1,2-Dichloroethane
Concen: 1.01 ppbv
RT: 17.658 min Scan# 2133
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 62 Resp: 11153

Ion	Ratio	Lower	Upper
62	100		
64	32.8	12.7	52.7

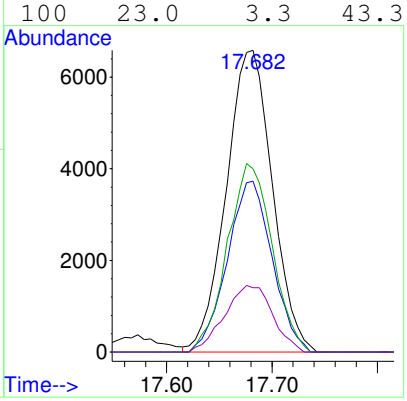


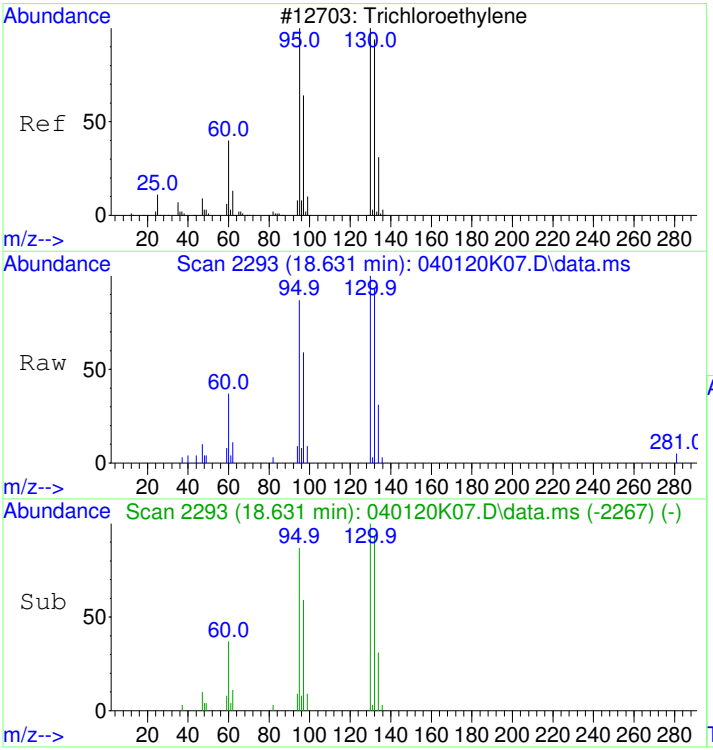


#36
Heptane
Concen: 1.09 ppbv
RT: 17.682 min Scan# 2137
Delta R.T. 0.006 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 43 Resp: 20072

Ion	Ratio	Lower	Upper
43	100		
57	55.0	34.9	74.9
71	60.6	40.9	80.9
100	23.0	3.3	43.3

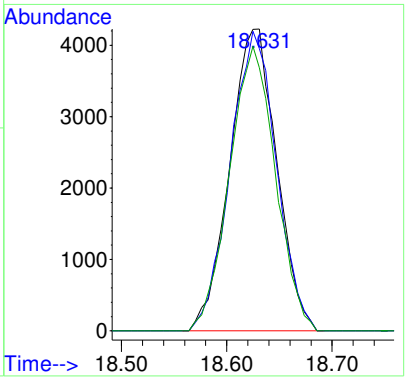


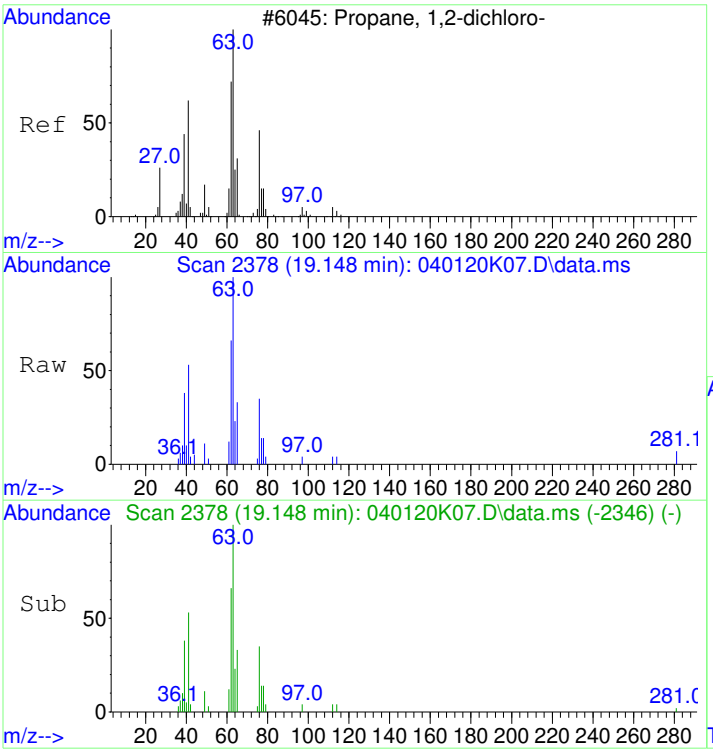


#37
Trichloroethene
Concen: 1.02 ppbv
RT: 18.631 min Scan# 2293
Delta R.T. 0.006 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion:130 Resp: 13130

Ion	Ratio	Lower	Upper
130	100		
132	97.4	75.5	115.5
95	91.9	71.3	111.3

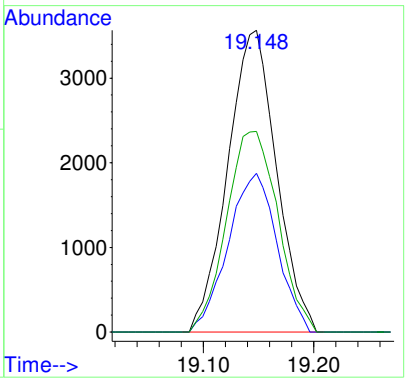


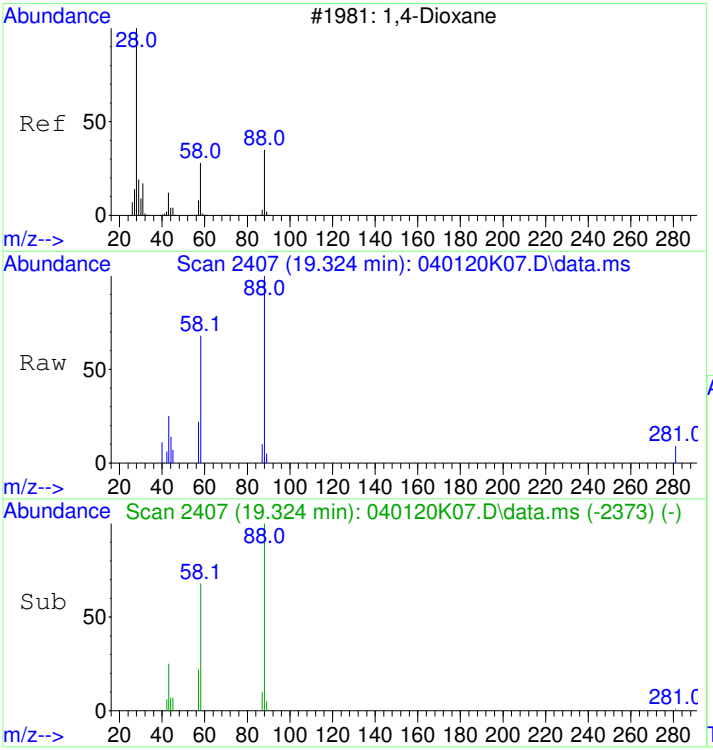


#38
1,2-Dichloropropane
Concen: 1.00 ppbv
RT: 19.148 min Scan# 2378
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 63 Resp: 10978

Ion	Ratio	Lower	Upper
63	100		
41	52.8	31.0	71.0
62	70.2	50.7	90.7

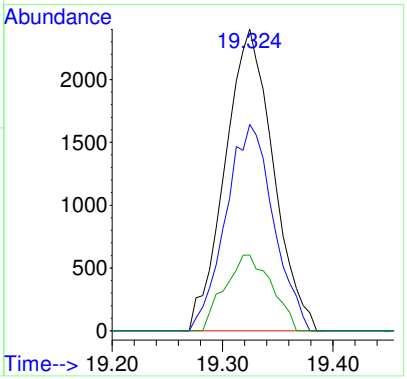


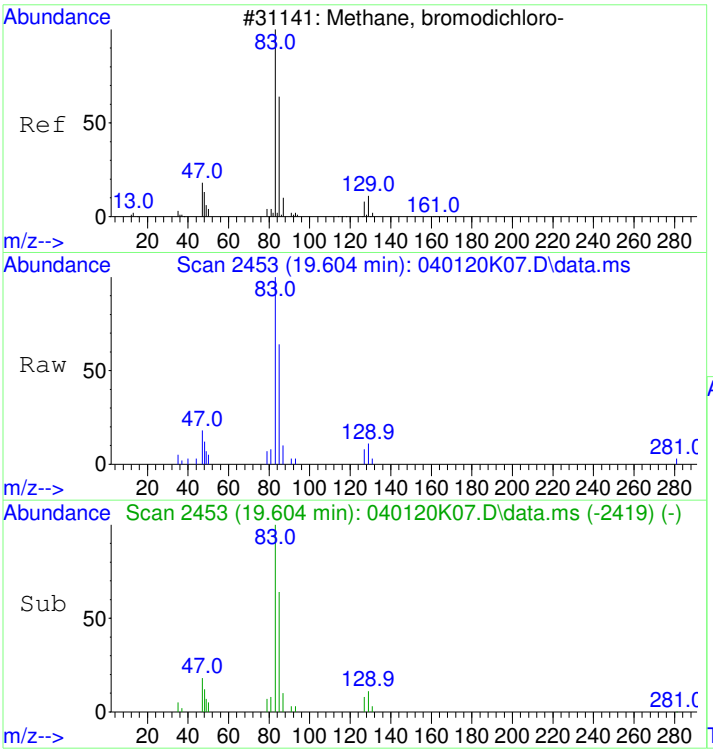


#39
1,4-Dioxane
Concen: 1.04 ppbv
RT: 19.324 min Scan# 2407
Delta R.T. 0.006 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 88 Resp: 7309

Ion	Ratio	Lower	Upper
88	100		
58	67.8	49.5	89.5
43	24.3	5.9	45.9

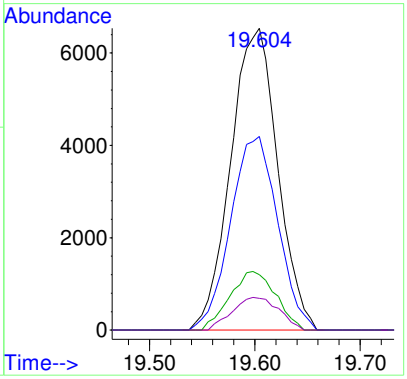


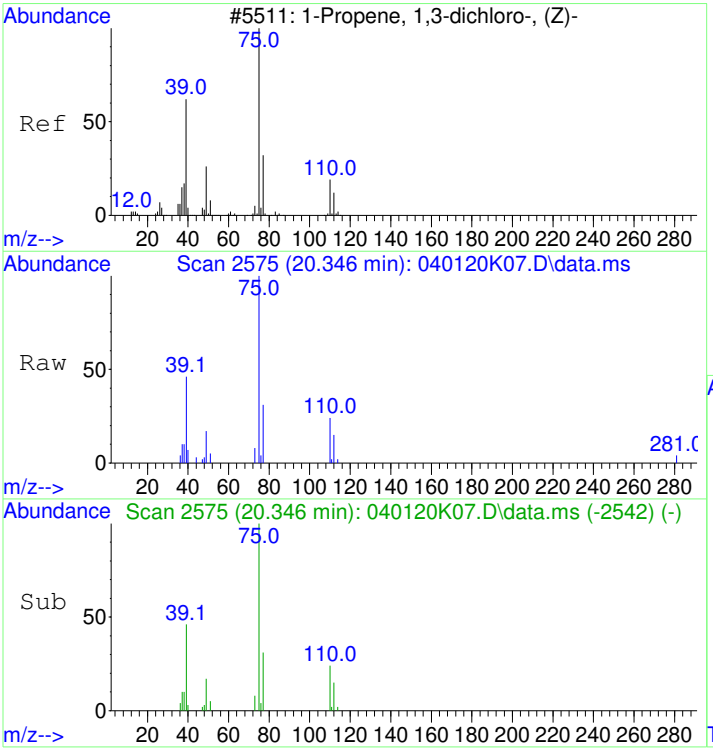


#40
Bromodichloromethane
Concen: 1.10 ppbv
RT: 19.604 min Scan# 2453
Delta R.T. 0.006 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 83 Resp: 20265

Ion	Ratio	Lower	Upper
83	100		
85	64.3	44.5	84.5
47	19.0	0.0	39.2
129	10.8	0.0	31.2

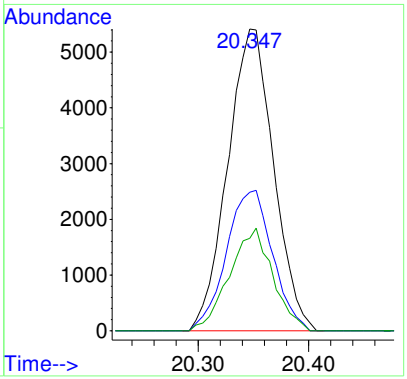


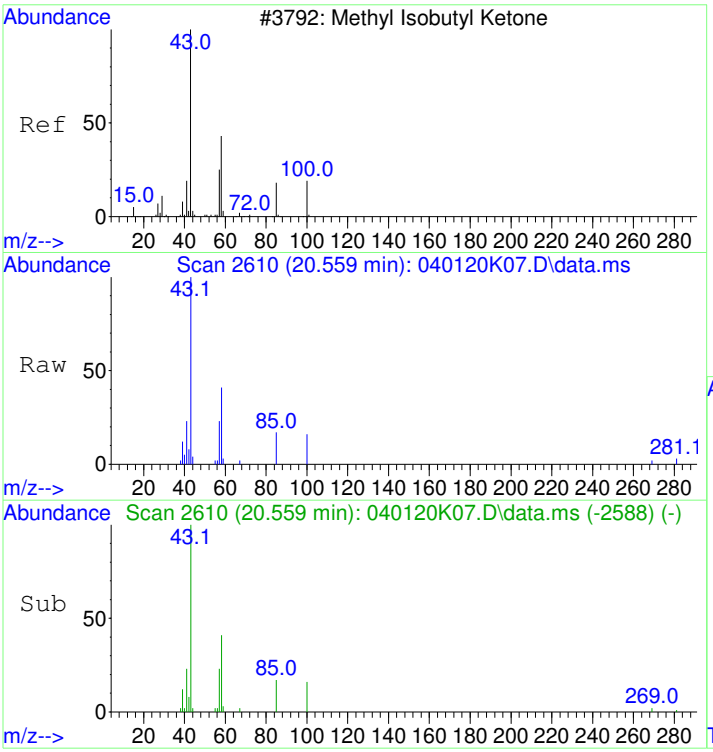


#41
cis-1,3-Dichloropropene
Concen: 0.93 ppbv
RT: 20.346 min Scan# 2575
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 75 Resp: 15744

Ion	Ratio	Lower	Upper
75	100		
39	46.8	25.3	65.3
77	32.0	11.6	51.6

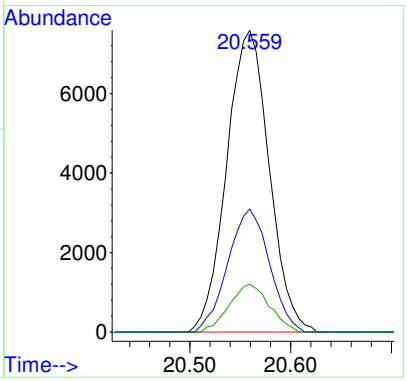


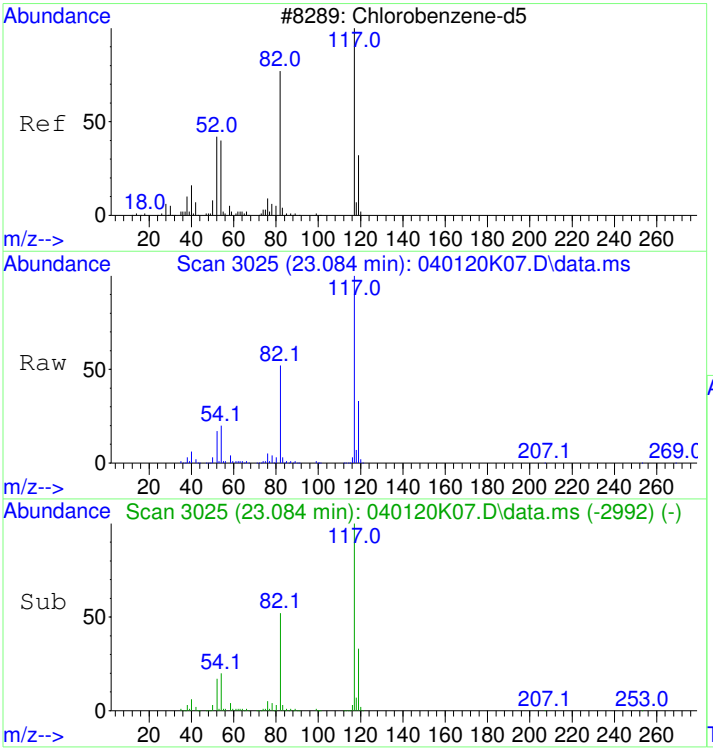


#42
4-Methyl-2-pentanone (MIBK)
Concen: 1.06 ppbv
RT: 20.559 min Scan# 2610
Delta R.T. 0.006 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 43 Resp: 22219

Ion	Ratio	Lower	Upper
43	100		
58	39.9	20.1	60.1
100	15.0	0.0	35.5

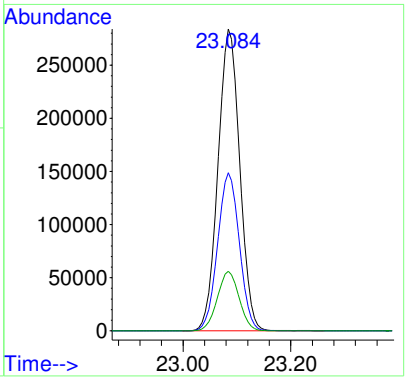


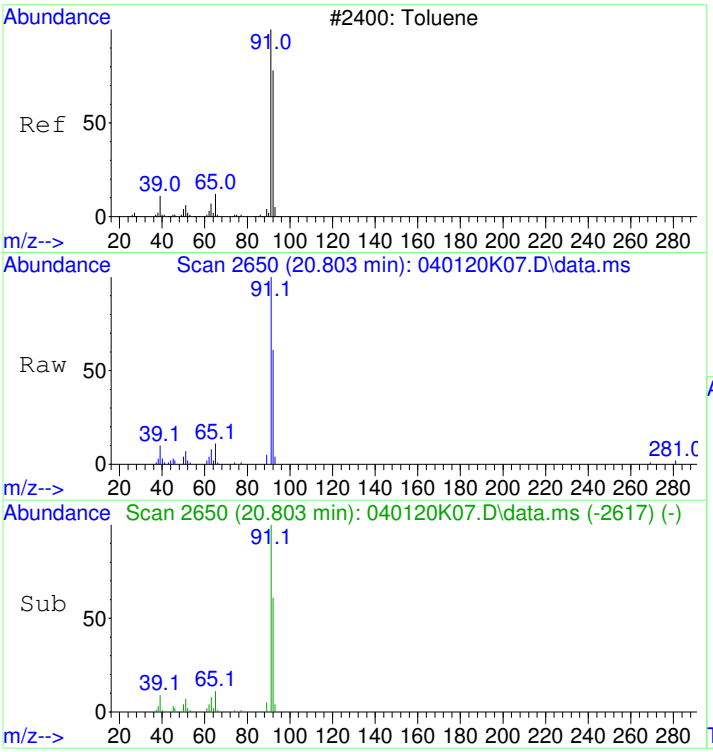


#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 23.084 min Scan# 3025
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion:117 Resp: 795202

Ion	Ratio	Lower	Upper
117	100		
82	52.3	32.5	72.5
54	19.8	0.0	39.6

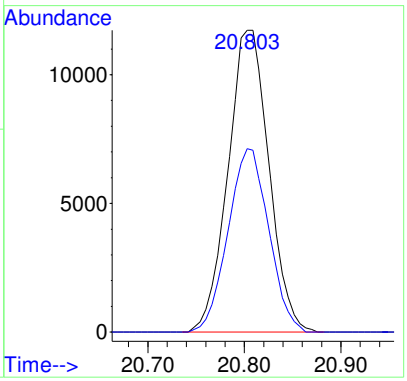


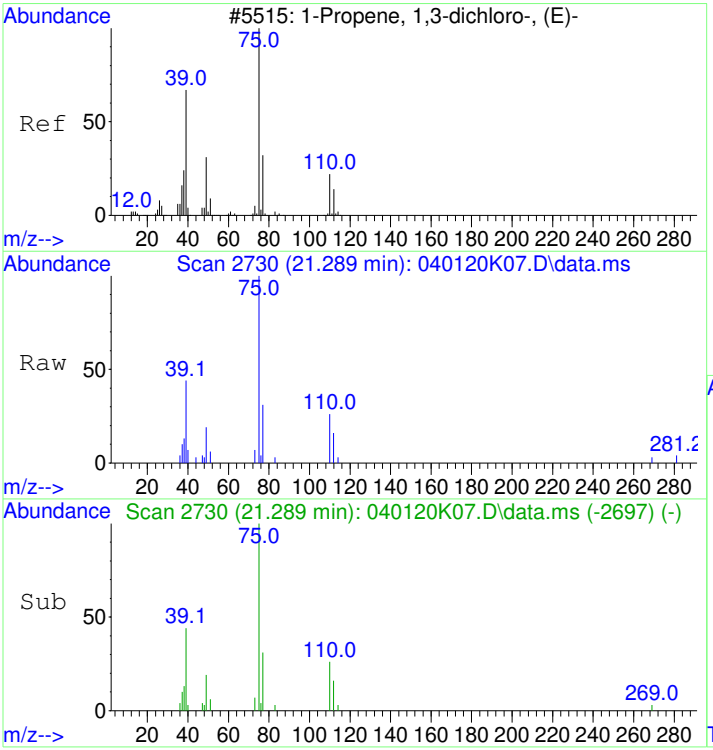


#44
Toluene
Concen: 0.96 ppbv
RT: 20.803 min Scan# 2650
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 91 Resp: 34597

Ion	Ratio	Lower	Upper
91	100		
92	60.3	40.7	80.7

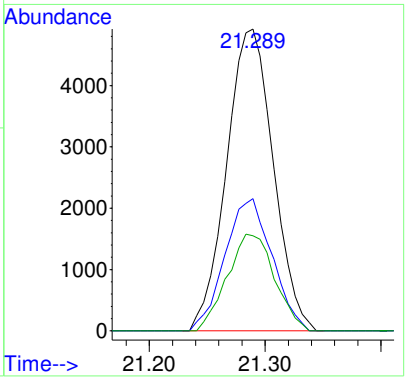


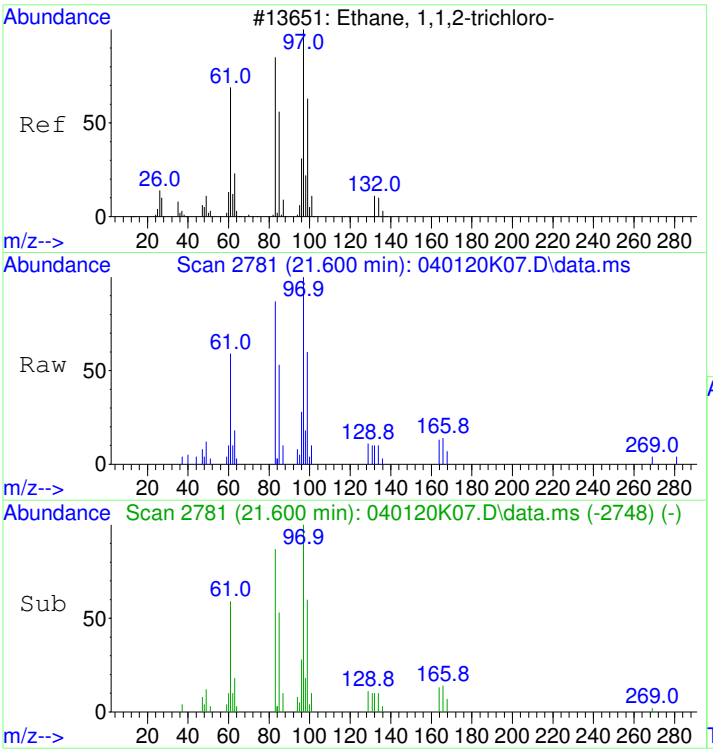


#45
trans-1,3-Dichloropropene
Concen: 0.89 ppbv
RT: 21.289 min Scan# 2730
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 75 Resp: 13796

Ion	Ratio	Lower	Upper
75	100		
39	44.1	25.0	65.0
77	32.5	11.7	51.7

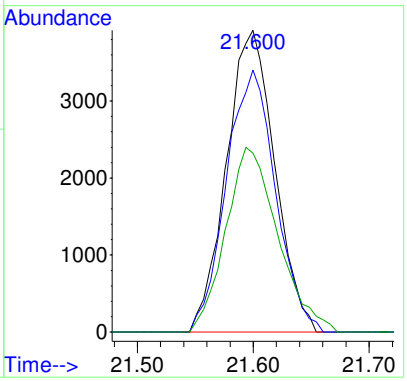


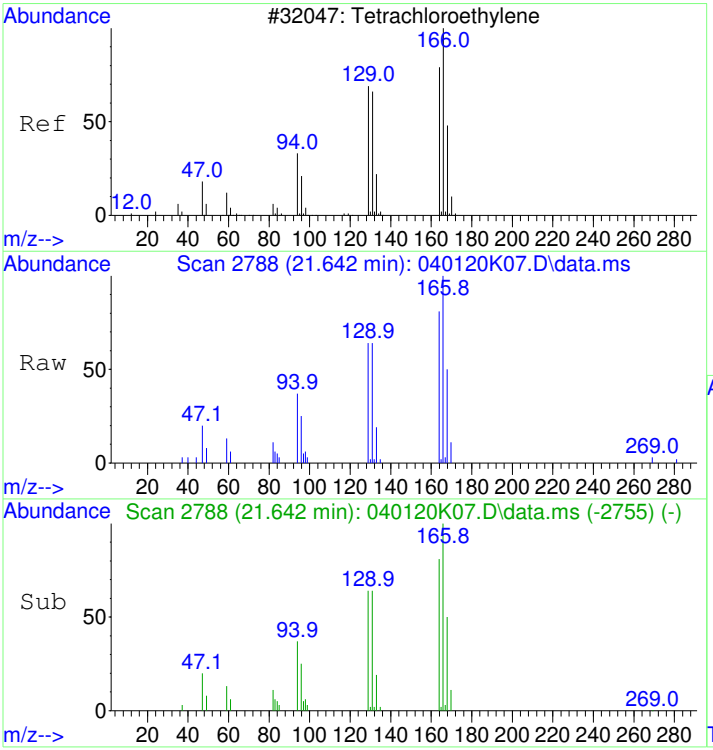


#46
1,1,2-Trichloroethane
Concen: 0.97 ppbv
RT: 21.600 min Scan# 2781
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 97 Resp: 11391

Ion	Ratio	Lower	Upper
97	100		
83	88.3	66.9	106.9
61	66.0	45.0	85.0

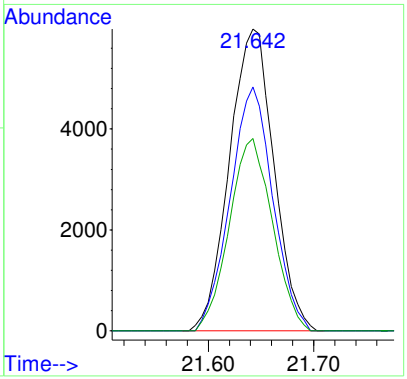


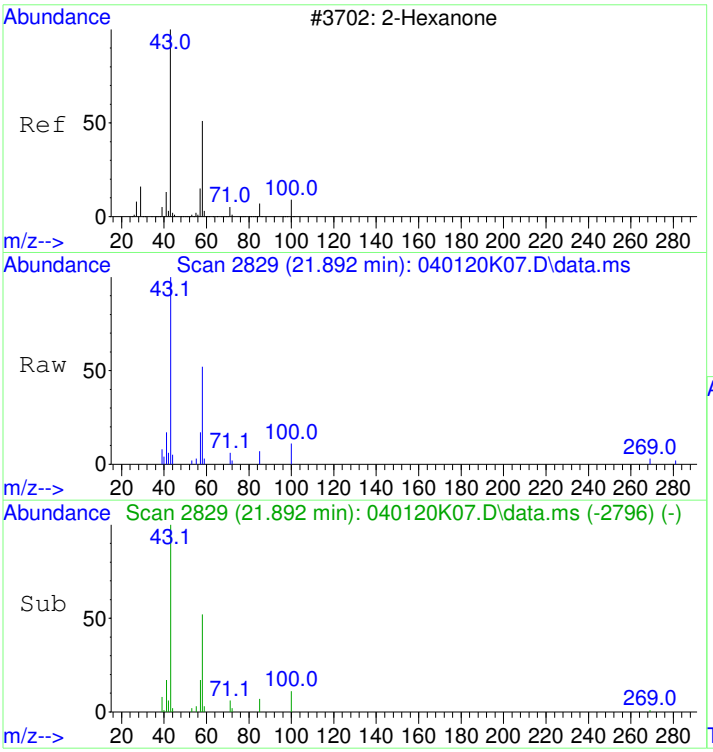


#47
Tetrachloroethene
Concen: 0.94 ppbv
RT: 21.642 min Scan# 2788
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion:166 Resp: 17576

Ion	Ratio	Lower	Upper
166	100		
164	77.5	58.4	98.4
131	61.7	43.1	83.1

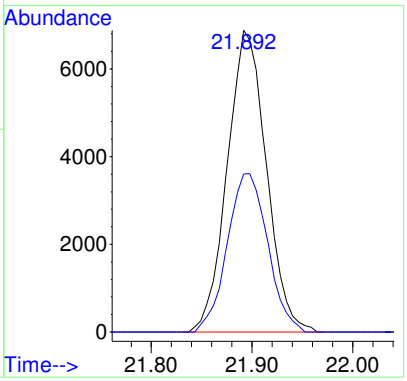


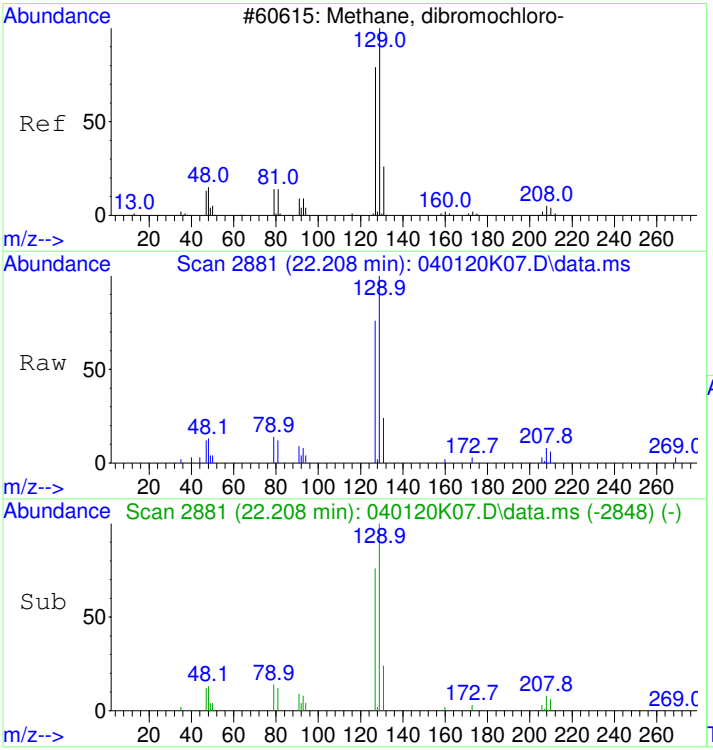


#48
2-Hexanone
Concen: 0.97 ppbv
RT: 21.892 min Scan# 2829
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 43 Resp: 18548

Ion	Ratio	Lower	Upper
43	100		
58	54.2	36.8	76.8

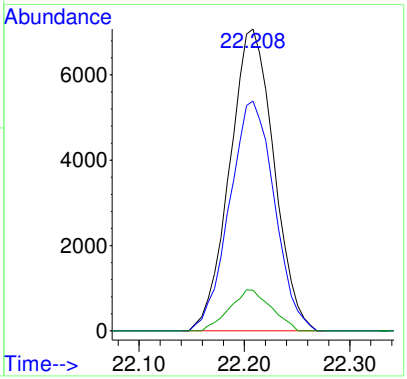


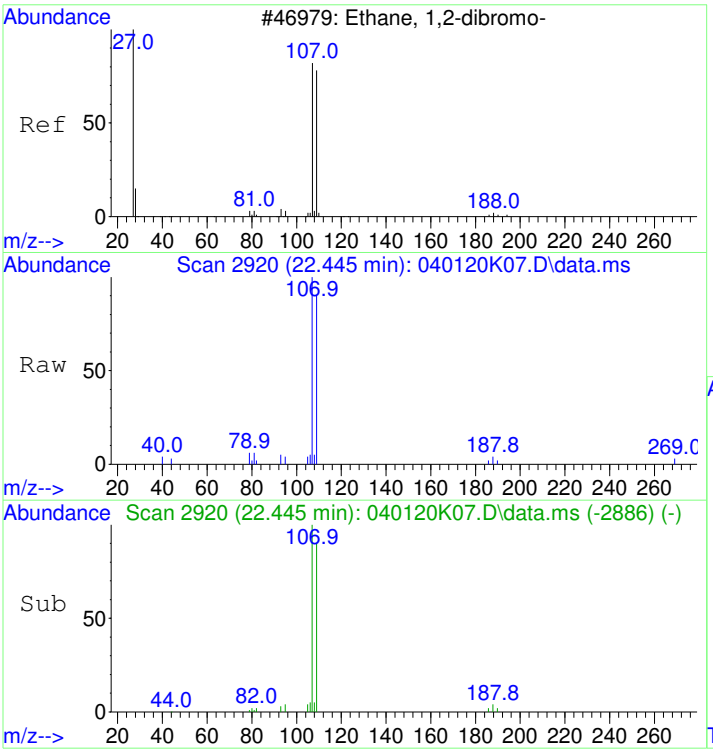


#49
Chlorodibromomethane
Concen: 1.15 ppbv
RT: 22.208 min Scan# 2881
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion:129 Resp: 20650

Ion	Ratio	Lower	Upper
129	100		
127	77.3	57.2	97.2
79	12.8	0.0	32.8

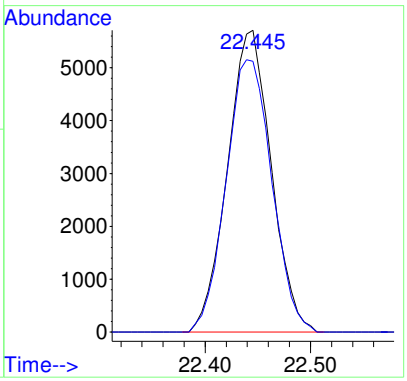


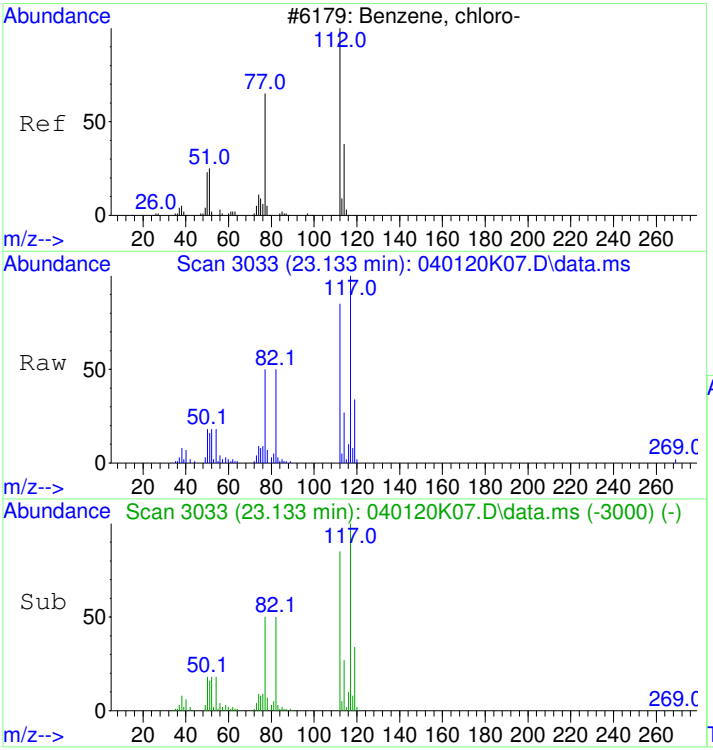


#50
1,2-Dibromoethane (EDB)
Concen: 0.96 ppbv
RT: 22.445 min Scan# 2920
Delta R.T. 0.006 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion:107 Resp: 16488

Ion	Ratio	Lower	Upper
107	100		
109	94.5	75.1	115.1

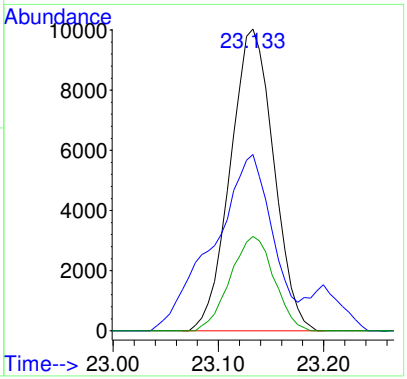


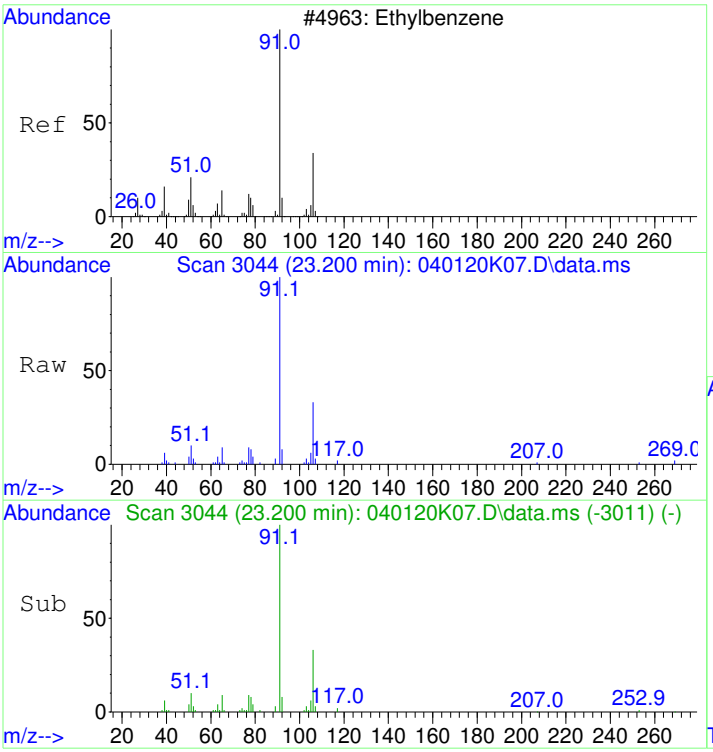


#51
Chlorobenzene
Concen: 0.97 ppbv
RT: 23.133 min Scan# 3033
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion:112 Resp: 28693

Ion	Ratio	Lower	Upper
112	100		
77	91.6	50.5	90.5#
114	31.6	12.1	52.1

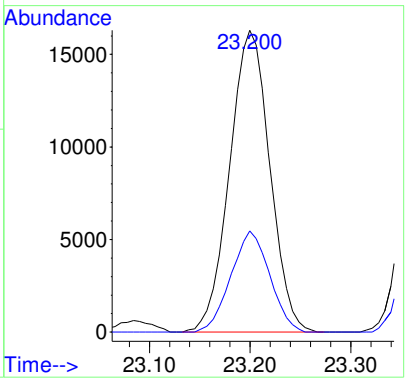


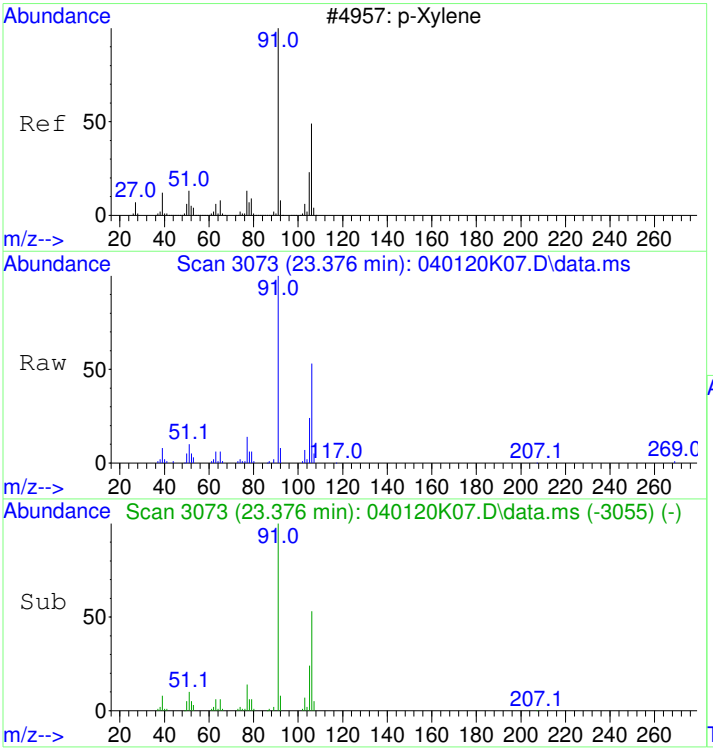


#52
Ethylbenzene
Concen: 0.97 ppbv
RT: 23.200 min Scan# 3044
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 91 Resp: 45195

Ion	Ratio	Lower	Upper
91	100		
106	32.3	12.4	52.4

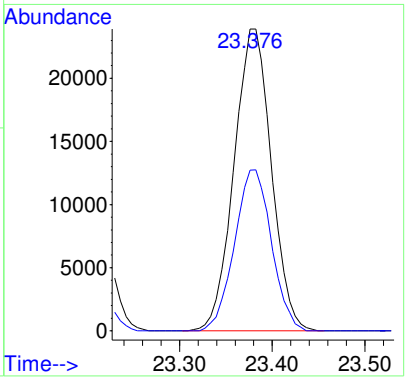


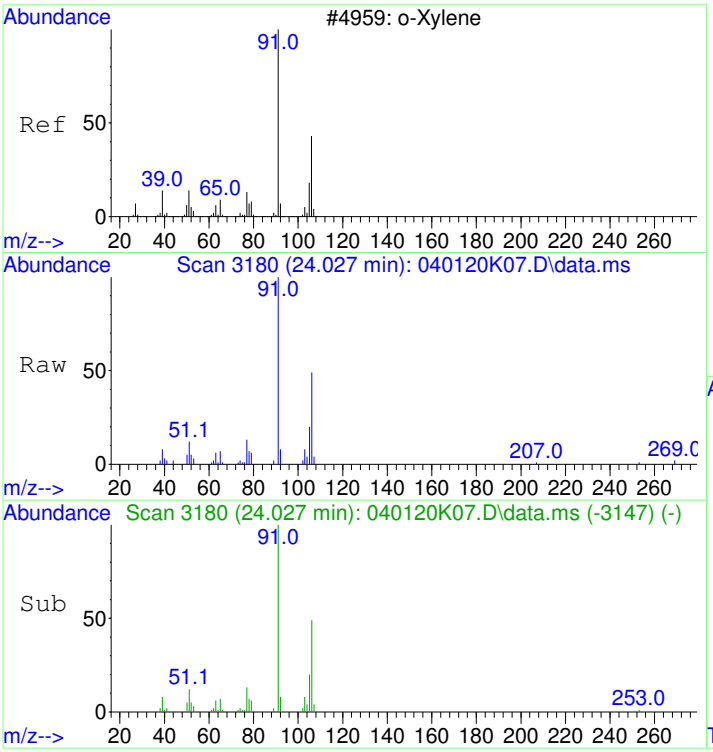


#53
m&p-Xylene
Concen: 1.89 ppbv
RT: 23.376 min Scan# 3073
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 91 Resp: 66821

Ion	Ratio	Lower	Upper
91	100		
106	52.7	34.0	74.0

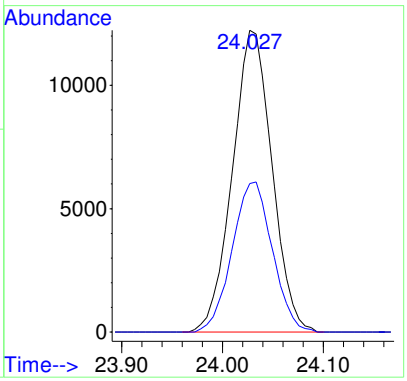


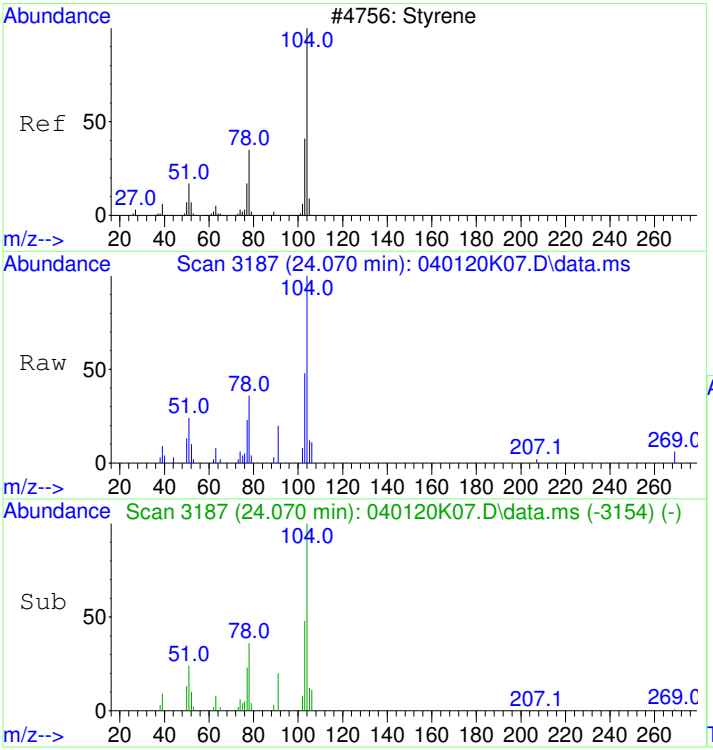


#54
o-Xylene
Concen: 0.91 ppbv
RT: 24.027 min Scan# 3180
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 91 Resp: 33369

Ion	Ratio	Lower	Upper
91	100		
106	50.4	30.7	70.7

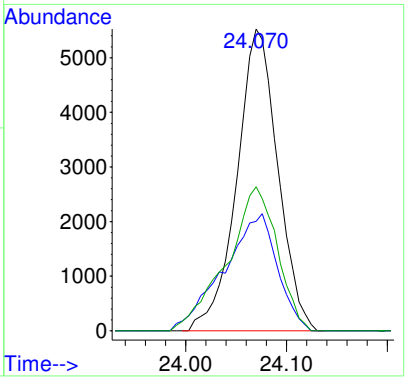


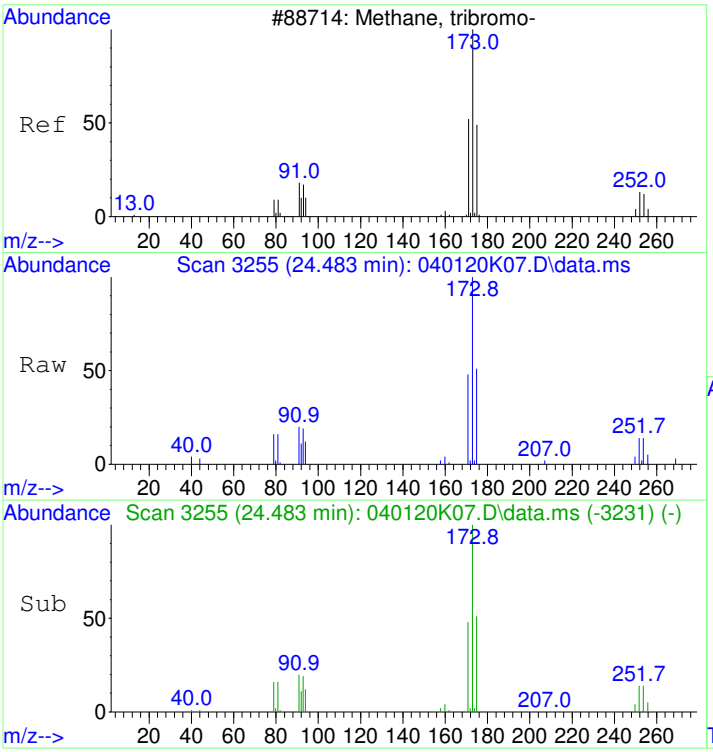


#55
Styrene
Concen: 0.80 ppbv
RT: 24.070 min Scan# 3187
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion:104 Resp: 15601

Ion	Ratio	Lower	Upper
104	100		
78	50.7	28.9	68.9
103	58.6	37.1	77.1

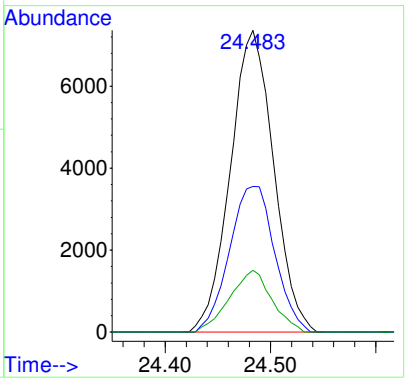


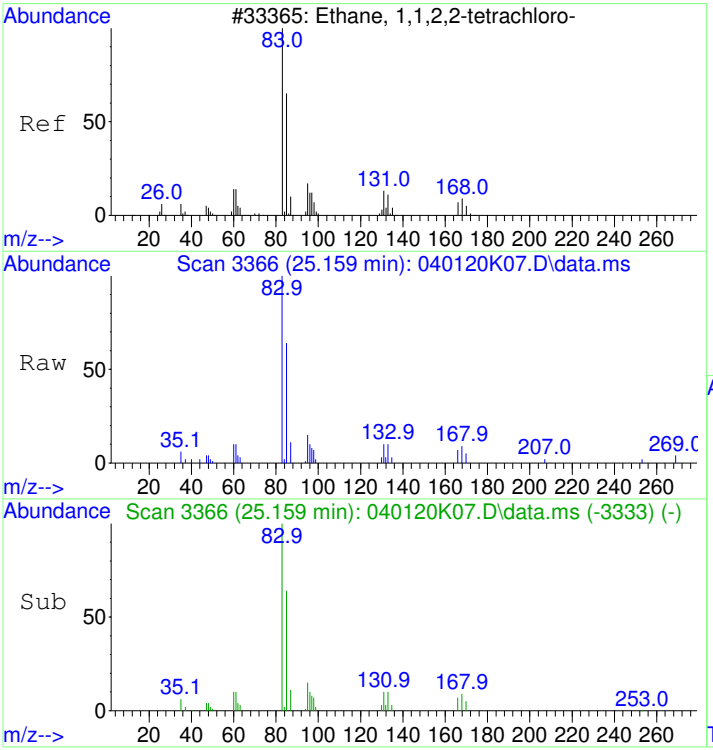


#56
Bromoform
Concen: 1.16 ppbv
RT: 24.483 min Scan# 3255
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion:173 Resp: 21012

Ion	Ratio	Lower	Upper
173	100		
171	50.5	30.8	70.8
91	20.0	0.0	39.0

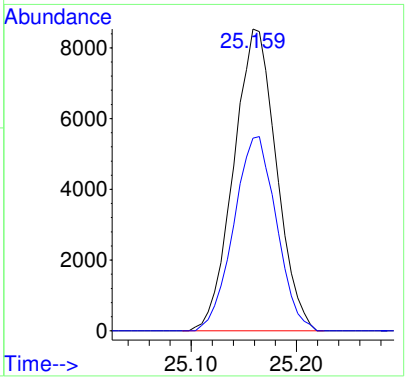


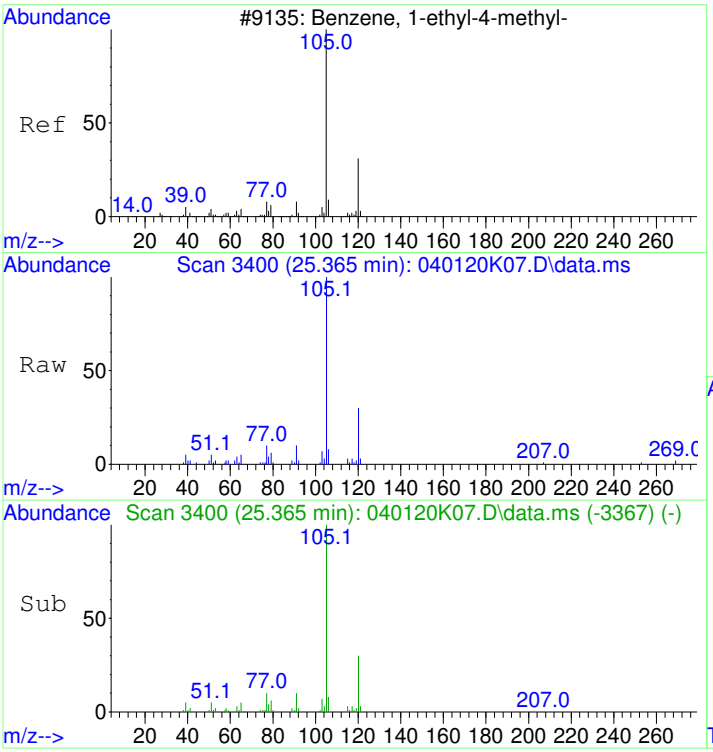


#57
1,1,2,2-Tetrachloroethane
Concen: 0.91 ppbv
RT: 25.159 min Scan# 3366
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 83 Resp: 24081

Ion	Ratio	Lower	Upper
83	100		
85	64.3	44.3	84.3

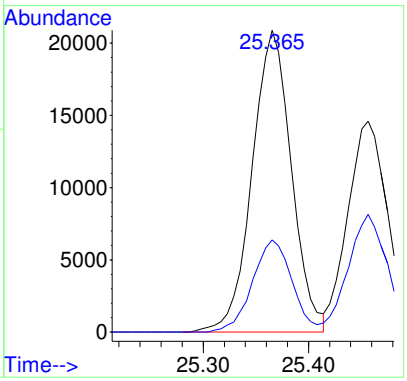


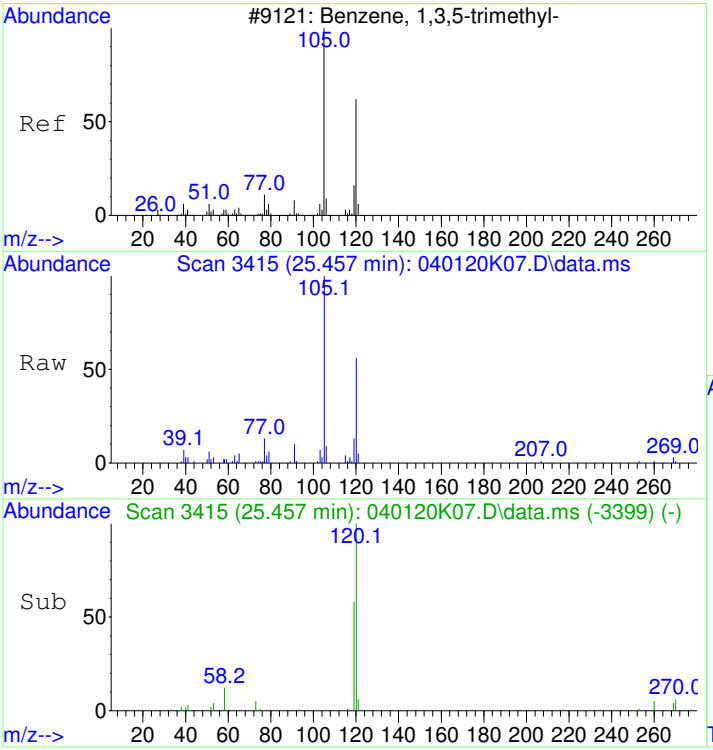


#58
4-Ethyltoluene
Concen: 0.95 ppbv
RT: 25.365 min Scan# 3400
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion:105 Resp: 54210

Ion	Ratio	Lower	Upper
105	100		
120	30.6	11.1	51.1

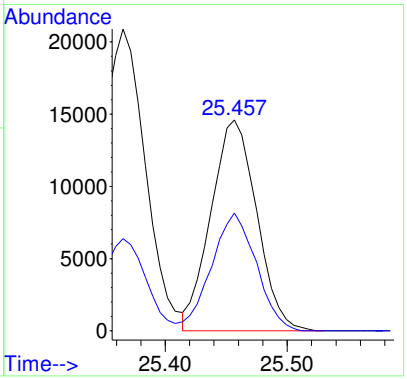


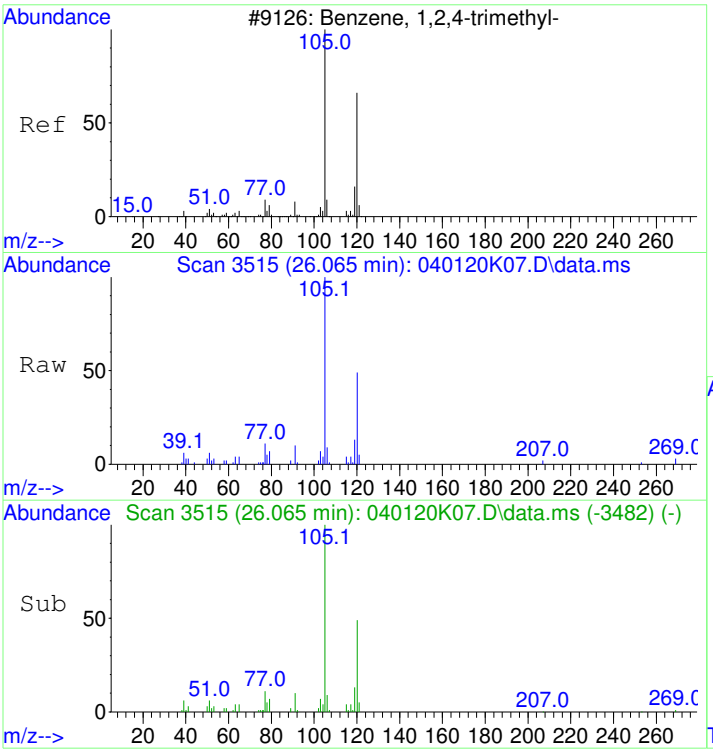


#59
1,3,5-Trimethylbenzene
Concen: 0.88 ppbv
RT: 25.457 min Scan# 3415
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion:105 Resp: 38150

Ion	Ratio	Lower	Upper
105	100		
120	54.8	34.9	74.9

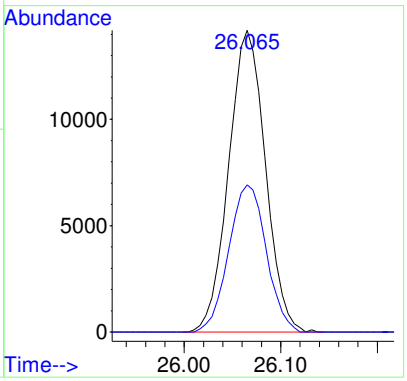


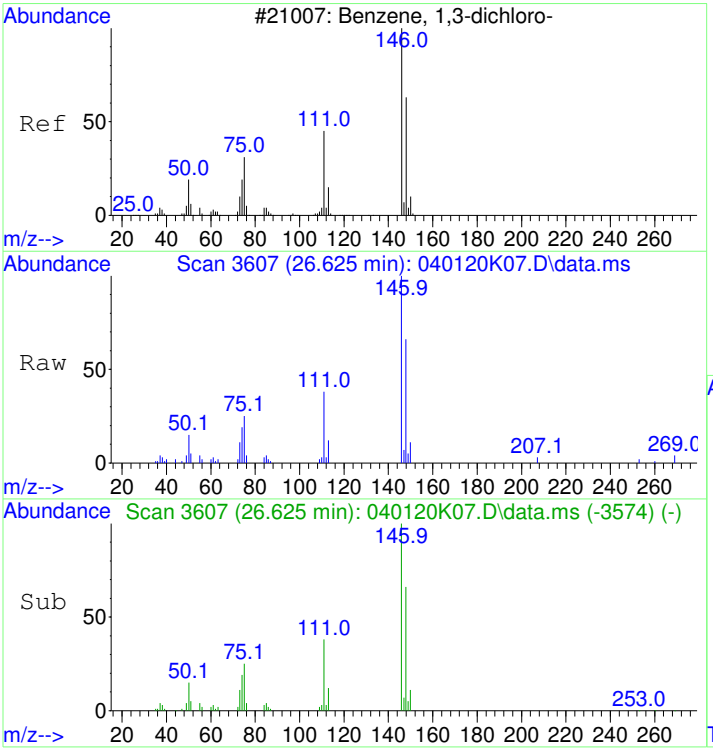


#60
1,2,4-Trimethylbenzene
Concen: 0.86 ppbv
RT: 26.065 min Scan# 3515
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion:105 Resp: 37541

Ion	Ratio	Lower	Upper
105	100		
120	49.8	30.4	70.4

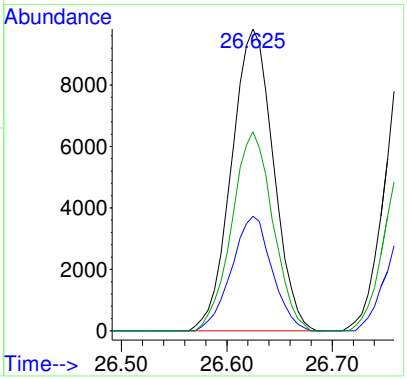


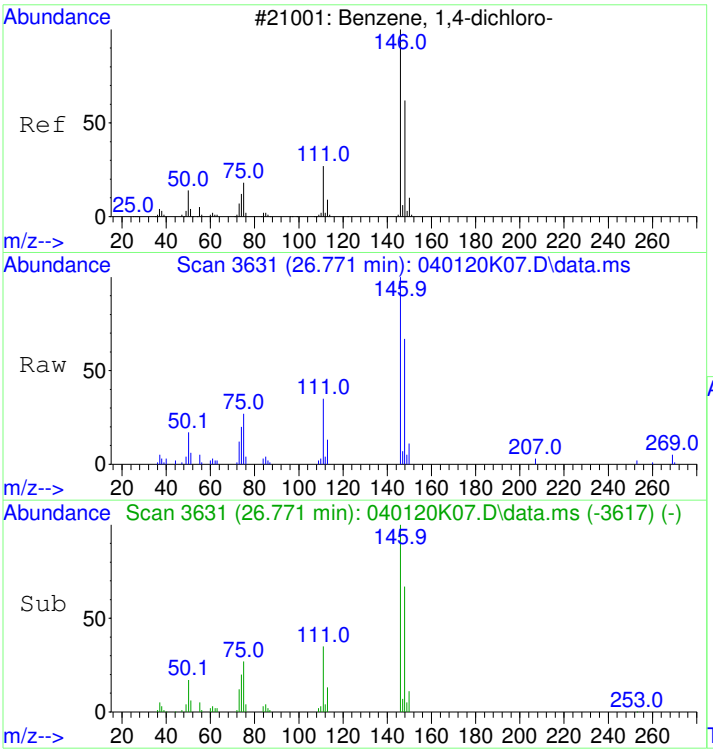


#61
1,3-Dichlorobenzene
Concen: 0.84 ppbv
RT: 26.625 min Scan# 3607
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion:146 Resp: 27163

Ion	Ratio	Lower	Upper
146	100		
111	36.7	16.1	56.1
148	64.5	44.5	84.5

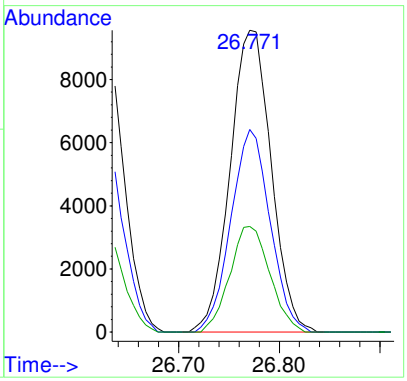


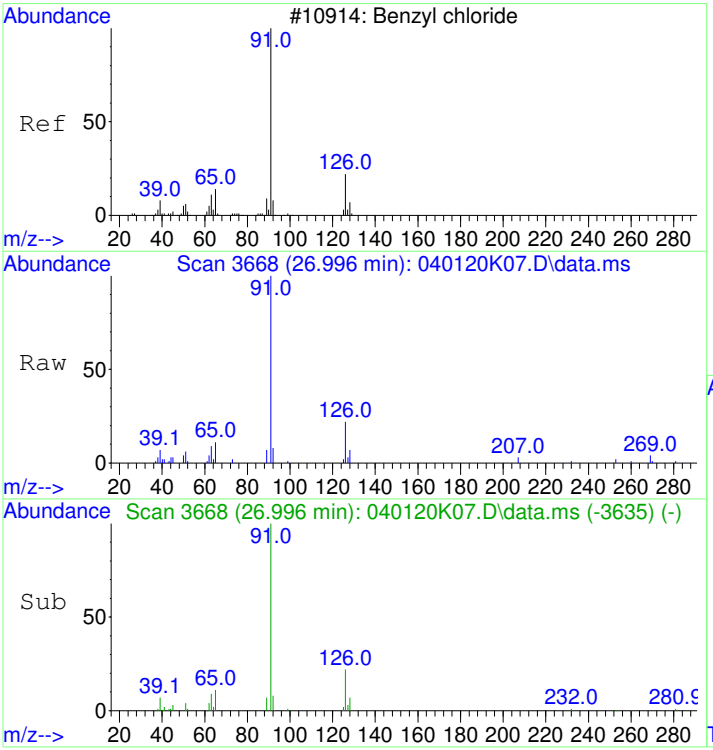


#62
1,4-Dichlorobenzene
Concen: 0.85 ppbv
RT: 26.771 min Scan# 3631
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion:146 Resp: 27071

Ion	Ratio	Lower	Upper
146	100		
148	64.0	43.9	83.9
111	34.1	14.3	54.3

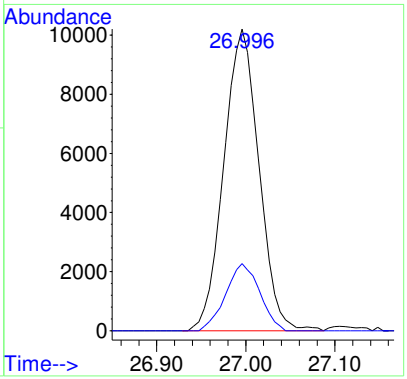


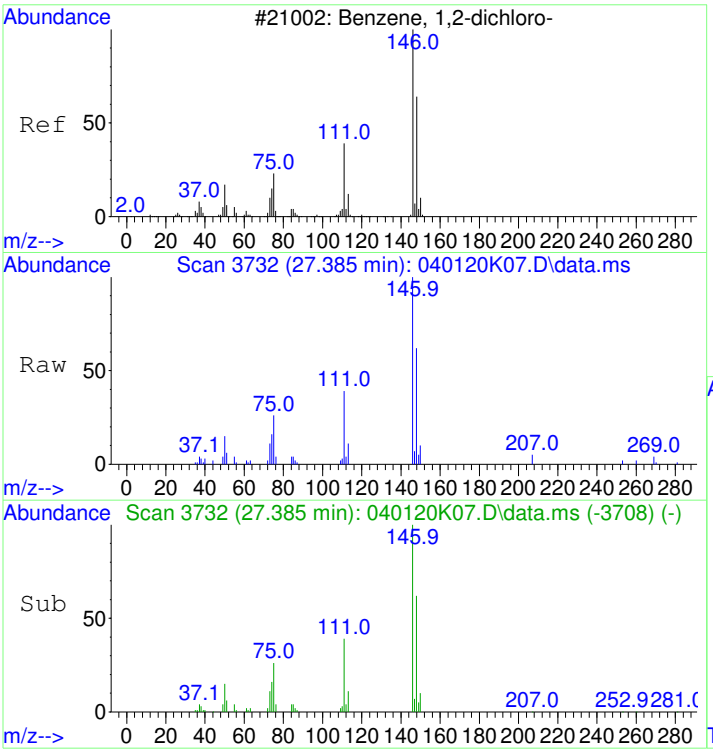


#63
Benzyl chloride
Concen: 0.95 ppbv
RT: 26.996 min Scan# 3668
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion: 91 Resp: 27890

Ion	Ratio	Lower	Upper
91	100		
126	21.5	2.4	42.4

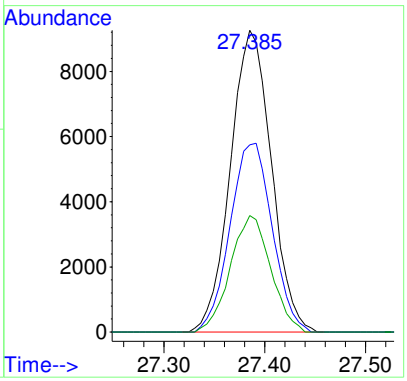


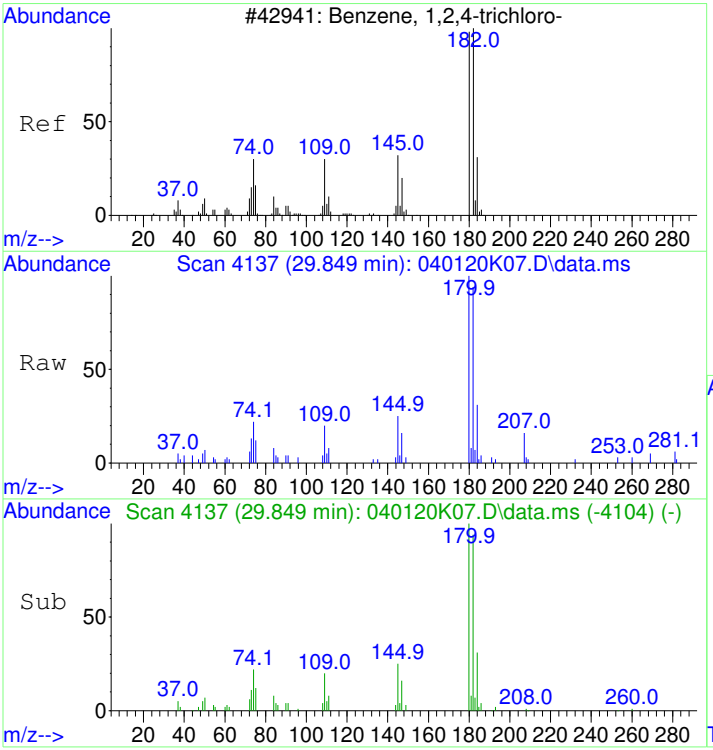


#64
1,2-Dichlorobenzene
Concen: 0.83 ppbv
RT: 27.385 min Scan# 3732
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion:146 Resp: 26172

Ion	Ratio	Lower	Upper
146	100		
148	64.5	43.9	83.9
111	38.0	17.3	57.3

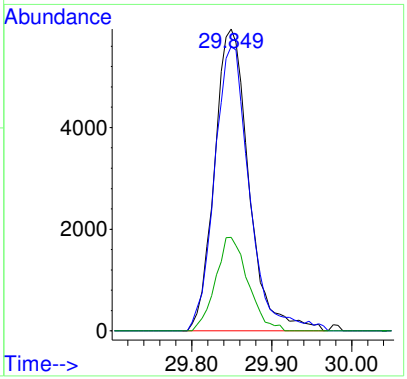


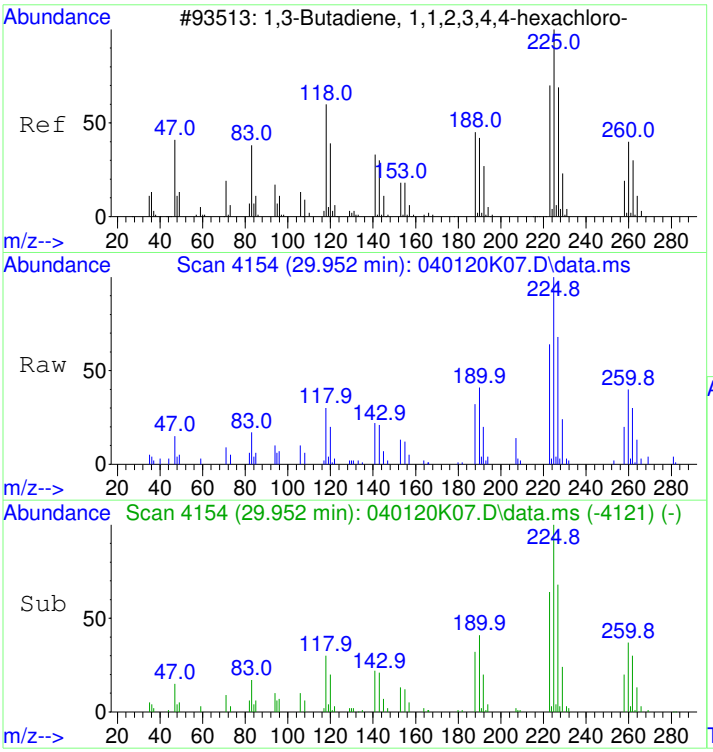


#65
1,2,4-Trichlorobenzene
Concen: 0.66 ppbv
RT: 29.849 min Scan# 4137
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion:180 Resp: 17782

Ion	Ratio	Lower	Upper
180	100		
182	95.8	75.9	115.9
184	29.1	10.7	50.7

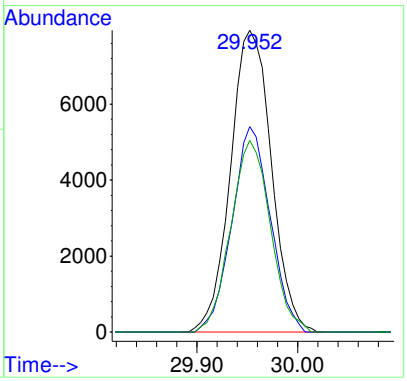




#66
Hexachlorobutadiene
Concen: 0.78 ppbv
RT: 29.952 min Scan# 4154
Delta R.T. -0.000 min
Lab File: 040120K07.D
Acq: 1 Apr 2020 5:16 pm

Tgt Ion:225 Resp: 22443

Ion	Ratio	Lower	Upper
225	100		
227	63.8	44.6	84.6
223	61.4	42.2	82.2



S20D002-CAL2

Data Path : D:\msdchem\1\2020\DATA\040120K_FSAA\
Data File : 040120K08.D
InstName : HP5973K
Acq On : 1 Apr 2020 6:06 pm
Operator : LLH
Sample : S20D002-CAL2
Misc : 2.0ppbv
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Apr 02 09:53:14 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:53:04 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	16.313	49	281363	19.60	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	18.223	114	860745	19.60	ppbv		0.00
43) CHLOROBENZENE-d5	23.084	117	773186	19.60	ppbv		0.00
Target Compounds							Qvalue
2) Propene	4.997	41	18642	2.33	ppbv		99
3) Dichlorodifluoromethane	5.101	85	46056	2.10	ppbv		100
4) 1,2-Dichlorotetrafluor...	5.484	85	49113	1.93	ppbv		100
5) Chloromethane	5.728	50	18923	2.28	ppbv		100
6) Vinyl chloride	6.068	62	24295	2.33	ppbv		99
7) 1,3-Butadiene	6.172	54	18947	2.30	ppbv		93
8) Bromomethane	7.242	94	16595	2.00	ppbv		99
9) Chloroethane	7.607	64	11165	2.05	ppbv		99
10) Bromoethene	8.252	106	16933	2.04	ppbv		98
11) Trichlorofluoromethane	8.380	101	41551	1.94	ppbv		99
12) 1,1,2-Trichloro-1,2,2-...	10.381	151	30875	1.94	ppbv		100
13) 1,1-Dichloroethene	10.509	61	29006	2.14	ppbv		100
14) Acetone	11.093	43	29872	2.28	ppbv		98
15) Carbon disulfide	11.203	76	54789	2.16	ppbv		99
16) 2-Propanol	11.604	45	28416	2.26	ppbv		97
17) Allyl chloride	11.963	41	26653	2.23	ppbv		99
18) Dichloromethane	12.480	49	24778	2.20	ppbv		99
19) tert-Butyl methyl ethe...	13.028	73	55784	2.07	ppbv		100
20) trans-1,2-Dichloroethene	13.107	61	27642	2.19	ppbv		99
21) Hexane	13.594	57	34457	1.98	ppbv		98
22) 1,1-Dichloroethane	14.397	63	34642	1.99	ppbv		100
23) Vinyl acetate	14.500	43	45192	2.22	ppbv		99
24) cis-1,2-Dichloroethene	15.772	61	25339	2.02	ppbv	#	98
25) 2-Butanone (MEK)	15.869	72	10547	2.02	ppbv	#	97
26) Ethyl acetate	15.869	61	6825	2.20	ppbv	#	86
27) Tetrahydrofuran	16.289	42	24332	2.08	ppbv		99
28) Chloroform	16.441	83	37073	2.15	ppbv		99
29) Cyclohexane	16.617	56	35490	2.06	ppbv		99
30) 1,1,1-Trichloroethane	16.696	97	36346	2.15	ppbv		99
31) Carbon tetrachloride	16.933	117	36442	2.18	ppbv		100
33) Benzene	17.438	78	62729	2.20	ppbv		100
34) 2,2,4-Trimethylpentane	17.311	57	109199	2.19	ppbv		99
35) 1,2-Dichloroethane	17.657	62	23960	2.24	ppbv		99
36) Heptane	17.682	43	39738	2.24	ppbv		100
37) Trichloroethene	18.625	130	27763	2.26	ppbv		100
38) 1,2-Dichloropropane	19.148	63	23094	2.18	ppbv		98
39) 1,4-Dioxane	19.318	88	14326	2.09	ppbv		99
40) Bromodichloromethane	19.604	83	40479	2.25	ppbv		100
41) cis-1,3-Dichloropropene	20.346	75	34118	2.08	ppbv		99
42) 4-Methyl-2-pentanone (...	20.559	43	47309	2.31	ppbv		100
44) Toluene	20.803	91	73609	2.13	ppbv		100
45) trans-1,3-Dichloropropene	21.289	75	30261	2.00	ppbv		99
46) 1,1,2-Trichloroethane	21.593	97	23777	2.10	ppbv		98
47) Tetrachloroethene	21.642	166	37260	2.09	ppbv		99
48) 2-Hexanone	21.892	43	42229	2.25	ppbv		99
49) Chlorodibromomethane	22.208	129	41495	2.32	ppbv		100
50) 1,2-Dibromoethane (EDB)	22.439	107	35646	2.15	ppbv		97
51) Chlorobenzene	23.133	112	61224	2.16	ppbv		93
52) Ethylbenzene	23.200	91	97914	2.18	ppbv		99
53) m&p-Xylene	23.382	91	146280	4.31	ppbv		98
54) o-Xylene	24.027	91	72703	2.06	ppbv		100

Data Path : D:\msdchem\1\2020\DATA\040120K_FSAA\
Data File : 040120K08.D
InstName : HP5973K
Acq On : 1 Apr 2020 6:06 pm
Operator : LLH
Sample : S20D002-CAL2
Misc : 2.0ppbv
ALS Vial : 29 Sample Multiplier: 1

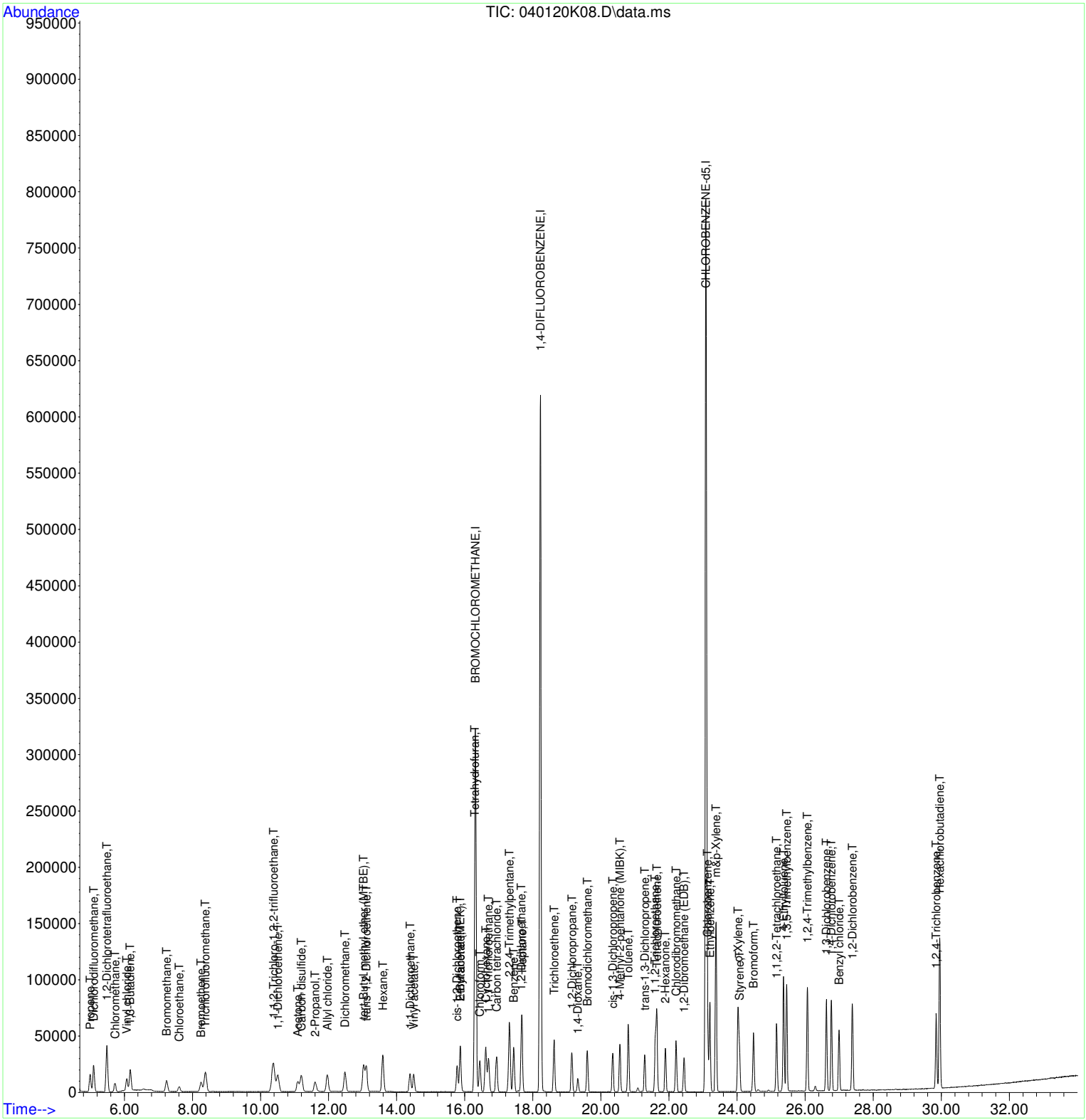
Quant Time: Apr 02 09:53:14 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:53:04 2020
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
55)	Styrene	24.076	104	35230	1.90 ppbv	99
56)	Bromoform	24.483	173	43719	2.36 ppbv	99
57)	1,1,2,2-Tetrachloroethane	25.158	83	52114	2.04 ppbv	100
58)	4-Ethyltoluene	25.365	105	113216	2.05 ppbv	99
59)	1,3,5-Trimethylbenzene	25.457	105	85881	2.07 ppbv	100
60)	1,2,4-Trimethylbenzene	26.065	105	85707	2.05 ppbv	99
61)	1,3-Dichlorobenzene	26.625	146	61390	1.99 ppbv	100
62)	1,4-Dichlorobenzene	26.771	146	60800	1.98 ppbv	100
63)	Benzyl chloride	26.996	91	69518	2.30 ppbv	98
64)	1,2-Dichlorobenzene	27.385	146	58542	1.94 ppbv	100
65)	1,2,4-Trichlorobenzene	29.849	180	41700	1.59 ppbv	98
66)	Hexachlorobutadiene	29.952	225	49233	1.77 ppbv	100

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

Data Path : D:\msdchem\1\2020\DATA\040120K_FSAA\
Data File : 040120K08.D
InstName : HP5973K
Acq On : 1 Apr 2020 6:06 pm
Operator : LLH
Sample : S20D002-CAL2
Misc : 2.0ppbv
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Apr 02 09:53:14 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:53:04 2020
Response via : Initial Calibration



S20D002-CAL3

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2020\DATA\040120K_FSAA\
Data File : 040120K09.D
InstName : HP5973K
Acq On : 1 Apr 2020 6:56 pm
Operator : LLH
Sample : S20D002-CAL3
Misc : 5.0ppbv
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Apr 02 09:54:03 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:53:58 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	16.307	49	283682	19.60	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	18.223	114	856372	19.60	ppbv		0.00
43) CHLOROBENZENE-d5	23.084	117	780232	19.60	ppbv		0.00
Target Compounds							Qvalue
2) Propene	4.998	41	45424	5.58	ppbv		99
3) Dichlorodifluoromethane	5.095	85	112015	5.05	ppbv		100
4) 1,2-Dichlorotetrafluor...	5.490	85	121829	4.73	ppbv		99
5) Chloromethane	5.728	50	45828	5.42	ppbv		100
6) Vinyl chloride	6.074	62	58584	5.45	ppbv		99
7) 1,3-Butadiene	6.172	54	45736	5.38	ppbv		97
8) Bromomethane	7.236	94	40384	4.84	ppbv		99
9) Chloroethane	7.614	64	26998	4.93	ppbv		99
10) Bromoethene	8.252	106	41247	4.99	ppbv		99
11) Trichlorofluoromethane	8.380	101	99794	4.61	ppbv		99
12) 1,1,2-Trichloro-1,2,2-...	10.376	151	74733	4.68	ppbv		100
13) 1,1-Dichloroethene	10.503	61	69979	5.11	ppbv		99
14) Acetone	11.087	43	71092	5.32	ppbv		100
15) Carbon disulfide	11.197	76	133607	5.23	ppbv		99
16) 2-Propanol	11.586	45	70836	5.50	ppbv		98
17) Allyl chloride	11.963	41	65392	5.42	ppbv		100
18) Dichloromethane	12.480	49	55048	4.82	ppbv		100
19) tert-Butyl methyl ethe...	13.022	73	136816	5.05	ppbv		100
20) trans-1,2-Dichloroethene	13.107	61	67232	5.27	ppbv		100
21) Hexane	13.594	57	85339	4.91	ppbv		99
22) 1,1-Dichloroethane	14.397	63	82809	4.70	ppbv		100
23) Vinyl acetate	14.494	43	113818	5.48	ppbv		99
24) cis-1,2-Dichloroethene	15.778	61	62690	4.96	ppbv	#	100
25) 2-Butanone (MEK)	15.863	72	26164	4.99	ppbv	#	97
26) Ethyl acetate	15.869	61	15753	4.98	ppbv	#	98
27) Tetrahydrofuran	16.289	42	60441	5.10	ppbv		99
28) Chloroform	16.441	83	88506	5.06	ppbv		100
29) Cyclohexane	16.617	56	86566	4.99	ppbv		99
30) 1,1,1-Trichloroethane	16.696	97	88178	5.13	ppbv		99
31) Carbon tetrachloride	16.934	117	89061	5.14	ppbv		100
33) Benzene	17.439	78	153339	5.32	ppbv		99
34) 2,2,4-Trimethylpentane	17.311	57	267838	5.33	ppbv		100
35) 1,2-Dichloroethane	17.658	62	58160	5.35	ppbv		100
36) Heptane	17.676	43	98668	5.50	ppbv		100
37) Trichloroethene	18.625	130	66039	5.36	ppbv		99
38) 1,2-Dichloropropane	19.148	63	56094	5.25	ppbv		99
39) 1,4-Dioxane	19.318	88	35686	5.21	ppbv		100
40) Bromodichloromethane	19.598	83	98886	5.40	ppbv		100
41) cis-1,3-Dichloropropene	20.346	75	84951	5.14	ppbv		99
42) 4-Methyl-2-pentanone (...	20.559	43	117076	5.62	ppbv		100
44) Toluene	20.803	91	181105	5.17	ppbv		100
45) trans-1,3-Dichloropropene	21.289	75	76889	4.98	ppbv		99
46) 1,1,2-Trichloroethane	21.600	97	58343	5.09	ppbv		99
47) Tetrachloroethene	21.642	166	90544	5.01	ppbv		99
48) 2-Hexanone	21.892	43	107554	5.59	ppbv		99
49) Chlorodibromomethane	22.208	129	103641	5.58	ppbv		99
50) 1,2-Dibromoethane (EDB)	22.445	107	87433	5.20	ppbv		99
51) Chlorobenzene	23.133	112	148644	5.16	ppbv		98
52) Ethylbenzene	23.200	91	239627	5.25	ppbv		100
53) m&p-Xylene	23.382	91	362307	10.49	ppbv		99
54) o-Xylene	24.027	91	182436	5.11	ppbv		100

Data Path : D:\msdchem\1\2020\DATA\040120K_FSAA\
Data File : 040120K09.D
InstName : HP5973K
Acq On : 1 Apr 2020 6:56 pm
Operator : LLH
Sample : S20D002-CAL3
Misc : 5.0ppbv
ALS Vial : 29 Sample Multiplier: 1

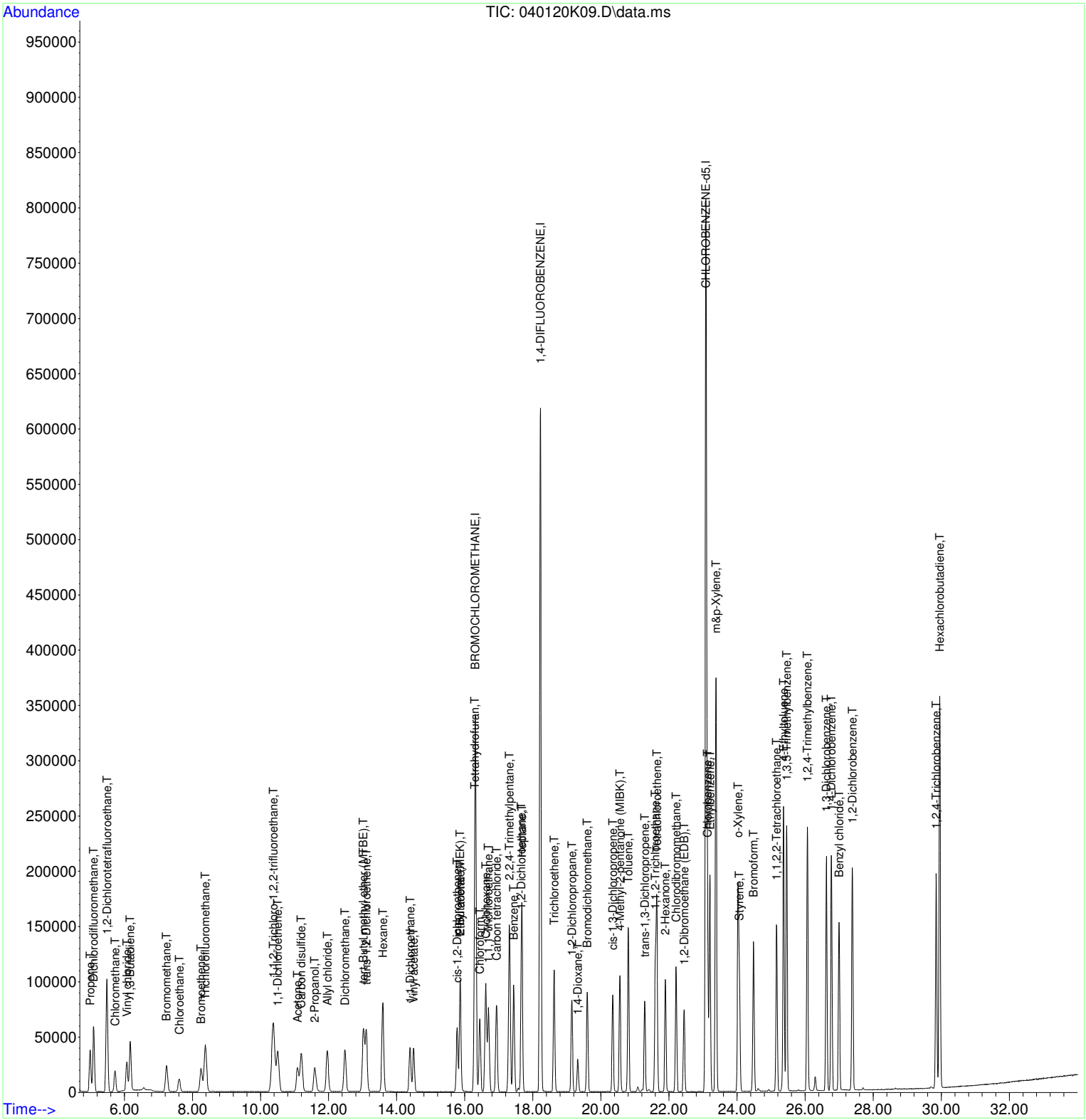
Quant Time: Apr 02 09:54:03 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:53:58 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
55) Styrene	24.070	104	89838	4.84 ppbv	99
56) Bromoform	24.483	173	113080	5.81 ppbv	100
57) 1,1,2,2-Tetrachloroethane	25.159	83	132049	5.09 ppbv	100
58) 4-Ethyltoluene	25.365	105	286638	5.12 ppbv	100
59) 1,3,5-Trimethylbenzene	25.457	105	219684	5.25 ppbv	99
60) 1,2,4-Trimethylbenzene	26.065	105	221660	5.24 ppbv	100
61) 1,3-Dichlorobenzene	26.625	146	159433	5.10 ppbv	100
62) 1,4-Dichlorobenzene	26.771	146	158718	5.11 ppbv	100
63) Benzyl chloride	26.996	91	193883	6.15 ppbv	100
64) 1,2-Dichlorobenzene	27.385	146	154020	5.05 ppbv	100
65) 1,2,4-Trichlorobenzene	29.849	180	117870	4.45 ppbv	99
66) Hexachlorobutadiene	29.952	225	128706	4.57 ppbv	100

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

Data Path : D:\msdchem\1\2020\DATA\040120K_FSAA\
Data File : 040120K09.D
InstName : HP5973K
Acq On : 1 Apr 2020 6:56 pm
Operator : LLH
Sample : S20D002-CAL3
Misc : 5.0ppbv
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Apr 02 09:54:03 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:53:58 2020
Response via : Initial Calibration



S20D002-CAL4

Data Path : D:\msdchem\1\2020\DATA\040120K_FSAA\
Data File : 040120K10.D
InstName : HP5973K
Acq On : 1 Apr 2020 7:47 pm
Operator : LLH
Sample : S20D002-CAL4
Misc : 10ppbv
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Apr 02 09:55:02 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:54:54 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	16.313	49	290286	19.60	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	18.223	114	865447	19.60	ppbv		0.00
43) CHLOROBENZENE-d5	23.084	117	803106	19.60	ppbv		0.00
Target Compounds							Qvalue
2) Propene	4.998	41	89664	10.76	ppbv		100
3) Dichlorodifluoromethane	5.095	85	225112	9.97	ppbv		100
4) 1,2-Dichlorotetrafluor...	5.484	85	244096	9.36	ppbv		100
5) Chloromethane	5.728	50	91603	10.61	ppbv		100
6) Vinyl chloride	6.068	62	117125	10.56	ppbv		100
7) 1,3-Butadiene	6.172	54	90677	10.33	ppbv		100
8) Bromomethane	7.237	94	78749	9.37	ppbv		100
9) Chloroethane	7.608	64	52857	9.52	ppbv		100
10) Bromoethene	8.252	106	81594	9.85	ppbv		100
11) Trichlorofluoromethane	8.374	101	195120	8.87	ppbv		100
12) 1,1,2-Trichloro-1,2,2-...	10.382	151	146517	9.13	ppbv		100
13) 1,1-Dichloroethene	10.509	61	137598	9.89	ppbv		100
14) Acetone	11.081	43	139084	10.21	ppbv		100
15) Carbon disulfide	11.197	76	261015	10.12	ppbv		100
16) 2-Propanol	11.586	45	142662	10.79	ppbv		100
17) Allyl chloride	11.957	41	128988	10.52	ppbv		100
18) Dichloromethane	12.481	49	104812	9.02	ppbv		100
19) tert-Butyl methyl ethe...	13.022	73	270292	9.91	ppbv		100
20) trans-1,2-Dichloroethene	13.107	61	132599	10.25	ppbv		100
21) Hexane	13.588	57	169753	9.66	ppbv		100
22) 1,1-Dichloroethane	14.391	63	162135	9.07	ppbv		100
23) Vinyl acetate	14.494	43	230577	10.82	ppbv		100
24) cis-1,2-Dichloroethene	15.778	61	123887	9.68	ppbv	#	100
25) 2-Butanone (MEK)	15.857	72	52408	9.91	ppbv		100
26) Ethyl acetate	15.869	61	31318	9.69	ppbv		100
27) Tetrahydrofuran	16.283	42	119012	9.81	ppbv		100
28) Chloroform	16.441	83	174203	9.82	ppbv		100
29) Cyclohexane	16.617	56	171808	9.76	ppbv		100
30) 1,1,1-Trichloroethane	16.696	97	174031	9.94	ppbv		100
31) Carbon tetrachloride	16.934	117	175935	9.81	ppbv		100
33) Benzene	17.439	78	296759	10.15	ppbv		100
34) 2,2,4-Trimethylpentane	17.311	57	528496	10.36	ppbv		100
35) 1,2-Dichloroethane	17.658	62	113676	10.20	ppbv		100
36) Heptane	17.676	43	194869	10.63	ppbv		100
37) Trichloroethene	18.625	130	131721	10.62	ppbv		100
38) 1,2-Dichloropropane	19.148	63	111164	10.23	ppbv		100
39) 1,4-Dioxane	19.319	88	71270	10.33	ppbv		100
40) Bromodichloromethane	19.598	83	196791	10.51	ppbv		100
41) cis-1,3-Dichloropropene	20.347	75	173129	10.34	ppbv		100
42) 4-Methyl-2-pentanone (...	20.553	43	234938	11.02	ppbv		100
44) Toluene	20.803	91	359510	10.02	ppbv		100
45) trans-1,3-Dichloropropene	21.290	75	156760	9.82	ppbv		100
46) 1,1,2-Trichloroethane	21.600	97	118349	10.09	ppbv		100
47) Tetrachloroethene	21.642	166	182553	9.90	ppbv		100
48) 2-Hexanone	21.892	43	214775	10.74	ppbv		100
49) Chlorodibromomethane	22.208	129	211013	10.91	ppbv		100
50) 1,2-Dibromoethane (EDB)	22.439	107	176732	10.27	ppbv		100
51) Chlorobenzene	23.133	112	298702	10.12	ppbv		100
52) Ethylbenzene	23.200	91	480770	10.26	ppbv		100
53) m&p-Xylene	23.376	91	731542	20.59	ppbv		100
54) o-Xylene	24.027	91	370125	10.11	ppbv		100

Data Path : D:\msdchem\1\2020\DATA\040120K_FSAA\
Data File : 040120K10.D
InstName : HP5973K
Acq On : 1 Apr 2020 7:47 pm
Operator : LLH
Sample : S20D002-CAL4
Misc : 10ppbv
ALS Vial : 29 Sample Multiplier: 1

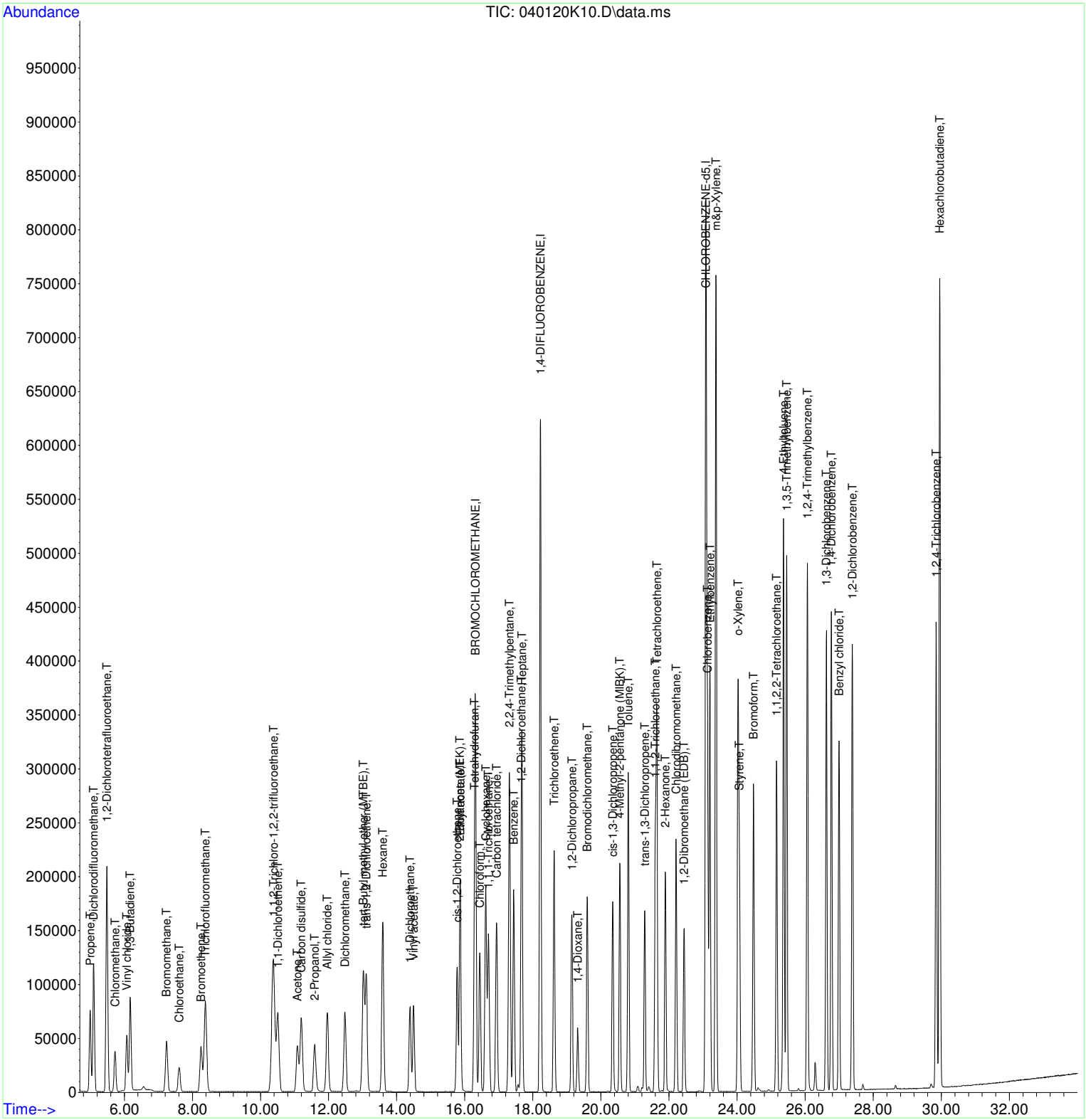
Quant Time: Apr 02 09:55:02 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:54:54 2020
Response via : Initial Calibration

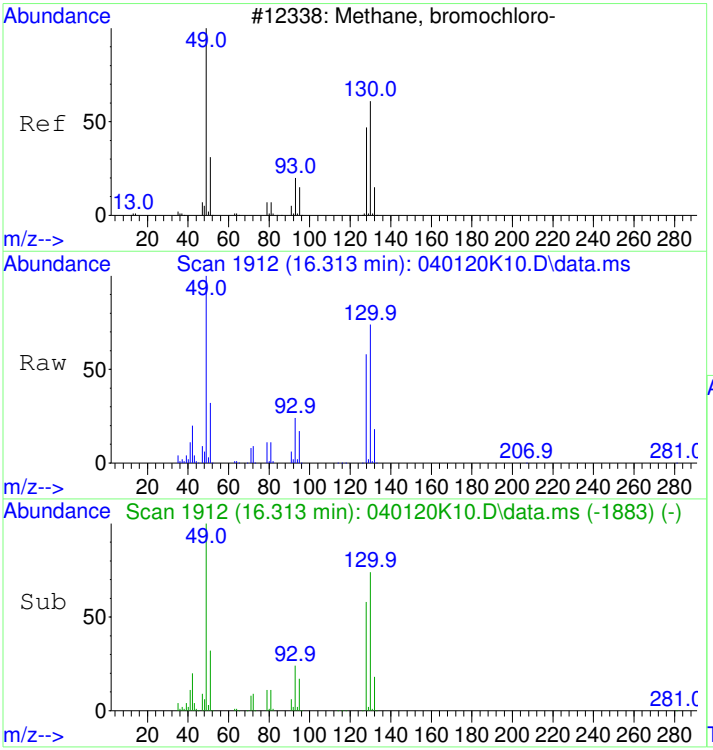
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
55) Styrene	24.070	104	185526	9.85 ppbv	100
56) Bromoform	24.483	173	237167	11.54 ppbv	100
57) 1,1,2,2-Tetrachloroethane	25.159	83	270188	10.14 ppbv	100
58) 4-Ethyltoluene	25.366	105	591258	10.32 ppbv	100
59) 1,3,5-Trimethylbenzene	25.457	105	448975	10.49 ppbv	100
60) 1,2,4-Trimethylbenzene	26.065	105	457716	10.59 ppbv	100
61) 1,3-Dichlorobenzene	26.625	146	329641	10.31 ppbv	100
62) 1,4-Dichlorobenzene	26.771	146	330362	10.38 ppbv	100
63) Benzyl chloride	26.996	91	413201	12.45 ppbv	100
64) 1,2-Dichlorobenzene	27.385	146	317029	10.16 ppbv	100
65) 1,2,4-Trichlorobenzene	29.849	180	260795	9.66 ppbv	100
66) Hexachlorobutadiene	29.953	225	275262	9.59 ppbv	100

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

Data Path : D:\msdchem\1\2020\DATA\040120K_FSAA\
Data File : 040120K10.D
InstName : HP5973K
Acq On : 1 Apr 2020 7:47 pm
Operator : LLH
Sample : S20D002-CAL4
Misc : 10ppbv
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Apr 02 09:55:02 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:54:54 2020
Response via : Initial Calibration

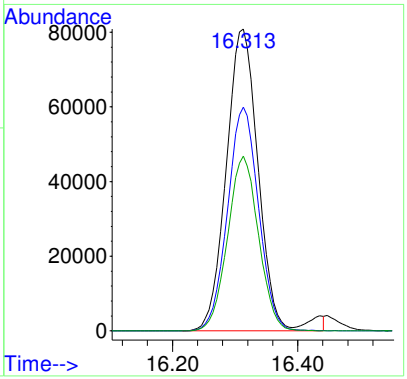


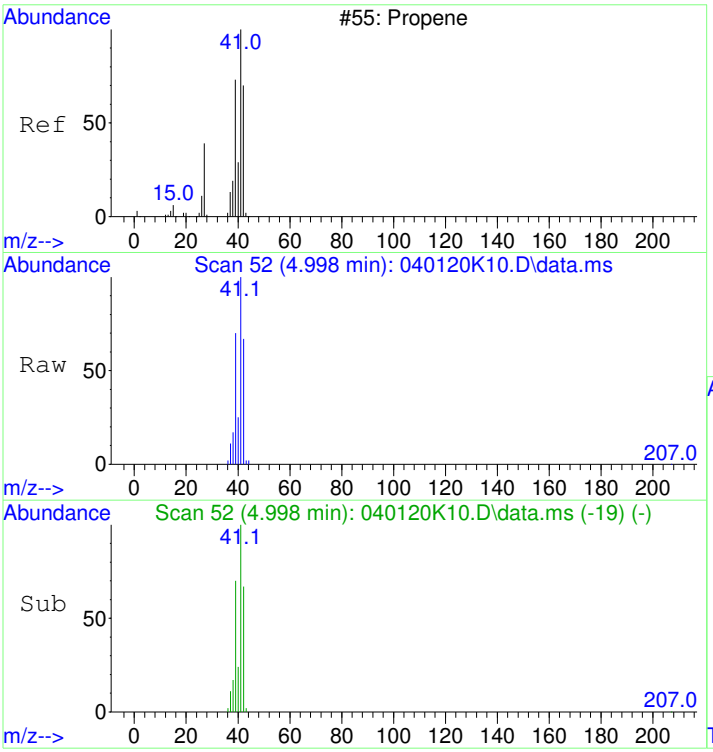


#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 16.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 49 Resp: 290286

Ion	Ratio	Lower	Upper
49	100		
130	71.1	51.1	91.1
128	55.0	35.0	75.0

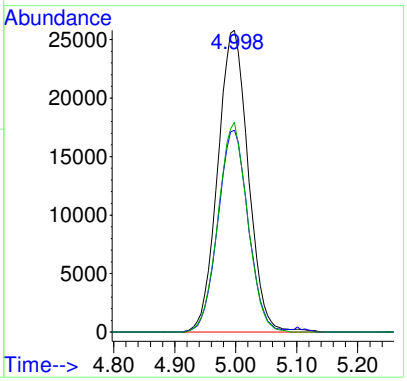


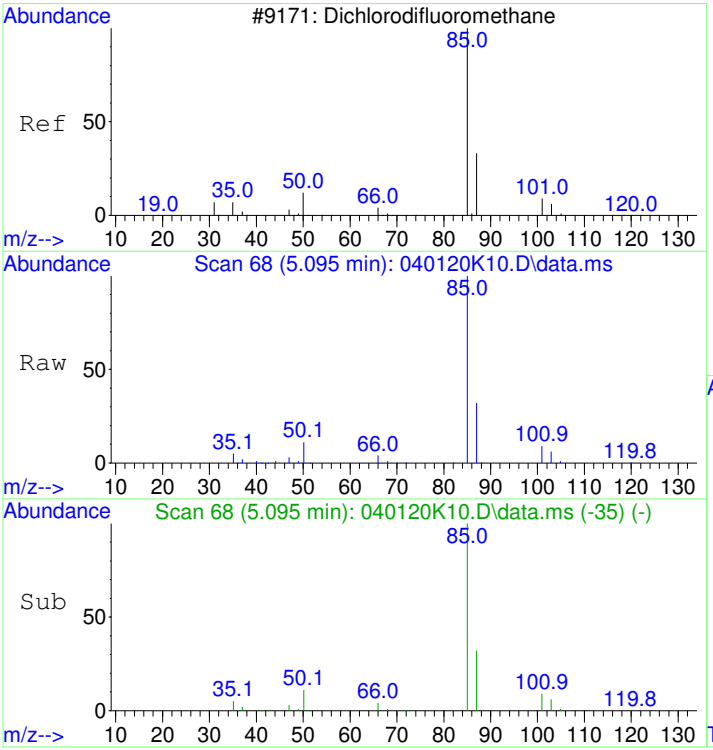


#2
Propene
Concen: 10.76 ppbv
RT: 4.998 min Scan# 52
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 41 Resp: 89664

Ion	Ratio	Lower	Upper
41	100		
42	67.4	47.4	87.4
39	67.3	47.3	87.3

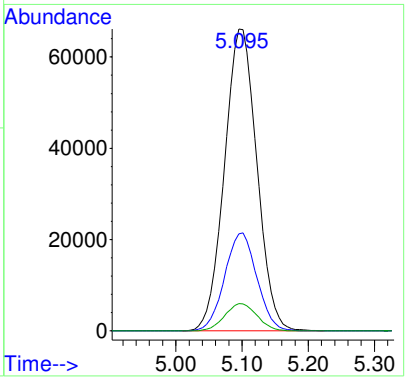


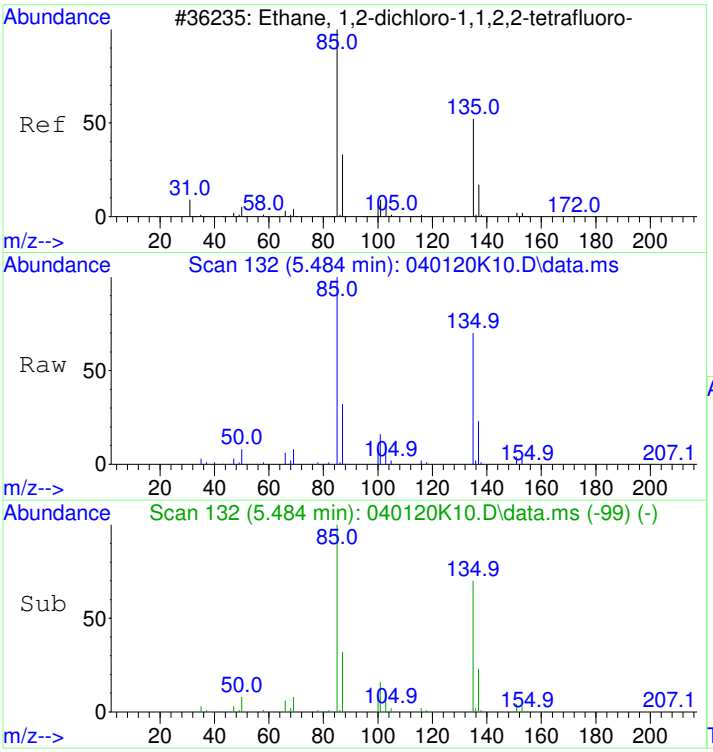


#3
Dichlorodifluoromethane
Concen: 9.97 ppbv
RT: 5.095 min Scan# 68
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 85 Resp: 225112

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.2	52.2
101	8.9	0.0	28.9

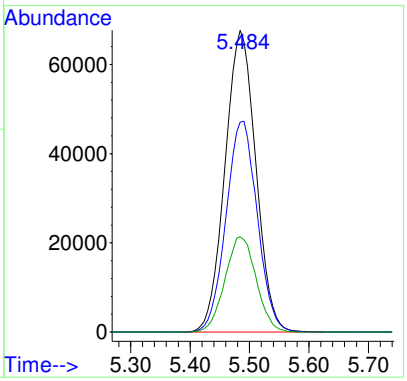


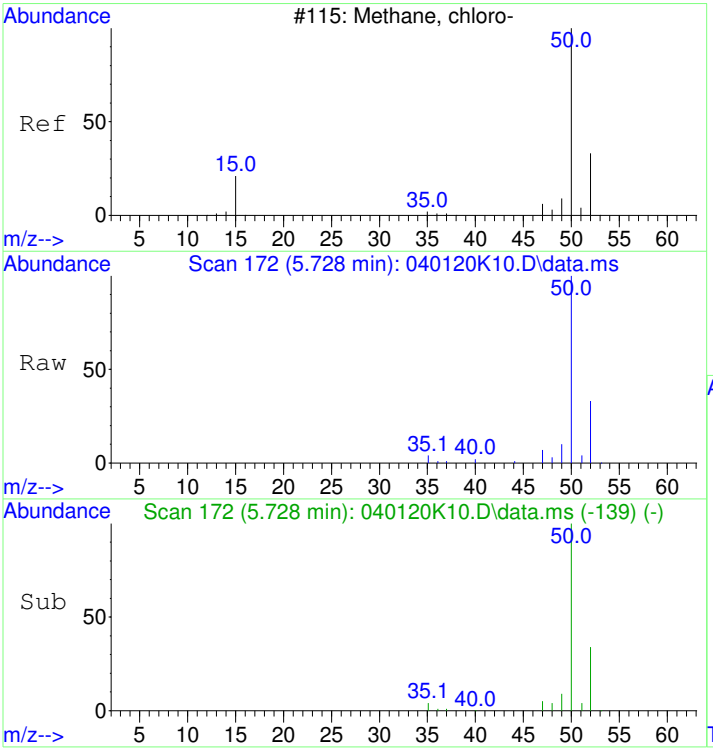


#4
1,2-Dichlorotetrafluoroethane
Concen: 9.36 ppbv
RT: 5.484 min Scan# 132
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 85 Resp: 244096

Ion	Ratio	Lower	Upper
85	100		
135	70.9	50.9	90.9
87	32.0	12.0	52.0

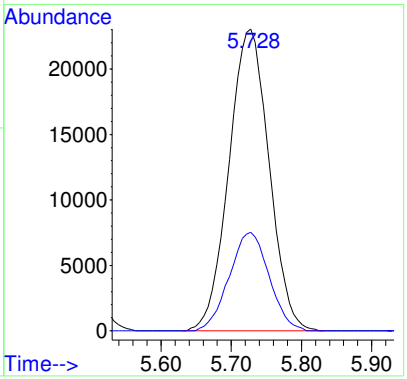


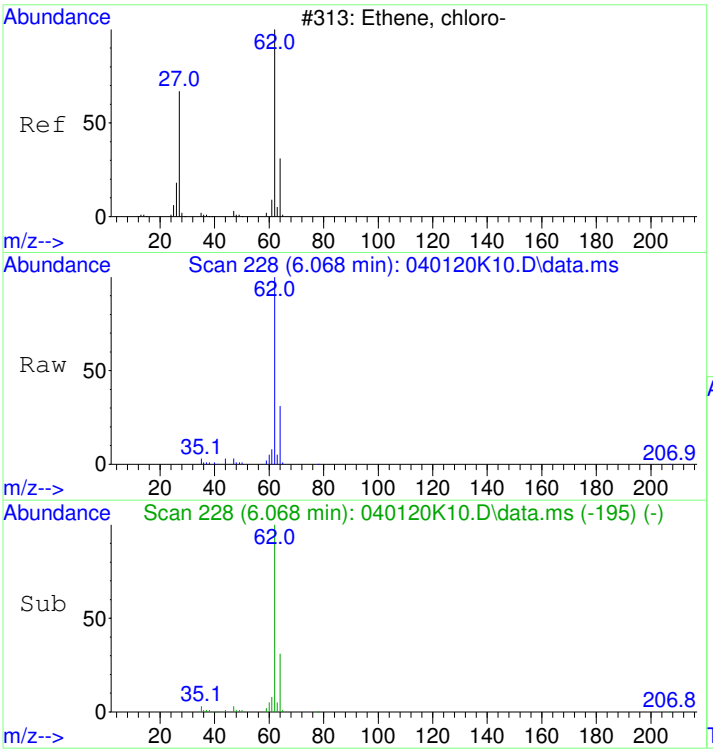


#5
Chloromethane
Concen: 10.61 ppbv
RT: 5.728 min Scan# 172
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 50 Resp: 91603

Ion	Ratio	Lower	Upper
50	100		
52	32.4	12.4	52.4

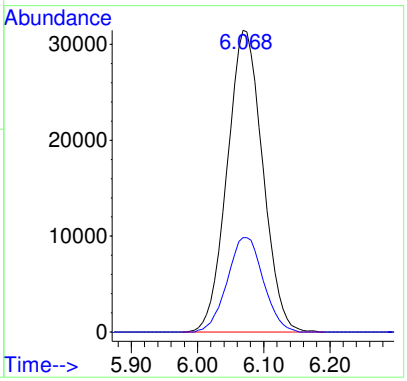


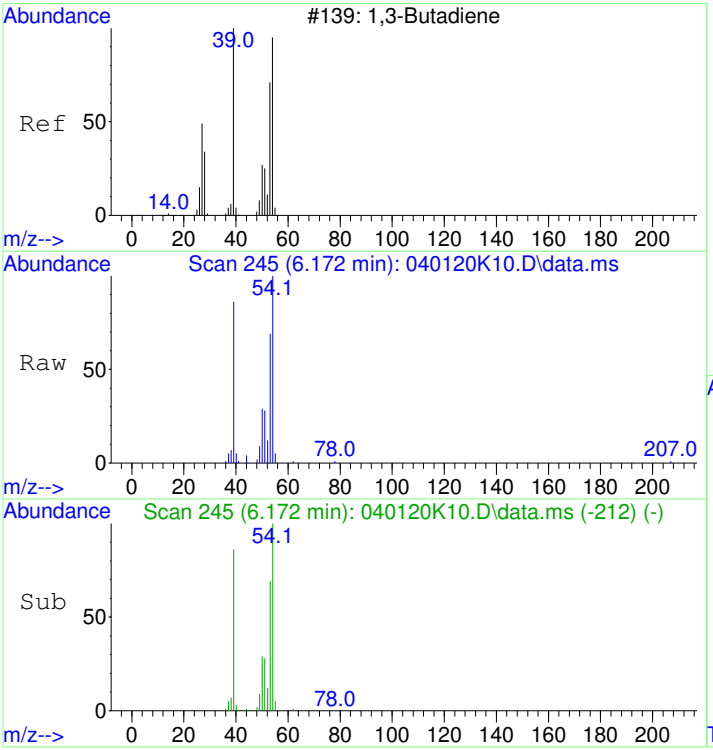


#6
Vinyl chloride
Concen: 10.56 ppbv
RT: 6.068 min Scan# 228
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 62 Resp: 117125

Ion	Ratio	Lower	Upper
62	100		
64	31.9	11.9	51.9

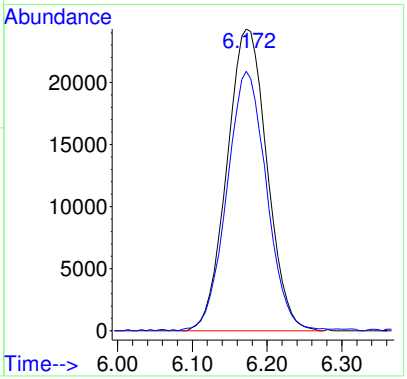


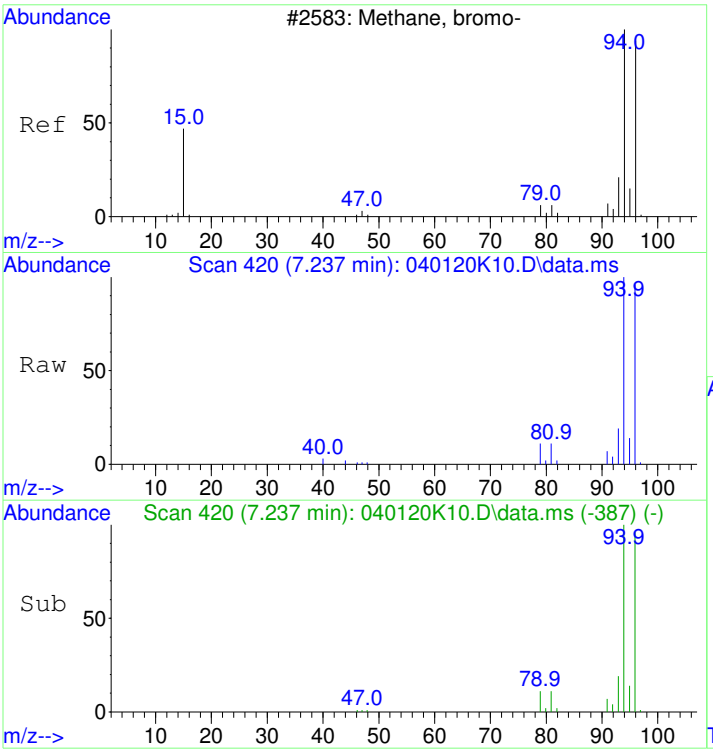


#7
1,3-Butadiene
Concen: 10.33 ppbv
RT: 6.172 min Scan# 245
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 54 Resp: 90677

Ion	Ratio	Lower	Upper
54	100		
39	85.4	65.4	105.4

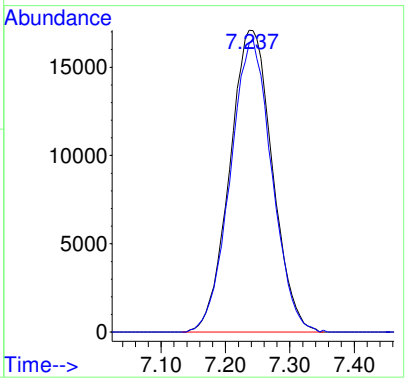


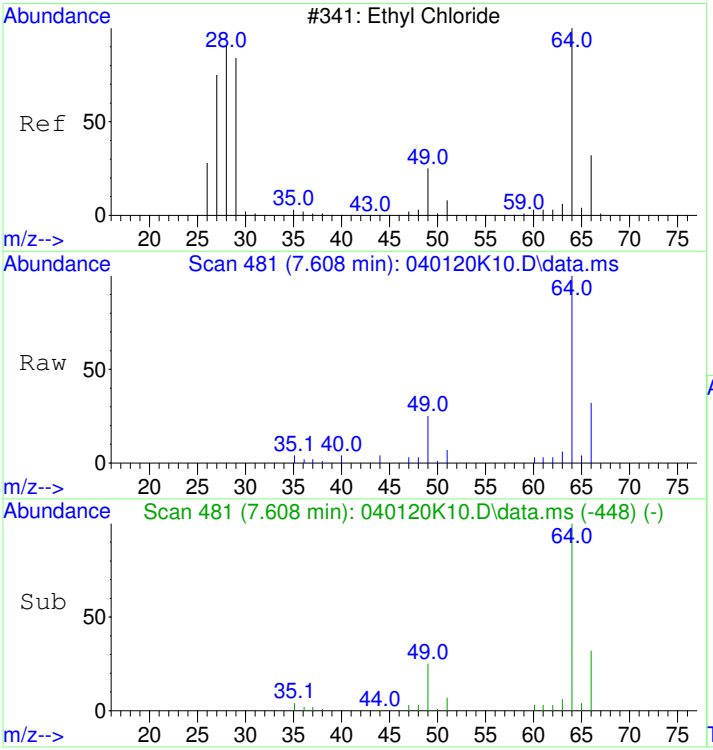


#8
Bromomethane
Concen: 9.37 ppbv
RT: 7.237 min Scan# 420
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 94 Resp: 78749

Ion	Ratio	Lower	Upper
94	100		
96	94.3	74.3	114.3

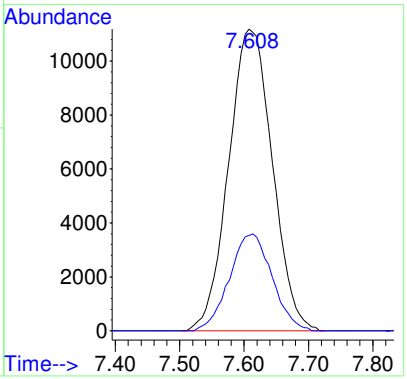


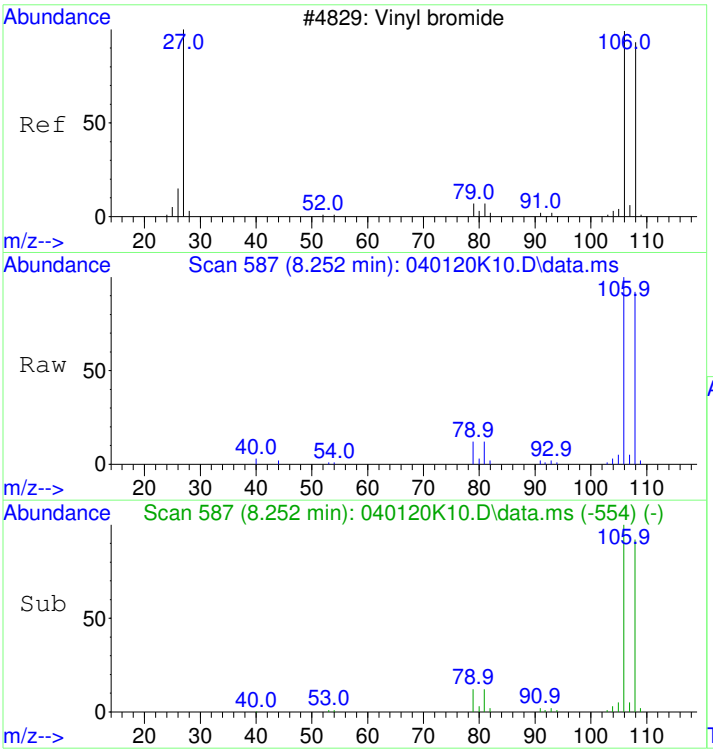


#9
Chloroethane
Concen: 9.52 ppbv
RT: 7.608 min Scan# 481
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 64 Resp: 52857

Ion	Ratio	Lower	Upper
64	100		
66	31.3	11.3	51.3

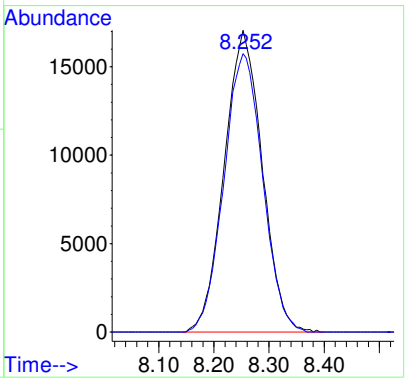


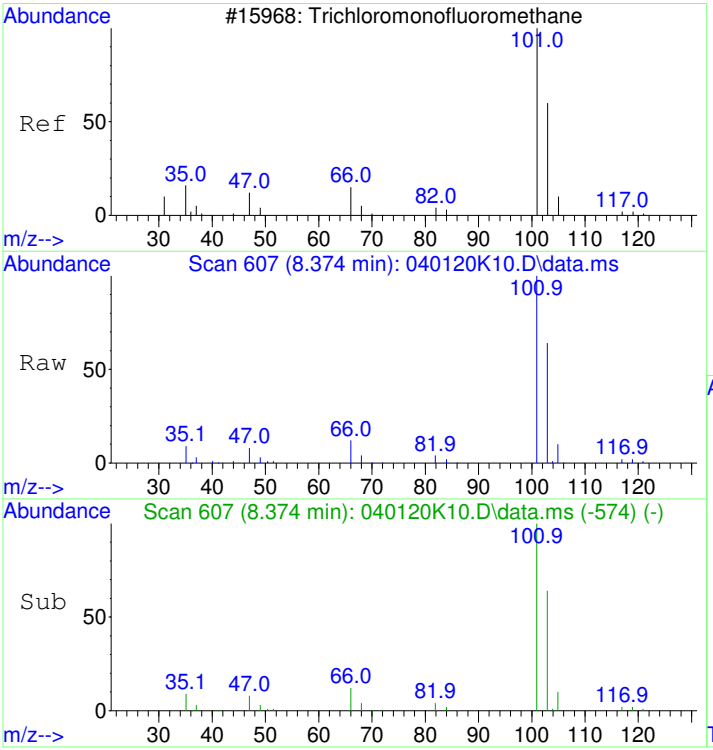


#10
Bromoethene
Concen: 9.85 ppbv
RT: 8.252 min Scan# 587
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion:106 Resp: 81594

Ion	Ratio	Lower	Upper
106	100		
108	94.2	0.0	214.2

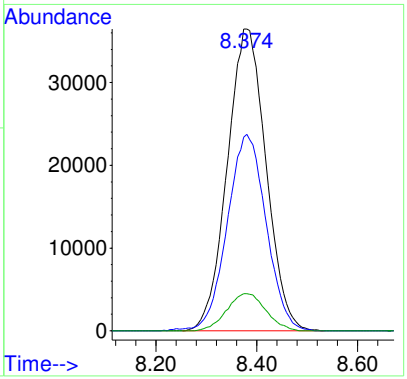


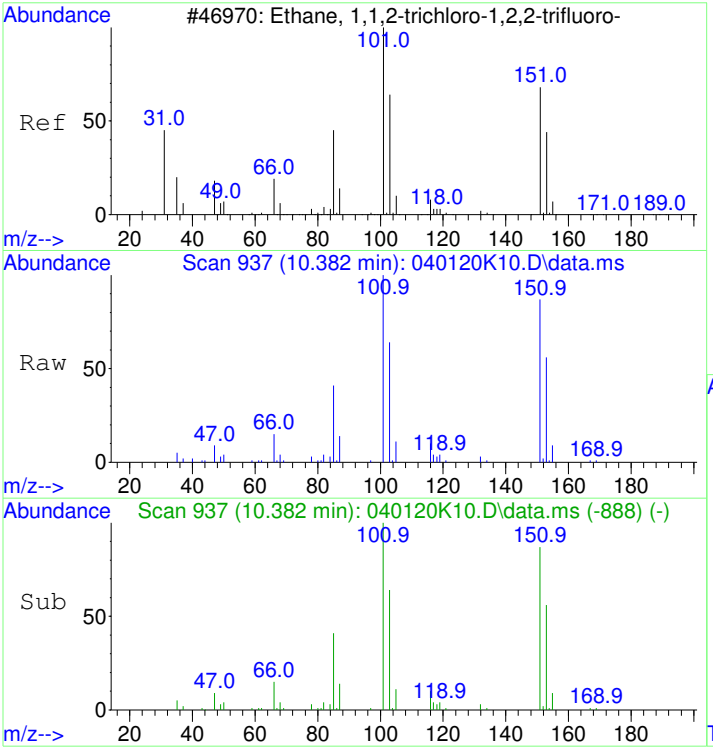


#11
Trichlorofluoromethane
Concen: 8.87 ppbv
RT: 8.374 min Scan# 607
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion:101 Resp: 195120

Ion	Ratio	Lower	Upper
101	100		
103	65.4	45.4	85.4
66	12.4	0.0	32.4

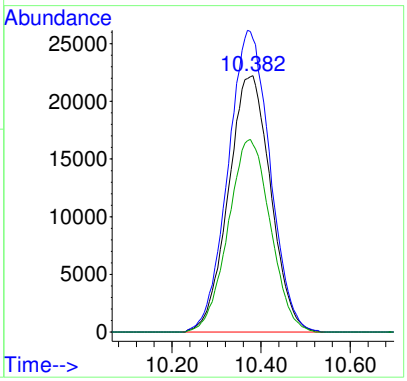


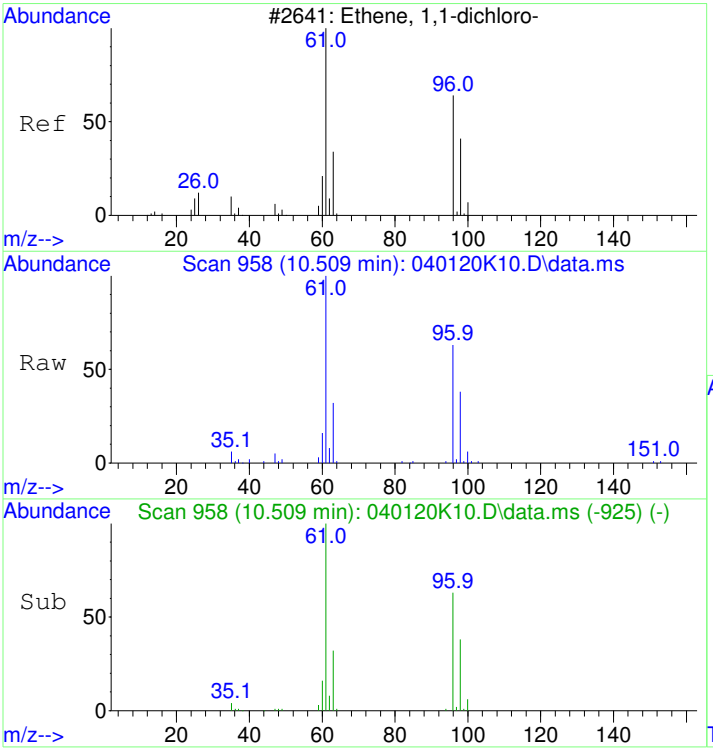


#12
1,1,2-Trichloro-1,2,2-trifluoroethane
Concen: 9.13 ppbv
RT: 10.382 min Scan# 937
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion:151 Resp: 146517

Ion	Ratio	Lower	Upper
151	100		
101	116.6	96.6	136.6
103	75.0	55.0	95.0

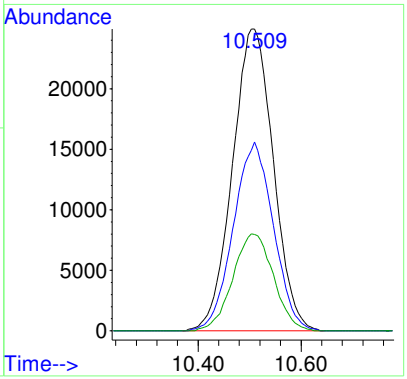


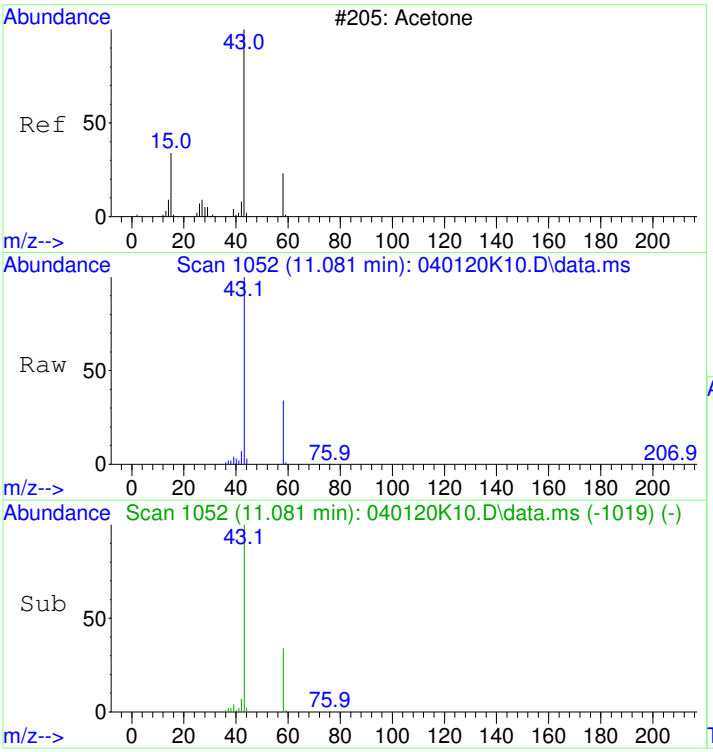


#13
1,1-Dichloroethene
Concen: 9.89 ppbv
RT: 10.509 min Scan# 958
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 61 Resp: 137598

Ion	Ratio	Lower	Upper
61	100		
96	61.2	41.2	81.2
63	31.9	11.9	51.9

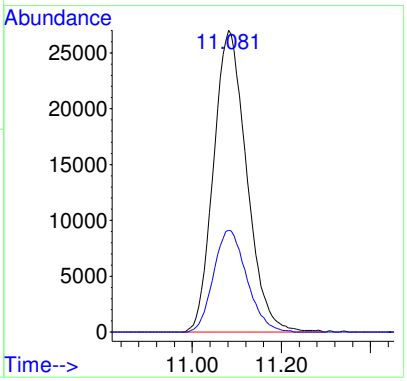


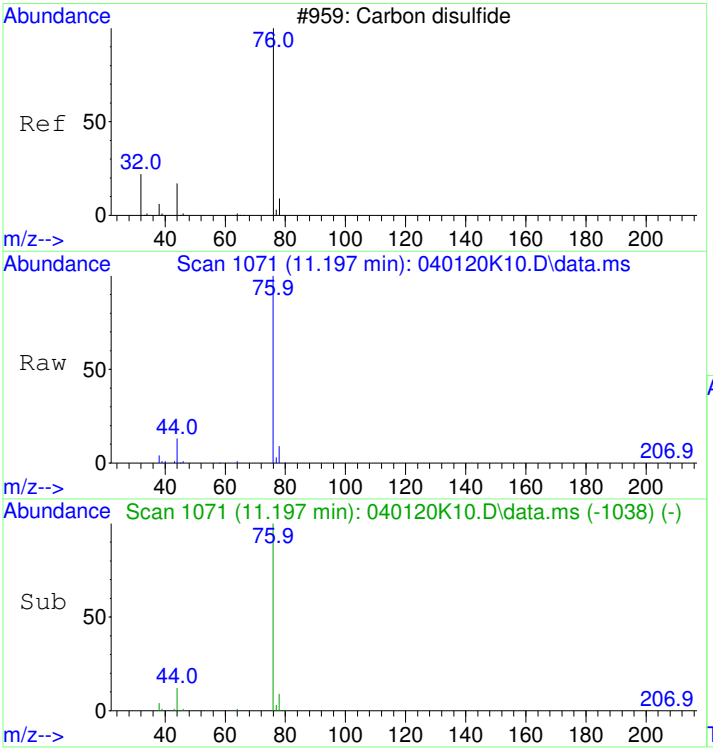


#14
Acetone
Concen: 10.21 ppbv
RT: 11.081 min Scan# 1052
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 43 Resp: 139084

Ion	Ratio	Lower	Upper
43	100		
58	34.0	14.0	54.0

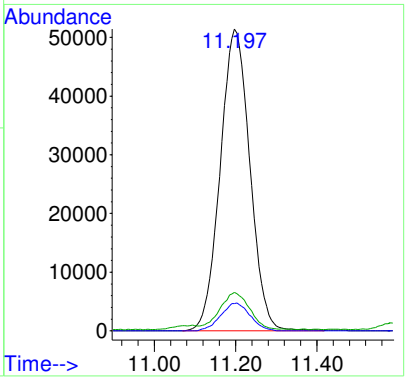


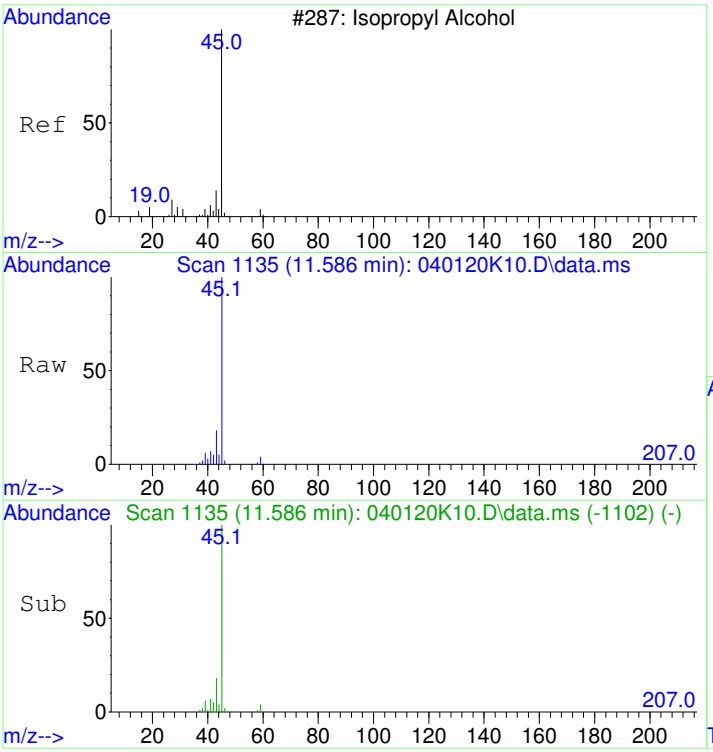


#15
Carbon disulfide
Concen: 10.12 ppbv
RT: 11.197 min Scan# 1071
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 76 Resp: 261015

Ion	Ratio	Lower	Upper
76	100		
78	9.1	0.0	29.1
44	13.0	0.0	32.9

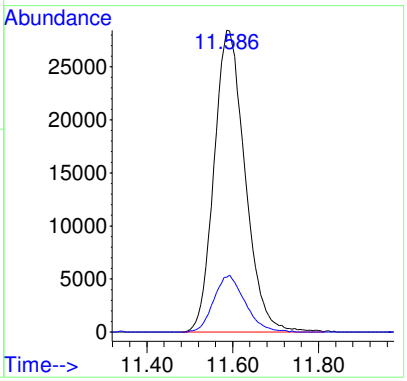


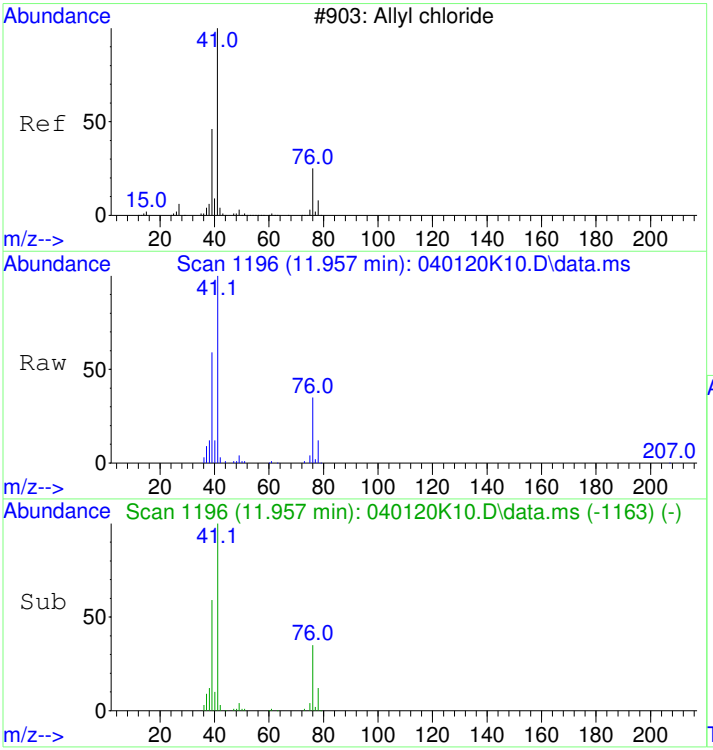


#16
2-Propanol
Concen: 10.79 ppbv
RT: 11.586 min Scan# 1135
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 45 Resp: 142662

Ion	Ratio	Lower	Upper
45	100		
43	19.0	0.0	39.0

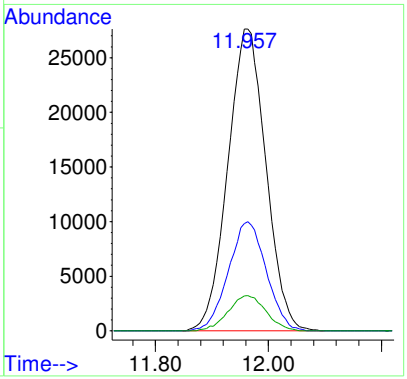


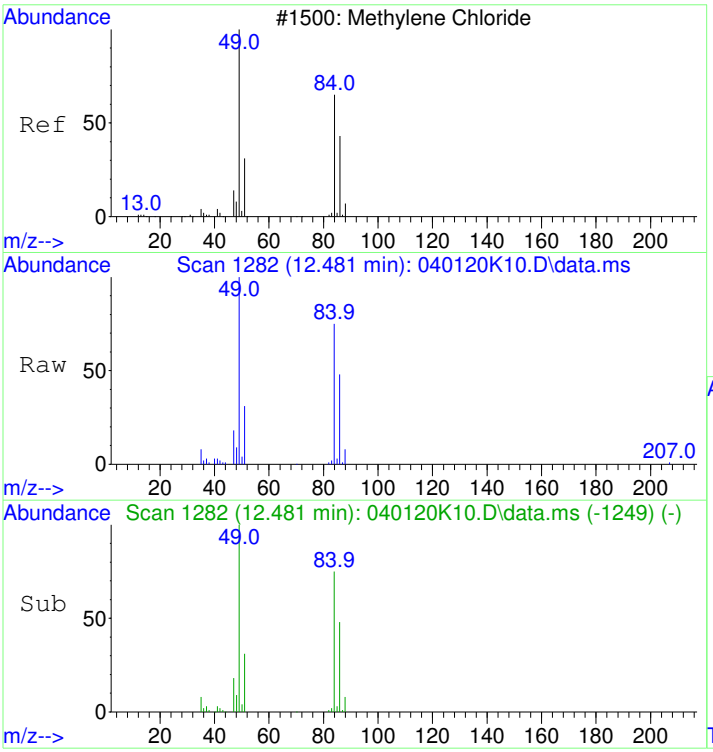


#17
Allyl chloride
Concen: 10.52 ppbv
RT: 11.957 min Scan# 1196
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 41 Resp: 128988

Ion	Ratio	Lower	Upper
41	100		
76	36.0	16.0	56.0
78	11.6	0.0	31.6

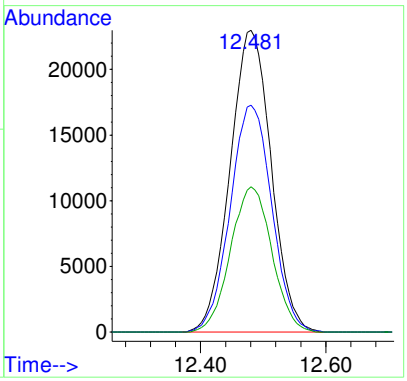


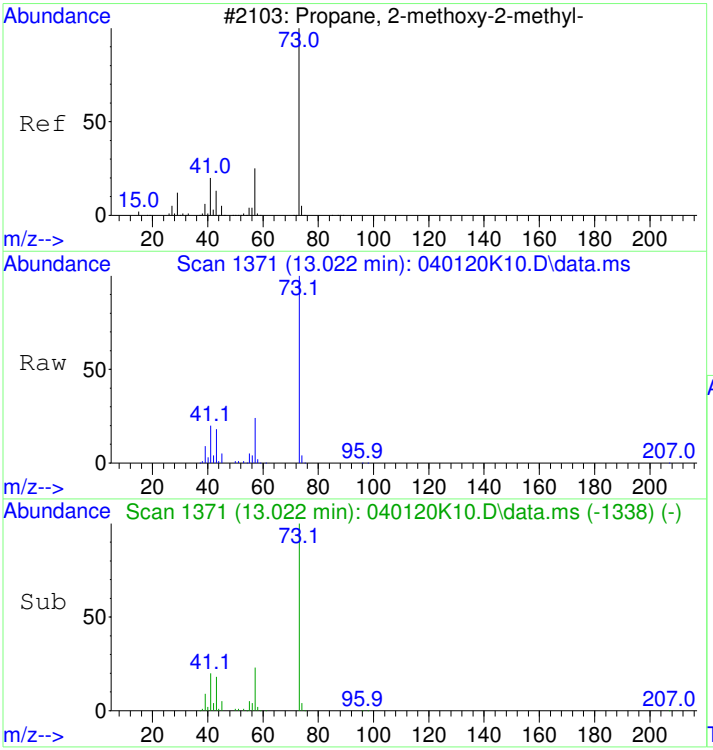


#18
Dichloromethane
Concen: 9.02 ppbv
RT: 12.481 min Scan# 1282
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 49 Resp: 104812

Ion	Ratio	Lower	Upper
49	100		
84	76.1	56.1	96.1
86	48.5	28.5	68.5

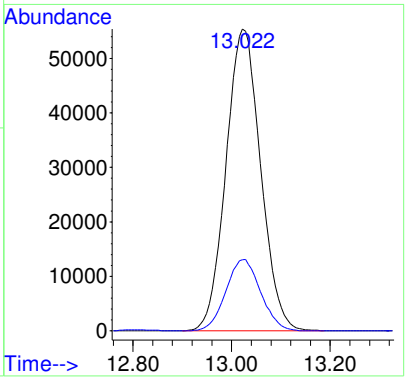


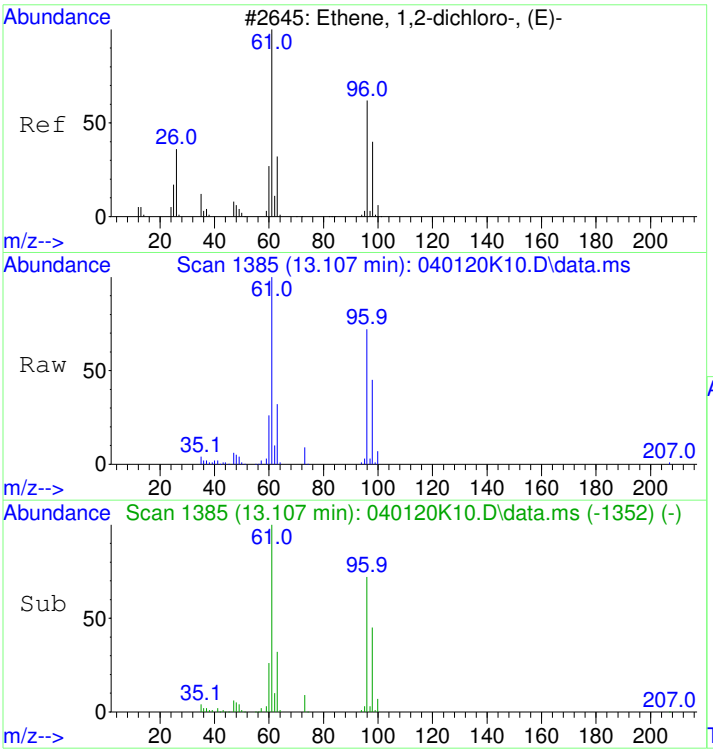


#19
tert-Butyl methyl ether (MTBE)
Concen: 9.91 ppbv
RT: 13.022 min Scan# 1371
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 73 Resp: 270292

Ion	Ratio	Lower	Upper
73	100		
57	23.7	3.7	43.7

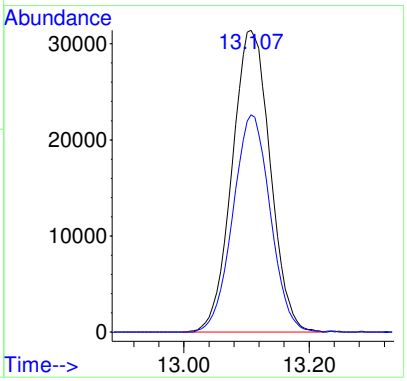


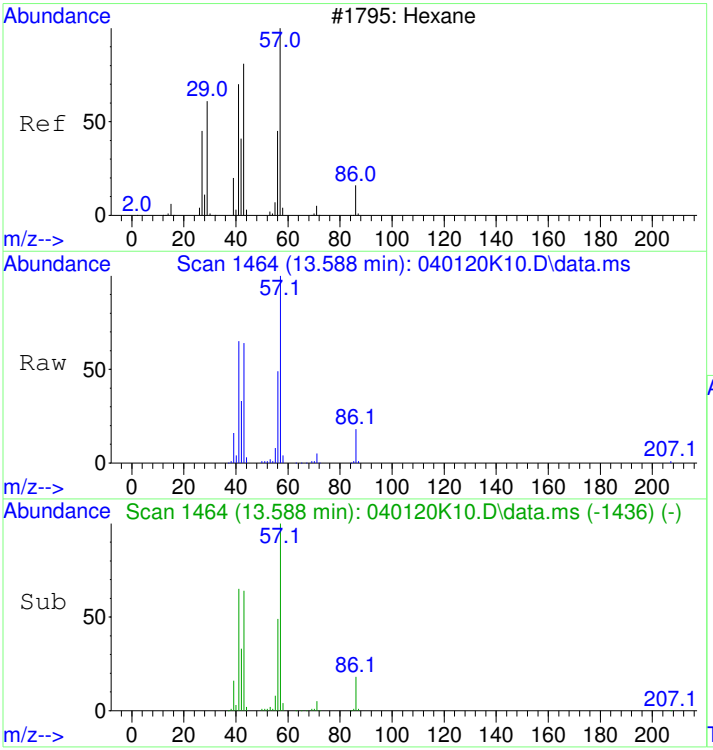


#20
trans-1,2-Dichloroethene
Concen: 10.25 ppbv
RT: 13.107 min Scan# 1385
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 61 Resp: 132599

Ion	Ratio	Lower	Upper
61	100		
96	70.6	50.6	90.6

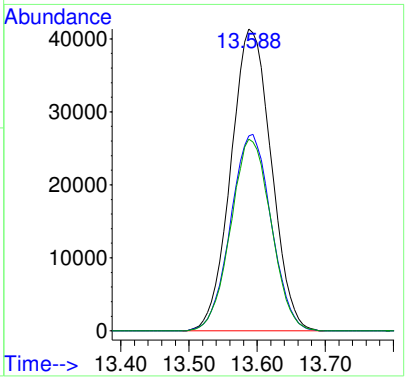


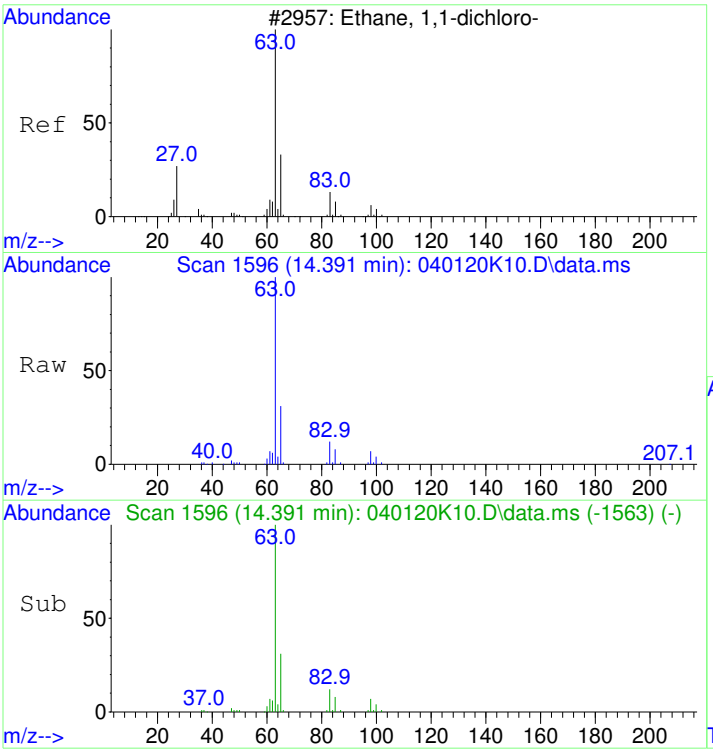


#21
Hexane
Concen: 9.66 ppbv
RT: 13.588 min Scan# 1464
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 57 Resp: 169753

Ion	Ratio	Lower	Upper
57	100		
41	65.4	45.4	85.4
43	63.4	43.4	83.4

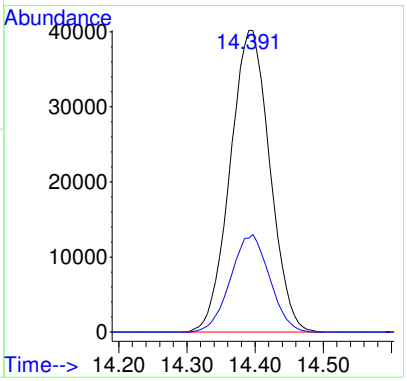


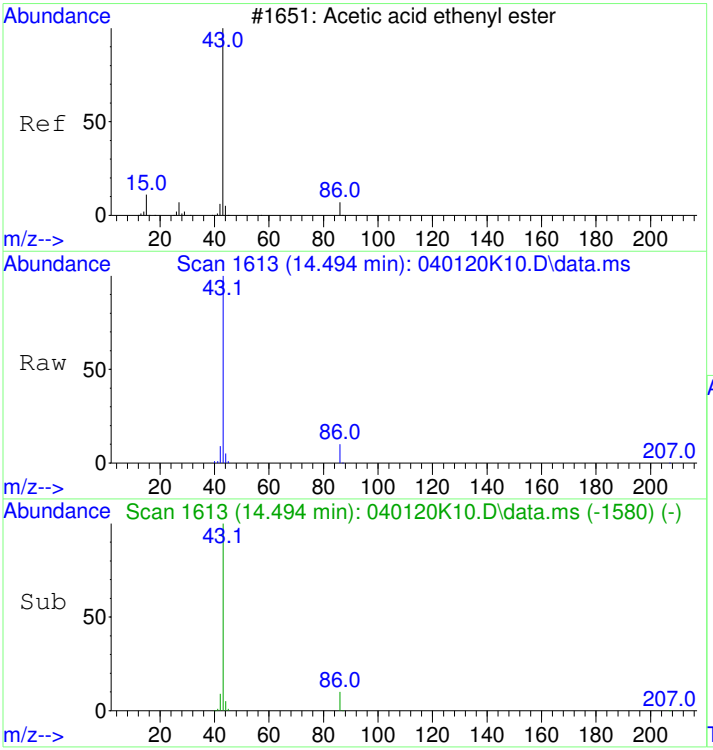


#22
1,1-Dichloroethane
Concen: 9.07 ppbv
RT: 14.391 min Scan# 1596
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 63 Resp: 162135

Ion	Ratio	Lower	Upper
63	100		
65	31.7	11.7	51.7

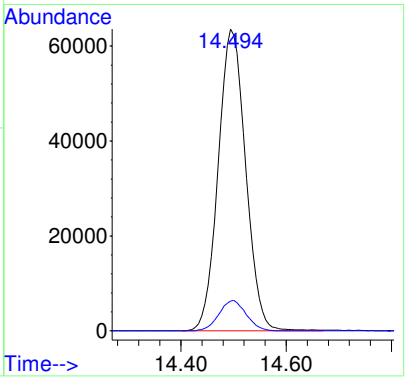


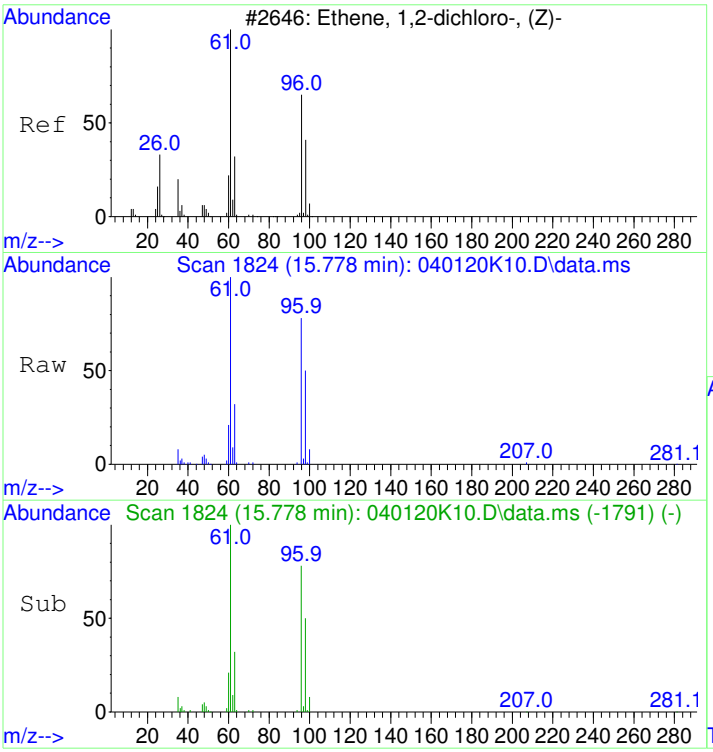


#23
Vinyl acetate
Concen: 10.82 ppbv
RT: 14.494 min Scan# 1613
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 43 Resp: 230577

Ion	Ratio	Lower	Upper
43	100		
86	10.0	0.0	30.0

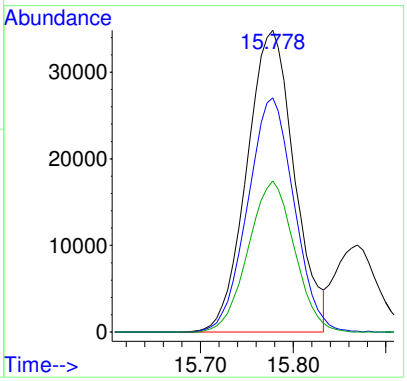


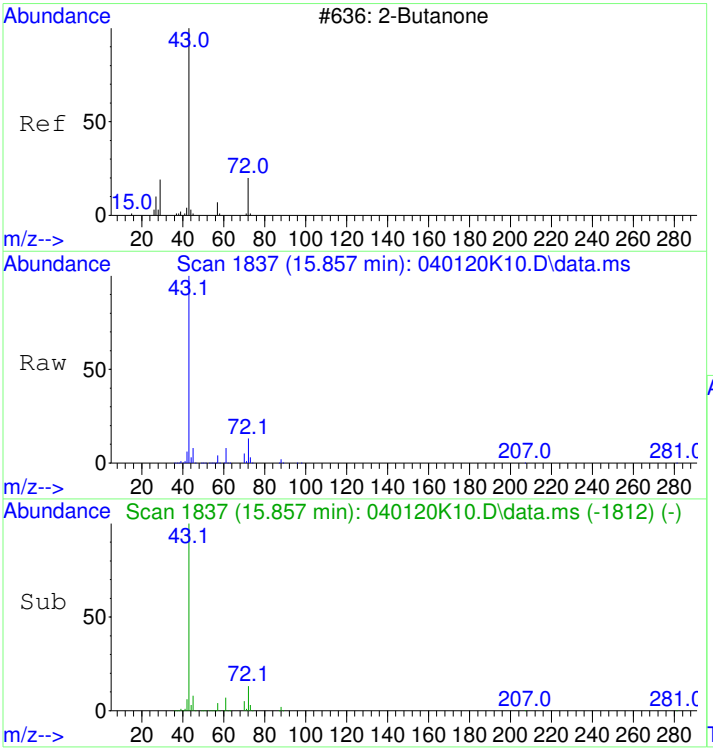


#24
cis-1,2-Dichloroethene
Concen: 9.68 ppbv
RT: 15.778 min Scan# 1824
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 61 Resp: 123887

Ion	Ratio	Lower	Upper
61	100		
96	75.7	55.7	95.7
98	0.0	0.0	20.0

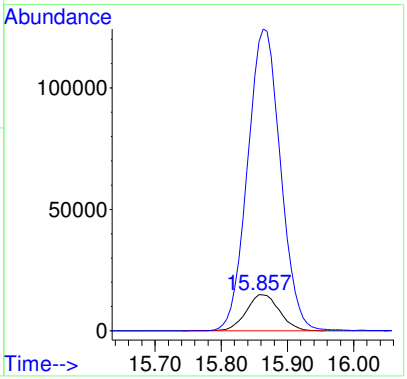


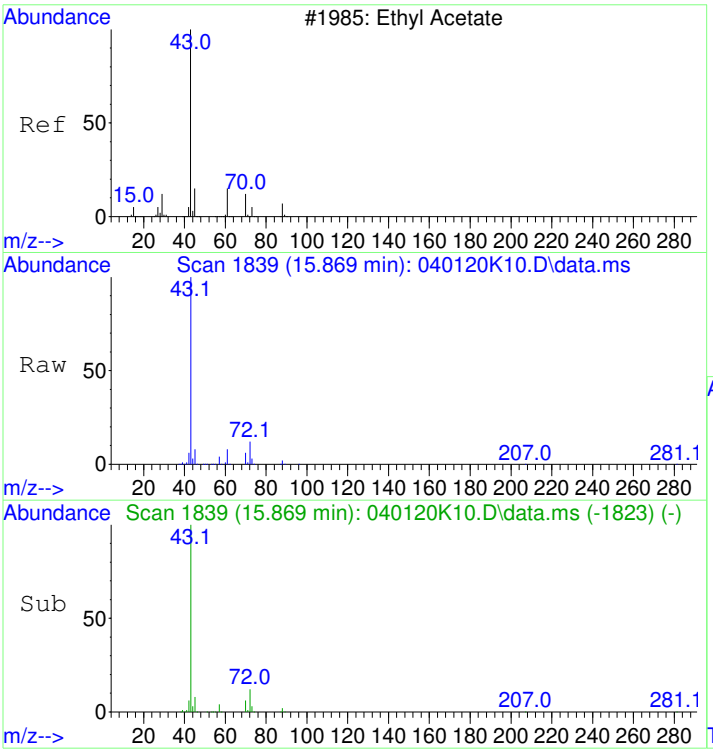


#25
2-Butanone (MEK)
Concen: 9.91 ppbv
RT: 15.857 min Scan# 1837
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 72 Resp: 52408

Ion	Ratio	Lower	Upper
72	100		
43	822.3	812.5	832.5

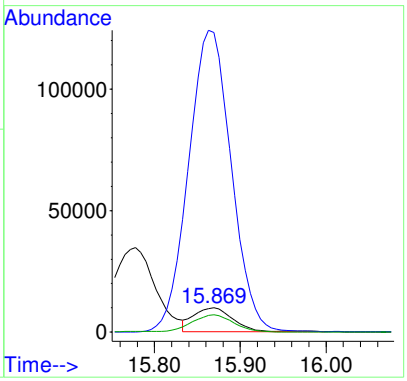


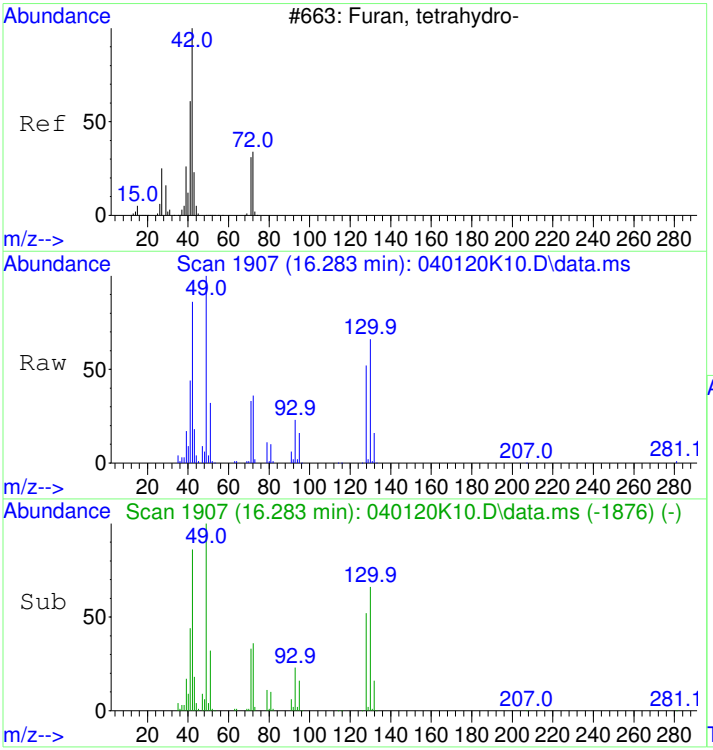


#26
Ethyl acetate
Concen: 9.69 ppbv
RT: 15.869 min Scan# 1839
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 61 Resp: 31318

Ion	Ratio	Lower	Upper
61	100		
43	1368.3	1358.3	1378.3
70	76.7	66.7	86.7

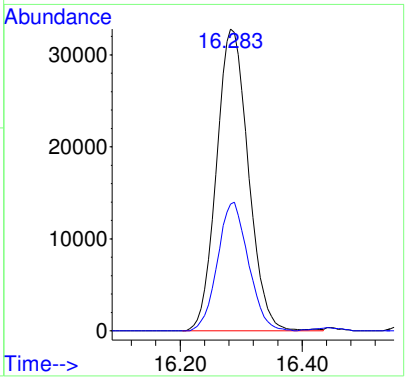


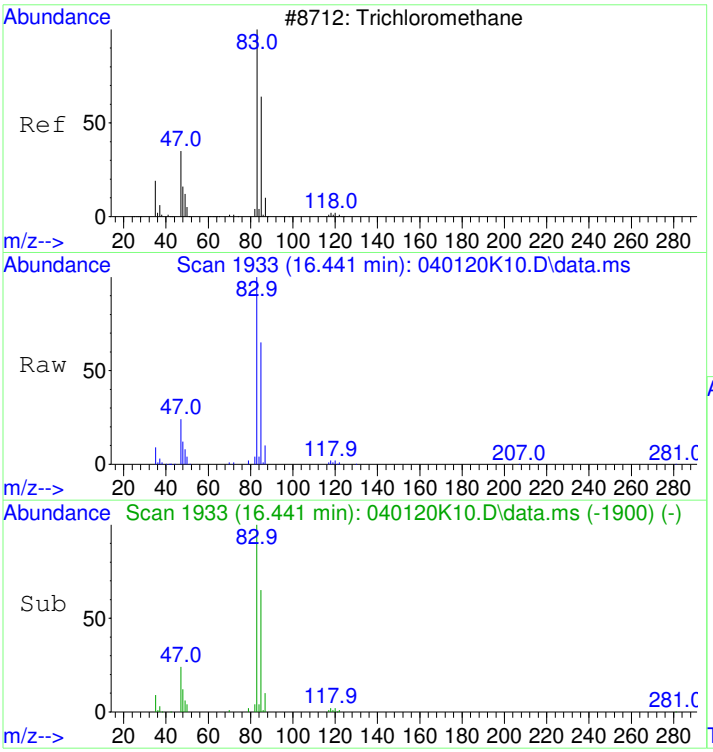


#27
Tetrahydrofuran
Concen: 9.81 ppbv
RT: 16.283 min Scan# 1907
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 42 Resp: 119012

Ion	Ratio	Lower	Upper
42	100		
72	41.2	21.2	61.2

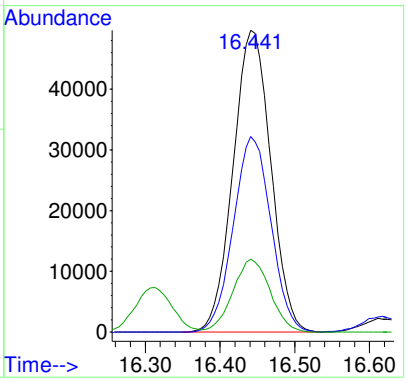


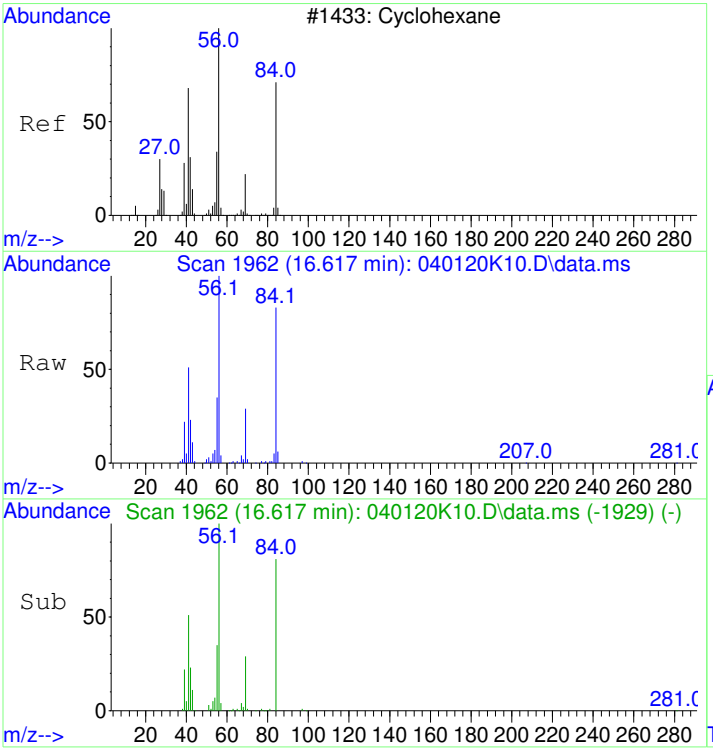


#28
Chloroform
Concen: 9.82 ppbv
RT: 16.441 min Scan# 1933
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 83 Resp: 174203

Ion	Ratio	Lower	Upper
83	100		
85	64.6	44.6	84.6
47	23.0	2.9	42.9

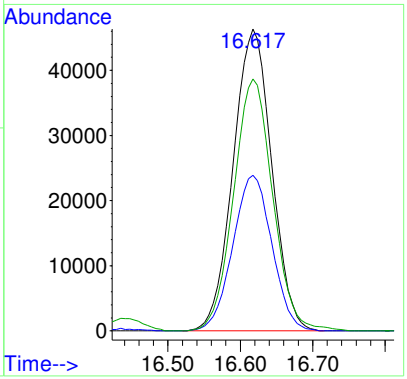


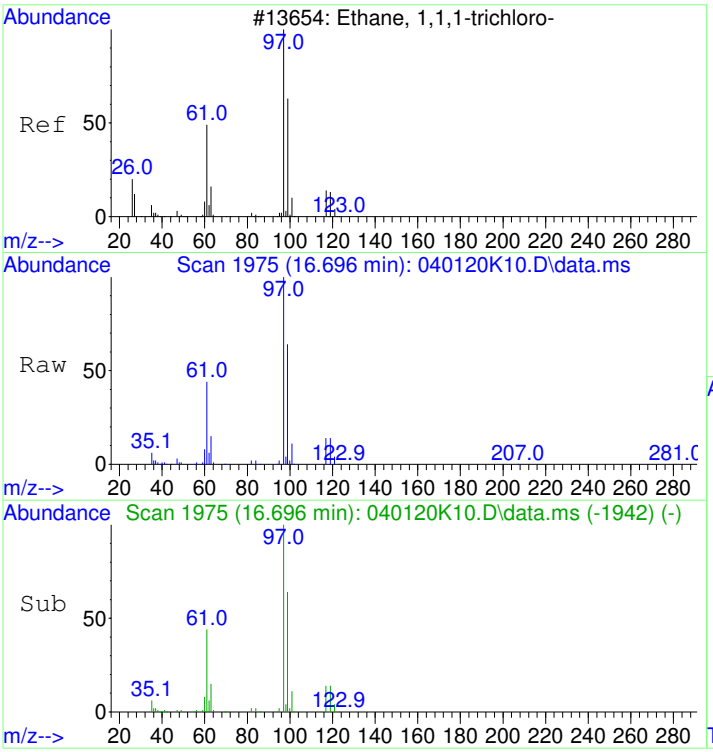


#29
Cyclohexane
Concen: 9.76 ppbv
RT: 16.617 min Scan# 1962
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 56 Resp: 171808

Ion	Ratio	Lower	Upper
56	100		
41	52.2	32.2	72.2
84	84.7	64.7	104.7

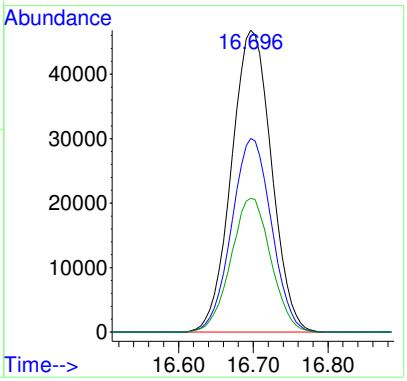


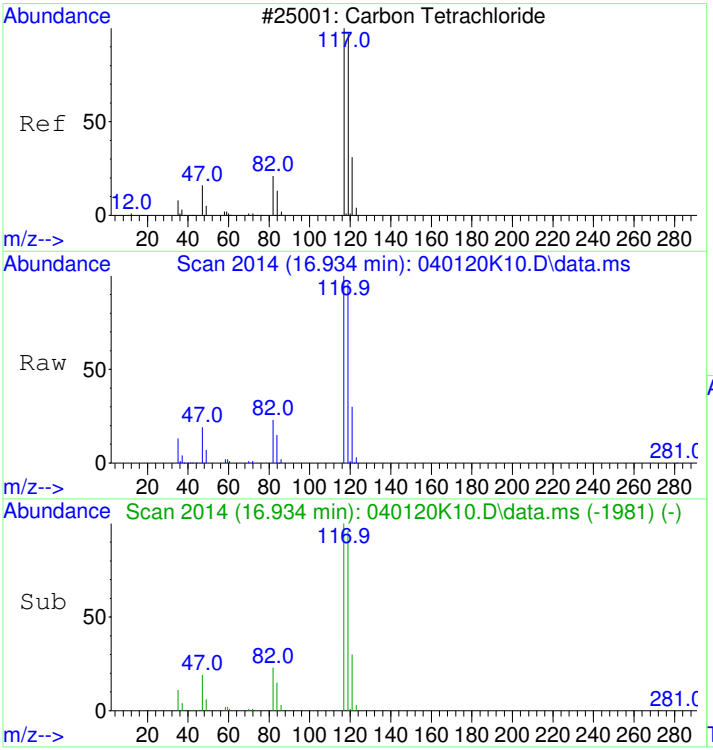


#30
1,1,1-Trichloroethane
Concen: 9.94 ppbv
RT: 16.696 min Scan# 1975
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 97 Resp: 174031

Ion	Ratio	Lower	Upper
97	100		
99	63.9	43.9	83.9
61	44.2	24.2	64.2

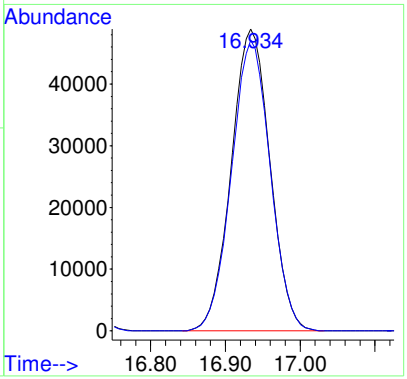


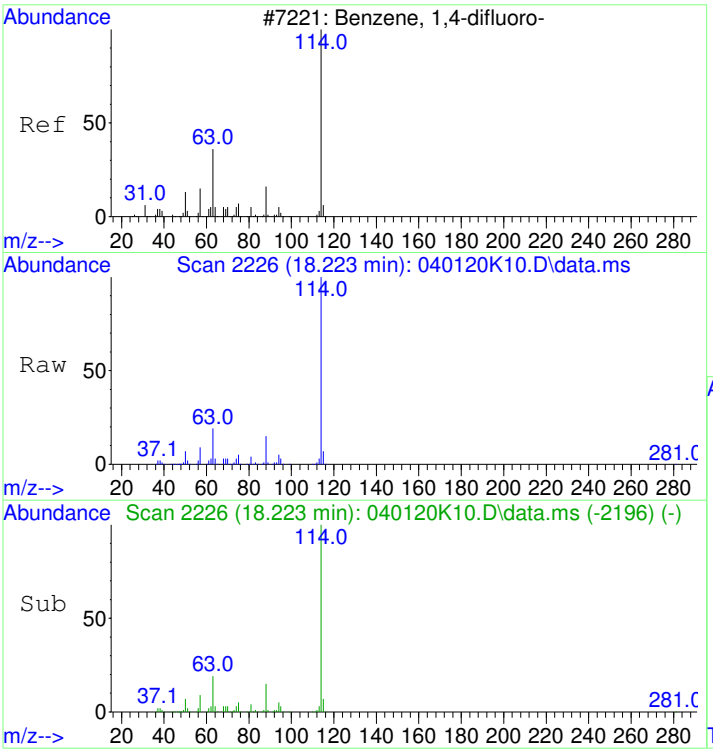


#31
Carbon tetrachloride
Concen: 9.81 ppbv
RT: 16.934 min Scan# 2014
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion:117 Resp: 175935

Ion	Ratio	Lower	Upper
117	100		
119	96.2	76.2	116.2

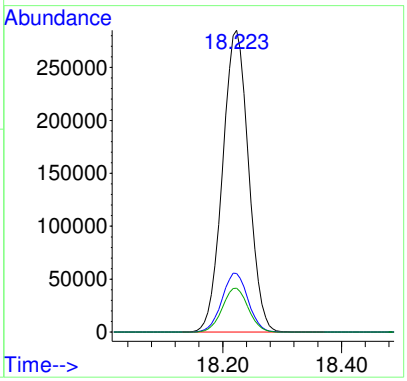


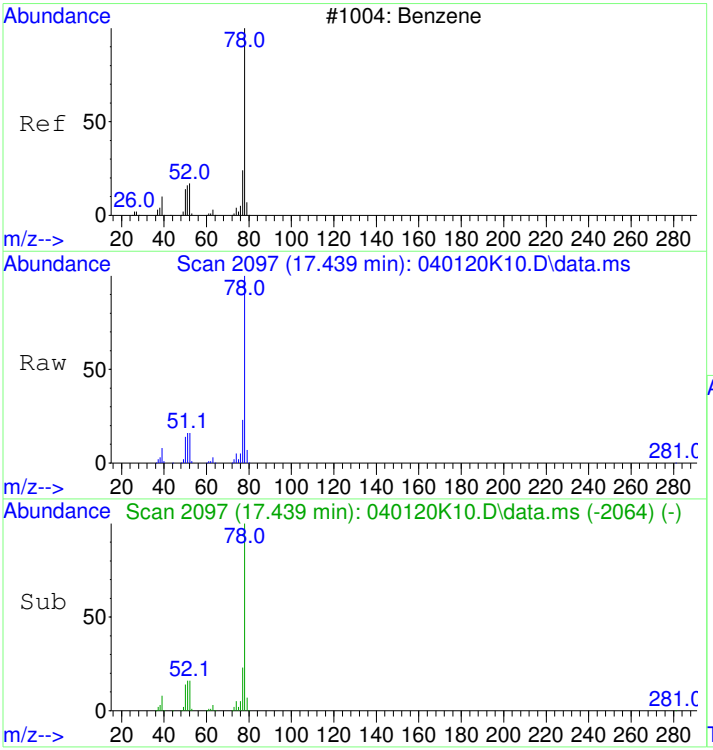


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 18.223 min Scan# 2226
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion:114 Resp: 865447

Ion	Ratio	Lower	Upper
114	100		
63	19.6	0.0	39.6
88	14.5	0.0	34.5

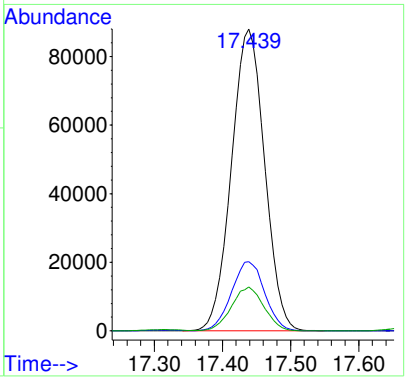


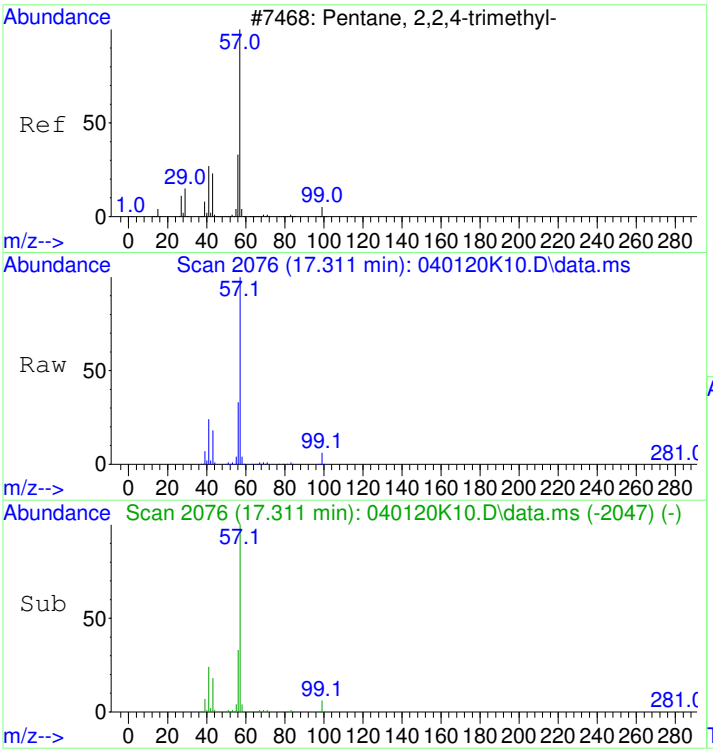


#33
Benzene
Concen: 10.15 ppbv
RT: 17.439 min Scan# 2097
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 78 Resp: 296759

Ion	Ratio	Lower	Upper
78	100		
77	23.0	3.0	43.0
50	14.0	0.0	34.0

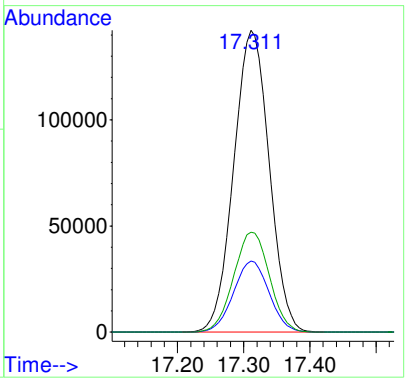


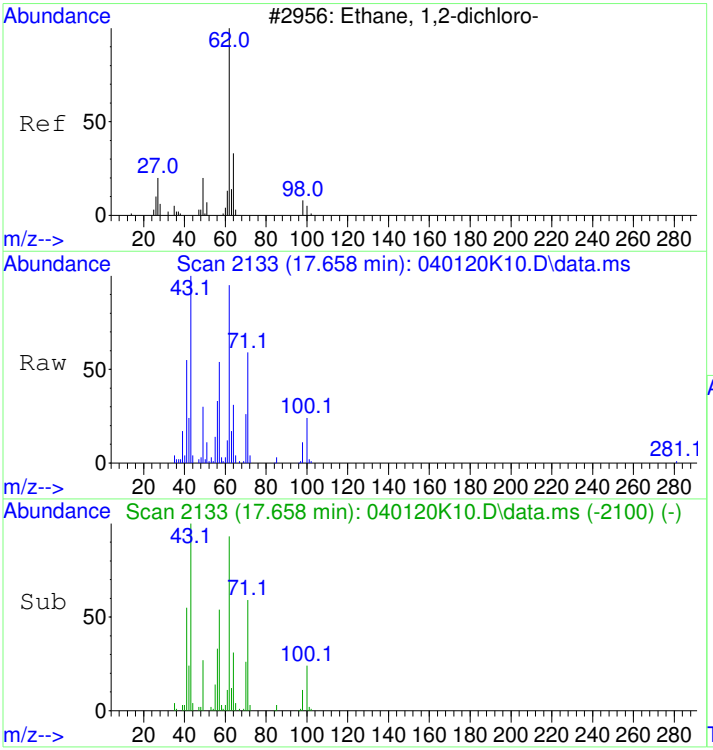


#34
2,2,4-Trimethylpentane
Concen: 10.36 ppbv
RT: 17.311 min Scan# 2076
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 57 Resp: 528496

Ion	Ratio	Lower	Upper
57	100		
41	23.7	3.7	43.7
56	33.5	13.5	53.5

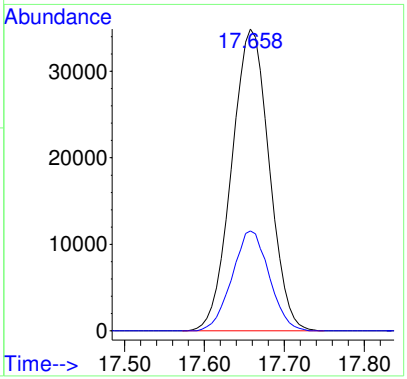


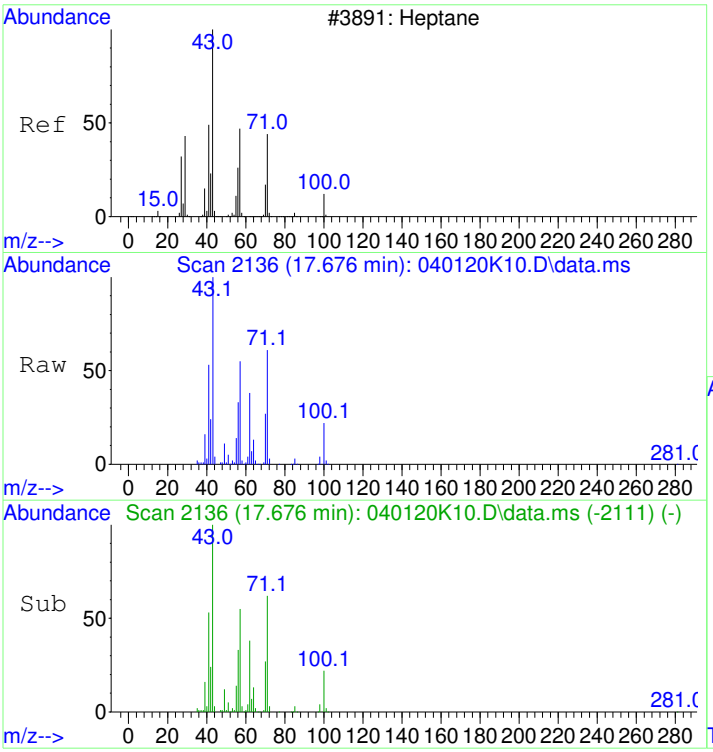


#35
1,2-Dichloroethane
Concen: 10.20 ppbv
RT: 17.658 min Scan# 2133
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 62 Resp: 113676

Ion	Ratio	Lower	Upper
62	100		
64	32.7	12.7	52.7

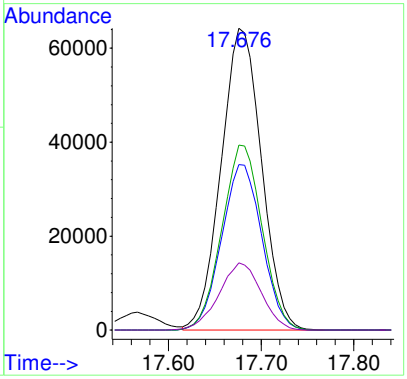


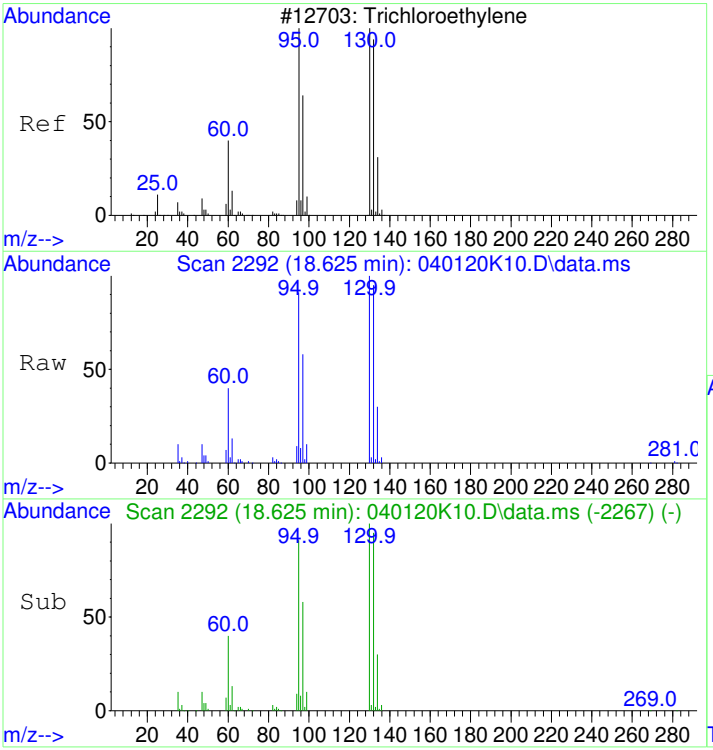


#36
Heptane
Concen: 10.63 ppbv
RT: 17.676 min Scan# 2136
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 43 Resp: 194869

Ion	Ratio	Lower	Upper
43	100		
57	54.9	34.9	74.9
71	60.9	40.9	80.9
100	23.3	3.3	43.3

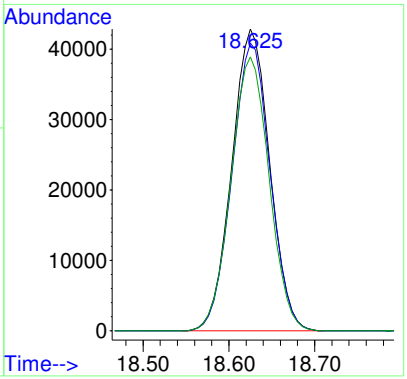


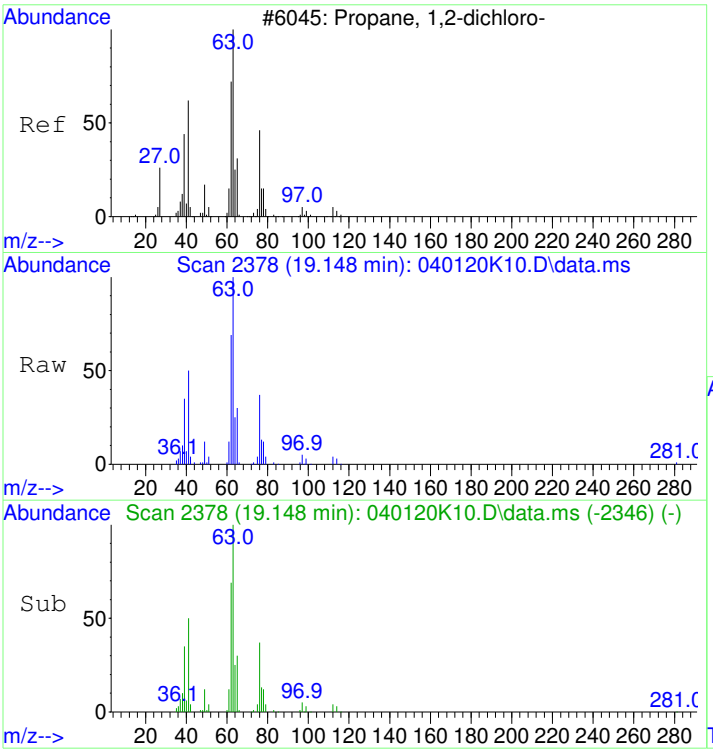


#37
Trichloroethene
Concen: 10.62 ppbv
RT: 18.625 min Scan# 2292
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion:130 Resp: 131721

Ion	Ratio	Lower	Upper
130	100		
132	95.5	75.5	115.5
95	91.3	71.3	111.3

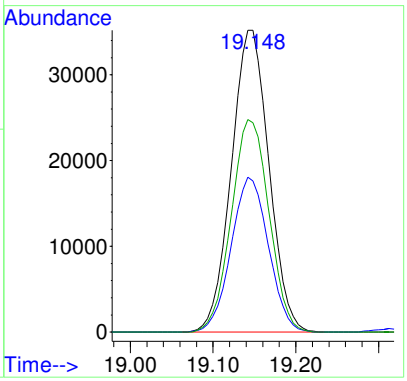


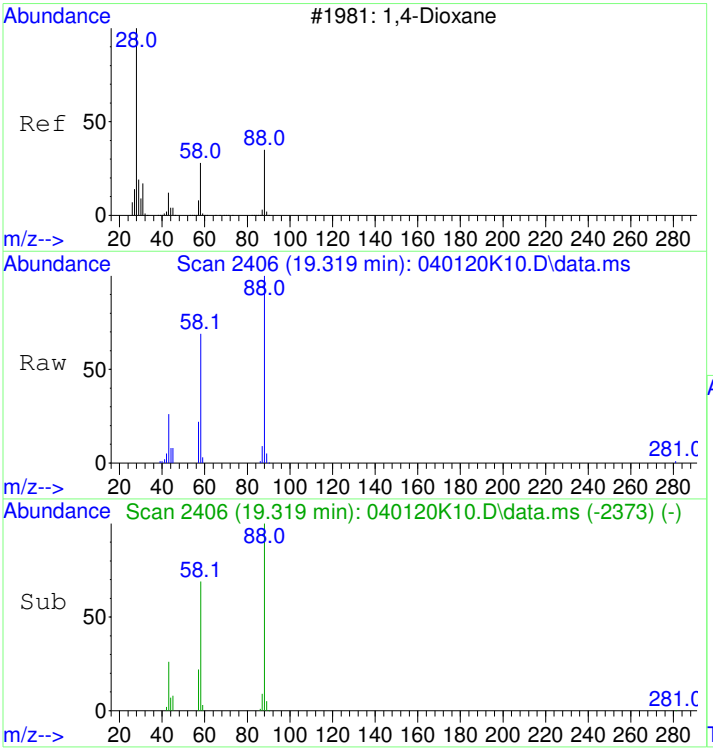


#38
1,2-Dichloropropane
Concen: 10.23 ppbv
RT: 19.148 min Scan# 2378
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 63 Resp: 111164

Ion	Ratio	Lower	Upper
63	100		
41	51.0	31.0	71.0
62	70.7	50.7	90.7

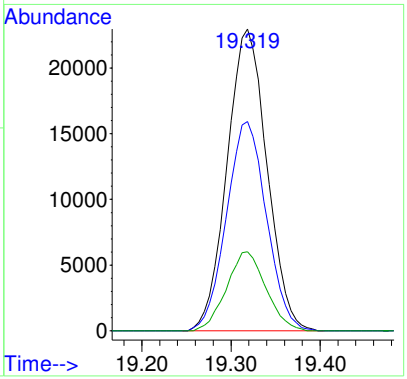


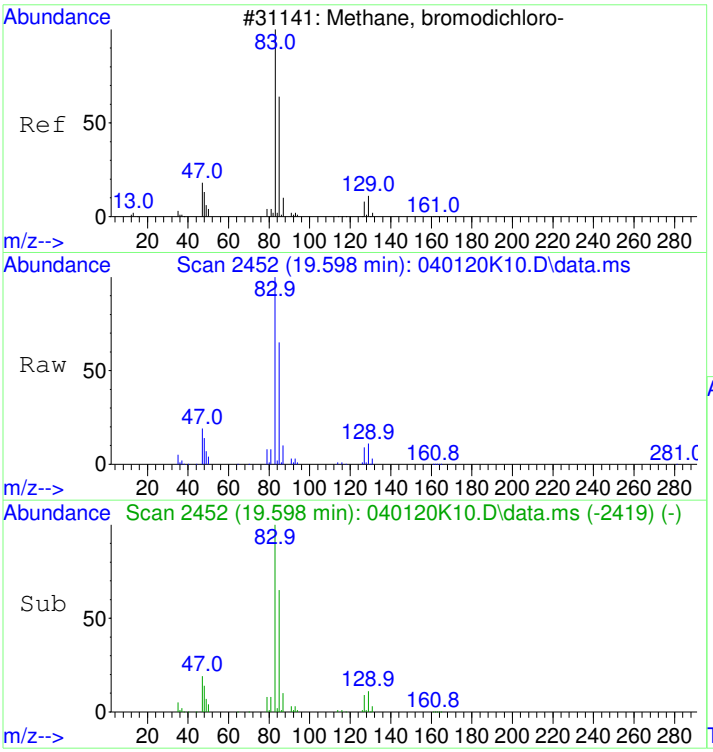


#39
1,4-Dioxane
Concen: 10.33 ppbv
RT: 19.319 min Scan# 2406
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 88 Resp: 71270

Ion	Ratio	Lower	Upper
88	100		
58	69.5	49.5	89.5
43	25.9	5.9	45.9

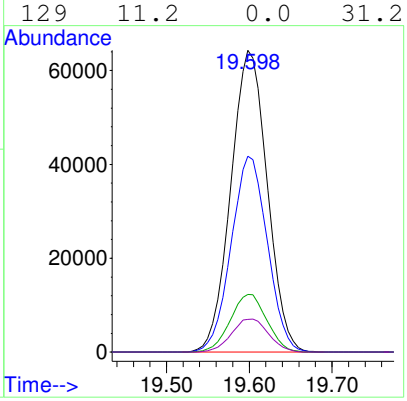


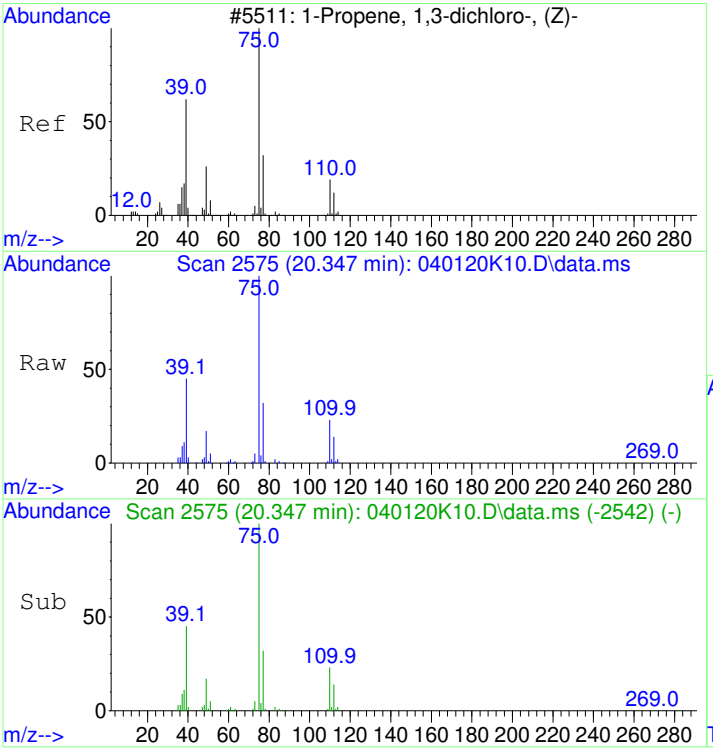


#40
Bromodichloromethane
Concen: 10.51 ppbv
RT: 19.598 min Scan# 2452
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 83 Resp: 196791

Ion	Ratio	Lower	Upper
83	100		
85	64.5	44.5	84.5
47	19.2	0.0	39.2
129	11.2	0.0	31.2

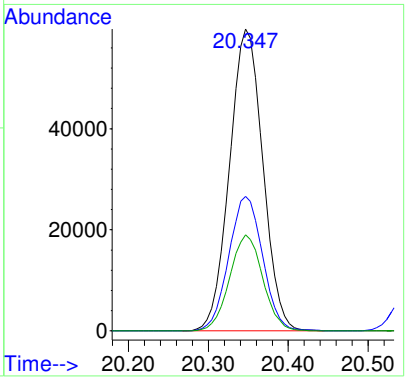


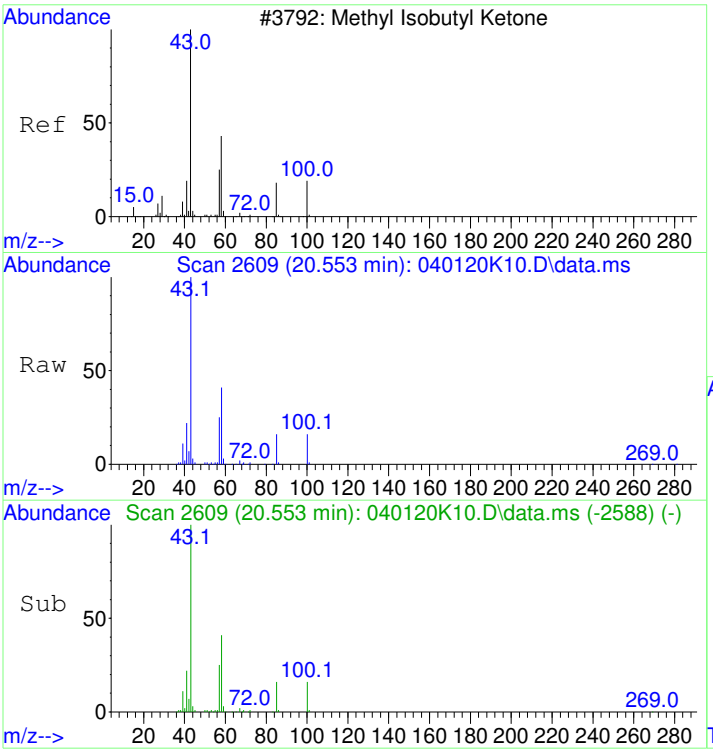


#41
cis-1,3-Dichloropropene
Concen: 10.34 ppbv
RT: 20.347 min Scan# 2575
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 75 Resp: 173129

Ion	Ratio	Lower	Upper
75	100		
39	45.3	25.3	65.3
77	31.6	11.6	51.6

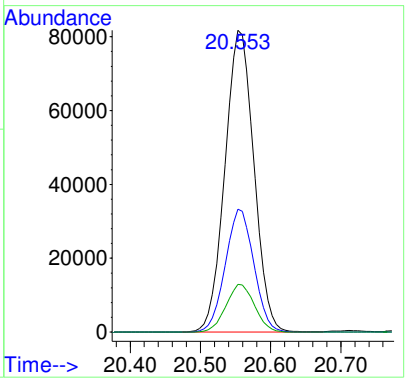


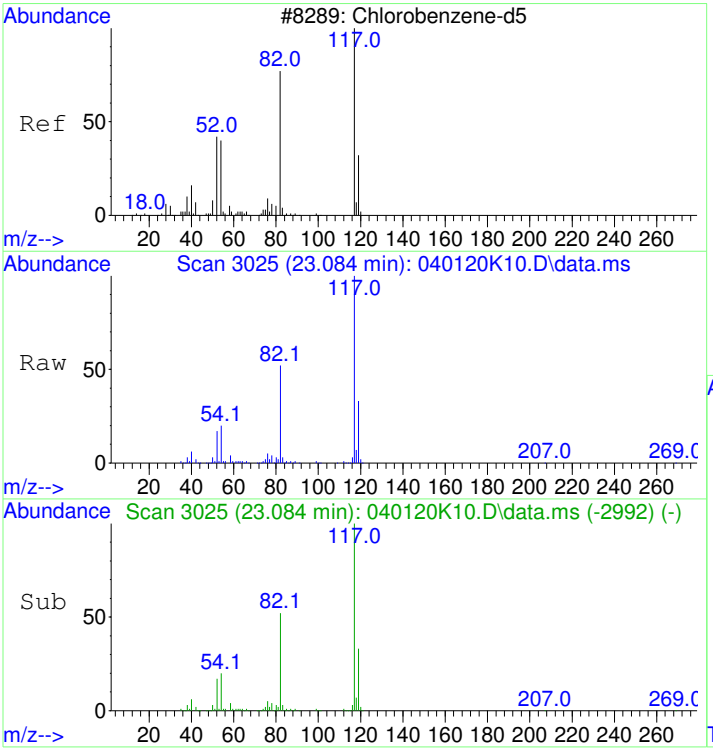


#42
4-Methyl-2-pentanone (MIBK)
Concen: 11.02 ppbv
RT: 20.553 min Scan# 2609
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 43 Resp: 234938

Ion	Ratio	Lower	Upper
43	100		
58	40.1	20.1	60.1
100	15.5	0.0	35.5

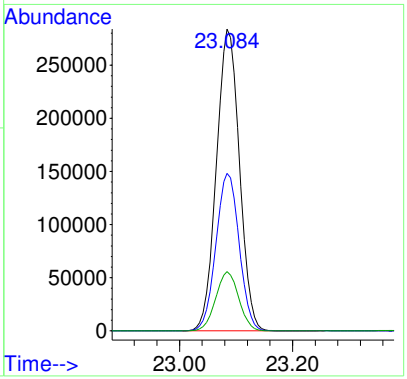


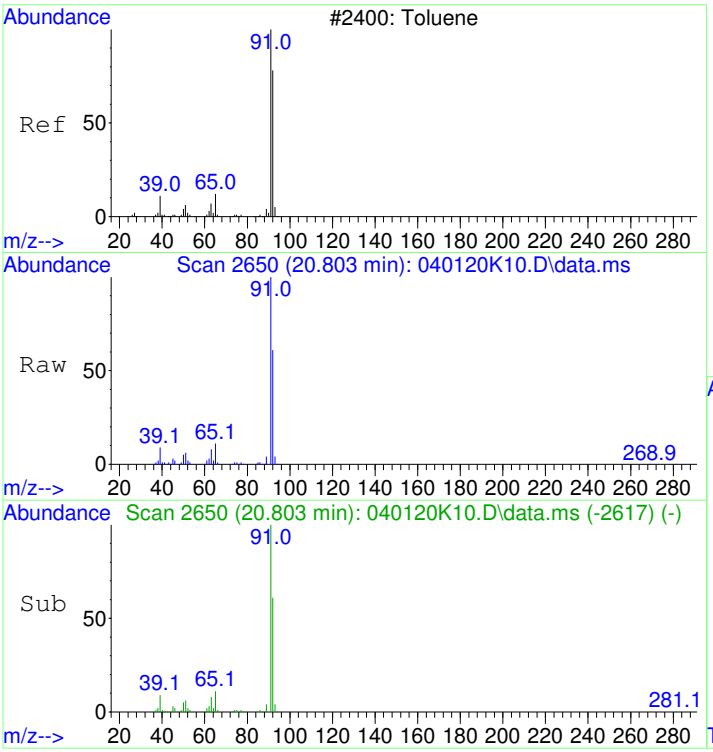


#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 23.084 min Scan# 3025
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion:117 Resp: 803106

Ion	Ratio	Lower	Upper
117	100		
82	52.5	32.5	72.5
54	19.6	0.0	39.6

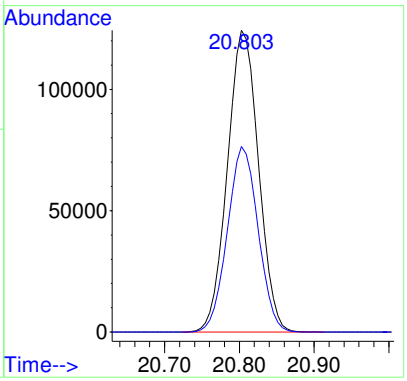


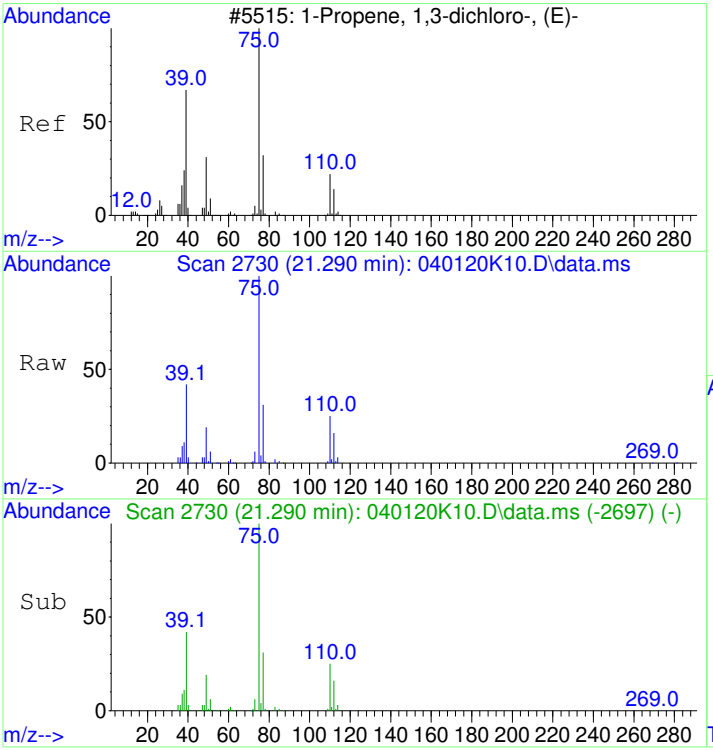


#44
Toluene
Concen: 10.02 ppbv
RT: 20.803 min Scan# 2650
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 91 Resp: 359510

Ion	Ratio	Lower	Upper
91	100		
92	60.7	40.7	80.7

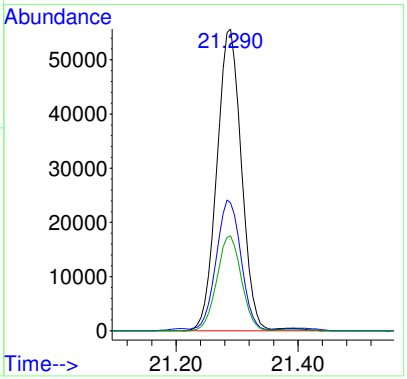


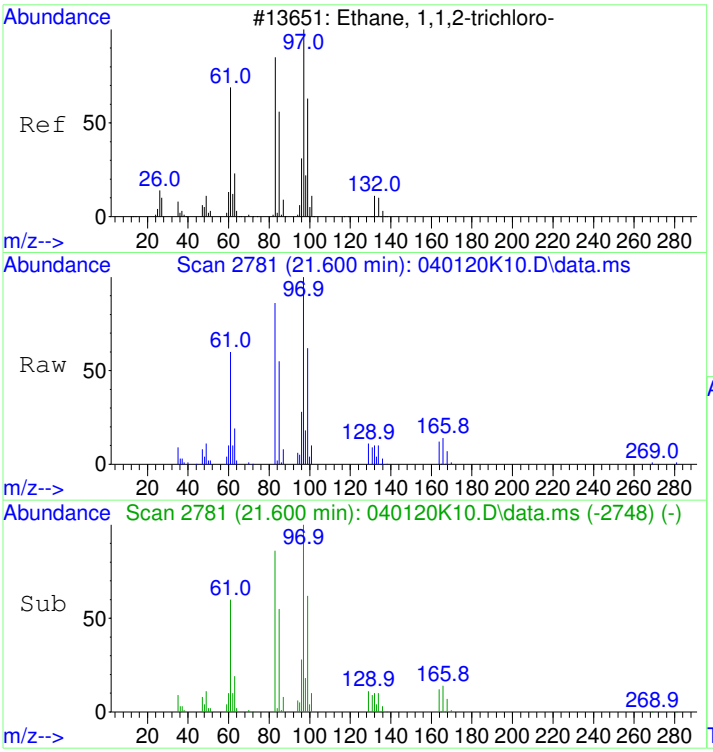


#45
trans-1,3-Dichloropropene
Concen: 9.82 ppbv
RT: 21.290 min Scan# 2730
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 75 Resp: 156760

Ion	Ratio	Lower	Upper
75	100		
39	45.0	25.0	65.0
77	31.7	11.7	51.7

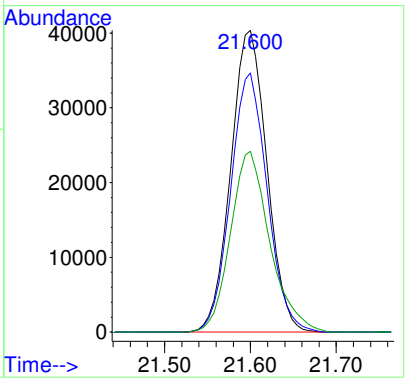


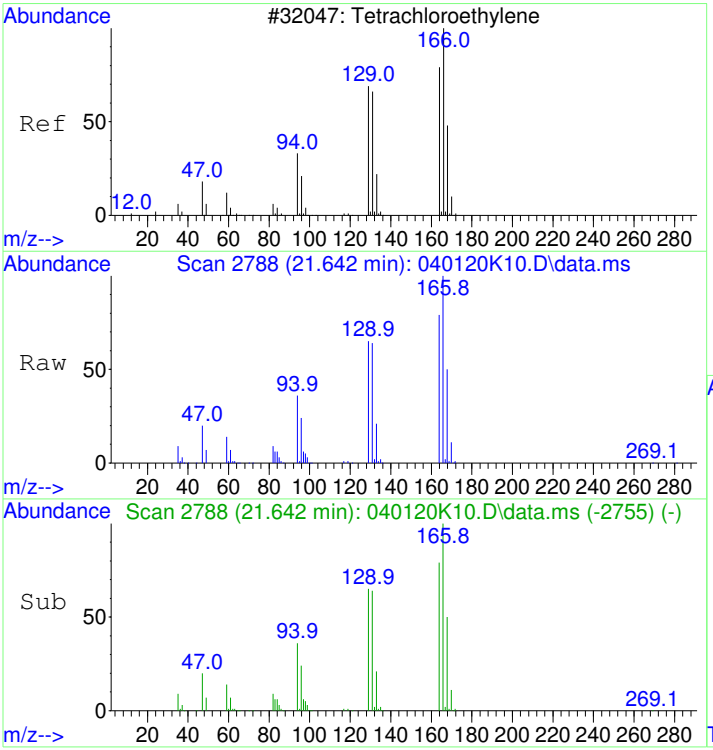


#46
1,1,2-Trichloroethane
Concen: 10.09 ppbv
RT: 21.600 min Scan# 2781
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 97 Resp: 118349

Ion	Ratio	Lower	Upper
97	100		
83	86.9	66.9	106.9
61	65.0	45.0	85.0

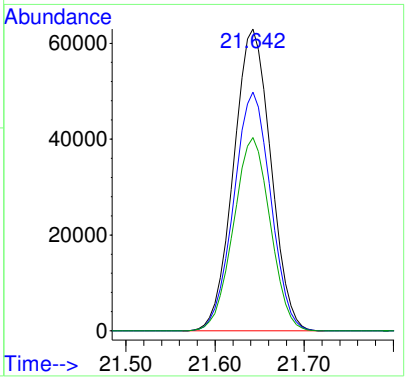


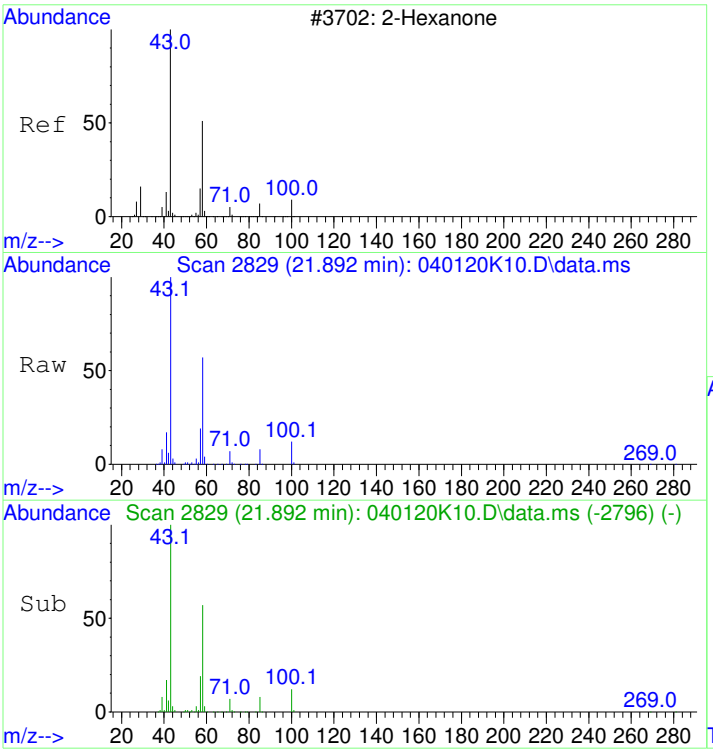


#47
Tetrachloroethene
Concen: 9.90 ppbv
RT: 21.642 min Scan# 2788
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion:166 Resp: 182553

Ion	Ratio	Lower	Upper
166	100		
164	78.4	58.4	98.4
131	63.1	43.1	83.1

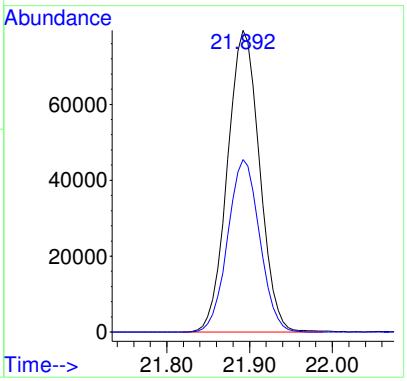


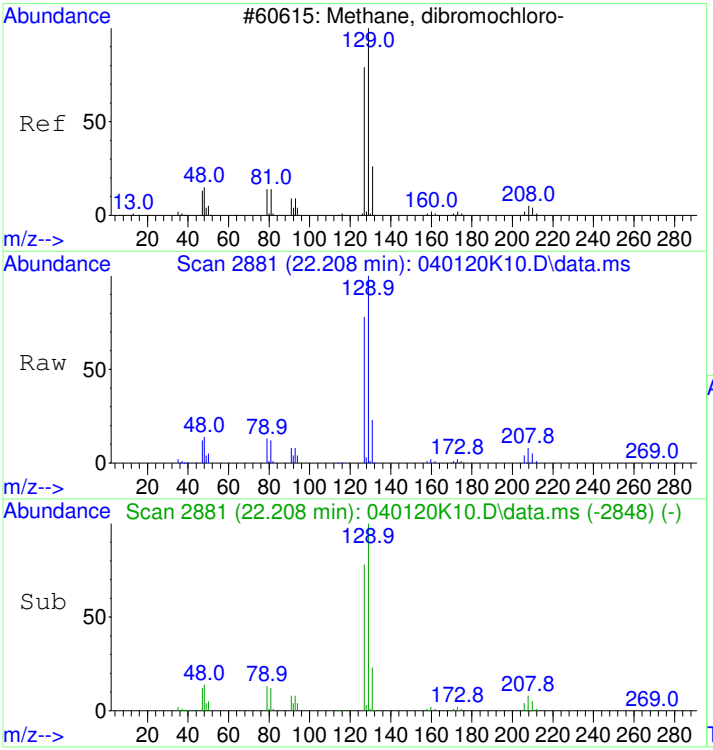


#48
2-Hexanone
Concen: 10.74 ppbv
RT: 21.892 min Scan# 2829
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 43 Resp: 214775

Ion	Ratio	Lower	Upper
43	100		
58	56.8	36.8	76.8

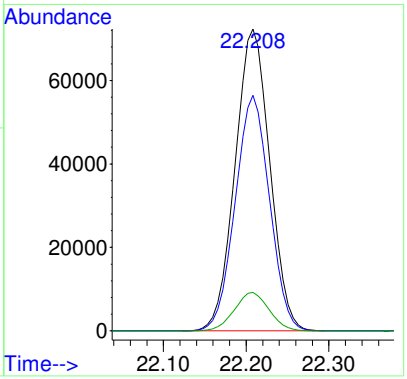


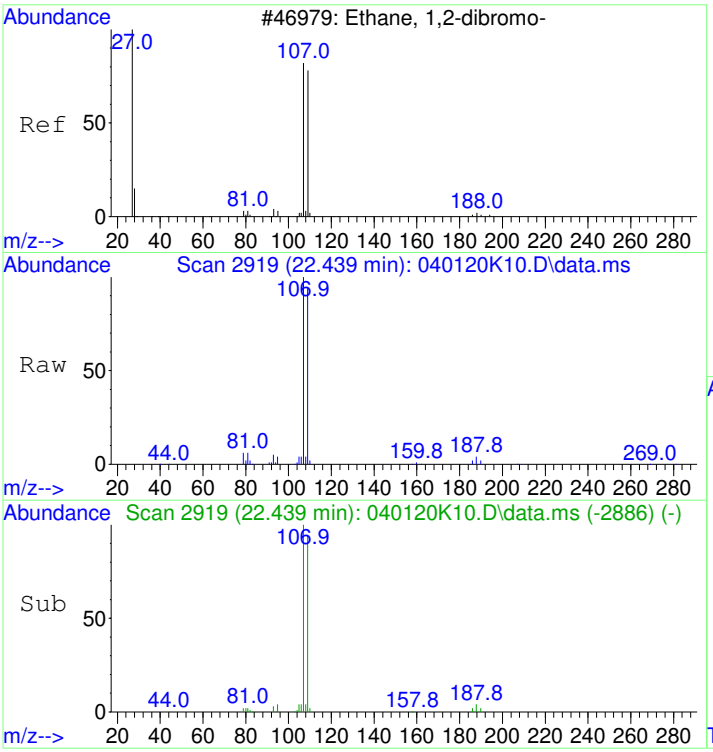


#49
Chlorodibromomethane
Concen: 10.91 ppbv
RT: 22.208 min Scan# 2881
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion:129 Resp: 211013

Ion	Ratio	Lower	Upper
129	100		
127	77.2	57.2	97.2
79	12.8	0.0	32.8

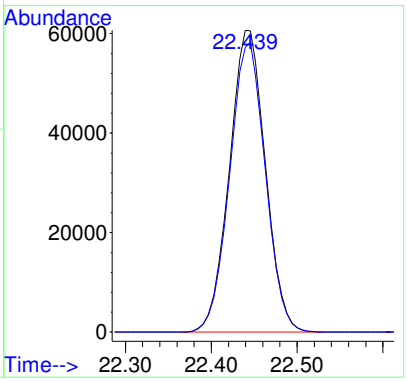


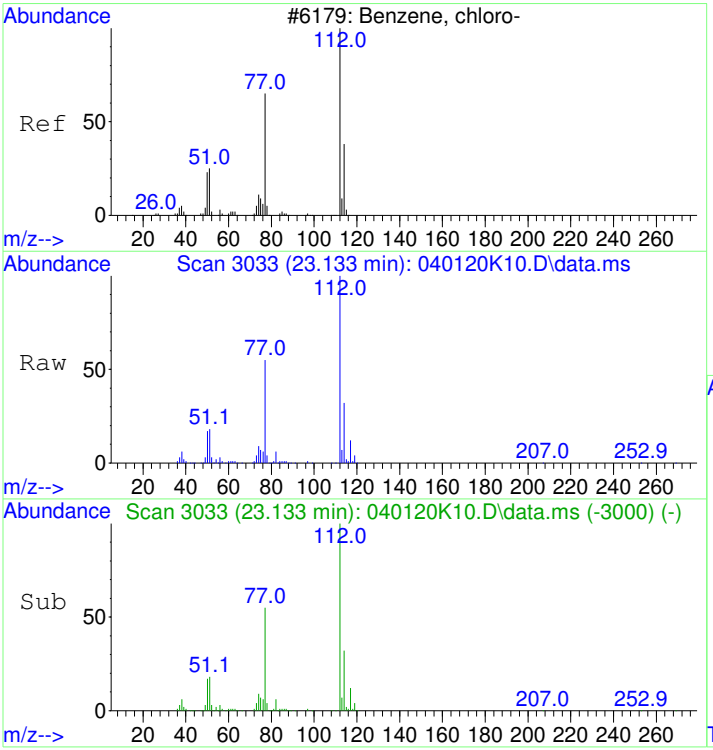


#50
1,2-Dibromoethane (EDB)
Concen: 10.27 ppbv
RT: 22.439 min Scan# 2919
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion:107 Resp: 176732

Ion	Ratio	Lower	Upper
107	100		
109	95.1	75.1	115.1

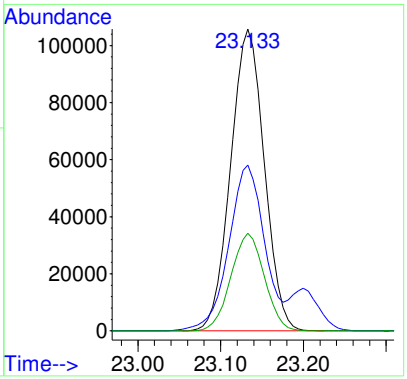


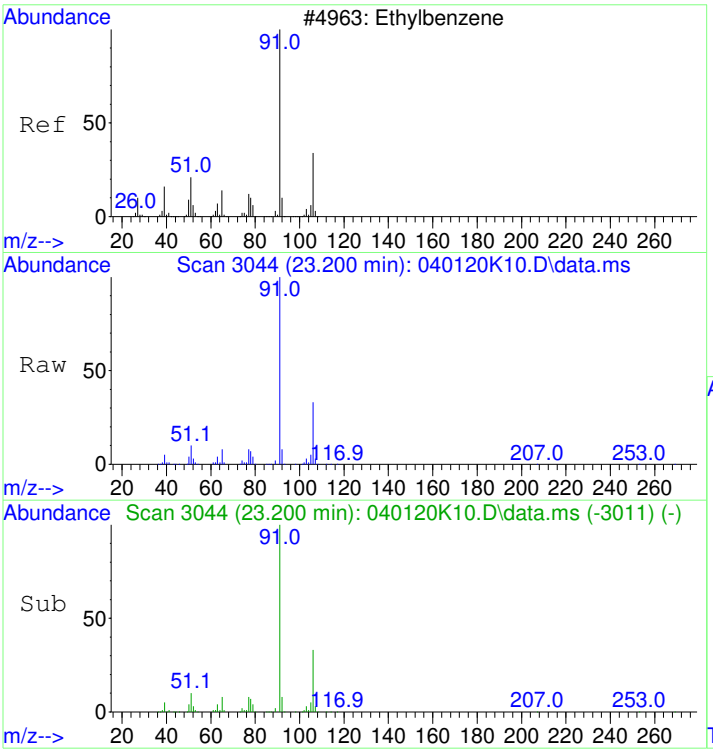


#51
Chlorobenzene
Concen: 10.12 ppbv
RT: 23.133 min Scan# 3033
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion:112 Resp: 298702

Ion	Ratio	Lower	Upper
112	100		
77	70.5	50.5	90.5
114	32.1	12.1	52.1

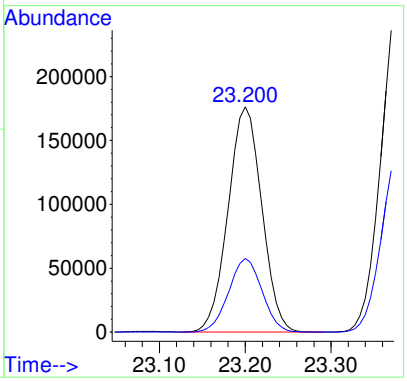


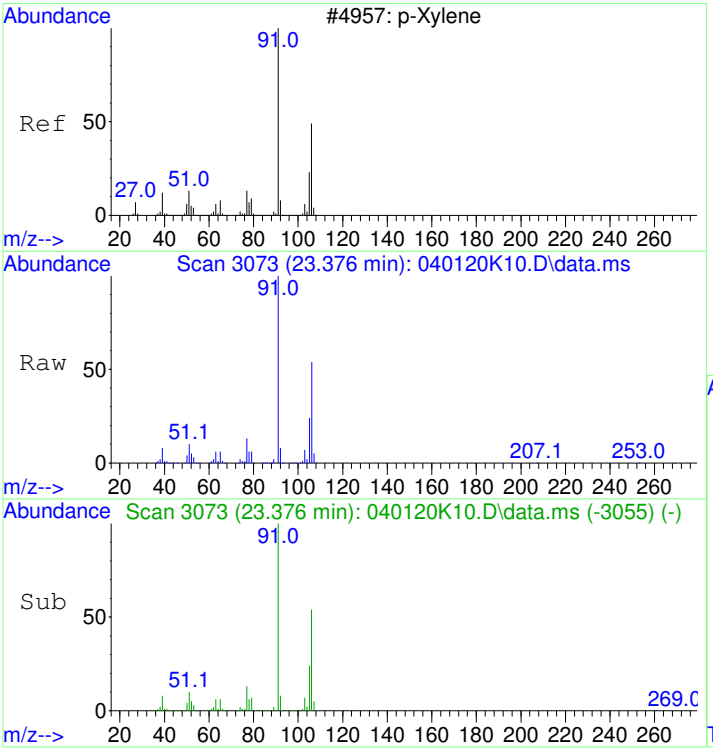


#52
Ethylbenzene
Concen: 10.26 ppbv
RT: 23.200 min Scan# 3044
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 91 Resp: 480770

Ion	Ratio	Lower	Upper
91	100		
106	32.4	12.4	52.4

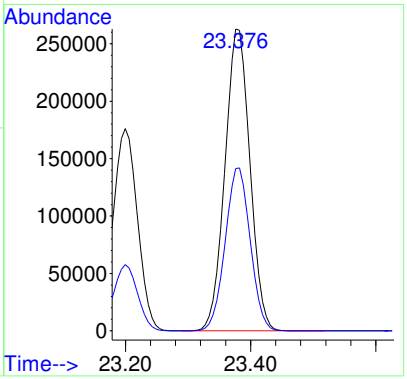


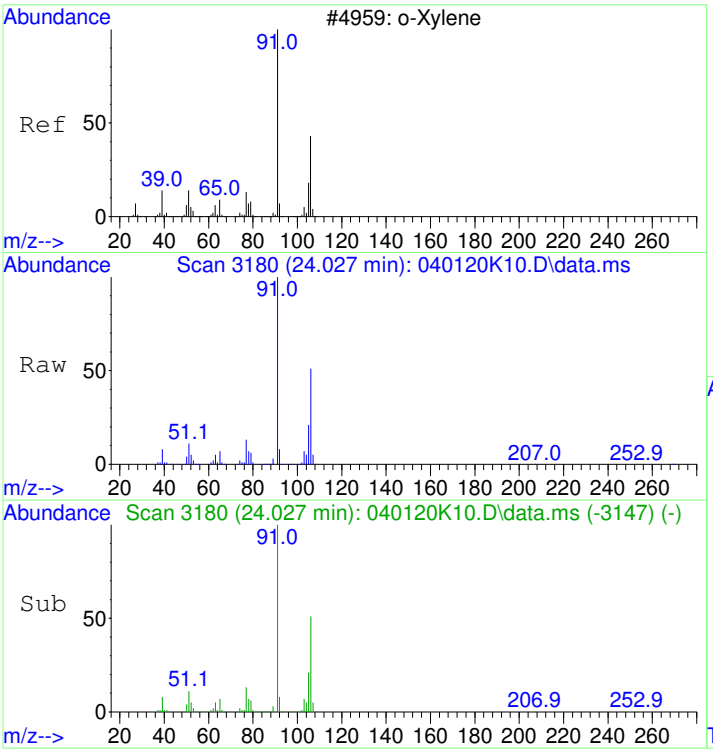


#53
m&p-Xylene
Concen: 20.59 ppbv
RT: 23.376 min Scan# 3073
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 91 Resp: 731542

Ion	Ratio	Lower	Upper
91	100		
106	54.0	34.0	74.0

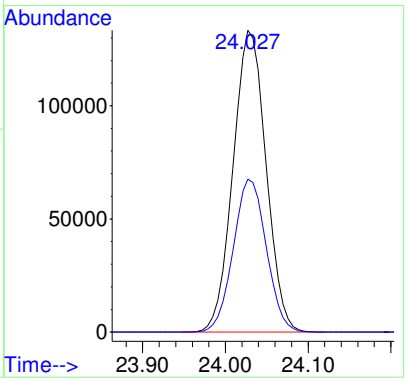


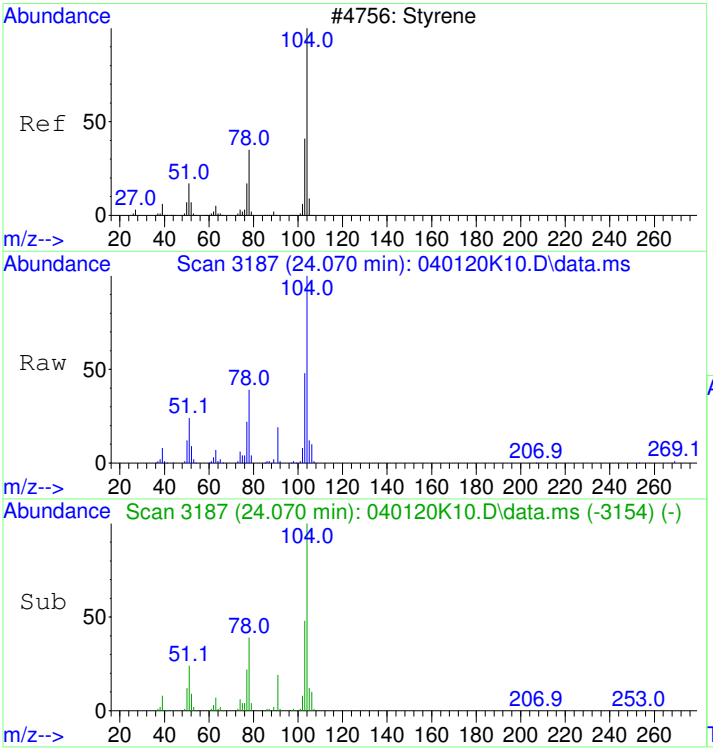


#54
o-Xylene
Concen: 10.11 ppbv
RT: 24.027 min Scan# 3180
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 91 Resp: 370125

Ion	Ratio	Lower	Upper
91	100		
106	50.7	30.7	70.7

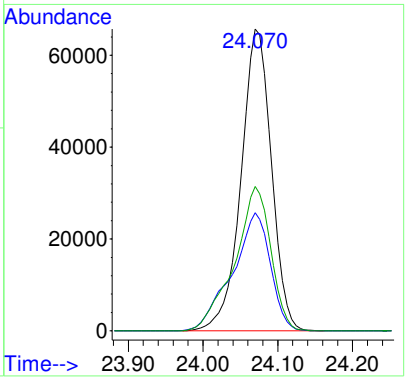


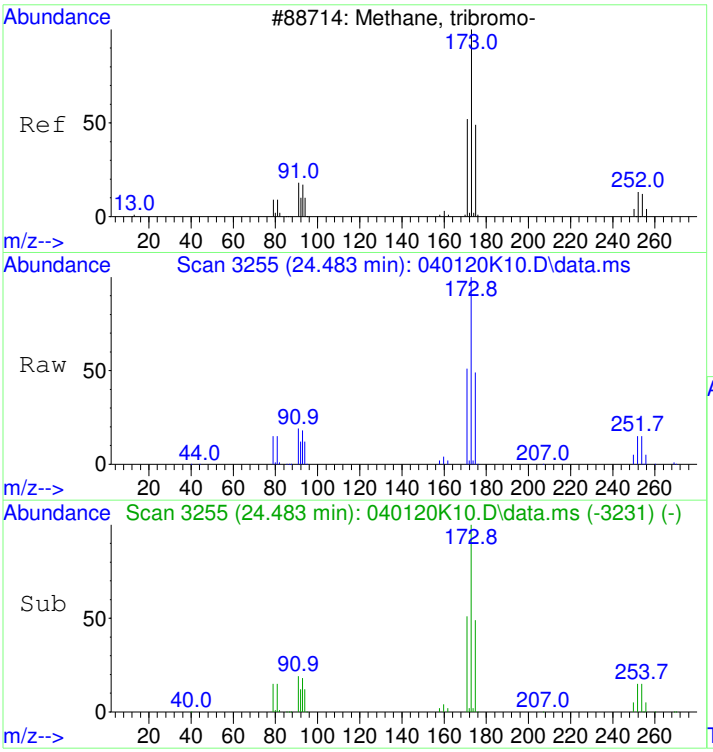


#55
Styrene
Concen: 9.85 ppbv
RT: 24.070 min Scan# 3187
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion:104 Resp: 185526

Ion	Ratio	Lower	Upper
104	100		
78	48.9	28.9	68.9
103	57.1	37.1	77.1

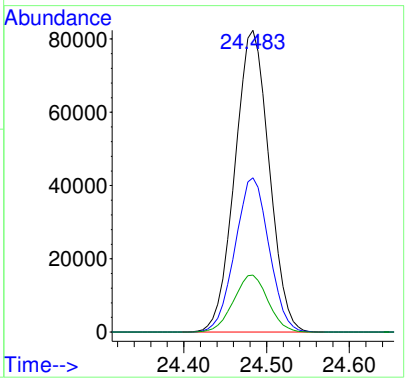


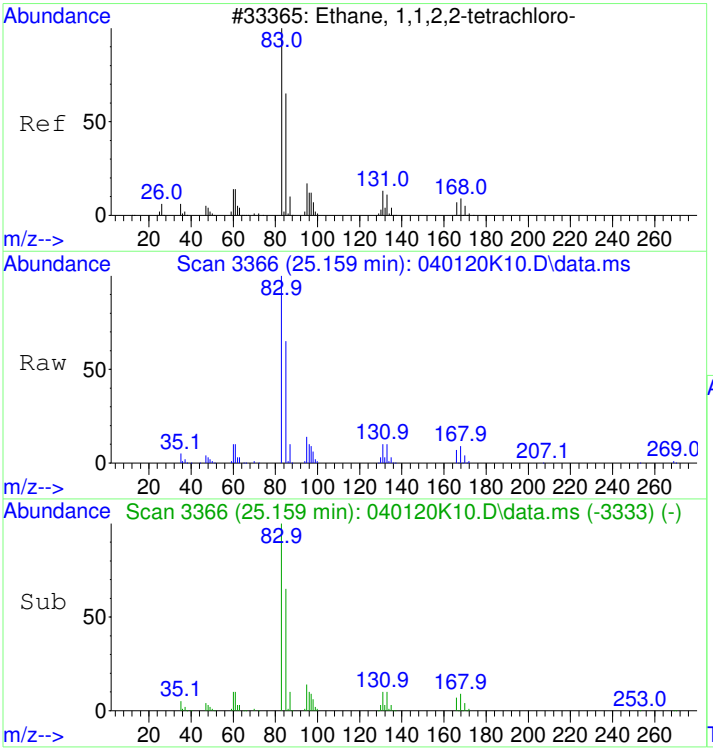


#56
Bromoform
Concen: 11.54 ppbv
RT: 24.483 min Scan# 3255
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion:173 Resp: 237167

Ion	Ratio	Lower	Upper
173	100		
171	50.8	30.8	70.8
91	19.0	0.0	39.0

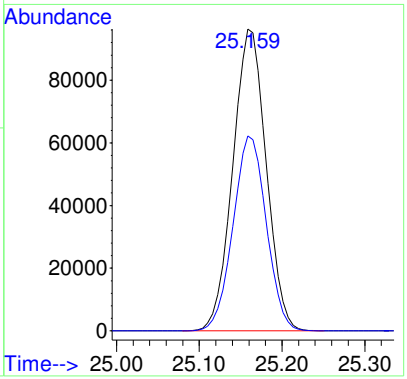


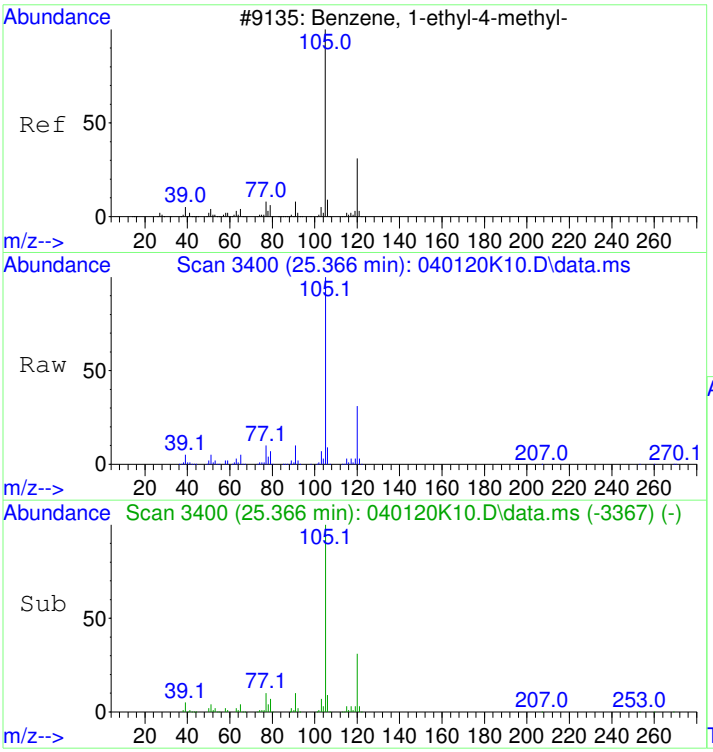


#57
1,1,2,2-Tetrachloroethane
Concen: 10.14 ppbv
RT: 25.159 min Scan# 3366
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 83 Resp: 270188

Ion	Ratio	Lower	Upper
83	100		
85	64.3	44.3	84.3

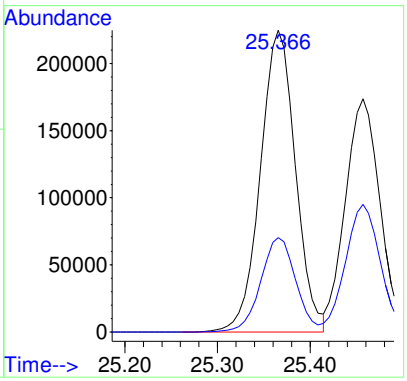


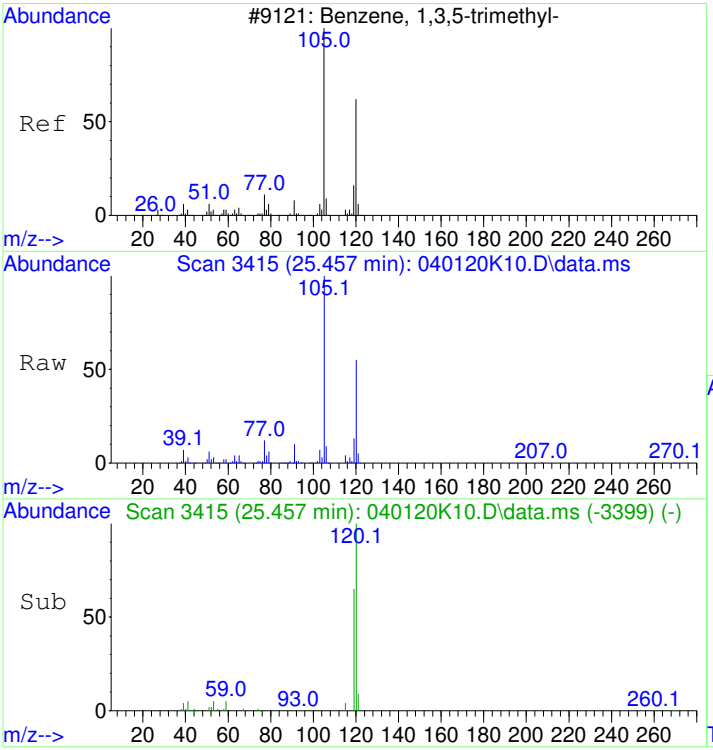


#58
4-Ethyltoluene
Concen: 10.32 ppbv
RT: 25.366 min Scan# 3400
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion:105 Resp: 591258

Ion	Ratio	Lower	Upper
105	100		
120	31.1	11.1	51.1

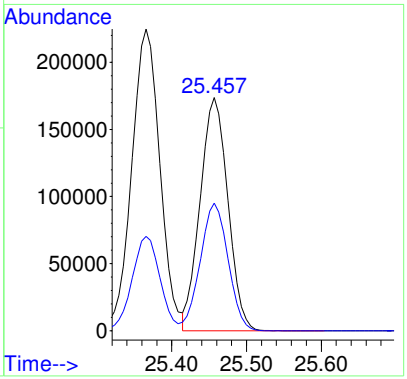


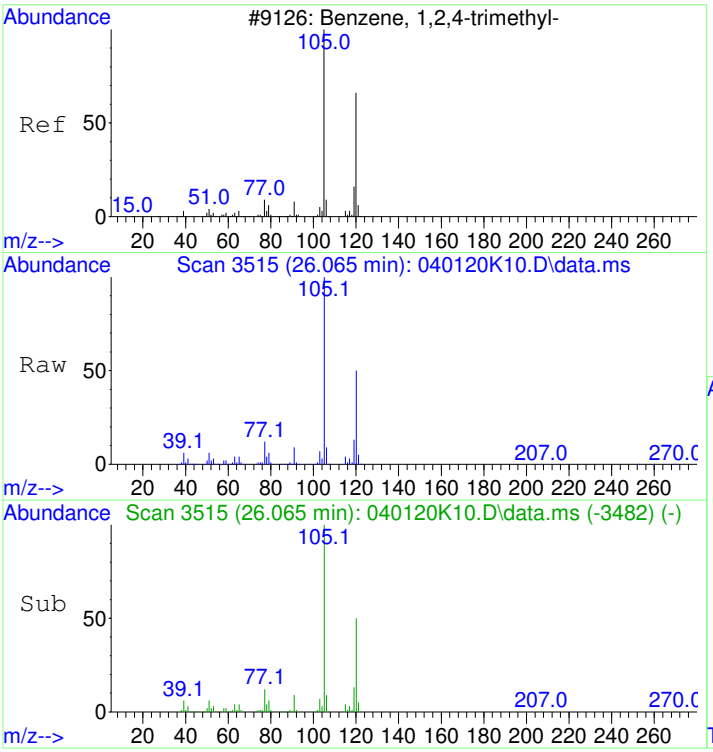


#59
1,3,5-Trimethylbenzene
Concen: 10.49 ppbv
RT: 25.457 min Scan# 3415
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion:105 Resp: 448975

Ion	Ratio	Lower	Upper
105	100		
120	54.9	34.9	74.9

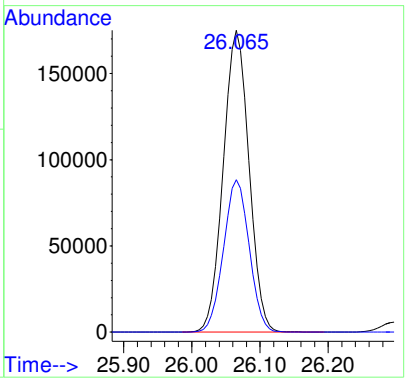


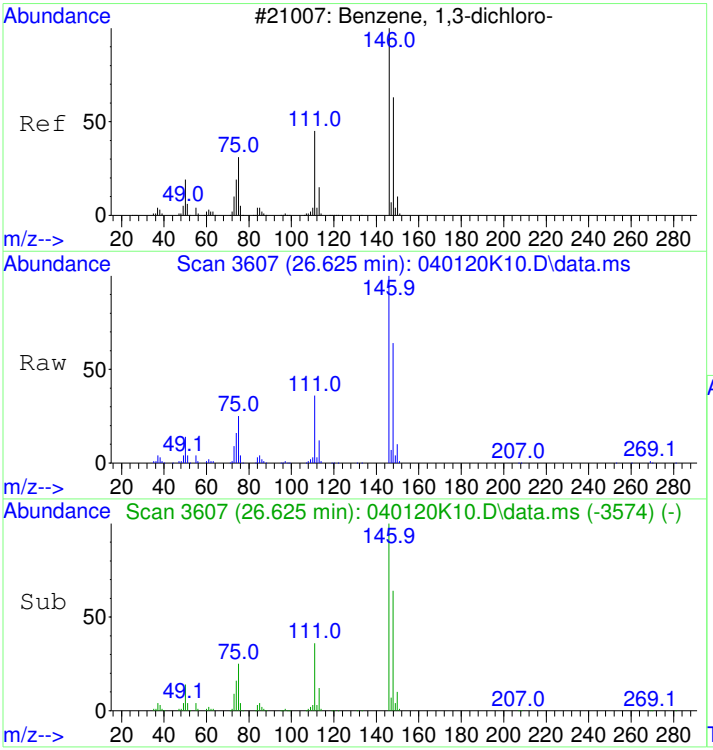


#60
1,2,4-Trimethylbenzene
Concen: 10.59 ppbv
RT: 26.065 min Scan# 3515
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion:105 Resp: 457716

Ion	Ratio	Lower	Upper
105	100		
120	50.4	30.4	70.4

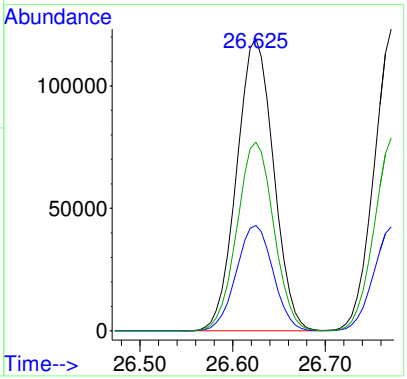


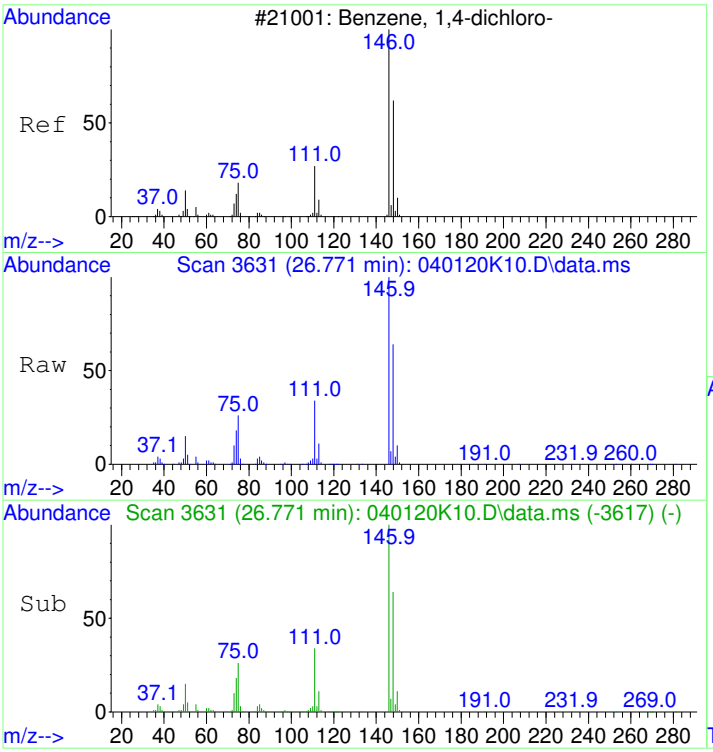


#61
1,3-Dichlorobenzene
Concen: 10.31 ppbv
RT: 26.625 min Scan# 3607
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion:146 Resp: 329641

Ion	Ratio	Lower	Upper
146	100		
111	36.1	16.1	56.1
148	64.5	44.5	84.5

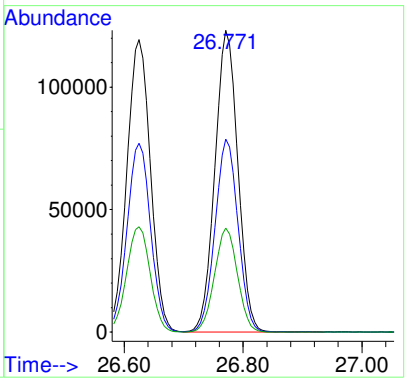


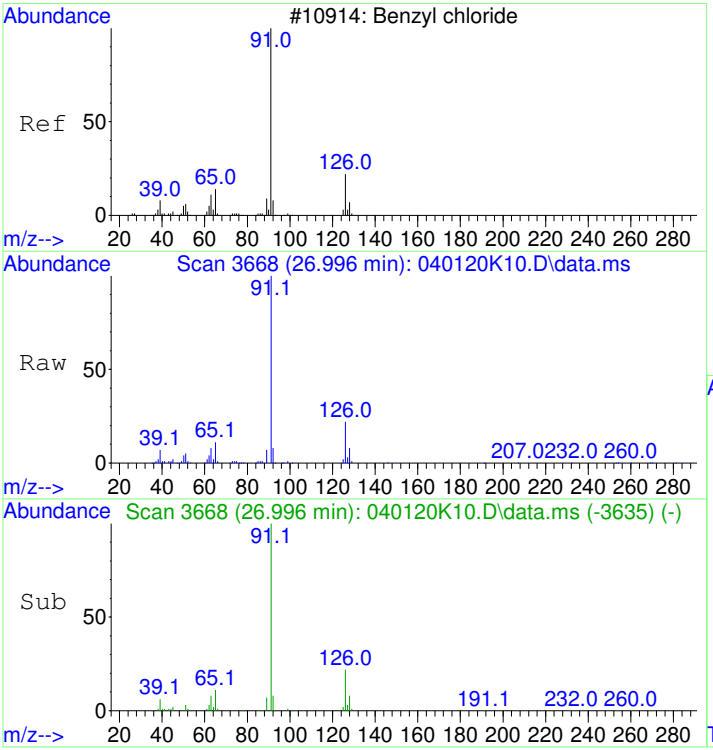


#62
1,4-Dichlorobenzene
Concen: 10.38 ppbv
RT: 26.771 min Scan# 3631
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion:146 Resp: 330362

Ion	Ratio	Lower	Upper
146	100		
148	63.9	43.9	83.9
111	34.3	14.3	54.3

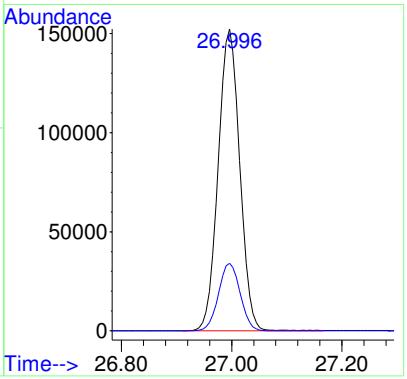


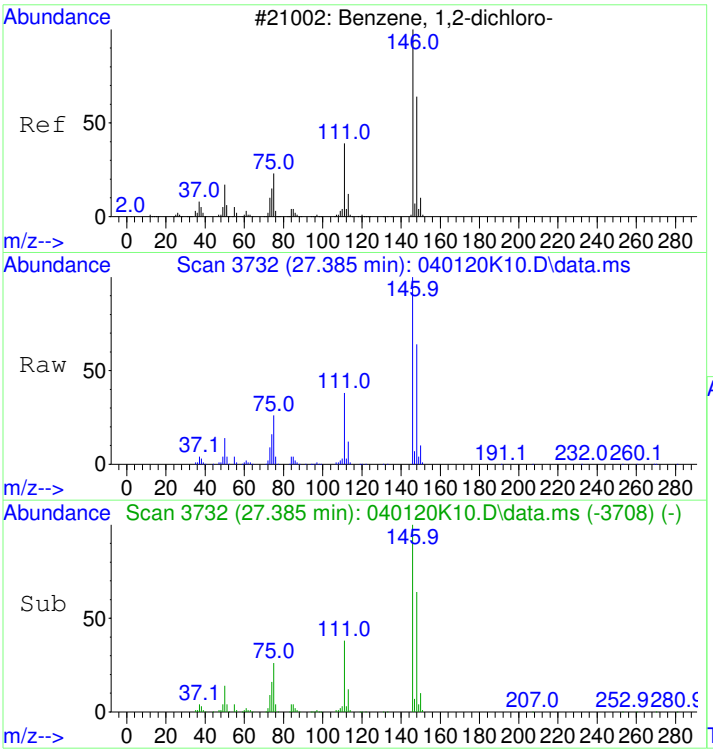


#63
Benzyl chloride
Concen: 12.45 ppbv
RT: 26.996 min Scan# 3668
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion: 91 Resp: 413201

Ion	Ratio	Lower	Upper
91	100		
126	22.4	2.4	42.4

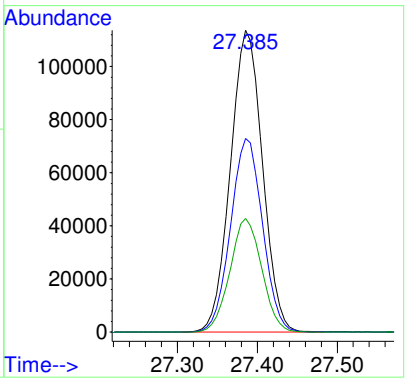


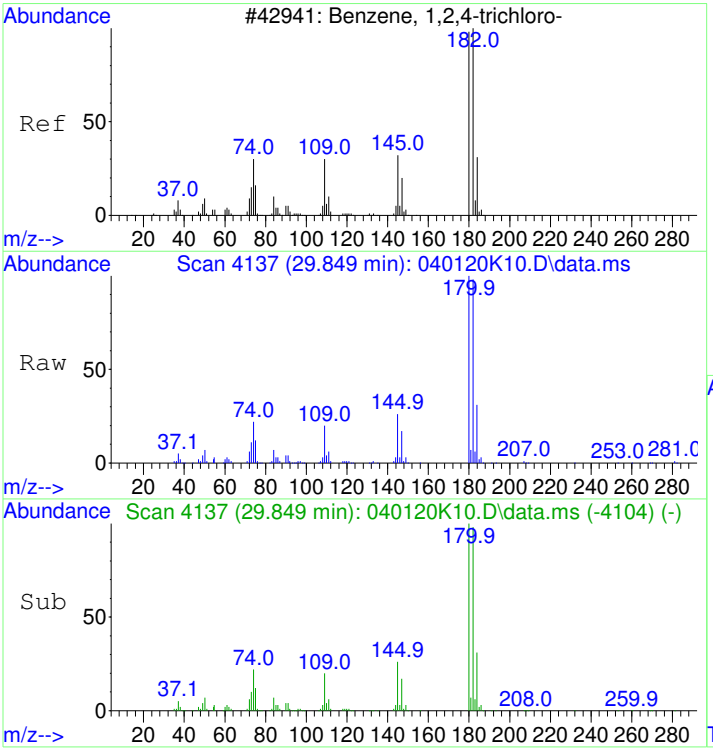


#64
1,2-Dichlorobenzene
Concen: 10.16 ppbv
RT: 27.385 min Scan# 3732
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion:146 Resp: 317029

Ion	Ratio	Lower	Upper
146	100		
148	63.9	43.9	83.9
111	37.3	17.3	57.3

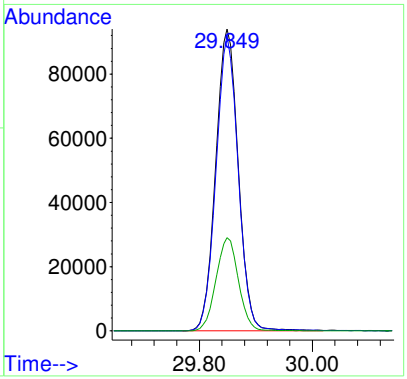


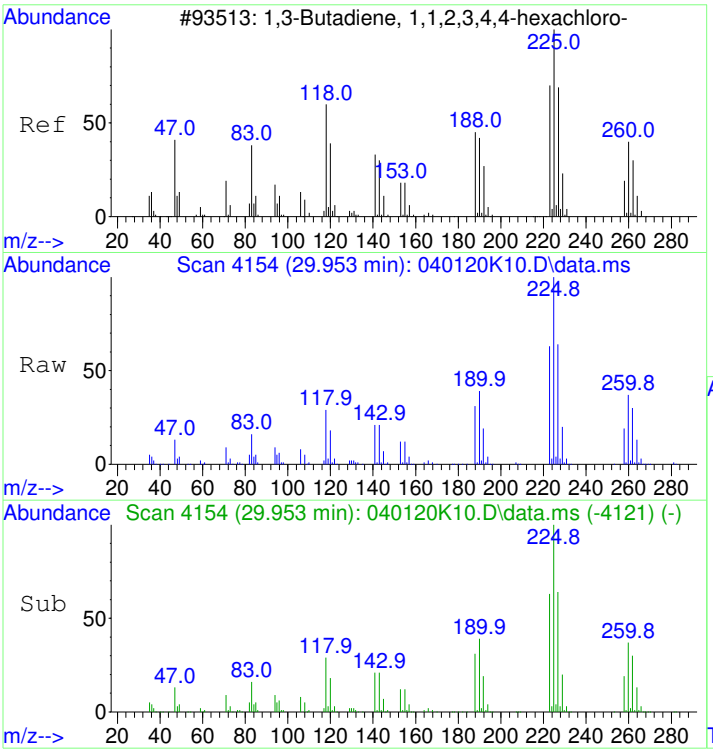


#65
1,2,4-Trichlorobenzene
Concen: 9.66 ppbv
RT: 29.849 min Scan# 4137
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion:180 Resp: 260795

Ion	Ratio	Lower	Upper
180	100		
182	95.9	75.9	115.9
184	30.7	10.7	50.7

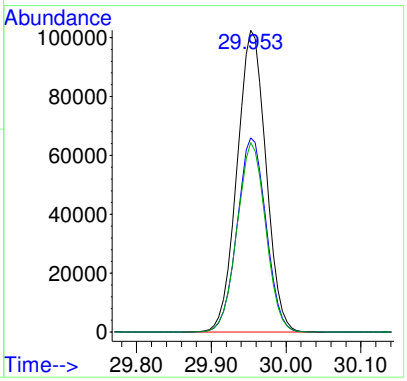




#66
Hexachlorobutadiene
Concen: 9.59 ppbv
RT: 29.953 min Scan# 4154
Delta R.T. 0.000 min
Lab File: 040120K10.D
Acq: 1 Apr 2020 7:47 pm

Tgt Ion:225 Resp: 275262

Ion	Ratio	Lower	Upper
225	100		
227	64.6	44.6	84.6
223	62.2	42.2	82.2



LSC Area Percent Report

Data Path : D:\msdchem\1\2020\DATA\040120K_FSAA\
Data File : 040120K10.D
Acq On : 1 Apr 2020 7:47 pm
Operator : LLH
Sample : S20D002-CAL4
Misc : 10ppbv
ALS Vial : 29 Sample Multiplier: 1

Integration Parameters: lscint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 2 Min Area: 1 % of largest Peak
Start Thrs: 0.6 Max Peaks: 100
Stop Thrs : 0.5 Peak Location: TOP

If leading or trailing edge < 100 prefer < Tangent else baseline drop >
Peak separation: 5

Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Title : TO15

Signal : TIC: 040120K10.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.998	41	52	59	rBB	65604	200957	7.71%	0.484%
2	5.101	59	69	80	rBB	109651	335564	12.87%	0.808%
3	5.484	117	132	155	rBB2	209313	757431	29.06%	1.823%
4	5.728	155	172	189	rBB	37521	147242	5.65%	0.354%
5	6.068	217	228	237	rBB	41696	131374	5.04%	0.316%
6	6.172	237	245	257	rBB	75289	244396	9.38%	0.588%
7	7.243	403	421	451	rBB	46754	210348	8.07%	0.506%
8	7.608	465	481	502	rBB2	22472	101693	3.90%	0.245%
9	8.252	574	587	597	rBB	29263	112580	4.32%	0.271%
10	8.380	597	608	625	rBB	70784	317099	12.17%	0.763%
11	10.376	911	936	1033	rBB6	123136	1192606	45.76%	2.871%
12	11.087	1040	1053	1061	rBB	25901	106057	4.07%	0.255%
13	11.197	1063	1071	1085	rBB	47563	183939	7.06%	0.443%
14	11.592	1117	1136	1177	rBB	43799	218738	8.39%	0.527%
15	11.963	1177	1197	1263	rBB	73171	341859	13.12%	0.823%
16	12.481	1263	1282	1316	rBB	73661	334438	12.83%	0.805%
17	13.022	1351	1371	1411	rBB3	112186	975822	37.44%	2.349%
18	13.588	1445	1464	1514	rBB2	157280	650096	24.94%	1.565%
19	14.397	1584	1597	1605	rBB	67480	245618	9.42%	0.591%
20	14.494	1605	1613	1625	rBB	68504	216098	8.29%	0.520%
21	15.778	1814	1824	1831	rBB	86886	254942	9.78%	0.614%
22	15.863	1831	1838	1849	rBB	167803	501706	19.25%	1.208%
23	16.307	1895	1911	1923	rBB2	364658	1391737	53.40%	3.350%
24	16.441	1923	1933	1947	rBB	123784	409936	15.73%	0.987%
25	16.617	1947	1962	1992	rBB2	190899	1240675	47.60%	2.987%
26	16.934	1997	2014	2035	rBB2	156850	566444	21.73%	1.364%
27	17.311	2062	2076	2087	rBB	288460	1037339	39.80%	2.497%
28	17.439	2087	2097	2109	rBB	179946	573106	21.99%	1.380%
29	17.676	2123	2136	2149	rBB2	333690	1099749	42.19%	2.648%
30	18.223	2204	2226	2259	rBB	623780	1894788	72.70%	4.561%
31	18.625	2277	2292	2307	rBB	223895	685980	26.32%	1.651%
32	19.142	2358	2377	2391	rBB	164213	519078	19.91%	1.250%
33	19.319	2391	2406	2435	rBB	59451	184001	7.06%	0.443%
34	19.598	2435	2452	2473	rBB	180890	548473	21.04%	1.320%
35	20.347	2559	2575	2595	rBB	176528	513924	19.72%	1.237%
36	20.553	2595	2609	2637	rBB	212023	606006	23.25%	1.459%
37	20.803	2637	2650	2665	rBB	296193	848729	32.56%	2.043%
38	21.290	2709	2730	2741	rBB	167483	477462	18.32%	1.149%
39	21.636	2765	2787	2803	rBB2	359820	1609314	61.74%	3.874%
40	21.892	2819	2829	2850	rBB	203583	549097	21.07%	1.322%

Data Path : D:\msdchem\1\2020\DATA\040120K_FSAA\
Data File : 040120K10.D
Acq On : 1 Apr 2020 7:47 pm
Operator : LLH
Sample : S20D002-CAL4
Misc : 10ppbv
ALS Vial : 29 Sample Multiplier: 1

Integration Parameters: lscint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 2 Min Area: 1 % of largest Peak
Start Thrs: 0.6 Max Peaks: 100
Stop Thrs : 0.5 Peak Location: TOP

If leading or trailing edge < 100 prefer < Tangent else baseline drop >
Peak separation: 5

Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Title : TO15

41	22.208	2867	2881	2905	rBB	234645	680840	26.12%	1.639%
42	22.445	2905	2920	2979	rBB	151540	442726	16.99%	1.066%
43	23.084	3015	3025	3039	rBB2	766967	2606488	100.00%	6.275%
44	23.200	3039	3044	3052	rBB	302039	650218	24.95%	1.565%
45	23.376	3059	3073	3125	rBB	757275	2107022	80.84%	5.072%
46	24.033	3168	3181	3239	rBB2	382604	1577406	60.52%	3.797%
47	24.483	3242	3255	3269	rBB	284939	819480	31.44%	1.973%
48	25.159	3351	3366	3383	rBB	306492	862023	33.07%	2.075%
49	25.366	3388	3400	3407	rBB	507585	1247358	47.86%	3.003%
50	25.457	3407	3415	3425	rBB	476103	1161017	44.54%	2.795%
51	26.065	3501	3515	3541	rBB	489067	1278830	49.06%	3.079%
52	26.296	3541	3553	3589	rBB2	26164	76076	2.92%	0.183%
53	26.625	3593	3607	3619	rBB	426621	1184205	45.43%	2.851%
54	26.771	3619	3631	3655	rBB	443858	1183448	45.40%	2.849%
55	26.996	3655	3668	3685	rBB	323594	871276	33.43%	2.098%
56	27.385	3720	3732	3775	rBB	413585	1152847	44.23%	2.775%
57	29.849	4127	4137	4145	rBB	419130	1101047	42.24%	2.651%

Sum of corrected areas: 41538748

Table of Contents

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Data Path : D:\msdchem\1\2020\DATA\040120K_FSAA\
Data File : 040120K10.D
Acq On    :  1 Apr 2020   7:47 pm
Operator  : LLH
Sample    : S20D002-CAL4
Misc      : 10ppbv
ALS Vial  : 29   Sample Multiplier: 1

Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title  : TO15

TIC Library    : C:\Database\NIST02.L
TIC Integration Parameters: lscint.p
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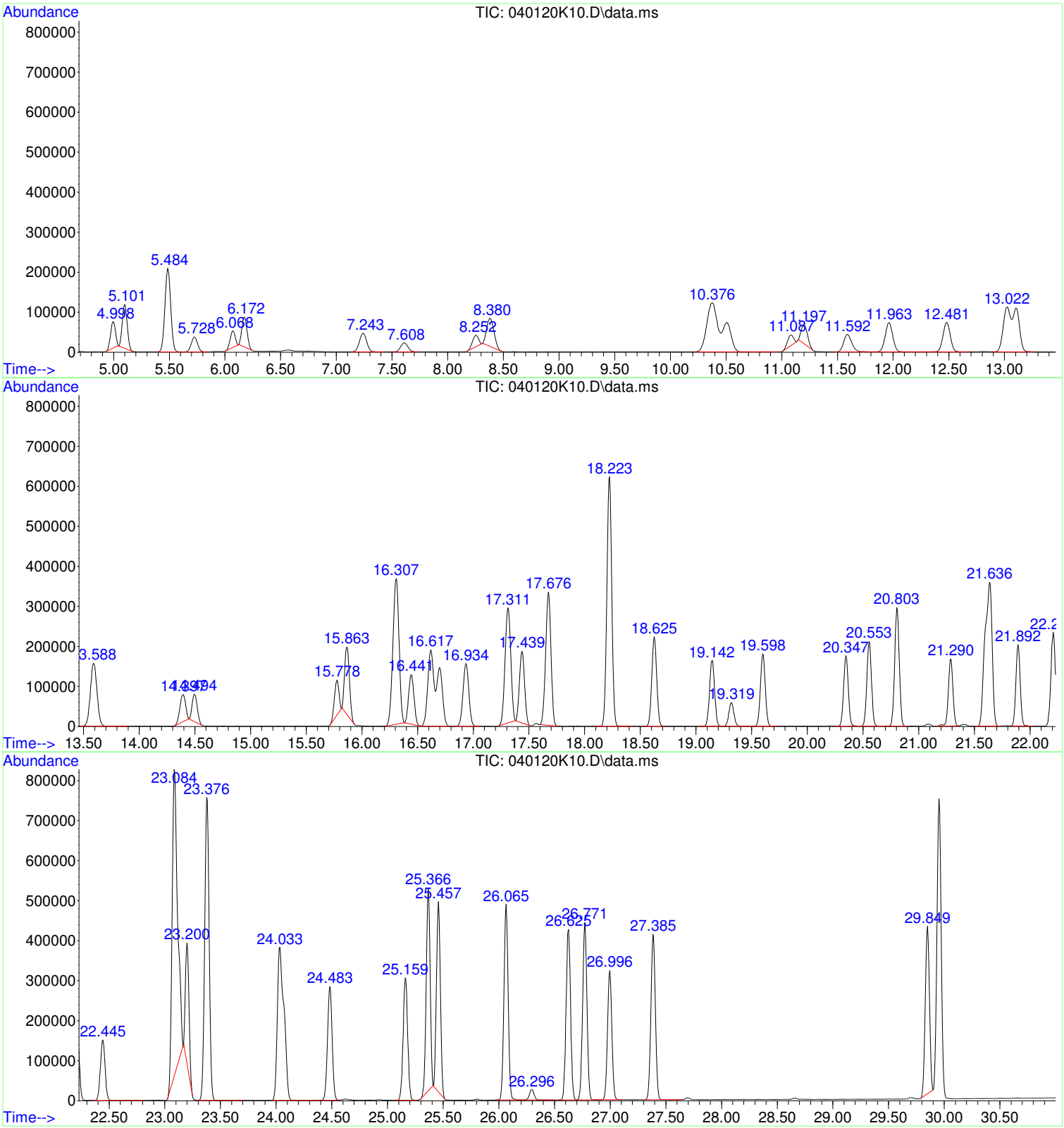

Library Search Compound Report

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\040120K_FSAA\
Data File : 040120K10.D
Acq On : 1 Apr 2020 7:47 pm
Operator : LLH
Sample : S20D002-CAL4
Misc : 10ppbv
ALS Vial : 29 Sample Multiplier: 1

Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15

TIC Library : C:\Database\NIST02.L
TIC Integration Parameters: lscint.p

No Library Search Compounds Detected
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Tentatively Identified Compound (LSC) summary

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Data Path : D:\msdchem\1\2020\DATA\040120K_FSAA\
Data File : 040120K10.D
Acq On    :  1 Apr 2020   7:47 pm
Operator  : LLH
Sample    : S20D002-CAL4
Misc      : 10ppbv
ALS Vial  : 29   Sample Multiplier: 1

Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title  : TO15

TIC Library   : C:\Database\NIST02.L
TIC Integration Parameters: lscint.p

                                                    |--Internal Standard---|
TIC Top Hit name      RT  EstConc Units Response |#    RT     Resp  Conc|
-----------------------------------------------------------------------------
```

REVIEWED
By LLH at 11:26 am, Apr 02, 2020

S20D002-CAL5

Data Path : D:\msdchem\1\2020\DATA\040120K_FSAA\
Data File : 040120K11.D
InstName : HP5973K
Acq On : 1 Apr 2020 8:39 pm
Operator : LLH
Sample : S20D002-CAL5
Misc : 15ppbv
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Apr 02 09:55:28 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:55:20 2020
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards								
1)	BROMOCHLOROMETHANE	16.313	49	292622	19.60	ppbv		0.00
32)	1,4-DIFLUOROBENZENE	18.223	114	900340	19.60	ppbv		0.00
43)	CHLOROBENZENE-d5	23.084	117	843082	19.60	ppbv		0.00
Target Compounds								Qvalue
2)	Propene	4.998	41	139020	16.55	ppbv		100
3)	Dichlorodifluoromethane	5.101	85	352411	15.48	ppbv		100
4)	1,2-Dichlorotetrafluor...	5.484	85	382639	14.55	ppbv		99
5)	Chloromethane	5.728	50	143177	16.46	ppbv		99
6)	Vinyl chloride	6.075	62	178918	16.00	ppbv		99
7)	1,3-Butadiene	6.178	54	138207	15.62	ppbv		99
8)	Bromomethane	7.243	94	122278	14.44	ppbv		100
9)	Chloroethane	7.614	64	82458	14.74	ppbv		100
10)	Bromoethene	8.259	106	127092	15.23	ppbv		100
11)	Trichlorofluoromethane	8.386	101	299527	13.51	ppbv		100
12)	1,1,2-Trichloro-1,2,2-...	10.376	151	225753	13.95	ppbv		100
13)	1,1-Dichloroethene	10.509	61	211166	15.06	ppbv		99
14)	Acetone	11.081	43	213188	15.52	ppbv		99
15)	Carbon disulfide	11.203	76	400015	15.38	ppbv		100
16)	2-Propanol	11.586	45	221287	16.60	ppbv		99
17)	Allyl chloride	11.963	41	199339	16.12	ppbv		100
18)	Dichloromethane	12.481	49	159015	13.57	ppbv		100
19)	tert-Butyl methyl ethe...	13.022	73	421737	15.33	ppbv		100
20)	trans-1,2-Dichloroethene	13.107	61	204010	15.65	ppbv		100
21)	Hexane	13.594	57	261324	14.76	ppbv		99
22)	1,1-Dichloroethane	14.391	63	248766	13.81	ppbv		100
23)	Vinyl acetate	14.500	43	357766	16.65	ppbv		99
24)	cis-1,2-Dichloroethene	15.778	61	189705	14.70	ppbv	#	100
25)	2-Butanone (MEK)	15.863	72	81094	15.21	ppbv		98
26)	Ethyl acetate	15.869	61	47919	14.70	ppbv		100
27)	Tetrahydrofuran	16.283	42	181913	14.88	ppbv		99
28)	Chloroform	16.447	83	267049	14.93	ppbv		100
29)	Cyclohexane	16.617	56	263634	14.86	ppbv		100
30)	1,1,1-Trichloroethane	16.696	97	267699	15.17	ppbv		99
31)	Carbon tetrachloride	16.934	117	271498	15.01	ppbv		100
33)	Benzene	17.439	78	457434	15.04	ppbv		100
34)	2,2,4-Trimethylpentane	17.311	57	810850	15.28	ppbv		100
35)	1,2-Dichloroethane	17.658	62	174427	15.04	ppbv		100
36)	Heptane	17.682	43	298484	15.65	ppbv		99
37)	Trichloroethene	18.625	130	203406	15.76	ppbv		99
38)	1,2-Dichloropropane	19.148	63	169845	15.03	ppbv		100
39)	1,4-Dioxane	19.318	88	110491	15.39	ppbv		99
40)	Bromodichloromethane	19.598	83	304152	15.61	ppbv		100
41)	cis-1,3-Dichloropropene	20.347	75	267525	15.35	ppbv		100
42)	4-Methyl-2-pentanone (...	20.560	43	360786	16.27	ppbv		99
44)	Toluene	20.809	91	557984	14.81	ppbv		100
45)	trans-1,3-Dichloropropene	21.290	75	245324	14.64	ppbv		99
46)	1,1,2-Trichloroethane	21.600	97	183171	14.88	ppbv		99
47)	Tetrachloroethene	21.642	166	286591	14.80	ppbv		100
48)	2-Hexanone	21.892	43	330606	15.74	ppbv		99
49)	Chlorodibromomethane	22.208	129	330765	16.29	ppbv		100
50)	1,2-Dibromoethane (EDB)	22.445	107	276561	15.31	ppbv		99
51)	Chlorobenzene	23.133	112	463480	14.96	ppbv		99
52)	Ethylbenzene	23.200	91	743910	15.12	ppbv		100
53)	m&p-Xylene	23.382	91	1133129	30.38	ppbv		99
54)	o-Xylene	24.033	91	577422	15.03	ppbv		100

Data Path : D:\msdchem\1\2020\DATA\040120K_FSAA\
Data File : 040120K11.D
InstName : HP5973K
Acq On : 1 Apr 2020 8:39 pm
Operator : LLH
Sample : S20D002-CAL5
Misc : 15ppbv
ALS Vial : 29 Sample Multiplier: 1

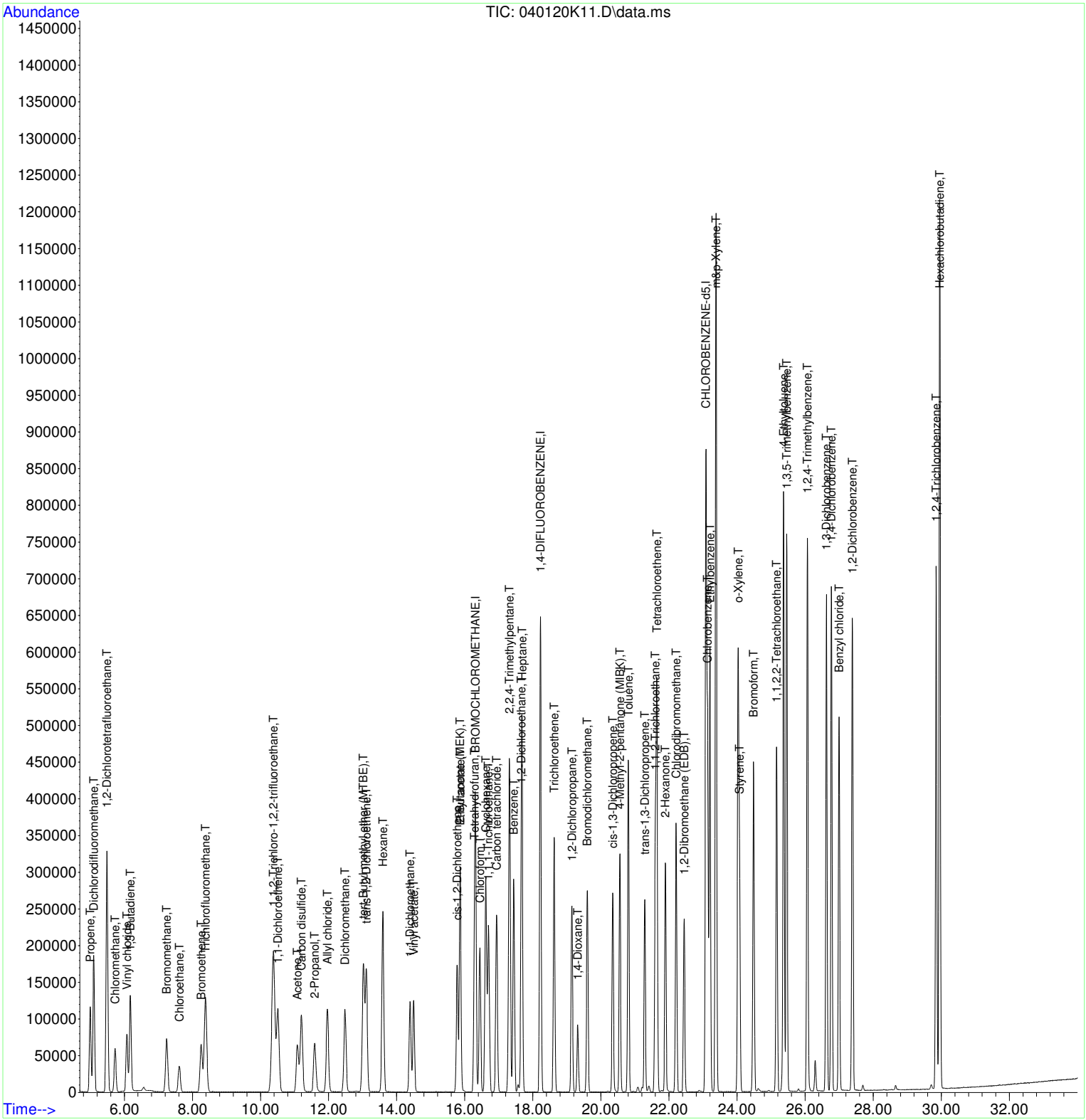
Quant Time: Apr 02 09:55:28 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:55:20 2020
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	Styrene	24.076	104	291442	14.75	ppbv	100
56)	Bromoform	24.483	173	375705	17.42	ppbv	99
57)	1,1,2,2-Tetrachloroethane	25.159	83	419962	15.01	ppbv	100
58)	4-Ethyltoluene	25.366	105	920900	15.31	ppbv	99
59)	1,3,5-Trimethylbenzene	25.457	105	697042	15.51	ppbv	100
60)	1,2,4-Trimethylbenzene	26.065	105	712165	15.69	ppbv	99
61)	1,3-Dichlorobenzene	26.625	146	518116	15.44	ppbv	100
62)	1,4-Dichlorobenzene	26.771	146	516124	15.45	ppbv	99
63)	Benzyl chloride	26.996	91	649632	18.64	ppbv	99
64)	1,2-Dichlorobenzene	27.385	146	496433	15.15	ppbv	100
65)	1,2,4-Trichlorobenzene	29.849	180	425298	15.00	ppbv	100
66)	Hexachlorobutadiene	29.953	225	439916	14.59	ppbv	100

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

Data Path : D:\msdchem\1\2020\DATA\040120K_FSAA\
Data File : 040120K11.D
InstName : HP5973K
Acq On : 1 Apr 2020 8:39 pm
Operator : LLH
Sample : S20D002-CAL5
Misc : 15ppbv
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Apr 02 09:55:28 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:55:20 2020
Response via : Initial Calibration



S20D002-CAL6

Data Path : D:\msdchem\1\2020\DATA\040120K_FSAA\
Data File : 040120K12.D
InstName : HP5973K
Acq On : 1 Apr 2020 9:31 pm
Operator : LLH
Sample : S20D002-CAL6
Misc : 20ppbv
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Apr 02 09:56:20 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:56:15 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	16.313	49	298225	19.60	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	18.223	114	930144	19.60	ppbv		0.00
43) CHLOROBENZENE-d5	23.084	117	876910	19.60	ppbv		0.00
Target Compounds							Qvalue
2) Propene	4.991	41	190282	22.10	ppbv		100
3) Dichlorodifluoromethane	5.095	85	486584	21.04	ppbv		100
4) 1,2-Dichlorotetrafluor...	5.484	85	535311	20.16	ppbv		99
5) Chloromethane	5.721	50	195085	21.93	ppbv		99
6) Vinyl chloride	6.068	62	246230	21.32	ppbv		100
7) 1,3-Butadiene	6.172	54	188278	20.58	ppbv		97
8) Bromomethane	7.236	94	172951	20.53	ppbv		100
9) Chloroethane	7.607	64	114710	20.42	ppbv		100
10) Bromoethene	8.252	106	179996	21.78	ppbv		99
11) Trichlorofluoromethane	8.380	101	419265	18.80	ppbv		100
12) 1,1,2-Trichloro-1,2,2-...	10.375	151	316376	19.71	ppbv		100
13) 1,1-Dichloroethene	10.503	61	295691	20.95	ppbv		99
14) Acetone	11.075	43	293400	21.07	ppbv		100
15) Carbon disulfide	11.197	76	556264	21.42	ppbv		99
16) 2-Propanol	11.586	45	309800	22.88	ppbv		99
17) Allyl chloride	11.963	41	274862	21.96	ppbv		99
18) Dichloromethane	12.480	49	217341	18.29	ppbv		99
19) tert-Butyl methyl ethe...	13.022	73	587705	21.37	ppbv		100
20) trans-1,2-Dichloroethene	13.113	61	283793	21.63	ppbv		100
21) Hexane	13.588	57	361381	20.31	ppbv		99
22) 1,1-Dichloroethane	14.391	63	343874	18.98	ppbv		100
23) Vinyl acetate	14.500	43	495405	22.71	ppbv		99
24) cis-1,2-Dichloroethene	15.778	61	264564	20.40	ppbv	#	100
25) 2-Butanone (MEK)	15.863	72	112474	21.11	ppbv	#	96
26) Ethyl acetate	15.863	61	66250	20.13	ppbv		98
27) Tetrahydrofuran	16.283	42	251455	20.24	ppbv		98
28) Chloroform	16.441	83	370922	20.62	ppbv		100
29) Cyclohexane	16.617	56	365035	20.43	ppbv		99
30) 1,1,1-Trichloroethane	16.702	97	371170	20.85	ppbv		99
31) Carbon tetrachloride	16.934	117	376508	20.48	ppbv		100
33) Benzene	17.438	78	631821	20.09	ppbv		100
34) 2,2,4-Trimethylpentane	17.311	57	1118236	20.30	ppbv		99
35) 1,2-Dichloroethane	17.657	62	240019	19.76	ppbv		100
36) Heptane	17.682	43	408438	20.44	ppbv		98
37) Trichloroethene	18.625	130	283918	21.44	ppbv		99
38) 1,2-Dichloropropane	19.142	63	236978	20.23	ppbv		99
39) 1,4-Dioxane	19.318	88	155346	21.03	ppbv		99
40) Bromodichloromethane	19.598	83	423378	20.88	ppbv		100
41) cis-1,3-Dichloropropene	20.346	75	376436	20.85	ppbv		99
42) 4-Methyl-2-pentanone (...	20.553	43	498511	21.46	ppbv		98
44) Toluene	20.803	91	777859	19.97	ppbv		100
45) trans-1,3-Dichloropropene	21.289	75	342965	19.65	ppbv		97
46) 1,1,2-Trichloroethane	21.600	97	258527	20.31	ppbv		99
47) Tetrachloroethene	21.642	166	406059	20.38	ppbv		100
48) 2-Hexanone	21.892	43	458759	20.83	ppbv		98
49) Chlorodibromomethane	22.208	129	465863	22.00	ppbv		100
50) 1,2-Dibromoethane (EDB)	22.445	107	388678	20.84	ppbv		99
51) Chlorobenzene	23.133	112	648034	20.25	ppbv		99
52) Ethylbenzene	23.200	91	1040045	20.39	ppbv		99
53) m&p-Xylene	23.382	91	1589007	41.00	ppbv		99
54) o-Xylene	24.033	91	804546	20.17	ppbv		100

Data Path : D:\msdchem\1\2020\DATA\040120K_FSAA\
Data File : 040120K12.D
InstName : HP5973K
Acq On : 1 Apr 2020 9:31 pm
Operator : LLH
Sample : S20D002-CAL6
Misc : 20ppbv
ALS Vial : 29 Sample Multiplier: 1

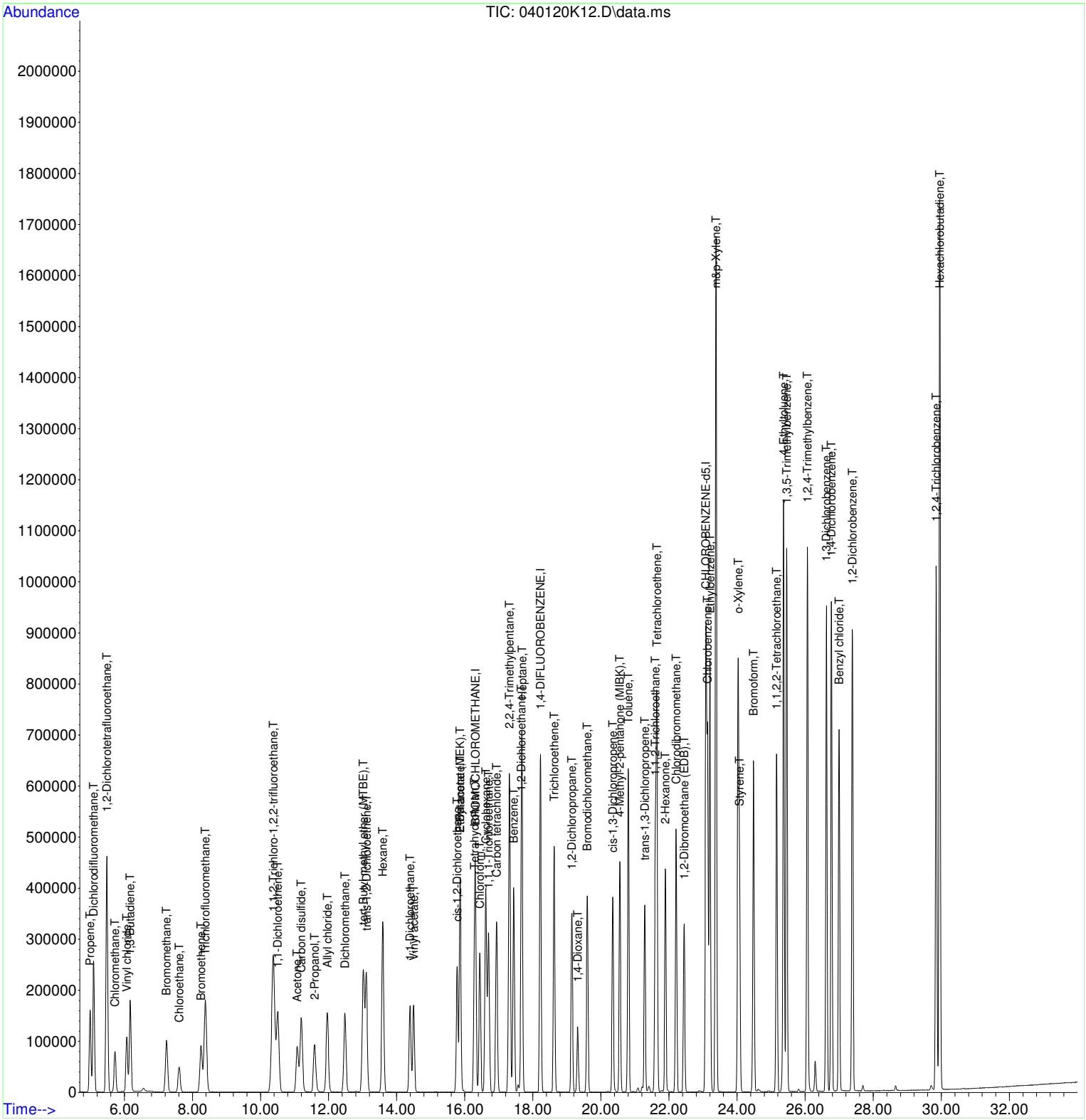
Quant Time: Apr 02 09:56:20 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:56:15 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55) Styrene	24.076	104	409226	20.16	ppbv	99
56) Bromoform	24.483	173	533634	23.48	ppbv	99
57) 1,1,2,2-Tetrachloroethane	25.159	83	585991	20.13	ppbv	100
58) 4-Ethyltoluene	25.365	105	1290613	20.72	ppbv	99
59) 1,3,5-Trimethylbenzene	25.457	105	973801	20.88	ppbv	99
60) 1,2,4-Trimethylbenzene	26.065	105	994956	21.12	ppbv	99
61) 1,3-Dichlorobenzene	26.625	146	729073	20.95	ppbv	100
62) 1,4-Dichlorobenzene	26.771	146	725315	20.94	ppbv	100
63) Benzyl chloride	26.996	91	909155	24.60	ppbv	99
64) 1,2-Dichlorobenzene	27.385	146	695249	20.44	ppbv	100
65) 1,2,4-Trichlorobenzene	29.849	180	620336	21.15	ppbv	100
66) Hexachlorobutadiene	29.952	225	634275	20.26	ppbv	100

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

Data Path : D:\msdchem\1\2020\DATA\040120K_FSAA\
Data File : 040120K12.D
InstName : HP5973K
Acq On : 1 Apr 2020 9:31 pm
Operator : LLH
Sample : S20D002-CAL6
Misc : 20ppbv
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Apr 02 09:56:20 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:56:15 2020
Response via : Initial Calibration



S20D002-SCV1

Data Path : D:\msdchem\1\2020\DATA\040120K_FSAA\
Data File : 040120K13.D
InstName : HP5973K
Acq On : 1 Apr 2020 10:24 pm
Operator : LLH
Sample : S20D002-SCV1
Misc : 10ppbv
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Apr 02 09:57:41 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	16.313	49	314982	19.60	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	18.223	114	965414	19.60	ppbv		0.00
43) CHLOROBENZENE-d5	23.084	117	886908	19.60	ppbv		0.00
Target Compounds							Qvalue
2) Propene	4.998	41	106022	11.54	ppbv		99
3) Dichlorodifluoromethane	5.101	85	275792	11.27	ppbv		100
4) 1,2-Dichlorotetrafluor...	5.484	85	287593	10.29	ppbv		94
5) Chloromethane	5.728	50	108258	11.44	ppbv		100
6) Vinyl chloride	6.074	62	135607	10.91	ppbv		99
7) 1,3-Butadiene	6.172	54	104701	10.62	ppbv		98
8) Bromomethane	7.242	94	100360	11.51	ppbv		99
9) Chloroethane	7.614	64	66458	11.34	ppbv		98
10) Bromoethene	8.252	106	102658	12.08	ppbv		100
11) Trichlorofluoromethane	8.380	101	243249	10.44	ppbv		100
12) 1,1,2-Trichloro-1,2,2-...	10.369	151	186238	11.30	ppbv		98
13) 1,1-Dichloroethene	10.509	61	168485	11.40	ppbv		99
14) Acetone	11.081	43	167117	11.38	ppbv		99
15) Carbon disulfide	11.203	76	328088	12.20	ppbv		99
16) 2-Propanol	11.586	45	170202	11.89	ppbv		99
17) Allyl chloride	11.963	41	153442	11.66	ppbv		98
18) Dichloromethane	12.480	49	125722	10.04	ppbv		99
19) tert-Butyl methyl ethe...	13.022	73	330533	11.57	ppbv		100
20) trans-1,2-Dichloroethene	13.107	61	148247	10.81	ppbv		99
21) Hexane	13.594	57	199776	10.75	ppbv		98
22) 1,1-Dichloroethane	14.397	63	201754	10.66	ppbv		100
23) Vinyl acetate	14.494	43	276341	12.02	ppbv		99
24) cis-1,2-Dichloroethene	15.778	61	160202	11.82	ppbv	#	99
25) 2-Butanone (MEK)	15.863	72	62900	11.38	ppbv	#	95
26) Ethyl acetate	15.869	61	37919	11.01	ppbv	#	92
27) Tetrahydrofuran	16.283	42	125395	9.56	ppbv		98
28) Chloroform	16.441	83	209891	11.17	ppbv		100
29) Cyclohexane	16.617	56	201376	10.77	ppbv		99
30) 1,1,1-Trichloroethane	16.696	97	196212	10.53	ppbv		99
31) Carbon tetrachloride	16.934	117	211501	10.93	ppbv		100
33) Benzene	17.439	78	361675	11.04	ppbv		100
34) 2,2,4-Trimethylpentane	17.311	57	624630	10.83	ppbv		99
35) 1,2-Dichloroethane	17.657	62	134901	10.51	ppbv		100
36) Heptane	17.682	43	227180	10.75	ppbv		98
37) Trichloroethene	18.625	130	157803	11.53	ppbv		99
38) 1,2-Dichloropropane	19.142	63	132844	10.83	ppbv		99
39) 1,4-Dioxane	19.318	88	85715	11.16	ppbv		99
40) Bromodichloromethane	19.598	83	224477	10.56	ppbv		100
41) cis-1,3-Dichloropropene	20.346	75	209180	11.08	ppbv		98
42) 4-Methyl-2-pentanone (...	20.553	43	272914	11.10	ppbv		99
44) Toluene	20.803	91	436399	11.12	ppbv		100
45) trans-1,3-Dichloropropene	21.289	75	187502	10.58	ppbv		98
46) 1,1,2-Trichloroethane	21.600	97	142542	11.10	ppbv		99
47) Tetrachloroethene	21.642	166	221800	11.09	ppbv		100
48) 2-Hexanone	21.892	43	244795	10.85	ppbv		98
49) Chlorodibromomethane	22.208	129	236908	11.03	ppbv		100
50) 1,2-Dibromoethane (EDB)	22.445	107	210610	11.21	ppbv		99
51) Chlorobenzene	23.133	112	352975	10.95	ppbv		100
52) Ethylbenzene	23.200	91	574945	11.14	ppbv		100
53) m&p-Xylene	23.382	91	865705	22.01	ppbv		100
54) o-Xylene	24.033	91	440821	10.91	ppbv		100

Data Path : D:\msdchem\1\2020\DATA\040120K_FSAA\
Data File : 040120K13.D
InstName : HP5973K
Acq On : 1 Apr 2020 10:24 pm
Operator : LLH
Sample : S20D002-SCV1
Misc : 10ppbv
ALS Vial : 38 Sample Multiplier: 1

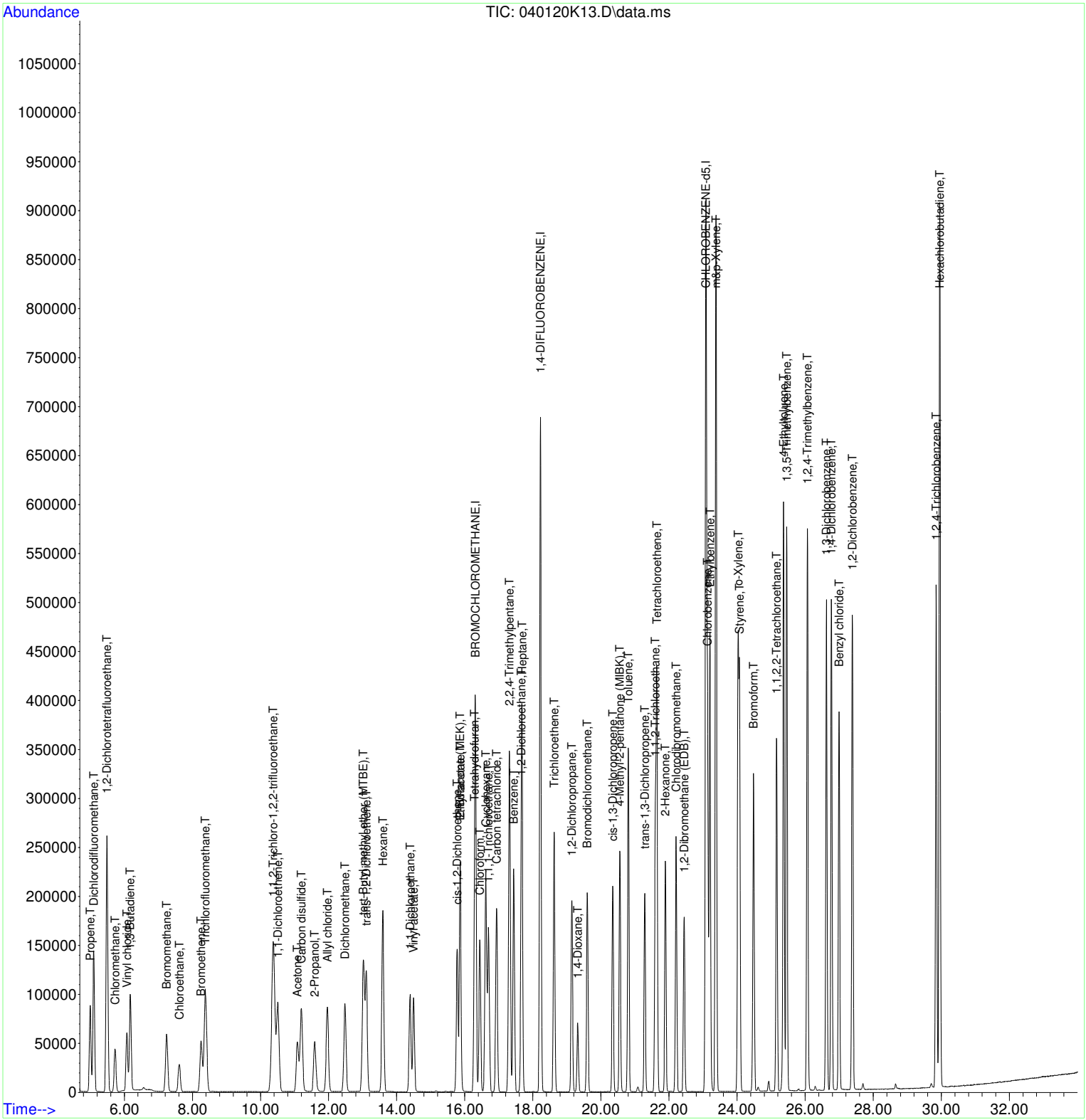
Quant Time: Apr 02 09:57:41 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
55) Styrene	24.076	104	369530	18.16 ppbv	93
56) Bromoform	24.483	173	270989	11.63 ppbv	99
57) 1,1,2,2-Tetrachloroethane	25.159	83	320809	10.85 ppbv	100
58) 4-Ethyltoluene	25.365	105	688269	10.92 ppbv	100
59) 1,3,5-Trimethylbenzene	25.457	105	528094	11.17 ppbv	100
60) 1,2,4-Trimethylbenzene	26.065	105	542520	11.36 ppbv	100
61) 1,3-Dichlorobenzene	26.625	146	381102	10.82 ppbv	100
62) 1,4-Dichlorobenzene	26.771	146	377095	10.75 ppbv	99
63) Benzyl chloride	26.996	91	495495	12.97 ppbv	99
64) 1,2-Dichlorobenzene	27.385	146	374728	10.87 ppbv	100
65) 1,2,4-Trichlorobenzene	29.849	180	308646	10.38 ppbv	100
66) Hexachlorobutadiene	29.952	225	331900	10.42 ppbv	99

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

Data Path : D:\msdchem\1\2020\DATA\040120K_FSAA\
Data File : 040120K13.D
InstName : HP5973K
Acq On : 1 Apr 2020 10:24 pm
Operator : LLH
Sample : S20D002-SCV1
Misc : 10ppbv
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Apr 02 09:57:41 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration



SEQUENCE

S20E003

Sequence Date: 05/07/2020

Instrument: HP5973K

Sequence Analyses:

VOCs, Soil Gas

ANALYST / REVIEWER - DATA REVIEW CHECKLIST

BATCH #:	B20E002	SEQUENCE #:	S20E003 05/07/20
BATCH #:	+ CAN CERTIFICATION	ANALYSIS:	TO15 HP5973K

	CHECKLIST ITEM	N/A	ANALYST Y/N	REVIEWER Y/N	IDENTIFY OUTLIERS / COMMENTS
DOCUMENTATION	ANALYST: Bench sheet(s) attached? REVIEWER: Bench sheet(s) reviewed?	☐	Y	Y	
	ANALYST: Sequence log(s) attached? REVIEWER: Sequence log(s) reviewed?	☐	Y	Y	
	ANALYST: Every run has a PDF in LIMS? REVIEWER: Every PDF reviewed?	☐	Y	Y	
INITIAL CALIBRATION	Date of Initial Calibration used: If applicable, note date of "Last Update" in Comments.	04/01/20 Thu Apr 02, 2020 09:57:00			
	Initial Calibration ID (LIMS number):	2004002 / S20D002			
	ICAL within QC criteria?	☑			OK
	SCV within QC criteria?	☑			2-Propanol = 140%; Styrene = 182%
INSTRUMENT / QC CHECKS	Tune or degradation checks within QC criteria?	☐	Y	Y	PASSED
	CCV(s) within QC criteria?	☐	Y	Y	OK
	QLS(s) within QC criteria?	☐	Y	Y	Benzyl Chloride and 1,2,4-TCB
	CB(s) or storage blank(s) within QC criteria?	☑			
	Other instrument checks within QC criteria? Specify if applicable.	☑			
BATCH QCs	Method blanks < 1/2 QL?	☐	Y	Y	CLEAN
	LCS(s) or SRM(s) within QC criteria?	☐	Y	Y	OK
	MSs/MSDs and/or DUPs within QC criteria?	☑			
	Other method-specific QCs within QC criteria? Specify if applicable.	☑			

ANALYST / REVIEWER - DATA REVIEW CHECKLIST

BATCH #:	B20E002	SEQUENCE #:	S20E003 05/07/20
BATCH #:	+ CAN CERTIFICATION	ANALYSIS:	TO15 HP5973K

	CHECKLIST ITEM	N/A	ANALYST Y/N	REVIEWER Y/N	IDENTIFY OUTLIERS / COMMENTS
IS / SS	Internal standards within QC criteria?	☐	Y	Y	
	Surrogates within QC criteria?	☑			
SAMPLE DATA	Were samples prepared & analyzed within holding time?	☐	Y	Y	
	If samples need to be re-run, were RE(s) made in LIMS?	☐	Y	Y	
	Do any samples need to be re-digested or re-extracted?	☑			
	Were all data qualifiers appropriately applied?	☐	Y	Y	
	Are problems, anomalies, discrepancies documented in LIMS? Specify if applicable.	☑			
MANUAL INT	Were manual integrations performed and documented? Specify if applicable.	☐	Y	Y	

APPROVALS	ANALYST INITIALS & DATE:	EM 05/08/20
	REVIEWED BY:	Rajabi, Ziyad Digitally signed by Rajabi, Ziyad Date: 2020.05.15 11:13:18 -07'00' SIGN HERE

COMMENTS

FORM #: Q015
REV #: 1

Injection Log

Directory: d:\MSDCHEM\1\2020\DATA\050720K_FSAA

Table of Contents

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	27	050720K01.D	1.	S20E003-TUN1	BFB 1901028	7 May 2020 10:32
2	29	050720K02.D	1.	S20E003-CCV1@B20E002-BS1	10ppbv 2014029@2014032	7 May 2020 11:23
3	27	050720K03.D	1.	S20E003-CRL1	1.0ppbv 2014026	7 May 2020 12:13
4	33	050720K04.D	1.	B20E002-BLK1	200ml BLANK	7 May 2020 13:05
5	11	050720K05.D	1.	CAN #16	200ml 6L SUB SLAB RECERTIFICATION	7 May 2020 13:58
6	11	050720K06.D	1.9	2005002-01	200ml 277 Fairchild-SGR13-5-050620	7 May 2020 14:50
7	39	050720K07.D	1.	S20E003-IBL1	200ml CAN #4698 RECERTIFICATION	7 May 2020 15:45
8	12	050720K08.D	2.25	2005002-02	200ml 277 Fairchild-SGR11-5-050620	7 May 2020 16:38
9	13	050720K09.D	2.01	2005002-03	200ml 277 Fairchild-SGR6-5-050620	7 May 2020 17:31
10	14	050720K10.D	1.9	2005002-04	200ml 277 Fairchild-SGR2-5-050620	7 May 2020 18:23
11	34	050720K11.D	1.	S20E003-IBL2	200ml 6L CAN #21 RECERTIFICATION	7 May 2020 19:16
12	15	050720K12.D	1.94	2005002-05	200ml 277 Fairchild-SGR7-5-050620	7 May 2020 20:09
13	16	050720K13.D	2.	2005002-06	200ml 277 Fairchild-SGR8-5-050620	7 May 2020 21:01
14	17	050720K14.D	1.92	2005002-07	200ml 277 Fairchild-F23-RR1-PP	7 May 2020 21:54
15	18	050720K15.D	2.26	2005002-08	200ml 272 Ariana-MH-SS-050620	7 May 2020 22:47
16	12	050720K16.D	1.	S20E003-IBL3	200ml 6L CAN #22 RECERTIFICATION	7 May 2020 23:39
17	10	050720K17.D	1.98	2005002-09	200ml 277 Fairchild-F23-SC-PP	8 May 2020 00:32
18	11	050720K18.D	2.08	2005002-10	200ml 251 Ariana-MH-SS-050620	8 May 2020 01:25
19	12	050720K19.D	1.95	2005002-11	200ml 241 Ariana-MH-SS-050620	8 May 2020 02:18
20	21	050720K20.D	1.99	2005002-12	200ml 261 Ariana-MH-SS-050620	8 May 2020 03:10
21	21	050720K21.D	1.99	B20E002-DUP1	200ml 261 Ariana-MH-SS-050620 DUP	8 May 2020 04:07
22	31	050720K22.D	1.	S20E003-IBL4	200ml 6L CAN #25 RECERTIFICATION	8 May 2020 05:00
23	35	050720K23.D	1.	CAN #26	200ml 6L SCAN RECERTIFICATION	8 May 2020 05:52
24	36	050720K24.D	1.	CAN #27	200ml 6L SCAN RECERTIFICATION	8 May 2020 06:45
25	37	050720K25.D	1.	CAN #28	200ml 6L SCAN RECERTIFICATION	8 May 2020 07:38
26	38	050720K26.D	1.	CAN #39	200ml 6L SCAN RECERTIFICATION	8 May 2020 08:31
27	32	050720K27.D	1.	CAN #446	200ml 6L SCAN RECERTIFICATION	8 May 2020 09:23

GC/MS QA-QC Check Report

Table of Contents

Tune File : D:\msdchem\1\2020\DATA\050720K_FSAA\050720K01.D
Tune Time : 7 May 2020 10:32 am

Daily Calibration File : D:\msdchem\1\2020\DATA\050720K_FSAA\050720K02.D

File	Sample	Surrogate Recovery %		Internal Standard Responses	
		241717	763624	718761	
050720K02.D	S20E003-CCV1	241717	763624	718761	
050720K03.D	S20E003-CRL1	245506	786858	708207	
050720K04.D	B20E002-BLK1	245808	784436	696250	
050720K05.D	CAN #16	239939	763161	682287	
050720K06.D	2005002-01	244499	763666	690473	
050720K07.D	S20E003-IB	229407	729548	651917	
050720K08.D	2005002-02	232132	732172	662078	
050720K09.D	2005002-03	238189	751754	673608	
050720K10.D	2005002-04	242400	765149	689223	
050720K11.D	S20E003-IBL1	241786	763802	682760	CAN #4698
050720K12.D	2005002-05	240573	754625	679241	
050720K13.D	2005002-06	244265	765082	689224	
050720K14.D	2005002-07	257190	786085	704598	
050720K15.D	2005002-08	255622	785492	712902	
050720K16.D	S20E003-IBL2	251202	788517	702343	
050720K17.D	2005002-09	251842	782629	707491	
050720K18.D	2005002-10	259724	802872	730433	
050720K19.D	2005002-11	275401	848132	762595	
050720K20.D	2005002-12	272890	831902	747339	
050720K21.D	B20E002-DUP1	273510	844429	761572	
050720K22.D	S20E003-IBL3	275240	857832	757005	
050720K23.D	CAN #26	261013	813415	720727	

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-----------------------------------------------------------------------------
050720K24.D
         CAN #27             255097     799129     708477
-----------------------------------------------------------------------------
050720K25.D
         CAN #28             247960     778579     692607
-----------------------------------------------------------------------------
050720K26.D
         CAN #39             245442     763036     682578
-----------------------------------------------------------------------------
050720K27.D
         CAN #446            243373     755922     676873
-----------------------------------------------------------------------------
(fails) - fails 24hr time check   * - fails criteria

    Created: Fri May 08 10:53:23 2020  HP5973K
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Sequence Report

Name	Inlet	Pos.	Int Std	Cal Std	Sampl	Method	Inject	Status
BFB	Two	T7	40	40	50	TO-15_A.CTD3	5/7/2020 10:32:45 AM	Completed
CCV	Two	T9	40	0	100	TO-15_A.CTD3	5/7/2020 11:23:28 AM	Completed
CRL	Two	T7	40	0	20	TO-15_A.CTD3	5/7/2020 12:13:05 PM	Completed
BLANK	Three	T3	40	0	200	TO-15_A.CTD3	5/7/2020 1:05:40 PM	Completed
CAN #16	Three	T11	40	0	200	TO-15_A.CTD3	5/7/2020 1:58:12 PM	Completed
2005002-01	One	T1	40	0	200	TO-15_A.CTD3	5/7/2020 2:50:46 PM	Completed
CAN #4698	Three	T9	40	0	200	TO-15_A.CTD3	5/7/2020 3:45:46 PM	Completed
2005002-02	One	T2	40	0	200	TO-15_A.CTD3	5/7/2020 4:38:31 PM	Completed
2005002-03	One	T3	40	0	200	TO-15_A.CTD3	5/7/2020 5:31:01 PM	Completed
2005002-04	One	T4	40	0	200	TO-15_A.CTD3	5/7/2020 6:23:43 PM	Completed
CAN #21	Three	T4	40	0	200	TO-15_A.CTD3	5/7/2020 7:16:23 PM	Completed
2005002-05	One	T5	40	0	200	TO-15_A.CTD3	5/7/2020 8:09:09 PM	Completed
2005002-06	One	T6	40	0	200	TO-15_A.CTD3	5/7/2020 9:01:45 PM	Completed
2005002-07	One	T7	40	0	200	TO-15_A.CTD3	5/7/2020 9:54:32 PM	Completed
2005002-08	One	T8	40	0	200	TO-15_A.CTD3	5/7/2020 10:47:11 PM	Completed
CAN #22	Three	T12	40	0	200	TO-15_A.CTD3	5/7/2020 11:39:58 PM	Completed
2005002-09	One	T10	40	0	200	TO-15_A.CTD3	5/8/2020 12:32:38 AM	Completed
2005002-10	One	T11	40	0	200	TO-15_A.CTD3	5/8/2020 1:25:19 AM	Completed
2005002-11	One	T12	40	0	200	TO-15_A.CTD3	5/8/2020 2:18:03 AM	Completed
2005002-12	Two	T1	40	0	200	TO-15_A.CTD3	5/8/2020 3:10:50 AM	Completed
2005002-12DUP	Two	T1	40	0	200	TO-15_A.CTD3	5/8/2020 4:07:21 AM	Completed
CAN #25	Three	T1	40	0	200	TO-15_A.CTD3	5/8/2020 5:00:00 AM	Completed
CAN #26	Three	T5	40	0	200	TO-15_A.CTD3	5/8/2020 5:52:43 AM	Completed
CAN #27	Three	T6	40	0	200	TO-15_A.CTD3	5/8/2020 6:45:25 AM	Completed
CAN #38	Three	T7	40	0	200	TO-15_A.CTD3	5/8/2020 7:38:18 AM	Completed
CAN #39	Three	T8	40	0	200	TO-15_A.CTD3	5/8/2020 8:31:03 AM	Completed
CAN #446	Three	T2	40	0	200	TO-15_A.CTD3	5/8/2020 9:23:46 AM	Completed

Analysis Sequence

S20E003

Project: R20S18
Analysis: VOCs, Soil Gas

Instrument: HP5973K **Calibration ID:** 2004002 Printed: 05/08/2020 12:12 pm

Lab Number	Sample Name	Order	Analyzed Date	STD ID	ISTD ID	Sequenced By	File ID	Comments
S20E003-TUN1	BFB Tune	1	5/7/20 10:32	1901028		EM	050720K01.D	
S20E003-CCV1	CCV - TO15	2	5/7/20 11:23	2018025		EM	050720K02.D	
B20E002-BS1	LCS	3						
S20E003-CRL1	QLS - TO15	4	5/7/20 12:13	2018024		EM	050720K03.D	
B20E002-BLK1	Blank	5	5/7/20 13:05		2006146	EM	050720K04.D	
2005002-01 A	277 Fairchild-SGR13-5-050620	6	5/7/20 14:50		2006146	EM	050720K06.D	
S20E003-IBL1	Instrument Blank	7	5/7/20 15:45		2006146	EM	050720K07.D	
2005002-02 A	277 Fairchild-SGR11-5-050620	8	5/7/20 16:38		2006146	EM	050720K08.D	
2005002-03 A	277 Fairchild-SGR6-5-050620	9	5/7/20 17:31		2006146	EM	050720K09.D	
2005002-04 A	277 Fairchild-SGR2-5-050620	10	5/7/20 18:23		2006146	EM	050720K10.D	
S20E003-IBL2	Instrument Blank	11	5/7/20 19:16		2006146	EM	050720K11.D	
2005002-05 A	277 Fairchild-SGR7-5-050620	12	5/7/20 20:09		2006146	EM	050720K12.D	
2005002-06 A	277 Fairchild-SGR8-5-050620	13	5/7/20 21:01		2006146	EM	050720K13.D	
2005002-07 A	277 Fairchild-F23-RR1-PP	14	5/7/20 21:54		2006146	EM	050720K14.D	
2005002-08 A	272 Ariana-MH-SS-050620	15	5/7/20 22:47		2006146	EM	050720K15.D	
S20E003-IBL3	Instrument Blank	16	5/7/20 23:39		2006146	EM	050720K16.D	
2005002-09 A	277 Fairchild-F23-SC-PP	17	5/8/20 0:32		2006146	EM	050720K17.D	
2005002-10 A	251 Ariana-MH-SS-050620	18	5/8/20 1:25		2006146	EM	050720K18.D	
2005002-11 A	241 Ariana-MH-SS-050620	19	5/8/20 2:18		2006146	EM	050720K19.D	
2005002-12 A	261 Fairchild-MH-SS-050620	20	5/8/20 3:10		2006146	EM	050720K20.D	
B20E002-DUP1	Duplicate	21	5/8/20 4:07		2006146	EM	050720K21.D	
S20E003-IBL4	Instrument Blank	22	5/8/20 5:00		2006146	EM	050720K22.D	

Analysis Sequence

S20E003

(Continued)

Project: R20S18
Analysis: VOCs, Soil Gas

Instrument: HP5973K **Calibration ID:** 2004002 Printed: 05/08/2020 12:12 pm

Lab Number	Sample Name	Order	Analyzed Date	STD ID	ISTD ID	Sequenced By	File ID	Comments

Sequence Comments

Reagents

Reagent #	Description

Analysis Sequence

S20E003

Project: R20S18
Analysis: VOCs, Soil Gas

Instrument: HP5973K **Calibration ID:** 2004002 Printed: 05/08/2020 12:20 pm

Lab Number	Sample Name	Order	Analyzed Date	STD ID	ISTD ID	Sequenced By	File ID	Comments
S20E003-TUN1	BFB Tune	1	5/7/20 10:32	1901028		EM	050720K01.D	
S20E003-CCV1	CCV - TO15	2	5/7/20 11:23	2018025		EM	050720K02.D	
B20E002-BS1	LCS	3	5/7/20 11:23			EM	050720K02.D	
S20E003-CRL1	QLS - TO15	4	5/7/20 12:13	2018024		EM	050720K03.D	
B20E002-BLK1	Blank	5	5/7/20 13:05		2006146	EM	050720K04.D	
2005002-01 A	277 Fairchild-SGR13-5-050620	6	5/7/20 14:50		2006146	EM	050720K06.D	
S20E003-IBL1	Instrument Blank	7	5/7/20 15:45		2006146	EM	050720K07.D	
2005002-02 A	277 Fairchild-SGR11-5-050620	8	5/7/20 16:38		2006146	EM	050720K08.D	
2005002-03 A	277 Fairchild-SGR6-5-050620	9	5/7/20 17:31		2006146	EM	050720K09.D	
2005002-04 A	277 Fairchild-SGR2-5-050620	10	5/7/20 18:23		2006146	EM	050720K10.D	
S20E003-IBL2	Instrument Blank	11	5/7/20 19:16		2006146	EM	050720K11.D	
2005002-05 A	277 Fairchild-SGR7-5-050620	12	5/7/20 20:09		2006146	EM	050720K12.D	
2005002-06 A	277 Fairchild-SGR8-5-050620	13	5/7/20 21:01		2006146	EM	050720K13.D	
2005002-07 A	277 Fairchild-F23-RR1-PP	14	5/7/20 21:54		2006146	EM	050720K14.D	
2005002-08 A	272 Ariana-MH-SS-050620	15	5/7/20 22:47		2006146	EM	050720K15.D	
S20E003-IBL3	Instrument Blank	16	5/7/20 23:39		2006146	EM	050720K16.D	
2005002-09 A	277 Fairchild-F23-SC-PP	17	5/8/20 0:32		2006146	EM	050720K17.D	
2005002-10 A	251 Ariana-MH-SS-050620	18	5/8/20 1:25		2006146	EM	050720K18.D	
2005002-11 A	241 Ariana-MH-SS-050620	19	5/8/20 2:18		2006146	EM	050720K19.D	
2005002-12 A	261 Fairchild-MH-SS-050620	20	5/8/20 3:10		2006146	EM	050720K20.D	
B20E002-DUP1	Duplicate	21	5/8/20 4:07		2006146	EM	050720K21.D	
S20E003-IBL4	Instrument Blank	22	5/8/20 5:00		2006146	EM	050720K22.D	

Analysis Sequence

S20E003

(Continued)

Project: R20S18
Analysis: VOCs, Soil Gas

Instrument: HP5973K **Calibration ID:** 2004002 Printed: 05/08/2020 12:20 pm

Lab Number	Sample Name	Order	Analyzed Date	STD ID	ISTD ID	Sequenced By	File ID	Comments

Sequence Comments

Reagents

Reagent #	Description

SEQUENCE DATA

S20E003

S20E003-TUN1

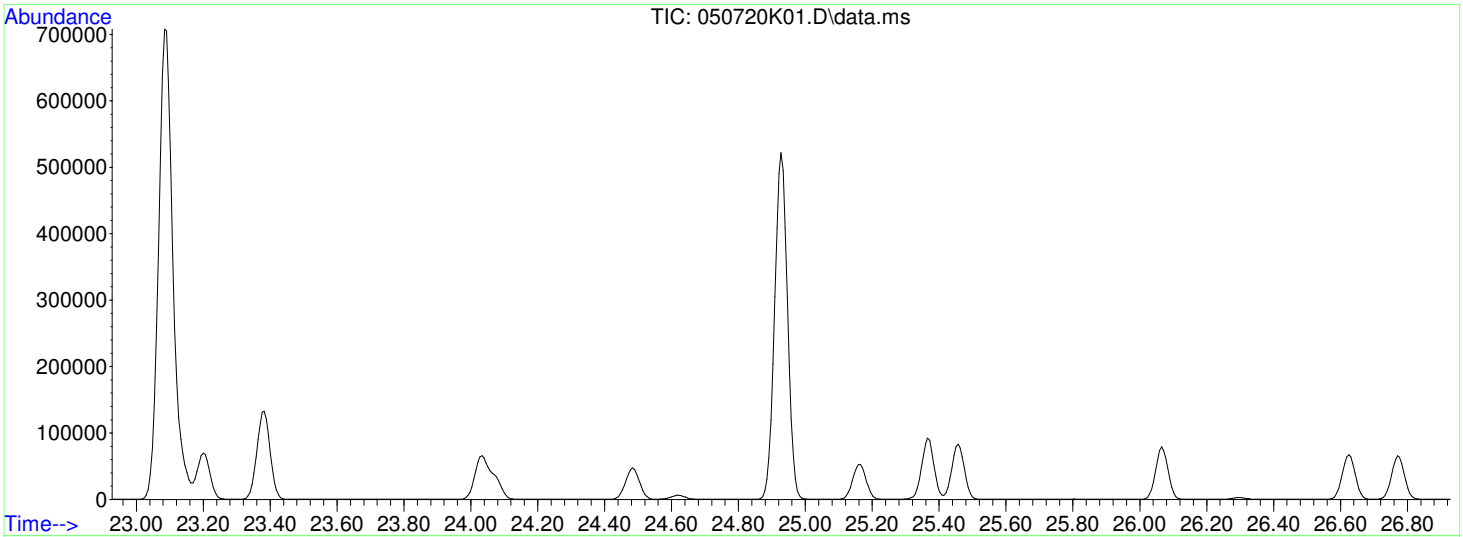
Table of Contents

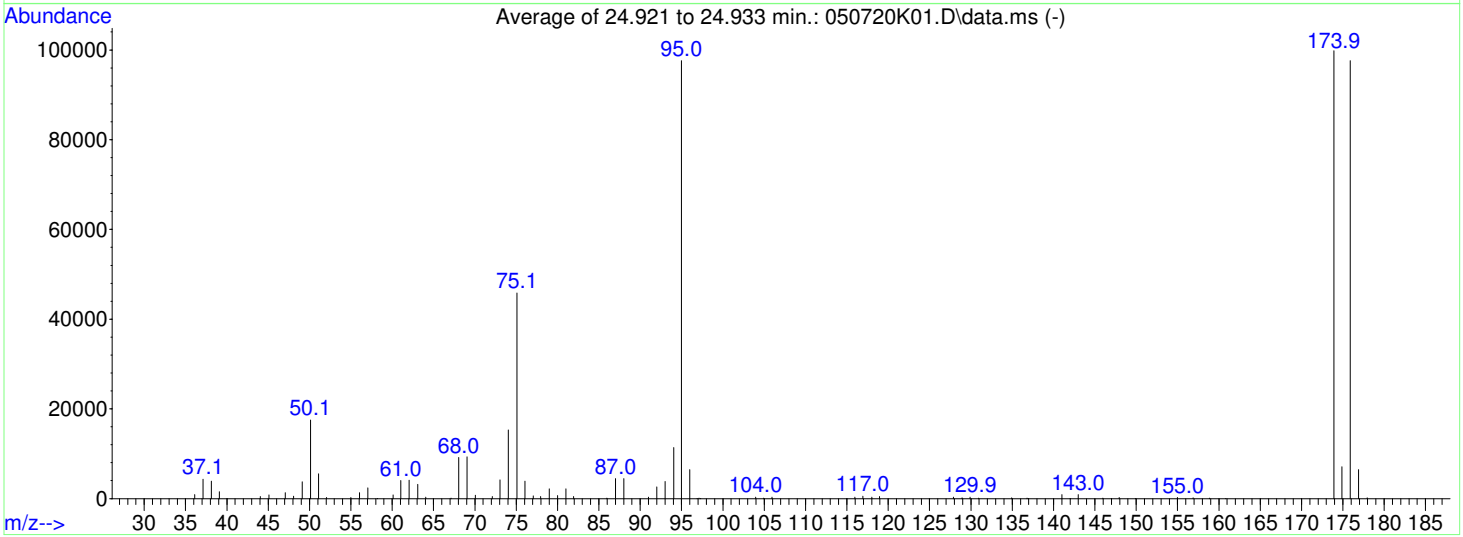
Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K01.D
InstName : HP5973K
Acq On : 7 May 2020 10:32 am
Operator : EM
Sample : S20E003-TUN1
Misc : BFB 1901028
ALS Vial : 27 Sample Multiplier: 1

REVIEWED
By EM at 2:58 pm, May 07, 2020

Integration File: lscint.p

Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Title : TO15
Last Update : Thu Apr 02 09:57:00 2020



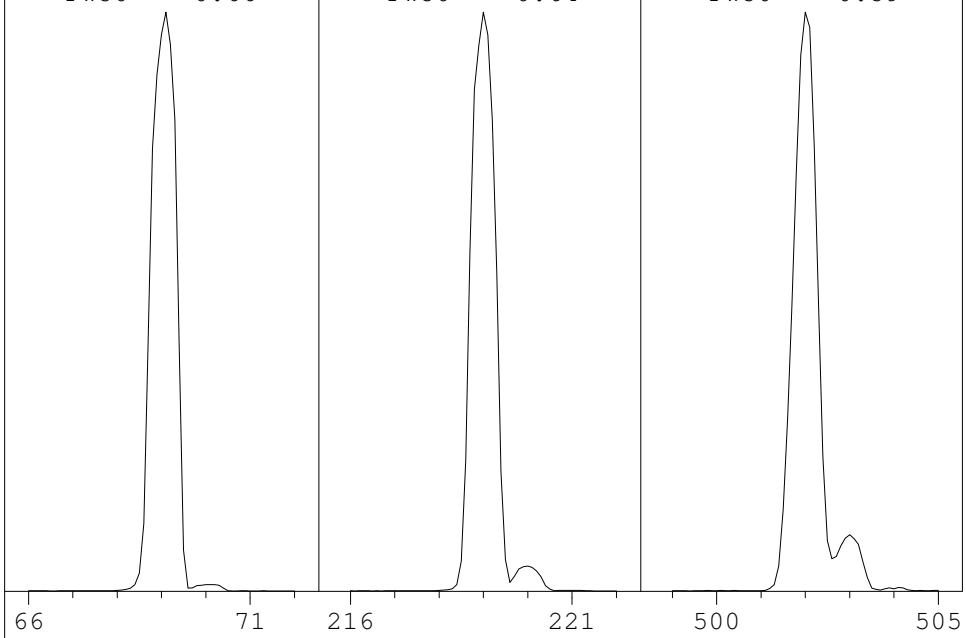


AutoFind: Scans 3327, 3328, 3329; Background Corrected with Scan 3312

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.9	17509	PASS
75	95	30	66	46.9	45837	PASS
95	95	100	100	100.0	97651	PASS
96	95	5	9	6.6	6473	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	102.3	99859	PASS
175	174	4	9	7.1	7066	PASS
176	174	93	101	97.7	97605	PASS
177	176	5	9	6.6	6462	PASS

Thu May 07 09:50:45 2020 Instrum
C:\msdchem\1\5973N\bfb050720K.U US03960556

Mass	69.10	Mass	219.00	Mass	502.00
Ab	877316	Ab	531535	Ab	52234
Pw50	0.66	Pw50	0.64	Pw50	0.59

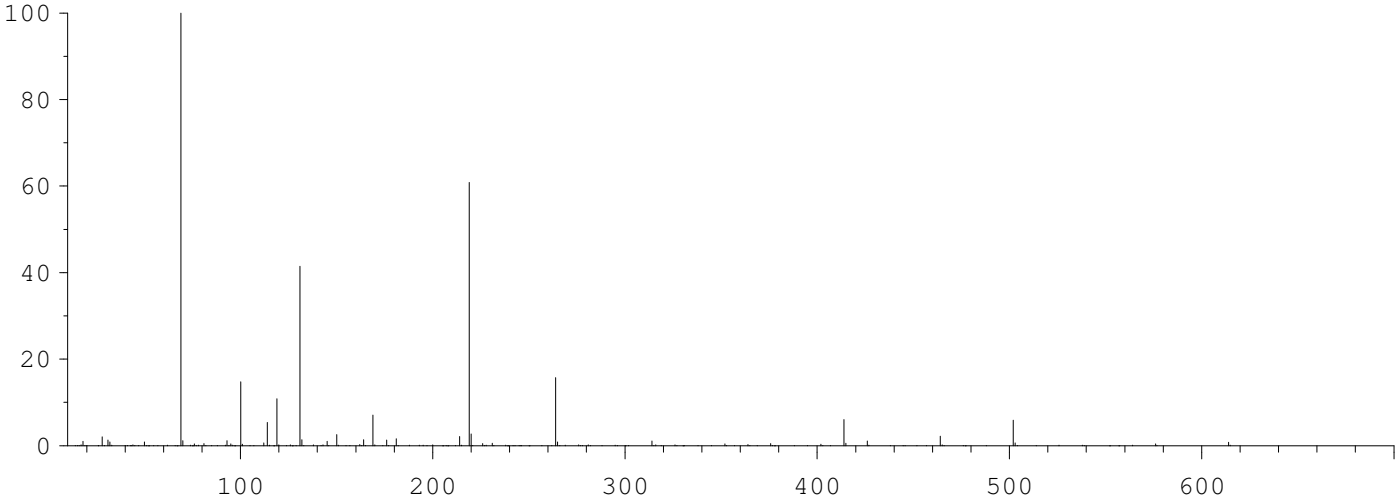


Ion Pol	Pos	MassGain	72
		MassOffs	-8
Emission	34.6	AmuGain	1990
EIEnrgy	69.9	AmuOffs	129
Filament	2	Wid219	-0.031
		DC Pol	Pos
Repeller	32.13		
IonFcus	90.2	HEDEnab	On
EntLens	19.0	EMVolts	1165
EntOffs	19.83		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	Turbo Speed	100
MS Quad	150		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
179 peaks Base: 69.10 Abundance: 805568



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.10	805568	100.00	70.00	9120	1.13
219.00	489920	60.82	220.00	21728	4.44
502.00	47448	5.89	503.00	5009	10.56

Air/Water Check: H20~1.01% N2~2.08% O2~0.89% CO2~0.23% N2/H2O~204.95%

Column(1) Flow: 0.873 Column(2): 0 ml/min. Interface Temp: 230

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502; EM Gain 133855
Repeller Maximum 35 volts using ion 219; Gain Factor 1.34

MassGain Values(Samples): 72(3) 72(2) 72(1) 72(0) 72(FS)

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	129.0	129.0	129.0	129.0	129.0	129.0	129.0
Entrance Lens Offset:	19.8	19.8	19.8	19.8	19.8	19.8	19.8

S20E003-CCV1

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K02.D
InstName : HP5973K
Acq On : 7 May 2020 11:23 am
Operator : EM
Sample : S20E003-CCV1@B20E002-BS1
Misc : 10ppbv 2014029@2014032
ALS Vial : 29 Sample Multiplier: 1

REVIEWED
By EM at 2:58 pm, May 07, 2020

Quant Time: May 07 14:58:44 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	83	0.00
2	T	Propene	0.571	0.519	9.1	78	0.00
3	T	Dichlorodifluoromethane	1.523	1.478	3.0	83	0.00
4	T	1,2-Dichlorotetrafluoroetha	1.739	1.673	3.8	82	0.00
5	T	Chloromethane	0.589	0.543	7.8	79	0.00
6	T	Vinyl chloride	0.774	0.764	1.3	84	0.00
7	T	1,3-Butadiene	0.613	0.593	3.3	83	0.00
8	T	Bromomethane	0.542	0.520	4.1	83	0.00
9	T	Chloroethane	0.365	0.343	6.0	82	0.00
10	T	Bromoethene	0.529	0.499	5.7	82	0.00
11	T	Trichlorofluoromethane	1.450	1.421	2.0	84	0.01
12	T	1,1,2-Trichloro-1,2,2-trifl	1.026	1.023	0.3	86	0.00
13	T	1,1-Dichloroethene	0.920	0.864	6.1	80	0.00
14	T	Acetone	0.914	0.830	9.2	80	0.00
15	T	Carbon disulfide	1.674	1.590	5.0	83	0.00
16	T	2-Propanol	0.891	0.837	6.1	80	0.01
17	T	Allyl chloride	0.819	0.750	8.4	79	0.01
18	T	Dichloromethane	0.779	0.693	11.0	82	0.00
19	T	tert-Butyl methyl ether (MT	1.777	1.655	6.9	81	0.00
20	T	trans-1,2-Dichloroethene	0.854	0.799	6.4	81	0.00
21	T	Hexane	1.156	1.084	6.2	80	0.00
22	T	1,1-Dichloroethane	1.178	1.118	5.1	82	0.00
23	T	Vinyl acetate	1.431	1.360	5.0	80	0.00
24	T	cis-1,2-Dichloroethene	0.843	0.808	4.2	81	0.00
25	T	2-Butanone (MEK)	0.344	0.329	4.4	81	0.00
26	T	Ethyl acetate	0.214	0.187	12.6	76	0.00
27	T	Tetrahydrofuran	0.816	0.777	4.8	81	0.00
28	T	Chloroform	1.169	1.140	2.5	84	0.00
29	T	Cyclohexane	1.164	1.094	6.0	81	0.00
30	T	1,1,1-Trichloroethane	1.159	1.158	0.1	85	0.00
31	T	Carbon tetrachloride	1.204	1.204	0.0	85	0.00
32	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	88	0.00
33	T	Benzene	0.665	0.628	5.6	84	0.00
34	T	2,2,4-Trimethylpentane	1.171	1.071	8.5	81	0.00
35	T	1,2-Dichloroethane	0.261	0.246	5.7	83	0.00
36	T	Heptane	0.429	0.392	8.6	81	0.00
37	T	Trichloroethene	0.278	0.270	2.9	86	0.00
38	T	1,2-Dichloropropane	0.249	0.231	7.2	82	0.00
39	T	1,4-Dioxane	0.156	0.142	9.0	80	0.00
40	T	Bromodichloromethane	0.431	0.409	5.1	84	0.00
41	T	cis-1,3-Dichloropropene	0.383	0.356	7.0	80	0.00
42	T	4-Methyl-2-pentanone (MIBK)	0.499	0.479	4.0	83	0.00
43	I	CHLOROBENZENE-d5	1.000	1.000	0.0	89	0.00
44	T	Toluene	0.867	0.816	5.9	85	0.00
45	T	trans-1,3-Dichloropropene	0.392	0.355	9.4	80	0.00
46	T	1,1,2-Trichloroethane	0.284	0.267	6.0	84	0.00
47	T	Tetrachloroethene	0.442	0.432	2.3	88	0.00
48	T	2-Hexanone	0.499	0.480	3.8	84	0.00
49	T	Chlorodibromomethane	0.475	0.455	4.2	86	0.00
50	T	1,2-Dibromoethane (EDB)	0.415	0.386	7.0	83	0.00
51	T	Chlorobenzene	0.712	0.674	5.3	85	0.00

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K02.D
InstName : HP5973K
Acq On : 7 May 2020 11:23 am
Operator : EM
Sample : S20E003-CCV1@B20E002-BS1
Misc : 10ppbv 2014029@2014032
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 07 14:58:44 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
52	T	Ethylbenzene	1.140	1.076	5.6	85	0.00
53	T	m&p-Xylene	0.869	0.833	4.1	85	0.00
54	T	o-Xylene	0.893	0.857	4.0	85	0.00
55	T	Styrene	0.450	0.424	5.8	82	0.00
56	T	Bromoform	0.515	0.513	0.4	87	0.00
57	T	1,1,2,2-Tetrachloroethane	0.654	0.623	4.7	84	0.00
58	T	4-Ethyltoluene	1.393	1.335	4.2	84	0.00
59	T	1,3,5-Trimethylbenzene	1.045	1.044	0.1	87	0.00
60	T	1,2,4-Trimethylbenzene	1.055	1.050	0.5	86	0.00
61	T	1,3-Dichlorobenzene	0.778	0.753	3.2	84	0.00
62	T	1,4-Dichlorobenzene	0.775	0.733	5.4	81	0.00
63	T	Benzyl chloride	0.845	0.768	9.1	75	0.00
64	T	1,2-Dichlorobenzene	0.762	0.749	1.7	85	0.00
65	T	1,2,4-Trichlorobenzene	0.657	0.561	14.6	71	0.00
66	T	Hexachlorobutadiene	0.704	0.651	7.5	80	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K02.D
InstName : HP5973K
Acq On : 7 May 2020 11:23 am
Operator : EM
Sample : S20E003-CCV1@B20E002-BS1
Misc : 10ppbv 2014029@2014032
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 07 14:58:44 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	16.313	49	241717	19.60	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	18.223	114	763624	19.60	ppbv		0.00
43) CHLOROBENZENE-d5	23.090	117	718761	19.60	ppbv		0.00
Target Compounds							Qvalue
2) Propene	4.998	41	70364	9.98	ppbv		100
3) Dichlorodifluoromethane	5.101	85	185936	9.90	ppbv		100
4) 1,2-Dichlorotetrafluor...	5.490	85	200128	9.33	ppbv		99
5) Chloromethane	5.728	50	72346	9.97	ppbv		99
6) Vinyl chloride	6.074	62	98030	10.27	ppbv		99
7) 1,3-Butadiene	6.172	54	75351	9.96	ppbv		99
8) Bromomethane	7.236	94	65406	9.78	ppbv		99
9) Chloroethane	7.614	64	43123	9.59	ppbv		99
10) Bromoethene	8.258	106	67080	10.28	ppbv		100
11) Trichlorofluoromethane	8.386	101	164718	9.21	ppbv		100
12) 1,1,2-Trichloro-1,2,2-...	10.375	151	126113	9.97	ppbv		97
13) 1,1-Dichloroethene	10.515	61	110759	9.76	ppbv		99
14) Acetone	11.087	43	110600	9.82	ppbv		100
15) Carbon disulfide	11.203	76	215693	10.45	ppbv		100
16) 2-Propanol	11.598	45	113562	10.34	ppbv		97
17) Allyl chloride	11.969	41	101762	10.07	ppbv		99
18) Dichloromethane	12.486	49	85477	8.90	ppbv		99
19) tert-Butyl methyl ethe...	13.028	73	218399	9.96	ppbv		100
20) trans-1,2-Dichloroethene	13.113	61	107392	10.20	ppbv		98
21) Hexane	13.594	57	136409	9.57	ppbv		100
22) 1,1-Dichloroethane	14.397	63	132393	9.11	ppbv		100
23) Vinyl acetate	14.500	43	184466	10.45	ppbv		100
24) cis-1,2-Dichloroethene	15.778	61	100695	9.68	ppbv	#	99
25) 2-Butanone (MEK)	15.863	72	42630	10.05	ppbv		99
26) Ethyl acetate	15.869	61	23799	9.00	ppbv	#	84
27) Tetrahydrofuran	16.289	42	96802	9.61	ppbv		99
28) Chloroform	16.447	83	146233	10.14	ppbv		99
29) Cyclohexane	16.617	56	138907	9.68	ppbv		98
30) 1,1,1-Trichloroethane	16.702	97	148502	10.39	ppbv		99
31) Carbon tetrachloride	16.940	117	149939	10.10	ppbv		99
33) Benzene	17.439	78	249636	9.63	ppbv		100
34) 2,2,4-Trimethylpentane	17.317	57	429785	9.42	ppbv		100
35) 1,2-Dichloroethane	17.664	62	94701	9.33	ppbv		99
36) Heptane	17.682	43	157410	9.42	ppbv		98
37) Trichloroethene	18.631	130	113807	10.52	ppbv		98
38) 1,2-Dichloropropane	19.148	63	91094	9.39	ppbv		99
39) 1,4-Dioxane	19.324	88	57359	9.44	ppbv		99
40) Bromodichloromethane	19.598	83	165868	9.87	ppbv		100
41) cis-1,3-Dichloropropene	20.353	75	138723	9.29	ppbv		100
42) 4-Methyl-2-pentanone (...	20.559	43	195939	10.08	ppbv		99
44) Toluene	20.809	91	305115	9.59	ppbv		99
45) trans-1,3-Dichloropropene	21.289	75	125064	8.71	ppbv		99
46) 1,1,2-Trichloroethane	21.600	97	99783	9.59	ppbv		100
47) Tetrachloroethene	21.642	166	161422	9.96	ppbv		99
48) 2-Hexanone	21.898	43	181456	9.92	ppbv		100
49) Chlorodibromomethane	22.208	129	181818	10.45	ppbv		100
50) 1,2-Dibromoethane (EDB)	22.445	107	147166	9.66	ppbv		99
51) Chlorobenzene	23.133	112	254661	9.75	ppbv		99
52) Ethylbenzene	23.206	91	406263	9.71	ppbv		99
53) m&p-Xylene	23.382	91	623395	19.56	ppbv		99
54) o-Xylene	24.033	91	314385	9.60	ppbv		100

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K02.D
InstName : HP5973K
Acq On : 7 May 2020 11:23 am
Operator : EM
Sample : S20E003-CCV1@B20E002-BS1
Misc : 10ppbv 2014029@2014032
ALS Vial : 29 Sample Multiplier: 1

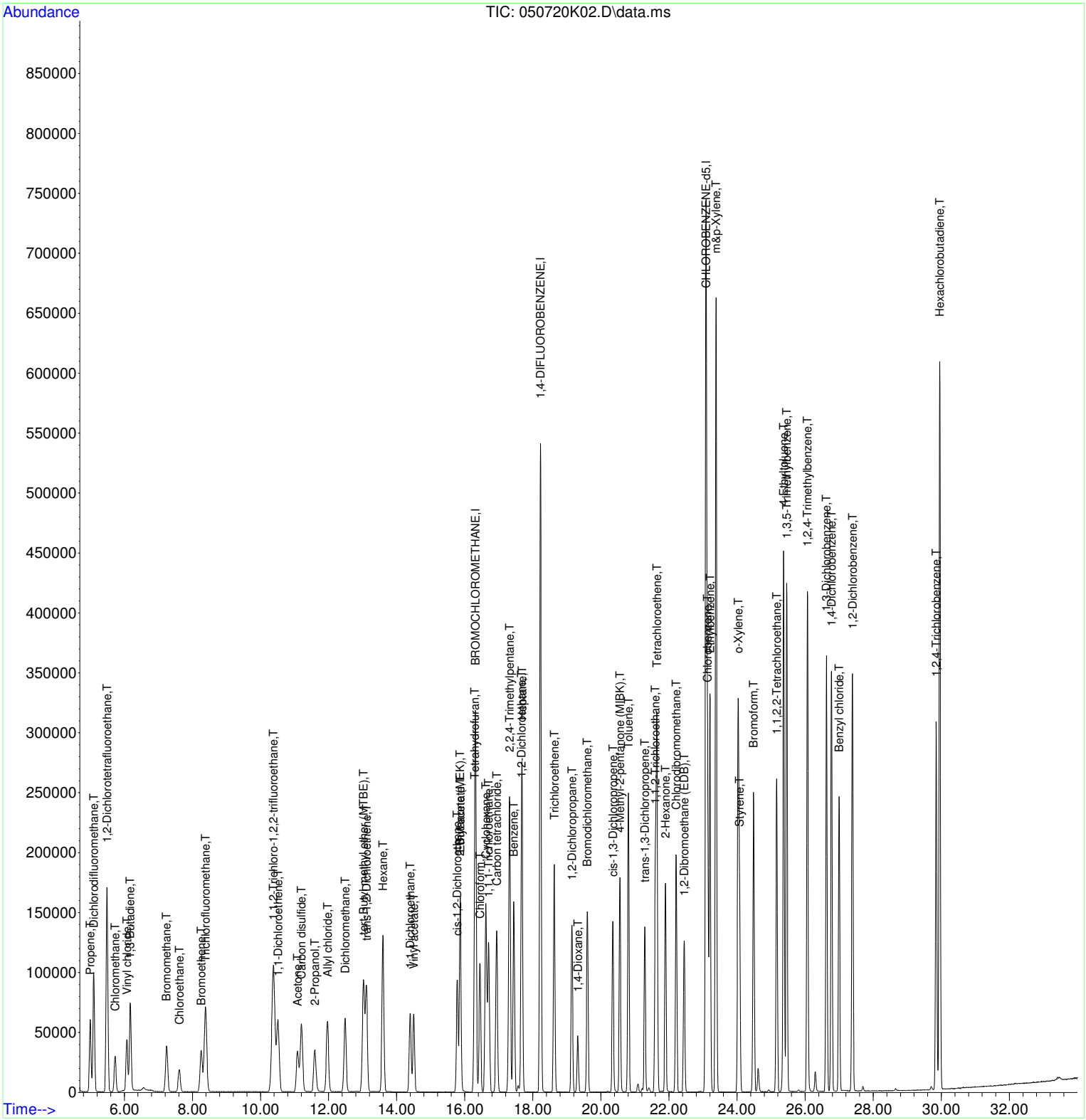
Quant Time: May 07 14:58:44 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55) Styrene	24.076	104	152298	9.24	ppbv	100
56) Bromoform	24.483	173	207099	10.97	ppbv	100
57) 1,1,2,2-Tetrachloroethane	25.165	83	226044	9.43	ppbv	100
58) 4-Ethyltoluene	25.365	105	499530	9.78	ppbv	99
59) 1,3,5-Trimethylbenzene	25.457	105	390544	10.19	ppbv	99
60) 1,2,4-Trimethylbenzene	26.065	105	392892	10.15	ppbv	99
61) 1,3-Dichlorobenzene	26.625	146	276267	9.68	ppbv	99
62) 1,4-Dichlorobenzene	26.777	146	268962	9.46	ppbv	99
63) Benzyl chloride	26.996	91	309914	10.01	ppbv	100
64) 1,2-Dichlorobenzene	27.391	146	269148	9.63	ppbv	99
65) 1,2,4-Trichlorobenzene	29.849	180	185264	7.69	ppbv	100
66) Hexachlorobutadiene	29.952	225	219549	8.50	ppbv	100

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

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K02.D
InstName : HP5973K
Acq On : 7 May 2020 11:23 am
Operator : EM
Sample : S20E003-CCV1@B20E002-BS1
Misc : 10ppbv 2014029@2014032
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 07 14:58:44 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration



REVIEWED
By EM at 2:59 pm, May 07, 2020

LCS REPORT

Instrument Name: HP5973K
Sample Name: S20E003-CCV1@B20E002-BS1
Misc Info: 10ppbv 2014029@2014032
Date Acquired: 5/7/2020 11:23
QLast Update: Thu Apr 02 09:57:00 2020
Operator: EM

#	Name	Ret Time	Amount	Concentration	%R	QC	LIMIT	STATUS
1)	BROMOCHLOROMETHANE	16.31	#N/A	19.60	#N/A	70.0	130.0	#N/A
2)	Propene	5.00	11.00	9.98	91%	72.0	114.0	pass
3)	Dichlorodifluoromethane	5.10	10.20	9.90	97%	73.0	120.0	pass
4)	1,2-Dichlorotetrafluoroethane	5.49	9.70	9.33	96%	74.0	116.0	pass
5)	Chloromethane	5.73	10.80	9.97	92%	73.0	113.0	pass
6)	Vinyl chloride	6.07	10.40	10.27	99%	68.0	119.0	pass
7)	1,3-Butadiene	6.17	10.30	9.96	97%	68.0	120.0	pass
8)	Bromomethane	7.24	10.20	9.78	96%	71.0	122.0	pass
9)	Chloroethane	7.61	10.20	9.59	94%	73.0	116.0	pass
10)	Bromoethene	8.26	10.90	10.28	94%	64.0	123.0	pass
11)	Trichlorofluoromethane	8.39	9.40	9.21	98%	74.0	120.0	pass
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	10.38	10.00	9.97	100%	63.0	126.0	pass
13)	1,1-Dichloroethene	10.52	10.40	9.76	94%	69.0	119.0	pass
14)	Acetone	11.09	10.80	9.82	91%	79.0	114.0	pass
15)	Carbon disulfide	11.20	11.00	10.45	95%	75.0	120.0	pass
16)	2-Propanol	11.60	11.00	10.34	94%	66.0	119.0	pass
17)	Allyl chloride	11.97	11.00	10.07	92%	72.0	116.0	pass
18)	Dichloromethane	12.49	10.00	8.90	89%	76.0	110.0	pass
19)	tert-Butyl methyl ether (MTBE)	13.03	10.70	9.96	93%	61.0	124.0	pass
20)	trans-1,2-Dichloroethene	13.11	10.90	10.20	94%	78.0	113.0	pass
21)	Hexane	13.59	10.20	9.57	94%	76.0	116.0	pass
22)	1,1-Dichloroethane	14.40	9.60	9.11	95%	76.0	113.0	pass
23)	Vinyl acetate	14.50	11.00	10.45	95%	71.0	117.0	pass
24)	cis-1,2-Dichloroethene	15.78	10.10	9.68	96%	74.0	116.0	pass
25)	2-Butanone (MEK)	15.86	10.50	10.05	96%	73.0	124.0	pass
26)	Ethyl acetate	15.87	10.30	9.00	87%	71.0	122.0	pass
27)	Tetrahydrofuran	16.29	10.10	9.61	95%	79.0	119.0	pass
28)	Chloroform	16.45	10.40	10.14	98%	77.0	115.0	pass
29)	Cyclohexane	16.62	10.30	9.68	94%	76.0	114.0	pass
30)	1,1,1-Trichloroethane	16.70	10.40	10.39	100%	77.0	117.0	pass
31)	Carbon tetrachloride	16.94	10.10	10.10	100%	75.0	121.0	pass
32)	1,4-DIFLUOROBENZENE	18.22	#N/A	19.60	#N/A	70.0	130.0	#N/A
33)	Benzene	17.44	10.20	9.63	94%	81.0	115.0	pass
34)	2,2,4-Trimethylpentane	17.32	10.30	9.42	91%	77.0	120.0	pass
35)	1,2-Dichloroethane	17.66	9.90	9.33	94%	74.0	128.0	pass
36)	Heptane	17.68	10.30	9.42	91%	73.0	128.0	pass
37)	Trichloroethene	18.63	10.80	10.52	97%	82.0	113.0	pass
38)	1,2-Dichloropropane	19.15	10.10	9.39	93%	78.0	119.0	pass
39)	1,4-Dioxane	19.32	10.40	9.44	91%	73.0	120.0	pass
40)	Bromodichloromethane	19.60	10.40	9.87	95%	79.0	124.0	pass
41)	cis-1,3-Dichloropropene	20.35	10.00	9.29	93%	82.0	117.0	pass
42)	4-Methyl-2-pentanone (MIBK)	20.56	10.50	10.08	96%	67.0	136.0	pass
43)	CHLOROBENZENE-d5	23.09	#N/A	19.60	#N/A	70.0	130.0	#N/A
44)	Toluene	20.81	10.20	9.59	94%	80.0	120.0	pass
45)	trans-1,3-Dichloropropene	21.29	9.60	8.71	91%	81.0	122.0	pass
46)	1,1,2-Trichloroethane	21.60	10.20	9.59	94%	81.0	121.0	pass
47)	Tetrachloroethene	21.64	10.20	9.96	98%	69.0	122.0	pass

48)	2-Hexanone	21.90	10.30	9.92	96%	61.0	140.0	pass
49)	Chlorodibromomethane	22.21	10.90	10.45	96%	82.0	128.0	pass
50)	1,2-Dibromoethane (EDB)	22.45	10.40	9.66	93%	80.0	121.0	pass
51)	Chlorobenzene	23.13	10.30	9.75	95%	80.0	122.0	pass
52)	Ethylbenzene	23.21	10.30	9.71	94%	80.0	125.0	pass
53)	m&p-Xylene	23.38	20.40	19.56	96%	80.0	128.0	pass
54)	o-Xylene	24.03	10.00	9.60	96%	79.0	130.0	pass
55)	Styrene	24.08	9.80	9.24	94%	76.0	133.0	pass
56)	Bromoform	24.48	11.00	10.97	100%	82.0	136.0	pass
57)	1,1,2,2-Tetrachloroethane	25.16	9.90	9.43	95%	78.0	132.0	pass
58)	4-Ethyltoluene	25.37	10.20	9.78	96%	77.0	133.0	pass
59)	1,3,5-Trimethylbenzene	25.46	10.20	10.19	100%	78.0	133.0	pass
60)	1,2,4-Trimethylbenzene	26.07	10.20	10.15	100%	78.0	133.0	pass
61)	1,3-Dichlorobenzene	26.62	10.00	9.68	97%	76.0	133.0	pass
62)	1,4-Dichlorobenzene	26.78	10.00	9.46	95%	75.0	134.0	pass
63)	Benzyl chloride	27.00	11.00	10.01	91%	73.0	144.0	pass
64)	1,2-Dichlorobenzene	27.39	9.80	9.63	98%	77.0	134.0	pass
65)	1,2,4-Trichlorobenzene	29.85	9.00	7.69	85%	70.0	133.0	pass
66)	Hexachlorobutadiene	29.96	9.20	8.50	92%	74.0	130.0	pass

B20E002-BS1

REVIEWED
By EM at 2:59 pm, May 07, 2020

LCS REPORT

Instrument Name: HP5973K
Sample Name: S20E003-CCV1@B20E002-BS1
Misc Info: 10ppbv 2014029@2014032
Date Acquired: 5/7/2020 11:23
QLast Update: Thu Apr 02 09:57:00 2020
Operator: EM

#	Name	Ret Time	Amount	Concentration	%R	QC	LIMIT	STATUS
1)	BROMOCHLOROMETHANE	16.31	#N/A	19.60	#N/A	70.0	130.0	#N/A
2)	Propene	5.00	11.00	9.98	91%	72.0	114.0	pass
3)	Dichlorodifluoromethane	5.10	10.20	9.90	97%	73.0	120.0	pass
4)	1,2-Dichlorotetrafluoroethane	5.49	9.70	9.33	96%	74.0	116.0	pass
5)	Chloromethane	5.73	10.80	9.97	92%	73.0	113.0	pass
6)	Vinyl chloride	6.07	10.40	10.27	99%	68.0	119.0	pass
7)	1,3-Butadiene	6.17	10.30	9.96	97%	68.0	120.0	pass
8)	Bromomethane	7.24	10.20	9.78	96%	71.0	122.0	pass
9)	Chloroethane	7.61	10.20	9.59	94%	73.0	116.0	pass
10)	Bromoethene	8.26	10.90	10.28	94%	64.0	123.0	pass
11)	Trichlorofluoromethane	8.39	9.40	9.21	98%	74.0	120.0	pass
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	10.38	10.00	9.97	100%	63.0	126.0	pass
13)	1,1-Dichloroethene	10.52	10.40	9.76	94%	69.0	119.0	pass
14)	Acetone	11.09	10.80	9.82	91%	79.0	114.0	pass
15)	Carbon disulfide	11.20	11.00	10.45	95%	75.0	120.0	pass
16)	2-Propanol	11.60	11.00	10.34	94%	66.0	119.0	pass
17)	Allyl chloride	11.97	11.00	10.07	92%	72.0	116.0	pass
18)	Dichloromethane	12.49	10.00	8.90	89%	76.0	110.0	pass
19)	tert-Butyl methyl ether (MTBE)	13.03	10.70	9.96	93%	61.0	124.0	pass
20)	trans-1,2-Dichloroethene	13.11	10.90	10.20	94%	78.0	113.0	pass
21)	Hexane	13.59	10.20	9.57	94%	76.0	116.0	pass
22)	1,1-Dichloroethane	14.40	9.60	9.11	95%	76.0	113.0	pass
23)	Vinyl acetate	14.50	11.00	10.45	95%	71.0	117.0	pass
24)	cis-1,2-Dichloroethene	15.78	10.10	9.68	96%	74.0	116.0	pass
25)	2-Butanone (MEK)	15.86	10.50	10.05	96%	73.0	124.0	pass
26)	Ethyl acetate	15.87	10.30	9.00	87%	71.0	122.0	pass
27)	Tetrahydrofuran	16.29	10.10	9.61	95%	79.0	119.0	pass
28)	Chloroform	16.45	10.40	10.14	98%	77.0	115.0	pass
29)	Cyclohexane	16.62	10.30	9.68	94%	76.0	114.0	pass
30)	1,1,1-Trichloroethane	16.70	10.40	10.39	100%	77.0	117.0	pass
31)	Carbon tetrachloride	16.94	10.10	10.10	100%	75.0	121.0	pass
32)	1,4-DIFLUOROBENZENE	18.22	#N/A	19.60	#N/A	70.0	130.0	#N/A
33)	Benzene	17.44	10.20	9.63	94%	81.0	115.0	pass
34)	2,2,4-Trimethylpentane	17.32	10.30	9.42	91%	77.0	120.0	pass
35)	1,2-Dichloroethane	17.66	9.90	9.33	94%	74.0	128.0	pass
36)	Heptane	17.68	10.30	9.42	91%	73.0	128.0	pass
37)	Trichloroethene	18.63	10.80	10.52	97%	82.0	113.0	pass
38)	1,2-Dichloropropane	19.15	10.10	9.39	93%	78.0	119.0	pass
39)	1,4-Dioxane	19.32	10.40	9.44	91%	73.0	120.0	pass
40)	Bromodichloromethane	19.60	10.40	9.87	95%	79.0	124.0	pass
41)	cis-1,3-Dichloropropene	20.35	10.00	9.29	93%	82.0	117.0	pass
42)	4-Methyl-2-pentanone (MIBK)	20.56	10.50	10.08	96%	67.0	136.0	pass
43)	CHLOROBENZENE-d5	23.09	#N/A	19.60	#N/A	70.0	130.0	#N/A
44)	Toluene	20.81	10.20	9.59	94%	80.0	120.0	pass
45)	trans-1,3-Dichloropropene	21.29	9.60	8.71	91%	81.0	122.0	pass
46)	1,1,2-Trichloroethane	21.60	10.20	9.59	94%	81.0	121.0	pass
47)	Tetrachloroethene	21.64	10.20	9.96	98%	69.0	122.0	pass

48)	2-Hexanone	21.90	10.30	9.92	96%	61.0	140.0	pass
49)	Chlorodibromomethane	22.21	10.90	10.45	96%	82.0	128.0	pass
50)	1,2-Dibromoethane (EDB)	22.45	10.40	9.66	93%	80.0	121.0	pass
51)	Chlorobenzene	23.13	10.30	9.75	95%	80.0	122.0	pass
52)	Ethylbenzene	23.21	10.30	9.71	94%	80.0	125.0	pass
53)	m&p-Xylene	23.38	20.40	19.56	96%	80.0	128.0	pass
54)	o-Xylene	24.03	10.00	9.60	96%	79.0	130.0	pass
55)	Styrene	24.08	9.80	9.24	94%	76.0	133.0	pass
56)	Bromoform	24.48	11.00	10.97	100%	82.0	136.0	pass
57)	1,1,2,2-Tetrachloroethane	25.16	9.90	9.43	95%	78.0	132.0	pass
58)	4-Ethyltoluene	25.37	10.20	9.78	96%	77.0	133.0	pass
59)	1,3,5-Trimethylbenzene	25.46	10.20	10.19	100%	78.0	133.0	pass
60)	1,2,4-Trimethylbenzene	26.07	10.20	10.15	100%	78.0	133.0	pass
61)	1,3-Dichlorobenzene	26.62	10.00	9.68	97%	76.0	133.0	pass
62)	1,4-Dichlorobenzene	26.78	10.00	9.46	95%	75.0	134.0	pass
63)	Benzyl chloride	27.00	11.00	10.01	91%	73.0	144.0	pass
64)	1,2-Dichlorobenzene	27.39	9.80	9.63	98%	77.0	134.0	pass
65)	1,2,4-Trichlorobenzene	29.85	9.00	7.69	85%	70.0	133.0	pass
66)	Hexachlorobutadiene	29.96	9.20	8.50	92%	74.0	130.0	pass

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K02.D
InstName : HP5973K
Acq On : 7 May 2020 11:23 am
Operator : EM
Sample : S20E003-CCV1@B20E002-BS1
Misc : 10ppbv 2014029@2014032
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 07 14:58:44 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	16.313	49	241717	19.60	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	18.223	114	763624	19.60	ppbv		0.00
43) CHLOROBENZENE-d5	23.090	117	718761	19.60	ppbv		0.00
Target Compounds							Qvalue
2) Propene	4.998	41	70364	9.98	ppbv		100
3) Dichlorodifluoromethane	5.101	85	185936	9.90	ppbv		100
4) 1,2-Dichlorotetrafluor...	5.490	85	200128	9.33	ppbv		99
5) Chloromethane	5.728	50	72346	9.97	ppbv		99
6) Vinyl chloride	6.074	62	98030	10.27	ppbv		99
7) 1,3-Butadiene	6.172	54	75351	9.96	ppbv		99
8) Bromomethane	7.236	94	65406	9.78	ppbv		99
9) Chloroethane	7.614	64	43123	9.59	ppbv		99
10) Bromoethene	8.258	106	67080	10.28	ppbv		100
11) Trichlorofluoromethane	8.386	101	164718	9.21	ppbv		100
12) 1,1,2-Trichloro-1,2,2-...	10.375	151	126113	9.97	ppbv		97
13) 1,1-Dichloroethene	10.515	61	110759	9.76	ppbv		99
14) Acetone	11.087	43	110600	9.82	ppbv		100
15) Carbon disulfide	11.203	76	215693	10.45	ppbv		100
16) 2-Propanol	11.598	45	113562	10.34	ppbv		97
17) Allyl chloride	11.969	41	101762	10.07	ppbv		99
18) Dichloromethane	12.486	49	85477	8.90	ppbv		99
19) tert-Butyl methyl ethe...	13.028	73	218399	9.96	ppbv		100
20) trans-1,2-Dichloroethene	13.113	61	107392	10.20	ppbv		98
21) Hexane	13.594	57	136409	9.57	ppbv		100
22) 1,1-Dichloroethane	14.397	63	132393	9.11	ppbv		100
23) Vinyl acetate	14.500	43	184466	10.45	ppbv		100
24) cis-1,2-Dichloroethene	15.778	61	100695	9.68	ppbv	#	99
25) 2-Butanone (MEK)	15.863	72	42630	10.05	ppbv		99
26) Ethyl acetate	15.869	61	23799	9.00	ppbv	#	84
27) Tetrahydrofuran	16.289	42	96802	9.61	ppbv		99
28) Chloroform	16.447	83	146233	10.14	ppbv		99
29) Cyclohexane	16.617	56	138907	9.68	ppbv		98
30) 1,1,1-Trichloroethane	16.702	97	148502	10.39	ppbv		99
31) Carbon tetrachloride	16.940	117	149939	10.10	ppbv		99
33) Benzene	17.439	78	249636	9.63	ppbv		100
34) 2,2,4-Trimethylpentane	17.317	57	429785	9.42	ppbv		100
35) 1,2-Dichloroethane	17.664	62	94701	9.33	ppbv		99
36) Heptane	17.682	43	157410	9.42	ppbv		98
37) Trichloroethene	18.631	130	113807	10.52	ppbv		98
38) 1,2-Dichloropropane	19.148	63	91094	9.39	ppbv		99
39) 1,4-Dioxane	19.324	88	57359	9.44	ppbv		99
40) Bromodichloromethane	19.598	83	165868	9.87	ppbv		100
41) cis-1,3-Dichloropropene	20.353	75	138723	9.29	ppbv		100
42) 4-Methyl-2-pentanone (...	20.559	43	195939	10.08	ppbv		99
44) Toluene	20.809	91	305115	9.59	ppbv		99
45) trans-1,3-Dichloropropene	21.289	75	125064	8.71	ppbv		99
46) 1,1,2-Trichloroethane	21.600	97	99783	9.59	ppbv		100
47) Tetrachloroethene	21.642	166	161422	9.96	ppbv		99
48) 2-Hexanone	21.898	43	181456	9.92	ppbv		100
49) Chlorodibromomethane	22.208	129	181818	10.45	ppbv		100
50) 1,2-Dibromoethane (EDB)	22.445	107	147166	9.66	ppbv		99
51) Chlorobenzene	23.133	112	254661	9.75	ppbv		99
52) Ethylbenzene	23.206	91	406263	9.71	ppbv		99
53) m&p-Xylene	23.382	91	623395	19.56	ppbv		99
54) o-Xylene	24.033	91	314385	9.60	ppbv		100

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K02.D
InstName : HP5973K
Acq On : 7 May 2020 11:23 am
Operator : EM
Sample : S20E003-CCV1@B20E002-BS1
Misc : 10ppbv 2014029@2014032
ALS Vial : 29 Sample Multiplier: 1

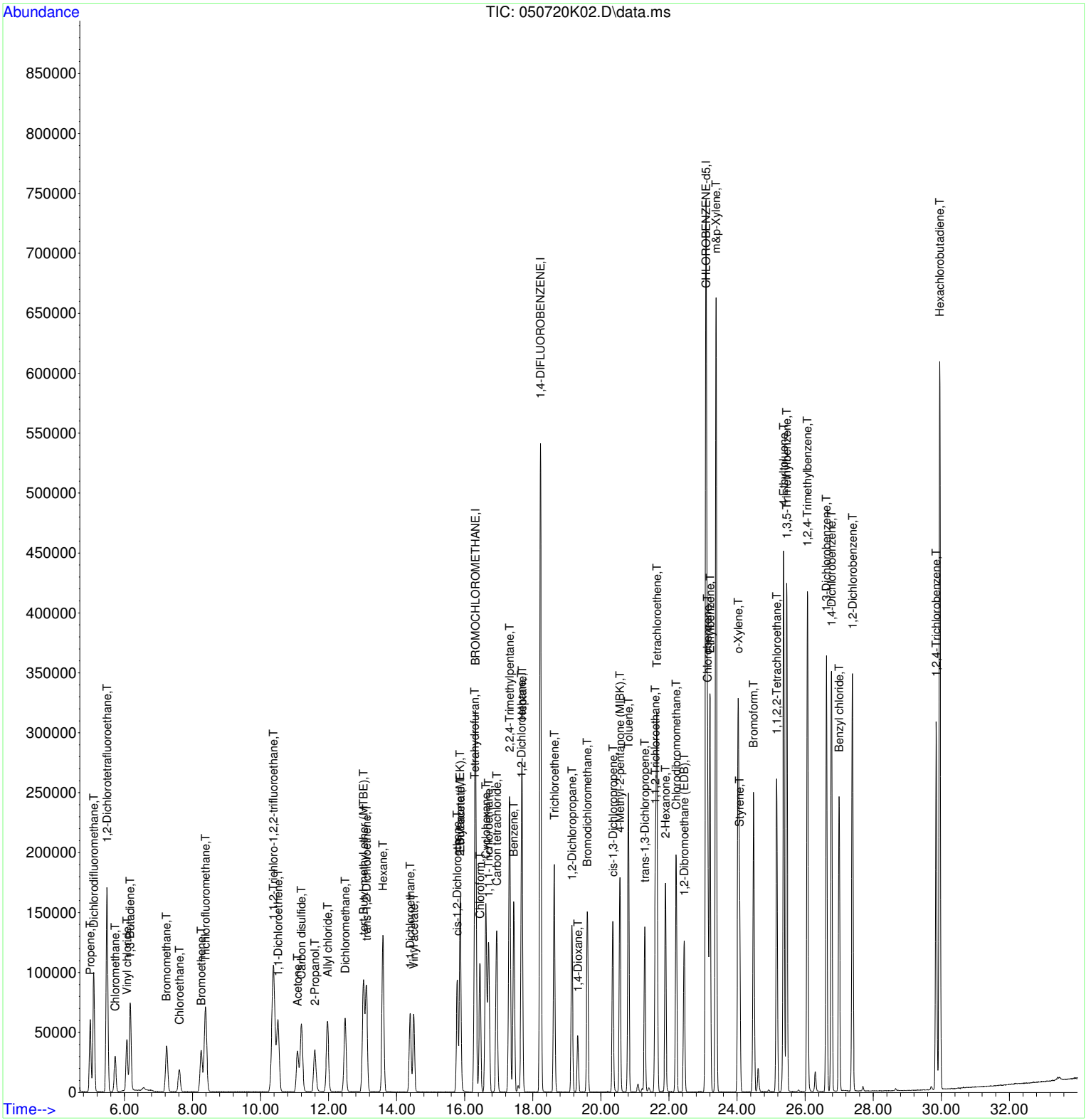
Quant Time: May 07 14:58:44 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55) Styrene	24.076	104	152298	9.24	ppbv	100
56) Bromoform	24.483	173	207099	10.97	ppbv	100
57) 1,1,2,2-Tetrachloroethane	25.165	83	226044	9.43	ppbv	100
58) 4-Ethyltoluene	25.365	105	499530	9.78	ppbv	99
59) 1,3,5-Trimethylbenzene	25.457	105	390544	10.19	ppbv	99
60) 1,2,4-Trimethylbenzene	26.065	105	392892	10.15	ppbv	99
61) 1,3-Dichlorobenzene	26.625	146	276267	9.68	ppbv	99
62) 1,4-Dichlorobenzene	26.777	146	268962	9.46	ppbv	99
63) Benzyl chloride	26.996	91	309914	10.01	ppbv	100
64) 1,2-Dichlorobenzene	27.391	146	269148	9.63	ppbv	99
65) 1,2,4-Trichlorobenzene	29.849	180	185264	7.69	ppbv	100
66) Hexachlorobutadiene	29.952	225	219549	8.50	ppbv	100

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

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K02.D
InstName : HP5973K
Acq On : 7 May 2020 11:23 am
Operator : EM
Sample : S20E003-CCV1@B20E002-BS1
Misc : 10ppbv 2014029@2014032
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 07 14:58:44 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration



Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K02.D
InstName : HP5973K
Acq On : 7 May 2020 11:23 am
Operator : EM
Sample : S20E003-CCV1@B20E002-BS1
Misc : 10ppbv 2014029@2014032
ALS Vial : 29 Sample Multiplier: 1

REVIEWED
By EM at 2:58 pm, May 07, 2020

Quant Time: May 07 14:58:44 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	83	0.00
2	T	Propene	0.571	0.519	9.1	78	0.00
3	T	Dichlorodifluoromethane	1.523	1.478	3.0	83	0.00
4	T	1,2-Dichlorotetrafluoroetha	1.739	1.673	3.8	82	0.00
5	T	Chloromethane	0.589	0.543	7.8	79	0.00
6	T	Vinyl chloride	0.774	0.764	1.3	84	0.00
7	T	1,3-Butadiene	0.613	0.593	3.3	83	0.00
8	T	Bromomethane	0.542	0.520	4.1	83	0.00
9	T	Chloroethane	0.365	0.343	6.0	82	0.00
10	T	Bromoethene	0.529	0.499	5.7	82	0.00
11	T	Trichlorofluoromethane	1.450	1.421	2.0	84	0.01
12	T	1,1,2-Trichloro-1,2,2-trifl	1.026	1.023	0.3	86	0.00
13	T	1,1-Dichloroethene	0.920	0.864	6.1	80	0.00
14	T	Acetone	0.914	0.830	9.2	80	0.00
15	T	Carbon disulfide	1.674	1.590	5.0	83	0.00
16	T	2-Propanol	0.891	0.837	6.1	80	0.01
17	T	Allyl chloride	0.819	0.750	8.4	79	0.01
18	T	Dichloromethane	0.779	0.693	11.0	82	0.00
19	T	tert-Butyl methyl ether (MT	1.777	1.655	6.9	81	0.00
20	T	trans-1,2-Dichloroethene	0.854	0.799	6.4	81	0.00
21	T	Hexane	1.156	1.084	6.2	80	0.00
22	T	1,1-Dichloroethane	1.178	1.118	5.1	82	0.00
23	T	Vinyl acetate	1.431	1.360	5.0	80	0.00
24	T	cis-1,2-Dichloroethene	0.843	0.808	4.2	81	0.00
25	T	2-Butanone (MEK)	0.344	0.329	4.4	81	0.00
26	T	Ethyl acetate	0.214	0.187	12.6	76	0.00
27	T	Tetrahydrofuran	0.816	0.777	4.8	81	0.00
28	T	Chloroform	1.169	1.140	2.5	84	0.00
29	T	Cyclohexane	1.164	1.094	6.0	81	0.00
30	T	1,1,1-Trichloroethane	1.159	1.158	0.1	85	0.00
31	T	Carbon tetrachloride	1.204	1.204	0.0	85	0.00
32	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	88	0.00
33	T	Benzene	0.665	0.628	5.6	84	0.00
34	T	2,2,4-Trimethylpentane	1.171	1.071	8.5	81	0.00
35	T	1,2-Dichloroethane	0.261	0.246	5.7	83	0.00
36	T	Heptane	0.429	0.392	8.6	81	0.00
37	T	Trichloroethene	0.278	0.270	2.9	86	0.00
38	T	1,2-Dichloropropane	0.249	0.231	7.2	82	0.00
39	T	1,4-Dioxane	0.156	0.142	9.0	80	0.00
40	T	Bromodichloromethane	0.431	0.409	5.1	84	0.00
41	T	cis-1,3-Dichloropropene	0.383	0.356	7.0	80	0.00
42	T	4-Methyl-2-pentanone (MIBK)	0.499	0.479	4.0	83	0.00
43	I	CHLOROBENZENE-d5	1.000	1.000	0.0	89	0.00
44	T	Toluene	0.867	0.816	5.9	85	0.00
45	T	trans-1,3-Dichloropropene	0.392	0.355	9.4	80	0.00
46	T	1,1,2-Trichloroethane	0.284	0.267	6.0	84	0.00
47	T	Tetrachloroethene	0.442	0.432	2.3	88	0.00
48	T	2-Hexanone	0.499	0.480	3.8	84	0.00
49	T	Chlorodibromomethane	0.475	0.455	4.2	86	0.00
50	T	1,2-Dibromoethane (EDB)	0.415	0.386	7.0	83	0.00
51	T	Chlorobenzene	0.712	0.674	5.3	85	0.00

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K02.D
InstName : HP5973K
Acq On : 7 May 2020 11:23 am
Operator : EM
Sample : S20E003-CCV1@B20E002-BS1
Misc : 10ppbv 2014029@2014032
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 07 14:58:44 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
52	T	Ethylbenzene	1.140	1.076	5.6	85	0.00
53	T	m&p-Xylene	0.869	0.833	4.1	85	0.00
54	T	o-Xylene	0.893	0.857	4.0	85	0.00
55	T	Styrene	0.450	0.424	5.8	82	0.00
56	T	Bromoform	0.515	0.513	0.4	87	0.00
57	T	1,1,2,2-Tetrachloroethane	0.654	0.623	4.7	84	0.00
58	T	4-Ethyltoluene	1.393	1.335	4.2	84	0.00
59	T	1,3,5-Trimethylbenzene	1.045	1.044	0.1	87	0.00
60	T	1,2,4-Trimethylbenzene	1.055	1.050	0.5	86	0.00
61	T	1,3-Dichlorobenzene	0.778	0.753	3.2	84	0.00
62	T	1,4-Dichlorobenzene	0.775	0.733	5.4	81	0.00
63	T	Benzyl chloride	0.845	0.768	9.1	75	0.00
64	T	1,2-Dichlorobenzene	0.762	0.749	1.7	85	0.00
65	T	1,2,4-Trichlorobenzene	0.657	0.561	14.6	71	0.00
66	T	Hexachlorobutadiene	0.704	0.651	7.5	80	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

S20E003-CRL1

REVIEWED
By EM at 3:00 pm, May 07, 2020

QLS REPORT

Instrument Name: HP5973K
Sample Name: S20E003-CRL1
Misc Info: 1.0ppbv 2014026
Date Acquired: 5/7/2020 12:13
QLast Update: Thu Apr 02 09:57:00 2020
Operator: EM

2 OUT non target

#	Name	Ret Time	Amount	Concentration	%R	QC	LIMIT	STATUS	TYPE
1)	BROMOCHLOROMETHANE	16.31	#N/A	19.60	#N/A	60.0	140.0	#N/A	Internal
2)	Propene	5.00	1.10	1.18	107%	60.0	140.0	pass	Subset
3)	Dichlorodifluoromethane	5.10	1.02	1.07	105%	60.0	140.0	pass	Primary
4)	1,2-Dichlorotetrafluoroethane	5.50	0.97	1.01	104%	60.0	140.0	pass	Primary
5)	Chloromethane	5.73	1.08	1.09	101%	60.0	140.0	pass	Primary
6)	Vinyl chloride	6.07	1.04	1.10	106%	60.0	140.0	pass	Primary
7)	1,3-Butadiene	6.17	1.03	1.15	111%	60.0	140.0	pass	Subset
8)	Bromomethane	7.24	1.02	1.02	100%	60.0	140.0	pass	Primary
9)	Chloroethane	7.61	1.02	0.95	93%	60.0	140.0	pass	Primary
10)	Bromoethene	8.25	1.09	1.10	101%	60.0	140.0	pass	Subset
11)	Trichlorofluoromethane	8.39	0.94	0.94	100%	60.0	140.0	pass	Primary
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	10.38	1.00	1.00	100%	60.0	140.0	pass	Primary
13)	1,1-Dichloroethene	10.52	1.04	0.97	93%	60.0	140.0	pass	Primary
14)	Acetone	11.09	1.08	1.04	96%	60.0	140.0	pass	Subset
15)	Carbon disulfide	11.20	1.10	1.12	102%	60.0	140.0	pass	Subset
16)	2-Propanol	11.60	1.10	0.92	84%	60.0	140.0	pass	Subset
17)	Allyl chloride	11.97	1.10	1.00	91%	60.0	140.0	pass	Subset
18)	Dichloromethane	12.49	1.00	1.17	117%	60.0	140.0	pass	Primary
19)	tert-Butyl methyl ether (MTBE)	13.04	1.07	0.99	92%	60.0	140.0	pass	Subset
20)	trans-1,2-Dichloroethene	13.11	1.09	1.05	96%	60.0	140.0	pass	Subset
21)	Hexane	13.60	1.02	0.95	93%	60.0	140.0	pass	Subset
22)	1,1-Dichloroethane	14.40	0.96	0.92	96%	60.0	140.0	pass	Primary
23)	Vinyl acetate	14.50	1.10	0.88	80%	60.0	140.0	pass	Subset
24)	cis-1,2-Dichloroethene	15.77	1.01	0.92	91%	60.0	140.0	pass	Primary
25)	2-Butanone (MEK)	15.87	1.05	0.94	90%	60.0	140.0	pass	Subset
26)	Ethyl acetate	15.88	1.03	0.91	88%	60.0	140.0	pass	Subset
27)	Tetrahydrofuran	16.30	1.01	0.95	94%	60.0	140.0	pass	Subset
28)	Chloroform	16.45	1.04	1.02	98%	60.0	140.0	pass	Primary
29)	Cyclohexane	16.62	1.03	0.97	94%	60.0	140.0	pass	Subset
30)	1,1,1-Trichloroethane	16.70	1.04	1.03	99%	60.0	140.0	pass	Primary
31)	Carbon tetrachloride	16.94	1.01	0.99	98%	60.0	140.0	pass	Primary
32)	1,4-DIFLUOROBENZENE	18.22	#N/A	19.60	#N/A	60.0	140.0	#N/A	Internal
33)	Benzene	17.44	1.02	0.94	92%	60.0	140.0	pass	Primary
34)	2,2,4-Trimethylpentane	17.32	1.03	0.90	88%	60.0	140.0	pass	Subset
35)	1,2-Dichloroethane	17.66	0.99	0.92	93%	60.0	140.0	pass	Primary
36)	Heptane	17.68	1.03	0.89	87%	60.0	140.0	pass	Subset
37)	Trichloroethene	18.63	1.08	1.02	95%	60.0	140.0	pass	Primary
38)	1,2-Dichloropropane	19.15	1.01	0.90	89%	60.0	140.0	pass	Primary
39)	1,4-Dioxane	19.32	1.04	0.82	79%	60.0	140.0	pass	Subset
40)	Bromodichloromethane	19.60	1.04	1.00	96%	60.0	140.0	pass	Subset
41)	cis-1,3-Dichloropropene	20.35	1.00	0.81	81%	60.0	140.0	pass	Primary
42)	4-Methyl-2-pentanone (MIBK)	20.56	1.05	0.92	88%	60.0	140.0	pass	Subset
43)	CHLOROBENZENE-d5	23.09	#N/A	19.60	#N/A	60.0	140.0	#N/A	Internal
44)	Toluene	20.81	1.02	0.91	89%	60.0	140.0	pass	Primary
45)	trans-1,3-Dichloropropene	21.29	0.96	0.75	78%	60.0	140.0	pass	Primary
46)	1,1,2-Trichloroethane	21.60	1.02	0.94	92%	60.0	140.0	pass	Primary
47)	Tetrachloroethene	21.65	1.02	0.97	95%	60.0	140.0	pass	Primary
48)	2-Hexanone	21.90	1.03	0.82	80%	60.0	140.0	pass	Subset
49)	Chlorodibromomethane	22.21	1.09	1.01	93%	60.0	140.0	pass	Subset
50)	1,2-Dibromoethane (EDB)	22.45	1.04	0.89	86%	60.0	140.0	pass	Primary

51)	Chlorobenzene	23.14	1.03	0.96	93%	60.0	140.0	pass	Primary
52)	Ethylbenzene	23.20	1.03	0.90	87%	60.0	140.0	pass	Primary
53)	m&p-Xylene	23.38	2.04	1.75	86%	60.0	140.0	pass	Primary
54)	o-Xylene	24.03	1.00	0.83	83%	60.0	140.0	pass	Primary
55)	Styrene	24.08	0.98	0.75	76%	60.0	140.0	pass	Primary
56)	Bromoform	24.48	1.10	0.90	82%	60.0	140.0	pass	Subset
57)	1,1,2,2-Tetrachloroethane	25.16	0.99	0.85	86%	60.0	140.0	pass	Primary
58)	4-Ethyltoluene	25.37	1.02	0.83	81%	60.0	140.0	pass	Subset
59)	1,3,5-Trimethylbenzene	25.46	1.02	0.85	83%	60.0	140.0	pass	Primary
60)	1,2,4-Trimethylbenzene	26.07	1.02	0.81	80%	60.0	140.0	pass	Primary
61)	1,3-Dichlorobenzene	26.62	1.00	0.78	78%	60.0	140.0	pass	Primary
62)	1,4-Dichlorobenzene	26.78	1.00	0.74	74%	60.0	140.0	pass	Primary
63)	Benzyl chloride	27.00	1.10	0.54	49%	60.0	140.0	FAIL	Subset
64)	1,2-Dichlorobenzene	27.39	0.98	0.78	80%	60.0	140.0	pass	Primary
65)	1,2,4-Trichlorobenzene	29.85	0.90	0.51	56%	60.0	140.0	FAIL	Primary
66)	Hexachlorobutadiene	29.96	0.92	0.75	81%	60.0	140.0	pass	Primary

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K03.D
InstName : HP5973K
Acq On : 7 May 2020 12:13 pm
Operator : EM
Sample : S20E003-CRL1
Misc : 1.0ppbv 2014026
ALS Vial : 27 Sample Multiplier: 1

Quant Time: May 07 15:00:20 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	16.313	49	245506	19.60	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	18.223	114	786858	19.60	ppbv		0.00
43) CHLOROBENZENE-d5	23.090	117	708207	19.60	ppbv		0.00
Target Compounds							Qvalue
2) Propene	4.998	41	8439	1.18	ppbv		98
3) Dichlorodifluoromethane	5.101	85	20478	1.07	ppbv		99
4) 1,2-Dichlorotetrafluor...	5.497	85	22055	1.01	ppbv		99
5) Chloromethane	5.728	50	8050	1.09	ppbv		96
6) Vinyl chloride	6.074	62	10635	1.10	ppbv		99
7) 1,3-Butadiene	6.172	54	8806	1.15	ppbv		97
8) Bromomethane	7.236	94	6903	1.02	ppbv		99
9) Chloroethane	7.607	64	4338	0.95	ppbv		97
10) Bromoethene	8.252	106	7303	1.10	ppbv		99
11) Trichlorofluoromethane	8.386	101	17151	0.94	ppbv		99
12) 1,1,2-Trichloro-1,2,2-...	10.376	151	12841	1.00	ppbv		99
13) 1,1-Dichloroethene	10.515	61	11118	0.97	ppbv		99
14) Acetone	11.093	43	11910	1.04	ppbv		100
15) Carbon disulfide	11.203	76	23487	1.12	ppbv		96
16) 2-Propanol	11.604	45	10280	0.92	ppbv		92
17) Allyl chloride	11.969	41	10258	1.00	ppbv		99
18) Dichloromethane	12.493	49	11418	1.17	ppbv		99
19) tert-Butyl methyl ethe...	13.040	73	21998	0.99	ppbv		98
20) trans-1,2-Dichloroethene	13.107	61	11230	1.05	ppbv		96
21) Hexane	13.600	57	13746	0.95	ppbv		98
22) 1,1-Dichloroethane	14.397	63	13575	0.92	ppbv		99
23) Vinyl acetate	14.500	43	15770	0.88	ppbv		99
24) cis-1,2-Dichloroethene	15.772	61	9677	0.92	ppbv	#	96
25) 2-Butanone (MEK)	15.869	72	4055	0.94	ppbv	#	92
26) Ethyl acetate	15.875	61	2437	0.91	ppbv	#	91
27) Tetrahydrofuran	16.301	42	9756	0.95	ppbv		99
28) Chloroform	16.447	83	14977	1.02	ppbv		98
29) Cyclohexane	16.623	56	14117	0.97	ppbv		98
30) 1,1,1-Trichloroethane	16.702	97	14954	1.03	ppbv		99
31) Carbon tetrachloride	16.940	117	15002	0.99	ppbv		98
33) Benzene	17.445	78	25004	0.94	ppbv		99
34) 2,2,4-Trimethylpentane	17.317	57	42549	0.90	ppbv		98
35) 1,2-Dichloroethane	17.664	62	9584	0.92	ppbv		99
36) Heptane	17.682	43	15346	0.89	ppbv		98
37) Trichloroethene	18.631	130	11429	1.02	ppbv		98
38) 1,2-Dichloropropane	19.148	63	9036	0.90	ppbv		98
39) 1,4-Dioxane	19.324	88	5153	0.82	ppbv		97
40) Bromodichloromethane	19.604	83	17365	1.00	ppbv		100
41) cis-1,3-Dichloropropene	20.353	75	12464	0.81	ppbv		99
42) 4-Methyl-2-pentanone (...	20.559	43	18483	0.92	ppbv		99
44) Toluene	20.809	91	28390	0.91	ppbv		99
45) trans-1,3-Dichloropropene	21.289	75	10588	0.75	ppbv		98
46) 1,1,2-Trichloroethane	21.600	97	9632	0.94	ppbv		98
47) Tetrachloroethene	21.648	166	15518	0.97	ppbv		98
48) 2-Hexanone	21.898	43	14836	0.82	ppbv		99
49) Chlorodibromomethane	22.208	129	17322	1.01	ppbv		99
50) 1,2-Dibromoethane (EDB)	22.445	107	13357	0.89	ppbv		99
51) Chlorobenzene	23.139	112	24722	0.96	ppbv		84
52) Ethylbenzene	23.200	91	37031	0.90	ppbv		99
53) m&p-Xylene	23.382	91	54956	1.75	ppbv		100
54) o-Xylene	24.033	91	26790	0.83	ppbv		98

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K03.D
InstName : HP5973K
Acq On : 7 May 2020 12:13 pm
Operator : EM
Sample : S20E003-CRL1
Misc : 1.0ppbv 2014026
ALS Vial : 27 Sample Multiplier: 1

Quant Time: May 07 15:00:20 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

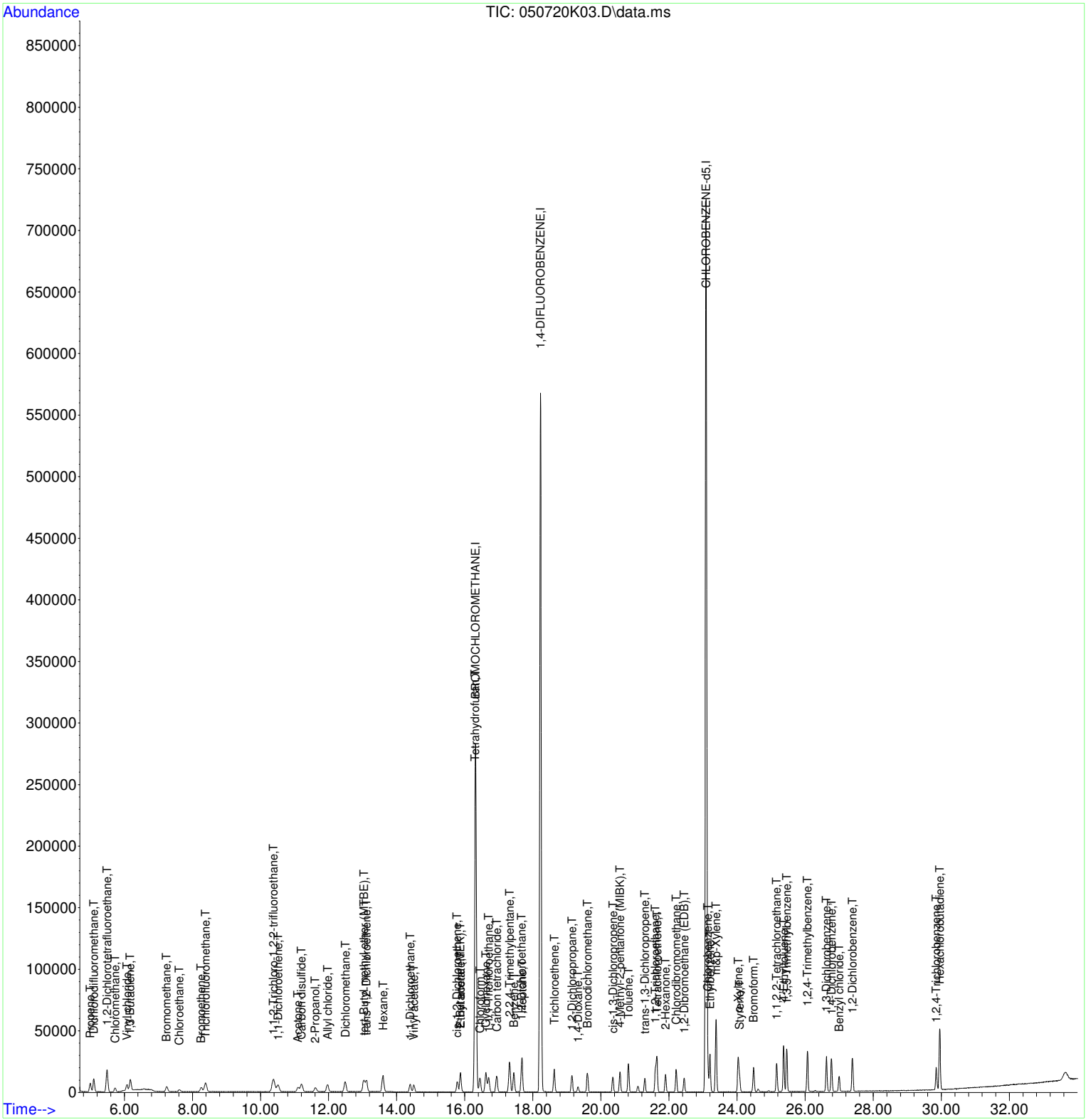
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	Styrene	24.076	104	12129	0.75	ppbv	97
56)	Bromoform	24.483	173	16773	0.90	ppbv	100
57)	1,1,2,2-Tetrachloroethane	25.159	83	20018	0.85	ppbv	100
58)	4-Ethyltoluene	25.372	105	41769	0.83	ppbv	99
59)	1,3,5-Trimethylbenzene	25.457	105	31978	0.85	ppbv	100
60)	1,2,4-Trimethylbenzene	26.065	105	30975	0.81	ppbv	98
61)	1,3-Dichlorobenzene	26.625	146	22041	0.78	ppbv	99
62)	1,4-Dichlorobenzene	26.777	146	20650	0.74	ppbv	100
63)	Benzyl chloride	26.996	91	16571	0.54	ppbv	98
64)	1,2-Dichlorobenzene	27.385	146	21492	0.78	ppbv	99
65)	1,2,4-Trichlorobenzene	29.849	180	12016	0.51	ppbv	100
66)	Hexachlorobutadiene	29.952	225	19045	0.75	ppbv	99

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

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K03.D
InstName : HP5973K
Acq On : 7 May 2020 12:13 pm
Operator : EM
Sample : S20E003-CRL1
Misc : 1.0ppbv 2014026
ALS Vial : 27 Sample Multiplier: 1

Quant Time: May 07 15:00:20 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration



B20E002-BLK1

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K04.D
InstName : HP5973K
Acq On : 7 May 2020 1:05 pm
Operator : EM
Sample : B20E002-BLK1
Misc : 200ml BLANK
ALS Vial : 33 Sample Multiplier: 1

Quant Time: May 07 15:01:30 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	16.313	49	245808	19.60 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.223	114	784436	19.60 ppbv	0.00
43) CHLOROBENZENE-d5	23.090	117	696250	19.60 ppbv	0.00

Target Compounds	Qvalue

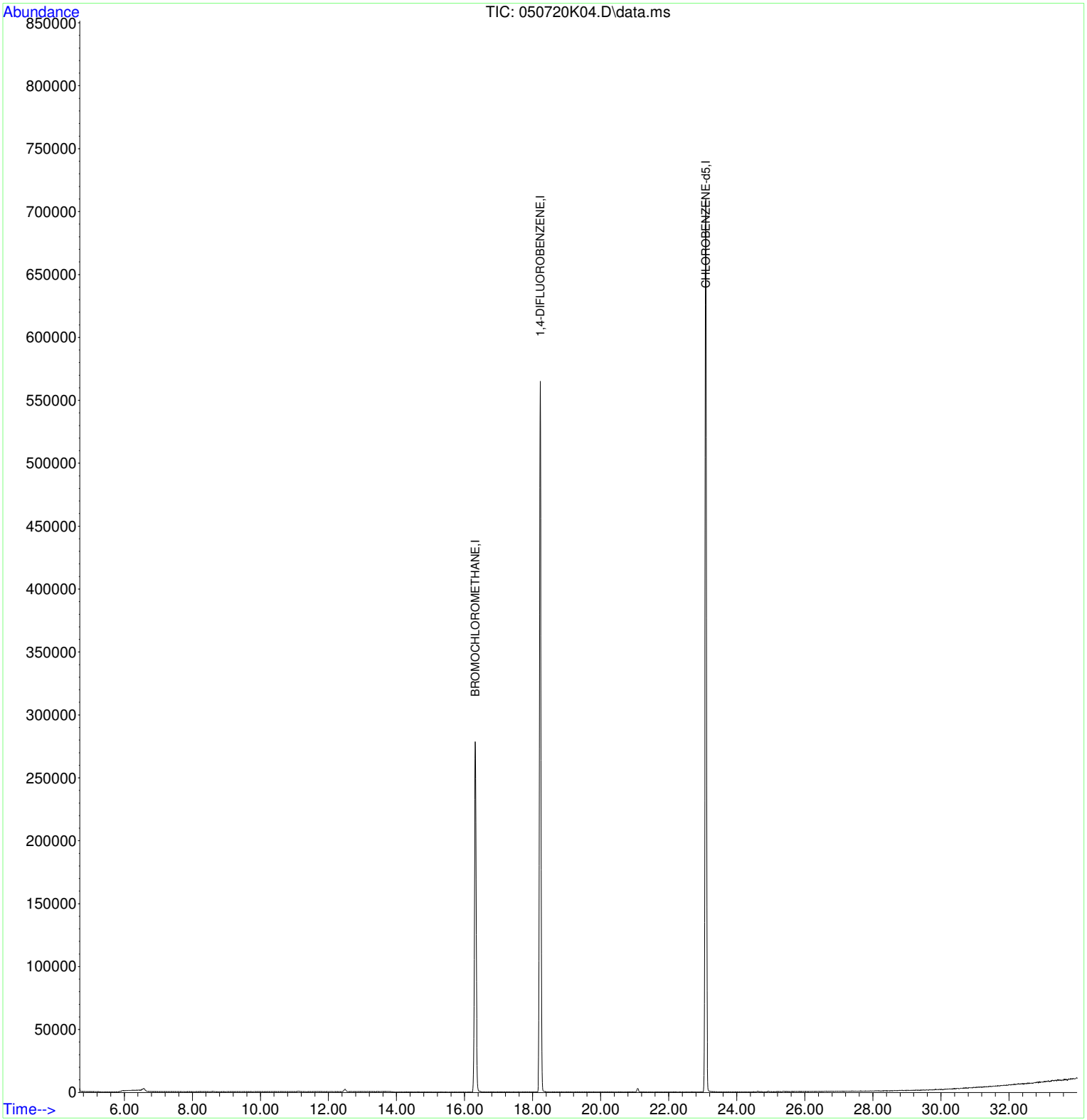
(#) = qualifier out of range (m) = manual integration (+) = signals summed

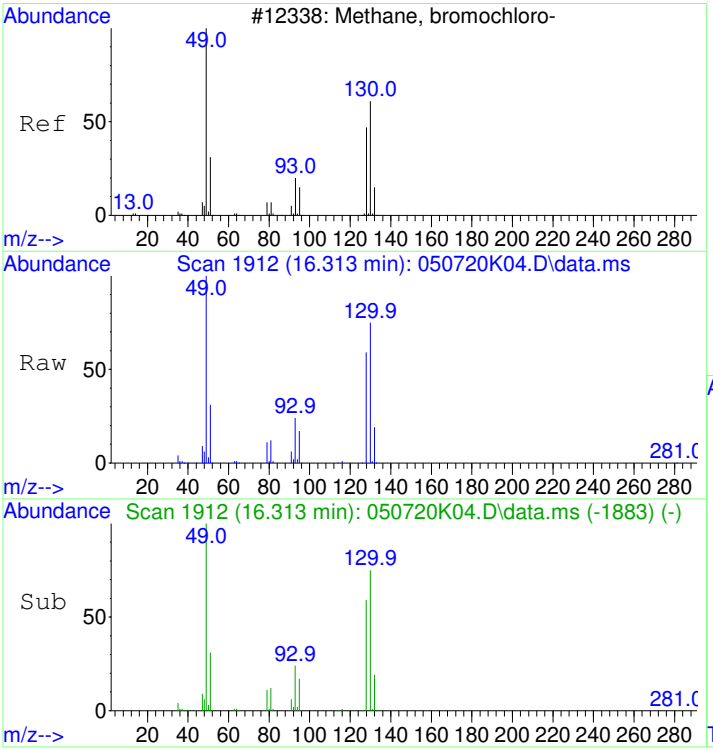
REVIEWED
By EM at 3:01 pm, May 07, 2020

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K04.D
InstName : HP5973K
Acq On : 7 May 2020 1:05 pm
Operator : EM
Sample : B20E002-BLK1
Misc : 200ml BLANK
ALS Vial : 33 Sample Multiplier: 1

Quant Time: May 07 15:01:30 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

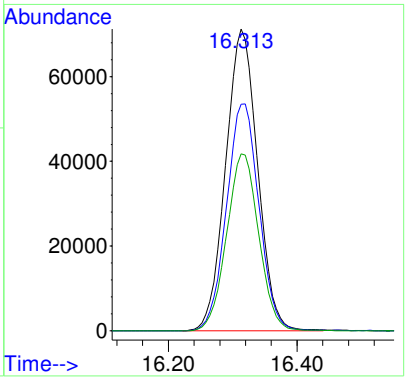


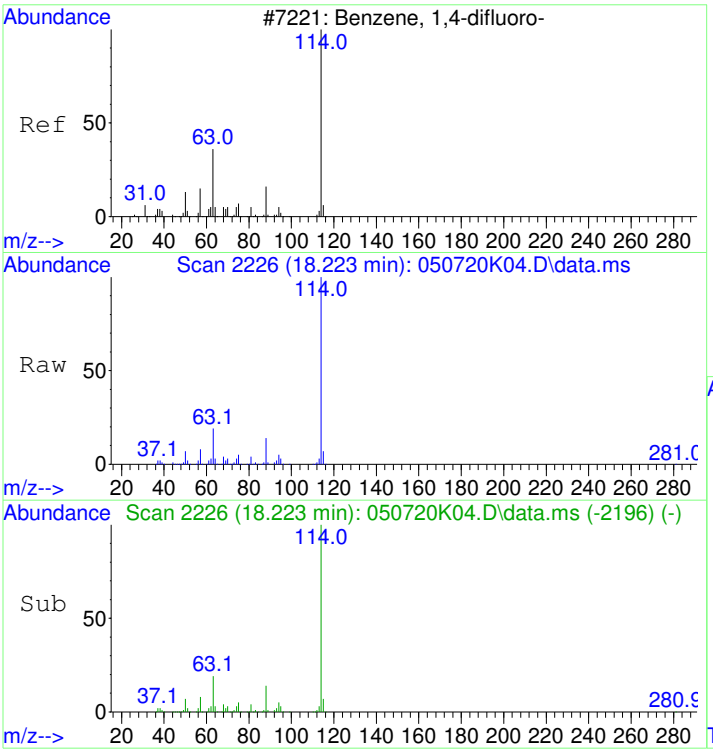


#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 16.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 050720K04.D
Acq: 7 May 2020 1:05 pm

Tgt Ion: 49 Resp: 245808

Ion	Ratio	Lower	Upper
49	100		
130	76.5	51.1	91.1
128	58.5	35.0	75.0

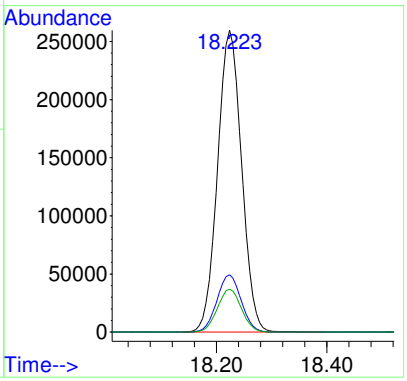


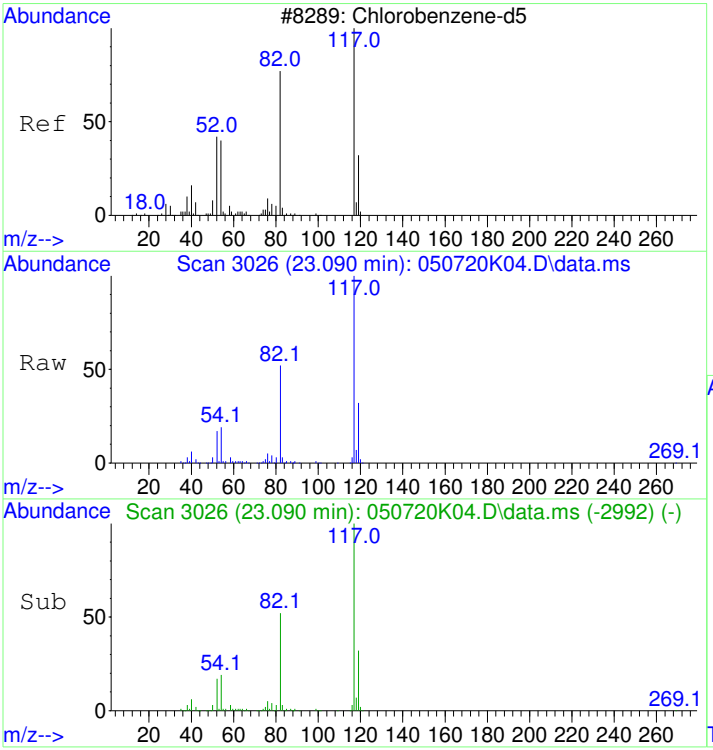


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 18.223 min Scan# 2226
Delta R.T. 0.000 min
Lab File: 050720K04.D
Acq: 7 May 2020 1:05 pm

Tgt Ion:114 Resp: 784436

Ion	Ratio	Lower	Upper
114	100		
63	19.1	0.0	39.6
88	14.2	0.0	34.5

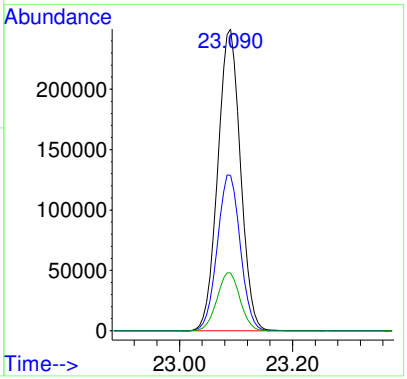




#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 23.090 min Scan# 3026
Delta R.T. 0.006 min
Lab File: 050720K04.D
Acq: 7 May 2020 1:05 pm

Tgt Ion:117 Resp: 696250

Ion	Ratio	Lower	Upper
117	100		
82	52.3	32.5	72.5
54	19.6	0.0	39.6



2005002-01

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K06.D
InstName : HP5973K
Acq On : 7 May 2020 2:50 pm
Operator : EM
Sample : 2005002-01
Misc : 200ml 277 Fairchild-SGR13-5-050620
ALS Vial : 11 Sample Multiplier: 1.9

Quant Time: May 07 15:26:27 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
Internal Standards								
1) BROMOCHLOROMETHANE	16.319	49	244499	19.60	ppbv		0.00	
32) 1,4-DIFLUOROBENZENE	18.229	114	763666	19.60	ppbv		0.00	
43) CHLOROBENZENE-d5	23.090	117	690473	19.60	ppbv		0.00	
Target Compounds							Qvalue	
14) Acetone	11.105	43	24796	2.18	ppbv		98	
15) Carbon disulfide	11.203	76	18376	0.88	ppbv	#	81	
24) cis-1,2-Dichloroethene	15.784	61	131937	12.54	ppbv	#	96	
25) 2-Butanone (MEK)	15.869	72	4094	0.95	ppbv	#	1	
27) Tetrahydrofuran	16.301	42	34910	3.43	ppbv		99	
28) Chloroform	16.447	83	28093	1.93	ppbv		99	
37) Trichloroethene	18.631	130	5162405	477.02	ppbv		96	oc

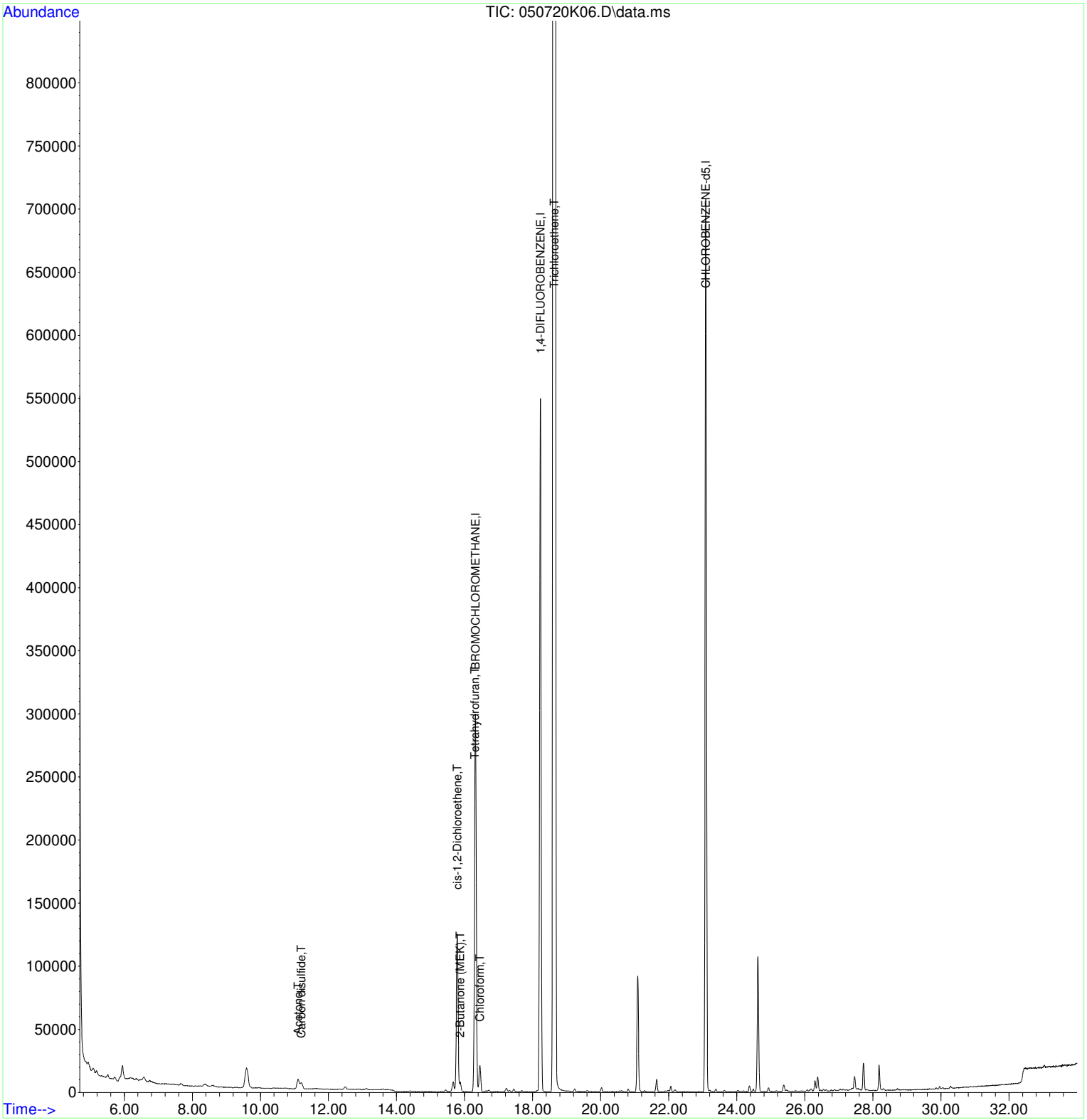
(#) = qualifier out of range (m) = manual integration (+) = signals summed

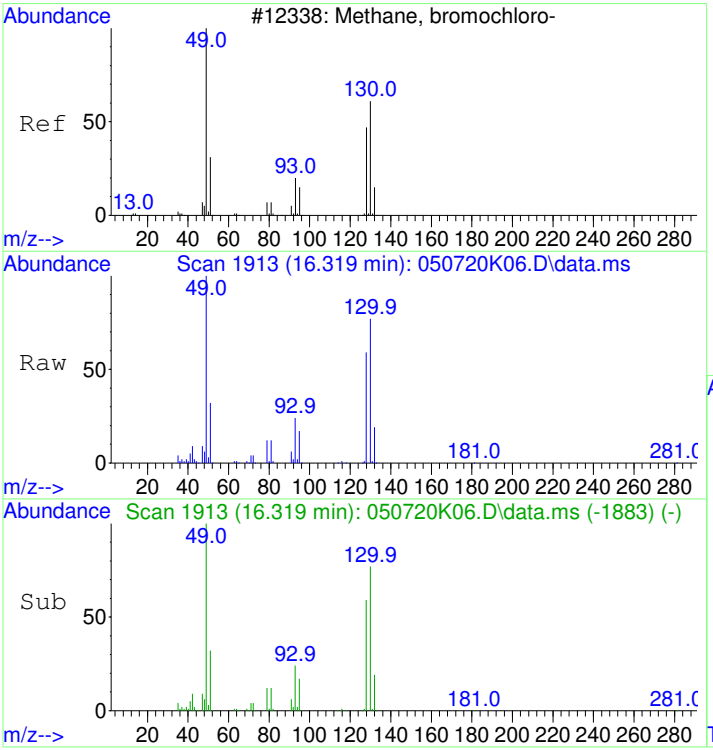
REVIEWED
By EM at 3:26 pm, May 07, 2020

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K06.D
InstName : HP5973K
Acq On : 7 May 2020 2:50 pm
Operator : EM
Sample : 2005002-01
Misc : 200ml 277 Fairchild-SGR13-5-050620
ALS Vial : 11 Sample Multiplier: 1.9

Quant Time: May 07 15:26:27 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

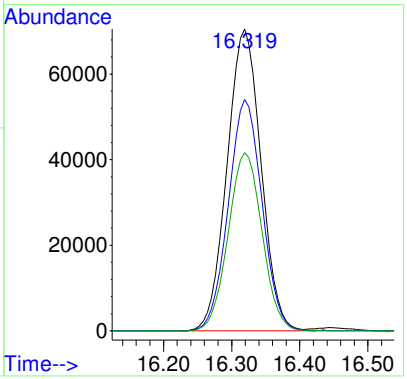


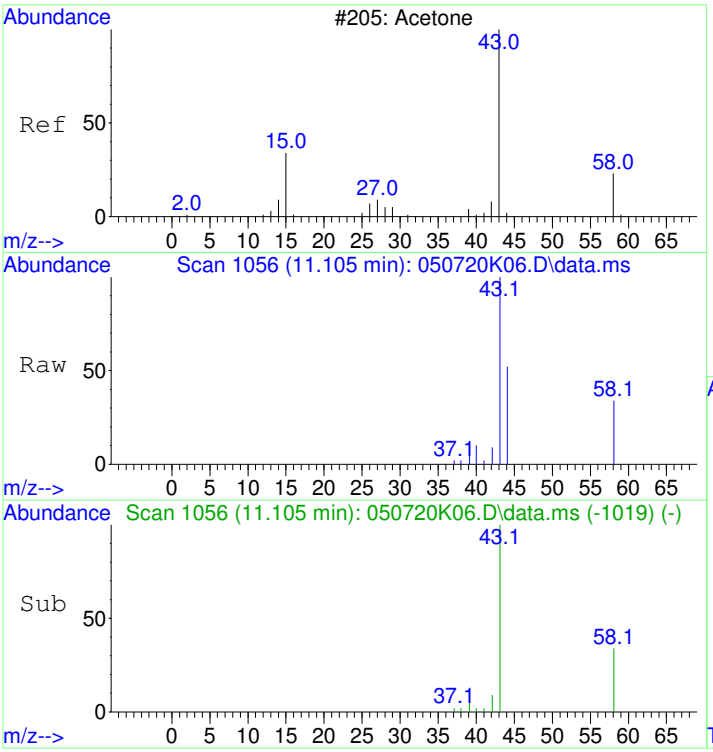


#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 16.319 min Scan# 1913
Delta R.T. 0.006 min
Lab File: 050720K06.D
Acq: 7 May 2020 2:50 pm

Tgt Ion: 49 Resp: 244499

Ion	Ratio	Lower	Upper
49	100		
130	75.8	51.1	91.1
128	58.7	35.0	75.0

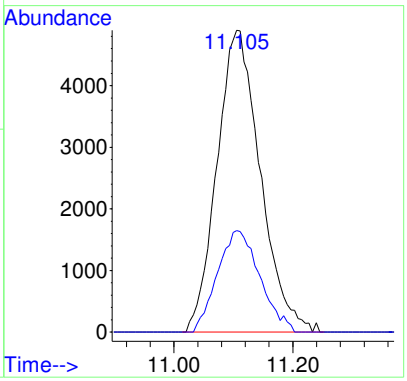


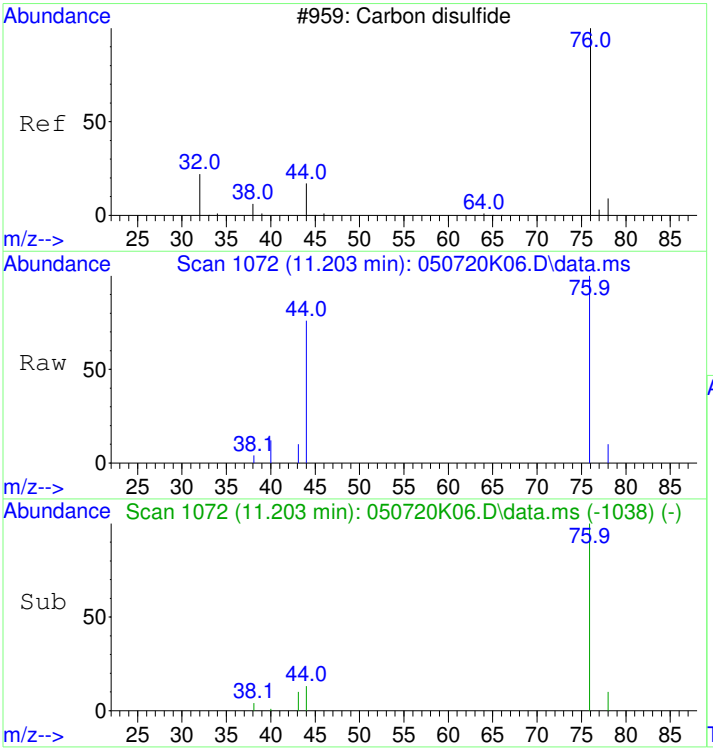


#14
Acetone
Concen: 2.18 ppbv
RT: 11.105 min Scan# 1056
Delta R.T. 0.024 min
Lab File: 050720K06.D
Acq: 7 May 2020 2:50 pm

Tgt Ion: 43 Resp: 24796

Ion	Ratio	Lower	Upper
43	100		
58	32.9	14.0	54.0

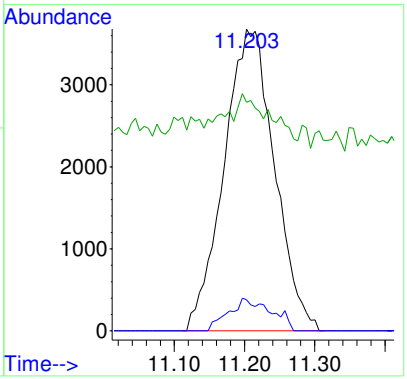


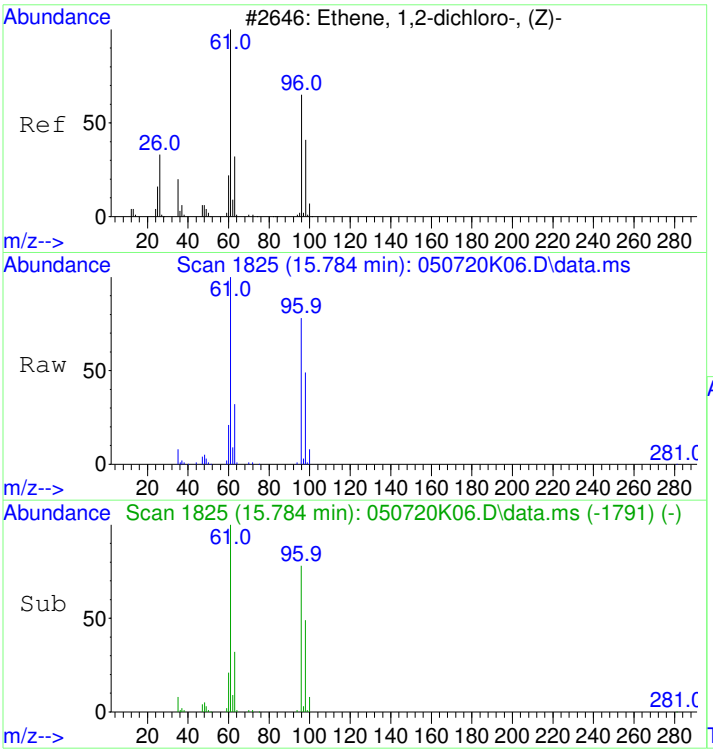


#15
Carbon disulfide
Concen: 0.88 ppbv
RT: 11.203 min Scan# 1072
Delta R.T. 0.006 min
Lab File: 050720K06.D
Acq: 7 May 2020 2:50 pm

Tgt Ion: 76 Resp: 18376

Ion	Ratio	Lower	Upper
76	100		
78	9.1	0.0	29.1
44	0.0	0.0	33.0

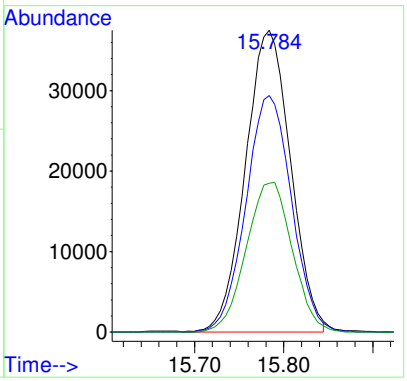


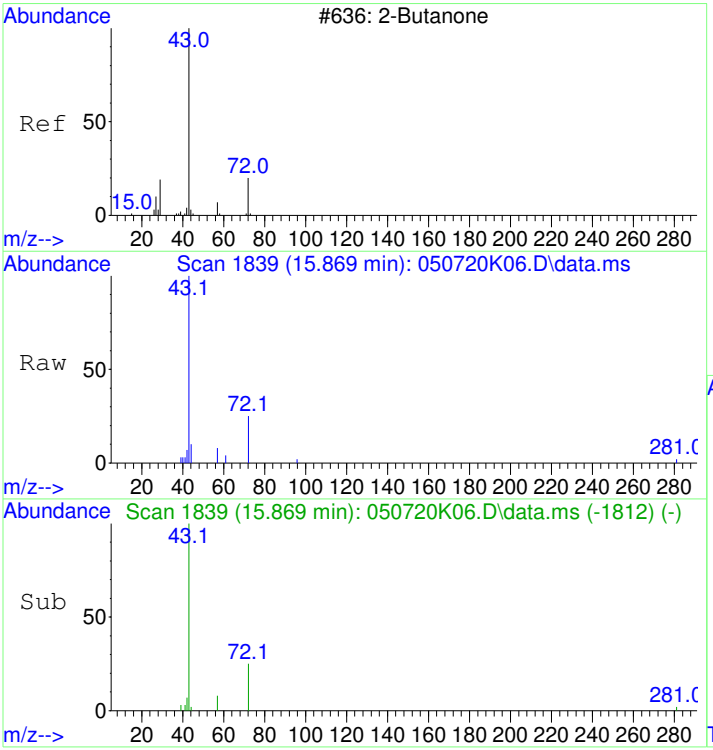


#24
cis-1,2-Dichloroethene
Concen: 12.54 ppbv
RT: 15.784 min Scan# 1825
Delta R.T. 0.006 min
Lab File: 050720K06.D
Acq: 7 May 2020 2:50 pm

Tgt Ion: 61 Resp: 131937

Ion	Ratio	Lower	Upper
61	100		
96	78.8	55.7	95.7
98	0.0	0.0	20.0

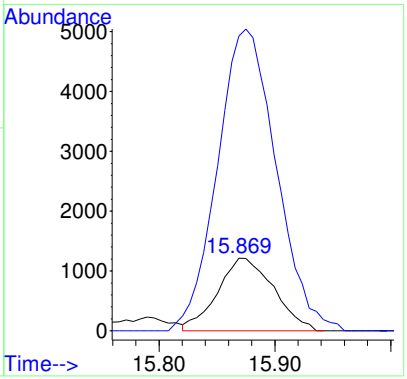


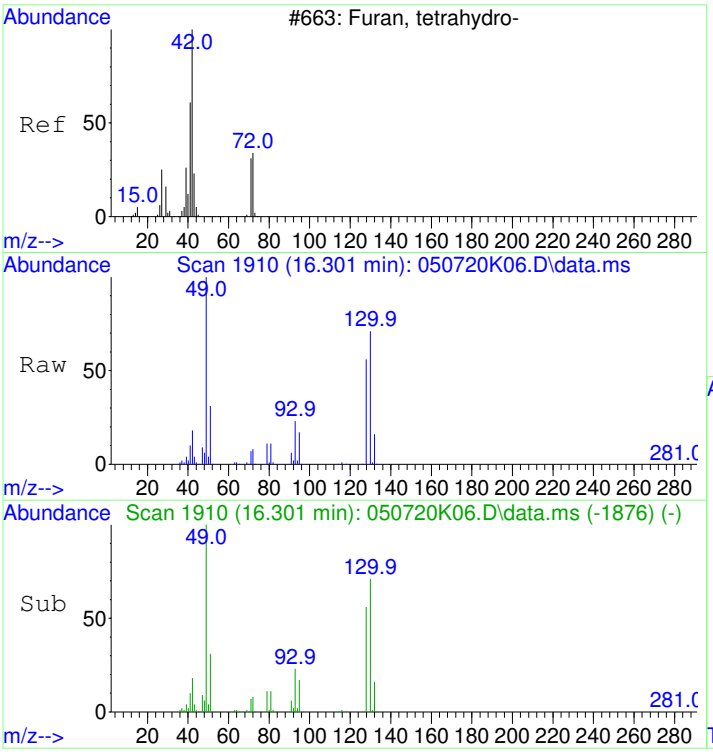


#25
2-Butanone (MEK)
Concen: 0.95 ppbv
RT: 15.869 min Scan# 1839
Delta R.T. 0.012 min
Lab File: 050720K06.D
Acq: 7 May 2020 2:50 pm

Tgt Ion: 72 Resp: 4094

Ion	Ratio	Lower	Upper
72	100		
43	434.8	812.3	832.3#

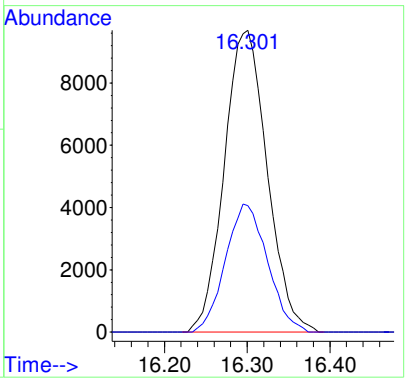


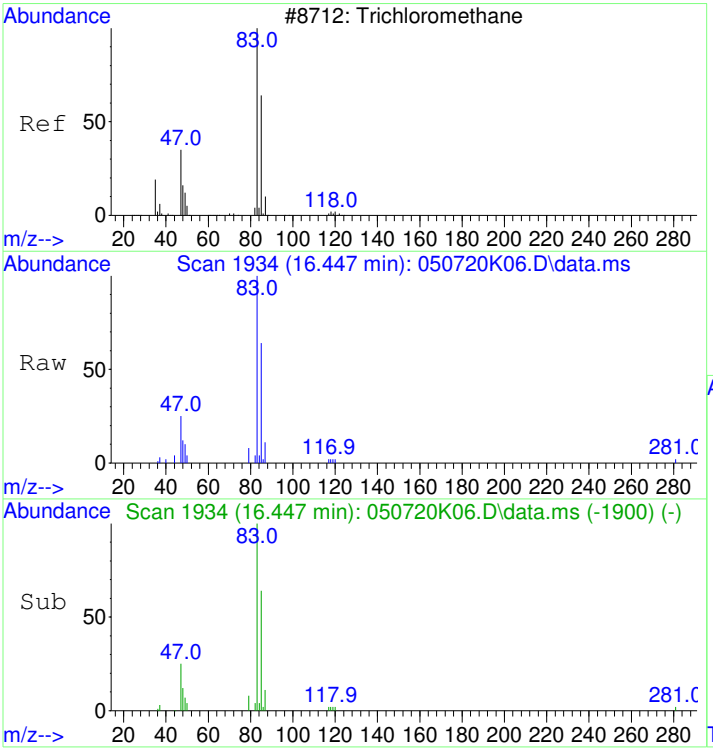


#27
Tetrahydrofuran
Concen: 3.43 ppbv
RT: 16.301 min Scan# 1910
Delta R.T. 0.018 min
Lab File: 050720K06.D
Acq: 7 May 2020 2:50 pm

Tgt Ion: 42 Resp: 34910

Ion	Ratio	Lower	Upper
42	100		
72	41.5	21.2	61.2

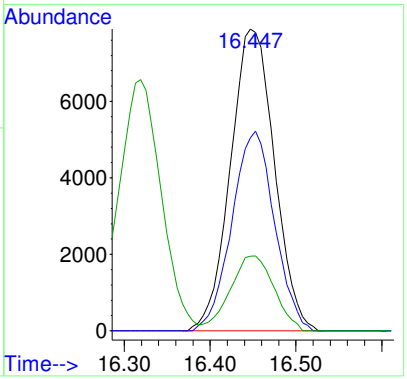


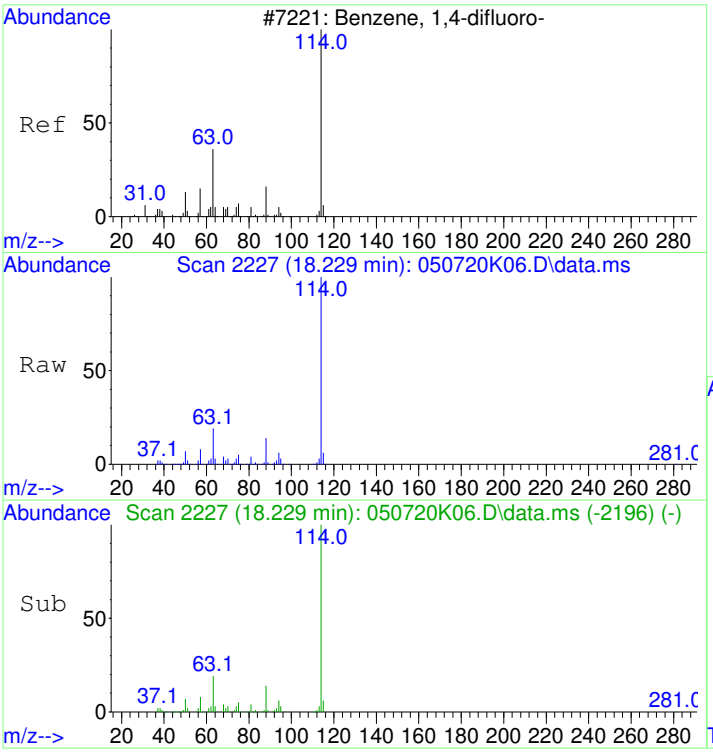


#28
Chloroform
Concen: 1.93 ppbv
RT: 16.447 min Scan# 1934
Delta R.T. 0.006 min
Lab File: 050720K06.D
Acq: 7 May 2020 2:50 pm

Tgt Ion: 83 Resp: 28093

Ion	Ratio	Lower	Upper
83	100		
85	64.1	44.6	84.6
47	22.4	3.0	43.0

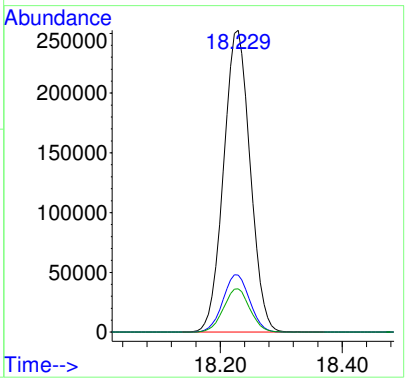


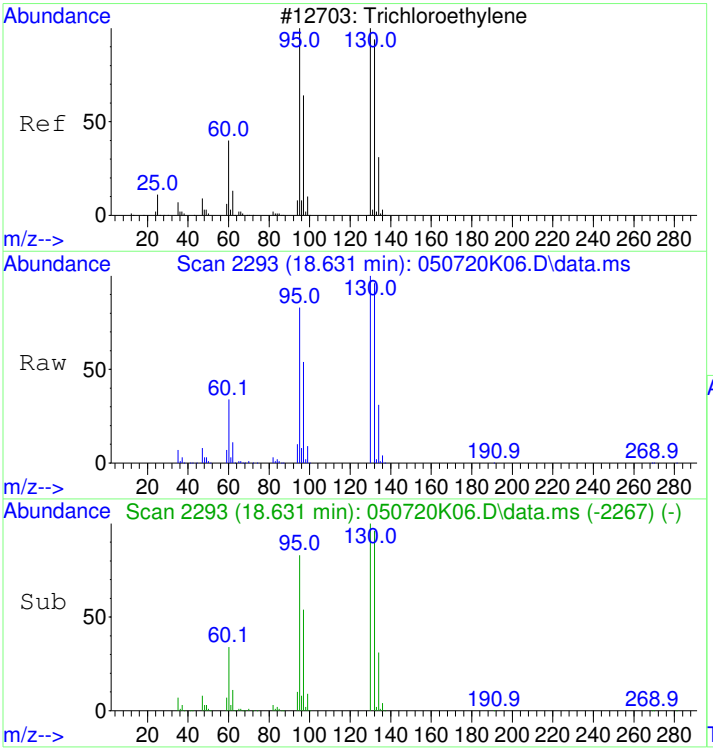


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 18.229 min Scan# 2227
Delta R.T. 0.006 min
Lab File: 050720K06.D
Acq: 7 May 2020 2:50 pm

Tgt Ion:114 Resp: 763666

Ion	Ratio	Lower	Upper
114	100		
63	19.1	0.0	39.6
88	14.2	0.0	34.5

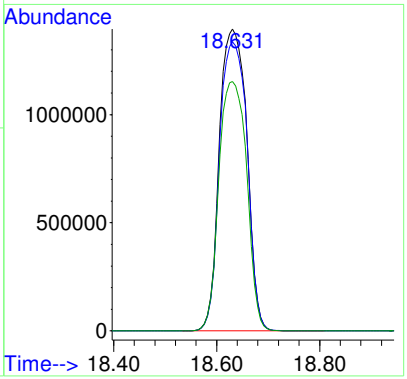


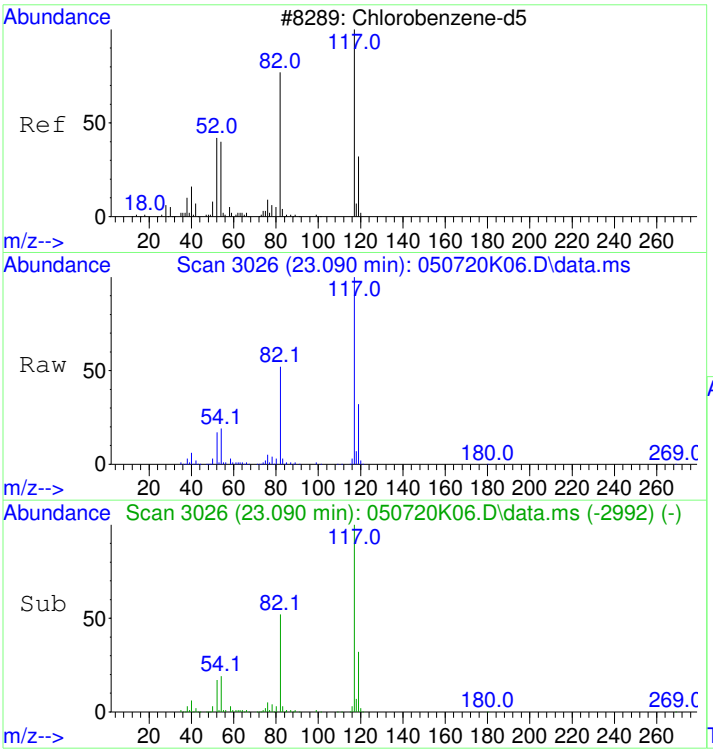


#37
Trichloroethene
Concen: 477.02 ppbv
RT: 18.631 min Scan# 2293
Delta R.T. 0.006 min
Lab File: 050720K06.D
Acq: 7 May 2020 2:50 pm

Tgt Ion:130 Resp: 5162405

Ion	Ratio	Lower	Upper
130	100		
132	96.2	75.5	115.5
95	83.8	71.3	111.3

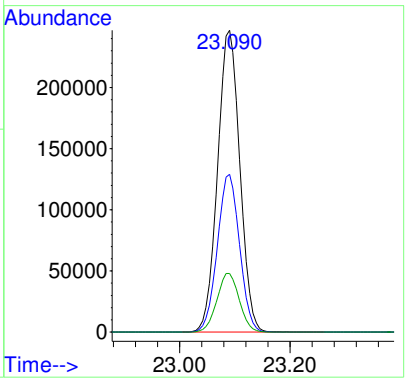




#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 23.090 min Scan# 3026
Delta R.T. 0.006 min
Lab File: 050720K06.D
Acq: 7 May 2020 2:50 pm

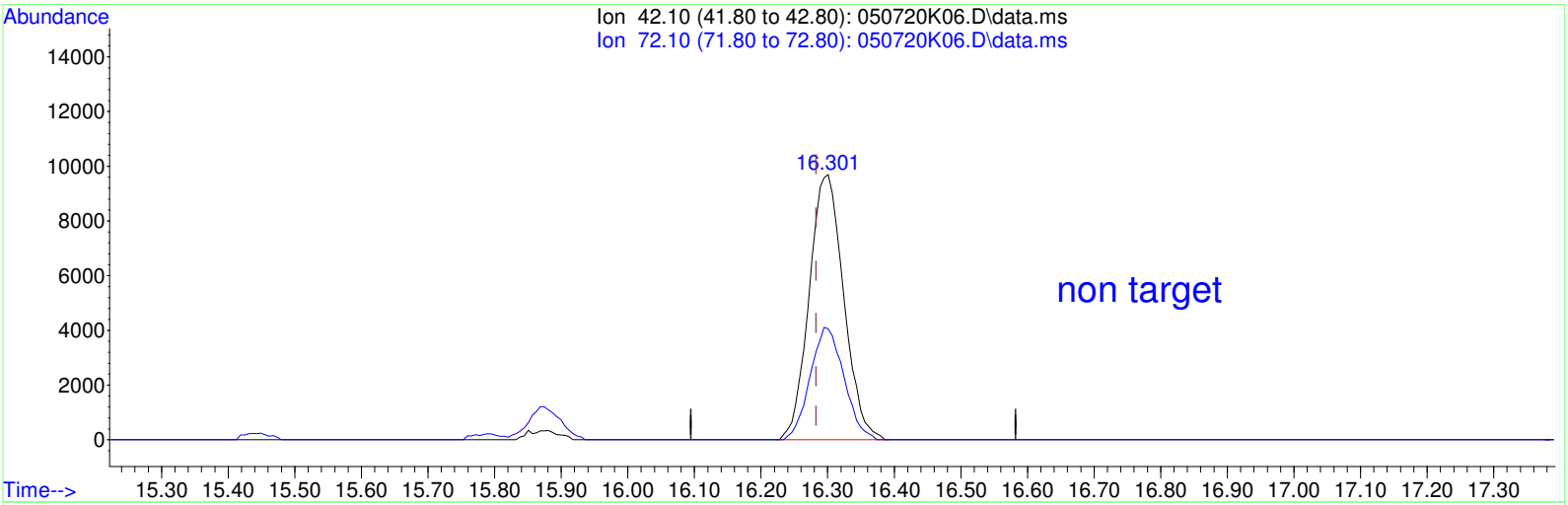
Tgt Ion:117 Resp: 690473

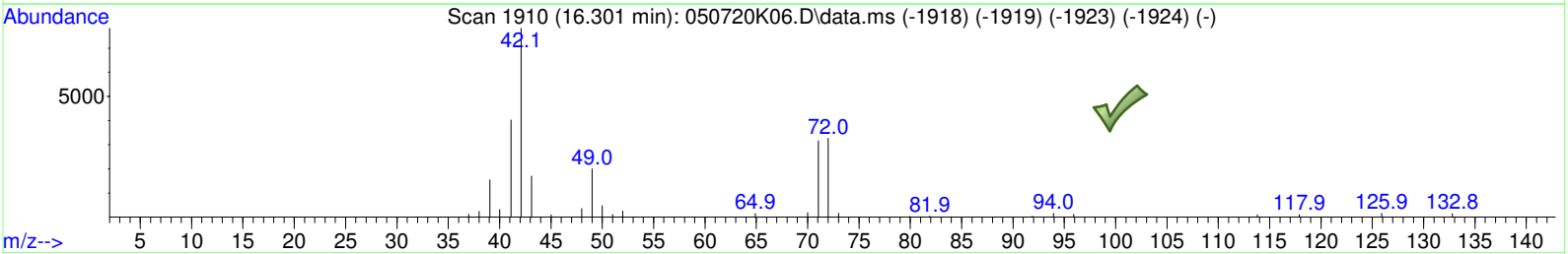
Ion	Ratio	Lower	Upper
117	100		
82	52.0	32.5	72.5
54	19.5	0.0	39.6

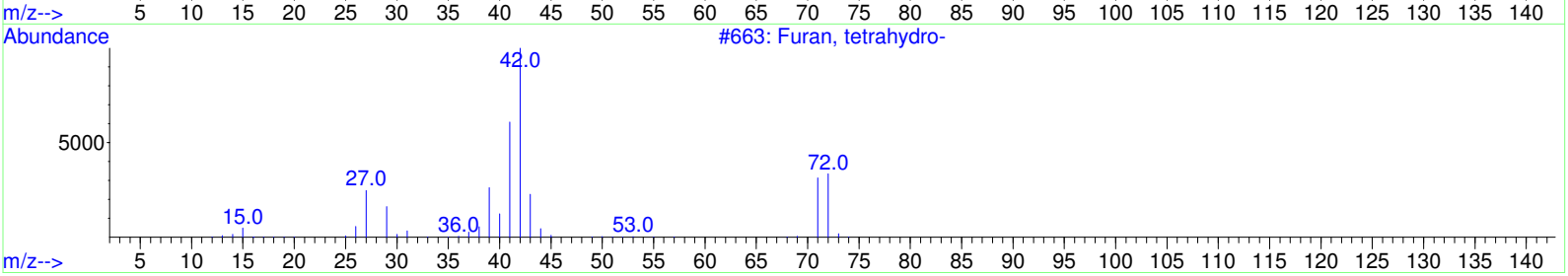


Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K06.D
InstName : HP5973K
Acq On : 7 May 2020 2:50 pm
Operator : EM
Sample : 2005002-01
Misc : 200ml 277 Fairchild-SGR13-5-050620
ALS Vial : 11 Sample Multiplier: 1.9

Quant Time: May 07 15:26:27 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration







TIC: 050720K06.D\data.ms

(27) Tetrahydrofuran (T)

16.301min (+ 0.018) 3.43 ppbv

response 34910

Ion	Exp%	Act%
42.10	100.00	100.00
72.10	41.20	41.52
0.00	0.00	0.00
0.00	0.00	0.00

S20E003-IBL1

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K07.D
InstName : HP5973K
Acq On : 7 May 2020 3:45 pm
Operator : EM
Sample : S20E003-IBL1
Misc : 200ml CAN #4698 RECERTIFICATION
ALS Vial : 39 Sample Multiplier: 1

CLEAN

Quant Time: May 08 09:39:54 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	16.313	49	229407	19.60 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.223	114	729548	19.60 ppbv	0.00
43) CHLOROBENZENE-d5	23.090	117	651917	19.60 ppbv	0.00

Target Compounds	Qvalue

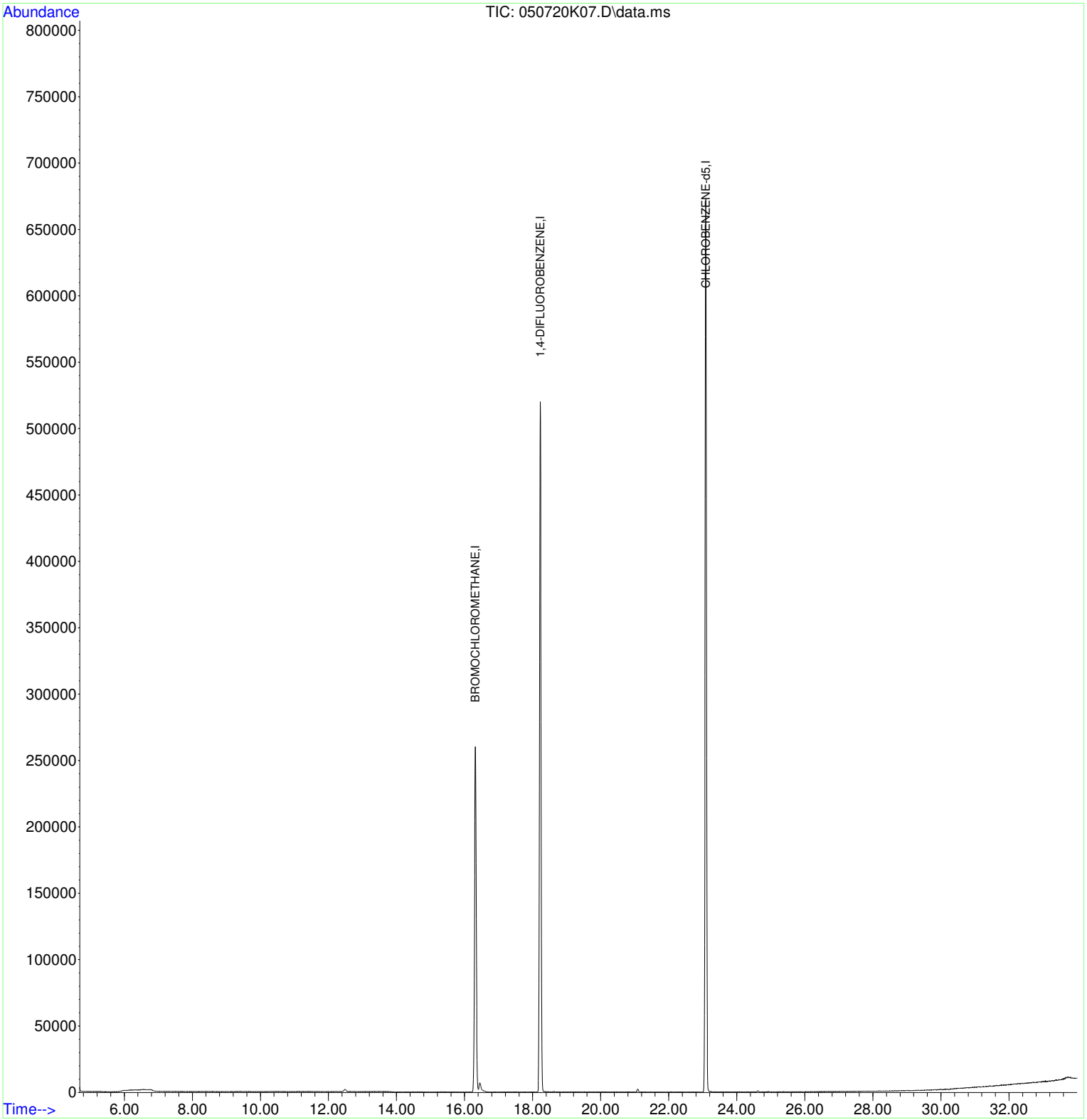
(#) = qualifier out of range (m) = manual integration (+) = signals summed

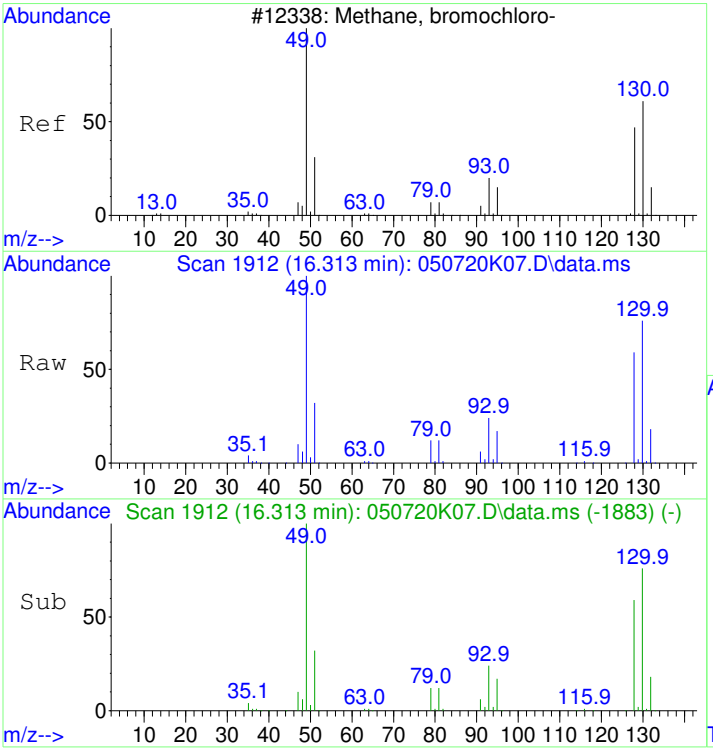
REVIEWED
By EM at 9:40 am, May 08, 2020

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K07.D
InstName : HP5973K
Acq On : 7 May 2020 3:45 pm
Operator : EM
Sample : S20E003-IBL1
Misc : 200ml CAN #4698 RECERTIFICATION
ALS Vial : 39 Sample Multiplier: 1

Quant Time: May 08 09:39:54 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

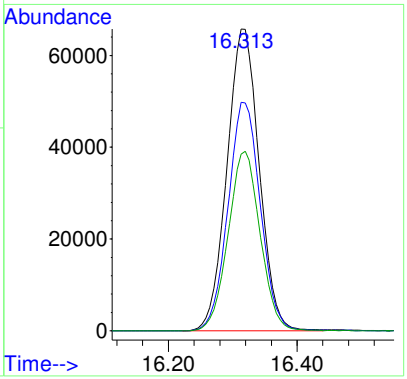


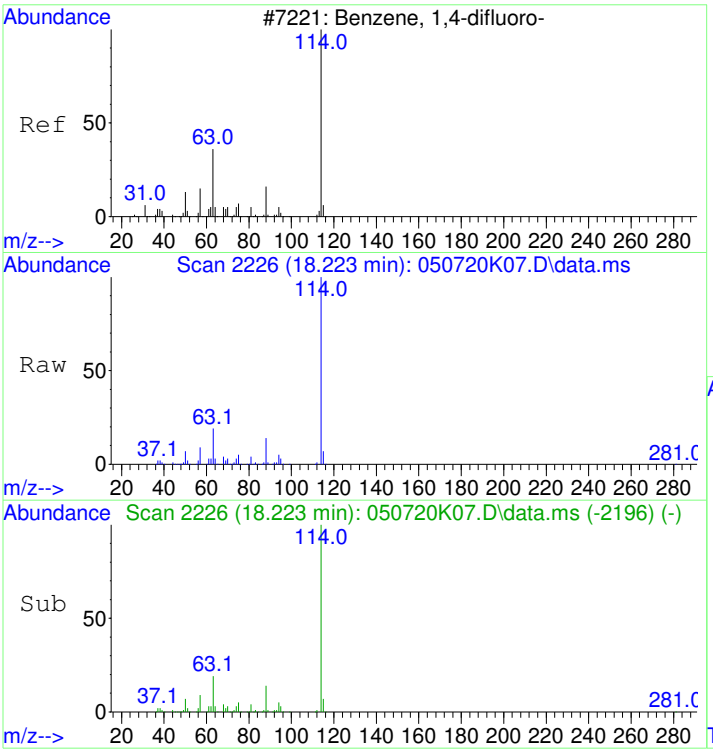


#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 16.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 050720K07.D
Acq: 7 May 2020 3:45 pm

Tgt Ion: 49 Resp: 229407

Ion	Ratio	Lower	Upper
49	100		
130	75.9	51.1	91.1
128	58.4	35.0	75.0

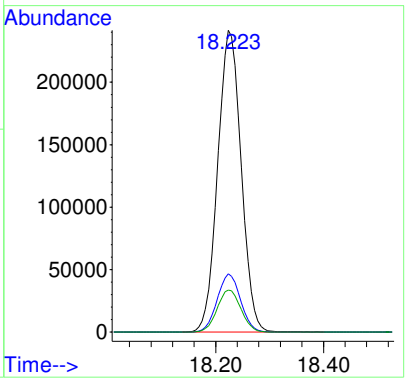


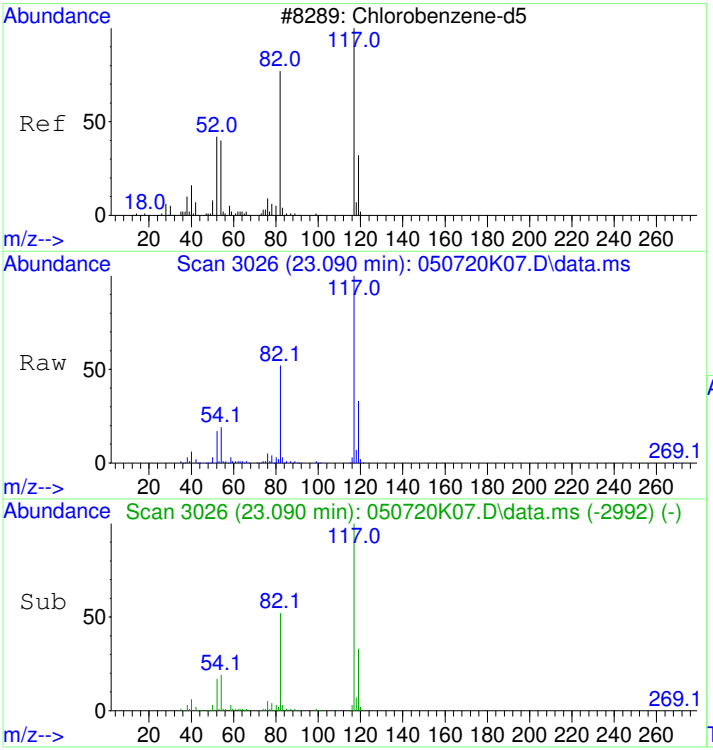


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 18.223 min Scan# 2226
Delta R.T. -0.000 min
Lab File: 050720K07.D
Acq: 7 May 2020 3:45 pm

Tgt Ion:114 Resp: 729548

Ion	Ratio	Lower	Upper
114	100		
63	19.2	0.0	39.6
88	14.1	0.0	34.5

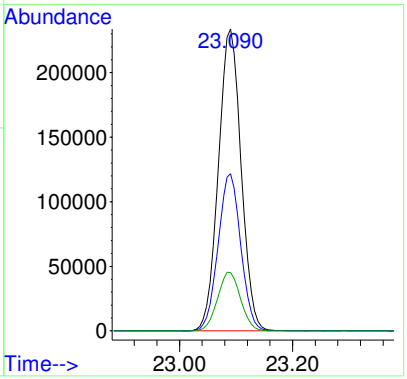




#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 23.090 min Scan# 3026
Delta R.T. 0.006 min
Lab File: 050720K07.D
Acq: 7 May 2020 3:45 pm

Tgt Ion:117 Resp: 651917

Ion	Ratio	Lower	Upper
117	100		
82	51.9	32.5	72.5
54	19.7	0.0	39.6



2005002-02

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K08.D
InstName : HP5973K
Acq On : 7 May 2020 4:38 pm
Operator : EM
Sample : 2005002-02
Misc : 200ml 277 Fairchild-SGR11-5-050620
ALS Vial : 12 Sample Multiplier: 2.25

REPORT

Quant Time: May 08 09:15:41 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

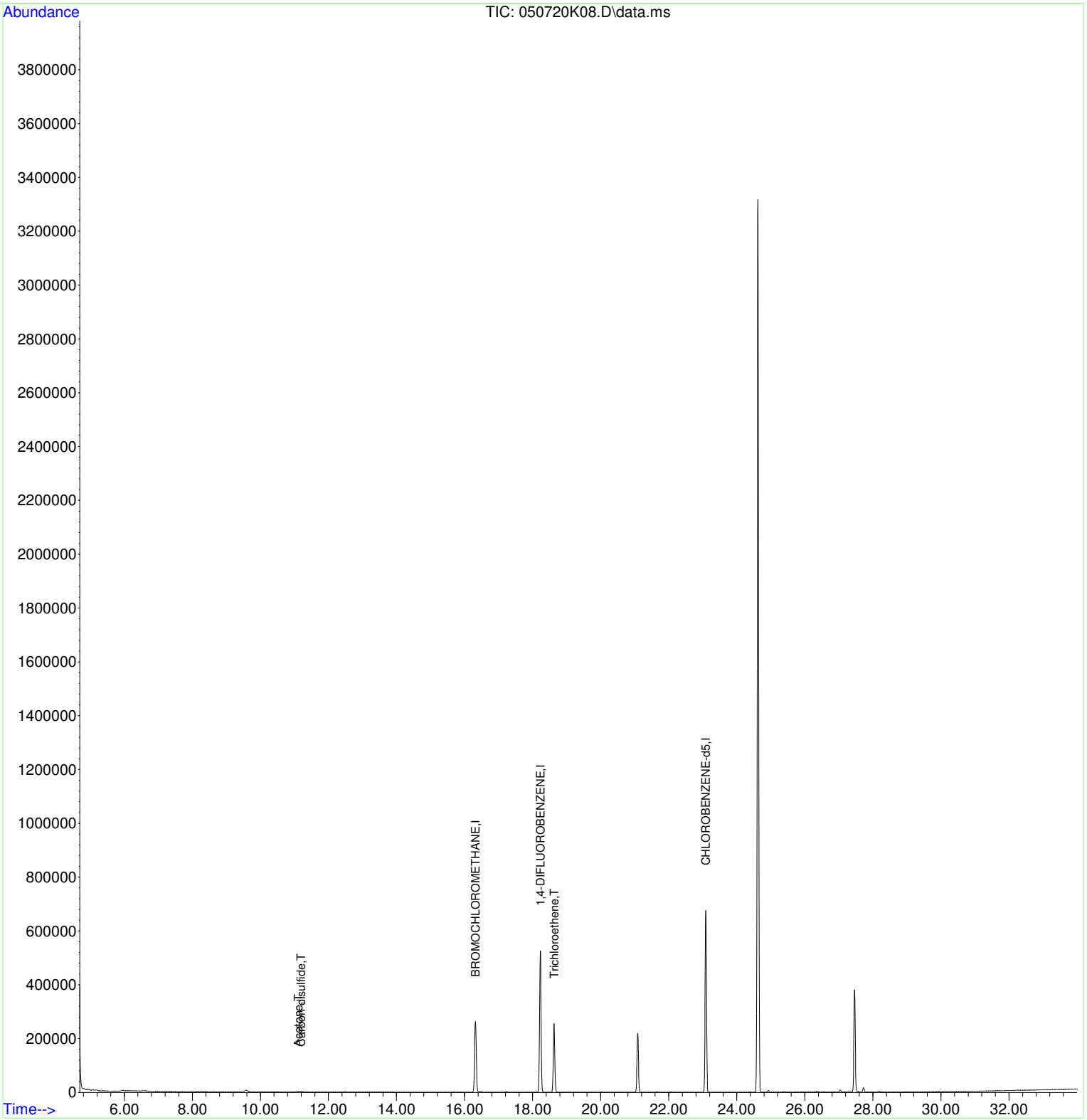
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	16.319	49	232132	19.60	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.229	114	732172	19.60	ppbv	0.00
43) CHLOROBENZENE-d5	23.090	117	662078	19.60	ppbv	0.00
Target Compounds						Qvalue
14) Acetone	11.112	43	10203	0.94	ppbv	92
15) Carbon disulfide	11.197	76	10042	0.51	ppbv #	70
37) Trichloroethene	18.631	130	149188	14.38	ppbv	99

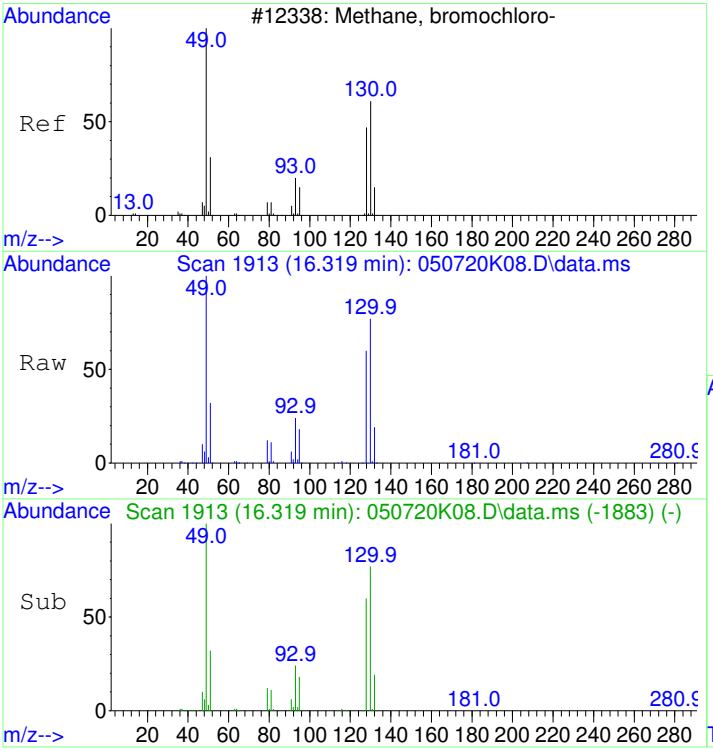
(#) = qualifier out of range (m) = manual integration (+) = signals summed

REVIEWED
By EM at 9:38 am, May 08, 2020

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K08.D
InstName : HP5973K
Acq On : 7 May 2020 4:38 pm
Operator : EM
Sample : 2005002-02
Misc : 200ml 277 Fairchild-SGR11-5-050620
ALS Vial : 12 Sample Multiplier: 2.25

Quant Time: May 08 09:15:41 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

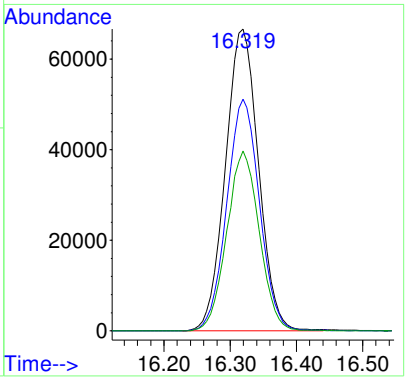


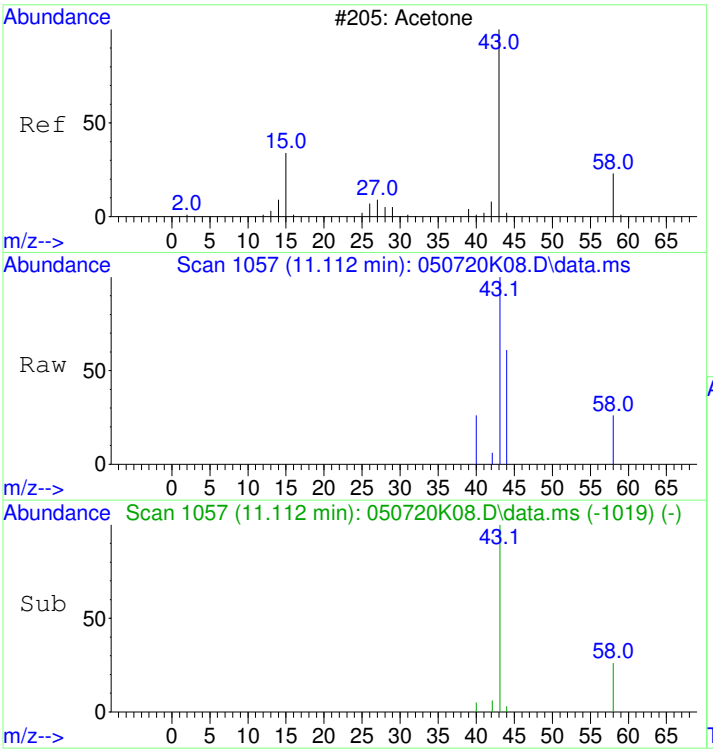


#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 16.319 min Scan# 1913
Delta R.T. 0.006 min
Lab File: 050720K08.D
Acq: 7 May 2020 4:38 pm

Tgt Ion: 49 Resp: 232132

Ion	Ratio	Lower	Upper
49	100		
130	75.8	51.1	91.1
128	57.9	35.0	75.0

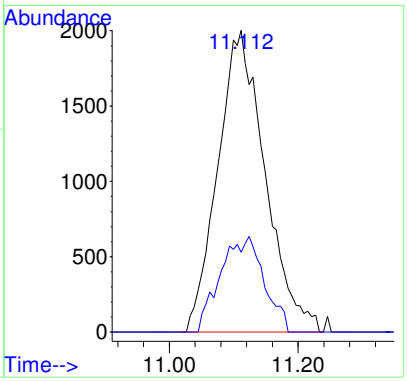


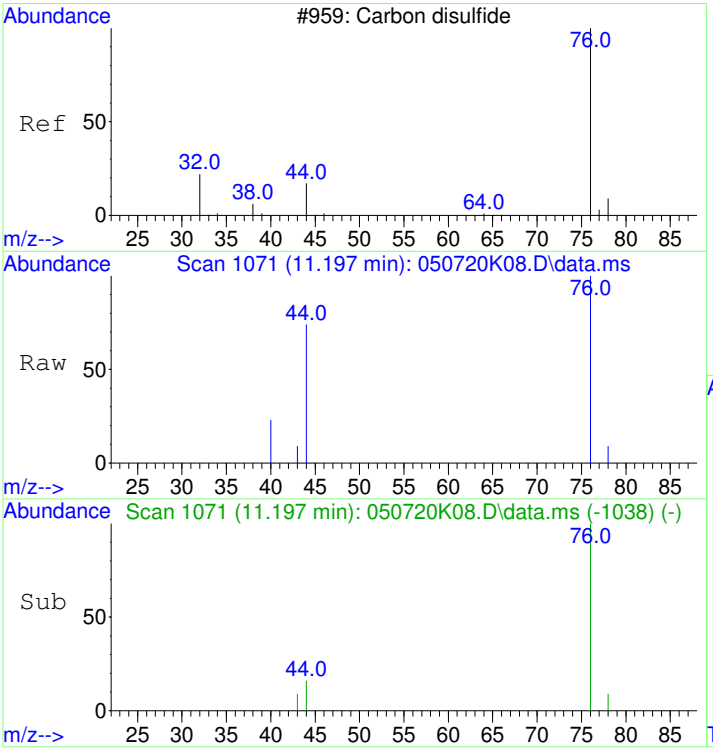


#14
Acetone
Concen: 0.94 ppbv
RT: 11.112 min Scan# 1057
Delta R.T. 0.030 min
Lab File: 050720K08.D
Acq: 7 May 2020 4:38 pm

Tgt Ion: 43 Resp: 10203

Ion	Ratio	Lower	Upper
43	100		
58	29.3	14.0	54.0

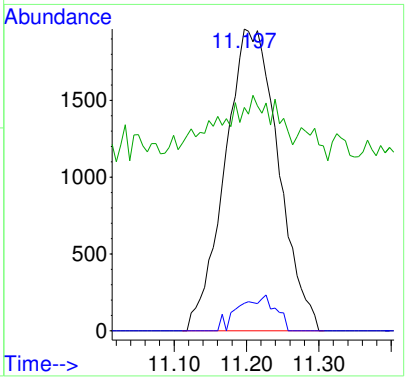


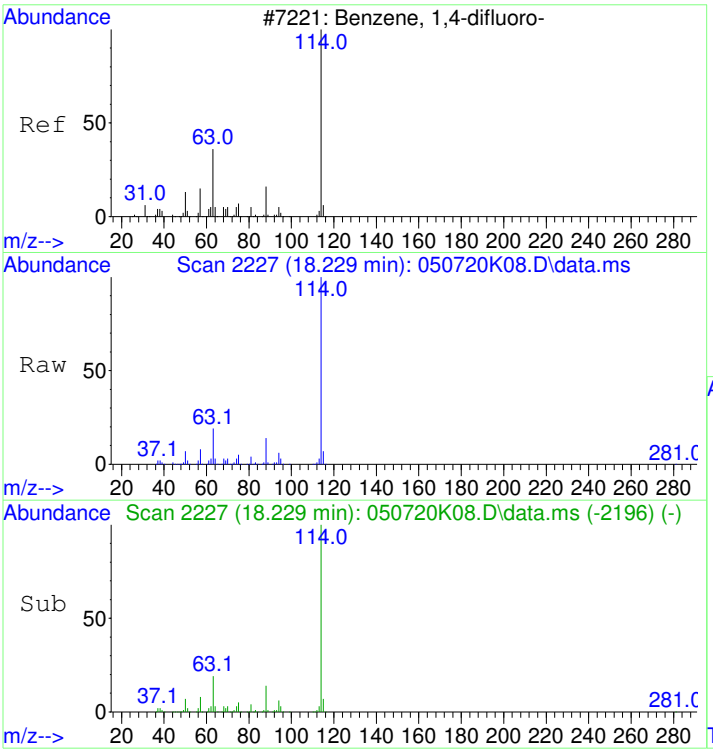


#15
Carbon disulfide
Concen: 0.51 ppbv
RT: 11.197 min Scan# 1071
Delta R.T. -0.000 min
Lab File: 050720K08.D
Acq: 7 May 2020 4:38 pm

Tgt Ion: 76 Resp: 10042

Ion	Ratio	Lower	Upper
76	100		
78	0.0	0.0	29.1
44	0.0	0.0	33.0

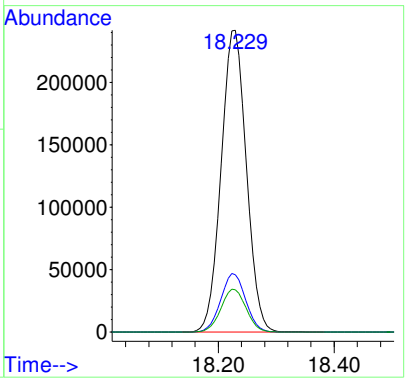


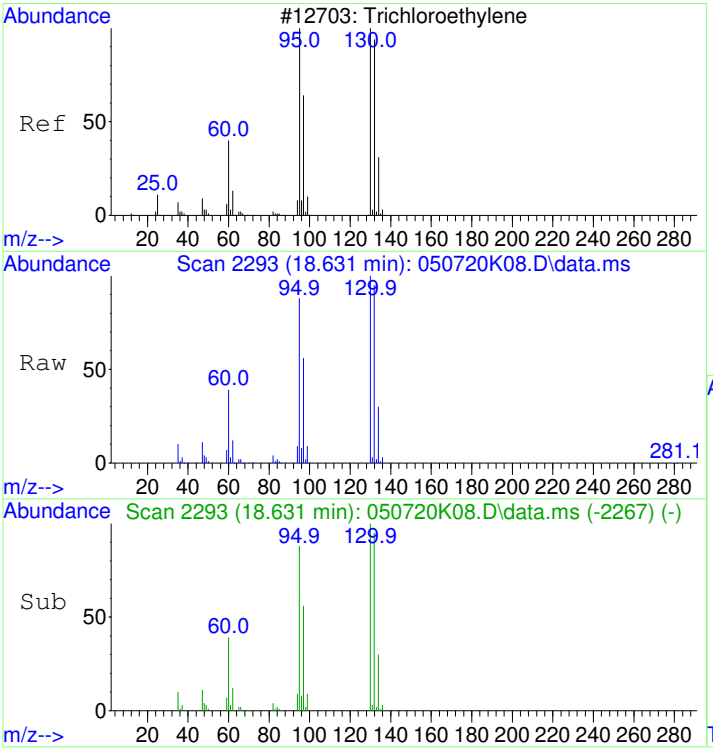


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 18.229 min Scan# 2227
Delta R.T. 0.006 min
Lab File: 050720K08.D
Acq: 7 May 2020 4:38 pm

Tgt Ion:114 Resp: 732172

Ion	Ratio	Lower	Upper
114	100		
63	19.2	0.0	39.6
88	14.2	0.0	34.5

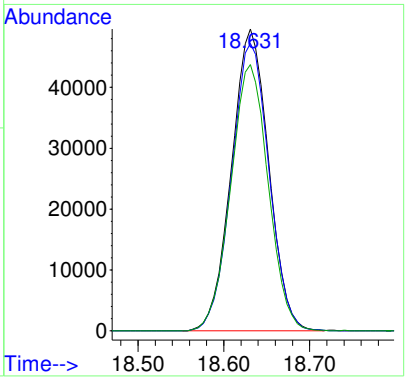


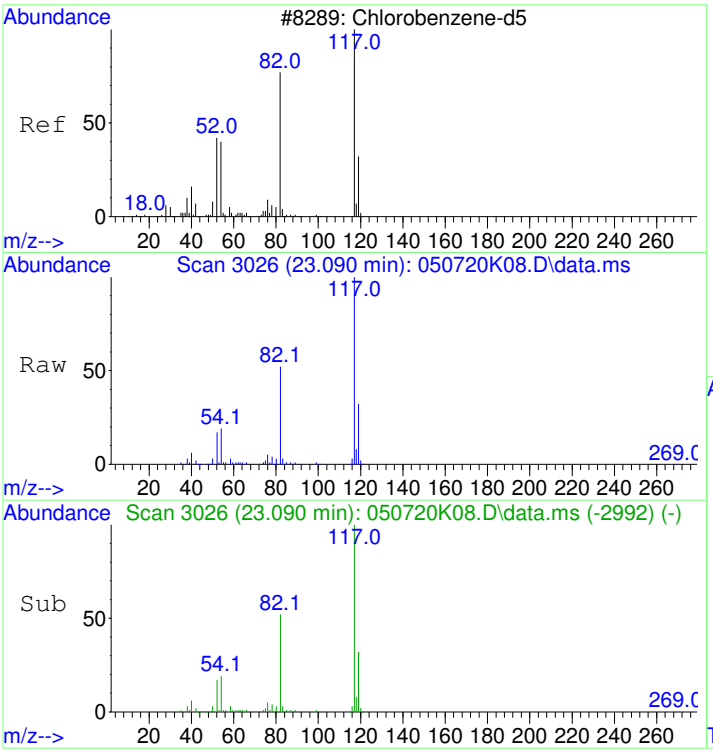


#37
Trichloroethene
Concen: 14.38 ppbv
RT: 18.631 min Scan# 2293
Delta R.T. 0.006 min
Lab File: 050720K08.D
Acq: 7 May 2020 4:38 pm

Tgt Ion:130 Resp: 149188

Ion	Ratio	Lower	Upper
130	100		
132	96.2	75.5	115.5
95	89.2	71.3	111.3

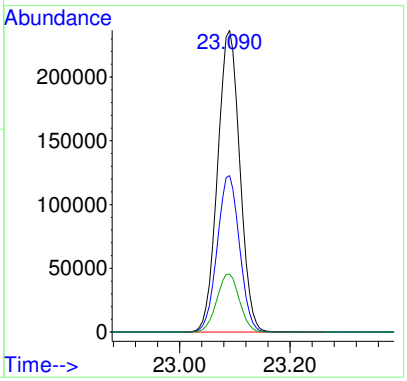




#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 23.090 min Scan# 3026
Delta R.T. 0.006 min
Lab File: 050720K08.D
Acq: 7 May 2020 4:38 pm

Tgt Ion:117 Resp: 662078

Ion	Ratio	Lower	Upper
117	100		
82	52.0	32.5	72.5
54	19.6	0.0	39.6



2005002-03

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K09.D
InstName : HP5973K
Acq On : 7 May 2020 5:31 pm
Operator : EM
Sample : 2005002-03
Misc : 200ml 277 Fairchild-SGR6-5-050620
ALS Vial : 13 Sample Multiplier: 2.01

Quant Time: May 08 09:15:44 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

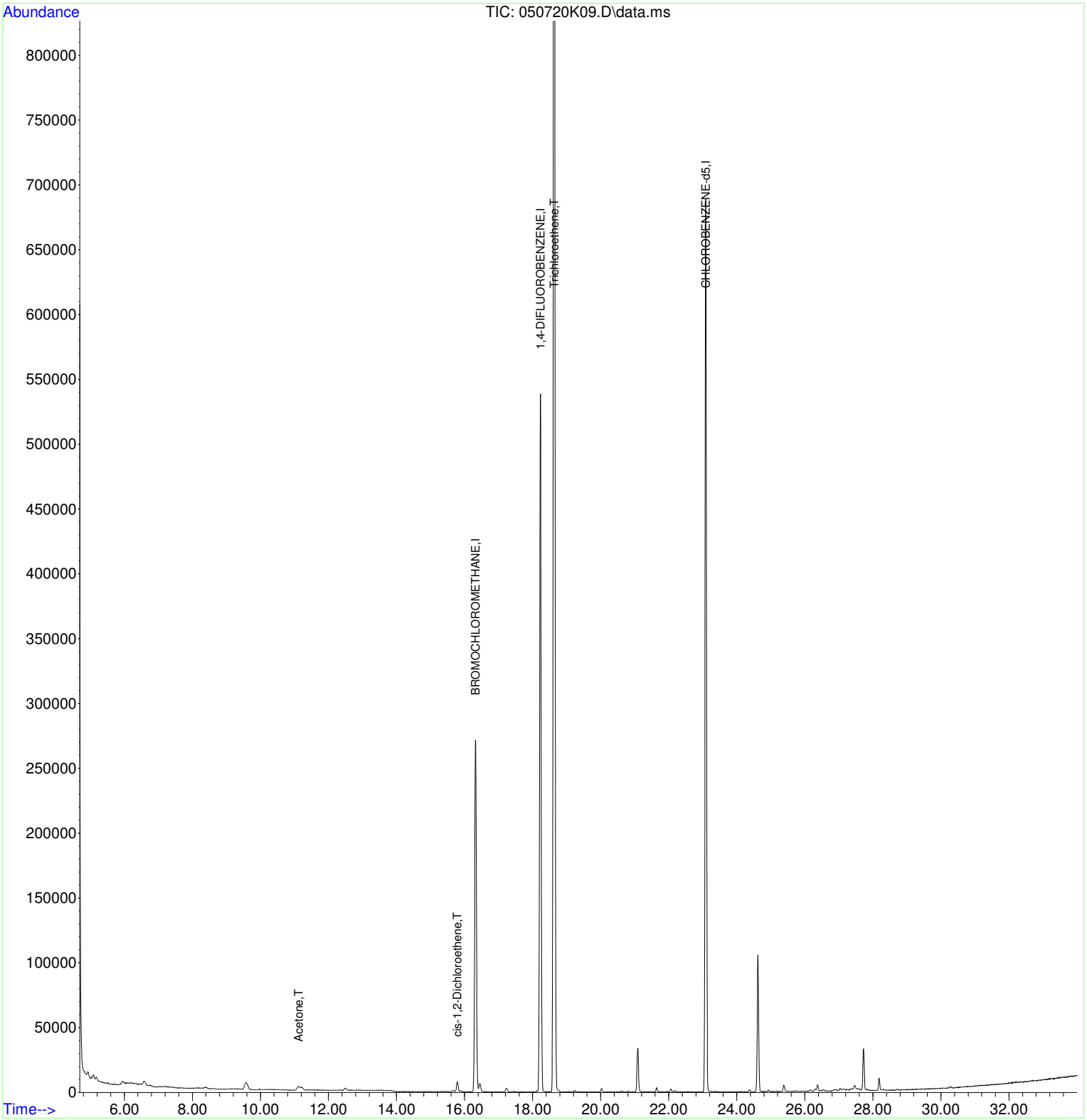
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	16.319	49	238189	19.60	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.229	114	751754	19.60	ppbv	0.00
43) CHLOROBENZENE-d5	23.090	117	673608	19.60	ppbv	0.00
Target Compounds						Qvalue
14) Acetone	11.118	43	10354	0.93	ppbv	100
24) cis-1,2-Dichloroethene	15.784	61	8583	0.84	ppbv #	98
37) Trichloroethene	18.631	130	888748	83.42	ppbv	98 OC

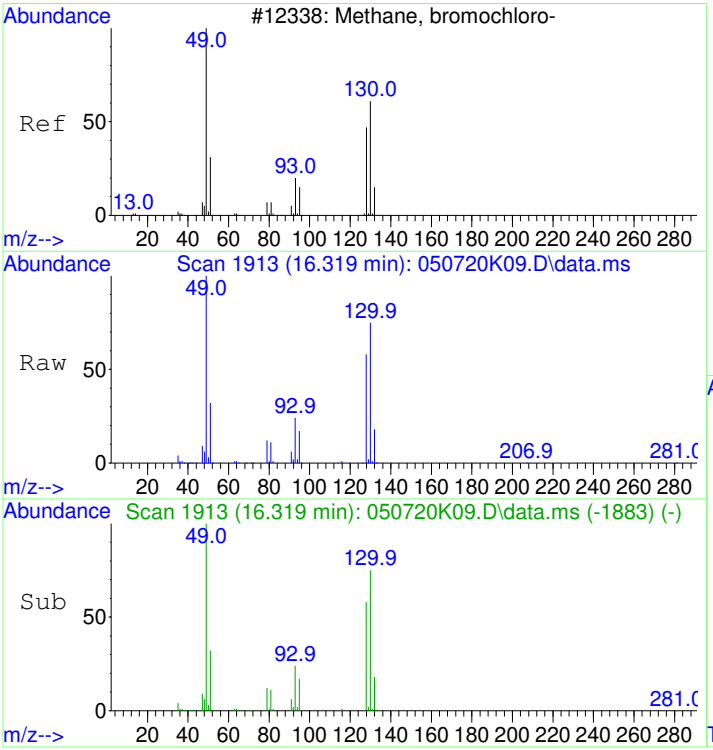
(#) = qualifier out of range (m) = manual integration (+) = signals summed

REVIEWED
By EM at 9:37 am, May 08, 2020

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K09.D
InstName : HP5973K
Acq On : 7 May 2020 5:31 pm
Operator : EM
Sample : 2005002-03
Misc : 200ml 277 Fairchild-SGR6-5-050620
ALS Vial : 13 Sample Multiplier: 2.01

Quant Time: May 08 09:15:44 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

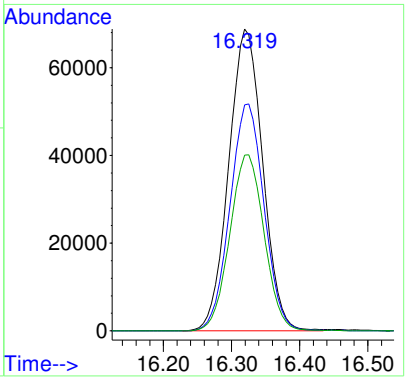


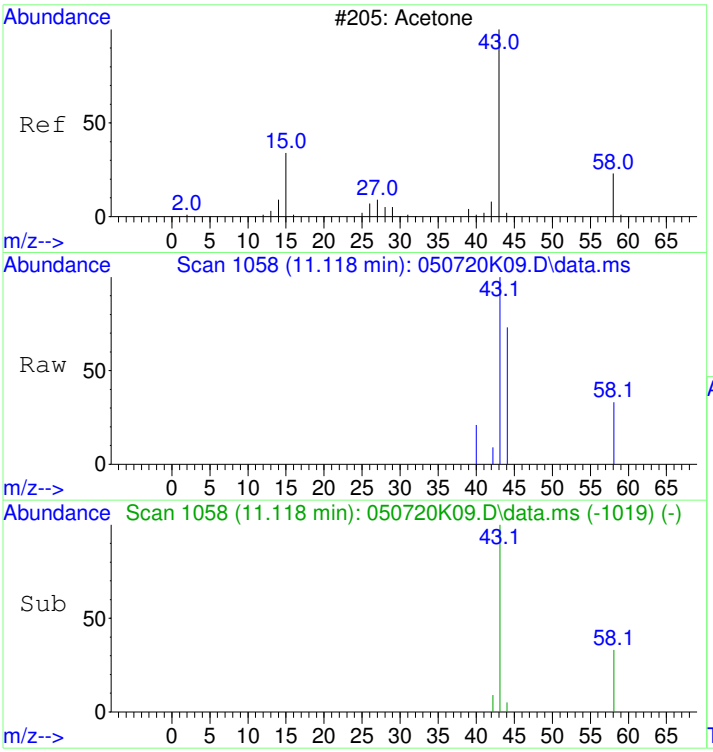


#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 16.319 min Scan# 1913
Delta R.T. 0.006 min
Lab File: 050720K09.D
Acq: 7 May 2020 5:31 pm

Tgt Ion: 49 Resp: 238189

Ion	Ratio	Lower	Upper
49	100		
130	75.4	51.1	91.1
128	58.4	35.0	75.0

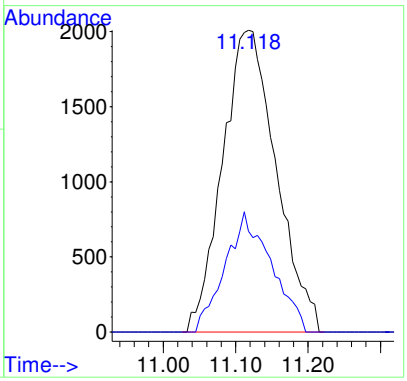


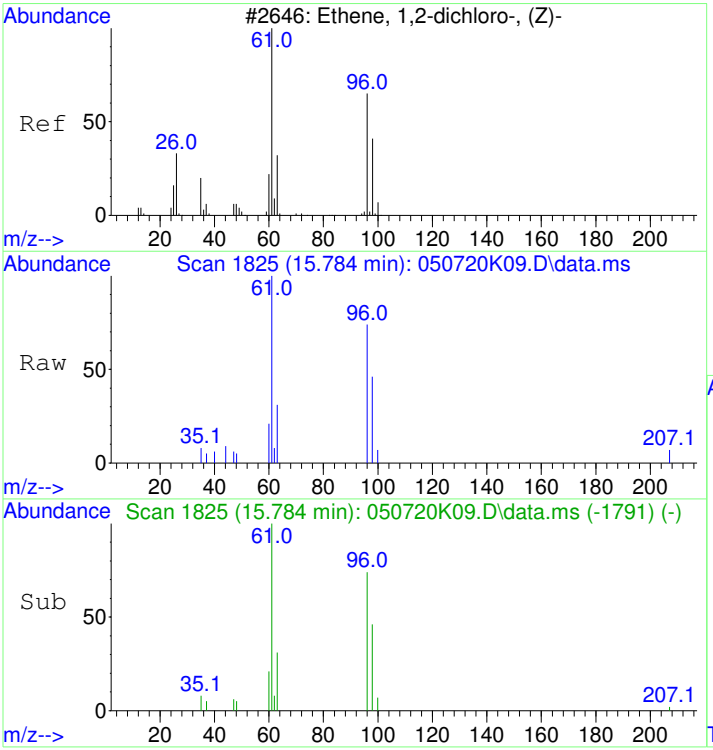


#14
Acetone
Concen: 0.93 ppbv
RT: 11.118 min Scan# 1058
Delta R.T. 0.036 min
Lab File: 050720K09.D
Acq: 7 May 2020 5:31 pm

Tgt Ion: 43 Resp: 10354

Ion	Ratio	Lower	Upper
43	100		
58	34.1	14.0	54.0

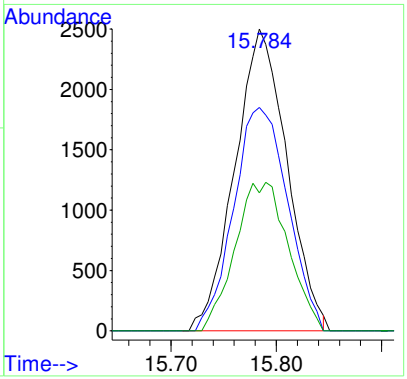


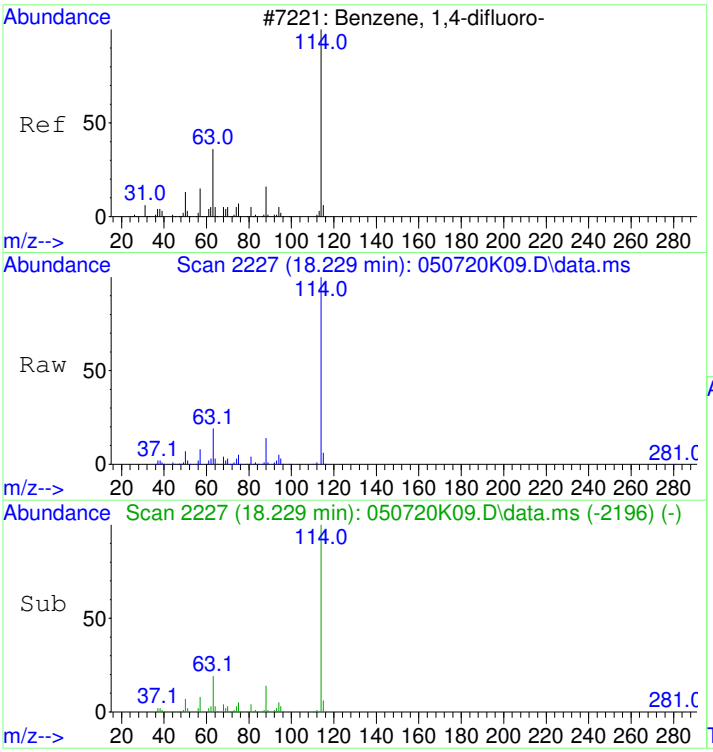


#24
cis-1,2-Dichloroethene
Concen: 0.84 ppbv
RT: 15.784 min Scan# 1825
Delta R.T. 0.006 min
Lab File: 050720K09.D
Acq: 7 May 2020 5:31 pm

Tgt Ion: 61 Resp: 8583

Ion	Ratio	Lower	Upper
61	100		
96	77.1	55.7	95.7
98	0.0	0.0	20.0

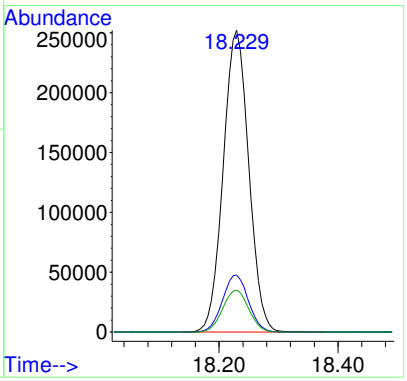


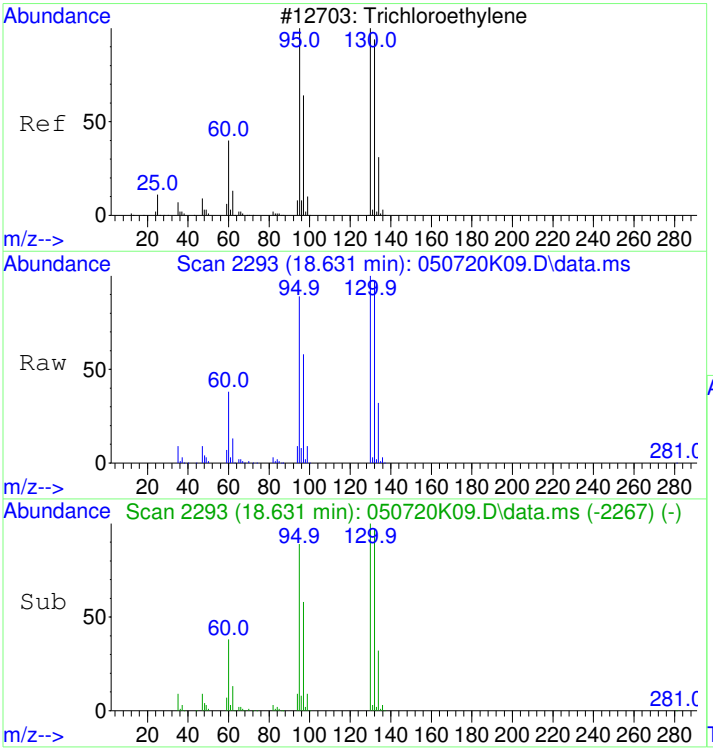


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 18.229 min Scan# 2227
Delta R.T. 0.006 min
Lab File: 050720K09.D
Acq: 7 May 2020 5:31 pm

Tgt Ion:114 Resp: 751754

Ion	Ratio	Lower	Upper
114	100		
63	19.2	0.0	39.6
88	14.2	0.0	34.5

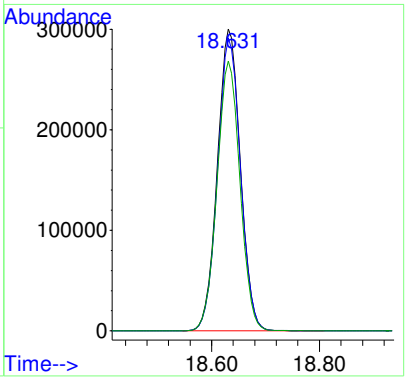


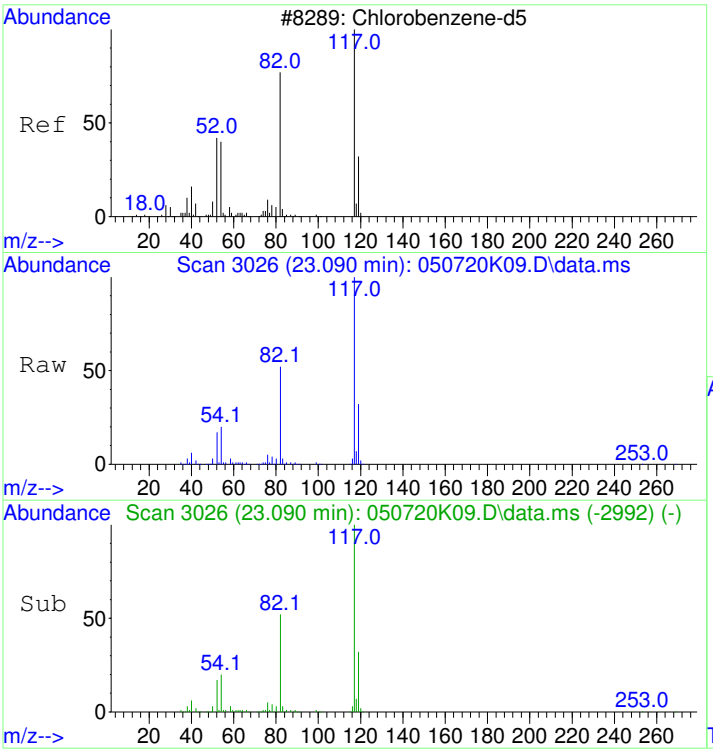


#37
Trichloroethene
Concen: 83.42 ppbv
RT: 18.631 min Scan# 2293
Delta R.T. 0.006 min
Lab File: 050720K09.D
Acq: 7 May 2020 5:31 pm

Tgt Ion:130 Resp: 888748

Ion	Ratio	Lower	Upper
130	100		
132	96.6	75.5	115.5
95	89.2	71.3	111.3

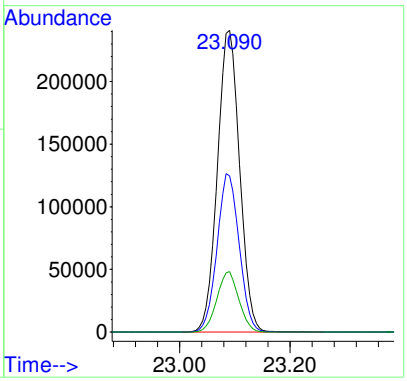




#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 23.090 min Scan# 3026
Delta R.T. 0.006 min
Lab File: 050720K09.D
Acq: 7 May 2020 5:31 pm

Tgt Ion:117 Resp: 673608

Ion	Ratio	Lower	Upper
117	100		
82	52.1	32.5	72.5
54	19.7	0.0	39.6



2005002-04

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K10.D
InstName : HP5973K
Acq On : 7 May 2020 6:23 pm
Operator : EM
Sample : 2005002-04
Misc : 200ml 277 Fairchild-SGR2-5-050620
ALS Vial : 14 Sample Multiplier: 1.9

CLEAN

Quant Time: May 08 09:15:47 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

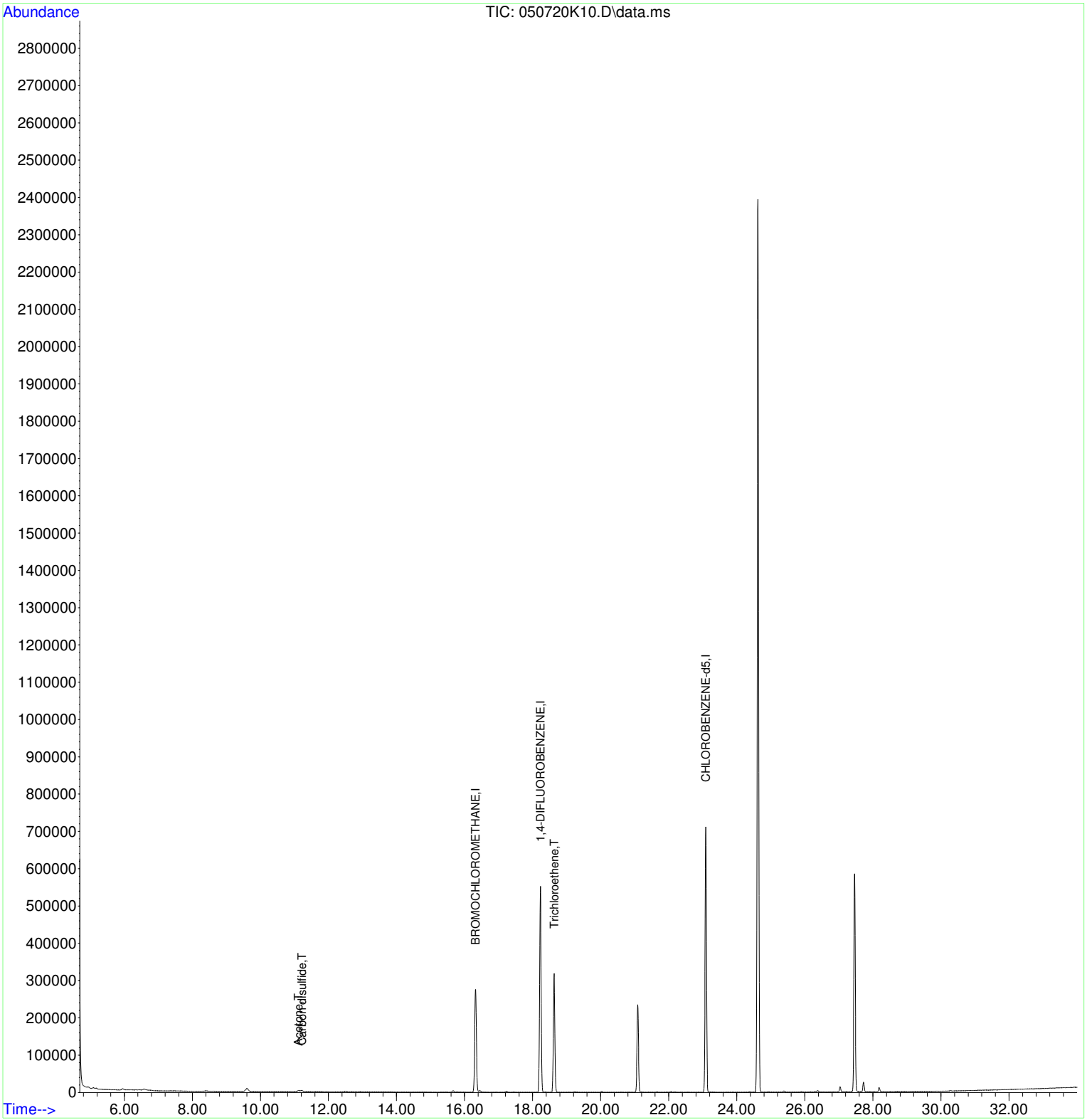
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	16.319	49	242400	19.60	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.230	114	765149	19.60	ppbv	0.00
43) CHLOROBENZENE-d5	23.090	117	689223	19.60	ppbv	0.00
Target Compounds						Qvalue
14) Acetone	11.112	43	11453	1.01	ppbv	97
15) Carbon disulfide	11.221	76	14496	0.70	ppbv #	70
37) Trichloroethene	18.631	130	184353	17.00	ppbv	99

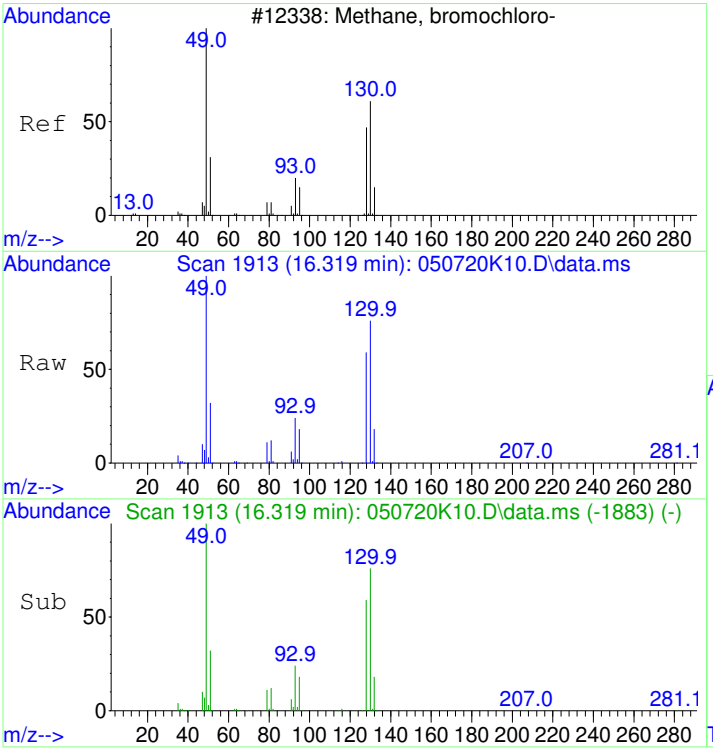
(#) = qualifier out of range (m) = manual integration (+) = signals summed

REVIEWED
By EM at 9:35 am, May 08, 2020

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K10.D
InstName : HP5973K
Acq On : 7 May 2020 6:23 pm
Operator : EM
Sample : 2005002-04
Misc : 200ml 277 Fairchild-SGR2-5-050620
ALS Vial : 14 Sample Multiplier: 1.9

Quant Time: May 08 09:15:47 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

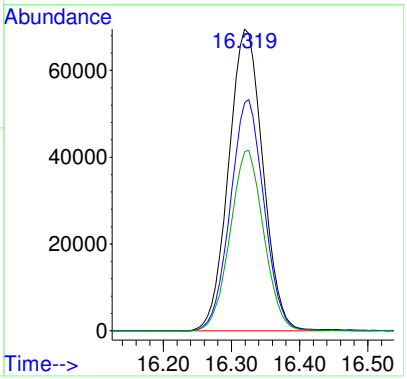


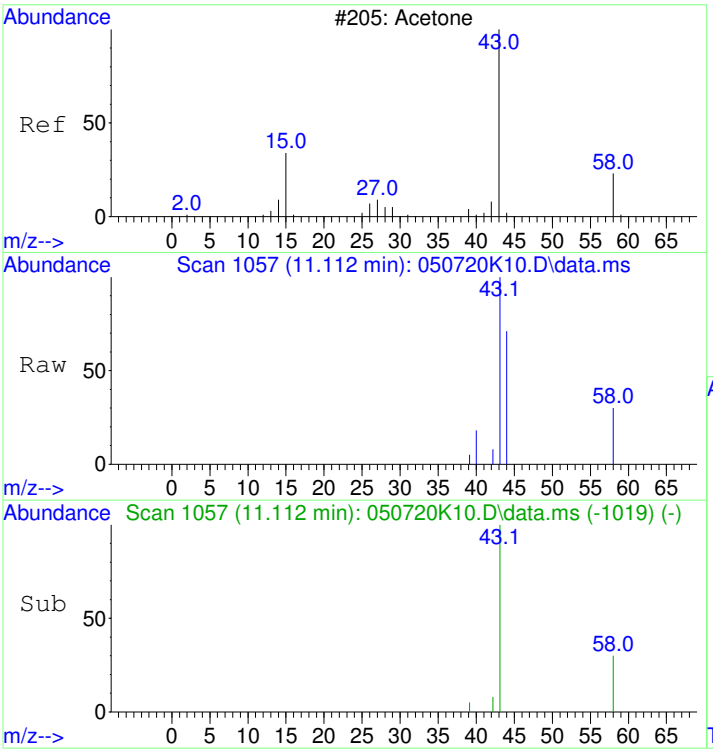


#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 16.319 min Scan# 1913
Delta R.T. 0.006 min
Lab File: 050720K10.D
Acq: 7 May 2020 6:23 pm

Tgt Ion: 49 Resp: 242400

Ion	Ratio	Lower	Upper
49	100		
130	75.4	51.1	91.1
128	58.1	35.0	75.0

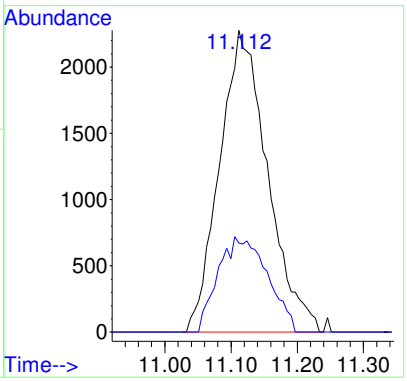


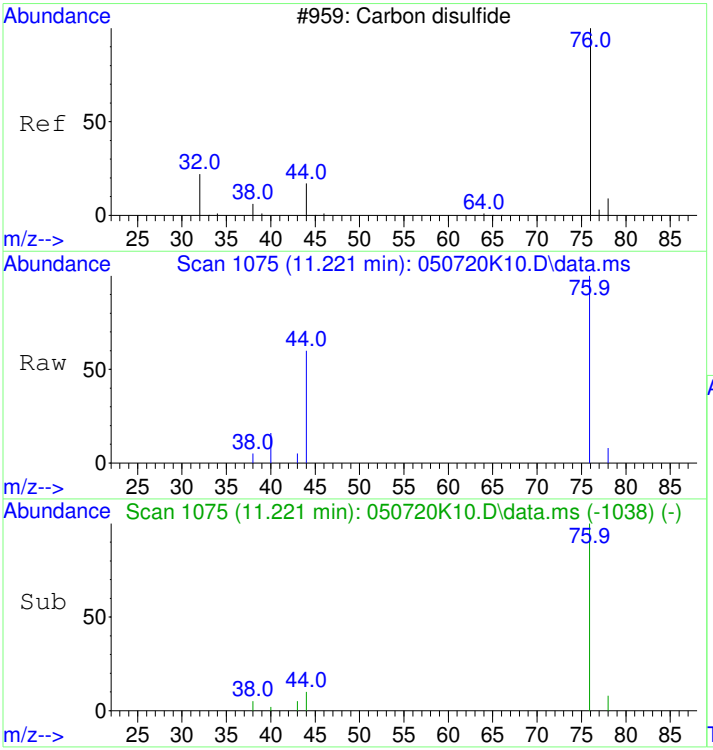


#14
Acetone
Concen: 1.01 ppbv
RT: 11.112 min Scan# 1057
Delta R.T. 0.030 min
Lab File: 050720K10.D
Acq: 7 May 2020 6:23 pm

Tgt Ion: 43 Resp: 11453

Ion	Ratio	Lower	Upper
43	100		
58	32.4	14.0	54.0

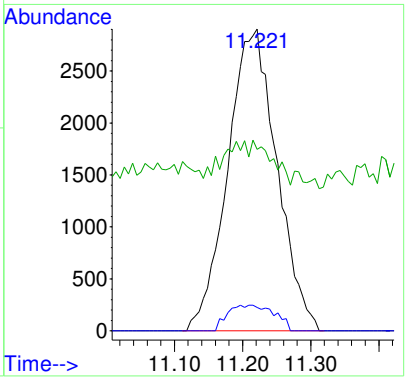


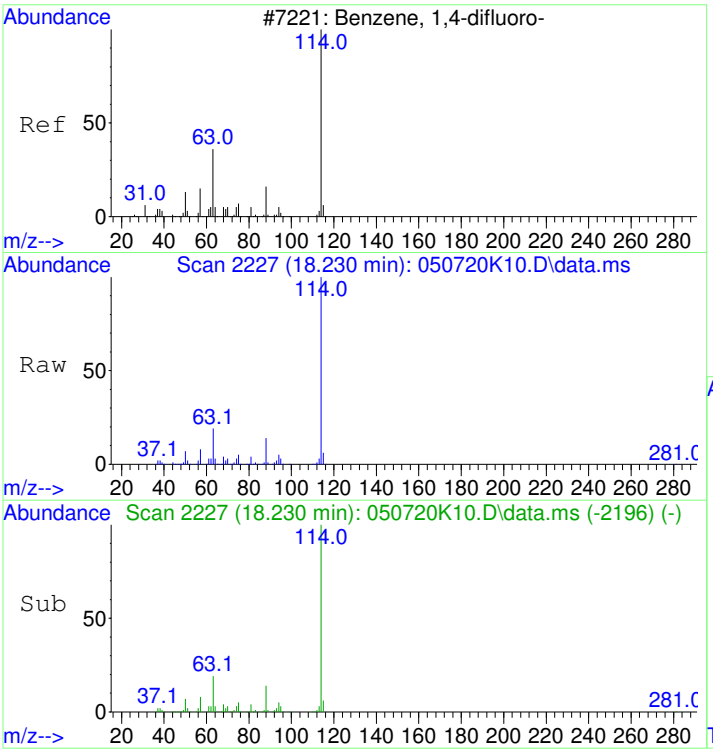


#15
Carbon disulfide
Concen: 0.70 ppbv
RT: 11.221 min Scan# 1075
Delta R.T. 0.024 min
Lab File: 050720K10.D
Acq: 7 May 2020 6:23 pm

Tgt Ion: 76 Resp: 14496

Ion	Ratio	Lower	Upper
76	100		
78	0.0	0.0	29.1
44	0.0	0.0	33.0

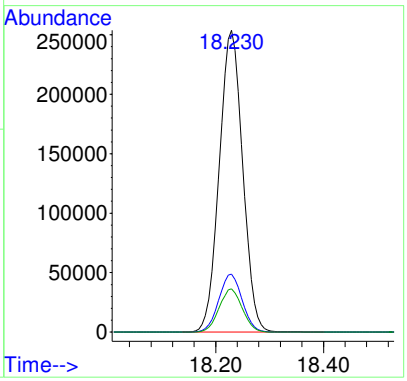


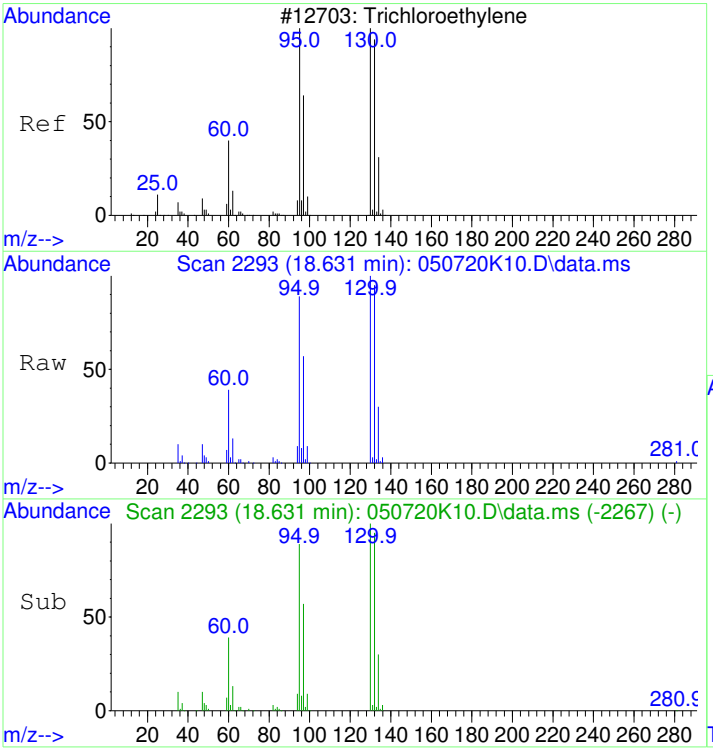


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 18.230 min Scan# 2227
Delta R.T. 0.006 min
Lab File: 050720K10.D
Acq: 7 May 2020 6:23 pm

Tgt Ion:114 Resp: 765149

Ion	Ratio	Lower	Upper
114	100		
63	19.2	0.0	39.6
88	14.2	0.0	34.5

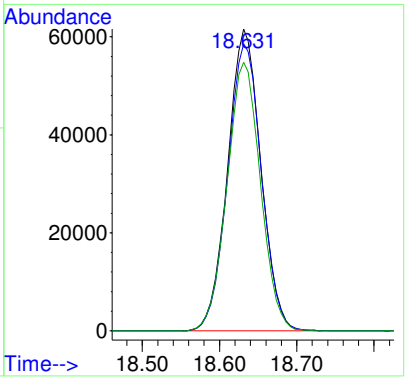


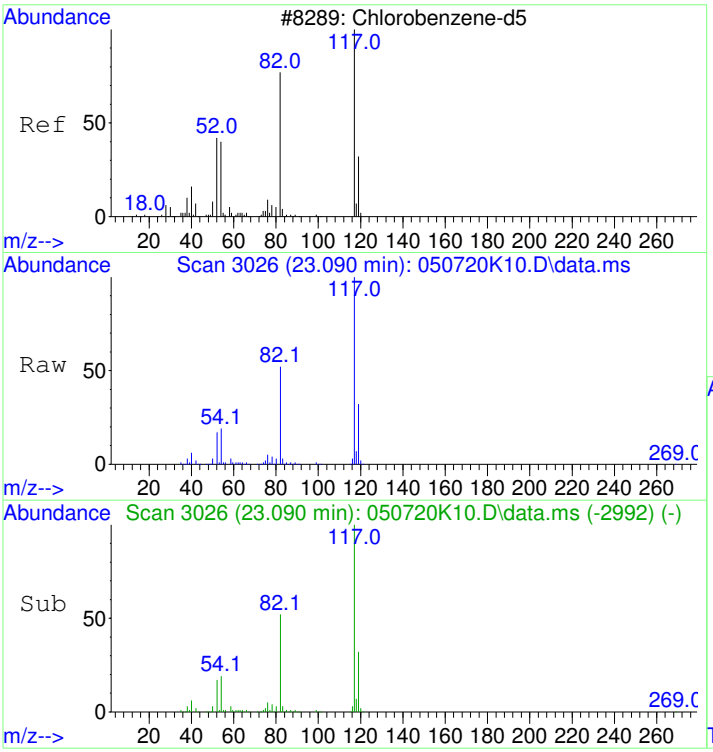


#37
Trichloroethene
Concen: 17.00 ppbv
RT: 18.631 min Scan# 2293
Delta R.T. 0.006 min
Lab File: 050720K10.D
Acq: 7 May 2020 6:23 pm

Tgt Ion:130 Resp: 184353

Ion	Ratio	Lower	Upper
130	100		
132	96.7	75.5	115.5
95	89.7	71.3	111.3

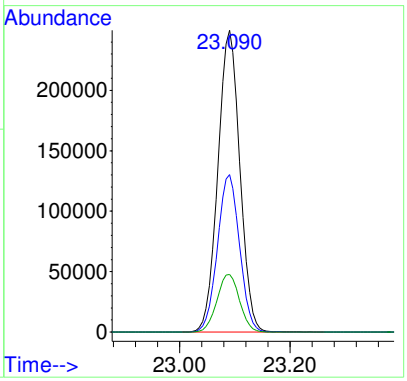




#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 23.090 min Scan# 3026
Delta R.T. 0.006 min
Lab File: 050720K10.D
Acq: 7 May 2020 6:23 pm

Tgt Ion:117 Resp: 689223

Ion	Ratio	Lower	Upper
117	100		
82	52.4	32.5	72.5
54	19.7	0.0	39.6



S20E003-IBL2

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K11.D
InstName : HP5973K
Acq On : 7 May 2020 7:16 pm
Operator : EM
Sample : S20E003-IBL2
Misc : 200ml 6L CAN #21 RECERTIFICATION
ALS Vial : 34 Sample Multiplier: 1

CLEAN

Quant Time: May 08 09:15:50 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	16.319	49	241786	19.60 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.223	114	763802	19.60 ppbv	0.00
43) CHLOROBENZENE-d5	23.090	117	682760	19.60 ppbv	0.00

Target Compounds Qvalue

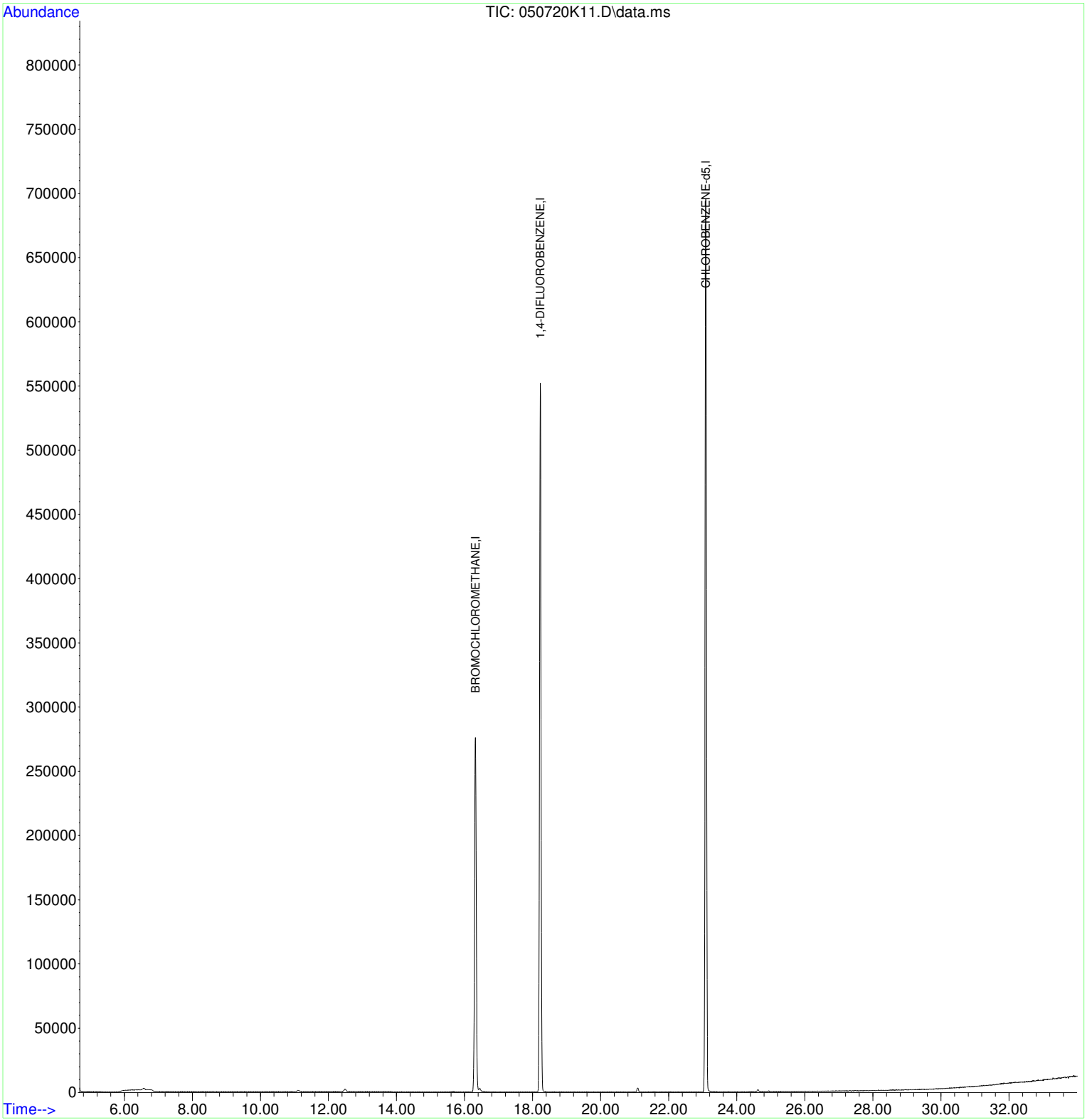
(#) = qualifier out of range (m) = manual integration (+) = signals summed

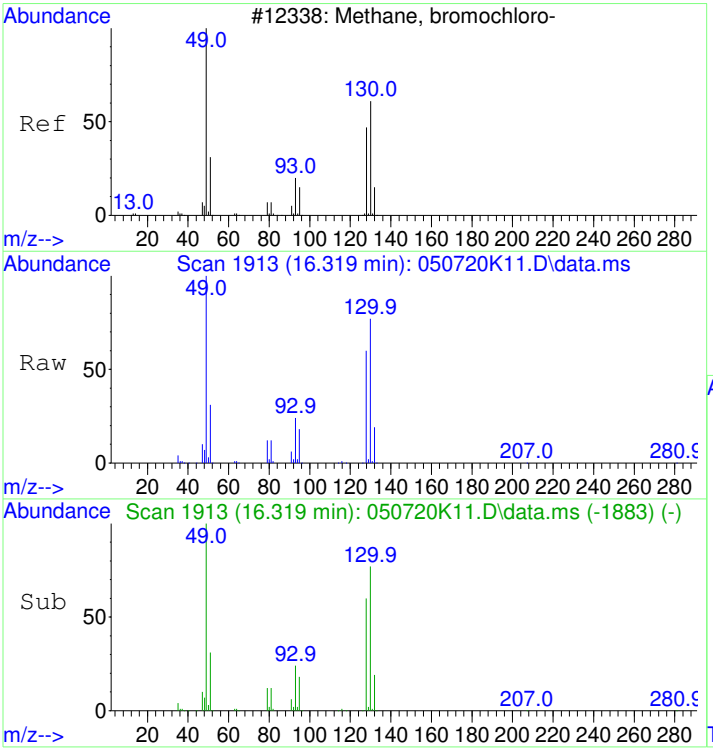
REVIEWED
By EM at 9:35 am, May 08, 2020

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K11.D
InstName : HP5973K
Acq On : 7 May 2020 7:16 pm
Operator : EM
Sample : S20E003-IBL2
Misc : 200ml 6L CAN #21 RECERTIFICATION
ALS Vial : 34 Sample Multiplier: 1

Quant Time: May 08 09:15:50 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

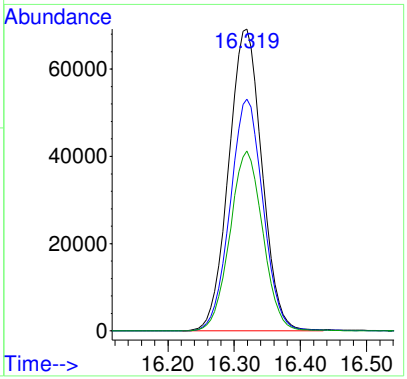


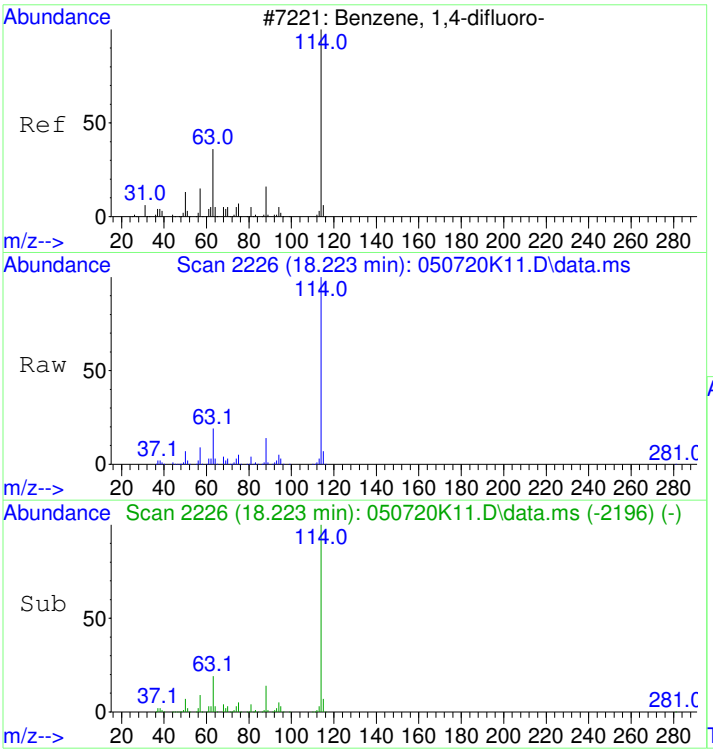


#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 16.319 min Scan# 1913
Delta R.T. 0.006 min
Lab File: 050720K11.D
Acq: 7 May 2020 7:16 pm

Tgt Ion: 49 Resp: 241786

Ion	Ratio	Lower	Upper
49	100		
130	75.9	51.1	91.1
128	58.3	35.0	75.0

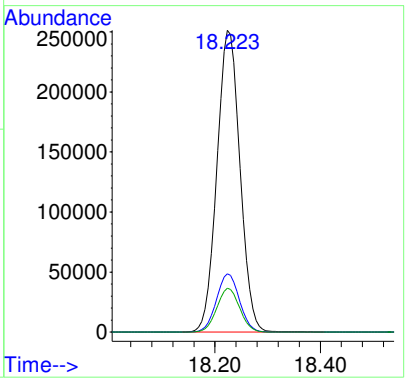


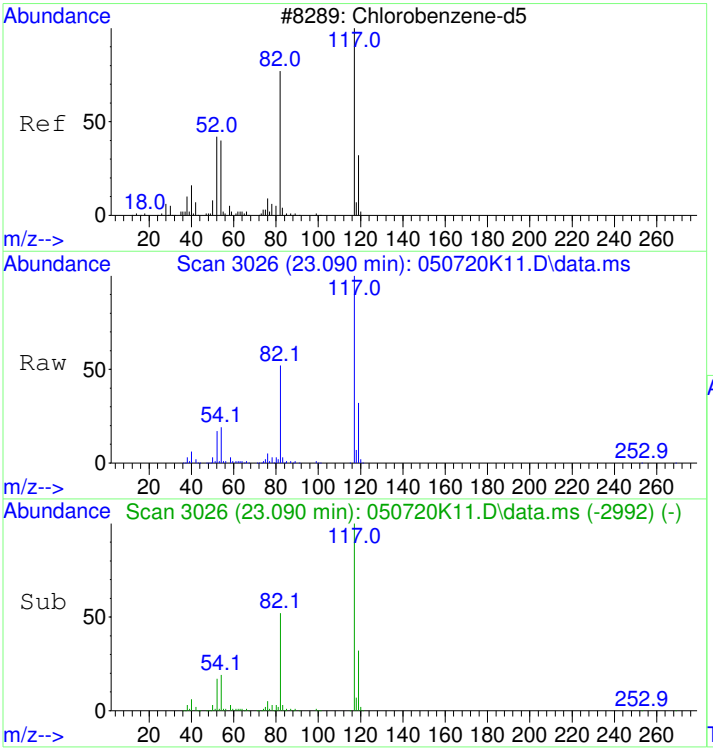


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 18.223 min Scan# 2226
Delta R.T. -0.000 min
Lab File: 050720K11.D
Acq: 7 May 2020 7:16 pm

Tgt Ion:114 Resp: 763802

Ion	Ratio	Lower	Upper
114	100		
63	19.3	0.0	39.6
88	14.3	0.0	34.5

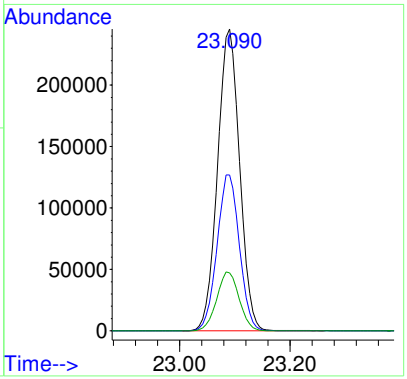




#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 23.090 min Scan# 3026
Delta R.T. 0.006 min
Lab File: 050720K11.D
Acq: 7 May 2020 7:16 pm

Tgt Ion:117 Resp: 682760

Ion	Ratio	Lower	Upper
117	100		
82	52.3	32.5	72.5
54	19.8	0.0	39.6



2005002-05

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K12.D
InstName : HP5973K
Acq On : 7 May 2020 8:09 pm
Operator : EM
Sample : 2005002-05
Misc : 200ml 277 Fairchild-SGR7-5-050620
ALS Vial : 15 Sample Multiplier: 1.94

REPORT

Quant Time: May 08 09:15:53 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

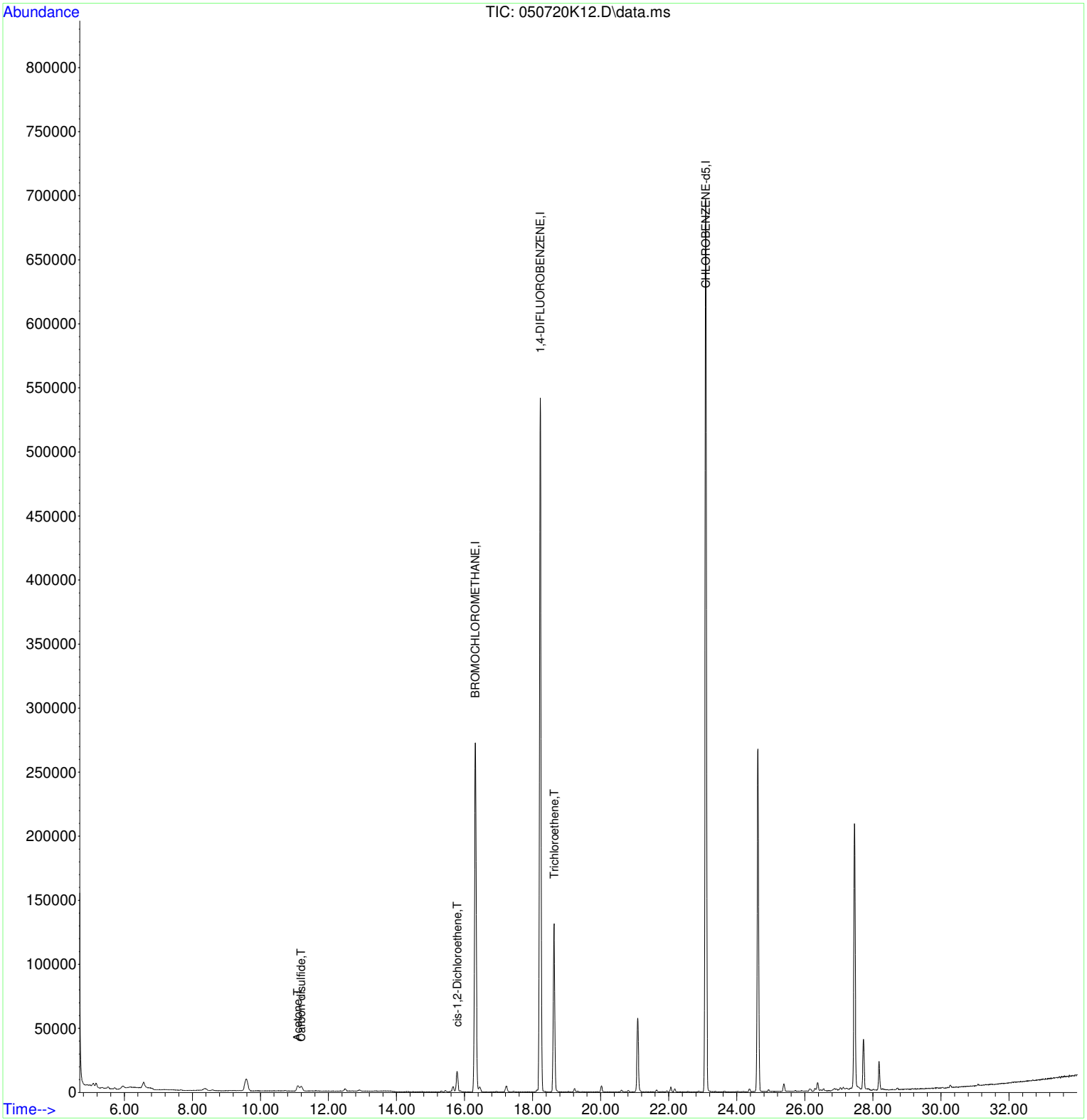
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	16.313	49	240573	19.60	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	18.223	114	754625	19.60	ppbv		0.00
43) CHLOROBENZENE-d5	23.090	117	679241	19.60	ppbv		0.00
Target Compounds							Qvalue
14) Acetone	11.093	43	14598	1.30	ppbv		98
15) Carbon disulfide	11.197	76	14138	0.69	ppbv	#	80
24) cis-1,2-Dichloroethene	15.784	61	17422	1.68	ppbv	#	97
37) Trichloroethene	18.631	130	76784	7.18	ppbv		99

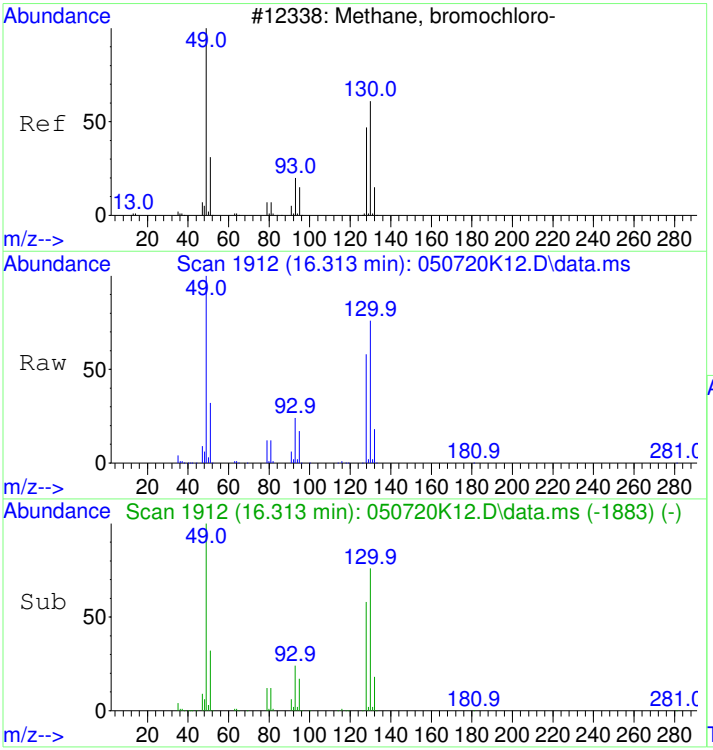
(#) = qualifier out of range (m) = manual integration (+) = signals summed

REVIEWED
By EM at 9:34 am, May 08, 2020

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K12.D
InstName : HP5973K
Acq On : 7 May 2020 8:09 pm
Operator : EM
Sample : 2005002-05
Misc : 200ml 277 Fairchild-SGR7-5-050620
ALS Vial : 15 Sample Multiplier: 1.94

Quant Time: May 08 09:15:53 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

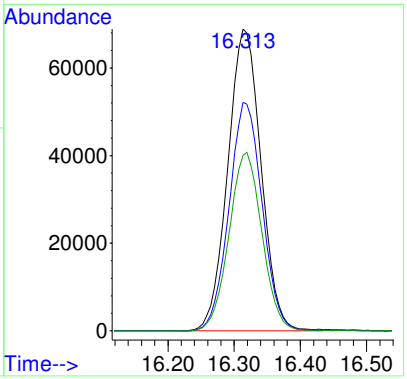


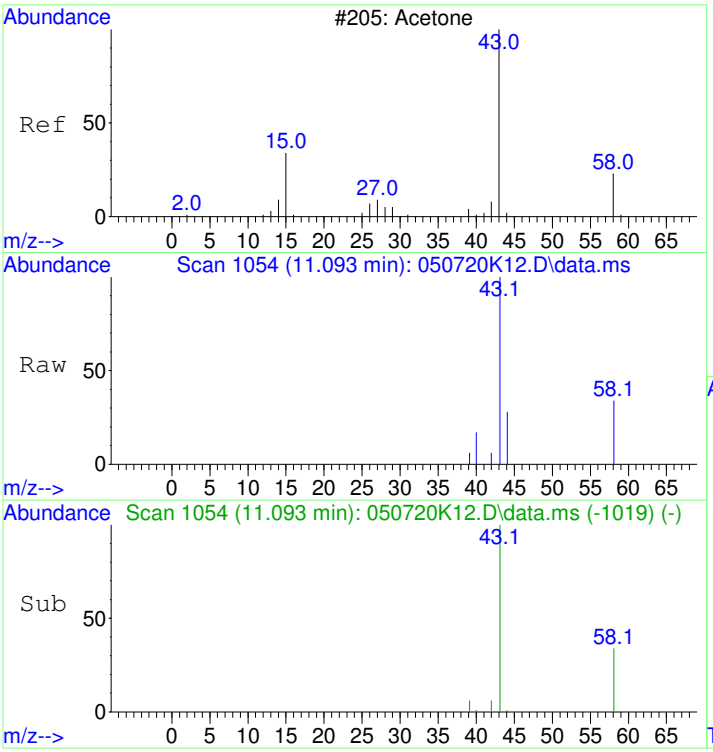


#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 16.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 050720K12.D
Acq: 7 May 2020 8:09 pm

Tgt Ion: 49 Resp: 240573

Ion	Ratio	Lower	Upper
49	100		
130	75.5	51.1	91.1
128	58.2	35.0	75.0

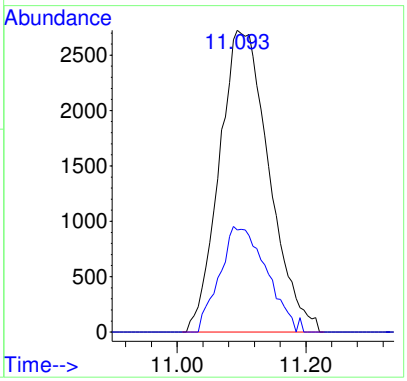


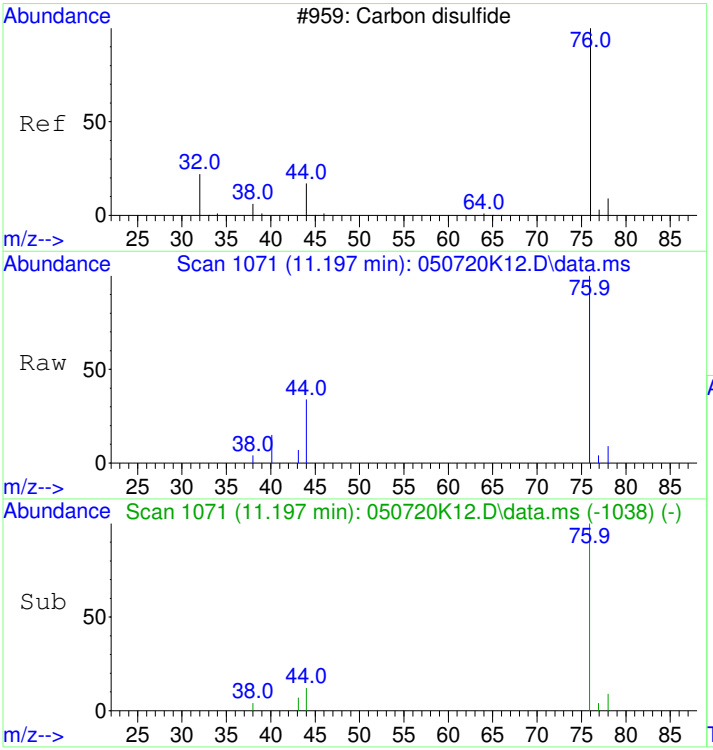


#14
Acetone
Concen: 1.30 ppbv
RT: 11.093 min Scan# 1054
Delta R.T. 0.012 min
Lab File: 050720K12.D
Acq: 7 May 2020 8:09 pm

Tgt Ion: 43 Resp: 14598

Ion	Ratio	Lower	Upper
43	100		
58	33.0	14.0	54.0

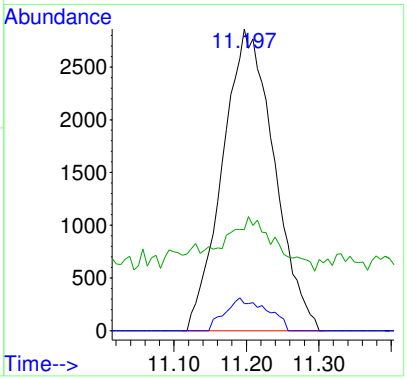


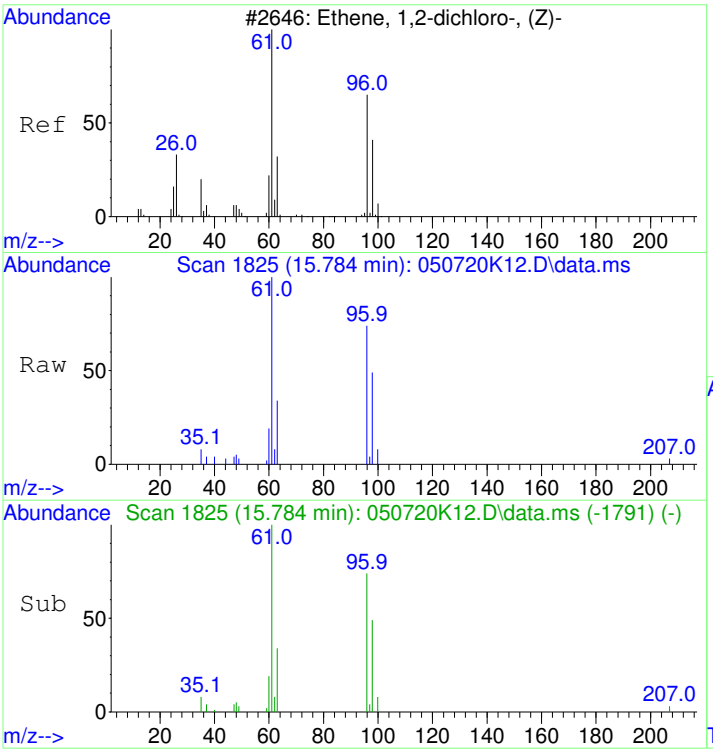


#15
Carbon disulfide
Concen: 0.69 ppbv
RT: 11.197 min Scan# 1071
Delta R.T. -0.000 min
Lab File: 050720K12.D
Acq: 7 May 2020 8:09 pm

Tgt Ion: 76 Resp: 14138

Ion	Ratio	Lower	Upper
76	100		
78	8.8	0.0	29.1
44	0.0	0.0	33.0

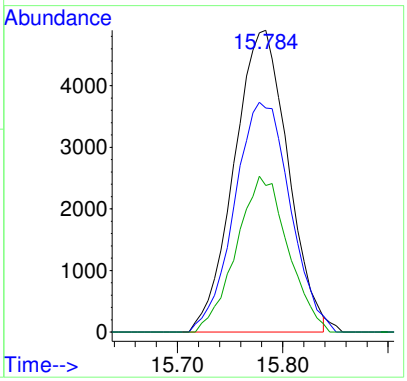


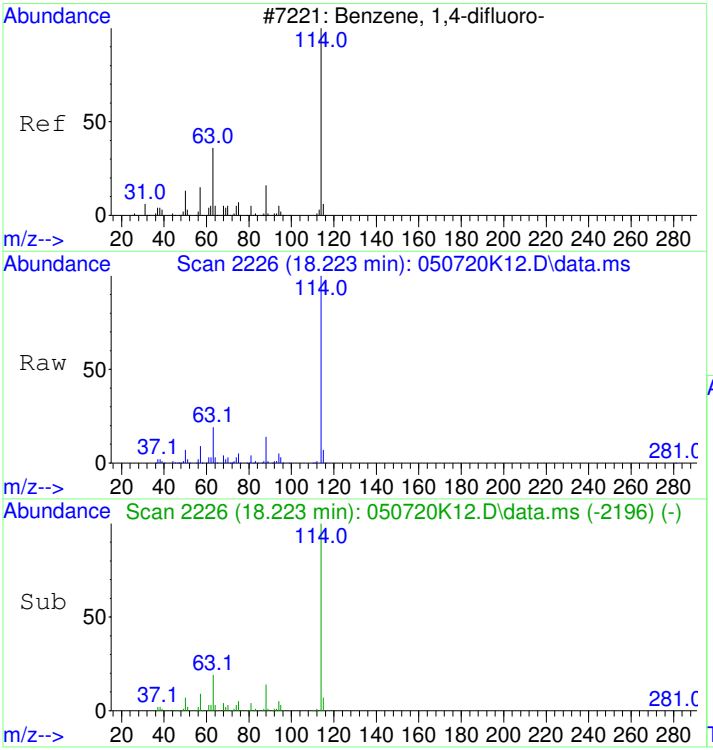


#24
cis-1,2-Dichloroethene
Concen: 1.68 ppbv
RT: 15.784 min Scan# 1825
Delta R.T. 0.006 min
Lab File: 050720K12.D
Acq: 7 May 2020 8:09 pm

Tgt Ion: 61 Resp: 17422

Ion	Ratio	Lower	Upper
61	100		
96	78.6	55.7	95.7
98	0.0	0.0	20.0

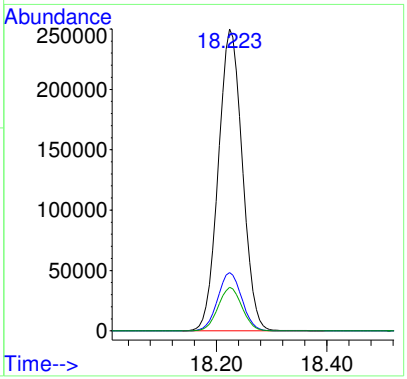


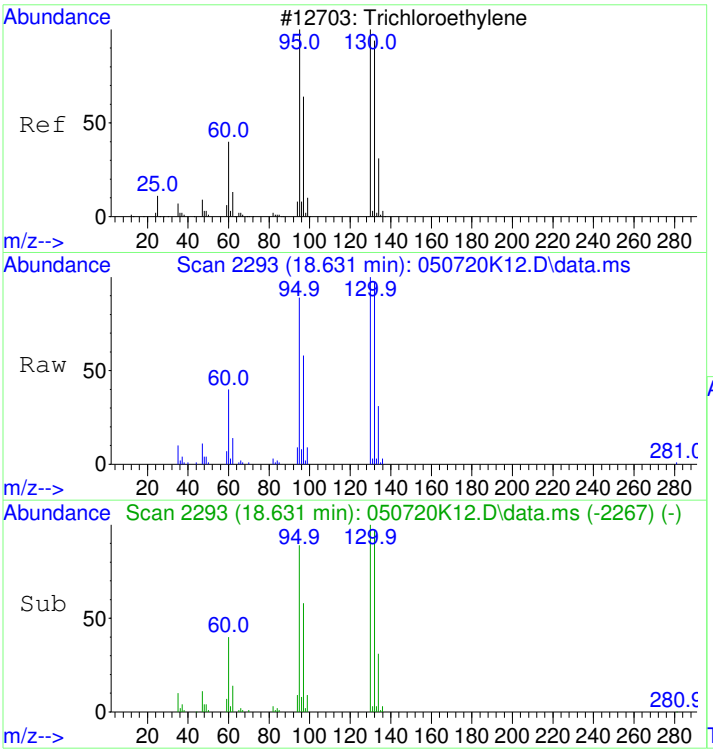


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 18.223 min Scan# 2226
Delta R.T. -0.000 min
Lab File: 050720K12.D
Acq: 7 May 2020 8:09 pm

Tgt Ion:114 Resp: 754625

Ion	Ratio	Lower	Upper
114	100		
63	19.3	0.0	39.6
88	14.2	0.0	34.5

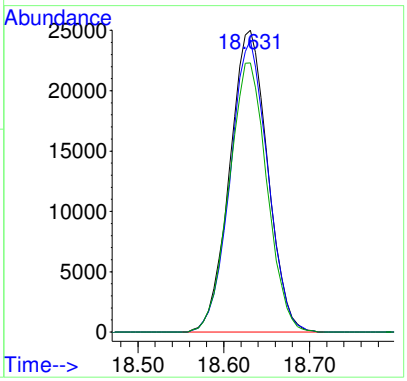


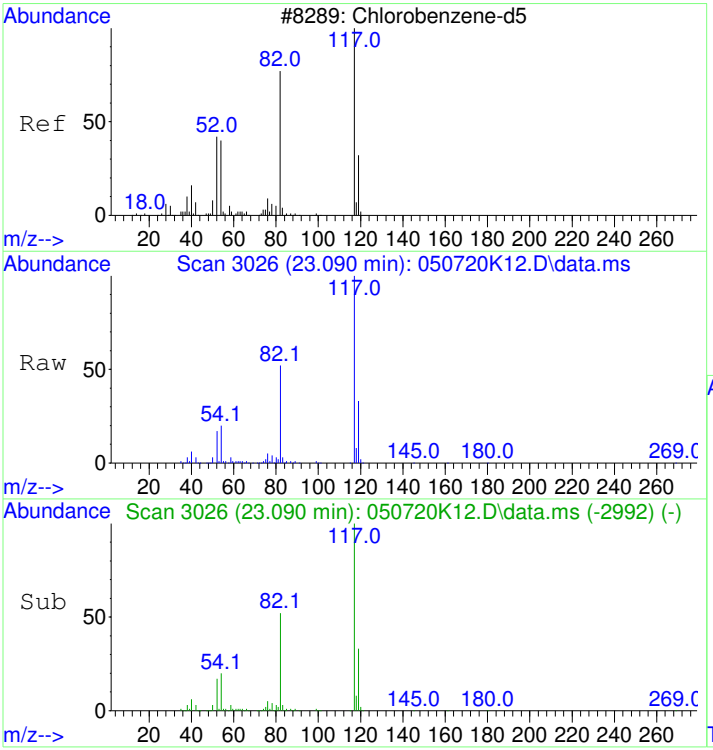


#37
Trichloroethene
Concen: 7.18 ppbv
RT: 18.631 min Scan# 2293
Delta R.T. 0.006 min
Lab File: 050720K12.D
Acq: 7 May 2020 8:09 pm

Tgt Ion:130 Resp: 76784

Ion	Ratio	Lower	Upper
130	100		
132	95.3	75.5	115.5
95	89.2	71.3	111.3

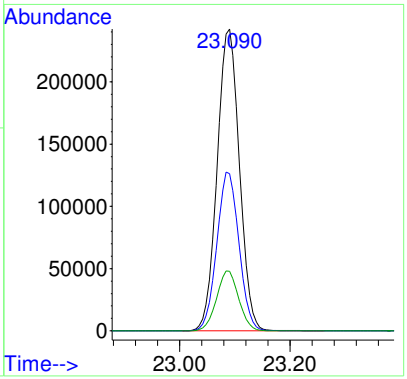




#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 23.090 min Scan# 3026
Delta R.T. 0.006 min
Lab File: 050720K12.D
Acq: 7 May 2020 8:09 pm

Tgt Ion:117 Resp: 679241

Ion	Ratio	Lower	Upper
117	100		
82	52.2	32.5	72.5
54	19.7	0.0	39.6



2005002-06

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K13.D
InstName : HP5973K
Acq On : 7 May 2020 9:01 pm
Operator : EM
Sample : 2005002-06
Misc : 200ml 277 Fairchild-SGR8-5-050620
ALS Vial : 16 Sample Multiplier: 2

REPORT

Quant Time: May 08 09:15:57 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	16.313	49	244265	19.60 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.223	114	765082	19.60 ppbv	0.00
43) CHLOROBENZENE-d5	23.090	117	689224	19.60 ppbv	0.00
Target Compounds					Qvalue
14) Acetone	11.099	43	13907	1.22 ppbv	100
28) Chloroform	16.441	83	20530	1.41 ppbv	96
37) Trichloroethene	18.631	130	114793	10.59 ppbv	99

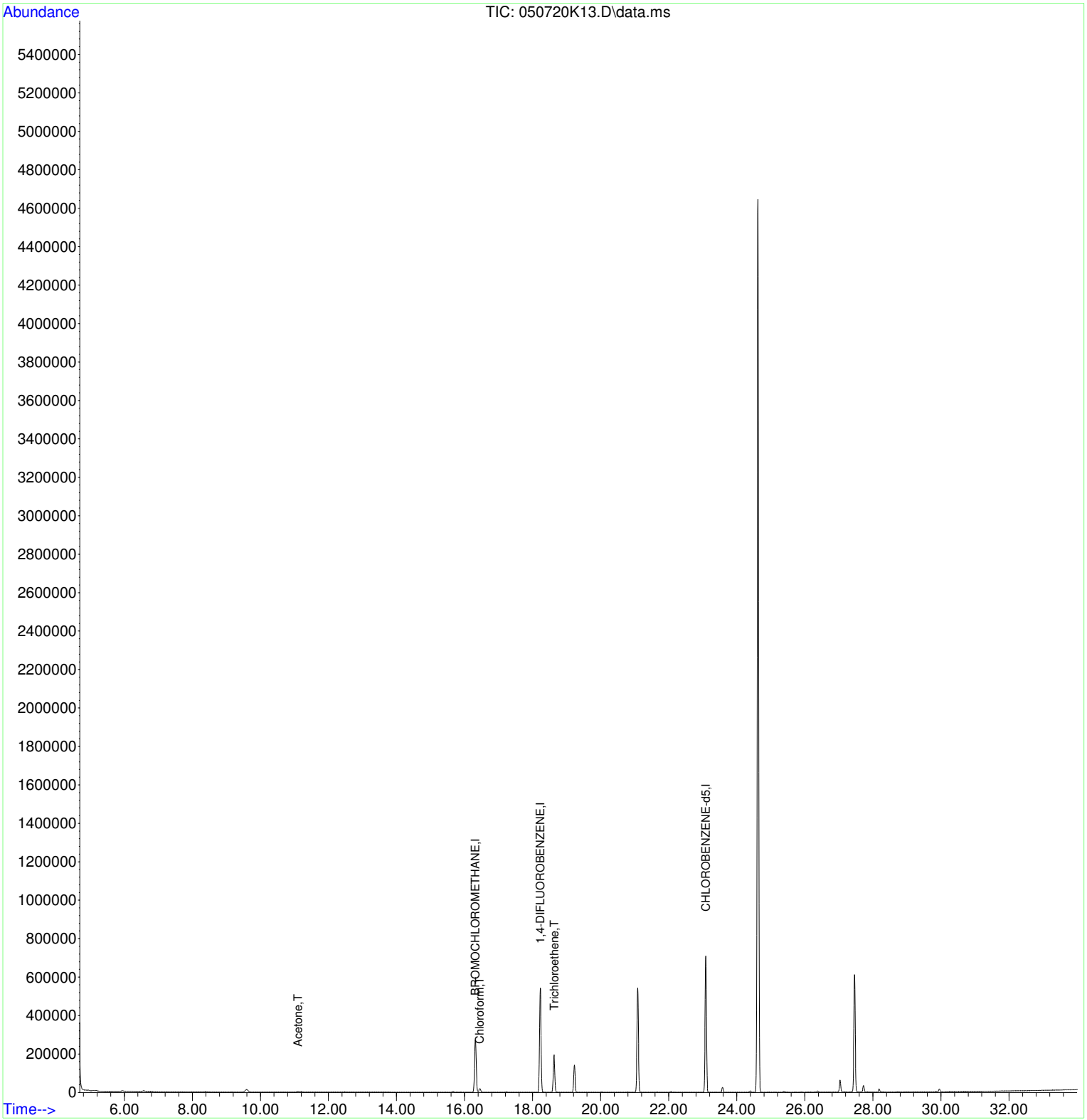
(#) = qualifier out of range (m) = manual integration (+) = signals summed

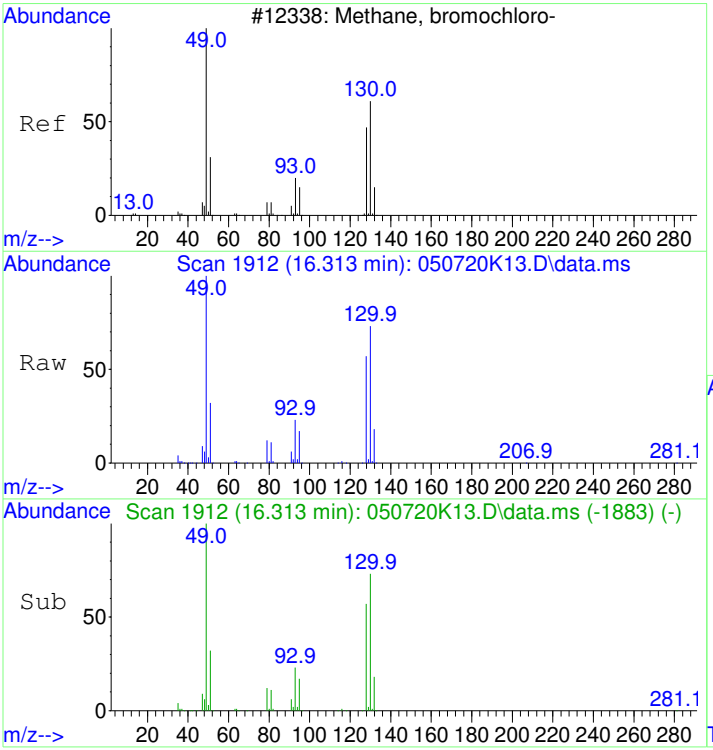
REVIEWED
By EM at 9:34 am, May 08, 2020

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K13.D
InstName : HP5973K
Acq On : 7 May 2020 9:01 pm
Operator : EM
Sample : 2005002-06
Misc : 200ml 277 Fairchild-SGR8-5-050620
ALS Vial : 16 Sample Multiplier: 2

Quant Time: May 08 09:15:57 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

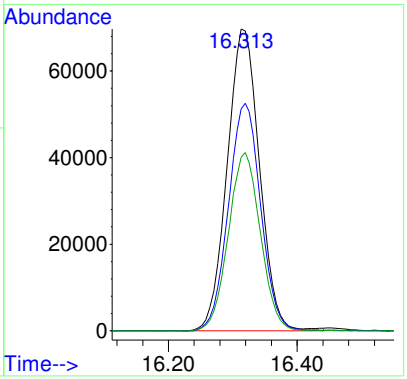


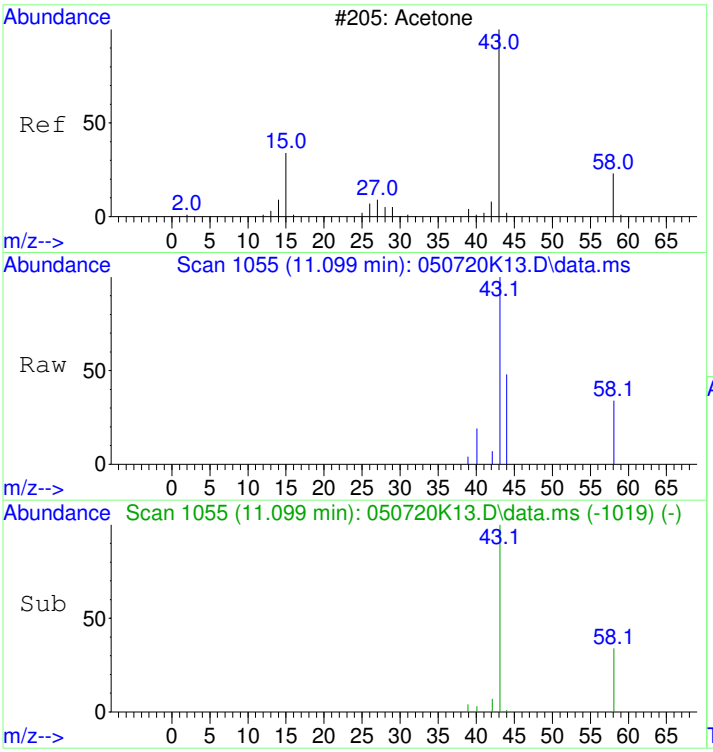


#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 16.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 050720K13.D
Acq: 7 May 2020 9:01 pm

Tgt Ion: 49 Resp: 244265

Ion	Ratio	Lower	Upper
49	100		
130	75.0	51.1	91.1
128	57.8	35.0	75.0

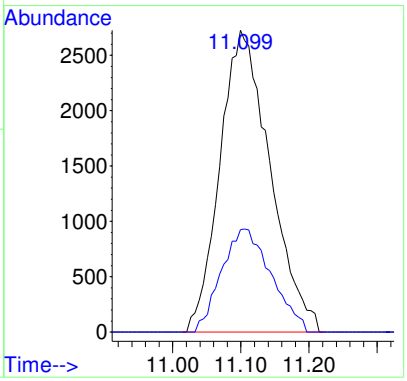


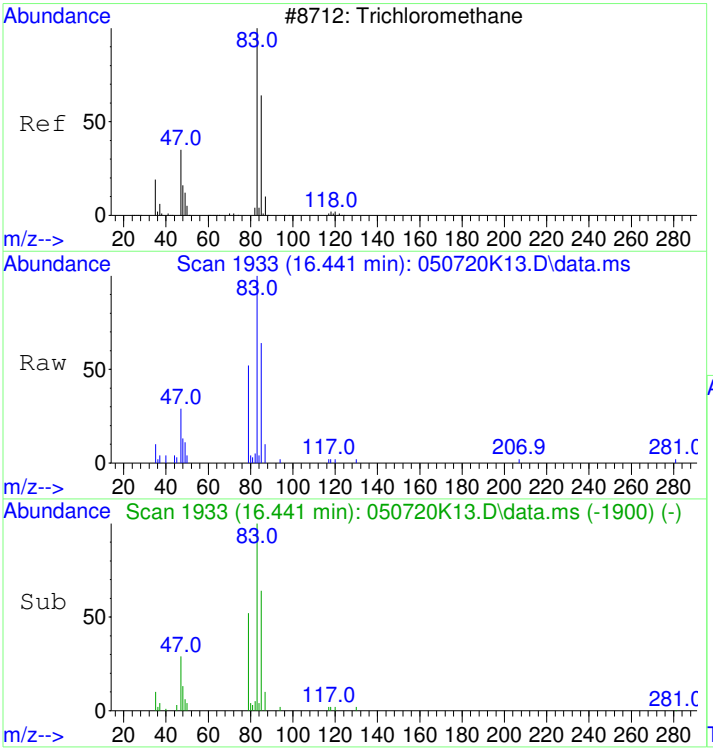


#14
Acetone
Concen: 1.22 ppbv
RT: 11.099 min Scan# 1055
Delta R.T. 0.018 min
Lab File: 050720K13.D
Acq: 7 May 2020 9:01 pm

Tgt Ion: 43 Resp: 13907

Ion	Ratio	Lower	Upper
43	100		
58	33.8	14.0	54.0

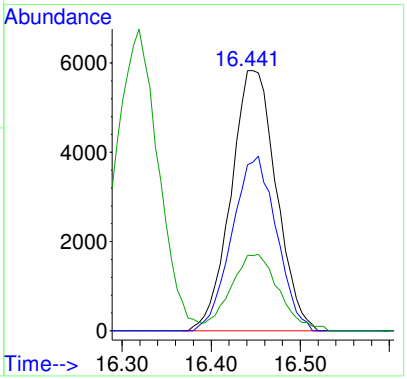


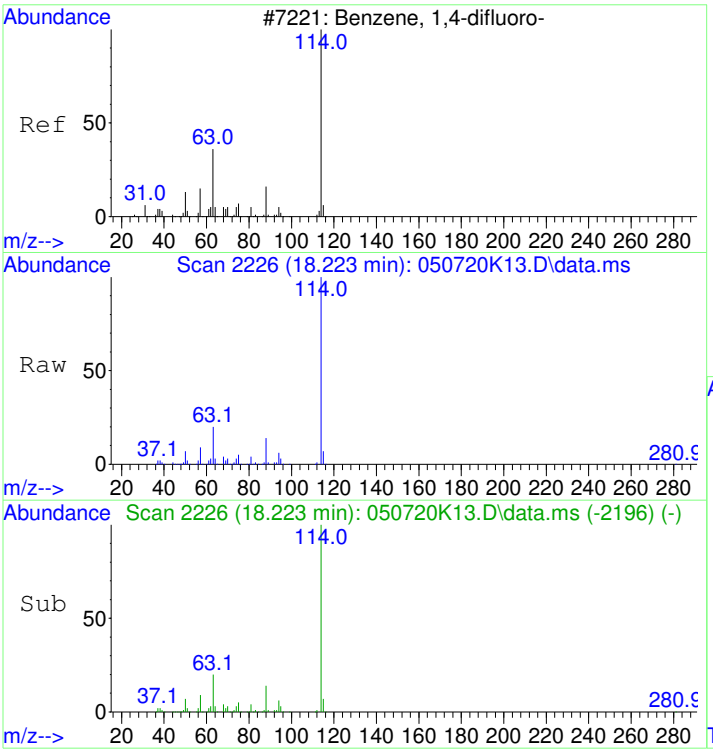


#28
Chloroform
Concen: 1.41 ppbv
RT: 16.441 min Scan# 1933
Delta R.T. -0.000 min
Lab File: 050720K13.D
Acq: 7 May 2020 9:01 pm

Tgt Ion: 83 Resp: 20530

Ion	Ratio	Lower	Upper
83	100		
85	65.9	44.6	84.6
47	27.5	3.0	43.0

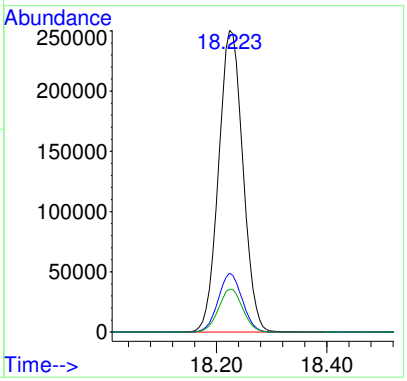


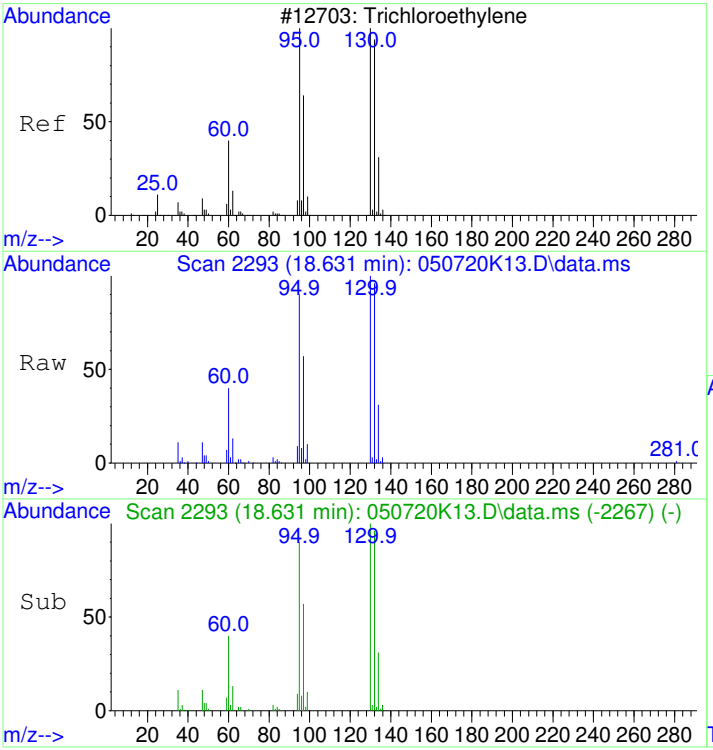


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 18.223 min Scan# 2226
Delta R.T. -0.000 min
Lab File: 050720K13.D
Acq: 7 May 2020 9:01 pm

Tgt Ion:114 Resp: 765082

Ion	Ratio	Lower	Upper
114	100		
63	19.2	0.0	39.6
88	14.2	0.0	34.5

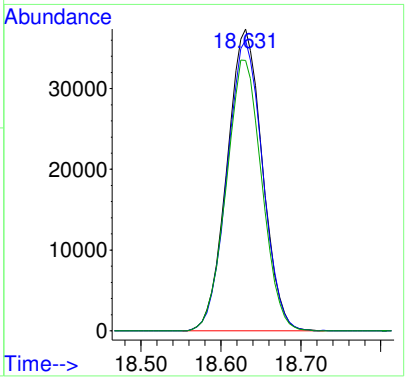


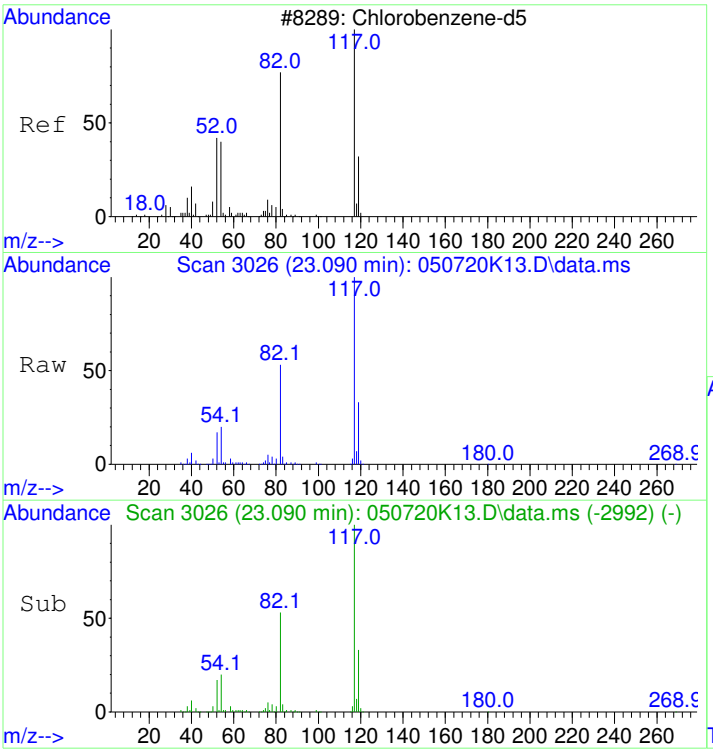


#37
Trichloroethene
Concen: 10.59 ppbv
RT: 18.631 min Scan# 2293
Delta R.T. 0.006 min
Lab File: 050720K13.D
Acq: 7 May 2020 9:01 pm

Tgt Ion:130 Resp: 114793

Ion	Ratio	Lower	Upper
130	100		
132	96.5	75.5	115.5
95	90.0	71.3	111.3

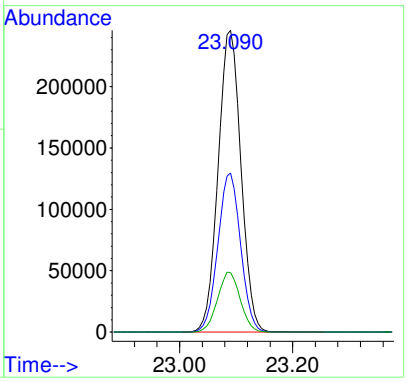




#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 23.090 min Scan# 3026
Delta R.T. 0.006 min
Lab File: 050720K13.D
Acq: 7 May 2020 9:01 pm

Tgt Ion:117 Resp: 689224

Ion	Ratio	Lower	Upper
117	100		
82	52.4	32.5	72.5
54	19.7	0.0	39.6



2005002-07

Quantitation Report (QT Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K14.D
InstName : HP5973K
Acq On : 7 May 2020 9:54 pm
Operator : EM
Sample : 2005002-07
Misc : 200ml 277 Fairchild-F23-RR1-PP
ALS Vial : 17 Sample Multiplier: 1.92

M.I. Performed By:
EM at 11:33 am, May 08, 2020

M.I. Approved By:
ZR at 10:49 am, May 15, 2020

Quant Time: May 08 09:16:00 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)		
Internal Standards								
1) BROMOCHLOROMETHANE	16.313	49	257190	19.60	ppbv	0.00		
32) 1,4-DIFLUOROBENZENE	18.223	114	786085	19.60	ppbv	0.00		
43) CHLOROBENZENE-d5	23.090	117	704598	19.60	ppbv	0.00		
Target Compounds						Qvalue		
2) Propene	4.991	41	4581	0.61	ppbv	# 73		
6) Vinyl chloride	6.074	62	8061	0.79	ppbv	99		
13) 1,1-Dichloroethene	10.515	61	8367	0.69	ppbv	98		
14) Acetone	11.081	43	222761	18.58	ppbv	99		
16) 2-Propanol	11.610	45	7049	0.60	ppbv	79		
20) trans-1,2-Dichloroethene	13.113	61	6499	0.58	ppbv	98		
22) 1,1-Dichloroethane	14.403	63	8169	0.53	ppbv	98		
24) cis-1,2-Dichloroethene	15.778	61	113772m	10.28	ppbv			
25) 2-Butanone (MEK)	15.863	72	221165	48.99	ppbv	# 1	OC NR	
27) Tetrahydrofuran	16.295	42	13409	1.25	ppbv	99		
28) Chloroform	16.447	83	73076	4.76	ppbv	100		
37) Trichloroethene	18.631	130	292042	26.22	ppbv	99	OC	
47) Tetrachloroethene	21.642	166	11057	0.70	ppbv	99		

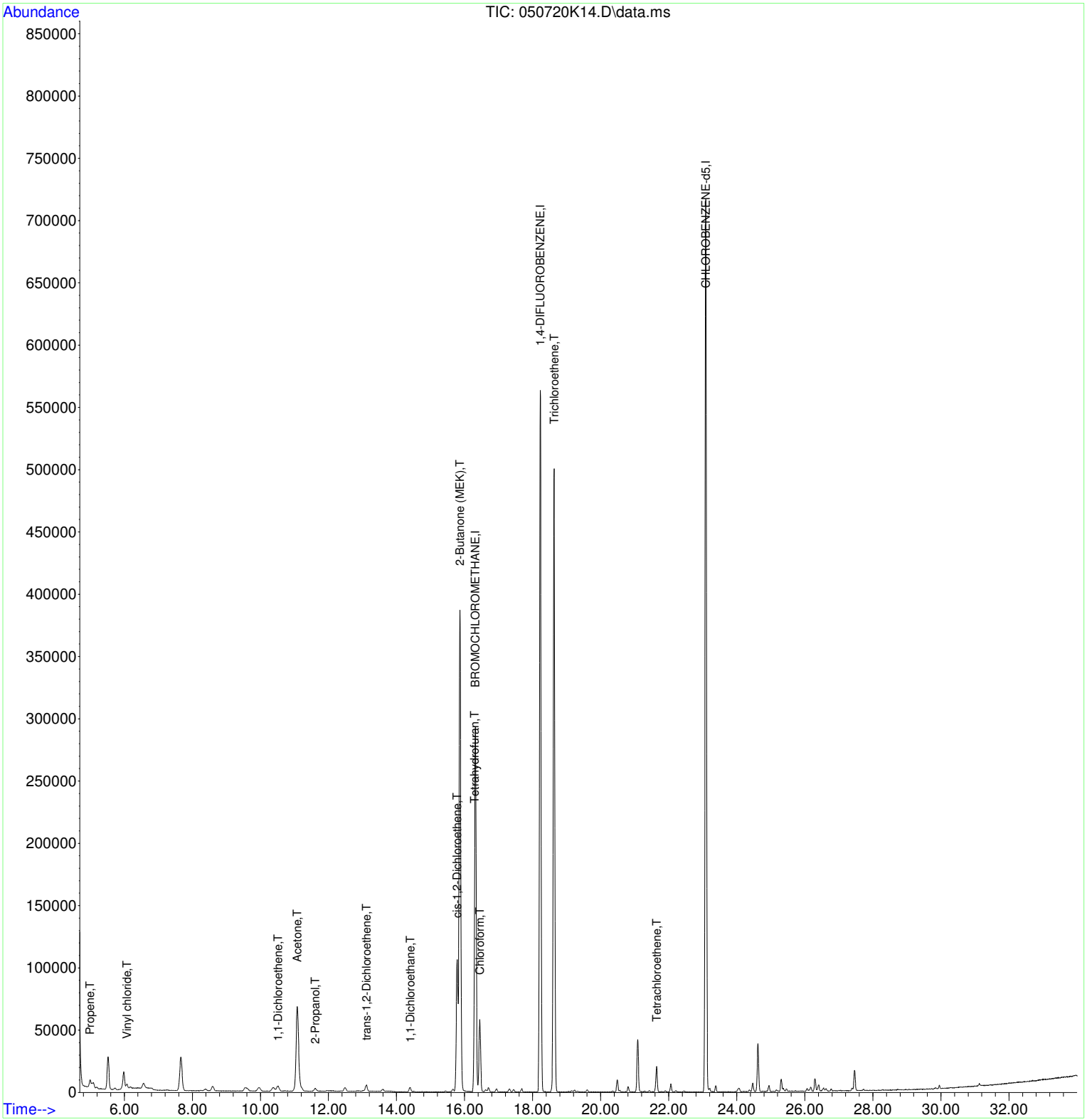
(#) = qualifier out of range (m) = manual integration (+) = signals summed

REVIEWED
By EM at 11:44 am, May 08, 2020

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K14.D
InstName : HP5973K
Acq On : 7 May 2020 9:54 pm
Operator : EM
Sample : 2005002-07
Misc : 200ml 277 Fairchild-F23-RR1-PP
ALS Vial : 17 Sample Multiplier: 1.92

Quant Time: May 08 09:16:00 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Table of Contents

Before Manual Integration

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K14.D
InstName : HP5973K
Acq On : 7 May 2020 9:54 pm
Operator : EM
Sample : 2005002-07
Misc : 200ml 277 Fairchild-F23-RR1-PP
ALS Vial : 17 Sample Multiplier: 1.92

Quant Time: May 08 09:16:00 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

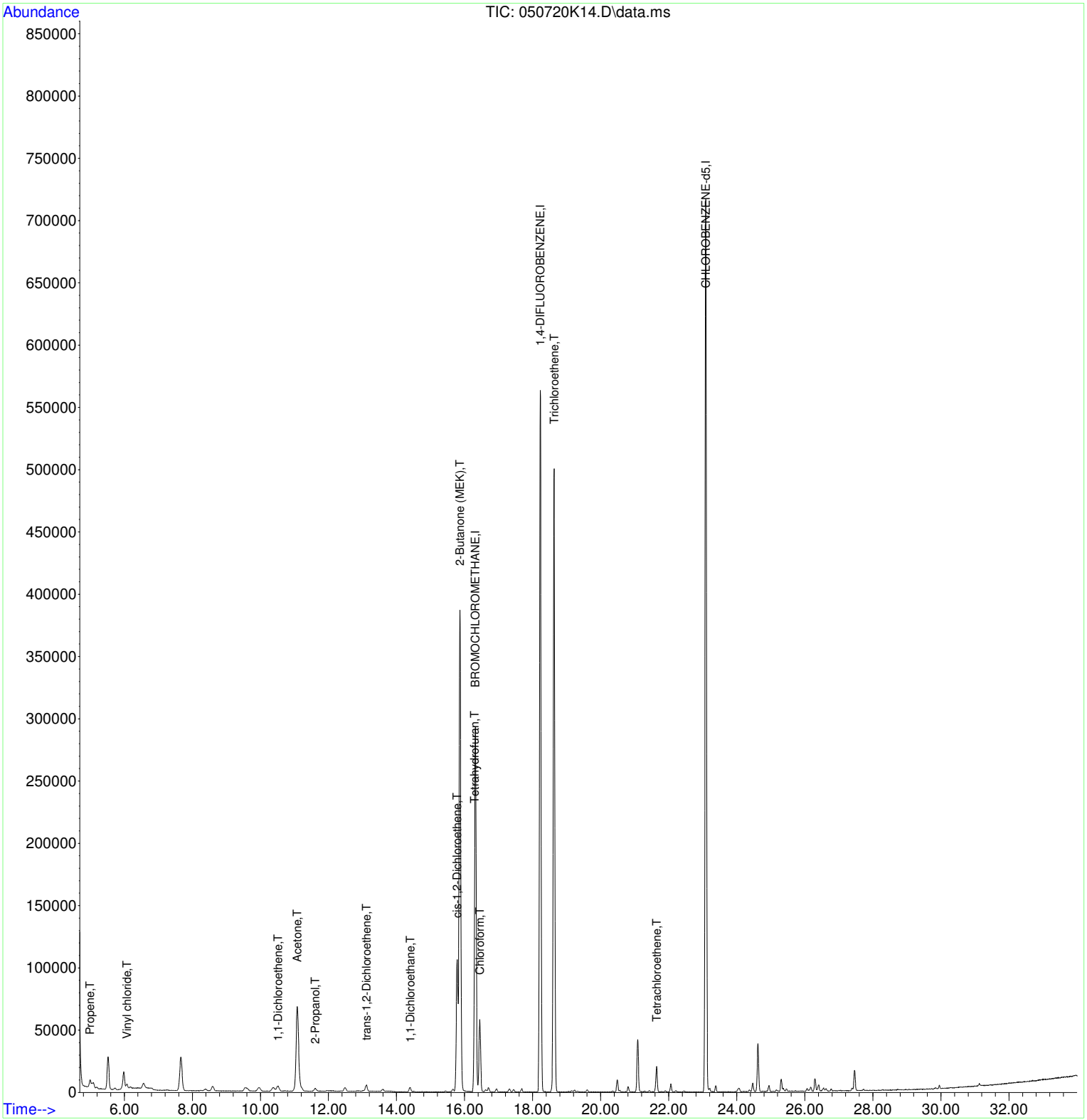
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
Internal Standards								
1) BROMOCHLOROMETHANE	16.313	49	257190	19.60	ppbv		0.00	
32) 1,4-DIFLUOROBENZENE	18.223	114	786085	19.60	ppbv		0.00	
43) CHLOROBENZENE-d5	23.090	117	704598	19.60	ppbv		0.00	
Target Compounds						Qvalue		
2) Propene	4.991	41	4581	0.61	ppbv	#	73	
6) Vinyl chloride	6.074	62	8061	0.79	ppbv		99	
13) 1,1-Dichloroethene	10.515	61	8367	0.69	ppbv		98	
14) Acetone	11.081	43	222761	18.58	ppbv		99	
16) 2-Propanol	11.610	45	7049	0.60	ppbv		79	
20) trans-1,2-Dichloroethene	13.113	61	6499	0.58	ppbv		98	
22) 1,1-Dichloroethane	14.403	63	8169	0.53	ppbv		98	
24) cis-1,2-Dichloroethene	15.778	61	112418	10.16	ppbv	#	98	
25) 2-Butanone (MEK)	15.863	72	221165	48.99	ppbv	#	1	OC NR
27) Tetrahydrofuran	16.295	42	13409	1.25	ppbv		99	
28) Chloroform	16.447	83	73076	4.76	ppbv		100	
37) Trichloroethene	18.631	130	292042	26.22	ppbv		99	OC
47) Tetrachloroethene	21.642	166	11057	0.70	ppbv		99	

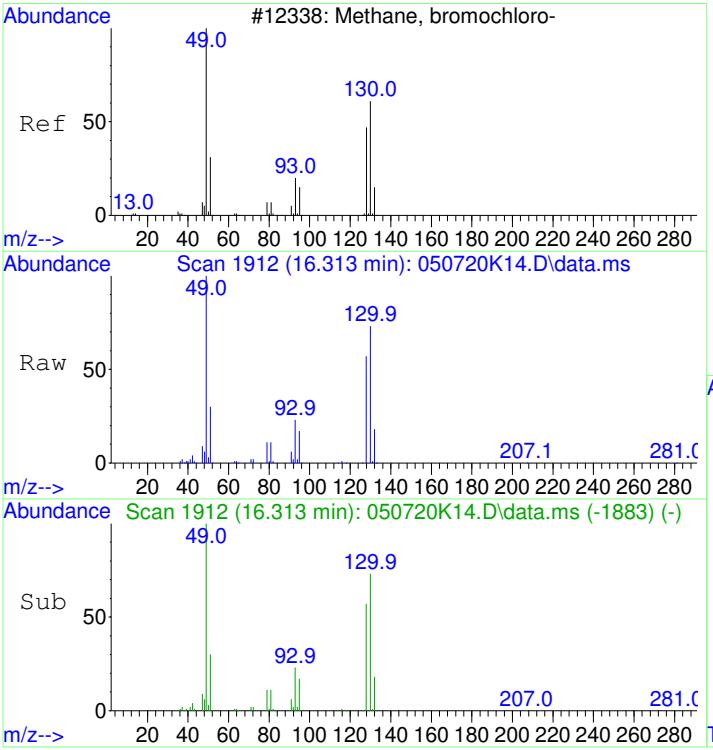
(#) = qualifier out of range (m) = manual integration (+) = signals summed

REVIEWED
By EM at 9:34 am, May 08, 2020

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K14.D
InstName : HP5973K
Acq On : 7 May 2020 9:54 pm
Operator : EM
Sample : 2005002-07
Misc : 200ml 277 Fairchild-F23-RR1-PP
ALS Vial : 17 Sample Multiplier: 1.92

Quant Time: May 08 09:16:00 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

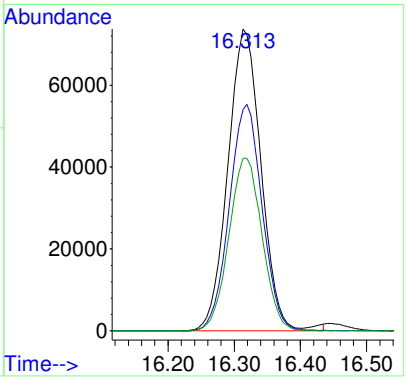


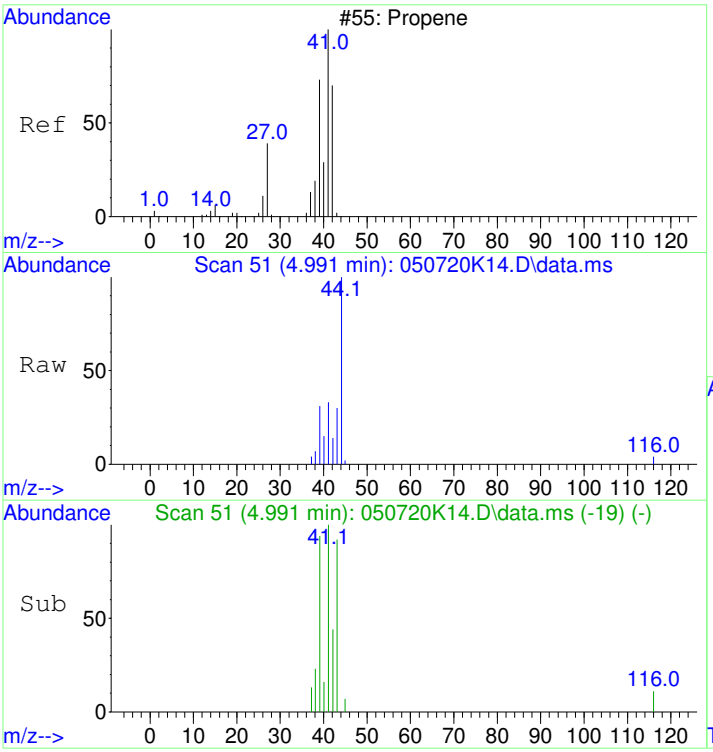


#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 16.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 050720K14.D
Acq: 7 May 2020 9:54 pm

Tgt Ion: 49 Resp: 257190

Ion	Ratio	Lower	Upper
49	100		
130	74.2	51.1	91.1
128	56.9	35.0	75.0

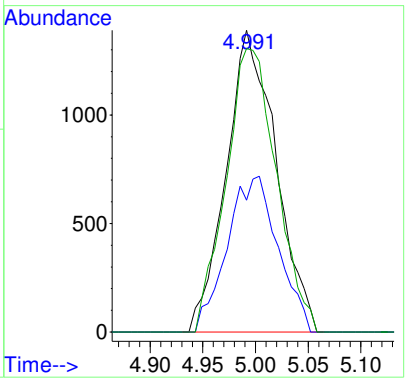


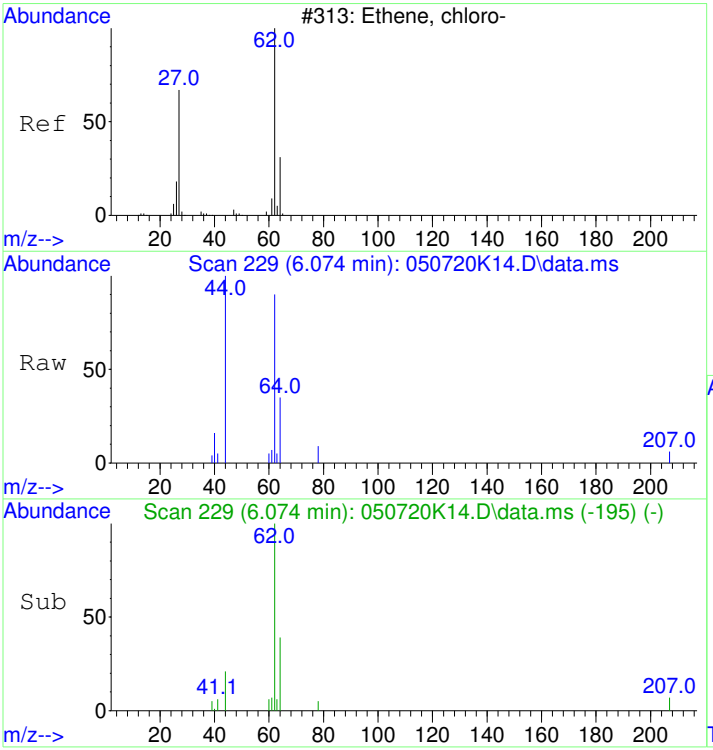


#2
Propene
Concen: 0.61 ppbv
RT: 4.991 min Scan# 51
Delta R.T. -0.006 min
Lab File: 050720K14.D
Acq: 7 May 2020 9:54 pm

Tgt Ion: 41 Resp: 4581

Ion	Ratio	Lower	Upper
41	100		
42	52.5	47.4	87.4
39	95.1	47.3	87.3#

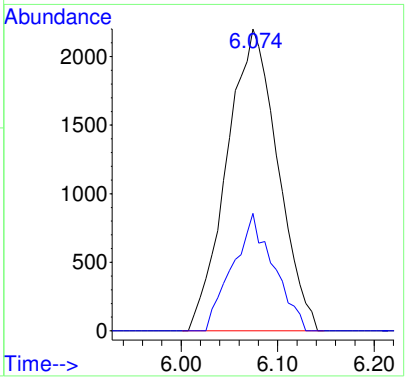


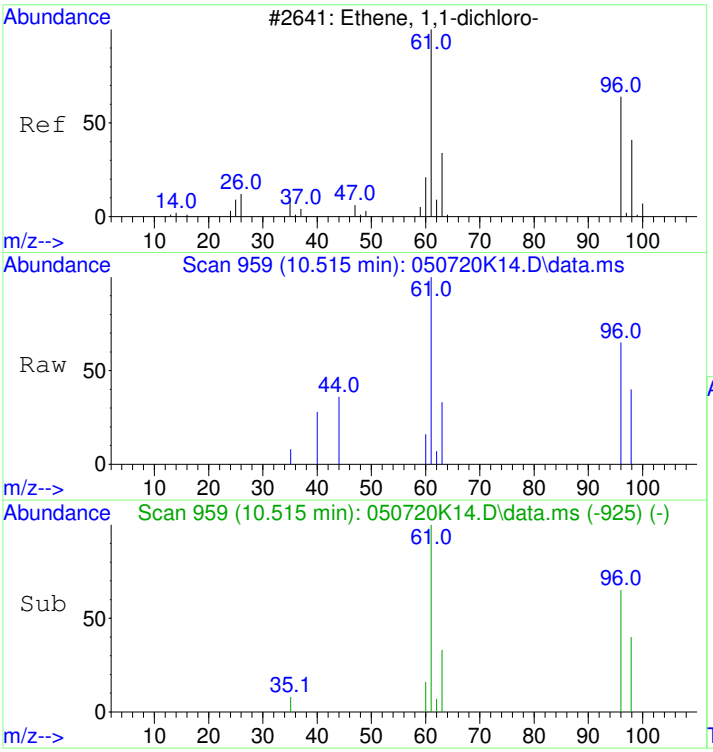


#6
Vinyl chloride
Concen: 0.79 ppbv
RT: 6.074 min Scan# 229
Delta R.T. 0.006 min
Lab File: 050720K14.D
Acq: 7 May 2020 9:54 pm

Tgt Ion: 62 Resp: 8061

Ion	Ratio	Lower	Upper
62	100		
64	31.4	11.9	51.9

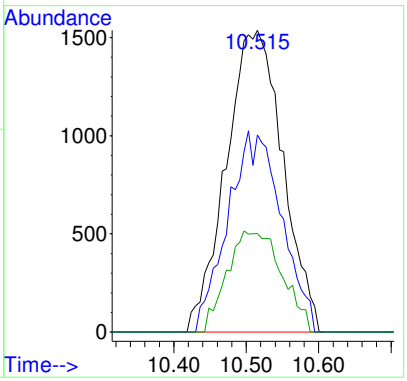


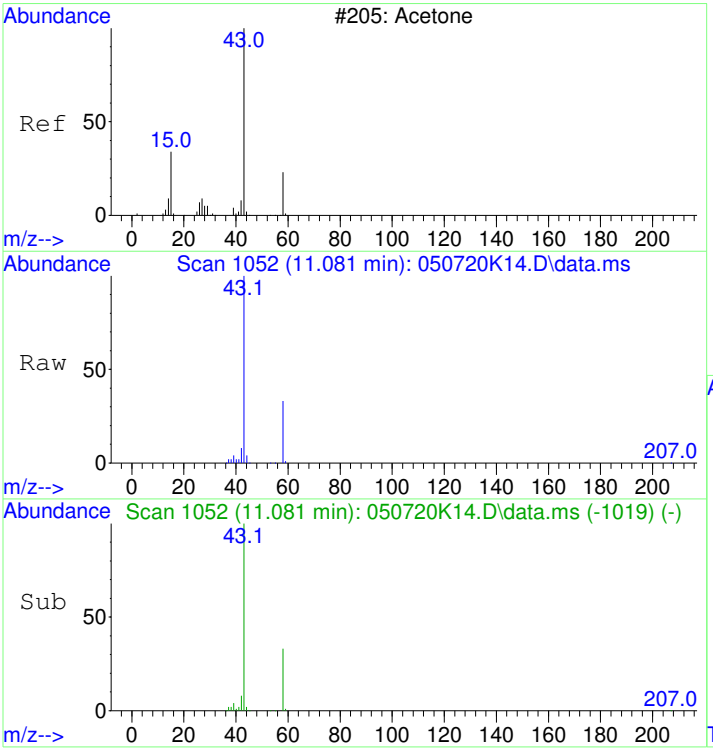


#13
1,1-Dichloroethene
Concen: 0.69 ppbv
RT: 10.515 min Scan# 959
Delta R.T. 0.006 min
Lab File: 050720K14.D
Acq: 7 May 2020 9:54 pm

Tgt Ion: 61 Resp: 8367

Ion	Ratio	Lower	Upper
61	100		
96	62.9	41.2	81.2
63	32.2	11.9	51.9

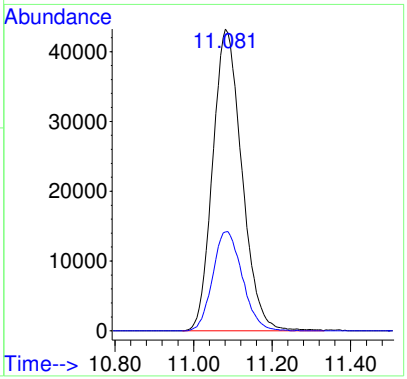


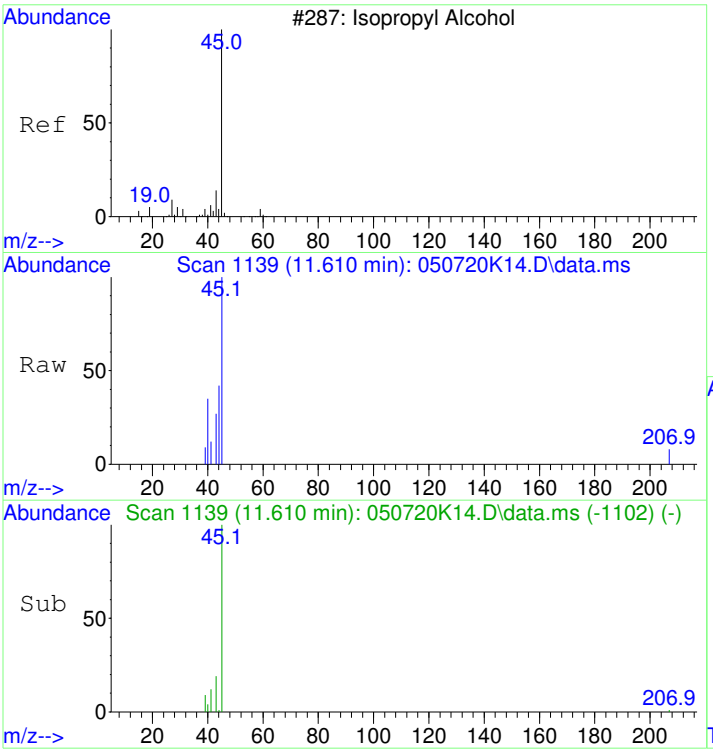


#14
Acetone
Concen: 18.58 ppbv
RT: 11.081 min Scan# 1052
Delta R.T. -0.000 min
Lab File: 050720K14.D
Acq: 7 May 2020 9:54 pm

Tgt Ion: 43 Resp: 222761

Ion	Ratio	Lower	Upper
43	100		
58	33.4	14.0	54.0

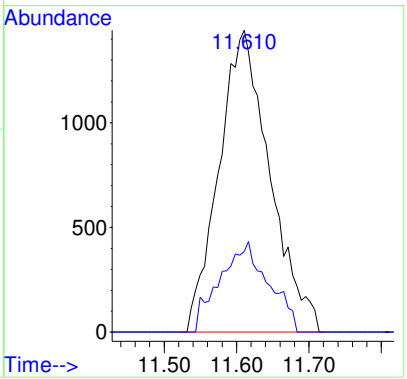


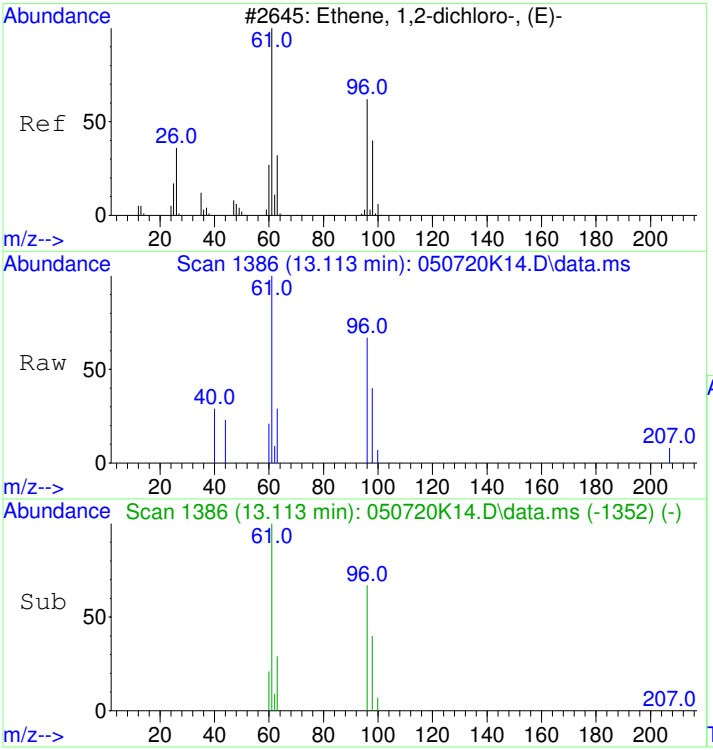


#16
2-Propanol
Concen: 0.60 ppbv
RT: 11.610 min Scan# 1139
Delta R.T. 0.024 min
Lab File: 050720K14.D
Acq: 7 May 2020 9:54 pm

Tgt Ion: 45 Resp: 7049

Ion	Ratio	Lower	Upper
45	100		
43	28.4	0.0	39.0

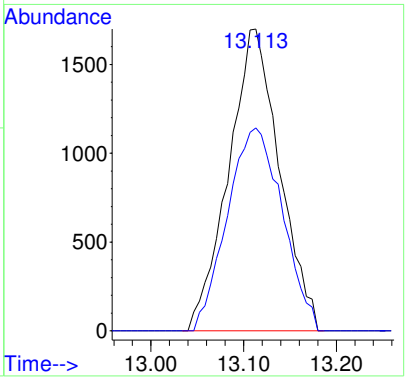


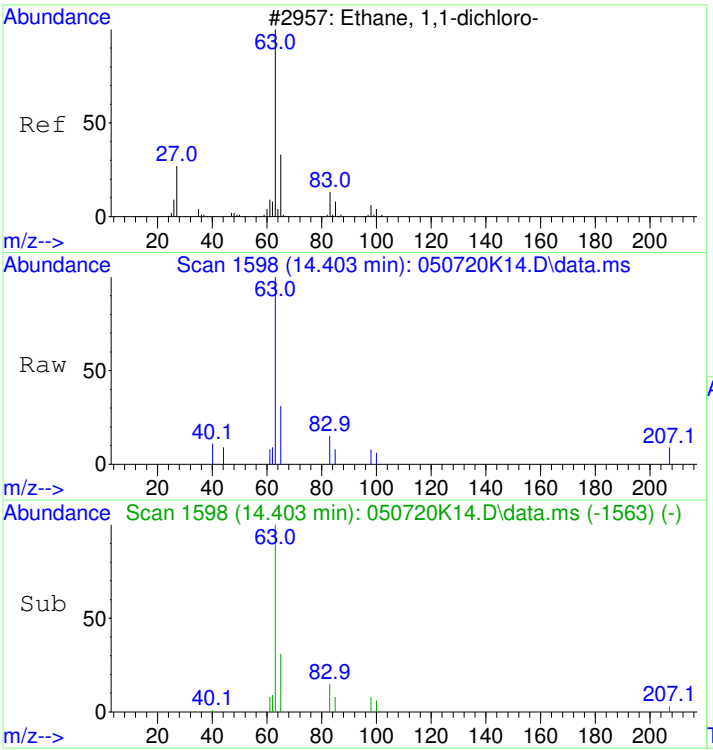


#20
trans-1,2-Dichloroethene
Concen: 0.58 ppbv
RT: 13.113 min Scan# 1386
Delta R.T. 0.006 min
Lab File: 050720K14.D
Acq: 7 May 2020 9:54 pm

Tgt Ion: 61 Resp: 6499

Ion	Ratio	Lower	Upper
61	100		
96	72.6	50.6	90.6

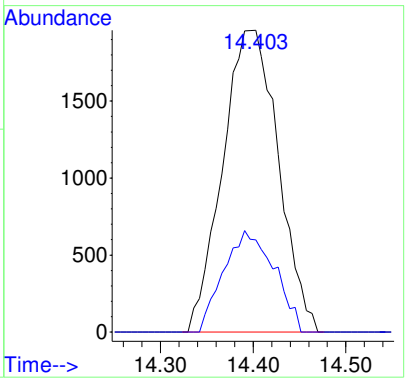


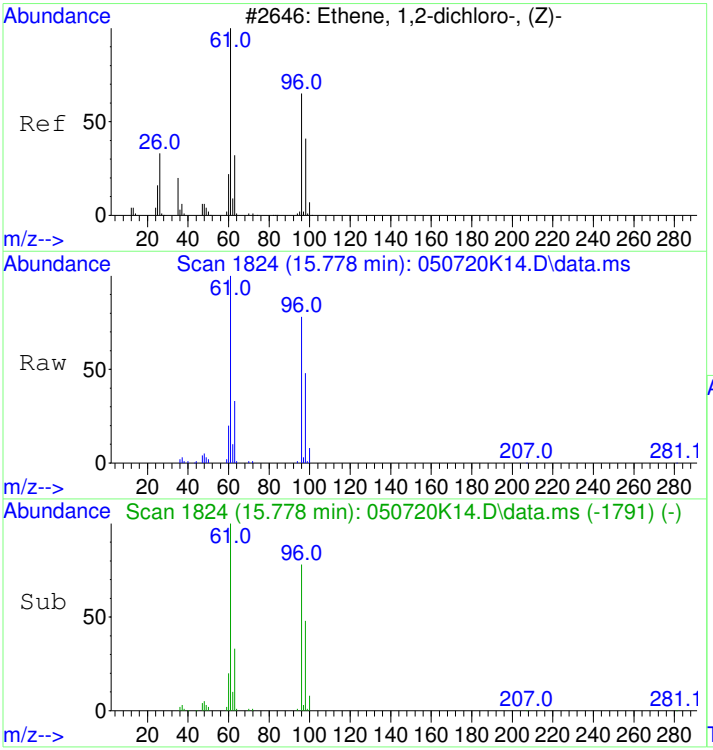


#22
1,1-Dichloroethane
Concen: 0.53 ppbv
RT: 14.403 min Scan# 1598
Delta R.T. 0.012 min
Lab File: 050720K14.D
Acq: 7 May 2020 9:54 pm

Tgt Ion: 63 Resp: 8169

Ion	Ratio	Lower	Upper
63	100		
65	30.5	11.7	51.7

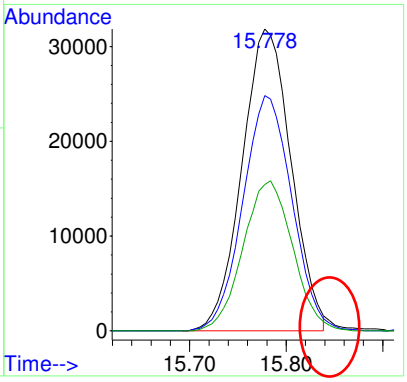




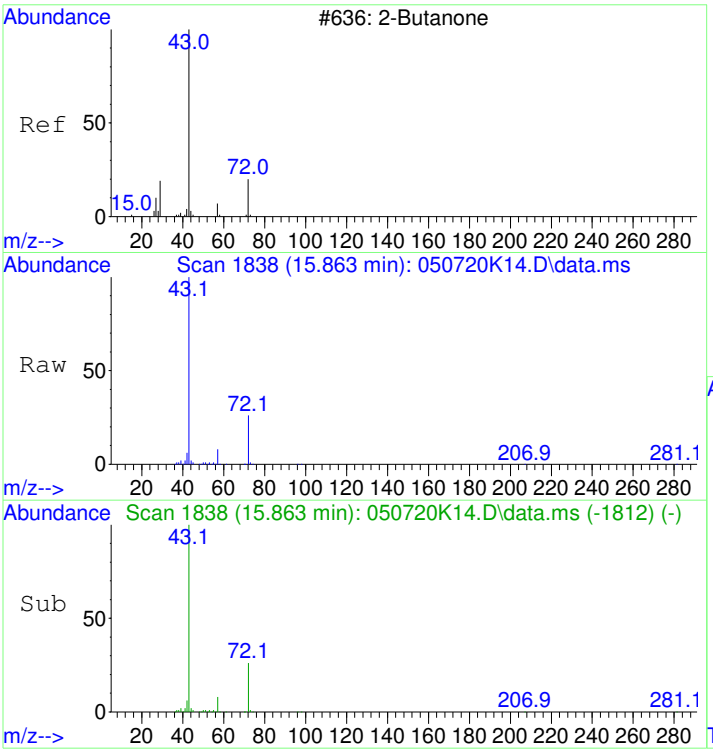
#24
cis-1,2-Dichloroethene
Concen: 10.16 ppbv
RT: 15.778 min Scan# 1824
Delta R.T. -0.000 min
Lab File: 050720K14.D
Acq: 7 May 2020 9:54 pm

Tgt Ion: 61 Resp: 112418

Ion	Ratio	Lower	Upper
61	100		
96	77.5	55.7	95.7
98	0.0	0.0	20.0



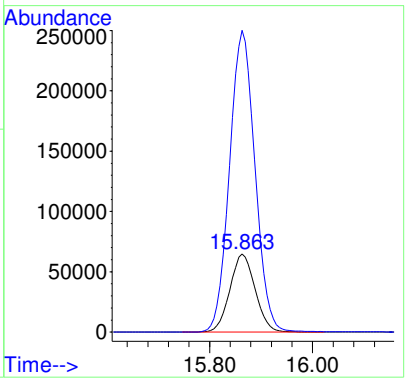
SEE MI

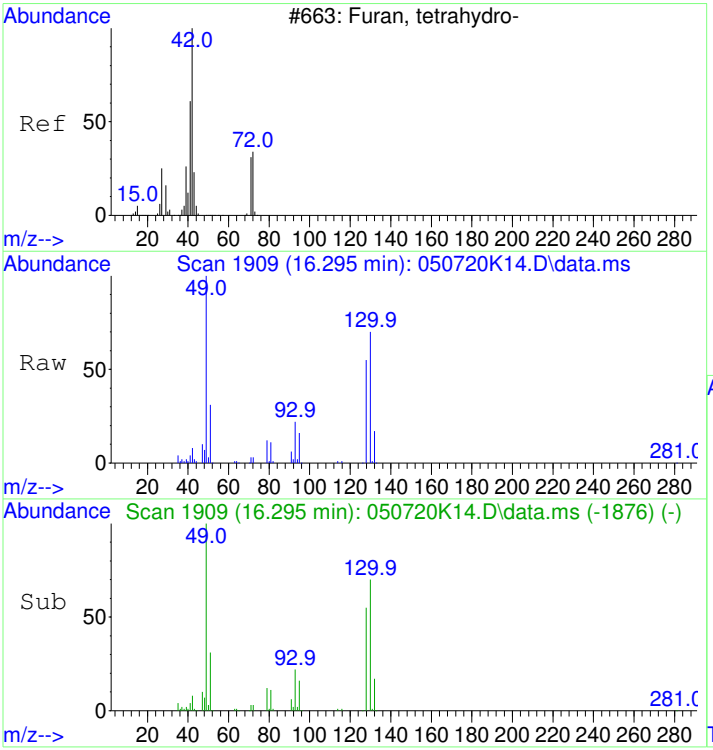


#25
2-Butanone (MEK)
Concen: 48.99 ppbv
RT: 15.863 min Scan# 1838
Delta R.T. 0.006 min
Lab File: 050720K14.D
Acq: 7 May 2020 9:54 pm

Tgt Ion: 72 Resp: 221165

Ion	Ratio	Lower	Upper
72	100		
43	388.3	812.3	832.3#

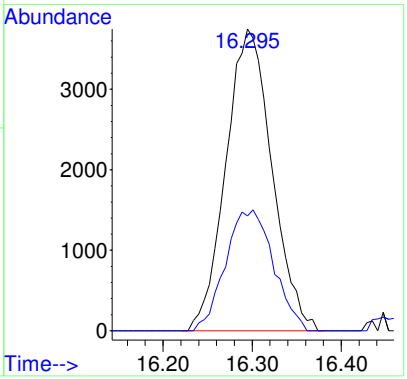


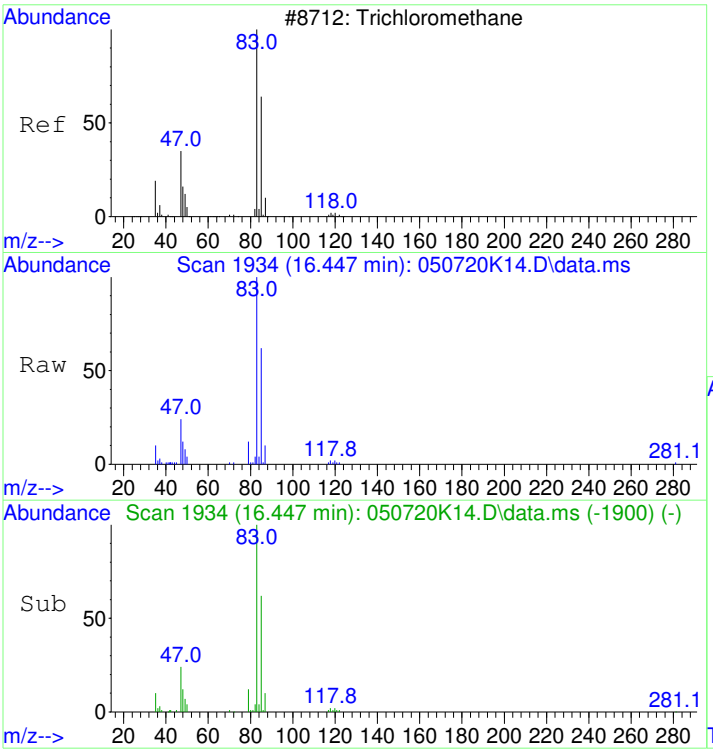


#27
Tetrahydrofuran
Concen: 1.25 ppbv
RT: 16.295 min Scan# 1909
Delta R.T. 0.012 min
Lab File: 050720K14.D
Acq: 7 May 2020 9:54 pm

Tgt Ion: 42 Resp: 13409

Ion	Ratio	Lower	Upper
42	100		
72	41.7	21.2	61.2

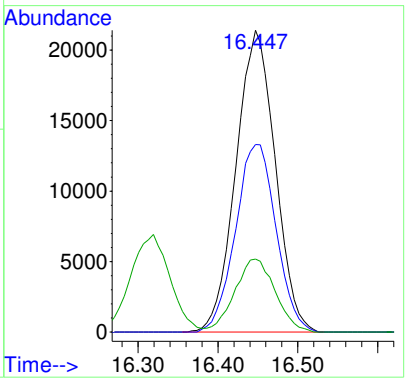


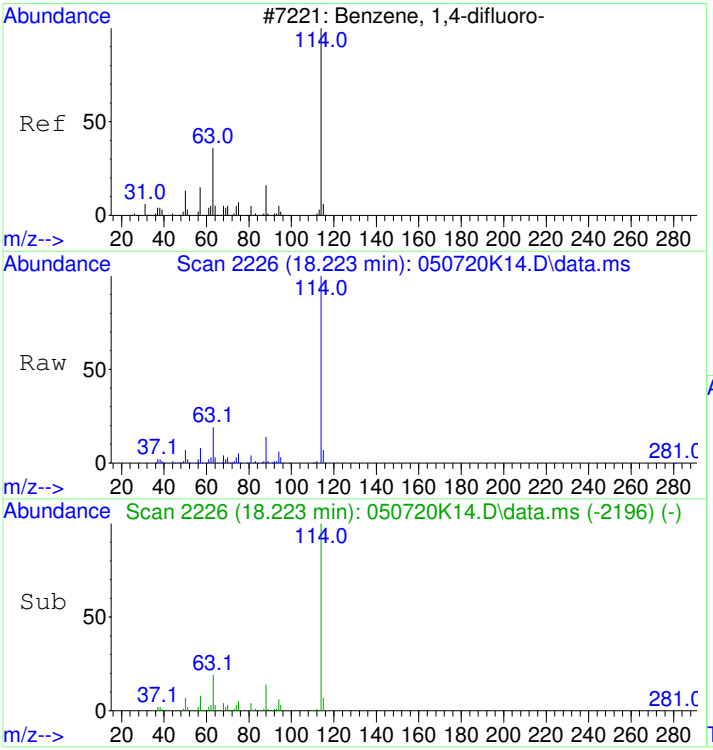


#28
Chloroform
Concen: 4.76 ppbv
RT: 16.447 min Scan# 1934
Delta R.T. 0.006 min
Lab File: 050720K14.D
Acq: 7 May 2020 9:54 pm

Tgt Ion: 83 Resp: 73076

Ion	Ratio	Lower	Upper
83	100		
85	64.3	44.6	84.6
47	23.3	3.0	43.0

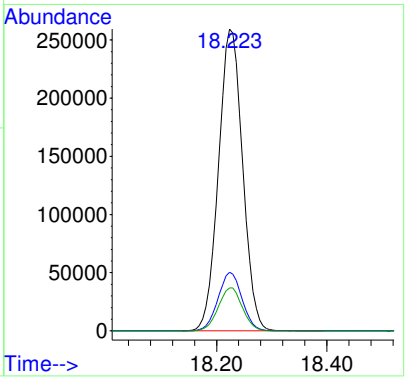


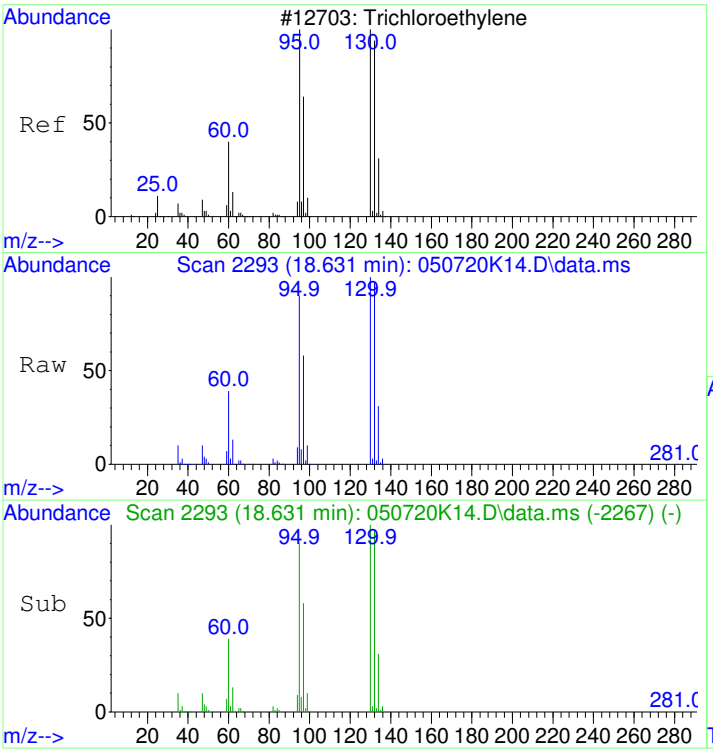


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 18.223 min Scan# 2226
Delta R.T. -0.000 min
Lab File: 050720K14.D
Acq: 7 May 2020 9:54 pm

Tgt Ion:114 Resp: 786085

Ion	Ratio	Lower	Upper
114	100		
63	19.3	0.0	39.6
88	14.2	0.0	34.5

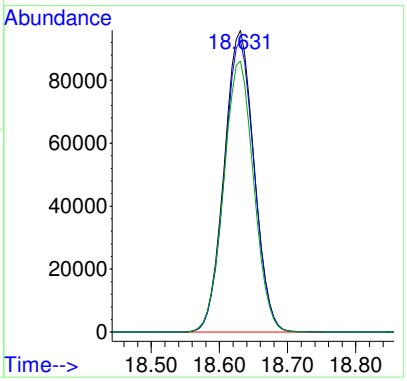


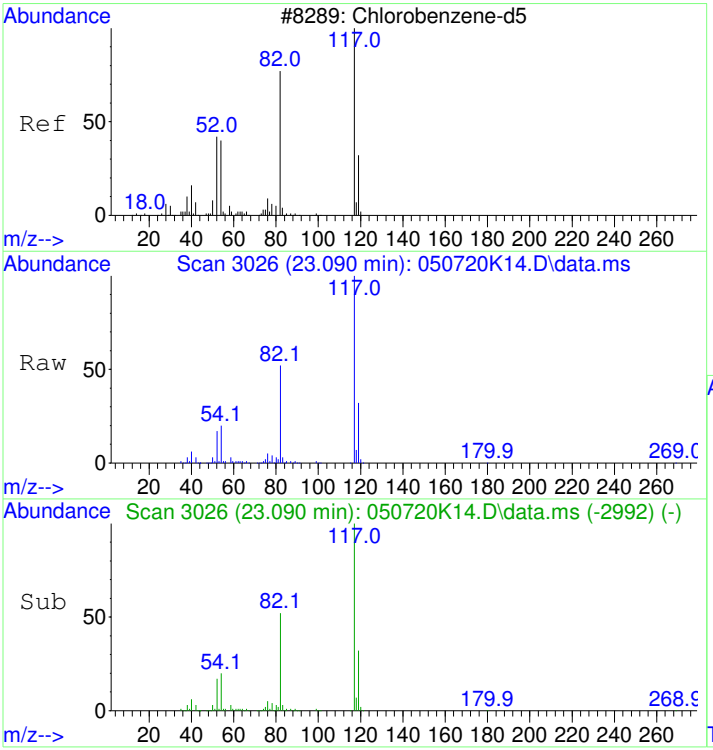


#37
Trichloroethene
Concen: 26.22 ppbv
RT: 18.631 min Scan# 2293
Delta R.T. 0.006 min
Lab File: 050720K14.D
Acq: 7 May 2020 9:54 pm

Tgt Ion:130 Resp: 292042

Ion	Ratio	Lower	Upper
130	100		
132	96.6	75.5	115.5
95	90.2	71.3	111.3

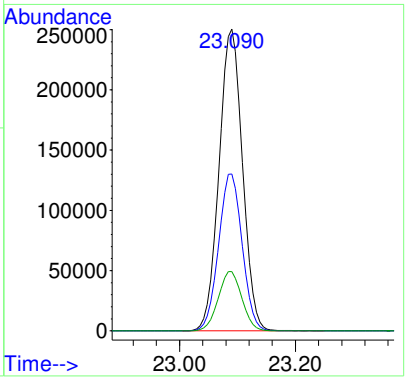


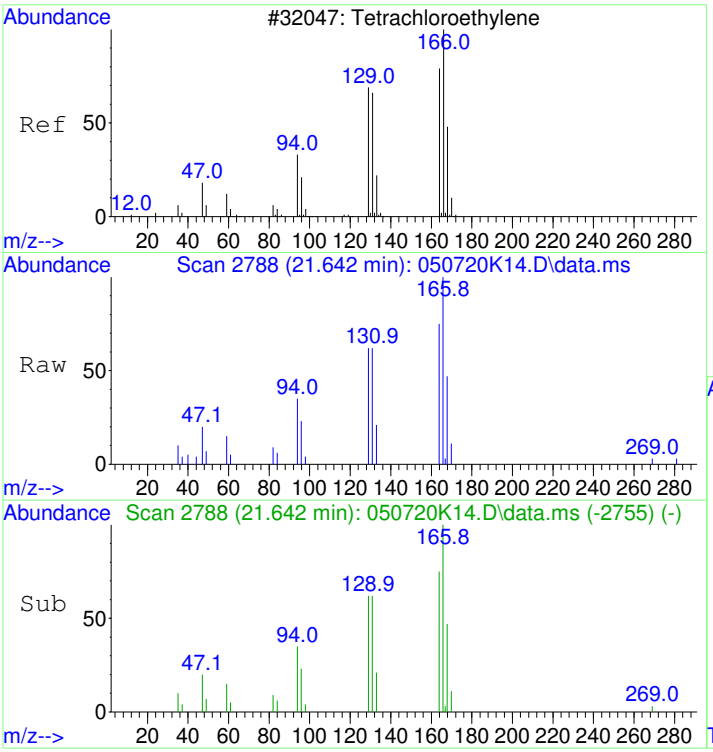


#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 23.090 min Scan# 3026
Delta R.T. 0.006 min
Lab File: 050720K14.D
Acq: 7 May 2020 9:54 pm

Tgt Ion:117 Resp: 704598

Ion	Ratio	Lower	Upper
117	100		
82	52.3	32.5	72.5
54	19.8	0.0	39.6

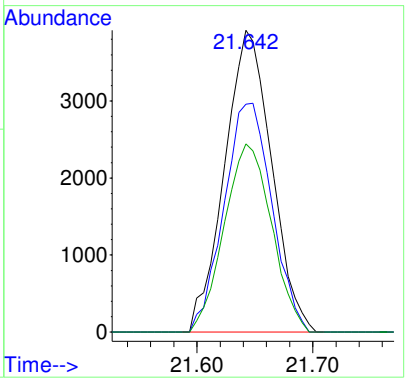




#47
Tetrachloroethene
Concen: 0.70 ppbv
RT: 21.642 min Scan# 2788
Delta R.T. -0.000 min
Lab File: 050720K14.D
Acq: 7 May 2020 9:54 pm

Tgt Ion:166 Resp: 11057

Ion	Ratio	Lower	Upper
166	100		
164	77.2	58.4	98.4
131	62.7	43.1	83.1



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InstName  : HP5973K
Acq On    :  7 May 2020   9:54 pm
Operator  : EM
Sample    : 2005002-07
Misc      : 200ml 277 Fairchild-F23-RR1-PP
ALS Vial  : 17   Sample Multiplier: 1.92

Quant Time: May 08 09:16:00 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title  : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration
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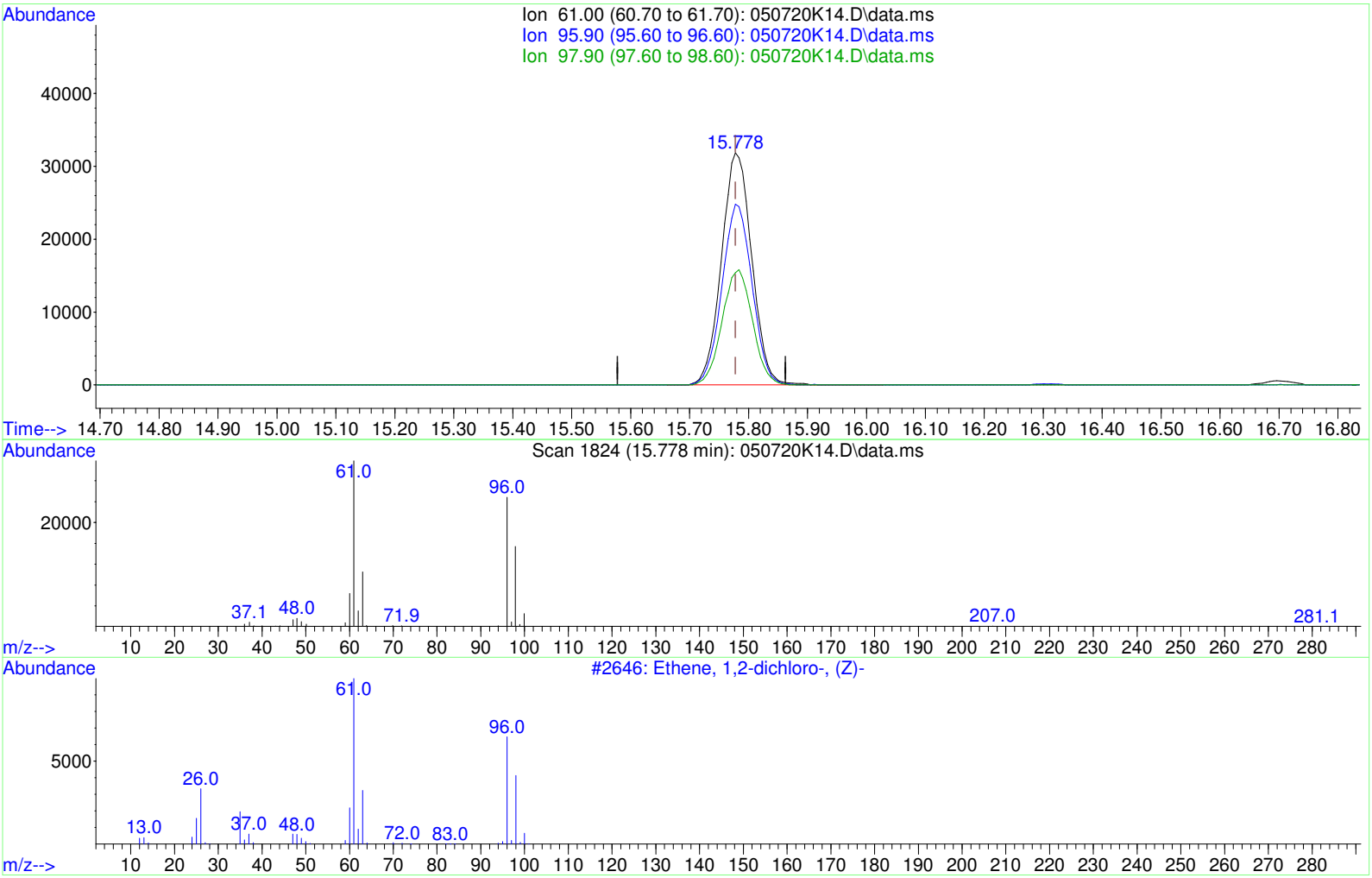


TIC: 050720K14.D\data.ms

(24) cis-1,2-Dichloroethene (T)

15.778min (-0.000) 10.28 ppbv m

response 113772

Ion	Exp%	Act%
61.00	100.00	100.00
95.90	75.70	76.55
97.90	0.00	0.00
0.00	0.00	0.00

2005002-08

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K15.D
InstName : HP5973K
Acq On : 7 May 2020 10:47 pm
Operator : EM
Sample : 2005002-08
Misc : 200ml 272 Ariana-MH-SS-050620
ALS Vial : 18 Sample Multiplier: 2.26

Quant Time: May 08 09:16:05 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

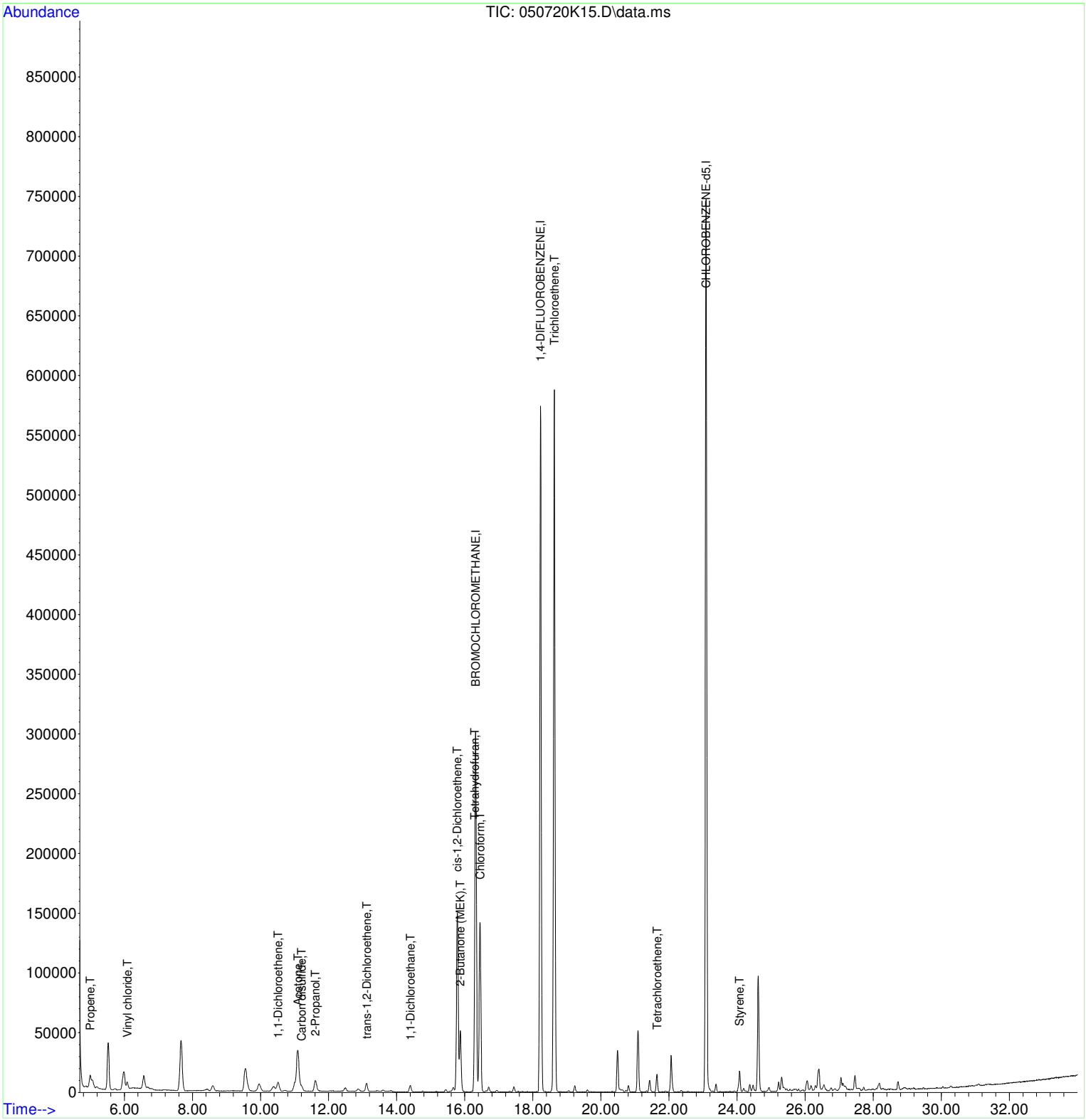
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
Internal Standards								
1) BROMOCHLOROMETHANE	16.319	49	255622	19.60	ppbv		0.00	
32) 1,4-DIFLUOROBENZENE	18.223	114	785492	19.60	ppbv		0.00	
43) CHLOROBENZENE-d5	23.090	117	712902	19.60	ppbv		0.00	
Target Compounds							Qvalue	
2) Propene	4.998	41	7775	1.04	ppbv		82	
6) Vinyl chloride	6.087	62	12883	1.28	ppbv		100	
13) 1,1-Dichloroethene	10.522	61	13861	1.16	ppbv		99	
14) Acetone	11.100	43	114408	9.60	ppbv		99	
15) Carbon disulfide	11.209	76	14161	0.65	ppbv	#	80	
16) 2-Propanol	11.611	45	28323	2.44	ppbv		90	
20) trans-1,2-Dichloroethene	13.119	61	8826	0.79	ppbv		97	
22) 1,1-Dichloroethane	14.403	63	11678	0.76	ppbv		100	
24) cis-1,2-Dichloroethene	15.778	61	158024	14.37	ppbv	#	97	
25) 2-Butanone (MEK)	15.869	72	27951	6.23	ppbv	#	1	
27) Tetrahydrofuran	16.295	42	21650	2.03	ppbv		99	
28) Chloroform	16.453	83	189455	12.43	ppbv		100	
37) Trichloroethene	18.631	130	339665	30.51	ppbv		99	oc
47) Tetrachloroethene	21.648	166	8175	0.51	ppbv		98	
55) Styrene	24.076	104	15208	0.93	ppbv		88	

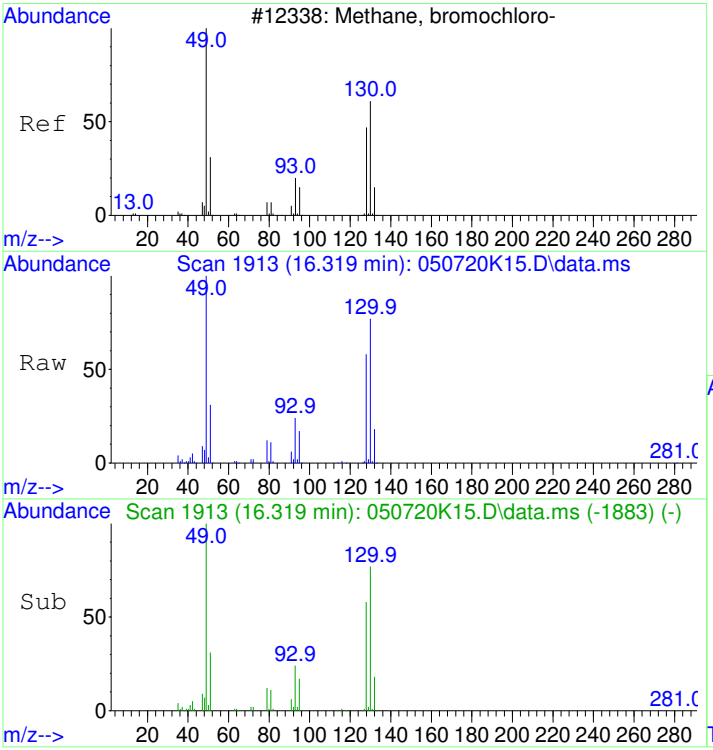
(#) = qualifier out of range (m) = manual integration (+) = signals summed

REVIEWED
By EM at 9:32 am, May 08, 2020

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K15.D
InstName : HP5973K
Acq On : 7 May 2020 10:47 pm
Operator : EM
Sample : 2005002-08
Misc : 200ml 272 Ariana-MH-SS-050620
ALS Vial : 18 Sample Multiplier: 2.26

Quant Time: May 08 09:16:05 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

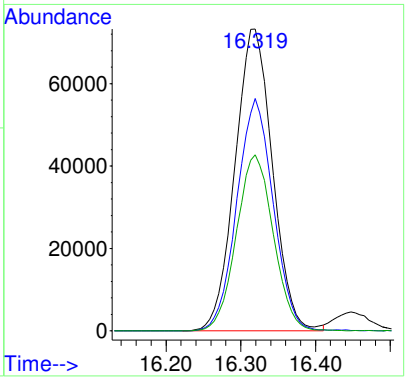


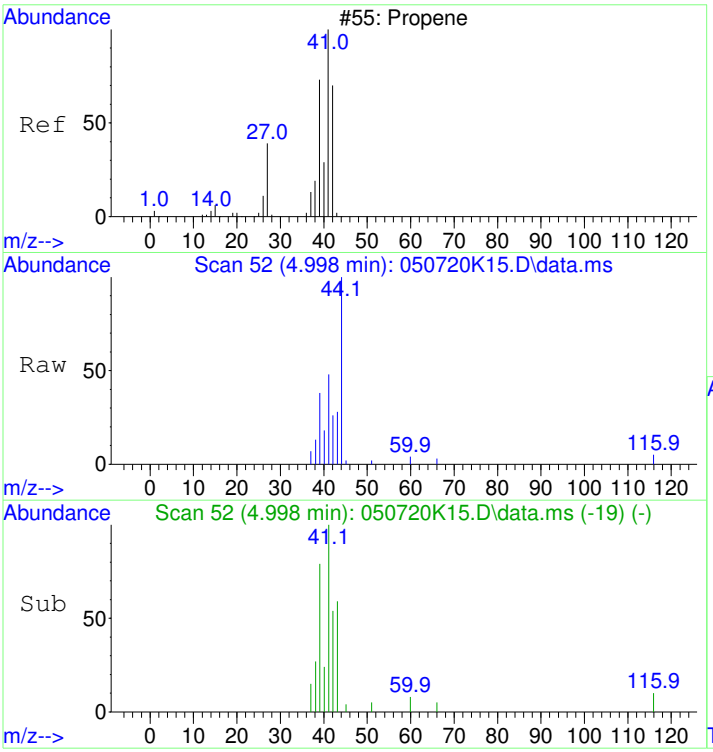


#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 16.319 min Scan# 1913
Delta R.T. 0.006 min
Lab File: 050720K15.D
Acq: 7 May 2020 10:47 pm

Tgt Ion: 49 Resp: 255622

Ion	Ratio	Lower	Upper
49	100		
130	74.6	51.1	91.1
128	57.1	35.0	75.0

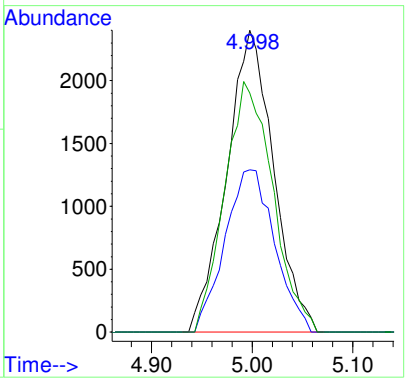


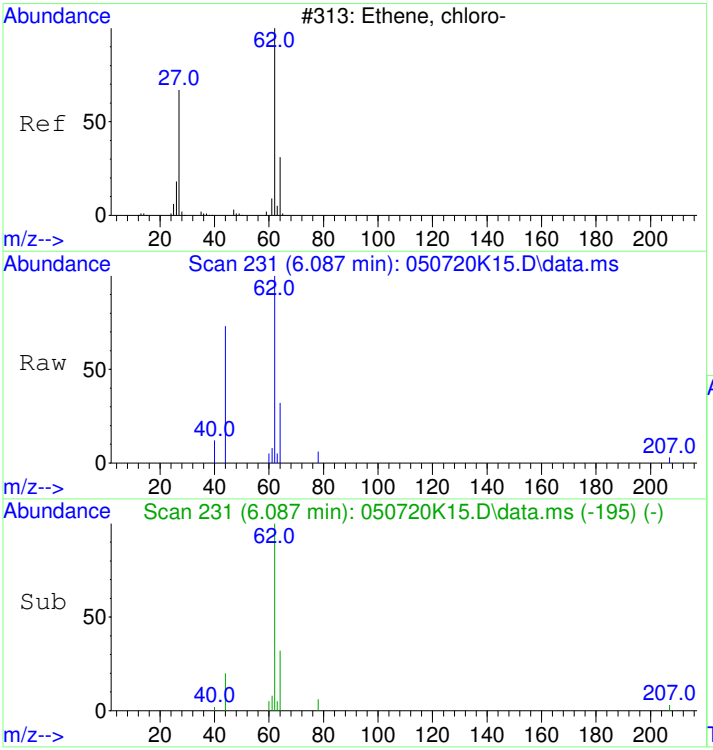


#2
Propene
Concen: 1.04 ppbv
RT: 4.998 min Scan# 52
Delta R.T. -0.000 min
Lab File: 050720K15.D
Acq: 7 May 2020 10:47 pm

Tgt Ion: 41 Resp: 7775

Ion	Ratio	Lower	Upper
41	100		
42	56.8	47.4	87.4
39	85.0	47.3	87.3

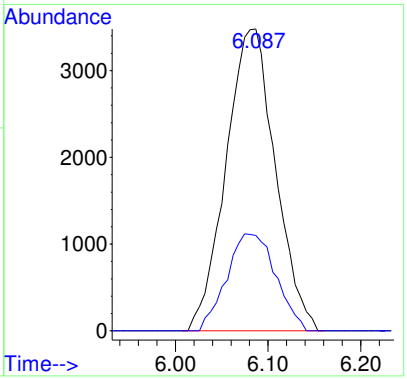


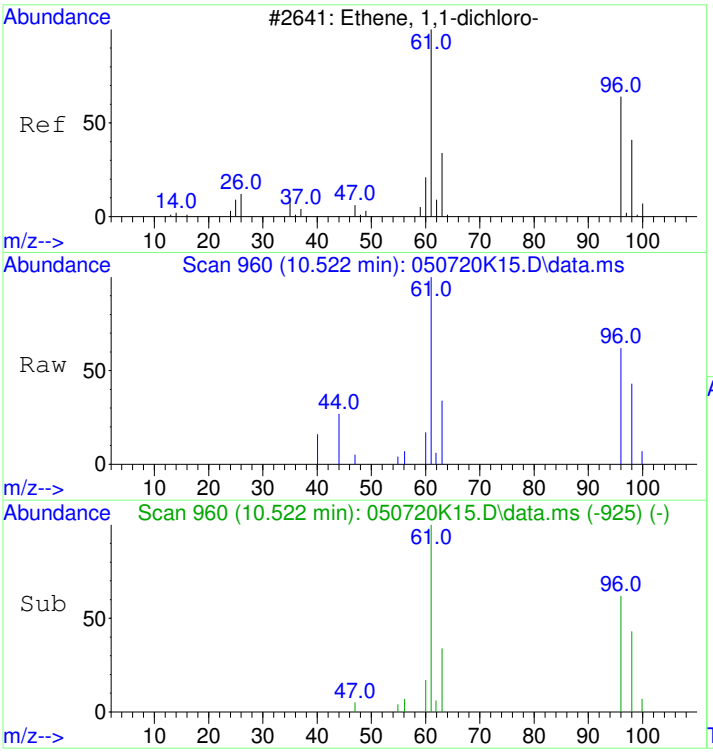


#6
Vinyl chloride
Concen: 1.28 ppbv
RT: 6.087 min Scan# 231
Delta R.T. 0.018 min
Lab File: 050720K15.D
Acq: 7 May 2020 10:47 pm

Tgt Ion: 62 Resp: 12883

Ion	Ratio	Lower	Upper
62	100		
64	31.9	11.9	51.9

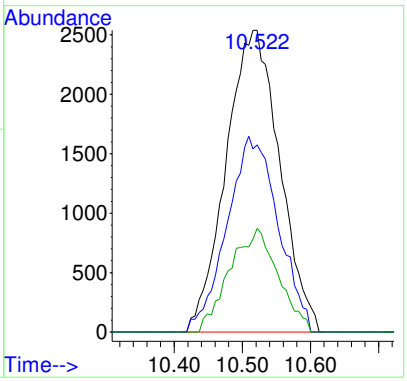


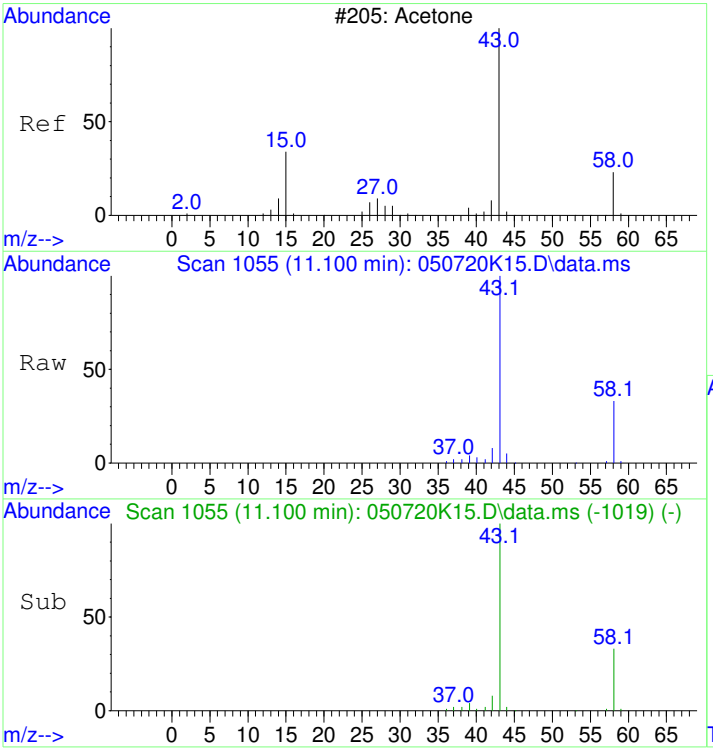


#13
1,1-Dichloroethene
Concen: 1.16 ppbv
RT: 10.522 min Scan# 960
Delta R.T. 0.012 min
Lab File: 050720K15.D
Acq: 7 May 2020 10:47 pm

Tgt Ion: 61 Resp: 13861

Ion	Ratio	Lower	Upper
61	100		
96	61.8	41.2	81.2
63	31.0	11.9	51.9

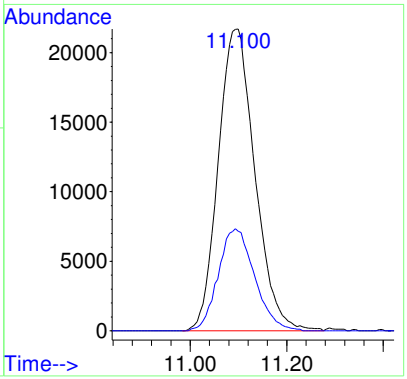


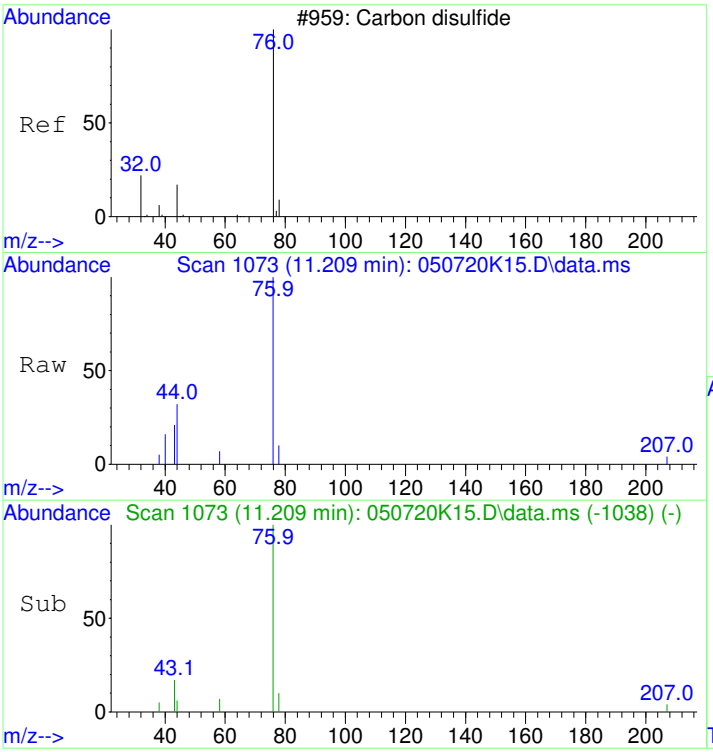


#14
Acetone
Concen: 9.60 ppbv
RT: 11.100 min Scan# 1055
Delta R.T. 0.018 min
Lab File: 050720K15.D
Acq: 7 May 2020 10:47 pm

Tgt Ion: 43 Resp: 114408

Ion	Ratio	Lower	Upper
43	100		
58	33.6	14.0	54.0

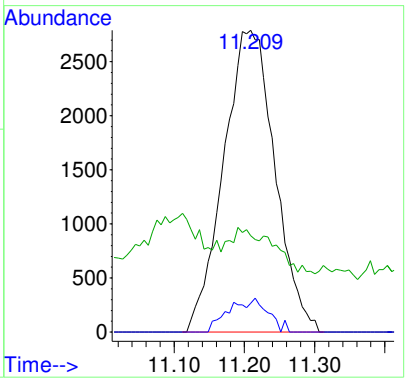


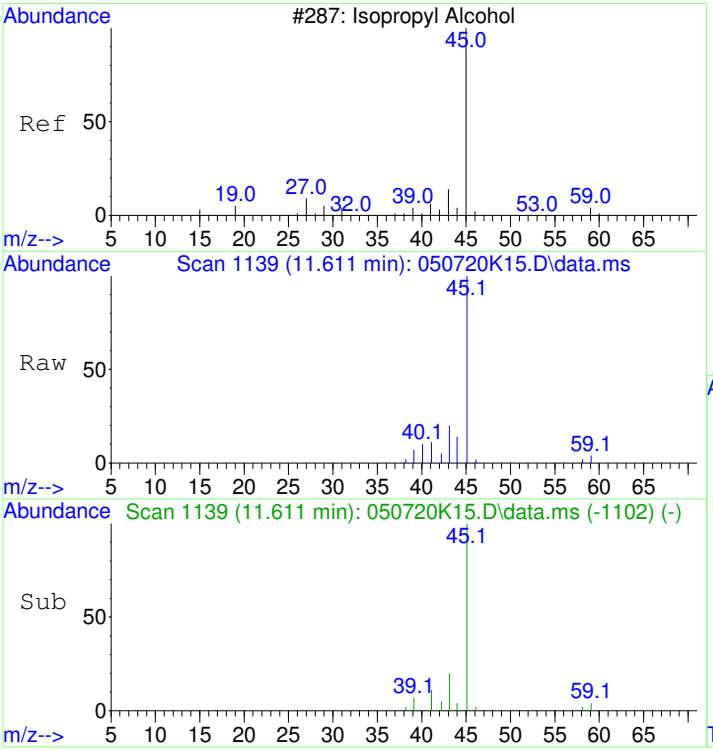


#15
Carbon disulfide
Concen: 0.65 ppbv
RT: 11.209 min Scan# 1073
Delta R.T. 0.012 min
Lab File: 050720K15.D
Acq: 7 May 2020 10:47 pm

Tgt Ion: 76 Resp: 14161

Ion	Ratio	Lower	Upper
76	100		
78	8.6	0.0	29.1
44	0.0	0.0	33.0

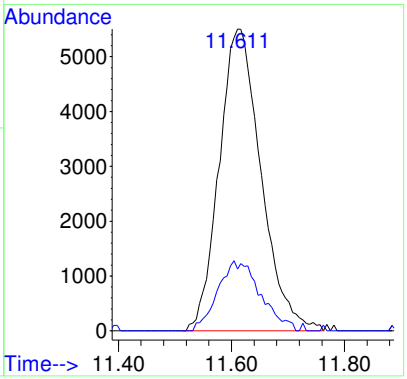


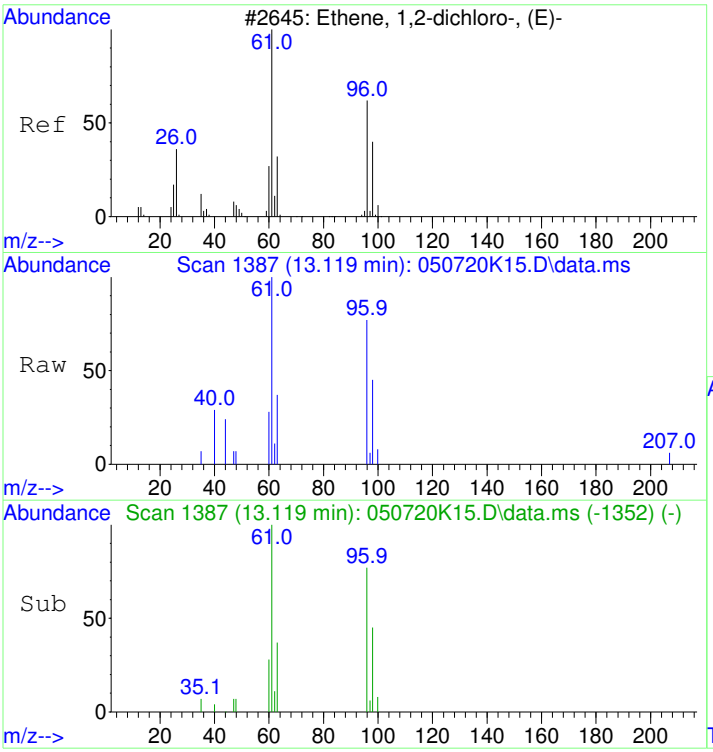


#16
2-Propanol
Concen: 2.44 ppbv
RT: 11.611 min Scan# 1139
Delta R.T. 0.024 min
Lab File: 050720K15.D
Acq: 7 May 2020 10:47 pm

Tgt Ion: 45 Resp: 28323

Ion	Ratio	Lower	Upper
45	100		
43	23.5	0.0	39.0

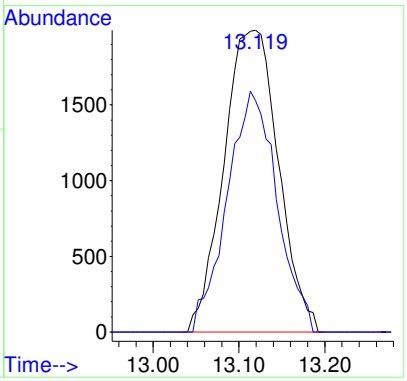


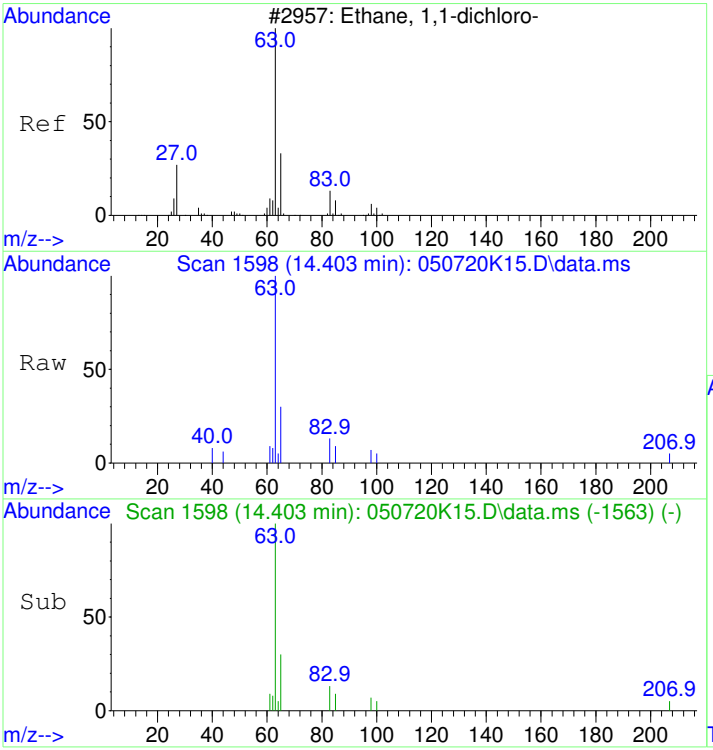


#20
trans-1,2-Dichloroethene
Concen: 0.79 ppbv
RT: 13.119 min Scan# 1387
Delta R.T. 0.012 min
Lab File: 050720K15.D
Acq: 7 May 2020 10:47 pm

Tgt Ion: 61 Resp: 8826

Ion	Ratio	Lower	Upper
61	100		
96	72.8	50.6	90.6

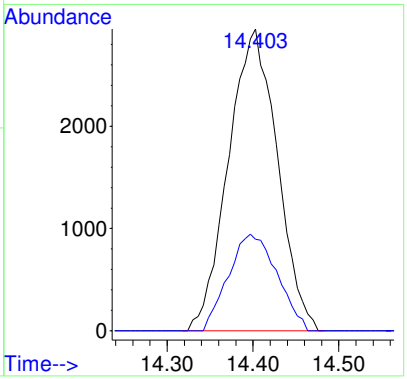


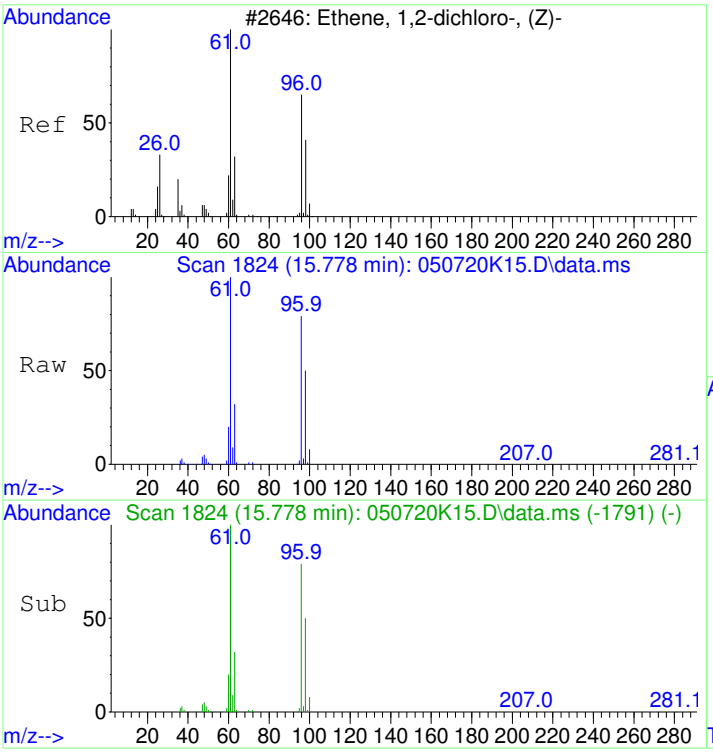


#22
1,1-Dichloroethane
Concen: 0.76 ppbv
RT: 14.403 min Scan# 1598
Delta R.T. 0.012 min
Lab File: 050720K15.D
Acq: 7 May 2020 10:47 pm

Tgt Ion: 63 Resp: 11678

Ion	Ratio	Lower	Upper
63	100		
65	31.8	11.7	51.7

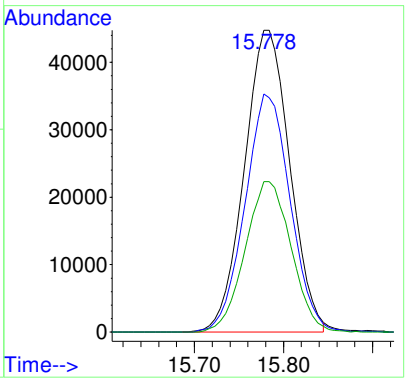


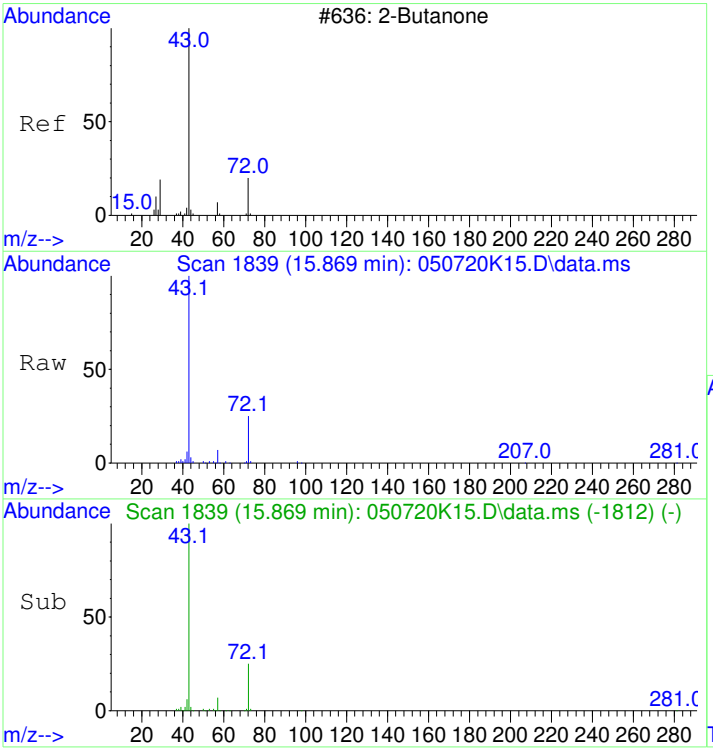


#24
cis-1,2-Dichloroethene
Concen: 14.37 ppbv
RT: 15.778 min Scan# 1824
Delta R.T. -0.000 min
Lab File: 050720K15.D
Acq: 7 May 2020 10:47 pm

Tgt Ion: 61 Resp: 158024

Ion	Ratio	Lower	Upper
61	100		
96	78.2	55.7	95.7
98	0.0	0.0	20.0

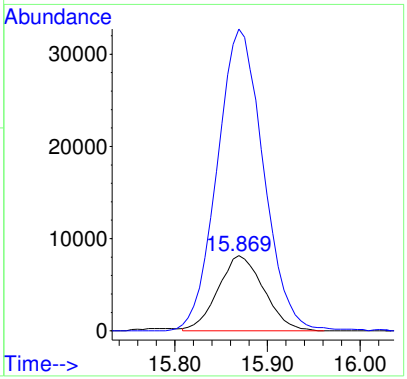


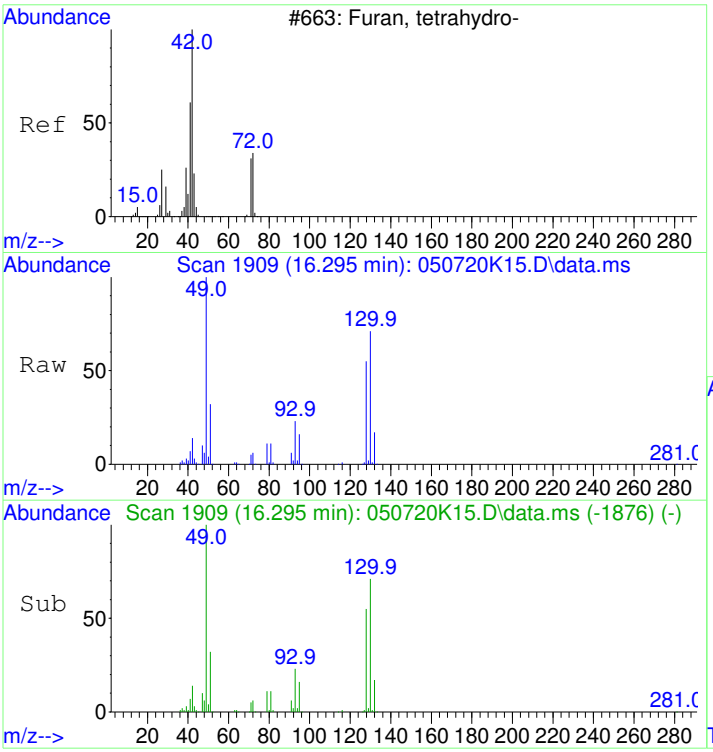


#25
2-Butanone (MEK)
Concen: 6.23 ppbv
RT: 15.869 min Scan# 1839
Delta R.T. 0.012 min
Lab File: 050720K15.D
Acq: 7 May 2020 10:47 pm

Tgt Ion: 72 Resp: 27951

Ion	Ratio	Lower	Upper
72	100		
43	407.1	812.3	832.3#

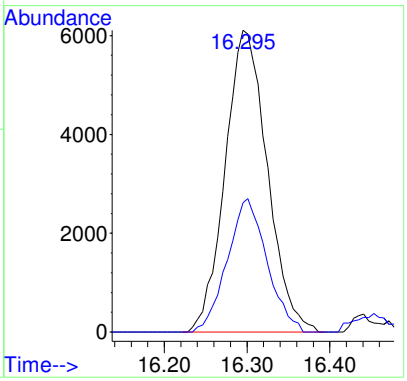


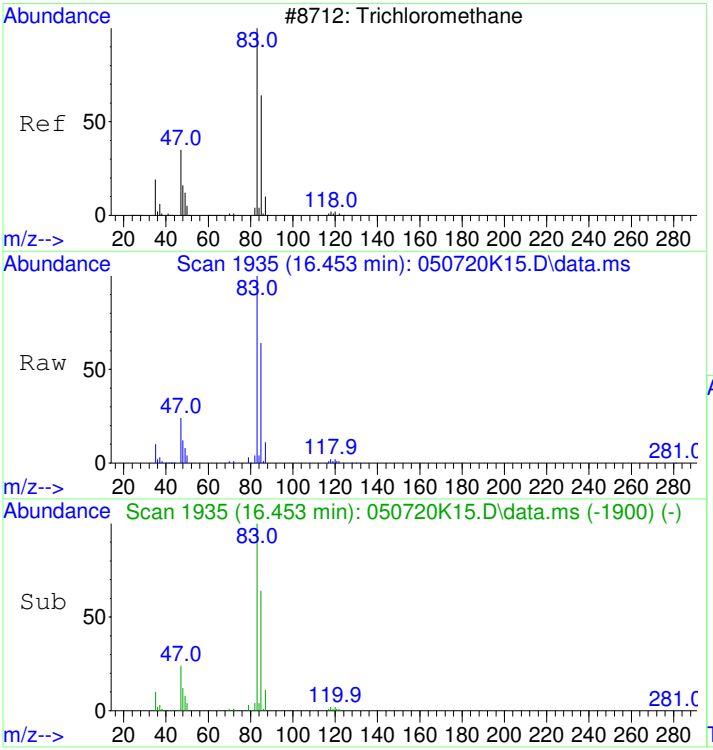


#27
Tetrahydrofuran
Concen: 2.03 ppbv
RT: 16.295 min Scan# 1909
Delta R.T. 0.012 min
Lab File: 050720K15.D
Acq: 7 May 2020 10:47 pm

Tgt Ion: 42 Resp: 21650

Ion	Ratio	Lower	Upper
42	100		
72	41.5	21.2	61.2

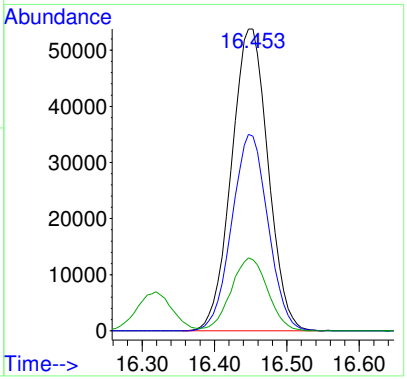


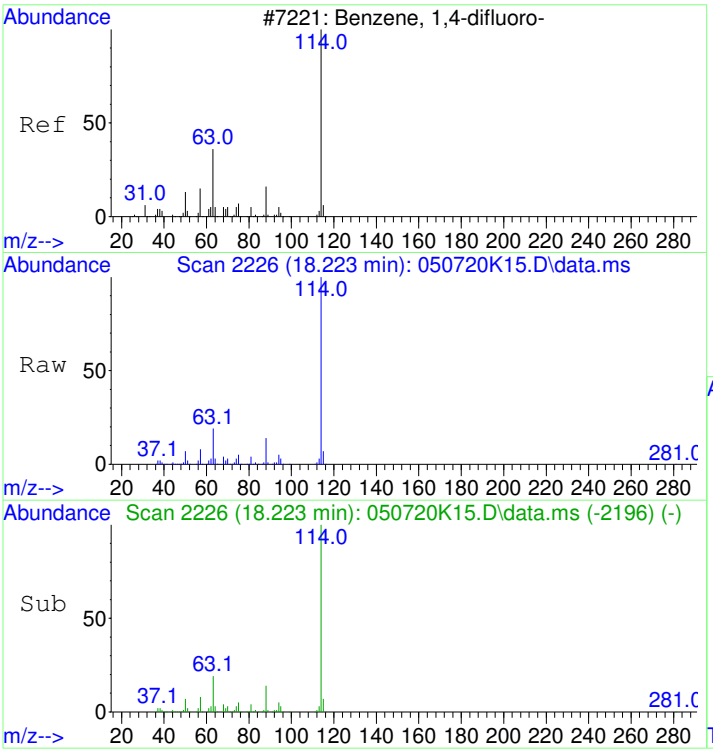


#28
Chloroform
Concen: 12.43 ppbv
RT: 16.453 min Scan# 1935
Delta R.T. 0.012 min
Lab File: 050720K15.D
Acq: 7 May 2020 10:47 pm

Tgt Ion: 83 Resp: 189455

Ion	Ratio	Lower	Upper
83	100		
85	64.2	44.6	84.6
47	23.1	3.0	43.0

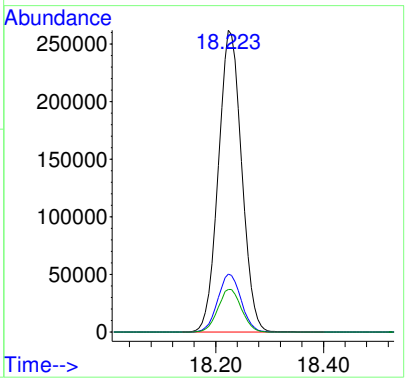


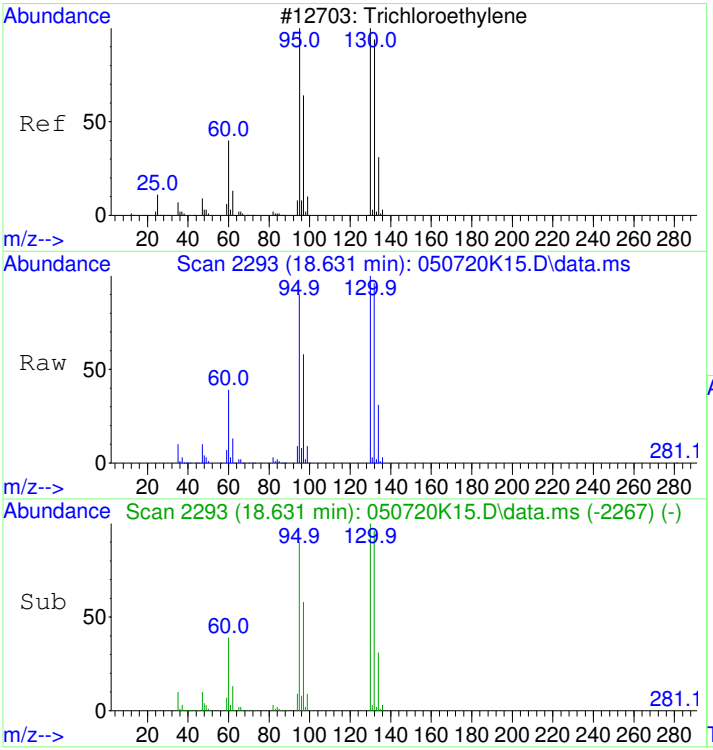


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 18.223 min Scan# 2226
Delta R.T. -0.000 min
Lab File: 050720K15.D
Acq: 7 May 2020 10:47 pm

Tgt Ion:114 Resp: 785492

Ion	Ratio	Lower	Upper
114	100		
63	19.3	0.0	39.6
88	14.3	0.0	34.5

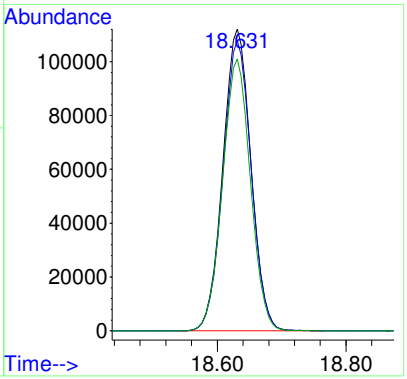


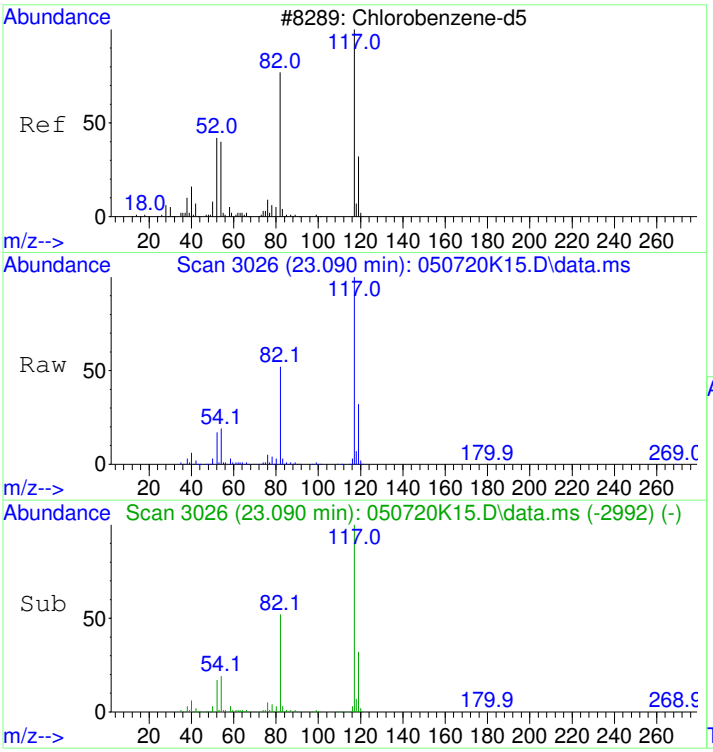


#37
Trichloroethene
Concen: 30.51 ppbv
RT: 18.631 min Scan# 2293
Delta R.T. 0.006 min
Lab File: 050720K15.D
Acq: 7 May 2020 10:47 pm

Tgt Ion:130 Resp: 339665

Ion	Ratio	Lower	Upper
130	100		
132	96.4	75.5	115.5
95	89.6	71.3	111.3

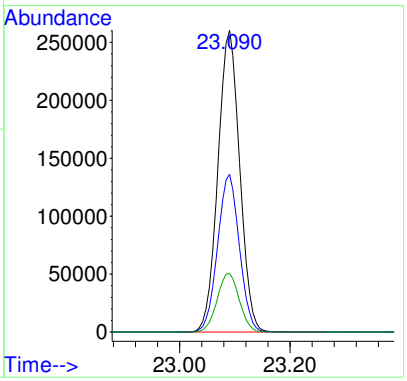


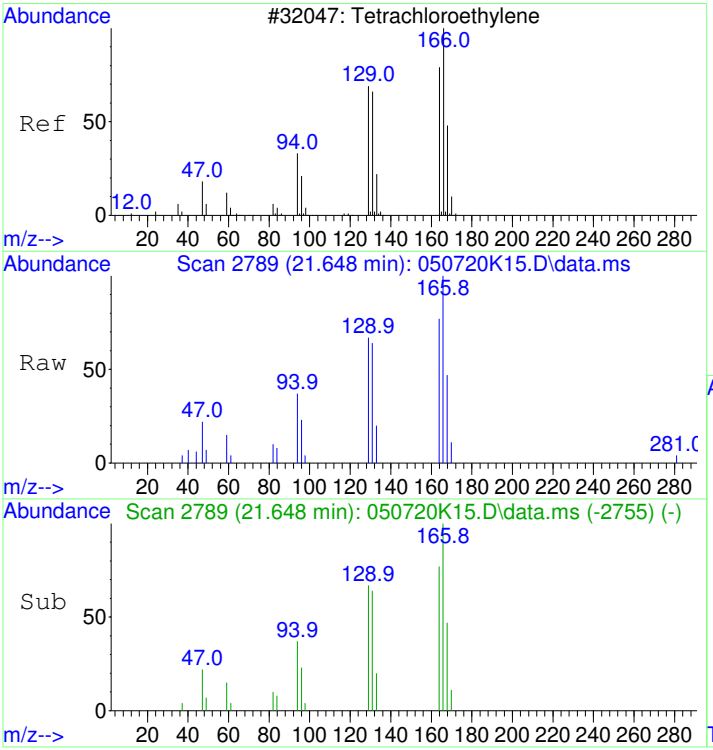


#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 23.090 min Scan# 3026
Delta R.T. 0.006 min
Lab File: 050720K15.D
Acq: 7 May 2020 10:47 pm

Tgt Ion:117 Resp: 712902

Ion	Ratio	Lower	Upper
117	100		
82	52.2	32.5	72.5
54	19.8	0.0	39.6

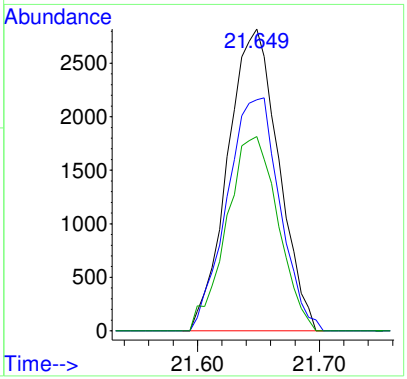


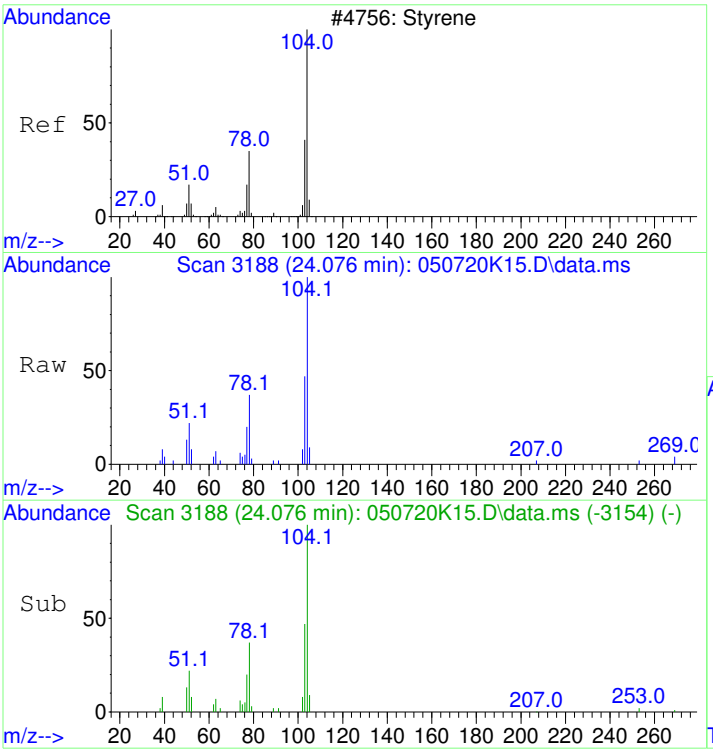


#47
Tetrachloroethene
Concen: 0.51 ppbv
RT: 21.648 min Scan# 2789
Delta R.T. 0.006 min
Lab File: 050720K15.D
Acq: 7 May 2020 10:47 pm

Tgt Ion:166 Resp: 8175

Ion	Ratio	Lower	Upper
166	100		
164	80.0	58.4	98.4
131	65.0	43.1	83.1

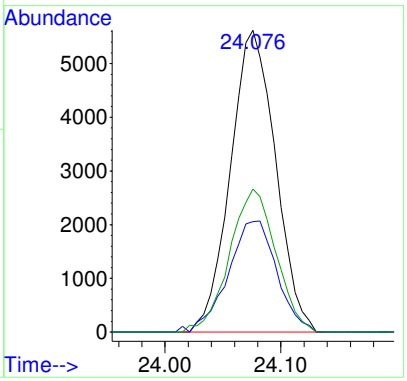




#55
Styrene
Concen: 0.93 ppbv
RT: 24.076 min Scan# 3188
Delta R.T. 0.006 min
Lab File: 050720K15.D
Acq: 7 May 2020 10:47 pm

Tgt Ion:104 Resp: 15208

Ion	Ratio	Lower	Upper
104	100		
78	39.9	28.9	68.9
103	48.7	37.1	77.1



S20E003-IBL3

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K16.D
InstName : HP5973K
Acq On : 7 May 2020 11:39 pm
Operator : EM
Sample : S20E003-IBL3
Misc : 200ml 6L CAN #22 RECERTIFICATION
ALS Vial : 12 Sample Multiplier: 1

CLEAN

Quant Time: May 08 09:16:10 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	16.313	49	251202	19.60 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.223	114	788517	19.60 ppbv	0.00
43) CHLOROBENZENE-d5	23.090	117	702343	19.60 ppbv	0.00

Target Compounds Qvalue

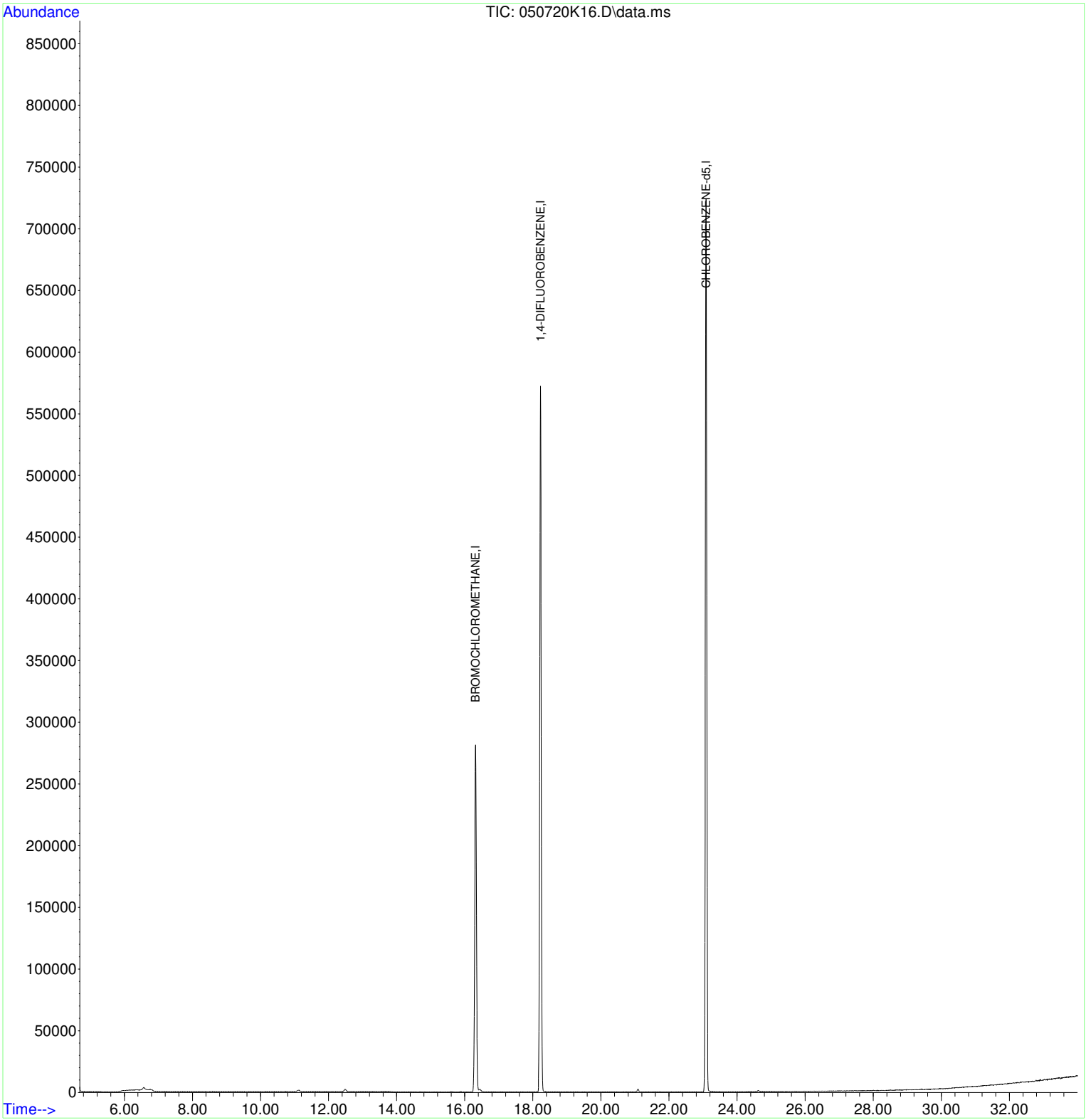
(#) = qualifier out of range (m) = manual integration (+) = signals summed

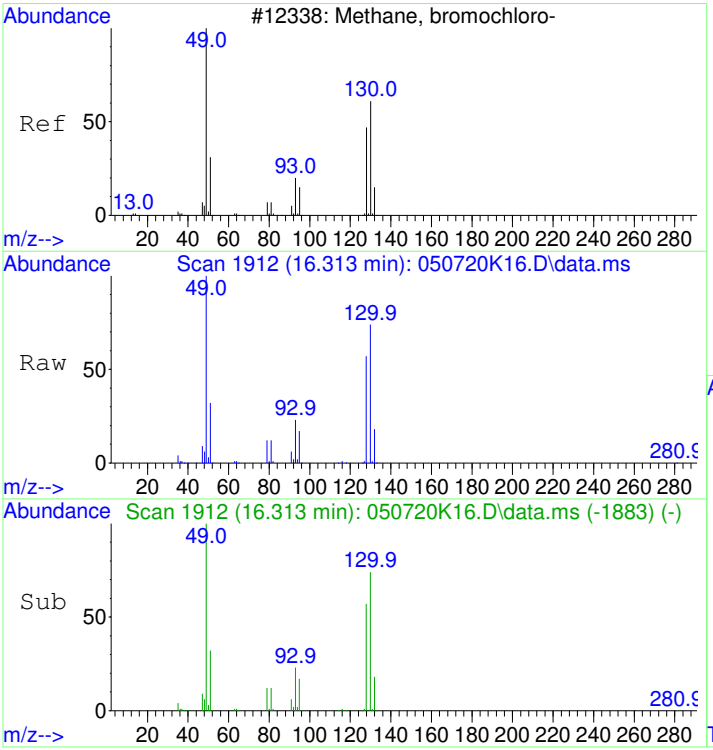
REVIEWED
By EM at 9:32 am, May 08, 2020

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K16.D
InstName : HP5973K
Acq On : 7 May 2020 11:39 pm
Operator : EM
Sample : S20E003-IBL3
Misc : 200ml 6L CAN #22 RECERTIFICATION
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 08 09:16:10 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

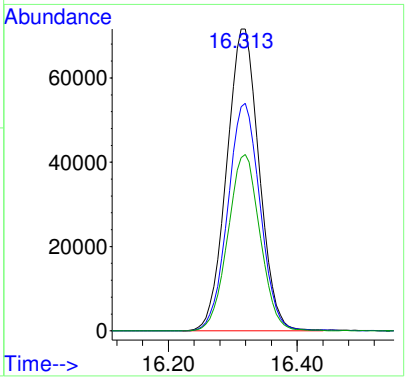


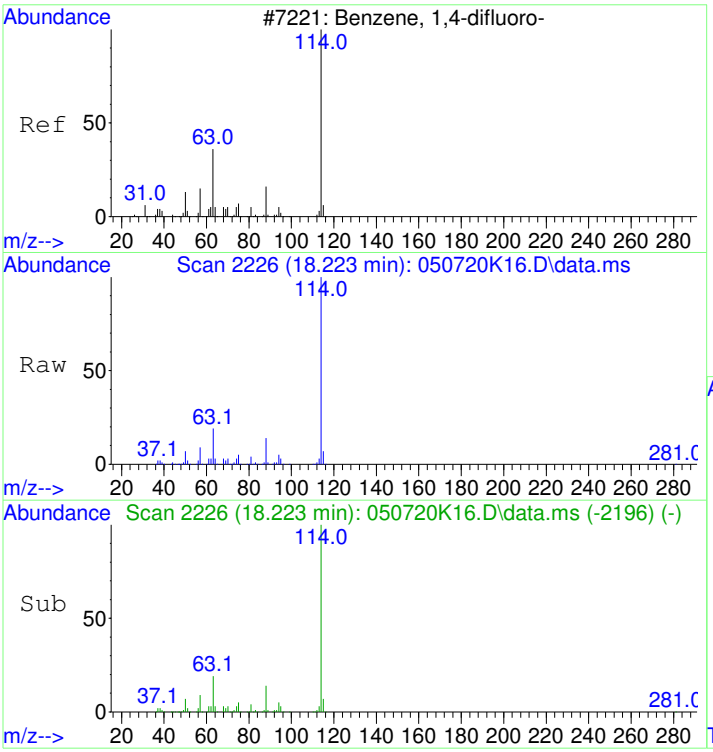


#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 16.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 050720K16.D
Acq: 7 May 2020 11:39 pm

Tgt Ion: 49 Resp: 251202

Ion	Ratio	Lower	Upper
49	100		
130	74.9	51.1	91.1
128	57.6	35.0	75.0

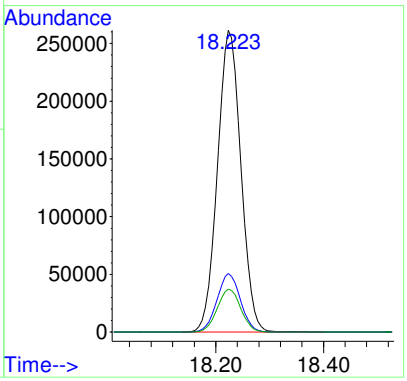


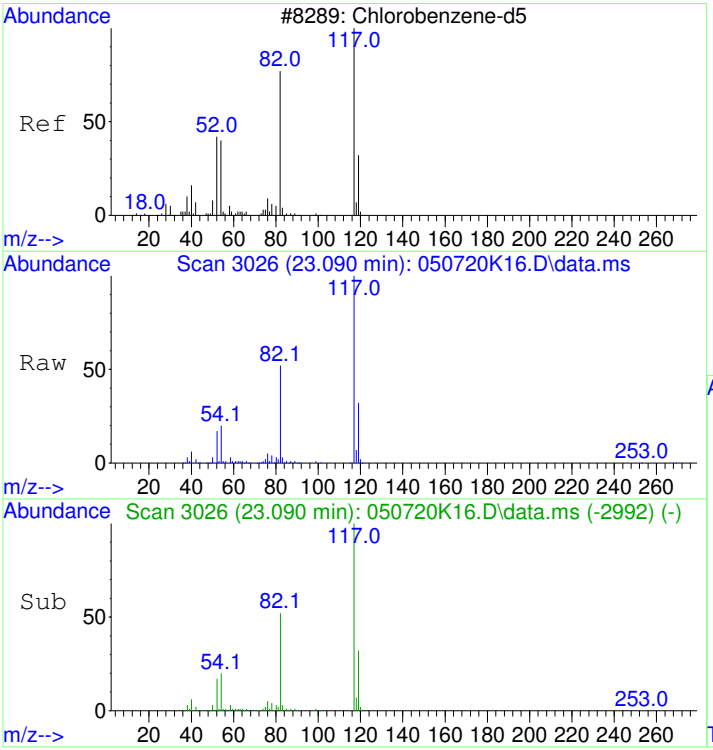


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 18.223 min Scan# 2226
Delta R.T. -0.000 min
Lab File: 050720K16.D
Acq: 7 May 2020 11:39 pm

Tgt Ion:114 Resp: 788517

Ion	Ratio	Lower	Upper
114	100		
63	19.3	0.0	39.6
88	14.3	0.0	34.5

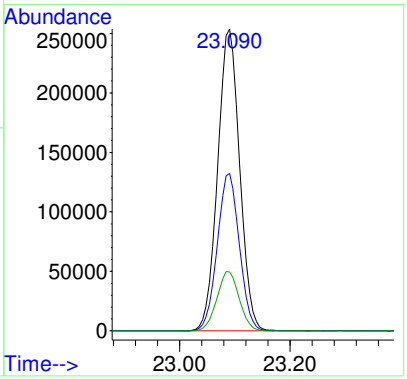




#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 23.090 min Scan# 3026
Delta R.T. 0.006 min
Lab File: 050720K16.D
Acq: 7 May 2020 11:39 pm

Tgt Ion:117 Resp: 702343

Ion	Ratio	Lower	Upper
117	100		
82	52.3	32.5	72.5
54	19.9	0.0	39.6



2005002-09

Quantitation Report (QT Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K17.D
InstName : HP5973K
Acq On : 8 May 2020 12:32 am
Operator : EM
Sample : 2005002-09
Misc : 200ml 277 Fairchild-F23-SC-PP
ALS Vial : 10 Sample Multiplier: 1.98

M.I. Performed By:
EM at 11:36 am, May 08, 2020

M.I. Approved By:
ZR at 10:52 am, May 15, 2020

Quant Time: May 08 09:16:13 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	16.313	49	251842	19.60	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.223	114	782629	19.60	ppbv	0.00
43) CHLOROBENZENE-d5	23.090	117	707491	19.60	ppbv	0.00
Target Compounds						Qvalue
2) Propene	5.004	41	4531	0.62	ppbv	90
14) Acetone	11.099	43	47871	4.08	ppbv	99
16) 2-Propanol	11.604	45	23188	2.03	ppbv	88
24) cis-1,2-Dichloroethene	15.778	61	18880m	1.74	ppbv	
25) 2-Butanone (MEK)	15.869	72	10411	2.36	ppbv #	1
27) Tetrahydrofuran	16.295	42	6209	0.59	ppbv	98
28) Chloroform	16.447	83	53285	3.55	ppbv	100
37) Trichloroethene	18.631	130	63592	5.73	ppbv	99
55) Styrene	24.076	104	30025	1.85	ppbv	86

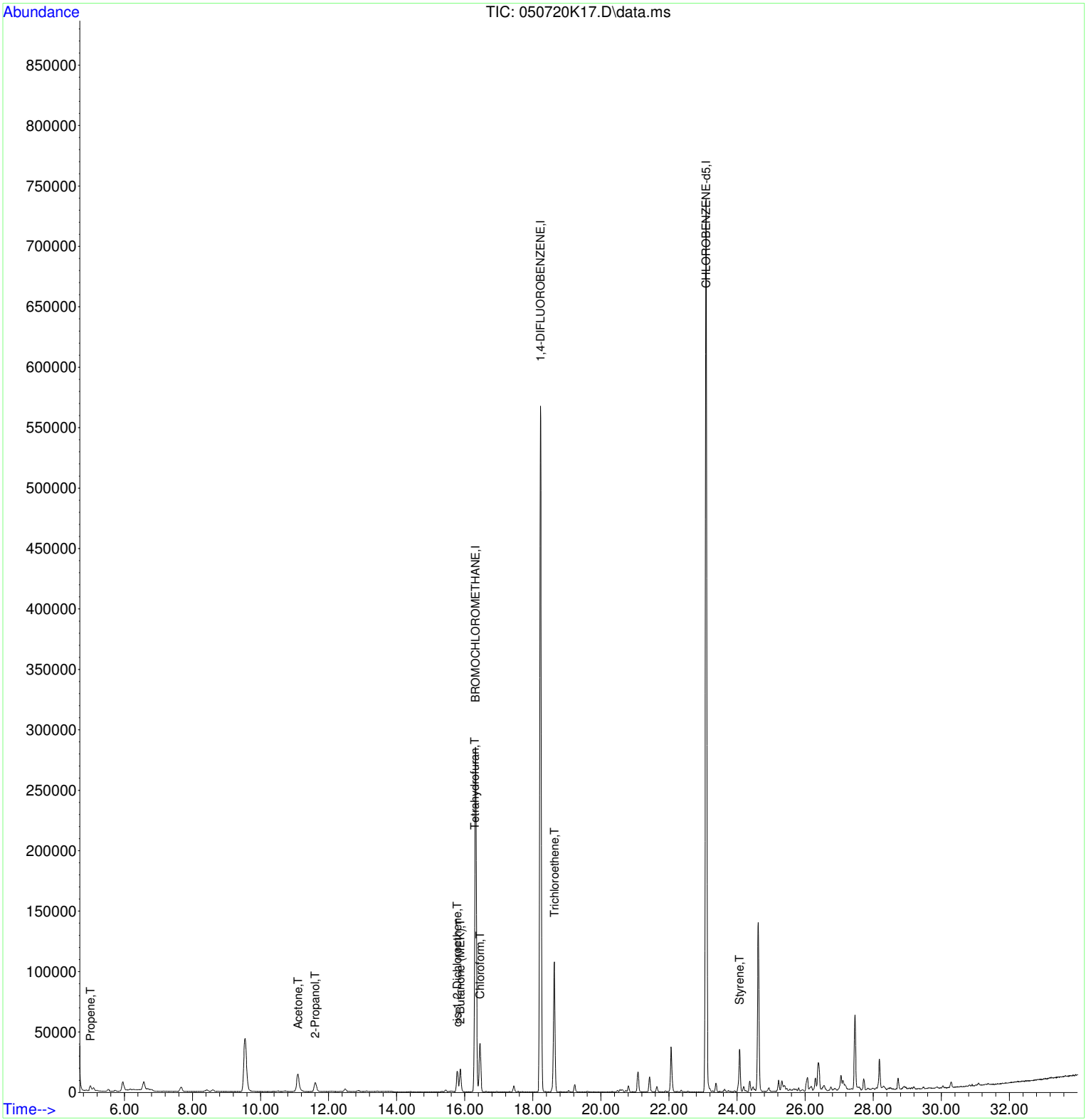
(#) = qualifier out of range (m) = manual integration (+) = signals summed

REVIEWED
By EM at 11:36 am, May 08, 2020

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K17.D
InstName : HP5973K
Acq On : 8 May 2020 12:32 am
Operator : EM
Sample : 2005002-09
Misc : 200ml 277 Fairchild-F23-SC-PP
ALS Vial : 10 Sample Multiplier: 1.98

Quant Time: May 08 09:16:13 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration



Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K17.D
InstName : HP5973K
Acq On : 8 May 2020 12:32 am
Operator : EM
Sample : 2005002-09
Misc : 200ml 277 Fairchild-F23-SC-PP
ALS Vial : 10 Sample Multiplier: 1.98

Before Manual Integration

Quant Time: May 08 09:16:13 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	16.313	49	251842	19.60	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	18.223	114	782629	19.60	ppbv		0.00
43) CHLOROBENZENE-d5	23.090	117	707491	19.60	ppbv		0.00
Target Compounds							Qvalue
2) Propene	5.004	41	4531	0.62	ppbv		90
14) Acetone	11.099	43	47871	4.08	ppbv		99
16) 2-Propanol	11.604	45	23188	2.03	ppbv		88
24) cis-1,2-Dichloroethene	15.778	61	18774	1.73	ppbv	#	98
25) 2-Butanone (MEK)	15.869	72	10411	2.36	ppbv	#	1
27) Tetrahydrofuran	16.295	42	6209	0.59	ppbv		98
28) Chloroform	16.447	83	53285	3.55	ppbv		100
37) Trichloroethene	18.631	130	63592	5.73	ppbv		99
55) Styrene	24.076	104	30025	1.85	ppbv		86

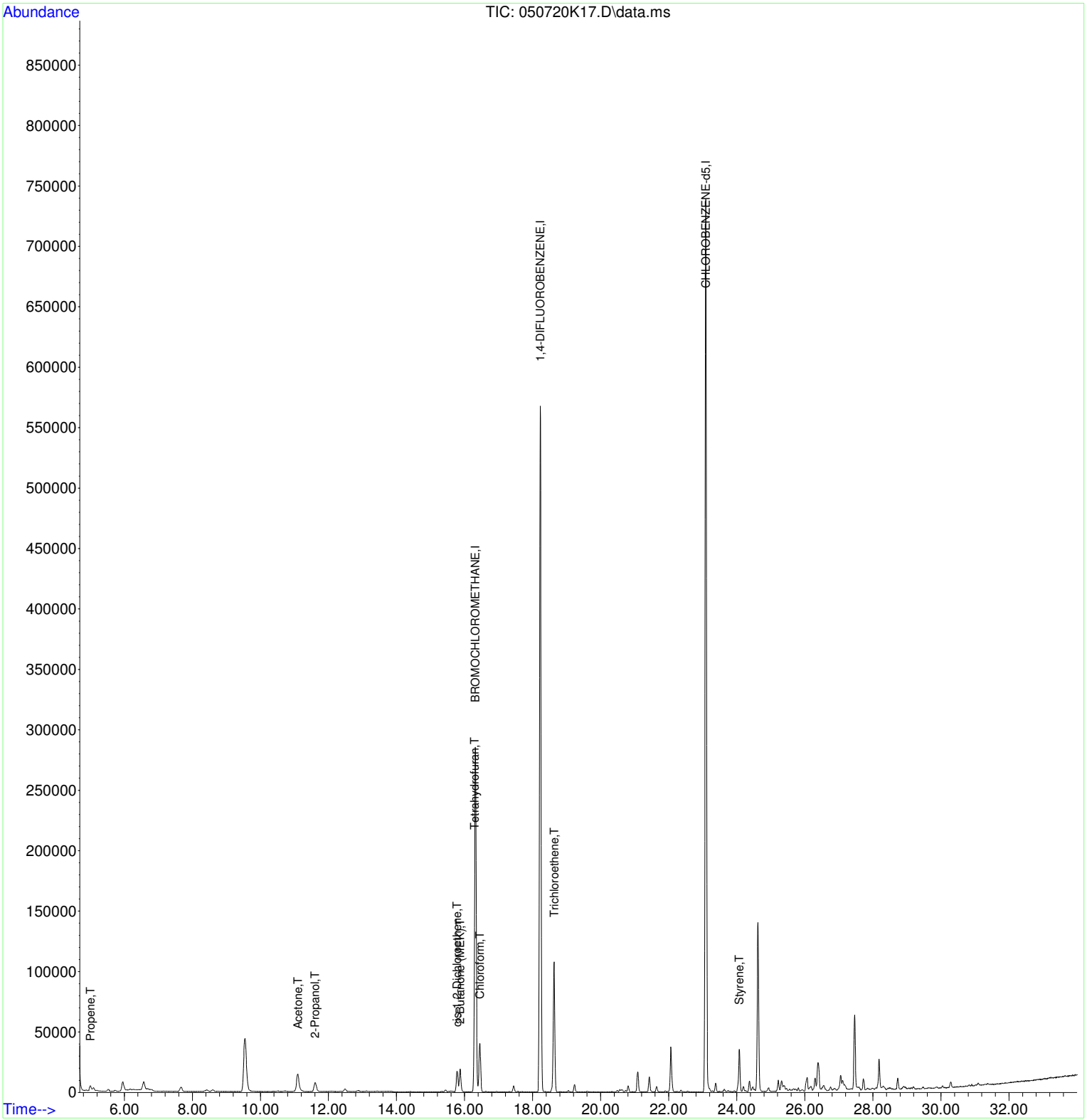
(#) = qualifier out of range (m) = manual integration (+) = signals summed

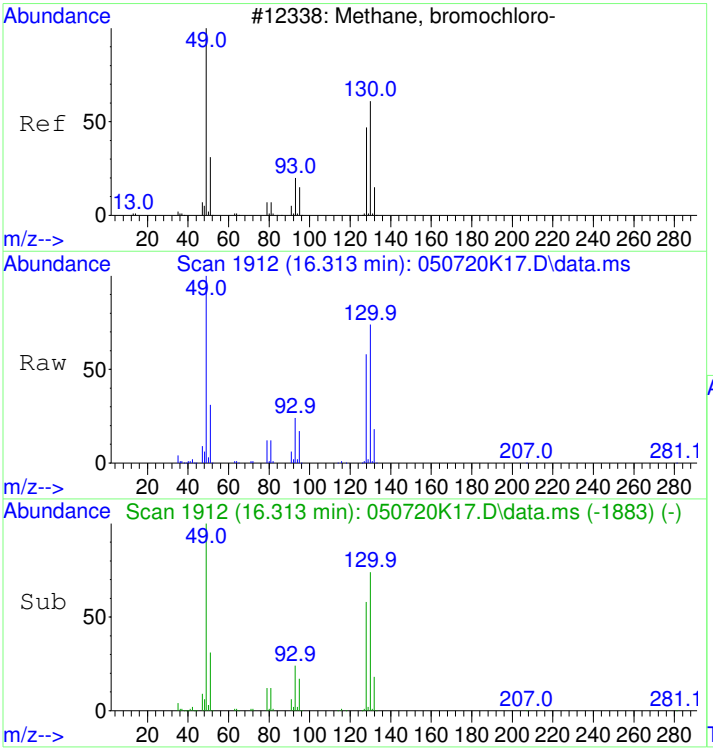
REVIEWED
By EM at 9:31 am, May 08, 2020

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K17.D
InstName : HP5973K
Acq On : 8 May 2020 12:32 am
Operator : EM
Sample : 2005002-09
Misc : 200ml 277 Fairchild-F23-SC-PP
ALS Vial : 10 Sample Multiplier: 1.98

Quant Time: May 08 09:16:13 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

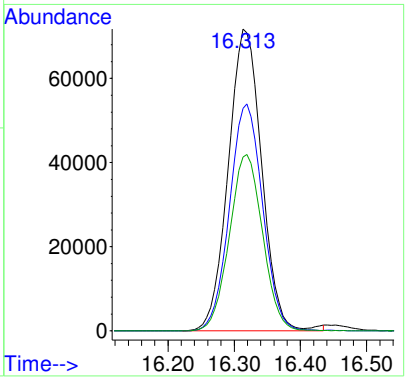


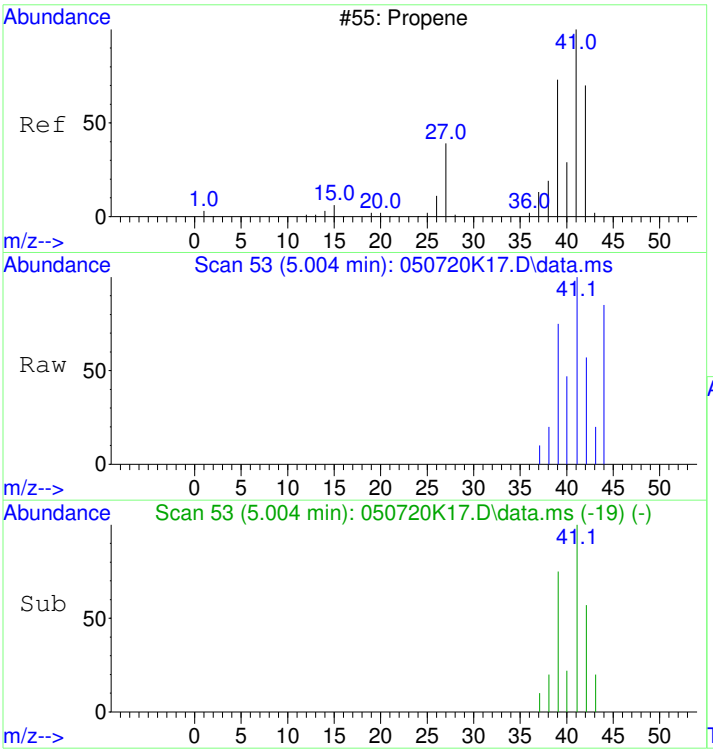


#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 16.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 050720K17.D
Acq: 8 May 2020 12:32 am

Tgt Ion: 49 Resp: 251842

Ion	Ratio	Lower	Upper
49	100		
130	74.5	51.1	91.1
128	57.5	35.0	75.0

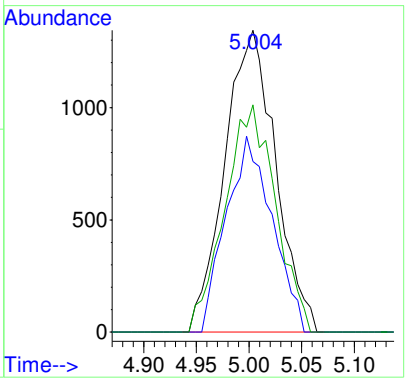


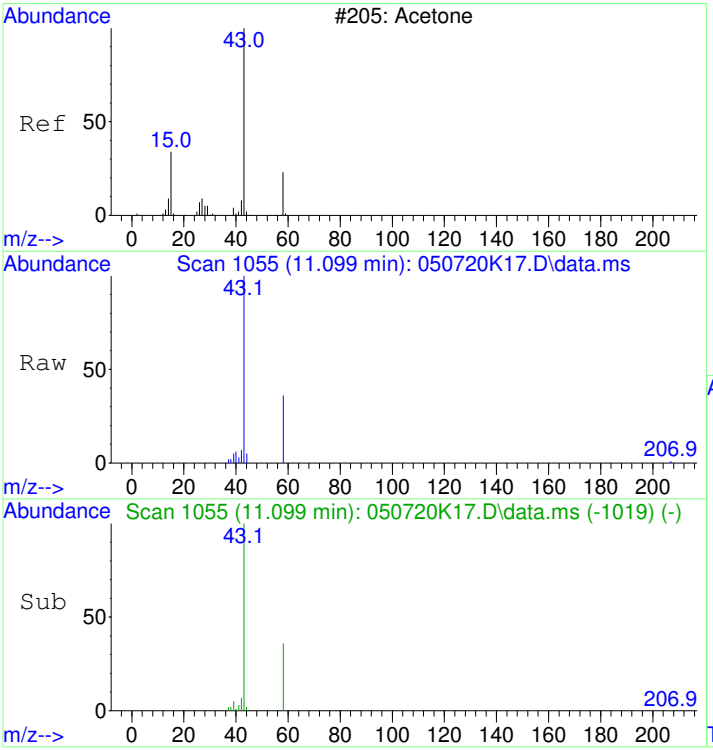


#2
Propene
Concen: 0.62 ppbv
RT: 5.004 min Scan# 53
Delta R.T. 0.006 min
Lab File: 050720K17.D
Acq: 8 May 2020 12:32 am

Tgt Ion: 41 Resp: 4531

Ion	Ratio	Lower	Upper
41	100		
42	58.4	47.4	87.4
39	74.8	47.3	87.3

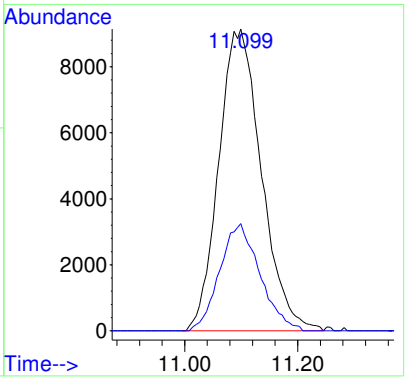


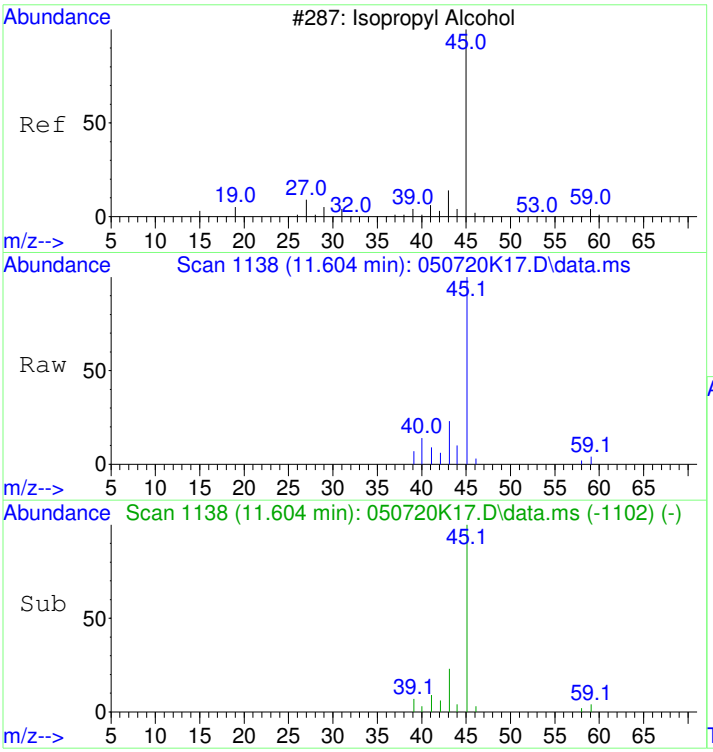


#14
Acetone
Concen: 4.08 ppbv
RT: 11.099 min Scan# 1055
Delta R.T. 0.018 min
Lab File: 050720K17.D
Acq: 8 May 2020 12:32 am

Tgt Ion: 43 Resp: 47871

Ion	Ratio	Lower	Upper
43	100		
58	33.5	14.0	54.0

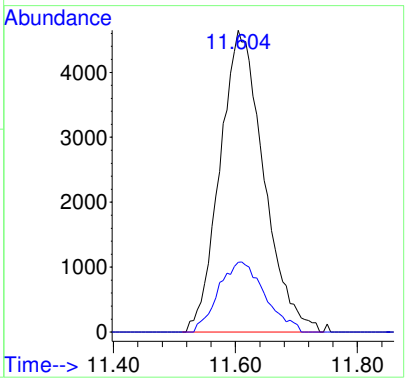


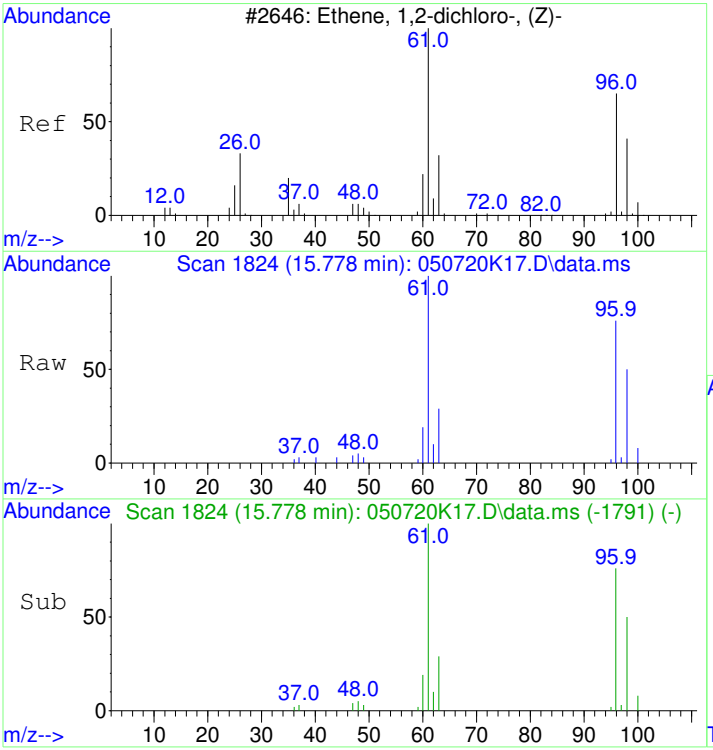


#16
2-Propanol
Concen: 2.03 ppbv
RT: 11.604 min Scan# 1138
Delta R.T. 0.018 min
Lab File: 050720K17.D
Acq: 8 May 2020 12:32 am

Tgt Ion: 45 Resp: 23188

Ion	Ratio	Lower	Upper
45	100		
43	24.5	0.0	39.0

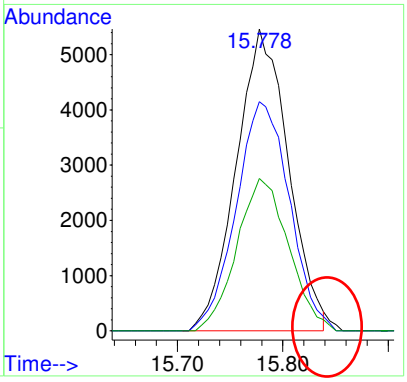




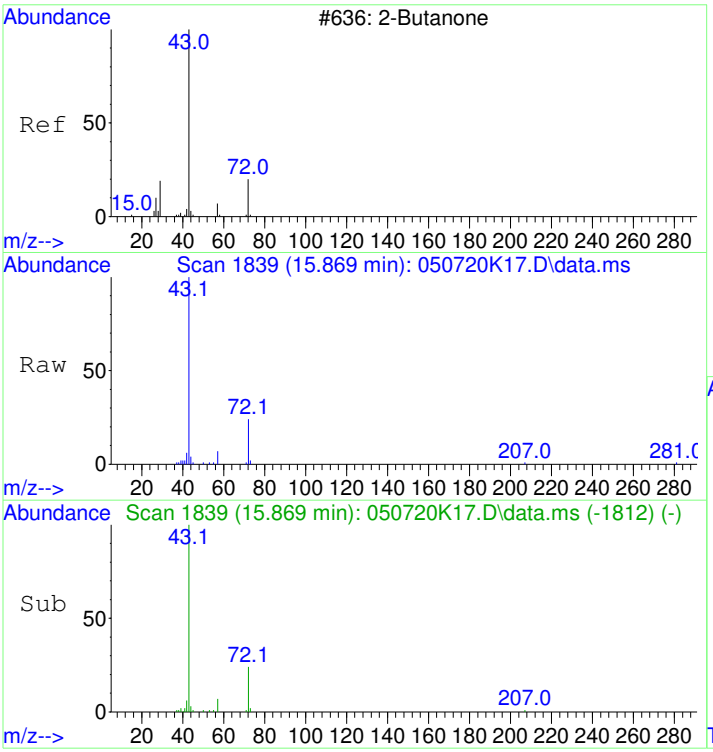
#24
cis-1,2-Dichloroethene
Concen: 1.73 ppbv
RT: 15.778 min Scan# 1824
Delta R.T. -0.000 min
Lab File: 050720K17.D
Acq: 8 May 2020 12:32 am

Tgt Ion: 61 Resp: 18774

Ion	Ratio	Lower	Upper
61	100		
96	77.6	55.7	95.7
98	0.0	0.0	20.0



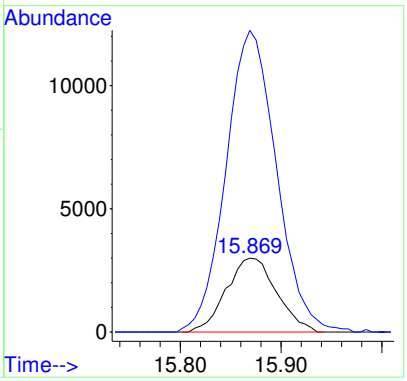
SEE MI

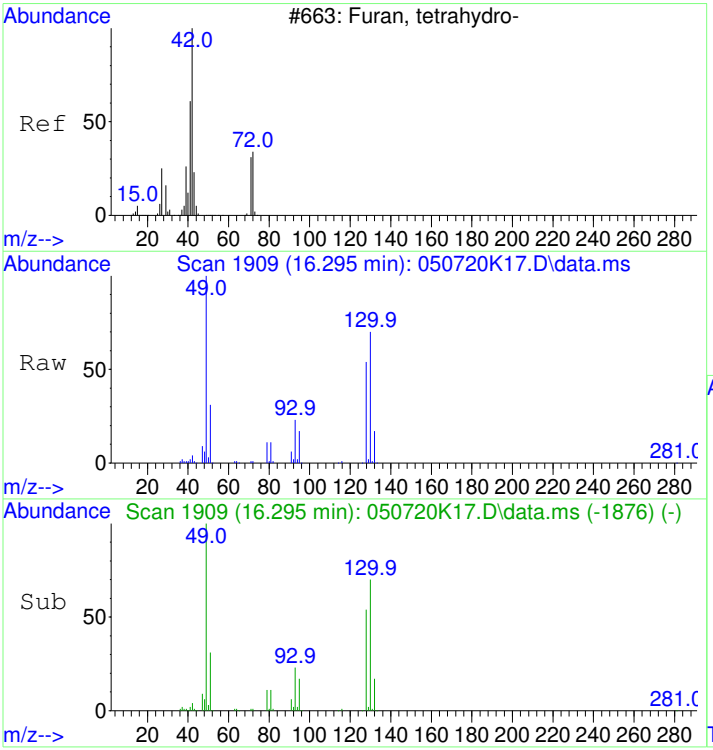


#25
2-Butanone (MEK)
Concen: 2.36 ppbv
RT: 15.869 min Scan# 1839
Delta R.T. 0.012 min
Lab File: 050720K17.D
Acq: 8 May 2020 12:32 am

Tgt Ion: 72 Resp: 10411

Ion	Ratio	Lower	Upper
72	100		
43	409.7	812.3	832.3#

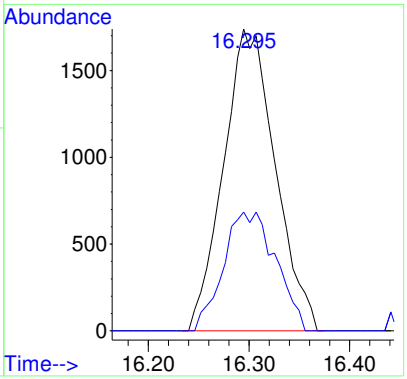


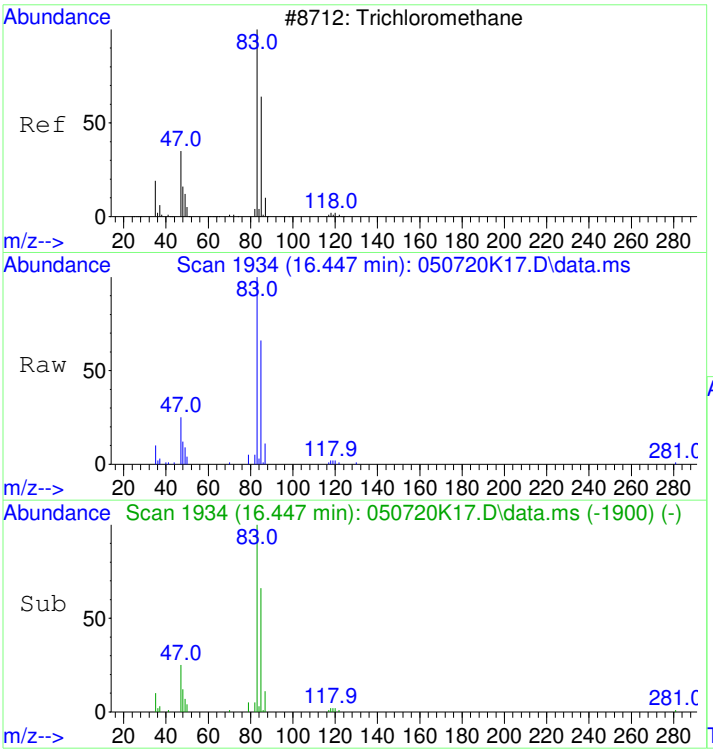


#27
Tetrahydrofuran
Concen: 0.59 ppbv
RT: 16.295 min Scan# 1909
Delta R.T. 0.012 min
Lab File: 050720K17.D
Acq: 8 May 2020 12:32 am

Tgt Ion: 42 Resp: 6209

Ion	Ratio	Lower	Upper
42	100		
72	39.7	21.2	61.2

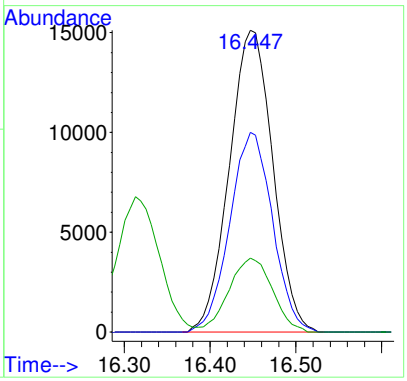


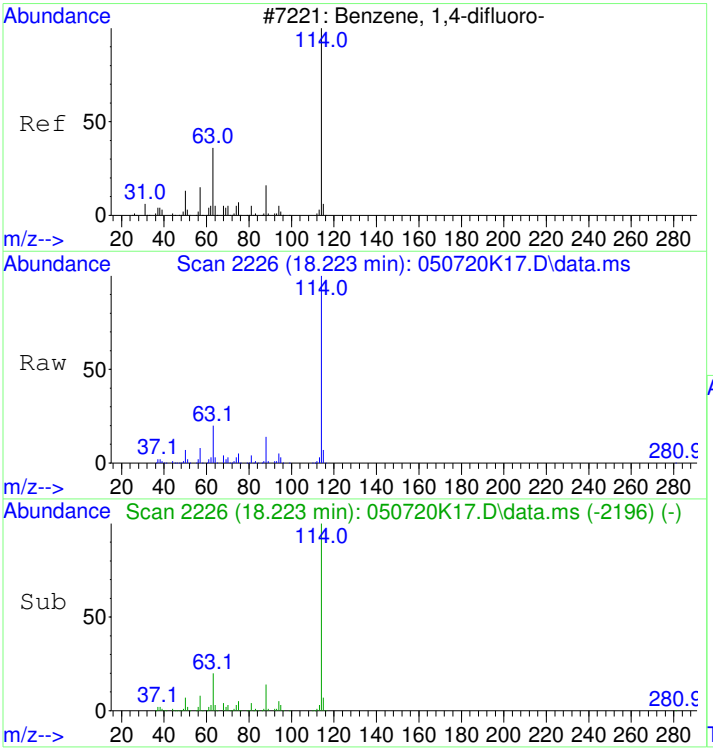


#28
Chloroform
Concen: 3.55 ppbv
RT: 16.447 min Scan# 1934
Delta R.T. 0.006 min
Lab File: 050720K17.D
Acq: 8 May 2020 12:32 am

Tgt Ion: 83 Resp: 53285

Ion	Ratio	Lower	Upper
83	100		
85	65.0	44.6	84.6
47	22.8	3.0	43.0

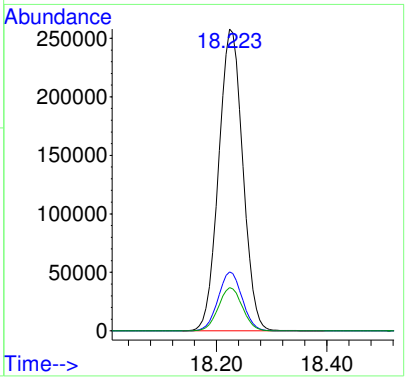


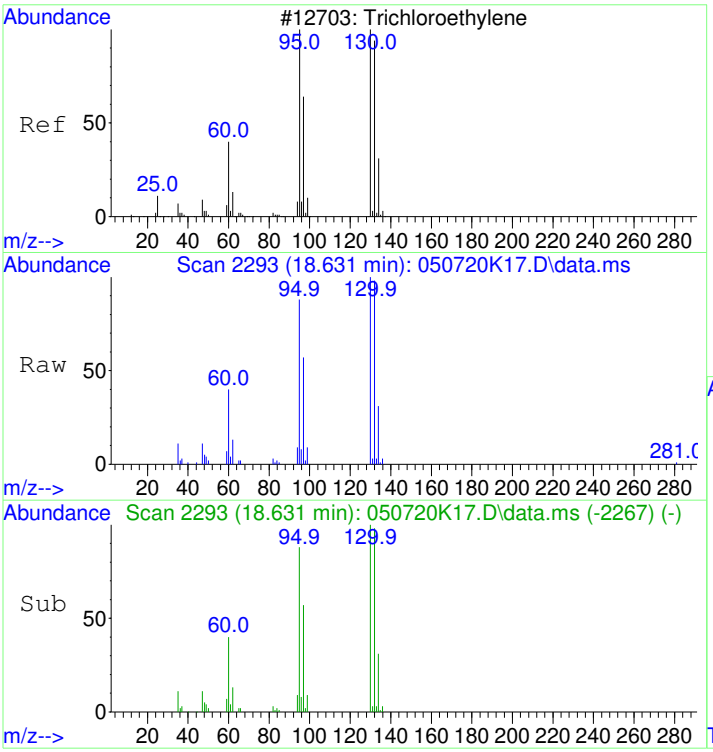


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 18.223 min Scan# 2226
Delta R.T. -0.000 min
Lab File: 050720K17.D
Acq: 8 May 2020 12:32 am

Tgt Ion:114 Resp: 782629

Ion	Ratio	Lower	Upper
114	100		
63	19.4	0.0	39.6
88	14.2	0.0	34.5

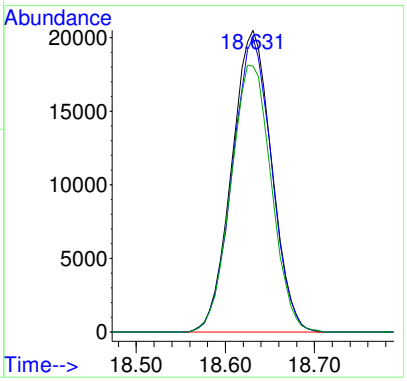


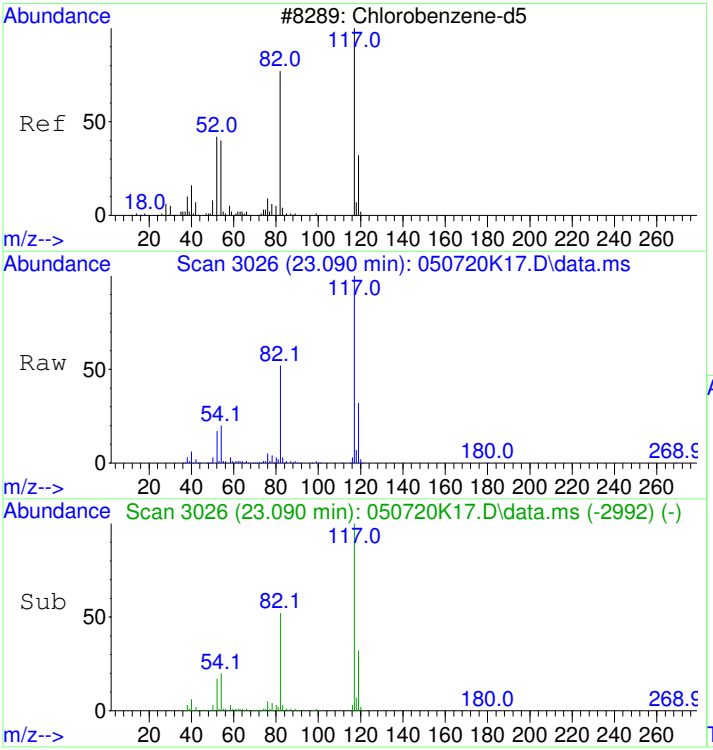


#37
Trichloroethene
Concen: 5.73 ppbv
RT: 18.631 min Scan# 2293
Delta R.T. 0.006 min
Lab File: 050720K17.D
Acq: 8 May 2020 12:32 am

Tgt Ion:130 Resp: 63592

Ion	Ratio	Lower	Upper
130	100		
132	96.1	75.5	115.5
95	89.9	71.3	111.3

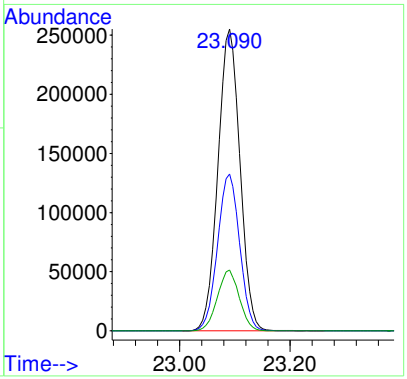


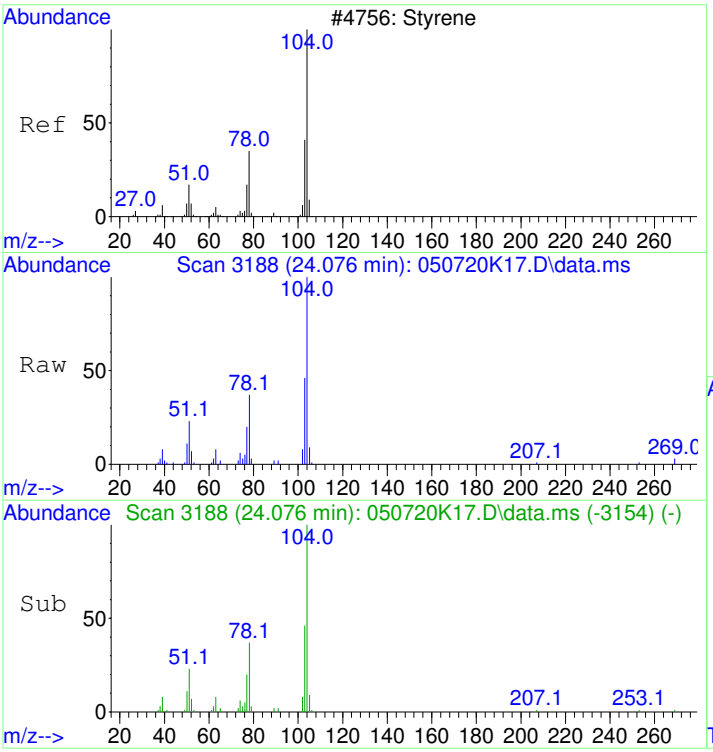


#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 23.090 min Scan# 3026
Delta R.T. 0.006 min
Lab File: 050720K17.D
Acq: 8 May 2020 12:32 am

Tgt Ion:117 Resp: 707491

Ion	Ratio	Lower	Upper
117	100		
82	52.1	32.5	72.5
54	20.0	0.0	39.6





#55
Styrene
Concen: 1.85 ppbv
RT: 24.076 min Scan# 3188
Delta R.T. 0.006 min
Lab File: 050720K17.D
Acq: 8 May 2020 12:32 am

Tgt Ion:104 Resp: 30025

Ion	Ratio	Lower	Upper
104	100		
78	39.4	28.9	68.9
103	46.3	37.1	77.1

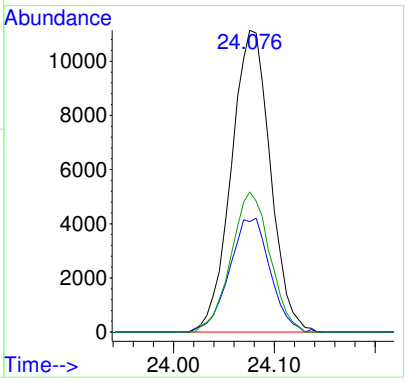
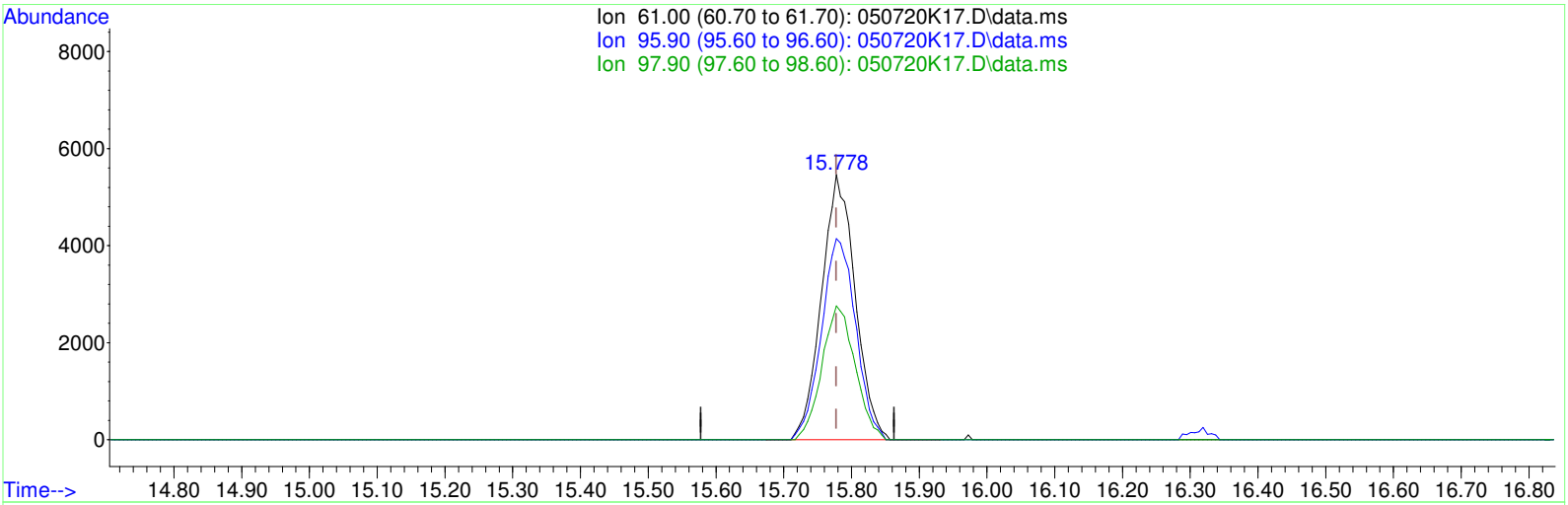
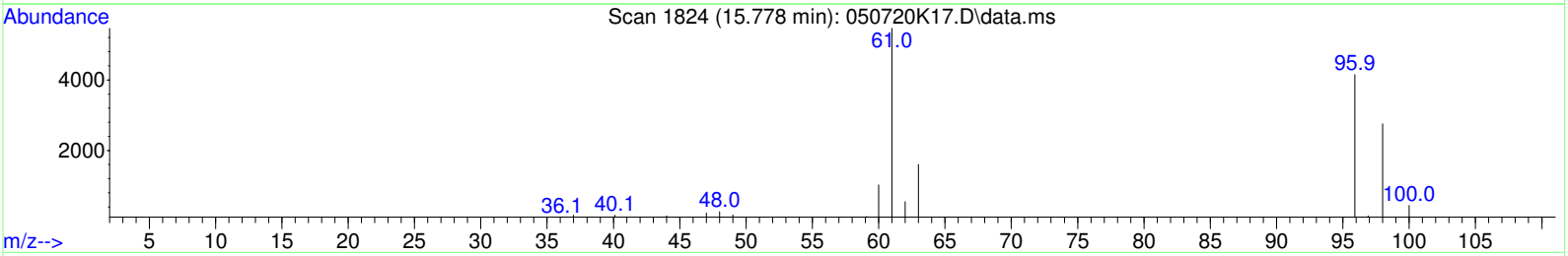


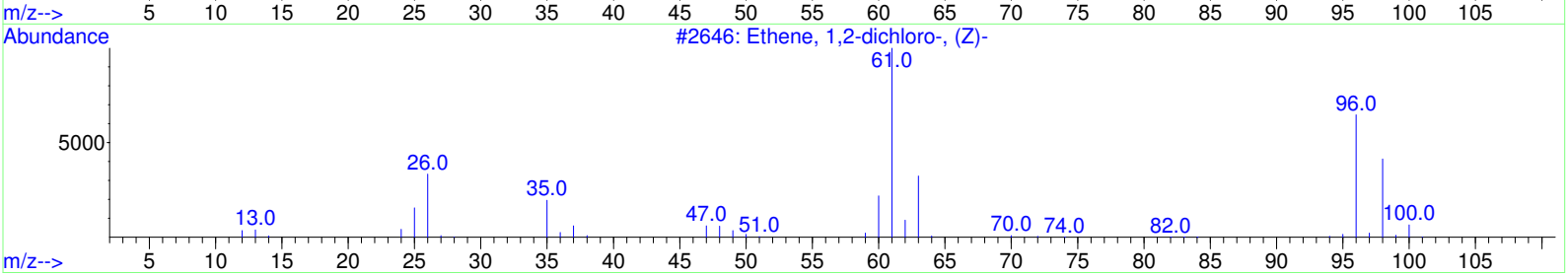
Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K17.D
InstName : HP5973K
Acq On : 8 May 2020 12:32 am
Operator : EM
Sample : 2005002-09
Misc : 200ml 277 Fairchild-F23-SC-PP
ALS Vial : 10 Sample Multiplier: 1.98

Quant Time: May 08 09:16:13 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration







TIC: 050720K17.D\data.ms

(24) cis-1,2-Dichloroethene (T)

15.778min (-0.000) 1.74 ppbv m

response 18880

Ion	Exp%	Act%
61.00	100.00	100.00
95.90	75.70	77.12
97.90	0.00	0.00
0.00	0.00	0.00

2005002-10

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K18.D
InstName : HP5973K
Acq On : 8 May 2020 1:25 am
Operator : EM
Sample : 2005002-10
Misc : 200ml 251 Ariana-MH-SS-050620
ALS Vial : 11 Sample Multiplier: 2.08

REPORT

Quant Time: May 08 09:16:17 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	16.313	49	259724	19.60	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	18.223	114	802872	19.60	ppbv		0.00
43) CHLOROBENZENE-d5	23.090	117	730433	19.60	ppbv		0.00
Target Compounds							Qvalue
2) Propene	4.998	41	20732	2.74	ppbv		90
14) Acetone	11.093	43	44350	3.66	ppbv		99
19) tert-Butyl methyl ethe...	13.034	73	11699	0.50	ppbv		98
25) 2-Butanone (MEK)	15.869	72	15362	3.37	ppbv	#	1
27) Tetrahydrofuran	16.295	42	22707	2.10	ppbv		98
28) Chloroform	16.447	83	18021	1.16	ppbv		98
37) Trichloroethene	18.631	130	7747	0.68	ppbv		98
55) Styrene	24.076	104	22964	1.37	ppbv		88

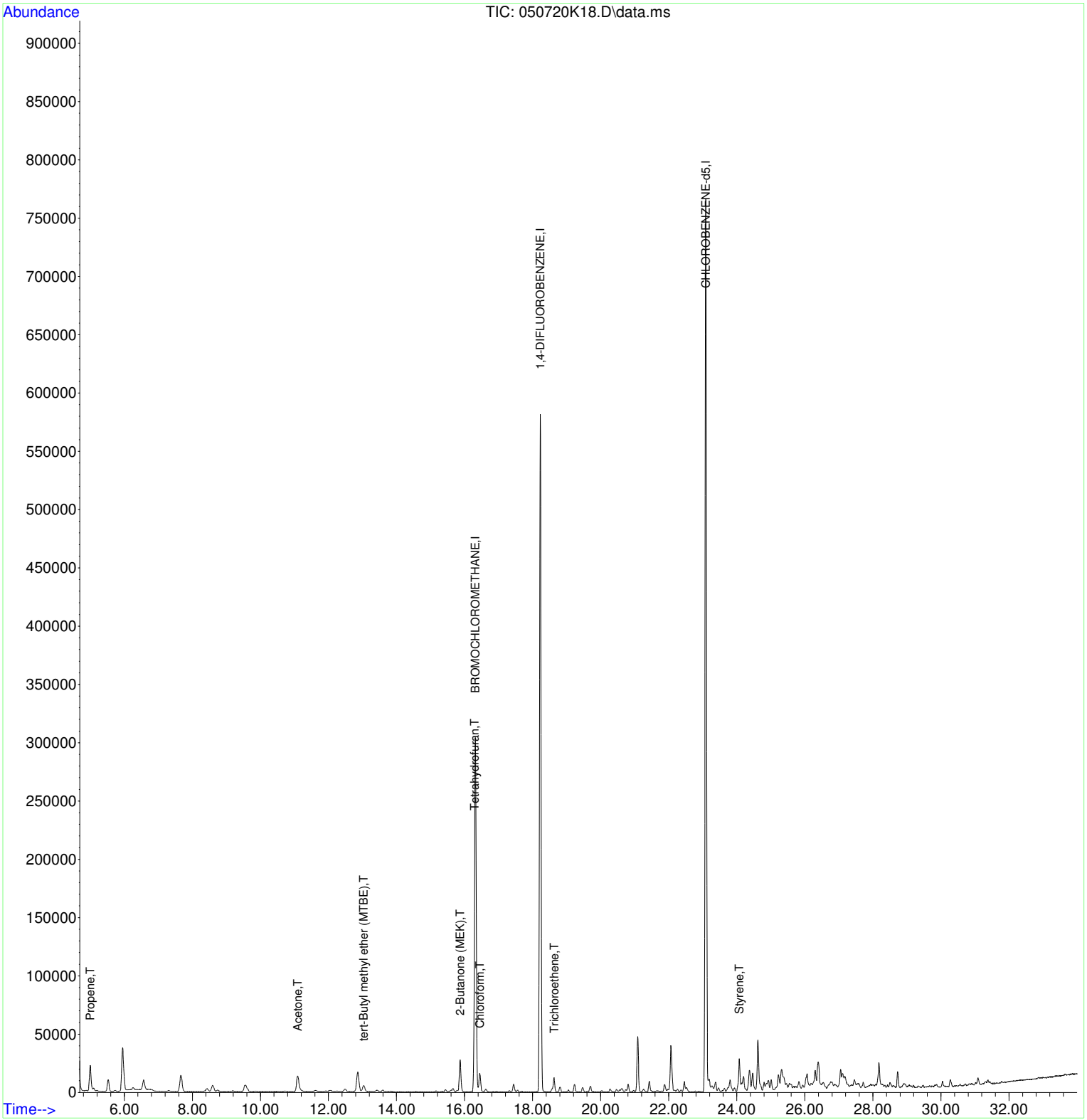
(#) = qualifier out of range (m) = manual integration (+) = signals summed

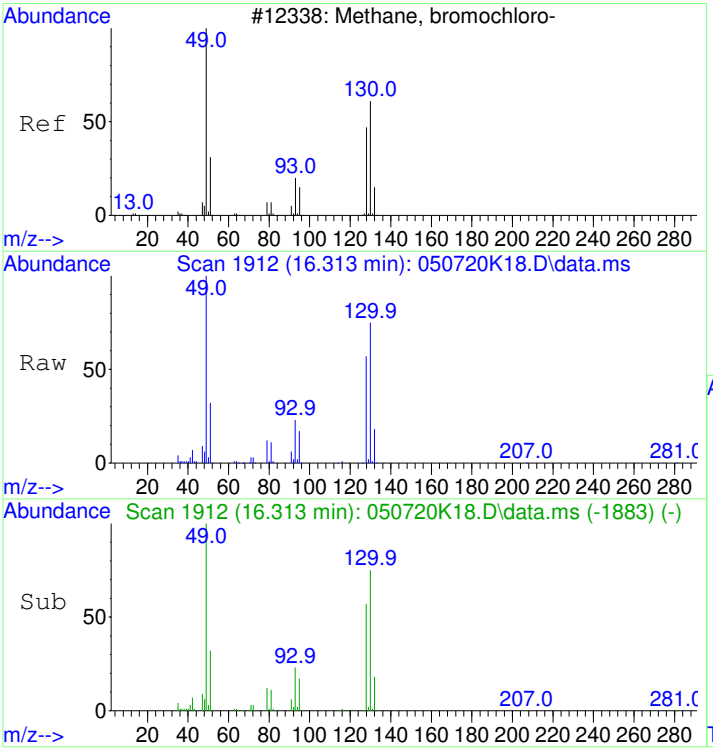
REVIEWED
By EM at 9:31 am, May 08, 2020

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K18.D
InstName : HP5973K
Acq On : 8 May 2020 1:25 am
Operator : EM
Sample : 2005002-10
Misc : 200ml 251 Ariana-MH-SS-050620
ALS Vial : 11 Sample Multiplier: 2.08

Quant Time: May 08 09:16:17 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

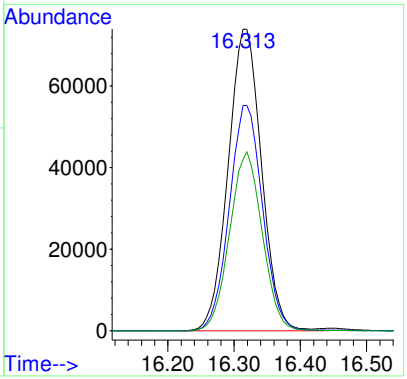


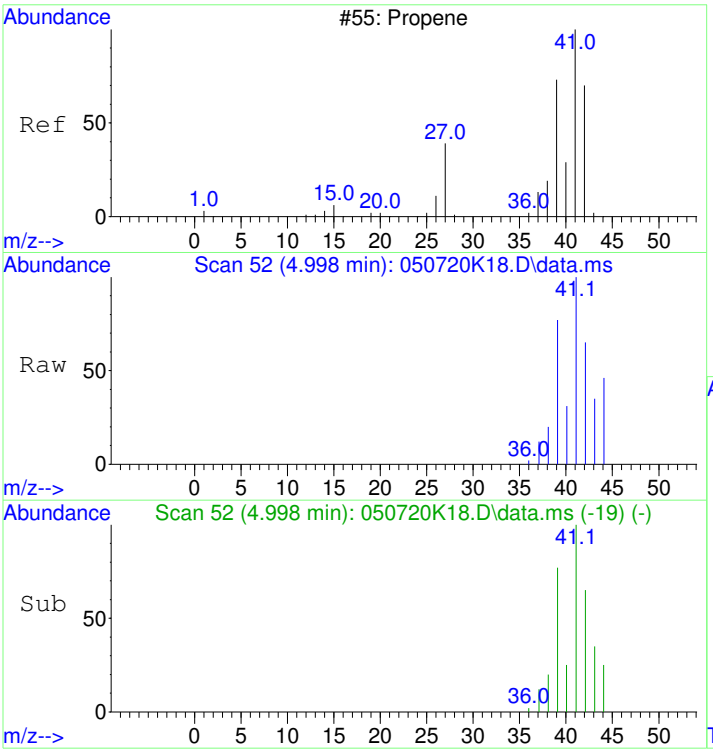


#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 16.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 050720K18.D
Acq: 8 May 2020 1:25 am

Tgt Ion: 49 Resp: 259724

Ion	Ratio	Lower	Upper
49	100		
130	74.5	51.1	91.1
128	57.4	35.0	75.0

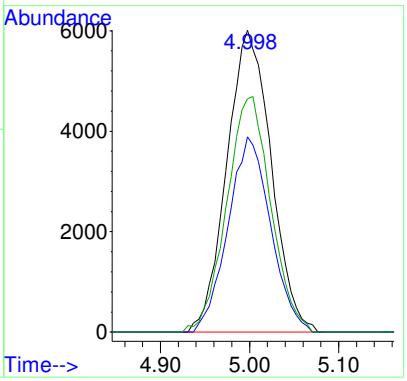


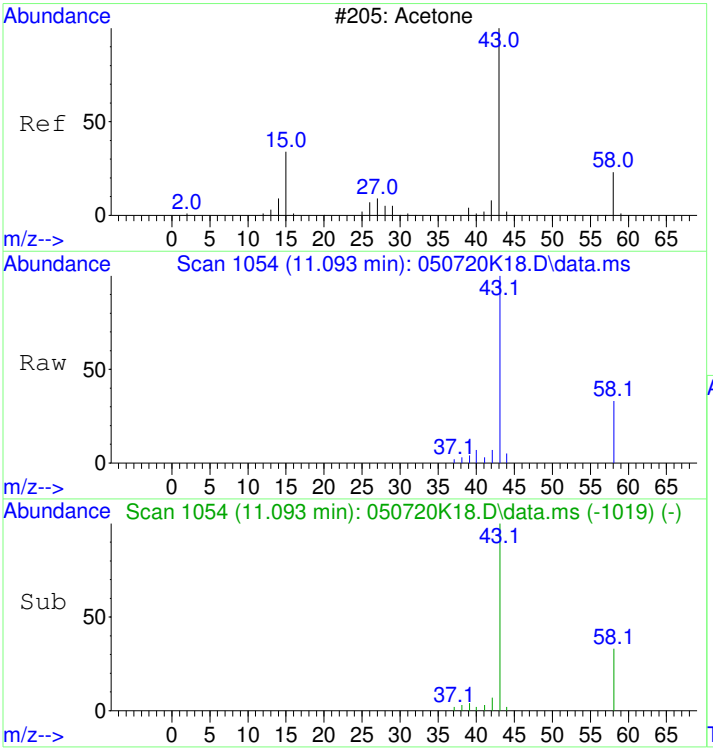


#2
Propene
Concen: 2.74 ppbv
RT: 4.998 min Scan# 52
Delta R.T. -0.000 min
Lab File: 050720K18.D
Acq: 8 May 2020 1:25 am

Tgt Ion: 41 Resp: 20732

Ion	Ratio	Lower	Upper
41	100		
42	62.0	47.4	87.4
39	77.5	47.3	87.3

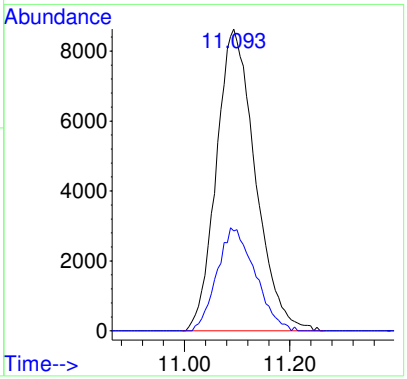


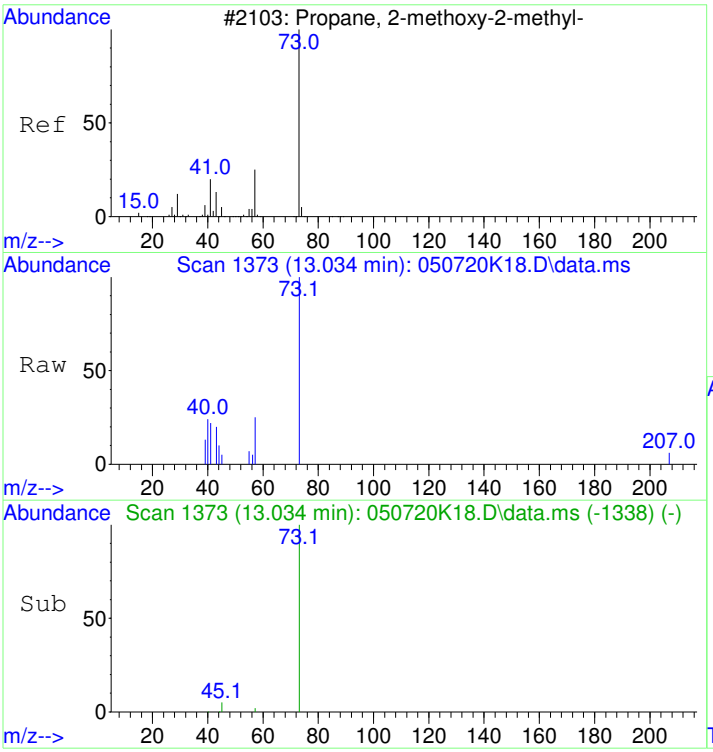


#14
Acetone
Concen: 3.66 ppbv
RT: 11.093 min Scan# 1054
Delta R.T. 0.012 min
Lab File: 050720K18.D
Acq: 8 May 2020 1:25 am

Tgt Ion: 43 Resp: 44350

Ion	Ratio	Lower	Upper
43	100		
58	33.4	14.0	54.0

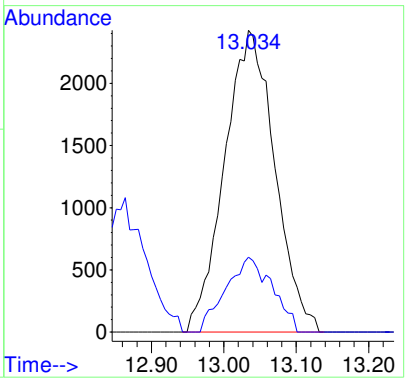


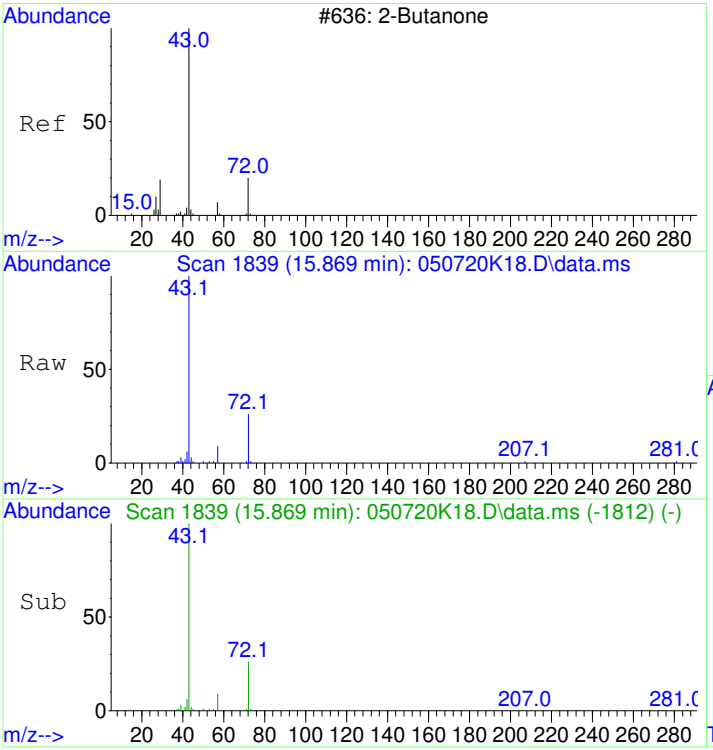


#19
tert-Butyl methyl ether (MTBE)
Concen: 0.50 ppbv
RT: 13.034 min Scan# 1373
Delta R.T. 0.012 min
Lab File: 050720K18.D
Acq: 8 May 2020 1:25 am

Tgt Ion: 73 Resp: 11699

Ion	Ratio	Lower	Upper
73	100		
57	22.9	3.7	43.7

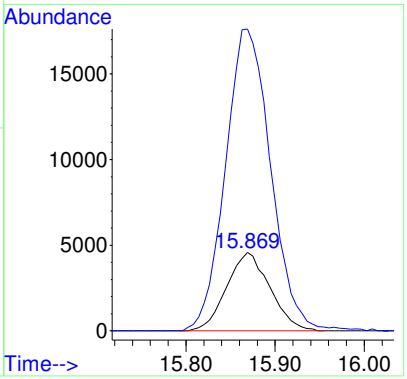


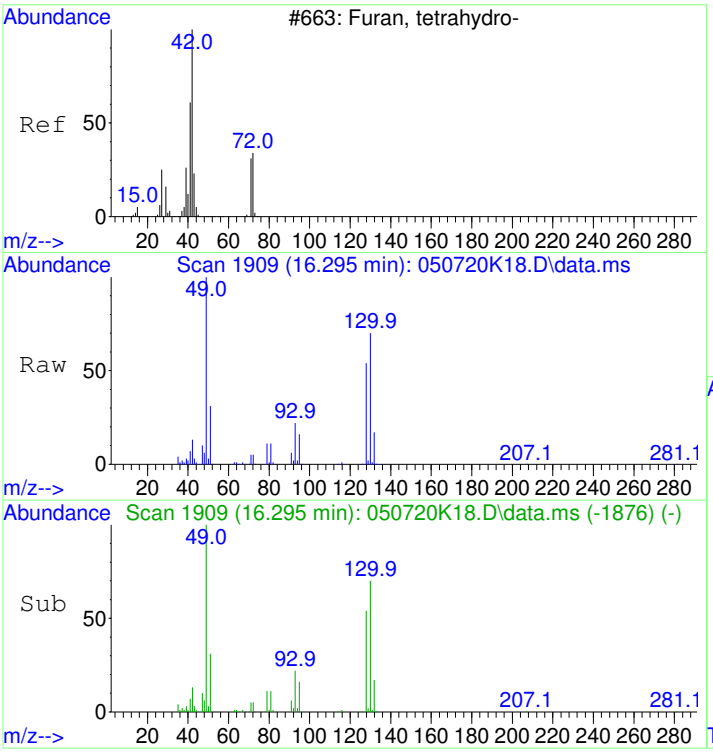


#25
2-Butanone (MEK)
Concen: 3.37 ppbv
RT: 15.869 min Scan# 1839
Delta R.T. 0.012 min
Lab File: 050720K18.D
Acq: 8 May 2020 1:25 am

Tgt Ion: 72 Resp: 15362

Ion	Ratio	Lower	Upper
72	100		
43	404.5	812.3	832.3#

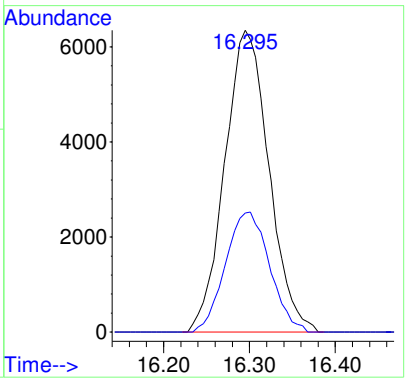


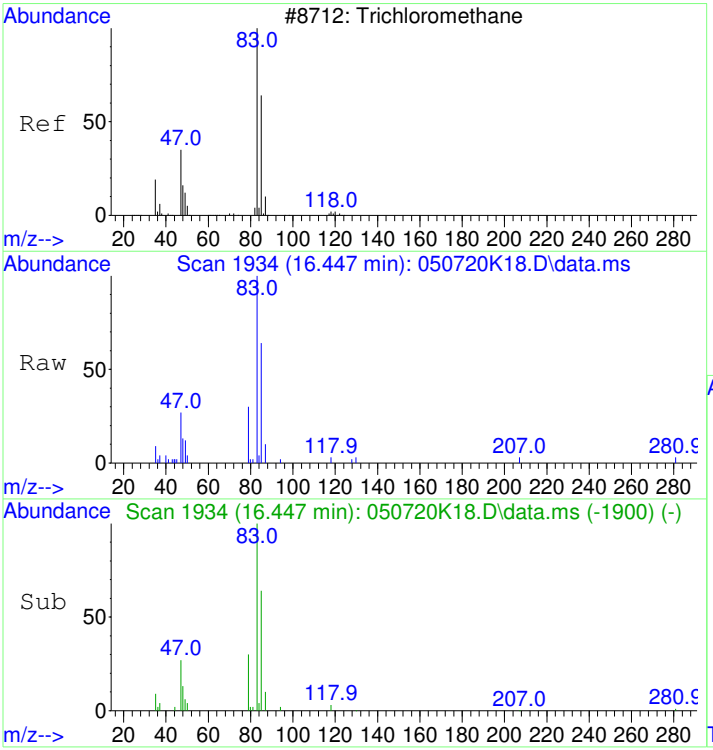


#27
Tetrahydrofuran
Concen: 2.10 ppbv
RT: 16.295 min Scan# 1909
Delta R.T. 0.012 min
Lab File: 050720K18.D
Acq: 8 May 2020 1:25 am

Tgt Ion: 42 Resp: 22707

Ion	Ratio	Lower	Upper
42	100		
72	39.7	21.2	61.2

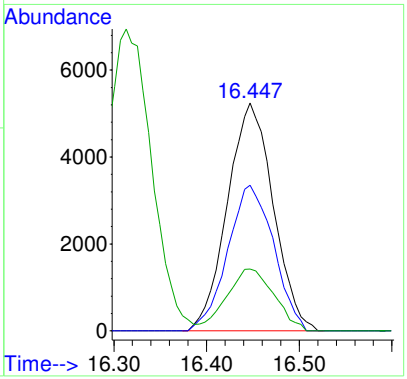


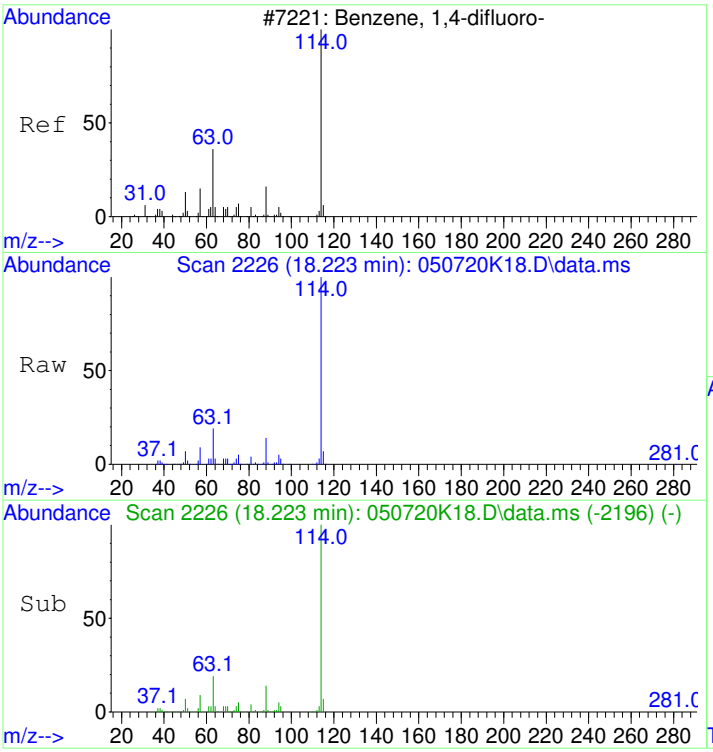


#28
Chloroform
Concen: 1.16 ppbv
RT: 16.447 min Scan# 1934
Delta R.T. 0.006 min
Lab File: 050720K18.D
Acq: 8 May 2020 1:25 am

Tgt Ion: 83 Resp: 18021

Ion	Ratio	Lower	Upper
83	100		
85	63.9	44.6	84.6
47	25.3	3.0	43.0

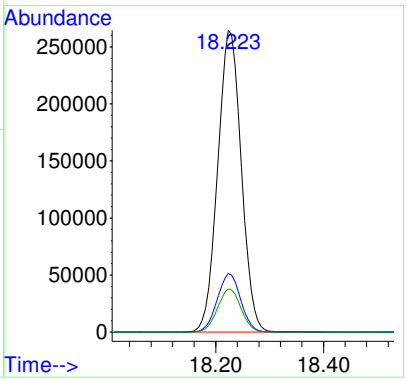


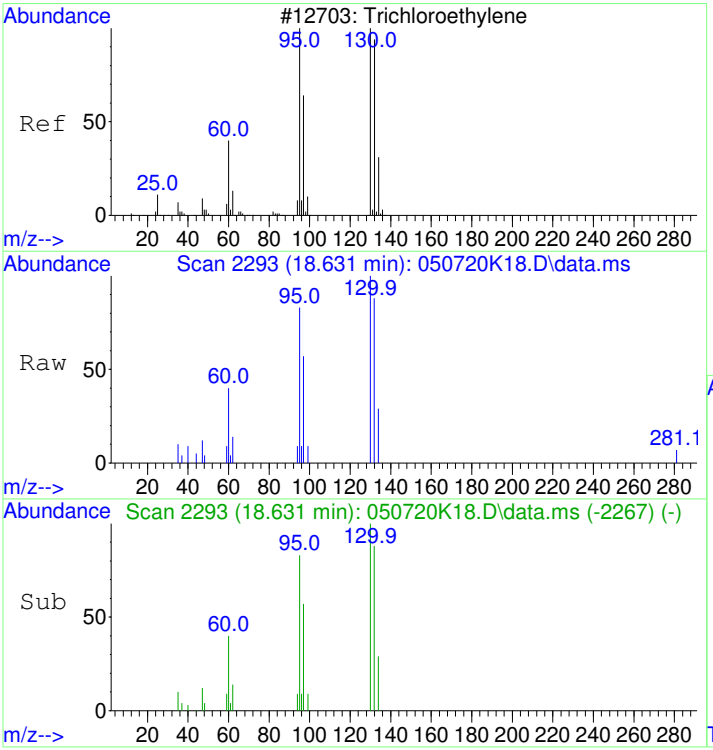


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 18.223 min Scan# 2226
Delta R.T. -0.000 min
Lab File: 050720K18.D
Acq: 8 May 2020 1:25 am

Tgt Ion:114 Resp: 802872

Ion	Ratio	Lower	Upper
114	100		
63	19.3	0.0	39.6
88	14.3	0.0	34.5

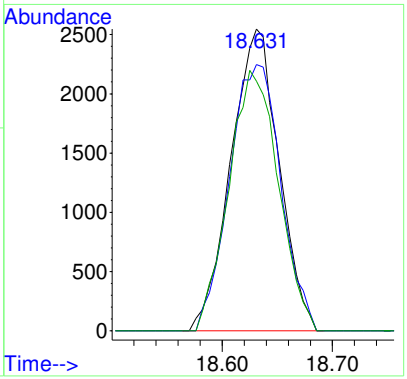


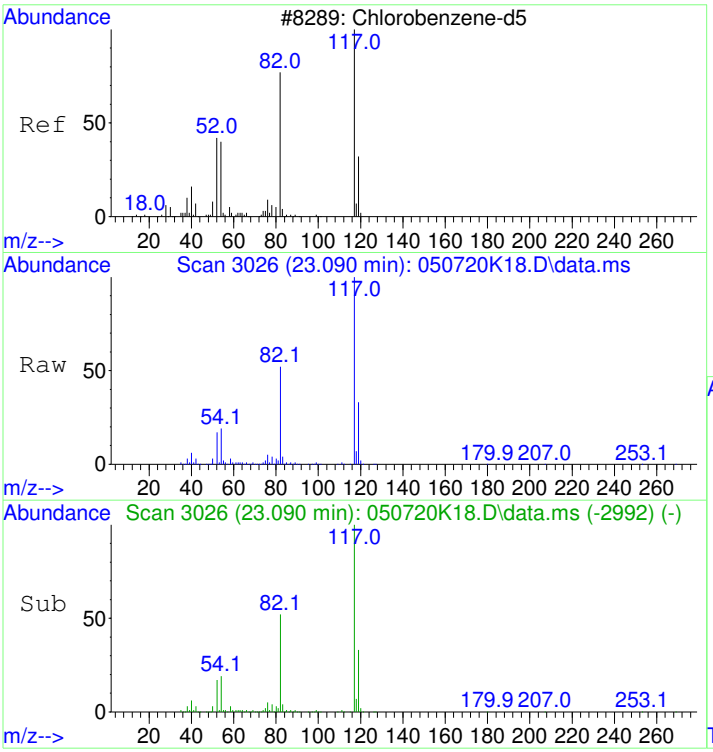


#37
Trichloroethene
Concen: 0.68 ppbv
RT: 18.631 min Scan# 2293
Delta R.T. 0.006 min
Lab File: 050720K18.D
Acq: 8 May 2020 1:25 am

Tgt Ion:130 Resp: 7747

Ion	Ratio	Lower	Upper
130	100		
132	94.2	75.5	115.5
95	88.9	71.3	111.3

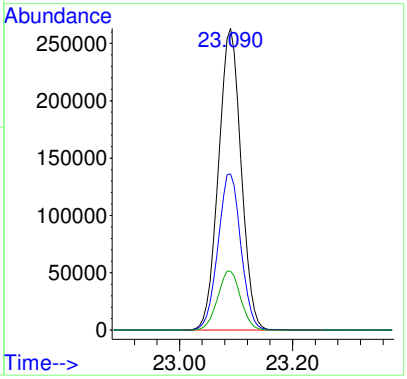


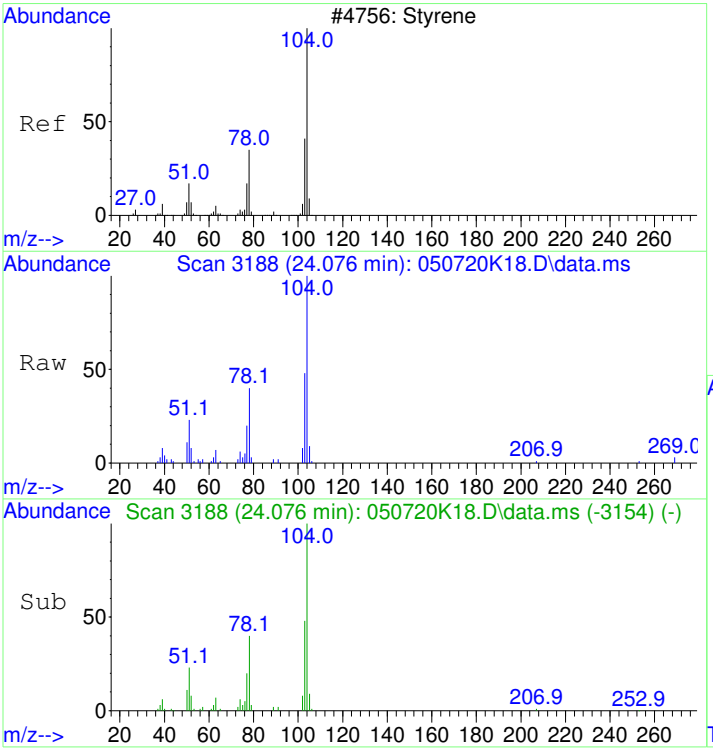


#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 23.090 min Scan# 3026
Delta R.T. 0.006 min
Lab File: 050720K18.D
Acq: 8 May 2020 1:25 am

Tgt Ion:117 Resp: 730433

Ion	Ratio	Lower	Upper
117	100		
82	52.5	32.5	72.5
54	19.9	0.0	39.6

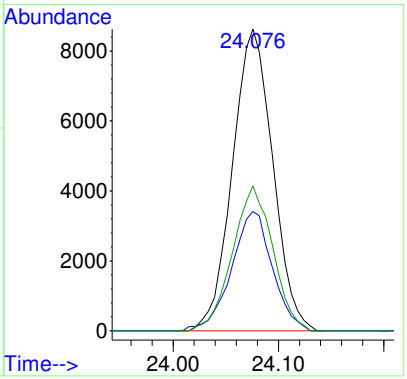




#55
Styrene
Concen: 1.37 ppbv
RT: 24.076 min Scan# 3188
Delta R.T. 0.006 min
Lab File: 050720K18.D
Acq: 8 May 2020 1:25 am

Tgt Ion:104 Resp: 22964

Ion	Ratio	Lower	Upper
104	100		
78	40.1	28.9	68.9
103	48.1	37.1	77.1



2005002-11

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K19.D
InstName : HP5973K
Acq On : 8 May 2020 2:18 am
Operator : EM
Sample : 2005002-11
Misc : 200ml 241 Ariana-MH-SS-050620
ALS Vial : 12 Sample Multiplier: 1.95

REPORT

Quant Time: May 08 09:16:21 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

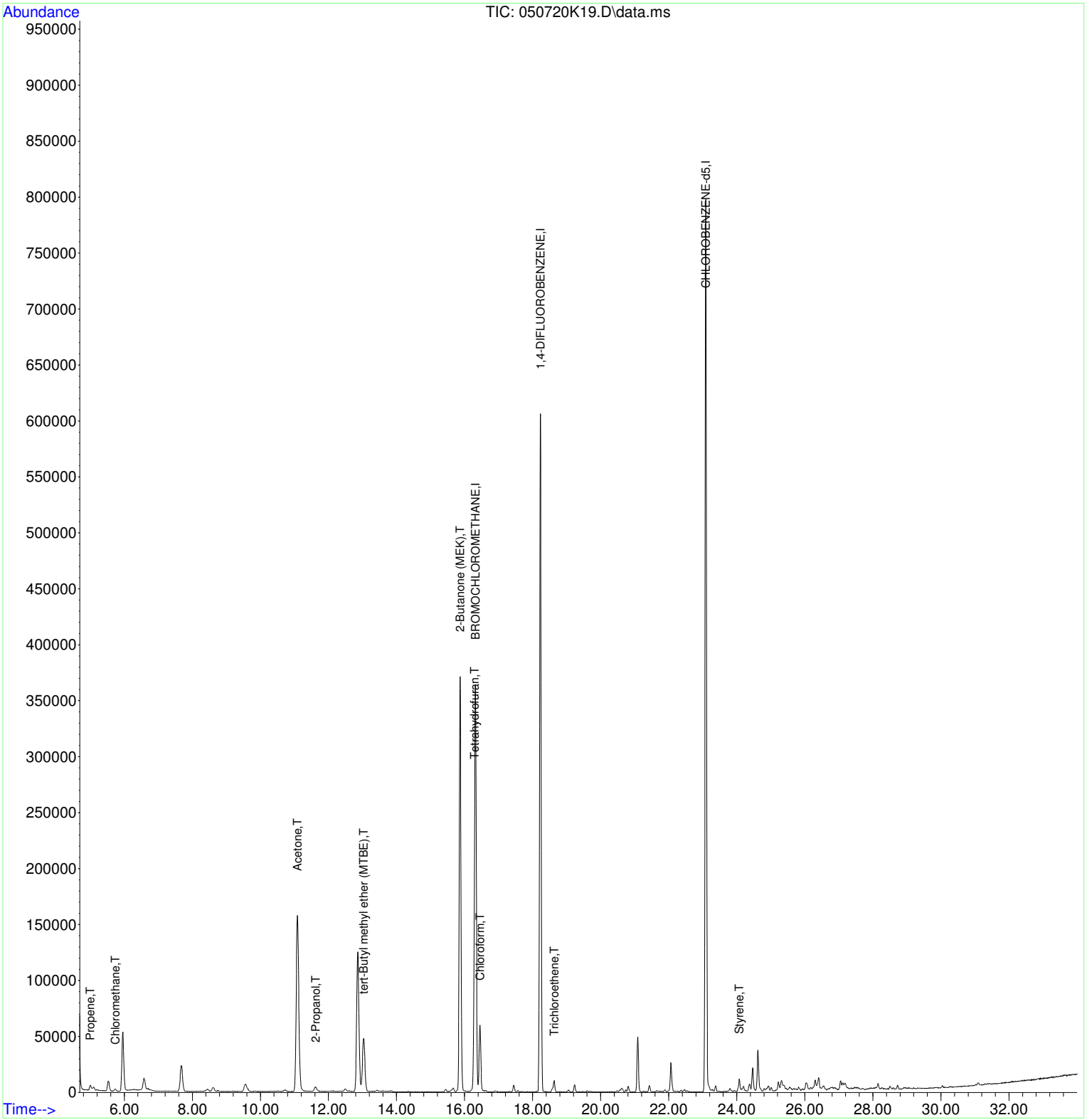
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
Internal Standards								
1) BROMOCHLOROMETHANE	16.319	49	275401	19.60	ppbv		0.00	
32) 1,4-DIFLUOROBENZENE	18.229	114	848132	19.60	ppbv		0.00	
43) CHLOROBENZENE-d5	23.090	117	762595	19.60	ppbv		0.00	
Target Compounds							Qvalue	
2) Propene	4.998	41	4530	0.56	ppbv		89	
5) Chloromethane	5.734	50	5050	0.61	ppbv		97	
14) Acetone	11.087	43	516707	40.25	ppbv		100	OC NR
16) 2-Propanol	11.623	45	12696	1.01	ppbv		68	
19) tert-Butyl methyl ethe...	13.034	73	114721	4.59	ppbv		99	
25) 2-Butanone (MEK)	15.869	72	214486	44.37	ppbv	#	1	OC NR
27) Tetrahydrofuran	16.295	42	122168	10.65	ppbv		99	
28) Chloroform	16.453	83	77643	4.73	ppbv		100	
37) Trichloroethene	18.637	130	6529	0.54	ppbv		99	
55) Styrene	24.076	104	10019	0.57	ppbv		88	

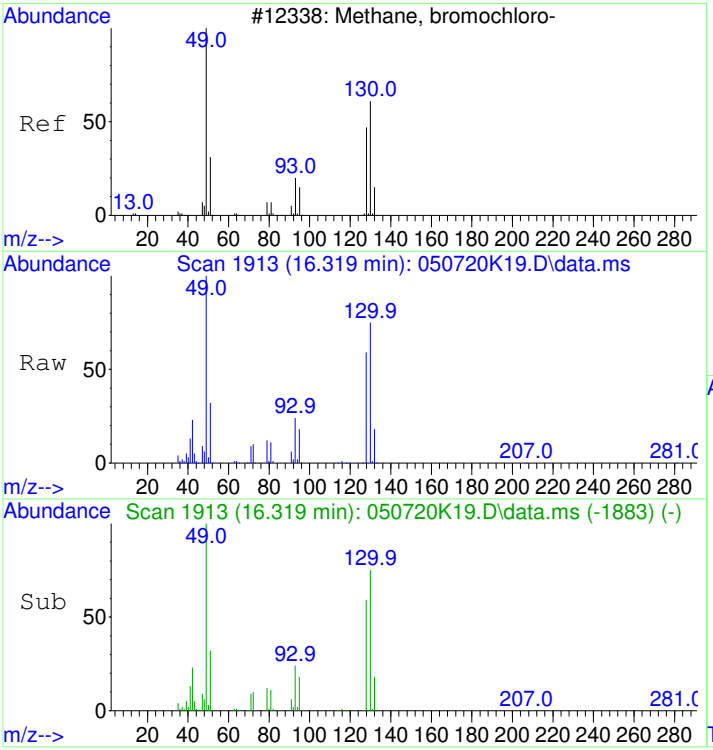
(#) = qualifier out of range (m) = manual integration (+) = signals summed

REVIEWED
By EM at 9:31 am, May 08, 2020

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K19.D
InstName : HP5973K
Acq On : 8 May 2020 2:18 am
Operator : EM
Sample : 2005002-11
Misc : 200ml 241 Ariana-MH-SS-050620
ALS Vial : 12 Sample Multiplier: 1.95

Quant Time: May 08 09:16:21 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

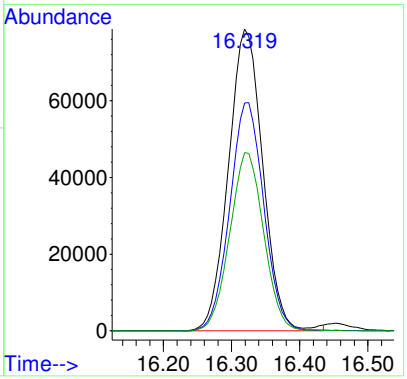


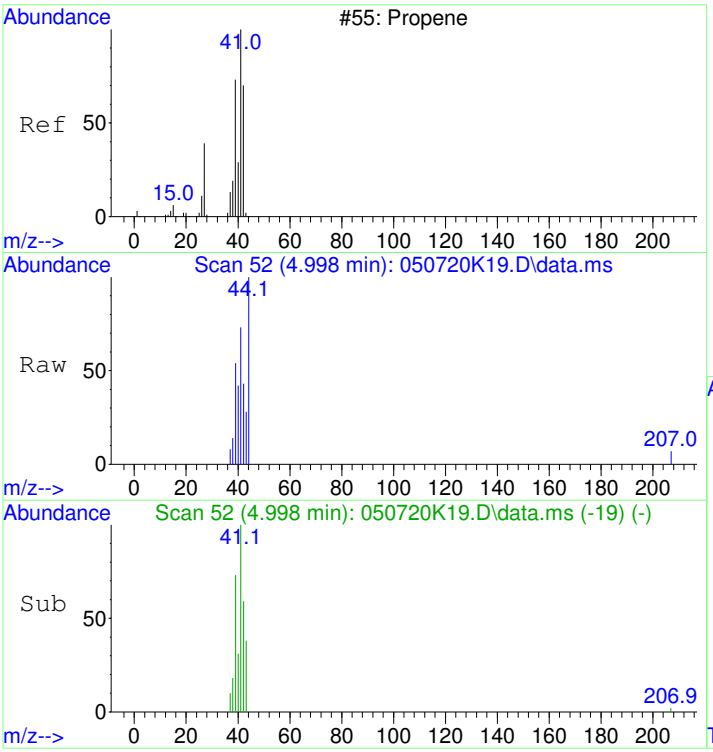


#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 16.319 min Scan# 1913
Delta R.T. 0.006 min
Lab File: 050720K19.D
Acq: 8 May 2020 2:18 am

Tgt Ion: 49 Resp: 275401

Ion	Ratio	Lower	Upper
49	100		
130	74.9	51.1	91.1
128	57.8	35.0	75.0

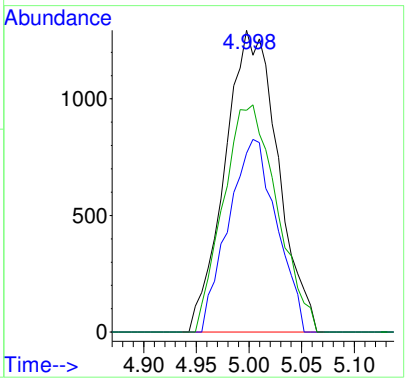


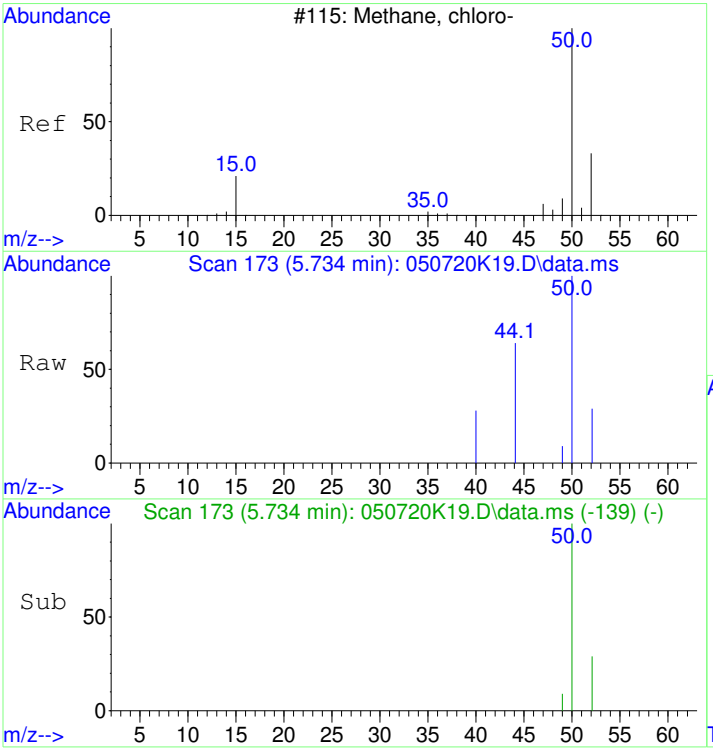


#2
Propene
Concen: 0.56 ppbv
RT: 4.998 min Scan# 52
Delta R.T. -0.000 min
Lab File: 050720K19.D
Acq: 8 May 2020 2:18 am

Tgt Ion: 41 Resp: 4530

Ion	Ratio	Lower	Upper
41	100		
42	58.0	47.4	87.4
39	76.4	47.3	87.3

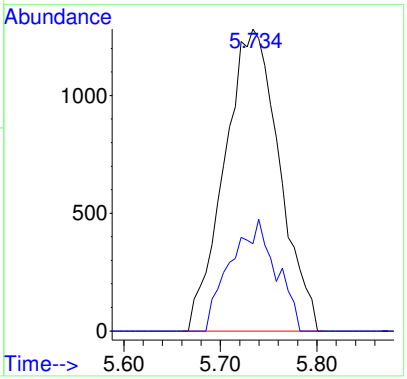


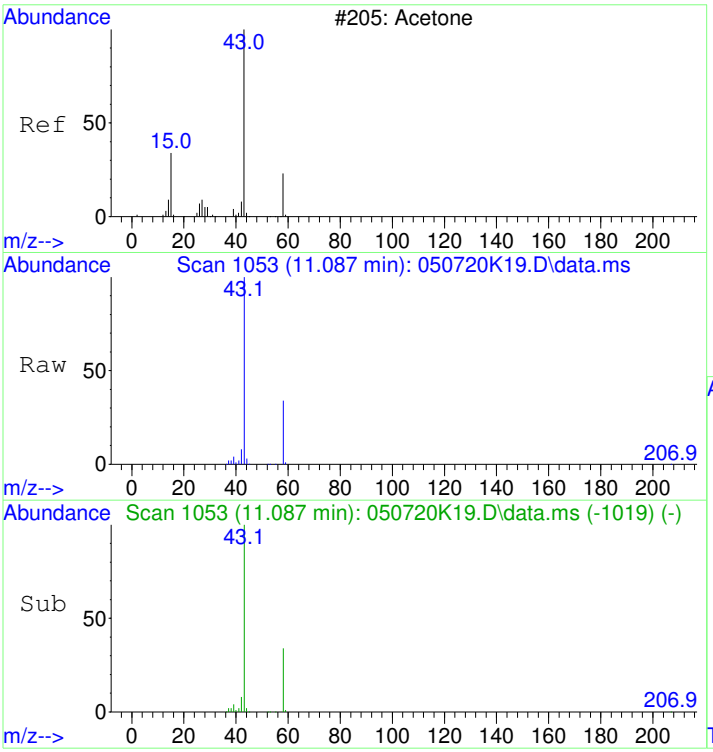


#5
Chloromethane
Concen: 0.61 ppbv
RT: 5.734 min Scan# 173
Delta R.T. 0.006 min
Lab File: 050720K19.D
Acq: 8 May 2020 2:18 am

Tgt Ion: 50 Resp: 5050

Ion	Ratio	Lower	Upper
50	100		
52	30.6	12.4	52.4

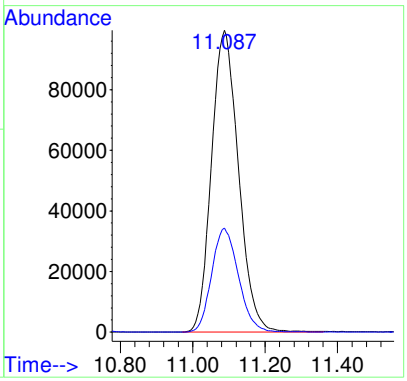


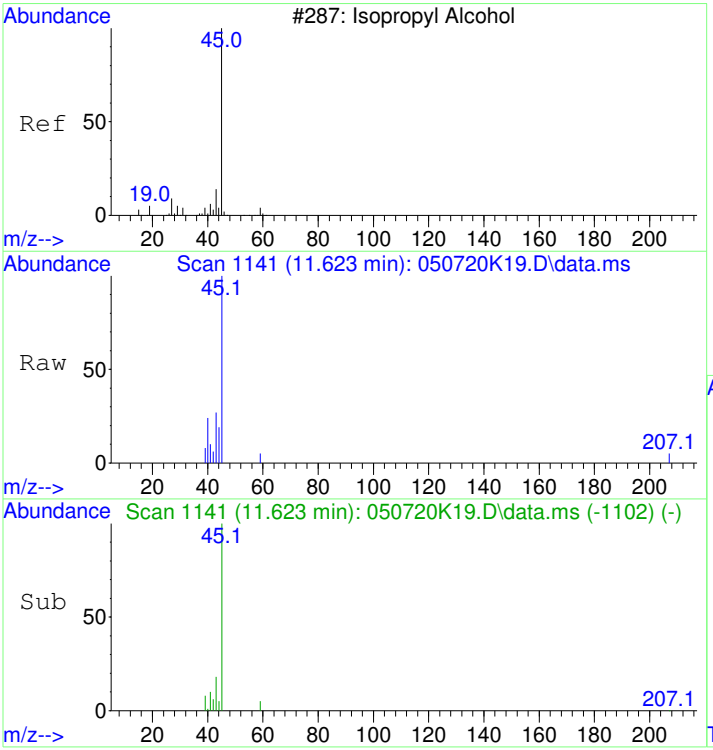


#14
Acetone
Concen: 40.25 ppbv
RT: 11.087 min Scan# 1053
Delta R.T. 0.006 min
Lab File: 050720K19.D
Acq: 8 May 2020 2:18 am

Tgt Ion: 43 Resp: 516707

Ion	Ratio	Lower	Upper
43	100		
58	34.1	14.0	54.0

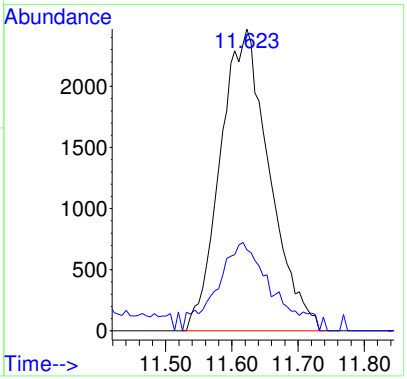


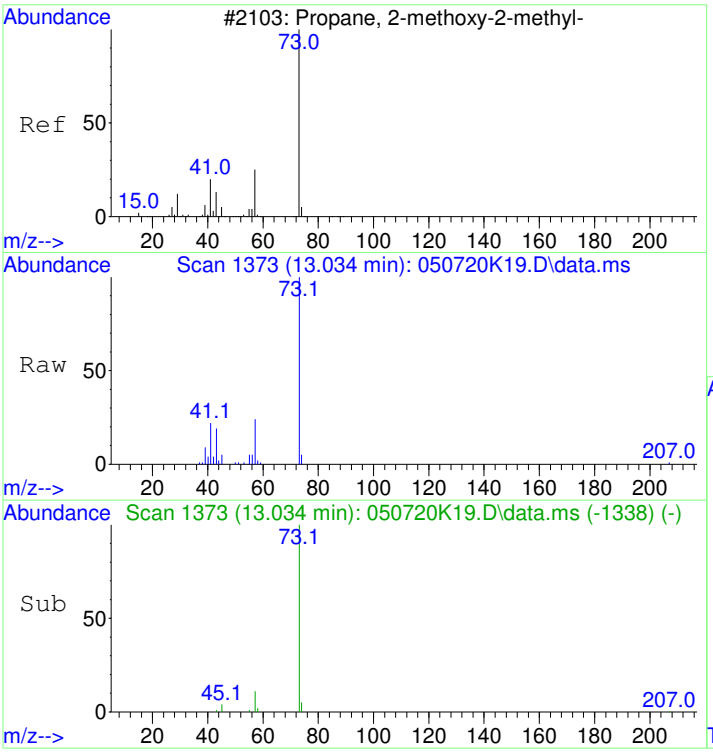


#16
2-Propanol
Concen: 1.01 ppbv
RT: 11.623 min Scan# 1141
Delta R.T. 0.036 min
Lab File: 050720K19.D
Acq: 8 May 2020 2:18 am

Tgt Ion: 45 Resp: 12696

Ion	Ratio	Lower	Upper
45	100		
43	33.3	0.0	39.0

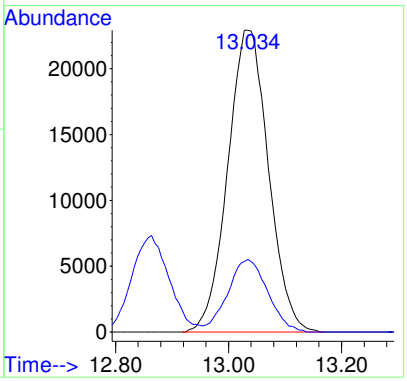


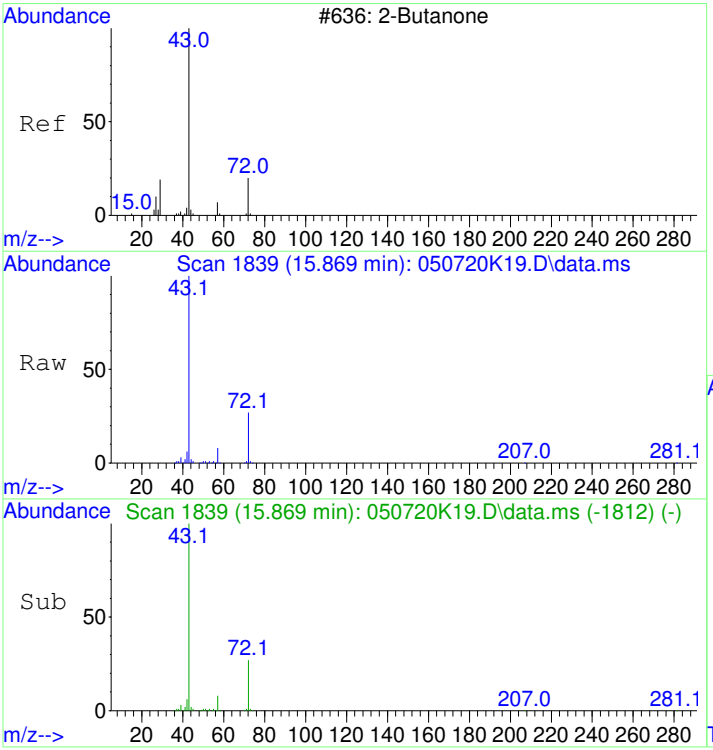


#19
tert-Butyl methyl ether (MTBE)
Concen: 4.59 ppbv
RT: 13.034 min Scan# 1373
Delta R.T. 0.012 min
Lab File: 050720K19.D
Acq: 8 May 2020 2:18 am

Tgt Ion: 73 Resp: 114721

Ion	Ratio	Lower	Upper
73	100		
57	23.4	3.7	43.7

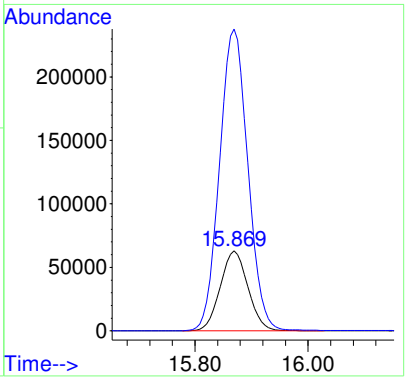


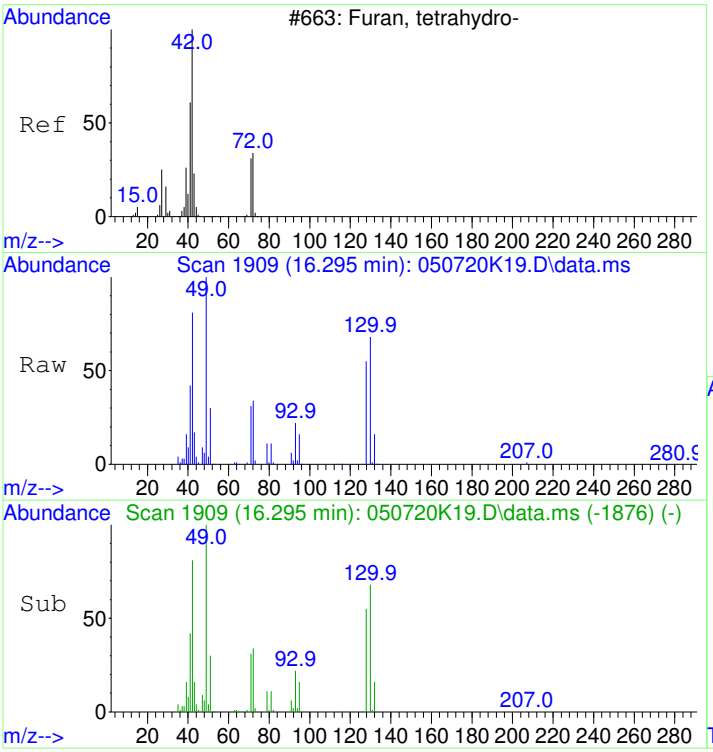


#25
2-Butanone (MEK)
Concen: 44.37 ppbv
RT: 15.869 min Scan# 1839
Delta R.T. 0.012 min
Lab File: 050720K19.D
Acq: 8 May 2020 2:18 am

Tgt Ion: 72 Resp: 214486

Ion	Ratio	Lower	Upper
72	100		
43	386.1	812.3	832.3#

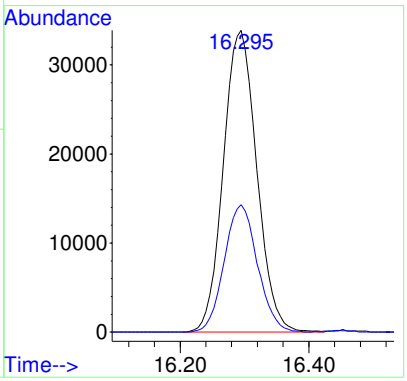


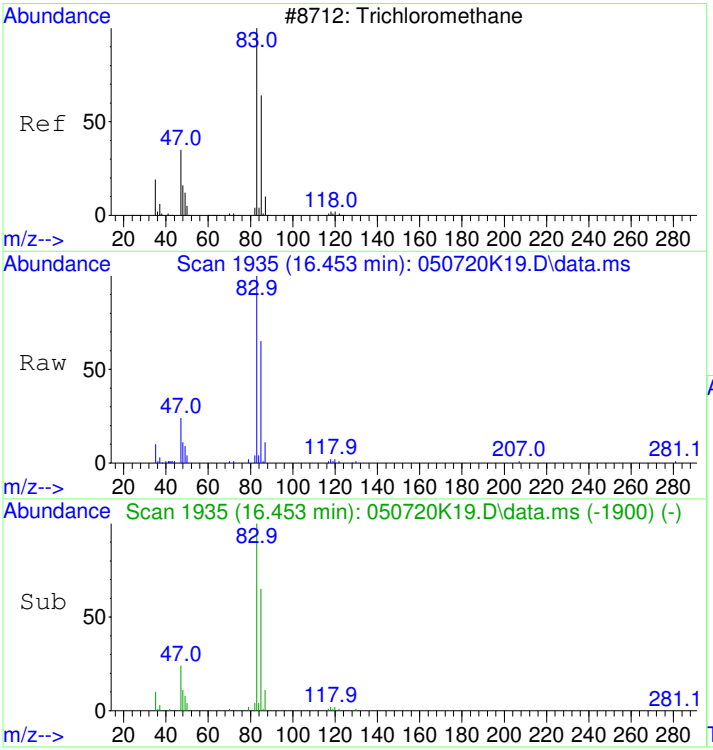


#27
Tetrahydrofuran
Concen: 10.65 ppbv
RT: 16.295 min Scan# 1909
Delta R.T. 0.012 min
Lab File: 050720K19.D
Acq: 8 May 2020 2:18 am

Tgt Ion: 42 Resp: 122168

Ion	Ratio	Lower	Upper
42	100		
72	42.0	21.2	61.2

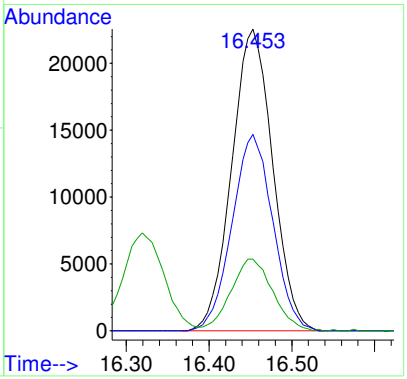


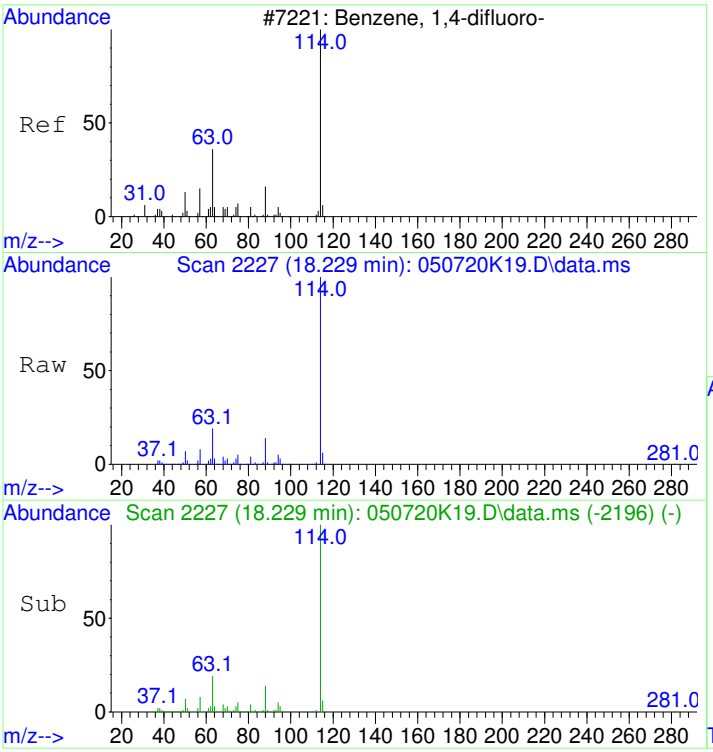


#28
Chloroform
Concen: 4.73 ppbv
RT: 16.453 min Scan# 1935
Delta R.T. 0.012 min
Lab File: 050720K19.D
Acq: 8 May 2020 2:18 am

Tgt Ion: 83 Resp: 77643

Ion	Ratio	Lower	Upper
83	100		
85	64.7	44.6	84.6
47	22.7	3.0	43.0

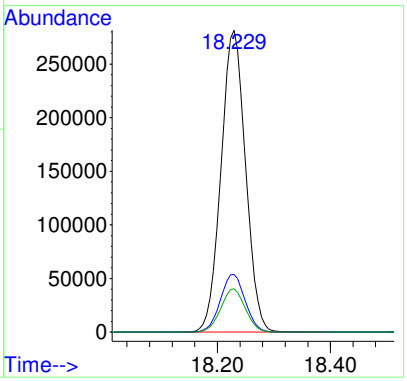


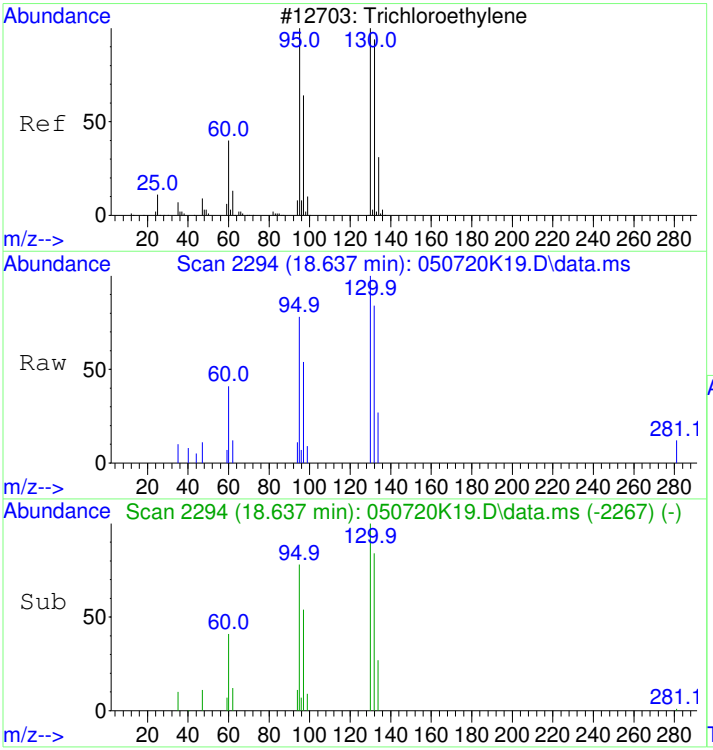


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 18.229 min Scan# 2227
Delta R.T. 0.006 min
Lab File: 050720K19.D
Acq: 8 May 2020 2:18 am

Tgt Ion:114 Resp: 848132

Ion	Ratio	Lower	Upper
114	100		
63	19.3	0.0	39.6
88	14.3	0.0	34.5

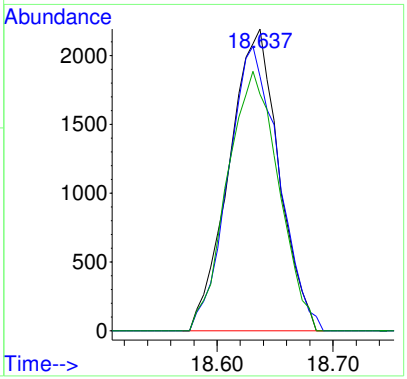


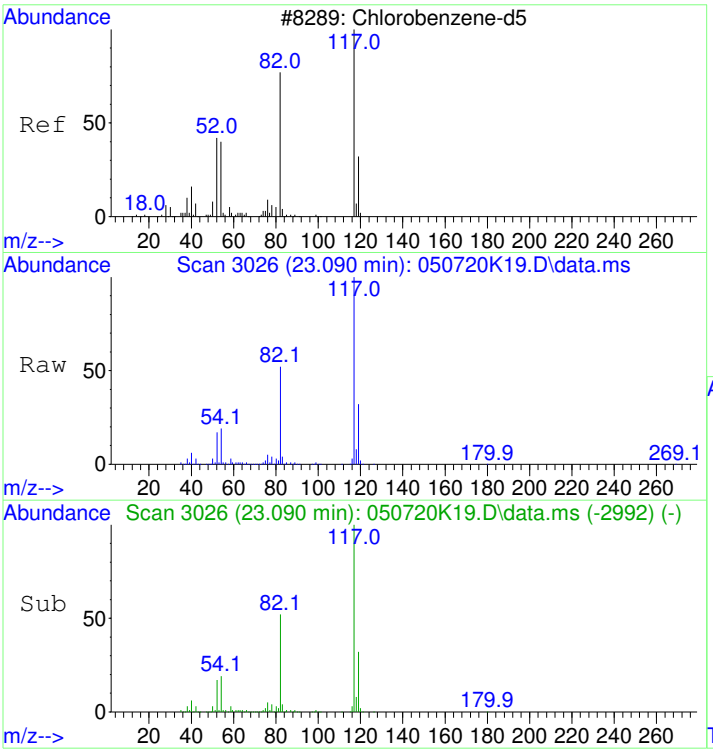


#37
Trichloroethene
Concen: 0.54 ppbv
RT: 18.637 min Scan# 2294
Delta R.T. 0.012 min
Lab File: 050720K19.D
Acq: 8 May 2020 2:18 am

Tgt Ion:130 Resp: 6529

Ion	Ratio	Lower	Upper
130	100		
132	95.6	75.5	115.5
95	89.1	71.3	111.3

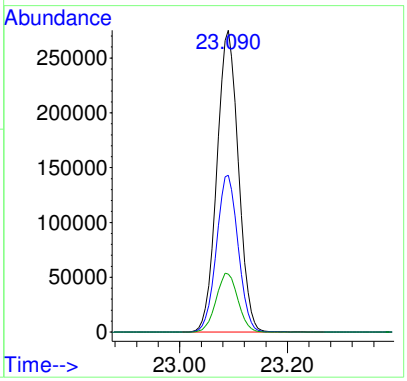


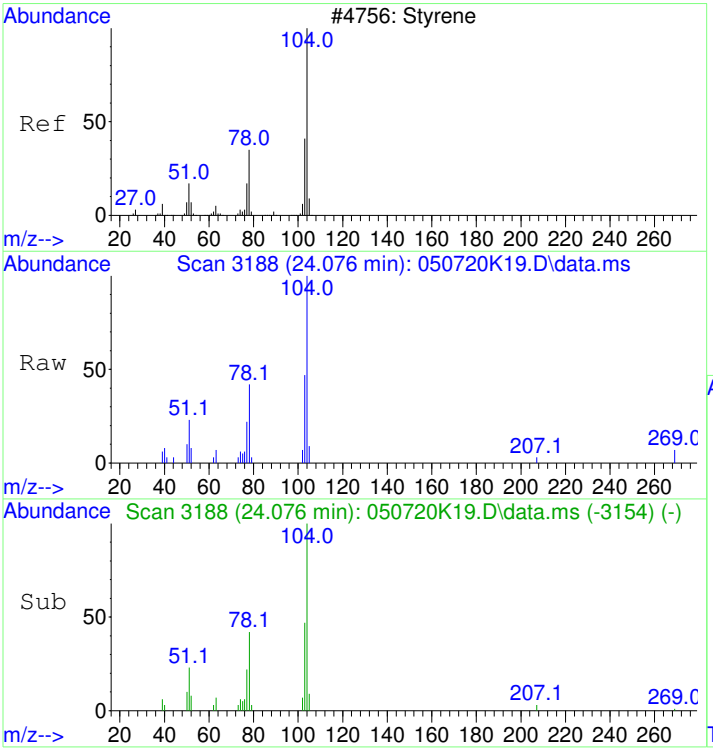


#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 23.090 min Scan# 3026
Delta R.T. 0.006 min
Lab File: 050720K19.D
Acq: 8 May 2020 2:18 am

Tgt Ion:117 Resp: 762595

Ion	Ratio	Lower	Upper
117	100		
82	52.4	32.5	72.5
54	19.8	0.0	39.6

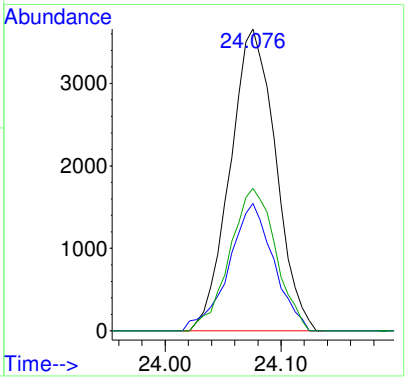




#55
Styrene
Concen: 0.57 ppbv
RT: 24.076 min Scan# 3188
Delta R.T. 0.006 min
Lab File: 050720K19.D
Acq: 8 May 2020 2:18 am

Tgt Ion:104 Resp: 10019

Ion	Ratio	Lower	Upper
104	100		
78	41.5	28.9	68.9
103	47.5	37.1	77.1



2005002-12

Quantitation Report (QT Reviewed)

Table of Contents

M.I. Performed By:
EM at 11:41 am, May 08, 2020

M.I. Approved By:
ZR at 10:54 am, May 15, 2020

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K20.D
InstName : HP5973K
Acq On : 8 May 2020 3:10 am
Operator : EM
Sample : 2005002-12
Misc : 200ml 261 Ariana-MH-SS-050620
ALS Vial : 21 Sample Multiplier: 1.99

Quant Time: May 08 09:16:25 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
Internal Standards								
1) BROMOCHLOROMETHANE	16.319	49	272890	19.60	ppbv		0.00	
32) 1,4-DIFLUOROBENZENE	18.229	114	831902	19.60	ppbv		0.00	
43) CHLOROBENZENE-d5	23.090	117	747339	19.60	ppbv		0.00	
Target Compounds							Qvalue	
2) Propene	4.998	41	11860	1.49	ppbv		82	
6) Vinyl chloride	6.074	62	18619	1.73	ppbv		99	
13) 1,1-Dichloroethene	10.515	61	18843	1.47	ppbv		99	
14) Acetone	11.100	43	45375	3.57	ppbv		99	
15) Carbon disulfide	11.209	76	12040	0.52	ppbv	#	80	
20) trans-1,2-Dichloroethene	13.119	61	12672	1.07	ppbv		97	
22) 1,1-Dichloroethane	14.403	63	16309	0.99	ppbv		98	
24) cis-1,2-Dichloroethene	15.784	61	238225m	20.29	ppbv			OC
25) 2-Butanone (MEK)	15.869	72	24343	5.08	ppbv	#	1	
27) Tetrahydrofuran	16.295	42	22020	1.94	ppbv		99	
28) Chloroform	16.447	83	150460	9.24	ppbv		100	
37) Trichloroethene	18.631	130	434023	36.82	ppbv		99	OC
47) Tetrachloroethene	21.648	166	8346	0.50	ppbv		98	
55) Styrene	24.076	104	24491	1.43	ppbv		87	

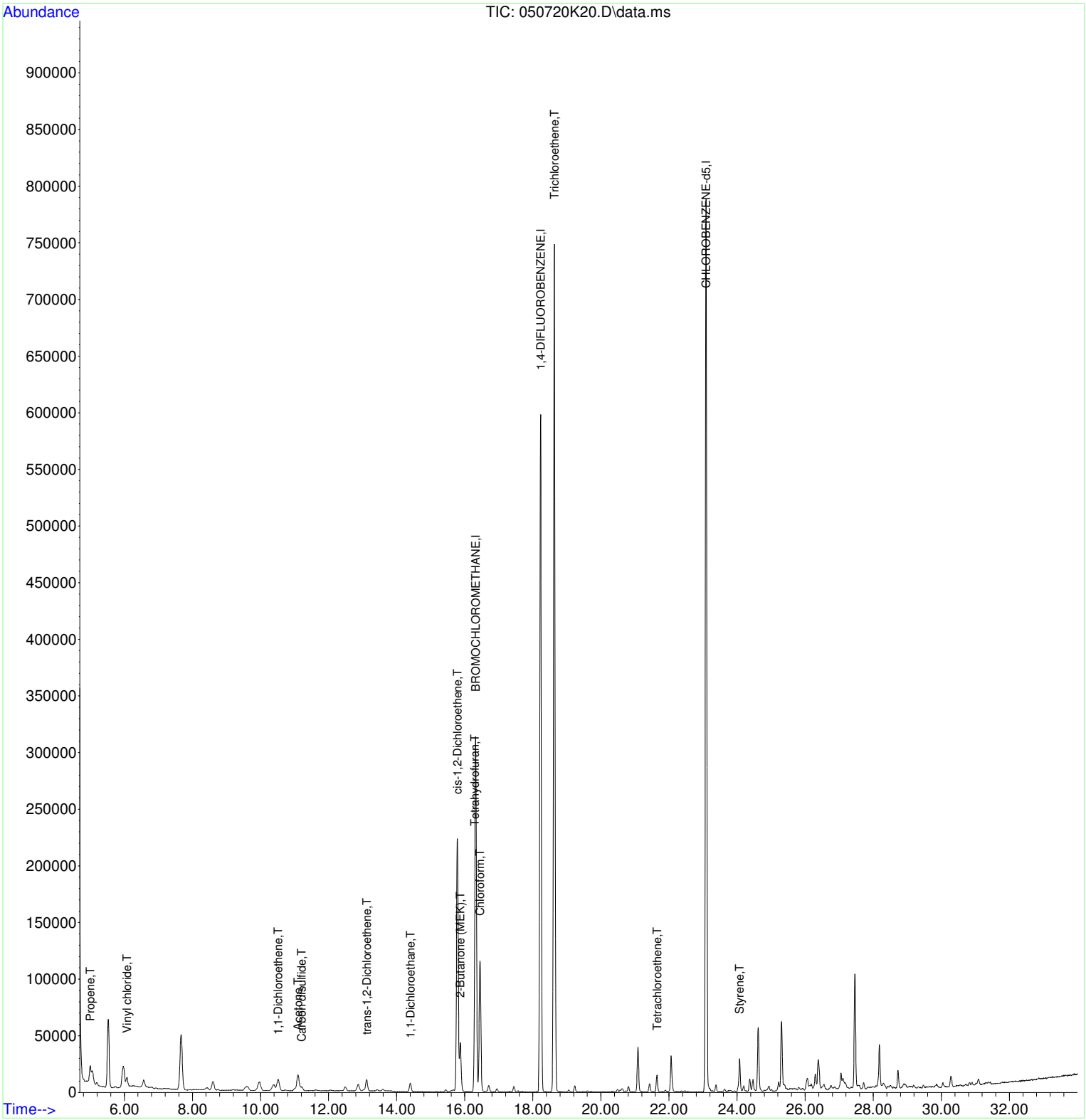
(#) = qualifier out of range (m) = manual integration (+) = signals summed

REVIEWED
By EM at 11:40 am, May 08, 2020

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K20.D
InstName : HP5973K
Acq On : 8 May 2020 3:10 am
Operator : EM
Sample : 2005002-12
Misc : 200ml 261 Ariana-MH-SS-050620
ALS Vial : 21 Sample Multiplier: 1.99

Quant Time: May 08 09:16:25 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K20.D
InstName : HP5973K
Acq On : 8 May 2020 3:10 am
Operator : EM
Sample : 2005002-12
Misc : 200ml 261 Ariana-MH-SS-050620
ALS Vial : 21 Sample Multiplier: 1.99

Before Manual Integration

Quant Time: May 08 09:16:25 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
Internal Standards								
1) BROMOCHLOROMETHANE	16.319	49	272890	19.60	ppbv		0.00	
32) 1,4-DIFLUOROBENZENE	18.229	114	831902	19.60	ppbv		0.00	
43) CHLOROBENZENE-d5	23.090	117	747339	19.60	ppbv		0.00	
Target Compounds							Qvalue	
2) Propene	4.998	41	11860	1.49	ppbv		82	
6) Vinyl chloride	6.074	62	18619	1.73	ppbv		99	
13) 1,1-Dichloroethene	10.515	61	18843	1.47	ppbv		99	
14) Acetone	11.100	43	45375	3.57	ppbv		99	
15) Carbon disulfide	11.209	76	12040	0.52	ppbv	#	80	
20) trans-1,2-Dichloroethene	13.119	61	12672	1.07	ppbv		97	
22) 1,1-Dichloroethane	14.403	63	16309	0.99	ppbv		98	
24) cis-1,2-Dichloroethene	15.784	61	235887	20.09	ppbv	#	98	
25) 2-Butanone (MEK)	15.869	72	24343	5.08	ppbv	#	1	
27) Tetrahydrofuran	16.295	42	22020	1.94	ppbv		99	
28) Chloroform	16.447	83	150460	9.24	ppbv		100	
37) Trichloroethene	18.631	130	434023	36.82	ppbv		99	OC
47) Tetrachloroethene	21.648	166	8346	0.50	ppbv		98	
55) Styrene	24.076	104	24491	1.43	ppbv		87	

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

REVIEWED
By EM at 9:29 am, May 08, 2020

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K20.D
InstName : HP5973K
Acq On : 8 May 2020 3:10 am
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Sample : 2005002-12
Misc : 200ml 261 Ariana-MH-SS-050620
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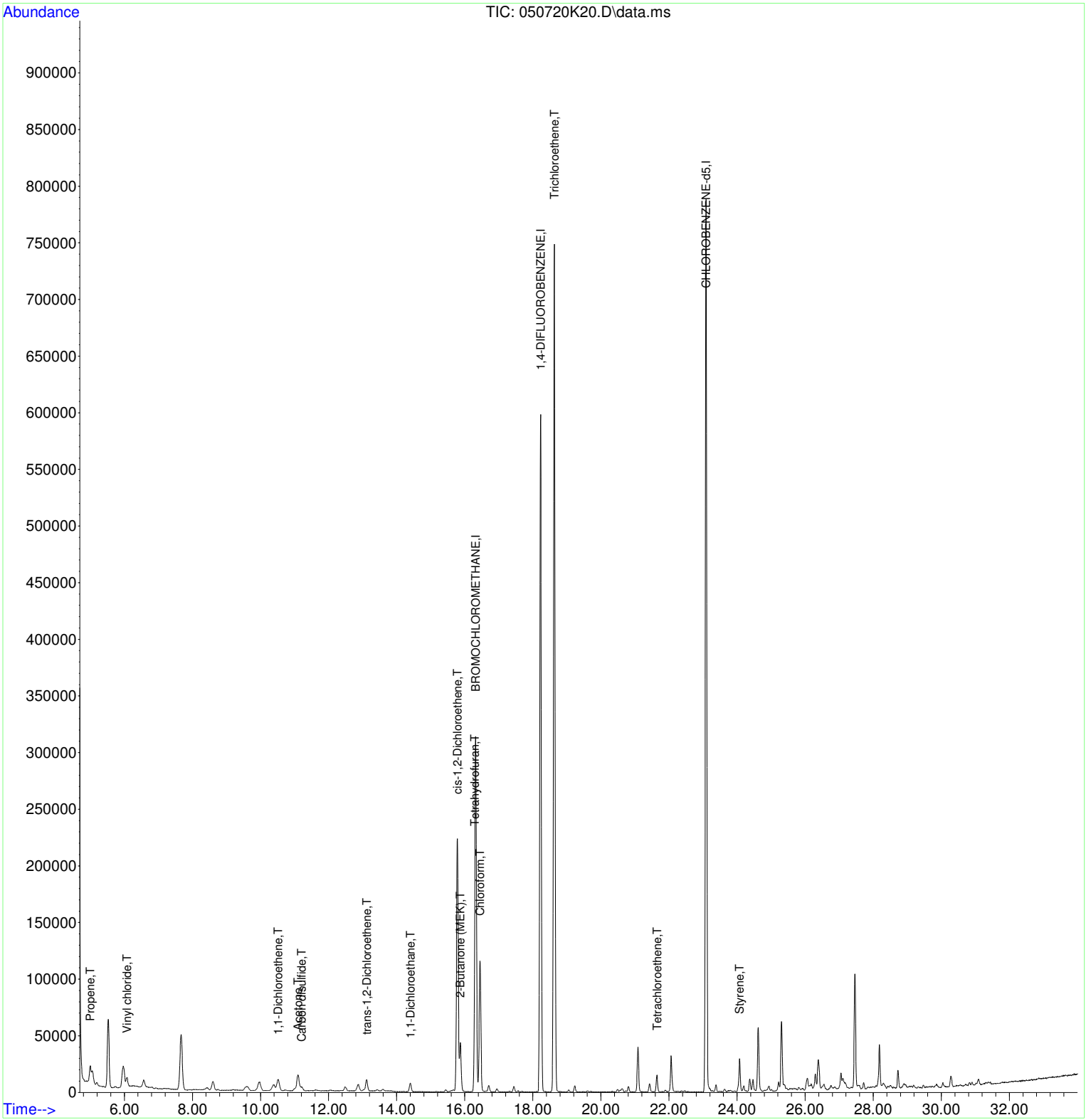
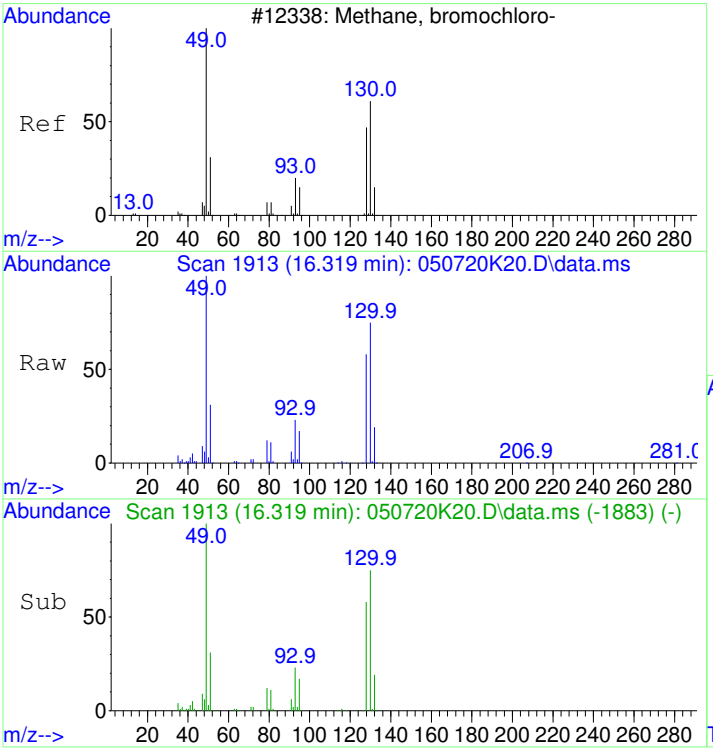
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

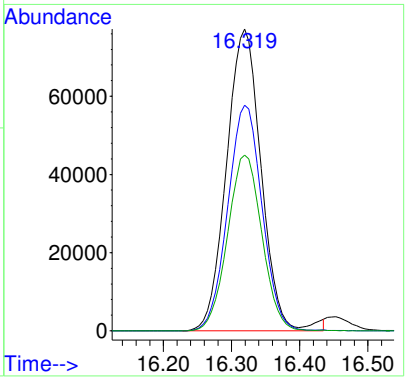


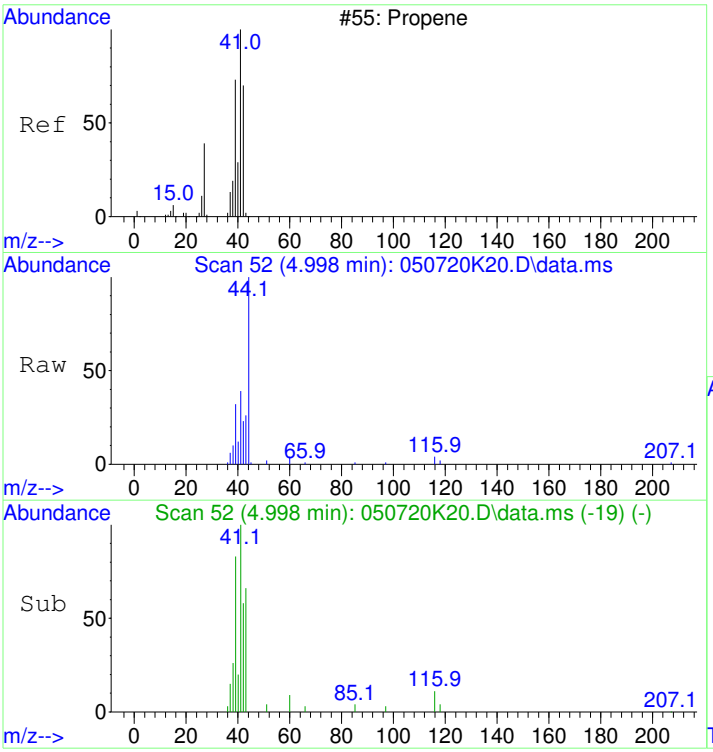


#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 16.319 min Scan# 1913
Delta R.T. 0.006 min
Lab File: 050720K20.D
Acq: 8 May 2020 3:10 am

Tgt Ion: 49 Resp: 272890

Ion	Ratio	Lower	Upper
49	100		
130	73.8	51.1	91.1
128	57.1	35.0	75.0

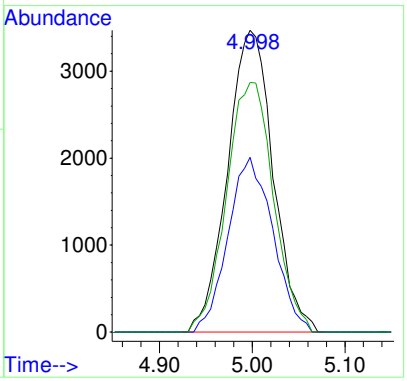


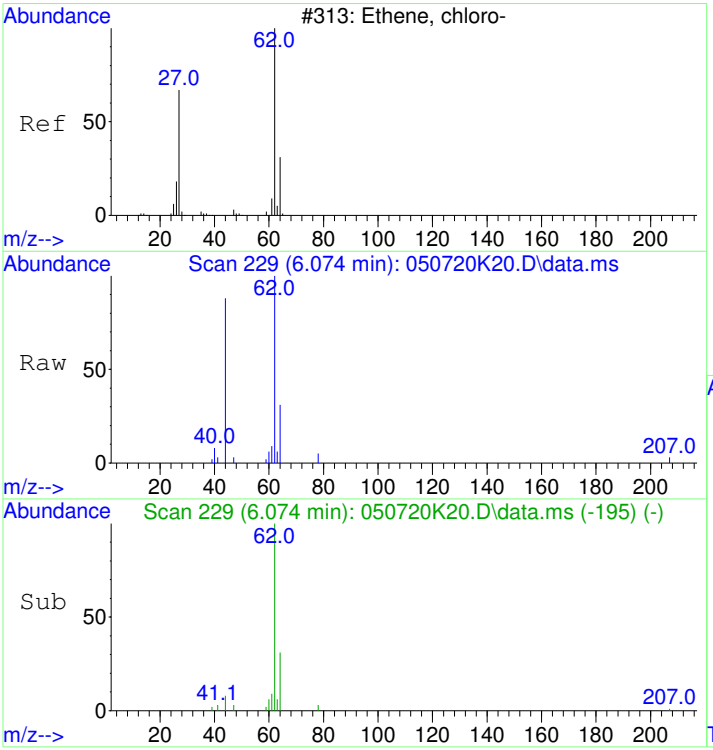


#2
Propene
Concen: 1.49 ppbv
RT: 4.998 min Scan# 52
Delta R.T. -0.000 min
Lab File: 050720K20.D
Acq: 8 May 2020 3:10 am

Tgt Ion: 41 Resp: 11860

Ion	Ratio	Lower	Upper
41	100		
42	56.9	47.4	87.4
39	85.2	47.3	87.3

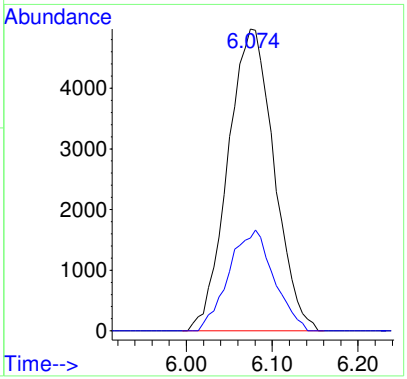


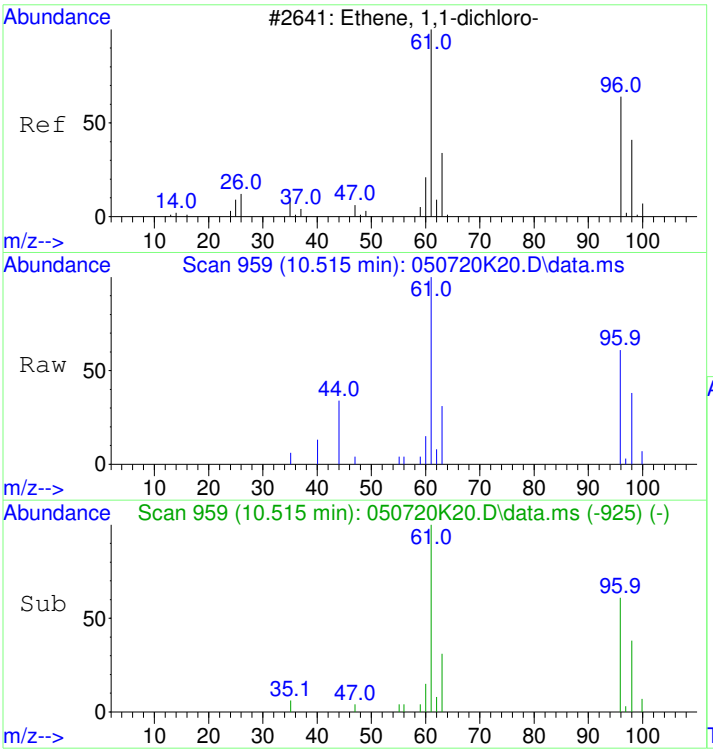


#6
Vinyl chloride
Concen: 1.73 ppbv
RT: 6.074 min Scan# 229
Delta R.T. 0.006 min
Lab File: 050720K20.D
Acq: 8 May 2020 3:10 am

Tgt Ion: 62 Resp: 18619

Ion	Ratio	Lower	Upper
62	100		
64	32.5	11.9	51.9

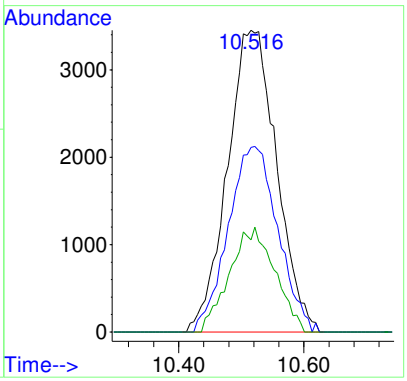


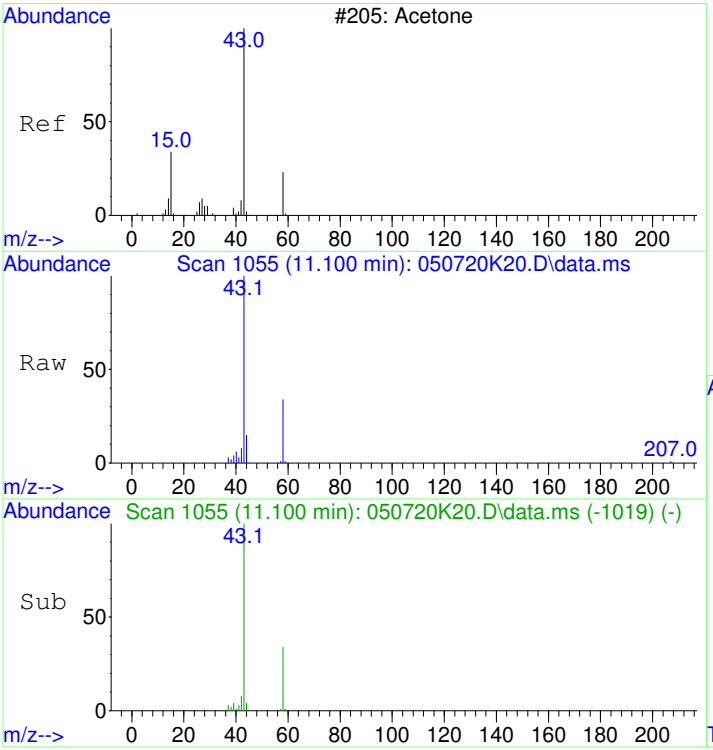


#13
1,1-Dichloroethene
Concen: 1.47 ppbv
RT: 10.515 min Scan# 959
Delta R.T. 0.006 min
Lab File: 050720K20.D
Acq: 8 May 2020 3:10 am

Tgt Ion: 61 Resp: 18843

Ion	Ratio	Lower	Upper
61	100		
96	62.1	41.2	81.2
63	31.9	11.9	51.9

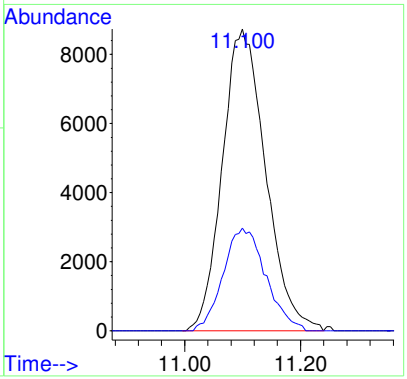


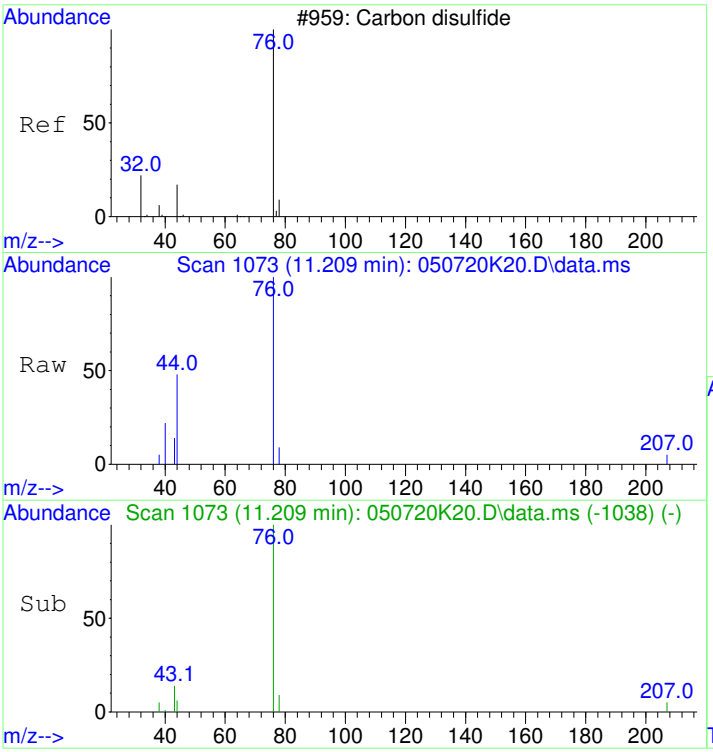


#14
Acetone
Concen: 3.57 ppbv
RT: 11.100 min Scan# 1055
Delta R.T. 0.018 min
Lab File: 050720K20.D
Acq: 8 May 2020 3:10 am

Tgt Ion: 43 Resp: 45375

Ion	Ratio	Lower	Upper
43	100		
58	33.5	14.0	54.0

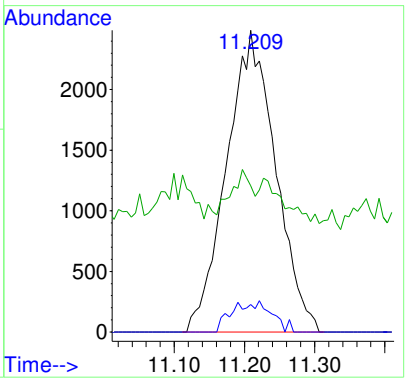


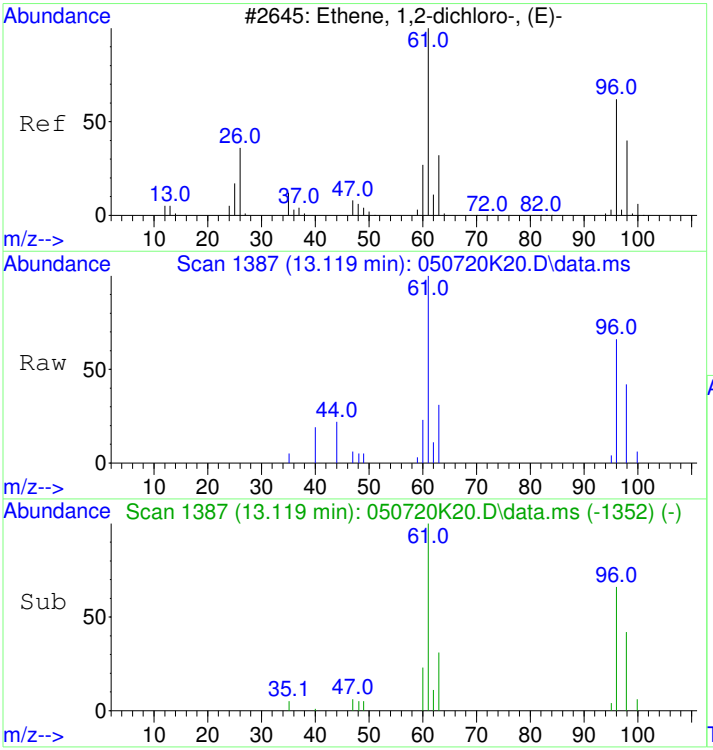


#15
Carbon disulfide
Concen: 0.52 ppbv
RT: 11.209 min Scan# 1073
Delta R.T. 0.012 min
Lab File: 050720K20.D
Acq: 8 May 2020 3:10 am

Tgt Ion: 76 Resp: 12040

Ion	Ratio	Lower	Upper
76	100		
78	8.3	0.0	29.1
44	0.0	0.0	33.0

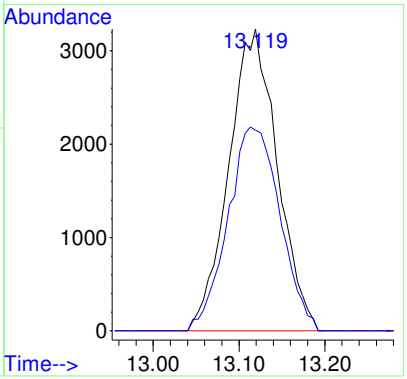


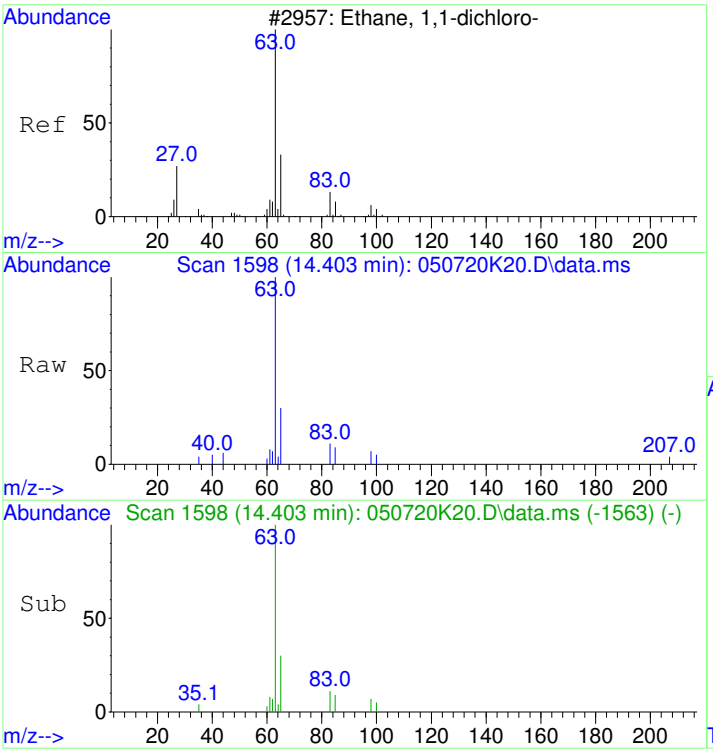


#20
trans-1,2-Dichloroethene
Concen: 1.07 ppbv
RT: 13.119 min Scan# 1387
Delta R.T. 0.012 min
Lab File: 050720K20.D
Acq: 8 May 2020 3:10 am

Tgt Ion: 61 Resp: 12672

Ion	Ratio	Lower	Upper
61	100		
96	72.9	50.6	90.6

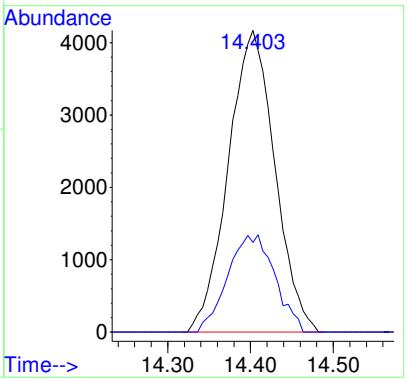


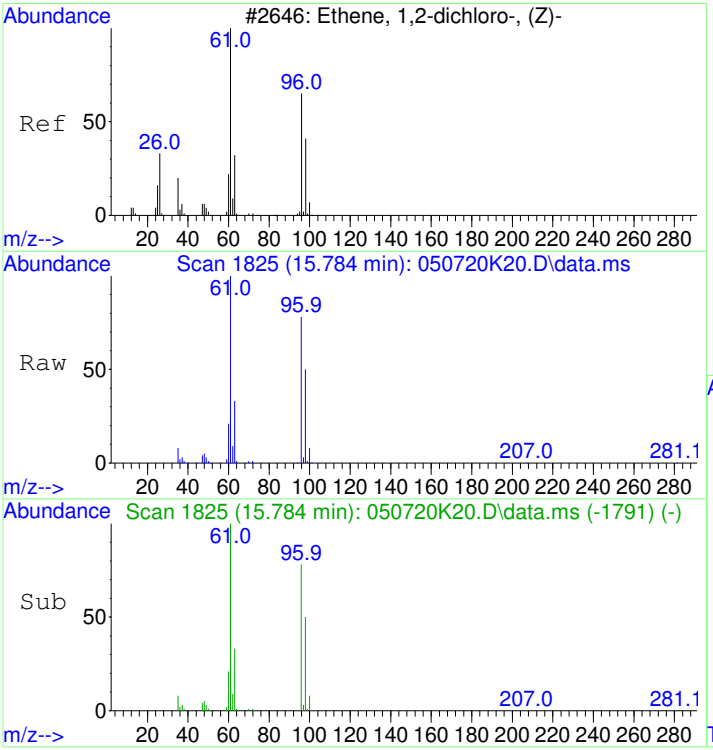


#22
1,1-Dichloroethane
Concen: 0.99 ppbv
RT: 14.403 min Scan# 1598
Delta R.T. 0.012 min
Lab File: 050720K20.D
Acq: 8 May 2020 3:10 am

Tgt Ion: 63 Resp: 16309

Ion	Ratio	Lower	Upper
63	100		
65	32.6	11.7	51.7

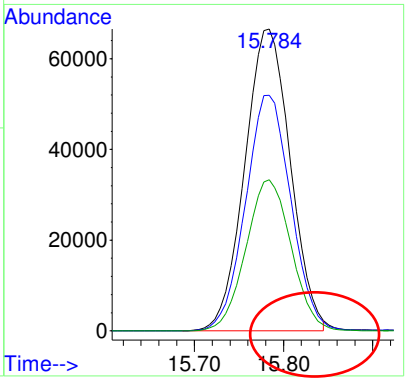




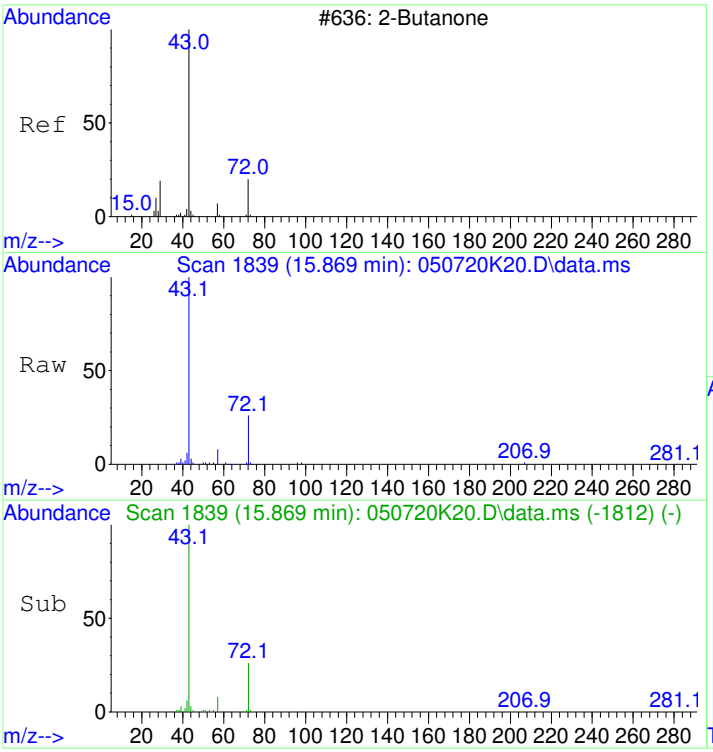
#24
cis-1,2-Dichloroethene
Concen: 20.09 ppbv
RT: 15.784 min Scan# 1825
Delta R.T. 0.006 min
Lab File: 050720K20.D
Acq: 8 May 2020 3:10 am

Tgt Ion: 61 Resp: 235887

Ion	Ratio	Lower	Upper
61	100		
96	77.4	55.7	95.7
98	0.0	0.0	20.0



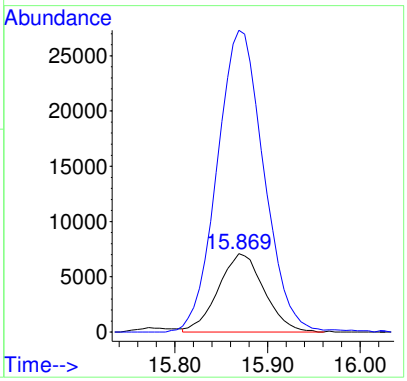
SEE MI

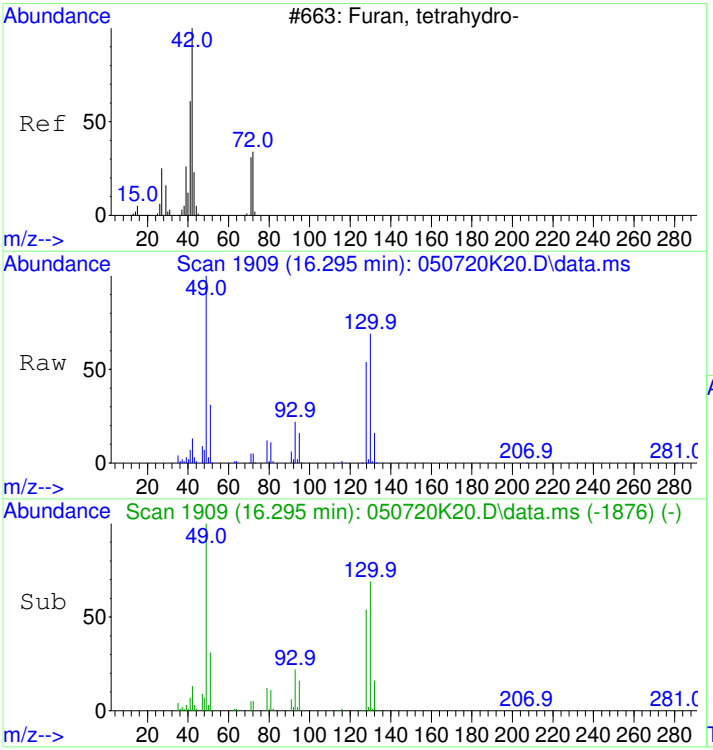


#25
2-Butanone (MEK)
Concen: 5.08 ppbv
RT: 15.869 min Scan# 1839
Delta R.T. 0.012 min
Lab File: 050720K20.D
Acq: 8 May 2020 3:10 am

Tgt Ion: 72 Resp: 24343

Ion	Ratio	Lower	Upper
72	100		
43	393.8	812.3	832.3#

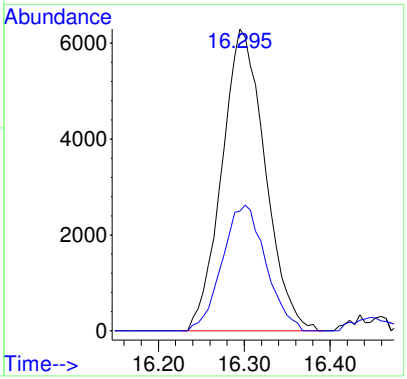


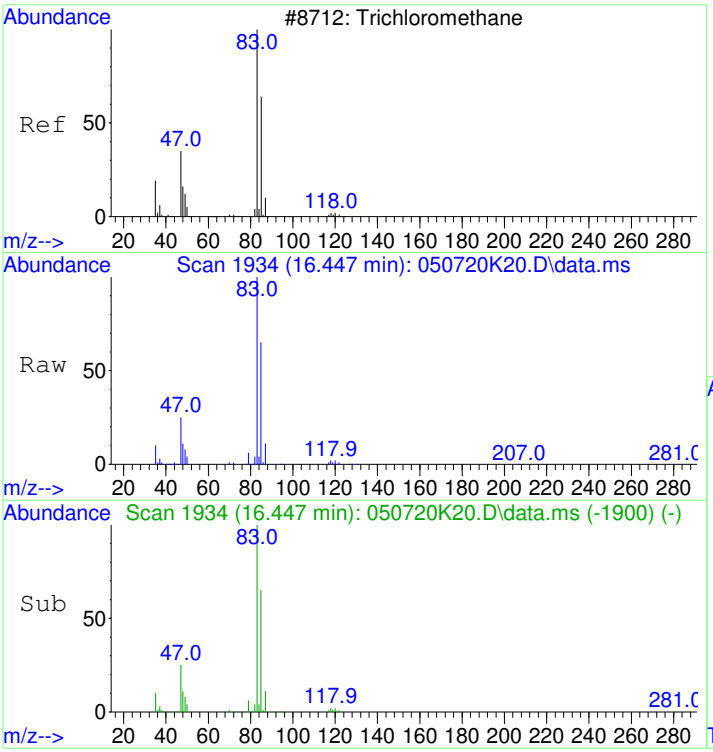


#27
Tetrahydrofuran
Concen: 1.94 ppbv
RT: 16.295 min Scan# 1909
Delta R.T. 0.012 min
Lab File: 050720K20.D
Acq: 8 May 2020 3:10 am

Tgt Ion: 42 Resp: 22020

Ion	Ratio	Lower	Upper
42	100		
72	41.9	21.2	61.2

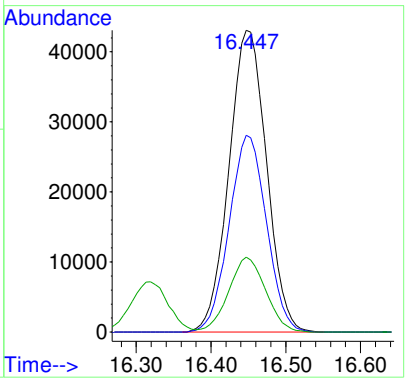


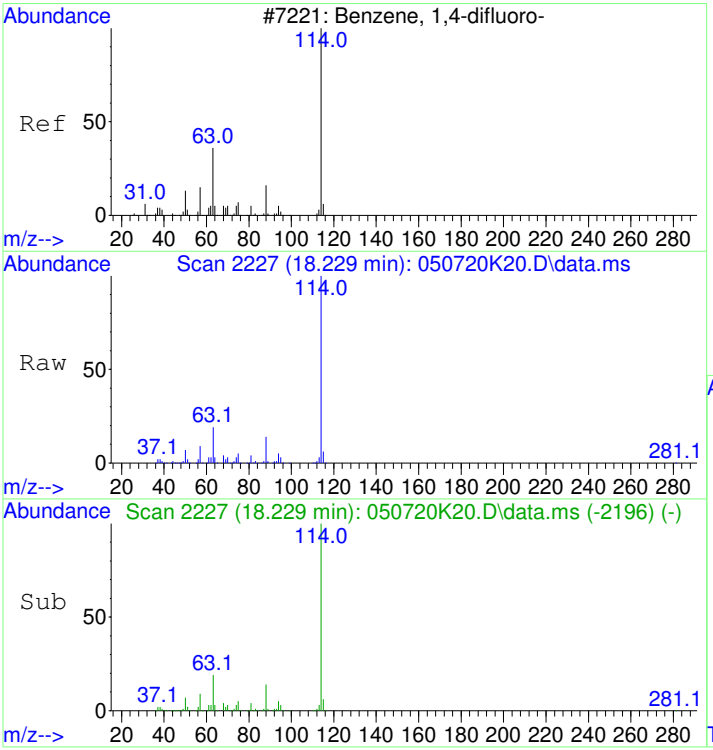


#28
Chloroform
Concen: 9.24 ppbv
RT: 16.447 min Scan# 1934
Delta R.T. 0.006 min
Lab File: 050720K20.D
Acq: 8 May 2020 3:10 am

Tgt Ion: 83 Resp: 150460

Ion	Ratio	Lower	Upper
83	100		
85	64.8	44.6	84.6
47	23.5	3.0	43.0

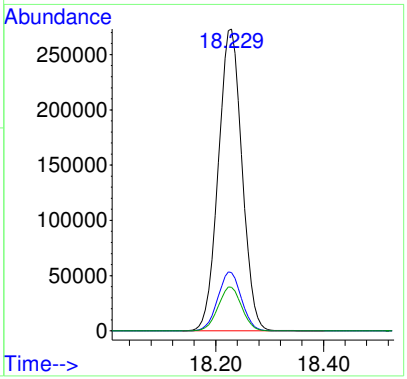


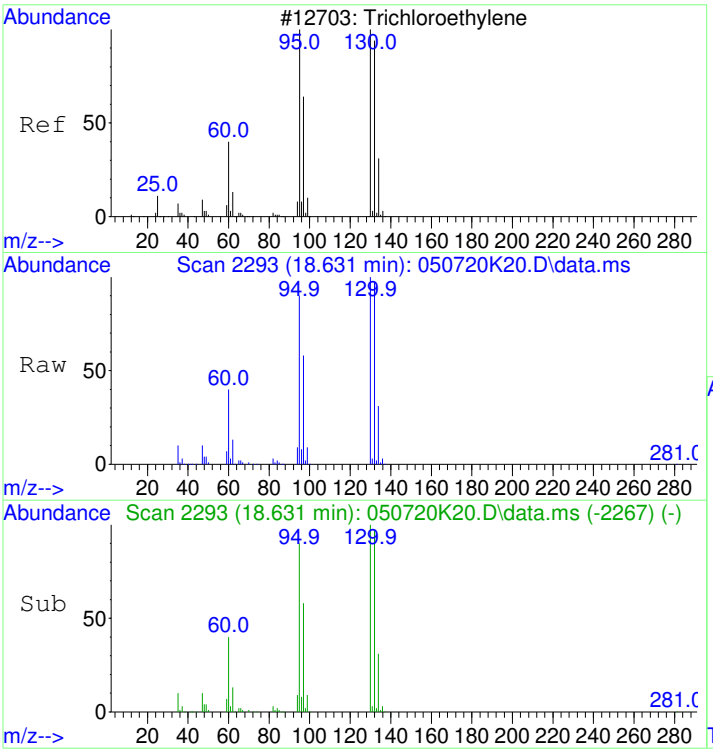


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 18.229 min Scan# 2227
Delta R.T. 0.006 min
Lab File: 050720K20.D
Acq: 8 May 2020 3:10 am

Tgt Ion:114 Resp: 831902

Ion	Ratio	Lower	Upper
114	100		
63	19.5	0.0	39.6
88	14.5	0.0	34.5

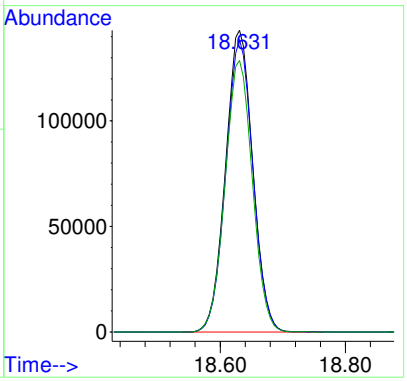


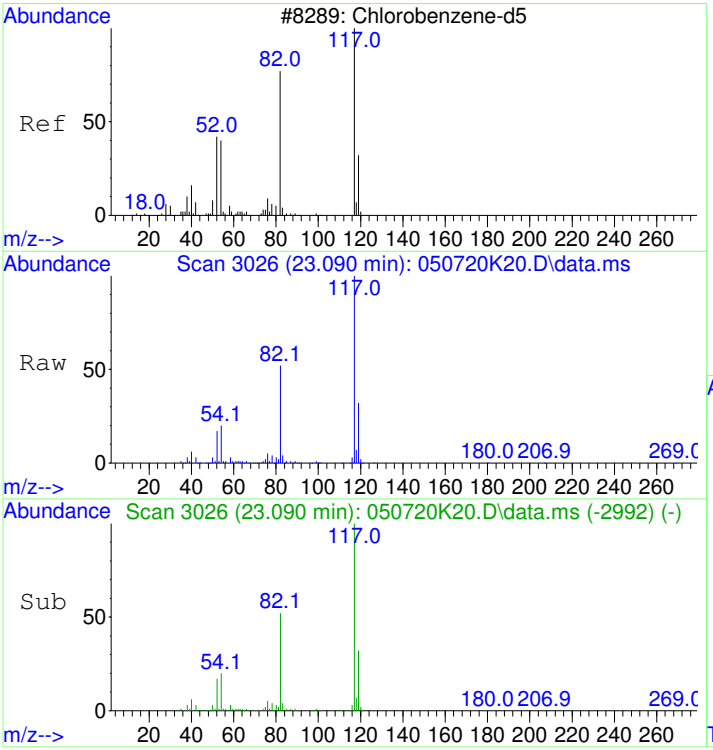


#37
Trichloroethene
Concen: 36.82 ppbv
RT: 18.631 min Scan# 2293
Delta R.T. 0.006 min
Lab File: 050720K20.D
Acq: 8 May 2020 3:10 am

Tgt Ion:130 Resp: 434023

Ion	Ratio	Lower	Upper
130	100		
132	96.4	75.5	115.5
95	90.2	71.3	111.3

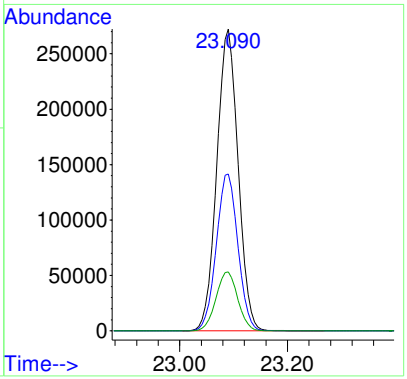


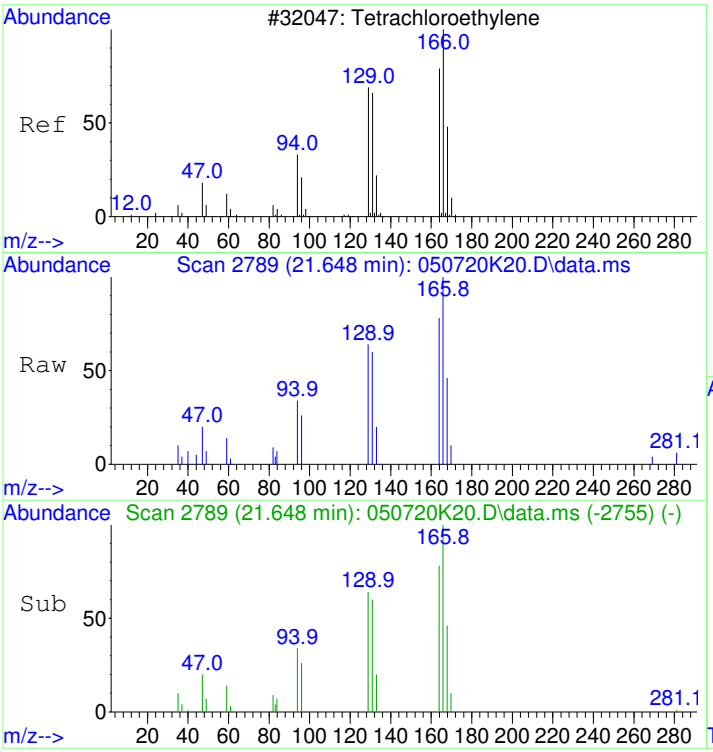


#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 23.090 min Scan# 3026
Delta R.T. 0.006 min
Lab File: 050720K20.D
Acq: 8 May 2020 3:10 am

Tgt Ion:117 Resp: 747339

Ion	Ratio	Lower	Upper
117	100		
82	52.6	32.5	72.5
54	20.0	0.0	39.6

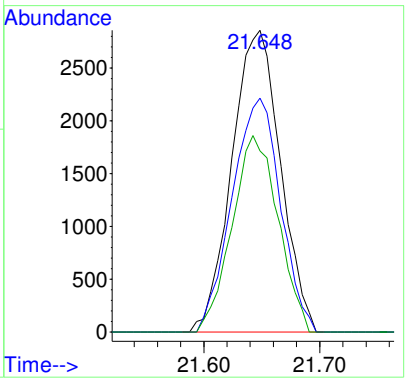


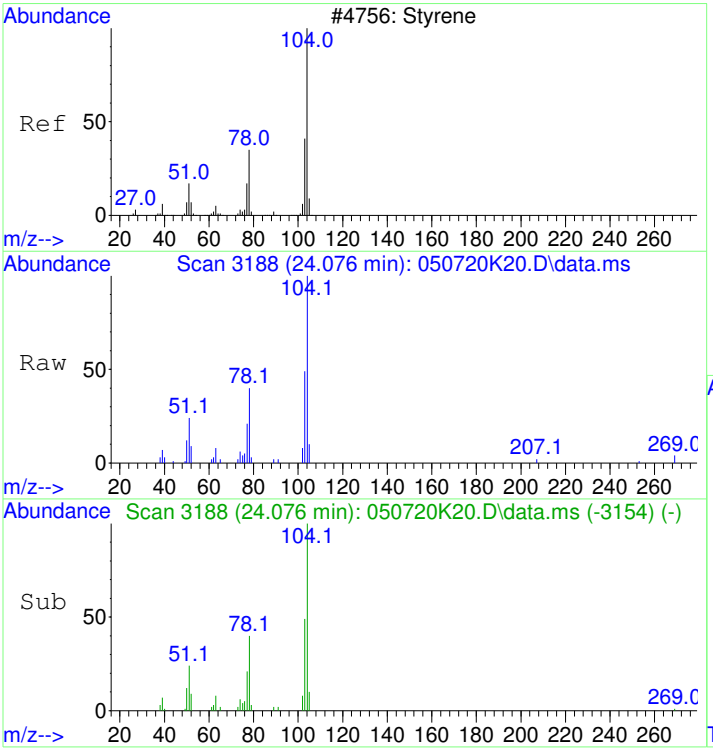


#47
Tetrachloroethene
Concen: 0.50 ppbv
RT: 21.648 min Scan# 2789
Delta R.T. 0.006 min
Lab File: 050720K20.D
Acq: 8 May 2020 3:10 am

Tgt Ion:166 Resp: 8346

Ion	Ratio	Lower	Upper
166	100		
164	77.2	58.4	98.4
131	61.7	43.1	83.1

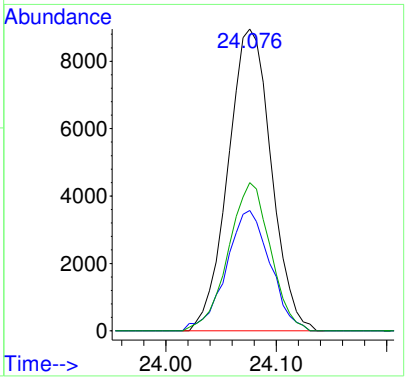




#55
Styrene
Concen: 1.43 ppbv
RT: 24.076 min Scan# 3188
Delta R.T. 0.006 min
Lab File: 050720K20.D
Acq: 8 May 2020 3:10 am

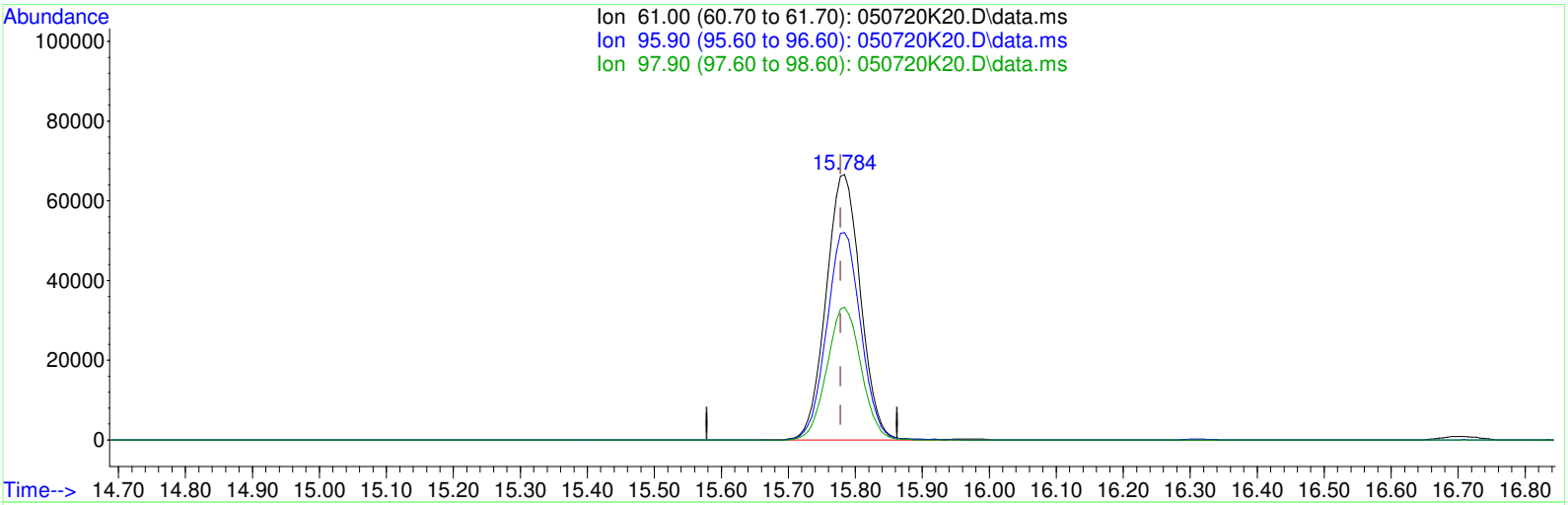
Tgt Ion:104 Resp: 24491

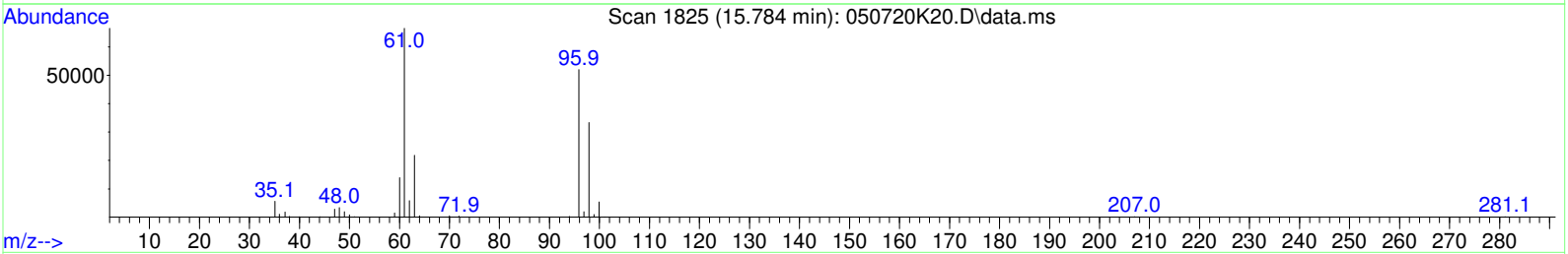
Ion	Ratio	Lower	Upper
104	100		
78	40.5	28.9	68.9
103	47.6	37.1	77.1

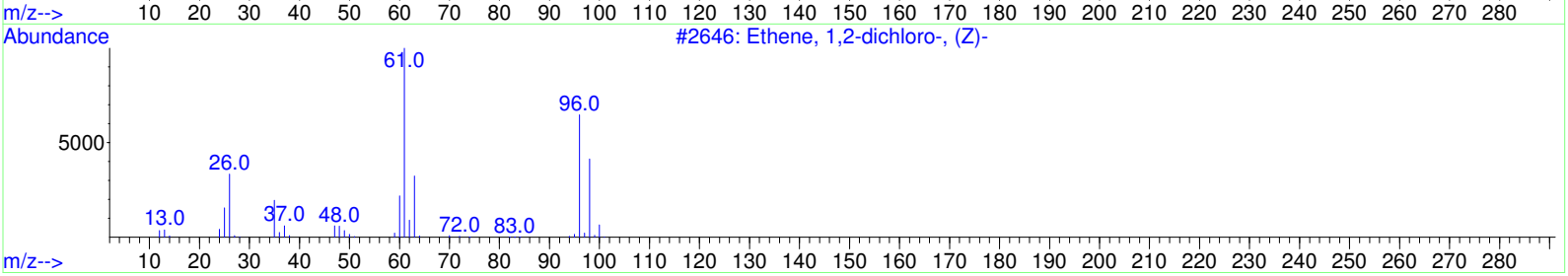


Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K20.D
InstName : HP5973K
Acq On : 8 May 2020 3:10 am
Operator : EM
Sample : 2005002-12
Misc : 200ml 261 Ariana-MH-SS-050620
ALS Vial : 21 Sample Multiplier: 1.99

Quant Time: May 08 09:16:25 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration







TIC: 050720K20.D\data.ms

(24) cis-1,2-Dichloroethene (T)

15.784min (+ 0.006) 20.29 ppbv m

response 238225

Ion	Exp%	Act%
61.00	100.00	100.00
95.90	75.70	76.68
97.90	0.00	0.00
0.00	0.00	0.00

B20E002-DUP1

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K21.D
InstName : HP5973K
Acq On : 8 May 2020 4:07 am
Operator : EM
Sample : B20E002-DUP1
Misc : 200ml 261 Ariana-MH-SS-050620 DUP
ALS Vial : 21 Sample Multiplier: 1.99

Quant Time: May 08 09:16:30 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

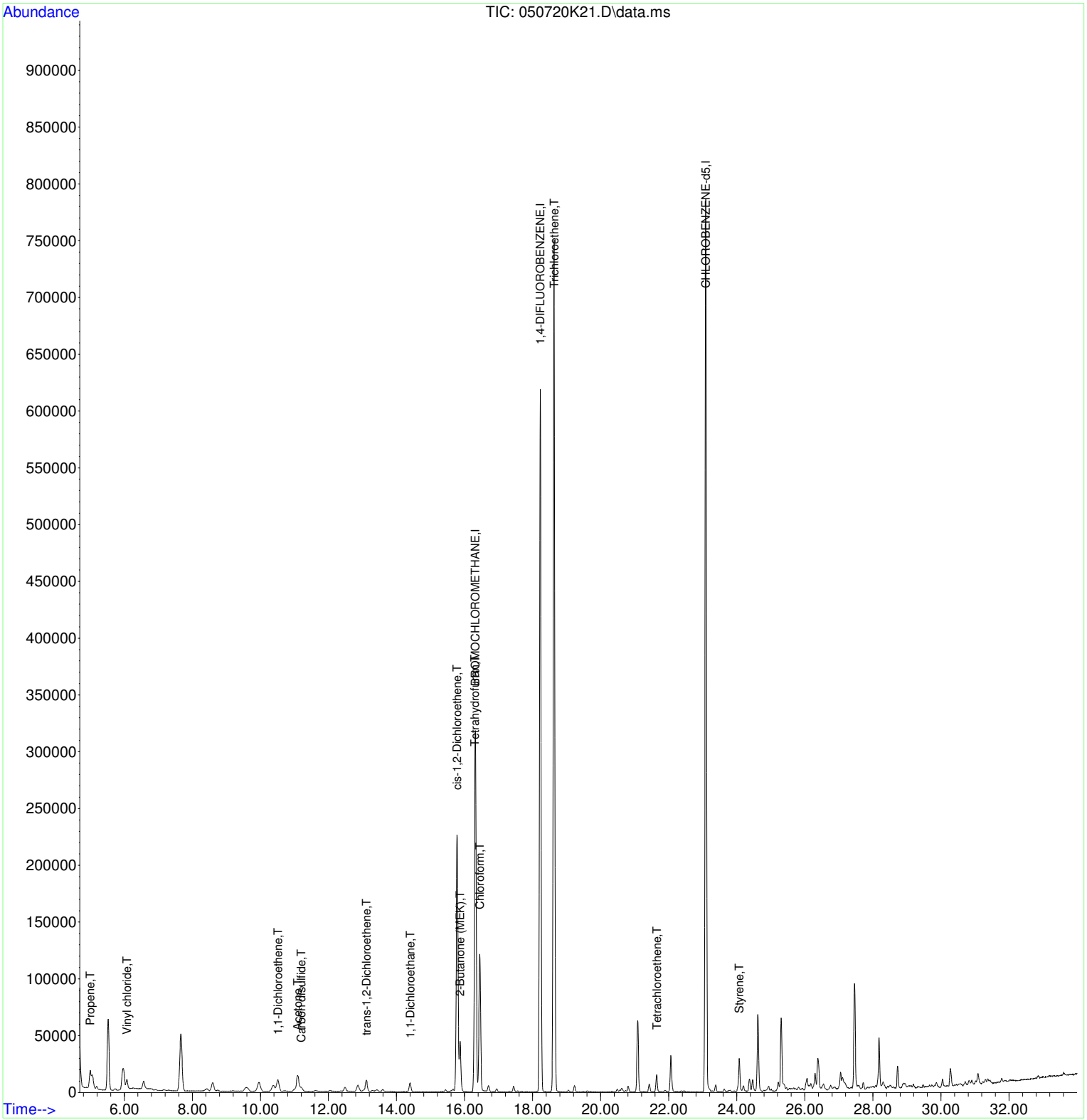
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
Internal Standards								
1) BROMOCHLOROMETHANE	16.313	49	273510	19.60	ppbv		0.00	
32) 1,4-DIFLUOROBENZENE	18.223	114	844429	19.60	ppbv		0.00	
43) CHLOROBENZENE-d5	23.090	117	761572	19.60	ppbv		0.00	
Target Compounds							Qvalue	
2) Propene	4.998	41	12144	1.52	ppbv		85	
6) Vinyl chloride	6.075	62	19144	1.77	ppbv		99	
13) 1,1-Dichloroethene	10.516	61	19078	1.49	ppbv		99	
14) Acetone	11.094	43	46720	3.66	ppbv		99	
15) Carbon disulfide	11.203	76	12123	0.52	ppbv		90	
20) trans-1,2-Dichloroethene	13.113	61	12886	1.08	ppbv		100	
22) 1,1-Dichloroethane	14.403	63	16486	1.00	ppbv		99	
24) cis-1,2-Dichloroethene	15.778	61	237928	20.21	ppbv	#	98	
25) 2-Butanone (MEK)	15.869	72	24523	5.11	ppbv	#	1	
27) Tetrahydrofuran	16.301	42	22363	1.96	ppbv		100	
28) Chloroform	16.447	83	152034	9.32	ppbv		99	
37) Trichloroethene	18.631	130	437625	36.57	ppbv		99	OC
47) Tetrachloroethene	21.648	166	8311	0.48	ppbv		99	
55) Styrene	24.076	104	25150	1.44	ppbv		87	

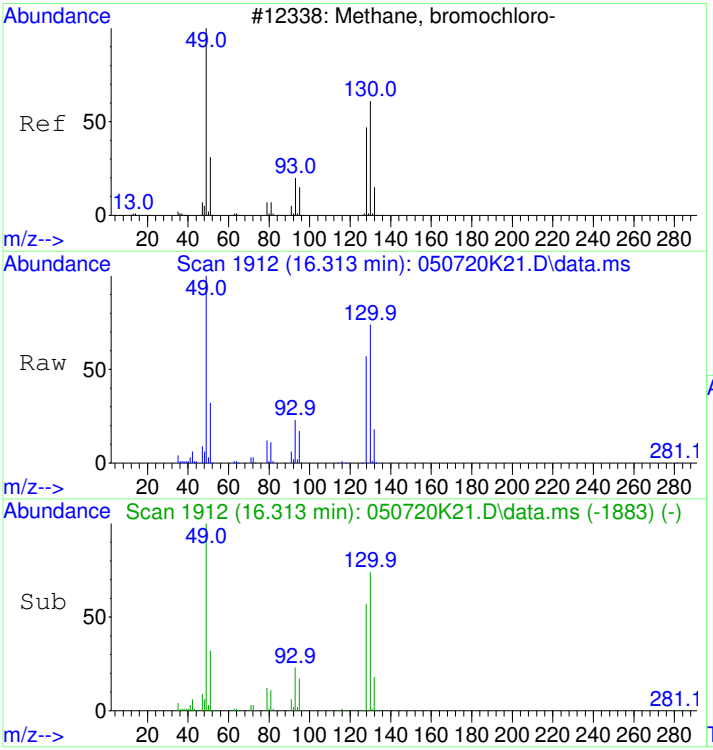
(#) = qualifier out of range (m) = manual integration (+) = signals summed

REVIEWED
By EM at 9:28 am, May 08, 2020

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K21.D
InstName : HP5973K
Acq On : 8 May 2020 4:07 am
Operator : EM
Sample : B20E002-DUP1
Misc : 200ml 261 Ariana-MH-SS-050620 DUP
ALS Vial : 21 Sample Multiplier: 1.99

Quant Time: May 08 09:16:30 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

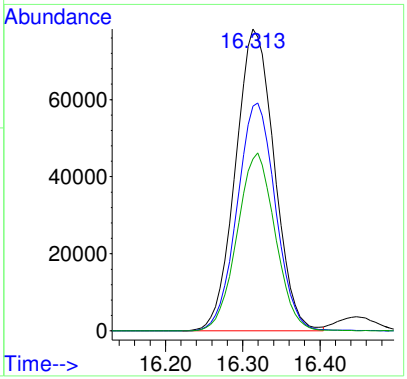


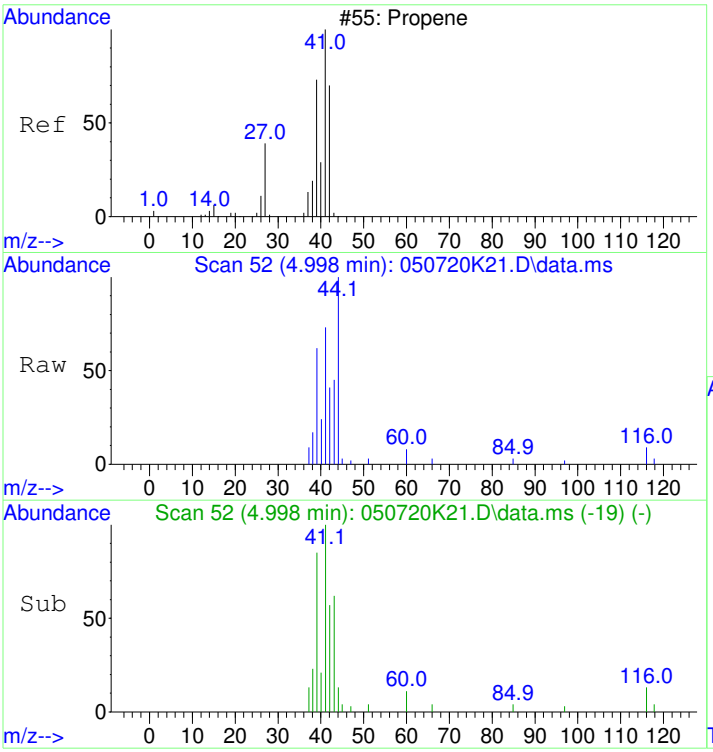


#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 16.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 050720K21.D
Acq: 8 May 2020 4:07 am

Tgt Ion: 49 Resp: 273510

Ion	Ratio	Lower	Upper
49	100		
130	74.8	51.1	91.1
128	57.4	35.0	75.0

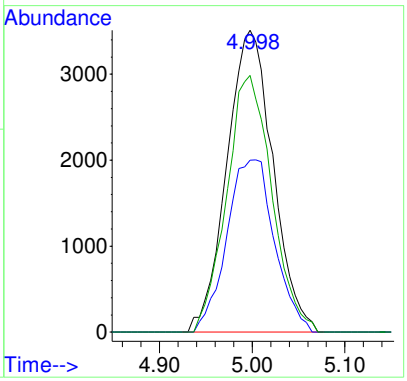


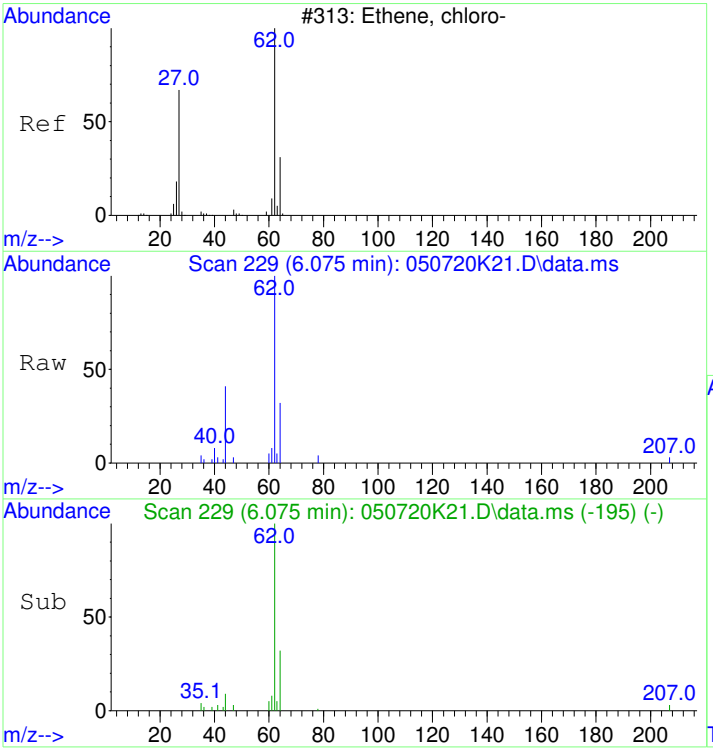


#2
Propene
Concen: 1.52 ppbv
RT: 4.998 min Scan# 52
Delta R.T. -0.000 min
Lab File: 050720K21.D
Acq: 8 May 2020 4:07 am

Tgt Ion: 41 Resp: 12144

Ion	Ratio	Lower	Upper
41	100		
42	58.9	47.4	87.4
39	83.2	47.3	87.3

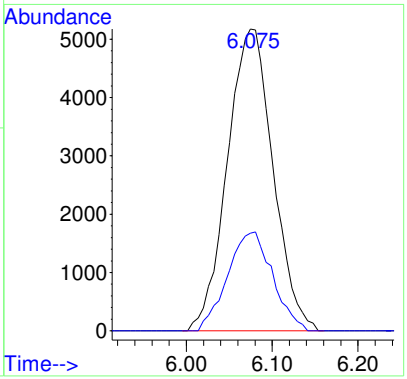


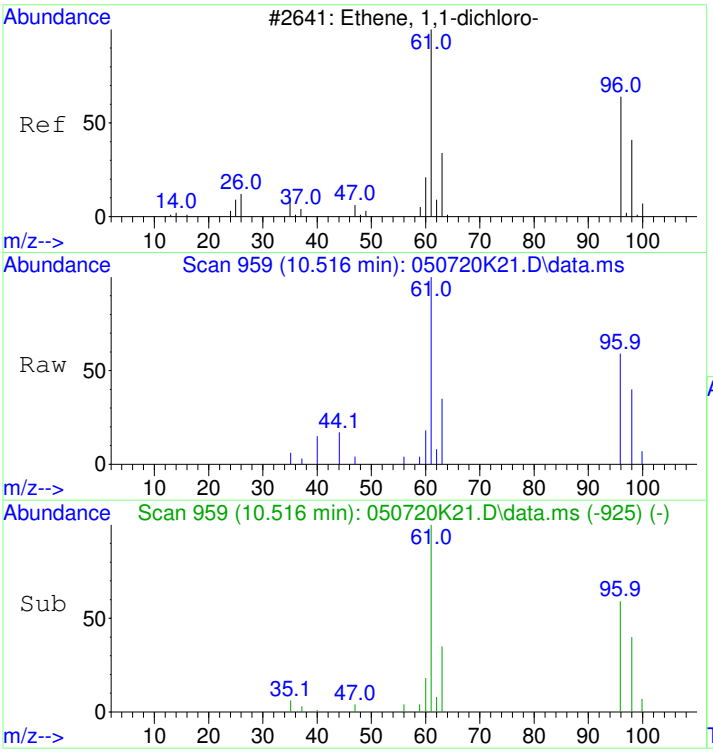


#6
Vinyl chloride
Concen: 1.77 ppbv
RT: 6.075 min Scan# 229
Delta R.T. 0.006 min
Lab File: 050720K21.D
Acq: 8 May 2020 4:07 am

Tgt Ion: 62 Resp: 19144

Ion	Ratio	Lower	Upper
62	100		
64	32.3	11.9	51.9

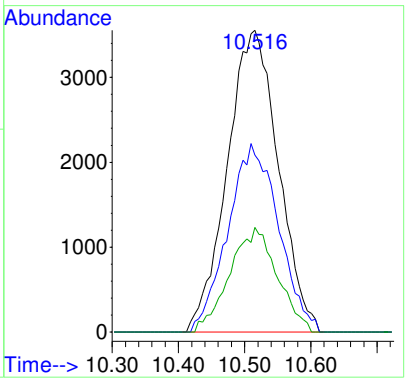


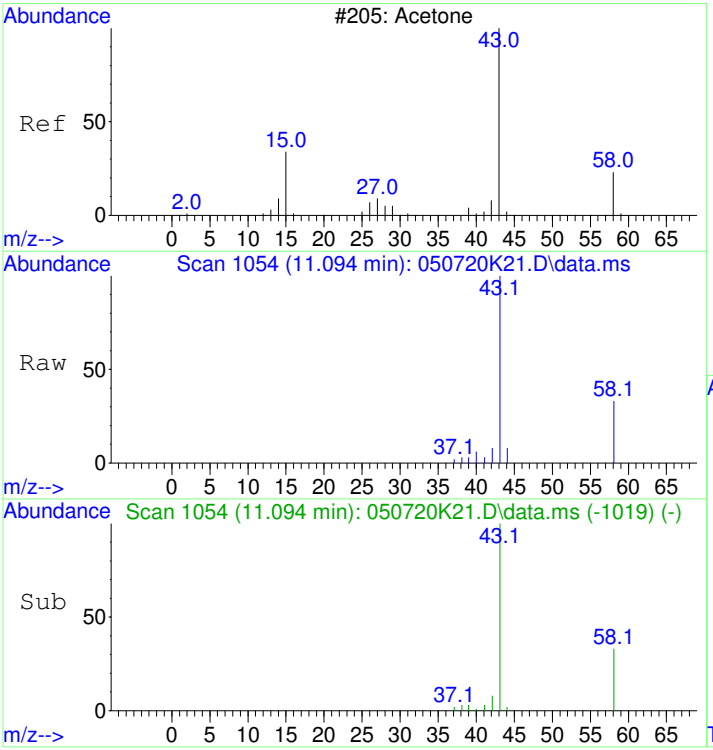


#13
1,1-Dichloroethene
Concen: 1.49 ppbv
RT: 10.516 min Scan# 959
Delta R.T. 0.006 min
Lab File: 050720K21.D
Acq: 8 May 2020 4:07 am

Tgt Ion: 61 Resp: 19078

Ion	Ratio	Lower	Upper
61	100		
96	61.8	41.2	81.2
63	32.2	11.9	51.9

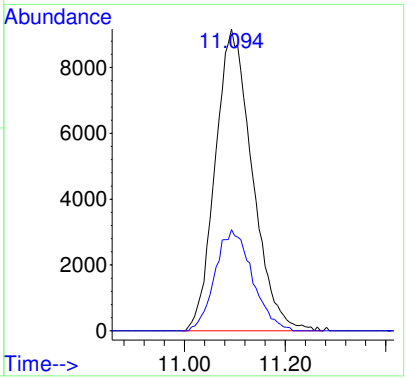


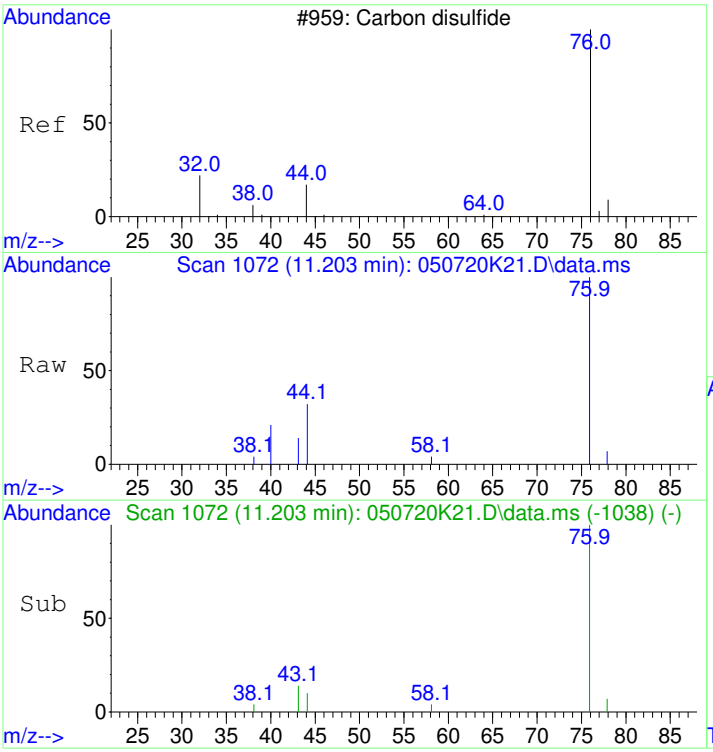


#14
Acetone
Concen: 3.66 ppbv
RT: 11.094 min Scan# 1054
Delta R.T. 0.012 min
Lab File: 050720K21.D
Acq: 8 May 2020 4:07 am

Tgt Ion: 43 Resp: 46720

Ion	Ratio	Lower	Upper
43	100		
58	33.7	14.0	54.0

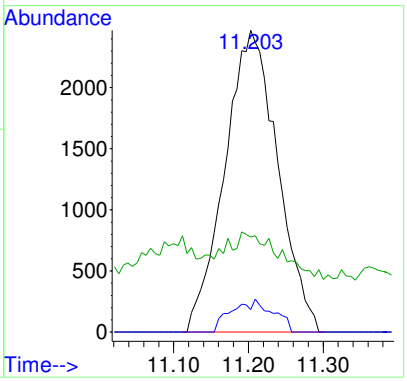


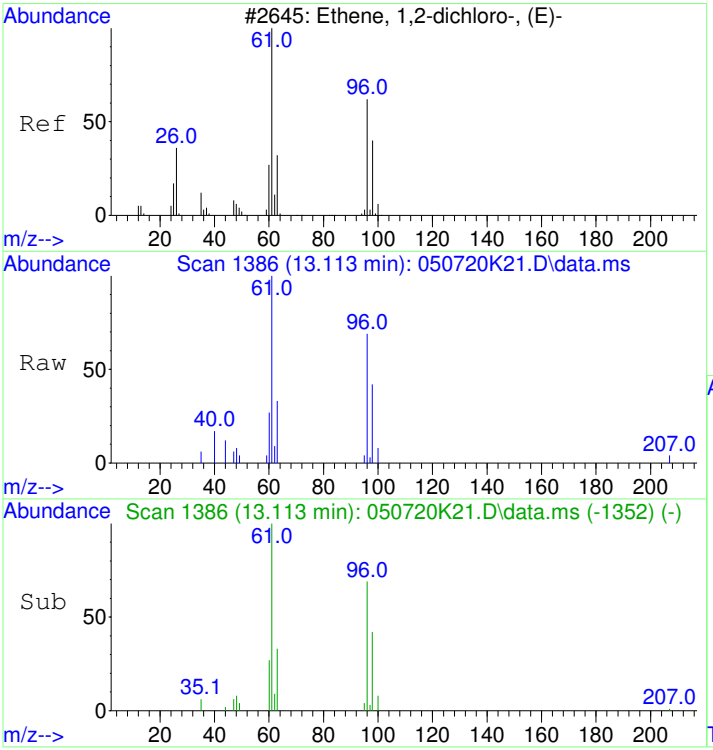


#15
Carbon disulfide
Concen: 0.52 ppbv
RT: 11.203 min Scan# 1072
Delta R.T. 0.006 min
Lab File: 050720K21.D
Acq: 8 May 2020 4:07 am

Tgt Ion: 76 Resp: 12123

Ion	Ratio	Lower	Upper
76	100		
78	8.5	0.0	29.1
44	6.9	0.0	33.0

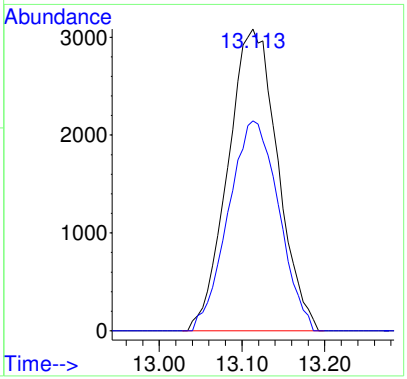


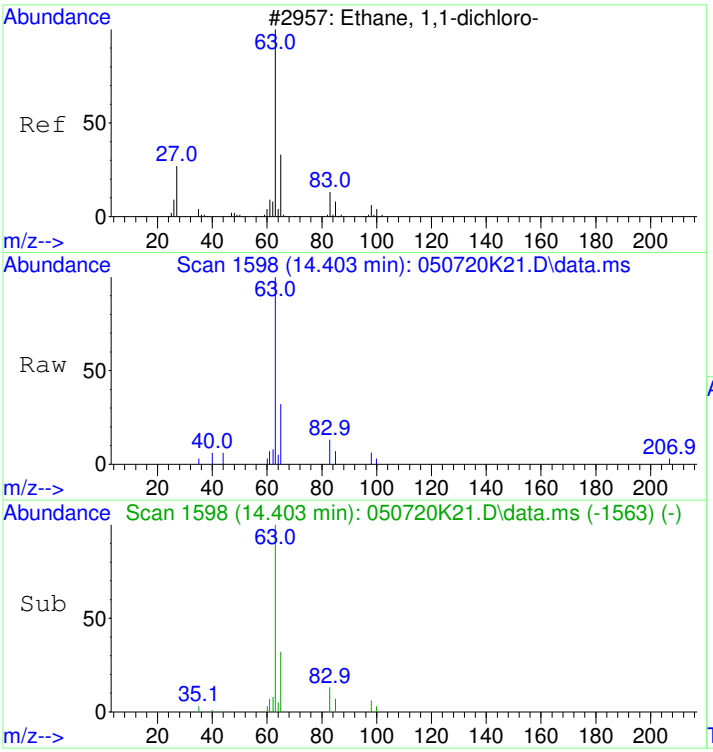


#20
trans-1,2-Dichloroethene
Concen: 1.08 ppbv
RT: 13.113 min Scan# 1386
Delta R.T. 0.006 min
Lab File: 050720K21.D
Acq: 8 May 2020 4:07 am

Tgt Ion: 61 Resp: 12886

Ion	Ratio	Lower	Upper
61	100		
96	70.4	50.6	90.6

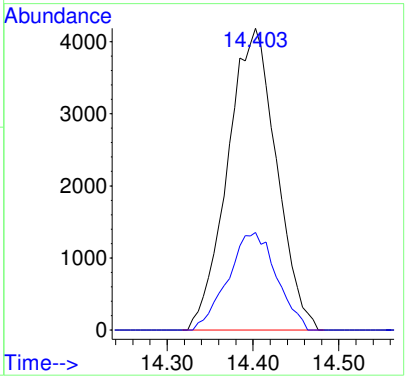


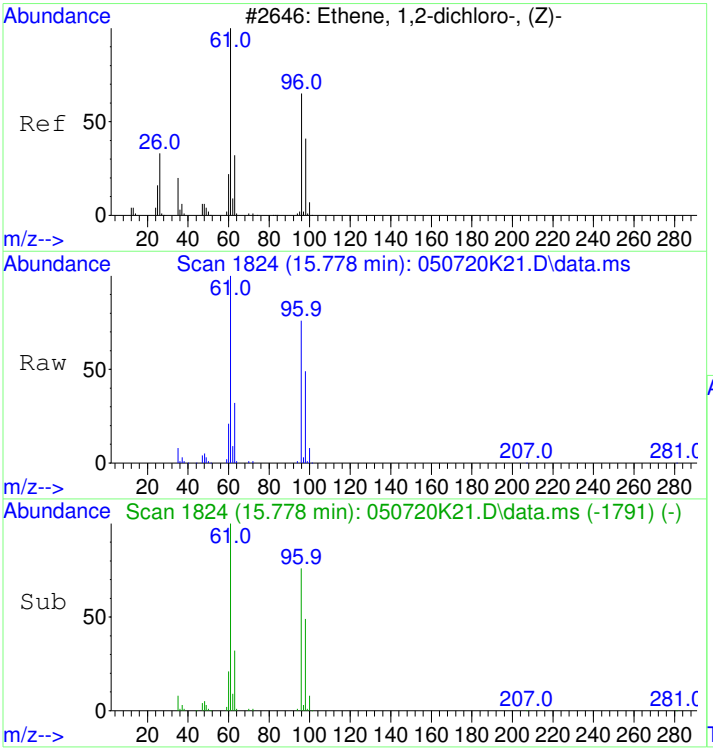


#22
1,1-Dichloroethane
Concen: 1.00 ppbv
RT: 14.403 min Scan# 1598
Delta R.T. 0.012 min
Lab File: 050720K21.D
Acq: 8 May 2020 4:07 am

Tgt Ion: 63 Resp: 16486

Ion	Ratio	Lower	Upper
63	100		
65	32.2	11.7	51.7

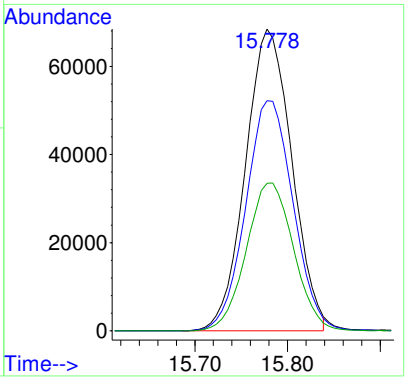


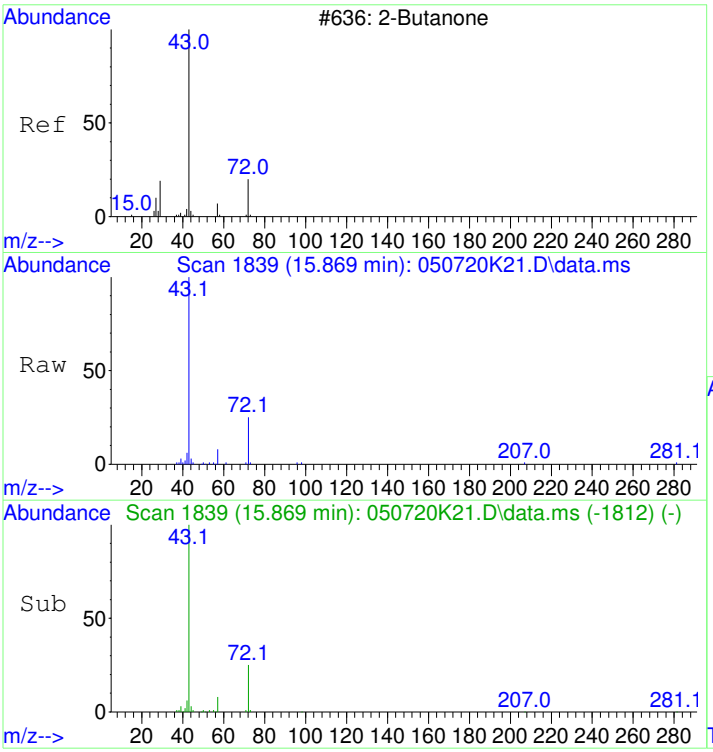


#24
cis-1,2-Dichloroethene
Concen: 20.21 ppbv
RT: 15.778 min Scan# 1824
Delta R.T. -0.000 min
Lab File: 050720K21.D
Acq: 8 May 2020 4:07 am

Tgt Ion: 61 Resp: 237928

Ion	Ratio	Lower	Upper
61	100		
96	77.4	55.7	95.7
98	0.0	0.0	20.0

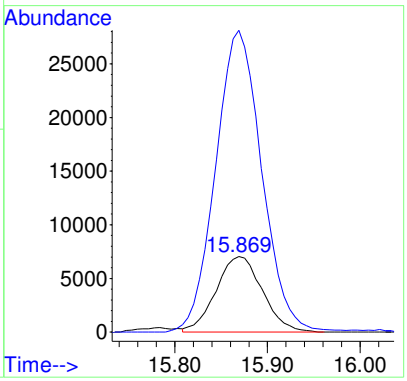


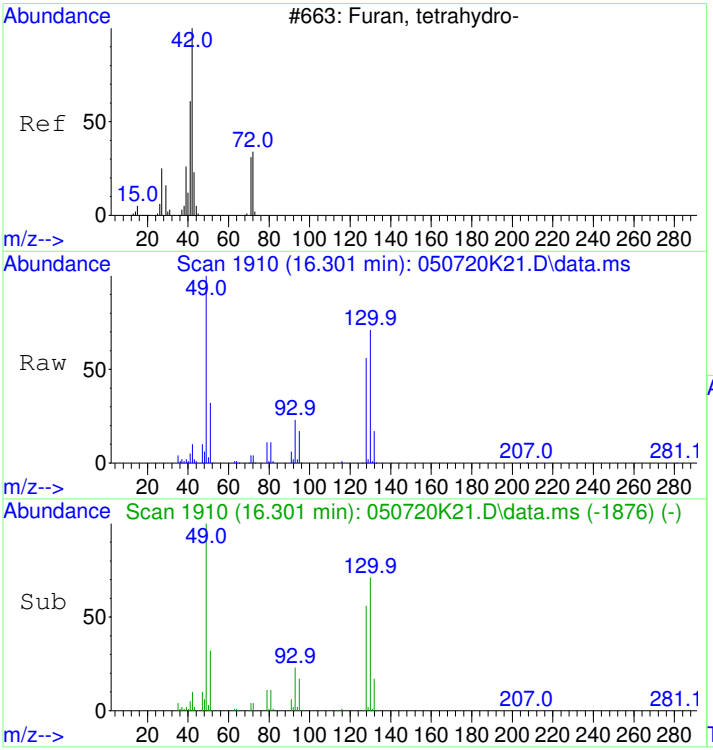


#25
2-Butanone (MEK)
Concen: 5.11 ppbv
RT: 15.869 min Scan# 1839
Delta R.T. 0.012 min
Lab File: 050720K21.D
Acq: 8 May 2020 4:07 am

Tgt Ion: 72 Resp: 24523

Ion	Ratio	Lower	Upper
72	100		
43	399.7	812.3	832.3#

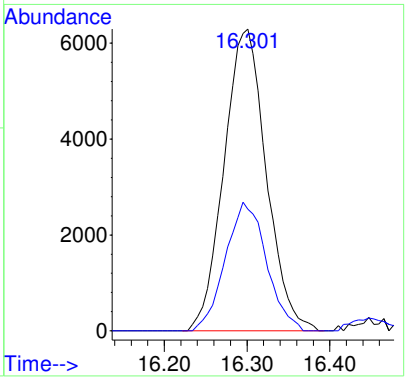


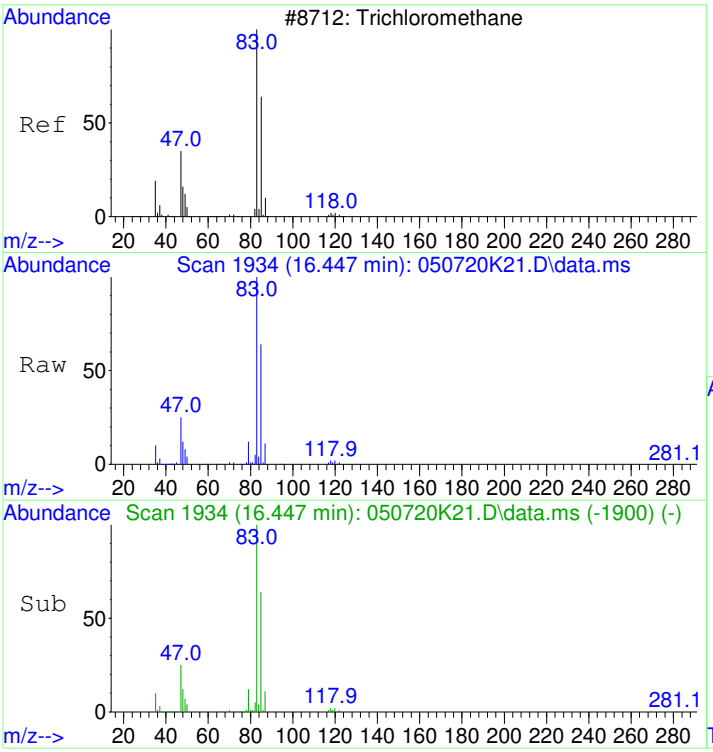


#27
Tetrahydrofuran
Concen: 1.96 ppbv
RT: 16.301 min Scan# 1910
Delta R.T. 0.018 min
Lab File: 050720K21.D
Acq: 8 May 2020 4:07 am

Tgt Ion: 42 Resp: 22363

Ion	Ratio	Lower	Upper
42	100		
72	41.3	21.2	61.2

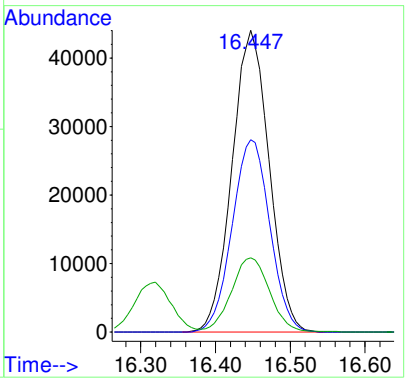


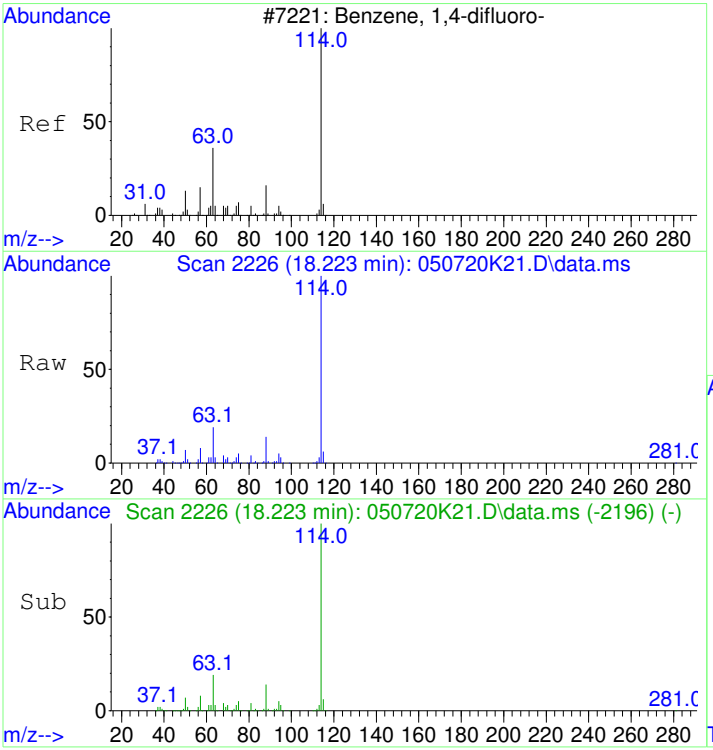


#28
Chloroform
Concen: 9.32 ppbv
RT: 16.447 min Scan# 1934
Delta R.T. 0.006 min
Lab File: 050720K21.D
Acq: 8 May 2020 4:07 am

Tgt Ion: 83 Resp: 152034

Ion	Ratio	Lower	Upper
83	100		
85	64.7	44.6	84.6
47	24.0	3.0	43.0

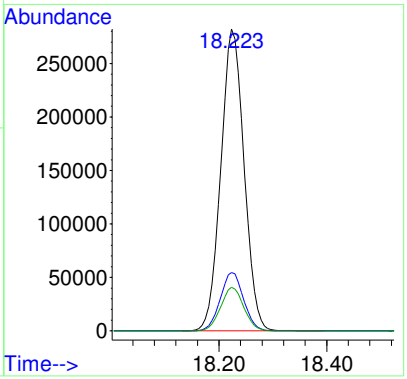


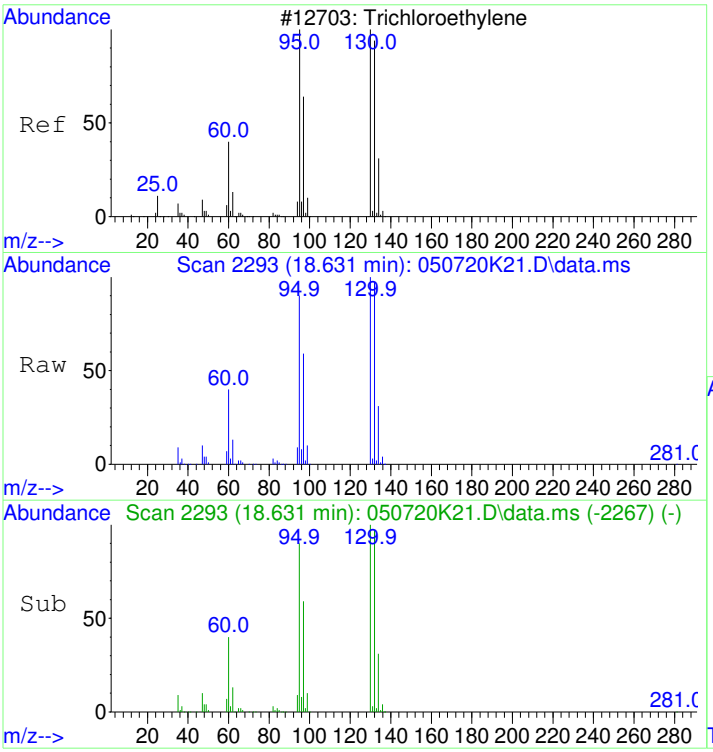


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 18.223 min Scan# 2226
Delta R.T. -0.000 min
Lab File: 050720K21.D
Acq: 8 May 2020 4:07 am

Tgt Ion:114 Resp: 844429

Ion	Ratio	Lower	Upper
114	100		
63	19.4	0.0	39.6
88	14.3	0.0	34.5

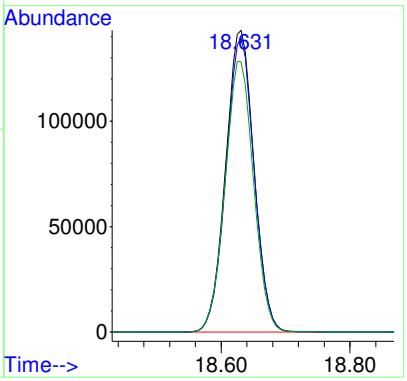


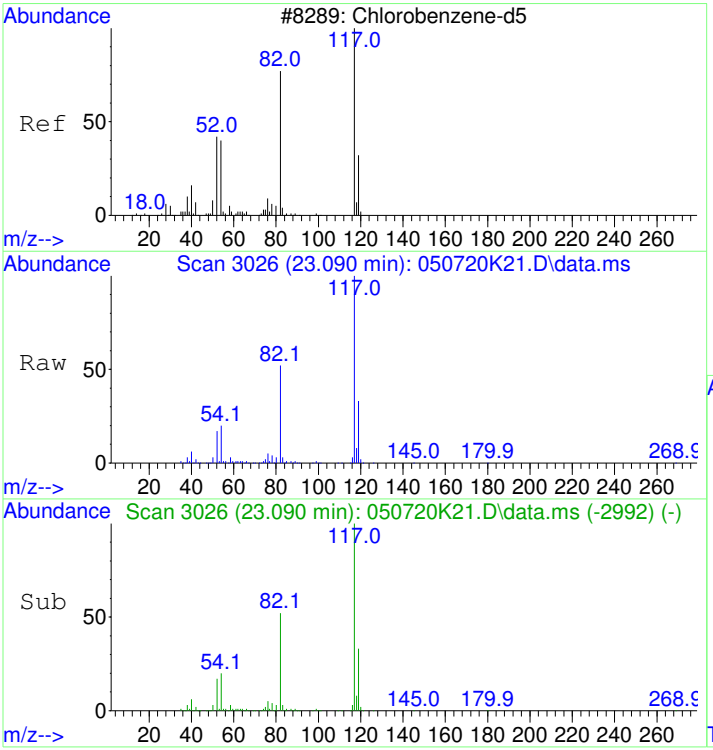


#37
Trichloroethene
Concen: 36.57 ppbv
RT: 18.631 min Scan# 2293
Delta R.T. 0.006 min
Lab File: 050720K21.D
Acq: 8 May 2020 4:07 am

Tgt Ion:130 Resp: 437625

Ion	Ratio	Lower	Upper
130	100		
132	96.9	75.5	115.5
95	90.3	71.3	111.3

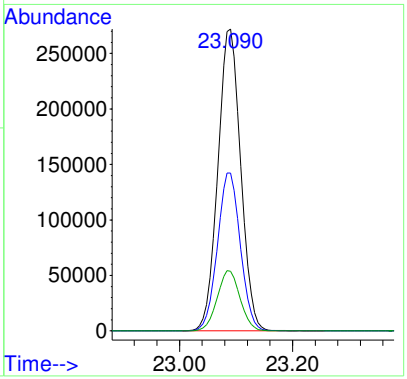


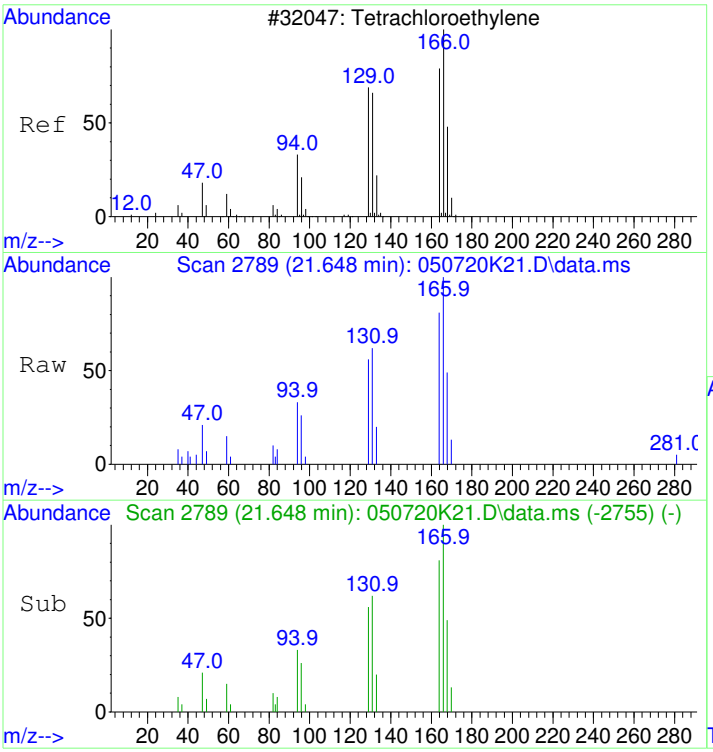


#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 23.090 min Scan# 3026
Delta R.T. 0.006 min
Lab File: 050720K21.D
Acq: 8 May 2020 4:07 am

Tgt Ion:117 Resp: 761572

Ion	Ratio	Lower	Upper
117	100		
82	52.5	32.5	72.5
54	19.9	0.0	39.6

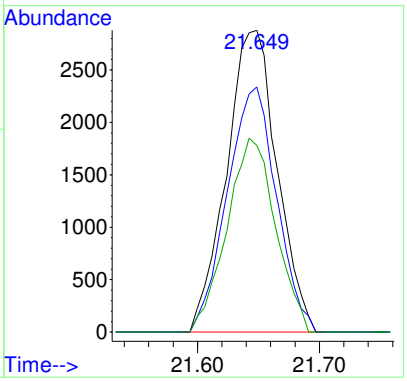


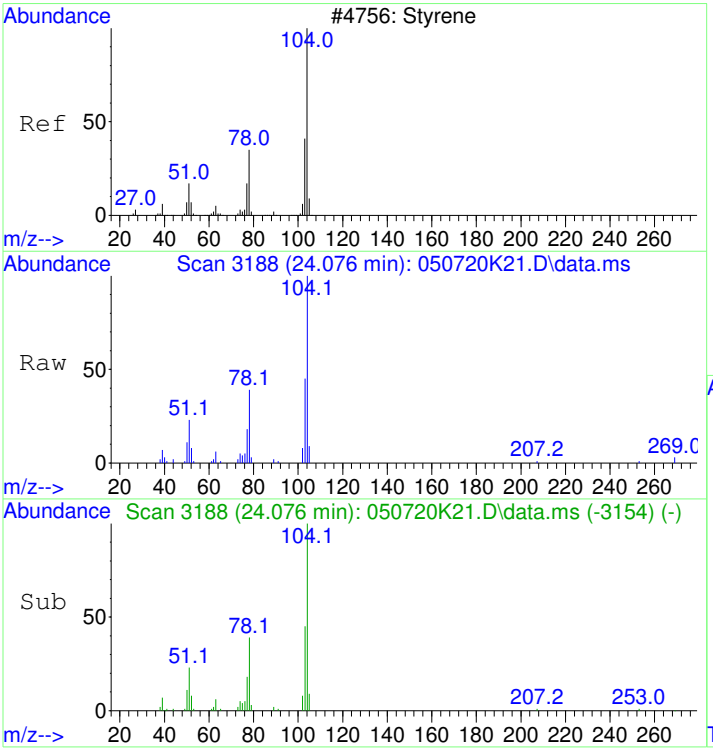


#47
Tetrachloroethene
Concen: 0.48 ppbv
RT: 21.648 min Scan# 2789
Delta R.T. 0.006 min
Lab File: 050720K21.D
Acq: 8 May 2020 4:07 am

Tgt Ion:166 Resp: 8311

Ion	Ratio	Lower	Upper
166	100		
164	79.1	58.4	98.4
131	61.6	43.1	83.1

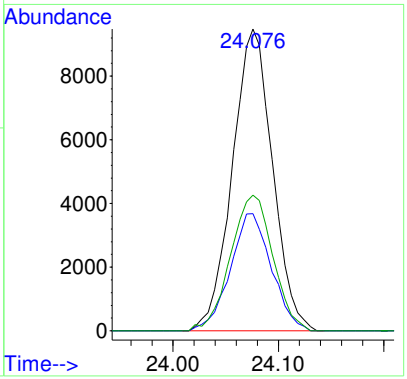




#55
Styrene
Concen: 1.44 ppbv
RT: 24.076 min Scan# 3188
Delta R.T. 0.006 min
Lab File: 050720K21.D
Acq: 8 May 2020 4:07 am

Tgt Ion:104 Resp: 25150

Ion	Ratio	Lower	Upper
104	100		
78	39.8	28.9	68.9
103	47.4	37.1	77.1



S20E003-IBL4

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K22.D
InstName : HP5973K
Acq On : 8 May 2020 5:00 am
Operator : EM
Sample : S20E003-IBL4
Misc : 200ml 6L CAN #25 RECERTIFICATION
ALS Vial : 31 Sample Multiplier: 1

RE-CLEAN

Quant Time: May 08 09:16:35 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

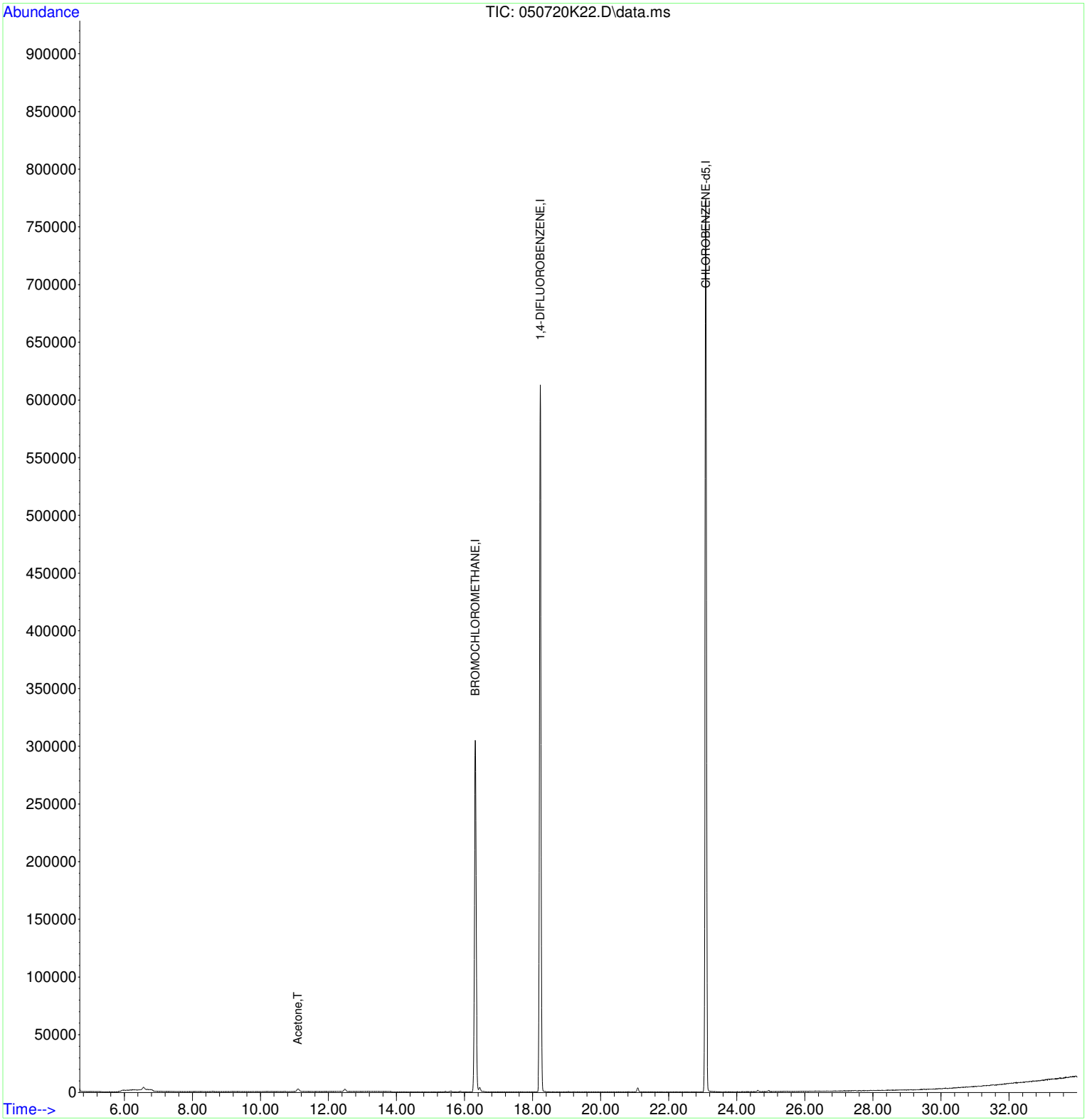
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	16.313	49	275240	19.60	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.223	114	857832	19.60	ppbv	0.00
43) CHLOROBENZENE-d5	23.090	117	757005	19.60	ppbv	0.00
Target Compounds						Qvalue
14) Acetone	11.093	43	8098	0.63	ppbv	95

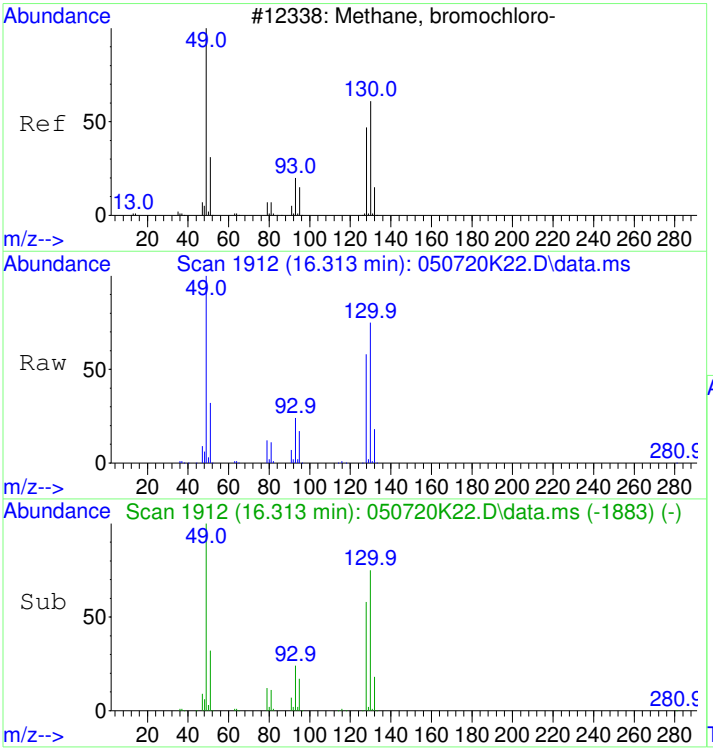
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050720K_FSAA\
Data File : 050720K22.D
InstName : HP5973K
Acq On : 8 May 2020 5:00 am
Operator : EM
Sample : S20E003-IBL4
Misc : 200ml 6L CAN #25 RECERTIFICATION
ALS Vial : 31 Sample Multiplier: 1

Quant Time: May 08 09:16:35 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

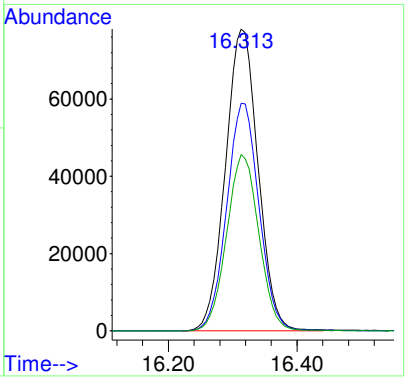


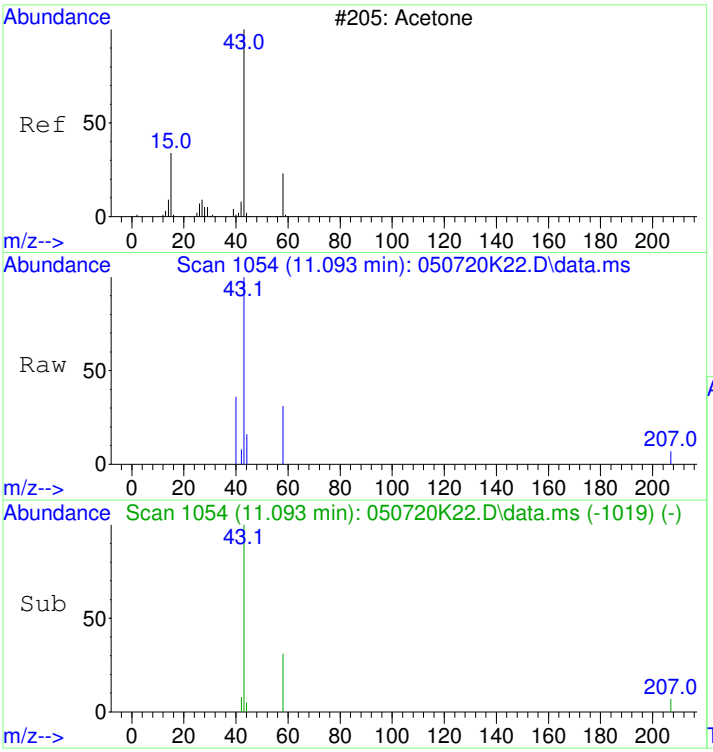


#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 16.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 050720K22.D
Acq: 8 May 2020 5:00 am

Tgt Ion: 49 Resp: 275240

Ion	Ratio	Lower	Upper
49	100		
130	74.6	51.1	91.1
128	57.3	35.0	75.0

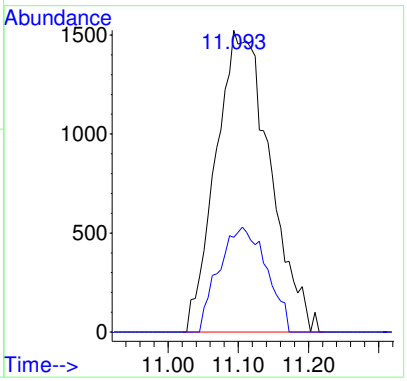


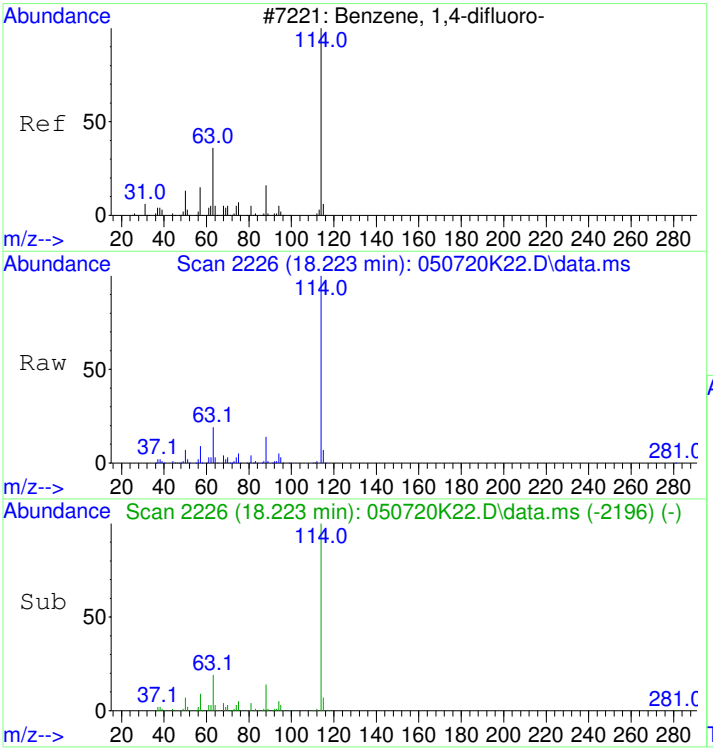


#14
Acetone
Concen: 0.63 ppbv
RT: 11.093 min Scan# 1054
Delta R.T. 0.012 min
Lab File: 050720K22.D
Acq: 8 May 2020 5:00 am

Tgt Ion: 43 Resp: 8098

Ion	Ratio	Lower	Upper
43	100		
58	30.9	14.0	54.0

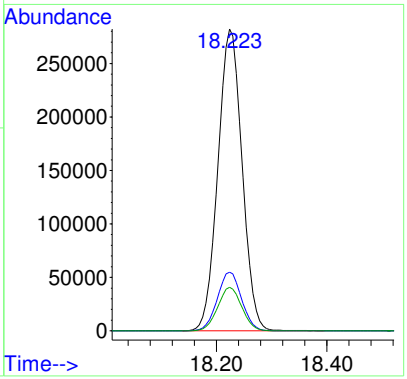


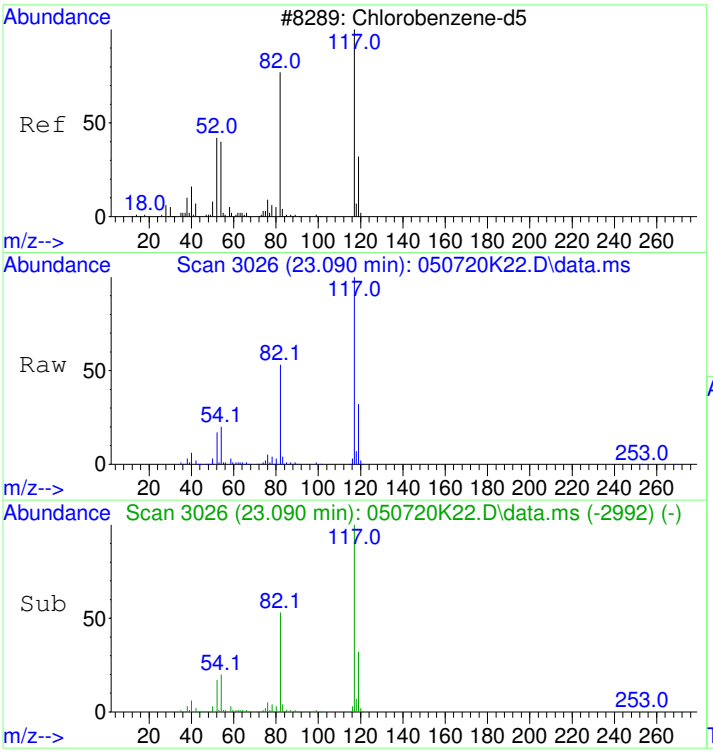


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 18.223 min Scan# 2226
Delta R.T. -0.000 min
Lab File: 050720K22.D
Acq: 8 May 2020 5:00 am

Tgt Ion:114 Resp: 857832

Ion	Ratio	Lower	Upper
114	100		
63	19.5	0.0	39.6
88	14.3	0.0	34.5

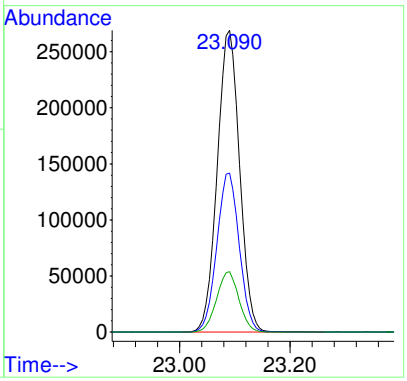




#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 23.090 min Scan# 3026
Delta R.T. 0.006 min
Lab File: 050720K22.D
Acq: 8 May 2020 5:00 am

Tgt Ion:117 Resp: 757005

Ion	Ratio	Lower	Upper
117	100		
82	52.7	32.5	72.5
54	19.9	0.0	39.6



SEQUENCE

S20E004

Sequence Date: 05/08/2020

Instrument: HP5973K

Sequence Analyses:

VOCs, Soil Gas

ANALYST / REVIEWER - DATA REVIEW CHECKLIST

BATCH #:	B20E003	SEQUENCE #:	S20E004 05/08/20
BATCH #:	+ CAN CERTIFICATION	ANALYSIS:	TO15 HP5973K

	CHECKLIST ITEM	N/A	ANALYST Y/N	REVIEWER Y/N	IDENTIFY OUTLIERS / COMMENTS
DOCUMENTATION	ANALYST: Bench sheet(s) attached? REVIEWER: Bench sheet(s) reviewed?	☐	Y	Y	
	ANALYST: Sequence log(s) attached? REVIEWER: Sequence log(s) reviewed?	☐	Y	Y	
	ANALYST: Every run has a PDF in LIMS? REVIEWER: Every PDF reviewed?	☐	Y	Y	
INITIAL CALIBRATION	Date of Initial Calibration used: If applicable, note date of "Last Update" in Comments.	04/01/20 Thu Apr 02, 2020 09:57:00			
	Initial Calibration ID (LIMS number):	2004002 / S20D002			
	ICAL within QC criteria?	☑			OK
	SCV within QC criteria?	☑			2-Propanol = 140%; Styrene = 182%
INSTRUMENT / QC CHECKS	Tune or degradation checks within QC criteria?	☐	Y	Y	PASSED
	CCV(s) within QC criteria?	☐	Y	Y	OK
	QLS(s) within QC criteria?	☐	Y	Y	Benzyl Chloride and 1,2,4,-TCB
	CB(s) or storage blank(s) within QC criteria?	☑			
	Other instrument checks within QC criteria? Specify if applicable.	☑			
BATCH QCs	Method blanks < 1/2 QL?	☐	Y	Y	CLEAN
	LCS(s) or SRM(s) within QC criteria?	☐	Y	Y	OK
	MSs/MSDs and/or DUPs within QC criteria?	☑			
	Other method-specific QCs within QC criteria? Specify if applicable.	☑			

ANALYST / REVIEWER - DATA REVIEW CHECKLIST

BATCH #:	B20E003	SEQUENCE #:	S20E004	05/08/20
BATCH #:	+ CAN CERTIFICATION	ANALYSIS:	TO15	HP5973K

	CHECKLIST ITEM	N/A	ANALYST Y/N	REVIEWER Y/N	IDENTIFY OUTLIERS / COMMENTS
IS / SS	Internal standards within QC criteria?	☐	Y	Y	
	Surrogates within QC criteria?	☑			
SAMPLE DATA	Were samples prepared & analyzed within holding time?	☐	Y	Y	
	If samples need to be re-run, were RE(s) made in LIMS?	☑			
	Do any samples need to be re-digested or re-extracted?	☑			
	Were all data qualifiers appropriately applied?	☐	Y	Y	
	Are problems, anomalies, discrepancies documented in LIMS? Specify if applicable.	☑			
MANUAL INT	Were manual integrations performed and documented? Specify if applicable.	☑			

APPROVALS	ANALYST INITIALS & DATE:	EM 05/11/20
	REVIEWED BY:	Rajabi, Ziyad Digitally signed by Rajabi, Ziyad Date: 2020.05.15 11:19:06 -07'00' SIGN HERE

COMMENTS

Injection Log

Directory: d:\MSDCHEM\1\2020\DATA\050820K_FSAA

Table of Contents

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	27	050820K01.D	1.	S20E004-TUN1	BFB 1901028	8 May 2020 11:21
2	29	050820K02.D	1.	S20E004-CCV1@B20E003-BS1	10ppbv 2014029@2014032	8 May 2020 12:12
3	27	050820K03.D	1.	S20E004-CRL1	1.0ppbv 2014026	8 May 2020 13:01
4	33	050820K04.D	1.	B20E003-BLK1	200ml BLANK	8 May 2020 13:54
5	11	050820K05.D	78.52	2005002-01RE2	20ml 2nd can dilution can #1106	8 May 2020 14:44
6	11	050820K06.D	78.52	2005002-01RE1	100ml 2nd can dilution can #1106	8 May 2020 15:35
7	11	050820K07.D	78.52	B20E003-DUP1	100ml 2nd can dilution DUP can #1106	8 May 2020 16:26
8	12	050820K08.D	3.32	2005002-03RE1	50ml REPRESS	8 May 2020 17:17
9	13	050820K09.D	3.22	2005002-07RE1	50ml REPRESS	8 May 2020 18:07
10	14	050820K10.D	3.89	2005002-08RE1	50ml REPRESS	8 May 2020 18:57
11	15	050820K11.D	9.19	2005002-12RE1	100ml REPRESS	8 May 2020 19:48
12	31	050820K12.D	1.	CAN #25	200ml RECERTIFICATION	8 May 2020 20:41
13	32	050820K13.D	1.	CAN #39	200ml RECERTIFICATION	8 May 2020 21:33

GC/MS QA-QC Check Report

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Tune File : D:\msdchem\1\2020\DATA\050820K_FSAA\050820K01.D
Tune Time : 8 May 2020 11:21 am

Daily Calibration File : D:\msdchem\1\2020\DATA\050820K_FSAA\050820K02.D

File	Sample	Surrogate Recovery %	Internal Standard Responses		
			254748	772213	725933
050820K02.D	S20E004-CCV1	254748	772213	725933	
050820K03.D	S20E004-CRL1	257403	796240	715187	
050820K04.D	B20E003-BLK1	254953	791487	705491	
050820K05.D	2005002-01RE2	254140	784522	698901	NOT USED
050820K06.D	2005002-01RE1	253504	777456	695089	
050820K07.D	B20E003-DUP1	249564	764658	686295	
050820K08.D	2005002-03RE1	245677	758641	678596	
050820K09.D	2005002-07RE1	245226	748482	670760	
050820K10.D	2005002-08RE1	246731	758710	683563	
050820K11.D	2005002-12RE1	243408	745766	670127	
050820K12.D	CAN #25	245345	755507	676082	
050820K13.D	CAN #39	241845	743754	664911	

(fails) - fails 24hr time check * - fails criteria

Created: Mon May 11 09:01:38 2020 HP5973K

Sequence Report

Name	Inlet	Pos.	Int Std	Cal Std	Sample	Method	Inject	Status
BFB	Two	T7	40	40	50	TO-15_A.CTD3	5/8/2020 11:21:29 AM	Completed
CCV	Two	T9	40	0	100	TO-15_A.CTD3	5/8/2020 12:12:11 PM	Completed
CRL	Two	T7	40	0	20	TO-15_A.CTD3	5/8/2020 1:01:57 PM	Completed
BLANK	Three	T3	40	0	200	TO-15_A.CTD3	5/8/2020 1:54:39 PM	Completed
2005002-01RE1	One	T1	40	0	20	TO-15_A.CTD3	5/8/2020 2:44:37 PM	Completed
2005002-01RE1	One	T1	40	0	100	TO-15_A.CTD3	5/8/2020 3:35:44 PM	Completed
2005002-01RE1 DUP	One	T1	40	0	100	TO-15_A.CTD3	5/8/2020 4:26:52 PM	Completed
2005002-03RE1	One	T2	40	0	50	TO-15_A.CTD3	5/8/2020 5:17:01 PM	Completed
2005002-07RE1	One	T3	40	0	50	TO-15_A.CTD3	5/8/2020 6:07:25 PM	Completed
2005002-08RE1	One	T4	40	0	50	TO-15_A.CTD3	5/8/2020 6:57:31 PM	Completed
2005002-12RE1	One	T5	40	0	100	TO-15_A.CTD3	5/8/2020 7:48:30 PM	Completed
CAN #25	Three	T1	40	0	200	TO-15_A.CTD3	5/8/2020 8:41:06 PM	Completed
CAN #39	Three	T2	40	0	200	TO-15_A.CTD3	5/8/2020 9:33:47 PM	Completed

Analysis Sequence

S20E004

Project: R20S18
Analysis: VOCs, Soil Gas

Instrument: HP5973K **Calibration ID:** 2004002 Printed: 05/11/2020 12:07 pm

Lab Number	Sample Name	Order	Analyzed Date	STD ID	ISTD ID	Sequenced By	File ID	Comments
S20E004-TUN1	BFB Tune	1	5/8/20 11:21	1901028		EM	050820K01.D	
S20E004-CCV1	CCV - TO15	2	5/8/20 12:12	2018025		EM	050820K02.D	
B20E003-BS1	LCS	3	5/8/20 12:12			EM	050820K02.D	
S20E004-CRL1	QLS - TO15	4	5/8/20 13:01	2018024		EM	050820K03.D	
B20E003-BLK1	Blank	5	5/8/20 13:54		2006146	EM	050820K04.D	
2005002-01RE2 A	277 Fairchild-SGR13-5-050620	6	5/8/20 14:44		2006146	EM	050820K05.D	
2005002-01RE1 A	277 Fairchild-SGR13-5-050620	7	5/8/20 15:35		2006146	EM	050820K06.D	
B20E003-DUP1	Duplicate	8	5/8/20 16:26		2006146	EM	050820K07.D	
2005002-03RE1 A	277 Fairchild-SGR6-5-050620	9	5/8/20 17:17		2006146	EM	050820K08.D	
2005002-07RE1 A	277 Fairchild-F23-RR1-PP	10	5/8/20 18:07		2006146	EM	050820K09.D	
2005002-08RE1 A	272 Ariana-MH-SS-050620	11	5/8/20 18:57		2006146	EM	050820K10.D	
2005002-12RE1 A	261 Fairchild-MH-SS-050620	12	5/8/20 19:48		2006146	EM	050820K11.D	

Sequence Comments

Reagents

Reagent #	Description

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SEQUENCE DATA

S20E004

S20E004-TUN1

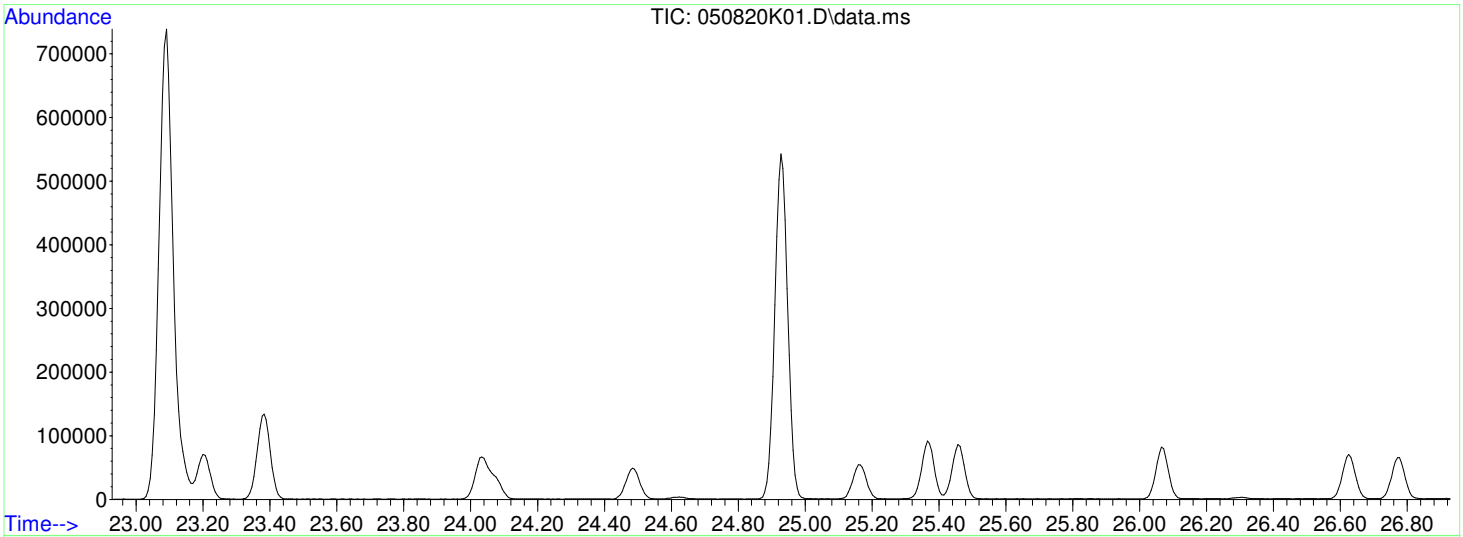
Table of Contents

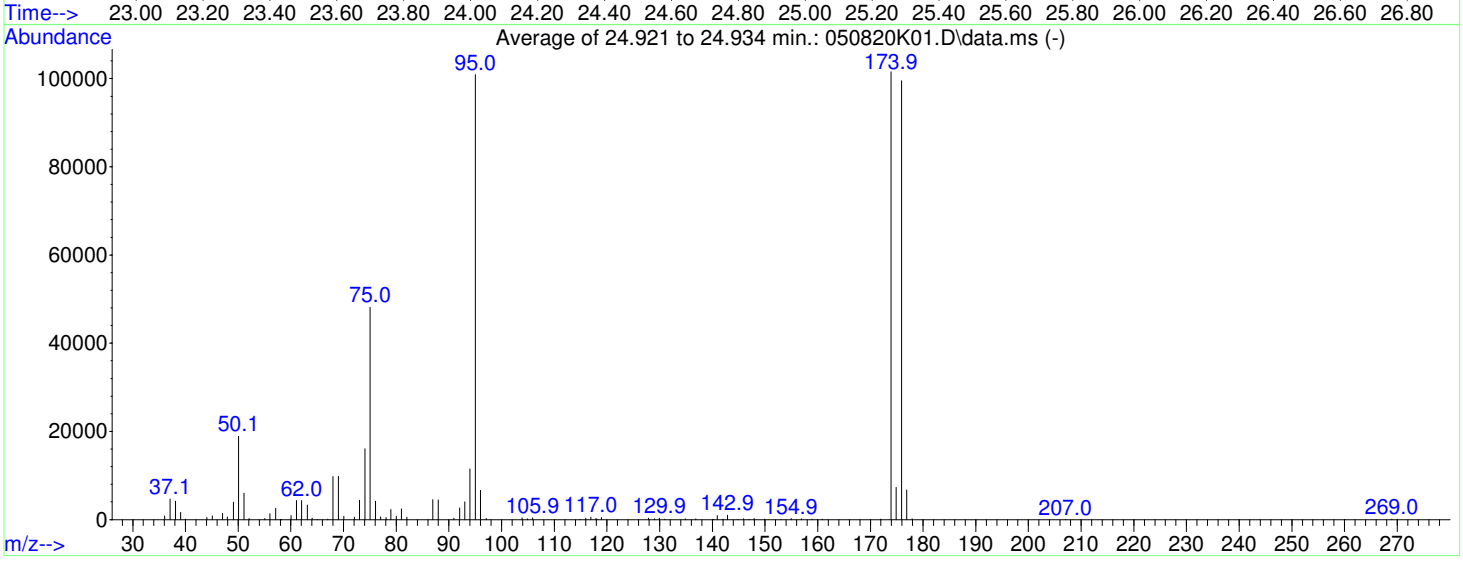
Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K01.D
InstName : HP5973K
Acq On : 8 May 2020 11:21 am
Operator : EM
Sample : S20E004-TUN1
Misc : BFB 1901028
ALS Vial : 27 Sample Multiplier: 1

REVIEWED
By EM at 12:24 pm, May 08, 2020

Integration File: lscint.p

Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Title : TO15
Last Update : Thu Apr 02 09:57:00 2020



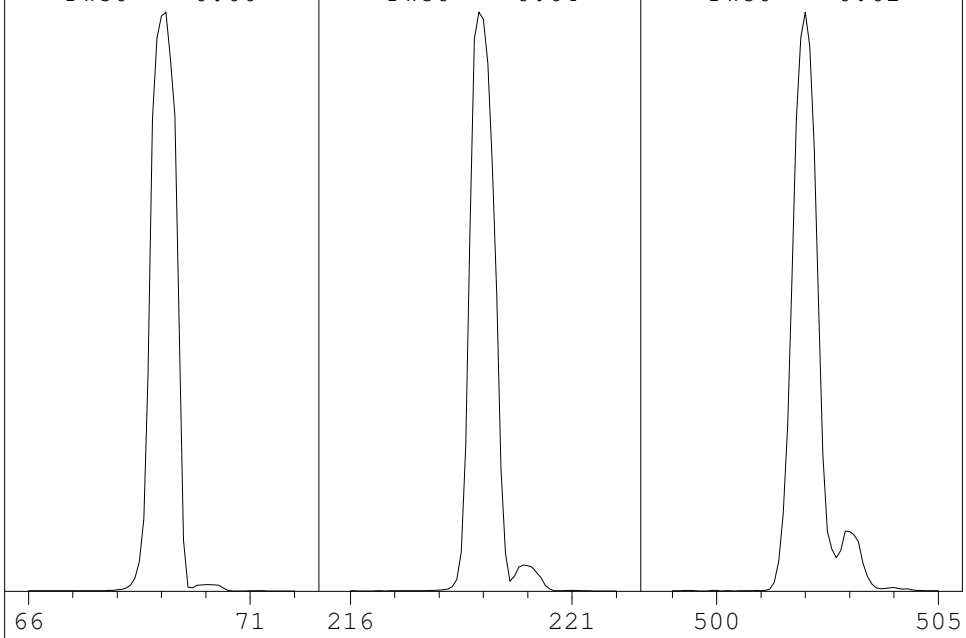


AutoFind: Scans 3327, 3328, 3329; Background Corrected with Scan 3312

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.7	18875	PASS
75	95	30	66	47.7	48123	PASS
95	95	100	100	100.0	100885	PASS
96	95	5	9	6.6	6648	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	100.7	101595	PASS
175	174	4	9	7.2	7265	PASS
176	174	93	101	97.9	99499	PASS
177	176	5	9	6.7	6703	PASS

Fri May 08 10:51:06 2020 Instrum
C:\msdchem\1\5973N\bfb050820K.U US03960556

Mass	69.10	Mass	218.90	Mass	502.00
Ab	747718	Ab	465870	Ab	45770
Pw50	0.66	Pw50	0.64	Pw50	0.61

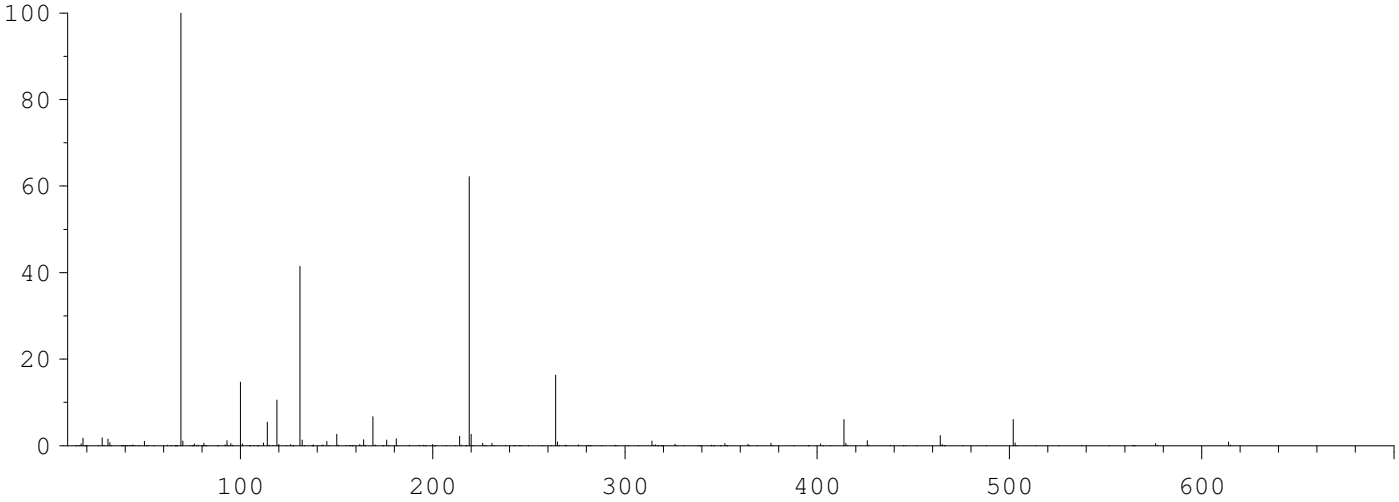


Ion Pol	Pos	MassGain	72
		MassOffs	-8
Emission	34.6	AmuGain	1990
EIEnrgy	69.9	AmuOffs	129
Filament	2	Wid219	-0.031
		DC Pol	Pos
Repeller	32.13		
IonFcus	90.2	HEDEnab	On
EntLens	19.0	EMVolts	1165
EntOffs	19.83		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	Turbo Speed	100
MS Quad	150		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
180 peaks Base: 69.00 Abundance: 684736



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	684736	100.00	70.00	7366	1.08
219.00	425664	62.16	220.00	18192	4.27
502.00	41376	6.04	503.00	4220	10.20

Air/Water Check: H20~1.79% N2~1.80% O2~0.71% CO2~0.19% N2/H2O~100.72%

Column(1) Flow: 0.873 Column(2): 0 ml/min. Interface Temp: 230

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502; EM Gain 142929
Repeller Maximum 35 volts using ion 219; Gain Factor 1.43

MassGain Values(Samples): 72(3) 72(2) 72(1) 72(0) 72(FS)

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	129.0	129.0	129.0	129.0	129.0	129.0	129.0
Entrance Lens Offset:	19.8	19.8	19.8	19.8	19.8	19.8	19.8

S20E004-CCV1

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K02.D
InstName : HP5973K
Acq On : 8 May 2020 12:12 pm
Operator : EM
Sample : S20E004-CCV1@B20E003-BS1
Misc : 10ppbv 2014029@2014032
ALS Vial : 29 Sample Multiplier: 1

REVIEWED
By EM at 1:39 pm, May 08, 2020

Quant Time: May 08 13:38:54 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	88	0.00
2	T	Propene	0.571	0.518	9.3	83	0.00
3	T	Dichlorodifluoromethane	1.523	1.427	6.3	84	0.00
4	T	1,2-Dichlorotetrafluoroetha	1.739	1.595	8.3	82	0.00
5	T	Chloromethane	0.589	0.528	10.4	81	0.00
6	T	Vinyl chloride	0.774	0.761	1.7	88	0.00
7	T	1,3-Butadiene	0.613	0.587	4.2	87	0.00
8	T	Bromomethane	0.542	0.491	9.4	83	0.00
9	T	Chloroethane	0.365	0.328	10.1	82	0.00
10	T	Bromoethene	0.529	0.475	10.2	82	0.00
11	T	Trichlorofluoromethane	1.450	1.373	5.3	86	0.00
12	T	1,1,2-Trichloro-1,2,2-trifl	1.026	0.974	5.1	86	0.00
13	T	1,1-Dichloroethene	0.920	0.832	9.6	82	0.00
14	T	Acetone	0.914	0.819	10.4	83	0.00
15	T	Carbon disulfide	1.674	1.514	9.6	83	0.01
16	T	2-Propanol	0.891	0.818	8.2	82	0.01
17	T	Allyl chloride	0.819	0.730	10.9	81	0.01
18	T	Dichloromethane	0.779	0.678	13.0	84	0.00
19	T	tert-Butyl methyl ether (MT	1.777	1.578	11.2	81	0.00
20	T	trans-1,2-Dichloroethene	0.854	0.774	9.4	83	0.00
21	T	Hexane	1.156	1.044	9.7	82	0.00
22	T	1,1-Dichloroethane	1.178	1.075	8.7	83	0.00
23	T	Vinyl acetate	1.431	1.338	6.5	83	0.01
24	T	cis-1,2-Dichloroethene	0.843	0.777	7.8	82	0.00
25	T	2-Butanone (MEK)	0.344	0.316	8.1	82	0.01
26	T	Ethyl acetate	0.214	0.190	11.2	81	0.00
27	T	Tetrahydrofuran	0.816	0.765	6.2	84	0.00
28	T	Chloroform	1.169	1.102	5.7	85	0.00
29	T	Cyclohexane	1.164	1.048	10.0	82	0.00
30	T	1,1,1-Trichloroethane	1.159	1.120	3.4	87	0.00
31	T	Carbon tetrachloride	1.204	1.175	2.4	88	0.00
32	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	89	0.00
33	T	Benzene	0.665	0.622	6.5	84	0.00
34	T	2,2,4-Trimethylpentane	1.171	1.066	9.0	82	0.00
35	T	1,2-Dichloroethane	0.261	0.253	3.1	87	0.00
36	T	Heptane	0.429	0.402	6.3	84	0.00
37	T	Trichloroethene	0.278	0.265	4.7	86	0.00
38	T	1,2-Dichloropropane	0.249	0.230	7.6	82	0.00
39	T	1,4-Dioxane	0.156	0.139	10.9	80	0.00
40	T	Bromodichloromethane	0.431	0.412	4.4	86	0.00
41	T	cis-1,3-Dichloropropene	0.383	0.357	6.8	81	0.00
42	T	4-Methyl-2-pentanone (MIBK)	0.499	0.489	2.0	86	0.00
43	I	CHLOROBENZENE-d5	1.000	1.000	0.0	90	0.00
44	T	Toluene	0.867	0.804	7.3	85	0.00
45	T	trans-1,3-Dichloropropene	0.392	0.358	8.7	81	0.00
46	T	1,1,2-Trichloroethane	0.284	0.264	7.0	84	0.00
47	T	Tetrachloroethene	0.442	0.430	2.7	89	0.00
48	T	2-Hexanone	0.499	0.492	1.4	87	0.00
49	T	Chlorodibromomethane	0.475	0.455	4.2	87	0.00
50	T	1,2-Dibromoethane (EDB)	0.415	0.384	7.5	84	0.00
51	T	Chlorobenzene	0.712	0.672	5.6	86	0.00

Evaluate Continuing Calibration Report

Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K02.D
InstName : HP5973K
Acq On : 8 May 2020 12:12 pm
Operator : EM
Sample : S20E004-CCV1@B20E003-BS1
Misc : 10ppbv 2014029@2014032
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 08 13:38:54 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
52	T	Ethylbenzene	1.140	1.073	5.9	85	0.00
53	T	m&p-Xylene	0.869	0.831	4.4	86	0.00
54	T	o-Xylene	0.893	0.854	4.4	85	0.00
55	T	Styrene	0.450	0.416	7.6	81	0.00
56	T	Bromoform	0.515	0.509	1.2	87	0.00
57	T	1,1,2,2-Tetrachloroethane	0.654	0.629	3.8	85	0.00
58	T	4-Ethyltoluene	1.393	1.331	4.5	85	0.00
59	T	1,3,5-Trimethylbenzene	1.045	1.042	0.3	88	0.00
60	T	1,2,4-Trimethylbenzene	1.055	1.047	0.8	86	0.00
61	T	1,3-Dichlorobenzene	0.778	0.748	3.9	84	0.00
62	T	1,4-Dichlorobenzene	0.775	0.731	5.7	82	0.00
63	T	Benzyl chloride	0.845	0.783	7.3	77	0.00
64	T	1,2-Dichlorobenzene	0.762	0.745	2.2	85	0.00
65	T	1,2,4-Trichlorobenzene	0.657	0.595	9.4	76	0.00
66	T	Hexachlorobutadiene	0.704	0.730	-3.7	90	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K02.D
InstName : HP5973K
Acq On : 8 May 2020 12:12 pm
Operator : EM
Sample : S20E004-CCV1@B20E003-BS1
Misc : 10ppbv 2014029@2014032
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 08 13:38:54 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	16.319	49	254748	19.60	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	18.223	114	772213	19.60	ppbv		0.00
43) CHLOROBENZENE-d5	23.090	117	725933	19.60	ppbv		0.00
Target Compounds							Qvalue
2) Propene	5.004	41	74041	9.97	ppbv		99
3) Dichlorodifluoromethane	5.101	85	189228	9.56	ppbv		100
4) 1,2-Dichlorotetrafluor...	5.491	85	201131	8.90	ppbv		100
5) Chloromethane	5.734	50	74131	9.69	ppbv		99
6) Vinyl chloride	6.075	62	102802	10.22	ppbv		99
7) 1,3-Butadiene	6.178	54	78563	9.86	ppbv		99
8) Bromomethane	7.243	94	65074	9.23	ppbv		99
9) Chloroethane	7.614	64	43431	9.16	ppbv		99
10) Bromoethene	8.252	106	67271	9.79	ppbv		100
11) Trichlorofluoromethane	8.380	101	167780	8.90	ppbv		100
12) 1,1,2-Trichloro-1,2,2-...	10.382	151	126585	9.50	ppbv		98
13) 1,1-Dichloroethene	10.509	61	112445	9.41	ppbv		100
14) Acetone	11.087	43	114985	9.68	ppbv		98
15) Carbon disulfide	11.209	76	216450	9.95	ppbv		99
16) 2-Propanol	11.598	45	116889	10.10	ppbv		95
17) Allyl chloride	11.970	41	104325	9.80	ppbv		100
18) Dichloromethane	12.487	49	88058	8.70	ppbv		99
19) tert-Butyl methyl ethe...	13.028	73	219410	9.50	ppbv		100
20) trans-1,2-Dichloroethene	13.113	61	109689	9.89	ppbv		100
21) Hexane	13.594	57	138392	9.21	ppbv		99
22) 1,1-Dichloroethane	14.397	63	134171	8.76	ppbv		100
23) Vinyl acetate	14.506	43	191308	10.29	ppbv		100
24) cis-1,2-Dichloroethene	15.778	61	101987	9.30	ppbv	#	100
25) 2-Butanone (MEK)	15.869	72	43136	9.65	ppbv	#	95
26) Ethyl acetate	15.869	61	25495	9.15	ppbv	#	92
27) Tetrahydrofuran	16.289	42	100386	9.46	ppbv		99
28) Chloroform	16.447	83	148936	9.80	ppbv		100
29) Cyclohexane	16.623	56	140261	9.27	ppbv		99
30) 1,1,1-Trichloroethane	16.703	97	151428	10.05	ppbv		99
31) Carbon tetrachloride	16.940	117	154285	9.86	ppbv		99
33) Benzene	17.439	78	249813	9.53	ppbv		99
34) 2,2,4-Trimethylpentane	17.317	57	432759	9.38	ppbv		99
35) 1,2-Dichloroethane	17.664	62	98515	9.60	ppbv		99
36) Heptane	17.682	43	163098	9.65	ppbv		100
37) Trichloroethene	18.631	130	112848	10.31	ppbv		99
38) 1,2-Dichloropropane	19.148	63	91696	9.35	ppbv		98
39) 1,4-Dioxane	19.325	88	56939	9.27	ppbv		99
40) Bromodichloromethane	19.604	83	168619	9.92	ppbv		100
41) cis-1,3-Dichloropropene	20.353	75	140633	9.31	ppbv		98
42) 4-Methyl-2-pentanone (...	20.560	43	202333	10.29	ppbv		100
44) Toluene	20.809	91	303831	9.46	ppbv		99
45) trans-1,3-Dichloropropene	21.290	75	127186	8.77	ppbv		98
46) 1,1,2-Trichloroethane	21.600	97	99740	9.49	ppbv		98
47) Tetrachloroethene	21.649	166	162305	9.92	ppbv		99
48) 2-Hexanone	21.898	43	187547	10.15	ppbv		99
49) Chlorodibromomethane	22.208	129	183581	10.44	ppbv		99
50) 1,2-Dibromoethane (EDB)	22.445	107	148054	9.62	ppbv		99
51) Chlorobenzene	23.133	112	256430	9.72	ppbv		100
52) Ethylbenzene	23.200	91	409468	9.69	ppbv		99
53) m&p-Xylene	23.382	91	628197	19.51	ppbv		100
54) o-Xylene	24.033	91	316421	9.57	ppbv		100

Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K02.D
InstName : HP5973K
Acq On : 8 May 2020 12:12 pm
Operator : EM
Sample : S20E004-CCV1@B20E003-BS1
Misc : 10ppbv 2014029@2014032
ALS Vial : 29 Sample Multiplier: 1

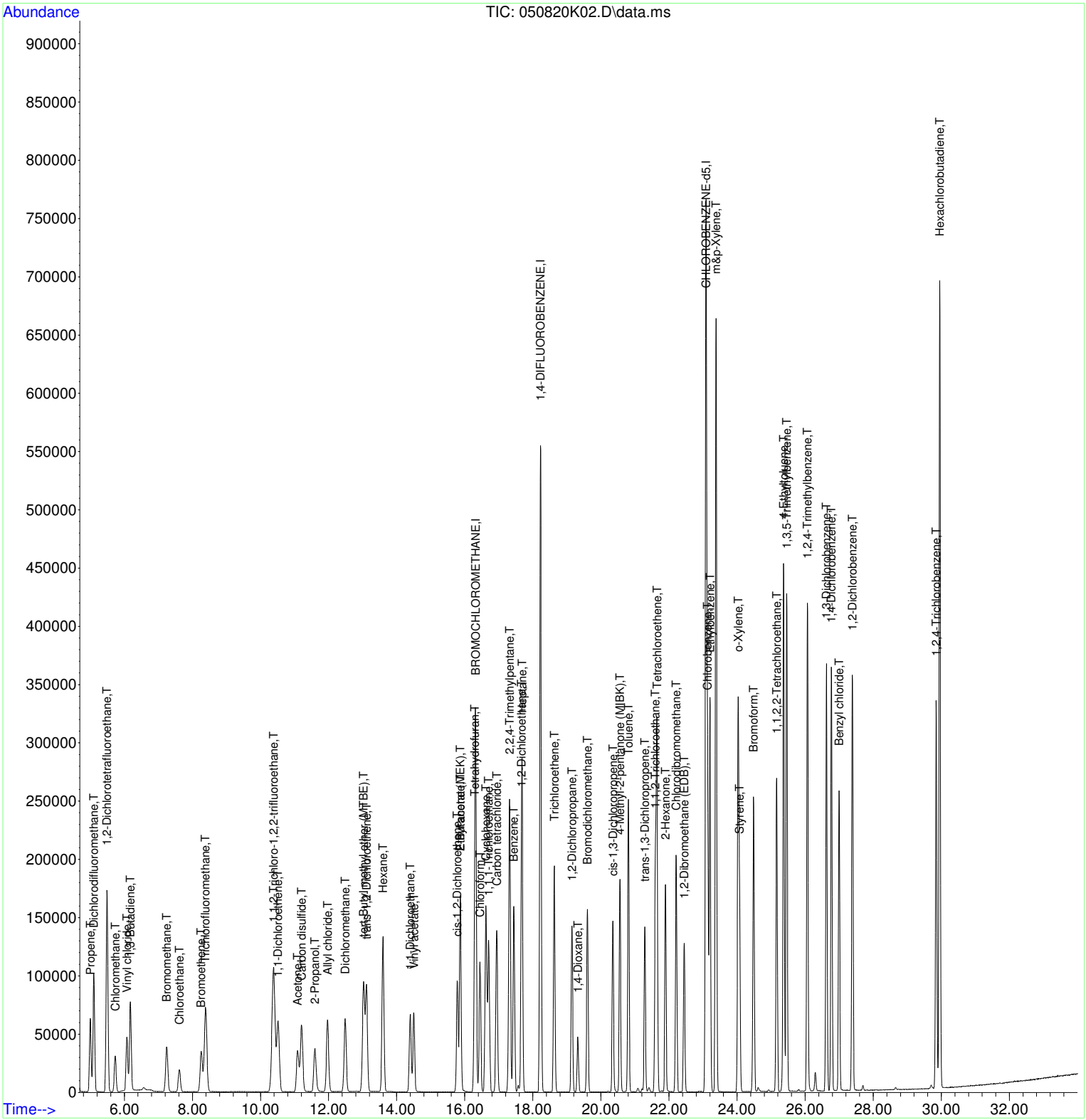
Quant Time: May 08 13:38:54 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
55) Styrene	24.076	104	151114	9.07 ppbv	98
56) Bromoform	24.483	173	207327	10.87 ppbv	100
57) 1,1,2,2-Tetrachloroethane	25.165	83	230567	9.52 ppbv	100
58) 4-Ethyltoluene	25.366	105	502933	9.75 ppbv	99
59) 1,3,5-Trimethylbenzene	25.457	105	393630	10.17 ppbv	99
60) 1,2,4-Trimethylbenzene	26.065	105	395607	10.12 ppbv	100
61) 1,3-Dichlorobenzene	26.625	146	277140	9.61 ppbv	100
62) 1,4-Dichlorobenzene	26.771	146	270643	9.42 ppbv	100
63) Benzyl chloride	26.996	91	319053	10.20 ppbv	100
64) 1,2-Dichlorobenzene	27.385	146	270414	9.58 ppbv	99
65) 1,2,4-Trichlorobenzene	29.849	180	198204	8.15 ppbv	100
66) Hexachlorobutadiene	29.953	225	248646	9.54 ppbv	100

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

Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K02.D
InstName : HP5973K
Acq On : 8 May 2020 12:12 pm
Operator : EM
Sample : S20E004-CCV1@B20E003-BS1
Misc : 10ppbv 2014029@2014032
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 08 13:38:54 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration



REVIEWED
By EM at 1:39 pm, May 08, 2020

LCS REPORT

Instrument Name: HP5973K
Sample Name: S20E004-CCV1@B20E003-BS1
Misc Info: 10ppbv 2014029@2014032
Date Acquired: 5/8/2020 12:12
QLast Update: Thu Apr 02 09:57:00 2020
Operator: EM

#	Name	Ret Time	Amount	Concentration	%R	QC	LIMIT	STATUS
1)	BROMOCHLOROMETHANE	16.32	#N/A	19.60	#N/A	70.0	130.0	#N/A
2)	Propene	5.00	11.00	9.97	91%	72.0	114.0	pass
3)	Dichlorodifluoromethane	5.10	10.20	9.56	94%	73.0	120.0	pass
4)	1,2-Dichlorotetrafluoroethane	5.49	9.70	8.90	92%	74.0	116.0	pass
5)	Chloromethane	5.73	10.80	9.69	90%	73.0	113.0	pass
6)	Vinyl chloride	6.07	10.40	10.22	98%	68.0	119.0	pass
7)	1,3-Butadiene	6.18	10.30	9.86	96%	68.0	120.0	pass
8)	Bromomethane	7.24	10.20	9.23	90%	71.0	122.0	pass
9)	Chloroethane	7.61	10.20	9.16	90%	73.0	116.0	pass
10)	Bromoethene	8.25	10.90	9.79	90%	64.0	123.0	pass
11)	Trichlorofluoromethane	8.38	9.40	8.90	95%	74.0	120.0	pass
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	10.38	10.00	9.50	95%	63.0	126.0	pass
13)	1,1-Dichloroethene	10.51	10.40	9.41	90%	69.0	119.0	pass
14)	Acetone	11.09	10.80	9.68	90%	79.0	114.0	pass
15)	Carbon disulfide	11.21	11.00	9.95	90%	75.0	120.0	pass
16)	2-Propanol	11.60	11.00	10.10	92%	66.0	119.0	pass
17)	Allyl chloride	11.97	11.00	9.80	89%	72.0	116.0	pass
18)	Dichloromethane	12.49	10.00	8.70	87%	76.0	110.0	pass
19)	tert-Butyl methyl ether (MTBE)	13.03	10.70	9.50	89%	61.0	124.0	pass
20)	trans-1,2-Dichloroethene	13.11	10.90	9.89	91%	78.0	113.0	pass
21)	Hexane	13.59	10.20	9.21	90%	76.0	116.0	pass
22)	1,1-Dichloroethane	14.40	9.60	8.76	91%	76.0	113.0	pass
23)	Vinyl acetate	14.51	11.00	10.29	94%	71.0	117.0	pass
24)	cis-1,2-Dichloroethene	15.78	10.10	9.30	92%	74.0	116.0	pass
25)	2-Butanone (MEK)	15.87	10.50	9.65	92%	73.0	124.0	pass
26)	Ethyl acetate	15.87	10.30	9.15	89%	71.0	122.0	pass
27)	Tetrahydrofuran	16.29	10.10	9.46	94%	79.0	119.0	pass
28)	Chloroform	16.45	10.40	9.80	94%	77.0	115.0	pass
29)	Cyclohexane	16.62	10.30	9.27	90%	76.0	114.0	pass
30)	1,1,1-Trichloroethane	16.70	10.40	10.05	97%	77.0	117.0	pass
31)	Carbon tetrachloride	16.94	10.10	9.86	98%	75.0	121.0	pass
32)	1,4-DIFLUOROBENZENE	18.22	#N/A	19.60	#N/A	70.0	130.0	#N/A
33)	Benzene	17.44	10.20	9.53	93%	81.0	115.0	pass
34)	2,2,4-Trimethylpentane	17.32	10.30	9.38	91%	77.0	120.0	pass
35)	1,2-Dichloroethane	17.66	9.90	9.60	97%	74.0	128.0	pass
36)	Heptane	17.68	10.30	9.65	94%	73.0	128.0	pass
37)	Trichloroethene	18.63	10.80	10.31	95%	82.0	113.0	pass
38)	1,2-Dichloropropane	19.15	10.10	9.35	93%	78.0	119.0	pass
39)	1,4-Dioxane	19.32	10.40	9.27	89%	73.0	120.0	pass
40)	Bromodichloromethane	19.60	10.40	9.92	95%	79.0	124.0	pass
41)	cis-1,3-Dichloropropene	20.35	10.00	9.31	93%	82.0	117.0	pass
42)	4-Methyl-2-pentanone (MIBK)	20.56	10.50	10.29	98%	67.0	136.0	pass
43)	CHLOROBENZENE-d5	23.09	#N/A	19.60	#N/A	70.0	130.0	#N/A
44)	Toluene	20.81	10.20	9.46	93%	80.0	120.0	pass
45)	trans-1,3-Dichloropropene	21.29	9.60	8.77	91%	81.0	122.0	pass
46)	1,1,2-Trichloroethane	21.60	10.20	9.49	93%	81.0	121.0	pass
47)	Tetrachloroethene	21.65	10.20	9.92	97%	69.0	122.0	pass

48)	2-Hexanone	21.90	10.30	10.15	99%	61.0	140.0	pass
49)	Chlorodibromomethane	22.21	10.90	10.44	96%	82.0	128.0	pass
50)	1,2-Dibromoethane (EDB)	22.45	10.40	9.62	93%	80.0	121.0	pass
51)	Chlorobenzene	23.13	10.30	9.72	94%	80.0	122.0	pass
52)	Ethylbenzene	23.20	10.30	9.69	94%	80.0	125.0	pass
53)	m&p-Xylene	23.38	20.40	19.51	96%	80.0	128.0	pass
54)	o-Xylene	24.03	10.00	9.57	96%	79.0	130.0	pass
55)	Styrene	24.08	9.80	9.07	93%	76.0	133.0	pass
56)	Bromoform	24.48	11.00	10.87	99%	82.0	136.0	pass
57)	1,1,2,2-Tetrachloroethane	25.16	9.90	9.52	96%	78.0	132.0	pass
58)	4-Ethyltoluene	25.37	10.20	9.75	96%	77.0	133.0	pass
59)	1,3,5-Trimethylbenzene	25.46	10.20	10.17	100%	78.0	133.0	pass
60)	1,2,4-Trimethylbenzene	26.07	10.20	10.12	99%	78.0	133.0	pass
61)	1,3-Dichlorobenzene	26.62	10.00	9.61	96%	76.0	133.0	pass
62)	1,4-Dichlorobenzene	26.77	10.00	9.42	94%	75.0	134.0	pass
63)	Benzyl chloride	27.00	11.00	10.20	93%	73.0	144.0	pass
64)	1,2-Dichlorobenzene	27.39	9.80	9.58	98%	77.0	134.0	pass
65)	1,2,4-Trichlorobenzene	29.85	9.00	8.15	91%	70.0	133.0	pass
66)	Hexachlorobutadiene	29.95	9.20	9.54	104%	74.0	130.0	pass

B20E003-BS1

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K02.D
InstName : HP5973K
Acq On : 8 May 2020 12:12 pm
Operator : EM
Sample : S20E004-CCV1@B20E003-BS1
Misc : 10ppbv 2014029@2014032
ALS Vial : 29 Sample Multiplier: 1

REVIEWED
By EM at 1:39 pm, May 08, 2020

Quant Time: May 08 13:38:54 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	88	0.00
2	T	Propene	0.571	0.518	9.3	83	0.00
3	T	Dichlorodifluoromethane	1.523	1.427	6.3	84	0.00
4	T	1,2-Dichlorotetrafluoroetha	1.739	1.595	8.3	82	0.00
5	T	Chloromethane	0.589	0.528	10.4	81	0.00
6	T	Vinyl chloride	0.774	0.761	1.7	88	0.00
7	T	1,3-Butadiene	0.613	0.587	4.2	87	0.00
8	T	Bromomethane	0.542	0.491	9.4	83	0.00
9	T	Chloroethane	0.365	0.328	10.1	82	0.00
10	T	Bromoethene	0.529	0.475	10.2	82	0.00
11	T	Trichlorofluoromethane	1.450	1.373	5.3	86	0.00
12	T	1,1,2-Trichloro-1,2,2-trifl	1.026	0.974	5.1	86	0.00
13	T	1,1-Dichloroethene	0.920	0.832	9.6	82	0.00
14	T	Acetone	0.914	0.819	10.4	83	0.00
15	T	Carbon disulfide	1.674	1.514	9.6	83	0.01
16	T	2-Propanol	0.891	0.818	8.2	82	0.01
17	T	Allyl chloride	0.819	0.730	10.9	81	0.01
18	T	Dichloromethane	0.779	0.678	13.0	84	0.00
19	T	tert-Butyl methyl ether (MT	1.777	1.578	11.2	81	0.00
20	T	trans-1,2-Dichloroethene	0.854	0.774	9.4	83	0.00
21	T	Hexane	1.156	1.044	9.7	82	0.00
22	T	1,1-Dichloroethane	1.178	1.075	8.7	83	0.00
23	T	Vinyl acetate	1.431	1.338	6.5	83	0.01
24	T	cis-1,2-Dichloroethene	0.843	0.777	7.8	82	0.00
25	T	2-Butanone (MEK)	0.344	0.316	8.1	82	0.01
26	T	Ethyl acetate	0.214	0.190	11.2	81	0.00
27	T	Tetrahydrofuran	0.816	0.765	6.2	84	0.00
28	T	Chloroform	1.169	1.102	5.7	85	0.00
29	T	Cyclohexane	1.164	1.048	10.0	82	0.00
30	T	1,1,1-Trichloroethane	1.159	1.120	3.4	87	0.00
31	T	Carbon tetrachloride	1.204	1.175	2.4	88	0.00
32	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	89	0.00
33	T	Benzene	0.665	0.622	6.5	84	0.00
34	T	2,2,4-Trimethylpentane	1.171	1.066	9.0	82	0.00
35	T	1,2-Dichloroethane	0.261	0.253	3.1	87	0.00
36	T	Heptane	0.429	0.402	6.3	84	0.00
37	T	Trichloroethene	0.278	0.265	4.7	86	0.00
38	T	1,2-Dichloropropane	0.249	0.230	7.6	82	0.00
39	T	1,4-Dioxane	0.156	0.139	10.9	80	0.00
40	T	Bromodichloromethane	0.431	0.412	4.4	86	0.00
41	T	cis-1,3-Dichloropropene	0.383	0.357	6.8	81	0.00
42	T	4-Methyl-2-pentanone (MIBK)	0.499	0.489	2.0	86	0.00
43	I	CHLOROBENZENE-d5	1.000	1.000	0.0	90	0.00
44	T	Toluene	0.867	0.804	7.3	85	0.00
45	T	trans-1,3-Dichloropropene	0.392	0.358	8.7	81	0.00
46	T	1,1,2-Trichloroethane	0.284	0.264	7.0	84	0.00
47	T	Tetrachloroethene	0.442	0.430	2.7	89	0.00
48	T	2-Hexanone	0.499	0.492	1.4	87	0.00
49	T	Chlorodibromomethane	0.475	0.455	4.2	87	0.00
50	T	1,2-Dibromoethane (EDB)	0.415	0.384	7.5	84	0.00
51	T	Chlorobenzene	0.712	0.672	5.6	86	0.00

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K02.D
InstName : HP5973K
Acq On : 8 May 2020 12:12 pm
Operator : EM
Sample : S20E004-CCV1@B20E003-BS1
Misc : 10ppbv 2014029@2014032
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 08 13:38:54 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
52	T	Ethylbenzene	1.140	1.073	5.9	85	0.00
53	T	m&p-Xylene	0.869	0.831	4.4	86	0.00
54	T	o-Xylene	0.893	0.854	4.4	85	0.00
55	T	Styrene	0.450	0.416	7.6	81	0.00
56	T	Bromoform	0.515	0.509	1.2	87	0.00
57	T	1,1,2,2-Tetrachloroethane	0.654	0.629	3.8	85	0.00
58	T	4-Ethyltoluene	1.393	1.331	4.5	85	0.00
59	T	1,3,5-Trimethylbenzene	1.045	1.042	0.3	88	0.00
60	T	1,2,4-Trimethylbenzene	1.055	1.047	0.8	86	0.00
61	T	1,3-Dichlorobenzene	0.778	0.748	3.9	84	0.00
62	T	1,4-Dichlorobenzene	0.775	0.731	5.7	82	0.00
63	T	Benzyl chloride	0.845	0.783	7.3	77	0.00
64	T	1,2-Dichlorobenzene	0.762	0.745	2.2	85	0.00
65	T	1,2,4-Trichlorobenzene	0.657	0.595	9.4	76	0.00
66	T	Hexachlorobutadiene	0.704	0.730	-3.7	90	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K02.D
InstName : HP5973K
Acq On : 8 May 2020 12:12 pm
Operator : EM
Sample : S20E004-CCV1@B20E003-BS1
Misc : 10ppbv 2014029@2014032
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 08 13:38:54 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	16.319	49	254748	19.60	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	18.223	114	772213	19.60	ppbv		0.00
43) CHLOROBENZENE-d5	23.090	117	725933	19.60	ppbv		0.00
Target Compounds							Qvalue
2) Propene	5.004	41	74041	9.97	ppbv		99
3) Dichlorodifluoromethane	5.101	85	189228	9.56	ppbv		100
4) 1,2-Dichlorotetrafluor...	5.491	85	201131	8.90	ppbv		100
5) Chloromethane	5.734	50	74131	9.69	ppbv		99
6) Vinyl chloride	6.075	62	102802	10.22	ppbv		99
7) 1,3-Butadiene	6.178	54	78563	9.86	ppbv		99
8) Bromomethane	7.243	94	65074	9.23	ppbv		99
9) Chloroethane	7.614	64	43431	9.16	ppbv		99
10) Bromoethene	8.252	106	67271	9.79	ppbv		100
11) Trichlorofluoromethane	8.380	101	167780	8.90	ppbv		100
12) 1,1,2-Trichloro-1,2,2-...	10.382	151	126585	9.50	ppbv		98
13) 1,1-Dichloroethene	10.509	61	112445	9.41	ppbv		100
14) Acetone	11.087	43	114985	9.68	ppbv		98
15) Carbon disulfide	11.209	76	216450	9.95	ppbv		99
16) 2-Propanol	11.598	45	116889	10.10	ppbv		95
17) Allyl chloride	11.970	41	104325	9.80	ppbv		100
18) Dichloromethane	12.487	49	88058	8.70	ppbv		99
19) tert-Butyl methyl ethe...	13.028	73	219410	9.50	ppbv		100
20) trans-1,2-Dichloroethene	13.113	61	109689	9.89	ppbv		100
21) Hexane	13.594	57	138392	9.21	ppbv		99
22) 1,1-Dichloroethane	14.397	63	134171	8.76	ppbv		100
23) Vinyl acetate	14.506	43	191308	10.29	ppbv		100
24) cis-1,2-Dichloroethene	15.778	61	101987	9.30	ppbv	#	100
25) 2-Butanone (MEK)	15.869	72	43136	9.65	ppbv	#	95
26) Ethyl acetate	15.869	61	25495	9.15	ppbv	#	92
27) Tetrahydrofuran	16.289	42	100386	9.46	ppbv		99
28) Chloroform	16.447	83	148936	9.80	ppbv		100
29) Cyclohexane	16.623	56	140261	9.27	ppbv		99
30) 1,1,1-Trichloroethane	16.703	97	151428	10.05	ppbv		99
31) Carbon tetrachloride	16.940	117	154285	9.86	ppbv		99
33) Benzene	17.439	78	249813	9.53	ppbv		99
34) 2,2,4-Trimethylpentane	17.317	57	432759	9.38	ppbv		99
35) 1,2-Dichloroethane	17.664	62	98515	9.60	ppbv		99
36) Heptane	17.682	43	163098	9.65	ppbv		100
37) Trichloroethene	18.631	130	112848	10.31	ppbv		99
38) 1,2-Dichloropropane	19.148	63	91696	9.35	ppbv		98
39) 1,4-Dioxane	19.325	88	56939	9.27	ppbv		99
40) Bromodichloromethane	19.604	83	168619	9.92	ppbv		100
41) cis-1,3-Dichloropropene	20.353	75	140633	9.31	ppbv		98
42) 4-Methyl-2-pentanone (...	20.560	43	202333	10.29	ppbv		100
44) Toluene	20.809	91	303831	9.46	ppbv		99
45) trans-1,3-Dichloropropene	21.290	75	127186	8.77	ppbv		98
46) 1,1,2-Trichloroethane	21.600	97	99740	9.49	ppbv		98
47) Tetrachloroethene	21.649	166	162305	9.92	ppbv		99
48) 2-Hexanone	21.898	43	187547	10.15	ppbv		99
49) Chlorodibromomethane	22.208	129	183581	10.44	ppbv		99
50) 1,2-Dibromoethane (EDB)	22.445	107	148054	9.62	ppbv		99
51) Chlorobenzene	23.133	112	256430	9.72	ppbv		100
52) Ethylbenzene	23.200	91	409468	9.69	ppbv		99
53) m&p-Xylene	23.382	91	628197	19.51	ppbv		100
54) o-Xylene	24.033	91	316421	9.57	ppbv		100

Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K02.D
InstName : HP5973K
Acq On : 8 May 2020 12:12 pm
Operator : EM
Sample : S20E004-CCV1@B20E003-BS1
Misc : 10ppbv 2014029@2014032
ALS Vial : 29 Sample Multiplier: 1

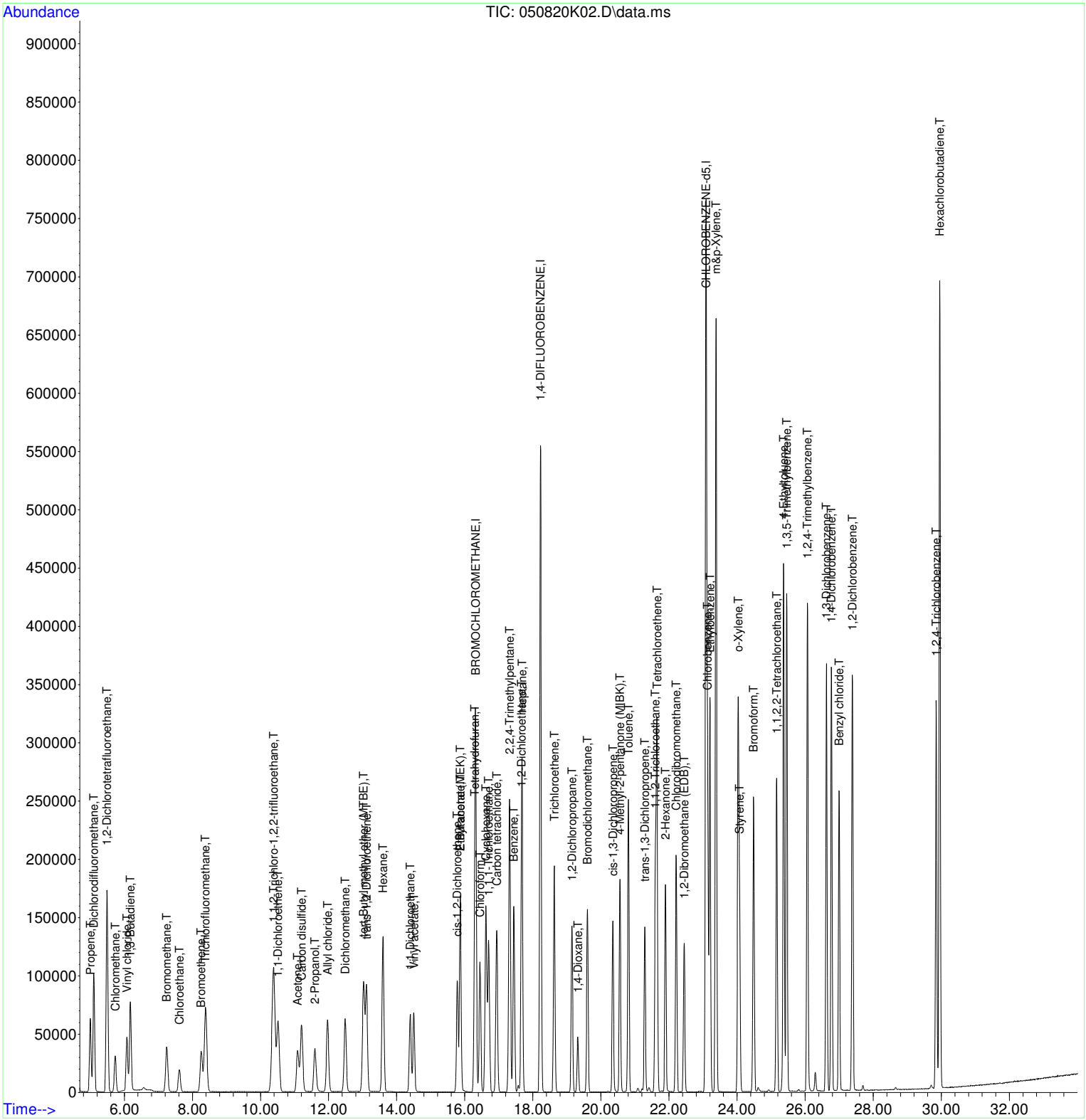
Quant Time: May 08 13:38:54 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
55) Styrene	24.076	104	151114	9.07 ppbv	98
56) Bromoform	24.483	173	207327	10.87 ppbv	100
57) 1,1,2,2-Tetrachloroethane	25.165	83	230567	9.52 ppbv	100
58) 4-Ethyltoluene	25.366	105	502933	9.75 ppbv	99
59) 1,3,5-Trimethylbenzene	25.457	105	393630	10.17 ppbv	99
60) 1,2,4-Trimethylbenzene	26.065	105	395607	10.12 ppbv	100
61) 1,3-Dichlorobenzene	26.625	146	277140	9.61 ppbv	100
62) 1,4-Dichlorobenzene	26.771	146	270643	9.42 ppbv	100
63) Benzyl chloride	26.996	91	319053	10.20 ppbv	100
64) 1,2-Dichlorobenzene	27.385	146	270414	9.58 ppbv	99
65) 1,2,4-Trichlorobenzene	29.849	180	198204	8.15 ppbv	100
66) Hexachlorobutadiene	29.953	225	248646	9.54 ppbv	100

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

Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K02.D
InstName : HP5973K
Acq On : 8 May 2020 12:12 pm
Operator : EM
Sample : S20E004-CCV1@B20E003-BS1
Misc : 10ppbv 2014029@2014032
ALS Vial : 29 Sample Multiplier: 1

Quant Time: May 08 13:38:54 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration



REVIEWED
By EM at 1:39 pm, May 08, 2020

LCS REPORT

Instrument Name: HP5973K
Sample Name: S20E004-CCV1@B20E003-BS1
Misc Info: 10ppbv 2014029@2014032
Date Acquired: 5/8/2020 12:12
QLast Update: Thu Apr 02 09:57:00 2020
Operator: EM

#	Name	Ret Time	Amount	Concentration	%R	QC	LIMIT	STATUS
1)	BROMOCHLOROMETHANE	16.32	#N/A	19.60	#N/A	70.0	130.0	#N/A
2)	Propene	5.00	11.00	9.97	91%	72.0	114.0	pass
3)	Dichlorodifluoromethane	5.10	10.20	9.56	94%	73.0	120.0	pass
4)	1,2-Dichlorotetrafluoroethane	5.49	9.70	8.90	92%	74.0	116.0	pass
5)	Chloromethane	5.73	10.80	9.69	90%	73.0	113.0	pass
6)	Vinyl chloride	6.07	10.40	10.22	98%	68.0	119.0	pass
7)	1,3-Butadiene	6.18	10.30	9.86	96%	68.0	120.0	pass
8)	Bromomethane	7.24	10.20	9.23	90%	71.0	122.0	pass
9)	Chloroethane	7.61	10.20	9.16	90%	73.0	116.0	pass
10)	Bromoethene	8.25	10.90	9.79	90%	64.0	123.0	pass
11)	Trichlorofluoromethane	8.38	9.40	8.90	95%	74.0	120.0	pass
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	10.38	10.00	9.50	95%	63.0	126.0	pass
13)	1,1-Dichloroethene	10.51	10.40	9.41	90%	69.0	119.0	pass
14)	Acetone	11.09	10.80	9.68	90%	79.0	114.0	pass
15)	Carbon disulfide	11.21	11.00	9.95	90%	75.0	120.0	pass
16)	2-Propanol	11.60	11.00	10.10	92%	66.0	119.0	pass
17)	Allyl chloride	11.97	11.00	9.80	89%	72.0	116.0	pass
18)	Dichloromethane	12.49	10.00	8.70	87%	76.0	110.0	pass
19)	tert-Butyl methyl ether (MTBE)	13.03	10.70	9.50	89%	61.0	124.0	pass
20)	trans-1,2-Dichloroethene	13.11	10.90	9.89	91%	78.0	113.0	pass
21)	Hexane	13.59	10.20	9.21	90%	76.0	116.0	pass
22)	1,1-Dichloroethane	14.40	9.60	8.76	91%	76.0	113.0	pass
23)	Vinyl acetate	14.51	11.00	10.29	94%	71.0	117.0	pass
24)	cis-1,2-Dichloroethene	15.78	10.10	9.30	92%	74.0	116.0	pass
25)	2-Butanone (MEK)	15.87	10.50	9.65	92%	73.0	124.0	pass
26)	Ethyl acetate	15.87	10.30	9.15	89%	71.0	122.0	pass
27)	Tetrahydrofuran	16.29	10.10	9.46	94%	79.0	119.0	pass
28)	Chloroform	16.45	10.40	9.80	94%	77.0	115.0	pass
29)	Cyclohexane	16.62	10.30	9.27	90%	76.0	114.0	pass
30)	1,1,1-Trichloroethane	16.70	10.40	10.05	97%	77.0	117.0	pass
31)	Carbon tetrachloride	16.94	10.10	9.86	98%	75.0	121.0	pass
32)	1,4-DIFLUOROBENZENE	18.22	#N/A	19.60	#N/A	70.0	130.0	#N/A
33)	Benzene	17.44	10.20	9.53	93%	81.0	115.0	pass
34)	2,2,4-Trimethylpentane	17.32	10.30	9.38	91%	77.0	120.0	pass
35)	1,2-Dichloroethane	17.66	9.90	9.60	97%	74.0	128.0	pass
36)	Heptane	17.68	10.30	9.65	94%	73.0	128.0	pass
37)	Trichloroethene	18.63	10.80	10.31	95%	82.0	113.0	pass
38)	1,2-Dichloropropane	19.15	10.10	9.35	93%	78.0	119.0	pass
39)	1,4-Dioxane	19.32	10.40	9.27	89%	73.0	120.0	pass
40)	Bromodichloromethane	19.60	10.40	9.92	95%	79.0	124.0	pass
41)	cis-1,3-Dichloropropene	20.35	10.00	9.31	93%	82.0	117.0	pass
42)	4-Methyl-2-pentanone (MIBK)	20.56	10.50	10.29	98%	67.0	136.0	pass
43)	CHLOROBENZENE-d5	23.09	#N/A	19.60	#N/A	70.0	130.0	#N/A
44)	Toluene	20.81	10.20	9.46	93%	80.0	120.0	pass
45)	trans-1,3-Dichloropropene	21.29	9.60	8.77	91%	81.0	122.0	pass
46)	1,1,2-Trichloroethane	21.60	10.20	9.49	93%	81.0	121.0	pass
47)	Tetrachloroethene	21.65	10.20	9.92	97%	69.0	122.0	pass

48)	2-Hexanone	21.90	10.30	10.15	99%	61.0	140.0	pass
49)	Chlorodibromomethane	22.21	10.90	10.44	96%	82.0	128.0	pass
50)	1,2-Dibromoethane (EDB)	22.45	10.40	9.62	93%	80.0	121.0	pass
51)	Chlorobenzene	23.13	10.30	9.72	94%	80.0	122.0	pass
52)	Ethylbenzene	23.20	10.30	9.69	94%	80.0	125.0	pass
53)	m&p-Xylene	23.38	20.40	19.51	96%	80.0	128.0	pass
54)	o-Xylene	24.03	10.00	9.57	96%	79.0	130.0	pass
55)	Styrene	24.08	9.80	9.07	93%	76.0	133.0	pass
56)	Bromoform	24.48	11.00	10.87	99%	82.0	136.0	pass
57)	1,1,2,2-Tetrachloroethane	25.16	9.90	9.52	96%	78.0	132.0	pass
58)	4-Ethyltoluene	25.37	10.20	9.75	96%	77.0	133.0	pass
59)	1,3,5-Trimethylbenzene	25.46	10.20	10.17	100%	78.0	133.0	pass
60)	1,2,4-Trimethylbenzene	26.07	10.20	10.12	99%	78.0	133.0	pass
61)	1,3-Dichlorobenzene	26.62	10.00	9.61	96%	76.0	133.0	pass
62)	1,4-Dichlorobenzene	26.77	10.00	9.42	94%	75.0	134.0	pass
63)	Benzyl chloride	27.00	11.00	10.20	93%	73.0	144.0	pass
64)	1,2-Dichlorobenzene	27.39	9.80	9.58	98%	77.0	134.0	pass
65)	1,2,4-Trichlorobenzene	29.85	9.00	8.15	91%	70.0	133.0	pass
66)	Hexachlorobutadiene	29.95	9.20	9.54	104%	74.0	130.0	pass

S20E004-CRL1

REVIEWED
By EM at 1:41 pm, May 08, 2020

QLS REPORT

Instrument Name: HP5973K
Sample Name: S20E004-CRL1
Misc Info: 1.0ppbv 2014026
Date Acquired: 5/8/2020 13:01
QLast Update: Thu Apr 02 09:57:00 2020
Operator: EM

2 OUT non target

#	Name	Ret Time	Amount	Concentration	%R	QC	LIMIT	STATUS	TYPE
1)	BROMOCHLOROMETHANE	16.32	#N/A	19.60	#N/A	60.0	140.0	#N/A	Internal
2)	Propene	5.00	1.10	1.04	94%	60.0	140.0	pass	Subset
3)	Dichlorodifluoromethane	5.10	1.02	0.93	91%	60.0	140.0	pass	Primary
4)	1,2-Dichlorotetrafluoroethane	5.48	0.97	0.87	89%	60.0	140.0	pass	Primary
5)	Chloromethane	5.73	1.08	1.00	93%	60.0	140.0	pass	Primary
6)	Vinyl chloride	6.07	1.04	0.98	94%	60.0	140.0	pass	Primary
7)	1,3-Butadiene	6.18	1.03	1.00	97%	60.0	140.0	pass	Subset
8)	Bromomethane	7.25	1.02	0.85	83%	60.0	140.0	pass	Primary
9)	Chloroethane	7.62	1.02	0.84	82%	60.0	140.0	pass	Primary
10)	Bromoethene	8.26	1.09	0.93	85%	60.0	140.0	pass	Subset
11)	Trichlorofluoromethane	8.38	0.94	0.83	88%	60.0	140.0	pass	Primary
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	10.38	1.00	0.87	87%	60.0	140.0	pass	Primary
13)	1,1-Dichloroethene	10.53	1.04	0.83	80%	60.0	140.0	pass	Primary
14)	Acetone	11.11	1.08	0.90	83%	60.0	140.0	pass	Subset
15)	Carbon disulfide	11.21	1.10	0.96	87%	60.0	140.0	pass	Subset
16)	2-Propanol	11.61	1.10	0.80	72%	60.0	140.0	pass	Subset
17)	Allyl chloride	11.97	1.10	0.86	79%	60.0	140.0	pass	Subset
18)	Dichloromethane	12.49	1.00	1.05	105%	60.0	140.0	pass	Primary
19)	tert-Butyl methyl ether (MTBE)	13.05	1.07	0.81	75%	60.0	140.0	pass	Subset
20)	trans-1,2-Dichloroethene	13.11	1.09	0.91	84%	60.0	140.0	pass	Subset
21)	Hexane	13.59	1.02	0.76	74%	60.0	140.0	pass	Subset
22)	1,1-Dichloroethane	14.40	0.96	0.78	82%	60.0	140.0	pass	Primary
23)	Vinyl acetate	14.51	1.10	0.74	67%	60.0	140.0	pass	Subset
24)	cis-1,2-Dichloroethene	15.78	1.01	0.77	76%	60.0	140.0	pass	Primary
25)	2-Butanone (MEK)	15.87	1.05	0.78	74%	60.0	140.0	pass	Subset
26)	Ethyl acetate	15.88	1.03	0.82	79%	60.0	140.0	pass	Subset
27)	Tetrahydrofuran	16.29	1.01	0.82	81%	60.0	140.0	pass	Subset
28)	Chloroform	16.45	1.04	0.87	84%	60.0	140.0	pass	Primary
29)	Cyclohexane	16.62	1.03	0.80	78%	60.0	140.0	pass	Subset
30)	1,1,1-Trichloroethane	16.71	1.04	0.87	84%	60.0	140.0	pass	Primary
31)	Carbon tetrachloride	16.94	1.01	0.83	82%	60.0	140.0	pass	Primary
32)	1,4-DIFLUOROBENZENE	18.22	#N/A	19.60	#N/A	60.0	140.0	#N/A	Internal
33)	Benzene	17.44	1.02	0.82	80%	60.0	140.0	pass	Primary
34)	2,2,4-Trimethylpentane	17.32	1.03	0.78	76%	60.0	140.0	pass	Subset
35)	1,2-Dichloroethane	17.66	0.99	0.80	81%	60.0	140.0	pass	Primary
36)	Heptane	17.68	1.03	0.78	76%	60.0	140.0	pass	Subset
37)	Trichloroethene	18.62	1.08	0.88	82%	60.0	140.0	pass	Primary
38)	1,2-Dichloropropane	19.15	1.01	0.79	78%	60.0	140.0	pass	Primary
39)	1,4-Dioxane	19.32	1.04	0.73	70%	60.0	140.0	pass	Subset
40)	Bromodichloromethane	19.60	1.04	0.87	84%	60.0	140.0	pass	Subset
41)	cis-1,3-Dichloropropene	20.35	1.00	0.68	68%	60.0	140.0	pass	Primary
42)	4-Methyl-2-pentanone (MIBK)	20.56	1.05	0.78	74%	60.0	140.0	pass	Subset
43)	CHLOROBENZENE-d5	23.09	#N/A	19.60	#N/A	60.0	140.0	#N/A	Internal
44)	Toluene	20.81	1.02	0.79	78%	60.0	140.0	pass	Primary
45)	trans-1,3-Dichloropropene	21.29	0.96	0.65	68%	60.0	140.0	pass	Primary
46)	1,1,2-Trichloroethane	21.60	1.02	0.82	80%	60.0	140.0	pass	Primary
47)	Tetrachloroethene	21.65	1.02	0.82	81%	60.0	140.0	pass	Primary
48)	2-Hexanone	21.90	1.03	0.73	71%	60.0	140.0	pass	Subset
49)	Chlorodibromomethane	22.21	1.09	0.85	78%	60.0	140.0	pass	Subset
50)	1,2-Dibromoethane (EDB)	22.45	1.04	0.78	75%	60.0	140.0	pass	Primary

51)	Chlorobenzene	23.14	1.03	0.81	79%	60.0	140.0	pass	Primary
52)	Ethylbenzene	23.20	1.03	0.79	77%	60.0	140.0	pass	Primary
53)	m&p-Xylene	23.38	2.04	1.50	74%	60.0	140.0	pass	Primary
54)	o-Xylene	24.03	1.00	0.71	71%	60.0	140.0	pass	Primary
55)	Styrene	24.08	0.98	0.63	64%	60.0	140.0	pass	Primary
56)	Bromoform	24.49	1.10	0.77	70%	60.0	140.0	pass	Subset
57)	1,1,2,2-Tetrachloroethane	25.16	0.99	0.74	75%	60.0	140.0	pass	Primary
58)	4-Ethyltoluene	25.37	1.02	0.69	68%	60.0	140.0	pass	Subset
59)	1,3,5-Trimethylbenzene	25.46	1.02	0.73	72%	60.0	140.0	pass	Primary
60)	1,2,4-Trimethylbenzene	26.07	1.02	0.68	67%	60.0	140.0	pass	Primary
61)	1,3-Dichlorobenzene	26.63	1.00	0.68	68%	60.0	140.0	pass	Primary
62)	1,4-Dichlorobenzene	26.78	1.00	0.64	64%	60.0	140.0	pass	Primary
63)	Benzyl chloride	27.00	1.10	0.49	44%	60.0	140.0	FAIL	Subset
64)	1,2-Dichlorobenzene	27.39	0.98	0.68	69%	60.0	140.0	pass	Primary
65)	1,2,4-Trichlorobenzene	29.86	0.90	0.43	48%	60.0	140.0	FAIL	Primary
66)	Hexachlorobutadiene	29.96	0.92	0.66	72%	60.0	140.0	pass	Primary

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K03.D
InstName : HP5973K
Acq On : 8 May 2020 1:01 pm
Operator : EM
Sample : S20E004-CRL1
Misc : 1.0ppbv 2014026
ALS Vial : 27 Sample Multiplier: 1

Quant Time: May 08 13:40:49 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	16.319	49	257403	19.60	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	18.223	114	796240	19.60	ppbv		0.00
43) CHLOROBENZENE-d5	23.090	117	715187	19.60	ppbv		0.00
Target Compounds							Qvalue
2) Propene	4.998	41	7780	1.04	ppbv		99
3) Dichlorodifluoromethane	5.101	85	18601	0.93	ppbv		99
4) 1,2-Dichlorotetrafluor...	5.484	85	19778	0.87	ppbv		99
5) Chloromethane	5.734	50	7724	1.00	ppbv		99
6) Vinyl chloride	6.074	62	9974	0.98	ppbv		100
7) 1,3-Butadiene	6.184	54	8062	1.00	ppbv		88
8) Bromomethane	7.248	94	6051	0.85	ppbv		99
9) Chloroethane	7.620	64	4023	0.84	ppbv		94
10) Bromoethene	8.264	106	6449	0.93	ppbv		100
11) Trichlorofluoromethane	8.380	101	15800	0.83	ppbv		98
12) 1,1,2-Trichloro-1,2,2-...	10.381	151	11718	0.87	ppbv		99
13) 1,1-Dichloroethene	10.528	61	9989	0.83	ppbv		98
14) Acetone	11.105	43	10776	0.90	ppbv		97
15) Carbon disulfide	11.209	76	21081	0.96	ppbv		98
16) 2-Propanol	11.610	45	9313	0.80	ppbv		85
17) Allyl chloride	11.969	41	9299	0.86	ppbv		98
18) Dichloromethane	12.492	49	10698	1.05	ppbv		98
19) tert-Butyl methyl ethe...	13.046	73	18809	0.81	ppbv		100
20) trans-1,2-Dichloroethene	13.113	61	10255	0.91	ppbv		99
21) Hexane	13.594	57	11533	0.76	ppbv		91
22) 1,1-Dichloroethane	14.397	63	12130	0.78	ppbv		99
23) Vinyl acetate	14.506	43	13867	0.74	ppbv		99
24) cis-1,2-Dichloroethene	15.778	61	8555	0.77	ppbv	#	98
25) 2-Butanone (MEK)	15.875	72	3503	0.78	ppbv	#	81
26) Ethyl acetate	15.881	61	2302	0.82	ppbv		99
27) Tetrahydrofuran	16.295	42	8796	0.82	ppbv		96
28) Chloroform	16.447	83	13383	0.87	ppbv		100
29) Cyclohexane	16.617	56	12207	0.80	ppbv		97
30) 1,1,1-Trichloroethane	16.708	97	13291	0.87	ppbv		99
31) Carbon tetrachloride	16.940	117	13175	0.83	ppbv		99
33) Benzene	17.445	78	22174	0.82	ppbv		99
34) 2,2,4-Trimethylpentane	17.317	57	37016	0.78	ppbv		97
35) 1,2-Dichloroethane	17.657	62	8509	0.80	ppbv		99
36) Heptane	17.682	43	13627	0.78	ppbv		99
37) Trichloroethene	18.625	130	9979	0.88	ppbv		100
38) 1,2-Dichloropropane	19.154	63	8008	0.79	ppbv		97
39) 1,4-Dioxane	19.324	88	4596	0.73	ppbv		99
40) Bromodichloromethane	19.604	83	15312	0.87	ppbv		99
41) cis-1,3-Dichloropropene	20.352	75	10635	0.68	ppbv		97
42) 4-Methyl-2-pentanone (...	20.559	43	15828	0.78	ppbv		99
44) Toluene	20.809	91	25020	0.79	ppbv		98
45) trans-1,3-Dichloropropene	21.289	75	9288	0.65	ppbv		98
46) 1,1,2-Trichloroethane	21.600	97	8476	0.82	ppbv		98
47) Tetrachloroethene	21.648	166	13291	0.82	ppbv		99
48) 2-Hexanone	21.898	43	13218	0.73	ppbv		96
49) Chlorodibromomethane	22.208	129	14764	0.85	ppbv		99
50) 1,2-Dibromoethane (EDB)	22.445	107	11788	0.78	ppbv		99
51) Chlorobenzene	23.139	112	21141	0.81	ppbv	#	76
52) Ethylbenzene	23.200	91	32820	0.79	ppbv		100
53) m&p-Xylene	23.382	91	47580	1.50	ppbv		99
54) o-Xylene	24.033	91	23229	0.71	ppbv		98

Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K03.D
InstName : HP5973K
Acq On : 8 May 2020 1:01 pm
Operator : EM
Sample : S20E004-CRL1
Misc : 1.0ppbv 2014026
ALS Vial : 27 Sample Multiplier: 1

Quant Time: May 08 13:40:49 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
55) Styrene	24.076	104	10338	0.63 ppbv	96
56) Bromoform	24.489	173	14525	0.77 ppbv	99
57) 1,1,2,2-Tetrachloroethane	25.165	83	17594	0.74 ppbv	99
58) 4-Ethyltoluene	25.365	105	35303	0.69 ppbv	99
59) 1,3,5-Trimethylbenzene	25.463	105	27834	0.73 ppbv	98
60) 1,2,4-Trimethylbenzene	26.071	105	26195	0.68 ppbv	99
61) 1,3-Dichlorobenzene	26.631	146	19356	0.68 ppbv	99
62) 1,4-Dichlorobenzene	26.777	146	18094	0.64 ppbv	99
63) Benzyl chloride	26.996	91	15061	0.49 ppbv	99
64) 1,2-Dichlorobenzene	27.391	146	18891	0.68 ppbv	100
65) 1,2,4-Trichlorobenzene	29.855	180	10351	0.43 ppbv	99
66) Hexachlorobutadiene	29.958	225	17055	0.66 ppbv	100

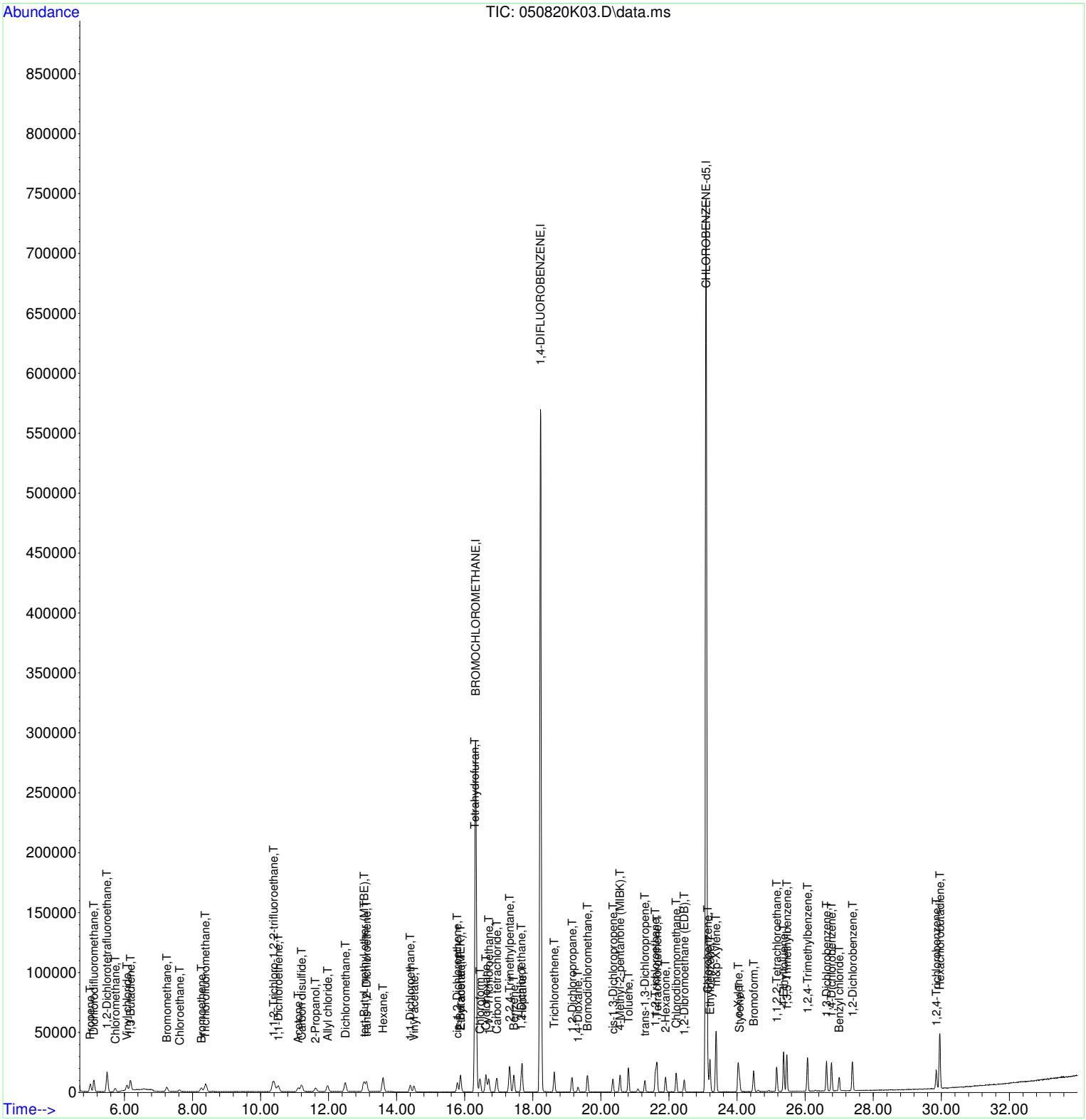
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K03.D
InstName : HP5973K
Acq On : 8 May 2020 1:01 pm
Operator : EM
Sample : S20E004-CRL1
Misc : 1.0ppbv 2014026
ALS Vial : 27 Sample Multiplier: 1

Quant Time: May 08 13:40:49 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration



B20E003-BLK1

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K04.D
InstName : HP5973K
Acq On : 8 May 2020 1:54 pm
Operator : EM
Sample : B20E003-BLK1
Misc : 200ml BLANK
ALS Vial : 33 Sample Multiplier: 1

Quant Time: May 08 14:58:45 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	16.319	49	254953	19.60 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.223	114	791487	19.60 ppbv	0.00
43) CHLOROBENZENE-d5	23.090	117	705491	19.60 ppbv	0.00

Target Compounds Qvalue

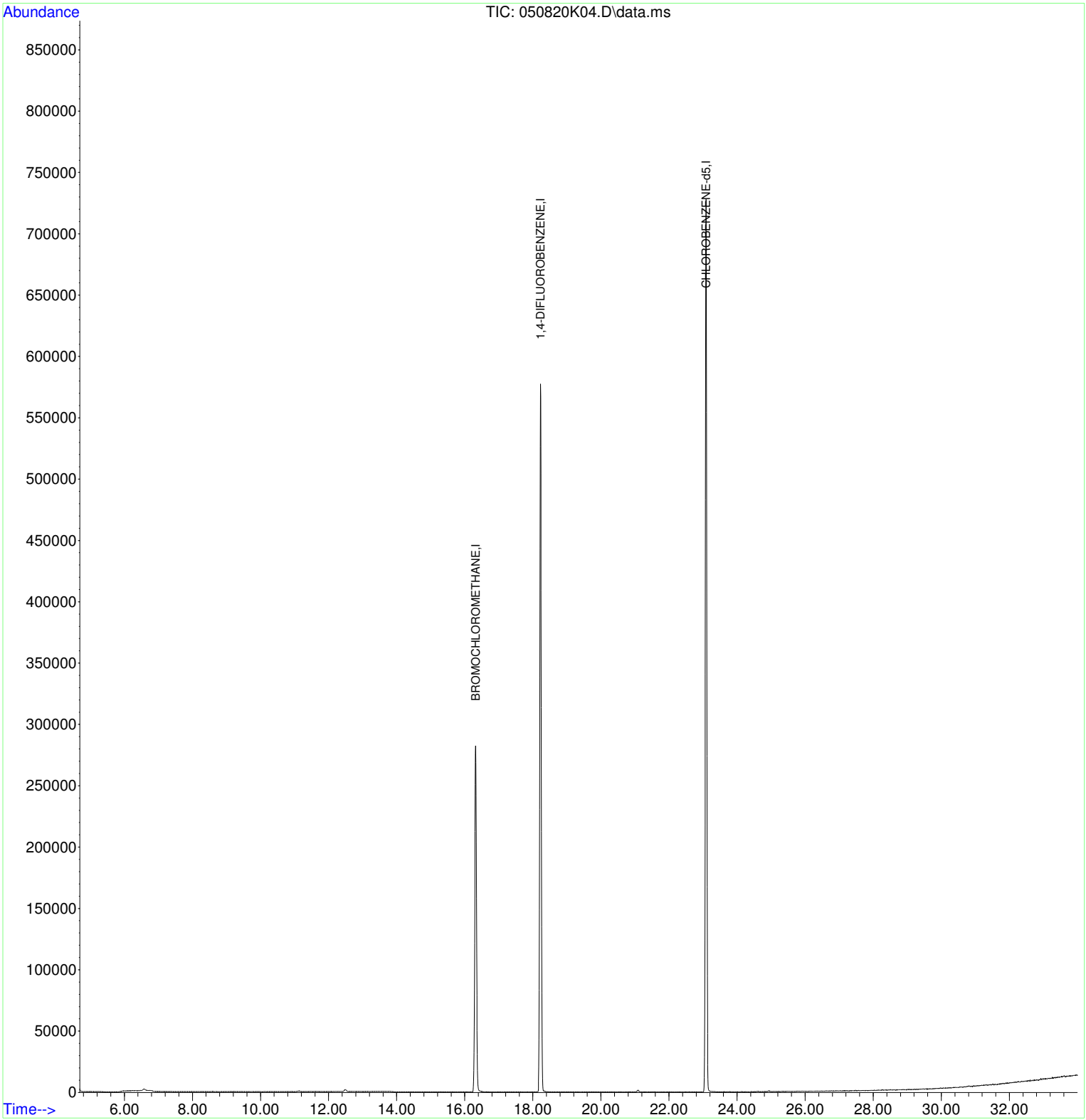
(#) = qualifier out of range (m) = manual integration (+) = signals summed

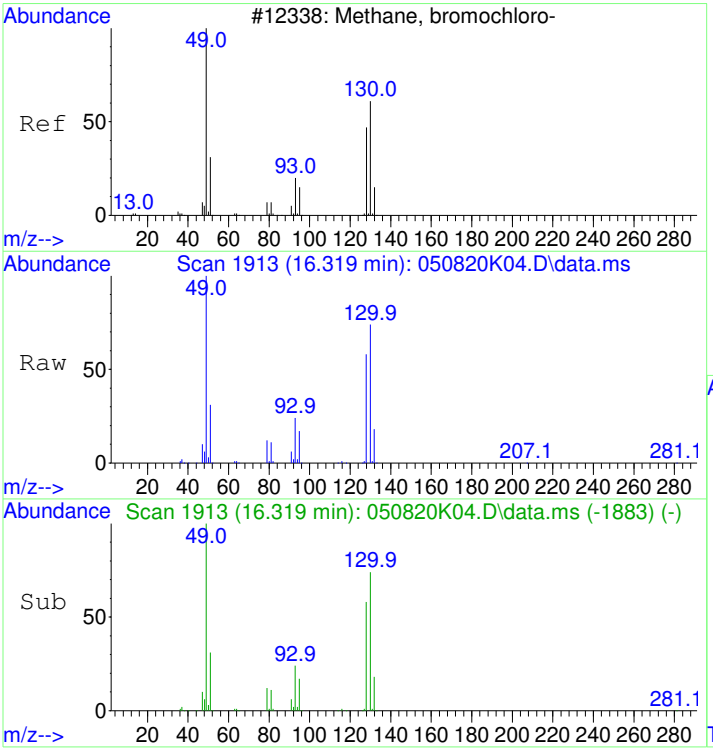
REVIEWED
By EM at 2:58 pm, May 08, 2020

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K04.D
InstName : HP5973K
Acq On : 8 May 2020 1:54 pm
Operator : EM
Sample : B20E003-BLK1
Misc : 200ml BLANK
ALS Vial : 33 Sample Multiplier: 1

Quant Time: May 08 14:58:45 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

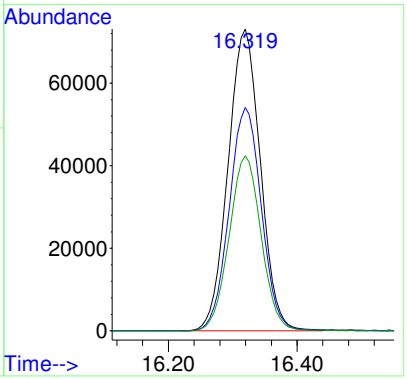


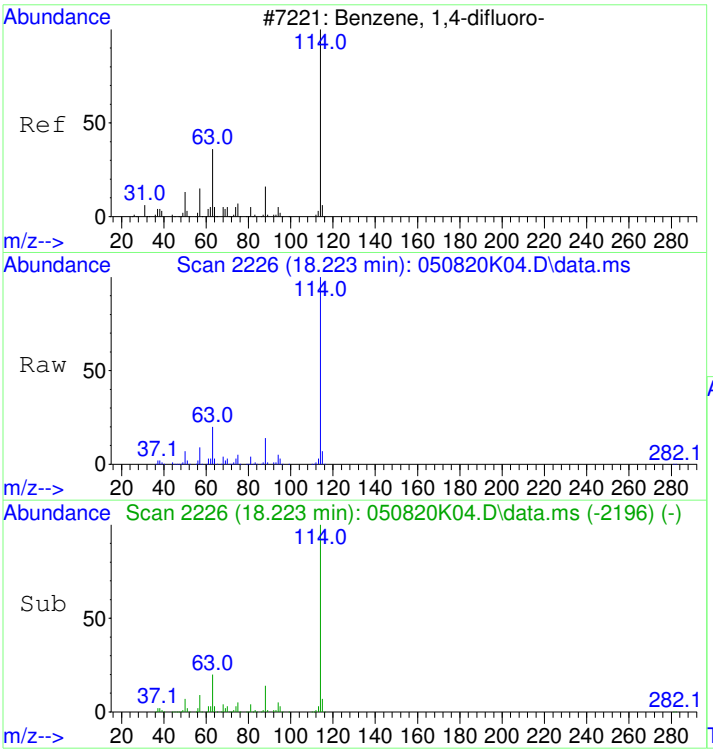


#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 16.319 min Scan# 1913
Delta R.T. 0.006 min
Lab File: 050820K04.D
Acq: 8 May 2020 1:54 pm

Tgt Ion: 49 Resp: 254953

Ion	Ratio	Lower	Upper
49	100		
130	73.9	51.1	91.1
128	56.9	35.0	75.0

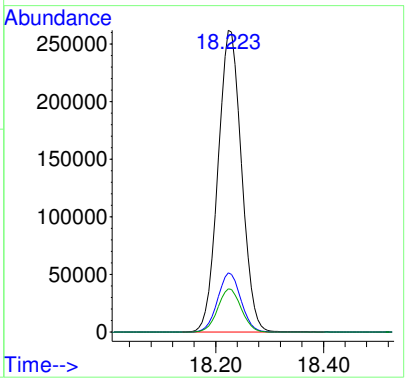


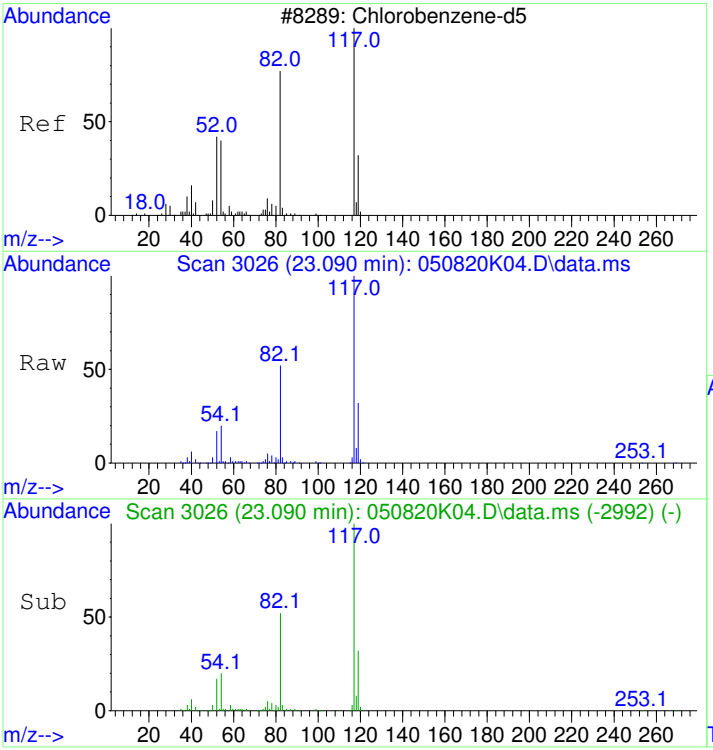


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 18.223 min Scan# 2226
Delta R.T. -0.000 min
Lab File: 050820K04.D
Acq: 8 May 2020 1:54 pm

Tgt Ion:114 Resp: 791487

Ion	Ratio	Lower	Upper
114	100		
63	19.4	0.0	39.6
88	14.2	0.0	34.5

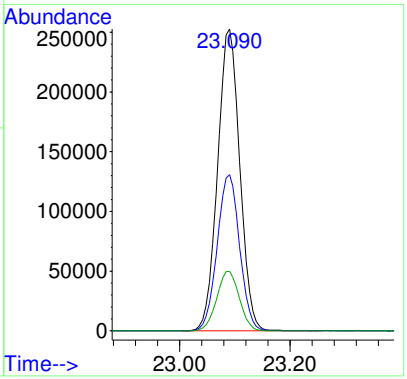




#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 23.090 min Scan# 3026
Delta R.T. 0.006 min
Lab File: 050820K04.D
Acq: 8 May 2020 1:54 pm

Tgt Ion:117 Resp: 705491

Ion	Ratio	Lower	Upper
117	100		
82	52.2	32.5	72.5
54	20.1	0.0	39.6



2005002-01RE1

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K06.D
InstName : HP5973K
Acq On : 8 May 2020 3:35 pm
Operator : EM
Sample : 2005002-01RE1
Misc : 100ml 2nd can dilution can #1106
ALS Vial : 11 Sample Multiplier: 78.52

Quant Time: May 08 16:17:35 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

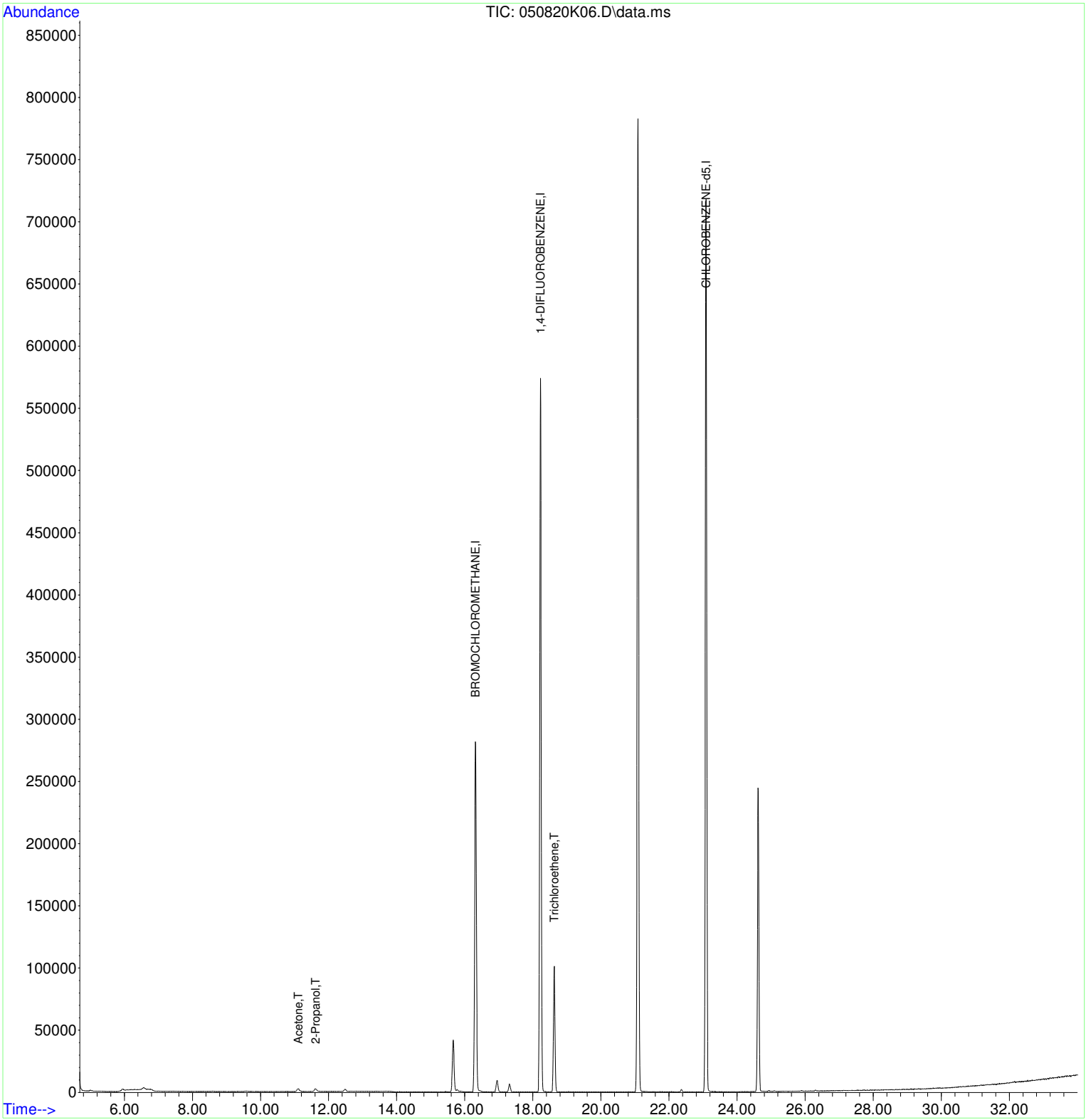
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	16.313	49	253504	19.60 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.223	114	777456	19.60 ppbv	0.00
43) CHLOROBENZENE-d5	23.090	117	695089	19.60 ppbv	0.00
Target Compounds					Qvalue
14) Acetone	11.106	43	8205	0.69 ppbv	99
16) 2-Propanol	11.617	45	7130	0.62 ppbv	86
37) Trichloroethene	18.625	130	59747	5.42 ppbv	99

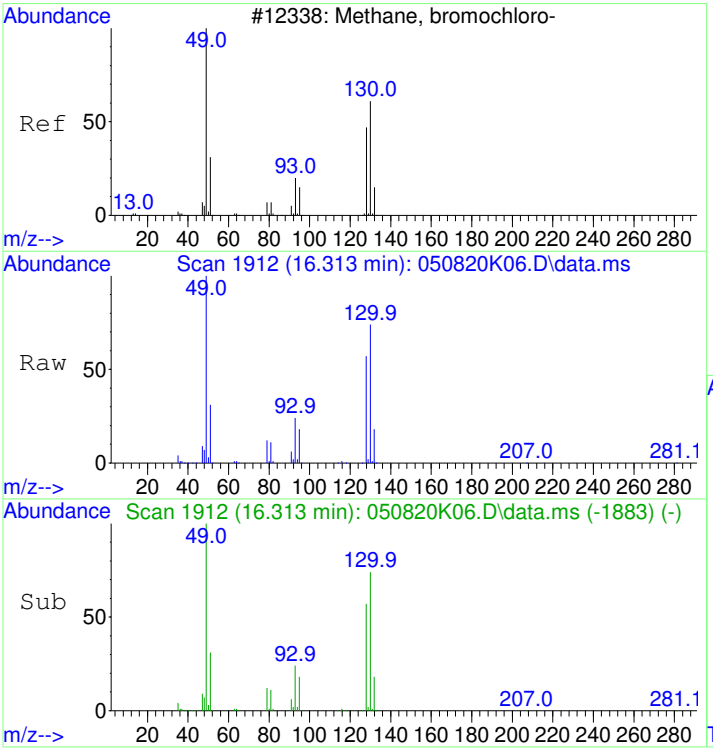
(#) = qualifier out of range (m) = manual integration (+) = signals summed

REVIEWED
By EM at 4:17 pm, May 08, 2020

Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K06.D
InstName : HP5973K
Acq On : 8 May 2020 3:35 pm
Operator : EM
Sample : 2005002-01RE1
Misc : 100ml 2nd can dilution can #1106
ALS Vial : 11 Sample Multiplier: 78.52

Quant Time: May 08 16:17:35 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

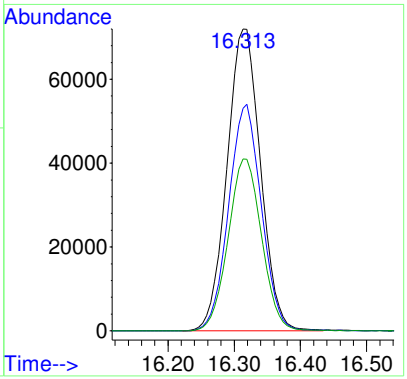


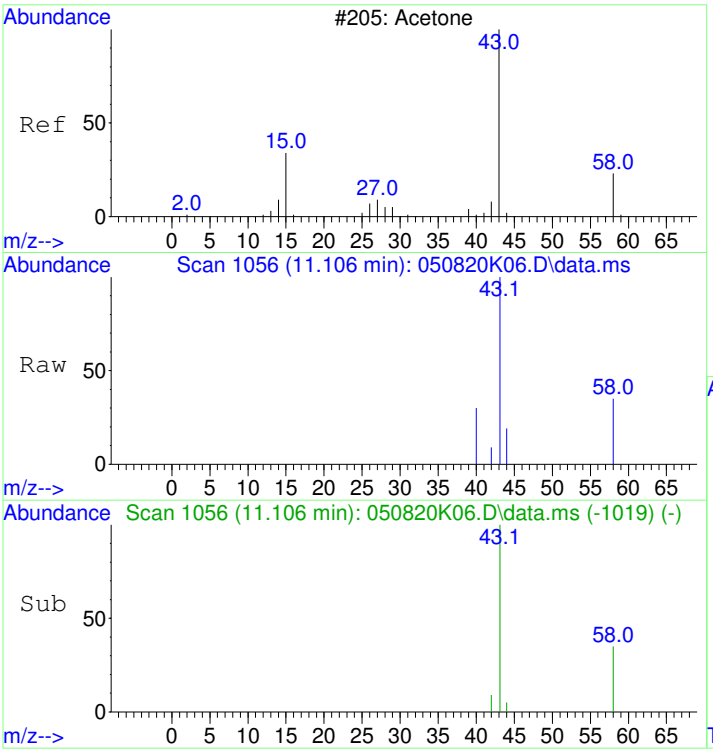


#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 16.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 050820K06.D
Acq: 8 May 2020 3:35 pm

Tgt Ion: 49 Resp: 253504

Ion	Ratio	Lower	Upper
49	100		
130	73.3	51.1	91.1
128	56.3	35.0	75.0

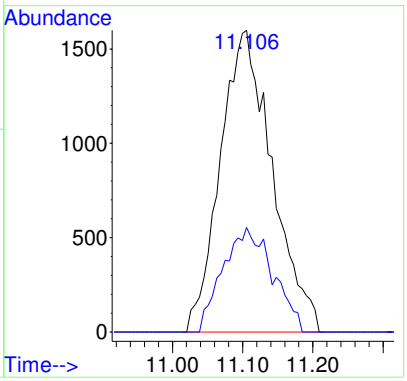


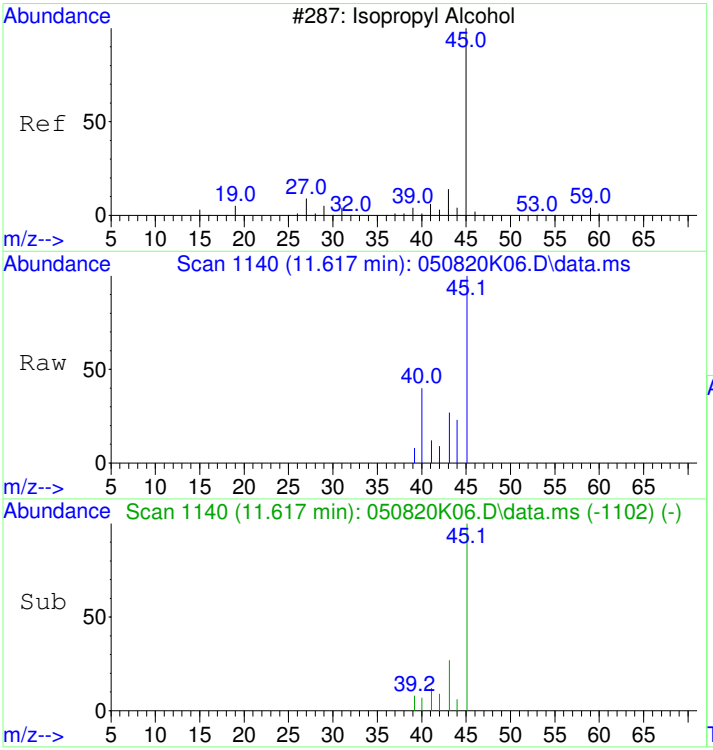


#14
Acetone
Concen: 0.69 ppbv
RT: 11.106 min Scan# 1056
Delta R.T. 0.024 min
Lab File: 050820K06.D
Acq: 8 May 2020 3:35 pm

Tgt Ion: 43 Resp: 8205

Ion	Ratio	Lower	Upper
43	100		
58	33.2	14.0	54.0

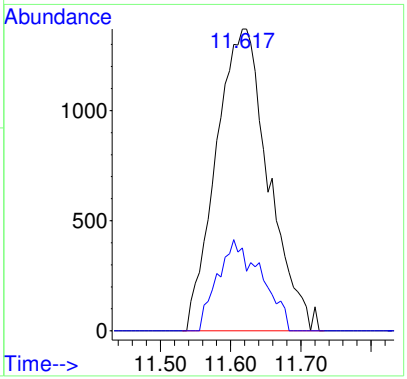


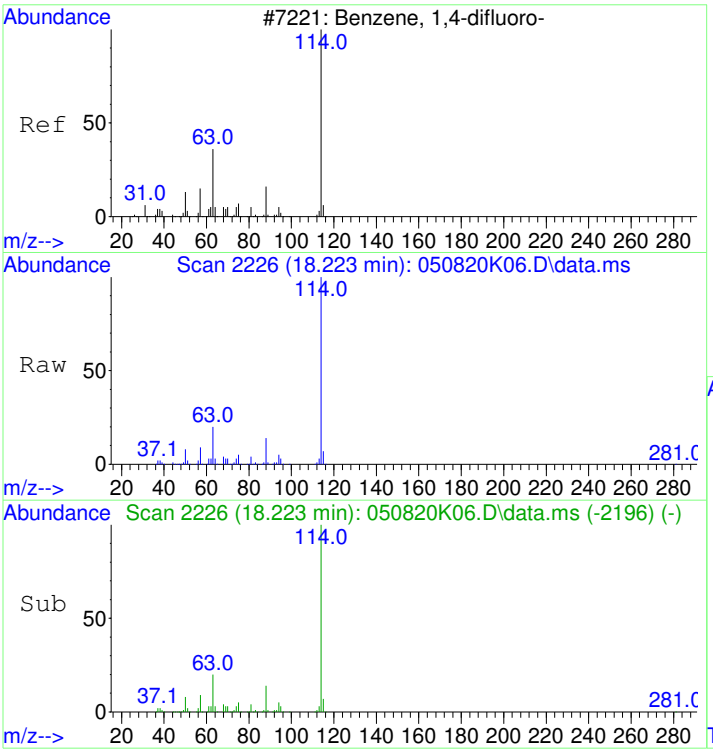


#16
2-Propanol
Concen: 0.62 ppbv
RT: 11.617 min Scan# 1140
Delta R.T. 0.030 min
Lab File: 050820K06.D
Acq: 8 May 2020 3:35 pm

Tgt Ion: 45 Resp: 7130

Ion	Ratio	Lower	Upper
45	100		
43	25.1	0.0	39.0

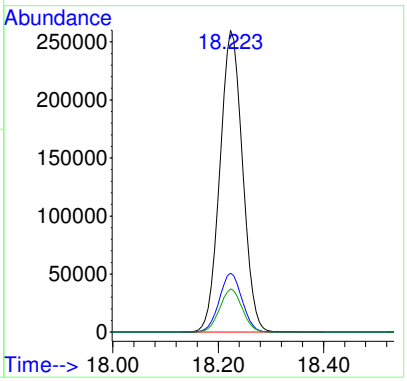


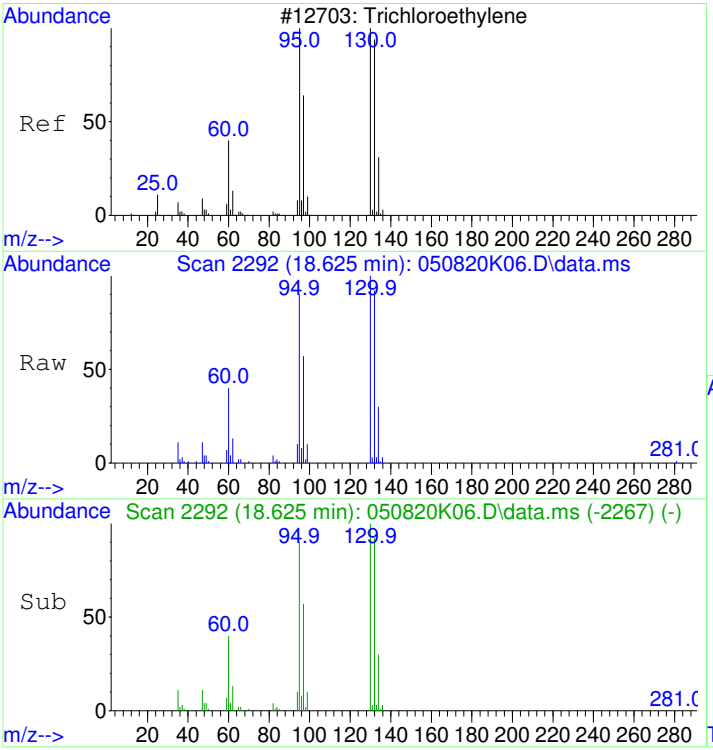


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 18.223 min Scan# 2226
Delta R.T. -0.000 min
Lab File: 050820K06.D
Acq: 8 May 2020 3:35 pm

Tgt Ion:114 Resp: 777456

Ion	Ratio	Lower	Upper
114	100		
63	19.6	0.0	39.6
88	14.2	0.0	34.5

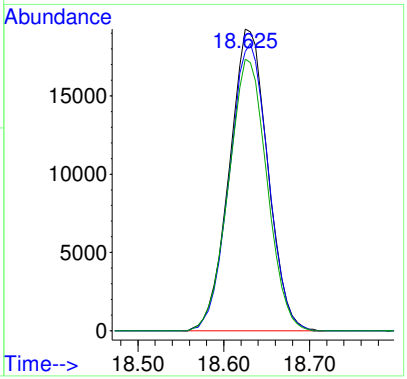


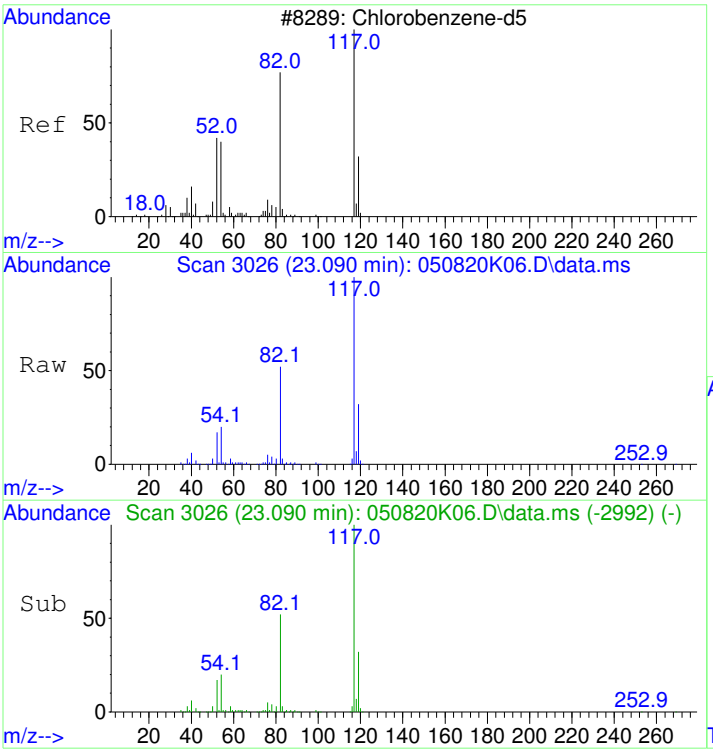


#37
Trichloroethene
Concen: 5.42 ppbv
RT: 18.625 min Scan# 2292
Delta R.T. -0.000 min
Lab File: 050820K06.D
Acq: 8 May 2020 3:35 pm

Tgt Ion:130 Resp: 59747

Ion	Ratio	Lower	Upper
130	100		
132	96.0	75.5	115.5
95	90.2	71.3	111.3

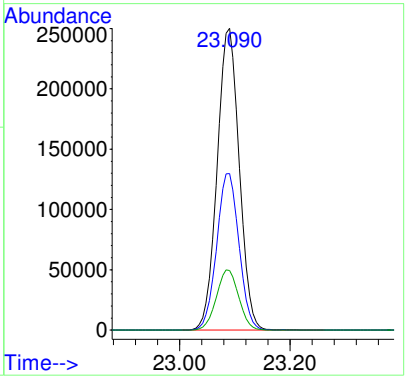




#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 23.090 min Scan# 3026
Delta R.T. 0.006 min
Lab File: 050820K06.D
Acq: 8 May 2020 3:35 pm

Tgt Ion:117 Resp: 695089

Ion	Ratio	Lower	Upper
117	100		
82	52.3	32.5	72.5
54	20.1	0.0	39.6



B20E003-DUP1

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K07.D
InstName : HP5973K
Acq On : 8 May 2020 4:26 pm
Operator : EM
Sample : B20E003-DUP1
Misc : 100ml 2nd can dilution DUP can #1106
ALS Vial : 11 Sample Multiplier: 78.52

Quant Time: May 11 08:58:37 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

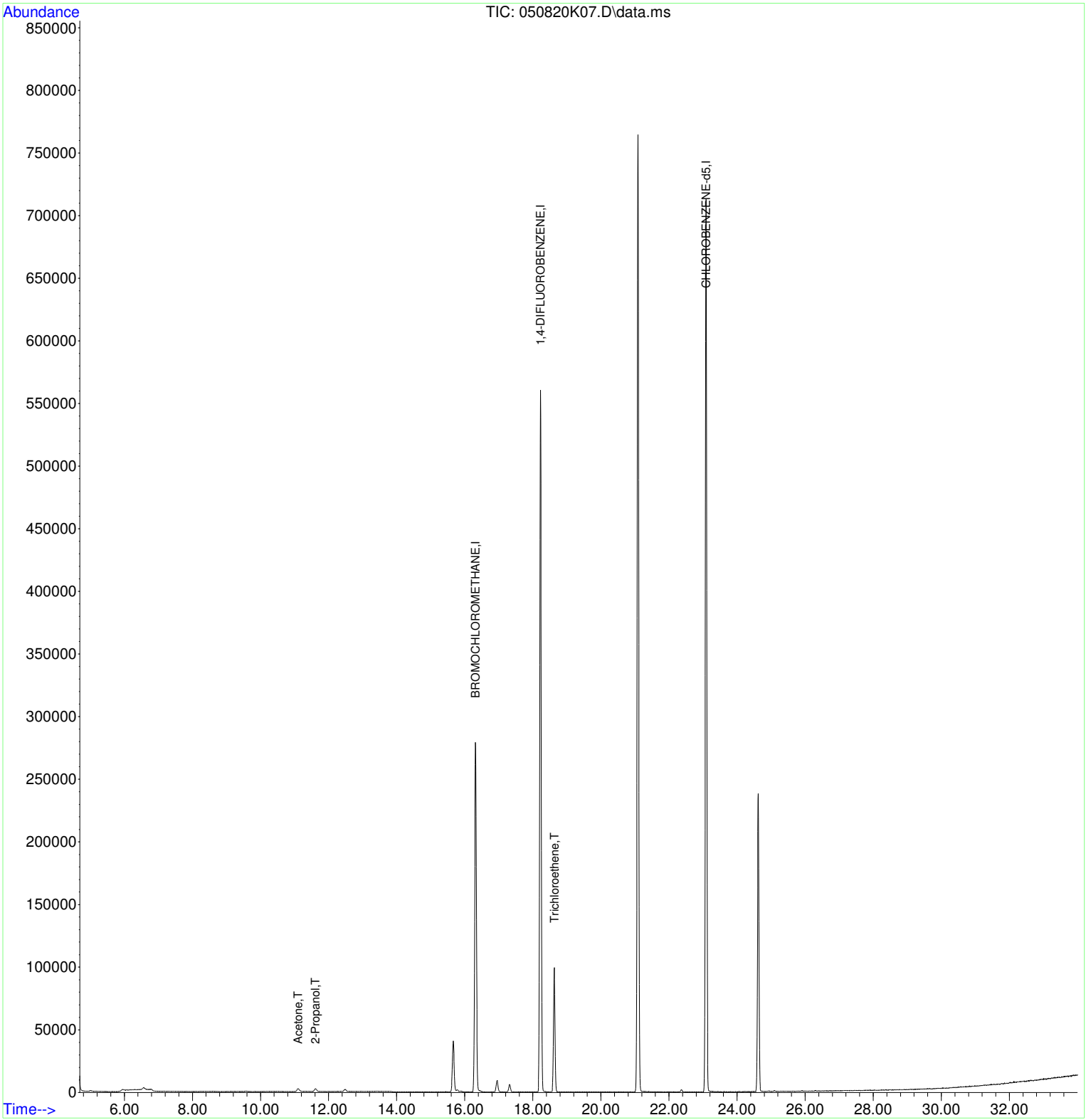
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	16.313	49	249564	19.60 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.223	114	764658	19.60 ppbv	0.00
43) CHLOROBENZENE-d5	23.090	117	686295	19.60 ppbv	0.00
Target Compounds					Qvalue
14) Acetone	11.099	43	8308	0.71 ppbv	96
16) 2-Propanol	11.610	45	7163	0.63 ppbv	87
37) Trichloroethene	18.631	130	58914	5.44 ppbv	99

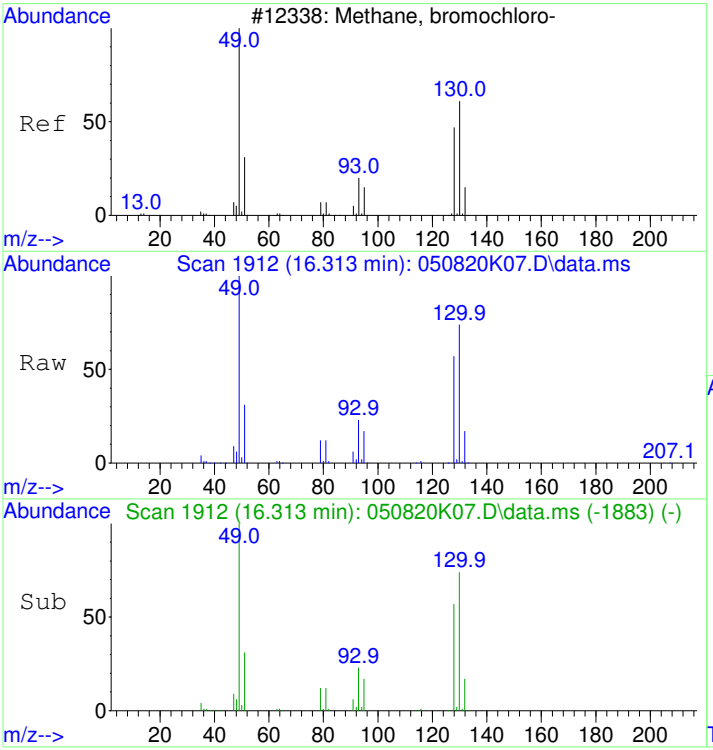
(#) = qualifier out of range (m) = manual integration (+) = signals summed

REVIEWED
By EM at 9:00 am, May 11, 2020

Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K07.D
InstName : HP5973K
Acq On : 8 May 2020 4:26 pm
Operator : EM
Sample : B20E003-DUP1
Misc : 100ml 2nd can dilution DUP can #1106
ALS Vial : 11 Sample Multiplier: 78.52

Quant Time: May 11 08:58:37 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

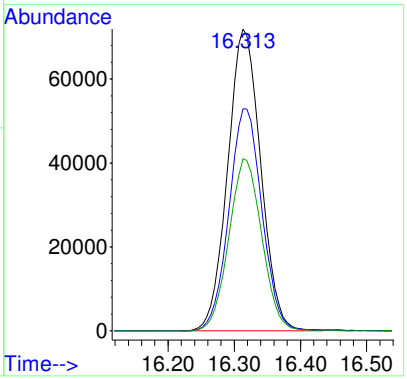


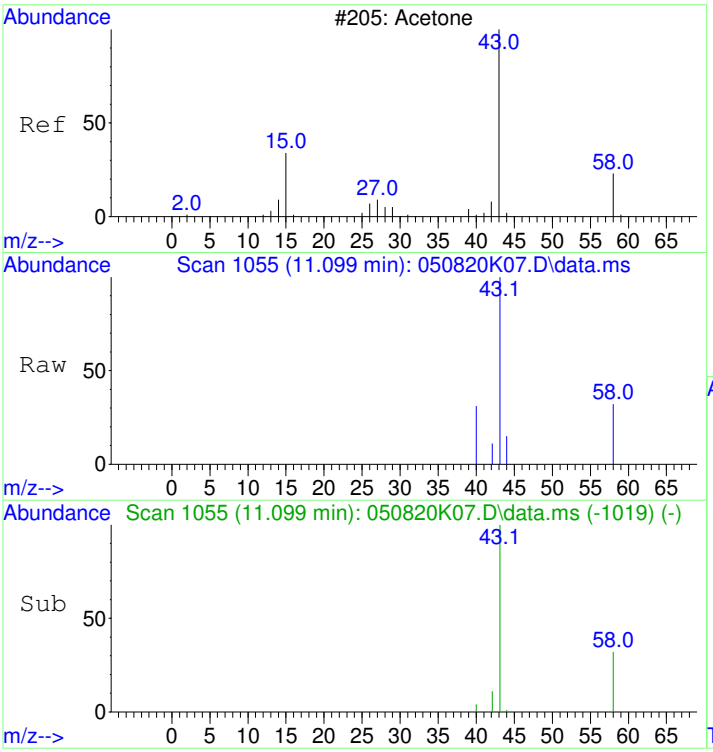


#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 16.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 050820K07.D
Acq: 8 May 2020 4:26 pm

Tgt Ion: 49 Resp: 249564

Ion	Ratio	Lower	Upper
49	100		
130	73.6	51.1	91.1
128	56.4	35.0	75.0

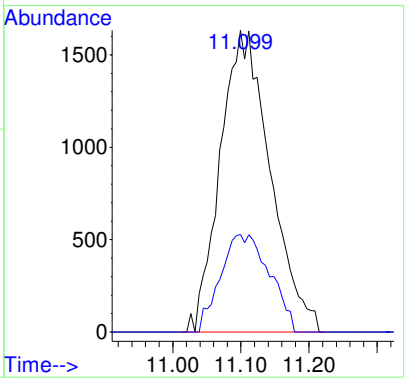


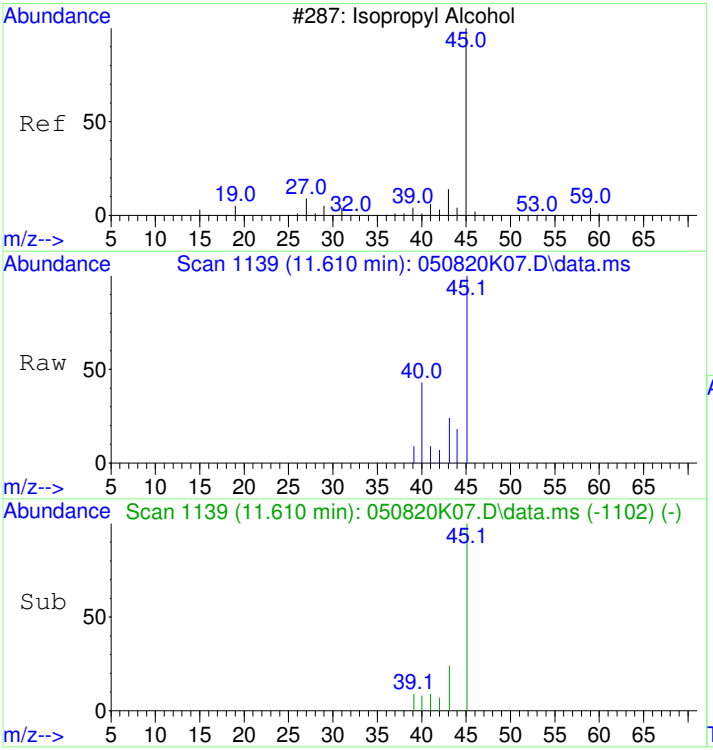


#14
Acetone
Concen: 0.71 ppbv
RT: 11.099 min Scan# 1055
Delta R.T. 0.018 min
Lab File: 050820K07.D
Acq: 8 May 2020 4:26 pm

Tgt Ion: 43 Resp: 8308

Ion	Ratio	Lower	Upper
43	100		
58	31.8	14.0	54.0

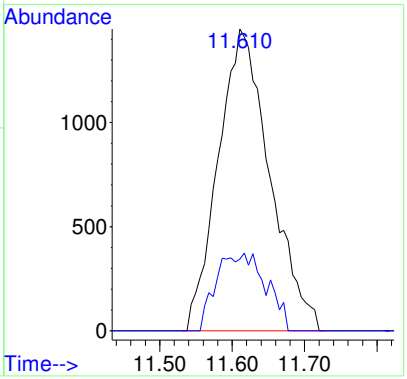


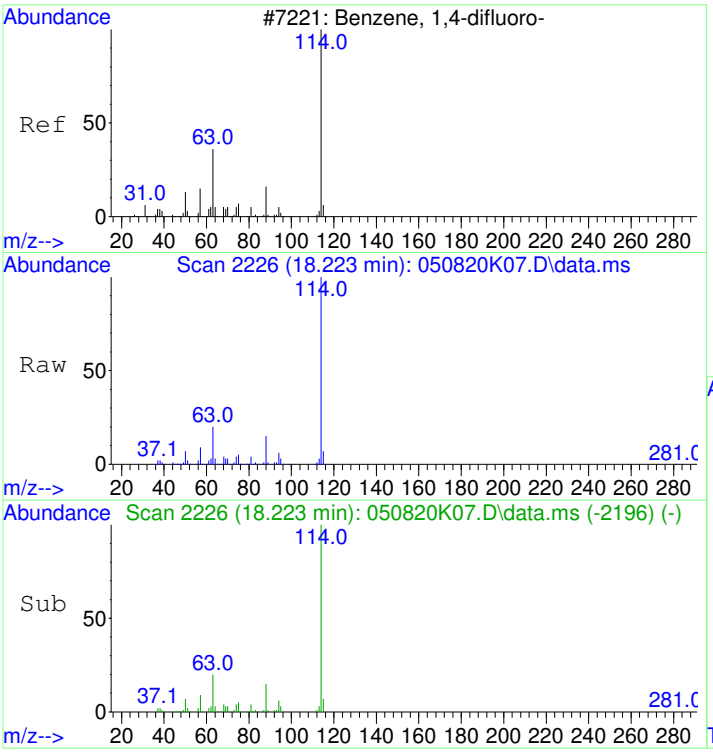


#16
2-Propanol
Concen: 0.63 ppbv
RT: 11.610 min Scan# 1139
Delta R.T. 0.024 min
Lab File: 050820K07.D
Acq: 8 May 2020 4:26 pm

Tgt Ion: 45 Resp: 7163

Ion	Ratio	Lower	Upper
45	100		
43	24.8	0.0	39.0

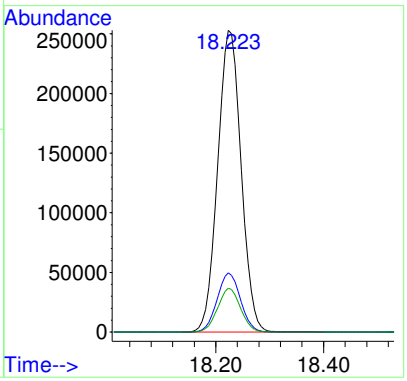


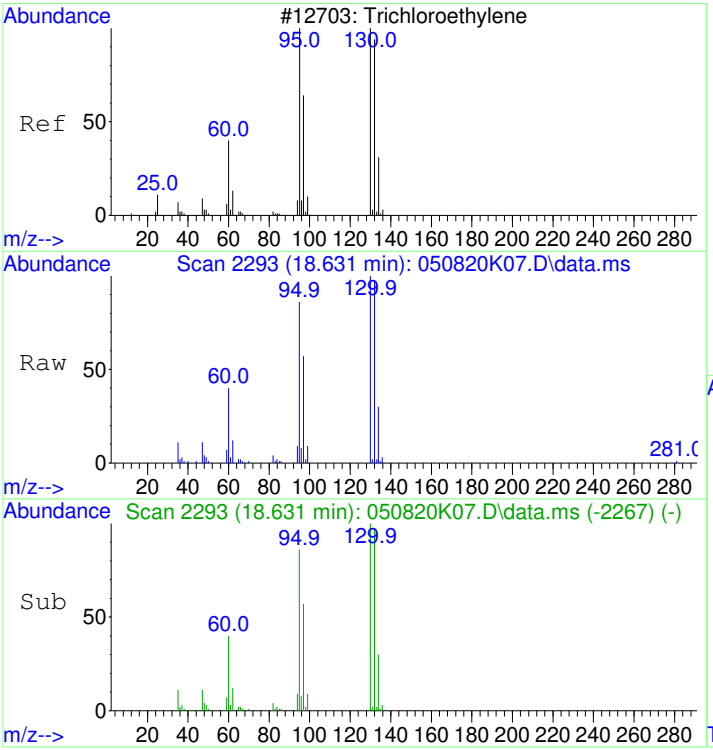


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 18.223 min Scan# 2226
Delta R.T. -0.000 min
Lab File: 050820K07.D
Acq: 8 May 2020 4:26 pm

Tgt Ion:114 Resp: 764658

Ion	Ratio	Lower	Upper
114	100		
63	19.5	0.0	39.6
88	14.2	0.0	34.5

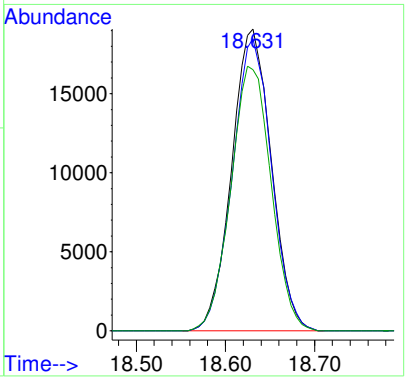


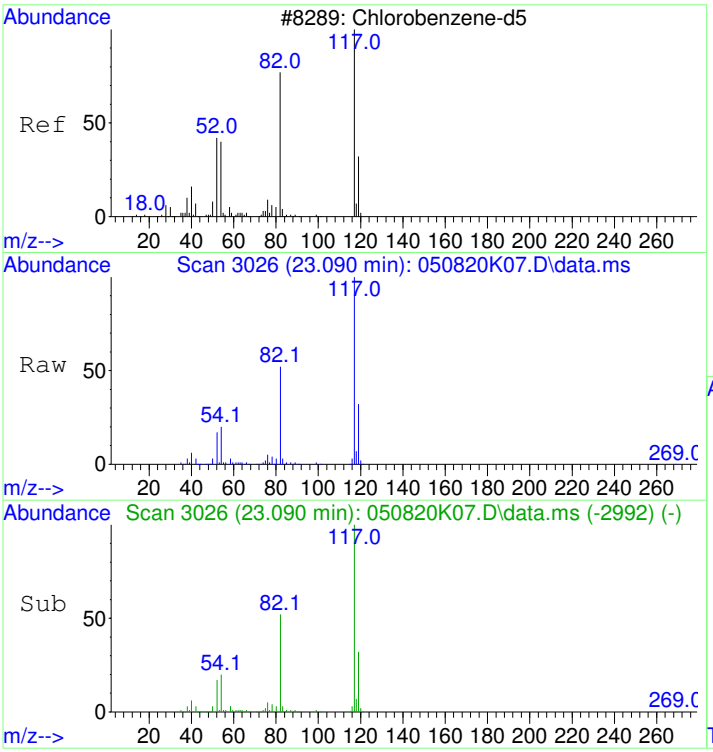


#37
Trichloroethene
Concen: 5.44 ppbv
RT: 18.631 min Scan# 2293
Delta R.T. 0.006 min
Lab File: 050820K07.D
Acq: 8 May 2020 4:26 pm

Tgt Ion:130 Resp: 58914

Ion	Ratio	Lower	Upper
130	100		
132	95.9	75.5	115.5
95	89.1	71.3	111.3

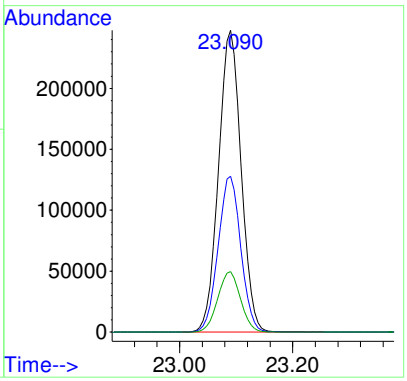




#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 23.090 min Scan# 3026
Delta R.T. 0.006 min
Lab File: 050820K07.D
Acq: 8 May 2020 4:26 pm

Tgt Ion:117 Resp: 686295

Ion	Ratio	Lower	Upper
117	100		
82	51.9	32.5	72.5
54	20.2	0.0	39.6



2005002-03RE1

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K08.D
InstName : HP5973K
Acq On : 8 May 2020 5:17 pm
Operator : EM
Sample : 2005002-03RE1
Misc : 50ml REPRESS
ALS Vial : 12 Sample Multiplier: 3.32

Quant Time: May 11 08:58:41 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	16.319	49	245677	19.60 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.229	114	758641	19.60 ppbv	0.00
43) CHLOROBENZENE-d5	23.090	117	678596	19.60 ppbv	0.00
Target Compounds					Qvalue
37) Trichloroethene	18.631	130	123464	11.48 ppbv	99

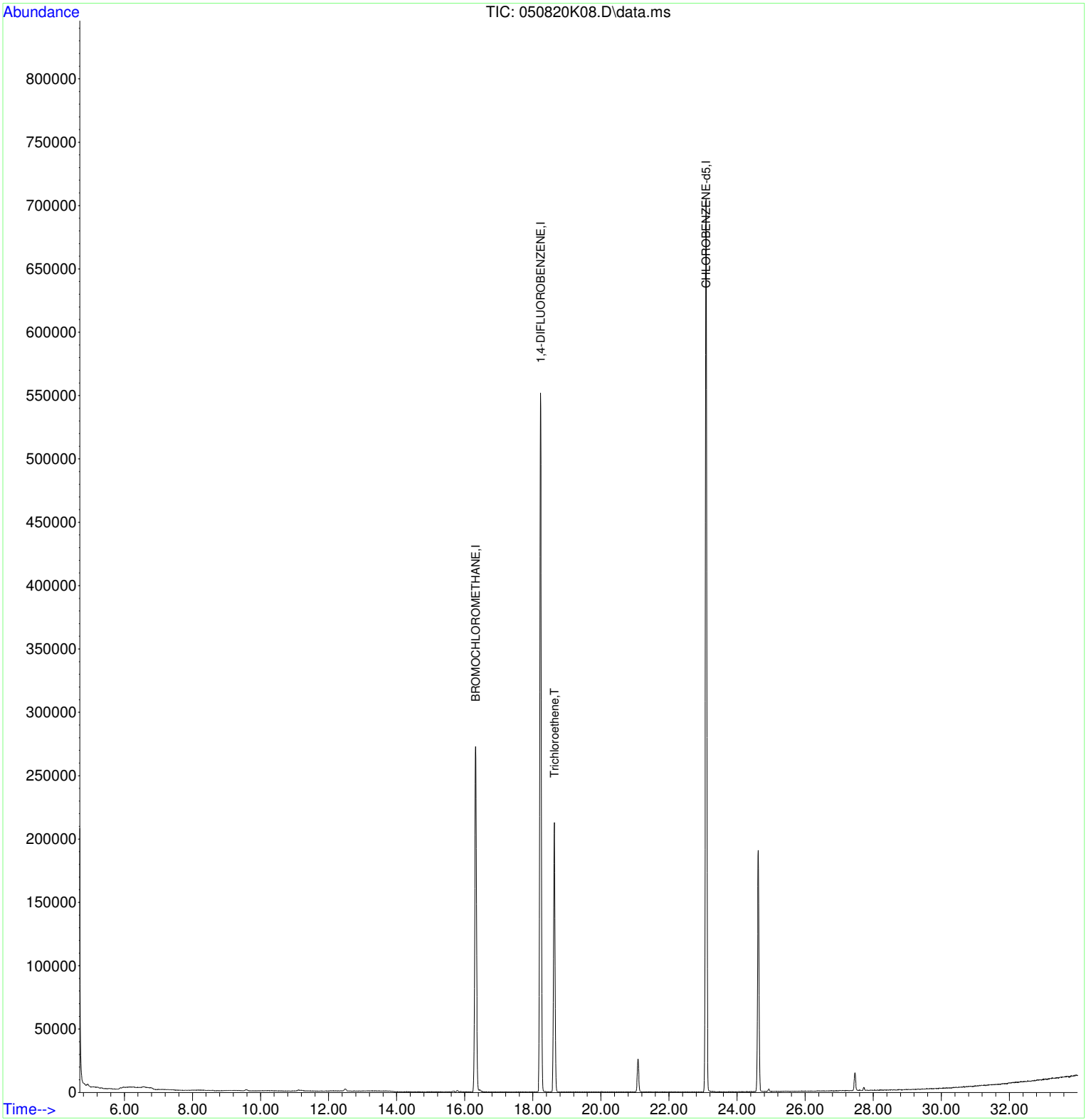
(#) = qualifier out of range (m) = manual integration (+) = signals summed

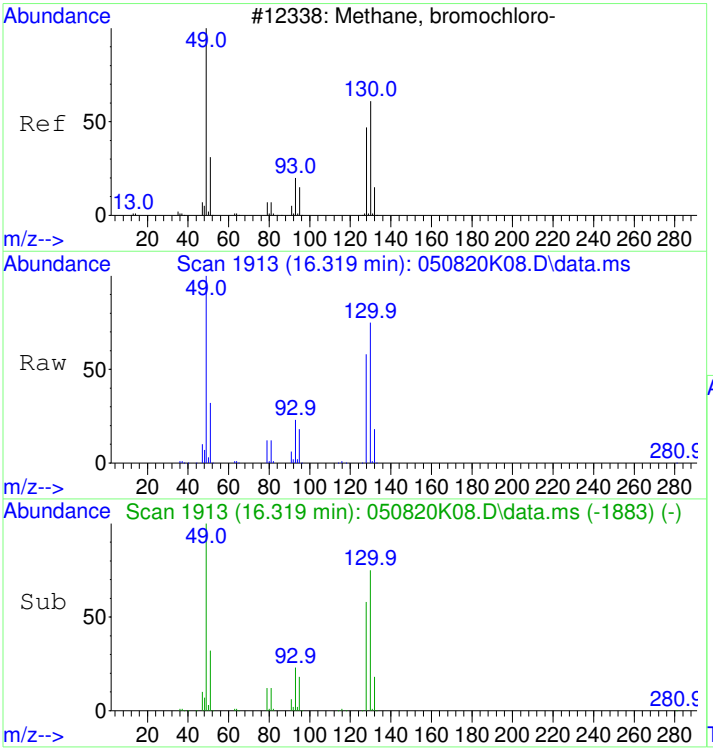
REVIEWED
By EM at 9:00 am, May 11, 2020

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K08.D
InstName : HP5973K
Acq On : 8 May 2020 5:17 pm
Operator : EM
Sample : 2005002-03RE1
Misc : 50ml REPRESS
ALS Vial : 12 Sample Multiplier: 3.32

Quant Time: May 11 08:58:41 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

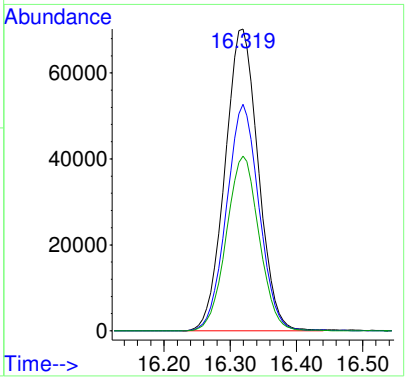


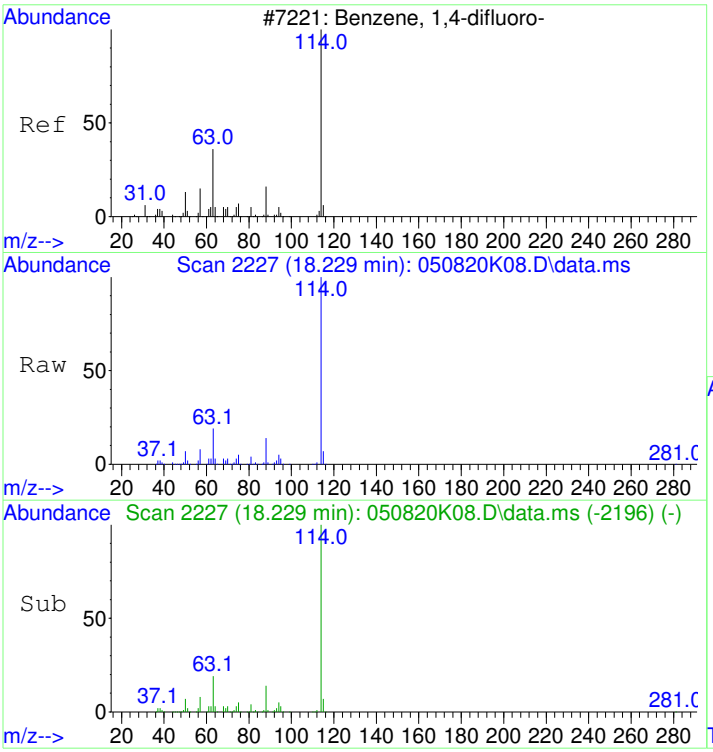


#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 16.319 min Scan# 1913
Delta R.T. 0.006 min
Lab File: 050820K08.D
Acq: 8 May 2020 5:17 pm

Tgt Ion: 49 Resp: 245677

Ion	Ratio	Lower	Upper
49	100		
130	73.4	51.1	91.1
128	56.6	35.0	75.0

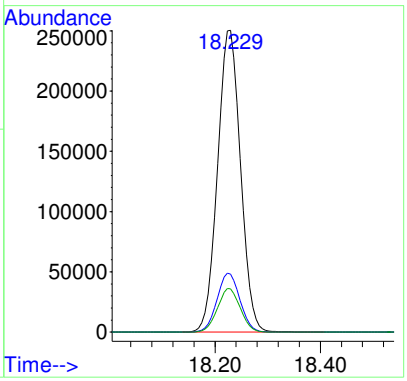


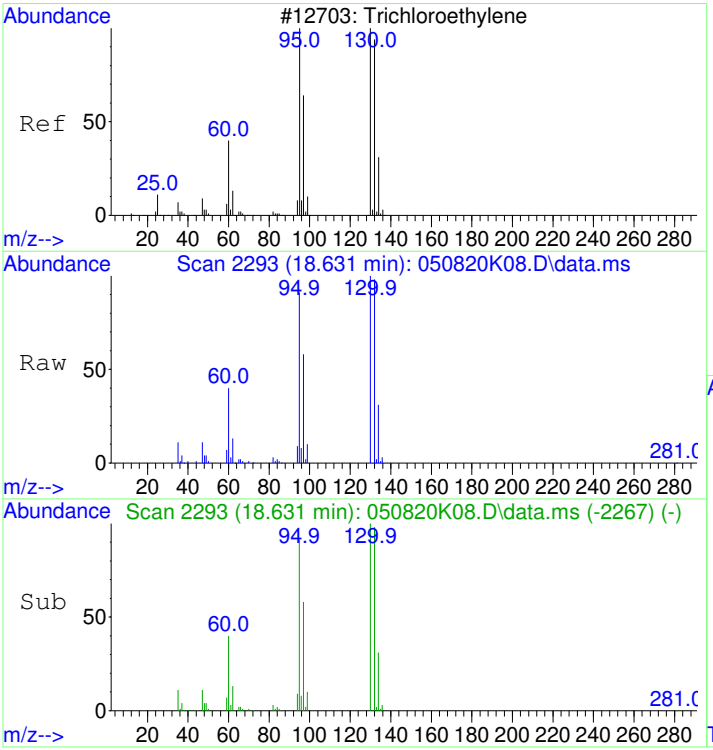


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 18.229 min Scan# 2227
Delta R.T. 0.006 min
Lab File: 050820K08.D
Acq: 8 May 2020 5:17 pm

Tgt Ion:114 Resp: 758641

Ion	Ratio	Lower	Upper
114	100		
63	19.5	0.0	39.6
88	14.3	0.0	34.5

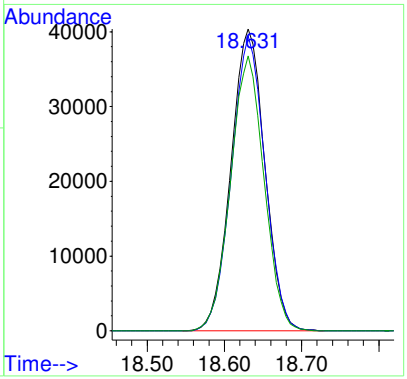


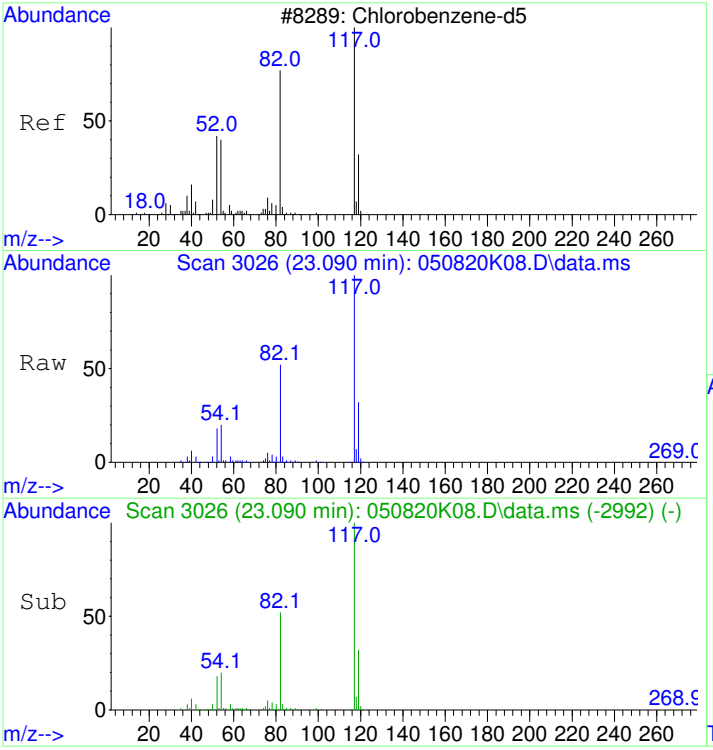


#37
Trichloroethene
Concen: 11.48 ppbv
RT: 18.631 min Scan# 2293
Delta R.T. 0.006 min
Lab File: 050820K08.D
Acq: 8 May 2020 5:17 pm

Tgt Ion:130 Resp: 123464

Ion	Ratio	Lower	Upper
130	100		
132	96.2	75.5	115.5
95	89.7	71.3	111.3

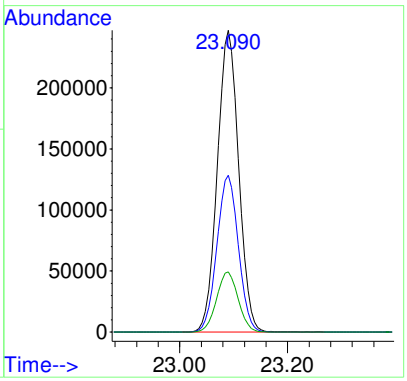




#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 23.090 min Scan# 3026
Delta R.T. 0.006 min
Lab File: 050820K08.D
Acq: 8 May 2020 5:17 pm

Tgt Ion:117 Resp: 678596

Ion	Ratio	Lower	Upper
117	100		
82	52.3	32.5	72.5
54	20.2	0.0	39.6



2005002-07RE1

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K09.D
InstName : HP5973K
Acq On : 8 May 2020 6:07 pm
Operator : EM
Sample : 2005002-07RE1
Misc : 50ml REPRESS
ALS Vial : 13 Sample Multiplier: 3.22

Quant Time: May 11 08:58:44 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	16.313	49	245226	19.60	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	18.223	114	748482	19.60	ppbv		0.00
43) CHLOROBENZENE-d5	23.090	117	670760	19.60	ppbv		0.00
Target Compounds							Qvalue
14) Acetone	11.093	43	31759	2.78	ppbv		97
24) cis-1,2-Dichloroethene	15.778	61	14741	1.40	ppbv	#	96
25) 2-Butanone (MEK)	15.869	72	28813	6.69	ppbv	#	1
28) Chloroform	16.447	83	10352	0.71	ppbv		98
37) Trichloroethene	18.631	130	39644	3.74	ppbv		98

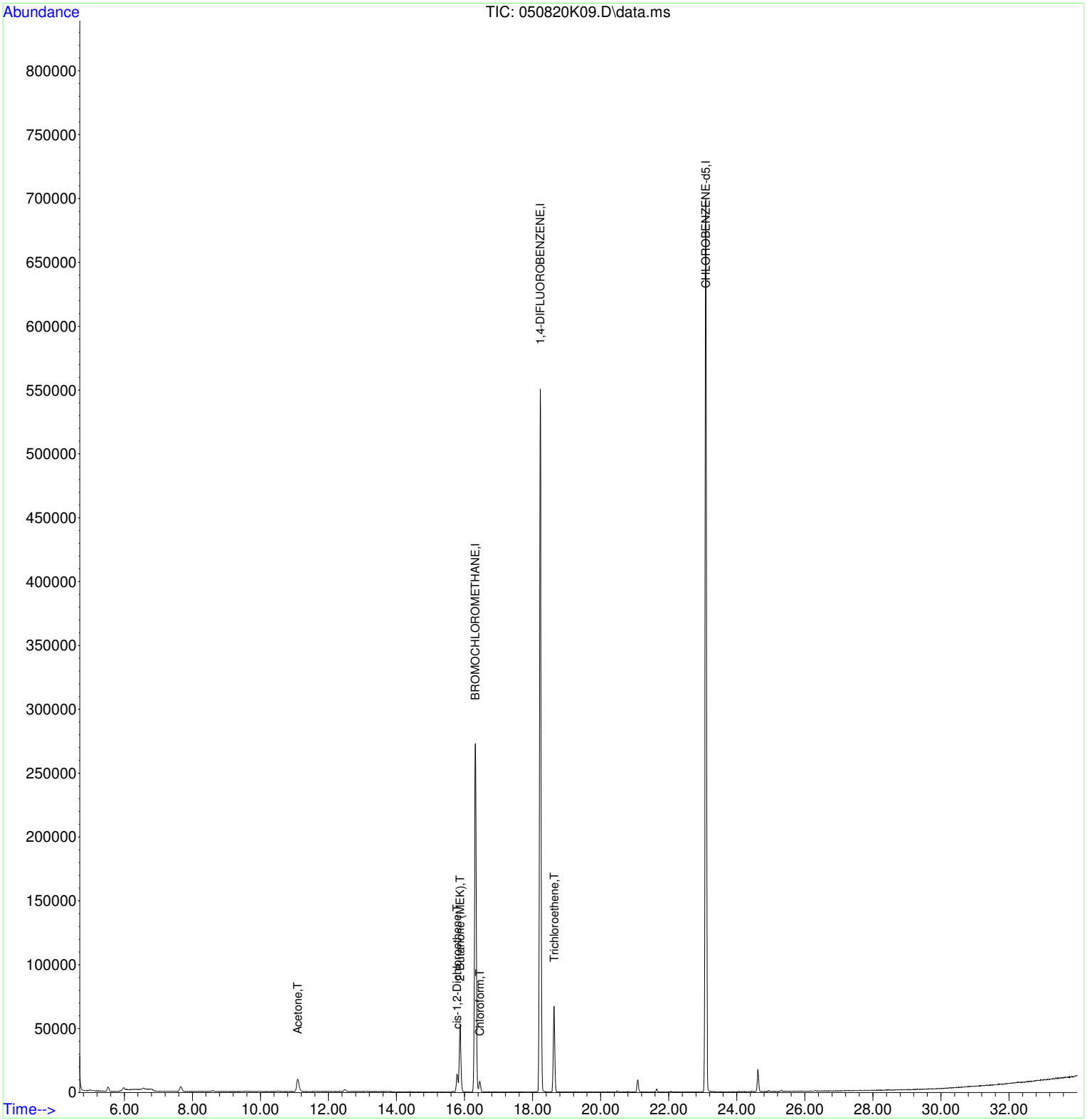
(#) = qualifier out of range (m) = manual integration (+) = signals summed

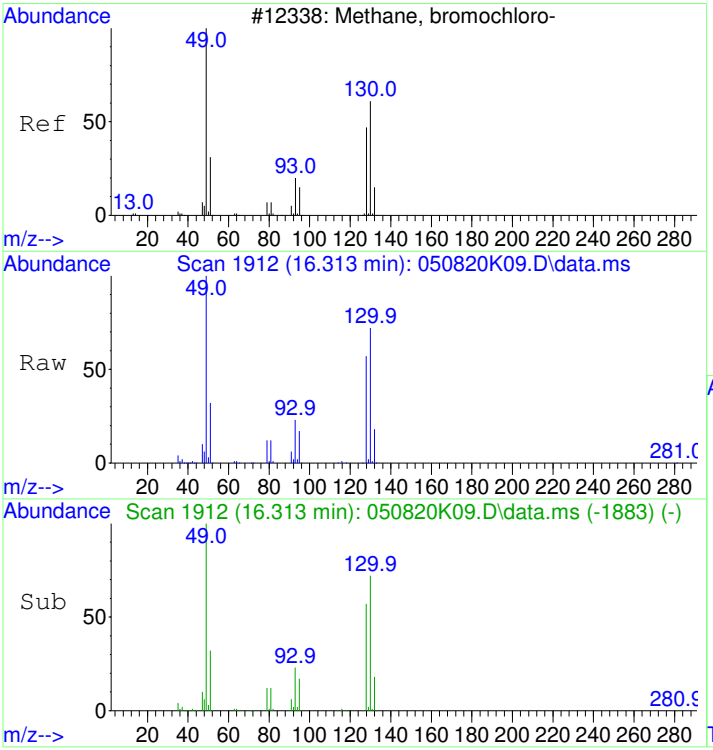
REVIEWED
By EM at 8:59 am, May 11, 2020

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K09.D
InstName : HP5973K
Acq On : 8 May 2020 6:07 pm
Operator : EM
Sample : 2005002-07RE1
Misc : 50ml REPRESS
ALS Vial : 13 Sample Multiplier: 3.22

Quant Time: May 11 08:58:44 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

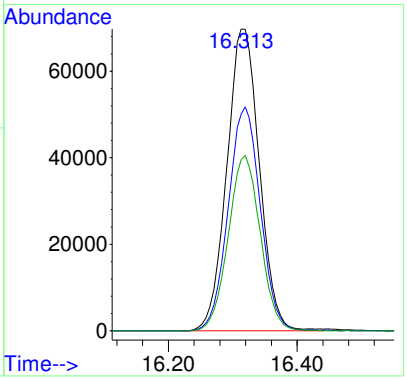


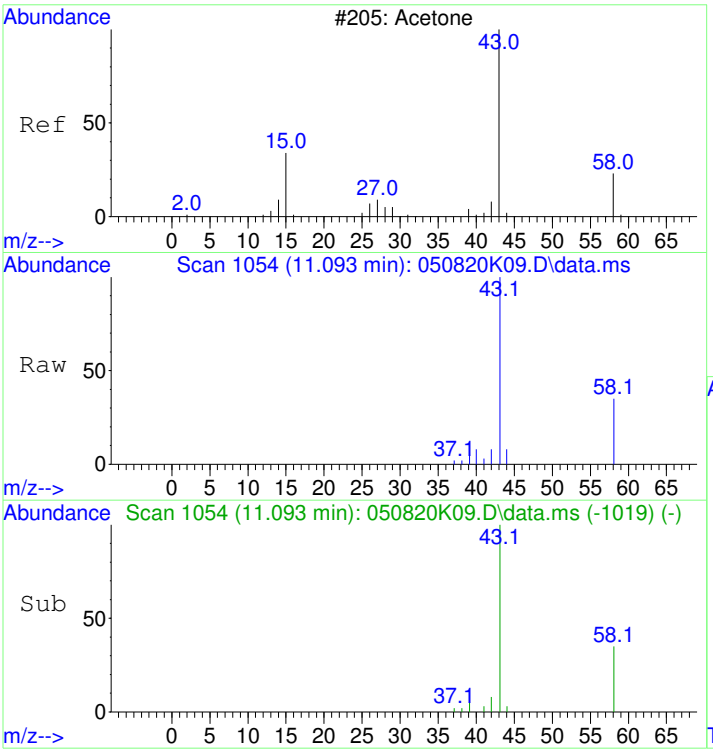


#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 16.313 min Scan# 1912
Delta R.T. 0.000 min
Lab File: 050820K09.D
Acq: 8 May 2020 6:07 pm

Tgt Ion: 49 Resp: 245226

Ion	Ratio	Lower	Upper
49	100		
130	73.3	51.1	91.1
128	56.7	35.0	75.0

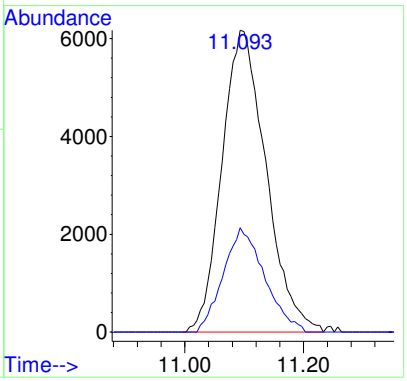


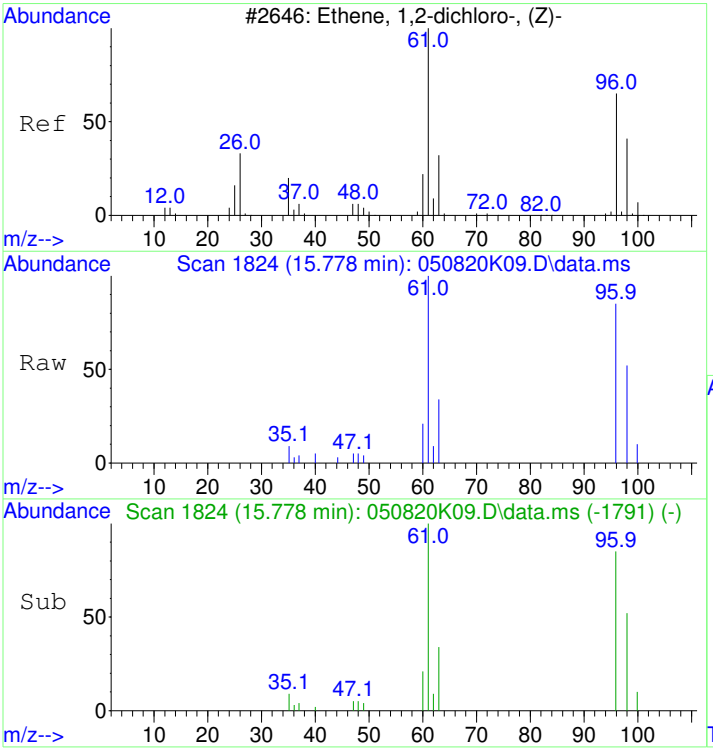


#14
Acetone
Concen: 2.78 ppbv
RT: 11.093 min Scan# 1054
Delta R.T. 0.012 min
Lab File: 050820K09.D
Acq: 8 May 2020 6:07 pm

Tgt Ion: 43 Resp: 31759

Ion	Ratio	Lower	Upper
43	100		
58	32.3	14.0	54.0

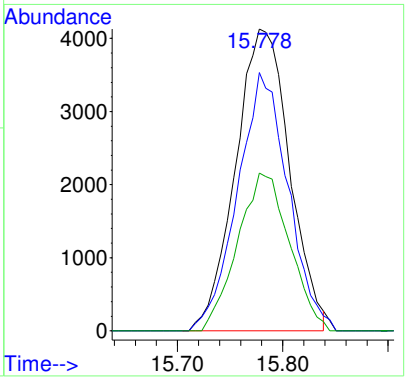


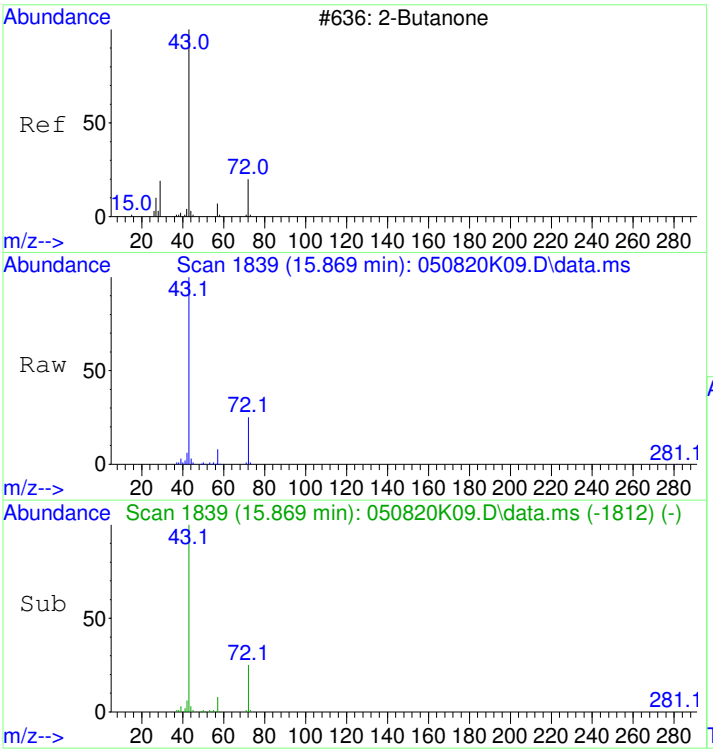


#24
cis-1,2-Dichloroethene
Concen: 1.40 ppbv
RT: 15.778 min Scan# 1824
Delta R.T. -0.000 min
Lab File: 050820K09.D
Acq: 8 May 2020 6:07 pm

Tgt Ion: 61 Resp: 14741

Ion	Ratio	Lower	Upper
61	100		
96	79.5	55.7	95.7
98	0.0	0.0	20.0

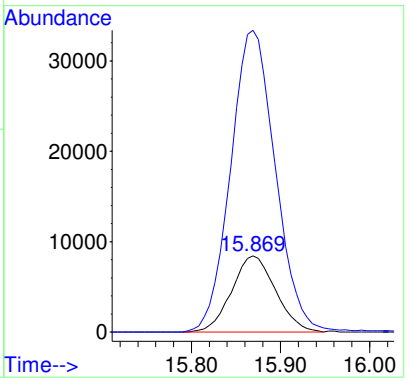


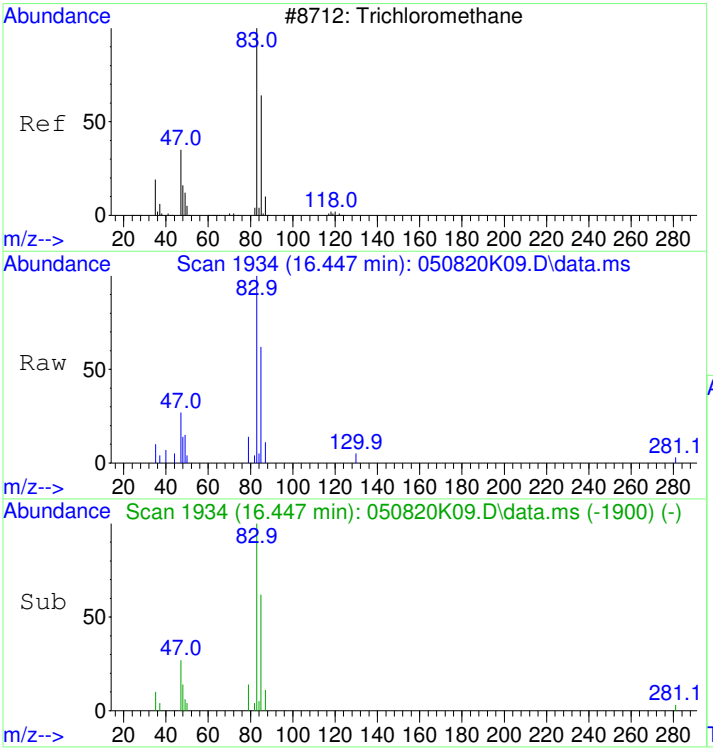


#25
2-Butanone (MEK)
Concen: 6.69 ppbv
RT: 15.869 min Scan# 1839
Delta R.T. 0.012 min
Lab File: 050820K09.D
Acq: 8 May 2020 6:07 pm

Tgt Ion: 72 Resp: 28813

Ion	Ratio	Lower	Upper
72	100		
43	404.6	812.3	832.3#

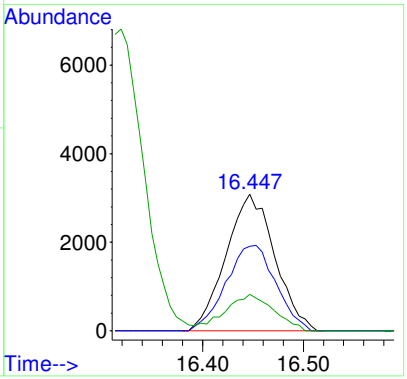


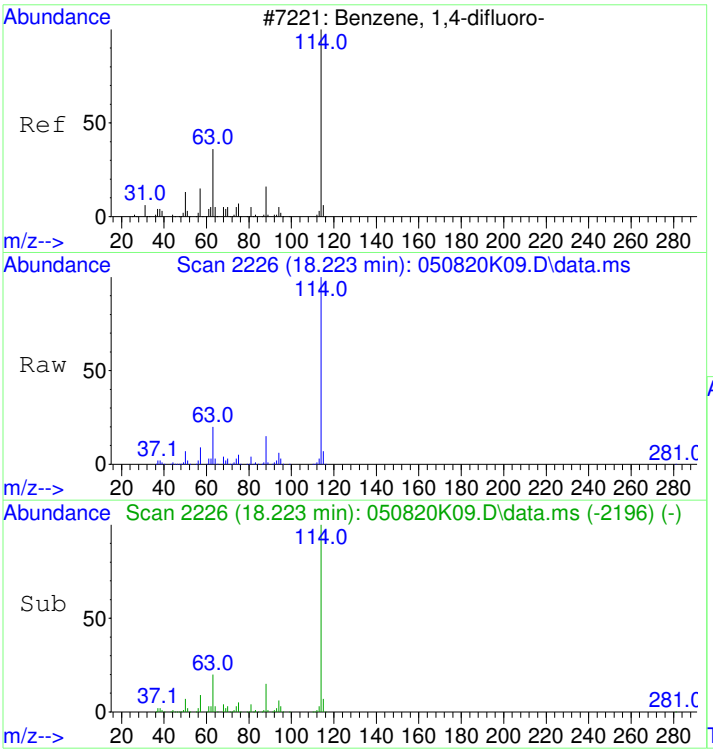


#28
Chloroform
Concen: 0.71 ppbv
RT: 16.447 min Scan# 1934
Delta R.T. 0.006 min
Lab File: 050820K09.D
Acq: 8 May 2020 6:07 pm

Tgt Ion: 83 Resp: 10352

Ion	Ratio	Lower	Upper
83	100		
85	63.9	44.6	84.6
47	20.8	3.0	43.0

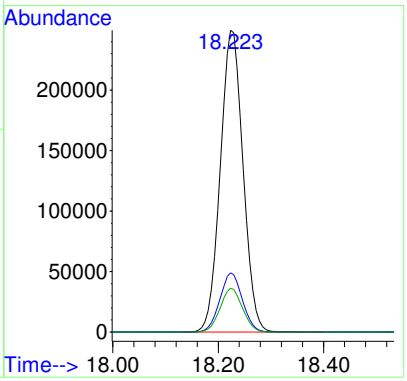


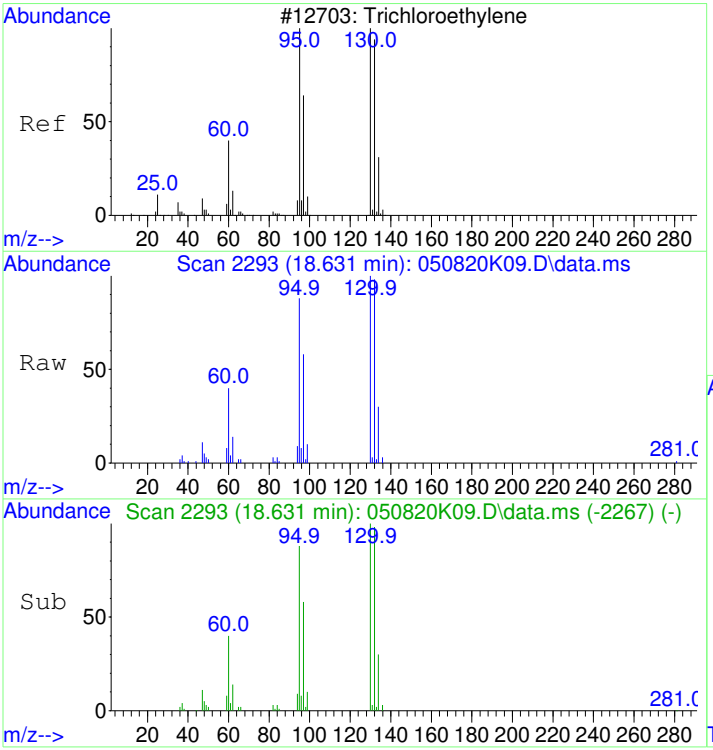


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 18.223 min Scan# 2226
Delta R.T. -0.000 min
Lab File: 050820K09.D
Acq: 8 May 2020 6:07 pm

Tgt Ion:114 Resp: 748482

Ion	Ratio	Lower	Upper
114	100		
63	19.4	0.0	39.6
88	14.3	0.0	34.5

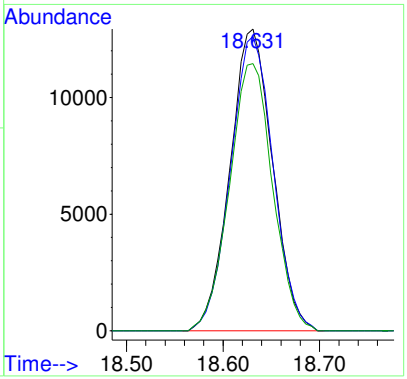


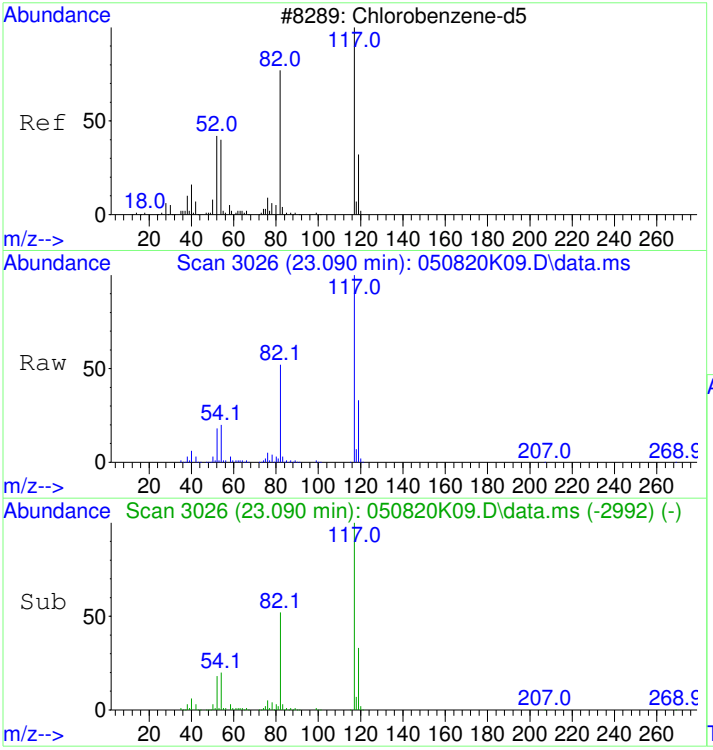


#37
Trichloroethene
Concen: 3.74 ppbv
RT: 18.631 min Scan# 2293
Delta R.T. 0.006 min
Lab File: 050820K09.D
Acq: 8 May 2020 6:07 pm

Tgt Ion:130 Resp: 39644

Ion	Ratio	Lower	Upper
130	100		
132	97.9	75.5	115.5
95	90.0	71.3	111.3

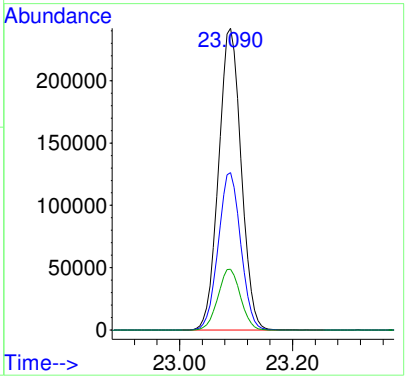




#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 23.090 min Scan# 3026
Delta R.T. 0.006 min
Lab File: 050820K09.D
Acq: 8 May 2020 6:07 pm

Tgt Ion:117 Resp: 670760

Ion	Ratio	Lower	Upper
117	100		
82	52.1	32.5	72.5
54	20.2	0.0	39.6



2005002-08RE1

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K10.D
InstName : HP5973K
Acq On : 8 May 2020 6:57 pm
Operator : EM
Sample : 2005002-08RE1
Misc : 50ml REPRESS
ALS Vial : 14 Sample Multiplier: 3.89

Quant Time: May 11 08:58:48 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	16.319	49	246731	19.60	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	18.223	114	758710	19.60	ppbv		0.00
43) CHLOROBENZENE-d5	23.090	117	683563	19.60	ppbv		0.00
Target Compounds							Qvalue
14) Acetone	11.105	43	16015	1.39	ppbv		100
24) cis-1,2-Dichloroethene	15.784	61	20204	1.90	ppbv	#	97
25) 2-Butanone (MEK)	15.881	72	3324	0.77	ppbv	#	1
28) Chloroform	16.453	83	26350	1.79	ppbv		99
37) Trichloroethene	18.631	130	43775	4.07	ppbv		99

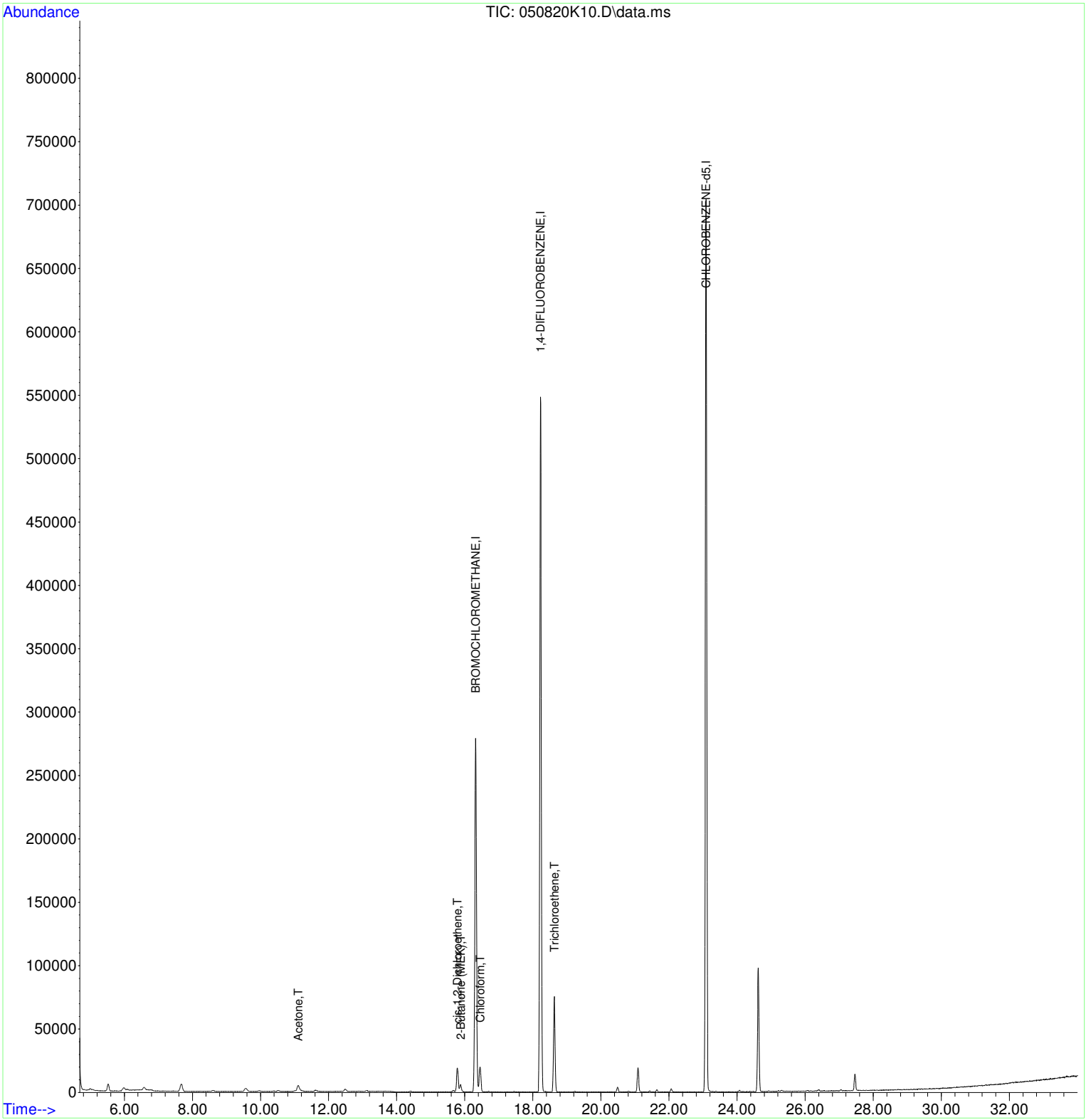
(#) = qualifier out of range (m) = manual integration (+) = signals summed

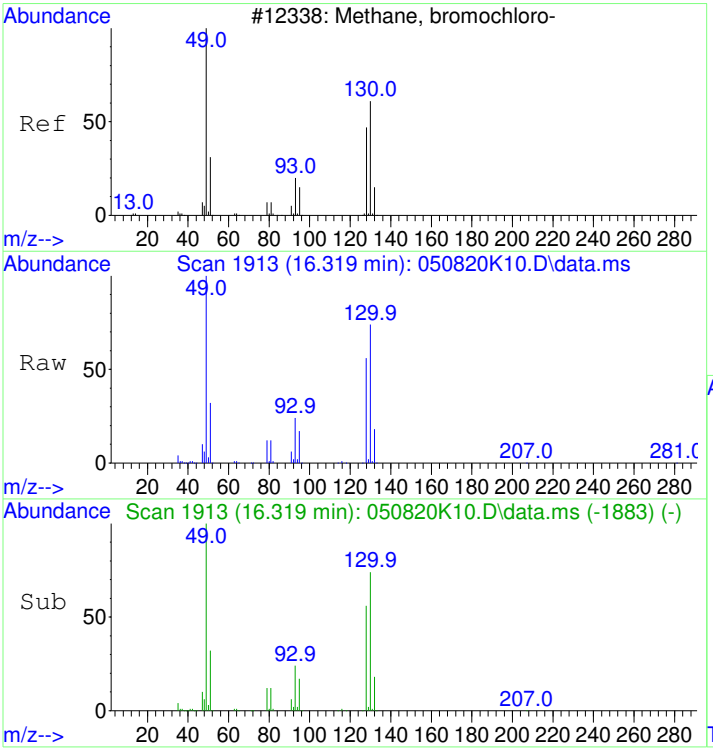
REVIEWED
By EM at 8:59 am, May 11, 2020

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K10.D
InstName : HP5973K
Acq On : 8 May 2020 6:57 pm
Operator : EM
Sample : 2005002-08RE1
Misc : 50ml REPRESS
ALS Vial : 14 Sample Multiplier: 3.89

Quant Time: May 11 08:58:48 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

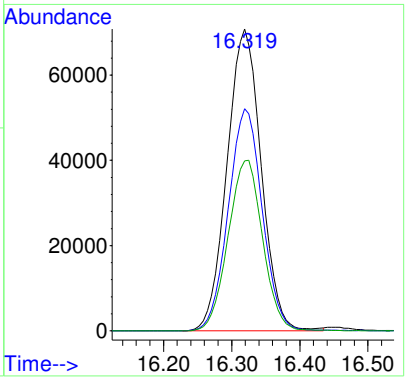


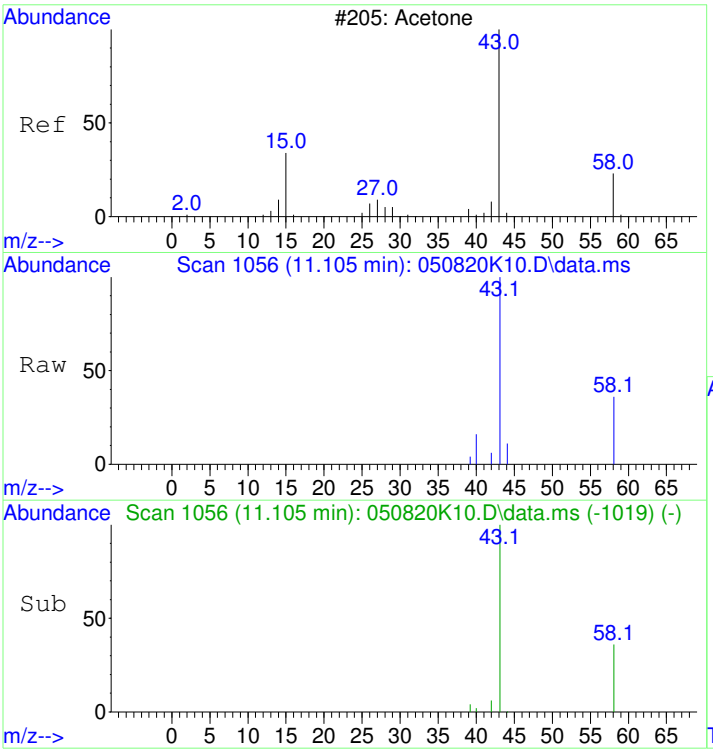


#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 16.319 min Scan# 1913
Delta R.T. 0.006 min
Lab File: 050820K10.D
Acq: 8 May 2020 6:57 pm

Tgt Ion: 49 Resp: 246731

Ion	Ratio	Lower	Upper
49	100		
130	72.9	51.1	91.1
128	56.2	35.0	75.0

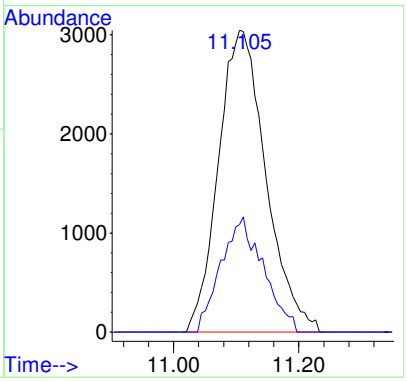


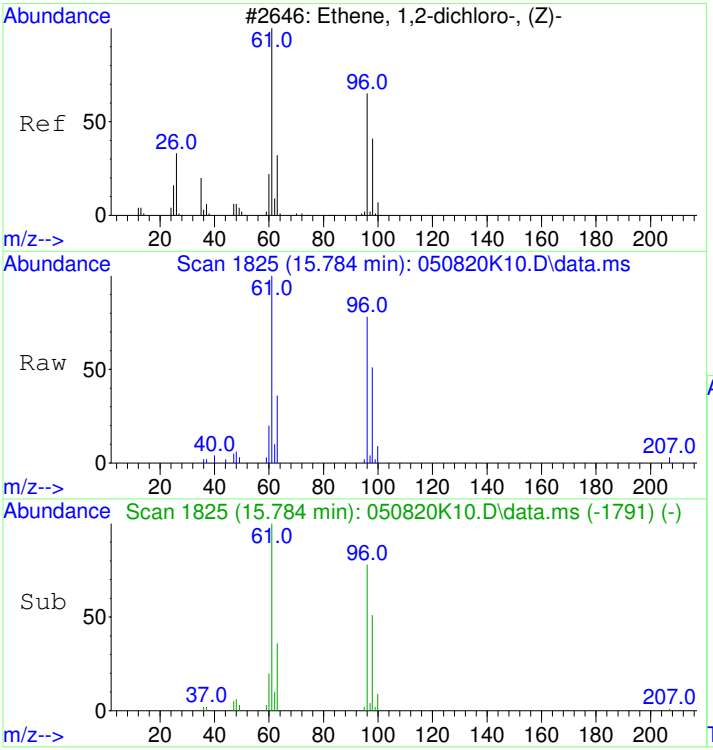


#14
Acetone
Concen: 1.39 ppbv
RT: 11.105 min Scan# 1056
Delta R.T. 0.024 min
Lab File: 050820K10.D
Acq: 8 May 2020 6:57 pm

Tgt Ion: 43 Resp: 16015

Ion	Ratio	Lower	Upper
43	100		
58	33.9	14.0	54.0

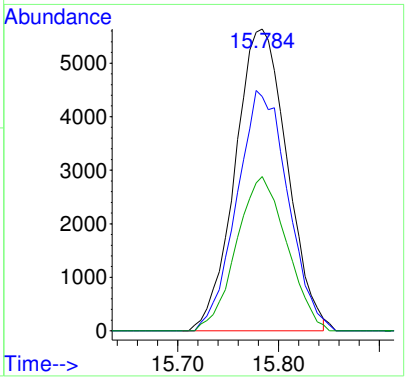


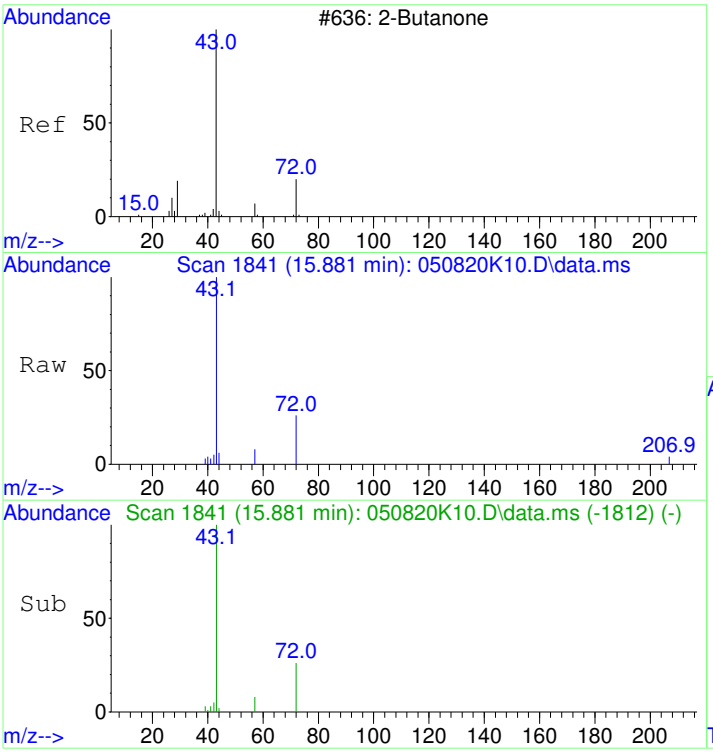


#24
cis-1,2-Dichloroethene
Concen: 1.90 ppbv
RT: 15.784 min Scan# 1825
Delta R.T. 0.006 min
Lab File: 050820K10.D
Acq: 8 May 2020 6:57 pm

Tgt Ion: 61 Resp: 20204

Ion	Ratio	Lower	Upper
61	100		
96	78.2	55.7	95.7
98	0.0	0.0	20.0

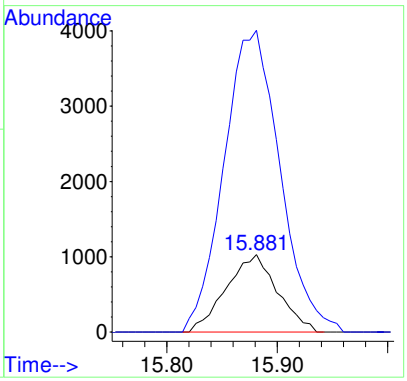


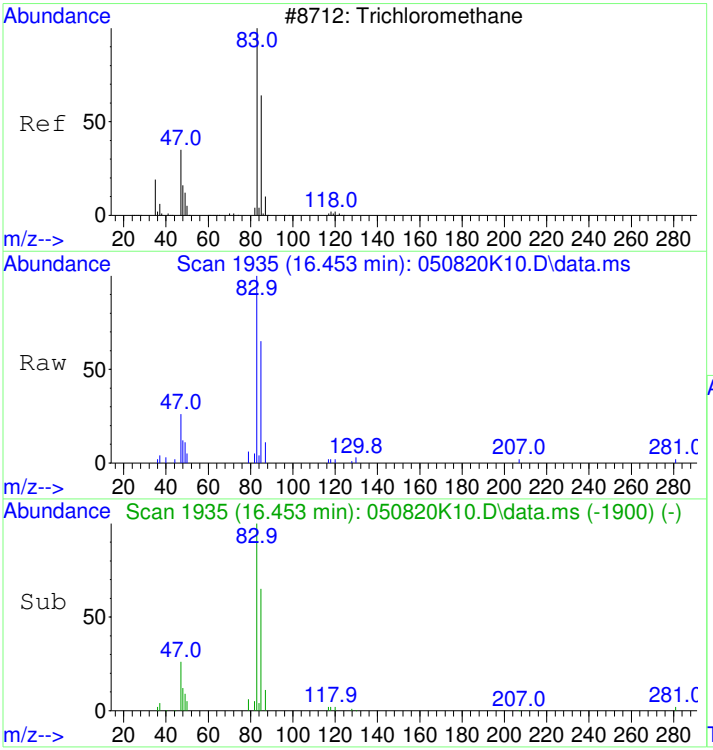


#25
2-Butanone (MEK)
Concen: 0.77 ppbv
RT: 15.881 min Scan# 1841
Delta R.T. 0.024 min
Lab File: 050820K10.D
Acq: 8 May 2020 6:57 pm

Tgt Ion: 72 Resp: 3324

Ion	Ratio	Lower	Upper
72	100		
43	426.4	812.3	832.3#

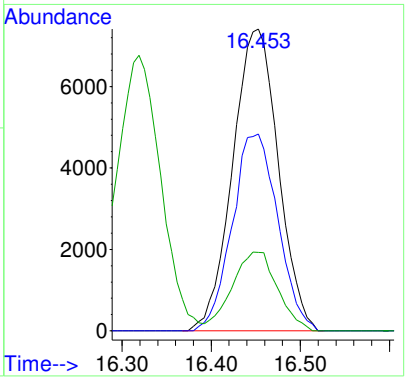


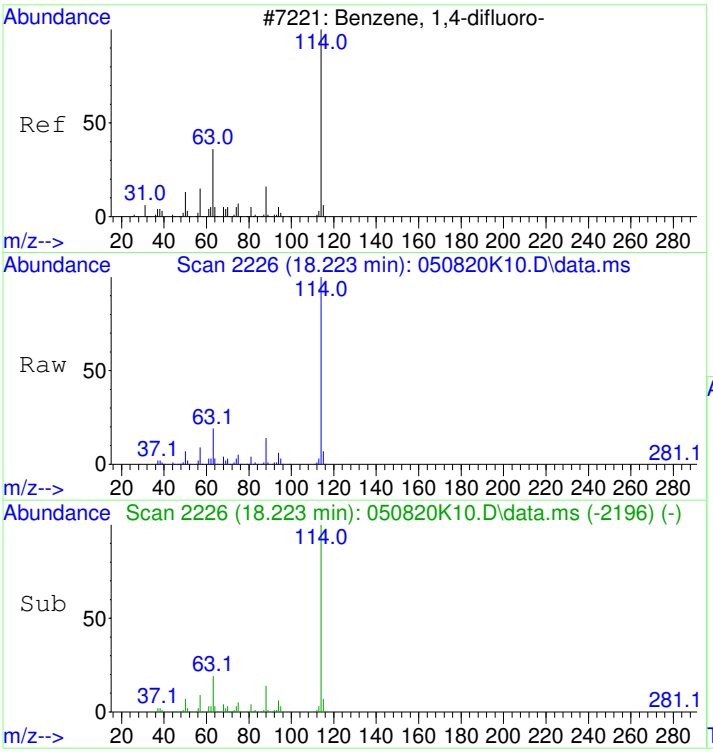


#28
Chloroform
Concen: 1.79 ppbv
RT: 16.453 min Scan# 1935
Delta R.T. 0.012 min
Lab File: 050820K10.D
Acq: 8 May 2020 6:57 pm

Tgt Ion: 83 Resp: 26350

Ion	Ratio	Lower	Upper
83	100		
85	65.1	44.6	84.6
47	23.5	3.0	43.0

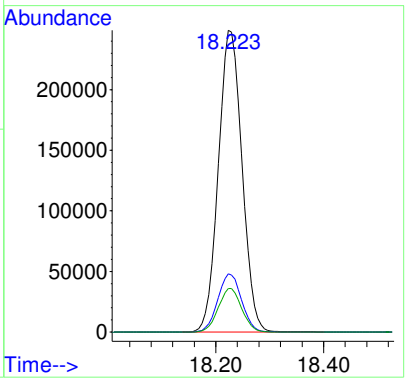


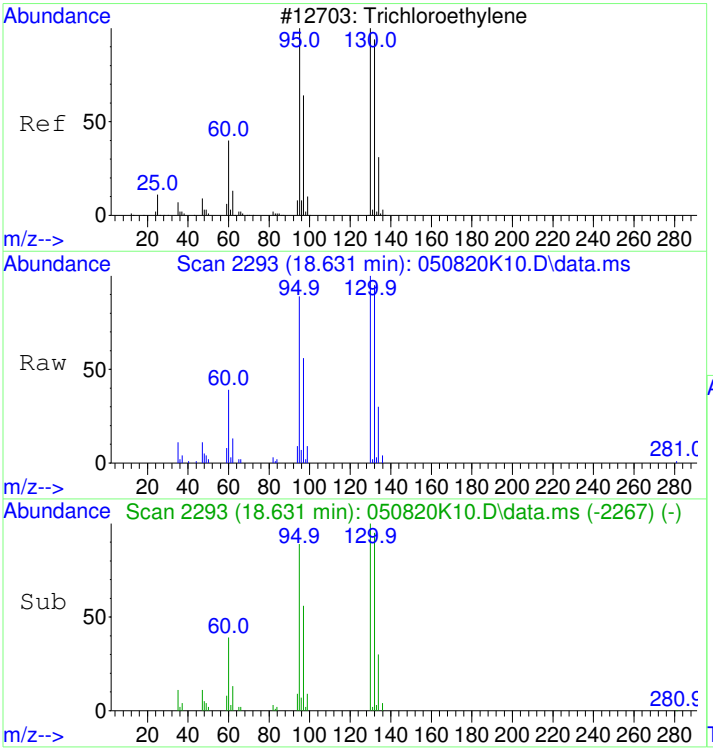


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 18.223 min Scan# 2226
Delta R.T. -0.000 min
Lab File: 050820K10.D
Acq: 8 May 2020 6:57 pm

Tgt Ion:114 Resp: 758710

Ion	Ratio	Lower	Upper
114	100		
63	19.3	0.0	39.6
88	14.2	0.0	34.5

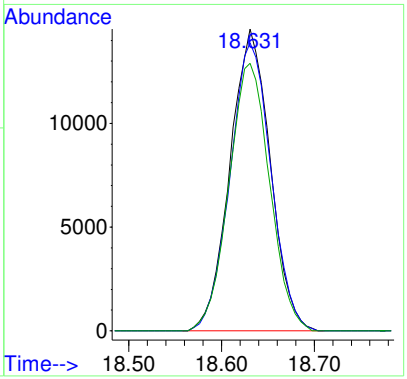


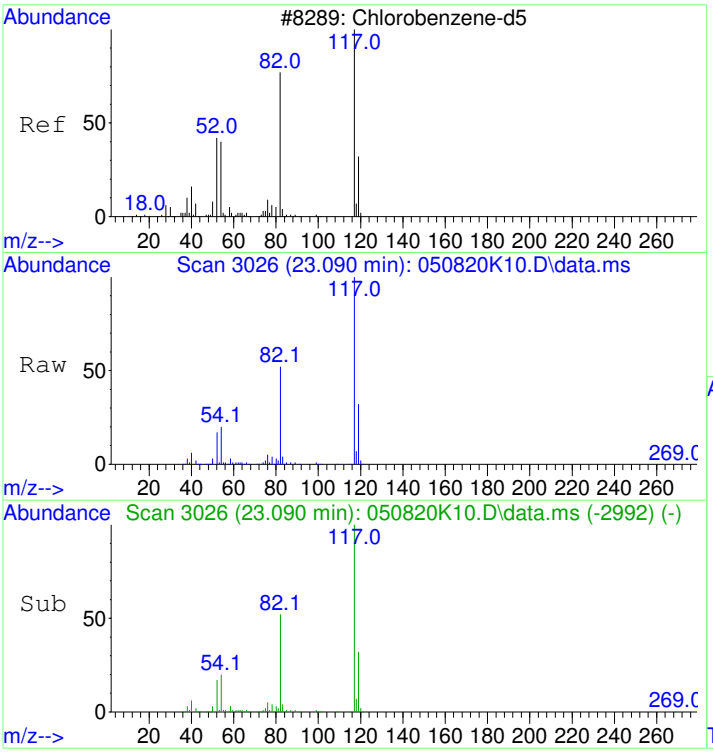


#37
Trichloroethene
Concen: 4.07 ppbv
RT: 18.631 min Scan# 2293
Delta R.T. 0.006 min
Lab File: 050820K10.D
Acq: 8 May 2020 6:57 pm

Tgt Ion:130 Resp: 43775

Ion	Ratio	Lower	Upper
130	100		
132	97.1	75.5	115.5
95	90.1	71.3	111.3

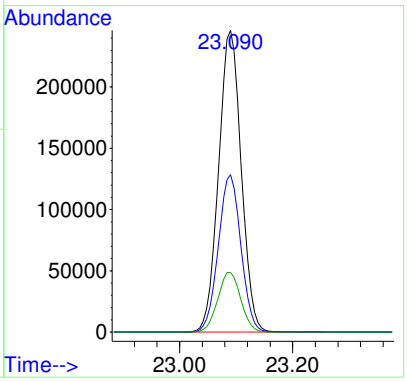




#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 23.090 min Scan# 3026
Delta R.T. 0.006 min
Lab File: 050820K10.D
Acq: 8 May 2020 6:57 pm

Tgt Ion:117 Resp: 683563

Ion	Ratio	Lower	Upper
117	100		
82	52.1	32.5	72.5
54	20.2	0.0	39.6



2005002-12RE1

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K11.D
InstName : HP5973K
Acq On : 8 May 2020 7:48 pm
Operator : EM
Sample : 2005002-12RE1
Misc : 100ml REPRESS
ALS Vial : 15 Sample Multiplier: 9.19

Quant Time: May 11 11:47:23 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	16.319	49	243408	19.60	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	18.229	114	745766	19.60	ppbv		0.00
43) CHLOROBENZENE-d5	23.090	117	670127	19.60	ppbv		0.00
Target Compounds							Qvalue
14) Acetone	11.118	43	5400	0.48	ppbv		91
24) cis-1,2-Dichloroethene	15.784	61	18440	1.76	ppbv	#	97
25) 2-Butanone (MEK)	15.881	72	1797	0.42	ppbv	#	4
28) Chloroform	16.453	83	12912	0.89	ppbv		99
37) Trichloroethene	18.631	130	34364	3.25	ppbv		98

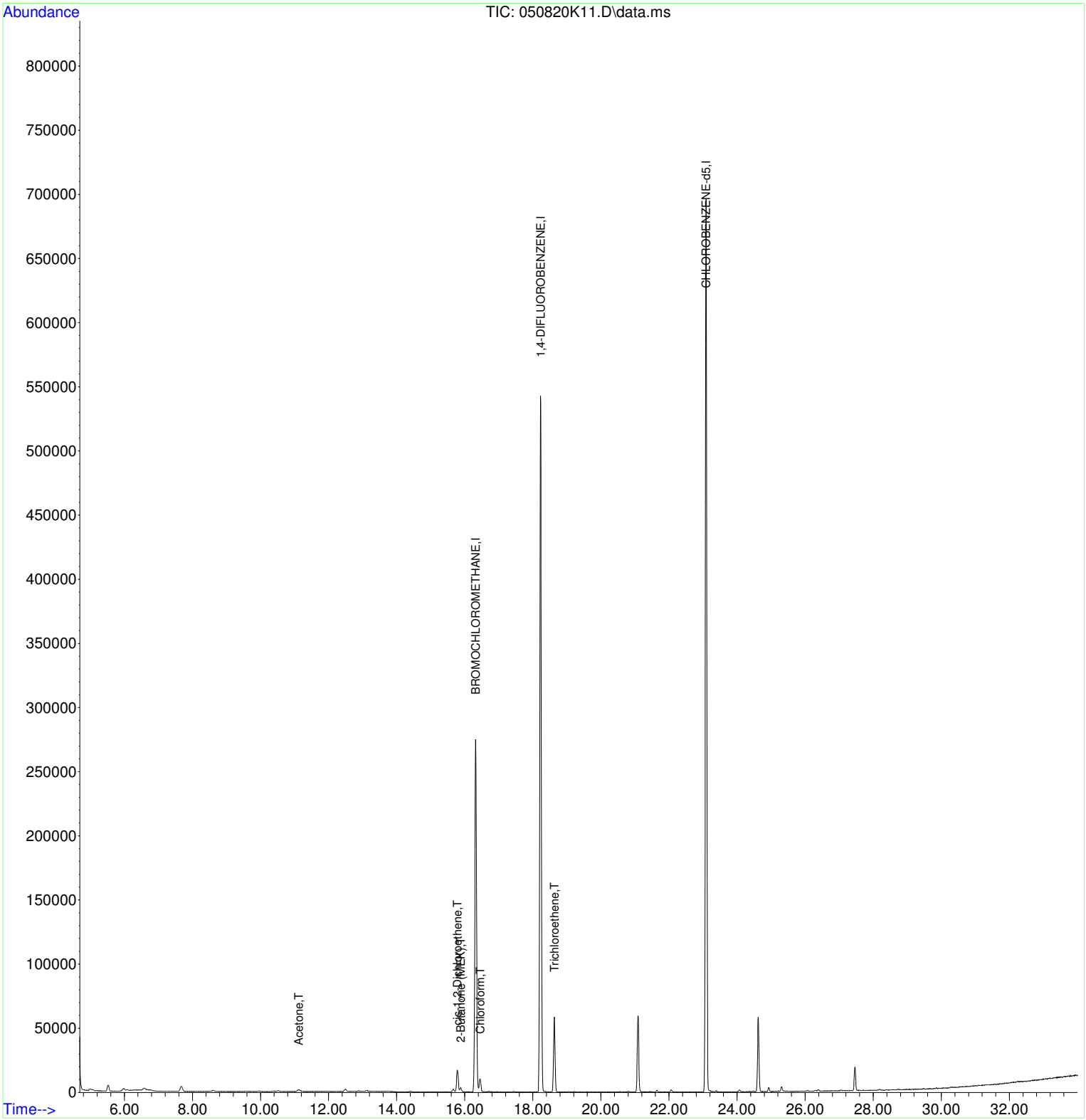
(#) = qualifier out of range (m) = manual integration (+) = signals summed

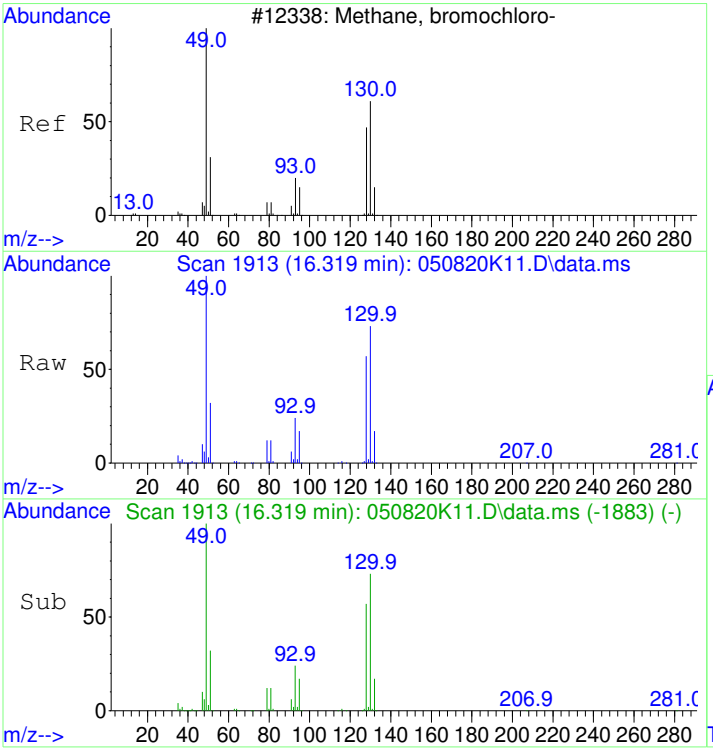
REVIEWED
By EM at 11:47 am, May 11, 2020

Table of Contents

Data Path : D:\msdchem\1\2020\DATA\050820K_FSAA\
Data File : 050820K11.D
InstName : HP5973K
Acq On : 8 May 2020 7:48 pm
Operator : EM
Sample : 2005002-12RE1
Misc : 100ml REPRESS
ALS Vial : 15 Sample Multiplier: 9.19

Quant Time: May 11 11:47:23 2020
Quant Method : D:\msdchem\1\2020\METHOD\040120K_TO15AA.M
Quant Title : TO15
QLast Update : Thu Apr 02 09:57:00 2020
Response via : Initial Calibration

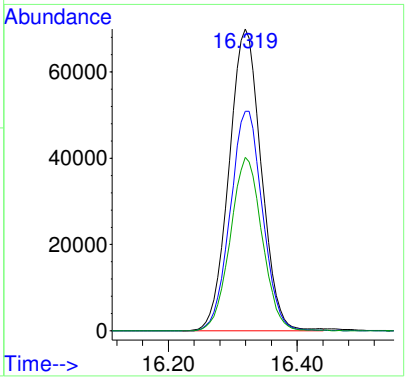


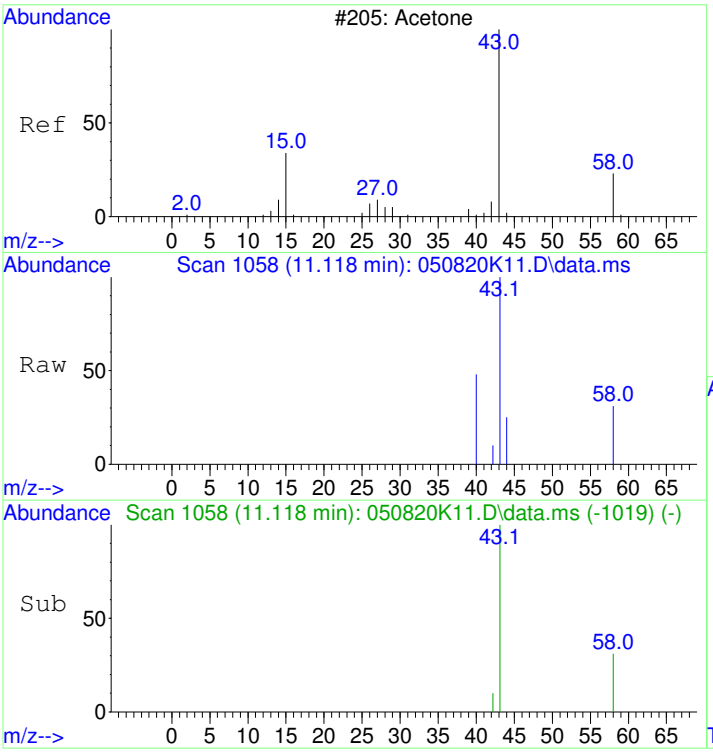


#1
BROMOCHLOROMETHANE
Concen: 19.60 ppbv
RT: 16.319 min Scan# 1913
Delta R.T. 0.006 min
Lab File: 050820K11.D
Acq: 8 May 2020 7:48 pm

Tgt Ion: 49 Resp: 243408

Ion	Ratio	Lower	Upper
49	100		
130	73.1	51.1	91.1
128	56.3	35.0	75.0

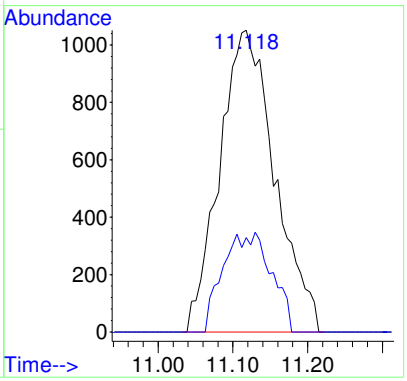


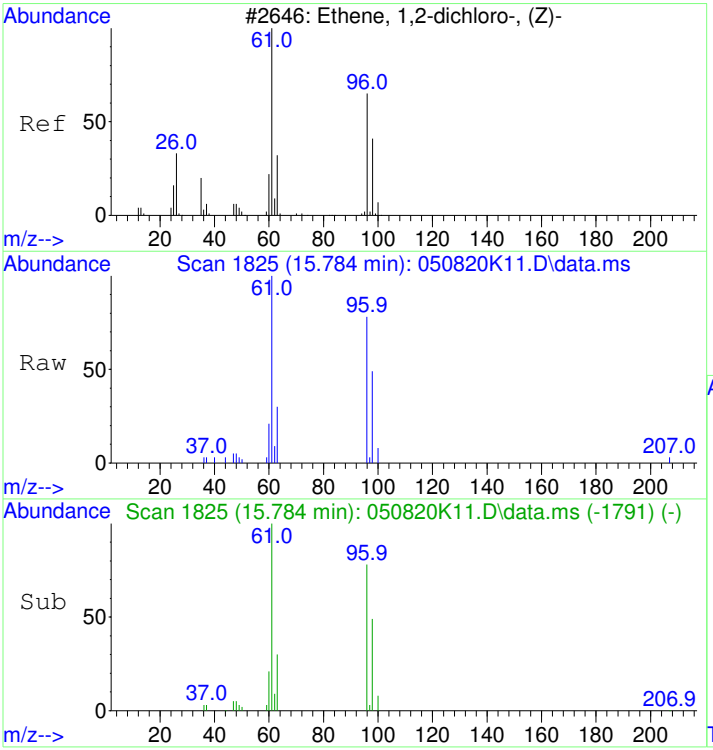


#14
Acetone
Concen: 0.48 ppbv
RT: 11.118 min Scan# 1058
Delta R.T. 0.036 min
Lab File: 050820K11.D
Acq: 8 May 2020 7:48 pm

Tgt Ion: 43 Resp: 5400

Ion	Ratio	Lower	Upper
43	100		
58	28.8	14.0	54.0

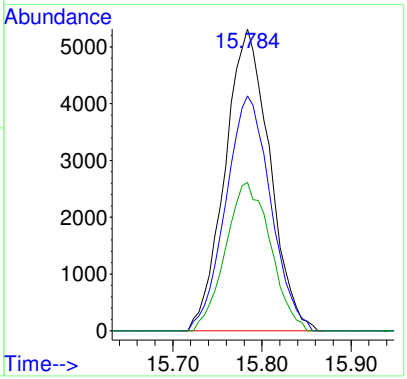


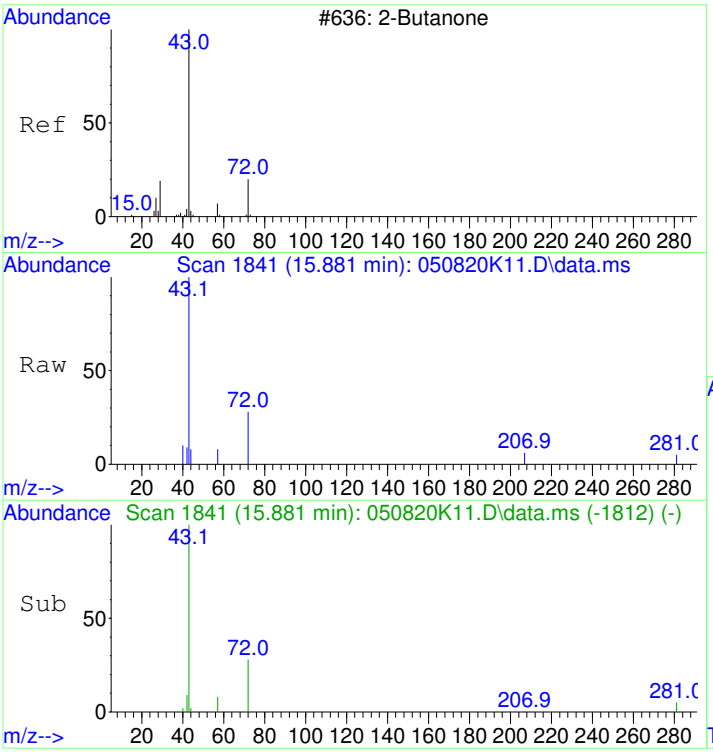


#24
cis-1,2-Dichloroethene
Concen: 1.76 ppbv
RT: 15.784 min Scan# 1825
Delta R.T. 0.006 min
Lab File: 050820K11.D
Acq: 8 May 2020 7:48 pm

Tgt Ion: 61 Resp: 18440

Ion	Ratio	Lower	Upper
61	100		
96	78.3	55.7	95.7
98	49.4	0.0	20.0#

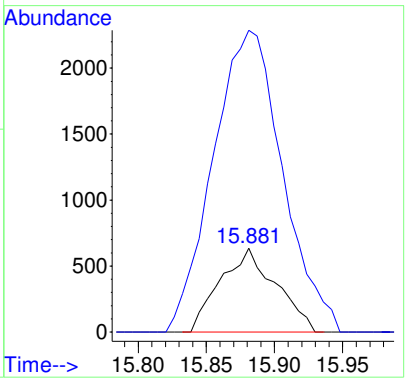


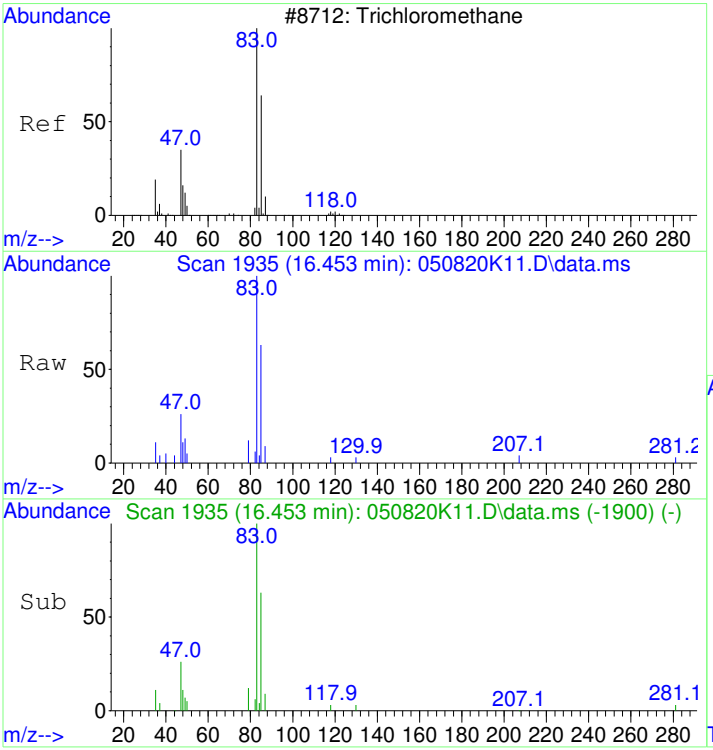


#25
2-Butanone (MEK)
Concen: 0.42 ppbv
RT: 15.881 min Scan# 1841
Delta R.T. 0.024 min
Lab File: 050820K11.D
Acq: 8 May 2020 7:48 pm

Tgt Ion: 72 Resp: 1797

Ion	Ratio	Lower	Upper
72	100		
43	449.9	812.3	832.3#

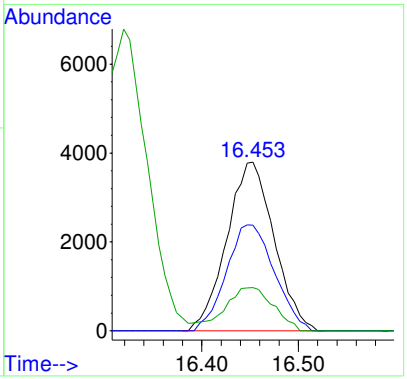


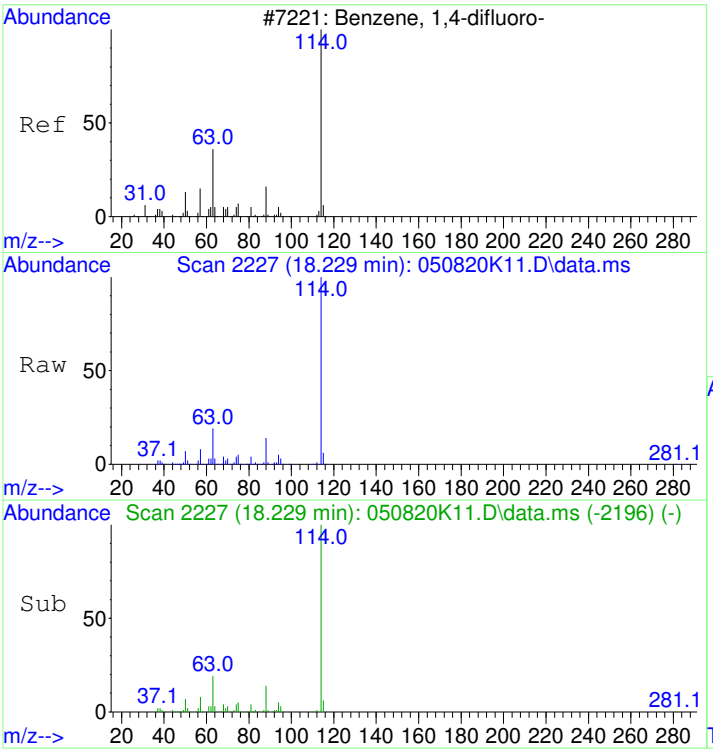


#28
Chloroform
Concen: 0.89 ppbv
RT: 16.453 min Scan# 1935
Delta R.T. 0.012 min
Lab File: 050820K11.D
Acq: 8 May 2020 7:48 pm

Tgt Ion: 83 Resp: 12912

Ion	Ratio	Lower	Upper
83	100		
85	63.7	44.6	84.6
47	21.9	3.0	43.0

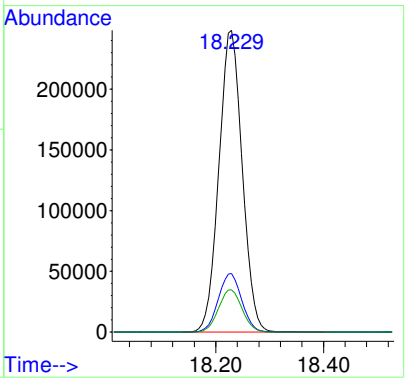


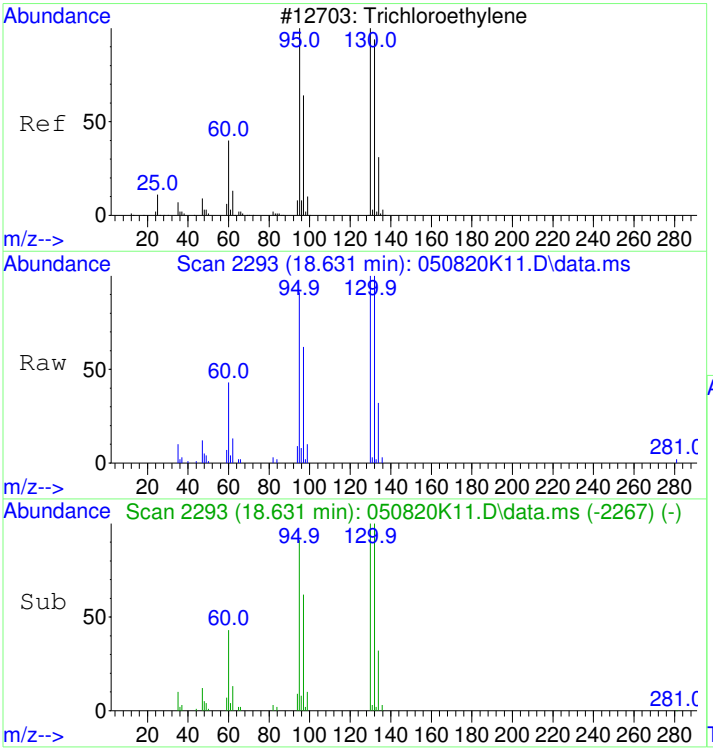


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 18.229 min Scan# 2227
Delta R.T. 0.006 min
Lab File: 050820K11.D
Acq: 8 May 2020 7:48 pm

Tgt Ion:114 Resp: 745766

Ion	Ratio	Lower	Upper
114	100		
63	19.5	0.0	39.6
88	14.2	0.0	34.5

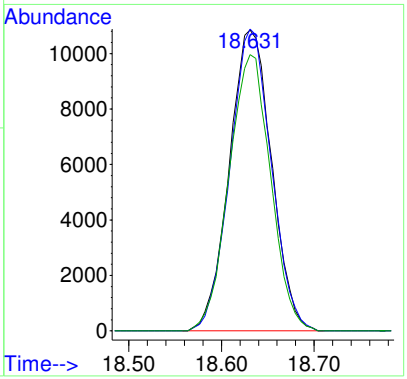


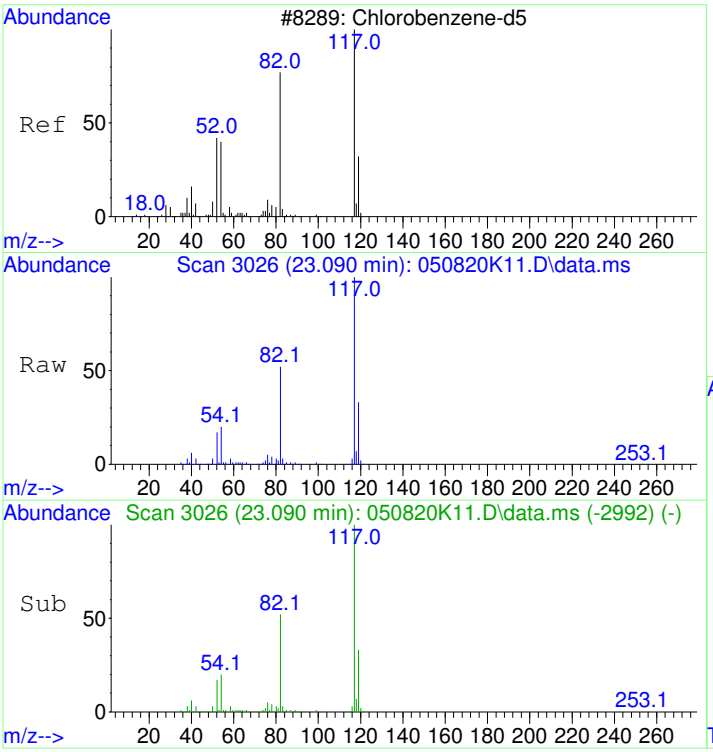


#37
Trichloroethene
Concen: 3.25 ppbv
RT: 18.631 min Scan# 2293
Delta R.T. 0.006 min
Lab File: 050820K11.D
Acq: 8 May 2020 7:48 pm

Tgt Ion:130 Resp: 34364

Ion	Ratio	Lower	Upper
130	100		
132	97.8	75.5	115.5
95	90.3	71.3	111.3

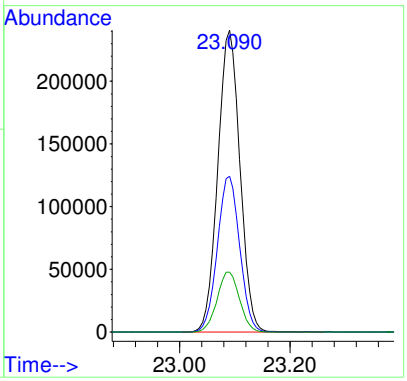




#43
CHLOROBENZENE-d5
Concen: 19.60 ppbv
RT: 23.090 min Scan# 3026
Delta R.T. 0.006 min
Lab File: 050820K11.D
Acq: 8 May 2020 7:48 pm

Tgt Ion:117 Resp: 670127

Ion	Ratio	Lower	Upper
117	100		
82	52.0	32.5	72.5
54	20.2	0.0	39.6



Cannister Certifications

2005002-01

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2019\DATA\120519K_FSAA\
Data File : 120519K13.D
InstName : HP5973K
Acq On : 5 Dec 2019 10:09 pm
Operator : EM
Sample : CAN #898
Misc : 200ml RECERTIFICATION
ALS Vial : 21 Sample Multiplier: 1

CLEAN

Quant Time: Dec 06 11:46:16 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	16.316	49	263819	20.00 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.227	114	930851	20.00 ppbv	0.00
43) CHLOROBENZENE-d5	23.094	117	814320	22.00 ppbv	0.00

Target Compounds Qvalue

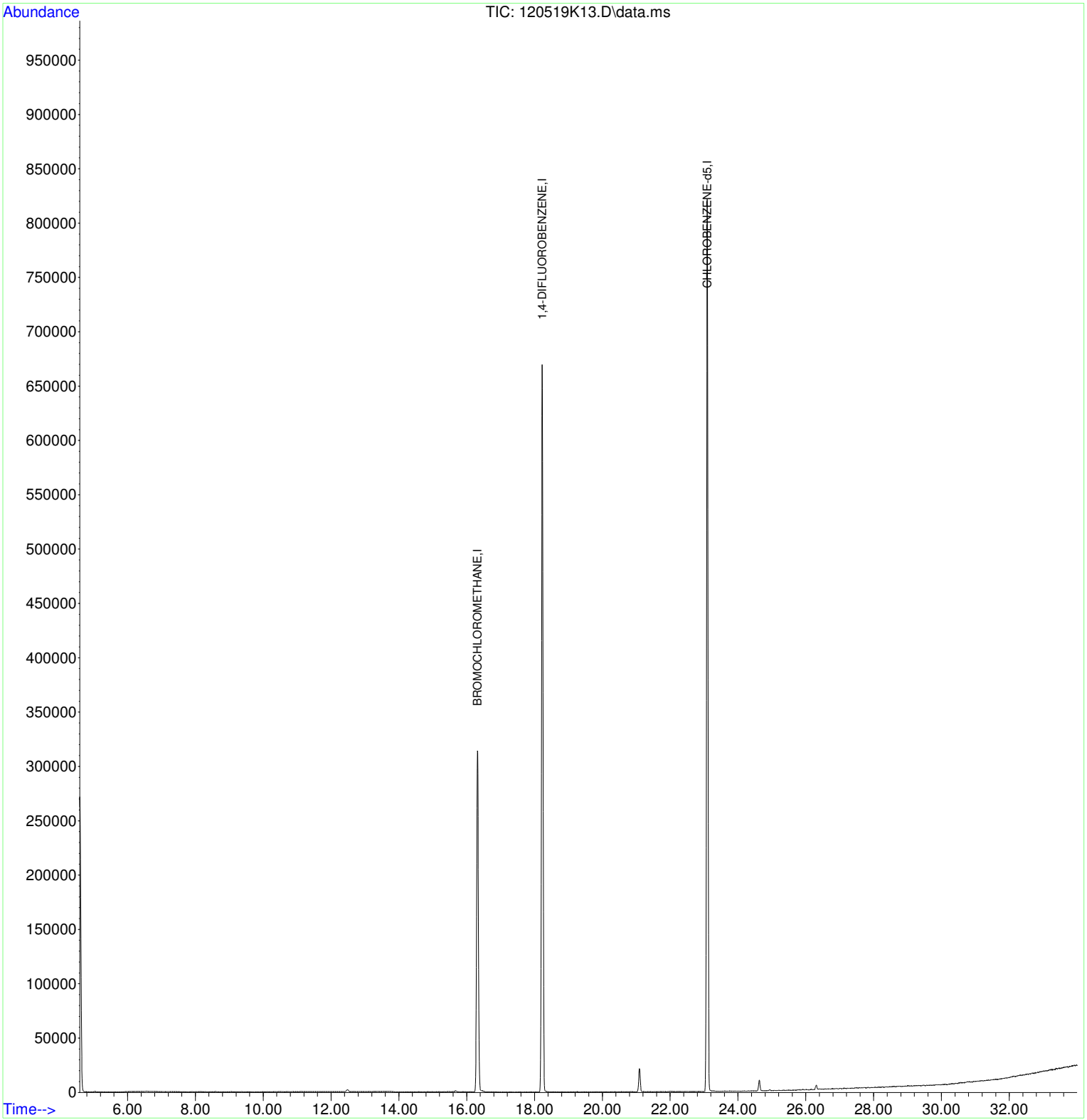
(#) = qualifier out of range (m) = manual integration (+) = signals summed

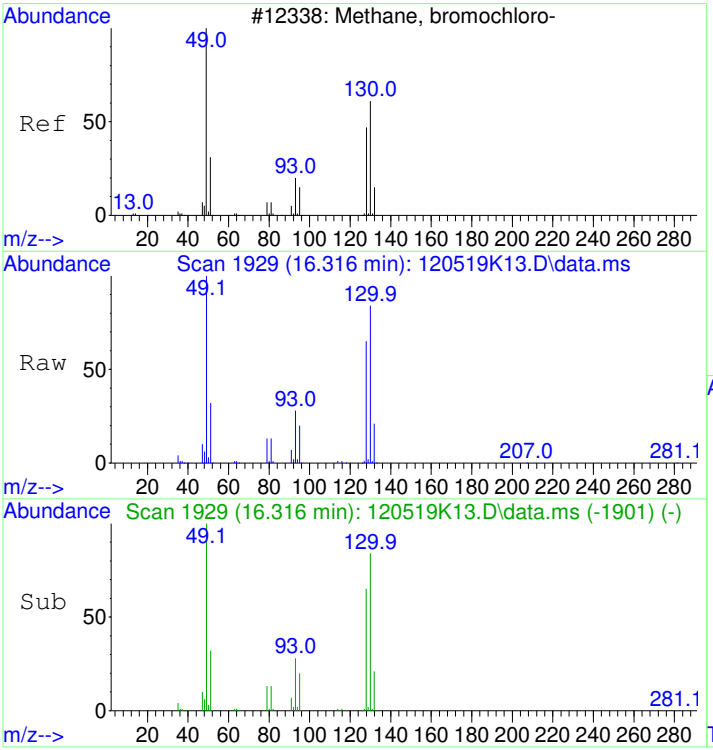
REVIEWED
By EM at 1:28 pm, Dec 06, 2019

Table of Contents

Data Path : D:\msdchem\1\2019\DATA\120519K_FSAA\
Data File : 120519K13.D
InstName : HP5973K
Acq On : 5 Dec 2019 10:09 pm
Operator : EM
Sample : CAN #898
Misc : 200ml RECERTIFICATION
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Dec 06 11:46:16 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

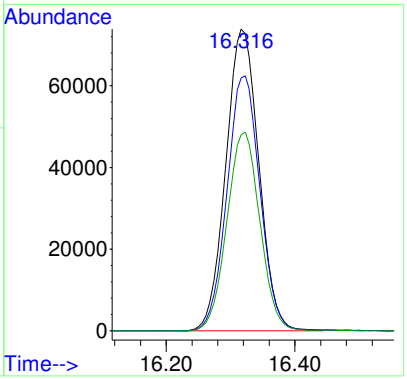


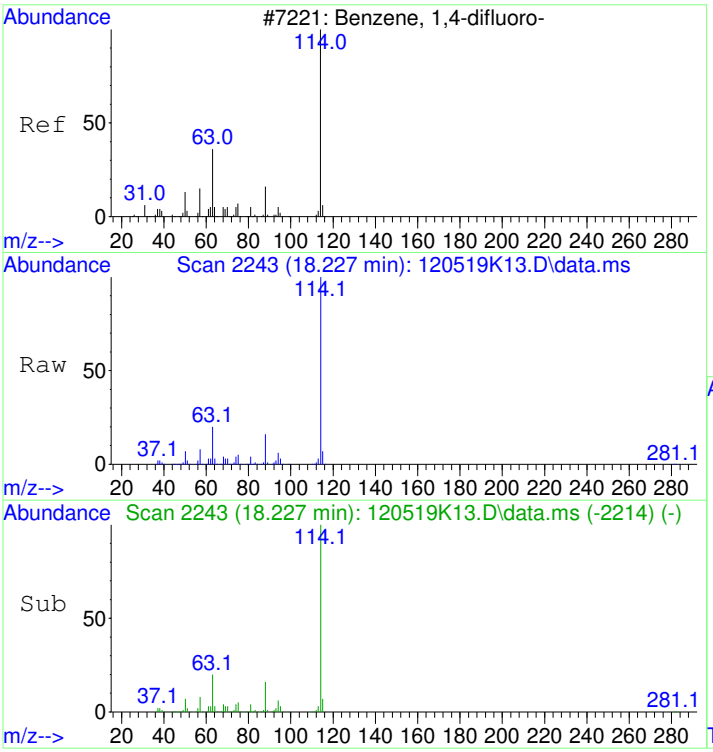


#1
BROMOCHLOROMETHANE
Concen: 20.00 ppbv
RT: 16.316 min Scan# 1929
Delta R.T. -0.007 min
Lab File: 120519K13.D
Acq: 5 Dec 2019 10:09 pm

Tgt Ion: 49 Resp: 263819

Ion	Ratio	Lower	Upper
49	100		
130	84.5	62.7	102.7
128	65.1	43.9	83.9

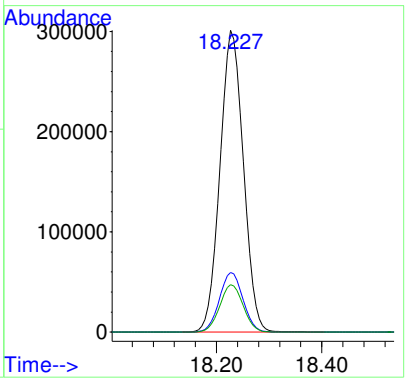


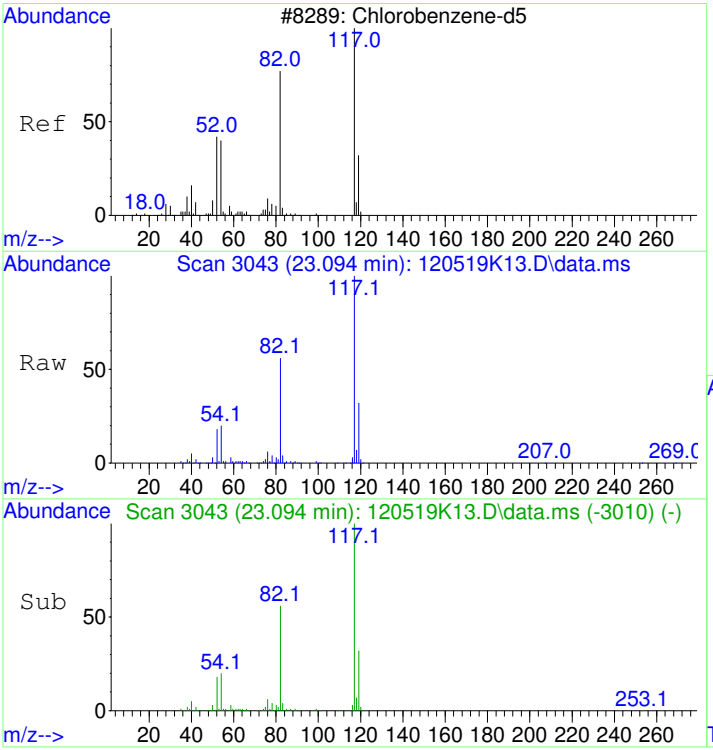


#32
1,4-DIFLUOROBENZENE
Concen: 20.00 ppbv
RT: 18.227 min Scan# 2243
Delta R.T. -0.006 min
Lab File: 120519K13.D
Acq: 5 Dec 2019 10:09 pm

Tgt Ion:114 Resp: 930851

Ion	Ratio	Lower	Upper
114	100		
63	19.9	0.0	39.8
88	15.8	0.0	35.7

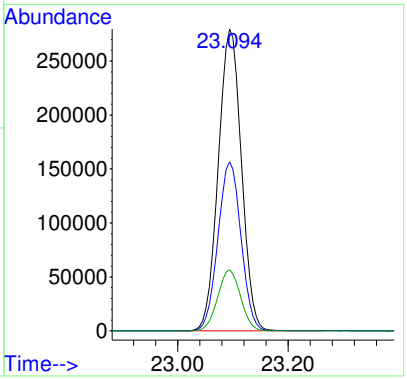




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 23.094 min Scan# 3043
Delta R.T. -0.000 min
Lab File: 120519K13.D
Acq: 5 Dec 2019 10:09 pm

Tgt Ion:117 Resp: 814320

Ion	Ratio	Lower	Upper
117	100		
82	55.7	35.3	75.3
54	20.0	0.0	39.5



Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2019\DATA\120619K_FSAA\
Data File : 120619K19.D
InstName : HP5973K
Acq On : 7 Dec 2019 4:14 am
Operator : EM
Sample : CAN #1106
Misc : 200ml RECERTIFICATION
ALS Vial : 22 Sample Multiplier: 1

CLEAN

Quant Time: Dec 10 08:31:06 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	16.317	49	257463	20.00 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.227	114	921513	20.00 ppbv	0.00
43) CHLOROBENZENE-d5	23.094	117	809973	22.00 ppbv	0.00

Target Compounds Qvalue

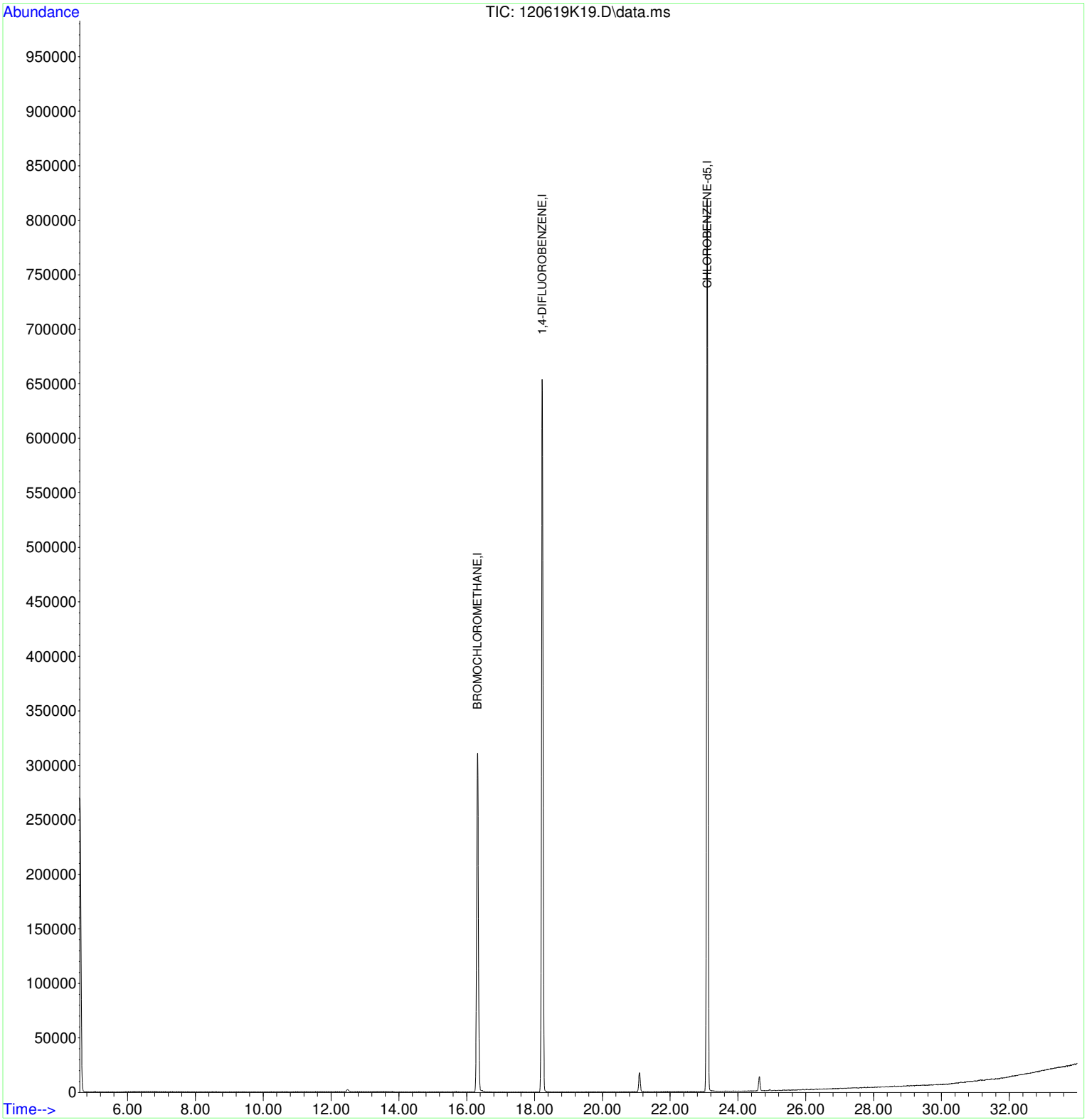
(#) = qualifier out of range (m) = manual integration (+) = signals summed

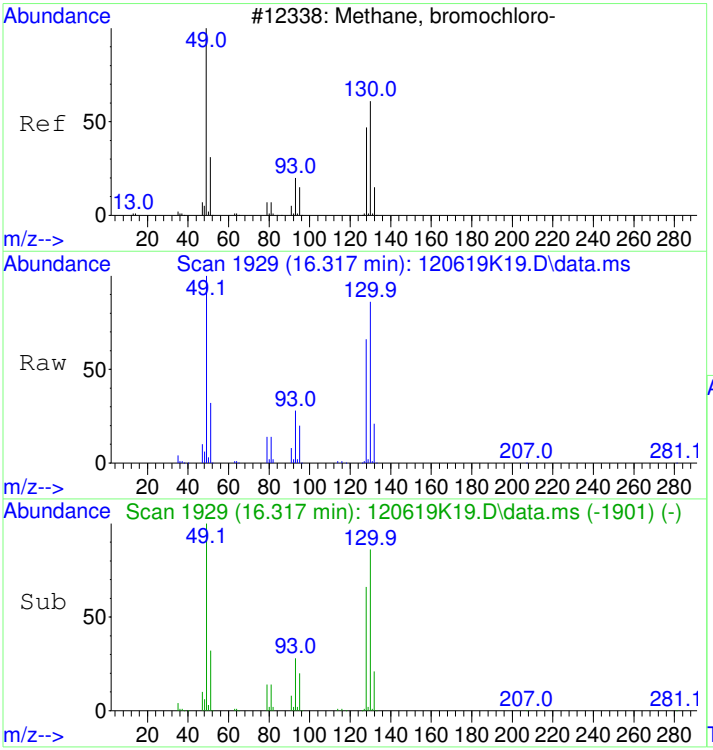
REVIEWED
By EM at 8:37 am, Dec 10, 2019

Table of Contents

Data Path : D:\msdchem\1\2019\DATA\120619K_FSAA\
Data File : 120619K19.D
InstName : HP5973K
Acq On : 7 Dec 2019 4:14 am
Operator : EM
Sample : CAN #1106
Misc : 200ml RECERTIFICATION
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Dec 10 08:31:06 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

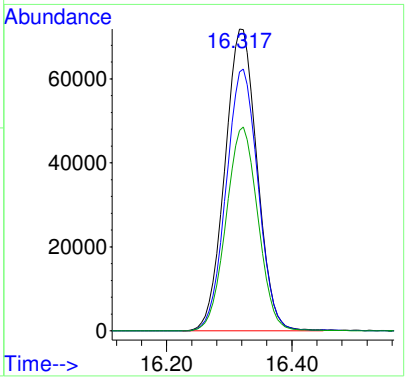


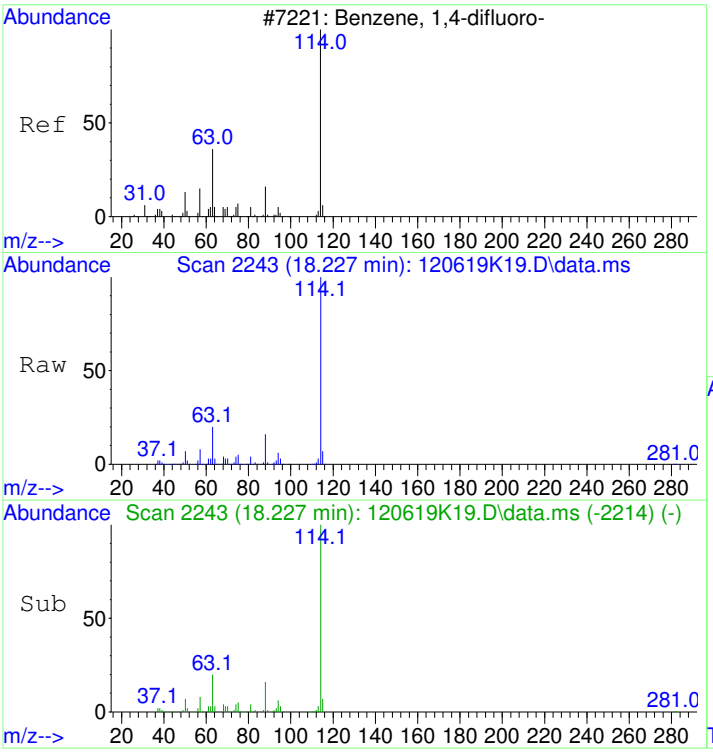


#1
BROMOCHLOROMETHANE
Concen: 20.00 ppbv
RT: 16.317 min Scan# 1929
Delta R.T. -0.006 min
Lab File: 120619K19.D
Acq: 7 Dec 2019 4:14 am

Tgt Ion: 49 Resp: 257463

Ion	Ratio	Lower	Upper
49	100		
130	86.1	62.7	102.7
128	66.3	43.9	83.9

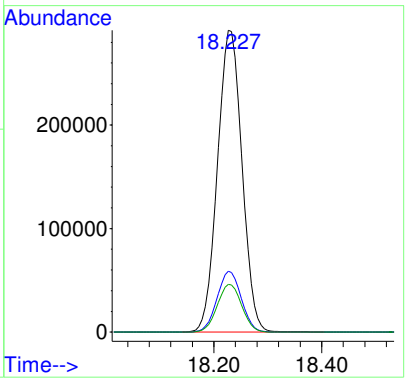


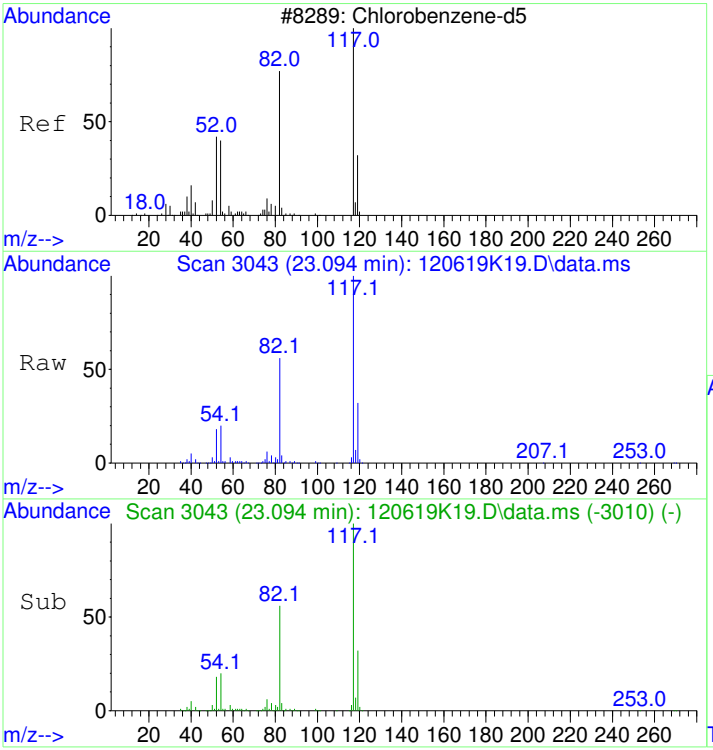


#32
1,4-DIFLUOROBENZENE
Concen: 20.00 ppbv
RT: 18.227 min Scan# 2243
Delta R.T. -0.006 min
Lab File: 120619K19.D
Acq: 7 Dec 2019 4:14 am

Tgt Ion:114 Resp: 921513

Ion	Ratio	Lower	Upper
114	100		
63	19.9	0.0	39.8
88	15.7	0.0	35.7

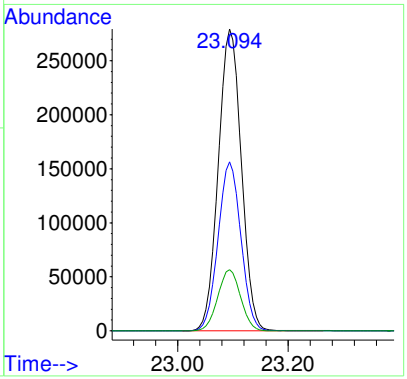




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 23.094 min Scan# 3043
Delta R.T. 0.000 min
Lab File: 120619K19.D
Acq: 7 Dec 2019 4:14 am

Tgt Ion:117 Resp: 809973

Ion	Ratio	Lower	Upper
117	100		
82	55.4	35.3	75.3
54	20.0	0.0	39.5



Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2019\DATA\120519K_FSAA\
Data File : 120519K13.D
InstName : HP5973K
Acq On : 5 Dec 2019 10:09 pm
Operator : EM
Sample : CAN #898
Misc : 200ml RECERTIFICATION
ALS Vial : 21 Sample Multiplier: 1

CLEAN

Quant Time: Dec 06 11:46:16 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	16.316	49	263819	20.00 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.227	114	930851	20.00 ppbv	0.00
43) CHLOROBENZENE-d5	23.094	117	814320	22.00 ppbv	0.00

Target Compounds	Qvalue

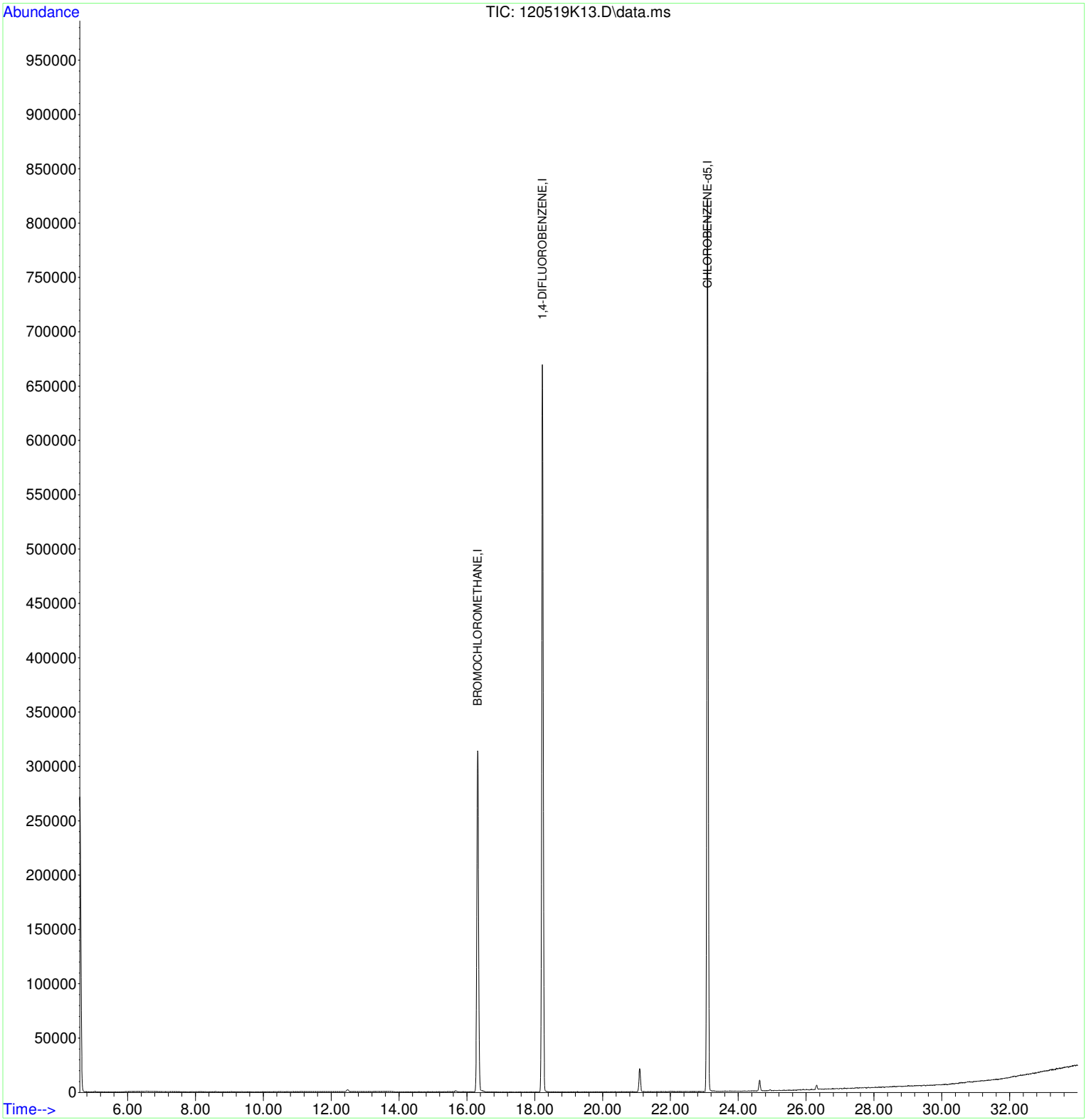
(#) = qualifier out of range (m) = manual integration (+) = signals summed

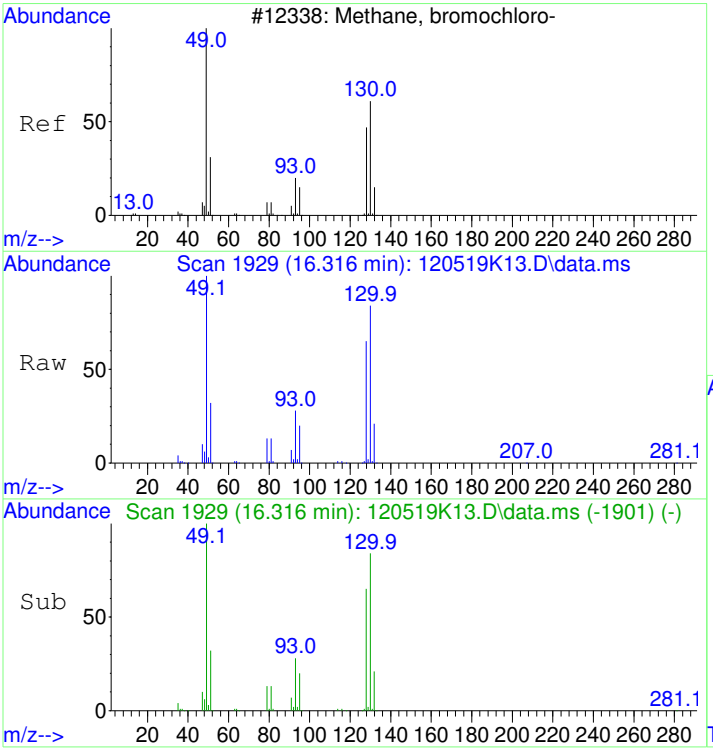
REVIEWED
By EM at 1:28 pm, Dec 06, 2019

Table of Contents

Data Path : D:\msdchem\1\2019\DATA\120519K_FSAA\
Data File : 120519K13.D
InstName : HP5973K
Acq On : 5 Dec 2019 10:09 pm
Operator : EM
Sample : CAN #898
Misc : 200ml RECERTIFICATION
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Dec 06 11:46:16 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

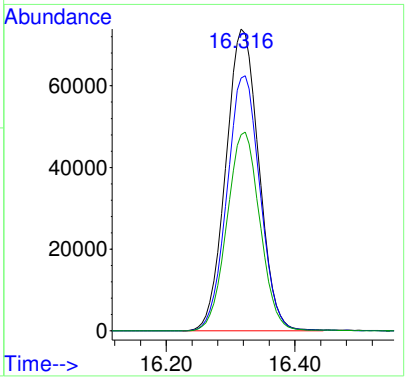


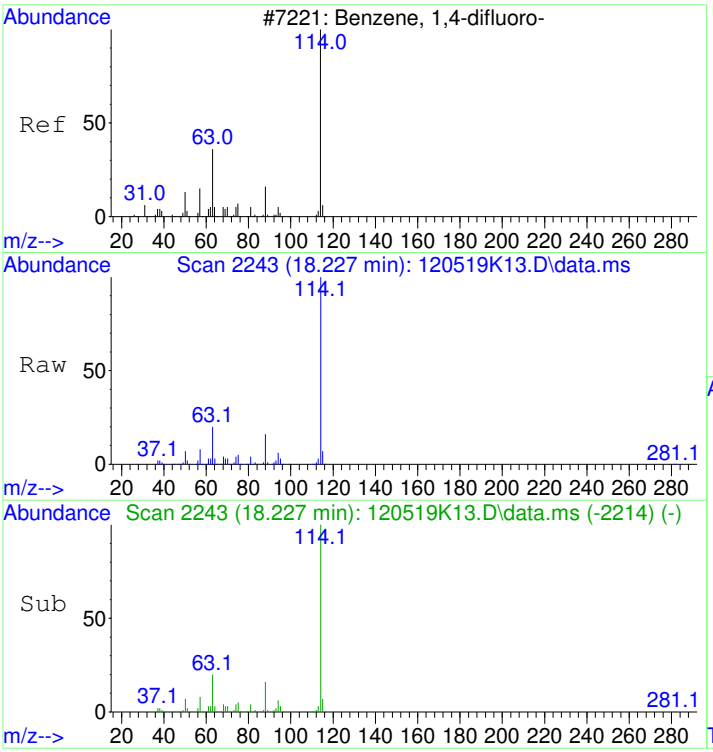


#1
BROMOCHLOROMETHANE
Concen: 20.00 ppbv
RT: 16.316 min Scan# 1929
Delta R.T. -0.007 min
Lab File: 120519K13.D
Acq: 5 Dec 2019 10:09 pm

Tgt Ion: 49 Resp: 263819

Ion	Ratio	Lower	Upper
49	100		
130	84.5	62.7	102.7
128	65.1	43.9	83.9

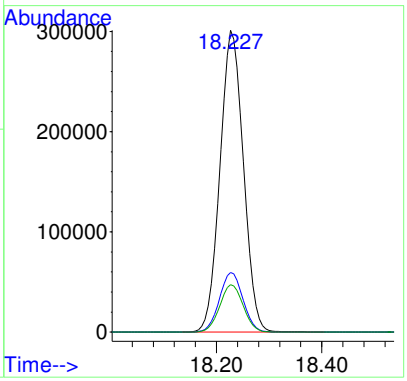


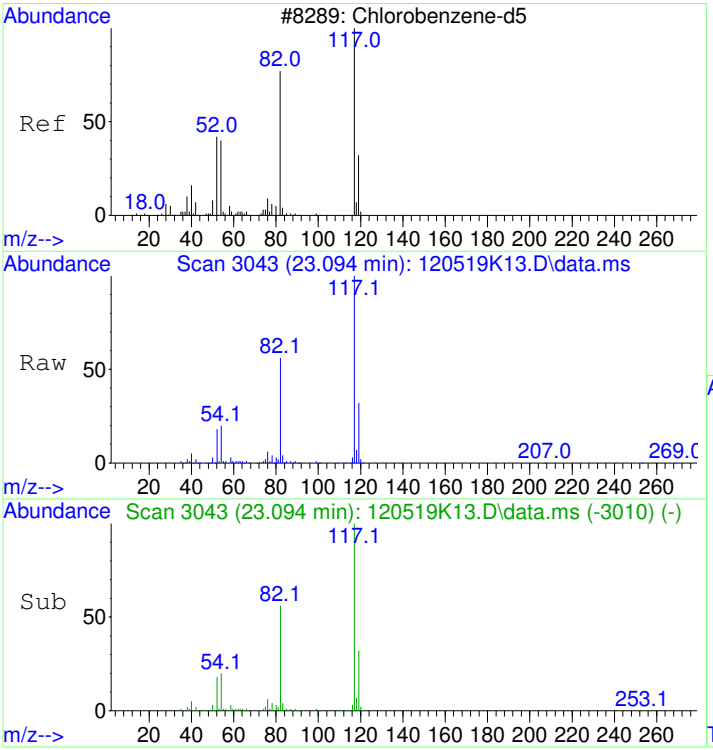


#32
1,4-DIFLUOROBENZENE
Concen: 20.00 ppbv
RT: 18.227 min Scan# 2243
Delta R.T. -0.006 min
Lab File: 120519K13.D
Acq: 5 Dec 2019 10:09 pm

Tgt Ion:114 Resp: 930851

Ion	Ratio	Lower	Upper
114	100		
63	19.9	0.0	39.8
88	15.8	0.0	35.7

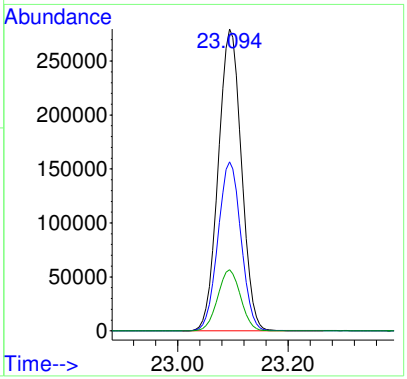




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 23.094 min Scan# 3043
Delta R.T. -0.000 min
Lab File: 120519K13.D
Acq: 5 Dec 2019 10:09 pm

Tgt Ion:117 Resp: 814320

Ion	Ratio	Lower	Upper
117	100		
82	55.7	35.3	75.3
54	20.0	0.0	39.5



Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2019\DATA\120619K_FSAA\
Data File : 120619K19.D
InstName : HP5973K
Acq On : 7 Dec 2019 4:14 am
Operator : EM
Sample : CAN #1106
Misc : 200ml RECERTIFICATION
ALS Vial : 22 Sample Multiplier: 1

CLEAN

Quant Time: Dec 10 08:31:06 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	16.317	49	257463	20.00 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.227	114	921513	20.00 ppbv	0.00
43) CHLOROBENZENE-d5	23.094	117	809973	22.00 ppbv	0.00

Target Compounds Qvalue

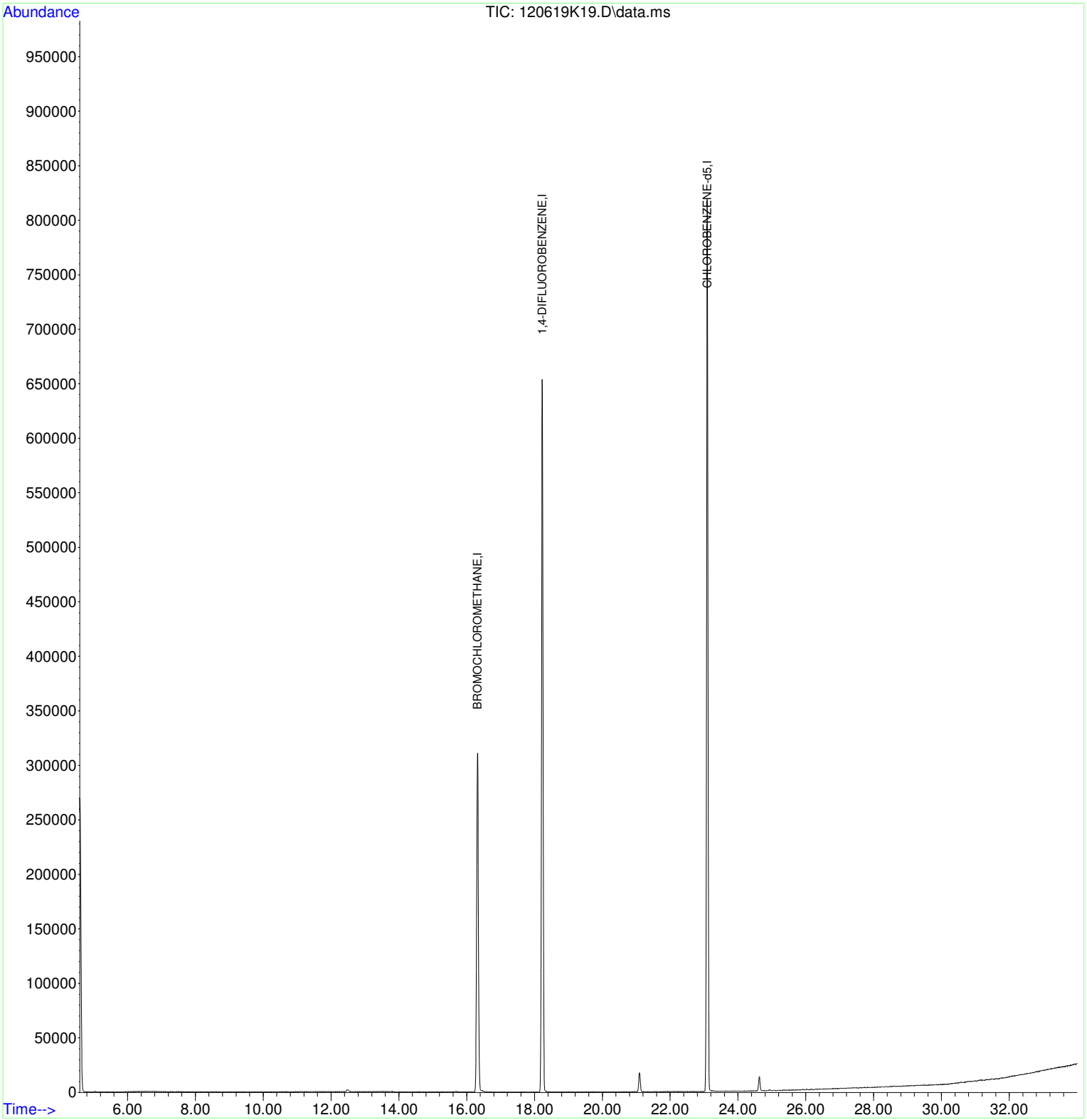
(#) = qualifier out of range (m) = manual integration (+) = signals summed

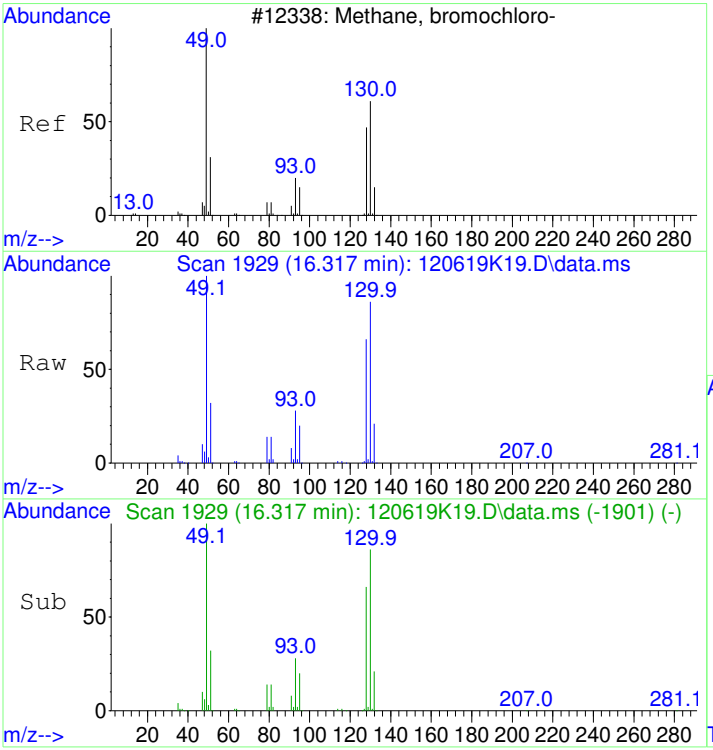
REVIEWED
By EM at 8:37 am, Dec 10, 2019

Table of Contents

Data Path : D:\msdchem\1\2019\DATA\120619K_FSAA\
Data File : 120619K19.D
InstName : HP5973K
Acq On : 7 Dec 2019 4:14 am
Operator : EM
Sample : CAN #1106
Misc : 200ml RECERTIFICATION
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Dec 10 08:31:06 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

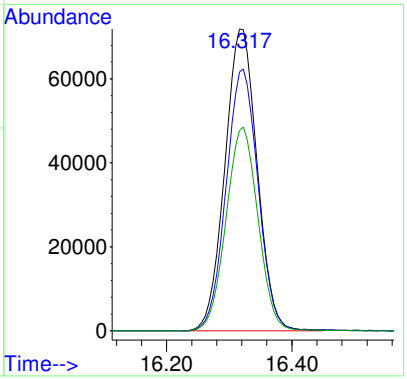


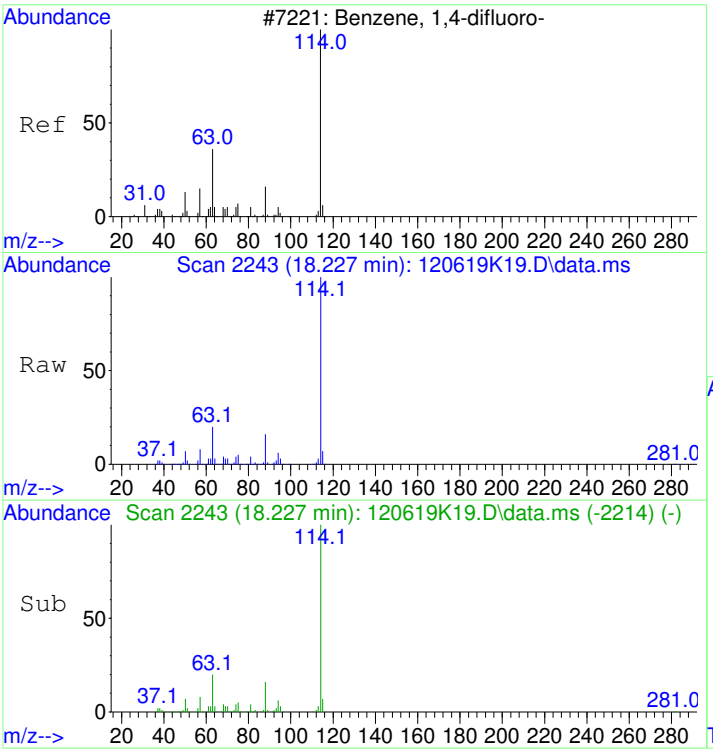


#1
BROMOCHLOROMETHANE
Concen: 20.00 ppbv
RT: 16.317 min Scan# 1929
Delta R.T. -0.006 min
Lab File: 120619K19.D
Acq: 7 Dec 2019 4:14 am

Tgt Ion: 49 Resp: 257463

Ion	Ratio	Lower	Upper
49	100		
130	86.1	62.7	102.7
128	66.3	43.9	83.9

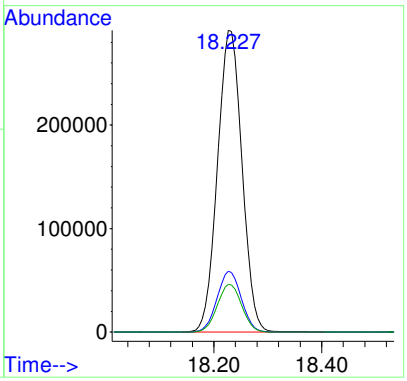


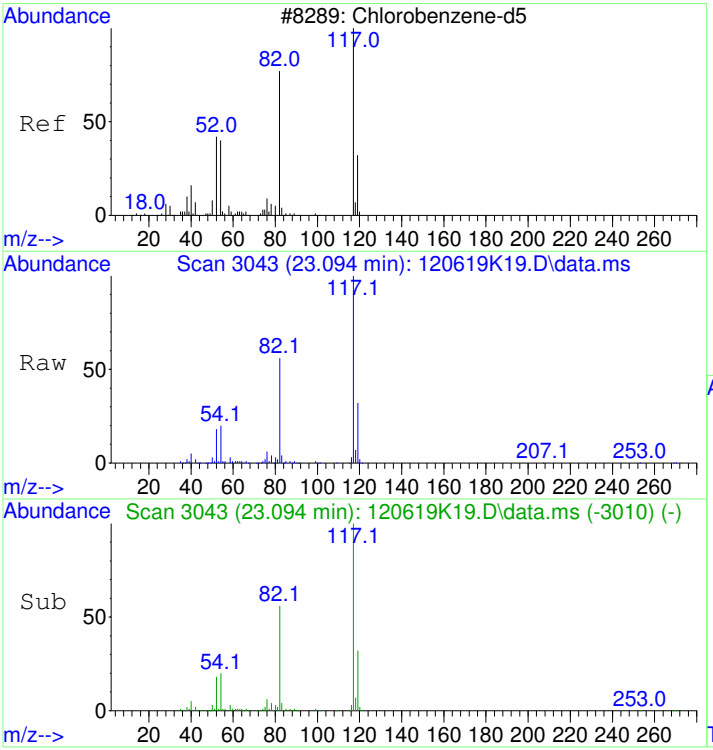


#32
1,4-DIFLUOROBENZENE
Concen: 20.00 ppbv
RT: 18.227 min Scan# 2243
Delta R.T. -0.006 min
Lab File: 120619K19.D
Acq: 7 Dec 2019 4:14 am

Tgt Ion:114 Resp: 921513

Ion	Ratio	Lower	Upper
114	100		
63	19.9	0.0	39.8
88	15.7	0.0	35.7

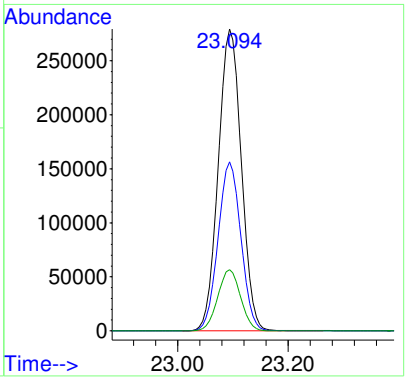




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 23.094 min Scan# 3043
Delta R.T. 0.000 min
Lab File: 120619K19.D
Acq: 7 Dec 2019 4:14 am

Tgt Ion:117 Resp: 809973

Ion	Ratio	Lower	Upper
117	100		
82	55.4	35.3	75.3
54	20.0	0.0	39.5



2005002-02

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2019\DATA\120519K_FSAA\
Data File : 120519K21.D
InstName : HP5973K
Acq On : 6 Dec 2019 5:14 am
Operator : EM
Sample : CAN #664
Misc : 200ml RECERTIFICATION
ALS Vial : 13 Sample Multiplier: 1

CLEAN

Quant Time: Dec 06 11:46:52 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	16.317	49	266962	20.00 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.227	114	947715	20.00 ppbv	0.00
43) CHLOROBENZENE-d5	23.094	117	829649	22.00 ppbv	0.00

Target Compounds Qvalue

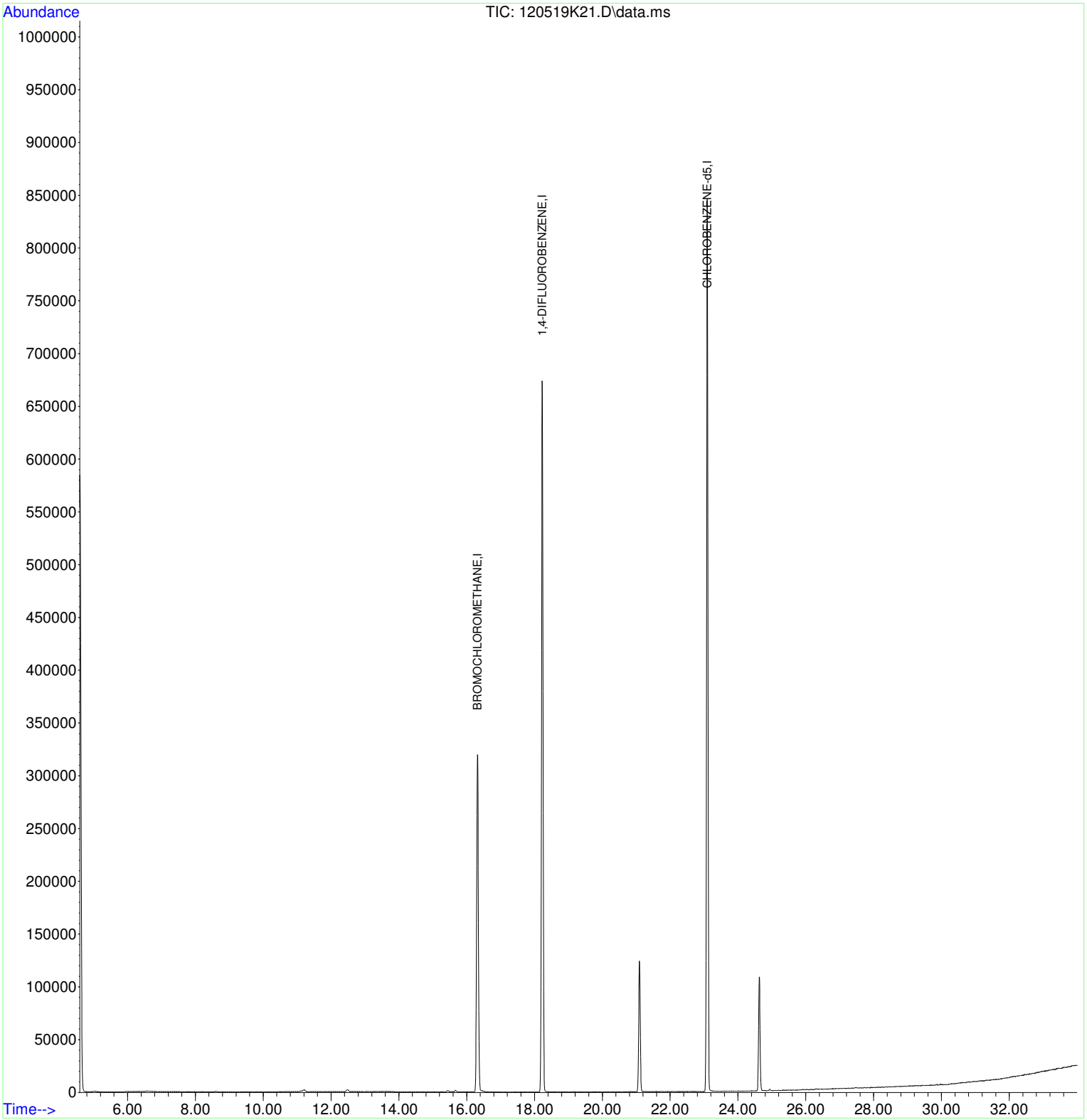
(#) = qualifier out of range (m) = manual integration (+) = signals summed

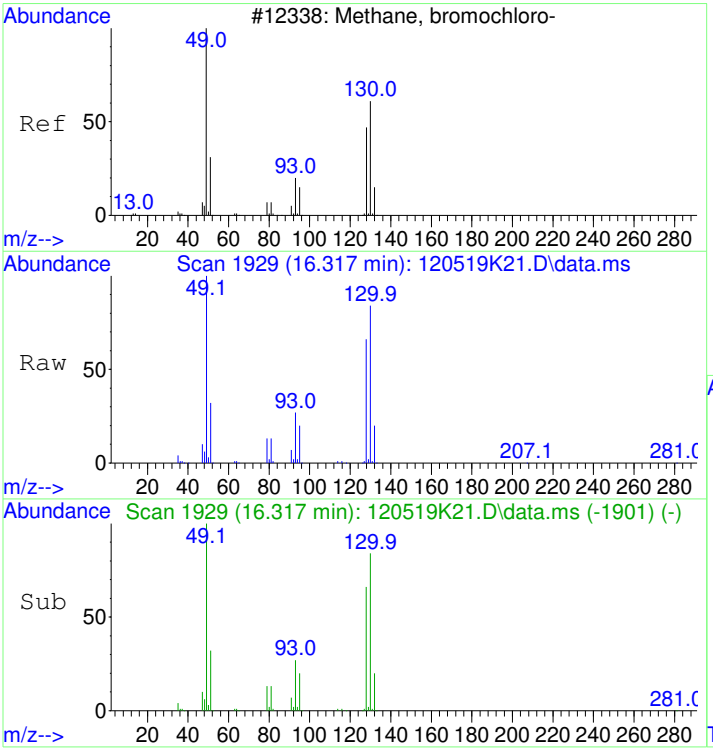
REVIEWED
By EM at 1:30 pm, Dec 06, 2019

Table of Contents

Data Path : D:\msdchem\1\2019\DATA\120519K_FSAA\
Data File : 120519K21.D
InstName : HP5973K
Acq On : 6 Dec 2019 5:14 am
Operator : EM
Sample : CAN #664
Misc : 200ml RECERTIFICATION
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Dec 06 11:46:52 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

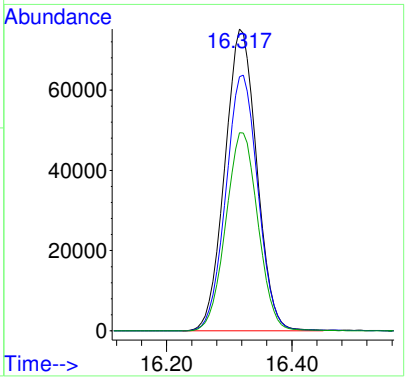


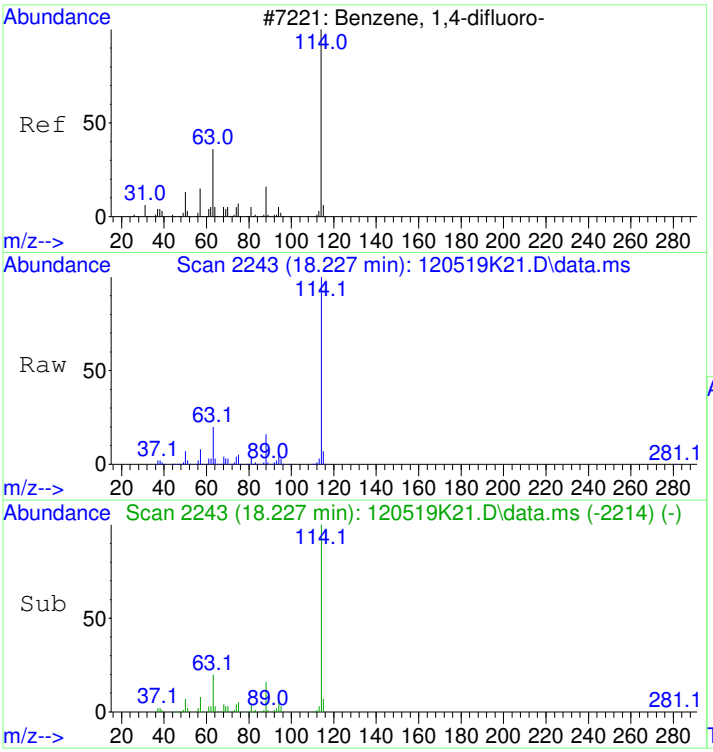


#1
BROMOCHLOROMETHANE
Concen: 20.00 ppbv
RT: 16.317 min Scan# 1929
Delta R.T. -0.006 min
Lab File: 120519K21.D
Acq: 6 Dec 2019 5:14 am

Tgt Ion: 49 Resp: 266962

Ion	Ratio	Lower	Upper
49	100		
130	85.1	62.7	102.7
128	65.5	43.9	83.9

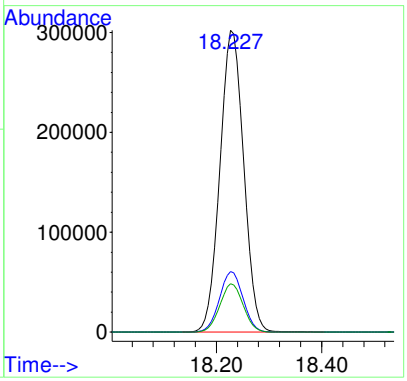


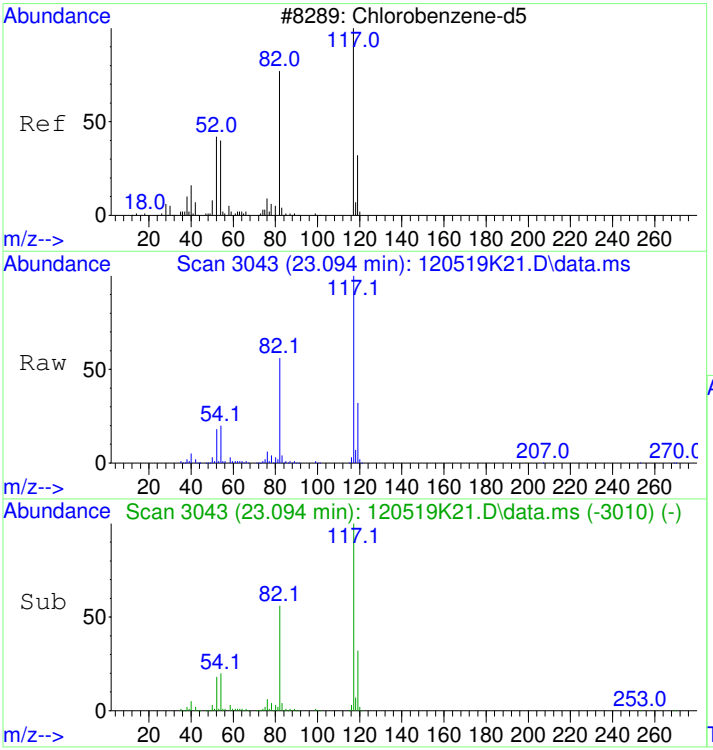


#32
1,4-DIFLUOROBENZENE
Concen: 20.00 ppbv
RT: 18.227 min Scan# 2243
Delta R.T. -0.006 min
Lab File: 120519K21.D
Acq: 6 Dec 2019 5:14 am

Tgt Ion:114 Resp: 947715

Ion	Ratio	Lower	Upper
114	100		
63	19.9	0.0	39.8
88	15.8	0.0	35.7

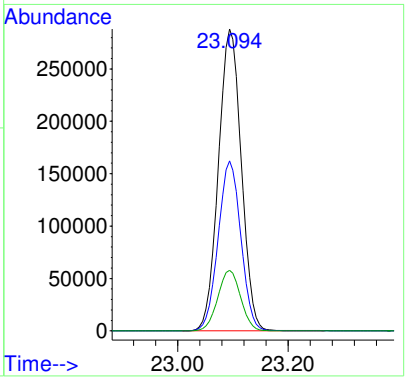




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 23.094 min Scan# 3043
Delta R.T. 0.000 min
Lab File: 120519K21.D
Acq: 6 Dec 2019 5:14 am

Tgt Ion:117 Resp: 829649

Ion	Ratio	Lower	Upper
117	100		
82	55.7	35.3	75.3
54	20.0	0.0	39.5



2005002-03

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2019\DATA\120519K_FSAA\
Data File : 120519K16.D
InstName : HP5973K
Acq On : 6 Dec 2019 12:48 am
Operator : EM
Sample : CAN #1100
Misc : 200ml RECERTIFICATION
ALS Vial : 24 Sample Multiplier: 1

CLEAN

Quant Time: Dec 06 11:46:26 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	16.317	49	264623	20.00 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.227	114	935724	20.00 ppbv	0.00
43) CHLOROBENZENE-d5	23.094	117	818551	22.00 ppbv	0.00

Target Compounds Qvalue

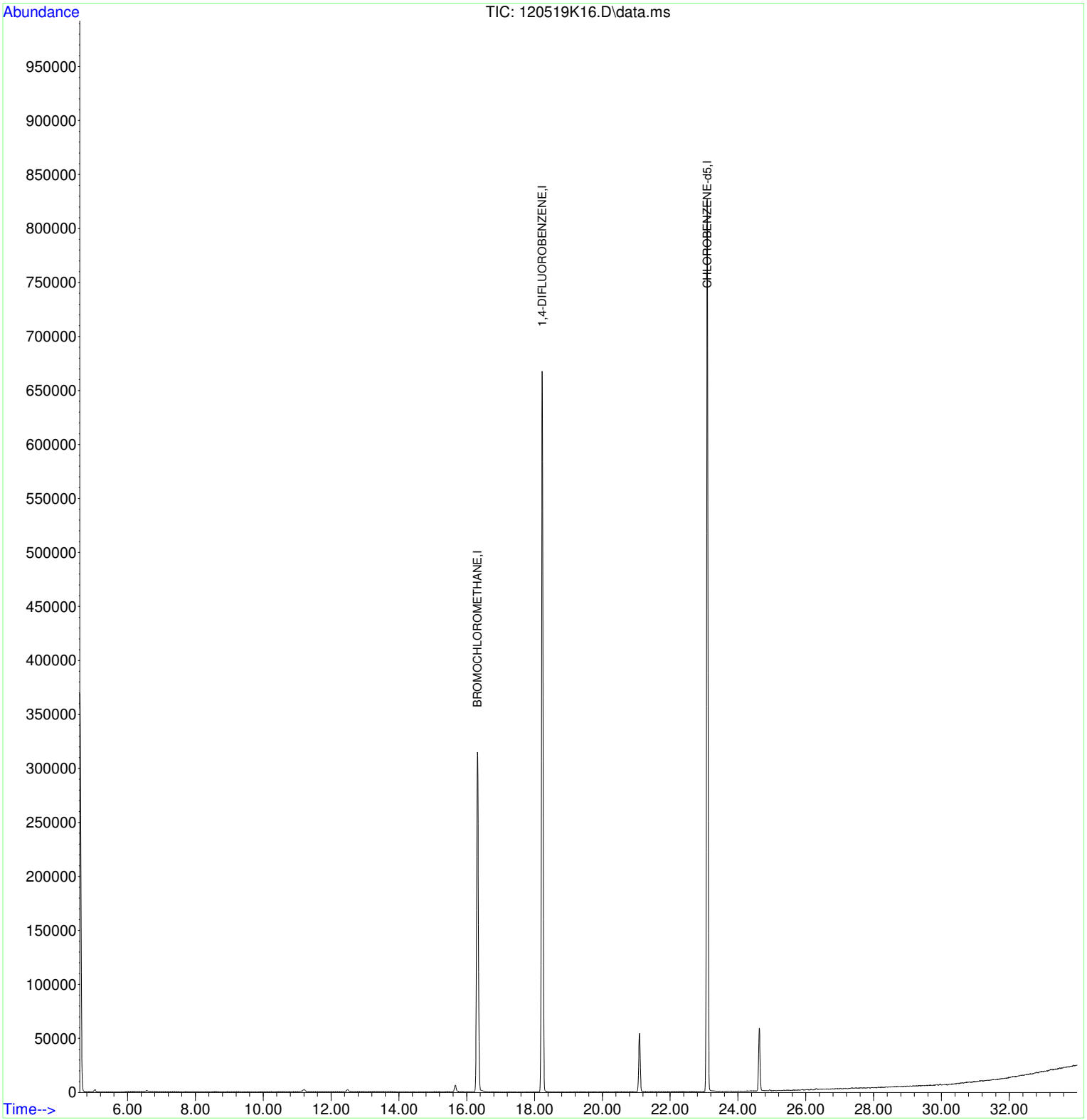
(#) = qualifier out of range (m) = manual integration (+) = signals summed

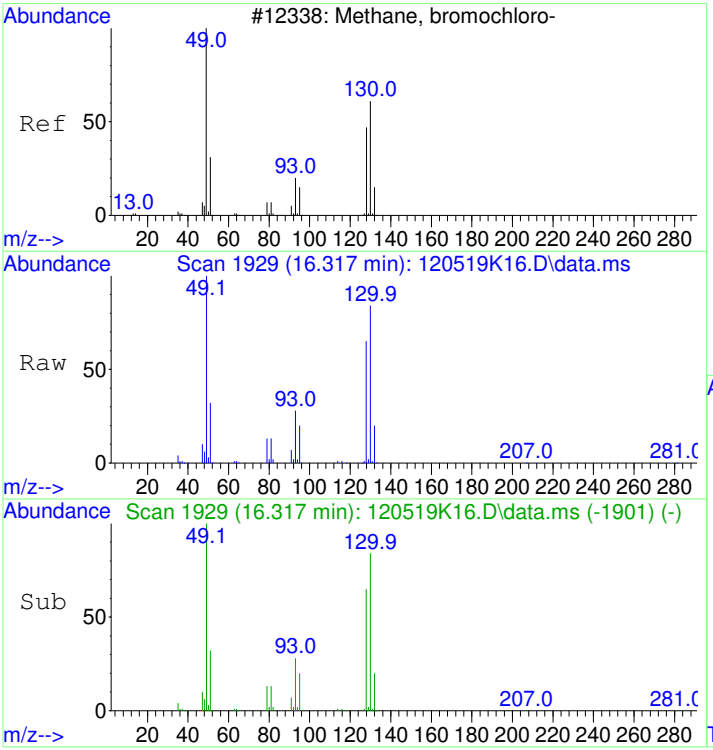
REVIEWED
By EM at 1:29 pm, Dec 06, 2019

Table of Contents

Data Path : D:\msdchem\1\2019\DATA\120519K_FSAA\
Data File : 120519K16.D
InstName : HP5973K
Acq On : 6 Dec 2019 12:48 am
Operator : EM
Sample : CAN #1100
Misc : 200ml RECERTIFICATION
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Dec 06 11:46:26 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

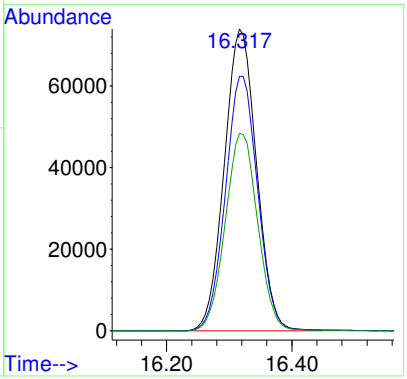


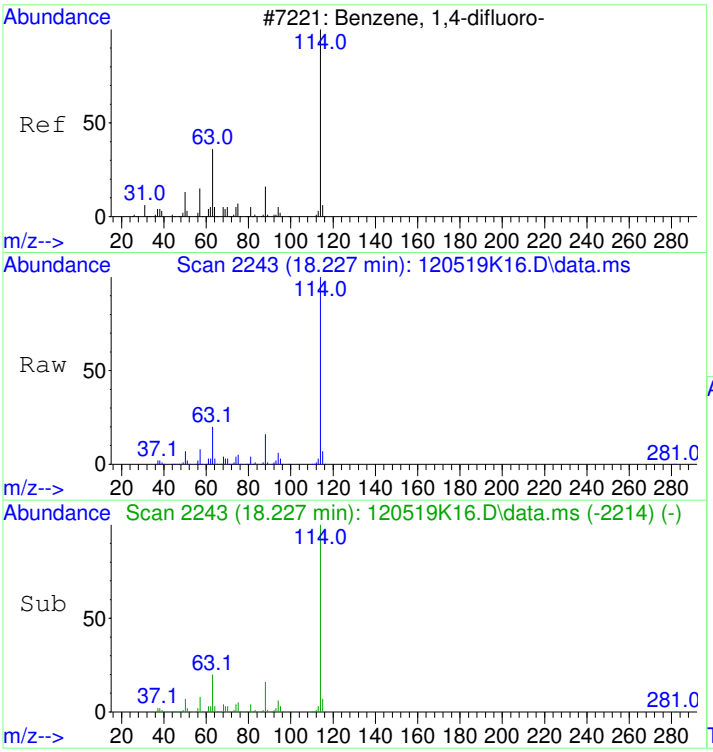


#1
BROMOCHLOROMETHANE
Concen: 20.00 ppbv
RT: 16.317 min Scan# 1929
Delta R.T. -0.006 min
Lab File: 120519K16.D
Acq: 6 Dec 2019 12:48 am

Tgt Ion: 49 Resp: 264623

Ion	Ratio	Lower	Upper
49	100		
130	84.5	62.7	102.7
128	65.4	43.9	83.9

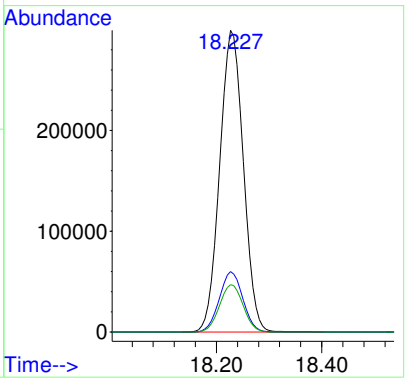


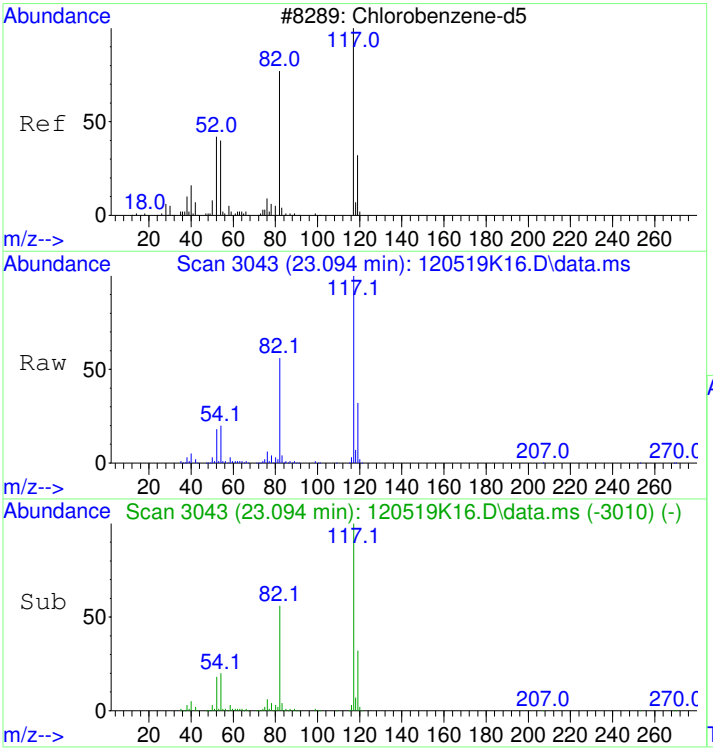


#32
1,4-DIFLUOROBENZENE
Concen: 20.00 ppbv
RT: 18.227 min Scan# 2243
Delta R.T. -0.006 min
Lab File: 120519K16.D
Acq: 6 Dec 2019 12:48 am

Tgt Ion:114 Resp: 935724

Ion	Ratio	Lower	Upper
114	100		
63	19.9	0.0	39.8
88	15.8	0.0	35.7

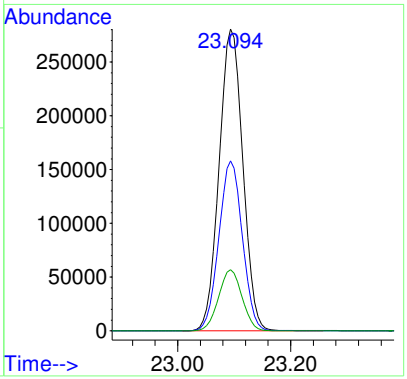




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 23.094 min Scan# 3043
Delta R.T. 0.000 min
Lab File: 120519K16.D
Acq: 6 Dec 2019 12:48 am

Tgt Ion:117 Resp: 818551

Ion	Ratio	Lower	Upper
117	100		
82	55.8	35.3	75.3
54	20.0	0.0	39.5



2005002-04

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2019\DATA\120519K_FSAA\
Data File : 120519K11.D
InstName : HP5973K
Acq On : 5 Dec 2019 8:23 pm
Operator : EM
Sample : CAN #883
Misc : 200ml RECERTIFICATION
ALS Vial : 11 Sample Multiplier: 1

CLEAN

Quant Time: Dec 06 11:46:10 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	16.323	49	264422	20.00 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.227	114	932943	20.00 ppbv	0.00
43) CHLOROBENZENE-d5	23.094	117	816431	22.00 ppbv	0.00

Target Compounds Qvalue

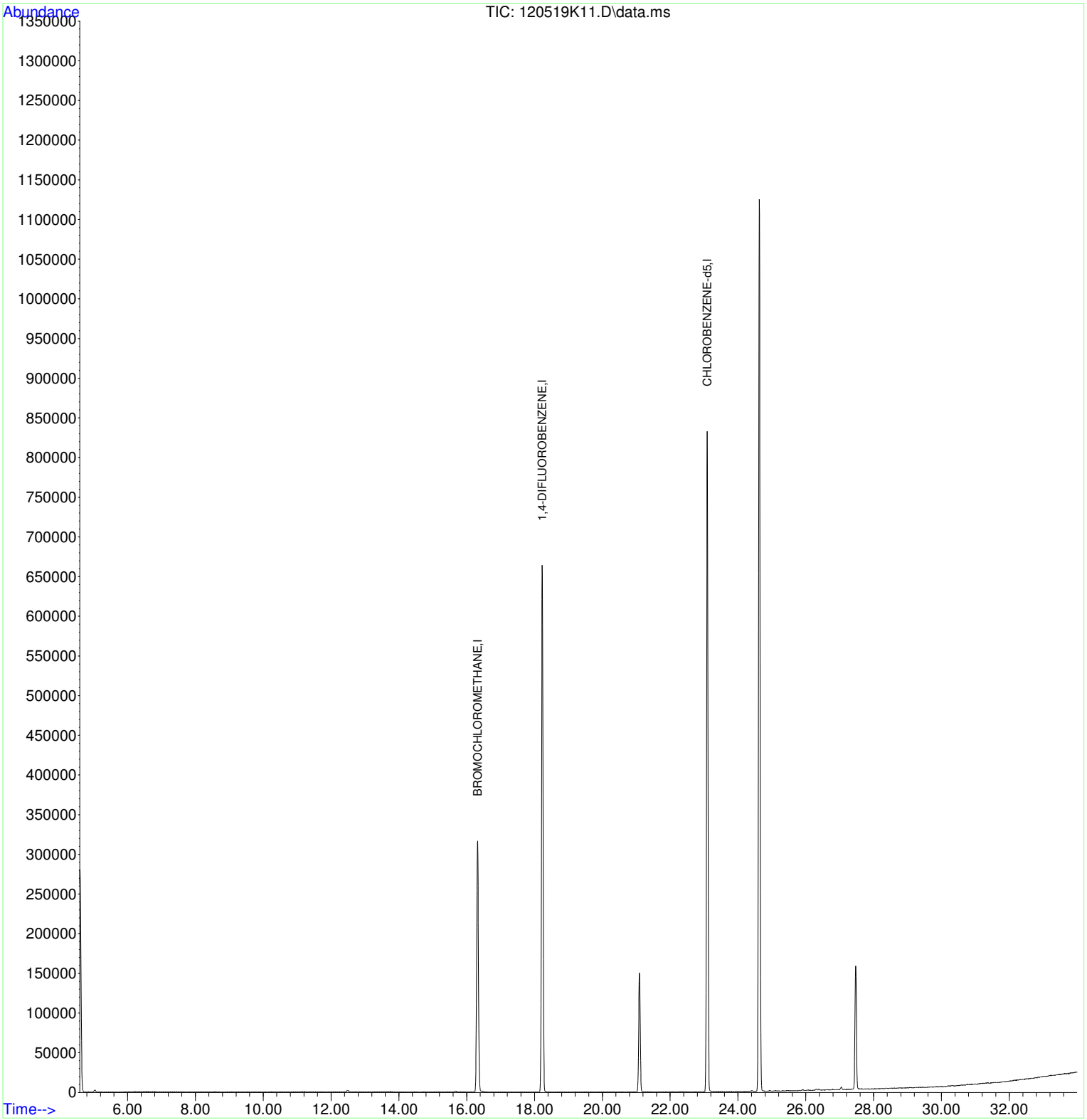
(#) = qualifier out of range (m) = manual integration (+) = signals summed

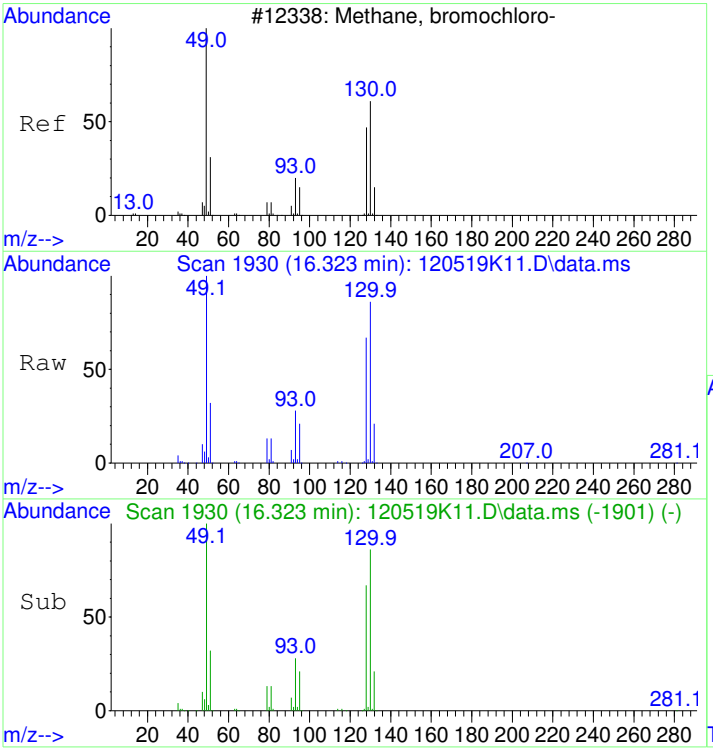
REVIEWED
By EM at 1:28 pm, Dec 06, 2019

Table of Contents

Data Path : D:\msdchem\1\2019\DATA\120519K_FSAA\
Data File : 120519K11.D
InstName : HP5973K
Acq On : 5 Dec 2019 8:23 pm
Operator : EM
Sample : CAN #883
Misc : 200ml RECERTIFICATION
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Dec 06 11:46:10 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

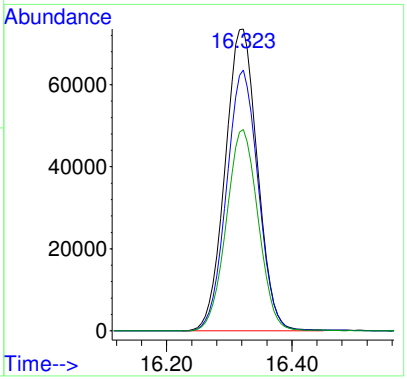


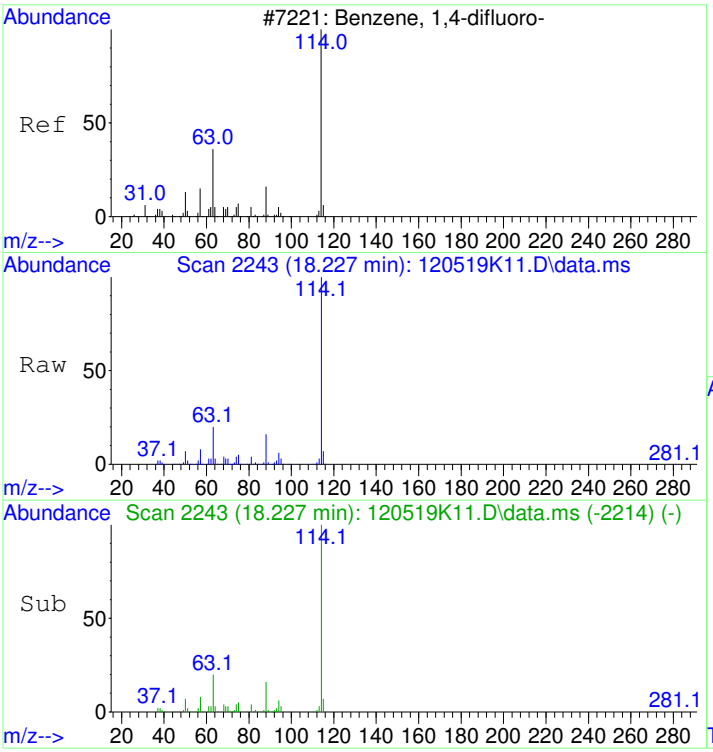


#1
BROMOCHLOROMETHANE
Concen: 20.00 ppbv
RT: 16.323 min Scan# 1930
Delta R.T. -0.000 min
Lab File: 120519K11.D
Acq: 5 Dec 2019 8:23 pm

Tgt Ion: 49 Resp: 264422

Ion	Ratio	Lower	Upper
49	100		
130	84.9	62.7	102.7
128	65.3	43.9	83.9

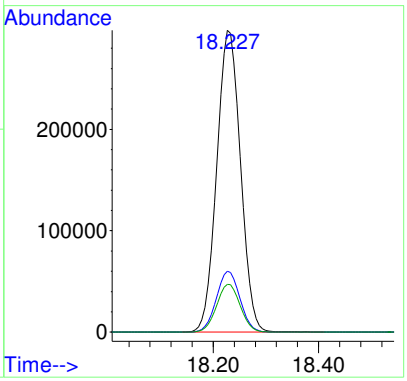


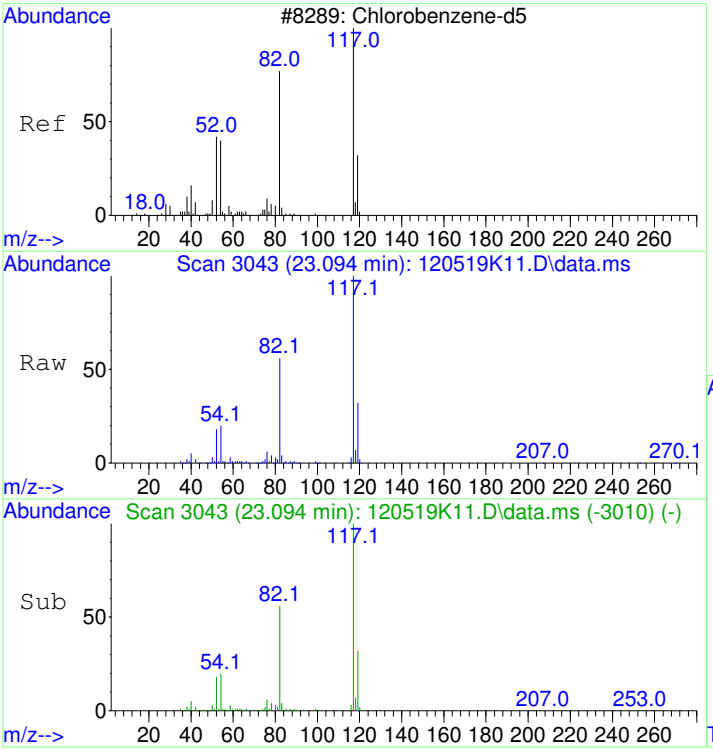


#32
1,4-DIFLUOROBENZENE
Concen: 20.00 ppbv
RT: 18.227 min Scan# 2243
Delta R.T. -0.006 min
Lab File: 120519K11.D
Acq: 5 Dec 2019 8:23 pm

Tgt Ion:114 Resp: 932943

Ion	Ratio	Lower	Upper
114	100		
63	20.0	0.0	39.8
88	15.7	0.0	35.7

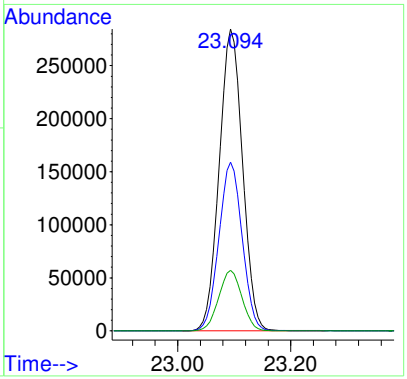




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 23.094 min Scan# 3043
Delta R.T. 0.000 min
Lab File: 120519K11.D
Acq: 5 Dec 2019 8:23 pm

Tgt Ion:117 Resp: 816431

Ion	Ratio	Lower	Upper
117	100		
82	55.7	35.3	75.3
54	19.9	0.0	39.5



2005002-05

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2019\DATA\120619K_FSAA\
Data File : 120619K12.D
InstName : HP5973K
Acq On : 6 Dec 2019 10:03 pm
Operator : EM
Sample : CAN #852
Misc : 200ml RECERTIFICATION
ALS Vial : 17 Sample Multiplier: 1

CLEAN

Quant Time: Dec 10 08:30:45 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	16.317	49	257598	20.00 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.233	114	916924	20.00 ppbv	0.00
43) CHLOROBENZENE-d5	23.094	117	806344	22.00 ppbv	0.00

Target Compounds	Qvalue

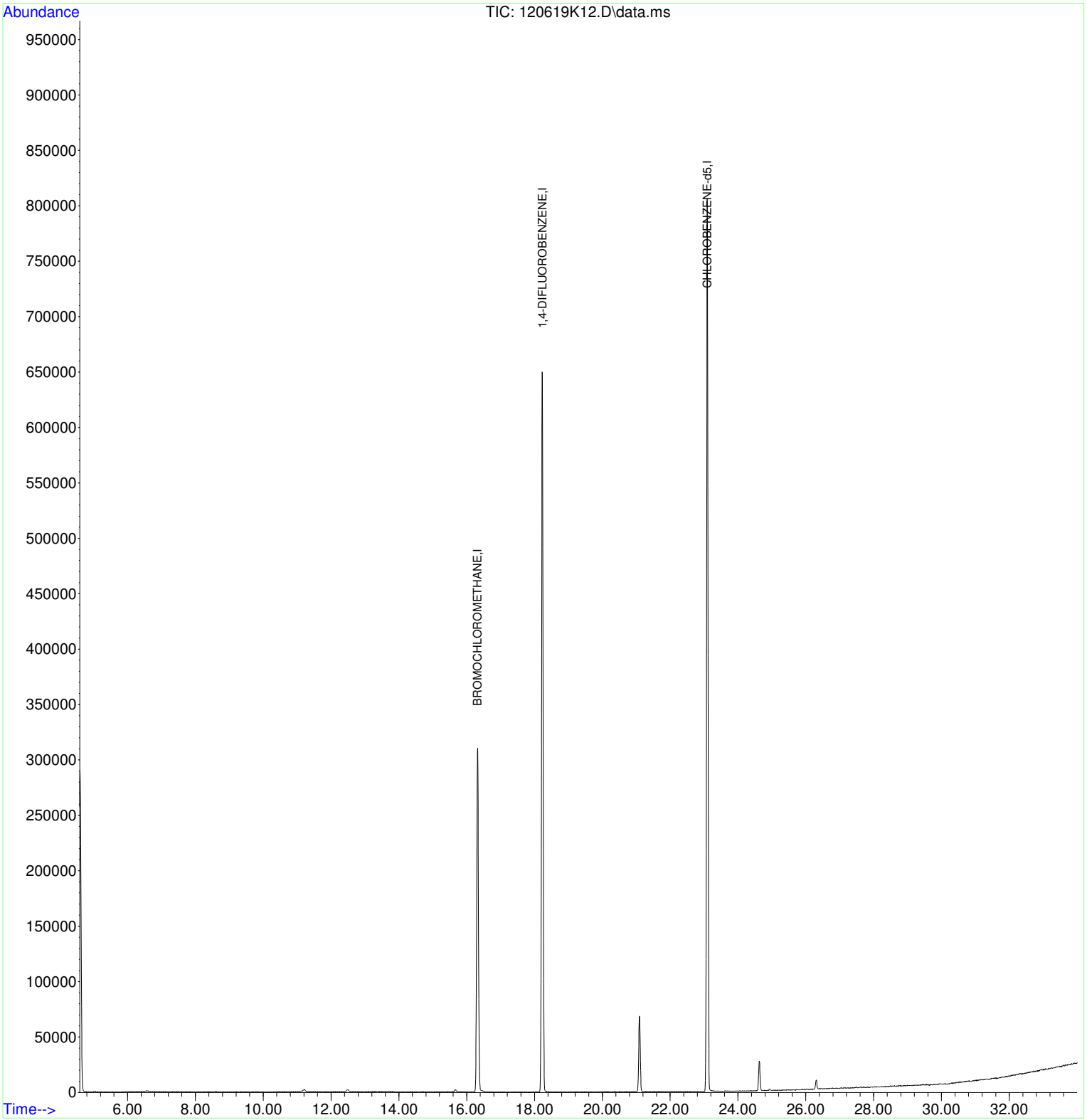
(#) = qualifier out of range (m) = manual integration (+) = signals summed

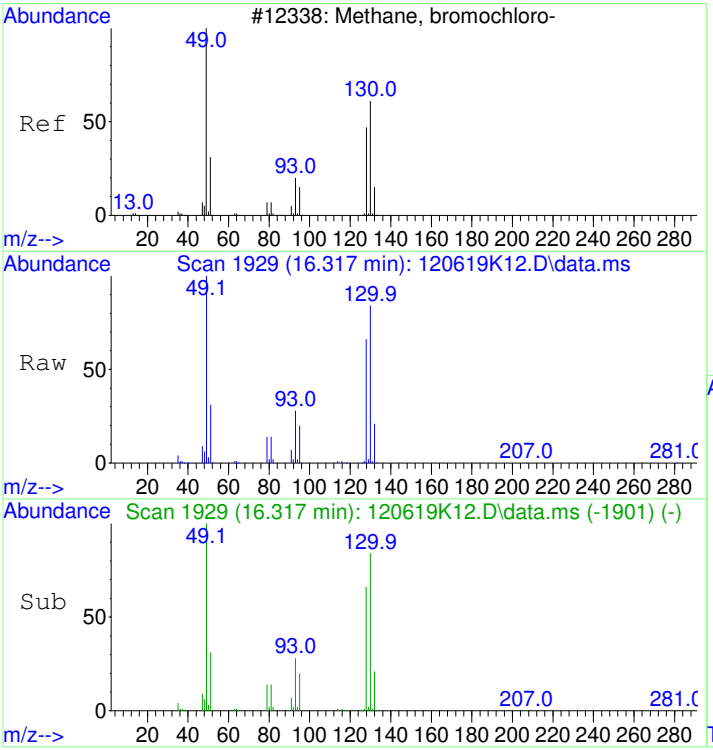
REVIEWED
By EM at 8:33 am, Dec 10, 2019

Table of Contents

Data Path : D:\msdchem\1\2019\DATA\120619K_FSAA\
Data File : 120619K12.D
InstName : HP5973K
Acq On : 6 Dec 2019 10:03 pm
Operator : EM
Sample : CAN #852
Misc : 200ml RECERTIFICATION
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Dec 10 08:30:45 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

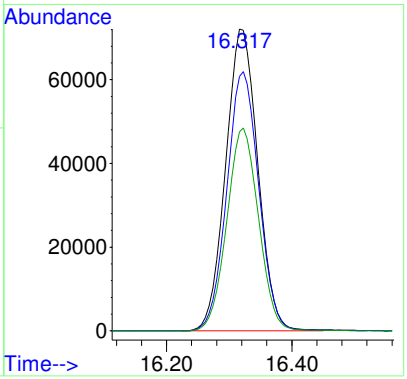


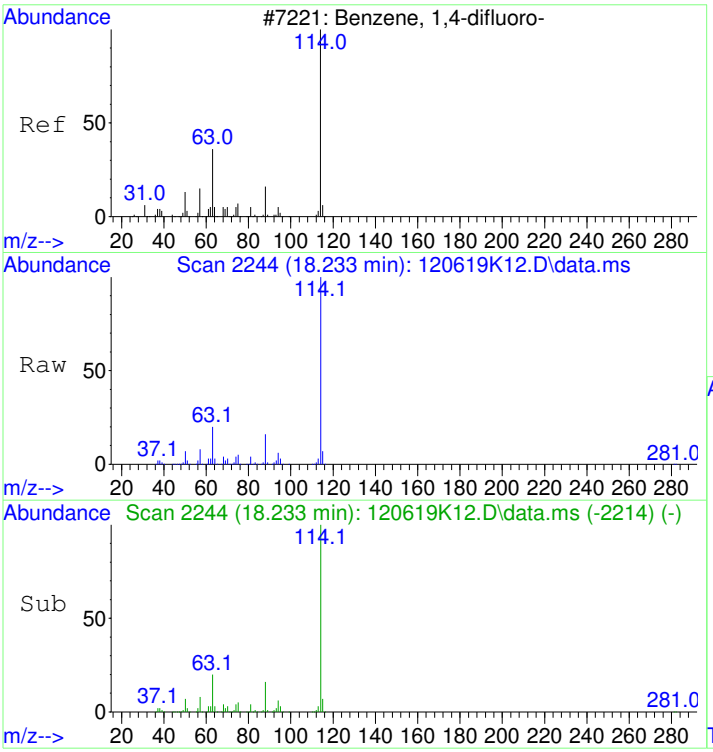


#1
BROMOCHLOROMETHANE
Concen: 20.00 ppbv
RT: 16.317 min Scan# 1929
Delta R.T. -0.006 min
Lab File: 120619K12.D
Acq: 6 Dec 2019 10:03 pm

Tgt Ion: 49 Resp: 257598

Ion	Ratio	Lower	Upper
49	100		
130	85.4	62.7	102.7
128	65.7	43.9	83.9

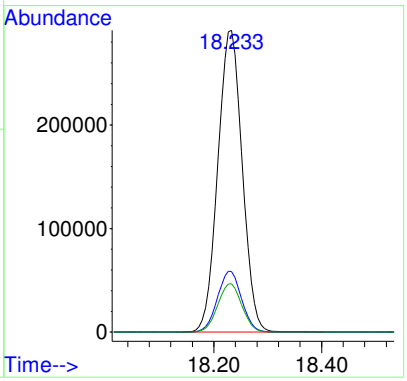


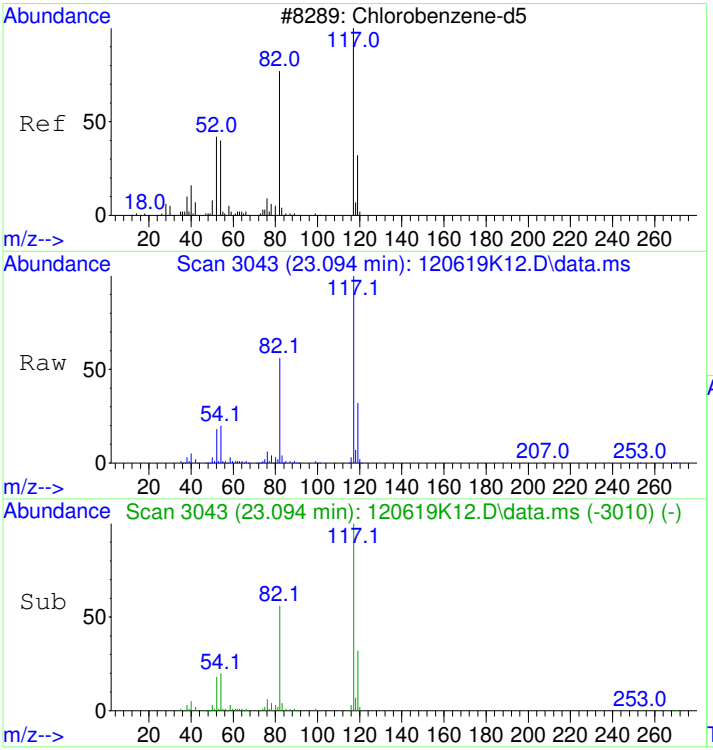


#32
1,4-DIFLUOROBENZENE
Concen: 20.00 ppbv
RT: 18.233 min Scan# 2244
Delta R.T. 0.000 min
Lab File: 120619K12.D
Acq: 6 Dec 2019 10:03 pm

Tgt Ion:114 Resp: 916924

Ion	Ratio	Lower	Upper
114	100		
63	19.9	0.0	39.8
88	15.9	0.0	35.7

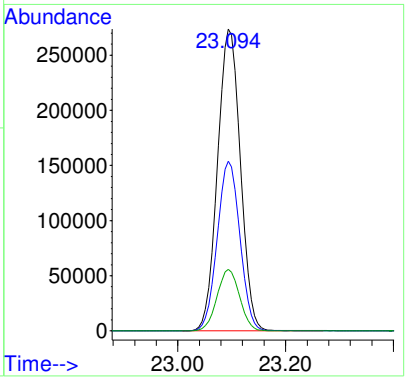




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 23.094 min Scan# 3043
Delta R.T. 0.000 min
Lab File: 120619K12.D
Acq: 6 Dec 2019 10:03 pm

Tgt Ion:117 Resp: 806344

Ion	Ratio	Lower	Upper
117	100		
82	55.6	35.3	75.3
54	20.1	0.0	39.5



2005002-06

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2019\DATA\120519K_FSAA\
Data File : 120519K12.D
InstName : HP5973K
Acq On : 5 Dec 2019 9:16 pm
Operator : EM
Sample : CAN #895
Misc : 200ml RECERTIFICATION
ALS Vial : 12 Sample Multiplier: 1

CLEAN

Quant Time: Dec 06 11:46:13 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	16.317	49	266464	20.00 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.227	114	941595	20.00 ppbv	0.00
43) CHLOROBENZENE-d5	23.094	117	825887	22.00 ppbv	0.00

Target Compounds	Qvalue

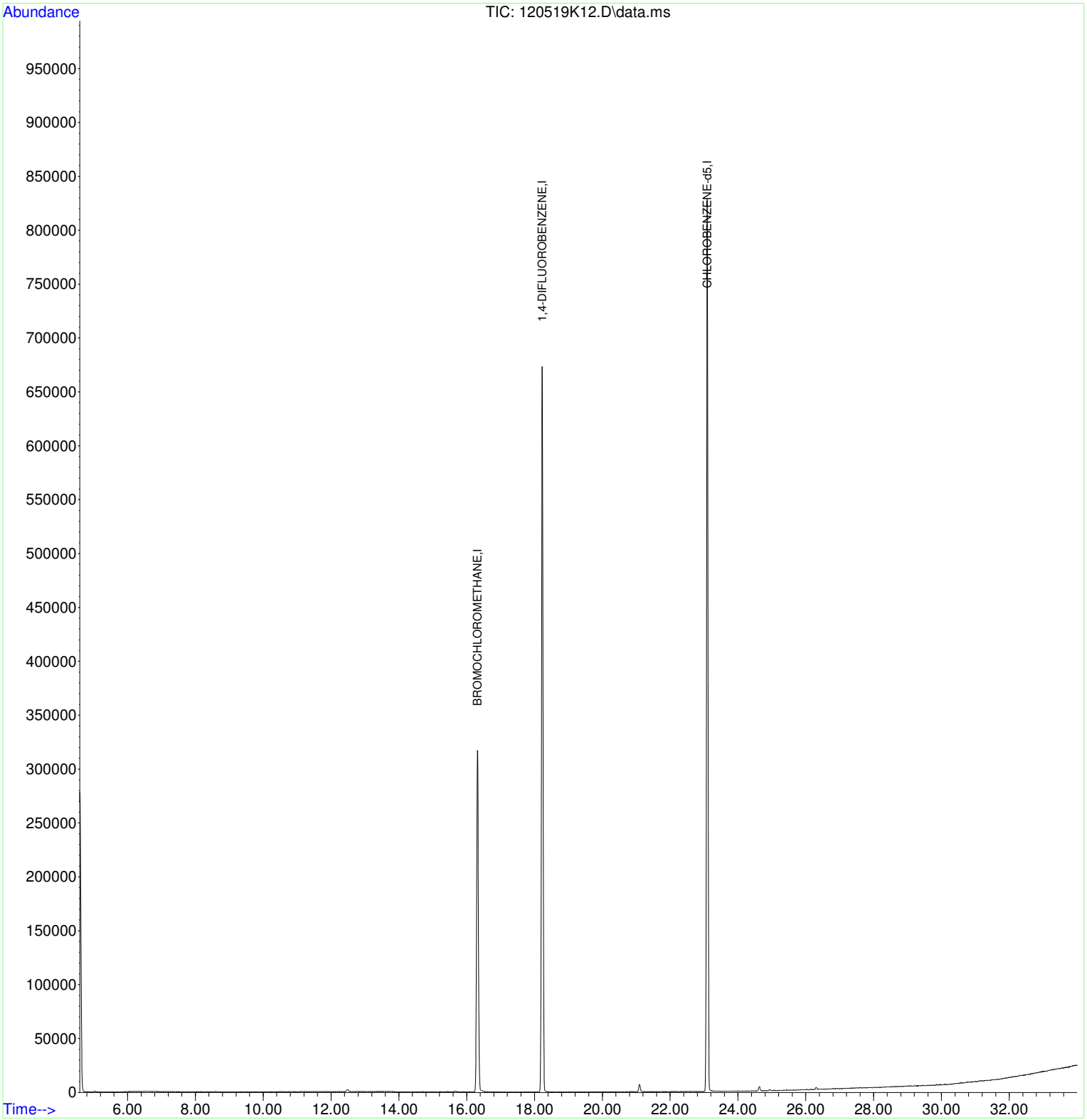
(#) = qualifier out of range (m) = manual integration (+) = signals summed

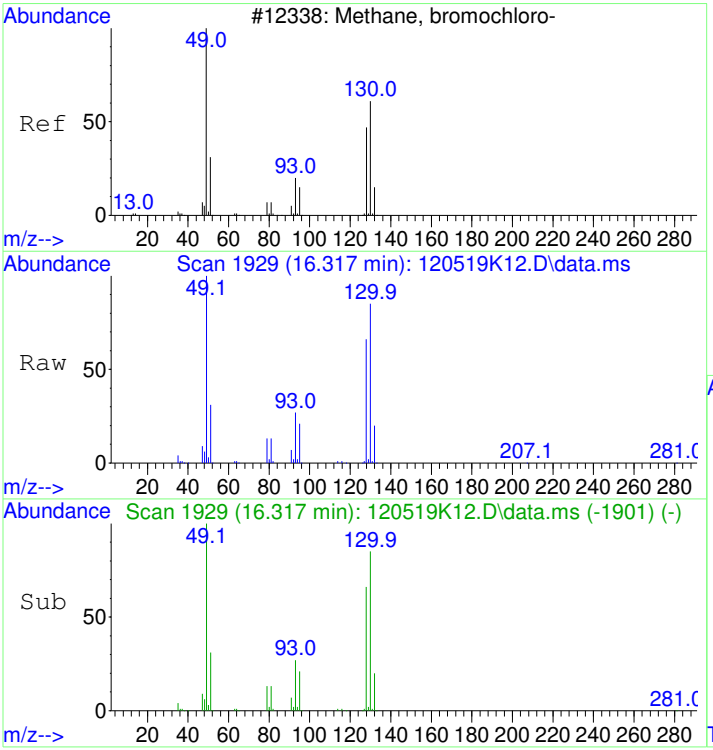
REVIEWED
By EM at 1:28 pm, Dec 06, 2019

Table of Contents

Data Path : D:\msdchem\1\2019\DATA\120519K_FSAA\
Data File : 120519K12.D
InstName : HP5973K
Acq On : 5 Dec 2019 9:16 pm
Operator : EM
Sample : CAN #895
Misc : 200ml RECERTIFICATION
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Dec 06 11:46:13 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

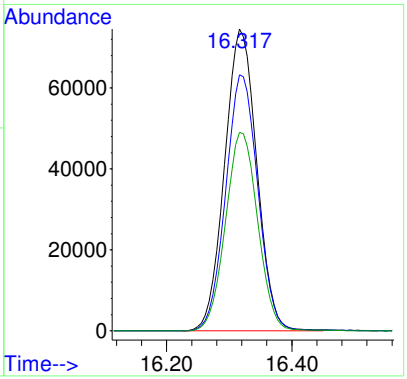


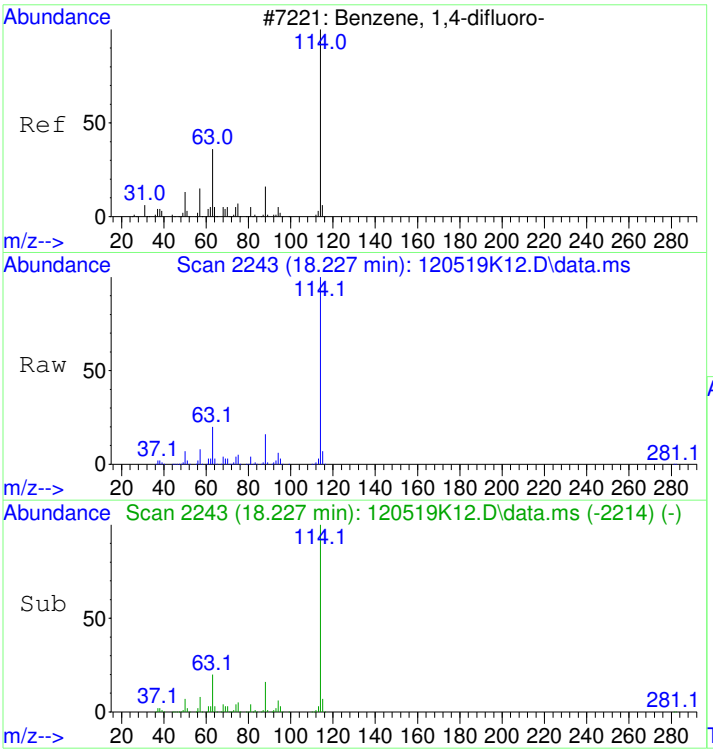


#1
BROMOCHLOROMETHANE
Concen: 20.00 ppbv
RT: 16.317 min Scan# 1929
Delta R.T. -0.006 min
Lab File: 120519K12.D
Acq: 5 Dec 2019 9:16 pm

Tgt Ion: 49 Resp: 266464

Ion	Ratio	Lower	Upper
49	100		
130	84.7	62.7	102.7
128	65.3	43.9	83.9

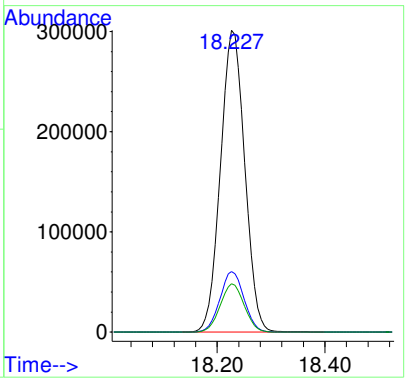


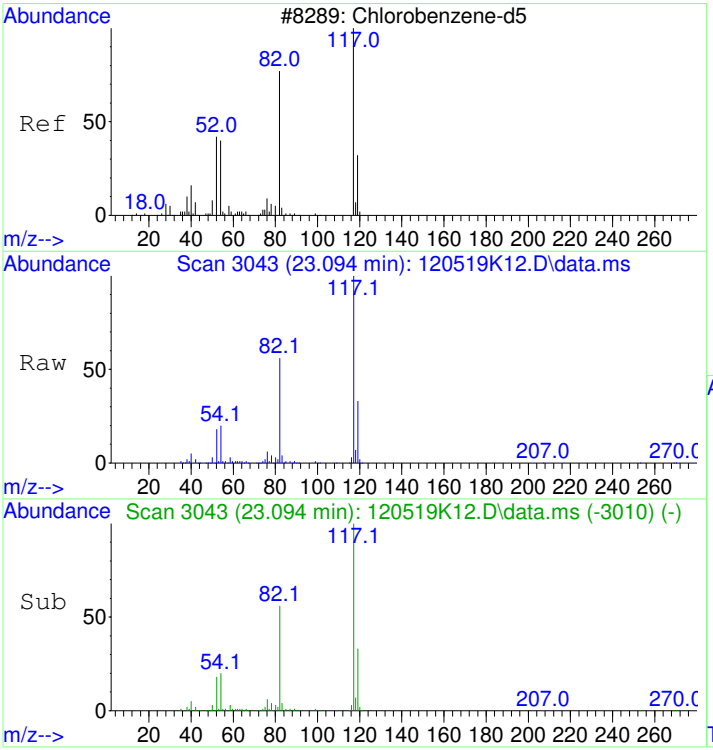


#32
1,4-DIFLUOROBENZENE
Concen: 20.00 ppbv
RT: 18.227 min Scan# 2243
Delta R.T. -0.006 min
Lab File: 120519K12.D
Acq: 5 Dec 2019 9:16 pm

Tgt Ion:114 Resp: 941595

Ion	Ratio	Lower	Upper
114	100		
63	19.9	0.0	39.8
88	15.8	0.0	35.7

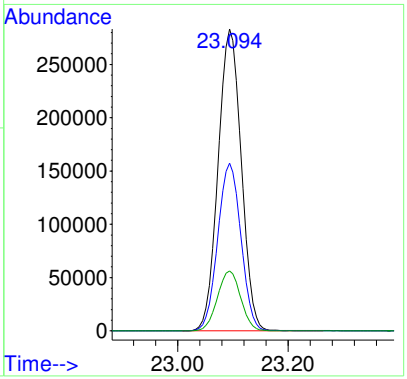




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 23.094 min Scan# 3043
Delta R.T. 0.000 min
Lab File: 120519K12.D
Acq: 5 Dec 2019 9:16 pm

Tgt Ion:117 Resp: 825887

Ion	Ratio	Lower	Upper
117	100		
82	55.5	35.3	75.3
54	19.9	0.0	39.5



2005002-07

Data Path : D:\msdchem\1\2019\DATA\120519K_FSAA\
Data File : 120519K10.D
InstName : HP5973K
Acq On : 5 Dec 2019 7:30 pm
Operator : EM
Sample : CAN #878
Misc : 200ml RECERTIFICATION
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Dec 06 11:46:07 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	16.316	49	265191	20.00 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.227	114	937622	20.00 ppbv	0.00
43) CHLOROBENZENE-d5	23.093	117	818496	22.00 ppbv	0.00
Target Compounds					Qvalue
14) Acetone	11.115	43	4321	0.40 ppbv	95 <1/2MDL

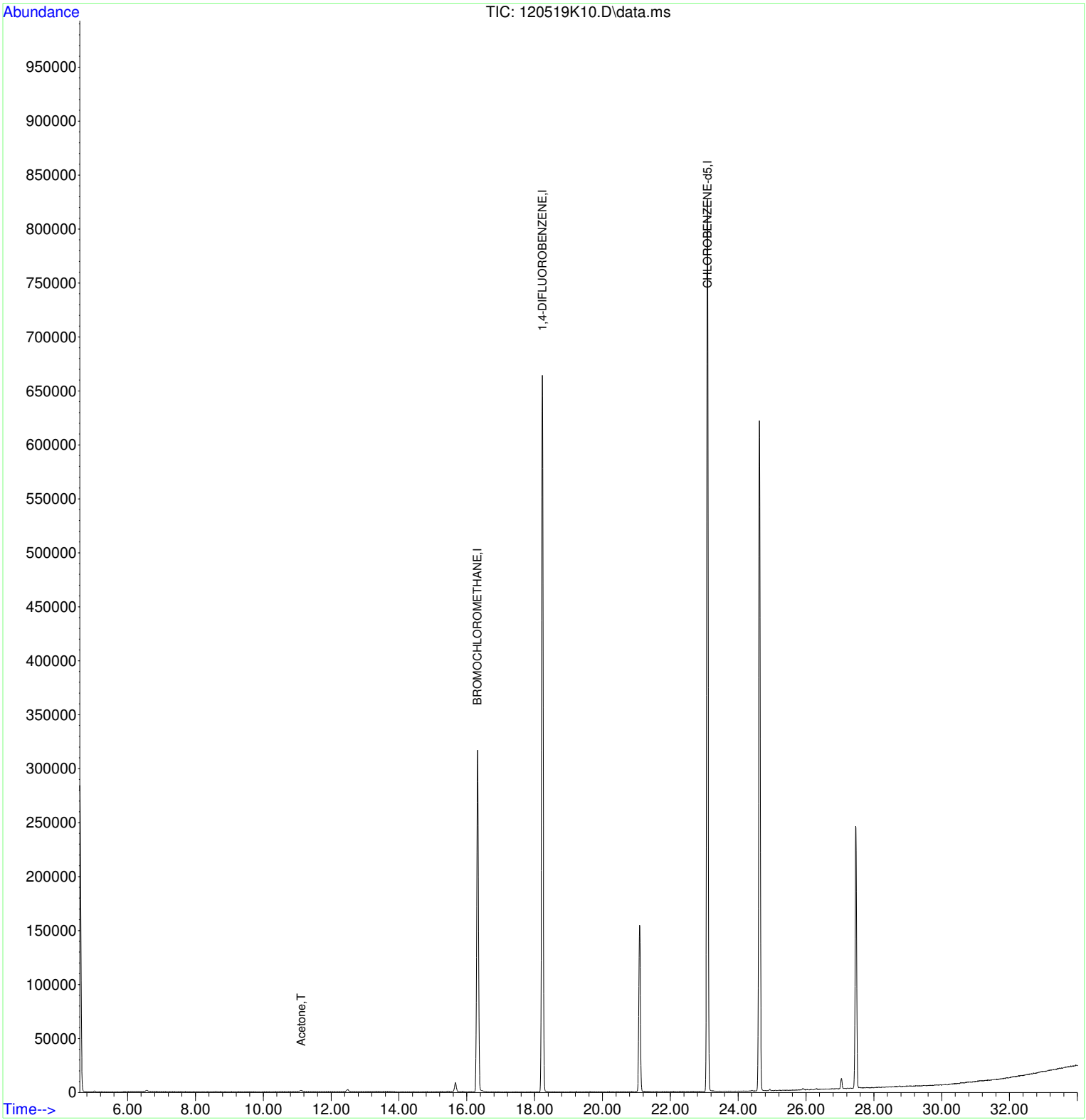
(#) = qualifier out of range (m) = manual integration (+) = signals summed

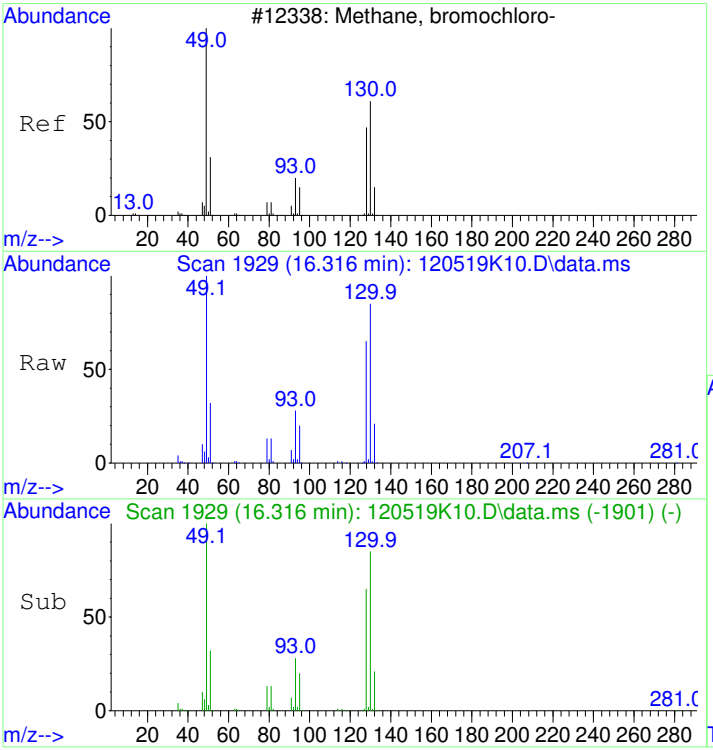
REVIEWED
By EM at 1:27 pm, Dec 06, 2019

Table of Contents

Data Path : D:\msdchem\1\2019\DATA\120519K_FSAA\
Data File : 120519K10.D
InstName : HP5973K
Acq On : 5 Dec 2019 7:30 pm
Operator : EM
Sample : CAN #878
Misc : 200ml RECERTIFICATION
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Dec 06 11:46:07 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

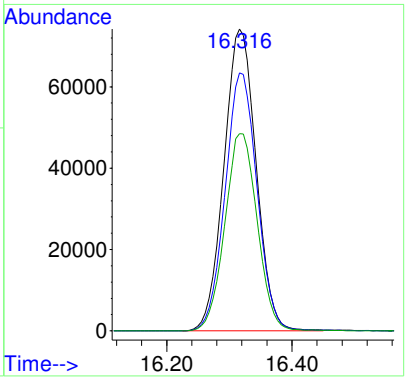


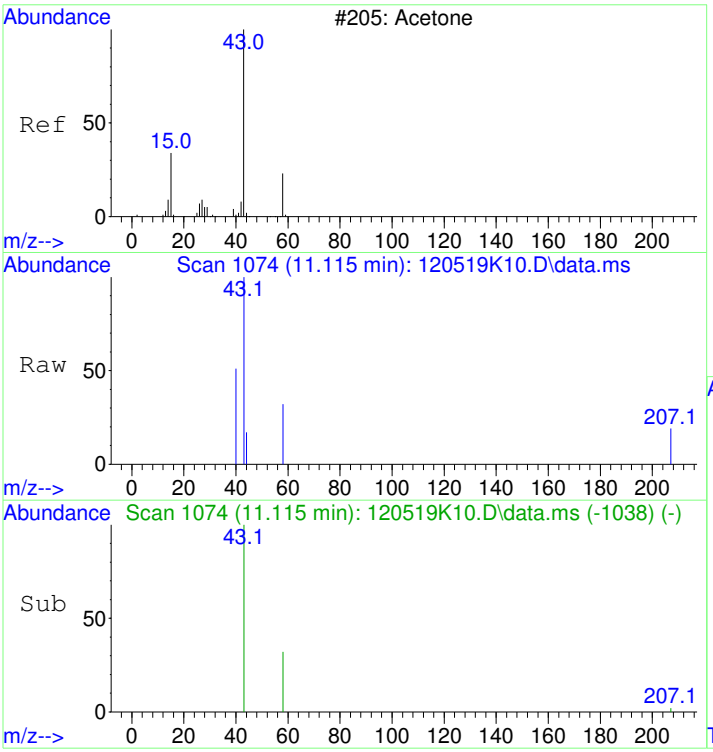


#1
BROMOCHLOROMETHANE
Concen: 20.00 ppbv
RT: 16.316 min Scan# 1929
Delta R.T. -0.007 min
Lab File: 120519K10.D
Acq: 5 Dec 2019 7:30 pm

Tgt Ion: 49 Resp: 265191

Ion	Ratio	Lower	Upper
49	100		
130	84.9	62.7	102.7
128	65.3	43.9	83.9

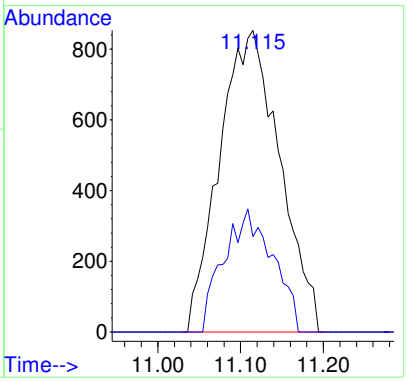


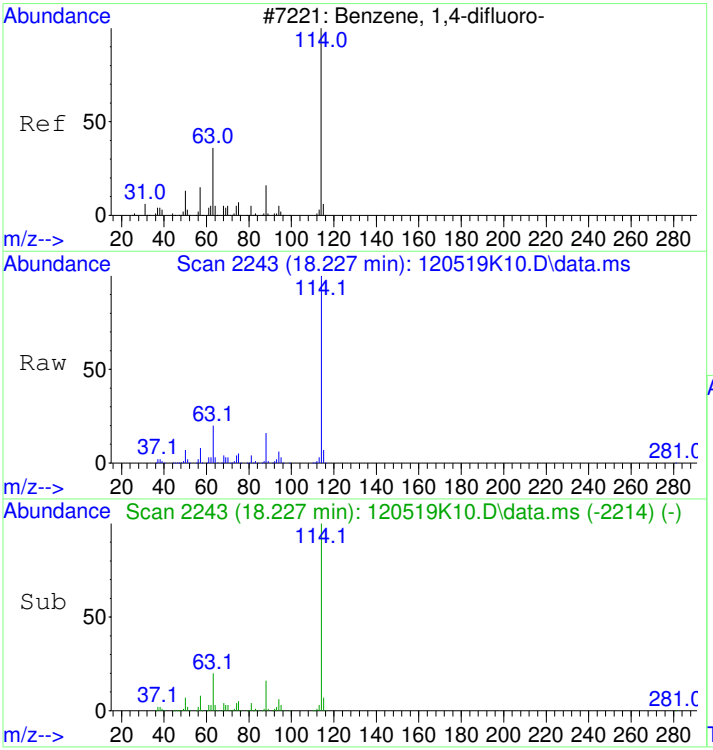


#14
Acetone
Concen: 0.40 ppbv
RT: 11.115 min Scan# 1074
Delta R.T. 0.018 min
Lab File: 120519K10.D
Acq: 5 Dec 2019 7:30 pm

Tgt Ion: 43 Resp: 4321

Ion	Ratio	Lower	Upper
43	100		
58	33.0	16.2	56.2

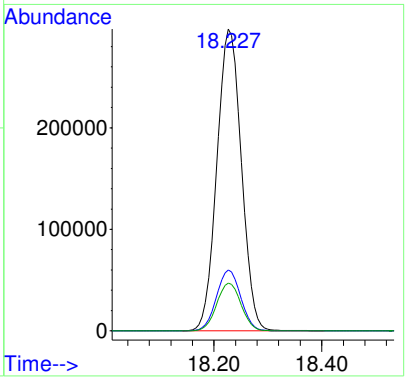


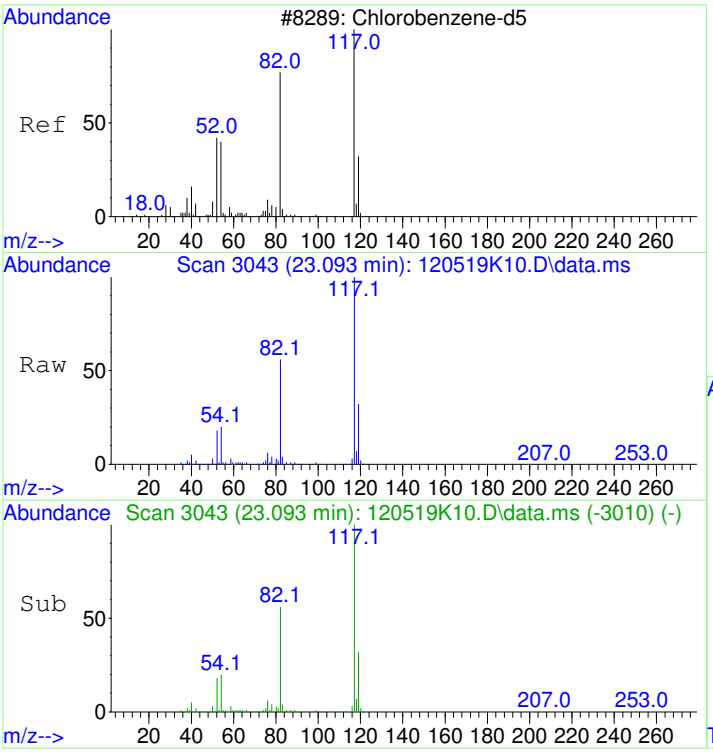


#32
1,4-DIFLUOROBENZENE
Concen: 20.00 ppbv
RT: 18.227 min Scan# 2243
Delta R.T. -0.006 min
Lab File: 120519K10.D
Acq: 5 Dec 2019 7:30 pm

Tgt Ion:114 Resp: 937622

Ion	Ratio	Lower	Upper
114	100		
63	19.9	0.0	39.8
88	15.7	0.0	35.7

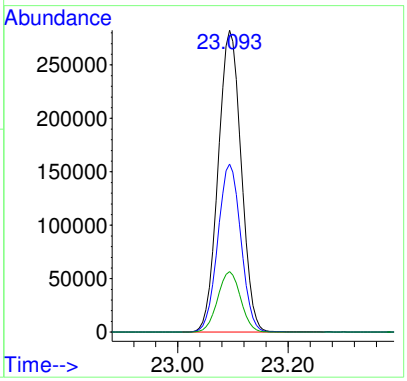




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 23.093 min Scan# 3043
Delta R.T. -0.000 min
Lab File: 120519K10.D
Acq: 5 Dec 2019 7:30 pm

Tgt Ion:117 Resp: 818496

Ion	Ratio	Lower	Upper
117	100		
82	55.7	35.3	75.3
54	19.9	0.0	39.5



2005002-08

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2019\DATA\120519K_FSAA\
Data File : 120519K09.D
InstName : HP5973K
Acq On : 5 Dec 2019 6:38 pm
Operator : EM
Sample : CAN #876
Misc : 200ml RECERTIFICATION
ALS Vial : 19 Sample Multiplier: 1

CLEAN

Quant Time: Dec 11 16:32:18 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	16.317	49	262586	20.00 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.227	114	928678	20.00 ppbv	0.00
43) CHLOROBENZENE-d5	23.094	117	814488	22.00 ppbv	0.00

Target Compounds Qvalue

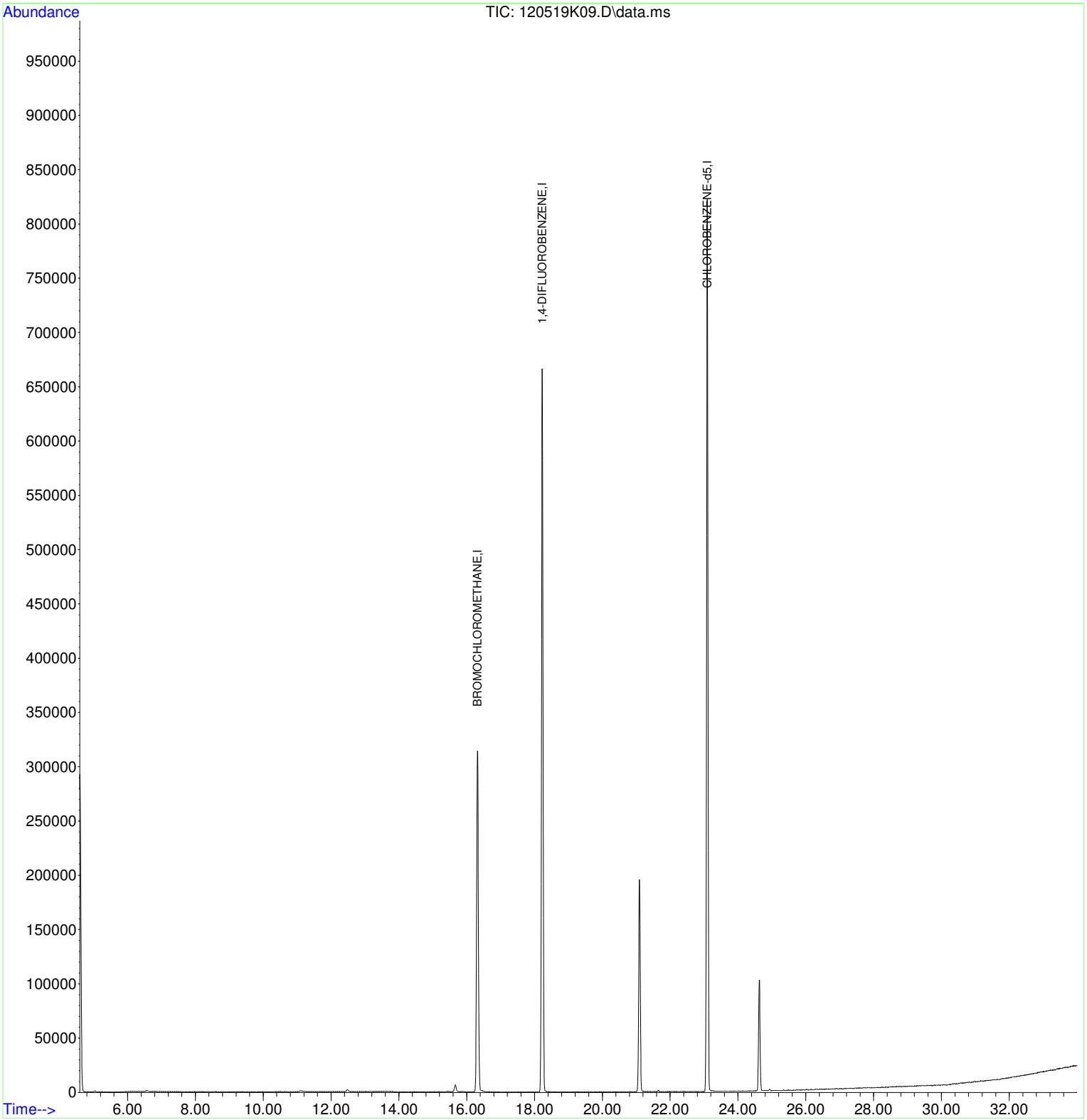
(#) = qualifier out of range (m) = manual integration (+) = signals summed

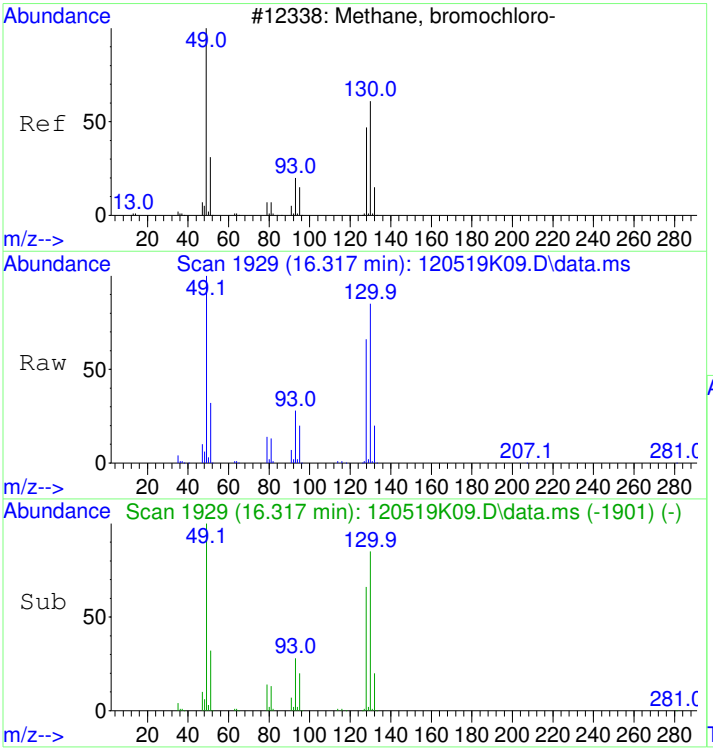
REVIEWED
By EM at 4:32 pm, Dec 11, 2019

Table of Contents

Data Path : D:\msdchem\1\2019\DATA\120519K_FSAA\
Data File : 120519K09.D
InstName : HP5973K
Acq On : 5 Dec 2019 6:38 pm
Operator : EM
Sample : CAN #876
Misc : 200ml RECERTIFICATION
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Dec 11 16:32:18 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

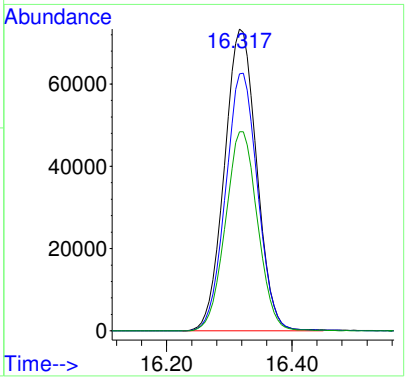


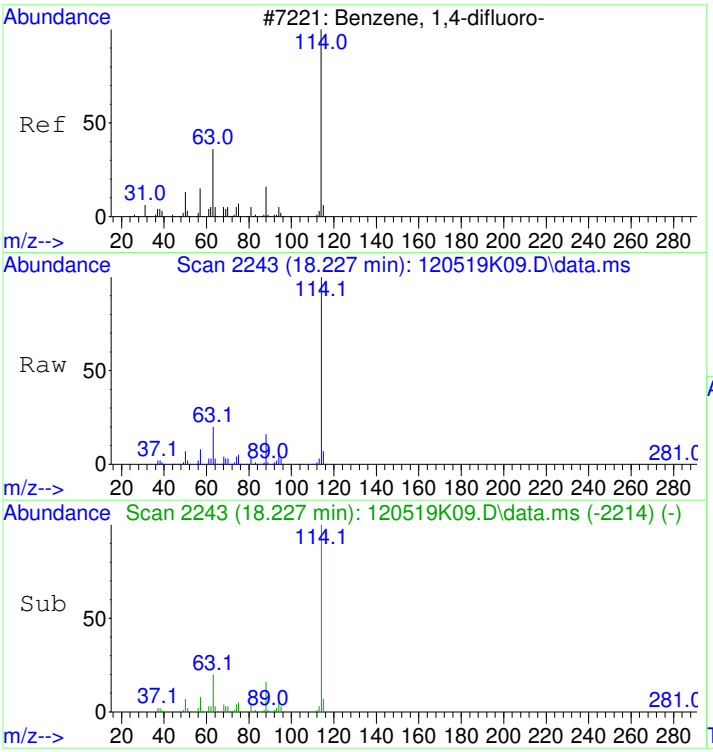


#1
BROMOCHLOROMETHANE
Concen: 20.00 ppbv
RT: 16.317 min Scan# 1929
Delta R.T. -0.006 min
Lab File: 120519K09.D
Acq: 5 Dec 2019 6:38 pm

Tgt Ion: 49 Resp: 262586

Ion	Ratio	Lower	Upper
49	100		
130	84.9	62.7	102.7
128	65.3	43.9	83.9

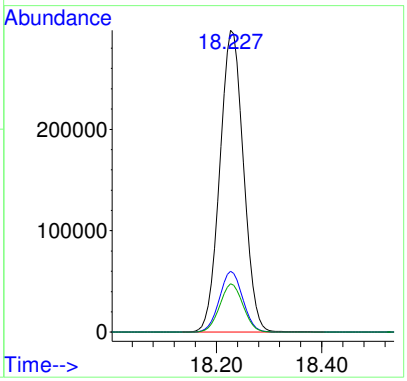


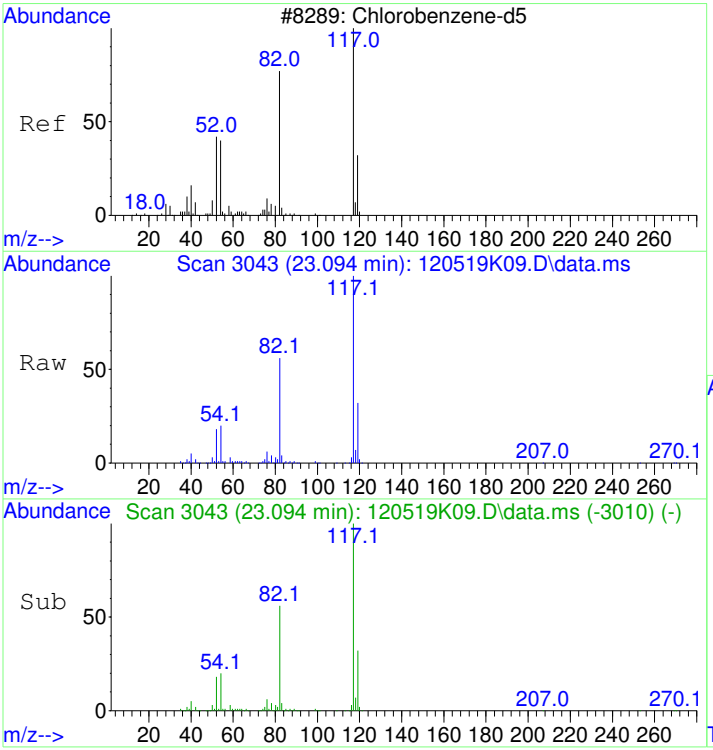


#32
1,4-DIFLUOROBENZENE
Concen: 20.00 ppbv
RT: 18.227 min Scan# 2243
Delta R.T. -0.006 min
Lab File: 120519K09.D
Acq: 5 Dec 2019 6:38 pm

Tgt Ion:114 Resp: 928678

Ion	Ratio	Lower	Upper
114	100		
63	19.9	0.0	39.8
88	15.8	0.0	35.7

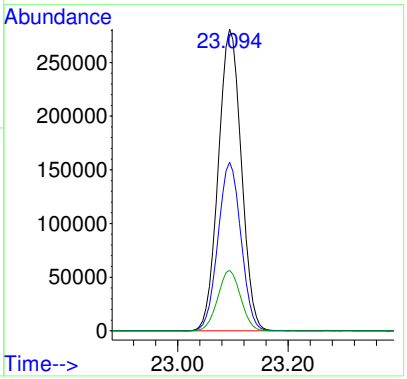




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 23.094 min Scan# 3043
Delta R.T. 0.000 min
Lab File: 120519K09.D
Acq: 5 Dec 2019 6:38 pm

Tgt Ion:117 Resp: 814488

Ion	Ratio	Lower	Upper
117	100		
82	55.6	35.3	75.3
54	19.9	0.0	39.5



2005002-09

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2019\DATA\120519K_FSAA\
Data File : 120519K20.D
InstName : HP5973K
Acq On : 6 Dec 2019 4:22 am
Operator : EM
Sample : CAN #1982
Misc : 200ml RECERTIFICATION
ALS Vial : 12 Sample Multiplier: 1

CLEAN

Quant Time: Dec 06 11:46:49 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	16.323	49	268236	20.00 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.227	114	948370	20.00 ppbv	0.00
43) CHLOROBENZENE-d5	23.094	117	832811	22.00 ppbv	0.00

Target Compounds Qvalue

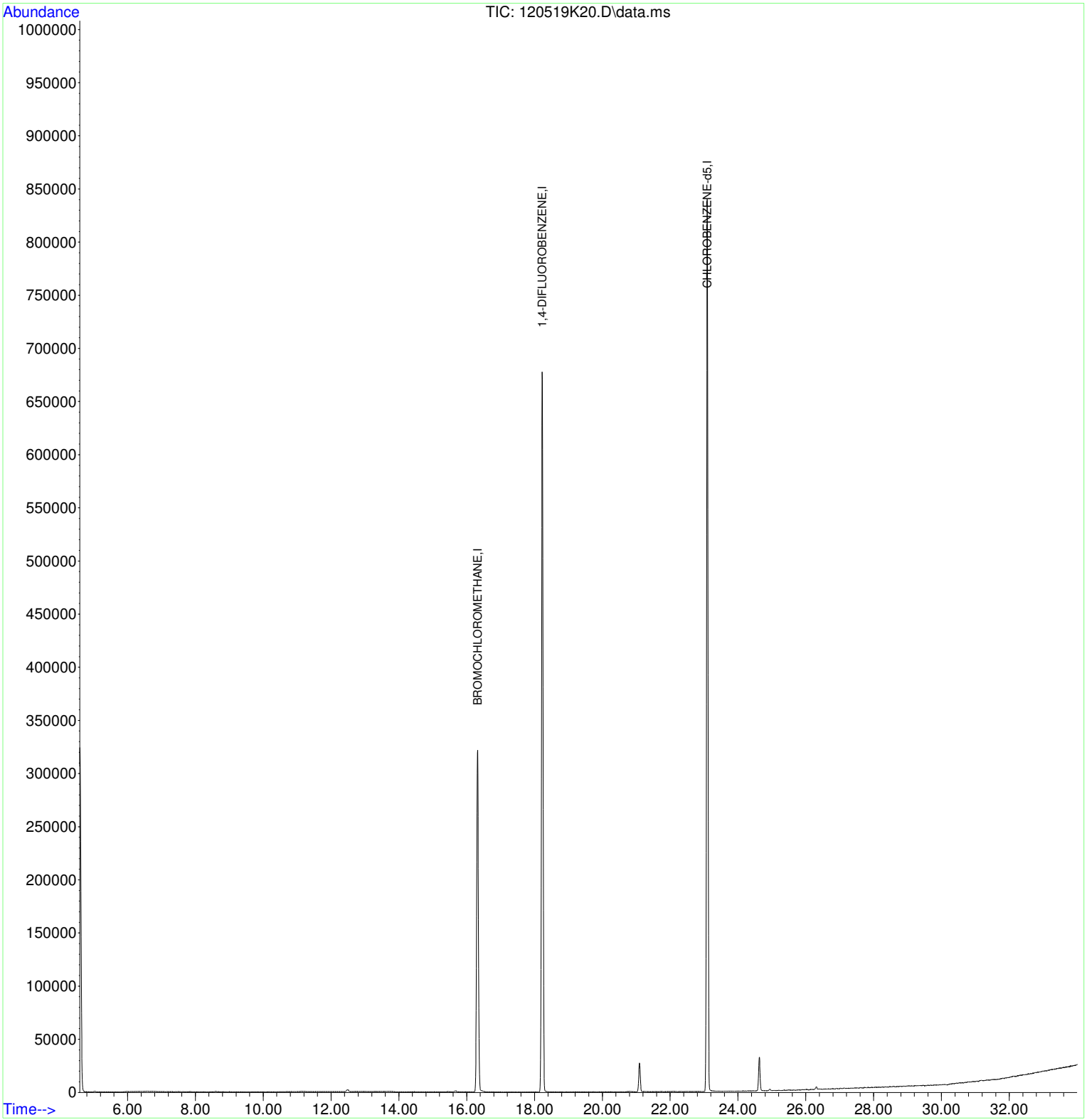
(#) = qualifier out of range (m) = manual integration (+) = signals summed

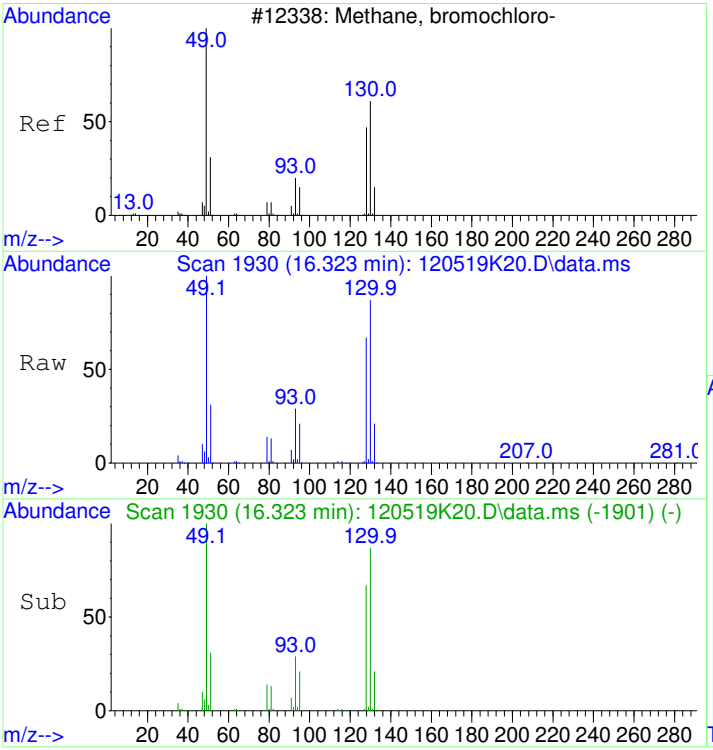
REVIEWED
By EM at 1:30 pm, Dec 06, 2019

Table of Contents

Data Path : D:\msdchem\1\2019\DATA\120519K_FSAA\
Data File : 120519K20.D
InstName : HP5973K
Acq On : 6 Dec 2019 4:22 am
Operator : EM
Sample : CAN #1982
Misc : 200ml RECERTIFICATION
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Dec 06 11:46:49 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

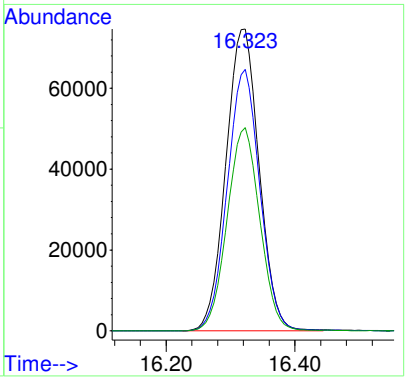


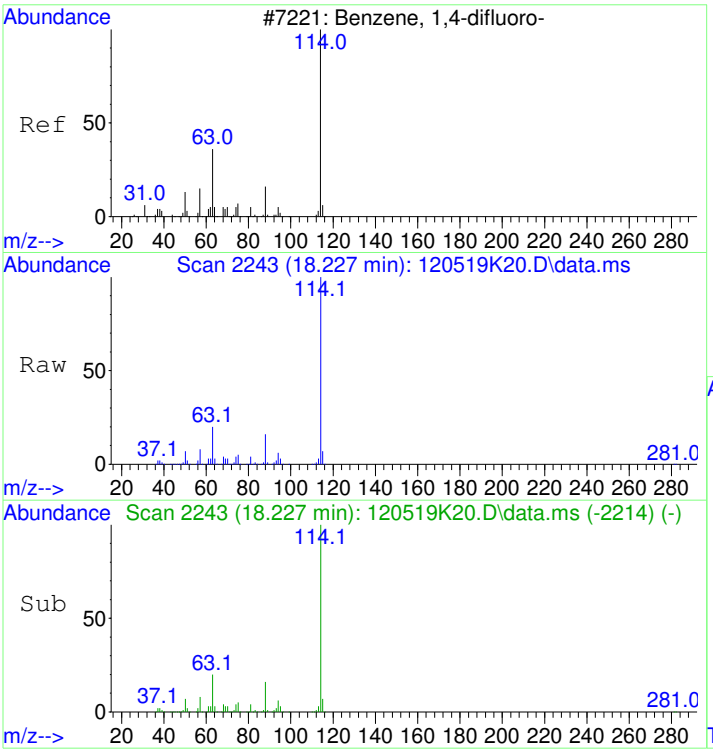


#1
BROMOCHLOROMETHANE
Concen: 20.00 ppbv
RT: 16.323 min Scan# 1930
Delta R.T. -0.000 min
Lab File: 120519K20.D
Acq: 6 Dec 2019 4:22 am

Tgt Ion: 49 Resp: 268236

Ion	Ratio	Lower	Upper
49	100		
130	85.0	62.7	102.7
128	65.7	43.9	83.9

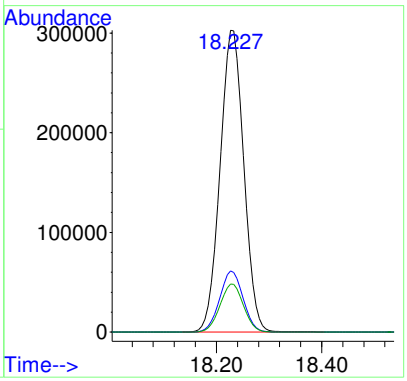


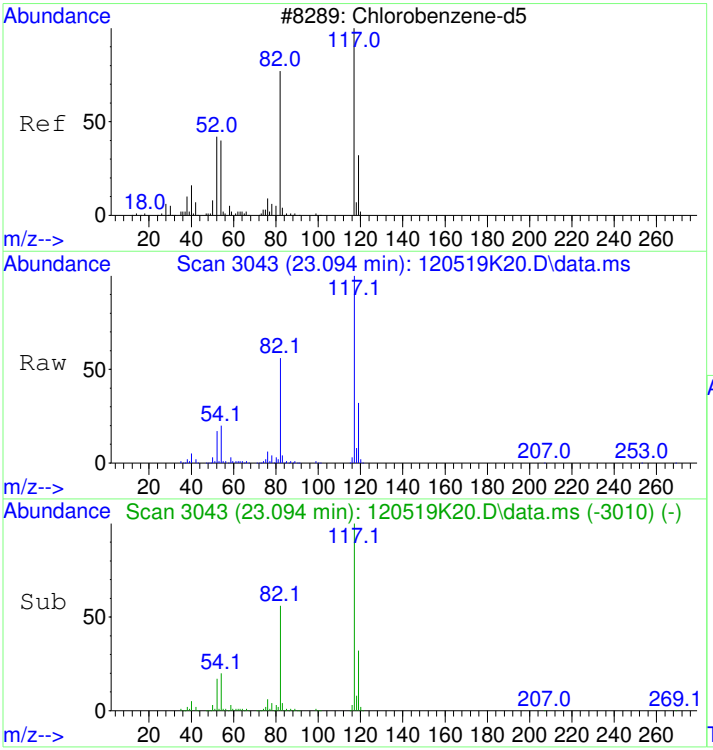


#32
1,4-DIFLUOROBENZENE
Concen: 20.00 ppbv
RT: 18.227 min Scan# 2243
Delta R.T. -0.006 min
Lab File: 120519K20.D
Acq: 6 Dec 2019 4:22 am

Tgt Ion:114 Resp: 948370

Ion	Ratio	Lower	Upper
114	100		
63	20.0	0.0	39.8
88	15.8	0.0	35.7

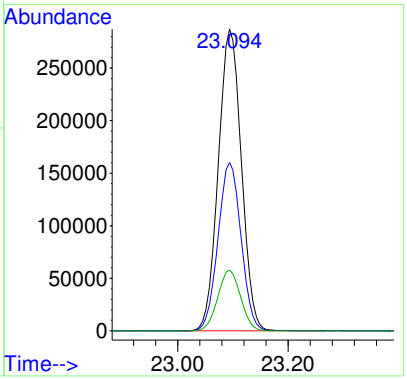




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 23.094 min Scan# 3043
Delta R.T. 0.000 min
Lab File: 120519K20.D
Acq: 6 Dec 2019 4:22 am

Tgt Ion:117 Resp: 832811

Ion	Ratio	Lower	Upper
117	100		
82	55.6	35.3	75.3
54	20.0	0.0	39.5



2005002-10

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2019\DATA\120619K_FSAA\
Data File : 120619K10.D
InstName : HP5973K
Acq On : 6 Dec 2019 8:17 pm
Operator : EM
Sample : CAN #669
Misc : 200ml RECERTIFICATION
ALS Vial : 15 Sample Multiplier: 1

CLEAN

Quant Time: Dec 10 08:30:39 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	16.323	49	258999	20.00 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.233	114	923133	20.00 ppbv	0.00
43) CHLOROBENZENE-d5	23.094	117	812386	22.00 ppbv	0.00

Target Compounds Qvalue

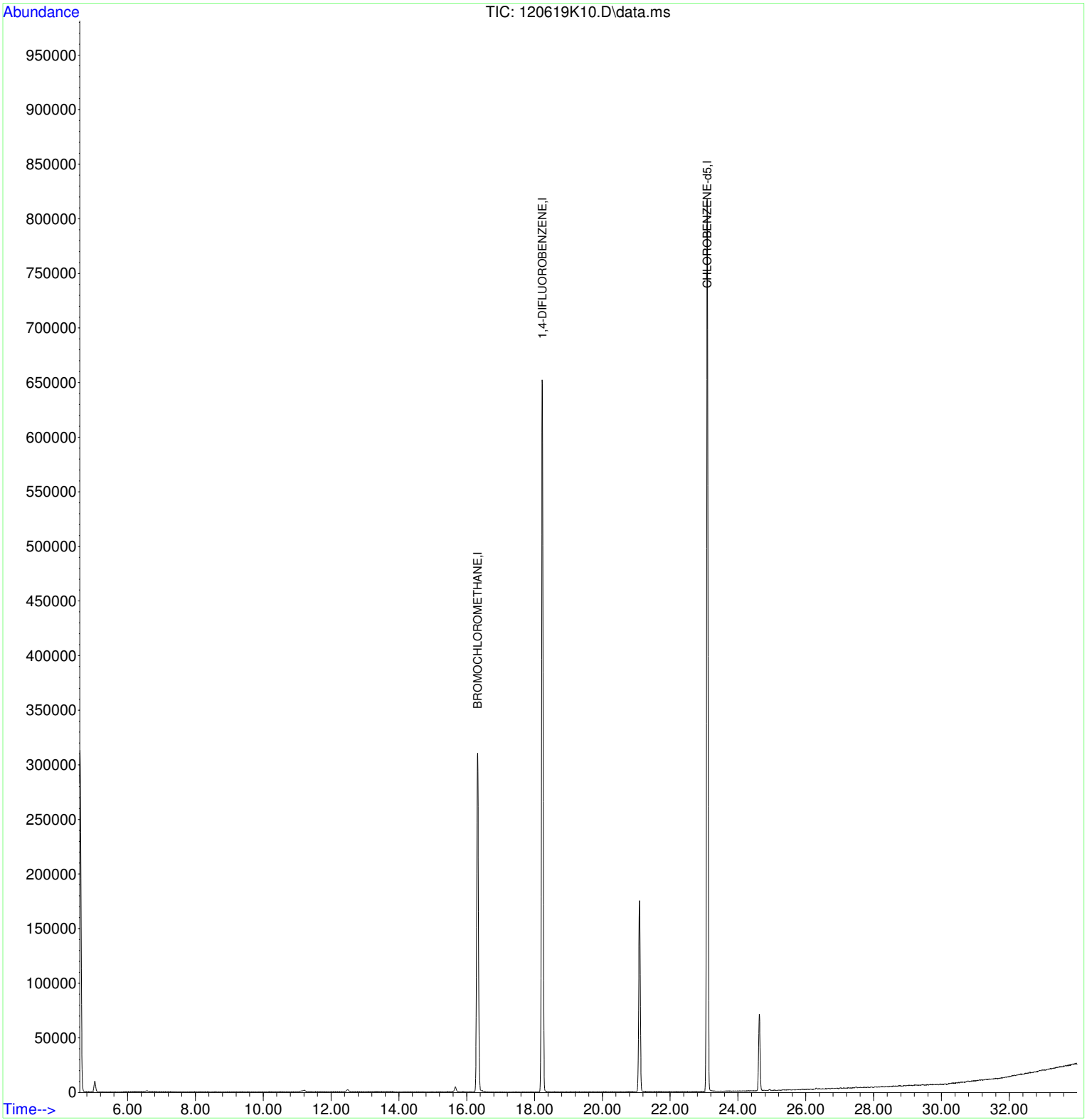
(#) = qualifier out of range (m) = manual integration (+) = signals summed

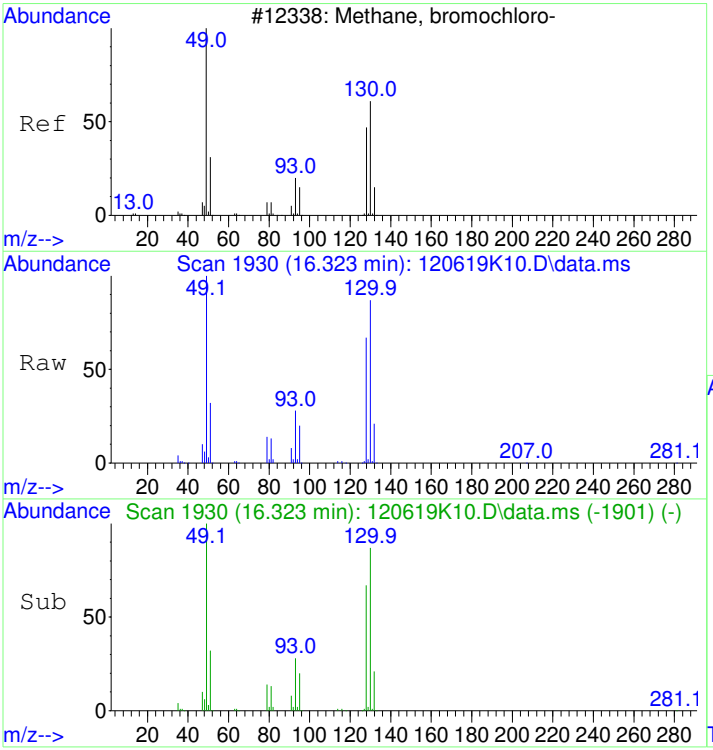
REVIEWED
By EM at 8:33 am, Dec 10, 2019

Table of Contents

Data Path : D:\msdchem\1\2019\DATA\120619K_FSAA\
Data File : 120619K10.D
InstName : HP5973K
Acq On : 6 Dec 2019 8:17 pm
Operator : EM
Sample : CAN #669
Misc : 200ml RECERTIFICATION
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Dec 10 08:30:39 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

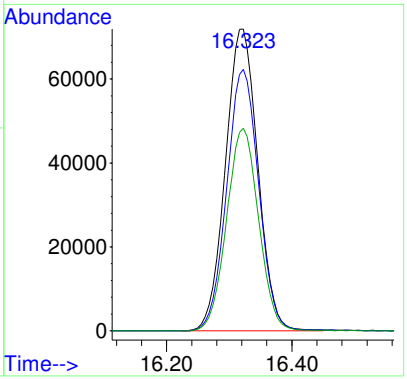


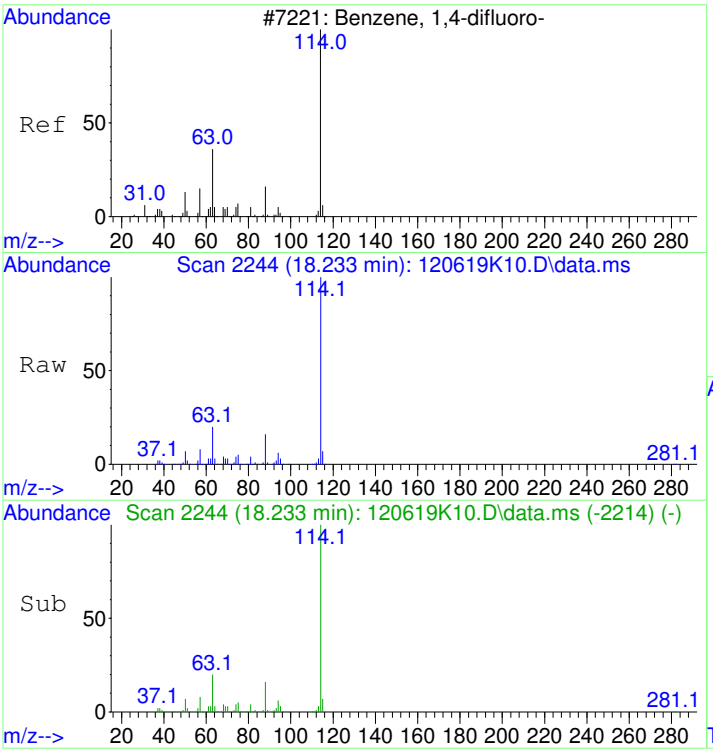


#1
BROMOCHLOROMETHANE
Concen: 20.00 ppbv
RT: 16.323 min Scan# 1930
Delta R.T. -0.000 min
Lab File: 120619K10.D
Acq: 6 Dec 2019 8:17 pm

Tgt Ion: 49 Resp: 258999

Ion	Ratio	Lower	Upper
49	100		
130	85.5	62.7	102.7
128	65.7	43.9	83.9

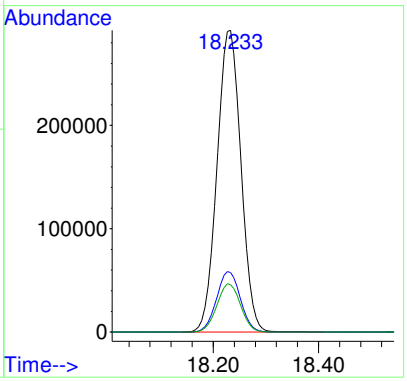


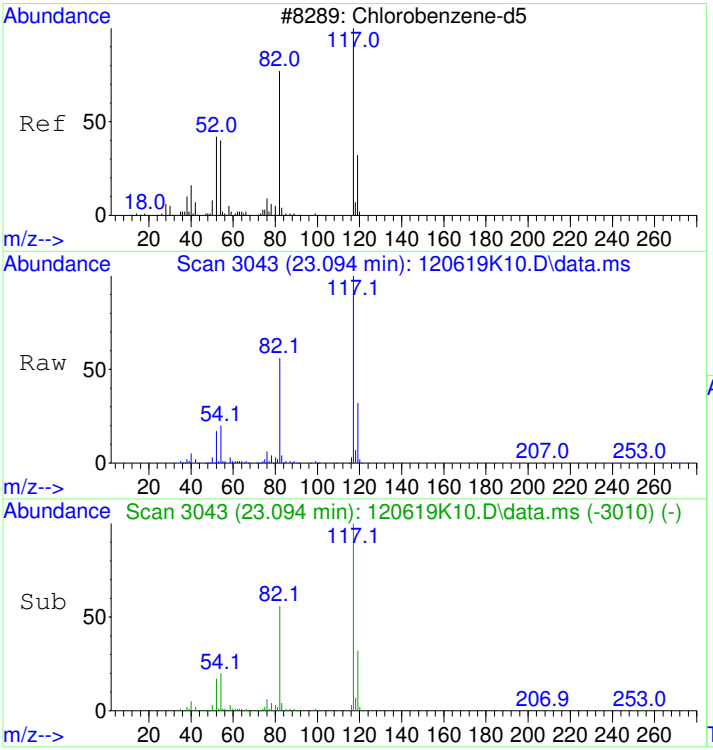


#32
1,4-DIFLUOROBENZENE
Concen: 20.00 ppbv
RT: 18.233 min Scan# 2244
Delta R.T. 0.000 min
Lab File: 120619K10.D
Acq: 6 Dec 2019 8:17 pm

Tgt Ion:114 Resp: 923133

Ion	Ratio	Lower	Upper
114	100		
63	19.9	0.0	39.8
88	15.8	0.0	35.7

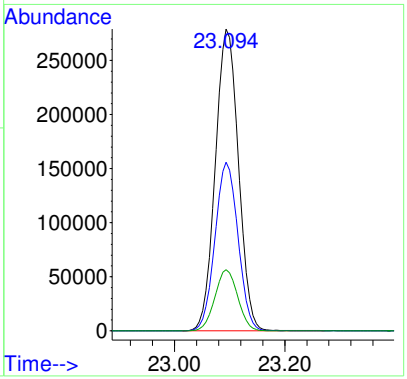




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 23.094 min Scan# 3043
Delta R.T. 0.000 min
Lab File: 120619K10.D
Acq: 6 Dec 2019 8:17 pm

Tgt Ion:117 Resp: 812386

Ion	Ratio	Lower	Upper
117	100		
82	55.5	35.3	75.3
54	20.0	0.0	39.5



2005002-11

Data Path : D:\msdchem\1\2019\DATA\120619K_FSAA\
Data File : 120619K09.D
InstName : HP5973K
Acq On : 6 Dec 2019 7:24 pm
Operator : EM
Sample : CAN #663
Misc : 200ml RECERTIFICATION
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Dec 10 08:30:36 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)	
Internal Standards						
1) BROMOCHLOROMETHANE	16.317	49	259612	20.00 ppbv	0.00	
32) 1,4-DIFLUOROBENZENE	18.233	114	924296	20.00 ppbv	0.00	
43) CHLOROBENZENE-d5	23.094	117	813216	22.00 ppbv	0.00	
Target Compounds					Qvalue	
14) Acetone	11.109	43	4703	0.45 ppbv	92	<1/2MDL

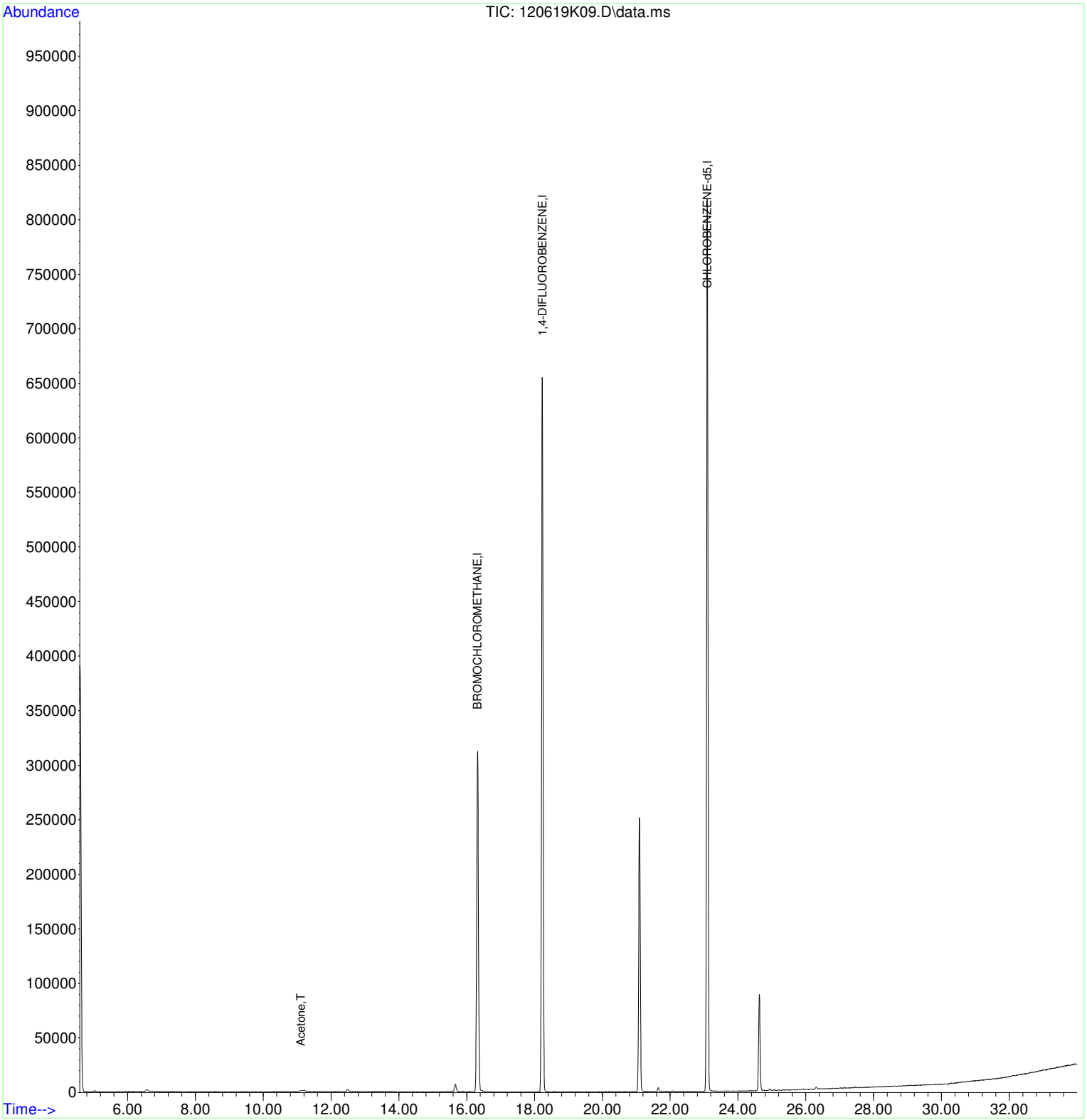
(#) = qualifier out of range (m) = manual integration (+) = signals summed

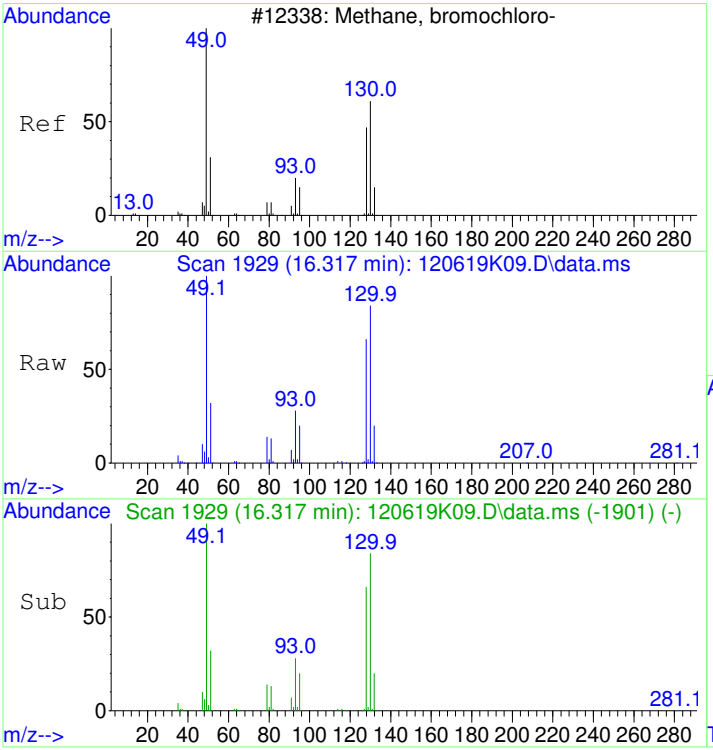
REVIEWED
By EM at 8:32 am, Dec 10, 2019

Table of Contents

Data Path : D:\msdchem\1\2019\DATA\120619K_FSAA\
Data File : 120619K09.D
InstName : HP5973K
Acq On : 6 Dec 2019 7:24 pm
Operator : EM
Sample : CAN #663
Misc : 200ml RECERTIFICATION
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Dec 10 08:30:36 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

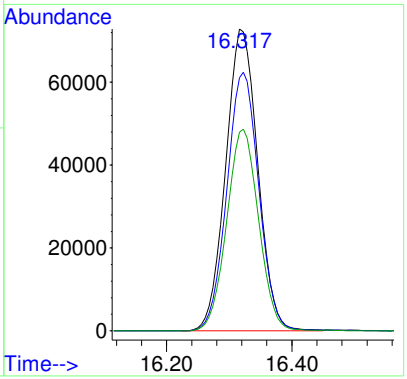


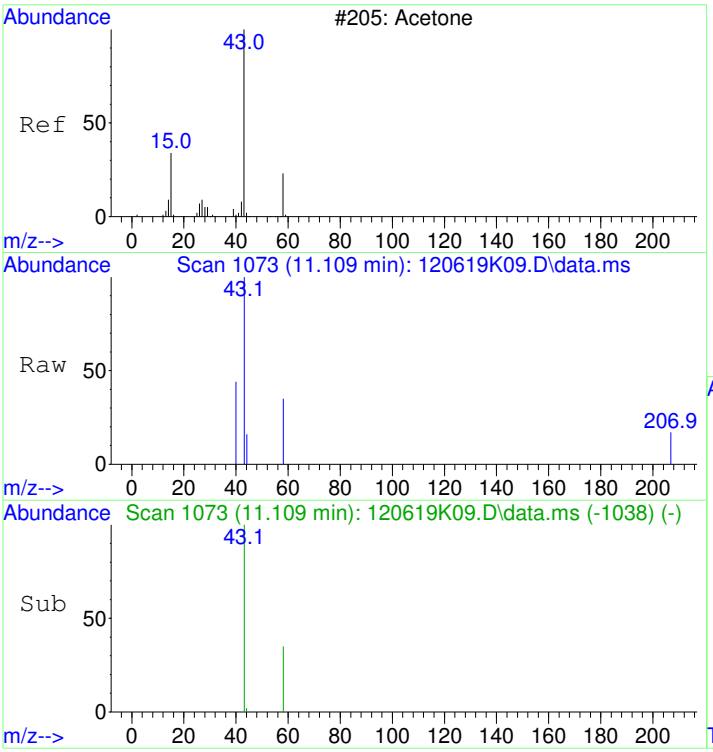


#1
BROMOCHLOROMETHANE
Concen: 20.00 ppbv
RT: 16.317 min Scan# 1929
Delta R.T. -0.006 min
Lab File: 120619K09.D
Acq: 6 Dec 2019 7:24 pm

Tgt Ion: 49 Resp: 259612

Ion	Ratio	Lower	Upper
49	100		
130	85.5	62.7	102.7
128	65.9	43.9	83.9

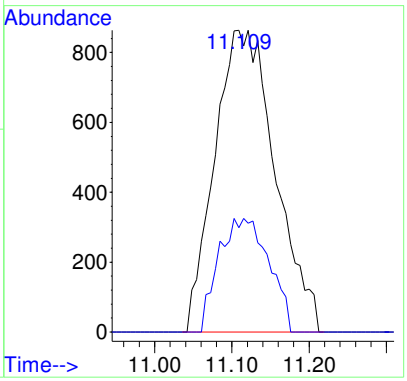


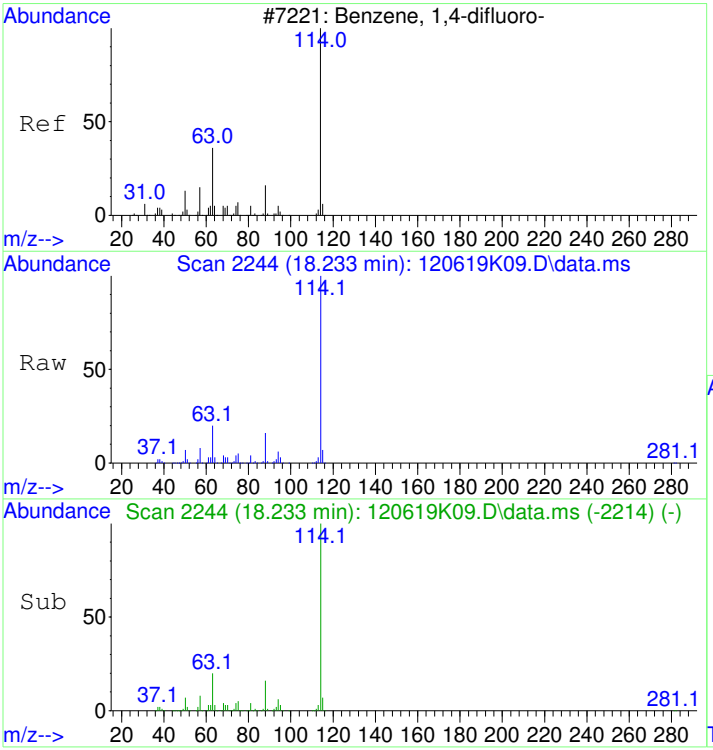


#14
Acetone
Concen: 0.45 ppbv
RT: 11.109 min Scan# 1073
Delta R.T. 0.012 min
Lab File: 120619K09.D
Acq: 6 Dec 2019 7:24 pm

Tgt Ion: 43 Resp: 4703

Ion	Ratio	Lower	Upper
43	100		
58	31.2	16.2	56.2

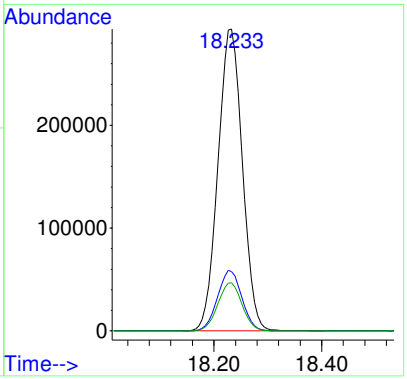


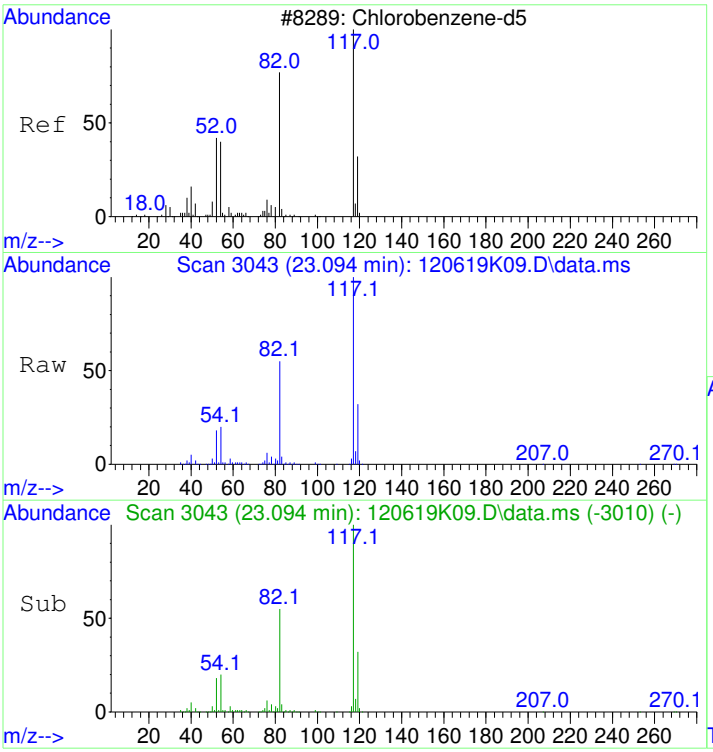


#32
1,4-DIFLUOROBENZENE
Concen: 20.00 ppbv
RT: 18.233 min Scan# 2244
Delta R.T. 0.000 min
Lab File: 120619K09.D
Acq: 6 Dec 2019 7:24 pm

Tgt Ion:114 Resp: 924296

Ion	Ratio	Lower	Upper
114	100		
63	19.9	0.0	39.8
88	15.7	0.0	35.7

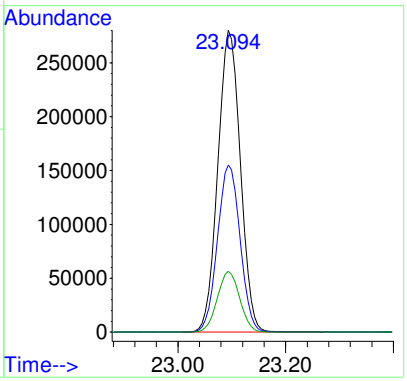




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 23.094 min Scan# 3043
Delta R.T. 0.000 min
Lab File: 120619K09.D
Acq: 6 Dec 2019 7:24 pm

Tgt Ion:117 Resp: 813216

Ion	Ratio	Lower	Upper
117	100		
82	55.6	35.3	75.3
54	20.0	0.0	39.5



2005002-12

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2019\DATA\120519K_FSAA\
Data File : 120519K19.D
InstName : HP5973K
Acq On : 6 Dec 2019 3:28 am
Operator : EM
Sample : CAN #1118
Misc : 200ml RECERTIFICATION
ALS Vial : 11 Sample Multiplier: 1

CLEAN

Quant Time: Dec 06 11:46:46 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	16.317	49	276120	20.00 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	18.227	114	971383	20.00 ppbv	0.00
43) CHLOROBENZENE-d5	23.094	117	849362	22.00 ppbv	0.00

Target Compounds Qvalue

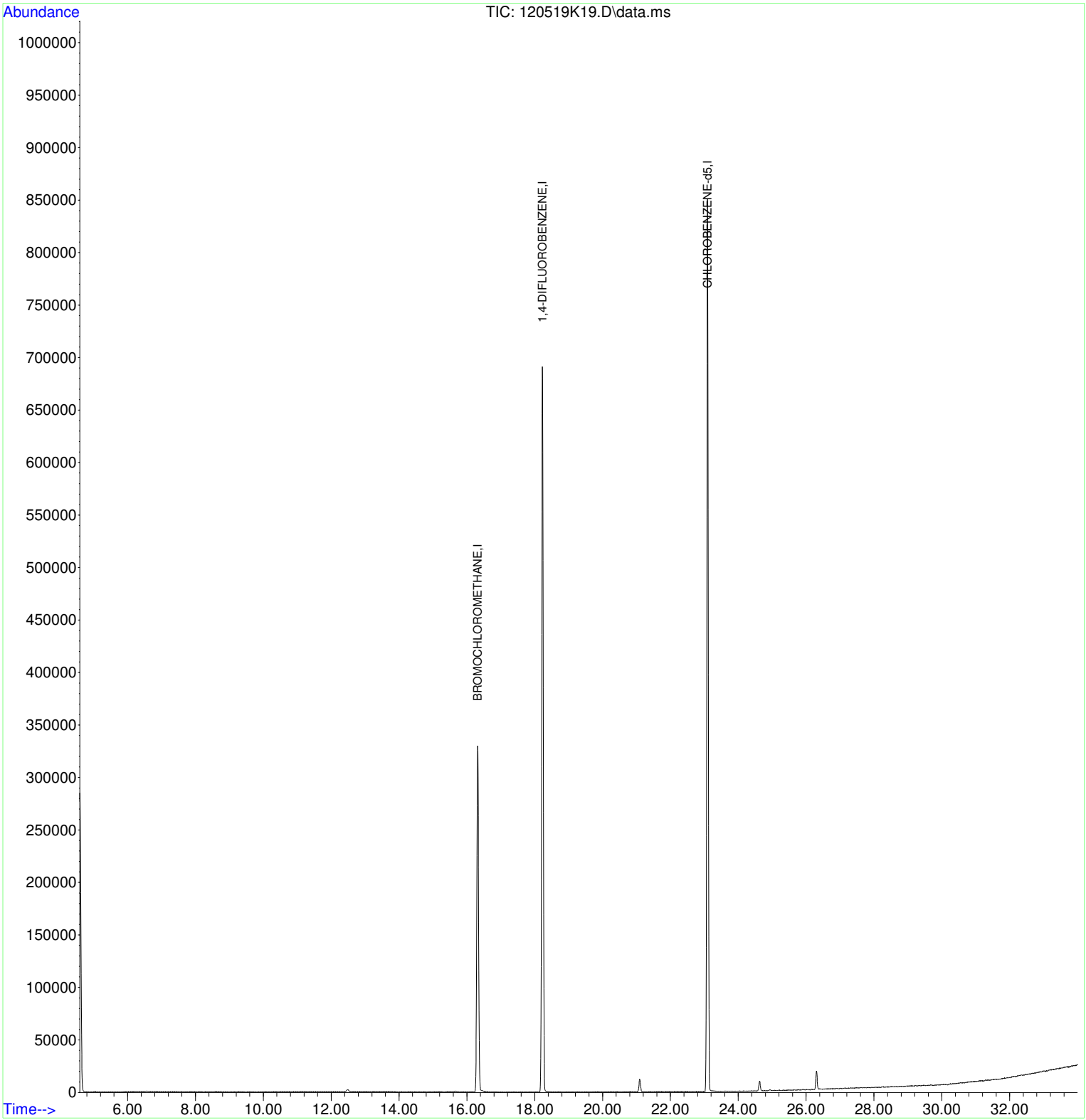
(#) = qualifier out of range (m) = manual integration (+) = signals summed

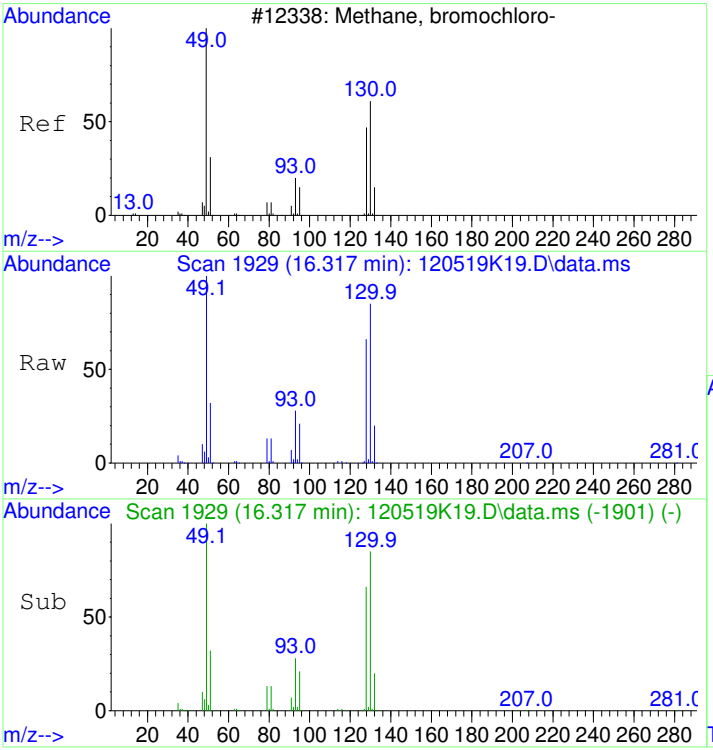
REVIEWED
By EM at 1:30 pm, Dec 06, 2019

Table of Contents

Data Path : D:\msdchem\1\2019\DATA\120519K_FSAA\
Data File : 120519K19.D
InstName : HP5973K
Acq On : 6 Dec 2019 3:28 am
Operator : EM
Sample : CAN #1118
Misc : 200ml RECERTIFICATION
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Dec 06 11:46:46 2019
Quant Method : D:\msdchem\1\2019\METHOD\120319K_TO15AA.M
Quant Title : TO15
QLast Update : Wed Dec 04 12:42:17 2019
Response via : Initial Calibration

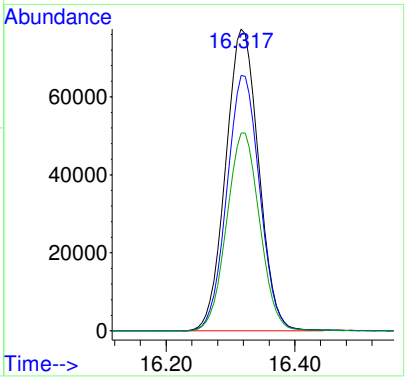


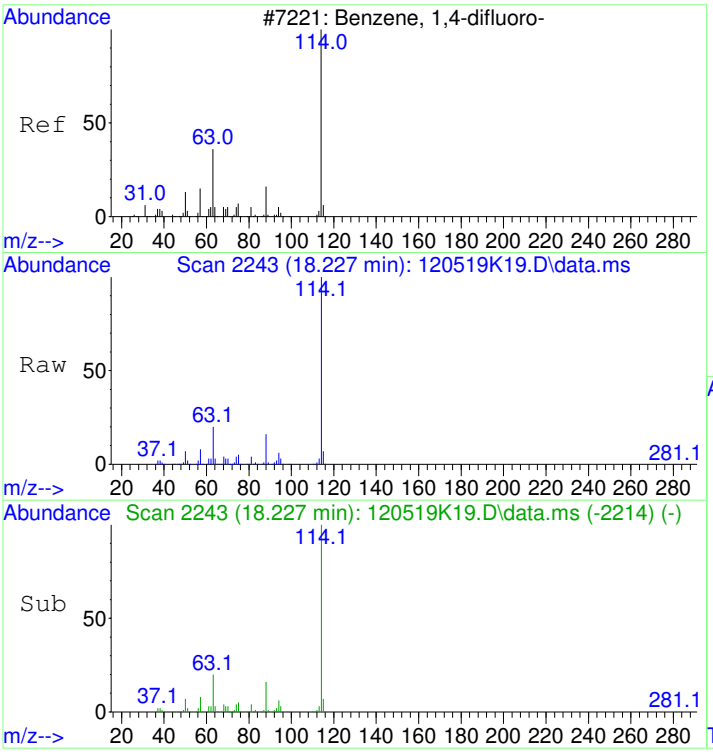


#1
BROMOCHLOROMETHANE
Concen: 20.00 ppbv
RT: 16.317 min Scan# 1929
Delta R.T. -0.006 min
Lab File: 120519K19.D
Acq: 6 Dec 2019 3:28 am

Tgt Ion: 49 Resp: 276120

Ion	Ratio	Lower	Upper
49	100		
130	84.2	62.7	102.7
128	65.0	43.9	83.9

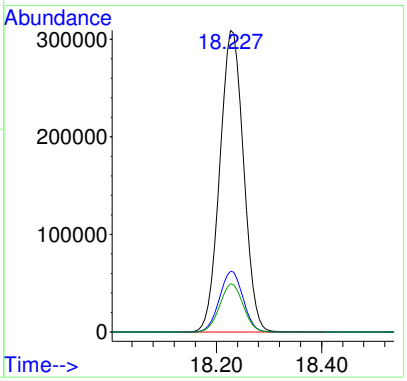


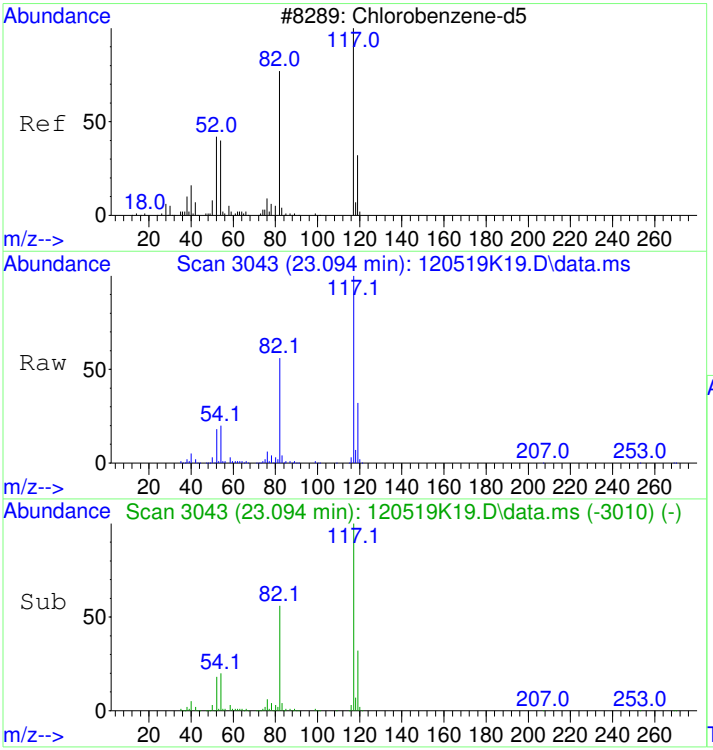


#32
1,4-DIFLUOROBENZENE
Concen: 20.00 ppbv
RT: 18.227 min Scan# 2243
Delta R.T. -0.006 min
Lab File: 120519K19.D
Acq: 6 Dec 2019 3:28 am

Tgt Ion:114 Resp: 971383

Ion	Ratio	Lower	Upper
114	100		
63	20.0	0.0	39.8
88	15.8	0.0	35.7

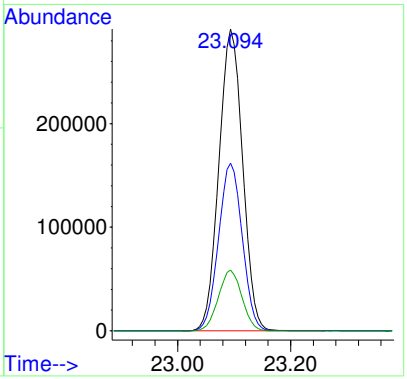




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 23.094 min Scan# 3043
Delta R.T. 0.000 min
Lab File: 120519K19.D
Acq: 6 Dec 2019 3:28 am

Tgt Ion:117 Resp: 849362

Ion	Ratio	Lower	Upper
117	100		
82	55.6	35.3	75.3
54	19.9	0.0	39.5



SCAN SUBSET 1835117

THE LINDE GROUP

Linde

SHIPPED TO: GSS Warehouse
258 Lindbergh Ave
Livermore, CA 94551

PAGE: 1 of 2

AU010412 CH08/2018

CERTIFICATE OF ANALYSIS

Sales#:	116668180	**Cylinder Size:**	185 (3.2" X 9.4")
Production#:	1465303	**Cylinder # :**	AB-105739
Certification Date:	Aug-16-2018	**Cylinder Pressure:**	1700 psig
P.O.# :	133434-Restek	**Cylinder Valve:**	CGA 180 / Aluminum
Blend Type:	CERTIFIED	**Cylinder Volume:**	0.8 Liter
Material#:	24086373	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	98 Liters
Expiration Date:	Aug-16-2019	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative
Part Number:	34434	**NIST Traceable Certificate#:**	17-67149

COMPONENT	CAS NUMBER	REQUESTED CONC	CERTIFIED CONC
Propylene	115-07-1	1.00 ppm	1.10 ppm
1,3-Butadiene	106-99-0	1.00 ppm	1.03 ppm
Vinyl Bromide	593-60-2	1.00 ppm	1.09 ppm
Acetone	67-64-1	1.00 ppm	1.08 ppm
Isopropyl Alcohol	67-63-0	1.00 ppm	1.10 ppm
Carbon Disulfide (Analytical Accuracy ± 10%)	75-15-0	1.00 ppm	1.10 ppm
Allyl Chloride	107-05-1	1.00 ppm	1.10 ppm
Trans-1,2-Dichloroethene	156-60-5	1.00 ppm	1.09 ppm
Methyl Tert-Butyl Ether	1634-04-4	1.00 ppm	1.07 ppm
Vinyl Acetate	108-05-4	1.00 ppm	1.10 ppm
Methyl Ethyl Ketone	78-93-3	1.00 ppm	1.05 ppm
n-Hexane	110-54-3	1.00 ppm	1.02 ppm
Ethyl Acetate	141-78-6	1.00 ppm	1.03 ppm
Tetrahydrofuran	109-99-9	1.00 ppm	1.01 ppm
Cyclohexane	110-82-7	1.00 ppm	1.03 ppm
Bromodichloromethane	75-27-4	1.00 ppm	1.04 ppm
1,4-Dioxane	123-91-1	1.00 ppm	1.04 ppm
2,2,4-Trimethylpentane	540-84-1	1.00 ppm	1.03 ppm
n-Heptane	142-82-5	1.00 ppm	1.03 ppm
Methyl Isobutyl Ketone	108-10-1	1.00 ppm	1.05 ppm
Methyl Butyl Ketone	591-78-6	1.00 ppm	1.03 ppm
Dibromochloromethane	124-48-1	1.00 ppm	1.09 ppm
Bromoform	75-25-2	1.00 ppm	1.10 ppm

THE LINDE GROUP

SHIPPED TO: GSS Warehouse
258 Lindbergh Ave
Livermore, CA 94551

CERTIFICATE OF ANALYSIS

Sales#:	116668180	**Cylinder Size:**	185 (3.2" X 9.4")
Production#:	1465303	**Cylinder # :**	AB-105739
Certification Date:	Aug-16-2018	**Cylinder Pressure:**	1700 psig
P.O.# :	133434-Restek	**Cylinder Valve:**	CGA 180 / Aluminum
Blend Type:	CERTIFIED	**Cylinder Volume:**	0.8 Liter
Material#:	24086373	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	98 Liters
Expiration Date:	Aug-16-2019	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative
Part Number:	34434	**NIST Traceable Certificate#:**	17-67149

COMPONENT	CAS NUMBER	REQUESTED CONC	CERTIFIED CONC
4-Ethyltoluene	622-96-8	1.00 ppm	1.02 ppm
Benzyl Chloride (Analytical Accuracy ± 10%)	100-44-7	1.00 ppm	1.10 ppm
Nitrogen	7727-37-9	Balance	Balance

Source Identification Number: 310159

ANALYST: Lou Lorenzetti

DATE: Aug-16-2018

Linde Gas North America LLC

(908) 329-9700 Main (908) 329-9740 Fax
www.Lindeus.com

Analytical Standard Record

EPA Region 9 Laboratory

1835117

Description:	TO-15 25 Compound Subset Standard, 1pp	**Expires:**	08/16/19
Standard Type:	Other Solution	**Prepared:**	08/16/18
Solvent:	Nitrogen	**Prepared By:**	** Vendor **
Final Volume (mls):	98000	**Department:**	Air
Vials:	1	**Last Edit:**	08/31/18 11:44 by LLH
Vendor:	Linde Spectra	**Lot Numbe**	1465303

Linde Spectra via Restek; Cylinder# AB-105739; Bar code: AU010412
Part #34434

Analyte	CAS Number	Concentration (ppm)
Bromoform	75-25-2	1.1
1,4-Dioxane	123-91-1	1.04
2,2,4-Trimethylpentane	540-84-1	1.03
2-Butanone (MEK)	78-93-3	1.05
2-Hexanone	591-78-6	1.03
2-Propanol	67-63-0	1.1
4-Ethyltoluene	622-96-8	1.02
4-Methyl-2-pentanone (MIBK)	108-10-1	1.05
Acetone	67-64-1	1.08
Allyl chloride	107-05-1	1.1
Benzyl chloride	100-44-7	1.1
1,3-Butadiene	106-99-0	1.03
Bromoethene	593-60-2	1.09
Vinyl acetate	108-05-4	1.1
Carbon disulfide	75-15-0	1.1
Chlorodibromomethane	124-48-1	1.09
Cyclohexane	110-82-7	1.03
Ethyl acetate	141-78-6	1.03
Heptane	142-82-5	1.03
Hexane	110-54-3	1.02
Propene	115-07-1	1.1
tert-Butyl methyl ether (MTBE)	1634-04-4	1.07
Tetrahydrofuran	109-99-9	1.01
trans-1,2-Dichloroethene	156-60-5	1.09
Bromodichloromethane	75-27-4	1.04

APPENDIX A.
DOCUMENTATION OF RECERTIFICATION – CALIBRATION STANDARD

	LIMS ID	Manu. Expiration Date	Dilution LIMS ID
Expired Standard	1835117	8/16/19	—
Verification Standard	1943118	10/11/20	—
Analysis: TO15	SOP # and Rev. #: 311 REV. 4	Criteria %R or %D: ±15.0%	New expiration date: 8/16/2020
Analysis Date: 10/24/19	Instrument: AG5973N	Analyst: EM	

Analyte	Ave Response, Expired	Ave. Response, Verification	%R or %D	Fail criteria?
See attached sheets				
~~PROPENE~~	~~51727/11~~	~~48577/92~~	~~892~~	~~N~~ 10/30/19
File ID (1)	102419N16	102419N14		
File ID (2)				
File ID (3)				

APPROVAL SIGNATURES	APPROVE (Y/N)	PRINT NAME	SIGNATURE	DATE
Group Leader or Supervisor	Y	Ziyad Rajabi	[signature]	10-30-19
Technical Director	Y	R. Baive	[signature]	11/13/19
Lab QAO	Y	Barbara Bates	Barbara Bates	11/13/19

The use of this exact layout is not required. However, the form title must be used, and the information in the header blocks must appear on the first page of the documentation. In most instances, it will be best to use Element DataTool to create an Excel file and manipulate the data to obtain average responses, percent recovery or difference (section 5.2.5), and failing flags.

RECERTIFICATION OF STANDARDS CALCULATION FORM

STANDARD	EXPIRED STD 1835117	CONC ppbv	VERIFICATION STD 1943118	CONC ppbv	(EXPIRED/CONC) / (VERI/CONC) x100
DATA FILE	102419N16		102419N14		
Propene	51727	5.50	48577	4.60	89
1,3-Butadiene	31586	5.15	28263	4.75	103
Bromoethene	47282	5.45	46107	5.15	97
Acetone	82581	5.40	85869	5.05	90
Carbon disulfide	194308	5.50	166908	5.20	110
2-Propanol	81905	5.50	67446	5.15	114
Allyl chloride	71447	5.50	65663	5.45	108
tert-Butyl methyl ether(MTBE)	176226	5.35	169367	5.30	103
trans-1,2-Dichloroethene	92780	5.45	81797	4.95	103
Hexane	89876	5.10	83282	5.10	108
Vinyl acetate	147684	5.50	132223	5.50	112
2-Butanone (MEK)	29117	5.25	26881	5.05	104
Ethyl acetate	18596	5.15	17006	5.10	108
Tetrahydrofuran	63521	5.05	57102	4.70	104
Cyclohexane	94754	5.15	85915	5.20	111
2,2,4-Trimethylpentane	277285	5.15	264952	5.00	102
Heptane	103139	5.15	96162	5.10	106
1,4-Dioxane	41436	5.20	36756	5.00	108
Bromodichloromethane	160519	5.20	149079	5.00	104
4-Methyl-2-pentanone (MIBK)	143993	5.25	132855	4.85	100
2-Hexanone	132274	5.15	114823	4.85	108
Chlorodibromomethane	171676	5.45	158905	5.05	100
Bromoform	173998	5.50	159470	5.05	100
4-Ethyltoluene	356791	5.10	338901	4.85	100
Benzyl chloride	217831	5.50	161740	4.70	115

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\2019\DATA\102419N FSA\
Data File : 102419N16.D
Acq On : 25 Oct 2019 12:53 pm
InstName : AG5973N
Operator : EM
Sample : 1835117
Misc : LOOP 1835117 RECERTIFICATION
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Oct 25 13:25:34 2019
Quant Method : C:\msdchem\1\2019\METHOD\102219N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 23 13:49:19 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	15.014	49	228594	22.00	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	17.080	114	749207	22.00	ppbv		0.00
43) CHLOROBENZENE-d5	22.031	117	688631	22.00	ppbv		0.00
Target Compounds							Qvalue
2) Propene	3.937	41	51727	10.80	ppbv	#	100
7) 1,3-Butadiene	4.937	54	31586	11.87	ppbv		92
10) Bromoethene	6.686	106	47282	9.81	ppbv		98
14) Acetone	9.119	43	92581	10.45	ppbv		95
15) Carbon disulfide	9.320	76	194308	13.34	ppbv	#	100
16) 2-Propanol	9.734	45	81905	13.44	ppbv		97
17) Allyl chloride	10.167	41	71447	11.54	ppbv	#	94
18) Dichloromethane	10.752	49	3332	0.47	ppbv	#	92
19) tert-Butyl methyl ethe...	11.496	73	176226	10.62	ppbv		100
20) trans-1,2-Dichloroethene	11.539	61	92780	11.87	ppbv		92
21) Hexane	12.179	57	89876	10.35	ppbv	#	93
23) Vinyl acetate	13.112	43	147684	22.18	ppbv		97
25) 2-Butanone (MEK)	14.557	72	29117	11.04	ppbv	#	100
26) Ethyl acetate	14.618	61	18596	10.52	ppbv	#	66
27) Tetrahydrofuran	15.026	42	63521	10.53	ppbv		93
29) Cyclohexane	15.410	56	94754	10.91	ppbv	#	37
34) 2,2,4-Trimethylpentane	16.190	57	277285	11.12	ppbv	#	66
36) Heptane	16.593	43	103139	12.02	ppbv	#	97
39) 1,4-Dioxane	18.202	88	41436	11.37	ppbv	#	93
40) Bromodichloromethane	18.477	83	160519	12.52	ppbv	#	100
42) 4-Methyl-2-pentanone (...	19.489	43	143993	13.41	ppbv	#	97
48) 2-Hexanone	20.848	43	132274	15.41	ppbv		94
49) Chlorodibromomethane	21.128	129	171676	12.61	ppbv	#	100
56) Bromoform	23.415	173	173998	12.07	ppbv	#	99
58) 4-Ethyltoluene	24.360	105	356791	11.06	ppbv		98
63) Benzyl chloride	25.957	91	217831	17.37	ppbv		97

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

$$\frac{1\,mL \text{ of } 1000\ ppbv\ Subset}{200\ mL} = \cancel{10}\ 5.0\ ppbv$$

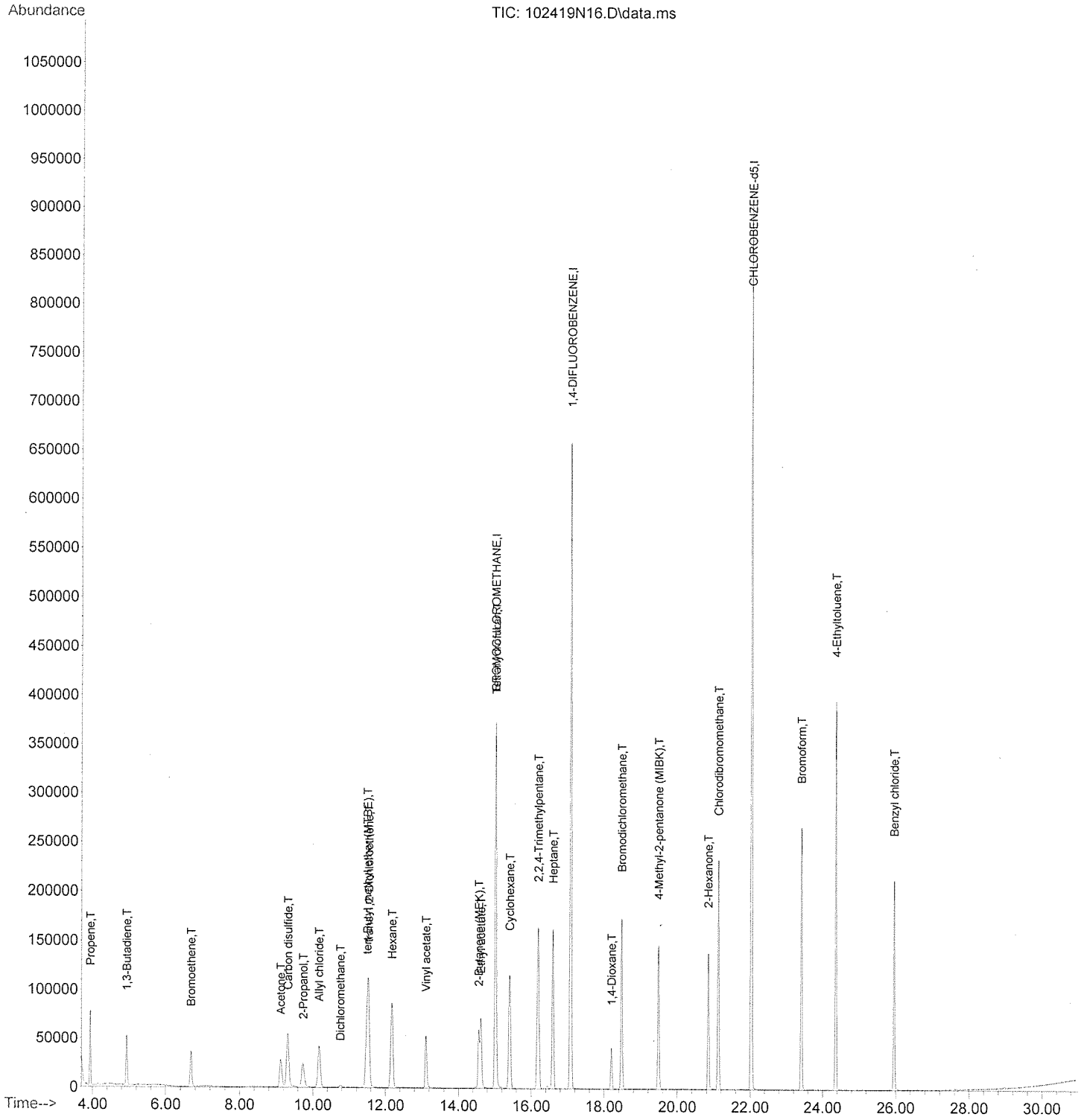
on 11/18/19

page 3 of 10

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\2019\DATA\102419N FSA\
Data File : 102419N16.D
Acq On : 25 Oct 2019 12:53 pm
InstName : AG5973N
Operator : EM
Sample : 1835117
Misc : OOP 1835117 RECERTIFICATION
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Oct 25 13:25:34 2019
Quant Method : C:\msdchem\1\2019\METHOD\102219N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 23 13:49:19 2019
Response via : Initial Calibration



Analytical Standard Record

EPA Region 9 Laboratory

1835117

Description:	TO-15 25 Compound Subset Standard, 1pp	**Expires:**	08/16/19
Standard Type:	Other Solution	**Prepared:**	08/16/18
Solvent:	Nitrogen	**Prepared By:**	** Vendor **
Final Volume (mls):	98000	**Department:**	Air
Vials:	1	**Last Edit:**	08/31/18 11:44 by LLH
Vendor:	Linde Spectra	**Lot Numbe**	1465303

Linde Spectra via Restek; Cylinder# AB-105739; Bar code: AU010412
Part #34434

Analyte	CAS Number	Concentration (ppm)
Bromoform	75-25-2	1.1
1,4-Dioxane	123-91-1	1.04
2,2,4-Trimethylpentane	540-84-1	1.03
2-Butanone (MEK)	78-93-3	1.05
2-Hexanone	591-78-6	1.03
2-Propanol	67-63-0	1.1
4-Ethyltoluene	622-96-8	1.02
4-Methyl-2-pentanone (MIBK)	108-10-1	1.05
Acetone	67-64-1	1.08
Allyl chloride	107-05-1	1.1
Benzyl chloride	100-44-7	1.1
1,3-Butadiene	106-99-0	1.03
Bromoethene	593-60-2	1.09
Vinyl acetate	108-05-4	1.1
Carbon disulfide	75-15-0	1.1
Chlorodibromomethane	124-48-1	1.09
Cyclohexane	110-82-7	1.03
Ethyl acetate	141-78-6	1.03
Heptane	142-82-5	1.03
Hexane	110-54-3	1.02
Propene	115-07-1	1.1
tert-Butyl methyl ether (MTBE)	1634-04-4	1.07
Tetrahydrofuran	109-99-9	1.01
trans-1,2-Dichloroethene	156-60-5	1.09
Bromodichloromethane	75-27-4	1.04

ISO 9001:2008 Linde **SPECTRA** Environmental Gases, 80 Industrial Drive, Alpha, NJ 08865

SCAN SUBSET 1835117

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258 Lindbergh Ave
Livermore, CA 94551

PAGE: 1 of 2

AU010412 CH08/3/18

CERTIFICATE OF ANALYSIS

Sales#:	116668180	**Cylinder Size:**	185 (3.2" X 9.4")
Production#:	1465303	**Cylinder # :**	AB-105739
Certification Date:	Aug-16-2018	**Cylinder Pressure:**	1700 psig
P.O.# :	133434-Restek	**Cylinder Valve:**	CGA 180 / Aluminum
Blend Type:	CERTIFIED	**Cylinder Volume:**	0.8 Liter
Material#:	24086373	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	98 Liters
Expiration Date:	Aug-16-2019	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative
Part Number:	34434	**NIST Traceable Certificate#:**	17-67149

COMPONENT	CAS NUMBER	REQUESTED CONC	CERTIFIED CONC
Propylene	115-07-1	1.00 ppm	1.10 ppm
1,3-Butadiene	106-99-0	1.00 ppm	1.03 ppm
Vinyl Bromide	593-60-2	1.00 ppm	1.09 ppm
Acetone	67-64-1	1.00 ppm	1.08 ppm
Isopropyl Alcohol	67-63-0	1.00 ppm	1.10 ppm
Carbon Disulfide (Analytical Accuracy ± 10%)	75-15-0	1.00 ppm	1.10 ppm
Allyl Chloride	107-05-1	1.00 ppm	1.10 ppm
Trans-1,2-Dichloroethene	156-60-5	1.00 ppm	1.09 ppm
Methyl Tert-Butyl Ether	1634-04-4	1.00 ppm	1.07 ppm
Vinyl Acetate	108-05-4	1.00 ppm	1.10 ppm
Methyl Ethyl Ketone	78-93-3	1.00 ppm	1.05 ppm
n-Hexane	110-54-3	1.00 ppm	1.02 ppm
Ethyl Acetate	141-78-6	1.00 ppm	1.03 ppm
Tetrahydrofuran	109-99-9	1.00 ppm	1.01 ppm
Cyclohexane	110-82-7	1.00 ppm	1.03 ppm
Bromodichloromethane	75-27-4	1.00 ppm	1.04 ppm
1,4-Dioxane	123-91-1	1.00 ppm	1.04 ppm
2,2,4-Trimethylpentane	540-84-1	1.00 ppm	1.03 ppm
n-Heptane	142-82-5	1.00 ppm	1.03 ppm
Methyl Isobutyl Ketone	108-10-1	1.00 ppm	1.05 ppm
Methyl Butyl Ketone	591-78-6	1.00 ppm	1.03 ppm
Dibromochloromethane	124-48-1	1.00 ppm	1.09 ppm
Bromoform	75-25-2	1.00 ppm	1.10 ppm

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Livermore, CA 94551

PAGE: 2 of 2

CERTIFICATE OF ANALYSIS

Sales#:	116668180	**Cylinder Size:**	185 (3.2" X 9.4")
Production#:	1465303	**Cylinder # :**	AB-105739
Certification Date:	Aug-16-2018	**Cylinder Pressure:**	1700 psig
P.O.# :	133434-Restek	**Cylinder Valve:**	CGA 180 / Aluminum
Blend Type:	CERTIFIED	**Cylinder Volume:**	0.8 Liter
Material#:	24086373	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	98 Liters
Expiration Date:	Aug-16-2019	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative
Part Number:	34434	**NIST Traceable Certificate#:**	17-67149

COMPONENT	CAS NUMBER	REQUESTED CONC	CERTIFIED CONC
4-Ethyltoluene	622-96-8	1.00 ppm	1.02 ppm
Benzyl Chloride (Analytical Accuracy ± 10%)	100-44-7	1.00 ppm	1.10 ppm
Nitrogen	7727-37-9	Balance	Balance

Source Identification Number: 310159

ANALYST: Lou Lorenzetti

DATE: Aug-16-2018

Linde Gas North America LLC

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Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\2019\DATA\102419N FSA\
Data File : 102419N14.D
Acq On : 25 Oct 2019 11:16 am
InstName : AG5973N
Operator : EM
Sample : 1943118
Misc : LOOP 1943118
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 25 12:01:04 2019
Quant Method : C:\msdchem\1\2019\METHOD\102219N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 23 13:49:19 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	15.026	49	229872	22.00	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	17.081	114	769162	22.00	ppbv		0.00
43) CHLOROBENZENE-d5	22.031	117	695454	22.00	ppbv		0.00
Target Compounds							Qvalue
2) Propene	3.967	41	48577	10.09	ppbv	#	100
7) 1,3-Butadiene	4.961	54	28263	10.56	ppbv		93
10) Bromoethene	6.711	106	46107	9.51	ppbv		100
14) Acetone	9.137	43	85869	9.64	ppbv		95
15) Carbon disulfide	9.338	76	166908	11.39	ppbv	#	100
16) 2-Propanol	9.741	45	67446	11.01	ppbv		95
17) Allyl chloride	10.192	41	65663	10.55	ppbv	#	94
18) Dichloromethane	10.783	49	3538	0.49	ppbv	#	89
19) tert-Butyl methyl ethe...	11.509	73	169367	10.15	ppbv		99
20) trans-1,2-Dichloroethene	11.551	61	81797	10.41	ppbv		94
21) Hexane	12.191	57	83282	9.54	ppbv	#	94
23) Vinyl acetate	13.118	43	132223	19.75	ppbv		97
25) 2-Butanone (MEK)	14.563	72	26881	10.14	ppbv	#	100
26) Ethyl acetate	14.630	61	17006	9.57	ppbv	#	67
27) Tetrahydrofuran	15.032	42	57102	9.42	ppbv		95
29) Cyclohexane	15.416	56	85915	9.84	ppbv	#	37
34) 2,2,4-Trimethylpentane	16.197	57	264952	10.35	ppbv	#	67
36) Heptane	16.593	43	96162	10.92	ppbv	#	98
39) 1,4-Dioxane	18.196	88	36756	9.82	ppbv	#	96
40) Bromodichloromethane	18.483	83	149079	11.32	ppbv	#	99
42) 4-Methyl-2-pentanone (...	19.489	43	132855	12.05	ppbv	#	98
48) 2-Hexanone	20.854	43	114823	13.24	ppbv		94
49) Chlorodibromomethane	21.129	129	158905	11.56	ppbv	#	100
56) Bromoform	23.415	173	159470	10.95	ppbv	#	99
58) 4-Ethyltoluene	24.360	105	338901	10.41	ppbv		99
59) ~~1,3,5-Trimethylbenzene~~	~~24.360~~	~~105~~	~~339245~~	~~12.39~~	~~ppbv~~		~~71~~
63) Benzyl chloride	25.957	91	161740	12.77	ppbv		98

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

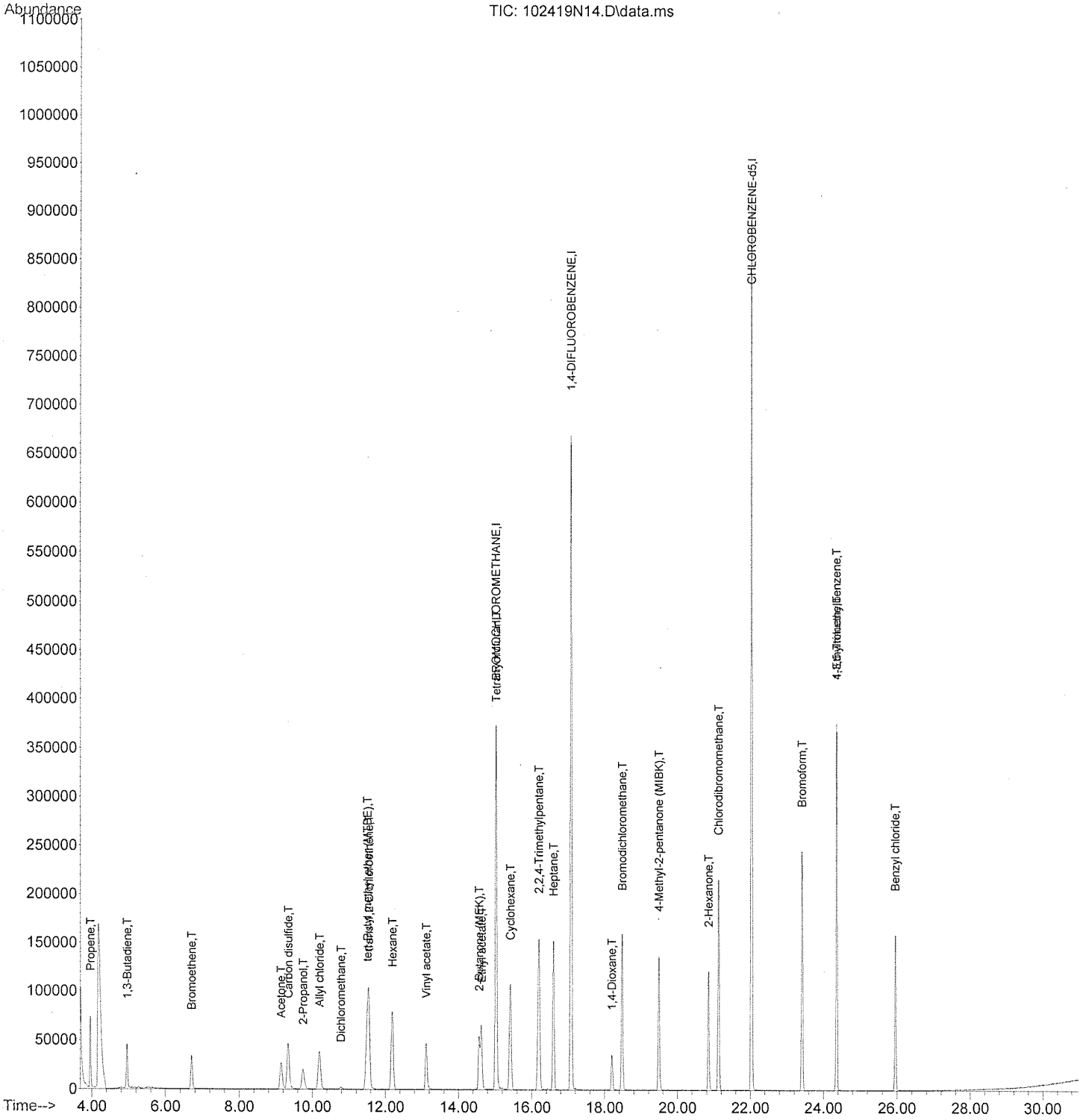
1mL of 1000 ppbv SUBSET Std
200 mL
= ~~10~~ 5.0 ppbv
em 11/13/19

page 8 of 10

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\2019\DATA\102419N FSA\
Data File : 102419N14.D
Acq On : 25 Oct 2019 11:16 am
InstName : AG5973N
Operator : EM
Sample : 1943118
Misc : LOOP 1943118
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 25 12:01:04 2019
Quant Method : C:\msdchem\1\2019\METHOD\102219N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 23 13:49:19 2019
Response via : Initial Calibration



102219N_TO15AA.M Fri Oct 25 12:01:04 2019

Analytical Standard Record

EPA Region 9 Laboratory

1943118

Description:	TO-15 25 Compound Subset Standard, 1pp	**Expires:**	10/11/20
Standard Type:	Other Solution	**Prepared:**	10/11/19
Solvent:	Nitrogen	**Prepared By:**	Estrellita Manuel
Final Volume (mls):	98000	**Department:**	Air
Vials:	1	**Last Edit:**	10/24/19 09:58 by EM
Vendor:	Linde Spectra	**Lot Numbe**	1498270

Linde Spectra via Restek; Cylinder# AB-112107; Bar code: AU011347
Part #34434.

Analyte	CAS Number	Concentration (ppm)
Bromoform	75-25-2	1.01
1,4-Dioxane	123-91-1	1
2,2,4-Trimethylpentane	540-84-1	1
2-Butanone (MEK)	78-93-3	1.01
2-Hexanone	591-78-6	0.97
2-Propanol	67-63-0	1.03
4-Ethyltoluene	622-96-8	0.97
4-Methyl-2-pentanone (MIBK)	108-10-1	0.97
Acetone	67-64-1	1.01
Allyl chloride	107-05-1	1.09
Benzyl chloride	100-44-7	0.94
1,3-Butadiene	106-99-0	0.95
Bromoethene	593-60-2	1.03
Vinyl acetate	108-05-4	1.1
Carbon disulfide	75-15-0	1.04
Chlorodibromomethane	124-48-1	1.01
Cyclohexane	110-82-7	1.04
Ethyl acetate	141-78-6	1.02
Heptane	142-82-5	1.02
Hexane	110-54-3	1.02
Propene	115-07-1	0.92
tert-Butyl methyl ether (MTBE)	1634-04-4	1.06
Tetrahydrofuran	109-99-9	0.94
trans-1,2-Dichloroethene	156-60-5	0.99
Bromodichloromethane	75-27-4	1

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1841026 SCAN Primary

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Reston, VA 20191

PAGE: 1 of 2

AU010530 Rec'd 10/2/18 LH 10/08/18

CERTIFICATE OF ANALYSIS

Sales#:	116777286	**Cylinder Size:**	185 (3.2" X 9.4")
Production#:	1469105	**Cylinder # :**	AB-110084
Certification Date:	Sep-17-2018	**Cylinder Pressure:**	1700 psig
P.O.# :	134399-RESTEK	**Cylinder Valve:**	CGA 180 / Aluminum
Blend Type:	CERTIFIED	**Cylinder Volume:**	0.8 Liter
Material#:	24086371	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	98 Liters
Expiration Date:	Sep-17-2019	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative
Part Number:	34400	**NIST Traceable Certificate#:**	17-67149

COMPONENT	CAS NUMBER	REQUESTED CONC	CERTIFIED CONC
Dichlorodifluoromethane	75-71-8	1.00 ppm	1.02 ppm
Chloromethane	74-87-3	1.00 ppm	1.08 ppm
Freon-114	76-14-2	1.00 ppm	0.97 ppm
Vinyl Chloride	75-01-4	1.00 ppm	1.04 ppm
Bromomethane	74-83-9	1.00 ppm	1.02 ppm
Chloroethane	75-00-3	1.00 ppm	1.02 ppm
Freon-11	75-69-4	1.00 ppm	0.96 ppm
1,1-Dichloroethene	75-35-4	1.00 ppm	1.04 ppm
Methylene Chloride	75-09-2	1.00 ppm	1.00 ppm
Freon-113	76-13-1	1.00 ppm	1.00 ppm
1,1-Dichloroethane	75-34-3	1.00 ppm	0.96 ppm
Cis-1,2-Dichloroethylene	156-59-2	1.00 ppm	1.01 ppm
Chloroform	67-66-3	1.00 ppm	1.04 ppm
1,2-Dichloroethane	107-06-2	1.00 ppm	0.99 ppm
1,1,1-Trichloroethane	71-55-6	1.00 ppm	1.04 ppm
Benzene	71-43-2	1.00 ppm	1.02 ppm
Carbon Tetrachloride	56-23-5	1.00 ppm	1.01 ppm
1,2-Dichloropropane	78-87-5	1.00 ppm	1.01 ppm
Trichloroethylene	79-01-6	1.00 ppm	1.08 ppm
Cis-1,3-Dichloropropene	10061-01-5	1.00 ppm	1.00 ppm
Trans-1,3-Dichloropropene	10061-02-6	1.00 ppm	0.96 ppm
1,1,2-Trichloroethane	79-00-5	1.00 ppm	1.02 ppm
Toluene	108-88-3	1.00 ppm	1.02 ppm
1,2-Dibromoethane EDB	106-93-4	1.00 ppm	1.04 ppm
Tetrachloroethylene	127-18-4	1.00 ppm	1.02 ppm
Chlorobenzene	108-90-7	1.00 ppm	1.03 ppm
Ethylbenzene	100-41-4	1.00 ppm	1.03 ppm
P-Xylene	106-42-3	1.00 ppm	1.02 ppm

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12351 Sunrise Valley Drive
Reston, VA 20191

PAGE: 2 of 2

CERTIFICATE OF ANALYSIS

Sales#:	116777286	**Cylinder Size:**	185 (3.2" X 9.4")
Production#:	1469105	**Cylinder # :**	AB-110084
Certification Date:	Sep-17-2018	**Cylinder Pressure:**	1700 psig
P.O.# :	134399-RESTEK	**Cylinder Valve:**	CGA 180 / Aluminum
Blend Type:	CERTIFIED	**Cylinder Volume:**	0.8 Liter
Material#:	24086371	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	98 Liters
Expiration Date:	Sep-17-2019	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative
Part Number:	34400	**NIST Traceable Certificate#:**	17-67149

COMPONENT	CAS NUMBER	REQUESTED CONC	CERTIFIED CONC
M-Xylene	108-38-3	1.00 ppm	1.02 ppm
Styrene	100-42-5	1.00 ppm	0.98 ppm
O-Xylene	95-47-6	1.00 ppm	1.00 ppm
1,1,2,2-Tetrachloroethane	79-34-5	1.00 ppm	0.99 ppm
1,3,5-Trimethylbenzene	108-67-8	1.00 ppm	1.02 ppm
1,2,4-Trimethylbenzene	95-63-6	1.00 ppm	1.02 ppm
1,3-Dichlorobenzene	541-73-1	1.00 ppm	1.00 ppm
1,4-Dichlorobenzene	106-46-7	1.00 ppm	1.00 ppm
1,2-Dichlorobenzene	95-50-1	1.00 ppm	0.98 ppm
1,2,4-Trichlorobenzene	120-82-1	1.00 ppm	0.90 ppm
Hexachloro-1,3-Butadiene	87-68-3	1.00 ppm	0.92 ppm
Nitrogen	7727-37-9	Balance	Balance

Source Identification Number: 311316

ANALYST: BB
Brian Bramkamp

DATE: Sep-17-2018

Linde Gas North America LLC

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www.Lindeus.com

Analytical Standard Record

EPA Region 9 Laboratory

1841026

Description:	TO-14A 39 Component Mix Standard	**Expires:**	09/17/19
Standard Type:	Other Solution	**Prepared:**	09/17/18
Solvent:	Nitrogen	**Prepared By:**	** Vendor **
Final Volume (mls):	98000	**Department:**	Air
Vials:	1	**Last Edit:**	10/09/18 13:04 by LLH
Vendor:	Linde Spectra	**Lot Numb**	1469105

Cylinder # AB-110084
AU010530
Part # 34400

Analyte	CAS Number	Concentration (ppm)
1,2-Dibromoethane (EDB)	106-93-4	1.04
1,1,1-Trichloroethane	71-55-6	1.04
Benzene	71-43-2	1.02
1,4-Dichlorobenzene	106-46-7	1
1,3-Dichlorobenzene	541-73-1	1
1,3,5-Trimethylbenzene	108-67-8	1.02
1,2-Dichlorotetrafluoroethane	76-14-2	0.97
1,2-Dichloropropane	78-87-5	1.01
Carbon tetrachloride	56-23-5	1.01
1,2-Dichlorobenzene	95-50-1	0.98
Chlorobenzene	108-90-7	1.03
1,2,4-Trimethylbenzene	95-63-6	1.02
1,2,4-Trichlorobenzene	120-82-1	0.9
1,1-Dichloroethene	75-35-4	1.04
1,1-Dichloroethane	75-34-3	0.96
1,1,2-Trichloroethane	79-00-5	1.02
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	1
1,1,2,2-Tetrachloroethane	79-34-5	0.99
1,2-Dichloroethane	107-06-2	0.99
Ethylbenzene	100-41-4	1.03
Trichlorofluoromethane	75-69-4	0.94
Trichloroethene	79-01-6	1.08
trans-1,3-Dichloropropene	10061-02-6	0.96
Toluene	108-88-3	1.02
Tetrachloroethene	127-18-4	1.02
Styrene	100-42-5	0.98
o-Xylene	95-47-6	1
Bromomethane	74-83-9	1.02
Hexachlorobutadiene	87-68-3	0.92
Vinyl chloride	75-01-4	1.04

Analytical Standard Record

EPA Region 9 Laboratory

1841026

Dichloromethane	75-09-2	1
Dichlorodifluoromethane	75-71-8	1.02
cis-1,3-Dichloropropene	10061-01-5	1
cis-1,2-Dichloroethene	156-59-2	1.01
Chloromethane	74-87-3	1.08
Chloroform	67-66-3	1.04
Chloroethane	75-00-3	1.02
m&p-Xylene	179601-23-1	2.04

APPENDIX B.
DOCUMENTATION OF RECERTIFICATION – CALIBRATION STANDARD

	LIMS ID	Dilution LIMS ID	Manu. Expiration Date
Expired Standard	1841026	1933053	9/17/19
Verification Standard	1931163 /	1933054	07/18/20 /
Analysis: TO15	SOP # and Rev. #: 311 R4	Criteria %R or %D: +/- 15%	New expiration date: 9/17/20
Analysis Date: 08/14/19	Instrument: HP5973K	Analyst: UH	

Analyte	Ave. Response, Expired	Ave. Response, Verification	%R or %D	Fail criteria?
see attached calculation form – 2 out of 39 analytes failed				
1,2,4-Trichlorobenzene failed at 118% rec.				
Styrene failed at 81% rec				
			UH 08/15/19	
File ID (1)	081419N08	081419N09		
File ID (2)				
File ID (3)				

APPROVAL SIGNATURES	APPROVE (Y/N)	PRINT NAME	SIGNATURE	DATE
Group Leader or Supervisor	Y	Ziyad Rajab		8-21-19
Technical Director	Y	R. Baker		9/18/19
Lab QAO	Y	P. Husby		9/18/19

The use of this exact layout is not required. However, the form title must be used, and the information in the header blocks must appear on the first page of the documentation. In most instances, it will be best to use Element DataTool to create an Excel file and manipulate the data to obtain average responses, percent recovery or difference (section 5.2.5), and failing flags.

✓ em 8/21/19

Page 1 of 8

RECERTIFICATION OF STANDARDS CALCULATION FORM

standard #	EXPIRED STD 1841026 (_1933053_)	CONC ppbv	VERIFICATION STD 1931163 (_1933054_)	CONC ppbv	(EXPIRED/CONC) / (VERI/CONC) x100
data file	081419N08		081419N09		
Dichlorodifluoromethane	168671	10.2	176903	9.6	**90**
1,2-Dichlorotetrafluroethane	146947	9.7	154446	10.0	**98**
Chloromethane	36936	10.8	38442	9.7	**86**
Vinyl chloride	33438	10.4	35139	11.0	**101**
Bromomethane	35149	10.2	37518	10.9	**100**
Chloroethane	18466	10.2	19409	10.9	**102**
Trichlorofluoromethane	154063	9.4	161277	10.9	**111**
1,1,2,-Trichloro-1,2,2-trifluoroethane	85388	10	90690	10.9	**103**
1,1-Dichloroethene	68511	10.4	72317	10.9	**99**
Dichloromethane	43344	10	43894	10.0	**99**
1,1-Dichloroethane	72277	9.6	74645	10.5	**106**
cis-1,2-Dichloroethene	55639	10.1	56914	10.8	**105**
Chloroform	105729	10.4	108284	10.9	**102**
1,1,1-Trichloroethane	128543	10.4	132621	10.9	**102**
Carbon tetrachloride	143964	10.1	149758	11.0	**105**
Benzene	123987	10.2	126054	10.9	**105**
1,2-Dichloroethane	77372	9.9	79146	10.9	**108**
Trichloroethene	65971	10.8	68192	11.0	**99**
1,2-Dichloropropane	42057	10.1	44010	11.0	**104**
cis-1,3-Dichloropropene	77283	10	79636	11.0	**107**
Toluene	168770	10.2	171491	10.9	**105**
trans-1,3-Dichloropropene	79610	9.6	77704	10.6	**113**
1,1,2-Trichloroethane	57503	10.2	59578	10.9	**103**
Tetrachloroethene	103100	10.2	106343	10.8	**103**
1,2-Dibromethane (EDB)	95434	10.4	91875	10.9	**109**
Chlorobenzene	146286	10.3	147186	10.9	**105**
Ethylbenzene	243448	10.3	246934	10.9	**104**
m/p-Xylenes	390001	20.4	400141	21.6	**103**
o-Xylene	199709	10	205129	10.8	**105**
Styrene	103971	9.8	141603	10.8	**81**
1,1,2,2-Tetrachloroethane	123824	9.9	126594	10.8	**107**
1,3,5-Trimethylbenzene	259323	10.2	264061	10.9	**105**
1,2,4-Trimethylbenzene	252712	10.2	259149	10.9	**104**
1,3-Dichlorobenzene	162230	10	161565	11.0	**110**
1,4-Dichlorobenzene	155795	10	152331	11.0	**113**
1,2-Dichlorobenzene	159397	9.8	162754	11.0	**110**
1,2,4-Trichlorobenzene	85315	9.0	88517	11.0	**118**
Hexachlorobutadiene	184121	9.2	212908	10.9	**102**

Page 2 of 8

Data Path : C:\msdchem\1\2019\DATA\081419N FSA\
Data File : 081419N08.D
Acq On : 14 Aug 2019 10:18 pm
InstName : AG5973N
Operator : LLH
Sample : SCAN PRIM 1841026 / SUB 1835117
Misc : 200ml RECERTIFICATION (1933053)
ALS Vial : 14 Sample Multiplier: 1

200ml of 10ppbv
Ultra 8/14/19

Quant Time: Aug 15 10:42:56 2019
Quant Method : C:\msdchem\1\2019\METHOD\080919N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Aug 13 09:47:43 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	15.020	49	158036	22.00	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	17.080	114	610024	22.00	ppbv	#	0.00
43) CHLOROBENZENE-d5	22.031	117	563022	22.00	ppbv		0.00
Target Compounds							Qvalue
2) Propene	3.937	41	35215	8.93	ppbv	#	100
3) Dichlorodifluoromethane	4.028	85	168671	8.58	ppbv	#	100
4) 1,2-Dichlorotetrafluor...	4.357	85	146947	8.00	ppbv	#	99
5) Chloromethane	4.546	50	36936	8.55	ppbv		100
6) Vinyl chloride	4.845	62	33438	8.65	ppbv		100
7) 1,3-Butadiene	4.930	54	24106	9.07	ppbv		99
8) Bromomethane	5.820	94	35149	8.43	ppbv		99
9) Chloroethane	6.131	64	18466	8.04	ppbv		98
10) Bromoethene	6.686	106	40956	9.25	ppbv		98
11) Trichlorofluoromethane	6.814	101	154063	7.77	ppbv	#	100
12) 1,1,2-Trichloro-1,2,2-...	8.539	151	85388	8.01	ppbv	#	99
13) 1,1-Dichloroethene	8.625	61	68511	8.46	ppbv	#	99
14) Acetone	9.119	43	67842	8.62	ppbv		100
15) Carbon disulfide	9.314	76	109850	8.95	ppbv	#	100
16) 2-Propanol	9.734	45	51825	9.76	ppbv		99
17) Allyl chloride	10.173	41	47701	9.45	ppbv	#	98
18) Dichloromethane	10.765	49	43344	7.51	ppbv	#	99
19) tert-Butyl methyl ethe...	11.496	73	140893	9.08	ppbv		99
20) trans-1,2-Dichloroethene	11.533	61	63822	8.87	ppbv		98
21) Hexane	12.179	57	62013	8.82	ppbv	#	98
22) 1,1-Dichloroethane	12.947	63	72277	7.52	ppbv		100
23) Vinyl acetate	13.112	43	90298	12.28	ppbv		100
24) cis-1,2-Dichloroethene	14.459	61	55639	8.31	ppbv	#	99
25) 2-Butanone (MEK)	14.563	72	19972	9.17	ppbv	#	100
26) Ethyl acetate	14.618	61	13071	8.86	ppbv	#	97
27) Tetrahydrofuran	15.026	42	40010	7.88	ppbv		98
28) Chloroform	15.191	83	105729	8.24	ppbv	#	99
29) Cyclohexane	15.410	56	63710	8.78	ppbv	#	100
30) 1,1,1-Trichloroethane	15.465	97	128543	8.39	ppbv	#	100
31) Carbon tetrachloride	15.727	117	143964	8.25	ppbv		100
33) Benzene	16.233	78	123987	8.26	ppbv	#	100
34) 2,2,4-Trimethylpentane	16.190	57	202986	8.72	ppbv	#	100
35) 1,2-Dichloroethane	16.434	62	77372	8.20	ppbv		99
36) Heptane	16.593	43	71792	8.91	ppbv	#	98
37) Trichloroethene	17.495	130	65971	8.57	ppbv	#	99
38) 1,2-Dichloropropane	18.001	63	42057	8.15	ppbv	#	99
39) 1,4-Dioxane	18.196	88	24663	7.30	ppbv	#	99
40) Bromodichloromethane	18.477	83	122574	8.37	ppbv	#	100
41) cis-1,3-Dichloropropene	19.257	75	77283	8.58	ppbv	#	100
42) 4-Methyl-2-pentanone (...	19.489	43	91696	8.51	ppbv	#	100
44) Toluene	19.732	91	168770	8.49	ppbv		100
45) trans-1,3-Dichloropropene	20.214	75	79610	8.66	ppbv	#	99
46) 1,1,2-Trichloroethane	20.519	97	57503	8.38	ppbv	#	99
47) Tetrachloroethene	20.598	166	103100	8.42	ppbv	#	100
48) 2-Hexanone	20.854	43	74757	8.48	ppbv		99
49) Chlorodibromomethane	21.128	129	127589	8.24	ppbv	#	99
50) 1,2-Dibromoethane (EDB)	21.354	107	95434	8.80	ppbv		99
51) Chlorobenzene	22.079	112	146286	8.43	ppbv	#	100
52) Ethylbenzene	22.171	91	243448	8.45	ppbv		100
53) m&p-Xylene	22.354	91	390001	16.78	ppbv		99
54) o-Xylene	23.000	91	199709	8.40	ppbv		99

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```
Data Path : C:\msdchem\1\2019\DATA\081419N FSA\
Data File : 081419N08.D
Acq On    : 14 Aug 2019  10:18 pm
InstName  : AG5973N
Operator  : LLH
Sample    : SCAN PRIM 1841026 / SUB 1835117
Misc      : 200ml RECERTIFICATION (1933053)
ALS Vial  : 14   Sample Multiplier: 1

Quant Time: Aug 15 10:42:56 2019
Quant Method : C:\msdchem\1\2019\METHOD\080919N_TO15AA.M
Quant Title  : TO15
QLast Update : Tue Aug 13 09:47:43 2019
Response via : Initial Calibration
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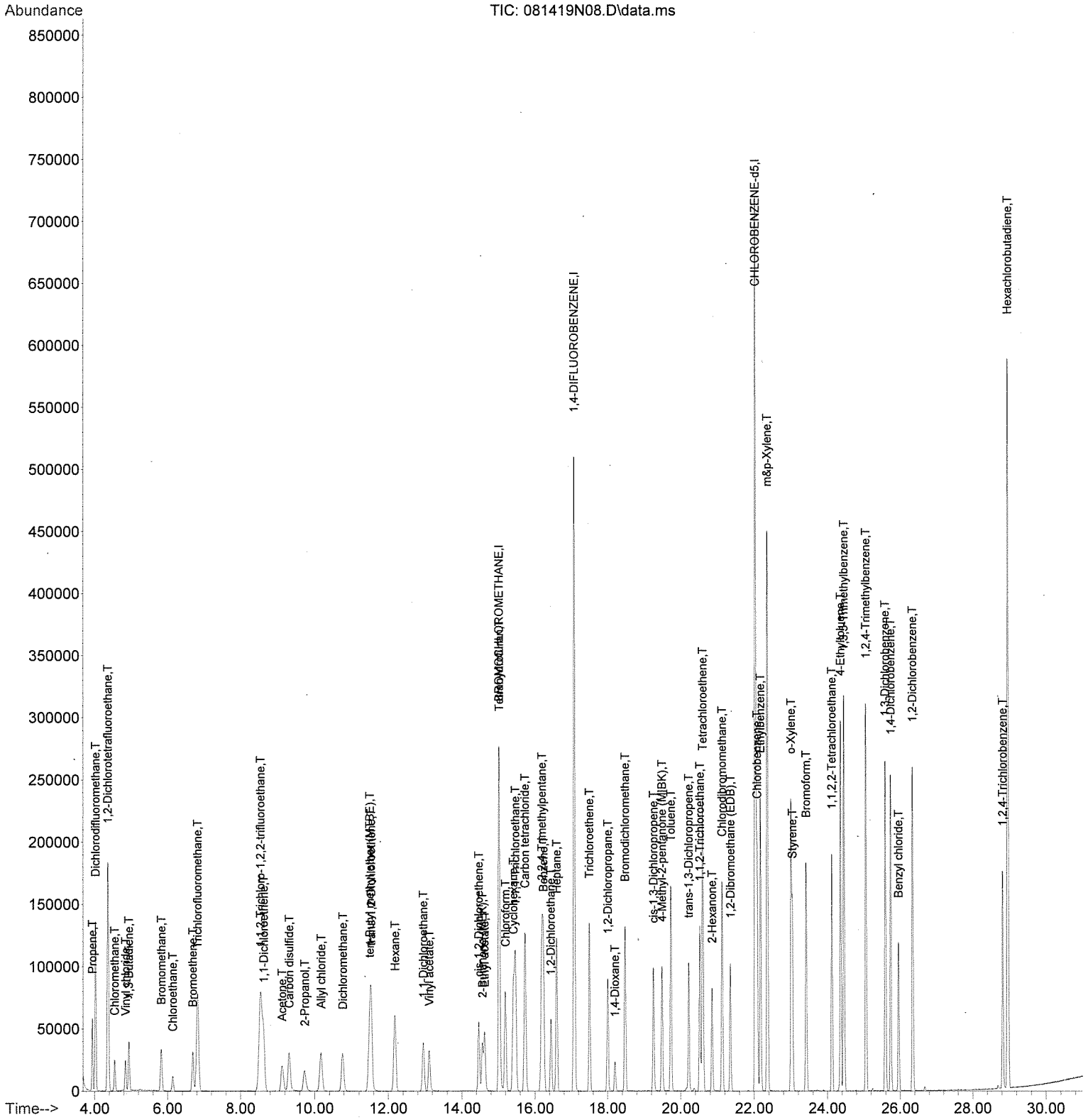

Analytical Standard Record
EPA Region 9 Laboratory
1841026

Description:	TO-14A 39 Component Mix Standard	**Expires:**	09/17/19
Standard Type:	Other Solution	**Prepared:**	09/17/18
Solvent:	Nitrogen	**Prepared By:**	** Vendor **
Final Volume (mls):	98000	**Department:**	Air
Vials:	1	**Last Edit:**	10/09/18 13:04 by LLH
Vendor:	Linde Spectra	**Lot Numb**	1469105

Cylinder # AB-110084
AU010530
Part # 34400

Analyte	CAS Number	Concentration (ppm)
1,2-Dibromoethane (EDB)	106-93-4	1.04
1,1,1-Trichloroethane	71-55-6	1.04
Benzene	71-43-2	1.02
1,4-Dichlorobenzene	106-46-7	1
1,3-Dichlorobenzene	541-73-1	1
1,3,5-Trimethylbenzene	108-67-8	1.02
1,2-Dichlorotetrafluoroethane	76-14-2	0.97
1,2-Dichloropropane	78-87-5	1.01
Carbon tetrachloride	56-23-5	1.01
1,2-Dichlorobenzene	95-50-1	0.98
Chlorobenzene	108-90-7	1.03
1,2,4-Trimethylbenzene	95-63-6	1.02
1,2,4-Trichlorobenzene	120-82-1	0.9
1,1-Dichloroethene	75-35-4	1.04
1,1-Dichloroethane	75-34-3	0.96
1,1,2-Trichloroethane	79-00-5	1.02
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	1
1,1,2,2-Tetrachloroethane	79-34-5	0.99
1,2-Dichloroethane	107-06-2	0.99
Ethylbenzene	100-41-4	1.03
Trichlorofluoromethane	75-69-4	0.94
Trichloroethene	79-01-6	1.08
trans-1,3-Dichloropropene	10061-02-6	0.96
Toluene	108-88-3	1.02
Tetrachloroethene	127-18-4	1.02
Styrene	100-42-5	0.98
o-Xylene	95-47-6	1
Bromomethane	74-83-9	1.02
Hexachlorobutadiene	87-68-3	0.92
Vinyl chloride	75-01-4	1.04

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Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\2019\DATA\081419N FSA\
Data File : 081419N09.D
Acq On : 14 Aug 2019 11:10 pm
InstName : AG5973N
Operator : LLH
Sample : SCAN PRIMARY 1931163
Misc : 200ml VERIFICATION (1933054)
ALS Vial : 16 Sample Multiplier: 1

200ml of 10 ppbv
LLH 09/13/19

Quant Time: Aug 15 10:45:26 2019
Quant Method : C:\msdchem\1\2019\METHOD\080919N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Aug 13 09:47:43 2019
Response via : Initial Calibration

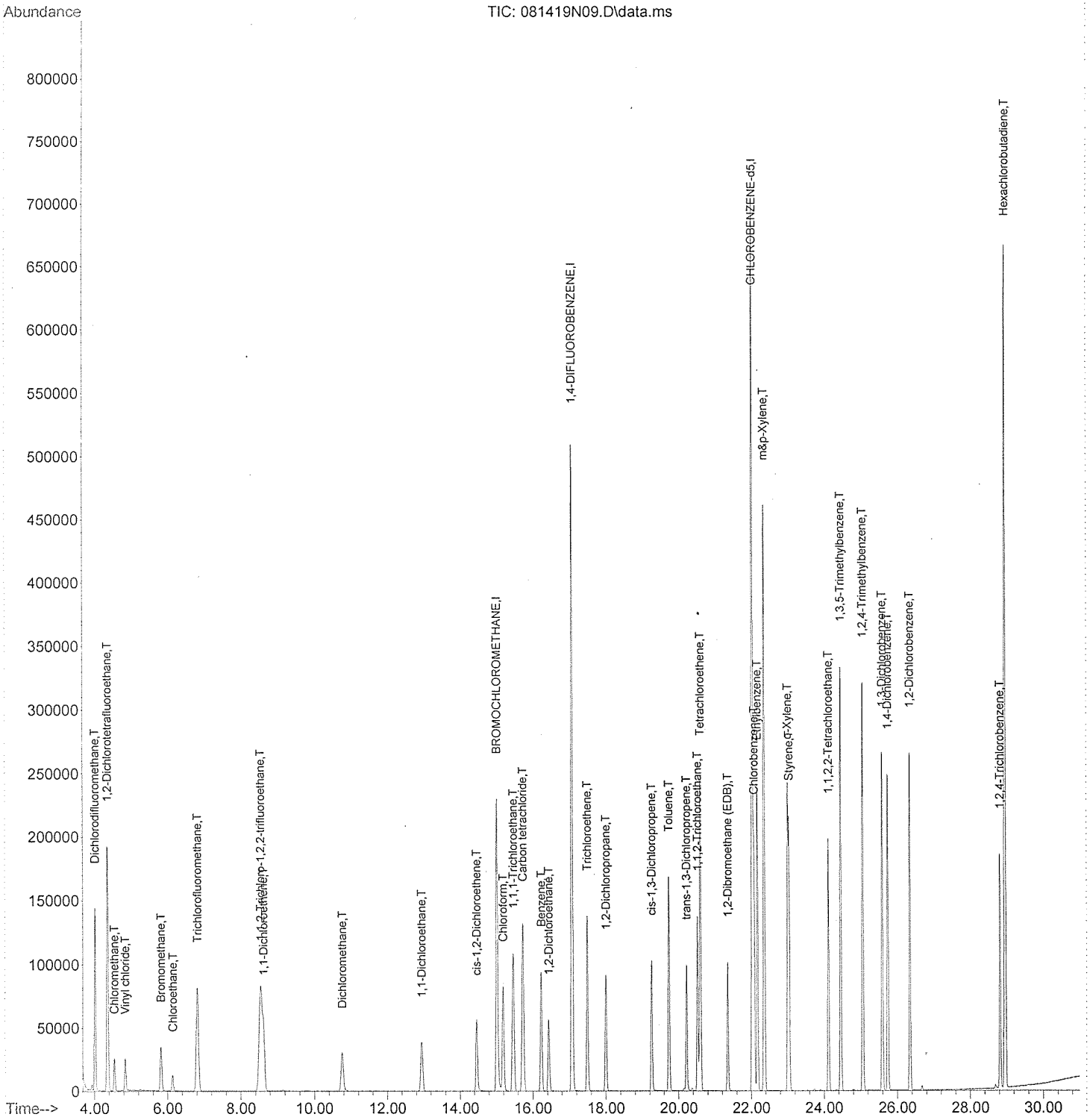
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	15.020	49	154879	22.00	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	17.081	114	603877	22.00	ppbv	#	0.00
43) CHLOROBENZENE-d5	22.031	117	547647	22.00	ppbv		0.00
Target Compounds							Qvalue
3) Dichlorodifluoromethane	4.022	85	176903	9.19	ppbv	#	100
4) 1,2-Dichlorotetrafluor...	4.357	85	154446	8.58	ppbv	#	99
5) Chloromethane	4.546	50	38442	9.08	ppbv		100
6) Vinyl chloride	4.839	62	35139	9.28	ppbv		100
8) Bromomethane	5.814	94	37518	9.18	ppbv		99
9) Chloroethane	6.138	64	19409	8.62	ppbv		99
11) Trichlorofluoromethane	6.814	101	161277	8.30	ppbv	#	100
12) 1,1,2-Trichloro-1,2,2-...	8.539	151	90690	8.69	ppbv	#	98
13) 1,1-Dichloroethene	8.619	61	72317	9.11	ppbv	#	99
18) Dichloromethane	10.759	49	43894	7.76	ppbv	#	100
22) 1,1-Dichloroethane	12.947	63	74645	7.92	ppbv		99
24) cis-1,2-Dichloroethene	14.459	61	56914	8.67	ppbv	#	100
28) Chloroform	15.185	83	108284	8.61	ppbv	#	99
30) 1,1,1-Trichloroethane	15.465	97	132621	8.83	ppbv	#	99
31) Carbon tetrachloride	15.733	117	149758	8.75	ppbv		99
33) Benzene	16.233	78	126054	8.48	ppbv	#	99
35) 1,2-Dichloroethane	16.440	62	79146	8.47	ppbv		100
37) Trichloroethene	17.495	130	68192	8.95	ppbv	#	100
38) 1,2-Dichloropropane	18.001	63	44010	8.62	ppbv	#	100
41) cis-1,3-Dichloropropene	19.257	75	79636	8.93	ppbv	#	98
44) Toluene	19.732	91	171491	8.87	ppbv		100
45) trans-1,3-Dichloropropene	20.214	75	77704	8.69	ppbv	#	99
46) 1,1,2-Trichloroethane	20.519	97	59578	8.93	ppbv	#	99
47) Tetrachloroethene	20.598	166	106343	8.93	ppbv	#	99
50) 1,2-Dibromoethane (EDB)	21.354	107	91875	8.71	ppbv		99
51) Chlorobenzene	22.080	112	147186	8.72	ppbv	#	100
52) Ethylbenzene	22.171	91	246934	8.81	ppbv		100
53) m&p-Xylene	22.354	91	400141	17.70	ppbv		100
54) o-Xylene	23.000	91	205129	8.88	ppbv		99
55) Styrene	23.043	104	141603	8.97	ppbv	#	100
57) 1,1,2,2-Tetrachloroethane	24.122	83	126594	8.63	ppbv		99
59) 1,3,5-Trimethylbenzene	24.457	105	264061	8.82	ppbv		99
60) 1,2,4-Trimethylbenzene	25.061	105	259149	8.98	ppbv		99
61) 1,3-Dichlorobenzene	25.591	146	161565	8.42	ppbv		100
62) 1,4-Dichlorobenzene	25.737	146	152331	8.37	ppbv	#	100
64) 1,2-Dichlorobenzene	26.347	146	162754	8.22	ppbv	#	100
65) 1,2,4-Trichlorobenzene	28.822	180	88517	8.17	ppbv	#	99
66) Hexachlorobutadiene	28.962	225	212908	8.53	ppbv		100

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\2019\DATA\081419N FSA\
Data File : 081419N09.D
Acq On : 14 Aug 2019 11:10 pm
InstName : AG5973N
Operator : LLH
Sample : SCAN PRIMARY 1931163
Misc : 200ml VERIFICATION (1933054)
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Aug 15 10:45:26 2019
Quant Method : C:\msdchem\1\2019\METHOD\080919N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Aug 13 09:47:43 2019
Response via : Initial Calibration



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Analytical Standard Record

EPA Region 9 Laboratory

1931163

Description:	TO-14A 39 Component Mix Standard, 1.0	**Expires:**	07/18/20
Standard Type:	Other Solution	**Prepared:**	07/18/19
Solvent:	Nitrogen	**Prepared By:**	** Vendor **
Final Volume (mls):	98000	**Department:**	Air
Vials:	1	**Last Edit:**	08/02/19 12:38 by LLH
Vendor:	Linde Spectra	**Lot Numbe**	1492796

Cylinder # AB-111784
AU011176
Part # 34400

Analyte	CAS Number	Concentration (ppm)
1,2-Dibromoethane (EDB)	106-93-4	1.09
1,1,1-Trichloroethane	71-55-6	1.09
Benzene	71-43-2	1.09
1,4-Dichlorobenzene	106-46-7	1.1
1,3-Dichlorobenzene	541-73-1	1.1
1,3,5-Trimethylbenzene	108-67-8	1.09
1,2-Dichlorotetrafluoroethane	76-14-2	1
1,2-Dichloropropane	78-87-5	1.1
Carbon tetrachloride	56-23-5	1.1
1,2-Dichlorobenzene	95-50-1	1.1
Chlorobenzene	108-90-7	1.09
1,2,4-Trimethylbenzene	95-63-6	1.09
1,2,4-Trichlorobenzene	120-82-1	1.1
1,1-Dichloroethene	75-35-4	1.09
1,1-Dichloroethane	75-34-3	1.05
1,1,2-Trichloroethane	79-00-5	1.09
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	1.09
1,1,2,2-Tetrachloroethane	79-34-5	1.08
1,2-Dichloroethane	107-06-2	1.09
Ethylbenzene	100-41-4	1.09
Trichlorofluoromethane	75-69-4	1.09
Trichloroethene	79-01-6	1.1
trans-1,3-Dichloropropene	10061-02-6	1.06
Toluene	108-88-3	1.09
Tetrachloroethene	127-18-4	1.08
Styrene	100-42-5	1.08
o-Xylene	95-47-6	1.08
Bromomethane	74-83-9	1.09
Hexachlorobutadiene	87-68-3	1.09
Vinyl chloride	75-01-4	1.1

lem 8/21/19

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Analytical Standard Record

EPA Region 9 Laboratory

1901028

Description:	TO/14A GC/MS Tuning Mix, Stock 100pp	**Expires:**	12/14/20
Standard Type:	Other Solution	**Prepared:**	12/14/18
Solvent:	Nitrogen	**Prepared By:**	** Vendor **
Final Volume (mls):	98000	**Department:**	Air
Vials:	1	**Last Edit:**	12/24/19 09:40 by LLH
Vendor:	Linde Spectra	**Lot Numbe**	1477592

Part #34424 Bar Code# AU010656 Cylinder # AB-110190
Do not use under 150psig. Original expiration date: 12/14/2019.
Extended expiration date: 12/14/2020

Analyte	CAS Number	Concentration (ppm)
4-Bromofluorobenzene	460-00-4	0.09

THE LINDE GROUP

Linde

SHIPPED TO: GSS Warehouse
258 Lindbergh Ave.
Livermore, CA 94551-9512

PAGE: 1 of 1

1901028
AU010656

CERTIFICATE OF ANALYSIS

Sales#:	116997676	**Cylinder Size:**	185 (3.2" X 9.4")
Production#:	1477592	**Cylinder # :**	AB-110190
Certification Date:	Dec-14-2018	**Cylinder Pressure:**	1700 psig
P.O.# :	136993-RESTEK	**Cylinder Valve:**	CGA 180 / Aluminum
Blend Type:	CERTIFIED	**Cylinder Volume:**	0.8 Liter
Material#:	24087971	**Cylinder Material:**	Aluminum
Traceability:	NIST by weight	**Gas Volume:**	98 Liters
Expiration Date:	Dec-14-2019	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	10% Relative
Part Number:	34424	**NIST Traceable Certificate#:**	17-67149

COMPONENT	CAS NUMBER	REQUESTED CONC	CERTIFIED CONC
4-Bromofluorobenzene	460-00-4	100 ppb	90 ppb
Nitrogen	7727-37-9	Balance	Balance

Recd 1/4/19

Source Identification Number: 279475

ANALYST: Brian Bramkamp

DATE: Dec-14-2018

Linde Gas North America LLC

(908) 329-9700 Main (908) 329-9740 Fax
www.Lindeus.com

APPENDIX C.
DOCUMENTATION OF EXTENDED USE

	LIMS ID	Manu. Expiration Date	Reagent LIMS ID
Material, Expired	1901028	12/14/19	—
Analysis: 8015	SOP # 311	Rev. 4	

Analysis Date: 11/27/19	Instrument: K	HP5973K	Analyst: UH
Criteria: refer to SOP 893 R0 section 4.4			

Analyte	Ave Response, Expired	Comparison (explain in criteria section)	Fail criteria?
Bromofluorobenzene (BFB)	12046300	—	No
File ID (1)	112719K01	Req: 519K118	
File ID (2)			
File ID (3)			

Notes: See attached TIC report for BFB.

Approval Signatures	Approve (Y/N)	Signature	Print Name
Group Leader/Supervisor	Y	[signature]	Ziyad Rajabi
Technical Director	Y	[signature]	R. Bowe
Lab QAO	Y	Barbara Bates	B Bates
		LAB QAO Signature Date	12-30-19

The use of this exact layout is not required; however, the form title must be used. Clarity of the criteria and notes are of particular importance for extended due to the variety of materials and their intended use.

New expiration date = 12/14/20

Library Search Compound Report

Data Path : D:\msdchem\1\2019\DATA\112719K_FSAA\
Data File : 112719K01.D
Acq On : 27 Nov 2019 10:01 am
Operator : LLH
Sample : S19K118-TUN1
Misc : BFB 1901028
ALS Vial : 27 Sample Multiplier: 1

40 ngs – good response AS 12/23/19

Quant Method : D:\msdchem\1\2019\METHOD\110119K_TO15AA.M
Quant Title : TO15

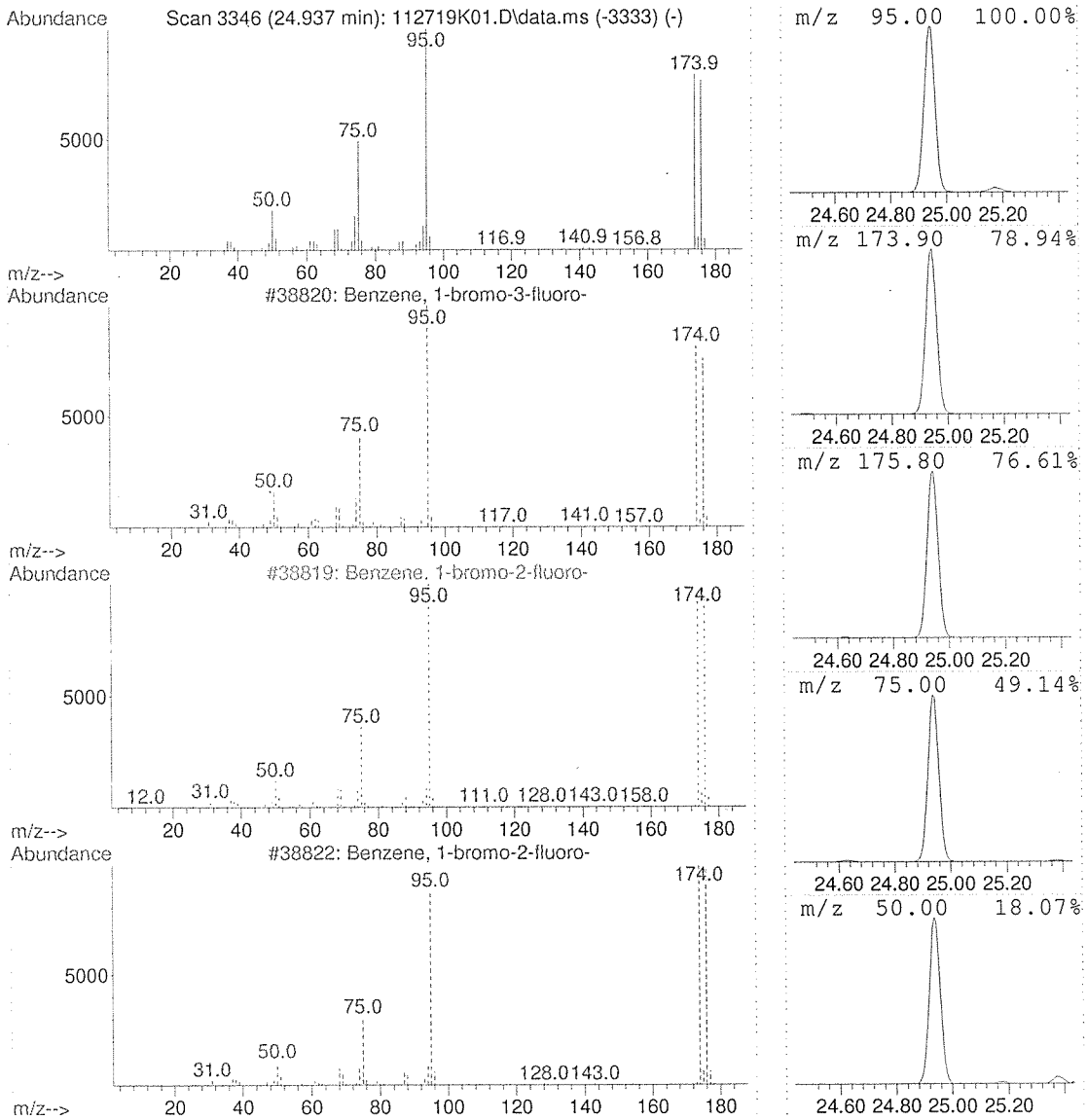
TIC Library : C:\Database\NIST02.L
TIC Integration Parameters: lscint.p

****

Peak Number 3 Benzene, 1-bromo-3-fluoro- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
24.937	12.79 ppbv	1206300	CHLOROBENZENE-d5	23.100

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, 1-bromo-3-fluoro-	174	C6H4BrF	001073-06-9	98
2	Benzene, 1-bromo-2-fluoro-	174	C6H4BrF	001072-85-1	96
3	Benzene, 1-bromo-2-fluoro-	174	C6H4BrF	001072-85-1	94
4	p-Bromofluorobenzene	174	C6H4BrF	000460-00-4	93
5	Benzene, 1-bromo-3-fluoro-	174	C6H4BrF	001073-06-9	93



Analytical Standard Record

EPA Region 9 Laboratory

1901028

Description:	TO/14A GC/MS Tuning Mix, Stock 100pp	**Expires:**	12/14/19
Standard Type:	Other Solution	**Prepared:**	12/14/18
Solvent:	Nitrogen	**Prepared By:**	** Vendor **
Final Volume (mls):	98000	**Department:**	Air
Vials:	1	**Last Edit:**	01/04/19 15:54 by EM
Vendor:	Linde Spectra	**Lot Numbe**	1477592

Part #34424 Bar Code# AU010656 Cylinder # AB-110190
Do not use under 150psig.

Analyte	CAS Number	Concentration (ppm)
4-Bromofluorobenzene	460-00-4	0.09

Analytical Standard Record

EPA Region 9 Laboratory

1948024

Description:	TO-15 25 Compound Subset Standarc	**Expires:**	10/30/21
Standard Type:	Other Solution	**Prepared:**	10/21/19
Solvent:	Nitrogen	**Prepared By:**	** Vendor **
Final Volume (mls):	110000	**Department:**	Air
Vials:	1	**Last Edit:**	11/26/19 11:34 by LLH
Vendor:	Scott/Air Liquide	**Lot Numb**	160-401624549-1

Scott/Air Liquide Cylinder# ST0000197961
Bar code: AU011459 Supelco Cat No. 41979-U

Analyte	CAS Number	Concentration (ppm)
Bromoform	75-25-2	0.12
1,4-Dioxane	123-91-1	0.11
2,2,4-Trimethylpentane	540-84-1	0.11
2-Butanone (MEK)	78-93-3	0.11
2-Hexanone	591-78-6	0.11
2-Propanol	67-63-0	0.085
4-Ethyltoluene	622-96-8	0.11
4-Methyl-2-pentanone (MIBK)	108-10-1	0.11
Acetone	67-64-1	0.1
Allyl chloride	107-05-1	0.12
Benzyl chloride	100-44-7	0.11
1,3-Butadiene	106-99-0	0.1
Bromoethene	593-60-2	0.11
Vinyl acetate	108-05-4	0.11
Carbon disulfide	75-15-0	0.12
Chlorodibromomethane	124-48-1	0.11
Cyclohexane	110-82-7	0.11
Ethyl acetate	141-78-6	0.11
Heptane	142-82-5	0.11
Hexane	110-54-3	0.11
Propene	115-07-1	0.1
tert-Butyl methyl ether (MTBE)	1634-04-4	0.11
Tetrahydrofuran	109-99-9	0.095
trans-1,2-Dichloroethene	156-60-5	0.1
Bromodichloromethane	75-27-4	0.11

SCV Subset 1948024

Airgas [redacted]y Gases
Airgas [redacted] L C
6141 Easton [redacted]
Bldg 1
Plumsteadvil e, PA 18949
[redacted]

CERTIFICATE OF ANALYSIS

[redacted] of [redacted] R TIFIED [redacted]RB

Part Number:	[redacted]	Reference Number:	160-401624549-1
Cylinder Number:	ST0 1[redacted] 1	Cylinder Volume:	1 0.0 LG
Laboratory:	124 - Plumsteadvil e - PA	Cylinder Pres ure:	180 PSIG
Analysis Date:	Oct 30, 2019	Valve Outlet:	180
Lot Number:	160-401624549-1	Expiration Date:	Oct 30, 2021

Traceability Statement: Hydrocarbon Proces standards are NIST traceable either directly by weight o by comparison to Airgas laboratory standards that are directly NIST traceable by weight.

CERTIFIED CONCENTRATIONS

Component	Requestd Concentration	Reportd [redacted]%	Accuracy
1,2 TRANS DICHLOROETHYLENE	10 .0 P B	10 .0 P B	+/- 10%
1,3 BUTADIENE	10 .0 P B	10 .0 P B	+/- 10%
1,4 DIOXANE	10 .0 P B	1 0.0 P B	+/- 10%
4 ETHYL TOLUENE	10 .0 P B	1 0.0 P B	+/- 10%
ACETONE	10 .0 P B	10 .0 P B	+/- 10%
ALLYL CHLORIDE	10 .0 P B	120.0 P B	+/- 10%
BE[redacted] Y CHLORIDE	10 .0 P B	1 0.0 P B	+/- 10%
BROMO DICHLORO METHANE	10 .0 P B	1 0.0 P B	+/- 10%
BROMOFORM	10 .0 P B	120.0 P B	+/- 10%
CARBON DISULFIDE	10 .0 P B	120.0 P B	+/- 10%
CHLORO DIBROMO METHANE	10 .0 P B	1 0.0 P B	+/- 10%
CYCLOHEXANE	10 .0 P B	1 0.0 P B	+/- 10%
ETHYL ACETATE	10 .0 P B	1 0.0 P B	+/- 10%
HEXANE	10 .0 P B	1 0.0 P B	+/- 10%
ISO CTANE 2,2,4	10 .0 P B	1 0.0 P B	+/- 10%
ISOPROPYL ALCOHOL	10 .0 P B	85.0 P B	+/- 10%
METHYL BUTYL KETONE 2-Hexanone	10 .0 P B	1 0.0 P B	+/- 10%
METHYL ETHYL KETONE	10 .0 P B	1 0.0 P B	+/- 10%
METHYL ISOBUTYL KETONE	10 .0 P B	1 0.0 P B	+/- 10%
METHYL TERT BUTYL ETHER	10 .0 P B	1 0.0 P B	+/- 10%
N HEPTANE	10 .0 P B	1 0.0 P B	+/- 10%
PROPYLENE	10 .0 P B	10 .0 P B	+/- 10%
TETRAHYDROFURAN	10 .0 P B	95.0 P B	+/- 10%
VINYL ACETATE	10 .0 P B	1 0.0 P B	+/- 10%
VINYL BROMIDE Bromo ethene	10 .0 P B	1 0.0 P B	+/- 10%
NITROGEN	Balance	Balance	

Permanent Notes: SIGMA ALDRICH P/N 419 -U

Notes: PO number: P485010

Date of manufacture: 21-Oct-2019

A pproved fo[redacted]Rel[redacted]s

[redacted] 1 6 160-401624549-1

Analytical Standard Record

EPA Region 9 Laboratory

2006146

Description:	TO-14A Internal Standard Mix, Stock(100	**Expires:**	01/29/22
Standard Type:	Other Solution	**Prepared:**	01/29/20
Solvent:	Nitrogen	**Prepared By:**	** Vendor **
Final Volume (mls):	110000	**Department:**	Air
Vials:	1	**Last Edit:**	02/06/20 15:46 by LLH
Vendor:	Scott/Air Liquide	**Lot Numbe**	160-401699356-1

Restek Part # 26353, Cylinder #: ST0000248715 AU011653
Orig exp date: 01/29/22

Analyte	CAS Number	Concentration (ppm)
Chlorobenzene-d5	3114-55-4	0.098
Bromochloromethane	74-97-5	0.098
1,4-Difluorobenzene	540-36-3	0.098

Airgas
an Air Liquide company

I Std

AU011653/54/55

Airgas Specialty Gases
Airgas USA, LLC
6141 Easton Road
Bldg 1
Plumsteadville, PA 18949
Airgas.com

CERTIFICATE OF ANALYSIS

Grade of Product: CERTIFIED STANDARD-SPEC

Part Number:	X04NI99CA98C000	Reference Number:	160-401699356-1
Cylinder Number:	ST0000248717 /15/16	Cylinder Volume:	98.0 LG
Laboratory:	124 - Plumsteadville - PA	Cylinder Pressure:	1800 PSIG
Analysis Date:	Jan 29, 2020	Valve Outlet:	180
Lot Number:	160-401699356-1		

Expiration Date: Jan 29, 2022

02/06/20

Product composition verified by direct comparison to calibration standards traceable to N.I.S.T. weights and/or N.I.S.T. Gas Mixture reference materials.

ANALYTICAL RESULTS

Component	Req Conc	Actual Concentration (Mole %)	Analytical Uncertainty
1,4 DIFLUOROBENZENE	100.000 PPB	98.000 PPB	+/- 10%
BROMOCHLOROMETHANE	100.000 PPB	98.000 PPB	+/- 10%
CHLOROBENZENE-D5	100.000 PPB	96.000 PPB	+/- 10%
NITROGEN	Balance		

Permanent Notes: RESTEK P/N 26353

Notes: PO number: P6624

AU011653 - 2006146
654 - 2006147
655 - 2006148

Approved for Release

Analytical Standard Record

EPA Region 9 Laboratory

2014015

Description:	TO-15 LOW Std, 10 ppbv	**Expires:**	04/30/20
Standard Type:	Other Solution	**Prepared:**	03/31/20
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	2500	**Department:**	Air
Vials:	2	**Last Edit:**	03/31/20 12:26 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
1,3-Butadiene	106-99-0	0.0103
Bromoethene	593-60-2	0.0109
Bromodichloromethane	75-27-4	0.0104
Benzyl chloride	100-44-7	0.011
Benzene	71-43-2	0.0102
Allyl chloride	107-05-1	0.011
Acetone	67-64-1	0.0108
4-Methyl-2-pentanone (MIBK)	108-10-1	0.0105
4-Ethyltoluene	622-96-8	0.0102
2-Propanol	67-63-0	0.011
2-Hexanone	591-78-6	0.0103
2-Butanone (MEK)	78-93-3	0.0105
2,2,4-Trimethylpentane	540-84-1	0.0103
1,4-Dioxane	123-91-1	0.0104
1,1,1-Trichloroethane	71-55-6	0.0104
1,2-Dibromoethane (EDB)	106-93-4	0.0104
1,1,2,2-Tetrachloroethane	79-34-5	0.0099
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.01
1,1,2-Trichloroethane	79-00-5	0.0102
1,1-Dichloroethane	75-34-3	0.0096
1,1-Dichloroethene	75-35-4	0.0104
1,4-Dichlorobenzene	106-46-7	0.01
1,2,4-Trimethylbenzene	95-63-6	0.0102
1,3-Dichlorobenzene	541-73-1	0.01
1,2-Dichlorobenzene	95-50-1	0.0098
1,2-Dichloroethane	107-06-2	0.0099
1,2-Dichloropropane	78-87-5	0.0101
1,2-Dichlorotetrafluoroethane	76-14-2	0.0097
1,3,5-Trimethylbenzene	108-67-8	0.0102
Carbon disulfide	75-15-0	0.011

Analytical Standard Record
EPA Region 9 Laboratory
2014015

1,2,4-Trichlorobenzene	120-82-1	0.009
Tetrahydrofuran	109-99-9	0.0101
Bromoform	75-25-2	0.011
m&p-Xylene	179601-23-1	0.0204
o-Xylene	95-47-6	0.01
Propene	115-07-1	0.011
Styrene	100-42-5	0.0098
Hexachlorobutadiene	87-68-3	0.0092
Tetrachloroethene	127-18-4	0.0102
Heptane	142-82-5	0.0103
Toluene	108-88-3	0.0102
trans-1,2-Dichloroethene	156-60-5	0.0109
trans-1,3-Dichloropropene	10061-02-6	0.0096
Trichloroethene	79-01-6	0.0108
Trichlorofluoromethane	75-69-4	0.0094
Vinyl acetate	108-05-4	0.011
tert-Butyl methyl ether (MTBE)	1634-04-4	0.0107
cis-1,2-Dichloroethene	156-59-2	0.0101
Vinyl chloride	75-01-4	0.0104
Carbon tetrachloride	56-23-5	0.0101
Chlorobenzene	108-90-7	0.0103
Chlorodibromomethane	124-48-1	0.0109
Chloroethane	75-00-3	0.0102
Hexane	110-54-3	0.0102
Chloromethane	74-87-3	0.0108
Bromomethane	74-83-9	0.0102
cis-1,3-Dichloropropene	10061-01-5	0.01
Cyclohexane	110-82-7	0.0103
Dichlorodifluoromethane	75-71-8	0.0102
Dichloromethane	75-09-2	0.01
Ethyl acetate	141-78-6	0.0103
Ethylbenzene	100-41-4	0.0103
Chloroform	67-66-3	0.0104

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1841026	TO-14A 39 Component Mix Stand	09/17/18	** Vendor **	09/17/20	09/18/19 13:14 by EM	25
1835117	TO-15 25 Compound Subset Stand	08/16/18	** Vendor **	08/16/20	11/14/19 15:08 by EM	25

Analytical Standard Record

EPA Region 9 Laboratory

2014016

Description:	TO-15 CAL Std, 20 ppbv	**Expires:**	04/30/20
Standard Type:	Other Solution	**Prepared:**	03/31/20
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	2500	**Department:**	Air
Vials:	2	**Last Edit:**	03/31/20 12:27 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
1,3-Butadiene	106-99-0	0.0206
Bromoethene	593-60-2	0.0218
Bromodichloromethane	75-27-4	0.0208
Benzyl chloride	100-44-7	0.022
Benzene	71-43-2	0.0204
Allyl chloride	107-05-1	0.022
Acetone	67-64-1	0.0216
4-Methyl-2-pentanone (MIBK)	108-10-1	0.021
4-Ethyltoluene	622-96-8	0.0204
2-Propanol	67-63-0	0.022
2-Hexanone	591-78-6	0.0206
2-Butanone (MEK)	78-93-3	0.021
2,2,4-Trimethylpentane	540-84-1	0.0206
1,4-Dioxane	123-91-1	0.0208
1,1,1-Trichloroethane	71-55-6	0.0208
1,2-Dibromoethane (EDB)	106-93-4	0.0208
1,1,2,2-Tetrachloroethane	79-34-5	0.0198
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.02
1,1,2-Trichloroethane	79-00-5	0.0204
1,1-Dichloroethane	75-34-3	0.0192
1,1-Dichloroethene	75-35-4	0.0208
1,4-Dichlorobenzene	106-46-7	0.02
1,2,4-Trimethylbenzene	95-63-6	0.0204
1,3-Dichlorobenzene	541-73-1	0.02
1,2-Dichlorobenzene	95-50-1	0.0196
1,2-Dichloroethane	107-06-2	0.0198
1,2-Dichloropropane	78-87-5	0.0202
1,2-Dichlorotetrafluoroethane	76-14-2	0.0194
1,3,5-Trimethylbenzene	108-67-8	0.0204
Carbon disulfide	75-15-0	0.022

Analytical Standard Record
EPA Region 9 Laboratory
2014016

1,2,4-Trichlorobenzene	120-82-1	0.018
Tetrahydrofuran	109-99-9	0.0202
Bromoform	75-25-2	0.022
m&p-Xylene	179601-23-1	0.0408
o-Xylene	95-47-6	0.02
Propene	115-07-1	0.022
Styrene	100-42-5	0.0196
Hexachlorobutadiene	87-68-3	0.0184
Tetrachloroethene	127-18-4	0.0204
Heptane	142-82-5	0.0206
Toluene	108-88-3	0.0204
trans-1,2-Dichloroethene	156-60-5	0.0218
trans-1,3-Dichloropropene	10061-02-6	0.0192
Trichloroethene	79-01-6	0.0216
Trichlorofluoromethane	75-69-4	0.0188
Vinyl acetate	108-05-4	0.022
tert-Butyl methyl ether (MTBE)	1634-04-4	0.0214
cis-1,2-Dichloroethene	156-59-2	0.0202
Vinyl chloride	75-01-4	0.0208
Carbon tetrachloride	56-23-5	0.0202
Chlorobenzene	108-90-7	0.0206
Chlorodibromomethane	124-48-1	0.0218
Chloroethane	75-00-3	0.0204
Hexane	110-54-3	0.0204
Chloromethane	74-87-3	0.0216
Bromomethane	74-83-9	0.0204
cis-1,3-Dichloropropene	10061-01-5	0.02
Cyclohexane	110-82-7	0.0206
Dichlorodifluoromethane	75-71-8	0.0204
Dichloromethane	75-09-2	0.02
Ethyl acetate	141-78-6	0.0206
Ethylbenzene	100-41-4	0.0206
Chloroform	67-66-3	0.0208

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1841026	TO-14A 39 Component Mix Stand	09/17/18	** Vendor **	09/17/20	09/18/19 13:14 by EM	50
1835117	TO-15 25 Compound Subset Stand	08/16/18	** Vendor **	08/16/20	11/14/19 15:08 by EM	50

Analytical Standard Record

EPA Region 9 Laboratory

2014017

Description:	TO-15 SCV 10 ppbv (VIRTUAL)	**Expires:**	04/30/20
Standard Type:	Other Solution	**Prepared:**	03/31/20
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	2000	**Department:**	Air
Vials:	1	**Last Edit:**	04/01/20 10:13 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
1,3-Butadiene	106-99-0	0.01
Bromoethene	593-60-2	0.011
Bromodichloromethane	75-27-4	0.011
Benzyl chloride	100-44-7	0.011
Benzene	71-43-2	0.01
Allyl chloride	107-05-1	0.012
Acetone	67-64-1	0.01
4-Methyl-2-pentanone (MIBK)	108-10-1	0.011
4-Ethyltoluene	622-96-8	0.011
2-Propanol	67-63-0	0.0085
2-Hexanone	591-78-6	0.011
2-Butanone (MEK)	78-93-3	0.011
2,2,4-Trimethylpentane	540-84-1	0.011
1,4-Dioxane	123-91-1	0.011
1,1,1-Trichloroethane	71-55-6	0.011
1,2-Dibromoethane (EDB)	106-93-4	0.01
1,1,2,2-Tetrachloroethane	79-34-5	0.0099
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.011
1,1,2-Trichloroethane	79-00-5	0.01
1,1-Dichloroethane	75-34-3	0.011
1,1-Dichloroethene	75-35-4	0.011
1,4-Dichlorobenzene	106-46-7	0.0099
1,2,4-Trimethylbenzene	95-63-6	0.01
1,3-Dichlorobenzene	541-73-1	0.01
1,2-Dichlorobenzene	95-50-1	0.0096
1,2-Dichloroethane	107-06-2	0.011
1,2-Dichloropropane	78-87-5	0.01
1,2-Dichlorotetrafluoroethane	76-14-2	0.011
1,3,5-Trimethylbenzene	108-67-8	0.01
Carbon disulfide	75-15-0	0.012

Analytical Standard Record
EPA Region 9 Laboratory
2014017

1,2,4-Trichlorobenzene	120-82-1	0.0093
Tetrahydrofuran	109-99-9	0.0095
Bromoform	75-25-2	0.012
m&p-Xylene	179601-23-1	0.022
o-Xylene	95-47-6	0.01
Propene	115-07-1	0.01
Styrene	100-42-5	0.01
Hexachlorobutadiene	87-68-3	0.0099
Tetrachloroethene	127-18-4	0.011
Heptane	142-82-5	0.011
Toluene	108-88-3	0.01
trans-1,2-Dichloroethene	156-60-5	0.01
trans-1,3-Dichloropropene	10061-02-6	0.01
Trichloroethene	79-01-6	0.011
Trichlorofluoromethane	75-69-4	0.011
Vinyl acetate	108-05-4	0.011
tert-Butyl methyl ether (MTBE)	1634-04-4	0.011
cis-1,2-Dichloroethene	156-59-2	0.011
Vinyl chloride	75-01-4	0.01
Carbon tetrachloride	56-23-5	0.011
Chlorobenzene	108-90-7	0.011
Chlorodibromomethane	124-48-1	0.011
Chloroethane	75-00-3	0.011
Hexane	110-54-3	0.011
Chloromethane	74-87-3	0.012
Bromomethane	74-83-9	0.011
cis-1,3-Dichloropropene	10061-01-5	0.01
Cyclohexane	110-82-7	0.011
Dichlorodifluoromethane	75-71-8	0.011
Dichloromethane	75-09-2	0.011
Ethyl acetate	141-78-6	0.011
Ethylbenzene	100-41-4	0.011
Chloroform	67-66-3	0.011

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2014018	TO-14A 39 Component Mix Stand	03/02/20	** Vendor **	03/11/23	04/01/20 10:13 by LLH	200
1948024	TO-15 25 Compound Subset Stand	10/21/19	** Vendor **	10/30/21	03/03/20 11:57 by LLH	200

Analytical Standard Record

EPA Region 9 Laboratory

2014018

Description:	TO-14A 39 Component Mix Standard	**Expires:**	03/11/23
Standard Type:	Analyte Spike	**Prepared:**	03/02/20
Solvent:	Nitrogen	**Prepared By:**	** Vendor **
Final Volume (mls):	98000	**Department:**	Air
Vials:	1	**Last Edit:**	04/01/20 10:13 by LLH
Vendor:	Scott/Air Liquide	**Lot Numb**	160-401747861-1

Supelco: 41900-U Cylinder # ST0000248893 AU011833
Part No. X40NI99CA98C000 Scott/Air Liquide Exp date: 03/11/23

Analyte	CAS Number	Concentration (ppm)
1,2-Dibromoethane (EDB)	106-93-4	0.1
1,1,1-Trichloroethane	71-55-6	0.11
Benzene	71-43-2	0.1
1,4-Dichlorobenzene	106-46-7	0.099
1,3-Dichlorobenzene	541-73-1	0.1
1,3,5-Trimethylbenzene	108-67-8	0.1
1,2-Dichlorotetrafluoroethane	76-14-2	0.11
1,2-Dichloropropane	78-87-5	0.1
Carbon tetrachloride	56-23-5	0.11
1,2-Dichlorobenzene	95-50-1	0.096
Chlorobenzene	108-90-7	0.11
1,2,4-Trimethylbenzene	95-63-6	0.1
1,2,4-Trichlorobenzene	120-82-1	0.093
1,1-Dichloroethene	75-35-4	0.11
1,1-Dichloroethane	75-34-3	0.11
1,1,2-Trichloroethane	79-00-5	0.1
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.11
1,1,2,2-Tetrachloroethane	79-34-5	0.099
1,2-Dichloroethane	107-06-2	0.11
Ethylbenzene	100-41-4	0.11
Trichlorofluoromethane	75-69-4	0.11
Trichloroethene	79-01-6	0.11
trans-1,3-Dichloropropene	10061-02-6	0.1
Toluene	108-88-3	0.1
Tetrachloroethene	127-18-4	0.11
Styrene	100-42-5	0.1
o-Xylene	95-47-6	0.1
Bromomethane	74-83-9	0.11
Hexachlorobutadiene	87-68-3	0.099
Vinyl chloride	75-01-4	0.1

Analytical Standard Record

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2014018

Dichloromethane	75-09-2	0.11
Dichlorodifluoromethane	75-71-8	0.11
cis-1,3-Dichloropropene	10061-01-5	0.1
cis-1,2-Dichloroethene	156-59-2	0.11
Chloromethane	74-87-3	0.12
Chloroform	67-66-3	0.11
Chloroethane	75-00-3	0.11
m&p-Xylene	179601-23-1	0.22

Airgas
an Air Liquide company

SCV Primary 2014-18

Airgas Specialty Gases
Airgas USA, LLC
6141 Easton Road
Bldg 1
Plumsteadville, PA 18949
Airgas.com

AU0118353

CERTIFICATE OF BATCH ANALYSIS

Grade of Product: CERTIFIED STANDARD-SPEC

Part Number:	X40NI99CA98C000	Reference Number:	160-401747861-1
		Cylinder Volume:	98.0 LG
Laboratory:	124 - Plumsteadville - PA	Cylinder Pressure:	1800 PSIG
Analysis Date:	Mar 11, 2020	Valve Outlet:	180
Lot Number:	160-401747861-1		

Exp 03/31/20

Product composition verified by direct comparison to calibration standards traceable to N.I.S.T. weights and/or N.I.S.T. Gas Mixture reference materials.

ANALYTICAL RESULTS

Component	Req Conc	Actual Concentration (Mole %)	Analytical Uncertainty
1,1 DICHLOROETHANE	100.000 PPB	110.000 PPB	+/- 10%
1,1 DICHLOROETHYLENE	100.000 PPB	110.000 PPB	+/- 10%
1,1,1 TRICHLOROETHANE	100.000 PPB	110.000 PPB	+/- 10%
1,1,2 TRICHLORO ETHANE	100.000 PPB	100.000 PPB	+/- 10%
1,1,2,2 TETRACHLOROETHANE	100.000 PPB	99.000 PPB	+/- 10%
1,2 DIBROMO ETHANE EDB	100.000 PPB	100.000 PPB	+/- 10%
1,2 DICHLORO PROPANE	100.000 PPB	100.000 PPB	+/- 10%
1,2 DICHLOROBENZENE	100.000 PPB	96.000 PPB	+/- 10%
1,2 DICHLOROETHANE	100.000 PPB	110.000 PPB	+/- 10%
1,2,4 TRICHLOROBENZENE	100.000 PPB	93.000 PPB	+/- 10%
1,2,4 TRIMETHYLBENZENE	100.000 PPB	100.000 PPB	+/- 10%
1,3 DICHLORO BENZENE	100.000 PPB	100.000 PPB	+/- 10%
1,3,5 TRIMETHYL BENZENE	100.000 PPB	100.000 PPB	+/- 10%
1,4 DICHLOROBENZENE	100.000 PPB	99.000 PPB	+/- 10%
BENZENE	100.000 PPB	100.000 PPB	+/- 10%
BROMOMETHANE	100.000 PPB	110.000 PPB	+/- 10%
CARBON TETRACHLORIDE	100.000 PPB	110.000 PPB	+/- 10%
CHLOROBENZENE	100.000 PPB	110.000 PPB	+/- 10%
CHLOROFORM	100.000 PPB	110.000 PPB	+/- 10%
CIS 1,2 DICHLOROETHYLENE	100.000 PPB	110.000 PPB	+/- 10%
CIS 1,3 DICHLOROPROPENE	100.000 PPB	100.000 PPB	+/- 10%
ETHYL BENZENE	100.000 PPB	110.000 PPB	+/- 10%
ETHYL CHLORIDE chloroethane	100.000 PPB	110.000 PPB	+/- 10%
HEXACHLORO 1,3 BUTADIENE	100.000 PPB	99.000 PPB	+/- 10%
M XYLENE	100.000 PPB	110.000 PPB	+/- 10%
METHYL CHLORIDE chloromethane	100.000 PPB	120.000 PPB	+/- 10%
METHYLENE CHLORIDE	100.000 PPB	110.000 PPB	+/- 10%
O XYLENE	100.000 PPB	100.000 PPB	+/- 10%
P XYLENE	100.000 PPB	110.000 PPB	+/- 10%
PERCHLOROETHYLENE	100.000 PPB	110.000 PPB	+/- 10%
R11 TRICHLOROFLUOROMETHANE	100.000 PPB	110.000 PPB	+/- 10%
R113 TRICHLOROTRIFLUOROETHANE	100.000 PPB	110.000 PPB	+/- 10%
R114 DICHLOROTETRAFLUOROETHANE	100.000 PPB	110.000 PPB	+/- 10%
R12 DICHLORODIFLUOROMETHANE	100.000 PPB	110.000 PPB	+/- 10%

Approved for Release

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2014018

Airgas Specialty Gases
Airgas USA, LLC
6141 Easton Road
Bldg 1
Plumsteadville, PA 18949
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STYRENE	100.000 PPB	100.000 PPB	+/- 10%
TOLUENE	100.000 PPB	100.000 PPB	+/- 10%
TRANS 1,3 DICHLOROPROPENE	100.000 PPB	100.000 PPB	+/- 10%
TRICHLOROETHYLENE	100.000 PPB	110.000 PPB	+/- 10%
VINYL CHLORIDE	100.000 PPB	100.000 PPB	+/- 10%
NITROGEN	Balance		

Permanent Notes: SIGMA-ALDRICH P/N 41900-U

Notes: Cylinder number: ST0000248893

PO number: P487467
Date of manufacture: 02-March-2020

Approved for Release

Analytical Standard Record

EPA Region 9 Laboratory

2014026

Description:	TO-15 CAL1 1.0 ppbv (VIRTUAL)	**Expires:**	04/30/20
Standard Type:	Other Solution	**Prepared:**	04/01/20
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	04/01/20 10:27 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
Acetone	67-64-1	0.00108
1,4-Dioxane	123-91-1	0.00104
2,2,4-Trimethylpentane	540-84-1	0.00103
2-Butanone (MEK)	78-93-3	0.00105
2-Hexanone	591-78-6	0.00103
2-Propanol	67-63-0	0.0011
Bromoform	75-25-2	0.0011
4-Methyl-2-pentanone (MIBK)	108-10-1	0.00105
1,3-Dichlorobenzene	541-73-1	0.001
Allyl chloride	107-05-1	0.0011
Benzene	71-43-2	0.00102
Benzyl chloride	100-44-7	0.0011
Bromochloromethane	74-97-5	0.0196
Bromodichloromethane	75-27-4	0.00104
1,1,1-Trichloroethane	71-55-6	0.00104
4-Ethyltoluene	622-96-8	0.00102
1,2-Dichlorobenzene	95-50-1	0.00098
1,1,2,2-Tetrachloroethane	79-34-5	0.00099
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.001
1,1,2-Trichloroethane	79-00-5	0.00102
1,1-Dichloroethane	75-34-3	0.00096
1,1-Dichloroethene	75-35-4	0.00104
1,2,4-Trichlorobenzene	120-82-1	0.0009
1,4-Difluorobenzene	540-36-3	0.0196
1,2-Dibromoethane (EDB)	106-93-4	0.00104
1,4-Dichlorobenzene	106-46-7	0.001
1,2-Dichloroethane	107-06-2	0.00099
1,2-Dichloropropane	78-87-5	0.00101
1,2-Dichlorotetrafluoroethane	76-14-2	0.00097
1,3,5-Trimethylbenzene	108-67-8	0.00102

Analytical Standard Record

EPA Region 9 Laboratory

2014026

1,3-Butadiene	106-99-0	0.00103
Bromomethane	74-83-9	0.00102
1,2,4-Trimethylbenzene	95-63-6	0.00102
Tetrahydrofuran	109-99-9	0.00101
Hexane	110-54-3	0.00102
m&p-Xylene	179601-23-1	0.00204
o-Xylene	95-47-6	0.001
Propene	115-07-1	0.0011
Styrene	100-42-5	0.00098
Bromoethene	593-60-2	0.00109
Tetrachloroethene	127-18-4	0.00102
Ethylbenzene	100-41-4	0.00103
Toluene	108-88-3	0.00102
trans-1,2-Dichloroethene	156-60-5	0.00109
trans-1,3-Dichloropropene	10061-02-6	0.00096
Trichloroethene	79-01-6	0.00108
Trichlorofluoromethane	75-69-4	0.00094
Vinyl acetate	108-05-4	0.0011
tert-Butyl methyl ether (MTBE)	1634-04-4	0.00107
cis-1,2-Dichloroethene	156-59-2	0.00101
Carbon disulfide	75-15-0	0.0011
Carbon tetrachloride	56-23-5	0.00101
Chlorobenzene	108-90-7	0.00103
Chlorobenzene-d5	3114-55-4	0.0196
Chlorodibromomethane	124-48-1	0.00109
Chloroethane	75-00-3	0.00102
Hexachlorobutadiene	87-68-3	0.00092
Chloromethane	74-87-3	0.00108
Heptane	142-82-5	0.00103
cis-1,3-Dichloropropene	10061-01-5	0.001
Cyclohexane	110-82-7	0.00103
Dichlorodifluoromethane	75-71-8	0.00102
Dichloromethane	75-09-2	0.001
Ethyl acetate	141-78-6	0.00103
Vinyl chloride	75-01-4	0.00104
Chloroform	67-66-3	0.00104

Analytical Standard Record

EPA Region 9 Laboratory

2014026

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2006146	TO-14A Internal Standard Mix, Stc	01/29/20	** Vendor **	01/29/22	02/06/20 15:46 by LLH	40
2014015	TO-15 LOW Std, 10 ppbv	03/31/20	Liza Hernandez	04/30/20	03/31/20 12:26 by LLH	20

Analytical Standard Record

EPA Region 9 Laboratory

2014027

Description:	TO-15 CAL2 2.0 ppbv (VIRTUAL)	**Expires:**	04/30/20
Standard Type:	Other Solution	**Prepared:**	04/01/20
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	04/01/20 10:28 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
Acetone	67-64-1	0.00216
1,4-Dioxane	123-91-1	0.00208
2,2,4-Trimethylpentane	540-84-1	0.00206
2-Butanone (MEK)	78-93-3	0.0021
2-Hexanone	591-78-6	0.00206
2-Propanol	67-63-0	0.0022
Bromoform	75-25-2	0.0022
4-Methyl-2-pentanone (MIBK)	108-10-1	0.0021
1,3-Dichlorobenzene	541-73-1	0.002
Allyl chloride	107-05-1	0.0022
Benzene	71-43-2	0.00204
Benzyl chloride	100-44-7	0.0022
Bromochloromethane	74-97-5	0.0196
Bromodichloromethane	75-27-4	0.00208
1,1,1-Trichloroethane	71-55-6	0.00208
4-Ethyltoluene	622-96-8	0.00204
1,2-Dichlorobenzene	95-50-1	0.00196
1,1,2,2-Tetrachloroethane	79-34-5	0.00198
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.002
1,1,2-Trichloroethane	79-00-5	0.00204
1,1-Dichloroethane	75-34-3	0.00192
1,1-Dichloroethene	75-35-4	0.00208
1,2,4-Trichlorobenzene	120-82-1	0.0018
1,4-Difluorobenzene	540-36-3	0.0196
1,2-Dibromoethane (EDB)	106-93-4	0.00208
1,4-Dichlorobenzene	106-46-7	0.002
1,2-Dichloroethane	107-06-2	0.00198
1,2-Dichloropropane	78-87-5	0.00202
1,2-Dichlorotetrafluoroethane	76-14-2	0.00194
1,3,5-Trimethylbenzene	108-67-8	0.00204

Analytical Standard Record

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2014027

1,3-Butadiene	106-99-0	0.00206
Bromomethane	74-83-9	0.00204
1,2,4-Trimethylbenzene	95-63-6	0.00204
Tetrahydrofuran	109-99-9	0.00202
Hexane	110-54-3	0.00204
m&p-Xylene	179601-23-1	0.00408
o-Xylene	95-47-6	0.002
Propene	115-07-1	0.0022
Styrene	100-42-5	0.00196
Bromoethene	593-60-2	0.00218
Tetrachloroethene	127-18-4	0.00204
Ethylbenzene	100-41-4	0.00206
Toluene	108-88-3	0.00204
trans-1,2-Dichloroethene	156-60-5	0.00218
trans-1,3-Dichloropropene	10061-02-6	0.00192
Trichloroethene	79-01-6	0.00216
Trichlorofluoromethane	75-69-4	0.00188
Vinyl acetate	108-05-4	0.0022
tert-Butyl methyl ether (MTBE)	1634-04-4	0.00214
cis-1,2-Dichloroethene	156-59-2	0.00202
Carbon disulfide	75-15-0	0.0022
Carbon tetrachloride	56-23-5	0.00202
Chlorobenzene	108-90-7	0.00206
Chlorobenzene-d5	3114-55-4	0.0196
Chlorodibromomethane	124-48-1	0.00218
Chloroethane	75-00-3	0.00204
Hexachlorobutadiene	87-68-3	0.00184
Chloromethane	74-87-3	0.00216
Heptane	142-82-5	0.00206
cis-1,3-Dichloropropene	10061-01-5	0.002
Cyclohexane	110-82-7	0.00206
Dichlorodifluoromethane	75-71-8	0.00204
Dichloromethane	75-09-2	0.002
Ethyl acetate	141-78-6	0.00206
Vinyl chloride	75-01-4	0.00208
Chloroform	67-66-3	0.00208

Analytical Standard Record

EPA Region 9 Laboratory

2014027

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2006146	TO-14A Internal Standard Mix, Stc	01/29/20	** Vendor **	01/29/22	02/06/20 15:46 by LLH	40
2014016	TO-15 CAL Std, 20 ppbv	03/31/20	Liza Hernandez	04/30/20	03/31/20 12:27 by LLH	20

Analytical Standard Record

EPA Region 9 Laboratory

2014028

Description:	TO-15 CAL3 5.0 ppbv (VIRTUAL)	**Expires:**	04/30/20
Standard Type:	Other Solution	**Prepared:**	04/01/20
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	04/01/20 10:28 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
Acetone	67-64-1	0.0054
1,4-Dioxane	123-91-1	0.0052
2,2,4-Trimethylpentane	540-84-1	0.00515
2-Butanone (MEK)	78-93-3	0.00525
2-Hexanone	591-78-6	0.00515
2-Propanol	67-63-0	0.0055
Bromoform	75-25-2	0.0055
4-Methyl-2-pentanone (MIBK)	108-10-1	0.00525
1,3-Dichlorobenzene	541-73-1	0.005
Allyl chloride	107-05-1	0.0055
Benzene	71-43-2	0.0051
Benzyl chloride	100-44-7	0.0055
Bromochloromethane	74-97-5	0.0196
Bromodichloromethane	75-27-4	0.0052
1,1,1-Trichloroethane	71-55-6	0.0052
4-Ethyltoluene	622-96-8	0.0051
1,2-Dichlorobenzene	95-50-1	0.0049
1,1,2,2-Tetrachloroethane	79-34-5	0.00495
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.005
1,1,2-Trichloroethane	79-00-5	0.0051
1,1-Dichloroethane	75-34-3	0.0048
1,1-Dichloroethene	75-35-4	0.0052
1,2,4-Trichlorobenzene	120-82-1	0.0045
1,4-Difluorobenzene	540-36-3	0.0196
1,2-Dibromoethane (EDB)	106-93-4	0.0052
1,4-Dichlorobenzene	106-46-7	0.005
1,2-Dichloroethane	107-06-2	0.00495
1,2-Dichloropropane	78-87-5	0.00505
1,2-Dichlorotetrafluoroethane	76-14-2	0.00485
1,3,5-Trimethylbenzene	108-67-8	0.0051

Analytical Standard Record

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2014028

1,3-Butadiene	106-99-0	0.00515
Bromomethane	74-83-9	0.0051
1,2,4-Trimethylbenzene	95-63-6	0.0051
Tetrahydrofuran	109-99-9	0.00505
Hexane	110-54-3	0.0051
m&p-Xylene	179601-23-1	0.0102
o-Xylene	95-47-6	0.005
Propene	115-07-1	0.0055
Styrene	100-42-5	0.0049
Bromoethene	593-60-2	0.00545
Tetrachloroethene	127-18-4	0.0051
Ethylbenzene	100-41-4	0.00515
Toluene	108-88-3	0.0051
trans-1,2-Dichloroethene	156-60-5	0.00545
trans-1,3-Dichloropropene	10061-02-6	0.0048
Trichloroethene	79-01-6	0.0054
Trichlorofluoromethane	75-69-4	0.0047
Vinyl acetate	108-05-4	0.0055
tert-Butyl methyl ether (MTBE)	1634-04-4	0.00535
cis-1,2-Dichloroethene	156-59-2	0.00505
Carbon disulfide	75-15-0	0.0055
Carbon tetrachloride	56-23-5	0.00505
Chlorobenzene	108-90-7	0.00515
Chlorobenzene-d5	3114-55-4	0.0196
Chlorodibromomethane	124-48-1	0.00545
Chloroethane	75-00-3	0.0051
Hexachlorobutadiene	87-68-3	0.0046
Chloromethane	74-87-3	0.0054
Heptane	142-82-5	0.00515
cis-1,3-Dichloropropene	10061-01-5	0.005
Cyclohexane	110-82-7	0.00515
Dichlorodifluoromethane	75-71-8	0.0051
Dichloromethane	75-09-2	0.005
Ethyl acetate	141-78-6	0.00515
Vinyl chloride	75-01-4	0.0052
Chloroform	67-66-3	0.0052

Analytical Standard Record

EPA Region 9 Laboratory

2014028

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2006146	TO-14A Internal Standard Mix, Stc	01/29/20	** Vendor **	01/29/22	02/06/20 15:46 by LLH	40
2014016	TO-15 CAL Std, 20 ppbv	03/31/20	Liza Hernandez	04/30/20	03/31/20 12:27 by LLH	50

Analytical Standard Record

EPA Region 9 Laboratory

2014029

Description:	TO-15 CAL4 10 ppbv (VIRTUAL) -	**Expires:**	04/30/20
Standard Type:	Other Solution	**Prepared:**	04/01/20
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	04/01/20 10:29 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
Acetone	67-64-1	0.0108
1,4-Dioxane	123-91-1	0.0104
2,2,4-Trimethylpentane	540-84-1	0.0103
2-Butanone (MEK)	78-93-3	0.0105
2-Hexanone	591-78-6	0.0103
2-Propanol	67-63-0	0.011
Bromoform	75-25-2	0.011
4-Methyl-2-pentanone (MIBK)	108-10-1	0.0105
1,3-Dichlorobenzene	541-73-1	0.01
Allyl chloride	107-05-1	0.011
Benzene	71-43-2	0.0102
Benzyl chloride	100-44-7	0.011
Bromochloromethane	74-97-5	0.0196
Bromodichloromethane	75-27-4	0.0104
1,1,1-Trichloroethane	71-55-6	0.0104
4-Ethyltoluene	622-96-8	0.0102
1,2-Dichlorobenzene	95-50-1	0.0098
1,1,2,2-Tetrachloroethane	79-34-5	0.0099
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.01
1,1,2-Trichloroethane	79-00-5	0.0102
1,1-Dichloroethane	75-34-3	0.0096
1,1-Dichloroethene	75-35-4	0.0104
1,2,4-Trichlorobenzene	120-82-1	0.009
1,4-Difluorobenzene	540-36-3	0.0196
1,2-Dibromoethane (EDB)	106-93-4	0.0104
1,4-Dichlorobenzene	106-46-7	0.01
1,2-Dichloroethane	107-06-2	0.0099
1,2-Dichloropropane	78-87-5	0.0101
1,2-Dichlorotetrafluoroethane	76-14-2	0.0097
1,3,5-Trimethylbenzene	108-67-8	0.0102

Analytical Standard Record

EPA Region 9 Laboratory

2014029

1,3-Butadiene	106-99-0	0.0103
Bromomethane	74-83-9	0.0102
1,2,4-Trimethylbenzene	95-63-6	0.0102
Tetrahydrofuran	109-99-9	0.0101
Hexane	110-54-3	0.0102
m&p-Xylene	179601-23-1	0.0204
o-Xylene	95-47-6	0.01
Propene	115-07-1	0.011
Styrene	100-42-5	0.0098
Bromoethene	593-60-2	0.0109
Tetrachloroethene	127-18-4	0.0102
Ethylbenzene	100-41-4	0.0103
Toluene	108-88-3	0.0102
trans-1,2-Dichloroethene	156-60-5	0.0109
trans-1,3-Dichloropropene	10061-02-6	0.0096
Trichloroethene	79-01-6	0.0108
Trichlorofluoromethane	75-69-4	0.0094
Vinyl acetate	108-05-4	0.011
tert-Butyl methyl ether (MTBE)	1634-04-4	0.0107
cis-1,2-Dichloroethene	156-59-2	0.0101
Carbon disulfide	75-15-0	0.011
Carbon tetrachloride	56-23-5	0.0101
Chlorobenzene	108-90-7	0.0103
Chlorobenzene-d5	3114-55-4	0.0196
Chlorodibromomethane	124-48-1	0.0109
Chloroethane	75-00-3	0.0102
Hexachlorobutadiene	87-68-3	0.0092
Chloromethane	74-87-3	0.0108
Heptane	142-82-5	0.0103
cis-1,3-Dichloropropene	10061-01-5	0.01
Cyclohexane	110-82-7	0.0103
Dichlorodifluoromethane	75-71-8	0.0102
Dichloromethane	75-09-2	0.01
Ethyl acetate	141-78-6	0.0103
Vinyl chloride	75-01-4	0.0104
Chloroform	67-66-3	0.0104

Analytical Standard Record

EPA Region 9 Laboratory

2014029

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2006146	TO-14A Internal Standard Mix, Stc	01/29/20	** Vendor **	01/29/22	02/06/20 15:46 by LLH	40
2014016	TO-15 CAL Std, 20 ppbv	03/31/20	Liza Hernandez	04/30/20	03/31/20 12:27 by LLH	100

Analytical Standard Record

EPA Region 9 Laboratory

2014030

Description:	TO-15 CAL5 15 ppbv (VIRTUAL)	**Expires:**	04/30/20
Standard Type:	Other Solution	**Prepared:**	04/01/20
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	04/01/20 10:29 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
Acetone	67-64-1	0.0162
1,4-Dioxane	123-91-1	0.0156
2,2,4-Trimethylpentane	540-84-1	0.0154
2-Butanone (MEK)	78-93-3	0.0158
2-Hexanone	591-78-6	0.0154
2-Propanol	67-63-0	0.0165
Bromoform	75-25-2	0.0165
4-Methyl-2-pentanone (MIBK)	108-10-1	0.0158
1,3-Dichlorobenzene	541-73-1	0.015
Allyl chloride	107-05-1	0.0165
Benzene	71-43-2	0.0153
Benzyl chloride	100-44-7	0.0165
Bromochloromethane	74-97-5	0.0196
Bromodichloromethane	75-27-4	0.0156
1,1,1-Trichloroethane	71-55-6	0.0156
4-Ethyltoluene	622-96-8	0.0153
1,2-Dichlorobenzene	95-50-1	0.0147
1,1,2,2-Tetrachloroethane	79-34-5	0.0148
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.015
1,1,2-Trichloroethane	79-00-5	0.0153
1,1-Dichloroethane	75-34-3	0.0144
1,1-Dichloroethene	75-35-4	0.0156
1,2,4-Trichlorobenzene	120-82-1	0.0135
1,4-Difluorobenzene	540-36-3	0.0196
1,2-Dibromoethane (EDB)	106-93-4	0.0156
1,4-Dichlorobenzene	106-46-7	0.015
1,2-Dichloroethane	107-06-2	0.0148
1,2-Dichloropropane	78-87-5	0.0152
1,2-Dichlorotetrafluoroethane	76-14-2	0.0146
1,3,5-Trimethylbenzene	108-67-8	0.0153

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1,3-Butadiene	106-99-0	0.0154
Bromomethane	74-83-9	0.0153
1,2,4-Trimethylbenzene	95-63-6	0.0153
Tetrahydrofuran	109-99-9	0.0152
Hexane	110-54-3	0.0153
m&p-Xylene	179601-23-1	0.0306
o-Xylene	95-47-6	0.015
Propene	115-07-1	0.0165
Styrene	100-42-5	0.0147
Bromoethene	593-60-2	0.0164
Tetrachloroethene	127-18-4	0.0153
Ethylbenzene	100-41-4	0.0154
Toluene	108-88-3	0.0153
trans-1,2-Dichloroethene	156-60-5	0.0164
trans-1,3-Dichloropropene	10061-02-6	0.0144
Trichloroethene	79-01-6	0.0162
Trichlorofluoromethane	75-69-4	0.0141
Vinyl acetate	108-05-4	0.0165
tert-Butyl methyl ether (MTBE)	1634-04-4	0.016
cis-1,2-Dichloroethene	156-59-2	0.0152
Carbon disulfide	75-15-0	0.0165
Carbon tetrachloride	56-23-5	0.0152
Chlorobenzene	108-90-7	0.0154
Chlorobenzene-d5	3114-55-4	0.0196
Chlorodibromomethane	124-48-1	0.0164
Chloroethane	75-00-3	0.0153
Hexachlorobutadiene	87-68-3	0.0138
Chloromethane	74-87-3	0.0162
Heptane	142-82-5	0.0154
cis-1,3-Dichloropropene	10061-01-5	0.015
Cyclohexane	110-82-7	0.0154
Dichlorodifluoromethane	75-71-8	0.0153
Dichloromethane	75-09-2	0.015
Ethyl acetate	141-78-6	0.0154
Vinyl chloride	75-01-4	0.0156
Chloroform	67-66-3	0.0156

Analytical Standard Record

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2014030

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2006146	TO-14A Internal Standard Mix, Stc	01/29/20	** Vendor **	01/29/22	02/06/20 15:46 by LLH	40
2014016	TO-15 CAL Std, 20 ppbv	03/31/20	Liza Hernandez	04/30/20	03/31/20 12:27 by LLH	150

Analytical Standard Record

EPA Region 9 Laboratory

2014031

Description:	TO-15 CAL6 20 ppbv (VIRTUAL)	**Expires:**	04/30/20
Standard Type:	Other Solution	**Prepared:**	04/01/20
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	04/01/20 10:30 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
Acetone	67-64-1	0.0216
1,4-Dioxane	123-91-1	0.0208
2,2,4-Trimethylpentane	540-84-1	0.0206
2-Butanone (MEK)	78-93-3	0.021
2-Hexanone	591-78-6	0.0206
2-Propanol	67-63-0	0.022
Bromoform	75-25-2	0.022
4-Methyl-2-pentanone (MIBK)	108-10-1	0.021
1,3-Dichlorobenzene	541-73-1	0.02
Allyl chloride	107-05-1	0.022
Benzene	71-43-2	0.0204
Benzyl chloride	100-44-7	0.022
Bromochloromethane	74-97-5	0.0196
Bromodichloromethane	75-27-4	0.0208
1,1,1-Trichloroethane	71-55-6	0.0208
4-Ethyltoluene	622-96-8	0.0204
1,2-Dichlorobenzene	95-50-1	0.0196
1,1,2,2-Tetrachloroethane	79-34-5	0.0198
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.02
1,1,2-Trichloroethane	79-00-5	0.0204
1,1-Dichloroethane	75-34-3	0.0192
1,1-Dichloroethene	75-35-4	0.0208
1,2,4-Trichlorobenzene	120-82-1	0.018
1,4-Difluorobenzene	540-36-3	0.0196
1,2-Dibromoethane (EDB)	106-93-4	0.0208
1,4-Dichlorobenzene	106-46-7	0.02
1,2-Dichloroethane	107-06-2	0.0198
1,2-Dichloropropane	78-87-5	0.0202
1,2-Dichlorotetrafluoroethane	76-14-2	0.0194
1,3,5-Trimethylbenzene	108-67-8	0.0204

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1,3-Butadiene	106-99-0	0.0206
Bromomethane	74-83-9	0.0204
1,2,4-Trimethylbenzene	95-63-6	0.0204
Tetrahydrofuran	109-99-9	0.0202
Hexane	110-54-3	0.0204
m&p-Xylene	179601-23-1	0.0408
o-Xylene	95-47-6	0.02
Propene	115-07-1	0.022
Styrene	100-42-5	0.0196
Bromoethene	593-60-2	0.0218
Tetrachloroethene	127-18-4	0.0204
Ethylbenzene	100-41-4	0.0206
Toluene	108-88-3	0.0204
trans-1,2-Dichloroethene	156-60-5	0.0218
trans-1,3-Dichloropropene	10061-02-6	0.0192
Trichloroethene	79-01-6	0.0216
Trichlorofluoromethane	75-69-4	0.0188
Vinyl acetate	108-05-4	0.022
tert-Butyl methyl ether (MTBE)	1634-04-4	0.0214
cis-1,2-Dichloroethene	156-59-2	0.0202
Carbon disulfide	75-15-0	0.022
Carbon tetrachloride	56-23-5	0.0202
Chlorobenzene	108-90-7	0.0206
Chlorobenzene-d5	3114-55-4	0.0196
Chlorodibromomethane	124-48-1	0.0218
Chloroethane	75-00-3	0.0204
Hexachlorobutadiene	87-68-3	0.0184
Chloromethane	74-87-3	0.0216
Heptane	142-82-5	0.0206
cis-1,3-Dichloropropene	10061-01-5	0.02
Cyclohexane	110-82-7	0.0206
Dichlorodifluoromethane	75-71-8	0.0204
Dichloromethane	75-09-2	0.02
Ethyl acetate	141-78-6	0.0206
Vinyl chloride	75-01-4	0.0208
Chloroform	67-66-3	0.0208

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2014031

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2006146	TO-14A Internal Standard Mix, Stc	01/29/20	** Vendor **	01/29/22	02/06/20 15:46 by LLH	40
2014016	TO-15 CAL Std, 20 ppbv	03/31/20	Liza Hernandez	04/30/20	03/31/20 12:27 by LLH	200

Analytical Standard Record

EPA Region 9 Laboratory

2014033

Description:	TO-15 SCV 10 ppbv (VIRTUAL)	**Expires:**	04/30/20
Standard Type:	Other Solution	**Prepared:**	04/01/20
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	04/01/20 10:31 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
Acetone	67-64-1	0.01
1,4-Dioxane	123-91-1	0.011
2,2,4-Trimethylpentane	540-84-1	0.011
2-Butanone (MEK)	78-93-3	0.011
2-Hexanone	591-78-6	0.011
2-Propanol	67-63-0	0.0085
Bromoform	75-25-2	0.012
4-Methyl-2-pentanone (MIBK)	108-10-1	0.011
1,3-Dichlorobenzene	541-73-1	0.01
Allyl chloride	107-05-1	0.012
Benzene	71-43-2	0.01
Benzyl chloride	100-44-7	0.011
Bromochloromethane	74-97-5	0.0196
Bromodichloromethane	75-27-4	0.011
1,1,1-Trichloroethane	71-55-6	0.011
4-Ethyltoluene	622-96-8	0.011
1,2-Dichlorobenzene	95-50-1	0.0096
1,1,2,2-Tetrachloroethane	79-34-5	0.0099
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.011
1,1,2-Trichloroethane	79-00-5	0.01
1,1-Dichloroethane	75-34-3	0.011
1,1-Dichloroethene	75-35-4	0.011
1,2,4-Trichlorobenzene	120-82-1	0.0093
1,4-Difluorobenzene	540-36-3	0.0196
1,2-Dibromoethane (EDB)	106-93-4	0.01
1,4-Dichlorobenzene	106-46-7	0.0099
1,2-Dichloroethane	107-06-2	0.011
1,2-Dichloropropane	78-87-5	0.01
1,2-Dichlorotetrafluoroethane	76-14-2	0.011
1,3,5-Trimethylbenzene	108-67-8	0.01

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2014033

1,3-Butadiene	106-99-0	0.01
Bromomethane	74-83-9	0.011
1,2,4-Trimethylbenzene	95-63-6	0.01
Tetrahydrofuran	109-99-9	0.0095
Hexane	110-54-3	0.011
m&p-Xylene	179601-23-1	0.022
o-Xylene	95-47-6	0.01
Propene	115-07-1	0.01
Styrene	100-42-5	0.01
Bromoethene	593-60-2	0.011
Tetrachloroethene	127-18-4	0.011
Ethylbenzene	100-41-4	0.011
Toluene	108-88-3	0.01
trans-1,2-Dichloroethene	156-60-5	0.01
trans-1,3-Dichloropropene	10061-02-6	0.01
Trichloroethene	79-01-6	0.011
Trichlorofluoromethane	75-69-4	0.011
Vinyl acetate	108-05-4	0.011
tert-Butyl methyl ether (MTBE)	1634-04-4	0.011
cis-1,2-Dichloroethene	156-59-2	0.011
Carbon disulfide	75-15-0	0.012
Carbon tetrachloride	56-23-5	0.011
Chlorobenzene	108-90-7	0.011
Chlorobenzene-d5	3114-55-4	0.0196
Chlorodibromomethane	124-48-1	0.011
Chloroethane	75-00-3	0.011
Hexachlorobutadiene	87-68-3	0.0099
Chloromethane	74-87-3	0.012
Heptane	142-82-5	0.011
cis-1,3-Dichloropropene	10061-01-5	0.01
Cyclohexane	110-82-7	0.011
Dichlorodifluoromethane	75-71-8	0.011
Dichloromethane	75-09-2	0.011
Ethyl acetate	141-78-6	0.011
Vinyl chloride	75-01-4	0.01
Chloroform	67-66-3	0.011

Analytical Standard Record

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2014033

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2006146	TO-14A Internal Standard Mix, Stc	01/29/20	** Vendor **	01/29/22	02/06/20 15:46 by LLH	40
2014017	TO-15 SCV 10 ppbv (VIRTUAL)	03/31/20	Liza Hernandez	04/30/20	04/01/20 10:13 by LLH	200

Analytical Standard Record

EPA Region 9 Laboratory

2018022

Description:	TO-15 LOW Std, 10 ppbv	**Expires:**	05/29/20
Standard Type:	Other Solution	**Prepared:**	04/30/20
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	2500	**Department:**	Air
Vials:	2	**Last Edit:**	04/30/20 09:45 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
1,3-Butadiene	106-99-0	0.0103
Bromoethene	593-60-2	0.0109
Bromodichloromethane	75-27-4	0.0104
Benzyl chloride	100-44-7	0.011
Benzene	71-43-2	0.0102
Allyl chloride	107-05-1	0.011
Acetone	67-64-1	0.0108
4-Methyl-2-pentanone (MIBK)	108-10-1	0.0105
4-Ethyltoluene	622-96-8	0.0102
2-Propanol	67-63-0	0.011
2-Hexanone	591-78-6	0.0103
2-Butanone (MEK)	78-93-3	0.0105
2,2,4-Trimethylpentane	540-84-1	0.0103
1,4-Dioxane	123-91-1	0.0104
1,1,1-Trichloroethane	71-55-6	0.0104
1,2-Dibromoethane (EDB)	106-93-4	0.0104
1,1,2,2-Tetrachloroethane	79-34-5	0.0099
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.01
1,1,2-Trichloroethane	79-00-5	0.0102
1,1-Dichloroethane	75-34-3	0.0096
1,1-Dichloroethene	75-35-4	0.0104
1,4-Dichlorobenzene	106-46-7	0.01
1,2,4-Trimethylbenzene	95-63-6	0.0102
1,3-Dichlorobenzene	541-73-1	0.01
1,2-Dichlorobenzene	95-50-1	0.0098
1,2-Dichloroethane	107-06-2	0.0099
1,2-Dichloropropane	78-87-5	0.0101
1,2-Dichlorotetrafluoroethane	76-14-2	0.0097
1,3,5-Trimethylbenzene	108-67-8	0.0102
Carbon disulfide	75-15-0	0.011

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1,2,4-Trichlorobenzene	120-82-1	0.009
Tetrahydrofuran	109-99-9	0.0101
Bromoform	75-25-2	0.011
m&p-Xylene	179601-23-1	0.0204
o-Xylene	95-47-6	0.01
Propene	115-07-1	0.011
Styrene	100-42-5	0.0098
Hexachlorobutadiene	87-68-3	0.0092
Tetrachloroethene	127-18-4	0.0102
Heptane	142-82-5	0.0103
Toluene	108-88-3	0.0102
trans-1,2-Dichloroethene	156-60-5	0.0109
trans-1,3-Dichloropropene	10061-02-6	0.0096
Trichloroethene	79-01-6	0.0108
Trichlorofluoromethane	75-69-4	0.0094
Vinyl acetate	108-05-4	0.011
tert-Butyl methyl ether (MTBE)	1634-04-4	0.0107
cis-1,2-Dichloroethene	156-59-2	0.0101
Vinyl chloride	75-01-4	0.0104
Carbon tetrachloride	56-23-5	0.0101
Chlorobenzene	108-90-7	0.0103
Chlorodibromomethane	124-48-1	0.0109
Chloroethane	75-00-3	0.0102
Hexane	110-54-3	0.0102
Chloromethane	74-87-3	0.0108
Bromomethane	74-83-9	0.0102
cis-1,3-Dichloropropene	10061-01-5	0.01
Cyclohexane	110-82-7	0.0103
Dichlorodifluoromethane	75-71-8	0.0102
Dichloromethane	75-09-2	0.01
Ethyl acetate	141-78-6	0.0103
Ethylbenzene	100-41-4	0.0103
Chloroform	67-66-3	0.0104

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1841026	TO-14A 39 Component Mix Stand	09/17/18	** Vendor **	09/17/20	09/18/19 13:14 by EM	25
1835117	TO-15 25 Compound Subset Stand	08/16/18	** Vendor **	08/16/20	11/14/19 15:08 by EM	25

Analytical Standard Record

EPA Region 9 Laboratory

2018023

Description:	TO-15 CAL Std, 20 ppbv	**Expires:**	05/29/20
Standard Type:	Other Solution	**Prepared:**	04/30/20
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	2500	**Department:**	Air
Vials:	2	**Last Edit:**	04/30/20 09:46 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
1,3-Butadiene	106-99-0	0.0206
Bromoethene	593-60-2	0.0218
Bromodichloromethane	75-27-4	0.0208
Benzyl chloride	100-44-7	0.022
Benzene	71-43-2	0.0204
Allyl chloride	107-05-1	0.022
Acetone	67-64-1	0.0216
4-Methyl-2-pentanone (MIBK)	108-10-1	0.021
4-Ethyltoluene	622-96-8	0.0204
2-Propanol	67-63-0	0.022
2-Hexanone	591-78-6	0.0206
2-Butanone (MEK)	78-93-3	0.021
2,2,4-Trimethylpentane	540-84-1	0.0206
1,4-Dioxane	123-91-1	0.0208
1,1,1-Trichloroethane	71-55-6	0.0208
1,2-Dibromoethane (EDB)	106-93-4	0.0208
1,1,2,2-Tetrachloroethane	79-34-5	0.0198
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.02
1,1,2-Trichloroethane	79-00-5	0.0204
1,1-Dichloroethane	75-34-3	0.0192
1,1-Dichloroethene	75-35-4	0.0208
1,4-Dichlorobenzene	106-46-7	0.02
1,2,4-Trimethylbenzene	95-63-6	0.0204
1,3-Dichlorobenzene	541-73-1	0.02
1,2-Dichlorobenzene	95-50-1	0.0196
1,2-Dichloroethane	107-06-2	0.0198
1,2-Dichloropropane	78-87-5	0.0202
1,2-Dichlorotetrafluoroethane	76-14-2	0.0194
1,3,5-Trimethylbenzene	108-67-8	0.0204
Carbon disulfide	75-15-0	0.022

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1,2,4-Trichlorobenzene	120-82-1	0.018
Tetrahydrofuran	109-99-9	0.0202
Bromoform	75-25-2	0.022
m&p-Xylene	179601-23-1	0.0408
o-Xylene	95-47-6	0.02
Propene	115-07-1	0.022
Styrene	100-42-5	0.0196
Hexachlorobutadiene	87-68-3	0.0184
Tetrachloroethene	127-18-4	0.0204
Heptane	142-82-5	0.0206
Toluene	108-88-3	0.0204
trans-1,2-Dichloroethene	156-60-5	0.0218
trans-1,3-Dichloropropene	10061-02-6	0.0192
Trichloroethene	79-01-6	0.0216
Trichlorofluoromethane	75-69-4	0.0188
Vinyl acetate	108-05-4	0.022
tert-Butyl methyl ether (MTBE)	1634-04-4	0.0214
cis-1,2-Dichloroethene	156-59-2	0.0202
Vinyl chloride	75-01-4	0.0208
Carbon tetrachloride	56-23-5	0.0202
Chlorobenzene	108-90-7	0.0206
Chlorodibromomethane	124-48-1	0.0218
Chloroethane	75-00-3	0.0204
Hexane	110-54-3	0.0204
Chloromethane	74-87-3	0.0216
Bromomethane	74-83-9	0.0204
cis-1,3-Dichloropropene	10061-01-5	0.02
Cyclohexane	110-82-7	0.0206
Dichlorodifluoromethane	75-71-8	0.0204
Dichloromethane	75-09-2	0.02
Ethyl acetate	141-78-6	0.0206
Ethylbenzene	100-41-4	0.0206
Chloroform	67-66-3	0.0208

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1841026	TO-14A 39 Component Mix Stand	09/17/18	** Vendor **	09/17/20	09/18/19 13:14 by EM	50
1835117	TO-15 25 Compound Subset Stand	08/16/18	** Vendor **	08/16/20	11/14/19 15:08 by EM	50

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2018024

Description:	TO-15 CAL1 1.0 ppbv (VIRTUAL)	**Expires:**	05/29/20
Standard Type:	Other Solution	**Prepared:**	04/30/20
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	04/30/20 09:47 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
Acetone	67-64-1	0.00108
1,4-Dioxane	123-91-1	0.00104
2,2,4-Trimethylpentane	540-84-1	0.00103
2-Butanone (MEK)	78-93-3	0.00105
2-Hexanone	591-78-6	0.00103
2-Propanol	67-63-0	0.0011
Bromoform	75-25-2	0.0011
4-Methyl-2-pentanone (MIBK)	108-10-1	0.00105
1,3-Dichlorobenzene	541-73-1	0.001
Allyl chloride	107-05-1	0.0011
Benzene	71-43-2	0.00102
Benzyl chloride	100-44-7	0.0011
Bromochloromethane	74-97-5	0.0196
Bromodichloromethane	75-27-4	0.00104
1,1,1-Trichloroethane	71-55-6	0.00104
4-Ethyltoluene	622-96-8	0.00102
1,2-Dichlorobenzene	95-50-1	0.00098
1,1,2,2-Tetrachloroethane	79-34-5	0.00099
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.001
1,1,2-Trichloroethane	79-00-5	0.00102
1,1-Dichloroethane	75-34-3	0.00096
1,1-Dichloroethene	75-35-4	0.00104
1,2,4-Trichlorobenzene	120-82-1	0.0009
1,4-Difluorobenzene	540-36-3	0.0196
1,2-Dibromoethane (EDB)	106-93-4	0.00104
1,4-Dichlorobenzene	106-46-7	0.001
1,2-Dichloroethane	107-06-2	0.00099
1,2-Dichloropropane	78-87-5	0.00101
1,2-Dichlorotetrafluoroethane	76-14-2	0.00097
1,3,5-Trimethylbenzene	108-67-8	0.00102

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1,3-Butadiene	106-99-0	0.00103
Bromomethane	74-83-9	0.00102
1,2,4-Trimethylbenzene	95-63-6	0.00102
Tetrahydrofuran	109-99-9	0.00101
Hexane	110-54-3	0.00102
m&p-Xylene	179601-23-1	0.00204
o-Xylene	95-47-6	0.001
Propene	115-07-1	0.0011
Styrene	100-42-5	0.00098
Bromoethene	593-60-2	0.00109
Tetrachloroethene	127-18-4	0.00102
Ethylbenzene	100-41-4	0.00103
Toluene	108-88-3	0.00102
trans-1,2-Dichloroethene	156-60-5	0.00109
trans-1,3-Dichloropropene	10061-02-6	0.00096
Trichloroethene	79-01-6	0.00108
Trichlorofluoromethane	75-69-4	0.00094
Vinyl acetate	108-05-4	0.0011
tert-Butyl methyl ether (MTBE)	1634-04-4	0.00107
cis-1,2-Dichloroethene	156-59-2	0.00101
Carbon disulfide	75-15-0	0.0011
Carbon tetrachloride	56-23-5	0.00101
Chlorobenzene	108-90-7	0.00103
Chlorobenzene-d5	3114-55-4	0.0196
Chlorodibromomethane	124-48-1	0.00109
Chloroethane	75-00-3	0.00102
Hexachlorobutadiene	87-68-3	0.00092
Chloromethane	74-87-3	0.00108
Heptane	142-82-5	0.00103
cis-1,3-Dichloropropene	10061-01-5	0.001
Cyclohexane	110-82-7	0.00103
Dichlorodifluoromethane	75-71-8	0.00102
Dichloromethane	75-09-2	0.001
Ethyl acetate	141-78-6	0.00103
Vinyl chloride	75-01-4	0.00104
Chloroform	67-66-3	0.00104

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2018024

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2006146	TO-14A Internal Standard Mix, Sto	01/29/20	** Vendor **	01/29/22	02/06/20 15:46 by LLH	40
2018022	TO-15 LOW Std, 10 ppbv	04/30/20	Liza Hernandez	05/29/20	04/30/20 09:45 by LLH	20

Analytical Standard Record

EPA Region 9 Laboratory

2018025

Description:	TO-15 CAL4 10 ppbv (VIRTUAL) -	**Expires:**	05/29/20
Standard Type:	Other Solution	**Prepared:**	04/30/20
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	04/30/20 09:48 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
Acetone	67-64-1	0.0108
1,4-Dioxane	123-91-1	0.0104
2,2,4-Trimethylpentane	540-84-1	0.0103
2-Butanone (MEK)	78-93-3	0.0105
2-Hexanone	591-78-6	0.0103
2-Propanol	67-63-0	0.011
Bromoform	75-25-2	0.011
4-Methyl-2-pentanone (MIBK)	108-10-1	0.0105
1,3-Dichlorobenzene	541-73-1	0.01
Allyl chloride	107-05-1	0.011
Benzene	71-43-2	0.0102
Benzyl chloride	100-44-7	0.011
Bromochloromethane	74-97-5	0.0196
Bromodichloromethane	75-27-4	0.0104
1,1,1-Trichloroethane	71-55-6	0.0104
4-Ethyltoluene	622-96-8	0.0102
1,2-Dichlorobenzene	95-50-1	0.0098
1,1,2,2-Tetrachloroethane	79-34-5	0.0099
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.01
1,1,2-Trichloroethane	79-00-5	0.0102
1,1-Dichloroethane	75-34-3	0.0096
1,1-Dichloroethene	75-35-4	0.0104
1,2,4-Trichlorobenzene	120-82-1	0.009
1,4-Difluorobenzene	540-36-3	0.0196
1,2-Dibromoethane (EDB)	106-93-4	0.0104
1,4-Dichlorobenzene	106-46-7	0.01
1,2-Dichloroethane	107-06-2	0.0099
1,2-Dichloropropane	78-87-5	0.0101
1,2-Dichlorotetrafluoroethane	76-14-2	0.0097
1,3,5-Trimethylbenzene	108-67-8	0.0102

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1,3-Butadiene	106-99-0	0.0103
Bromomethane	74-83-9	0.0102
1,2,4-Trimethylbenzene	95-63-6	0.0102
Tetrahydrofuran	109-99-9	0.0101
Hexane	110-54-3	0.0102
m&p-Xylene	179601-23-1	0.0204
o-Xylene	95-47-6	0.01
Propene	115-07-1	0.011
Styrene	100-42-5	0.0098
Bromoethene	593-60-2	0.0109
Tetrachloroethene	127-18-4	0.0102
Ethylbenzene	100-41-4	0.0103
Toluene	108-88-3	0.0102
trans-1,2-Dichloroethene	156-60-5	0.0109
trans-1,3-Dichloropropene	10061-02-6	0.0096
Trichloroethene	79-01-6	0.0108
Trichlorofluoromethane	75-69-4	0.0094
Vinyl acetate	108-05-4	0.011
tert-Butyl methyl ether (MTBE)	1634-04-4	0.0107
cis-1,2-Dichloroethene	156-59-2	0.0101
Carbon disulfide	75-15-0	0.011
Carbon tetrachloride	56-23-5	0.0101
Chlorobenzene	108-90-7	0.0103
Chlorobenzene-d5	3114-55-4	0.0196
Chlorodibromomethane	124-48-1	0.0109
Chloroethane	75-00-3	0.0102
Hexachlorobutadiene	87-68-3	0.0092
Chloromethane	74-87-3	0.0108
Heptane	142-82-5	0.0103
cis-1,3-Dichloropropene	10061-01-5	0.01
Cyclohexane	110-82-7	0.0103
Dichlorodifluoromethane	75-71-8	0.0102
Dichloromethane	75-09-2	0.01
Ethyl acetate	141-78-6	0.0103
Vinyl chloride	75-01-4	0.0104
Chloroform	67-66-3	0.0104

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2018025

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2006146	TO-14A Internal Standard Mix, Sto	01/29/20	** Vendor **	01/29/22	02/06/20 15:46 by LLH	40
2018023	TO-15 CAL Std, 20 ppbv	04/30/20	Liza Hernandez	05/29/20	04/30/20 09:46 by LLH	100

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2018026

Description:	TO-15 BS1 (VIRTUAL)	**Expires:**	05/29/20
Standard Type:	Analyte Spike	**Prepared:**	04/30/20
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	04/30/20 09:49 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
Acetone	67-64-1	0.0216
1,4-Dioxane	123-91-1	0.0208
2,2,4-Trimethylpentane	540-84-1	0.0206
2-Butanone (MEK)	78-93-3	0.021
2-Hexanone	591-78-6	0.0206
2-Propanol	67-63-0	0.022
Bromoform	75-25-2	0.022
4-Methyl-2-pentanone (MIBK)	108-10-1	0.021
1,3-Dichlorobenzene	541-73-1	0.02
Allyl chloride	107-05-1	0.022
Benzene	71-43-2	0.0204
Benzyl chloride	100-44-7	0.022
Bromochloromethane	74-97-5	0.0196
Bromodichloromethane	75-27-4	0.0208
1,1,1-Trichloroethane	71-55-6	0.0208
4-Ethyltoluene	622-96-8	0.0204
1,2-Dichlorobenzene	95-50-1	0.0196
1,1,2,2-Tetrachloroethane	79-34-5	0.0198
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.02
1,1,2-Trichloroethane	79-00-5	0.0204
1,1-Dichloroethane	75-34-3	0.0192
1,1-Dichloroethene	75-35-4	0.0208
1,2,4-Trichlorobenzene	120-82-1	0.018
1,4-Difluorobenzene	540-36-3	0.0196
1,2-Dibromoethane (EDB)	106-93-4	0.0208
1,4-Dichlorobenzene	106-46-7	0.02
1,2-Dichloroethane	107-06-2	0.0198
1,2-Dichloropropane	78-87-5	0.0202
1,2-Dichlorotetrafluoroethane	76-14-2	0.0194
1,3,5-Trimethylbenzene	108-67-8	0.0204

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1,3-Butadiene	106-99-0	0.0206
Bromomethane	74-83-9	0.0204
1,2,4-Trimethylbenzene	95-63-6	0.0204
Tetrahydrofuran	109-99-9	0.0202
Hexane	110-54-3	0.0204
m&p-Xylene	179601-23-1	0.0408
o-Xylene	95-47-6	0.02
Propene	115-07-1	0.022
Styrene	100-42-5	0.0196
Bromoethene	593-60-2	0.0218
Tetrachloroethene	127-18-4	0.0204
Ethylbenzene	100-41-4	0.0206
Toluene	108-88-3	0.0204
trans-1,2-Dichloroethene	156-60-5	0.0218
trans-1,3-Dichloropropene	10061-02-6	0.0192
Trichloroethene	79-01-6	0.0216
Trichlorofluoromethane	75-69-4	0.0188
Vinyl acetate	108-05-4	0.022
tert-Butyl methyl ether (MTBE)	1634-04-4	0.0214
cis-1,2-Dichloroethene	156-59-2	0.0202
Carbon disulfide	75-15-0	0.022
Carbon tetrachloride	56-23-5	0.0202
Chlorobenzene	108-90-7	0.0206
Chlorobenzene-d5	3114-55-4	0.0196
Chlorodibromomethane	124-48-1	0.0218
Chloroethane	75-00-3	0.0204
Hexachlorobutadiene	87-68-3	0.0184
Chloromethane	74-87-3	0.0216
Heptane	142-82-5	0.0206
cis-1,3-Dichloropropene	10061-01-5	0.02
Cyclohexane	110-82-7	0.0206
Dichlorodifluoromethane	75-71-8	0.0204
Dichloromethane	75-09-2	0.02
Ethyl acetate	141-78-6	0.0206
Vinyl chloride	75-01-4	0.0208
Chloroform	67-66-3	0.0208

Analytical Standard Record

EPA Region 9 Laboratory

2018026

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
2006146	TO-14A Internal Standard Mix, Sto	01/29/20	** Vendor **	01/29/22	02/06/20 15:46 by LLH	40
2018023	TO-15 CAL Std, 20 ppbv	04/30/20	Liza Hernandez	05/29/20	04/30/20 09:46 by LLH	200