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United States Environmental Protection Agency
Region 9 Laboratory

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

Date: **11/22/2016**

Subject: **Analytical Testing Results - Project R17S16**
SDG: 163312A

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 October 2016 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 Eugenia McNaughton 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**		**SDG:**	163312A
Project Number:	R17S16	**75 Hawthorne Street**		**Reported:**	11/22/16 15:17
Project:	MEW October 2016 Investigation	**San Francisco CA, 94105**			

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
870 Leong-SS1	1611021-01	Air	11/06/16 13:10	11/07/16 12:50
870 Leong-SS1D	1611021-02	Air	11/06/16 13:13	11/07/16 12:50
870 Leong-SS2	1611021-03	Air	11/06/16 13:24	11/07/16 12:50
870 Leong-SS3	1611021-04	Air	11/06/16 13:30	11/07/16 12:50
870 Leong-SS4	1611021-05	Air	11/06/16 13:38	11/07/16 12:50
870 Leong-SS5	1611021-06	Air	11/06/16 13:49	11/07/16 12:50
870 Leong-SS5X	1611021-07	Air	11/06/16 13:44	11/07/16 12:50
870 Leong-SS6	1611021-08	Air	11/06/16 13:58	11/07/16 12:50
F5-060	1611021-09	Air	11/06/16 14:10	11/07/16 12:50
F5-054	1611021-10	Air	11/06/16 14:16	11/07/16 12:50

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Project Number: R17S16	**75 Hawthorne Street**	**Reported:** 11/22/16 15:17
Project: MEW October 2016 Investigation	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1611021-01									**Air - Sampled: 11/06/16 13:10**
Sample ID: 870 Leong-SS1									**Volatile Organic Compounds by TO-15**
Vinyl chloride		ND	U	5	ug/m³ Air	B16K032	11/08/16	11/08/16	TO-15
1,1-Dichloroethene		ND	U	7	"	"	"	"	TO-15
trans-1,2-Dichloroethene		100		7	"	"	"	"	TO-15
1,1-Dichloroethane		ND	U	7	"	"	"	"	TO-15
cis-1,2-Dichloroethene	RE2	100		90	"	B16K055	11/09/16	11/11/16	TO-15
Chloroform		ND	U	9	"	B16K032	11/08/16	11/08/16	TO-15
Benzene		ND	U	6	"	"	"	"	TO-15
Trichloroethene	RE1	5,200		300	"	B16K042	11/09/16	11/09/16	TO-15
Tetrachloroethene		ND	U	10	"	B16K032	11/08/16	11/08/16	TO-15
Ethane, difluoro-		5,200	N TIC, J		"	"	"	"	TO-15
Lab ID: 1611021-02									**Air - Sampled: 11/06/16 13:13**
Sample ID: 870 Leong-SS1D									**Volatile Organic Compounds by TO-15**
Vinyl chloride		ND	U	5	ug/m³ Air	B16K032	11/08/16	11/08/16	TO-15
1,1-Dichloroethene		ND	U	7	"	"	"	"	TO-15
trans-1,2-Dichloroethene		100		7	"	"	"	"	TO-15
1,1-Dichloroethane		ND	U	7	"	"	"	"	TO-15
cis-1,2-Dichloroethene	RE2	100		90	"	B16K055	11/09/16	11/11/16	TO-15
Chloroform		ND	U	9	"	B16K032	11/08/16	11/08/16	TO-15
Benzene		ND	U	6	"	"	"	"	TO-15
Trichloroethene	RE1	4,700		300	"	B16K042	11/09/16	11/09/16	TO-15
Tetrachloroethene		ND	U	10	"	B16K032	11/08/16	11/08/16	TO-15
Ethane, difluoro-		1,500	N TIC, J		"	"	"	"	TO-15
Lab ID: 1611021-03									**Air - Sampled: 11/06/16 13:24**
Sample ID: 870 Leong-SS2									**Volatile Organic Compounds by TO-15**
Vinyl chloride		ND	U	5	ug/m³ Air	B16K032	11/08/16	11/08/16	TO-15
1,1-Dichloroethene		ND	U	7	"	"	"	"	TO-15
trans-1,2-Dichloroethene	RE1	200	C1	200	"	B16K042	11/09/16	11/09/16	TO-15
1,1-Dichloroethane		ND	U	7	"	B16K032	11/08/16	11/08/16	TO-15
cis-1,2-Dichloroethene	RE1	100	C1, J	200	"	B16K042	11/09/16	11/09/16	TO-15
Chloroform		5	C1, J	9	"	B16K032	11/08/16	11/08/16	TO-15
Benzene		ND	U	6	"	"	"	"	TO-15
Trichloroethene	RE2	8,600		600	"	B16K042	11/09/16	11/09/16	TO-15
Tetrachloroethene		ND	U	10	"	B16K032	11/08/16	11/08/16	TO-15
Ethane, difluoro-		400	N TIC, J		"	"	"	"	TO-15
Lab ID: 1611021-04									**Air - Sampled: 11/06/16 13:30**
Sample ID: 870 Leong-SS3									**Volatile Organic Compounds by TO-15**
Vinyl chloride		ND	U	5	ug/m³ Air	B16K032	11/08/16	11/08/16	TO-15
1,1-Dichloroethene		ND	U	7	"	"	"	"	TO-15

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Project Manager: Alana Lee	**California Site Cleanup Section 3**	**SDG:** 163312A	
Project Number: R17S16	**75 Hawthorne Street**	**Reported:** 11/22/16 15:17	
Project: MEW October 2016 Investigation	**San Francisco CA, 94105**		

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1611021-04									**Air - Sampled: 11/06/16 13:30**
Sample ID: 870 Leong-SS3									**Volatile Organic Compounds by TO-15**
trans-1,2-Dichloroethene		30		7	ug/m³ Air	B16K032	11/08/16	11/08/16	TO-15
1,1-Dichloroethane		ND	U	7	"	"	"	"	TO-15
cis-1,2-Dichloroethene		60		7	"	"	"	"	TO-15
Chloroform		5	C1, J	9	"	"	"	"	TO-15
Benzene		ND	U	6	"	"	"	"	TO-15
Trichloroethene	RE1	2,300		300	"	B16K042	11/09/16	11/09/16	TO-15
Tetrachloroethene		ND	U	10	"	B16K032	11/08/16	11/08/16	TO-15
Ethane, difluoro-		400	N TIC, J		"	"	"	"	TO-15
Lab ID: 1611021-05									**Air - Sampled: 11/06/16 13:38**
Sample ID: 870 Leong-SS4									**Volatile Organic Compounds by TO-15**
Vinyl chloride		ND	U	5	ug/m³ Air	B16K032	11/08/16	11/08/16	TO-15
1,1-Dichloroethene		ND	U	8	"	"	"	"	TO-15
trans-1,2-Dichloroethene		50		8	"	"	"	"	TO-15
1,1-Dichloroethane		ND	U	8	"	"	"	"	TO-15
cis-1,2-Dichloroethene		80		8	"	"	"	"	TO-15
Chloroform		ND	U	9	"	"	"	"	TO-15
Benzene		ND	U	6	"	"	"	"	TO-15
Trichloroethene	RE1	2,500		400	"	B16K042	11/09/16	11/09/16	TO-15
Tetrachloroethene		ND	U	10	"	B16K032	11/08/16	11/08/16	TO-15
Ethane, difluoro-		700	N TIC, J		"	"	"	"	TO-15
Lab ID: 1611021-06									**Air - Sampled: 11/06/16 13:49**
Sample ID: 870 Leong-SS5									**Volatile Organic Compounds by TO-15**
Vinyl chloride		ND	U	5	ug/m³ Air	B16K032	11/08/16	11/08/16	TO-15
1,1-Dichloroethene		ND	U	8	"	"	"	"	TO-15
trans-1,2-Dichloroethene		90		8	"	"	"	"	TO-15
1,1-Dichloroethane		ND	U	8	"	"	"	"	TO-15
cis-1,2-Dichloroethene		30		8	"	"	"	"	TO-15
Chloroform		ND	U	10	"	"	"	"	TO-15
Benzene		ND	U	7	"	"	"	"	TO-15
Trichloroethene	RE1	3,800		400	"	B16K042	11/09/16	11/09/16	TO-15
Tetrachloroethene		ND	U	10	"	B16K032	11/08/16	11/08/16	TO-15
Ethane, difluoro-		1,300	N TIC, J		"	"	"	"	TO-15
Lab ID: 1611021-07									**Air - Sampled: 11/06/16 13:44**
Sample ID: 870 Leong-SS5X									**Volatile Organic Compounds by TO-15**
Vinyl chloride		ND	U	5	ug/m³ Air	B16K032	11/08/16	11/08/16	TO-15
1,1-Dichloroethene		ND	U	7	"	"	"	"	TO-15
trans-1,2-Dichloroethene		90		7	"	"	"	"	TO-15
1,1-Dichloroethane		ND	U	7	"	"	"	"	TO-15

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Project Number: R17S16	**75 Hawthorne Street**	**Reported:** 11/22/16 15:17
Project: MEW October 2016 Investigation	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1611021-07									**Air - Sampled: 11/06/16 13:44**
Sample ID: 870 Leong-SS5X									**Volatile Organic Compounds by TO-15**
cis-1,2-Dichloroethene		20		7	ug/m³ Air	B16K032	11/08/16	11/08/16	TO-15
Chloroform		ND	U	9	"	"	"	"	TO-15
Benzene		ND	U	6	"	"	"	"	TO-15
Trichloroethene	RE1	3,200		400	"	B16K042	11/09/16	11/09/16	TO-15
Tetrachloroethene		ND	U	10	"	B16K032	11/08/16	11/08/16	TO-15
Ethane, difluoro-		200	N TIC, J		"	"	"	"	TO-15
Lab ID: 1611021-08									**Air - Sampled: 11/06/16 13:58**
Sample ID: 870 Leong-SS6									**Volatile Organic Compounds by TO-15**
Vinyl chloride		ND	U	5	ug/m³ Air	B16K032	11/08/16	11/08/16	TO-15
1,1-Dichloroethene		ND	U	7	"	"	"	"	TO-15
trans-1,2-Dichloroethene		100		7	"	"	"	"	TO-15
1,1-Dichloroethane		ND	U	7	"	"	"	"	TO-15
cis-1,2-Dichloroethene	RE2	200		100	"	B16K055	11/09/16	11/11/16	TO-15
Chloroform		4	C1, J	9	"	B16K032	11/08/16	11/08/16	TO-15
Benzene		ND	U	6	"	"	"	"	TO-15
Trichloroethene	RE1	5,800		400	"	B16K042	11/09/16	11/09/16	TO-15
Tetrachloroethene		ND	U	10	"	B16K032	11/08/16	11/08/16	TO-15
Ethane, difluoro-		200	N TIC, J		"	"	"	"	TO-15
Lab ID: 1611021-09									**Air - Sampled: 11/06/16 14:10**
Sample ID: F5-060									**Volatile Organic Compounds by TO-15**
Vinyl chloride	RE1	ND	U	7	ug/m³ Air	B16K042	11/09/16	11/09/16	TO-15
1,1-Dichloroethene	RE1	ND	U	10	"	"	"	"	TO-15
trans-1,2-Dichloroethene	RE1	5	C1, J	10	"	"	"	"	TO-15
1,1-Dichloroethane	RE1	ND	U	10	"	"	"	"	TO-15
cis-1,2-Dichloroethene	RE1	30		10	"	"	"	"	TO-15
Chloroform		900		90	"	B16K032	11/08/16	11/08/16	TO-15
Benzene	RE1	ND	U	8	"	B16K042	11/09/16	11/09/16	TO-15
Trichloroethene		400		100	"	B16K032	11/08/16	11/08/16	TO-15
Tetrachloroethene		500		100	"	"	"	"	TO-15
Lab ID: 1611021-10									**Air - Sampled: 11/06/16 14:16**
Sample ID: F5-054									**Volatile Organic Compounds by TO-15**
Vinyl chloride	RE1	20		8	ug/m³ Air	B16K042	11/09/16	11/09/16	TO-15
1,1-Dichloroethene	RE1	ND	U	10	"	"	"	"	TO-15
trans-1,2-Dichloroethene	RE1	20		10	"	"	"	"	TO-15
1,1-Dichloroethane	RE1	ND	U	10	"	"	"	"	TO-15
cis-1,2-Dichloroethene		600		70	"	B16K032	11/08/16	11/08/16	TO-15
Chloroform		900		90	"	"	"	"	TO-15
Benzene	RE1	ND	U	10	"	B16K042	11/09/16	11/09/16	TO-15

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Project:	MEW October 2016 Investigation	**San Francisco CA, 94105**			

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1611021-10									**Air - Sampled: 11/06/16 14:16**
Sample ID: F5-054									**Volatile Organic Compounds by TO-15**
Trichloroethene		1,100		100	ug/m³ Air	B16K032	11/08/16	11/08/16	TO-15
Tetrachloroethene	RE1	400		20	"	B16K042	11/09/16	11/09/16	TO-15

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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 B16K032 - Air_Can_Pressure										
Blank (B16K032-BLK1)				Prepared & Analyzed: 11/08/16						
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 (B16K032-BS1)				Prepared & Analyzed: 11/08/16						
1,2-Dichlorotetrafluoroethane	63	7	ug/m³ Air	69.8		90	67-127			
Chloromethane	20	2	ug/m³ Air	21.9		91	70-123			
Vinyl chloride	25	3	ug/m³ Air	26.6		96	69-125			
Bromomethane	39	4	ug/m³ Air	38.8		101	66-125			
Chloroethane	27	3	ug/m³ Air	26.4		103	67-125			
Trichlorofluoromethane	52	6	ug/m³ Air	55.0		95	68-133			
1,1,2-Trichloro-1,2,2-trifluoroethane	64	8	ug/m³ Air	78.1		81	64-125			
1,1-Dichloroethene	35	4	ug/m³ Air	41.2		85	73-128			
Dichloromethane	30	3	ug/m³ Air	35.1		86	73-116			
trans-1,2-Dichloroethene	38	4	ug/m³ Air	43.2		89	80-123			
1,1-Dichloroethane	34	4	ug/m³ Air	40.4		85	72-125			
cis-1,2-Dichloroethene	35	4	ug/m³ Air	41.2		85	77-129			
Chloroform	44	5	ug/m³ Air	49.3		90	77-126			
1,1,1-Trichloroethane	49	5	ug/m³ Air	53.4		92	74-133			
Carbon tetrachloride	57	6	ug/m³ Air	61.0		93	71-141			
Benzene	32	3	ug/m³ Air	32.9		98	81-125			
1,2-Dichloroethane	44	4	ug/m³ Air	40.4		108	61-153			
Trichloroethene	52	5	ug/m³ Air	58.0		90	73-128			
1,2-Dichloropropane	47	5	ug/m³ Air	47.6		98	77-129			
cis-1,3-Dichloropropene	48	5	ug/m³ Air	49.0		97	80-136			
Toluene	37	4	ug/m³ Air	39.5		94	78-133			
trans-1,3-Dichloropropene	48	5	ug/m³ Air	48.1		100	79-146			
1,1,2-Trichloroethane	56	5	ug/m³ Air	57.8		96	74-134			
Tetrachloroethene	65	7	ug/m³ Air	71.8		90	73-130			
1,2-Dibromoethane (EDB)	79	8	ug/m³ Air	83.7		95	78-133			
Chlorobenzene	47	5	ug/m³ Air	49.2		96	81-126			
Ethylbenzene	45	4	ug/m³ Air	45.6		99	82-130			
m&p-Xylene	96	9	ug/m³ Air	92.0		104	82-131			
o-Xylene	46	4	ug/m³ Air	45.6		101	82-132			
Styrene	43	4	ug/m³ Air	43.8		99	65-141			

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Project Number:	R17S16	**75 Hawthorne Street**		**Reported:**	11/22/16 15:17
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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 B16K032 - Air_Can_Pressure										
LCS (B16K032-BS1)				Prepared & Analyzed: 11/08/16						
1,1,2,2-Tetrachloroethane	72	7	ug/m³ Air	71.3		100	73-127			
1,3,5-Trimethylbenzene	52	5	ug/m³ Air	52.6		99	77-132			
1,2,4-Trimethylbenzene	51	5	ug/m³ Air	52.1		98	78-131			
1,3-Dichlorobenzene	60	6	ug/m³ Air	63.1		96	79-124			
1,4-Dichlorobenzene	61	6	ug/m³ Air	63.1		96	75-127			
1,2-Dichlorobenzene	58	6	ug/m³ Air	62.5		93	77-124			
1,2,4-Trichlorobenzene	67	7	ug/m³ Air	77.1		87	55-132			
Hexachlorobutadiene	106	10	ug/m³ Air	110		96	52-131			
Duplicate (B16K032-DUP1)		**Source: 1611021-10**		Prepared & Analyzed: 11/08/16						
1,2-Dichlorotetrafluoroethane	ND	100	ug/m³ Air		ND				20	U
Chloromethane	ND	40	ug/m³ Air		ND				20	C3, J, U
Vinyl chloride	ND	50	ug/m³ Air		20				20	U
Bromomethane	ND	70	ug/m³ Air		ND				20	U
Chloroethane	ND	50	ug/m³ Air		ND				20	U
Trichlorofluoromethane	ND	100	ug/m³ Air		ND				20	U
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	100	ug/m³ Air		ND				20	U
1,1-Dichloroethene	ND	70	ug/m³ Air		ND				20	U
Dichloromethane	ND	60	ug/m³ Air		ND				20	U
trans-1,2-Dichloroethene	ND	70	ug/m³ Air		ND				20	U
1,1-Dichloroethane	ND	70	ug/m³ Air		ND				20	U
cis-1,2-Dichloroethene	500	70	ug/m³ Air		600			20	20	
Chloroform	700	90	ug/m³ Air		900			18	20	
1,1,1-Trichloroethane	ND	100	ug/m³ Air		ND				20	U
Carbon tetrachloride	ND	100	ug/m³ Air		ND				20	U
Benzene	ND	60	ug/m³ Air		ND				20	U
1,2-Dichloroethane	ND	70	ug/m³ Air		ND				20	U
Trichloroethene	900	100	ug/m³ Air		1100			16	20	
1,2-Dichloropropane	ND	80	ug/m³ Air		ND				20	U
cis-1,3-Dichloropropene	ND	80	ug/m³ Air		ND				20	U
Toluene	ND	70	ug/m³ Air		ND				20	U
trans-1,3-Dichloropropene	ND	80	ug/m³ Air		ND				20	U
1,1,2-Trichloroethane	ND	100	ug/m³ Air		ND				20	U
Tetrachloroethene	300	100	ug/m³ Air		300			0.8	20	
1,2-Dibromoethane (EDB)	ND	100	ug/m³ Air		ND				20	U
Chlorobenzene	ND	80	ug/m³ Air		ND				20	U
Ethylbenzene	ND	80	ug/m³ Air		ND				20	U
m&p-Xylene	ND	200	ug/m³ Air		ND				20	U
o-Xylene	ND	80	ug/m³ Air		ND				20	U
Styrene	ND	80	ug/m³ Air		ND				20	U
1,1,2,2-Tetrachloroethane	ND	100	ug/m³ Air		ND				20	U
1,3,5-Trimethylbenzene	ND	90	ug/m³ Air		ND				20	U
1,2,4-Trimethylbenzene	ND	90	ug/m³ Air		ND				20	U

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**		**SDG:**	163312A
Project Number:	R17S16	**75 Hawthorne Street**		**Reported:**	11/22/16 15:17
Project:	MEW October 2016 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 B16K032 - Air_Can_Pressure										
Duplicate (B16K032-DUP1)		**Source: 1611021-10**		Prepared & Analyzed: 11/08/16						
1,3-Dichlorobenzene	ND	100	ug/m³ Air		ND				20	U
1,4-Dichlorobenzene	ND	100	ug/m³ Air		ND				20	U
1,2-Dichlorobenzene	ND	100	ug/m³ Air		ND				20	U
1,2,4-Trichlorobenzene	ND	100	ug/m³ Air		ND				20	U
Hexachlorobutadiene	ND	200	ug/m³ Air		ND				20	U
Batch B16K042 - Air_Can_Pressure										
Blank (B16K042-BLK1)				Prepared & Analyzed: 11/09/16						
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 (B16K042-BS1)				Prepared & Analyzed: 11/09/16						
1,2-Dichlorotetrafluoroethane	62	7	ug/m³ Air	69.8		88	67-127			
Chloromethane	20	2	ug/m³ Air	21.9		93	70-123			
Vinyl chloride	27	3	ug/m³ Air	26.6		102	69-125			
Bromomethane	39	4	ug/m³ Air	38.8		101	66-125			
Chloroethane	28	3	ug/m³ Air	26.4		108	67-125			
Trichlorofluoromethane	50	6	ug/m³ Air	55.0		91	68-133			
1,1,2-Trichloro-1,2,2-trifluoroethane	57	8	ug/m³ Air	78.1		73	64-125			
1,1-Dichloroethene	33	4	ug/m³ Air	41.2		81	73-128			
Dichloromethane	30	3	ug/m³ Air	35.1		85	73-116			
trans-1,2-Dichloroethene	37	4	ug/m³ Air	43.2		86	80-123			
1,1-Dichloroethane	33	4	ug/m³ Air	40.4		81	72-125			
cis-1,2-Dichloroethene	33	4	ug/m³ Air	41.2		80	77-129			
Chloroform	42	5	ug/m³ Air	49.3		86	77-126			
1,1,1-Trichloroethane	48	5	ug/m³ Air	53.4		89	74-133			
Carbon tetrachloride	54	6	ug/m³ Air	61.0		89	71-141			
Benzene	34	3	ug/m³ Air	32.9		103	81-125			
1,2-Dichloroethane	48	4	ug/m³ Air	40.4		120	61-153			
Trichloroethene	52	5	ug/m³ Air	58.0		90	73-128			
1,2-Dichloropropane	49	5	ug/m³ Air	47.6		104	77-129			
cis-1,3-Dichloropropene	49	5	ug/m³ Air	49.0		101	80-136			
Toluene	40	4	ug/m³ Air	39.5		101	78-133			
trans-1,3-Dichloropropene	54	5	ug/m³ Air	48.1		112	79-146			
1,1,2-Trichloroethane	60	5	ug/m³ Air	57.8		103	74-134			
Tetrachloroethene	67	7	ug/m³ Air	71.8		94	73-130			

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**		**SDG:**	163312A
Project Number:	R17S16	**75 Hawthorne Street**		**Reported:**	11/22/16 15:17
Project:	MEW October 2016 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 B16K042 - Air_Can_Pressure										
LCS (B16K042-BS1)				Prepared & Analyzed: 11/09/16						
1,2-Dibromoethane (EDB)	85	8	ug/m³ Air	83.7		101	78-133			
Chlorobenzene	49	5	ug/m³ Air	49.2		100	81-126			
Ethylbenzene	49	4	ug/m³ Air	45.6		107	82-130			
m&p-Xylene	104	9	ug/m³ Air	92.0		113	82-131			
o-Xylene	49	4	ug/m³ Air	45.6		108	82-132			
Styrene	46	4	ug/m³ Air	43.8		104	65-141			
1,1,2,2-Tetrachloroethane	78	7	ug/m³ Air	71.3		109	73-127			
1,3,5-Trimethylbenzene	55	5	ug/m³ Air	52.6		105	77-132			
1,2,4-Trimethylbenzene	54	5	ug/m³ Air	52.1		103	78-131			
1,3-Dichlorobenzene	62	6	ug/m³ Air	63.1		98	79-124			
1,4-Dichlorobenzene	62	6	ug/m³ Air	63.1		98	75-127			
1,2-Dichlorobenzene	60	6	ug/m³ Air	62.5		97	77-124			
1,2,4-Trichlorobenzene	71	7	ug/m³ Air	77.1		92	55-132			
Hexachlorobutadiene	110	10	ug/m³ Air	110		100	52-131			
Duplicate (B16K042-DUP1)		**Source: 1611021-04RE1**		Prepared & Analyzed: 11/09/16						
1,2-Dichlorotetrafluoroethane	ND	400	ug/m³ Air		ND				20	U
Chloromethane	ND	100	ug/m³ Air		ND				20	U, C3, J
Vinyl chloride	ND	200	ug/m³ Air		ND				20	U
Bromomethane	ND	200	ug/m³ Air		ND				20	U
Chloroethane	ND	200	ug/m³ Air		ND				20	U
Trichlorofluoromethane	ND	300	ug/m³ Air		ND				20	U
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	500	ug/m³ Air		ND				20	U
1,1-Dichloroethene	ND	200	ug/m³ Air		ND				20	U
Dichloromethane	ND	200	ug/m³ Air		ND				20	U
trans-1,2-Dichloroethene	ND	200	ug/m³ Air		ND				20	U
1,1-Dichloroethane	ND	200	ug/m³ Air		ND				20	U
cis-1,2-Dichloroethene	ND	200	ug/m³ Air		ND				20	U
Chloroform	ND	300	ug/m³ Air		ND				20	U
1,1,1-Trichloroethane	ND	300	ug/m³ Air		ND				20	U
Carbon tetrachloride	ND	400	ug/m³ Air		ND				20	U
Benzene	ND	200	ug/m³ Air		ND				20	U
1,2-Dichloroethane	ND	200	ug/m³ Air		ND				20	U
Trichloroethene	2100	300	ug/m³ Air		2300			8	20	
1,2-Dichloropropane	ND	300	ug/m³ Air		ND				20	U
cis-1,3-Dichloropropene	ND	300	ug/m³ Air		ND				20	U
Toluene	ND	200	ug/m³ Air		ND				20	U
trans-1,3-Dichloropropene	ND	300	ug/m³ Air		ND				20	U
1,1,2-Trichloroethane	ND	300	ug/m³ Air		ND				20	U
Tetrachloroethene	ND	400	ug/m³ Air		ND				20	U
1,2-Dibromoethane (EDB)	ND	500	ug/m³ Air		ND				20	U
Chlorobenzene	ND	300	ug/m³ Air		ND				20	U
Ethylbenzene	ND	300	ug/m³ Air		ND				20	U

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**		**SDG:**	163312A
Project Number:	R17S16	**75 Hawthorne Street**		**Reported:**	11/22/16 15:17
Project:	MEW October 2016 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 B16K042 - Air_Can_Pressure										
Duplicate (B16K042-DUP1)		**Source: 1611021-04RE1**		Prepared & Analyzed: 11/09/16						
m&p-Xylene	ND	500	ug/m³ Air		ND				20	U
o-Xylene	ND	300	ug/m³ Air		ND				20	U
Styrene	ND	300	ug/m³ Air		ND				20	U
1,1,2,2-Tetrachloroethane	ND	400	ug/m³ Air		ND				20	U
1,3,5-Trimethylbenzene	ND	300	ug/m³ Air		ND				20	U
1,2,4-Trimethylbenzene	ND	300	ug/m³ Air		ND				20	U
1,3-Dichlorobenzene	ND	400	ug/m³ Air		ND				20	U
1,4-Dichlorobenzene	ND	400	ug/m³ Air		ND				20	U
1,2-Dichlorobenzene	ND	400	ug/m³ Air		ND				20	U
1,2,4-Trichlorobenzene	ND	400	ug/m³ Air		ND				20	U
Hexachlorobutadiene	ND	600	ug/m³ Air		ND				20	U
Batch B16K055 - Air_Can_Pressure										
Blank (B16K055-BLK1)				Prepared & Analyzed: 11/11/16						
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 (B16K055-BS1)				Prepared & Analyzed: 11/11/16						
1,2-Dichlorotetrafluoroethane	70	7	ug/m³ Air	69.8		100	67-127			
Chloromethane	21	2	ug/m³ Air	21.9		96	70-123			
Vinyl chloride	24	3	ug/m³ Air	26.6		92	69-125			
Bromomethane	36	4	ug/m³ Air	38.8		93	66-125			
Chloroethane	24	3	ug/m³ Air	26.4		91	67-125			
Trichlorofluoromethane	56	6	ug/m³ Air	55.0		102	68-133			
1,1,2-Trichloro-1,2,2-trifluoroethane	80	8	ug/m³ Air	78.1		103	64-125			
1,1-Dichloroethene	44	4	ug/m³ Air	41.2		106	73-128			
Dichloromethane	32	3	ug/m³ Air	35.1		92	73-116			
trans-1,2-Dichloroethene	44	4	ug/m³ Air	43.6		101	80-123			
1,1-Dichloroethane	41	4	ug/m³ Air	40.4		100	72-125			
cis-1,2-Dichloroethene	45	4	ug/m³ Air	41.2		110	77-129			
Chloroform	50	5	ug/m³ Air	49.3		101	77-126			
1,1,1-Trichloroethane	55	5	ug/m³ Air	53.4		104	74-133			
Carbon tetrachloride	64	6	ug/m³ Air	61.0		105	71-141			
Benzene	32	3	ug/m³ Air	32.9		97	81-125			
1,2-Dichloroethane	40	4	ug/m³ Air	40.4		98	61-153			
Trichloroethene	61	5	ug/m³ Air	58.0		106	73-128			

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**		**SDG:**	163312A
Project Number:	R17S16	**75 Hawthorne Street**		**Reported:**	11/22/16 15:17
Project:	MEW October 2016 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 B16K055 - Air_Can_Pressure										
LCS (B16K055-BS1)				Prepared & Analyzed: 11/11/16						
1,2-Dichloropropane	48	5	ug/m³ Air	47.6		101	77-129			
cis-1,3-Dichloropropene	55	5	ug/m³ Air	49.0		113	80-136			
Toluene	43	4	ug/m³ Air	39.5		110	78-133			
trans-1,3-Dichloropropene	54	5	ug/m³ Air	48.1		113	79-146			
1,1,2-Trichloroethane	60	5	ug/m³ Air	57.8		104	74-134			
Tetrachloroethene	78	7	ug/m³ Air	71.8		109	73-130			
1,2-Dibromoethane (EDB)	90	8	ug/m³ Air	83.7		107	78-133			
Chlorobenzene	52	5	ug/m³ Air	49.2		105	81-126			
Ethylbenzene	50	4	ug/m³ Air	45.6		110	82-130			
m&p-Xylene	100	9	ug/m³ Air	92.0		108	82-131			
o-Xylene	52	4	ug/m³ Air	45.6		113	82-132			
Styrene	49	4	ug/m³ Air	43.8		111	65-141			
1,1,2,2-Tetrachloroethane	71	7	ug/m³ Air	71.3		99	73-127			
1,3,5-Trimethylbenzene	57	5	ug/m³ Air	52.6		108	77-132			
1,2,4-Trimethylbenzene	58	5	ug/m³ Air	52.1		111	78-131			
1,3-Dichlorobenzene	67	6	ug/m³ Air	63.1		106	79-124			
1,4-Dichlorobenzene	67	6	ug/m³ Air	63.1		106	75-127			
1,2-Dichlorobenzene	64	6	ug/m³ Air	62.5		102	77-124			
1,2,4-Trichlorobenzene	79	7	ug/m³ Air	77.1		103	55-132			
Hexachlorobutadiene	112	10	ug/m³ Air	110		102	52-131			

United States Environmental Protection Agency
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Project Manager:	Alana Lee	**California Site Cleanup Section 3**		**SDG:**	163312A
Project Number:	R17S16	**75 Hawthorne Street**		**Reported:**	11/22/16 15:17
Project:	MEW October 2016 Investigation	**San Francisco CA, 94105**			

Qualifiers and Comments

N TIC	Tentatively Idenitified Compound - This compound was identified only by match with mass spectral library. Identification and quantitation should be considered tentative and presumptive.
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
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**		**SDG:**	163312A
Project Number:	R17S16	**75 Hawthorne Street**		**Reported:**	11/22/16 15:17
Project:	MEW October 2016 Investigation	**San Francisco CA, 94105**			

Sample receiving: Analyze also for 1,1-difluoroethane. Used as leak detection compound. TD 11/07/16

WORK ORDER

Printed: 11/7/2016 2:01:27PM

1611021

EPA Region 9 Laboratory

Client: **California Site Cleanup Section 3**
Project: **MEW October 2016 Investigation**
Project Number: **R17S16**

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
Box 1	Box	23	Yes	Yes	Yes	No	No	

Date Due:	11/22/16 17:00 (14 day TAT)	SDG:	163312A
Received By:	Jack Berges	Date Received:	11/07/16 12:50
Logged In By:	Tatyana Dadiomov	Date Logged In:	11/07/16 13:28

Analysis	Hold Time Expires	Comments
1611021-01 870 Leong-SS1 [Air] Sampled 11/06/16 13:10 (GMT-08:00) Pacific Time (US &		**Can 1592**
VOCs, Soil Gas	12/06/16	9 analytes 7 day Prelim
1611021-02 870 Leong-SS1D [Air] Sampled 11/06/16 13:13 (GMT-08:00) Pacific Time (US &		**Can 1591**
VOCs, Soil Gas	12/06/16	9 analytes 7 day Prelim
1611021-03 870 Leong-SS2 [Air] Sampled 11/06/16 13:24 (GMT-08:00) Pacific Time (US &		**Can 885**
VOCs, Soil Gas	12/06/16	9 analytes 7 day Prelim
1611021-04 870 Leong-SS3 [Air] Sampled 11/06/16 13:30 (GMT-08:00) Pacific Time (US &		**Can 1576**
VOCs, Soil Gas	12/06/16	9 analytes 7 day Prelim
1611021-05 870 Leong-SS4 [Air] Sampled 11/06/16 13:38 (GMT-08:00) Pacific Time (US &		**Can 1108**
VOCs, Soil Gas	12/06/16	9 analytes 7 day Prelim
1611021-06 870 Leong-SS5 [Air] Sampled 11/06/16 13:49 (GMT-08:00) Pacific Time (US &		**Can 1581**
VOCs, Soil Gas	12/06/16	9 analytes 7 day Prelim

WORK ORDER

Printed: 11/7/2016 2:01:27PM

1611021

EPA Region 9 Laboratory

Client: **California Site Cleanup Section 3** **Project Number:** **R17S16**
Project: **MEW October 2016 Investigation**

Analysis	Hold Time Expires	Comments

Analysis	Expires	Comments

1611021-07 870 Leong-SS5X [Air] Sampled 11/06/16 13:44 (GMT-08:00) Pacific Time (US & **Can 899 Possible leak w/ ambient air**

VOCs, Soil Gas	12/06/16	9 analytes 7 day Prelim

1611021-08 870 Leong-SS6 [Air] Sampled 11/06/16 13:58 (GMT-08:00) Pacific Time (US & **Can 889**

VOCs, Soil Gas	12/06/16	9 analytes 7 day Prelim

1611021-09 F5-060 [Air] Sampled 11/06/16 14:10 (GMT-08:00) Pacific Time (US & **Can 876**

VOCs, Soil Gas	12/06/16	9 analytes 7 day Prelim

1611021-10 F5-054 [Air] Sampled 11/06/16 14:16 (GMT-08:00) Pacific Time (US & **Can 1091**

VOCs, Soil Gas	12/06/16	9 analytes 7 day Prelim

Reviewed By Date

U.S. Environmental Protection Agency	CHAIN OF CUSTODY RECORD	EPA REGION 9 75 Hawthorne Street San Francisco, California 94105
Project / Case Number: **MEW - 09M6 / R17S16**	Project Name: **MEW OU3 Investigation**	EPA Project Manager contact: Alana Lee, 415-972-3141 Lee.Alana@epa.gov
EPA R9 Richmond Laboratory	Samplers: *(Signature)* Alana Lee	1,1-difluoroethane used for leak detection Analysis Requested: TO15 - TCE, PCE, cis-trans -1,2-DCE, vinyl chloride, 1,1-DCE, 1,1-DCA, chloroform, benzene - (preliminary TCE: 7 day TAT)

Lab ID	Sample ID (Location)	Canister ID	Comp	Grab	Date	Time	Initial Pressure	Final Pressure	TCE screen (ug/m3)	COMMENTS
	870 Leong - SS1	1592		X	11/6/2016	13:10	-30	0	N/A	NOTE: Analyze also for 1,1-difluoroethane
	870 Leong - SS1D	1591		X	11/6/2016	13:13	-30	0	N/A	Used as leak detection compound
	870 Leong - SS2	885		X	11/6/2016	13:24	-30	0	N/A	
	870 Leong - SS3	1576		X	11/6/2016	13:30	-30	0	N/A	
	870 Leong - SS4	1108		X	11/6/2016	13:38	-30	-4	N/A	
	870 Leong - SS5	1581		X	11/6/2016	13:49	-30	-7	N/A	
	870 Leong - SS5X	899		X	11/6/2016	13:44	-30	0	N/A	Possible leak w/ambient air
	870 Leong -SS6	889		X	11/6/2016	13:58	-30	0	N/A	

A Lee 11/6/16

Relinquished by: *(Signature)*	Date/Time	Received by: *(Signature)*	Date/Time
Alana Lee	11/7/16 12:50	Josh Berger	11/7/16 12:50

Received for Laboratory by: *(Signature)*	Date/Time	Temp	Custody Seals Intact? Yes / No

Table of Contents

U.S. Environmental Protection Agency	CHAIN OF CUSTODY RECORD	EPA REGION 9 75 Hawthorne Street San Francisco, California 94105
Project / Case Number: **MEW - 09M6 / R17S16**	Project Name: **MEW OU3 Investigation**	**EPA Project Manager contact:** **Alana Lee, 415-972-3141 Lee.Alana@epa.gov**
EPA R9 Richmond Laboratory	Samplers: *(Signature)* Alana Lee	**Analysis Requested: TO15 - TCE, PCE, cis-trans,1,2-DCE, VC, 1,1-DCE, 1,1-DCA, chloroform, benzene**

Lab ID	Sample ID (Location)	Canister ID	Comp	Grab	Date	Time	Initial Pressure	Final Pressure	Previous TCE screen (ug/m3)	COMMENTS
	F5-060	876		X	11/6/2016	14:10	-30	0	700	
	F5-054	1091		X	11/6/2016	14:16	-30	0	750	

11/6/16

Relinquished by: *(Signature)*	Date/Time	Received by: *(Signature)*	Date/Time
Alana Lee	11/7/16 12:50	Jeff Berger	11/7/16 12:50

Received for Laboratory by: *(Signature)*	Date/Time	Temp	Custody Seals Intact? Yes / No

Table of Contents

MEW

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

Project No: R17316 **Work Order No(s):** 1611021 **Date:** 11/21/16 **by** J. BEROES

CUSTODY SEALS Intact

Check if applies: □ External Seals □ Internal Seals ☒ Hand Delivered JAB 11/22/16

☒ Yes □ No □ N/A- None

TEMPERATURE 23 °C Within Acceptable Range

☒ Yes □ No □ Ambient OK

Check if applies:
□ Provided Temp Blank □ Between 6°C to 10°C □ Still cooling (sampled today & iced)
□ Previously Frozen □ Insufficient/Melted Ice □ Delivery Delay

SAMPLE CONTAINERS Intact

☒ Yes □ No

If not intact, was volume recoverable for analysis? □ Yes □ No ☒ N/A

Check if applies: □ Bottle/Jar/Vial broken □ Cap broken or loose □ Other _____

CHAIN OF CUSTODY Received

☒ Yes □ No

COC complete and consistent with labels ☒ Yes □ No □ N/A

Check if applies: □ Not relinquished □ Inconsistency resolved □ Follow-up needed (see comments)

TAT and analyses match scheduling ☒ Yes □ No □ N/A

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

Within hold times □ Expires today ☒ Yes □ No □ N/A

All shipping and sample containers accounted for ☒ Yes □ No □ N/A

PRESERVATION / FILTRATION

☒ N/A No chem. pres./filtra.

Check if applies: □ Sample Receiving to preserve
□ Analyst to filter and/or preserve

Preserved and/or filtered samples correctly identified □ Yes □ No ☒ N/A

Preserved samples (non-VOA vials) measured at correct pH □ Yes □ No ☒ N/A

Preservation/measured pH_____

Sample Receiving Preservation and/or pH Adjustments*

Sample ID	Initial pH	Pres.	Date/time Pres. added	Adjusted pH	pH after 16-hrs (metals)	Date/time of pH recheck	Rechecked by

*(continue on back, if needed)

FOLLOW-UP / COMMENTS_____

BATCH

B16K032

PREPARATION BENCH SHEET

B16K032

EPA Region 9 Laboratory

Project: R17S16

Printed: 11/9/2016 11:23:35AM

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
1611021-01 A	870 Leong-SS1	11/08/16 09:56	200	200				1592	14.80	26.93	1	1.82	LLH	9 analytes 7 day Prelim
1611021-02 A	870 Leong-SS1D	11/08/16 10:02	200	200				1591	14.88	26.83	1	1.80	LLH	9 analytes 7 day Prelim
1611021-03 A	870 Leong-SS2	11/08/16 10:05	200	200				885	14.84	26.81	1	1.81	LLH	9 analytes 7 day Prelim
1611021-04 A	870 Leong-SS3	11/08/16 10:07	200	200				1576	14.72	26.87	1	1.83	LLH	9 analytes 7 day Prelim
1611021-05 A	870 Leong-SS4	11/08/16 10:10	200	200				1108	13.93	26.82	1	1.93	LLH	9 analytes 7 day Prelim
1611021-06 A	870 Leong-SS5	11/08/16 10:12	200	200				1581	12.93	27.12	1	2.10	LLH	9 analytes 7 day Prelim
1611021-07 A	870 Leong-SS5X	11/08/16 10:14	200	200				899	14.72	27.00	1	1.83	LLH	9 analytes 7 day Prelim
1611021-08 A	870 Leong-SS6	11/08/16 10:17	200	200				889	14.93	26.61	1	1.78	LLH	9 analytes 7 day Prelim
1611021-09 A	F5-060	11/08/16 10:19	20	200				876	14.55	26.84	1	1.84	LLH	Previous TCE 700 ug/m3, 9 analytes 7 day Prelim
1611021-10 A	F5-054	11/08/16 10:22	20	200				1091	14.78	27.14	1	1.84	LLH	Previous TCE 750 ug/m3, 9 analytes 7 day Prelim
B16K032-BLK1	Blank	11/08/16 10:01	200	200									LLH	
B16K032-BS1	LCS	11/08/16 10:01	200	200	1645040		100000						LLH	
B16K032-DUP1	Duplicate	11/08/16 10:01	20	200		1611021-10		1091	14.78	27.14	1	1.84	LLH	

PREPARATION BENCH SHEET

B16K032

EPA Region 9 Laboratory

Project: R17S16

Printed: 11/9/2016 11:23:35AM

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

TO15 DILUTION LOGBOOK

DATE/ INITIAL	TIME	LAB SAMPLE #	CLIENT SAMPLE #	CAN ID	INITIAL PRESSURE (PSI)	INITIAL VOL (mL)	FINAL VOL (mL)	FINAL PRESSURE (PSI)	AMBIENT PRESSURE (PSI)	DILUTION FACTOR
11/08/16	0956	1611021-01	870 LEONA-551	1592	14.80	400	400	26.93	30.06/14.76	1.82
LLH	1002	-02	-551D	1591	14.88	400	400	26.83	—	1.80
	1005	-03	-552	885	14.84	400	400	26.81	—	1.81
	1007	-04	-553	1576	14.72	400	400	26.87	—	1.83
	1010	-05	-554	1108	13.93	400	400	26.82	—	1.93
	1012	-06	-555	1581	12.93	400	400	27.12	—	2.10
	1014	-07	-555X	899	14.72	400	400	27.00	—	1.83
	1017	-08	-556	889	14.93	400	400	26.61	—	1.78
	1019	-09	F5-060	876	14.55	400	400	26.84	—	1.84
	1022	-10	LLH 11/8/16 F5-054	1091	14.78	400	400	27.14	—	1.84
11/08/16	1727	1611021-01RE1	rent/represe	1592	15.14	400	400	26.48	29.97/14.72	1.78
LLH	1729	-02RE1		1591	14.57	400	400	27.22	—	1.85
	1731	-03RE1		885	13.99	400	400	27.23	—	1.95
	1733	-04RE1		1576	14.44	400	400	26.76	—	1.85
11/09/16	0935	1611021-01RE1	reient/re-repress	1592	15.86	400	400	26.85	30.00/14.73	1.69
LLH	0938	-02RE1		1591	15.53	400	400	27.38	—	1.76
	0940	-03RE1		885	15.44	400	400	26.58	—	1.72
	0943	-04RE1		1576	15.41	400	400	27.26	—	1.77
			LLH 11/09/16							

USEPA REGION 9 LABORATORY

TO15 DILUTION LOGBOOK 02-15.xls

Reviewed by: [signature]

Date: 11/9/16

LLH 7/12

BATCH

B16K042

PREPARATION BENCH SHEET

B16K042

EPA Region 9 Laboratory

Project: R17S16

Printed: 11/10/2016 10:26:25AM

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
1611021-01RE1 A	870 Leong-SS1	11/09/16 09:35	20	200				1592	15.86	26.85	3.24	5.47	LLH	RE-REPRESS
1611021-02RE1 A	870 Leong-SS1D	11/09/16 09:38	20	200				1591	15.53	28.38	3.37	5.92	LLH	RE-REPRESS
1611021-03RE1 A	870 Leong-SS2	11/09/16 09:40	20	200				885	15.44	26.58	3.53	6.07	LLH	RE-REPRESS
1611021-03RE2 A	870 Leong-SS2	11/09/16 16:21	20	200				885	15.12	26.90	6.07	10.81	LLH	RERE-REPRESS
1611021-04RE1 A	870 Leong-SS3	11/09/16 09:43	20	200				1576	15.41	27.26	3.39	5.99	LLH	RE-REPRESS
1611021-05RE1 A	870 Leong-SS4	11/09/16 12:09	20	200				1108	15.55	27.50	4.21	7.45	LLH	RE-REPRESS
1611021-06RE1 A	870 Leong-SS5	11/09/16 12:27	20	200				1581	15.81	27.28	4.20	7.27	LLH	RE-REPRESS
1611021-07RE1 A	870 Leong-SS5X	11/09/16 12:30	20	200				899	15.43	27.03	3.95	6.92	LLH	RE-REPRESS
1611021-08RE1 A	870 Leong-SS6	11/09/16 12:34	20	200				889	15.84	26.83	3.88	6.56	LLH	RE-REPRESS
1611021-09RE1 A	F5-060	11/09/16 09:56	200	200				876	19.36	26.90	1.84	2.56	LLH	REPRESS
1611021-10RE1 A	F5-054	11/09/16 10:00	200	200				1091	15.61	27.12	1.84	3.20	LLH	REPRESS
B16K042-BLK1	Blank	11/09/16 10:29	200	200									LLH	
B16K042-BS1	LCS	11/09/16 10:29	200	200	1645040		100000						LLH	

PREPARATION BENCH SHEET

B16K042

EPA Region 9 Laboratory

Project: R17S16

Printed: 11/10/2016 10:26:25AM

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
B16K042-DUP1	Duplicate	11/09/16 10:29	20	200		1611021-04 RE1		1576	15.41	27.26	3.39	5.99	LLH	

Batch Comments

Reagents

Reagent #	Description

TO15 DILUTION LOGBOOK

DATE/ INITIAL	TIME	LAB SAMPLE #	CLIENT SAMPLE #	CAN ID	INITIAL PRESSURE (PSI)	INITIAL VOL (mL)	FINAL VOL (mL)	FINAL PRESSURE (PSI)	AMBIENT PRESSURE (PSI)	DILUTION FACTOR
11/09/16	1946	1611021-05RE1	vent / repress	1108	12.40	400	400	26.98	30.00/14.73	2.18
"	1209	-05RE1	revent / re-repress	1108	15.55	400	400	27.50	—	1.77
	1949	-06RE1	vent / repress	1581	13.43	400	400	26.88	—	2.00
	1227	-06RE1	revent / re-repress	1581	15.81	400	400	27.28	—	1.73
	1951	-07RE1	vent / repress	899	12.27	400	400	26.46	—	2.16
	1230	-07RE1	re-vent / re-repress	899	15.43	400	400	27.03	—	1.75
	1953	-08RE1	vent / repress	889	12.22	400	400	26.64	—	2.18
	1234	-08RE1	revent / re-repress	889	15.84	400	400	26.83	—	1.69
	1956	-09RE1	repress	876	19.26	400	400	26.90	—	1.39
	1000	-10RE1	repress	1091	15.61	400	400	27.12	—	1.74
	1621	1611021-03RE2	revent / rere-repress	885	15.12	400	400	26.90	29.91/14.69	1.78

USEPA REGION 9 LABORATORY

TO15 DILUTION LOGBOOK 02-15.xls

Reviewed by: [illegible]

Date: 11/10/16

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Page 28 of 823 1611021 DATA_PKG (Rev1).PDF 11/22/16 15:21:41

INTERIM DILUTION FACTOR CALCULATION FORM

11/09/16 LLH

SAMPLE #	INITIAL PRESS	FINAL PRESS	INTERIM DF	ORIGINAL DF	FINAL DF
1611021-01RE1	15.14	26.98	1.78		
	15.86	26.85	1.69	1.82	**5.47**
1611021-02RE1	14.57	27.22	1.87		
	15.53	27.38	1.76	1.80	**5.92**
1611021-03RE1	13.99	27.23	1.95		
	15.44	26.58	1.72	1.81	**6.07**
1611021-04RE1	14.44	26.76	1.85		
	15.41	27.26	1.77	1.83	**5.99**
1611021-05RE1	12.40	26.98	2.18		
	15.55	27.50	1.77	1.93	**7.45**
1611021-06RE1	13.43	26.88	2.00		
	15.81	27.28	1.73	2.10	**7.27**
1611021-07RE1	12.27	26.46	2.16		
	15.43	27.03	1.75	1.83	**6.92**
1611021-08RE1	12.22	26.64	2.18		
	15.84	26.83	1.69	1.78	**6.56**

FINAL DF = INTERIM DF x INTERIM DF x ORIGINAL DF

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BATCH

B16K055

PREPARATION BENCH SHEET

B16K055

EPA Region 9 Laboratory

Project: R17S16

Printed: 11/14/2016 9:38:06AM

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
1611021-01RE2 A	870 Leong-SS1	11/09/16 09:35	50	200				1592	15.86	26.85	3.24	5.47	LLH	RE-REPRESS
1611021-02RE2 A	870 Leong-SS1D	11/09/16 09:38	50	200				1591	15.53	27.38	3.37	5.92	LLH	RE-REPRESS
1611021-08RE2 A	870 Leong-SS6	11/09/16 12:34	50	200				889	15.84	26.83	3.88	6.56	LLH	RE-REPRESS
B16K055-BLK1	Blank	11/11/16 09:32	200	200									LLH	
B16K055-BS1	LCS	11/11/16 09:32	200	200	1646108		100000						LLH	

Batch Comments

Reagents

Reagent #	Description

Calibration

1611002

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Method Path : D:\msdchem\1\2016\method\
Method File : 110316N_TO15AA.M
Title : TO15
Last Update : Thu Nov 03 17:25:24 2016
Response Via : Initial Calibration

REVIEWED
By LLH at 5:26 pm, Nov 03, 2016

Calibration Files
1 =110316N05.D 2 =110316N06.D 5 =110316N07.D 10 =110316N08.D 15 =110316N09.D
20 =110316N10.D

		Compound	1	2	5	10	15	20	Avg	%RSD
1)	I	BROMOCHLOROMETHANE	----------ISTD----------							
2)	T	Propene	0.681	0.712	0.600	0.592	0.592	0.588	0.628	8.68
3)	T	Dichlorodifluo...	2.443	2.680	2.309	2.273	2.272	2.277	2.375	6.86
4)	T	1,2-Dichlorote...	2.389	2.664	2.271	2.231	2.239	2.242	2.339	7.25
5)	T	Chloromethane	0.763	0.837	0.714	0.693	0.689	0.689	0.731	8.11
6)	T	Vinyl chloride	0.749	0.841	0.715	0.700	0.703	0.705	0.735	7.44
7)	T	1,3-Butadiene	0.601	0.614	0.517	0.505	0.508	0.505	0.542	9.47
8)	T	Bromomethane	0.732	0.818	0.690	0.667	0.670	0.671	0.708	8.35
9)	T	Chloroethane	0.355	0.385	0.325	0.309	0.308	0.305	0.331	9.74
10)	T	Bromoethene	0.760	0.801	0.658	0.639	0.636	0.637	0.688	10.57
11)	T	Trichlorofluor...	2.165	2.410	2.040	1.975	1.954	1.954	2.083	8.60
12)	T	1,1,2-Trichlor...	1.451	1.577	1.312	1.270	1.259	1.252	1.354	9.78
13)	T	1,1-Dichloroet...	1.336	1.500	1.275	1.241	1.225	1.218	1.299	8.27
14)	T	Acetone	1.434	1.316	1.069	1.137	1.105	1.100	1.193	12.32
15)	T	Carbon disulfide	2.164	2.289	1.951	1.902	1.882	1.870	2.010	8.71
16)	T	2-Propanol	1.345	1.422	1.172	1.192	1.172	1.160	1.244	8.96
17)	T	Allyl chloride	1.075	1.124	0.974	0.953	0.940	0.929	0.999	8.05
18)	T	Dichloromethane	1.213	1.199	0.969	0.917	0.895	0.882	1.013	15.09
19)	T	tert-Butyl met...	2.765	2.588	2.263	2.386	2.341	2.351	2.449	7.72
20)	T	trans-1,2-Dich...	1.262	1.330	1.135	1.097	1.087	1.076	1.164	9.09
21)	T	Hexane	1.582	1.641	1.401	1.360	1.336	1.330	1.442	9.37
22)	T	1,1-Dichloroet...	1.705	1.873	1.590	1.539	1.517	1.499	1.621	8.89
23)	T	Vinyl acetate	2.186	2.194	1.996	2.008	1.990	1.991	2.061	4.86
24)	T	cis-1,2-Dichlo...	1.202	1.303	1.127	1.098	1.087	1.083	1.150	7.54
25)	T	2-Butanone (MEK)	0.500	0.476	0.387	0.420	0.412	0.414	0.435	10.01
26)	T	Ethyl acetate	0.333	0.301	0.257	0.274	0.269	0.271	0.284	9.83
27)	T	Tetrahydrofuran	1.131	1.072	0.888	0.942	0.917	0.908	0.976	10.26
28)	T	Chloroform	1.877	2.047	1.758	1.705	1.686	1.673	1.791	8.15
29)	T	Cyclohexane	1.616	1.647	1.411	1.374	1.351	1.339	1.456	9.49
30)	T	1,1,1-Trichlor...	2.025	2.191	1.898	1.856	1.844	1.844	1.943	7.19
31)	T	Carbon tetrach...	2.067	2.279	1.991	1.957	1.945	1.948	2.031	6.39
32)	I	1,4-DIFLUOROBENZENE	----------ISTD----------							
33)	T	Benzene	0.925	1.000	0.866	0.844	0.826	0.819	0.880	7.96
34)	T	2,2,4-Trimethy...	1.595	1.619	1.418	1.392	1.363	1.352	1.457	8.17
35)	T	1,2-Dichloroet...	0.391	0.427	0.376	0.371	0.366	0.365	0.383	6.13
36)	T	Heptane	0.557	0.563	0.502	0.495	0.482	0.474	0.512	7.45
37)	T	Trichloroethene	0.365	0.386	0.344	0.341	0.337	0.339	0.352	5.58
38)	T	1,2-Dichloropr...	0.337	0.359	0.318	0.315	0.310	0.308	0.324	6.12
39)	T	1,4-Dioxane	0.205	0.232	0.191	0.192	0.187	0.185	0.199	9.02
40)	T	Bromodichlorom...	0.649	0.658	0.595	0.600	0.596	0.596	0.615	4.77
41)	T	cis-1,3-Dichlo...	0.493	0.518	0.477	0.479	0.475	0.476	0.486	3.50
42)	T	4-Methyl-2-pen...	0.724	0.775	0.629	0.659	0.640	0.632	0.677	8.82
43)	I	CHLOROBENZENE-d5	----------ISTD----------							
44)	T	Toluene	1.284	1.317	1.194	1.224	1.189	1.199	1.235	4.33
45)	T	trans-1,3-Dich...	0.524	0.549	0.526	0.547	0.541	0.551	0.540	2.22
46)	T	1,1,2-Trichlor...	0.417	0.424	0.386	0.399	0.391	0.397	0.402	3.76
47)	T	Tetrachloroethene	0.594	0.608	0.555	0.574	0.568	0.580	0.580	3.28
48)	T	2-Hexanone	0.740	0.847	0.686	0.732	0.704	0.707	0.736	7.84
49)	T	Chlorodibromom...	0.758	0.737	0.696	0.736	0.730	0.749	0.734	2.89
50)	T	1,2-Dibromoeth...	0.616	0.623	0.569	0.585	0.571	0.578	0.590	3.97
51)	T	Chlorobenzene	0.989	0.985	0.902	0.926	0.895	0.907	0.934	4.51
52)	T	Ethylbenzene	1.677	1.693	1.555	1.609	1.569	1.587	1.615	3.54
53)	T	m&p-Xylene	1.286	1.294	1.197	1.257	1.222	1.239	1.249	3.01
54)	T	o-Xylene	1.311	1.323	1.215	1.283	1.252	1.272	1.276	3.10
55)	T	Styrene	1.014	1.023	0.950	1.002	0.975	0.991	0.993	2.71
56)	T	Bromoform	0.734	0.732	0.700	0.761	0.752	0.772	0.742	3.43
57)	T	1,1,2,2-Tetrac...	0.977	1.005	0.868	0.930	0.896	0.909	0.931	5.55
58)	T	4-Ethyltoluene	2.123	2.067	1.788	1.910	1.838	1.872	1.933	6.89
59)	T	1,3,5-Trimethy...	1.548	1.621	1.411	1.503	1.447	1.469	1.500	5.03

Table of Contents

Method Path : D:\msdchem\1\2016\method\
Method File : 110316N_TO15AA.M
Title : TO15

60)	T	1,2,4-Trimethy...	1.548	1.676	1.438	1.533	1.485	1.510	1.532	5.27
61)	T	1,3-Dichlorobe...	0.984	1.036	0.892	0.965	0.937	0.956	0.962	4.99
62)	T	1,4-Dichlorobe...	0.931	0.994	0.863	0.931	0.900	0.917	0.922	4.68
63)	T	Benzyl chloride	1.129	1.240	1.092	1.220	1.192	1.222	1.182	4.98
64)	T	1,2-Dichlorobe...	0.997	1.057	0.886	0.955	0.918	0.941	0.959	6.30
65)	T	1,2,4-Trichlor...	0.740	0.817	0.733	0.820	0.814	0.851	0.796	5.99
66)	T	Hexachlorobuta...	0.860	0.993	0.875	0.939	0.913	0.938	0.920	5.25

(#) = Out of Range

SCV REPORT

2 OUT

Instrument Name: AG5973N
Sample Name: S16K015-SCV1
Misc Info: 10ppbv 1645041
Date Acquired: 11/3/2016 17:42
QLast Update: Thu Nov 03 17:25:24 2016
Operator: LLH

#	Name	Ret Time	Amount	Concentration	%R	QC	LIMIT	STATUS	
1)	BROMOCHLOROMETHANE	15.48	#N/A	22.00	#N/A	70.0	130.0	#N/A	Internal
2)	Propene	4.45	11.00	11.22	102%	70.0	130.0	pass	Subset
3)	Dichlorodifluoromethane	4.55	11.00	10.18	93%	70.0	130.0	pass	Primary
4)	1,2-Dichlorotetrafluoroethane	4.90	10.00	9.32	93%	70.0	130.0	pass	Primary
5)	Chloromethane	5.09	11.00	14.38	131%	70.0	130.0	FAIL	Primary
6)	Vinyl chloride	5.42	12.00	10.87	91%	70.0	130.0	pass	Primary
7)	1,3-Butadiene	5.52	11.00	10.54	96%	70.0	130.0	pass	Subset
8)	Bromomethane	6.46	11.00	8.02	73%	70.0	130.0	pass	Primary
9)	Chloroethane	6.79	10.00	10.71	107%	70.0	130.0	pass	Primary
10)	Bromoethene	7.36	11.00	10.43	95%	70.0	130.0	pass	Subset
11)	Trichlorofluoromethane	7.50	11.00	10.60	96%	70.0	130.0	pass	Primary
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	9.33	11.00	10.24	93%	70.0	130.0	pass	Primary
13)	1,1-Dichloroethene	9.41	11.00	10.71	97%	70.0	130.0	pass	Primary
14)	Acetone	9.94	10.00	10.34	103%	70.0	130.0	pass	Subset
15)	Carbon disulfide	10.13	9.90	11.60	117%	70.0	130.0	pass	Subset
16)	2-Propanol	10.55	9.20	9.12	99%	70.0	130.0	pass	Subset
17)	Allyl chloride	10.95	11.00	11.09	101%	70.0	130.0	pass	Subset
18)	Dichloromethane	11.47	11.00	9.46	86%	70.0	130.0	pass	Primary
19)	tert-Butyl methyl ether (MTBE)	12.15	10.00	10.73	107%	70.0	130.0	pass	Subset
20)	trans-1,2-Dichloroethene	12.18	10.00	10.86	109%	70.0	130.0	pass	Subset
21)	Hexane	12.78	11.00	10.14	92%	70.0	130.0	pass	Subset
22)	1,1-Dichloroethane	13.51	12.00	10.12	84%	70.0	130.0	pass	Primary
23)	Vinyl acetate	13.65	11.00	10.53	96%	70.0	130.0	pass	Subset
24)	cis-1,2-Dichloroethene	14.95	11.00	10.48	95%	70.0	130.0	pass	Primary
25)	2-Butanone (MEK)	15.03	10.00	10.48	105%	70.0	130.0	pass	Subset
26)	Ethyl acetate	15.08	10.00	10.31	103%	70.0	130.0	pass	Subset
27)	Tetrahydrofuran	15.48	9.60	10.47	109%	70.0	130.0	pass	Subset
28)	Chloroform	15.63	11.00	10.07	92%	70.0	130.0	pass	Primary
29)	Cyclohexane	15.86	10.00	10.10	101%	70.0	130.0	pass	Subset
30)	1,1,1-Trichloroethane	15.91	10.00	9.60	96%	70.0	130.0	pass	Primary
31)	Carbon tetrachloride	16.17	11.00	10.04	91%	70.0	130.0	pass	Primary
32)	1,4-DIFLUOROBENZENE	17.46	#N/A	22.00	#N/A	70.0	130.0	#N/A	Internal
33)	Benzene	16.65	11.00	10.65	97%	70.0	130.0	pass	Primary
34)	2,2,4-Trimethylpentane	16.61	10.00	10.38	104%	70.0	130.0	pass	Subset
35)	1,2-Dichloroethane	16.84	11.00	10.62	97%	70.0	130.0	pass	Primary
36)	Heptane	16.99	10.00	10.43	104%	70.0	130.0	pass	Subset
37)	Trichloroethene	17.88	11.00	11.17	102%	70.0	130.0	pass	Primary
38)	1,2-Dichloropropane	18.37	11.00	10.84	99%	70.0	130.0	pass	Primary
39)	1,4-Dioxane	18.56	11.00	9.08	83%	70.0	130.0	pass	Subset
40)	Bromodichloromethane	18.84	10.00	10.59	106%	70.0	130.0	pass	Subset
41)	cis-1,3-Dichloropropene	19.60	11.00	11.11	101%	70.0	130.0	pass	Primary
42)	4-Methyl-2-pentanone (MIBK)	19.82	11.00	7.69	70%	70.0	130.0	FAIL	Subset
43)	CHLOROBENZENE-d5	22.36	#N/A	22.00	#N/A	70.0	130.0	#N/A	Internal
44)	Toluene	20.07	11.00	11.29	103%	70.0	130.0	pass	Primary
45)	trans-1,3-Dichloropropene	20.54	11.00	10.65	97%	70.0	130.0	pass	Primary
46)	1,1,2-Trichloroethane	20.84	11.00	11.36	103%	70.0	130.0	pass	Primary
47)	Tetrachloroethene	20.94	11.00	10.99	100%	70.0	130.0	pass	Primary
48)	2-Hexanone	21.17	10.00	5.48	55%	70.0	130.0	FAIL	Subset
49)	Chlorodibromomethane	21.46	9.90	10.88	110%	70.0	130.0	pass	Subset
50)	1,2-Dibromoethane (EDB)	21.68	10.00	8.91	89%	70.0	130.0	pass	Primary

51)	Chlorobenzene	22.41	11.00	10.89	99%	70.0	130.0	pass	Primary
52)	Ethylbenzene	22.49	11.00	11.01	100%	70.0	130.0	pass	Primary
53)	m&p-Xylene	22.67	22.00	22.37	102%	70.0	130.0	pass	Primary
54)	o-Xylene	23.32	11.00	11.30	103%	70.0	130.0	pass	Primary
55)	Styrene	23.35	11.00	10.00	91%	70.0	130.0	pass	Primary
56)	Bromoform	23.73	11.00	10.78	98%	70.0	130.0	pass	Subset
57)	1,1,2,2-Tetrachloroethane	24.42	11.00	10.54	96%	70.0	130.0	pass	Primary
58)	4-Ethyltoluene	24.67	11.00	10.33	94%	70.0	130.0	pass	Subset
59)	1,3,5-Trimethylbenzene	24.77	11.00	11.03	100%	70.0	130.0	pass	Primary
60)	1,2,4-Trimethylbenzene	25.37	11.00	10.92	99%	70.0	130.0	pass	Primary
61)	1,3-Dichlorobenzene	25.90	11.00	10.21	93%	70.0	130.0	pass	Primary
62)	1,4-Dichlorobenzene	26.06	11.00	9.78	89%	70.0	130.0	pass	Primary
63)	Benzyl chloride	26.27	11.00	11.06	101%	70.0	130.0	pass	Subset
64)	1,2-Dichlorobenzene	26.66	11.00	10.04	91%	70.0	130.0	pass	Primary
65)	1,2,4-Trichlorobenzene	29.14	11.00	7.89	72%	70.0	130.0	pass	Primary
66)	Hexachlorobutadiene	29.27	11.00	9.40	85%	70.0	130.0	pass	Primary

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RT DUPLICATE REPORT

Instrument Name: AG5973N
Sample Name: S16K015-CAL4
Misc Info: 10ppbv 1645037
Date Acquired: 11/3/2016 15:15
QLast Update: Thu Nov 03 16:25:51 2016
Operator: LLH

#	Name	RT	CONC	Qion	
1)	BROMOCHLOROMETHANE	15.481	22.000	49	15.078
2)	Propene	4.453	10.278	41.1	
3)	Dichlorodifluoromethane	4.548	9.325	85	
4)	1,2-Dichlorotetrafluoroethane	4.903	9.721	85	
5)	Chloromethane	5.105	10.207	50	
6)	Vinyl chloride	5.425	9.870	62	
7)	1,3-Butadiene	5.520	9.120	54	
8)	Bromomethane	6.457	9.513	93.9	
9)	Chloroethane	6.789	9.014	64	
10)	Bromoethene	7.358	10.496	105.9	
11)	Trichlorofluoromethane	7.500	9.282	100.9	
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	9.338	9.661	150.9	
13)	1,1-Dichloroethene	9.410	10.337	61	
14)	Acetone	9.943	10.541	43.1	
15)	Carbon disulfide	10.133	10.715	76	
16)	2-Propanol	10.548	11.110	45.1	
17)	Allyl chloride	10.951	10.694	41.1	
18)	Dichloromethane	11.485	9.275	49	
19)	tert-Butyl methyl ether (MTBE)	12.149	11.142	73.1	
20)	trans-1,2-Dichloroethene	12.184	10.554	61	
21)	Hexane	12.777	10.270	57.1	
22)	1,1-Dichloroethane	13.513	9.849	63	
23)	Vinyl acetate	13.655	11.138	43.1	
24)	cis-1,2-Dichloroethene	14.947	10.349	61	
25)	2-Butanone (MEK)	15.030	11.032	72.1	
26)	Ethyl acetate	15.078	10.849	61.1	
27)	Tetrahydrofuran	15.493	10.281	42.1	
28)	Chloroform	15.635	9.741	82.9	
29)	Cyclohexane	15.861	10.361	56.1	
30)	1,1,1-Trichloroethane	15.908	9.407	97	
31)	Carbon tetrachloride	16.169	9.369	116.9	
32)	1,4-DIFLUOROBENZENE	17.461	22.000	114	16.987
33)	Benzene	16.655	9.971	78.1	16.608
34)	2,2,4-Trimethylpentane	16.608	10.295	57.1	
35)	1,2-Dichloroethane	16.845	9.573	62	
36)	Heptane	16.987	10.067	43.1	
37)	Trichloroethene	17.877	10.575	129.9	
38)	1,2-Dichloropropane	18.375	10.200	63	
39)	1,4-Dioxane	18.564	10.855	88.1	
40)	Bromodichloromethane	18.837	10.375	82.9	
41)	cis-1,3-Dichloropropene	19.596	10.886	75	
42)	4-Methyl-2-pentanone (MIBK)	19.821	10.193	43.1	

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43)	CHLOROBENZENE-d5	22.359	22.000	117	21.683
44)	Toluene	20.070	10.558	91.1	
45)	trans-1,3-Dichloropropene	20.545	10.866	75	
46)	1,1,2-Trichloroethane	20.841	10.602	97	
47)	Tetrachloroethene	20.936	10.369	165.9	
48)	2-Hexanone	21.161	10.559	43.1	
49)	Chlorodibromomethane	21.458	10.685	128.9	
50)	1,2-Dibromoethane (EDB)	21.683	10.799	106.9	
51)	Chlorobenzene	22.406	10.652	112	
52)	Ethylbenzene	22.489	10.511	91.1	
53)	m&p-Xylene	22.667	21.236	91.1	
54)	o-Xylene	23.320	10.619	91.1	
55)	Styrene	23.355	10.446	104.1	
56)	Bromoform	23.735	10.610	172.8	
57)	1,1,2,2-Tetrachloroethane	24.422	10.482	83	
58)	4-Ethyltoluene	24.671	10.728	105.1	
59)	1,3,5-Trimethylbenzene	24.766	10.726	105.1	
60)	1,2,4-Trimethylbenzene	25.371	10.650	105.1	
61)	1,3-Dichlorobenzene	25.905	10.380	146	
62)	1,4-Dichlorobenzene	26.059	10.376	146	
63)	Benzyl chloride	26.272	11.315	91.1	0.000
64)	1,2-Dichlorobenzene	26.664	10.156	146	0.000
65)	1,2,4-Trichlorobenzene	29.142	10.222	179.9	0.000
66)	Hexachlorobutadiene	29.273	10.011	224.8	0.000

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CHEMSTATION CONCENTRATION REPORT

Instrument Name: AG5973N
Sample Name: S16K015-SCV1
Misc Info: 10ppbv 1645041
Date Acquired: 11/3/2016 17:42
QLast Update: Thu Nov 03 17:25:24 20
Operator: LLH

#	Name	L1	L2	L3	L4	L5	L6
1)	BROMOCHLOROMETHANE	22.00	22.00	22.00	22.00	22.00	22.00
2)	Propene	1.10	2.20	5.50	11.00	16.50	22.00
3)	Dichlorodifluoromethane	0.97	1.94	4.85	9.70	14.55	19.40
4)	1,2-Dichlorotetrafluoroethane	1.00	2.00	5.00	10.00	15.00	20.00
5)	Chloromethane	1.06	2.12	5.30	10.60	15.90	21.20
6)	Vinyl chloride	1.04	2.08	5.20	10.40	15.60	20.80
7)	1,3-Butadiene	1.01	2.02	5.05	10.10	15.15	20.20
8)	Bromomethane	1.00	2.00	5.00	10.00	15.00	20.00
9)	Chloroethane	1.00	2.00	5.00	10.00	15.00	20.00
10)	Bromoethene	1.10	2.20	5.50	11.00	16.50	22.00
11)	Trichlorofluoromethane	0.98	1.96	4.90	9.80	14.70	19.60
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	1.02	2.04	5.10	10.20	15.30	20.40
13)	1,1-Dichloroethene	1.04	2.08	5.20	10.40	15.60	20.80
14)	Acetone	1.10	2.20	5.50	11.00	16.50	22.00
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	1.01	2.02	5.05	10.10	15.15	20.20
19)	tert-Butyl methyl ether (MTBE)	1.08	2.16	5.40	10.80	16.20	21.60
20)	trans-1,2-Dichloroethene	1.09	2.18	5.45	10.90	16.35	21.80
21)	Hexane	1.04	2.08	5.20	10.40	15.60	20.80
22)	1,1-Dichloroethane	1.00	2.00	5.00	10.00	15.00	20.00
23)	Vinyl acetate	1.09	2.18	5.45	10.90	16.35	21.80
24)	cis-1,2-Dichloroethene	1.04	2.08	5.20	10.40	15.60	20.80
25)	2-Butanone (MEK)	1.09	2.18	5.45	10.90	16.35	21.80
26)	Ethyl acetate	1.08	2.16	5.40	10.80	16.20	21.60
27)	Tetrahydrofuran	1.06	2.12	5.30	10.60	15.90	21.20
28)	Chloroform	1.01	2.02	5.05	10.10	15.15	20.20
29)	Cyclohexane	1.06	2.12	5.30	10.60	15.90	21.20
30)	1,1,1-Trichloroethane	0.98	1.96	4.90	9.80	14.70	19.60
31)	Carbon tetrachloride	0.97	1.94	4.85	9.70	14.55	19.40
32)	1,4-DIFLUOROBENZENE	22.00	22.00	22.00	22.00	22.00	22.00
33)	Benzene	1.03	2.06	5.15	10.30	15.45	20.60
34)	2,2,4-Trimethylpentane	1.06	2.12	5.30	10.60	15.90	21.20
35)	1,2-Dichloroethane	1.00	2.00	5.00	10.00	15.00	20.00
36)	Heptane	1.06	2.12	5.30	10.60	15.90	21.20
37)	Trichloroethene	1.08	2.16	5.40	10.80	16.20	21.60
38)	1,2-Dichloropropane	1.03	2.06	5.15	10.30	15.45	20.60
39)	1,4-Dioxane	1.10	2.20	5.50	11.00	16.50	22.00
40)	Bromodichloromethane	1.07	2.14	5.35	10.70	16.05	21.40
41)	cis-1,3-Dichloropropene	1.08	2.16	5.40	10.80	16.20	21.60
42)	4-Methyl-2-pentanone (MIBK)	1.07	2.14	5.35	10.70	16.05	21.40

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43)	CHLOROBENZENE-d5	22.00	22.00	22.00	22.00	22.00	22.00
44)	Toluene	1.05	2.10	5.25	10.50	15.75	21.00
45)	trans-1,3-Dichloropropene	1.06	2.12	5.30	10.60	15.90	21.20
46)	1,1,2-Trichloroethane	1.06	2.12	5.30	10.60	15.90	21.20
47)	Tetrachloroethene	1.06	2.12	5.30	10.60	15.90	21.20
48)	2-Hexanone	1.09	2.18	5.45	10.90	16.35	21.80
49)	Chlorodibromomethane	1.08	2.16	5.40	10.80	16.20	21.60
50)	1,2-Dibromoethane (EDB)	1.09	2.18	5.45	10.90	16.35	21.80
51)	Chlorobenzene	1.07	2.14	5.35	10.70	16.05	21.40
52)	Ethylbenzene	1.05	2.10	5.25	10.50	15.75	21.00
53)	m&p-Xylene	2.12	4.24	10.60	21.20	31.80	42.40
54)	o-Xylene	1.05	2.10	5.25	10.50	15.75	21.00
55)	Styrene	1.03	2.06	5.15	10.30	15.45	20.60
56)	Bromoform	1.07	2.14	5.35	10.70	16.05	21.40
57)	1,1,2,2-Tetrachloroethane	1.04	2.08	5.20	10.40	15.60	20.80
58)	4-Ethyltoluene	1.08	2.16	5.40	10.80	16.20	21.60
59)	1,3,5-Trimethylbenzene	1.07	2.14	5.35	10.70	16.05	21.40
60)	1,2,4-Trimethylbenzene	1.06	2.12	5.30	10.60	15.90	21.20
61)	1,3-Dichlorobenzene	1.05	2.10	5.25	10.50	15.75	21.00
62)	1,4-Dichlorobenzene	1.05	2.10	5.25	10.50	15.75	21.00
63)	Benzyl chloride	1.10	2.20	5.50	11.00	16.50	22.00
64)	1,2-Dichlorobenzene	1.04	2.08	5.20	10.40	15.60	20.80
65)	1,2,4-Trichlorobenzene	1.04	2.08	5.20	10.40	15.60	20.80
66)	Hexachlorobutadiene	1.03	2.06	5.15	10.30	15.45	20.60

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CALIBRATION AREA REPORT

Instrument Name: AG5973N
Sample Name: S16K015-SCV1
Misc Info: 10ppbv 1645041
Date Acquired: 11/3/2016 17:42
QLast Update: Thu Nov 03 17:25:24 20
Operator: LLH

#	Name	L1	L2	L3	L4	L5	L6
1)	BROMOCHLOROMETHANE	1003502	966218	951180	915282	907113	893022
2)	Propene	34182	68797	142653	270980	402848	525294
3)	Dichlorodifluoromethane	108092	228336	484141	917121	1362833	1792902
4)	1,2-Dichlorotetrafluoroethane	108971	234037	490899	928340	1384591	1820494
5)	Chloromethane	36888	77960	163521	305475	451982	593122
6)	Vinyl chloride	35511	76815	160704	302761	452459	594877
7)	1,3-Butadiene	27706	54462	112933	212352	317142	414397
8)	Bromomethane	33383	71844	149213	277597	414244	544724
9)	Chloroethane	16193	33780	70239	128504	190197	247678
10)	Bromoethene	38128	77365	156505	292606	432772	568519
11)	Trichlorofluoromethane	96795	207484	432168	805234	1184520	1554685
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	67519	141305	289340	538810	794317	1036484
13)	1,1-Dichloroethene	63400	137006	286620	536868	788041	1028373
14)	Acetone	71953	127141	254267	520491	751462	981929
15)	Carbon disulfide	108600	221202	464050	870212	1280305	1669987
16)	2-Propanol	67505	137371	278659	545410	797272	1035921
17)	Allyl chloride	53955	108575	231658	436306	639805	829716
18)	Dichloromethane	55872	106401	211537	385489	559144	723300
19)	tert-Butyl methyl ether (MTBE)	136214	245502	528447	1072042	1563673	2061003
20)	trans-1,2-Dichloroethene	62742	127292	267509	497439	732700	951834
21)	Hexane	75041	149882	315082	588563	859459	1122813
22)	1,1-Dichloroethane	77769	164519	343825	640424	938479	1216955
23)	Vinyl acetate	108675	210100	470277	910748	1341880	1761882
24)	cis-1,2-Dichloroethene	57024	119002	253275	475201	699456	914512
25)	2-Butanone (MEK)	24871	45537	91103	190505	277577	365943
26)	Ethyl acetate	16396	28551	59958	123233	179940	237173
27)	Tetrahydrofuran	54694	99795	203509	415417	601220	781652
28)	Chloroform	86456	181637	383731	716350	1053190	1371763
29)	Cyclohexane	78143	153335	323296	606114	885615	1152137
30)	1,1,1-Trichloroethane	90516	188627	402015	756789	1117442	1467095
31)	Carbon tetrachloride	91434	194170	417554	789711	1166800	1534013
32)	1,4-DIFLUOROBENZENE	3206029	3059813	2968257	2828918	2808039	2764685
33)	Benzene	138917	286461	601789	1117931	1628857	2120727
34)	2,2,4-Trimethylpentane	246450	477248	1014313	1896728	2766719	3602850
35)	1,2-Dichloroethane	56985	118693	253352	477179	701480	918553
36)	Heptane	86010	165951	359264	674022	978704	1264000
37)	Trichloroethene	57433	116066	250266	473298	697653	919614
38)	1,2-Dichloropropane	50632	102773	220972	416591	611287	796605
39)	1,4-Dioxane	32869	71099	141498	271876	393850	511157
40)	Bromodichloromethane	101129	195744	429468	824907	1221805	1602061
41)	cis-1,3-Dichloropropene	77600	155762	347517	665043	982552	1292828
42)	4-Methyl-2-pentanone (MIBK)	112880	230685	453968	906536	1311141	1700885

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

43)	CHLOROBENZENE-d5	2728701	2611779	2519693	2341560	2347356	2281988
44)	Toluene	167177	328421	718113	1367816	1998109	2612774
45)	trans-1,3-Dichloropropene	68855	138067	318989	617419	918603	1210974
46)	1,1,2-Trichloroethane	54774	106811	234047	449763	663377	872965
47)	Tetrachloroethene	78094	153102	336766	647625	963620	1274952
48)	2-Hexanone	100056	219087	428341	848888	1227419	1598750
49)	Chlorodibromomethane	101516	188924	430510	846266	1261749	1677588
50)	1,2-Dibromoethane (EDB)	83218	161267	354936	678974	996160	1306280
51)	Chlorobenzene	131219	250177	552956	1055016	1532913	2012355
52)	Ethylbenzene	218350	422011	934781	1798582	2637206	3457016
53)	m&p-Xylene	338205	651469	1453007	2836433	4145345	5447870
54)	o-Xylene	170701	329797	730406	1434207	2103264	2771639
55)	Styrene	129541	250244	560396	1098594	1606748	2118226
56)	Bromoform	97357	186073	429085	866387	1288087	1713148
57)	1,1,2,2-Tetrachloroethane	126076	248236	516909	1029523	1491558	1960658
58)	4-Ethyltoluene	284407	530106	1105715	2195270	3176654	4193190
59)	1,3,5-Trimethylbenzene	205381	411740	864853	1711873	2477334	3260039
60)	1,2,4-Trimethylbenzene	203522	421793	872677	1729319	2519404	3320073
61)	1,3-Dichlorobenzene	128197	258162	536297	1078699	1574378	2081669
62)	1,4-Dichlorobenzene	121246	247734	518848	1040049	1511861	1997573
63)	Benzyl chloride	153994	323733	687895	1427969	2097779	2787564
64)	1,2-Dichlorobenzene	128599	260884	527592	1057620	1528574	2030778
65)	1,2,4-Trichlorobenzene	95491	201693	436788	907186	1355551	1836205
66)	Hexachlorobutadiene	109896	242783	515826	1029600	1504910	2003839

CHEMSTATION VS LIMS CONCENTRATION REPORT

Instrument Name: AG5973N
Sample Name: S16K015-SCV1
Misc Info: 10ppbv 1645041
Date Acquired: 11/3/2016 17:42
QLast Update: Thu Nov 03 17:25:24 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: AG5973N
Sample Name: S16K015-SCV1
Misc Info: 10ppbv 1645041
Date Acquired: 11/3/2016 17:42
QLast Update: Thu Nov 03 17:25:24 2
Operator: LLH

#	Name	Amount	L1 1	L2 2	L3 5	L4 10	L5 15	L6 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	0.0194	0.97	1.94	4.85	9.70	14.55	19.40
4)	1,2-Dichlorotetrafluoroethane	0.02	1.00	2.00	5.00	10.00	15.00	20.00
5)	Chloromethane	0.0212	1.06	2.12	5.30	10.60	15.90	21.20
6)	Vinyl chloride	0.0208	1.04	2.08	5.20	10.40	15.60	20.80
7)	1,3-Butadiene	0.0202	1.01	2.02	5.05	10.10	15.15	20.20
8)	Bromomethane	0.02	1.00	2.00	5.00	10.00	15.00	20.00
9)	Chloroethane	0.02	1.00	2.00	5.00	10.00	15.00	20.00
10)	Bromoethene	0.022	1.10	2.20	5.50	11.00	16.50	22.00
11)	Trichlorofluoromethane	0.0196	0.98	1.96	4.90	9.80	14.70	19.60
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0204	1.02	2.04	5.10	10.20	15.30	20.40
13)	1,1-Dichloroethene	0.0208	1.04	2.08	5.20	10.40	15.60	20.80
14)	Acetone	0.022	1.10	2.20	5.50	11.00	16.50	22.00
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	0.0202	1.01	2.02	5.05	10.10	15.15	20.20
19)	tert-Butyl methyl ether (MTBE)	0.0216	1.08	2.16	5.40	10.80	16.20	21.60
20)	trans-1,2-Dichloroethene	0.0218	1.09	2.18	5.45	10.90	16.35	21.80
21)	Hexane	0.0208	1.04	2.08	5.20	10.40	15.60	20.80
22)	1,1-Dichloroethane	0.02	1.00	2.00	5.00	10.00	15.00	20.00
23)	Vinyl acetate	0.0218	1.09	2.18	5.45	10.90	16.35	21.80
24)	cis-1,2-Dichloroethene	0.0208	1.04	2.08	5.20	10.40	15.60	20.80
25)	2-Butanone (MEK)	0.0218	1.09	2.18	5.45	10.90	16.35	21.80
26)	Ethyl acetate	0.0216	1.08	2.16	5.40	10.80	16.20	21.60
27)	Tetrahydrofuran	0.0212	1.06	2.12	5.30	10.60	15.90	21.20
28)	Chloroform	0.0202	1.01	2.02	5.05	10.10	15.15	20.20
29)	Cyclohexane	0.0212	1.06	2.12	5.30	10.60	15.90	21.20
30)	1,1,1-Trichloroethane	0.0196	0.98	1.96	4.90	9.80	14.70	19.60
31)	Carbon tetrachloride	0.0194	0.97	1.94	4.85	9.70	14.55	19.40
32)	1,4-DIFLUOROBENZENE	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
33)	Benzene	0.0206	1.03	2.06	5.15	10.30	15.45	20.60
34)	2,2,4-Trimethylpentane	0.0212	1.06	2.12	5.30	10.60	15.90	21.20
35)	1,2-Dichloroethane	0.02	1.00	2.00	5.00	10.00	15.00	20.00
36)	Heptane	0.0212	1.06	2.12	5.30	10.60	15.90	21.20
37)	Trichloroethene	0.0216	1.08	2.16	5.40	10.80	16.20	21.60
38)	1,2-Dichloropropane	0.0206	1.03	2.06	5.15	10.30	15.45	20.60
39)	1,4-Dioxane	0.022	1.10	2.20	5.50	11.00	16.50	22.00
40)	Bromodichloromethane	0.0214	1.07	2.14	5.35	10.70	16.05	21.40
41)	cis-1,3-Dichloropropene	0.0216	1.08	2.16	5.40	10.80	16.20	21.60
42)	4-Methyl-2-pentanone (MIBK)	0.0214	1.07	2.14	5.35	10.70	16.05	21.40
43)	CHLOROBENZENE-d5	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44)	Toluene	0.021	1.05	2.10	5.25	10.50	15.75	21.00
45)	trans-1,3-Dichloropropene	0.0212	1.06	2.12	5.30	10.60	15.90	21.20
46)	1,1,2-Trichloroethane	0.0212	1.06	2.12	5.30	10.60	15.90	21.20
47)	Tetrachloroethene	0.0212	1.06	2.12	5.30	10.60	15.90	21.20
48)	2-Hexanone	0.0218	1.09	2.18	5.45	10.90	16.35	21.80
49)	Chlorodibromomethane	0.0216	1.08	2.16	5.40	10.80	16.20	21.60

50)	1,2-Dibromoethane (EDB)	0.0218	1.09	2.18	5.45	10.90	16.35	21.80
51)	Chlorobenzene	0.0214	1.07	2.14	5.35	10.70	16.05	21.40
52)	Ethylbenzene	0.021	1.05	2.10	5.25	10.50	15.75	21.00
53)	m&p-Xylene	0.0424	2.12	4.24	10.60	21.20	31.80	42.40
54)	o-Xylene	0.021	1.05	2.10	5.25	10.50	15.75	21.00
55)	Styrene	0.0206	1.03	2.06	5.15	10.30	15.45	20.60
56)	Bromoform	0.0214	1.07	2.14	5.35	10.70	16.05	21.40
57)	1,1,2,2-Tetrachloroethane	0.0208	1.04	2.08	5.20	10.40	15.60	20.80
58)	4-Ethyltoluene	0.0216	1.08	2.16	5.40	10.80	16.20	21.60
59)	1,3,5-Trimethylbenzene	0.0214	1.07	2.14	5.35	10.70	16.05	21.40
60)	1,2,4-Trimethylbenzene	0.0212	1.06	2.12	5.30	10.60	15.90	21.20
61)	1,3-Dichlorobenzene	0.021	1.05	2.10	5.25	10.50	15.75	21.00
62)	1,4-Dichlorobenzene	0.021	1.05	2.10	5.25	10.50	15.75	21.00
63)	Benzyl chloride	0.022	1.10	2.20	5.50	11.00	16.50	22.00
64)	1,2-Dichlorobenzene	0.0208	1.04	2.08	5.20	10.40	15.60	20.80
65)	1,2,4-Trichlorobenzene	0.0208	1.04	2.08	5.20	10.40	15.60	20.80
66)	Hexachlorobutadiene	0.0206	1.03	2.06	5.15	10.30	15.45	20.60

U.S. EPA Region 9 Laboratory

Discrepancy #: D15-011

Form Initiator: Estrellita Manuel **Entry Date:** 2/24/2015

Case:	Project:	SDG:
All Cases	NA	NA

SOP:	Analysis:	Rev.:	Analyst:	Date:
311	VOCs in Soil Gas	3	All Analysts	2/20/2015
SOP:	**Prep:**	**Rev.:**	**Analyst:**	**Date:**

Discrepancy Type (check all that apply):

LCS:

- ☐ High
- ☐ Low
- ☐ Frequency

MS/MSD:

- ☐ High
- ☐ Low
- ☐ RPD
- ☐ Frequency

Holding Time:

- ☐ Prep/extract
- ☐ Analysis

Blank:

- ☐ MB
- ☐ IB
- ☐ CB
- ☐ Frequency

Surrogate:

- ☐ High
- ☐ Low
- ☐ Frequency

Calibration:

- ☐ ICAL
- ☐ SVC
- ☐ CCAL
- ☐ QLS
- ☐ Frequency

Other:

- ☑ Other (describe)

Contaminated internal standards

Describe Discrepancy:

Restek internal standard (IS) stock mixes 1506025 and 1508151 have 0.5 ppbv of dichloromethane (DCM). The observed concentration is 1/2 of the reporting limit. Depending on the experimental error in calculating DCM concentration, the value may fall just above or just below the reportable concentration limit. The issue does not impact the SIM analysis since the internal standard used for the SIM analysis is at lower concentration and therefore the DCM is diluted to about 10 pptv which is below the SIM reporting limit of 50 pptv.

Describe Corrective Actions:

ESAT chemists notified Restek about the internal standards contamination issue (Restek Reference # 039048). The laboratory is currently working with Restek on the issue and on obtaining replacement cylinders. The laboratory will continue to use the contaminated stock until replacements are obtained. Dichloromethane below 2.5 ppbv (5X the observed IS concentration) will be flagged B to reflect the IS contamination issue. A copy of this discrepancy will be included in all cases where the contaminated internal standards were utilized.

U.S. EPA Region 9 Laboratory

Discrepancy #: D15-011

Approvals:

Supervisor (EPA or ESAT): Ziyad Rajabi	Date: 3/2/2015
EPA Team Leader or ESAT QA/QC: Adriane Scheele	Date: 3/3/2015
EPA Lab QAO: Lucrina Jones	Date: 3/3/2015
Check if Corrective Action Form Generated: ☐	Form #:

QAO Comments:

SEQUENCE

S16K015

Analysis Sequence

S16K015

Project:
Analysis:

Instrument: AG5973N **Calibration ID:** 1611002 Printed: 11/04/2016 10:46 am

Lab Number	Sample Name	Order	Analyzed Date	STD ID	ISTD ID	Sequenced By	File ID	Comments
S16K015-TUN1	MS Tune	1	11/3/16 12:11	1617033		LLH	110316N04.D	
S16K015-CAL1	Cal Std TO15	2	11/3/16 12:56	1645034		LLH	110316N05.D	
S16K015-CAL2	Cal Std TO15	3	11/3/16 13:42	1645035		LLH	110316N06.D	
S16K015-CAL3	Cal Std TO15	4	11/3/16 14:28	1645036		LLH	110316N07.D	
S16K015-CAL4	Cal Std TO15	5	11/3/16 15:15	1645037		LLH	110316N08.D	
S16K015-CAL5	Cal Std TO15	6	11/3/16 16:03	1645038		LLH	110316N09.D	
S16K015-CAL6	Cal Std TO15	7	11/3/16 16:53	1645039		LLH	110316N10.D	
S16K015-SCV1	SCV TO15	8	11/3/16 17:42	1645041		LLH	110316N11.D	

Sequence Comments

Reagents

Reagent #	Description

ANALYST / REVIEWER - DATA REVIEW CHECKLIST

BATCH #:	N/A	SEQUENCE #:	S16K015 11/03/16
BATCH #:	N/A	ANALYSIS:	TO15 ICAL AG5973N

	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.	11/3/2016 Thu Nov 03 17:25:24 2016			
	Initial Calibration ID (LIMS number):	1611002			
	ICAL within QC criteria?		Y	Y	NO OUTLIERS
	SCV within QC criteria?		Y	Y	Chloromethane 131%; 2-Hexanone 55%
INSTRUMENT / QC CHECKS	Tune or degradation checks within QC criteria?		Y	Y	
	CCV(s) within QC criteria?	✔			
	QLS(s) within QC criteria?	✔			
	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 #:	S16K015	11/03/16
BATCH #:	N/A	ANALYSIS:	TO15 ICAL	AG5973N

	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 11/3/2016
	REVIEWED BY:	Ziyad Rajabi (affiliate) Digitally signed by Ziyad Rajabi (affiliate) Date: 2016.11.18 12:19:58 -08'00' SIGN HERE

COMMENTS

Injection Log

Directory: d:\msdchem\1\2016\data\110316_FSAA

Table of Contents

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	31	110316N01.D	1.	PRIME		3 Nov 2016 09:44
2	32	110316N02.D	1.	PRIME		3 Nov 2016 10:33
3	34	110316N03.D	1.	PRIME		3 Nov 2016 11:23
4	31	110316N04.D	1.	S16K015-TUN1	BFB 1637033	3 Nov 2016 12:11
5	31	110316N05.D	1.	S16K015-CAL1	1.0ppbv 1645034	3 Nov 2016 12:56
6	32	110316N06.D	1.	S16K015-CAL2	2.0ppbv 1645035	3 Nov 2016 13:42
7	32	110316N07.D	1.	S16K015-CAL3	5.0ppbv 1645036	3 Nov 2016 14:28
8	32	110316N08.D	1.	S16K015-CAL4	10ppbv 1645037	3 Nov 2016 15:15
9	32	110316N09.D	1.	S16K015-CAL5	15ppbv 1645038	3 Nov 2016 16:03
10	32	110316N10.D	1.	S16K015-CAL6	20ppbv 1645039	3 Nov 2016 16:53
11	34	110316N11.D	1.	S16K015-SCV1	10ppbv 1645041	3 Nov 2016 17:42
12	34	110316N12.D	1.	S16K015-SCV1	10ppbv 1645041	3 Nov 2016 18:31
13	33	110316N13.D	1.	IB	200ml BLANK	3 Nov 2016 19:20

GC/MS QA-QC Check Report

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Tune File : D:\msdchem\1\2016\data\110316_FSAA\110316N04.D
Tune Time : 3 Nov 2016 12:11 pm

Daily Calibration File : D:\msdchem\1\2016\data\110316_FSAA\110316N08.D

File	Sample	Surrogate Recovery %	Internal Standard Responses		
			915282	2828920	2341560
110316N05.D	S16K015-CAL1	1003502	3206029	2728701	
110316N06.D	S16K015-CAL2	966218	3059813	2611779	
110316N07.D	S16K015-CAL3	951180	2968257	2519693	
110316N08.D	S16K015-CAL4	915282	2828918	2341560	
110316N09.D	S16K015-CAL5	907113	2808039	2347356	
110316N10.D	S16K015-CAL6	893022	2764685	2281988	
110316N11.D	S16K015-SCV1	894696	2756206	2276287	2 OUTLIERS
110316N12.D	S16K015-SCV1	889676	2725064	2248999	NU 0 OUTLIERS
110316N13.D	IB	894378	2706704	2217604	

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

Created: Fri Nov 04 10:03:26 2016 AG5973N

----------SEQUENCE TABLE ----------

Sequence Name: D:\smart\2016\110316N_FSAA.SEQ
Date: 11-04-2016
Time: 10:48:08
Int. Std Volume: 40 cc

Sample Name	Inlet #	Auto Pos	Samp Vol.	Cal Std Vol.	Method	Time
PRIME	3	1	100	40	D:\Smart\TO15.CTD	12:00
PRIME	3	2	100	40	D:\Smart\TO15.CTD	12:00
PRIME	3	4	200	40	D:\Smart\TO15.CTD	12:00
BFB	3	1	50	40	D:\Smart\TO15.CTD	12:00
CAL1 1.0ppbv	3	1	20		D:\Smart\TO15.CTD	12:00
CAL2 2.0ppbv	3	2	20		D:\Smart\TO15.CTD	12:00
CAL3 5.0ppbv	3	2	50		D:\Smart\TO15.CTD	12:00
CAL4 10ppbv	3	2	100		D:\Smart\TO15.CTD	12:00
CAL5 15ppbv	3	2	150		D:\Smart\TO15.CTD	12:00
CAL6 20ppbv	3	2	200		D:\Smart\TO15.CTD	12:00
SCV1 10ppbv	3	4	200		D:\Smart\TO15.CTD	12:00
SCV1 10ppbv	3	4	200		D:\Smart\TO15.CTD	12:00
IB	3	3	200		D:\Smart\TO15.CTD	12:00

SEQUENCE DATA

S16K015

S16K015-TUN1

Table of Contents

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Data Path : D:\msdchem\1\2016\data\110316_FSAA\
Data File : 110316N04.D
Acq On    :  3 Nov 2016  12:11 pm
InstName  : AG5973N
Operator  : LLH
Sample    : S16K015-TUN1
Misc      : BFB 1637033
ALS Vial  : 31   Sample Multiplier: 1

Integration File: rteint.p

Method    : D:\msdchem\1\2016\method\110316N_TO15AA.M
Title     : TO15
Last Update  : Thu Nov 03 10:34:58 2016
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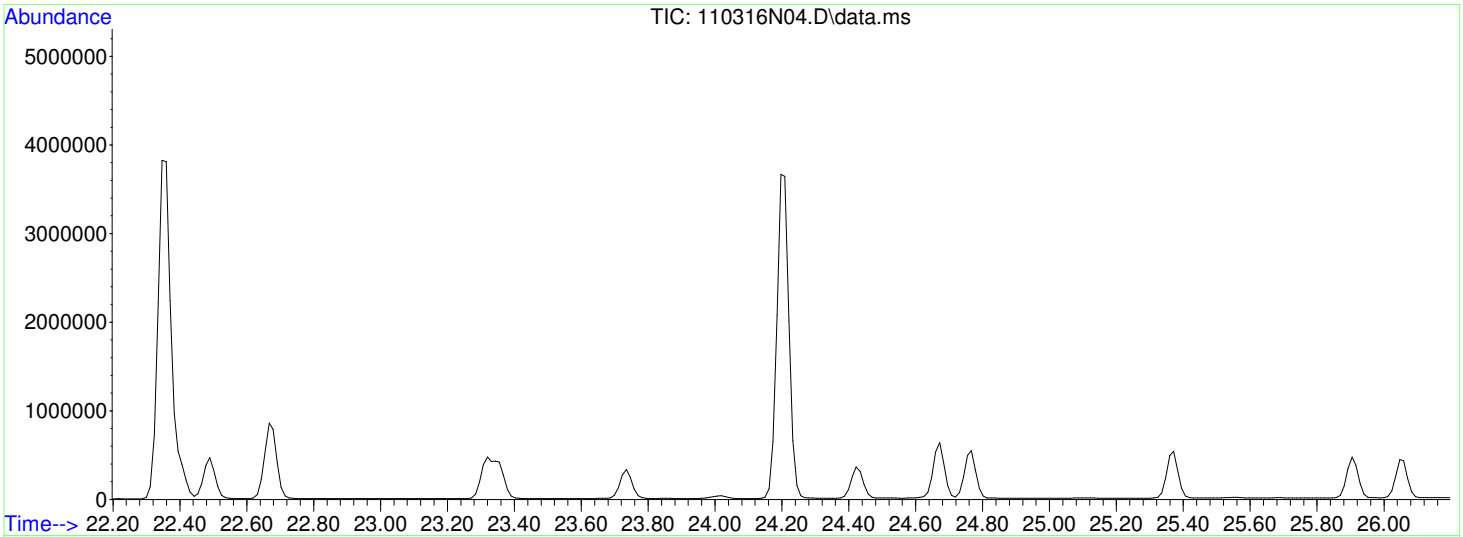
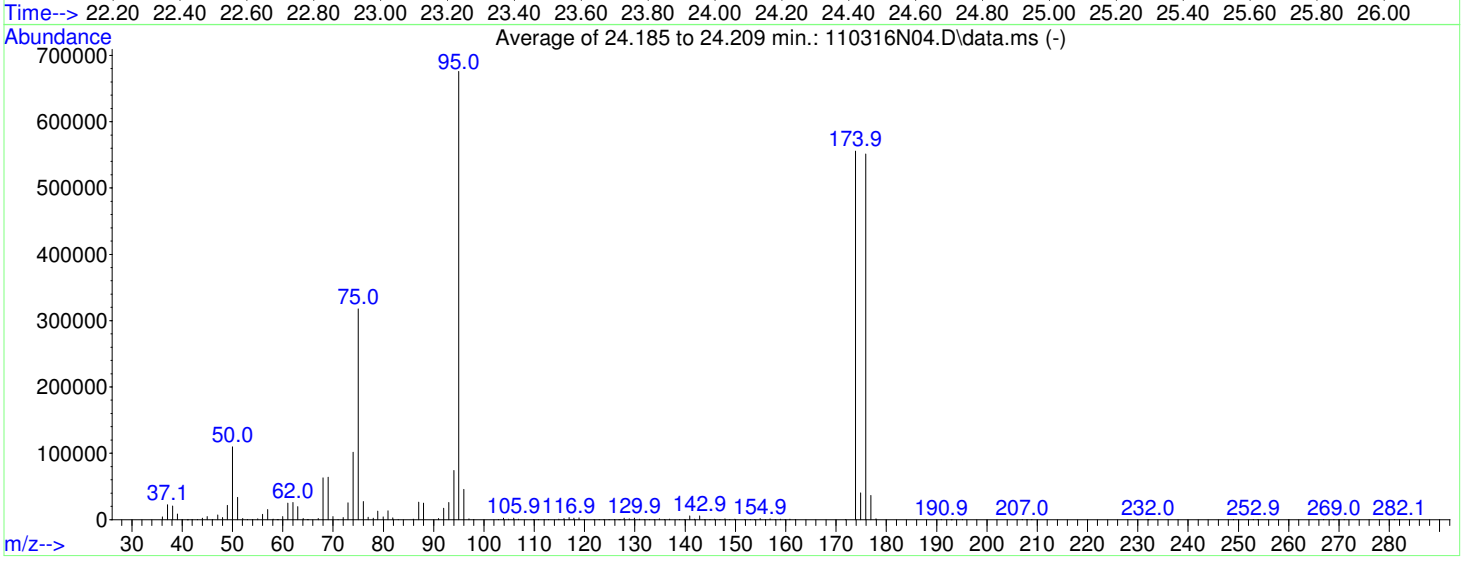


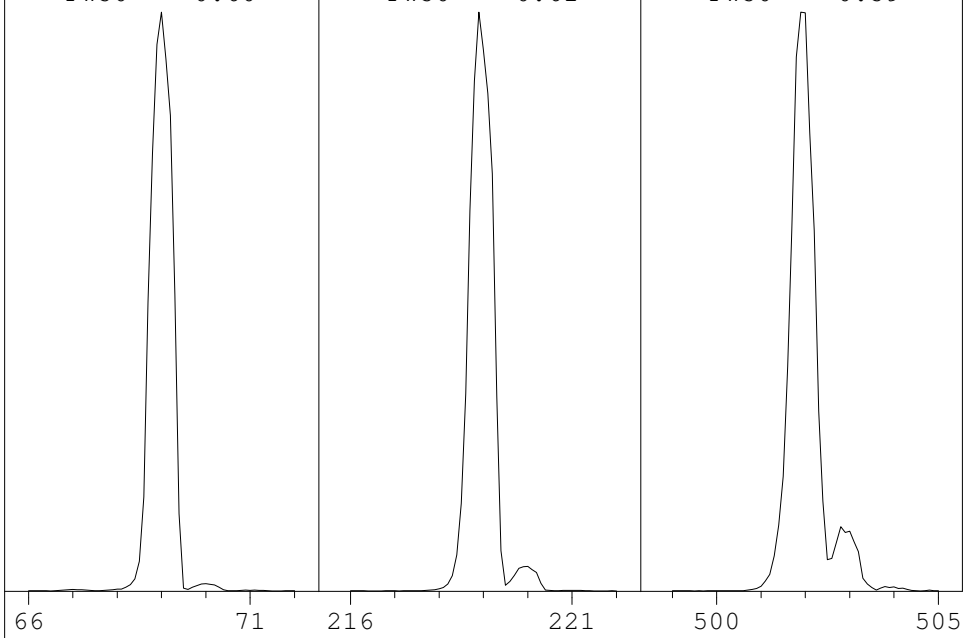


AutoFind: Scans 1738, 1739, 1740; Background Corrected with Scan 1731

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	16.3	109864	PASS
75	95	30	66	47.1	317909	PASS
95	95	100	100	100.0	675563	PASS
96	95	5	9	6.8	45701	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	82.3	555861	PASS
175	174	4	9	7.2	40211	PASS
176	174	93	101	99.2	551531	PASS
177	176	5	9	6.6	36232	PASS

Thu Nov 03 09:16:44 2016 Instrum
C:\msdchem\1\5973N\bfb0110316.u US43120931

Mass	69.00	Mass	218.90	Mass	501.90
Ab	408859	Ab	270606	Ab	19318
Pw50	0.60	Pw50	0.61	Pw50	0.59

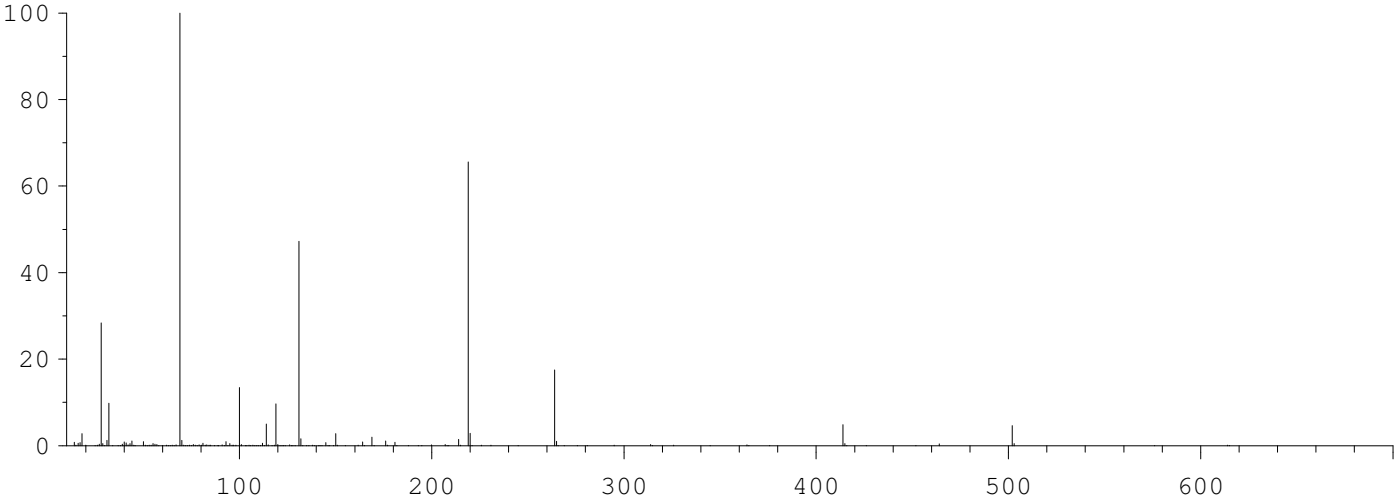


Ion Pol	Pos	MassGain	135
		MassOffs	-10
Emission	34.6	AmuGain	2543
EIEnrgy	69.9	AmuOffs	131
Filament	1	Wid219	-0.018
		DC Pol	Pos
Repeller	28.28		
IonFcus	90.2	HEDEnab	On
EntLens	12.0	EMVolts	1118
EntOffs	19.33		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	Turbo Speed	100
MS Quad	150		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
162 peaks Base: 69.00 Abundance: 388992



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	388992	100.00	70.00	4781	1.23
219.00	255104	65.58	220.00	11231	4.40
502.00	18160	4.67	503.00	1905	10.49

Air/Water Check: H20~2.75% N2~28.35% O2~9.78% CO2~1.08% N2/H2O~1029.94%

Column(1) Flow: 1.499 Column(2): 0 ml/min. Interface Temp: 230

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 219; EM Gain 87692
Repeller Maximum 35 volts using ion 502; Gain Factor 0.88

MassGain Values(Samples): 143(3) 151(2) 164(1) 190(0) 225(FS)

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	131.0	131.0	131.0	131.0	131.0	131.0	131.0
Entrance Lens Offset:	19.3	19.3	19.3	19.3	19.3	19.3	19.3

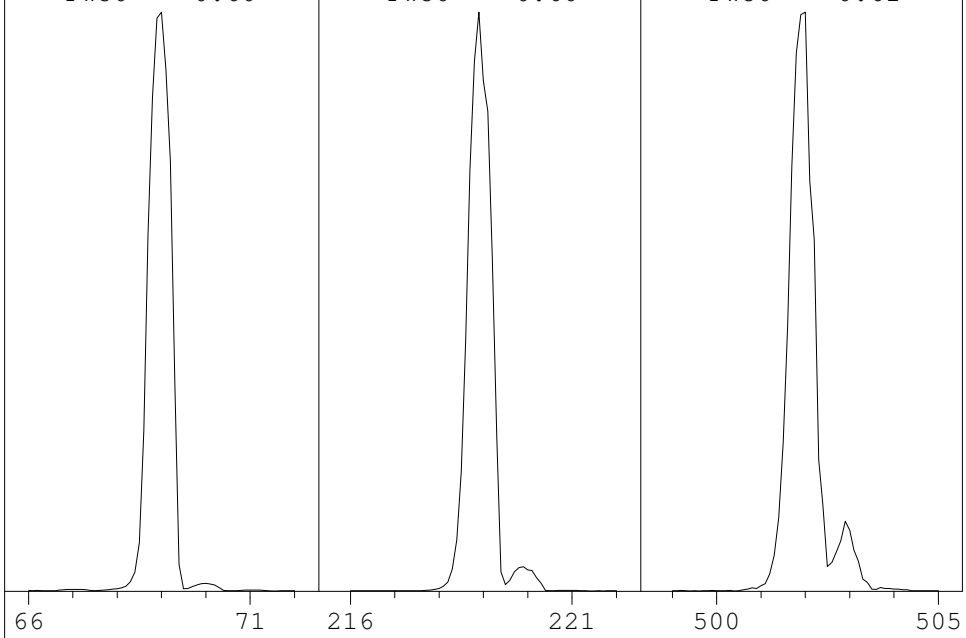
BFB Autotune

Thu Nov 03 09:14:00 2016 Instrum

C:\MSDCHEM\1\5973N\BFB_Atune.u US43120931

Table of Contents

Mass	Ab	Pw50
69.00	537211	0.60
218.90	374605	0.60
502.00	26621	0.61

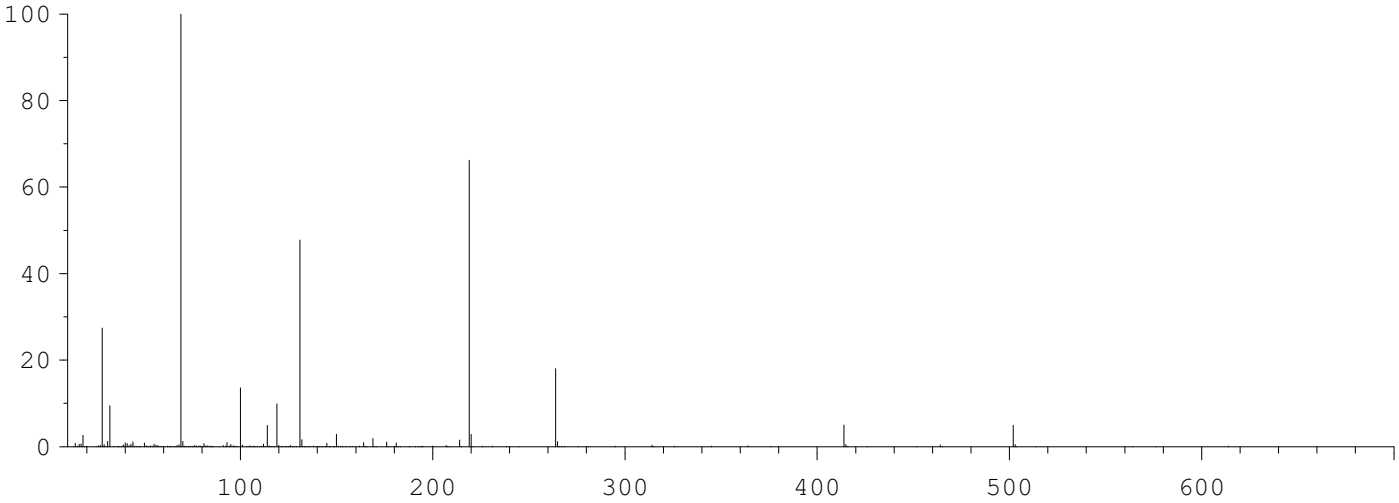


Ion Pol	Pos	MassGain	135
		MassOffs	-10
Emission	34.6	AmuGain	2543
EIEnrgy	69.9	AmuOffs	131
Filament	1	Wid219	-0.018
		DC Pol	Pos
Repeller	29.12		
IonFcus	90.2	HEDEnab	On
EntLens	12.0	EMVolts	1153
EntOffs	19.33		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	Turbo Speed	100
MS Quad	150		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
187 peaks Base: 69.00 Abundance: 522048



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	522048	100.00	70.00	6553	1.26
219.00	345216	66.13	220.00	14828	4.30
502.00	25536	4.89	503.00	2580	10.10

Air/Water Check: H20~2.66% N2~27.39% O2~9.46% CO2~1.11% N2/H2O~1029.94%

Column(1) Flow: 1.499 Column(2): 0 ml/min. Interface Temp: 230

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 219; EM Gain 115201
Repeller Maximum 35 volts using ion 502; Gain Factor 1.15

MassGain Values(Samples): 143(3) 151(2) 164(1) 190(0) 225(FS)

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	131.0	131.0	131.0	131.0	131.0	131.0	131.0
Entrance Lens Offset:	19.3	19.3	19.3	19.3	19.3	19.3	19.3

S16K015-CAL1

Data Path : D:\msdchem\1\2016\data\110316_FSAA\
Data File : 110316N05.D
Acq On : 3 Nov 2016 12:56 pm
InstName : AG5973N
Operator : LLH
Sample : S16K015-CAL1
Misc : 1.0ppbv 1645034
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Nov 03 16:23:26 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 16:23:06 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	1003502	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	3206029	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	2728701	22.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.453	41	34182	1.18	ppbv	96
3) Dichlorodifluoromethane	4.547	85	108092	1.00	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.903	85	108971	1.04	ppbv	98
5) Chloromethane	5.093	50	36888	1.12	ppbv	99
6) Vinyl chloride	5.425	62	35511	1.06	ppbv	97
7) 1,3-Butadiene	5.520	54	27706	1.09	ppbv	99
8) Bromomethane	6.457	94	33383	1.04	ppbv	100
9) Chloroethane	6.789	64	16193	1.04	ppbv	83
10) Bromoethene	7.358	106	38128	1.25	ppbv	99
11) Trichlorofluoromethane	7.500	101	96795	1.02	ppbv	98
12) 1,1,2-Trichloro-1,2,2-...	9.338	151	67519	1.10	ppbv	99
13) 1,1-Dichloroethene	9.409	61	63400	1.11	ppbv	97
14) Acetone	9.955	43	71953	1.33	ppbv	97
15) Carbon disulfide	10.133	76	108600	1.22	ppbv	99
16) 2-Propanol	10.548	45	67505	1.25	ppbv	99
17) Allyl chloride	10.939	41	53955	1.21	ppbv	97
18) Dichloromethane	11.473	49	55872	1.23	ppbv	97
19) tert-Butyl methyl ethe...	12.161	73	136214	1.29	ppbv	99
20) trans-1,2-Dichloroethene	12.184	61	62742	1.21	ppbv	96
21) Hexane	12.777	57	75041	1.19	ppbv	100
22) 1,1-Dichloroethane	13.501	63	77769	1.09	ppbv	99
23) Vinyl acetate	13.655	43	108675	1.21	ppbv	99
24) cis-1,2-Dichloroethene	14.935	61	57024	1.13	ppbv	96
25) 2-Butanone (MEK)	15.030	72	24871	1.31	ppbv #	100
26) Ethyl acetate	15.078	61	16396	1.32	ppbv #	97
27) Tetrahydrofuran	15.493	42	54694	1.23	ppbv	99
28) Chloroform	15.635	83	86456	1.07	ppbv	98
29) Cyclohexane	15.860	56	78143	1.22	ppbv	100
30) 1,1,1-Trichloroethane	15.908	97	90516	1.03	ppbv	99
31) Carbon tetrachloride	16.169	117	91434	0.99	ppbv	99
33) Benzene	16.655	78	138917	1.09	ppbv	100
34) 2,2,4-Trimethylpentane	16.608	57	246450	1.18	ppbv	99
35) 1,2-Dichloroethane	16.845	62	56985	1.01	ppbv	100
36) Heptane	16.987	43	86010	1.13	ppbv	98
37) Trichloroethene	17.876	130	57433	1.13	ppbv	99
38) 1,2-Dichloropropane	18.374	63	50632	1.09	ppbv	99
39) 1,4-Dioxane	18.564	88	32869	1.16	ppbv	99
40) Bromodichloromethane	18.837	83	101129	1.12	ppbv	100
41) cis-1,3-Dichloropropene	19.596	75	77600	1.12	ppbv	99
42) 4-Methyl-2-pentanone (...	19.821	43	112880	1.12	ppbv	99
44) Toluene	20.070	91	167177	1.11	ppbv	99
45) trans-1,3-Dichloropropene	20.545	75	68855	1.04	ppbv	95
46) 1,1,2-Trichloroethane	20.841	97	54774	1.11	ppbv	99
47) Tetrachloroethene	20.936	166	78094	1.07	ppbv	99
48) 2-Hexanone	21.173	43	100056	1.07	ppbv	100
49) Chlorodibromomethane	21.458	129	101516	1.10	ppbv	99
50) 1,2-Dibromoethane (EDB)	21.683	107	83218	1.14	ppbv	100
51) Chlorobenzene	22.406	112	131219	1.14	ppbv	87
52) Ethylbenzene	22.489	91	218350	1.10	ppbv	99
53) m&p-Xylene	22.667	91	338205	2.17	ppbv	100
54) o-Xylene	23.319	91	170701	1.08	ppbv	100

Data Path : D:\msdchem\1\2016\data\110316_FSAA\
Data File : 110316N05.D
Acq On : 3 Nov 2016 12:56 pm
InstName : AG5973N
Operator : LLH
Sample : S16K015-CAL1
Misc : 1.0ppbv 1645034
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Nov 03 16:23:26 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 16:23:06 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	Styrene	23.355	104	129541	1.06	ppbv	100
56)	Bromoform	23.735	173	97357	1.02	ppbv	99
57)	1,1,2,2-Tetrachloroethane	24.422	83	126076	1.10	ppbv	99
58)	4-Ethyltoluene	24.671	105	284407	1.19	ppbv	99
59)	1,3,5-Trimethylbenzene	24.766	105	205381	1.10	ppbv	100
60)	1,2,4-Trimethylbenzene	25.371	105	203522	1.08	ppbv	100
61)	1,3-Dichlorobenzene	25.905	146	128197	1.06	ppbv	99
62)	1,4-Dichlorobenzene	26.059	146	121246	1.04	ppbv	100
63)	Benzyl chloride	26.272	91	153994	1.05	ppbv	100
64)	1,2-Dichlorobenzene	26.664	146	128599	1.06	ppbv	100
65)	1,2,4-Trichlorobenzene	29.142	180	95491	0.92	ppbv	99
66)	Hexachlorobutadiene	29.272	225	109896	0.92	ppbv	99

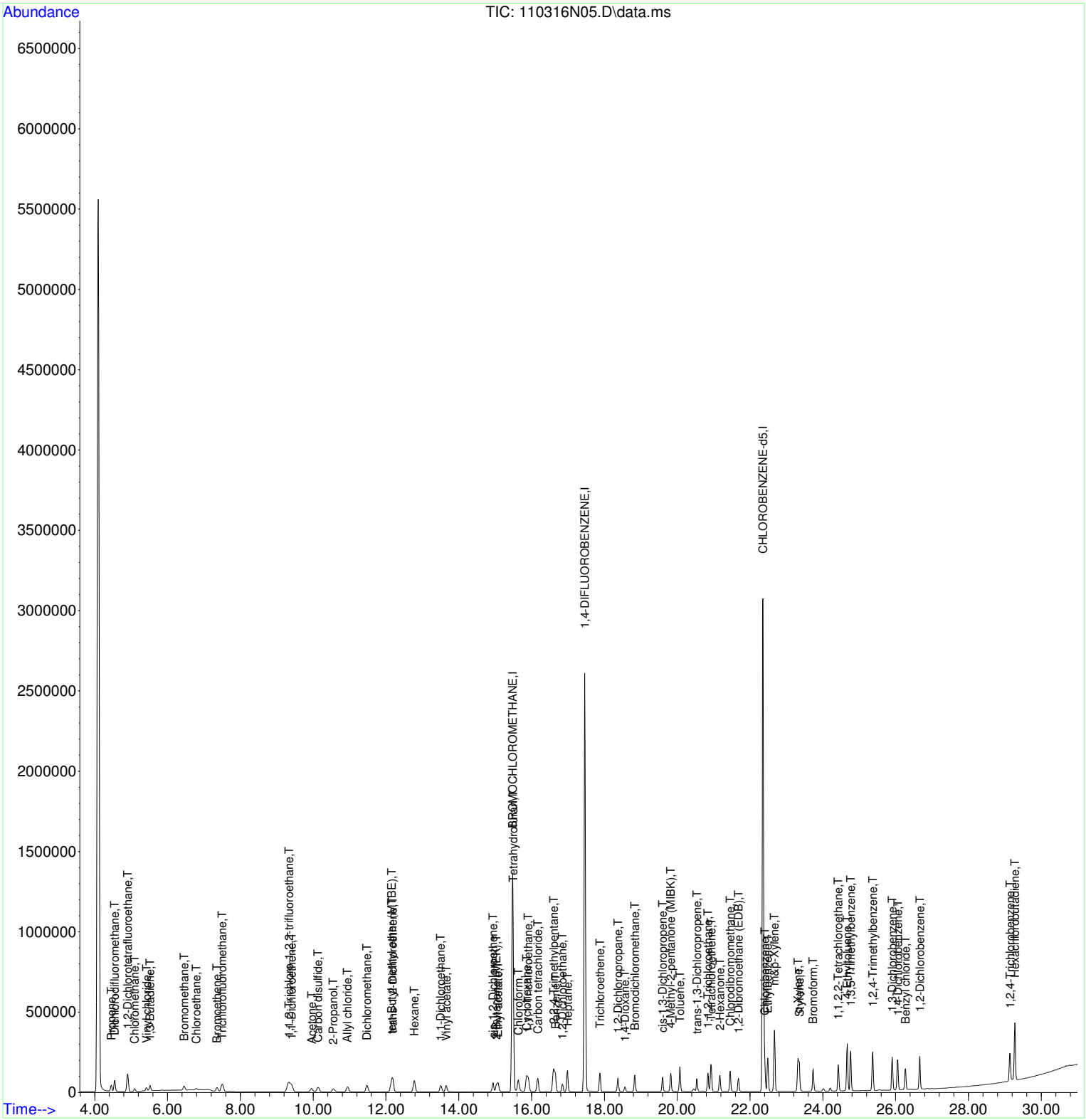
(#) = qualifier out of range (m) = manual integration (+) = signals summed

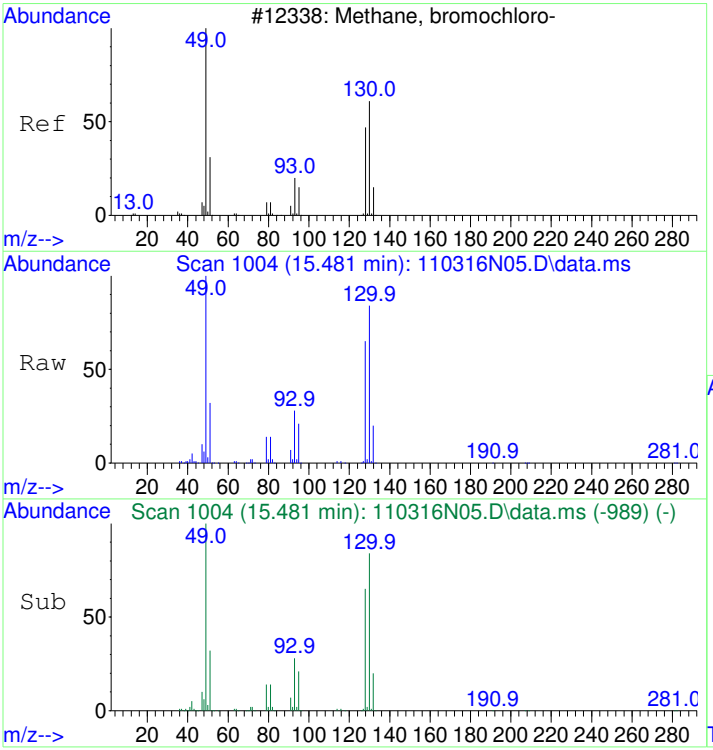
Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2016\data\110316_FSAA\
Data File : 110316N05.D
Acq On : 3 Nov 2016 12:56 pm
InstName : AG5973N
Operator : LLH
Sample : S16K015-CAL1
Misc : 1.0ppbv 1645034
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Nov 03 16:23:26 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 16:23:06 2016
Response via : Initial Calibration

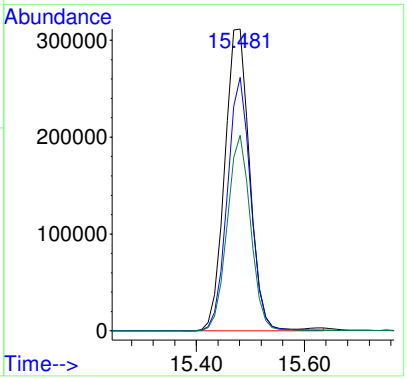


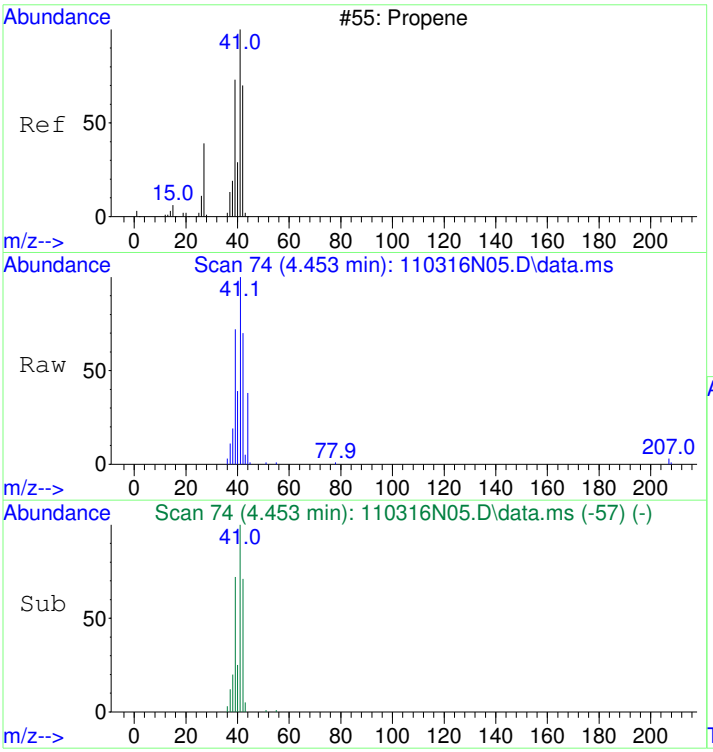


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. 0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 49 Resp: 1003502

Ion	Ratio	Lower	Upper
49	100		
130	78.6	56.1	96.1
128	60.8	38.8	78.8

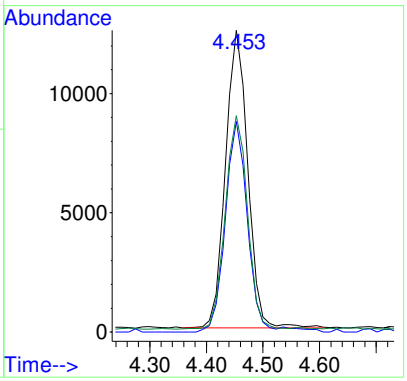


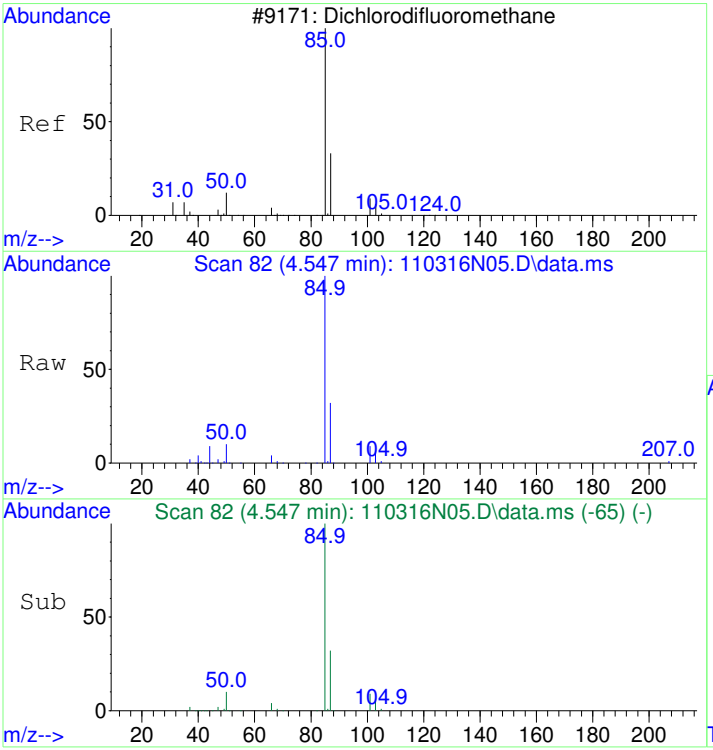


#2
Propene
Concen: 1.18 ppbv
RT: 4.453 min Scan# 74
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 41 Resp: 34182

Ion	Ratio	Lower	Upper
41	100		
42	71.3	47.2	87.2
39	71.6	49.6	89.6

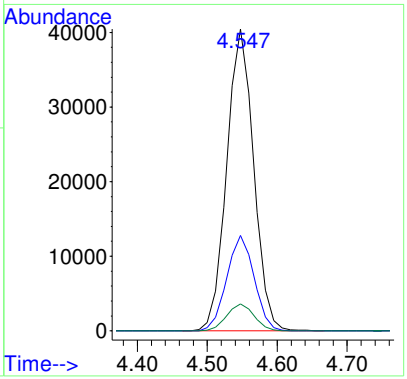


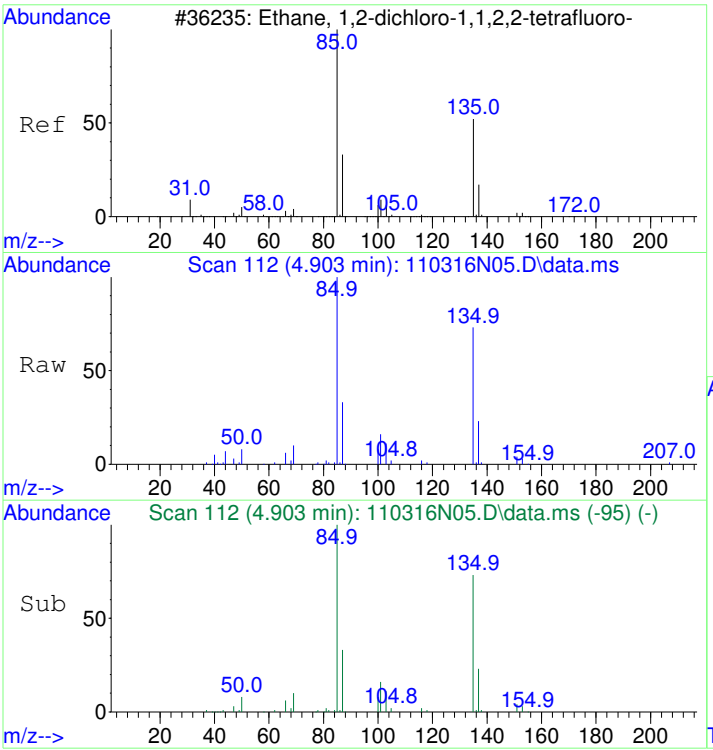


#3
Dichlorodifluoromethane
Concen: 1.00 ppbv
RT: 4.547 min Scan# 82
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 85 Resp: 108092

Ion	Ratio	Lower	Upper
85	100		
87	32.1	12.2	52.2
101	9.1	0.0	29.0

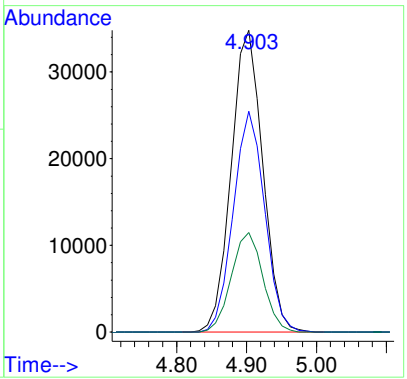


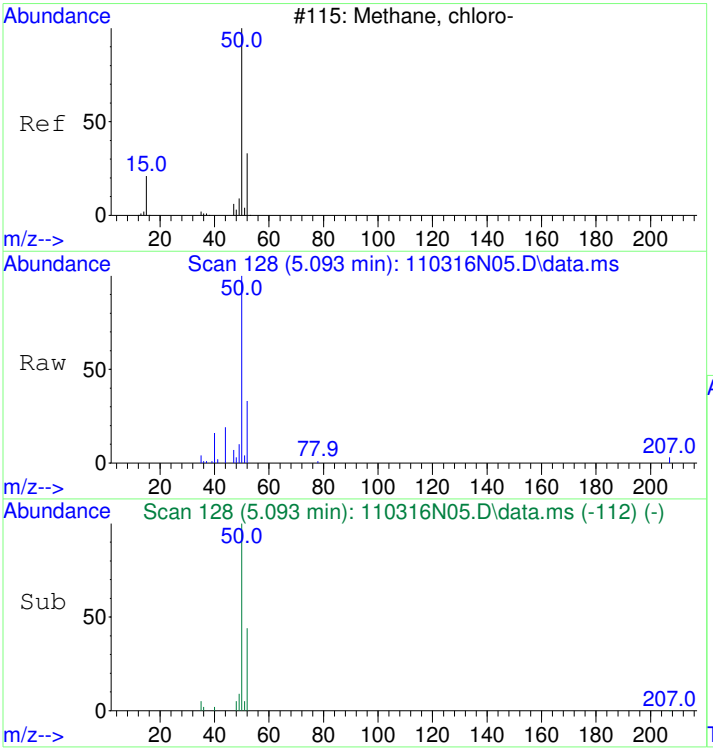


#4
1,2-Dichlorotetrafluoroethane
Concen: 1.04 ppbv
RT: 4.903 min Scan# 112
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 85 Resp: 108971

Ion	Ratio	Lower	Upper
85	100		
135	72.7	51.4	91.4
87	32.9	12.0	52.0

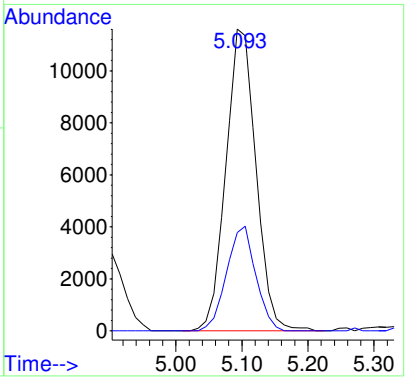


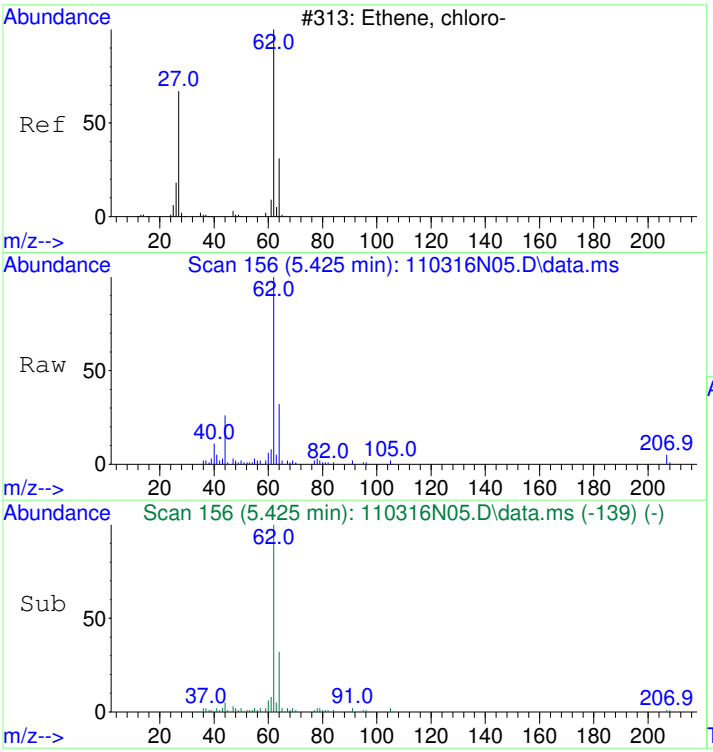


#5
Chloromethane
Concen: 1.12 ppbv
RT: 5.093 min Scan# 128
Delta R.T. -0.012 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 50 Resp: 36888

Ion	Ratio	Lower	Upper
50	100		
52	33.5	12.9	52.9

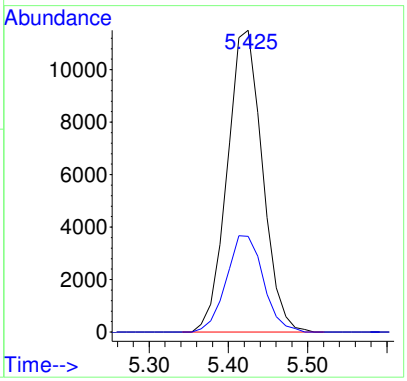


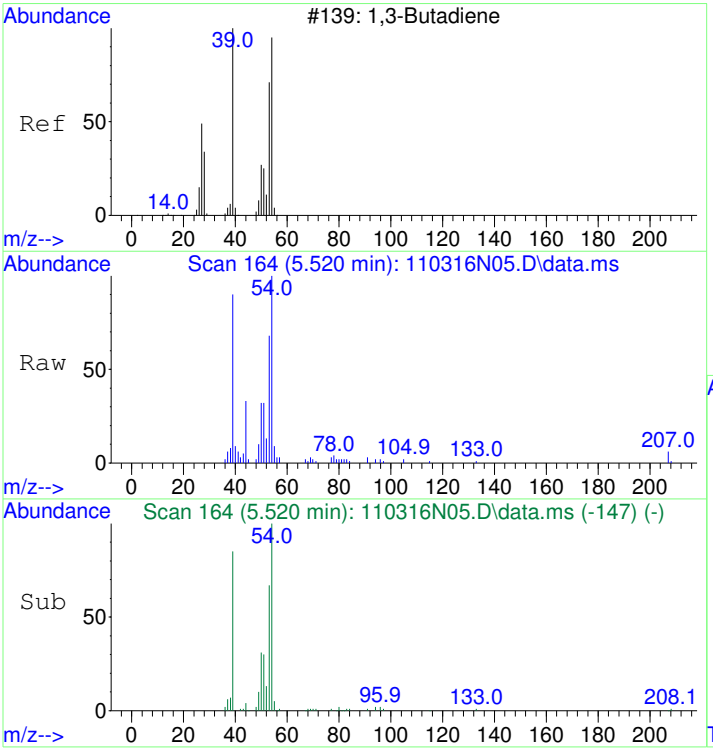


#6
Vinyl chloride
Concen: 1.06 ppbv
RT: 5.425 min Scan# 156
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 62 Resp: 35511

Ion	Ratio	Lower	Upper
62	100		
64	33.7	11.9	51.9

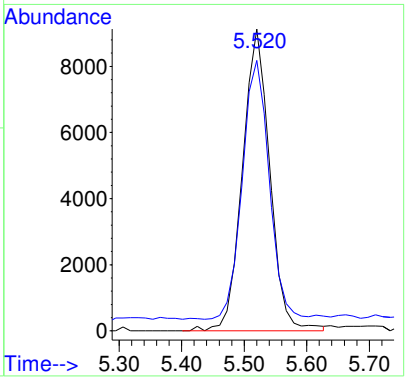


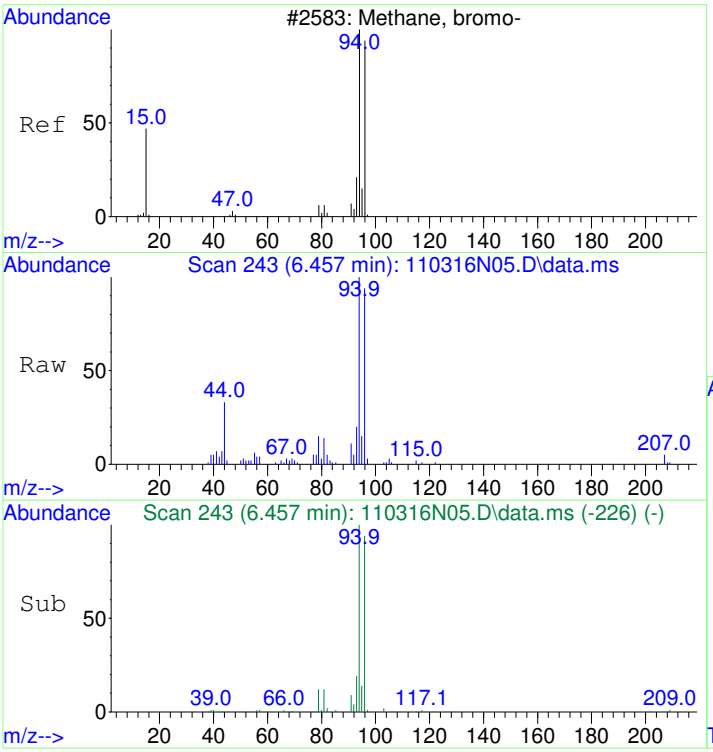


#7
1,3-Butadiene
Concen: 1.09 ppbv
RT: 5.520 min Scan# 164
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 54 Resp: 27706

Ion	Ratio	Lower	Upper
54	100		
39	85.2	66.3	106.3

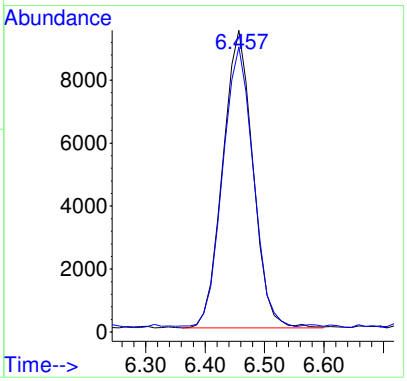


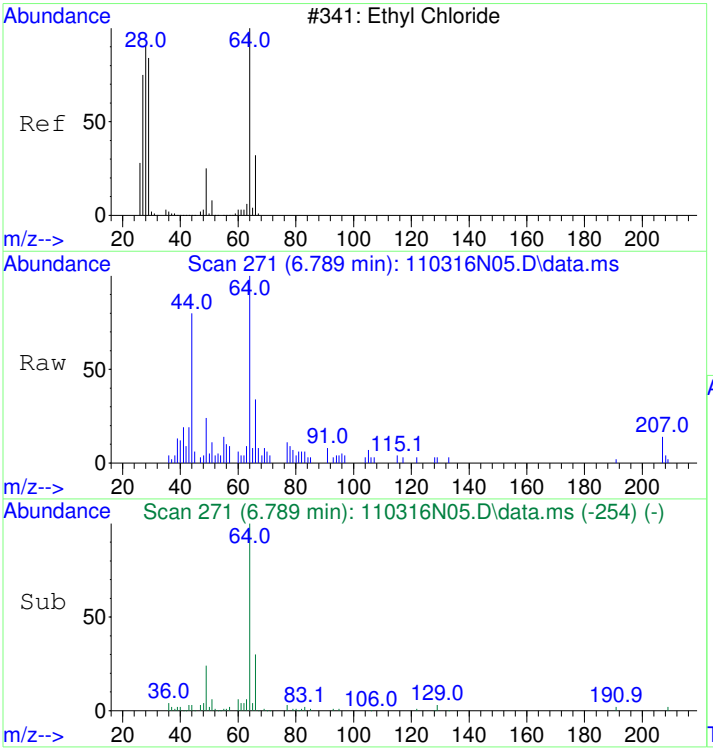


#8
Bromomethane
Concen: 1.04 ppbv
RT: 6.457 min Scan# 243
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 94 Resp: 33383

Ion	Ratio	Lower	Upper
94	100		
96	95.3	75.1	115.1

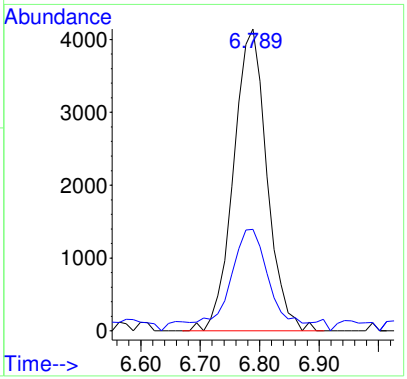


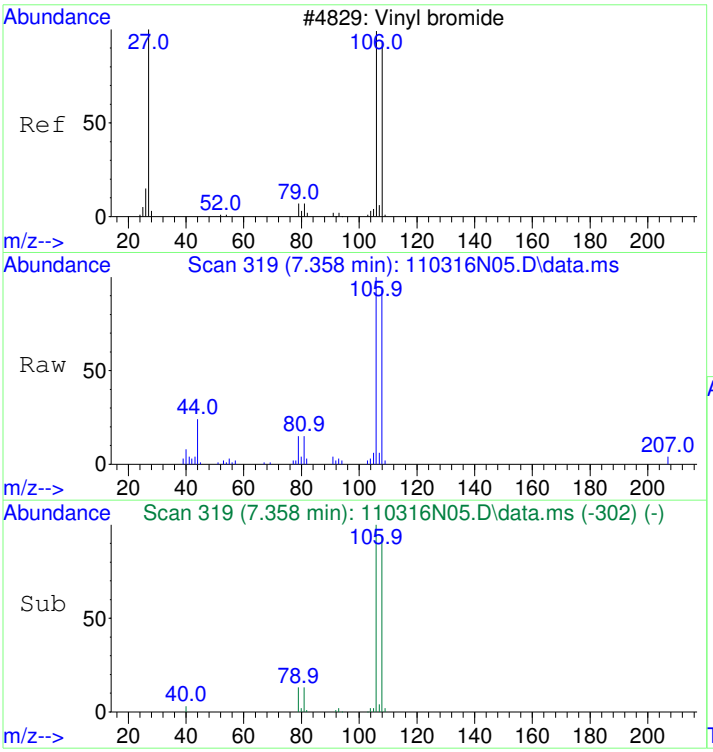


#9
Chloroethane
Concen: 1.04 ppbv
RT: 6.789 min Scan# 271
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 64 Resp: 16193

Ion	Ratio	Lower	Upper
64	100		
66	42.9	13.2	53.2

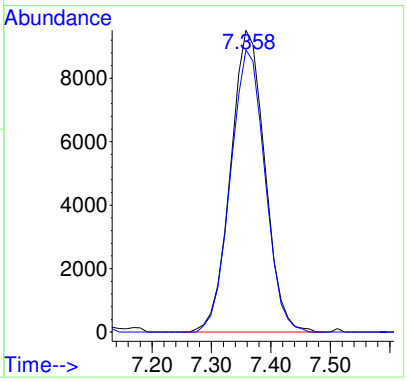


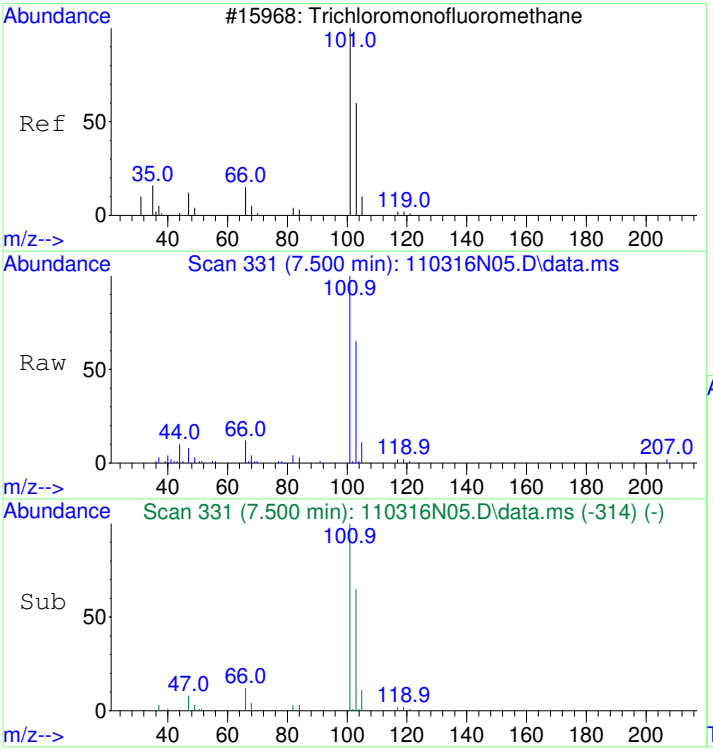


#10
Bromoethene
Concen: 1.25 ppbv
RT: 7.358 min Scan# 319
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion:106 Resp: 38128

Ion	Ratio	Lower	Upper
106	100		
108	93.8	0.0	214.8

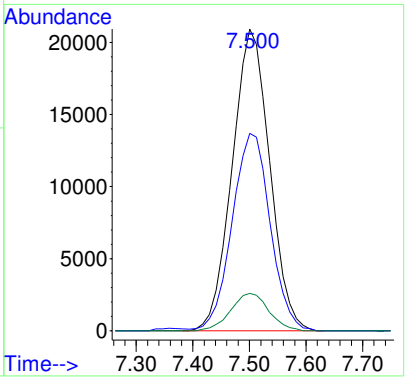


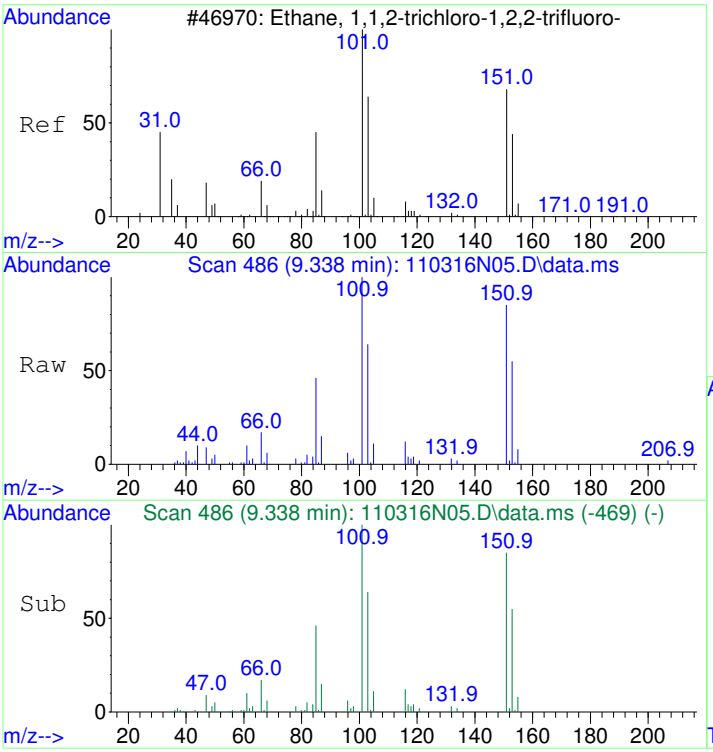


#11
Trichlorofluoromethane
Concen: 1.02 ppbv
RT: 7.500 min Scan# 331
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion:101 Resp: 96795

Ion	Ratio	Lower	Upper
101	100		
103	66.4	44.3	84.3
66	12.6	0.0	32.3

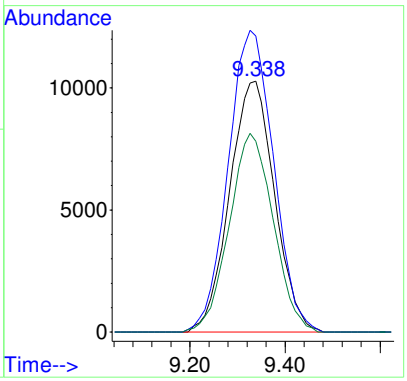


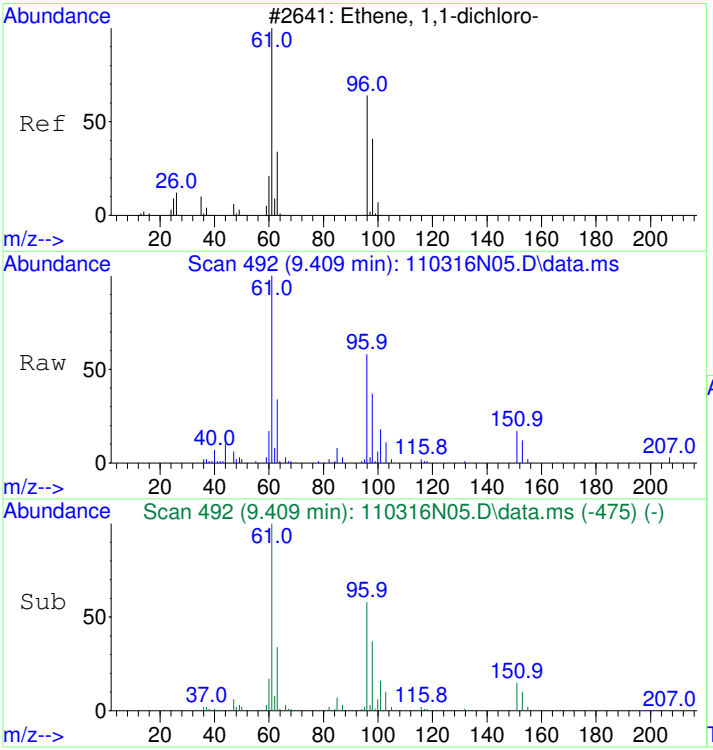


#12
1,1,2-Trichloro-1,2,2-trifluoroethane
Concen: 1.10 ppbv
RT: 9.338 min Scan# 486
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion:151 Resp: 67519

Ion	Ratio	Lower	Upper
151	100		
101	121.3	102.9	142.9
103	77.5	58.9	98.9

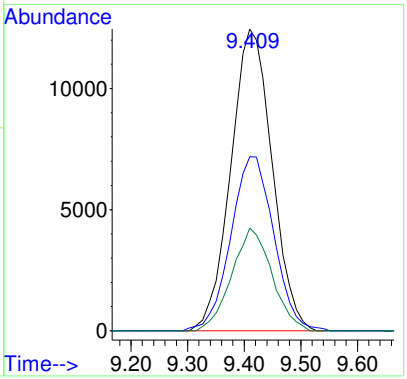


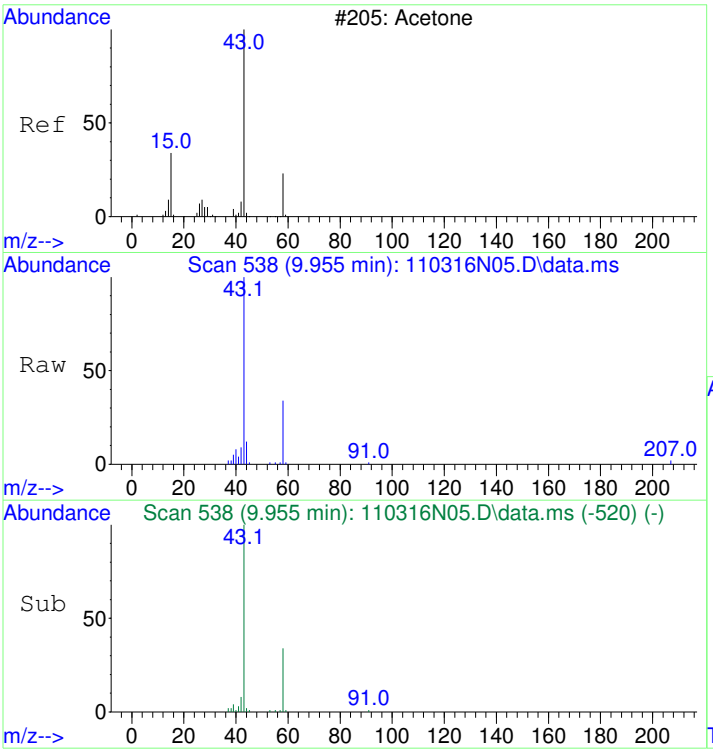


#13
1,1-Dichloroethene
Concen: 1.11 ppbv
RT: 9.409 min Scan# 492
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 61 Resp: 63400

Ion	Ratio	Lower	Upper
61	100		
96	60.1	37.2	77.2
63	33.2	11.8	51.8

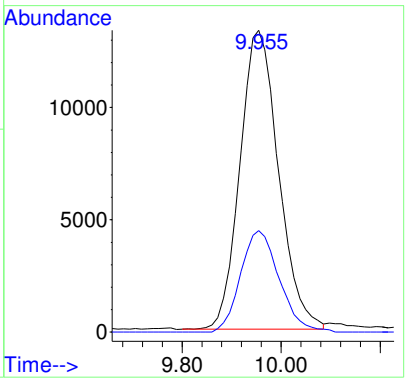


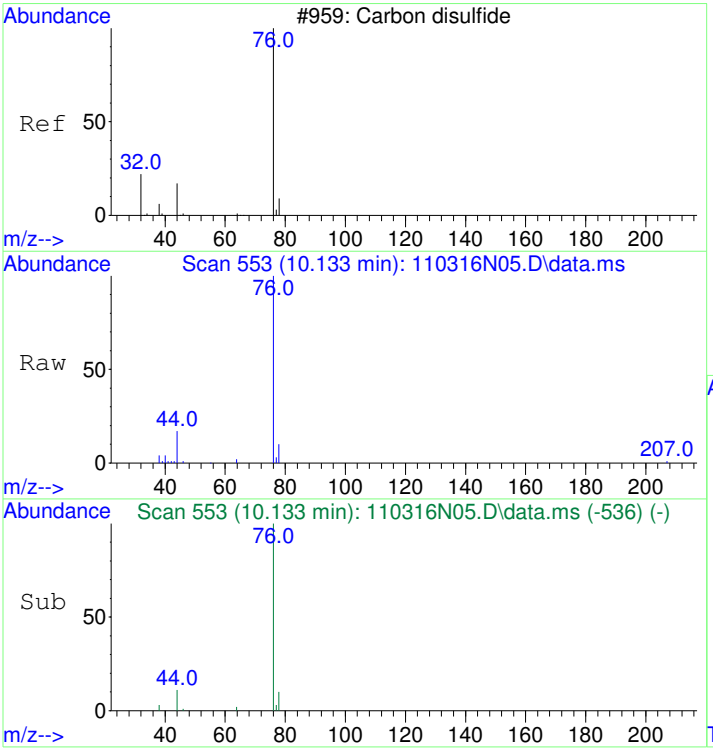


#14
Acetone
Concen: 1.33 ppbv
RT: 9.955 min Scan# 538
Delta R.T. 0.012 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 43 Resp: 71953

Ion	Ratio	Lower	Upper
43	100		
58	34.0	12.3	52.3

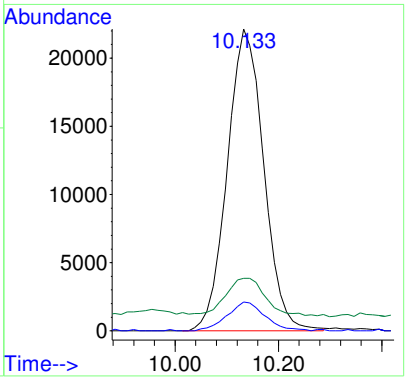


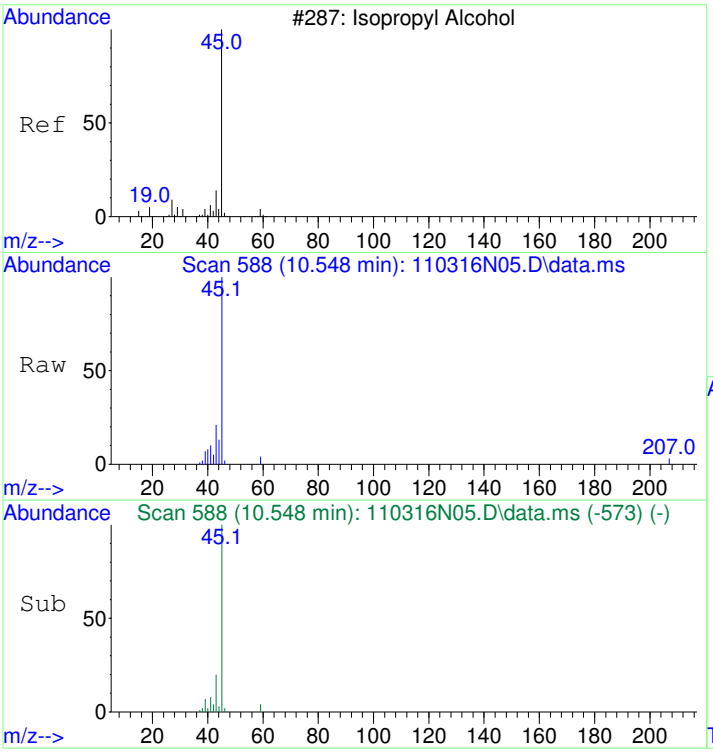


#15
Carbon disulfide
Concen: 1.22 ppbv
RT: 10.133 min Scan# 553
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 76 Resp: 108600

Ion	Ratio	Lower	Upper
76	100		
78	9.9	0.0	29.0
44	12.6	0.0	32.8

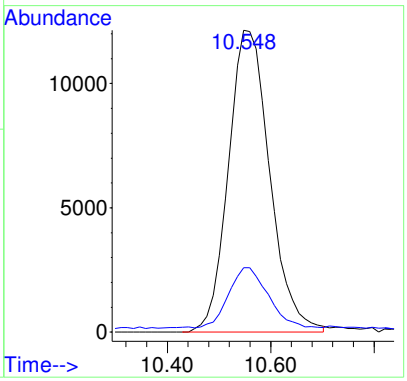


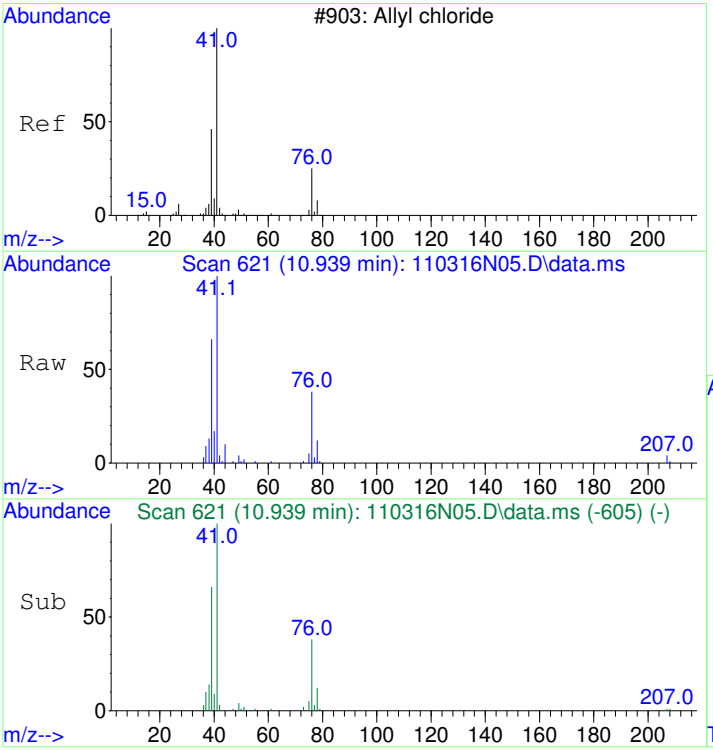


#16
2-Propanol
Concen: 1.25 ppbv
RT: 10.548 min Scan# 588
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 45 Resp: 67505

Ion	Ratio	Lower	Upper
45	100		
43	19.2	0.0	38.9

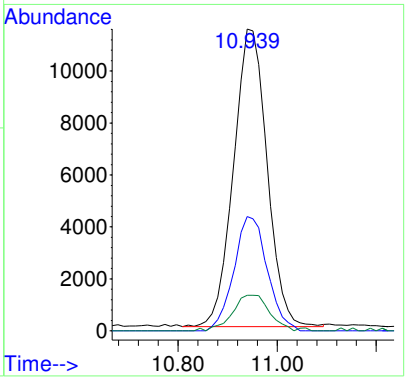


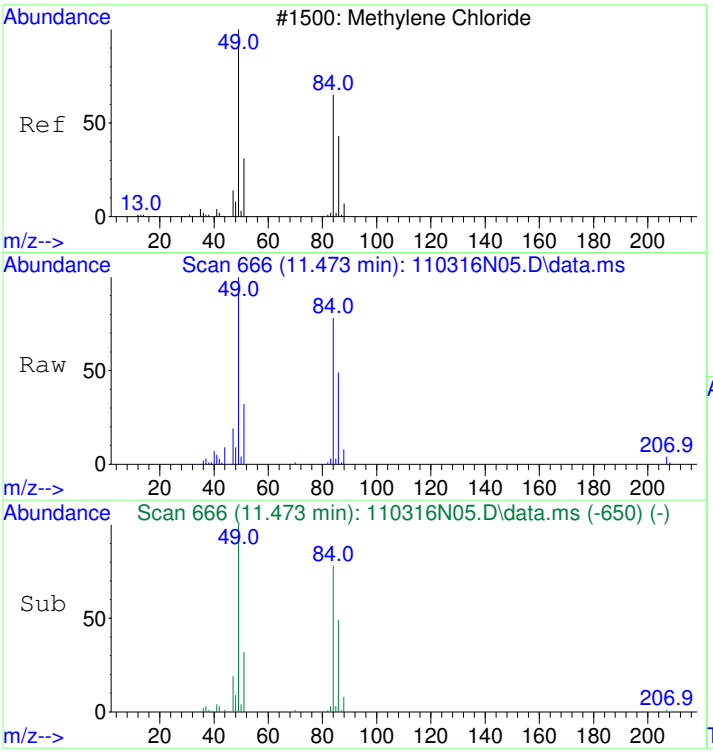


#17
Allyl chloride
Concen: 1.21 ppbv
RT: 10.939 min Scan# 621
Delta R.T. -0.012 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 41 Resp: 53955

Ion	Ratio	Lower	Upper
41	100		
76	38.1	16.2	56.2
78	13.1	0.0	31.9

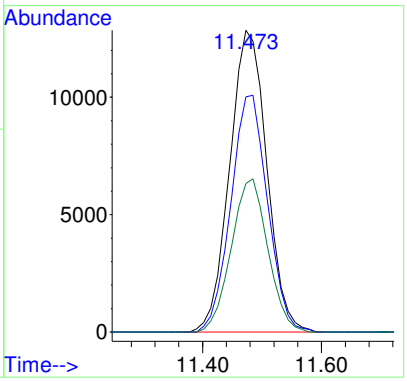


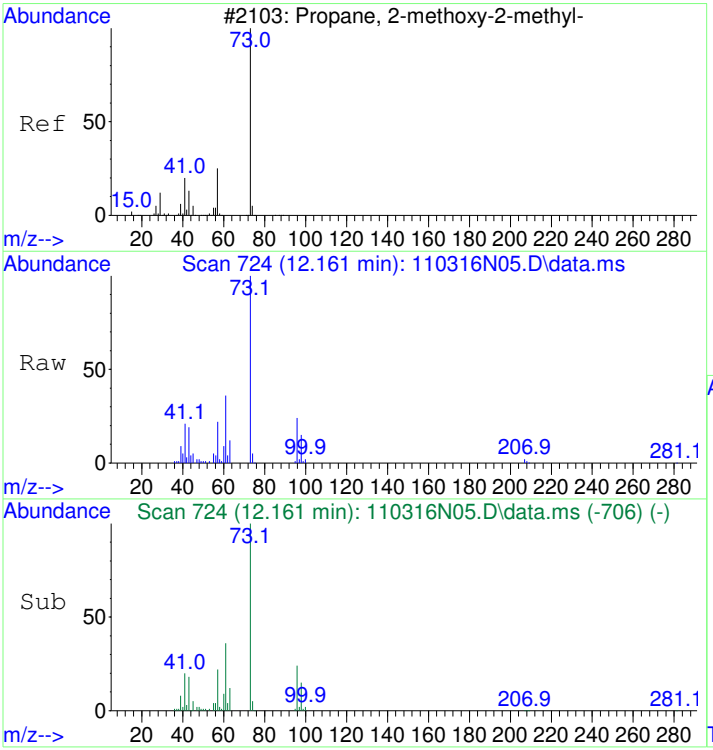


#18
Dichloromethane
Concen: 1.23 ppbv
RT: 11.473 min Scan# 666
Delta R.T. -0.012 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 49 Resp: 55872

Ion	Ratio	Lower	Upper
49	100		
84	77.6	55.3	95.3
86	49.9	27.9	67.9

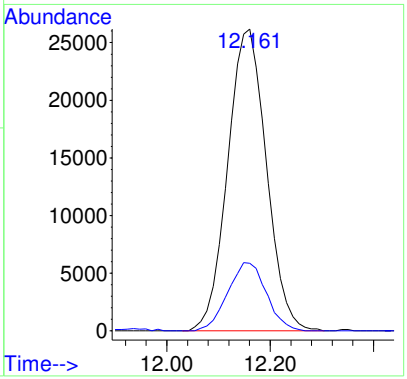


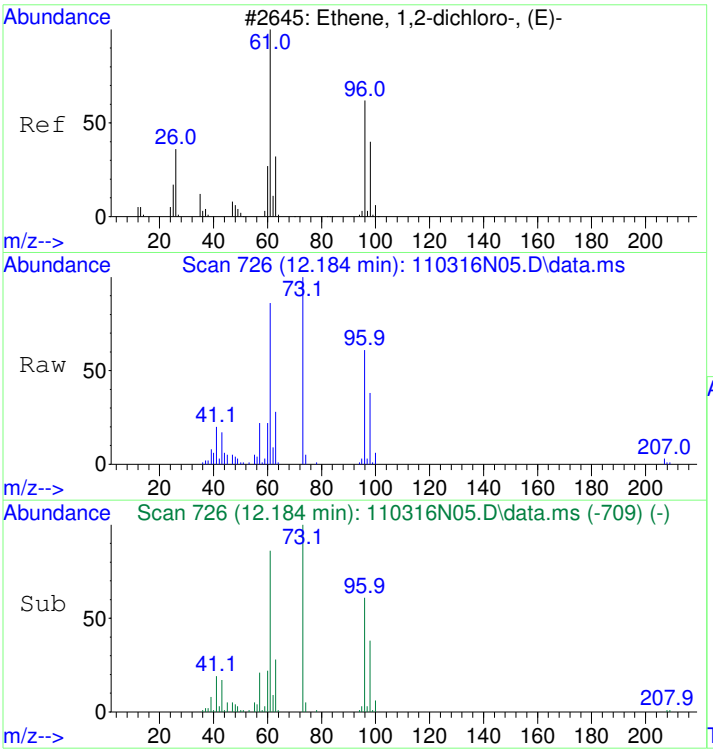


#19
tert-Butyl methyl ether (MTBE)
Concen: 1.29 ppbv
RT: 12.161 min Scan# 724
Delta R.T. 0.012 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 73 Resp: 136214

Ion	Ratio	Lower	Upper
73	100		
57	22.5	1.9	41.9

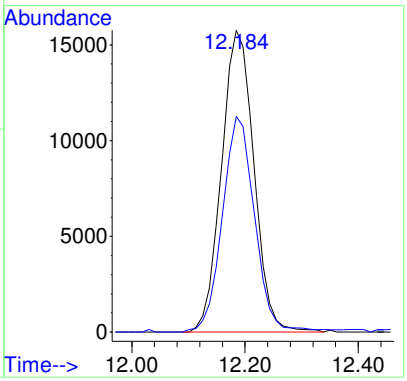


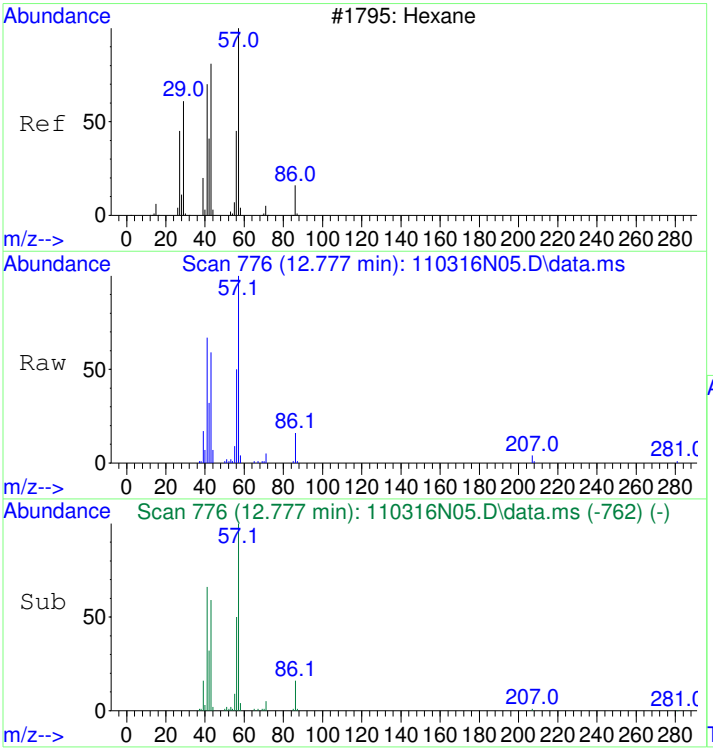


#20
trans-1,2-Dichloroethene
Concen: 1.21 ppbv
RT: 12.184 min Scan# 726
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 61 Resp: 62742

Ion	Ratio	Lower	Upper
61	100		
96	70.8	47.5	87.5

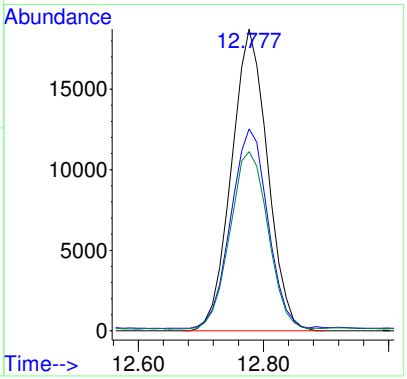


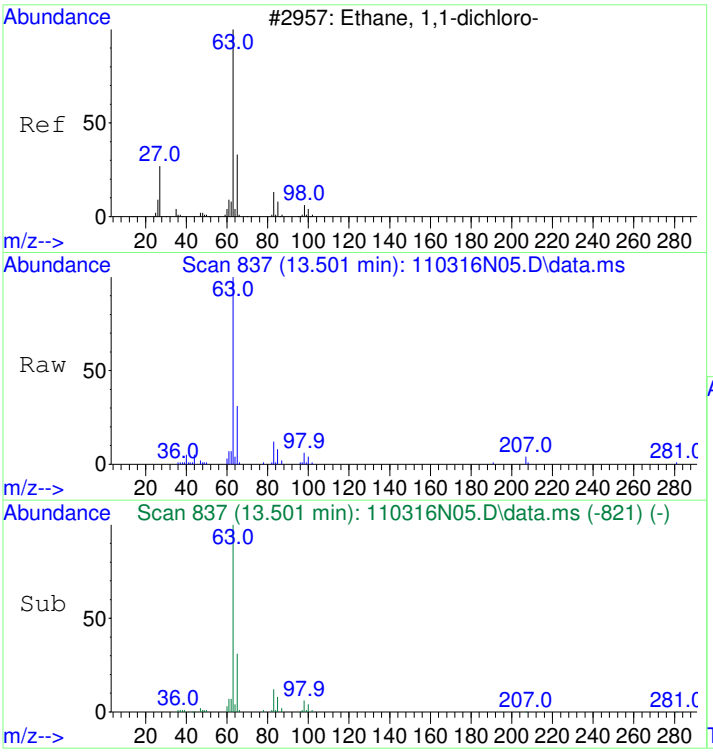


#21
Hexane
Concen: 1.19 ppbv
RT: 12.777 min Scan# 776
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 57 Resp: 75041

Ion	Ratio	Lower	Upper
57	100		
41	68.2	48.0	88.0
43	62.0	42.2	82.2

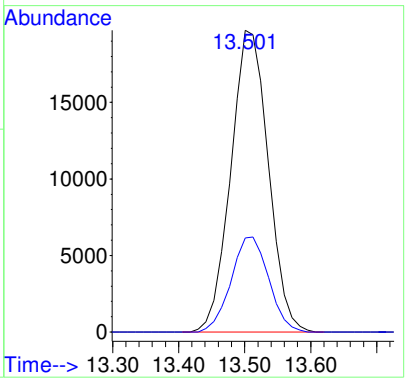


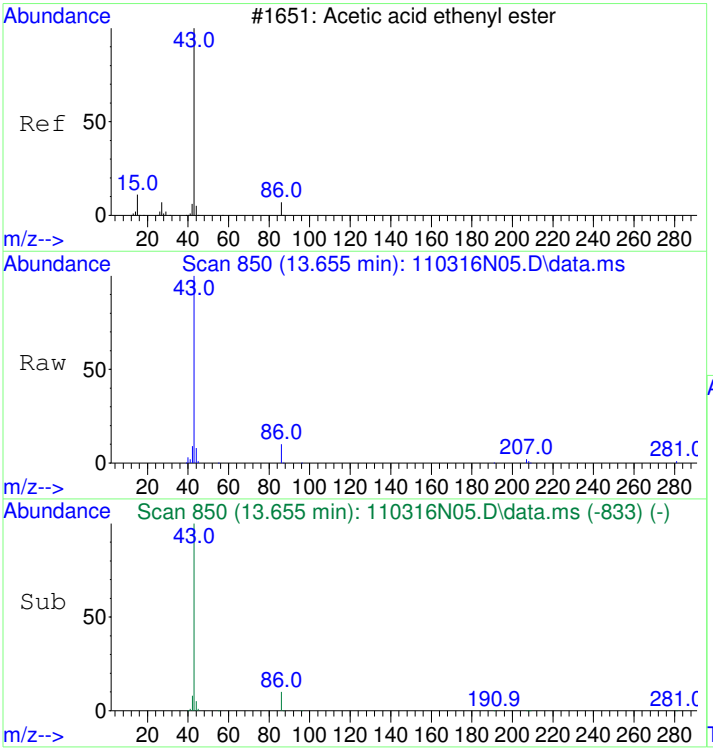


#22
1,1-Dichloroethane
Concen: 1.09 ppbv
RT: 13.501 min Scan# 837
Delta R.T. -0.012 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 63 Resp: 77769

Ion	Ratio	Lower	Upper
63	100		
65	31.7	11.3	51.3

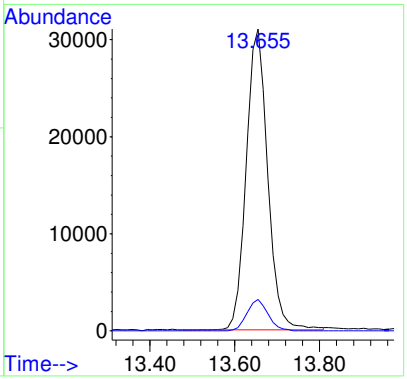


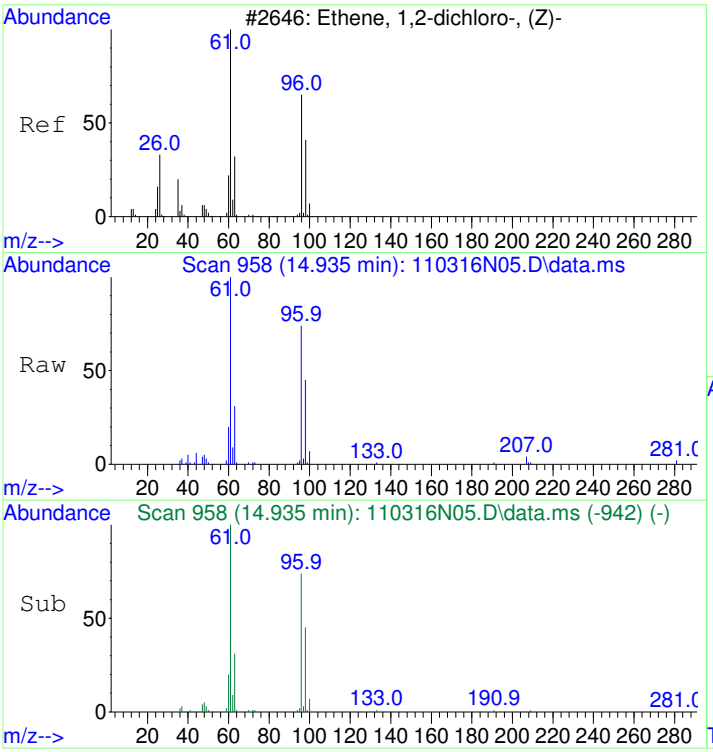


#23
Vinyl acetate
Concen: 1.21 ppbv
RT: 13.655 min Scan# 850
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 43 Resp: 108675

Ion	Ratio	Lower	Upper
43	100		
86	10.2	0.0	29.8

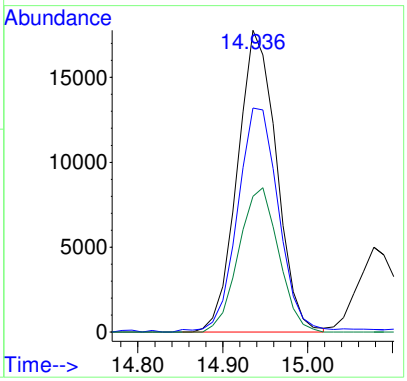


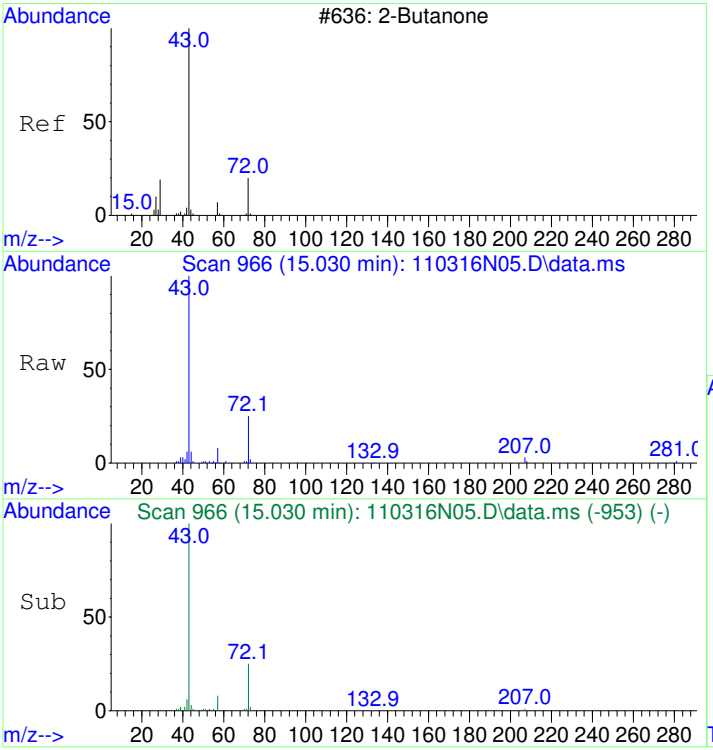


#24
cis-1,2-Dichloroethene
Concen: 1.13 ppbv
RT: 14.935 min Scan# 958
Delta R.T. -0.012 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 61 Resp: 57024

Ion	Ratio	Lower	Upper
61	100		
96	79.1	54.4	94.4
98	48.7	27.5	67.5

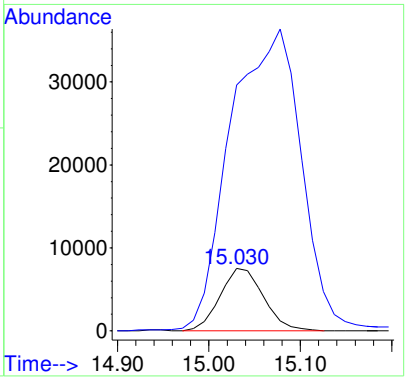


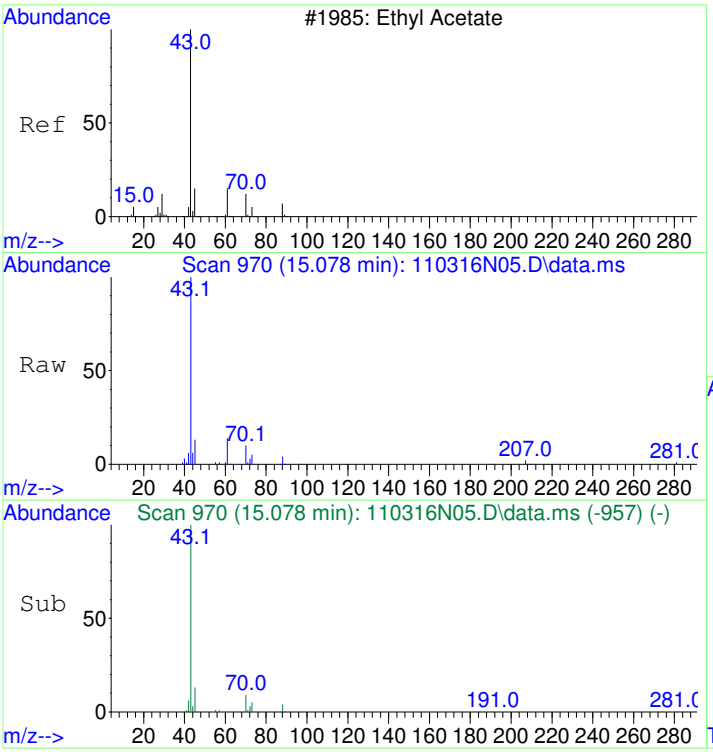


#25
2-Butanone (MEK)
Concen: 1.31 ppbv
RT: 15.030 min Scan# 966
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 72 Resp: 24871

Ion	Ratio	Lower	Upper
72	100		
43	0.0	0.0	10.0

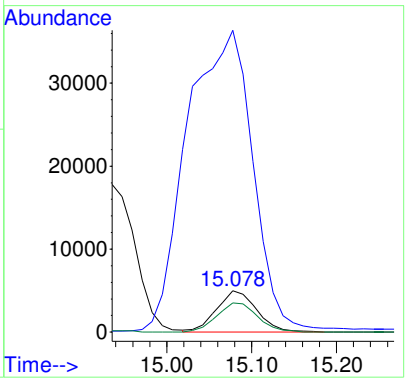


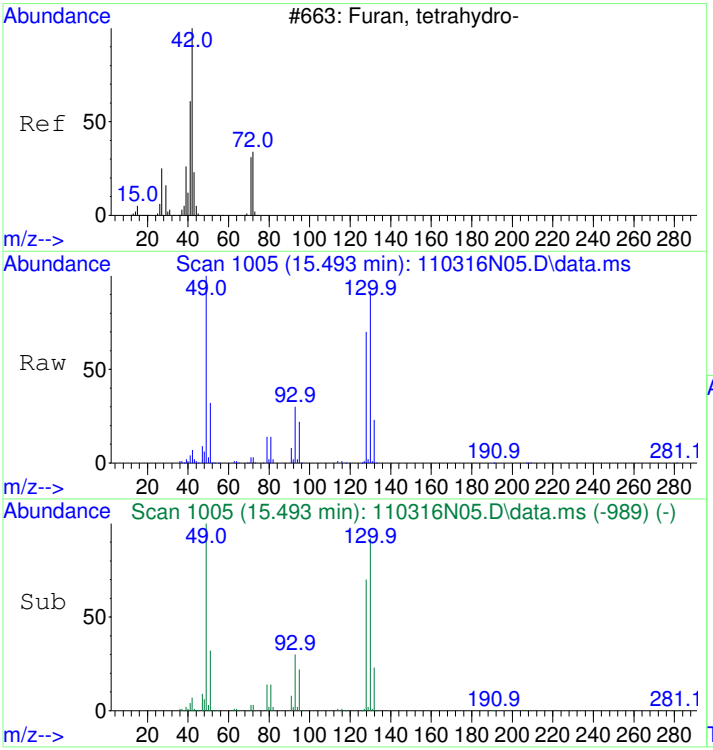


#26
Ethyl acetate
Concen: 1.32 ppbv
RT: 15.078 min Scan# 970
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 61 Resp: 16396

Ion	Ratio	Lower	Upper
61	100		
43	1180.2	0.0	10.0#
70	71.8	64.2	84.2

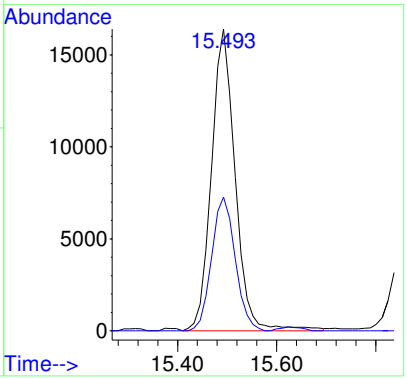


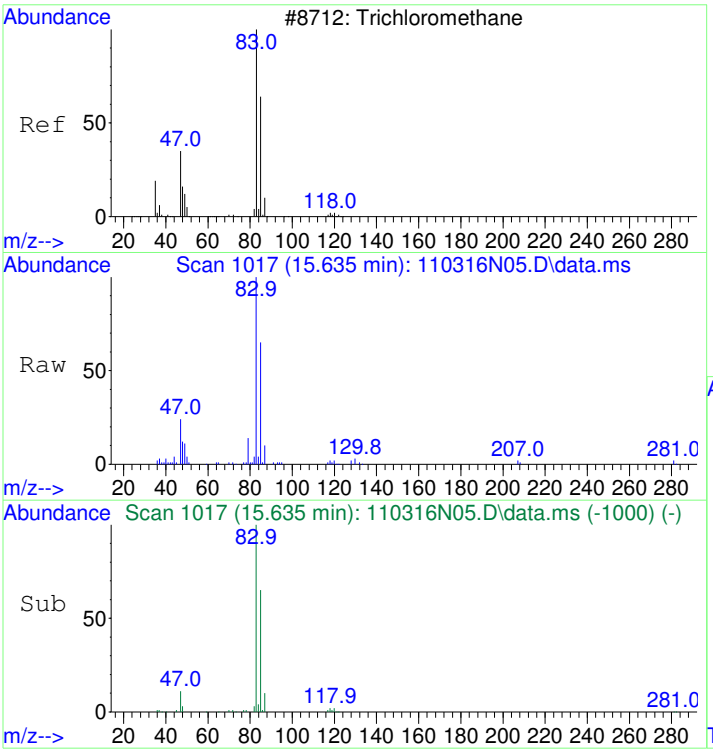


#27
Tetrahydrofuran
Concen: 1.23 ppbv
RT: 15.493 min Scan# 1005
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 42 Resp: 54694

Ion	Ratio	Lower	Upper
42	100		
72	44.0	24.9	64.9

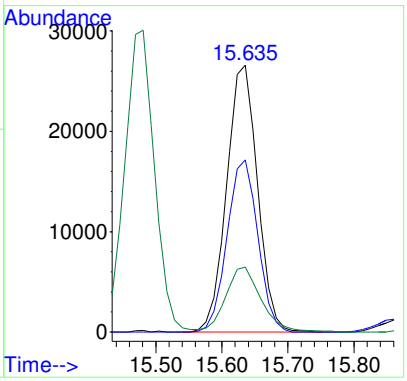


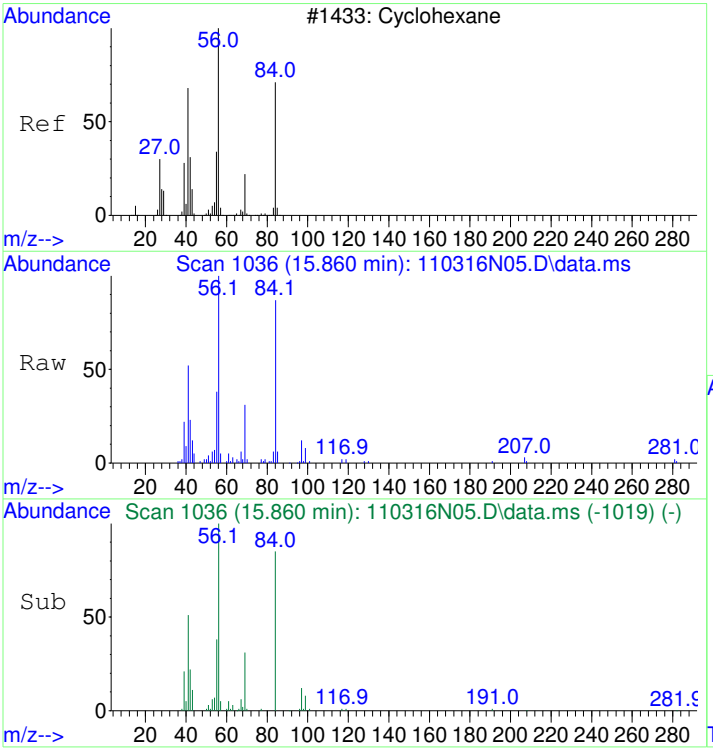


#28
Chloroform
Concen: 1.07 ppbv
RT: 15.635 min Scan# 1017
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 83 Resp: 86456

Ion	Ratio	Lower	Upper
83	100		
85	64.3	44.9	84.9
47	26.1	3.9	43.9

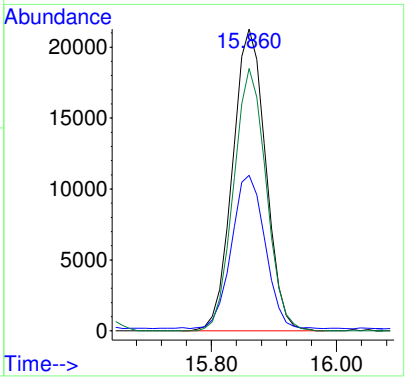


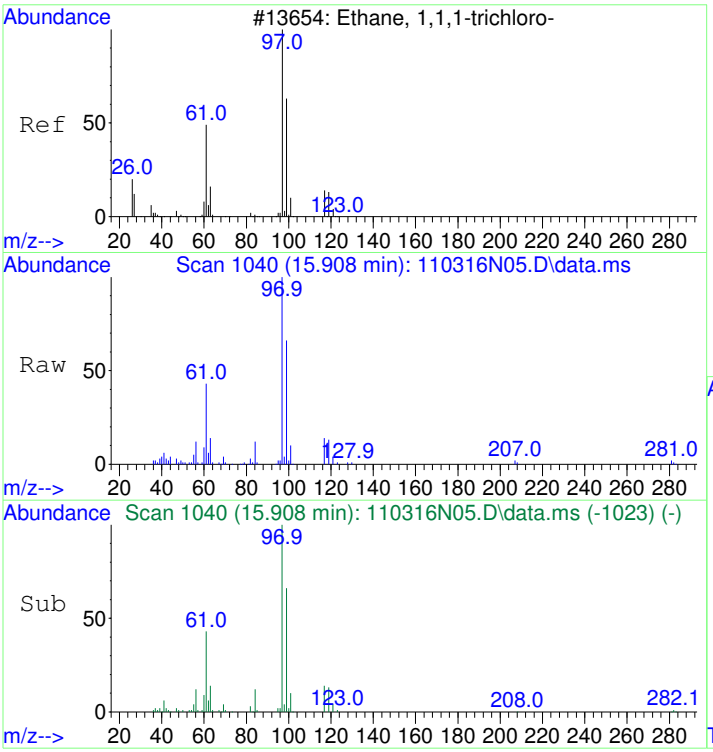


#29
Cyclohexane
Concen: 1.22 ppbv
RT: 15.860 min Scan# 1036
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 56 Resp: 78143

Ion	Ratio	Lower	Upper
56	100		
41	51.5	31.7	71.7
84	85.7	66.1	106.1

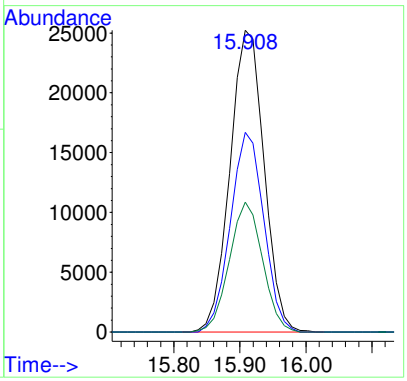


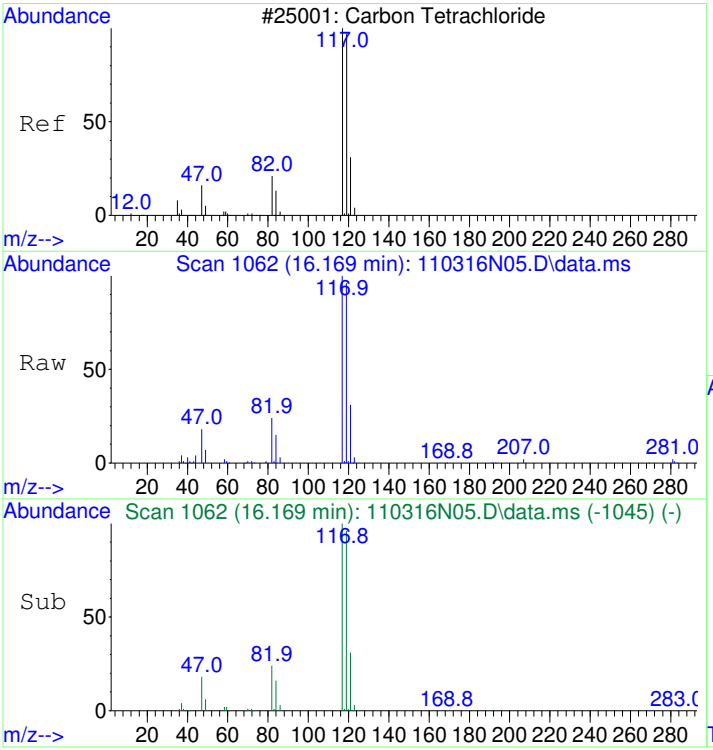


#30
1,1,1-Trichloroethane
Concen: 1.03 ppbv
RT: 15.908 min Scan# 1040
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 97 Resp: 90516

Ion	Ratio	Lower	Upper
97	100		
99	64.9	44.3	84.3
61	42.0	22.5	62.5

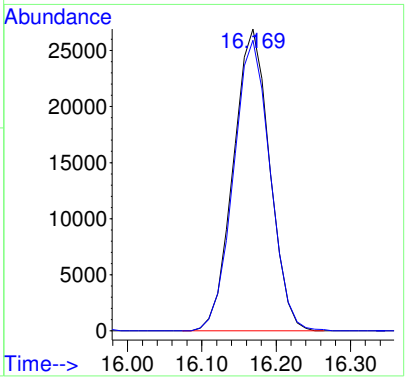


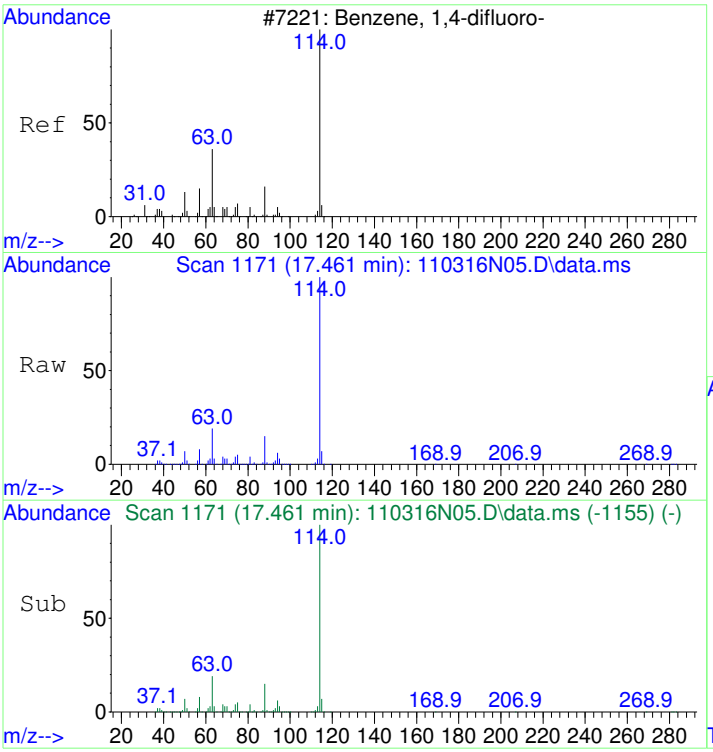


#31
Carbon tetrachloride
Concen: 0.99 ppbv
RT: 16.169 min Scan# 1062
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion:117 Resp: 91434

Ion	Ratio	Lower	Upper
117	100		
119	96.9	76.1	116.1

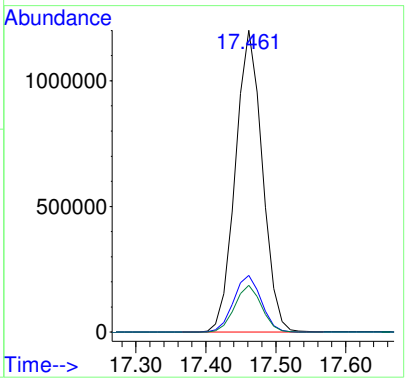


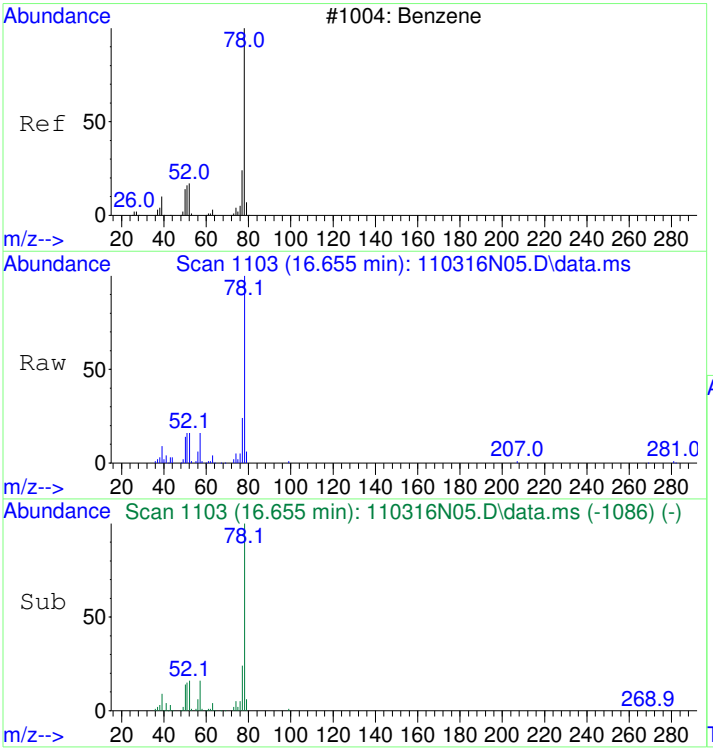


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion:114 Resp: 3206029

Ion	Ratio	Lower	Upper
114	100		
63	19.3	0.1	40.1
88	15.5	0.0	35.8

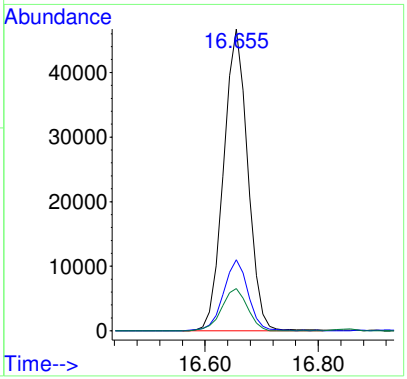


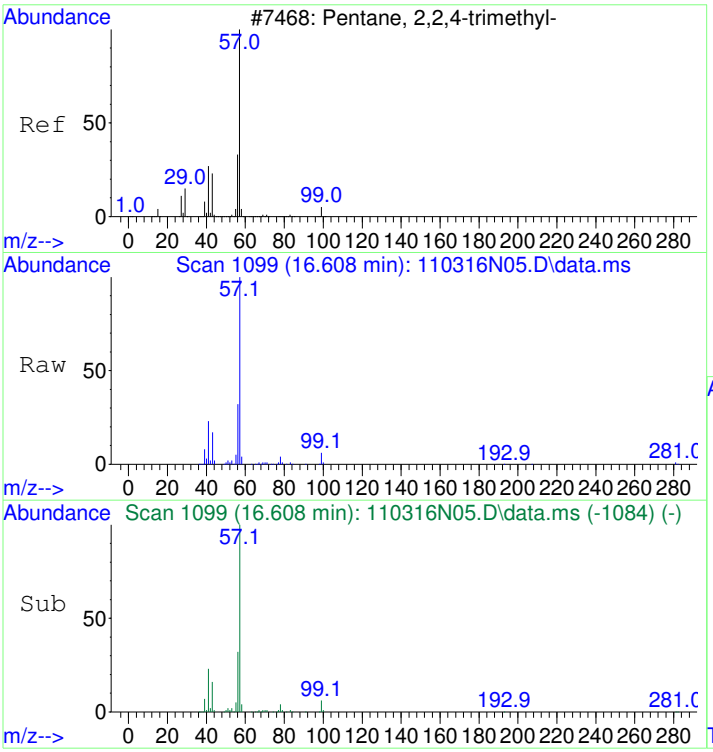


#33
Benzene
Concen: 1.09 ppbv
RT: 16.655 min Scan# 1103
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 78 Resp: 138917

Ion	Ratio	Lower	Upper
78	100		
77	24.0	3.7	43.7
50	14.9	0.0	34.9

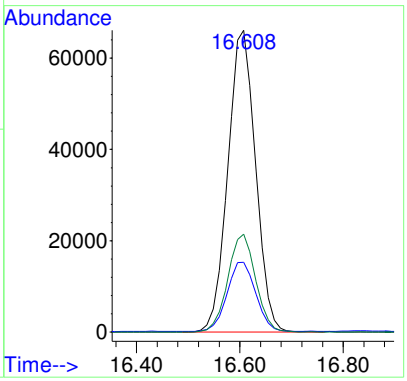


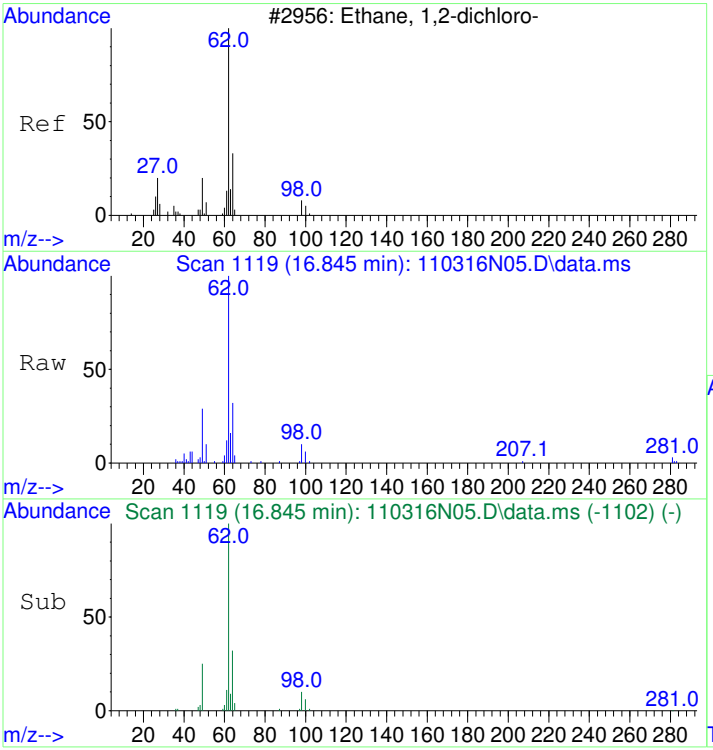


#34
2,2,4-Trimethylpentane
Concen: 1.18 ppbv
RT: 16.608 min Scan# 1099
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 57 Resp: 246450

Ion	Ratio	Lower	Upper
57	100		
41	23.6	4.3	44.3
56	32.5	12.5	52.5

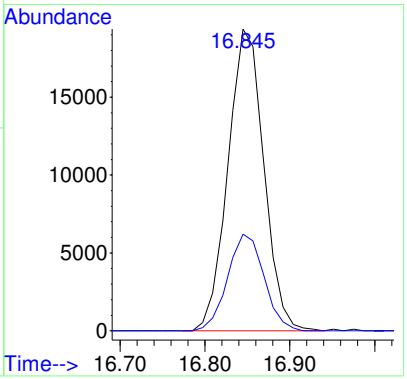


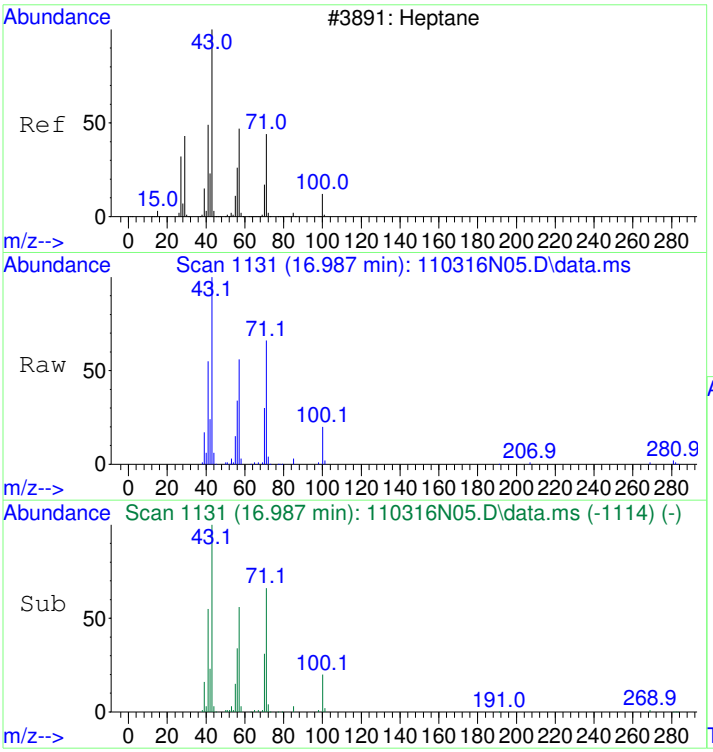


#35
1,2-Dichloroethane
Concen: 1.01 ppbv
RT: 16.845 min Scan# 1119
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 62 Resp: 56985

Ion	Ratio	Lower	Upper
62	100		
64	32.5	12.6	52.6

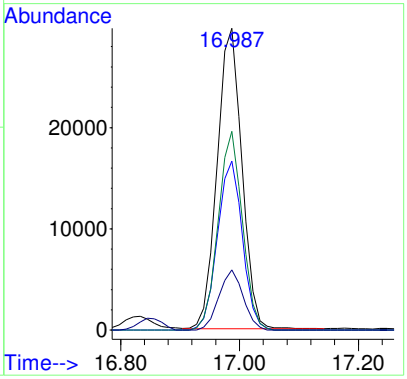


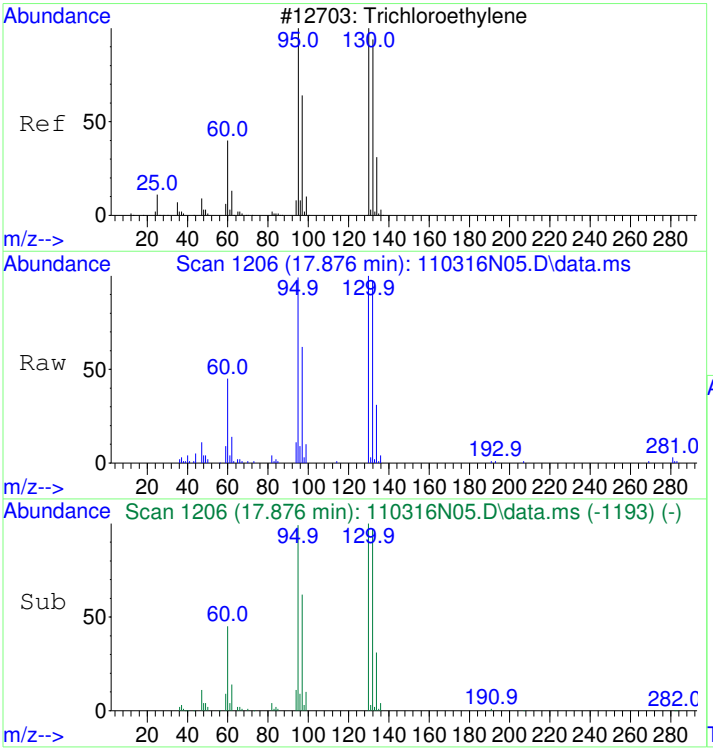


#36
Heptane
Concen: 1.13 ppbv
RT: 16.987 min Scan# 1131
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 43 Resp: 86010

Ion	Ratio	Lower	Upper
43	100		
57	56.6	35.6	75.6
71	64.2	42.6	82.6
100	19.6	0.0	38.6

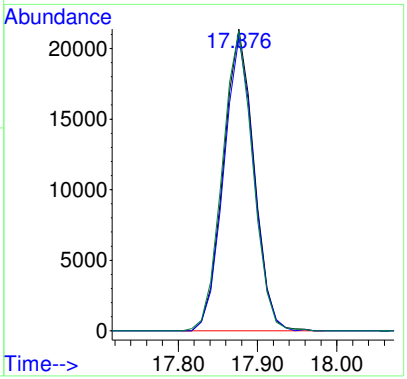


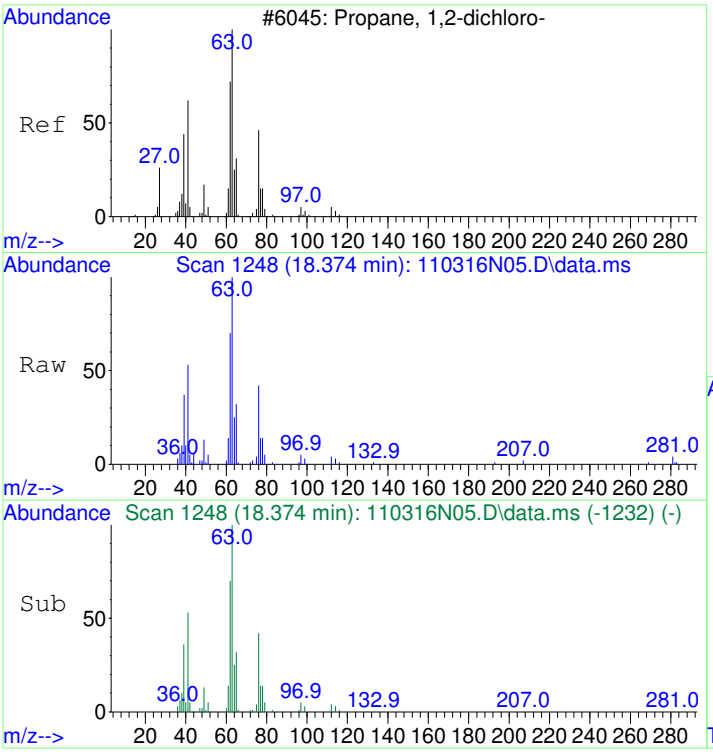


#37
Trichloroethene
Concen: 1.13 ppbv
RT: 17.876 min Scan# 1206
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion:130 Resp: 57433

Ion	Ratio	Lower	Upper
130	100		
132	96.1	77.1	117.1
95	99.6	79.3	119.3

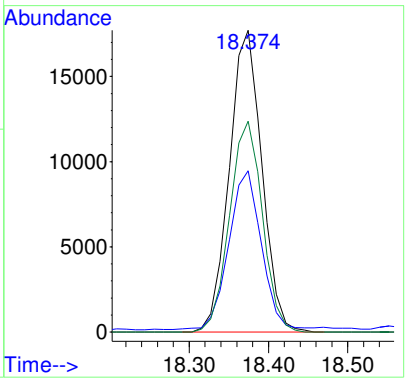


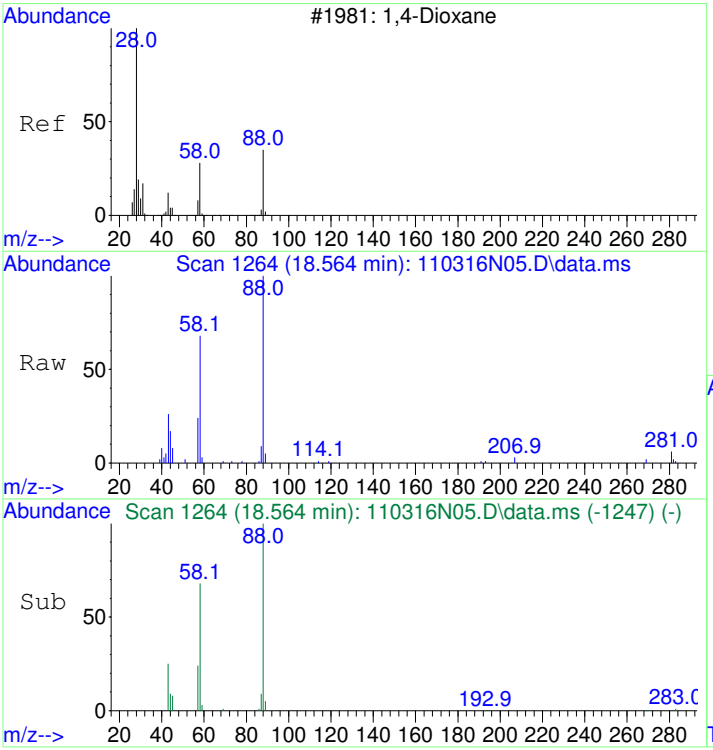


#38
1,2-Dichloropropane
Concen: 1.09 ppbv
RT: 18.374 min Scan# 1248
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 63 Resp: 50632

Ion	Ratio	Lower	Upper
63	100		
41	53.7	31.8	71.8
62	70.3	50.0	90.0

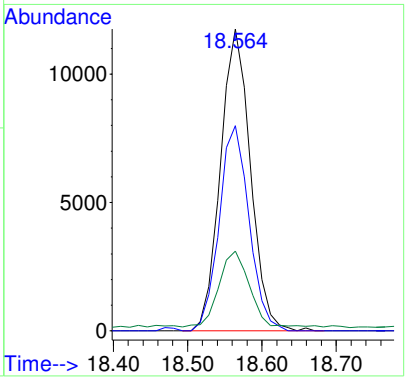


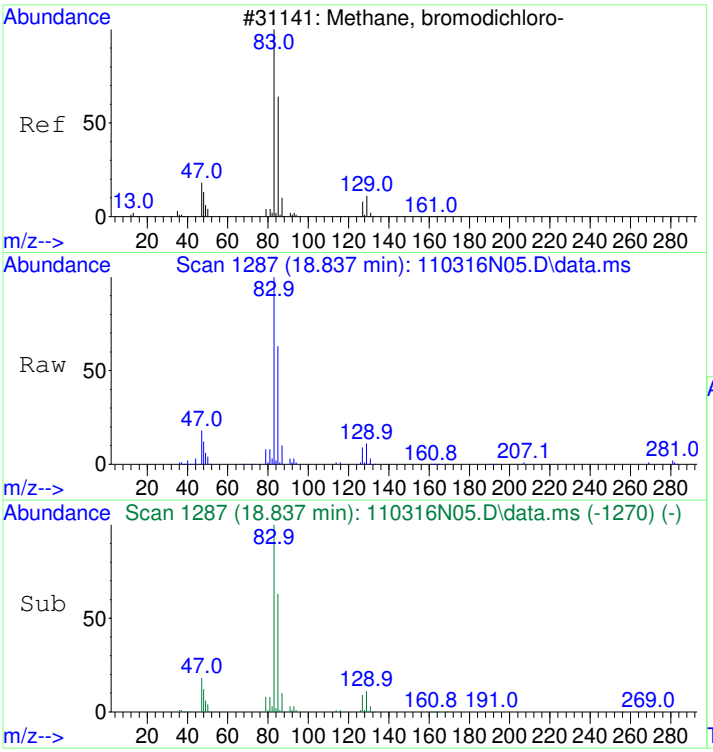


#39
1,4-Dioxane
Concen: 1.16 ppbv
RT: 18.564 min Scan# 1264
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 88 Resp: 32869

Ion	Ratio	Lower	Upper
88	100		
58	67.7	48.9	88.9
43	26.4	6.1	46.1

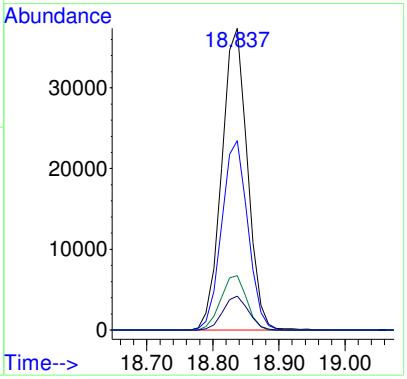


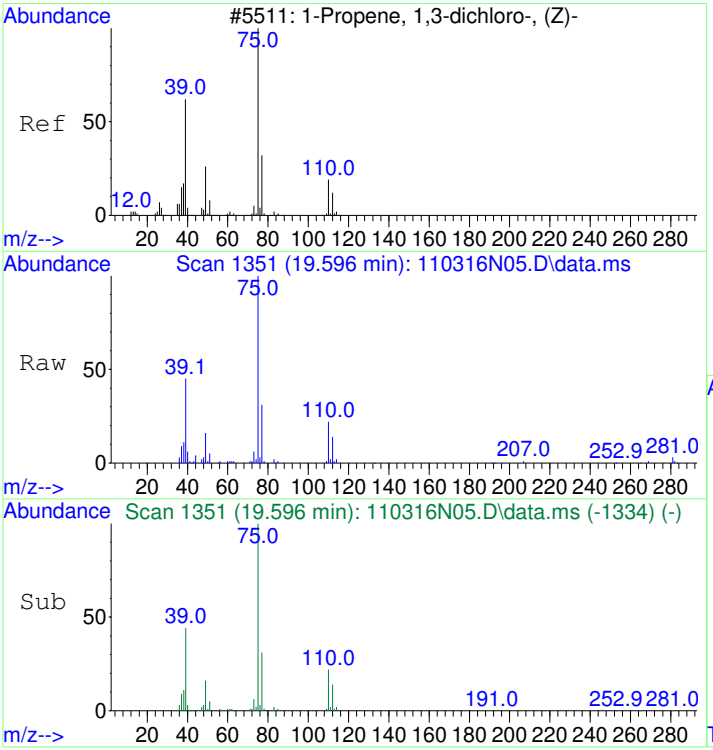


#40
Bromodichloromethane
Concen: 1.12 ppbv
RT: 18.837 min Scan# 1287
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 83 Resp: 101129

Ion	Ratio	Lower	Upper
83	100		
85	63.8	44.2	84.2
47	18.2	0.0	38.2
129	11.2	0.0	31.0

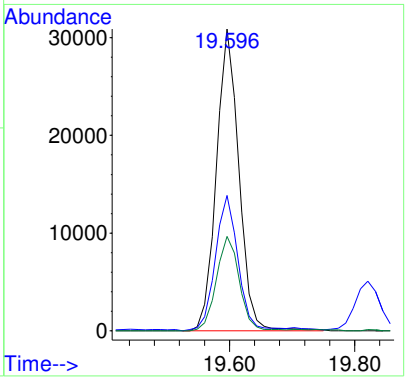


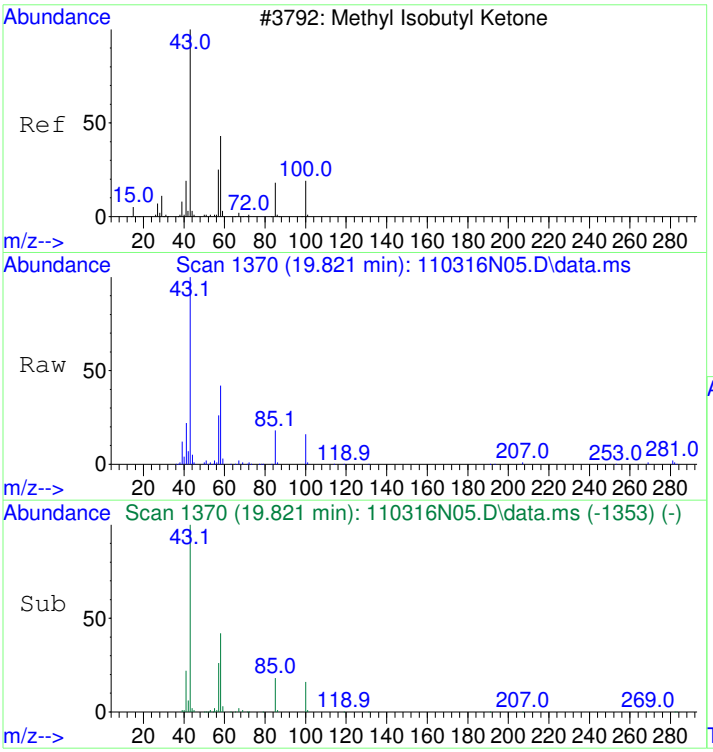


#41
cis-1,3-Dichloropropene
Concen: 1.12 ppbv
RT: 19.596 min Scan# 1351
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 75 Resp: 77600

Ion	Ratio	Lower	Upper
75	100		
39	46.3	25.7	65.7
77	31.5	11.8	51.8

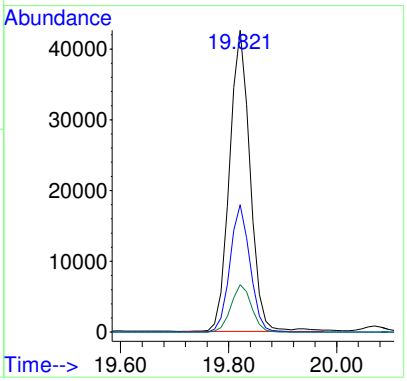


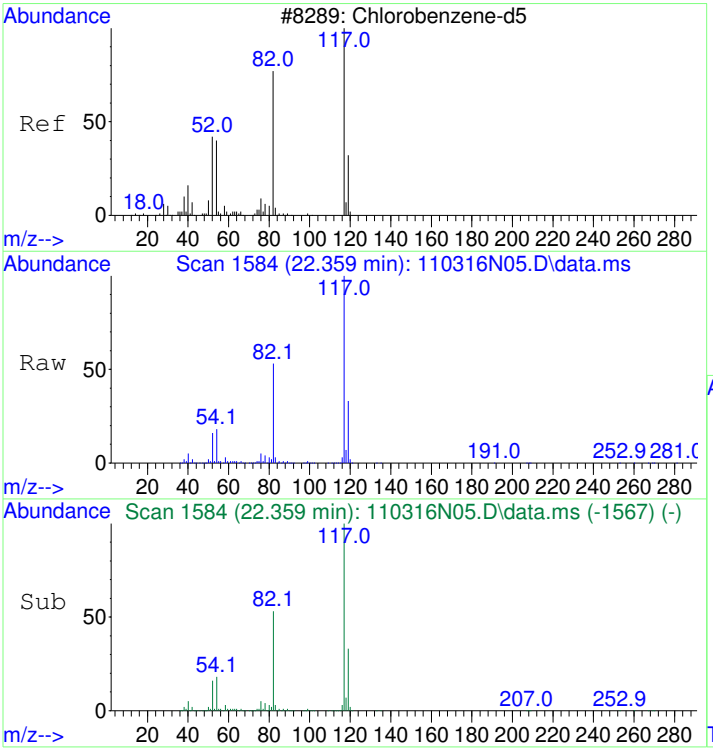


#42
4-Methyl-2-pentanone (MIBK)
Concen: 1.12 ppbv
RT: 19.821 min Scan# 1370
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 43 Resp: 112880

Ion	Ratio	Lower	Upper
43	100		
58	41.1	20.9	60.9
100	15.6	0.0	34.9

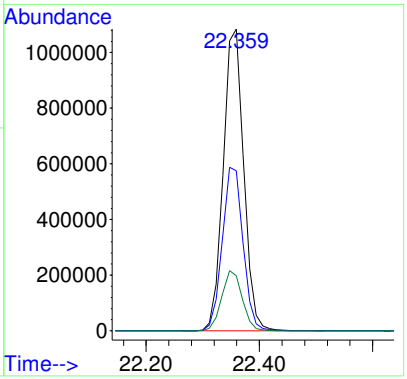


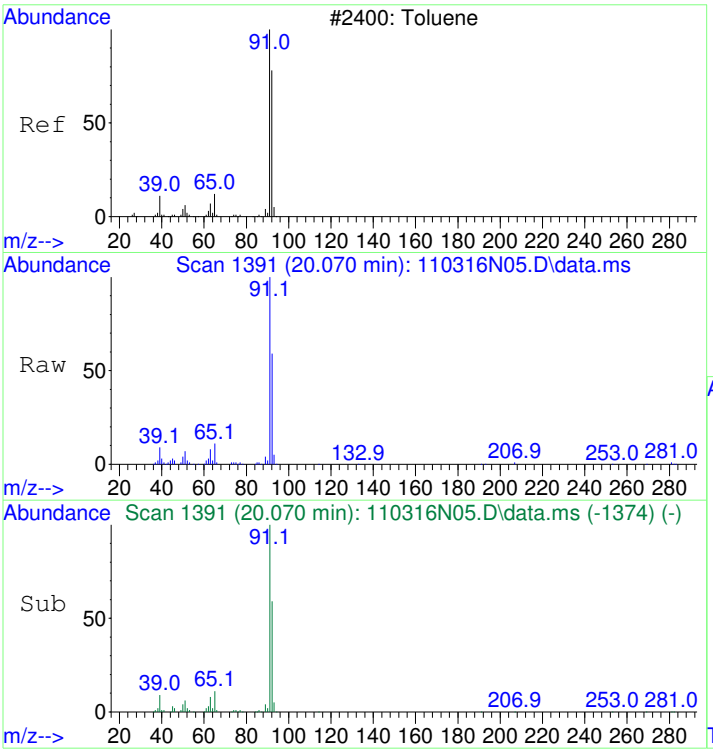


#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion:117 Resp: 2728701

Ion	Ratio	Lower	Upper
117	100		
82	55.0	36.8	76.8
54	20.1	1.4	41.4

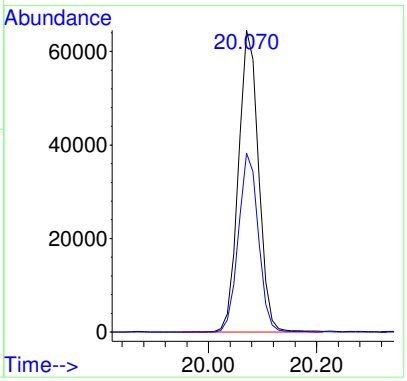


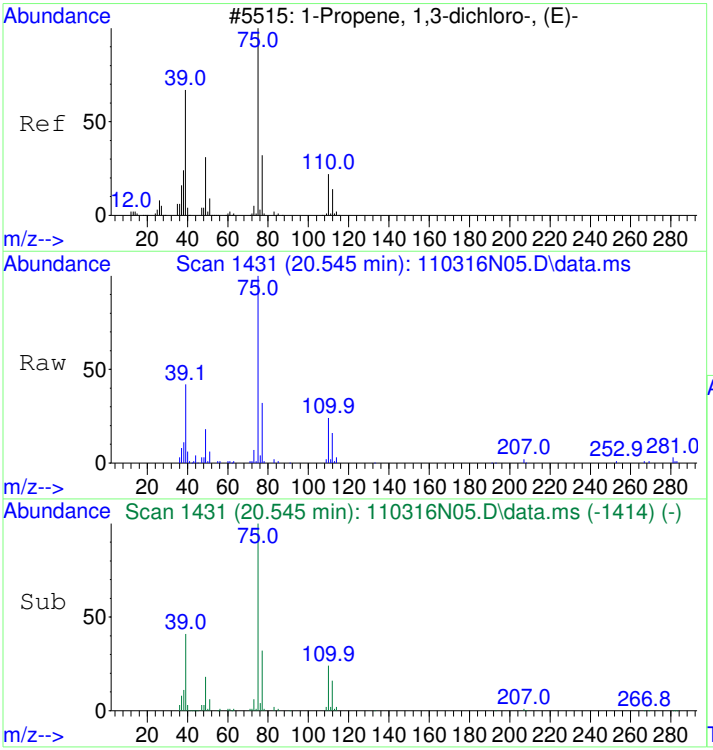


#44
Toluene
Concen: 1.11 ppbv
RT: 20.070 min Scan# 1391
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 91 Resp: 167177

Ion	Ratio	Lower	Upper
91	100		
92	58.8	39.3	79.3

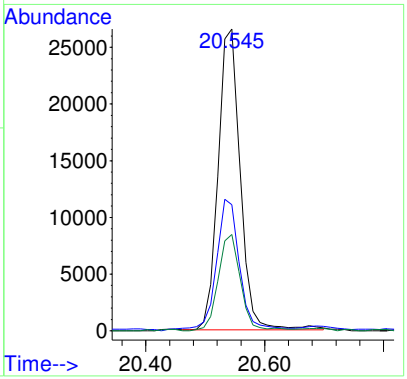


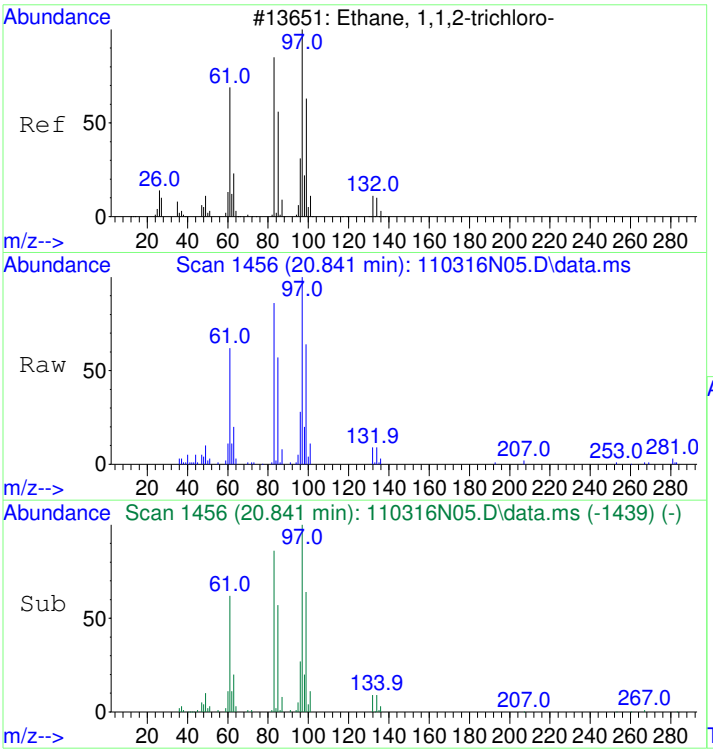


#45
trans-1,3-Dichloropropene
Concen: 1.04 ppbv
RT: 20.545 min Scan# 1431
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 75 Resp: 68855

Ion	Ratio	Lower	Upper
75	100		
39	48.1	23.0	63.0
77	31.3	11.3	51.3

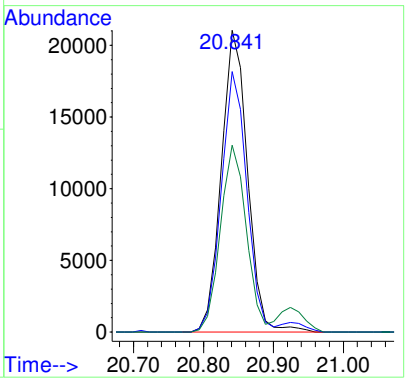


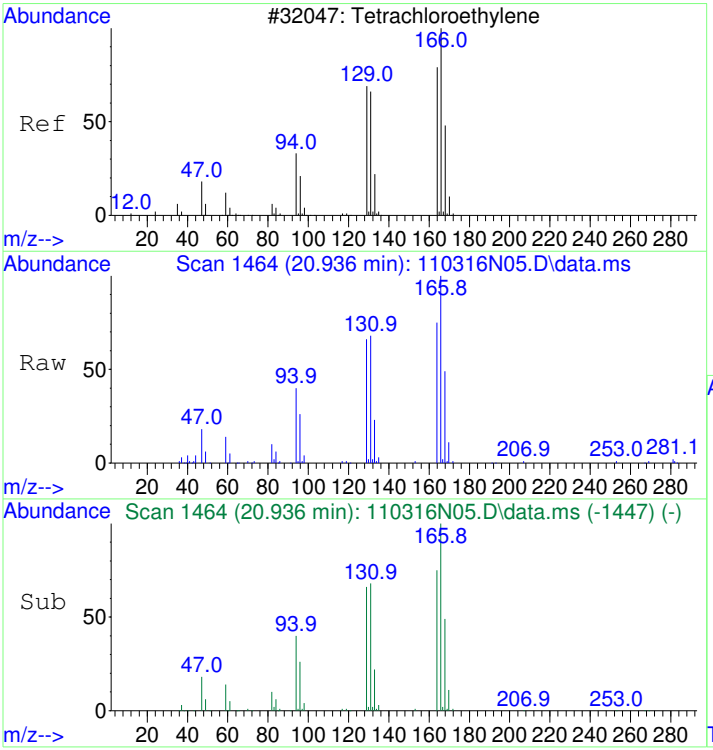


#46
1,1,2-Trichloroethane
Concen: 1.11 ppbv
RT: 20.841 min Scan# 1456
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 97 Resp: 54774

Ion	Ratio	Lower	Upper
97	100		
83	87.2	67.8	107.8
61	57.8	38.5	78.5

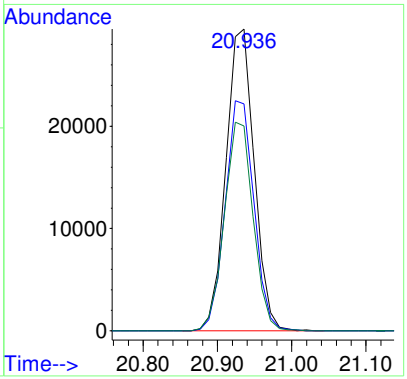


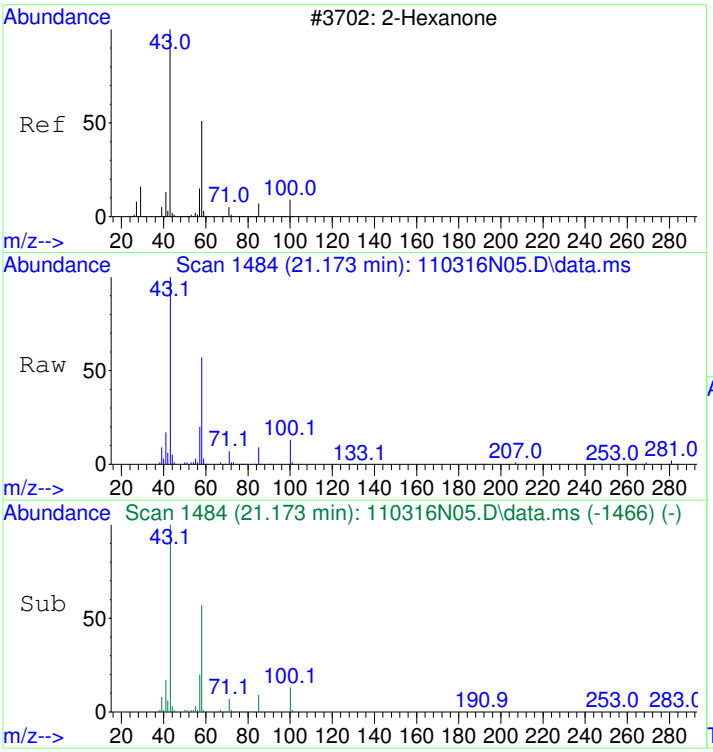


#47
Tetrachloroethene
Concen: 1.07 ppbv
RT: 20.936 min Scan# 1464
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion:166 Resp: 78094

Ion	Ratio	Lower	Upper
166	100		
164	77.4	58.2	98.2
131	70.2	49.4	89.4

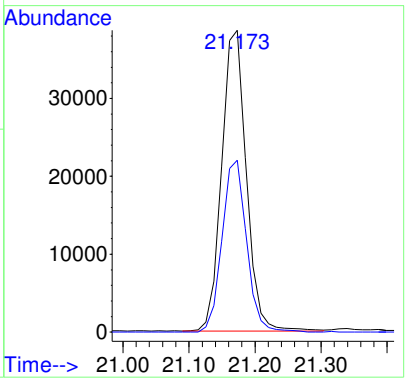


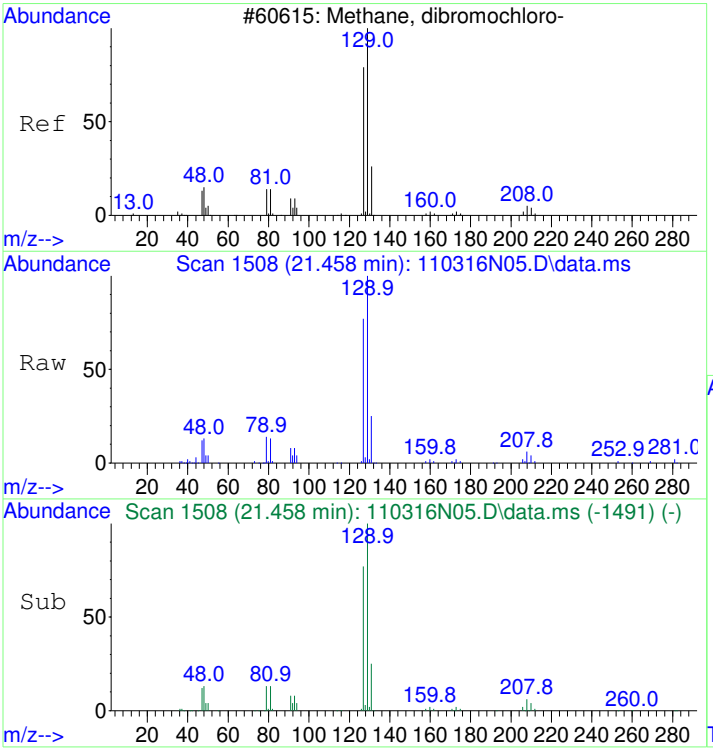


#48
2-Hexanone
Concen: 1.07 ppbv
RT: 21.173 min Scan# 1484
Delta R.T. 0.012 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 43 Resp: 100056

Ion	Ratio	Lower	Upper
43	100		
58	56.9	37.1	77.1

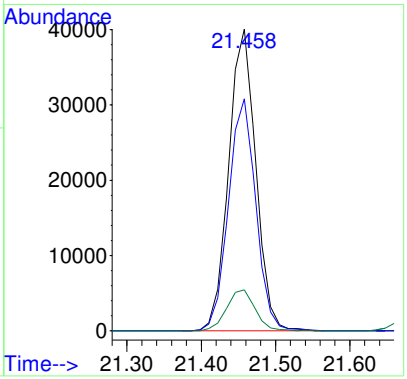


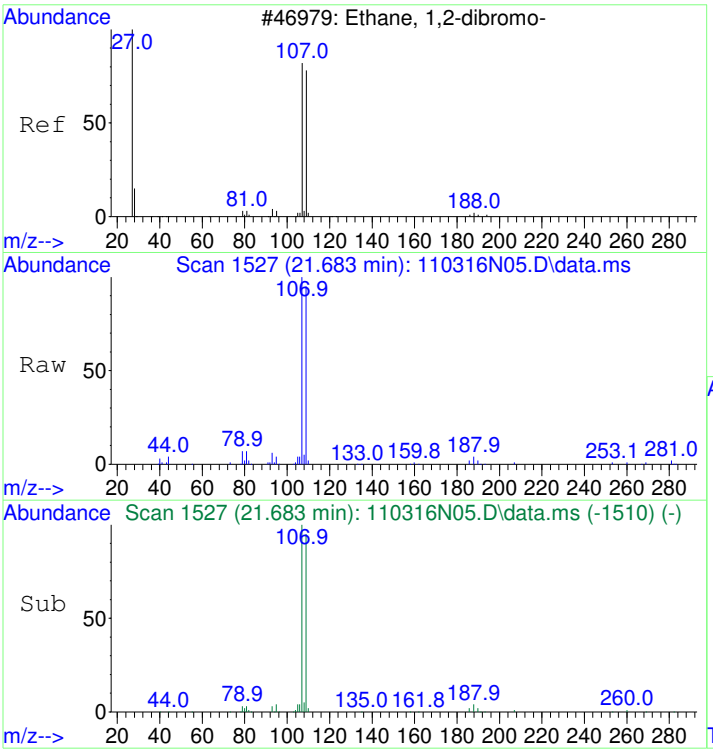


#49
Chlorodibromomethane
Concen: 1.10 ppbv
RT: 21.458 min Scan# 1508
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion:129 Resp: 101516

Ion	Ratio	Lower	Upper
129	100		
127	77.5	57.0	97.0
79	14.4	0.0	34.2

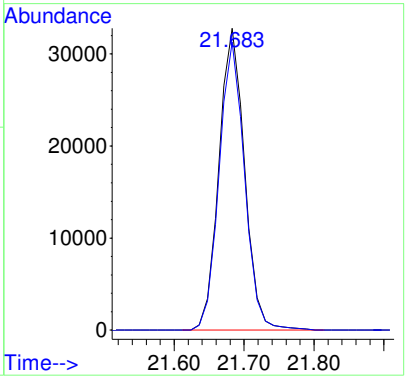


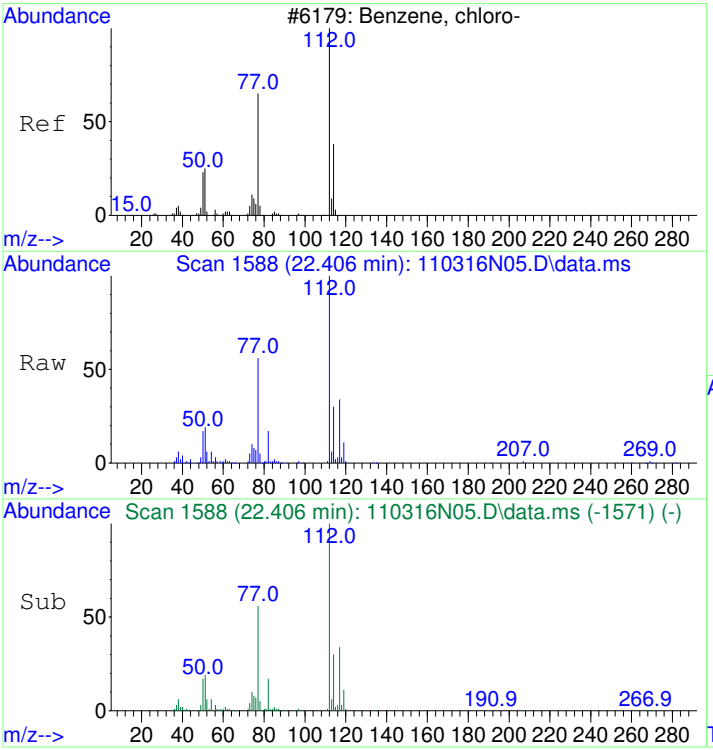


#50
1,2-Dibromoethane (EDB)
Concen: 1.14 ppbv
RT: 21.683 min Scan# 1527
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion:107 Resp: 83218

Ion	Ratio	Lower	Upper
107	100		
109	94.8	74.8	114.8

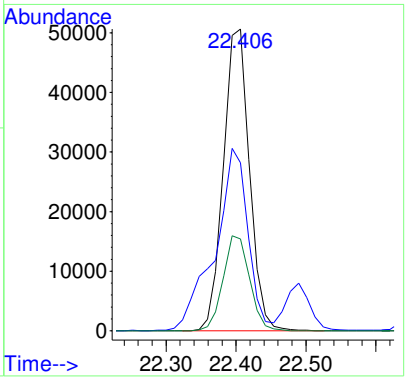


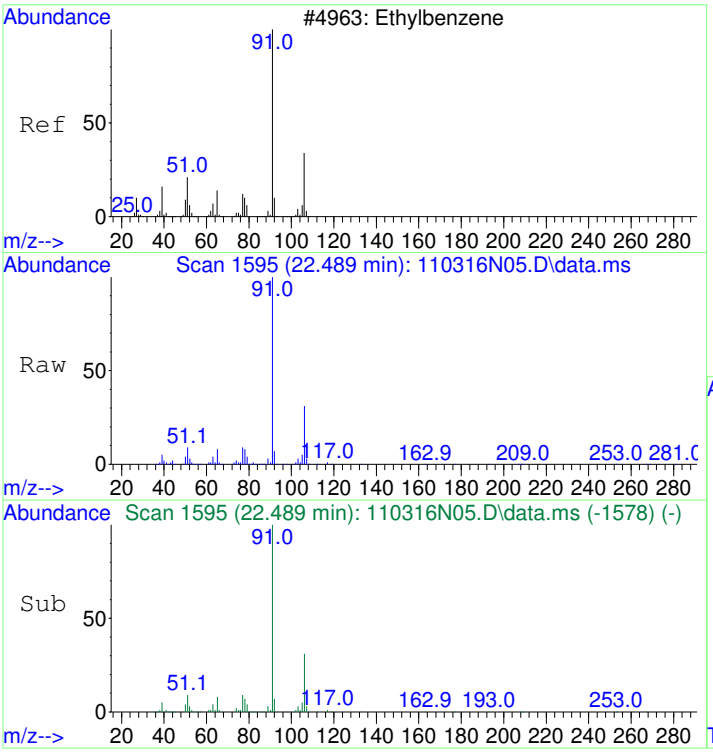


#51
Chlorobenzene
Concen: 1.14 ppbv
RT: 22.406 min Scan# 1588
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion:112 Resp: 131219

Ion	Ratio	Lower	Upper
112	100		
77	77.0	42.1	82.1
114	31.9	12.0	52.0

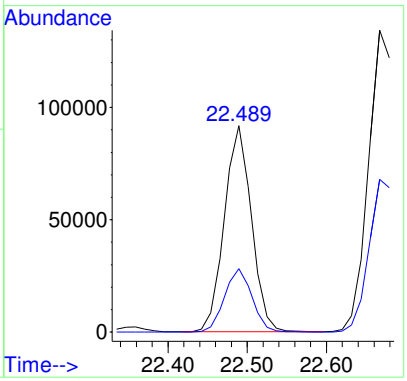


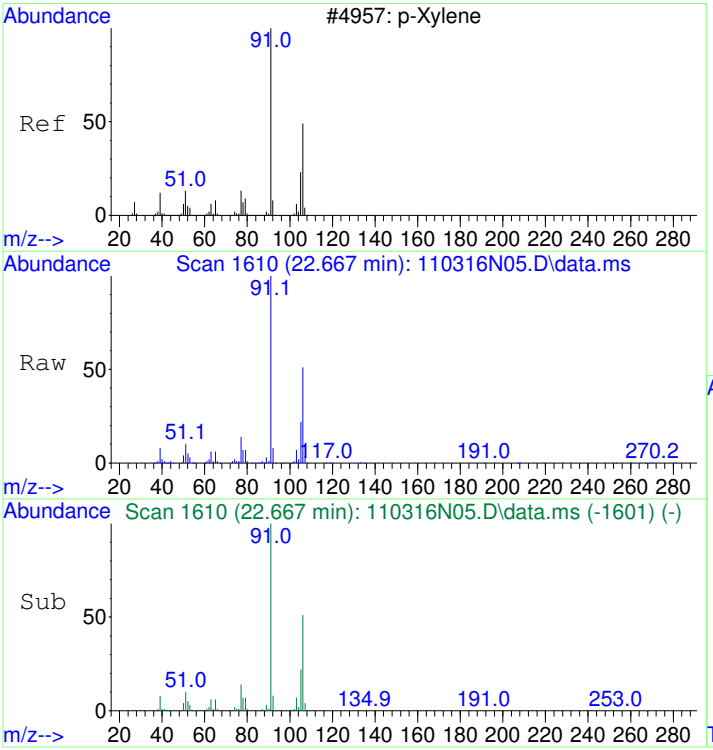


#52
Ethylbenzene
Concen: 1.10 ppbv
RT: 22.489 min Scan# 1595
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 91 Resp: 218350

Ion	Ratio	Lower	Upper
91	100		
106	31.1	11.6	51.6

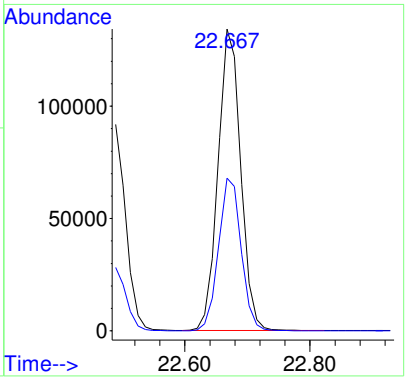


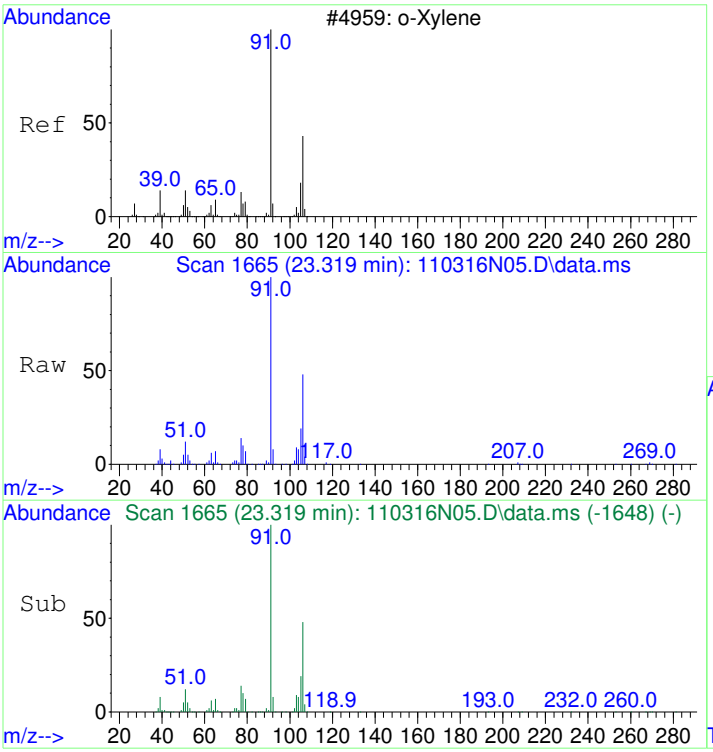


#53
m&p-Xylene
Concen: 2.17 ppbv
RT: 22.667 min Scan# 1610
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 91 Resp: 338205

Ion	Ratio	Lower	Upper
91	100		
106	50.8	30.9	70.9

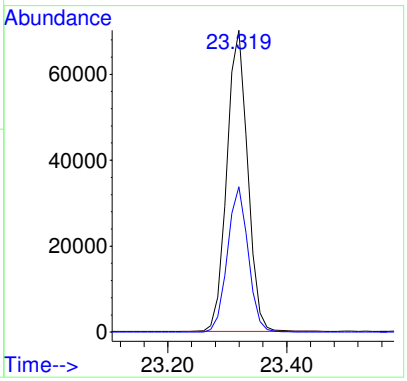


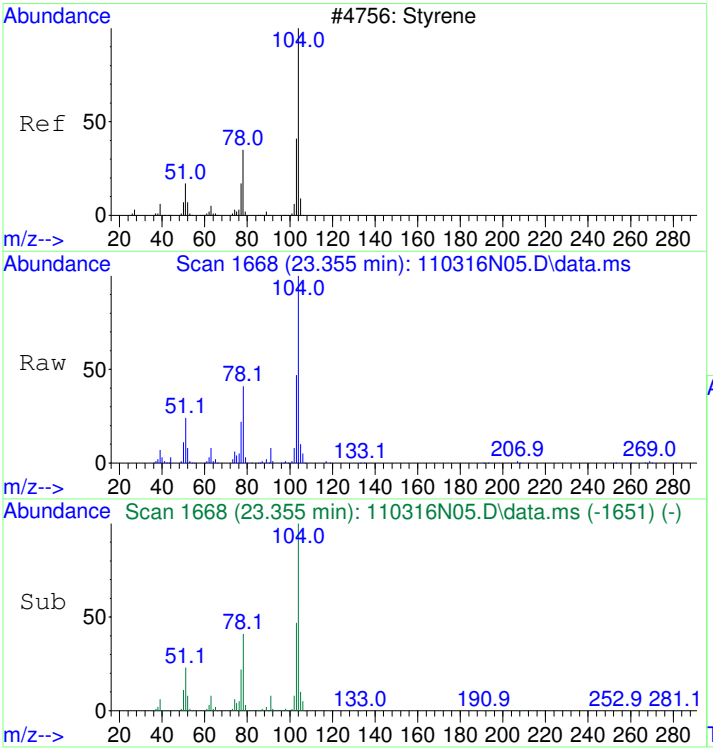


#54
o-Xylene
Concen: 1.08 ppbv
RT: 23.319 min Scan# 1665
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 91 Resp: 170701

Ion	Ratio	Lower	Upper
91	100		
106	47.9	28.0	68.0

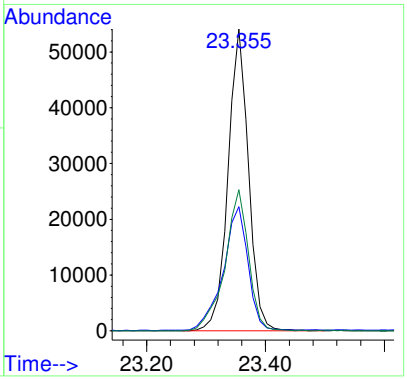


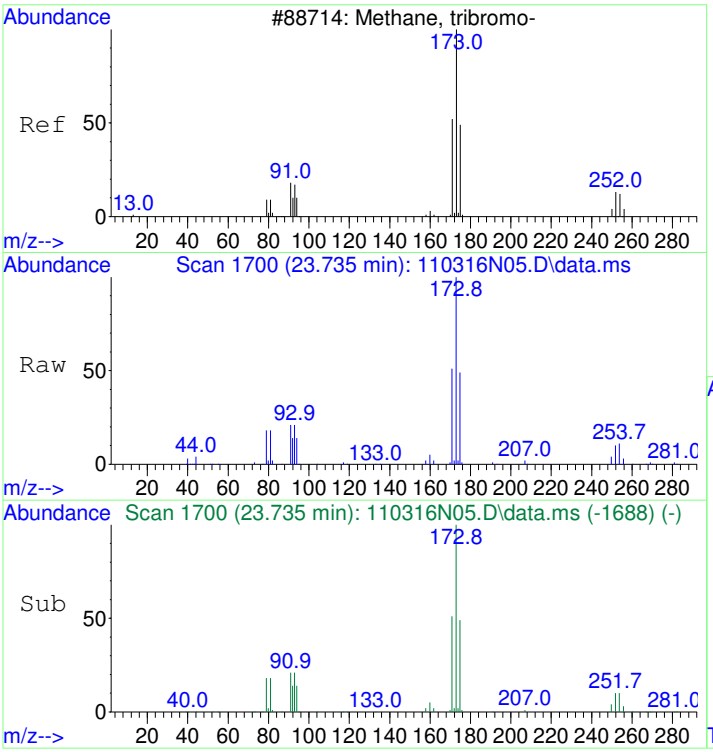


#55
Styrene
Concen: 1.06 ppbv
RT: 23.355 min Scan# 1668
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion:104 Resp: 129541

Ion	Ratio	Lower	Upper
104	100		
78	51.1	30.6	70.6
103	53.8	33.7	73.7

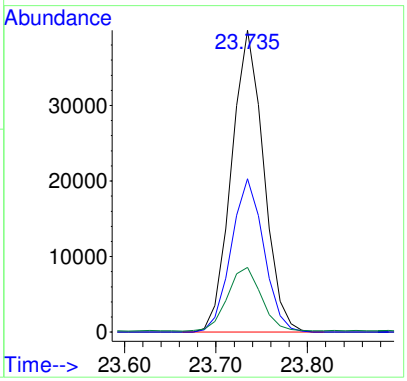


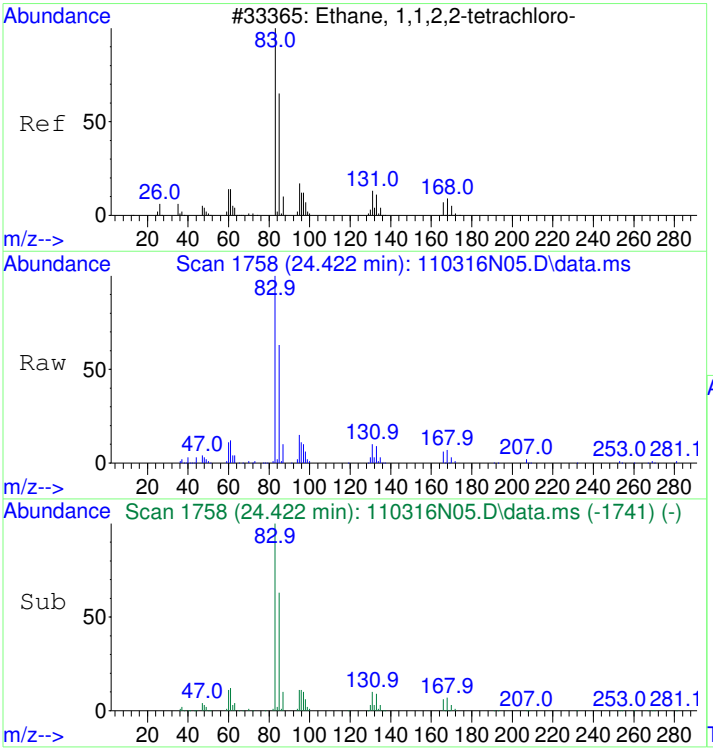


#56
Bromoform
Concen: 1.02 ppbv
RT: 23.735 min Scan# 1700
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion:173 Resp: 97357

Ion	Ratio	Lower	Upper
173	100		
171	51.5	30.7	70.7
91	22.0	1.6	41.6

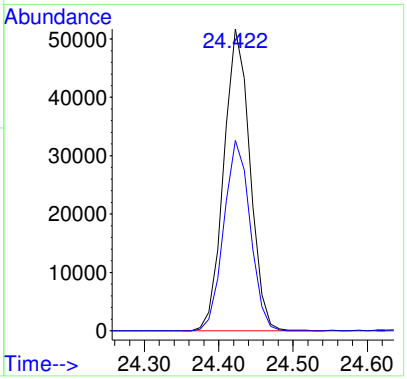


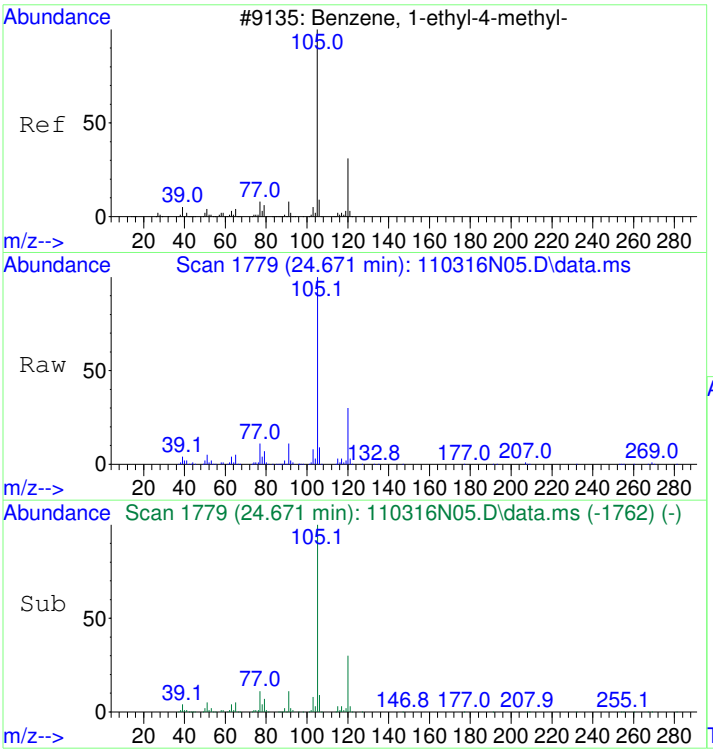


#57
1,1,2,2-Tetrachloroethane
Concen: 1.10 ppbv
RT: 24.422 min Scan# 1758
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 83 Resp: 126076

Ion	Ratio	Lower	Upper
83	100		
85	63.6	44.4	84.4

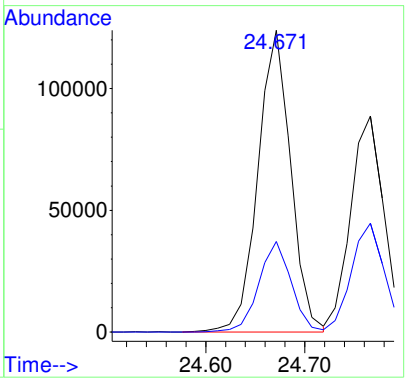


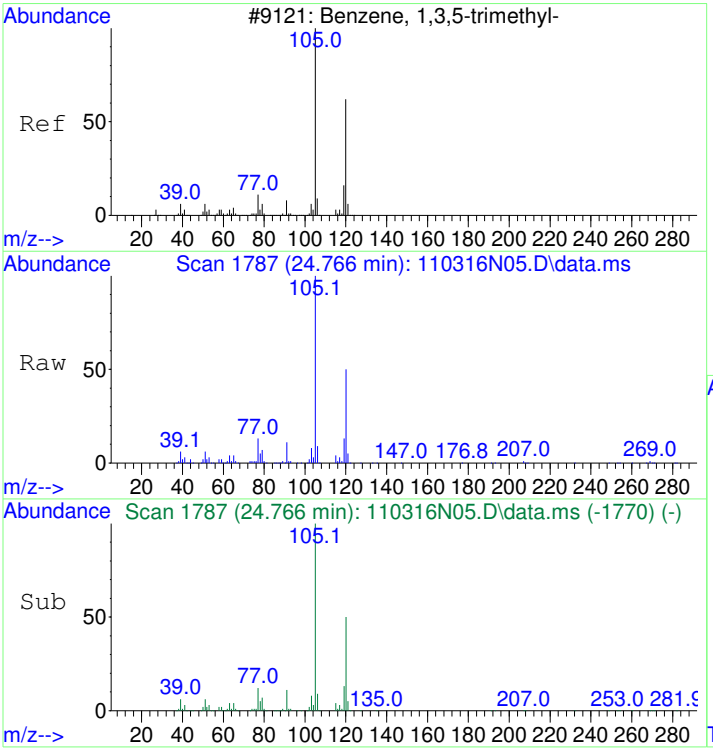


#58
4-Ethyltoluene
Concen: 1.19 ppbv
RT: 24.671 min Scan# 1779
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion:105 Resp: 284407

Ion	Ratio	Lower	Upper
105	100		
120	29.9	10.4	50.4

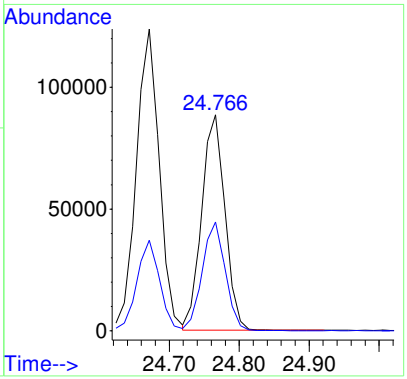


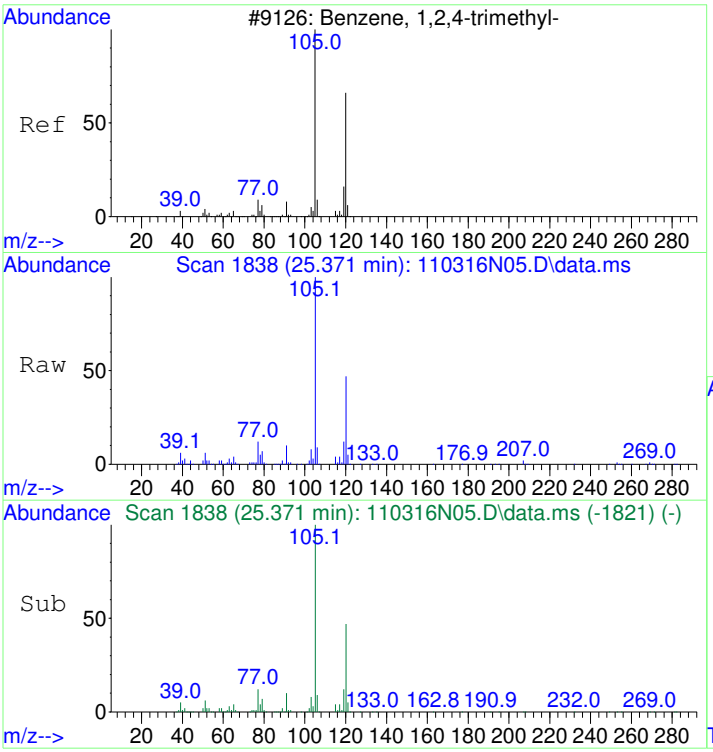


#59
1,3,5-Trimethylbenzene
Concen: 1.10 ppbv
RT: 24.766 min Scan# 1787
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion:105 Resp: 205381

Ion	Ratio	Lower	Upper
105	100		
120	50.4	30.3	70.3

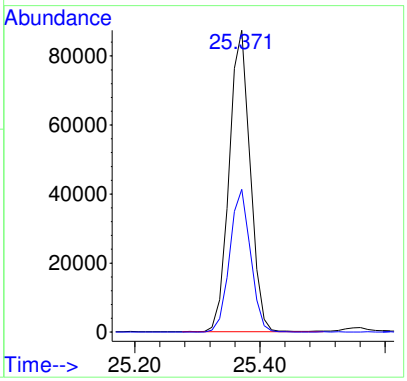


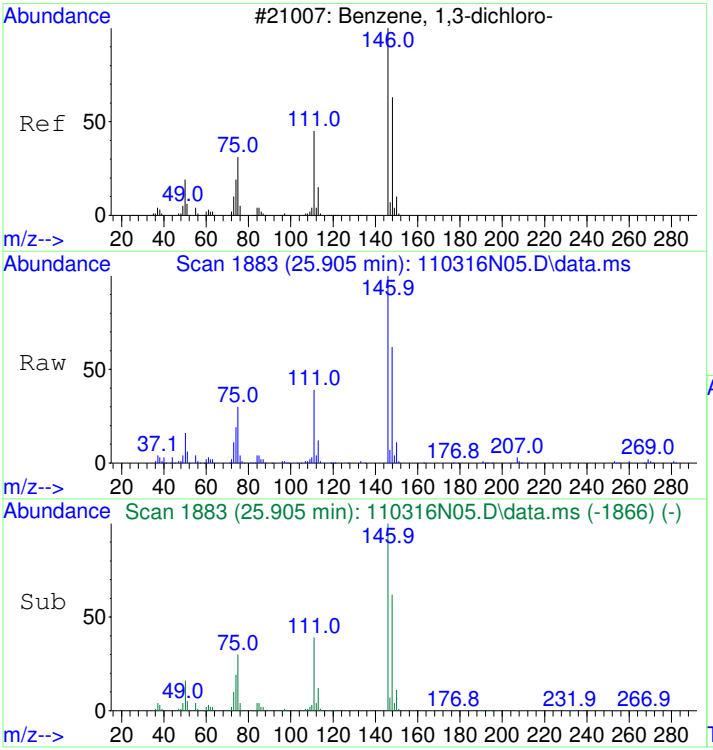


#60
1,2,4-Trimethylbenzene
Concen: 1.08 ppbv
RT: 25.371 min Scan# 1838
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion:105 Resp: 203522

Ion	Ratio	Lower	Upper
105	100		
120	47.0	27.0	67.0

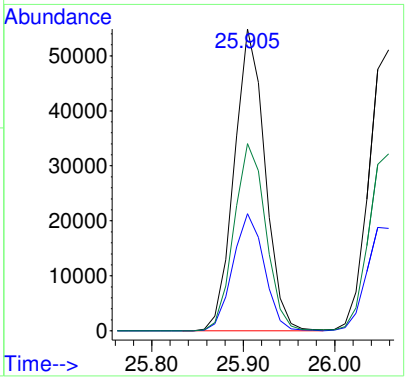


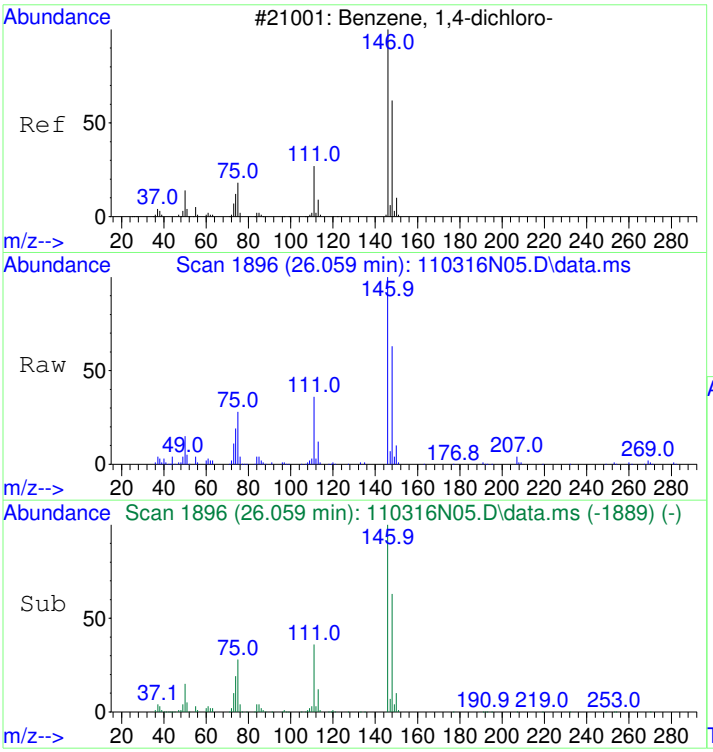


#61
1,3-Dichlorobenzene
Concen: 1.06 ppbv
RT: 25.905 min Scan# 1883
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion:146 Resp: 128197

Ion	Ratio	Lower	Upper
146	100		
111	39.6	20.2	60.2
148	63.8	44.1	84.1

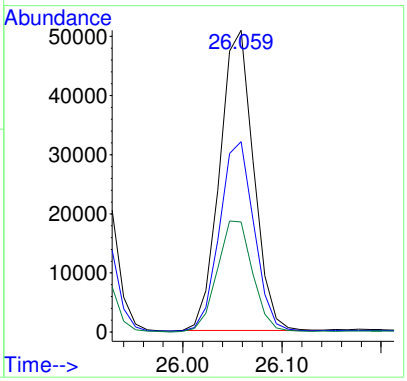


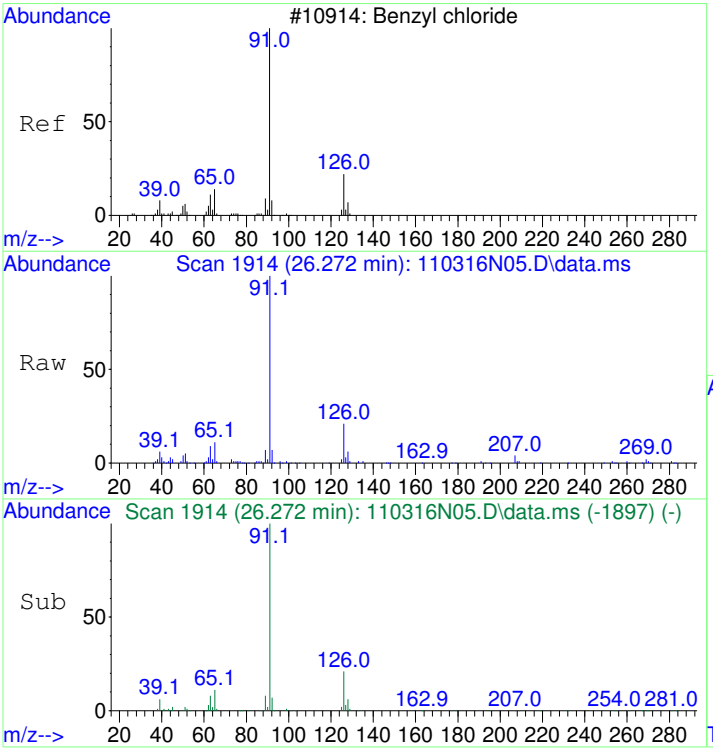


#62
1,4-Dichlorobenzene
Concen: 1.04 ppbv
RT: 26.059 min Scan# 1896
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion:146 Resp: 121246

Ion	Ratio	Lower	Upper
146	100		
148	64.0	44.0	84.0
111	38.0	18.2	58.2

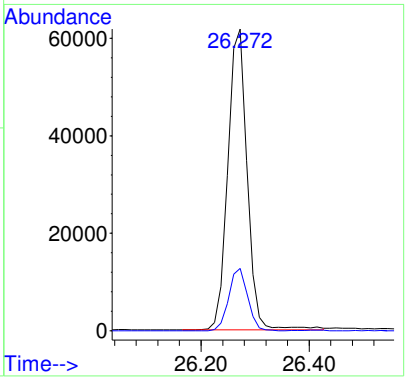


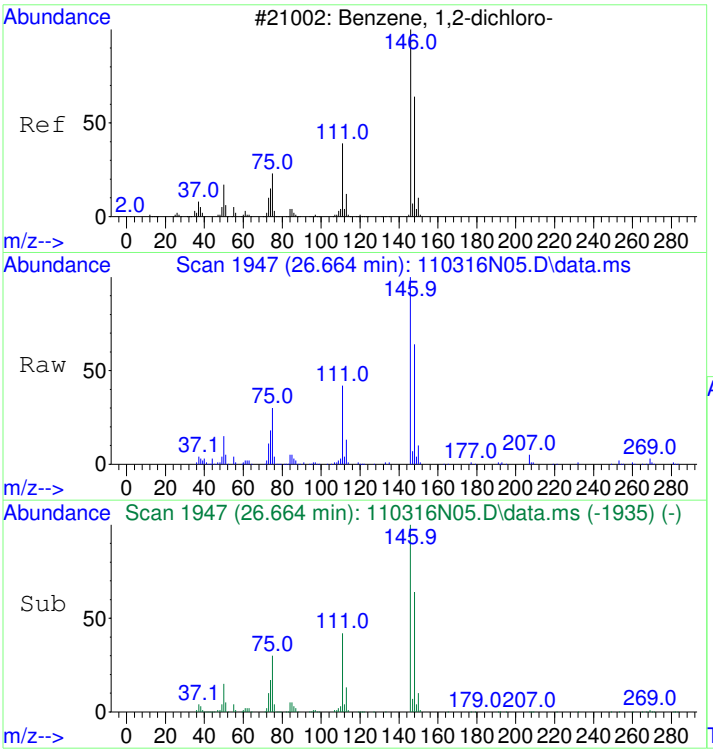


#63
Benzyl chloride
Concen: 1.05 ppbv
RT: 26.272 min Scan# 1914
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion: 91 Resp: 153994

Ion	Ratio	Lower	Upper
91	100		
126	20.2	0.2	40.2

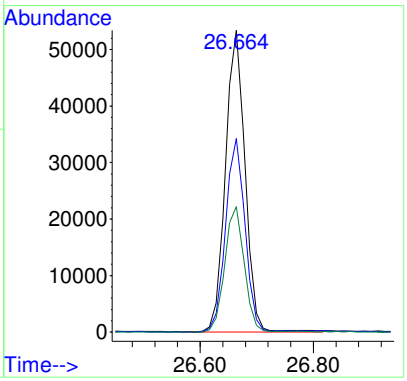


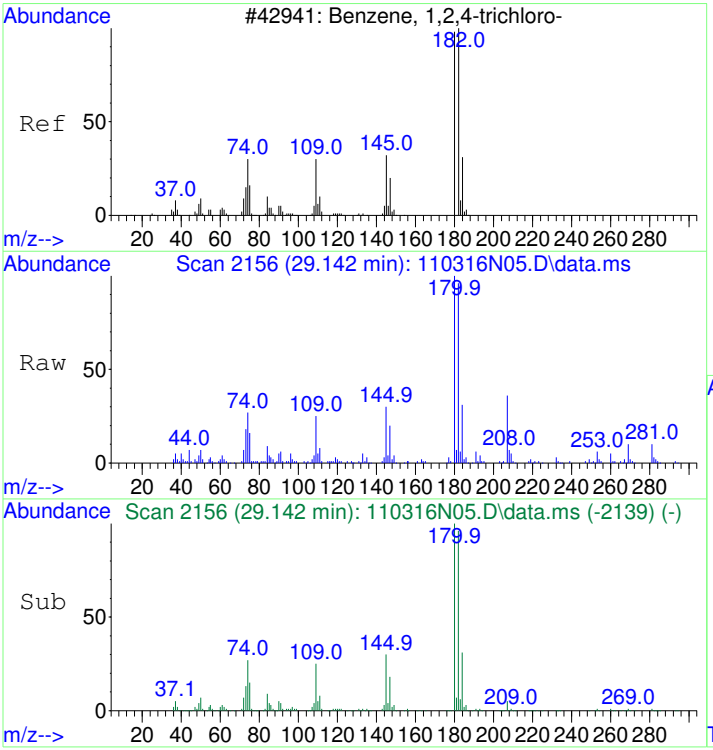


#64
1,2-Dichlorobenzene
Concen: 1.06 ppbv
RT: 26.664 min Scan# 1947
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion:146 Resp: 128599

Ion	Ratio	Lower	Upper
146	100		
148	64.0	43.7	83.7
111	41.2	21.5	61.5

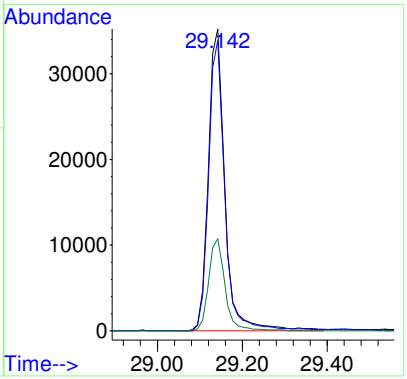


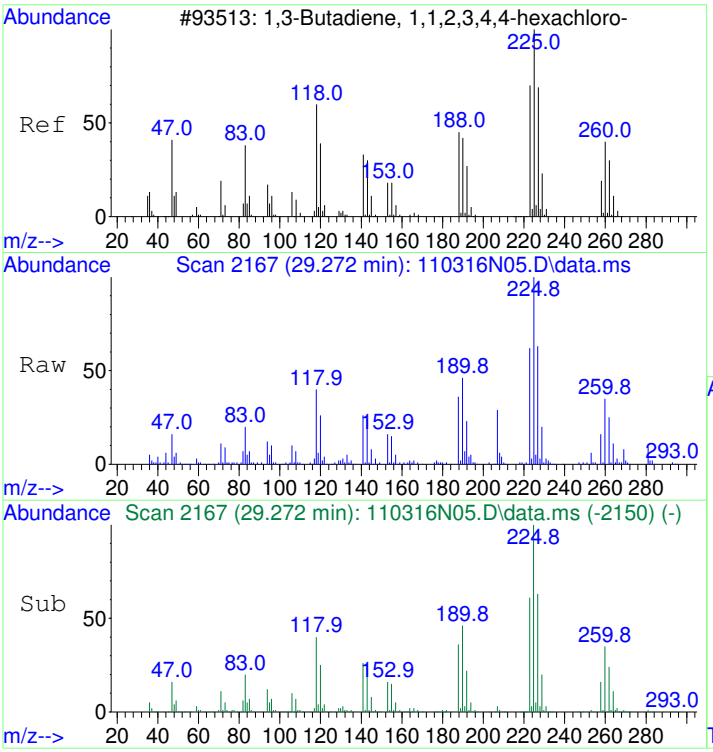


#65
1,2,4-Trichlorobenzene
Concen: 0.92 ppbv
RT: 29.142 min Scan# 2156
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion:180 Resp: 95491

Ion	Ratio	Lower	Upper
180	100		
182	94.3	75.7	115.7
184	30.1	10.6	50.6

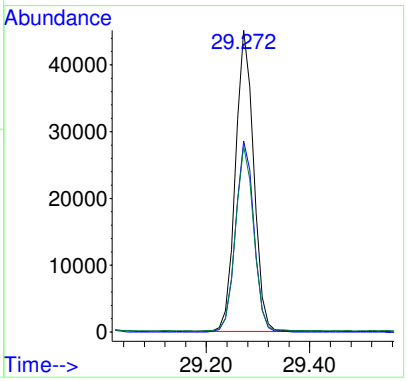




#66
Hexachlorobutadiene
Concen: 0.92 ppbv
RT: 29.272 min Scan# 2167
Delta R.T. -0.000 min
Lab File: 110316N05.D
Acq: 3 Nov 2016 12:56 pm

Tgt Ion:225 Resp: 109896

Ion	Ratio	Lower	Upper
225	100		
227	63.9	44.7	84.7
223	61.6	42.0	82.0



S16K015-CAL2

Data Path : D:\msdchem\1\2016\data\110316_FSAA\
Data File : 110316N06.D
Acq On : 3 Nov 2016 1:42 pm
InstName : AG5973N
Operator : LLH
Sample : S16K015-CAL2
Misc : 2.0ppbv 1645035
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 03 16:24:23 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 16:24:15 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	966218	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	3059813	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	2611779	22.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.452	41	68797	2.47	ppbv	99
3) Dichlorodifluoromethane	4.547	85	228336	2.20	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.903	85	234037	2.32	ppbv	100
5) Chloromethane	5.093	50	77960	2.47	ppbv	99
6) Vinyl chloride	5.425	62	76815	2.37	ppbv	98
7) 1,3-Butadiene	5.520	54	54462	2.22	ppbv	97
8) Bromomethane	6.457	94	71844	2.33	ppbv	99
9) Chloroethane	6.789	64	33780	2.24	ppbv	96
10) Bromoethene	7.358	106	77365	2.63	ppbv	99
11) Trichlorofluoromethane	7.500	101	207484	2.27	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.338	151	141305	2.40	ppbv	99
13) 1,1-Dichloroethene	9.409	61	137006	2.50	ppbv	98
14) Acetone	9.955	43	127141	2.44	ppbv	98
15) Carbon disulfide	10.133	76	221202	2.58	ppbv	99
16) 2-Propanol	10.548	45	137371	2.65	ppbv	98
17) Allyl chloride	10.951	41	108575	2.52	ppbv	97
18) Dichloromethane	11.473	49	106401	2.43	ppbv	98
19) tert-Butyl methyl ethe...	12.160	73	245502	2.42	ppbv	99
20) trans-1,2-Dichloroethene	12.184	61	127292	2.56	ppbv	98
21) Hexane	12.777	57	149882	2.48	ppbv	99
22) 1,1-Dichloroethane	13.512	63	164519	2.40	ppbv	99
23) Vinyl acetate	13.655	43	210100	2.43	ppbv	99
24) cis-1,2-Dichloroethene	14.935	61	119002	2.46	ppbv	99
25) 2-Butanone (MEK)	15.030	72	45537	2.50	ppbv #	100
26) Ethyl acetate	15.078	61	28551	2.38	ppbv #	97
27) Tetrahydrofuran	15.493	42	99795	2.34	ppbv	99
28) Chloroform	15.635	83	181637	2.34	ppbv	100
29) Cyclohexane	15.860	56	153335	2.48	ppbv	100
30) 1,1,1-Trichloroethane	15.908	97	188627	2.22	ppbv	100
31) Carbon tetrachloride	16.169	117	194170	2.18	ppbv	99
33) Benzene	16.655	78	286461	2.36	ppbv	100
34) 2,2,4-Trimethylpentane	16.607	57	477248	2.39	ppbv	99
35) 1,2-Dichloroethane	16.845	62	118693	2.20	ppbv	99
36) Heptane	16.987	43	165951	2.29	ppbv	100
37) Trichloroethene	17.876	130	116066	2.40	ppbv	100
38) 1,2-Dichloropropane	18.374	63	102773	2.33	ppbv	100
39) 1,4-Dioxane	18.564	88	71099	2.62	ppbv	99
40) Bromodichloromethane	18.837	83	195744	2.28	ppbv	99
41) cis-1,3-Dichloropropene	19.596	75	155762	2.36	ppbv	99
42) 4-Methyl-2-pentanone (...	19.821	43	230685	2.40	ppbv	100
44) Toluene	20.070	91	328421	2.27	ppbv	100
45) trans-1,3-Dichloropropene	20.544	75	138067	2.18	ppbv	100
46) 1,1,2-Trichloroethane	20.841	97	106811	2.26	ppbv	99
47) Tetrachloroethene	20.936	166	153102	2.20	ppbv	99
48) 2-Hexanone	21.161	43	219087	2.44	ppbv	100
49) Chlorodibromomethane	21.458	129	188924	2.14	ppbv	99
50) 1,2-Dibromoethane (EDB)	21.683	107	161267	2.30	ppbv	100
51) Chlorobenzene	22.406	112	250177	2.26	ppbv	95
52) Ethylbenzene	22.489	91	422011	2.21	ppbv	100
53) m&p-Xylene	22.667	91	651469	4.37	ppbv	100
54) o-Xylene	23.319	91	329797	2.19	ppbv	99

Data Path : D:\msdchem\1\2016\data\110316_FSAA\
Data File : 110316N06.D
Acq On : 3 Nov 2016 1:42 pm
InstName : AG5973N
Operator : LLH
Sample : S16K015-CAL2
Misc : 2.0ppbv 1645035
ALS Vial : 32 Sample Multiplier: 1

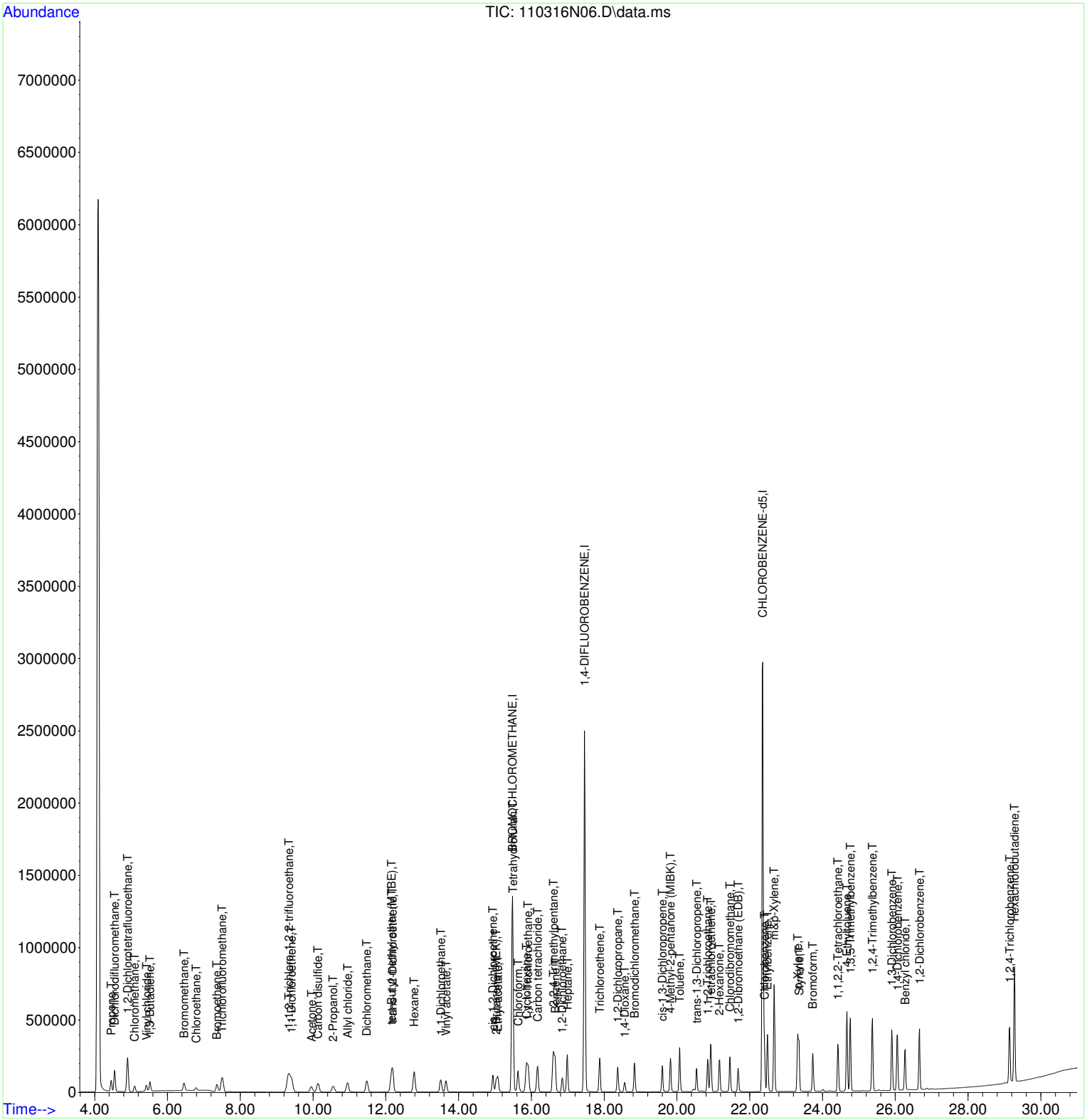
Quant Time: Nov 03 16:24:23 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 16:24:15 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55) Styrene	23.355	104	250244	2.13	ppbv	100
56) Bromoform	23.734	173	186073	2.04	ppbv	100
57) 1,1,2,2-Tetrachloroethane	24.422	83	248236	2.27	ppbv	99
58) 4-Ethyltoluene	24.671	105	530106	2.32	ppbv	99
59) 1,3,5-Trimethylbenzene	24.766	105	411740	2.31	ppbv	99
60) 1,2,4-Trimethylbenzene	25.371	105	421793	2.33	ppbv	100
61) 1,3-Dichlorobenzene	25.904	146	258162	2.23	ppbv	100
62) 1,4-Dichlorobenzene	26.059	146	247734	2.22	ppbv	99
63) Benzyl chloride	26.272	91	323733	2.30	ppbv	100
64) 1,2-Dichlorobenzene	26.663	146	260884	2.25	ppbv	99
65) 1,2,4-Trichlorobenzene	29.142	180	201693	2.04	ppbv	99
66) Hexachlorobutadiene	29.272	225	242783	2.12	ppbv	99

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

Data Path : D:\msdchem\1\2016\data\110316_FSAA\
Data File : 110316N06.D
Acq On : 3 Nov 2016 1:42 pm
InstName : AG5973N
Operator : LLH
Sample : S16K015-CAL2
Misc : 2.0ppbv 1645035
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 03 16:24:23 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 16:24:15 2016
Response via : Initial Calibration



S16K015-CAL3

Data Path : D:\msdchem\1\2016\data\110316_FSAA\
Data File : 110316N07.D
Acq On : 3 Nov 2016 2:28 pm
InstName : AG5973N
Operator : LLH
Sample : S16K015-CAL3
Misc : 5.0ppbv 1645036
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 03 16:25:12 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 16:25:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	951180	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	2968257	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	2519693	22.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.452	41	142653	5.21	ppbv	98
3) Dichlorodifluoromethane	4.547	85	484141	4.74	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.903	85	490899	4.95	ppbv	99
5) Chloromethane	5.093	50	163521	5.26	ppbv	99
6) Vinyl chloride	5.425	62	160704	5.04	ppbv	99
7) 1,3-Butadiene	5.520	54	112933	4.67	ppbv	99
8) Bromomethane	6.457	94	149213	4.92	ppbv	100
9) Chloroethane	6.789	64	70239	4.74	ppbv	97
10) Bromoethene	7.358	106	156505	5.40	ppbv	100
11) Trichlorofluoromethane	7.500	101	432168	4.79	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.338	151	289340	4.99	ppbv	100
13) 1,1-Dichloroethene	9.409	61	286620	5.31	ppbv	100
14) Acetone	9.943	43	254267	4.96	ppbv	99
15) Carbon disulfide	10.133	76	464050	5.50	ppbv	100
16) 2-Propanol	10.548	45	278659	5.46	ppbv	99
17) Allyl chloride	10.939	41	231658	5.46	ppbv	99
18) Dichloromethane	11.473	49	211537	4.90	ppbv	99
19) tert-Butyl methyl ethe...	12.149	73	528447	5.28	ppbv	100
20) trans-1,2-Dichloroethene	12.184	61	267509	5.46	ppbv	99
21) Hexane	12.777	57	315082	5.29	ppbv	99
22) 1,1-Dichloroethane	13.512	63	343825	5.09	ppbv	100
23) Vinyl acetate	13.655	43	470277	5.53	ppbv	100
24) cis-1,2-Dichloroethene	14.947	61	253275	5.31	ppbv	100
25) 2-Butanone (MEK)	15.030	72	91103	5.08	ppbv #	100
26) Ethyl acetate	15.078	61	59958	5.08	ppbv #	98
27) Tetrahydrofuran	15.493	42	203509	4.85	ppbv	99
28) Chloroform	15.635	83	383731	5.02	ppbv	100
29) Cyclohexane	15.860	56	323296	5.32	ppbv	100
30) 1,1,1-Trichloroethane	15.908	97	402015	4.81	ppbv	100
31) Carbon tetrachloride	16.169	117	417554	4.77	ppbv	100
33) Benzene	16.655	78	601789	5.12	ppbv	100
34) 2,2,4-Trimethylpentane	16.607	57	1014313	5.25	ppbv	100
35) 1,2-Dichloroethane	16.845	62	253352	4.84	ppbv	99
36) Heptane	16.987	43	359264	5.11	ppbv	100
37) Trichloroethene	17.876	130	250266	5.33	ppbv	100
38) 1,2-Dichloropropane	18.374	63	220972	5.16	ppbv	100
39) 1,4-Dioxane	18.564	88	141498	5.38	ppbv	100
40) Bromodichloromethane	18.837	83	429468	5.15	ppbv	100
41) cis-1,3-Dichloropropene	19.596	75	347517	5.42	ppbv	99
42) 4-Methyl-2-pentanone (...	19.821	43	453968	4.86	ppbv	99
44) Toluene	20.070	91	718113	5.15	ppbv	100
45) trans-1,3-Dichloropropene	20.544	75	318989	5.22	ppbv	100
46) 1,1,2-Trichloroethane	20.841	97	234047	5.13	ppbv	99
47) Tetrachloroethene	20.936	166	336766	5.01	ppbv	100
48) 2-Hexanone	21.161	43	428341	4.95	ppbv	100
49) Chlorodibromomethane	21.458	129	430510	5.05	ppbv	100
50) 1,2-Dibromoethane (EDB)	21.683	107	354936	5.25	ppbv	100
51) Chlorobenzene	22.406	112	552956	5.19	ppbv	99
52) Ethylbenzene	22.489	91	934781	5.08	ppbv	100
53) m&p-Xylene	22.667	91	1453007	10.11	ppbv	100
54) o-Xylene	23.319	91	730406	5.03	ppbv	100

Data Path : D:\msdchem\1\2016\data\110316_FSAA\
Data File : 110316N07.D
Acq On : 3 Nov 2016 2:28 pm
InstName : AG5973N
Operator : LLH
Sample : S16K015-CAL3
Misc : 5.0ppbv 1645036
ALS Vial : 32 Sample Multiplier: 1

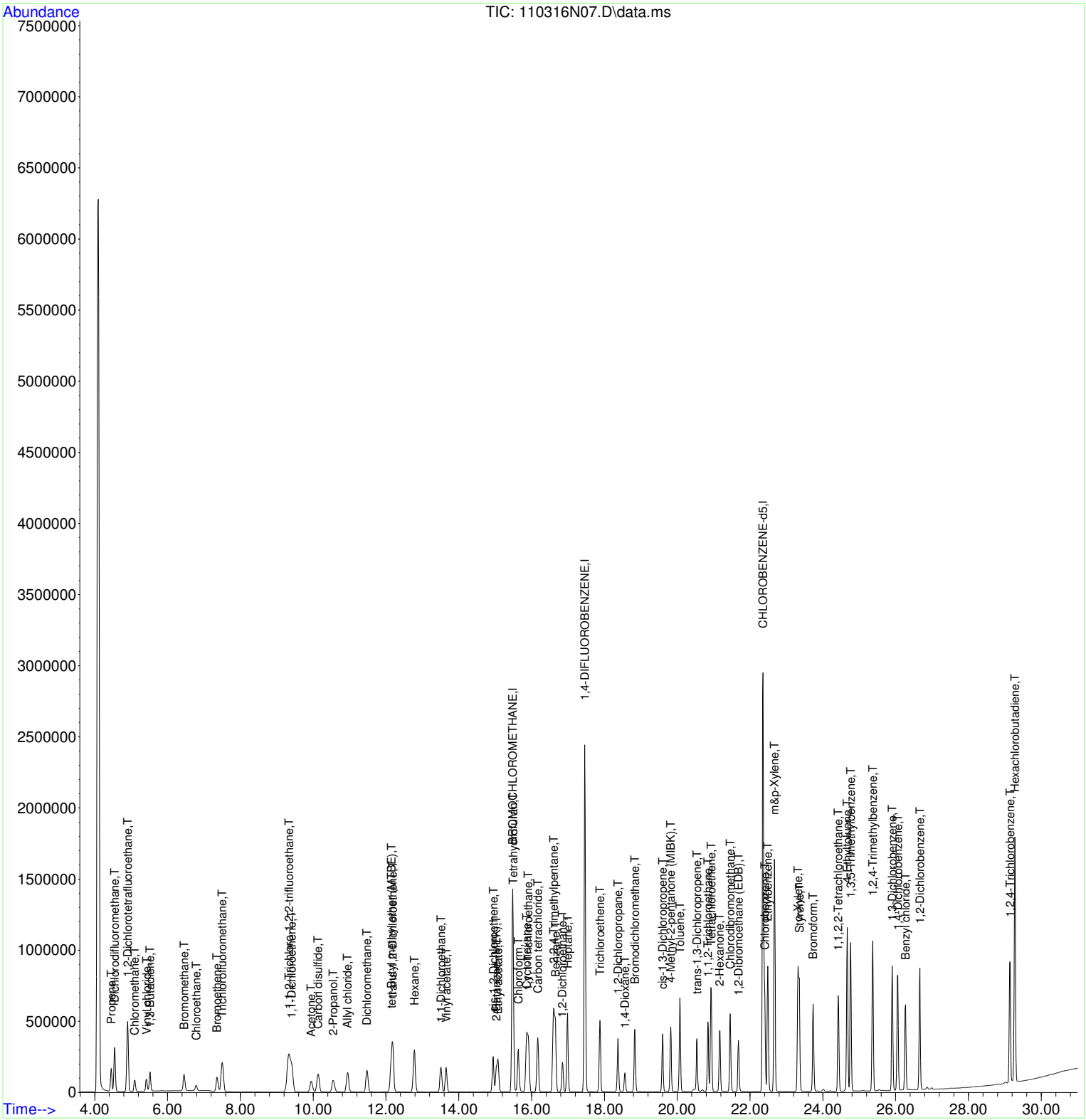
Quant Time: Nov 03 16:25:12 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 16:25:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55) Styrene	23.355	104	560396	4.95	ppbv	100
56) Bromoform	23.734	173	429085	4.88	ppbv	100
57) 1,1,2,2-Tetrachloroethane	24.422	83	516909	4.89	ppbv	100
58) 4-Ethyltoluene	24.671	105	1105715	5.02	ppbv	100
59) 1,3,5-Trimethylbenzene	24.766	105	864853	5.04	ppbv	100
60) 1,2,4-Trimethylbenzene	25.371	105	872677	4.99	ppbv	100
61) 1,3-Dichlorobenzene	25.905	146	536297	4.80	ppbv	100
62) 1,4-Dichlorobenzene	26.059	146	518848	4.81	ppbv	100
63) Benzyl chloride	26.272	91	687895	5.07	ppbv	100
64) 1,2-Dichlorobenzene	26.663	146	527592	4.71	ppbv	100
65) 1,2,4-Trichlorobenzene	29.142	180	436788	4.57	ppbv	100
66) Hexachlorobutadiene	29.272	225	515826	4.66	ppbv	100

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

Data Path : D:\msdchem\1\2016\data\110316_FSAA\
Data File : 110316N07.D
Acq On : 3 Nov 2016 2:28 pm
InstName : AG5973N
Operator : LLH
Sample : S16K015-CAL3
Misc : 5.0ppbv 1645036
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 03 16:25:12 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 16:25:04 2016
Response via : Initial Calibration



S16K015-CAL4

Data Path : D:\msdchem\1\2016\data\110316_FSAA\
Data File : 110316N08.D
Acq On : 3 Nov 2016 3:15 pm
InstName : AG5973N
Operator : LLH
Sample : S16K015-CAL4
Misc : 10ppbv 1645037
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 03 16:25:59 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 16:25:51 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	915282	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	2828918	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	2341560	22.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.453	41	270980	10.28	ppbv	100
3) Dichlorodifluoromethane	4.548	85	917121	9.33	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.903	85	928340	9.72	ppbv	100
5) Chloromethane	5.105	50	305475	10.21	ppbv	100
6) Vinyl chloride	5.425	62	302761	9.87	ppbv	100
7) 1,3-Butadiene	5.520	54	212352	9.12	ppbv	100
8) Bromomethane	6.457	94	277597	9.51	ppbv	100
9) Chloroethane	6.789	64	128504	9.01	ppbv	100
10) Bromoethene	7.358	106	292606	10.50	ppbv	100
11) Trichlorofluoromethane	7.500	101	805234	9.28	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.338	151	538810	9.66	ppbv	100
13) 1,1-Dichloroethene	9.410	61	536868	10.34	ppbv	100
14) Acetone	9.943	43	520491	10.54	ppbv	100
15) Carbon disulfide	10.133	76	870212	10.71	ppbv	100
16) 2-Propanol	10.548	45	545410	11.11	ppbv	100
17) Allyl chloride	10.951	41	436306	10.69	ppbv	100
18) Dichloromethane	11.485	49	385489	9.27	ppbv	100
19) tert-Butyl methyl ethe...	12.149	73	1072042	11.14	ppbv	100
20) trans-1,2-Dichloroethene	12.184	61	497439	10.55	ppbv	100
21) Hexane	12.777	57	588563	10.27	ppbv	100
22) 1,1-Dichloroethane	13.513	63	640424	9.85	ppbv	100
23) Vinyl acetate	13.655	43	910748	11.14	ppbv	100
24) cis-1,2-Dichloroethene	14.947	61	475201	10.35	ppbv	100
25) 2-Butanone (MEK)	15.030	72	190505	11.03	ppbv #	100
26) Ethyl acetate	15.078	61	123233	10.85	ppbv #	100
27) Tetrahydrofuran	15.493	42	415417	10.28	ppbv	100
28) Chloroform	15.635	83	716350	9.74	ppbv	100
29) Cyclohexane	15.861	56	606114	10.36	ppbv	100
30) 1,1,1-Trichloroethane	15.908	97	756789	9.41	ppbv	100
31) Carbon tetrachloride	16.169	117	789711	9.37	ppbv	100
33) Benzene	16.655	78	1117931	9.97	ppbv	100
34) 2,2,4-Trimethylpentane	16.608	57	1896728	10.29	ppbv	100
35) 1,2-Dichloroethane	16.845	62	477179	9.57	ppbv	100
36) Heptane	16.987	43	674022	10.07	ppbv	100
37) Trichloroethene	17.877	130	473298	10.57	ppbv	100
38) 1,2-Dichloropropane	18.375	63	416591	10.20	ppbv	100
39) 1,4-Dioxane	18.564	88	271876	10.86	ppbv	100
40) Bromodichloromethane	18.837	83	824907	10.38	ppbv	100
41) cis-1,3-Dichloropropene	19.596	75	665043	10.89	ppbv	100
42) 4-Methyl-2-pentanone (...	19.821	43	906536	10.19	ppbv	100
44) Toluene	20.070	91	1367816	10.56	ppbv	100
45) trans-1,3-Dichloropropene	20.545	75	617419	10.87	ppbv	100
46) 1,1,2-Trichloroethane	20.841	97	449763	10.60	ppbv	100
47) Tetrachloroethene	20.936	166	647625	10.37	ppbv	100
48) 2-Hexanone	21.161	43	848888	10.56	ppbv	100
49) Chlorodibromomethane	21.458	129	846266	10.69	ppbv	100
50) 1,2-Dibromoethane (EDB)	21.683	107	678974	10.80	ppbv	100
51) Chlorobenzene	22.406	112	1055016	10.65	ppbv	100
52) Ethylbenzene	22.489	91	1798582	10.51	ppbv	100
53) m&p-Xylene	22.667	91	2836433	21.24	ppbv	100
54) o-Xylene	23.320	91	1434207	10.62	ppbv	100

Data Path : D:\msdchem\1\2016\data\110316_FSAA\
Data File : 110316N08.D
Acq On : 3 Nov 2016 3:15 pm
InstName : AG5973N
Operator : LLH
Sample : S16K015-CAL4
Misc : 10ppbv 1645037
ALS Vial : 32 Sample Multiplier: 1

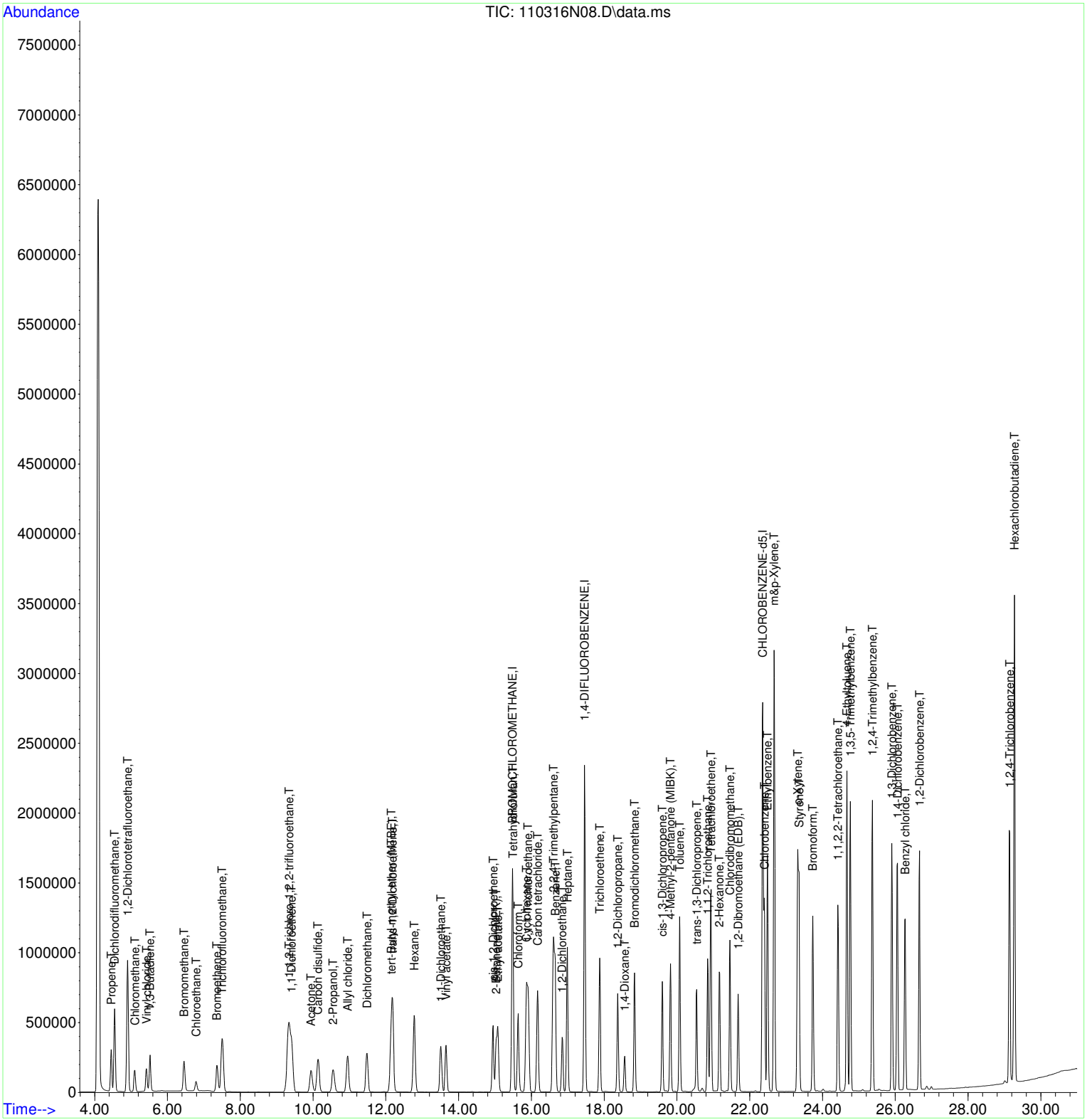
Quant Time: Nov 03 16:25:59 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 16:25:51 2016
Response via : Initial Calibration

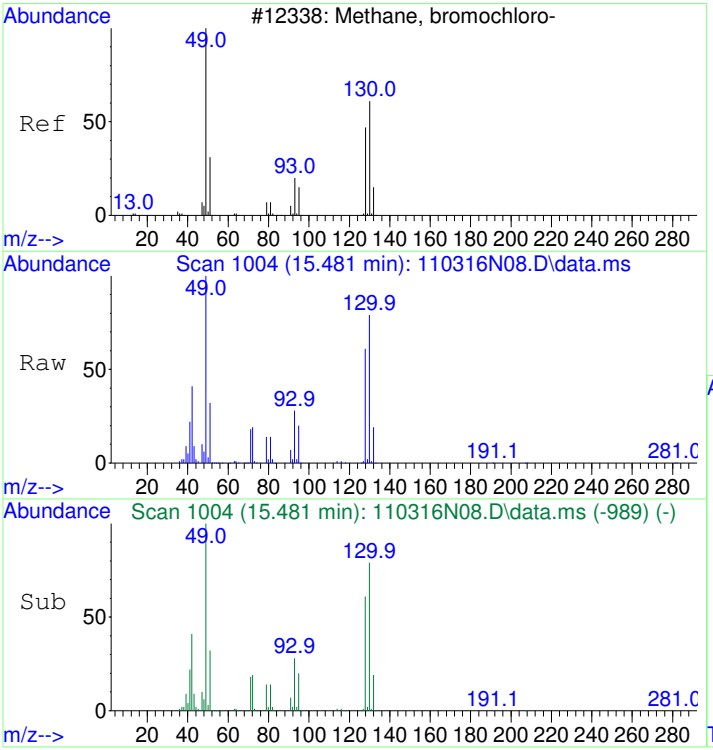
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55) Styrene	23.355	104	1098594	10.45	ppbv	100
56) Bromoform	23.735	173	866387	10.61	ppbv	100
57) 1,1,2,2-Tetrachloroethane	24.422	83	1029523	10.48	ppbv	100
58) 4-Ethyltoluene	24.671	105	2195270	10.73	ppbv	100
59) 1,3,5-Trimethylbenzene	24.766	105	1711873	10.73	ppbv	100
60) 1,2,4-Trimethylbenzene	25.371	105	1729319	10.65	ppbv	100
61) 1,3-Dichlorobenzene	25.905	146	1078699	10.38	ppbv	100
62) 1,4-Dichlorobenzene	26.059	146	1040049	10.38	ppbv	100
63) Benzyl chloride	26.272	91	1427969	11.32	ppbv	100
64) 1,2-Dichlorobenzene	26.664	146	1057620	10.16	ppbv	100
65) 1,2,4-Trichlorobenzene	29.142	180	907186	10.22	ppbv	100
66) Hexachlorobutadiene	29.273	225	1029600	10.01	ppbv	100

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

Data Path : D:\msdchem\1\2016\data\110316_FSAA\
Data File : 110316N08.D
Acq On : 3 Nov 2016 3:15 pm
InstName : AG5973N
Operator : LLH
Sample : S16K015-CAL4
Misc : 10ppbv 1645037
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 03 16:25:59 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 16:25:51 2016
Response via : Initial Calibration

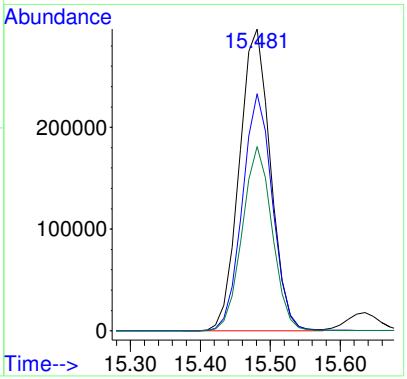


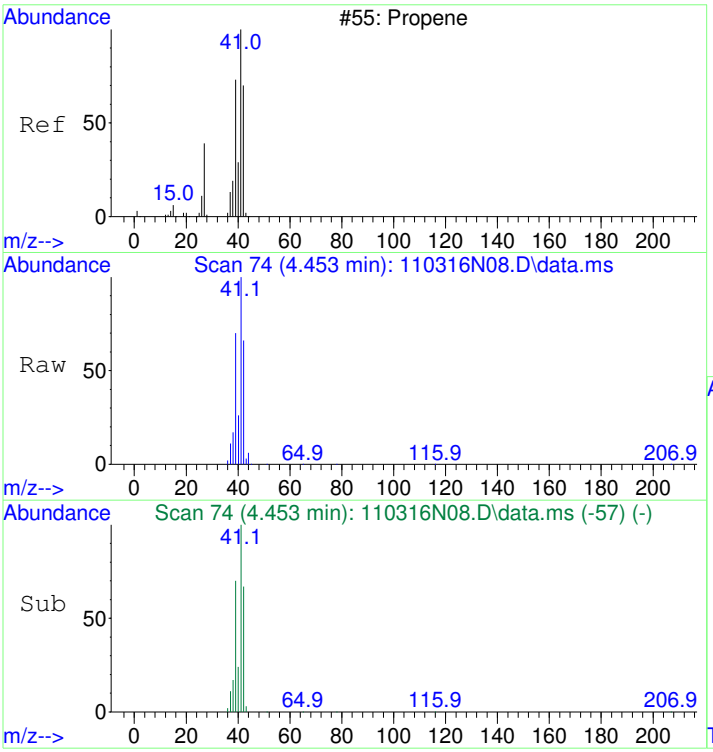


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 49 Resp: 915282

Ion	Ratio	Lower	Upper
49	100		
130	76.1	56.1	96.1
128	58.8	38.8	78.8

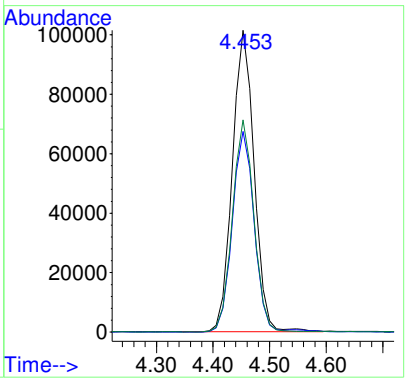


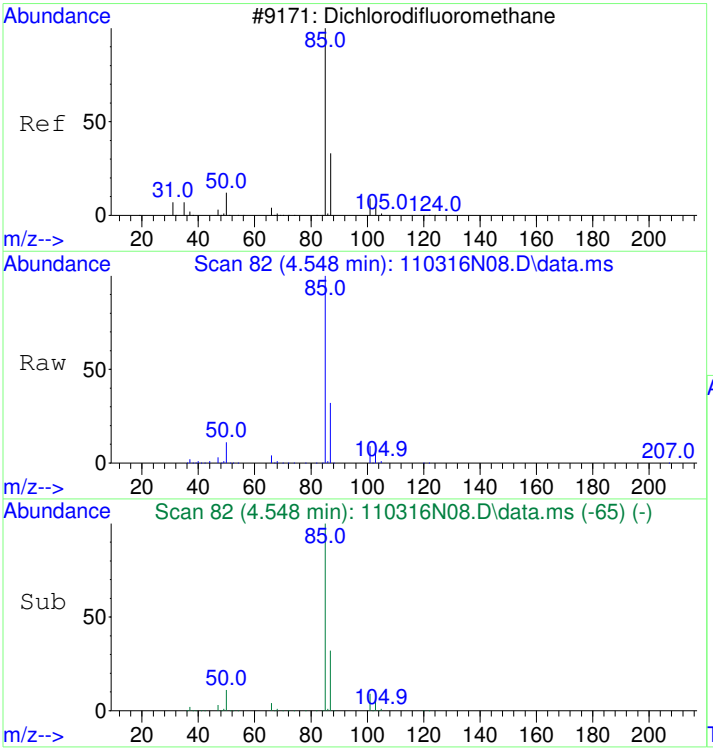


#2
Propene
Concen: 10.28 ppbv
RT: 4.453 min Scan# 74
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 41 Resp: 270980

Ion	Ratio	Lower	Upper
41	100		
42	67.2	47.2	87.2
39	69.6	49.6	89.6

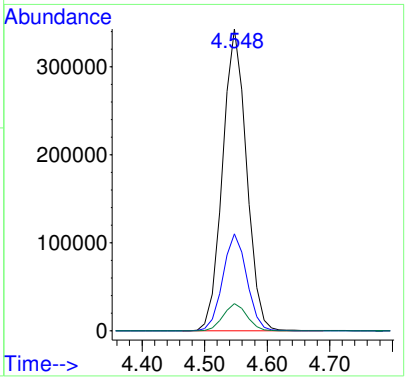


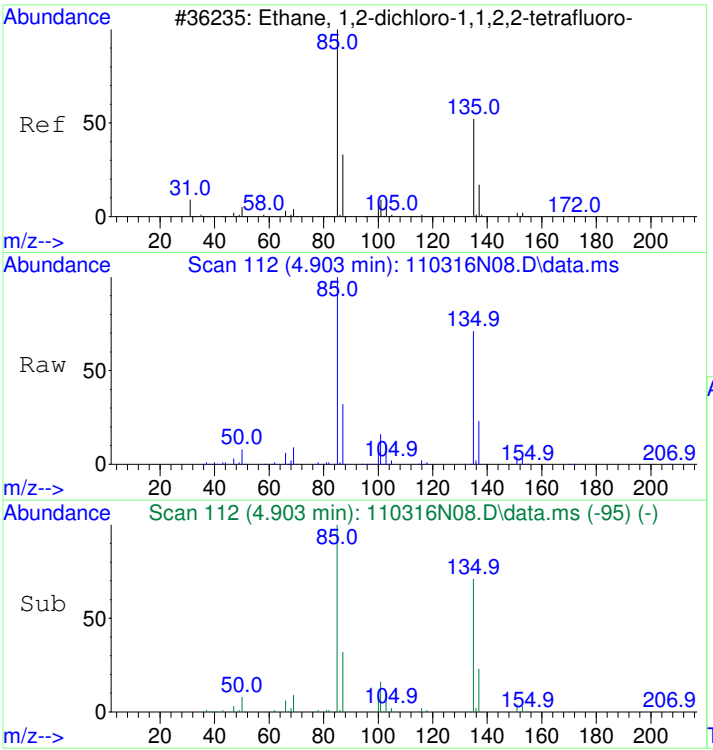


#3
Dichlorodifluoromethane
Concen: 9.33 ppbv
RT: 4.548 min Scan# 82
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 85 Resp: 917121

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.2	52.2
101	9.0	0.0	29.0

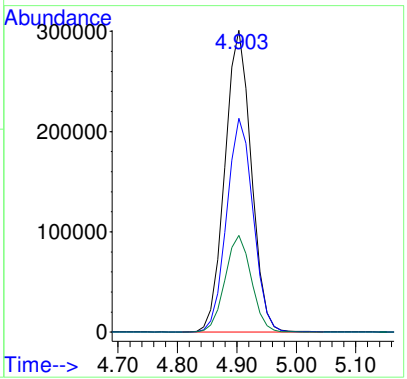


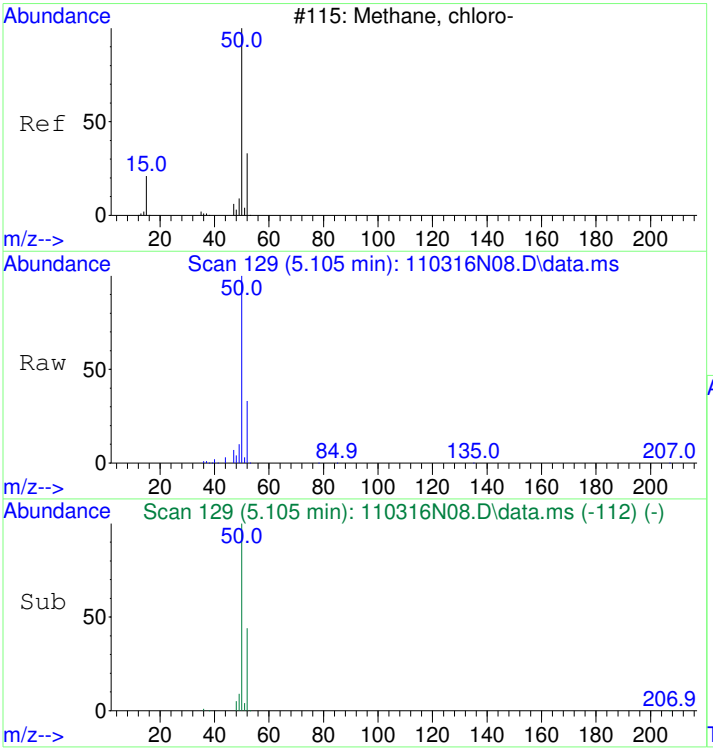


#4
1,2-Dichlorotetrafluoroethane
Concen: 9.72 ppbv
RT: 4.903 min Scan# 112
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 85 Resp: 928340

Ion	Ratio	Lower	Upper
85	100		
135	71.4	51.4	91.4
87	32.0	12.0	52.0

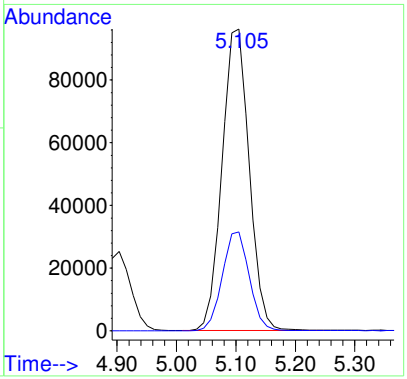


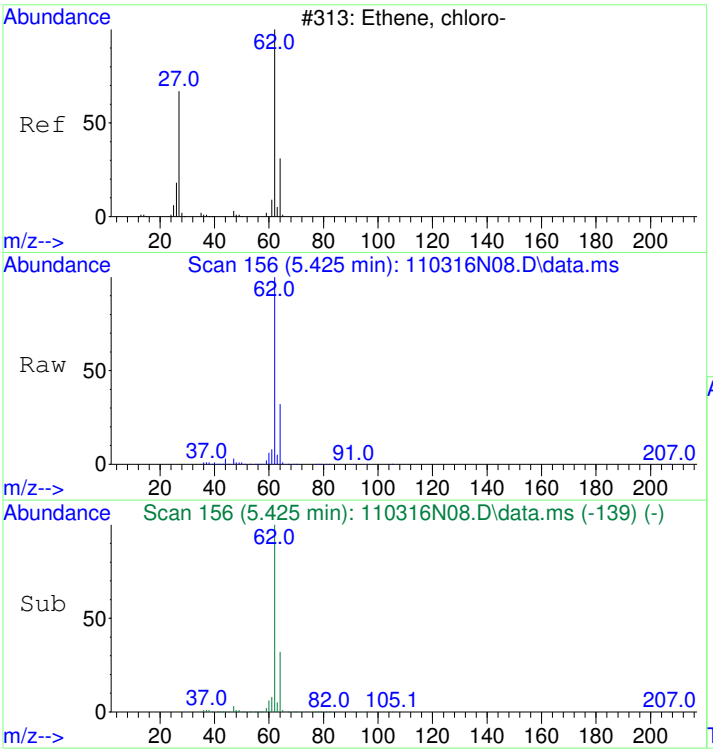


#5
Chloromethane
Concen: 10.21 ppbv
RT: 5.105 min Scan# 129
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 50 Resp: 305475

Ion	Ratio	Lower	Upper
50	100		
52	32.9	12.9	52.9

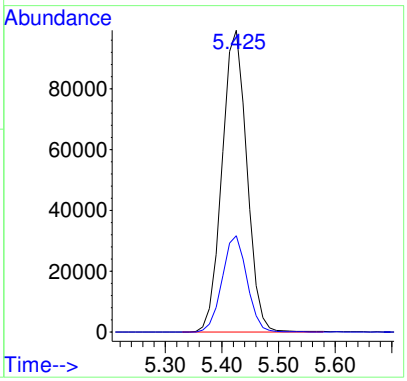


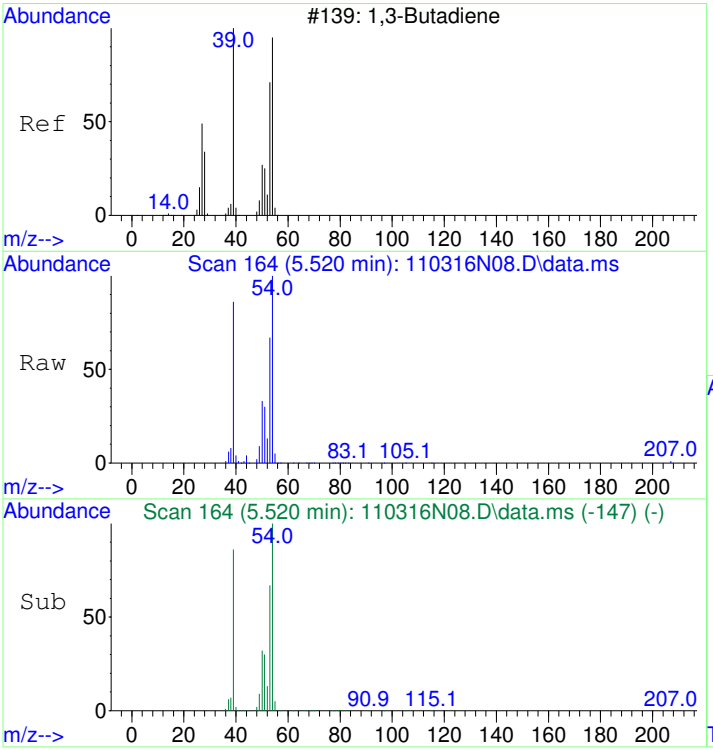


#6
Vinyl chloride
Concen: 9.87 ppbv
RT: 5.425 min Scan# 156
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 62 Resp: 302761

Ion	Ratio	Lower	Upper
62	100		
64	31.9	11.9	51.9

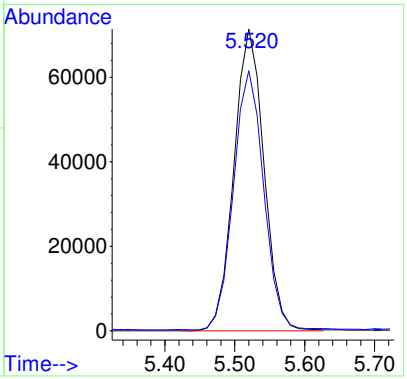


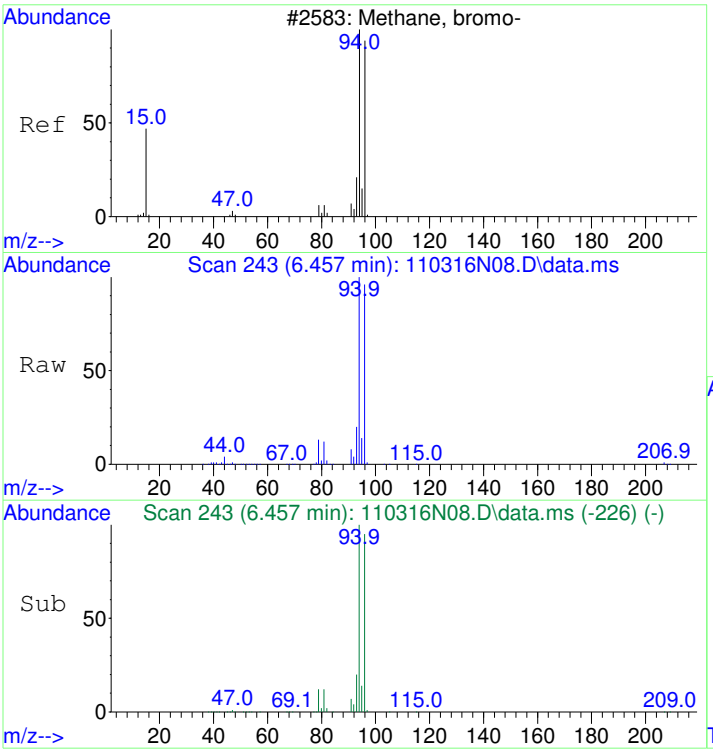


#7
1,3-Butadiene
Concen: 9.12 ppbv
RT: 5.520 min Scan# 164
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 54 Resp: 212352

Ion	Ratio	Lower	Upper
54	100		
39	86.3	66.3	106.3

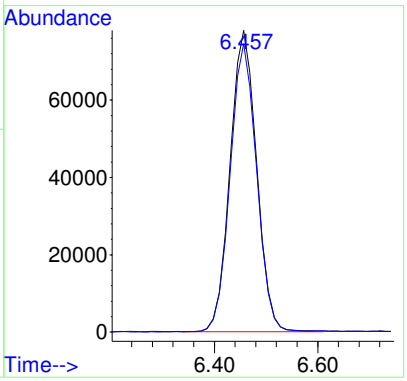


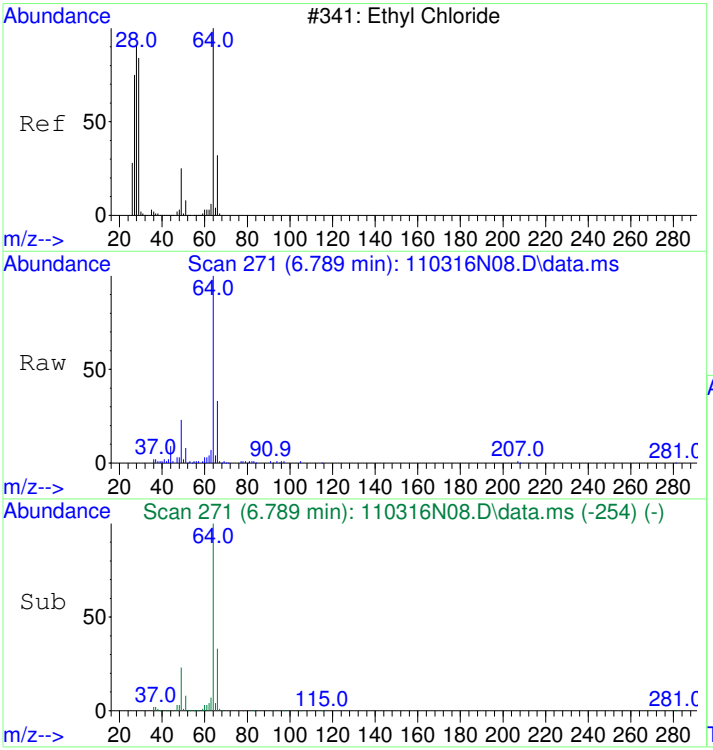


#8
Bromomethane
Concen: 9.51 ppbv
RT: 6.457 min Scan# 243
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 94 Resp: 277597

Ion	Ratio	Lower	Upper
94	100		
96	95.1	75.1	115.1

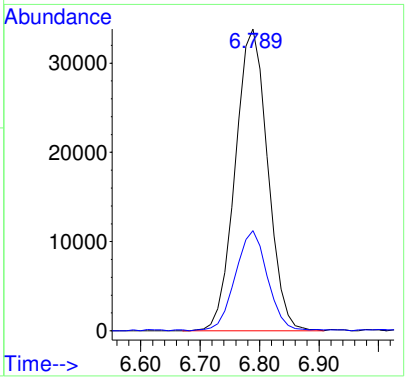


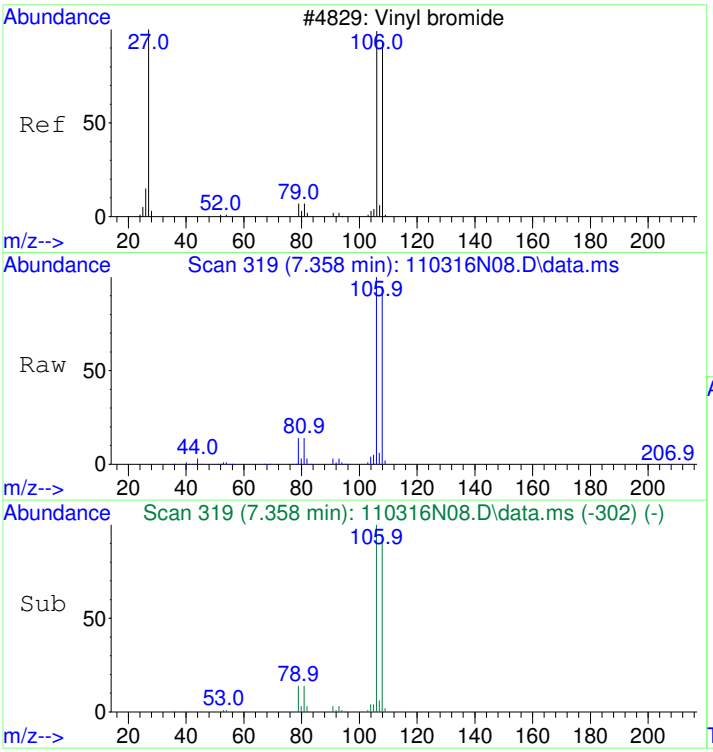


#9
Chloroethane
Concen: 9.01 ppbv
RT: 6.789 min Scan# 271
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 64 Resp: 128504

Ion	Ratio	Lower	Upper
64	100		
66	33.2	13.2	53.2

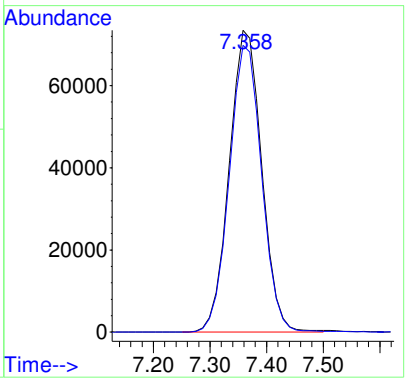


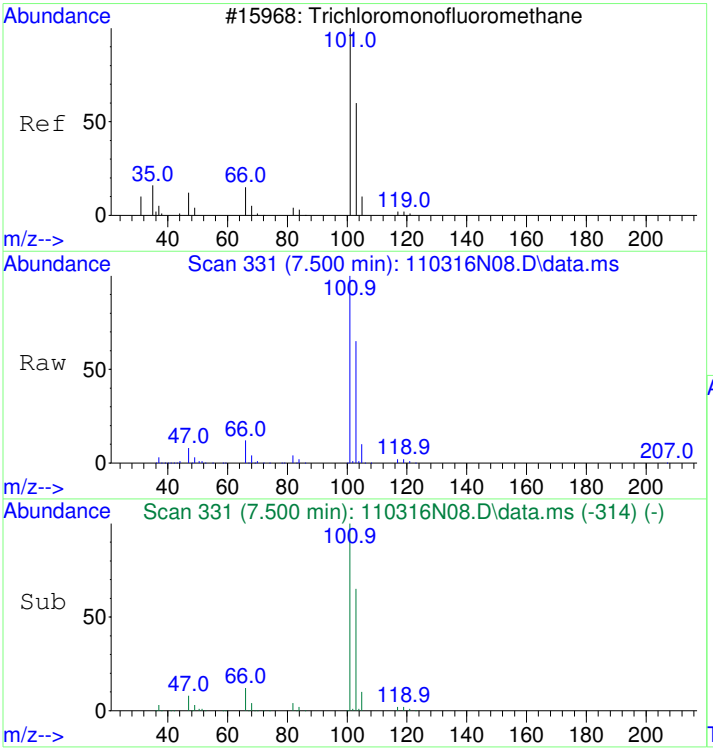


#10
Bromoethene
Concen: 10.50 ppbv
RT: 7.358 min Scan# 319
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion:106 Resp: 292606

Ion	Ratio	Lower	Upper
106	100		
108	94.8	0.0	214.8

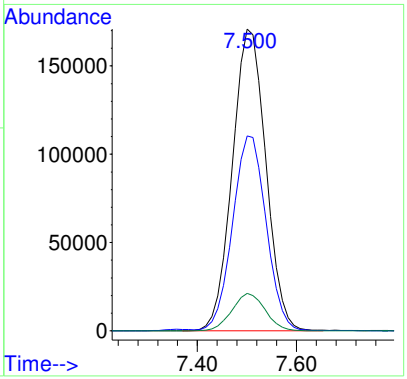


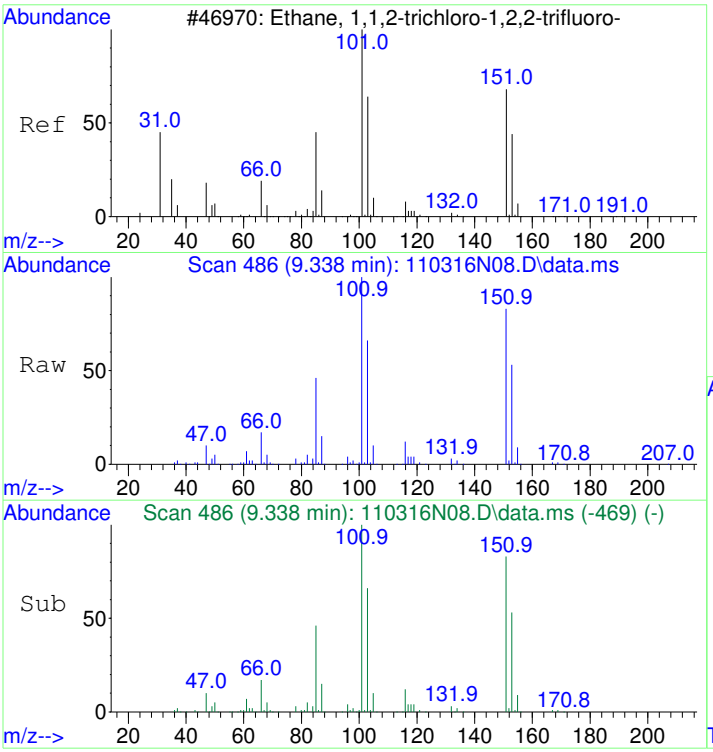


#11
Trichlorofluoromethane
Concen: 9.28 ppbv
RT: 7.500 min Scan# 331
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion:101 Resp: 805234

Ion	Ratio	Lower	Upper
101	100		
103	64.3	44.3	84.3
66	12.3	0.0	32.3

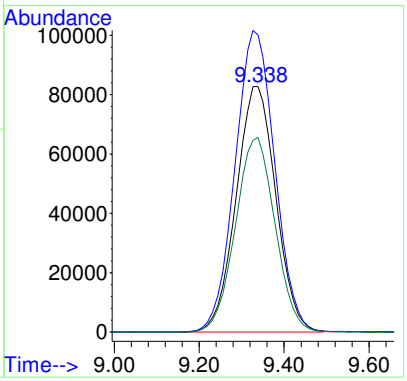


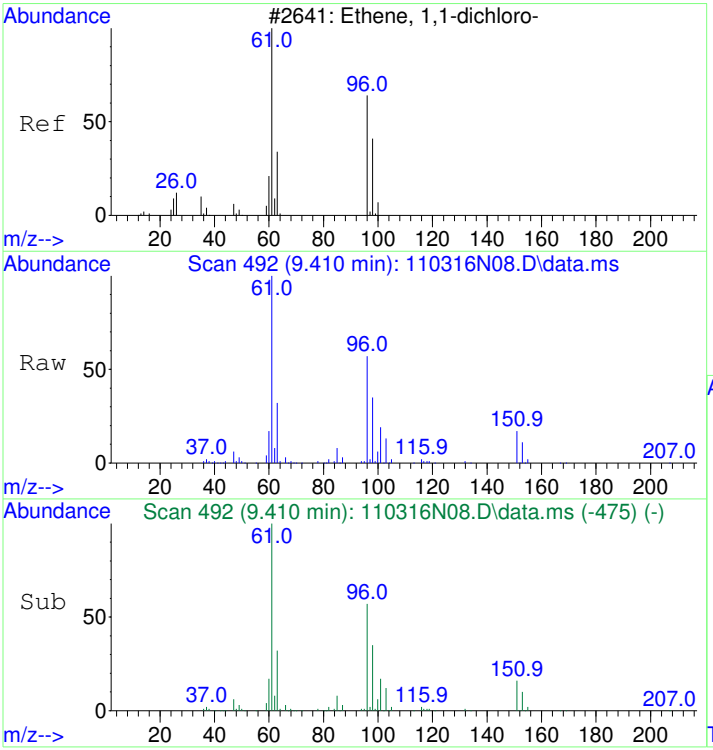


#12
1,1,2-Trichloro-1,2,2-trifluoroethane
Concen: 9.66 ppbv
RT: 9.338 min Scan# 486
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion:151 Resp: 538810

Ion	Ratio	Lower	Upper
151	100		
101	122.9	102.9	142.9
103	78.9	58.9	98.9

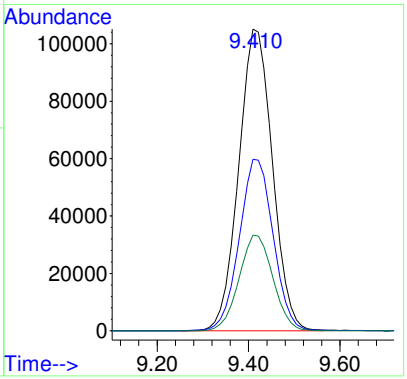


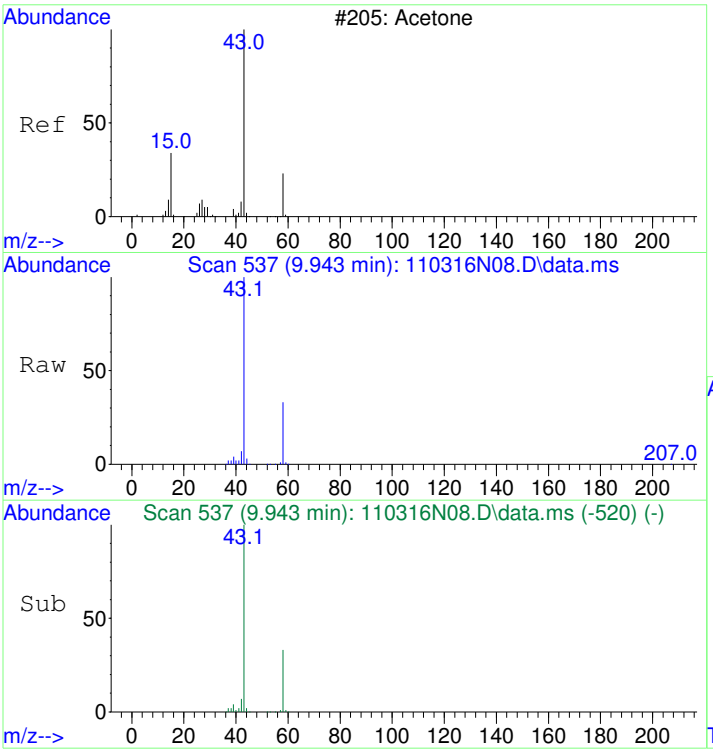


#13
1,1-Dichloroethene
Concen: 10.34 ppbv
RT: 9.410 min Scan# 492
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 61 Resp: 536868

Ion	Ratio	Lower	Upper
61	100		
96	57.2	37.2	77.2
63	31.8	11.8	51.8

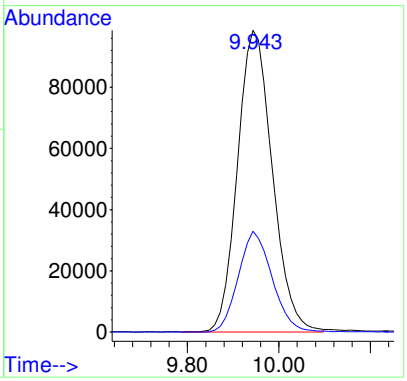


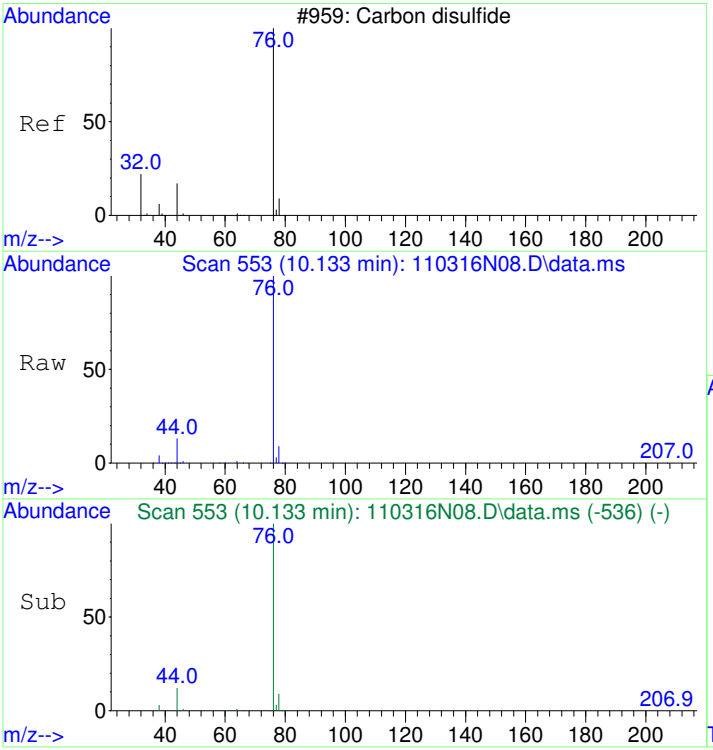


#14
Acetone
Concen: 10.54 ppbv
RT: 9.943 min Scan# 537
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 43 Resp: 520491

Ion	Ratio	Lower	Upper
43	100		
58	32.3	12.3	52.3

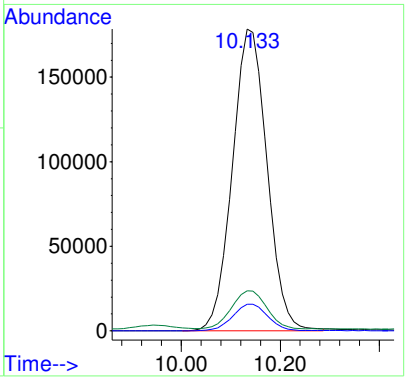


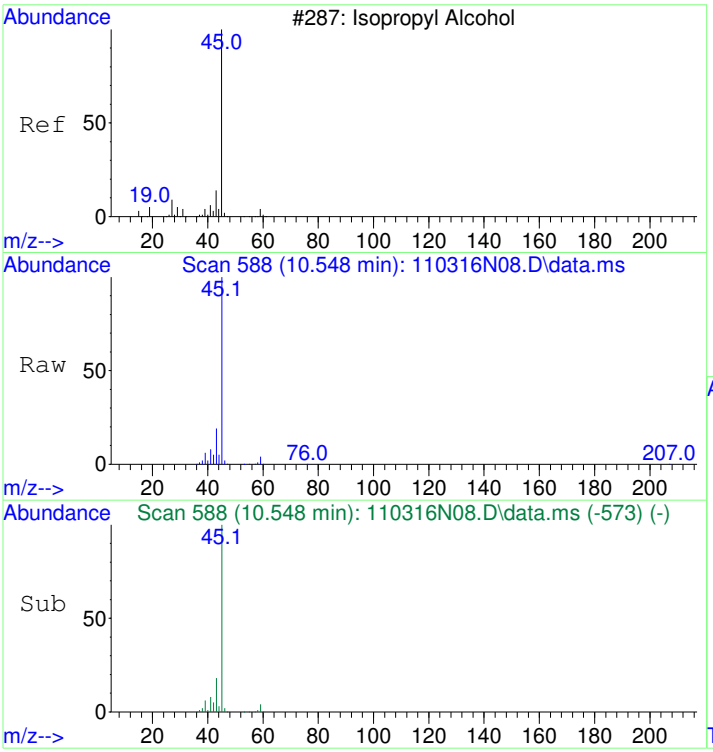


#15
Carbon disulfide
Concen: 10.71 ppbv
RT: 10.133 min Scan# 553
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 76 Resp: 870212

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.0
44	12.8	0.0	32.8

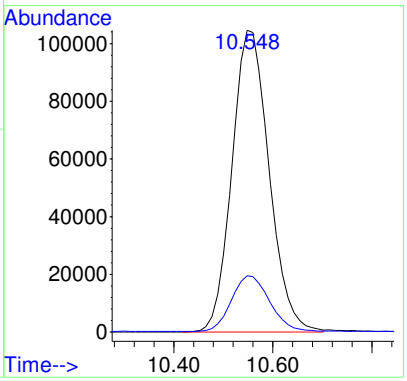


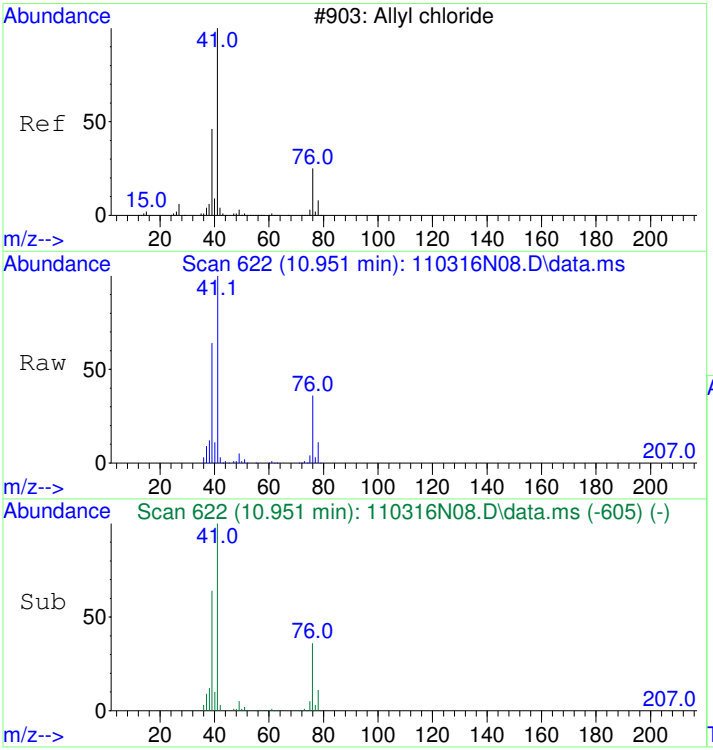


#16
2-Propanol
Concen: 11.11 ppbv
RT: 10.548 min Scan# 588
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 45 Resp: 545410

Ion	Ratio	Lower	Upper
45	100		
43	18.9	0.0	38.9

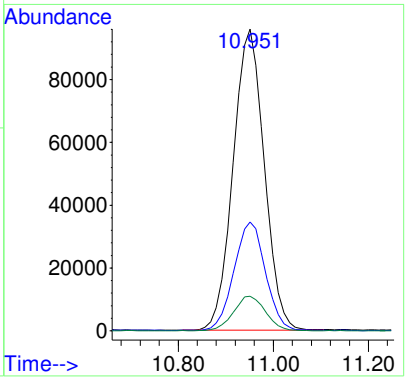


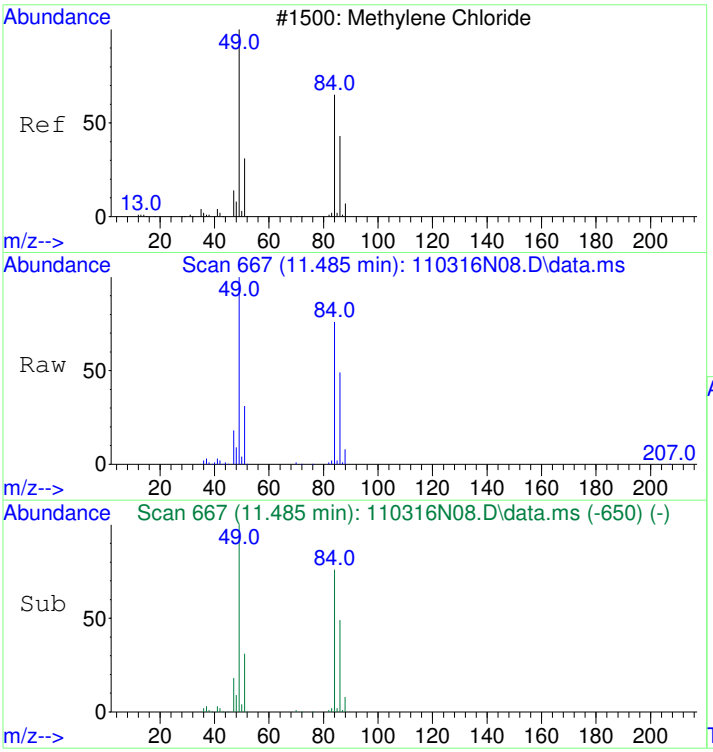


#17
Allyl chloride
Concen: 10.69 ppbv
RT: 10.951 min Scan# 622
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 41 Resp: 436306

Ion	Ratio	Lower	Upper
41	100		
76	36.2	16.2	56.2
78	11.9	0.0	31.9

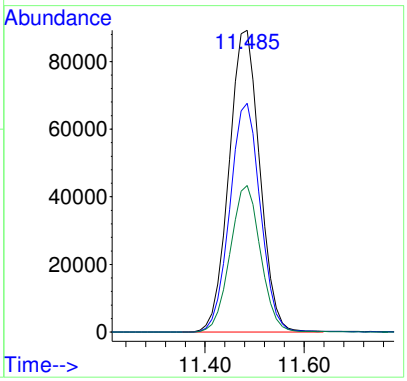


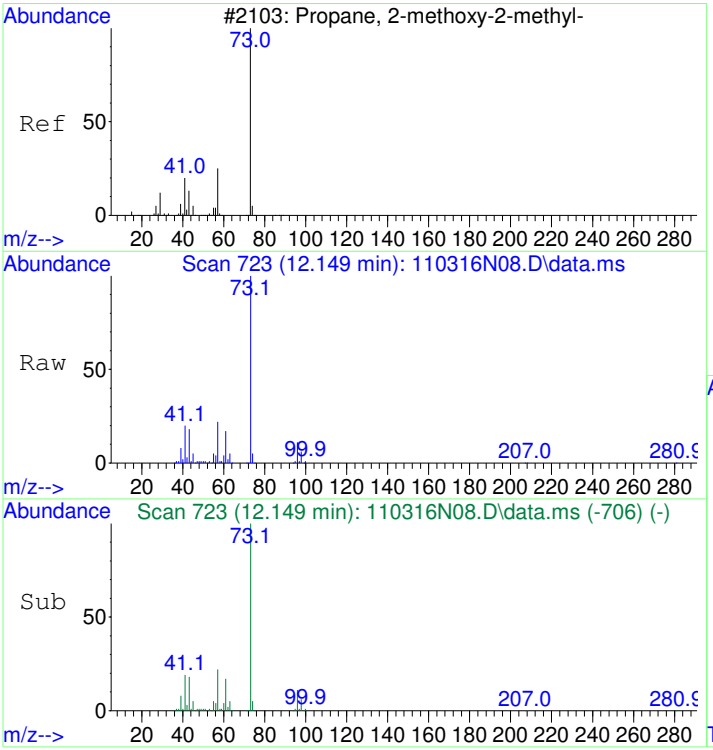


#18
Dichloromethane
Concen: 9.27 ppbv
RT: 11.485 min Scan# 667
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 49 Resp: 385489

Ion	Ratio	Lower	Upper
49	100		
84	75.3	55.3	95.3
86	47.9	27.9	67.9

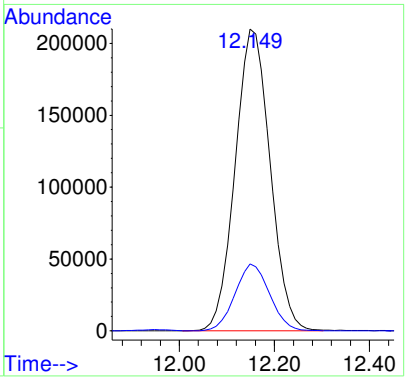


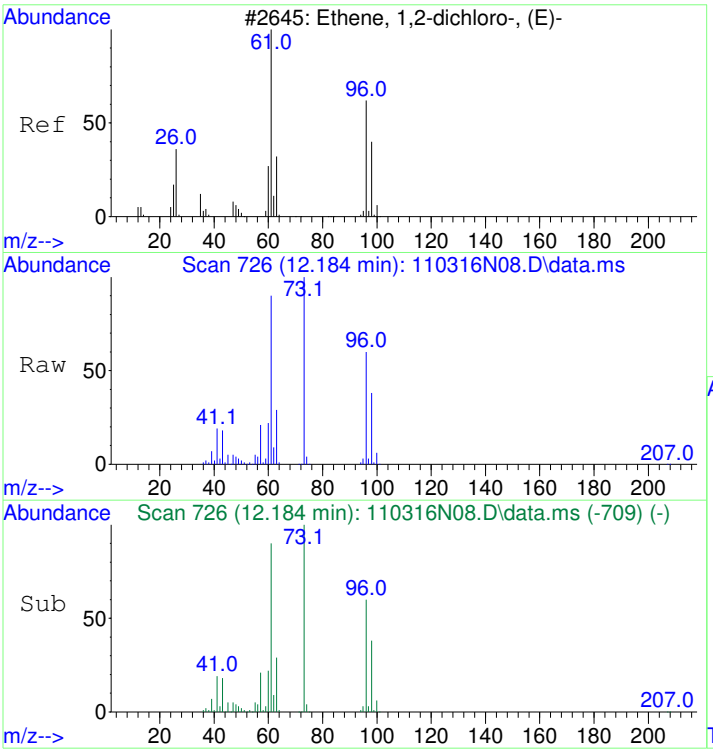


#19
tert-Butyl methyl ether (MTBE)
Concen: 11.14 ppbv
RT: 12.149 min Scan# 723
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 73 Resp: 1072042

Ion	Ratio	Lower	Upper
73	100		
57	21.9	1.9	41.9

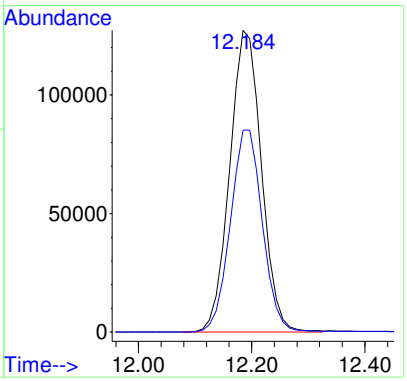


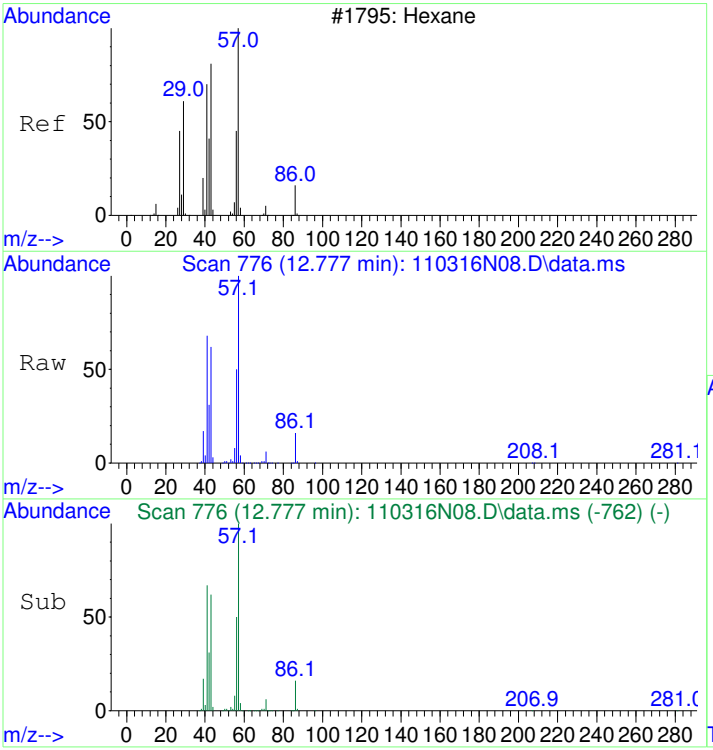


#20
trans-1,2-Dichloroethene
Concen: 10.55 ppbv
RT: 12.184 min Scan# 726
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 61 Resp: 497439

Ion	Ratio	Lower	Upper
61	100		
96	67.5	47.5	87.5

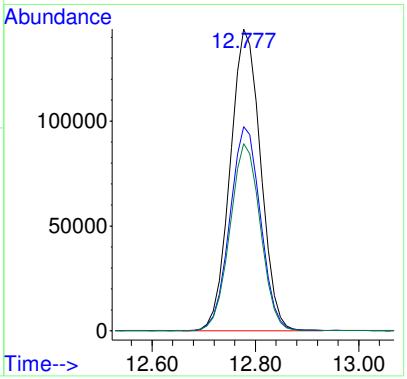


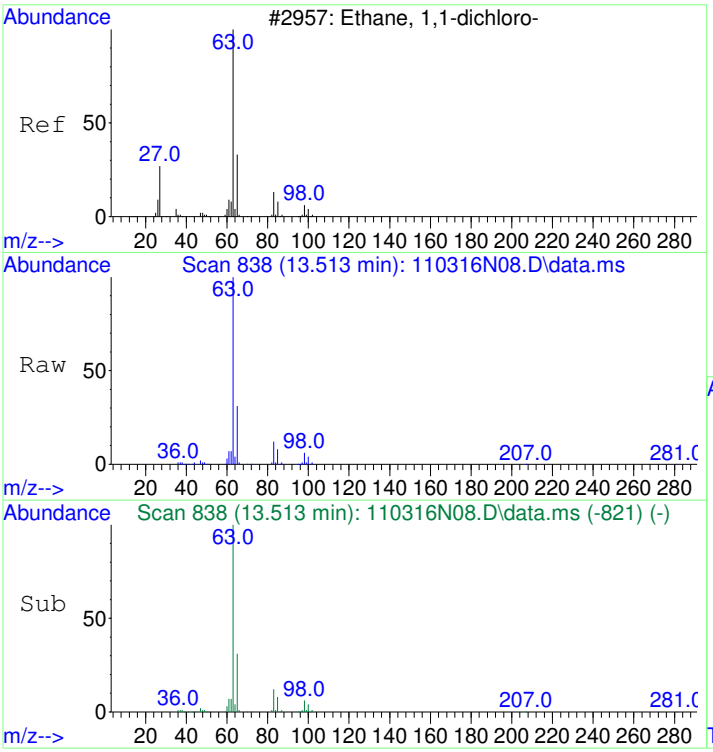


#21
Hexane
Concen: 10.27 ppbv
RT: 12.777 min Scan# 776
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 57 Resp: 588563

Ion	Ratio	Lower	Upper
57	100		
41	68.0	48.0	88.0
43	62.2	42.2	82.2

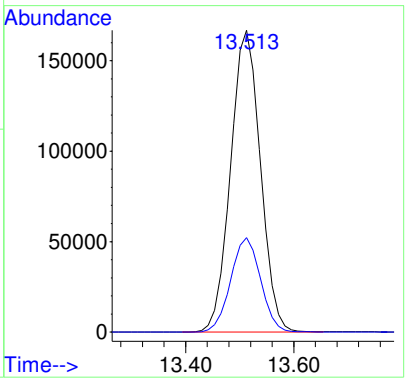


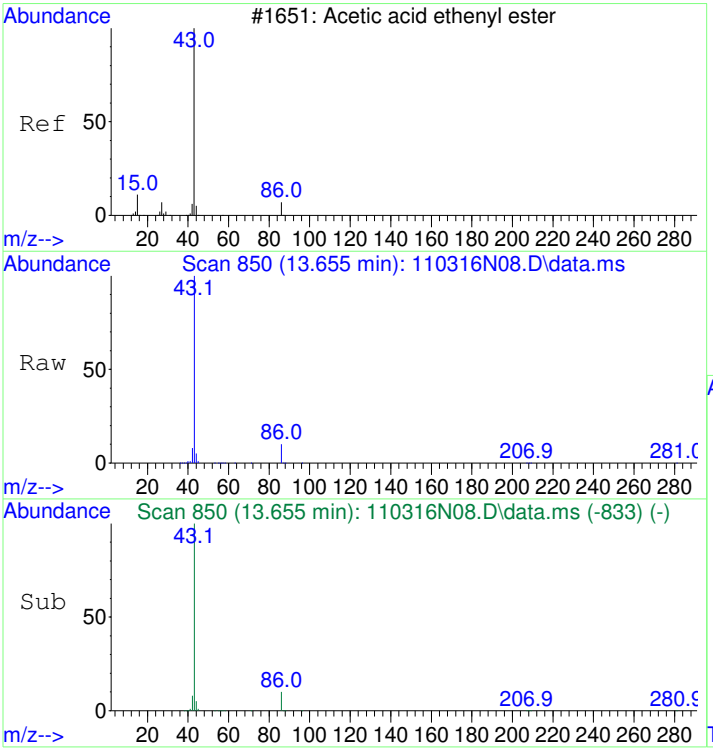


#22
1,1-Dichloroethane
Concen: 9.85 ppbv
RT: 13.513 min Scan# 838
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 63 Resp: 640424

Ion	Ratio	Lower	Upper
63	100		
65	31.3	11.3	51.3

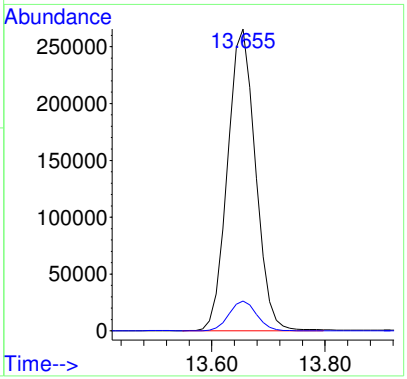


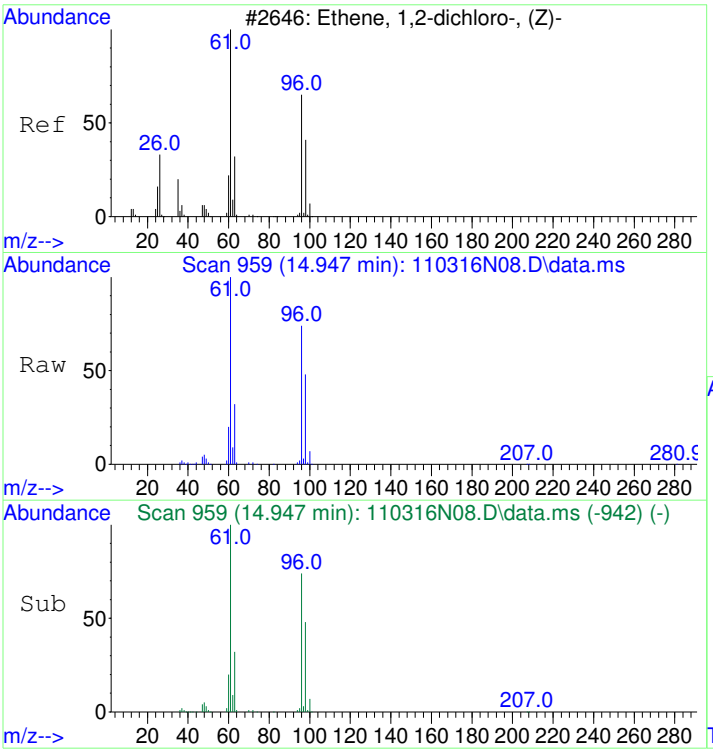


#23
Vinyl acetate
Concen: 11.14 ppbv
RT: 13.655 min Scan# 850
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 43 Resp: 910748

Ion	Ratio	Lower	Upper
43	100		
86	9.8	0.0	29.8

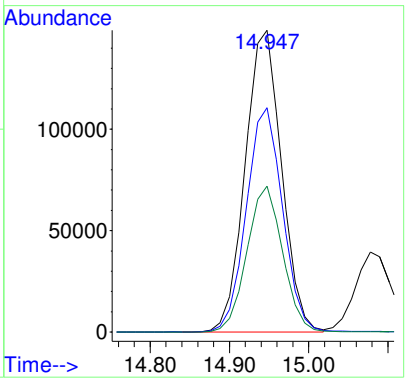


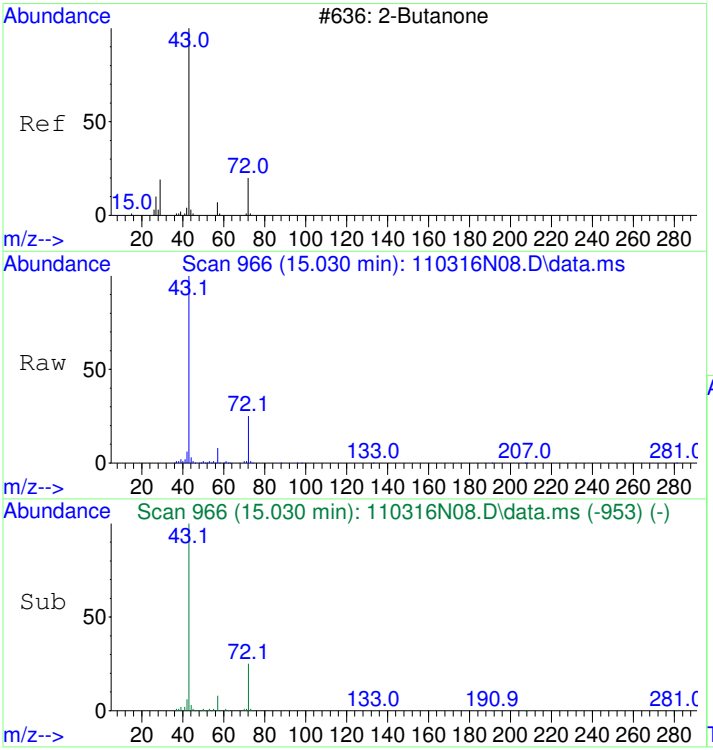


#24
cis-1,2-Dichloroethene
Concen: 10.35 ppbv
RT: 14.947 min Scan# 959
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 61 Resp: 475201

Ion	Ratio	Lower	Upper
61	100		
96	74.4	54.4	94.4
98	47.5	27.5	67.5

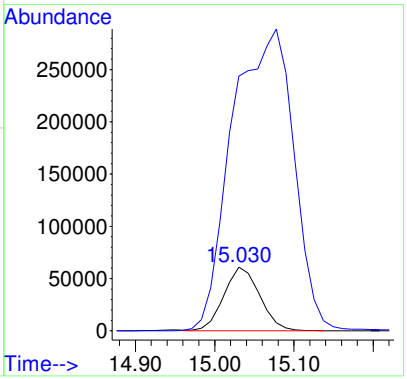


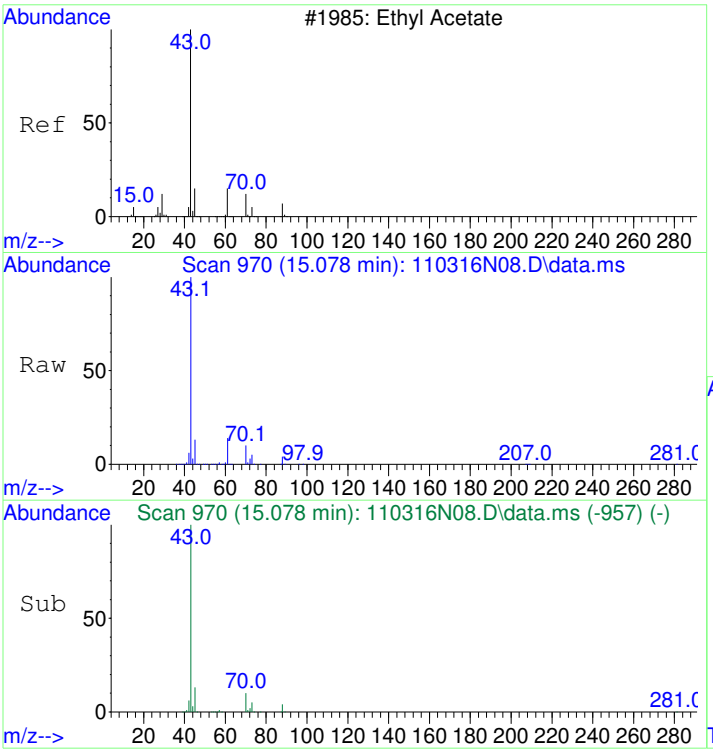


#25
2-Butanone (MEK)
Concen: 11.03 ppbv
RT: 15.030 min Scan# 966
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 72 Resp: 190505

Ion	Ratio	Lower	Upper
72	100		
43	0.0	0.0	10.0

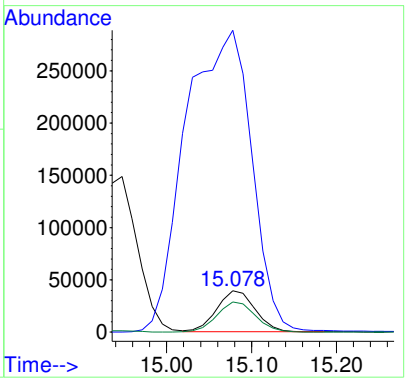


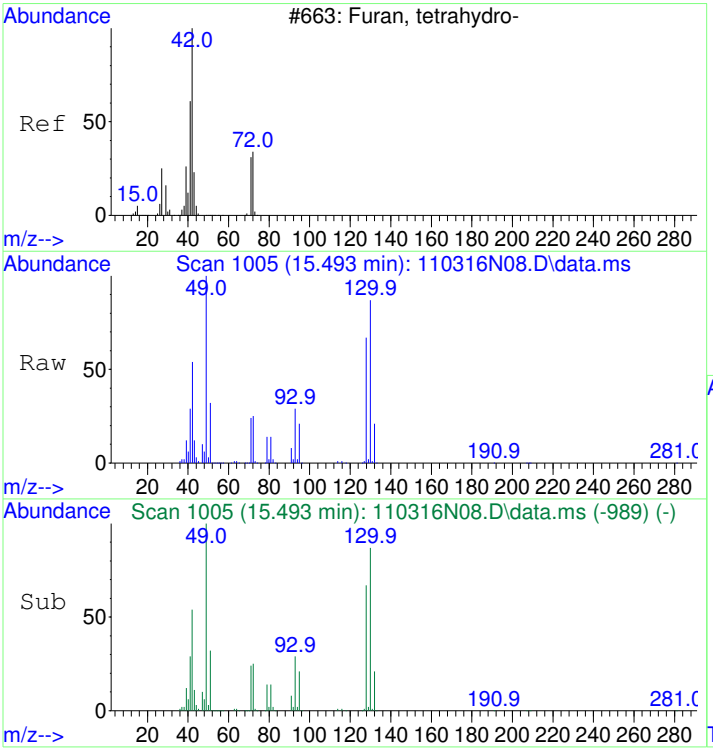


#26
Ethyl acetate
Concen: 10.85 ppbv
RT: 15.078 min Scan# 970
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 61 Resp: 123233

Ion	Ratio	Lower	Upper
61	100		
43	0.0	0.0	10.0
70	74.2	64.2	84.2

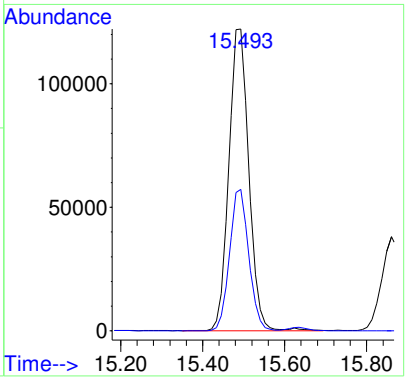


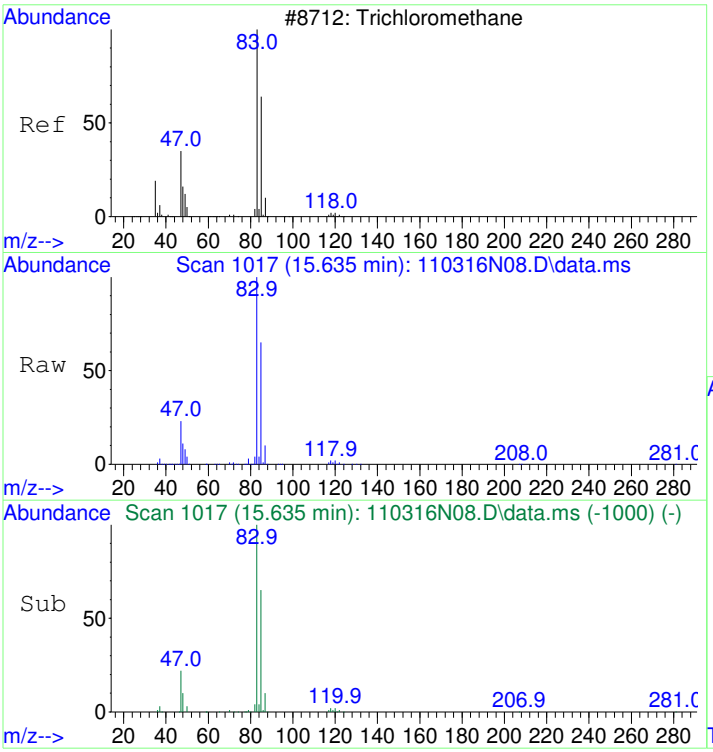


#27
Tetrahydrofuran
Concen: 10.28 ppbv
RT: 15.493 min Scan# 1005
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 42 Resp: 415417

Ion	Ratio	Lower	Upper
42	100		
72	44.9	24.9	64.9

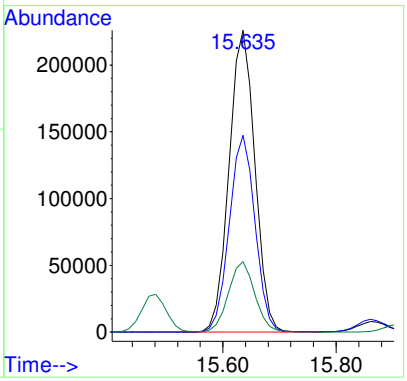


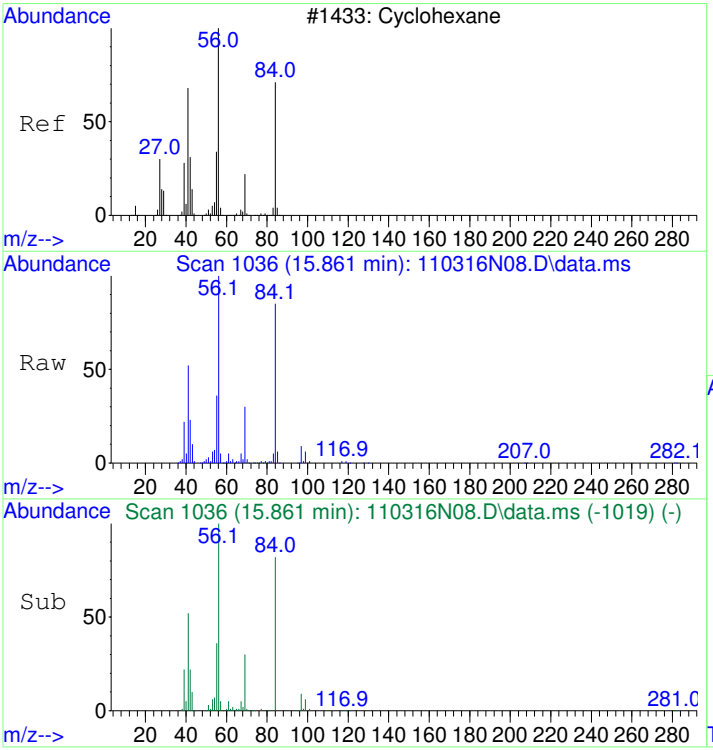


#28
Chloroform
Concen: 9.74 ppbv
RT: 15.635 min Scan# 1017
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 83 Resp: 716350

Ion	Ratio	Lower	Upper
83	100		
85	64.9	44.9	84.9
47	23.9	3.9	43.9

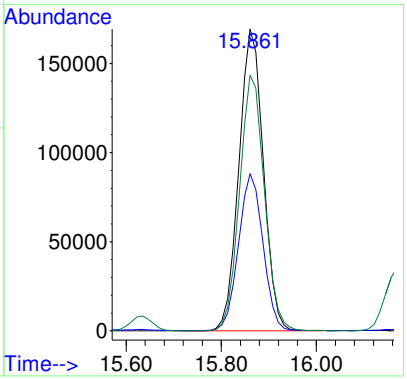


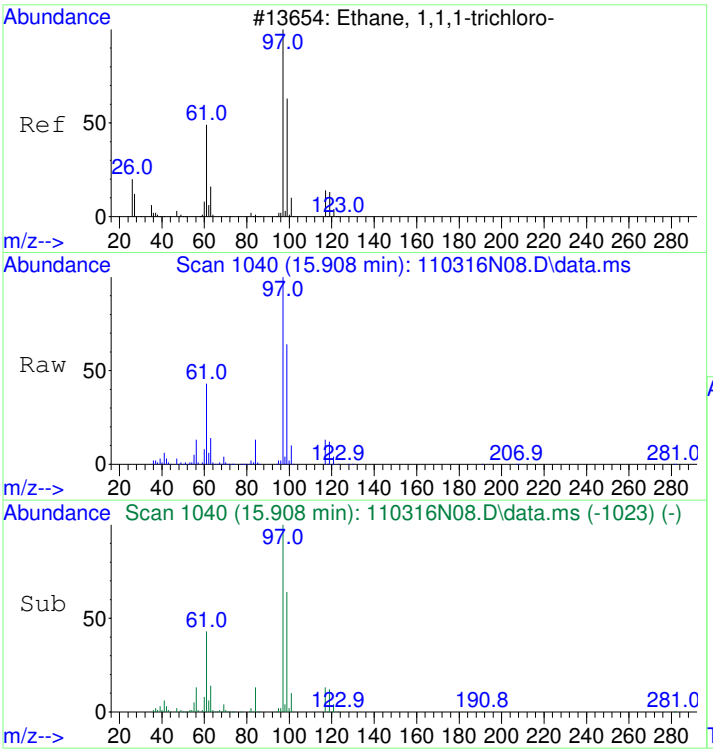


#29
Cyclohexane
Concen: 10.36 ppbv
RT: 15.861 min Scan# 1036
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 56 Resp: 606114

Ion	Ratio	Lower	Upper
56	100		
41	51.7	31.7	71.7
84	86.1	66.1	106.1

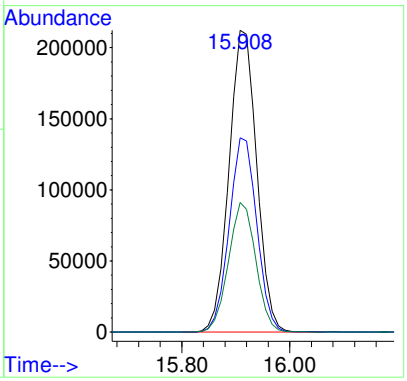


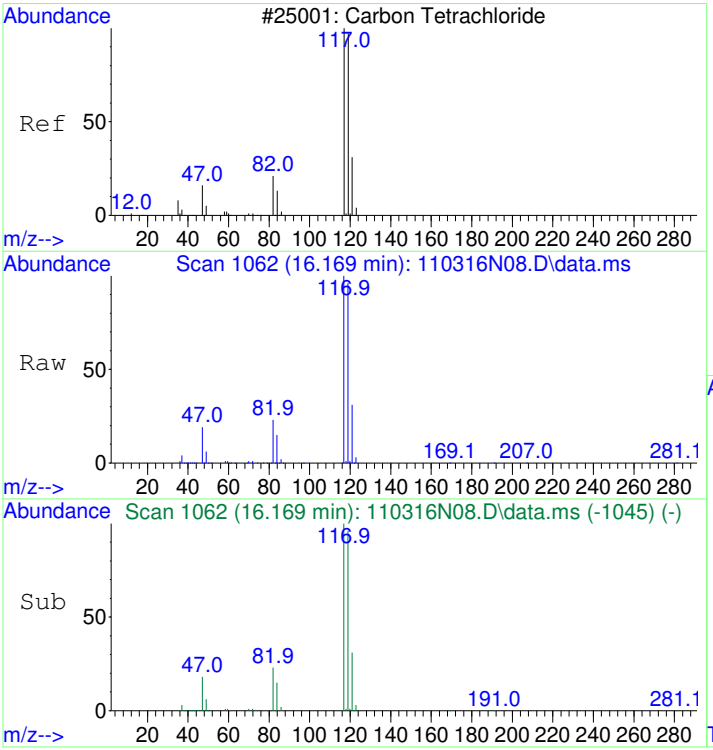


#30
1,1,1-Trichloroethane
Concen: 9.41 ppbv
RT: 15.908 min Scan# 1040
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 97 Resp: 756789

Ion	Ratio	Lower	Upper
97	100		
99	64.3	44.3	84.3
61	42.5	22.5	62.5

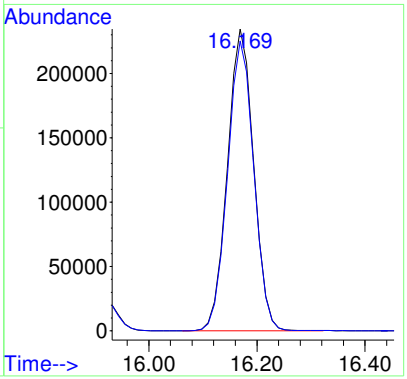


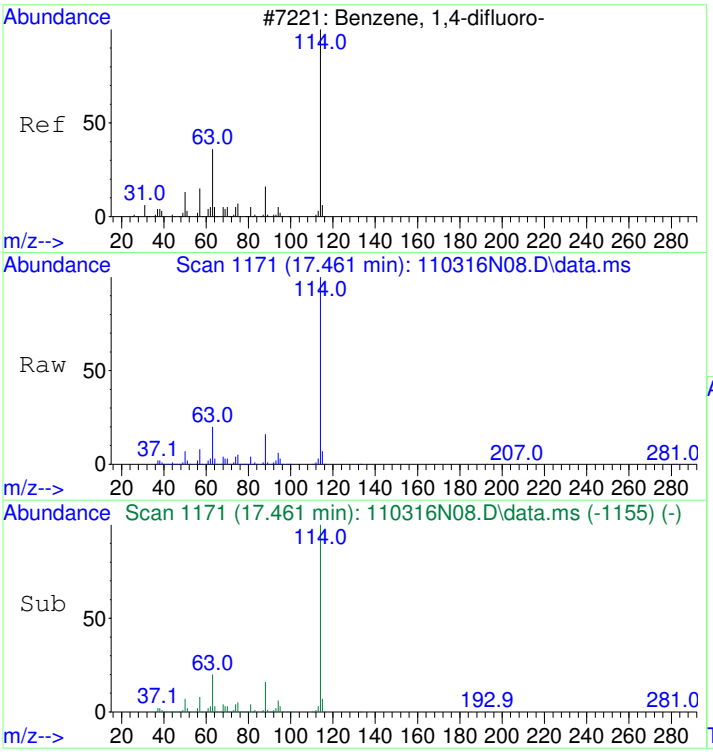


#31
Carbon tetrachloride
Concen: 9.37 ppbv
RT: 16.169 min Scan# 1062
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion:117 Resp: 789711

Ion	Ratio	Lower	Upper
117	100		
119	96.1	76.1	116.1

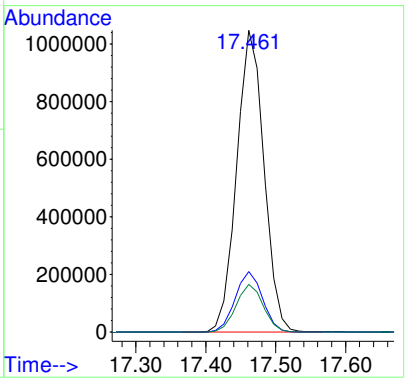


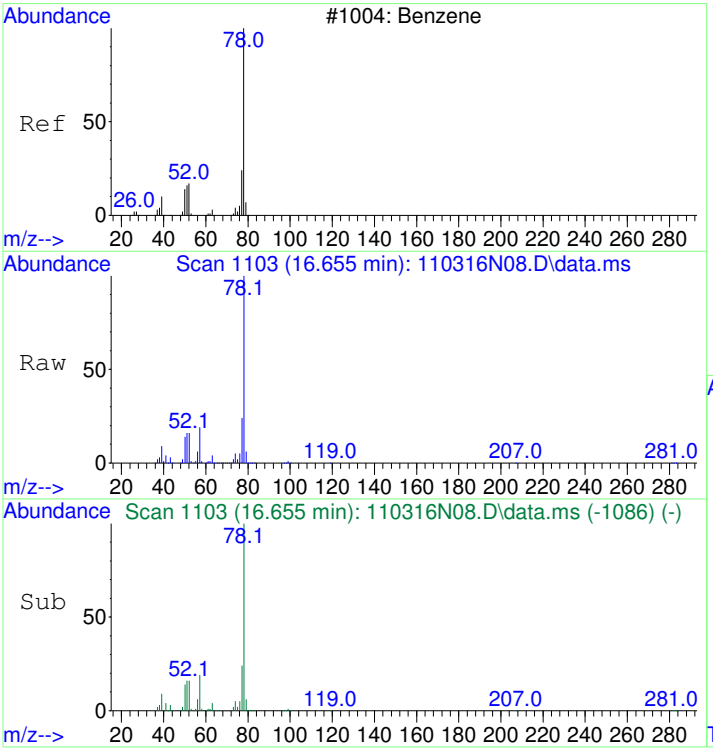


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion:114 Resp: 2828918

Ion	Ratio	Lower	Upper
114	100		
63	20.1	0.1	40.1
88	15.8	0.0	35.8

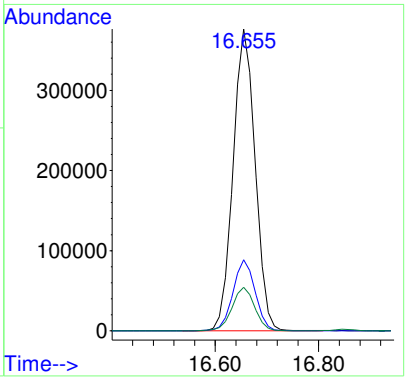


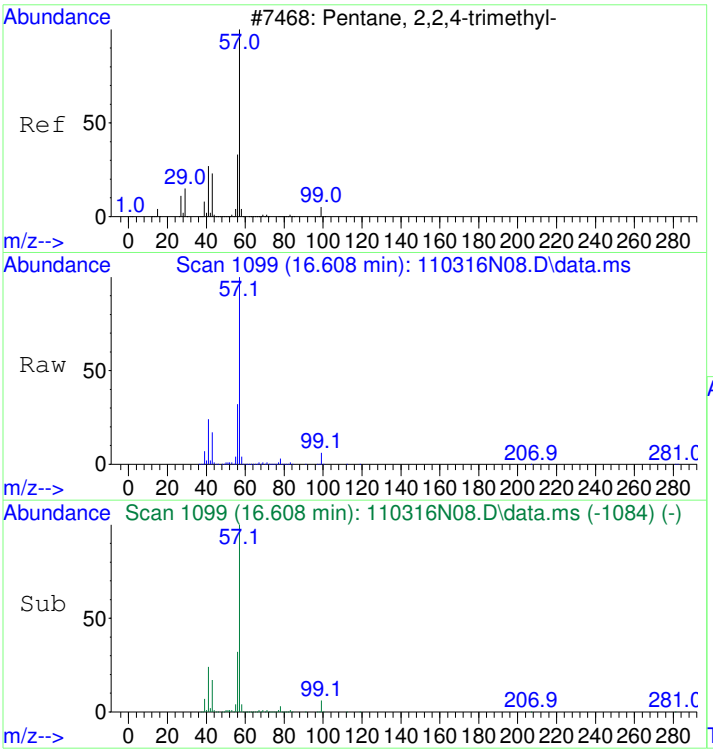


#33
Benzene
Concen: 9.97 ppbv
RT: 16.655 min Scan# 1103
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 78 Resp: 1117931

Ion	Ratio	Lower	Upper
78	100		
77	23.7	3.7	43.7
50	14.9	0.0	34.9

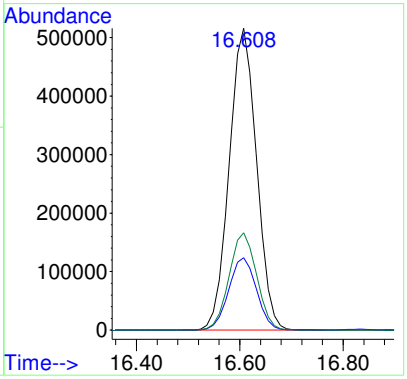


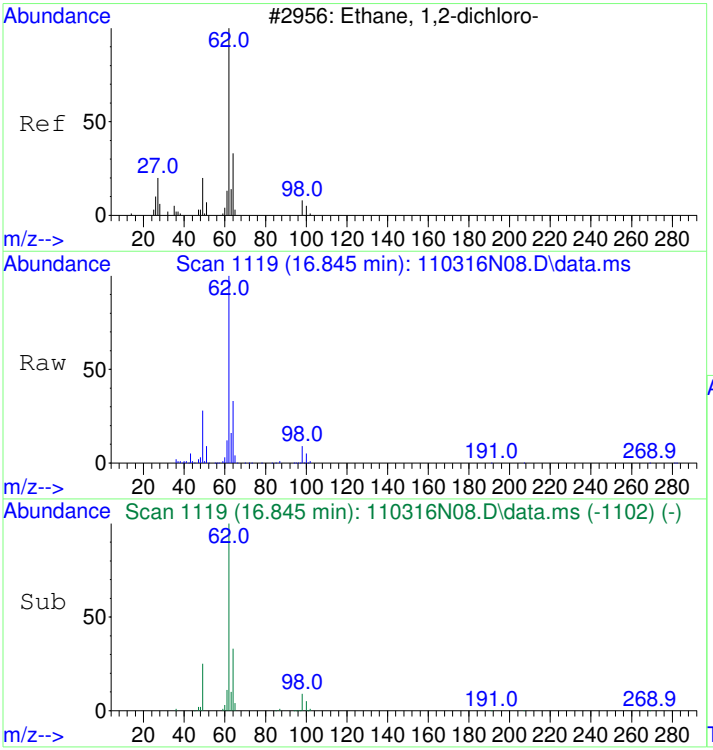


#34
2,2,4-Trimethylpentane
Concen: 10.29 ppbv
RT: 16.608 min Scan# 1099
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 57 Resp: 1896728

Ion	Ratio	Lower	Upper
57	100		
41	24.3	4.3	44.3
56	32.5	12.5	52.5

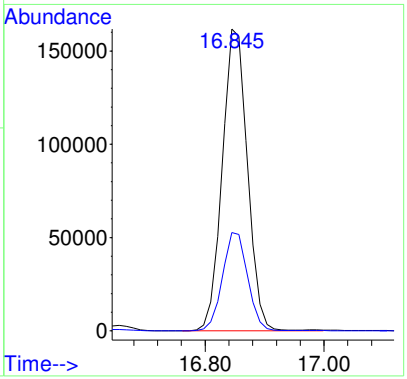


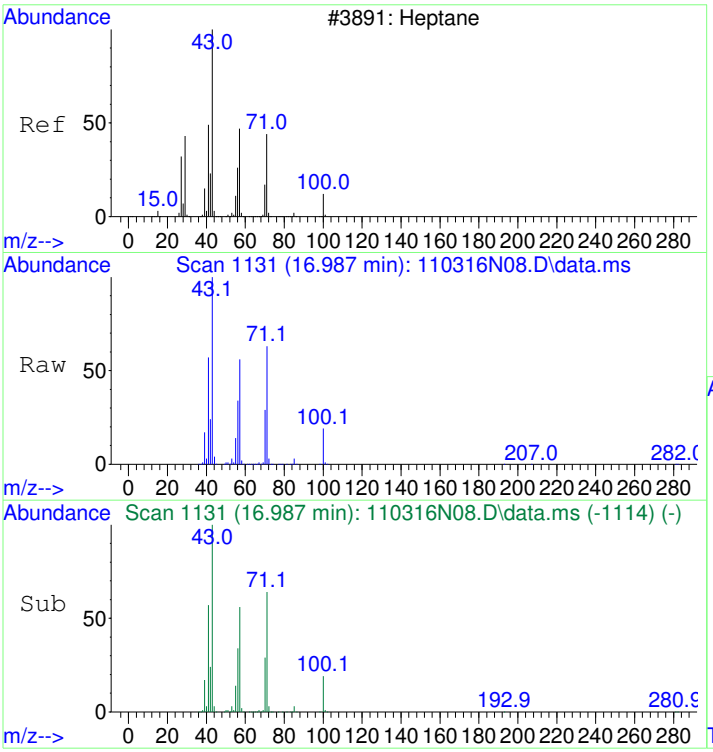


#35
1,2-Dichloroethane
Concen: 9.57 ppbv
RT: 16.845 min Scan# 1119
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 62 Resp: 477179

Ion	Ratio	Lower	Upper
62	100		
64	32.6	12.6	52.6

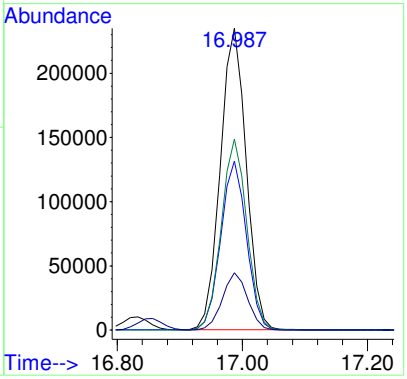


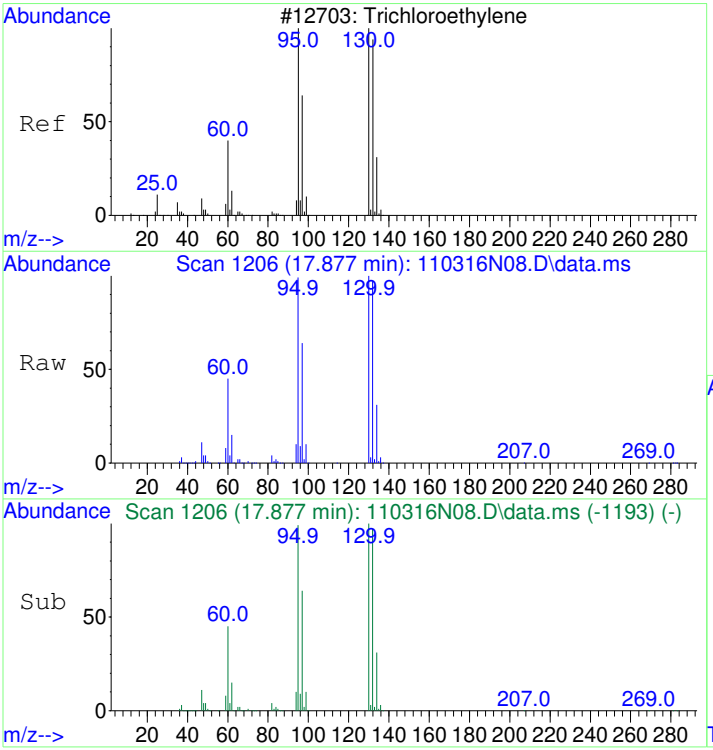


#36
Heptane
Concen: 10.07 ppbv
RT: 16.987 min Scan# 1131
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 43 Resp: 674022

Ion	Ratio	Lower	Upper
43	100		
57	55.6	35.6	75.6
71	62.6	42.6	82.6
100	18.6	0.0	38.6

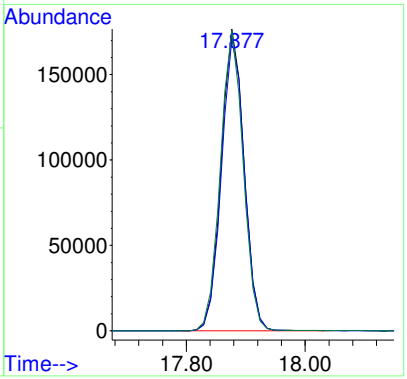


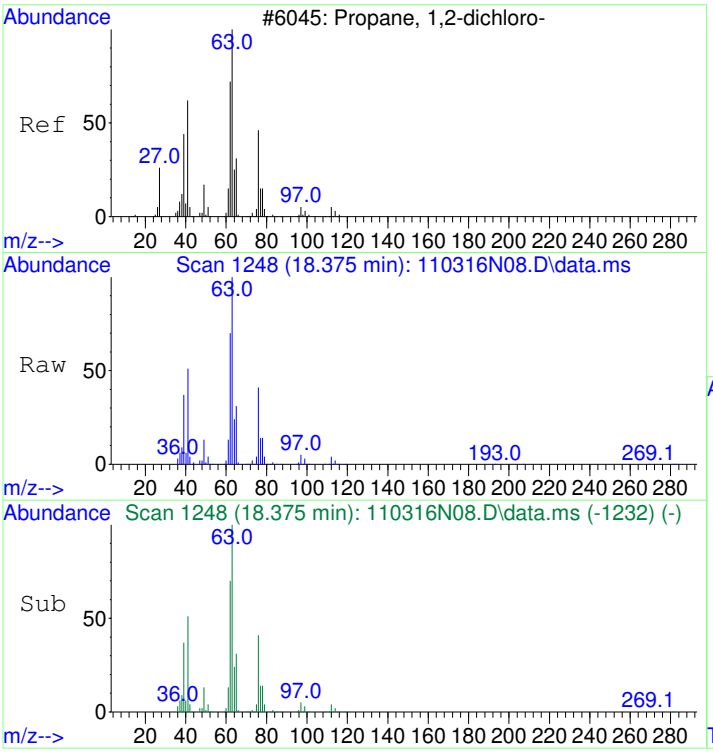


#37
Trichloroethene
Concen: 10.57 ppbv
RT: 17.877 min Scan# 1206
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion:130 Resp: 473298

Ion	Ratio	Lower	Upper
130	100		
132	97.1	77.1	117.1
95	99.3	79.3	119.3

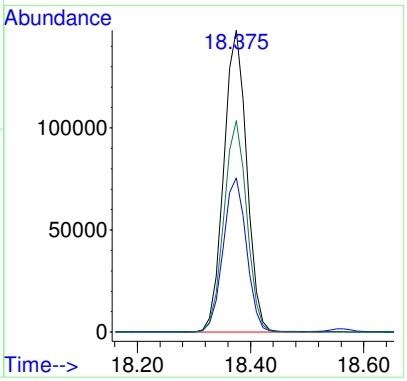


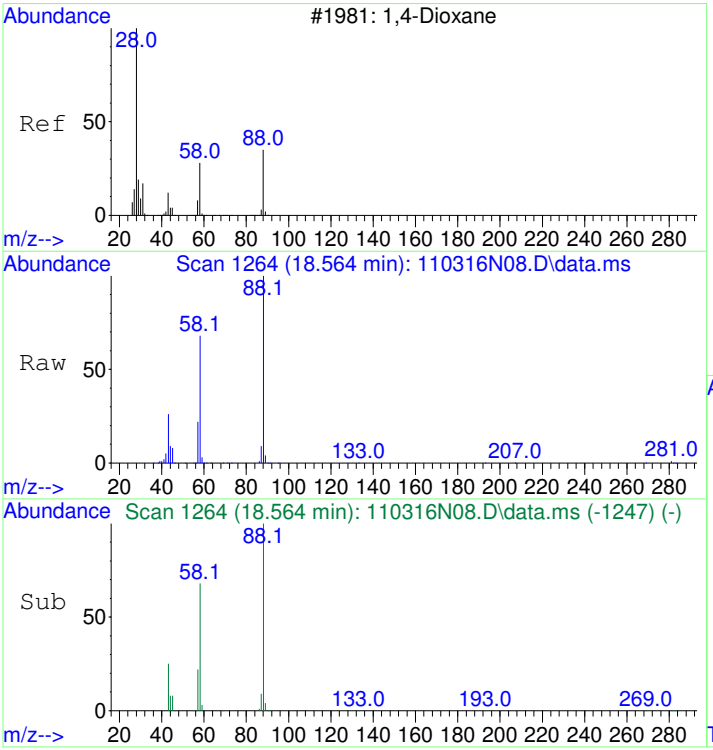


#38
1,2-Dichloropropane
Concen: 10.20 ppbv
RT: 18.375 min Scan# 1248
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 63 Resp: 416591

Ion	Ratio	Lower	Upper
63	100		
41	51.8	31.8	71.8
62	70.0	50.0	90.0

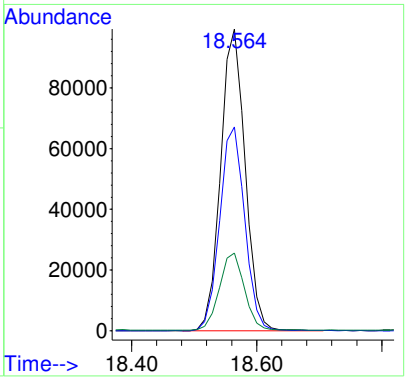


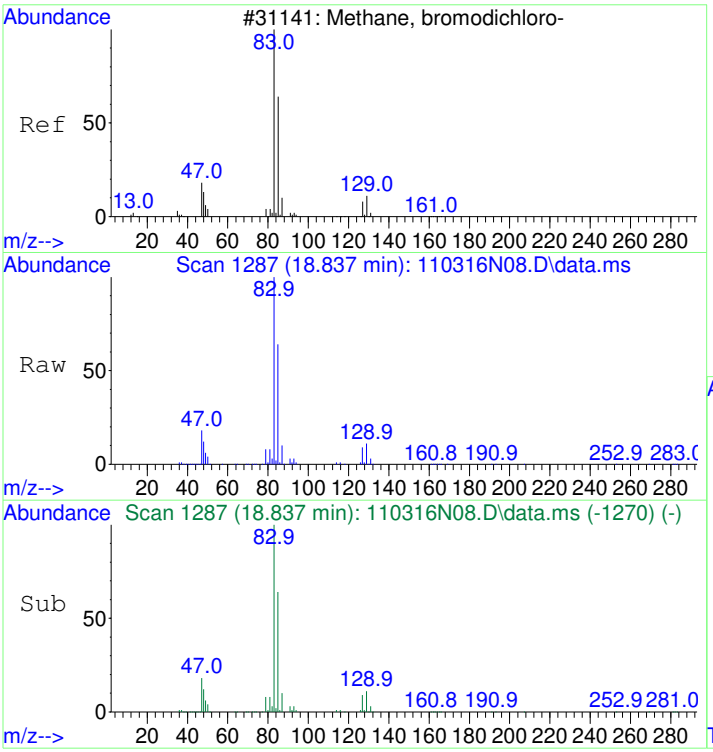


#39
1,4-Dioxane
Concen: 10.86 ppbv
RT: 18.564 min Scan# 1264
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 88 Resp: 271876

Ion	Ratio	Lower	Upper
88	100		
58	68.9	48.9	88.9
43	26.1	6.1	46.1

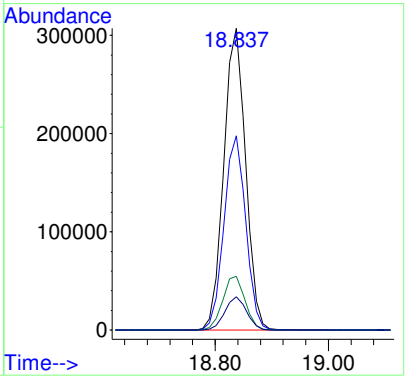


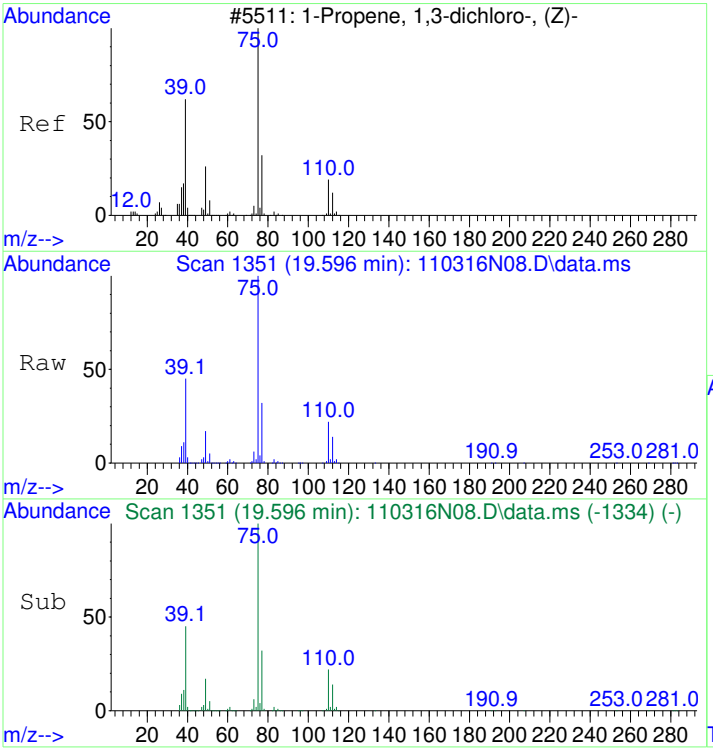


#40
Bromodichloromethane
Concen: 10.38 ppbv
RT: 18.837 min Scan# 1287
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 83 Resp: 824907

Ion	Ratio	Lower	Upper
83	100		
85	64.2	44.2	84.2
47	18.2	0.0	38.2
129	11.0	0.0	31.0

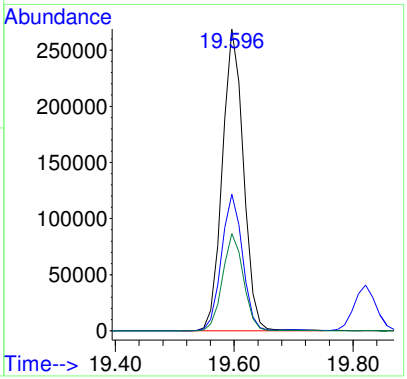


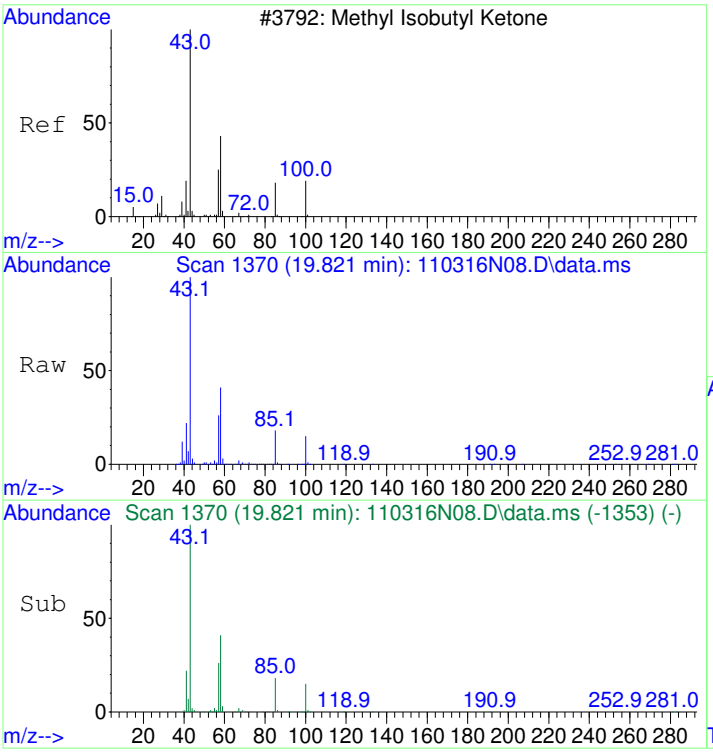


#41
cis-1,3-Dichloropropene
Concen: 10.89 ppbv
RT: 19.596 min Scan# 1351
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 75 Resp: 665043

Ion	Ratio	Lower	Upper
75	100		
39	45.7	25.7	65.7
77	31.8	11.8	51.8

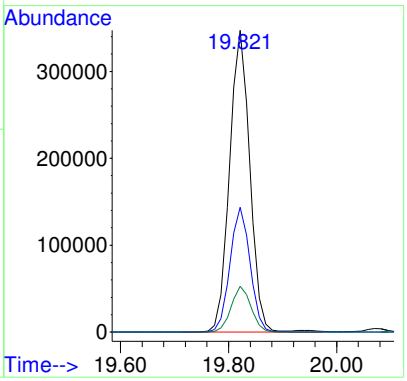


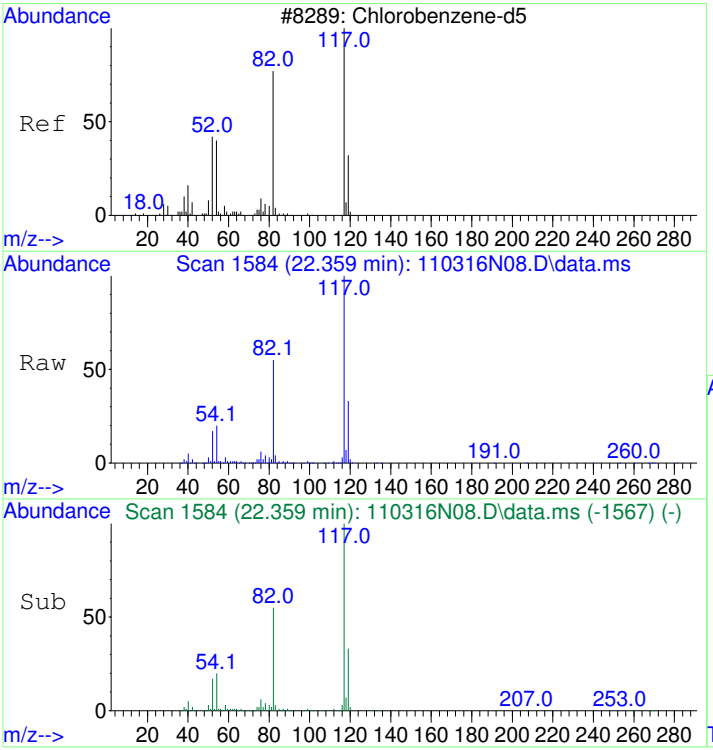


#42
4-Methyl-2-pentanone (MIBK)
Concen: 10.19 ppbv
RT: 19.821 min Scan# 1370
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 43 Resp: 906536

Ion	Ratio	Lower	Upper
43	100		
58	40.9	20.9	60.9
100	14.9	0.0	34.9

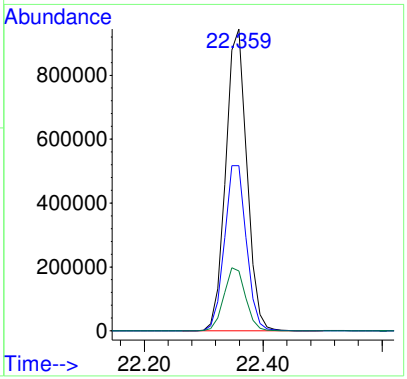


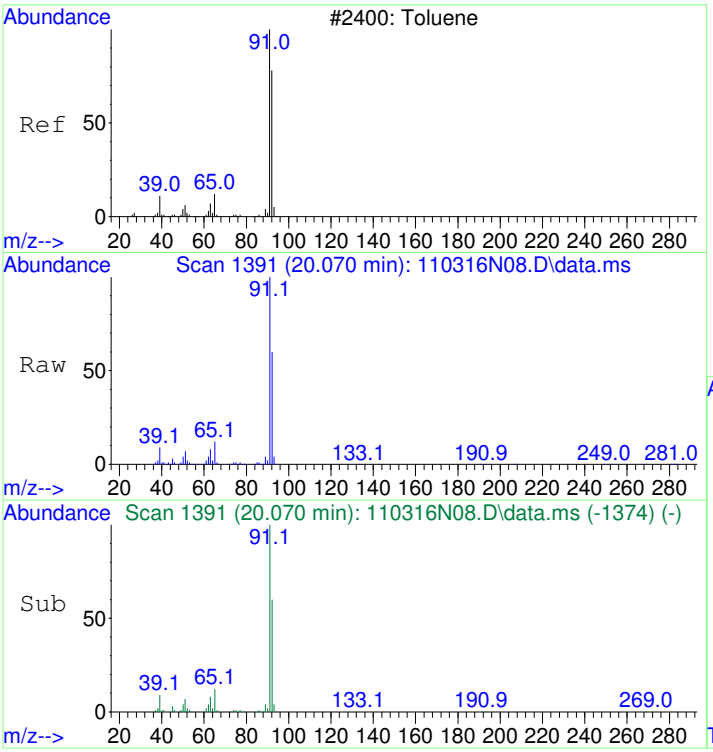


#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion:117 Resp: 2341560

Ion	Ratio	Lower	Upper
117	100		
82	56.8	36.8	76.8
54	21.4	1.4	41.4

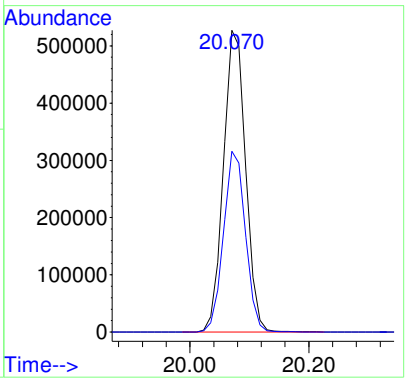


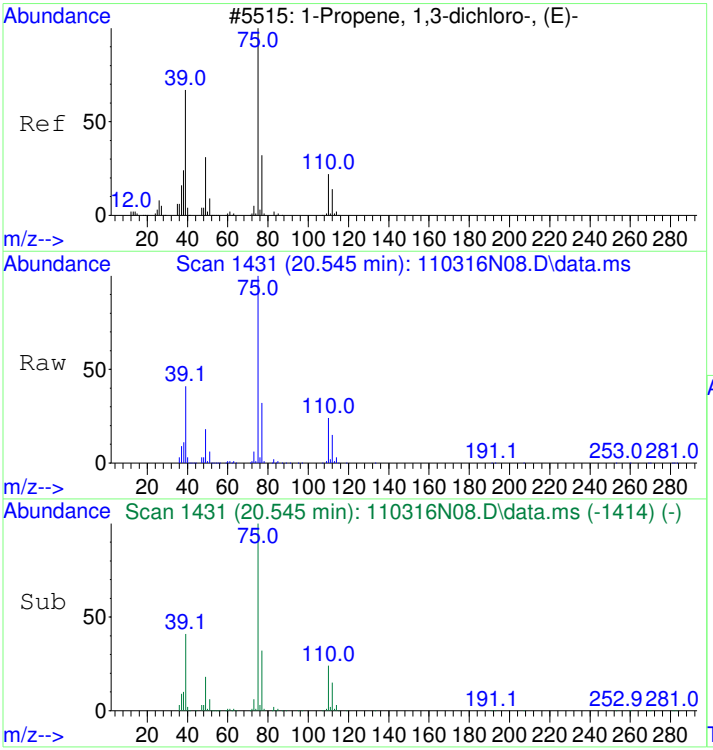


#44
Toluene
Concen: 10.56 ppbv
RT: 20.070 min Scan# 1391
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 91 Resp: 1367816

Ion	Ratio	Lower	Upper
91	100		
92	59.3	39.3	79.3

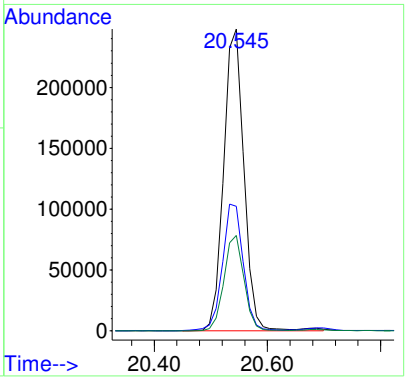


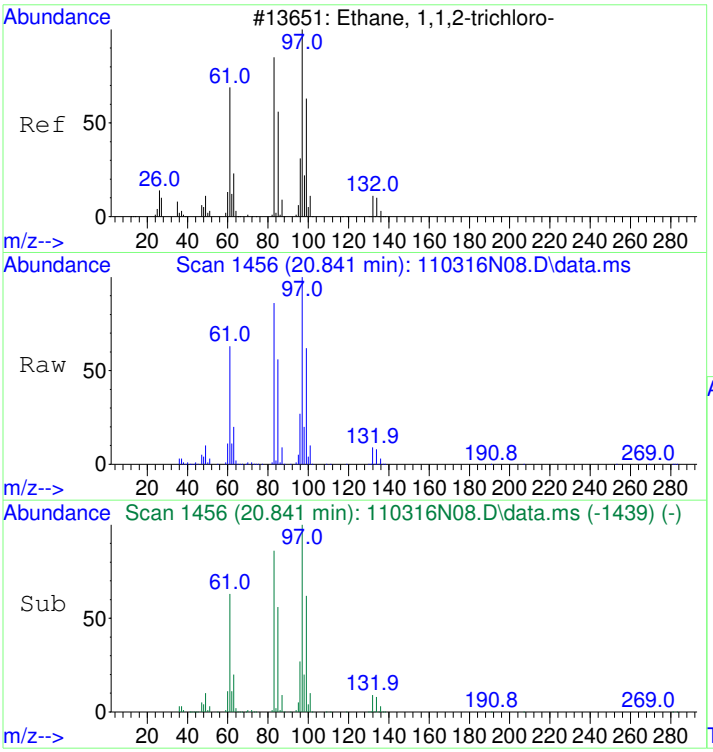


#45
trans-1,3-Dichloropropene
Concen: 10.87 ppbv
RT: 20.545 min Scan# 1431
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 75 Resp: 617419

Ion	Ratio	Lower	Upper
75	100		
39	43.0	23.0	63.0
77	31.3	11.3	51.3

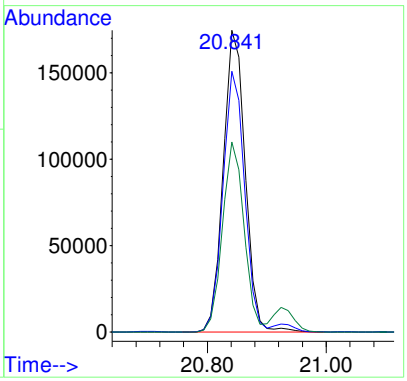


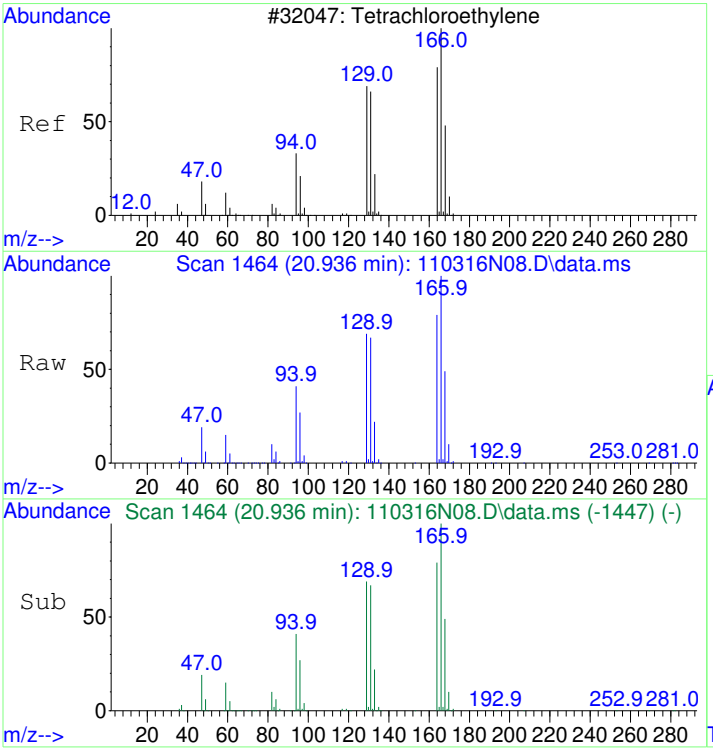


#46
1,1,2-Trichloroethane
Concen: 10.60 ppbv
RT: 20.841 min Scan# 1456
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 97 Resp: 449763

Ion	Ratio	Lower	Upper
97	100		
83	87.8	67.8	107.8
61	58.5	38.5	78.5

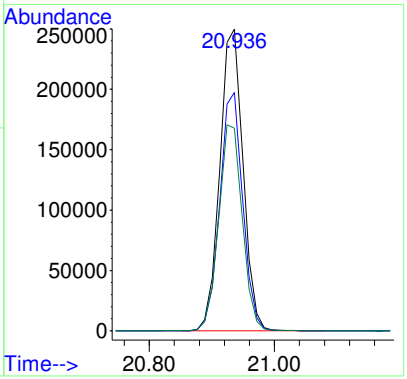


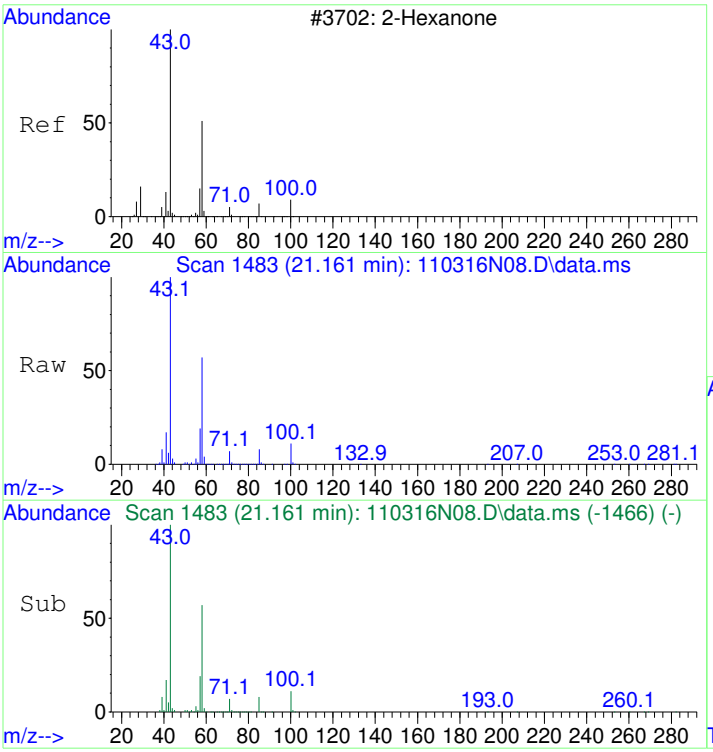


#47
Tetrachloroethene
Concen: 10.37 ppbv
RT: 20.936 min Scan# 1464
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion:166 Resp: 647625

Ion	Ratio	Lower	Upper
166	100		
164	78.2	58.2	98.2
131	69.4	49.4	89.4

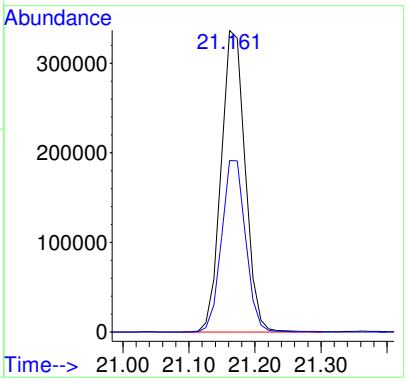


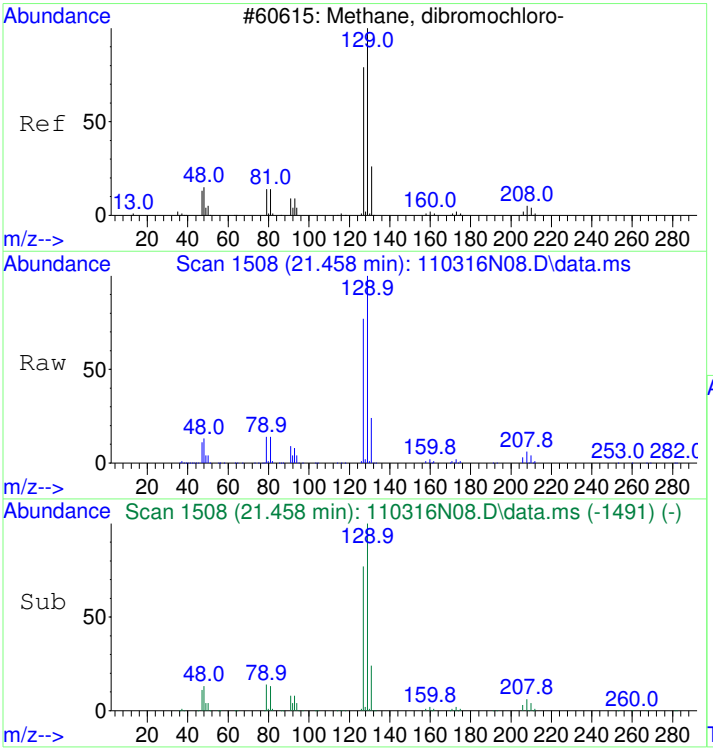


#48
2-Hexanone
Concen: 10.56 ppbv
RT: 21.161 min Scan# 1483
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 43 Resp: 848888

Ion	Ratio	Lower	Upper
43	100		
58	57.1	37.1	77.1

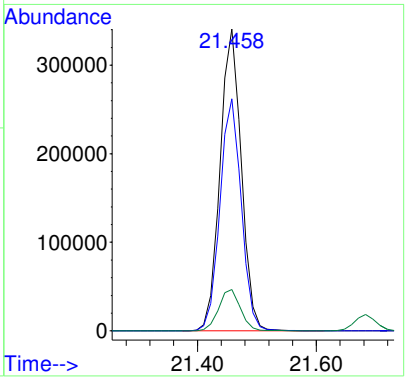


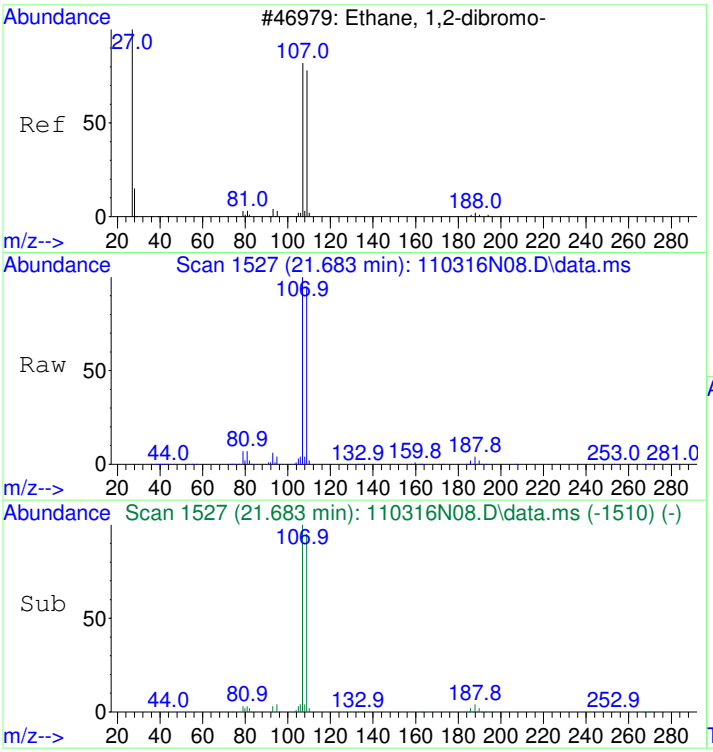


#49
Chlorodibromomethane
Concen: 10.69 ppbv
RT: 21.458 min Scan# 1508
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion:129 Resp: 846266

Ion	Ratio	Lower	Upper
129	100		
127	77.0	57.0	97.0
79	14.2	0.0	34.2

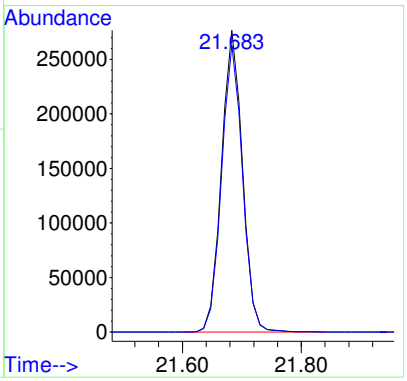


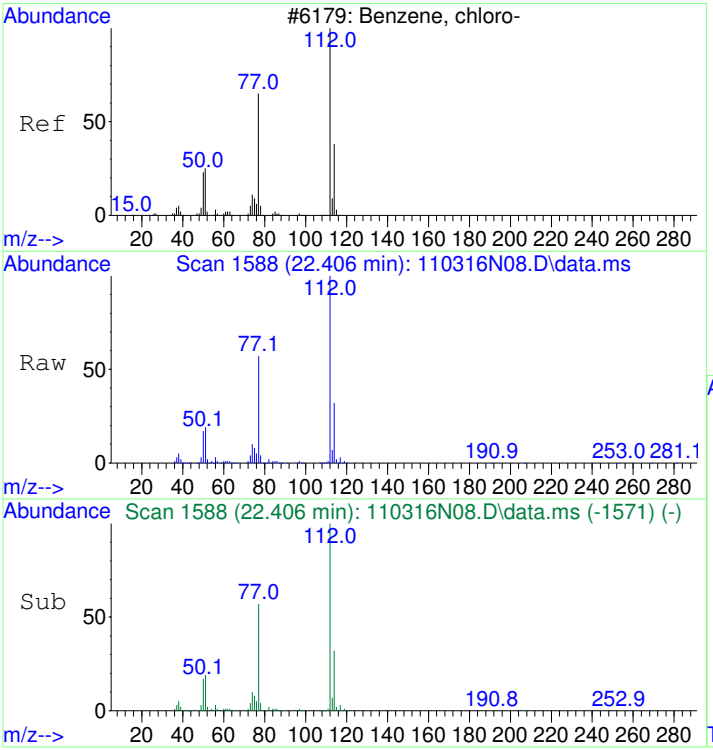


#50
1,2-Dibromoethane (EDB)
Concen: 10.80 ppbv
RT: 21.683 min Scan# 1527
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion:107 Resp: 678974

Ion	Ratio	Lower	Upper
107	100		
109	94.8	74.8	114.8

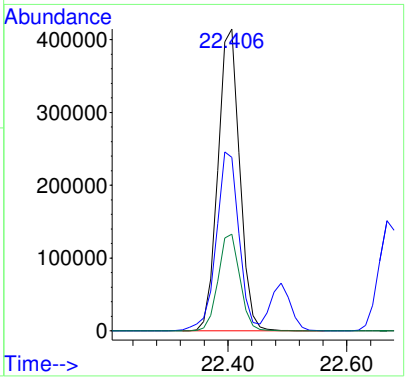


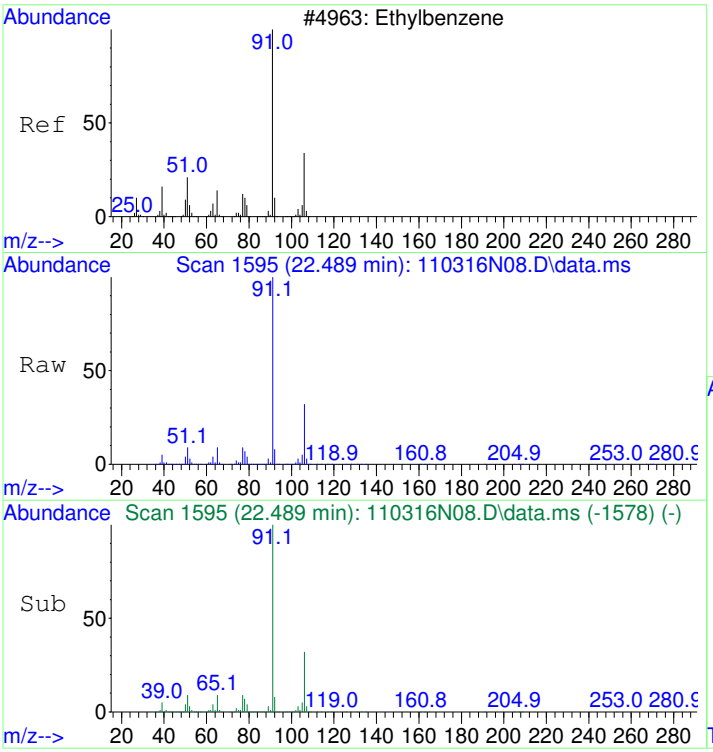


#51
Chlorobenzene
Concen: 10.65 ppbv
RT: 22.406 min Scan# 1588
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion:112 Resp: 1055016

Ion	Ratio	Lower	Upper
112	100		
77	62.1	42.1	82.1
114	32.0	12.0	52.0

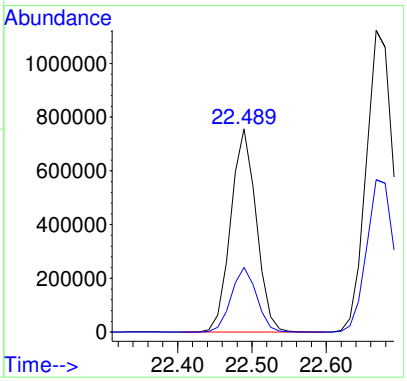


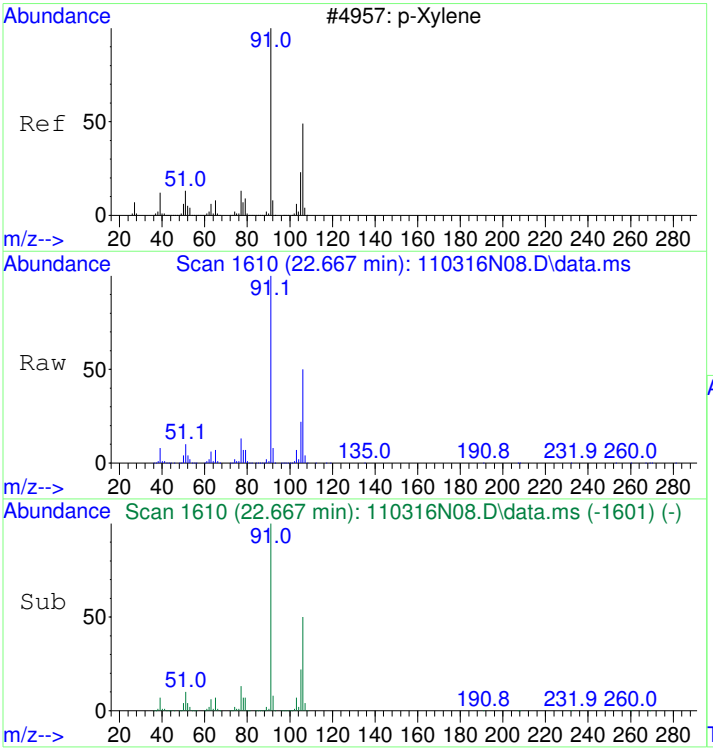


#52
Ethylbenzene
Concen: 10.51 ppbv
RT: 22.489 min Scan# 1595
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 91 Resp: 1798582

Ion	Ratio	Lower	Upper
91	100		
106	31.6	11.6	51.6

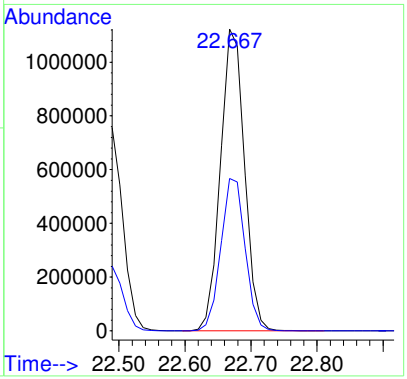


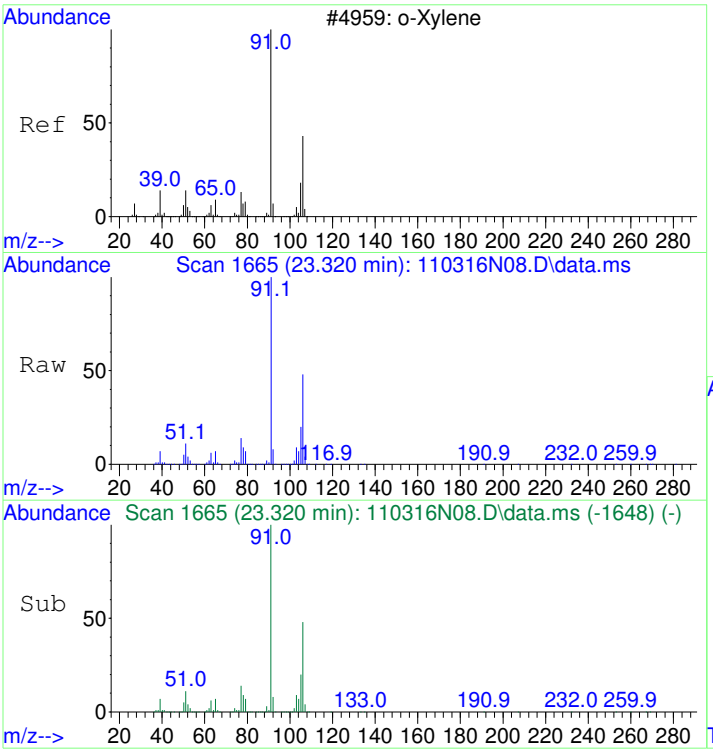


#53
m&p-Xylene
Concen: 21.24 ppbv
RT: 22.667 min Scan# 1610
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 91 Resp: 2836433

Ion	Ratio	Lower	Upper
91	100		
106	50.9	30.9	70.9

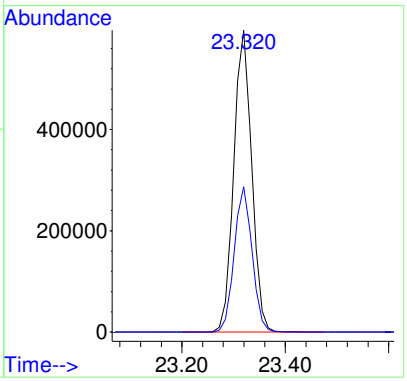


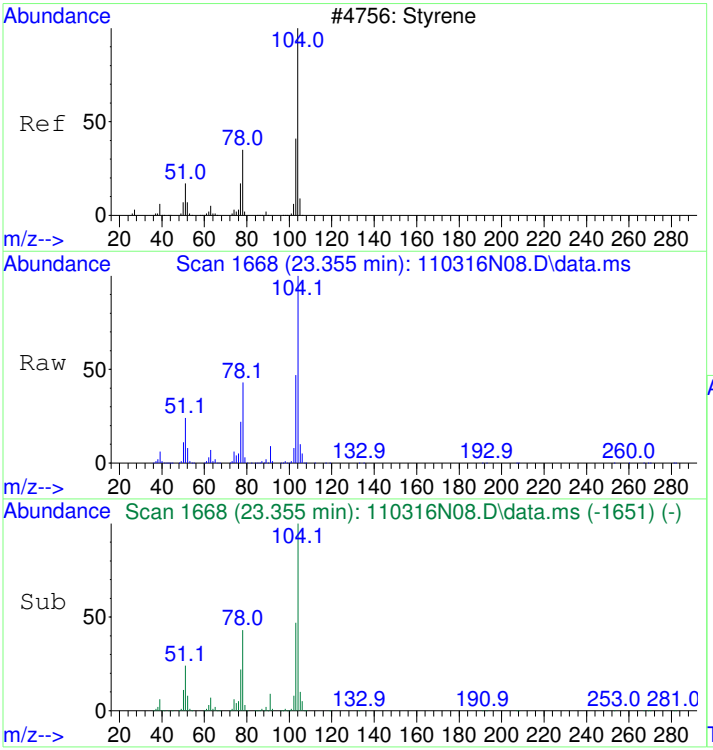


#54
o-Xylene
Concen: 10.62 ppbv
RT: 23.320 min Scan# 1665
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 91 Resp: 1434207

Ion	Ratio	Lower	Upper
91	100		
106	48.0	28.0	68.0

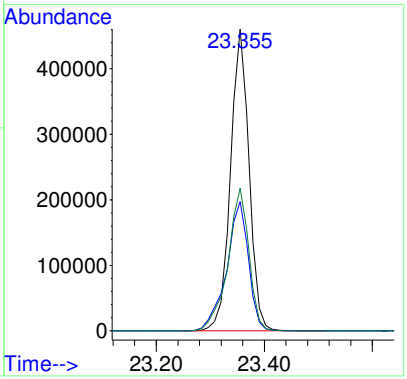


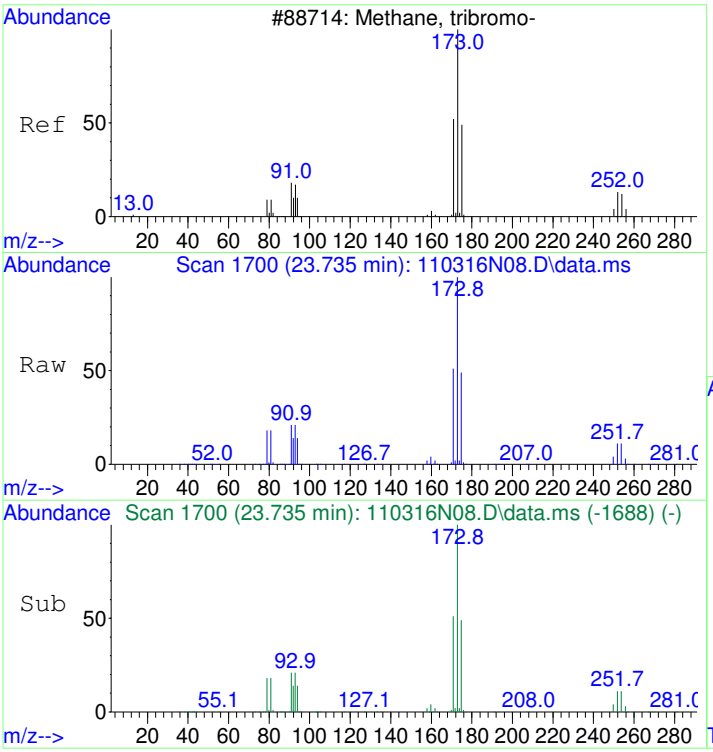


#55
Styrene
Concen: 10.45 ppbv
RT: 23.355 min Scan# 1668
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion:104 Resp: 1098594

Ion	Ratio	Lower	Upper
104	100		
78	50.6	30.6	70.6
103	53.7	33.7	73.7

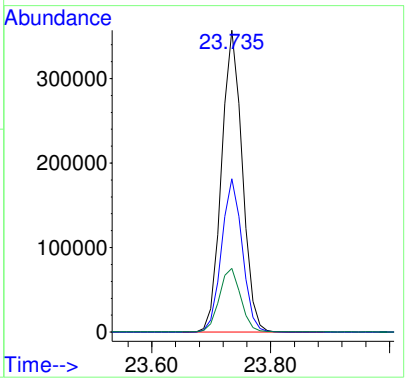


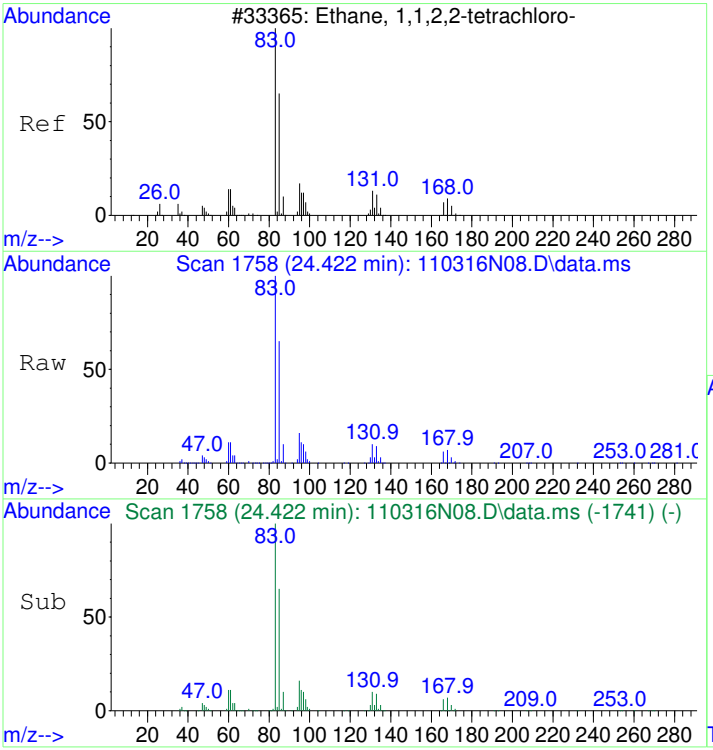


#56
Bromoform
Concen: 10.61 ppbv
RT: 23.735 min Scan# 1700
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion:173 Resp: 866387

Ion	Ratio	Lower	Upper
173	100		
171	50.7	30.7	70.7
91	21.6	1.6	41.6

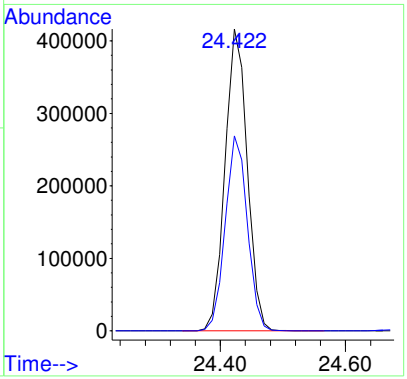


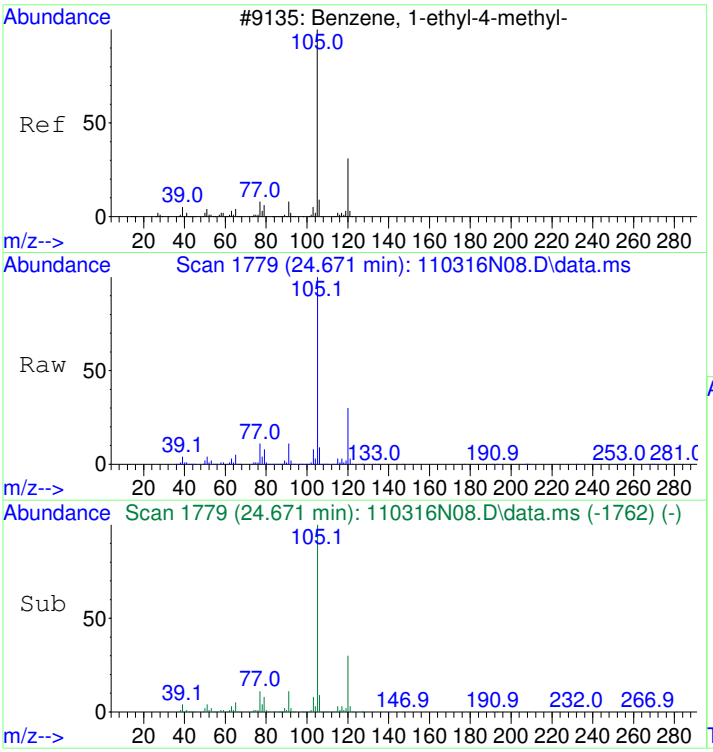


#57
1,1,2,2-Tetrachloroethane
Concen: 10.48 ppbv
RT: 24.422 min Scan# 1758
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 83 Resp: 1029523

Ion	Ratio	Lower	Upper
83	100		
85	64.4	44.4	84.4

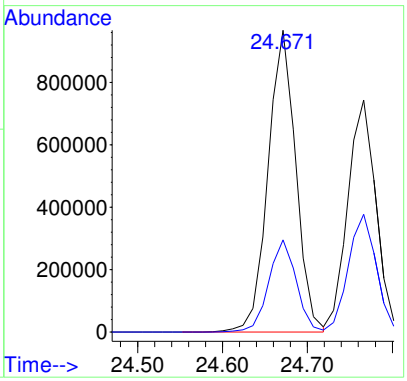


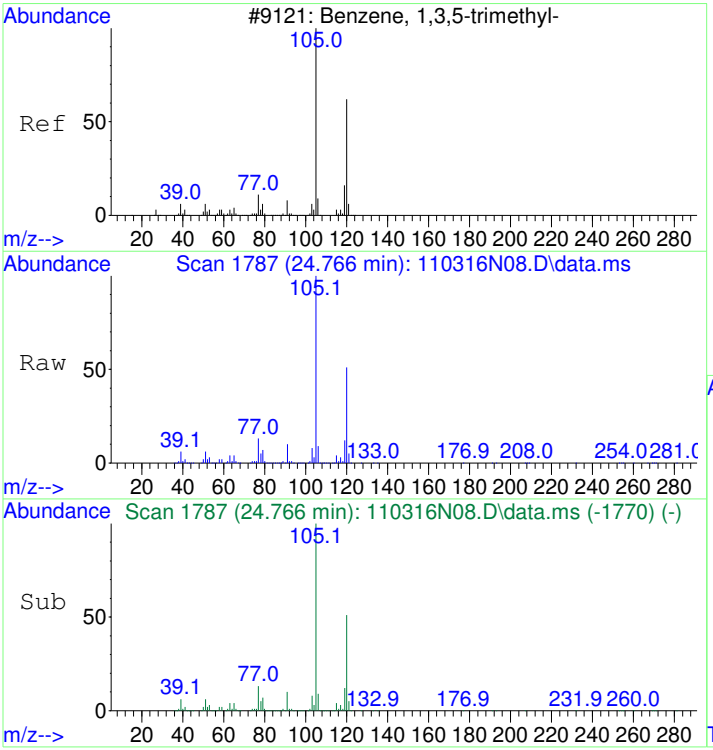


#58
4-Ethyltoluene
Concen: 10.73 ppbv
RT: 24.671 min Scan# 1779
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion:105 Resp: 2195270

Ion	Ratio	Lower	Upper
105	100		
120	30.4	10.4	50.4

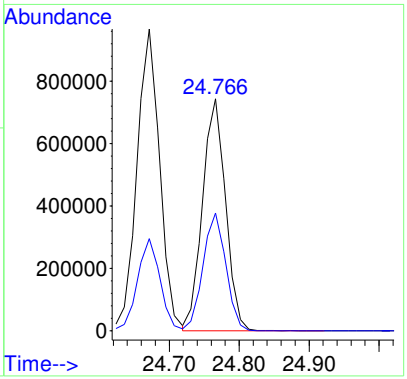


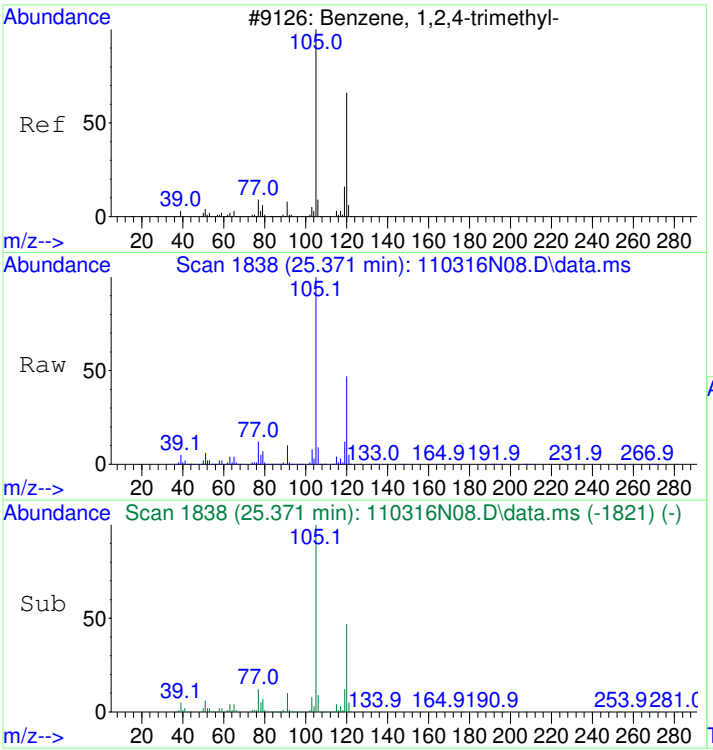


#59
1,3,5-Trimethylbenzene
Concen: 10.73 ppbv
RT: 24.766 min Scan# 1787
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion:105 Resp: 1711873

Ion	Ratio	Lower	Upper
105	100		
120	50.3	30.3	70.3

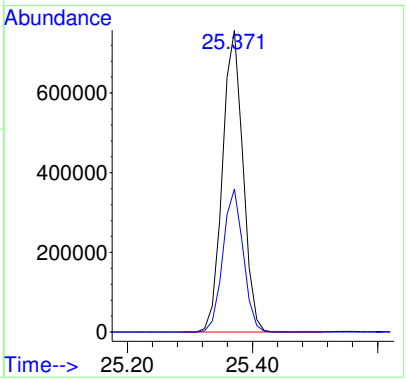


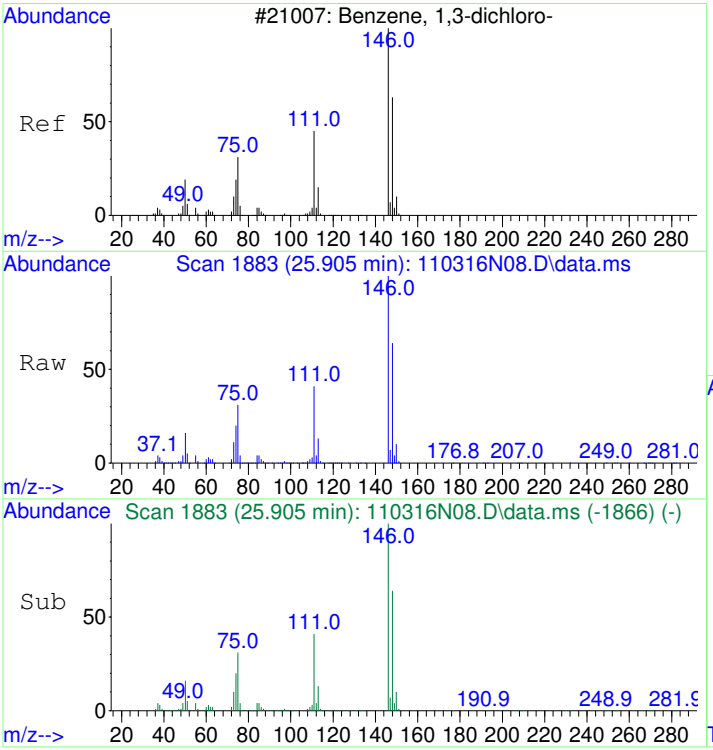


#60
1,2,4-Trimethylbenzene
Concen: 10.65 ppbv
RT: 25.371 min Scan# 1838
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion:105 Resp: 1729319

Ion	Ratio	Lower	Upper
105	100		
120	47.0	27.0	67.0

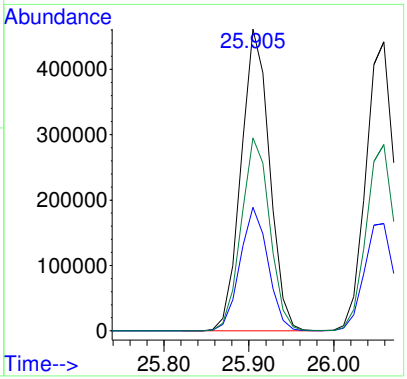


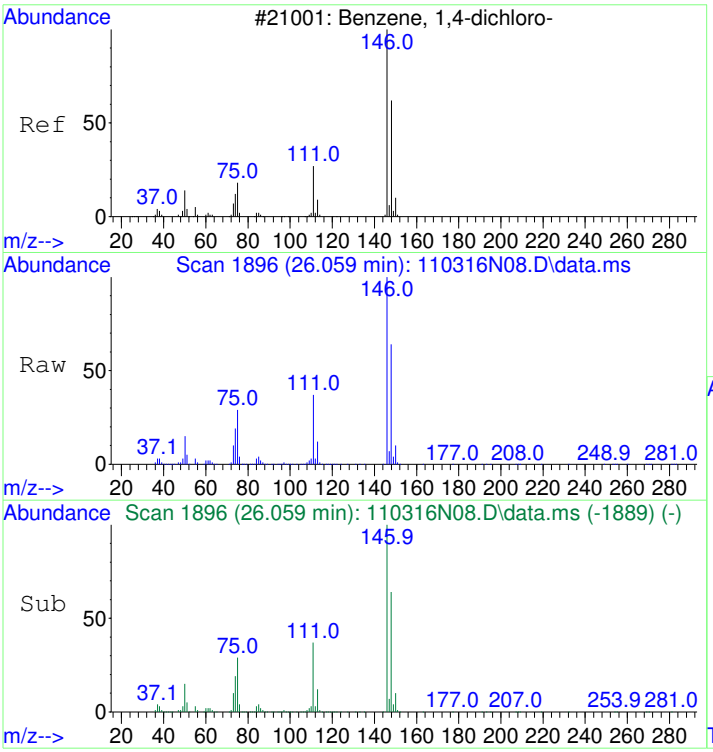


#61
1,3-Dichlorobenzene
Concen: 10.38 ppbv
RT: 25.905 min Scan# 1883
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion:146 Resp: 1078699

Ion	Ratio	Lower	Upper
146	100		
111	40.2	20.2	60.2
148	64.1	44.1	84.1

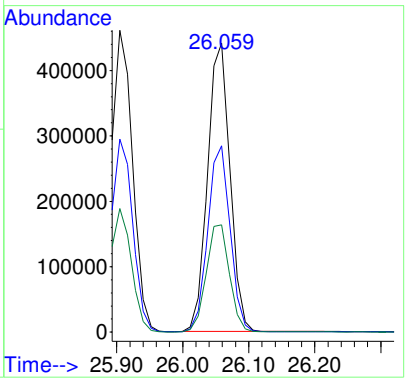


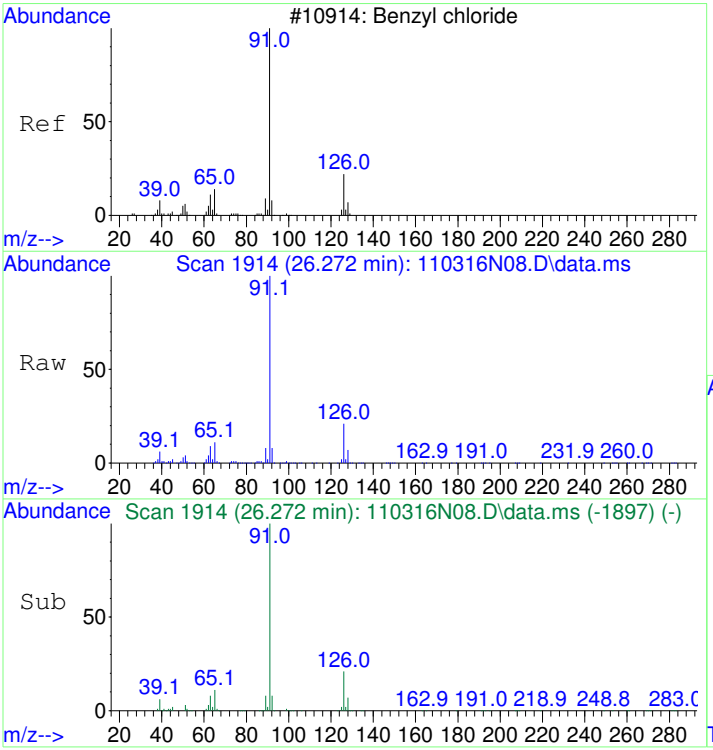


#62
1,4-Dichlorobenzene
Concen: 10.38 ppbv
RT: 26.059 min Scan# 1896
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion:146 Resp: 1040049

Ion	Ratio	Lower	Upper
146	100		
148	64.0	44.0	84.0
111	38.2	18.2	58.2

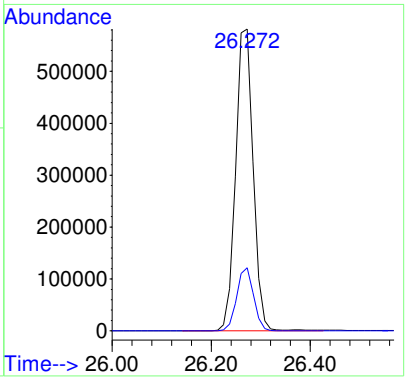


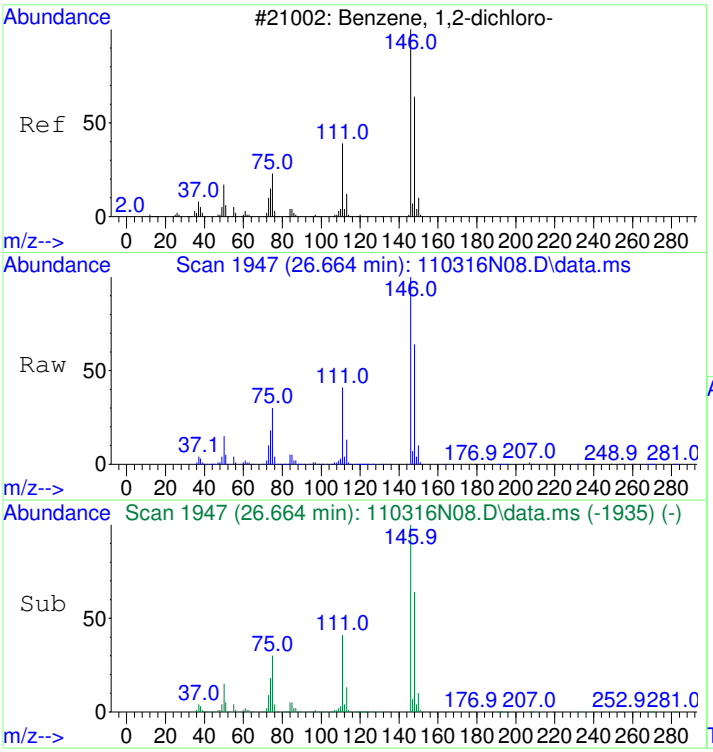


#63
Benzyl chloride
Concen: 11.32 ppbv
RT: 26.272 min Scan# 1914
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion: 91 Resp: 1427969

Ion	Ratio	Lower	Upper
91	100		
126	20.2	0.2	40.2

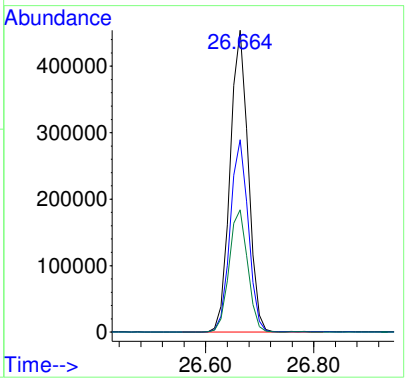


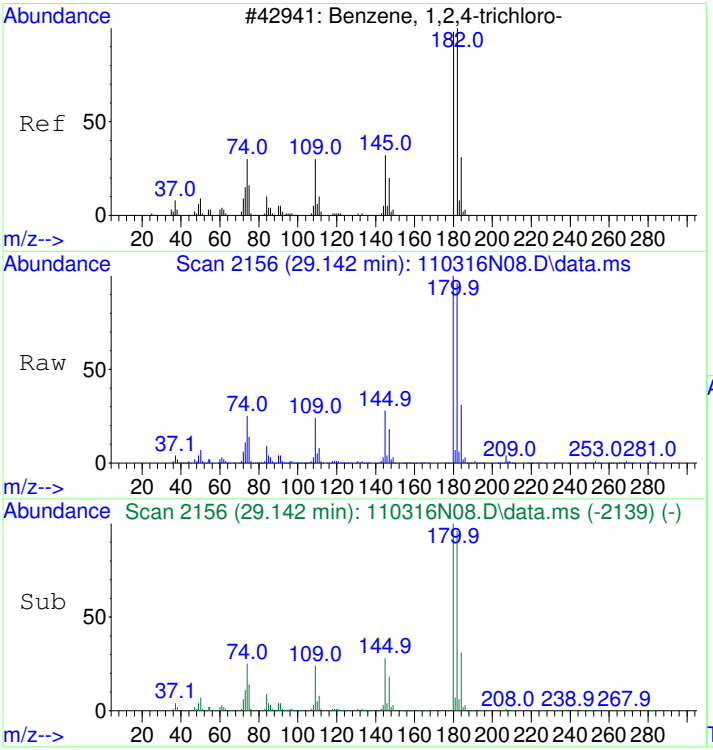


#64
1,2-Dichlorobenzene
Concen: 10.16 ppbv
RT: 26.664 min Scan# 1947
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion:146 Resp: 1057620

Ion	Ratio	Lower	Upper
146	100		
148	63.7	43.7	83.7
111	41.5	21.5	61.5

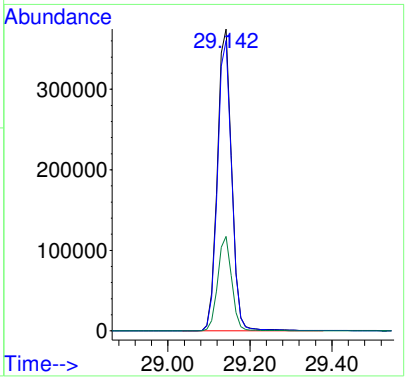


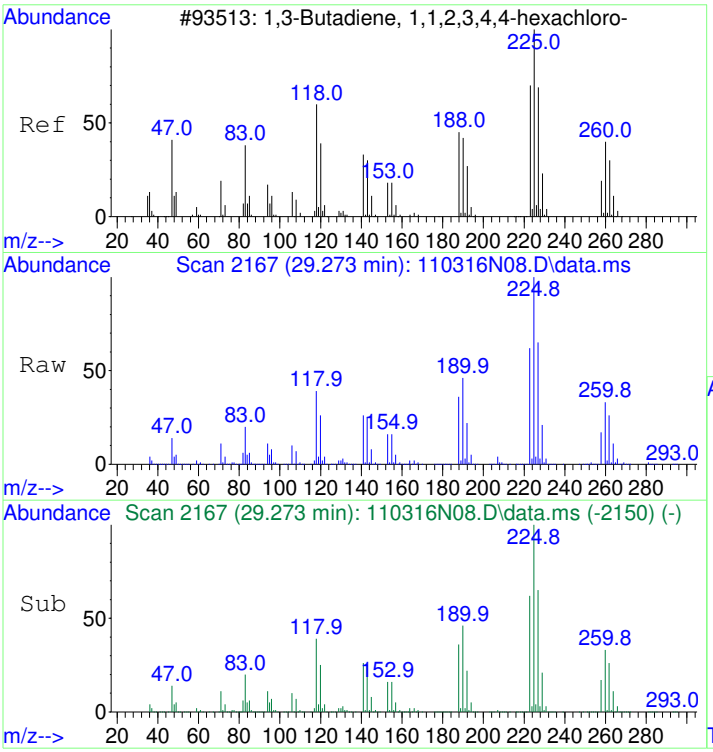


#65
1,2,4-Trichlorobenzene
Concen: 10.22 ppbv
RT: 29.142 min Scan# 2156
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion:180 Resp: 907186

Ion	Ratio	Lower	Upper
180	100		
182	95.7	75.7	115.7
184	30.6	10.6	50.6

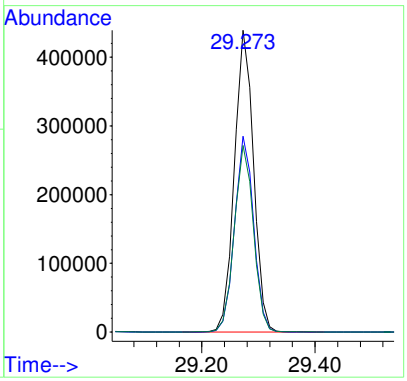




#66
Hexachlorobutadiene
Concen: 10.01 ppbv
RT: 29.273 min Scan# 2167
Delta R.T. 0.000 min
Lab File: 110316N08.D
Acq: 3 Nov 2016 3:15 pm

Tgt Ion:225 Resp: 1029600

Ion	Ratio	Lower	Upper
225	100		
227	64.7	44.7	84.7
223	62.0	42.0	82.0



S16K015-CAL5

Data Path : D:\msdchem\1\2016\data\110316_FSAA\
Data File : 110316N09.D
Acq On : 3 Nov 2016 4:03 pm
InstName : AG5973N
Operator : LLH
Sample : S16K015-CAL5
Misc : 15ppbv 1645038
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 03 17:02:43 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 16:28:12 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	907113	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	2808039	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	2347356	22.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.452	41	402848	15.12	ppbv	100
3) Dichlorodifluoromethane	4.547	85	1362833	13.62	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.903	85	1384591	14.06	ppbv	100
5) Chloromethane	5.093	50	451982	14.58	ppbv	100
6) Vinyl chloride	5.425	62	452459	14.61	ppbv	99
7) 1,3-Butadiene	5.520	54	317142	13.75	ppbv	100
8) Bromomethane	6.457	94	414244	13.82	ppbv	100
9) Chloroethane	6.789	64	190197	13.44	ppbv	99
10) Bromoethene	7.358	106	432772	14.69	ppbv	99
11) Trichlorofluoromethane	7.500	101	1184520	13.38	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.326	151	794317	13.74	ppbv	100
13) 1,1-Dichloroethene	9.409	61	788041	14.28	ppbv	100
14) Acetone	9.943	43	751462	14.71	ppbv	100
15) Carbon disulfide	10.133	76	1280305	14.95	ppbv	100
16) 2-Propanol	10.560	45	797272	15.07	ppbv	99
17) Allyl chloride	10.951	41	639805	15.04	ppbv	100
18) Dichloromethane	11.485	49	559144	12.62	ppbv	100
19) tert-Butyl methyl ethe...	12.149	73	1563673	15.17	ppbv	100
20) trans-1,2-Dichloroethene	12.184	61	732700	14.74	ppbv	99
21) Hexane	12.777	57	859459	13.93	ppbv	99
22) 1,1-Dichloroethane	13.512	63	938479	13.57	ppbv	100
23) Vinyl acetate	13.655	43	1341880	15.53	ppbv	100
24) cis-1,2-Dichloroethene	14.947	61	699456	14.35	ppbv	99
25) 2-Butanone (MEK)	15.030	72	277577	15.11	ppbv #	100
26) Ethyl acetate	15.078	61	179940	14.99	ppbv #	99
27) Tetrahydrofuran	15.493	42	601220	14.46	ppbv	100
28) Chloroform	15.635	83	1053190	13.83	ppbv	100
29) Cyclohexane	15.860	56	885615	14.20	ppbv	99
30) 1,1,1-Trichloroethane	15.920	97	1117442	13.60	ppbv	100
31) Carbon tetrachloride	16.169	117	1166800	13.65	ppbv	100
33) Benzene	16.655	78	1628857	14.04	ppbv	100
34) 2,2,4-Trimethylpentane	16.607	57	2766719	14.39	ppbv	100
35) 1,2-Dichloroethane	16.845	62	701480	14.05	ppbv	100
36) Heptane	16.987	43	978704	14.49	ppbv	99
37) Trichloroethene	17.876	130	697653	15.23	ppbv	100
38) 1,2-Dichloropropane	18.374	63	611287	14.42	ppbv	100
39) 1,4-Dioxane	18.564	88	393850	15.05	ppbv	99
40) Bromodichloromethane	18.837	83	1221805	15.31	ppbv	100
41) cis-1,3-Dichloropropene	19.596	75	982552	15.65	ppbv	100
42) 4-Methyl-2-pentanone (...	19.821	43	1311141	14.74	ppbv	100
44) Toluene	20.070	91	1998109	14.92	ppbv	100
45) trans-1,3-Dichloropropene	20.544	75	918603	16.05	ppbv	100
46) 1,1,2-Trichloroethane	20.841	97	663377	15.30	ppbv	100
47) Tetrachloroethene	20.936	166	963620	15.50	ppbv	100
48) 2-Hexanone	21.173	43	1227419	15.31	ppbv	100
49) Chlorodibromomethane	21.458	129	1261749	16.16	ppbv	100
50) 1,2-Dibromoethane (EDB)	21.683	107	996160	15.61	ppbv	100
51) Chlorobenzene	22.406	112	1532913	15.11	ppbv	100
52) Ethylbenzene	22.489	91	2637206	15.13	ppbv	100
53) m&p-Xylene	22.667	91	4145345	30.87	ppbv	99
54) o-Xylene	23.319	91	2103264	15.37	ppbv	100

Data Path : D:\msdchem\1\2016\data\110316_FSAA\
Data File : 110316N09.D
Acq On : 3 Nov 2016 4:03 pm
InstName : AG5973N
Operator : LLH
Sample : S16K015-CAL5
Misc : 15ppbv 1645038
ALS Vial : 32 Sample Multiplier: 1

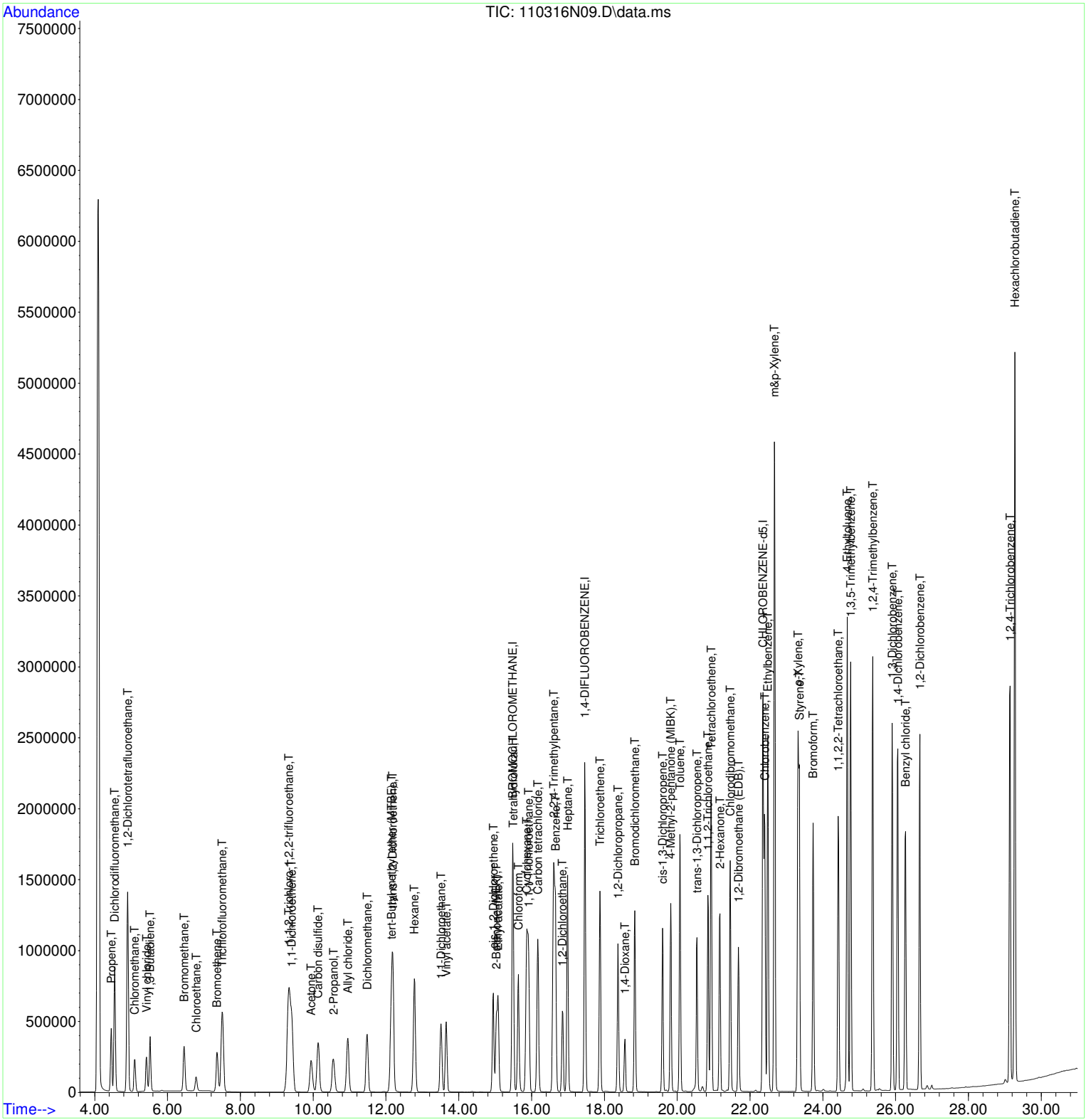
Quant Time: Nov 03 17:02:43 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 16:28:12 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	Styrene	23.355	104	1606748	15.10	ppbv	100
56)	Bromoform	23.734	173	1288087	16.50	ppbv	100
57)	1,1,2,2-Tetrachloroethane	24.422	83	1491558	14.79	ppbv	100
58)	4-Ethyltoluene	24.671	105	3176654	15.10	ppbv	100
59)	1,3,5-Trimethylbenzene	24.766	105	2477334	15.27	ppbv	100
60)	1,2,4-Trimethylbenzene	25.371	105	2519404	15.25	ppbv	100
61)	1,3-Dichlorobenzene	25.904	146	1574378	15.22	ppbv	100
62)	1,4-Dichlorobenzene	26.059	146	1511861	15.24	ppbv	99
63)	Benzyl chloride	26.272	91	2097779	16.80	ppbv	100
64)	1,2-Dichlorobenzene	26.663	146	1528574	14.71	ppbv	99
65)	1,2,4-Trichlorobenzene	29.142	180	1355551	16.34	ppbv	99
66)	Hexachlorobutadiene	29.272	225	1504910	15.39	ppbv	100

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

Data Path : D:\msdchem\1\2016\data\110316_FSAA\
Data File : 110316N09.D
Acq On : 3 Nov 2016 4:03 pm
InstName : AG5973N
Operator : LLH
Sample : S16K015-CAL5
Misc : 15ppbv 1645038
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 03 17:02:43 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 16:28:12 2016
Response via : Initial Calibration



S16K015-CAL6

Data Path : D:\msdchem\1\2016\data\110316_FSAA\
Data File : 110316N10.D
Acq On : 3 Nov 2016 4:53 pm
InstName : AG5973N
Operator : LLH
Sample : S16K015-CAL6
Misc : 20ppbv 1645039
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 03 17:24:43 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:03:27 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	893022	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	2764685	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	2281988	22.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.452	41	525294	20.36	ppbv	99
3) Dichlorodifluoromethane	4.547	85	1792902	18.44	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.903	85	1820494	19.01	ppbv	100
5) Chloromethane	5.093	50	593122	19.77	ppbv	99
6) Vinyl chloride	5.425	62	594877	19.76	ppbv	99
7) 1,3-Butadiene	5.520	54	414397	18.59	ppbv	100
8) Bromomethane	6.457	94	544724	18.76	ppbv	100
9) Chloroethane	6.789	64	247678	18.15	ppbv	99
10) Bromoethene	7.358	106	568519	20.04	ppbv	100
11) Trichlorofluoromethane	7.500	101	1554685	18.16	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.326	151	1036484	18.59	ppbv	100
13) 1,1-Dichloroethene	9.409	61	1028373	19.26	ppbv	100
14) Acetone	9.943	43	981929	19.96	ppbv	99
15) Carbon disulfide	10.133	76	1669987	20.19	ppbv	100
16) 2-Propanol	10.548	45	1035921	20.25	ppbv	99
17) Allyl chloride	10.951	41	829716	20.17	ppbv	99
18) Dichloromethane	11.473	49	723300	17.16	ppbv	99
19) tert-Butyl methyl ethe...	12.149	73	2061003	20.57	ppbv	100
20) trans-1,2-Dichloroethene	12.184	61	951834	19.84	ppbv	100
21) Hexane	12.777	57	1122813	18.89	ppbv	99
22) 1,1-Dichloroethane	13.512	63	1216955	18.22	ppbv	99
23) Vinyl acetate	13.655	43	1761882	20.92	ppbv	100
24) cis-1,2-Dichloroethene	14.947	61	914512	19.37	ppbv	99
25) 2-Butanone (MEK)	15.030	72	365943	20.54	ppbv #	100
26) Ethyl acetate	15.078	61	237173	20.37	ppbv #	99
27) Tetrahydrofuran	15.481	42	781652	19.45	ppbv	99
28) Chloroform	15.635	83	1371763	18.62	ppbv	100
29) Cyclohexane	15.860	56	1152137	19.18	ppbv	99
30) 1,1,1-Trichloroethane	15.908	97	1467095	18.41	ppbv	100
31) Carbon tetrachloride	16.169	117	1534013	18.46	ppbv	100
33) Benzene	16.655	78	2120727	18.91	ppbv	100
34) 2,2,4-Trimethylpentane	16.607	57	3602850	19.40	ppbv	100
35) 1,2-Dichloroethane	16.845	62	918553	18.93	ppbv	100
36) Heptane	16.987	43	1264000	19.35	ppbv	98
37) Trichloroethene	17.876	130	919614	20.64	ppbv	100
38) 1,2-Dichloropropane	18.374	63	796605	19.34	ppbv	100
39) 1,4-Dioxane	18.564	88	511157	20.19	ppbv	100
40) Bromodichloromethane	18.837	83	1602061	20.58	ppbv	100
41) cis-1,3-Dichloropropene	19.596	75	1292828	21.06	ppbv	99
42) 4-Methyl-2-pentanone (...	19.821	43	1700885	19.75	ppbv	99
44) Toluene	20.070	91	2612774	20.29	ppbv	99
45) trans-1,3-Dichloropropene	20.544	75	1210974	21.73	ppbv	100
46) 1,1,2-Trichloroethane	20.841	97	872965	20.87	ppbv	100
47) Tetrachloroethene	20.936	166	1274952	21.20	ppbv	100
48) 2-Hexanone	21.173	43	1598750	20.78	ppbv	100
49) Chlorodibromomethane	21.458	129	1677588	22.11	ppbv	100
50) 1,2-Dibromoethane (EDB)	21.683	107	1306280	21.25	ppbv	99
51) Chlorobenzene	22.406	112	2012355	20.65	ppbv	99
52) Ethylbenzene	22.489	91	3457016	20.57	ppbv	100
53) m&p-Xylene	22.667	91	5447870	41.98	ppbv	99
54) o-Xylene	23.319	91	2771639	20.93	ppbv	100

Data Path : D:\msdchem\1\2016\data\110316_FSAA\
Data File : 110316N10.D
Acq On : 3 Nov 2016 4:53 pm
InstName : AG5973N
Operator : LLH
Sample : S16K015-CAL6
Misc : 20ppbv 1645039
ALS Vial : 32 Sample Multiplier: 1

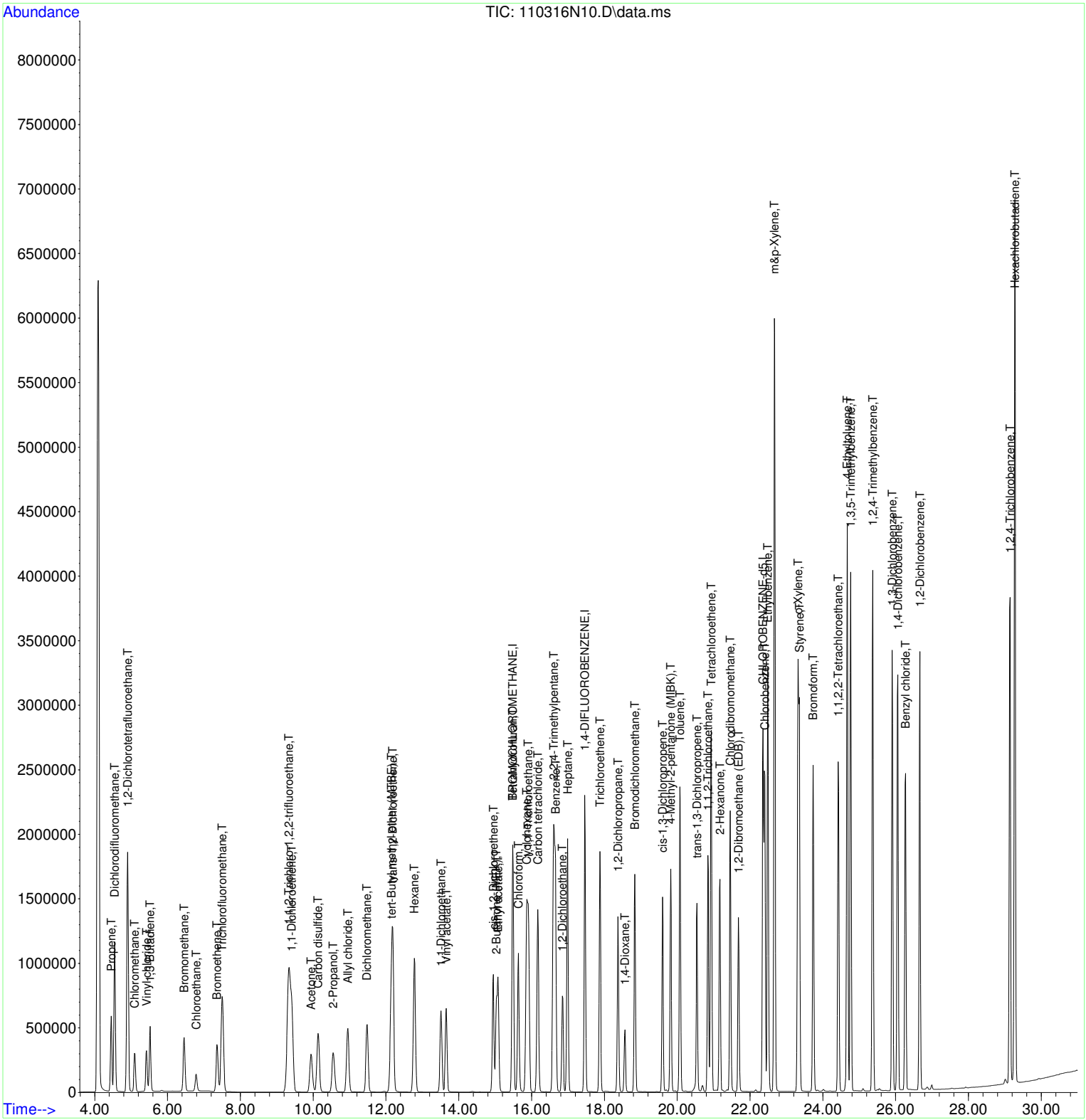
Quant Time: Nov 03 17:24:43 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:03:27 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	Styrene	23.355	104	2118226	20.57	ppbv	100
56)	Bromoform	23.734	173	1713148	22.45	ppbv	100
57)	1,1,2,2-Tetrachloroethane	24.422	83	1960658	20.21	ppbv	100
58)	4-Ethyltoluene	24.671	105	4193190	20.78	ppbv	100
59)	1,3,5-Trimethylbenzene	24.766	105	3260039	20.87	ppbv	100
60)	1,2,4-Trimethylbenzene	25.371	105	3320073	20.84	ppbv	100
61)	1,3-Dichlorobenzene	25.904	146	2081669	20.84	ppbv	100
62)	1,4-Dichlorobenzene	26.059	146	1997573	20.85	ppbv	99
63)	Benzyl chloride	26.272	91	2787564	22.89	ppbv	100
64)	1,2-Dichlorobenzene	26.663	146	2030778	20.34	ppbv	99
65)	1,2,4-Trichlorobenzene	29.142	180	1836205	22.55	ppbv	99
66)	Hexachlorobutadiene	29.272	225	2003839	21.09	ppbv	99

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

Data Path : D:\msdchem\1\2016\data\110316_FSAA\
Data File : 110316N10.D
Acq On : 3 Nov 2016 4:53 pm
InstName : AG5973N
Operator : LLH
Sample : S16K015-CAL6
Misc : 20ppbv 1645039
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 03 17:24:43 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:03:27 2016
Response via : Initial Calibration



S16K015-SCV1

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\110316_FSAA\
Data File : 110316N11.D
Acq On : 3 Nov 2016 5:42 pm
InstName : AG5973N
Operator : LLH
Sample : S16K015-SCV1
Misc : 10ppbv 1645041
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Nov 03 18:31:28 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	894696	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	2756206	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	2276287	22.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.452	41	286316	11.22	ppbv	99
3) Dichlorodifluoromethane	4.547	85	983301	10.18	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.903	85	886242	9.32	ppbv	96
5) Chloromethane	5.093	50	427468	14.38	ppbv	99
6) Vinyl chloride	5.425	62	325168	10.87	ppbv	100
7) 1,3-Butadiene	5.520	54	232308	10.54	ppbv	99
8) Bromomethane	6.456	94	230881	8.02	ppbv	100
9) Chloroethane	6.789	64	144183	10.71	ppbv	99
10) Bromoethene	7.358	106	291933	10.43	ppbv	100
11) Trichlorofluoromethane	7.500	101	898125	10.60	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.326	151	563412	10.24	ppbv	99
13) 1,1-Dichloroethene	9.409	61	565810	10.71	ppbv	100
14) Acetone	9.943	43	501851	10.34	ppbv	100
15) Carbon disulfide	10.133	76	948227	11.60	ppbv	100
16) 2-Propanol	10.548	45	461354	9.12	ppbv	99
17) Allyl chloride	10.951	41	450860	11.09	ppbv	99
18) Dichloromethane	11.473	49	389540	9.46	ppbv	99
19) tert-Butyl methyl ethe...	12.149	73	1068485	10.73	ppbv	100
20) trans-1,2-Dichloroethene	12.184	61	514459	10.86	ppbv	99
21) Hexane	12.777	57	594494	10.14	ppbv	100
22) 1,1-Dichloroethane	13.512	63	666821	10.12	ppbv	99
23) Vinyl acetate	13.655	43	882604	10.53	ppbv	100
24) cis-1,2-Dichloroethene	14.947	61	490271	10.48	ppbv	99
25) 2-Butanone (MEK)	15.030	72	185248	10.48	ppbv #	100
26) Ethyl acetate	15.078	61	119113	10.31	ppbv #	99
27) Tetrahydrofuran	15.481	42	415678	10.47	ppbv	98
28) Chloroform	15.635	83	733134	10.07	ppbv	100
29) Cyclohexane	15.860	56	598076	10.10	ppbv	99
30) 1,1,1-Trichloroethane	15.908	97	758366	9.60	ppbv	100
31) Carbon tetrachloride	16.169	117	829352	10.04	ppbv	100
33) Benzene	16.655	78	1174370	10.65	ppbv	100
34) 2,2,4-Trimethylpentane	16.607	57	1893766	10.38	ppbv	100
35) 1,2-Dichloroethane	16.845	62	509015	10.62	ppbv	100
36) Heptane	16.987	43	669460	10.43	ppbv	100
37) Trichloroethene	17.876	130	492326	11.17	ppbv	100
38) 1,2-Dichloropropane	18.374	63	440544	10.84	ppbv	100
39) 1,4-Dioxane	18.564	88	226042	9.08	ppbv	100
40) Bromodichloromethane	18.837	83	816593	10.59	ppbv	100
41) cis-1,3-Dichloropropene	19.596	75	677170	11.11	ppbv	100
42) 4-Methyl-2-pentanone (...	19.821	43	651617	7.69	ppbv	100
44) Toluene	20.070	91	1442265	11.29	ppbv	100
45) trans-1,3-Dichloropropene	20.544	75	594374	10.65	ppbv	100
46) 1,1,2-Trichloroethane	20.841	97	472869	11.36	ppbv	100
47) Tetrachloroethene	20.936	166	659308	10.99	ppbv	100
48) 2-Hexanone	21.173	43	417218	5.48	ppbv	100
49) Chlorodibromomethane	21.458	129	826415	10.88	ppbv	100
50) 1,2-Dibromoethane (EDB)	21.683	107	543952	8.91	ppbv	100
51) Chlorobenzene	22.406	112	1052311	10.89	ppbv	99
52) Ethylbenzene	22.489	91	1838964	11.01	ppbv	100
53) m&p-Xylene	22.667	91	2891213	22.37	ppbv	100
54) o-Xylene	23.319	91	1491295	11.30	ppbv	99

Data Path : D:\msdchem\1\2016\data\110316_FSAA\
Data File : 110316N11.D
Acq On : 3 Nov 2016 5:42 pm
InstName : AG5973N
Operator : LLH
Sample : S16K015-SCV1
Misc : 10ppbv 1645041
ALS Vial : 34 Sample Multiplier: 1

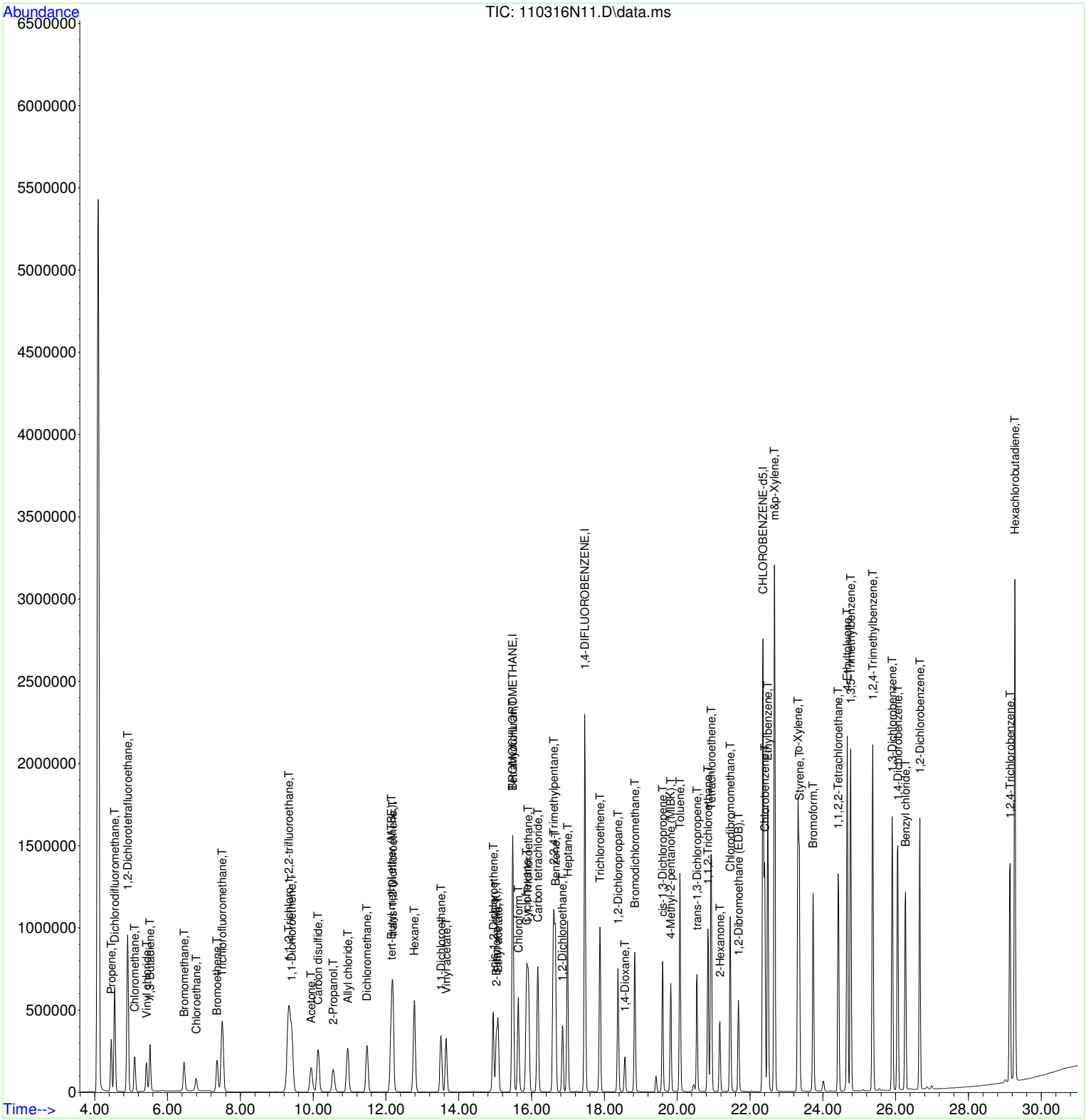
Quant Time: Nov 03 18:31:28 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	Styrene	23.355	104	1026588	10.00	ppbv	99
56)	Bromoform	23.734	173	827295	10.78	ppbv	100
57)	1,1,2,2-Tetrachloroethane	24.422	83	1015551	10.54	ppbv	100
58)	4-Ethyltoluene	24.671	105	2066891	10.33	ppbv	100
59)	1,3,5-Trimethylbenzene	24.766	105	1712041	11.03	ppbv	100
60)	1,2,4-Trimethylbenzene	25.371	105	1729987	10.92	ppbv	99
61)	1,3-Dichlorobenzene	25.904	146	1016091	10.21	ppbv	100
62)	1,4-Dichlorobenzene	26.059	146	933642	9.78	ppbv	99
63)	Benzyl chloride	26.272	91	1352283	11.06	ppbv	100
64)	1,2-Dichlorobenzene	26.663	146	996728	10.04	ppbv	99
65)	1,2,4-Trichlorobenzene	29.142	180	650090	7.89	ppbv	100
66)	Hexachlorobutadiene	29.272	225	894638	9.40	ppbv	100

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

Data Path : D:\msdchem\1\2016\data\110316_FSAA\
Data File : 110316N11.D
Acq On : 3 Nov 2016 5:42 pm
InstName : AG5973N
Operator : LLH
Sample : S16K015-SCV1
Misc : 10ppbv 1645041
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Nov 03 18:31:28 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration



SEQUENCE

S16K041

ANALYST / REVIEWER - DATA REVIEW CHECKLIST

BATCH #:	B16K032	SEQUENCE #:	S16K041	11/08/16
BATCH #:	N / A	ANALYSIS:	TO15	AG5973N

	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.	11/03/16 Thu Nov 03, 2016 17:25:24			ICAL = OK SCV = Chloromethane =131 and
	Initial Calibration ID (LIMS number):	1611002			2-Hexanone = 55%
	ICAL within QC criteria?	☑			
	SCV within QC criteria?	☑			
INSTRUMENT / QC CHECKS	Tune or degradation checks within QC criteria?	☐	Y	Y	
	CCV(s) within QC criteria?	☐	Y	Y	OK
	QLS(s) within QC criteria?	☐	Y	Y	OK
	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?	☐	Y	Y	
	Other method-specific QCs within QC criteria? Specify if applicable.	☑			

ANALYST / REVIEWER - DATA REVIEW CHECKLIST

BATCH #:	B16K032	SEQUENCE #:	S16K041	11/08/16
BATCH #:	N / A	ANALYSIS:	TO15	AG5973N

	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?	☐	Y	Y	some samples were >LR or too dilute - will rerun
	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:	LLH 11/09/16
	REVIEWED BY:	Ziyad Rajabi (affiliate) Digitally signed by Ziyad Rajabi (affiliate) Date: 2016.11.16 12:31:51 -08'00' SIGN HERE

COMMENTS

GC/MS QA-QC Check Report

Table of Contents

Tune File : D:\msdchem\1\2016\data\110816_FSAA\110816N01.D
Tune Time : 8 Nov 2016 10:01 am

Daily Calibration File : D:\msdchem\1\2016\data\110816_FSAA\110816N02.D

File	Sample	Surrogate Recovery %		Internal Standard Responses	
		728407	1996130	1694770	
110816N02.D	S16K041-CCV1	728407	1996125	1694766	
110816N03.D	S16K041-CRL1	716026	1967814	1677748	
110816N04.D	B16K032-BLK1	693244	1919617	1594898	
110816N05.D	1611021-01	715178	1899668	1582021	
110816N06.D	1611021-02	720621	1903613	1563882	
110816N07.D	1611021-03	698870	1847742	1526466	
110816N08.D	1611021-04	720911	1894162	1545091	
110816N09.D	S16K041-IBL1	717736	1938053	1586302	
110816N10.D	1611021-05	700937	1827418	1500464	
110816N11.D	1611021-06	697804	1817200	1493498	
110816N12.D	1611021-07	694918	1791984	1483463	
110816N13.D	1611021-08	694388	1772281	1468034	
110816N14.D	S16K041-IBL2	711499	1897972	1541937	
110816N15.D	1611021-09	674961	1752661	1448217	
110816N16.D	1611021-10	660789	1643980	1324570	
110816N17.D	B16K032-DUP1	646995	1554215	1066293	
110816N18.D	S16K041-IBL3	673365	1729663	1422231	

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

Created: Wed Nov 09 09:16:00 2016 AG5973N

----------SEQUENCE TABLE ----------

Sequence Name: D:\smart\2016\110816N_FSAA.SEQ
Date: 11-09-2016
Time: 09:11:02
Int. Std Volume: 40 cc

Sample Name	Inlet #	Auto Pos	Samp Vol.	Cal Std Vol.	Method	Time
BFB	3	1	50	40	D:\Smart\TO15.CTD	12:00
CCV1 10ppbv	3	2	100		D:\Smart\TO15.CTD	12:00
CRL1 1.0ppbv	3	1	20		D:\Smart\TO15.CTD	12:00
BLANK	3	3	200		D:\Smart\TO15.CTD	12:00
1611021-01	3	4	200		D:\Smart\TO15.CTD	12:00
1611021-02	3	5	200		D:\Smart\TO15.CTD	12:00
1611021-03	3	6	200		D:\Smart\TO15.CTD	12:00
1611021-04	3	7	200		D:\Smart\TO15.CTD	12:00
BLANK	3	3	200		D:\Smart\TO15.CTD	12:00
1611021-05	3	8	200		D:\Smart\TO15.CTD	12:00
1611021-06	3	9	200		D:\Smart\TO15.CTD	12:00
1611021-07	3	10	200		D:\Smart\TO15.CTD	12:00
1611021-08	3	11	200		D:\Smart\TO15.CTD	12:00
BLANK	3	3	200		D:\Smart\TO15.CTD	12:00
1611021-09	3	12	20		D:\Smart\TO15.CTD	12:00
1611021-10	4	1	20		D:\Smart\TO15.CTD	12:00
1611021-10 DUP	4	1	20		D:\Smart\TO15.CTD	12:00
BLANK	3	3	200		D:\Smart\TO15.CTD	12:00

Analysis Sequence

S16K041

Project: R17S16
Analysis: VOCs, Soil Gas

Instrument: AG5973N **Calibration ID:** 1611002 Printed: 11/09/2016 11:37 am

Lab Number	Sample Name	Order	Analyzed Date	STD ID	ISTD ID	Sequenced By	File ID	Comments
S16K041-TUN1	MS Tune	1	11/8/16 10:01	1617033		LLH	110816N01.D	
S16K041-CCV1	CCV	2	11/8/16 10:49	1645037		LLH	110816N02.D	
B16K032-BS1	LCS	3	11/8/16 10:49			LLH	110816N02.D	
S16K041-CRL1	CRL	4	11/8/16 11:51	1645034		LLH	110816N03.D	
B16K032-BLK1	Blank	5	11/8/16 12:41		1645030	LLH	110816N04.D	
1611021-01 A	870 Leong-SS1	6	11/8/16 13:36		1645030	LLH	110816N05.D	
1611021-02 A	870 Leong-SS1D	7	11/8/16 14:25		1645030	LLH	110816N06.D	
1611021-03 A	870 Leong-SS2	8	11/8/16 15:15		1645030	LLH	110816N07.D	
1611021-04 A	870 Leong-SS3	9	11/8/16 16:04		1645030	LLH	110816N08.D	
S16K041-IBL1	blank	10	11/8/16 16:54		1645030	LLH	110816N09.D	
1611021-05 A	870 Leong-SS4	11	11/8/16 17:43		1645030	LLH	110816N10.D	
1611021-06 A	870 Leong-SS5	12	11/8/16 18:33		1645030	LLH	110816N11.D	
1611021-07 A	870 Leong-SS5X	13	11/8/16 19:22		1645030	LLH	110816N12.D	
1611021-08 A	870 Leong-SS6	14	11/8/16 20:12		1645030	LLH	110816N13.D	
S16K041-IBL2	blank	15	11/8/16 21:02		1645030	LLH	110816N14.D	
1611021-09 A	F5-060	16	11/8/16 21:48		1645030	LLH	110816N15.D	
1611021-10 A	F5-054	17	11/8/16 22:33		1645030	LLH	110816N16.D	
B16K032-DUP1	Duplicate	18	11/8/16 23:19		1645030	LLH	110816N17.D	
S16K041-IBL3	blank	19	11/9/16 0:09		1645030	LLH	110816N18.D	

Sequence Comments

Analysis Sequence

S16K041

(Continued)

Project: R17S16
Analysis: VOCs, Soil Gas

Instrument: AG5973N **Calibration ID:** 1611002 Printed: 11/09/2016 11:37 am

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

Reagents

Reagent #	Description

Injection Log

Directory: d:\MSDCHEM\1\2016\data\110816_FSAA

Table of Contents

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	31	110816N01.D	1.	S16K041-TUN1	BFB 1637033	8 Nov 2016 10:01
2	32	110816N02.D	1.	S16K041-CCV1@B16K032-BS1	10ppbv 1645037@1645040	8 Nov 2016 10:49
3	31	110816N03.D	1.	S16K041-CRL1	1.0ppbv 1645034	8 Nov 2016 11:51
4	33	110816N04.D	1.	B16K032-BLK1	200ml BLANK #35	8 Nov 2016 12:41
5	34	110816N05.D	1.82	1611021-01	200ml 870 LEONG-SS1	8 Nov 2016 13:36
6	35	110816N06.D	1.8	1611021-02	200ml 870 LEONG-SS1D	8 Nov 2016 14:25
7	36	110816N07.D	1.81	1611021-03	200ml 870 LEONG-SS2	8 Nov 2016 15:15
8	37	110816N08.D	1.83	1611021-04	200ml 870 LEONG-SS3	8 Nov 2016 16:04
9	33	110816N09.D	1.	S16K041-IBL1	200ml BLANK	8 Nov 2016 16:54
10	38	110816N10.D	1.93	1611021-05	200ml 870 LEONG-SS4	8 Nov 2016 17:43
11	39	110816N11.D	2.1	1611021-06	200ml 870 LEONG-SS5	8 Nov 2016 18:33
12	10	110816N12.D	1.83	1611021-07	200ml 870 LEONG-SS5X	8 Nov 2016 19:22
13	11	110816N13.D	1.78	1611021-08	200ml 870 LEONG-SS6	8 Nov 2016 20:12
14	33	110816N14.D	1.	S16K041-IBL2	200ml BLANK	8 Nov 2016 21:02
15	12	110816N15.D	1.84	1611021-09	20ml F5-060	8 Nov 2016 21:48
16	41	110816N16.D	1.84	1611021-10	20ml F5-054	8 Nov 2016 22:33
17	41	110816N17.D	1.84	B16K032-DUP1	20ml 1611021-10	8 Nov 2016 23:19
18	33	110816N18.D	1.	S16K041-IBL3	200ml BLANK	9 Nov 2016 00:09

SEQUENCE DATA

S16K041

S16K041-TUN1

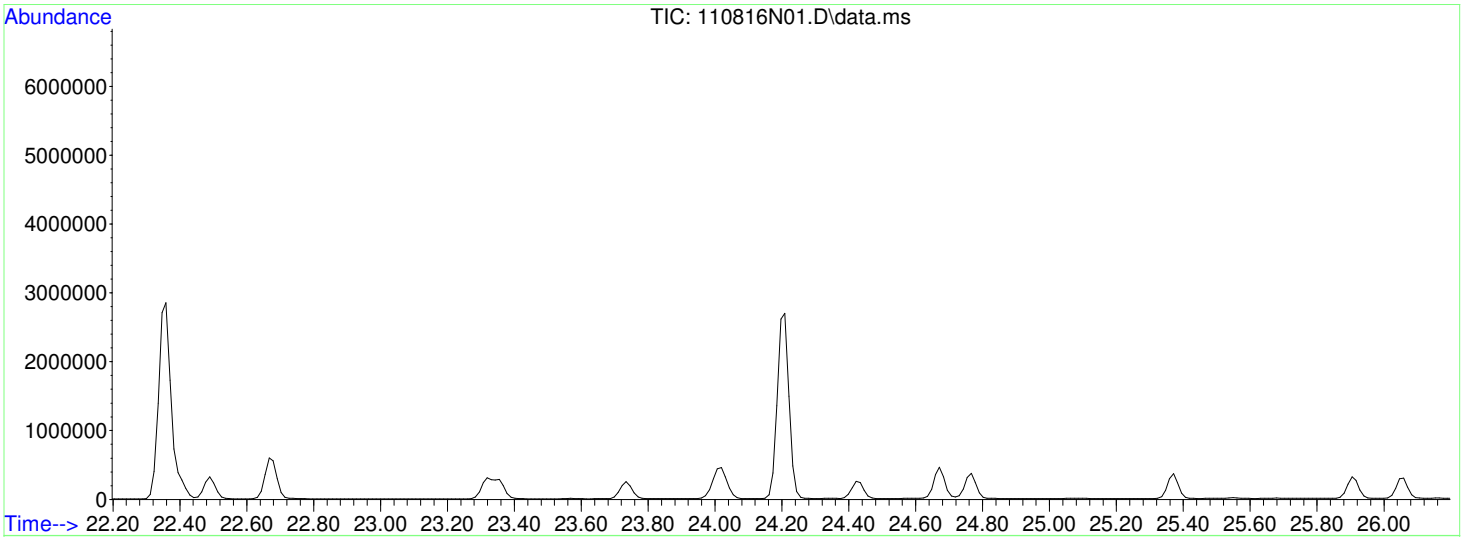
Table of Contents

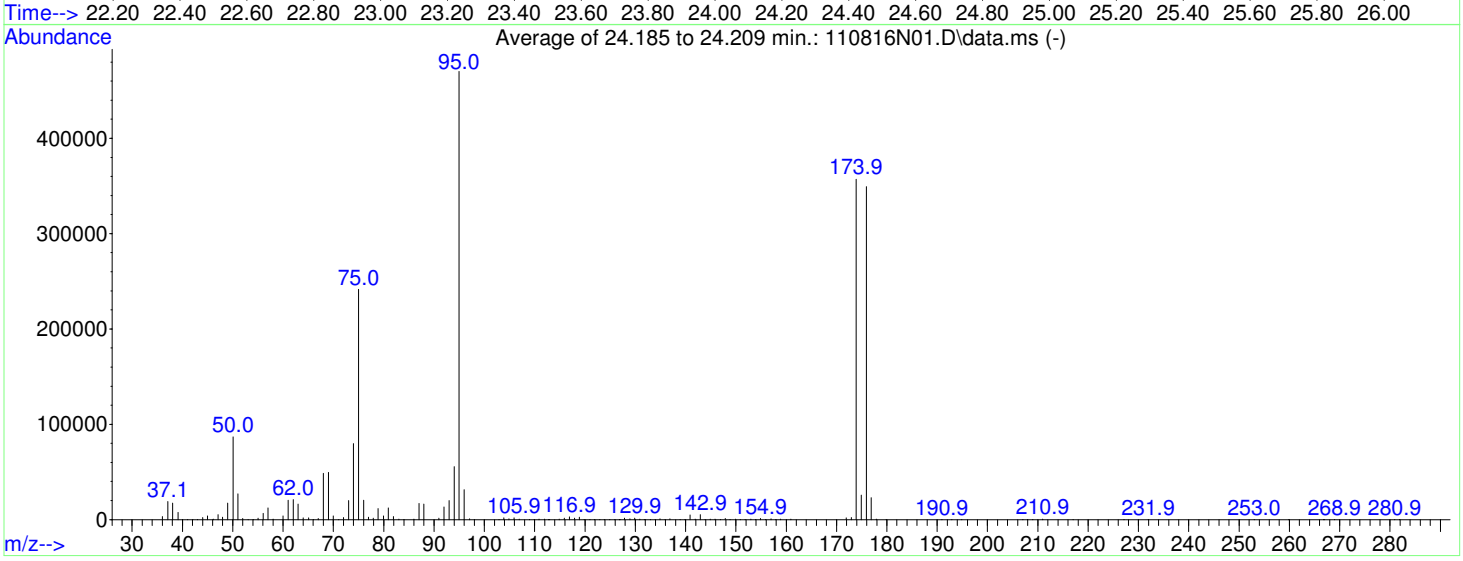
Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N01.D
Acq On : 8 Nov 2016 10:01 am
InstName : AG5973N
Operator : LLH
Sample : S16K041-TUN1
Misc : BFB 1637033
ALS Vial : 31 Sample Multiplier: 1

REVIEWED
By LLH at 11:37 am, Nov 08, 2016

Integration File: rteint.p

Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Title : TO15
Last Update : Thu Nov 03 17:25:24 2016



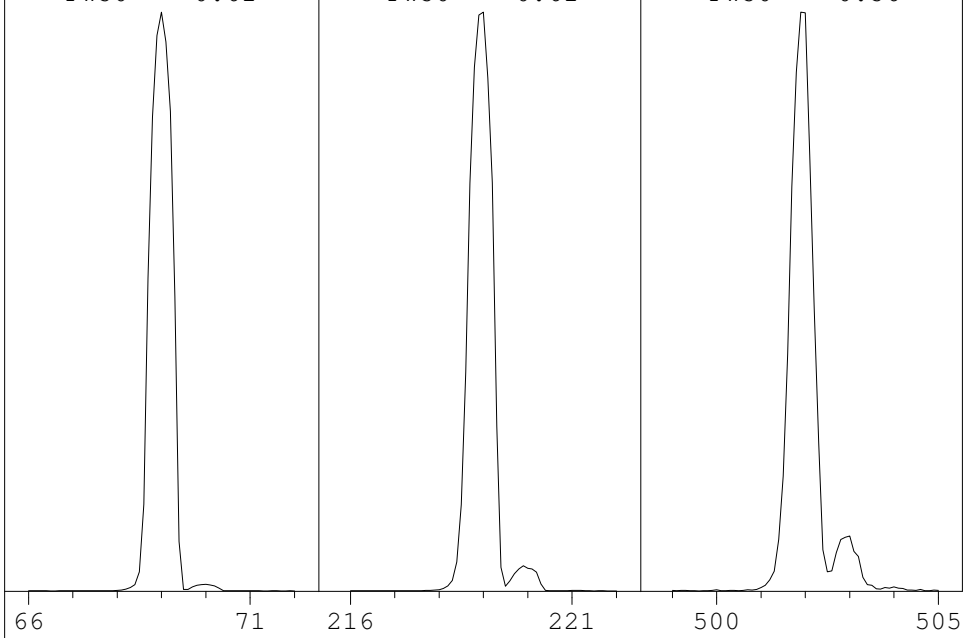


AutoFind: Scans 1738, 1739, 1740; Background Corrected with Scan 1732

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.5	86792	PASS
75	95	30	66	51.4	241707	PASS
95	95	100	100	100.0	470016	PASS
96	95	5	9	6.7	31357	PASS
173	174	0.00	2	0.6	2158	PASS
174	95	50	120	76.0	357013	PASS
175	174	4	9	7.2	25632	PASS
176	174	93	101	97.9	349483	PASS
177	176	5	9	6.6	23123	PASS

Tue Nov 08 09:34:37 2016 Instrum
C:\msdchem\1\5973N\bfb0110816.u US43120931

Mass	69.00	Mass	219.00	Mass	501.90
Ab	444068	Ab	219430	Ab	14761
Pw50	0.61	Pw50	0.61	Pw50	0.56

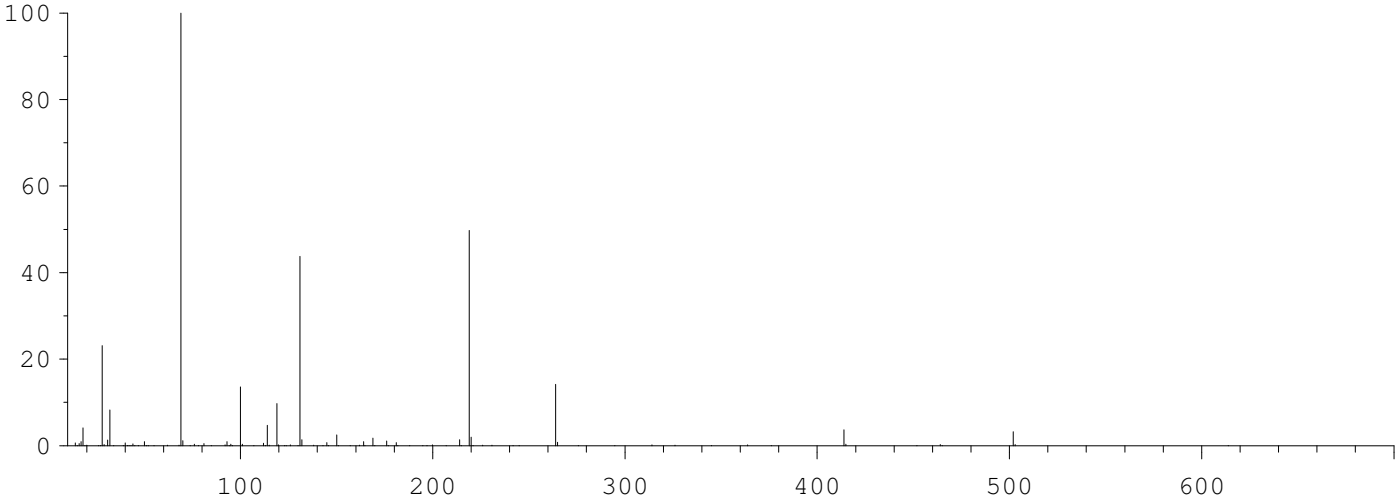


Ion Pol	Pos	MassGain	135
		MassOffs	-10
Emission	34.6	AmuGain	2543
EIEnrgy	69.9	AmuOffs	131
Filament	1	Wid219	-0.018
		DC Pol	Pos
Repeller	28.28		
IonFcus	90.2	HEDEnab	On
EntLens	12.0	EMVolts	1118
EntOffs	19.33		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	Turbo Speed	100
MS Quad	150		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
102 peaks Base: 69.00 Abundance: 431104



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	431104	100.00	70.00	4871	1.13
219.00	214336	49.72	220.00	8637	4.03
502.00	14015	3.25	503.00	1291	9.21

Air/Water Check: H20~4.15% N2~23.15% O2~8.24% CO2~0.41% N2/H2O~557.12%

Column(1) Flow: 1.499 Column(2): 0 ml/min. Interface Temp: 230

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 219; EM Gain 90111
Repeller Maximum 35 volts using ion 502; Gain Factor 0.90

MassGain Values(Samples): 143(3) 151(2) 164(1) 190(0) 225(FS)

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	131.0	131.0	131.0	131.0	131.0	131.0	131.0
Entrance Lens Offset:	19.3	19.3	19.3	19.3	19.3	19.3	19.3

S16K041-CCV1

Evaluate Continuing Calibration Report

Table of Contents

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N02.D
Acq On : 8 Nov 2016 10:49 am
InstName : AG5973N
Operator : LLH
Sample : S16K041-CCV1@B16K032-BS1
Misc : 10ppbv 1645037@1645040
ALS Vial : 32 Sample Multiplier: 1

REVIEWED
By LLH at 11:37 am, Nov 08, 2016

Quant Time: Nov 08 11:34:52 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	80	0.00
2	T	Propene	0.628	0.593	5.6	80	0.00
3	T	Dichlorodifluoromethane	2.375	2.235	5.9	78	0.00
4	T	1,2-Dichlorotetrafluoroetha	2.339	2.096	10.4	75	0.00
5	T	Chloromethane	0.731	0.665	9.0	76	-0.01
6	T	Vinyl chloride	0.735	0.705	4.1	80	-0.01
7	T	1,3-Butadiene	0.542	0.521	3.9	82	0.00
8	T	Bromomethane	0.708	0.715	-1.0	85	0.00
9	T	Chloroethane	0.331	0.340	-2.7	88	0.00
10	T	Bromoethene	0.688	0.566	17.7	70	0.00
11	T	Trichlorofluoromethane	2.083	1.984	4.8	80	0.00
12	T	1,1,2-Trichloro-1,2,2-trifl	1.354	1.103	18.5	69	-0.01
13	T	1,1-Dichloroethene	1.299	1.110	14.5	71	0.00
14	T	Acetone	1.193	1.075	9.9	75	0.00
15	T	Carbon disulfide	2.010	1.727	14.1	72	0.00
16	T	2-Propanol	1.244	1.012	18.6	68	0.00
17	T	Allyl chloride	0.999	0.860	13.9	72	-0.01
18	T	Dichloromethane	1.013	0.873	13.8	76	-0.01
19	T	tert-Butyl methyl ether (MT	2.449	2.016	17.7	67	0.00
20	T	trans-1,2-Dichloroethene	1.164	1.031	11.4	75	0.00
21	T	Hexane	1.442	1.170	18.9	68	0.00
22	T	1,1-Dichloroethane	1.621	1.382	14.7	71	0.00
23	T	Vinyl acetate	2.061	1.843	10.6	73	0.00
24	T	cis-1,2-Dichloroethene	1.150	0.979	14.9	71	-0.01
25	T	2-Butanone (MEK)	0.435	0.364	16.3	69	0.00
26	T	Ethyl acetate	0.284	0.246	13.4	71	0.00
27	T	Tetrahydrofuran	0.976	0.887	9.1	75	-0.01
28	T	Chloroform	1.791	1.610	10.1	75	0.00
29	T	Cyclohexane	1.456	1.220	16.2	71	0.00
30	T	1,1,1-Trichloroethane	1.943	1.796	7.6	77	0.00
31	T	Carbon tetrachloride	2.031	1.884	7.2	77	0.00
32	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	71	0.00
33	T	Benzene	0.880	0.861	2.2	72	0.00
34	T	2,2,4-Trimethylpentane	1.457	1.402	3.8	71	0.00
35	T	1,2-Dichloroethane	0.383	0.414	-8.1	79	0.00
36	T	Heptane	0.512	0.522	-2.0	75	0.00
37	T	Trichloroethene	0.352	0.317	9.9	66	0.00
38	T	1,2-Dichloropropane	0.324	0.318	1.9	71	0.00
39	T	1,4-Dioxane	0.199	0.174	12.6	64	0.00
40	T	Bromodichloromethane	0.615	0.641	-4.2	75	0.00
41	T	cis-1,3-Dichloropropene	0.486	0.473	2.7	70	0.00
42	T	4-Methyl-2-pentanone (MIBK)	0.677	0.711	-5.0	76	0.00
43	I	CHLOROBENZENE-d5	1.000	1.000	0.0	72	0.00
44	T	Toluene	1.235	1.165	5.7	69	0.00
45	T	trans-1,3-Dichloropropene	0.540	0.542	-0.4	72	0.00
46	T	1,1,2-Trichloroethane	0.402	0.387	3.7	70	0.00
47	T	Tetrachloroethene	0.580	0.523	9.8	66	0.00
48	T	2-Hexanone	0.736	0.768	-4.3	76	0.00
49	T	Chlorodibromomethane	0.734	0.742	-1.1	73	0.00
50	T	1,2-Dibromoethane (EDB)	0.590	0.559	5.3	69	0.00
51	T	Chlorobenzene	0.934	0.897	4.0	70	0.00

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N02.D
Acq On : 8 Nov 2016 10:49 am
InstName : AG5973N
Operator : LLH
Sample : S16K041-CCV1@B16K032-BS1
Misc : 10ppbv 1645037@1645040
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 08 11:34:52 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
52 T	Ethylbenzene	1.615	1.597	1.1	72	0.00
53 T	m&p-Xylene	1.249	1.302	-4.2	75	0.00
54 T	o-Xylene	1.276	1.289	-1.0	73	0.00
55 T	Styrene	0.993	0.983	1.0	71	0.00
56 T	Bromoform	0.742	0.778	-4.9	74	0.00
57 T	1,1,2,2-Tetrachloroethane	0.931	0.934	-0.3	73	0.00
58 T	4-Ethyltoluene	1.933	1.857	3.9	70	0.00
59 T	1,3,5-Trimethylbenzene	1.500	1.490	0.7	72	0.00
60 T	1,2,4-Trimethylbenzene	1.532	1.498	2.2	71	0.00
61 T	1,3-Dichlorobenzene	0.962	0.921	4.3	69	0.00
62 T	1,4-Dichlorobenzene	0.922	0.889	3.6	69	0.00
63 T	Benzyl chloride	1.182	1.195	-1.1	71	-0.01
64 T	1,2-Dichlorobenzene	0.959	0.894	6.8	68	0.00
65 T	1,2,4-Trichlorobenzene	0.796	0.693	12.9	61	0.00
66 T	Hexachlorobutadiene	0.920	0.885	3.8	68	0.00

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

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N02.D
Acq On : 8 Nov 2016 10:49 am
InstName : AG5973N
Operator : LLH
Sample : S16K041-CCV1@B16K032-BS1
Misc : 10ppbv 1645037@1645040
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 08 11:34:52 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	15.481	49	728407	22.00	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	1996125	22.00	ppbv		0.00
43) CHLOROBENZENE-d5	22.359	117	1694766	22.00	ppbv		0.00
Target Compounds							Qvalue
2) Propene	4.452	41	216008	10.40	ppbv		99
3) Dichlorodifluoromethane	4.547	85	717800	9.13	ppbv		100
4) 1,2-Dichlorotetrafluor...	4.903	85	693950	8.96	ppbv		96
5) Chloromethane	5.093	50	233488	9.65	ppbv		99
6) Vinyl chloride	5.413	62	242801	9.97	ppbv		100
7) 1,3-Butadiene	5.520	54	174120	9.71	ppbv		94
8) Bromomethane	6.457	94	236614	10.09	ppbv		99
9) Chloroethane	6.789	64	112458	10.26	ppbv		100
10) Bromoethene	7.358	106	205974	9.04	ppbv		99
11) Trichlorofluoromethane	7.500	101	643616	9.33	ppbv		100
12) 1,1,2-Trichloro-1,2,2-...	9.326	151	372381	8.31	ppbv		96
13) 1,1-Dichloroethene	9.409	61	382258	8.89	ppbv		97
14) Acetone	9.943	43	391499	9.91	ppbv		97
15) Carbon disulfide	10.133	76	628826	9.45	ppbv		98
16) 2-Propanol	10.548	45	368664	8.95	ppbv		90
17) Allyl chloride	10.939	41	313130	9.46	ppbv		96
18) Dichloromethane	11.473	49	291986	8.71	ppbv		94
19) tert-Butyl methyl ethe...	12.149	73	720799	8.89	ppbv		100
20) trans-1,2-Dichloroethene	12.184	61	371994	9.65	ppbv		95
21) Hexane	12.777	57	402746	8.44	ppbv		93
22) 1,1-Dichloroethane	13.512	63	457703	8.53	ppbv		100
23) Vinyl acetate	13.655	43	665131	9.75	ppbv		97
24) cis-1,2-Dichloroethene	14.935	61	336948	8.85	ppbv		94
25) 2-Butanone (MEK)	15.030	72	131525	9.14	ppbv	#	100
26) Ethyl acetate	15.078	61	87862	9.34	ppbv	#	98
27) Tetrahydrofuran	15.481	42	311161	9.62	ppbv		94
28) Chloroform	15.635	83	538378	9.08	ppbv		97
29) Cyclohexane	15.860	56	428031	8.88	ppbv		94
30) 1,1,1-Trichloroethane	15.908	97	582854	9.06	ppbv		99
31) Carbon tetrachloride	16.169	117	604932	9.00	ppbv		100
33) Benzene	16.655	78	804640	10.08	ppbv		99
34) 2,2,4-Trimethylpentane	16.607	57	1348132	10.20	ppbv		97
35) 1,2-Dichloroethane	16.845	62	375374	10.81	ppbv		99
36) Heptane	16.987	43	502399	10.81	ppbv		95
37) Trichloroethene	17.876	130	310602	9.73	ppbv		97
38) 1,2-Dichloropropane	18.374	63	297004	10.09	ppbv		96
39) 1,4-Dioxane	18.564	88	173768	9.64	ppbv		93
40) Bromodichloromethane	18.837	83	622615	11.15	ppbv		99
41) cis-1,3-Dichloropropene	19.596	75	463614	10.50	ppbv		95
42) 4-Methyl-2-pentanone (...	19.821	43	690699	11.25	ppbv		95
44) Toluene	20.070	91	942609	9.91	ppbv		99
45) trans-1,3-Dichloropropene	20.544	75	442821	10.65	ppbv		96
46) 1,1,2-Trichloroethane	20.841	97	316050	10.20	ppbv		95
47) Tetrachloroethene	20.936	166	427268	9.57	ppbv		98
48) 2-Hexanone	21.161	43	644978	11.38	ppbv		94
49) Chlorodibromomethane	21.458	129	616963	10.91	ppbv		99
50) 1,2-Dibromoethane (EDB)	21.683	107	469675	10.33	ppbv		100
51) Chlorobenzene	22.406	112	739052	10.27	ppbv		96
52) Ethylbenzene	22.489	91	1291749	10.38	ppbv		98
53) m&p-Xylene	22.667	91	2126066	22.09	ppbv		97
54) o-Xylene	23.319	91	1042682	10.61	ppbv		97

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N02.D
Acq On : 8 Nov 2016 10:49 am
InstName : AG5973N
Operator : LLH
Sample : S16K041-CCV1@B16K032-BS1
Misc : 10ppbv 1645037@1645040
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 08 11:34:52 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	Styrene	23.355	104	779971	10.20	ppbv	97
56)	Bromoform	23.734	173	641561	11.23	ppbv	98
57)	1,1,2,2-Tetrachloroethane	24.422	83	748112	10.43	ppbv	100
58)	4-Ethyltoluene	24.671	105	1544801	10.37	ppbv	98
59)	1,3,5-Trimethylbenzene	24.766	105	1228404	10.63	ppbv	97
60)	1,2,4-Trimethylbenzene	25.371	105	1222918	10.37	ppbv	97
61)	1,3-Dichlorobenzene	25.905	146	745067	10.06	ppbv	99
62)	1,4-Dichlorobenzene	26.059	146	719211	10.12	ppbv	99
63)	Benzyl chloride	26.260	91	1012649	11.12	ppbv	97
64)	1,2-Dichlorobenzene	26.663	146	716263	9.69	ppbv	99
65)	1,2,4-Trichlorobenzene	29.142	180	555555	9.06	ppbv	100
66)	Hexachlorobutadiene	29.272	225	702222	9.91	ppbv	100

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

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N02.D
Acq On : 8 Nov 2016 10:49 am
InstName : AG5973N
Operator : LLH
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Misc : 10ppbv 1645037@1645040
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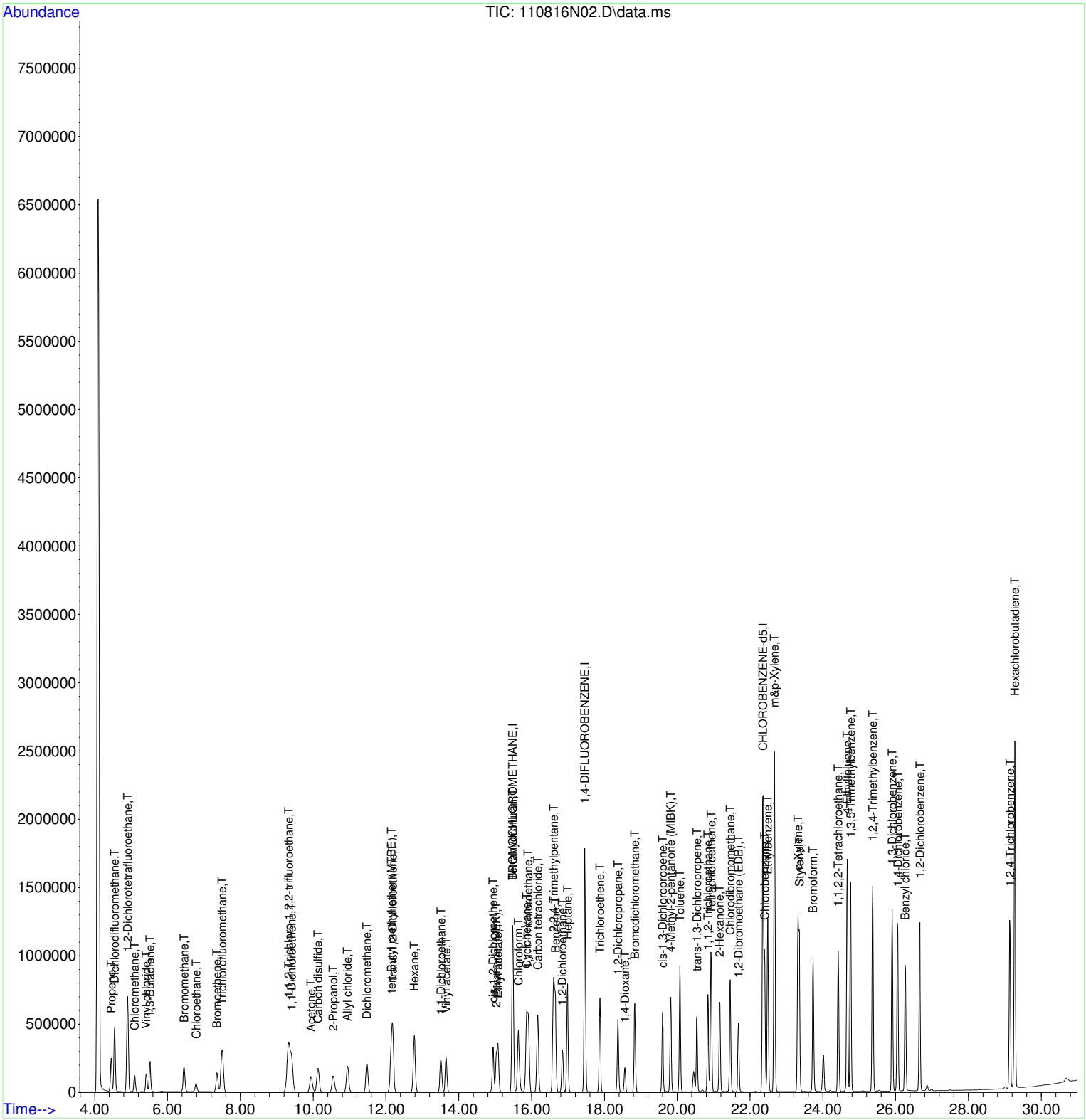
Quant Time: Nov 08 11:34:52 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration



REVIEWED
By LLH at 11:37 am, Nov 08, 2016

LCS REPORT

Instrument Name: AG5973N
Sample Name: S16K041-CCV1@B16K032-BS1
Misc Info: 10ppbv 1645037@1645040
Date Acquired: 11/8/2016 10:49
QLast Update: Thu Nov 03 17:25:24 2016
Operator: LLH

#	Name	Ret Time	Amount	Concentration	%R	QC	LIMIT	STATUS
1)	BROMOCHLOROMETHANE	15.48	#N/A	22.00	#N/A	70.0	130.0	#N/A
2)	Propene	4.45	11.00	10.40	95%	72.0	121.0	pass
3)	Dichlorodifluoromethane	4.55	9.70	9.13	94%	68.0	129.0	pass
4)	1,2-Dichlorotetrafluoroethane	4.90	10.00	8.96	90%	67.0	127.0	pass
5)	Chloromethane	5.09	10.60	9.65	91%	70.0	123.0	pass
6)	Vinyl chloride	5.41	10.40	9.97	96%	69.0	125.0	pass
7)	1,3-Butadiene	5.52	10.10	9.71	96%	75.0	121.0	pass
8)	Bromomethane	6.46	10.00	10.09	101%	66.0	125.0	pass
9)	Chloroethane	6.79	10.00	10.26	103%	67.0	125.0	pass
10)	Bromoethene	7.36	11.00	9.04	82%	68.0	124.0	pass
11)	Trichlorofluoromethane	7.50	9.80	9.33	95%	68.0	133.0	pass
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	9.33	10.20	8.31	81%	64.0	125.0	pass
13)	1,1-Dichloroethene	9.41	10.40	8.89	85%	73.0	128.0	pass
14)	Acetone	9.94	11.00	9.91	90%	67.0	141.0	pass
15)	Carbon disulfide	10.13	11.00	9.45	86%	45.0	158.0	pass
16)	2-Propanol	10.55	11.00	8.95	81%	72.0	132.0	pass
17)	Allyl chloride	10.94	11.00	9.46	86%	75.0	132.0	pass
18)	Dichloromethane	11.47	10.10	8.71	86%	73.0	116.0	pass
19)	tert-Butyl methyl ether (MTBE)	12.15	10.80	8.89	82%	74.0	131.0	pass
20)	trans-1,2-Dichloroethene	12.18	10.90	9.65	89%	80.0	123.0	pass
21)	Hexane	12.78	10.40	8.44	81%	75.0	124.0	pass
22)	1,1-Dichloroethane	13.51	10.00	8.53	85%	72.0	125.0	pass
23)	Vinyl acetate	13.65	10.90	9.75	89%	31.0	171.0	pass
24)	cis-1,2-Dichloroethene	14.94	10.40	8.85	85%	77.0	129.0	pass
25)	2-Butanone (MEK)	15.03	10.90	9.14	84%	69.0	137.0	pass
26)	Ethyl acetate	15.08	10.80	9.34	86%	75.0	127.0	pass
27)	Tetrahydrofuran	15.48	10.60	9.62	91%	78.0	120.0	pass
28)	Chloroform	15.64	10.10	9.08	90%	77.0	126.0	pass
29)	Cyclohexane	15.86	10.60	8.88	84%	76.0	124.0	pass
30)	1,1,1-Trichloroethane	15.91	9.80	9.06	92%	74.0	133.0	pass
31)	Carbon tetrachloride	16.17	9.70	9.00	93%	71.0	141.0	pass
32)	1,4-DIFLUOROBENZENE	17.46	#N/A	22.00	#N/A	70.0	130.0	#N/A
33)	Benzene	16.65	10.30	10.08	98%	81.0	125.0	pass
34)	2,2,4-Trimethylpentane	16.61	10.60	10.20	96%	82.0	125.0	pass
35)	1,2-Dichloroethane	16.84	10.00	10.81	108%	61.0	153.0	pass
36)	Heptane	16.99	10.60	10.81	102%	80.0	129.0	pass
37)	Trichloroethene	17.88	10.80	9.73	90%	73.0	128.0	pass
38)	1,2-Dichloropropane	18.37	10.30	10.09	98%	77.0	129.0	pass
39)	1,4-Dioxane	18.56	11.00	9.64	88%	58.0	140.0	pass
40)	Bromodichloromethane	18.84	10.70	11.15	104%	76.0	137.0	pass
41)	cis-1,3-Dichloropropene	19.60	10.80	10.50	97%	80.0	136.0	pass
42)	4-Methyl-2-pentanone (MIBK)	19.82	10.70	11.25	105%	65.0	140.0	pass
43)	CHLOROBENZENE-d5	22.36	#N/A	22.00	#N/A	70.0	130.0	#N/A
44)	Toluene	20.07	10.50	9.91	94%	78.0	133.0	pass
45)	trans-1,3-Dichloropropene	20.54	10.60	10.65	101%	79.0	146.0	pass
46)	1,1,2-Trichloroethane	20.84	10.60	10.20	96%	74.0	134.0	pass
47)	Tetrachloroethene	20.94	10.60	9.57	90%	73.0	130.0	pass

48)	2-Hexanone	21.16	10.90	11.38	104%	50.0	162.0	pass
49)	Chlorodibromomethane	21.46	10.80	10.91	101%	81.0	135.0	pass
50)	1,2-Dibromoethane (EDB)	21.68	10.90	10.33	95%	78.0	133.0	pass
51)	Chlorobenzene	22.41	10.70	10.27	96%	81.0	126.0	pass
52)	Ethylbenzene	22.49	10.50	10.38	99%	82.0	130.0	pass
53)	m&p-Xylene	22.67	21.20	22.09	104%	82.0	131.0	pass
54)	o-Xylene	23.32	10.50	10.61	101%	82.0	132.0	pass
55)	Styrene	23.35	10.30	10.20	99%	65.0	141.0	pass
56)	Bromoform	23.73	10.70	11.23	105%	84.0	137.0	pass
57)	1,1,2,2-Tetrachloroethane	24.42	10.40	10.43	100%	73.0	127.0	pass
58)	4-Ethyltoluene	24.67	10.80	10.37	96%	81.0	127.0	pass
59)	1,3,5-Trimethylbenzene	24.77	10.70	10.63	99%	77.0	132.0	pass
60)	1,2,4-Trimethylbenzene	25.37	10.60	10.37	98%	78.0	131.0	pass
61)	1,3-Dichlorobenzene	25.90	10.50	10.06	96%	79.0	124.0	pass
62)	1,4-Dichlorobenzene	26.06	10.50	10.12	96%	75.0	127.0	pass
63)	Benzyl chloride	26.26	11.00	11.12	101%	67.0	156.0	pass
64)	1,2-Dichlorobenzene	26.66	10.40	9.69	93%	77.0	124.0	pass
65)	1,2,4-Trichlorobenzene	29.14	10.40	9.06	87%	55.0	132.0	pass
66)	Hexachlorobutadiene	29.27	10.30	9.91	96%	52.0	131.0	pass

B16K032-BS1

Evaluate Continuing Calibration Report

Table of Contents

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N02.D
Acq On : 8 Nov 2016 10:49 am
InstName : AG5973N
Operator : LLH
Sample : S16K041-CCV1@B16K032-BS1
Misc : 10ppbv 1645037@1645040
ALS Vial : 32 Sample Multiplier: 1

REVIEWED
By LLH at 11:37 am, Nov 08, 2016

Quant Time: Nov 08 11:34:52 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	80	0.00
2	T	Propene	0.628	0.593	5.6	80	0.00
3	T	Dichlorodifluoromethane	2.375	2.235	5.9	78	0.00
4	T	1,2-Dichlorotetrafluoroetha	2.339	2.096	10.4	75	0.00
5	T	Chloromethane	0.731	0.665	9.0	76	-0.01
6	T	Vinyl chloride	0.735	0.705	4.1	80	-0.01
7	T	1,3-Butadiene	0.542	0.521	3.9	82	0.00
8	T	Bromomethane	0.708	0.715	-1.0	85	0.00
9	T	Chloroethane	0.331	0.340	-2.7	88	0.00
10	T	Bromoethene	0.688	0.566	17.7	70	0.00
11	T	Trichlorofluoromethane	2.083	1.984	4.8	80	0.00
12	T	1,1,2-Trichloro-1,2,2-trifl	1.354	1.103	18.5	69	-0.01
13	T	1,1-Dichloroethene	1.299	1.110	14.5	71	0.00
14	T	Acetone	1.193	1.075	9.9	75	0.00
15	T	Carbon disulfide	2.010	1.727	14.1	72	0.00
16	T	2-Propanol	1.244	1.012	18.6	68	0.00
17	T	Allyl chloride	0.999	0.860	13.9	72	-0.01
18	T	Dichloromethane	1.013	0.873	13.8	76	-0.01
19	T	tert-Butyl methyl ether (MT	2.449	2.016	17.7	67	0.00
20	T	trans-1,2-Dichloroethene	1.164	1.031	11.4	75	0.00
21	T	Hexane	1.442	1.170	18.9	68	0.00
22	T	1,1-Dichloroethane	1.621	1.382	14.7	71	0.00
23	T	Vinyl acetate	2.061	1.843	10.6	73	0.00
24	T	cis-1,2-Dichloroethene	1.150	0.979	14.9	71	-0.01
25	T	2-Butanone (MEK)	0.435	0.364	16.3	69	0.00
26	T	Ethyl acetate	0.284	0.246	13.4	71	0.00
27	T	Tetrahydrofuran	0.976	0.887	9.1	75	-0.01
28	T	Chloroform	1.791	1.610	10.1	75	0.00
29	T	Cyclohexane	1.456	1.220	16.2	71	0.00
30	T	1,1,1-Trichloroethane	1.943	1.796	7.6	77	0.00
31	T	Carbon tetrachloride	2.031	1.884	7.2	77	0.00
32	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	71	0.00
33	T	Benzene	0.880	0.861	2.2	72	0.00
34	T	2,2,4-Trimethylpentane	1.457	1.402	3.8	71	0.00
35	T	1,2-Dichloroethane	0.383	0.414	-8.1	79	0.00
36	T	Heptane	0.512	0.522	-2.0	75	0.00
37	T	Trichloroethene	0.352	0.317	9.9	66	0.00
38	T	1,2-Dichloropropane	0.324	0.318	1.9	71	0.00
39	T	1,4-Dioxane	0.199	0.174	12.6	64	0.00
40	T	Bromodichloromethane	0.615	0.641	-4.2	75	0.00
41	T	cis-1,3-Dichloropropene	0.486	0.473	2.7	70	0.00
42	T	4-Methyl-2-pentanone (MIBK)	0.677	0.711	-5.0	76	0.00
43	I	CHLOROBENZENE-d5	1.000	1.000	0.0	72	0.00
44	T	Toluene	1.235	1.165	5.7	69	0.00
45	T	trans-1,3-Dichloropropene	0.540	0.542	-0.4	72	0.00
46	T	1,1,2-Trichloroethane	0.402	0.387	3.7	70	0.00
47	T	Tetrachloroethene	0.580	0.523	9.8	66	0.00
48	T	2-Hexanone	0.736	0.768	-4.3	76	0.00
49	T	Chlorodibromomethane	0.734	0.742	-1.1	73	0.00
50	T	1,2-Dibromoethane (EDB)	0.590	0.559	5.3	69	0.00
51	T	Chlorobenzene	0.934	0.897	4.0	70	0.00

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N02.D
Acq On : 8 Nov 2016 10:49 am
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Operator : LLH
Sample : S16K041-CCV1@B16K032-BS1
Misc : 10ppbv 1645037@1645040
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 08 11:34:52 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
52 T	Ethylbenzene	1.615	1.597	1.1	72	0.00
53 T	m&p-Xylene	1.249	1.302	-4.2	75	0.00
54 T	o-Xylene	1.276	1.289	-1.0	73	0.00
55 T	Styrene	0.993	0.983	1.0	71	0.00
56 T	Bromoform	0.742	0.778	-4.9	74	0.00
57 T	1,1,2,2-Tetrachloroethane	0.931	0.934	-0.3	73	0.00
58 T	4-Ethyltoluene	1.933	1.857	3.9	70	0.00
59 T	1,3,5-Trimethylbenzene	1.500	1.490	0.7	72	0.00
60 T	1,2,4-Trimethylbenzene	1.532	1.498	2.2	71	0.00
61 T	1,3-Dichlorobenzene	0.962	0.921	4.3	69	0.00
62 T	1,4-Dichlorobenzene	0.922	0.889	3.6	69	0.00
63 T	Benzyl chloride	1.182	1.195	-1.1	71	-0.01
64 T	1,2-Dichlorobenzene	0.959	0.894	6.8	68	0.00
65 T	1,2,4-Trichlorobenzene	0.796	0.693	12.9	61	0.00
66 T	Hexachlorobutadiene	0.920	0.885	3.8	68	0.00

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

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N02.D
Acq On : 8 Nov 2016 10:49 am
InstName : AG5973N
Operator : LLH
Sample : S16K041-CCV1@B16K032-BS1
Misc : 10ppbv 1645037@1645040
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 08 11:34:52 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	728407	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	1996125	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1694766	22.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.452	41	216008	10.40	ppbv	99
3) Dichlorodifluoromethane	4.547	85	717800	9.13	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.903	85	693950	8.96	ppbv	96
5) Chloromethane	5.093	50	233488	9.65	ppbv	99
6) Vinyl chloride	5.413	62	242801	9.97	ppbv	100
7) 1,3-Butadiene	5.520	54	174120	9.71	ppbv	94
8) Bromomethane	6.457	94	236614	10.09	ppbv	99
9) Chloroethane	6.789	64	112458	10.26	ppbv	100
10) Bromoethene	7.358	106	205974	9.04	ppbv	99
11) Trichlorofluoromethane	7.500	101	643616	9.33	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.326	151	372381	8.31	ppbv	96
13) 1,1-Dichloroethene	9.409	61	382258	8.89	ppbv	97
14) Acetone	9.943	43	391499	9.91	ppbv	97
15) Carbon disulfide	10.133	76	628826	9.45	ppbv	98
16) 2-Propanol	10.548	45	368664	8.95	ppbv	90
17) Allyl chloride	10.939	41	313130	9.46	ppbv	96
18) Dichloromethane	11.473	49	291986	8.71	ppbv	94
19) tert-Butyl methyl ethe...	12.149	73	720799	8.89	ppbv	100
20) trans-1,2-Dichloroethene	12.184	61	371994	9.65	ppbv	95
21) Hexane	12.777	57	402746	8.44	ppbv	93
22) 1,1-Dichloroethane	13.512	63	457703	8.53	ppbv	100
23) Vinyl acetate	13.655	43	665131	9.75	ppbv	97
24) cis-1,2-Dichloroethene	14.935	61	336948	8.85	ppbv	94
25) 2-Butanone (MEK)	15.030	72	131525	9.14	ppbv #	100
26) Ethyl acetate	15.078	61	87862	9.34	ppbv #	98
27) Tetrahydrofuran	15.481	42	311161	9.62	ppbv	94
28) Chloroform	15.635	83	538378	9.08	ppbv	97
29) Cyclohexane	15.860	56	428031	8.88	ppbv	94
30) 1,1,1-Trichloroethane	15.908	97	582854	9.06	ppbv	99
31) Carbon tetrachloride	16.169	117	604932	9.00	ppbv	100
33) Benzene	16.655	78	804640	10.08	ppbv	99
34) 2,2,4-Trimethylpentane	16.607	57	1348132	10.20	ppbv	97
35) 1,2-Dichloroethane	16.845	62	375374	10.81	ppbv	99
36) Heptane	16.987	43	502399	10.81	ppbv	95
37) Trichloroethene	17.876	130	310602	9.73	ppbv	97
38) 1,2-Dichloropropane	18.374	63	297004	10.09	ppbv	96
39) 1,4-Dioxane	18.564	88	173768	9.64	ppbv	93
40) Bromodichloromethane	18.837	83	622615	11.15	ppbv	99
41) cis-1,3-Dichloropropene	19.596	75	463614	10.50	ppbv	95
42) 4-Methyl-2-pentanone (...	19.821	43	690699	11.25	ppbv	95
44) Toluene	20.070	91	942609	9.91	ppbv	99
45) trans-1,3-Dichloropropene	20.544	75	442821	10.65	ppbv	96
46) 1,1,2-Trichloroethane	20.841	97	316050	10.20	ppbv	95
47) Tetrachloroethene	20.936	166	427268	9.57	ppbv	98
48) 2-Hexanone	21.161	43	644978	11.38	ppbv	94
49) Chlorodibromomethane	21.458	129	616963	10.91	ppbv	99
50) 1,2-Dibromoethane (EDB)	21.683	107	469675	10.33	ppbv	100
51) Chlorobenzene	22.406	112	739052	10.27	ppbv	96
52) Ethylbenzene	22.489	91	1291749	10.38	ppbv	98
53) m&p-Xylene	22.667	91	2126066	22.09	ppbv	97
54) o-Xylene	23.319	91	1042682	10.61	ppbv	97

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N02.D
Acq On : 8 Nov 2016 10:49 am
InstName : AG5973N
Operator : LLH
Sample : S16K041-CCV1@B16K032-BS1
Misc : 10ppbv 1645037@1645040
ALS Vial : 32 Sample Multiplier: 1

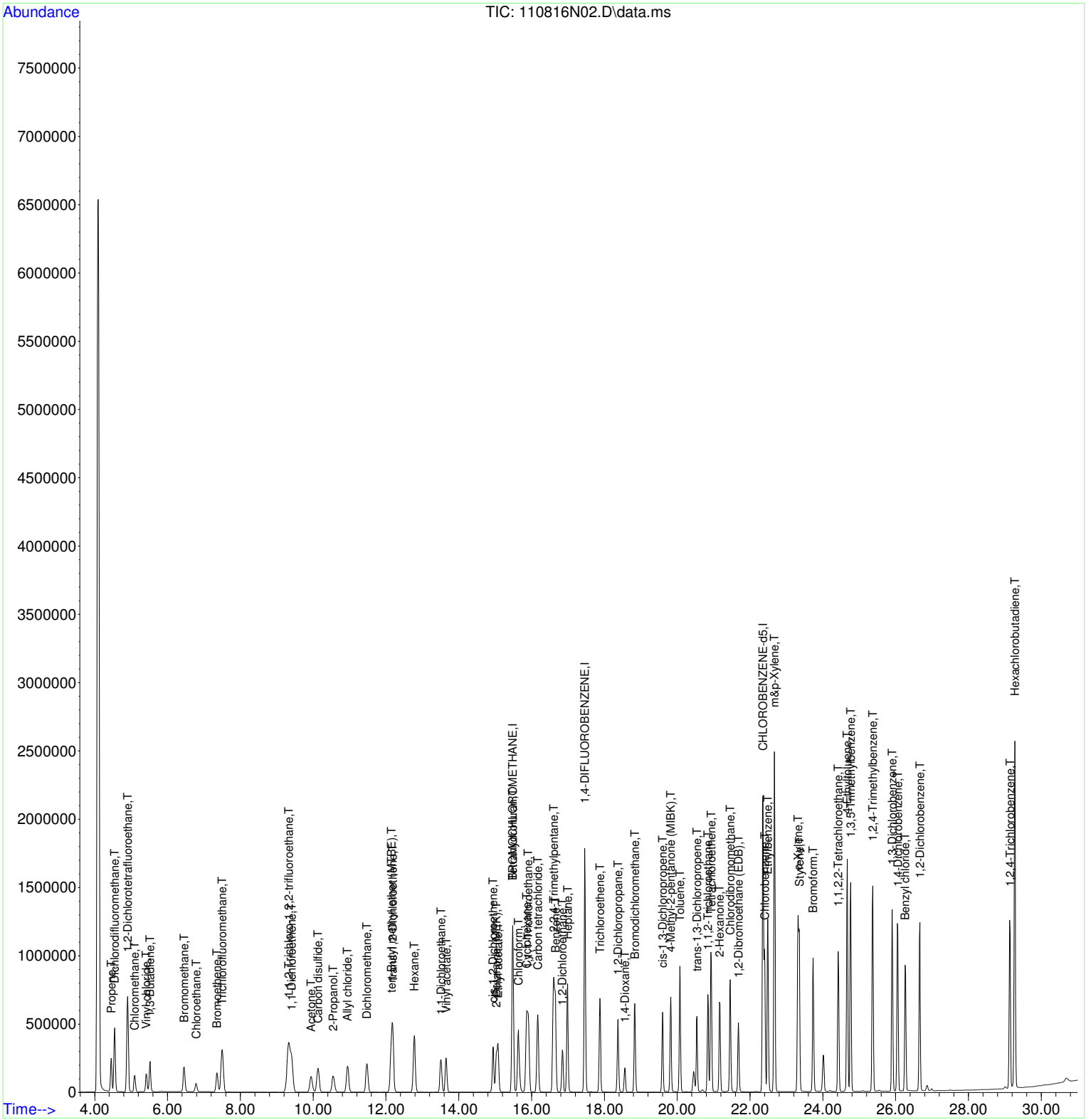
Quant Time: Nov 08 11:34:52 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	Styrene	23.355	104	779971	10.20	ppbv	97
56)	Bromoform	23.734	173	641561	11.23	ppbv	98
57)	1,1,2,2-Tetrachloroethane	24.422	83	748112	10.43	ppbv	100
58)	4-Ethyltoluene	24.671	105	1544801	10.37	ppbv	98
59)	1,3,5-Trimethylbenzene	24.766	105	1228404	10.63	ppbv	97
60)	1,2,4-Trimethylbenzene	25.371	105	1222918	10.37	ppbv	97
61)	1,3-Dichlorobenzene	25.905	146	745067	10.06	ppbv	99
62)	1,4-Dichlorobenzene	26.059	146	719211	10.12	ppbv	99
63)	Benzyl chloride	26.260	91	1012649	11.12	ppbv	97
64)	1,2-Dichlorobenzene	26.663	146	716263	9.69	ppbv	99
65)	1,2,4-Trichlorobenzene	29.142	180	555555	9.06	ppbv	100
66)	Hexachlorobutadiene	29.272	225	702222	9.91	ppbv	100

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

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N02.D
Acq On : 8 Nov 2016 10:49 am
InstName : AG5973N
Operator : LLH
Sample : S16K041-CCV1@B16K032-BS1
Misc : 10ppbv 1645037@1645040
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 08 11:34:52 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration



REVIEWED
By LLH at 11:37 am, Nov 08, 2016

LCS REPORT

Instrument Name: AG5973N
Sample Name: S16K041-CCV1@B16K032-BS1
Misc Info: 10ppbv 1645037@1645040
Date Acquired: 11/8/2016 10:49
QLast Update: Thu Nov 03 17:25:24 2016
Operator: LLH

#	Name	Ret Time	Amount	Concentration	%R	QC	LIMIT	STATUS
1)	BROMOCHLOROMETHANE	15.48	#N/A	22.00	#N/A	70.0	130.0	#N/A
2)	Propene	4.45	11.00	10.40	95%	72.0	121.0	pass
3)	Dichlorodifluoromethane	4.55	9.70	9.13	94%	68.0	129.0	pass
4)	1,2-Dichlorotetrafluoroethane	4.90	10.00	8.96	90%	67.0	127.0	pass
5)	Chloromethane	5.09	10.60	9.65	91%	70.0	123.0	pass
6)	Vinyl chloride	5.41	10.40	9.97	96%	69.0	125.0	pass
7)	1,3-Butadiene	5.52	10.10	9.71	96%	75.0	121.0	pass
8)	Bromomethane	6.46	10.00	10.09	101%	66.0	125.0	pass
9)	Chloroethane	6.79	10.00	10.26	103%	67.0	125.0	pass
10)	Bromoethene	7.36	11.00	9.04	82%	68.0	124.0	pass
11)	Trichlorofluoromethane	7.50	9.80	9.33	95%	68.0	133.0	pass
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	9.33	10.20	8.31	81%	64.0	125.0	pass
13)	1,1-Dichloroethene	9.41	10.40	8.89	85%	73.0	128.0	pass
14)	Acetone	9.94	11.00	9.91	90%	67.0	141.0	pass
15)	Carbon disulfide	10.13	11.00	9.45	86%	45.0	158.0	pass
16)	2-Propanol	10.55	11.00	8.95	81%	72.0	132.0	pass
17)	Allyl chloride	10.94	11.00	9.46	86%	75.0	132.0	pass
18)	Dichloromethane	11.47	10.10	8.71	86%	73.0	116.0	pass
19)	tert-Butyl methyl ether (MTBE)	12.15	10.80	8.89	82%	74.0	131.0	pass
20)	trans-1,2-Dichloroethene	12.18	10.90	9.65	89%	80.0	123.0	pass
21)	Hexane	12.78	10.40	8.44	81%	75.0	124.0	pass
22)	1,1-Dichloroethane	13.51	10.00	8.53	85%	72.0	125.0	pass
23)	Vinyl acetate	13.65	10.90	9.75	89%	31.0	171.0	pass
24)	cis-1,2-Dichloroethene	14.94	10.40	8.85	85%	77.0	129.0	pass
25)	2-Butanone (MEK)	15.03	10.90	9.14	84%	69.0	137.0	pass
26)	Ethyl acetate	15.08	10.80	9.34	86%	75.0	127.0	pass
27)	Tetrahydrofuran	15.48	10.60	9.62	91%	78.0	120.0	pass
28)	Chloroform	15.64	10.10	9.08	90%	77.0	126.0	pass
29)	Cyclohexane	15.86	10.60	8.88	84%	76.0	124.0	pass
30)	1,1,1-Trichloroethane	15.91	9.80	9.06	92%	74.0	133.0	pass
31)	Carbon tetrachloride	16.17	9.70	9.00	93%	71.0	141.0	pass
32)	1,4-DIFLUOROBENZENE	17.46	#N/A	22.00	#N/A	70.0	130.0	#N/A
33)	Benzene	16.65	10.30	10.08	98%	81.0	125.0	pass
34)	2,2,4-Trimethylpentane	16.61	10.60	10.20	96%	82.0	125.0	pass
35)	1,2-Dichloroethane	16.84	10.00	10.81	108%	61.0	153.0	pass
36)	Heptane	16.99	10.60	10.81	102%	80.0	129.0	pass
37)	Trichloroethene	17.88	10.80	9.73	90%	73.0	128.0	pass
38)	1,2-Dichloropropane	18.37	10.30	10.09	98%	77.0	129.0	pass
39)	1,4-Dioxane	18.56	11.00	9.64	88%	58.0	140.0	pass
40)	Bromodichloromethane	18.84	10.70	11.15	104%	76.0	137.0	pass
41)	cis-1,3-Dichloropropene	19.60	10.80	10.50	97%	80.0	136.0	pass
42)	4-Methyl-2-pentanone (MIBK)	19.82	10.70	11.25	105%	65.0	140.0	pass
43)	CHLOROBENZENE-d5	22.36	#N/A	22.00	#N/A	70.0	130.0	#N/A
44)	Toluene	20.07	10.50	9.91	94%	78.0	133.0	pass
45)	trans-1,3-Dichloropropene	20.54	10.60	10.65	101%	79.0	146.0	pass
46)	1,1,2-Trichloroethane	20.84	10.60	10.20	96%	74.0	134.0	pass
47)	Tetrachloroethene	20.94	10.60	9.57	90%	73.0	130.0	pass

48)	2-Hexanone	21.16	10.90	11.38	104%	50.0	162.0	pass
49)	Chlorodibromomethane	21.46	10.80	10.91	101%	81.0	135.0	pass
50)	1,2-Dibromoethane (EDB)	21.68	10.90	10.33	95%	78.0	133.0	pass
51)	Chlorobenzene	22.41	10.70	10.27	96%	81.0	126.0	pass
52)	Ethylbenzene	22.49	10.50	10.38	99%	82.0	130.0	pass
53)	m&p-Xylene	22.67	21.20	22.09	104%	82.0	131.0	pass
54)	o-Xylene	23.32	10.50	10.61	101%	82.0	132.0	pass
55)	Styrene	23.35	10.30	10.20	99%	65.0	141.0	pass
56)	Bromoform	23.73	10.70	11.23	105%	84.0	137.0	pass
57)	1,1,2,2-Tetrachloroethane	24.42	10.40	10.43	100%	73.0	127.0	pass
58)	4-Ethyltoluene	24.67	10.80	10.37	96%	81.0	127.0	pass
59)	1,3,5-Trimethylbenzene	24.77	10.70	10.63	99%	77.0	132.0	pass
60)	1,2,4-Trimethylbenzene	25.37	10.60	10.37	98%	78.0	131.0	pass
61)	1,3-Dichlorobenzene	25.90	10.50	10.06	96%	79.0	124.0	pass
62)	1,4-Dichlorobenzene	26.06	10.50	10.12	96%	75.0	127.0	pass
63)	Benzyl chloride	26.26	11.00	11.12	101%	67.0	156.0	pass
64)	1,2-Dichlorobenzene	26.66	10.40	9.69	93%	77.0	124.0	pass
65)	1,2,4-Trichlorobenzene	29.14	10.40	9.06	87%	55.0	132.0	pass
66)	Hexachlorobutadiene	29.27	10.30	9.91	96%	52.0	131.0	pass

S16K041-CRL1

REVIEWED
By LLH at 12:31 pm, Nov 08, 2016

QLS REPORT

Instrument Name: AG5973N
Sample Name: S16K041-CRL1
Misc Info: 1.0ppbv 1645034
Date Acquired: 11/8/2016 11:51
QLast Update: Thu Nov 03 17:25:24 2016
Operator: LLH

#	Name	Ret Time	Amount	Concentration	%R	QC	LIMIT	STATUS	TYPE
1)	BROMOCHLOROMETHANE	15.47	#N/A	22.00	#N/A	60.0	140.0	#N/A	Internal
2)	Propene	4.45	1.10	1.26	114%	60.0	140.0	pass	Subset
3)	Dichlorodifluoromethane	4.55	0.97	1.03	106%	60.0	140.0	pass	Primary
4)	1,2-Dichlorotetrafluoroethane	4.90	1.00	1.02	102%	60.0	140.0	pass	Primary
5)	Chloromethane	5.09	1.06	1.15	108%	60.0	140.0	pass	Primary
6)	Vinyl chloride	5.41	1.04	1.16	111%	60.0	140.0	pass	Primary
7)	1,3-Butadiene	5.52	1.01	1.19	118%	60.0	140.0	pass	Subset
8)	Bromomethane	6.46	1.00	1.20	120%	60.0	140.0	pass	Primary
9)	Chloroethane	6.78	1.00	1.20	120%	60.0	140.0	pass	Primary
10)	Bromoethene	7.36	1.10	1.02	92%	60.0	140.0	pass	Subset
11)	Trichlorofluoromethane	7.50	0.98	1.07	109%	60.0	140.0	pass	Primary
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	9.33	1.02	0.93	91%	60.0	140.0	pass	Primary
13)	1,1-Dichloroethene	9.41	1.04	0.90	86%	60.0	140.0	pass	Primary
14)	Acetone	9.95	1.10	1.15	105%	60.0	140.0	pass	Subset
15)	Carbon disulfide	10.13	1.10	1.06	96%	60.0	140.0	pass	Subset
16)	2-Propanol	10.56	1.10	0.84	77%	60.0	140.0	pass	Subset
17)	Allyl chloride	10.94	1.10	0.92	84%	60.0	140.0	pass	Subset
18)	Dichloromethane	11.47	1.01	1.18	117%	60.0	140.0	pass	Primary
19)	tert-Butyl methyl ether (MTBE)	12.16	1.08	0.81	75%	60.0	140.0	pass	Subset
20)	trans-1,2-Dichloroethene	12.18	1.09	1.04	96%	60.0	140.0	pass	Subset
21)	Hexane	12.78	1.04	0.80	77%	60.0	140.0	pass	Subset
22)	1,1-Dichloroethane	13.50	1.00	0.92	92%	60.0	140.0	pass	Primary
23)	Vinyl acetate	13.65	1.09	0.81	75%	60.0	140.0	pass	Subset
24)	cis-1,2-Dichloroethene	14.94	1.04	0.84	81%	60.0	140.0	pass	Primary
25)	2-Butanone (MEK)	15.03	1.09	0.91	84%	60.0	140.0	pass	Subset
26)	Ethyl acetate	15.08	1.08	0.97	90%	60.0	140.0	pass	Subset
27)	Tetrahydrofuran	15.49	1.06	1.00	94%	60.0	140.0	pass	Subset
28)	Chloroform	15.62	1.01	0.98	97%	60.0	140.0	pass	Primary
29)	Cyclohexane	15.86	1.06	0.85	80%	60.0	140.0	pass	Subset
30)	1,1,1-Trichloroethane	15.91	0.98	0.96	98%	60.0	140.0	pass	Primary
31)	Carbon tetrachloride	16.17	0.97	0.94	97%	60.0	140.0	pass	Primary
32)	1,4-DIFLUOROBENZENE	17.46	#N/A	22.00	#N/A	60.0	140.0	#N/A	Internal
33)	Benzene	16.65	1.03	1.05	102%	60.0	140.0	pass	Primary
34)	2,2,4-Trimethylpentane	16.61	1.06	0.97	92%	60.0	140.0	pass	Subset
35)	1,2-Dichloroethane	16.84	1.00	1.16	116%	60.0	140.0	pass	Primary
36)	Heptane	16.99	1.06	1.05	99%	60.0	140.0	pass	Subset
37)	Trichloroethene	17.88	1.08	0.97	90%	60.0	140.0	pass	Primary
38)	1,2-Dichloropropane	18.37	1.03	1.05	102%	60.0	140.0	pass	Primary
39)	1,4-Dioxane	18.56	1.10	0.81	74%	60.0	140.0	pass	Subset
40)	Bromodichloromethane	18.84	1.07	1.20	112%	60.0	140.0	pass	Subset
41)	cis-1,3-Dichloropropene	19.60	1.08	0.93	86%	60.0	140.0	pass	Primary
42)	4-Methyl-2-pentanone (MIBK)	19.82	1.07	1.08	101%	60.0	140.0	pass	Subset
43)	CHLOROBENZENE-d5	22.36	#N/A	22.00	#N/A	60.0	140.0	#N/A	Internal
44)	Toluene	20.07	1.05	0.91	86%	60.0	140.0	pass	Primary
45)	trans-1,3-Dichloropropene	20.54	1.06	0.93	88%	60.0	140.0	pass	Primary
46)	1,1,2-Trichloroethane	20.84	1.06	1.05	99%	60.0	140.0	pass	Primary
47)	Tetrachloroethene	20.92	1.06	0.94	88%	60.0	140.0	pass	Primary
48)	2-Hexanone	21.17	1.09	1.00	92%	60.0	140.0	pass	Subset
49)	Chlorodibromomethane	21.46	1.08	1.13	105%	60.0	140.0	pass	Subset
50)	1,2-Dibromoethane (EDB)	21.68	1.09	1.04	96%	60.0	140.0	pass	Primary

51)	Chlorobenzene	22.39	1.07	1.08	101%	60.0	140.0	pass	Primary
52)	Ethylbenzene	22.49	1.05	0.97	92%	60.0	140.0	pass	Primary
53)	m&p-Xylene	22.67	2.12	1.97	93%	60.0	140.0	pass	Primary
54)	o-Xylene	23.32	1.05	0.89	85%	60.0	140.0	pass	Primary
55)	Styrene	23.35	1.03	0.85	83%	60.0	140.0	pass	Primary
56)	Bromoform	23.73	1.07	1.07	100%	60.0	140.0	pass	Subset
57)	1,1,2,2-Tetrachloroethane	24.42	1.04	1.08	103%	60.0	140.0	pass	Primary
58)	4-Ethyltoluene	24.67	1.08	1.05	97%	60.0	140.0	pass	Subset
59)	1,3,5-Trimethylbenzene	24.77	1.07	0.90	84%	60.0	140.0	pass	Primary
60)	1,2,4-Trimethylbenzene	25.37	1.06	0.83	79%	60.0	140.0	pass	Primary
61)	1,3-Dichlorobenzene	25.90	1.05	0.92	88%	60.0	140.0	pass	Primary
62)	1,4-Dichlorobenzene	26.06	1.05	0.93	89%	60.0	140.0	pass	Primary
63)	Benzyl chloride	26.27	1.10	1.02	93%	60.0	140.0	pass	Subset
64)	1,2-Dichlorobenzene	26.66	1.04	0.96	92%	60.0	140.0	pass	Primary
65)	1,2,4-Trichlorobenzene	29.14	1.04	0.95	92%	60.0	140.0	pass	Primary
66)	Hexachlorobutadiene	29.27	1.03	0.93	90%	60.0	140.0	pass	Primary

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N03.D
Acq On : 8 Nov 2016 11:51 am
InstName : AG5973N
Operator : LLH
Sample : S16K041-CRL1
Misc : 1.0ppbv 1645034
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Nov 08 12:24:11 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.469	49	716026	22.00	ppbv	-0.01
32) 1,4-DIFLUOROBENZENE	17.461	114	1967814	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1677748	22.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.452	41	25709	1.26	ppbv	97
3) Dichlorodifluoromethane	4.547	85	79699	1.03	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.903	85	77419	1.02	ppbv	95
5) Chloromethane	5.093	50	27296	1.15	ppbv	99
6) Vinyl chloride	5.413	62	27714	1.16	ppbv	98
7) 1,3-Butadiene	5.520	54	20965	1.19	ppbv	95
8) Bromomethane	6.456	94	27738	1.20	ppbv	95
9) Chloroethane	6.777	64	12876	1.20	ppbv	97
10) Bromoethene	7.358	106	22786	1.02	ppbv	100
11) Trichlorofluoromethane	7.500	101	72695	1.07	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.326	151	40939	0.93	ppbv	95
13) 1,1-Dichloroethene	9.409	61	37865	0.90	ppbv	97
14) Acetone	9.955	43	44739	1.15	ppbv	98
15) Carbon disulfide	10.133	76	69350	1.06	ppbv	97
16) 2-Propanol	10.560	45	34086	0.84	ppbv	68
17) Allyl chloride	10.939	41	29976	0.92	ppbv	98
18) Dichloromethane	11.473	49	38847	1.18	ppbv	94
19) tert-Butyl methyl ethe...	12.160	73	64720	0.81	ppbv	98
20) trans-1,2-Dichloroethene	12.184	61	39488	1.04	ppbv	95
21) Hexane	12.777	57	37469	0.80	ppbv	87
22) 1,1-Dichloroethane	13.500	63	48471	0.92	ppbv	98
23) Vinyl acetate	13.655	43	54559	0.81	ppbv	96
24) cis-1,2-Dichloroethene	14.935	61	31402	0.84	ppbv	95
25) 2-Butanone (MEK)	15.030	72	12887	0.91	ppbv #	100
26) Ethyl acetate	15.078	61	8953	0.97	ppbv #	99
27) Tetrahydrofuran	15.493	42	31632	1.00	ppbv	92
28) Chloroform	15.623	83	57187	0.98	ppbv	93
29) Cyclohexane	15.860	56	40438	0.85	ppbv	91
30) 1,1,1-Trichloroethane	15.908	97	60546	0.96	ppbv	97
31) Carbon tetrachloride	16.169	117	62364	0.94	ppbv	99
33) Benzene	16.655	78	82884	1.05	ppbv	97
34) 2,2,4-Trimethylpentane	16.607	57	126780	0.97	ppbv	91
35) 1,2-Dichloroethane	16.845	62	39873	1.16	ppbv	99
36) Heptane	16.987	43	48268	1.05	ppbv	95
37) Trichloroethene	17.876	130	30587	0.97	ppbv	97
38) 1,2-Dichloropropane	18.374	63	30433	1.05	ppbv	93
39) 1,4-Dioxane	18.564	88	14411	0.81	ppbv	87
40) Bromodichloromethane	18.837	83	65832	1.20	ppbv	99
41) cis-1,3-Dichloropropene	19.596	75	40622	0.93	ppbv	94
42) 4-Methyl-2-pentanone (...	19.821	43	65455	1.08	ppbv	93
44) Toluene	20.070	91	85439	0.91	ppbv	98
45) trans-1,3-Dichloropropene	20.544	75	38309	0.93	ppbv	92
46) 1,1,2-Trichloroethane	20.841	97	32188	1.05	ppbv	91
47) Tetrachloroethene	20.924	166	41467	0.94	ppbv	97
48) 2-Hexanone	21.173	43	56328	1.00	ppbv	89
49) Chlorodibromomethane	21.457	129	63499	1.13	ppbv	98
50) 1,2-Dibromoethane (EDB)	21.683	107	47012	1.04	ppbv	100
51) Chlorobenzene	22.394	112	76929	1.08	ppbv #	79
52) Ethylbenzene	22.489	91	119356	0.97	ppbv	98
53) m&p-Xylene	22.667	91	187339	1.97	ppbv	95
54) o-Xylene	23.319	91	86713	0.89	ppbv	95

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N03.D
Acq On : 8 Nov 2016 11:51 am
InstName : AG5973N
Operator : LLH
Sample : S16K041-CRL1
Misc : 1.0ppbv 1645034
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Nov 08 12:24:11 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
55) Styrene	23.355	104	64525	0.85 ppbv	95
56) Bromoform	23.734	173	60786	1.07 ppbv	97
57) 1,1,2,2-Tetrachloroethane	24.422	83	76357	1.08 ppbv	99
58) 4-Ethyltoluene	24.671	105	154625	1.05 ppbv	98
59) 1,3,5-Trimethylbenzene	24.766	105	102757	0.90 ppbv	95
60) 1,2,4-Trimethylbenzene	25.371	105	97270	0.83 ppbv	96
61) 1,3-Dichlorobenzene	25.904	146	67516	0.92 ppbv	97
62) 1,4-Dichlorobenzene	26.059	146	65639	0.93 ppbv	98
63) Benzyl chloride	26.272	91	91964	1.02 ppbv	97
64) 1,2-Dichlorobenzene	26.663	146	69989	0.96 ppbv	98
65) 1,2,4-Trichlorobenzene	29.142	180	57921	0.95 ppbv	98
66) Hexachlorobutadiene	29.272	225	65244	0.93 ppbv	99

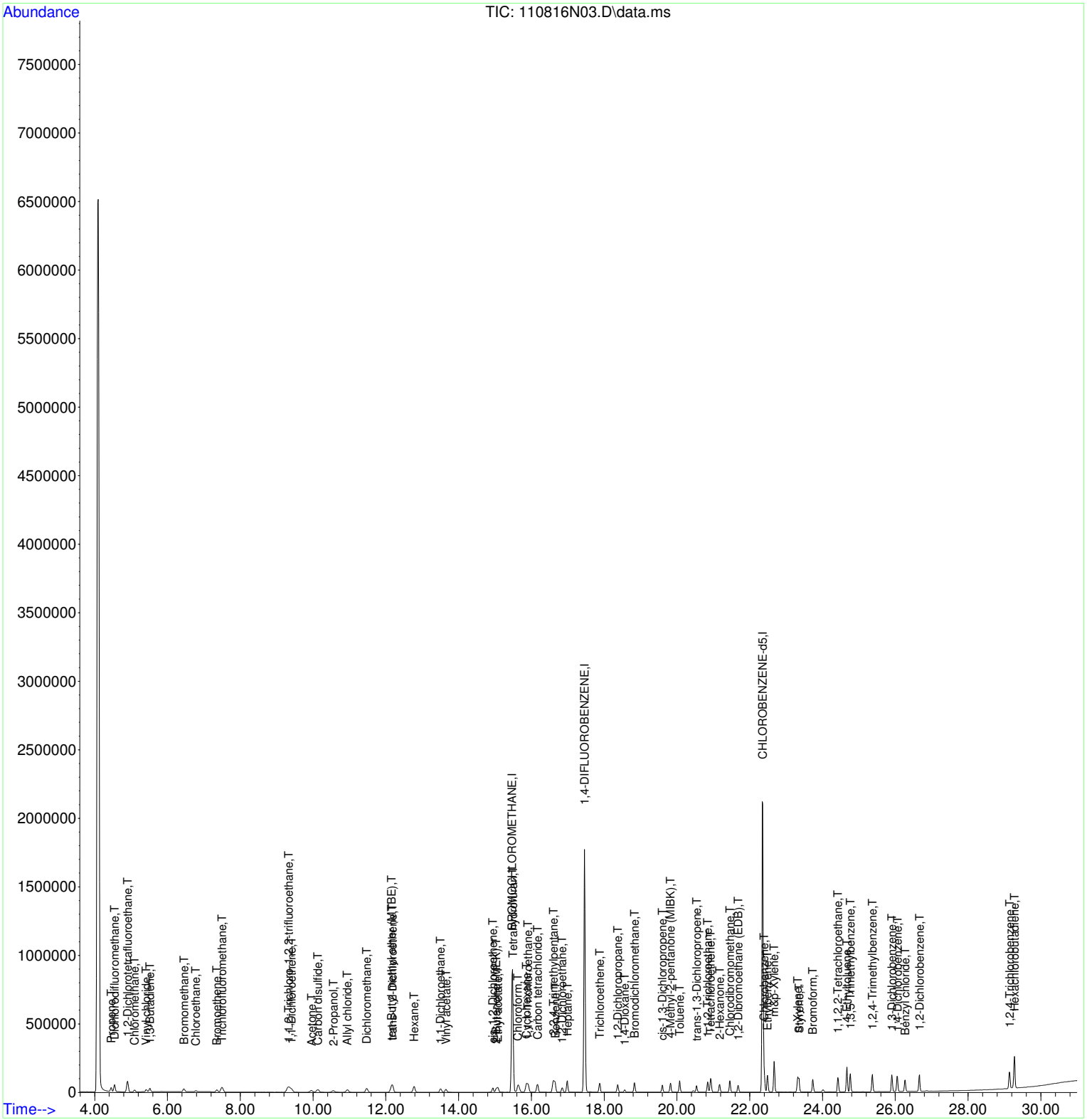
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N03.D
Acq On : 8 Nov 2016 11:51 am
InstName : AG5973N
Operator : LLH
Sample : S16K041-CRL1
Misc : 1.0ppbv 1645034
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Nov 08 12:24:11 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration



B16K032-BLK1

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N04.D
Acq On : 8 Nov 2016 12:41 pm
InstName : AG5973N
Operator : LLH
Sample : B16K032-BLK1
Misc : 200ml BLANK #35
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Nov 08 13:13:15 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	693244	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	1919617	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1594898	22.00	ppbv	0.00

Target Compounds Qvalue

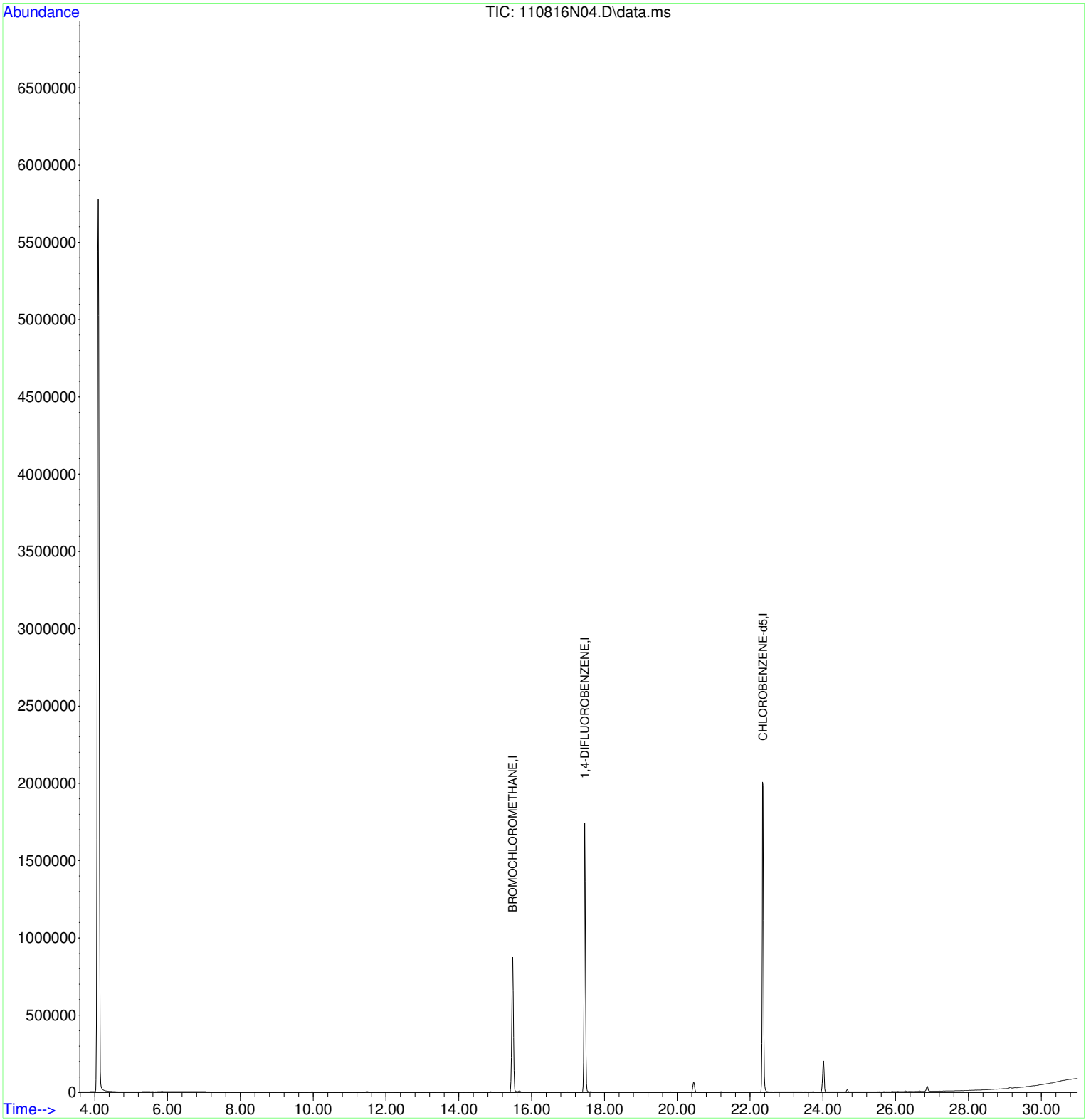
(#) = qualifier out of range (m) = manual integration (+) = signals summed

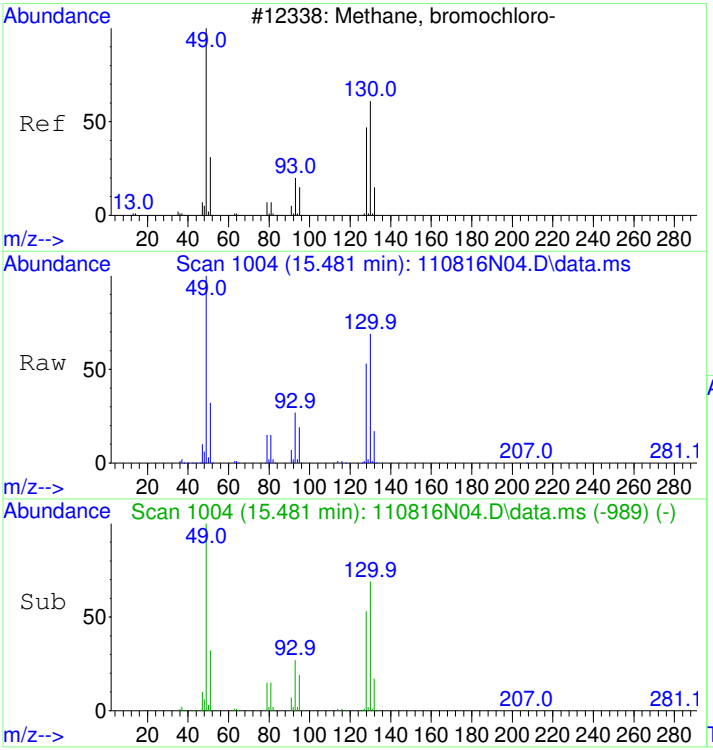
REVIEWED
By LLH at 3:25 pm, Nov 08, 2016

Table of Contents

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N04.D
Acq On : 8 Nov 2016 12:41 pm
InstName : AG5973N
Operator : LLH
Sample : B16K032-BLK1
Misc : 200ml BLANK #35
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Nov 08 13:13:15 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

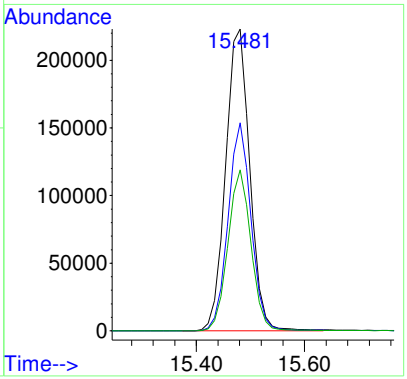


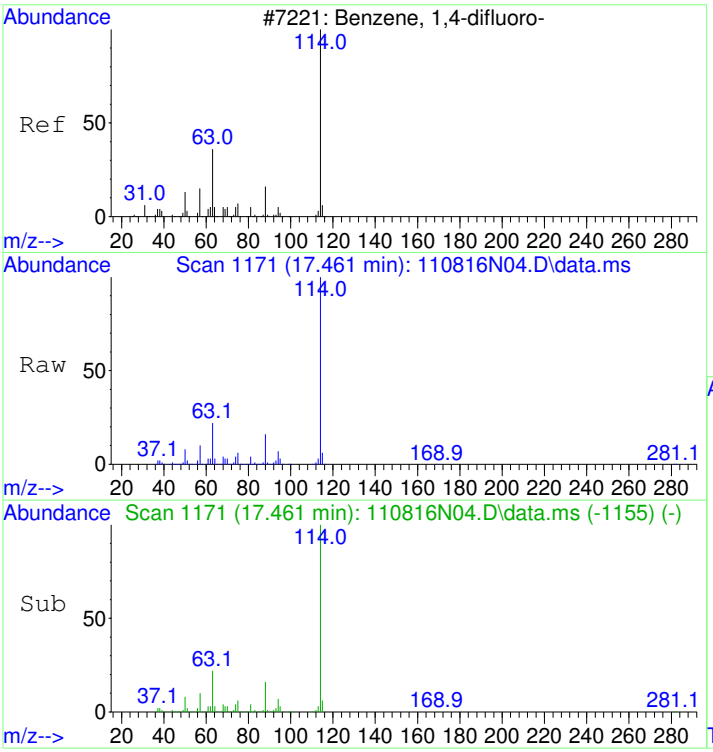


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. -0.000 min
Lab File: 110816N04.D
Acq: 8 Nov 2016 12:41 pm

Tgt Ion: 49 Resp: 693244

Ion	Ratio	Lower	Upper
49	100		
130	65.5	56.1	96.1
128	50.9	38.8	78.8

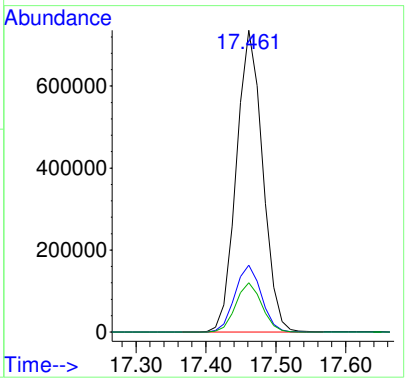


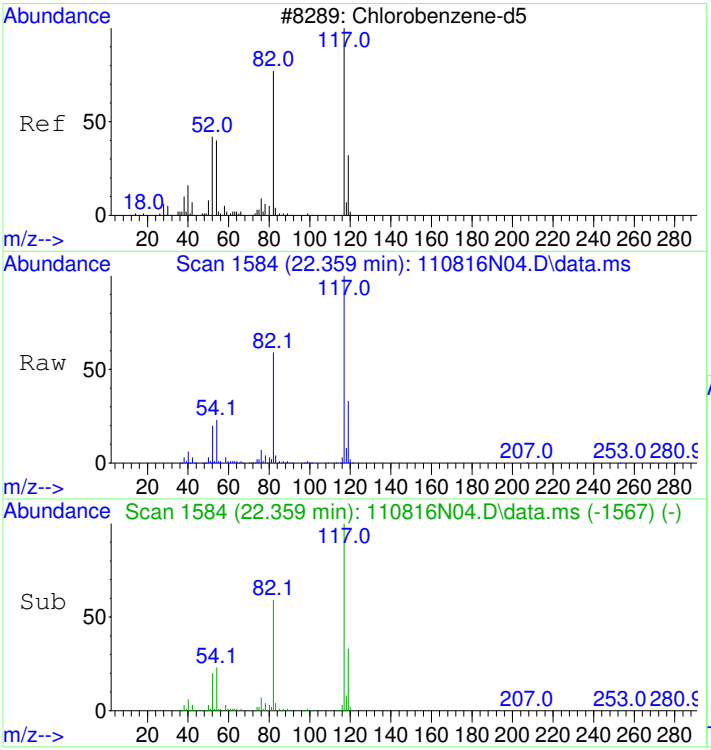


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. -0.000 min
Lab File: 110816N04.D
Acq: 8 Nov 2016 12:41 pm

Tgt Ion:114 Resp: 1919617

Ion	Ratio	Lower	Upper
114	100		
63	22.4	0.1	40.1
88	16.2	0.0	35.8

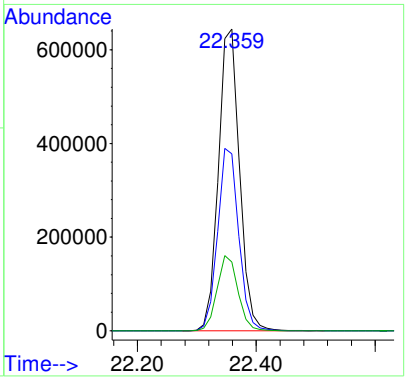




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. -0.000 min
Lab File: 110816N04.D
Acq: 8 Nov 2016 12:41 pm

Tgt Ion:117 Resp: 1594898

Ion	Ratio	Lower	Upper
117	100		
82	60.4	36.8	76.8
54	24.7	1.4	41.4



LSC Area Percent Report

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N04.D
Acq On : 8 Nov 2016 12:41 pm
Operator : LLH
Sample : B16K032-BLK1
Misc : 200ml BLANK #35
ALS Vial : 33 Sample Multiplier: 1

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.01 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 1 prefer < Baseline drop else tangent >
Peak separation: 10

Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Title : TO15

Signal : TIC: 110816N04.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	15.481	996	1004	1015	rBV	873842	2646617	52.23%	20.055%
2	17.461	1164	1171	1181	rBV	1741092	4574859	90.28%	34.666%
3	20.450	1415	1423	1429	rBV	65780	212307	4.19%	1.609%
4	22.347	1578	1583	1593	rBV	2006245	5067448	100.00%	38.399%
5	24.019	1717	1724	1731	rBV	201517	589496	11.63%	4.467%
6	26.865	1958	1964	1971	rBV	33738	106225	2.10%	0.805%

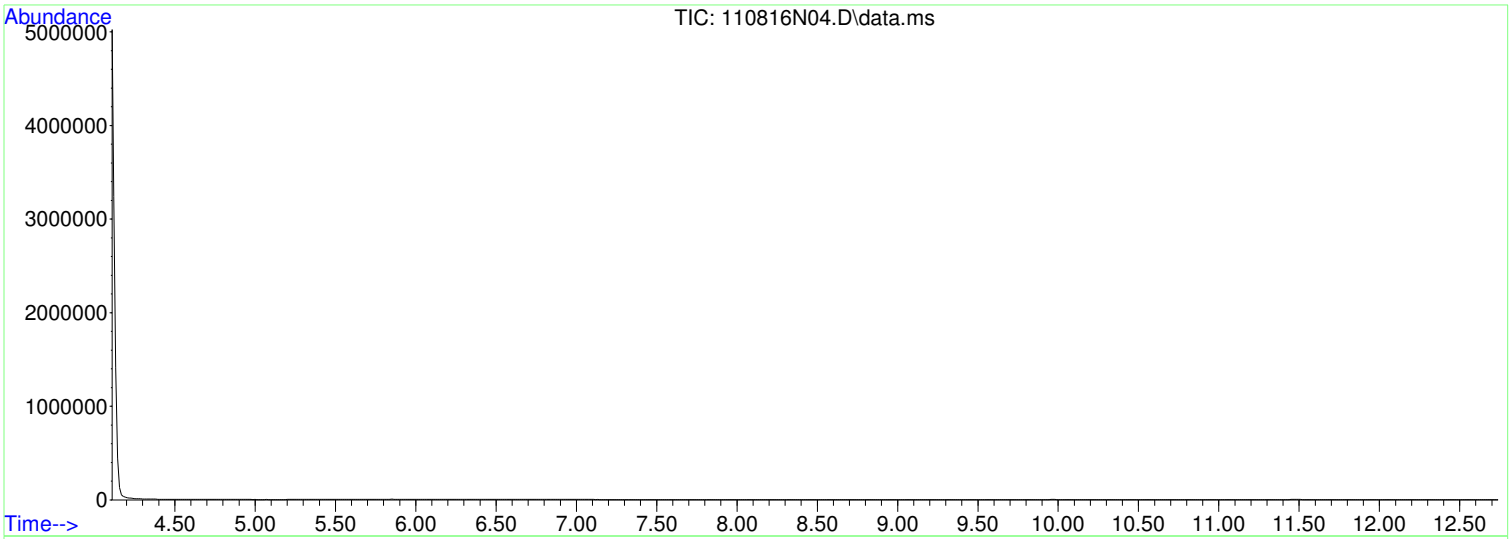
Sum of corrected areas: 13196952

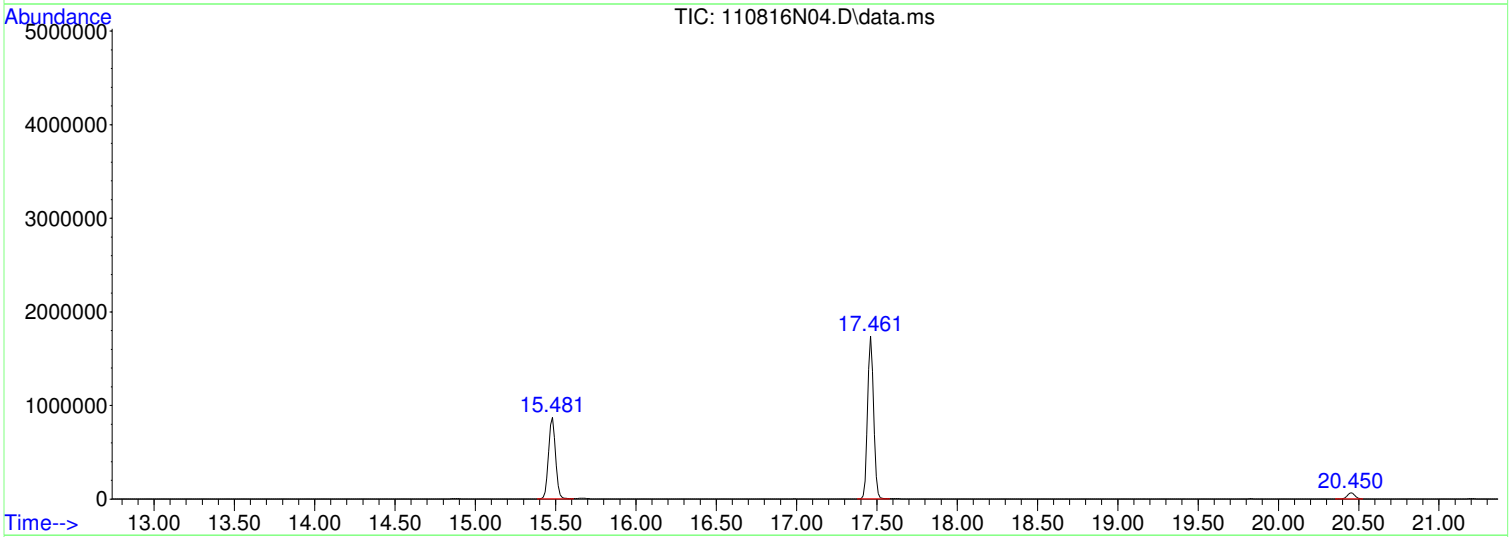
Table of Contents

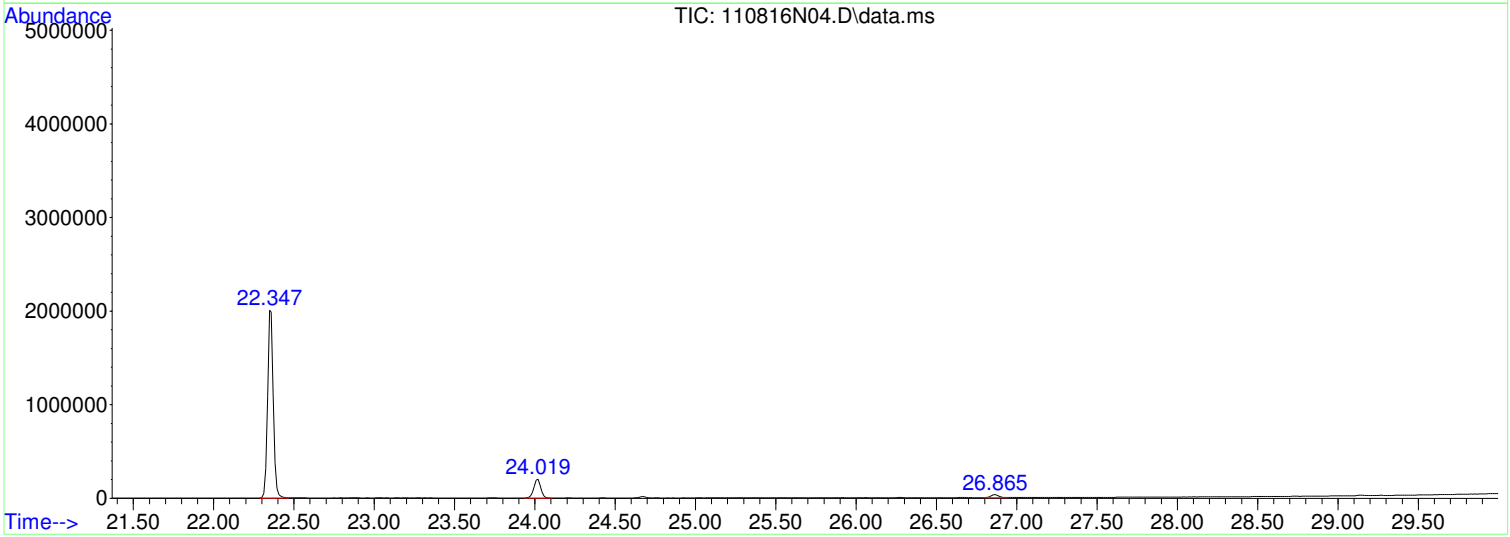
Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N04.D
Acq On : 8 Nov 2016 12:41 pm
Operator : LLH
Sample : B16K032-BLK1
Misc : 200ml BLANK #35
ALS Vial : 33 Sample Multiplier: 1

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P







Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N04.D
Acq On : 8 Nov 2016 12:41 pm
Operator : LLH
Sample : B16K032-BLK1
Misc : 200ml BLANK #35
ALS Vial : 33 Sample Multiplier: 1

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

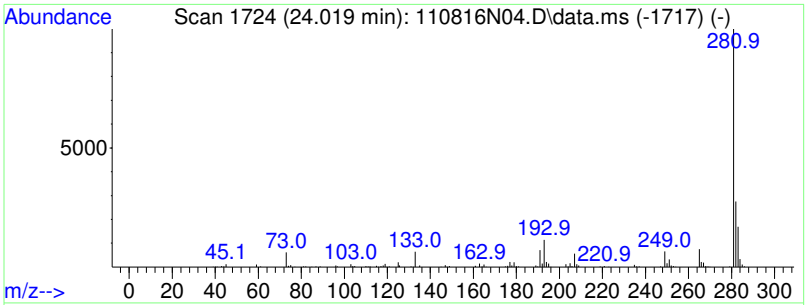
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

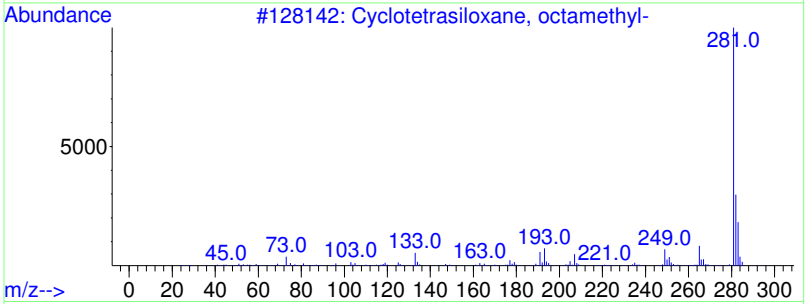
****

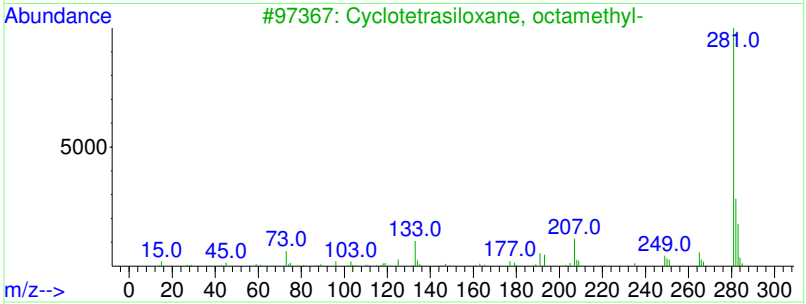
Peak Number 1 column bleed Concentration Rank 1

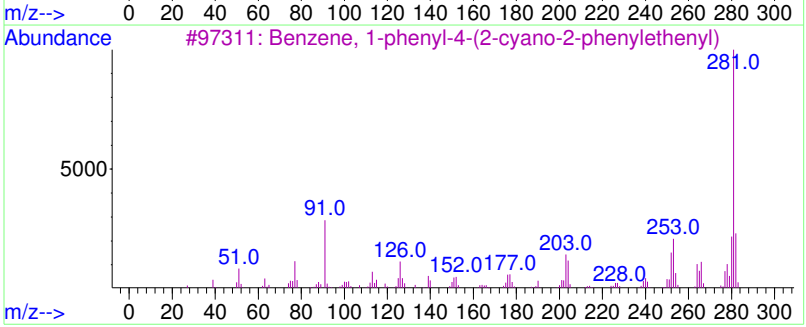
R.T.	EstConc	Area	Relative to ISTD	R.T.
24.019	2.56 ppbv	589496	CHLOROBENZENE-d5	22.359

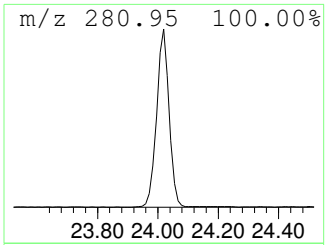
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclotetrasiloxane, octamethyl-	296	C8H24O4Si4	000556-67-2	91
2	Cyclotetrasiloxane, octamethyl-	296	C8H24O4Si4	000556-67-2	86
3	Benzene, 1-phenyl-4-(2-cyano-2-p...	281	C21H15N	027869-56-3	59
4	7H-Dibenzo[b,g]carbazole, 7-methyl-	281	C21H15N	003557-49-1	53
5	5H-Naphtho[2,3-c]carbazole, 5-me...	281	C21H15N	100025-44-3	50

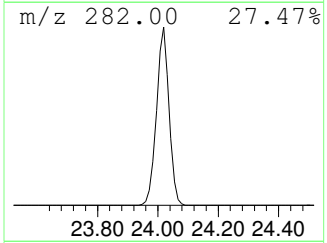


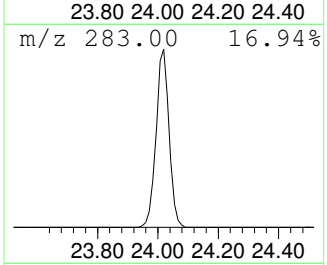


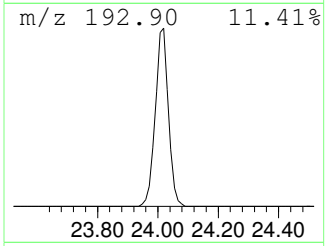


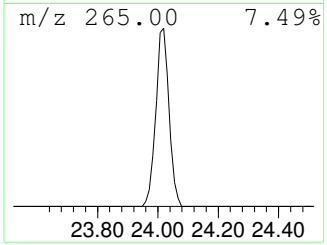












Tentatively Identified Compound (LSC) summary

Table of Contents

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N04.D
Acq On : 8 Nov 2016 12:41 pm
Operator : LLH
Sample : B16K032-BLK1
Misc : 200ml BLANK #35
ALS Vial : 33 Sample Multiplier: 1

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	RT	Resp	Conc
column bleed	24.019	2.6	ppbv	589496	3	22.359	5067450	22.0

REVIEWED
By LLH at 3:20 pm, Nov 08, 2016

1611021-01

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N05.D
Acq On : 8 Nov 2016 1:36 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-01
Misc : 200ml 870 LEONG-SS1
ALS Vial : 34 Sample Multiplier: 1.82

REPORT

rerun 20ml re-repress

Quant Time: Nov 08 15:00:25 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)		
Internal Standards								
1) BROMOCHLOROMETHANE	15.481	49	715178	22.00	ppbv	0.00		
32) 1,4-DIFLUOROBENZENE	17.461	114	1899668	22.00	ppbv	0.00		
43) CHLOROBENZENE-d5	22.359	117	1582021	22.00	ppbv	0.00		
Target Compounds						Qvalue		
2) Propene	4.441	41	45069	~~2.21~~	~~ppbv~~	# 80		
14) Acetone	9.955	43	472026	12.17	ppbv	96		
16) 2-Propanol	10.571	45	98513	2.44	ppbv	80		
20) trans-1,2-Dichloroethene	12.196	61	764581	20.20	ppbv	93		
24) cis-1,2-Dichloroethene	14.947	61	869870	23.27	ppbv	92	OC	
25) 2-Butanone (MEK)	15.042	72	22424	1.59	ppbv	# 100		
37) Trichloroethene	17.876	130	16126418	530.63	ppbv	93	OC	
44) Toluene	20.082	91	57500	0.65	ppbv	97		

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

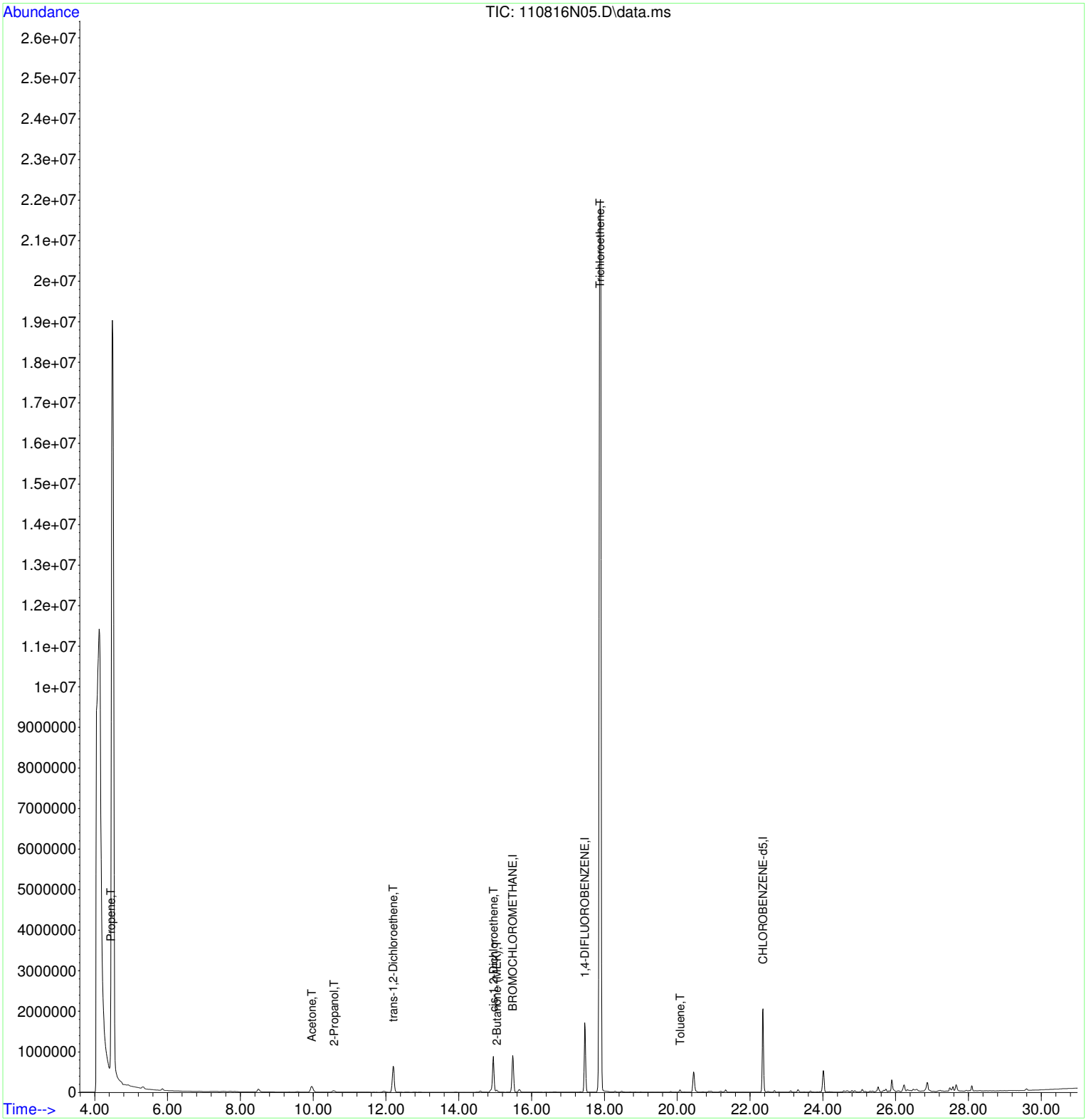
AFTER Q DELETE

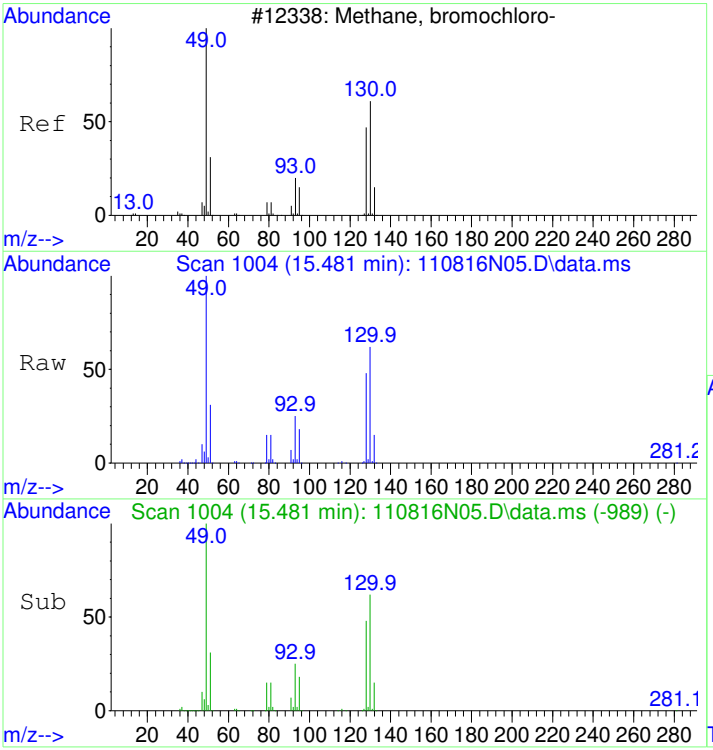
REVIEWED
By LLH at 3:14 pm, Nov 08, 2016

Table of Contents

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N05.D
Acq On : 8 Nov 2016 1:36 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-01
Misc : 200ml 870 LEONG-SS1
ALS Vial : 34 Sample Multiplier: 1.82

Quant Time: Nov 08 15:00:25 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

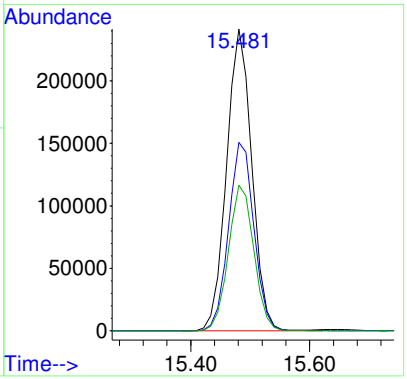


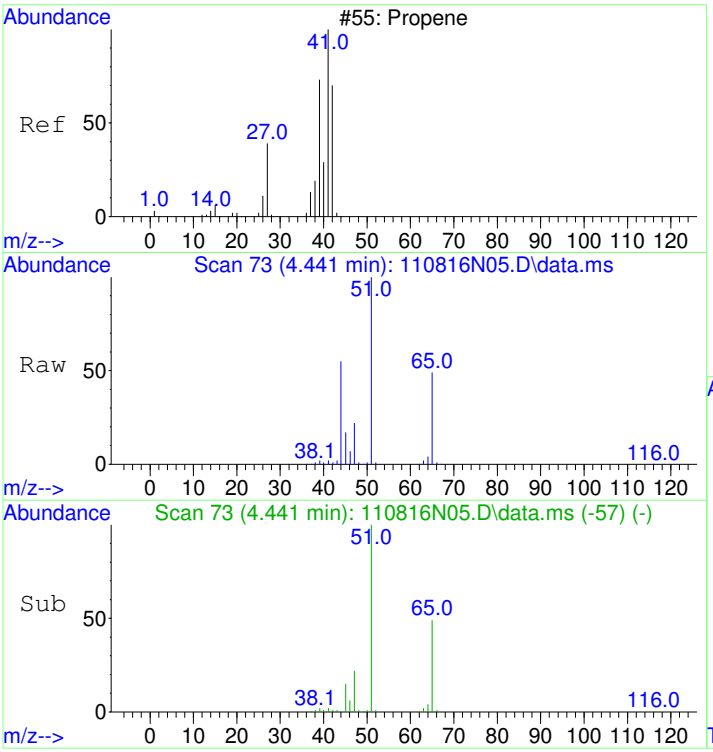


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. -0.000 min
Lab File: 110816N05.D
Acq: 8 Nov 2016 1:36 pm

Tgt Ion: 49 Resp: 715178

Ion	Ratio	Lower	Upper
49	100		
130	62.8	56.1	96.1
128	48.5	38.8	78.8

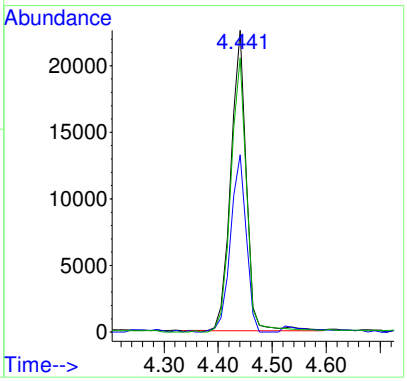




#2
Propene
Concen: 2.21 ppbv
RT: 4.441 min Scan# 73
Delta R.T. -0.012 min
Lab File: 110816N05.D
Acq: 8 Nov 2016 1:36 pm

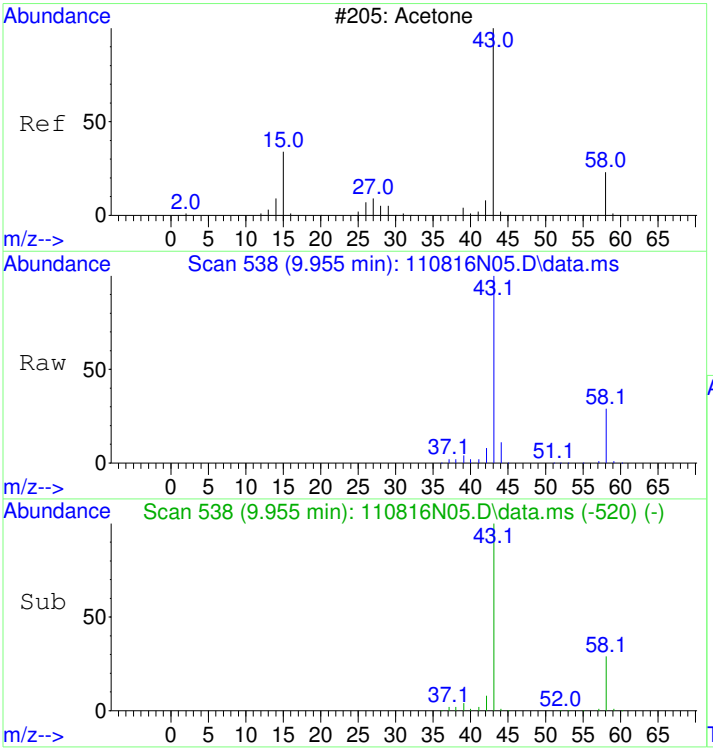
Tgt Ion: 41 Resp: 45069

Ion	Ratio	Lower	Upper
41	100		
42	59.5	47.2	87.2
39	94.4	49.6	89.6#



spectra off

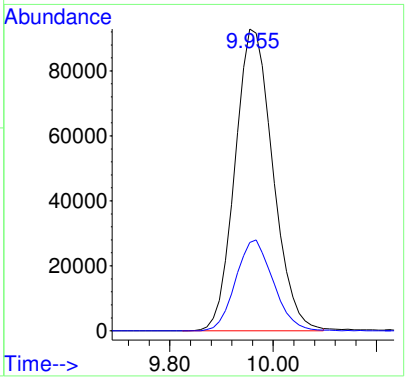
LLH 11/08/16

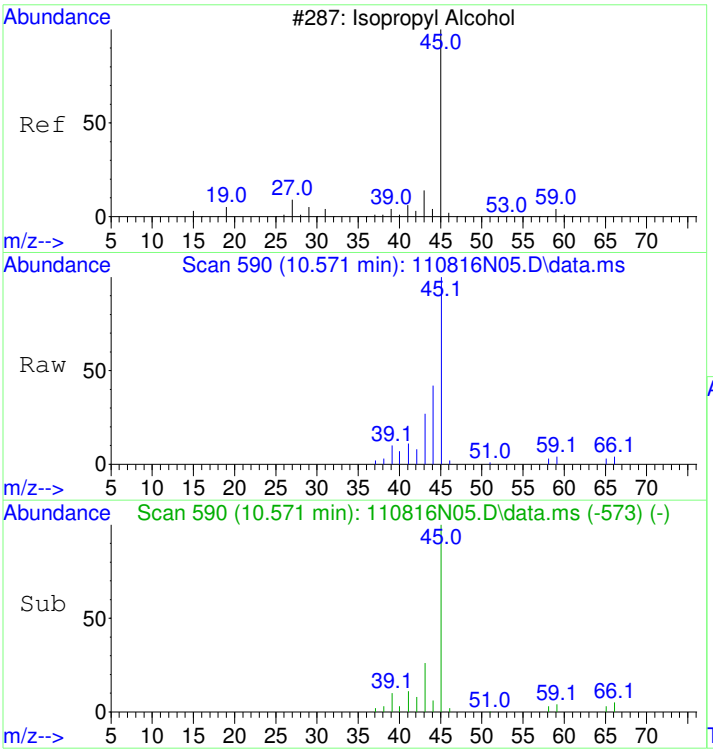


#14
Acetone
Concen: 12.17 ppbv
RT: 9.955 min Scan# 538
Delta R.T. 0.012 min
Lab File: 110816N05.D
Acq: 8 Nov 2016 1:36 pm

Tgt Ion: 43 Resp: 472026

Ion	Ratio	Lower	Upper
43	100		
58	29.8	12.3	52.3

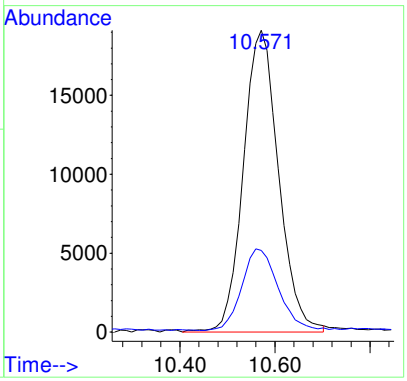


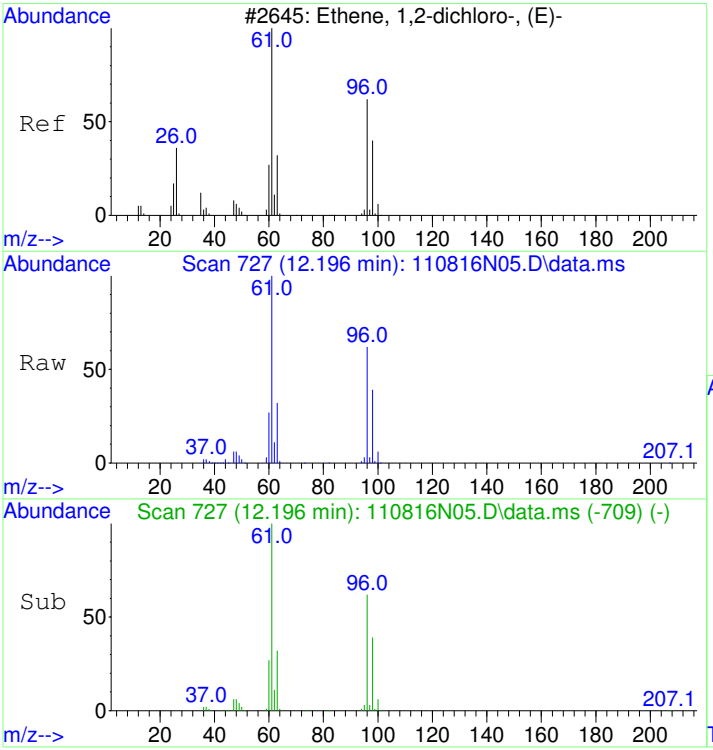


#16
2-Propanol
Concen: 2.44 ppbv
RT: 10.571 min Scan# 590
Delta R.T. 0.024 min
Lab File: 110816N05.D
Acq: 8 Nov 2016 1:36 pm

Tgt Ion: 45 Resp: 98513

Ion	Ratio	Lower	Upper
45	100		
43	27.8	0.0	38.9

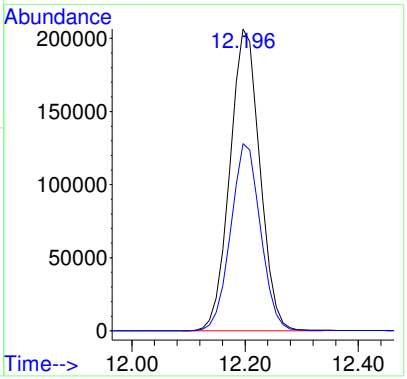


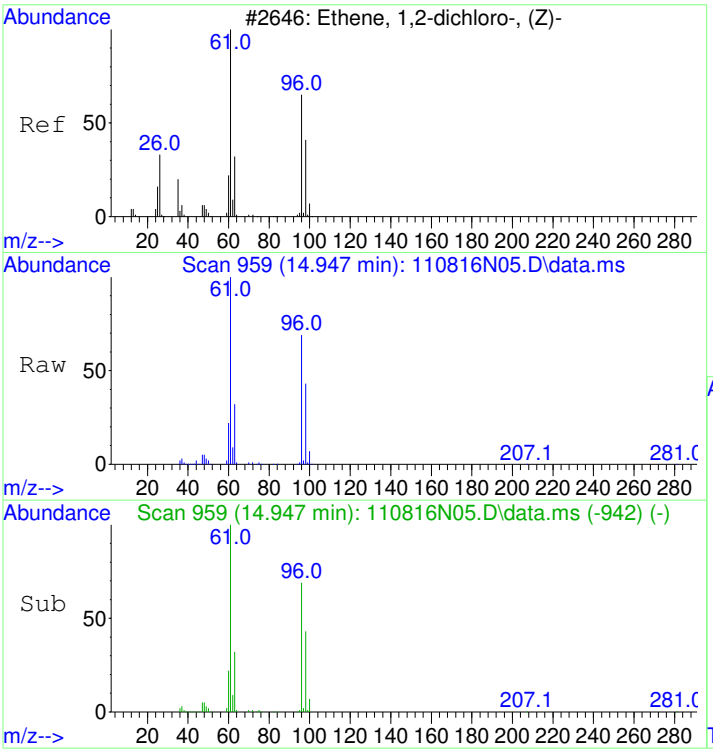


#20
trans-1,2-Dichloroethene
Concen: 20.20 ppbv
RT: 12.196 min Scan# 727
Delta R.T. 0.012 min
Lab File: 110816N05.D
Acq: 8 Nov 2016 1:36 pm

Tgt Ion: 61 Resp: 764581

Ion	Ratio	Lower	Upper
61	100		
96	61.7	47.5	87.5

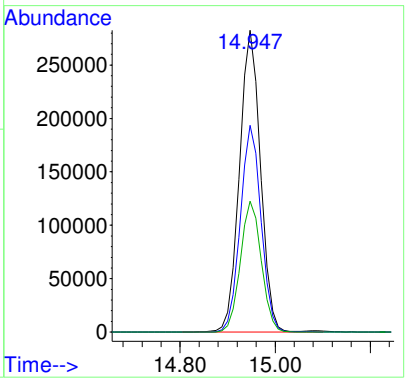


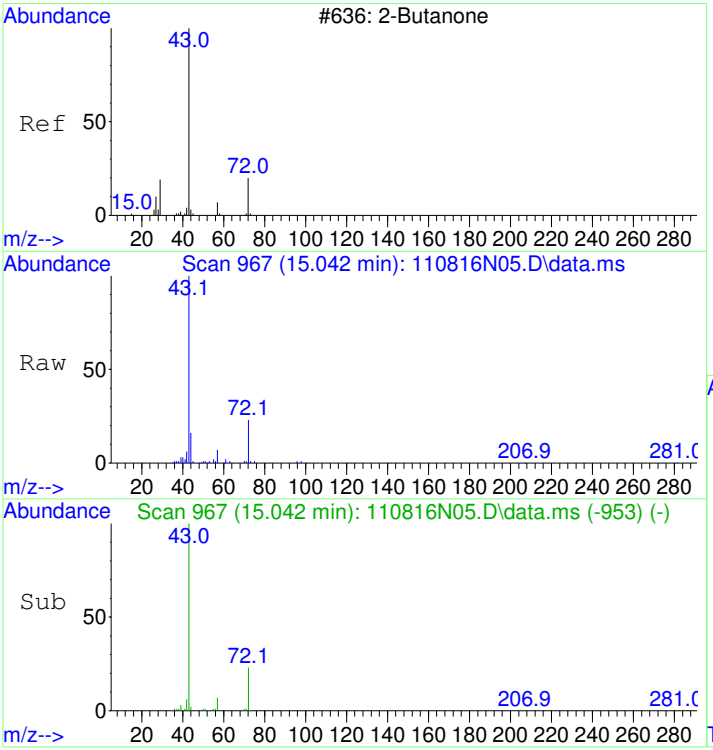


#24
cis-1,2-Dichloroethene
Concen: 23.27 ppbv
RT: 14.947 min Scan# 959
Delta R.T. -0.000 min
Lab File: 110816N05.D
Acq: 8 Nov 2016 1:36 pm

Tgt Ion: 61 Resp: 869870

Ion	Ratio	Lower	Upper
61	100		
96	67.5	54.4	94.4
98	43.1	27.5	67.5

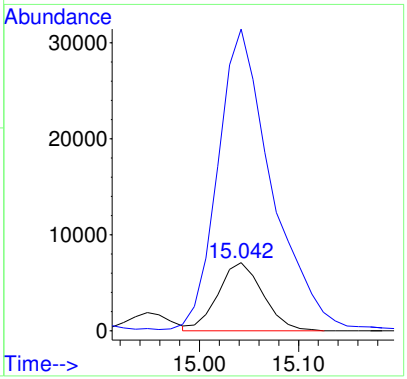


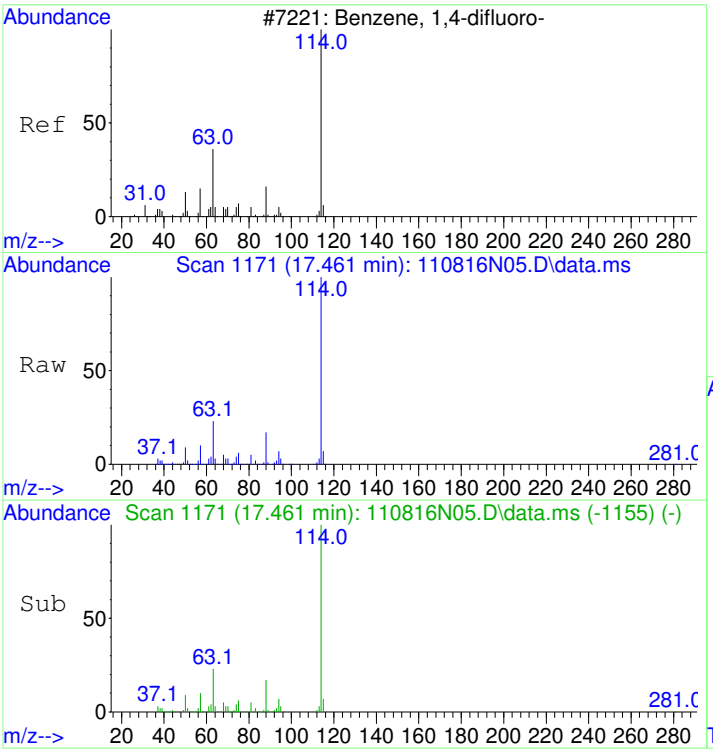


#25
2-Butanone (MEK)
Concen: 1.59 ppbv
RT: 15.042 min Scan# 967
Delta R.T. 0.012 min
Lab File: 110816N05.D
Acq: 8 Nov 2016 1:36 pm

Tgt Ion: 72 Resp: 22424

Ion	Ratio	Lower	Upper
72	100		
43	523.1	0.0	10.0#

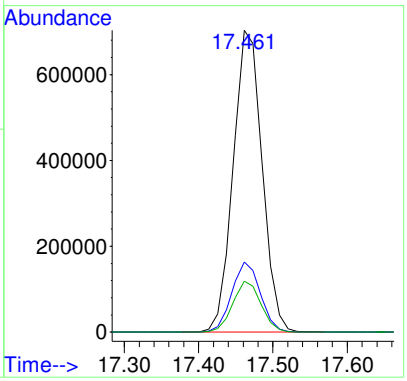


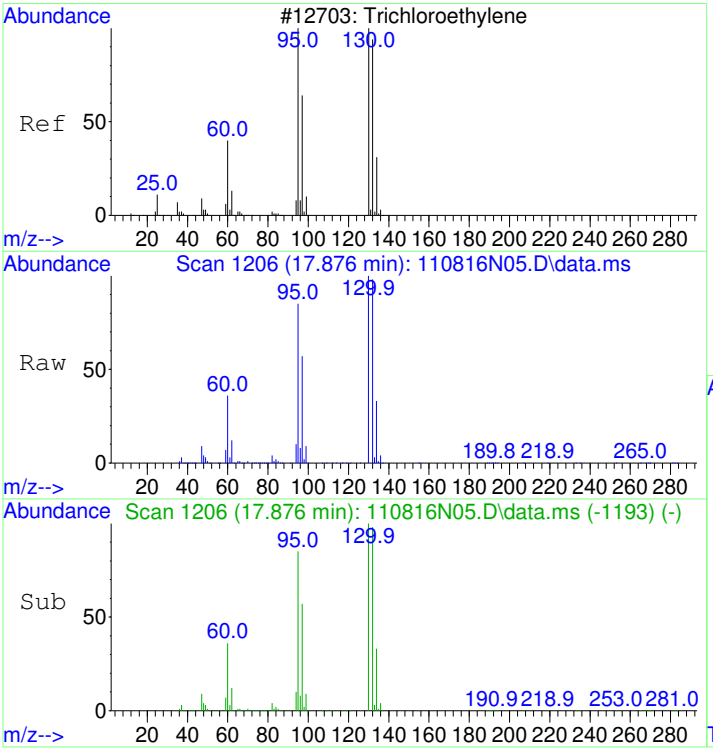


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. -0.000 min
Lab File: 110816N05.D
Acq: 8 Nov 2016 1:36 pm

Tgt Ion:114 Resp: 1899668

Ion	Ratio	Lower	Upper
114	100		
63	22.9	0.1	40.1
88	16.4	0.0	35.8

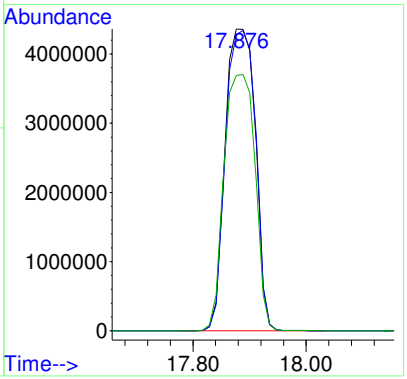


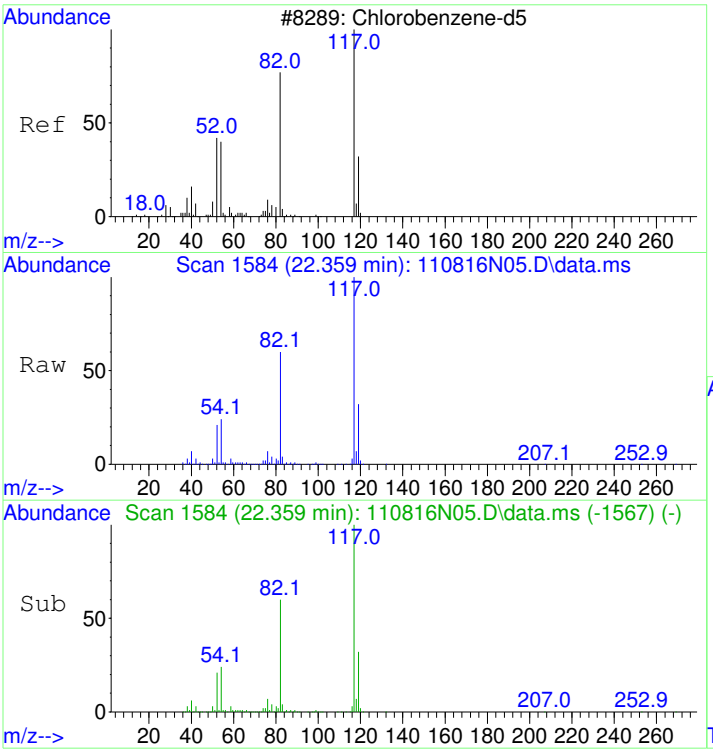


#37
Trichloroethene
Concen: 530.63 ppbv
RT: 17.876 min Scan# 1206
Delta R.T. -0.000 min
Lab File: 110816N05.D
Acq: 8 Nov 2016 1:36 pm

Tgt Ion:130 Resp:16126418

Ion	Ratio	Lower	Upper
130	100		
132	99.0	77.1	117.1
95	87.5	79.3	119.3

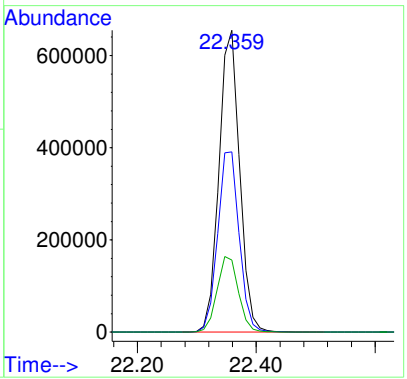


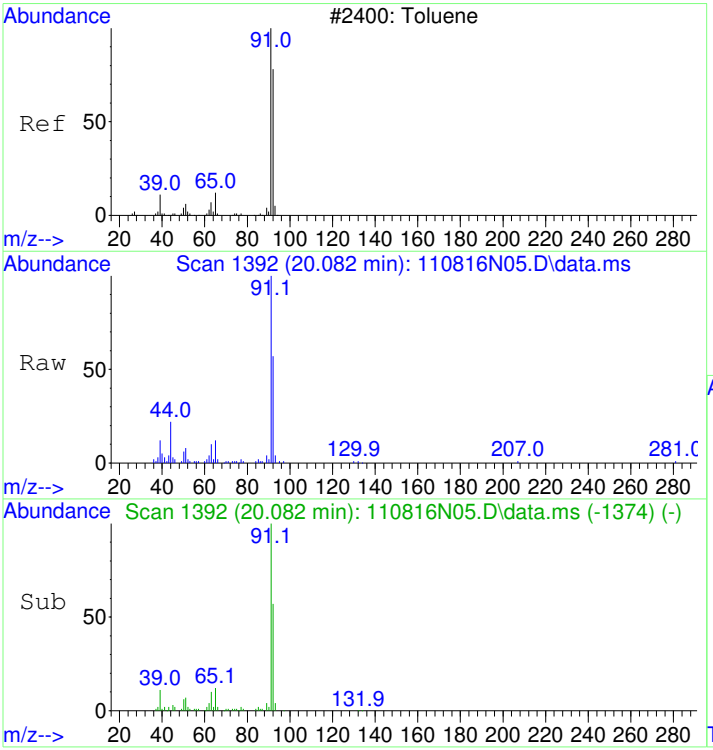


#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. -0.000 min
Lab File: 110816N05.D
Acq: 8 Nov 2016 1:36 pm

Tgt Ion:117 Resp: 1582021

Ion	Ratio	Lower	Upper
117	100		
82	62.2	36.8	76.8
54	26.0	1.4	41.4

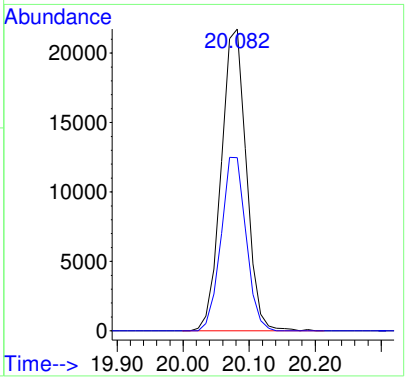




#44
Toluene
Concen: 0.65 ppbv
RT: 20.082 min Scan# 1392
Delta R.T. 0.012 min
Lab File: 110816N05.D
Acq: 8 Nov 2016 1:36 pm

Tgt Ion: 91 Resp: 57500

Ion	Ratio	Lower	Upper
91	100		
92	57.1	39.3	79.3



LSC Area Percent Report

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N05.D
Acq On : 8 Nov 2016 1:36 pm
Operator : LLH
Sample : 1611021-01
Misc : 200ml 870 LEONG-SS1
ALS Vial : 34 Sample Multiplier: 1.82

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.01 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 1 prefer < Baseline drop else tangent >
Peak separation: 10

Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Title : TO15

Signal : TIC: 110816N05.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.488	71	77	102	rVB	18848531	85621231	100.00%	44.693%
2	12.196	719	727	737	rBV	644875	2390538	2.79%	1.248%
3	14.947	946	959	964	rBV	883990	2894689	3.38%	1.511%
4	15.481	996	1004	1012	rVV	901803	2673441	3.12%	1.395%
5	17.461	1165	1171	1182	rBV	1710758	4589263	5.36%	2.396%
6	17.888	1196	1207	1237	rBV	22013634	83257624	97.24%	43.459%
7	20.450	1414	1423	1438	rBV	503282	1626133	1.90%	0.849%
8	22.359	1578	1584	1591	rBV	2057458	5172203	6.04%	2.700%
9	24.007	1718	1723	1729	rVB	526980	1562847	1.83%	0.816%
10	25.893	1878	1882	1892	rVB	290623	865968	1.01%	0.452%
11	26.865	1956	1964	1975	rVB3	227854	924337	1.08%	0.482%

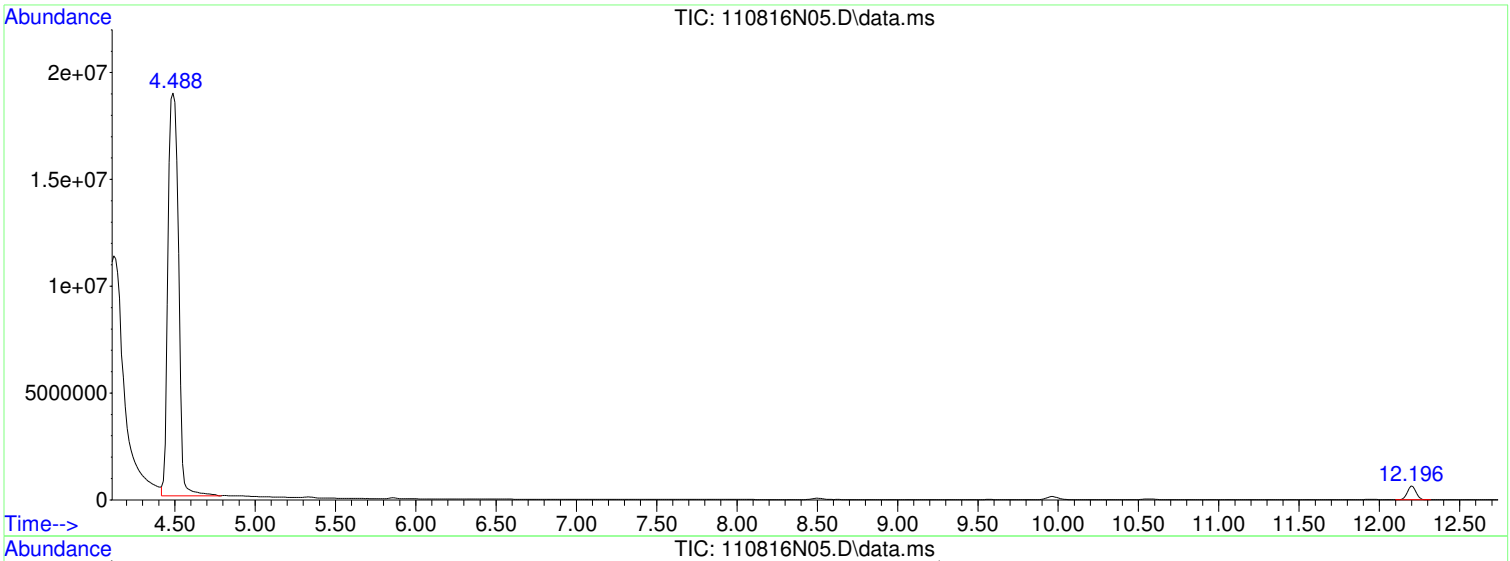
Sum of corrected areas: 191578274

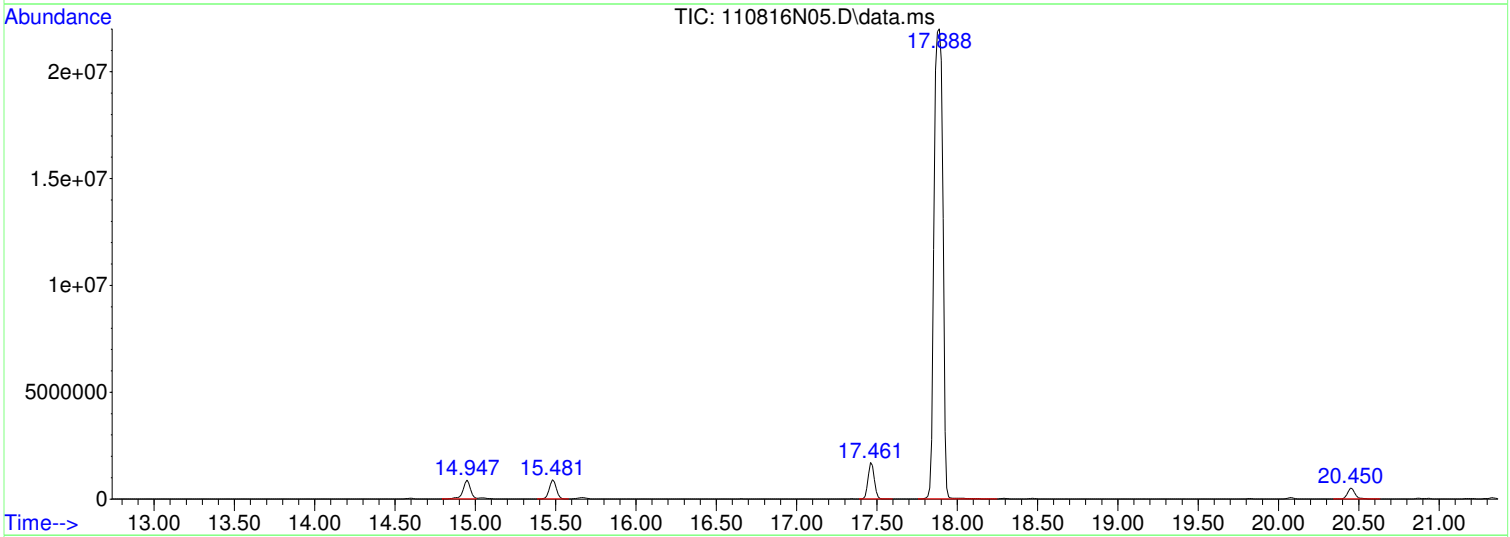
Table of Contents

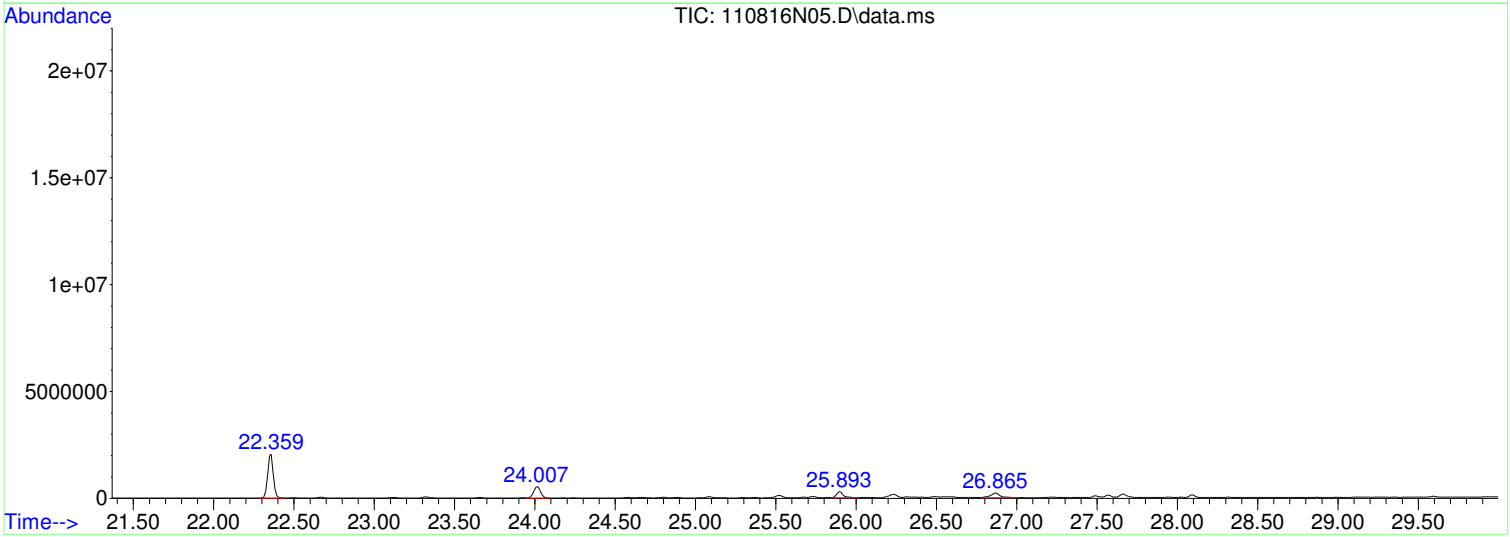
Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N05.D
Acq On : 8 Nov 2016 1:36 pm
Operator : LLH
Sample : 1611021-01
Misc : 200ml 870 LEONG-SS1
ALS Vial : 34 Sample Multiplier: 1.82

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P







Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N05.D
Acq On : 8 Nov 2016 1:36 pm
Operator : LLH
Sample : 1611021-01
Misc : 200ml 870 LEONG-SS1
ALS Vial : 34 Sample Multiplier: 1.82

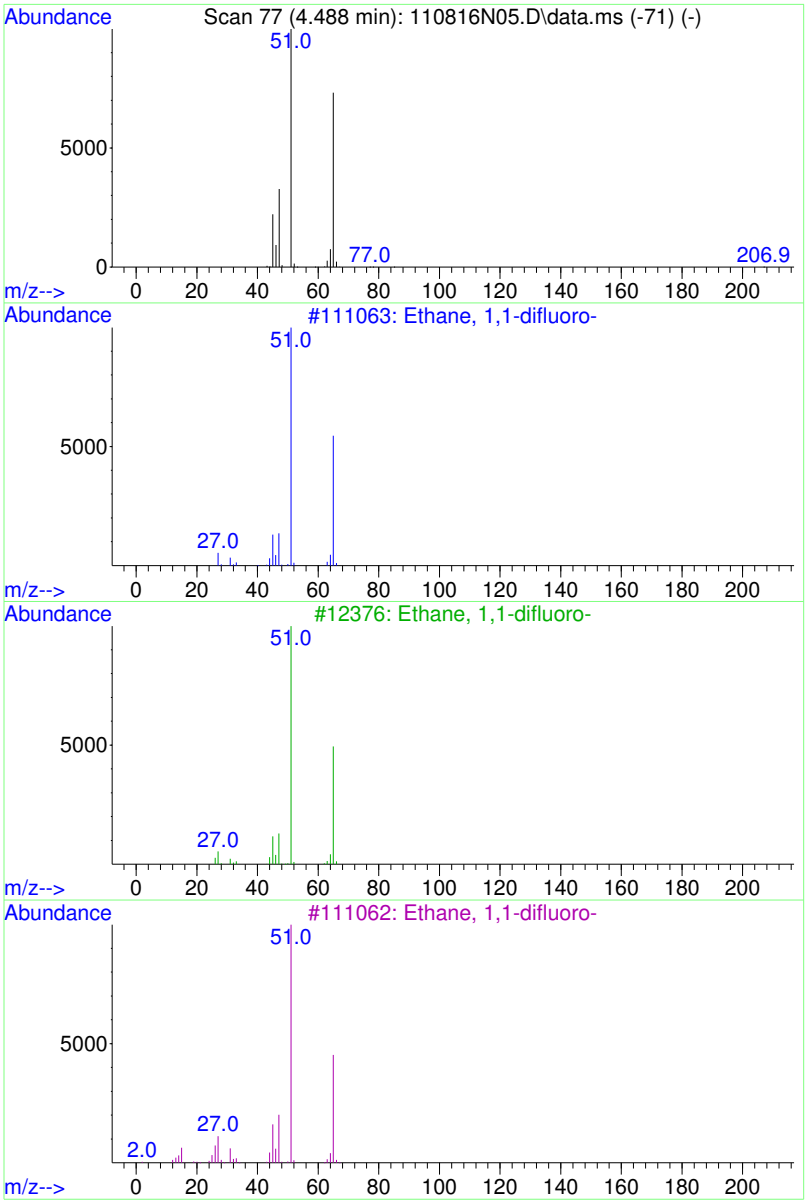
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

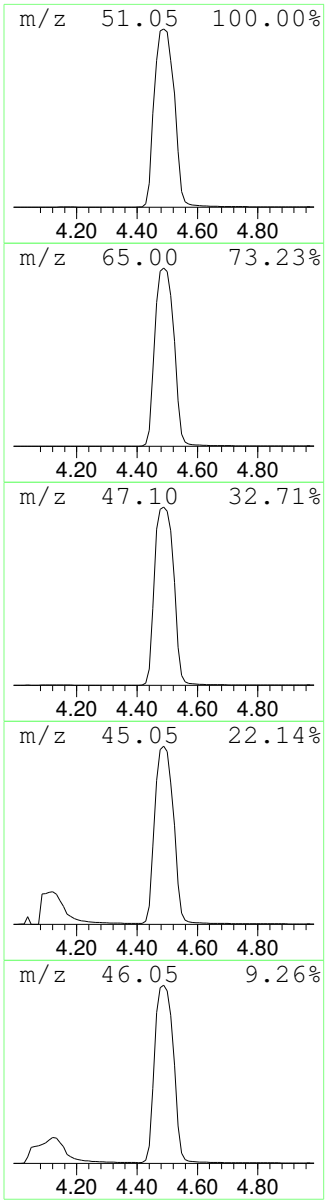
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 1 Ethane, difluoro- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.488	704.59 ppbv	85621200	BROMOCHLOROMETHANE	15.481

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,1-difluoro-	66	C2H4F2	000075-37-6	90
2	Ethane, 1,1-difluoro-	66	C2H4F2	000075-37-6	83
3	Ethane, 1,1-difluoro-	66	C2H4F2	000075-37-6	46
4	Propiolonitrile	51	C3HN	001070-71-9	3
5	Propane, 2,2-difluoro-	80	C3H6F2	000420-45-1	2





Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N05.D
Acq On : 8 Nov 2016 1:36 pm
Operator : LLH
Sample : 1611021-01
Misc : 200ml 870 LEONG-SS1
ALS Vial : 34 Sample Multiplier: 1.82

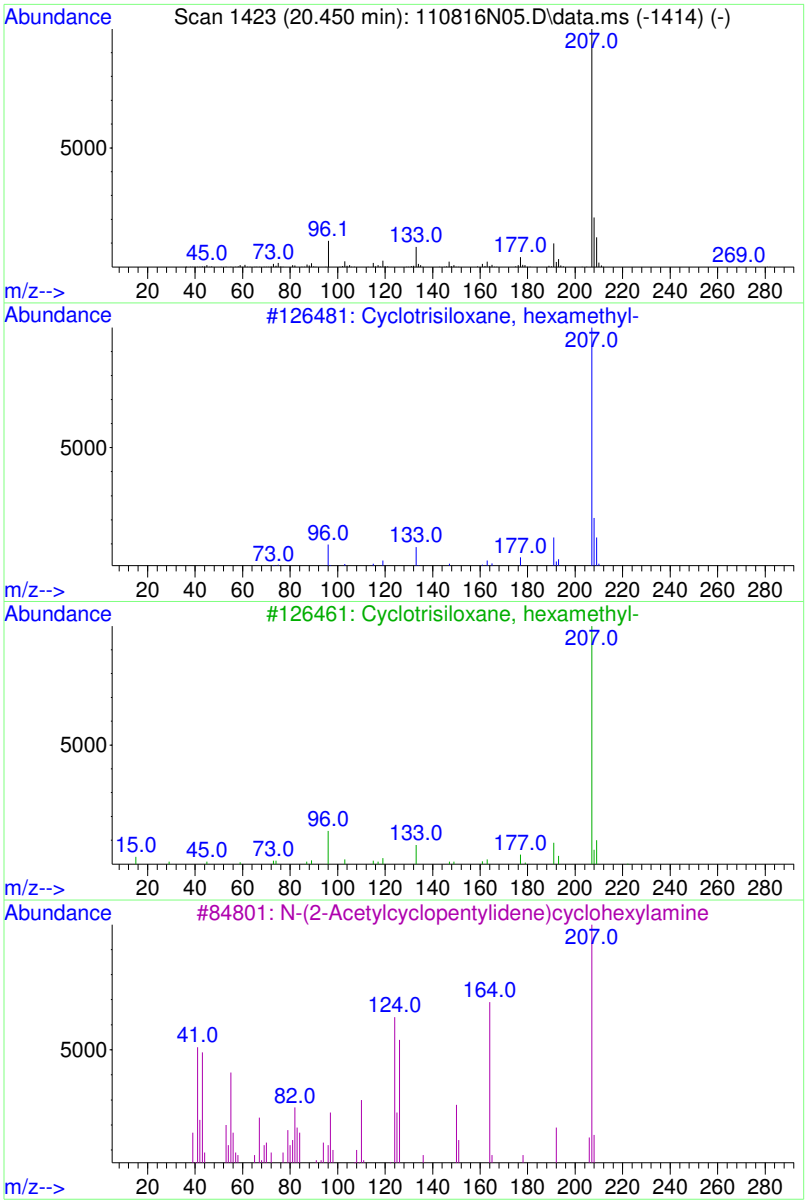
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

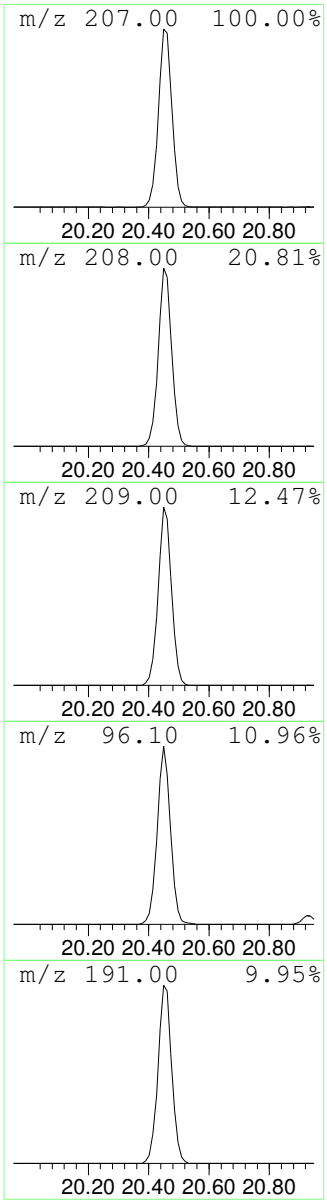
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 2 column bleed Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
20.450	6.92 ppbv	1626130	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	91
2	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	80
3	N-(2-Acetylcyclopentylidene)cycl...	207	C13H21NO	1000100-48-5	59
4	Arsenous acid, tris(trimethylsil...	342	C9H27AsO3Si3	055429-29-3	56
5	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	52





Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N05.D
Acq On : 8 Nov 2016 1:36 pm
Operator : LLH
Sample : 1611021-01
Misc : 200ml 870 LEONG-SS1
ALS Vial : 34 Sample Multiplier: 1.82

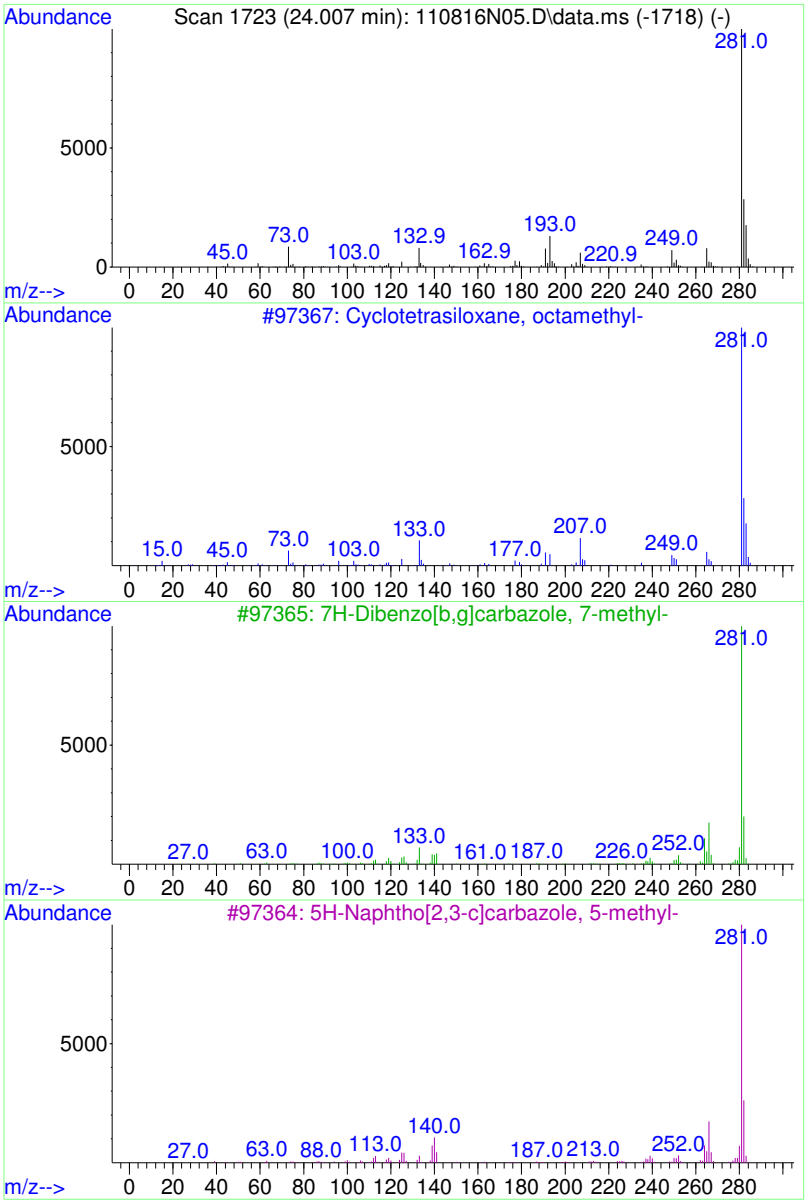
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

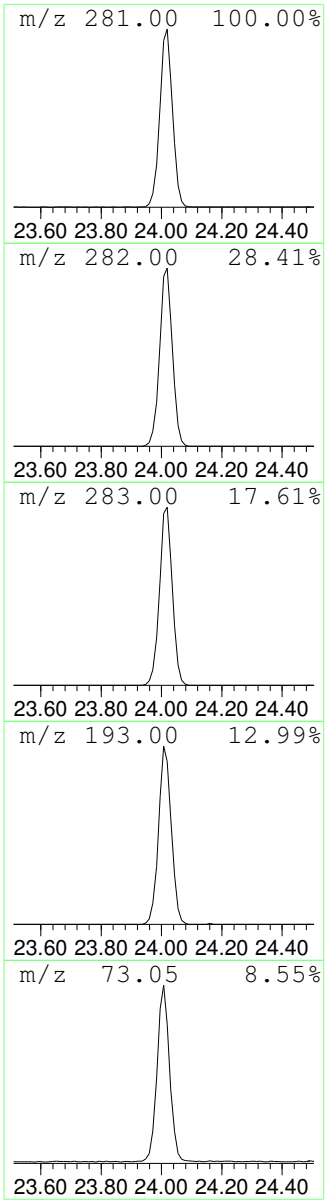
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 3 column bleed Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
24.007	6.65 ppbv	1562850	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclotetrasiloxane, octamethyl-	296	C8H24O4Si4	000556-67-2	86
2	7H-Dibenzo[b,g]carbazole, 7-methyl-	281	C21H15N	003557-49-1	59
3	5H-Naphtho[2,3-c]carbazole, 5-me...	281	C21H15N	100025-44-3	45
4	Cyclotetrasiloxane, octamethyl-	296	C8H24O4Si4	000556-67-2	43
5	Cyclopentanecarboxamide, 3-ethen...	281	C19H23NO	136091-23-1	42





Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N05.D
Acq On : 8 Nov 2016 1:36 pm
Operator : LLH
Sample : 1611021-01
Misc : 200ml 870 LEONG-SS1
ALS Vial : 34 Sample Multiplier: 1.82

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

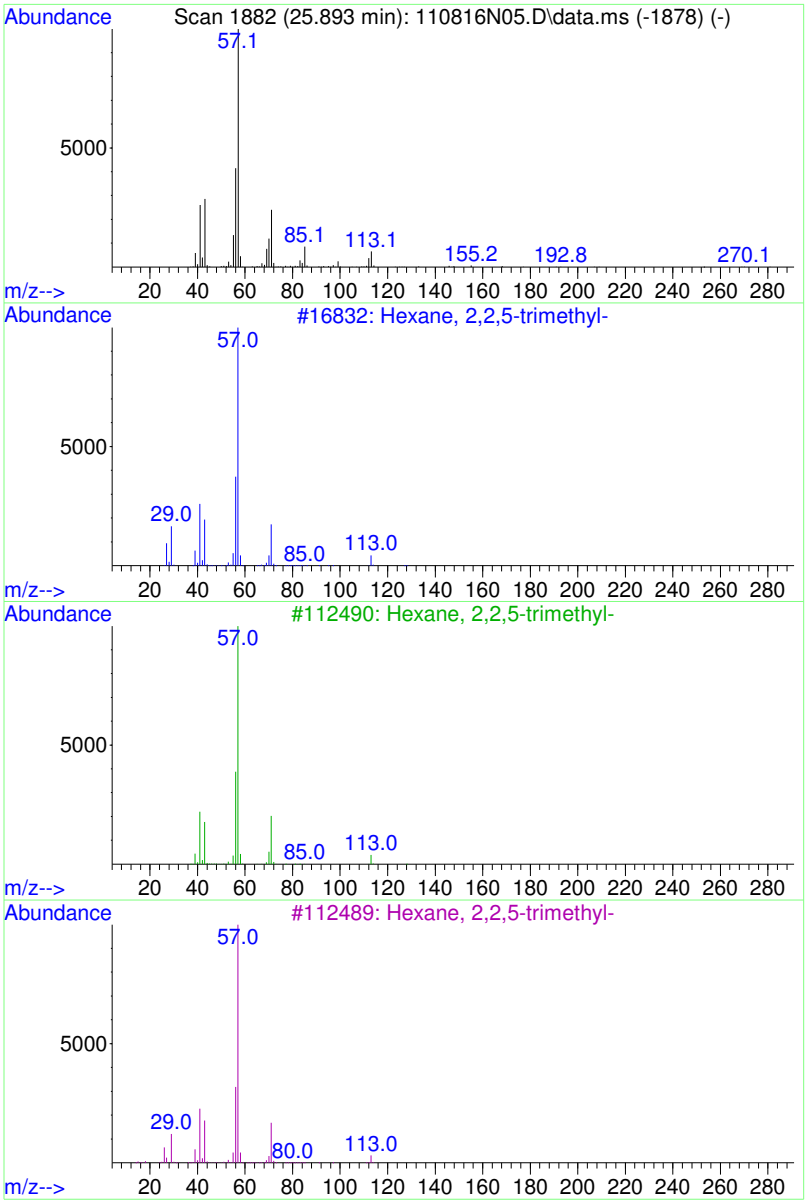
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

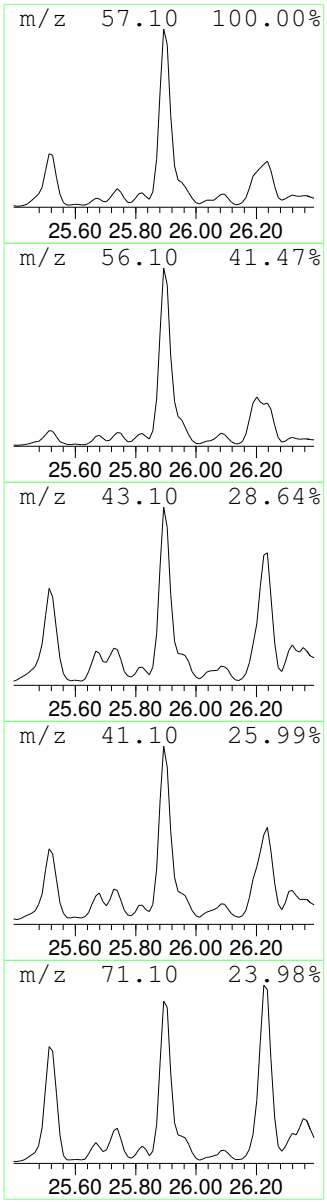
****

Peak Number 4 Hexane, trimethyl- Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
25.893	3.68 ppbv	865968	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Hexane, 2,2,5-trimethyl-	128	C9H20	003522-94-9	64
2	Hexane, 2,2,5-trimethyl-	128	C9H20	003522-94-9	64
3	Hexane, 2,2,5-trimethyl-	128	C9H20	003522-94-9	64
4	Heptane, 2,2-dimethyl-	128	C9H20	001071-26-7	59
5	Heptane, 2,2,4,6,6-pentamethyl-	170	C12H26	013475-82-6	59





Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N05.D
Acq On : 8 Nov 2016 1:36 pm
Operator : LLH
Sample : 1611021-01
Misc : 200ml 870 LEONG-SS1
ALS Vial : 34 Sample Multiplier: 1.82

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

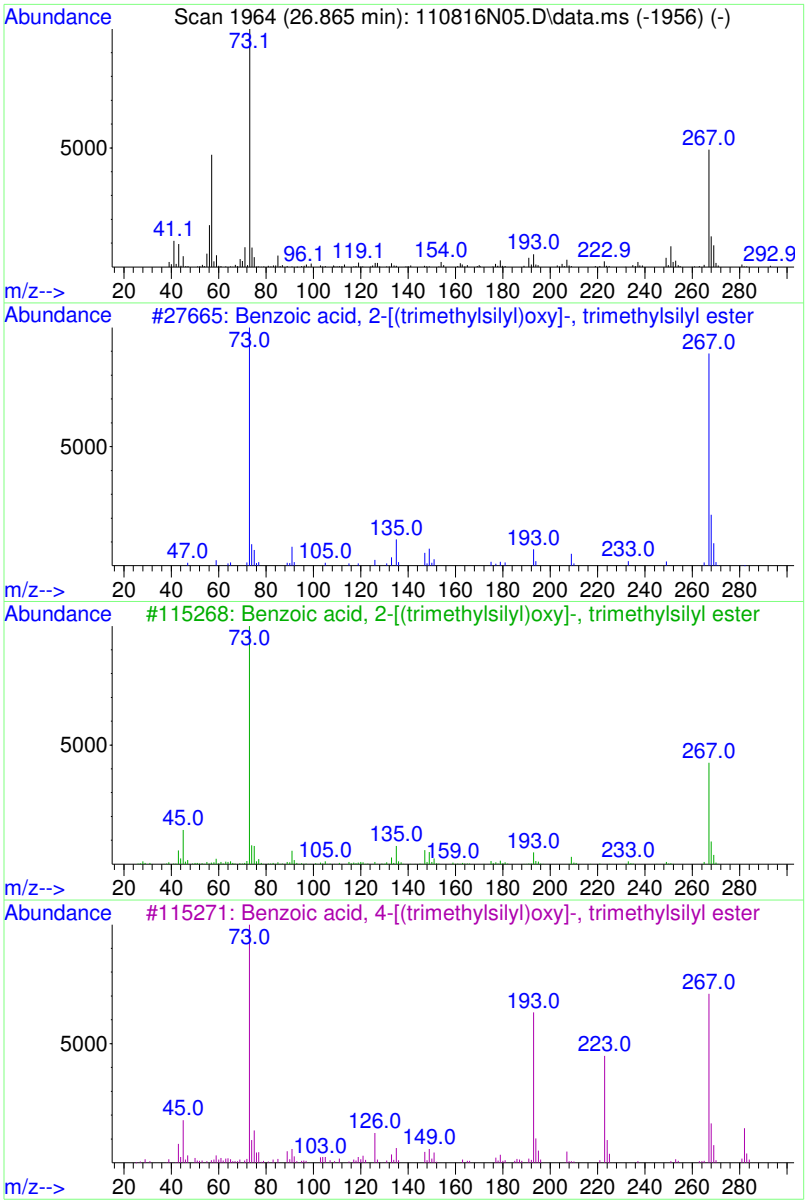
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

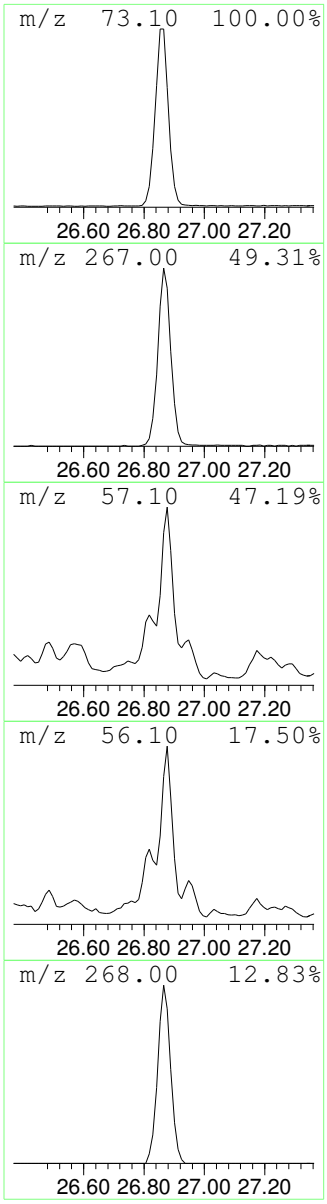
****

Peak Number 5 column bleed Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
26.865	3.93 ppbv	924337	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzoic acid, 2-[(trimethylsilyl...	282	C13H22O3Si2	003789-85-3	53
2	Benzoic acid, 2-[(trimethylsilyl...	282	C13H22O3Si2	003789-85-3	39
3	Benzoic acid, 4-[(trimethylsilyl...	282	C13H22O3Si2	002078-13-9	33
4	Benzeneethanamine, N-[(pentafluo...	475	C21H26F5NO2Si2	055429-85-1	32
5	3,5-Dimethoxyphenylacetic acid, TMS	268	C13H20O4Si	1000071-82-4	10





Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N05.D
Acq On : 8 Nov 2016 1:36 pm
Operator : LLH
Sample : 1611021-01
Misc : 200ml 870 LEONG-SS1
ALS Vial : 34 Sample Multiplier: 1.82

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	RT	Resp	Conc
Ethane, difluoro-	4.488	704.6	ppbv	85621200	1	15.481	2673440	22.0
column bleed	20.450	6.9	ppbv	1626130	3	22.359	5172200	22.0
column bleed	24.007	6.7	ppbv	1562850	3	22.359	5172200	22.0
Hexane, trimethyl-	25.893	3.7	ppbv	865968	3	22.359	5172200	22.0
column bleed	26.865	3.9	ppbv	924337	3	22.359	5172200	22.0

REVIEWED
By LLH at 3:34 pm, Nov 08, 2016

1611021-02

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N06.D
Acq On : 8 Nov 2016 2:25 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-02
Misc : 200ml 870 LEONG-SS1D
ALS Vial : 35 Sample Multiplier: 1.8

REPORT

rerun 20ml re-repress

Quant Time: Nov 08 15:01:26 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)		
Internal Standards								
1) BROMOCHLOROMETHANE	15.481	49	720621	22.00	ppbv	0.00		
32) 1,4-DIFLUOROBENZENE	17.461	114	1903613	22.00	ppbv	0.00		
43) CHLOROBENZENE-d5	22.359	117	1563882	22.00	ppbv	0.00		
Target Compounds						Qvalue		
2) Propene	4.429	41	22796	~~1.11~~	~~ppbv~~	# 48		
14) Acetone	9.967	43	437812	11.20	ppbv	96		
16) 2-Propanol	10.560	45	3484073	85.52	ppbv	98	OC	NT
20) trans-1,2-Dichloroethene	12.208	61	794382	20.83	ppbv	93		
24) cis-1,2-Dichloroethene	14.947	61	878593	23.32	ppbv	92	OC	
25) 2-Butanone (MEK)	15.042	72	19269	1.35	ppbv	# 100		
37) Trichloroethene	17.888	130	16446875	540.05	ppbv	93	OC	
44) Toluene	20.082	91	47796	0.54	ppbv	97		

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

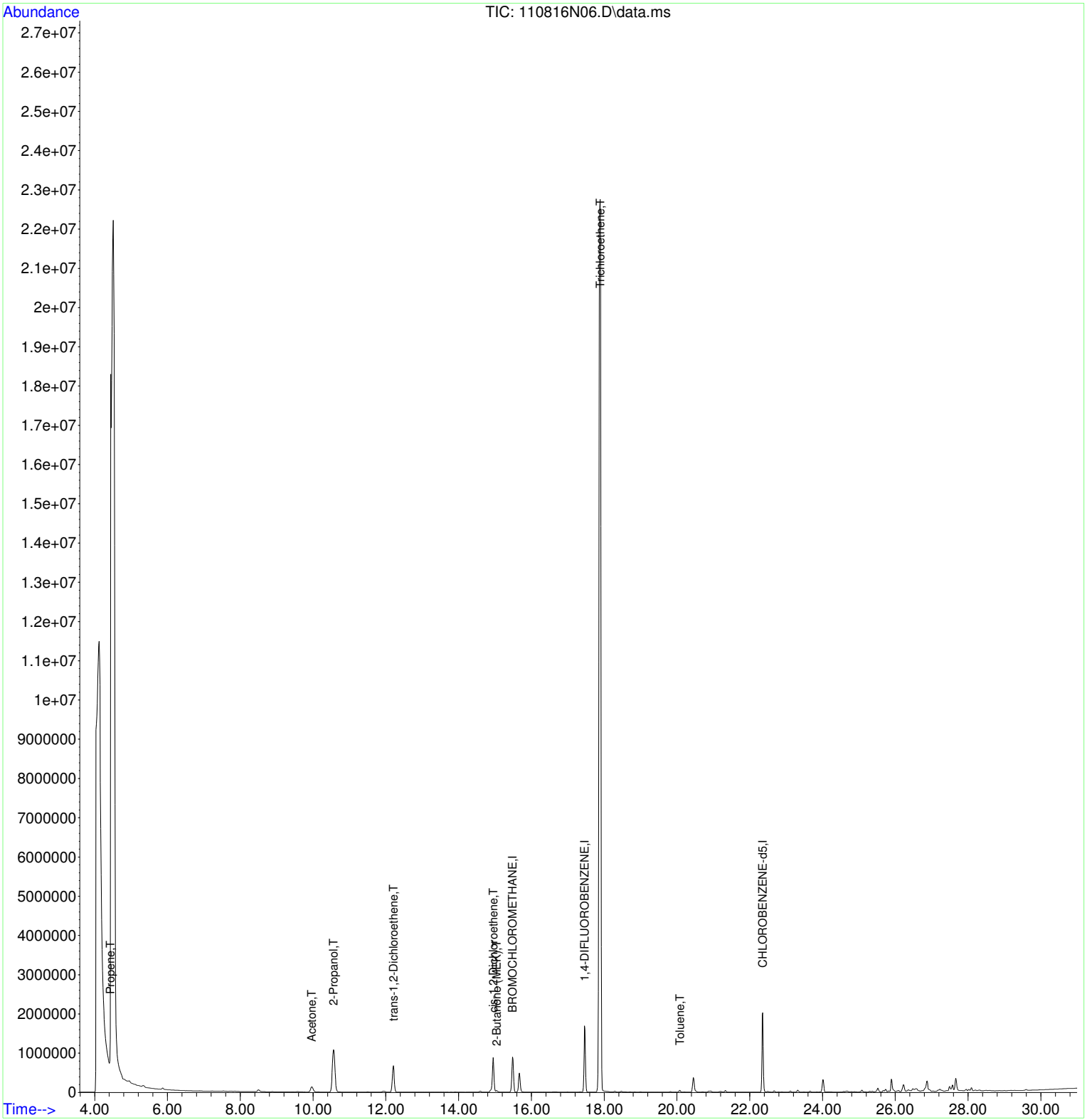
AFTER Q DELETE

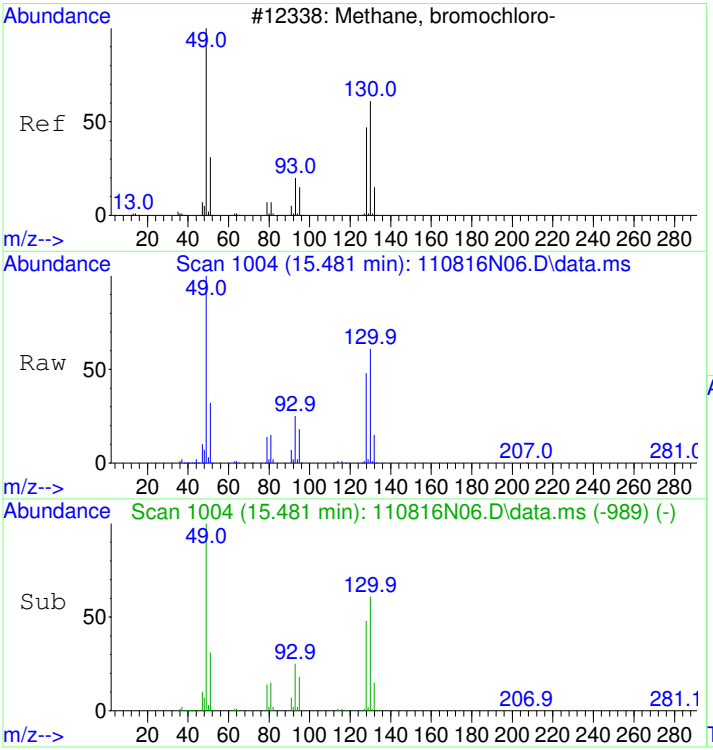
REVIEWED
By LLH at 3:14 pm, Nov 08, 2016

Table of Contents

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N06.D
Acq On : 8 Nov 2016 2:25 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-02
Misc : 200ml 870 LEONG-SS1D
ALS Vial : 35 Sample Multiplier: 1.8

Quant Time: Nov 08 15:01:26 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

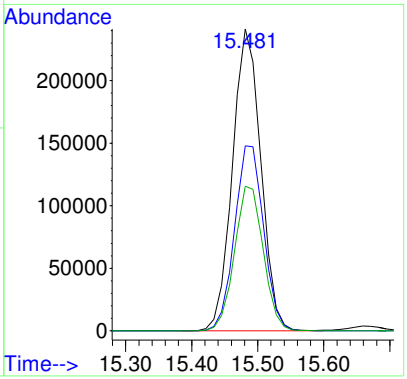


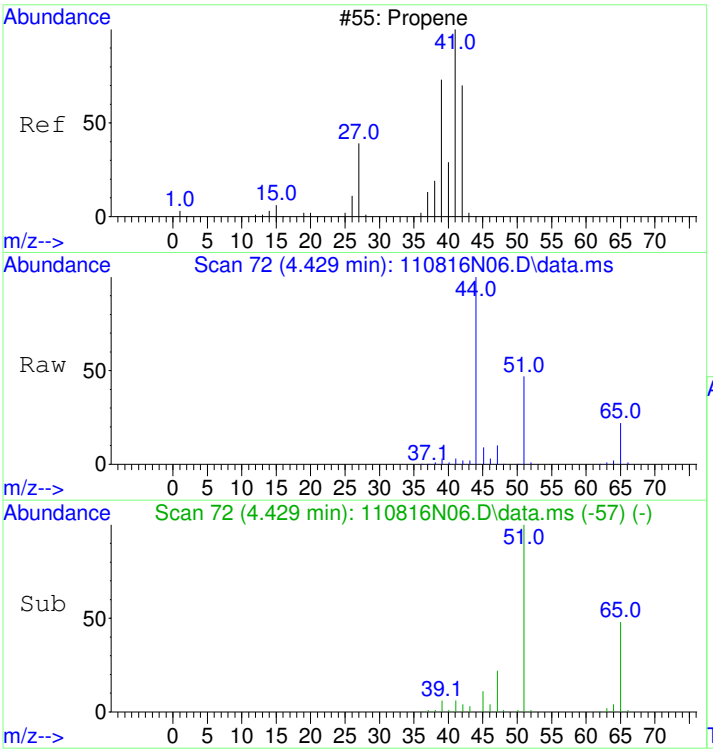


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. -0.000 min
Lab File: 110816N06.D
Acq: 8 Nov 2016 2:25 pm

Tgt Ion: 49 Resp: 720621

Ion	Ratio	Lower	Upper
49	100		
130	62.8	56.1	96.1
128	48.6	38.8	78.8

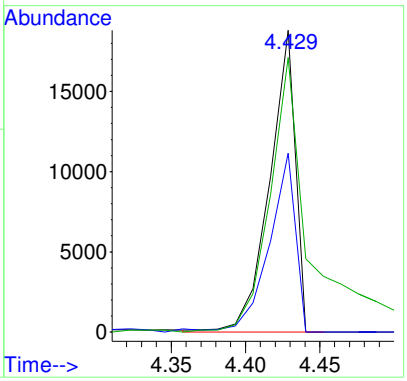




#2
Propene
Concen: 1.11 ppbv
RT: 4.429 min Scan# 72
Delta R.T. -0.024 min
Lab File: 110816N06.D
Acq: 8 Nov 2016 2:25 pm

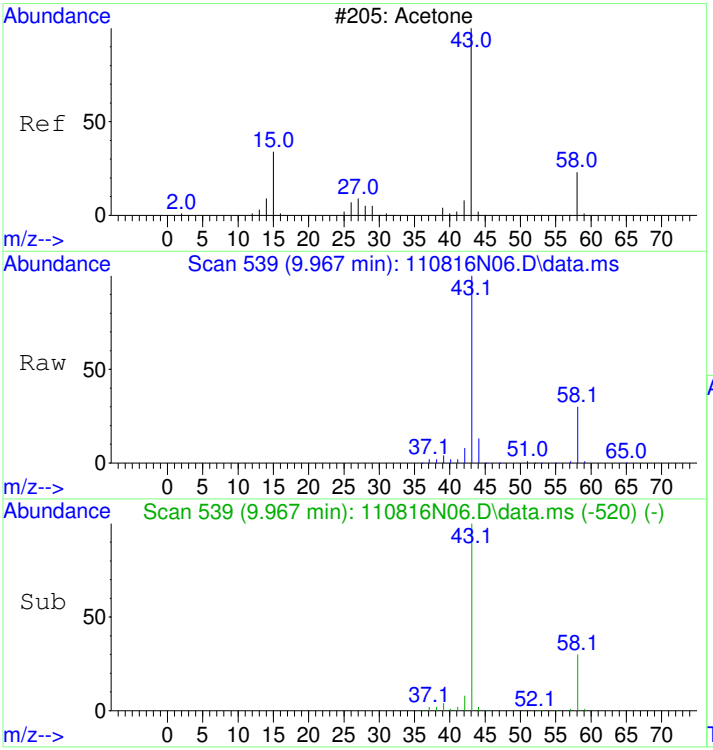
Tgt Ion: 41 Resp: 22796

Ion	Ratio	Lower	Upper
41	100		
42	60.9	47.2	87.2
39	146.6	49.6	89.6#



spectra off

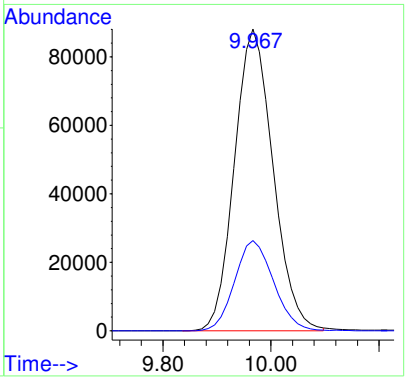
LLH 11/08/16

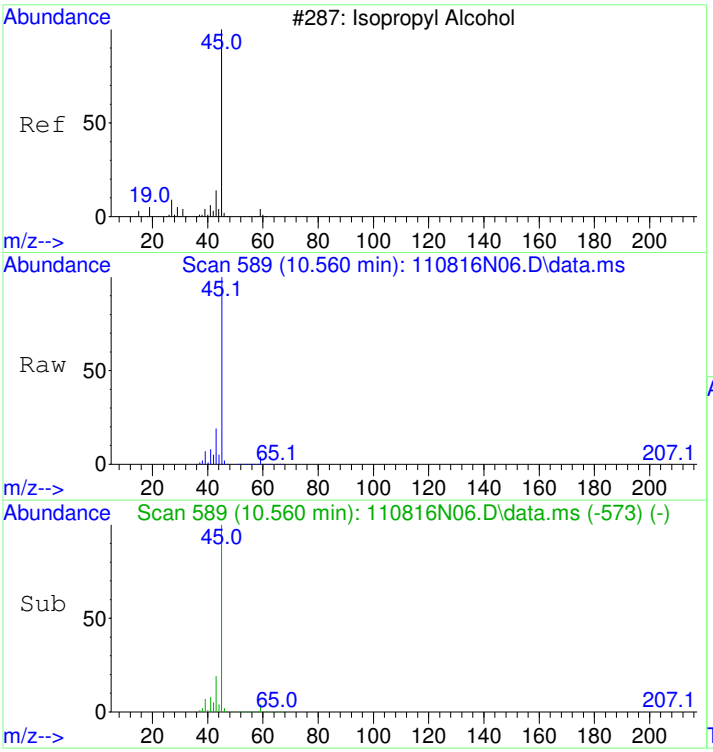


#14
Acetone
Concen: 11.20 ppbv
RT: 9.967 min Scan# 539
Delta R.T. 0.023 min
Lab File: 110816N06.D
Acq: 8 Nov 2016 2:25 pm

Tgt Ion: 43 Resp: 437812

Ion	Ratio	Lower	Upper
43	100		
58	30.1	12.3	52.3

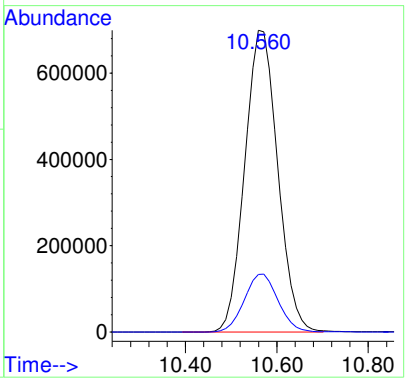


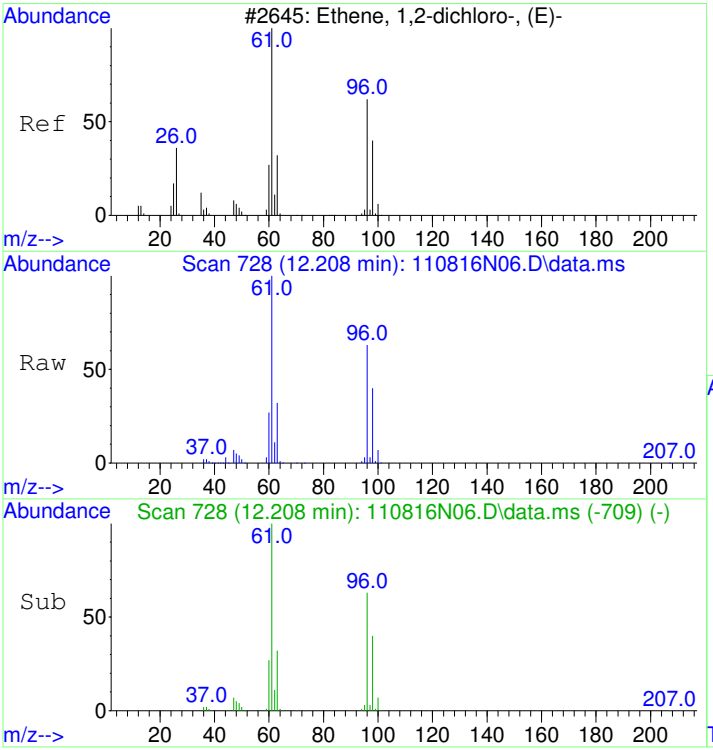


#16
2-Propanol
Concen: 85.52 ppbv
RT: 10.560 min Scan# 589
Delta R.T. 0.012 min
Lab File: 110816N06.D
Acq: 8 Nov 2016 2:25 pm

Tgt Ion: 45 Resp: 3484073

Ion	Ratio	Lower	Upper
45	100		
43	19.7	0.0	38.9

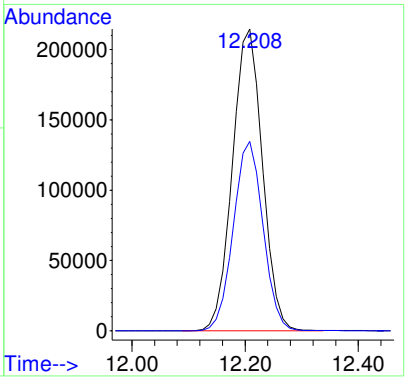


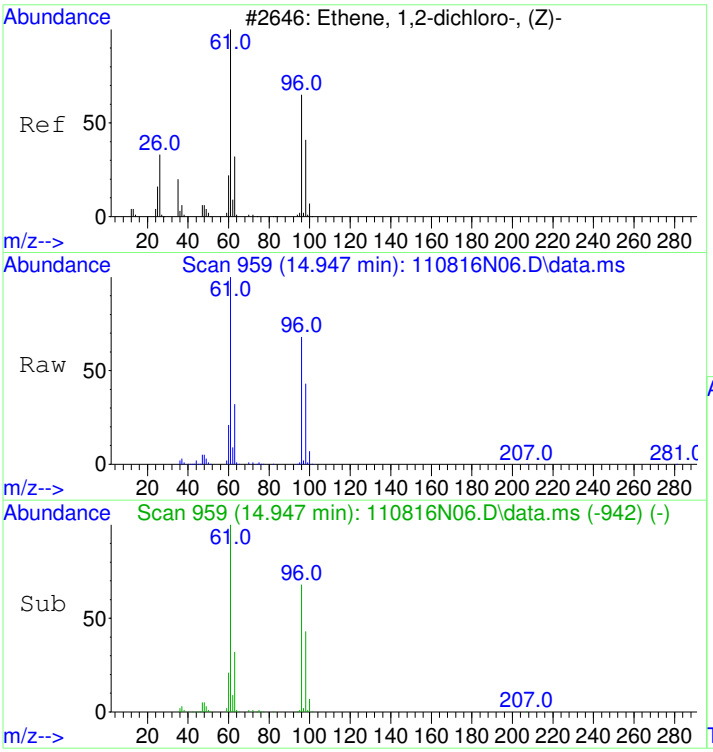


#20
trans-1,2-Dichloroethene
Concen: 20.83 ppbv
RT: 12.208 min Scan# 728
Delta R.T. 0.023 min
Lab File: 110816N06.D
Acq: 8 Nov 2016 2:25 pm

Tgt Ion: 61 Resp: 794382

Ion	Ratio	Lower	Upper
61	100		
96	61.9	47.5	87.5

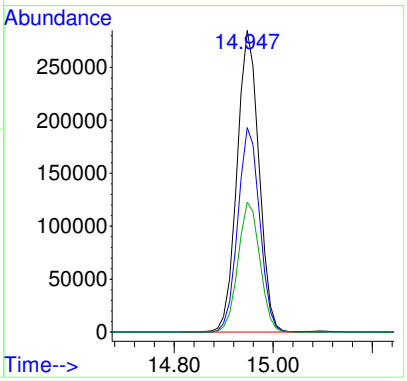


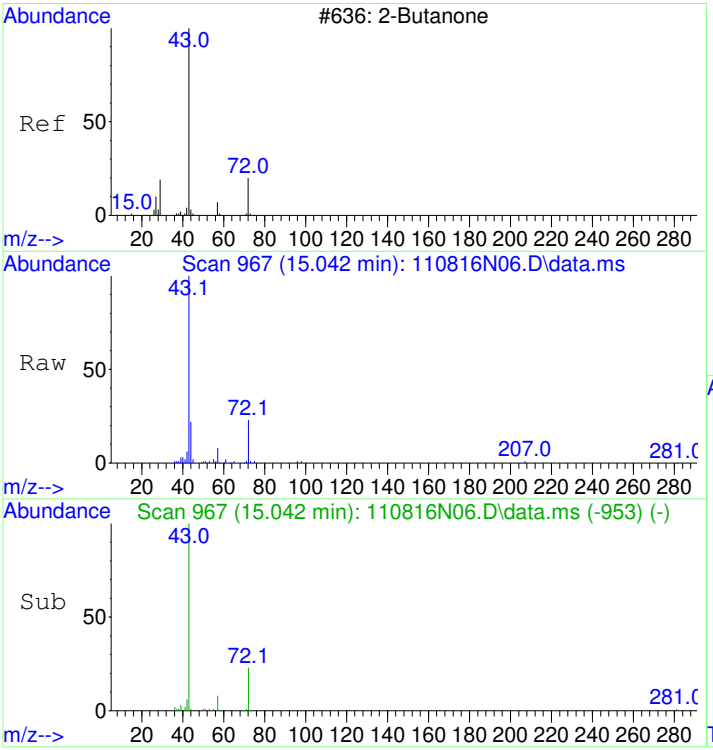


#24
cis-1,2-Dichloroethene
Concen: 23.32 ppbv
RT: 14.947 min Scan# 959
Delta R.T. -0.000 min
Lab File: 110816N06.D
Acq: 8 Nov 2016 2:25 pm

Tgt Ion: 61 Resp: 878593

Ion	Ratio	Lower	Upper
61	100		
96	67.4	54.4	94.4
98	42.9	27.5	67.5

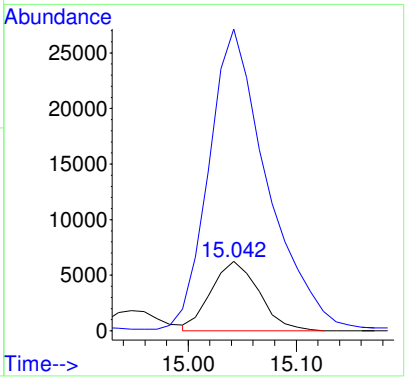


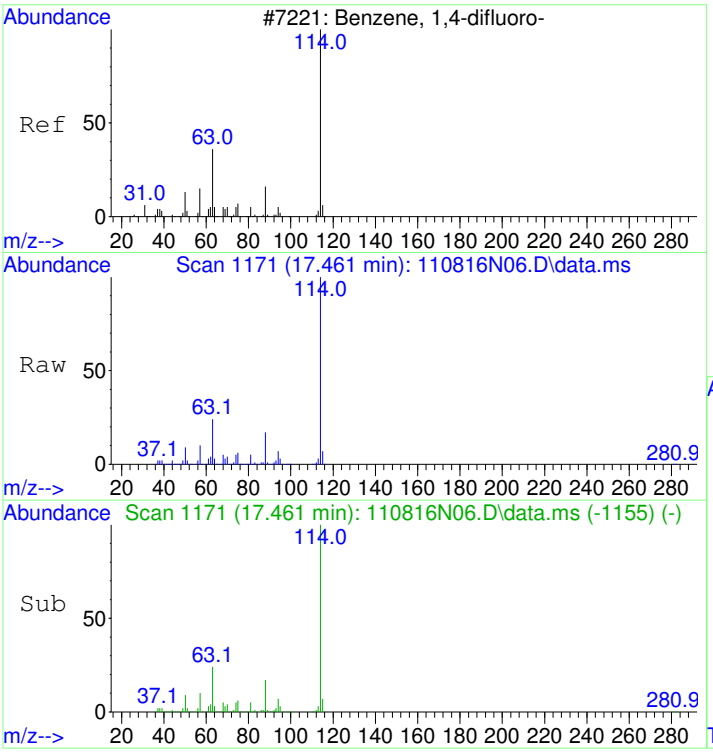


#25
2-Butanone (MEK)
Concen: 1.35 ppbv
RT: 15.042 min Scan# 967
Delta R.T. 0.012 min
Lab File: 110816N06.D
Acq: 8 Nov 2016 2:25 pm

Tgt Ion: 72 Resp: 19269

Ion	Ratio	Lower	Upper
72	100		
43	525.5	0.0	10.0#

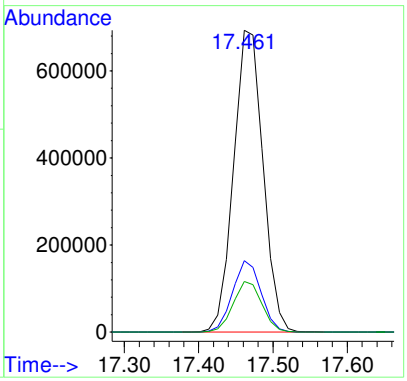


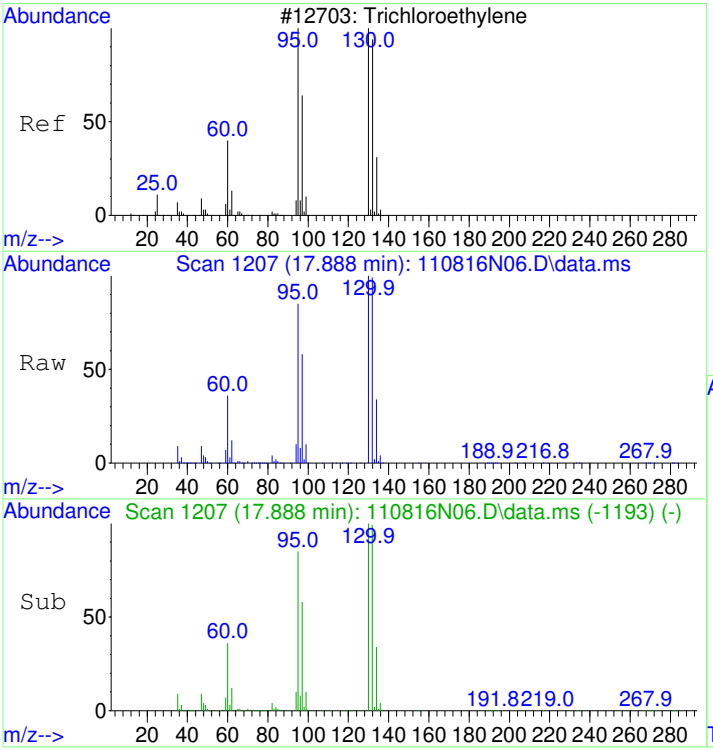


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. -0.000 min
Lab File: 110816N06.D
Acq: 8 Nov 2016 2:25 pm

Tgt Ion:114 Resp: 1903613

Ion	Ratio	Lower	Upper
114	100		
63	23.0	0.1	40.1
88	16.4	0.0	35.8

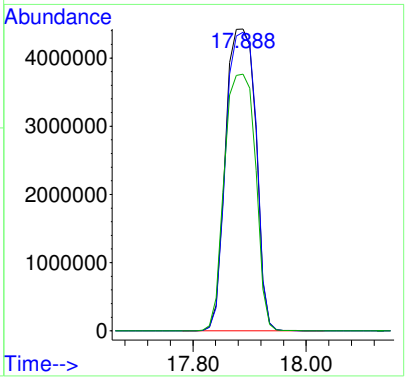


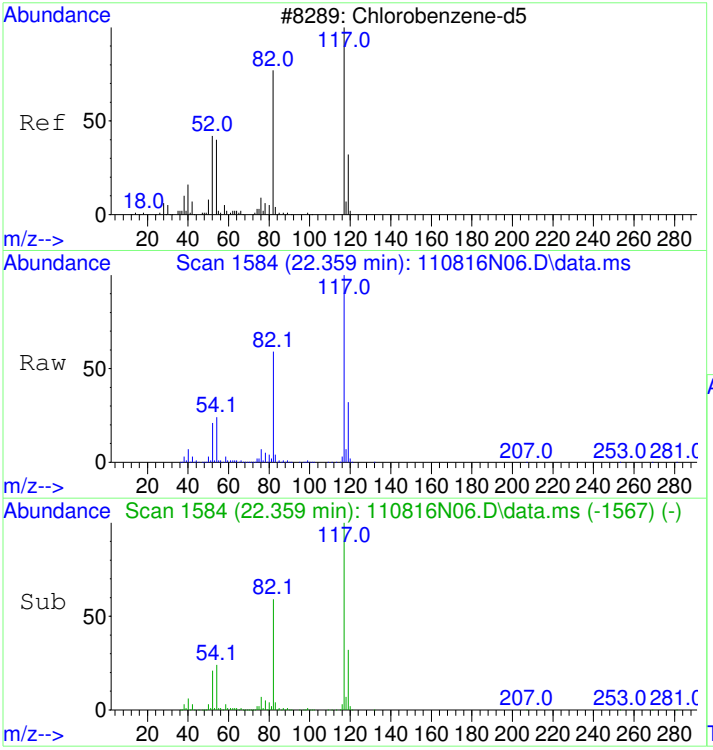


#37
Trichloroethene
Concen: 540.05 ppbv
RT: 17.888 min Scan# 1207
Delta R.T. 0.012 min
Lab File: 110816N06.D
Acq: 8 Nov 2016 2:25 pm

Tgt Ion:130 Resp:16446875

Ion	Ratio	Lower	Upper
130	100		
132	98.7	77.1	117.1
95	87.5	79.3	119.3

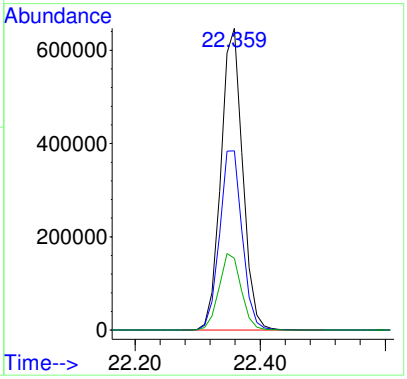


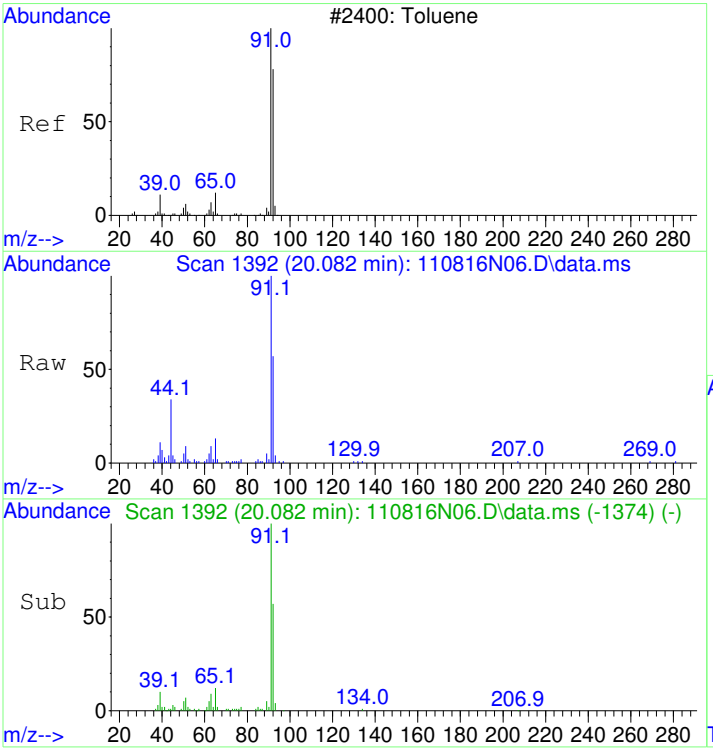


#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. -0.000 min
Lab File: 110816N06.D
Acq: 8 Nov 2016 2:25 pm

Tgt Ion:117 Resp: 1563882

Ion	Ratio	Lower	Upper
117	100		
82	61.9	36.8	76.8
54	26.0	1.4	41.4

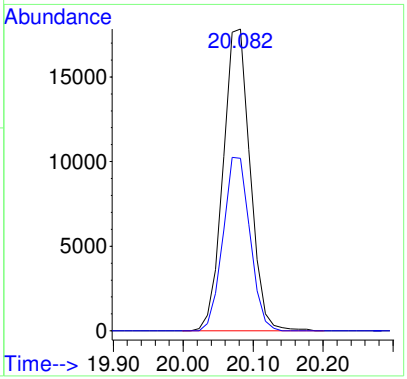




#44
Toluene
Concen: 0.54 ppbv
RT: 20.082 min Scan# 1392
Delta R.T. 0.012 min
Lab File: 110816N06.D
Acq: 8 Nov 2016 2:25 pm

Tgt Ion: 91 Resp: 47796

Ion	Ratio	Lower	Upper
91	100		
92	57.2	39.3	79.3



LSC Area Percent Report

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N05.D
Acq On : 8 Nov 2016 1:36 pm
Operator : LLH
Sample : 1611021-01
Misc : 200ml 870 LEONG-SS1
ALS Vial : 34 Sample Multiplier: 1.82

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.01 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 1 prefer < Baseline drop else tangent >
Peak separation: 10

Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Title : TO15

Signal : TIC: 110816N05.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.488	71	77	102	rVB	18848531	85621231	100.00%	44.693%
2	12.196	719	727	737	rBV	644875	2390538	2.79%	1.248%
3	14.947	946	959	964	rBV	883990	2894689	3.38%	1.511%
4	15.481	996	1004	1012	rVV	901803	2673441	3.12%	1.395%
5	17.461	1165	1171	1182	rBV	1710758	4589263	5.36%	2.396%
6	17.888	1196	1207	1237	rBV	22013634	83257624	97.24%	43.459%
7	20.450	1414	1423	1438	rBV	503282	1626133	1.90%	0.849%
8	22.359	1578	1584	1591	rBV	2057458	5172203	6.04%	2.700%
9	24.007	1718	1723	1729	rVB	526980	1562847	1.83%	0.816%
10	25.893	1878	1882	1892	rVB	290623	865968	1.01%	0.452%
11	26.865	1956	1964	1975	rVB3	227854	924337	1.08%	0.482%

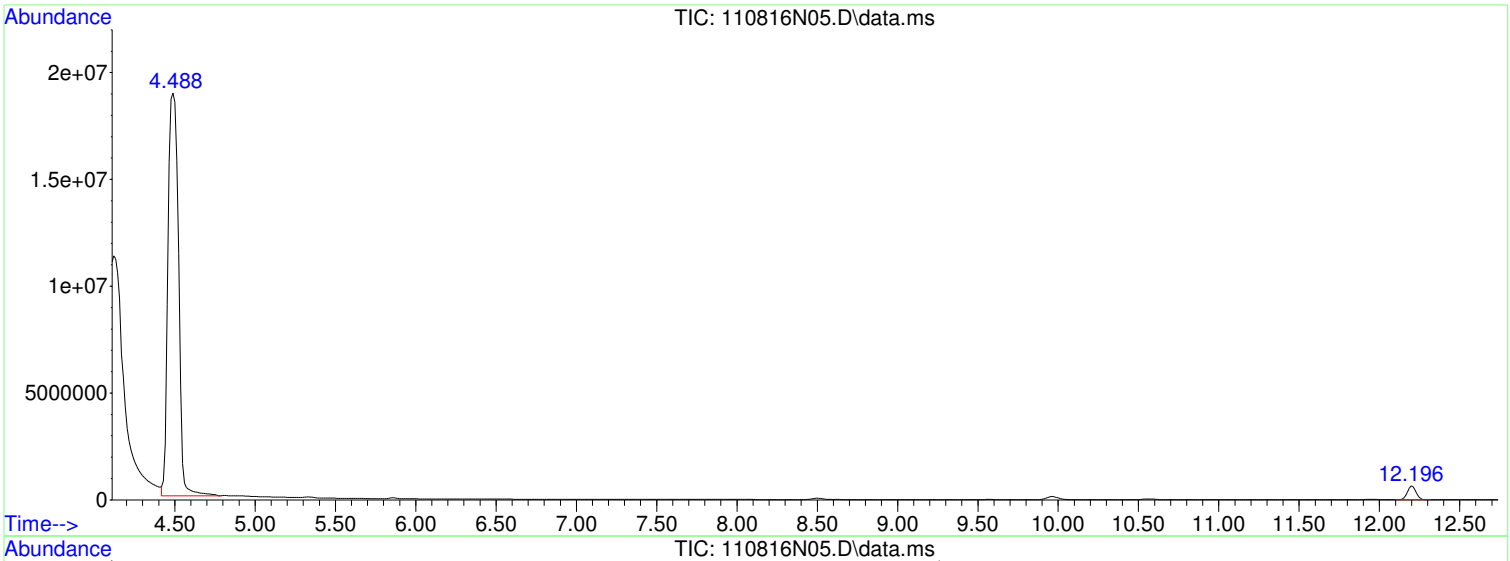
Sum of corrected areas: 191578274

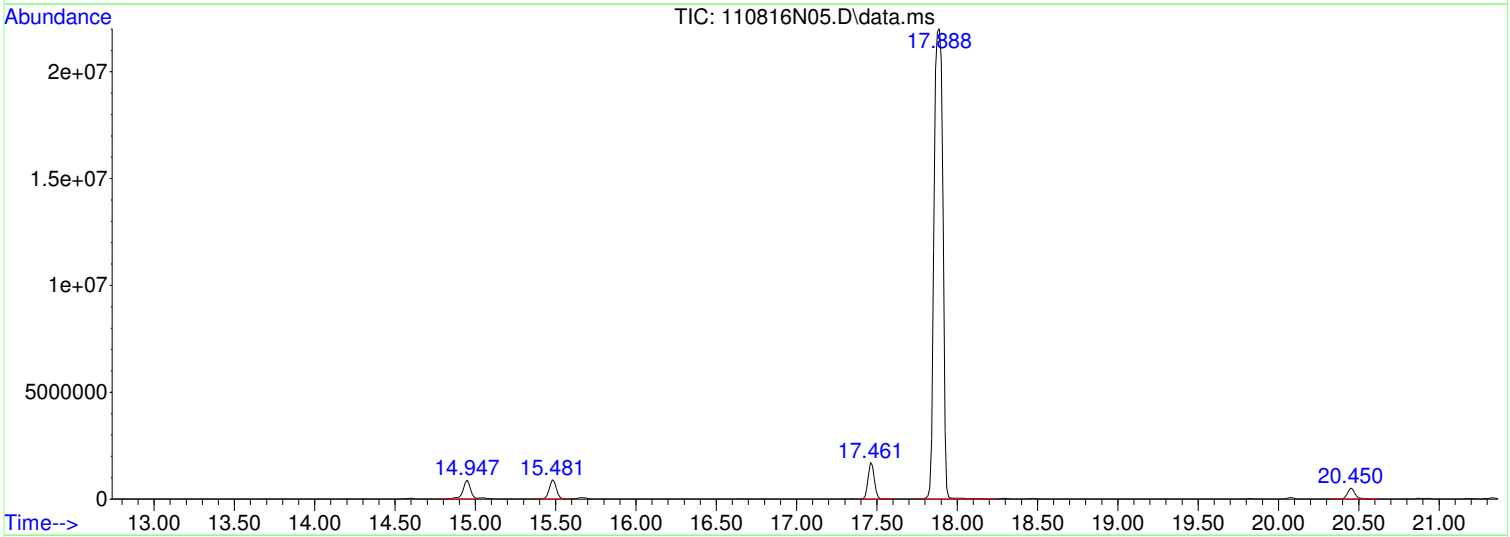
Table of Contents

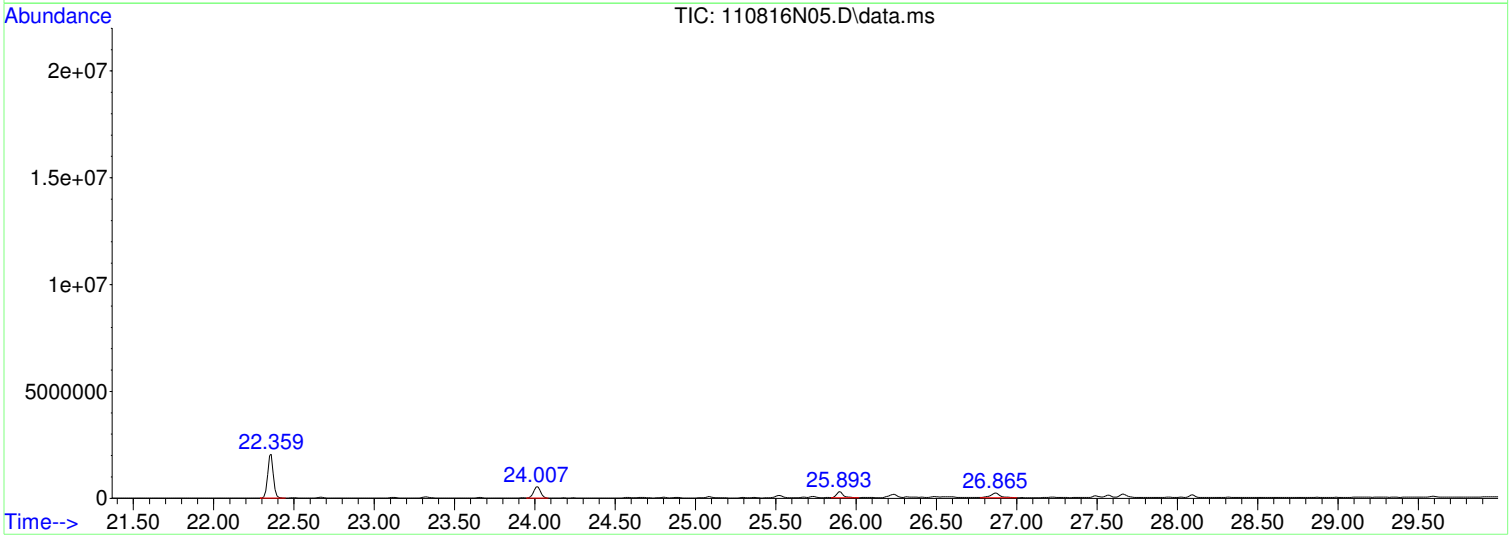
Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N05.D
Acq On : 8 Nov 2016 1:36 pm
Operator : LLH
Sample : 1611021-01
Misc : 200ml 870 LEONG-SS1
ALS Vial : 34 Sample Multiplier: 1.82

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P







Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N05.D
Acq On : 8 Nov 2016 1:36 pm
Operator : LLH
Sample : 1611021-01
Misc : 200ml 870 LEONG-SS1
ALS Vial : 34 Sample Multiplier: 1.82

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

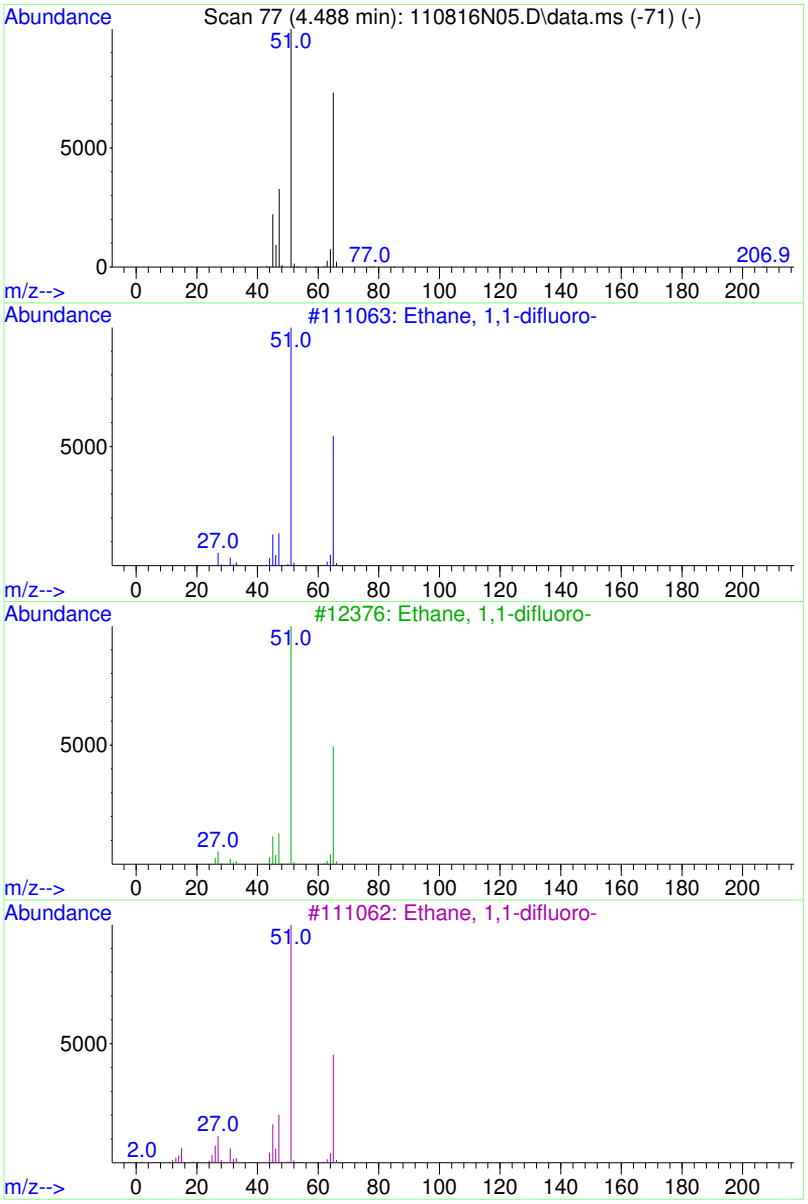
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

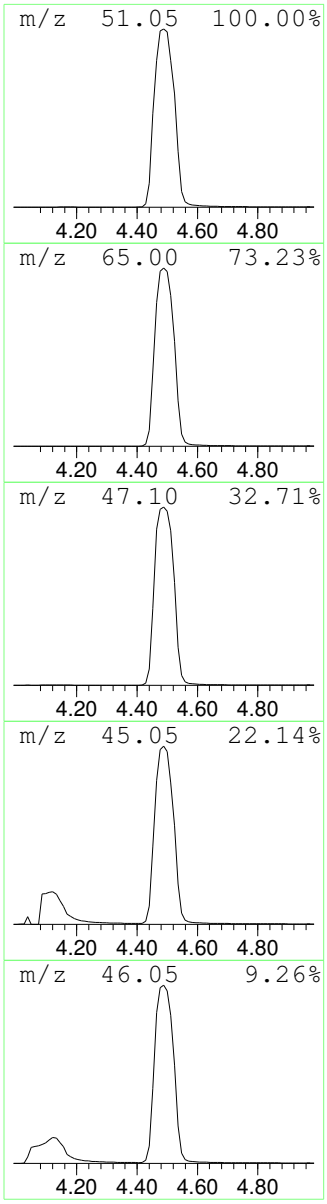
****

Peak Number 1 Ethane, difluoro- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.488	704.59 ppbv	85621200	BROMOCHLOROMETHANE	15.481

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,1-difluoro-	66	C2H4F2	000075-37-6	90
2	Ethane, 1,1-difluoro-	66	C2H4F2	000075-37-6	83
3	Ethane, 1,1-difluoro-	66	C2H4F2	000075-37-6	46
4	Propiolonitrile	51	C3HN	001070-71-9	3
5	Propane, 2,2-difluoro-	80	C3H6F2	000420-45-1	2





Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N05.D
Acq On : 8 Nov 2016 1:36 pm
Operator : LLH
Sample : 1611021-01
Misc : 200ml 870 LEONG-SS1
ALS Vial : 34 Sample Multiplier: 1.82

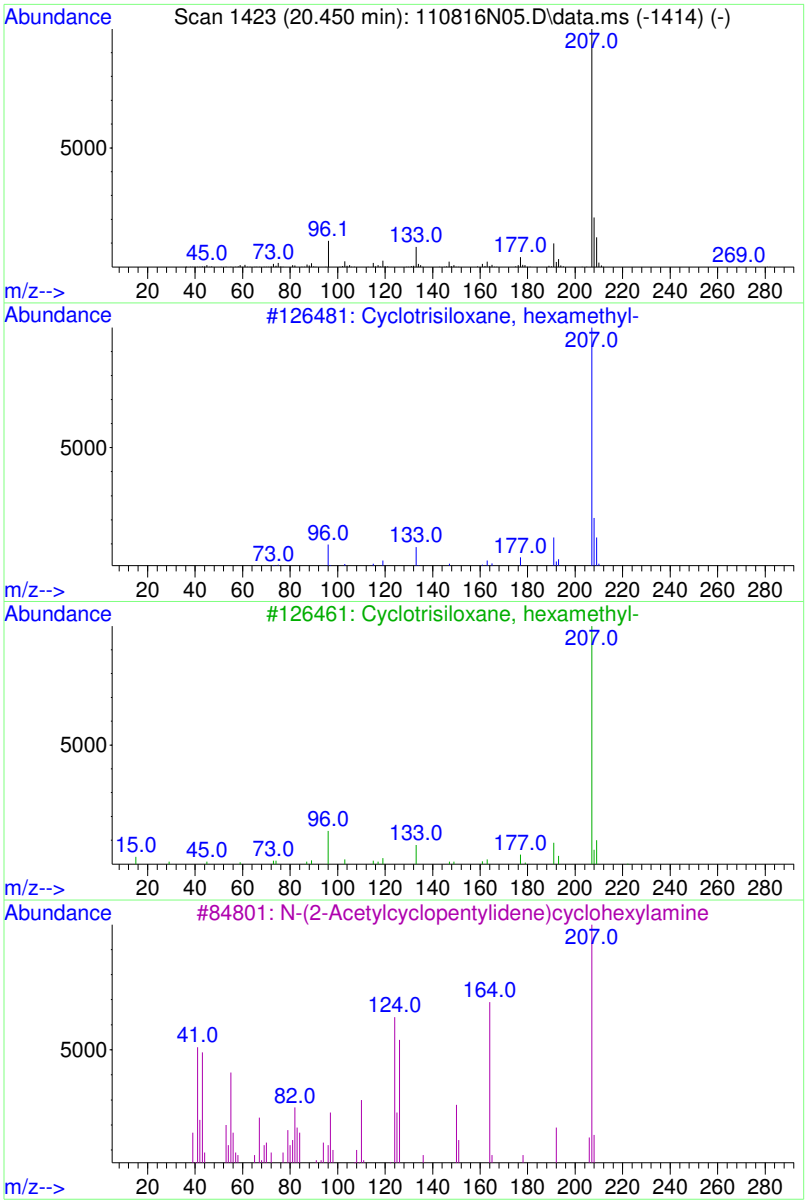
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

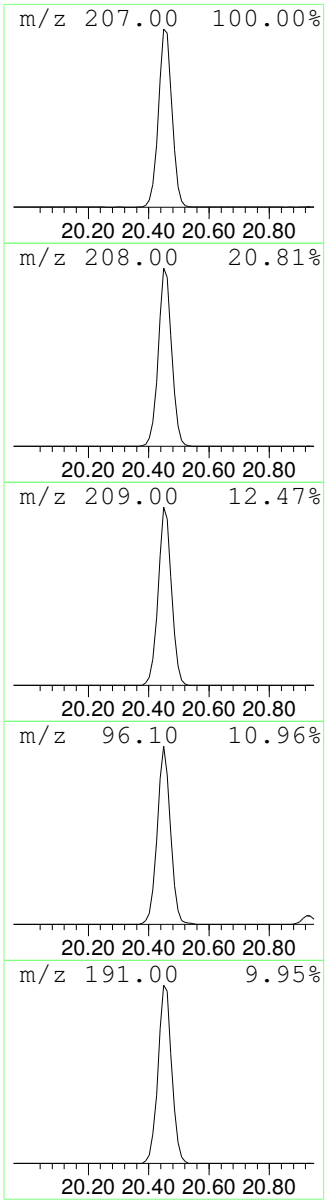
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 2 column bleed Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
20.450	6.92 ppbv	1626130	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	91
2	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	80
3	N-(2-Acetylcyclopentylidene)cycl...	207	C13H21NO	1000100-48-5	59
4	Arsenous acid, tris(trimethylsil...	342	C9H27AsO3Si3	055429-29-3	56
5	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	52





Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N05.D
Acq On : 8 Nov 2016 1:36 pm
Operator : LLH
Sample : 1611021-01
Misc : 200ml 870 LEONG-SS1
ALS Vial : 34 Sample Multiplier: 1.82

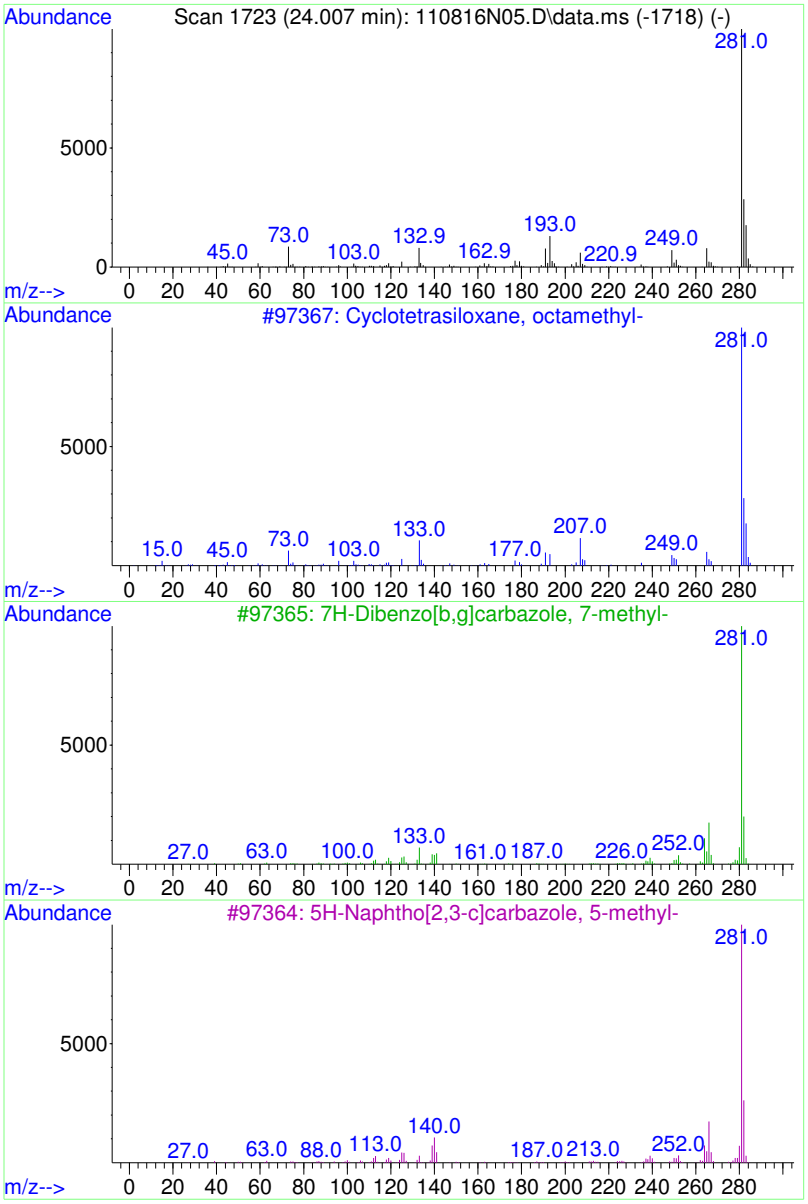
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

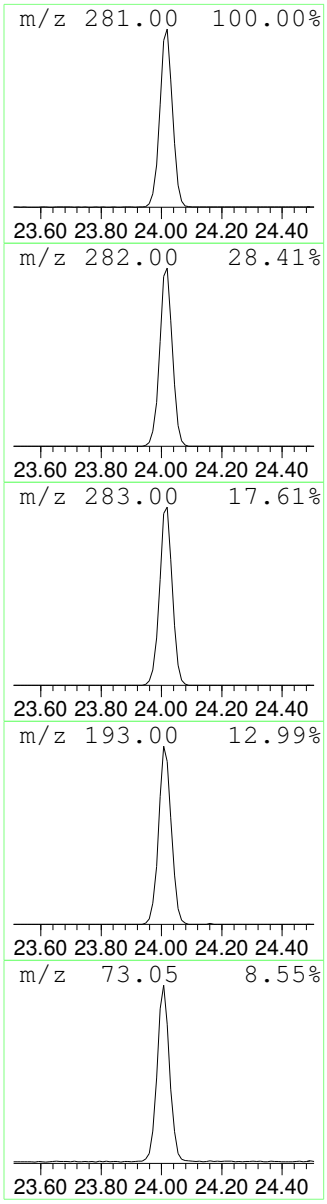
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 3 column bleed Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
24.007	6.65 ppbv	1562850	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclotetrasiloxane, octamethyl-	296	C8H24O4Si4	000556-67-2	86
2	7H-Dibenzo[b,g]carbazole, 7-methyl-	281	C21H15N	003557-49-1	59
3	5H-Naphtho[2,3-c]carbazole, 5-me...	281	C21H15N	100025-44-3	45
4	Cyclotetrasiloxane, octamethyl-	296	C8H24O4Si4	000556-67-2	43
5	Cyclopentanecarboxamide, 3-ethen...	281	C19H23NO	136091-23-1	42





Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N05.D
Acq On : 8 Nov 2016 1:36 pm
Operator : LLH
Sample : 1611021-01
Misc : 200ml 870 LEONG-SS1
ALS Vial : 34 Sample Multiplier: 1.82

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

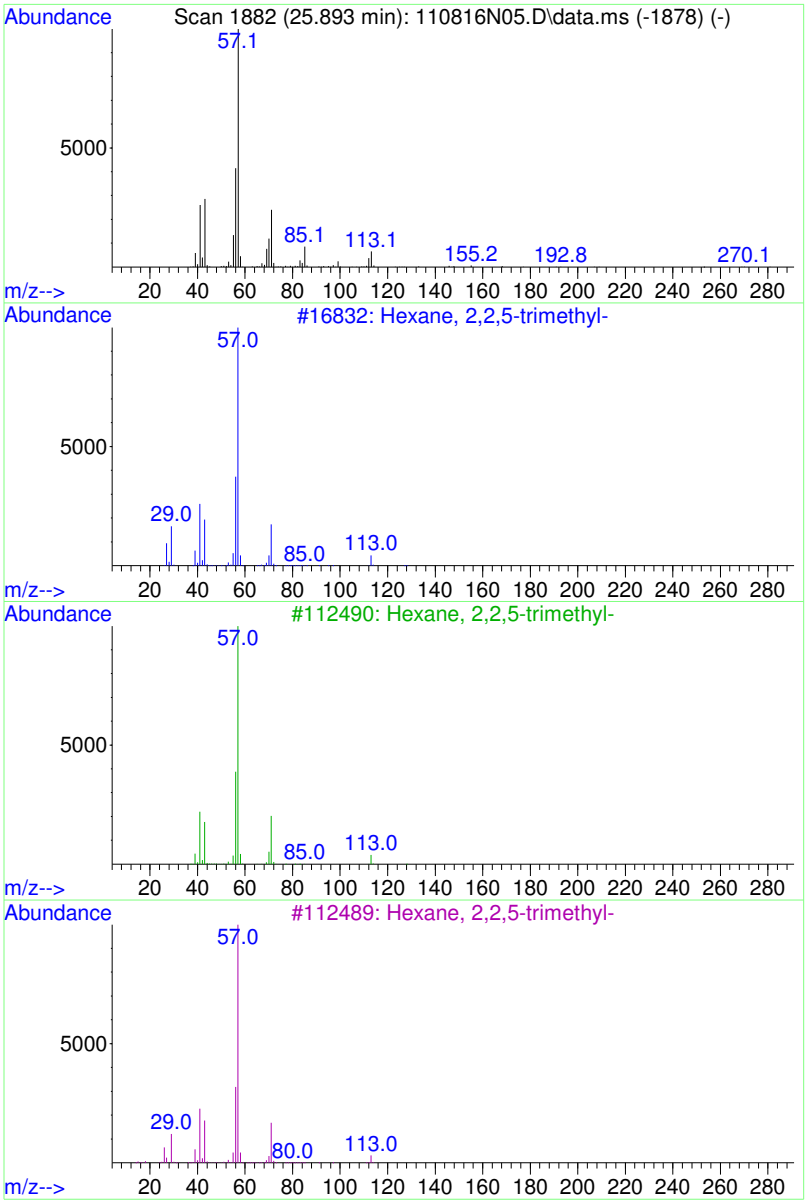
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

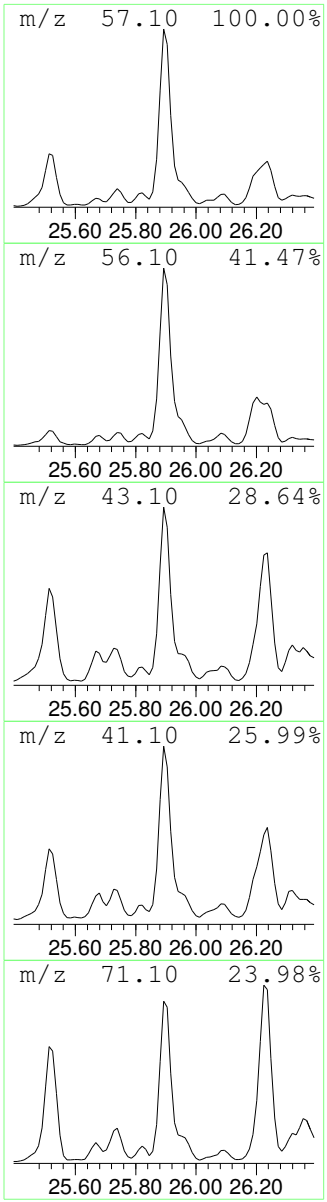
****

Peak Number 4 Hexane, trimethyl- Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
25.893	3.68 ppbv	865968	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Hexane, 2,2,5-trimethyl-	128	C9H20	003522-94-9	64
2	Hexane, 2,2,5-trimethyl-	128	C9H20	003522-94-9	64
3	Hexane, 2,2,5-trimethyl-	128	C9H20	003522-94-9	64
4	Heptane, 2,2-dimethyl-	128	C9H20	001071-26-7	59
5	Heptane, 2,2,4,6,6-pentamethyl-	170	C12H26	013475-82-6	59





Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N05.D
Acq On : 8 Nov 2016 1:36 pm
Operator : LLH
Sample : 1611021-01
Misc : 200ml 870 LEONG-SS1
ALS Vial : 34 Sample Multiplier: 1.82

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

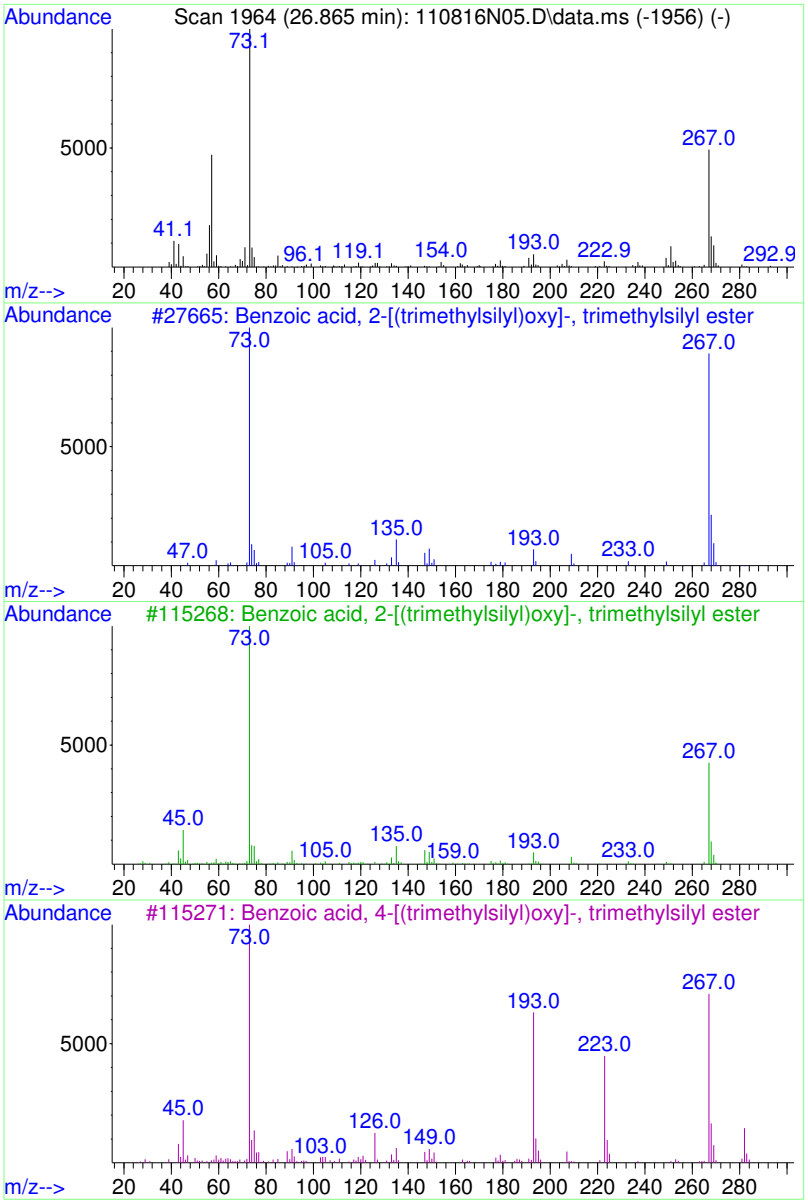
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

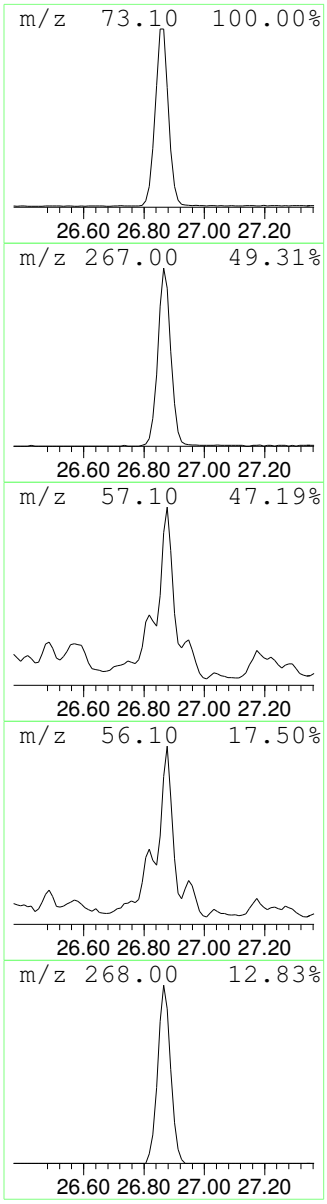
****

Peak Number 5 column bleed Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
26.865	3.93 ppbv	924337	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzoic acid, 2-[(trimethylsilyl...	282	C13H22O3Si2	003789-85-3	53
2	Benzoic acid, 2-[(trimethylsilyl...	282	C13H22O3Si2	003789-85-3	39
3	Benzoic acid, 4-[(trimethylsilyl...	282	C13H22O3Si2	002078-13-9	33
4	Benzeneethanamine, N-[(pentafluo...	475	C21H26F5NO2Si2	055429-85-1	32
5	3,5-Dimethoxyphenylacetic acid, TMS	268	C13H20O4Si	1000071-82-4	10





Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N05.D
Acq On : 8 Nov 2016 1:36 pm
Operator : LLH
Sample : 1611021-01
Misc : 200ml 870 LEONG-SS1
ALS Vial : 34 Sample Multiplier: 1.82

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	RT	Resp	Conc
Ethane, difluoro-	4.488	704.6	ppbv	85621200	1	15.481	2673440	22.0
column bleed	20.450	6.9	ppbv	1626130	3	22.359	5172200	22.0
column bleed	24.007	6.7	ppbv	1562850	3	22.359	5172200	22.0
Hexane, trimethyl-	25.893	3.7	ppbv	865968	3	22.359	5172200	22.0
column bleed	26.865	3.9	ppbv	924337	3	22.359	5172200	22.0

REVIEWED
By LLH at 3:27 pm, Nov 08, 2016

1611021-03

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N07.D
Acq On : 8 Nov 2016 3:15 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-03
Misc : 200ml 870 LEONG-SS2
ALS Vial : 36 Sample Multiplier: 1.81

REPORT

rerun 20ml re-repress

Quant Time: Nov 08 16:41:48 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)		
Internal Standards								
1) BROMOCHLOROMETHANE	15.481	49	698870	22.00	ppbv	0.00		
32) 1,4-DIFLUOROBENZENE	17.473	114	1847742	22.00	ppbv	0.01		
43) CHLOROBENZENE-d5	22.359	117	1526466	22.00	ppbv	0.00		
Target Compounds						Qvalue		
14) Acetone	9.979	43	140091	3.70	ppbv	96		
16) 2-Propanol	10.572	45	19970	0.51	ppbv #	52		
20) trans-1,2-Dichloroethene	12.196	61	1866031	50.45	ppbv	93	OC	
24) cis-1,2-Dichloroethene	14.947	61	1484273	40.63	ppbv	93	OC	
28) Chloroform	15.635	83	35291	0.62	ppbv #	87		
37) Trichloroethene	17.912	130	19305481	653.08	ppbv	95	OC	

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

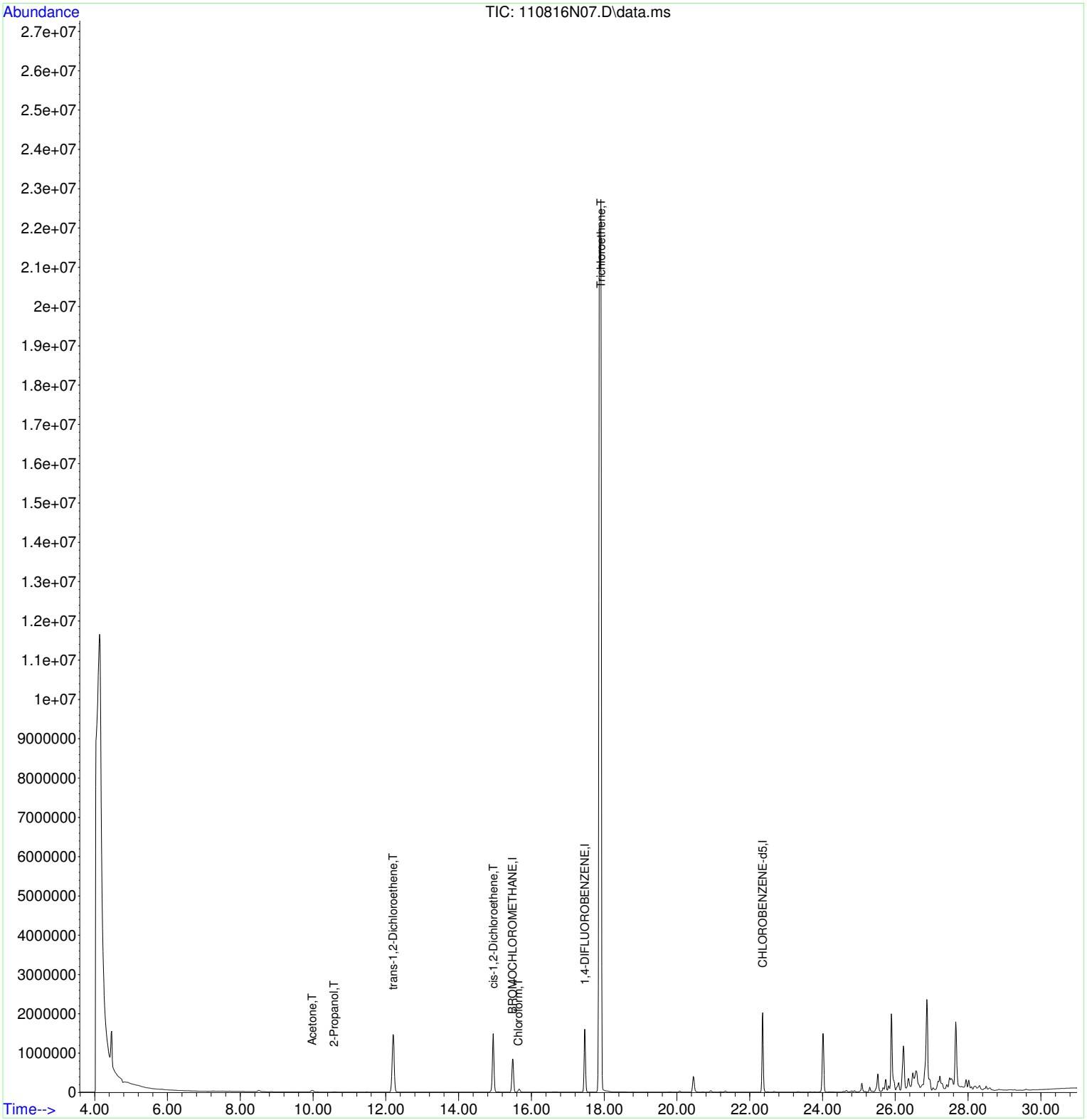
AFTER Q DELETE

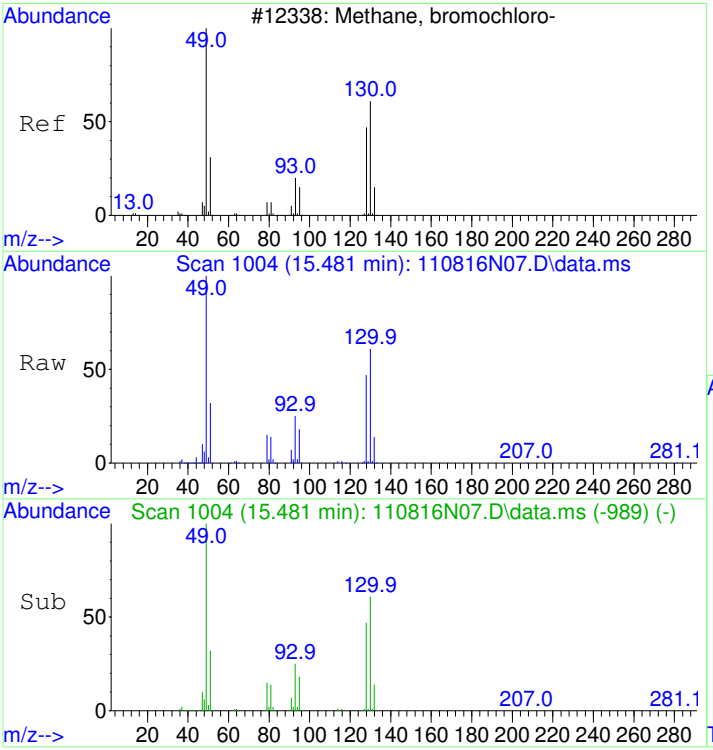
REVIEWED
By LLH at 4:42 pm, Nov 08, 2016

Table of Contents

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N07.D
Acq On : 8 Nov 2016 3:15 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-03
Misc : 200ml 870 LEONG-SS2
ALS Vial : 36 Sample Multiplier: 1.81

Quant Time: Nov 08 16:41:48 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

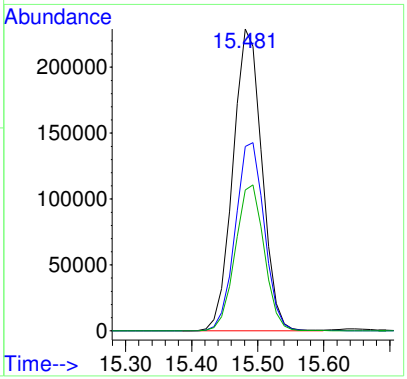


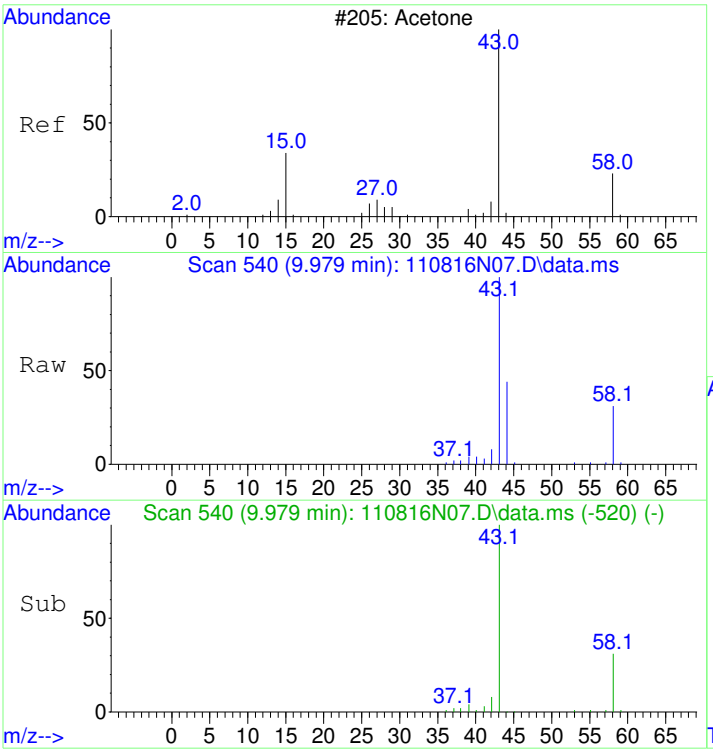


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. -0.000 min
Lab File: 110816N07.D
Acq: 8 Nov 2016 3:15 pm

Tgt Ion: 49 Resp: 698870

Ion	Ratio	Lower	Upper
49	100		
130	62.4	56.1	96.1
128	48.3	38.8	78.8

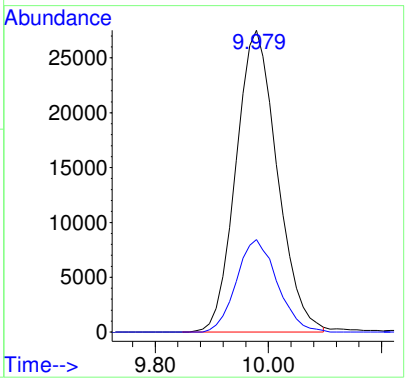


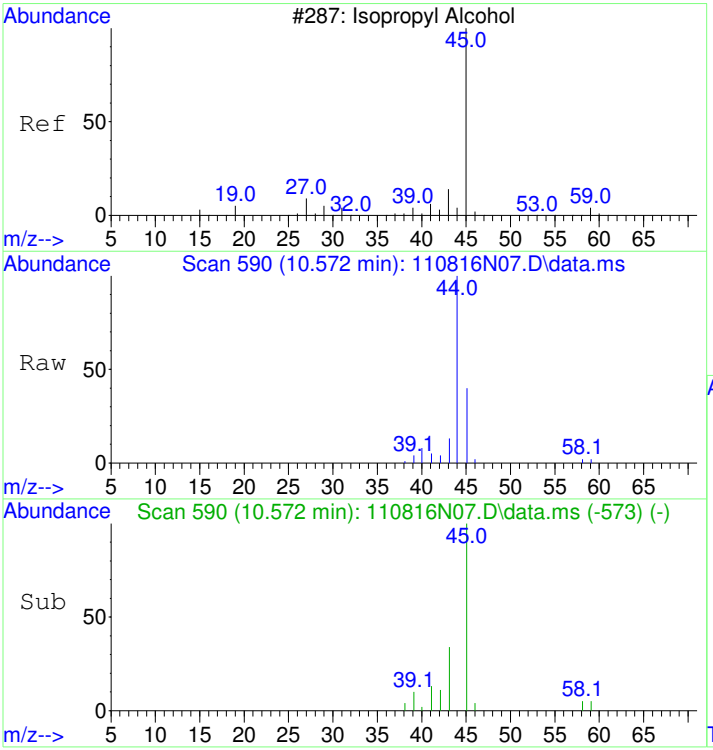


#14
Acetone
Concen: 3.70 ppbv
RT: 9.979 min Scan# 540
Delta R.T. 0.035 min
Lab File: 110816N07.D
Acq: 8 Nov 2016 3:15 pm

Tgt Ion: 43 Resp: 140091

Ion	Ratio	Lower	Upper
43	100		
58	30.3	12.3	52.3

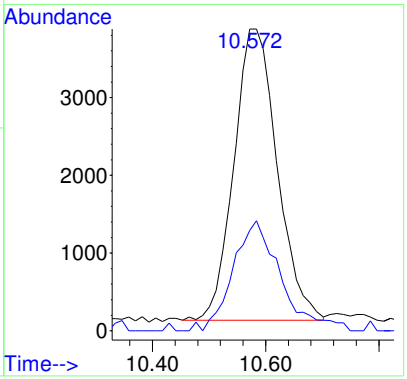


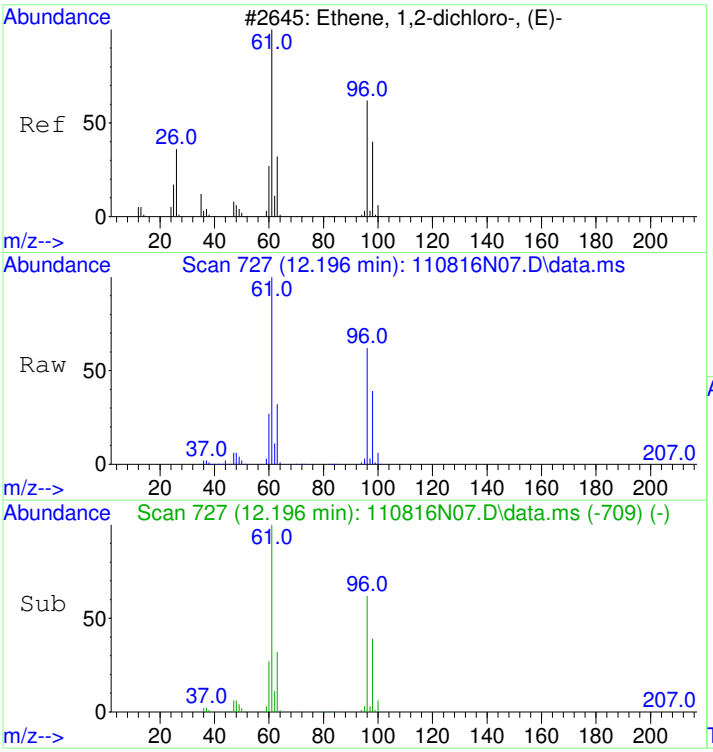


#16
2-Propanol
Concen: 0.51 ppbv
RT: 10.572 min Scan# 590
Delta R.T. 0.024 min
Lab File: 110816N07.D
Acq: 8 Nov 2016 3:15 pm

Tgt Ion: 45 Resp: 19970

Ion	Ratio	Lower	Upper
45	100		
43	40.6	0.0	38.9#

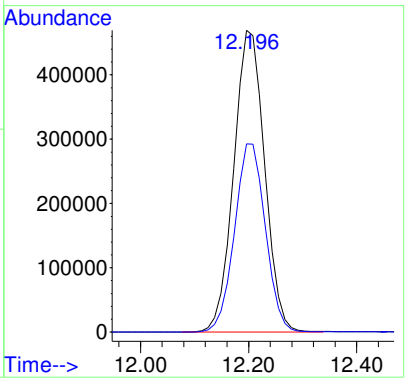


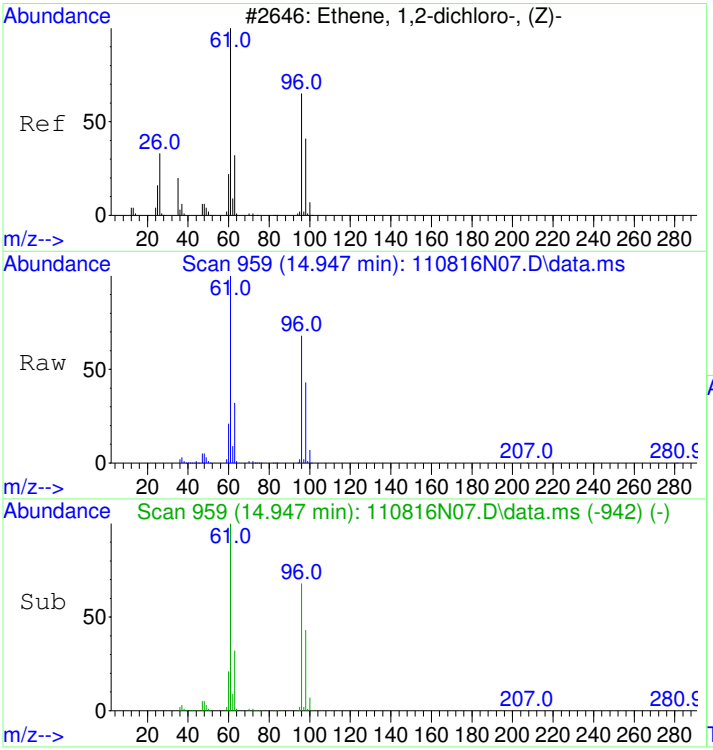


#20
trans-1,2-Dichloroethene
Concen: 50.45 ppbv
RT: 12.196 min Scan# 727
Delta R.T. 0.012 min
Lab File: 110816N07.D
Acq: 8 Nov 2016 3:15 pm

Tgt Ion: 61 Resp: 1866031

Ion	Ratio	Lower	Upper
61	100		
96	62.3	47.5	87.5

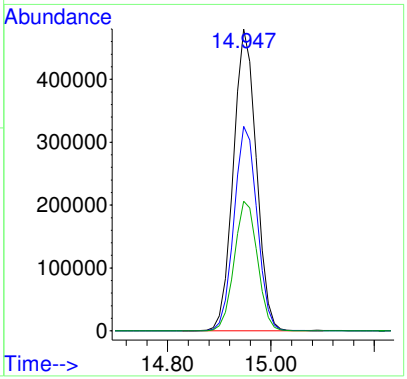


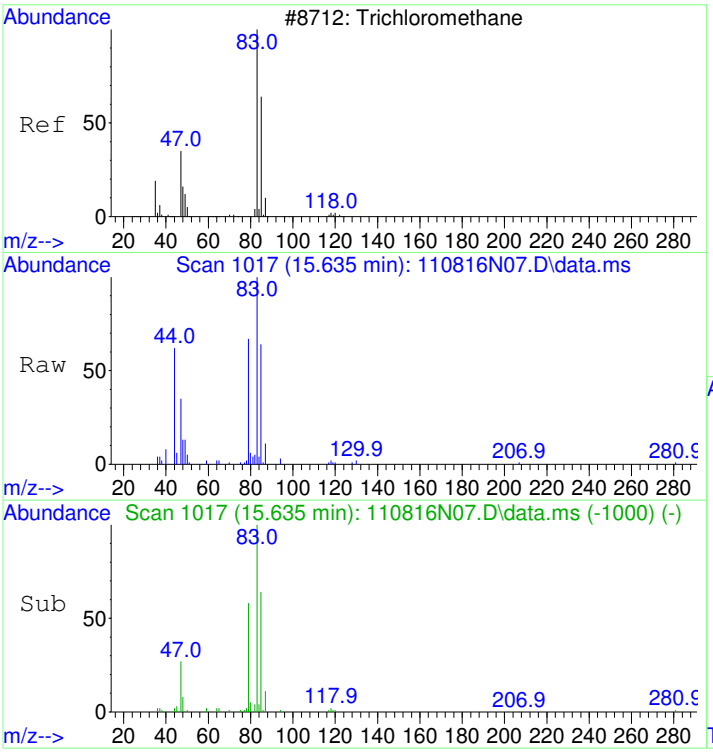


#24
cis-1,2-Dichloroethene
Concen: 40.63 ppbv
RT: 14.947 min Scan# 959
Delta R.T. -0.000 min
Lab File: 110816N07.D
Acq: 8 Nov 2016 3:15 pm

Tgt Ion: 61 Resp: 1484273

Ion	Ratio	Lower	Upper
61	100		
96	68.0	54.4	94.4
98	43.2	27.5	67.5

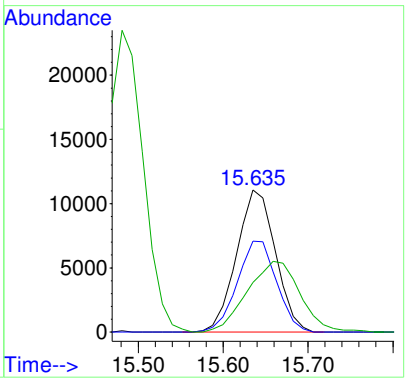


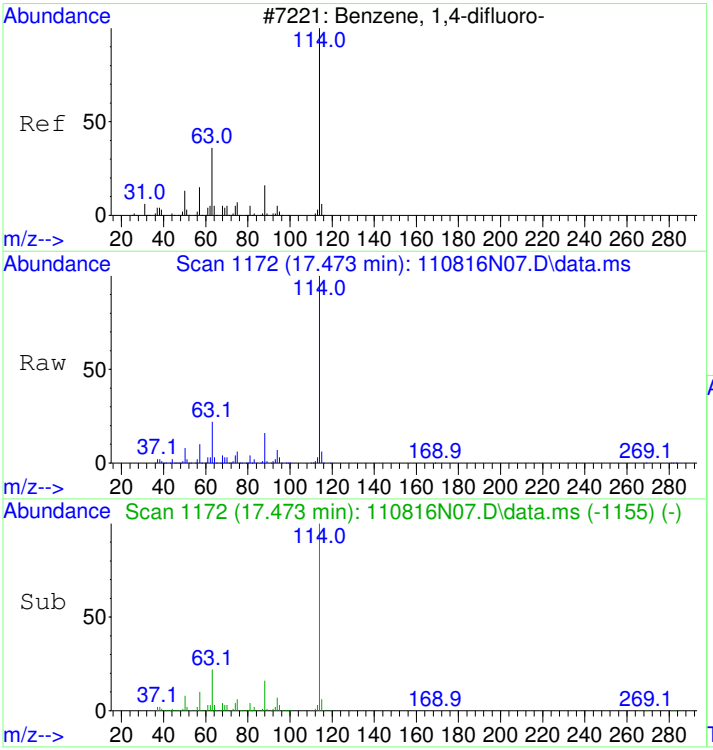


#28
Chloroform
Concen: 0.62 ppbv
RT: 15.635 min Scan# 1017
Delta R.T. -0.000 min
Lab File: 110816N07.D
Acq: 8 Nov 2016 3:15 pm

Tgt Ion: 83 Resp: 35291

Ion	Ratio	Lower	Upper
83	100		
85	64.9	44.9	84.9
47	0.0	3.9	43.9#

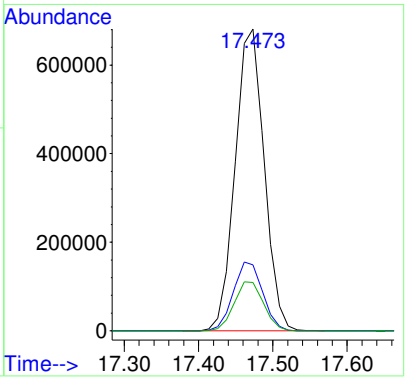


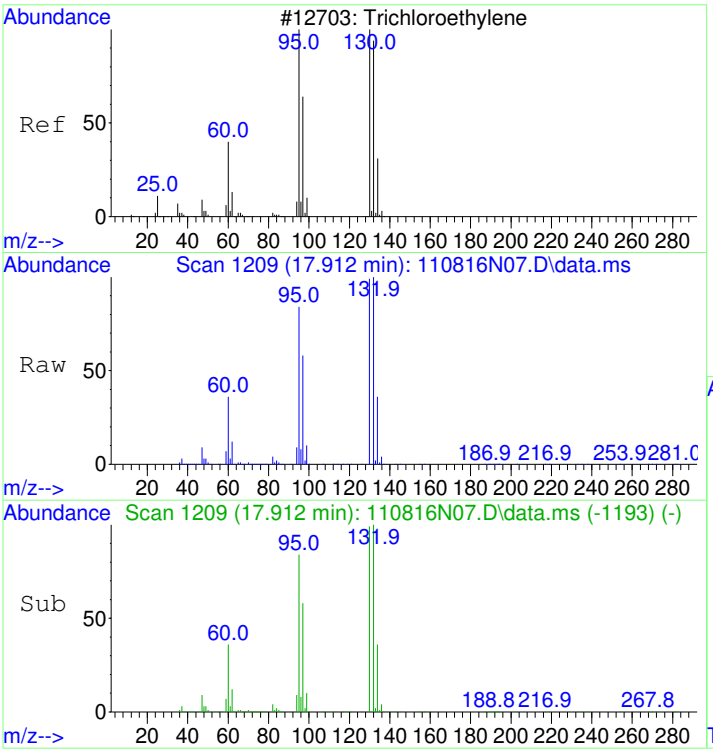


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.473 min Scan# 1172
Delta R.T. 0.012 min
Lab File: 110816N07.D
Acq: 8 Nov 2016 3:15 pm

Tgt Ion:114 Resp: 1847742

Ion	Ratio	Lower	Upper
114	100		
63	23.1	0.1	40.1
88	16.5	0.0	35.8

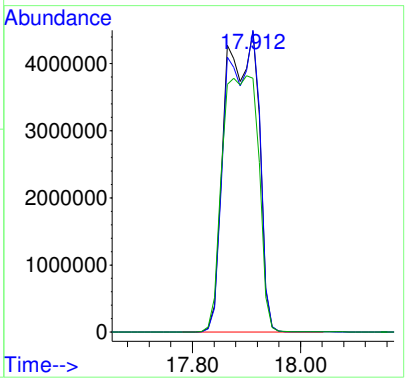


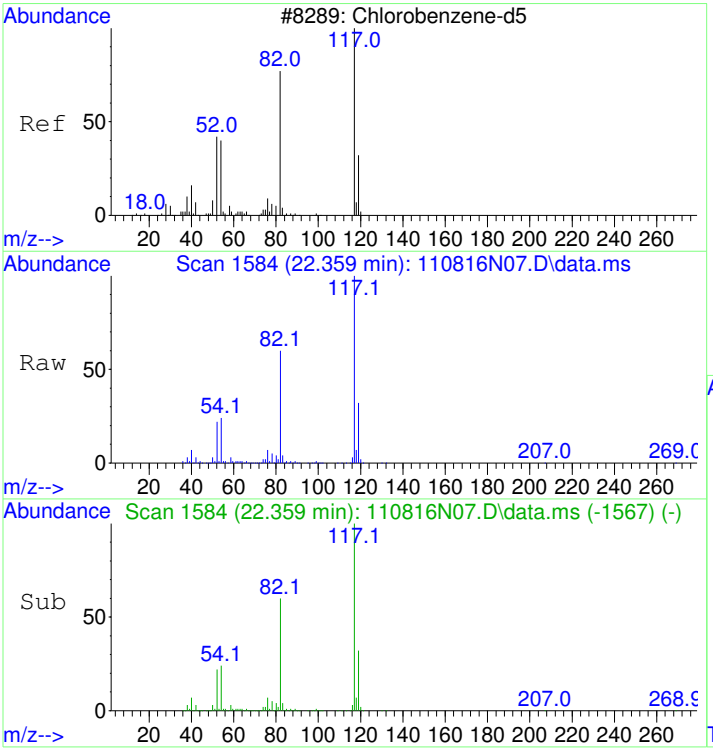


#37
Trichloroethene
Concen: 653.08 ppbv
RT: 17.912 min Scan# 1209
Delta R.T. 0.035 min
Lab File: 110816N07.D
Acq: 8 Nov 2016 3:15 pm

Tgt Ion:130 Resp:19305481

Ion	Ratio	Lower	Upper
130	100		
132	98.5	77.1	117.1
95	91.6	79.3	119.3

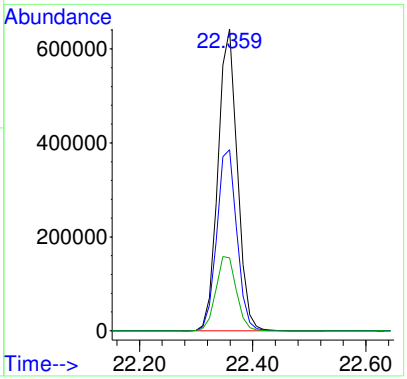




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. -0.000 min
Lab File: 110816N07.D
Acq: 8 Nov 2016 3:15 pm

Tgt Ion:117 Resp: 1526466

Ion	Ratio	Lower	Upper
117	100		
82	62.2	36.8	76.8
54	26.1	1.4	41.4



LSC Area Percent Report

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N07.D
Acq On : 8 Nov 2016 3:15 pm
Operator : LLH
Sample : 1611021-03
Misc : 200ml 870 LEONG-SS2
ALS Vial : 36 Sample Multiplier: 1.81

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.01 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 1 prefer < Baseline drop else tangent >
Peak separation: 10

Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Title : TO15

Signal : TIC: 110816N07.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.464	71	75	101	rVB	1308687	7194514	12.59%	5.792%
2	12.196	718	727	749	rBV	1466893	5851381	10.24%	4.710%
3	14.947	947	959	967	rBV	1492997	4699751	8.22%	3.783%
4	15.481	998	1004	1012	rBV	848021	2614590	4.57%	2.105%
5	17.473	1165	1172	1181	rBV	1600688	4482412	7.84%	3.608%
6	17.865	1196	1205	1207	rBV	22046642	57167080	100.00%	46.020%
7	20.450	1413	1423	1436	rBV	398377	1277836	2.24%	1.029%
8	22.359	1578	1584	1592	rBV	2026280	4996512	8.74%	4.022%
9	24.007	1717	1723	1731	rVB	1486894	4379757	7.66%	3.526%
10	25.086	1806	1814	1818	rBV	220508	603684	1.06%	0.486%
11	25.513	1841	1850	1856	rBV	453351	1494426	2.61%	1.203%
12	25.739	1865	1869	1873	rVB2	278075	703531	1.23%	0.566%
13	25.893	1878	1882	1892	rVB	1939275	5772071	10.10%	4.647%
14	26.094	1892	1899	1903	rVB	196913	718686	1.26%	0.579%
15	26.225	1903	1910	1916	rBV2	1131755	4269262	7.47%	3.437%
16	26.367	1916	1922	1926	rBV	250967	805197	1.41%	0.648%
17	26.486	1927	1932	1934	rBV2	343611	991112	1.73%	0.798%
18	26.569	1935	1939	1949	rVB2	430211	2108296	3.69%	1.697%
19	26.865	1956	1964	1969	rBV3	2171714	7563127	13.23%	6.088%
20	27.173	1984	1990	1992	rBV	211803	673938	1.18%	0.543%
21	27.494	2013	2017	2019	rBV	237555	661929	1.16%	0.533%
22	27.660	2026	2031	2041	rVB	1659390	5192881	9.08%	4.180%

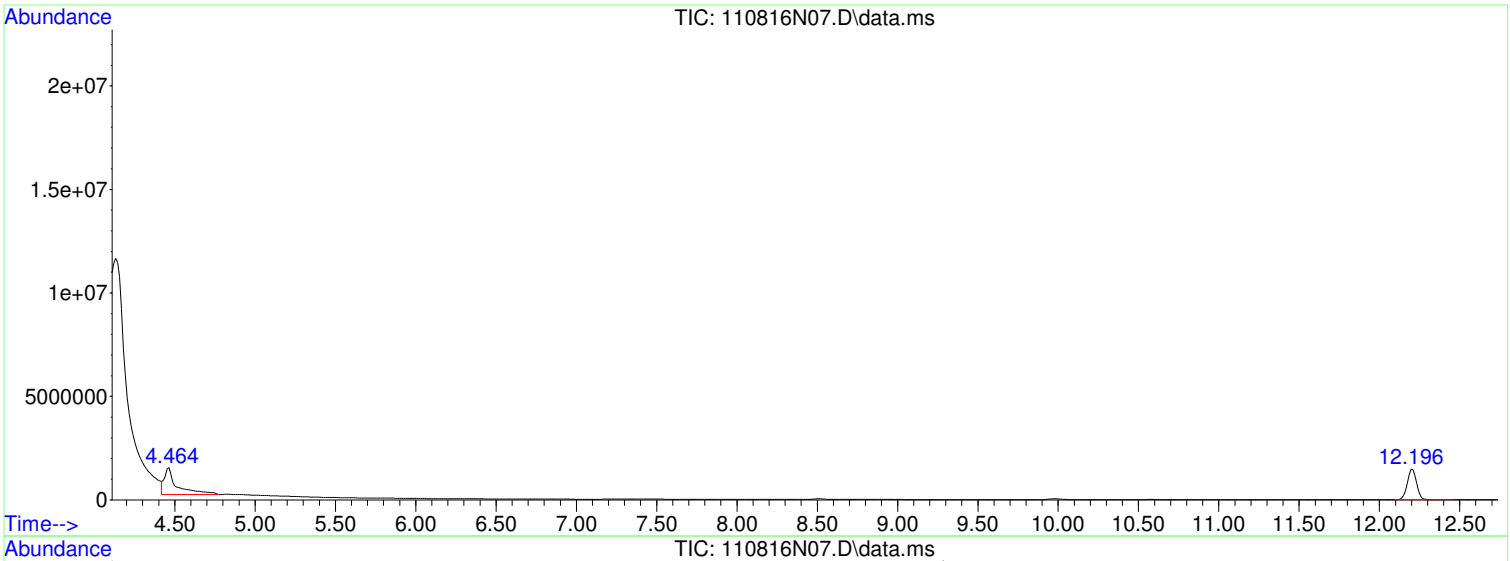
Sum of corrected areas: 124221973

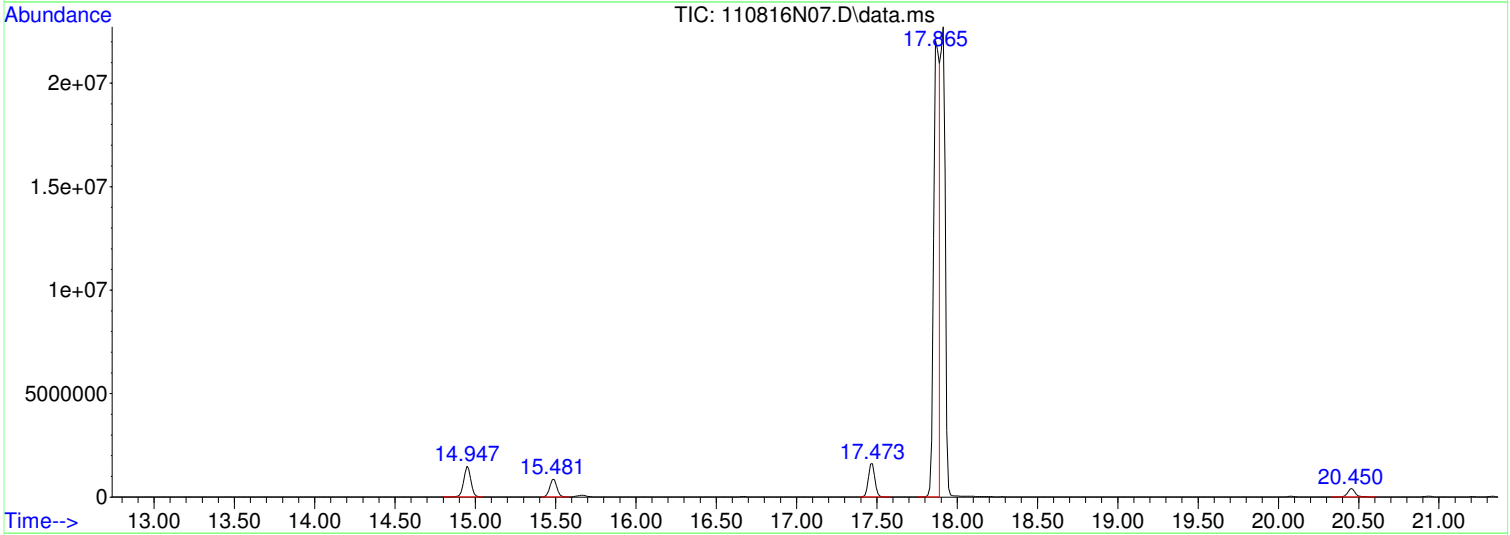
Table of Contents

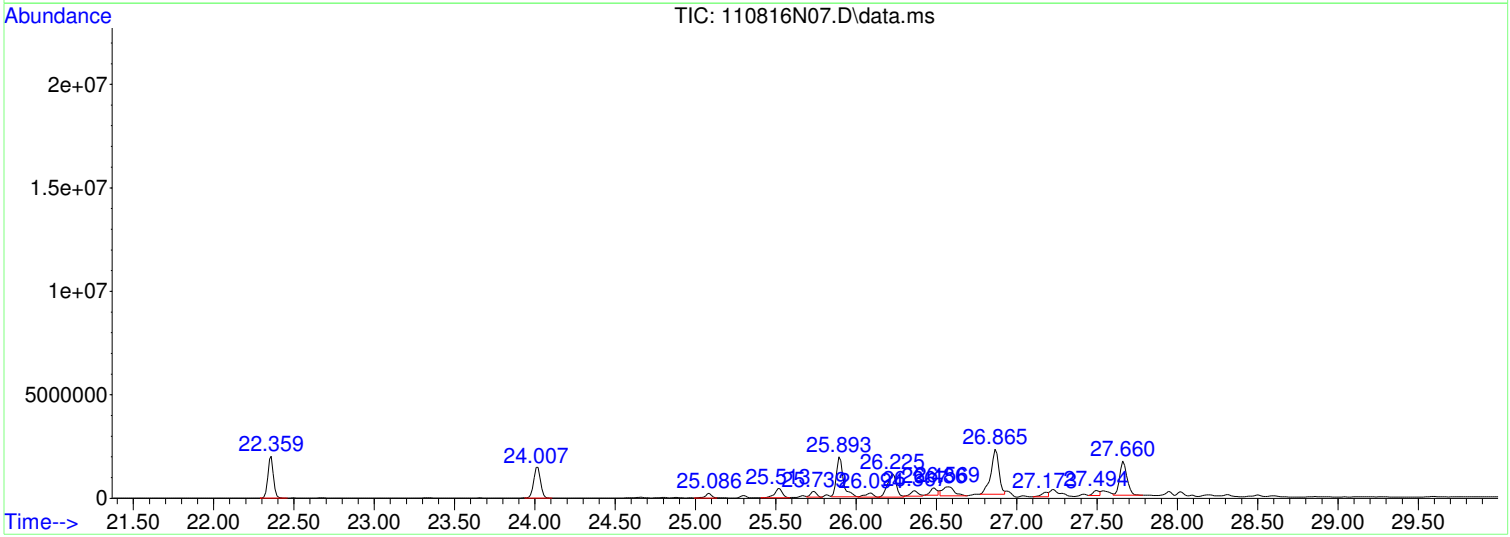
Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N07.D
Acq On : 8 Nov 2016 3:15 pm
Operator : LLH
Sample : 1611021-03
Misc : 200ml 870 LEONG-SS2
ALS Vial : 36 Sample Multiplier: 1.81

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P







Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N07.D
Acq On : 8 Nov 2016 3:15 pm
Operator : LLH
Sample : 1611021-03
Misc : 200ml 870 LEONG-SS2
ALS Vial : 36 Sample Multiplier: 1.81

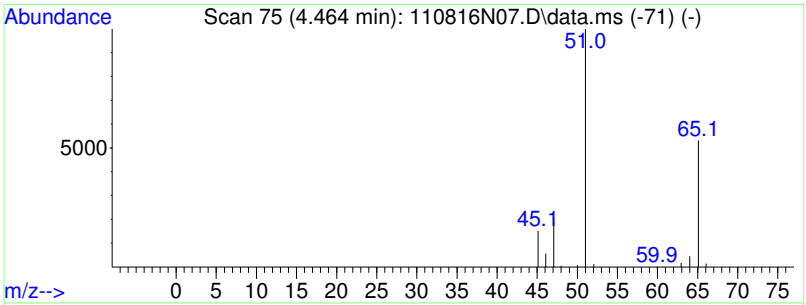
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

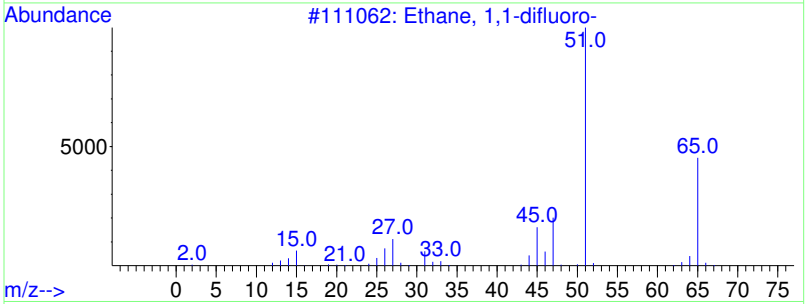
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

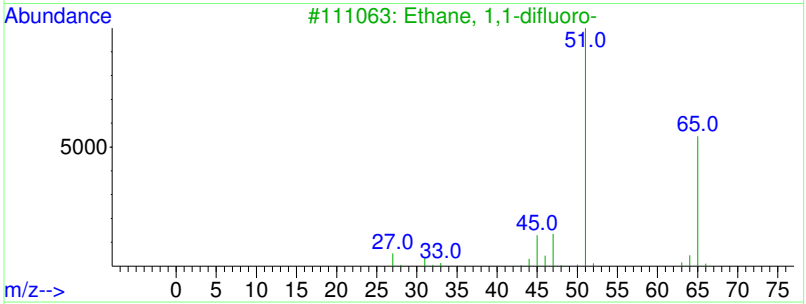
****
Peak Number 1 Ethane, difluoro- Concentration Rank 1

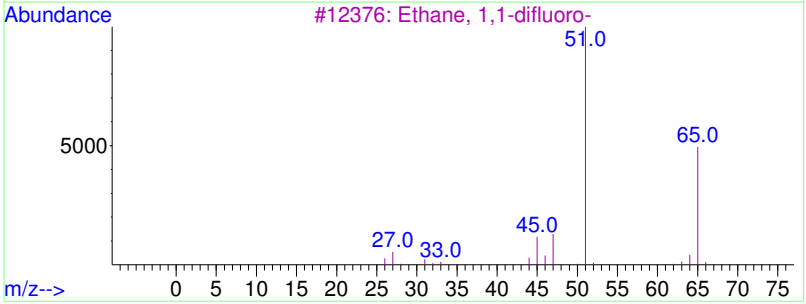
R.T.	EstConc	Area	Relative to ISTD	R.T.
4.464	60.54 ppbv	7194510	BROMOCHLOROMETHANE	15.481

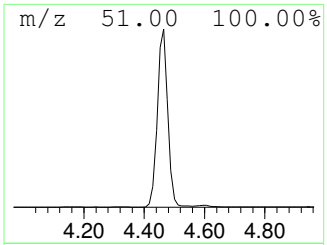
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,1-difluoro-	66	C2H4F2	000075-37-6	91
2	Ethane, 1,1-difluoro-	66	C2H4F2	000075-37-6	90
3	Ethane, 1,1-difluoro-	66	C2H4F2	000075-37-6	90
4	Propiolonitrile	51	C3HN	001070-71-9	3
5	Propane, 2,2-difluoro-	80	C3H6F2	000420-45-1	2

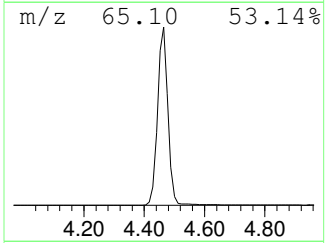


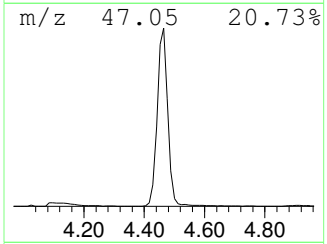


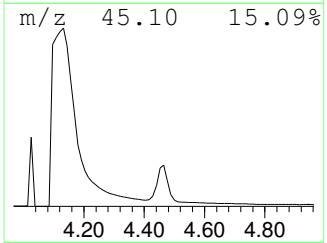


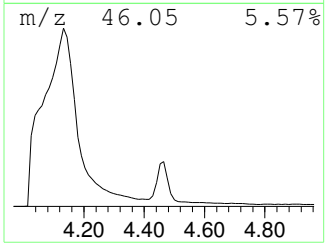












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Data File : 110816N07.D
Acq On : 8 Nov 2016 3:15 pm
Operator : LLH
Sample : 1611021-03
Misc : 200ml 870 LEONG-SS2
ALS Vial : 36 Sample Multiplier: 1.81

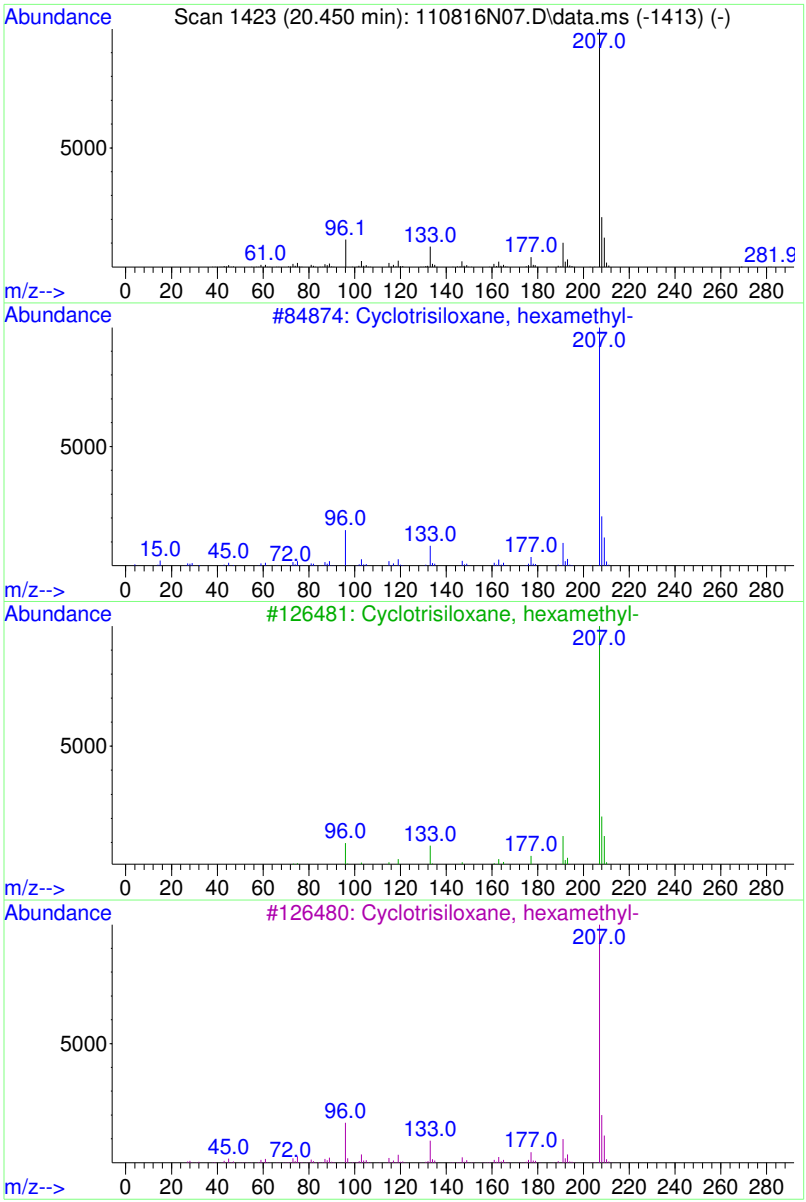
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

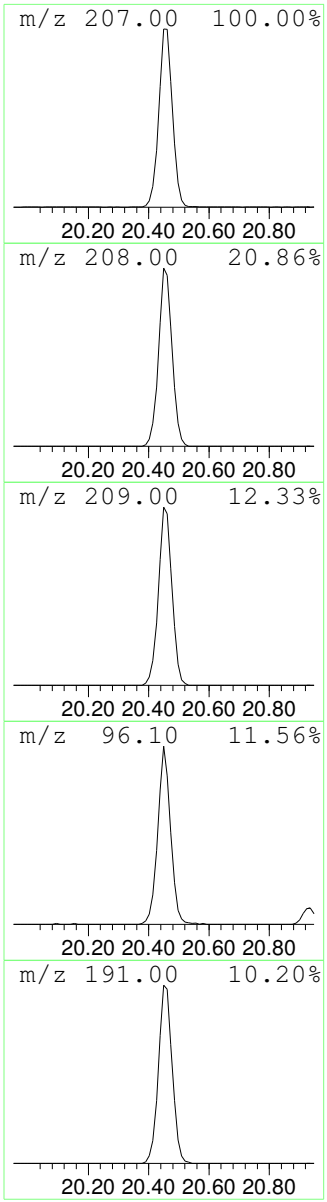
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 2 column bleed Concentration Rank 9

R.T.	EstConc	Area	Relative to ISTD	R.T.
20.450	5.63 ppbv	1277840	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	91
2	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	91
3	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	87
4	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	80
5	N-(2-Acetylcyclopentylidene)cycl...	207	C13H21NO	1000100-48-5	59





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ALS Vial : 36 Sample Multiplier: 1.81

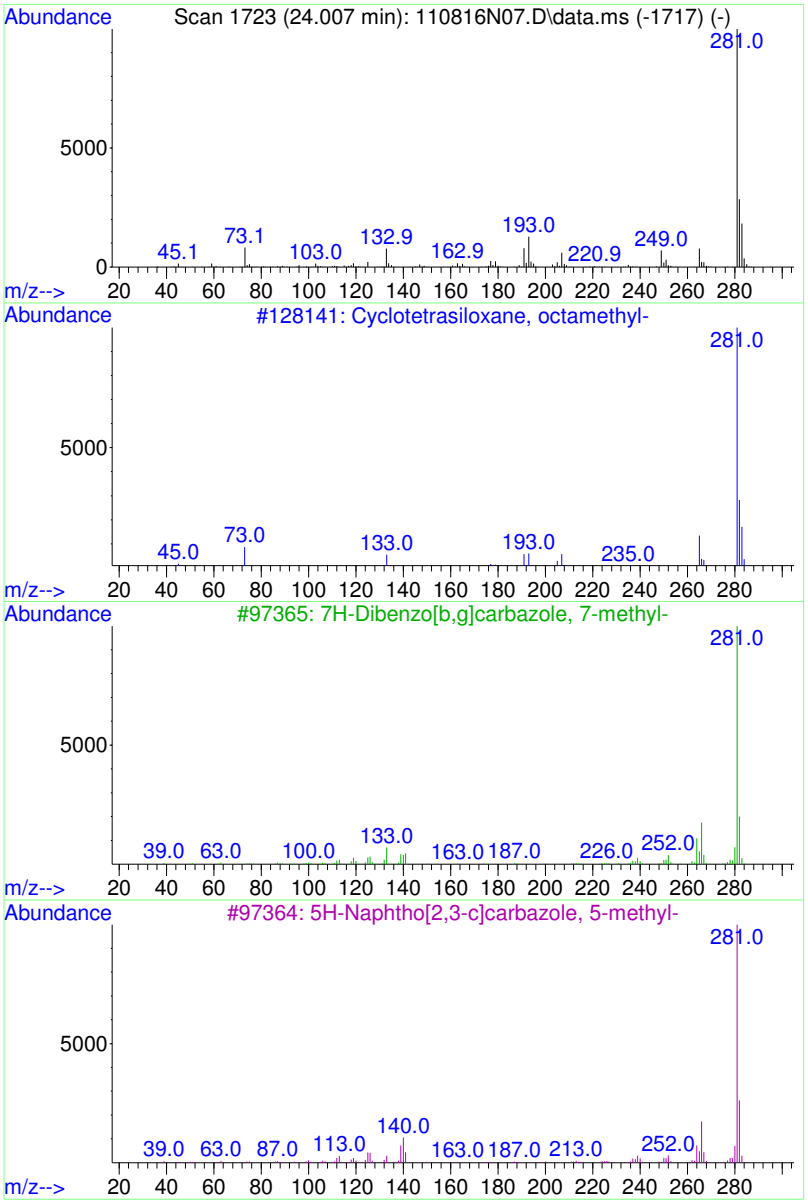
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

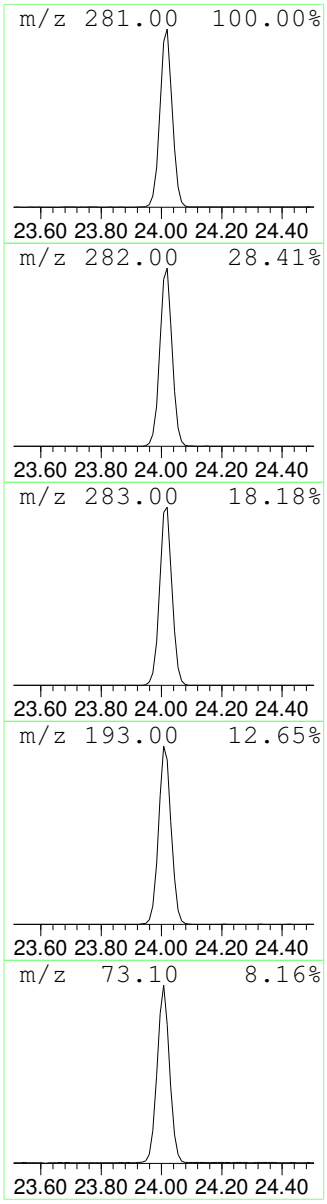
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 3 column bleed Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
24.007	19.28 ppbv	4379760	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclotetrasiloxane, octamethyl-	296	C8H24O4Si4	000556-67-2	80
2	7H-Dibenzo[b,g]carbazole, 7-methyl-	281	C21H15N	003557-49-1	59
3	5H-Naphtho[2,3-c]carbazole, 5-me...	281	C21H15N	100025-44-3	45
4	Cyclotetrasiloxane, octamethyl-	296	C8H24O4Si4	000556-67-2	43
5	Cyclopentanecarboxamide, 3-ethen...	281	C19H23NO	136091-23-1	42





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Misc : 200ml 870 LEONG-SS2
ALS Vial : 36 Sample Multiplier: 1.81

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

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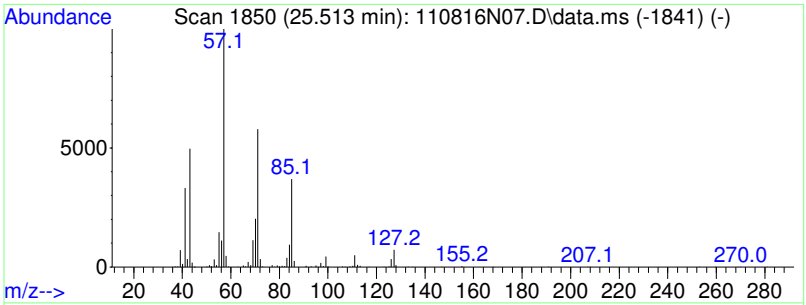
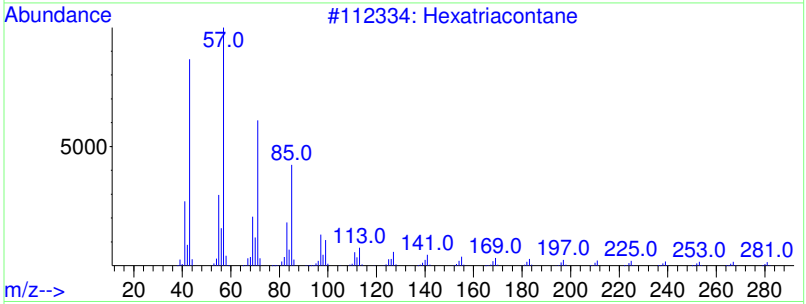
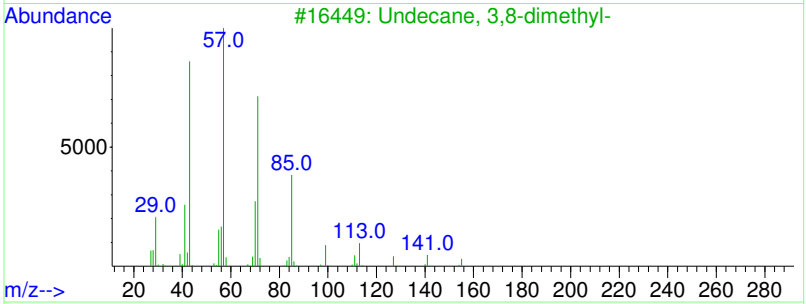
Peak Number 4 Hexatriacontane Concentration Rank 8

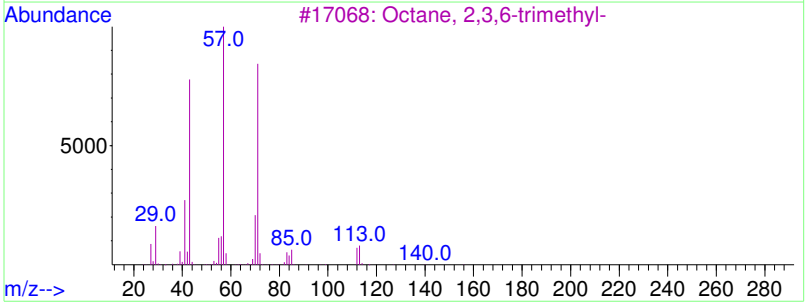
R.T.	EstConc	Area	Relative to ISTD	R.T.
25.513	6.58 ppbv	1494430	CHLOROBENZENE-d5	22.359

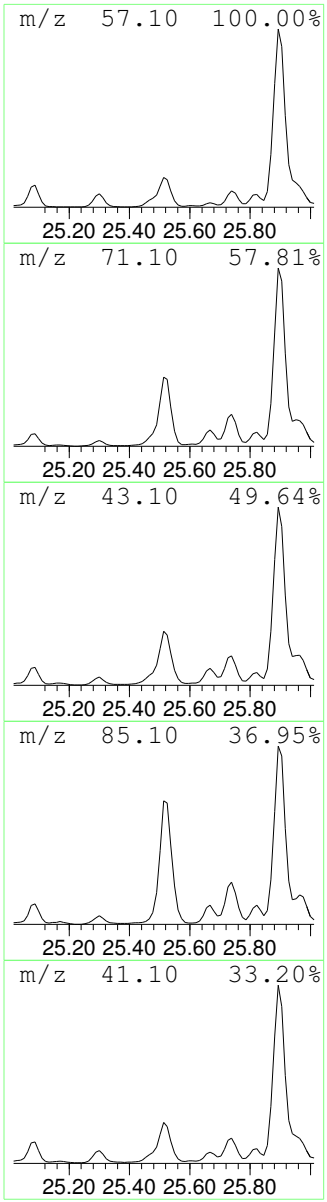
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Hexatriacontane	507	C36H74	000630-06-8	64
2	Undecane, 3,8-dimethyl-	184	C13H28	017301-30-3	59
3	Octane, 2,3,6-trimethyl-	156	C11H24	062016-33-5	50
4	Nonadecane	268	C19H40	000629-92-5	50
5	1-Pentanol, 4-methyl-2-propyl-	144	C9H20O	054004-41-0	50











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Sample : 1611021-03
Misc : 200ml 870 LEONG-SS2
ALS Vial : 36 Sample Multiplier: 1.81

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

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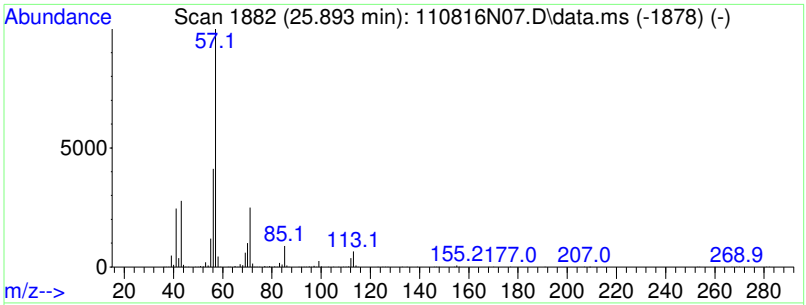
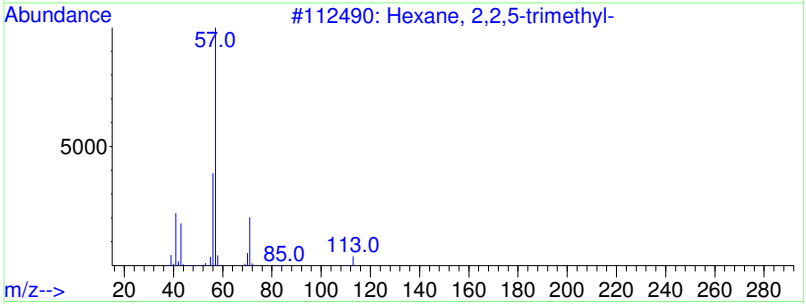
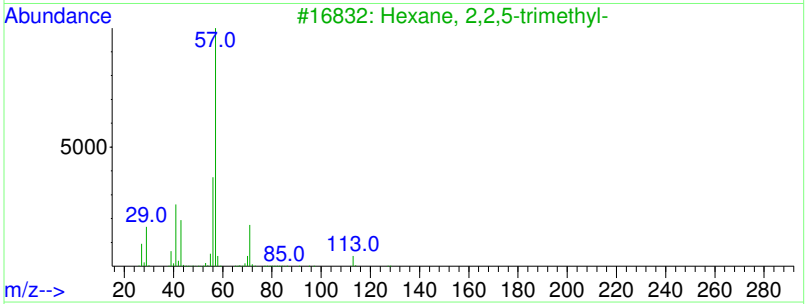
Peak Number 5 Hexane, trimethyl- Concentration Rank 3

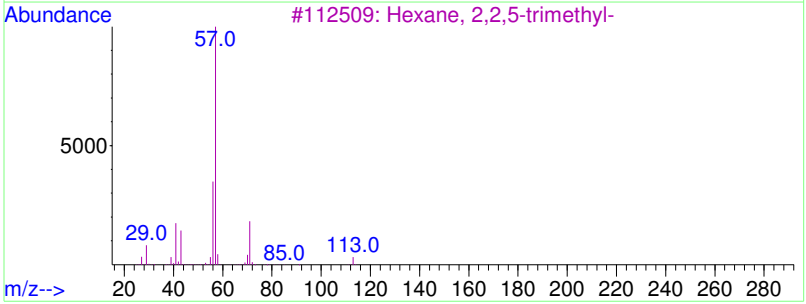
R.T.	EstConc	Area	Relative to ISTD	R.T.
25.893	25.41 ppbv	5772070	CHLOROBENZENE-d5	22.359

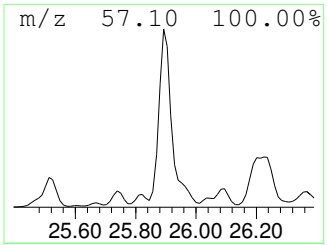
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Hexane, 2,2,5-trimethyl-	128	C9H20	003522-94-9	72
2	Hexane, 2,2,5-trimethyl-	128	C9H20	003522-94-9	72
3	Hexane, 2,2,5-trimethyl-	128	C9H20	003522-94-9	64
4	Heptane, 2,2,4-trimethyl-	142	C10H22	014720-74-2	50
5	Heptane, 2,2-dimethyl-	128	C9H20	001071-26-7	50

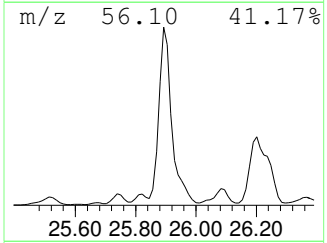


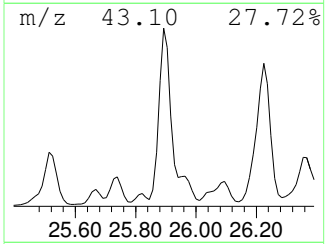


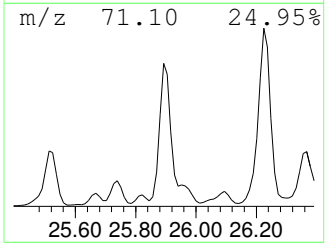


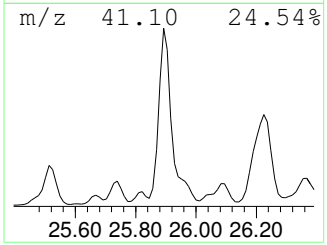












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Sample    : 1611021-03
Misc      : 200ml 870 LEONG-SS2
ALS Vial  : 36   Sample Multiplier: 1.81

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title  : TO15

TIC Library    : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P
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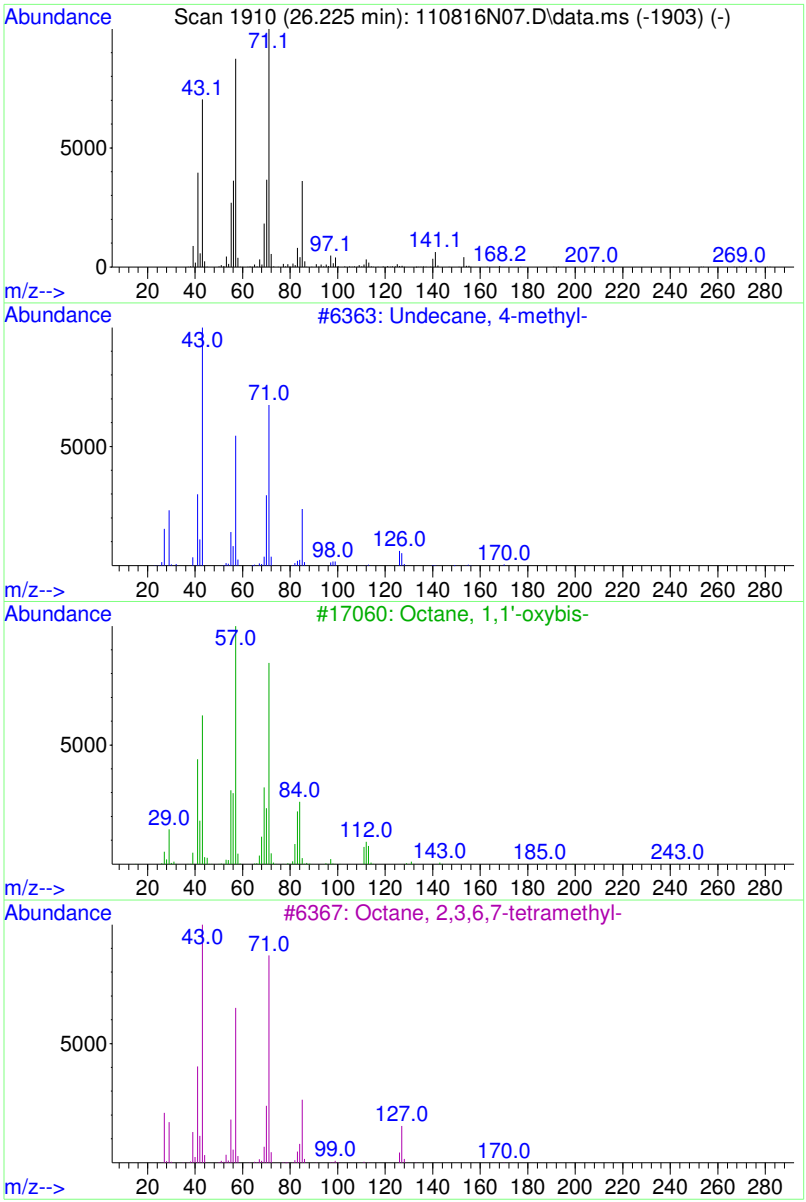
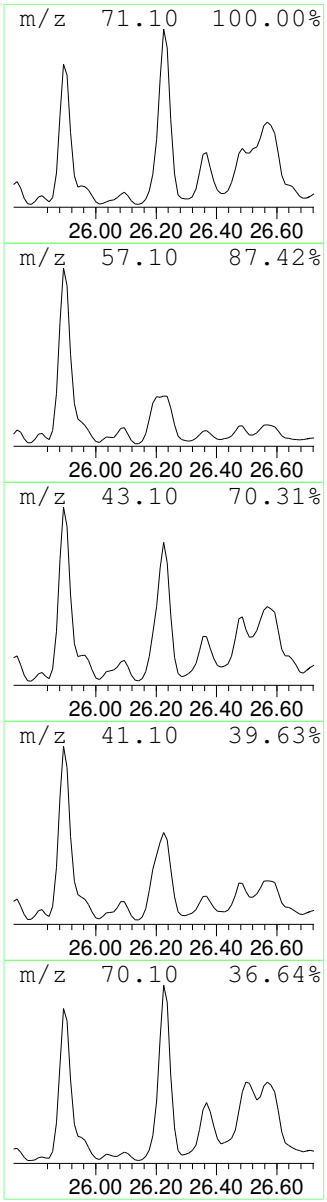
****

Peak Number 6 Octane, oxybis- Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
26.225	18.80 ppbv	4269260	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Undecane, 4-methyl-	170	C12H26	002980-69-0	64
2	Octane, 1,1'-oxybis-	242	C16H34O	000629-82-3	59
3	Octane, 2,3,6,7-tetramethyl-	170	C12H26	052670-34-5	59
4	Pentane, 3,3-dimethyl-	100	C7H16	000562-49-2	53
5	Undecane, 3,3-dimethyl-	184	C13H28	017312-65-1	53





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Misc : 200ml 870 LEONG-SS2
ALS Vial : 36 Sample Multiplier: 1.81

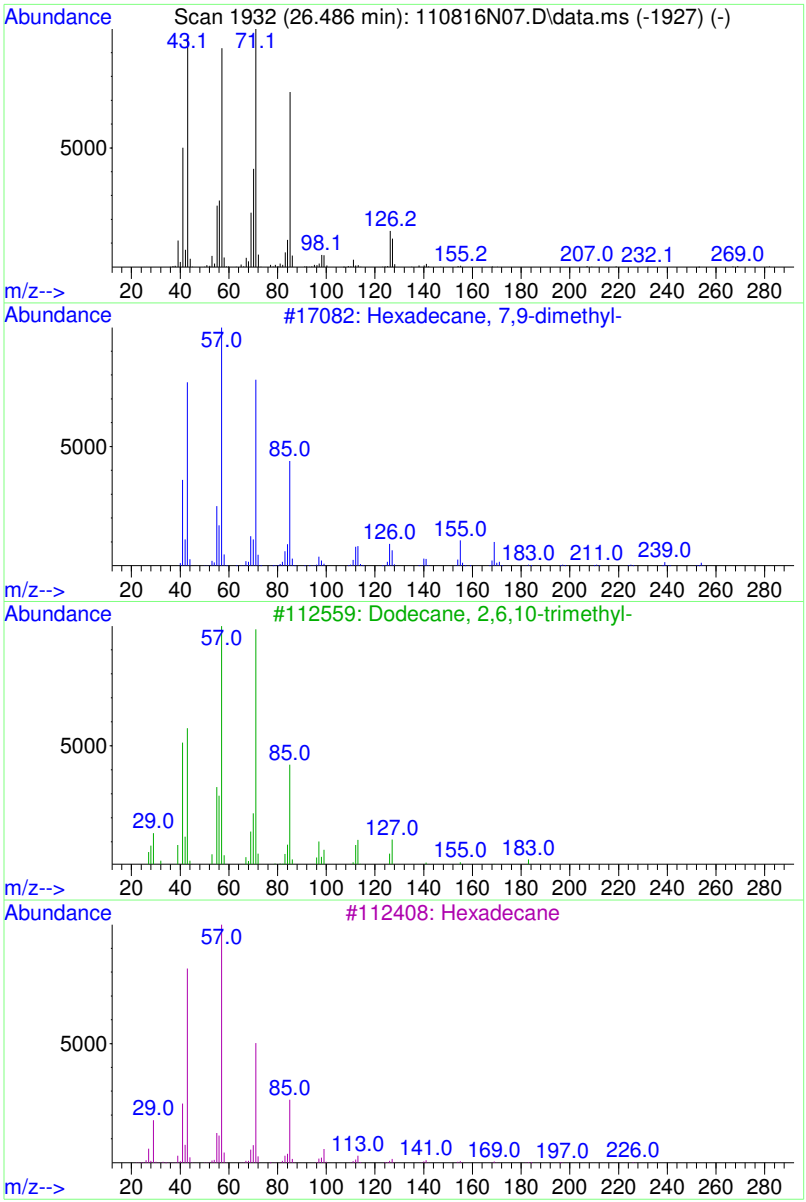
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

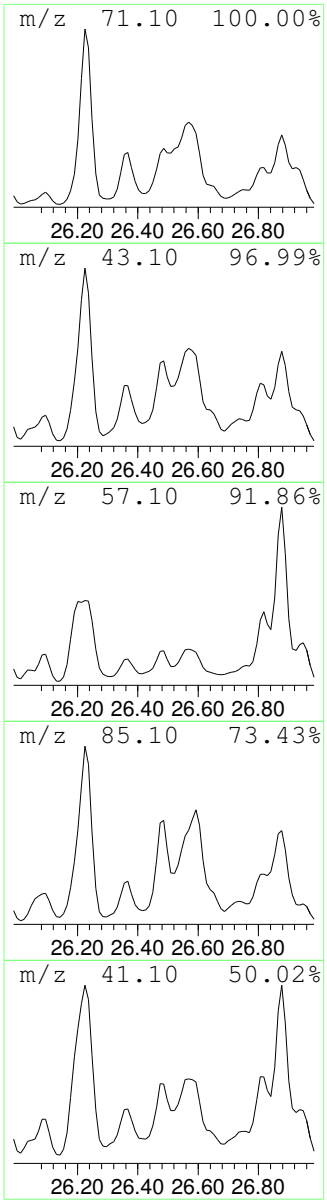
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 7 Hexadecane, dimethyl- Concentration Rank 10

R.T.	EstConc	Area	Relative to ISTD	R.T.
26.486	4.36 ppbv	991112	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Hexadecane, 7,9-dimethyl-	254	C18H38	021164-95-4	59
2	Dodecane, 2,6,10-trimethyl-	212	C15H32	003891-98-3	59
3	Hexadecane	226	C16H34	000544-76-3	50
4	Nonane, 2-methyl-5-propyl-	184	C13H28	031081-17-1	47
5	Decane, 2,6,7-trimethyl-	184	C13H28	062108-25-2	47





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ALS Vial : 36 Sample Multiplier: 1.81

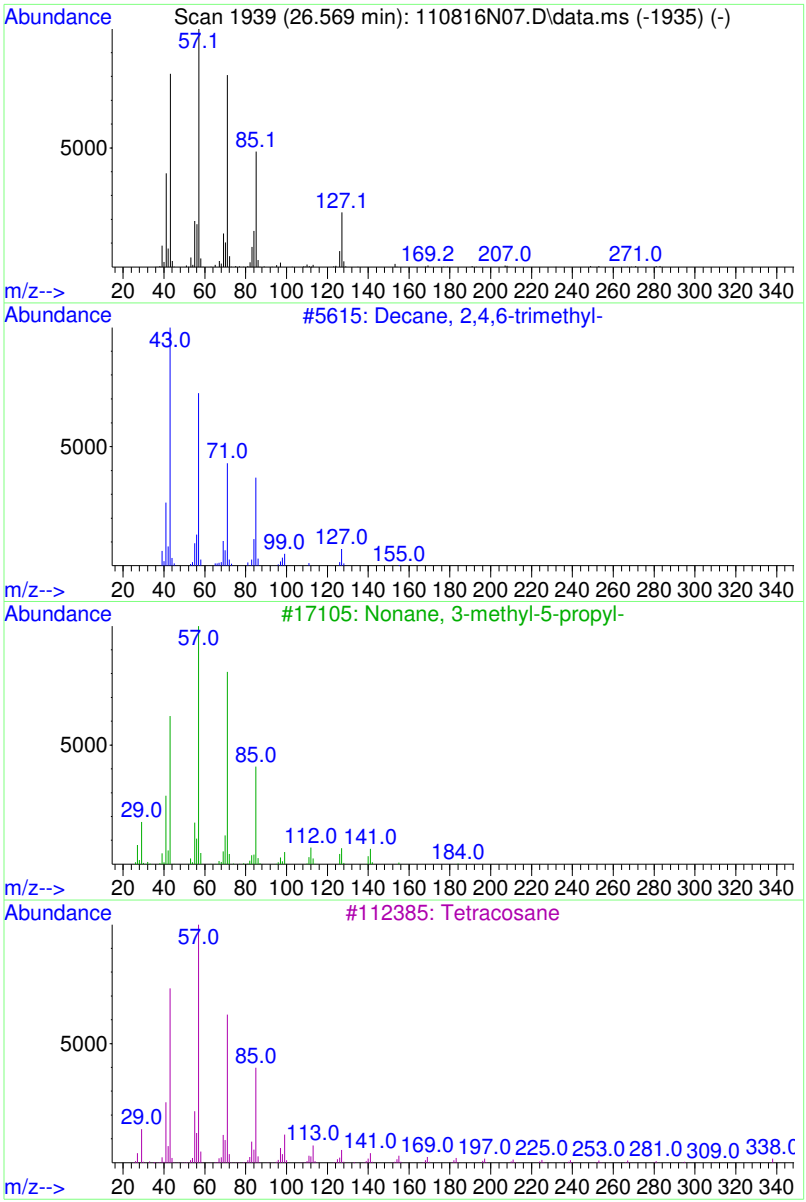
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

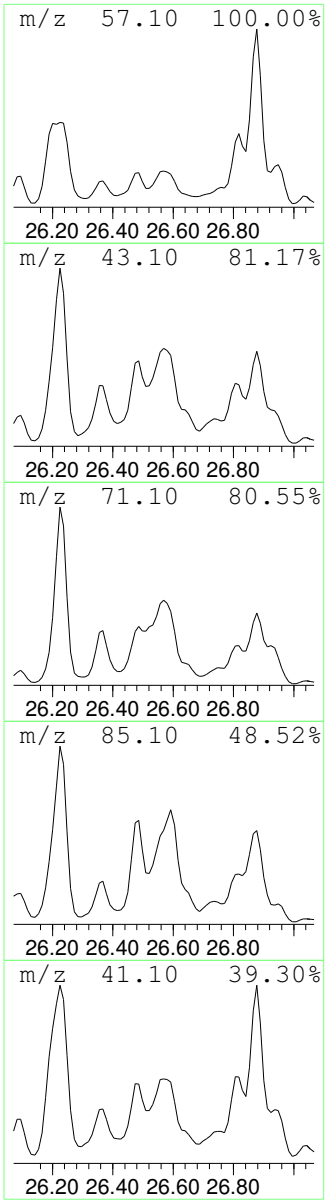
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 8 Undecane, dimethyl- Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
26.569	9.28 ppbv	2108300	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Decane, 2,4,6-trimethyl-	184	C13H28	062108-27-4	83
2	Nonane, 3-methyl-5-propyl-	184	C13H28	031081-18-2	72
3	Tetracosane	338	C24H50	000646-31-1	72
4	Tridecane, 1-iodo-	310	C13H27I	035599-77-0	72
5	Undecane, 3,4-dimethyl-	184	C13H28	017312-78-6	72





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Sample    : 1611021-03
Misc      : 200ml 870 LEONG-SS2
ALS Vial  : 36   Sample Multiplier: 1.81

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title  : TO15

TIC Library    : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P
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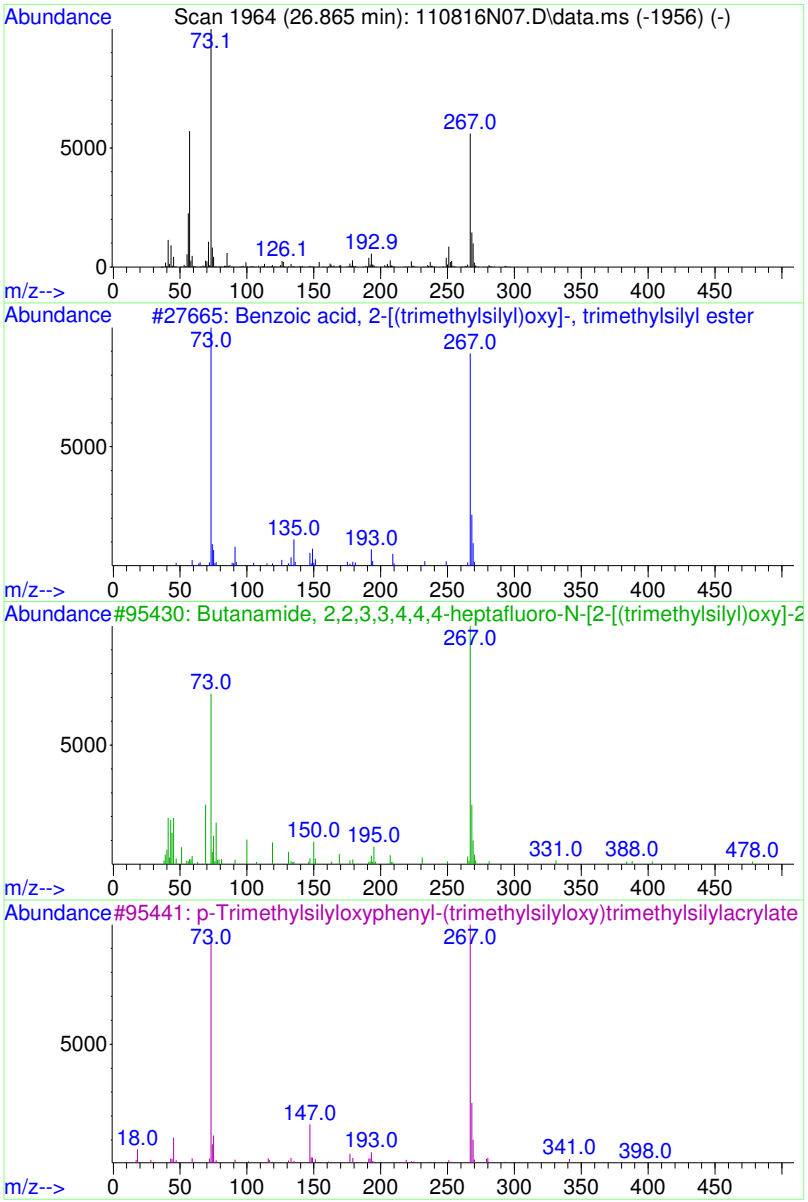
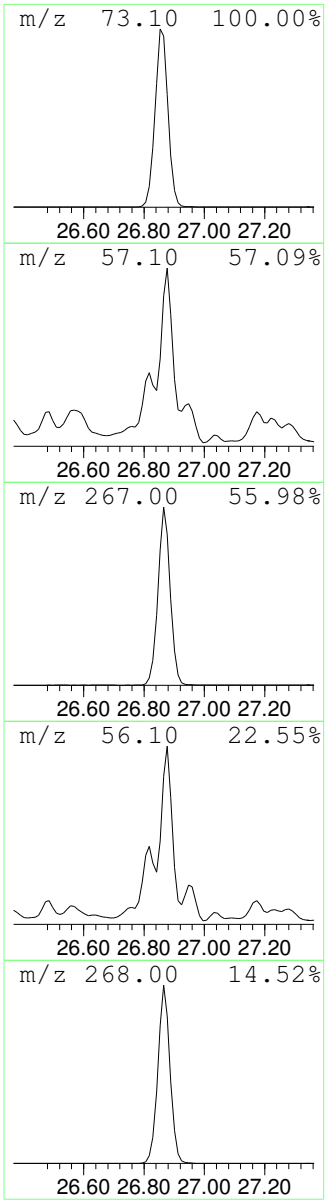
Peak Number 9 column bleed Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
26.865	33.30 ppbv	7563130	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzoic acid, 2-[(trimethylsilyl...	282	C13H22O3Si2	003789-85-3	50
2	Butanamide, 2,2,3,3,4,4,4-heptaf...	493	C18H26F7NO3Si2	055471-01-7	50
3	p-Trimethylsilyloxyphenyl-(trime...	398	C18H34O4Si3	1000079-05-1	50
4	4-Trimethylsilyl-9,9-dimethyl-9-...	282	C17H22Si2	058263-56-2	45
5	3-Hydroxymandelic acid, ethyl es...	340	C16H28O4Si2	1000071-88-9	42





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Misc : 200ml 870 LEONG-SS2
ALS Vial : 36 Sample Multiplier: 1.81

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

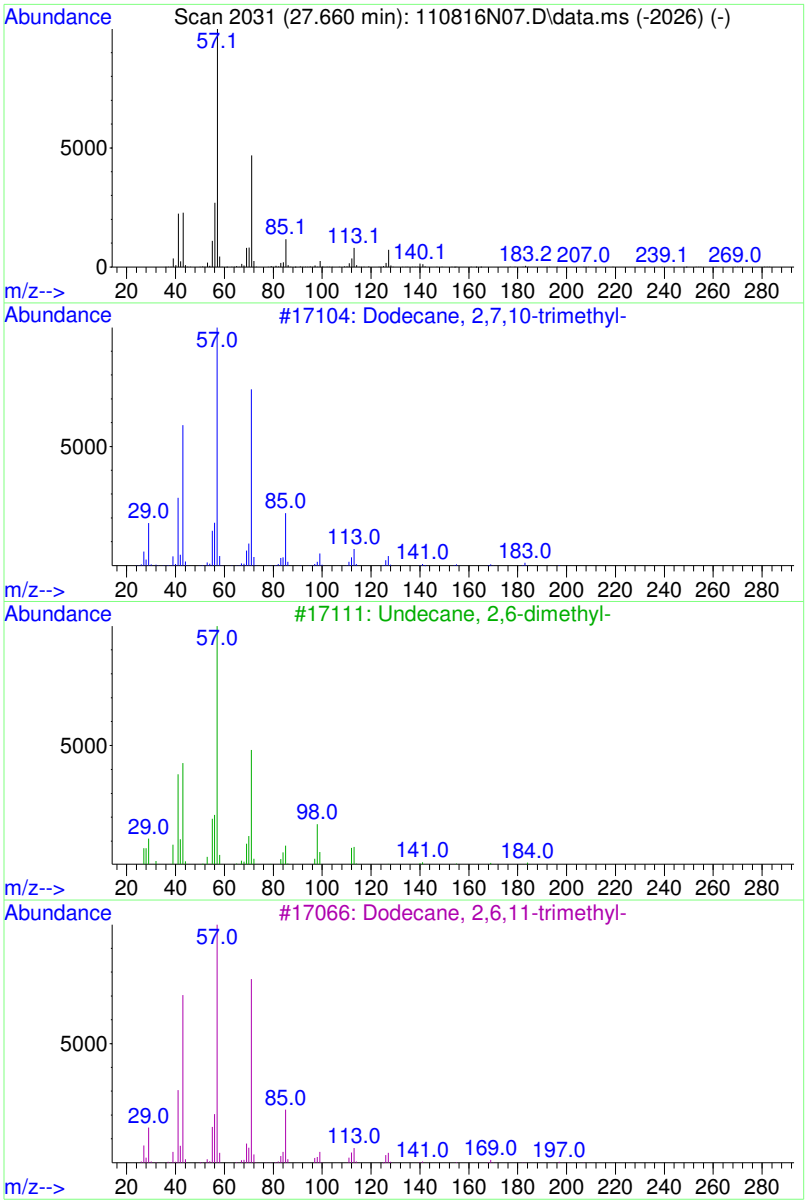
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

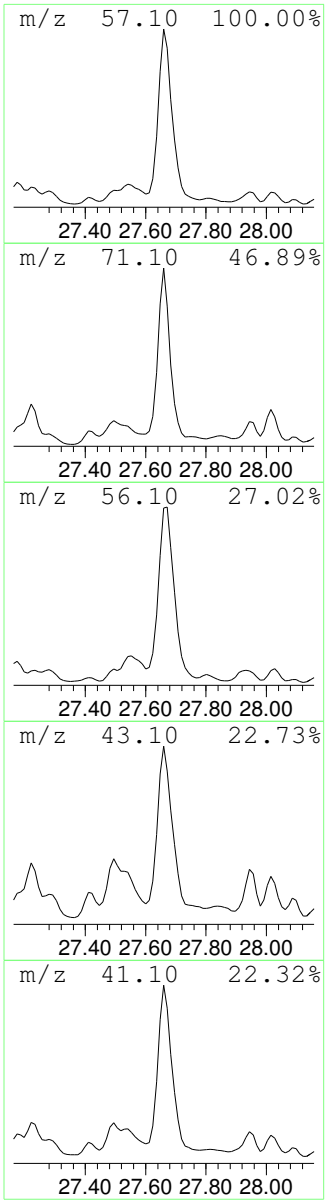
****

Peak Number 10 Undecane, dimethyl- Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
27.660	22.86 ppbv	5192880	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Dodecane, 2,7,10-trimethyl-	212	C15H32	074645-98-0	78
2	Undecane, 2,6-dimethyl-	184	C13H28	017301-23-4	72
3	Dodecane, 2,6,11-trimethyl-	212	C15H32	031295-56-4	64
4	Octane, 3,6-dimethyl-	142	C10H22	015869-94-0	64
5	Dodecane, 2,6,10-trimethyl-	212	C15H32	003891-98-3	64





Tentatively Identified Compound (LSC) summary

Table of Contents

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N07.D
Acq On : 8 Nov 2016 3:15 pm
Operator : LLH
Sample : 1611021-03
Misc : 200ml 870 LEONG-SS2
ALS Vial : 36 Sample Multiplier: 1.81

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	RT	Resp	Conc
Ethane, difluoro-	4.464	60.5	ppbv	7194510	1	15.481	2614590	22.0
column bleed	20.450	5.6	ppbv	1277840	3	22.359	4996510	22.0
column bleed	24.007	19.3	ppbv	4379760	3	22.359	4996510	22.0
Hexatriacontane	25.513	6.6	ppbv	1494430	3	22.359	4996510	22.0
Hexane, trimethyl-	25.893	25.4	ppbv	5772070	3	22.359	4996510	22.0
Octane, oxybis-	26.225	18.8	ppbv	4269260	3	22.359	4996510	22.0
Hexadecane, dim...	26.486	4.4	ppbv	991112	3	22.359	4996510	22.0
Undecane, dimet...	26.569	9.3	ppbv	2108300	3	22.359	4996510	22.0
column bleed	26.865	33.3	ppbv	7563130	3	22.359	4996510	22.0
Undecane, dimet...	27.660	22.9	ppbv	5192880	3	22.359	4996510	22.0

REVIEWED
By LLH at 4:52 pm, Nov 08, 2016

1611021-04

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N08.D
Acq On : 8 Nov 2016 4:04 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-04
Misc : 200ml 870 LEONG-SS3
ALS Vial : 37 Sample Multiplier: 1.83

REPORT

rerun 20ml re-repress

Quant Time: Nov 08 16:52:51 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) BROMOCHLOROMETHANE	15.481	49	720911	22.00	ppbv	0.00	
32) 1,4-DIFLUOROBENZENE	17.461	114	1894162	22.00	ppbv	0.00	
43) CHLOROBENZENE-d5	22.359	117	1545091	22.00	ppbv	0.00	
Target Compounds						Qvalue	
14) Acetone	9.978	43	82960	2.12	ppbv	96	
20) trans-1,2-Dichloroethene	12.196	61	170587	4.47	ppbv	93	
24) cis-1,2-Dichloroethene	14.947	61	323481	8.58	ppbv	91	
28) Chloroform	15.635	83	35126	0.60	ppbv #	86	
37) Trichloroethene	17.876	130	11438185	377.46	ppbv	94	OC
44) Toluene	20.082	91	59308	0.68	ppbv	98	

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

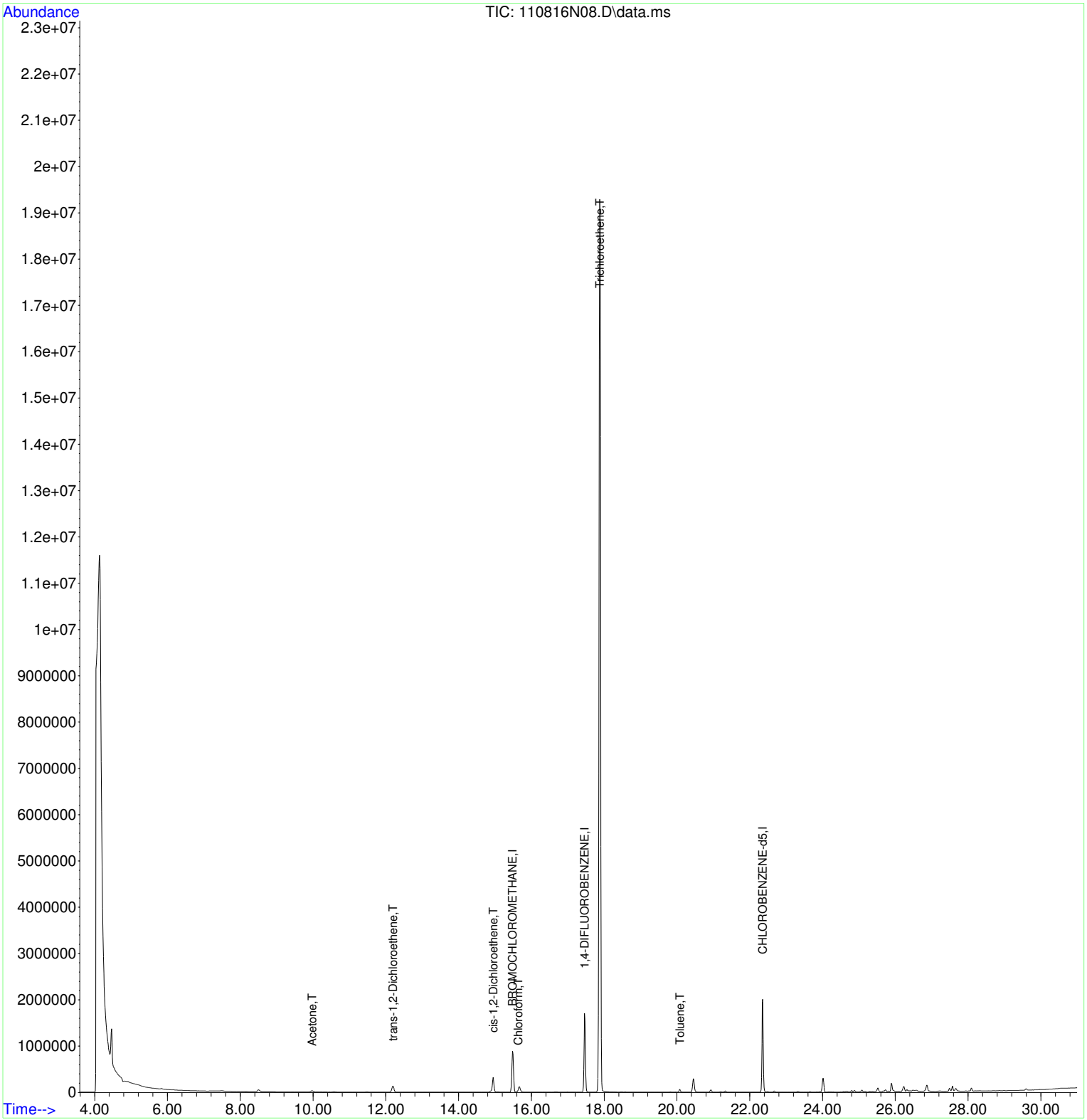
AFTER Q DELETE

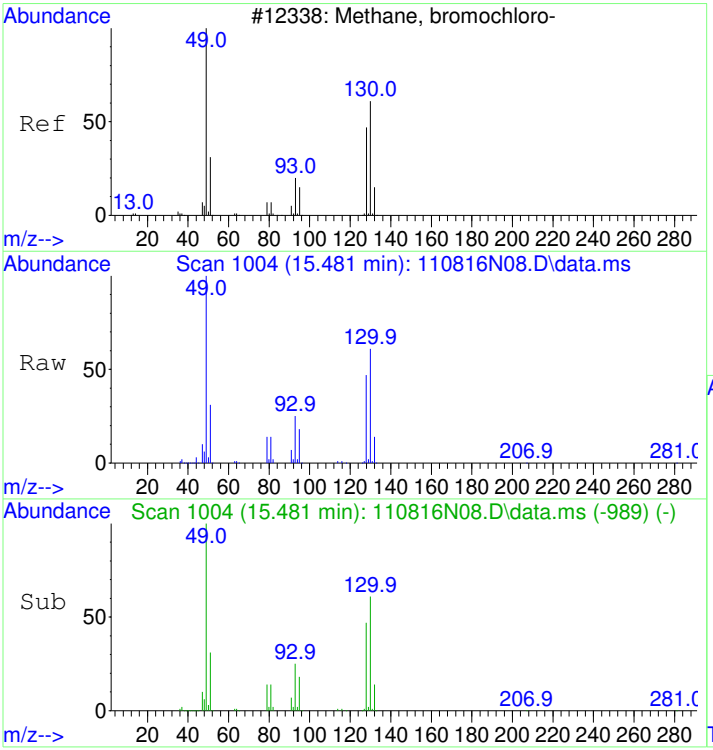
REVIEWED
By LLH at 4:53 pm, Nov 08, 2016

Table of Contents

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N08.D
Acq On : 8 Nov 2016 4:04 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-04
Misc : 200ml 870 LEONG-SS3
ALS Vial : 37 Sample Multiplier: 1.83

Quant Time: Nov 08 16:52:51 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

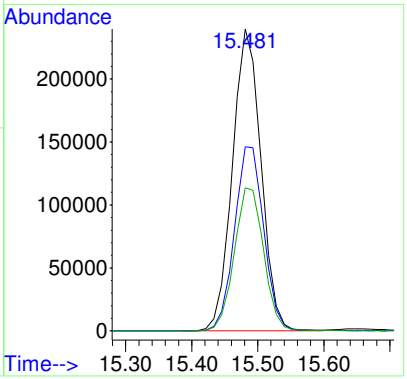


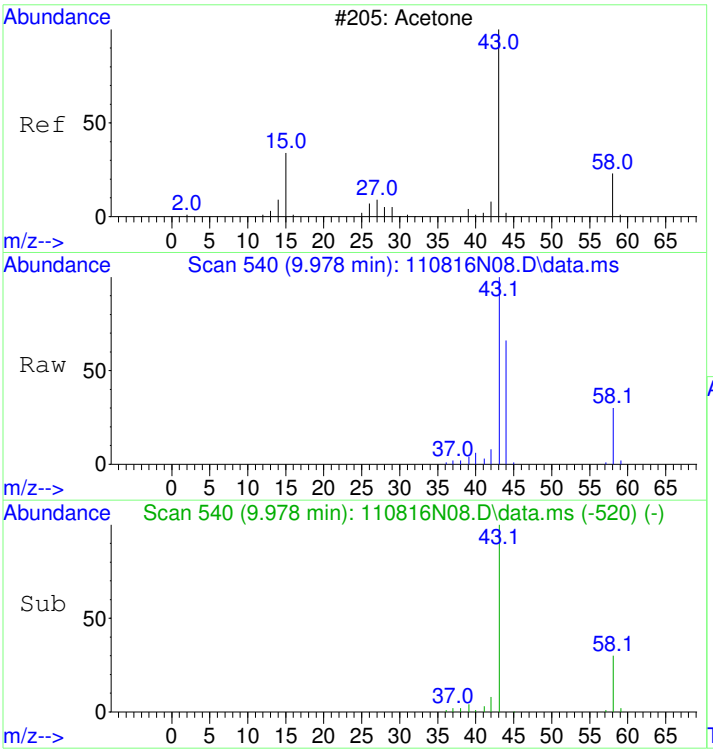


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. -0.000 min
Lab File: 110816N08.D
Acq: 8 Nov 2016 4:04 pm

Tgt Ion: 49 Resp: 720911

Ion	Ratio	Lower	Upper
49	100		
130	62.4	56.1	96.1
128	48.6	38.8	78.8

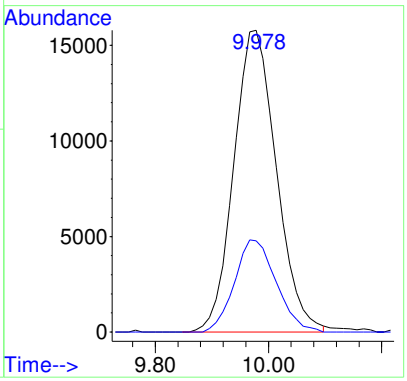


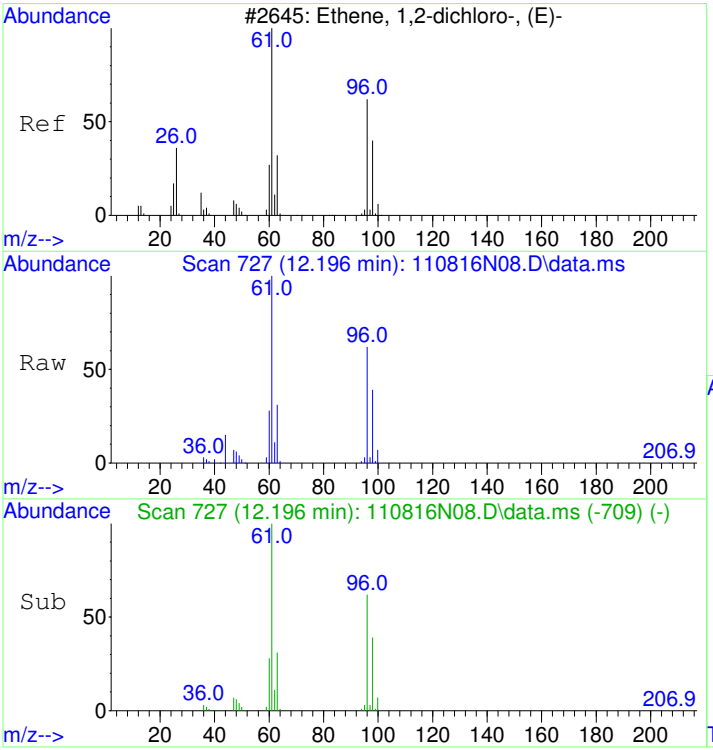


#14
Acetone
Concen: 2.12 ppbv
RT: 9.978 min Scan# 540
Delta R.T. 0.035 min
Lab File: 110816N08.D
Acq: 8 Nov 2016 4:04 pm

Tgt Ion: 43 Resp: 82960

Ion	Ratio	Lower	Upper
43	100		
58	29.9	12.3	52.3

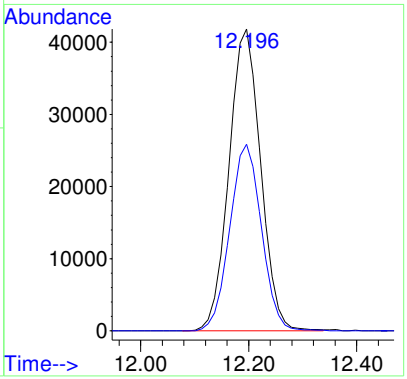


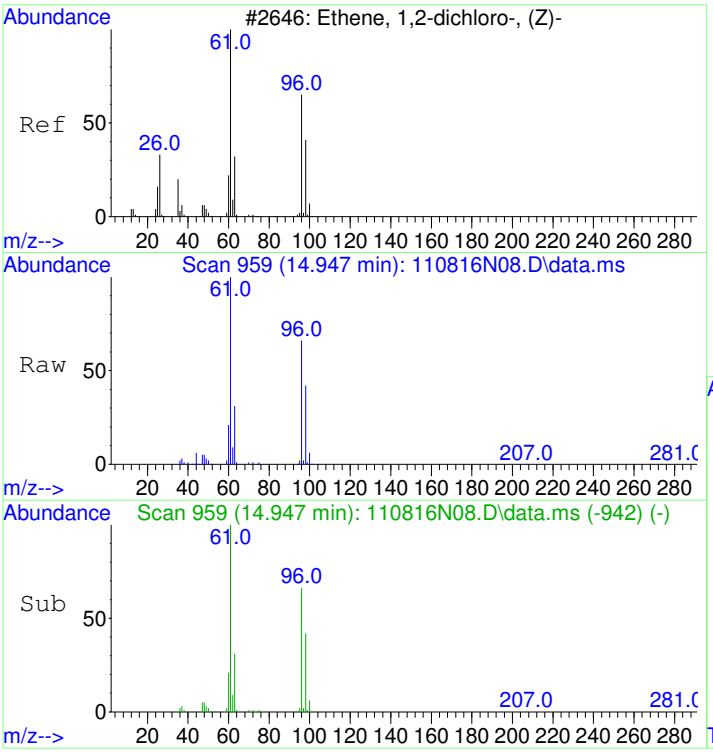


#20
trans-1,2-Dichloroethene
Concen: 4.47 ppbv
RT: 12.196 min Scan# 727
Delta R.T. 0.012 min
Lab File: 110816N08.D
Acq: 8 Nov 2016 4:04 pm

Tgt Ion: 61 Resp: 170587

Ion	Ratio	Lower	Upper
61	100		
96	61.9	47.5	87.5

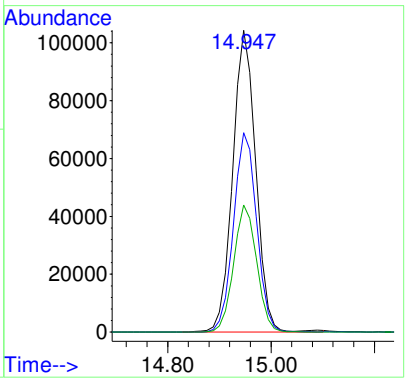


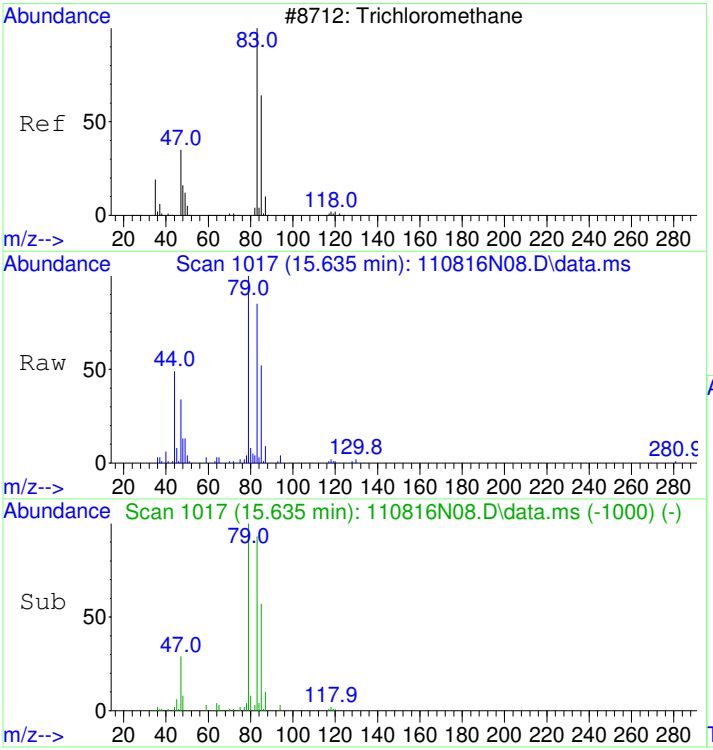


#24
cis-1,2-Dichloroethene
Concen: 8.58 ppbv
RT: 14.947 min Scan# 959
Delta R.T. -0.000 min
Lab File: 110816N08.D
Acq: 8 Nov 2016 4:04 pm

Tgt Ion: 61 Resp: 323481

Ion	Ratio	Lower	Upper
61	100		
96	66.2	54.4	94.4
98	41.8	27.5	67.5

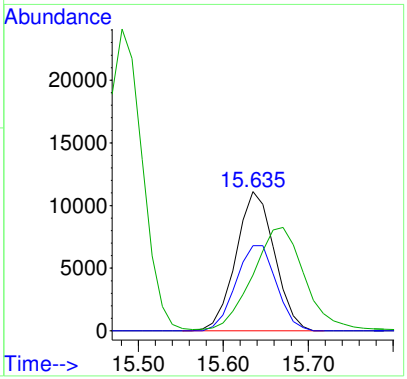


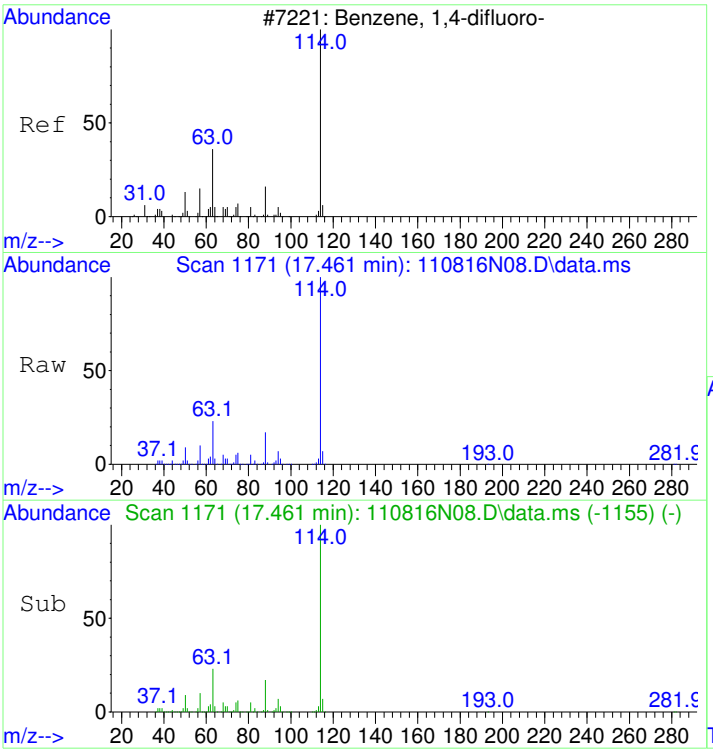


#28
Chloroform
Concen: 0.60 ppbv
RT: 15.635 min Scan# 1017
Delta R.T. -0.000 min
Lab File: 110816N08.D
Acq: 8 Nov 2016 4:04 pm

Tgt Ion: 83 Resp: 35126

Ion	Ratio	Lower	Upper
83	100		
85	64.3	44.9	84.9
47	0.0	3.9	43.9#

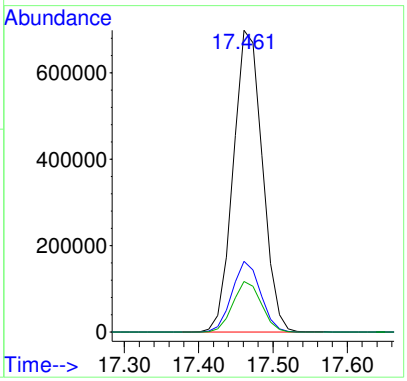


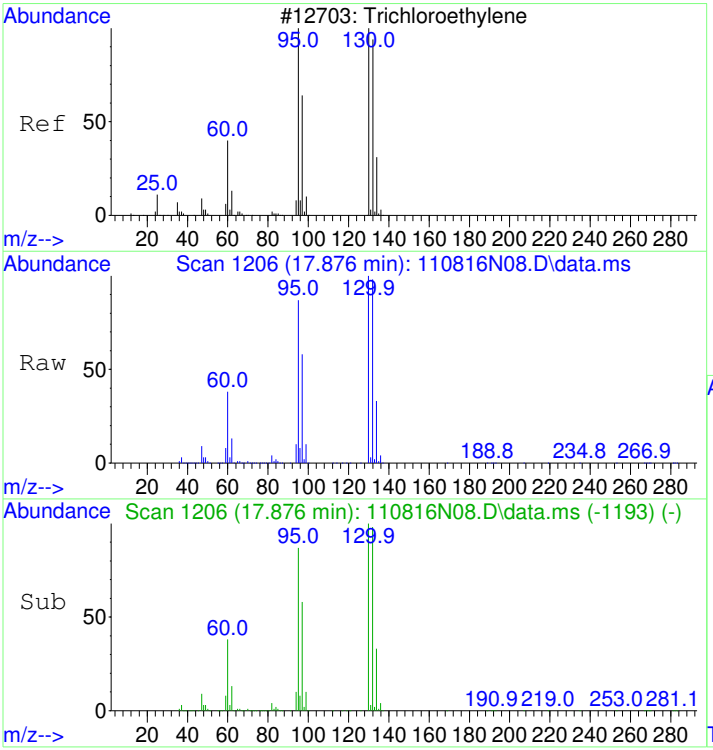


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. -0.000 min
Lab File: 110816N08.D
Acq: 8 Nov 2016 4:04 pm

Tgt Ion:114 Resp: 1894162

Ion	Ratio	Lower	Upper
114	100		
63	23.0	0.1	40.1
88	16.4	0.0	35.8

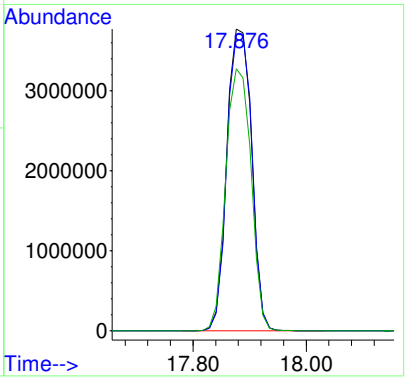


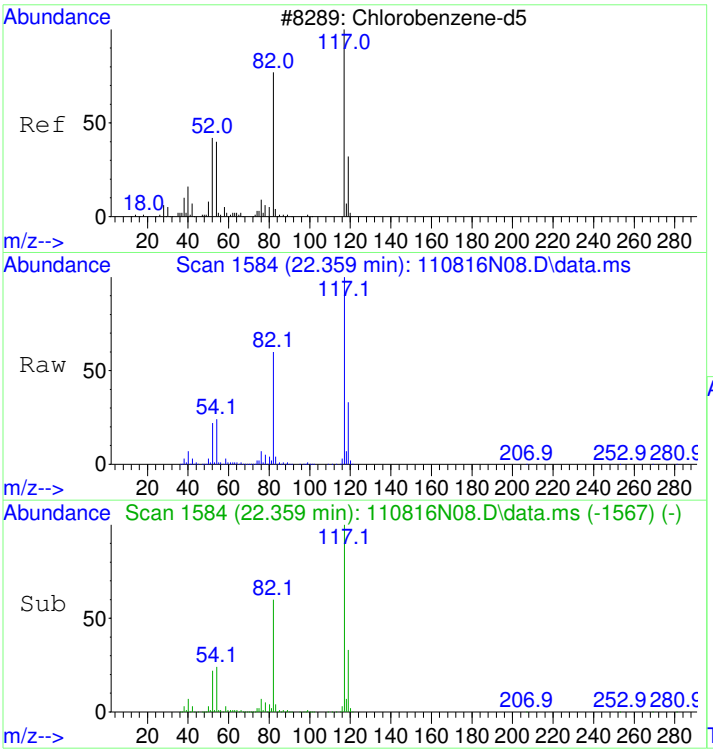


#37
Trichloroethene
Concen: 377.46 ppbv
RT: 17.876 min Scan# 1206
Delta R.T. -0.000 min
Lab File: 110816N08.D
Acq: 8 Nov 2016 4:04 pm

Tgt Ion:130 Resp:11438185

Ion	Ratio	Lower	Upper
130	100		
132	99.1	77.1	117.1
95	89.2	79.3	119.3

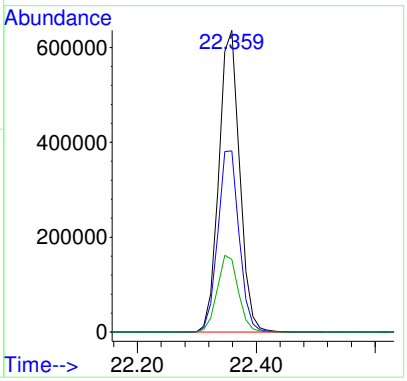


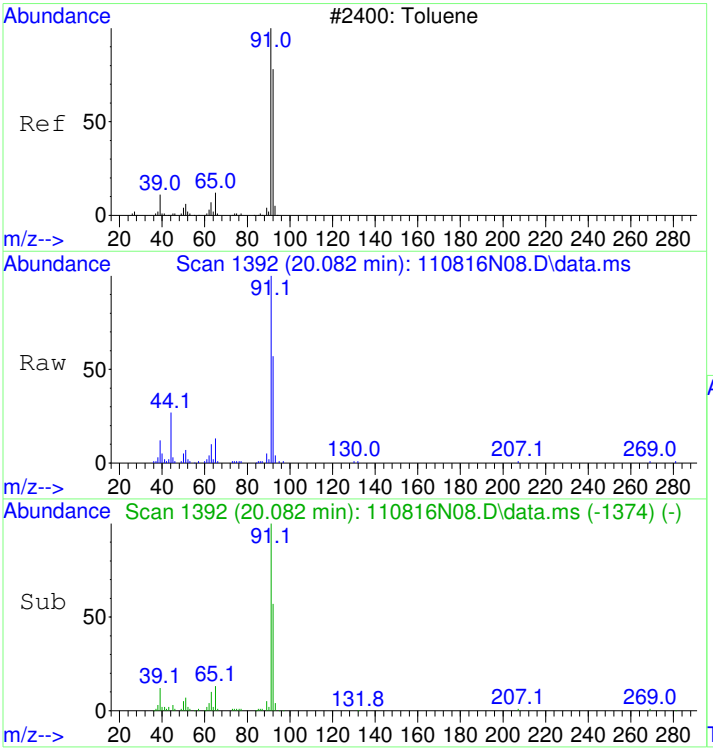


#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. -0.000 min
Lab File: 110816N08.D
Acq: 8 Nov 2016 4:04 pm

Tgt Ion:117 Resp: 1545091

Ion	Ratio	Lower	Upper
117	100		
82	61.9	36.8	76.8
54	25.9	1.4	41.4

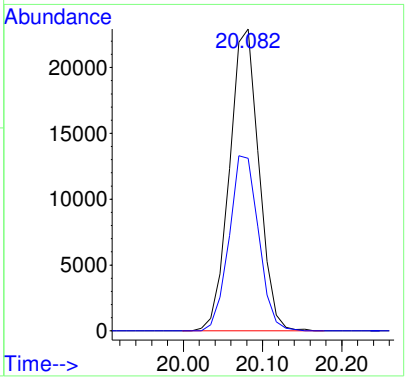




#44
Toluene
Concen: 0.68 ppbv
RT: 20.082 min Scan# 1392
Delta R.T. 0.012 min
Lab File: 110816N08.D
Acq: 8 Nov 2016 4:04 pm

Tgt Ion: 91 Resp: 59308

Ion	Ratio	Lower	Upper
91	100		
92	58.0	39.3	79.3



LSC Area Percent Report

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N08.D
Acq On : 8 Nov 2016 4:04 pm
Operator : LLH
Sample : 1611021-04
Misc : 200ml 870 LEONG-SS3
ALS Vial : 37 Sample Multiplier: 1.83

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.01 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 1 prefer < Baseline drop else tangent >
Peak separation: 10

Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Title : TO15

Signal : TIC: 110816N08.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.464	71	75	101	rVB	1140129	6466005	10.83%	7.945%
2	14.947	947	959	965	rBV2	321733	1072663	1.80%	1.318%
3	15.481	997	1004	1012	rBV	886755	2693245	4.51%	3.309%
4	17.461	1165	1171	1179	rBV	1701749	4575099	7.66%	5.622%
5	17.876	1197	1206	1223	rBV	19284560	59708976	100.00%	73.370%
6	20.450	1415	1423	1435	rBV	291531	924130	1.55%	1.136%
7	22.359	1578	1584	1592	rBV	2009417	5044747	8.45%	6.199%
8	24.019	1718	1724	1730	rVB	299850	895996	1.50%	1.101%

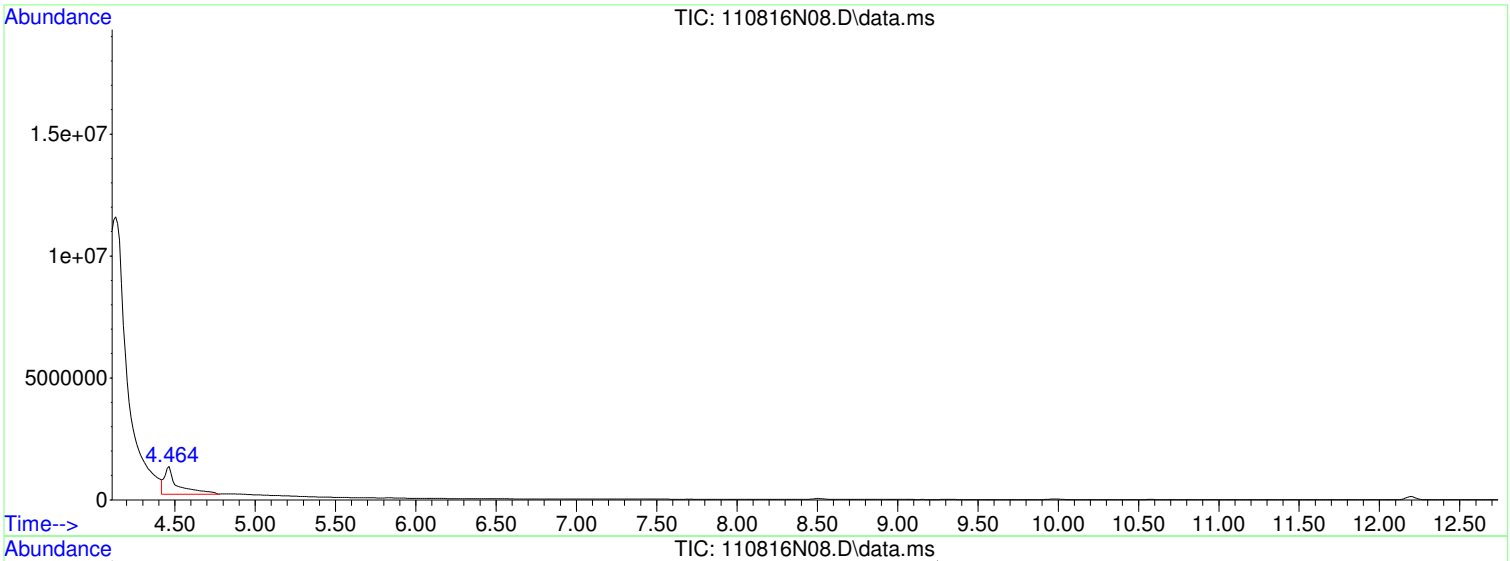
Sum of corrected areas: 81380861

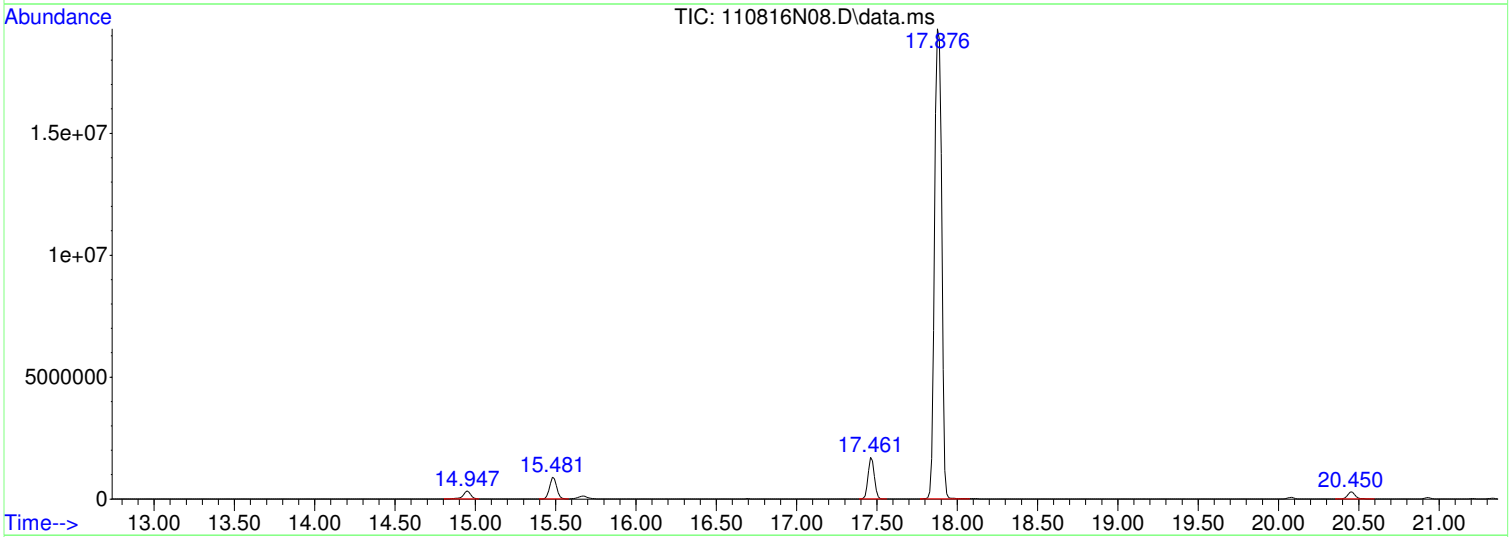
Table of Contents

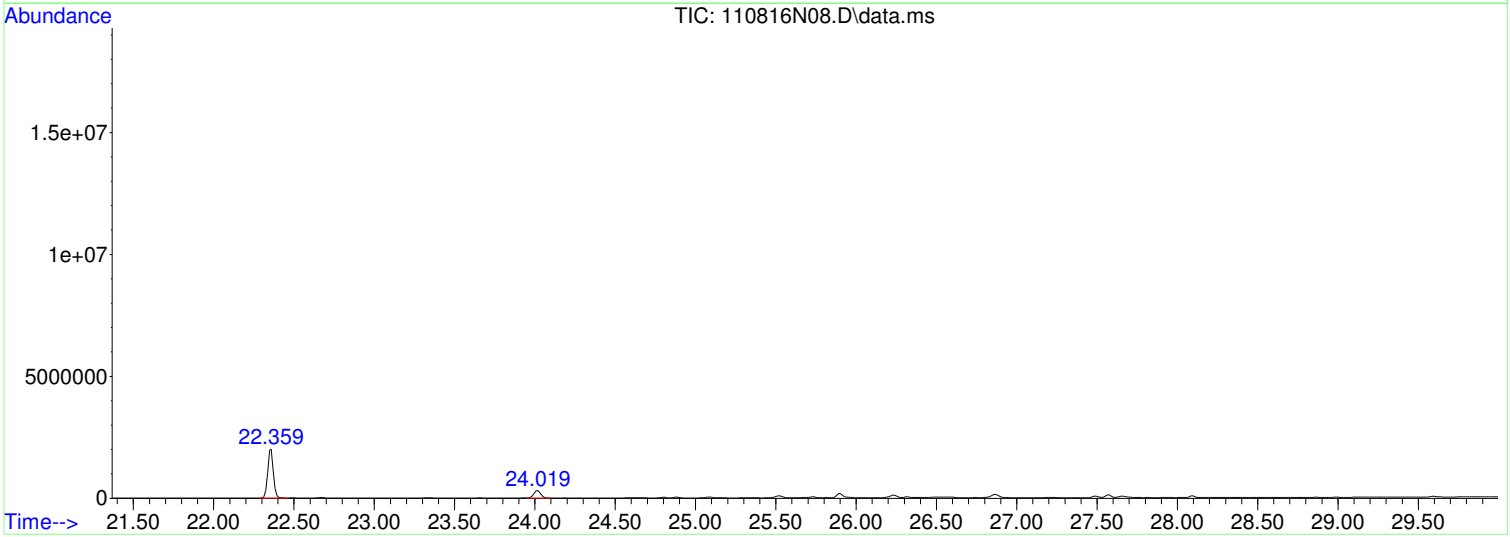
Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N08.D
Acq On : 8 Nov 2016 4:04 pm
Operator : LLH
Sample : 1611021-04
Misc : 200ml 870 LEONG-SS3
ALS Vial : 37 Sample Multiplier: 1.83

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P







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Data File : 110816N08.D
Acq On : 8 Nov 2016 4:04 pm
Operator : LLH
Sample : 1611021-04
Misc : 200ml 870 LEONG-SS3
ALS Vial : 37 Sample Multiplier: 1.83

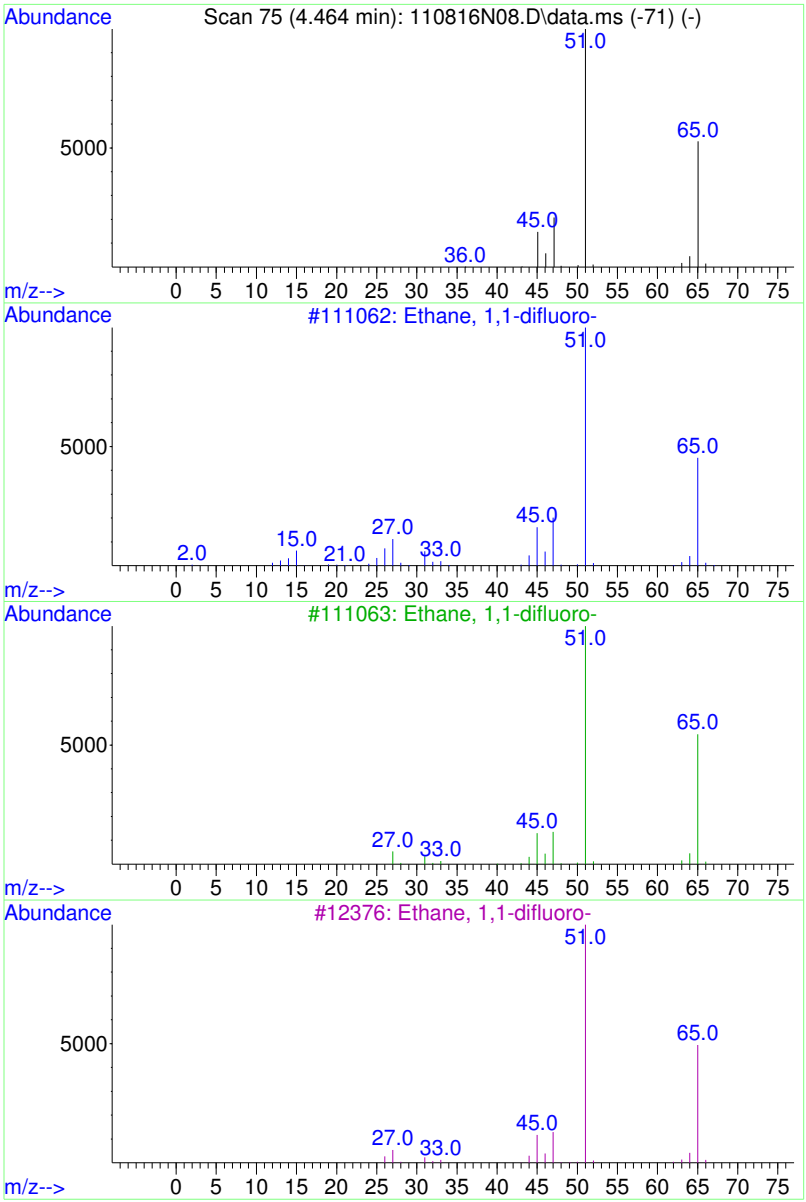
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

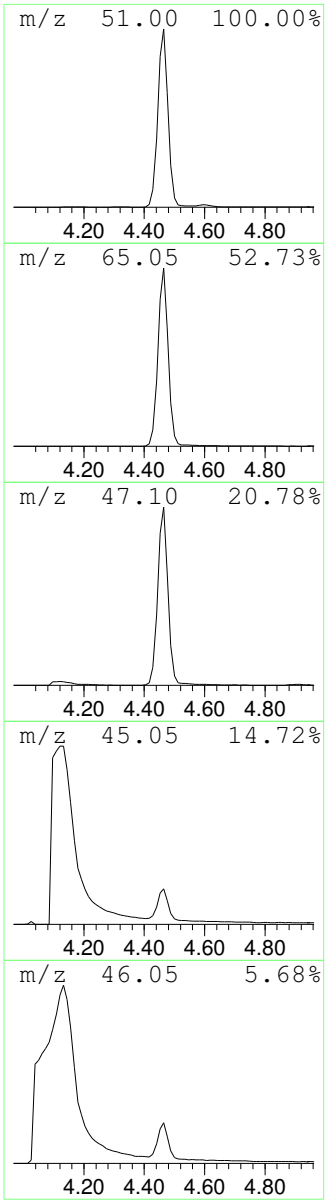
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 1 Ethane, difluoro- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.464	52.82 ppbv	6466010	BROMOCHLOROMETHANE	15.481

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,1-difluoro-	66	C2H4F2	000075-37-6	91
2	Ethane, 1,1-difluoro-	66	C2H4F2	000075-37-6	90
3	Ethane, 1,1-difluoro-	66	C2H4F2	000075-37-6	90
4	Propiolonitrile	51	C3HN	001070-71-9	3
5	Propane, 2,2-difluoro-	80	C3H6F2	000420-45-1	2





Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N08.D
Acq On : 8 Nov 2016 4:04 pm
Operator : LLH
Sample : 1611021-04
Misc : 200ml 870 LEONG-SS3
ALS Vial : 37 Sample Multiplier: 1.83

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

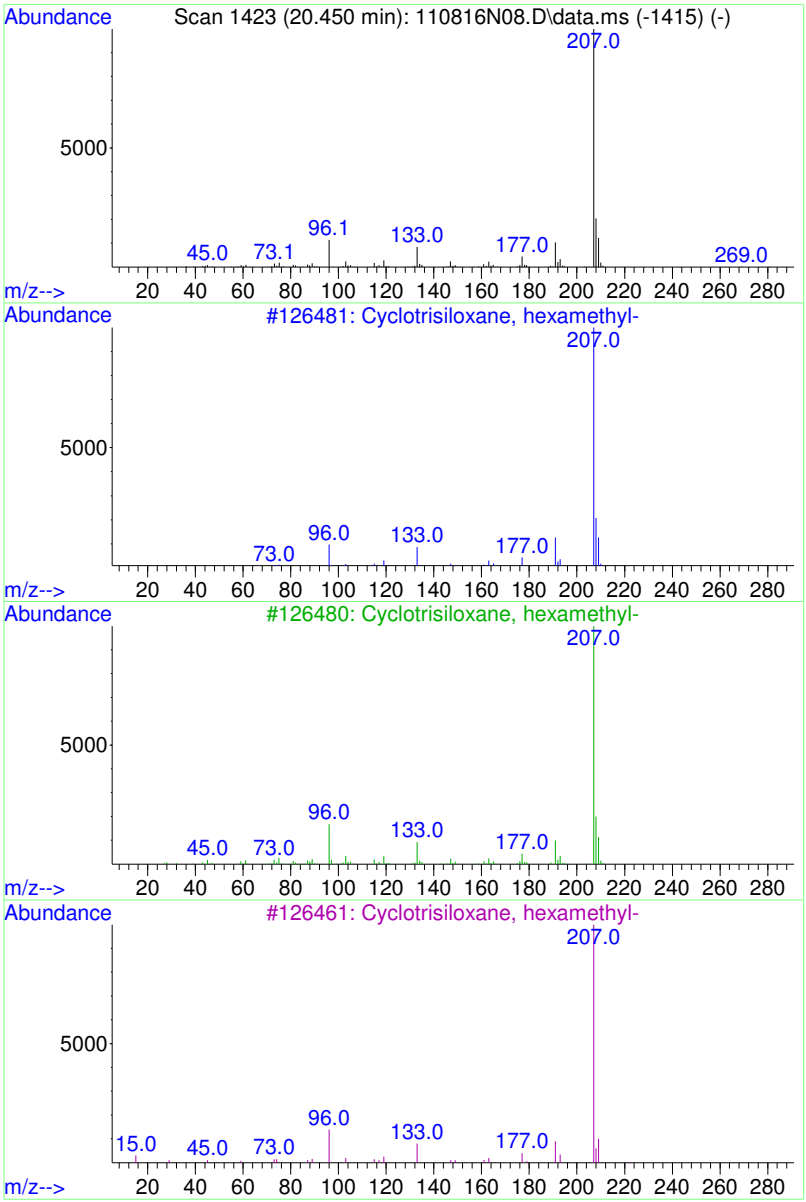
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

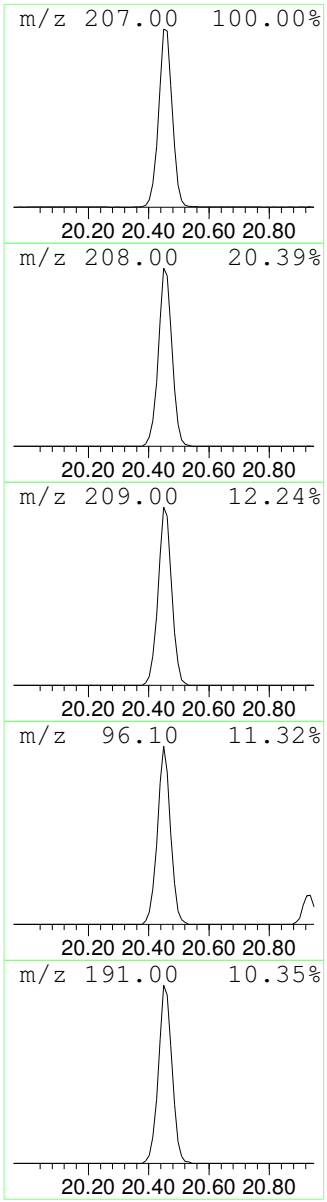
****

Peak Number 2 column bleed Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
20.450	4.03 ppbv	924130	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	91
2	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	87
3	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	80
4	N-(2-Acetylcyclopentylidene)cycl...	207	C13H21NO	1000100-48-5	59
5	Arsenous acid, tris(trimethylsil...	342	C9H27AsO3Si3	055429-29-3	56





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Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N08.D
Acq On    :  8 Nov 2016   4:04 pm
Operator  : LLH
Sample    : 1611021-04
Misc      : 200ml 870 LEONG-SS3
ALS Vial  : 37   Sample Multiplier: 1.83

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title  : TO15

TIC Library    : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

*********************************************************************
Peak Number  3  column bleed                    Concentration Rank  3

  R.T.     EstConc          Area       Relative to ISTD         R.T.
---------------------------------------------------------------------
 24.019    3.91 ppbv       895996   CHLOROBENZENE-d5           22.359

 Hit# of  5    Tentative ID              MW  MolForm       CAS#       Qual
---------------------------------------------------------------------
 1 Cyclotetrasiloxane, octamethyl-      296 C8H24O4Si4     000556-67-2 90
 2 Cyclotetrasiloxane, octamethyl-      296 C8H24O4Si4     000556-67-2 86
 3 7H-Dibenzo[b,g]carbazole, 7-methyl- 281 C21H15N         003557-49-1 53
 4 5H-Naphtho[2,3-c]carbazole, 5-me... 281 C21H15N         100025-44-3 45
 5 Cyclopentanecarboxamide, 3-ethen... 281 C19H23NO        136091-23-1 42
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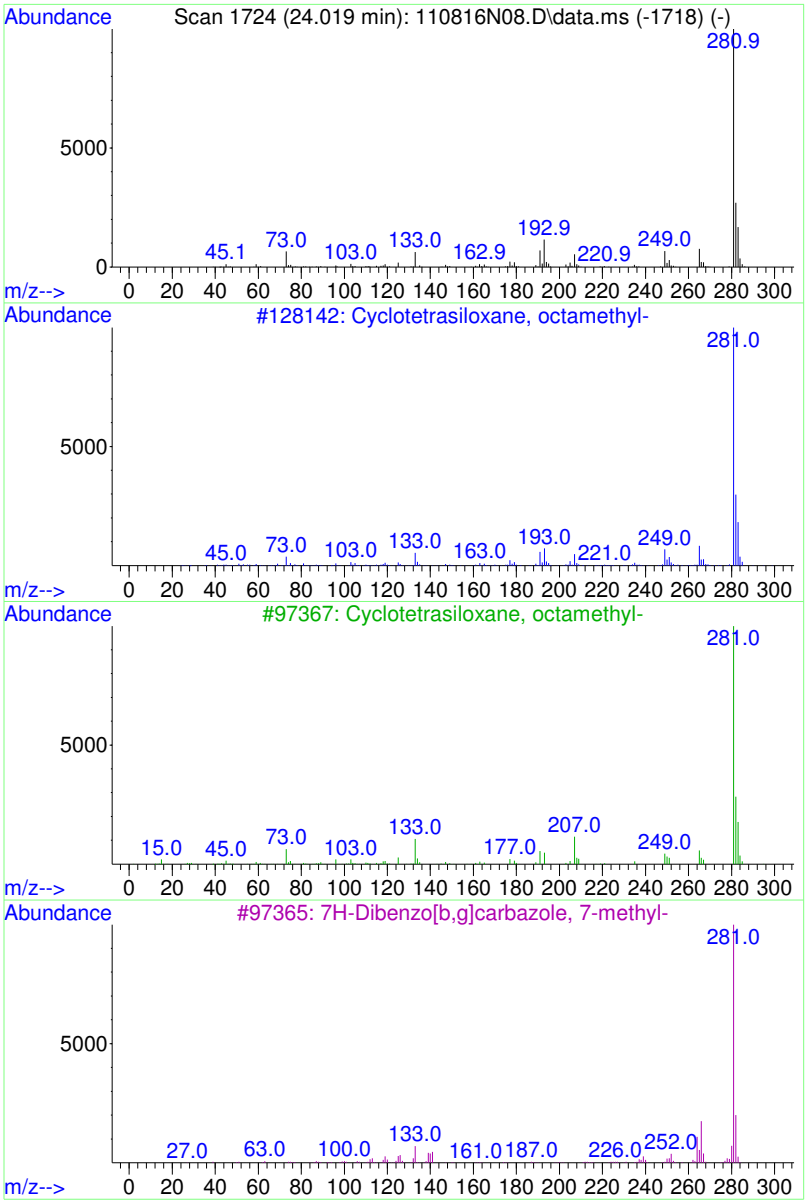
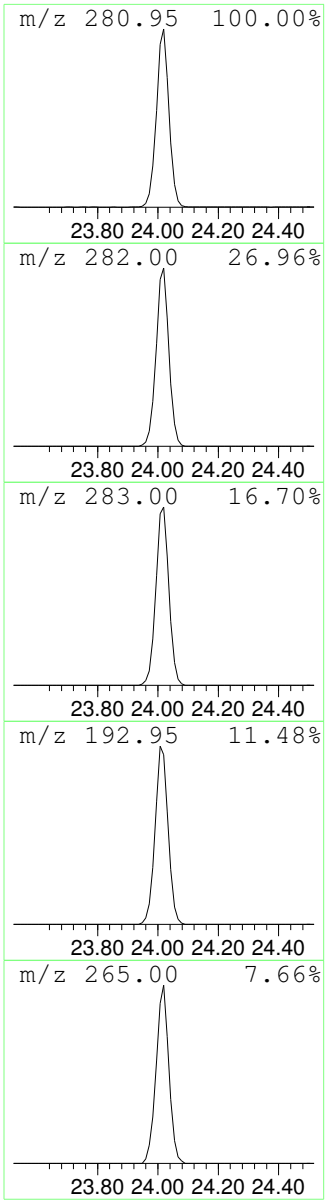




Tentatively Identified Compound (LSC) summary

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N08.D
Acq On : 8 Nov 2016 4:04 pm
Operator : LLH
Sample : 1611021-04
Misc : 200ml 870 LEONG-SS3
ALS Vial : 37 Sample Multiplier: 1.83

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	RT	Resp	Conc
Ethane, difluoro-	4.464	52.8	ppbv	6466010	1	15.481	2693250	22.0
column bleed	20.450	4.0	ppbv	924130	3	22.359	5044750	22.0
column bleed	24.019	3.9	ppbv	895996	3	22.359	5044750	22.0

REVIEWED
By LLH at 4:59 pm, Nov 08, 2016

1611021-05

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N10.D
Acq On : 8 Nov 2016 5:43 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-05
Misc : 200ml 870 LEONG-SS4
ALS Vial : 38 Sample Multiplier: 1.93

REPORT

rerun 20ml re-repress

Quant Time: Nov 09 09:13:11 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) BROMOCHLOROMETHANE	15.481	49	700937	22.00	ppbv	0.00	
32) 1,4-DIFLUOROBENZENE	17.461	114	1827418	22.00	ppbv	0.00	
43) CHLOROBENZENE-d5	22.359	117	1500464	22.00	ppbv	0.00	
Target Compounds						Qvalue	
14) Acetone	9.967	43	49391	1.30	ppbv	96	
20) trans-1,2-Dichloroethene	12.196	61	236997	6.39	ppbv	92	
24) cis-1,2-Dichloroethene	14.947	61	402027	10.97	ppbv	92	
37) Trichloroethene	17.876	130	10913838	373.31	ppbv	94	OC
44) Toluene	20.070	91	80272	0.95	ppbv	98	
53) m&p-Xylene	22.667	91	42652	0.50	ppbv	94	

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

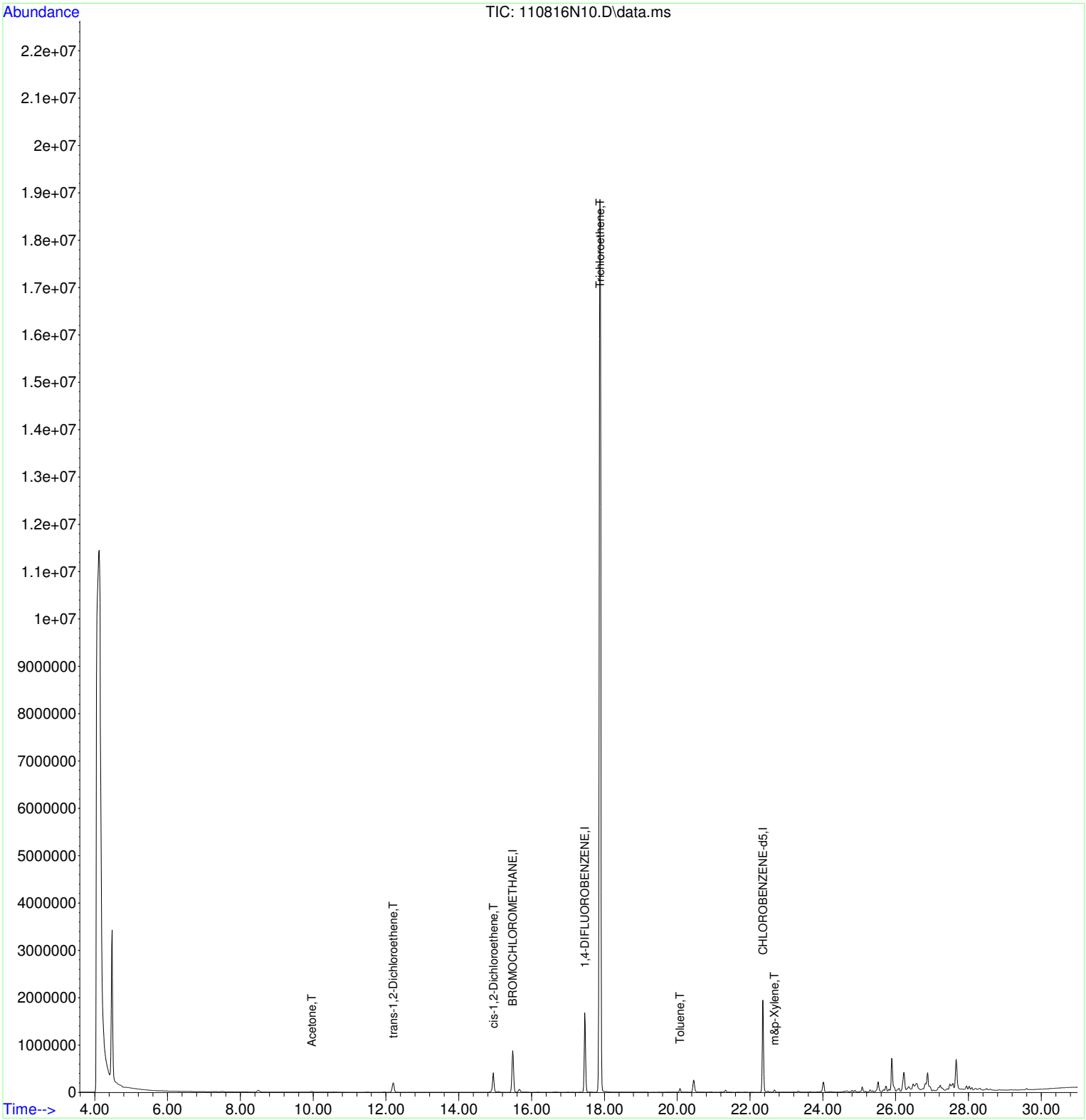
AFTER Q DELETE

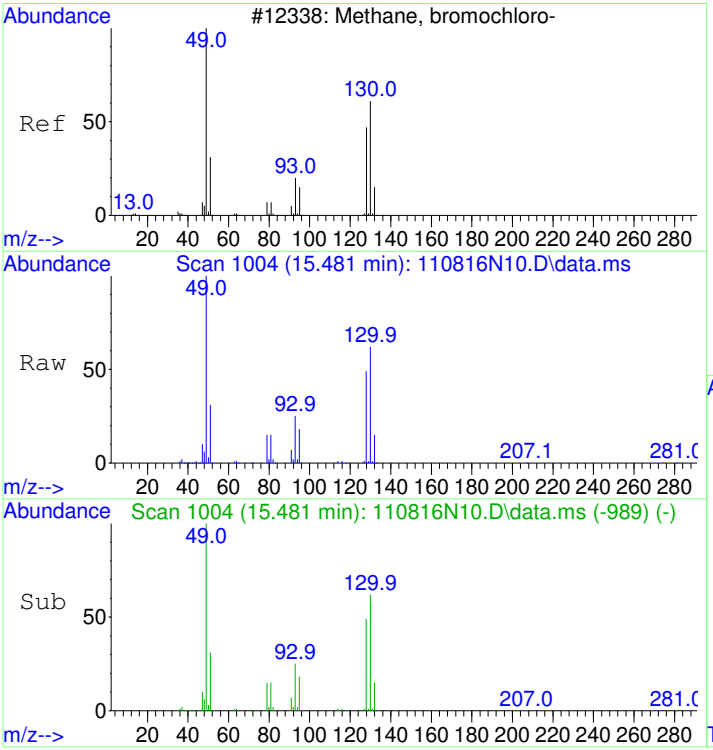
REVIEWED
By LLH at 10:31 am, Nov 09, 2016

Table of Contents

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N10.D
Acq On : 8 Nov 2016 5:43 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-05
Misc : 200ml 870 LEONG-SS4
ALS Vial : 38 Sample Multiplier: 1.93

Quant Time: Nov 09 09:13:11 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

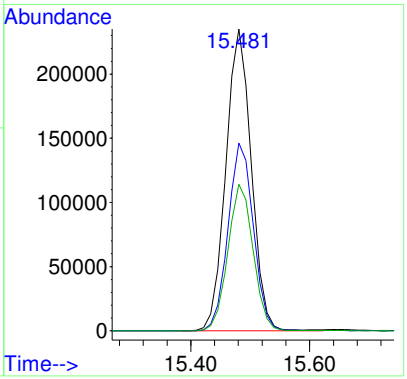


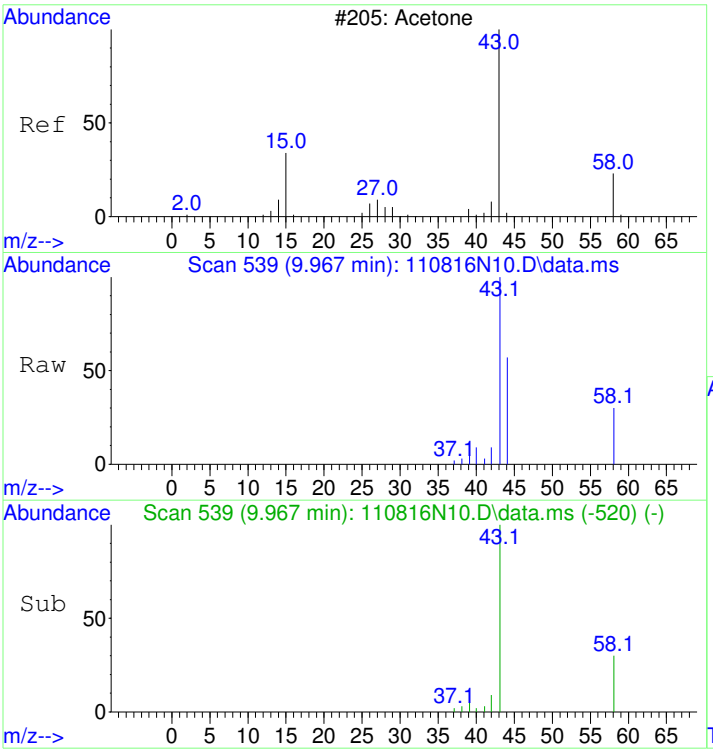


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. -0.000 min
Lab File: 110816N10.D
Acq: 8 Nov 2016 5:43 pm

Tgt Ion: 49 Resp: 700937

Ion	Ratio	Lower	Upper
49	100		
130	61.9	56.1	96.1
128	48.1	38.8	78.8

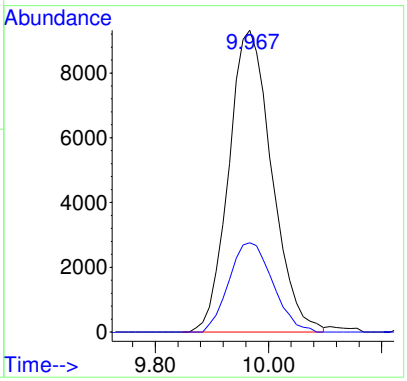


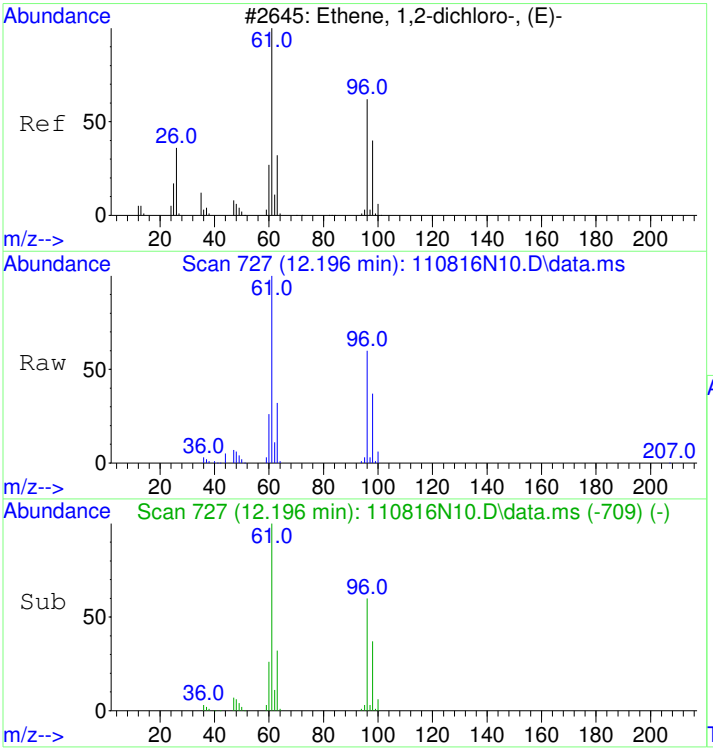


#14
Acetone
Concen: 1.30 ppbv
RT: 9.967 min Scan# 539
Delta R.T. 0.023 min
Lab File: 110816N10.D
Acq: 8 Nov 2016 5:43 pm

Tgt Ion: 43 Resp: 49391

Ion	Ratio	Lower	Upper
43	100		
58	30.1	12.3	52.3

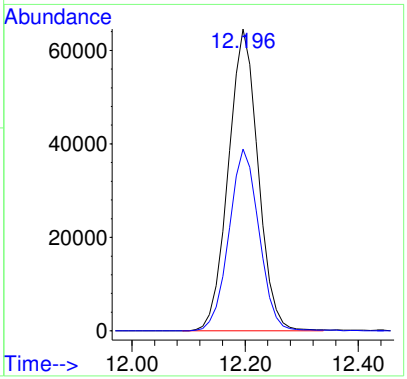


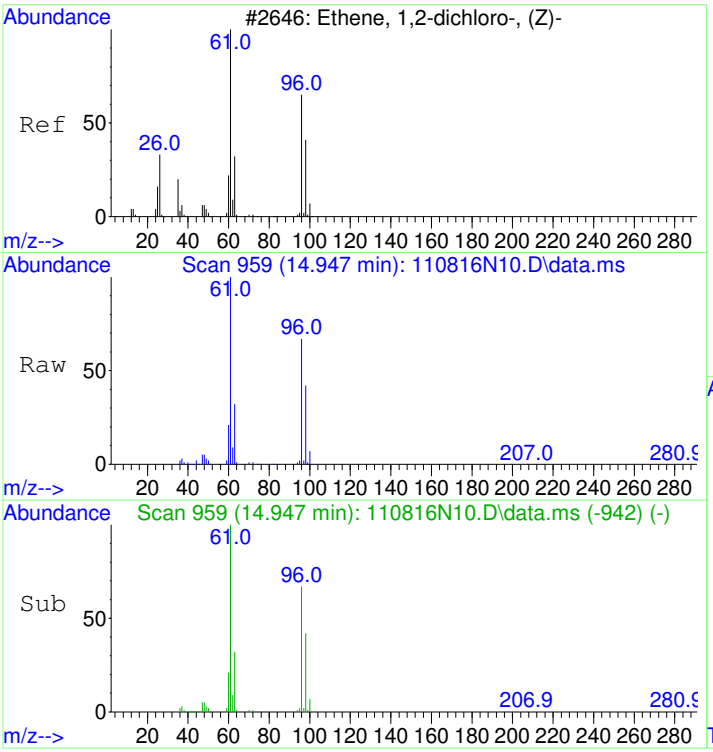


#20
trans-1,2-Dichloroethene
Concen: 6.39 ppbv
RT: 12.196 min Scan# 727
Delta R.T. 0.012 min
Lab File: 110816N10.D
Acq: 8 Nov 2016 5:43 pm

Tgt Ion: 61 Resp: 236997

Ion	Ratio	Lower	Upper
61	100		
96	60.7	47.5	87.5

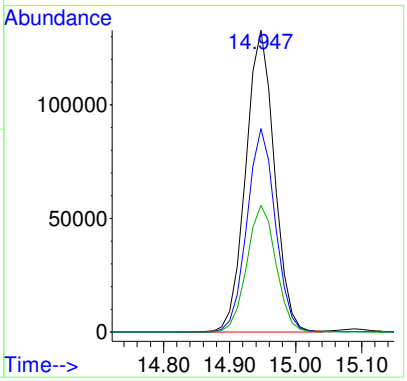


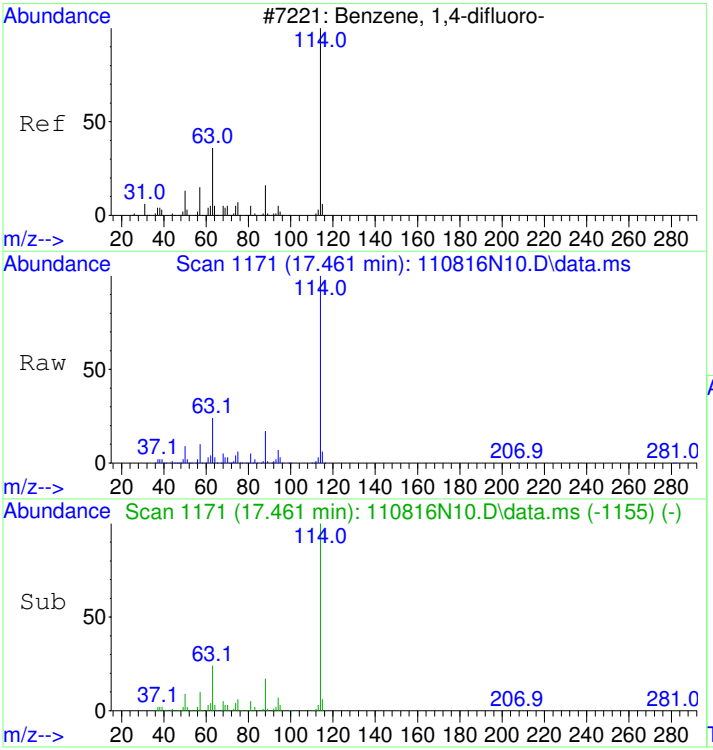


#24
cis-1,2-Dichloroethene
Concen: 10.97 ppbv
RT: 14.947 min Scan# 959
Delta R.T. -0.000 min
Lab File: 110816N10.D
Acq: 8 Nov 2016 5:43 pm

Tgt Ion: 61 Resp: 402027

Ion	Ratio	Lower	Upper
61	100		
96	66.9	54.4	94.4
98	42.5	27.5	67.5

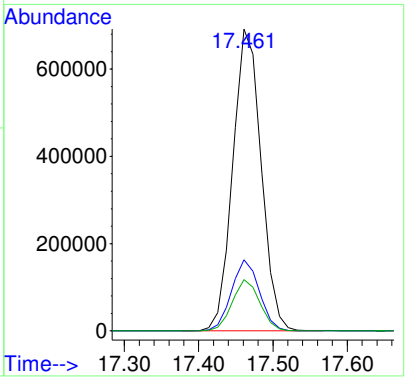


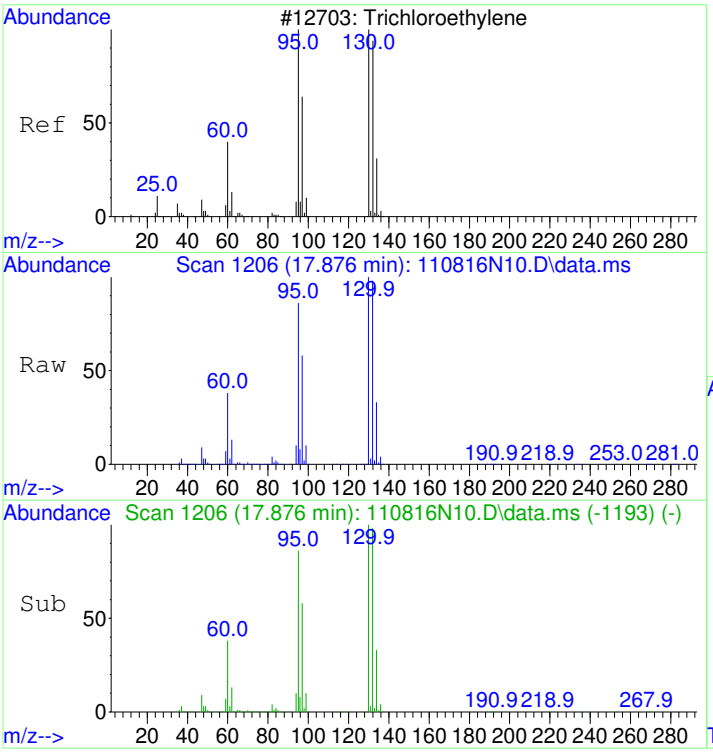


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. -0.000 min
Lab File: 110816N10.D
Acq: 8 Nov 2016 5:43 pm

Tgt Ion:114 Resp: 1827418

Ion	Ratio	Lower	Upper
114	100		
63	23.2	0.1	40.1
88	16.5	0.0	35.8

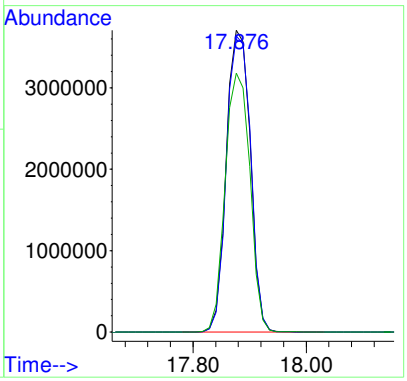


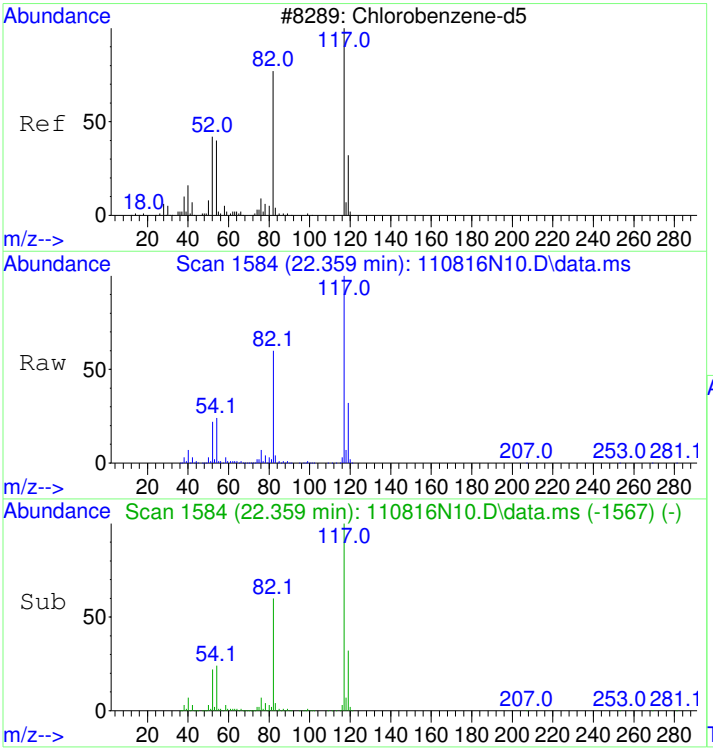


#37
Trichloroethene
Concen: 373.31 ppbv
RT: 17.876 min Scan# 1206
Delta R.T. -0.000 min
Lab File: 110816N10.D
Acq: 8 Nov 2016 5:43 pm

Tgt Ion:130 Resp:10913838

Ion	Ratio	Lower	Upper
130	100		
132	99.1	77.1	117.1
95	89.1	79.3	119.3

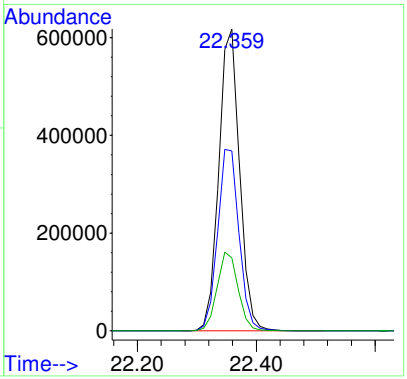


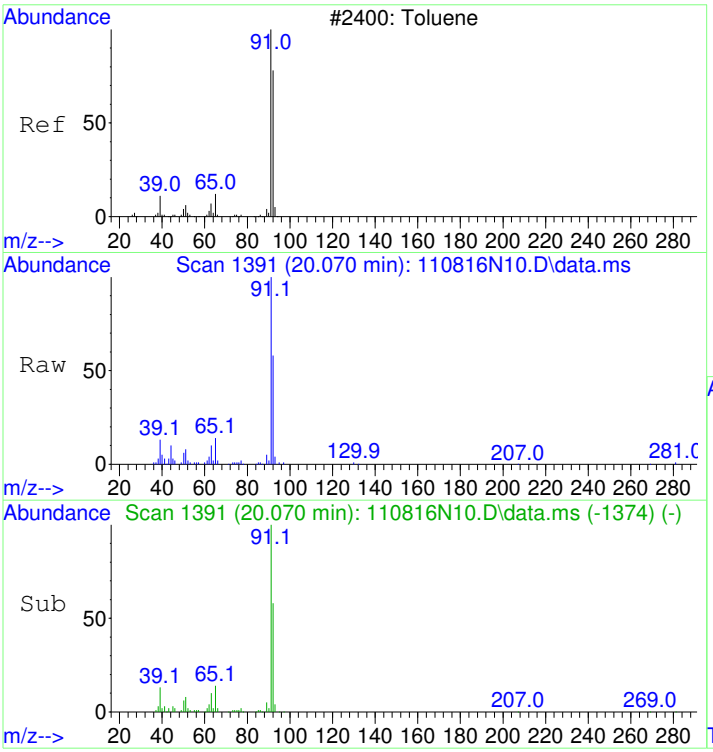


#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. -0.000 min
Lab File: 110816N10.D
Acq: 8 Nov 2016 5:43 pm

Tgt Ion:117 Resp: 1500464

Ion	Ratio	Lower	Upper
117	100		
82	62.1	36.8	76.8
54	26.4	1.4	41.4

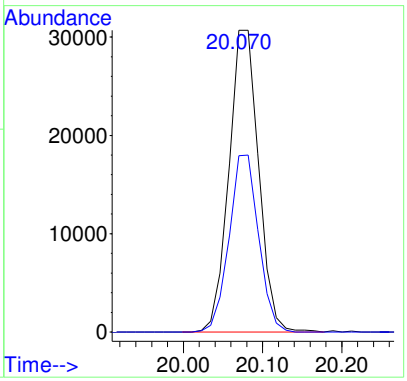


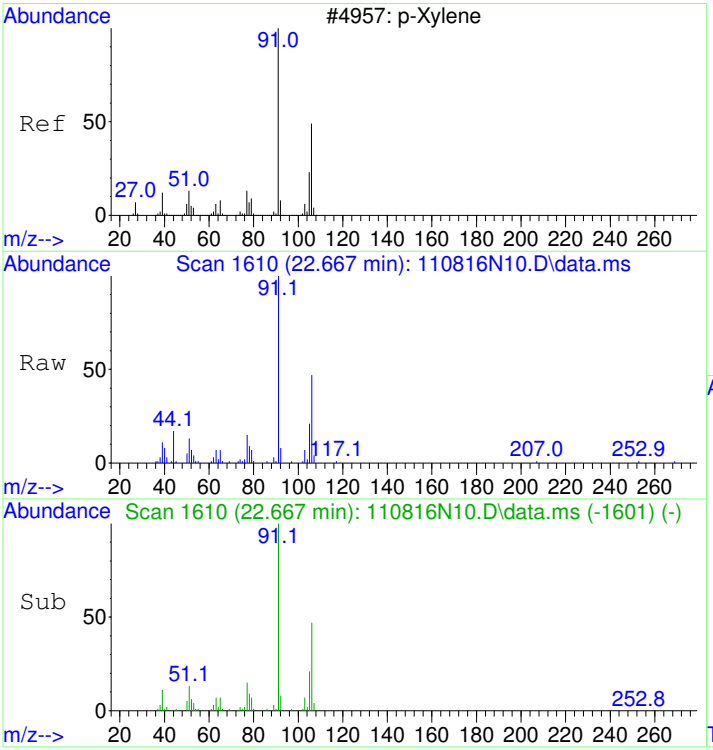


#44
Toluene
Concen: 0.95 ppbv
RT: 20.070 min Scan# 1391
Delta R.T. -0.000 min
Lab File: 110816N10.D
Acq: 8 Nov 2016 5:43 pm

Tgt Ion: 91 Resp: 80272

Ion	Ratio	Lower	Upper
91	100		
92	58.2	39.3	79.3

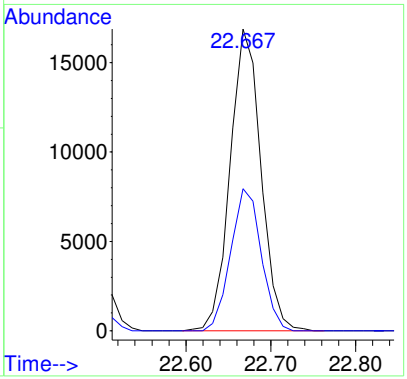




#53
m&p-Xylene
Concen: 0.50 ppbv
RT: 22.667 min Scan# 1610
Delta R.T. -0.000 min
Lab File: 110816N10.D
Acq: 8 Nov 2016 5:43 pm

Tgt Ion: 91 Resp: 42652

Ion	Ratio	Lower	Upper
91	100		
106	46.6	30.9	70.9



LSC Area Percent Report

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N10.D
Acq On : 8 Nov 2016 5:43 pm
Operator : LLH
Sample : 1611021-05
Misc : 200ml 870 LEONG-SS4
ALS Vial : 38 Sample Multiplier: 1.93

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.01 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 1 prefer < Baseline drop else tangent >
Peak separation: 10

Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Title : TO15

Signal : TIC: 110816N10.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.476	71	76	101	rVB	3324953	10385746	18.20%	11.456%
2	12.196	718	727	739	rBV	199748	742542	1.30%	0.819%
3	14.947	947	959	965	rBV	411601	1303414	2.28%	1.438%
4	15.481	997	1004	1012	rBV	879570	2608974	4.57%	2.878%
5	17.461	1165	1171	1184	rBV	1683121	4431611	7.76%	4.888%
6	17.876	1197	1206	1234	rBV	18861316	57076891	100.00%	62.957%
7	20.450	1417	1423	1436	rVB	258093	827801	1.45%	0.913%
8	22.359	1577	1584	1592	rBV	1948336	4951744	8.68%	5.462%
9	24.019	1718	1724	1730	rVB	209608	624792	1.09%	0.689%
10	25.513	1841	1850	1856	rBV	211300	701402	1.23%	0.774%
11	25.893	1878	1882	1892	rVB	697129	2056118	3.60%	2.268%
12	26.225	1903	1910	1915	rBV2	397745	1489568	2.61%	1.643%
13	26.569	1935	1939	1949	rVB4	139112	703292	1.23%	0.776%
14	26.877	1961	1965	1969	rVB2	303134	801427	1.40%	0.884%
15	27.659	2027	2031	2041	rVB	630263	1955068	3.43%	2.156%

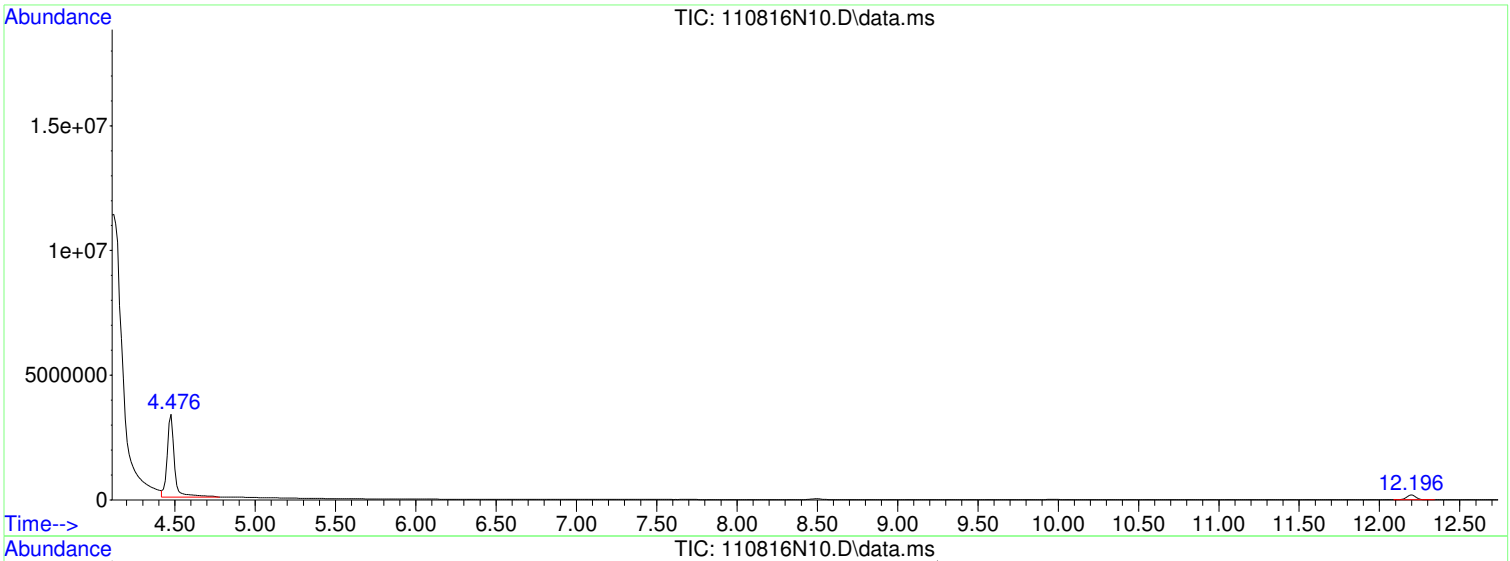
Sum of corrected areas: 90660390

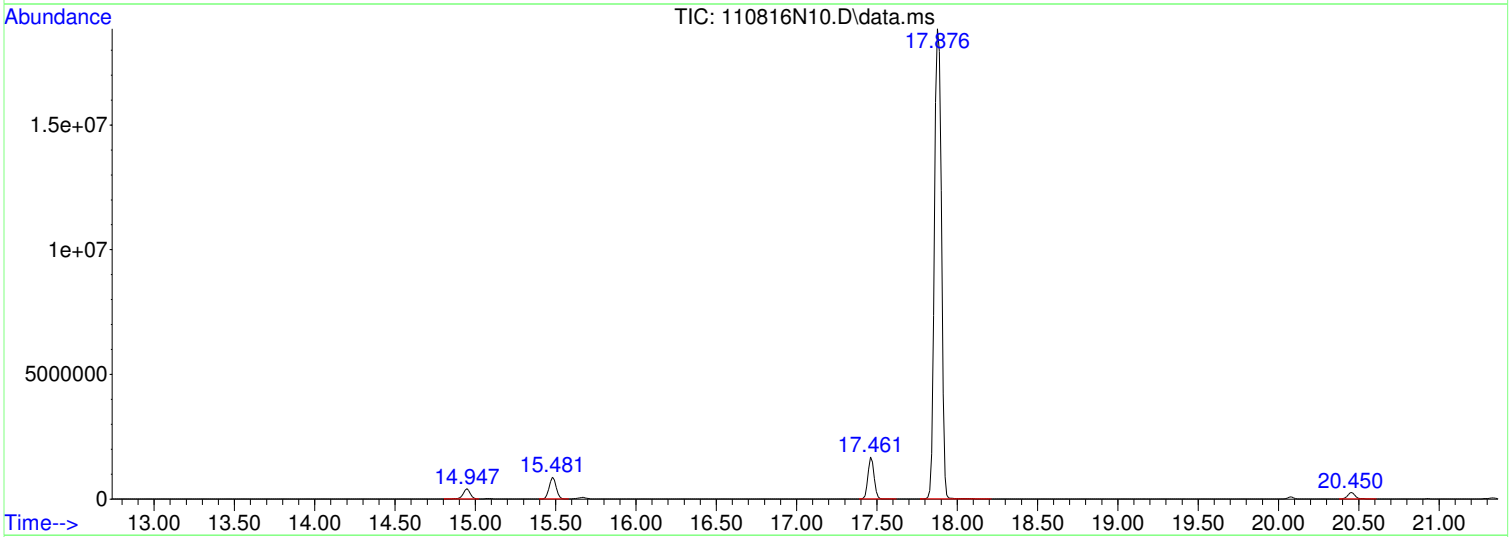
Table of Contents

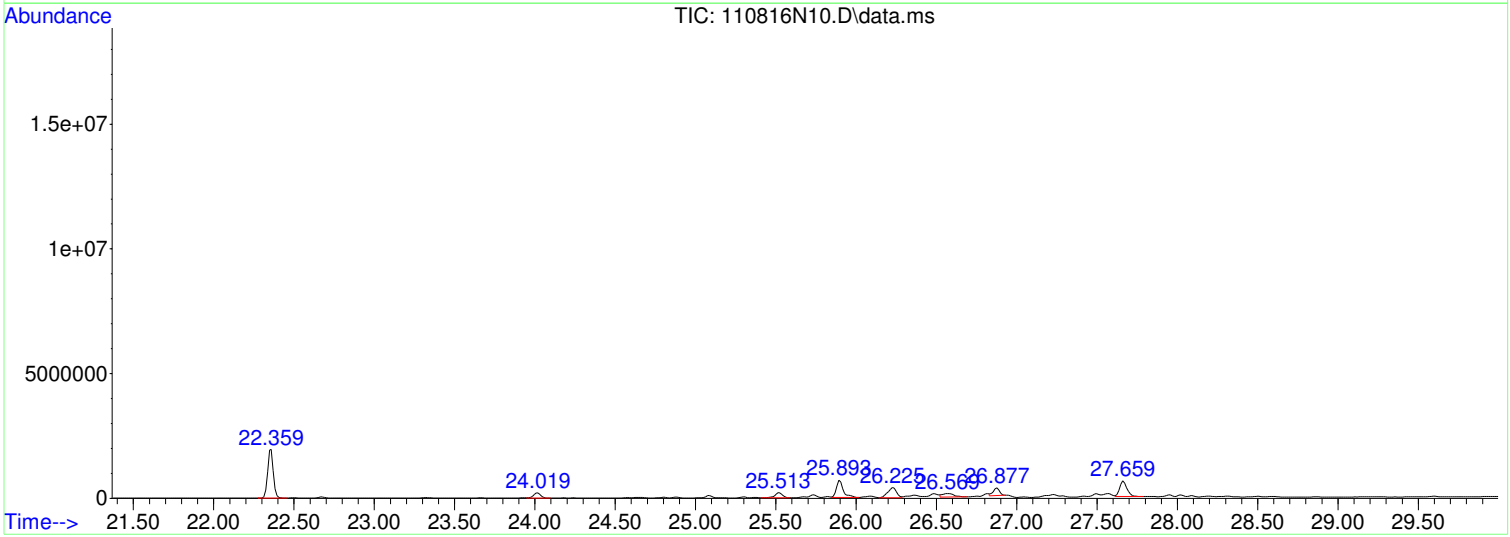
Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N10.D
Acq On : 8 Nov 2016 5:43 pm
Operator : LLH
Sample : 1611021-05
Misc : 200ml 870 LEONG-SS4
ALS Vial : 38 Sample Multiplier: 1.93

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P







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Data File : 110816N10.D
Acq On : 8 Nov 2016 5:43 pm
Operator : LLH
Sample : 1611021-05
Misc : 200ml 870 LEONG-SS4
ALS Vial : 38 Sample Multiplier: 1.93

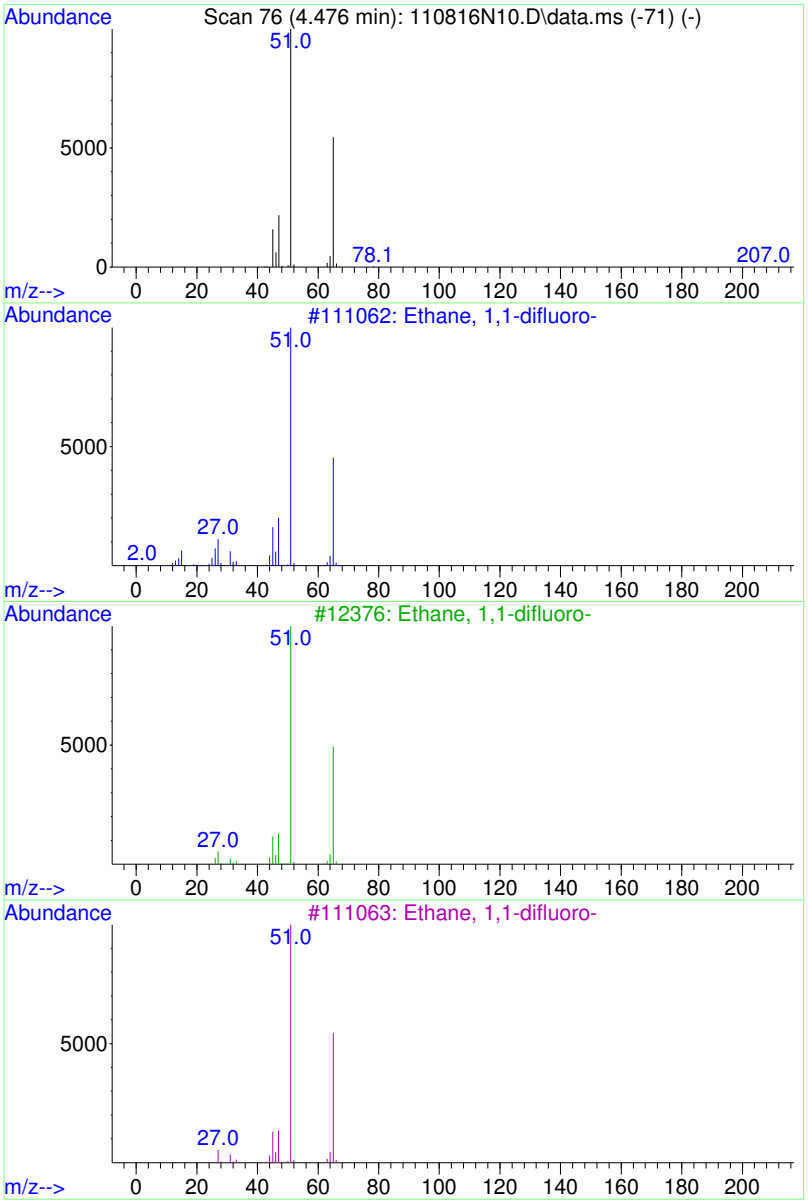
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

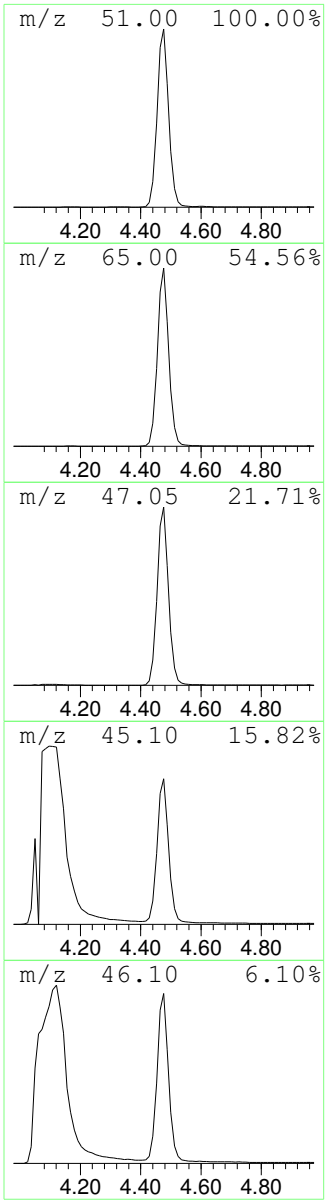
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 1 Ethane, difluoro- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.476	87.58 ppbv	10385700	BROMOCHLOROMETHANE	15.481

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,1-difluoro-	66	C2H4F2	000075-37-6	91
2	Ethane, 1,1-difluoro-	66	C2H4F2	000075-37-6	90
3	Ethane, 1,1-difluoro-	66	C2H4F2	000075-37-6	90
4	Propiolonitrile	51	C3HN	001070-71-9	3
5	Propane, 2,2-difluoro-	80	C3H6F2	000420-45-1	2





Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N10.D
Acq On : 8 Nov 2016 5:43 pm
Operator : LLH
Sample : 1611021-05
Misc : 200ml 870 LEONG-SS4
ALS Vial : 38 Sample Multiplier: 1.93

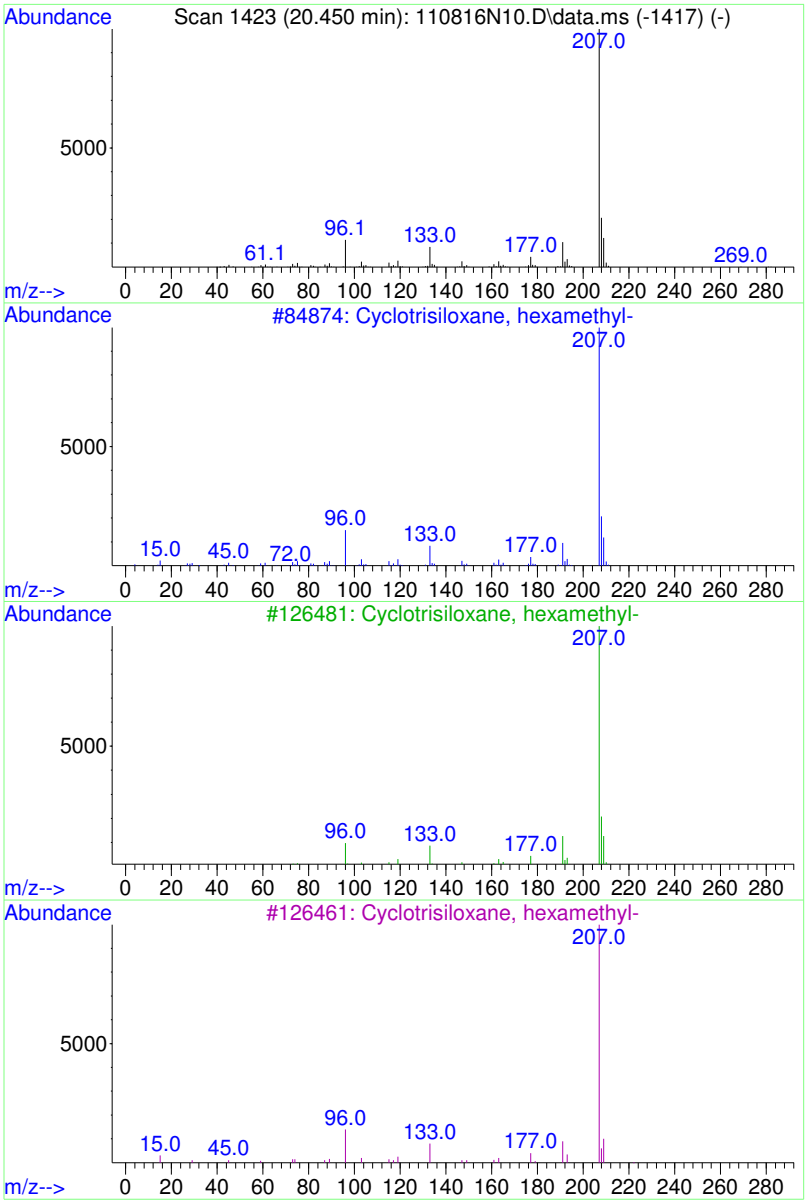
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

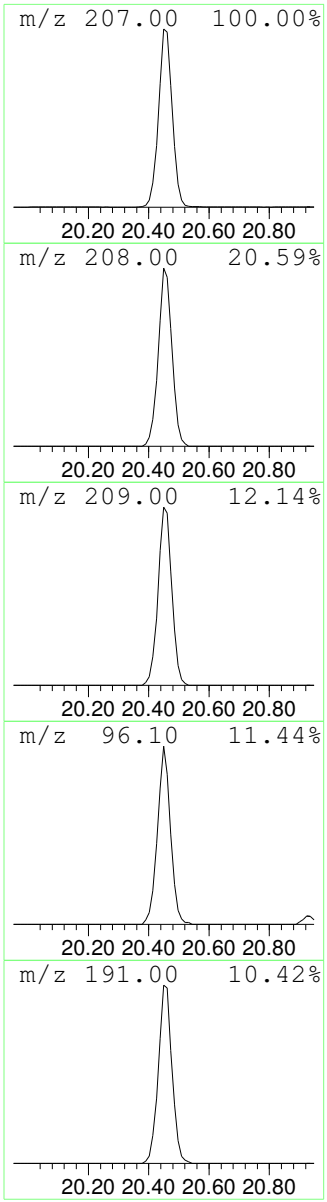
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 2 column bleed Concentration Rank 5

R.T.	EstConc	Area	Relative to ISTD	R.T.
20.450	3.68 ppbv	827801	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	91
2	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	91
3	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	80
4	N-(2-Acetylcyclopentylidene)cycl...	207	C13H21NO	1000100-48-5	59
5	Arsenous acid, tris(trimethylsil...	342	C9H27AsO3Si3	055429-29-3	56





Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N10.D
Acq On : 8 Nov 2016 5:43 pm
Operator : LLH
Sample : 1611021-05
Misc : 200ml 870 LEONG-SS4
ALS Vial : 38 Sample Multiplier: 1.93

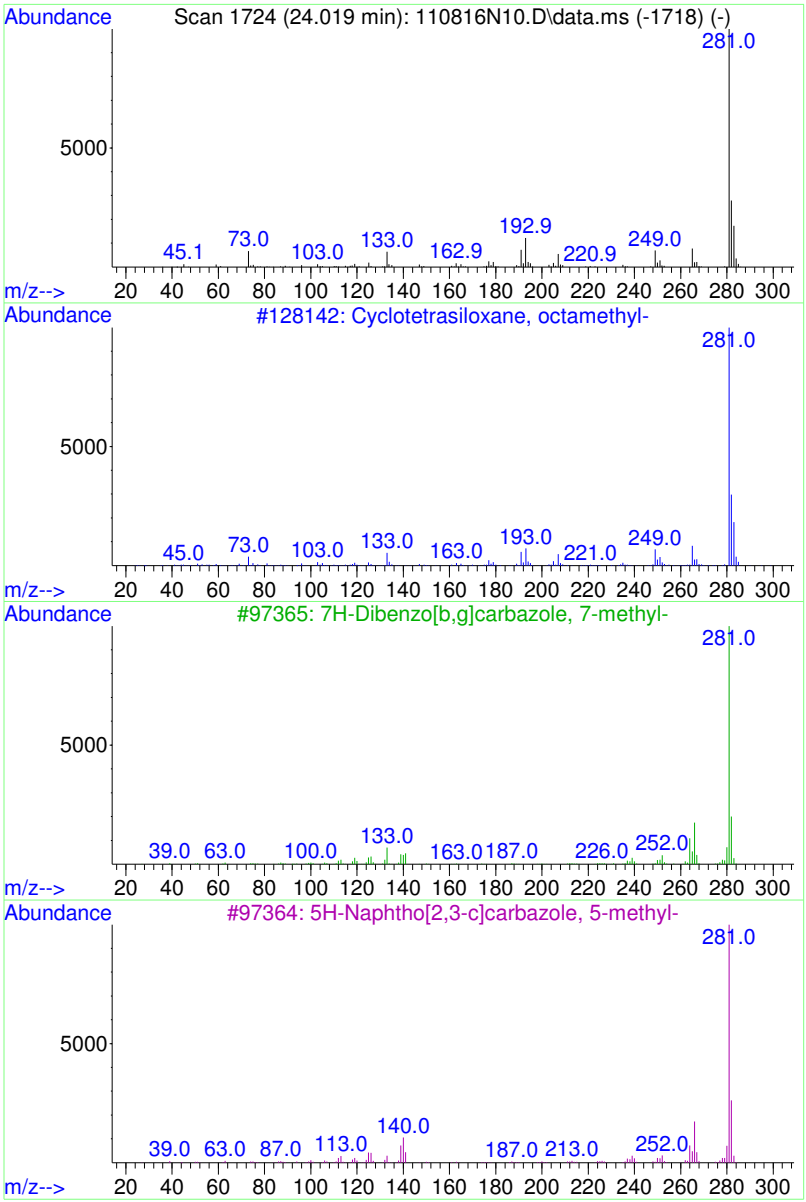
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

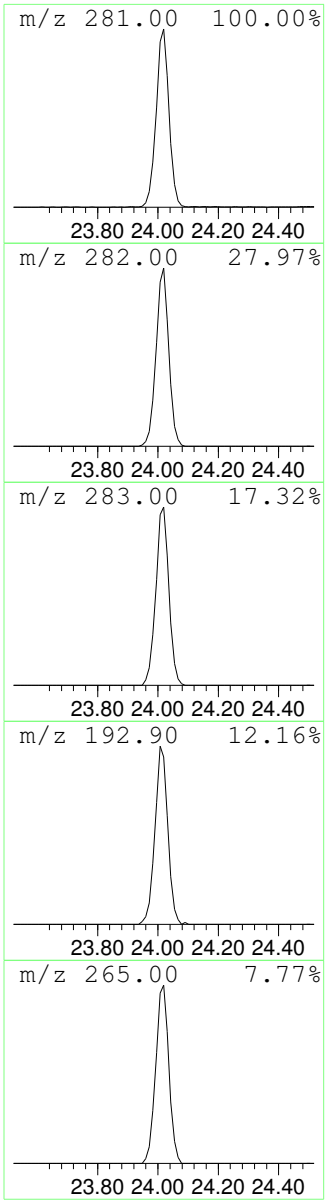
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 3 column bleed Concentration Rank 9

R.T.	EstConc	Area	Relative to ISTD	R.T.
24.019	2.78 ppbv	624792	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclotetrasiloxane, octamethyl-	296	C8H24O4Si4	000556-67-2	91
2	7H-Dibenzo[b,g]carbazole, 7-methyl-	281	C21H15N	003557-49-1	53
3	5H-Naphtho[2,3-c]carbazole, 5-me...	281	C21H15N	100025-44-3	45
4	Cyclopentanecarboxamide, 3-ethen...	281	C19H23NO	136091-23-1	42
5	Cyclotetrasiloxane, octamethyl-	296	C8H24O4Si4	000556-67-2	38





Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N10.D
Acq On : 8 Nov 2016 5:43 pm
Operator : LLH
Sample : 1611021-05
Misc : 200ml 870 LEONG-SS4
ALS Vial : 38 Sample Multiplier: 1.93

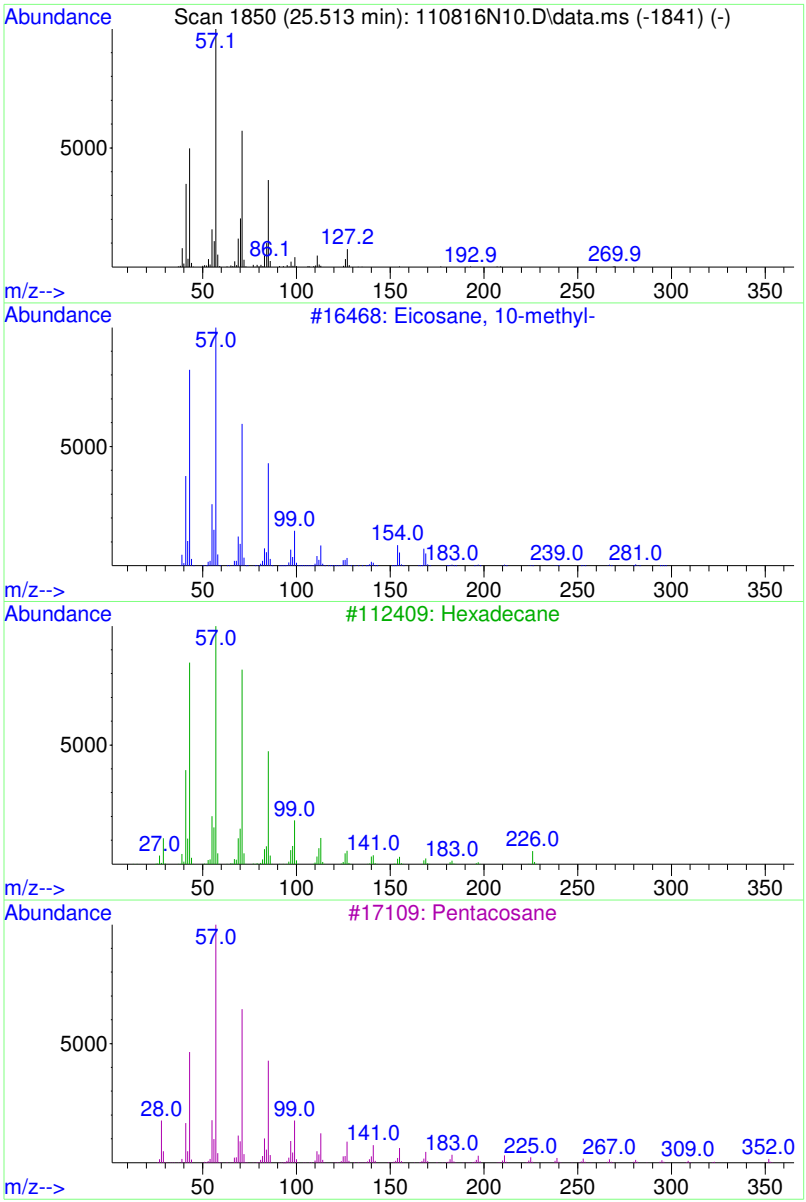
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

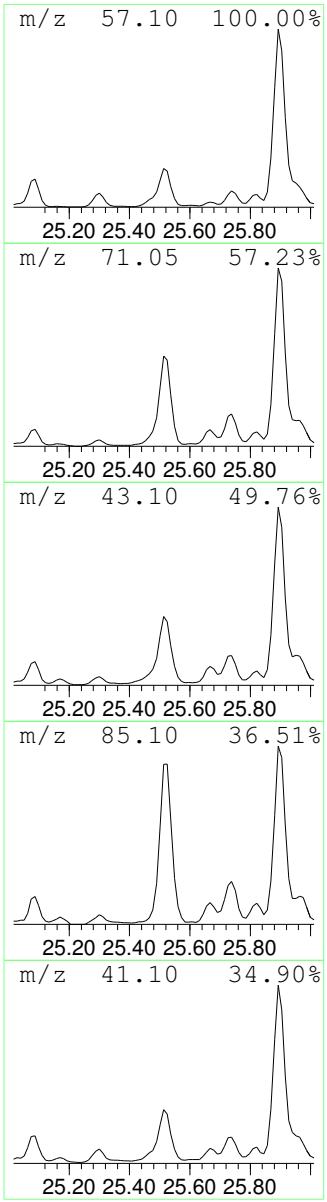
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 4 Eicosane, methyl- Concentration Rank 8

R.T.	EstConc	Area	Relative to ISTD	R.T.
25.513	3.12 ppbv	701402	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Eicosane, 10-methyl-	296	C21H44	054833-23-7	64
2	Hexadecane	226	C16H34	000544-76-3	64
3	Pentacosane	352	C25H52	000629-99-2	64
4	Nonane, 3-methyl-5-propyl-	184	C13H28	031081-18-2	59
5	Heptadecane	240	C17H36	000629-78-7	59





Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N10.D
Acq On : 8 Nov 2016 5:43 pm
Operator : LLH
Sample : 1611021-05
Misc : 200ml 870 LEONG-SS4
ALS Vial : 38 Sample Multiplier: 1.93

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

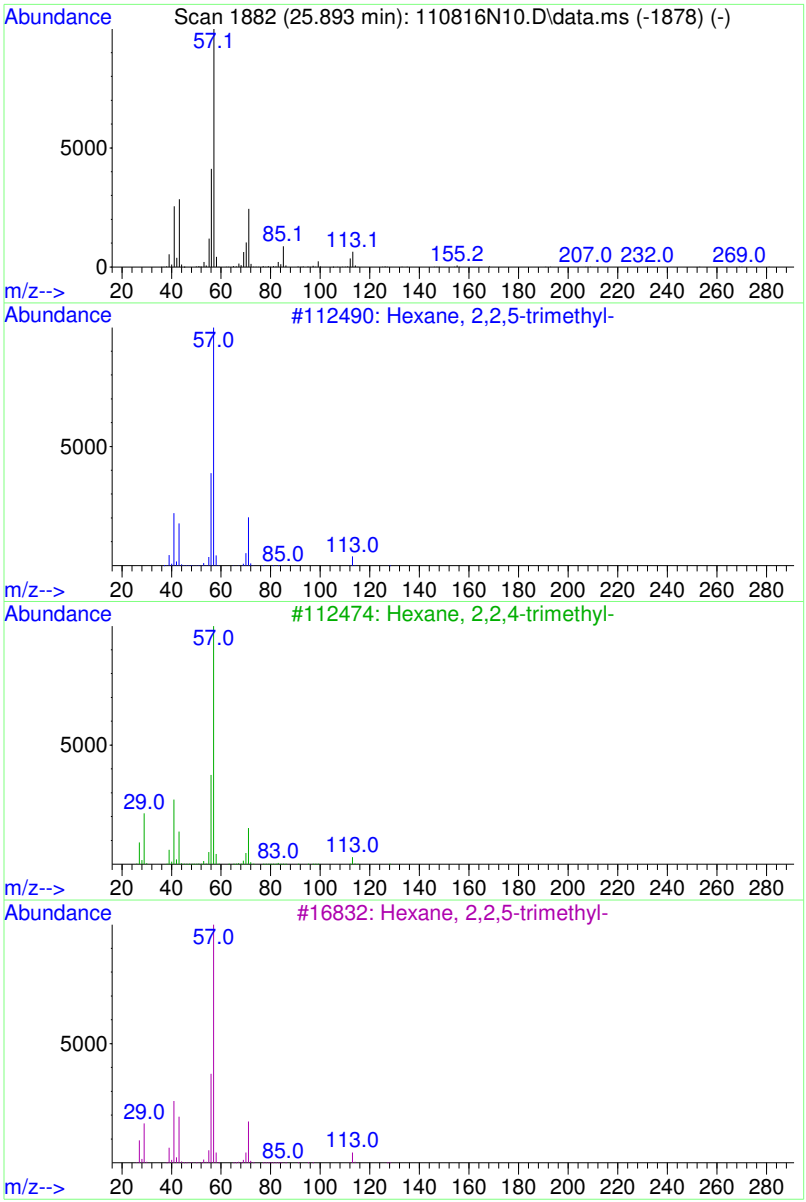
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

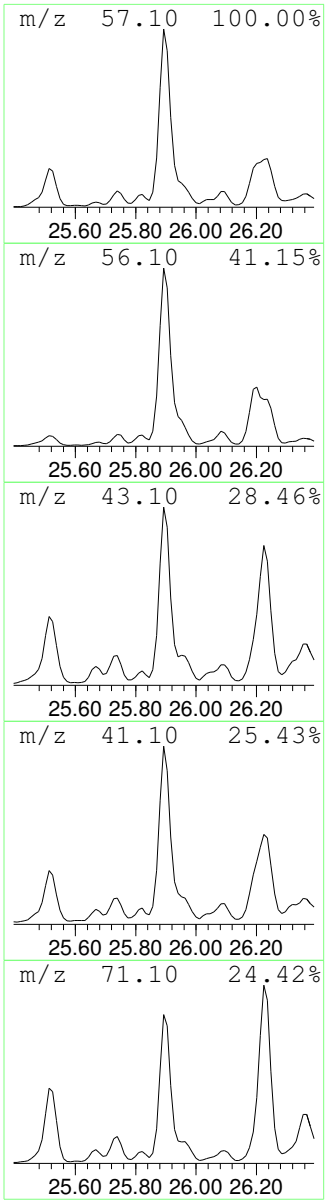
****

Peak Number 5 Hexane, trimethyl- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
25.893	9.14 ppbv	2056120	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Hexane, 2,2,5-trimethyl-	128	C9H20	003522-94-9	72
2	Hexane, 2,2,4-trimethyl-	128	C9H20	016747-26-5	72
3	Hexane, 2,2,5-trimethyl-	128	C9H20	003522-94-9	64
4	Heptane, 2,2-dimethyl-	128	C9H20	001071-26-7	59
5	Heptane, 2,2,4,6,6-pentamethyl-	170	C12H26	013475-82-6	53





Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N10.D
Acq On : 8 Nov 2016 5:43 pm
Operator : LLH
Sample : 1611021-05
Misc : 200ml 870 LEONG-SS4
ALS Vial : 38 Sample Multiplier: 1.93

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

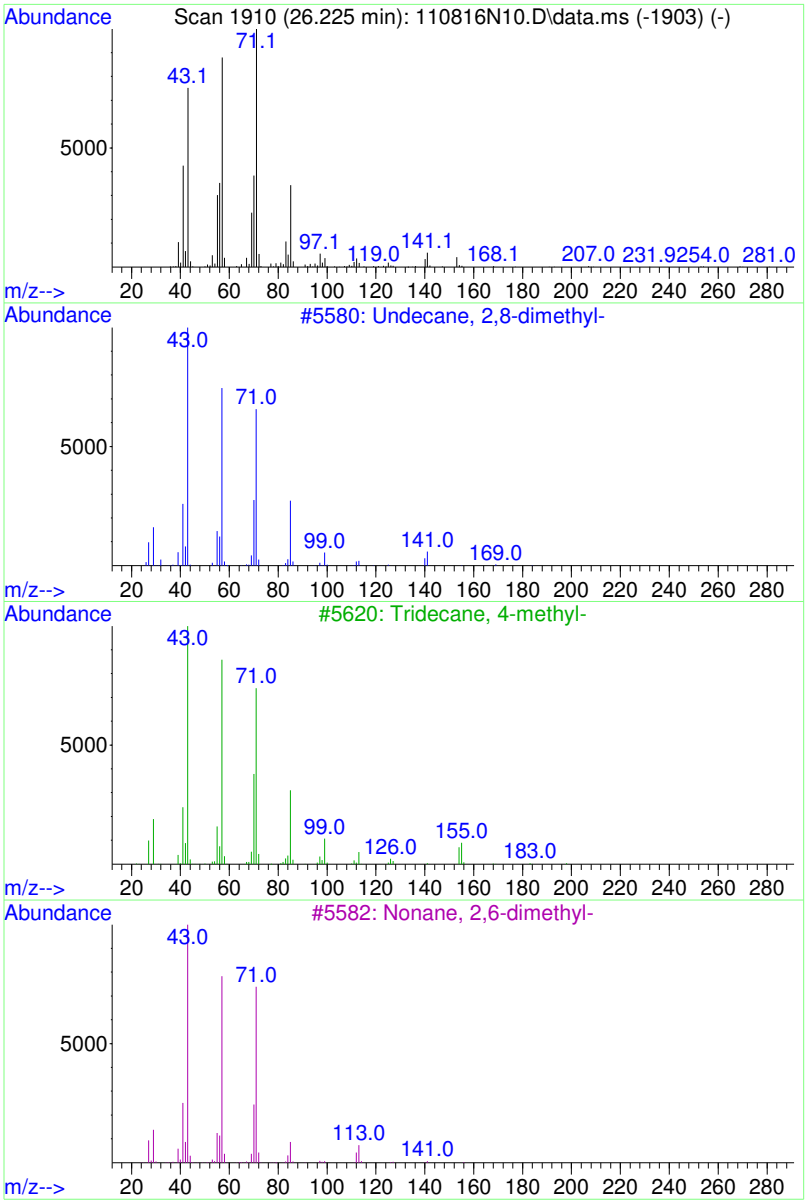
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

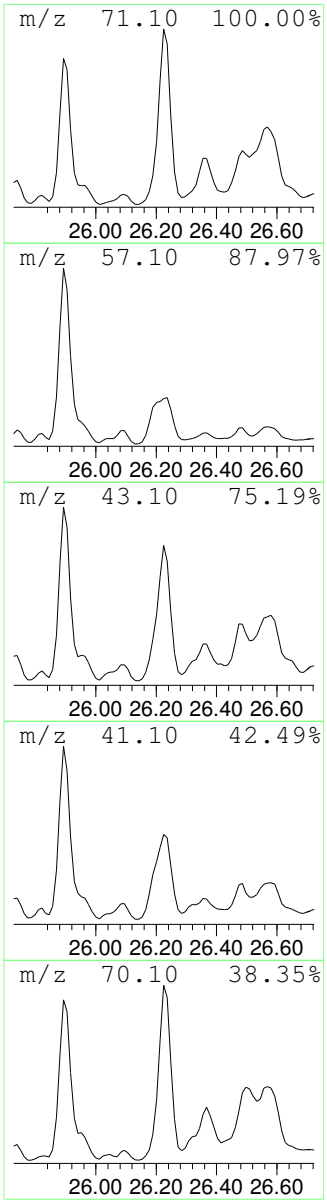
****

Peak Number 6 Undecane, dimethyl- Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
26.225	6.62 ppbv	1489570	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Undecane, 2,8-dimethyl-	184	C13H28	017301-25-6	78
2	Tridecane, 4-methyl-	198	C14H30	026730-12-1	64
3	Nonane, 2,6-dimethyl-	156	C11H24	017302-28-2	64
4	Heptane, 3,3,5-trimethyl-	142	C10H22	007154-80-5	59
5	Decane, 2,8,8-trimethyl-	184	C13H28	1000060-81-2	59





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Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N10.D
Acq On    :  8 Nov 2016   5:43 pm
Operator  : LLH
Sample    : 1611021-05
Misc      : 200ml 870 LEONG-SS4
ALS Vial  : 38   Sample Multiplier: 1.93

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title  : TO15

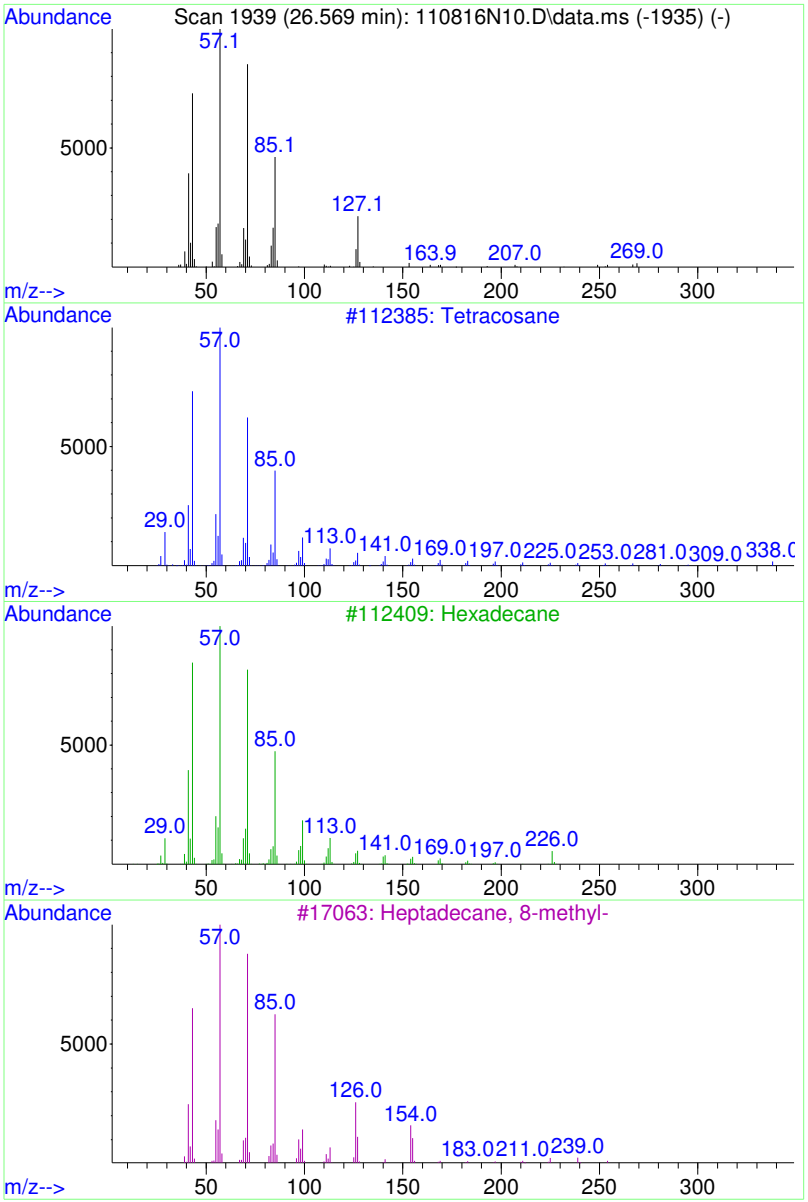
TIC Library    : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P
```

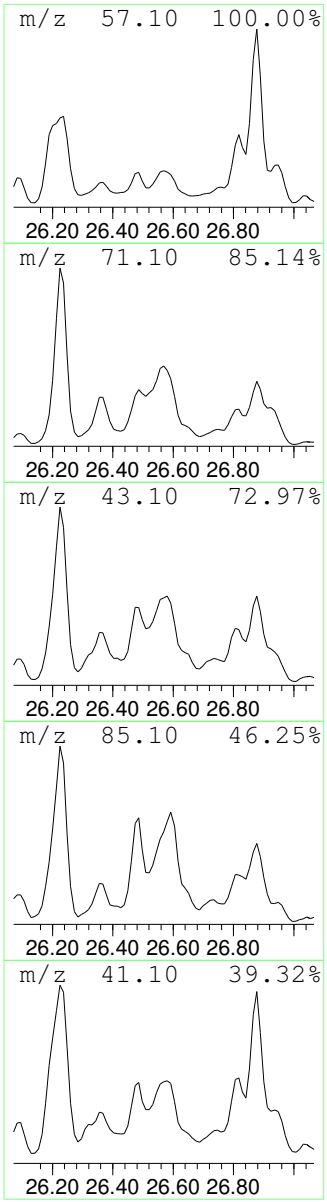
****

Peak Number 7 Hexadecane Concentration Rank 7

R.T.	EstConc	Area	Relative to ISTD	R.T.
26.569	3.12 ppbv	703292	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Tetracosane	338	C24H50	000646-31-1	72
2	Hexadecane	226	C16H34	000544-76-3	72
3	Heptadecane, 8-methyl-	254	C18H38	013287-23-5	72
4	Decane, 2,4-dimethyl-	170	C12H26	002801-84-5	72
5	Octadecane	254	C18H38	000593-45-3	64





Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N10.D
Acq On : 8 Nov 2016 5:43 pm
Operator : LLH
Sample : 1611021-05
Misc : 200ml 870 LEONG-SS4
ALS Vial : 38 Sample Multiplier: 1.93

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

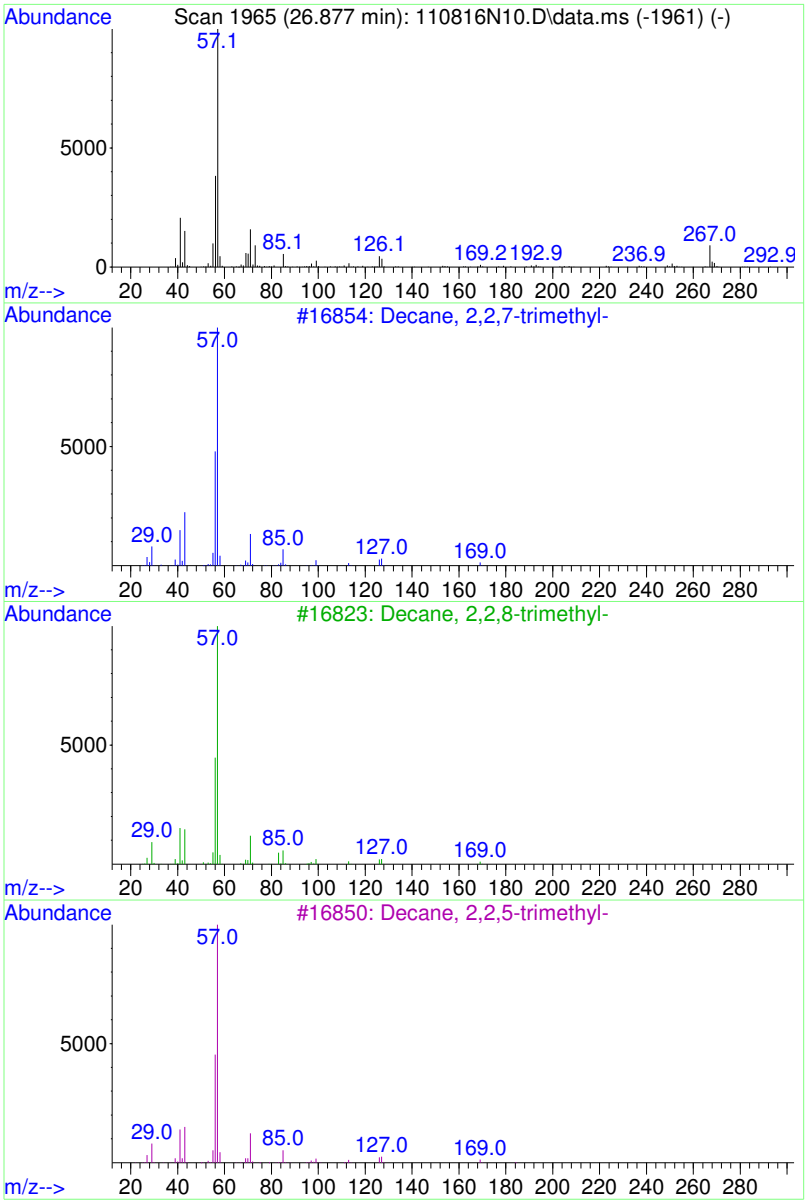
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

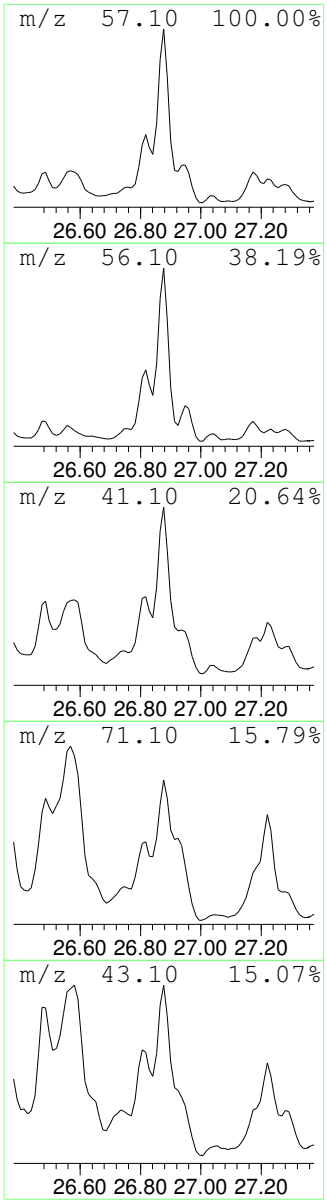
****

Peak Number 8 Decane, trimethyl- Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
26.877	3.56 ppbv	801427	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Decane, 2,2,7-trimethyl-	184	C13H28	062237-99-4	59
2	Decane, 2,2,8-trimethyl-	184	C13H28	062238-01-1	59
3	Decane, 2,2,5-trimethyl-	184	C13H28	062237-96-1	53
4	Decane, 2,2,4-trimethyl-	184	C13H28	062237-98-3	53
5	Tetradecane, 2,2-dimethyl-	226	C16H34	1000160-39-8	50





Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N10.D
Acq On : 8 Nov 2016 5:43 pm
Operator : LLH
Sample : 1611021-05
Misc : 200ml 870 LEONG-SS4
ALS Vial : 38 Sample Multiplier: 1.93

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

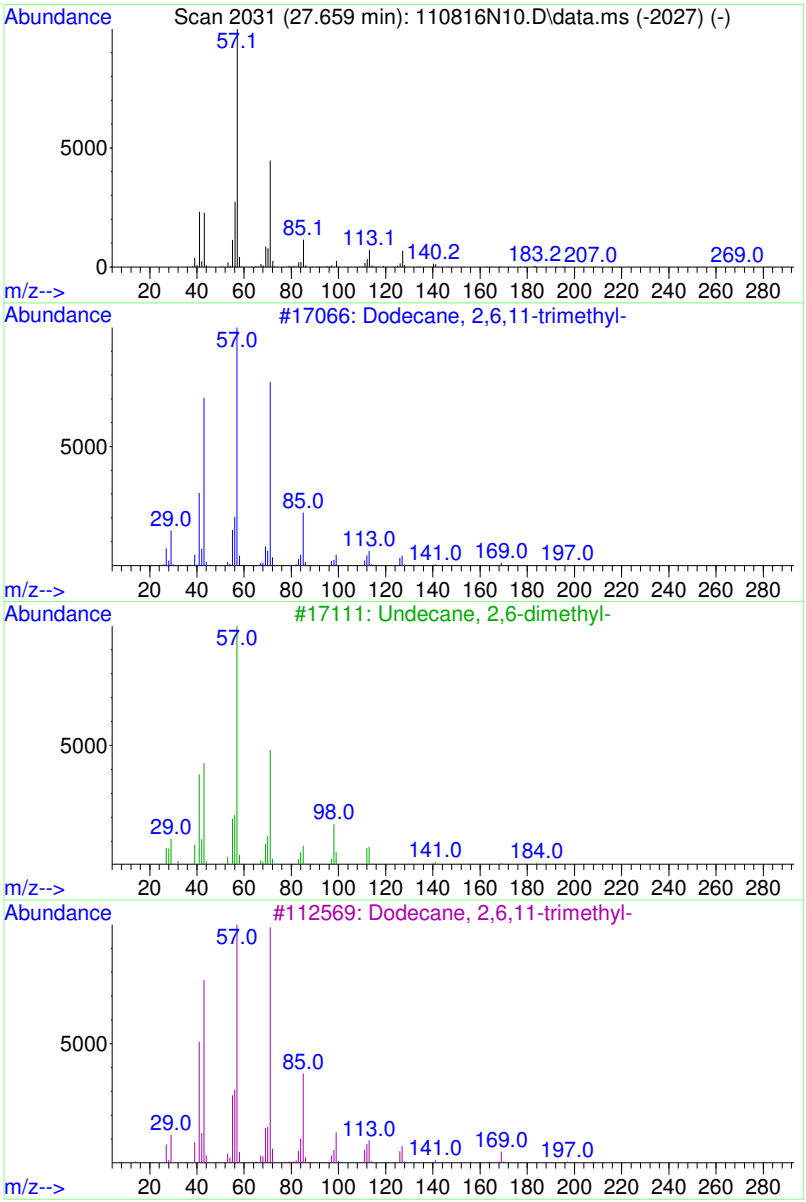
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

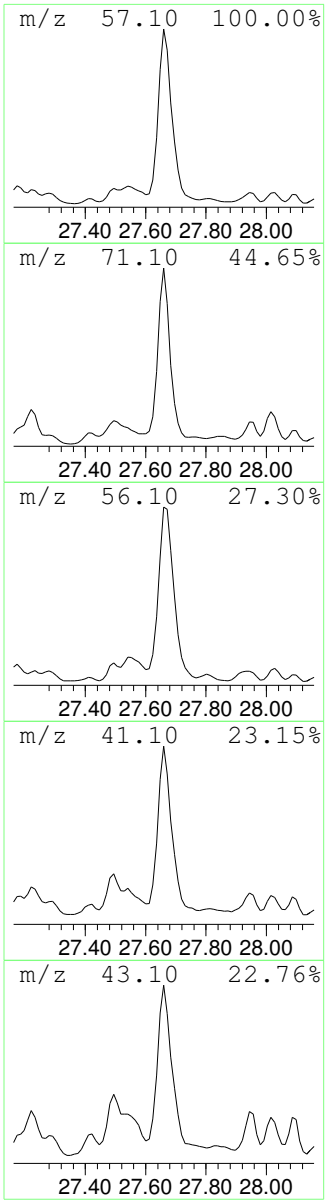
****

Peak Number 9 Undecane, dimethyl- Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
27.660	8.69 ppbv	1955070	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Dodecane, 2,6,11-trimethyl-	212	C15H32	031295-56-4	78
2	Undecane, 2,6-dimethyl-	184	C13H28	017301-23-4	72
3	Dodecane, 2,6,11-trimethyl-	212	C15H32	031295-56-4	72
4	Decane, 2,6,7-trimethyl-	184	C13H28	062108-25-2	72
5	Octane, 3,6-dimethyl-	142	C10H22	015869-94-0	64





Tentatively Identified Compound (LSC) summary

Table of Contents

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N10.D
Acq On : 8 Nov 2016 5:43 pm
Operator : LLH
Sample : 1611021-05
Misc : 200ml 870 LEONG-SS4
ALS Vial : 38 Sample Multiplier: 1.93

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	RT	Resp	Conc
Ethane, difluoro-	4.476	87.6	ppbv	10385700	1	15.481	2608970	22.0
column bleed	20.450	3.7	ppbv	827801	3	22.359	4951740	22.0
column bleed	24.019	2.8	ppbv	624792	3	22.359	4951740	22.0
Eicosane, methyl-	25.513	3.1	ppbv	701402	3	22.359	4951740	22.0
Hexane, trimethyl-	25.893	9.1	ppbv	2056120	3	22.359	4951740	22.0
Undecane, dimet...	26.225	6.6	ppbv	1489570	3	22.359	4951740	22.0
Hexadecane	26.569	3.1	ppbv	703292	3	22.359	4951740	22.0
Decane, trimethyl-	26.877	3.6	ppbv	801427	3	22.359	4951740	22.0
Undecane, dimet...	27.660	8.7	ppbv	1955070	3	22.359	4951740	22.0

REVIEWED
By LLH at 10:38 am, Nov 09, 2016

1611021-06

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N11.D
Acq On : 8 Nov 2016 6:33 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-06
Misc : 200ml 870 LEONG-SS5
ALS Vial : 39 Sample Multiplier: 2.1

REPORT

rerun 20ml re-repress

Quant Time: Nov 09 09:13:22 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) BROMOCHLOROMETHANE	15.481	49	697804	22.00	ppbv	0.00	
32) 1,4-DIFLUOROBENZENE	17.461	114	1817200	22.00	ppbv	0.00	
43) CHLOROBENZENE-d5	22.359	117	1493498	22.00	ppbv	0.00	
Target Compounds						Qvalue	
14) Acetone	9.967	43	148622	3.93	ppbv	96	
16) 2-Propanol	10.571	45	81897	2.08	ppbv	73	
20) trans-1,2-Dichloroethene	12.196	61	403371	10.92	ppbv	92	
24) cis-1,2-Dichloroethene	14.947	61	111301	3.05	ppbv	91	
37) Trichloroethene	17.876	130	13298650	457.44	ppbv	94	OC
44) Toluene	20.082	91	59821	0.71	ppbv	99	

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

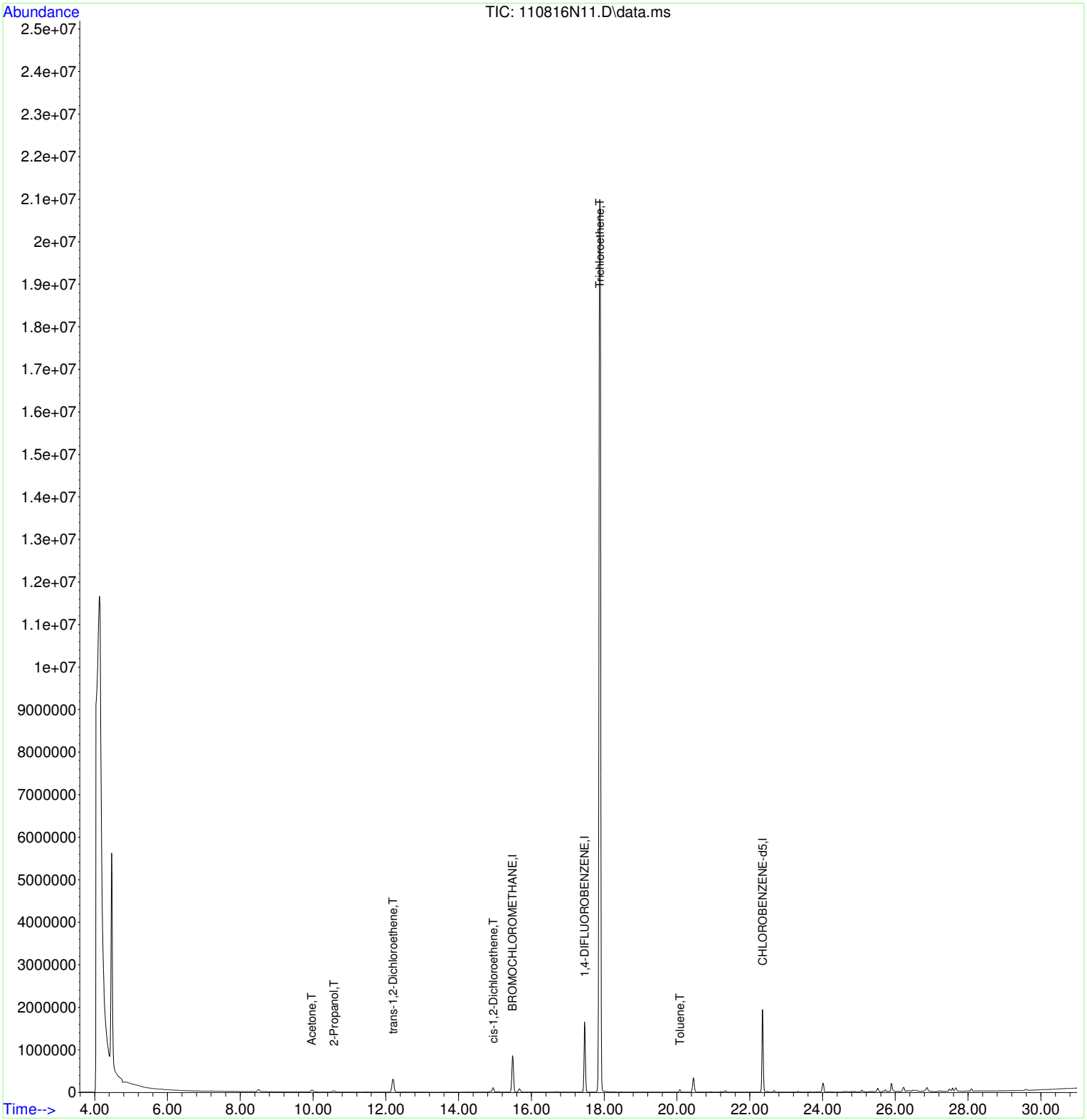
AFTER Q DELETE

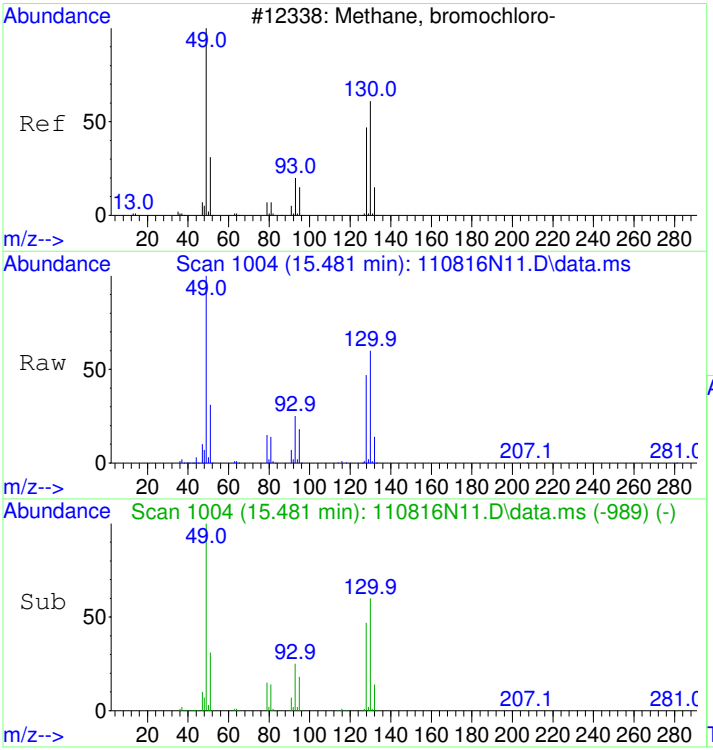
REVIEWED
By LLH at 10:39 am, Nov 09, 2016

Table of Contents

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N11.D
Acq On : 8 Nov 2016 6:33 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-06
Misc : 200ml 870 LEONG-SS5
ALS Vial : 39 Sample Multiplier: 2.1

Quant Time: Nov 09 09:13:22 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

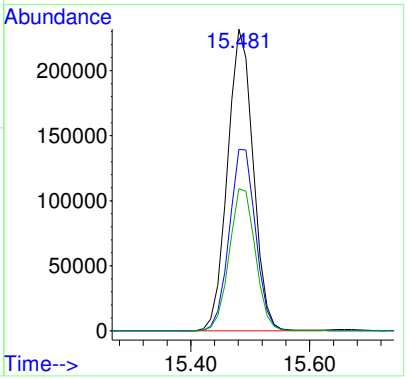


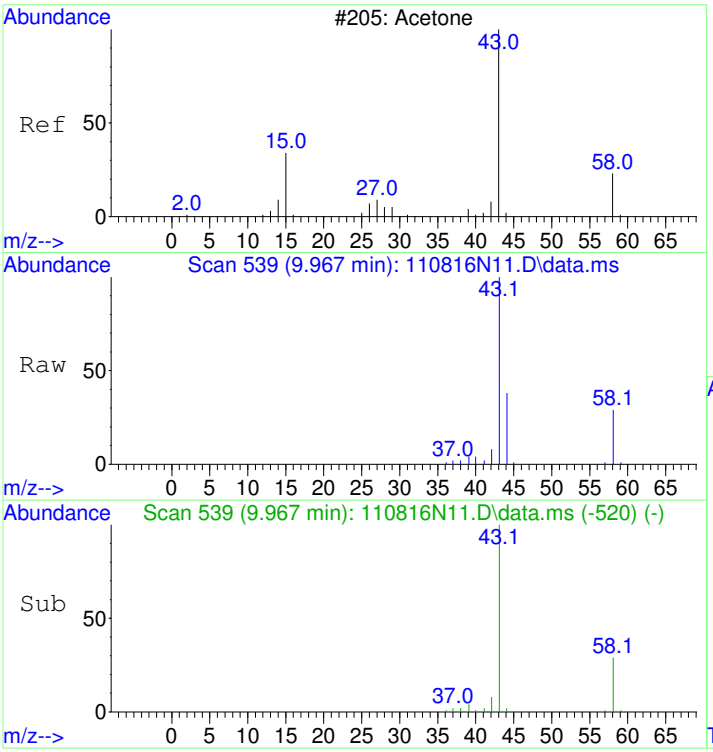


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. -0.000 min
Lab File: 110816N11.D
Acq: 8 Nov 2016 6:33 pm

Tgt Ion: 49 Resp: 697804

Ion	Ratio	Lower	Upper
49	100		
130	61.6	56.1	96.1
128	47.8	38.8	78.8

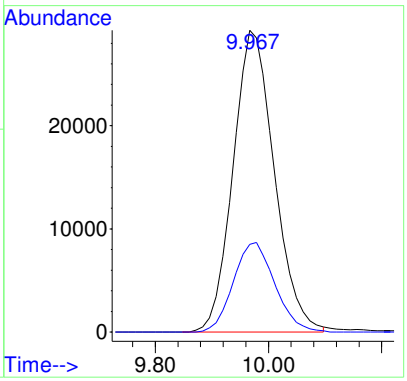


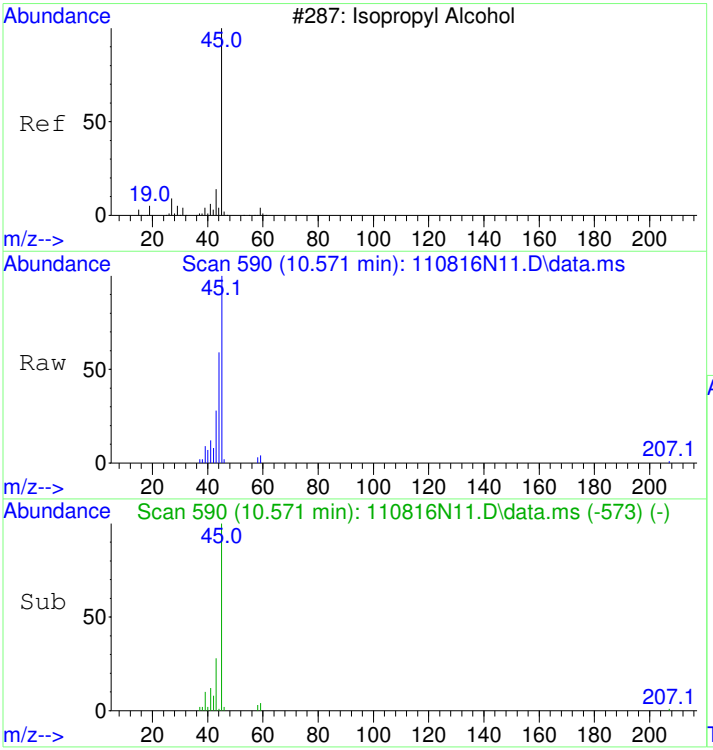


#14
Acetone
Concen: 3.93 ppbv
RT: 9.967 min Scan# 539
Delta R.T. 0.023 min
Lab File: 110816N11.D
Acq: 8 Nov 2016 6:33 pm

Tgt Ion: 43 Resp: 148622

Ion	Ratio	Lower	Upper
43	100		
58	29.9	12.3	52.3

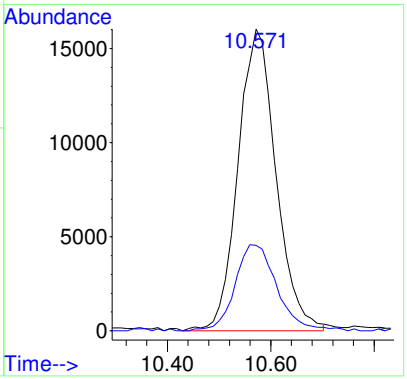


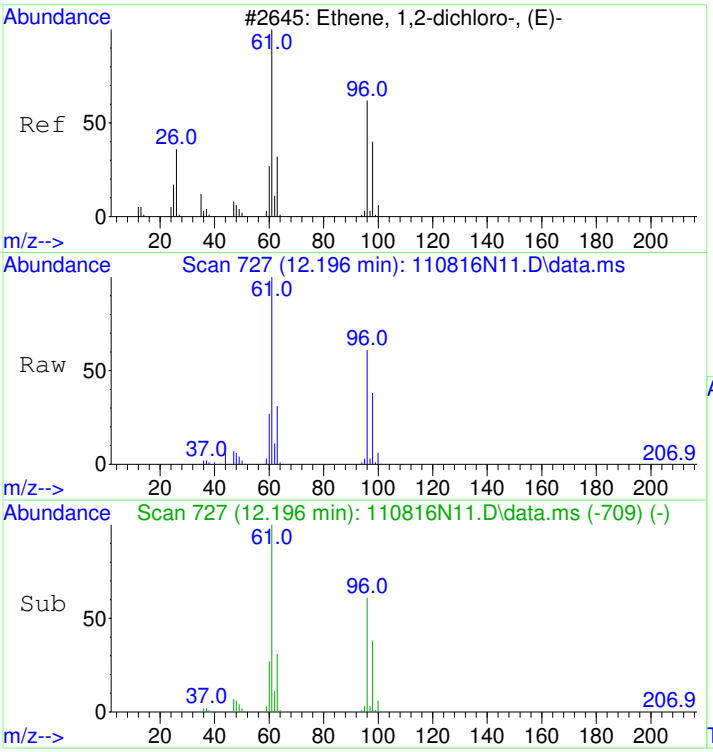


#16
2-Propanol
Concen: 2.08 ppbv
RT: 10.571 min Scan# 590
Delta R.T. 0.023 min
Lab File: 110816N11.D
Acq: 8 Nov 2016 6:33 pm

Tgt Ion: 45 Resp: 81897

Ion	Ratio	Lower	Upper
45	100		
43	31.0	0.0	38.9

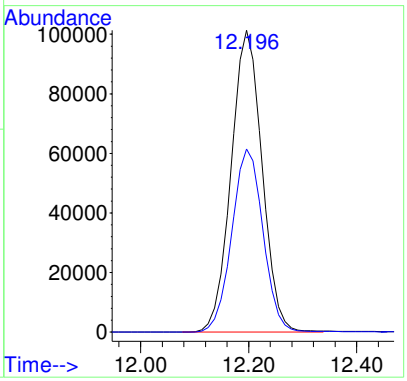


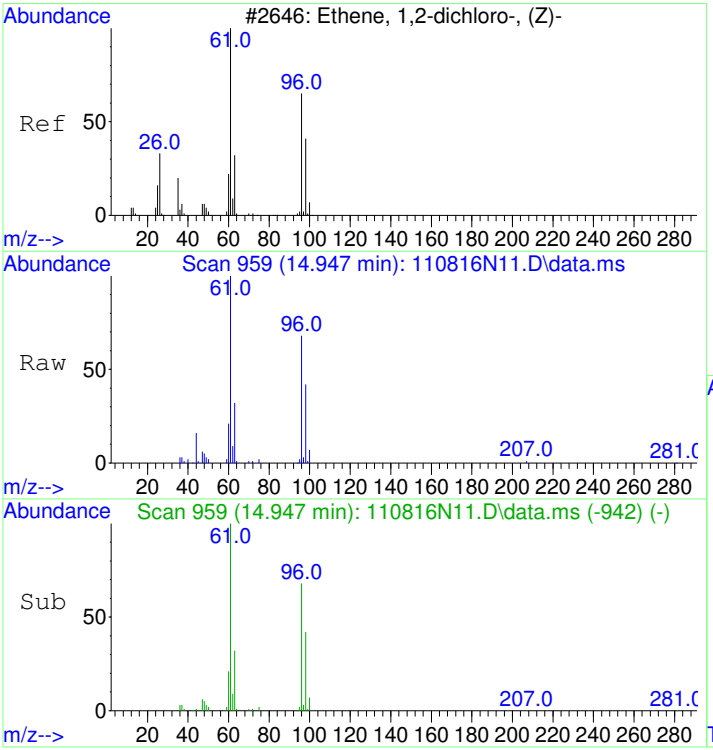


#20
trans-1,2-Dichloroethene
Concen: 10.92 ppbv
RT: 12.196 min Scan# 727
Delta R.T. 0.012 min
Lab File: 110816N11.D
Acq: 8 Nov 2016 6:33 pm

Tgt Ion: 61 Resp: 403371

Ion	Ratio	Lower	Upper
61	100		
96	61.1	47.5	87.5

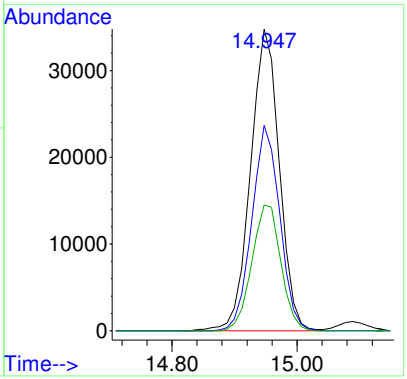


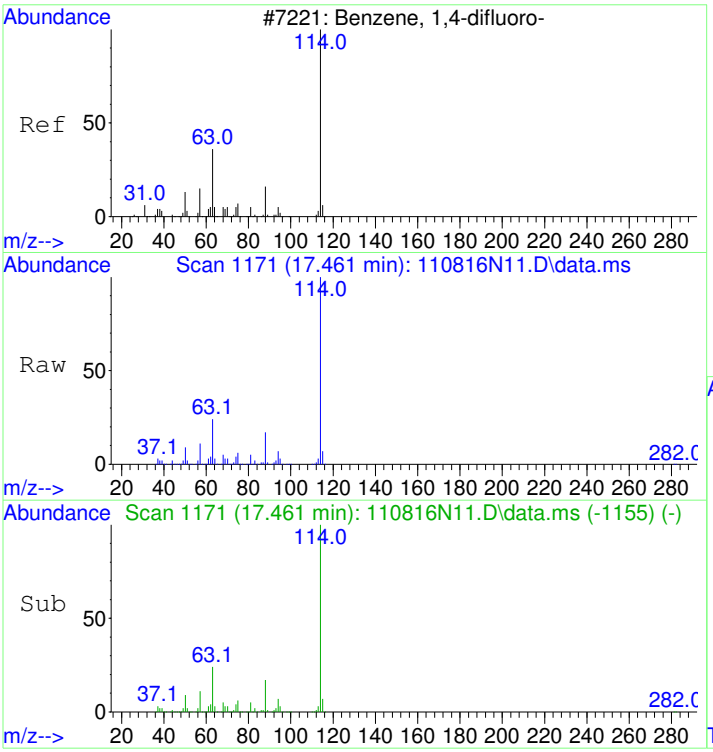


#24
cis-1,2-Dichloroethene
Concen: 3.05 ppbv
RT: 14.947 min Scan# 959
Delta R.T. -0.000 min
Lab File: 110816N11.D
Acq: 8 Nov 2016 6:33 pm

Tgt Ion: 61 Resp: 111301

Ion	Ratio	Lower	Upper
61	100		
96	66.1	54.4	94.4
98	41.9	27.5	67.5

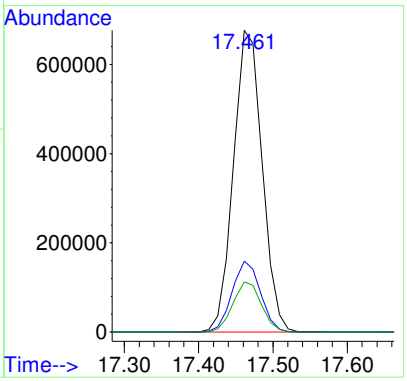


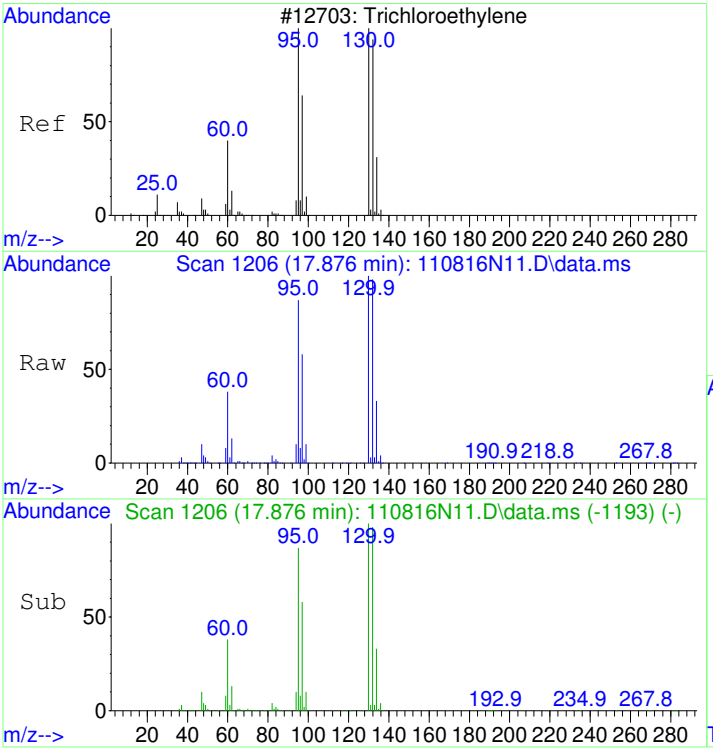


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. -0.000 min
Lab File: 110816N11.D
Acq: 8 Nov 2016 6:33 pm

Tgt Ion:114 Resp: 1817200

Ion	Ratio	Lower	Upper
114	100		
63	23.2	0.1	40.1
88	16.5	0.0	35.8

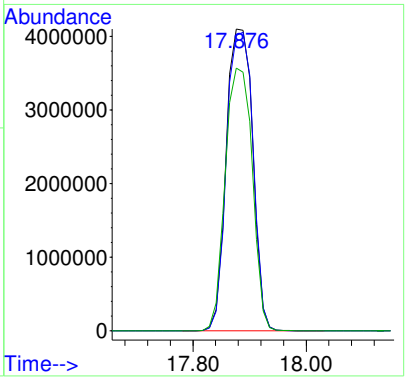


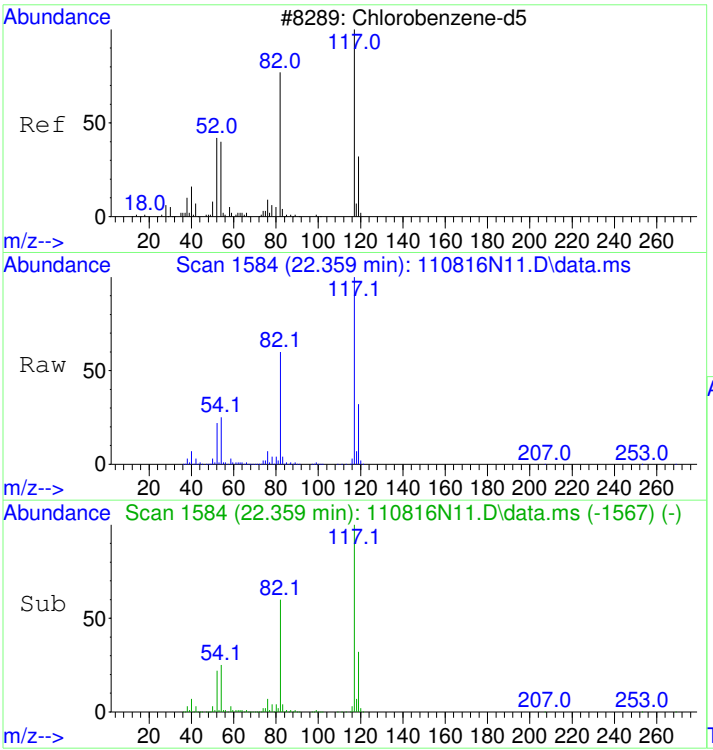


#37
Trichloroethene
Concen: 457.44 ppbv
RT: 17.876 min Scan# 1206
Delta R.T. -0.000 min
Lab File: 110816N11.D
Acq: 8 Nov 2016 6:33 pm

Tgt Ion:130 Resp:13298650

Ion	Ratio	Lower	Upper
130	100		
132	98.9	77.1	117.1
95	89.1	79.3	119.3

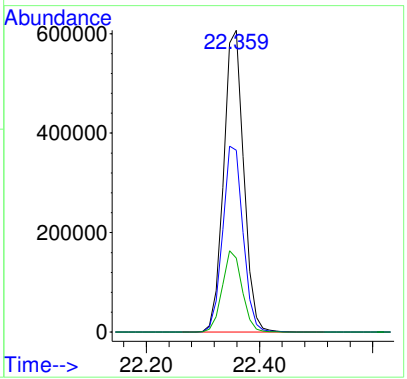


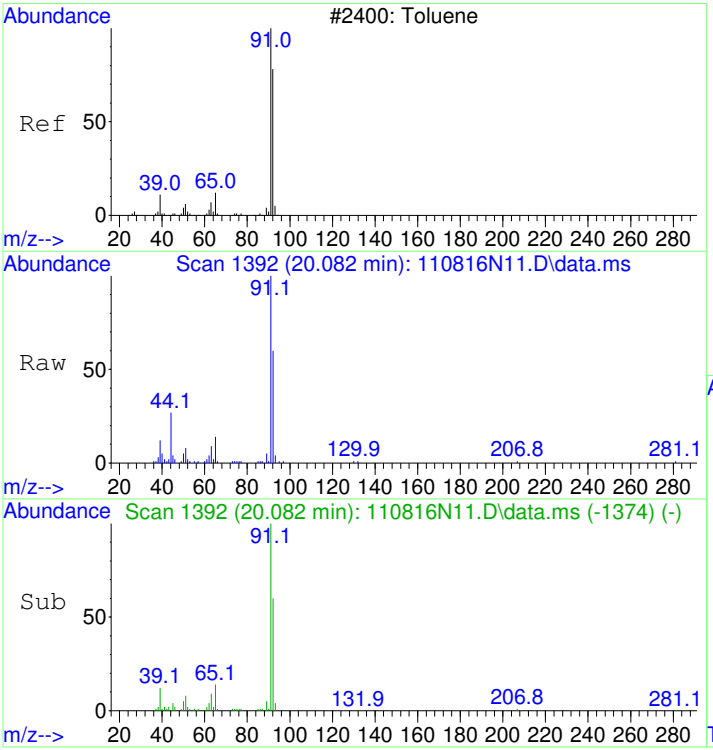


#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. -0.000 min
Lab File: 110816N11.D
Acq: 8 Nov 2016 6:33 pm

Tgt Ion:117 Resp: 1493498

Ion	Ratio	Lower	Upper
117	100		
82	62.5	36.8	76.8
54	26.7	1.4	41.4

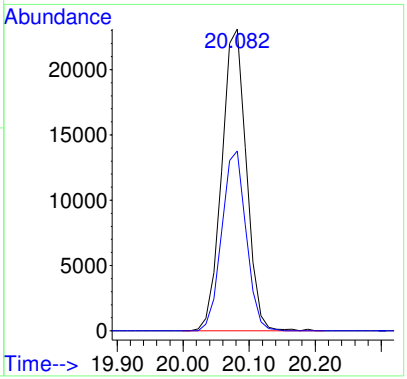




#44
Toluene
Concen: 0.71 ppbv
RT: 20.082 min Scan# 1392
Delta R.T. 0.012 min
Lab File: 110816N11.D
Acq: 8 Nov 2016 6:33 pm

Tgt Ion: 91 Resp: 59821

Ion	Ratio	Lower	Upper
91	100		
92	58.9	39.3	79.3



LSC Area Percent Report

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N11.D
Acq On : 8 Nov 2016 6:33 pm
Operator : LLH
Sample : 1611021-06
Misc : 200ml 870 LEONG-SS5
ALS Vial : 39 Sample Multiplier: 2.1

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.01 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 1 prefer < Baseline drop else tangent >
Peak separation: 10

Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Title : TO15

Signal : TIC: 110816N11.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.464	71	75	101	rVB	5395694	18095474	26.02%	17.756%
2	12.196	718	727	744	rBV	313560	1260442	1.81%	1.237%
3	15.481	998	1004	1013	rBV	856256	2597106	3.73%	2.548%
4	17.461	1165	1171	1183	rBV	1655164	4433672	6.38%	4.350%
5	17.876	1196	1206	1237	rBV	20989609	69541130	100.00%	68.236%
6	20.450	1416	1423	1433	rBV	337975	1044162	1.50%	1.025%
7	22.347	1578	1583	1592	rBV	1944022	4940521	7.10%	4.848%

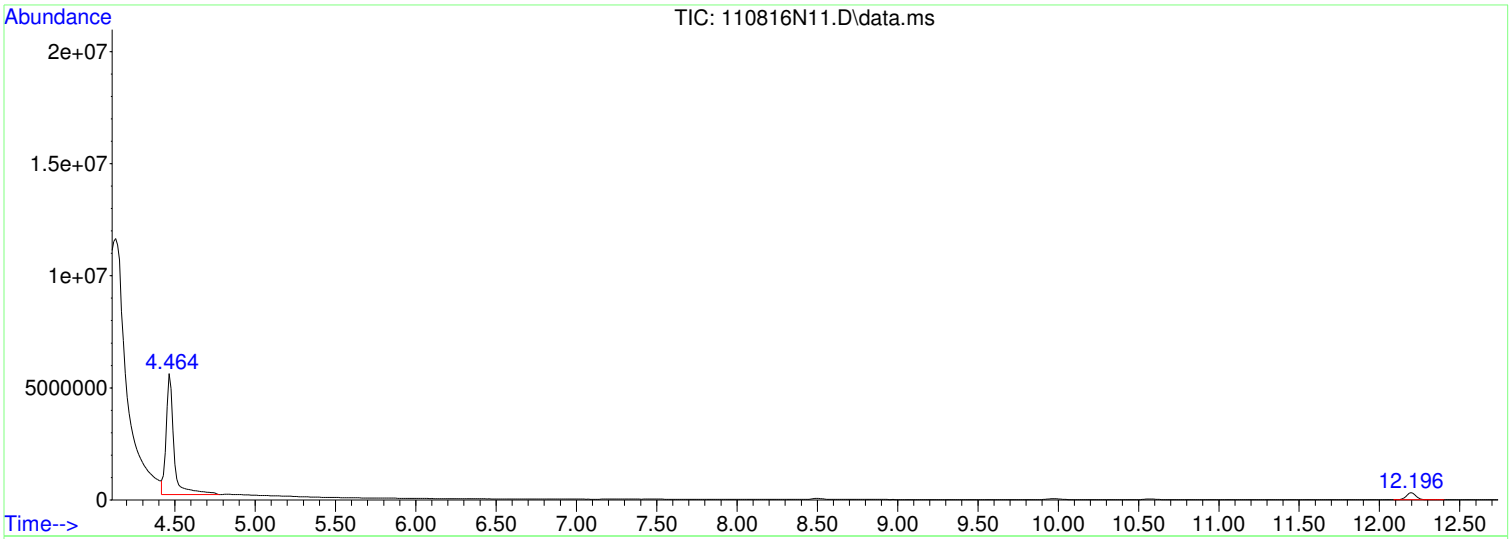
Sum of corrected areas: 101912507

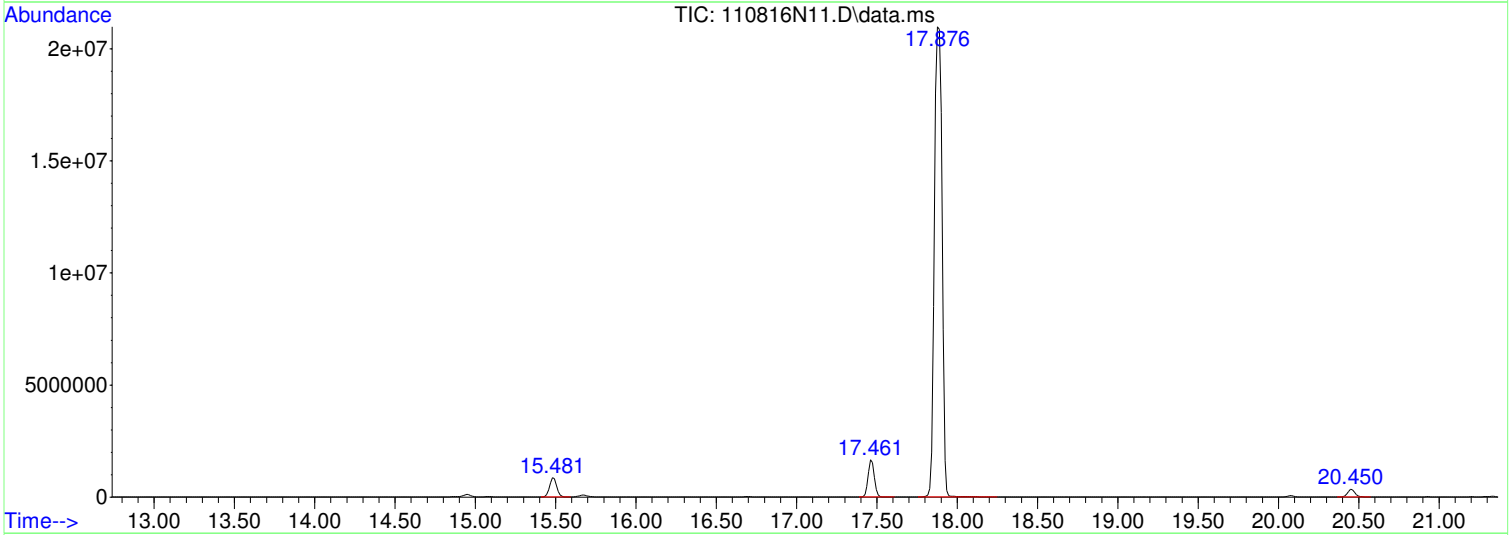
Table of Contents

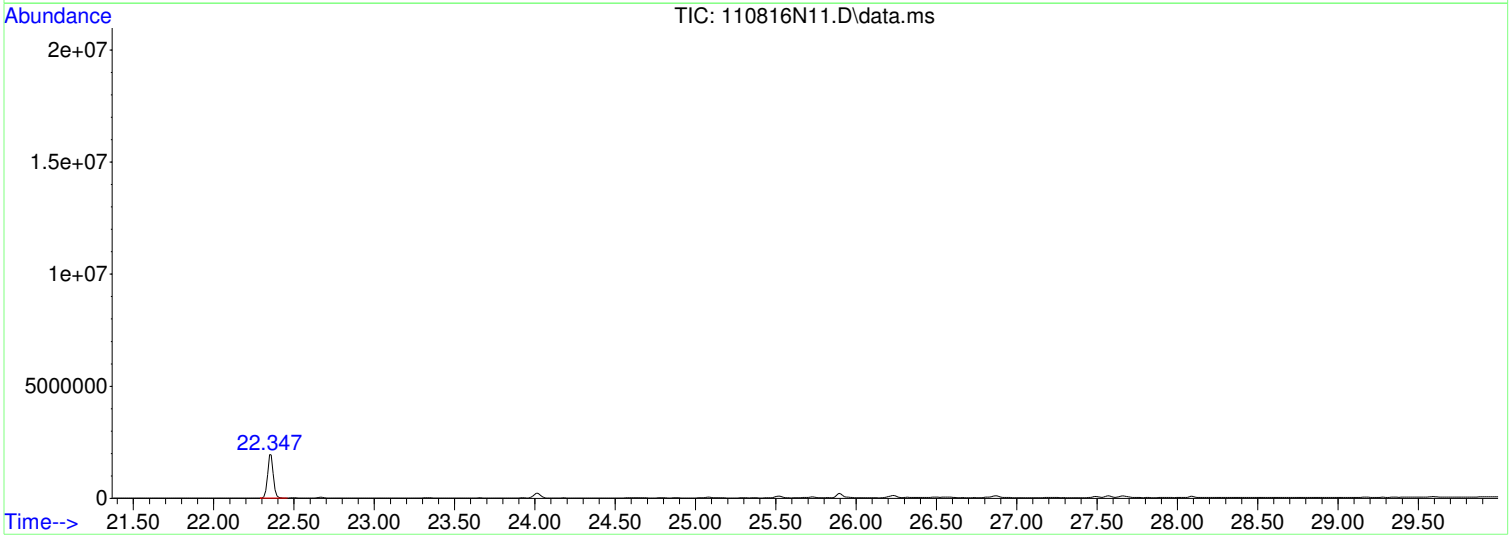
Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N11.D
Acq On : 8 Nov 2016 6:33 pm
Operator : LLH
Sample : 1611021-06
Misc : 200ml 870 LEONG-SS5
ALS Vial : 39 Sample Multiplier: 2.1

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P







Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N11.D
Acq On : 8 Nov 2016 6:33 pm
Operator : LLH
Sample : 1611021-06
Misc : 200ml 870 LEONG-SS5
ALS Vial : 39 Sample Multiplier: 2.1

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

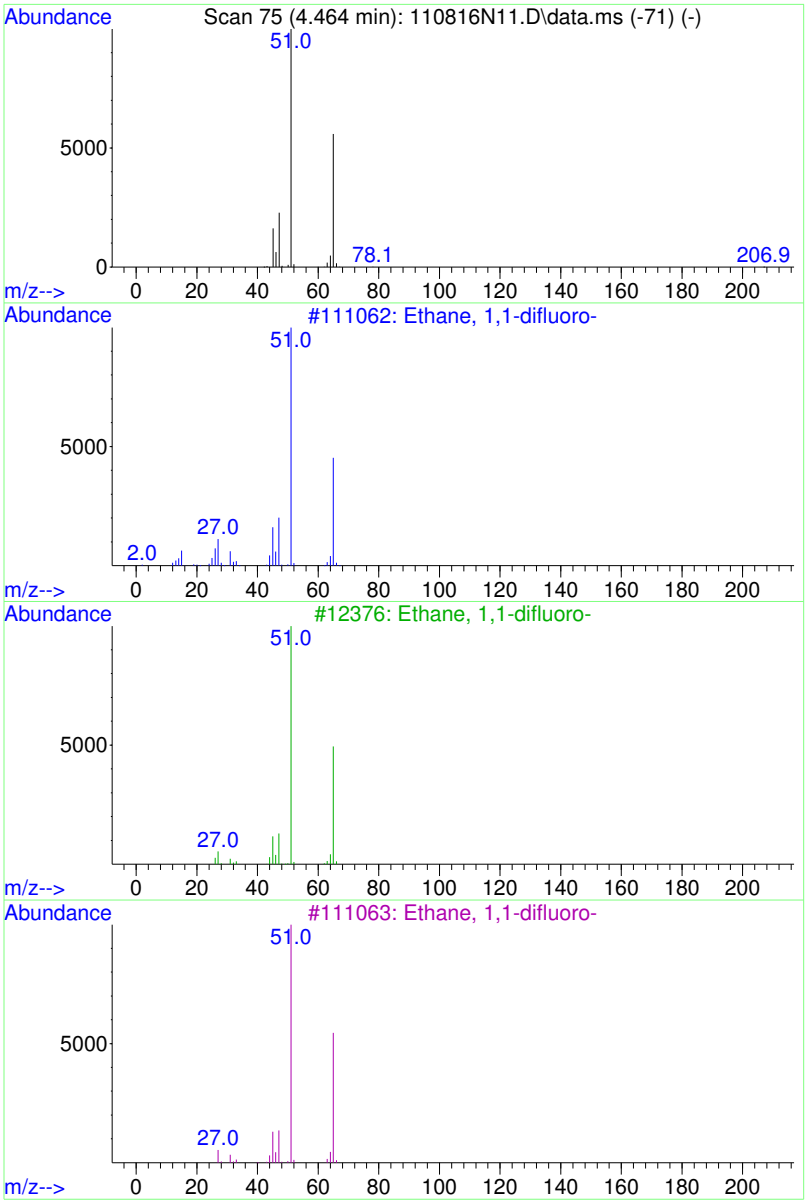
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

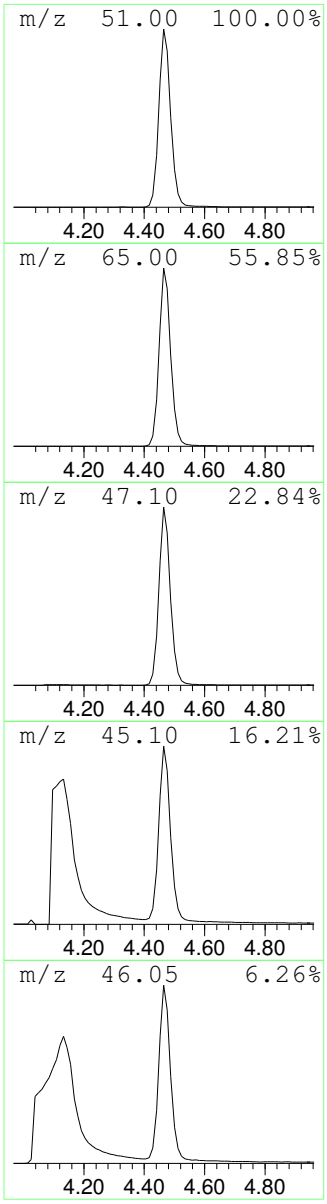
****

Peak Number 1 Ethane, difluoro- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.464	153.29 ppbv	18095500	BROMOCHLOROMETHANE	15.481

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,1-difluoro-	66	C2H4F2	000075-37-6	91
2	Ethane, 1,1-difluoro-	66	C2H4F2	000075-37-6	90
3	Ethane, 1,1-difluoro-	66	C2H4F2	000075-37-6	90
4	Propiolonitrile	51	C3HN	001070-71-9	3
5	Propane, 2,2-difluoro-	80	C3H6F2	000420-45-1	2





Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N11.D
Acq On : 8 Nov 2016 6:33 pm
Operator : LLH
Sample : 1611021-06
Misc : 200ml 870 LEONG-SS5
ALS Vial : 39 Sample Multiplier: 2.1

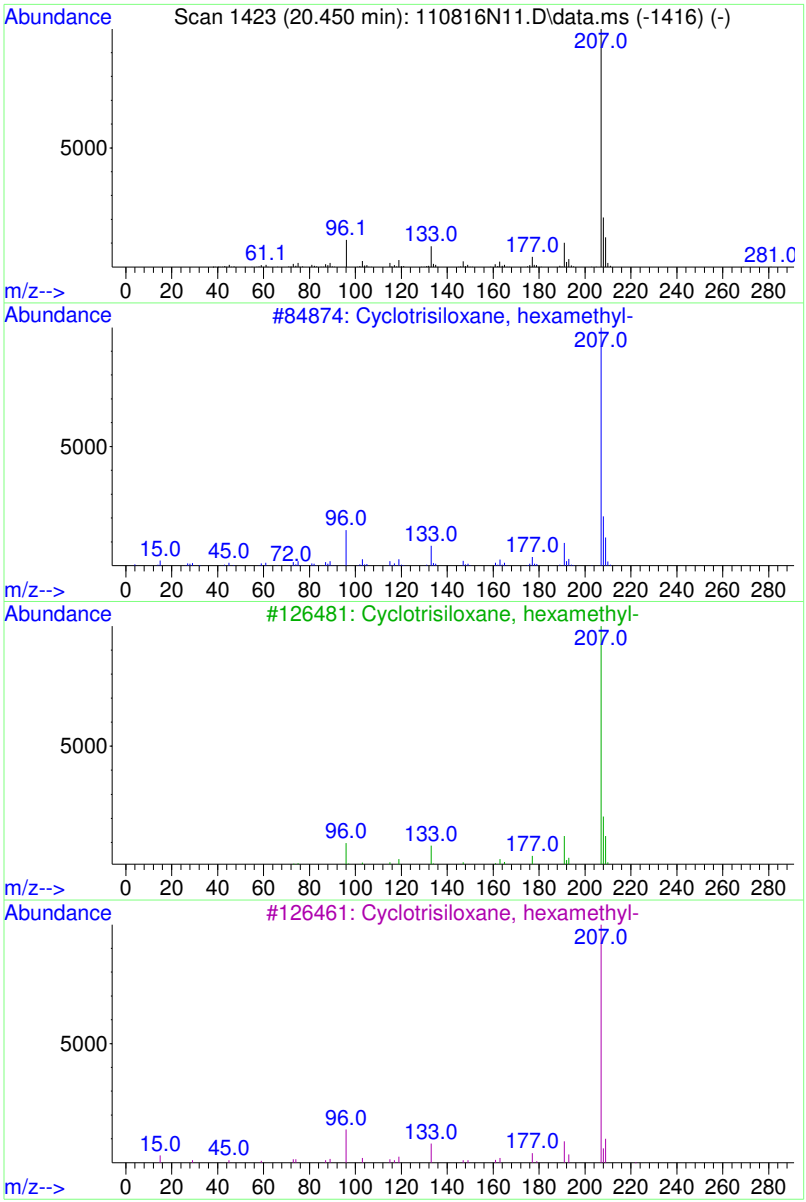
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

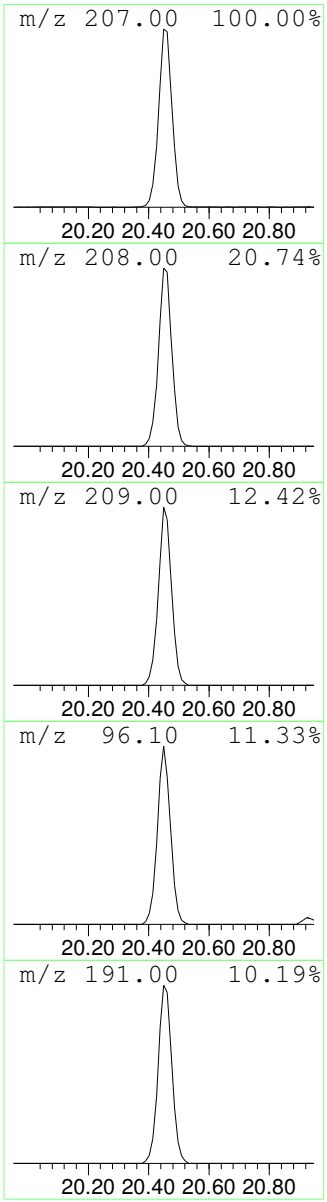
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 2 column bleed Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
20.450	4.65 ppbv	1044160	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	91
2	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	91
3	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	80
4	N-(2-Acetylcyclopentylidene)cycl...	207	C13H21NO	1000100-48-5	59
5	Arsenous acid, tris(trimethylsil...	342	C9H27AsO3Si3	055429-29-3	56





Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N11.D
Acq On : 8 Nov 2016 6:33 pm
Operator : LLH
Sample : 1611021-06
Misc : 200ml 870 LEONG-SS5
ALS Vial : 39 Sample Multiplier: 2.1

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	RT	Resp	Conc
Ethane, difluoro-	4.464	153.3	ppbv	18095500	1	15.481	2597110	22.0
column bleed	20.450	4.7	ppbv	1044160	3	22.359	4940520	22.0

REVIEWED
By LLH at 10:43 am, Nov 09, 2016

1611021-07

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N12.D
Acq On : 8 Nov 2016 7:22 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-07
Misc : 200ml 870 LEONG-SS5X
ALS Vial : 10 Sample Multiplier: 1.83

REPORT

rerun 20ml re-repress

Quant Time: Nov 09 10:50:27 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)		
Internal Standards								
1) BROMOCHLOROMETHANE	15.481	49	694918	22.00	ppbv	0.00		
32) 1,4-DIFLUOROBENZENE	17.461	114	1791984	22.00	ppbv	0.00		
43) CHLOROBENZENE-d5	22.359	117	1483463	22.00	ppbv	0.00		
Target Compounds						Qvalue		
14) Acetone	9.967	43	189806	5.04	ppbv	96		
16) 2-Propanol	10.571	45	32118	0.82	ppbv	62		
20) trans-1,2-Dichloroethene	12.196	61	456150	12.40	ppbv	91		
24) cis-1,2-Dichloroethene	14.947	61	120374	3.31	ppbv	90		
26) Ethyl acetate	15.090	61	5499	0.61	ppbv #	80		
37) Trichloroethene	17.876	130	13931101	485.94	ppbv	94	OC	
44) Toluene	20.082	91	88509	1.06	ppbv	98		
53) m&p-Xylene	22.667	91	47804	0.57	ppbv	93		

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

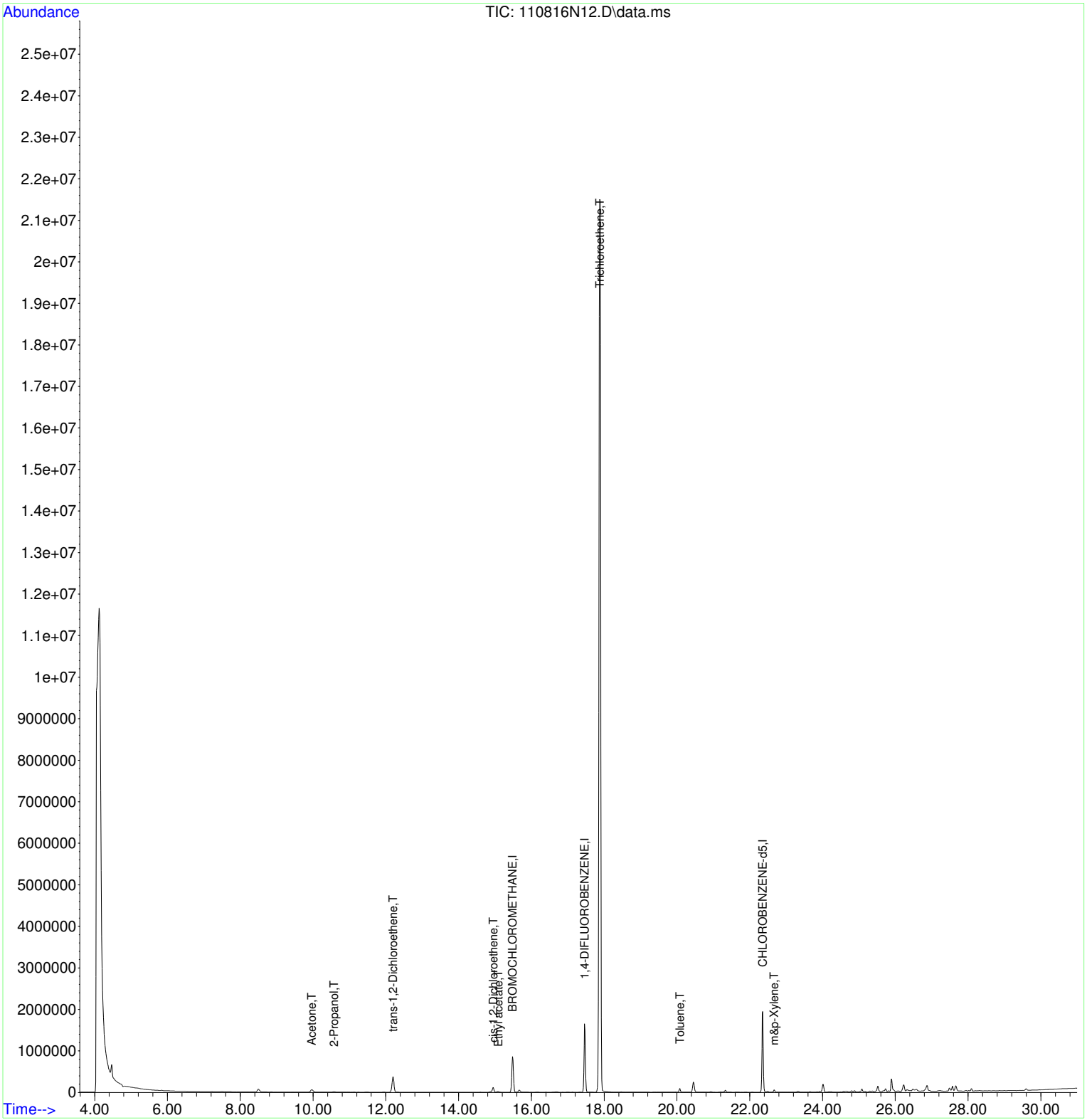
AFTER Q DELETE

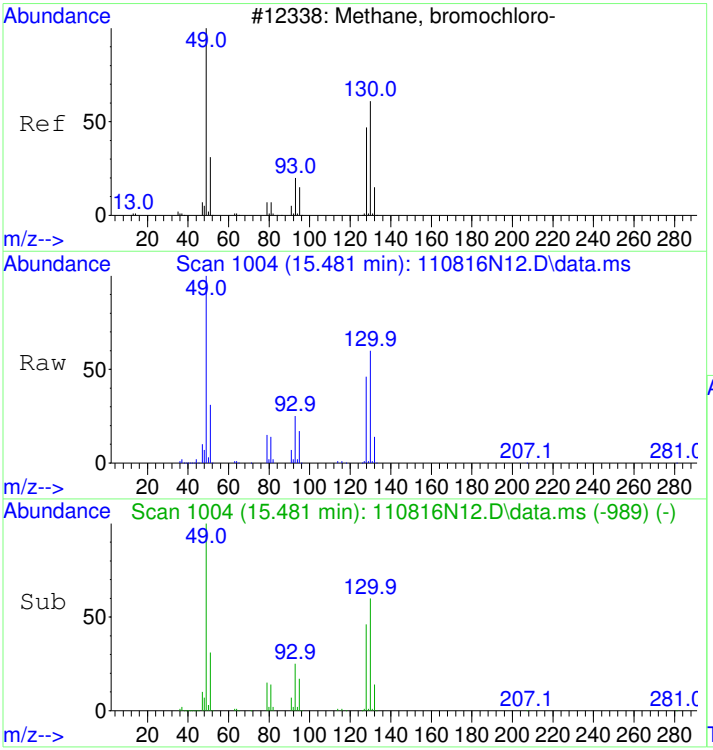
REVIEWED
By LLH at 11:07 am, Nov 09, 2016

Table of Contents

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N12.D
Acq On : 8 Nov 2016 7:22 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-07
Misc : 200ml 870 LEONG-SS5X
ALS Vial : 10 Sample Multiplier: 1.83

Quant Time: Nov 09 10:50:27 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

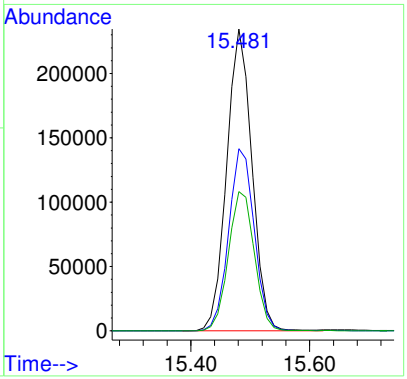


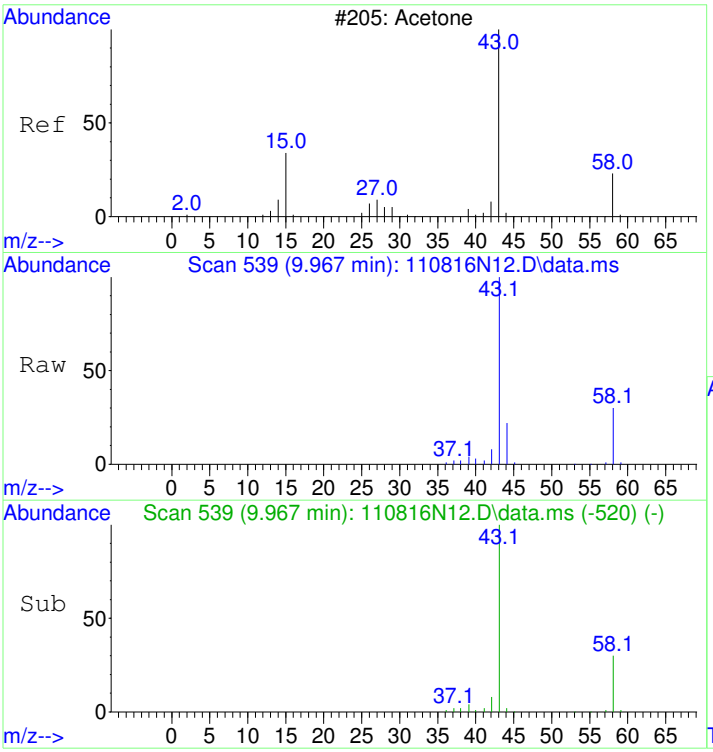


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. -0.000 min
Lab File: 110816N12.D
Acq: 8 Nov 2016 7:22 pm

Tgt Ion: 49 Resp: 694918

Ion	Ratio	Lower	Upper
49	100		
130	61.2	56.1	96.1
128	47.4	38.8	78.8

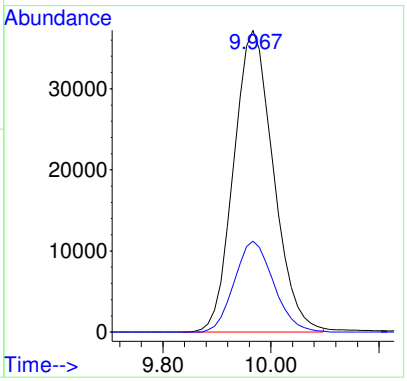


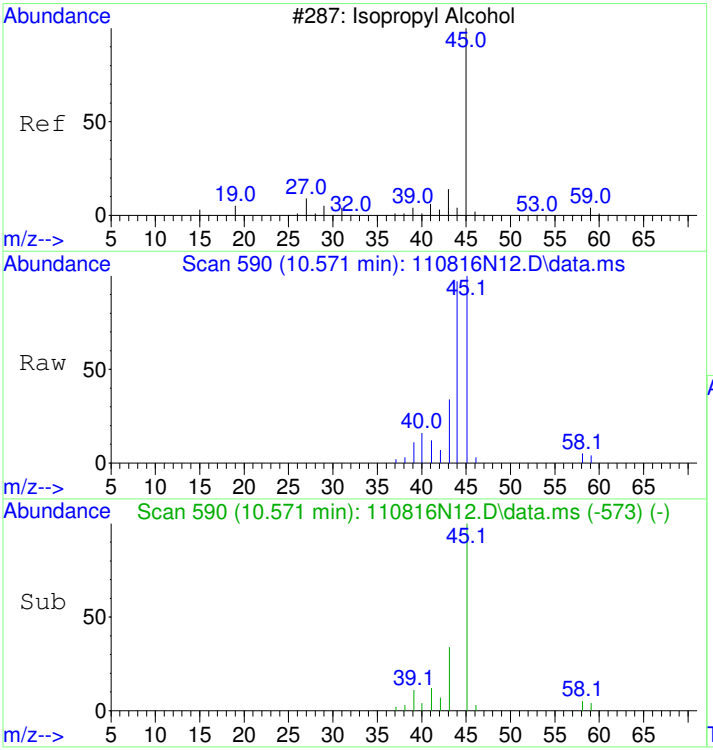


#14
Acetone
Concen: 5.04 ppbv
RT: 9.967 min Scan# 539
Delta R.T. 0.023 min
Lab File: 110816N12.D
Acq: 8 Nov 2016 7:22 pm

Tgt Ion: 43 Resp: 189806

Ion	Ratio	Lower	Upper
43	100		
58	29.8	12.3	52.3

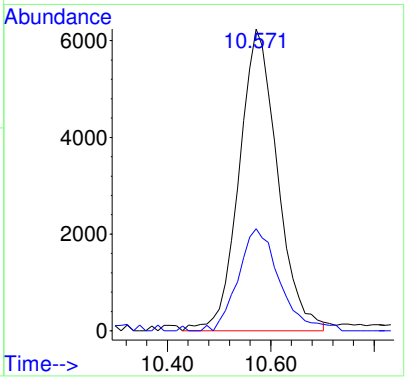


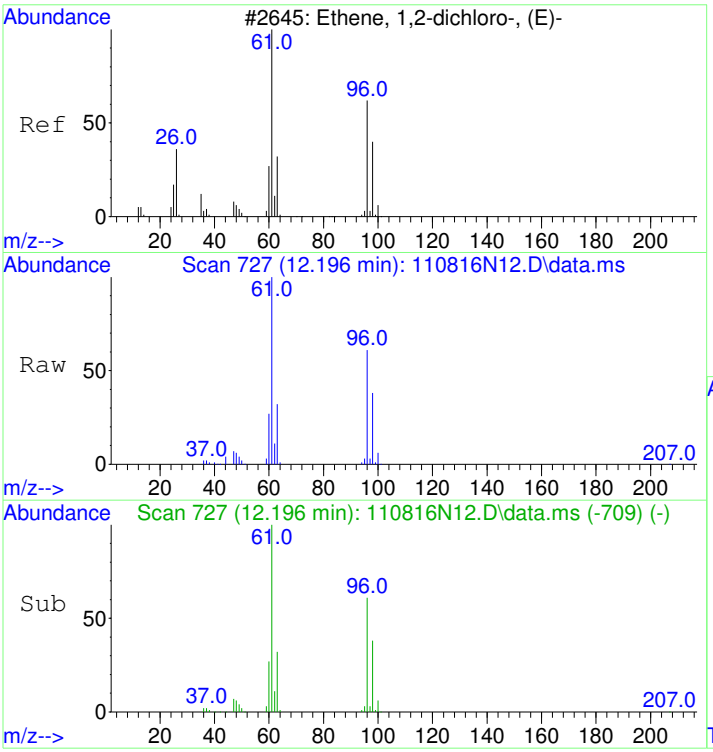


#16
2-Propanol
Concen: 0.82 ppbv
RT: 10.571 min Scan# 590
Delta R.T. 0.023 min
Lab File: 110816N12.D
Acq: 8 Nov 2016 7:22 pm

Tgt Ion: 45 Resp: 32118

Ion	Ratio	Lower	Upper
45	100		
43	36.0	0.0	38.9

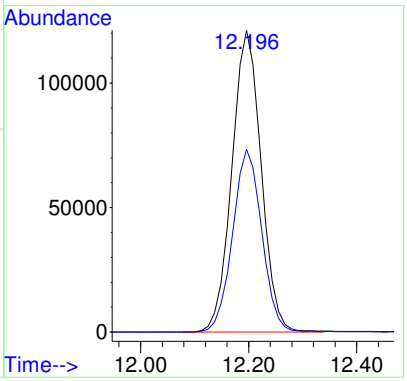


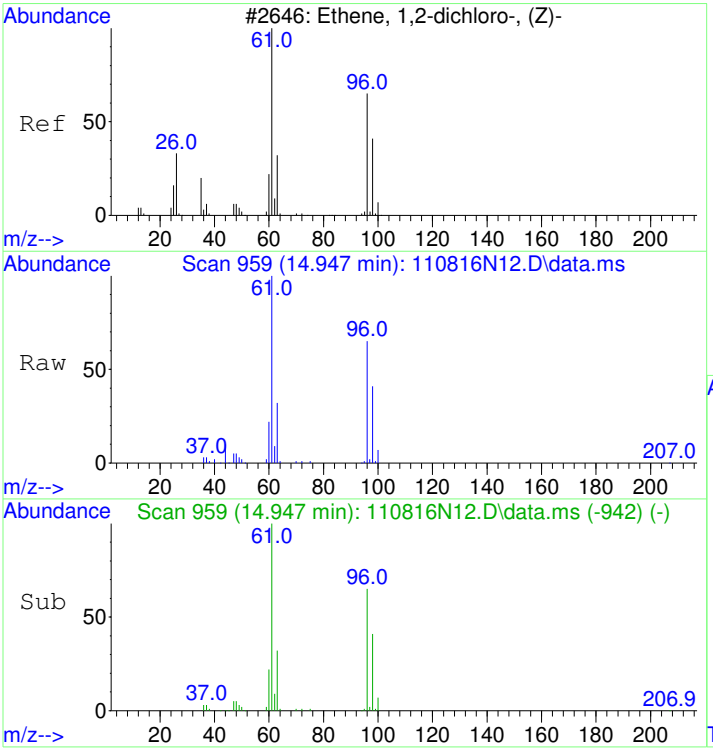


#20
trans-1,2-Dichloroethene
Concen: 12.40 ppbv
RT: 12.196 min Scan# 727
Delta R.T. 0.012 min
Lab File: 110816N12.D
Acq: 8 Nov 2016 7:22 pm

Tgt Ion: 61 Resp: 456150

Ion	Ratio	Lower	Upper
61	100		
96	60.4	47.5	87.5

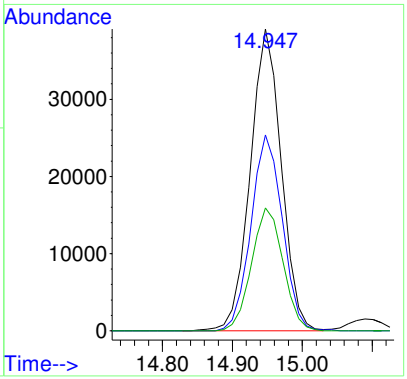


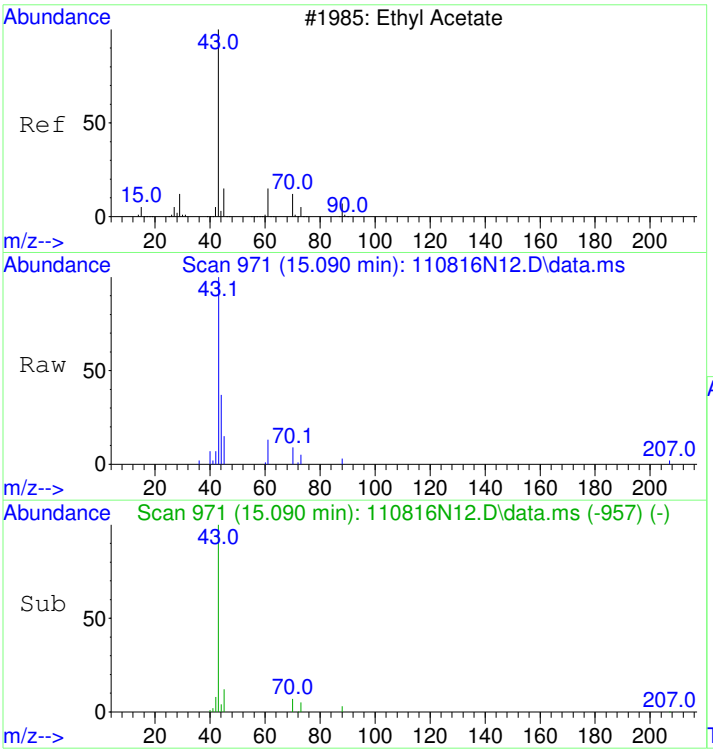


#24
cis-1,2-Dichloroethene
Concen: 3.31 ppbv
RT: 14.947 min Scan# 959
Delta R.T. -0.000 min
Lab File: 110816N12.D
Acq: 8 Nov 2016 7:22 pm

Tgt Ion: 61 Resp: 120374

Ion	Ratio	Lower	Upper
61	100		
96	65.5	54.4	94.4
98	41.3	27.5	67.5

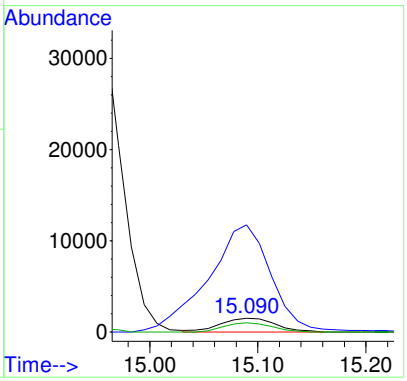


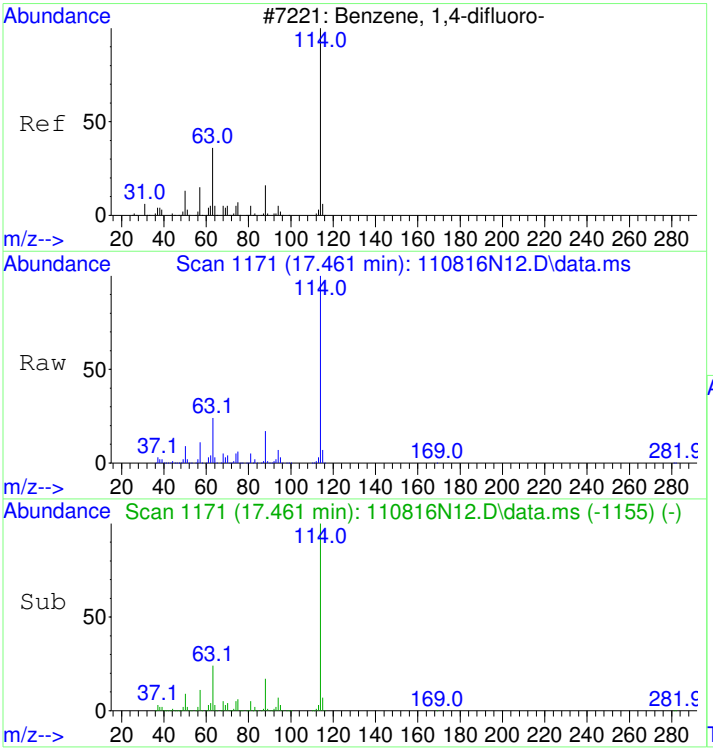


#26
Ethyl acetate
Concen: 0.61 ppbv
RT: 15.090 min Scan# 971
Delta R.T. 0.012 min
Lab File: 110816N12.D
Acq: 8 Nov 2016 7:22 pm

Tgt Ion: 61 Resp: 5499

Ion	Ratio	Lower	Upper
61	100		
43	867.8	0.0	10.0#
70	57.4	64.2	84.2#

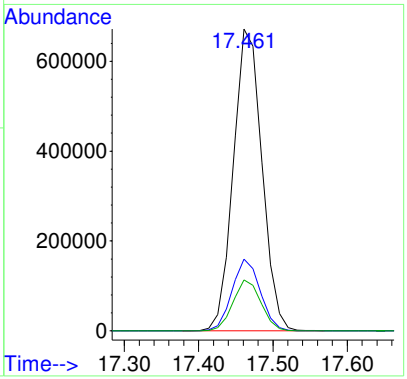


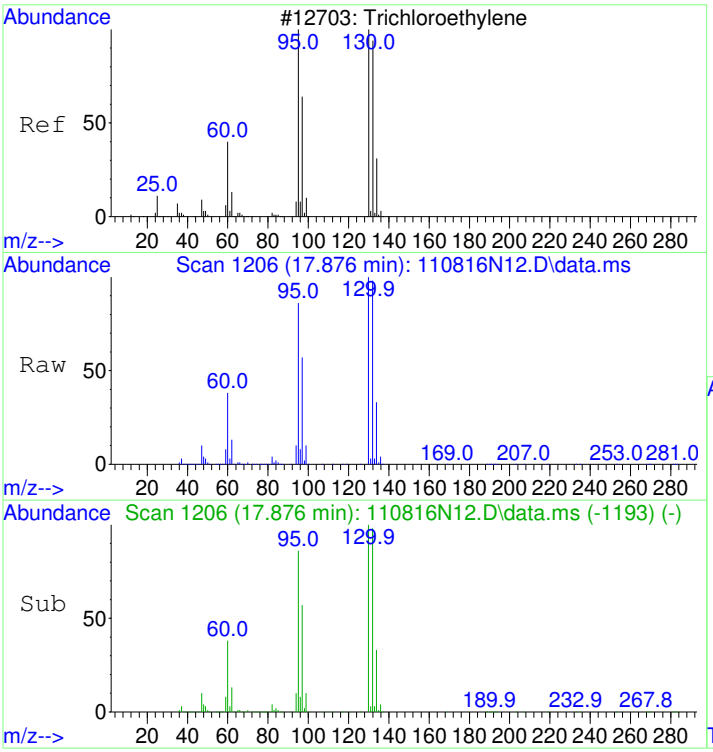


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. -0.000 min
Lab File: 110816N12.D
Acq: 8 Nov 2016 7:22 pm

Tgt Ion:114 Resp: 1791984

Ion	Ratio	Lower	Upper
114	100		
63	23.4	0.1	40.1
88	16.5	0.0	35.8

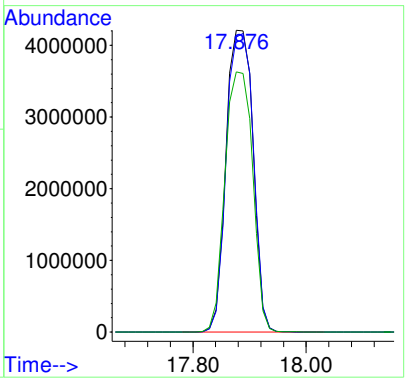


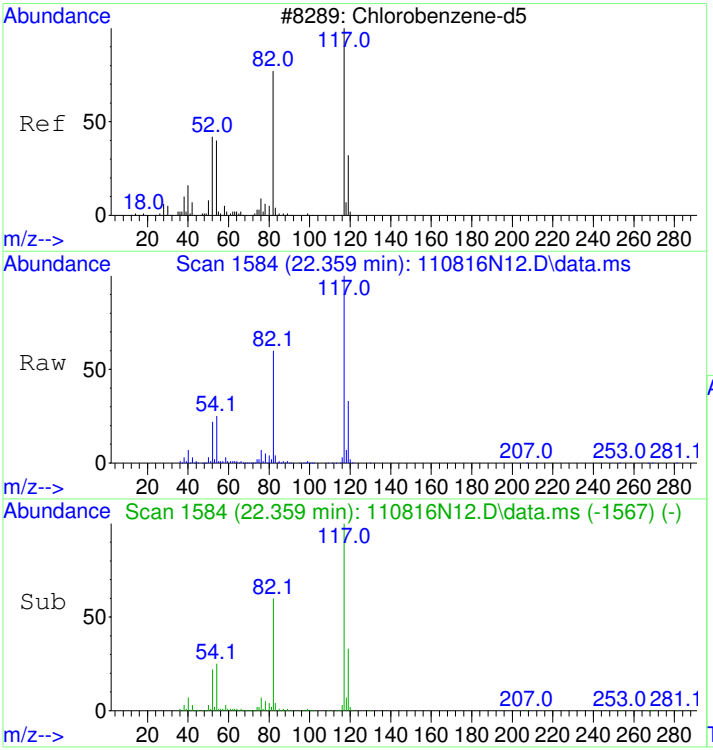


#37
Trichloroethene
Concen: 485.94 ppbv
RT: 17.876 min Scan# 1206
Delta R.T. -0.000 min
Lab File: 110816N12.D
Acq: 8 Nov 2016 7:22 pm

Tgt Ion:130 Resp:13931101

Ion	Ratio	Lower	Upper
130	100		
132	98.8	77.1	117.1
95	88.8	79.3	119.3

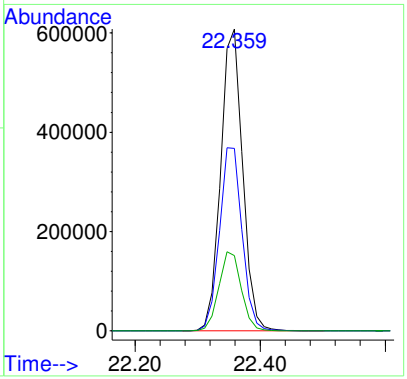


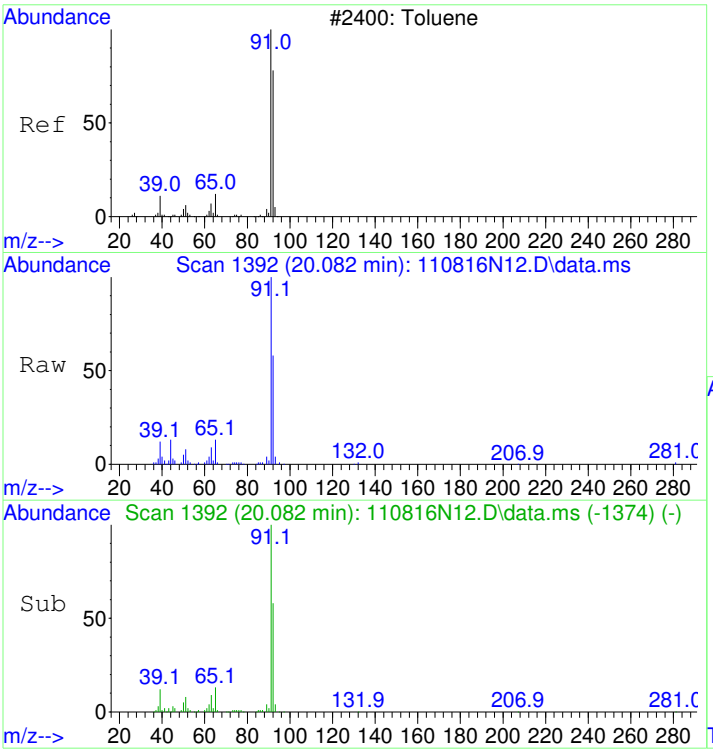


#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. -0.000 min
Lab File: 110816N12.D
Acq: 8 Nov 2016 7:22 pm

Tgt Ion:117 Resp: 1483463

Ion	Ratio	Lower	Upper
117	100		
82	62.7	36.8	76.8
54	26.8	1.4	41.4

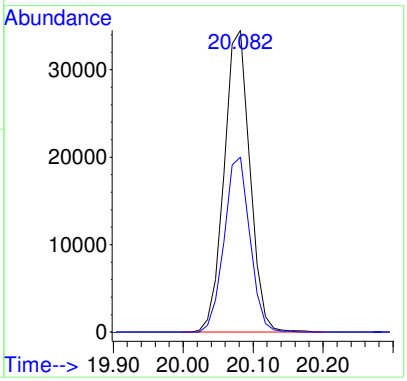


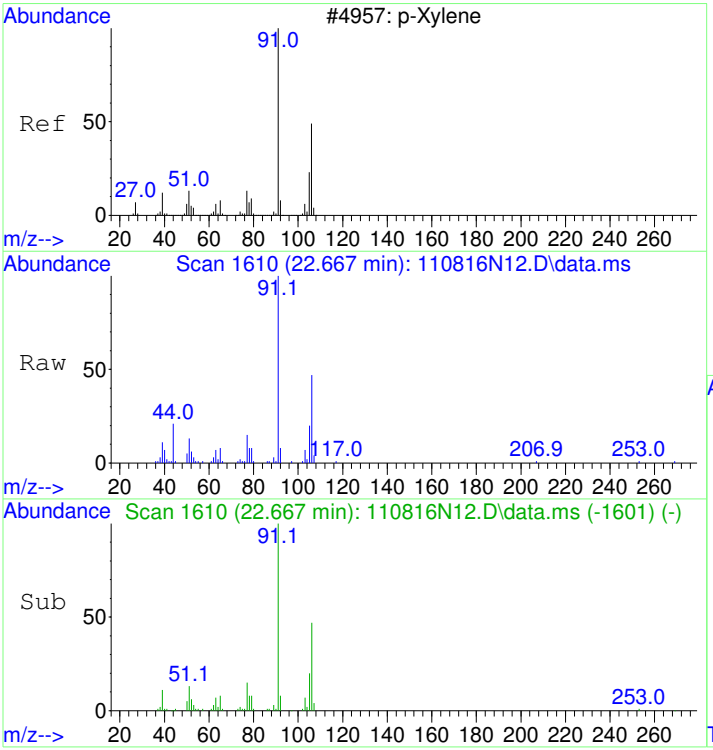


#44
Toluene
Concen: 1.06 ppbv
RT: 20.082 min Scan# 1392
Delta R.T. 0.012 min
Lab File: 110816N12.D
Acq: 8 Nov 2016 7:22 pm

Tgt Ion: 91 Resp: 88509

Ion	Ratio	Lower	Upper
91	100		
92	57.7	39.3	79.3

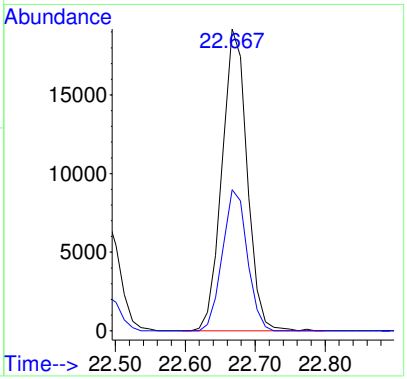




#53
m&p-Xylene
Concen: 0.57 ppbv
RT: 22.667 min Scan# 1610
Delta R.T. -0.000 min
Lab File: 110816N12.D
Acq: 8 Nov 2016 7:22 pm

Tgt Ion: 91 Resp: 47804

Ion	Ratio	Lower	Upper
91	100		
106	46.2	30.9	70.9



LSC Area Percent Report

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N12.D
Acq On : 8 Nov 2016 7:22 pm
Operator : LLH
Sample : 1611021-07
Misc : 200ml 870 LEONG-SS5X
ALS Vial : 10 Sample Multiplier: 1.83

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.01 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 1 prefer < Baseline drop else tangent >
Peak separation: 10

Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Title : TO15

Signal : TIC: 110816N12.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.464	72	75	101	rVB	530347	3375495	4.63%	3.700%
2	12.196	719	727	743	rBV	375378	1421851	1.95%	1.559%
3	15.481	997	1004	1013	rBV	861145	2577777	3.54%	2.826%
4	17.461	1165	1171	1181	rBV	1650046	4385848	6.02%	4.808%
5	17.876	1195	1206	1236	rBV	21501489	72855494	100.00%	79.864%
6	20.450	1417	1423	1437	rVB	242851	773310	1.06%	0.848%
7	22.359	1578	1584	1591	rBV	1942372	4932020	6.77%	5.406%
8	25.893	1878	1882	1892	rVB	306773	902723	1.24%	0.990%

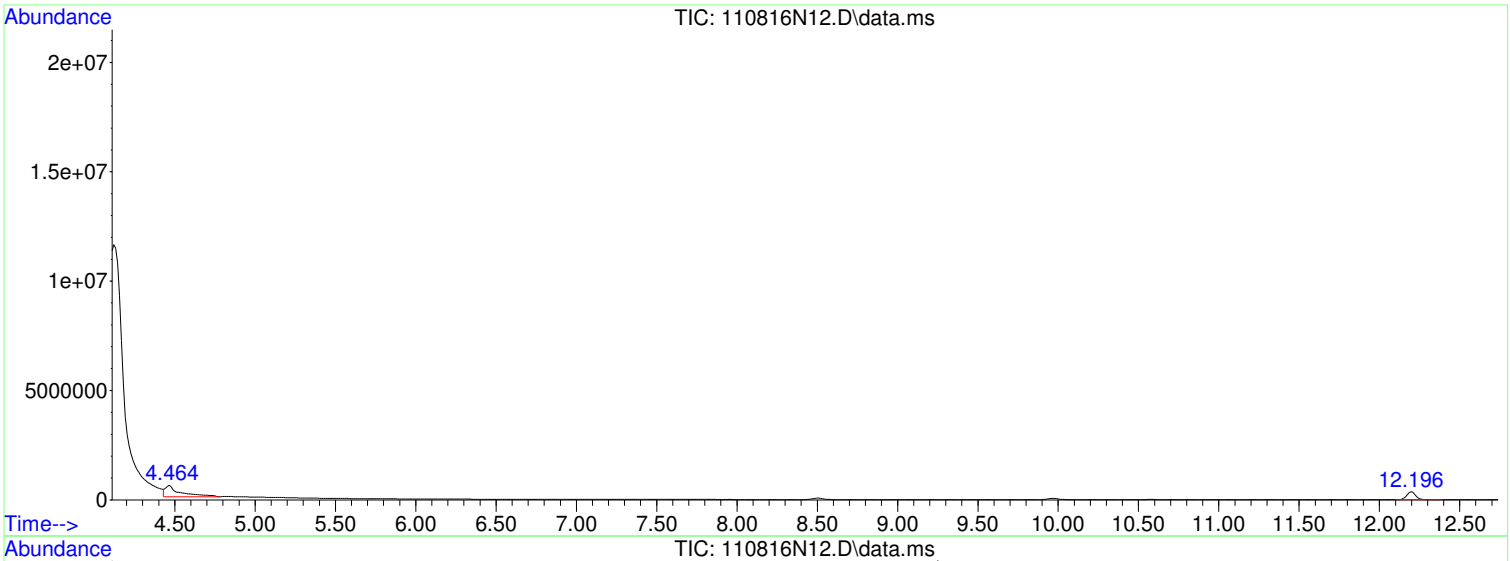
Sum of corrected areas: 91224518

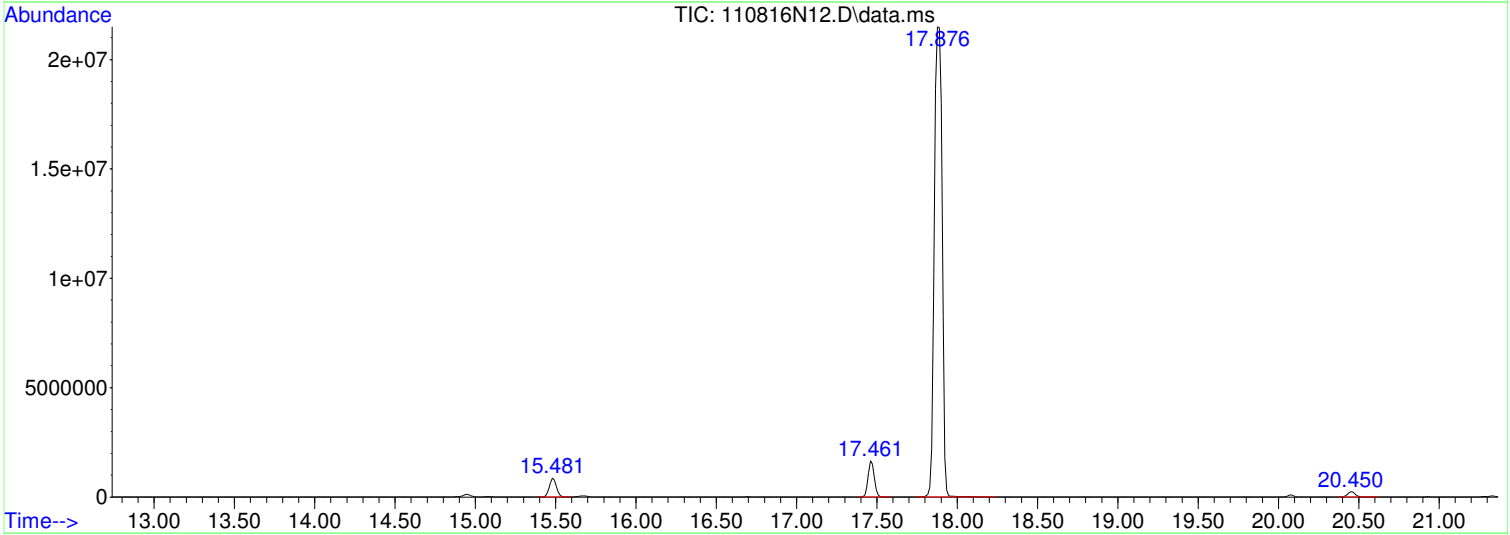
Table of Contents

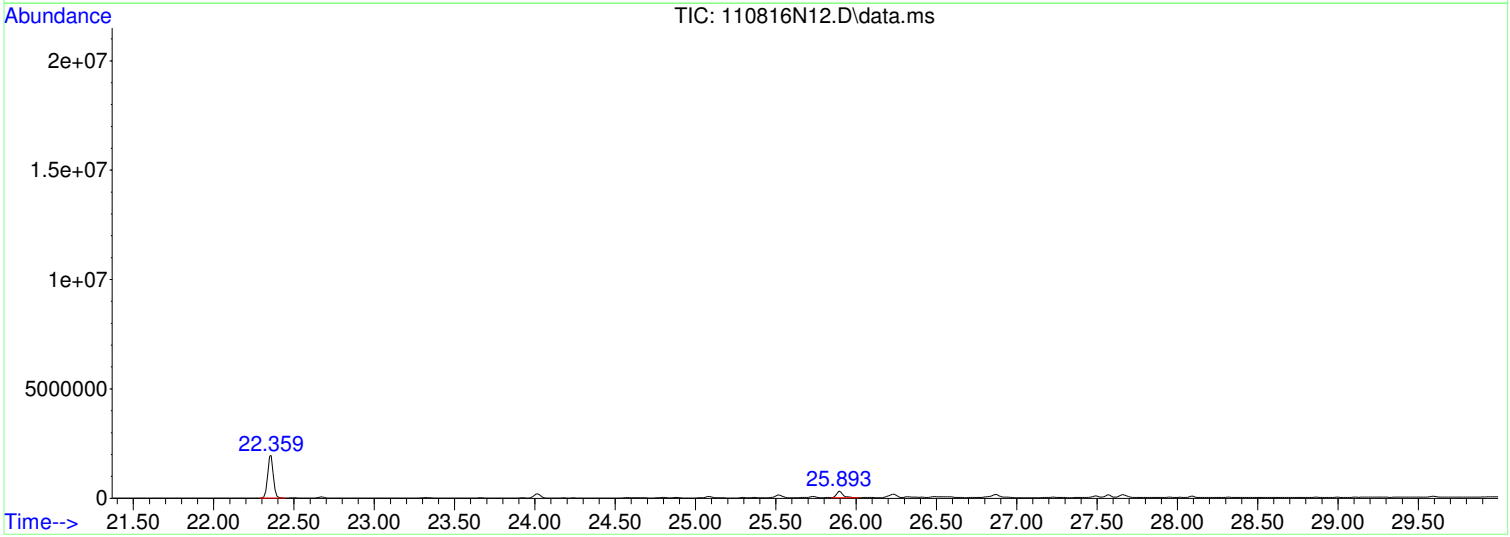
Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N12.D
Acq On : 8 Nov 2016 7:22 pm
Operator : LLH
Sample : 1611021-07
Misc : 200ml 870 LEONG-SS5X
ALS Vial : 10 Sample Multiplier: 1.83

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P







Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N12.D
Acq On : 8 Nov 2016 7:22 pm
Operator : LLH
Sample : 1611021-07
Misc : 200ml 870 LEONG-SS5X
ALS Vial : 10 Sample Multiplier: 1.83

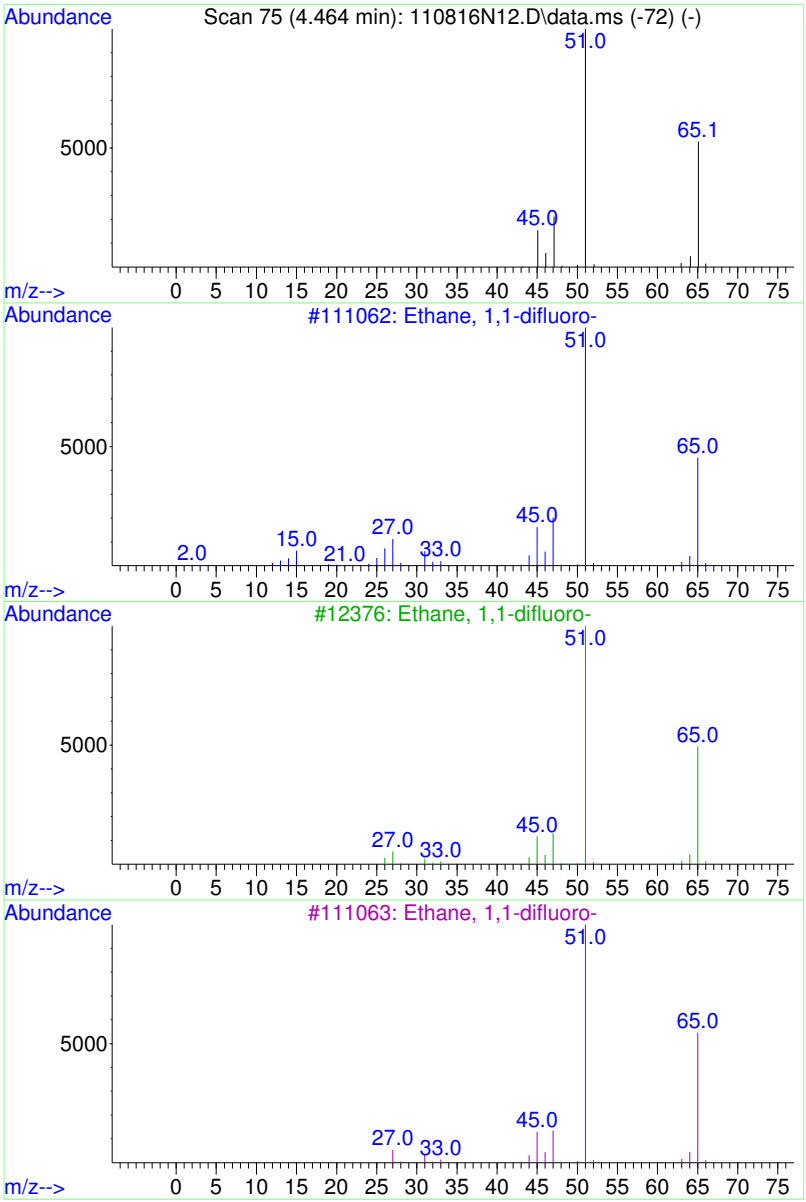
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

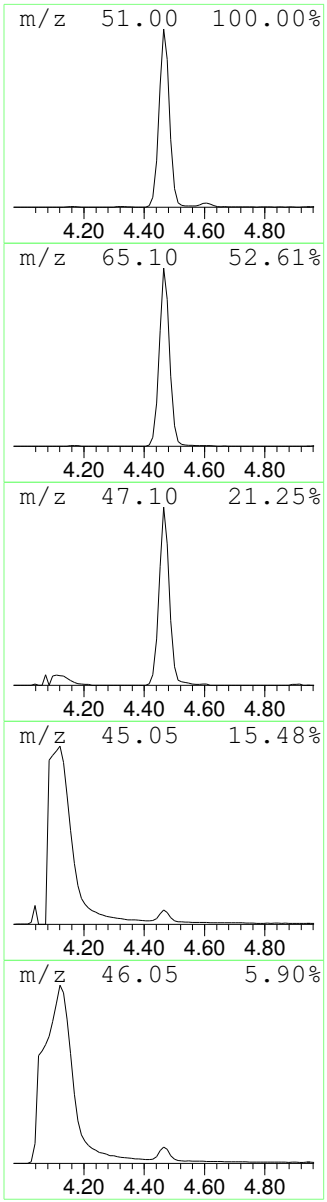
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 1 Ethane, difluoro- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.464	28.81 ppbv	3375500	BROMOCHLOROMETHANE	15.481

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,1-difluoro-	66	C2H4F2	000075-37-6	91
2	Ethane, 1,1-difluoro-	66	C2H4F2	000075-37-6	90
3	Ethane, 1,1-difluoro-	66	C2H4F2	000075-37-6	90
4	Propiolonitrile	51	C3HN	001070-71-9	3
5	Propane, 2,2-difluoro-	80	C3H6F2	000420-45-1	2





Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N12.D
Acq On : 8 Nov 2016 7:22 pm
Operator : LLH
Sample : 1611021-07
Misc : 200ml 870 LEONG-SS5X
ALS Vial : 10 Sample Multiplier: 1.83

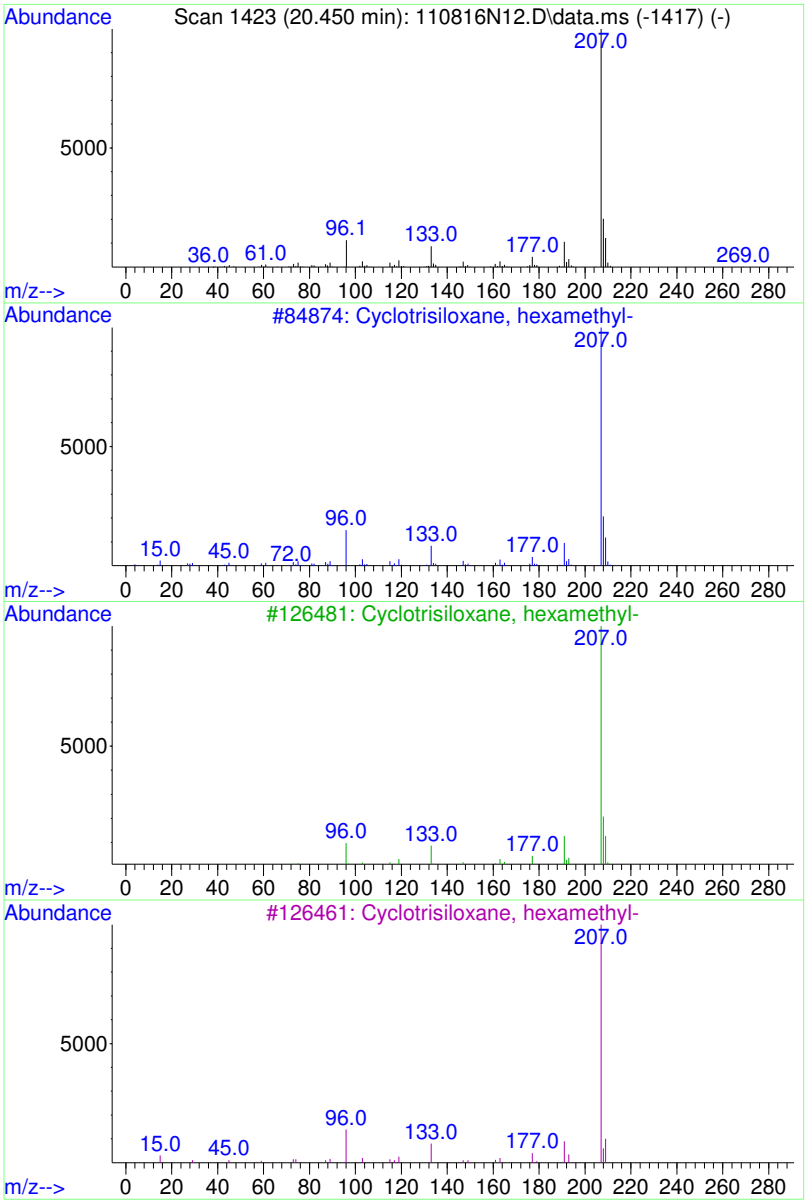
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

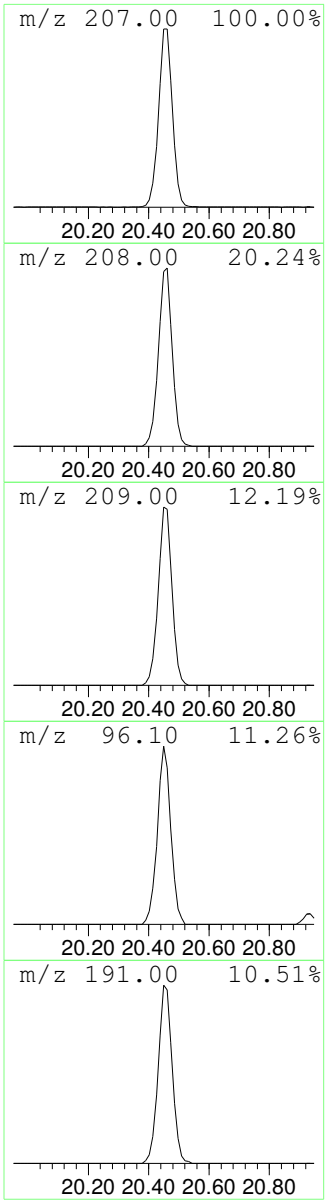
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 2 column bleed Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
20.450	3.45 ppbv	773310	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	91
2	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	91
3	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	80
4	N-(2-Acetylcyclopentylidene)cycl...	207	C13H21NO	1000100-48-5	59
5	Arsenous acid, tris(trimethylsil...	342	C9H27AsO3Si3	055429-29-3	56





Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N12.D
Acq On : 8 Nov 2016 7:22 pm
Operator : LLH
Sample : 1611021-07
Misc : 200ml 870 LEONG-SS5X
ALS Vial : 10 Sample Multiplier: 1.83

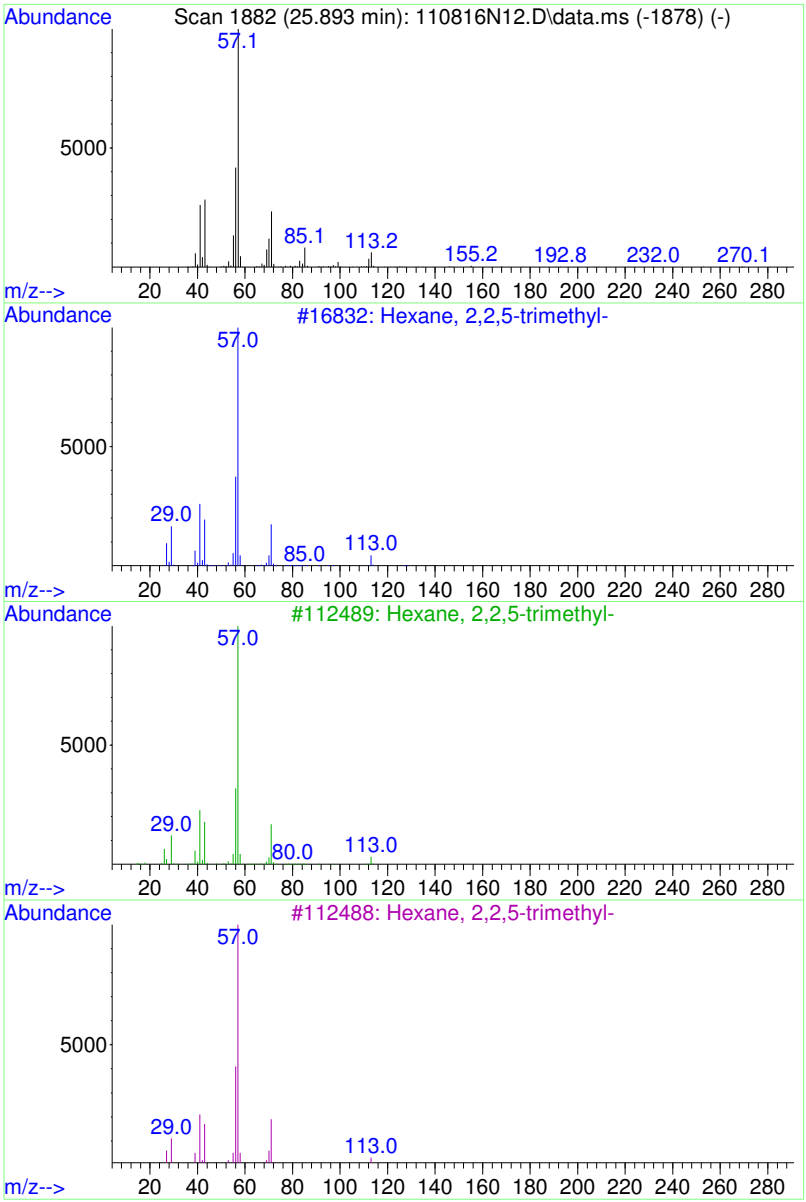
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

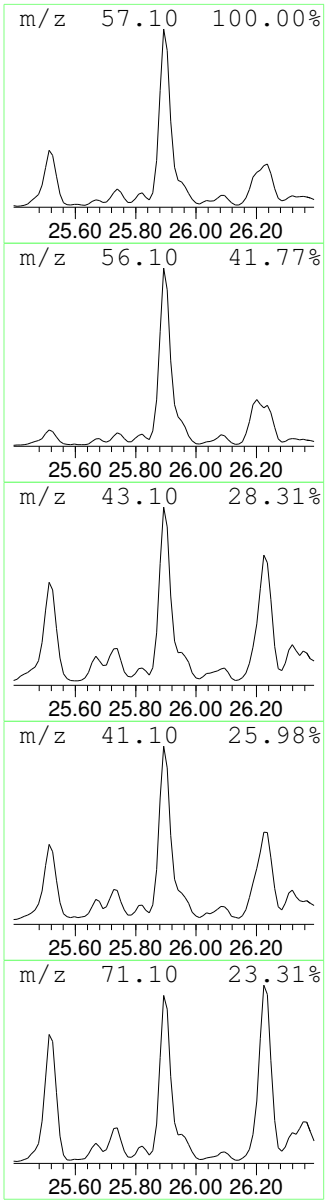
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 3 Hexane, trimethyl- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
25.893	4.03 ppbv	902723	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Hexane, 2,2,5-trimethyl-	128	C9H20	003522-94-9	64
2	Hexane, 2,2,5-trimethyl-	128	C9H20	003522-94-9	64
3	Hexane, 2,2,5-trimethyl-	128	C9H20	003522-94-9	59
4	Heptane, 2,2-dimethyl-	128	C9H20	001071-26-7	59
5	Hexane, 2,2,4-trimethyl-	128	C9H20	016747-26-5	59





Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N12.D
Acq On : 8 Nov 2016 7:22 pm
Operator : LLH
Sample : 1611021-07
Misc : 200ml 870 LEONG-SS5X
ALS Vial : 10 Sample Multiplier: 1.83

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	RT	Resp	Conc
Ethane, difluoro-	4.464	28.8	ppbv	3375500	1	15.481	2577780	22.0
column bleed	20.450	3.5	ppbv	773310	3	22.359	4932020	22.0
Hexane, trimethyl-	25.893	4.0	ppbv	902723	3	22.359	4932020	22.0

REVIEWED
By LLH at 11:07 am, Nov 09, 2016

1611021-08

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N13.D
Acq On : 8 Nov 2016 8:12 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-08
Misc : 200ml 870 LEONG-SS6
ALS Vial : 11 Sample Multiplier: 1.78

REPORT

rerun 20ml re-repress

Quant Time: Nov 09 09:13:41 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)		
Internal Standards								
1) BROMOCHLOROMETHANE	15.481	49	694388	22.00	ppbv	0.00		
32) 1,4-DIFLUOROBENZENE	17.461	114	1772281	22.00	ppbv	0.00		
43) CHLOROBENZENE-d5	22.359	117	1468034	22.00	ppbv	0.00		
Target Compounds							Qvalue	
11) Trichlorofluoromethane	7.500	101	67775	1.03	ppbv		99	
14) Acetone	9.967	43	72913	1.94	ppbv		97	
16) 2-Propanol	10.571	45	19746	0.50	ppbv		58	
20) trans-1,2-Dichloroethene	12.196	61	620474	16.88	ppbv		92	
24) cis-1,2-Dichloroethene	14.947	61	1282260	35.33	ppbv		91	OC
26) Ethyl acetate	15.090	61	5507	0.61	ppbv	#	74	
28) Chloroform	15.635	83	28789	0.51	ppbv	#	87	
37) Trichloroethene	17.876	130	17213827	607.12	ppbv	#	1	OC
44) Toluene	20.082	91	137184	1.67	ppbv		97	
53) m&p-Xylene	22.667	91	55289	0.66	ppbv		95	

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

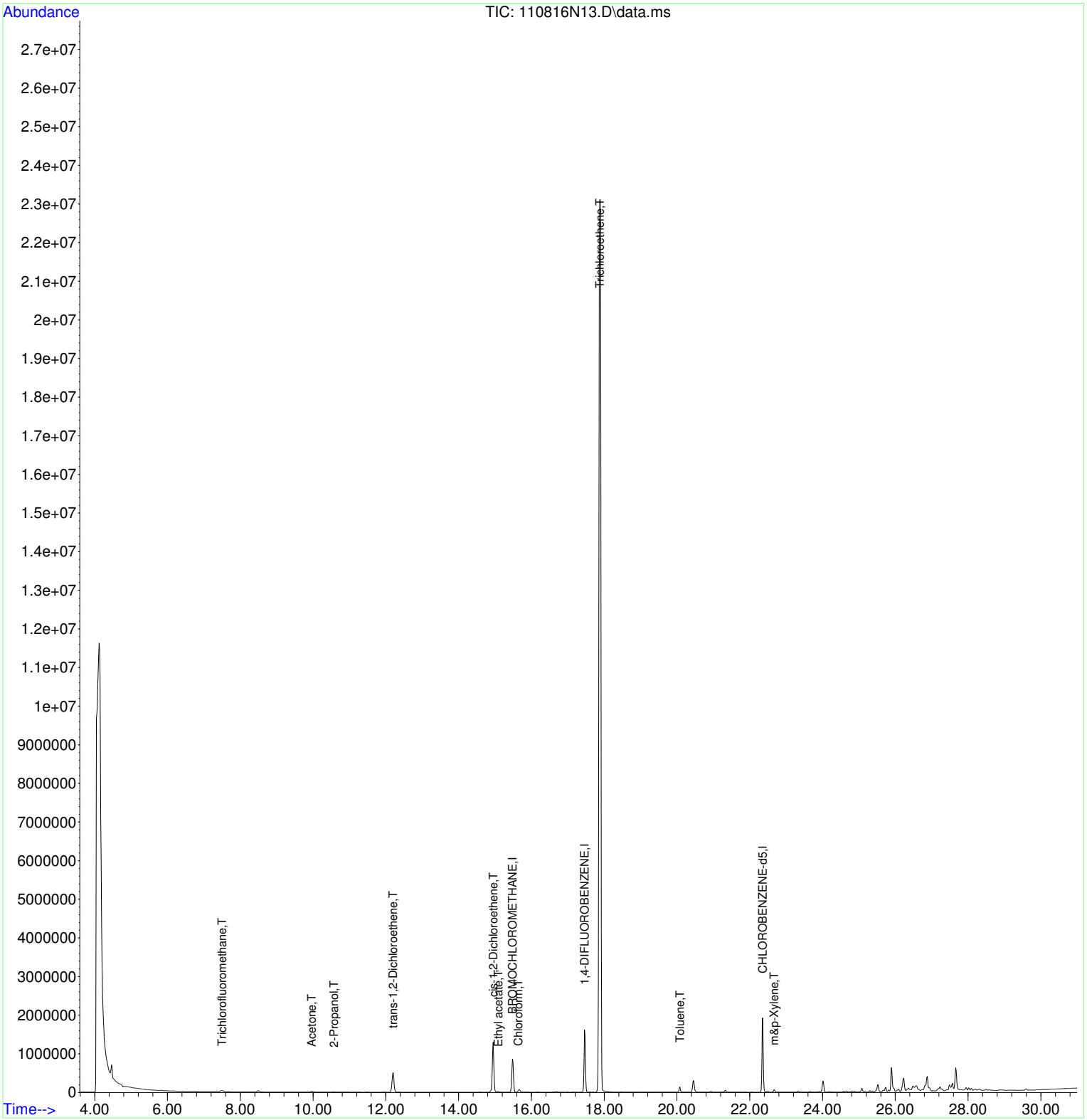
AFTER Q DELETE

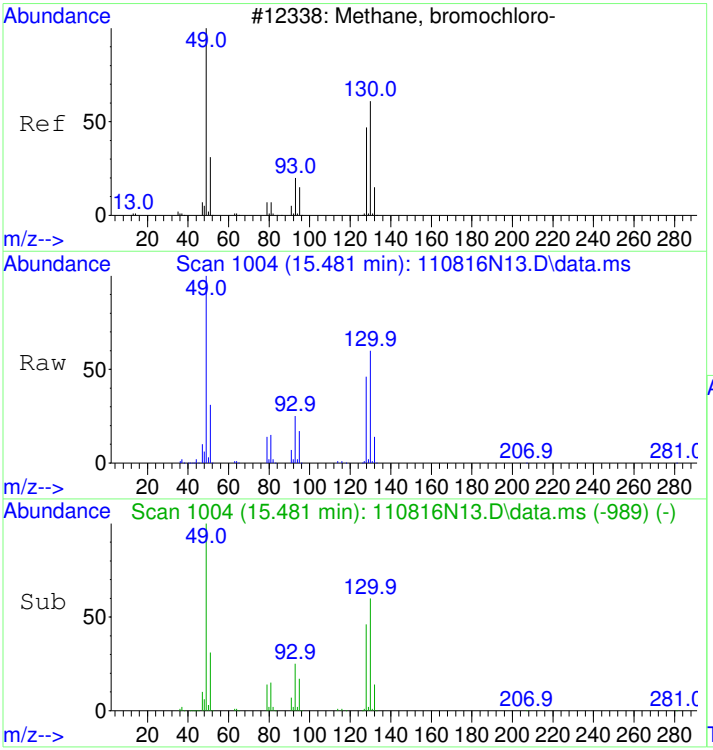
REVIEWED
By LLH at 11:14 am, Nov 09, 2016

Table of Contents

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N13.D
Acq On : 8 Nov 2016 8:12 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-08
Misc : 200ml 870 LEONG-SS6
ALS Vial : 11 Sample Multiplier: 1.78

Quant Time: Nov 09 09:13:41 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

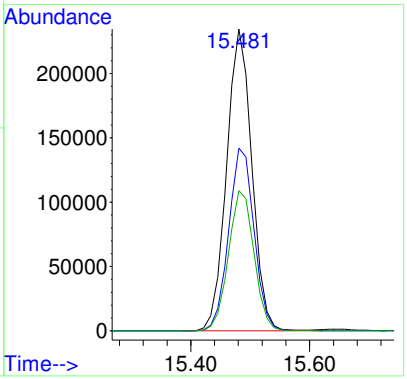


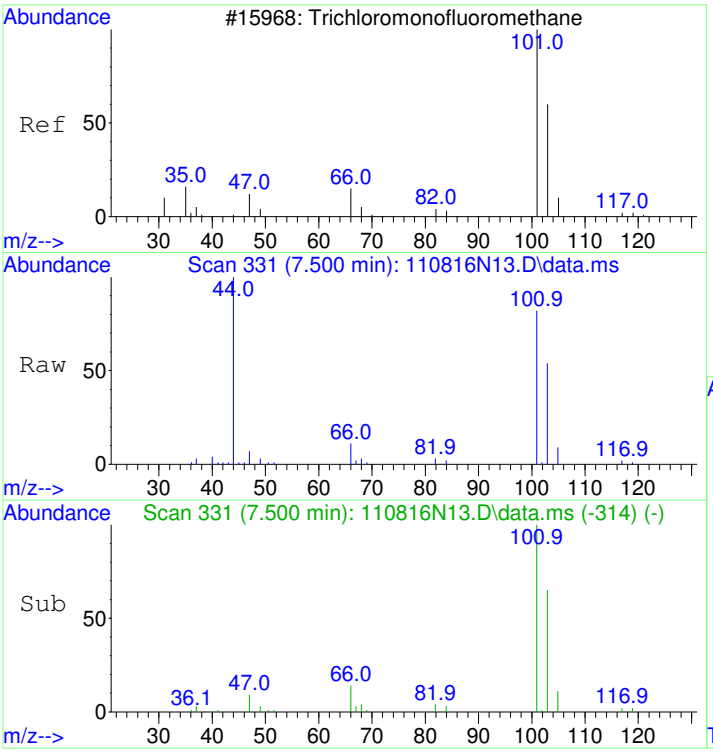


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. -0.000 min
Lab File: 110816N13.D
Acq: 8 Nov 2016 8:12 pm

Tgt Ion: 49 Resp: 694388

Ion	Ratio	Lower	Upper
49	100		
130	60.8	56.1	96.1
128	46.9	38.8	78.8

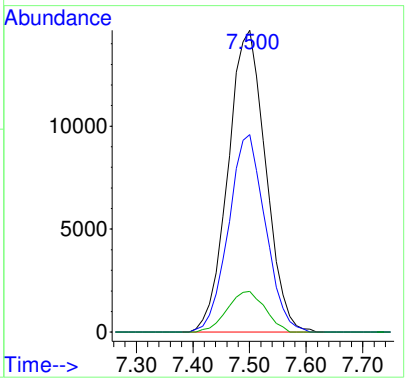


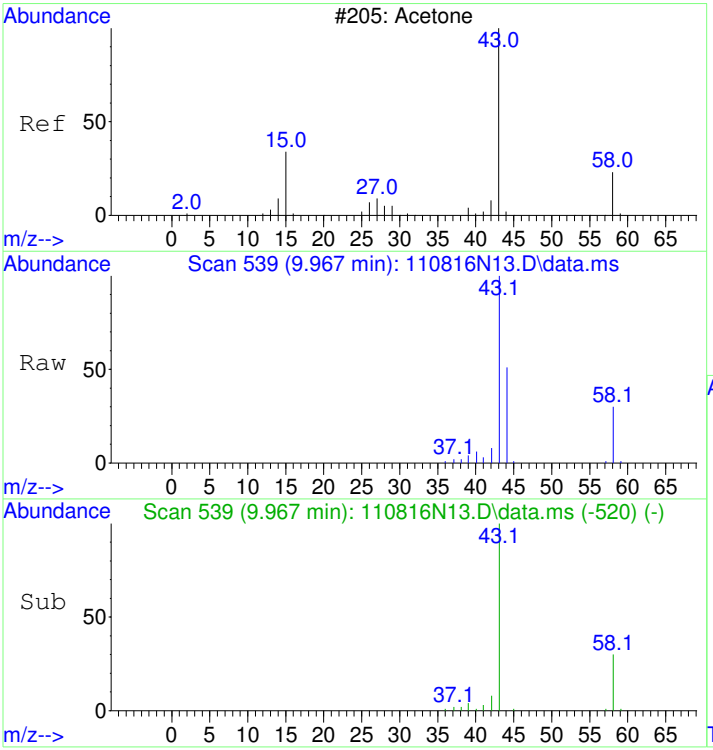


#11
Trichlorofluoromethane
Concen: 1.03 ppbv
RT: 7.500 min Scan# 331
Delta R.T. -0.000 min
Lab File: 110816N13.D
Acq: 8 Nov 2016 8:12 pm

Tgt Ion:101 Resp: 67775

Ion	Ratio	Lower	Upper
101	100		
103	64.0	44.3	84.3
66	13.6	0.0	32.3

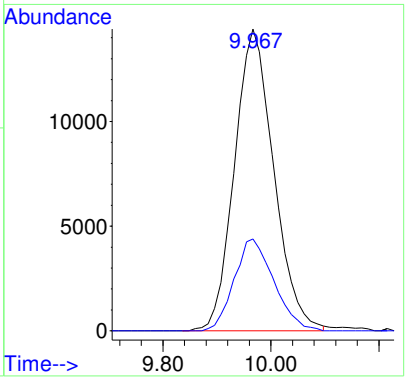


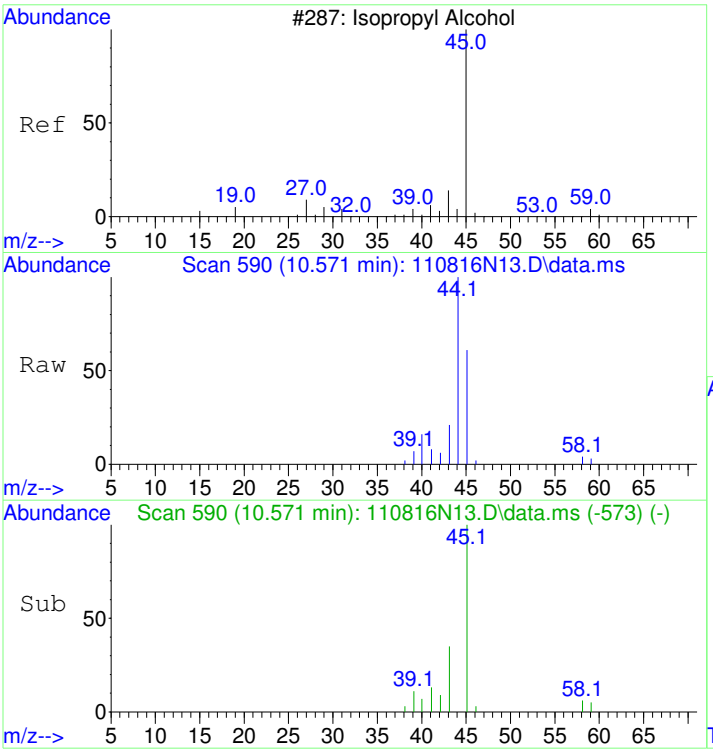


#14
Acetone
Concen: 1.94 ppbv
RT: 9.967 min Scan# 539
Delta R.T. 0.023 min
Lab File: 110816N13.D
Acq: 8 Nov 2016 8:12 pm

Tgt Ion: 43 Resp: 72913

Ion	Ratio	Lower	Upper
43	100		
58	30.8	12.3	52.3

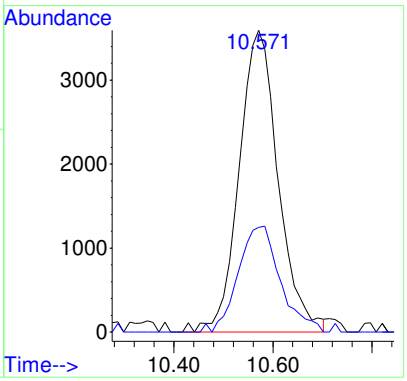


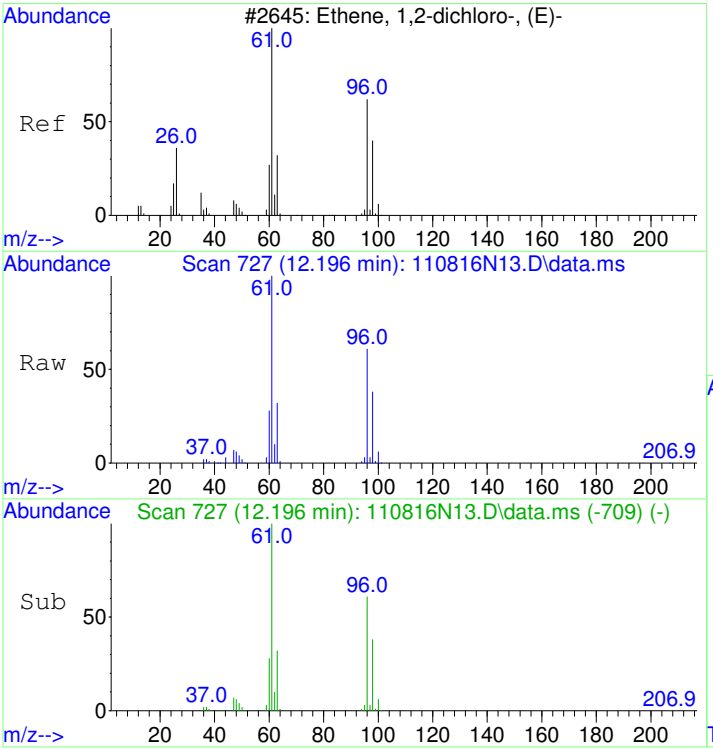


#16
2-Propanol
Concen: 0.50 ppbv
RT: 10.571 min Scan# 590
Delta R.T. 0.023 min
Lab File: 110816N13.D
Acq: 8 Nov 2016 8:12 pm

Tgt Ion: 45 Resp: 19746

Ion	Ratio	Lower	Upper
45	100		
43	37.7	0.0	38.9

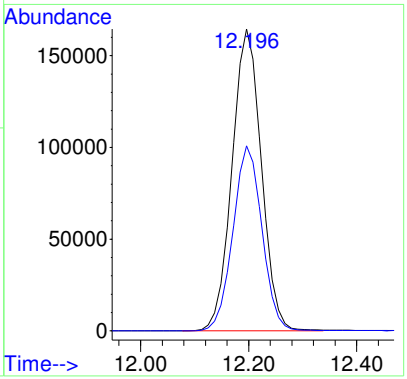


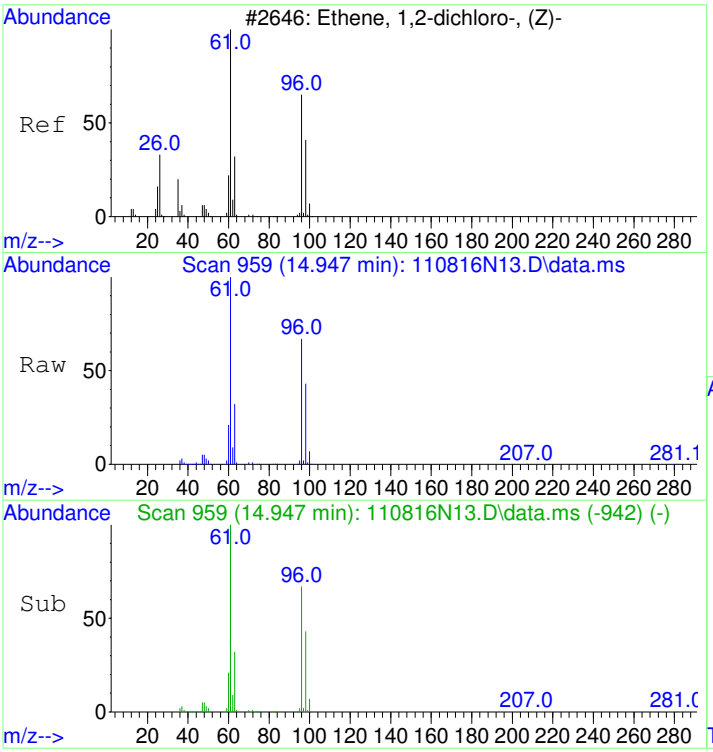


#20
trans-1,2-Dichloroethene
Concen: 16.88 ppbv
RT: 12.196 min Scan# 727
Delta R.T. 0.012 min
Lab File: 110816N13.D
Acq: 8 Nov 2016 8:12 pm

Tgt Ion: 61 Resp: 620474

Ion	Ratio	Lower	Upper
61	100		
96	60.7	47.5	87.5

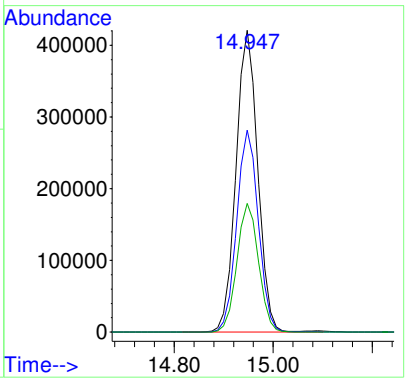


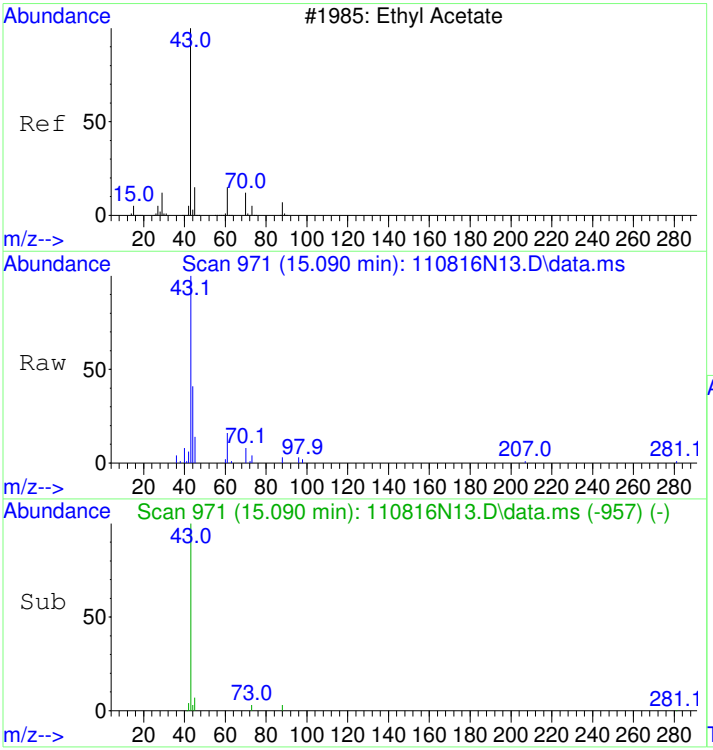


#24
cis-1,2-Dichloroethene
Concen: 35.33 ppbv
RT: 14.947 min Scan# 959
Delta R.T. -0.000 min
Lab File: 110816N13.D
Acq: 8 Nov 2016 8:12 pm

Tgt Ion: 61 Resp: 1282260

Ion	Ratio	Lower	Upper
61	100		
96	66.6	54.4	94.4
98	42.4	27.5	67.5

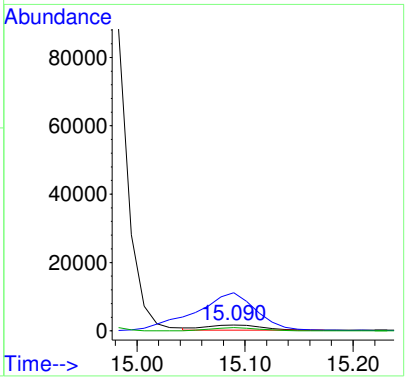


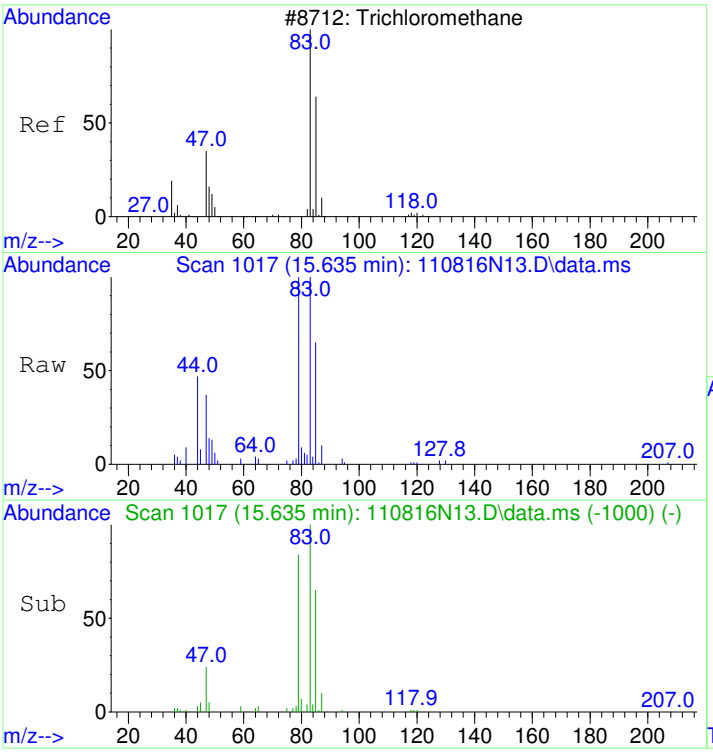


#26
Ethyl acetate
Concen: 0.61 ppbv
RT: 15.090 min Scan# 971
Delta R.T. 0.012 min
Lab File: 110816N13.D
Acq: 8 Nov 2016 8:12 pm

Tgt Ion: 61 Resp: 5507

Ion	Ratio	Lower	Upper
61	100		
43	788.3	0.0	10.0#
70	52.1	64.2	84.2#

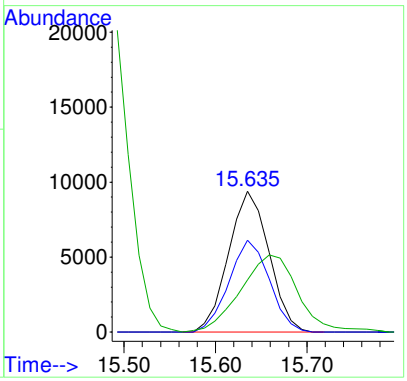


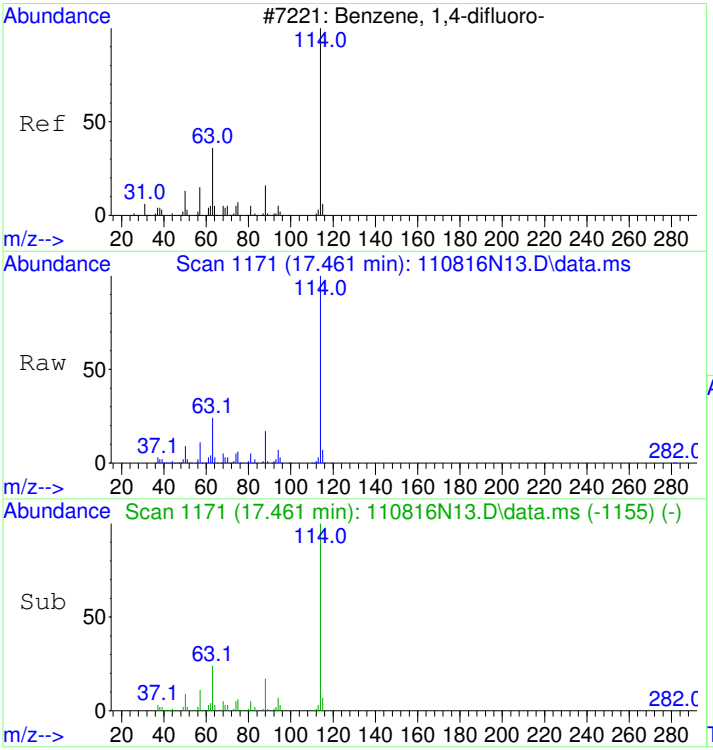


#28
Chloroform
Concen: 0.51 ppbv
RT: 15.635 min Scan# 1017
Delta R.T. -0.000 min
Lab File: 110816N13.D
Acq: 8 Nov 2016 8:12 pm

Tgt Ion: 83 Resp: 28789

Ion	Ratio	Lower	Upper
83	100		
85	65.3	44.9	84.9
47	0.0	3.9	43.9#

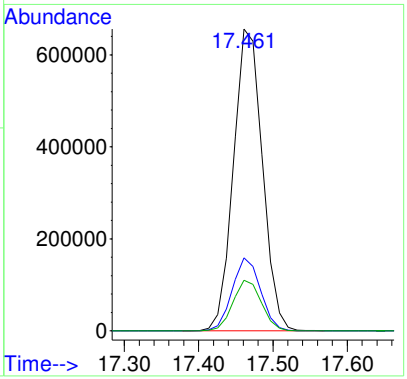


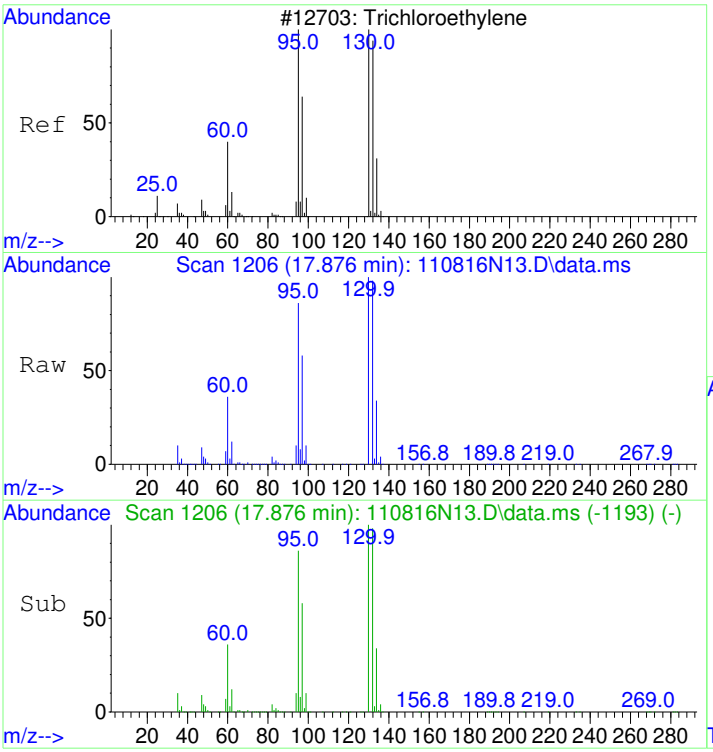


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. -0.000 min
Lab File: 110816N13.D
Acq: 8 Nov 2016 8:12 pm

Tgt Ion:114 Resp: 1772281

Ion	Ratio	Lower	Upper
114	100		
63	23.7	0.1	40.1
88	16.6	0.0	35.8

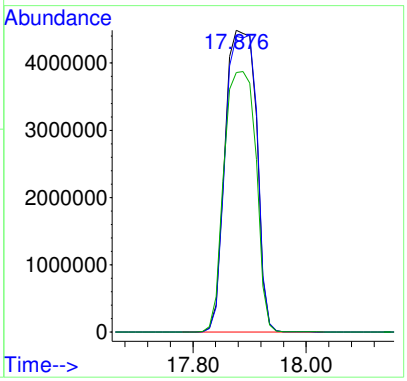


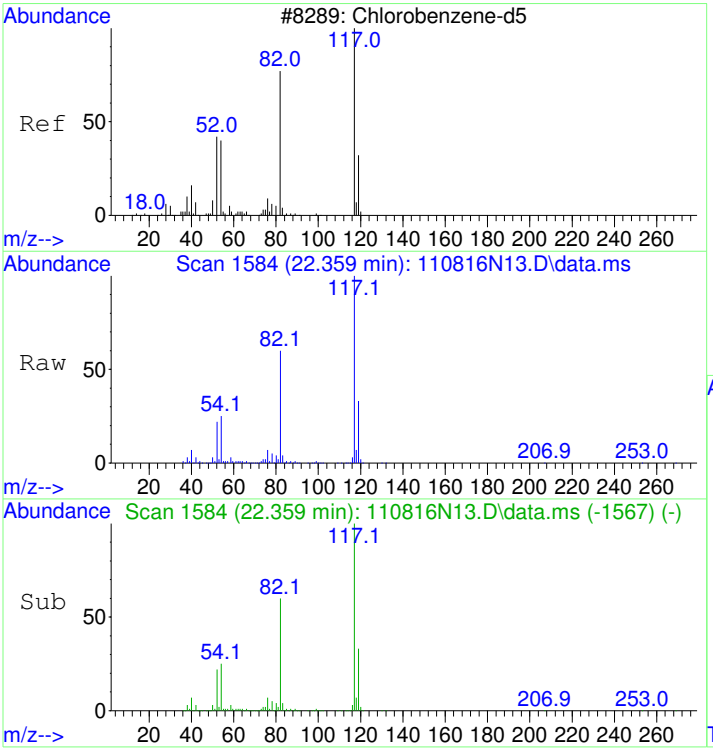


#37
Trichloroethene
Concen: 607.12 ppbv
RT: 17.876 min Scan# 1206
Delta R.T. -0.000 min
Lab File: 110816N13.D
Acq: 8 Nov 2016 8:12 pm

Tgt Ion:130 Resp:17213827

Ion	Ratio	Lower	Upper
130	100		
132	0.0	77.1	117.1#
95	0.0	79.3	119.3#

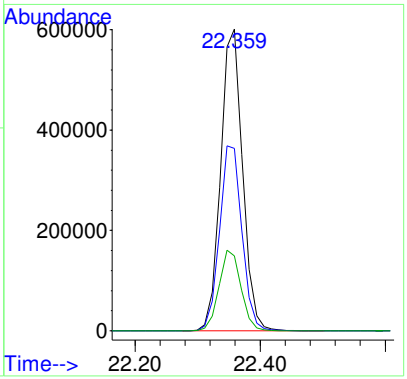


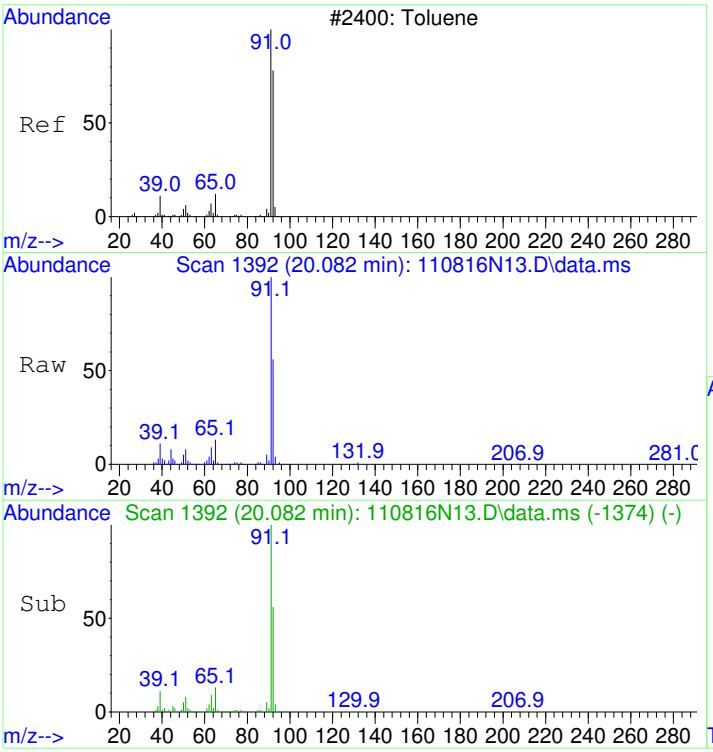


#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. -0.000 min
Lab File: 110816N13.D
Acq: 8 Nov 2016 8:12 pm

Tgt Ion:117 Resp: 1468034

Ion	Ratio	Lower	Upper
117	100		
82	62.9	36.8	76.8
54	26.9	1.4	41.4

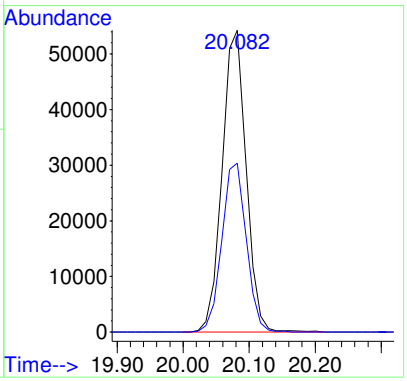


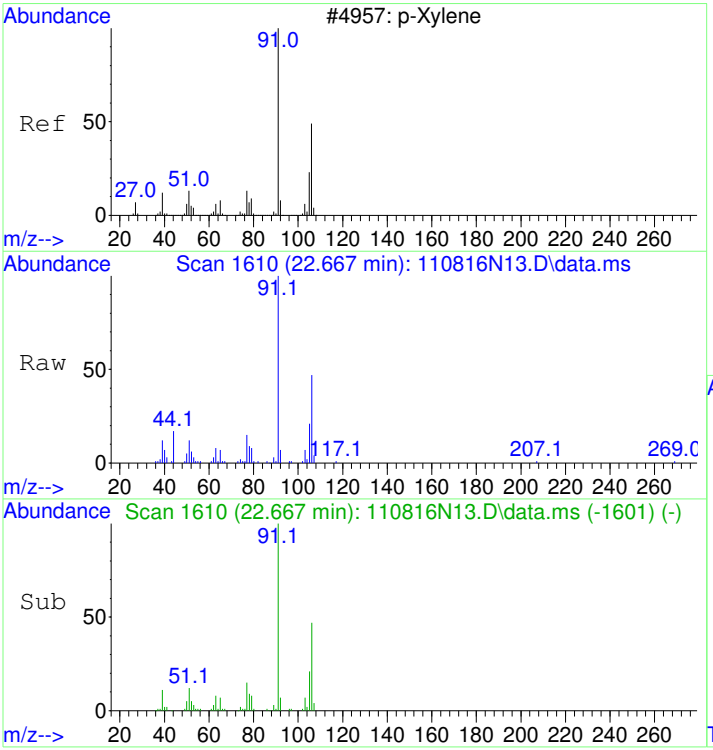


#44
Toluene
Concen: 1.67 ppbv
RT: 20.082 min Scan# 1392
Delta R.T. 0.012 min
Lab File: 110816N13.D
Acq: 8 Nov 2016 8:12 pm

Tgt Ion: 91 Resp: 137184

Ion	Ratio	Lower	Upper
91	100		
92	57.0	39.3	79.3

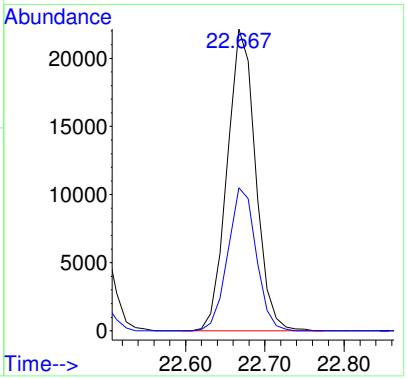




#53
m&p-Xylene
Concen: 0.66 ppbv
RT: 22.667 min Scan# 1610
Delta R.T. -0.000 min
Lab File: 110816N13.D
Acq: 8 Nov 2016 8:12 pm

Tgt Ion: 91 Resp: 55289

Ion	Ratio	Lower	Upper
91	100		
106	47.2	30.9	70.9



LSC Area Percent Report

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N13.D
Acq On : 8 Nov 2016 8:12 pm
Operator : LLH
Sample : 1611021-08
Misc : 200ml 870 LEONG-SS6
ALS Vial : 11 Sample Multiplier: 1.78

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.01 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 1 prefer < Baseline drop else tangent >
Peak separation: 10

Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Title : TO15

Signal : TIC: 110816N13.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.464	72	75	101	rVB	569473	3523054	3.93%	2.978%
2	12.196	719	727	738	rBV	512443	1930533	2.15%	1.632%
3	14.947	948	959	966	rBV	1303694	4053924	4.52%	3.426%
4	15.481	997	1004	1012	rBV	861874	2560171	2.85%	2.164%
5	17.461	1165	1171	1182	rBV	1620771	4351043	4.85%	3.678%
6	17.888	1196	1207	1213	rBV2	23116745	89755289	100.00%	75.863%
7	20.450	1416	1423	1437	rVB	306236	993055	1.11%	0.839%
8	22.359	1577	1584	1591	rBV	1924778	4913487	5.47%	4.153%
9	25.893	1878	1882	1892	rVB	621369	1833417	2.04%	1.550%
10	26.225	1903	1910	1915	rBV2	352338	1314942	1.47%	1.111%
11	26.877	1956	1965	1969	rBV3	345740	1315147	1.47%	1.112%
12	27.660	2027	2031	2041	rVB	574376	1768514	1.97%	1.495%

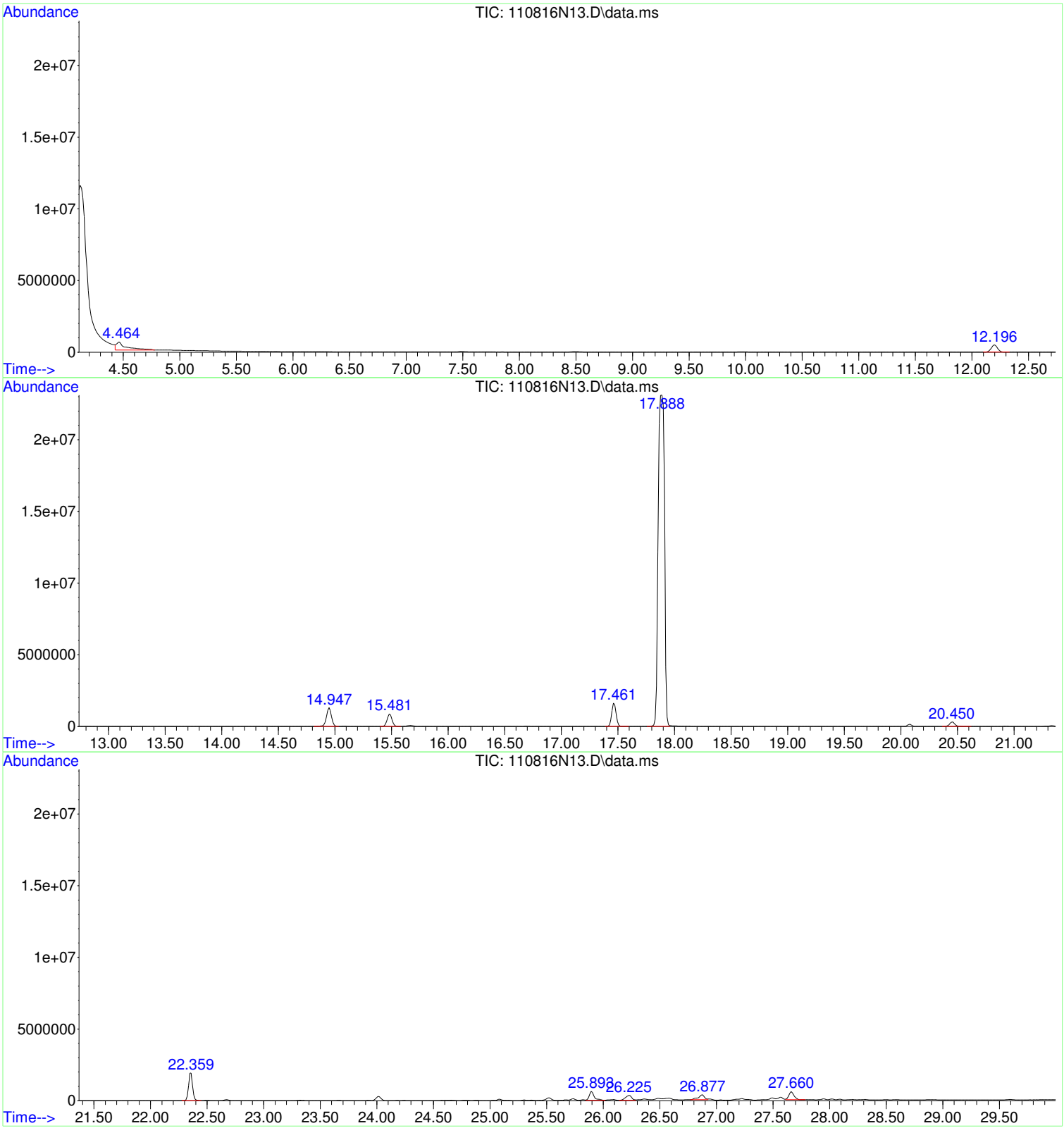
Sum of corrected areas: 118312576

Table of Contents

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N13.D
Acq On : 8 Nov 2016 8:12 pm
Operator : LLH
Sample : 1611021-08
Misc : 200ml 870 LEONG-SS6
ALS Vial : 11 Sample Multiplier: 1.78

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P



Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N13.D
Acq On : 8 Nov 2016 8:12 pm
Operator : LLH
Sample : 1611021-08
Misc : 200ml 870 LEONG-SS6
ALS Vial : 11 Sample Multiplier: 1.78

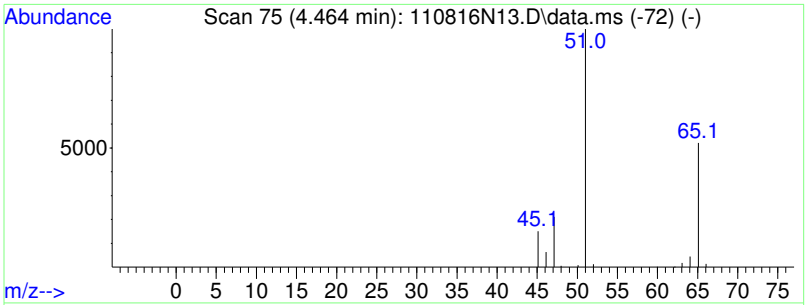
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

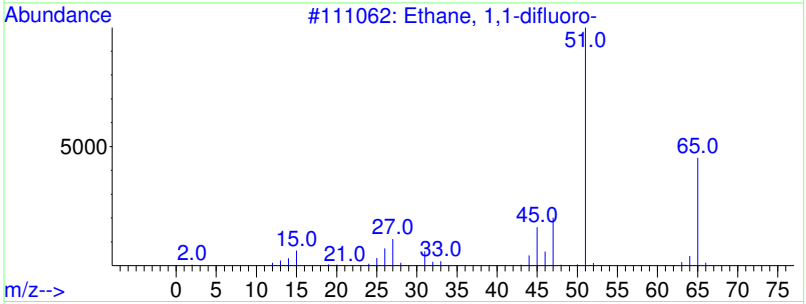
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

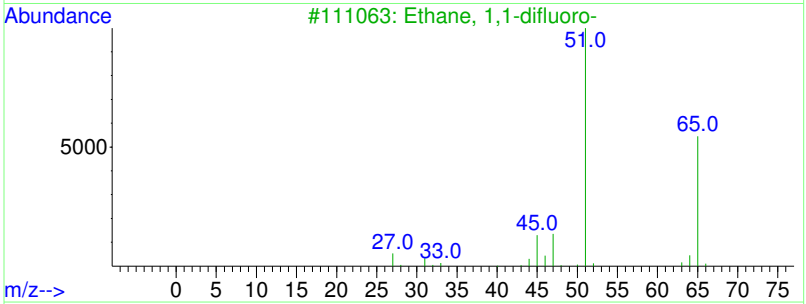
****
Peak Number 1 Ethane, difluoro- Concentration Rank 1

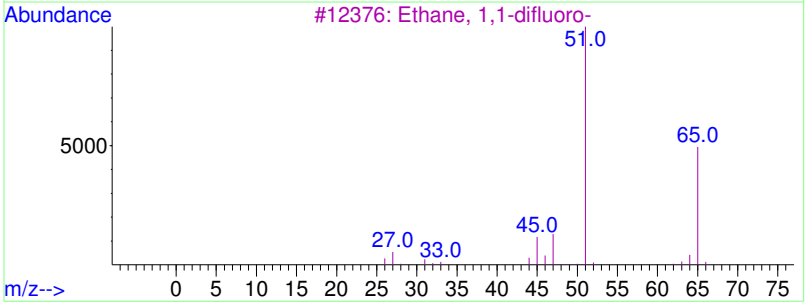
R.T.	EstConc	Area	Relative to ISTD	R.T.
4.464	30.27 ppbv	3523050	BROMOCHLOROMETHANE	15.481

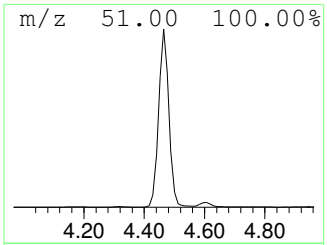
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Ethane, 1,1-difluoro-	66	C2H4F2	000075-37-6	91
2	Ethane, 1,1-difluoro-	66	C2H4F2	000075-37-6	90
3	Ethane, 1,1-difluoro-	66	C2H4F2	000075-37-6	90
4	Propiolonitrile	51	C3HN	001070-71-9	3
5	Propane, 2,2-difluoro-	80	C3H6F2	000420-45-1	2

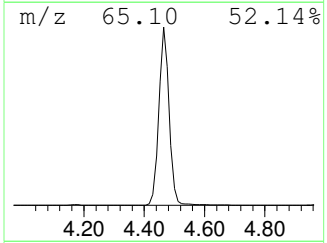


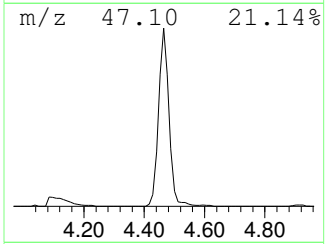


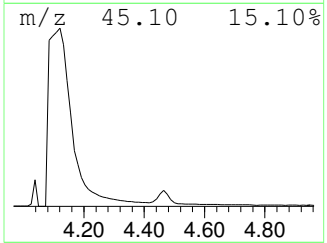


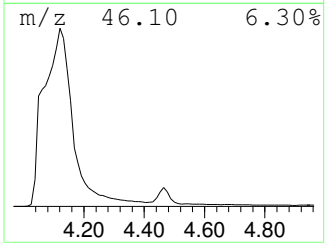












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Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N13.D
Acq On    :  8 Nov 2016   8:12 pm
Operator  : LLH
Sample    : 1611021-08
Misc      : 200ml 870 LEONG-SS6
ALS Vial  : 11   Sample Multiplier: 1.78

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title  : TO15

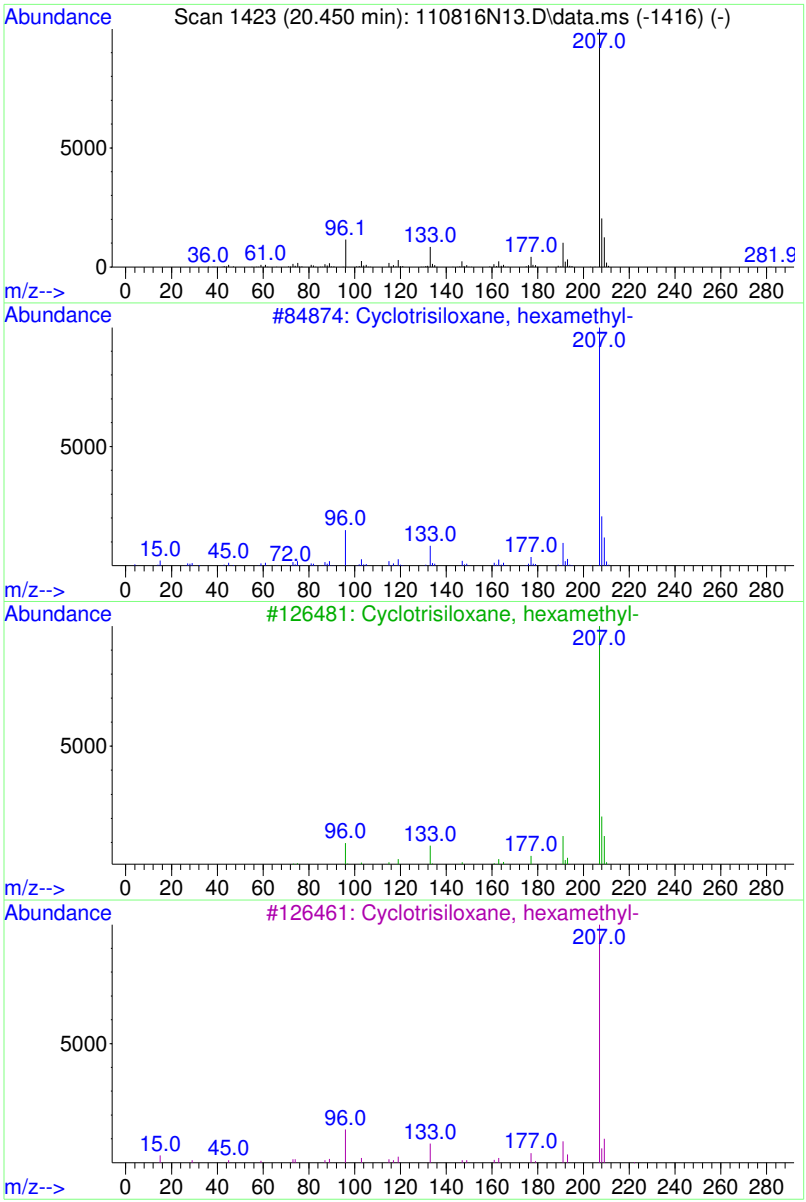
TIC Library    : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P
```

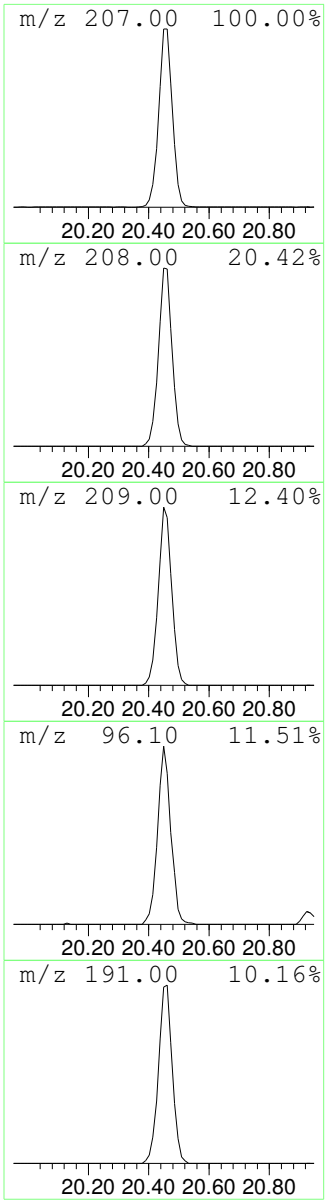
****

Peak Number 2 column bleed Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
20.450	4.45 ppbv	993055	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	91
2	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	91
3	Cyclotrisiloxane, hexamethyl-	222	C6H18O3Si3	000541-05-9	80
4	N-(2-Acetylcyclopentylidene)cycl...	207	C13H21NO	1000100-48-5	59
5	Arsenous acid, tris(trimethylsil...	342	C9H27AsO3Si3	055429-29-3	56





Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N13.D
Acq On : 8 Nov 2016 8:12 pm
Operator : LLH
Sample : 1611021-08
Misc : 200ml 870 LEONG-SS6
ALS Vial : 11 Sample Multiplier: 1.78

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

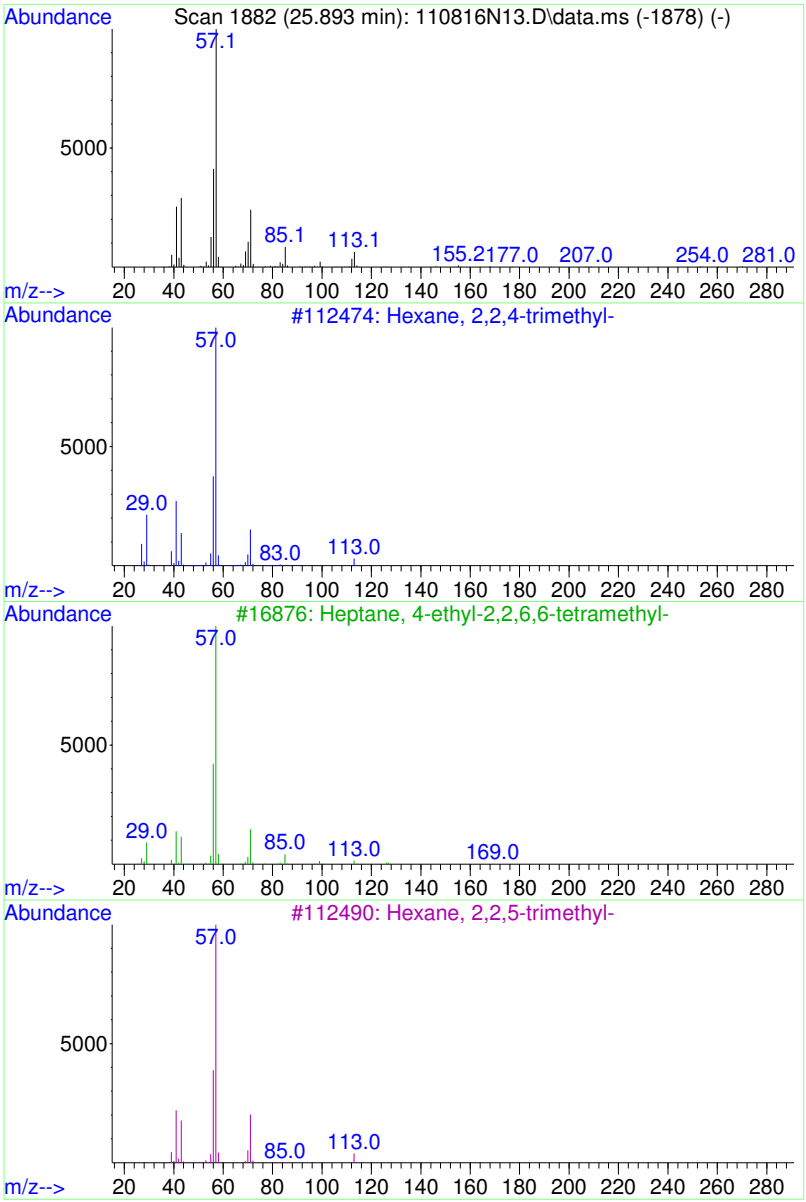
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

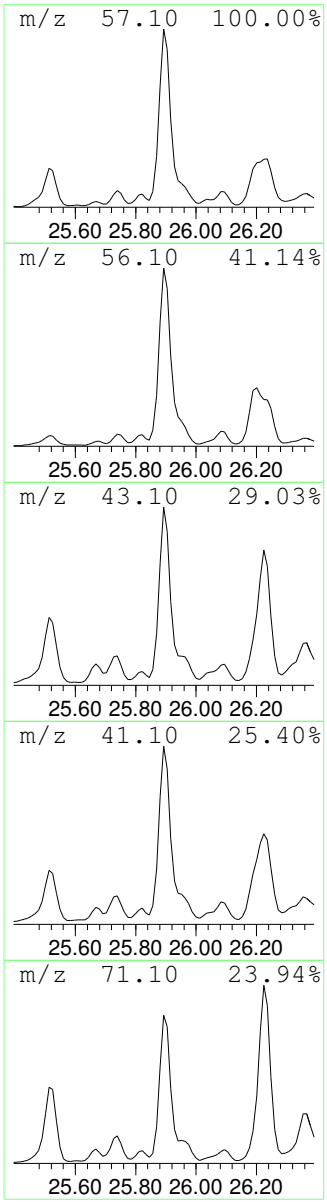
****

Peak Number 3 Hexane, trimethyl- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
25.893	8.21 ppbv	1833420	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Hexane, 2,2,4-trimethyl-	128	C9H20	016747-26-5	72
2	Heptane, 4-ethyl-2,2,6,6-tetrame...	184	C13H28	062108-31-0	72
3	Hexane, 2,2,5-trimethyl-	128	C9H20	003522-94-9	72
4	Hexane, 2,2,5-trimethyl-	128	C9H20	003522-94-9	64
5	Heptane, 2,2-dimethyl-	128	C9H20	001071-26-7	59





Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N13.D
Acq On : 8 Nov 2016 8:12 pm
Operator : LLH
Sample : 1611021-08
Misc : 200ml 870 LEONG-SS6
ALS Vial : 11 Sample Multiplier: 1.78

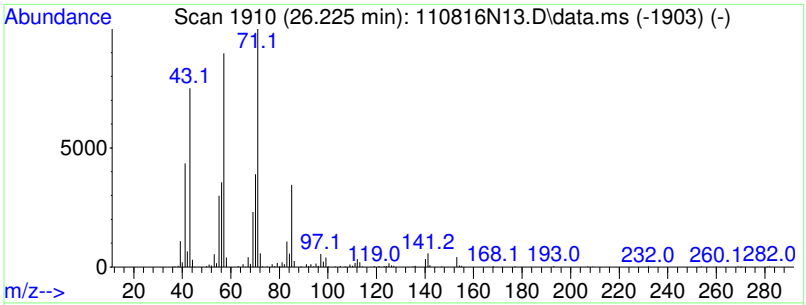
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

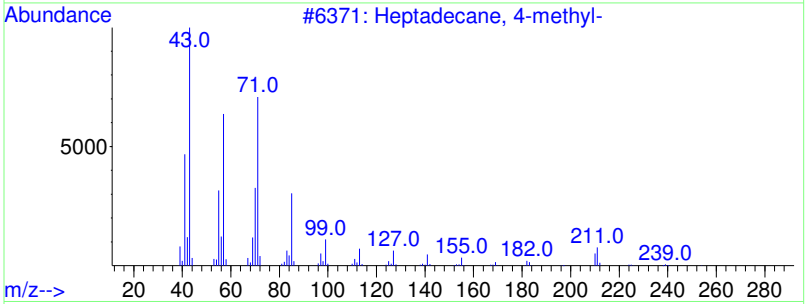
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

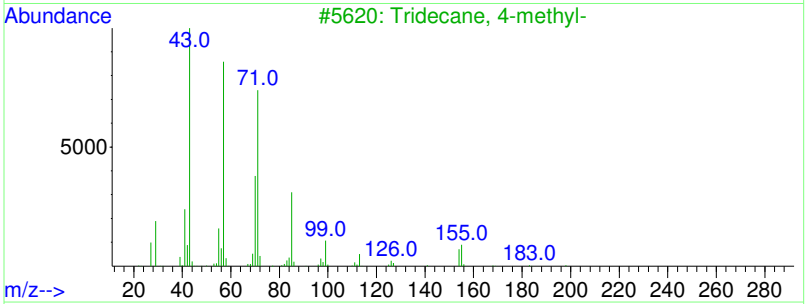
****
Peak Number 4 Decane, dimethyl- Concentration Rank 5

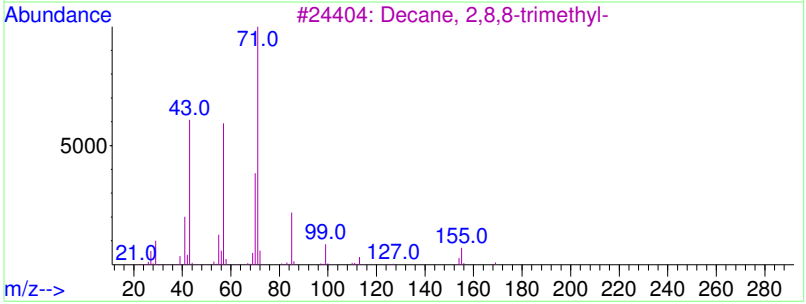
R.T.	EstConc	Area	Relative to ISTD	R.T.
26.225	5.89 ppbv	1314940	CHLOROBENZENE-d5	22.359

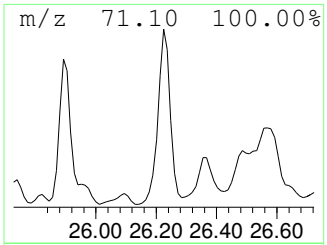
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Heptadecane, 4-methyl-	254	C18H38	026429-11-8	86
2	Tridecane, 4-methyl-	198	C14H30	026730-12-1	64
3	Decane, 2,8,8-trimethyl-	184	C13H28	1000060-81-2	59
4	Undecane, 4-methyl-	170	C12H26	002980-69-0	59
5	Decane, 3,7-dimethyl-	170	C12H26	017312-54-8	59

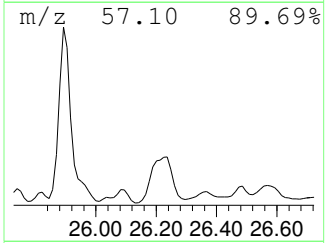


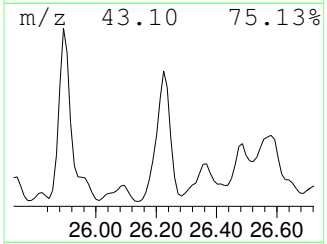


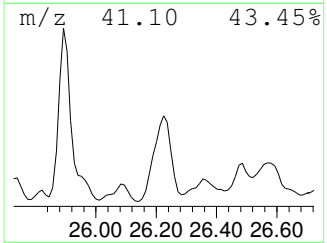


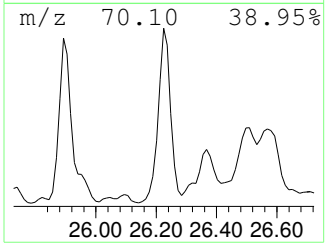












Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N13.D
Acq On : 8 Nov 2016 8:12 pm
Operator : LLH
Sample : 1611021-08
Misc : 200ml 870 LEONG-SS6
ALS Vial : 11 Sample Multiplier: 1.78

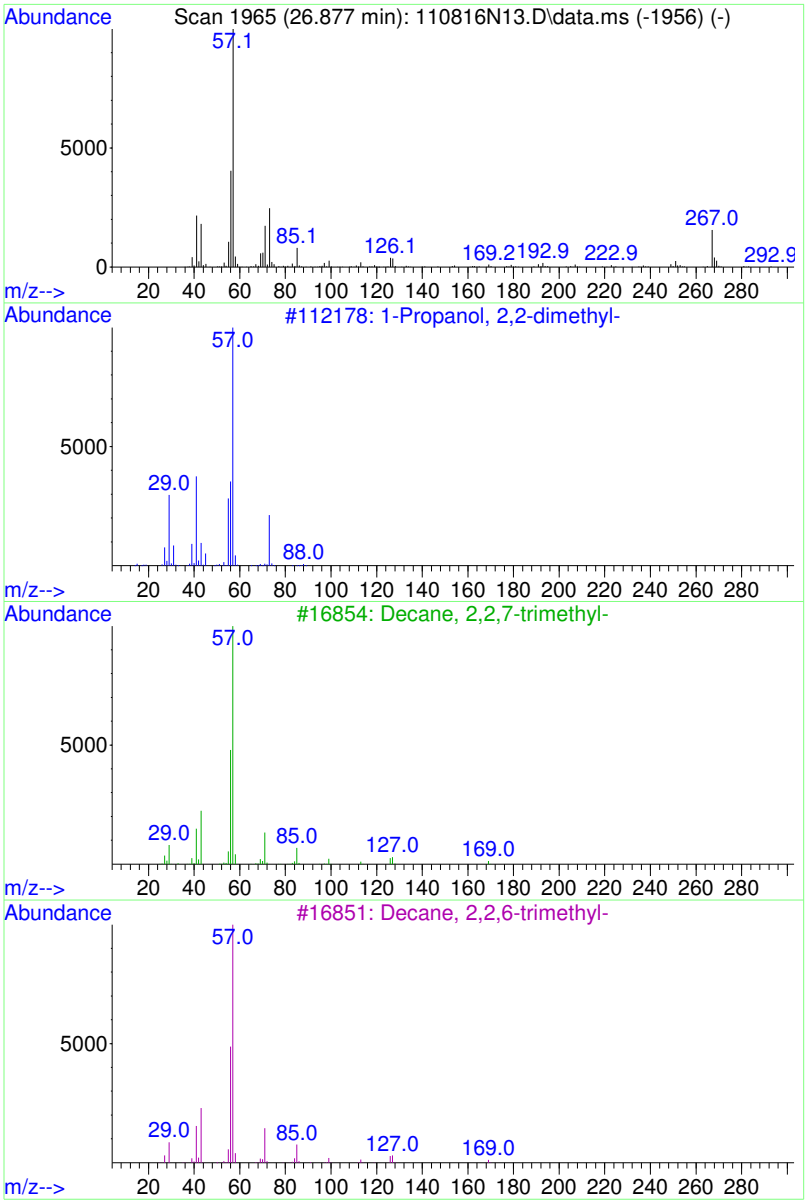
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

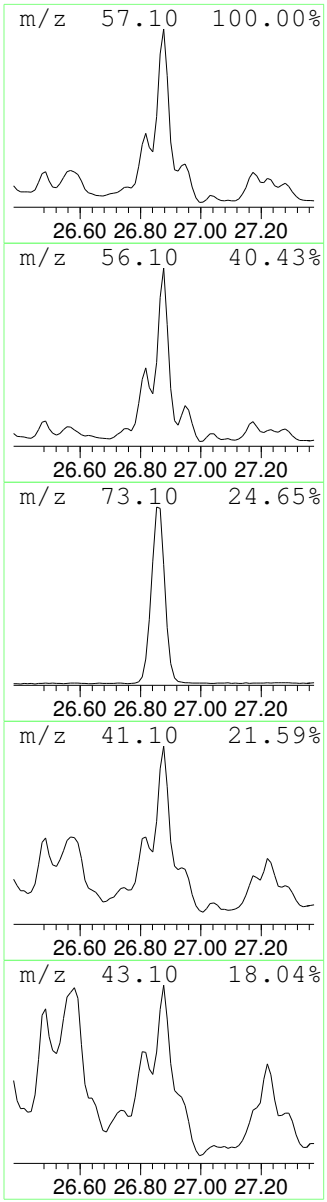
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 5 Decane, trimethyl- Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
26.877	5.89 ppbv	1315150	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1-Propanol, 2,2-dimethyl-	88	C5H12O	000075-84-3	53
2	Decane, 2,2,7-trimethyl-	184	C13H28	062237-99-4	50
3	Decane, 2,2,6-trimethyl-	184	C13H28	062237-97-2	50
4	Decane, 2,2,4-trimethyl-	184	C13H28	062237-98-3	47
5	Decane, 2,2-dimethyl-	170	C12H26	017302-37-3	43





Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N13.D
Acq On : 8 Nov 2016 8:12 pm
Operator : LLH
Sample : 1611021-08
Misc : 200ml 870 LEONG-SS6
ALS Vial : 11 Sample Multiplier: 1.78

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

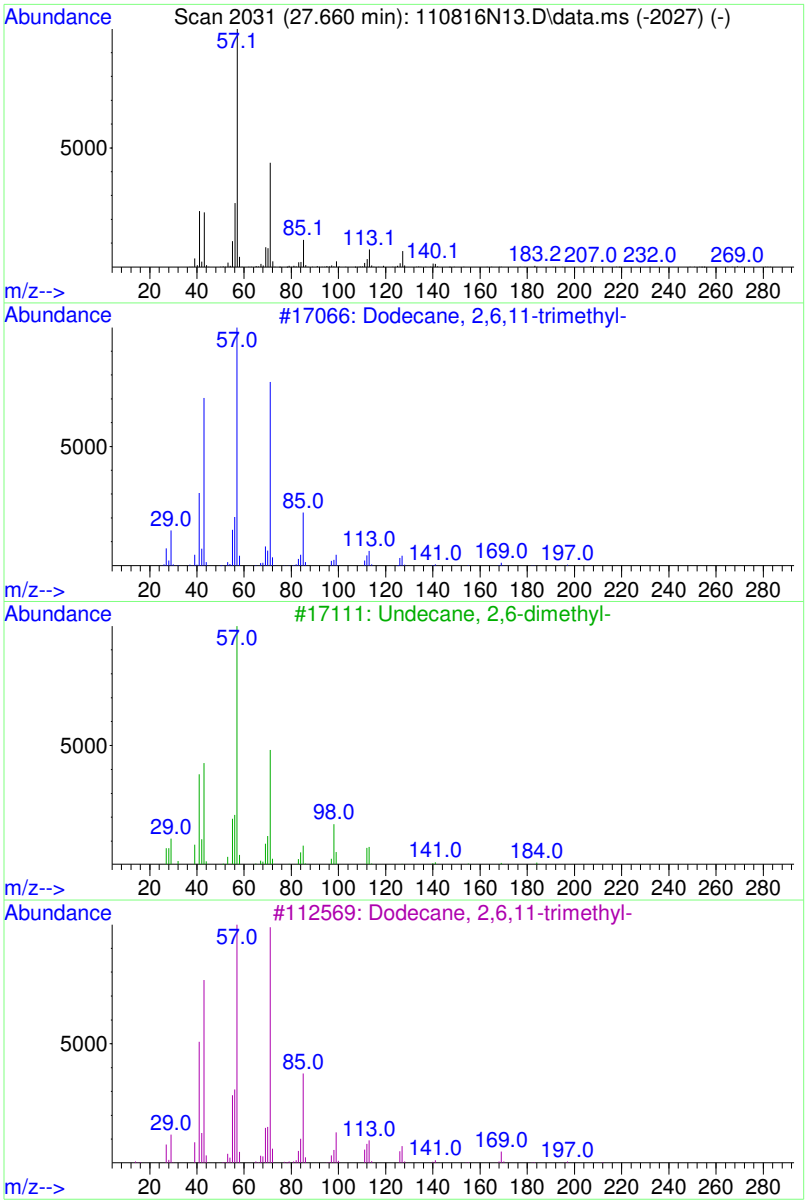
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

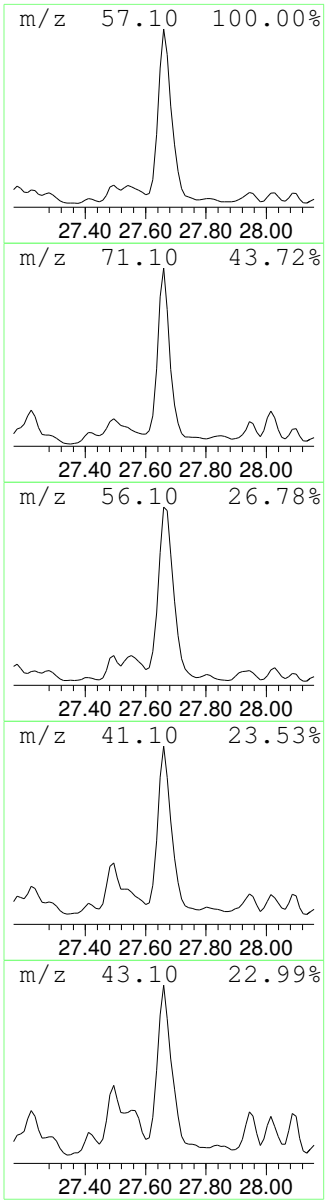
****

Peak Number 6 Undecane, dimethyl- Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
27.660	7.92 ppbv	1768510	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Dodecane, 2,6,11-trimethyl-	212	C15H32	031295-56-4	78
2	Undecane, 2,6-dimethyl-	184	C13H28	017301-23-4	72
3	Dodecane, 2,6,11-trimethyl-	212	C15H32	031295-56-4	72
4	Dodecane, 2,7,10-trimethyl-	212	C15H32	074645-98-0	64
5	Dodecane, 2,6,10-trimethyl-	212	C15H32	003891-98-3	64





Tentatively Identified Compound (LSC) summary

Table of Contents

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N13.D
Acq On : 8 Nov 2016 8:12 pm
Operator : LLH
Sample : 1611021-08
Misc : 200ml 870 LEONG-SS6
ALS Vial : 11 Sample Multiplier: 1.78

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	RT	Resp	Conc
Ethane, difluoro-	4.464	30.3	ppbv	3523050	1	15.481	2560170	22.0
column bleed	20.450	4.5	ppbv	993055	3	22.359	4913490	22.0
Hexane, trimethyl-	25.893	8.2	ppbv	1833420	3	22.359	4913490	22.0
Decane, dimethyl-	26.225	5.9	ppbv	1314940	3	22.359	4913490	22.0
Decane, trimethyl-	26.877	5.9	ppbv	1315150	3	22.359	4913490	22.0
Undecane, dimet...	27.660	7.9	ppbv	1768510	3	22.359	4913490	22.0

REVIEWED
By LLH at 11:14 am, Nov 09, 2016

1611021-09

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N15.D
Acq On : 8 Nov 2016 9:48 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-09
Misc : 20ml F5-060
ALS Vial : 12 Sample Multiplier: 1.84

report Chloroform, TCE, PCE
rerun 200ml repress for lower RL
see -09RE1

Quant Time: Nov 09 09:33:46 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	674961	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	1752661	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1448217	22.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.441	41	12123	0.63	ppbv #	61
28) Chloroform	15.635	83	520673	9.48	ppbv	97
37) Trichloroethene	17.876	130	106682	3.80	ppbv	95
47) Tetrachloroethene	20.936	166	145956	3.82	ppbv	98

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

REVIEWED
By LLH at 11:15 am, Nov 09, 2016

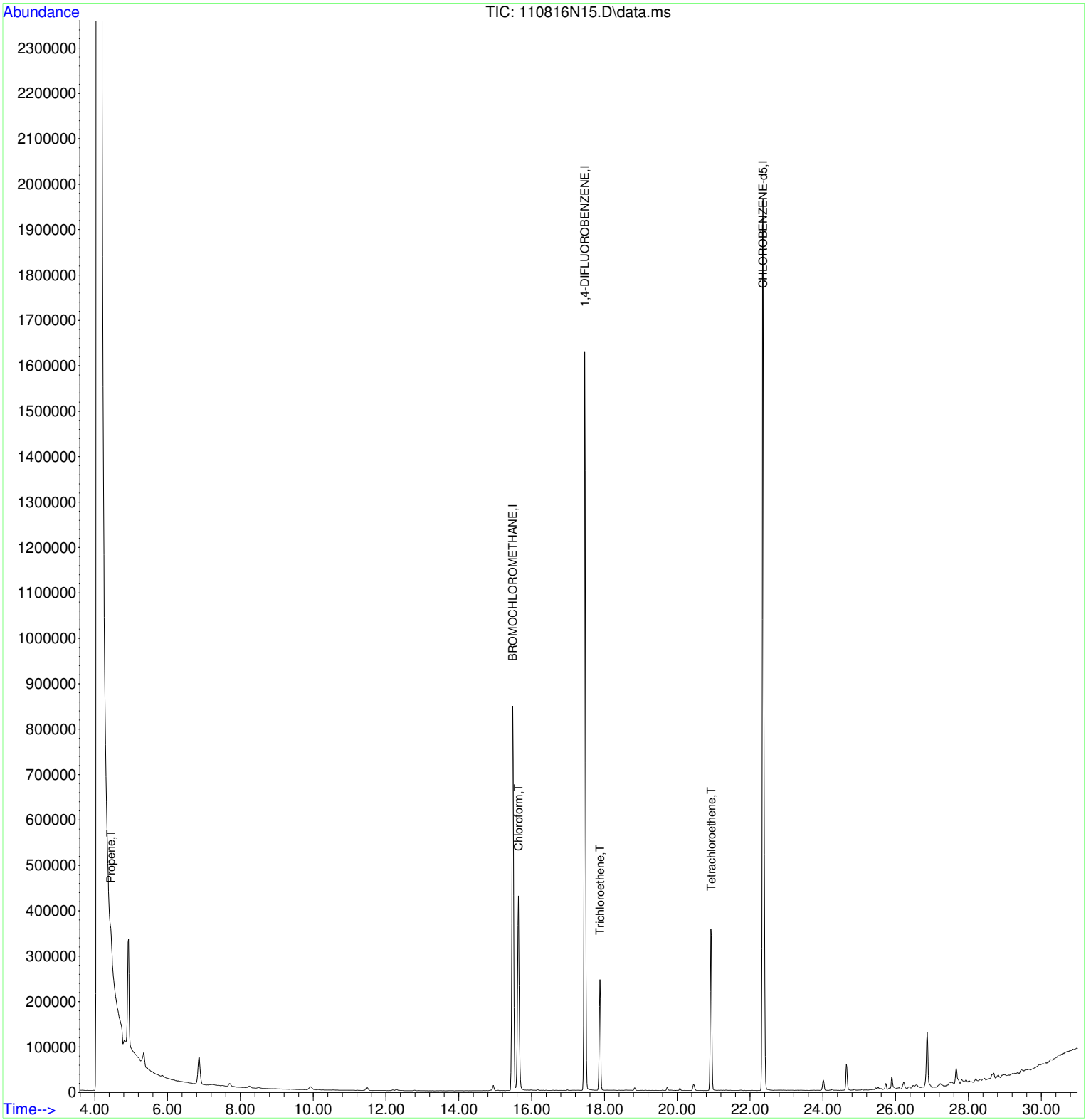
Table of Contents

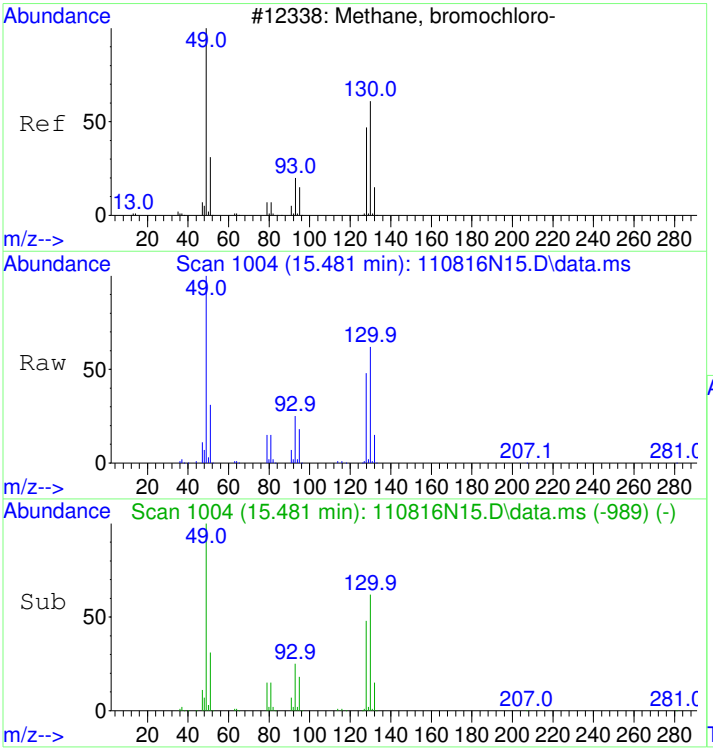
Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N15.D
Acq On : 8 Nov 2016 9:48 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-09
Misc : 20ml F5-060
ALS Vial : 12 Sample Multiplier: 1.84

re-scaled chrom, replaced pdf

LLH 11/151/6

Quant Time: Nov 09 09:33:46 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

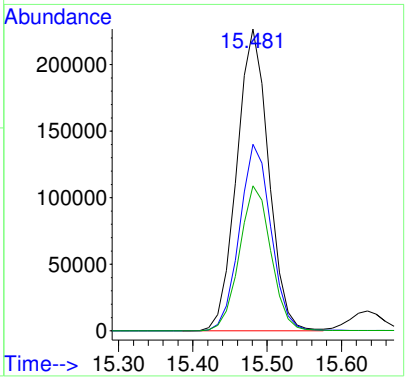


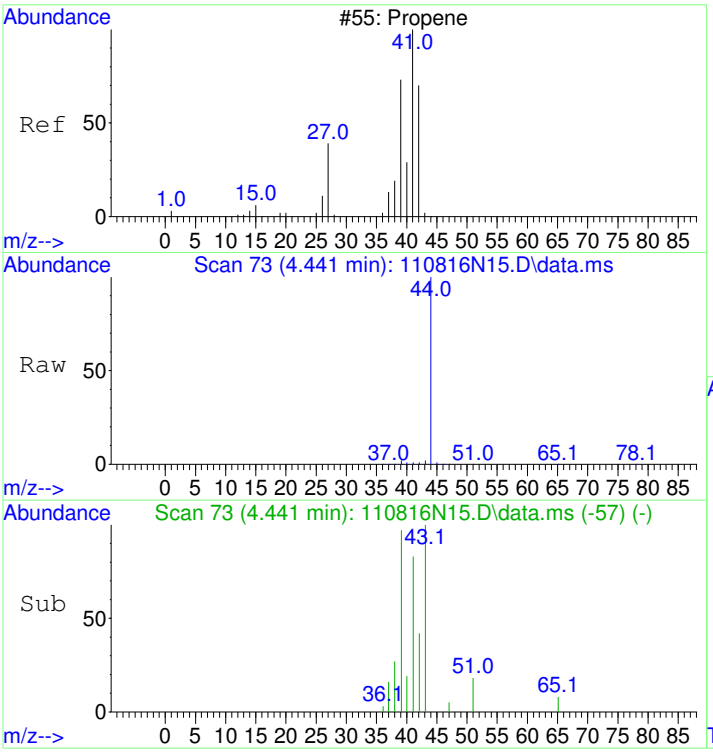


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. -0.000 min
Lab File: 110816N15.D
Acq: 8 Nov 2016 9:48 pm

Tgt Ion: 49 Resp: 674961

Ion	Ratio	Lower	Upper
49	100		
130	61.2	56.1	96.1
128	47.5	38.8	78.8

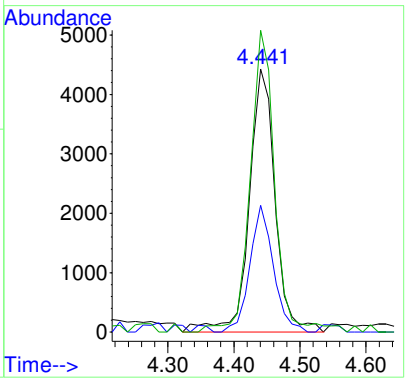


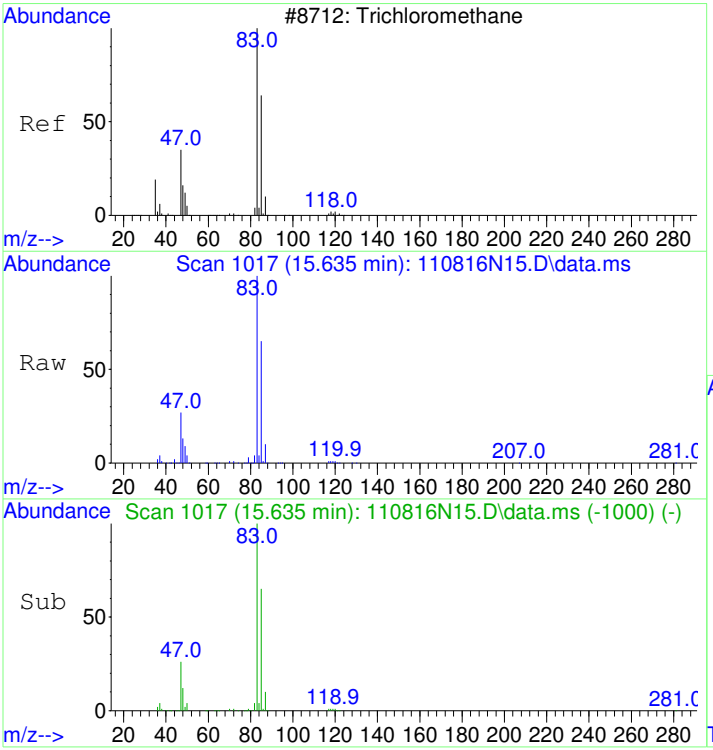


#2
Propene
Concen: 0.63 ppbv
RT: 4.441 min Scan# 73
Delta R.T. -0.012 min
Lab File: 110816N15.D
Acq: 8 Nov 2016 9:48 pm

Tgt Ion: 41 Resp: 12123

Ion	Ratio	Lower	Upper
41	100		
42	43.8	47.2	87.2#
39	108.9	49.6	89.6#

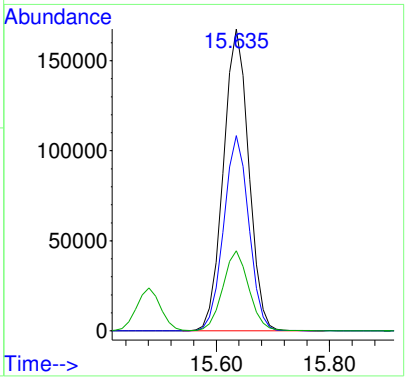


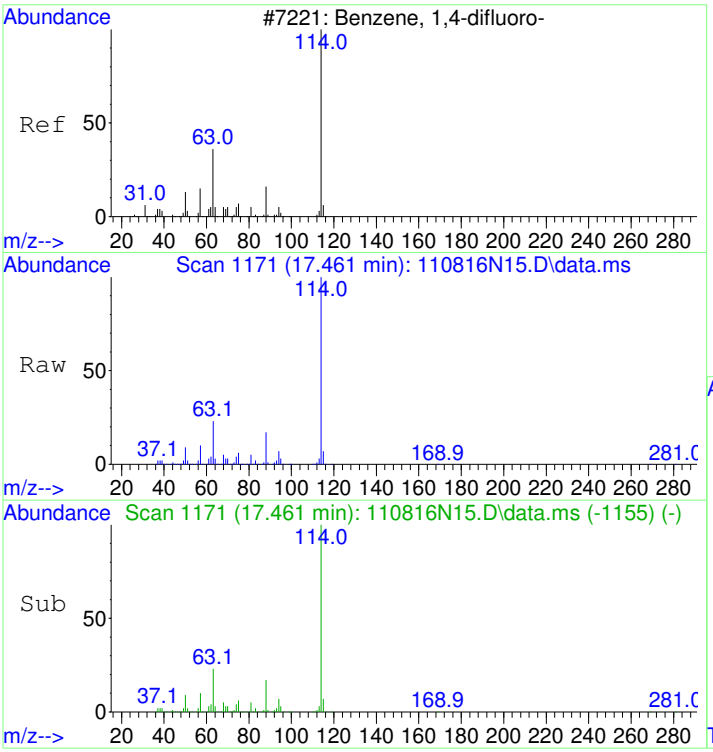


#28
Chloroform
Concen: 9.48 ppbv
RT: 15.635 min Scan# 1017
Delta R.T. -0.000 min
Lab File: 110816N15.D
Acq: 8 Nov 2016 9:48 pm

Tgt Ion: 83 Resp: 520673

Ion	Ratio	Lower	Upper
83	100		
85	64.0	44.9	84.9
47	27.1	3.9	43.9

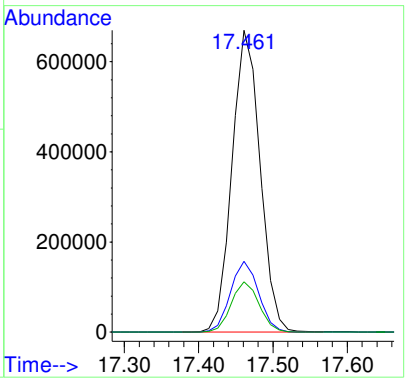


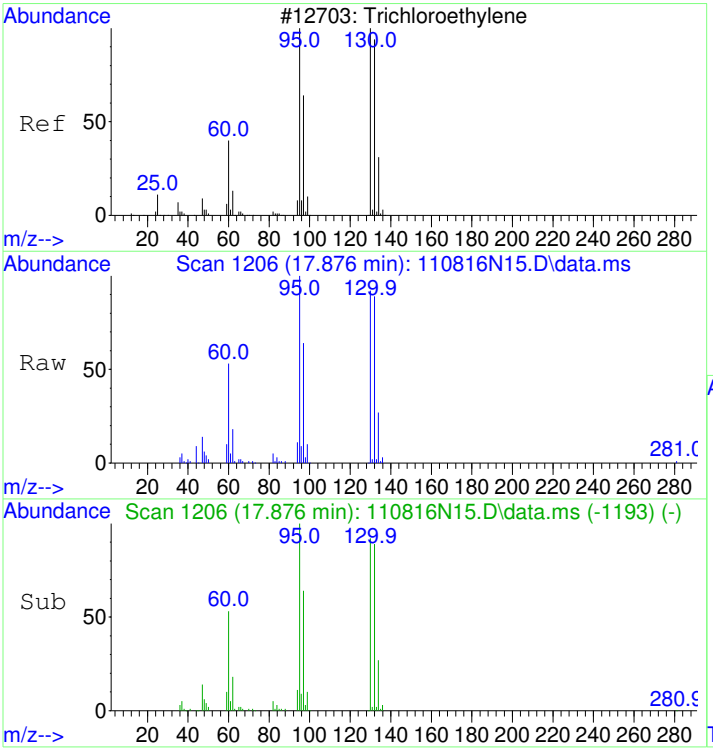


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. -0.000 min
Lab File: 110816N15.D
Acq: 8 Nov 2016 9:48 pm

Tgt Ion:114 Resp: 1752661

Ion	Ratio	Lower	Upper
114	100		
63	23.5	0.1	40.1
88	16.5	0.0	35.8

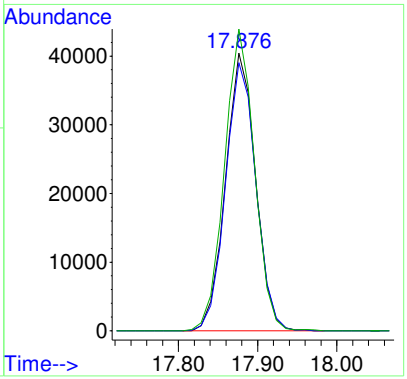


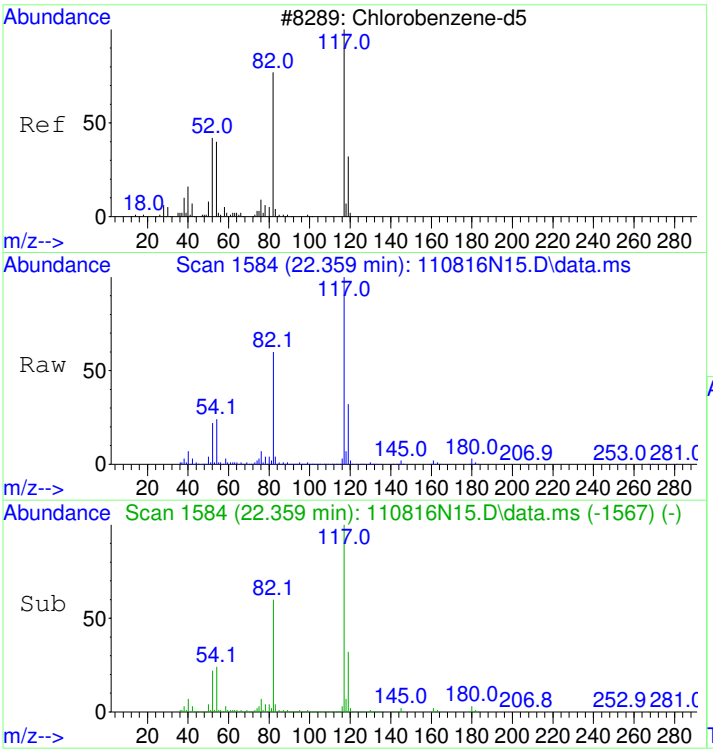


#37
Trichloroethene
Concen: 3.80 ppbv
RT: 17.876 min Scan# 1206
Delta R.T. -0.000 min
Lab File: 110816N15.D
Acq: 8 Nov 2016 9:48 pm

Tgt Ion:130 Resp: 106682

Ion	Ratio	Lower	Upper
130	100		
132	97.5	77.1	117.1
95	108.3	79.3	119.3

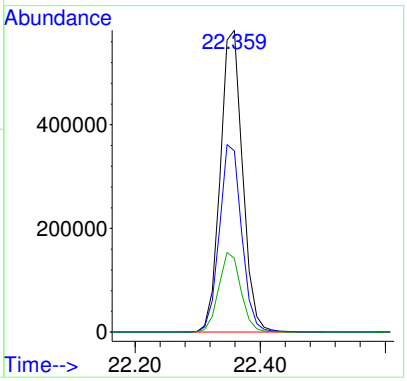


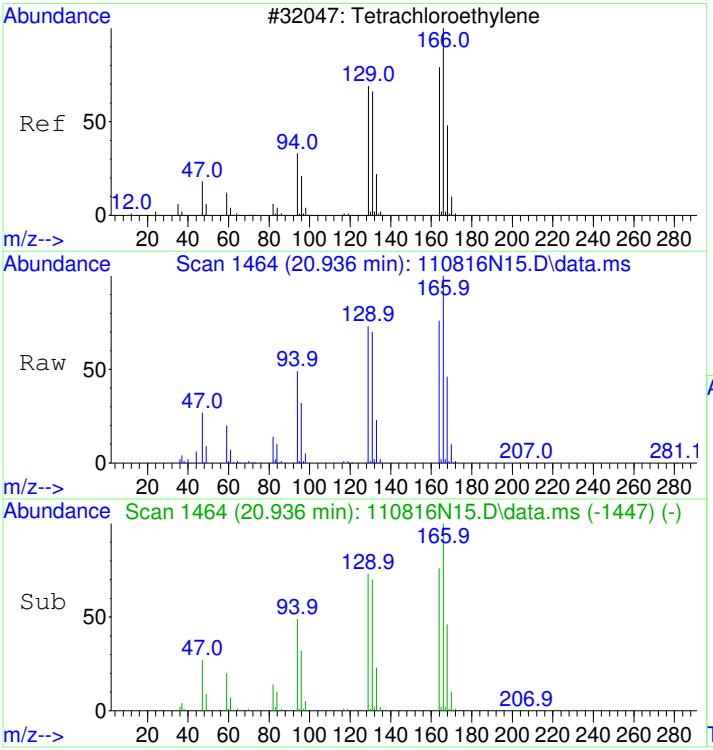


#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. -0.000 min
Lab File: 110816N15.D
Acq: 8 Nov 2016 9:48 pm

Tgt Ion:117 Resp: 1448217

Ion	Ratio	Lower	Upper
117	100		
82	62.1	36.8	76.8
54	26.3	1.4	41.4

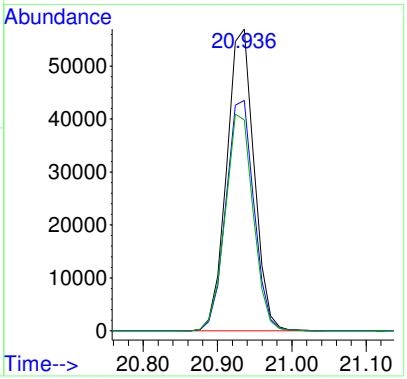




#47
Tetrachloroethene
Concen: 3.82 ppbv
RT: 20.936 min Scan# 1464
Delta R.T. -0.000 min
Lab File: 110816N15.D
Acq: 8 Nov 2016 9:48 pm

Tgt Ion:166 Resp: 145956

Ion	Ratio	Lower	Upper
166	100		
164	78.0	58.2	98.2
131	72.9	49.4	89.4



1611021-10

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N16.D
Acq On : 8 Nov 2016 10:33 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-10
Misc : 20ml F5-054
ALS Vial : 41 Sample Multiplier: 1.84

report cis12DCE, Chloroform, TCE

rerun 200ml repress for lower RL

see -10RE1

Quant Time: Nov 09 09:33:29 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	660789	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	1643980	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1324570	22.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.441	41	9658	0.51	ppbv #	74
6) Vinyl chloride	5.413	62	11042	0.50	ppbv	98
24) cis-1,2-Dichloroethene	14.947	61	292564	8.47	ppbv	90
28) Chloroform	15.635	83	525189	9.76	ppbv	97
37) Trichloroethene	17.876	130	286505	10.89	ppbv	95
47) Tetrachloroethene	20.936	166	91531	2.62	ppbv	96

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

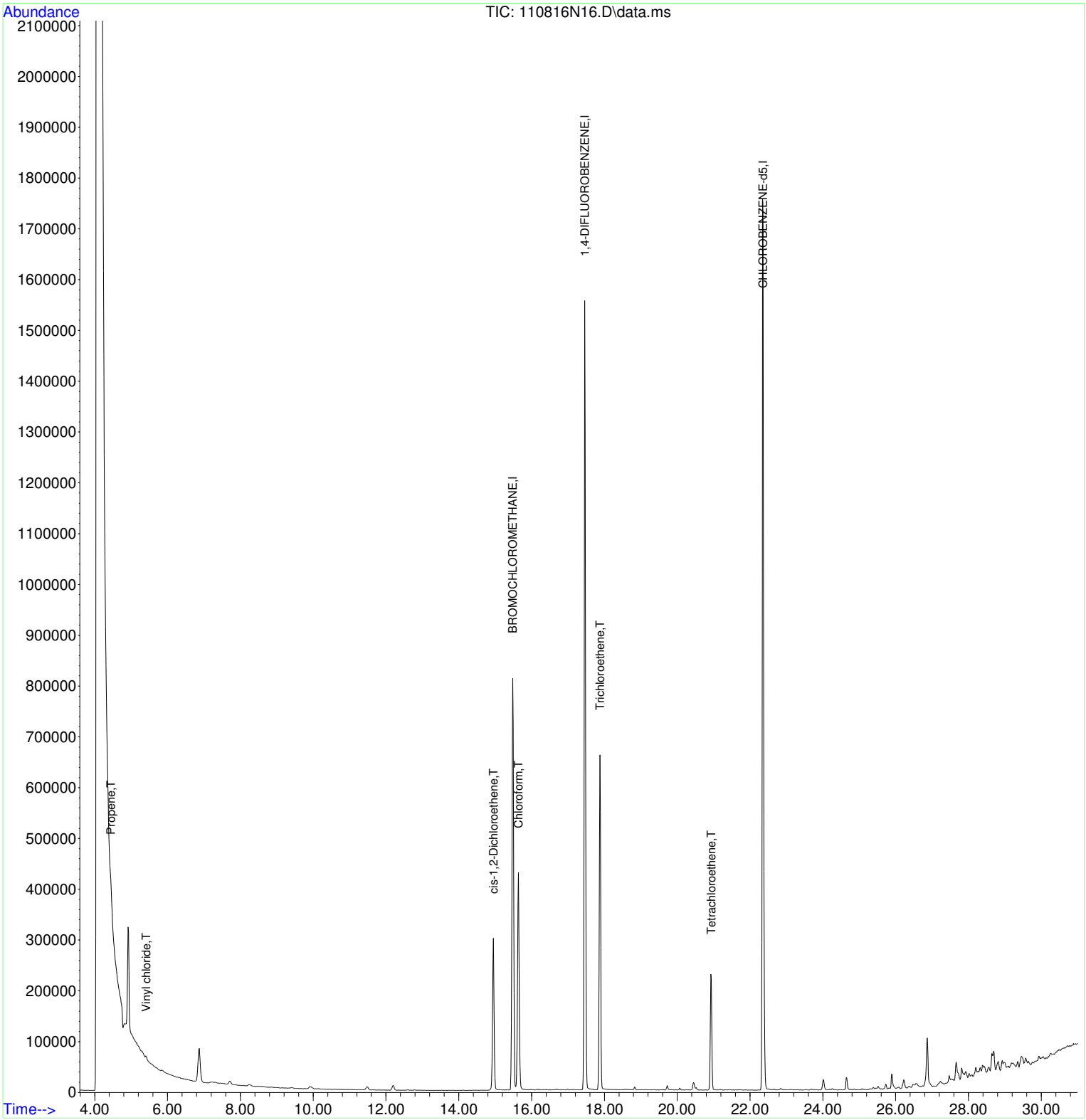
REVIEWED
By LLH at 11:16 am, Nov 09, 2016

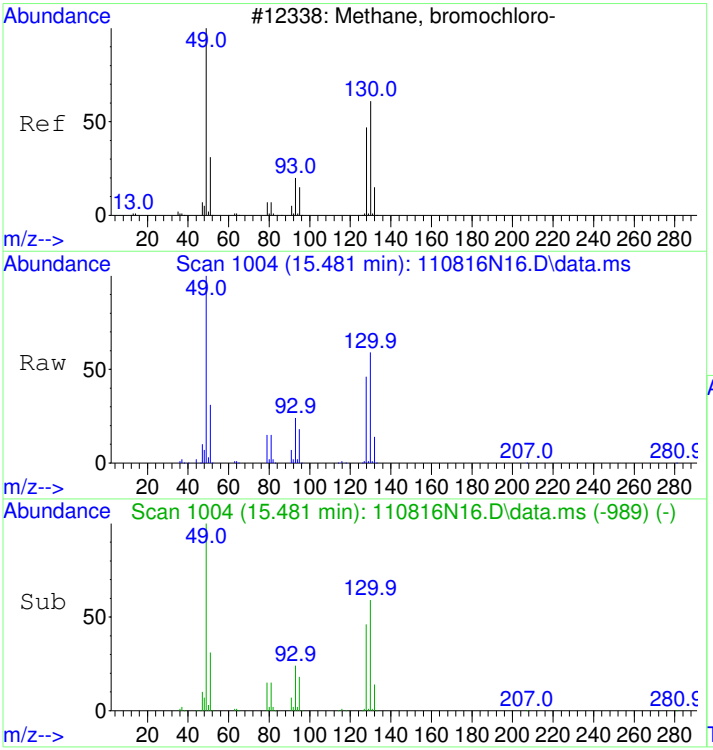
Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N16.D
Acq On : 8 Nov 2016 10:33 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-10
Misc : 20ml F5-054
ALS Vial : 41 Sample Multiplier: 1.84

re-scaled chrom, replaced pdf

LLH 11/151/6

Quant Time: Nov 09 09:33:29 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

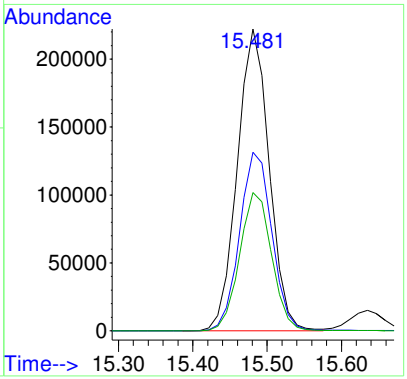


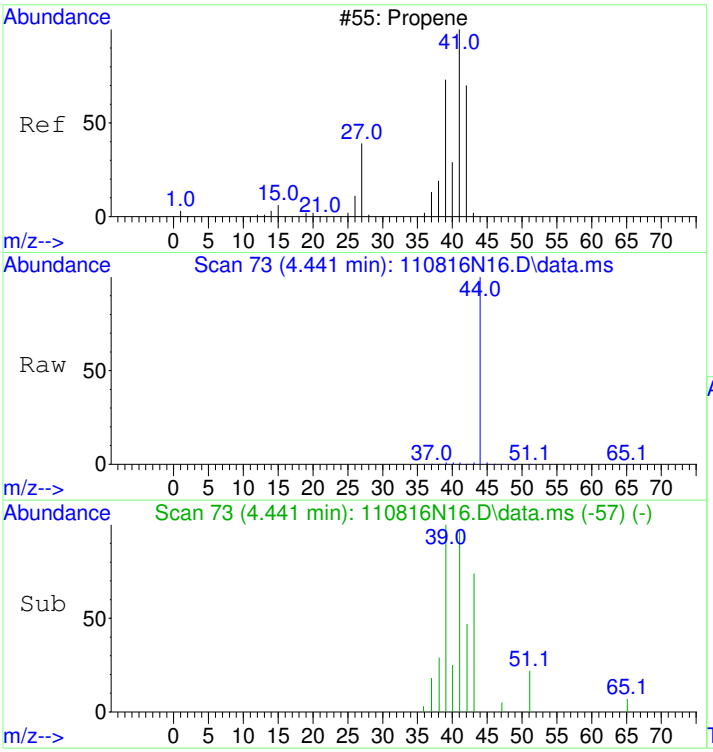


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. -0.000 min
Lab File: 110816N16.D
Acq: 8 Nov 2016 10:33 pm

Tgt Ion: 49 Resp: 660789

Ion	Ratio	Lower	Upper
49	100		
130	60.0	56.1	96.1
128	46.1	38.8	78.8

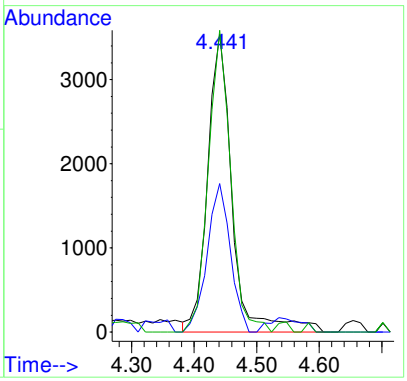


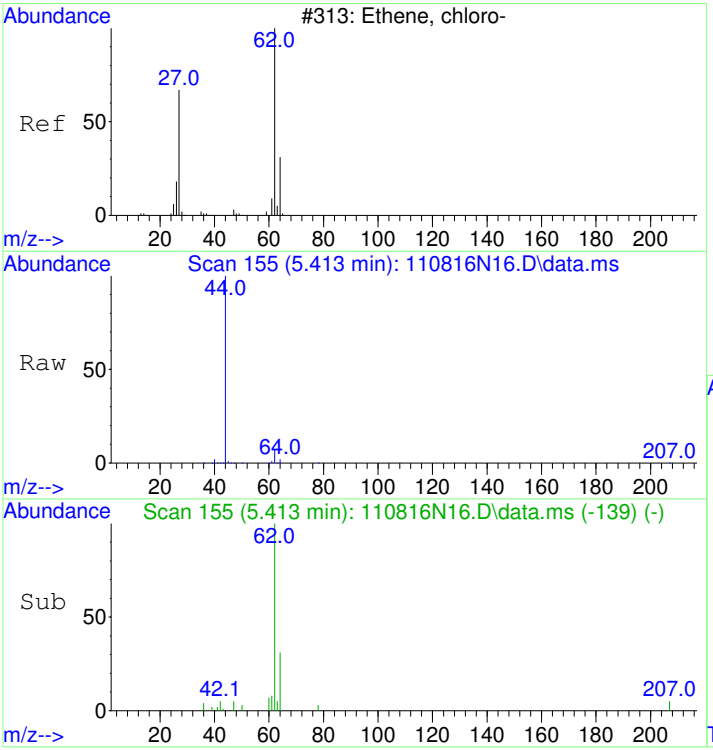


#2
Propene
Concen: 0.51 ppbv
RT: 4.441 min Scan# 73
Delta R.T. -0.012 min
Lab File: 110816N16.D
Acq: 8 Nov 2016 10:33 pm

Tgt Ion: 41 Resp: 9658

Ion	Ratio	Lower	Upper
41	100		
42	46.9	47.2	87.2#
39	91.7	49.6	89.6#

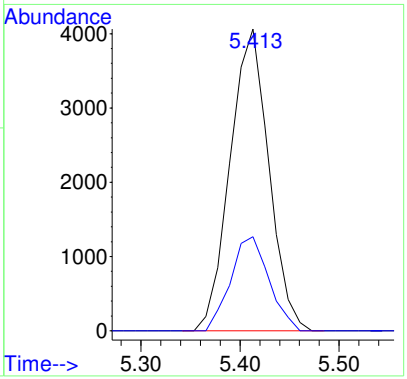


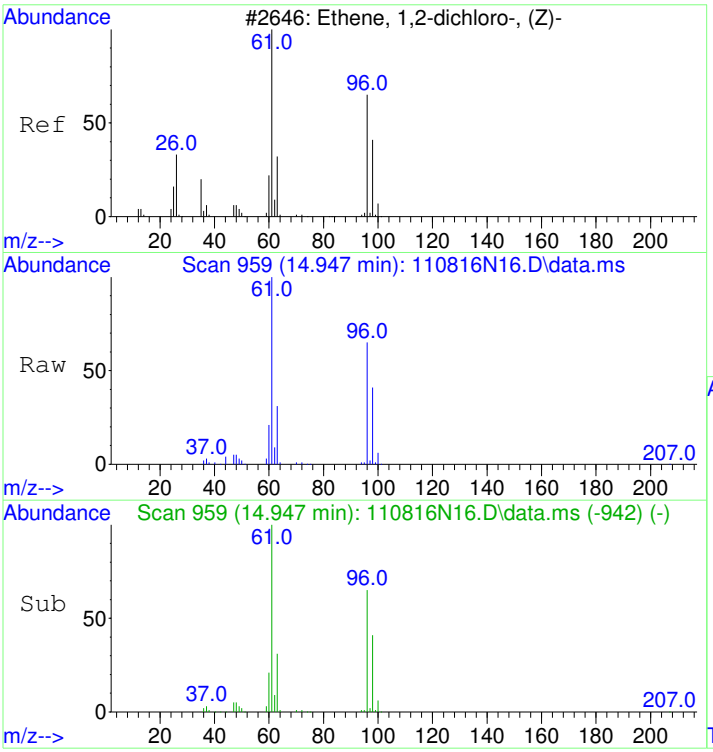


#6
Vinyl chloride
Concen: 0.50 ppbv
RT: 5.413 min Scan# 155
Delta R.T. -0.012 min
Lab File: 110816N16.D
Acq: 8 Nov 2016 10:33 pm

Tgt Ion: 62 Resp: 11042

Ion	Ratio	Lower	Upper
62	100		
64	30.8	11.9	51.9

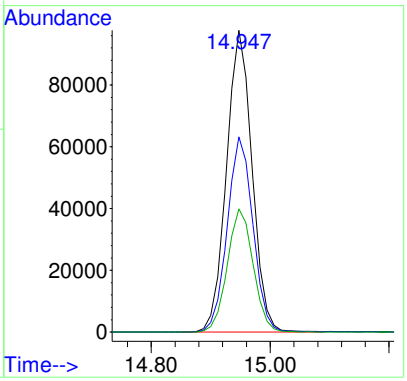


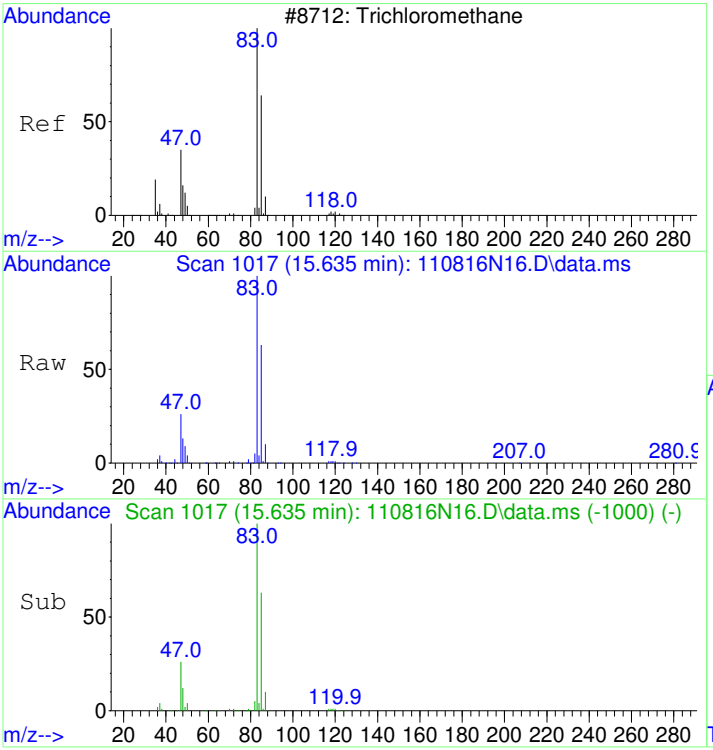


#24
cis-1,2-Dichloroethene
Concen: 8.47 ppbv
RT: 14.947 min Scan# 959
Delta R.T. -0.000 min
Lab File: 110816N16.D
Acq: 8 Nov 2016 10:33 pm

Tgt Ion: 61 Resp: 292564

Ion	Ratio	Lower	Upper
61	100		
96	65.1	54.4	94.4
98	41.2	27.5	67.5

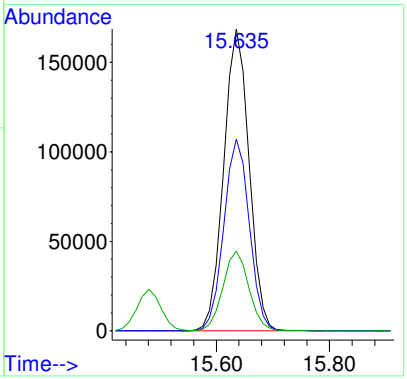


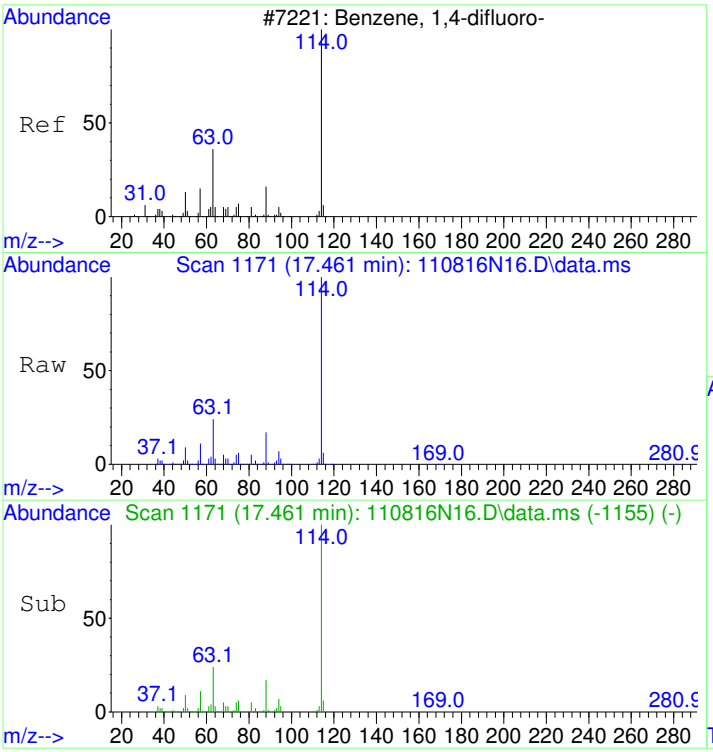


#28
Chloroform
Concen: 9.76 ppbv
RT: 15.635 min Scan# 1017
Delta R.T. -0.000 min
Lab File: 110816N16.D
Acq: 8 Nov 2016 10:33 pm

Tgt Ion: 83 Resp: 525189

Ion	Ratio	Lower	Upper
83	100		
85	63.8	44.9	84.9
47	27.1	3.9	43.9

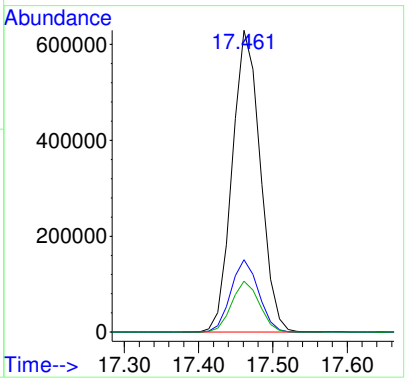


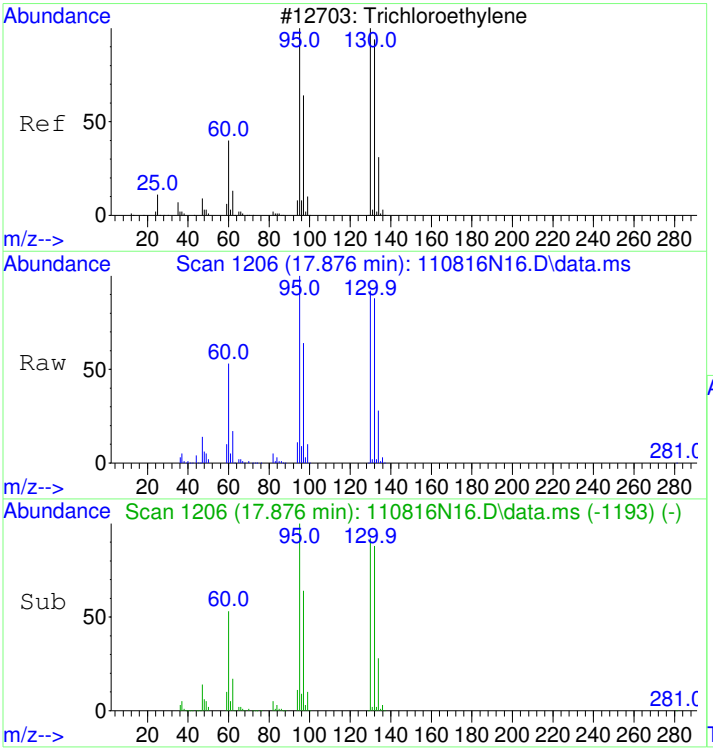


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. -0.000 min
Lab File: 110816N16.D
Acq: 8 Nov 2016 10:33 pm

Tgt Ion:114 Resp: 1643980

Ion	Ratio	Lower	Upper
114	100		
63	23.8	0.1	40.1
88	16.7	0.0	35.8

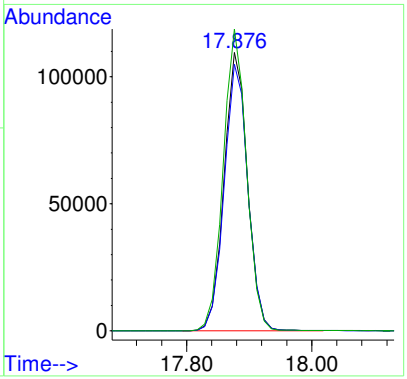


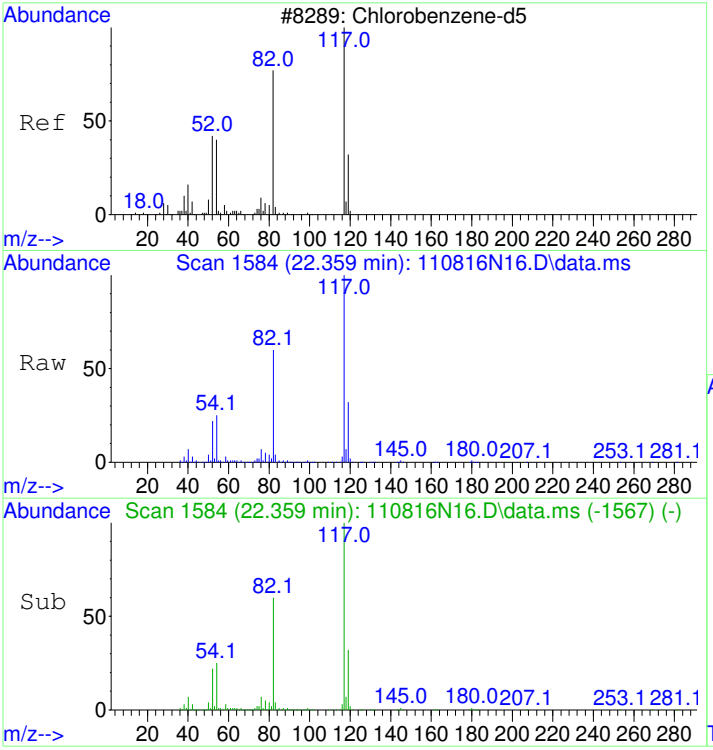


#37
Trichloroethene
Concen: 10.89 ppbv
RT: 17.876 min Scan# 1206
Delta R.T. -0.000 min
Lab File: 110816N16.D
Acq: 8 Nov 2016 10:33 pm

Tgt Ion:130 Resp: 286505

Ion	Ratio	Lower	Upper
130	100		
132	96.6	77.1	117.1
95	108.0	79.3	119.3

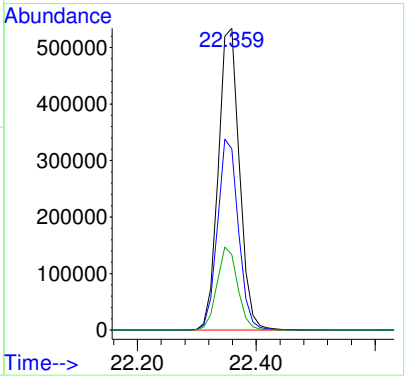


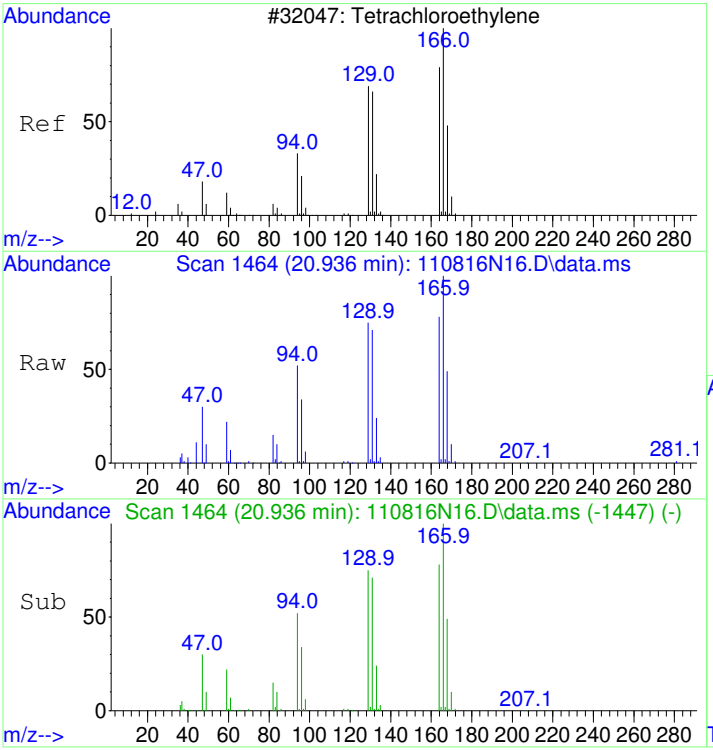


#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. -0.000 min
Lab File: 110816N16.D
Acq: 8 Nov 2016 10:33 pm

Tgt Ion:117 Resp: 1324570

Ion	Ratio	Lower	Upper
117	100		
82	62.6	36.8	76.8
54	26.9	1.4	41.4

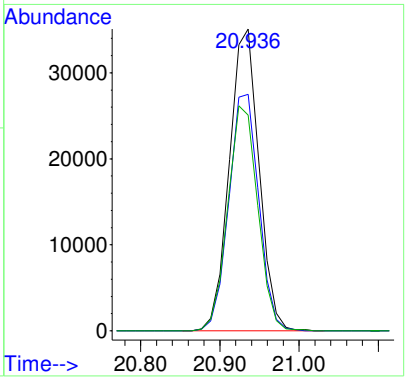




#47
Tetrachloroethene
Concen: 2.62 ppbv
RT: 20.936 min Scan# 1464
Delta R.T. -0.000 min
Lab File: 110816N16.D
Acq: 8 Nov 2016 10:33 pm

Tgt Ion:166 Resp: 91531

Ion	Ratio	Lower	Upper
166	100		
164	79.1	58.2	98.2
131	75.3	49.4	89.4



B16K032-DUP1

Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N17.D
Acq On : 8 Nov 2016 11:19 pm
InstName : AG5973N
Operator : LLH
Sample : B16K032-DUP1
Misc : 20ml 1611021-10
ALS Vial : 41 Sample Multiplier: 1.84

REPORT

Quant Time: Nov 09 09:34:02 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	646995	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	1554215	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.347	117	1066293	22.00	ppbv	-0.01
Target Compounds						Qvalue
24) cis-1,2-Dichloroethene	14.947	61	234675	6.94	ppbv	90
28) Chloroform	15.635	83	429127	8.15	ppbv	98
37) Trichloroethene	17.876	130	229798	9.24	ppbv	95
47) Tetrachloroethene	20.936	166	74069	2.64	ppbv	98

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

REVIEWED
By LLH at 10:30 am, Nov 09, 2016

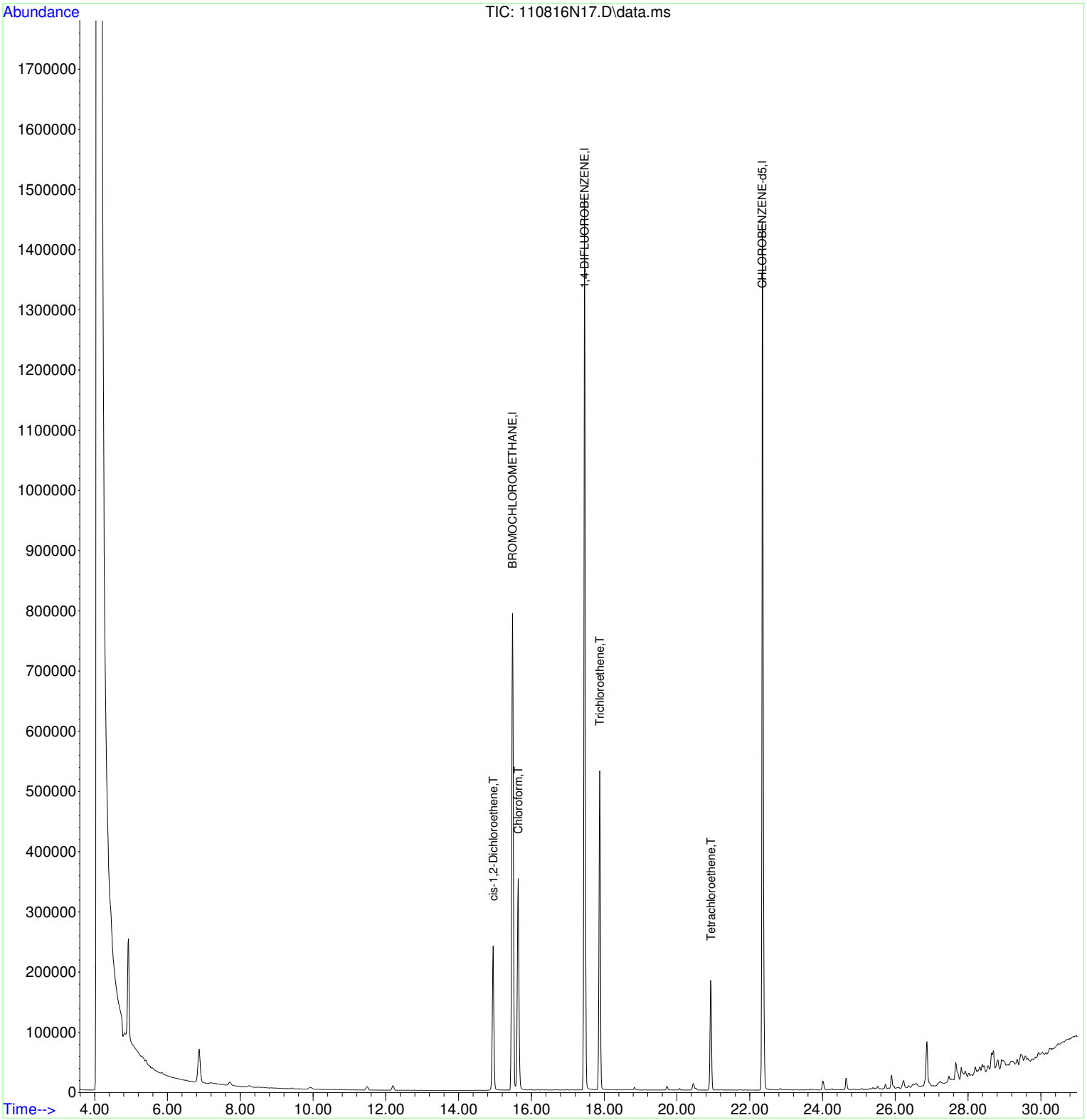
Table of Contents

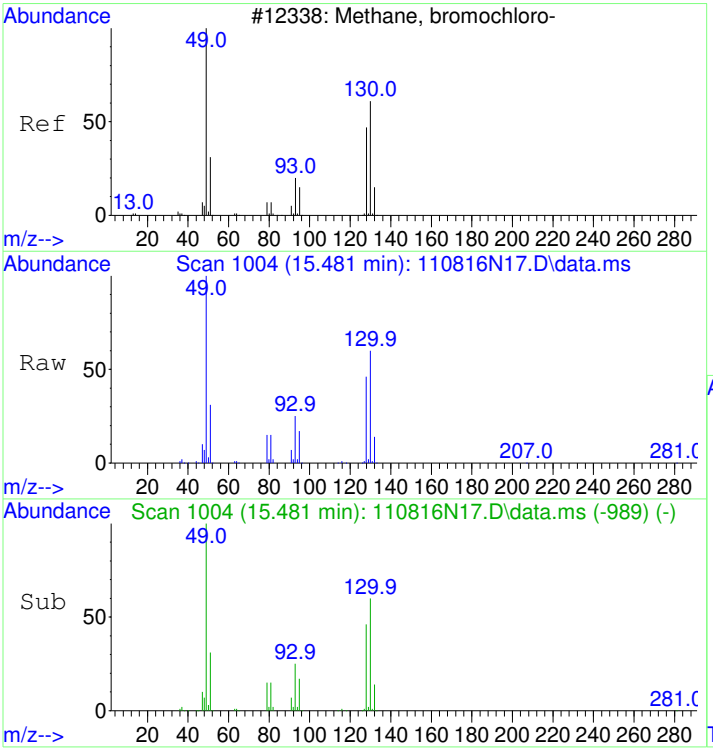
Data Path : D:\msdchem\1\2016\data\110816_FSAA\
Data File : 110816N17.D
Acq On : 8 Nov 2016 11:19 pm
InstName : AG5973N
Operator : LLH
Sample : B16K032-DUP1
Misc : 20ml 1611021-10
ALS Vial : 41 Sample Multiplier: 1.84

re-scaled chrom, replaced pdf

LLH 11/151/6

Quant Time: Nov 09 09:34:02 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

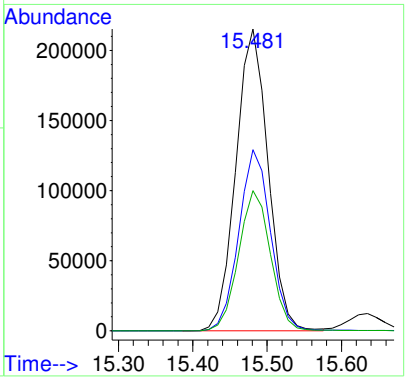


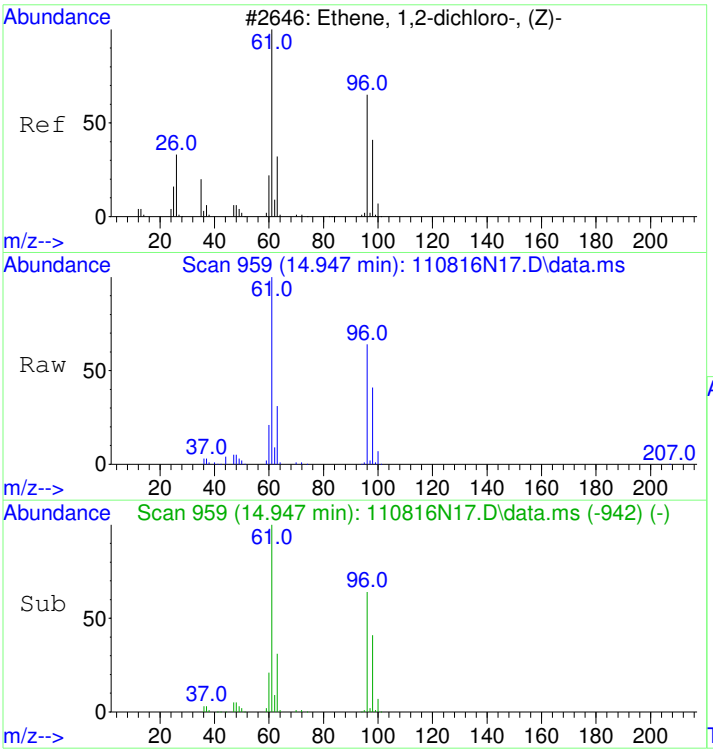


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. -0.000 min
Lab File: 110816N17.D
Acq: 8 Nov 2016 11:19 pm

Tgt Ion: 49 Resp: 646995

Ion	Ratio	Lower	Upper
49	100		
130	59.4	56.1	96.1
128	46.1	38.8	78.8

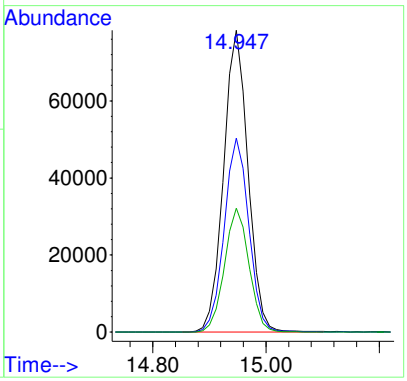


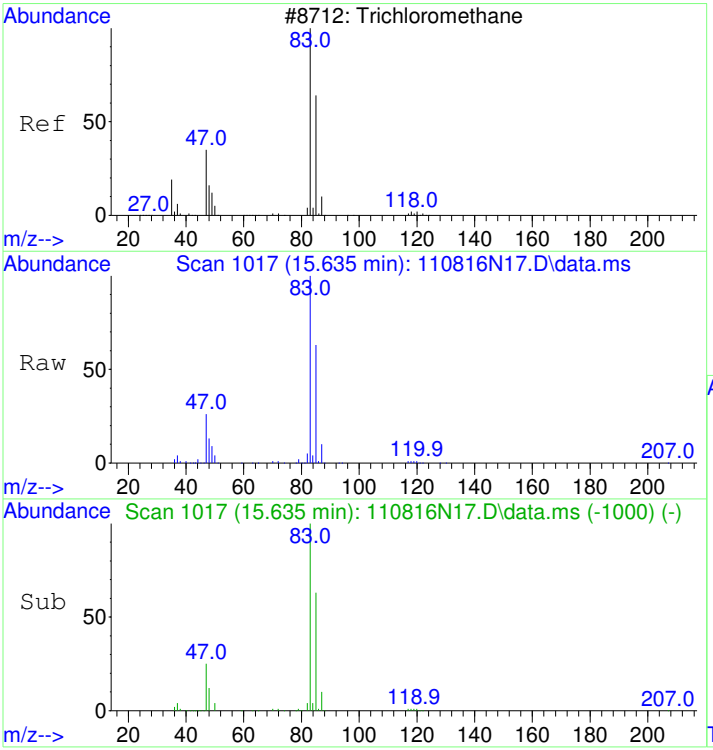


#24
cis-1,2-Dichloroethene
Concen: 6.94 ppbv
RT: 14.947 min Scan# 959
Delta R.T. -0.000 min
Lab File: 110816N17.D
Acq: 8 Nov 2016 11:19 pm

Tgt Ion: 61 Resp: 234675

Ion	Ratio	Lower	Upper
61	100		
96	64.9	54.4	94.4
98	41.2	27.5	67.5

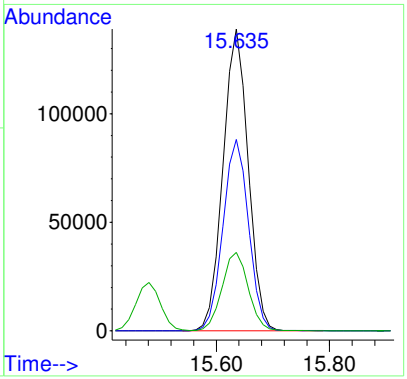


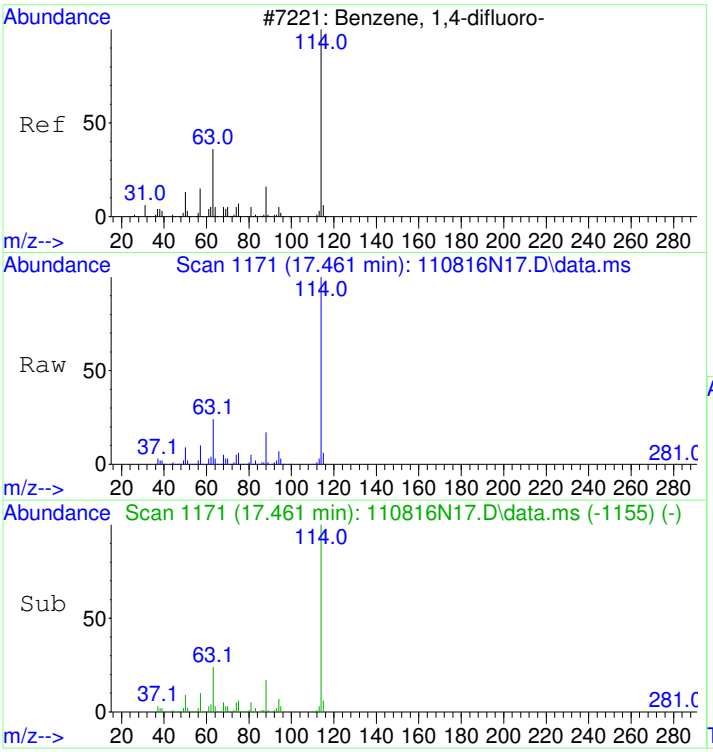


#28
Chloroform
Concen: 8.15 ppbv
RT: 15.635 min Scan# 1017
Delta R.T. -0.000 min
Lab File: 110816N17.D
Acq: 8 Nov 2016 11:19 pm

Tgt Ion: 83 Resp: 429127

Ion	Ratio	Lower	Upper
83	100		
85	64.3	44.9	84.9
47	27.2	3.9	43.9

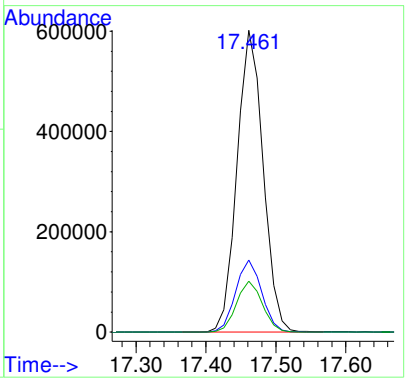


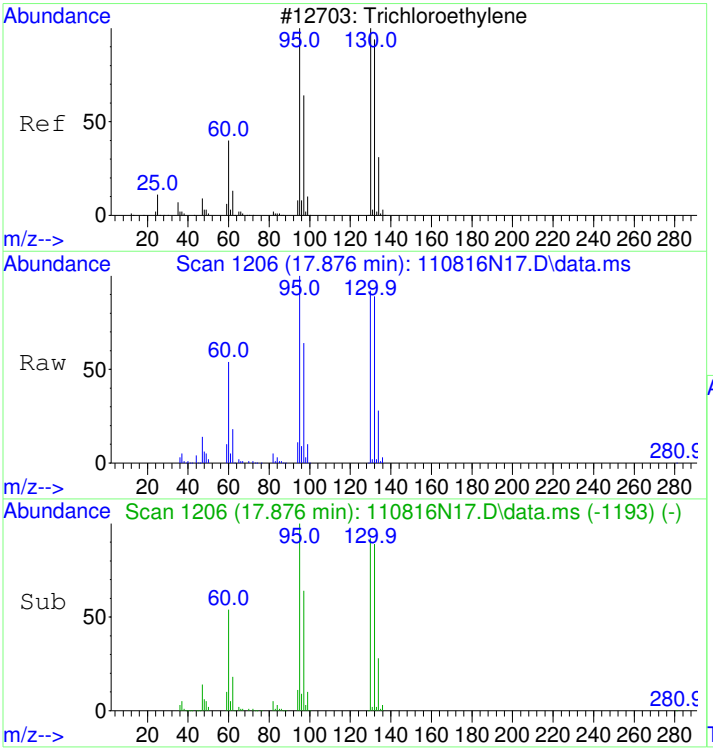


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. -0.000 min
Lab File: 110816N17.D
Acq: 8 Nov 2016 11:19 pm

Tgt Ion:114 Resp: 1554215

Ion	Ratio	Lower	Upper
114	100		
63	23.9	0.1	40.1
88	16.7	0.0	35.8

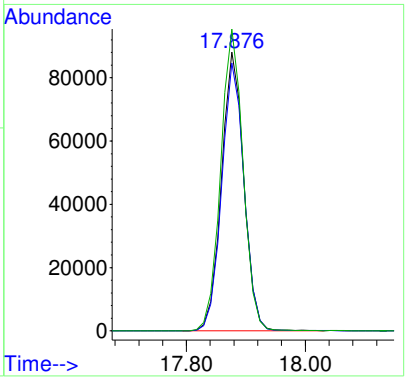


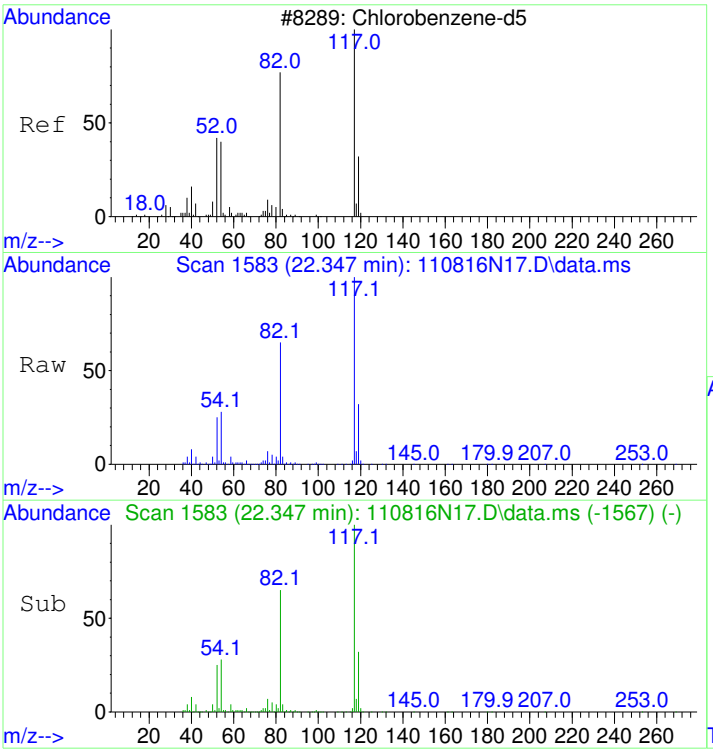


#37
Trichloroethene
Concen: 9.24 ppbv
RT: 17.876 min Scan# 1206
Delta R.T. -0.000 min
Lab File: 110816N17.D
Acq: 8 Nov 2016 11:19 pm

Tgt Ion:130 Resp: 229798

Ion	Ratio	Lower	Upper
130	100		
132	96.3	77.1	117.1
95	108.6	79.3	119.3

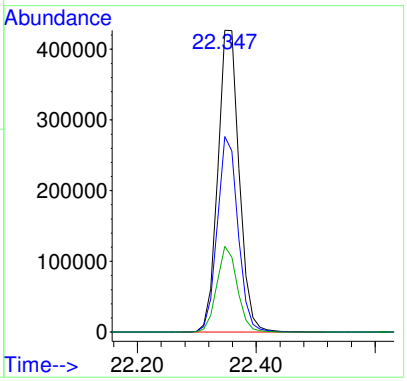


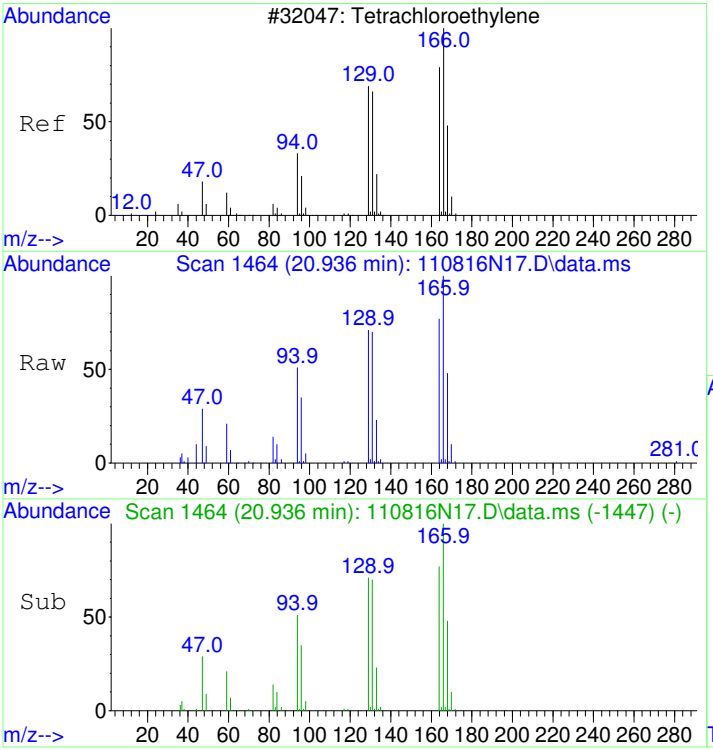


#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.347 min Scan# 1583
Delta R.T. -0.012 min
Lab File: 110816N17.D
Acq: 8 Nov 2016 11:19 pm

Tgt Ion:117 Resp: 1066293

Ion	Ratio	Lower	Upper
117	100		
82	63.0	36.8	76.8
54	27.2	1.4	41.4

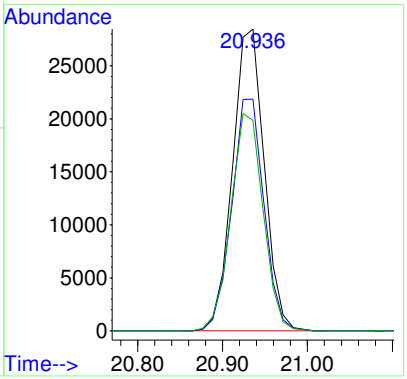




#47
Tetrachloroethene
Concen: 2.64 ppbv
RT: 20.936 min Scan# 1464
Delta R.T. -0.000 min
Lab File: 110816N17.D
Acq: 8 Nov 2016 11:19 pm

Tgt Ion:166 Resp: 74069

Ion	Ratio	Lower	Upper
166	100		
164	78.1	58.2	98.2
131	73.5	49.4	89.4



SEQUENCE

S16K050

ANALYST / REVIEWER - DATA REVIEW CHECKLIST

BATCH #:	B16K042	SEQUENCE #:	S16K050 11/09/16
BATCH #:	N / A	ANALYSIS:	TO15 AG5973N

	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.	11/03/16 Thu Nov 03, 2016 17:25:24			ICAL = OK SCV = Chloromethane; 2-Hexanone
	Initial Calibration ID (LIMS number):	1611002			
	ICAL within QC criteria?	✔			
	SCV within QC criteria?	✔			
INSTRUMENT / QC CHECKS	Tune or degradation checks within QC criteria?	☐	Y	Y	
	CCV(s) within QC criteria?	☐	Y	Y	OK
	QLS(s) within QC criteria?	☐	Y	Y	OK
	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?	☐	Y	Y	
	Other method-specific QCs within QC criteria? Specify if applicable.	✔			

ANALYST / REVIEWER - DATA REVIEW CHECKLIST

BATCH #:	B16K042	SEQUENCE #:	S16K050	11/09/16
BATCH #:	N / A	ANALYSIS:	TO15	AG5973N

	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?	☐	Y	Y	1611021-03RE3 was reanalyzed in the same sequence
	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:	LLH 11/10/16
	REVIEWED BY:	Ziyad Rajabi (affiliate) Digitally signed by Ziyad Rajabi (affiliate) Date: 2016.11.16 12:32:36 -08'00' SIGN HERE

COMMENTS

Injection Log

Directory: d:\MSDCHEM\1\2016\data\110916_FSAA

Table of Contents

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	31	110916N01.D	1.	S16K050-TUN1	BFB 1637033	9 Nov 2016 10:29
2	32	110916N02.D	1.	S16K050-CCV1@B16K042-BS1	10ppbv 1645037@1645040	9 Nov 2016 11:23
3	31	110916N03.D	1.	S16K050-CRL1	1.0ppbv 1645034	9 Nov 2016 12:11
4	33	110916N04.D	1.	B16K042-BLK1	200ml BLANK #35	9 Nov 2016 13:00
5	34	110916N05.D	5.47	1611021-01RE1	20ml RE-REPRESS	9 Nov 2016 13:46
6	35	110916N06.D	5.92	1611021-02RE1	20ml RE-REPRESS	9 Nov 2016 14:31
7	36	110916N07.D	6.07	1611021-03RE1	20ml RE-REPRESS	9 Nov 2016 15:17
8	37	110916N08.D	5.99	1611021-04RE1	20ml RE-REPRESS	9 Nov 2016 16:02
9	37	110916N09.D	5.99	B16K042-DUP1	20ml 1611021-04RE1	9 Nov 2016 16:48
10	12	110916N10.D	2.56	1611021-09RE1	200ml REPRESS	9 Nov 2016 17:37
11	33	110916N11.D	1.	S16K050-IBL1	200ml BLANK	9 Nov 2016 18:26
12	38	110916N12.D	7.45	1611021-05RE1	20ml RE-REPRESS	9 Nov 2016 19:11
13	39	110916N13.D	7.27	1611021-06RE1	20ml RE-REPRESS	9 Nov 2016 19:57
14	10	110916N14.D	6.92	1611021-07RE1	20ml RE-REPRESS	9 Nov 2016 20:42
15	11	110916N15.D	6.56	1611021-08RE1	20ml RE-REPRESS	9 Nov 2016 21:28
16	41	110916N16.D	3.2	1611021-10RE1	200ml REPRESS	9 Nov 2016 22:17
17	36	110916N17.D	10.8	1611021-03RE2	20ml RERE-REPRESS	9 Nov 2016 23:02
18	33	110916N18.D	1.	S16K050-IBL2	200ml BLANK	9 Nov 2016 23:52

GC/MS QA-QC Check Report

Tune File : D:\msdchem\1\2016\data\110916_FSAA\110916N01.D
Tune Time : 9 Nov 2016 10:29 am

Daily Calibration File : D:\msdchem\1\2016\data\110916_FSAA\110916N02.D

File	Sample	Surrogate Recovery %		Internal Standard Responses	
			832383	2041280	1674130
110916N02.D	S16K050-CCV1	832383	2041283	1674128	
110916N03.D	S16K050-CRL1	808860	2029645	1638133	
110916N04.D	B16K042-BLK1	778339	1972366	1583107	
110916N05.D	1611021-01RE1	766616	1906710	1510534	
110916N06.D	1611021-02RE1	765055	1897867	1513592	
110916N07.D	1611021-03RE1	760065	1847978	1470422	
110916N08.D	1611021-04RE1	763171	1852587	1514138	
110916N09.D	B16K042-DUP1	734591	1695569	1217820	
110916N10.D	1611021-09RE1	797256	1881138	1730491	
110916N11.D	S16K050-IBL1	824100	2011063	1598926	
110916N12.D	1611021-05RE1	799229	1926674	1563335	
110916N13.D	1611021-06RE1	786765	1884070	1492316	
110916N14.D	1611021-07RE1	785842	1862015	1462927	
110916N15.D	1611021-08RE1	797659	1866682	1487303	
110916N16.D	1611021-10RE1	825516	1832754	1514936	
110916N17.D	1611021-03RE2	859994	2009809	1535741	
110916N18.D	S16K050-IBL2	823863	1945876	1557182	

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

Created: Thu Nov 10 09:18:04 2016 AG5973N

----------SEQUENCE TABLE ----------

Sequence Name: D:\smart\2016\110916N_FSAA.SEQ
Date: 11-10-2016
Time: 09:12:26
Int. Std Volume: 40 cc

Sample Name	Inlet #	Auto Pos	Samp Vol.	Cal Std Vol.	Method	Time
BFB	3	1	50	40	D:\Smart\TO15.CTD	12:00
CCV1 10ppbv	3	2	100		D:\Smart\TO15.CTD	12:00
CRL1 1.0ppbv	3	1	20		D:\Smart\TO15.CTD	12:00
BLANK	3	3	200		D:\Smart\TO15.CTD	12:00
1611021-01RE1	3	4	20		D:\Smart\TO15.CTD	12:00
1611021-02RE1	3	5	20		D:\Smart\TO15.CTD	12:00
1611021-03RE1	3	6	20		D:\Smart\TO15.CTD	12:00
1611021-04RE1	3	7	20		D:\Smart\TO15.CTD	12:00
1611021-04RE1 DUP	3	7	20		D:\Smart\TO15.CTD	12:00
1611021-09RE1	3	12	200		D:\Smart\TO15.CTD	12:00
BLANK	3	3	200		D:\Smart\TO15.CTD	12:00
1611021-05RE1	3	8	20		D:\Smart\TO15.CTD	12:00
1611021-06RE1	3	9	20		D:\Smart\TO15.CTD	12:00
1611021-07RE1	3	10	20		D:\Smart\TO15.CTD	12:00
1611021-08RE1	3	11	20		D:\Smart\TO15.CTD	12:00
1611021-10RE1	4	1	200		D:\Smart\TO15.CTD	12:00
1611021-03RE2	3	6	20		D:\Smart\TO15.CTD	12:00
BLANK	3	3	200		D:\Smart\TO15.CTD	12:00

Analysis Sequence

S16K050

Project: R17S16
Analysis: VOCs, Soil Gas

Instrument: AG5973N **Calibration ID:** 1611002 Printed: 11/10/2016 11:44 am

Lab Number	Sample Name	Order	Analyzed Date	STD ID	ISTD ID	Sequenced By	File ID	Comments
S16K050-TUN1	MS Tune	1	11/9/16 10:29	1617033		LLH	110916N01.D	
S16K050-CCV1	CCV	2	11/9/16 11:23	1645037		LLH	110916N02.D	
B16K042-BS1	LCS	3	11/9/16 11:23			LLH	110916N02.D	
S16K050-CRL1	CRL	4	11/9/16 12:11	1645034		LLH	110916N03.D	
B16K042-BLK1	Blank	5	11/9/16 13:00		1645030	LLH	110916N04.D	
1611021-01RE1 A	870 Leong-SS1	6	11/9/16 13:46		1645030	LLH	110916N05.D	
1611021-02RE1 A	870 Leong-SS1D	7	11/9/16 14:31		1645030	LLH	110916N06.D	
1611021-03RE1 A	870 Leong-SS2	8	11/9/16 15:17		1645030	LLH	110916N07.D	
1611021-04RE1 A	870 Leong-SS3	9	11/9/16 16:02		1645030	LLH	110916N08.D	
B16K042-DUP1	Duplicate	10	11/9/16 16:48		1645030	LLH	110916N09.D	
1611021-09RE1 A	F5-060	11	11/9/16 17:37		1645030	LLH	110916N10.D	
S16K050-IBL1	blank	12	11/9/16 18:26		1645030	LLH	110916N11.D	
1611021-05RE1 A	870 Leong-SS4	13	11/9/16 19:11		1645030	LLH	110916N12.D	
1611021-06RE1 A	870 Leong-SS5	14	11/9/16 19:57		1645030	LLH	110916N13.D	
1611021-07RE1 A	870 Leong-SS5X	15	11/9/16 20:42		1645030	LLH	110916N14.D	
1611021-08RE1 A	870 Leong-SS6	16	11/9/16 21:28		1645030	LLH	110916N15.D	
1611021-10RE1 A	F5-054	17	11/9/16 22:17		1645030	LLH	110916N16.D	
1611021-03RE2 A	870 Leong-SS2	18	11/9/16 23:02		1645030	LLH	110916N17.D	
S16K050-IBL2	blank	19	11/9/16 23:52		1645030	LLH	110916N18.D	

Sequence Comments

Analysis Sequence

S16K050

(Continued)

Project: R17S16
Analysis: VOCs, Soil Gas

Instrument: AG5973N **Calibration ID:** 1611002 Printed: 11/10/2016 11:44 am

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

Reagents

Reagent #	Description

SEQUENCE DATA

S16K050

S16K050-TUN1

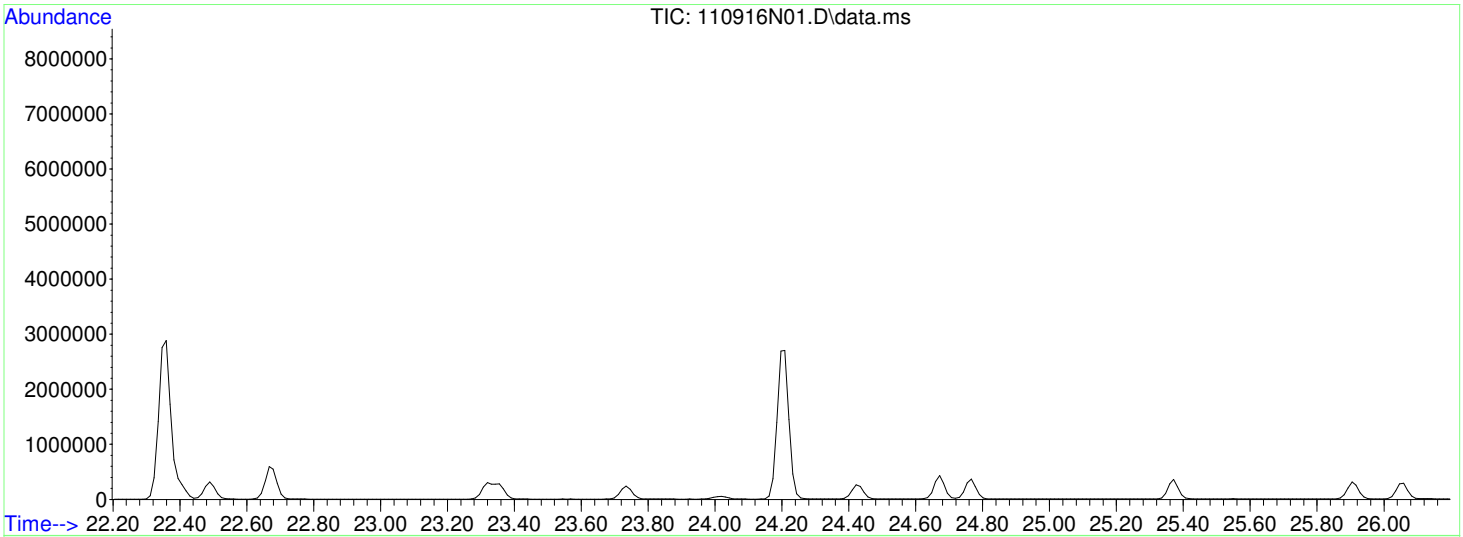
Table of Contents

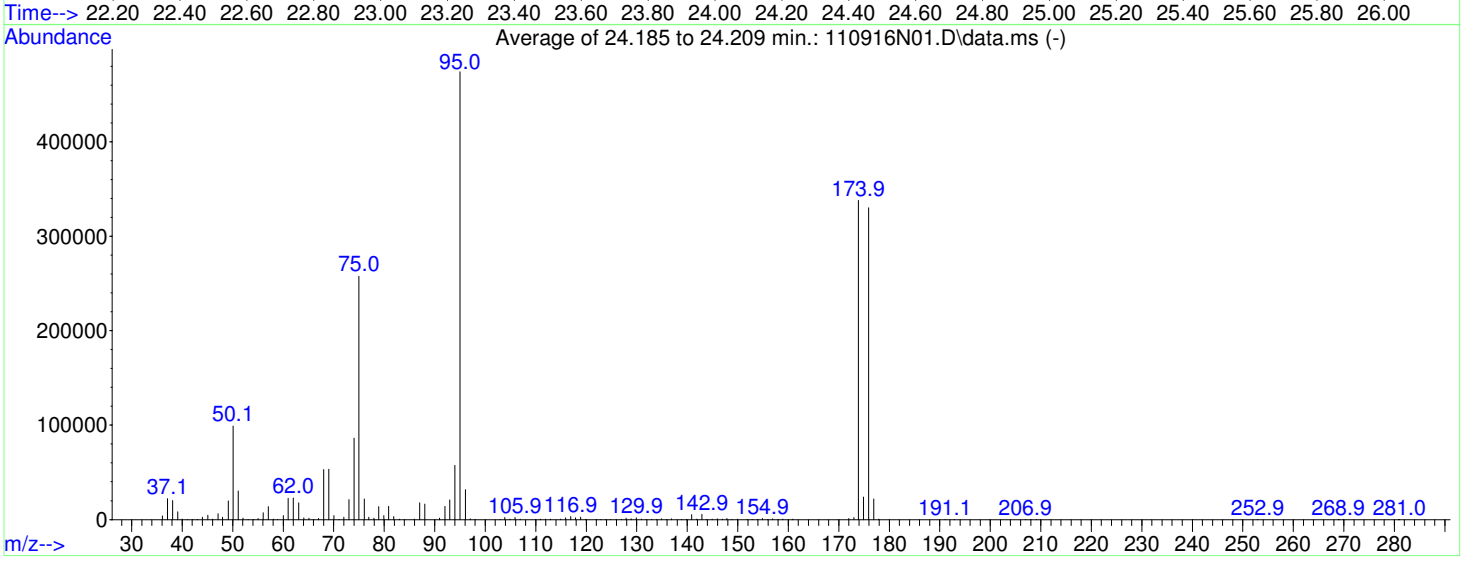
Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N01.D
Acq On : 9 Nov 2016 10:29 am
InstName : AG5973N
Operator : LLH
Sample : S16K050-TUN1
Misc : BFB 1637033
ALS Vial : 31 Sample Multiplier: 1

REVIEWED
By LLH at 11:56 am, Nov 09, 2016

Integration File: rteint.p

Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Title : TO15
Last Update : Thu Nov 03 17:25:24 2016



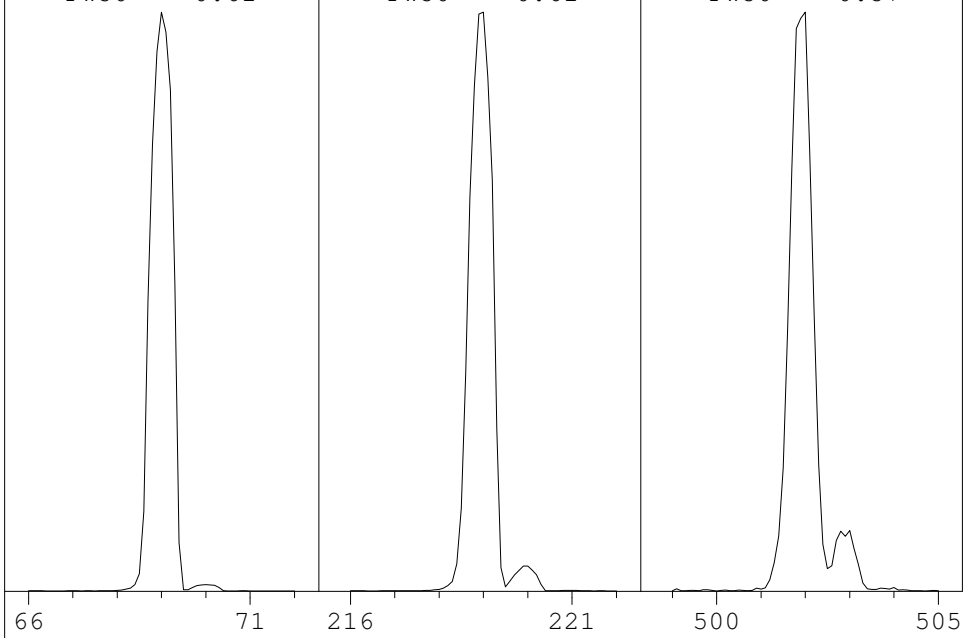


AutoFind: Scans 1738, 1739, 1740; Background Corrected with Scan 1732

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	20.9	99093	PASS
75	95	30	66	54.3	257621	PASS
95	95	100	100	100.0	474347	PASS
96	95	5	9	6.7	31797	PASS
173	174	0.00	2	0.6	2057	PASS
174	95	50	120	71.2	337941	PASS
175	174	4	9	7.1	23948	PASS
176	174	93	101	97.7	330197	PASS
177	176	5	9	6.7	21983	PASS

Wed Nov 09 10:10:44 2016 Instrum
C:\msdchem\1\5973N\bfb0110916.u US43120931

Mass	69.00	Mass	219.00	Mass	502.00
Ab	467083	Ab	197871	Ab	12894
Pw50	0.61	Pw50	0.61	Pw50	0.57

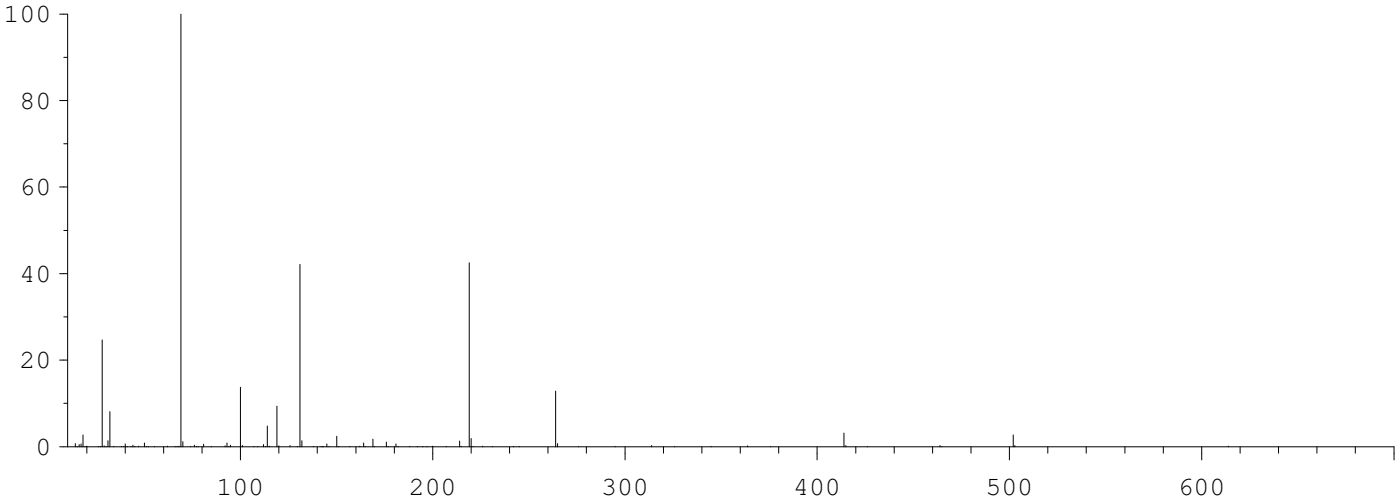


Ion Pol	Pos	MassGain	135
		MassOffs	-10
Emission	34.6	AmuGain	2543
EIEnrgy	69.9	AmuOffs	131
Filament	1	Wid219	-0.018
		DC Pol	Pos
Repeller	28.28		
IonFcus	90.2	HEDEnab	On
EntLens	12.0	EMVolts	1141
EntOffs	19.33		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	Turbo Speed	100
MS Quad	150		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
107 peaks Base: 69.00 Abundance: 448512



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	448512	100.00	70.00	5064	1.13
219.00	190720	42.52	220.00	8540	4.48
502.00	12108	2.70	502.90	1257	10.38

Air/Water Check: H20~2.67% N2~24.67% O2~8.14% CO2~0.38% N2/H2O~924.22%

Column(1) Flow: 1.499 Column(2): 0 ml/min. Interface Temp: 230

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 219; EM Gain 106362
Repeller Maximum 35 volts using ion 502; Gain Factor 1.06

MassGain Values(Samples): 143(3) 151(2) 164(1) 190(0) 225(FS)

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	131.0	131.0	131.0	131.0	131.0	131.0	131.0
Entrance Lens Offset:	19.3	19.3	19.3	19.3	19.3	19.3	19.3

S16K050-CCV1

Evaluate Continuing Calibration Report

Table of Contents

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N02.D
Acq On : 9 Nov 2016 11:23 am
InstName : AG5973N
Operator : LLH
Sample : S16K050-CCV1@B16K042-BS1
Misc : 10ppbv 1645037@1645040
ALS Vial : 32 Sample Multiplier: 1

REVIEWED
By LLH at 11:57 am, Nov 09, 2016

Quant Time: Nov 09 11:54:43 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	91	0.00
2	T	Propene	0.628	0.616	1.9	95	0.00
3	T	Dichlorodifluoromethane	2.375	2.255	5.1	90	0.00
4	T	1,2-Dichlorotetrafluoroetha	2.339	2.065	11.7	84	0.00
5	T	Chloromethane	0.731	0.680	7.0	89	-0.01
6	T	Vinyl chloride	0.735	0.753	-2.4	98	0.00
7	T	1,3-Butadiene	0.542	0.557	-2.8	100	0.00
8	T	Bromomethane	0.708	0.712	-0.6	97	0.00
9	T	Chloroethane	0.331	0.358	-8.2	105	0.00
10	T	Bromoethene	0.688	0.518	24.7	74	0.00
11	T	Trichlorofluoromethane	2.083	1.898	8.9	87	0.00
12	T	1,1,2-Trichloro-1,2,2-trifl	1.354	0.992	26.7	71	-0.01
13	T	1,1-Dichloroethene	1.299	1.056	18.7	77	0.00
14	T	Acetone	1.193	1.056	11.5	84	0.00
15	T	Carbon disulfide	2.010	1.635	18.7	78	0.00
16	T	2-Propanol	1.244	0.966	22.3	74	0.01
17	T	Allyl chloride	0.999	0.842	15.7	80	0.00
18	T	Dichloromethane	1.013	0.862	14.9	85	-0.01
19	T	tert-Butyl methyl ether (MT	2.449	1.845	24.7	70	0.00
20	T	trans-1,2-Dichloroethene	1.164	1.005	13.7	83	0.00
21	T	Hexane	1.442	1.117	22.5	75	0.00
22	T	1,1-Dichloroethane	1.621	1.318	18.7	78	0.00
23	T	Vinyl acetate	2.061	1.798	12.8	81	0.00
24	T	cis-1,2-Dichloroethene	1.150	0.922	19.8	76	0.00
25	T	2-Butanone (MEK)	0.435	0.336	22.8	73	0.00
26	T	Ethyl acetate	0.284	0.234	17.6	77	0.00
27	T	Tetrahydrofuran	0.976	0.887	9.1	86	0.00
28	T	Chloroform	1.791	1.543	13.8	82	0.00
29	T	Cyclohexane	1.456	1.171	19.6	77	0.00
30	T	1,1,1-Trichloroethane	1.943	1.731	10.9	85	0.00
31	T	Carbon tetrachloride	2.031	1.802	11.3	84	0.00
32	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	72	0.00
33	T	Benzene	0.880	0.910	-3.4	78	0.00
34	T	2,2,4-Trimethylpentane	1.457	1.507	-3.4	78	0.00
35	T	1,2-Dichloroethane	0.383	0.458	-19.6	89	0.00
36	T	Heptane	0.512	0.581	-13.5	85	0.00
37	T	Trichloroethene	0.352	0.318	9.7	67	0.00
38	T	1,2-Dichloropropane	0.324	0.337	-4.0	77	0.00
39	T	1,4-Dioxane	0.199	0.175	12.1	66	0.00
40	T	Bromodichloromethane	0.615	0.682	-10.9	82	0.00
41	T	cis-1,3-Dichloropropene	0.486	0.490	-0.8	74	0.00
42	T	4-Methyl-2-pentanone (MIBK)	0.677	0.788	-16.4	86	0.00
43	I	CHLOROBENZENE-d5	1.000	1.000	0.0	71	0.00
44	T	Toluene	1.235	1.245	-0.8	73	0.00
45	T	trans-1,3-Dichloropropene	0.540	0.603	-11.7	79	0.00
46	T	1,1,2-Trichloroethane	0.402	0.415	-3.2	74	0.00
47	T	Tetrachloroethene	0.580	0.545	6.0	68	0.00
48	T	2-Hexanone	0.736	0.882	-19.8	86	0.00
49	T	Chlorodibromomethane	0.734	0.789	-7.5	77	0.00
50	T	1,2-Dibromoethane (EDB)	0.590	0.599	-1.5	73	0.00
51	T	Chlorobenzene	0.934	0.937	-0.3	72	0.00

Evaluate Continuing Calibration Report

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N02.D
Acq On : 9 Nov 2016 11:23 am
InstName : AG5973N
Operator : LLH
Sample : S16K050-CCV1@B16K042-BS1
Misc : 10ppbv 1645037@1645040
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 09 11:54:43 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
52 T	Ethylbenzene	1.615	1.721	-6.6	76	0.00
53 T	m&p-Xylene	1.249	1.412	-13.1	80	0.00
54 T	o-Xylene	1.276	1.377	-7.9	77	0.00
55 T	Styrene	0.993	1.032	-3.9	74	0.00
56 T	Bromoform	0.742	0.802	-8.1	75	0.00
57 T	1,1,2,2-Tetrachloroethane	0.931	1.018	-9.3	78	0.00
58 T	4-Ethyltoluene	1.933	1.935	-0.1	72	0.00
59 T	1,3,5-Trimethylbenzene	1.500	1.580	-5.3	75	0.00
60 T	1,2,4-Trimethylbenzene	1.532	1.581	-3.2	74	0.00
61 T	1,3-Dichlorobenzene	0.962	0.946	1.7	70	0.00
62 T	1,4-Dichlorobenzene	0.922	0.909	1.4	70	0.00
63 T	Benzyl chloride	1.182	1.280	-8.3	75	0.00
64 T	1,2-Dichlorobenzene	0.959	0.929	3.1	69	0.00
65 T	1,2,4-Trichlorobenzene	0.796	0.729	8.4	64	0.00
66 T	Hexachlorobutadiene	0.920	0.918	0.2	70	0.00

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

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N02.D
Acq On : 9 Nov 2016 11:23 am
InstName : AG5973N
Operator : LLH
Sample : S16K050-CCV1@B16K042-BS1
Misc : 10ppbv 1645037@1645040
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 09 11:54:43 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	832383	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	2041283	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1674128	22.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.452	41	256166	10.79	ppbv	98
3) Dichlorodifluoromethane	4.547	85	827591	9.21	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.903	85	781483	8.83	ppbv	93
5) Chloromethane	5.093	50	272876	9.87	ppbv	99
6) Vinyl chloride	5.425	62	296483	10.66	ppbv	100
7) 1,3-Butadiene	5.520	54	212732	10.38	ppbv	90
8) Bromomethane	6.456	94	269549	10.06	ppbv	99
9) Chloroethane	6.789	64	135423	10.81	ppbv	99
10) Bromoethene	7.358	106	215675	8.28	ppbv	99
11) Trichlorofluoromethane	7.500	101	703884	8.93	ppbv	99
12) 1,1,2-Trichloro-1,2,2-...	9.326	151	382948	7.48	ppbv	92
13) 1,1-Dichloroethene	9.409	61	415339	8.45	ppbv	94
14) Acetone	9.943	43	439590	9.74	ppbv	95
15) Carbon disulfide	10.133	76	680440	8.95	ppbv	96
16) 2-Propanol	10.560	45	401891	8.54	ppbv	85
17) Allyl chloride	10.951	41	350613	9.27	ppbv	92
18) Dichloromethane	11.473	49	329412	8.60	ppbv	90
19) tert-Butyl methyl ethe...	12.149	73	753954	8.14	ppbv	99
20) trans-1,2-Dichloroethene	12.184	61	414571	9.41	ppbv	90
21) Hexane	12.777	57	439556	8.06	ppbv	88
22) 1,1-Dichloroethane	13.512	63	498516	8.13	ppbv	100
23) Vinyl acetate	13.655	43	741607	9.51	ppbv	95
24) cis-1,2-Dichloroethene	14.947	61	362757	8.34	ppbv	90
25) 2-Butanone (MEK)	15.030	72	138485	8.42	ppbv #	100
26) Ethyl acetate	15.078	61	95443	8.88	ppbv #	95
27) Tetrahydrofuran	15.493	42	355816	9.63	ppbv	89
28) Chloroform	15.635	83	589545	8.70	ppbv	98
29) Cyclohexane	15.860	56	469460	8.52	ppbv	90
30) 1,1,1-Trichloroethane	15.908	97	641907	8.73	ppbv	97
31) Carbon tetrachloride	16.169	117	661430	8.61	ppbv	100
33) Benzene	16.655	78	870061	10.65	ppbv	97
34) 2,2,4-Trimethylpentane	16.607	57	1482384	10.97	ppbv	95
35) 1,2-Dichloroethane	16.845	62	424519	11.95	ppbv	99
36) Heptane	16.987	43	571468	12.02	ppbv	92
37) Trichloroethene	17.876	130	318399	9.75	ppbv	95
38) 1,2-Dichloropropane	18.374	63	321735	10.69	ppbv	93
39) 1,4-Dioxane	18.564	88	178861	9.70	ppbv	88
40) Bromodichloromethane	18.837	83	677430	11.86	ppbv	98
41) cis-1,3-Dichloropropene	19.596	75	490747	10.87	ppbv	92
42) 4-Methyl-2-pentanone (...	19.821	43	782799	12.47	ppbv	92
44) Toluene	20.070	91	994383	10.58	ppbv	99
45) trans-1,3-Dichloropropene	20.544	75	486529	11.85	ppbv	93
46) 1,1,2-Trichloroethane	20.841	97	334723	10.94	ppbv	91
47) Tetrachloroethene	20.936	166	439359	9.96	ppbv	97
48) 2-Hexanone	21.161	43	731497	13.06	ppbv	90
49) Chlorodibromomethane	21.457	129	648339	11.60	ppbv	98
50) 1,2-Dibromoethane (EDB)	21.683	107	496618	11.06	ppbv	99
51) Chlorobenzene	22.406	112	762672	10.73	ppbv	94
52) Ethylbenzene	22.489	91	1375197	11.19	ppbv	97
53) m&p-Xylene	22.667	91	2277500	23.96	ppbv	96
54) o-Xylene	23.319	91	1100124	11.33	ppbv	96

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N02.D
Acq On : 9 Nov 2016 11:23 am
InstName : AG5973N
Operator : LLH
Sample : S16K050-CCV1@B16K042-BS1
Misc : 10ppbv 1645037@1645040
ALS Vial : 32 Sample Multiplier: 1

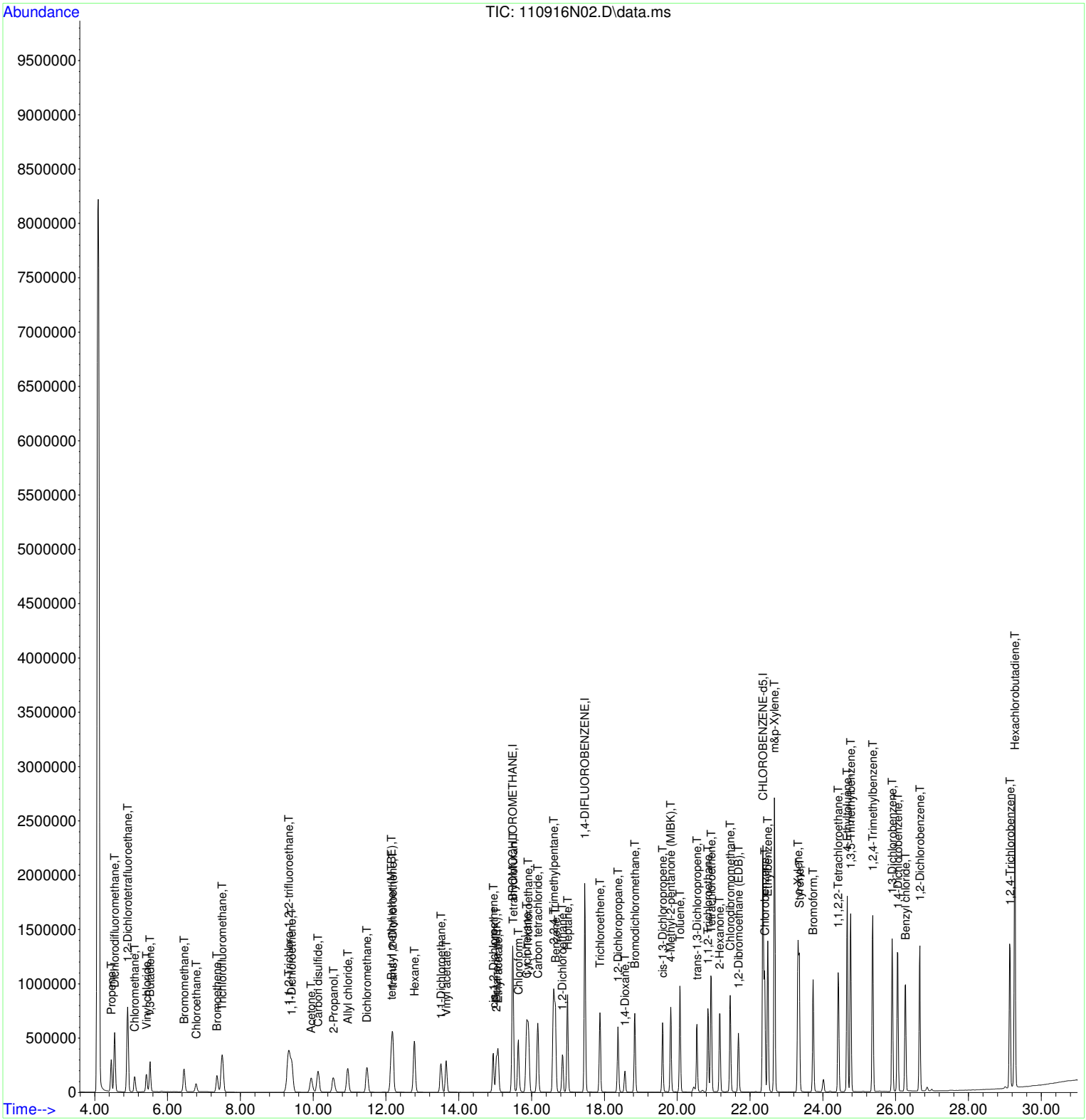
Quant Time: Nov 09 11:54:43 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	Styrene	23.355	104	809128	10.71	ppbv	96
56)	Bromoform	23.734	173	652745	11.56	ppbv	98
57)	1,1,2,2-Tetrachloroethane	24.422	83	805402	11.37	ppbv	99
58)	4-Ethyltoluene	24.671	105	1590110	10.81	ppbv	97
59)	1,3,5-Trimethylbenzene	24.766	105	1286697	11.27	ppbv	96
60)	1,2,4-Trimethylbenzene	25.371	105	1275167	10.94	ppbv	96
61)	1,3-Dichlorobenzene	25.904	146	755926	10.33	ppbv	98
62)	1,4-Dichlorobenzene	26.059	146	726189	10.34	ppbv	98
63)	Benzyl chloride	26.272	91	1071279	11.91	ppbv	96
64)	1,2-Dichlorobenzene	26.663	146	735014	10.07	ppbv	98
65)	1,2,4-Trichlorobenzene	29.142	180	577208	9.53	ppbv	100
66)	Hexachlorobutadiene	29.272	225	719540	10.28	ppbv	99

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

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N02.D
Acq On : 9 Nov 2016 11:23 am
InstName : AG5973N
Operator : LLH
Sample : S16K050-CCV1@B16K042-BS1
Misc : 10ppbv 1645037@1645040
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 09 11:54:43 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration



REVIEWED
By LLH at 11:57 am, Nov 09, 2016

LCS REPORT

Instrument Name: AG5973N
Sample Name: S16K050-CCV1@B16K042-BS1
Misc Info: 10ppbv 1645037@1645040
Date Acquired: 11/9/2016 11:23
QLast Update: Thu Nov 03 17:25:24 2016
Operator: LLH

#	Name	Ret Time	Amount	Concentration	%R	QC	LIMIT	STATUS
1)	BROMOCHLOROMETHANE	15.48	#N/A	22.00	#N/A	70.0	130.0	#N/A
2)	Propene	4.45	11.00	10.79	98%	72.0	121.0	pass
3)	Dichlorodifluoromethane	4.55	9.70	9.21	95%	68.0	129.0	pass
4)	1,2-Dichlorotetrafluoroethane	4.90	10.00	8.83	88%	67.0	127.0	pass
5)	Chloromethane	5.09	10.60	9.87	93%	70.0	123.0	pass
6)	Vinyl chloride	5.42	10.40	10.66	102%	69.0	125.0	pass
7)	1,3-Butadiene	5.52	10.10	10.38	103%	75.0	121.0	pass
8)	Bromomethane	6.46	10.00	10.06	101%	66.0	125.0	pass
9)	Chloroethane	6.79	10.00	10.81	108%	67.0	125.0	pass
10)	Bromoethene	7.36	11.00	8.28	75%	68.0	124.0	pass
11)	Trichlorofluoromethane	7.50	9.80	8.93	91%	68.0	133.0	pass
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	9.33	10.20	7.48	73%	64.0	125.0	pass
13)	1,1-Dichloroethene	9.41	10.40	8.45	81%	73.0	128.0	pass
14)	Acetone	9.94	11.00	9.74	89%	67.0	141.0	pass
15)	Carbon disulfide	10.13	11.00	8.95	81%	45.0	158.0	pass
16)	2-Propanol	10.56	11.00	8.54	78%	72.0	132.0	pass
17)	Allyl chloride	10.95	11.00	9.27	84%	75.0	132.0	pass
18)	Dichloromethane	11.47	10.10	8.60	85%	73.0	116.0	pass
19)	tert-Butyl methyl ether (MTBE)	12.15	10.80	8.14	75%	74.0	131.0	pass
20)	trans-1,2-Dichloroethene	12.18	10.90	9.41	86%	80.0	123.0	pass
21)	Hexane	12.78	10.40	8.06	77%	75.0	124.0	pass
22)	1,1-Dichloroethane	13.51	10.00	8.13	81%	72.0	125.0	pass
23)	Vinyl acetate	13.65	10.90	9.51	87%	31.0	171.0	pass
24)	cis-1,2-Dichloroethene	14.95	10.40	8.34	80%	77.0	129.0	pass
25)	2-Butanone (MEK)	15.03	10.90	8.42	77%	69.0	137.0	pass
26)	Ethyl acetate	15.08	10.80	8.88	82%	75.0	127.0	pass
27)	Tetrahydrofuran	15.49	10.60	9.63	91%	78.0	120.0	pass
28)	Chloroform	15.63	10.10	8.70	86%	77.0	126.0	pass
29)	Cyclohexane	15.86	10.60	8.52	80%	76.0	124.0	pass
30)	1,1,1-Trichloroethane	15.91	9.80	8.73	89%	74.0	133.0	pass
31)	Carbon tetrachloride	16.17	9.70	8.61	89%	71.0	141.0	pass
32)	1,4-DIFLUOROBENZENE	17.46	#N/A	22.00	#N/A	70.0	130.0	#N/A
33)	Benzene	16.65	10.30	10.65	103%	81.0	125.0	pass
34)	2,2,4-Trimethylpentane	16.61	10.60	10.97	103%	82.0	125.0	pass
35)	1,2-Dichloroethane	16.84	10.00	11.95	120%	61.0	153.0	pass
36)	Heptane	16.99	10.60	12.02	113%	80.0	129.0	pass
37)	Trichloroethene	17.88	10.80	9.75	90%	73.0	128.0	pass
38)	1,2-Dichloropropane	18.37	10.30	10.69	104%	77.0	129.0	pass
39)	1,4-Dioxane	18.56	11.00	9.70	88%	58.0	140.0	pass
40)	Bromodichloromethane	18.84	10.70	11.86	111%	76.0	137.0	pass
41)	cis-1,3-Dichloropropene	19.60	10.80	10.87	101%	80.0	136.0	pass
42)	4-Methyl-2-pentanone (MIBK)	19.82	10.70	12.47	117%	65.0	140.0	pass
43)	CHLOROBENZENE-d5	22.36	#N/A	22.00	#N/A	70.0	130.0	#N/A
44)	Toluene	20.07	10.50	10.58	101%	78.0	133.0	pass
45)	trans-1,3-Dichloropropene	20.54	10.60	11.85	112%	79.0	146.0	pass
46)	1,1,2-Trichloroethane	20.84	10.60	10.94	103%	74.0	134.0	pass
47)	Tetrachloroethene	20.94	10.60	9.96	94%	73.0	130.0	pass

48)	2-Hexanone	21.16	10.90	13.06	120%	50.0	162.0	pass
49)	Chlorodibromomethane	21.46	10.80	11.60	107%	81.0	135.0	pass
50)	1,2-Dibromoethane (EDB)	21.68	10.90	11.06	101%	78.0	133.0	pass
51)	Chlorobenzene	22.41	10.70	10.73	100%	81.0	126.0	pass
52)	Ethylbenzene	22.49	10.50	11.19	107%	82.0	130.0	pass
53)	m&p-Xylene	22.67	21.20	23.96	113%	82.0	131.0	pass
54)	o-Xylene	23.32	10.50	11.33	108%	82.0	132.0	pass
55)	Styrene	23.35	10.30	10.71	104%	65.0	141.0	pass
56)	Bromoform	23.73	10.70	11.56	108%	84.0	137.0	pass
57)	1,1,2,2-Tetrachloroethane	24.42	10.40	11.37	109%	73.0	127.0	pass
58)	4-Ethyltoluene	24.67	10.80	10.81	100%	81.0	127.0	pass
59)	1,3,5-Trimethylbenzene	24.77	10.70	11.27	105%	77.0	132.0	pass
60)	1,2,4-Trimethylbenzene	25.37	10.60	10.94	103%	78.0	131.0	pass
61)	1,3-Dichlorobenzene	25.90	10.50	10.33	98%	79.0	124.0	pass
62)	1,4-Dichlorobenzene	26.06	10.50	10.34	99%	75.0	127.0	pass
63)	Benzyl chloride	26.27	11.00	11.91	108%	67.0	156.0	pass
64)	1,2-Dichlorobenzene	26.66	10.40	10.07	97%	77.0	124.0	pass
65)	1,2,4-Trichlorobenzene	29.14	10.40	9.53	92%	55.0	132.0	pass
66)	Hexachlorobutadiene	29.27	10.30	10.28	100%	52.0	131.0	pass

B16K042-BS1

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N02.D
Acq On : 9 Nov 2016 11:23 am
InstName : AG5973N
Operator : LLH
Sample : S16K050-CCV1@B16K042-BS1
Misc : 10ppbv 1645037@1645040
ALS Vial : 32 Sample Multiplier: 1

REVIEWED
By LLH at 11:57 am, Nov 09, 2016

Quant Time: Nov 09 11:54:43 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	91	0.00
2	T	Propene	0.628	0.616	1.9	95	0.00
3	T	Dichlorodifluoromethane	2.375	2.255	5.1	90	0.00
4	T	1,2-Dichlorotetrafluoroetha	2.339	2.065	11.7	84	0.00
5	T	Chloromethane	0.731	0.680	7.0	89	-0.01
6	T	Vinyl chloride	0.735	0.753	-2.4	98	0.00
7	T	1,3-Butadiene	0.542	0.557	-2.8	100	0.00
8	T	Bromomethane	0.708	0.712	-0.6	97	0.00
9	T	Chloroethane	0.331	0.358	-8.2	105	0.00
10	T	Bromoethene	0.688	0.518	24.7	74	0.00
11	T	Trichlorofluoromethane	2.083	1.898	8.9	87	0.00
12	T	1,1,2-Trichloro-1,2,2-trifl	1.354	0.992	26.7	71	-0.01
13	T	1,1-Dichloroethene	1.299	1.056	18.7	77	0.00
14	T	Acetone	1.193	1.056	11.5	84	0.00
15	T	Carbon disulfide	2.010	1.635	18.7	78	0.00
16	T	2-Propanol	1.244	0.966	22.3	74	0.01
17	T	Allyl chloride	0.999	0.842	15.7	80	0.00
18	T	Dichloromethane	1.013	0.862	14.9	85	-0.01
19	T	tert-Butyl methyl ether (MT	2.449	1.845	24.7	70	0.00
20	T	trans-1,2-Dichloroethene	1.164	1.005	13.7	83	0.00
21	T	Hexane	1.442	1.117	22.5	75	0.00
22	T	1,1-Dichloroethane	1.621	1.318	18.7	78	0.00
23	T	Vinyl acetate	2.061	1.798	12.8	81	0.00
24	T	cis-1,2-Dichloroethene	1.150	0.922	19.8	76	0.00
25	T	2-Butanone (MEK)	0.435	0.336	22.8	73	0.00
26	T	Ethyl acetate	0.284	0.234	17.6	77	0.00
27	T	Tetrahydrofuran	0.976	0.887	9.1	86	0.00
28	T	Chloroform	1.791	1.543	13.8	82	0.00
29	T	Cyclohexane	1.456	1.171	19.6	77	0.00
30	T	1,1,1-Trichloroethane	1.943	1.731	10.9	85	0.00
31	T	Carbon tetrachloride	2.031	1.802	11.3	84	0.00
32	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	72	0.00
33	T	Benzene	0.880	0.910	-3.4	78	0.00
34	T	2,2,4-Trimethylpentane	1.457	1.507	-3.4	78	0.00
35	T	1,2-Dichloroethane	0.383	0.458	-19.6	89	0.00
36	T	Heptane	0.512	0.581	-13.5	85	0.00
37	T	Trichloroethene	0.352	0.318	9.7	67	0.00
38	T	1,2-Dichloropropane	0.324	0.337	-4.0	77	0.00
39	T	1,4-Dioxane	0.199	0.175	12.1	66	0.00
40	T	Bromodichloromethane	0.615	0.682	-10.9	82	0.00
41	T	cis-1,3-Dichloropropene	0.486	0.490	-0.8	74	0.00
42	T	4-Methyl-2-pentanone (MIBK)	0.677	0.788	-16.4	86	0.00
43	I	CHLOROBENZENE-d5	1.000	1.000	0.0	71	0.00
44	T	Toluene	1.235	1.245	-0.8	73	0.00
45	T	trans-1,3-Dichloropropene	0.540	0.603	-11.7	79	0.00
46	T	1,1,2-Trichloroethane	0.402	0.415	-3.2	74	0.00
47	T	Tetrachloroethene	0.580	0.545	6.0	68	0.00
48	T	2-Hexanone	0.736	0.882	-19.8	86	0.00
49	T	Chlorodibromomethane	0.734	0.789	-7.5	77	0.00
50	T	1,2-Dibromoethane (EDB)	0.590	0.599	-1.5	73	0.00
51	T	Chlorobenzene	0.934	0.937	-0.3	72	0.00

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N02.D
Acq On : 9 Nov 2016 11:23 am
InstName : AG5973N
Operator : LLH
Sample : S16K050-CCV1@B16K042-BS1
Misc : 10ppbv 1645037@1645040
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 09 11:54:43 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
52 T	Ethylbenzene	1.615	1.721	-6.6	76	0.00
53 T	m&p-Xylene	1.249	1.412	-13.1	80	0.00
54 T	o-Xylene	1.276	1.377	-7.9	77	0.00
55 T	Styrene	0.993	1.032	-3.9	74	0.00
56 T	Bromoform	0.742	0.802	-8.1	75	0.00
57 T	1,1,2,2-Tetrachloroethane	0.931	1.018	-9.3	78	0.00
58 T	4-Ethyltoluene	1.933	1.935	-0.1	72	0.00
59 T	1,3,5-Trimethylbenzene	1.500	1.580	-5.3	75	0.00
60 T	1,2,4-Trimethylbenzene	1.532	1.581	-3.2	74	0.00
61 T	1,3-Dichlorobenzene	0.962	0.946	1.7	70	0.00
62 T	1,4-Dichlorobenzene	0.922	0.909	1.4	70	0.00
63 T	Benzyl chloride	1.182	1.280	-8.3	75	0.00
64 T	1,2-Dichlorobenzene	0.959	0.929	3.1	69	0.00
65 T	1,2,4-Trichlorobenzene	0.796	0.729	8.4	64	0.00
66 T	Hexachlorobutadiene	0.920	0.918	0.2	70	0.00

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

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N02.D
Acq On : 9 Nov 2016 11:23 am
InstName : AG5973N
Operator : LLH
Sample : S16K050-CCV1@B16K042-BS1
Misc : 10ppbv 1645037@1645040
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 09 11:54:43 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	832383	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	2041283	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1674128	22.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.452	41	256166	10.79	ppbv	98
3) Dichlorodifluoromethane	4.547	85	827591	9.21	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.903	85	781483	8.83	ppbv	93
5) Chloromethane	5.093	50	272876	9.87	ppbv	99
6) Vinyl chloride	5.425	62	296483	10.66	ppbv	100
7) 1,3-Butadiene	5.520	54	212732	10.38	ppbv	90
8) Bromomethane	6.456	94	269549	10.06	ppbv	99
9) Chloroethane	6.789	64	135423	10.81	ppbv	99
10) Bromoethene	7.358	106	215675	8.28	ppbv	99
11) Trichlorofluoromethane	7.500	101	703884	8.93	ppbv	99
12) 1,1,2-Trichloro-1,2,2-...	9.326	151	382948	7.48	ppbv	92
13) 1,1-Dichloroethene	9.409	61	415339	8.45	ppbv	94
14) Acetone	9.943	43	439590	9.74	ppbv	95
15) Carbon disulfide	10.133	76	680440	8.95	ppbv	96
16) 2-Propanol	10.560	45	401891	8.54	ppbv	85
17) Allyl chloride	10.951	41	350613	9.27	ppbv	92
18) Dichloromethane	11.473	49	329412	8.60	ppbv	90
19) tert-Butyl methyl ethe...	12.149	73	753954	8.14	ppbv	99
20) trans-1,2-Dichloroethene	12.184	61	414571	9.41	ppbv	90
21) Hexane	12.777	57	439556	8.06	ppbv	88
22) 1,1-Dichloroethane	13.512	63	498516	8.13	ppbv	100
23) Vinyl acetate	13.655	43	741607	9.51	ppbv	95
24) cis-1,2-Dichloroethene	14.947	61	362757	8.34	ppbv	90
25) 2-Butanone (MEK)	15.030	72	138485	8.42	ppbv #	100
26) Ethyl acetate	15.078	61	95443	8.88	ppbv #	95
27) Tetrahydrofuran	15.493	42	355816	9.63	ppbv	89
28) Chloroform	15.635	83	589545	8.70	ppbv	98
29) Cyclohexane	15.860	56	469460	8.52	ppbv	90
30) 1,1,1-Trichloroethane	15.908	97	641907	8.73	ppbv	97
31) Carbon tetrachloride	16.169	117	661430	8.61	ppbv	100
33) Benzene	16.655	78	870061	10.65	ppbv	97
34) 2,2,4-Trimethylpentane	16.607	57	1482384	10.97	ppbv	95
35) 1,2-Dichloroethane	16.845	62	424519	11.95	ppbv	99
36) Heptane	16.987	43	571468	12.02	ppbv	92
37) Trichloroethene	17.876	130	318399	9.75	ppbv	95
38) 1,2-Dichloropropane	18.374	63	321735	10.69	ppbv	93
39) 1,4-Dioxane	18.564	88	178861	9.70	ppbv	88
40) Bromodichloromethane	18.837	83	677430	11.86	ppbv	98
41) cis-1,3-Dichloropropene	19.596	75	490747	10.87	ppbv	92
42) 4-Methyl-2-pentanone (...	19.821	43	782799	12.47	ppbv	92
44) Toluene	20.070	91	994383	10.58	ppbv	99
45) trans-1,3-Dichloropropene	20.544	75	486529	11.85	ppbv	93
46) 1,1,2-Trichloroethane	20.841	97	334723	10.94	ppbv	91
47) Tetrachloroethene	20.936	166	439359	9.96	ppbv	97
48) 2-Hexanone	21.161	43	731497	13.06	ppbv	90
49) Chlorodibromomethane	21.457	129	648339	11.60	ppbv	98
50) 1,2-Dibromoethane (EDB)	21.683	107	496618	11.06	ppbv	99
51) Chlorobenzene	22.406	112	762672	10.73	ppbv	94
52) Ethylbenzene	22.489	91	1375197	11.19	ppbv	97
53) m&p-Xylene	22.667	91	2277500	23.96	ppbv	96
54) o-Xylene	23.319	91	1100124	11.33	ppbv	96

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N02.D
Acq On : 9 Nov 2016 11:23 am
InstName : AG5973N
Operator : LLH
Sample : S16K050-CCV1@B16K042-BS1
Misc : 10ppbv 1645037@1645040
ALS Vial : 32 Sample Multiplier: 1

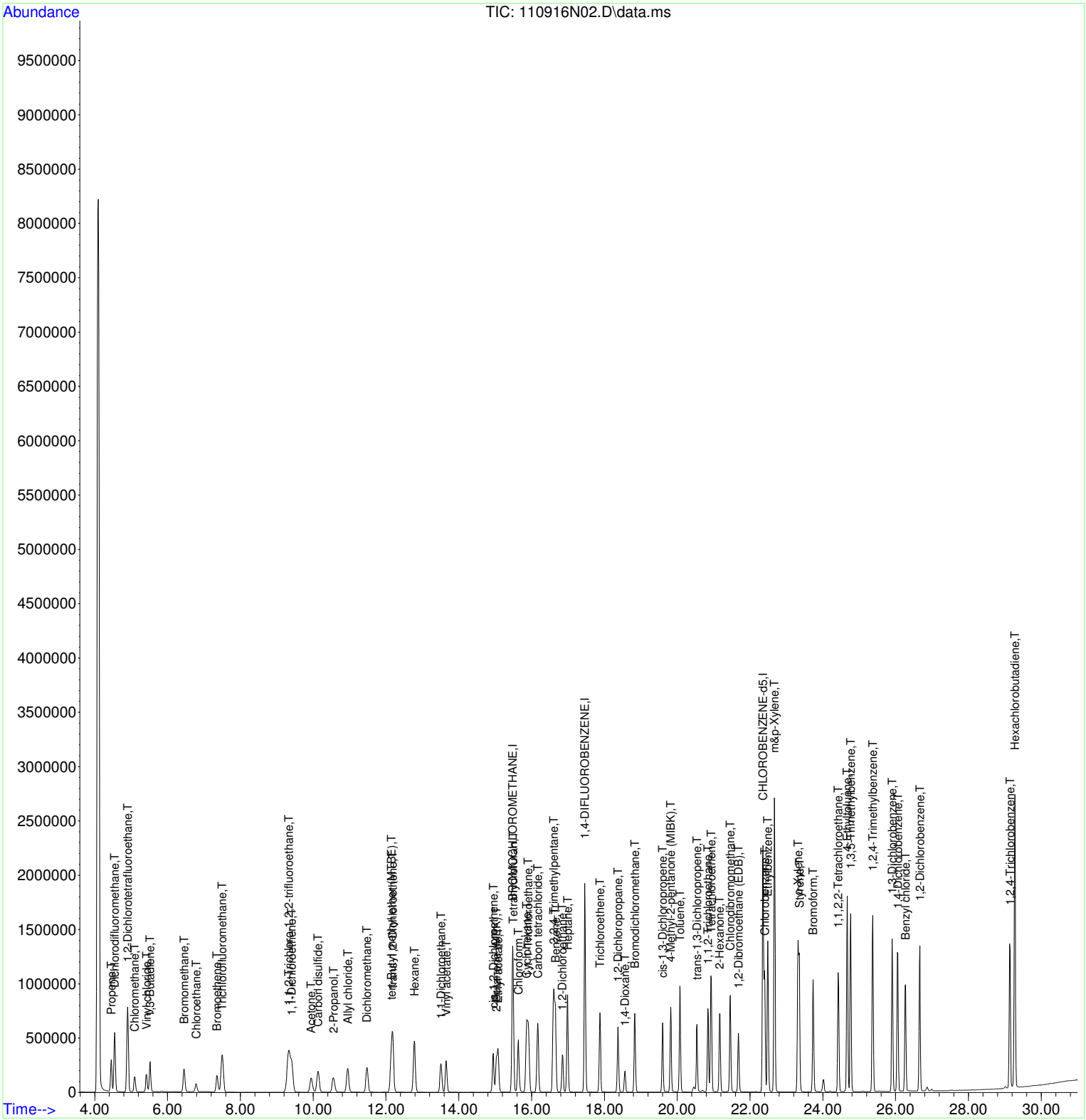
Quant Time: Nov 09 11:54:43 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	Styrene	23.355	104	809128	10.71	ppbv	96
56)	Bromoform	23.734	173	652745	11.56	ppbv	98
57)	1,1,2,2-Tetrachloroethane	24.422	83	805402	11.37	ppbv	99
58)	4-Ethyltoluene	24.671	105	1590110	10.81	ppbv	97
59)	1,3,5-Trimethylbenzene	24.766	105	1286697	11.27	ppbv	96
60)	1,2,4-Trimethylbenzene	25.371	105	1275167	10.94	ppbv	96
61)	1,3-Dichlorobenzene	25.904	146	755926	10.33	ppbv	98
62)	1,4-Dichlorobenzene	26.059	146	726189	10.34	ppbv	98
63)	Benzyl chloride	26.272	91	1071279	11.91	ppbv	96
64)	1,2-Dichlorobenzene	26.663	146	735014	10.07	ppbv	98
65)	1,2,4-Trichlorobenzene	29.142	180	577208	9.53	ppbv	100
66)	Hexachlorobutadiene	29.272	225	719540	10.28	ppbv	99

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

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N02.D
Acq On : 9 Nov 2016 11:23 am
InstName : AG5973N
Operator : LLH
Sample : S16K050-CCV1@B16K042-BS1
Misc : 10ppbv 1645037@1645040
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 09 11:54:43 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration



LCS REPORT

REVIEWED
By LLH at 11:57 am, Nov 09, 2016

Instrument Name: AG5973N
Sample Name: S16K050-CCV1@B16K042-BS1
Misc Info: 10ppbv 1645037@1645040
Date Acquired: 11/9/2016 11:23
QLast Update: Thu Nov 03 17:25:24 2016
Operator: LLH

#	Name	Ret Time	Amount	Concentration	%R	QC	LIMIT	STATUS
1)	BROMOCHLOROMETHANE	15.48	#N/A	22.00	#N/A	70.0	130.0	#N/A
2)	Propene	4.45	11.00	10.79	98%	72.0	121.0	pass
3)	Dichlorodifluoromethane	4.55	9.70	9.21	95%	68.0	129.0	pass
4)	1,2-Dichlorotetrafluoroethane	4.90	10.00	8.83	88%	67.0	127.0	pass
5)	Chloromethane	5.09	10.60	9.87	93%	70.0	123.0	pass
6)	Vinyl chloride	5.42	10.40	10.66	102%	69.0	125.0	pass
7)	1,3-Butadiene	5.52	10.10	10.38	103%	75.0	121.0	pass
8)	Bromomethane	6.46	10.00	10.06	101%	66.0	125.0	pass
9)	Chloroethane	6.79	10.00	10.81	108%	67.0	125.0	pass
10)	Bromoethene	7.36	11.00	8.28	75%	68.0	124.0	pass
11)	Trichlorofluoromethane	7.50	9.80	8.93	91%	68.0	133.0	pass
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	9.33	10.20	7.48	73%	64.0	125.0	pass
13)	1,1-Dichloroethene	9.41	10.40	8.45	81%	73.0	128.0	pass
14)	Acetone	9.94	11.00	9.74	89%	67.0	141.0	pass
15)	Carbon disulfide	10.13	11.00	8.95	81%	45.0	158.0	pass
16)	2-Propanol	10.56	11.00	8.54	78%	72.0	132.0	pass
17)	Allyl chloride	10.95	11.00	9.27	84%	75.0	132.0	pass
18)	Dichloromethane	11.47	10.10	8.60	85%	73.0	116.0	pass
19)	tert-Butyl methyl ether (MTBE)	12.15	10.80	8.14	75%	74.0	131.0	pass
20)	trans-1,2-Dichloroethene	12.18	10.90	9.41	86%	80.0	123.0	pass
21)	Hexane	12.78	10.40	8.06	77%	75.0	124.0	pass
22)	1,1-Dichloroethane	13.51	10.00	8.13	81%	72.0	125.0	pass
23)	Vinyl acetate	13.65	10.90	9.51	87%	31.0	171.0	pass
24)	cis-1,2-Dichloroethene	14.95	10.40	8.34	80%	77.0	129.0	pass
25)	2-Butanone (MEK)	15.03	10.90	8.42	77%	69.0	137.0	pass
26)	Ethyl acetate	15.08	10.80	8.88	82%	75.0	127.0	pass
27)	Tetrahydrofuran	15.49	10.60	9.63	91%	78.0	120.0	pass
28)	Chloroform	15.63	10.10	8.70	86%	77.0	126.0	pass
29)	Cyclohexane	15.86	10.60	8.52	80%	76.0	124.0	pass
30)	1,1,1-Trichloroethane	15.91	9.80	8.73	89%	74.0	133.0	pass
31)	Carbon tetrachloride	16.17	9.70	8.61	89%	71.0	141.0	pass
32)	1,4-DIFLUOROBENZENE	17.46	#N/A	22.00	#N/A	70.0	130.0	#N/A
33)	Benzene	16.65	10.30	10.65	103%	81.0	125.0	pass
34)	2,2,4-Trimethylpentane	16.61	10.60	10.97	103%	82.0	125.0	pass
35)	1,2-Dichloroethane	16.84	10.00	11.95	120%	61.0	153.0	pass
36)	Heptane	16.99	10.60	12.02	113%	80.0	129.0	pass
37)	Trichloroethene	17.88	10.80	9.75	90%	73.0	128.0	pass
38)	1,2-Dichloropropane	18.37	10.30	10.69	104%	77.0	129.0	pass
39)	1,4-Dioxane	18.56	11.00	9.70	88%	58.0	140.0	pass
40)	Bromodichloromethane	18.84	10.70	11.86	111%	76.0	137.0	pass
41)	cis-1,3-Dichloropropene	19.60	10.80	10.87	101%	80.0	136.0	pass
42)	4-Methyl-2-pentanone (MIBK)	19.82	10.70	12.47	117%	65.0	140.0	pass
43)	CHLOROBENZENE-d5	22.36	#N/A	22.00	#N/A	70.0	130.0	#N/A
44)	Toluene	20.07	10.50	10.58	101%	78.0	133.0	pass
45)	trans-1,3-Dichloropropene	20.54	10.60	11.85	112%	79.0	146.0	pass
46)	1,1,2-Trichloroethane	20.84	10.60	10.94	103%	74.0	134.0	pass
47)	Tetrachloroethene	20.94	10.60	9.96	94%	73.0	130.0	pass

48)	2-Hexanone	21.16	10.90	13.06	120%	50.0	162.0	pass
49)	Chlorodibromomethane	21.46	10.80	11.60	107%	81.0	135.0	pass
50)	1,2-Dibromoethane (EDB)	21.68	10.90	11.06	101%	78.0	133.0	pass
51)	Chlorobenzene	22.41	10.70	10.73	100%	81.0	126.0	pass
52)	Ethylbenzene	22.49	10.50	11.19	107%	82.0	130.0	pass
53)	m&p-Xylene	22.67	21.20	23.96	113%	82.0	131.0	pass
54)	o-Xylene	23.32	10.50	11.33	108%	82.0	132.0	pass
55)	Styrene	23.35	10.30	10.71	104%	65.0	141.0	pass
56)	Bromoform	23.73	10.70	11.56	108%	84.0	137.0	pass
57)	1,1,2,2-Tetrachloroethane	24.42	10.40	11.37	109%	73.0	127.0	pass
58)	4-Ethyltoluene	24.67	10.80	10.81	100%	81.0	127.0	pass
59)	1,3,5-Trimethylbenzene	24.77	10.70	11.27	105%	77.0	132.0	pass
60)	1,2,4-Trimethylbenzene	25.37	10.60	10.94	103%	78.0	131.0	pass
61)	1,3-Dichlorobenzene	25.90	10.50	10.33	98%	79.0	124.0	pass
62)	1,4-Dichlorobenzene	26.06	10.50	10.34	99%	75.0	127.0	pass
63)	Benzyl chloride	26.27	11.00	11.91	108%	67.0	156.0	pass
64)	1,2-Dichlorobenzene	26.66	10.40	10.07	97%	77.0	124.0	pass
65)	1,2,4-Trichlorobenzene	29.14	10.40	9.53	92%	55.0	132.0	pass
66)	Hexachlorobutadiene	29.27	10.30	10.28	100%	52.0	131.0	pass

S16K050-CRL1

REVIEWED
By LLH at 1:35 pm, Nov 09, 2016

QLS REPORT

Instrument Name: AG5973N
Sample Name: S16K050-CRL1
Misc Info: 1.0ppbv 1645034
Date Acquired: 11/9/2016 12:11
QLast Update: Thu Nov 03 17:25:24 2016
Operator: LLH

#	Name	Ret Time	Amount	Concentration	%R	QC	LIMIT	STATUS	TYPE
1)	BROMOCHLOROMETHANE	15.48	#N/A	22.00	#N/A	60.0	140.0	#N/A	Internal
2)	Propene	4.45	1.10	1.34	122%	60.0	140.0	pass	Subset
3)	Dichlorodifluoromethane	4.55	0.97	1.05	109%	60.0	140.0	pass	Primary
4)	1,2-Dichlorotetrafluoroethane	4.90	1.00	1.01	101%	60.0	140.0	pass	Primary
5)	Chloromethane	5.09	1.06	1.18	111%	60.0	140.0	pass	Primary
6)	Vinyl chloride	5.41	1.04	1.24	119%	60.0	140.0	pass	Primary
7)	1,3-Butadiene	5.52	1.01	1.29	128%	60.0	140.0	pass	Subset
8)	Bromomethane	6.46	1.00	1.25	125%	60.0	140.0	pass	Primary
9)	Chloroethane	6.78	1.00	1.30	130%	60.0	140.0	pass	Primary
10)	Bromoethene	7.36	1.10	0.96	87%	60.0	140.0	pass	Subset
11)	Trichlorofluoromethane	7.50	0.98	1.07	109%	60.0	140.0	pass	Primary
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	9.34	1.02	0.87	85%	60.0	140.0	pass	Primary
13)	1,1-Dichloroethene	9.41	1.04	0.86	83%	60.0	140.0	pass	Primary
14)	Acetone	9.95	1.10	1.13	103%	60.0	140.0	pass	Subset
15)	Carbon disulfide	10.13	1.10	1.05	96%	60.0	140.0	pass	Subset
16)	2-Propanol	10.56	1.10	0.78	71%	60.0	140.0	pass	Subset
17)	Allyl chloride	10.95	1.10	0.89	81%	60.0	140.0	pass	Subset
18)	Dichloromethane	11.47	1.01	1.17	115%	60.0	140.0	pass	Primary
19)	tert-Butyl methyl ether (MTBE)	12.16	1.08	0.72	67%	60.0	140.0	pass	Subset
20)	trans-1,2-Dichloroethene	12.18	1.09	1.01	93%	60.0	140.0	pass	Subset
21)	Hexane	12.78	1.04	0.71	68%	60.0	140.0	pass	Subset
22)	1,1-Dichloroethane	13.51	1.00	0.91	91%	60.0	140.0	pass	Primary
23)	Vinyl acetate	13.65	1.09	0.73	67%	60.0	140.0	pass	Subset
24)	cis-1,2-Dichloroethene	14.95	1.04	0.77	74%	60.0	140.0	pass	Primary
25)	2-Butanone (MEK)	15.04	1.09	0.84	77%	60.0	140.0	pass	Subset
26)	Ethyl acetate	15.08	1.08	0.97	90%	60.0	140.0	pass	Subset
27)	Tetrahydrofuran	15.49	1.06	1.02	96%	60.0	140.0	pass	Subset
28)	Chloroform	15.64	1.01	0.98	97%	60.0	140.0	pass	Primary
29)	Cyclohexane	15.86	1.06	0.79	74%	60.0	140.0	pass	Subset
30)	1,1,1-Trichloroethane	15.91	0.98	0.95	97%	60.0	140.0	pass	Primary
31)	Carbon tetrachloride	16.17	0.97	0.95	98%	60.0	140.0	pass	Primary
32)	1,4-DIFLUOROBENZENE	17.46	#N/A	22.00	#N/A	60.0	140.0	#N/A	Internal
33)	Benzene	16.65	1.03	1.13	110%	60.0	140.0	pass	Primary
34)	2,2,4-Trimethylpentane	16.61	1.06	0.99	93%	60.0	140.0	pass	Subset
35)	1,2-Dichloroethane	16.84	1.00	1.28	128%	60.0	140.0	pass	Primary
36)	Heptane	16.99	1.06	1.08	102%	60.0	140.0	pass	Subset
37)	Trichloroethene	17.88	1.08	0.98	91%	60.0	140.0	pass	Primary
38)	1,2-Dichloropropane	18.37	1.03	1.11	108%	60.0	140.0	pass	Primary
39)	1,4-Dioxane	18.56	1.10	0.75	68%	60.0	140.0	pass	Subset
40)	Bromodichloromethane	18.84	1.07	1.32	123%	60.0	140.0	pass	Subset
41)	cis-1,3-Dichloropropene	19.60	1.08	0.94	87%	60.0	140.0	pass	Primary
42)	4-Methyl-2-pentanone (MIBK)	19.82	1.07	1.10	103%	60.0	140.0	pass	Subset
43)	CHLOROBENZENE-d5	22.36	#N/A	22.00	#N/A	60.0	140.0	#N/A	Internal
44)	Toluene	20.07	1.05	0.96	91%	60.0	140.0	pass	Primary
45)	trans-1,3-Dichloropropene	20.54	1.06	1.01	95%	60.0	140.0	pass	Primary
46)	1,1,2-Trichloroethane	20.84	1.06	1.18	111%	60.0	140.0	pass	Primary
47)	Tetrachloroethene	20.94	1.06	0.99	94%	60.0	140.0	pass	Primary
48)	2-Hexanone	21.17	1.09	1.06	97%	60.0	140.0	pass	Subset
49)	Chlorodibromomethane	21.46	1.08	1.23	114%	60.0	140.0	pass	Subset
50)	1,2-Dibromoethane (EDB)	21.68	1.09	1.13	103%	60.0	140.0	pass	Primary

51)	Chlorobenzene	22.41	1.07	1.18	110%	60.0	140.0	pass	Primary
52)	Ethylbenzene	22.49	1.05	1.04	99%	60.0	140.0	pass	Primary
53)	m&p-Xylene	22.67	2.12	2.13	101%	60.0	140.0	pass	Primary
54)	o-Xylene	23.32	1.05	0.94	90%	60.0	140.0	pass	Primary
55)	Styrene	23.35	1.03	0.91	89%	60.0	140.0	pass	Primary
56)	Bromoform	23.73	1.07	1.13	106%	60.0	140.0	pass	Subset
57)	1,1,2,2-Tetrachloroethane	24.42	1.04	1.20	115%	60.0	140.0	pass	Primary
58)	4-Ethyltoluene	24.67	1.08	0.96	89%	60.0	140.0	pass	Subset
59)	1,3,5-Trimethylbenzene	24.77	1.07	0.96	89%	60.0	140.0	pass	Primary
60)	1,2,4-Trimethylbenzene	25.37	1.06	0.87	82%	60.0	140.0	pass	Primary
61)	1,3-Dichlorobenzene	25.90	1.05	0.98	94%	60.0	140.0	pass	Primary
62)	1,4-Dichlorobenzene	26.06	1.05	0.95	90%	60.0	140.0	pass	Primary
63)	Benzyl chloride	26.27	1.10	1.05	96%	60.0	140.0	pass	Subset
64)	1,2-Dichlorobenzene	26.66	1.04	1.01	97%	60.0	140.0	pass	Primary
65)	1,2,4-Trichlorobenzene	29.14	1.04	0.98	94%	60.0	140.0	pass	Primary
66)	Hexachlorobutadiene	29.27	1.03	1.00	97%	60.0	140.0	pass	Primary

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N03.D
Acq On : 9 Nov 2016 12:11 pm
InstName : AG5973N
Operator : LLH
Sample : S16K050-CRL1
Misc : 1.0ppbv 1645034
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Nov 09 13:32:11 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	15.481	49	808860	22.00	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	2029645	22.00	ppbv		0.00
43) CHLOROBENZENE-d5	22.359	117	1638133	22.00	ppbv		0.00
Target Compounds							Qvalue
2) Propene	4.453	41	31029	1.34	ppbv		98
3) Dichlorodifluoromethane	4.547	85	92092	1.05	ppbv		100
4) 1,2-Dichlorotetrafluor...	4.903	85	86571	1.01	ppbv		94
5) Chloromethane	5.093	50	31746	1.18	ppbv		99
6) Vinyl chloride	5.413	62	33400	1.24	ppbv		99
7) 1,3-Butadiene	5.520	54	25745	1.29	ppbv		89
8) Bromomethane	6.457	94	32434	1.25	ppbv		95
9) Chloroethane	6.777	64	15874	1.30	ppbv		93
10) Bromoethene	7.358	106	24242	0.96	ppbv		100
11) Trichlorofluoromethane	7.500	101	81900	1.07	ppbv		98
12) 1,1,2-Trichloro-1,2,2-...	9.338	151	43114	0.87	ppbv		91
13) 1,1-Dichloroethene	9.409	61	41036	0.86	ppbv		95
14) Acetone	9.955	43	49481	1.13	ppbv		94
15) Carbon disulfide	10.133	76	77779	1.05	ppbv	#	84
16) 2-Propanol	10.560	45	35771	0.78	ppbv		58
17) Allyl chloride	10.951	41	32794	0.89	ppbv		93
18) Dichloromethane	11.473	49	43397	1.17	ppbv		90
19) tert-Butyl methyl ethe...	12.161	73	64870	0.72	ppbv		97
20) trans-1,2-Dichloroethene	12.184	61	43333	1.01	ppbv		92
21) Hexane	12.777	57	37607	0.71	ppbv	#	77
22) 1,1-Dichloroethane	13.512	63	54129	0.91	ppbv		99
23) Vinyl acetate	13.655	43	55524	0.73	ppbv		94
24) cis-1,2-Dichloroethene	14.947	61	32738	0.77	ppbv		91
25) 2-Butanone (MEK)	15.042	72	13485	0.84	ppbv	#	100
26) Ethyl acetate	15.078	61	10152	0.97	ppbv	#	91
27) Tetrahydrofuran	15.493	42	36458	1.02	ppbv		88
28) Chloroform	15.635	83	64513	0.98	ppbv		95
29) Cyclohexane	15.860	56	42209	0.79	ppbv		87
30) 1,1,1-Trichloroethane	15.908	97	67936	0.95	ppbv		96
31) Carbon tetrachloride	16.169	117	70730	0.95	ppbv		100
33) Benzene	16.655	78	91740	1.13	ppbv		96
34) 2,2,4-Trimethylpentane	16.607	57	132705	0.99	ppbv		88
35) 1,2-Dichloroethane	16.845	62	45225	1.28	ppbv		99
36) Heptane	16.987	43	50972	1.08	ppbv		91
37) Trichloroethene	17.876	130	31762	0.98	ppbv		95
38) 1,2-Dichloropropane	18.374	63	33357	1.11	ppbv		90
39) 1,4-Dioxane	18.564	88	13781	0.75	ppbv		82
40) Bromodichloromethane	18.837	83	74792	1.32	ppbv		98
41) cis-1,3-Dichloropropene	19.596	75	42274	0.94	ppbv		90
42) 4-Methyl-2-pentanone (...	19.821	43	68616	1.10	ppbv		89
44) Toluene	20.070	91	87957	0.96	ppbv		98
45) trans-1,3-Dichloropropene	20.544	75	40652	1.01	ppbv		89
46) 1,1,2-Trichloroethane	20.841	97	35281	1.18	ppbv		92
47) Tetrachloroethene	20.936	166	42875	0.99	ppbv		96
48) 2-Hexanone	21.173	43	58216	1.06	ppbv		86
49) Chlorodibromomethane	21.458	129	67222	1.23	ppbv		97
50) 1,2-Dibromoethane (EDB)	21.683	107	49551	1.13	ppbv		98
51) Chlorobenzene	22.406	112	81758	1.18	ppbv	#	77
52) Ethylbenzene	22.489	91	125018	1.04	ppbv		97
53) m&p-Xylene	22.667	91	198414	2.13	ppbv		95
54) o-Xylene	23.319	91	89306	0.94	ppbv		94

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N03.D
Acq On : 9 Nov 2016 12:11 pm
InstName : AG5973N
Operator : LLH
Sample : S16K050-CRL1
Misc : 1.0ppbv 1645034
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Nov 09 13:32:11 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
55)	Styrene	23.355	104	67625	0.91 ppbv	94
56)	Bromoform	23.734	173	62533	1.13 ppbv	96
57)	1,1,2,2-Tetrachloroethane	24.422	83	83219	1.20 ppbv	99
58)	4-Ethyltoluene	24.671	105	138836	0.96 ppbv	97
59)	1,3,5-Trimethylbenzene	24.766	105	106675	0.96 ppbv	95
60)	1,2,4-Trimethylbenzene	25.371	105	98907	0.87 ppbv	94
61)	1,3-Dichlorobenzene	25.905	146	70419	0.98 ppbv	98
62)	1,4-Dichlorobenzene	26.059	146	65196	0.95 ppbv	96
63)	Benzyl chloride	26.272	91	92576	1.05 ppbv	94
64)	1,2-Dichlorobenzene	26.663	146	71978	1.01 ppbv	98
65)	1,2,4-Trichlorobenzene	29.142	180	57825	0.98 ppbv	98
66)	Hexachlorobutadiene	29.272	225	68691	1.00 ppbv	98

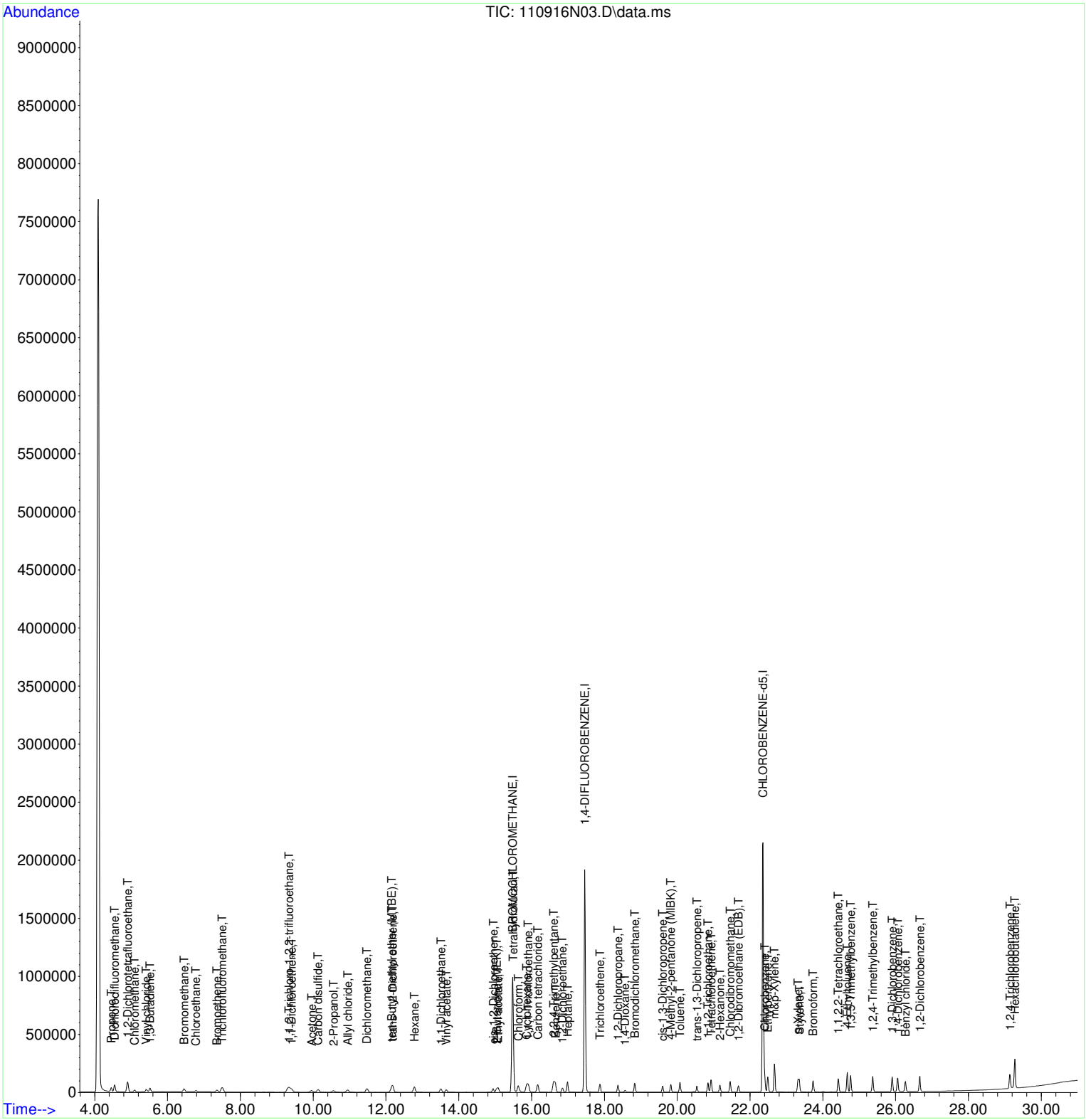
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N03.D
Acq On : 9 Nov 2016 12:11 pm
InstName : AG5973N
Operator : LLH
Sample : S16K050-CRL1
Misc : 1.0ppbv 1645034
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Nov 09 13:32:11 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration



B16K042-BLK1

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N04.D
Acq On : 9 Nov 2016 1:00 pm
InstName : AG5973N
Operator : LLH
Sample : B16K042-BLK1
Misc : 200ml BLANK #35
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Nov 09 13:35:26 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	778339	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	1972366	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1583107	22.00	ppbv	0.00

Target Compounds Qvalue

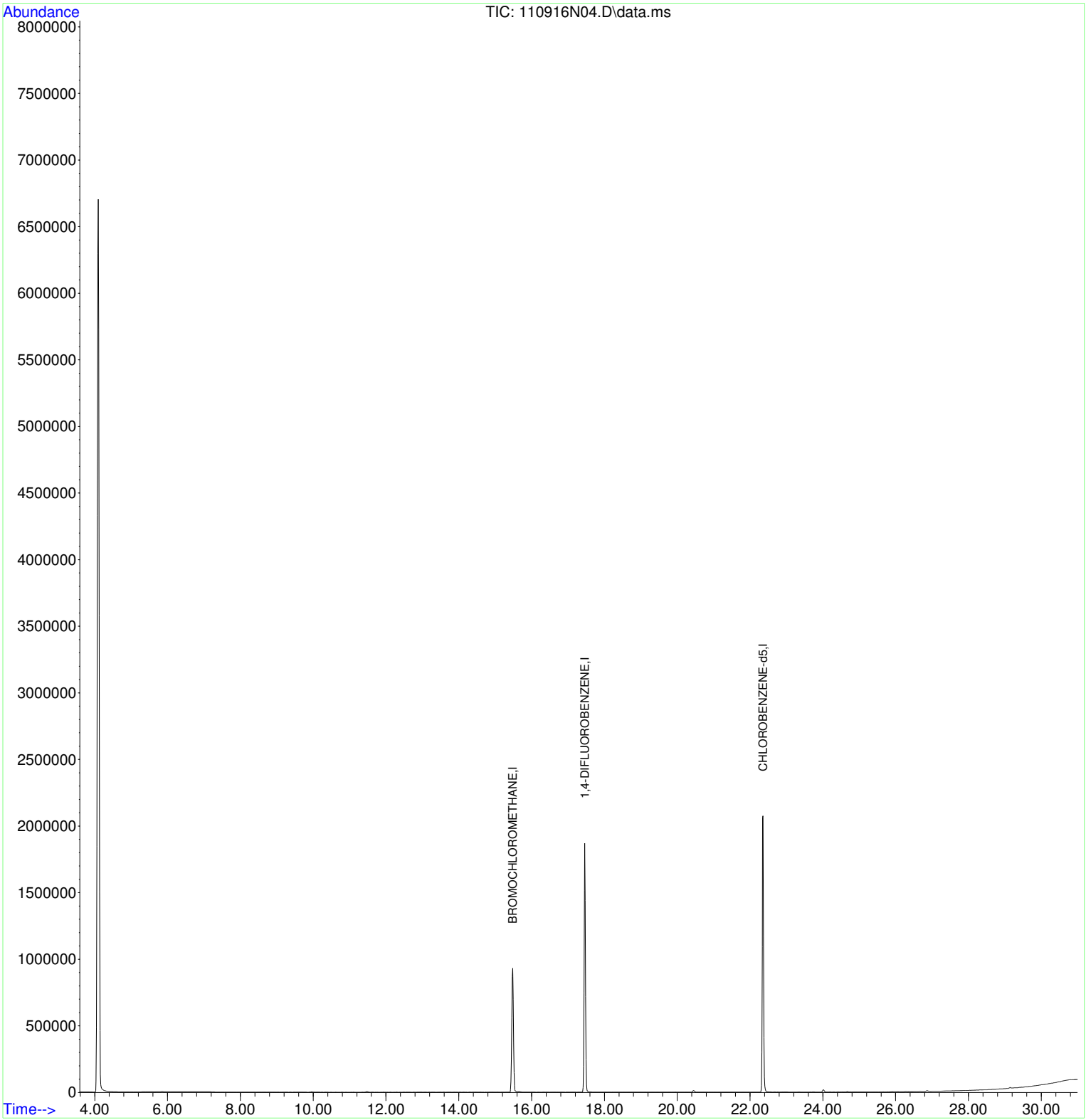
(#) = qualifier out of range (m) = manual integration (+) = signals summed

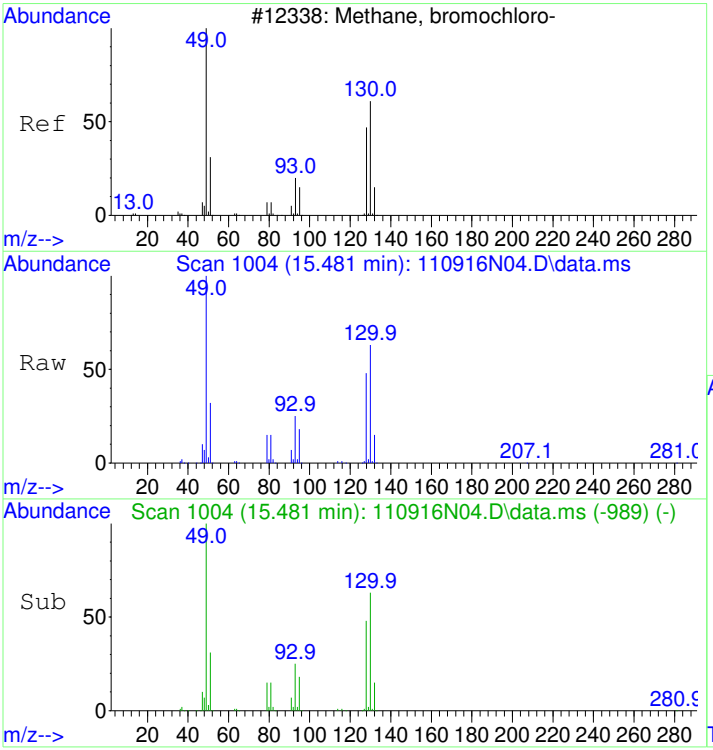
REVIEWED
By LLH at 1:36 pm, Nov 09, 2016

Table of Contents

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N04.D
Acq On : 9 Nov 2016 1:00 pm
InstName : AG5973N
Operator : LLH
Sample : B16K042-BLK1
Misc : 200ml BLANK #35
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Nov 09 13:35:26 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

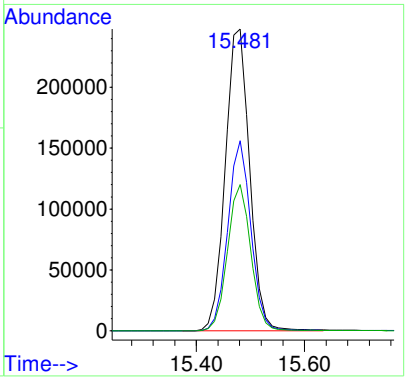


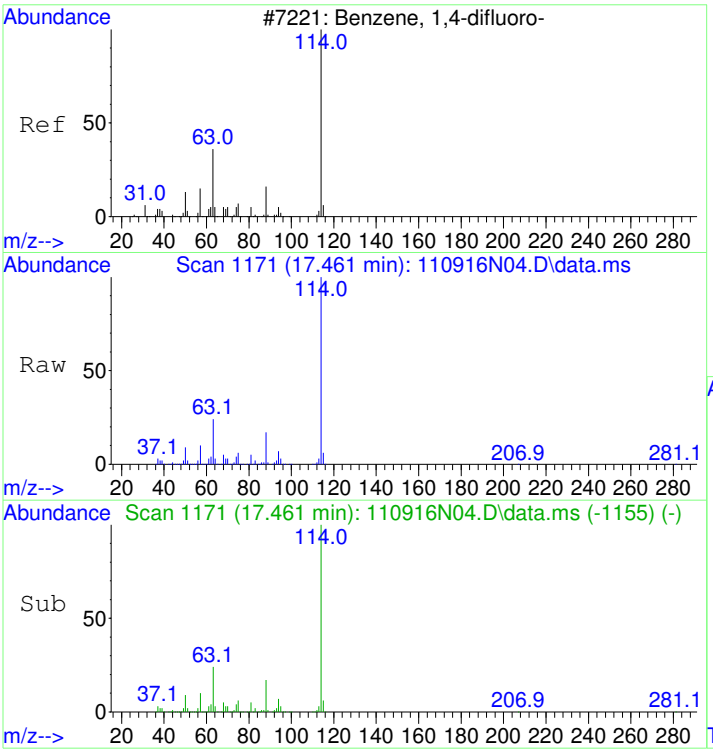


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. -0.000 min
Lab File: 110916N04.D
Acq: 9 Nov 2016 1:00 pm

Tgt Ion: 49 Resp: 778339

Ion	Ratio	Lower	Upper
49	100		
130	59.7	56.1	96.1
128	46.3	38.8	78.8

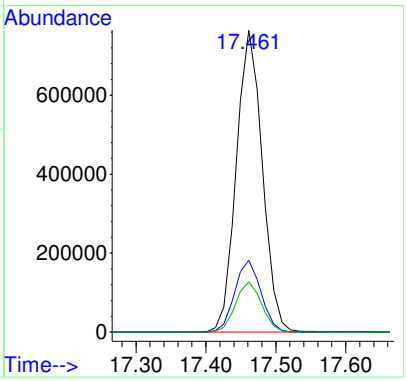


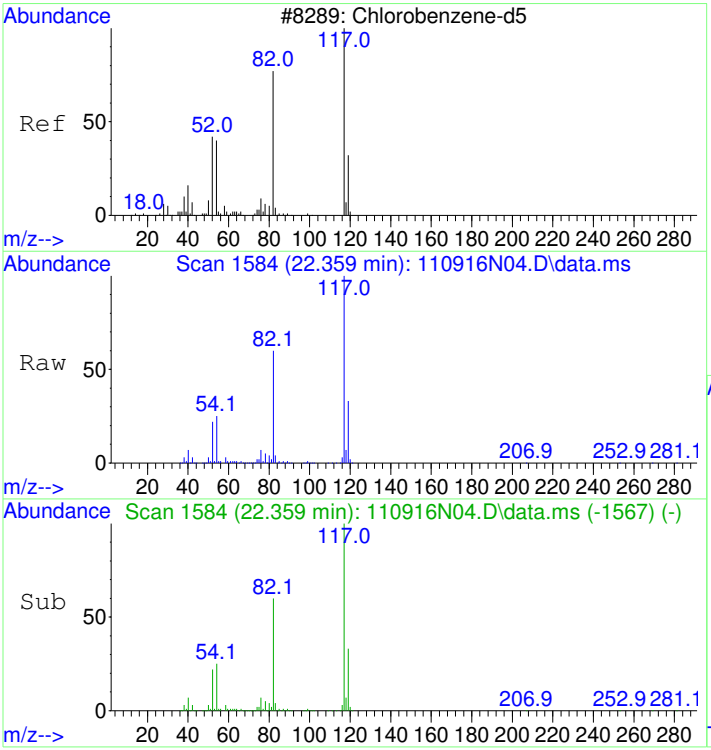


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. -0.000 min
Lab File: 110916N04.D
Acq: 9 Nov 2016 1:00 pm

Tgt Ion:114 Resp: 1972366

Ion	Ratio	Lower	Upper
114	100		
63	24.0	0.1	40.1
88	16.7	0.0	35.8

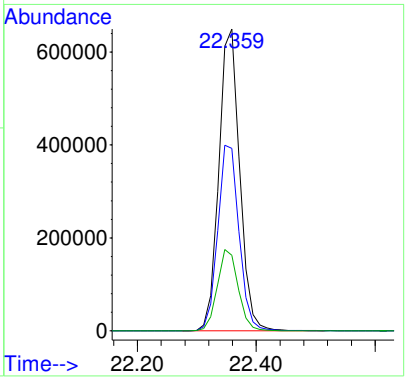




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. -0.000 min
Lab File: 110916N04.D
Acq: 9 Nov 2016 1:00 pm

Tgt Ion:117 Resp: 1583107

Ion	Ratio	Lower	Upper
117	100		
82	62.8	36.8	76.8
54	27.1	1.4	41.4



LSC Area Percent Report

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N04.D
Acq On : 9 Nov 2016 1:00 pm
Operator : LLH
Sample : B16K042-BLK1
Misc : 200ml BLANK #35
ALS Vial : 33 Sample Multiplier: 1

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.01 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 1 prefer < Baseline drop else tangent >
Peak separation: 10

Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Title : TO15

Signal : TIC: 110916N04.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	15.481	996	1004	1014	rBV	931301	2860782	54.55%	22.030%
2	17.461	1165	1171	1183	rBV	1868433	4880292	93.05%	37.582%
3	22.359	1578	1584	1594	rBV	2073241	5244698	100.00%	40.388%

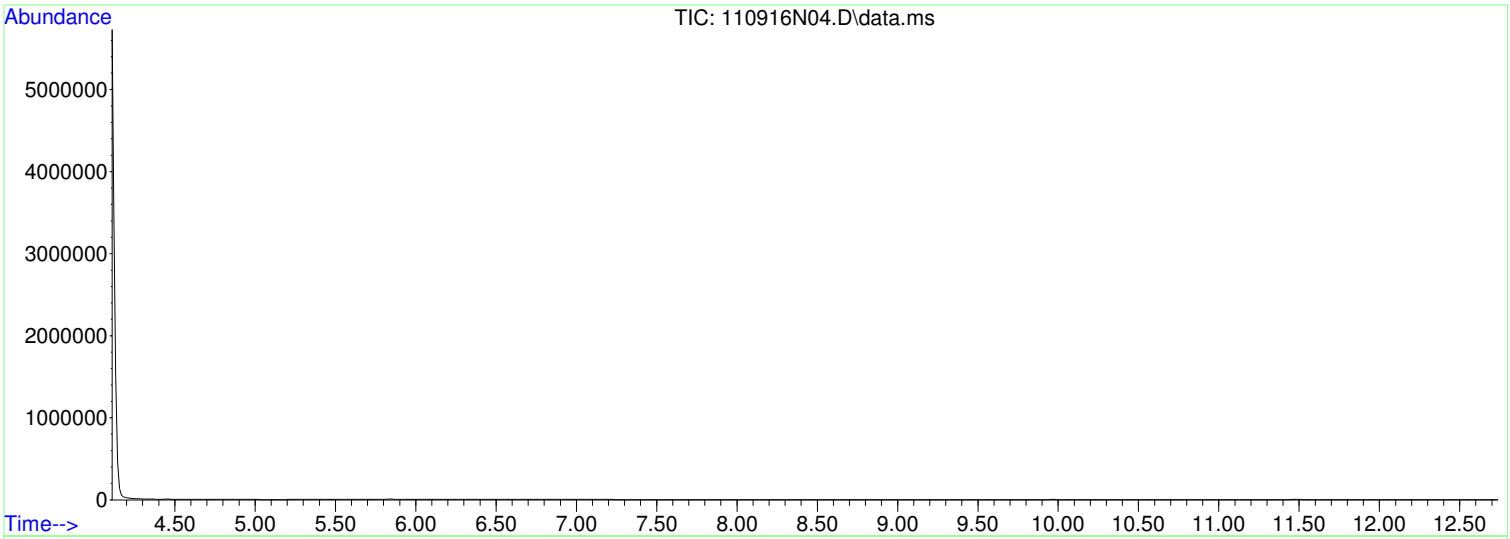
Sum of corrected areas: 12985772

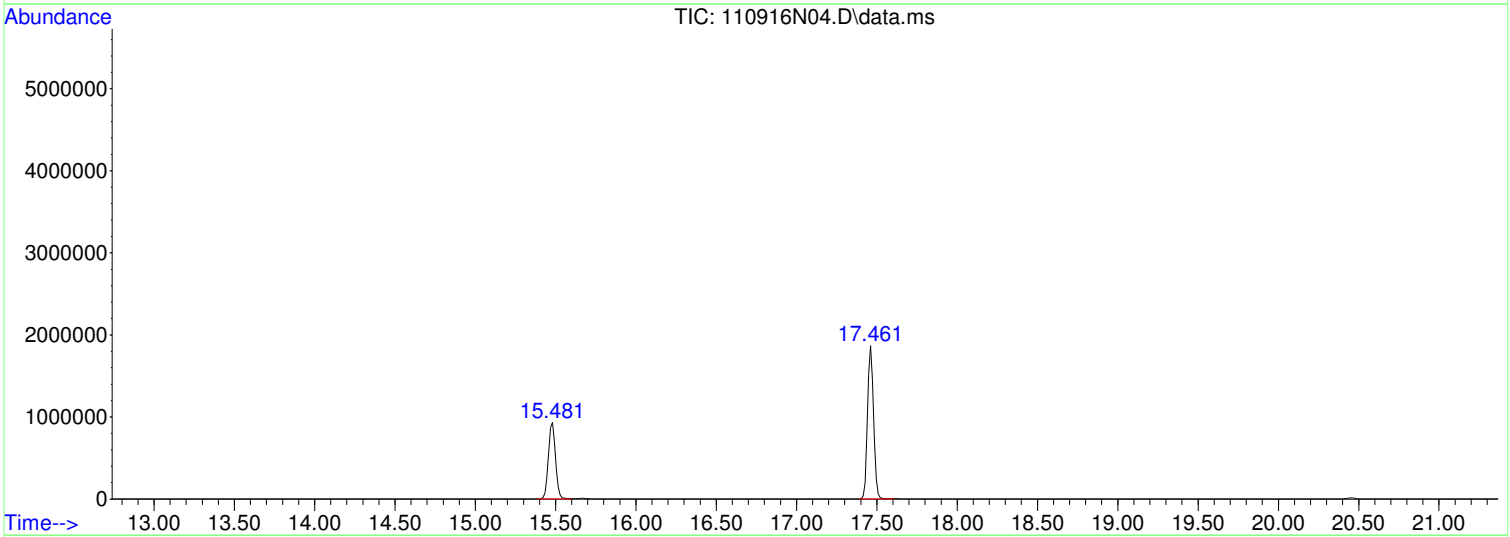
Table of Contents

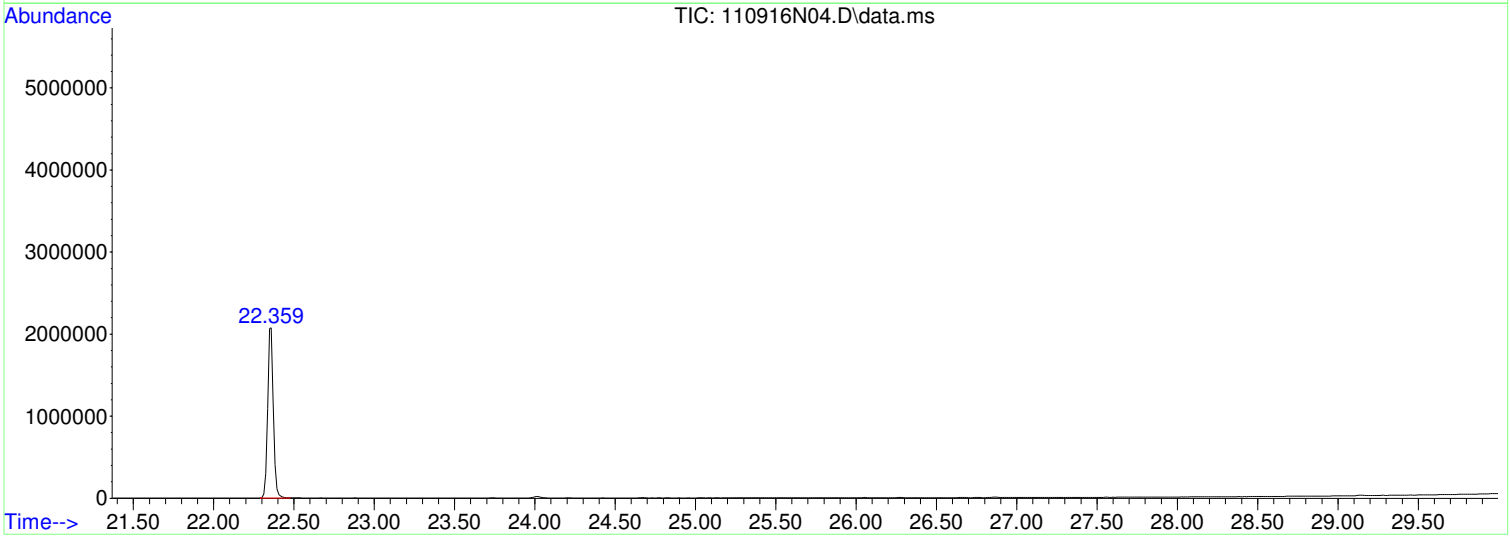
Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N04.D
Acq On : 9 Nov 2016 1:00 pm
Operator : LLH
Sample : B16K042-BLK1
Misc : 200ml BLANK #35
ALS Vial : 33 Sample Multiplier: 1

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P







Library Search Compound Report

Table of Contents

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Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N04.D
Acq On    :  9 Nov 2016   1:00 pm
Operator  : LLH
Sample    : B16K042-BLK1
Misc      : 200ml BLANK #35
ALS Vial  : 33   Sample Multiplier: 1

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title  : TO15

TIC Library    : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P
```

No Library Search Compounds Detected
****

REVIEWED
By LLH at 1:36 pm, Nov 09, 2016

Tentatively Identified Compound (LSC) summary

Table of Contents

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  Data Path : D:\msdchem\1\2016\data\110916_FSAA\
  Data File : 110916N04.D
  Acq On    :  9 Nov 2016   1:00 pm
  Operator  : LLH
  Sample    : B16K042-BLK1
  Misc      : 200ml BLANK #35
  ALS Vial  : 33   Sample Multiplier: 1

  Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
  Quant Title  : TO15

  TIC Library   : C:\Database\NIST98.L
  TIC Integration Parameters: LSCINT.P

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

1611021-01RE1

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N05.D
Acq On : 9 Nov 2016 1:46 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-01RE1
Misc : 20ml RE-REPRESS
ALS Vial : 34 Sample Multiplier: 5.47

report TCE

rerun 50ml re-repress for cis12DCE

Quant Time: Nov 09 16:14:27 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	15.481	49	766616	22.00 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	1906710	22.00 ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1510534	22.00 ppbv	0.00
Target Compounds					Qvalue
37) Trichloroethene	17.876	130	539363	17.68 ppbv	95

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

REVIEWED
By LLH at 4:14 pm, Nov 09, 2016

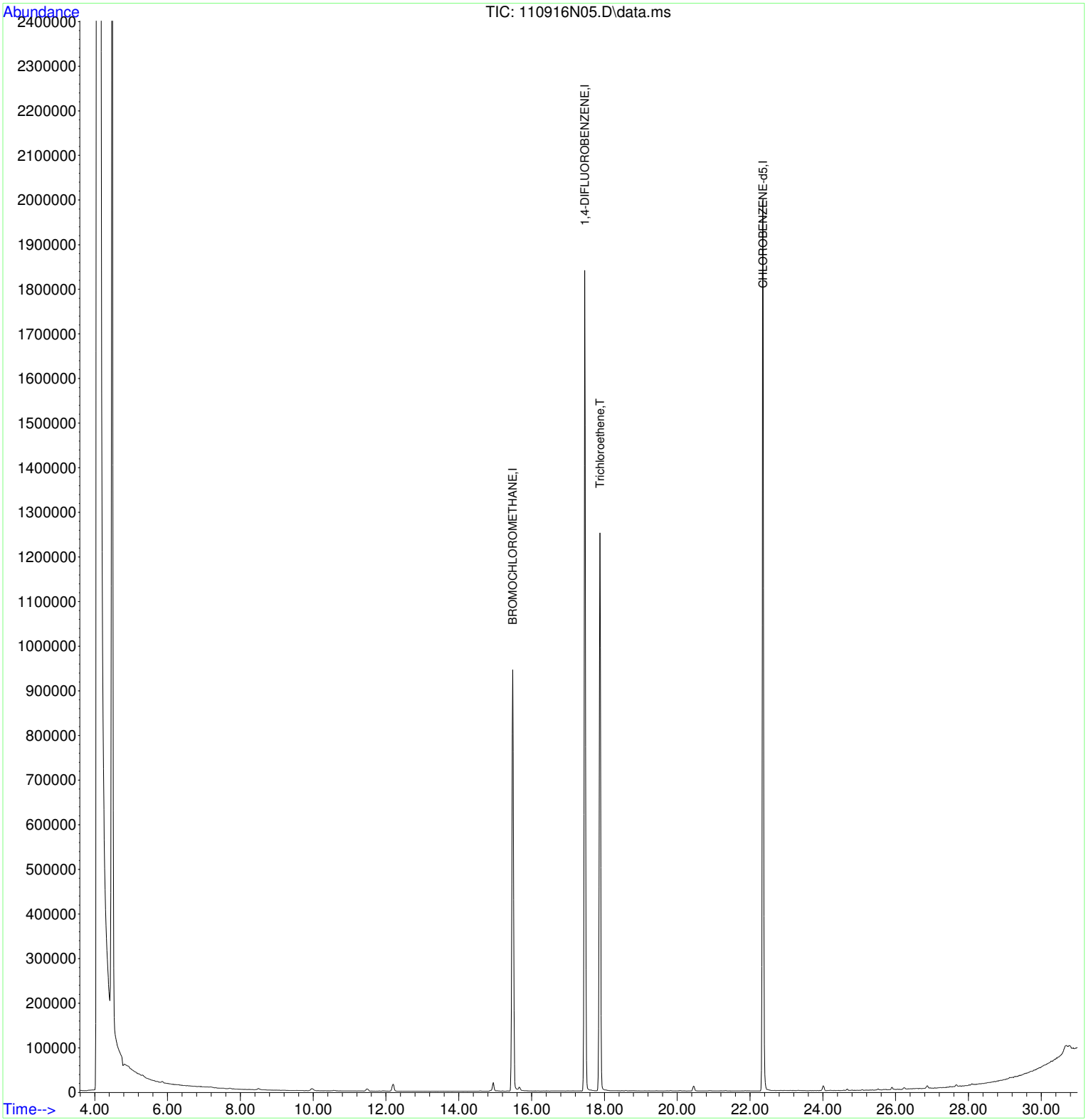
Table of Contents

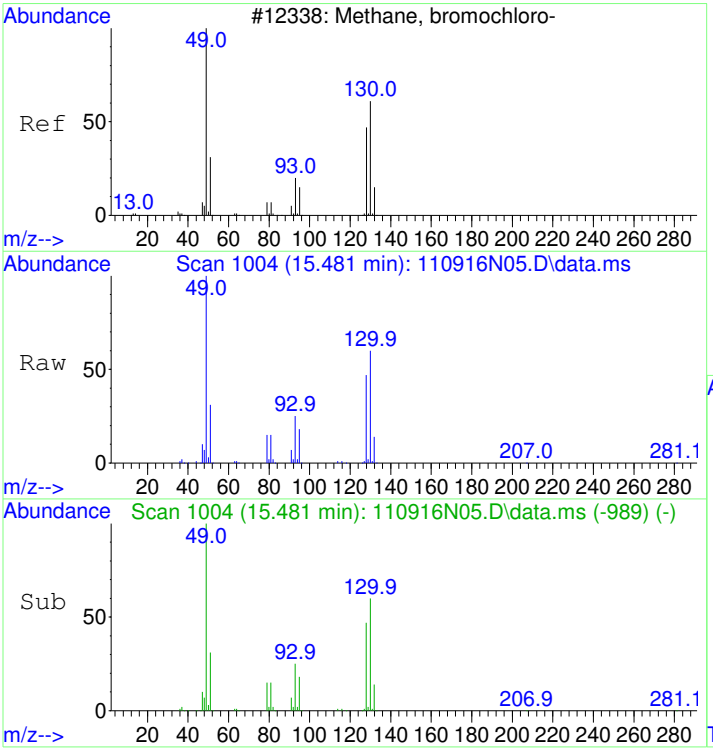
Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N05.D
Acq On : 9 Nov 2016 1:46 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-01RE1
Misc : 20ml RE-REPRESS
ALS Vial : 34 Sample Multiplier: 5.47

re-scaled chrom, replaced pdf

LLH 11/15/16

Quant Time: Nov 09 16:14:27 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

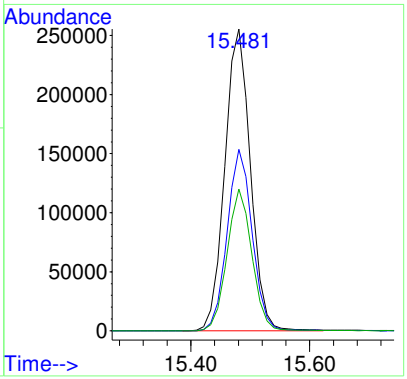


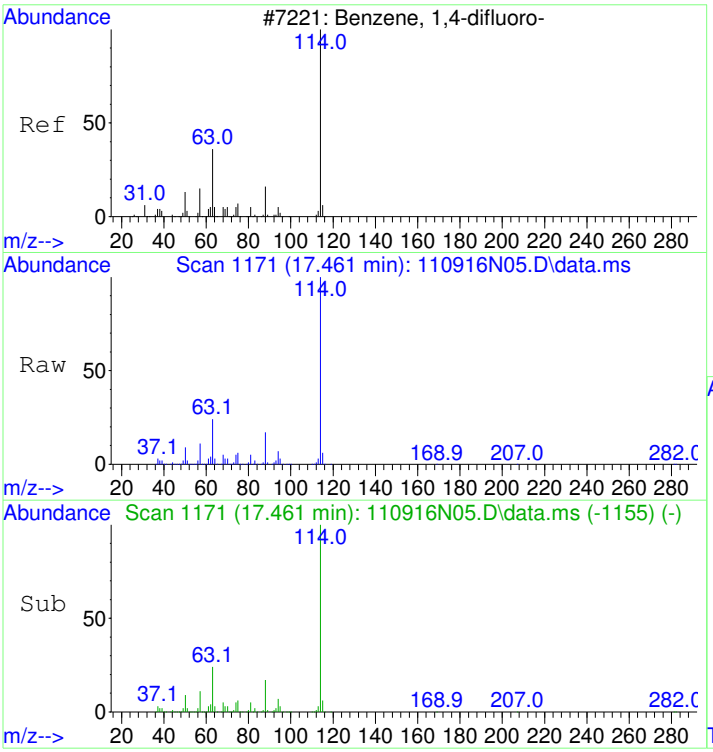


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. -0.000 min
Lab File: 110916N05.D
Acq: 9 Nov 2016 1:46 pm

Tgt Ion: 49 Resp: 766616

Ion	Ratio	Lower	Upper
49	100		
130	58.7	56.1	96.1
128	45.4	38.8	78.8

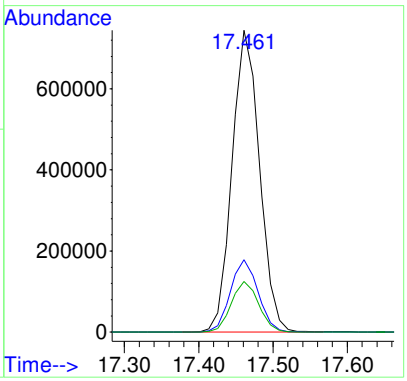


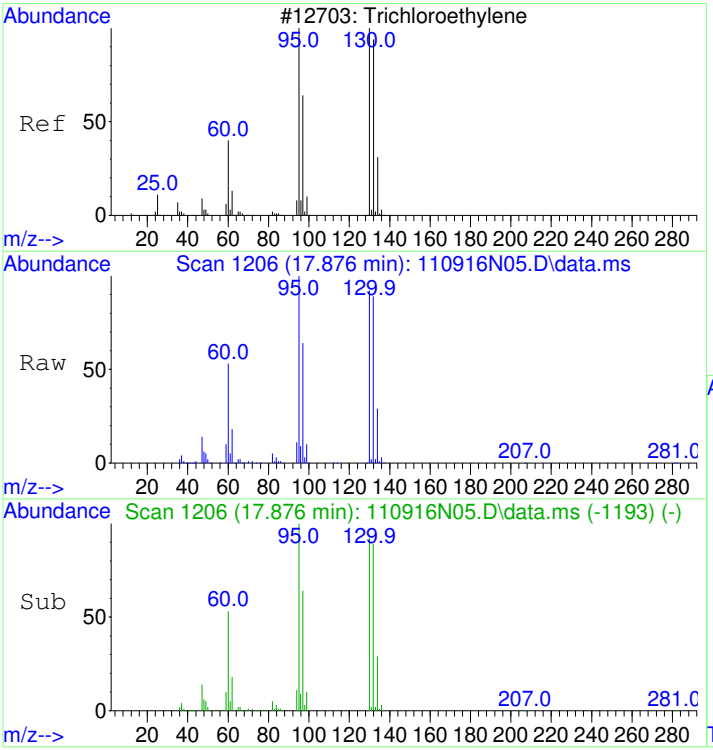


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. -0.000 min
Lab File: 110916N05.D
Acq: 9 Nov 2016 1:46 pm

Tgt Ion:114 Resp: 1906710

Ion	Ratio	Lower	Upper
114	100		
63	24.2	0.1	40.1
88	16.7	0.0	35.8

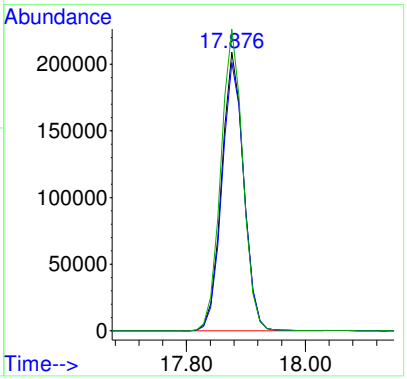


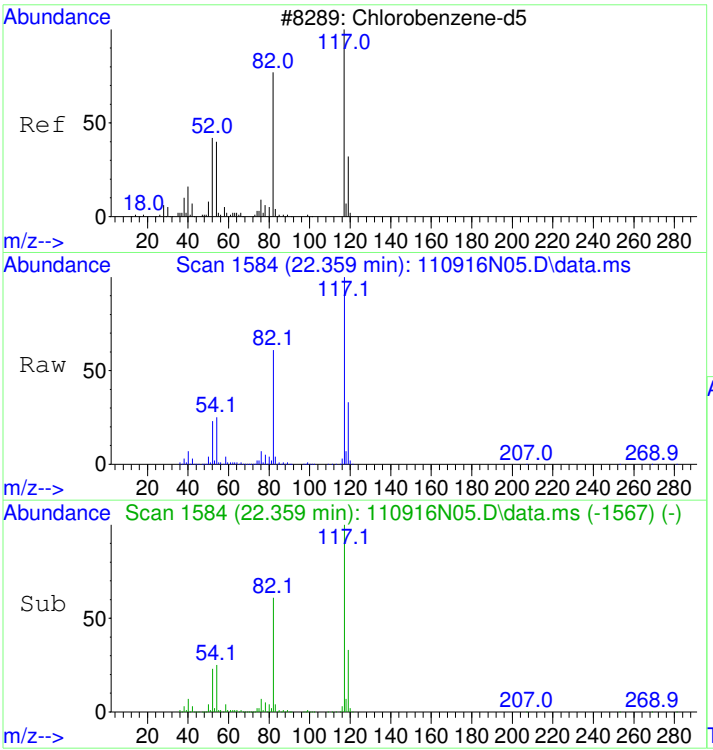


#37
Trichloroethene
Concen: 17.68 ppbv
RT: 17.876 min Scan# 1206
Delta R.T. -0.000 min
Lab File: 110916N05.D
Acq: 9 Nov 2016 1:46 pm

Tgt Ion:130 Resp: 539363

Ion	Ratio	Lower	Upper
130	100		
132	96.7	77.1	117.1
95	108.2	79.3	119.3

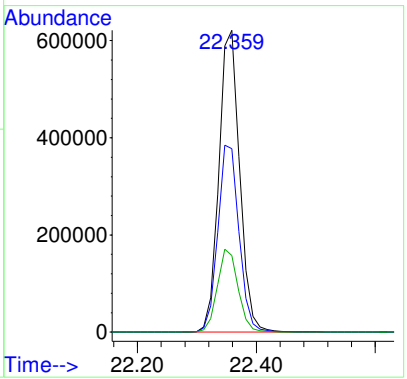




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. -0.000 min
Lab File: 110916N05.D
Acq: 9 Nov 2016 1:46 pm

Tgt Ion:117 Resp: 1510534

Ion	Ratio	Lower	Upper
117	100		
82	63.2	36.8	76.8
54	27.4	1.4	41.4



1611021-02RE1

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N06.D
Acq On : 9 Nov 2016 2:31 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-02RE1
Misc : 20ml RE-REPRESS
ALS Vial : 35 Sample Multiplier: 5.92

report TCE

rerun 50ml re-repress for cis12DCE

Quant Time: Nov 09 16:15:16 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	765055	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	1897867	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1513592	22.00	ppbv	0.00
Target Compounds						Qvalue
16) 2-Propanol	10.572	45	78669	1.82	ppbv	56
37) Trichloroethene	17.876	130	452654	14.91	ppbv	95

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

REVIEWED
By LLH at 4:15 pm, Nov 09, 2016

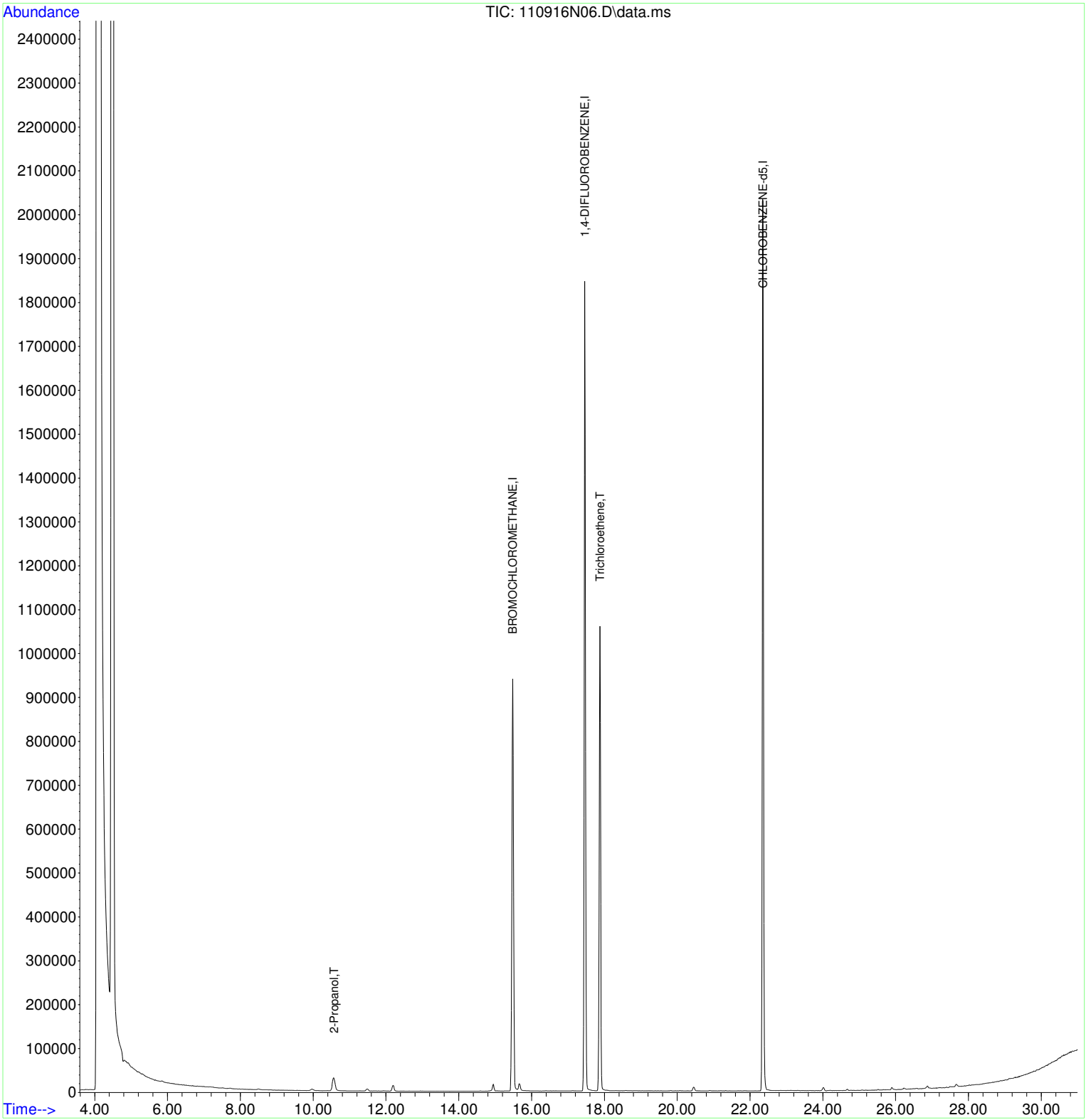
Table of Contents

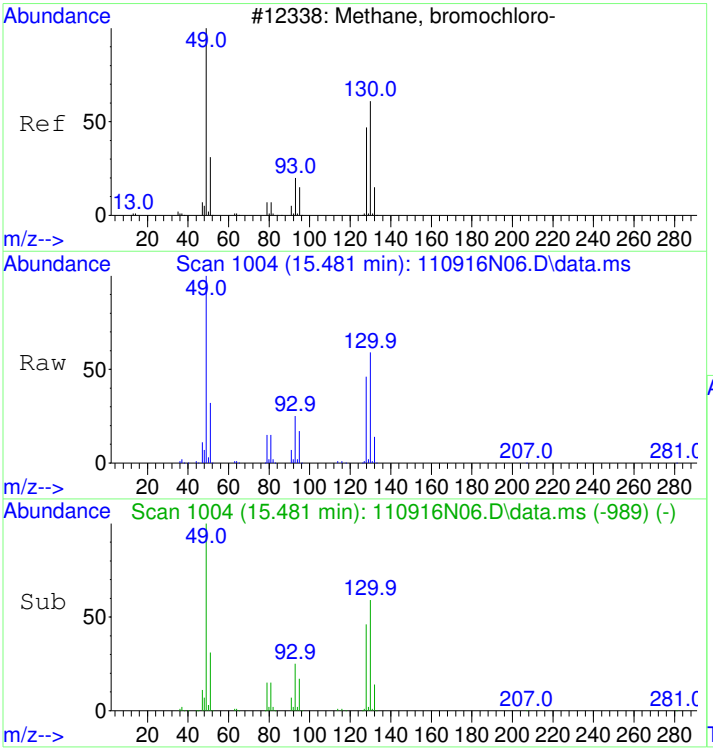
Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N06.D
Acq On : 9 Nov 2016 2:31 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-02RE1
Misc : 20ml RE-REPRESS
ALS Vial : 35 Sample Multiplier: 5.92

re-scaled chrom, replaced pdf

LLH 11/15/16

Quant Time: Nov 09 16:15:16 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

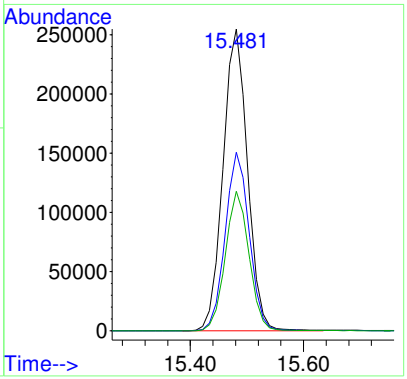


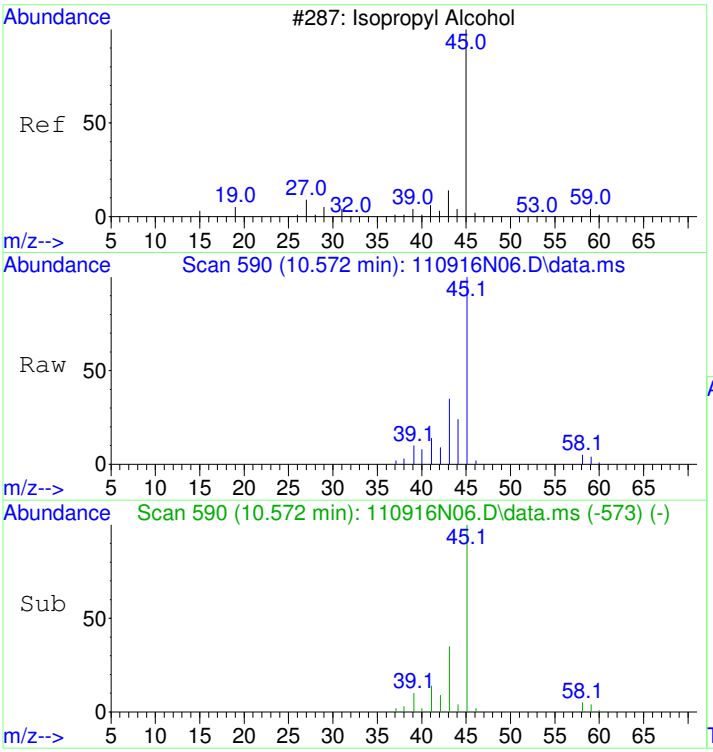


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. 0.000 min
Lab File: 110916N06.D
Acq: 9 Nov 2016 2:31 pm

Tgt Ion: 49 Resp: 765055

Ion	Ratio	Lower	Upper
49	100		
130	58.2	56.1	96.1
128	44.8	38.8	78.8

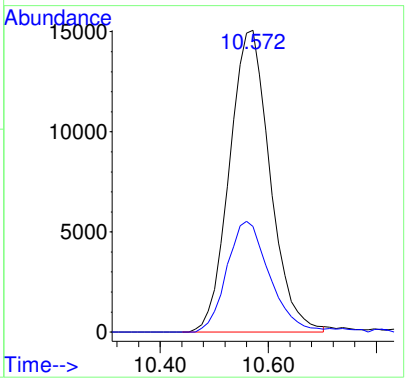


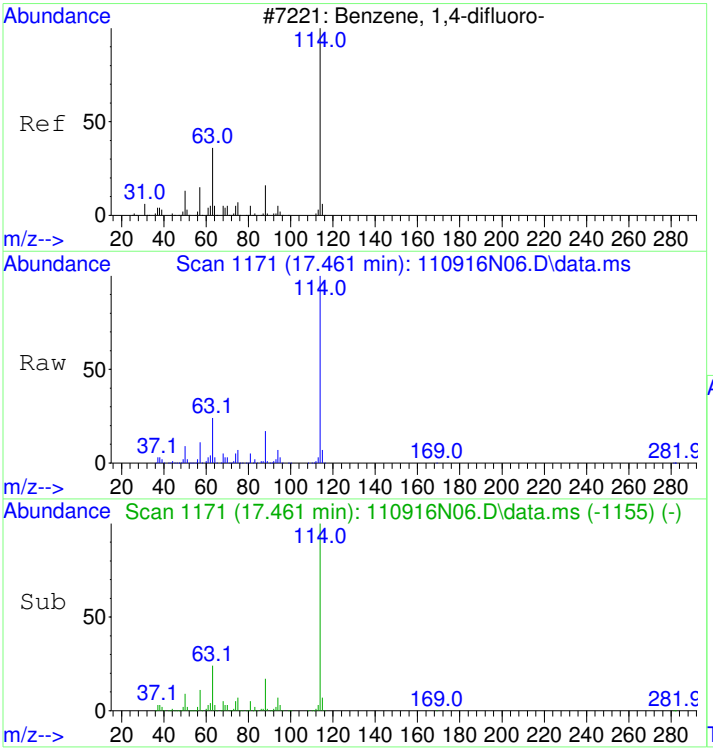


#16
2-Propanol
Concen: 1.82 ppbv
RT: 10.572 min Scan# 590
Delta R.T. 0.024 min
Lab File: 110916N06.D
Acq: 9 Nov 2016 2:31 pm

Tgt Ion: 45 Resp: 78669

Ion	Ratio	Lower	Upper
45	100		
43	38.5	0.0	38.9

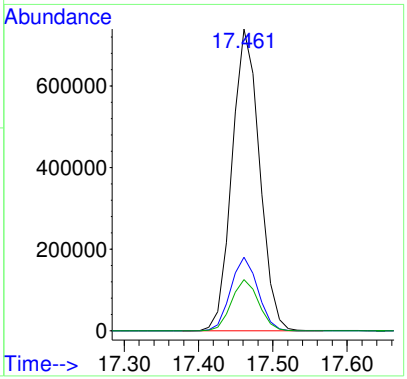


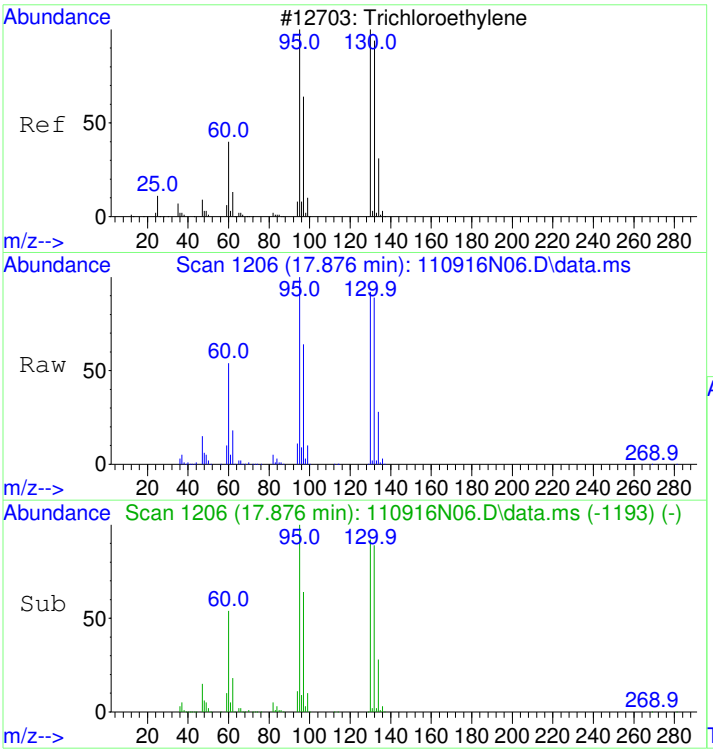


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. -0.000 min
Lab File: 110916N06.D
Acq: 9 Nov 2016 2:31 pm

Tgt Ion:114 Resp: 1897867

Ion	Ratio	Lower	Upper
114	100		
63	24.2	0.1	40.1
88	16.8	0.0	35.8

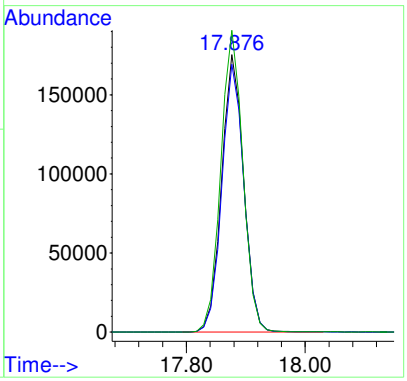


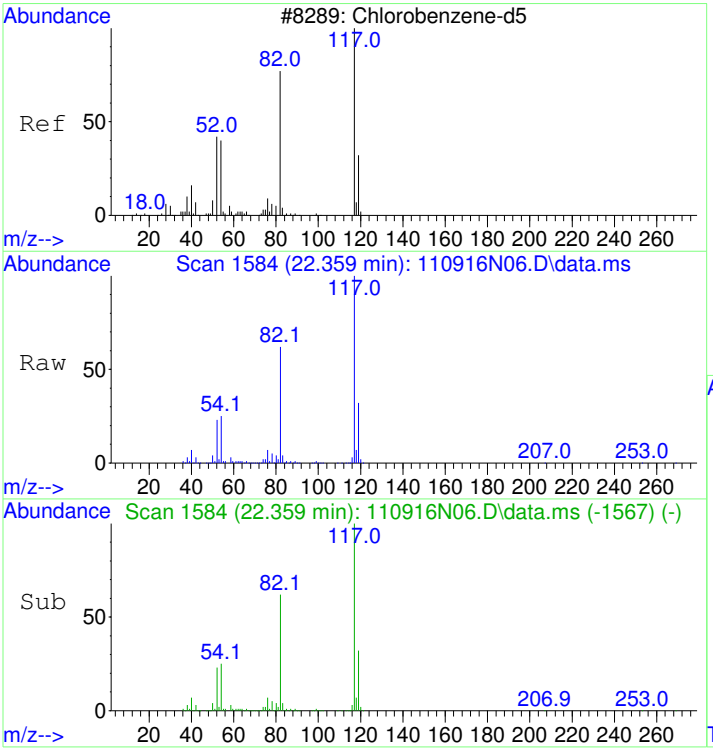


#37
Trichloroethene
Concen: 14.91 ppbv
RT: 17.876 min Scan# 1206
Delta R.T. -0.000 min
Lab File: 110916N06.D
Acq: 9 Nov 2016 2:31 pm

Tgt Ion:130 Resp: 452654

Ion	Ratio	Lower	Upper
130	100		
132	96.4	77.1	117.1
95	109.1	79.3	119.3

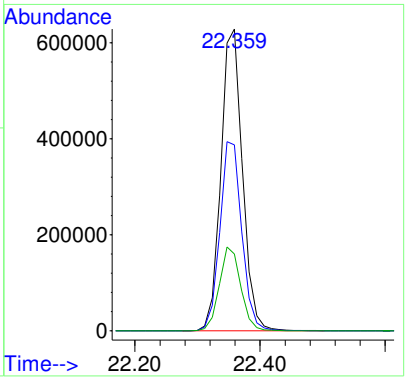




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. -0.000 min
Lab File: 110916N06.D
Acq: 9 Nov 2016 2:31 pm

Tgt Ion:117 Resp: 1513592

Ion	Ratio	Lower	Upper
117	100		
82	63.7	36.8	76.8
54	27.6	1.4	41.4



1611021-03RE1

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N07.D
Acq On : 9 Nov 2016 3:17 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-03RE1
Misc : 20ml RE-REPRESS
ALS Vial : 36 Sample Multiplier: 6.07

report trans and cis-12DCE

rerun 20ml rere-repress for TCE

Quant Time: Nov 09 16:16:02 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	760065	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	1847978	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1470422	22.00	ppbv	0.00
Target Compounds						Qvalue
20) trans-1,2-Dichloroethene	12.196	61	34088	0.85	ppbv	90
24) cis-1,2-Dichloroethene	14.947	61	24251	0.61	ppbv	91
37) Trichloroethene	17.876	130	846655	28.64	ppbv	95 OC

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

REVIEWED
By LLH at 1:01 pm, Nov 10, 2016

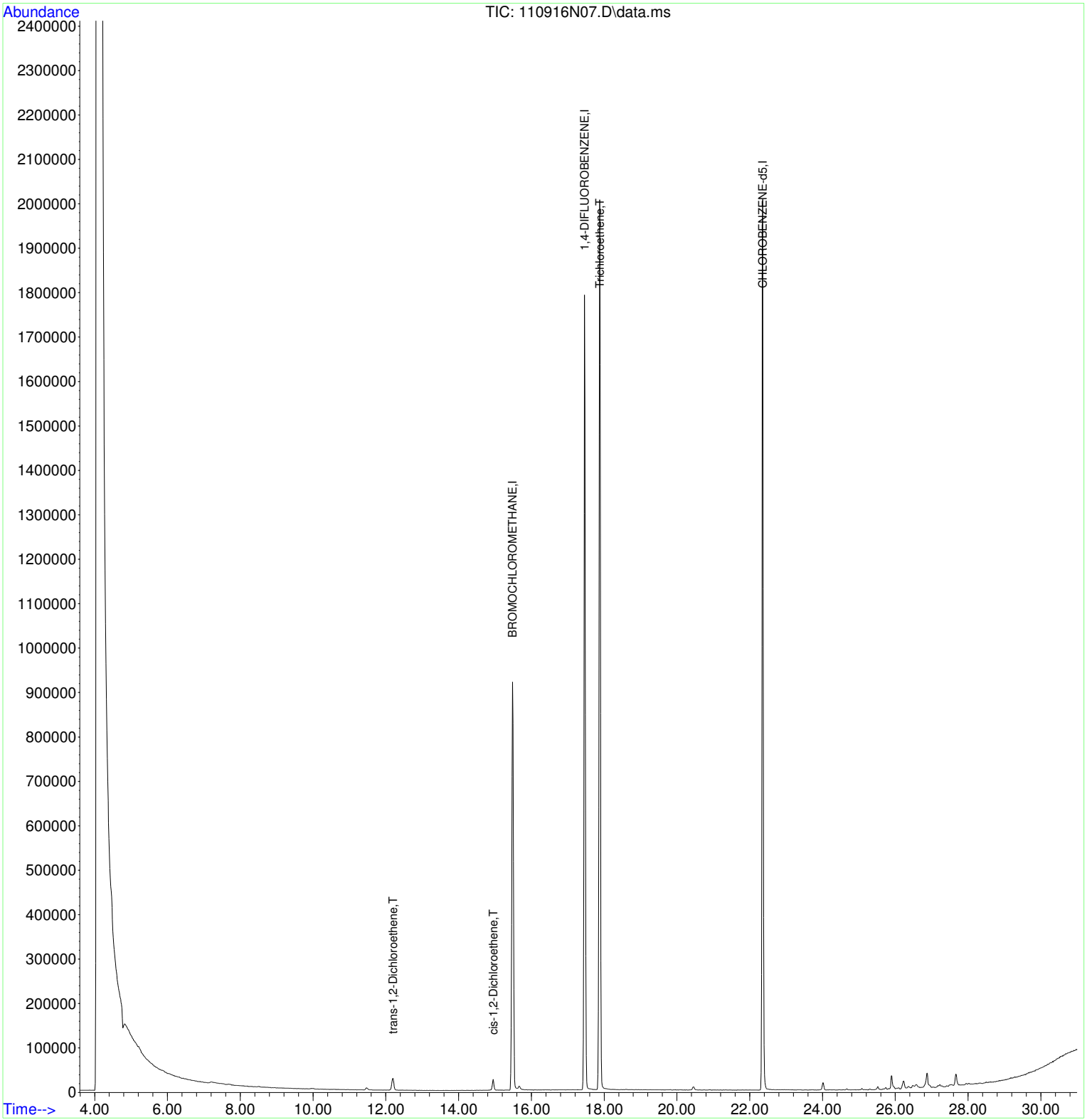
Table of Contents

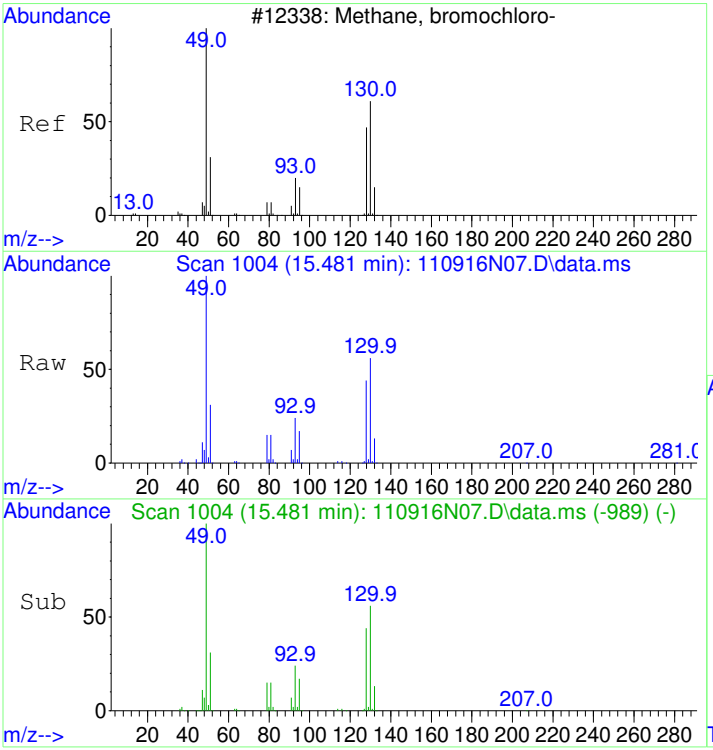
Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N07.D
Acq On : 9 Nov 2016 3:17 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-03RE1
Misc : 20ml RE-REPRESS
ALS Vial : 36 Sample Multiplier: 6.07

re-scaled chrom, replaced pdf

LLH 11/15/16

Quant Time: Nov 09 16:16:02 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

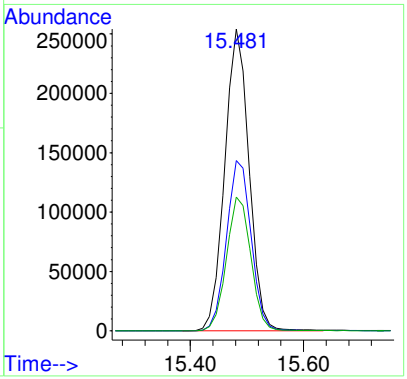


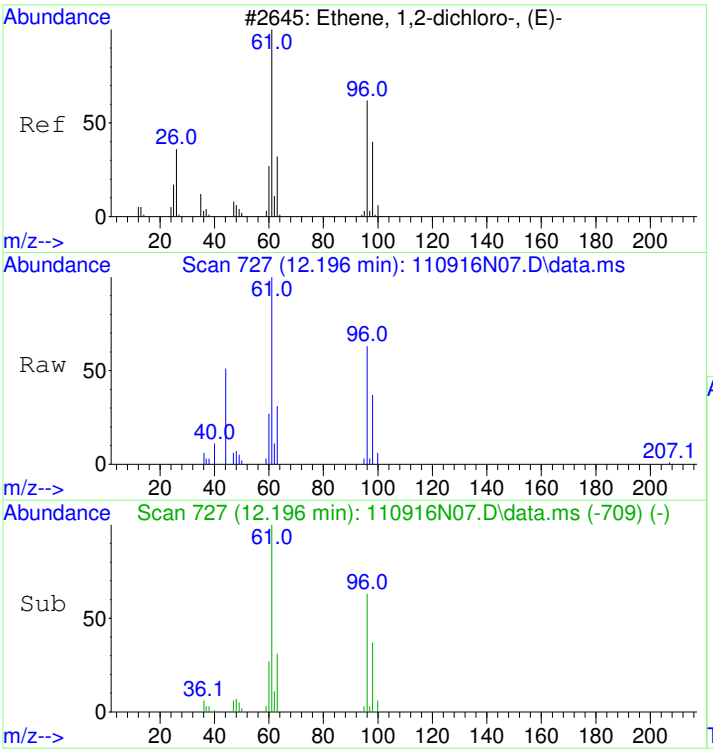


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. -0.000 min
Lab File: 110916N07.D
Acq: 9 Nov 2016 3:17 pm

Tgt Ion: 49 Resp: 760065

Ion	Ratio	Lower	Upper
49	100		
130	57.2	56.1	96.1
128	44.4	38.8	78.8

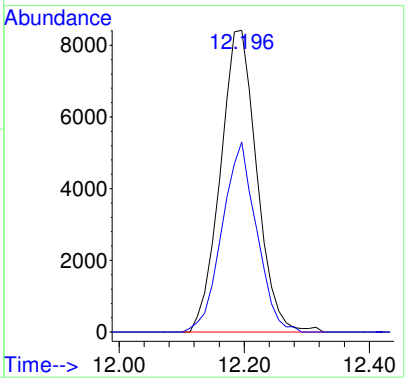


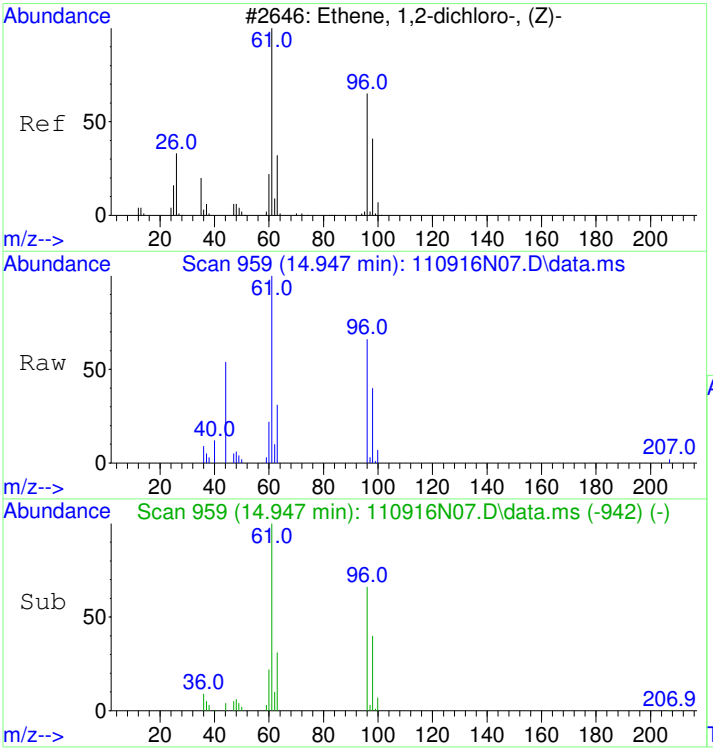


#20
trans-1,2-Dichloroethene
Concen: 0.85 ppbv
RT: 12.196 min Scan# 727
Delta R.T. 0.012 min
Lab File: 110916N07.D
Acq: 9 Nov 2016 3:17 pm

Tgt Ion: 61 Resp: 34088

Ion	Ratio	Lower	Upper
61	100		
96	59.5	47.5	87.5

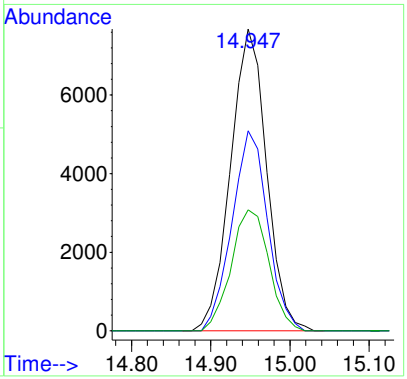


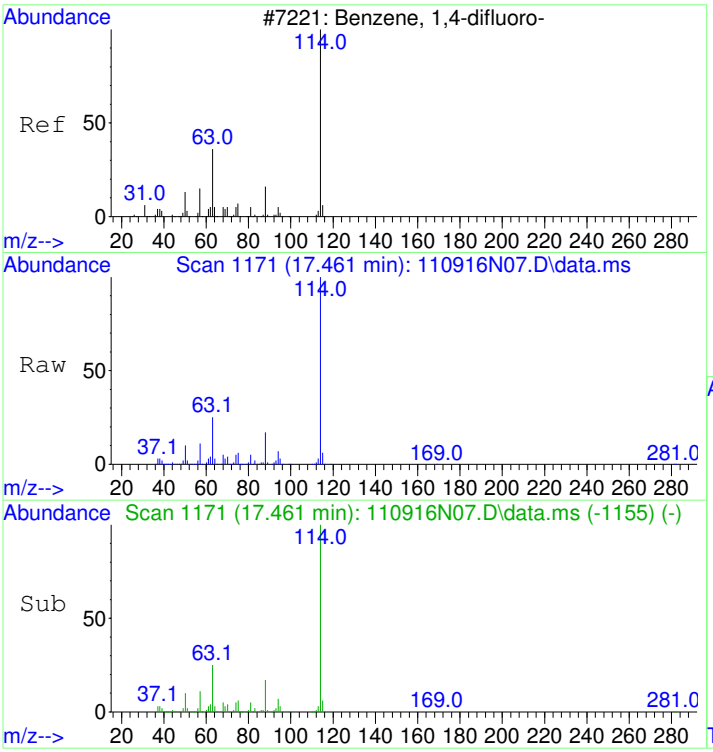


#24
cis-1,2-Dichloroethene
Concen: 0.61 ppbv
RT: 14.947 min Scan# 959
Delta R.T. -0.000 min
Lab File: 110916N07.D
Acq: 9 Nov 2016 3:17 pm

Tgt Ion: 61 Resp: 24251

Ion	Ratio	Lower	Upper
61	100		
96	65.7	54.4	94.4
98	42.1	27.5	67.5

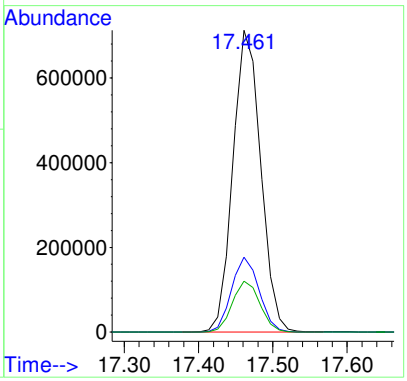


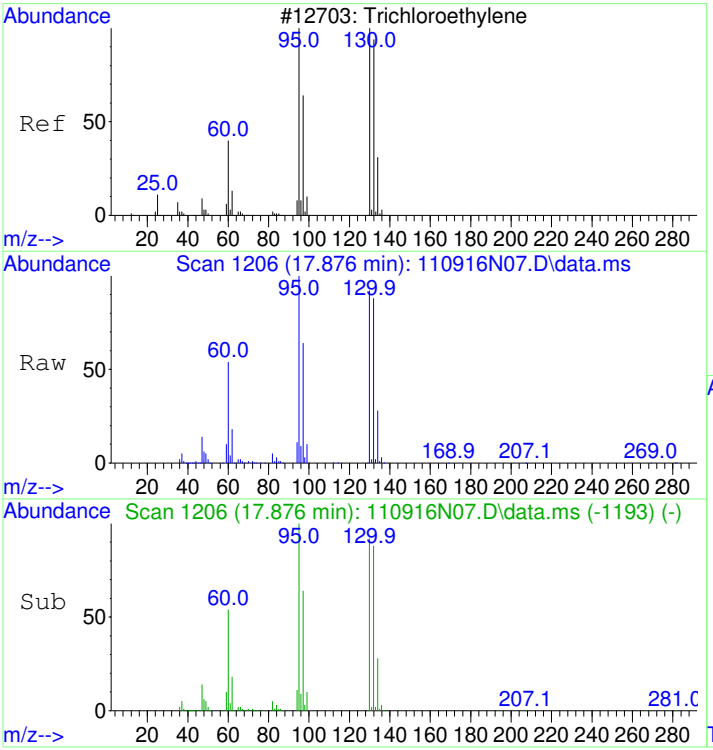


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. -0.000 min
Lab File: 110916N07.D
Acq: 9 Nov 2016 3:17 pm

Tgt Ion:114 Resp: 1847978

Ion	Ratio	Lower	Upper
114	100		
63	24.6	0.1	40.1
88	16.8	0.0	35.8

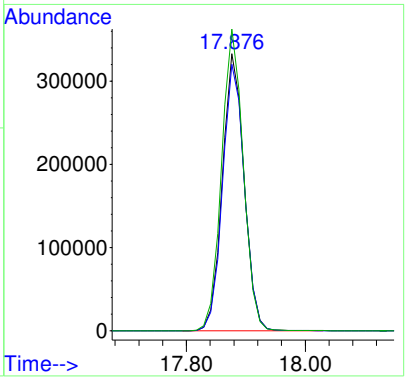


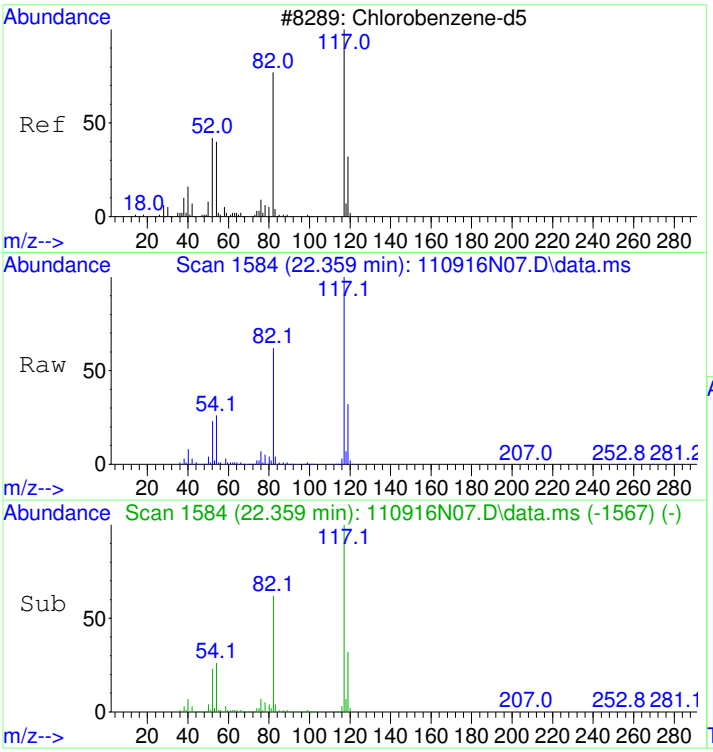


#37
Trichloroethene
Concen: 28.64 ppbv
RT: 17.876 min Scan# 1206
Delta R.T. -0.000 min
Lab File: 110916N07.D
Acq: 9 Nov 2016 3:17 pm

Tgt Ion:130 Resp: 846655

Ion	Ratio	Lower	Upper
130	100		
132	96.7	77.1	117.1
95	109.0	79.3	119.3

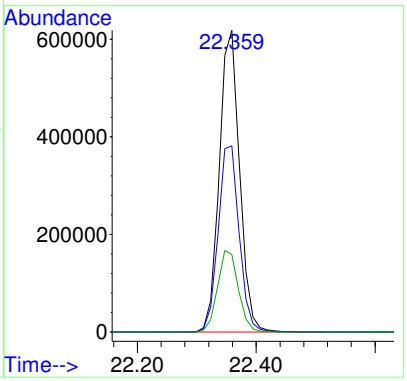




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. -0.000 min
Lab File: 110916N07.D
Acq: 9 Nov 2016 3:17 pm

Tgt Ion:117 Resp: 1470422

Ion	Ratio	Lower	Upper
117	100		
82	63.8	36.8	76.8
54	27.8	1.4	41.4



1611021-04RE1

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N08.D
Acq On : 9 Nov 2016 4:02 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-04RE1
Misc : 20ml RE-REPRESS
ALS Vial : 37 Sample Multiplier: 5.99

report TCE

Quant Time: Nov 09 16:34:18 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	763171	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	1852587	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1514138	22.00	ppbv	0.00
Target Compounds						Qvalue
37) Trichloroethene	17.876	130	213947	7.22	ppbv	94

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

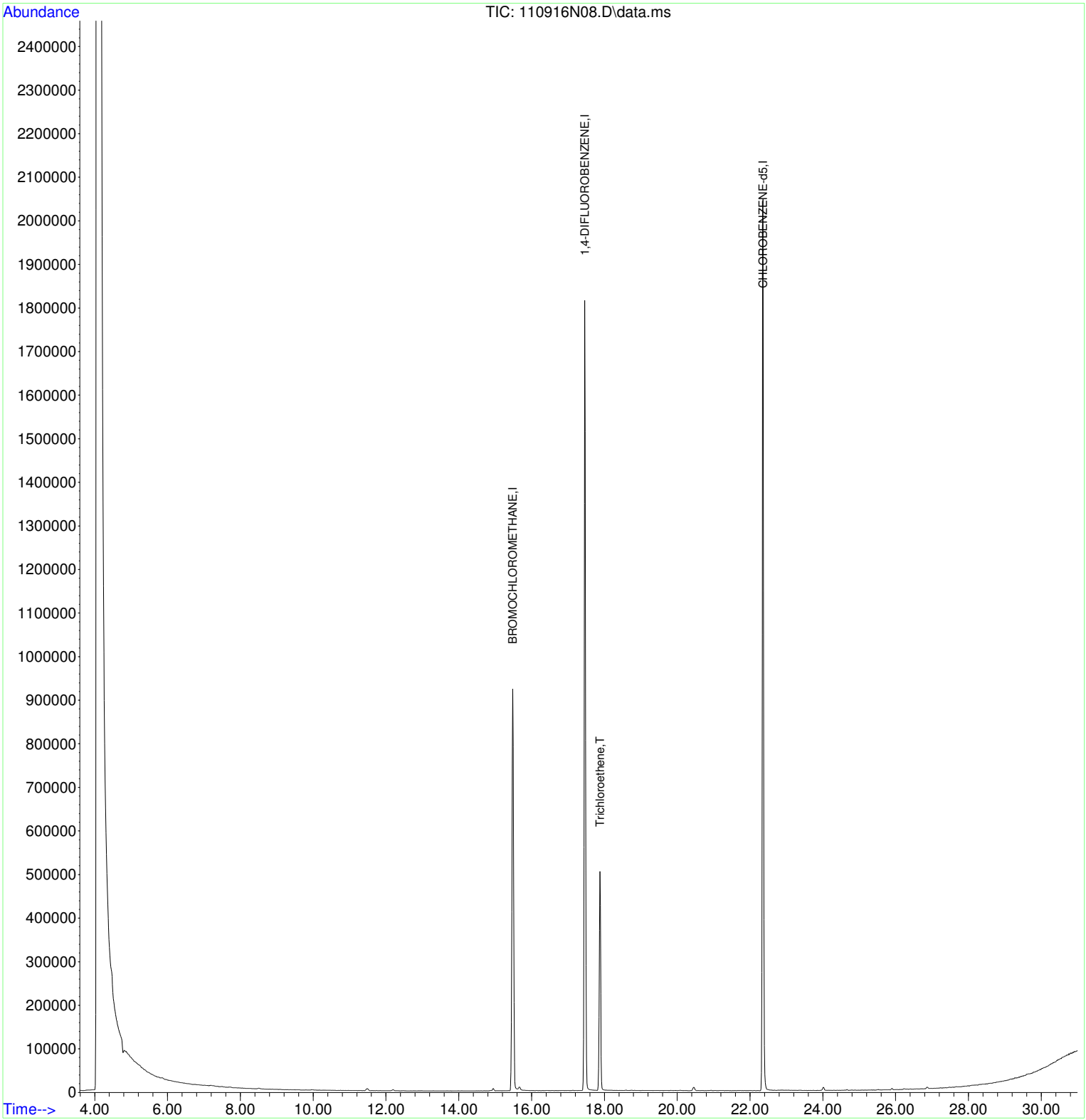
REVIEWED
By LLH at 4:34 pm, Nov 09, 2016

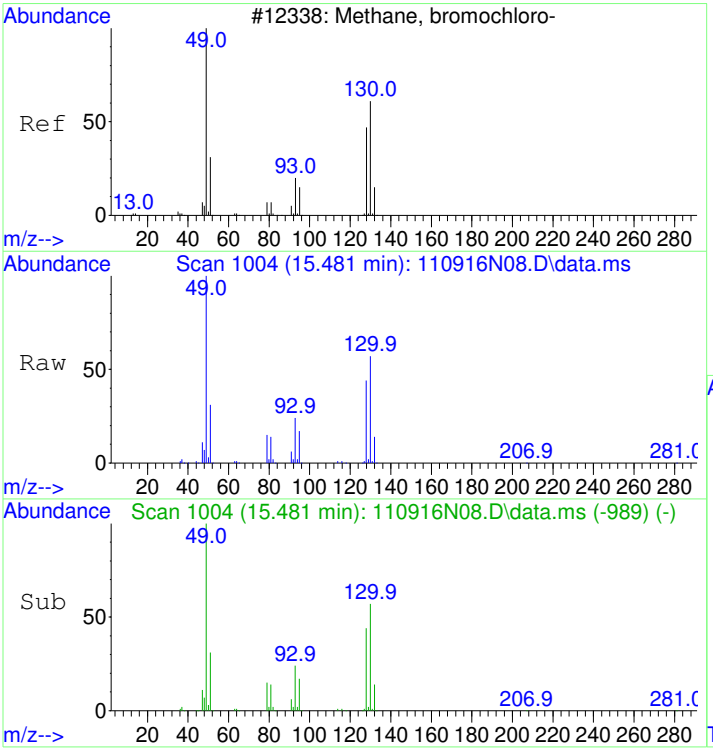
Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N08.D
Acq On : 9 Nov 2016 4:02 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-04RE1
Misc : 20ml RE-REPRESS
ALS Vial : 37 Sample Multiplier: 5.99

re-scaled chrom, replaced pdf

LLH 11/15/16

Quant Time: Nov 09 16:34:18 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

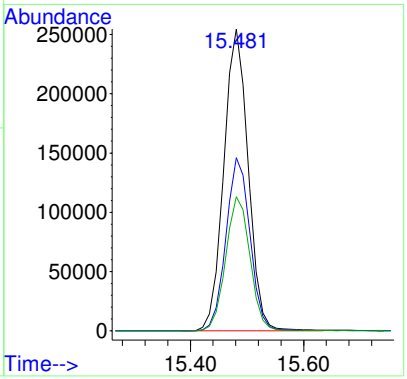


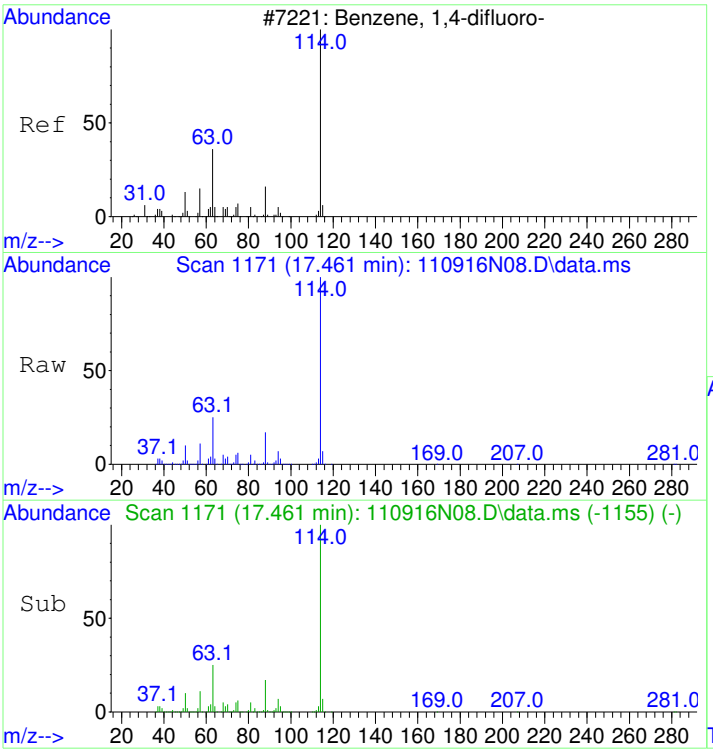


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. -0.000 min
Lab File: 110916N08.D
Acq: 9 Nov 2016 4:02 pm

Tgt Ion: 49 Resp: 763171

Ion	Ratio	Lower	Upper
49	100		
130	56.7	56.1	96.1
128	44.4	38.8	78.8

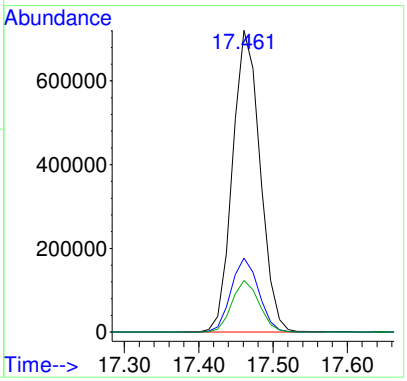


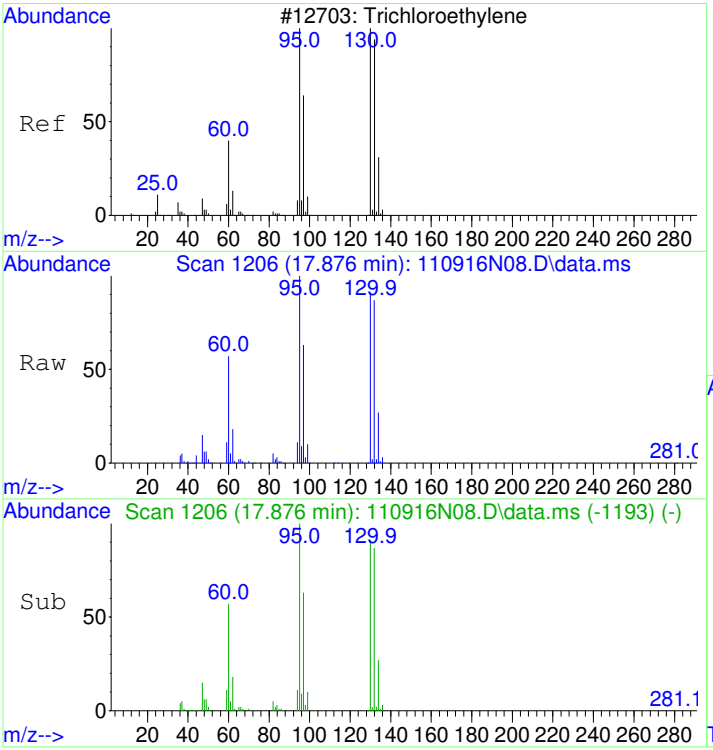


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. -0.000 min
Lab File: 110916N08.D
Acq: 9 Nov 2016 4:02 pm

Tgt Ion:114 Resp: 1852587

Ion	Ratio	Lower	Upper
114	100		
63	24.5	0.1	40.1
88	16.9	0.0	35.8

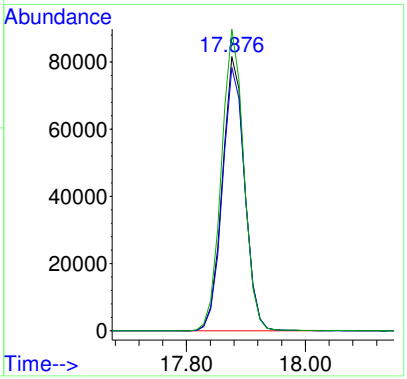


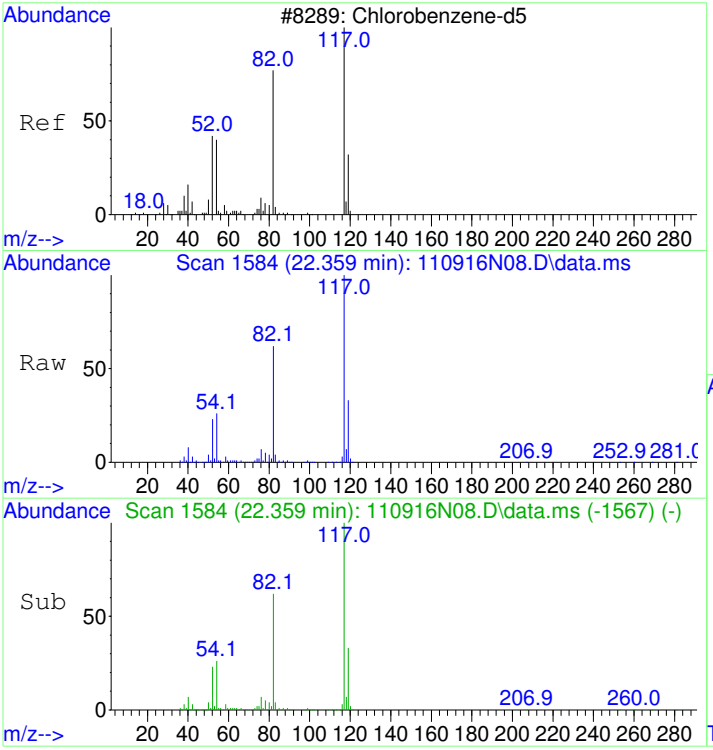


#37
Trichloroethene
Concen: 7.22 ppbv
RT: 17.876 min Scan# 1206
Delta R.T. -0.000 min
Lab File: 110916N08.D
Acq: 9 Nov 2016 4:02 pm

Tgt Ion:130 Resp: 213947

Ion	Ratio	Lower	Upper
130	100		
132	96.4	77.1	117.1
95	109.8	79.3	119.3

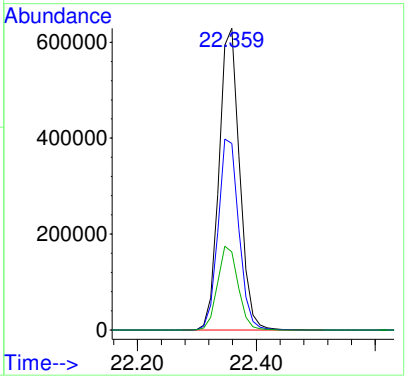




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. -0.000 min
Lab File: 110916N08.D
Acq: 9 Nov 2016 4:02 pm

Tgt Ion:117 Resp: 1514138

Ion	Ratio	Lower	Upper
117	100		
82	64.0	36.8	76.8
54	28.0	1.4	41.4



B16K042-DUP1

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N09.D
Acq On : 9 Nov 2016 4:48 pm
InstName : AG5973N
Operator : LLH
Sample : B16K042-DUP1
Misc : 20ml 1611021-04RE1
ALS Vial : 37 Sample Multiplier: 5.99

REPORT

Quant Time: Nov 10 09:14:48 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	734591	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	1695569	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1217820	22.00	ppbv	0.00
Target Compounds						Qvalue
37) Trichloroethene	17.876	130	180736	6.66	ppbv	94

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

REVIEWED
By LLH at 9:36 am, Nov 10, 2016

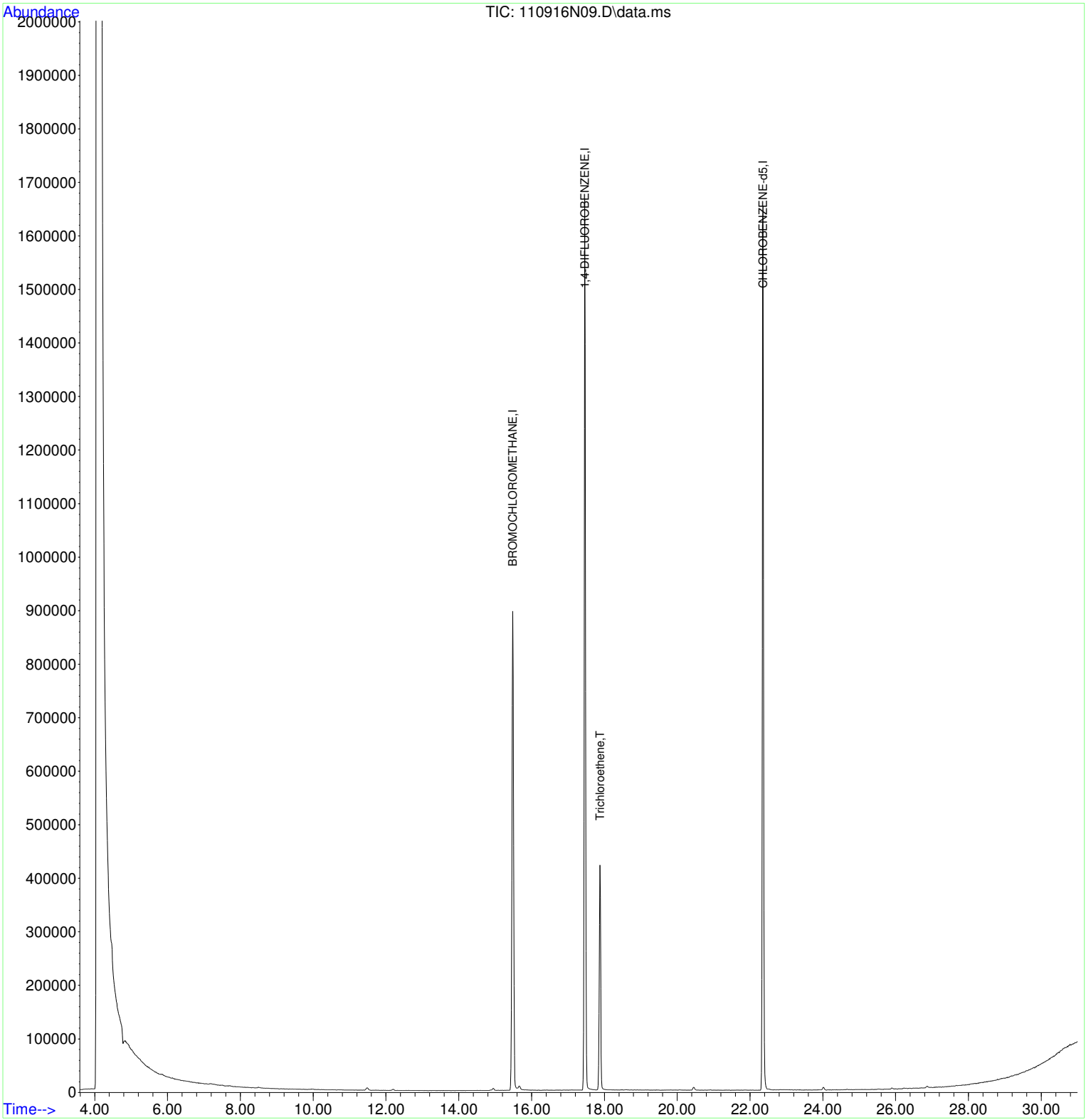
Table of Contents

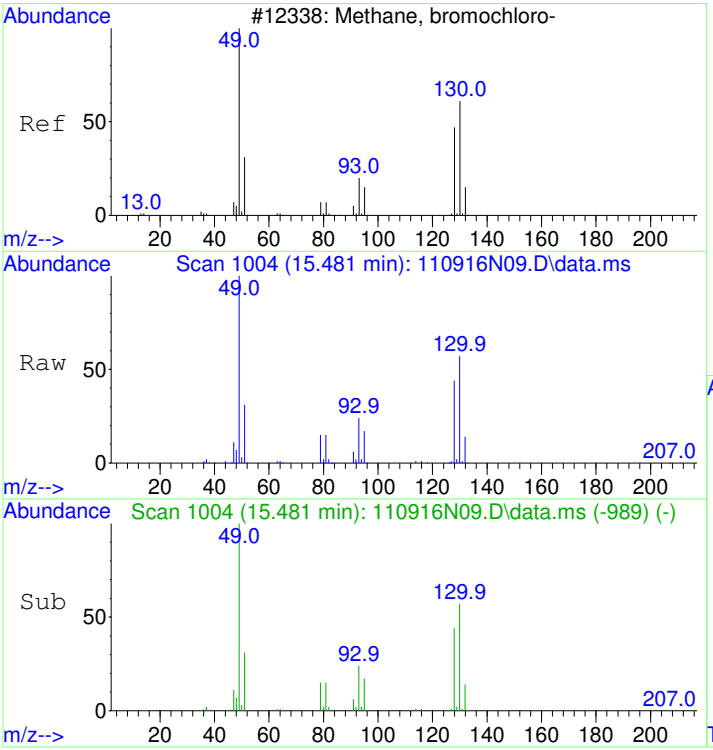
Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N09.D
Acq On : 9 Nov 2016 4:48 pm
InstName : AG5973N
Operator : LLH
Sample : B16K042-DUP1
Misc : 20ml 1611021-04RE1
ALS Vial : 37 Sample Multiplier: 5.99

re-scaled chrom, replaced pdf

LLH 11/15/16

Quant Time: Nov 10 09:14:48 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

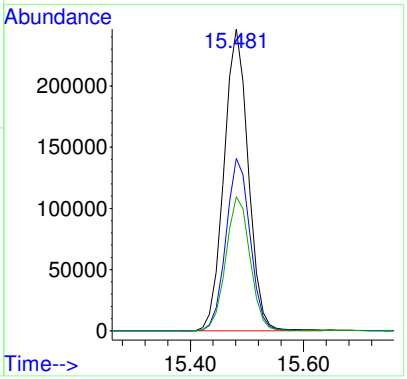


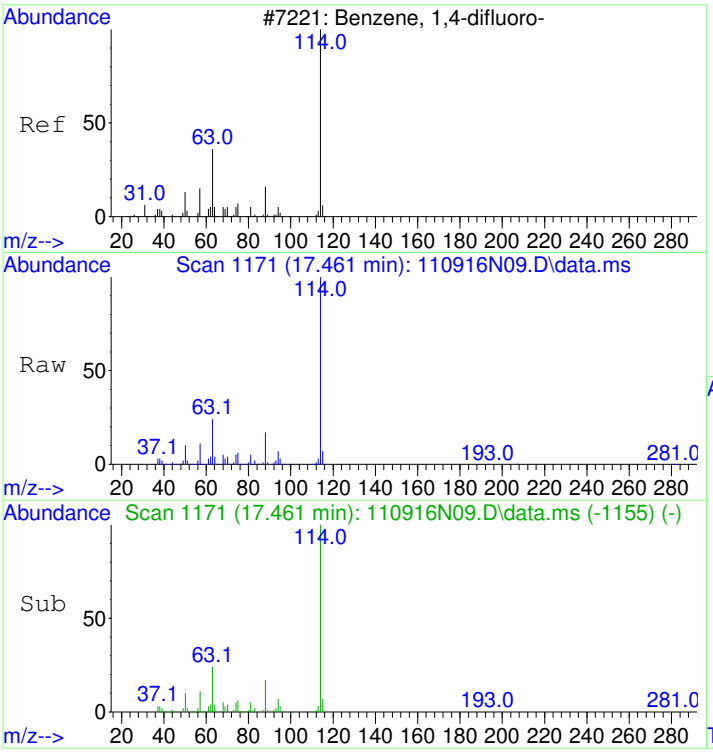


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. -0.000 min
Lab File: 110916N09.D
Acq: 9 Nov 2016 4:48 pm

Tgt Ion: 49 Resp: 734591

Ion	Ratio	Lower	Upper
49	100		
130	56.8	56.1	96.1
128	44.3	38.8	78.8

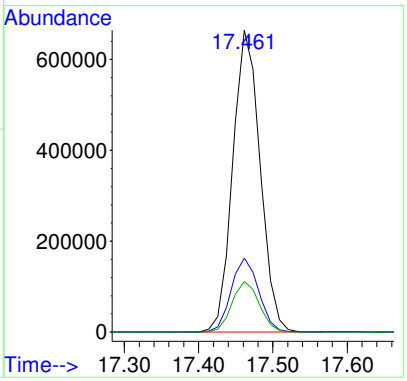


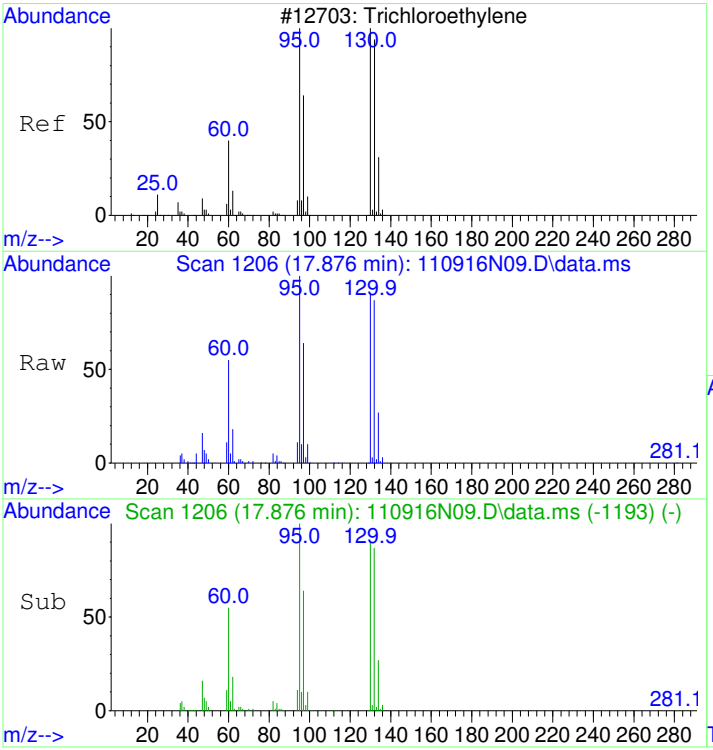


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. -0.000 min
Lab File: 110916N09.D
Acq: 9 Nov 2016 4:48 pm

Tgt Ion:114 Resp: 1695569

Ion	Ratio	Lower	Upper
114	100		
63	24.7	0.1	40.1
88	16.8	0.0	35.8

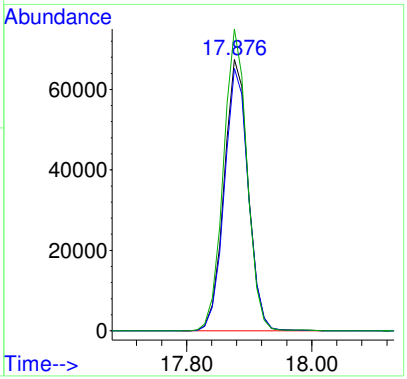


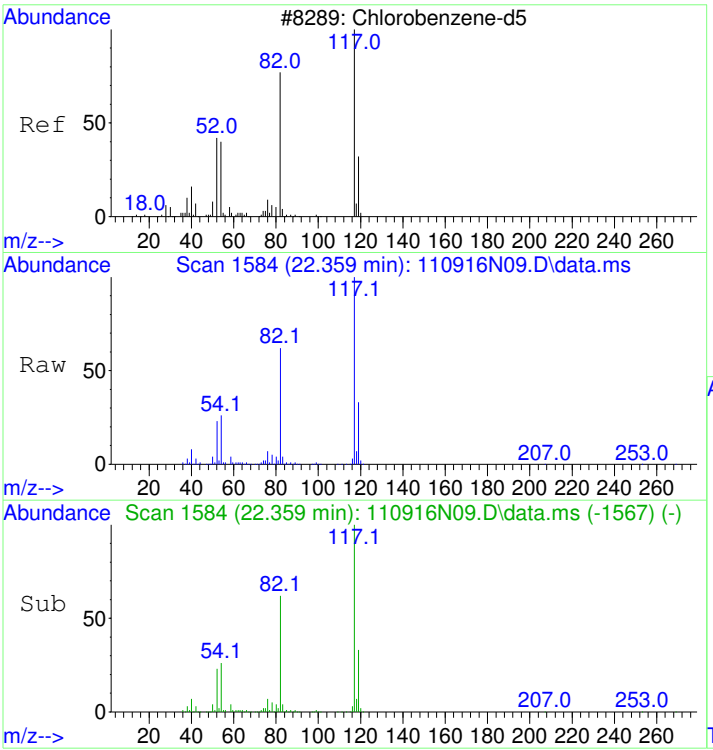


#37
Trichloroethene
Concen: 6.66 ppbv
RT: 17.876 min Scan# 1206
Delta R.T. -0.000 min
Lab File: 110916N09.D
Acq: 9 Nov 2016 4:48 pm

Tgt Ion:130 Resp: 180736

Ion	Ratio	Lower	Upper
130	100		
132	96.3	77.1	117.1
95	109.5	79.3	119.3

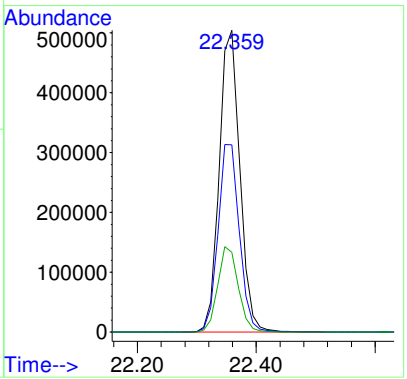




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. -0.000 min
Lab File: 110916N09.D
Acq: 9 Nov 2016 4:48 pm

Tgt Ion:117 Resp: 1217820

Ion	Ratio	Lower	Upper
117	100		
82	64.2	36.8	76.8
54	28.3	1.4	41.4



1611021-09RE1

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N10.D
Acq On : 9 Nov 2016 5:37 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-09RE1
Misc : 200ml REPRESS
ALS Vial : 12 Sample Multiplier: 2.56

REPORT

see orig run for >LR

Quant Time: Nov 10 09:49:28 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)		
Internal Standards								
1) BROMOCHLOROMETHANE	15.481	49	797256	22.00	ppbv	0.00		
32) 1,4-DIFLUOROBENZENE	17.461	114	1881138	22.00	ppbv	0.00		
43) CHLOROBENZENE-d5	22.359	117	1730491	22.00	ppbv	0.00		
Target Compounds						Qvalue		
2) Propene	4.452	41	96902	4.26	ppbv	# 60		
5) Chloromethane	5.093	50	17941	0.68	ppbv	100		
9) Chloroethane	6.789	64	7023	0.59	ppbv	77		
14) Acetone	9.967	43	59146	1.37	ppbv	97		
18) Dichloromethane	11.485	49	37799	1.03	ppbv	86		
20) trans-1,2-Dichloroethene	12.196	61	22767	0.54	ppbv	88		
24) cis-1,2-Dichloroethene	14.947	61	112904	2.71	ppbv	88		
26) Ethyl acetate	15.078	61	9676	~~0.94 ppbv~~	#	12		
28) Chloroform	15.635	83	5186159	79.91	ppbv	98	OC	
37) Trichloroethene	17.876	130	1075490	35.74	ppbv	95	OC	
40) Bromodichloromethane	18.837	83	51560	0.98	ppbv	96		
44) Toluene	20.082	91	46752	0.48	ppbv	97		
47) Tetrachloroethene	20.936	166	1578402	34.61	ppbv	97	OC	

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

AFTER Q DELETE

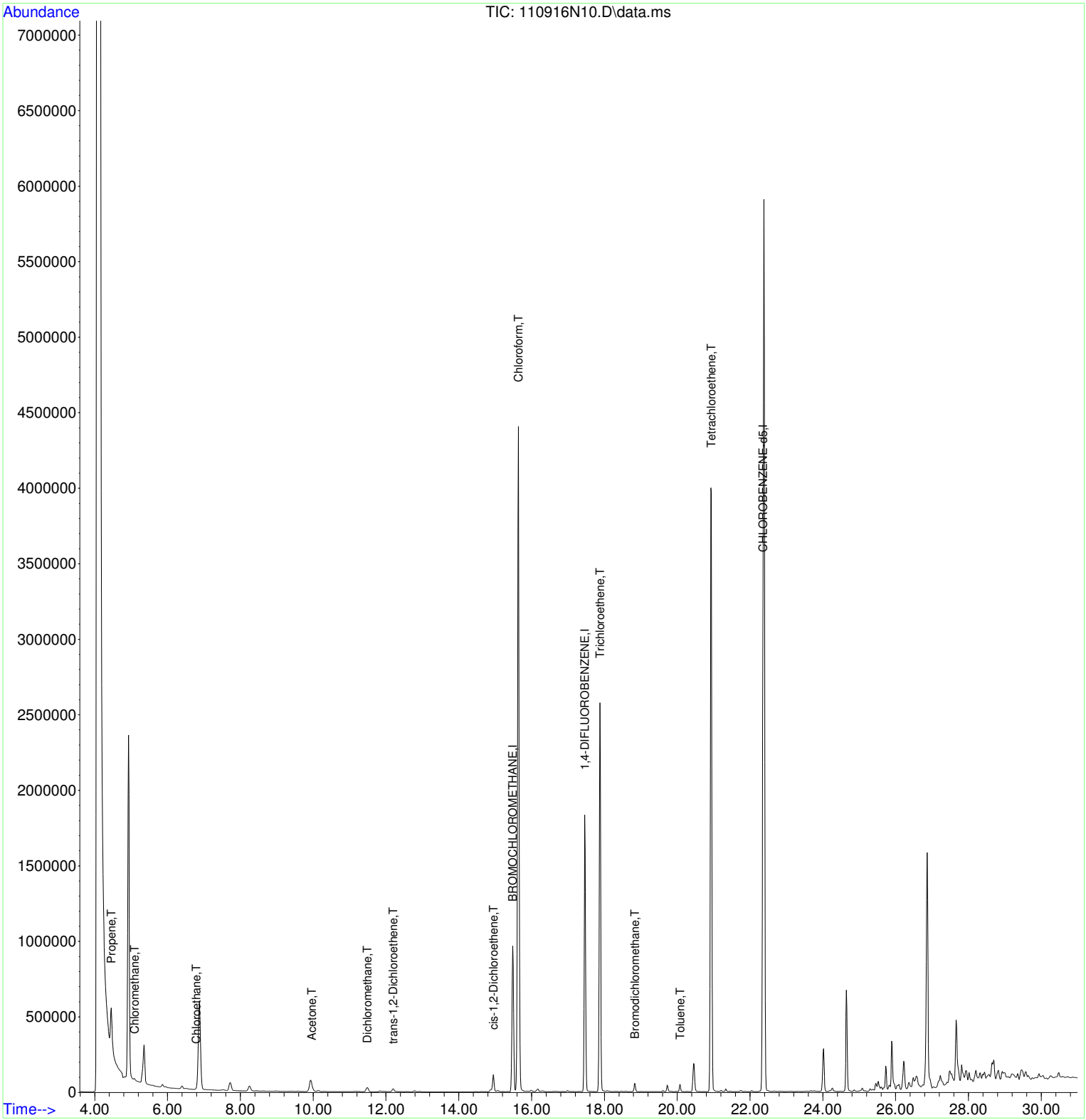
REVIEWED
By LLH at 9:53 am, Nov 10, 2016

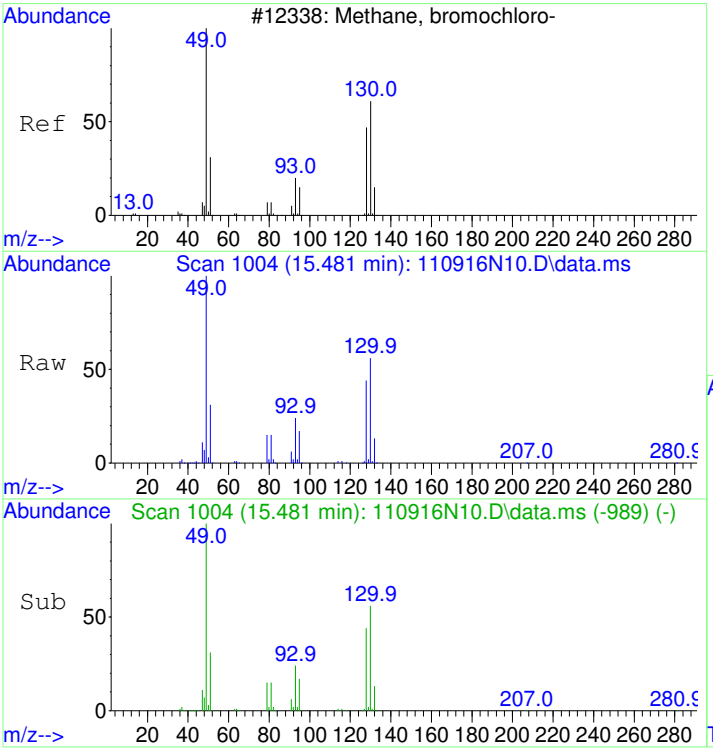
Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N10.D
Acq On : 9 Nov 2016 5:37 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-09RE1
Misc : 200ml REPRESS
ALS Vial : 12 Sample Multiplier: 2.56

re-scaled chrom, replaced pdf

LLH 11/15/16

Quant Time: Nov 10 09:49:28 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

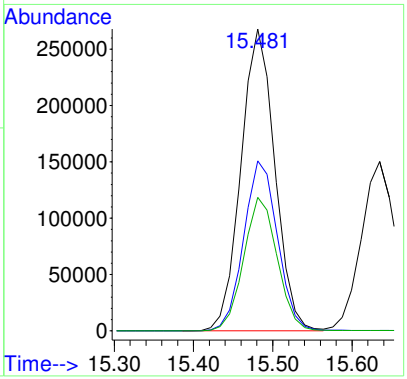


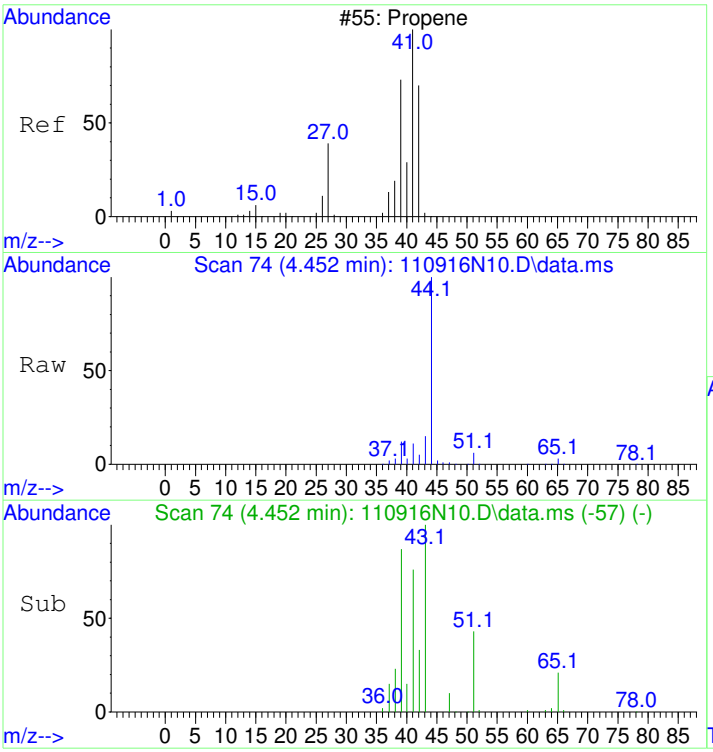


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. -0.000 min
Lab File: 110916N10.D
Acq: 9 Nov 2016 5:37 pm

Tgt Ion: 49 Resp: 797256

Ion	Ratio	Lower	Upper
49	100		
130	56.3	56.1	96.1
128	43.8	38.8	78.8

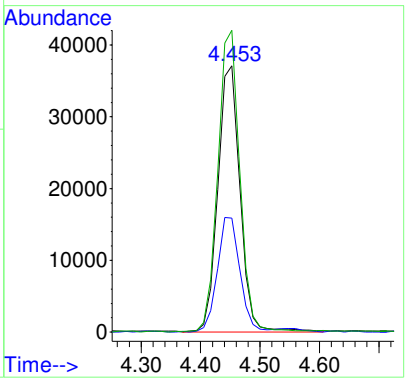


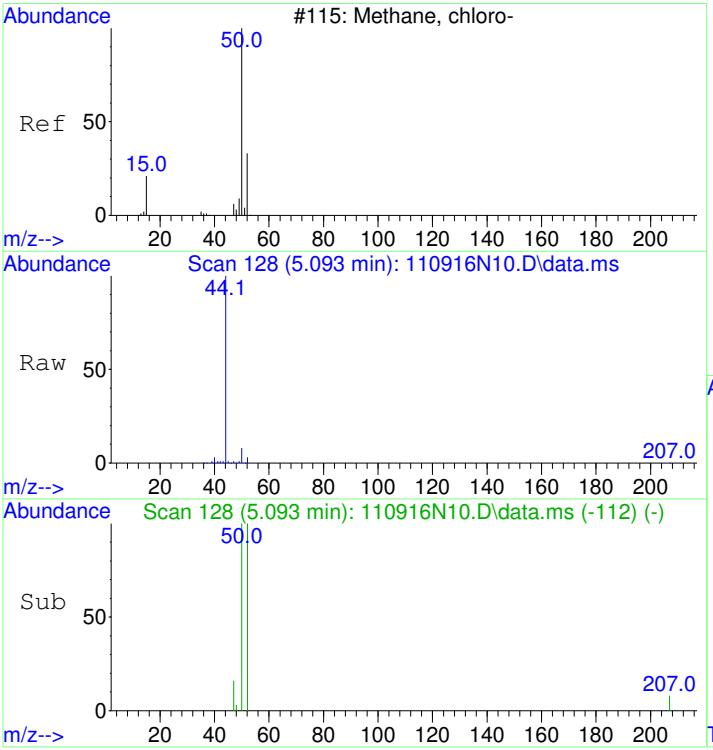


#2
Propene
Concen: 4.26 ppbv
RT: 4.452 min Scan# 74
Delta R.T. -0.000 min
Lab File: 110916N10.D
Acq: 9 Nov 2016 5:37 pm

Tgt Ion: 41 Resp: 96902

Ion	Ratio	Lower	Upper
41	100		
42	45.5	47.2	87.2#
39	111.8	49.6	89.6#

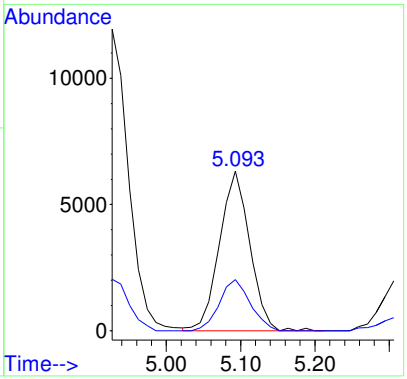


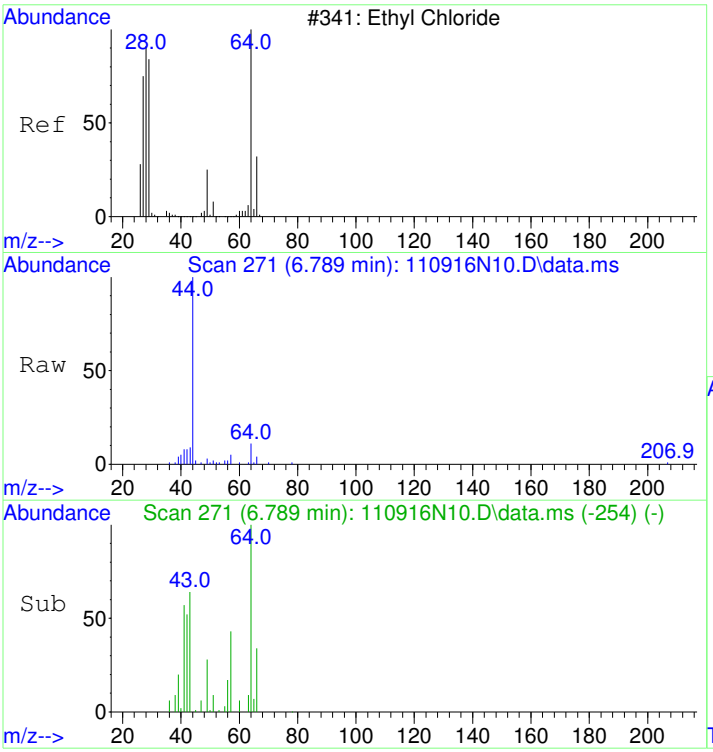


#5
Chloromethane
Concen: 0.68 ppbv
RT: 5.093 min Scan# 128
Delta R.T. -0.012 min
Lab File: 110916N10.D
Acq: 9 Nov 2016 5:37 pm

Tgt Ion: 50 Resp: 17941

Ion	Ratio	Lower	Upper
50	100		
52	32.7	12.9	52.9

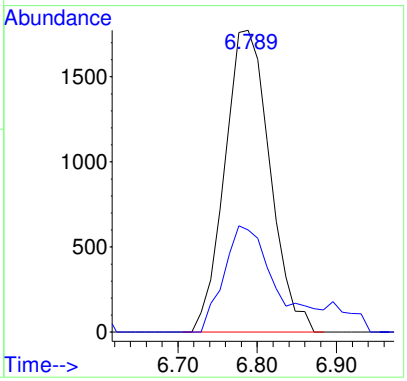


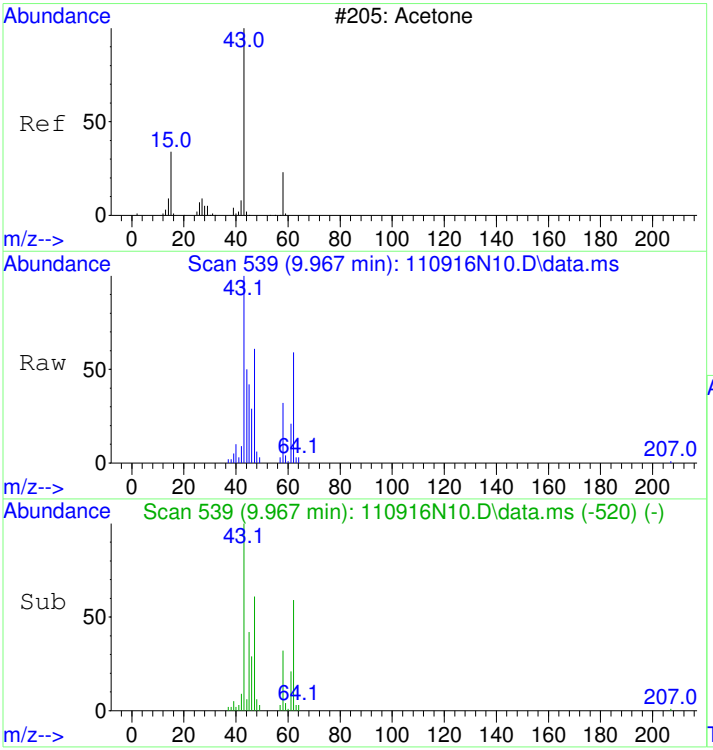


#9
Chloroethane
Concen: 0.59 ppbv
RT: 6.789 min Scan# 271
Delta R.T. -0.000 min
Lab File: 110916N10.D
Acq: 9 Nov 2016 5:37 pm

Tgt Ion: 64 Resp: 7023

Ion	Ratio	Lower	Upper
64	100		
66	46.1	13.2	53.2

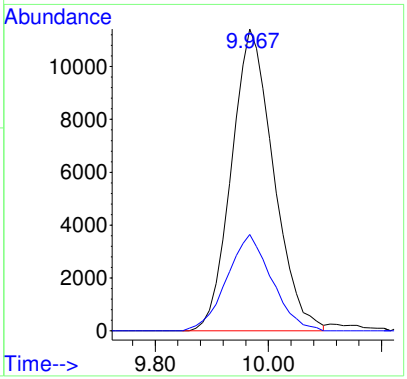


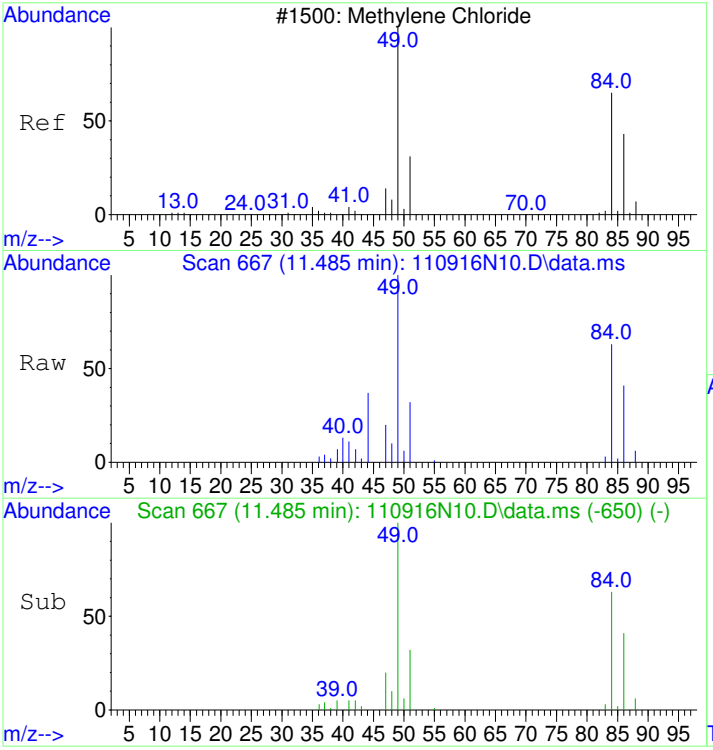


#14
Acetone
Concen: 1.37 ppbv
RT: 9.967 min Scan# 539
Delta R.T. 0.024 min
Lab File: 110916N10.D
Acq: 9 Nov 2016 5:37 pm

Tgt Ion: 43 Resp: 59146

Ion	Ratio	Lower	Upper
43	100		
58	34.1	12.3	52.3

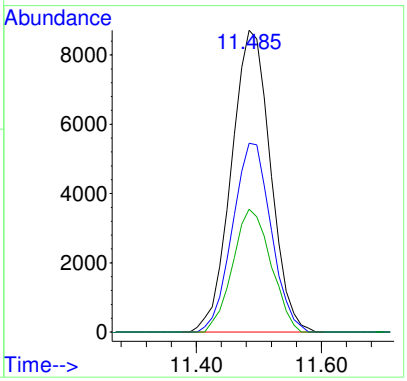


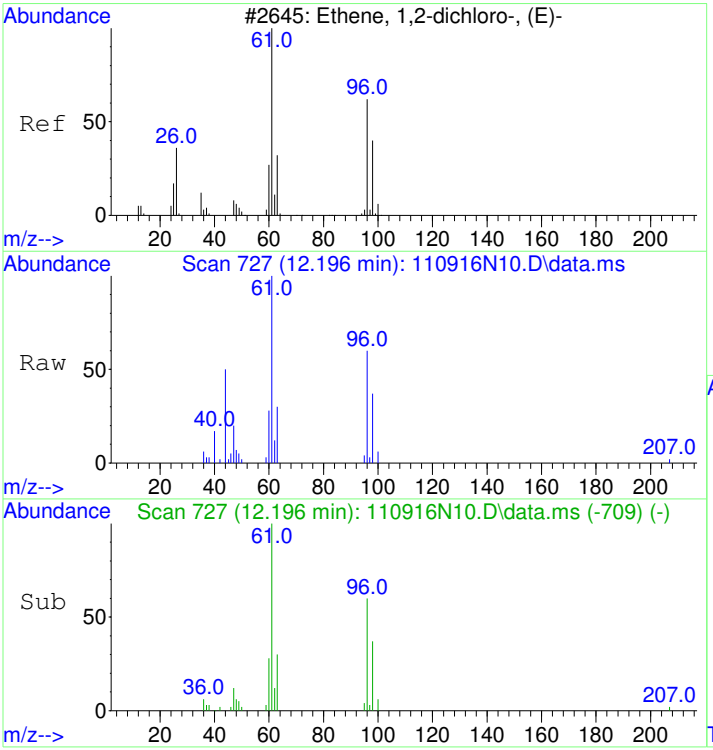


#18
Dichloromethane
Concen: 1.03 ppbv
RT: 11.485 min Scan# 667
Delta R.T. -0.000 min
Lab File: 110916N10.D
Acq: 9 Nov 2016 5:37 pm

Tgt Ion: 49 Resp: 37799

Ion	Ratio	Lower	Upper
49	100		
84	61.7	55.3	95.3
86	39.8	27.9	67.9

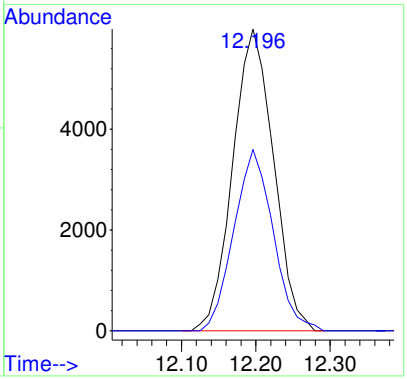


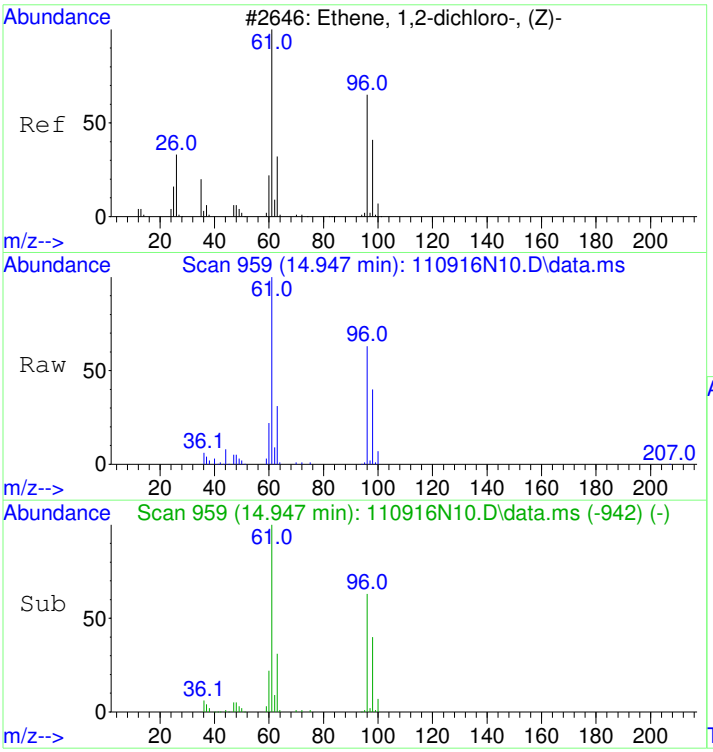


#20
trans-1,2-Dichloroethene
Concen: 0.54 ppbv
RT: 12.196 min Scan# 727
Delta R.T. 0.012 min
Lab File: 110916N10.D
Acq: 9 Nov 2016 5:37 pm

Tgt Ion: 61 Resp: 22767

Ion	Ratio	Lower	Upper
61	100		
96	57.9	47.5	87.5

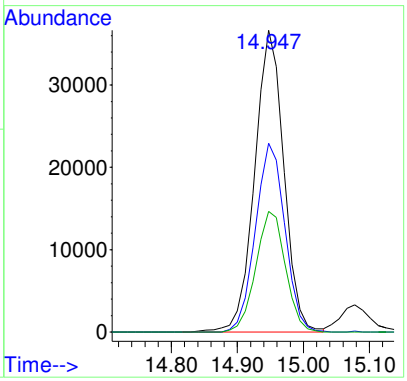


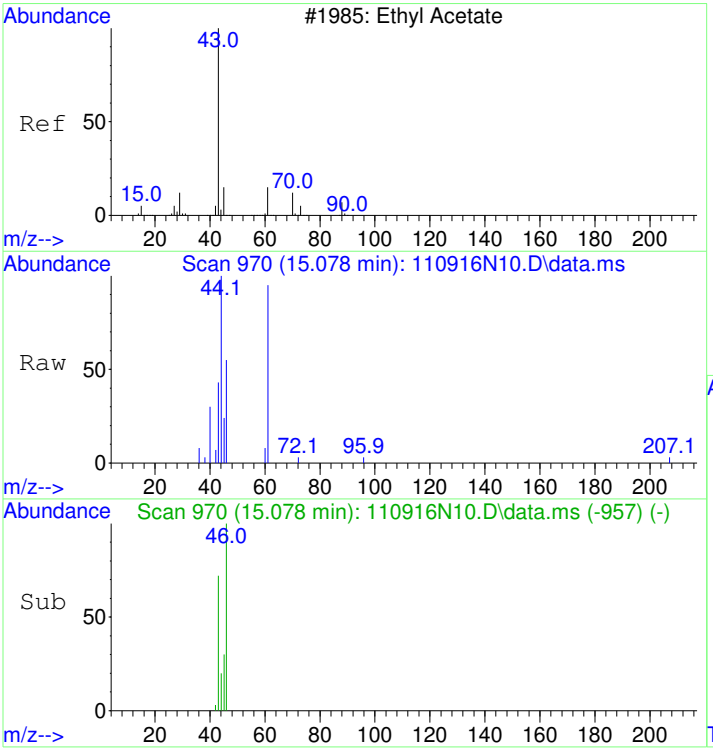


#24
cis-1,2-Dichloroethene
Concen: 2.71 ppbv
RT: 14.947 min Scan# 959
Delta R.T. -0.000 min
Lab File: 110916N10.D
Acq: 9 Nov 2016 5:37 pm

Tgt Ion: 61 Resp: 112904

Ion	Ratio	Lower	Upper
61	100		
96	63.1	54.4	94.4
98	40.5	27.5	67.5

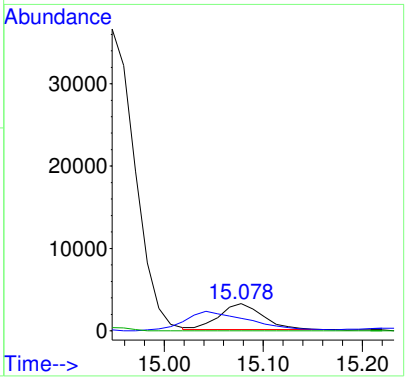




#26
Ethyl acetate
Concen: 0.94 ppbv
RT: 15.078 min Scan# 970
Delta R.T. -0.000 min
Lab File: 110916N10.D
Acq: 9 Nov 2016 5:37 pm

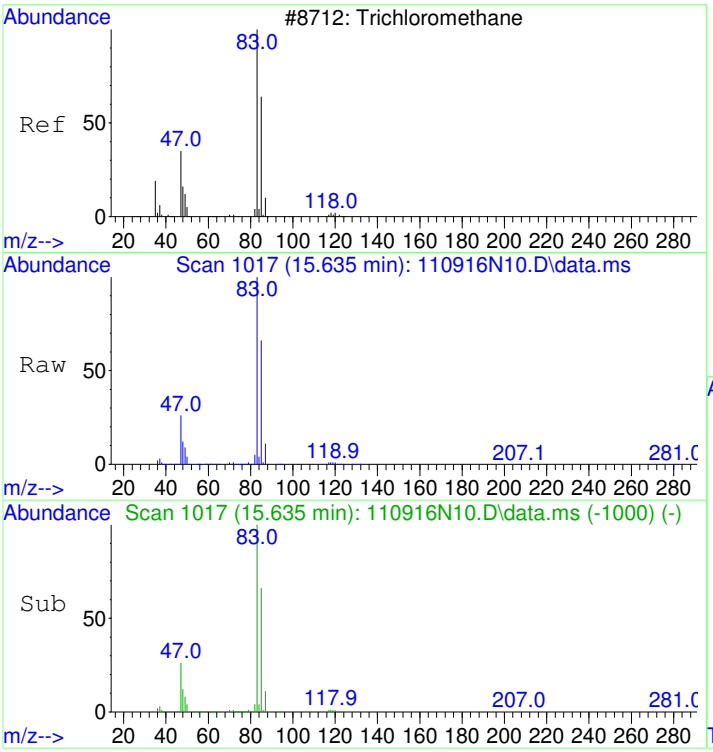
Tgt Ion: 61 Resp: 9676

Ion	Ratio	Lower	Upper
61	100		
43	0.0	0.0	10.0
70	0.0	64.2	84.2#



ratio off

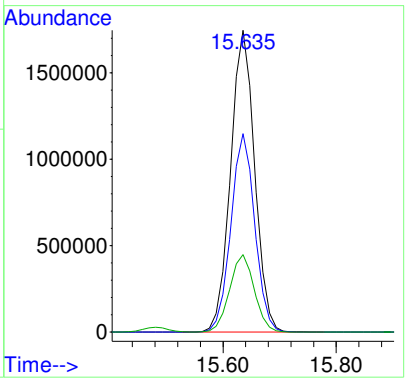
LLH 11/10/16

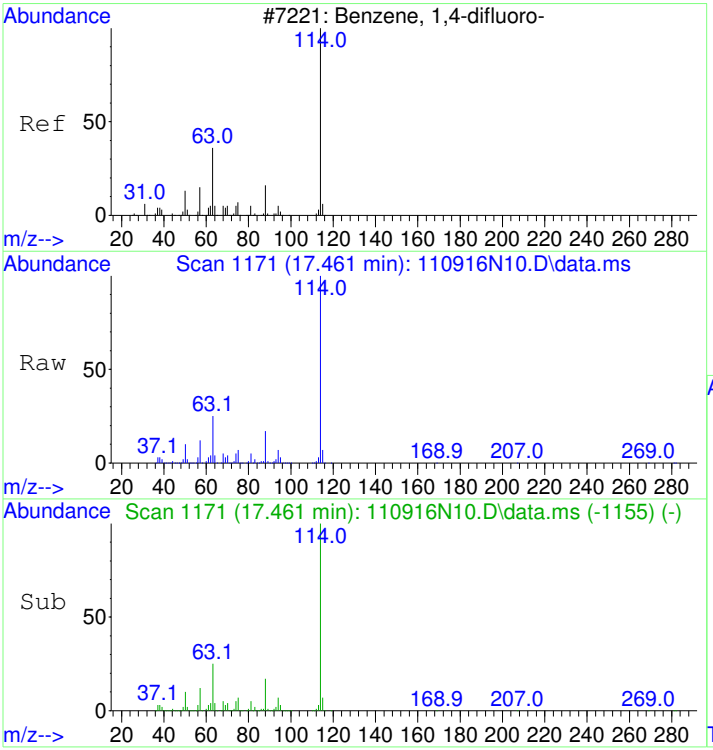


#28
Chloroform
Concen: 79.91 ppbv
RT: 15.635 min Scan# 1017
Delta R.T. -0.000 min
Lab File: 110916N10.D
Acq: 9 Nov 2016 5:37 pm

Tgt Ion: 83 Resp: 5186159

Ion	Ratio	Lower	Upper
83	100		
85	65.2	44.9	84.9
47	26.3	3.9	43.9

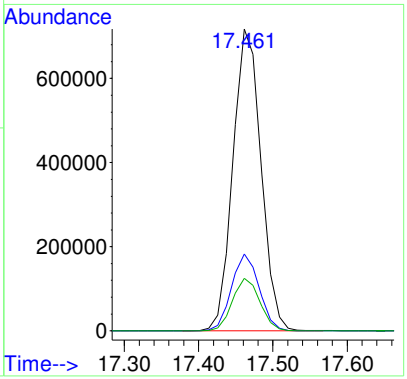


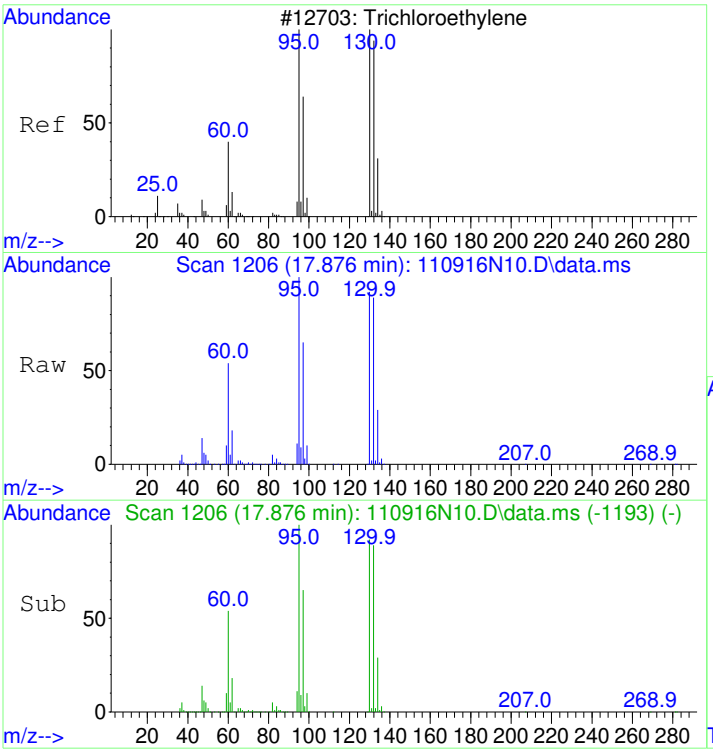


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. -0.000 min
Lab File: 110916N10.D
Acq: 9 Nov 2016 5:37 pm

Tgt Ion:114 Resp: 1881138

Ion	Ratio	Lower	Upper
114	100		
63	25.0	0.1	40.1
88	17.1	0.0	35.8

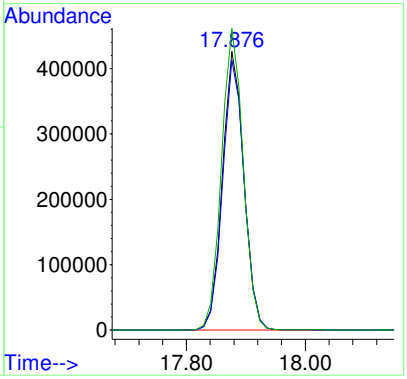


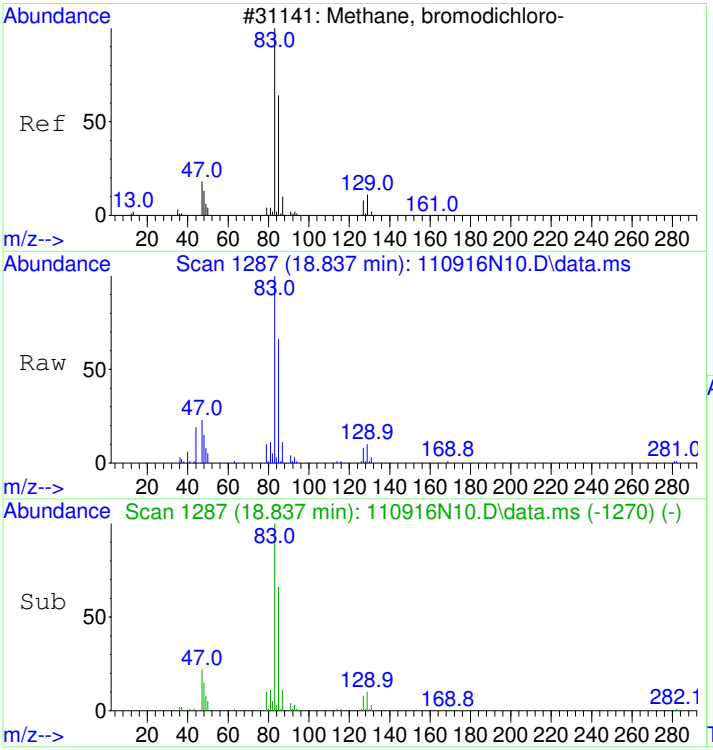


#37
Trichloroethene
Concen: 35.74 ppbv
RT: 17.876 min Scan# 1206
Delta R.T. -0.000 min
Lab File: 110916N10.D
Acq: 9 Nov 2016 5:37 pm

Tgt Ion:130 Resp: 1075490

Ion	Ratio	Lower	Upper
130	100		
132	96.7	77.1	117.1
95	109.3	79.3	119.3

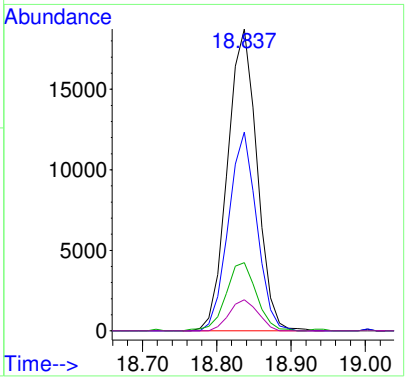


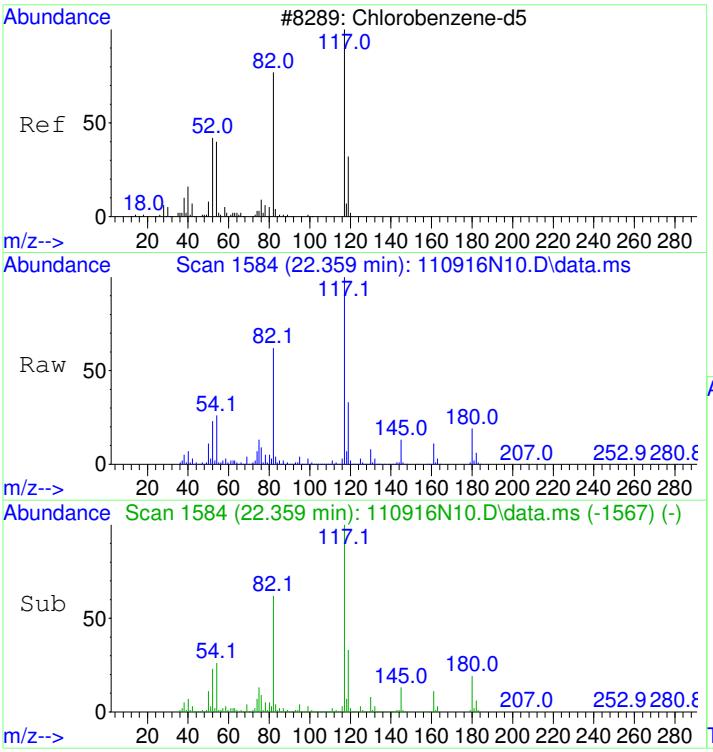


#40
Bromodichloromethane
Concen: 0.98 ppbv
RT: 18.837 min Scan# 1287
Delta R.T. -0.000 min
Lab File: 110916N10.D
Acq: 9 Nov 2016 5:37 pm

Tgt Ion: 83 Resp: 51560

Ion	Ratio	Lower	Upper
83	100		
85	63.1	44.2	84.2
47	23.4	0.0	38.2
129	10.0	0.0	31.0

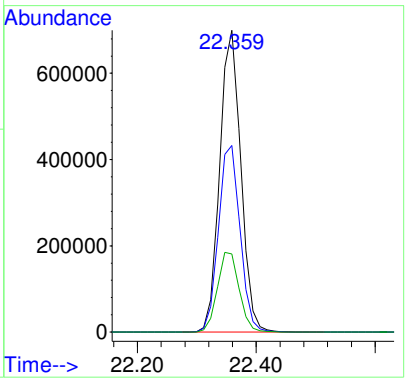


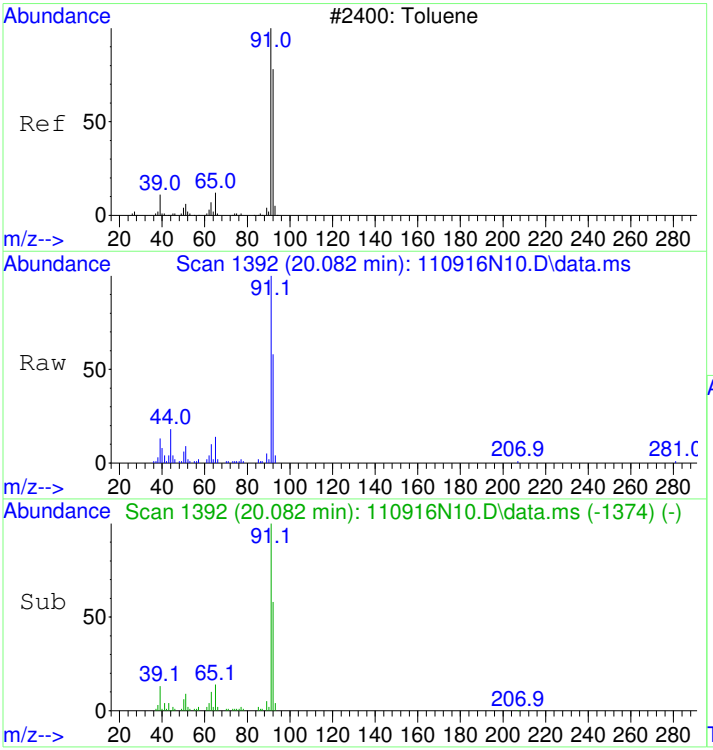


#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. -0.000 min
Lab File: 110916N10.D
Acq: 9 Nov 2016 5:37 pm

Tgt Ion:117 Resp: 1730491

Ion	Ratio	Lower	Upper
117	100		
82	63.3	36.8	76.8
54	27.3	1.4	41.4

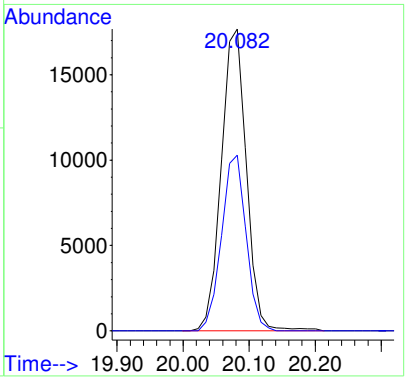


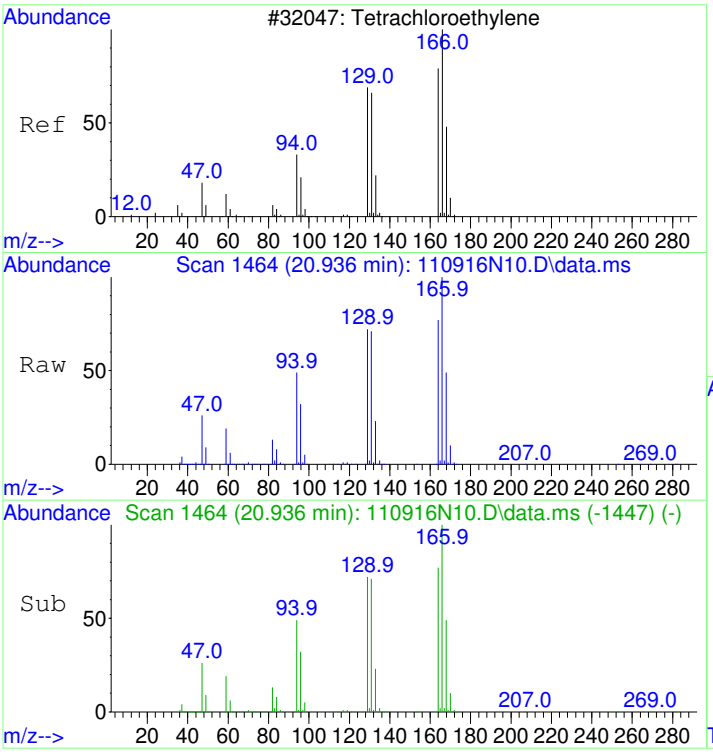


#44
Toluene
Concen: 0.48 ppbv
RT: 20.082 min Scan# 1392
Delta R.T. 0.012 min
Lab File: 110916N10.D
Acq: 9 Nov 2016 5:37 pm

Tgt Ion: 91 Resp: 46752

Ion	Ratio	Lower	Upper
91	100		
92	56.8	39.3	79.3

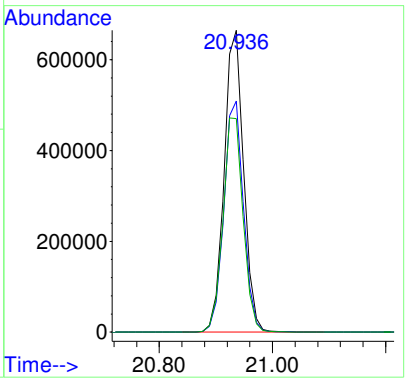




#47
Tetrachloroethene
Concen: 34.61 ppbv
RT: 20.936 min Scan# 1464
Delta R.T. -0.000 min
Lab File: 110916N10.D
Acq: 9 Nov 2016 5:37 pm

Tgt Ion:166 Resp: 1578402

Ion	Ratio	Lower	Upper
166	100		
164	77.5	58.2	98.2
131	73.8	49.4	89.4



LSC Area Percent Report

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N10.D
Acq On : 9 Nov 2016 5:37 pm
Operator : LLH
Sample : 1611021-09RE1
Misc : 200ml REPRESS
ALS Vial : 12 Sample Multiplier: 2.56

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.01 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 1 prefer < Baseline drop else tangent >
Peak separation: 10

Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Title : TO15

Signal : TIC: 110916N10.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.453	70	74	102	rVB3	462214	3101638	17.08%	3.680%
2	4.927	108	114	125	rVB	2278569	6495231	35.77%	7.706%
3	5.354	142	150	168	rVB	267129	1077146	5.93%	1.278%
4	6.872	269	278	292	rVB	587467	2553520	14.06%	3.029%
5	7.725	342	350	358	rBV	52736	224208	1.23%	0.266%
6	9.931	527	536	547	rBV2	76188	404903	2.23%	0.480%
7	14.947	954	959	965	rVB	110880	342322	1.89%	0.406%
8	15.481	997	1004	1010	rBV	964792	2864622	15.78%	3.398%
9	15.635	1010	1017	1033	rVB	4401344	13274798	73.11%	15.749%
10	17.461	1165	1171	1184	rBV	1833354	4809537	26.49%	5.706%
11	17.876	1200	1206	1218	rBV	2574206	6566438	36.17%	7.790%
12	20.461	1417	1424	1434	rBV	186476	602260	3.32%	0.714%
13	20.924	1457	1463	1476	rBV	3998790	10032837	55.26%	11.902%
14	22.383	1578	1586	1594	rBV2	5903757	18156198	100.00%	21.540%
15	24.019	1718	1724	1732	rVB	283793	816655	4.50%	0.969%
16	24.648	1768	1777	1791	rBV	671829	1726977	9.51%	2.049%
17	25.727	1864	1868	1873	rVB2	154922	357198	1.97%	0.424%
18	25.893	1878	1882	1892	rVB	318318	927165	5.11%	1.100%
19	26.225	1903	1910	1917	rBV2	188727	683818	3.77%	0.811%
20	26.486	1927	1932	1934	rVV3	68387	215039	1.18%	0.255%
21	26.569	1935	1939	1949	rVB3	73867	377481	2.08%	0.448%
22	26.865	1956	1964	1976	rVB3	1558984	5070448	27.93%	6.015%
23	27.233	1992	1995	2003	rVB2	64645	246252	1.36%	0.292%
24	27.482	2012	2016	2019	rBV2	79121	271457	1.50%	0.322%
25	27.660	2027	2031	2040	rVB2	401918	1360509	7.49%	1.614%
26	27.814	2040	2044	2050	rBV3	105820	358163	1.97%	0.425%
27	27.932	2050	2054	2058	rVB3	62917	223732	1.23%	0.265%
28	28.205	2071	2077	2083	rBV4	74375	309106	1.70%	0.367%
29	28.656	2110	2115	2116	rBV2	92275	255405	1.41%	0.303%
30	28.822	2123	2129	2134	rVB4	60037	239057	1.32%	0.284%
31	29.450	2177	2182	2189	rBV5	65737	348188	1.92%	0.413%

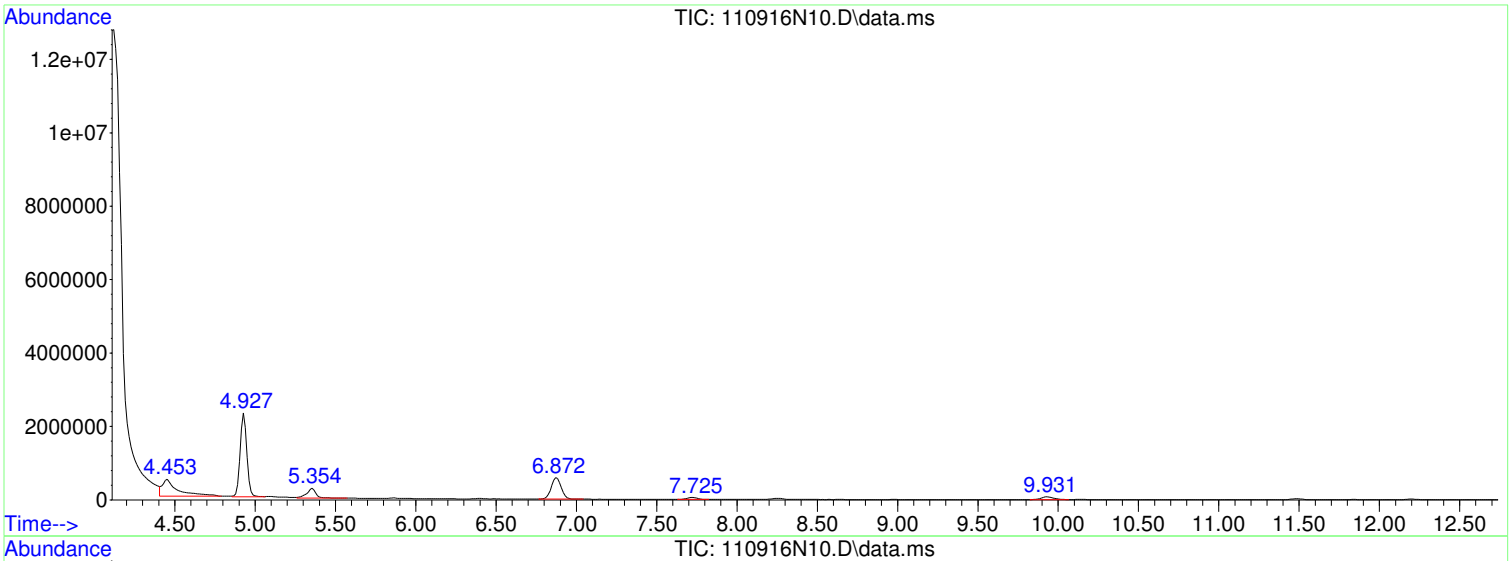
Sum of corrected areas: 84292308

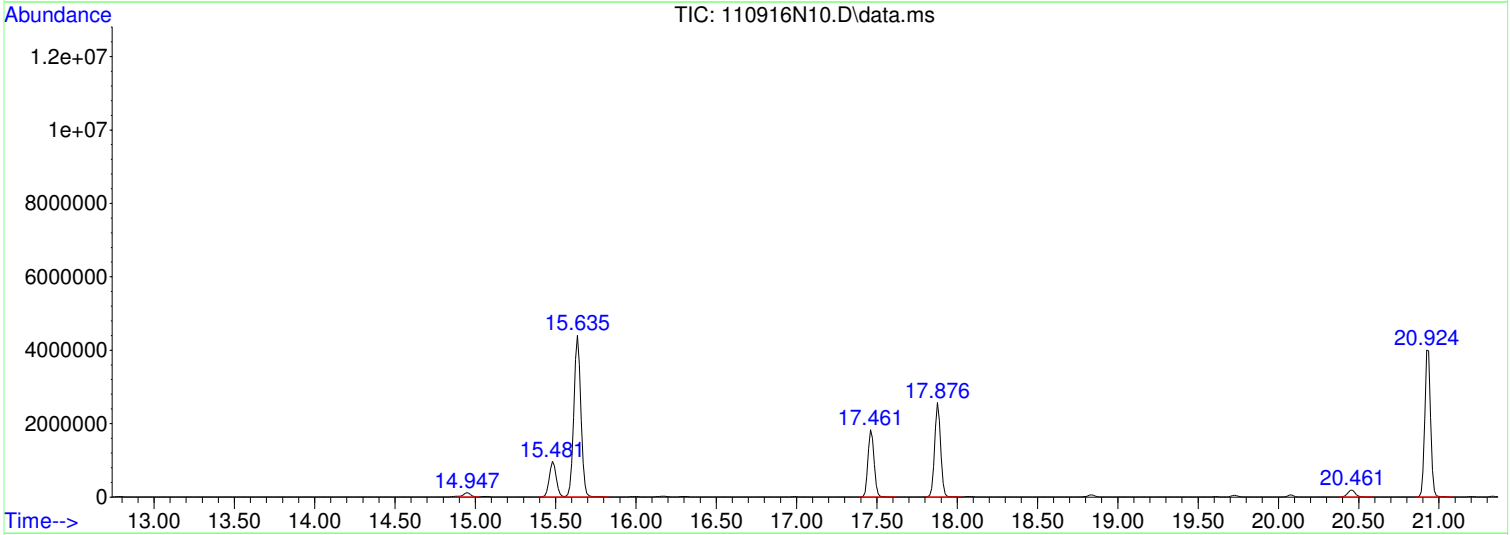
Table of Contents

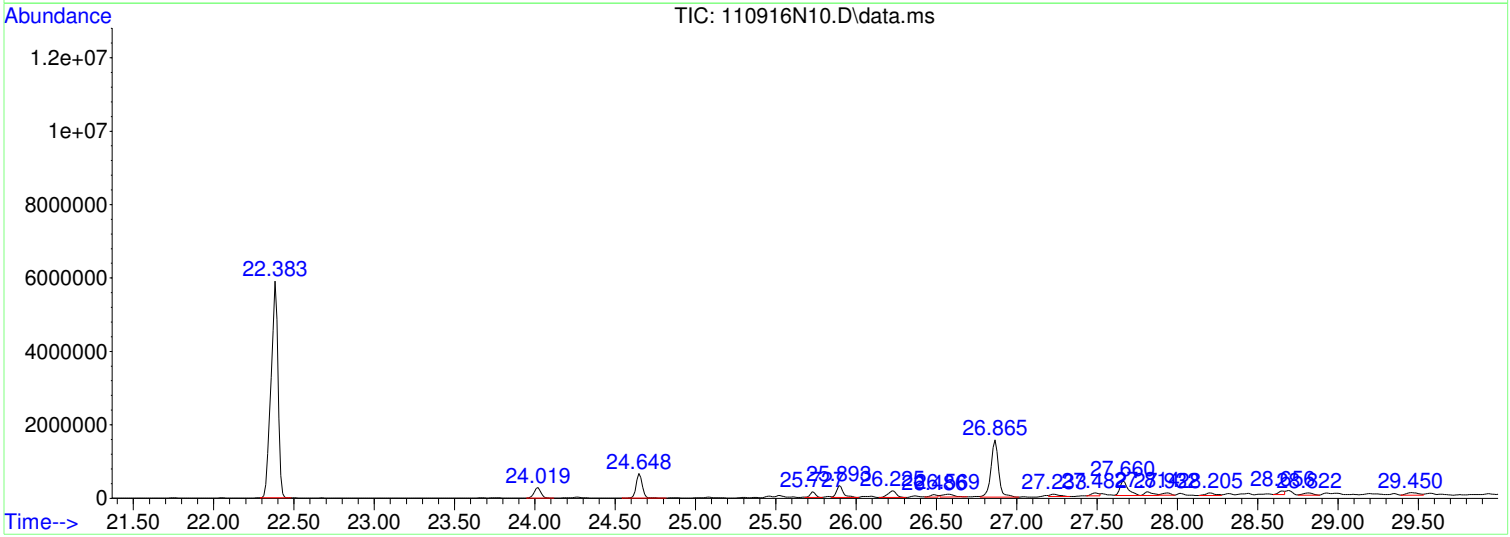
Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N10.D
Acq On : 9 Nov 2016 5:37 pm
Operator : LLH
Sample : 1611021-09RE1
Misc : 200ml REPRESS
ALS Vial : 12 Sample Multiplier: 2.56

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P







Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N10.D
Acq On : 9 Nov 2016 5:37 pm
Operator : LLH
Sample : 1611021-09RE1
Misc : 200ml REPRESS
ALS Vial : 12 Sample Multiplier: 2.56

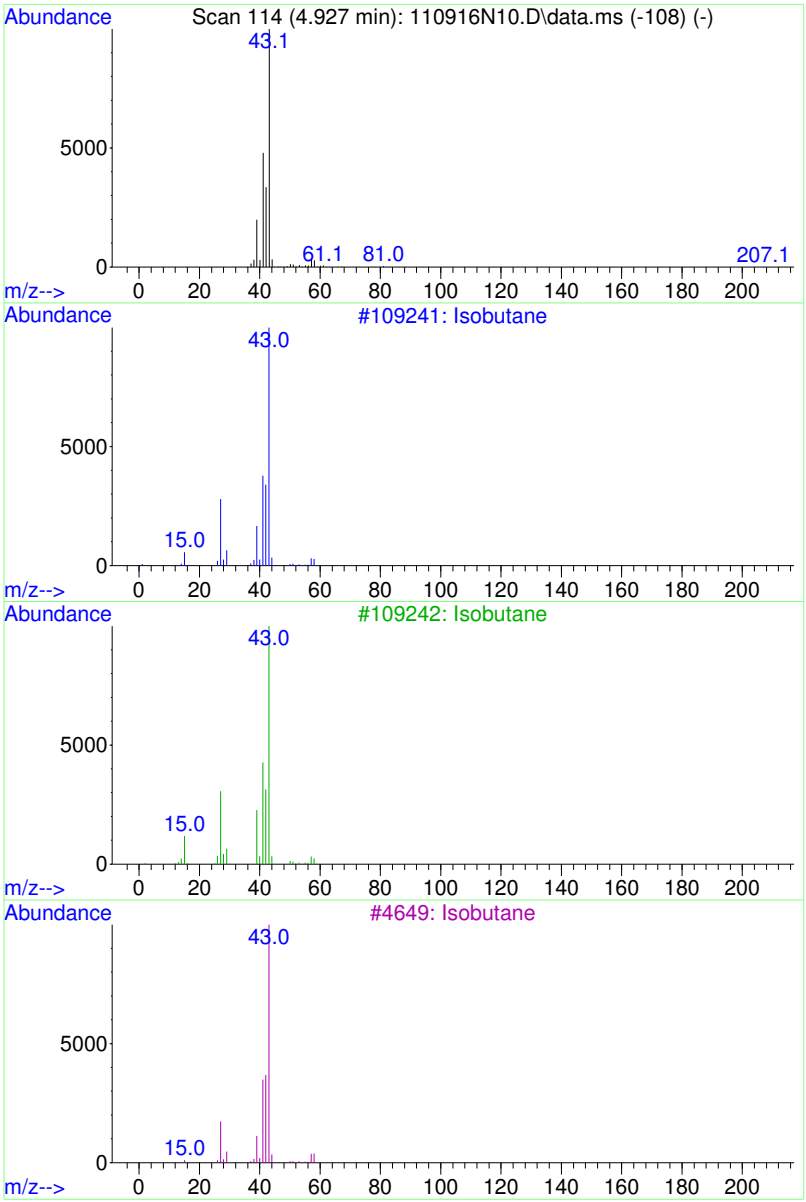
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

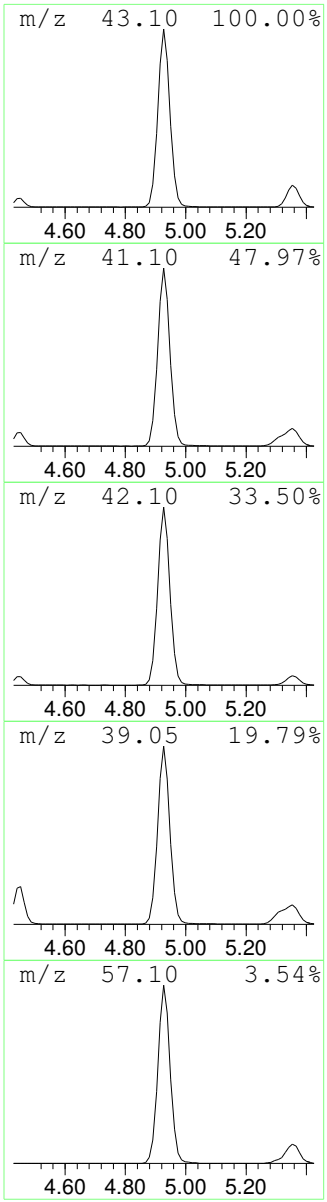
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 1 Isobutane Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.927	49.88 ppbv	6495230	BROMOCHLOROMETHANE	15.481

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Isobutane	58	C4H10	000075-28-5	80
2	Isobutane	58	C4H10	000075-28-5	64
3	Isobutane	58	C4H10	000075-28-5	59
4	Oxirane, trimethyl-	86	C5H10O	005076-19-7	9
5	Isobutyl nitrite	103	C4H9NO2	000542-56-3	9





Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N10.D
Acq On : 9 Nov 2016 5:37 pm
Operator : LLH
Sample : 1611021-09RE1
Misc : 200ml REPRESS
ALS Vial : 12 Sample Multiplier: 2.56

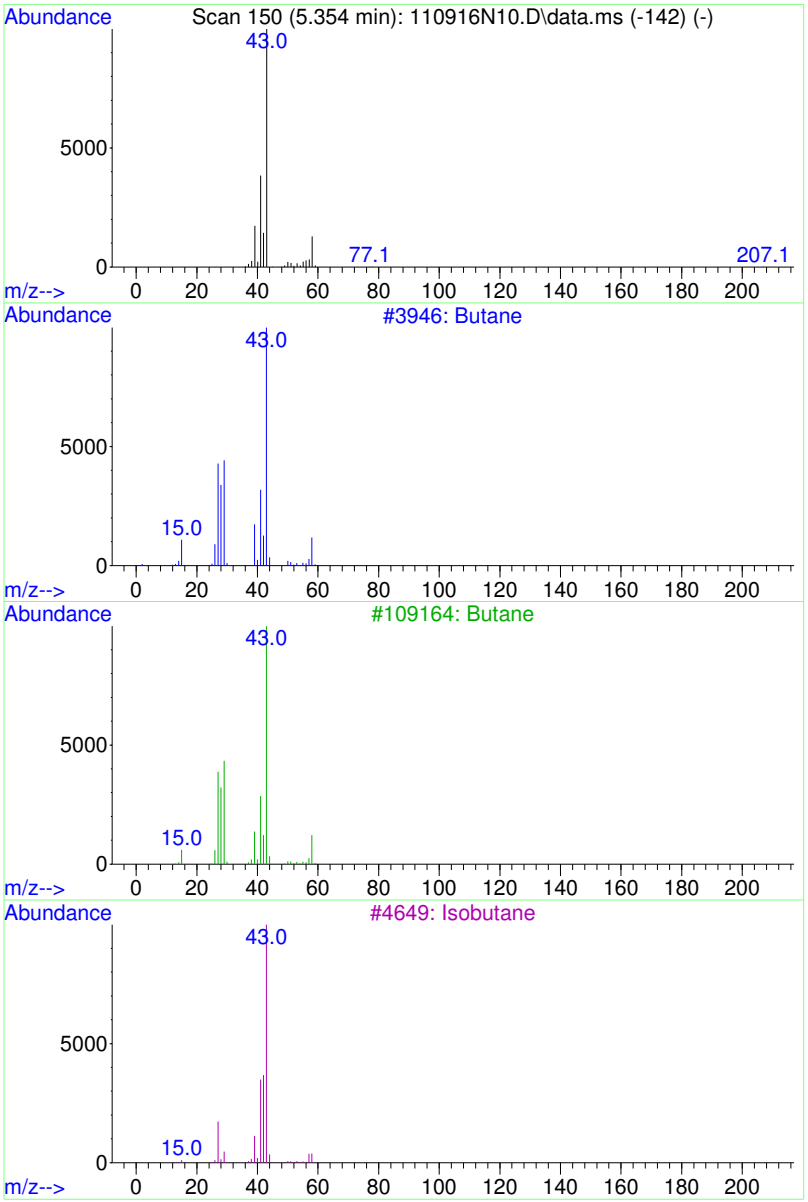
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

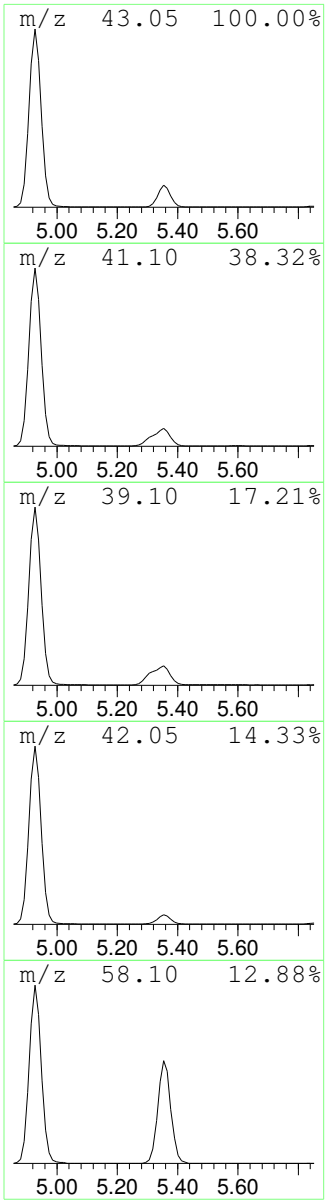
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 2 Butane Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.354	8.27 ppbv	1077150	BROMOCHLOROMETHANE	15.481

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane	58	C4H10	000106-97-8	72
2	Butane	58	C4H10	000106-97-8	72
3	Isobutane	58	C4H10	000075-28-5	4
4	Diazene, dimethyl-	58	C2H6N2	000503-28-6	4
5	Propanal	58	C3H6O	000123-38-6	4





Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N10.D
Acq On : 9 Nov 2016 5:37 pm
Operator : LLH
Sample : 1611021-09RE1
Misc : 200ml REPRESS
ALS Vial : 12 Sample Multiplier: 2.56

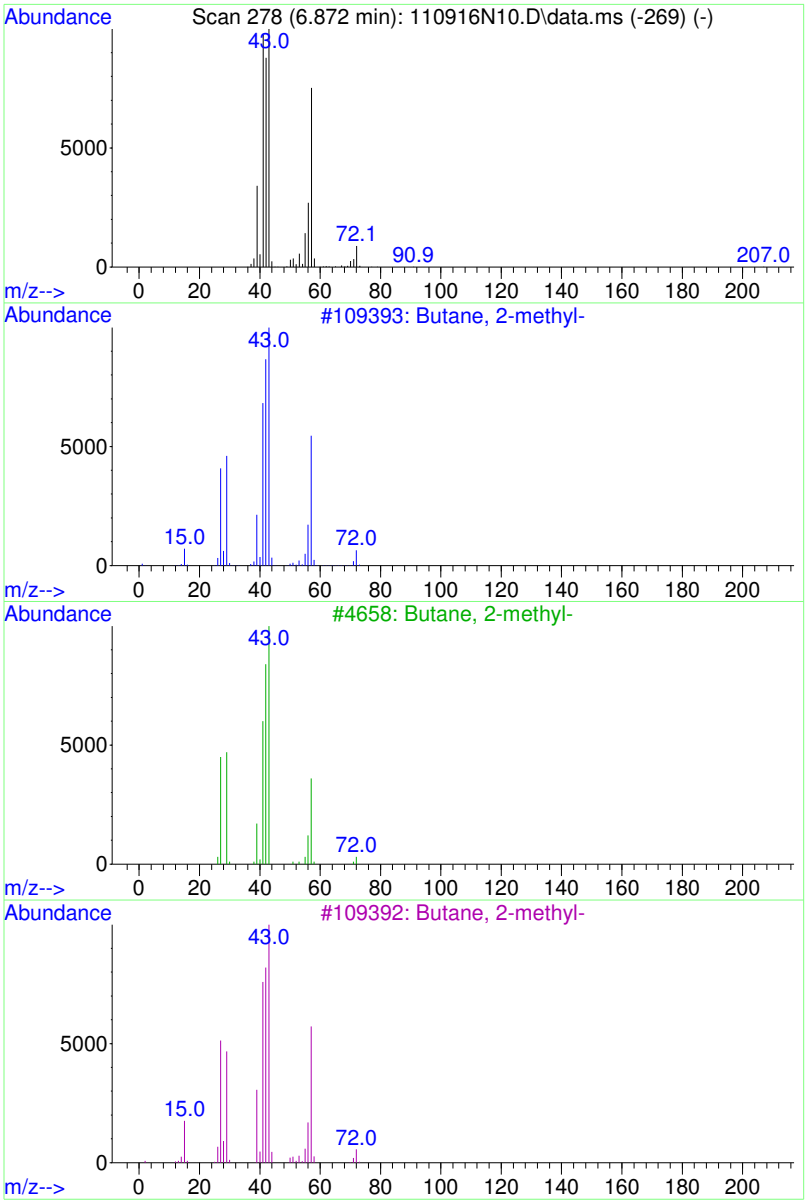
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

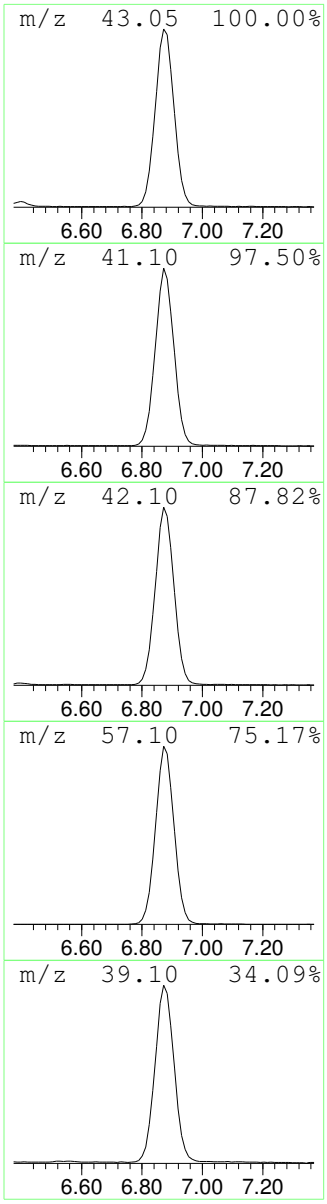
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 3 Butane, methyl- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
6.872	19.61 ppbv	2553520	BROMOCHLOROMETHANE	15.481

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane, 2-methyl-	72	C5H12	000078-78-4	86
2	Butane, 2-methyl-	72	C5H12	000078-78-4	72
3	Butane, 2-methyl-	72	C5H12	000078-78-4	72
4	3-Buten-1-ol	72	C4H8O	000627-27-0	47
5	3-Buten-1-ol	72	C4H8O	000627-27-0	25





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Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N10.D
Acq On    :  9 Nov 2016   5:37 pm
Operator  : LLH
Sample    : 1611021-09RE1
Misc      : 200ml REPRESS
ALS Vial  : 12   Sample Multiplier: 2.56

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title  : TO15

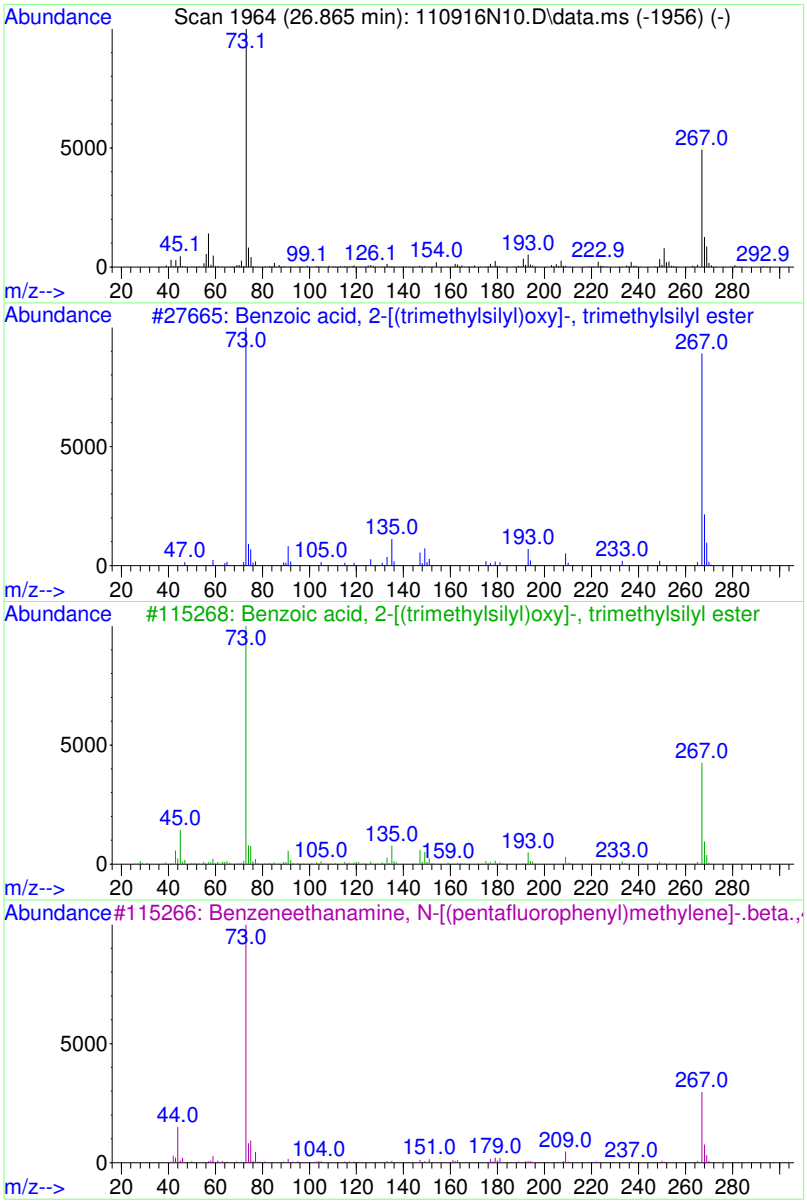
TIC Library    : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P
```

****

Peak Number 4 column bleed Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
26.865	6.14 ppbv	5070450	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzoic acid, 2-[(trimethylsilyl...	282	C13H22O3Si2	003789-85-3	59
2	Benzoic acid, 2-[(trimethylsilyl...	282	C13H22O3Si2	003789-85-3	39
3	Benzeneethanamine, N-[(pentafluo...	475	C21H26F5NO2Si2	055429-85-1	32
4	Tetrasiloxane, 1,1,3,3,5,5,7,7-o...	282	C8H26O3Si4	001000-05-1	16
5	3,5-Dimethoxyphenylacetic acid, TMS	268	C13H20O4Si	1000071-82-4	10



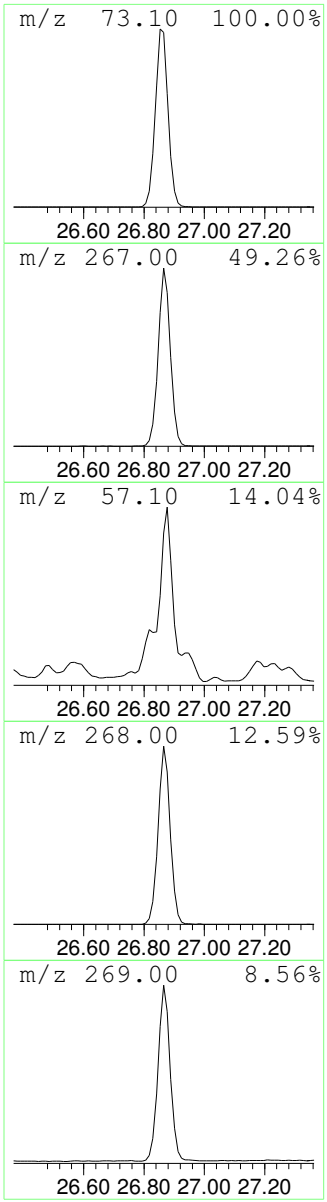


Table of Contents

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N10.D
Acq On : 9 Nov 2016 5:37 pm
Operator : LLH
Sample : 1611021-09RE1
Misc : 200ml REPRESS
ALS Vial : 12 Sample Multiplier: 2.56

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	RT	Resp	Conc
Isobutane	4.927	49.9	ppbv	6495230	1	15.481	2864620	22.0
Butane	5.354	8.3	ppbv	1077150	1	15.481	2864620	22.0
Butane, methyl-	6.872	19.6	ppbv	2553520	1	15.481	2864620	22.0
column bleed	26.865	6.1	ppbv	5070450	3	22.359	18156200	22.0

REVIEWED
By LLH at 9:59 am, Nov 10, 2016

1611021-05RE1

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N12.D
Acq On : 9 Nov 2016 7:11 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-05RE1
Misc : 20ml RE-REPRESS
ALS Vial : 38 Sample Multiplier: 7.45

report TCE

Quant Time: Nov 10 09:15:25 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	799229	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	1926674	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1563335	22.00	ppbv	0.00
Target Compounds						Qvalue
37) Trichloroethene	17.876	130	189501	6.15	ppbv	94

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

REVIEWED
By LLH at 9:45 am, Nov 10, 2016

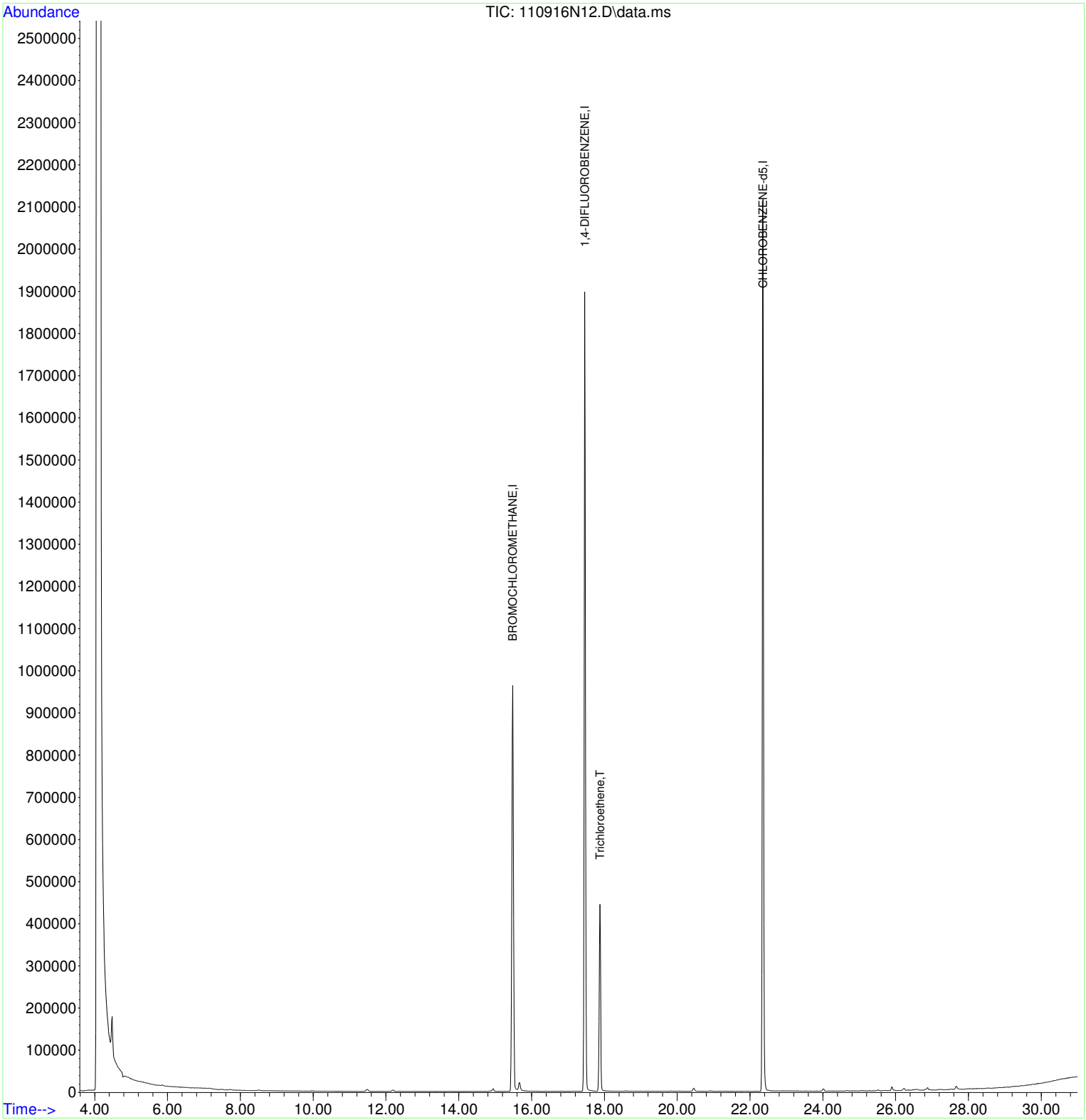
Table of Contents

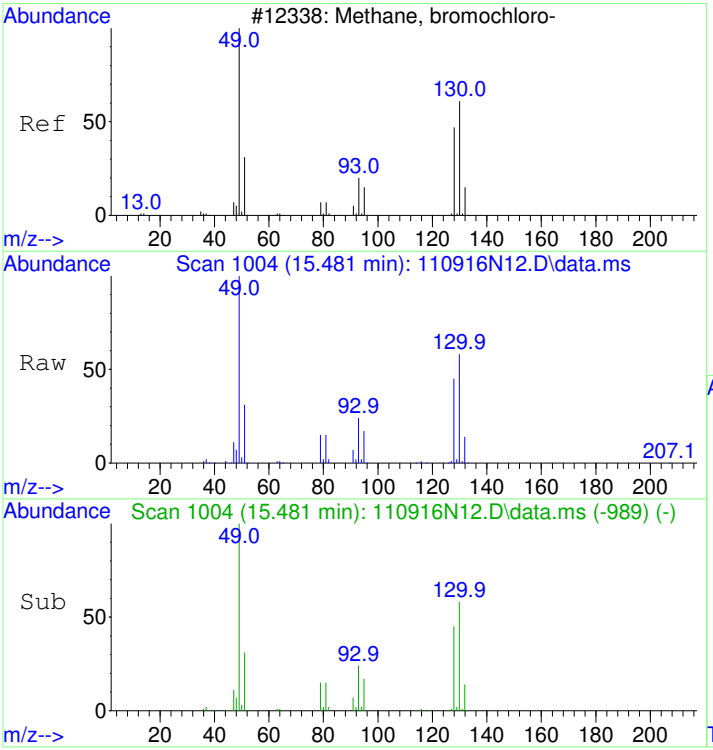
Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N12.D
Acq On : 9 Nov 2016 7:11 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-05RE1
Misc : 20ml RE-REPRESS
ALS Vial : 38 Sample Multiplier: 7.45

re-scaled chrom, replaced pdf

LLH 11/15/16

Quant Time: Nov 10 09:15:25 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

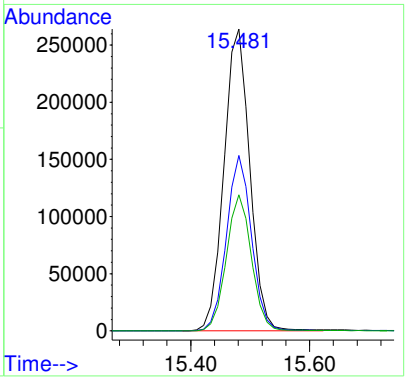


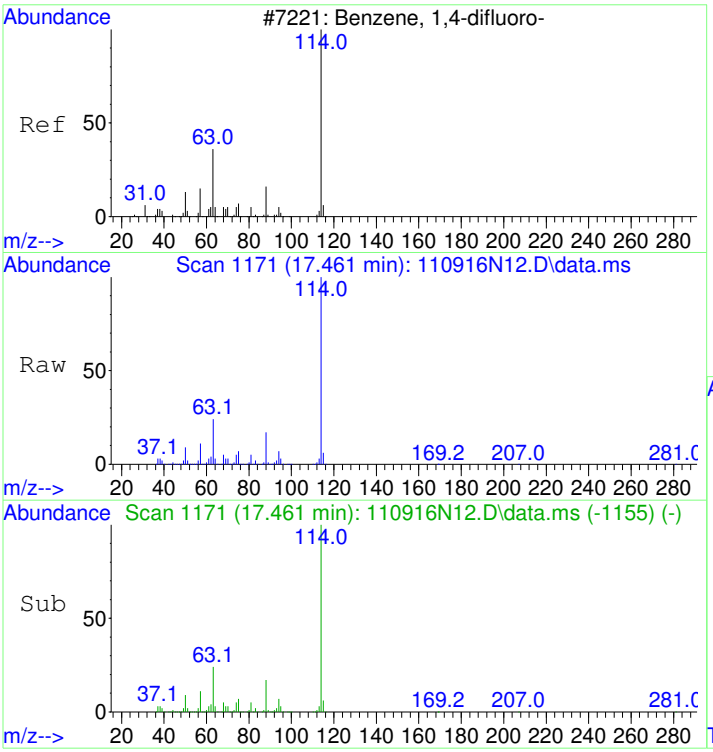


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. -0.000 min
Lab File: 110916N12.D
Acq: 9 Nov 2016 7:11 pm

Tgt Ion: 49 Resp: 799229

Ion	Ratio	Lower	Upper
49	100		
130	56.3	56.1	96.1
128	43.8	38.8	78.8

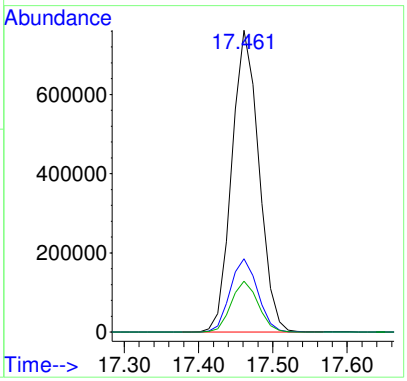


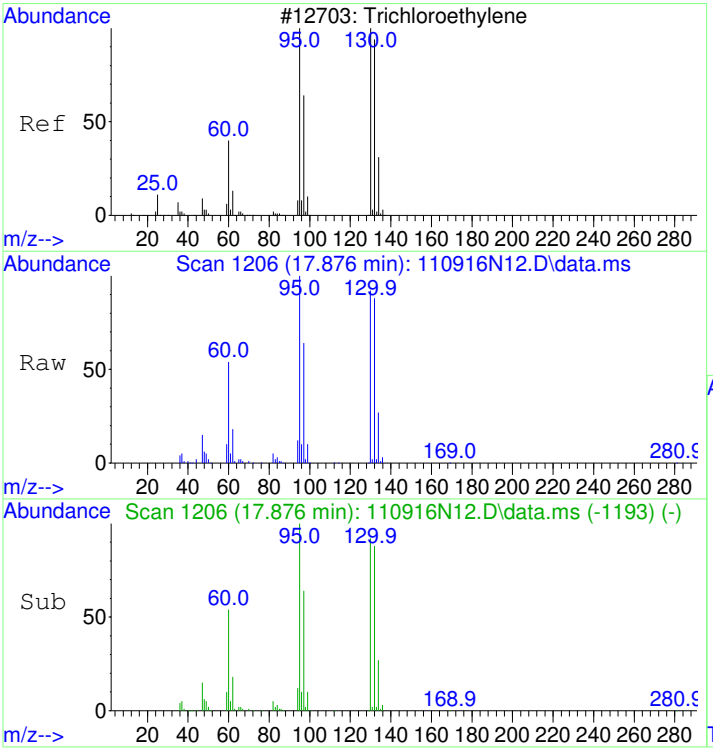


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. -0.000 min
Lab File: 110916N12.D
Acq: 9 Nov 2016 7:11 pm

Tgt Ion:114 Resp: 1926674

Ion	Ratio	Lower	Upper
114	100		
63	24.7	0.1	40.1
88	16.9	0.0	35.8

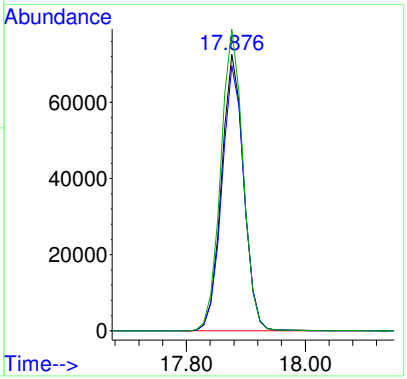


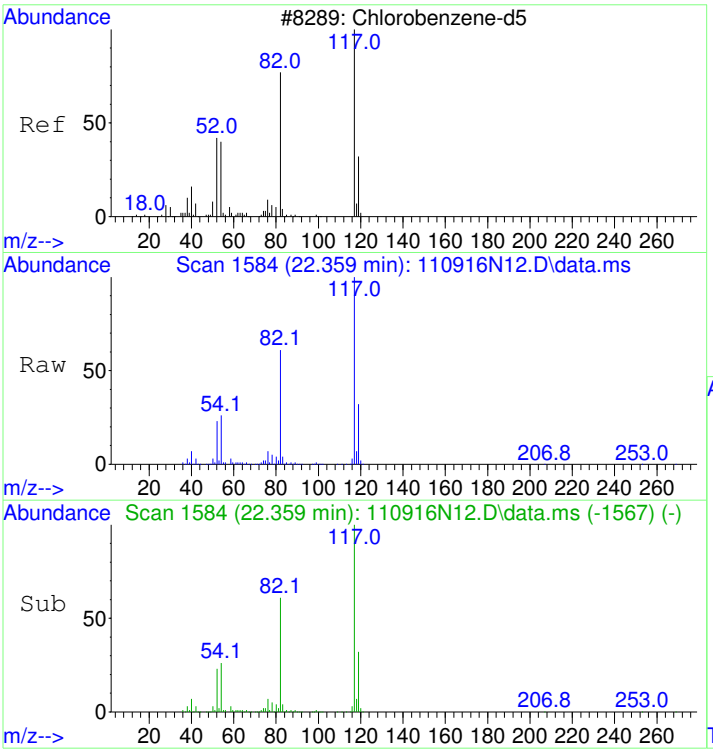


#37
Trichloroethene
Concen: 6.15 ppbv
RT: 17.876 min Scan# 1206
Delta R.T. -0.000 min
Lab File: 110916N12.D
Acq: 9 Nov 2016 7:11 pm

Tgt Ion:130 Resp: 189501

Ion	Ratio	Lower	Upper
130	100		
132	95.8	77.1	117.1
95	109.2	79.3	119.3

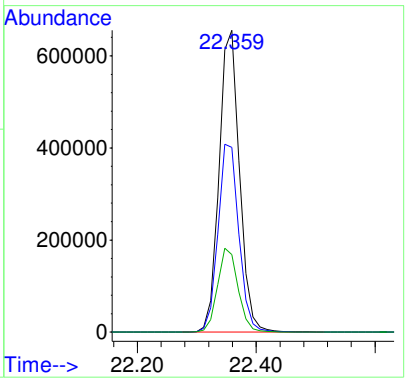




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. -0.000 min
Lab File: 110916N12.D
Acq: 9 Nov 2016 7:11 pm

Tgt Ion:117 Resp: 1563335

Ion	Ratio	Lower	Upper
117	100		
82	63.7	36.8	76.8
54	28.0	1.4	41.4



1611021-06RE1

Quantitation Report (Not Reviewed)

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Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N13.D
Acq On : 9 Nov 2016 7:57 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-06RE1
Misc : 20ml RE-REPRESS
ALS Vial : 39 Sample Multiplier: 7.27

report TCE

Quant Time: Nov 10 09:15:35 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	786765	22.00	ppbv	# 0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	1884070	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1492316	22.00	ppbv	0.00
Target Compounds						Qvalue
37) Trichloroethene	17.876	130	296016	9.82	ppbv	94

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

REVIEWED
By LLH at 9:45 am, Nov 10, 2016

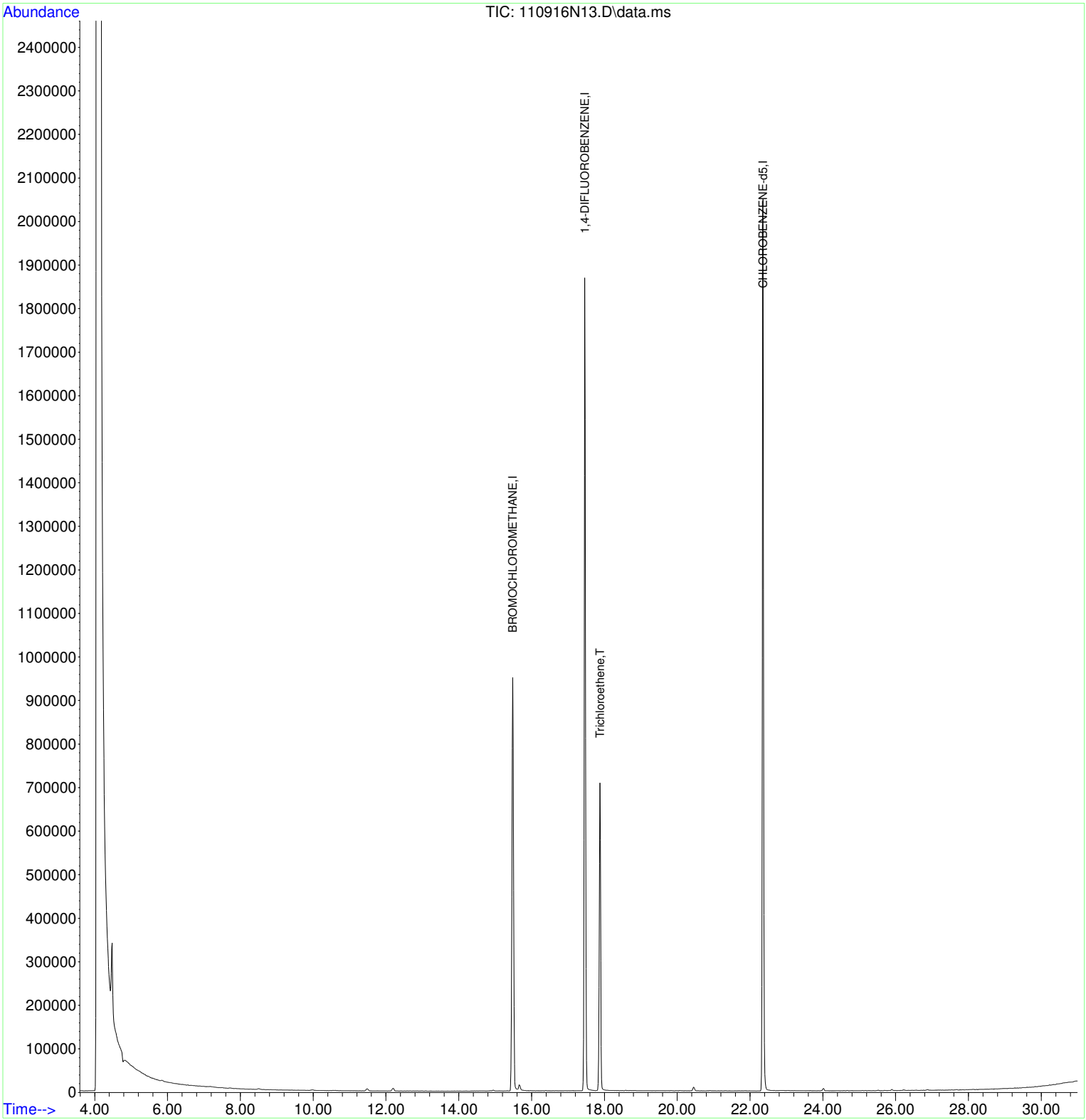
Table of Contents

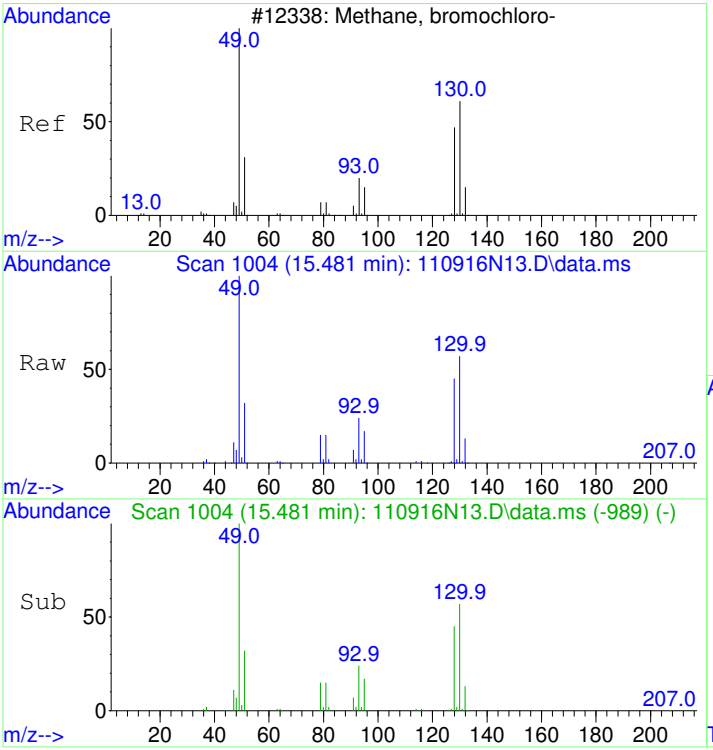
Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N13.D
Acq On : 9 Nov 2016 7:57 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-06RE1
Misc : 20ml RE-REPRESS
ALS Vial : 39 Sample Multiplier: 7.27

re-scaled chrom, replaced pdf

LLH 11/15/16

Quant Time: Nov 10 09:15:35 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

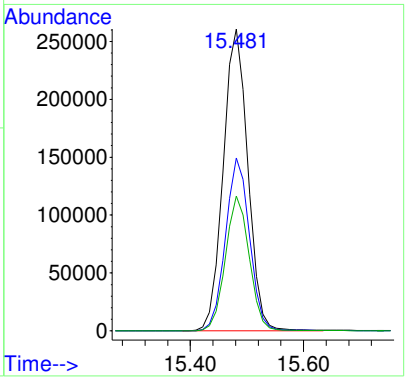


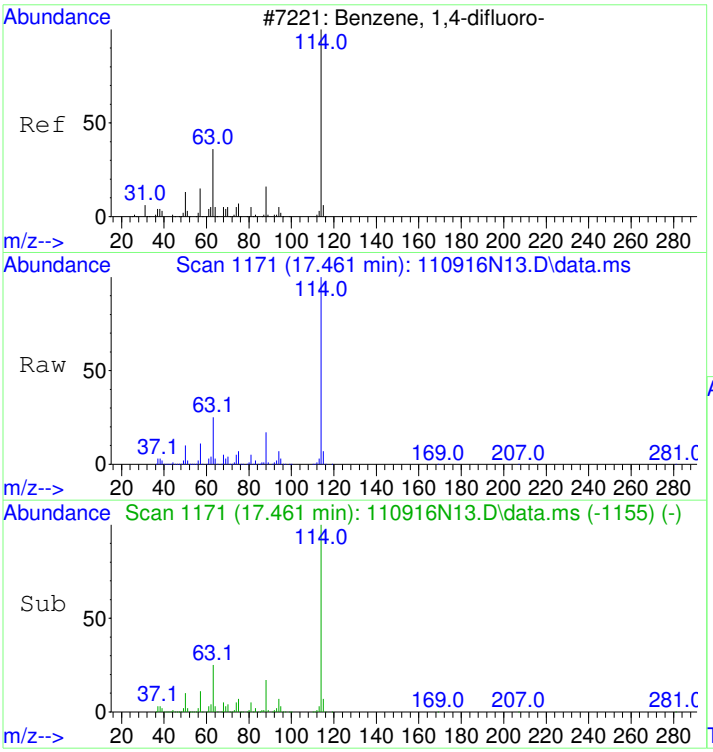


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. -0.000 min
Lab File: 110916N13.D
Acq: 9 Nov 2016 7:57 pm

Tgt Ion: 49 Resp: 786765

Ion	Ratio	Lower	Upper
49	100		
130	56.0	56.1	96.1#
128	43.4	38.8	78.8

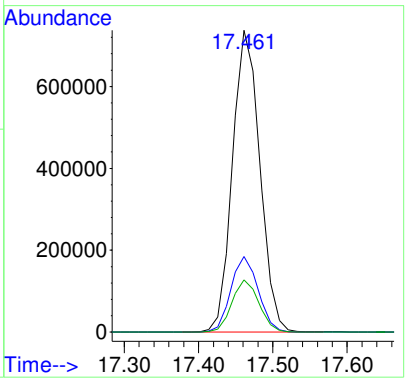


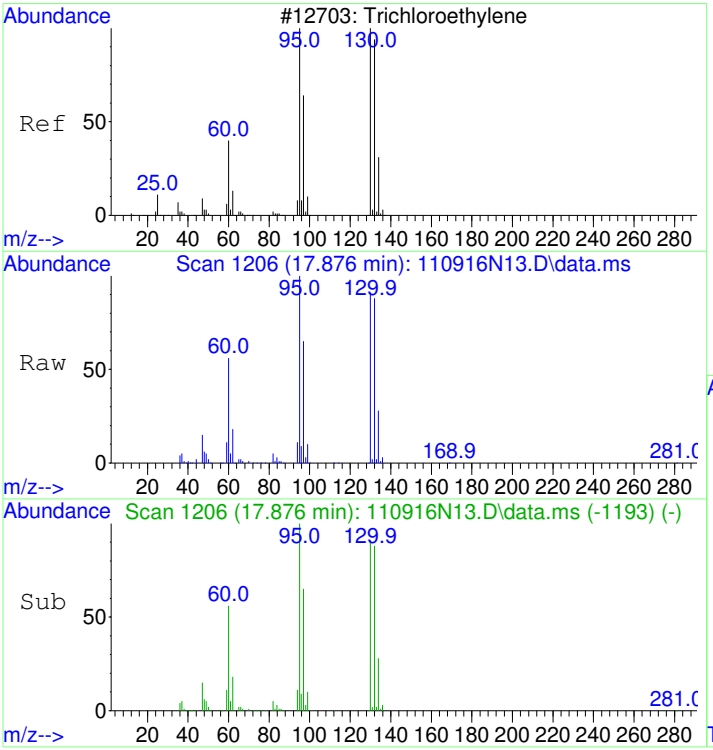


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. -0.000 min
Lab File: 110916N13.D
Acq: 9 Nov 2016 7:57 pm

Tgt Ion:114 Resp: 1884070

Ion	Ratio	Lower	Upper
114	100		
63	25.0	0.1	40.1
88	17.0	0.0	35.8

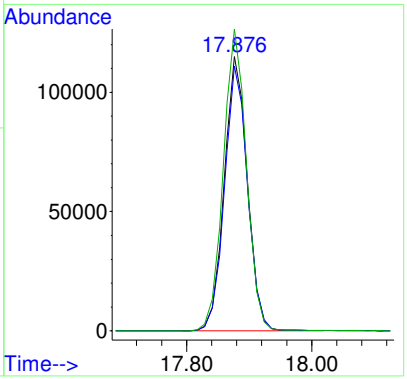


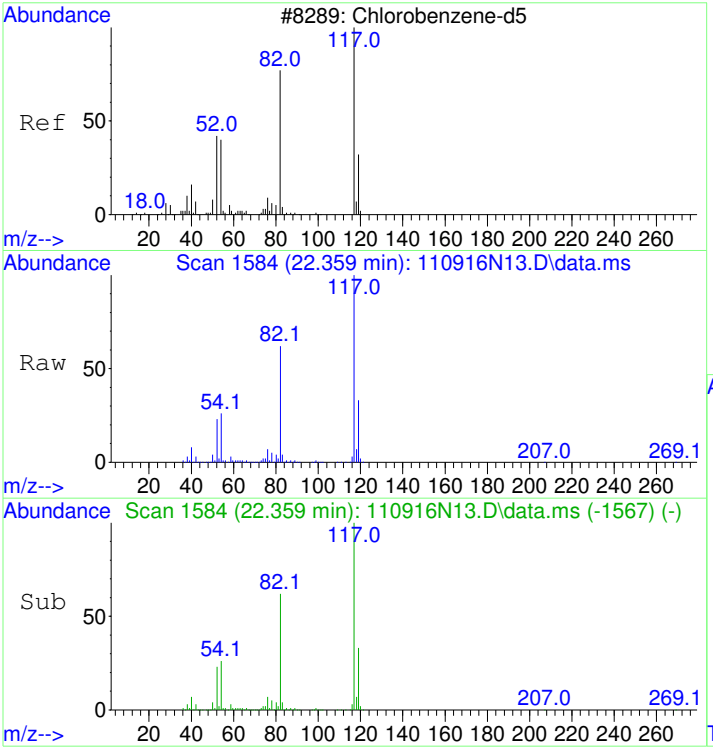


#37
Trichloroethene
Concen: 9.82 ppbv
RT: 17.876 min Scan# 1206
Delta R.T. -0.000 min
Lab File: 110916N13.D
Acq: 9 Nov 2016 7:57 pm

Tgt Ion:130 Resp: 296016

Ion	Ratio	Lower	Upper
130	100		
132	96.3	77.1	117.1
95	110.1	79.3	119.3

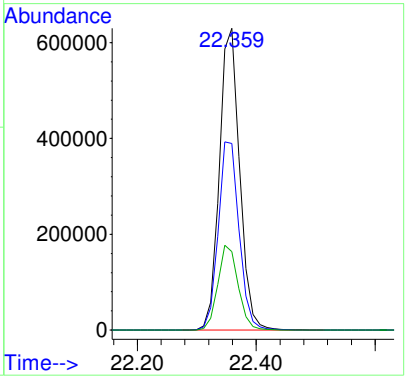




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. -0.000 min
Lab File: 110916N13.D
Acq: 9 Nov 2016 7:57 pm

Tgt Ion:117 Resp: 1492316

Ion	Ratio	Lower	Upper
117	100		
82	64.3	36.8	76.8
54	28.3	1.4	41.4



1611021-07RE1

Quantitation Report (Not Reviewed)

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Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N14.D
Acq On : 9 Nov 2016 8:42 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-07RE1
Misc : 20ml RE-REPRESS
ALS Vial : 10 Sample Multiplier: 6.92

report TCE

Quant Time: Nov 10 09:15:46 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	15.481	49	785842	22.00 ppbv	# 0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	1862015	22.00 ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1462927	22.00 ppbv	0.00
Target Compounds					Qvalue
37) Trichloroethene	17.876	130	256109	8.60 ppbv	93

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

REVIEWED
By LLH at 9:46 am, Nov 10, 2016

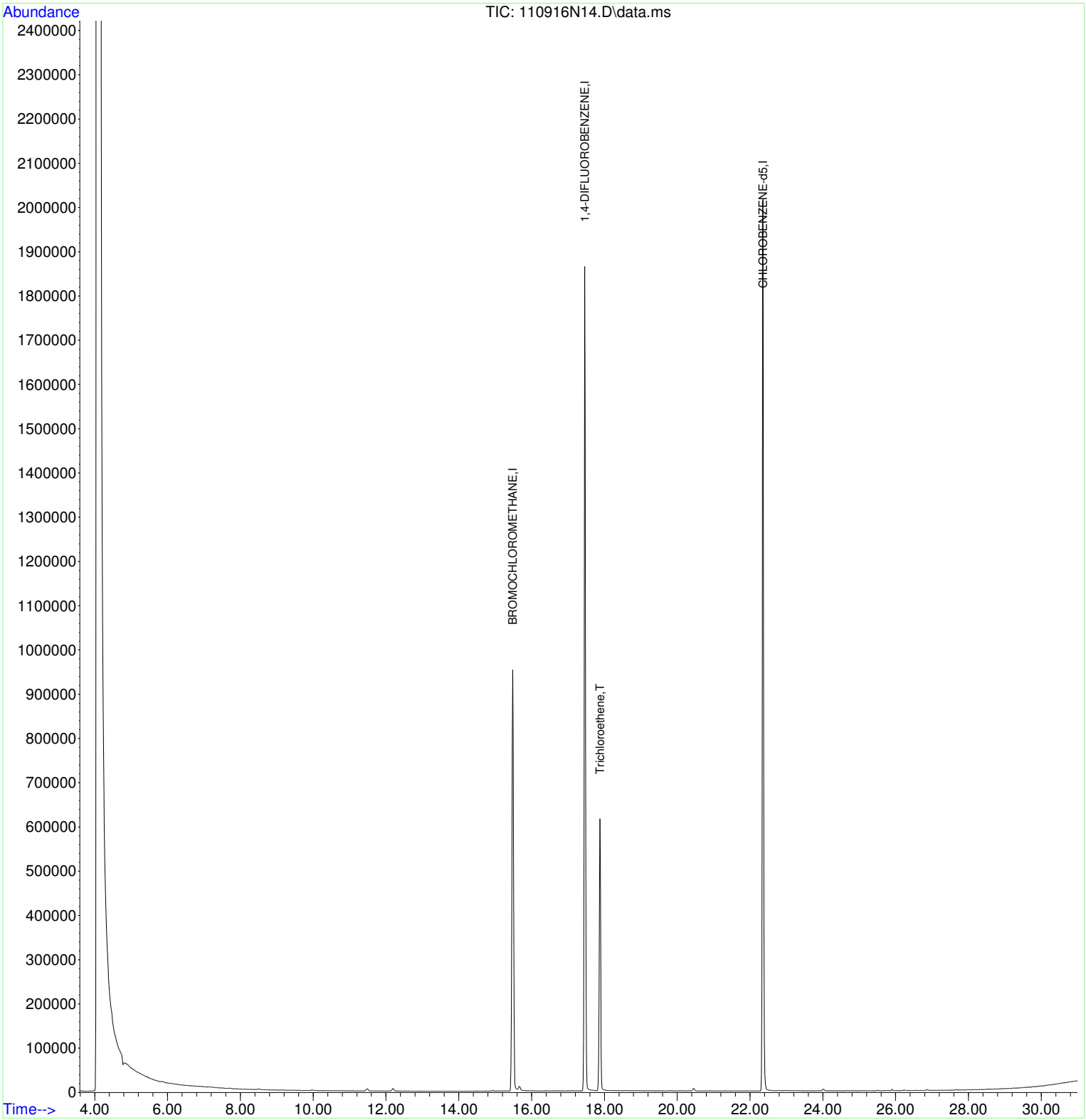
Table of Contents

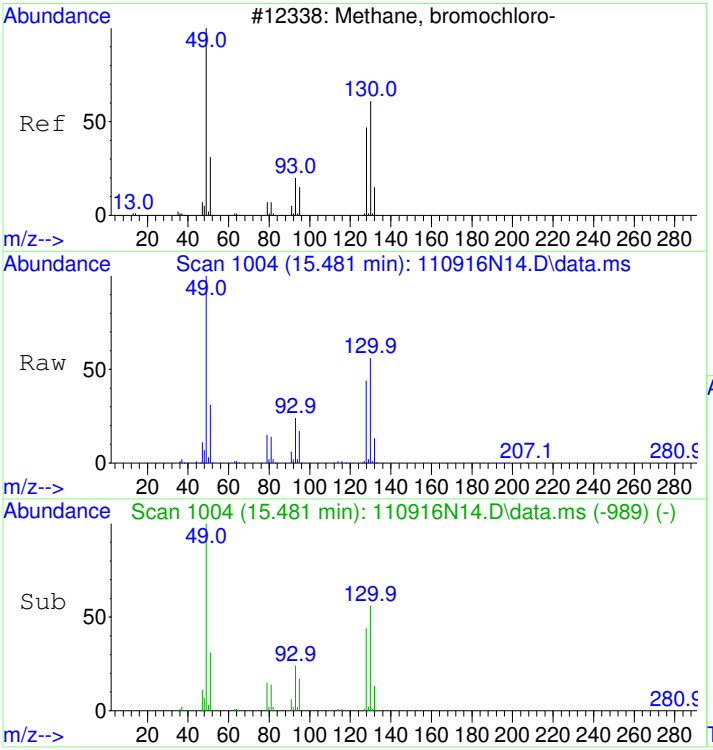
Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N14.D
Acq On : 9 Nov 2016 8:42 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-07RE1
Misc : 20ml RE-REPRESS
ALS Vial : 10 Sample Multiplier: 6.92

re-scaled chrom, replaced pdf

LLH 11/15/16

Quant Time: Nov 10 09:15:46 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

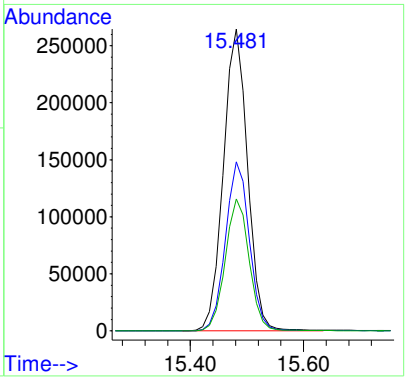


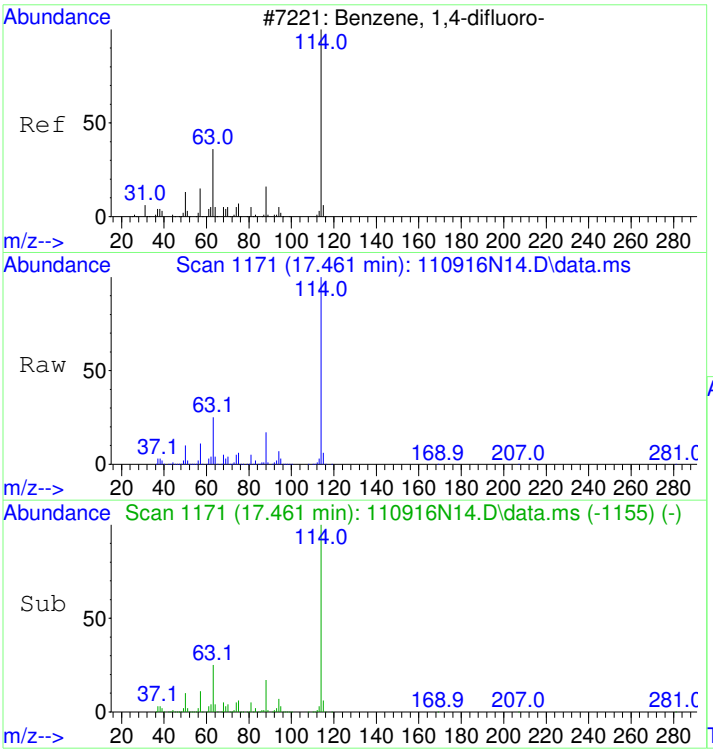


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. -0.000 min
Lab File: 110916N14.D
Acq: 9 Nov 2016 8:42 pm

Tgt Ion: 49 Resp: 785842

Ion	Ratio	Lower	Upper
49	100		
130	55.3	56.1	96.1#
128	43.2	38.8	78.8

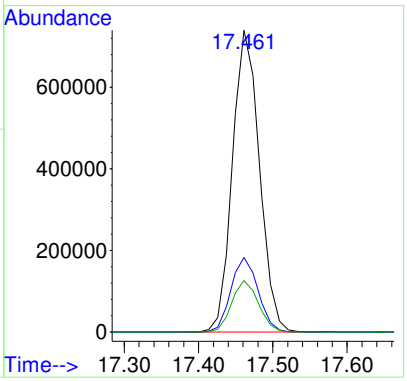


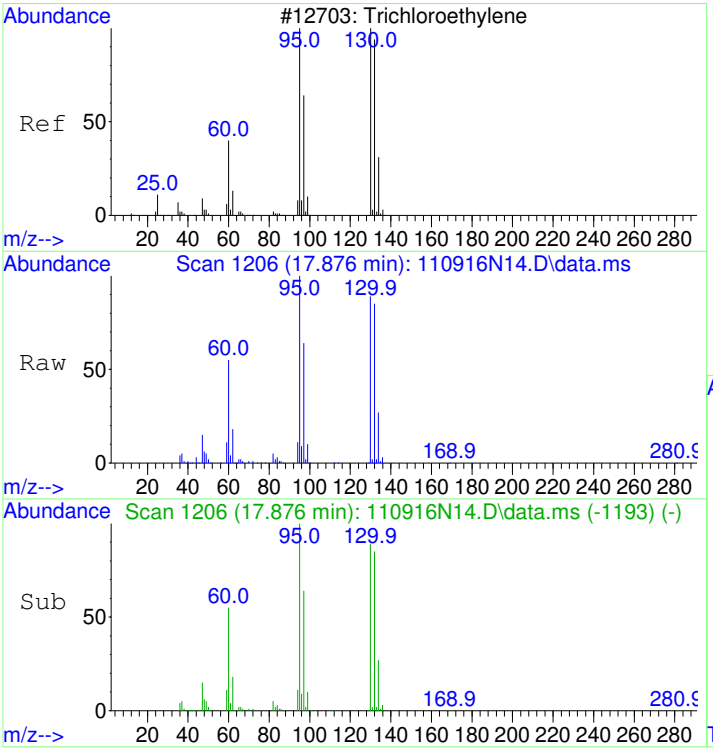


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. -0.000 min
Lab File: 110916N14.D
Acq: 9 Nov 2016 8:42 pm

Tgt Ion:114 Resp: 1862015

Ion	Ratio	Lower	Upper
114	100		
63	25.0	0.1	40.1
88	16.9	0.0	35.8

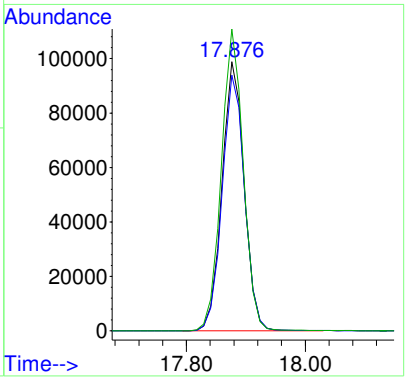


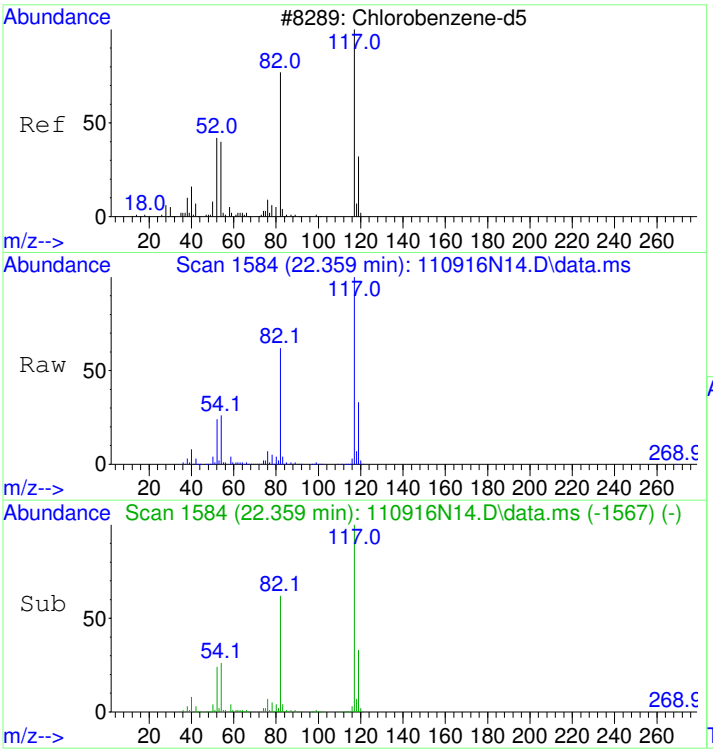


#37
Trichloroethene
Concen: 8.60 ppbv
RT: 17.876 min Scan# 1206
Delta R.T. -0.000 min
Lab File: 110916N14.D
Acq: 9 Nov 2016 8:42 pm

Tgt Ion:130 Resp: 256109

Ion	Ratio	Lower	Upper
130	100		
132	95.9	77.1	117.1
95	111.0	79.3	119.3

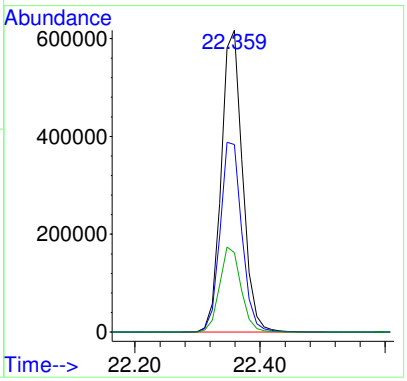




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. -0.000 min
Lab File: 110916N14.D
Acq: 9 Nov 2016 8:42 pm

Tgt Ion:117 Resp: 1462927

Ion	Ratio	Lower	Upper
117	100		
82	64.4	36.8	76.8
54	28.5	1.4	41.4



1611021-08RE1

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N15.D
Acq On : 9 Nov 2016 9:28 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-08RE1
Misc : 20ml RE-REPRESS
ALS Vial : 11 Sample Multiplier: 6.56

report TCE
rerun 50ml re-repress for cis12DCE

Quant Time: Nov 10 09:15:55 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	15.481	49	797659	22.00 ppbv	# 0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	1866682	22.00 ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1487303	22.00 ppbv	0.00
Target Compounds					Qvalue
37) Trichloroethene	17.876	130	491792	16.47 ppbv	94

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

REVIEWED
By LLH at 9:46 am, Nov 10, 2016

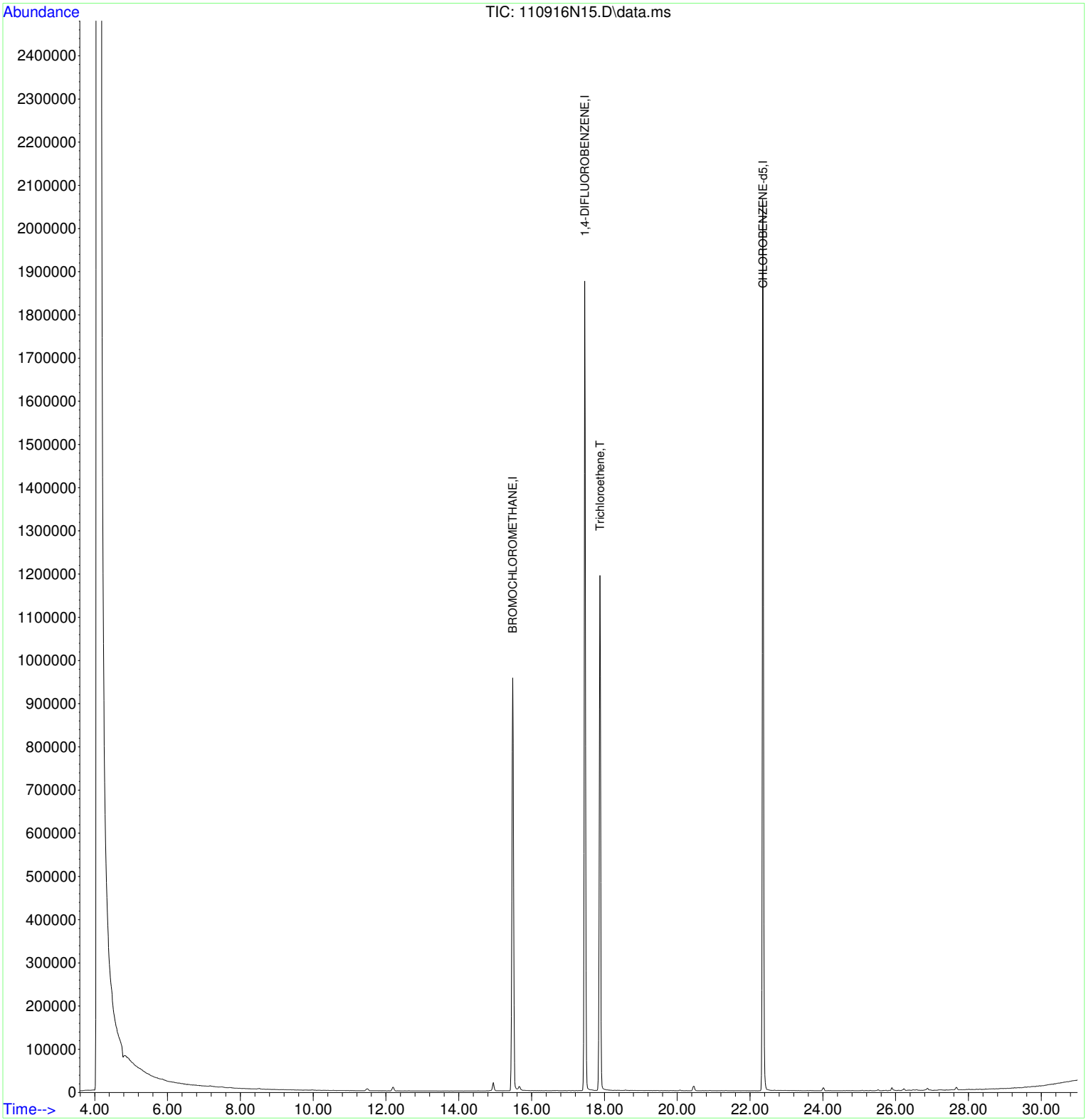
Table of Contents

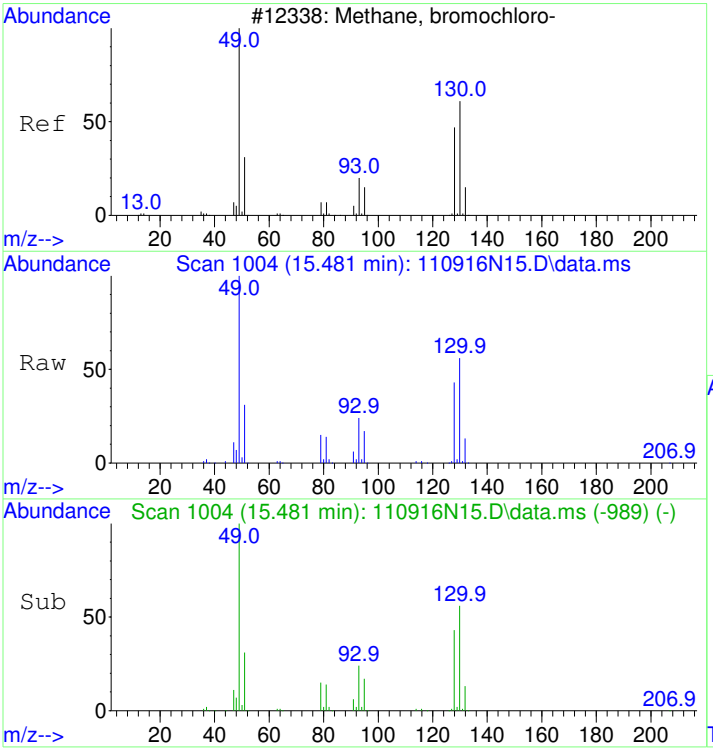
Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N15.D
Acq On : 9 Nov 2016 9:28 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-08RE1
Misc : 20ml RE-REPRESS
ALS Vial : 11 Sample Multiplier: 6.56

re-scaled chrom, replaced pdf

LLH 11/15/16

Quant Time: Nov 10 09:15:55 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

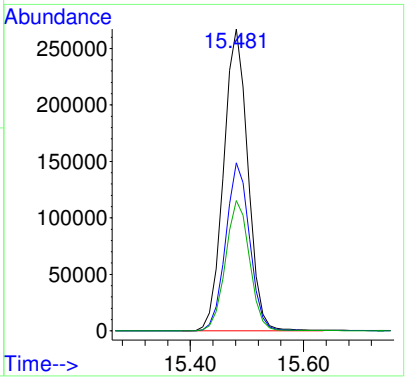


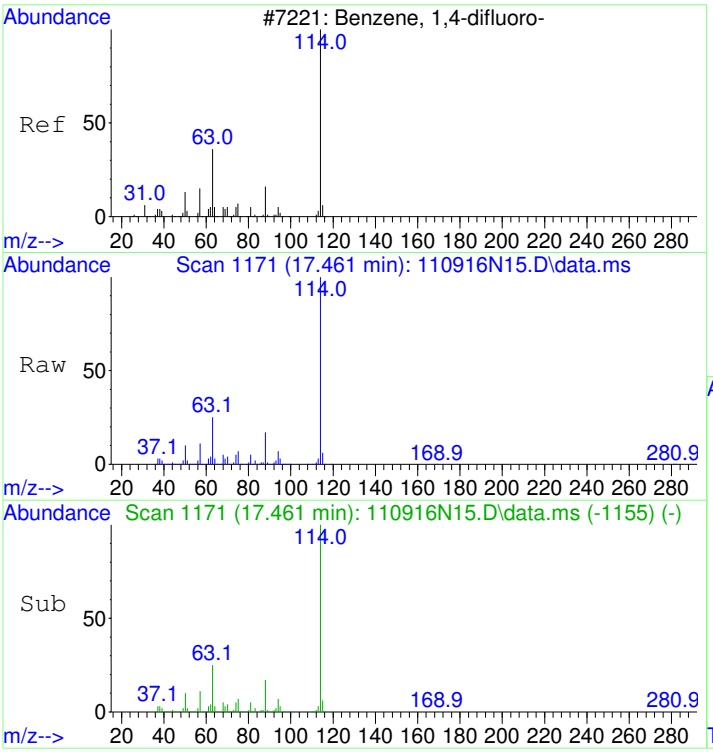


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. -0.000 min
Lab File: 110916N15.D
Acq: 9 Nov 2016 9:28 pm

Tgt Ion: 49 Resp: 797659

Ion	Ratio	Lower	Upper
49	100		
130	55.0	56.1	96.1#
128	42.8	38.8	78.8

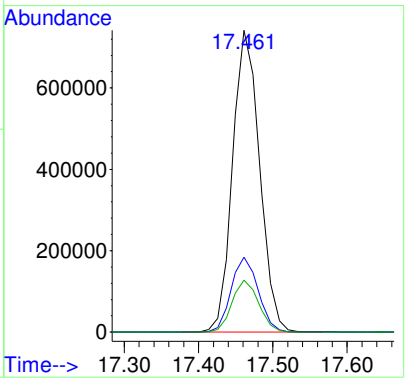


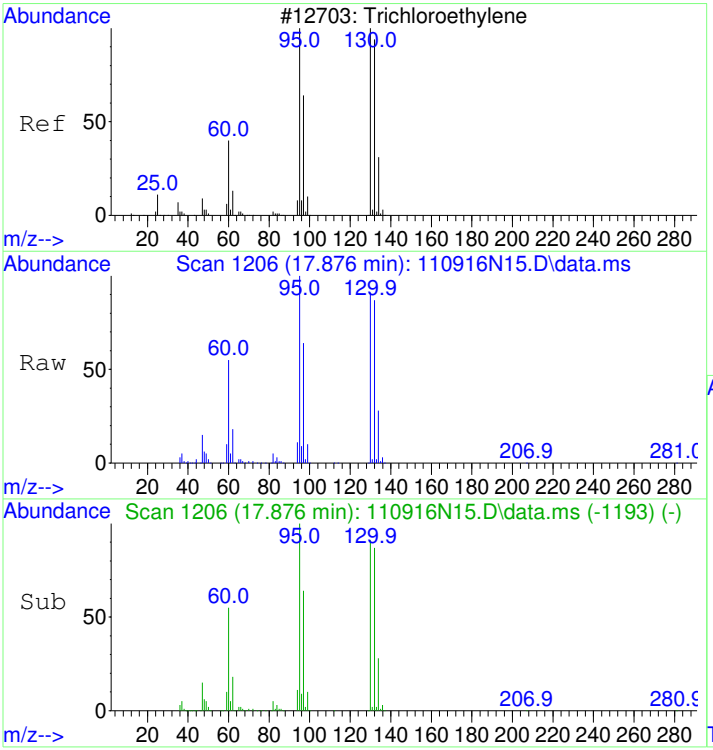


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. -0.000 min
Lab File: 110916N15.D
Acq: 9 Nov 2016 9:28 pm

Tgt Ion:114 Resp: 1866682

Ion	Ratio	Lower	Upper
114	100		
63	24.9	0.1	40.1
88	17.0	0.0	35.8

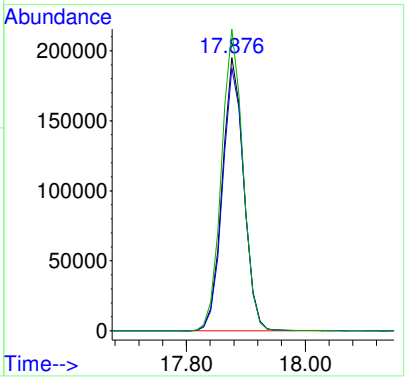


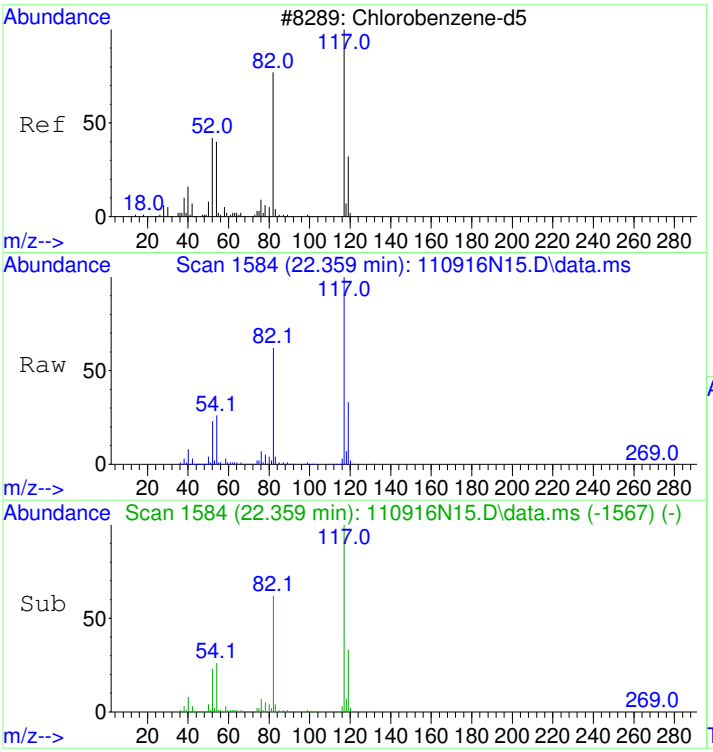


#37
Trichloroethene
Concen: 16.47 ppbv
RT: 17.876 min Scan# 1206
Delta R.T. -0.000 min
Lab File: 110916N15.D
Acq: 9 Nov 2016 9:28 pm

Tgt Ion:130 Resp: 491792

Ion	Ratio	Lower	Upper
130	100		
132	96.6	77.1	117.1
95	110.2	79.3	119.3

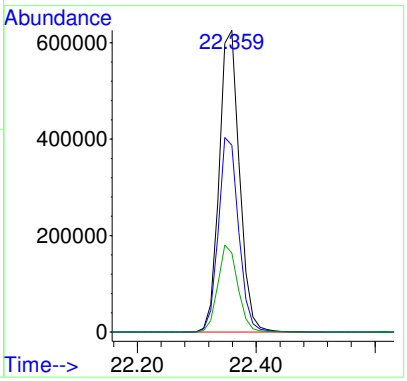




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. -0.000 min
Lab File: 110916N15.D
Acq: 9 Nov 2016 9:28 pm

Tgt Ion:117 Resp: 1487303

Ion	Ratio	Lower	Upper
117	100		
82	64.4	36.8	76.8
54	28.5	1.4	41.4



1611021-10RE1

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N16.D
Acq On : 9 Nov 2016 10:17 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-10RE1
Misc : 200ml REPRESS
ALS Vial : 41 Sample Multiplier: 3.2

REPORT

see orig run for >LR

Quant Time: Nov 10 10:01:36 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) BROMOCHLOROMETHANE	15.481	49	825516	22.00	ppbv	# 0.00	
32) 1,4-DIFLUOROBENZENE	17.461	114	1832754	22.00	ppbv	0.00	
43) CHLOROBENZENE-d5	22.359	117	1514936	22.00	ppbv	0.00	
Target Compounds						Qvalue	
2) Propene	4.441	41	57718	2.45	ppbv	# 71	
6) Vinyl chloride	5.413	62	70969	2.57	ppbv	100	
14) Acetone	9.967	43	35682	0.80	ppbv	98	
18) Dichloromethane	11.485	49	27170	0.72	ppbv	84	
20) trans-1,2-Dichloroethene	12.196	61	71475	1.64	ppbv	88	
24) cis-1,2-Dichloroethene	14.947	61	2423173	56.15	ppbv	89	OC
28) Chloroform	15.635	83	3976317	59.17	ppbv	98	OC
37) Trichloroethene	17.876	130	2406430	82.07	ppbv	95	OC
40) Bromodichloromethane	18.837	83	32335	0.63	ppbv	97	
47) Tetrachloroethene	20.936	166	694231	17.39	ppbv	96	

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

AFTER Q DELETE

REVIEWED
By LLH at 10:03 am, Nov 10, 2016

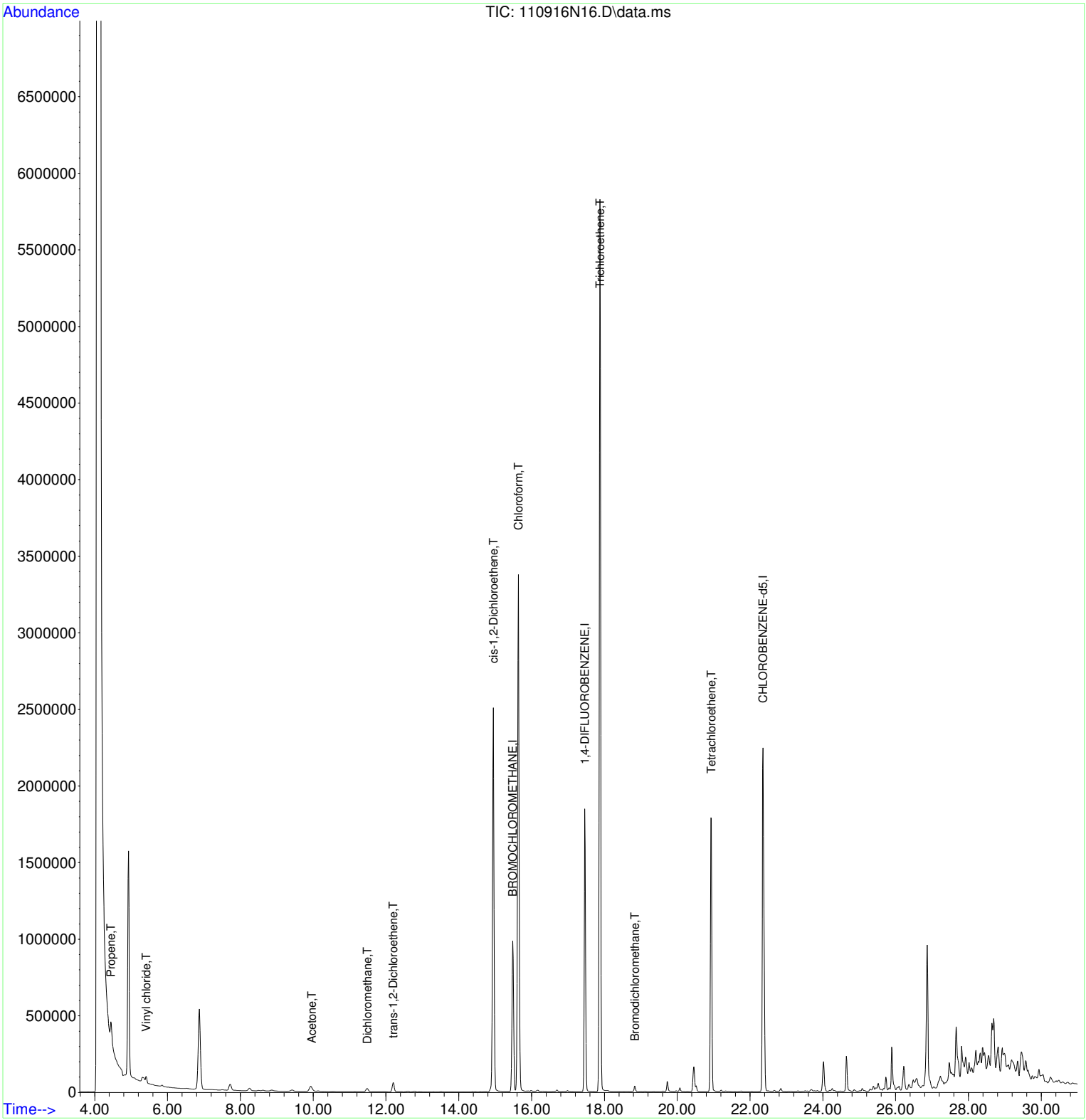
Table of Contents

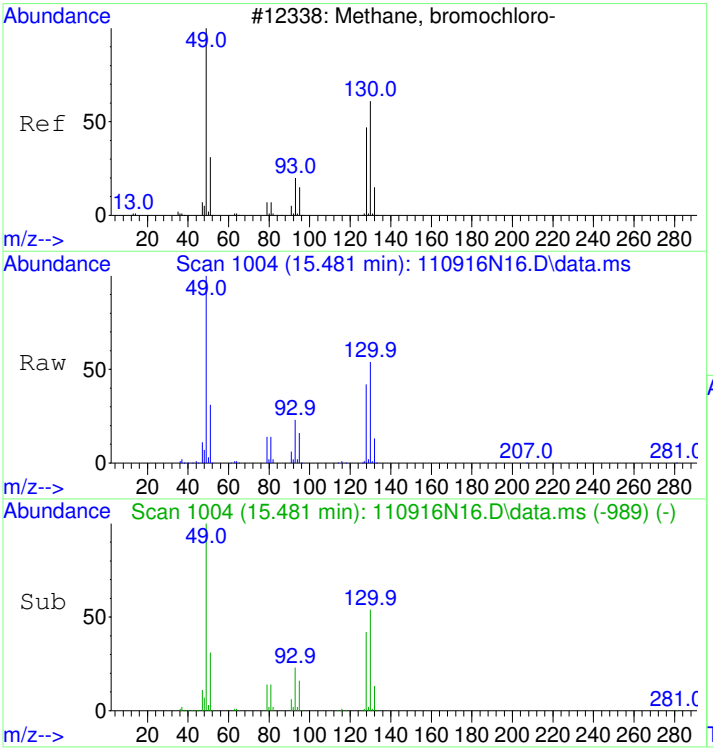
Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N16.D
Acq On : 9 Nov 2016 10:17 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-10RE1
Misc : 200ml REPRESS
ALS Vial : 41 Sample Multiplier: 3.2

rescaled chrom, replaced pdf

LLH 11/15/16

Quant Time: Nov 10 10:01:36 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

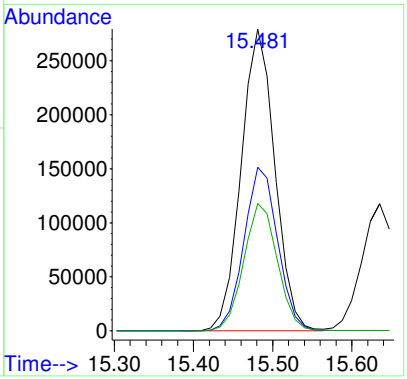


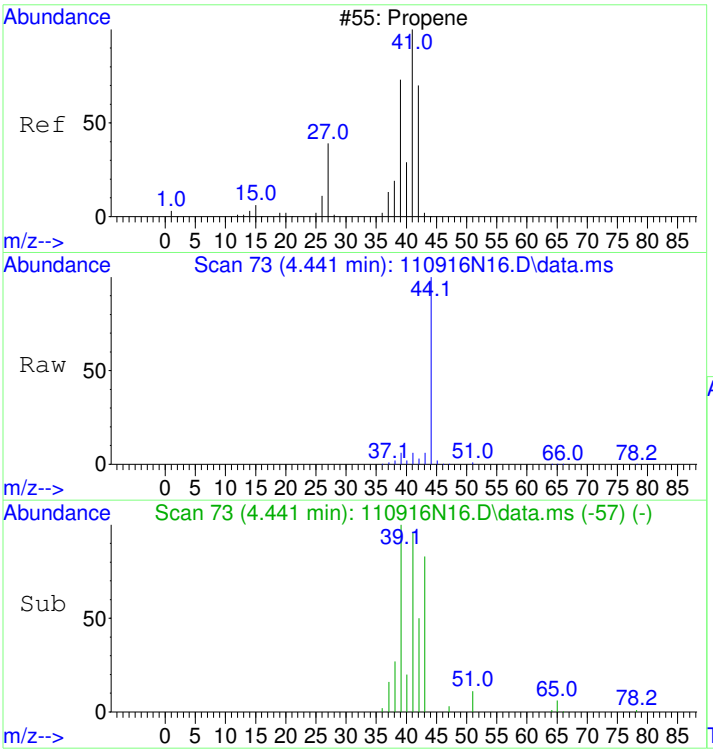


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. 0.000 min
Lab File: 110916N16.D
Acq: 9 Nov 2016 10:17 pm

Tgt Ion: 49 Resp: 825516

Ion	Ratio	Lower	Upper
49	100		
130	54.5	56.1	96.1#
128	42.3	38.8	78.8

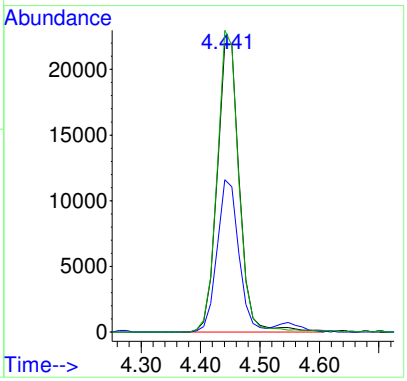


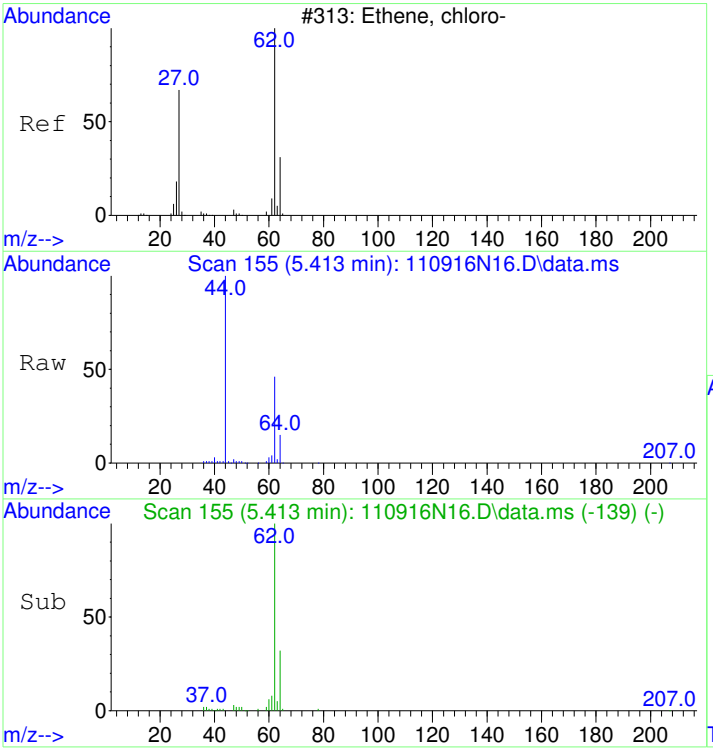


#2
Propene
Concen: 2.45 ppbv
RT: 4.441 min Scan# 73
Delta R.T. -0.012 min
Lab File: 110916N16.D
Acq: 9 Nov 2016 10:17 pm

Tgt Ion: 41 Resp: 57718

Ion	Ratio	Lower	Upper
41	100		
42	51.1	47.2	87.2
39	100.5	49.6	89.6#

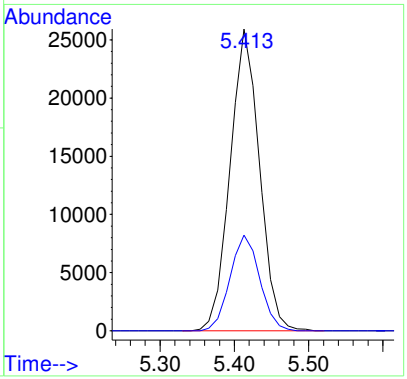


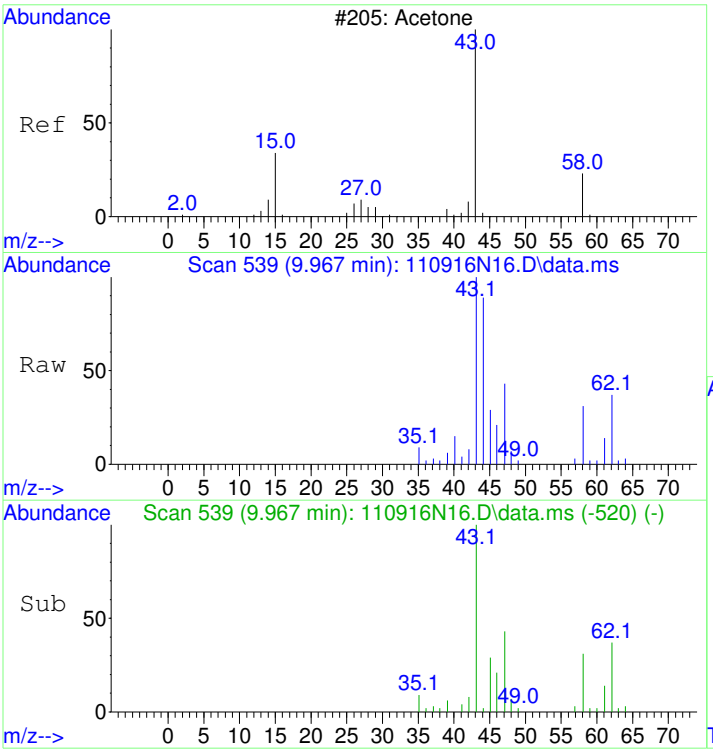


#6
Vinyl chloride
Concen: 2.57 ppbv
RT: 5.413 min Scan# 155
Delta R.T. -0.012 min
Lab File: 110916N16.D
Acq: 9 Nov 2016 10:17 pm

Tgt Ion: 62 Resp: 70969

Ion	Ratio	Lower	Upper
62	100		
64	32.0	11.9	51.9

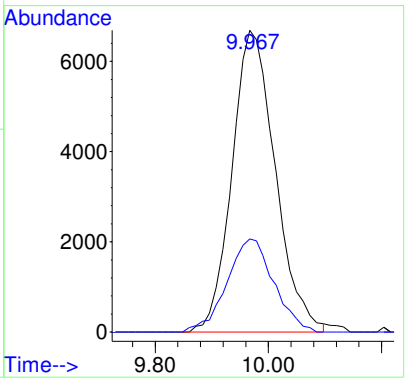


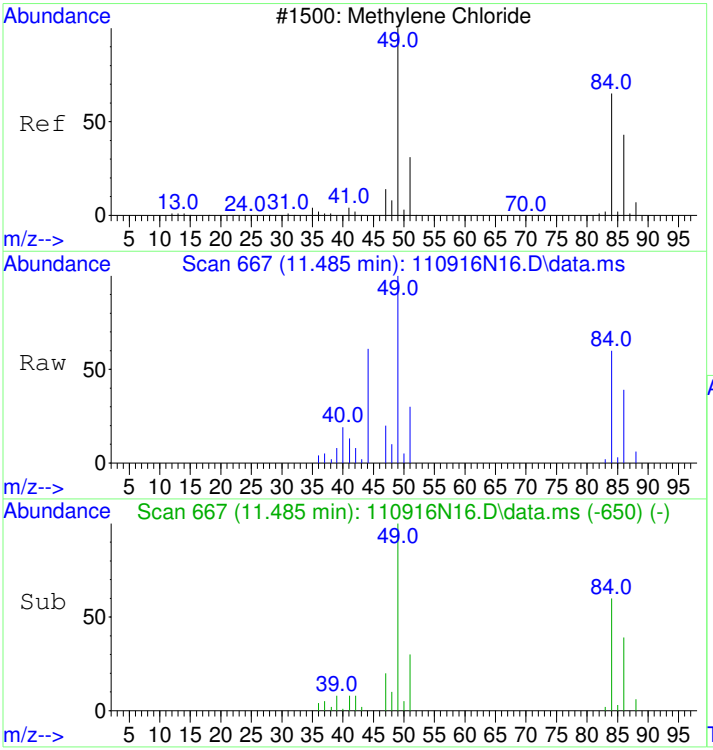


#14
Acetone
Concen: 0.80 ppbv
RT: 9.967 min Scan# 539
Delta R.T. 0.024 min
Lab File: 110916N16.D
Acq: 9 Nov 2016 10:17 pm

Tgt Ion: 43 Resp: 35682

Ion	Ratio	Lower	Upper
43	100		
58	33.3	12.3	52.3

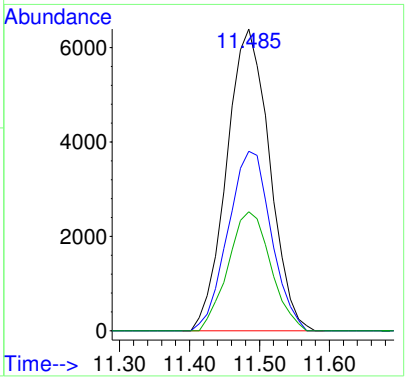


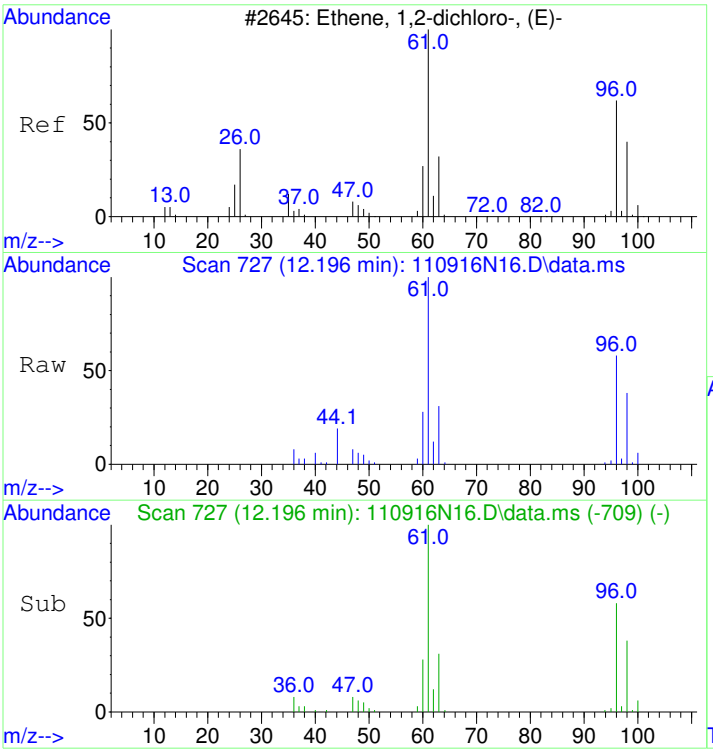


#18
Dichloromethane
Concen: 0.72 ppbv
RT: 11.485 min Scan# 667
Delta R.T. -0.000 min
Lab File: 110916N16.D
Acq: 9 Nov 2016 10:17 pm

Tgt Ion: 49 Resp: 27170

Ion	Ratio	Lower	Upper
49	100		
84	60.0	55.3	95.3
86	39.2	27.9	67.9

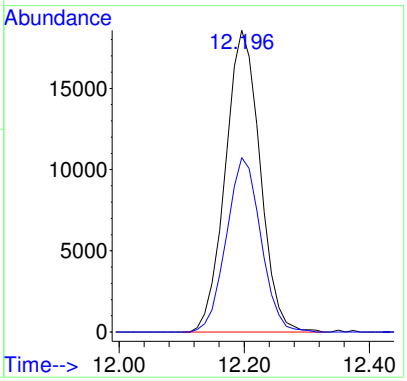


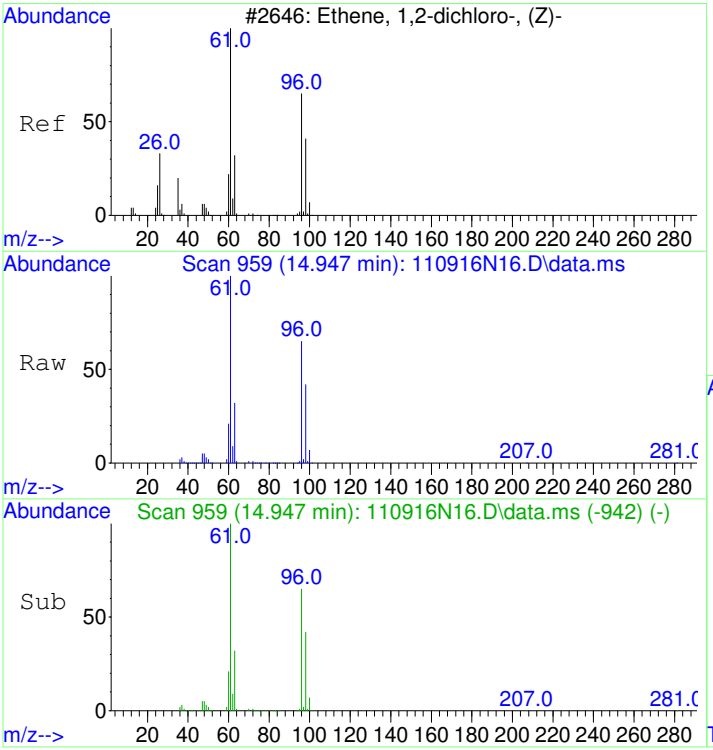


#20
trans-1,2-Dichloroethene
Concen: 1.64 ppbv
RT: 12.196 min Scan# 727
Delta R.T. 0.012 min
Lab File: 110916N16.D
Acq: 9 Nov 2016 10:17 pm

Tgt Ion: 61 Resp: 71475

Ion	Ratio	Lower	Upper
61	100		
96	57.5	47.5	87.5

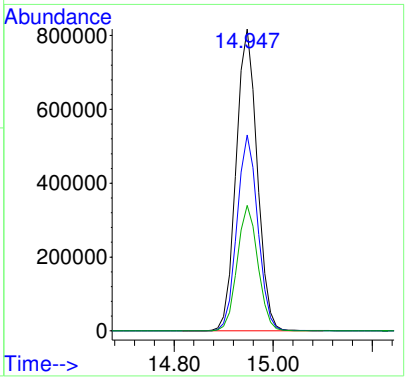


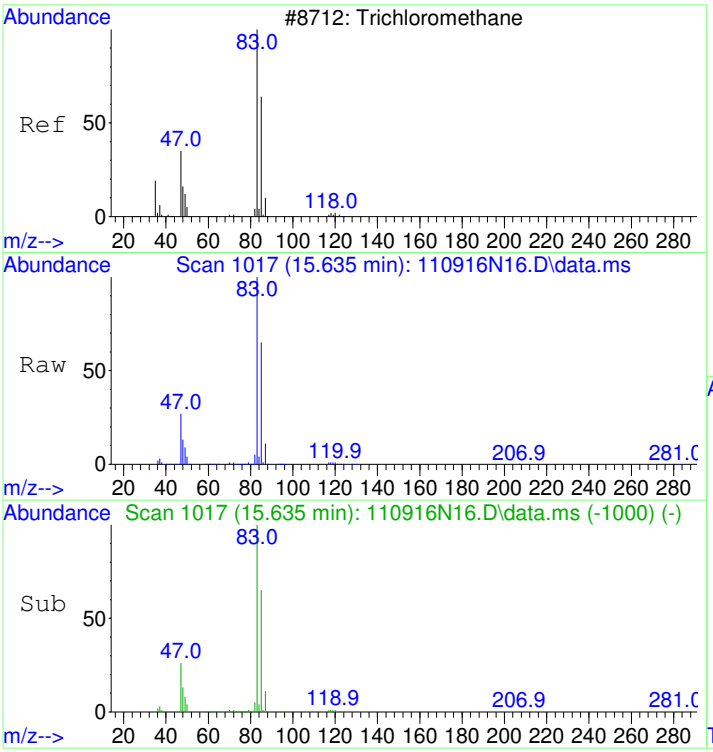


#24
cis-1,2-Dichloroethene
Concen: 56.15 ppbv
RT: 14.947 min Scan# 959
Delta R.T. -0.000 min
Lab File: 110916N16.D
Acq: 9 Nov 2016 10:17 pm

Tgt Ion: 61 Resp: 2423173

Ion	Ratio	Lower	Upper
61	100		
96	64.0	54.4	94.4
98	40.8	27.5	67.5

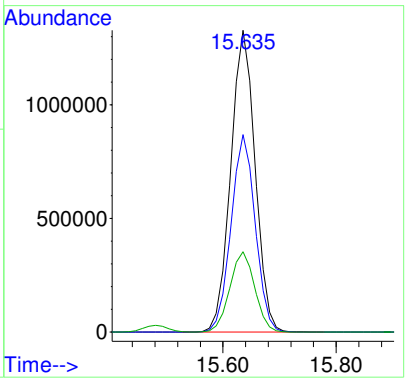


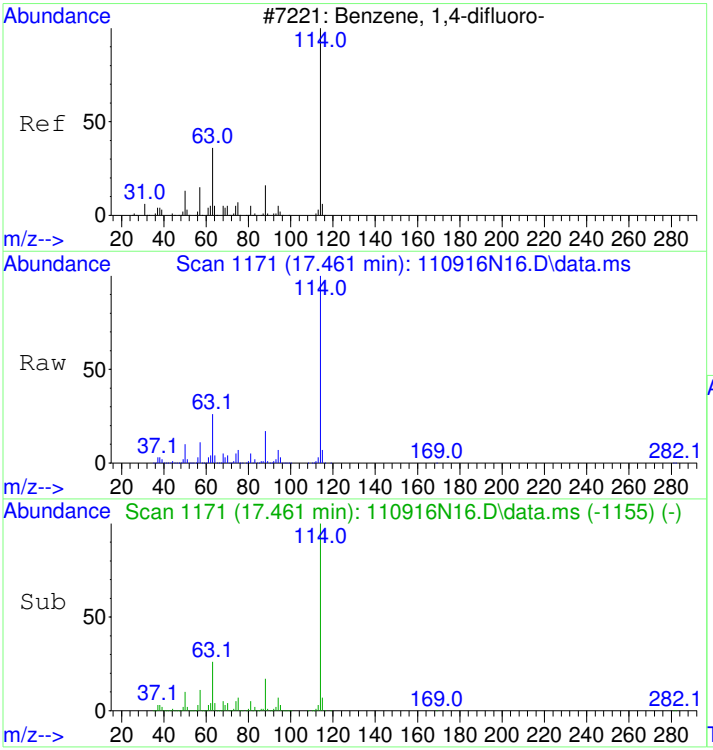


#28
Chloroform
Concen: 59.17 ppbv
RT: 15.635 min Scan# 1017
Delta R.T. -0.000 min
Lab File: 110916N16.D
Acq: 9 Nov 2016 10:17 pm

Tgt Ion: 83 Resp: 3976317

Ion	Ratio	Lower	Upper
83	100		
85	64.9	44.9	84.9
47	27.2	3.9	43.9

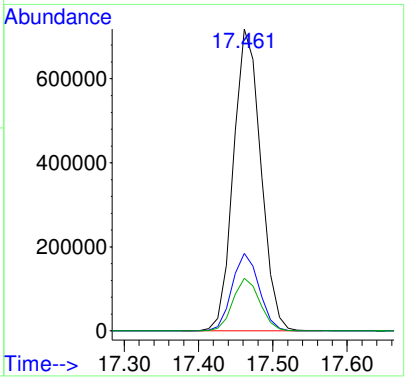


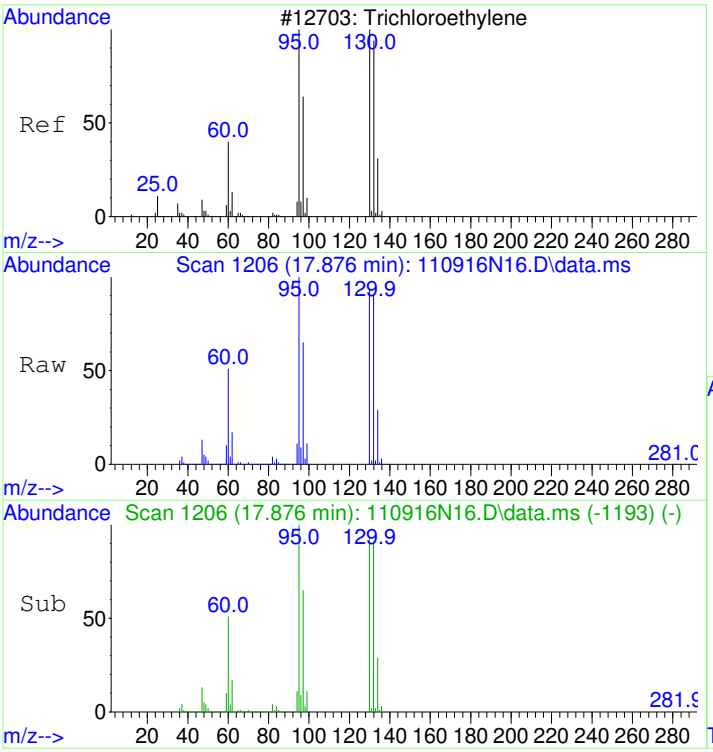


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. -0.000 min
Lab File: 110916N16.D
Acq: 9 Nov 2016 10:17 pm

Tgt Ion:114 Resp: 1832754

Ion	Ratio	Lower	Upper
114	100		
63	25.5	0.1	40.1
88	17.1	0.0	35.8

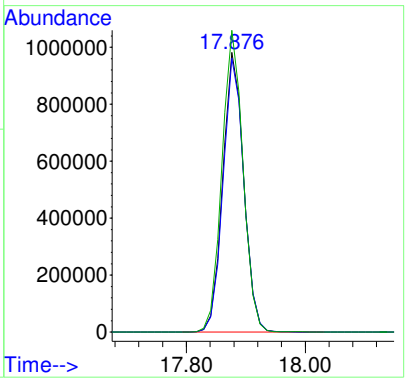


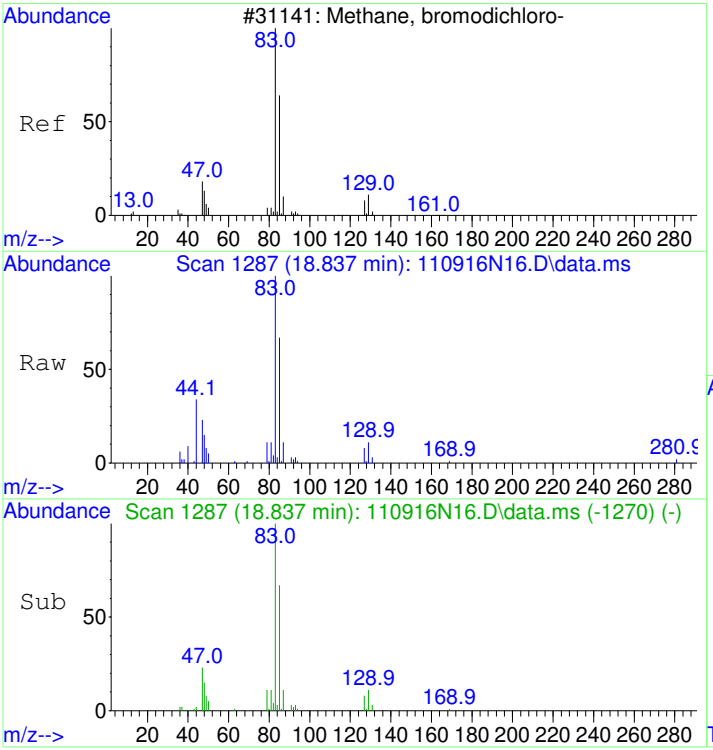


#37
Trichloroethene
Concen: 82.07 ppbv
RT: 17.876 min Scan# 1206
Delta R.T. -0.000 min
Lab File: 110916N16.D
Acq: 9 Nov 2016 10:17 pm

Tgt Ion:130 Resp: 2406430

Ion	Ratio	Lower	Upper
130	100		
132	97.5	77.1	117.1
95	108.6	79.3	119.3

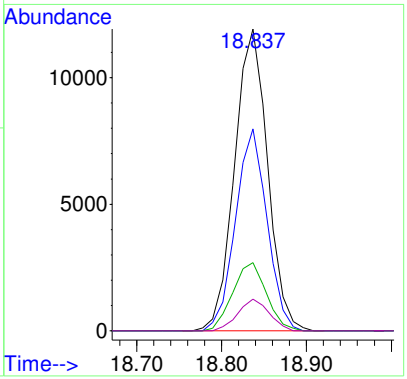


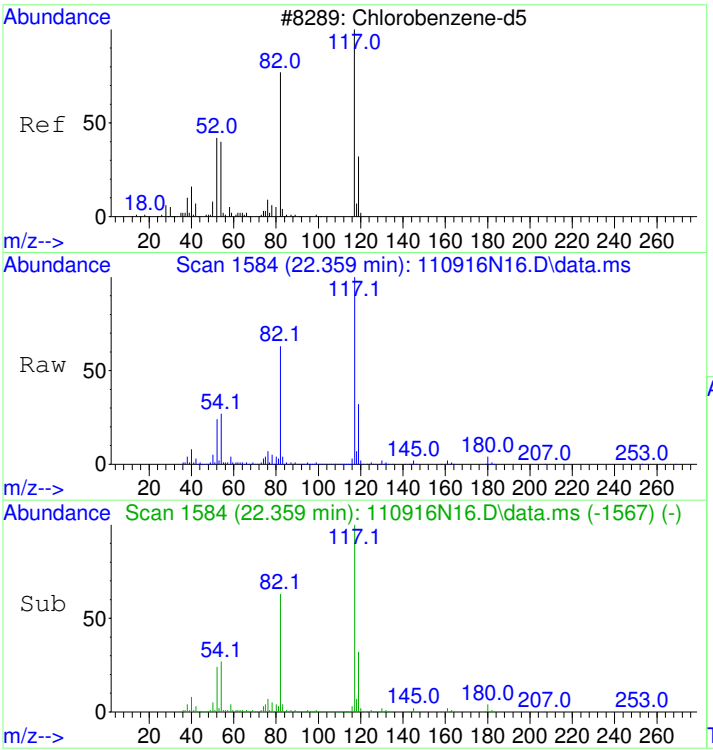


#40
Bromodichloromethane
Concen: 0.63 ppbv
RT: 18.837 min Scan# 1287
Delta R.T. -0.000 min
Lab File: 110916N16.D
Acq: 9 Nov 2016 10:17 pm

Tgt Ion: 83 Resp: 32335

Ion	Ratio	Lower	Upper
83	100		
85	63.8	44.2	84.2
47	23.0	0.0	38.2
129	9.9	0.0	31.0

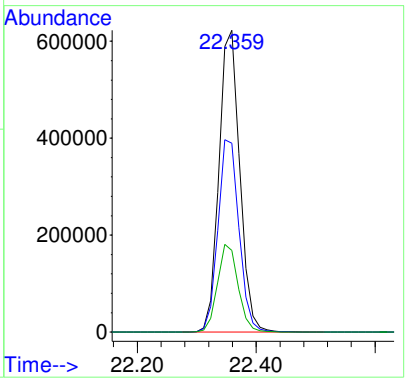


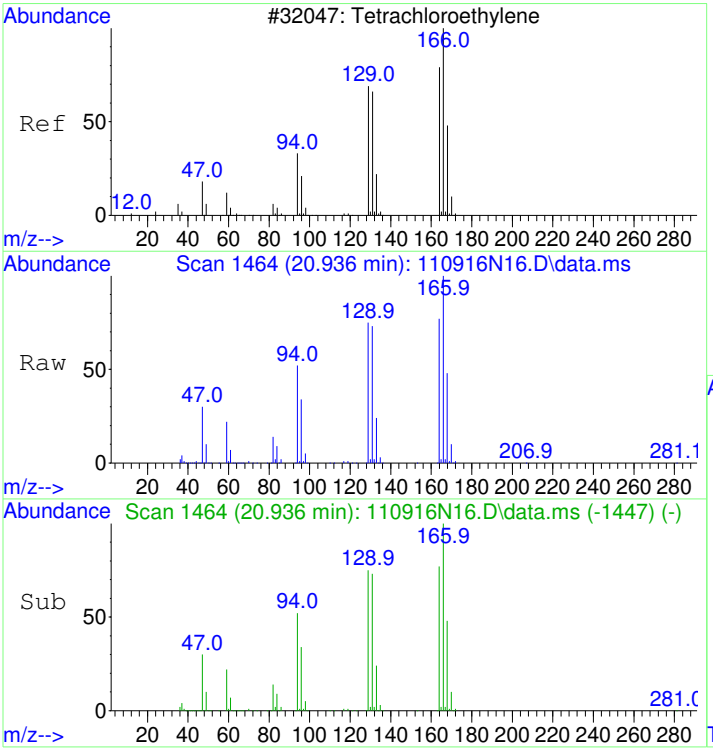


#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. -0.000 min
Lab File: 110916N16.D
Acq: 9 Nov 2016 10:17 pm

Tgt Ion:117 Resp: 1514936

Ion	Ratio	Lower	Upper
117	100		
82	64.7	36.8	76.8
54	29.0	1.4	41.4

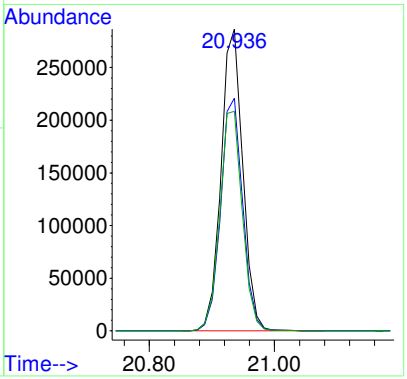




#47
Tetrachloroethene
Concen: 17.39 ppbv
RT: 20.936 min Scan# 1464
Delta R.T. -0.000 min
Lab File: 110916N16.D
Acq: 9 Nov 2016 10:17 pm

Tgt Ion:166 Resp: 694231

Ion	Ratio	Lower	Upper
166	100		
164	78.1	58.2	98.2
131	75.5	49.4	89.4



LSC Area Percent Report

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N16.D
Acq On : 9 Nov 2016 10:17 pm
Operator : LLH
Sample : 1611021-10RE1
Misc : 200ml REPRESS
ALS Vial : 41 Sample Multiplier: 3.2

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.01 Max Peaks: 100
Stop Thrs : 0.1 Peak Location: TOP

If leading or trailing edge < 1 prefer < Baseline drop else tangent >
Peak separation: 10

Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Title : TO15

Signal : TIC: 110916N16.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	4.927	108	114	125	rVB	1481752	4163072	28.77%	5.578%
2	5.413	152	155	168	rVB	53970	186152	1.29%	0.249%
3	6.872	270	278	290	rVB	525208	2275417	15.73%	3.049%
4	7.726	343	350	367	rVB	41267	197688	1.37%	0.265%
5	9.931	526	536	549	rBV2	33649	202408	1.40%	0.271%
6	12.196	721	727	736	rBV	59697	228448	1.58%	0.306%
7	14.947	947	959	977	rBV	2506697	7536120	52.08%	10.097%
8	15.481	997	1004	1010	rBV	983262	2922434	20.20%	3.916%
9	15.635	1010	1017	1033	rVB	3373657	10294486	71.15%	13.793%
10	17.461	1165	1171	1184	rBV	1846367	4732447	32.71%	6.341%
11	17.876	1200	1206	1217	rBV	5823948	14469007	100.00%	19.386%
12	19.726	1356	1362	1369	rBV	66275	188840	1.31%	0.253%
13	20.462	1416	1424	1427	rBV	161785	519123	3.59%	0.696%
14	20.924	1457	1463	1477	rBV	1788078	4576408	31.63%	6.132%
15	22.359	1578	1584	1593	rBV2	2243676	7117865	49.19%	9.537%
16	24.019	1718	1724	1732	rBV	193355	600400	4.15%	0.804%
17	24.648	1769	1777	1790	rBV	229912	605404	4.18%	0.811%
18	25.727	1865	1868	1873	rVB2	84345	202413	1.40%	0.271%
19	25.893	1878	1882	1892	rVB	279694	788494	5.45%	1.056%
20	26.225	1903	1910	1917	rBV2	157143	566040	3.91%	0.758%
21	26.486	1927	1932	1934	rBV2	52048	150543	1.04%	0.202%
22	26.569	1936	1939	1949	rVB3	60490	276637	1.91%	0.371%
23	26.865	1956	1964	1976	rVB3	935140	3152032	21.78%	4.223%
24	27.233	1985	1995	1999	rBV3	78129	442741	3.06%	0.593%
25	27.470	2011	2015	2019	rBV3	118720	390577	2.70%	0.523%
26	27.660	2027	2031	2040	rBV2	327518	1208883	8.35%	1.620%
27	27.814	2040	2044	2050	rBV3	200564	731178	5.05%	0.980%
28	27.921	2050	2053	2058	rVB4	109730	354134	2.45%	0.474%
29	28.015	2058	2061	2065	rBV2	73479	195466	1.35%	0.262%
30	28.205	2070	2077	2080	rBV4	148015	495602	3.43%	0.664%
31	28.395	2090	2093	2095	rBV3	102115	256655	1.77%	0.344%
32	28.549	2102	2106	2110	rBV3	84879	267937	1.85%	0.359%
33	28.644	2110	2114	2116	rBV	279364	753501	5.21%	1.010%
34	28.691	2116	2118	2123	rVB3	322933	832685	5.75%	1.116%
35	28.810	2123	2128	2133	rVB2	160944	629105	4.35%	0.843%
36	28.929	2133	2138	2140	rBV2	154619	457051	3.16%	0.612%
37	29.189	2155	2160	2169	rVB8	75849	435914	3.01%	0.584%
38	29.355	2170	2174	2177	rVB2	97246	262563	1.81%	0.352%
39	29.450	2177	2182	2189	rBV4	157292	786632	5.44%	1.054%
40	29.569	2189	2192	2196	rVB3	70194	184799	1.28%	0.248%

Table of Contents

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Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N16.D
Acq On    :  9 Nov 2016  10:17 pm
Operator  : LLH
Sample    : 1611021-10RE1
Misc      : 200ml REPRESS
ALS Vial  : 41   Sample Multiplier: 3.2

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON                            Filtering: 5
Sampling  : 1                              Min Area: 3 % of largest Peak
Start Thrs: 0.01                          Max Peaks: 100
Stop Thrs : 0.1                       Peak Location: TOP

If leading or trailing edge < 1 prefer < Baseline drop else tangent >
Peak separation: 10

Method    : D:\msdchem\1\2016\method\110316N_TO15AA.M
Title     : TO15


                      Sum of corrected areas:    74637301
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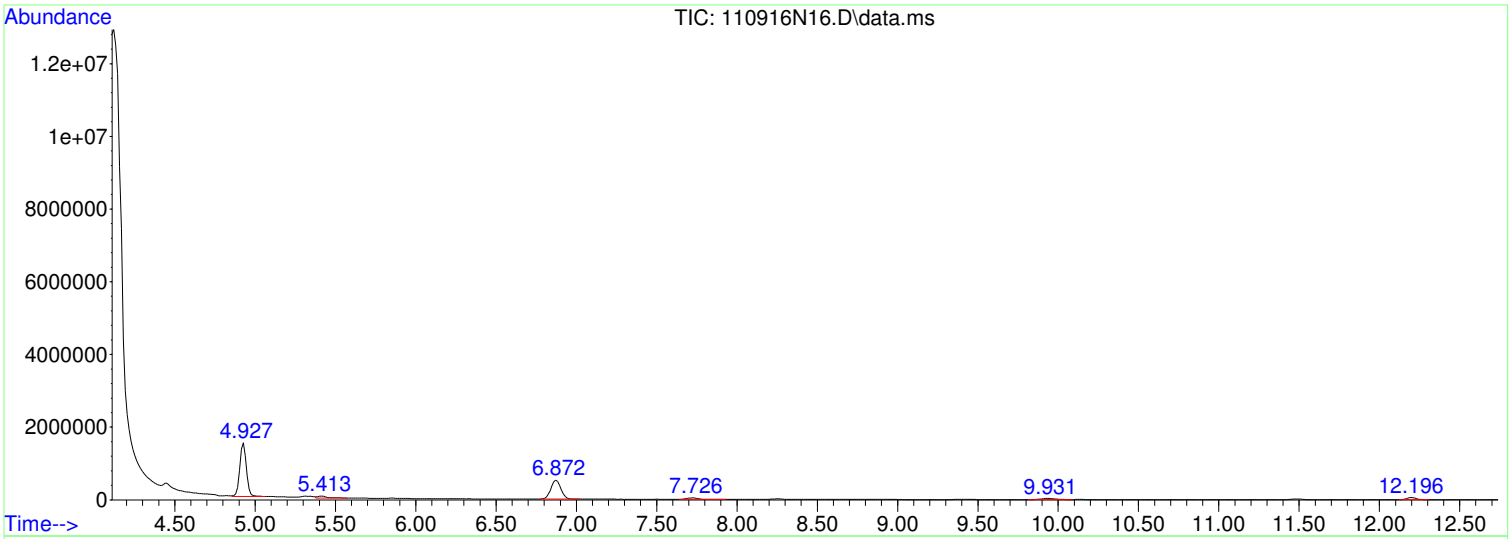
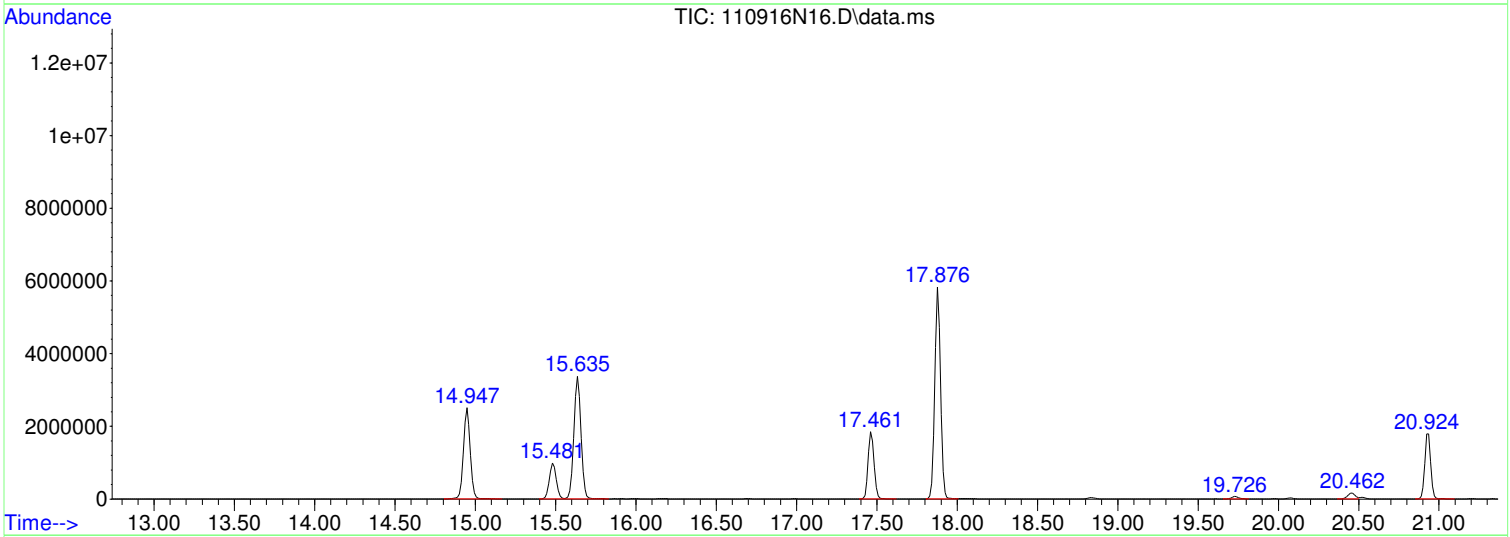
Table of Contents

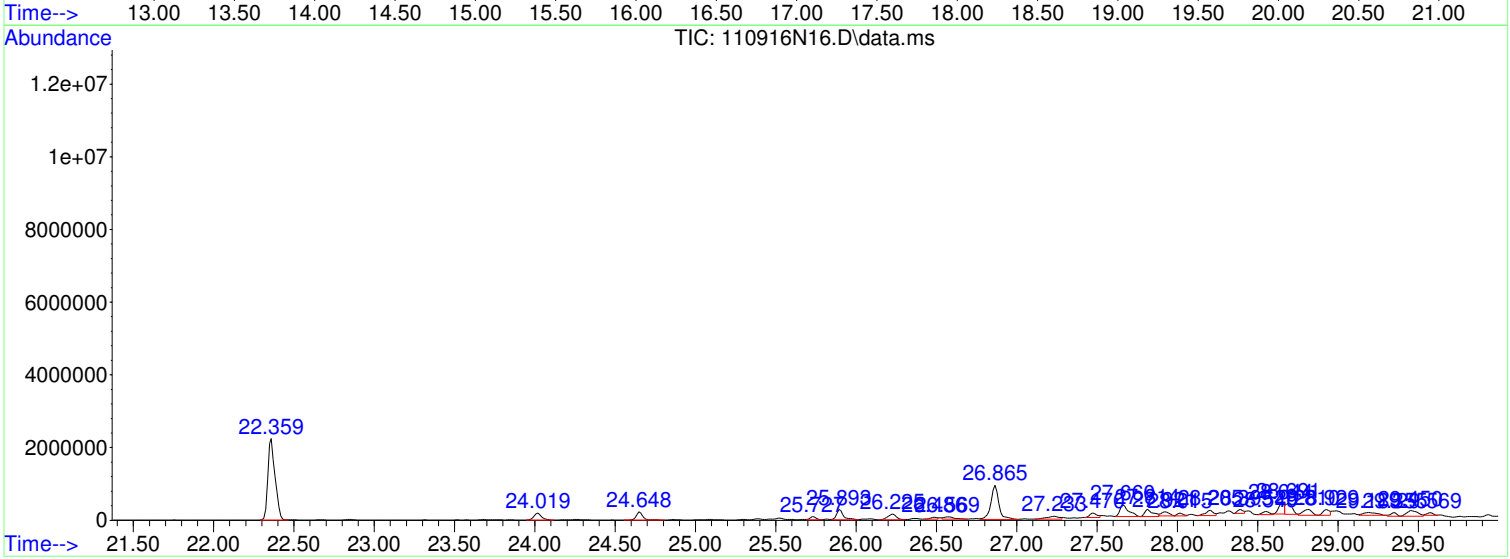
Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N16.D
Acq On : 9 Nov 2016 10:17 pm
Operator : LLH
Sample : 1611021-10RE1
Misc : 200ml REPRESS
ALS Vial : 41 Sample Multiplier: 3.2

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P







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Data File : 110916N16.D
Acq On : 9 Nov 2016 10:17 pm
Operator : LLH
Sample : 1611021-10RE1
Misc : 200ml REPRESS
ALS Vial : 41 Sample Multiplier: 3.2

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

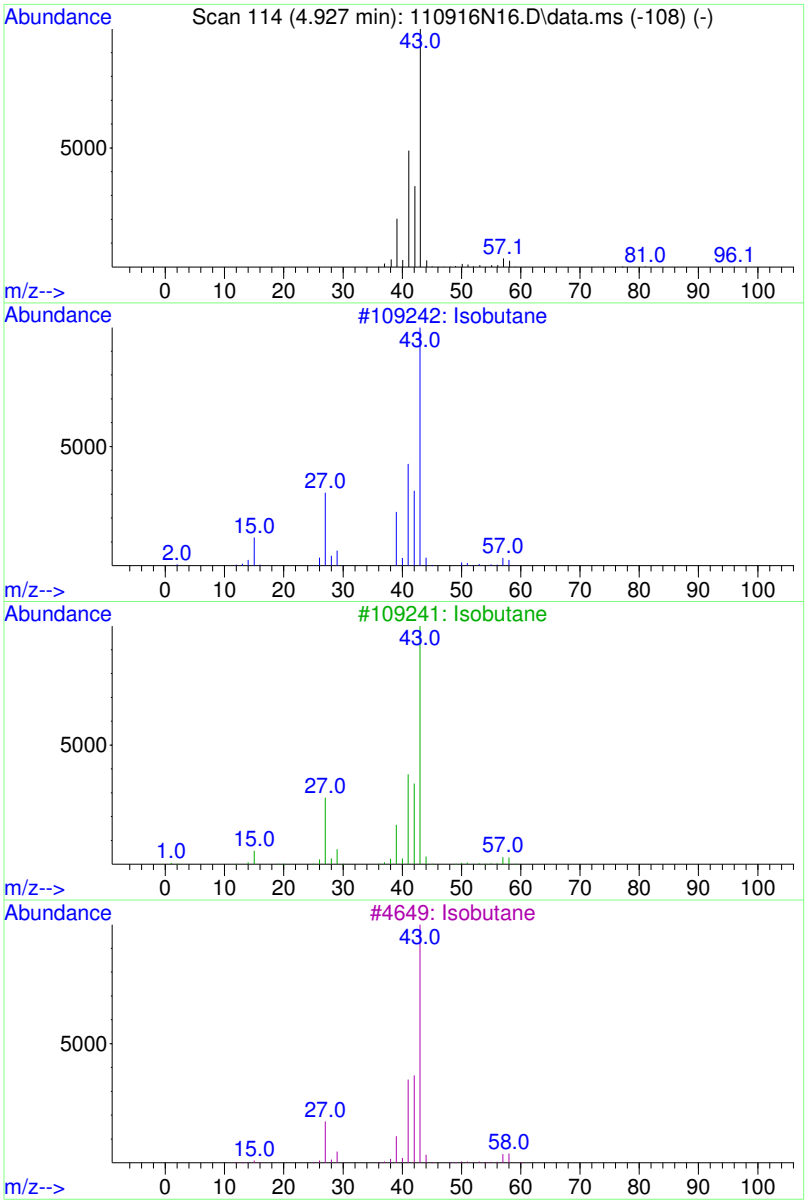
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

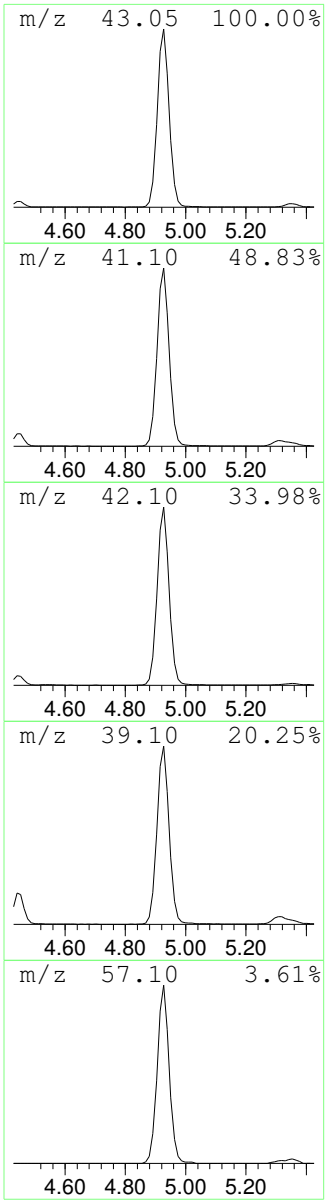
****

Peak Number 1 Isobutane Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.927	31.34 ppbv	4163070	BROMOCHLOROMETHANE	15.481

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Isobutane	58	C4H10	000075-28-5	64
2	Isobutane	58	C4H10	000075-28-5	64
3	Isobutane	58	C4H10	000075-28-5	45
4	Cyclobutylamine	71	C4H9N	002516-34-9	9
5	Cyclobutylamine	71	C4H9N	002516-34-9	4





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Data File : 110916N16.D
Acq On : 9 Nov 2016 10:17 pm
Operator : LLH
Sample : 1611021-10RE1
Misc : 200ml REPRESS
ALS Vial : 41 Sample Multiplier: 3.2

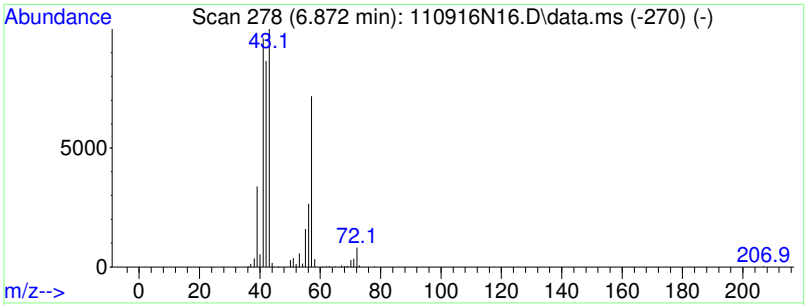
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

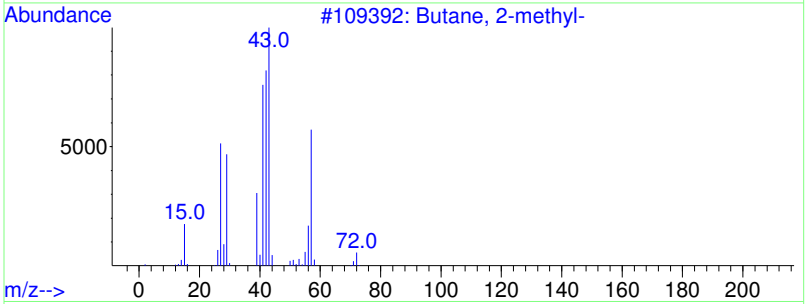
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

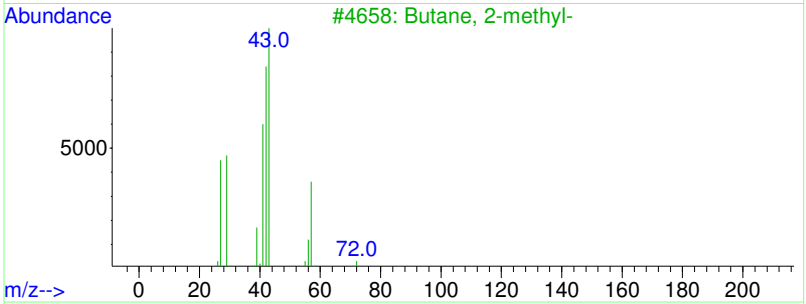
****
Peak Number 2 Butane, methyl- Concentration Rank 2

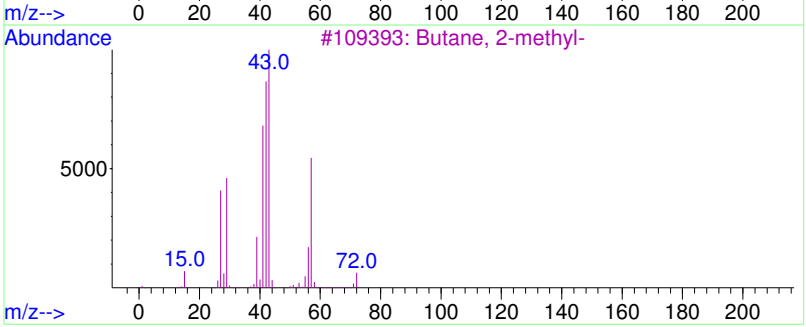
R.T.	EstConc	Area	Relative to ISTD	R.T.
6.872	17.13 ppbv	2275420	BROMOCHLOROMETHANE	15.481

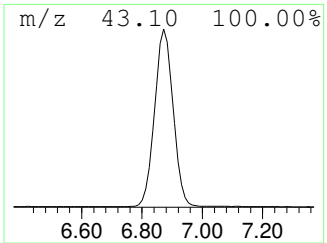
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butane, 2-methyl-	72	C5H12	000078-78-4	72
2	Butane, 2-methyl-	72	C5H12	000078-78-4	72
3	Butane, 2-methyl-	72	C5H12	000078-78-4	72
4	3-Buten-1-ol	72	C4H8O	000627-27-0	50
5	3-Buten-1-ol	72	C4H8O	000627-27-0	25

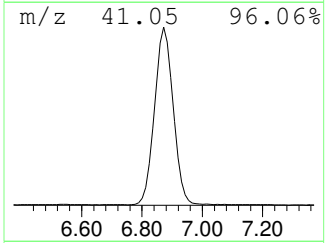


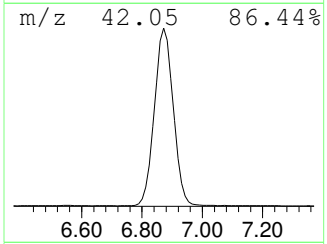


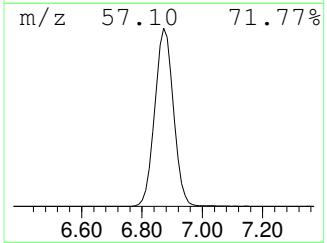


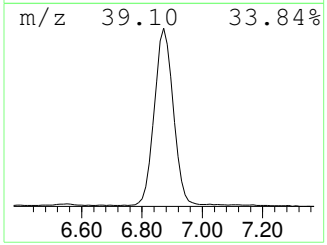












Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N16.D
Acq On : 9 Nov 2016 10:17 pm
Operator : LLH
Sample : 1611021-10RE1
Misc : 200ml REPRESS
ALS Vial : 41 Sample Multiplier: 3.2

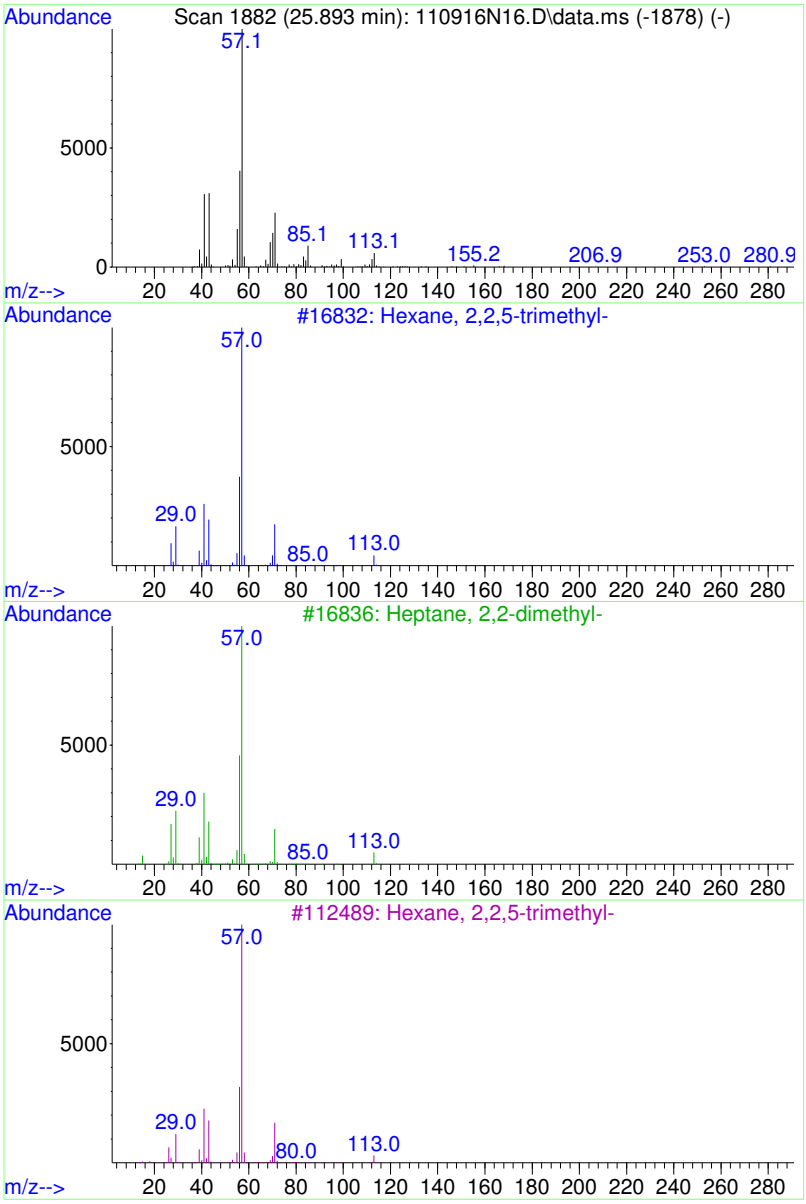
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

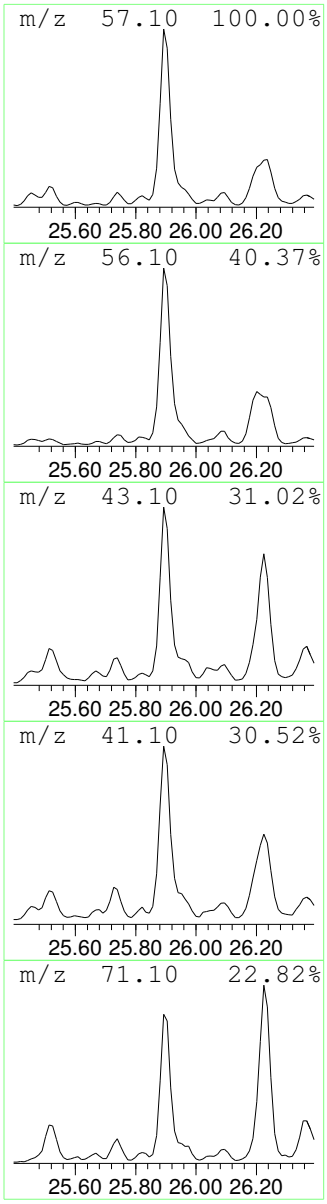
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 3 Hexane, trimethyl- Concentration Rank 6

R.T.	EstConc	Area	Relative to ISTD	R.T.
25.893	2.44 ppbv	788494	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Hexane, 2,2,5-trimethyl-	128	C9H20	003522-94-9	64
2	Heptane, 2,2-dimethyl-	128	C9H20	001071-26-7	59
3	Hexane, 2,2,5-trimethyl-	128	C9H20	003522-94-9	59
4	Hexane, 2,2,5-trimethyl-	128	C9H20	003522-94-9	59
5	Decane, 2,5,6-trimethyl-	184	C13H28	062108-23-0	53





Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N16.D
Acq On : 9 Nov 2016 10:17 pm
Operator : LLH
Sample : 1611021-10RE1
Misc : 200ml REPRESS
ALS Vial : 41 Sample Multiplier: 3.2

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

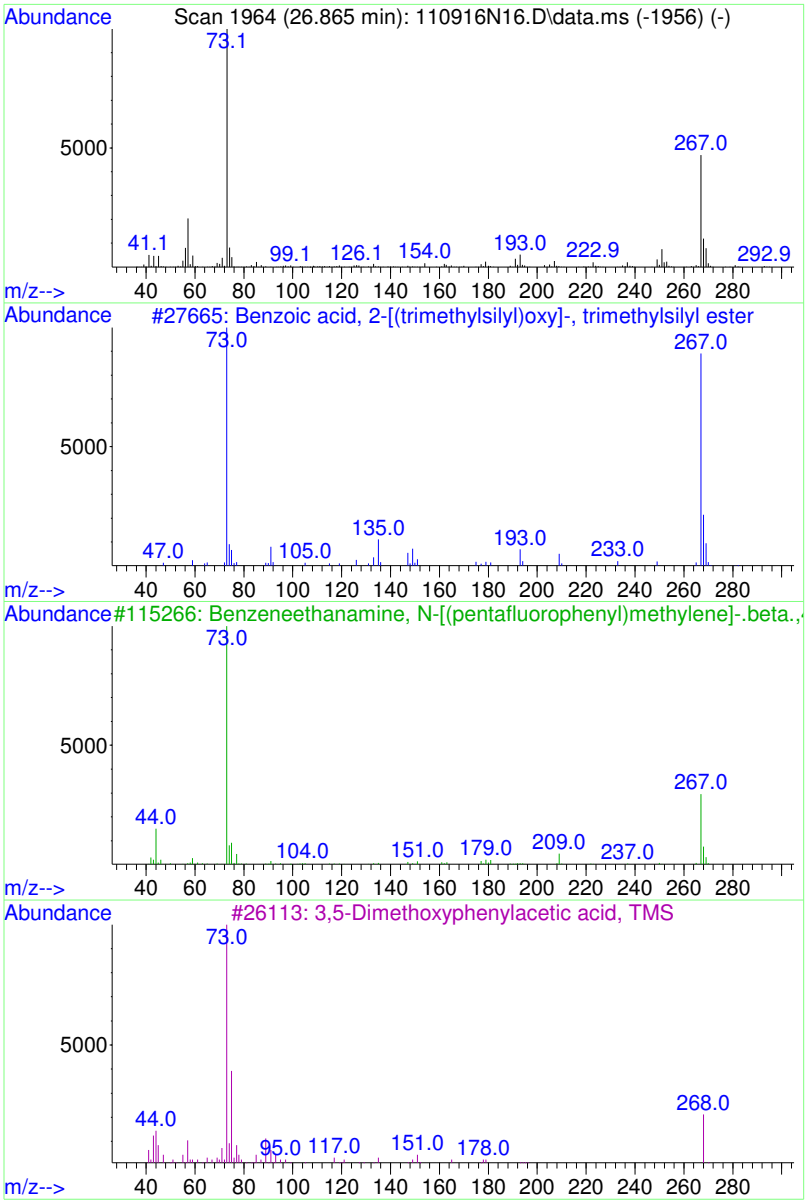
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

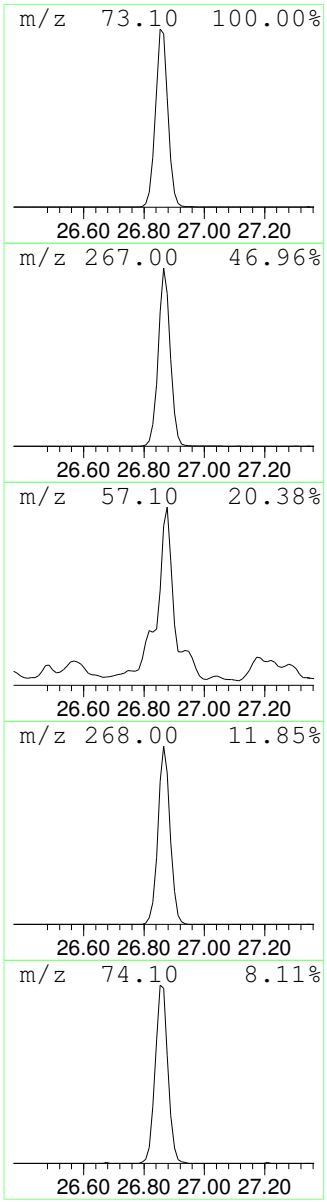
****

Peak Number 4 column bleed Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
26.865	9.74 ppbv	3152030	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzoic acid, 2-[(trimethylsilyl...	282	C13H22O3Si2	003789-85-3	59
2	Benzeneethanamine, N-[(pentafluo...	475	C21H26F5NO2Si2	055429-85-1	32
3	3,5-Dimethoxyphenylacetic acid, TMS	268	C13H20O4Si	1000071-82-4	10
4	Tetrasiloxane, 1,1,3,3,5,5,7,7-o...	282	C8H26O3Si4	001000-05-1	9
5	1-Propene-1-thiol	74	C3H6S	000925-89-3	9





Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N16.D
Acq On : 9 Nov 2016 10:17 pm
Operator : LLH
Sample : 1611021-10RE1
Misc : 200ml REPRESS
ALS Vial : 41 Sample Multiplier: 3.2

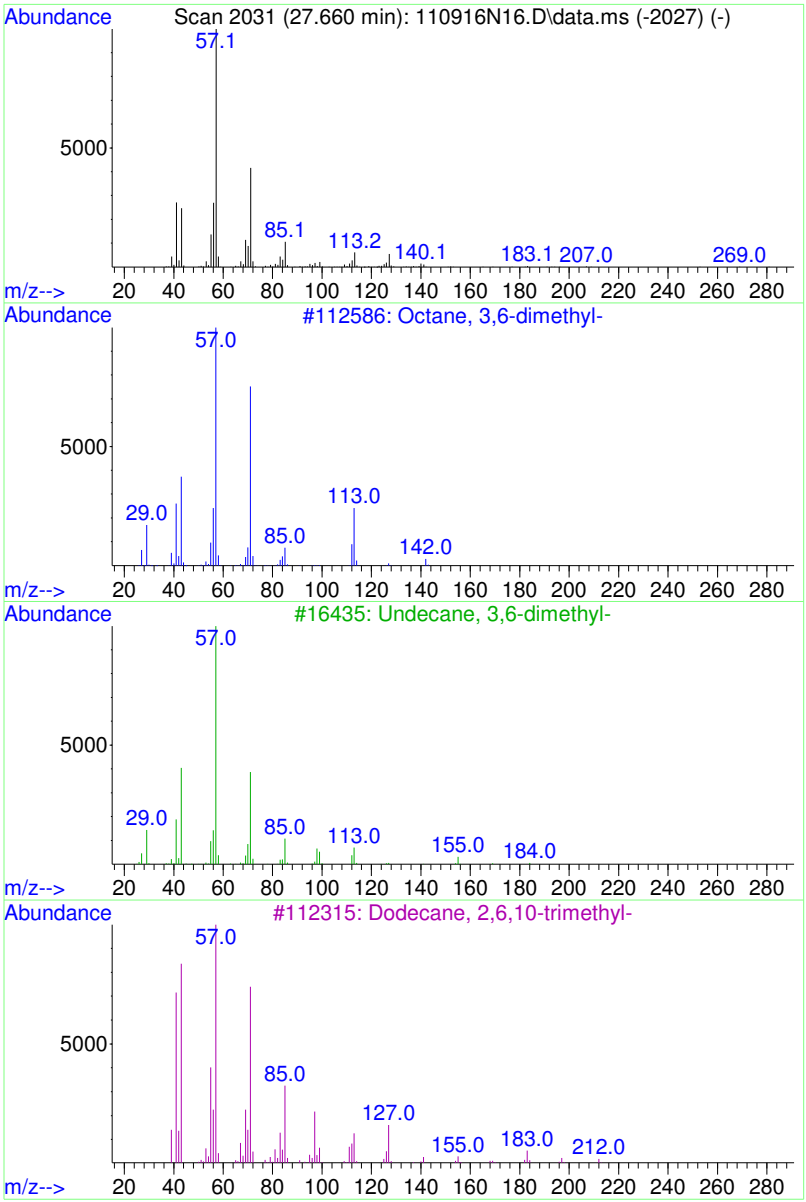
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

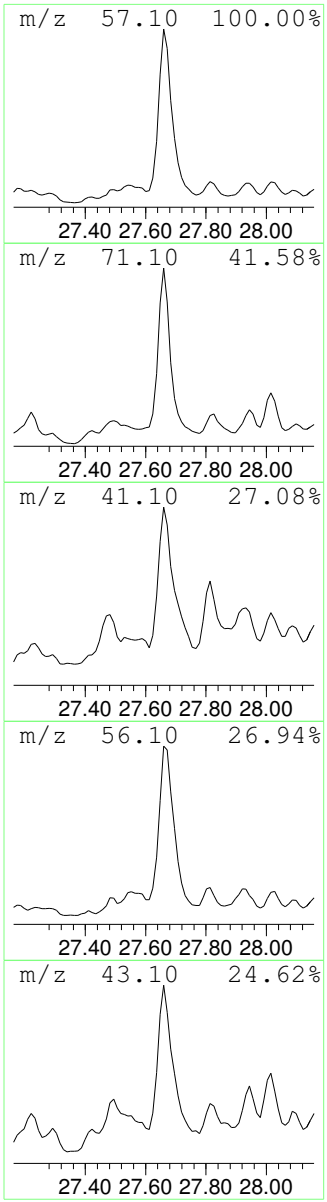
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 5 Undecane, dimethyl- Concentration Rank 4

R.T.	EstConc	Area	Relative to ISTD	R.T.
27.660	3.74 ppbv	1208880	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Octane, 3,6-dimethyl-	142	C10H22	015869-94-0	59
2	Undecane, 3,6-dimethyl-	184	C13H28	017301-28-9	59
3	Dodecane, 2,6,10-trimethyl-	212	C15H32	003891-98-3	59
4	Hexadecane, 2,6,10,14-tetramethyl-	282	C20H42	000638-36-8	59
5	Dodecane, 3-methyl-	184	C13H28	017312-57-1	59





Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N16.D
Acq On : 9 Nov 2016 10:17 pm
Operator : LLH
Sample : 1611021-10RE1
Misc : 200ml REPRESS
ALS Vial : 41 Sample Multiplier: 3.2

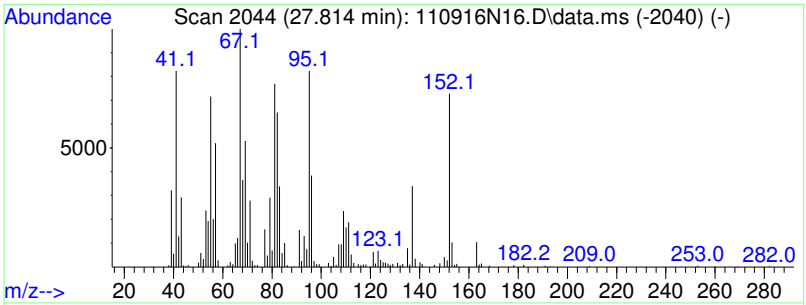
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

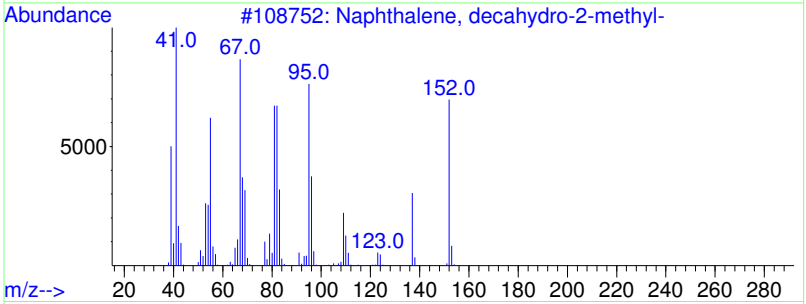
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

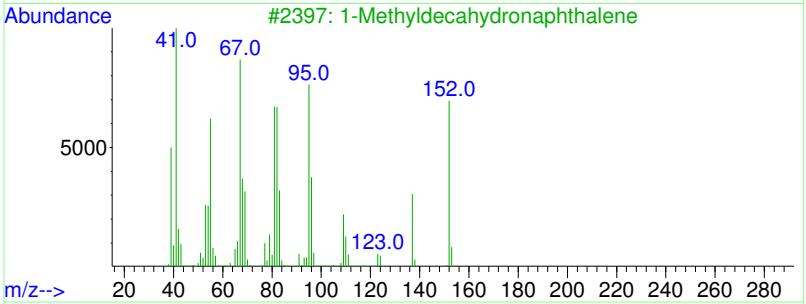
****
Peak Number 6 Naphthalene, decahydro-methyl- Concentration Rank 9

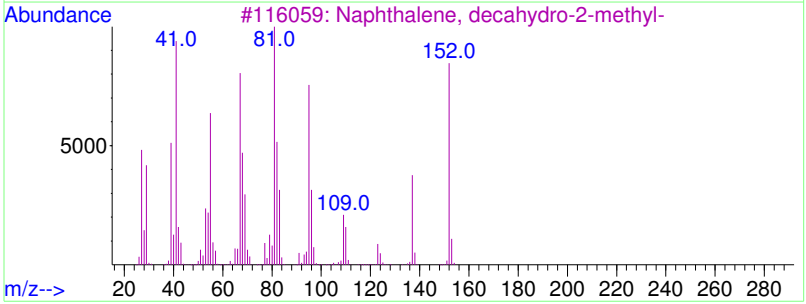
R.T.	EstConc	Area	Relative to ISTD	R.T.
27.814	2.26 ppbv	731178	CHLOROBENZENE-d5	22.359

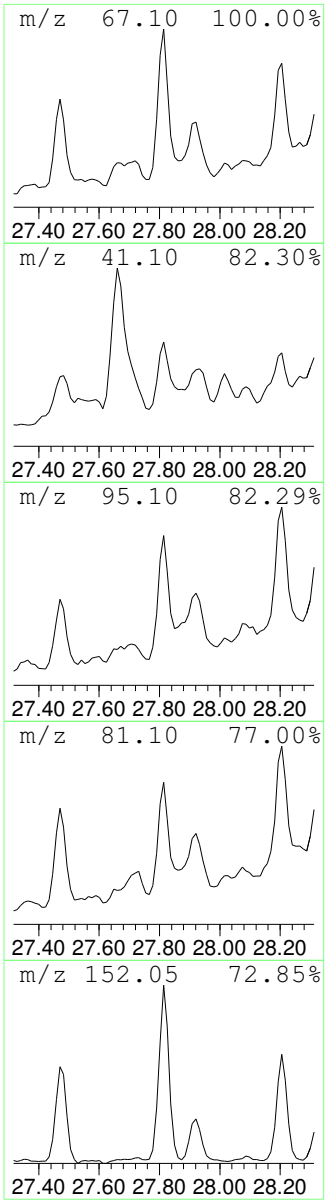
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Naphthalene, decahydro-2-methyl-	152	C11H20	002958-76-1	98
2	1-Methyldecahydronaphthalene	152	C11H20	002958-75-0	98
3	Naphthalene, decahydro-2-methyl-	152	C11H20	002958-76-1	96
4	cis-Decalin, 2-syn-methyl-	152	C11H20	1000155-85-6	87
5	trans-Decalin, 2-methyl-	152	C11H20	1000152-47-3	86











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Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N16.D
Acq On    :  9 Nov 2016  10:17 pm
Operator  : LLH
Sample    : 1611021-10RE1
Misc      : 200ml REPRESS
ALS Vial  : 41   Sample Multiplier: 3.2

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title  : TO15

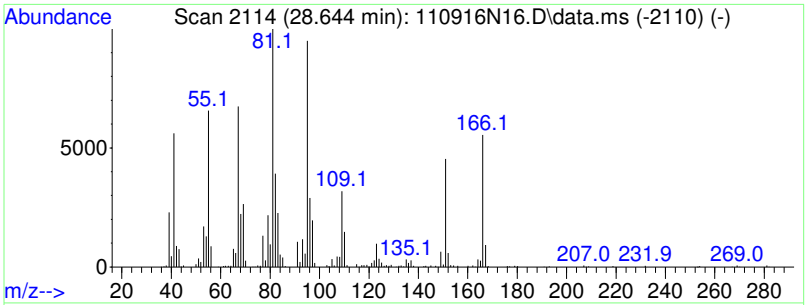
TIC Library    : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P
```

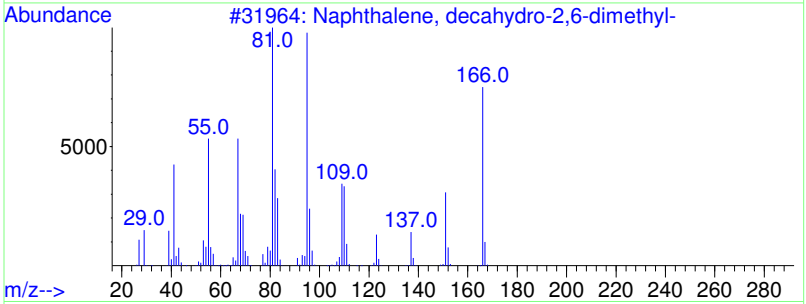
****

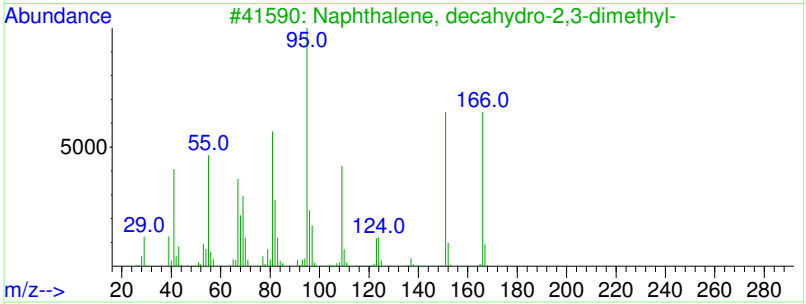
Peak Number 7 Naphthalene, decahydro-dime... Concentration Rank 8

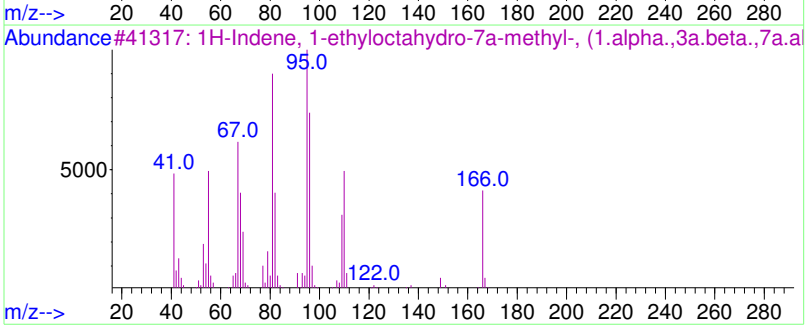
R.T.	EstConc	Area	Relative to ISTD	R.T.
28.644	2.33 ppbv	753501	CHLOROBENZENE-d5	22.359

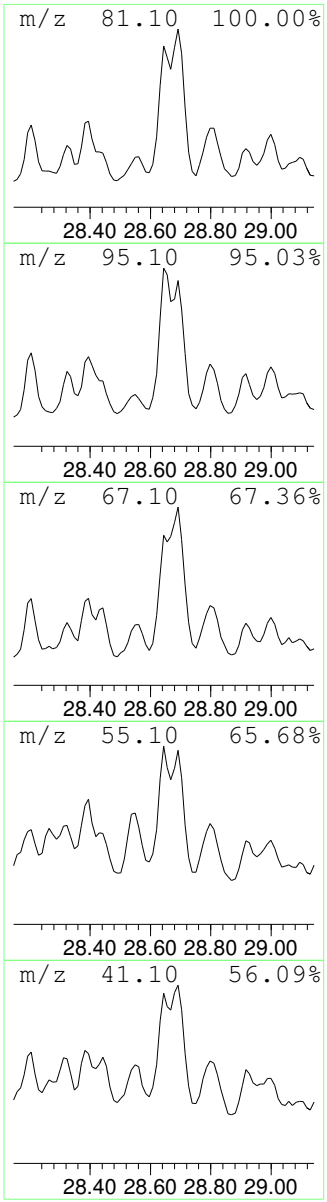
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Naphthalene, decahydro-2,6-dimet...	166	C12H22	001618-22-0	91
2	Naphthalene, decahydro-2,3-dimet...	166	C12H22	001008-80-6	81
3	1H-Indene, 1-ethyloctahydro-7a-m...	166	C12H22	056324-71-1	74
4	5,7-Dodecadiene, (E,Z)-	166	C12H22	021293-04-9	64
5	Naphthalene, decahydro-1,5-dimet...	166	C12H22	066552-62-3	58











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Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N16.D
Acq On    :  9 Nov 2016  10:17 pm
Operator  : LLH
Sample    : 1611021-10RE1
Misc      : 200ml REPRESS
ALS Vial  : 41   Sample Multiplier: 3.2

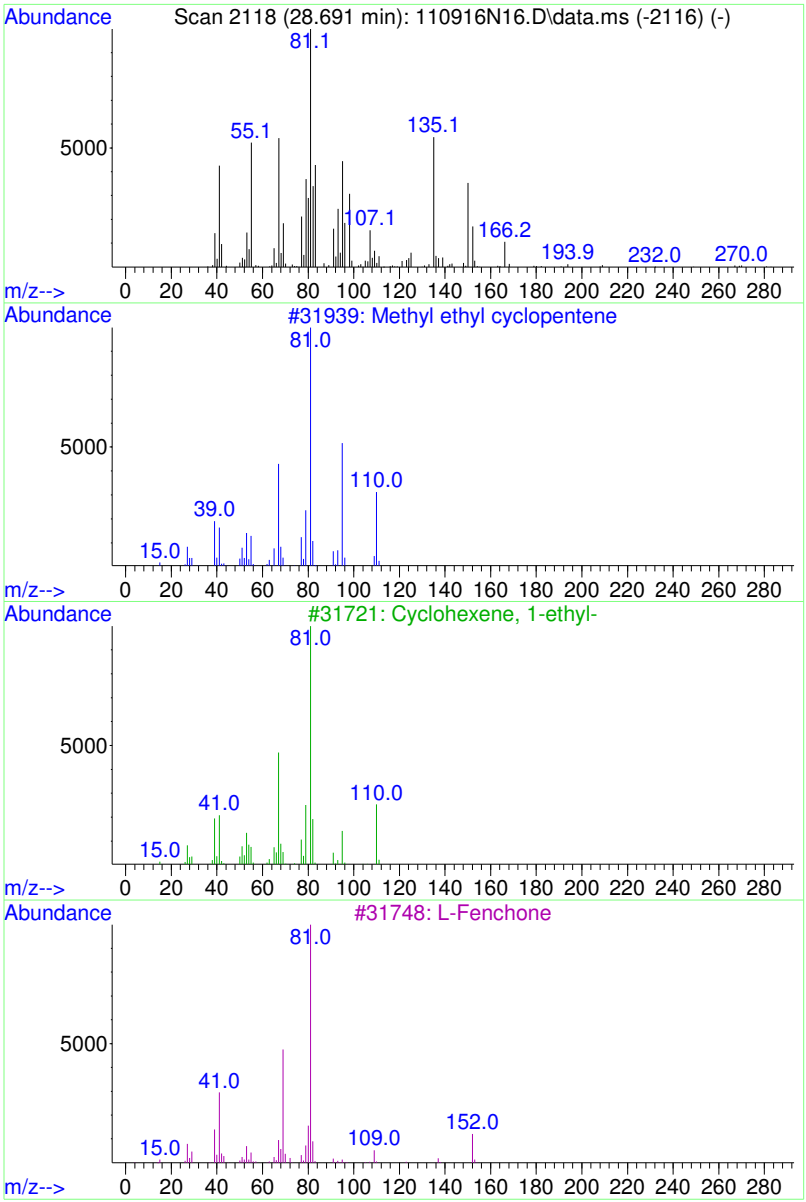
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title  : TO15

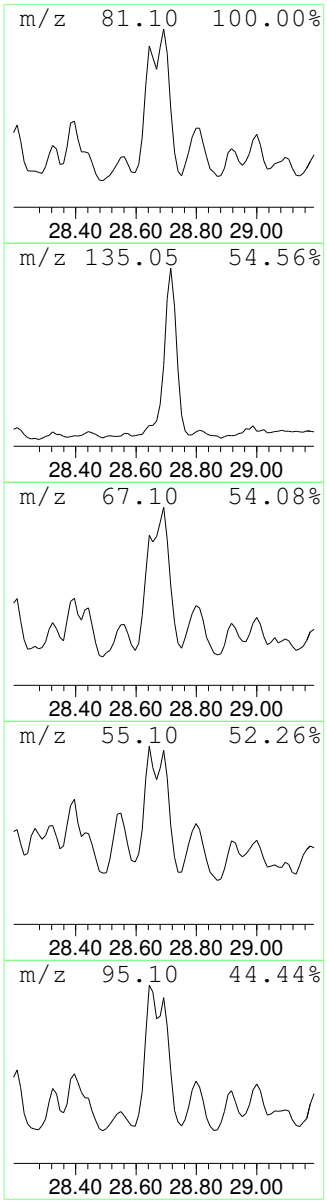
TIC Library    : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

*********************************************************************
Peak Number  8  unknown                          Concentration Rank  5
```

R.T.	EstConc	Area	Relative to ISTD	R.T.
28.691	2.57 ppbv	832685	CHLOROBENZENE-d5	22.359

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Methyl ethyl cyclopentene	110	C8H14	019780-56-4	38
2	Cyclohexene, 1-ethyl-	110	C8H14	001453-24-3	27
3	L-Fenchone	152	C10H16O	000126-21-6	22
4	Cyclohexanone, 2-methyl-5-(1-met...	152	C10H16O	007764-50-3	18
5	Bicyclo[2.2.1]heptan-2-one, 1,3,...	152	C10H16O	001195-79-5	18





Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N16.D
Acq On : 9 Nov 2016 10:17 pm
Operator : LLH
Sample : 1611021-10RE1
Misc : 200ml REPRESS
ALS Vial : 41 Sample Multiplier: 3.2

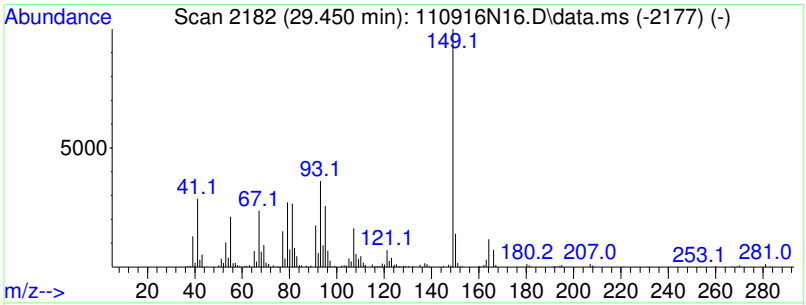
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

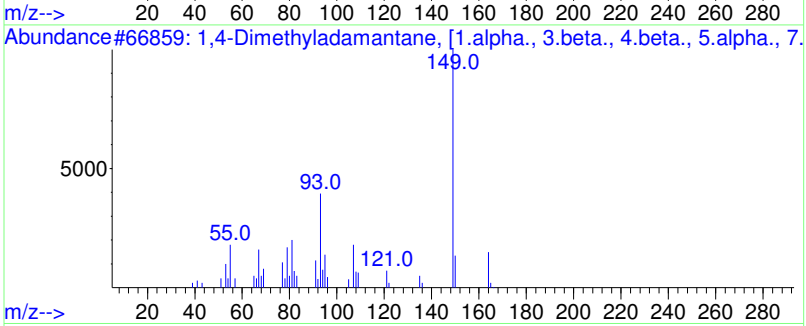
TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

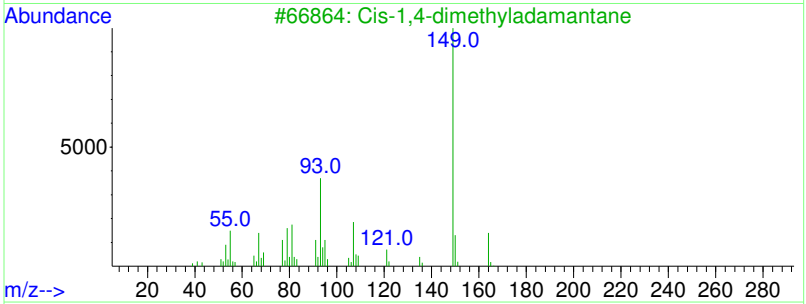
****
Peak Number 9 Dimethyladamantane, [1.alph... Concentration Rank 7

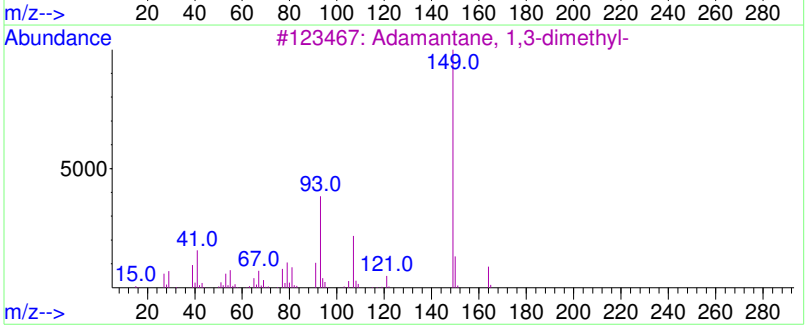
R.T.	EstConc	Area	Relative to ISTD	R.T.
29.450	2.43 ppbv	786632	CHLOROBENZENE-d5	22.359

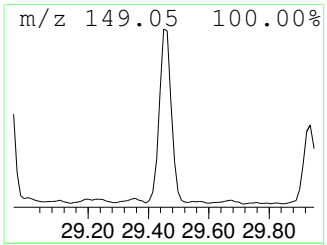
Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	1,4-Dimethyladamantane, [1.alpha...	164	C12H20	024145-88-8	76
2	Cis-1,4-dimethyladamantane	164	C12H20	024145-89-9	70
3	Adamantane, 1,3-dimethyl-	164	C12H20	000702-79-4	58
4	1H-Indene, 1-ethylideneoctahydro...	164	C12H20	056324-68-6	43
5	1-Methyl-3-ethyladamantane	178	C13H22	001687-34-9	43

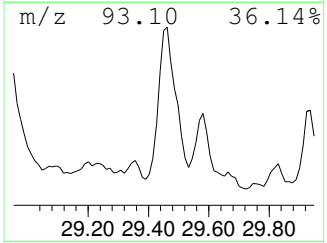


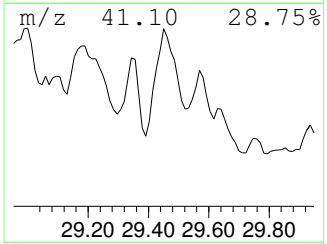


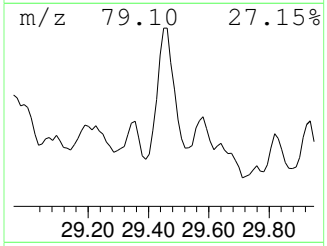


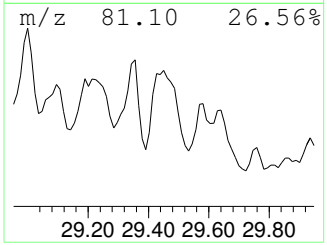












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Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N16.D
Acq On : 9 Nov 2016 10:17 pm
Operator : LLH
Sample : 1611021-10RE1
Misc : 200ml REPRESS
ALS Vial : 41 Sample Multiplier: 3.2

Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15

TIC Library : C:\Database\NIST98.L
TIC Integration Parameters: LSCINT.P

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	RT	Resp	Conc
Isobutane	4.927	31.3	ppbv	4163070	1	15.481	2922430	22.0
Butane, methyl-	6.872	17.1	ppbv	2275420	1	15.481	2922430	22.0
Hexane, trimethyl-	25.893	2.4	ppbv	788494	3	22.359	7117870	22.0
column bleed	26.865	9.7	ppbv	3152030	3	22.359	7117870	22.0
Undecane, dimet...	27.660	3.7	ppbv	1208880	3	22.359	7117870	22.0
Naphthalene, de...	27.814	2.3	ppbv	731178	3	22.359	7117870	22.0
Naphthalene, de...	28.644	2.3	ppbv	753501	3	22.359	7117870	22.0
unknown	28.691	2.6	ppbv	832685	3	22.359	7117870	22.0
Dimethyladamant...	29.450	2.4	ppbv	786632	3	22.359	7117870	22.0

REVIEWED
By LLH at 10:10 am, Nov 10, 2016

1611021-03RE2

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N17.D
Acq On : 9 Nov 2016 11:02 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-03RE2
Misc : 20ml RERE-REPRESS
ALS Vial : 36 Sample Multiplier: 10.8

report TCE

Quant Time: Nov 10 13:22:04 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	859994	22.00	ppbv	# 0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	2009809	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1535741	22.00	ppbv	0.00
Target Compounds						Qvalue
37) Trichloroethene	17.876	130	478573	14.88	ppbv	94

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

REVIEWED
By LLH at 1:22 pm, Nov 10, 2016

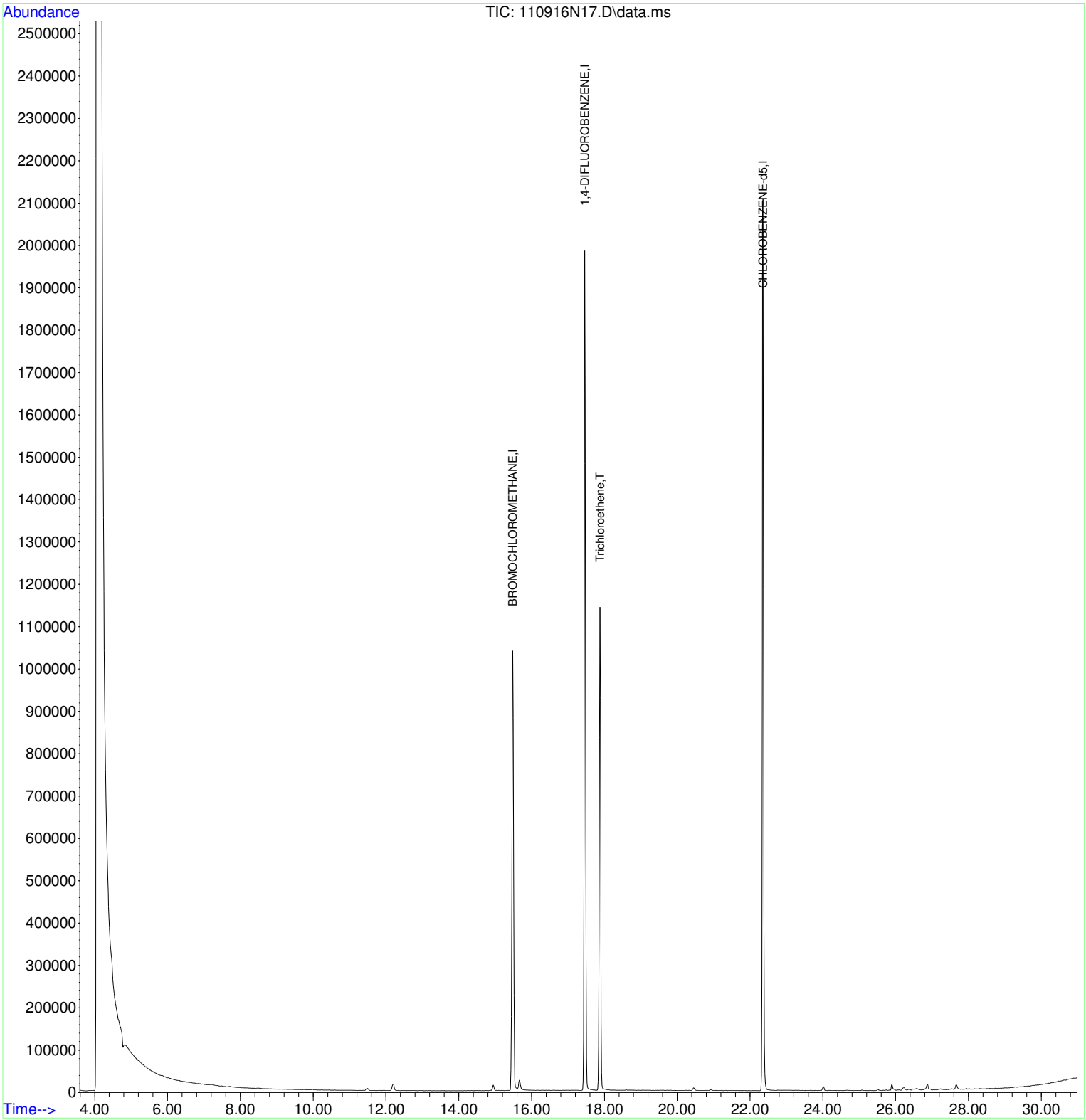
Table of Contents

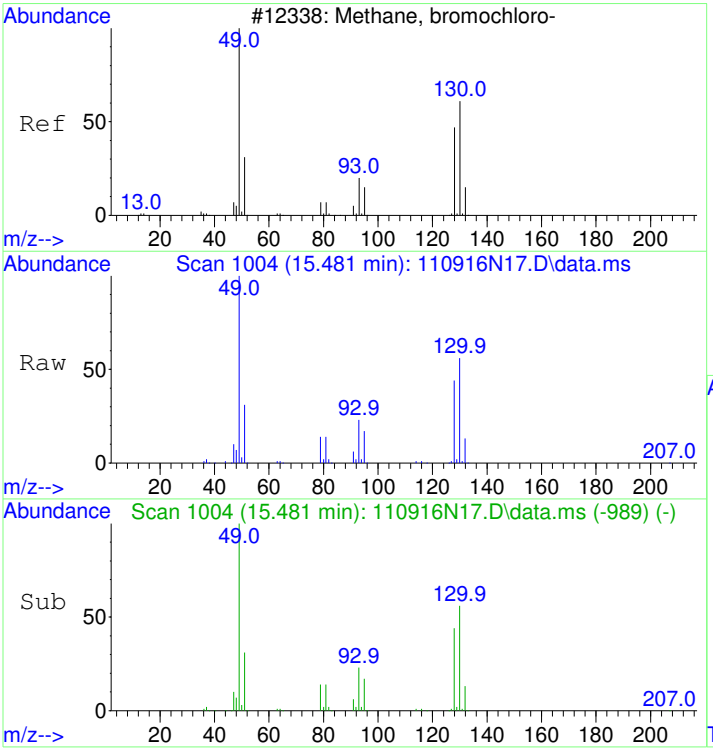
Data Path : D:\msdchem\1\2016\data\110916_FSAA\
Data File : 110916N17.D
Acq On : 9 Nov 2016 11:02 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-03RE2
Misc : 20ml RERE-REPRESS
ALS Vial : 36 Sample Multiplier: 10.8

rescaled chrom, replaced pdf

LLH 11/15/16

Quant Time: Nov 10 13:22:04 2016
Quant Method : D:\msdchem\1\2016\method\110316N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Nov 03 17:25:24 2016
Response via : Initial Calibration

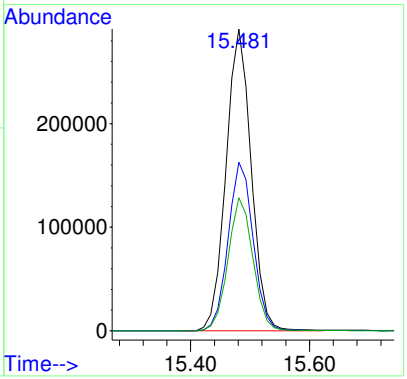


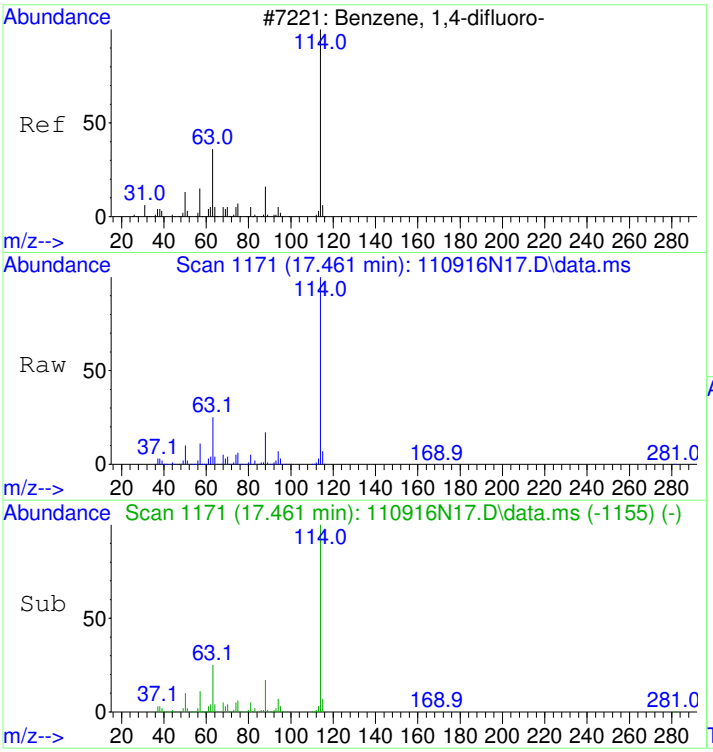


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. 0.000 min
Lab File: 110916N17.D
Acq: 9 Nov 2016 11:02 pm

Tgt Ion: 49 Resp: 859994

Ion	Ratio	Lower	Upper
49	100		
130	55.6	56.1	96.1#
128	43.5	38.8	78.8

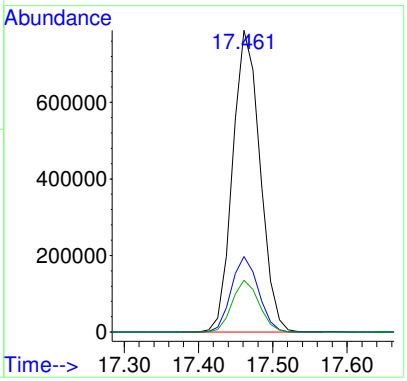


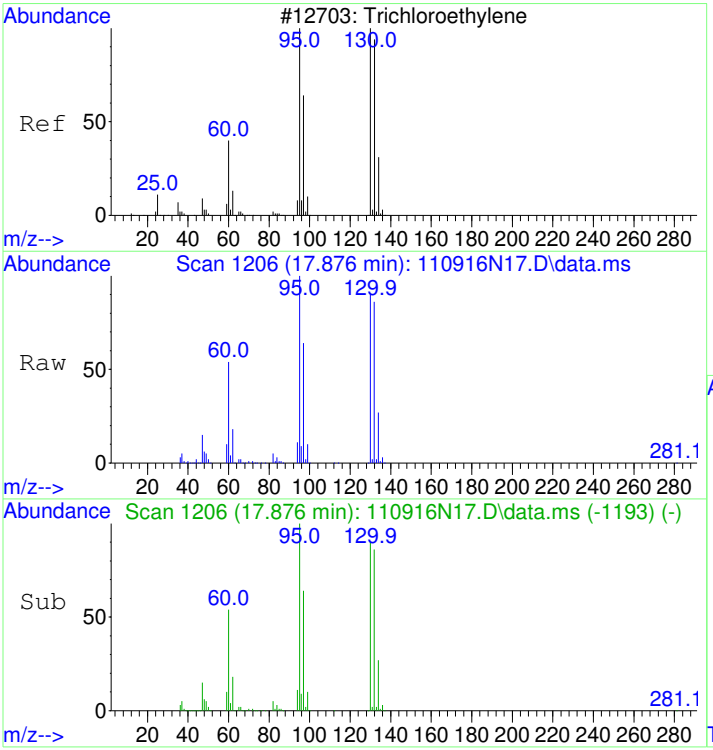


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. -0.000 min
Lab File: 110916N17.D
Acq: 9 Nov 2016 11:02 pm

Tgt Ion:114 Resp: 2009809

Ion	Ratio	Lower	Upper
114	100		
63	24.8	0.1	40.1
88	16.9	0.0	35.8

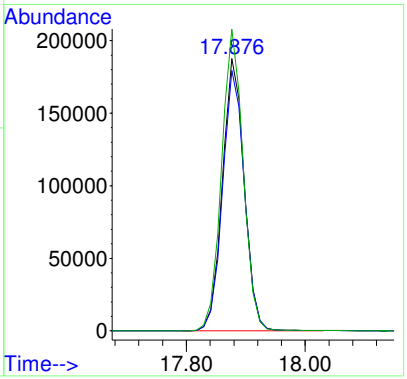


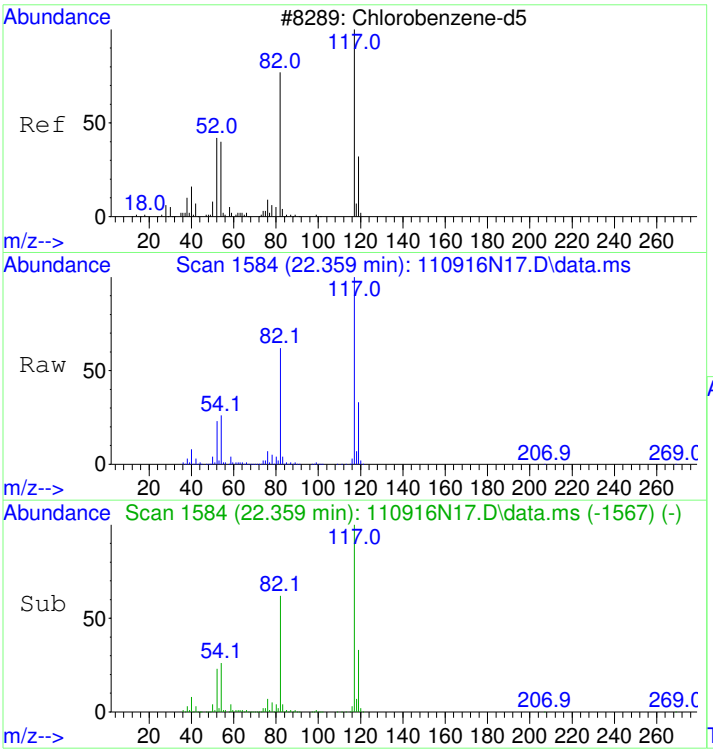


#37
Trichloroethene
Concen: 14.88 ppbv
RT: 17.876 min Scan# 1206
Delta R.T. -0.000 min
Lab File: 110916N17.D
Acq: 9 Nov 2016 11:02 pm

Tgt Ion:130 Resp: 478573

Ion	Ratio	Lower	Upper
130	100		
132	96.0	77.1	117.1
95	109.7	79.3	119.3

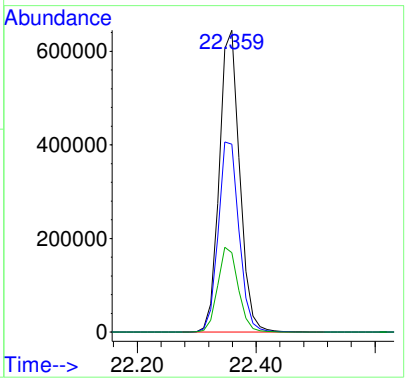




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. -0.000 min
Lab File: 110916N17.D
Acq: 9 Nov 2016 11:02 pm

Tgt Ion:117 Resp: 1535741

Ion	Ratio	Lower	Upper
117	100		
82	64.4	36.8	76.8
54	28.4	1.4	41.4



Calibration

1611007

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Method Path : D:\msdchem\1\2016\method\
Method File : 111016N_TO15AA.M
Title : TO15
Last Update : Fri Nov 11 09:01:47 2016
Response Via : Initial Calibration

REVIEWED
By LLH at 9:02 am, Nov 11, 2016

Calibration Files
1 =111016NA05.D 2 =111016NA06.D 5 =111016NA07.D 10 =111016NA08.D 15 =111016NA09.D
20 =111016NA10.D

1 OUT

		Compound	1	2	5	10	15	20	Avg	%RSD
1)	I	BROMOCHLOROMETHANE	----------ISTD----------							
2)	T	Propene	0.578	0.623	0.572	0.561	0.570	0.570	0.579	3.85
3)	T	Dichlorodifluo...	3.231	3.634	3.284	3.142	3.125	3.121	3.256	6.03
4)	T	1,2-Dichlorote...	3.207	3.537	3.151	2.977	2.962	2.937	3.128	7.29
5)	T	Chloromethane	0.765	0.828	0.717	0.683	0.674	0.676	0.724	8.51
6)	T	Vinyl chloride	0.677	0.721	0.625	0.606	0.614	0.621	0.644	7.03
7)	T	1,3-Butadiene	0.458	0.488	0.437	0.426	0.432	0.442	0.447	5.11
8)	T	Bromomethane	0.786	0.837	0.717	0.684	0.685	0.686	0.732	8.78
9)	T	Chloroethane	0.331	0.354	0.312	0.292	0.293	0.295	0.313	8.07
10)	T	Bromoethene	1.022	1.042	0.947	0.956	0.992	1.015	0.996	3.79
11)	T	Trichlorofluor...	3.258	3.498	3.081	2.911	2.914	2.927	3.098	7.69
12)	T	1,1,2-Trichlor...	2.288	2.480	2.195	2.086	2.098	2.112	2.210	6.90
13)	T	1,1-Dichloroet...	1.256	1.398	1.349	1.394	1.459	1.486	1.390	5.90
14)	T	Acetone	1.097	1.185	1.232	1.206	1.261	1.290	1.212	5.58
15)	T	Carbon disulfide	2.920	3.439	3.084	2.944	2.951	2.951	3.048	6.56
16)	T	2-Propanol	1.009	0.535	0.559	0.555	0.636	0.668	0.660	27.00
17)	T	Allyl chloride	0.689	0.802	0.814	0.866	0.904	0.927	0.834	10.32
18)	T	Dichloromethane	1.206	1.213	1.008	0.946	0.936	0.937	1.041	12.82
19)	T	tert-Butyl met...	1.727	1.857	2.407	2.540	2.728	2.859	2.353	19.68
20)	T	trans-1,2-Dich...	1.301	1.515	1.406	1.354	1.353	1.340	1.378	5.45
21)	T	Hexane	1.036	1.262	1.326	1.387	1.424	1.456	1.315	11.68
22)	T	1,1-Dichloroet...	1.809	1.996	1.825	1.756	1.783	1.797	1.828	4.69
23)	T	Vinyl acetate	0.991	0.396	0.484	0.575	0.650	0.708	0.634	32.79
24)	T	cis-1,2-Dichlo...	0.969	1.121	1.140	1.199	1.243	1.275	1.158	9.48
25)	T	2-Butanone (MEK)	0.410	0.427	0.500	0.470	0.498	0.504	0.468	8.73
26)	T	Ethyl acetate	0.265	0.285	0.319	0.303	0.312	0.317	0.300	7.06
27)	T	Tetrahydrofuran	0.765	0.749	0.824	0.787	0.826	0.844	0.799	4.74
28)	T	Chloroform	2.466	2.728	2.482	2.369	2.363	2.354	2.460	5.79
29)	T	Cyclohexane	1.135	1.332	1.394	1.422	1.449	1.455	1.365	8.89
30)	T	1,1,1-Trichlor...	2.663	3.018	2.753	2.633	2.638	2.648	2.726	5.51
31)	T	Carbon tetrach...	2.845	3.157	2.873	2.749	2.773	2.794	2.865	5.24
32)	I	1,4-DIFLUOROBENZENE	----------ISTD----------							
33)	T	Benzene	0.774	0.904	0.840	0.787	0.765	0.746	0.802	7.36
34)	T	2,2,4-Trimethy...	0.744	0.934	1.025	1.032	1.028	1.017	0.963	11.77
35)	T	1,2-Dichloroet...	0.343	0.396	0.371	0.357	0.352	0.349	0.361	5.40
36)	T	Heptane	0.233	0.300	0.324	0.327	0.323	0.319	0.304	11.85
37)	T	Trichloroethene	0.301	0.343	0.351	0.352	0.357	0.359	0.344	6.31
38)	T	1,2-Dichloropr...	0.214	0.251	0.252	0.248	0.247	0.245	0.243	5.81
39)	T	1,4-Dioxane	0.127	0.131	0.145	0.137	0.146	0.143	0.138	5.68
40)	T	Bromodichlorom...	0.564	0.613	0.597	0.579	0.577	0.573	0.584	3.07
41)	T	cis-1,3-Dichlo...	0.253	0.317	0.378	0.402	0.413	0.416	0.363	17.93
42)	T	4-Methyl-2-pen...	0.383	0.402	0.432	0.403	0.418	0.411	0.408	4.03
43)	I	CHLOROBENZENE-d5	----------ISTD----------							
44)	T	Toluene	0.790	1.024	1.150	1.170	1.179	1.151	1.078	14.10
45)	T	trans-1,3-Dich...	0.299	0.383	0.461	0.489	0.508	0.506	0.441	18.91
46)	T	1,1,2-Trichlor...	0.352	0.402	0.415	0.408	0.408	0.398	0.397	5.79
47)	T	Tetrachloroethene	0.522	0.618	0.666	0.667	0.677	0.670	0.637	9.42
48)	T	2-Hexanone	0.424	0.435	0.463	0.433	0.459	0.447	0.444	3.49
49)	T	Chlorodibromom...	0.668	0.752	0.787	0.782	0.796	0.783	0.761	6.31
50)	T	1,2-Dibromoeth...	0.472	0.562	0.593	0.591	0.599	0.588	0.568	8.52
51)	T	Chlorobenzene	0.835	0.952	0.991	0.959	0.960	0.934	0.938	5.73
52)	T	Ethylbenzene	1.103	1.359	1.557	1.552	1.560	1.521	1.442	12.69
53)	T	m&p-Xylene	0.870	1.101	1.219	1.185	1.165	1.119	1.110	11.27
54)	T	o-Xylene	0.778	1.020	1.219	1.232	1.238	1.205	1.115	16.56
55)	T	Styrene	0.682	0.872	1.002	0.992	0.992	0.962	0.917	13.58
56)	T	Bromoform	0.690	0.772	0.838	0.839	0.854	0.845	0.806	7.92
57)	T	1,1,2,2-Tetrac...	0.944	0.962	0.942	0.869	0.862	0.832	0.902	5.99
58)	T	4-Ethyltoluene	1.472	1.686	1.896	1.882	1.909	1.854	1.783	9.69
59)	T	1,3,5-Trimethy...	1.163	1.410	1.508	1.465	1.479	1.429	1.409	8.92

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Method Path : D:\msdchem\1\2016\method\
Method File : 111016N_TO15AA.M
Title : TO15

60)	T	1,2,4-Trimethy...	1.081	1.336	1.491	1.469	1.494	1.451	1.387	11.60
61)	T	1,3-Dichlorobe...	0.984	1.044	1.078	1.046	1.066	1.042	1.043	3.11
62)	T	1,4-Dichlorobe...	0.918	0.989	1.047	1.011	1.029	1.009	1.000	4.50
63)	T	Benzyl chloride	0.936	1.108	1.212	1.195	1.241	1.217	1.152	10.00
64)	T	1,2-Dichlorobe...	1.054	1.104	1.092	1.029	1.050	1.024	1.059	3.07
65)	T	1,2,4-Trichlor...	0.855	0.823	0.856	0.847	0.915	0.916	0.869	4.39
66)	T	Hexachlorobuta...	1.121	1.121	1.049	0.973	1.027	1.008	1.050	5.76

(#) = Out of Range

REVIEWED
By LLH at 9:14 am, Nov 11, 2016

SCV REPORT

Instrument Name: AG5973N
Sample Name: S16K057-SCV1
Misc Info: 10ppbv 1646109
Date Acquired: 11/11/2016 1:39
QLast Update: Fri Nov 11 09:01:47 2016
Operator: LLH

3 OUT

#	Name	Ret Time	Amount	Concentration	%R	QC	LIMIT	STATUS		
1)	BROMOCHLOROMETHANE	15.48	#N/A	22.00	#N/A	70.0	130.0	#N/A	Internal	
2)	Propene	4.45	11.00	11.04	100%	70.0	130.0	pass	Subset	
3)	Dichlorodifluoromethane	4.55	11.00	10.23	93%	70.0	130.0	pass	Primary	
4)	1,2-Dichlorotetrafluoroethane	4.90	10.00	9.24	92%	70.0	130.0	pass	Primary	
5)	Chloromethane	5.10	11.00	14.06	128%	70.0	130.0	pass	Primary	
6)	Vinyl chloride	5.43	12.00	10.78	90%	70.0	130.0	pass	Primary	
7)	1,3-Butadiene	5.52	11.00	10.91	99%	70.0	130.0	pass	Subset	
8)	Bromomethane	6.46	11.00	7.65	70%	70.0	130.0	FAIL	Primary	ok
9)	Chloroethane	6.79	10.00	10.42	104%	70.0	130.0	pass	Primary	
10)	Bromoethene	7.36	11.00	11.38	103%	70.0	130.0	pass	Subset	
11)	Trichlorofluoromethane	7.50	11.00	10.73	98%	70.0	130.0	pass	Primary	
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	9.33	11.00	10.81	98%	70.0	130.0	pass	Primary	
13)	1,1-Dichloroethene	9.41	11.00	12.15	110%	70.0	130.0	pass	Primary	
14)	Acetone	9.94	10.00	11.18	112%	70.0	130.0	pass	Subset	
15)	Carbon disulfide	10.13	9.90	10.48	106%	70.0	130.0	pass	Subset	
16)	2-Propanol	10.56	9.20	17.06	185%	70.0	130.0	FAIL	Subset	
17)	Allyl chloride	10.95	11.00	12.52	114%	70.0	130.0	pass	Subset	
18)	Dichloromethane	11.47	11.00	9.64	88%	70.0	130.0	pass	Primary	
19)	tert-Butyl methyl ether (MTBE)	12.15	10.00	13.52	135%	70.0	130.0	FAIL	Subset	
20)	trans-1,2-Dichloroethene	12.18	10.00	11.21	112%	70.0	130.0	pass	Subset	
21)	Hexane	12.78	11.00	11.65	106%	70.0	130.0	pass	Subset	
22)	1,1-Dichloroethane	13.51	12.00	10.65	89%	70.0	130.0	pass	Primary	
23)	Vinyl acetate	13.65	11.00	33.02	300%	70.0	130.0	FAIL	Subset	
24)	cis-1,2-Dichloroethene	14.95	11.00	12.14	110%	70.0	130.0	pass	Primary	
25)	2-Butanone (MEK)	15.03	10.00	12.43	124%	70.0	130.0	pass	Subset	
26)	Ethyl acetate	15.08	10.00	11.23	112%	70.0	130.0	pass	Subset	
27)	Tetrahydrofuran	15.49	9.60	11.44	119%	70.0	130.0	pass	Subset	
28)	Chloroform	15.64	11.00	10.43	95%	70.0	130.0	pass	Primary	
29)	Cyclohexane	15.86	10.00	11.53	115%	70.0	130.0	pass	Subset	
30)	1,1,1-Trichloroethane	15.91	10.00	10.00	100%	70.0	130.0	pass	Primary	
31)	Carbon tetrachloride	16.17	11.00	10.34	94%	70.0	130.0	pass	Primary	
32)	1,4-DIFLUOROBENZENE	17.46	#N/A	22.00	#N/A	70.0	130.0	#N/A	Internal	
33)	Benzene	16.66	11.00	10.71	97%	70.0	130.0	pass	Primary	
34)	2,2,4-Trimethylpentane	16.61	10.00	11.49	115%	70.0	130.0	pass	Subset	
35)	1,2-Dichloroethane	16.84	11.00	10.55	96%	70.0	130.0	pass	Primary	
36)	Heptane	16.99	10.00	11.44	114%	70.0	130.0	pass	Subset	
37)	Trichloroethene	17.88	11.00	12.25	111%	70.0	130.0	pass	Primary	
38)	1,2-Dichloropropane	18.37	11.00	11.36	103%	70.0	130.0	pass	Primary	
39)	1,4-Dioxane	18.56	11.00	14.14	129%	70.0	130.0	pass	Subset	
40)	Bromodichloromethane	18.84	10.00	10.87	109%	70.0	130.0	pass	Subset	
41)	cis-1,3-Dichloropropene	19.60	11.00	13.13	119%	70.0	130.0	pass	Primary	
42)	4-Methyl-2-pentanone (MIBK)	19.82	11.00	11.11	101%	70.0	130.0	pass	Subset	
43)	CHLOROBENZENE-d5	22.36	#N/A	22.00	#N/A	70.0	130.0	#N/A	Internal	
44)	Toluene	20.07	11.00	12.43	113%	70.0	130.0	pass	Primary	
45)	trans-1,3-Dichloropropene	20.54	11.00	12.29	112%	70.0	130.0	pass	Primary	
46)	1,1,2-Trichloroethane	20.84	11.00	11.71	106%	70.0	130.0	pass	Primary	
47)	Tetrachloroethene	20.94	11.00	11.95	109%	70.0	130.0	pass	Primary	
48)	2-Hexanone	21.16	10.00	11.27	113%	70.0	130.0	pass	Subset	
49)	Chlorodibromomethane	21.46	9.90	11.17	113%	70.0	130.0	pass	Subset	
50)	1,2-Dibromoethane (EDB)	21.68	10.00	9.71	97%	70.0	130.0	pass	Primary	

51)	Chlorobenzene	22.41	11.00	11.65	106%	70.0	130.0	pass	Primary
52)	Ethylbenzene	22.49	11.00	12.04	109%	70.0	130.0	pass	Primary
53)	m&p-Xylene	22.67	22.00	23.91	109%	70.0	130.0	pass	Primary
54)	o-Xylene	23.32	11.00	12.59	114%	70.0	130.0	pass	Primary
55)	Styrene	23.36	11.00	11.52	105%	70.0	130.0	pass	Primary
56)	Bromoform	23.73	11.00	11.77	107%	70.0	130.0	pass	Subset
57)	1,1,2,2-Tetrachloroethane	24.42	11.00	10.42	95%	70.0	130.0	pass	Primary
58)	4-Ethyltoluene	24.67	11.00	11.80	107%	70.0	130.0	pass	Subset
59)	1,3,5-Trimethylbenzene	24.77	11.00	12.11	110%	70.0	130.0	pass	Primary
60)	1,2,4-Trimethylbenzene	25.37	11.00	12.54	114%	70.0	130.0	pass	Primary
61)	1,3-Dichlorobenzene	25.90	11.00	12.15	110%	70.0	130.0	pass	Primary
62)	1,4-Dichlorobenzene	26.06	11.00	12.27	112%	70.0	130.0	pass	Primary
63)	Benzyl chloride	26.26	11.00	14.24	129%	70.0	130.0	pass	Subset
64)	1,2-Dichlorobenzene	26.66	11.00	11.40	104%	70.0	130.0	pass	Primary
65)	1,2,4-Trichlorobenzene	29.14	11.00	12.36	112%	70.0	130.0	pass	Primary
66)	Hexachlorobutadiene	29.27	11.00	10.32	94%	70.0	130.0	pass	Primary

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

RT DUPLICATE REPORT

Instrument Name: AG5973N
Sample Name: S16K057-CAL4
Misc Info: 10ppbv 1646105
Date Acquired: 11/10/2016 23:12
QLast Update: Fri Nov 11 09:01:47 2016
Operator: LLH

#	Name	RT	CONC	Qion	
1)	BROMOCHLOROMETHANE	15.481	22.000	49	15.078
2)	Propene	4.452	10.541	41	
3)	Dichlorodifluoromethane	4.547	10.251	84.9	
4)	1,2-Dichlorotetrafluoroethane	4.903	10.295	84.9	
5)	Chloromethane	5.093	9.931	49.9	
6)	Vinyl chloride	5.413	9.364	61.9	
7)	1,3-Butadiene	5.520	9.636	54	
8)	Bromomethane	6.457	9.404	93.9	
9)	Chloroethane	6.777	9.215	64	
10)	Bromoethene	7.358	11.501	105.9	
11)	Trichlorofluoromethane	7.500	10.276	100.9	
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	9.326	11.045	150.9	
13)	1,1-Dichloroethene	9.409	11.094	60.9	
14)	Acetone	9.943	11.499	43	
15)	Carbon disulfide	10.133	11.367	75.9	
16)	2-Propanol	10.560	5.629	45	
17)	Allyl chloride	10.951	11.343	41	
18)	Dichloromethane	11.473	9.317	49	
19)	tert-Butyl methyl ether (MTBE)	12.149	12.291	73	
20)	trans-1,2-Dichloroethene	12.184	11.578	60.9	
21)	Hexane	12.777	11.276	57	
22)	1,1-Dichloroethane	13.512	10.131	63	
23)	Vinyl acetate	13.655	5.339	43	
24)	cis-1,2-Dichloroethene	14.947	11.342	60.9	
25)	2-Butanone (MEK)	15.030	11.117	72	
26)	Ethyl acetate	15.078	11.061	61	
27)	Tetrahydrofuran	15.493	9.721	42	
28)	Chloroform	15.635	10.709	82.9	
29)	Cyclohexane	15.860	11.341	56	
30)	1,1,1-Trichloroethane	15.908	10.493	96.9	
31)	Carbon tetrachloride	16.169	10.309	116.8	
32)	1,4-DIFLUOROBENZENE	17.461	22.000	114	16.987
33)	Benzene	16.655	9.821	78	16.607
34)	2,2,4-Trimethylpentane	16.607	10.036	57	
35)	1,2-Dichloroethane	16.845	9.748	62	
36)	Heptane	16.987	9.704	43	
37)	Trichloroethene	17.876	11.279	129.9	
38)	1,2-Dichloropropane	18.374	9.680	63	
39)	1,4-Dioxane	18.564	9.008	88	
40)	Bromodichloromethane	18.837	10.363	82.9	
41)	cis-1,3-Dichloropropene	19.596	11.321	75	
42)	4-Methyl-2-pentanone (MIBK)	19.821	8.581	43	

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

43)	CHLOROBENZENE-d5	22.359	22.000	117	21.683
44)	Toluene	20.070	11.304	91	
45)	trans-1,3-Dichloropropene	20.544	11.419	75	
46)	1,1,2-Trichloroethane	20.841	10.972	96.9	
47)	Tetrachloroethene	20.936	11.713	165.8	
48)	2-Hexanone	21.161	8.004	43	
49)	Chlorodibromomethane	21.458	11.067	128.8	
50)	1,2-Dibromoethane (EDB)	21.683	11.483	106.9	
51)	Chlorobenzene	22.406	11.114	112	
52)	Ethylbenzene	22.489	11.205	91	
53)	m&p-Xylene	22.667	22.058	91	
54)	o-Xylene	23.319	11.460	91	
55)	Styrene	23.355	11.120	104	
56)	Bromoform	23.734	11.400	172.8	
57)	1,1,2,2-Tetrachloroethane	24.422	9.819	82.9	
58)	4-Ethyltoluene	24.671	10.604	105	
59)	1,3,5-Trimethylbenzene	24.766	11.118	105	
60)	1,2,4-Trimethylbenzene	25.371	11.161	105	
61)	1,3-Dichlorobenzene	25.904	10.898	145.9	
62)	1,4-Dichlorobenzene	26.047	11.024	145.9	
63)	Benzyl chloride	26.260	11.069	91	0.000
64)	1,2-Dichlorobenzene	26.663	10.457	145.9	0.000
65)	1,2,4-Trichlorobenzene	29.142	10.476	179.9	0.000
66)	Hexachlorobutadiene	29.272	9.834	224.8	0.000

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

CHEMSTATION CONCENTRATION REPORT

Instrument Name: AG5973N
Sample Name: S16K057-SCV1
Misc Info: 10ppbv 1646109
Date Acquired: 11/11/2016 1:39
QLast Update: Fri Nov 11 09:01:47 201
Operator: LLH

#	Name	L1	L2	L3	L4	L5	L6
1)	BROMOCHLOROMETHANE	22.00	22.00	22.00	22.00	22.00	22.00
2)	Propene	1.10	2.20	5.50	11.00	16.50	22.00
3)	Dichlorodifluoromethane	0.97	1.94	4.85	9.70	14.55	19.40
4)	1,2-Dichlorotetrafluoroethane	1.00	2.00	5.00	10.00	15.00	20.00
5)	Chloromethane	1.06	2.12	5.30	10.60	15.90	21.20
6)	Vinyl chloride	1.04	2.08	5.20	10.40	15.60	20.80
7)	1,3-Butadiene	1.05	2.10	5.25	10.50	15.75	21.00
8)	Bromomethane	1.00	2.00	5.00	10.00	15.00	20.00
9)	Chloroethane	1.00	2.00	5.00	10.00	15.00	20.00
10)	Bromoethene	1.06	2.12	5.30	10.60	15.90	21.20
11)	Trichlorofluoromethane	0.98	1.96	4.90	9.80	14.70	19.60
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	1.02	2.04	5.10	10.20	15.30	20.40
13)	1,1-Dichloroethene	1.04	2.08	5.20	10.40	15.60	20.80
14)	Acetone	1.10	2.20	5.50	11.00	16.50	22.00
15)	Carbon disulfide	1.05	2.10	5.25	10.50	15.75	21.00
16)	2-Propanol	0.92	1.84	4.60	9.20	13.80	18.40
17)	Allyl chloride	1.10	2.20	5.50	11.00	16.50	22.00
18)	Dichloromethane	1.01	2.02	5.05	10.10	15.15	20.20
19)	tert-Butyl methyl ether (MTBE)	1.07	2.14	5.35	10.70	16.05	21.40
20)	trans-1,2-Dichloroethene	1.10	2.20	5.50	11.00	16.50	22.00
21)	Hexane	1.04	2.08	5.20	10.40	15.60	20.80
22)	1,1-Dichloroethane	1.00	2.00	5.00	10.00	15.00	20.00
23)	Vinyl acetate	1.03	2.06	5.15	10.30	15.45	20.60
24)	cis-1,2-Dichloroethene	1.04	2.08	5.20	10.40	15.60	20.80
25)	2-Butanone (MEK)	1.05	2.10	5.25	10.50	15.75	21.00
26)	Ethyl acetate	1.05	2.10	5.25	10.50	15.75	21.00
27)	Tetrahydrofuran	1.02	2.04	5.10	10.20	15.30	20.40
28)	Chloroform	1.01	2.02	5.05	10.10	15.15	20.20
29)	Cyclohexane	1.06	2.12	5.30	10.60	15.90	21.20
30)	1,1,1-Trichloroethane	0.98	1.96	4.90	9.80	14.70	19.60
31)	Carbon tetrachloride	0.97	1.94	4.85	9.70	14.55	19.40
32)	1,4-DIFLUOROBENZENE	22.00	22.00	22.00	22.00	22.00	22.00
33)	Benzene	1.03	2.06	5.15	10.30	15.45	20.60
34)	2,2,4-Trimethylpentane	1.05	2.10	5.25	10.50	15.75	21.00
35)	1,2-Dichloroethane	1.00	2.00	5.00	10.00	15.00	20.00
36)	Heptane	1.06	2.12	5.30	10.60	15.90	21.20
37)	Trichloroethene	1.08	2.16	5.40	10.80	16.20	21.60
38)	1,2-Dichloropropane	1.03	2.06	5.15	10.30	15.45	20.60
39)	1,4-Dioxane	1.03	2.06	5.15	10.30	15.45	20.60
40)	Bromodichloromethane	1.06	2.12	5.30	10.60	15.90	21.20
41)	cis-1,3-Dichloropropene	1.08	2.16	5.40	10.80	16.20	21.60
42)	4-Methyl-2-pentanone (MIBK)	1.04	2.08	5.20	10.40	15.60	20.80

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43)	CHLOROBENZENE-d5	22.00	22.00	22.00	22.00	22.00	22.00
44)	Toluene	1.05	2.10	5.25	10.50	15.75	21.00
45)	trans-1,3-Dichloropropene	1.06	2.12	5.30	10.60	15.90	21.20
46)	1,1,2-Trichloroethane	1.06	2.12	5.30	10.60	15.90	21.20
47)	Tetrachloroethene	1.06	2.12	5.30	10.60	15.90	21.20
48)	2-Hexanone	1.01	2.02	5.05	10.10	15.15	20.20
49)	Chlorodibromomethane	1.06	2.12	5.30	10.60	15.90	21.20
50)	1,2-Dibromoethane (EDB)	1.09	2.18	5.45	10.90	16.35	21.80
51)	Chlorobenzene	1.07	2.14	5.35	10.70	16.05	21.40
52)	Ethylbenzene	1.05	2.10	5.25	10.50	15.75	21.00
53)	m&p-Xylene	2.12	4.24	10.60	21.20	31.80	42.40
54)	o-Xylene	1.05	2.10	5.25	10.50	15.75	21.00
55)	Styrene	1.03	2.06	5.15	10.30	15.45	20.60
56)	Bromoform	1.06	2.12	5.30	10.60	15.90	21.20
57)	1,1,2,2-Tetrachloroethane	1.04	2.08	5.20	10.40	15.60	20.80
58)	4-Ethyltoluene	1.02	2.04	5.10	10.20	15.30	20.40
59)	1,3,5-Trimethylbenzene	1.07	2.14	5.35	10.70	16.05	21.40
60)	1,2,4-Trimethylbenzene	1.06	2.12	5.30	10.60	15.90	21.20
61)	1,3-Dichlorobenzene	1.05	2.10	5.25	10.50	15.75	21.00
62)	1,4-Dichlorobenzene	1.05	2.10	5.25	10.50	15.75	21.00
63)	Benzyl chloride	1.07	2.14	5.35	10.70	16.05	21.40
64)	1,2-Dichlorobenzene	1.04	2.08	5.20	10.40	15.60	20.80
65)	1,2,4-Trichlorobenzene	1.04	2.08	5.20	10.40	15.60	20.80
66)	Hexachlorobutadiene	1.03	2.06	5.15	10.30	15.45	20.60

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CALIBRATION AREA REPORT

Instrument Name: AG5973N
Sample Name: S16K057-SCV1
Misc Info: 10ppbv 1646109
Date Acquired: 11/11/2016 1:39
QLast Update: Fri Nov 11 09:01:47 2016
Operator: LLH

#	Name	L1	L2	L3	L4	L5	L6
1)	BROMOCHLOROMETHANE	551591	543180	542855	540751	530653	520709
2)	Propene	15941	33846	77589	151755	226789	296656
3)	Dichlorodifluoromethane	78588	174083	392982	749180	1096870	1433000
4)	1,2-Dichlorotetrafluoroethane	80403	174634	388737	731804	1071844	1390193
5)	Chloromethane	20327	43322	93722	177846	258443	339354
6)	Vinyl chloride	17659	37039	80200	154881	231173	305951
7)	1,3-Butadiene	12062	25295	56618	109870	163977	219572
8)	Bromomethane	19695	41316	88419	168102	247997	324706
9)	Chloroethane	8304	17499	38472	71805	106032	139833
10)	Bromoethene	27153	54543	123872	249132	380446	509258
11)	Trichlorofluoromethane	80051	169256	372547	701186	1033083	1357737
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	58508	124888	276244	523073	774370	1019824
13)	1,1-Dichloroethene	32747	71780	173124	356291	548843	731657
14)	Acetone	30254	64360	167177	326178	501743	671807
15)	Carbon disulfide	76879	178286	399493	759818	1120958	1466561
16)	2-Propanol	23268	24320	63463	125590	211583	291127
17)	Allyl chloride	19003	43586	110497	234272	359881	482560
18)	Dichloromethane	30548	60484	125562	234728	341931	447780
19)	tert-Butyl methyl ether (MTBE)	46342	98092	317749	667985	1056274	1447873
20)	trans-1,2-Dichloroethene	35871	82288	190866	366117	538295	697686
21)	Hexane	27006	64807	170118	354614	535920	716702
22)	1,1-Dichloroethane	45345	98563	225207	431723	644988	850656
23)	Vinyl acetate	25604	20133	61486	145652	242366	344972
24)	cis-1,2-Dichloroethene	25258	57567	146236	306624	467890	627516
25)	2-Butanone (MEK)	10791	22125	64819	121316	189233	250611
26)	Ethyl acetate	6986	14777	41376	78324	118575	157596
27)	Tetrahydrofuran	19566	37727	103718	197315	304859	407504
28)	Chloroform	62459	136067	309266	588029	863418	1125432
29)	Cyclohexane	30155	69736	182320	370404	555886	730331
30)	1,1,1-Trichloroethane	65423	146072	332912	634287	935493	1228407
31)	Carbon tetrachloride	69200	151229	343853	655304	973256	1282998
32)	1,4-DIFLUOROBENZENE	2407607	2370919	2352297	2356389	2342805	2327264
33)	Benzene	87235	200696	462552	867805	1257834	1625111
34)	2,2,4-Trimethylpentane	85530	211465	575290	1160349	1723791	2258592
35)	1,2-Dichloroethane	37494	85326	198581	382654	562882	737845
36)	Heptane	27068	68646	183530	370887	547603	714606
37)	Trichloroethene	35602	79814	202465	407346	616269	821310
38)	1,2-Dichloropropane	24161	55668	138608	273449	405667	532825
39)	1,4-Dioxane	14327	29027	79858	150603	239893	311348
40)	Bromodichloromethane	65388	139951	338507	657919	976857	1284505
41)	cis-1,3-Dichloropropene	29932	73763	218000	465073	712829	949585
42)	4-Methyl-2-pentanone (MIBK)	43592	90194	240092	448716	693593	904189

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43)	CHLOROBENZENE-d5	1941562	1922326	1934065	1915969	1888833	1901539
44)	Toluene	73188	187924	530966	1070275	1594708	2089177
45)	trans-1,3-Dichloropropene	28009	70999	214771	451673	692983	927420
46)	1,1,2-Trichloroethane	32896	74431	193285	376501	557221	730198
47)	Tetrachloroethene	48844	114439	310089	615396	924660	1227776
48)	2-Hexanone	37783	76852	205461	380728	597282	780581
49)	Chlorodibromomethane	62487	139247	366499	722076	1086052	1435155
50)	1,2-Dibromoethane (EDB)	45439	107108	284031	561282	840537	1108576
51)	Chlorobenzene	78866	177925	465986	893406	1322353	1727371
52)	Ethylbenzene	102206	249420	718520	1419408	2110142	2760611
53)	m&p-Xylene	162801	407996	1135613	2188634	3182030	4100167
54)	o-Xylene	72068	187172	562649	1126561	1674166	2187859
55)	Styrene	62032	157029	453615	890137	1315728	1712909
56)	Bromoform	64593	143083	390623	774061	1165998	1547940
57)	1,1,2,2-Tetrachloroethane	86643	174782	430551	786858	1154150	1495062
58)	4-Ethyltoluene	132528	300481	849882	1672025	2507417	3268622
59)	1,3,5-Trimethylbenzene	109779	263585	709425	1365443	2037447	2642554
60)	1,2,4-Trimethylbenzene	101115	247493	694675	1356286	2040137	2658977
61)	1,3-Dichlorobenzene	91193	191641	497765	956206	1441137	1891395
62)	1,4-Dichlorobenzene	85037	181508	483109	924223	1391759	1830727
63)	Benzyl chloride	88367	207253	570025	1113875	1710380	2251320
64)	1,2-Dichlorobenzene	96758	200574	499056	931609	1406693	1841276
65)	1,2,4-Trichlorobenzene	78448	149589	391181	767278	1225300	1646304
66)	Hexachlorobutadiene	101866	201691	474871	872649	1361955	1794148

CHEMSTATION VS LIMS CONCENTRATION REPORT

Instrument Name: AG5973N
Sample Name: S16K057-SCV1
Misc Info: 10ppbv 1646109
Date Acquired: 11/11/2016 1:39
QLast Update: Fri Nov 11 09:01:47 201
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: AG5973N
Sample Name: S16K057-SCV1
Misc Info: 10ppbv 1646109
Date Acquired: 11/11/2016 1:39
QLast Update: Fri Nov 11 09:01:47 20
Operator: LLH

			L1	L2	L3	L4	L5	L6
#	Name	Amount	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	0.0194	0.97	1.94	4.85	9.70	14.55	19.40
4)	1,2-Dichlorotetrafluoroethane	0.02	1.00	2.00	5.00	10.00	15.00	20.00
5)	Chloromethane	0.0212	1.06	2.12	5.30	10.60	15.90	21.20
6)	Vinyl chloride	0.0208	1.04	2.08	5.20	10.40	15.60	20.80
7)	1,3-Butadiene	0.021	1.05	2.10	5.25	10.50	15.75	21.00
8)	Bromomethane	0.02	1.00	2.00	5.00	10.00	15.00	20.00
9)	Chloroethane	0.02	1.00	2.00	5.00	10.00	15.00	20.00
10)	Bromoethene	0.0212	1.06	2.12	5.30	10.60	15.90	21.20
11)	Trichlorofluoromethane	0.0196	0.98	1.96	4.90	9.80	14.70	19.60
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	0.0204	1.02	2.04	5.10	10.20	15.30	20.40
13)	1,1-Dichloroethene	0.0208	1.04	2.08	5.20	10.40	15.60	20.80
14)	Acetone	0.022	1.10	2.20	5.50	11.00	16.50	22.00
15)	Carbon disulfide	0.021	1.05	2.10	5.25	10.50	15.75	21.00
16)	2-Propanol	0.0184	0.92	1.84	4.60	9.20	13.80	18.40
17)	Allyl chloride	0.022	1.10	2.20	5.50	11.00	16.50	22.00
18)	Dichloromethane	0.0202	1.01	2.02	5.05	10.10	15.15	20.20
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	0.022	1.10	2.20	5.50	11.00	16.50	22.00
21)	Hexane	0.0208	1.04	2.08	5.20	10.40	15.60	20.80
22)	1,1-Dichloroethane	0.02	1.00	2.00	5.00	10.00	15.00	20.00
23)	Vinyl acetate	0.0206	1.03	2.06	5.15	10.30	15.45	20.60
24)	cis-1,2-Dichloroethene	0.0208	1.04	2.08	5.20	10.40	15.60	20.80
25)	2-Butanone (MEK)	0.021	1.05	2.10	5.25	10.50	15.75	21.00
26)	Ethyl acetate	0.021	1.05	2.10	5.25	10.50	15.75	21.00
27)	Tetrahydrofuran	0.0204	1.02	2.04	5.10	10.20	15.30	20.40
28)	Chloroform	0.0202	1.01	2.02	5.05	10.10	15.15	20.20
29)	Cyclohexane	0.0212	1.06	2.12	5.30	10.60	15.90	21.20
30)	1,1,1-Trichloroethane	0.0196	0.98	1.96	4.90	9.80	14.70	19.60
31)	Carbon tetrachloride	0.0194	0.97	1.94	4.85	9.70	14.55	19.40
32)	1,4-DIFLUOROBENZENE	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
33)	Benzene	0.0206	1.03	2.06	5.15	10.30	15.45	20.60
34)	2,2,4-Trimethylpentane	0.021	1.05	2.10	5.25	10.50	15.75	21.00
35)	1,2-Dichloroethane	0.02	1.00	2.00	5.00	10.00	15.00	20.00
36)	Heptane	0.0212	1.06	2.12	5.30	10.60	15.90	21.20
37)	Trichloroethene	0.0216	1.08	2.16	5.40	10.80	16.20	21.60
38)	1,2-Dichloropropane	0.0206	1.03	2.06	5.15	10.30	15.45	20.60
39)	1,4-Dioxane	0.0206	1.03	2.06	5.15	10.30	15.45	20.60
40)	Bromodichloromethane	0.0212	1.06	2.12	5.30	10.60	15.90	21.20
41)	cis-1,3-Dichloropropene	0.0216	1.08	2.16	5.40	10.80	16.20	21.60
42)	4-Methyl-2-pentanone (MIBK)	0.0208	1.04	2.08	5.20	10.40	15.60	20.80
43)	CHLOROBENZENE-d5	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
44)	Toluene	0.021	1.05	2.10	5.25	10.50	15.75	21.00
45)	trans-1,3-Dichloropropene	0.0212	1.06	2.12	5.30	10.60	15.90	21.20
46)	1,1,2-Trichloroethane	0.0212	1.06	2.12	5.30	10.60	15.90	21.20
47)	Tetrachloroethene	0.0212	1.06	2.12	5.30	10.60	15.90	21.20
48)	2-Hexanone	0.0202	1.01	2.02	5.05	10.10	15.15	20.20
49)	Chlorodibromomethane	0.0212	1.06	2.12	5.30	10.60	15.90	21.20

50)	1,2-Dibromoethane (EDB)	0.0218	1.09	2.18	5.45	10.90	16.35	21.80
51)	Chlorobenzene	0.0214	1.07	2.14	5.35	10.70	16.05	21.40
52)	Ethylbenzene	0.021	1.05	2.10	5.25	10.50	15.75	21.00
53)	m&p-Xylene	0.0424	2.12	4.24	10.60	21.20	31.80	42.40
54)	o-Xylene	0.021	1.05	2.10	5.25	10.50	15.75	21.00
55)	Styrene	0.0206	1.03	2.06	5.15	10.30	15.45	20.60
56)	Bromoform	0.0212	1.06	2.12	5.30	10.60	15.90	21.20
57)	1,1,2,2-Tetrachloroethane	0.0208	1.04	2.08	5.20	10.40	15.60	20.80
58)	4-Ethyltoluene	0.0204	1.02	2.04	5.10	10.20	15.30	20.40
59)	1,3,5-Trimethylbenzene	0.0214	1.07	2.14	5.35	10.70	16.05	21.40
60)	1,2,4-Trimethylbenzene	0.0212	1.06	2.12	5.30	10.60	15.90	21.20
61)	1,3-Dichlorobenzene	0.021	1.05	2.10	5.25	10.50	15.75	21.00
62)	1,4-Dichlorobenzene	0.021	1.05	2.10	5.25	10.50	15.75	21.00
63)	Benzyl chloride	0.0214	1.07	2.14	5.35	10.70	16.05	21.40
64)	1,2-Dichlorobenzene	0.0208	1.04	2.08	5.20	10.40	15.60	20.80
65)	1,2,4-Trichlorobenzene	0.0208	1.04	2.08	5.20	10.40	15.60	20.80
66)	Hexachlorobutadiene	0.0206	1.03	2.06	5.15	10.30	15.45	20.60

U.S. EPA Region 9 Laboratory

Discrepancy #: D15-011

Form Initiator: Estrellita Manuel **Entry Date:** 2/24/2015

Case:	Project:	SDG:
All Cases	NA	NA

SOP:	Analysis:	Rev.:	Analyst:	Date:
311	VOCs in Soil Gas	3	All Analysts	2/20/2015
SOP:	**Prep:**	**Rev.:**	**Analyst:**	**Date:**

Discrepancy Type (check all that apply):

LCS:

- ☐ High
- ☐ Low
- ☐ Frequency

MS/MSD:

- ☐ High
- ☐ Low
- ☐ RPD
- ☐ Frequency

Holding Time:

- ☐ Prep/extract
- ☐ Analysis

Blank:

- ☐ MB
- ☐ IB
- ☐ CB
- ☐ Frequency

Surrogate:

- ☐ High
- ☐ Low
- ☐ Frequency

Calibration:

- ☐ ICAL
- ☐ SVC
- ☐ CCAL
- ☐ QLS
- ☐ Frequency

Other:

- ☑ Other (describe)

Contaminated internal standards

Describe Discrepancy:

Restek internal standard (IS) stock mixes 1506025 and 1508151 have 0.5 ppbv of dichloromethane (DCM). The observed concentration is 1/2 of the reporting limit. Depending on the experimental error in calculating DCM concentration, the value may fall just above or just below the reportable concentration limit. The issue does not impact the SIM analysis since the internal standard used for the SIM analysis is at lower concentration and therefore the DCM is diluted to about 10 pptv which is below the SIM reporting limit of 50 pptv.

Describe Corrective Actions:

ESAT chemists notified Restek about the internal standards contamination issue (Restek Reference # 039048). The laboratory is currently working with Restek on the issue and on obtaining replacement cylinders. The laboratory will continue to use the contaminated stock until replacements are obtained. Dichloromethane below 2.5 ppbv (5X the observed IS concentration) will be flagged B to reflect the IS contamination issue. A copy of this discrepancy will be included in all cases where the contaminated internal standards were utilized.

U.S. EPA Region 9 Laboratory

Discrepancy #: D15-011

Approvals:

Supervisor (EPA or ESAT): Ziyad Rajabi	Date: 3/2/2015
EPA Team Leader or ESAT QA/QC: Adriane Scheele	Date: 3/3/2015
EPA Lab QAO: Lucrina Jones	Date: 3/3/2015
Check if Corrective Action Form Generated: ☐	Form #:

QAO Comments:

SEQUENCE

S16K057

ANALYST / REVIEWER - DATA REVIEW CHECKLIST

BATCH #:	N / A	SEQUENCE #:		S16K057	11/10/16
BATCH #:	INITIAL CALIBRATION	ANALYSIS:		TO15	AG5973N

	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.	11/10/16 Fri Nov 11, 2016 09:01:47			ICAL = Vinyl Acetate SCV = 2-Propanol; MTBE; Vinyl acetate
	Initial Calibration ID (LIMS number):	1611007			
	ICAL within QC criteria?	☐	Y	Y	Vinyl acetate = 32.79 %RSD
	SCV within QC criteria?	☐	Y	Y	2-Propanol = 185%; MTBE = 135%; Vinyl acetate = 300 %
INSTRUMENT / QC CHECKS	Tune or degradation checks within QC criteria?	☐	Y	Y	
	CCV(s) within QC criteria?	☑			
	QLS(s) within QC criteria?	☑			
	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 #:	S16K057	11/10/16
BATCH #:	INITIAL CALIBRATION	ANALYSIS:	TO15	AG5973N

	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 11/11/16
	REVIEWED BY:	Ziyad Rajabi (affiliate) Digitally signed by Ziyad Rajabi (affiliate) Date: 2016.11.18 12:01:06 -08'00' SIGN HERE

COMMENTS

** see Discrepancy Rpt # D15-011 for Dichloromethane contamination in the Internal Std. LLH 11/11/16

Second source does not match calibration standard possibly due to degradation of calibration standard. The calibration standards will be re-prepared. The failing compounds are not target for the current project. ZAR 11-18-16

Injection Log

Directory: d:\msdchem\1\2016\data\111016_FSAAA

Table of Contents

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	31	111016NA01.D	1.	PRIME		10 Nov 2016 17:43
2	32	111016NA02.D	1.	PRIME		10 Nov 2016 18:31
3	34	111016NA03.D	1.	PRIME		10 Nov 2016 19:21
4	31	111016NA04.D	1.	S16K057-TUN1	BFB 1637033	10 Nov 2016 20:08
5	31	111016NA05.D	1.	S16K057-CAL1	1.0ppbv 1646102	10 Nov 2016 20:53
6	32	111016NA06.D	1.	S16K057-CAL2	2.0ppbv 1646103	10 Nov 2016 21:39
7	32	111016NA07.D	1.	S16K057-CAL3	5.0ppbv 1646104	10 Nov 2016 22:25
8	32	111016NA08.D	1.	S16K057-CAL4	10ppbv 1646105	10 Nov 2016 23:12
9	32	111016NA09.D	1.	S16K057-CAL5	15ppbv 1646106	11 Nov 2016 00:00
10	32	111016NA10.D	1.	S16K057-CAL6	20ppbv 1646107	11 Nov 2016 00:50
11	34	111016NA11.D	1.	S16K057-SCV1	10ppbv 1646109	11 Nov 2016 01:39
12	34	111016NA12.D	1.	S16K057SCV1	10ppbv 1646109	11 Nov 2016 02:28
13	33	111016NA13.D	1.	IB	200ml BLANK	11 Nov 2016 03:17

GC/MS QA-QC Check Report

Table of Contents

Tune File : D:\msdchem\1\2016\data\111016_FSAAA\111016NA04.D
Tune Time : 10 Nov 2016 8:08 pm

Daily Calibration File : D:\msdchem\1\2016\data\111016_FSAAA\111016NA08.D

File	Sample	Surrogate Recovery %		Internal Standard Responses	
		540751	2356390	1915970	
111016NA05.D					
	S16K057-CAL1	551591	2407607	1941562	
111016NA06.D					
	S16K057-CAL2	543180	2370919	1922326	
111016NA07.D					
	S16K057-CAL3	542855	2352297	1934065	
111016NA08.D					
	S16K057-CAL4	540751	2356389	1915969	
111016NA09.D					
	S16K057-CAL5	530653	2342805	1888833	
111016NA10.D					
	S16K057-CAL6	520709	2327264	1901539	
111016NA11.D					
	S16K057-SCV1	519277	2342125	1936133	
111016NA12.D					
	S16K057SCV1	510754	2331695	1893681	NOT USED
111016NA13.D					
	IB	495523	2315016	1867024	

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

Created: Fri Nov 11 09:13:25 2016 AG5973N

----------SEQUENCE TABLE ----------

Sequence Name: D:\smart\2016\111016N_FSAAA.SEQ
Date: 11-11-2016
Time: 08:34:02
Int. Std Volume: 40 cc

Sample Name	Inlet #	Auto Samp Pos	Cal Vol.	Std Vol.	Method	Time
PRIME	3	1	100	40	D:\Smart\TO15.CTD	12:00
PRIME	3	2	100	40	D:\Smart\TO15.CTD	12:00
PRIME	3	4	200	40	D:\Smart\TO15.CTD	12:00
BFB	3	1	50	40	D:\Smart\TO15.CTD	12:00
CAL1 1.0ppbv	3	1	20		D:\Smart\TO15.CTD	12:00
CAL2 2.0ppbv	3	2	20		D:\Smart\TO15.CTD	12:00
CAL3 5.0ppbv	3	2	50		D:\Smart\TO15.CTD	12:00
CAL4 10ppbv	3	2	100		D:\Smart\TO15.CTD	12:00
CAL5 15ppbv	3	2	150		D:\Smart\TO15.CTD	12:00
CAL6 20ppbv	3	2	200		D:\Smart\TO15.CTD	12:00
SCV1 10ppbv	3	4	200		D:\Smart\TO15.CTD	12:00
SCV1 10ppbv	3	4	200		D:\Smart\TO15.CTD	12:00
IB	3	3	200		D:\Smart\TO15.CTD	12:00

Analysis Sequence

S16K057

Project:
Analysis:

Instrument: AG5973N **Calibration ID:** 1611007 Printed: 11/11/2016 9:46 am

Lab Number	Sample Name	Order	Analyzed Date	STD ID	ISTD ID	Sequenced By	File ID	Comments
S16K057-TUN1	MS Tune	1	11/10/16 20:08	1511076		LLH	111016NA04.D	
S16K057-CAL1	Cal Std TO15	2	11/10/16 20:53	1646102		LLH	111016NA05.D	
S16K057-CAL2	Cal Std TO15	3	11/10/16 21:39	1646103		LLH	111016NA06.D	
S16K057-CAL3	Cal Std TO15	4	11/10/16 22:25	1646104		LLH	111016NA07.D	
S16K057-CAL4	Cal Std TO15	5	11/10/16 23:12	1646105		LLH	111016NA08.D	
S16K057-CAL5	Cal Std TO15	6	11/11/16 0:00	1646106		LLH	111016NA09.D	
S16K057-CAL6	Cal Std TO15	7	11/11/16 0:50	1646107		LLH	111016NA10.D	
S16K057-SCV1	SCV TO15	8	11/11/16 1:39	1646109		LLH	111016NA11.D	

Sequence Comments

Reagents

Reagent #	Description

SEQUENCE DATA

S16K057

S16K057-TUN1

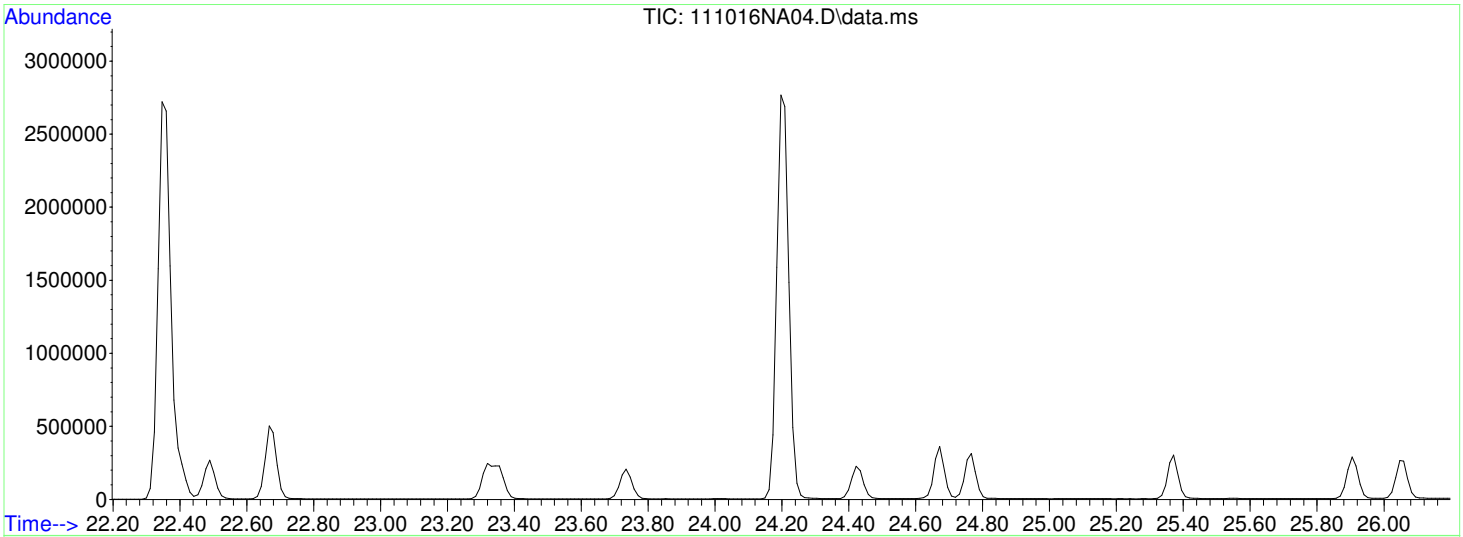
Table of Contents

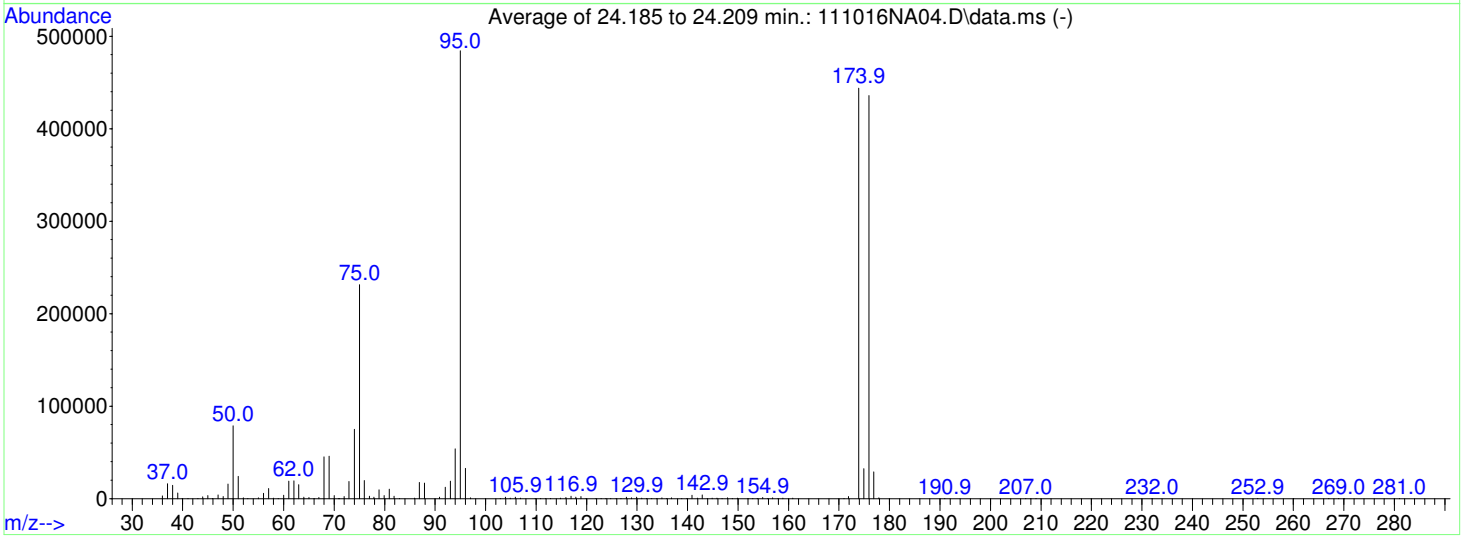
Data Path : D:\msdchem\1\2016\data\111016_FSAAA\
Data File : 111016NA04.D
Acq On : 10 Nov 2016 8:08 pm
InstName : AG5973N
Operator : LLH
Sample : S16K057-TUN1
Misc : BFB 1637033
ALS Vial : 31 Sample Multiplier: 1

REVIEWED
By LLH at 9:35 am, Nov 11, 2016

Integration File: rteint.p

Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Title : TO15
Last Update : Fri Nov 11 08:42:48 2016





AutoFind: Scans 1738, 1739, 1740; Background Corrected with Scan 1731

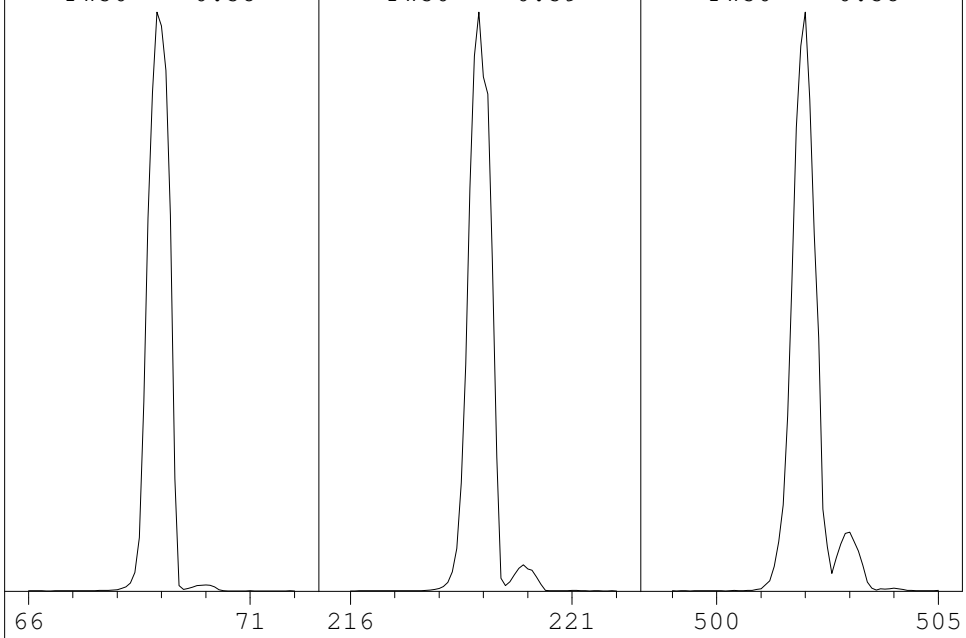
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	16.3	78792	PASS
75	95	30	66	47.7	231168	PASS
95	95	100	100	100.0	484459	PASS
96	95	5	9	6.8	32840	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	91.6	443947	PASS
175	174	4	9	7.3	32325	PASS
176	174	93	101	98.2	435904	PASS
177	176	5	9	6.7	29069	PASS

Autotune

Thu Nov 10 17:20:29 2016 Instrum

C:\MSDCHEM\1\5973N\atune.u US43120931

Mass	68.90	Mass	218.90	Mass	502.00
Ab	460044	Ab	226225	Ab	21729
Pw50	0.58	Pw50	0.59	Pw50	0.58

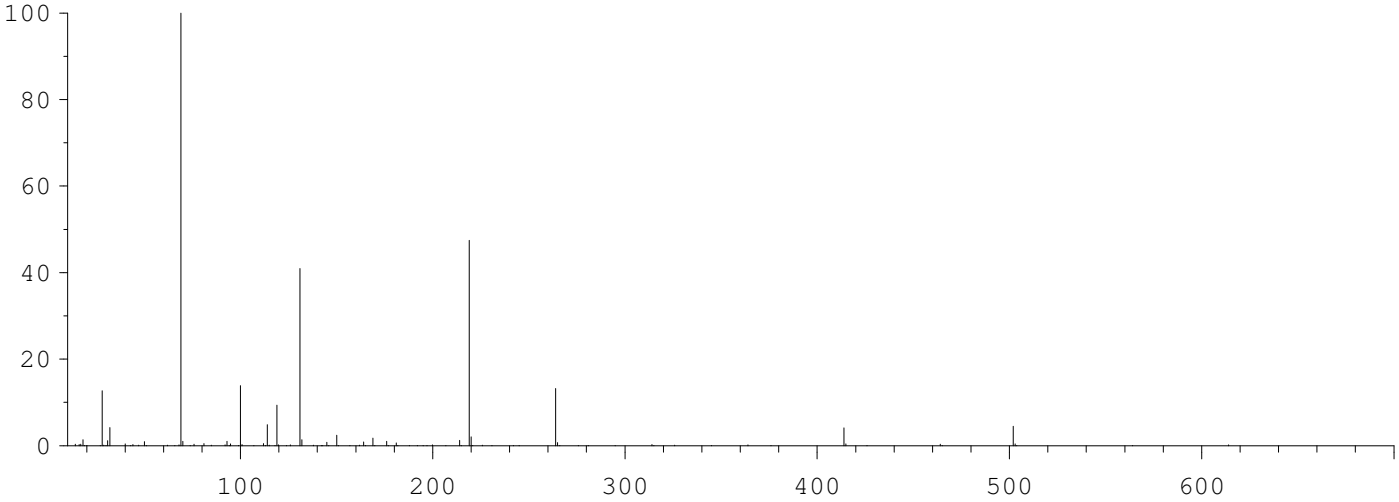


Ion Pol	Pos	MassGain	151
		MassOffs	-11
Emission	34.6	AmuGain	2546
EIEnrgy	69.9	AmuOffs	131
Filament	1	Wid219	-0.032
		DC Pol	Pos
Repeller	34.81		
IonFcus	90.2	HEDEnab	On
EntLens	12.0	EMVolts	1106
EntOffs	21.33		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	Turbo Speed	100
MS Quad	150		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
100 peaks Base: 69.00 Abundance: 445568



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	445568	100.00	70.00	4564	1.02
219.00	211392	47.44	220.00	9085	4.30
502.00	19848	4.45	503.00	1803	9.08

Air/Water Check: H20~1.40% N2~12.68% O2~4.18% CO2~0.27% N2/H2O~908.48%

Column(1) Flow: 1.499 Column(2): 0 ml/min. Interface Temp: 230

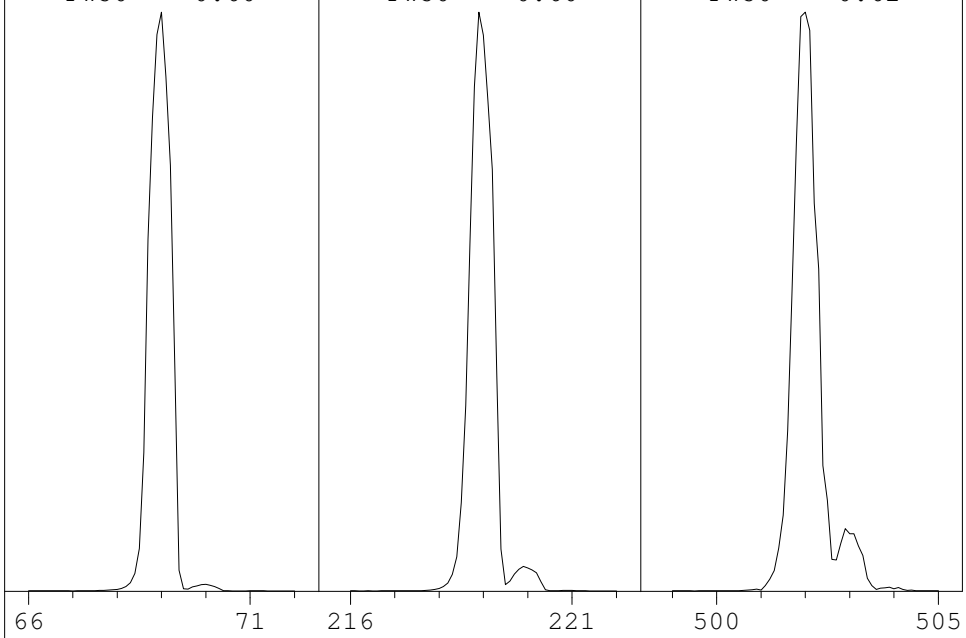
Ramp Criteria:
Ion Focus Maximum 90 volts using ion 219; EM Gain 88065
Repeller Maximum 35 volts using ion 502; Gain Factor 0.88

MassGain Values(Samples): 150(3) 164(2) 171(1) 199(0) 207(FS)

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	131.0	131.0	131.0	131.0	131.0	131.0	131.0
Entrance Lens Offset:	21.3	21.3	21.3	21.3	21.3	21.3	21.3

Thu Nov 10 17:23:22 2016 Instrum
C:\msdchem\1\5973N\bfb0111016A.u US43120931

Mass	69.00	Mass	218.90	Mass	502.00
Ab	428763	Ab	292815	Ab	29206
Pw50	0.60	Pw50	0.60	Pw50	0.62

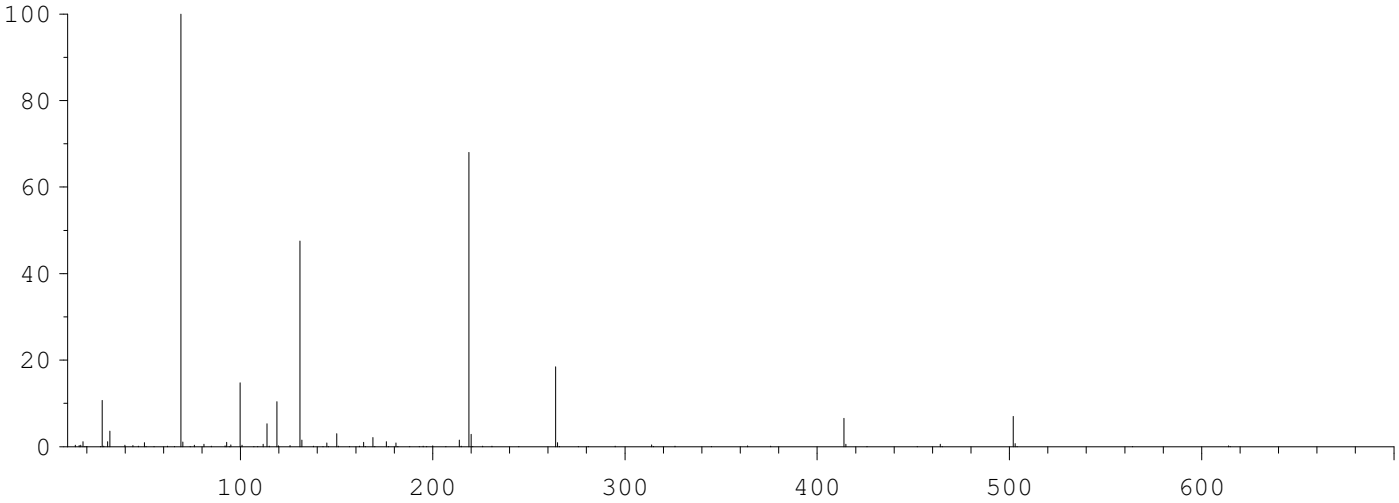


Ion Pol	Pos	MassGain	151
		MassOffs	-11
Emission	34.6	AmuGain	2546
EIEnrgy	69.9	AmuOffs	131
Filament	1	Wid219	-0.032
		DC Pol	Pos
Repeller	38.16		
IonFcus	90.2	HEDEnab	On
EntLens	12.0	EMVolts	1094
EntOffs	21.33		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	Turbo Speed	100
MS Quad	150		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
95 peaks Base: 69.00 Abundance: 401728



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	401728	100.00	70.00	4383	1.09
218.90	273152	67.99	220.00	11426	4.18
502.00	28064	6.99	503.00	2746	9.78

Air/Water Check: H20~1.16% N2~10.72% O2~3.62% CO2~0.26% N2/H2O~920.91%

Column(1) Flow: 1.499 Column(2): 0 ml/min. Interface Temp: 230

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 219; EM Gain 78049
Repeller Maximum 35 volts using ion 502; Gain Factor 0.78

MassGain Values(Samples): 150(3) 164(2) 171(1) 199(0) 207(FS)

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	131.0	131.0	131.0	131.0	131.0	131.0	131.0
Entrance Lens Offset:	21.3	21.3	21.3	21.3	21.3	21.3	21.3

S16K057-CAL1

Data Path : D:\msdchem\1\2016\data\111016_FSAAA\
Data File : 111016NA05.D
Acq On : 10 Nov 2016 8:53 pm
InstName : AG5973N
Operator : LLH
Sample : S16K057-CAL1
Misc : 1.0ppbv 1646102
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Nov 11 08:44:20 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 08:42:48 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	551591	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	2407607	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1941562	22.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.452	41	15941	1.02	ppbv	98
3) Dichlorodifluoromethane	4.547	85	78588	1.24	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.903	85	80403	1.30	ppbv	99
5) Chloromethane	5.105	50	20327	1.11	ppbv	98
6) Vinyl chloride	5.425	62	17659	0.98	ppbv	100
7) 1,3-Butadiene	5.520	54	12062	0.94	ppbv	99
8) Bromomethane	6.457	94	19695	1.11	ppbv	97
9) Chloroethane	6.777	64	8304	1.01	ppbv	100
10) Bromoethene	7.358	106	27153	1.42	ppbv	99
11) Trichlorofluoromethane	7.500	101	80051	1.43	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.326	151	58508	1.57	ppbv	99
13) 1,1-Dichloroethene	9.409	61	32747	0.99	ppbv	99
14) Acetone	9.955	43	30254	1.00	ppbv	99
15) Carbon disulfide	10.133	76	76879	1.35	ppbv	100
16) 2-Propanol	10.560	45	23268	0.69	ppbv	81
17) Allyl chloride	10.951	41	19003	0.77	ppbv	99
18) Dichloromethane	11.473	49	30548	1.20	ppbv	98
19) tert-Butyl methyl ethe...	12.161	73	46342	0.74	ppbv	97
20) trans-1,2-Dichloroethene	12.184	61	35871	1.19	ppbv	100
21) Hexane	12.777	57	27006	0.74	ppbv	90
22) 1,1-Dichloroethane	13.512	63	45345	1.09	ppbv	100
23) Vinyl acetate	13.655	43	25604	0.53	ppbv	99
24) cis-1,2-Dichloroethene	14.947	61	25258	0.86	ppbv	100
25) 2-Butanone (MEK)	15.042	72	10791	0.94	ppbv #	100
26) Ethyl acetate	15.078	61	6986	0.94	ppbv #	97
27) Tetrahydrofuran	15.493	42	19566	0.80	ppbv	98
28) Chloroform	15.635	83	62459	1.31	ppbv	99
29) Cyclohexane	15.860	56	30155	0.82	ppbv	94
30) 1,1,1-Trichloroethane	15.908	97	65423	1.26	ppbv	98
31) Carbon tetrachloride	16.169	117	69200	1.28	ppbv	100
33) Benzene	16.655	78	87235	0.92	ppbv	99
34) 2,2,4-Trimethylpentane	16.607	57	85530	0.55	ppbv	91
35) 1,2-Dichloroethane	16.845	62	37494	0.90	ppbv	98
36) Heptane	16.987	43	27068	0.51	ppbv	97
37) Trichloroethene	17.876	130	35602	0.92	ppbv	99
38) 1,2-Dichloropropane	18.374	63	24161	0.70	ppbv	96
39) 1,4-Dioxane	18.564	88	14327	0.65	ppbv	95
40) Bromodichloromethane	18.837	83	65388	0.97	ppbv	99
41) cis-1,3-Dichloropropene	19.596	75	29932	0.58	ppbv	99
42) 4-Methyl-2-pentanone (...	19.821	43	43592	0.61	ppbv	95
44) Toluene	20.070	91	73188	0.68	ppbv	98
45) trans-1,3-Dichloropropene	20.544	75	28009	0.60	ppbv	99
46) 1,1,2-Trichloroethane	20.841	97	32896	0.92	ppbv	99
47) Tetrachloroethene	20.936	166	48844	0.93	ppbv	98
48) 2-Hexanone	21.173	43	37783	0.58	ppbv	92
49) Chlorodibromomethane	21.458	129	62487	0.94	ppbv	100
50) 1,2-Dibromoethane (EDB)	21.683	107	45439	0.87	ppbv	99
51) Chlorobenzene	22.394	112	78866	0.95	ppbv	85
52) Ethylbenzene	22.489	91	102206	0.72	ppbv	99
53) m&p-Xylene	22.667	91	162801	1.49	ppbv	99
54) o-Xylene	23.319	91	72068	0.64	ppbv	98

Data Path : D:\msdchem\1\2016\data\111016_FSAAA\
Data File : 111016NA05.D
Acq On : 10 Nov 2016 8:53 pm
InstName : AG5973N
Operator : LLH
Sample : S16K057-CAL1
Misc : 1.0ppbv 1646102
ALS Vial : 31 Sample Multiplier: 1

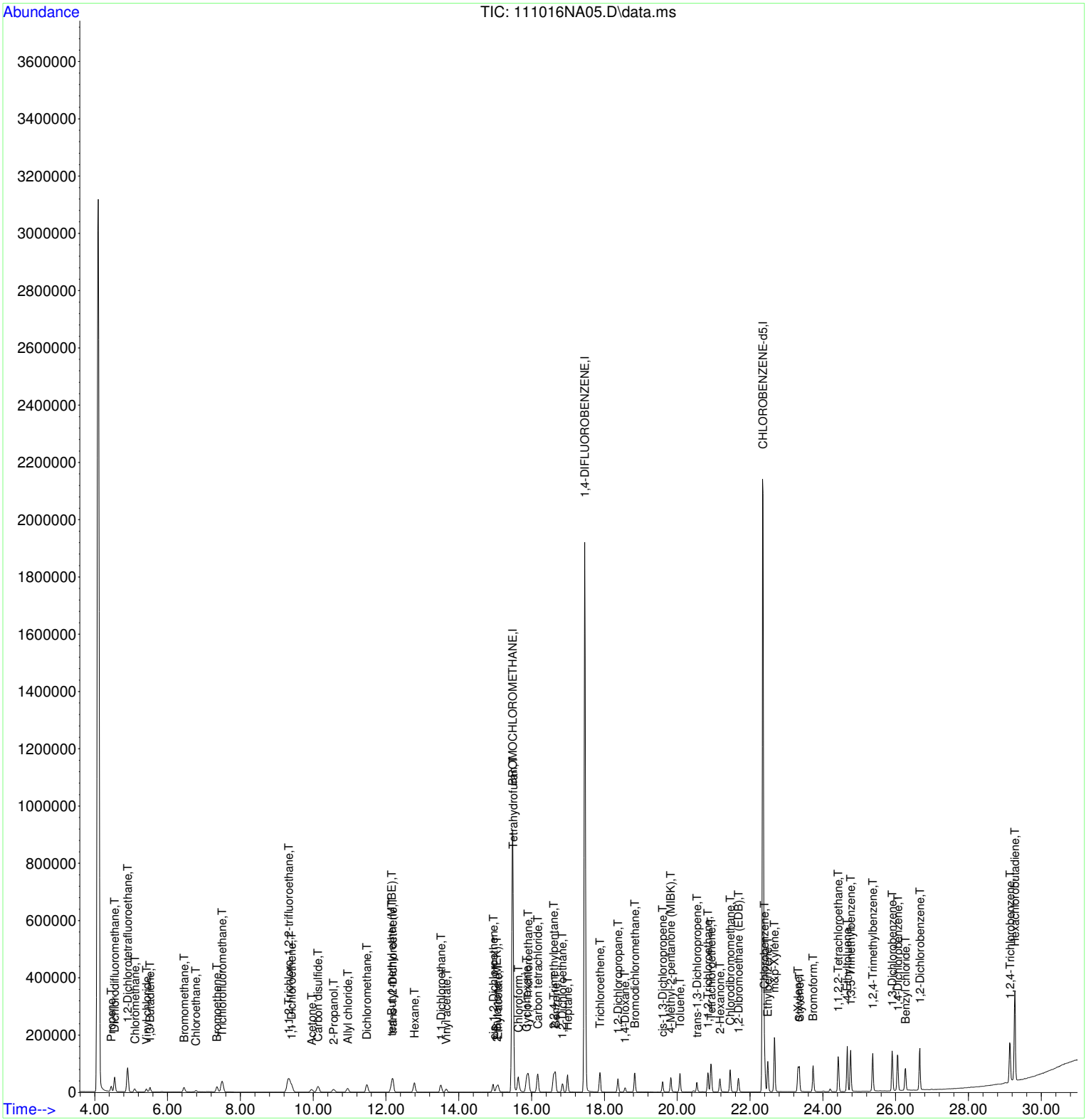
Quant Time: Nov 11 08:44:20 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 08:42:48 2016
Response via : Initial Calibration

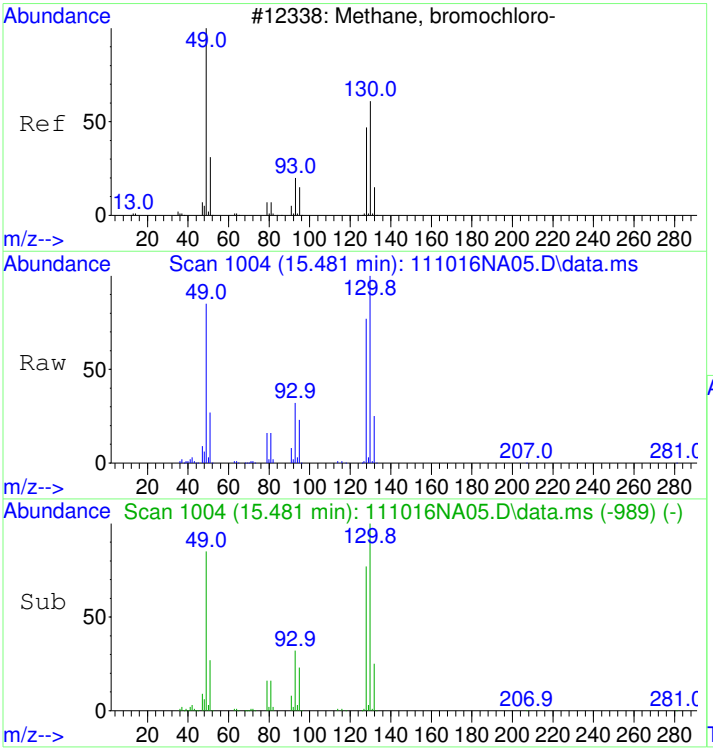
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	Styrene	23.355	104	62032	0.71	ppbv	97
56)	Bromoform	23.734	173	64593	0.96	ppbv	98
57)	1,1,2,2-Tetrachloroethane	24.422	83	86643	1.07	ppbv	99
58)	4-Ethyltoluene	24.671	105	132528	0.74	ppbv	99
59)	1,3,5-Trimethylbenzene	24.766	105	109779	0.83	ppbv	99
60)	1,2,4-Trimethylbenzene	25.371	105	101115	0.75	ppbv	99
61)	1,3-Dichlorobenzene	25.905	146	91193	1.06	ppbv	99
62)	1,4-Dichlorobenzene	26.059	146	85037	1.03	ppbv	98
63)	Benzyl chloride	26.272	91	88367	0.83	ppbv	98
64)	1,2-Dichlorobenzene	26.663	146	96758	1.13	ppbv	100
65)	1,2,4-Trichlorobenzene	29.142	180	78448	1.11	ppbv	99
66)	Hexachlorobutadiene	29.272	225	101866	1.25	ppbv	99

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

Data Path : D:\msdchem\1\2016\data\111016_FSAAA\
Data File : 111016NA05.D
Acq On : 10 Nov 2016 8:53 pm
InstName : AG5973N
Operator : LLH
Sample : S16K057-CAL1
Misc : 1.0ppbv 1646102
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Nov 11 08:44:20 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 08:42:48 2016
Response via : Initial Calibration

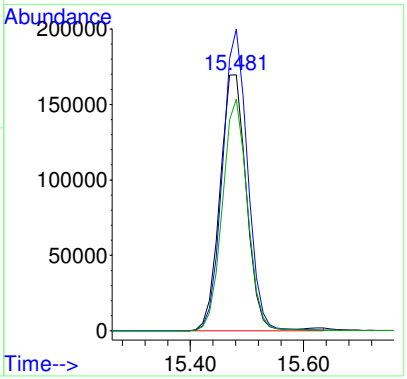


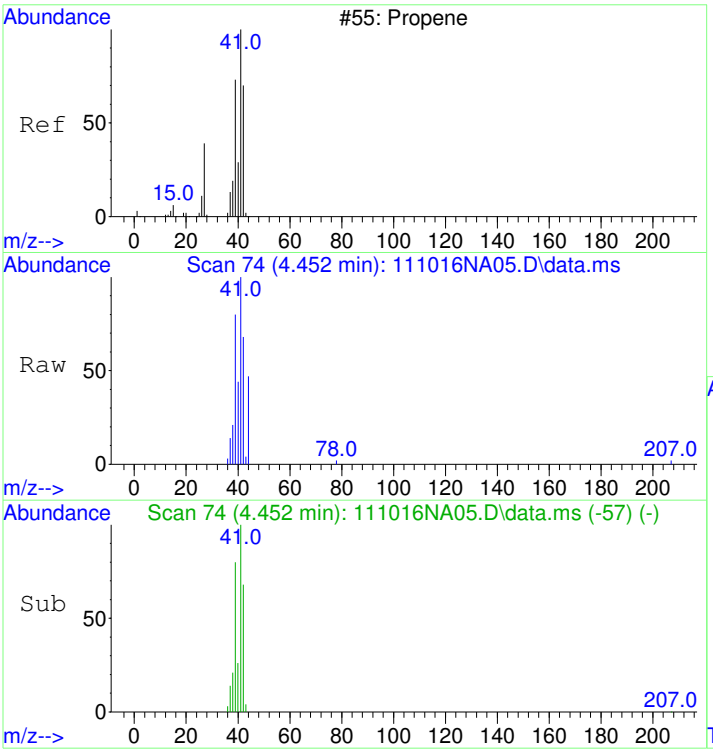


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. -0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 49 Resp: 551591

Ion	Ratio	Lower	Upper
49	100		
130	111.1	93.0	133.0
128	85.6	67.1	107.1

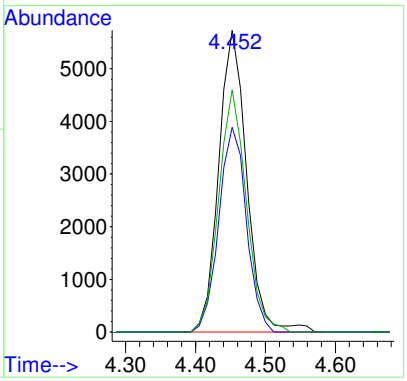


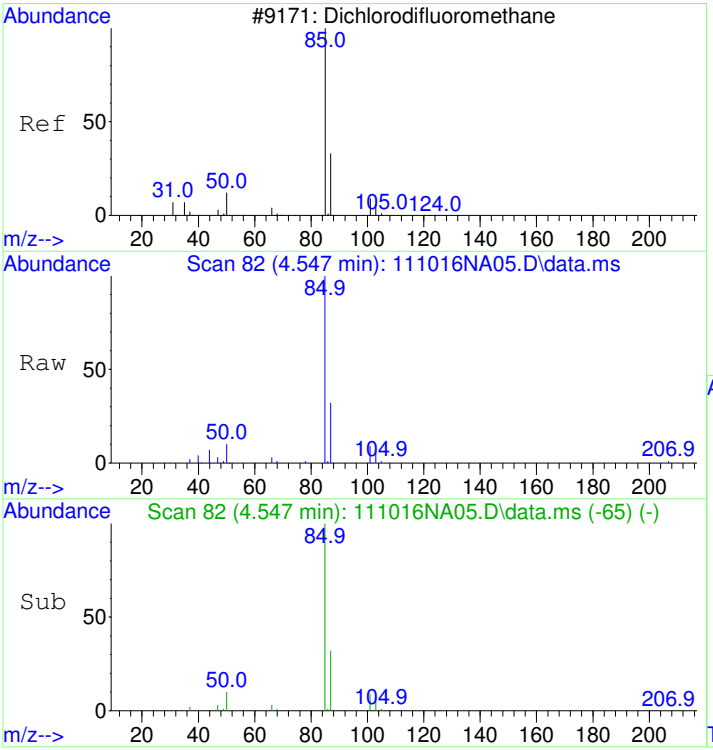


#2
Propene
Concen: 1.02 ppbv
RT: 4.452 min Scan# 74
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 41 Resp: 15941

Ion	Ratio	Lower	Upper
41	100		
42	66.7	46.7	86.7
39	79.4	56.2	96.2

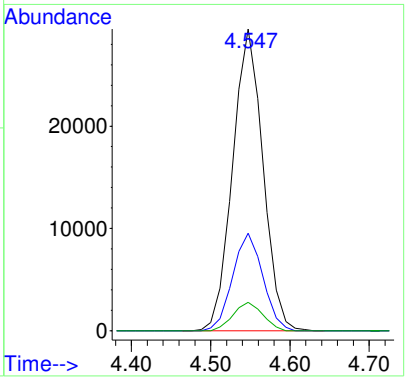


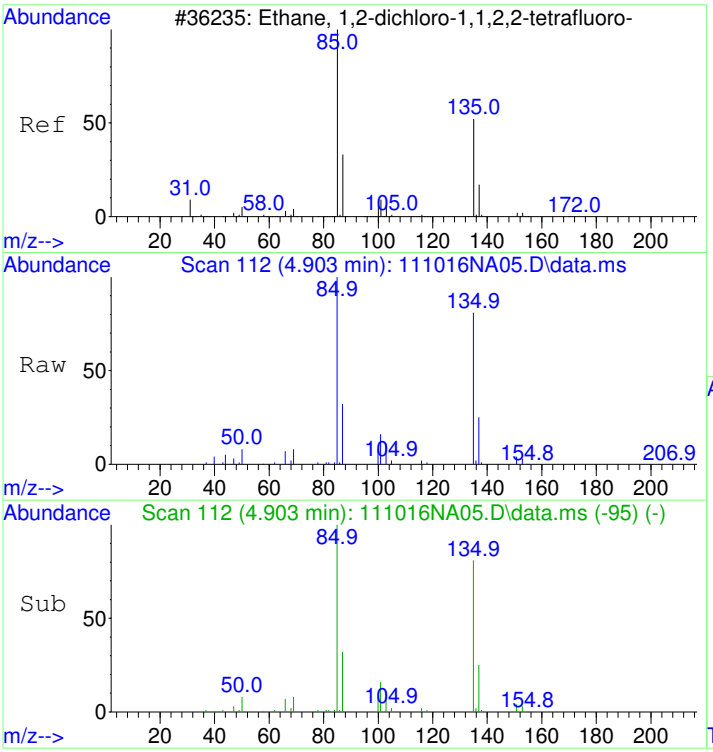


#3
Dichlorodifluoromethane
Concen: 1.24 ppbv
RT: 4.547 min Scan# 82
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 85 Resp: 78588

Ion	Ratio	Lower	Upper
85	100		
87	32.2	12.2	52.2
101	9.3	0.0	28.9

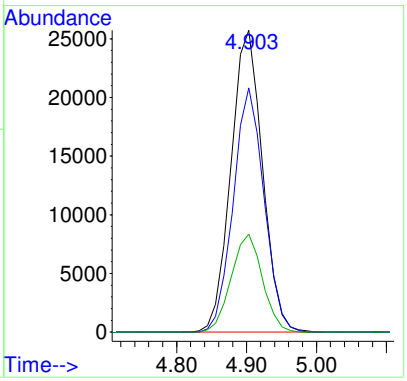


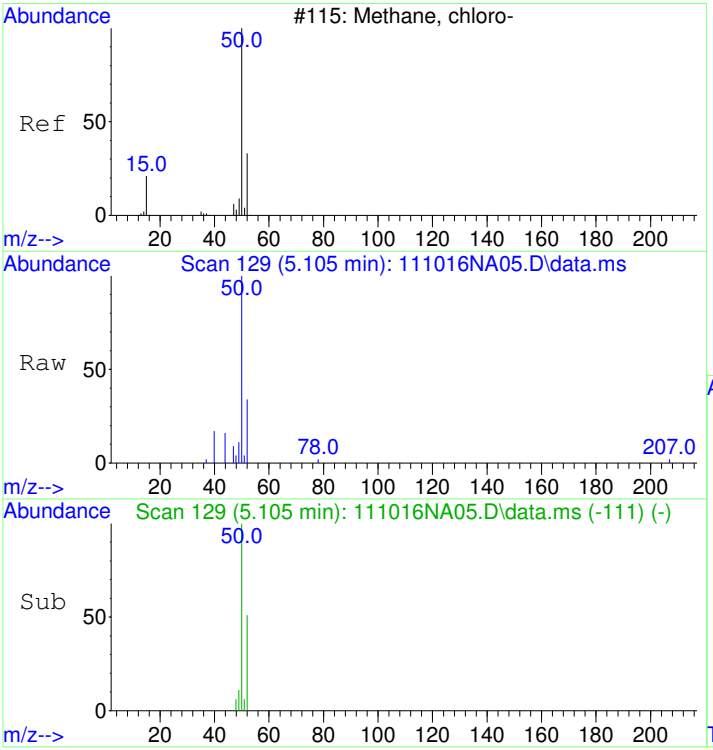


#4
1,2-Dichlorotetrafluoroethane
Concen: 1.30 ppbv
RT: 4.903 min Scan# 112
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 85 Resp: 80403

Ion	Ratio	Lower	Upper
85	100		
135	79.1	60.3	100.3
87	32.0	12.3	52.3

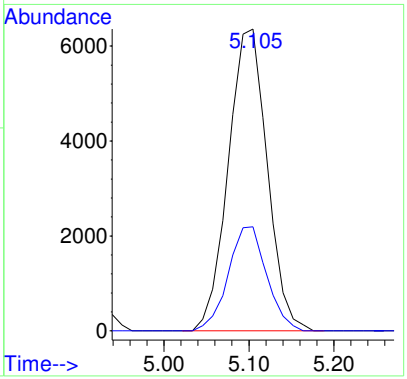


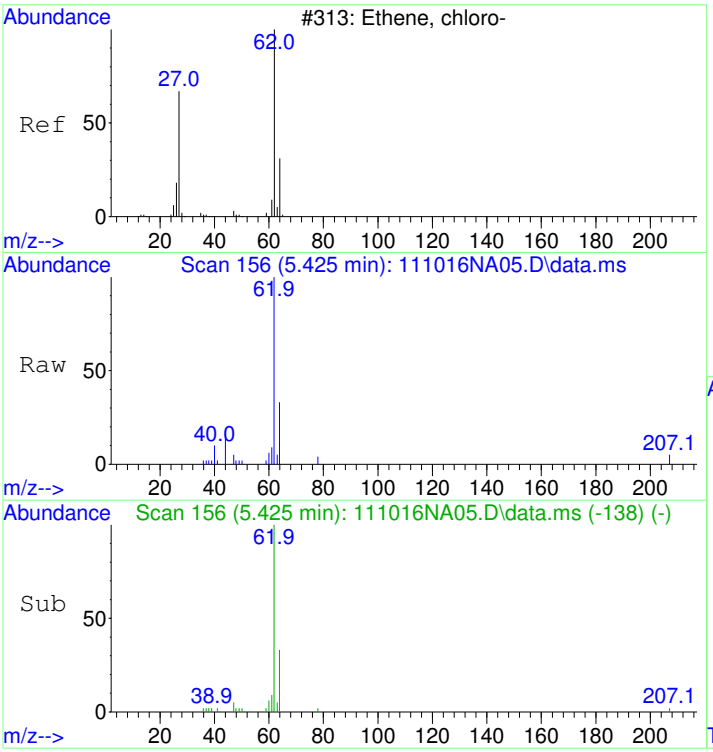


#5
Chloromethane
Concen: 1.11 ppbv
RT: 5.105 min Scan# 129
Delta R.T. 0.012 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 50 Resp: 20327

Ion	Ratio	Lower	Upper
50	100		
52	34.1	13.2	53.2

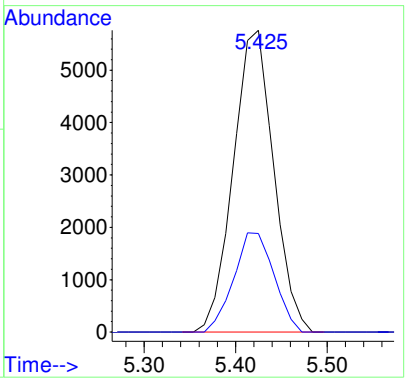


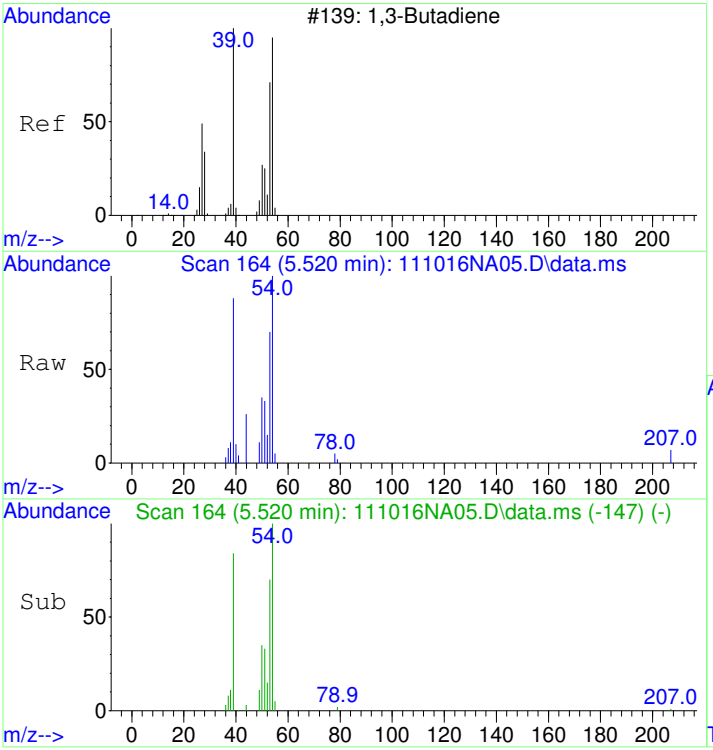


#6
Vinyl chloride
Concen: 0.98 ppbv
RT: 5.425 min Scan# 156
Delta R.T. 0.012 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 62 Resp: 17659

Ion	Ratio	Lower	Upper
62	100		
64	32.8	12.9	52.9

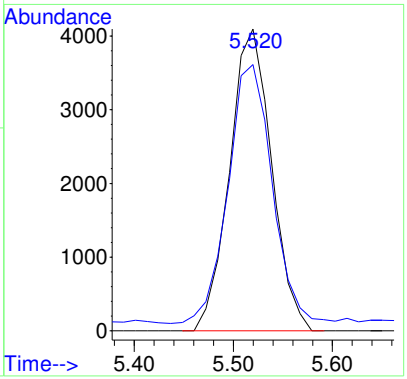


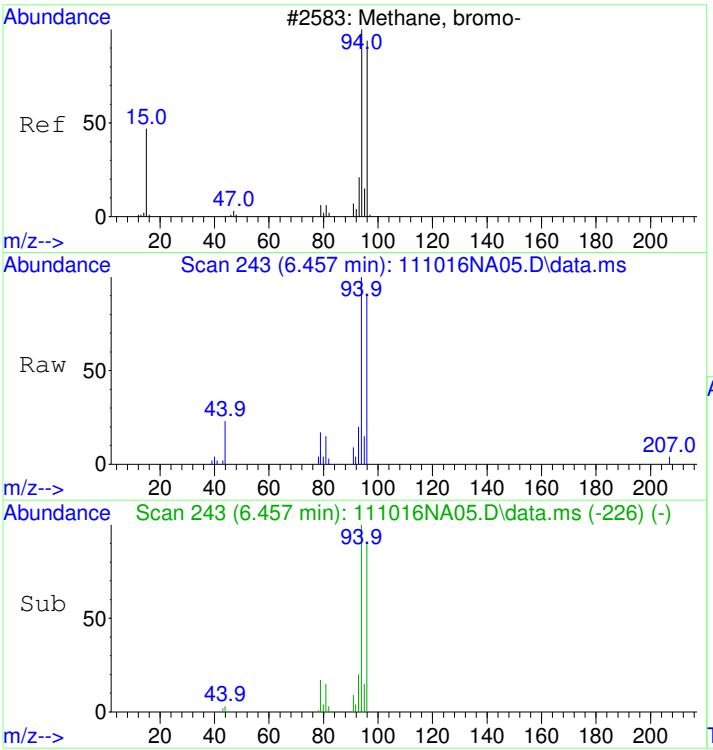


#7
1,3-Butadiene
Concen: 0.94 ppbv
RT: 5.520 min Scan# 164
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 54 Resp: 12062

Ion	Ratio	Lower	Upper
54	100		
39	90.9	70.2	110.2

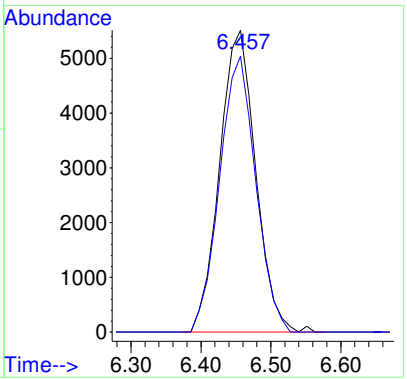


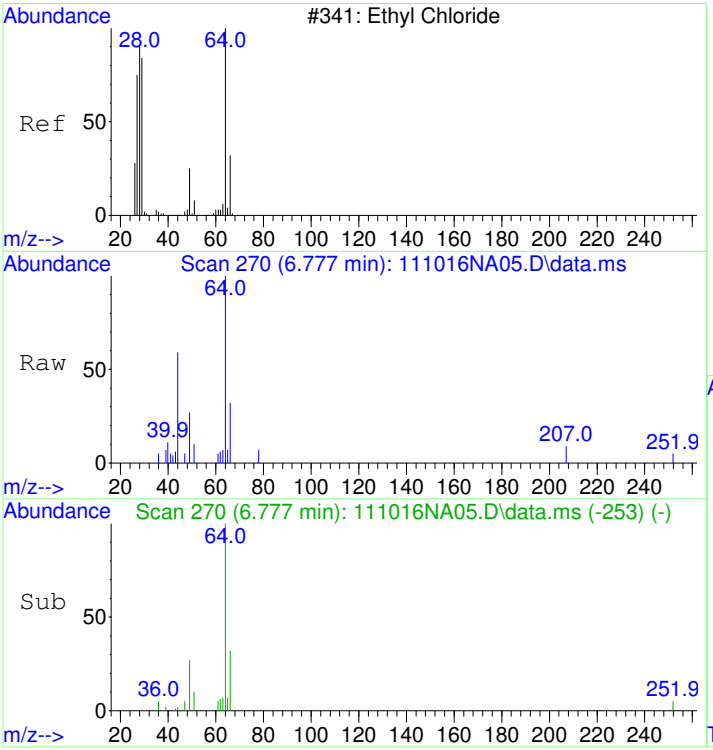


#8
Bromomethane
Concen: 1.11 ppbv
RT: 6.457 min Scan# 243
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 94 Resp: 19695

Ion	Ratio	Lower	Upper
94	100		
96	91.6	74.5	114.5

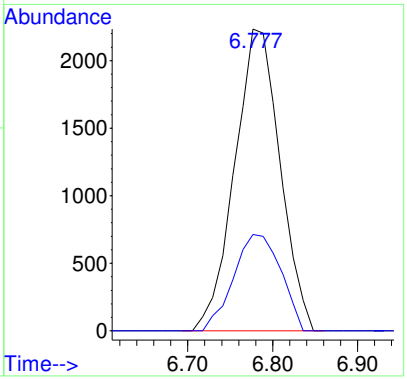


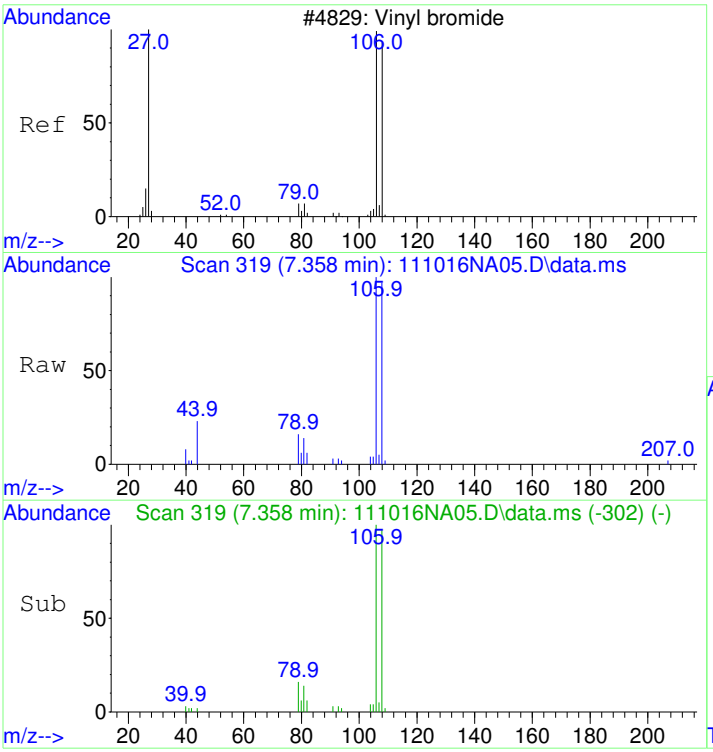


#9
Chloroethane
Concen: 1.01 ppbv
RT: 6.777 min Scan# 270
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 64 Resp: 8304

Ion	Ratio	Lower	Upper
64	100		
66	33.3	13.5	53.5

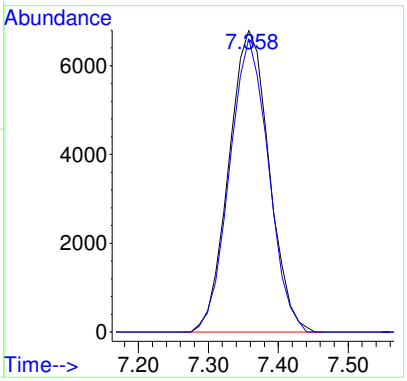


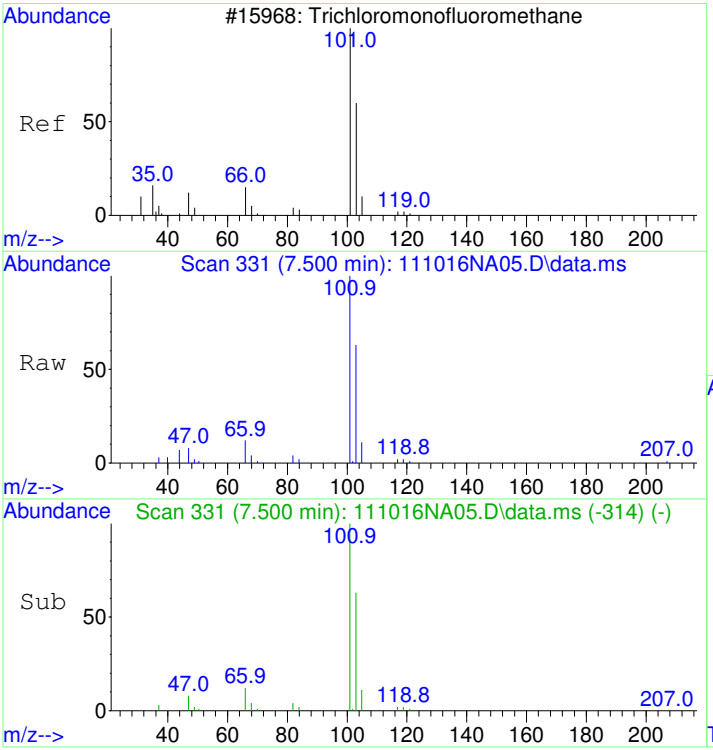


#10
Bromoethene
Concen: 1.42 ppbv
RT: 7.358 min Scan# 319
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion:106 Resp: 27153

Ion	Ratio	Lower	Upper
106	100		
108	94.0	0.0	214.9

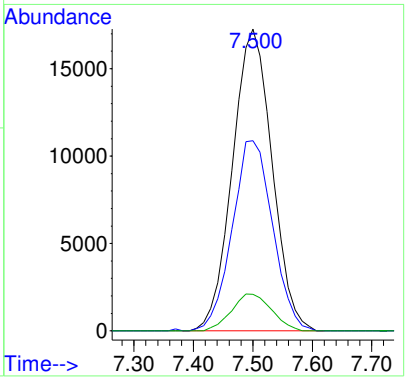


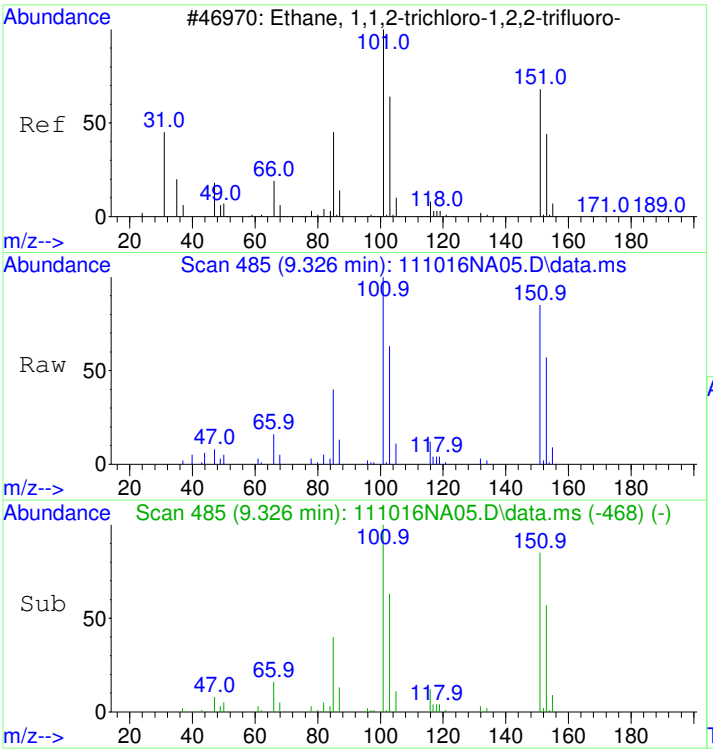


#11
Trichlorofluoromethane
Concen: 1.43 ppbv
RT: 7.500 min Scan# 331
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion:101 Resp: 80051

Ion	Ratio	Lower	Upper
101	100		
103	64.3	44.0	84.0
66	12.3	0.0	31.9

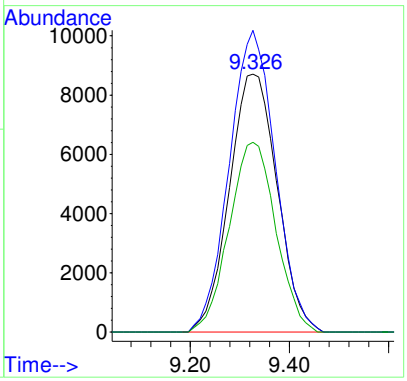


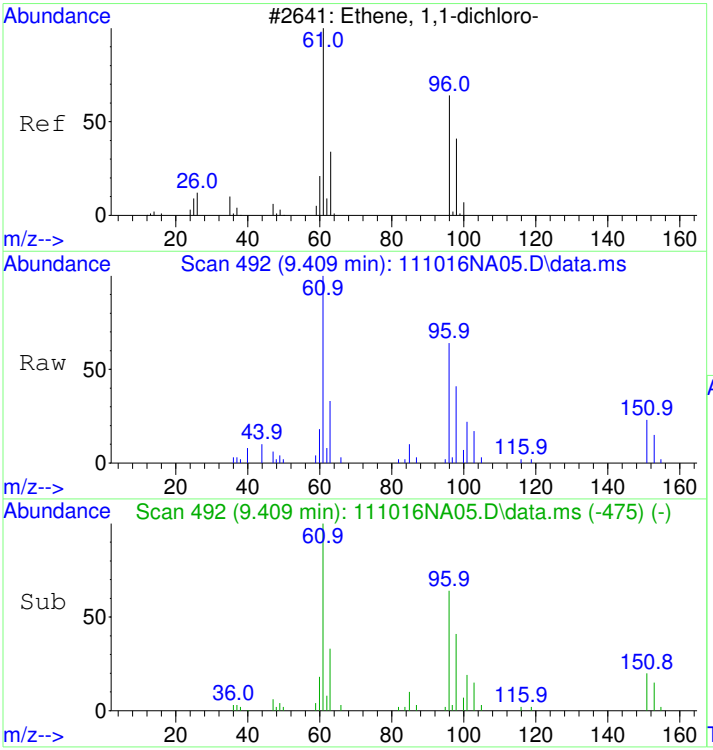


#12
1,1,2-Trichloro-1,2,2-trifluoroethane
Concen: 1.57 ppbv
RT: 9.326 min Scan# 485
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion:151 Resp: 58508

Ion	Ratio	Lower	Upper
151	100		
101	112.5	91.0	131.0
103	71.7	51.3	91.3

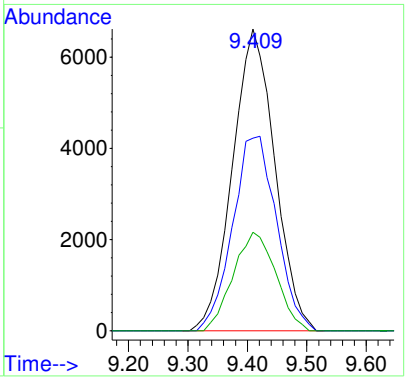


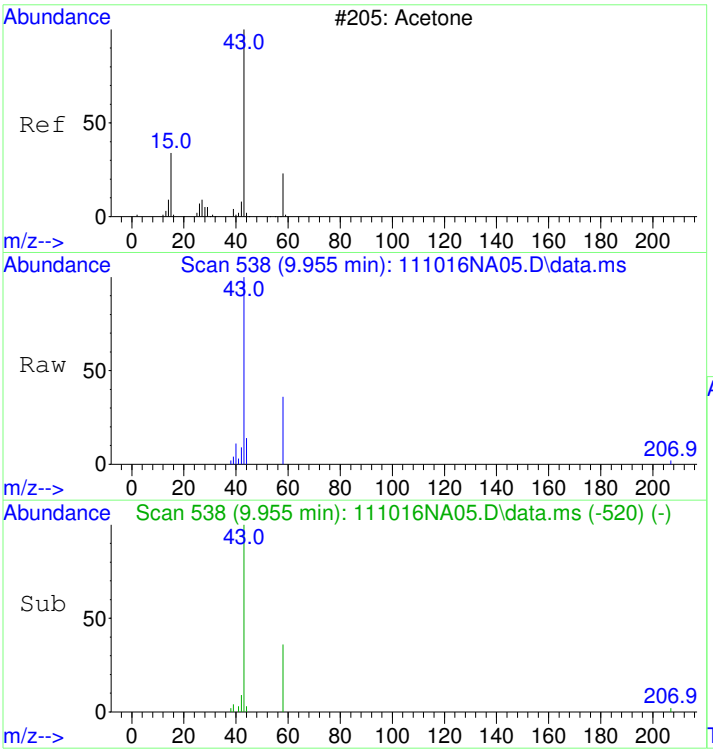


#13
1,1-Dichloroethene
Concen: 0.99 ppbv
RT: 9.409 min Scan# 492
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 61 Resp: 32747

Ion	Ratio	Lower	Upper
61	100		
96	66.8	47.3	87.3
63	32.9	12.3	52.3

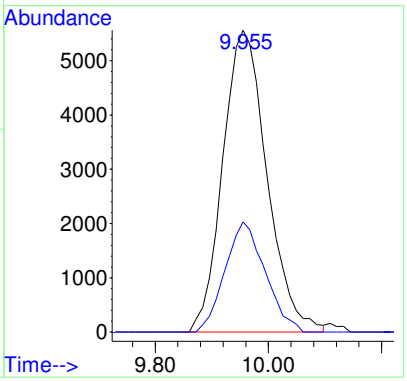


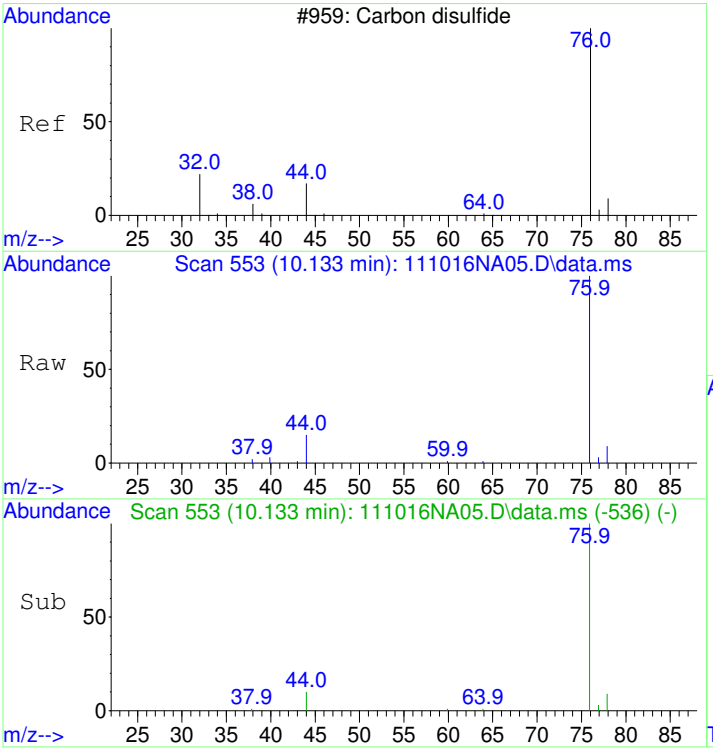


#14
Acetone
Concen: 1.00 ppbv
RT: 9.955 min Scan# 538
Delta R.T. 0.012 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 43 Resp: 30254

Ion	Ratio	Lower	Upper
43	100		
58	33.1	13.5	53.5

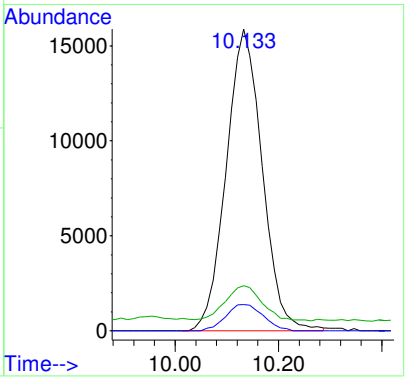


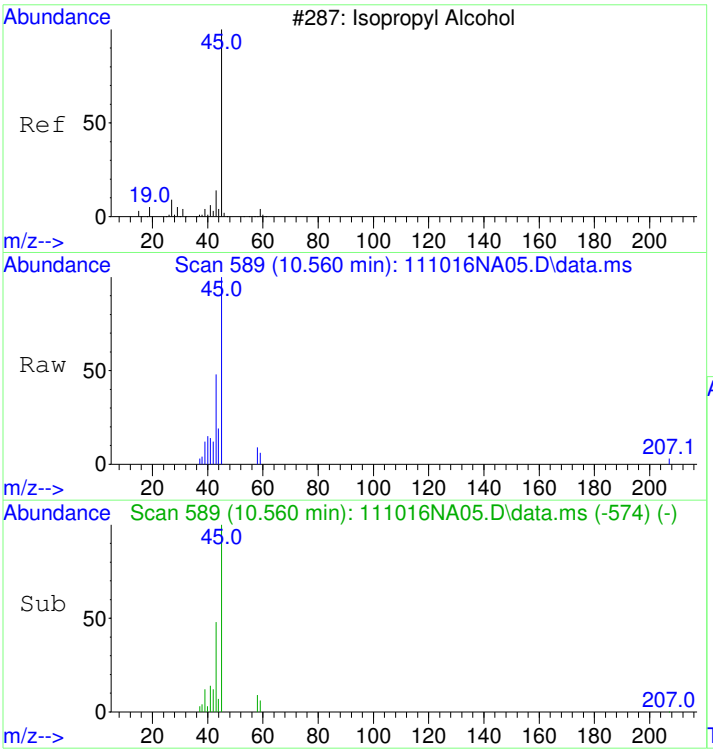


#15
Carbon disulfide
Concen: 1.35 ppbv
RT: 10.133 min Scan# 553
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 76 Resp: 76879

Ion	Ratio	Lower	Upper
76	100		
78	9.1	0.0	29.0
44	11.3	0.0	31.2

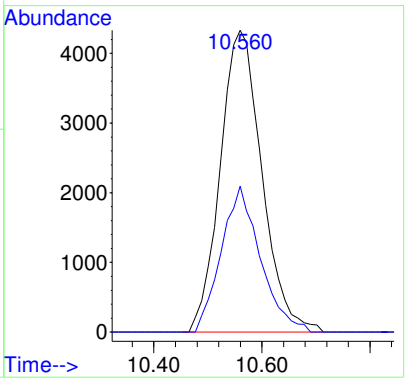


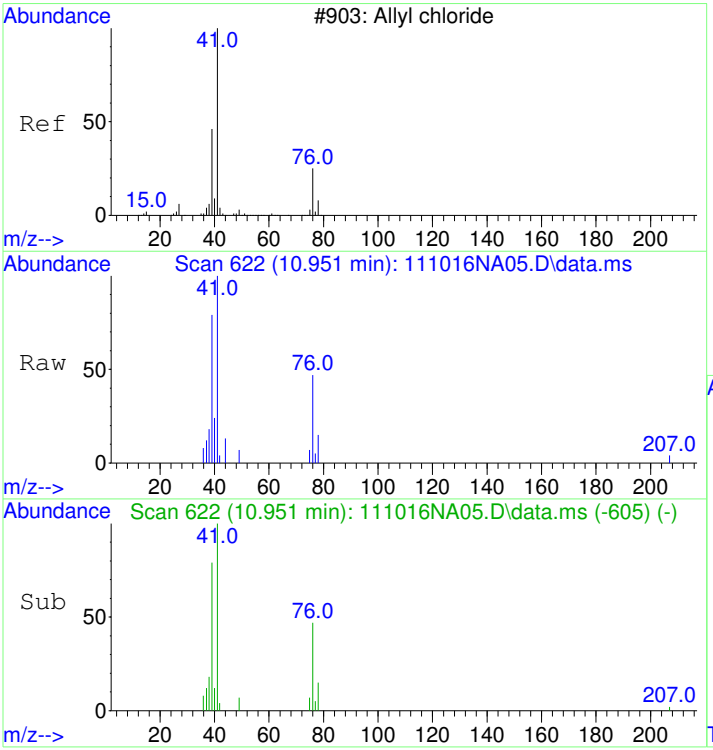


#16
2-Propanol
Concen: 0.69 ppbv
RT: 10.560 min Scan# 589
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 45 Resp: 23268

Ion	Ratio	Lower	Upper
45	100		
43	45.3	14.3	54.3

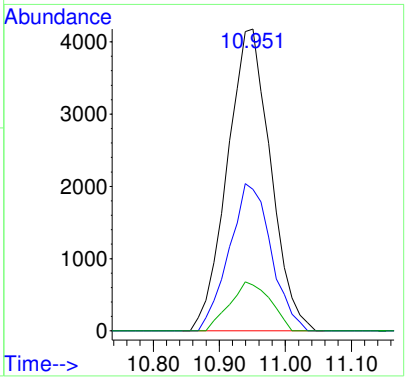


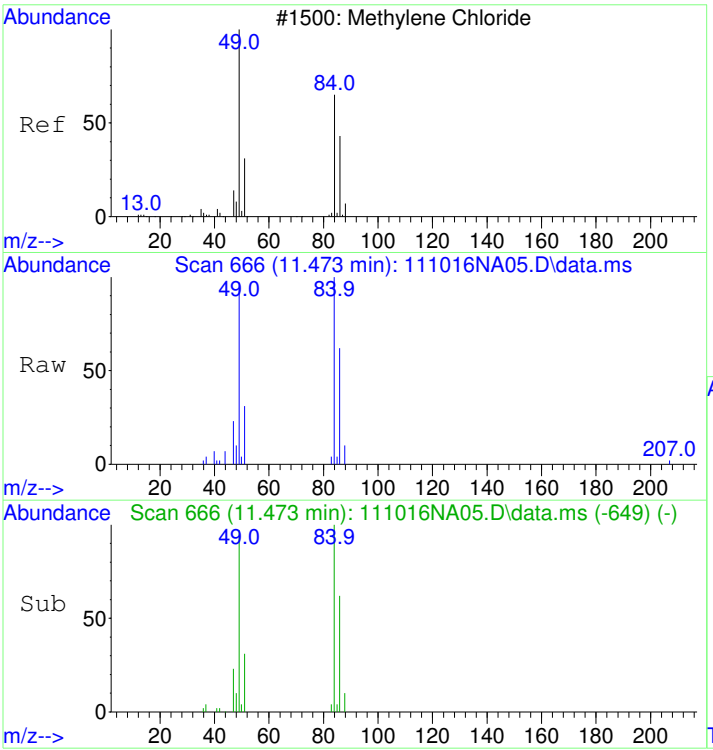


#17
Allyl chloride
Concen: 0.77 ppbv
RT: 10.951 min Scan# 622
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 41 Resp: 19003

Ion	Ratio	Lower	Upper
41	100		
76	47.3	26.4	66.4
78	15.2	0.0	35.4

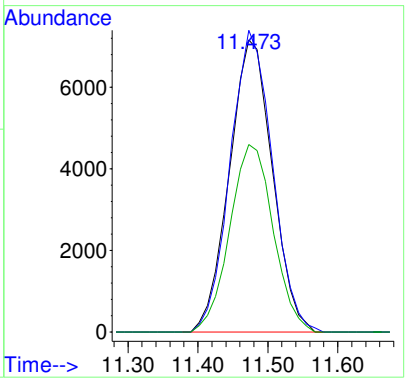


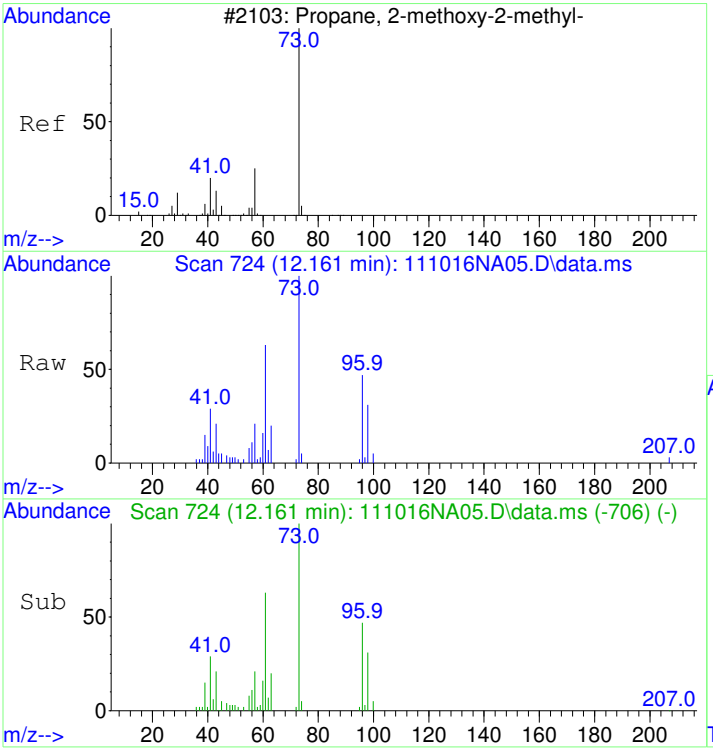


#18
Dichloromethane
Concen: 1.20 ppbv
RT: 11.473 min Scan# 666
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 49 Resp: 30548

Ion	Ratio	Lower	Upper
49	100		
84	101.2	79.0	119.0
86	64.8	43.4	83.4

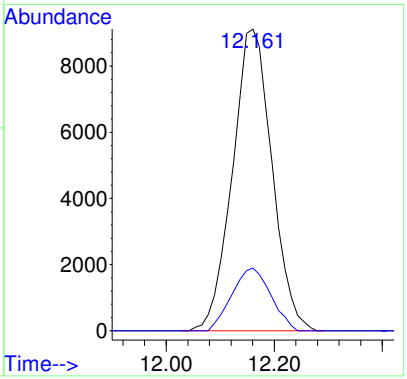


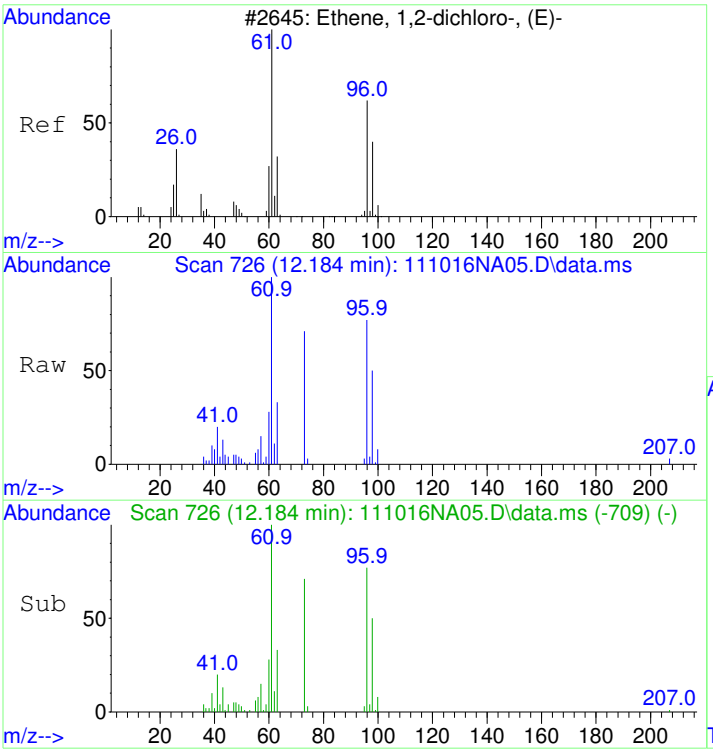


#19
tert-Butyl methyl ether (MTBE)
Concen: 0.74 ppbv
RT: 12.161 min Scan# 724
Delta R.T. 0.012 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 73 Resp: 46342

Ion	Ratio	Lower	Upper
73	100		
57	20.5	0.0	39.2

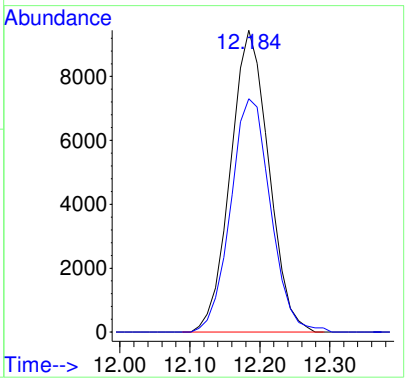


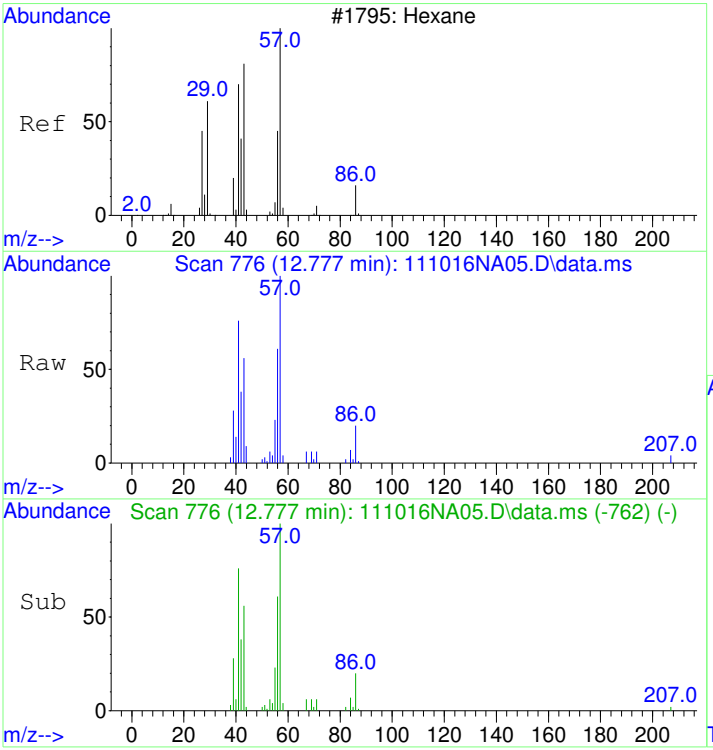


#20
trans-1,2-Dichloroethene
Concen: 1.19 ppbv
RT: 12.184 min Scan# 726
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 61 Resp: 35871

Ion	Ratio	Lower	Upper
61	100		
96	80.4	60.1	100.1

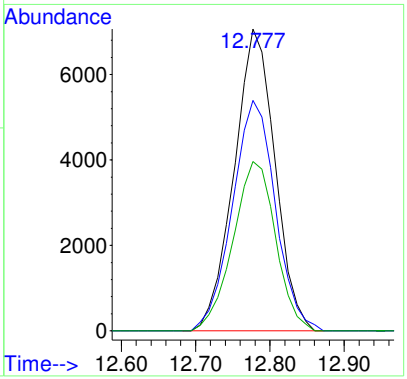


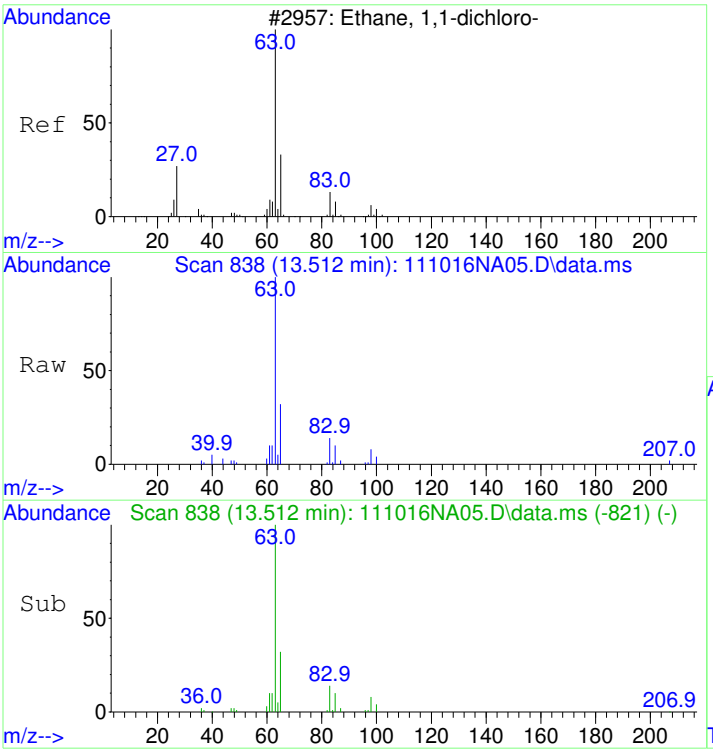


#21
Hexane
Concen: 0.74 ppbv
RT: 12.777 min Scan# 776
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 57 Resp: 27006

Ion	Ratio	Lower	Upper
57	100		
41	80.3	49.3	89.3
43	58.3	34.4	74.4

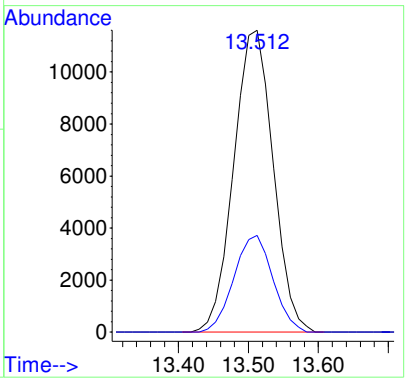


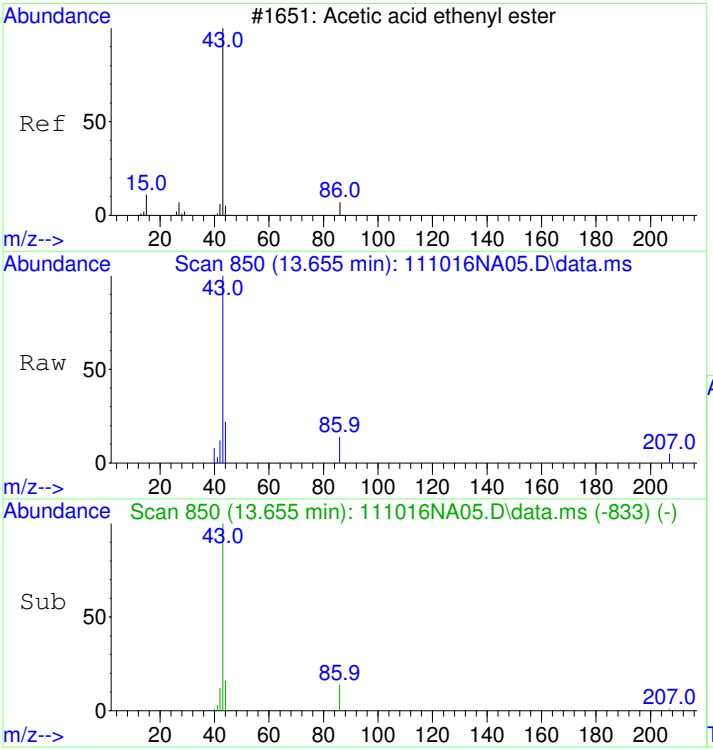


#22
1,1-Dichloroethane
Concen: 1.09 ppbv
RT: 13.512 min Scan# 838
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 63 Resp: 45345

Ion	Ratio	Lower	Upper
63	100		
65	31.7	11.9	51.9

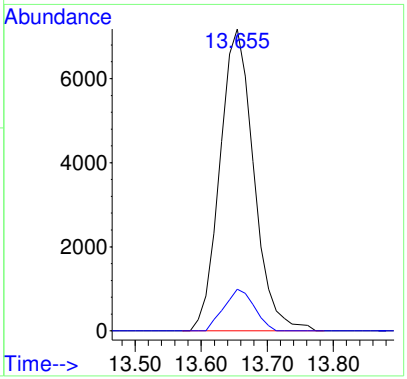


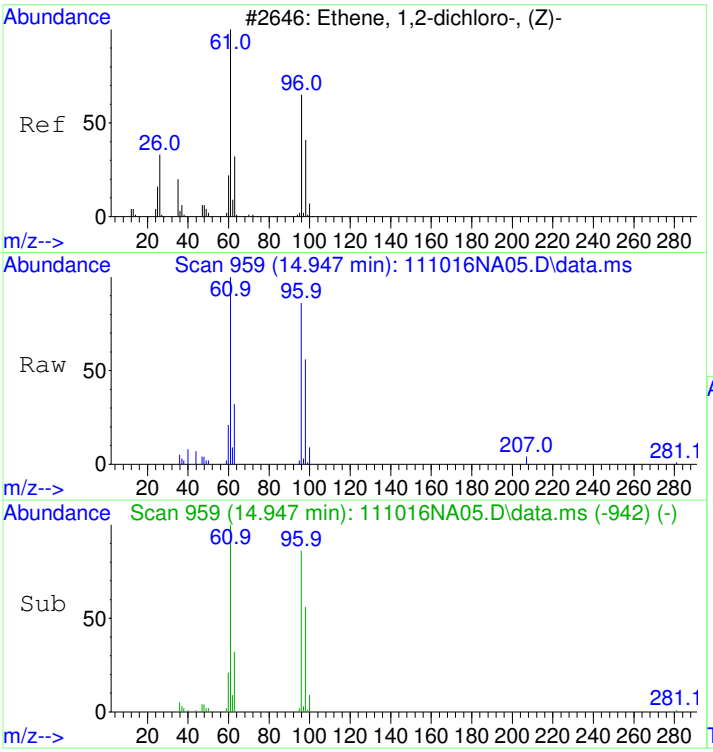


#23
Vinyl acetate
Concen: 0.53 ppbv
RT: 13.655 min Scan# 850
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 43 Resp: 25604

Ion	Ratio	Lower	Upper
43	100		
86	12.3	0.0	32.9

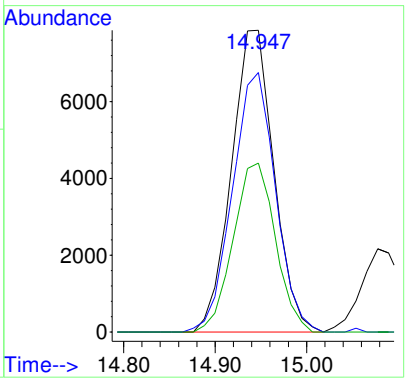


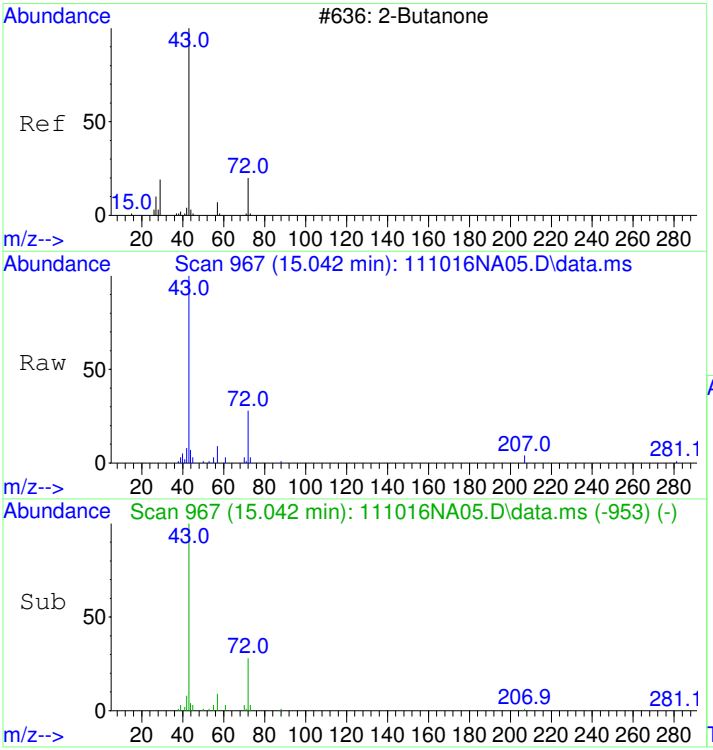


#24
cis-1,2-Dichloroethene
Concen: 0.86 ppbv
RT: 14.947 min Scan# 959
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 61 Resp: 25258

Ion	Ratio	Lower	Upper
61	100		
96	87.3	67.6	107.6
98	55.7	36.2	76.2

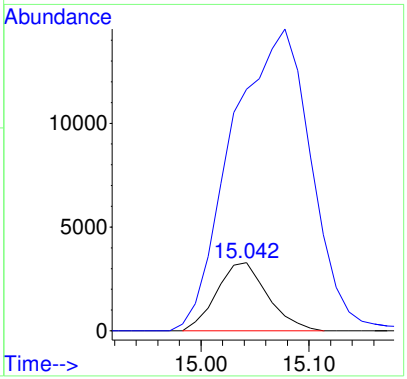


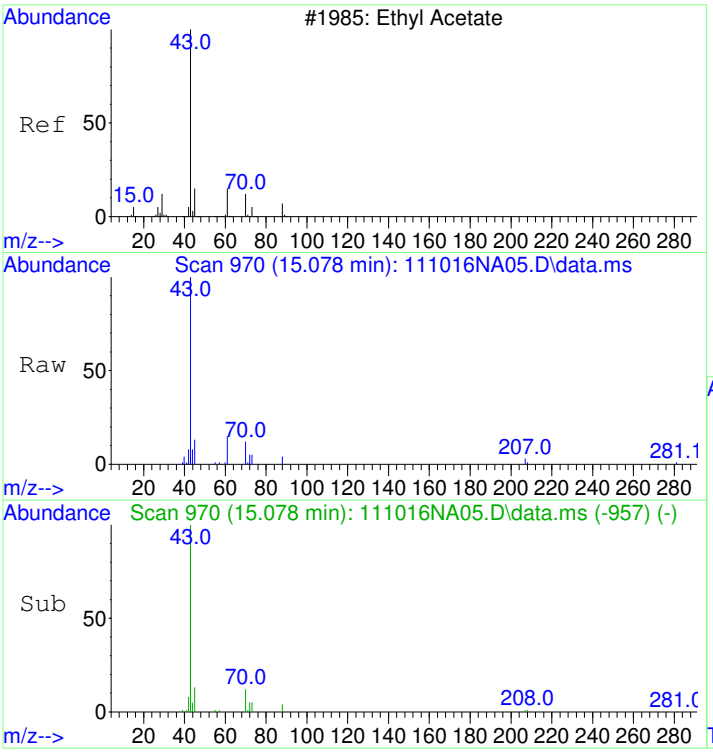


#25
2-Butanone (MEK)
Concen: 0.94 ppbv
RT: 15.042 min Scan# 967
Delta R.T. 0.012 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 72 Resp: 10791

Ion	Ratio	Lower	Upper
72	100		
43	0.0	0.0	10.0

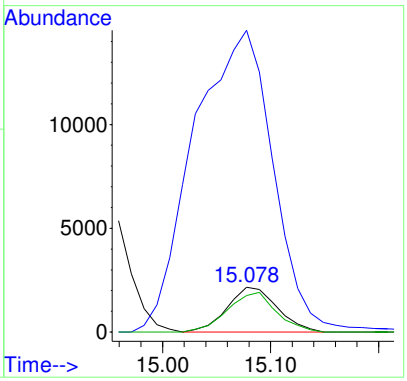


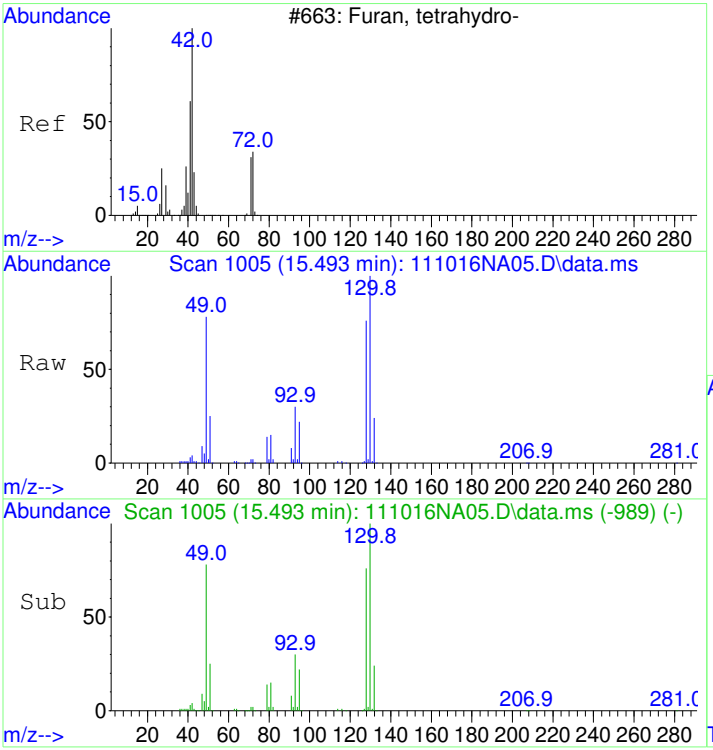


#26
Ethyl acetate
Concen: 0.94 ppbv
RT: 15.078 min Scan# 970
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 61 Resp: 6986

Ion	Ratio	Lower	Upper
61	100		
43	1064.8	1072.2	1092.2#
70	86.2	77.3	97.3

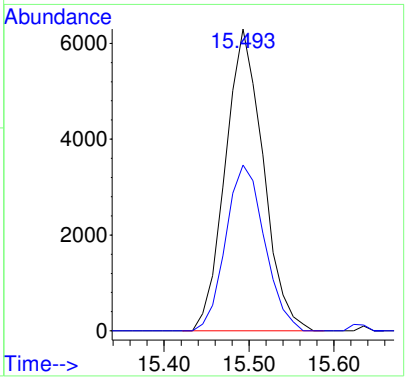


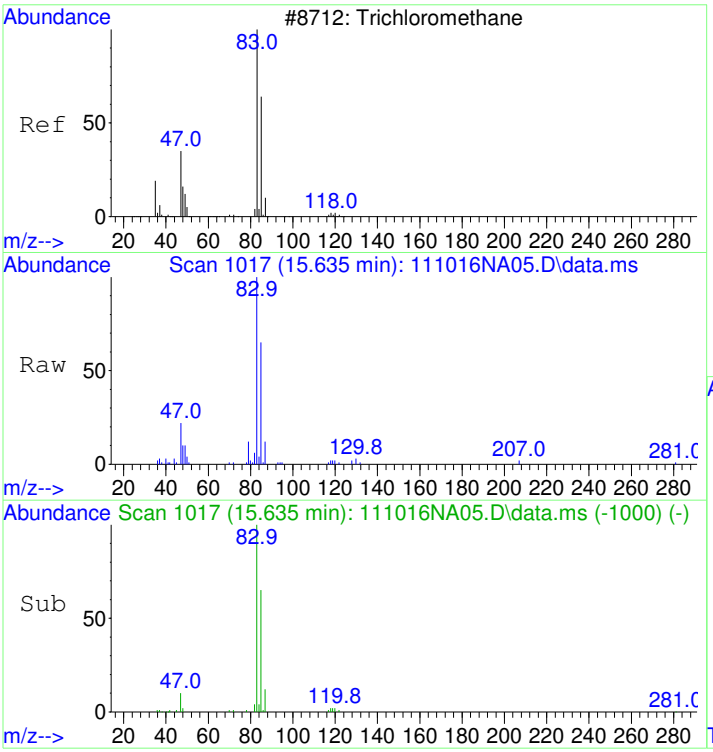


#27
Tetrahydrofuran
Concen: 0.80 ppbv
RT: 15.493 min Scan# 1005
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 42 Resp: 19566

Ion	Ratio	Lower	Upper
42	100		
72	56.2	37.4	77.4

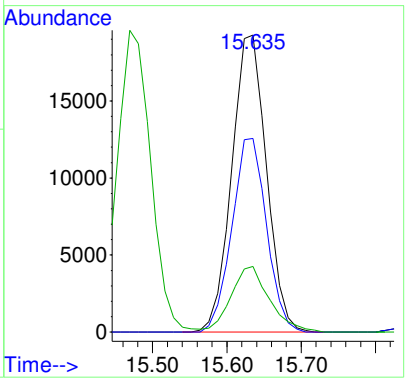


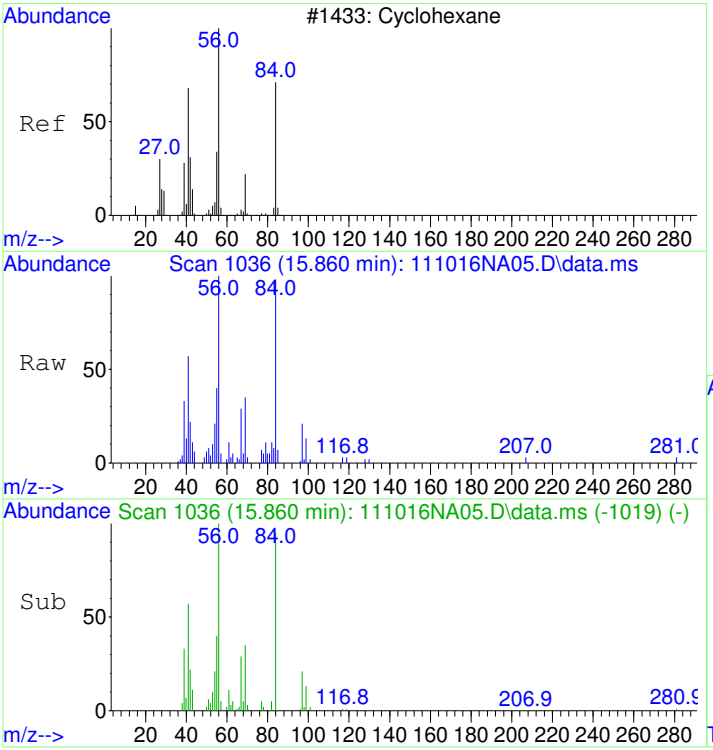


#28
Chloroform
Concen: 1.31 ppbv
RT: 15.635 min Scan# 1017
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 83 Resp: 62459

Ion	Ratio	Lower	Upper
83	100		
85	65.0	45.1	85.1
47	23.0	0.8	40.8

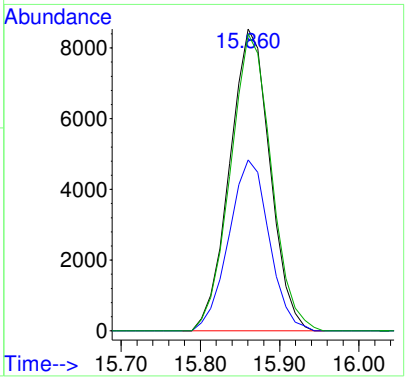


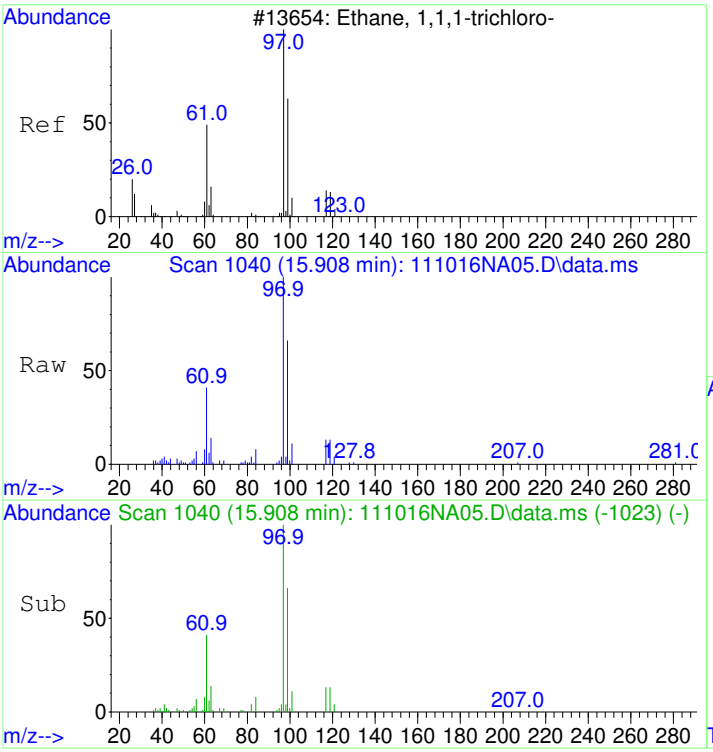


#29
Cyclohexane
Concen: 0.82 ppbv
RT: 15.860 min Scan# 1036
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 56 Resp: 30155

Ion	Ratio	Lower	Upper
56	100		
41	56.9	29.7	69.7
84	99.9	83.2	123.2

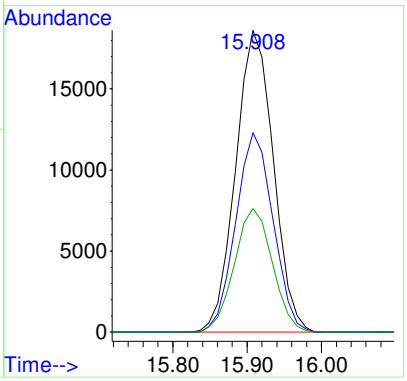


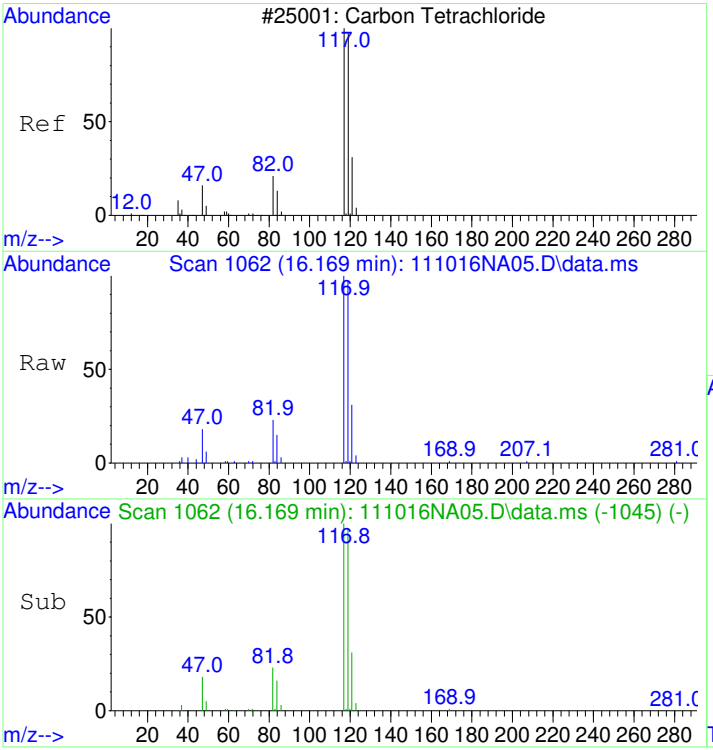


#30
1,1,1-Trichloroethane
Concen: 1.26 ppbv
RT: 15.908 min Scan# 1040
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 97 Resp: 65423

Ion	Ratio	Lower	Upper
97	100		
99	65.4	44.6	84.6
61	41.3	19.9	59.9

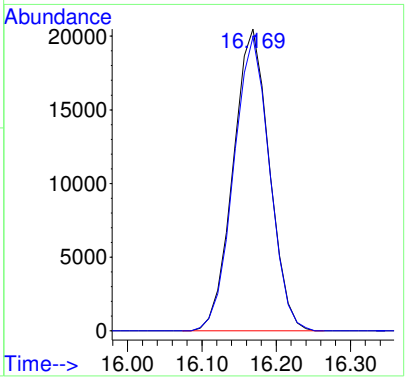


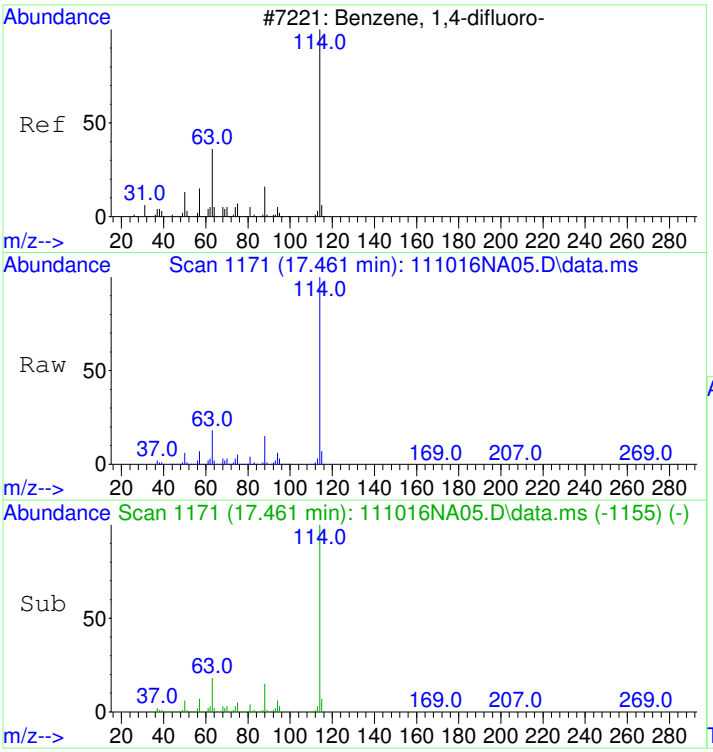


#31
Carbon tetrachloride
Concen: 1.28 ppbv
RT: 16.169 min Scan# 1062
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion:117 Resp: 69200

Ion	Ratio	Lower	Upper
117	100		
119	96.6	76.4	116.4

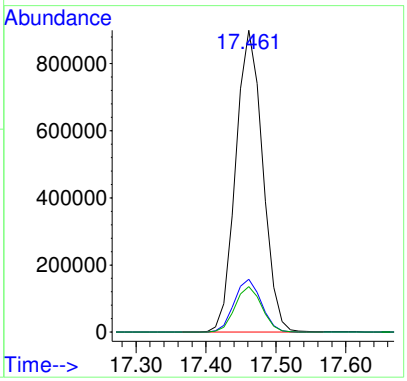


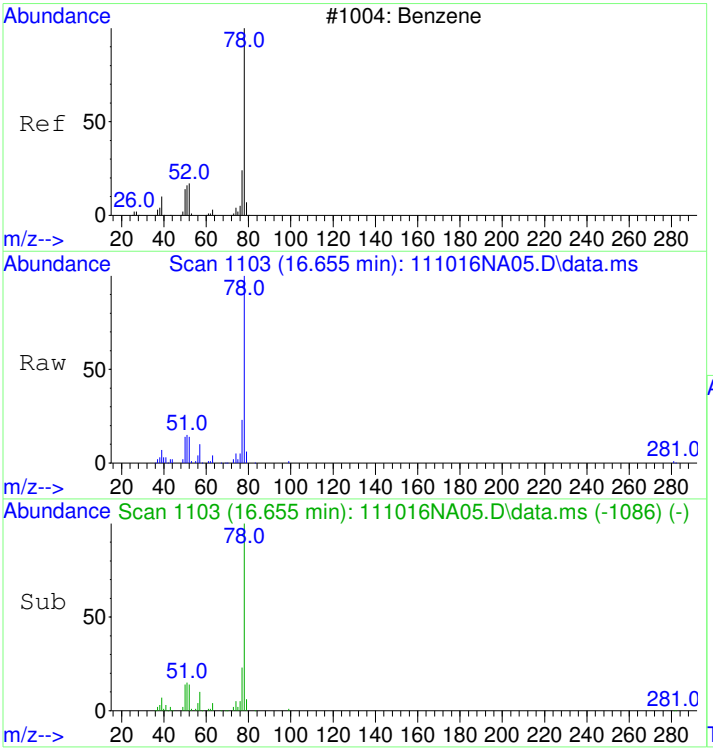


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion:114 Resp: 2407607

Ion	Ratio	Lower	Upper
114	100		
63	17.6	0.0	37.6
88	15.0	0.0	35.0

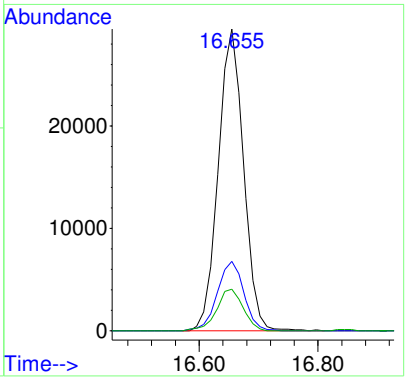


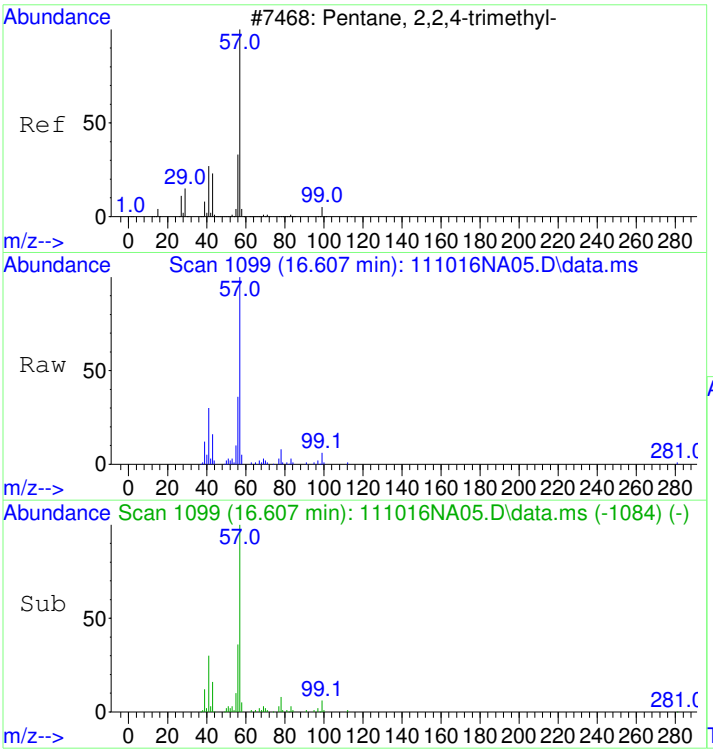


#33
Benzene
Concen: 0.92 ppbv
RT: 16.655 min Scan# 1103
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 78 Resp: 87235

Ion	Ratio	Lower	Upper
78	100		
77	24.2	3.7	43.7
50	14.5	0.0	34.0

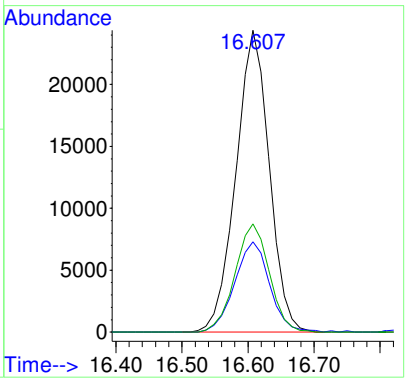


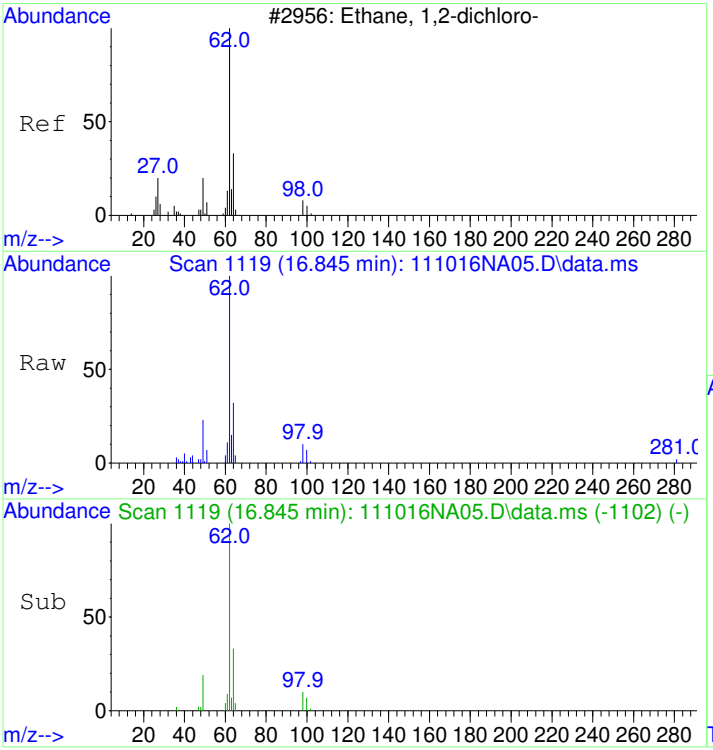


#34
2,2,4-Trimethylpentane
Concen: 0.55 ppbv
RT: 16.607 min Scan# 1099
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 57 Resp: 85530

Ion	Ratio	Lower	Upper
57	100		
41	31.4	6.0	46.0
56	36.7	12.7	52.7

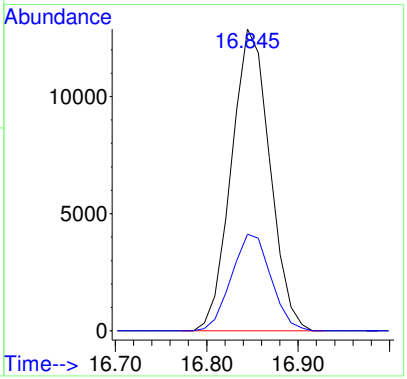


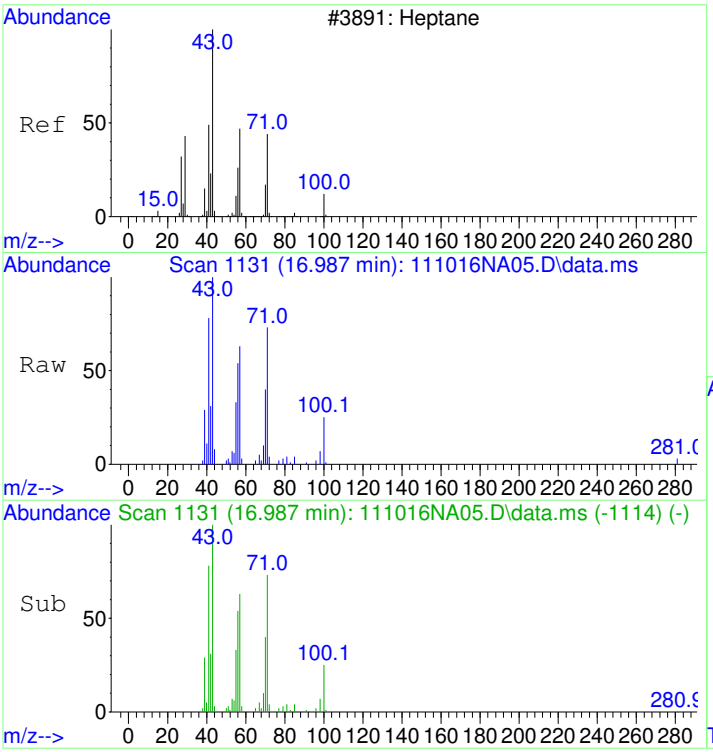


#35
1,2-Dichloroethane
Concen: 0.90 ppbv
RT: 16.845 min Scan# 1119
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 62 Resp: 37494

Ion	Ratio	Lower	Upper
62	100		
64	33.0	12.0	52.0

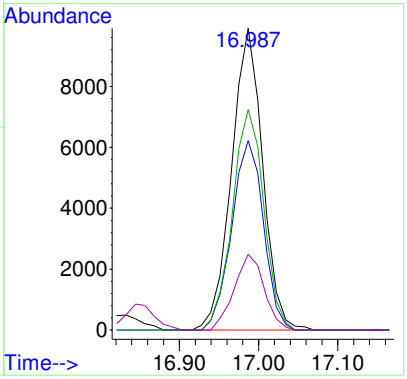


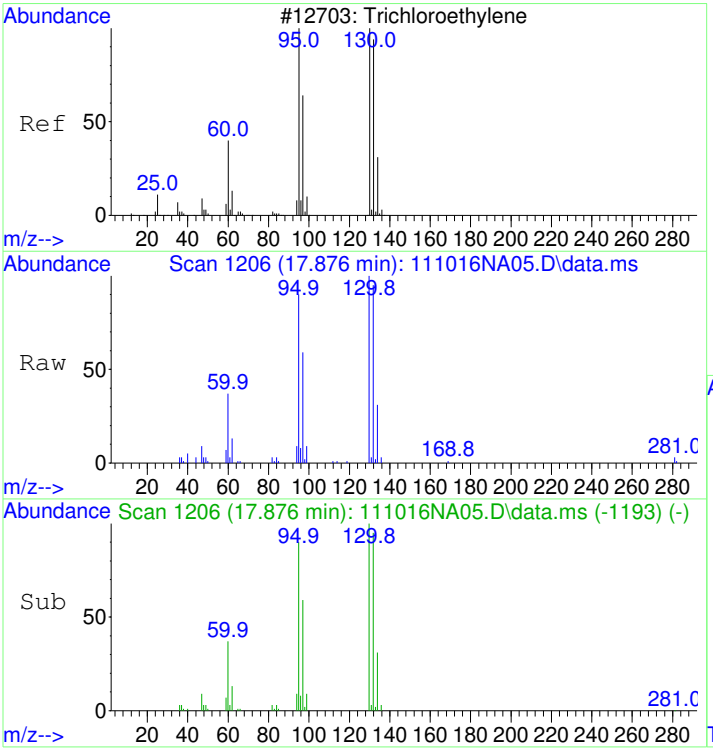


#36
Heptane
Concen: 0.51 ppbv
RT: 16.987 min Scan# 1131
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 43 Resp: 27068

Ion	Ratio	Lower	Upper
43	100		
57	63.9	43.5	83.5
71	73.7	58.1	98.1
100	24.2	6.7	46.7

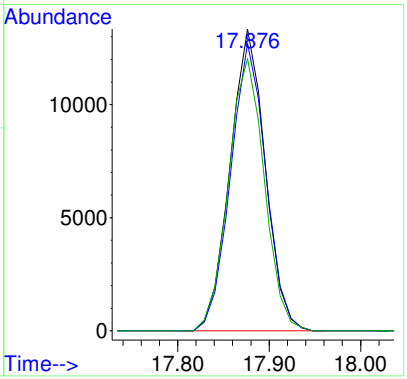


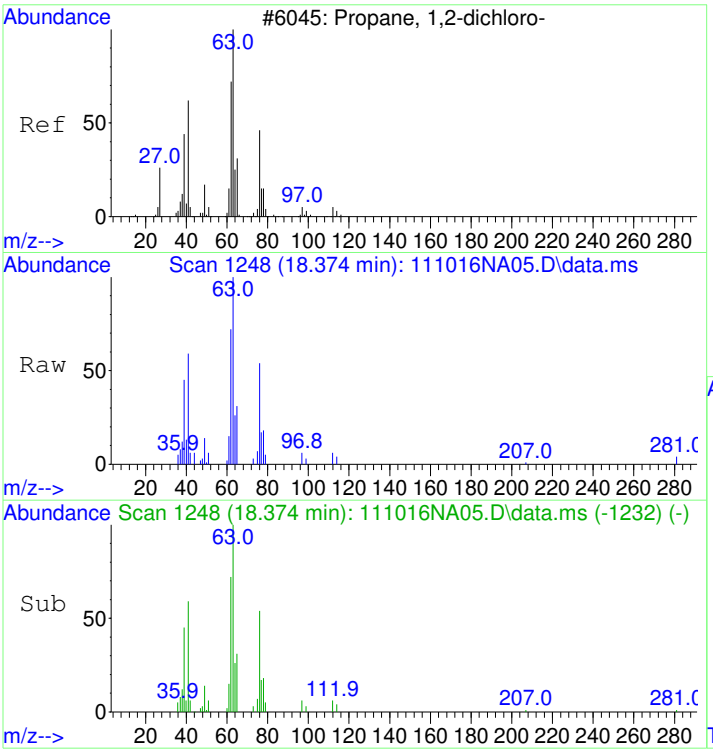


#37
Trichloroethene
Concen: 0.92 ppbv
RT: 17.876 min Scan# 1206
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion:130 Resp: 35602

Ion	Ratio	Lower	Upper
130	100		
132	95.4	76.8	116.8
95	91.9	72.4	112.4

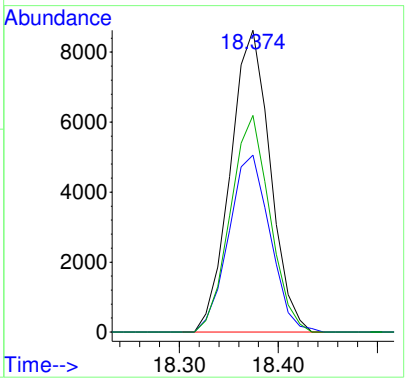


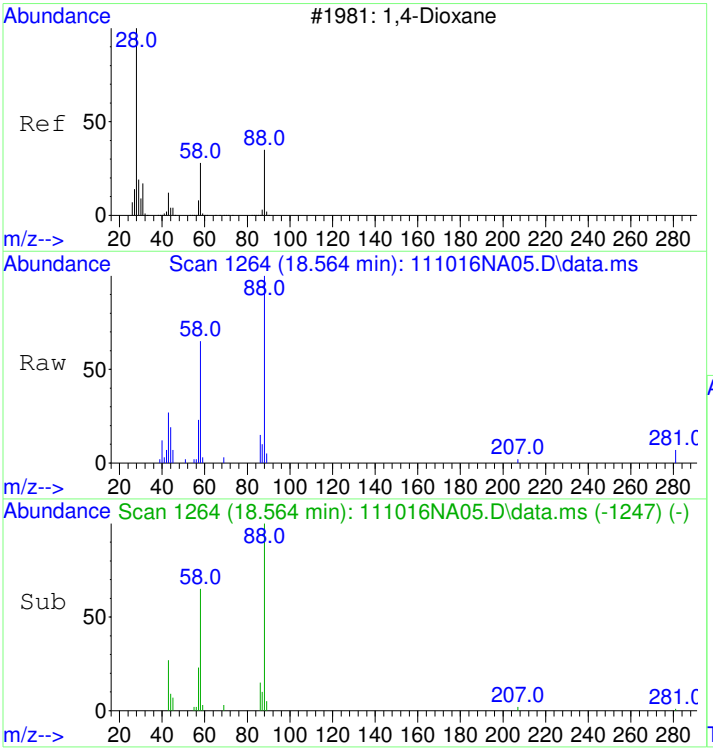


#38
1,2-Dichloropropane
Concen: 0.70 ppbv
RT: 18.374 min Scan# 1248
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 63 Resp: 24161

Ion	Ratio	Lower	Upper
63	100		
41	60.7	35.8	75.8
62	70.9	49.6	89.6

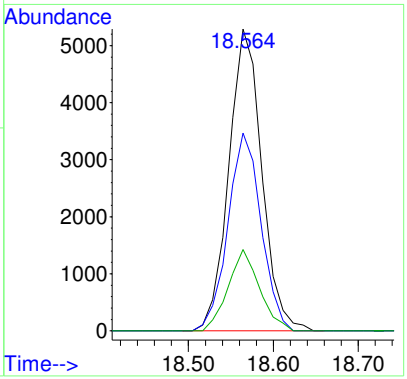


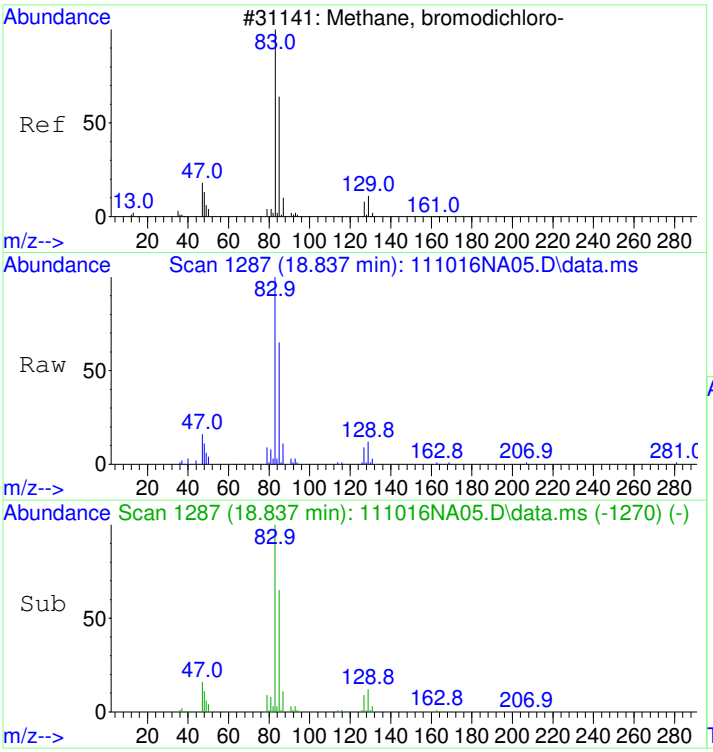


#39
1,4-Dioxane
Concen: 0.65 ppbv
RT: 18.564 min Scan# 1264
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 88 Resp: 14327

Ion	Ratio	Lower	Upper
88	100		
58	65.7	40.5	80.5
43	25.6	5.1	45.1

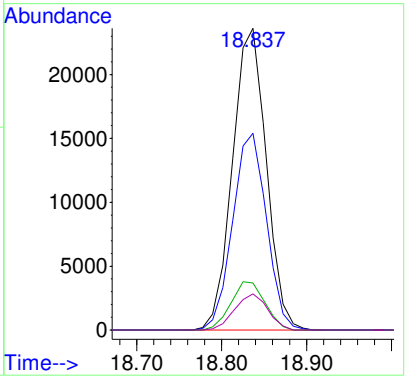


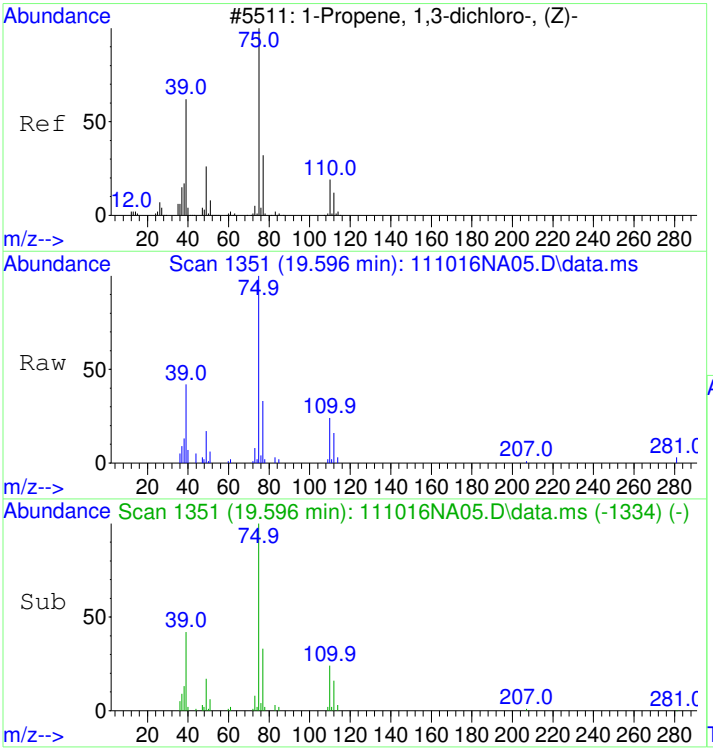


#40
Bromodichloromethane
Concen: 0.97 ppbv
RT: 18.837 min Scan# 1287
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 83 Resp: 65388

Ion	Ratio	Lower	Upper
83	100		
85	65.2	44.1	84.1
47	16.2	0.0	35.8
129	11.8	0.0	31.8

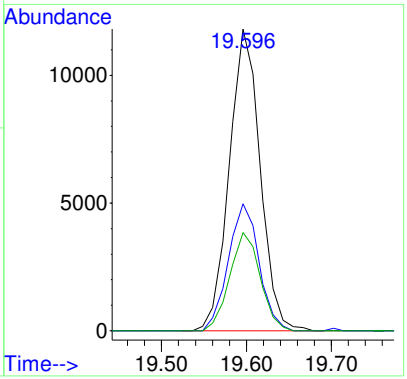


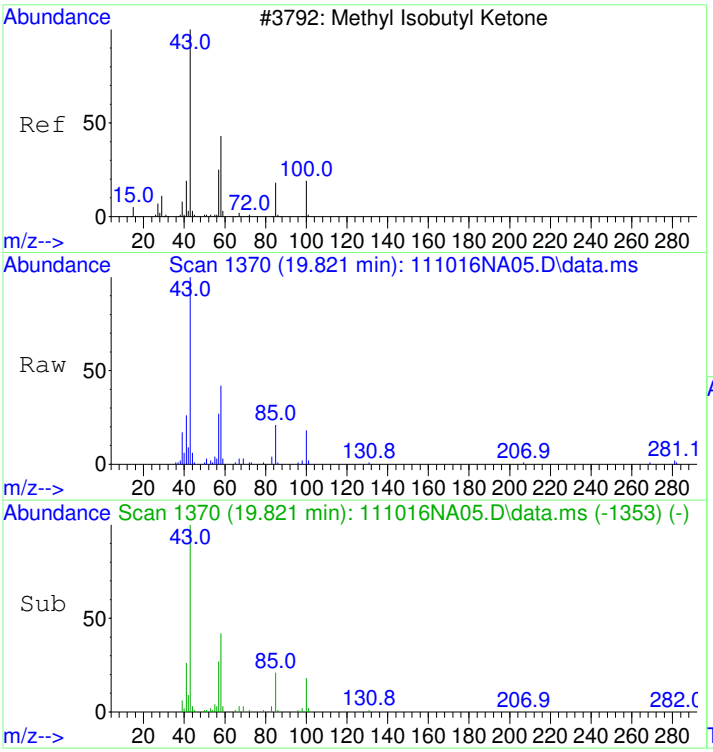


#41
cis-1,3-Dichloropropene
Concen: 0.58 ppbv
RT: 19.596 min Scan# 1351
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 75 Resp: 29932

Ion	Ratio	Lower	Upper
75	100		
39	41.8	22.3	62.3
77	32.2	11.7	51.7

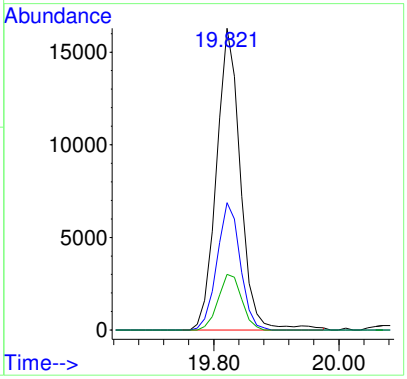


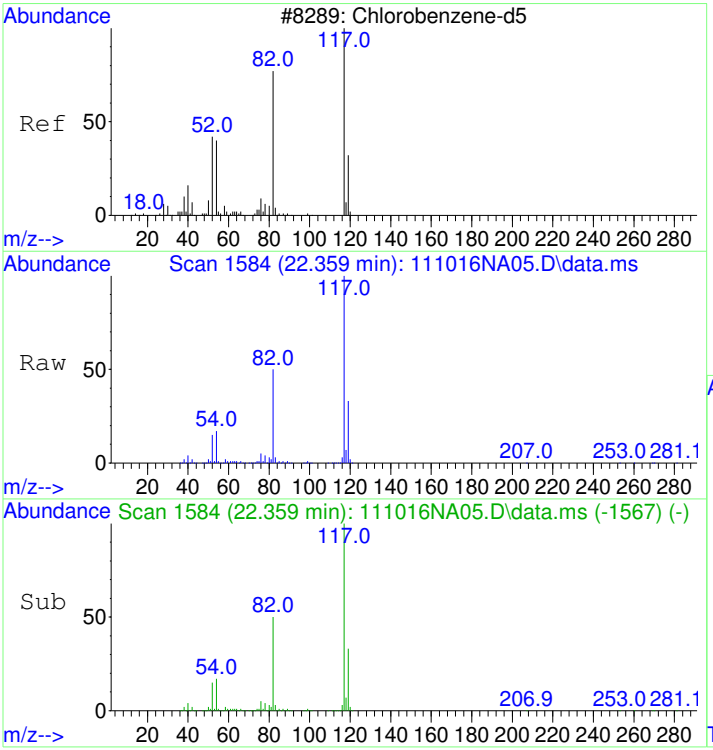


#42
4-Methyl-2-pentanone (MIBK)
Concen: 0.61 ppbv
RT: 19.821 min Scan# 1370
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 43 Resp: 43592

Ion	Ratio	Lower	Upper
43	100		
58	40.8	23.9	63.9
100	18.1	0.0	40.0

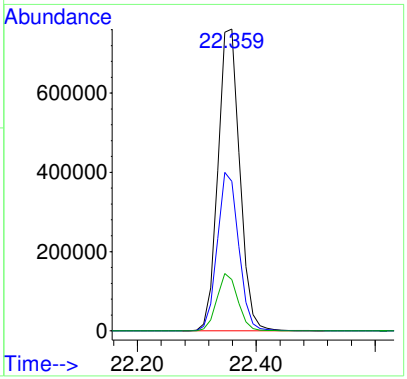


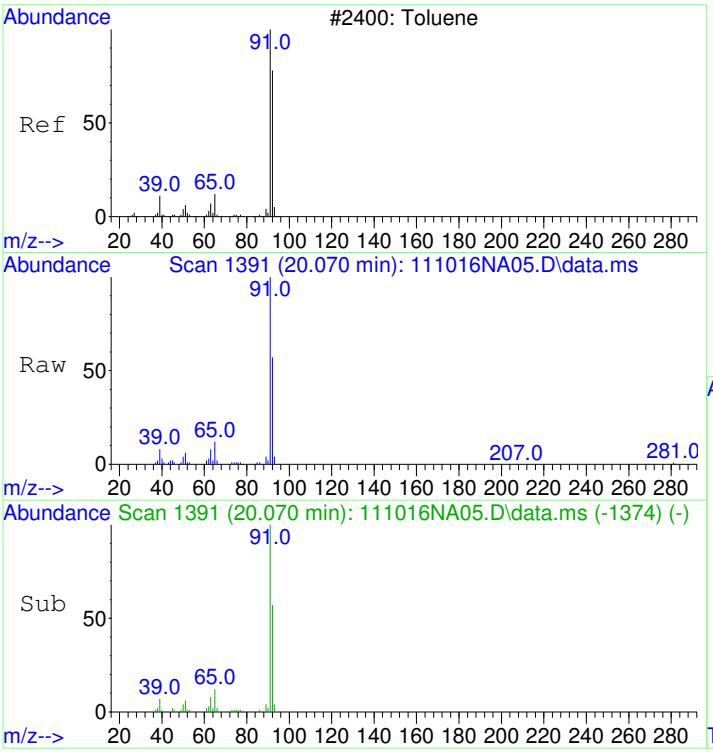


#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion:117 Resp: 1941562

Ion	Ratio	Lower	Upper
117	100		
82	51.6	31.9	71.9
54	18.3	0.0	38.5

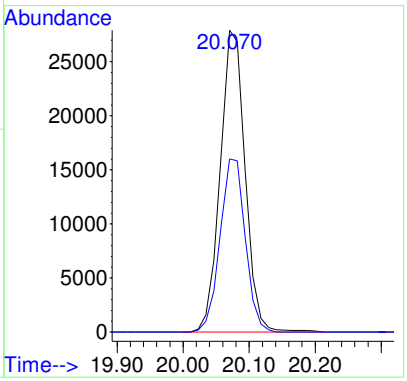


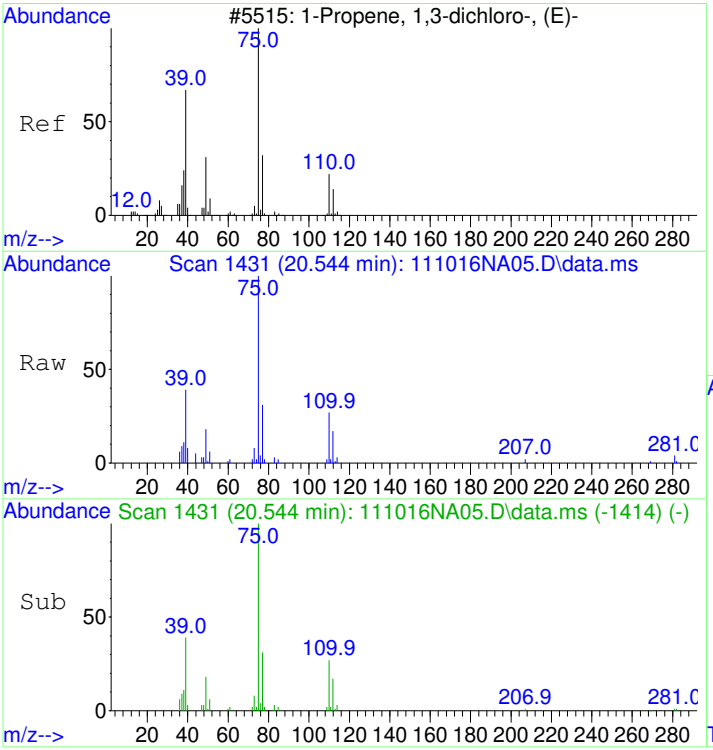


#44
Toluene
Concen: 0.68 ppbv
RT: 20.070 min Scan# 1391
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 91 Resp: 73188

Ion	Ratio	Lower	Upper
91	100		
92	58.0	39.7	79.7

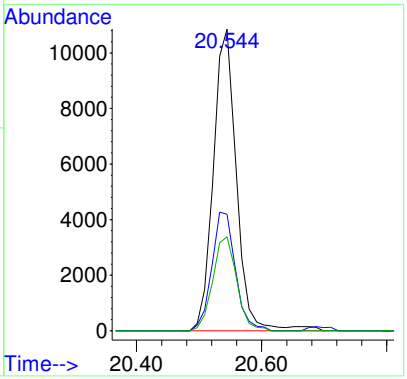


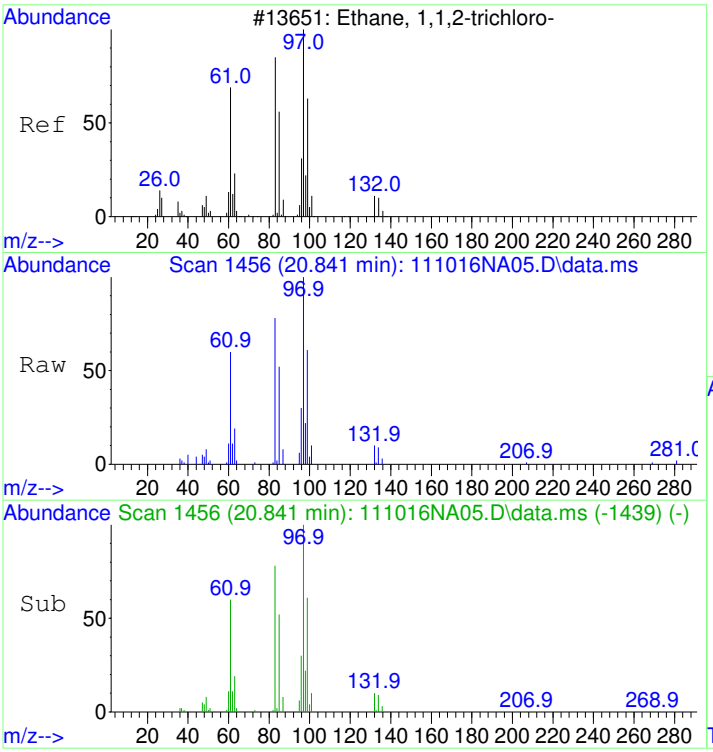


#45
trans-1,3-Dichloropropene
Concen: 0.60 ppbv
RT: 20.544 min Scan# 1431
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 75 Resp: 28009

Ion	Ratio	Lower	Upper
75	100		
39	40.2	19.9	59.9
77	32.1	11.5	51.5

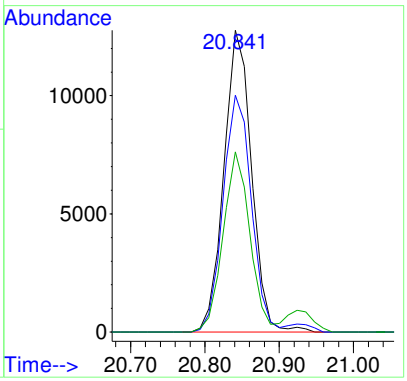


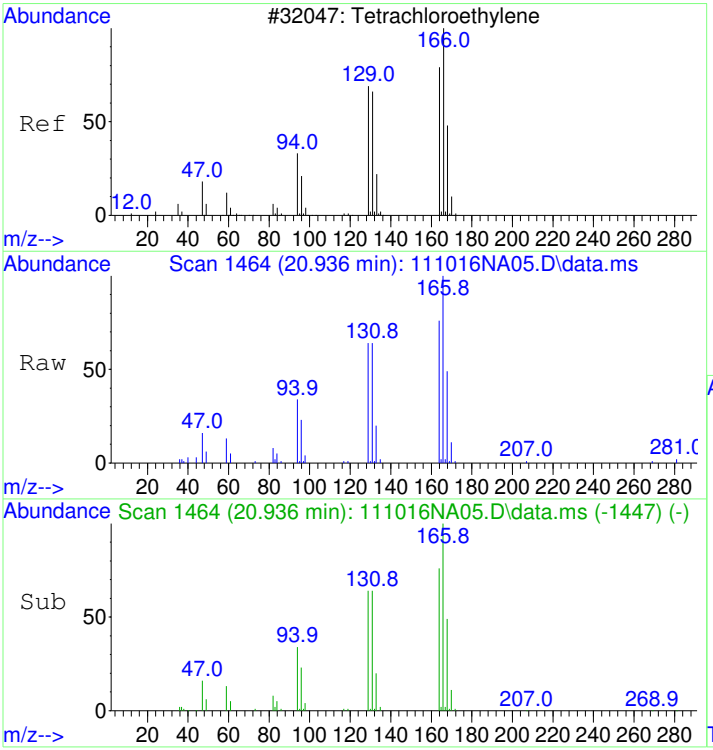


#46
1,1,2-Trichloroethane
Concen: 0.92 ppbv
RT: 20.841 min Scan# 1456
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 97 Resp: 32896

Ion	Ratio	Lower	Upper
97	100		
83	82.7	62.9	102.9
61	54.5	33.5	73.5

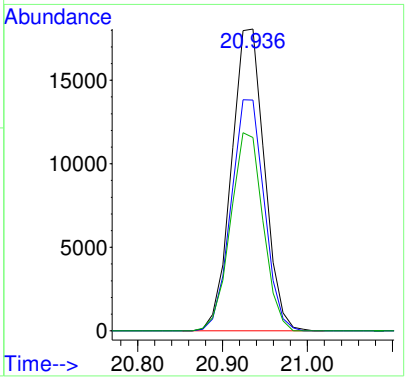


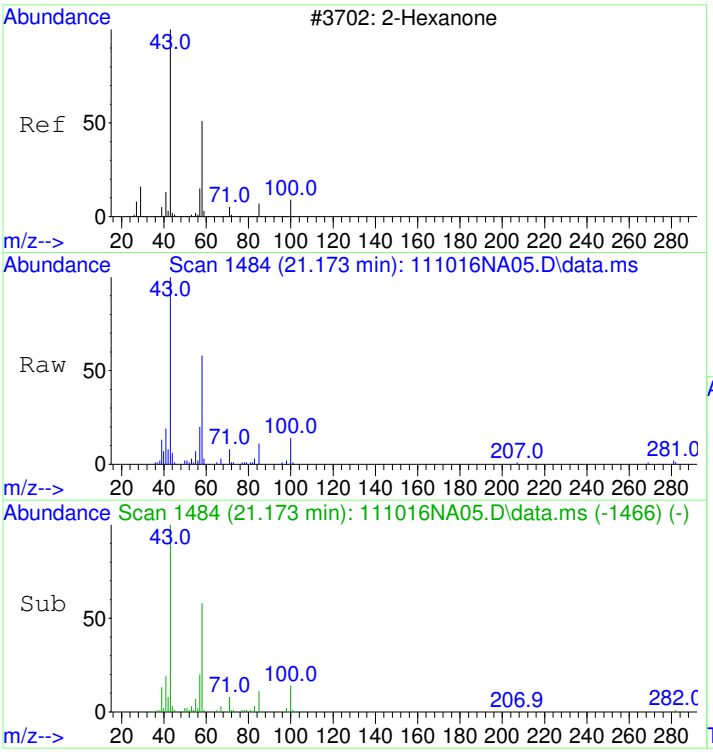


#47
Tetrachloroethene
Concen: 0.93 ppbv
RT: 20.936 min Scan# 1464
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion:166 Resp: 48844

Ion	Ratio	Lower	Upper
166	100		
164	76.9	57.8	97.8
131	64.9	43.3	83.3

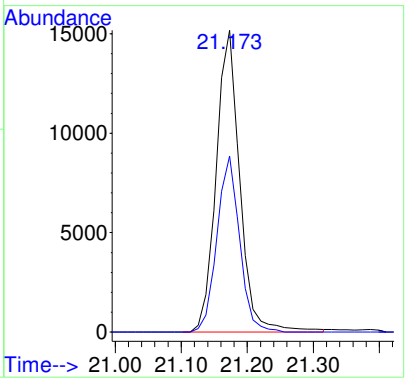


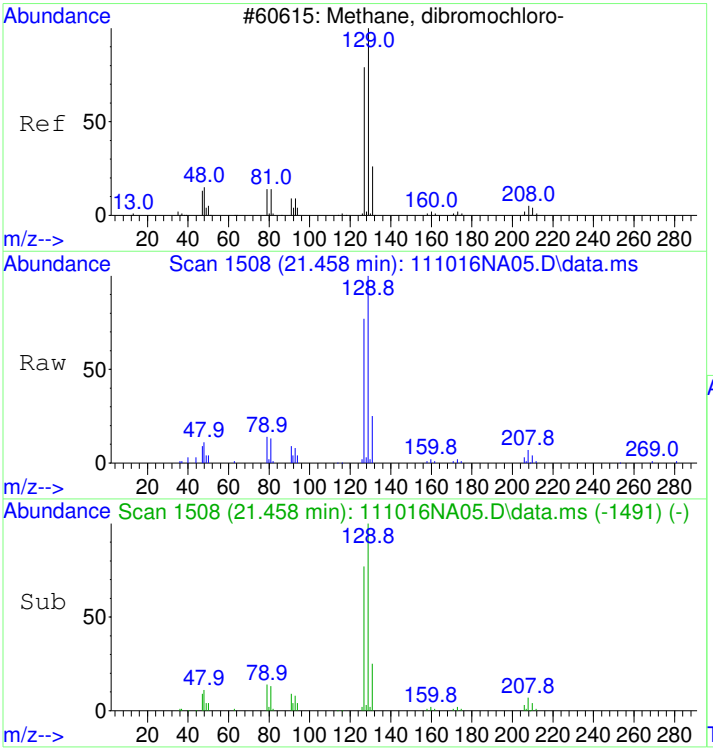


#48
2-Hexanone
Concen: 0.58 ppbv
RT: 21.173 min Scan# 1484
Delta R.T. 0.012 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 43 Resp: 37783

Ion	Ratio	Lower	Upper
43	100		
58	55.6	41.4	81.4

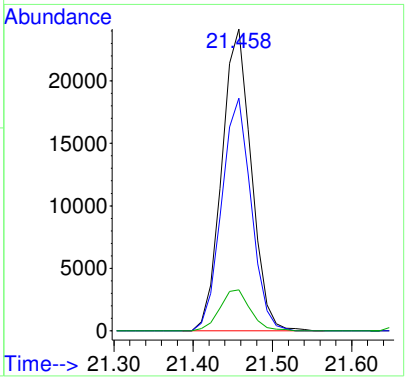


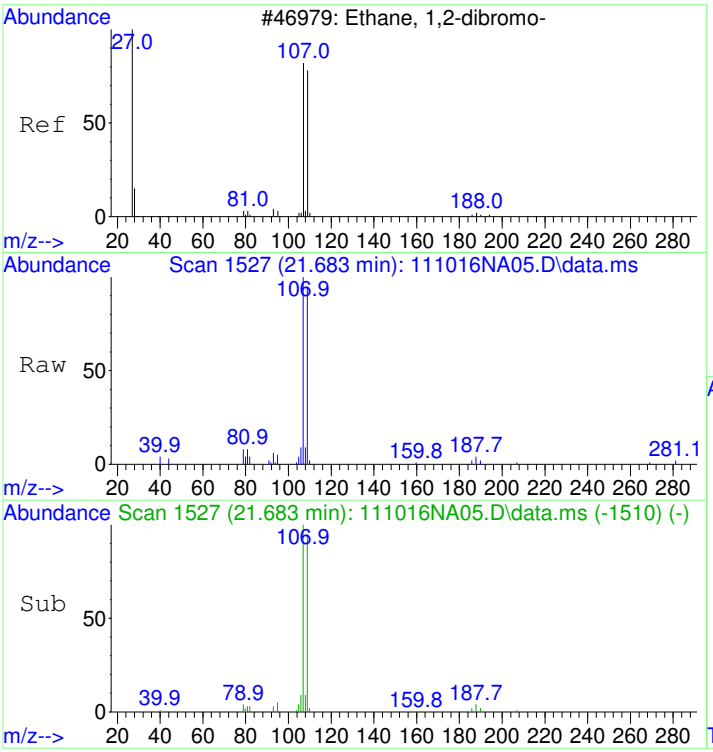


#49
Chlorodibromomethane
Concen: 0.94 ppbv
RT: 21.458 min Scan# 1508
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion:129 Resp: 62487

Ion	Ratio	Lower	Upper
129	100		
127	77.2	56.9	96.9
79	14.1	0.0	33.6

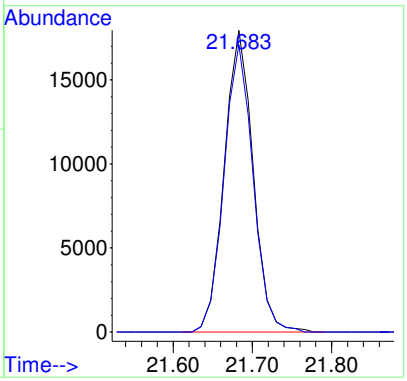


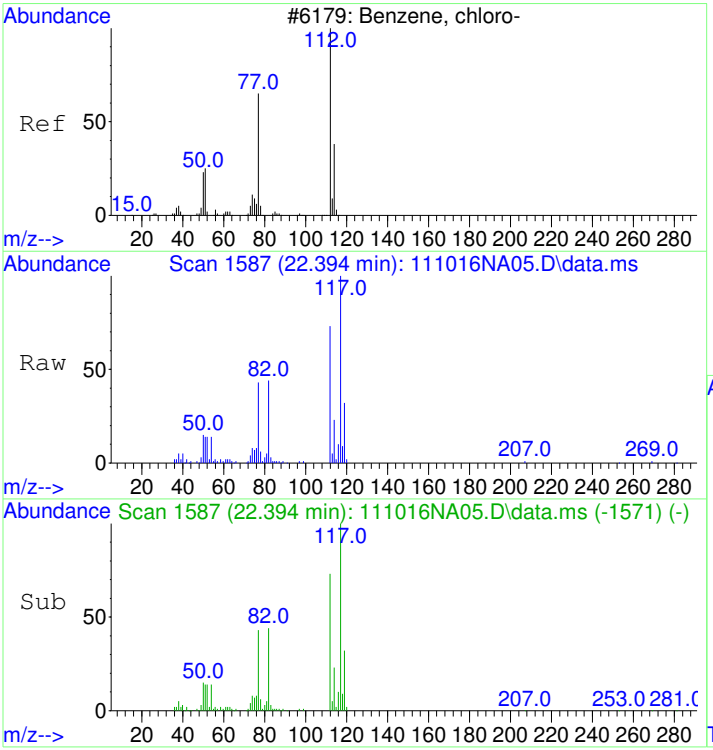


#50
1,2-Dibromoethane (EDB)
Concen: 0.87 ppbv
RT: 21.683 min Scan# 1527
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion:107 Resp: 45439

Ion	Ratio	Lower	Upper
107	100		
109	95.5	74.8	114.8

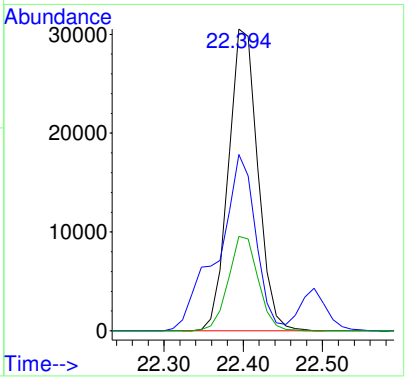


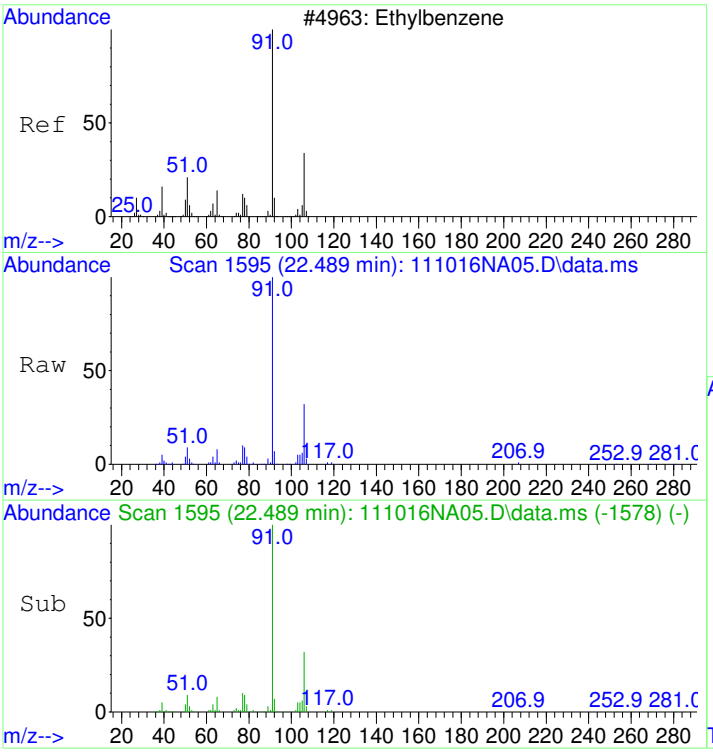


#51
Chlorobenzene
Concen: 0.95 ppbv
RT: 22.394 min Scan# 1587
Delta R.T. -0.012 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion:112 Resp: 78866

Ion	Ratio	Lower	Upper
112	100		
77	75.3	37.8	77.8
114	31.8	12.2	52.2

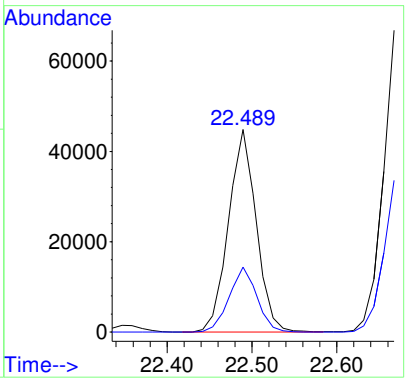


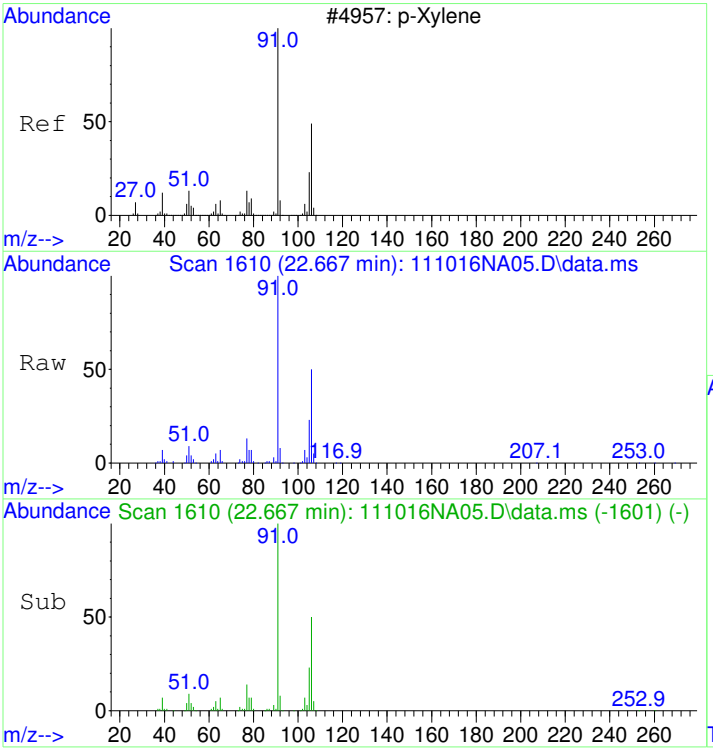


#52
Ethylbenzene
Concen: 0.72 ppbv
RT: 22.489 min Scan# 1595
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 91 Resp: 102206

Ion	Ratio	Lower	Upper
91	100		
106	32.0	12.8	52.8

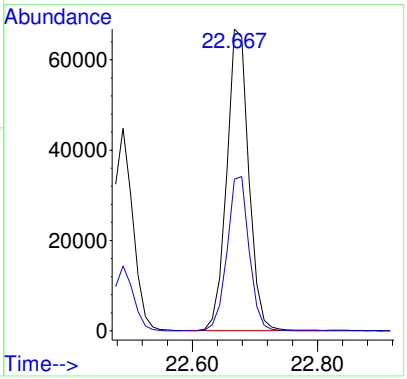


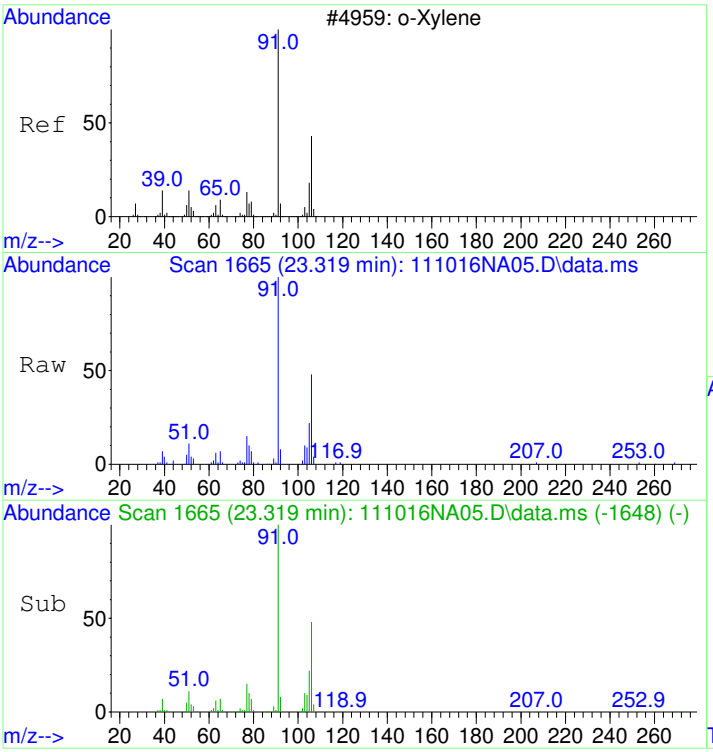


#53
m&p-Xylene
Concen: 1.49 ppbv
RT: 22.667 min Scan# 1610
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 91 Resp: 162801

Ion	Ratio	Lower	Upper
91	100		
106	51.3	32.2	72.2

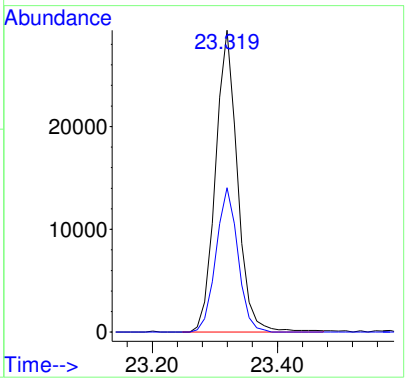


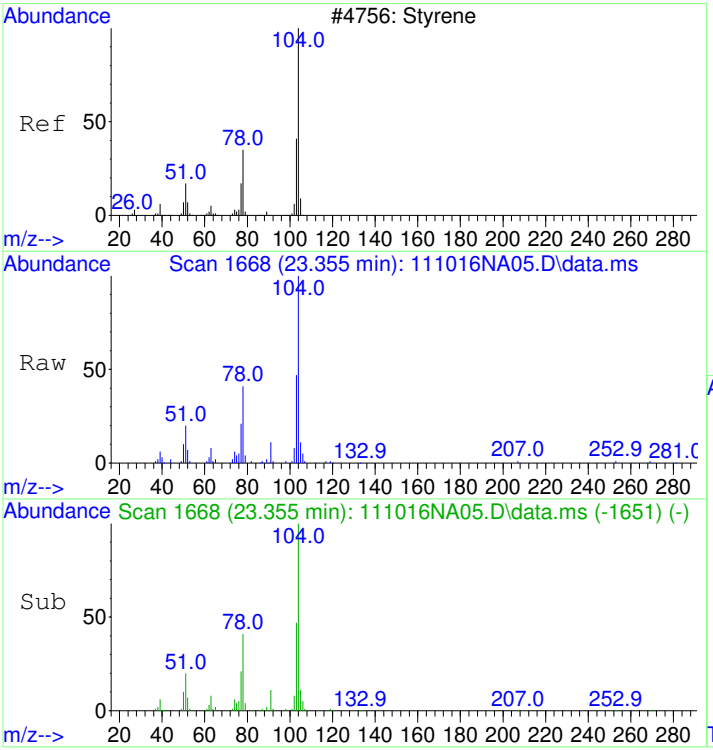


#54
o-Xylene
Concen: 0.64 ppbv
RT: 23.319 min Scan# 1665
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 91 Resp: 72068

Ion	Ratio	Lower	Upper
91	100		
106	47.6	29.0	69.0

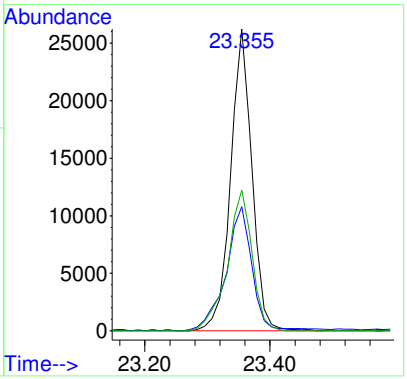


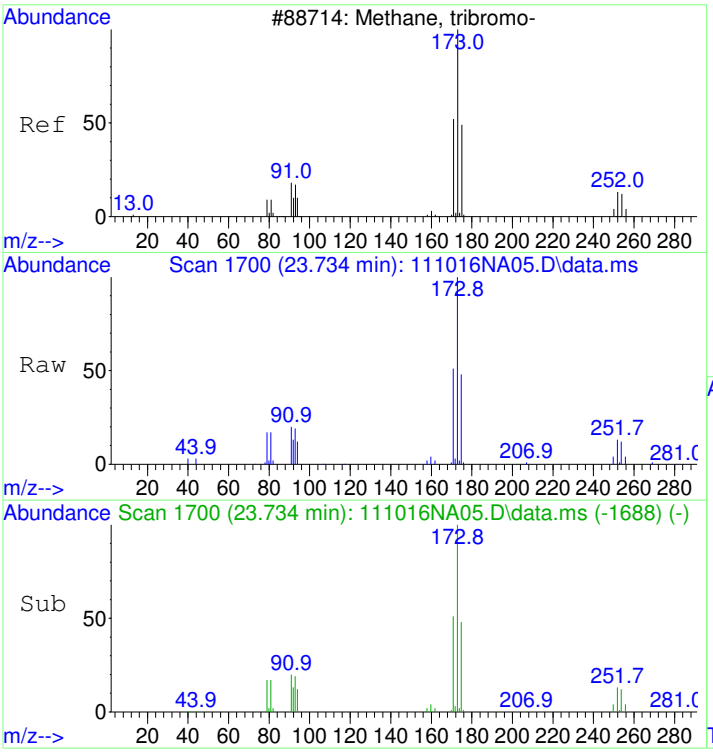


#55
Styrene
Concen: 0.71 ppbv
RT: 23.355 min Scan# 1668
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion:104 Resp: 62032

Ion	Ratio	Lower	Upper
104	100		
78	51.0	27.9	67.9
103	53.8	33.3	73.3

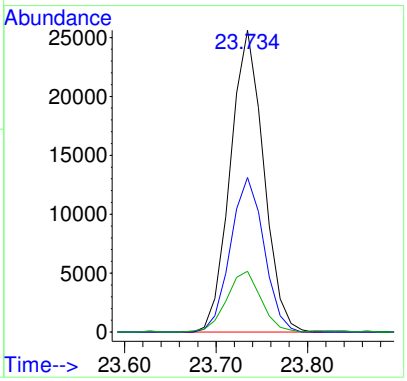


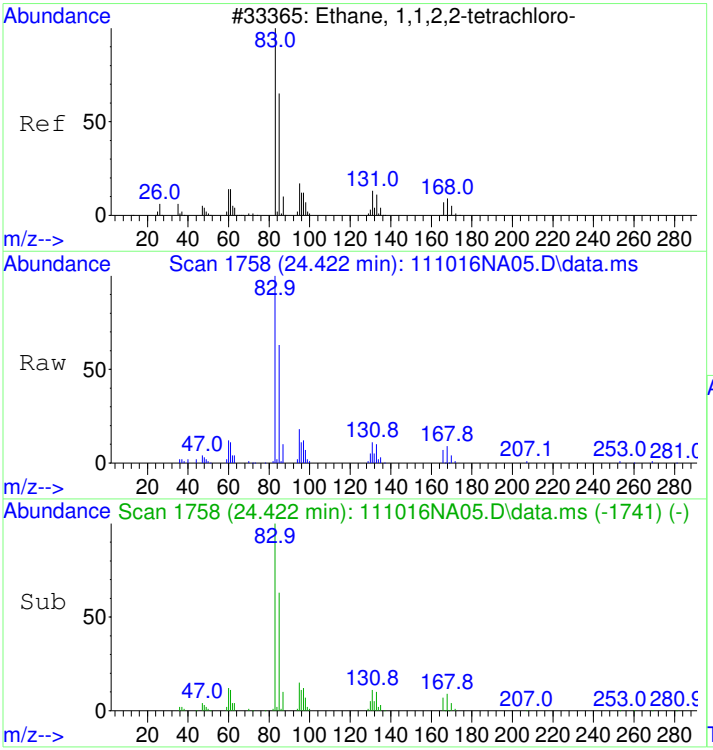


#56
Bromoform
Concen: 0.96 ppbv
RT: 23.734 min Scan# 1700
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion:173 Resp: 64593

Ion	Ratio	Lower	Upper
173	100		
171	51.7	31.0	71.0
91	20.9	0.0	38.9

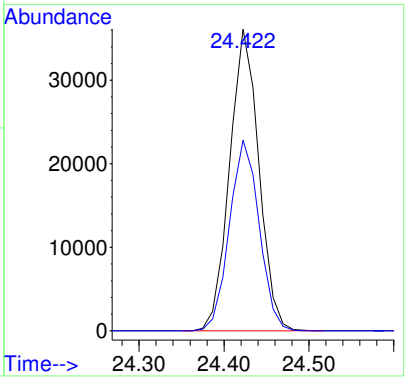


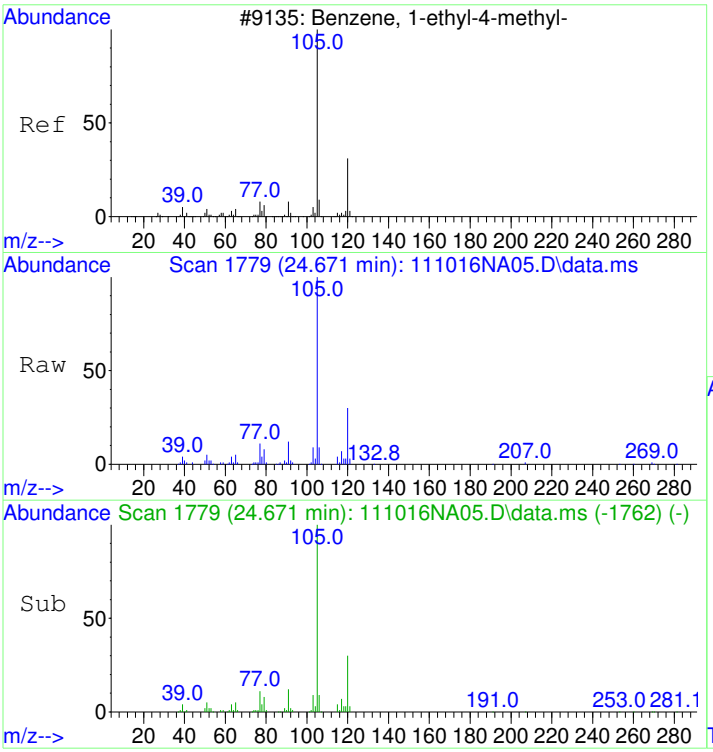


#57
1,1,2,2-Tetrachloroethane
Concen: 1.07 ppbv
RT: 24.422 min Scan# 1758
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 83 Resp: 86643

Ion	Ratio	Lower	Upper
83	100		
85	64.2	44.7	84.7

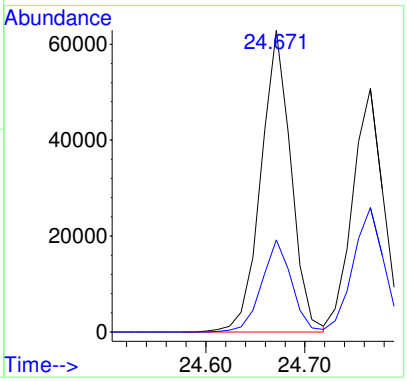


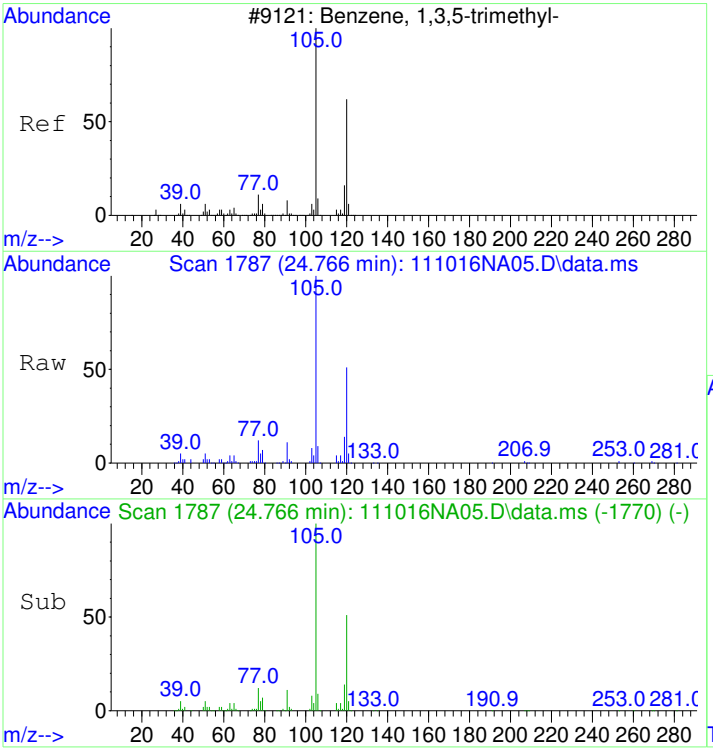


#58
4-Ethyltoluene
Concen: 0.74 ppbv
RT: 24.671 min Scan# 1779
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion:105 Resp: 132528

Ion	Ratio	Lower	Upper
105	100		
120	30.5	10.9	50.9

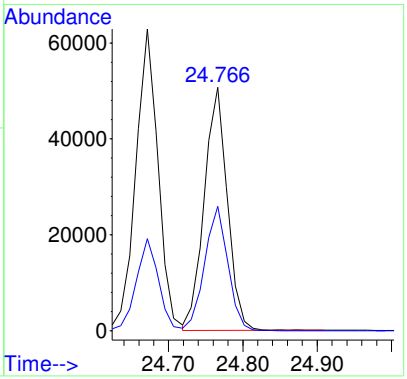


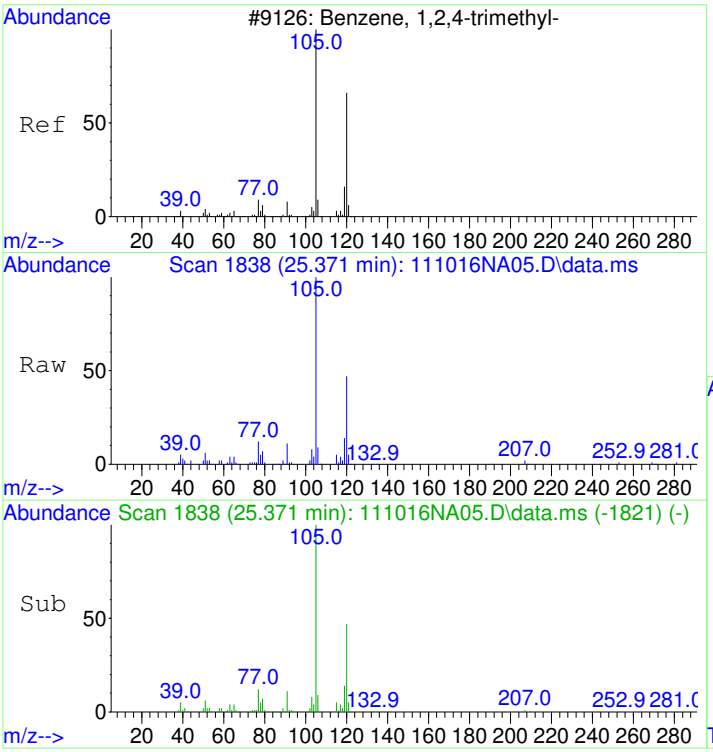


#59
1,3,5-Trimethylbenzene
Concen: 0.83 ppbv
RT: 24.766 min Scan# 1787
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion:105 Resp: 109779

Ion	Ratio	Lower	Upper
105	100		
120	51.4	31.9	71.9

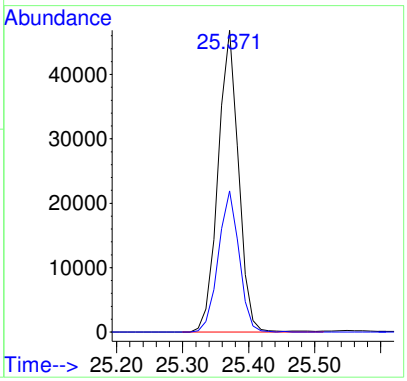


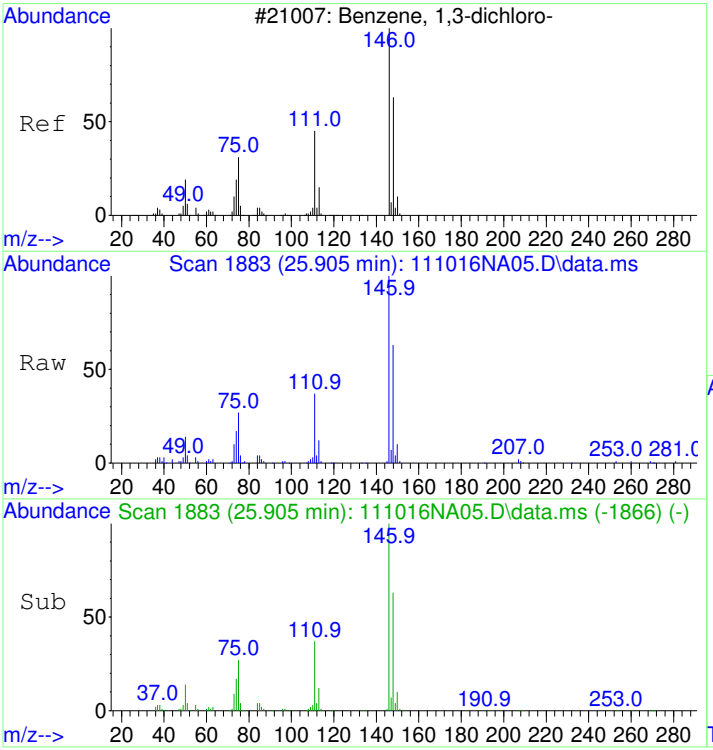


#60
1,2,4-Trimethylbenzene
Concen: 0.75 ppbv
RT: 25.371 min Scan# 1838
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion:105 Resp: 101115

Ion	Ratio	Lower	Upper
105	100		
120	47.2	28.1	68.1

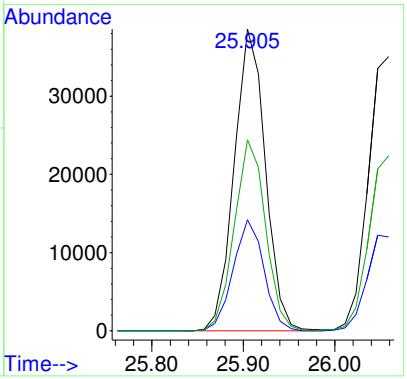


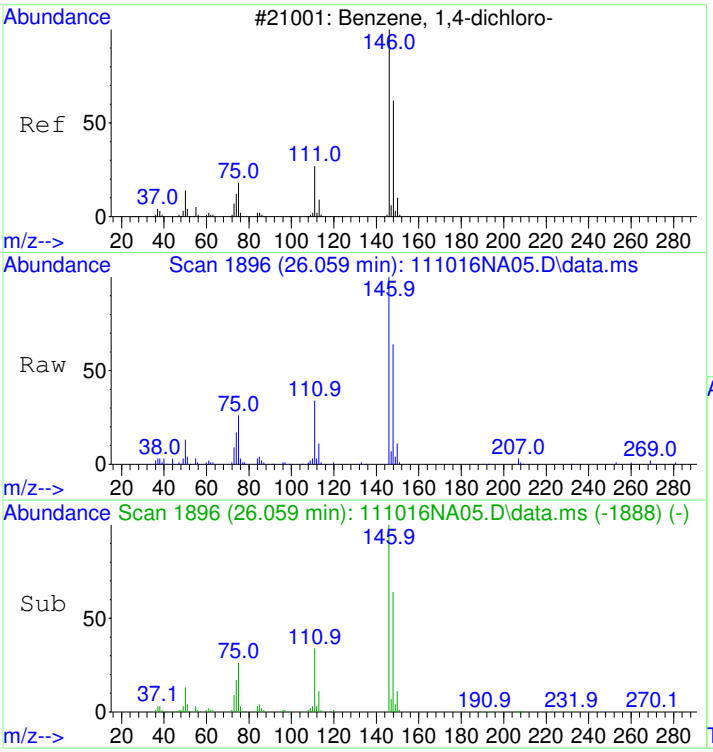


#61
1,3-Dichlorobenzene
Concen: 1.06 ppbv
RT: 25.905 min Scan# 1883
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion:146 Resp: 91193

Ion	Ratio	Lower	Upper
146	100		
111	36.4	16.8	56.8
148	63.4	44.6	84.6

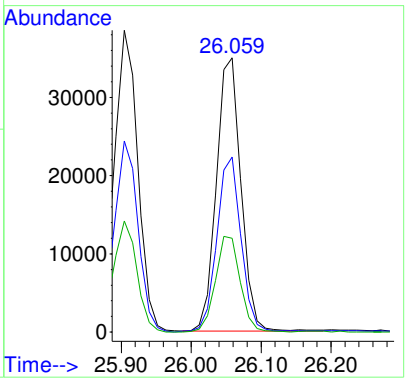


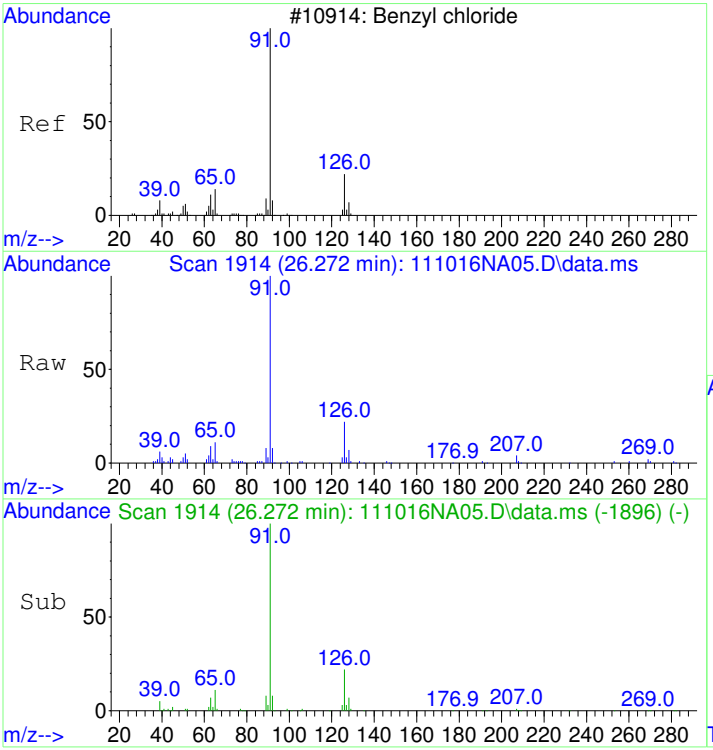


#62
1,4-Dichlorobenzene
Concen: 1.03 ppbv
RT: 26.059 min Scan# 1896
Delta R.T. 0.012 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion:146 Resp: 85037

Ion	Ratio	Lower	Upper
146	100		
148	62.3	44.3	84.3
111	35.5	15.0	55.0

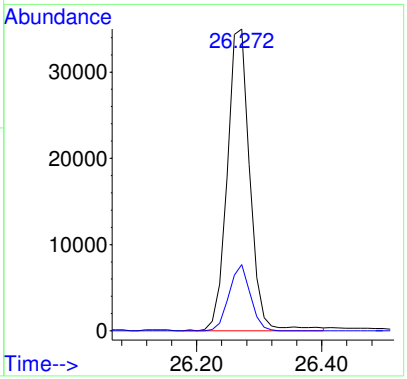


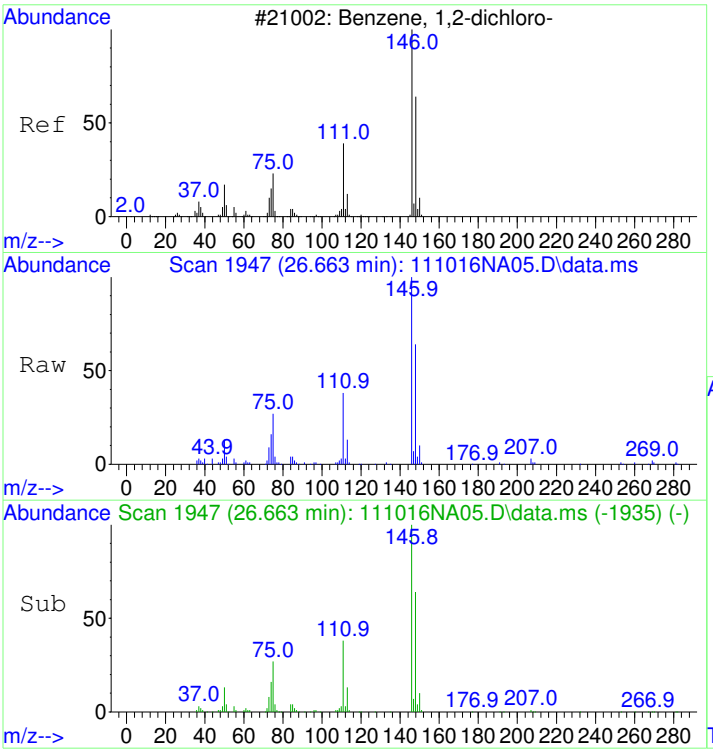


#63
Benzyl chloride
Concen: 0.83 ppbv
RT: 26.272 min Scan# 1914
Delta R.T. 0.012 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion: 91 Resp: 88367

Ion	Ratio	Lower	Upper
91	100		
126	20.6	1.5	41.5

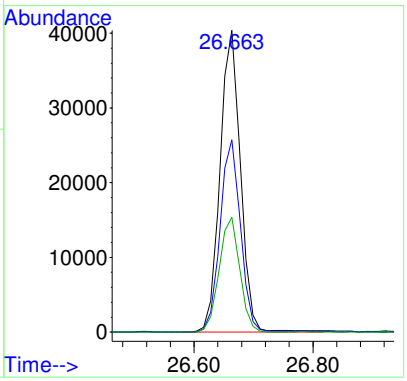


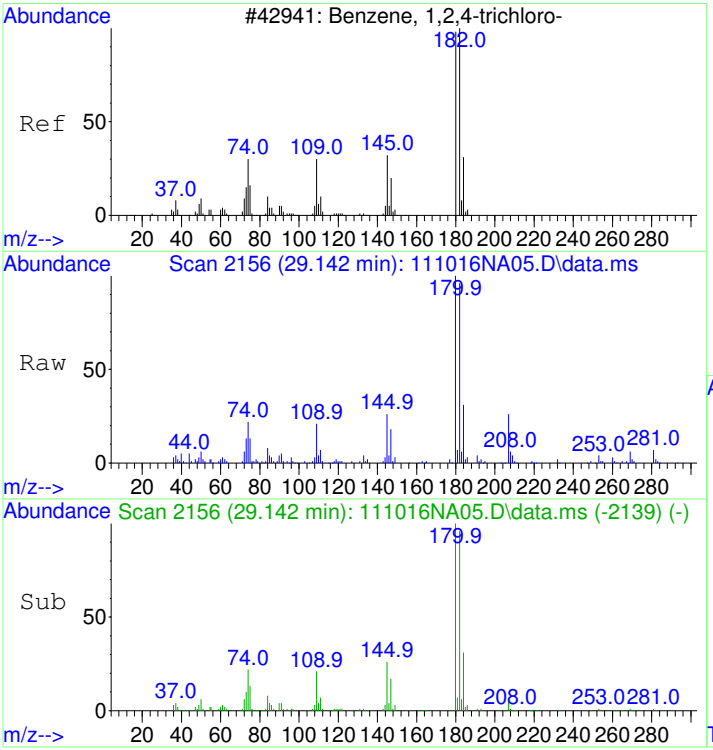


#64
1,2-Dichlorobenzene
Concen: 1.13 ppbv
RT: 26.663 min Scan# 1947
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion:146 Resp: 96758

Ion	Ratio	Lower	Upper
146	100		
148	63.9	44.2	84.2
111	38.1	17.8	57.8

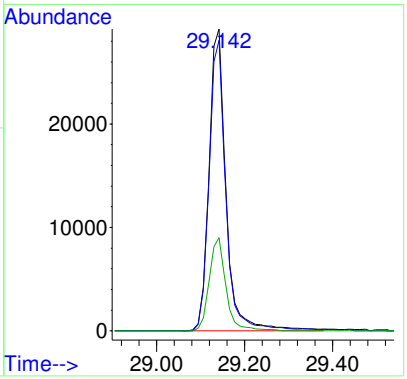


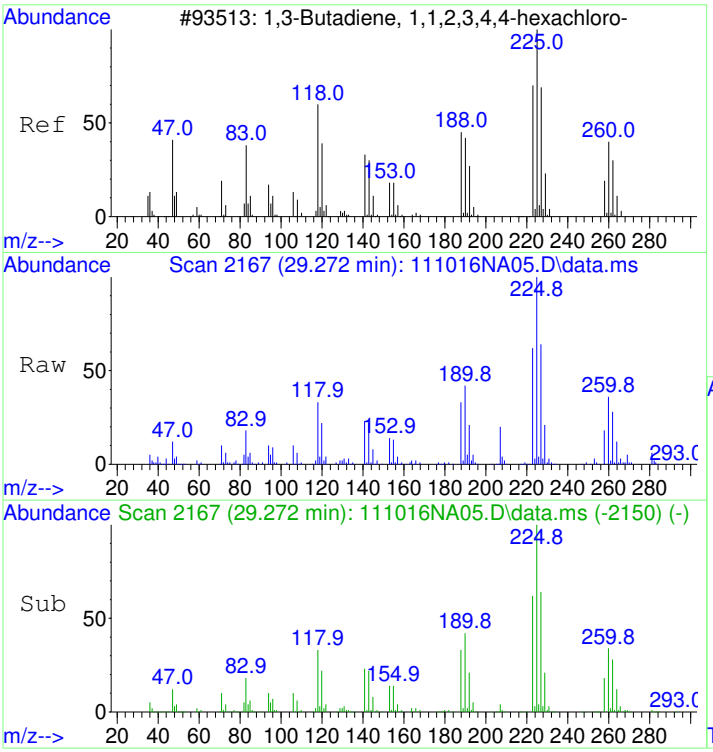


#65
1,2,4-Trichlorobenzene
Concen: 1.11 ppbv
RT: 29.142 min Scan# 2156
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion:180 Resp: 78448

Ion	Ratio	Lower	Upper
180	100		
182	95.1	75.8	115.8
184	30.2	10.5	50.5

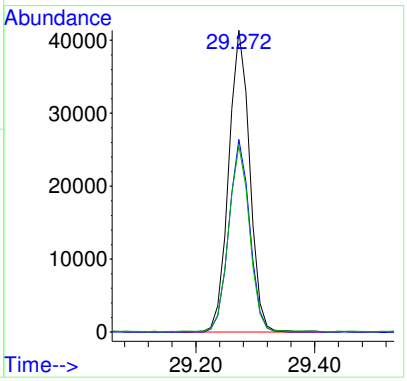




#66
Hexachlorobutadiene
Concen: 1.25 ppbv
RT: 29.272 min Scan# 2167
Delta R.T. 0.000 min
Lab File: 111016NA05.D
Acq: 10 Nov 2016 8:53 pm

Tgt Ion:225 Resp: 101866

Ion	Ratio	Lower	Upper
225	100		
227	63.3	44.7	84.7
223	62.7	42.1	82.1



S16K057-CAL2

Data Path : D:\msdchem\1\2016\data\111016_FSAAA\
Data File : 111016NA06.D
Acq On : 10 Nov 2016 9:39 pm
InstName : AG5973N
Operator : LLH
Sample : S16K057-CAL2
Misc : 2.0ppbv 1646103
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 11 08:45:18 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 08:45:10 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	543180	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	2370919	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1922326	22.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.452	41	33846	2.26	ppbv	99
3) Dichlorodifluoromethane	4.547	85	174083	2.66	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.903	85	174634	2.72	ppbv	99
5) Chloromethane	5.093	50	43322	2.40	ppbv	99
6) Vinyl chloride	5.425	62	37039	2.12	ppbv	99
7) 1,3-Butadiene	5.520	54	25295	2.09	ppbv	97
8) Bromomethane	6.457	94	41316	2.33	ppbv	99
9) Chloroethane	6.777	64	17499	2.19	ppbv	100
10) Bromoethene	7.358	106	54543	2.75	ppbv	99
11) Trichlorofluoromethane	7.500	101	169256	2.83	ppbv	99
12) 1,1,2-Trichloro-1,2,2-...	9.326	151	124888	3.10	ppbv	100
13) 1,1-Dichloroethene	9.409	61	71780	2.22	ppbv	98
14) Acetone	9.955	43	64360	2.27	ppbv	99
15) Carbon disulfide	10.133	76	178286	3.04	ppbv	100
16) 2-Propanol	10.560	45	24320	0.79	ppbv	80
17) Allyl chloride	10.951	41	43586	1.92	ppbv	99
18) Dichloromethane	11.473	49	60484	2.41	ppbv	99
19) tert-Butyl methyl ethe...	12.161	73	98092	1.72	ppbv	97
20) trans-1,2-Dichloroethene	12.184	61	82288	2.76	ppbv	99
21) Hexane	12.777	57	64807	1.94	ppbv	92
22) 1,1-Dichloroethane	13.512	63	98563	2.38	ppbv	99
23) Vinyl acetate	13.655	43	20133	0.48	ppbv	98
24) cis-1,2-Dichloroethene	14.947	61	57567	2.07	ppbv	99
25) 2-Butanone (MEK)	15.042	72	22125	2.04	ppbv #	100
26) Ethyl acetate	15.078	61	14777	2.12	ppbv #	92
27) Tetrahydrofuran	15.493	42	37727	1.69	ppbv	98
28) Chloroform	15.635	83	136067	2.76	ppbv	99
29) Cyclohexane	15.860	56	69736	2.04	ppbv	97
30) 1,1,1-Trichloroethane	15.908	97	146072	2.72	ppbv	99
31) Carbon tetrachloride	16.169	117	151229	2.67	ppbv	100
33) Benzene	16.655	78	200696	2.20	ppbv	100
34) 2,2,4-Trimethylpentane	16.607	57	211465	1.55	ppbv	95
35) 1,2-Dichloroethane	16.845	62	85326	2.13	ppbv	100
36) Heptane	16.987	43	68646	1.48	ppbv	98
37) Trichloroethene	17.876	130	79814	2.16	ppbv	99
38) 1,2-Dichloropropane	18.374	63	55668	1.76	ppbv	98
39) 1,4-Dioxane	18.564	88	29027	1.45	ppbv	93
40) Bromodichloromethane	18.837	83	139951	2.16	ppbv	99
41) cis-1,3-Dichloropropene	19.596	75	73763	1.58	ppbv	99
42) 4-Methyl-2-pentanone (...	19.821	43	90194	1.42	ppbv	98
44) Toluene	20.070	91	187924	1.88	ppbv	98
45) trans-1,3-Dichloropropene	20.544	75	70999	1.65	ppbv	98
46) 1,1,2-Trichloroethane	20.841	97	74431	2.17	ppbv	99
47) Tetrachloroethene	20.924	166	114439	2.25	ppbv	99
48) 2-Hexanone	21.173	43	76852	1.31	ppbv	94
49) Chlorodibromomethane	21.458	129	139247	2.16	ppbv	99
50) 1,2-Dibromoethane (EDB)	21.683	107	107108	2.16	ppbv	100
51) Chlorobenzene	22.394	112	177925	2.23	ppbv	95
52) Ethylbenzene	22.489	91	249420	1.89	ppbv	98
53) m&p-Xylene	22.667	91	407996	4.00	ppbv	99
54) o-Xylene	23.319	91	187172	1.82	ppbv	98

Data Path : D:\msdchem\1\2016\data\111016_FSAAA\
Data File : 111016NA06.D
Acq On : 10 Nov 2016 9:39 pm
InstName : AG5973N
Operator : LLH
Sample : S16K057-CAL2
Misc : 2.0ppbv 1646103
ALS Vial : 32 Sample Multiplier: 1

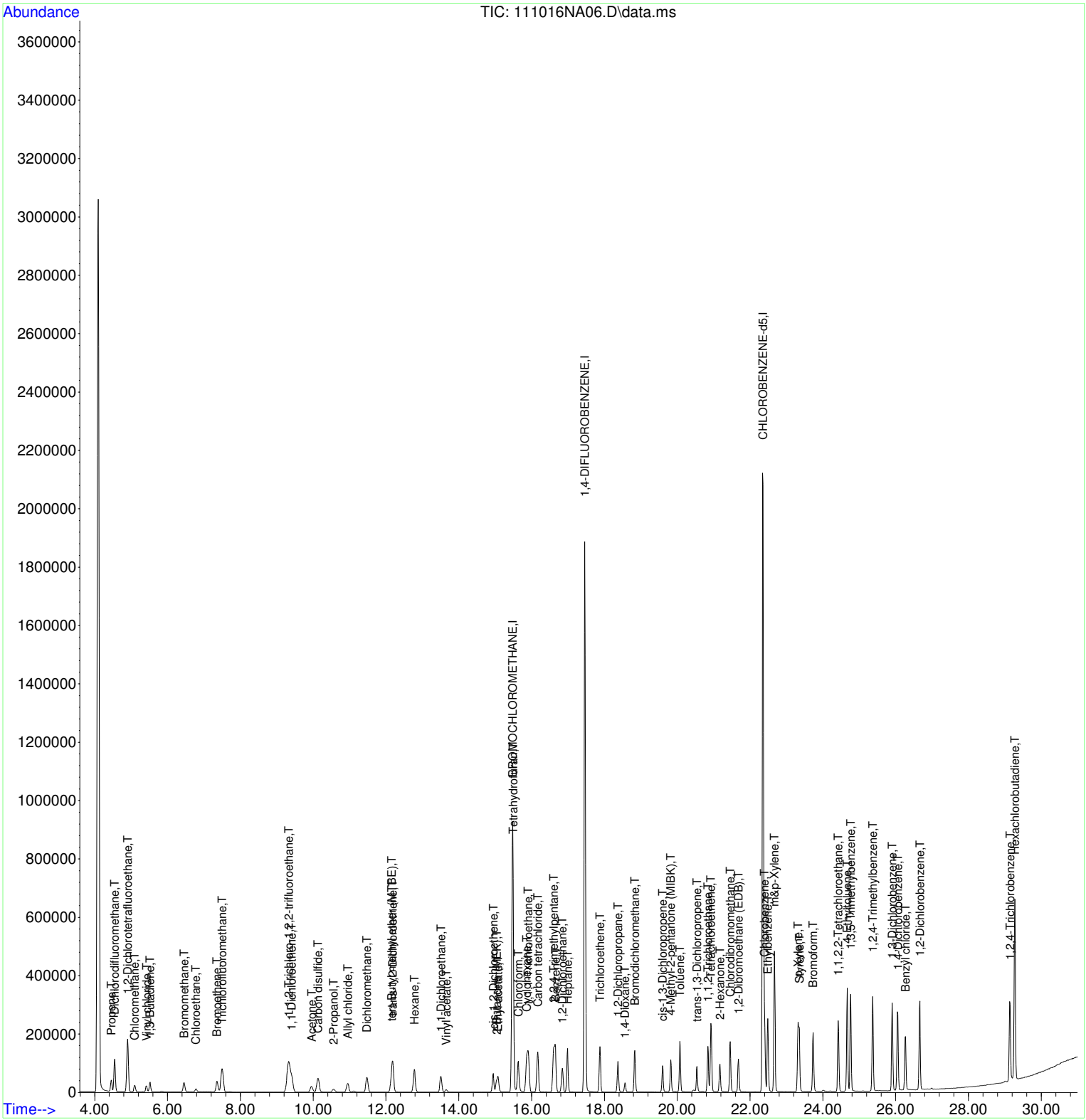
Quant Time: Nov 11 08:45:18 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 08:45:10 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55) Styrene	23.355	104	157029	1.92	ppbv	99
56) Bromoform	23.734	173	143083	2.18	ppbv	99
57) 1,1,2,2-Tetrachloroethane	24.422	83	174782	2.19	ppbv	99
58) 4-Ethyltoluene	24.671	105	300481	1.82	ppbv	99
59) 1,3,5-Trimethylbenzene	24.766	105	263585	2.11	ppbv	99
60) 1,2,4-Trimethylbenzene	25.371	105	247493	1.96	ppbv	99
61) 1,3-Dichlorobenzene	25.905	146	191641	2.25	ppbv	99
62) 1,4-Dichlorobenzene	26.059	146	181508	2.23	ppbv	100
63) Benzyl chloride	26.272	91	207253	2.03	ppbv	99
64) 1,2-Dichlorobenzene	26.663	146	200574	2.34	ppbv	100
65) 1,2,4-Trichlorobenzene	29.142	180	149589	2.09	ppbv	99
66) Hexachlorobutadiene	29.272	225	201691	2.38	ppbv	99

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

Data Path : D:\msdchem\1\2016\data\111016_FSAAA\
Data File : 111016NA06.D
Acq On : 10 Nov 2016 9:39 pm
InstName : AG5973N
Operator : LLH
Sample : S16K057-CAL2
Misc : 2.0ppbv 1646103
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 11 08:45:18 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 08:45:10 2016
Response via : Initial Calibration



S16K057-CAL3

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\111016_FSAAA\
Data File : 111016NA07.D
Acq On : 10 Nov 2016 10:25 pm
InstName : AG5973N
Operator : LLH
Sample : S16K057-CAL3
Misc : 5.0ppbv 1646104
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 11 08:46:02 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 08:45:56 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	542855	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	2352297	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1934065	22.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.452	41	77589	5.33	ppbv	100
3) Dichlorodifluoromethane	4.547	85	392982	5.67	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.903	85	388737	5.74	ppbv	99
5) Chloromethane	5.093	50	93722	5.22	ppbv	99
6) Vinyl chloride	5.413	62	80200	4.73	ppbv	100
7) 1,3-Butadiene	5.520	54	56618	4.84	ppbv	98
8) Bromomethane	6.457	94	88419	4.96	ppbv	100
9) Chloroethane	6.777	64	38472	4.88	ppbv	99
10) Bromoethene	7.358	106	123872	6.00	ppbv	100
11) Trichlorofluoromethane	7.500	101	372547	5.80	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.326	151	276244	6.29	ppbv	100
13) 1,1-Dichloroethene	9.409	61	173124	5.42	ppbv	99
14) Acetone	9.943	43	167177	6.01	ppbv	99
15) Carbon disulfide	10.133	76	399493	6.36	ppbv	100
16) 2-Propanol	10.560	45	63463	2.45	ppbv	88
17) Allyl chloride	10.951	41	110497	5.17	ppbv	98
18) Dichloromethane	11.473	49	125562	5.00	ppbv	100
19) tert-Butyl methyl ethe...	12.149	73	317749	5.88	ppbv	98
20) trans-1,2-Dichloroethene	12.184	61	190866	6.24	ppbv	100
21) Hexane	12.777	57	170118	5.34	ppbv	97
22) 1,1-Dichloroethane	13.512	63	225207	5.39	ppbv	99
23) Vinyl acetate	13.655	43	61486	1.80	ppbv	99
24) cis-1,2-Dichloroethene	14.947	61	146236	5.40	ppbv	99
25) 2-Butanone (MEK)	15.030	72	64819	6.15	ppbv #	100
26) Ethyl acetate	15.078	61	41376	6.01	ppbv	100
27) Tetrahydrofuran	15.493	42	103718	4.99	ppbv	99
28) Chloroform	15.635	83	309266	5.93	ppbv	100
29) Cyclohexane	15.860	56	182320	5.55	ppbv	98
30) 1,1,1-Trichloroethane	15.908	97	332912	5.82	ppbv	100
31) Carbon tetrachloride	16.169	117	343853	5.71	ppbv	100
33) Benzene	16.655	78	462552	5.22	ppbv	100
34) 2,2,4-Trimethylpentane	16.607	57	575290	4.69	ppbv	99
35) 1,2-Dichloroethane	16.845	62	198581	5.06	ppbv	100
36) Heptane	16.987	43	183530	4.44	ppbv	99
37) Trichloroethene	17.876	130	202465	5.64	ppbv	100
38) 1,2-Dichloropropane	18.374	63	138608	4.72	ppbv	99
39) 1,4-Dioxane	18.564	88	79858	4.50	ppbv	98
40) Bromodichloromethane	18.837	83	338507	5.34	ppbv	100
41) cis-1,3-Dichloropropene	19.596	75	218000	5.10	ppbv	100
42) 4-Methyl-2-pentanone (...	19.821	43	240092	4.28	ppbv	99
44) Toluene	20.070	91	530966	5.52	ppbv	99
45) trans-1,3-Dichloropropene	20.544	75	214771	5.25	ppbv	100
46) 1,1,2-Trichloroethane	20.841	97	193285	5.65	ppbv	100
47) Tetrachloroethene	20.936	166	310089	6.03	ppbv	99
48) 2-Hexanone	21.161	43	205461	3.94	ppbv	97
49) Chlorodibromomethane	21.458	129	366499	5.66	ppbv	100
50) 1,2-Dibromoethane (EDB)	21.683	107	284031	5.80	ppbv	100
51) Chlorobenzene	22.394	112	465986	5.84	ppbv	99
52) Ethylbenzene	22.489	91	718520	5.62	ppbv	99
53) m&p-Xylene	22.667	91	1135613	11.37	ppbv	100
54) o-Xylene	23.319	91	562649	5.67	ppbv	99

Data Path : D:\msdchem\1\2016\data\111016_FSAAA\
Data File : 111016NA07.D
Acq On : 10 Nov 2016 10:25 pm
InstName : AG5973N
Operator : LLH
Sample : S16K057-CAL3
Misc : 5.0ppbv 1646104
ALS Vial : 32 Sample Multiplier: 1

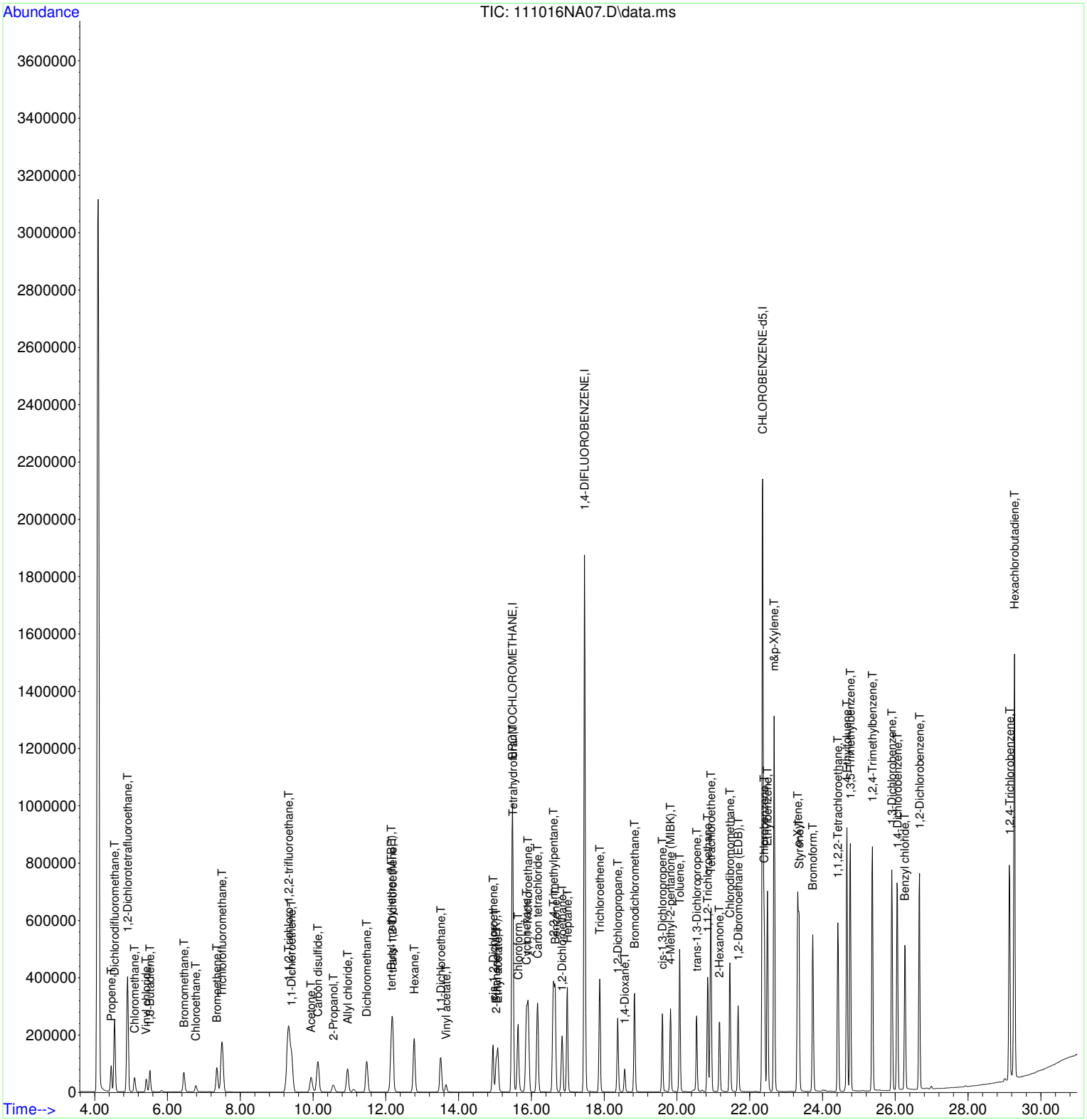
Quant Time: Nov 11 08:46:02 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 08:45:56 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55) Styrene	23.355	104	453615	5.67	ppbv	100
56) Bromoform	23.734	173	390623	5.86	ppbv	100
57) 1,1,2,2-Tetrachloroethane	24.422	83	430551	5.39	ppbv	99
58) 4-Ethyltoluene	24.671	105	849882	5.34	ppbv	99
59) 1,3,5-Trimethylbenzene	24.766	105	709425	5.79	ppbv	100
60) 1,2,4-Trimethylbenzene	25.371	105	694675	5.70	ppbv	100
61) 1,3-Dichlorobenzene	25.904	146	497765	5.80	ppbv	100
62) 1,4-Dichlorobenzene	26.059	146	483109	5.90	ppbv	100
63) Benzyl chloride	26.260	91	570025	5.68	ppbv	100
64) 1,2-Dichlorobenzene	26.663	146	499056	5.74	ppbv	100
65) 1,2,4-Trichlorobenzene	29.142	180	391181	5.42	ppbv	100
66) Hexachlorobutadiene	29.272	225	474871	5.46	ppbv	100

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

Data Path : D:\msdchem\1\2016\data\111016_FSAAA\
Data File : 111016NA07.D
Acq On : 10 Nov 2016 10:25 pm
InstName : AG5973N
Operator : LLH
Sample : S16K057-CAL3
Misc : 5.0ppbv 1646104
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 11 08:46:02 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 08:45:56 2016
Response via : Initial Calibration



S16K057-CAL4

Data Path : D:\msdchem\1\2016\data\111016_FSAAA\
Data File : 111016NA08.D
Acq On : 10 Nov 2016 11:12 pm
InstName : AG5973N
Operator : LLH
Sample : S16K057-CAL4
Misc : 10ppbv 1646105
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 11 08:46:47 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 08:46:40 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	15.481	49	540751	22.00	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	2356389	22.00	ppbv		0.00
43) CHLOROBENZENE-d5	22.359	117	1915969	22.00	ppbv		0.00
Target Compounds							Qvalue
2) Propene	4.452	41	151755	10.54	ppbv		100
3) Dichlorodifluoromethane	4.547	85	749180	10.25	ppbv		100
4) 1,2-Dichlorotetrafluor...	4.903	85	731804	10.29	ppbv		100
5) Chloromethane	5.093	50	177846	9.93	ppbv		100
6) Vinyl chloride	5.413	62	154881	9.36	ppbv		100
7) 1,3-Butadiene	5.520	54	109870	9.64	ppbv		100
8) Bromomethane	6.457	94	168102	9.40	ppbv		100
9) Chloroethane	6.777	64	71805	9.21	ppbv		100
10) Bromoethene	7.358	106	249132	11.50	ppbv		100
11) Trichlorofluoromethane	7.500	101	701186	10.28	ppbv		100
12) 1,1,2-Trichloro-1,2,2-...	9.326	151	523073	11.05	ppbv		100
13) 1,1-Dichloroethene	9.409	61	356291	11.09	ppbv		100
14) Acetone	9.943	43	326178	11.50	ppbv		100
15) Carbon disulfide	10.133	76	759818	11.37	ppbv		100
16) 2-Propanol	10.560	45	125590	5.63	ppbv		100
17) Allyl chloride	10.951	41	234272	11.34	ppbv		100
18) Dichloromethane	11.473	49	234728	9.32	ppbv		100
19) tert-Butyl methyl ethe...	12.149	73	667985	12.29	ppbv		100
20) trans-1,2-Dichloroethene	12.184	61	366117	11.58	ppbv		100
21) Hexane	12.777	57	354614	11.28	ppbv		100
22) 1,1-Dichloroethane	13.512	63	431723	10.13	ppbv		100
23) Vinyl acetate	13.655	43	145652	5.34	ppbv		100
24) cis-1,2-Dichloroethene	14.947	61	306624	11.34	ppbv		100
25) 2-Butanone (MEK)	15.030	72	121316	11.12	ppbv	#	100
26) Ethyl acetate	15.078	61	78324	11.06	ppbv		100
27) Tetrahydrofuran	15.493	42	197315	9.72	ppbv		100
28) Chloroform	15.635	83	588029	10.71	ppbv		100
29) Cyclohexane	15.860	56	370404	11.34	ppbv		100
30) 1,1,1-Trichloroethane	15.908	97	634287	10.49	ppbv		100
31) Carbon tetrachloride	16.169	117	655304	10.31	ppbv		100
33) Benzene	16.655	78	867805	9.82	ppbv		100
34) 2,2,4-Trimethylpentane	16.607	57	1160349	10.04	ppbv		100
35) 1,2-Dichloroethane	16.845	62	382654	9.75	ppbv		100
36) Heptane	16.987	43	370887	9.70	ppbv		100
37) Trichloroethene	17.876	130	407346	11.28	ppbv		100
38) 1,2-Dichloropropane	18.374	63	273449	9.68	ppbv		100
39) 1,4-Dioxane	18.564	88	150603	9.01	ppbv		100
40) Bromodichloromethane	18.837	83	657919	10.36	ppbv		100
41) cis-1,3-Dichloropropene	19.596	75	465073	11.32	ppbv		100
42) 4-Methyl-2-pentanone (...	19.821	43	448716	8.58	ppbv		100
44) Toluene	20.070	91	1070275	11.30	ppbv		100
45) trans-1,3-Dichloropropene	20.544	75	451673	11.42	ppbv		100
46) 1,1,2-Trichloroethane	20.841	97	376501	10.97	ppbv		100
47) Tetrachloroethene	20.936	166	615396	11.71	ppbv		100
48) 2-Hexanone	21.161	43	380728	8.00	ppbv		100
49) Chlorodibromomethane	21.458	129	722076	11.07	ppbv		100
50) 1,2-Dibromoethane (EDB)	21.683	107	561282	11.48	ppbv		100
51) Chlorobenzene	22.406	112	893406	11.11	ppbv		100
52) Ethylbenzene	22.489	91	1419408	11.20	ppbv		100
53) m&p-Xylene	22.667	91	2188634	22.06	ppbv		100
54) o-Xylene	23.319	91	1126561	11.46	ppbv		100

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Data File : 111016NA08.D
Acq On : 10 Nov 2016 11:12 pm
InstName : AG5973N
Operator : LLH
Sample : S16K057-CAL4
Misc : 10ppbv 1646105
ALS Vial : 32 Sample Multiplier: 1

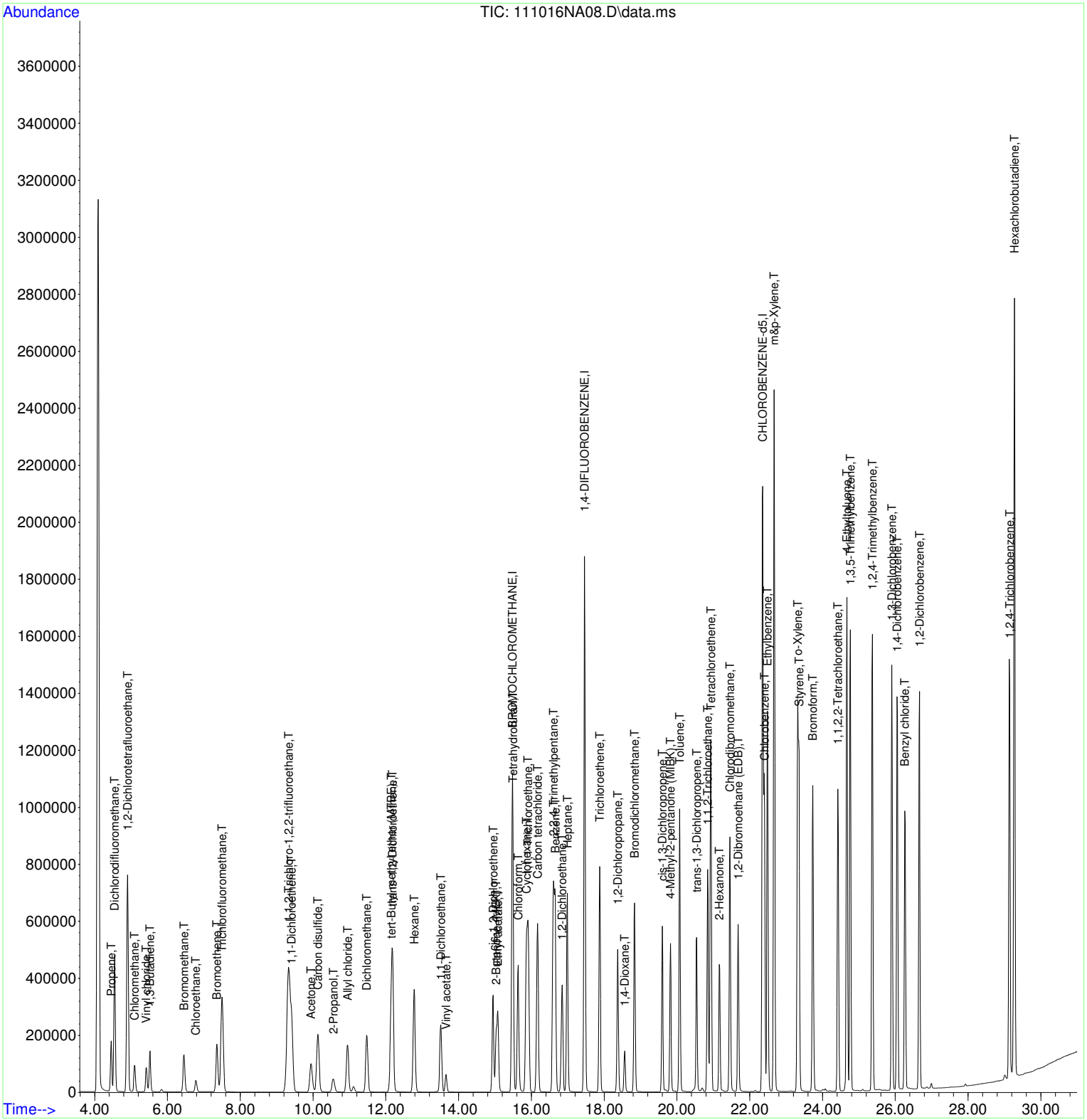
Quant Time: Nov 11 08:46:47 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 08:46:40 2016
Response via : Initial Calibration

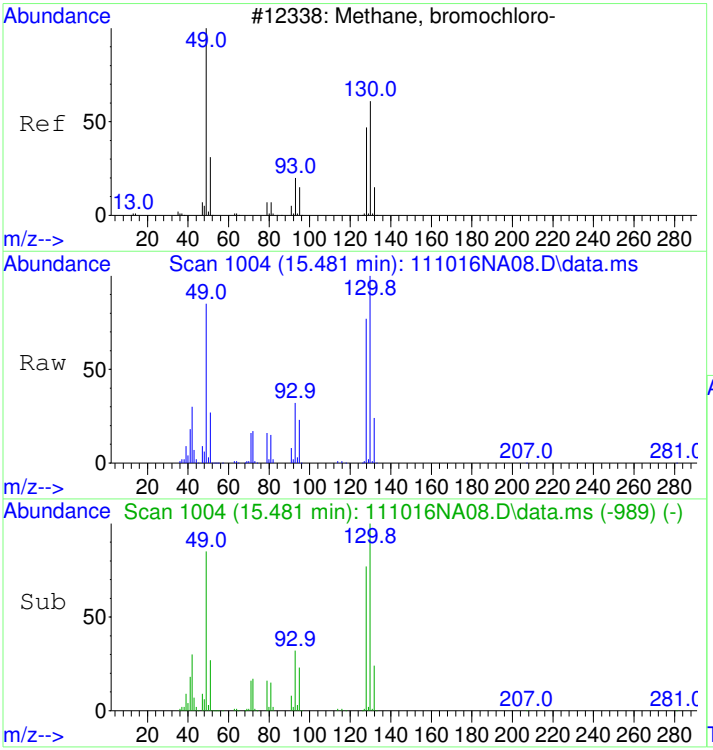
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55) Styrene	23.355	104	890137	11.12	ppbv	100
56) Bromoform	23.734	173	774061	11.40	ppbv	100
57) 1,1,2,2-Tetrachloroethane	24.422	83	786858	9.82	ppbv	100
58) 4-Ethyltoluene	24.671	105	1672025	10.60	ppbv	100
59) 1,3,5-Trimethylbenzene	24.766	105	1365443	11.12	ppbv	100
60) 1,2,4-Trimethylbenzene	25.371	105	1356286	11.16	ppbv	100
61) 1,3-Dichlorobenzene	25.904	146	956206	10.90	ppbv	100
62) 1,4-Dichlorobenzene	26.047	146	924223	11.02	ppbv	100
63) Benzyl chloride	26.260	91	1113875	11.07	ppbv	100
64) 1,2-Dichlorobenzene	26.663	146	931609	10.46	ppbv	100
65) 1,2,4-Trichlorobenzene	29.142	180	767278	10.48	ppbv	100
66) Hexachlorobutadiene	29.272	225	872649	9.83	ppbv	100

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

Data Path : D:\msdchem\1\2016\data\111016_FSAAA\
Data File : 111016NA08.D
Acq On : 10 Nov 2016 11:12 pm
InstName : AG5973N
Operator : LLH
Sample : S16K057-CAL4
Misc : 10ppbv 1646105
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 11 08:46:47 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 08:46:40 2016
Response via : Initial Calibration

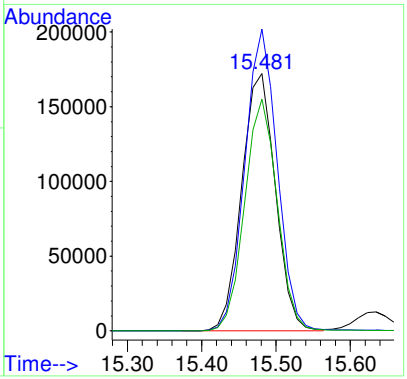


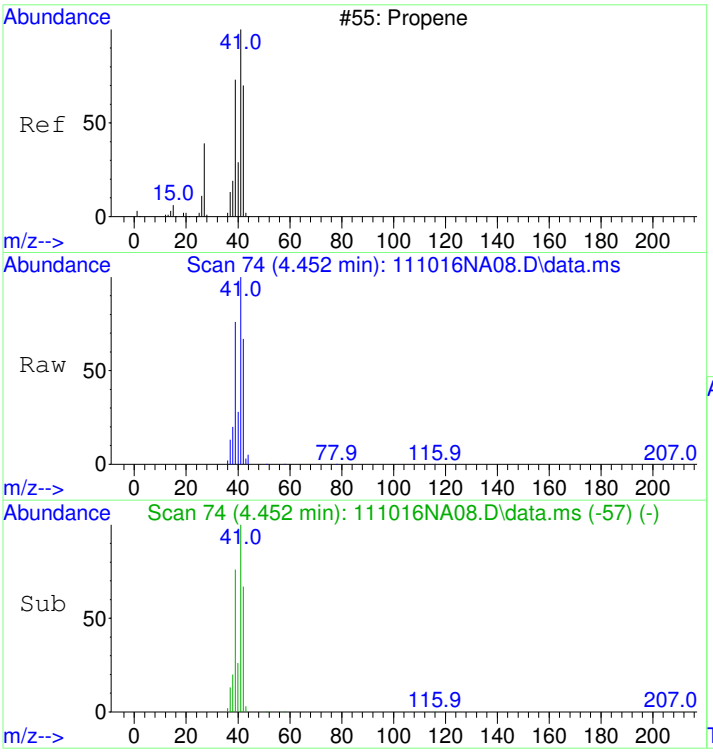


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. -0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 49 Resp: 540751

Ion	Ratio	Lower	Upper
49	100		
130	113.0	93.0	133.0
128	87.1	67.1	107.1

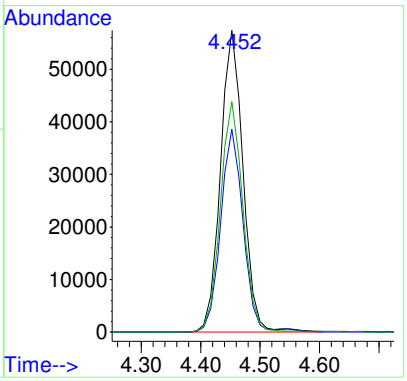


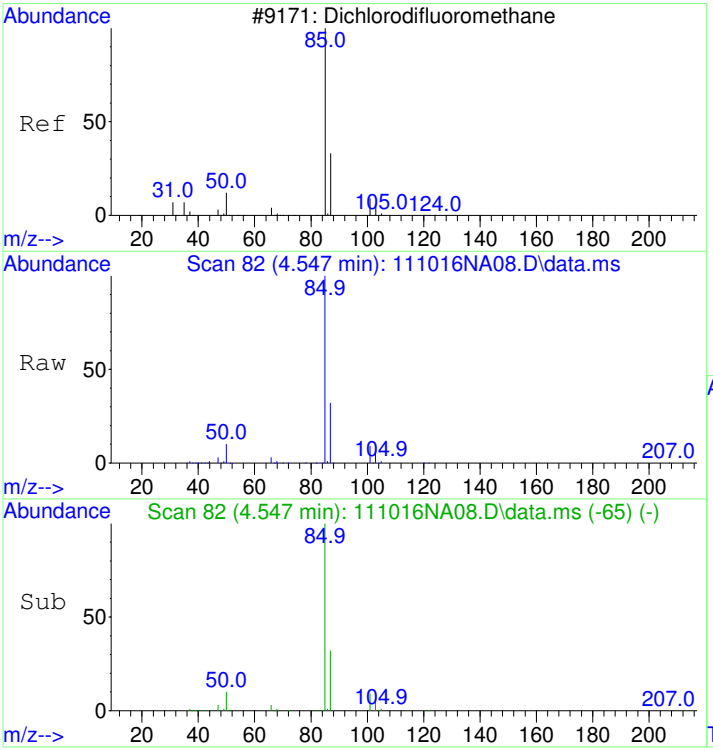


#2
Propene
Concen: 10.54 ppbv
RT: 4.452 min Scan# 74
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 41 Resp: 151755

Ion	Ratio	Lower	Upper
41	100		
42	66.7	46.7	86.7
39	76.2	56.2	96.2

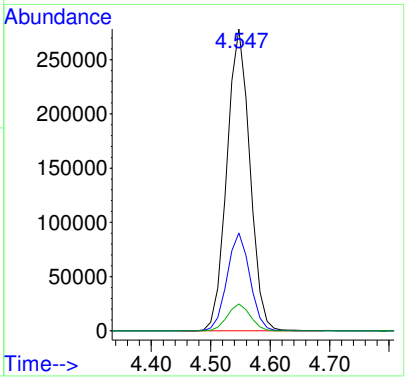


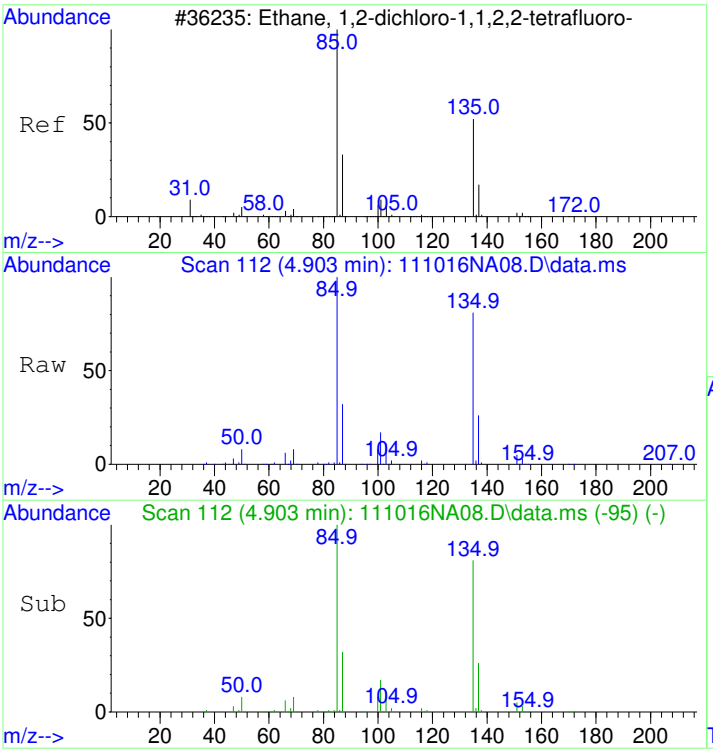


#3
Dichlorodifluoromethane
Concen: 10.25 ppbv
RT: 4.547 min Scan# 82
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 85 Resp: 749180

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

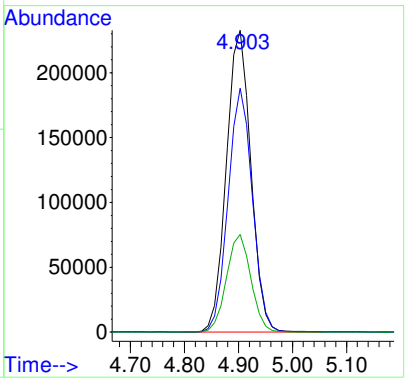


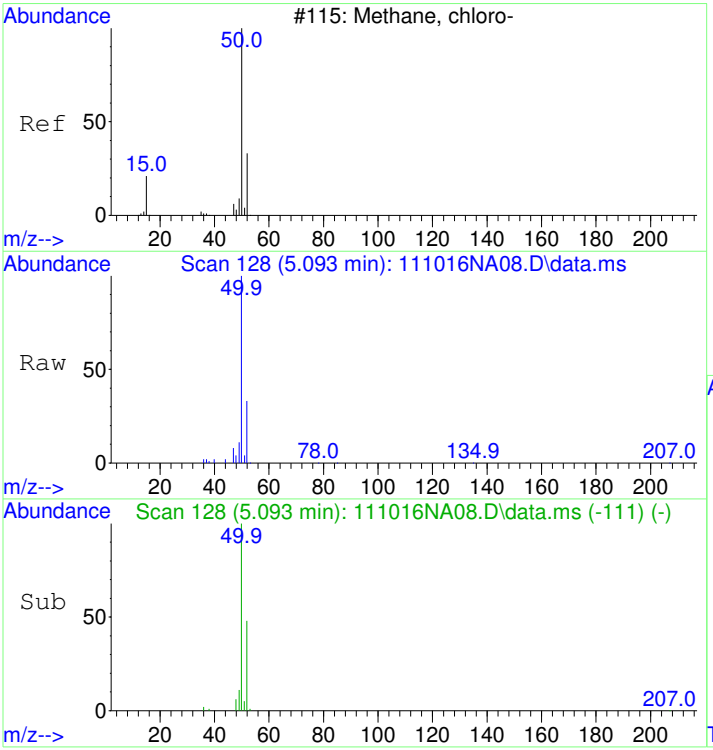


#4
1,2-Dichlorotetrafluoroethane
Concen: 10.29 ppbv
RT: 4.903 min Scan# 112
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 85 Resp: 731804

Ion	Ratio	Lower	Upper
85	100		
135	80.3	60.3	100.3
87	32.3	12.3	52.3

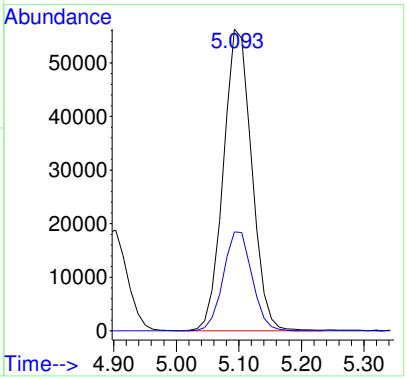


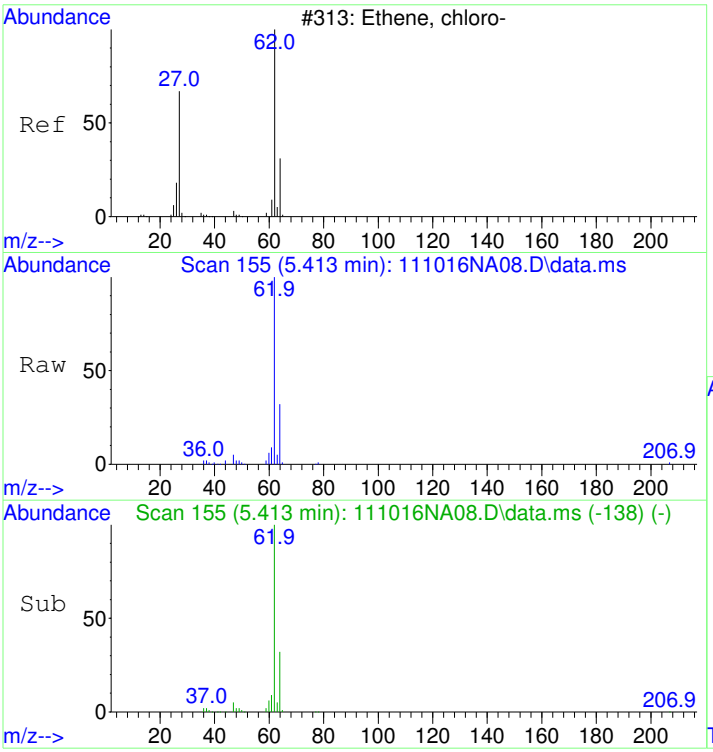


#5
Chloromethane
Concen: 9.93 ppbv
RT: 5.093 min Scan# 128
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 50 Resp: 177846

Ion	Ratio	Lower	Upper
50	100		
52	33.3	13.2	53.2

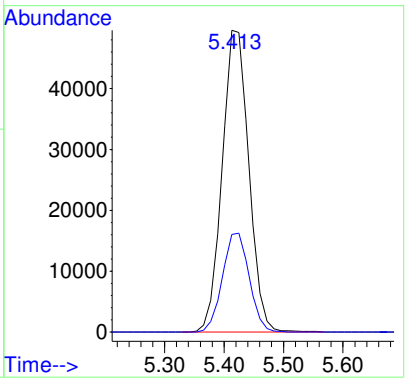


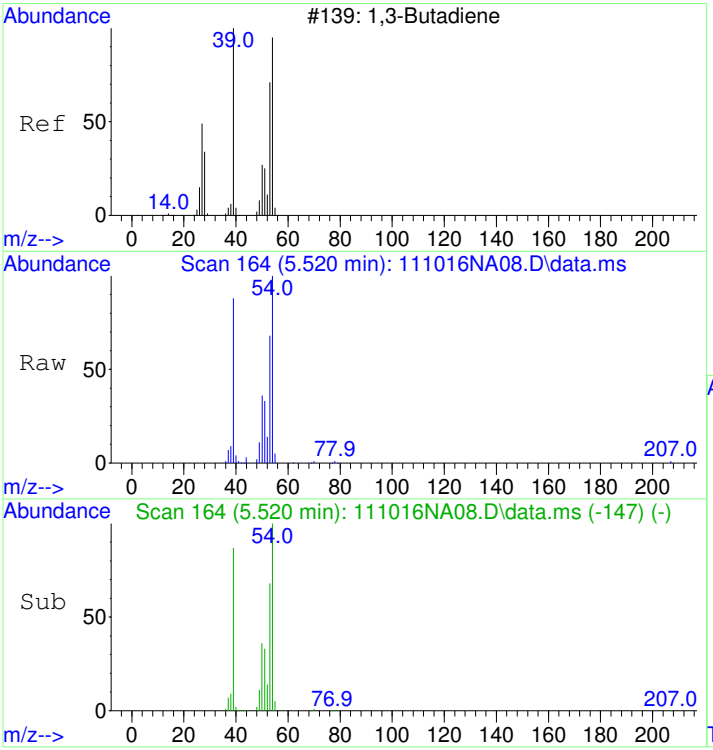


#6
Vinyl chloride
Concen: 9.36 ppbv
RT: 5.413 min Scan# 155
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 62 Resp: 154881

Ion	Ratio	Lower	Upper
62	100		
64	32.9	12.9	52.9

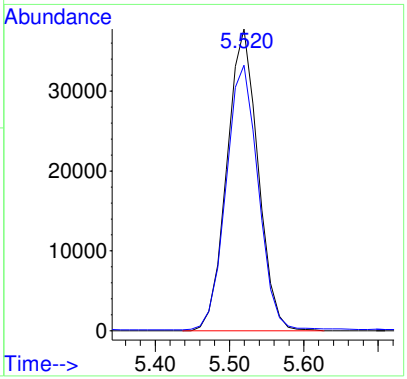


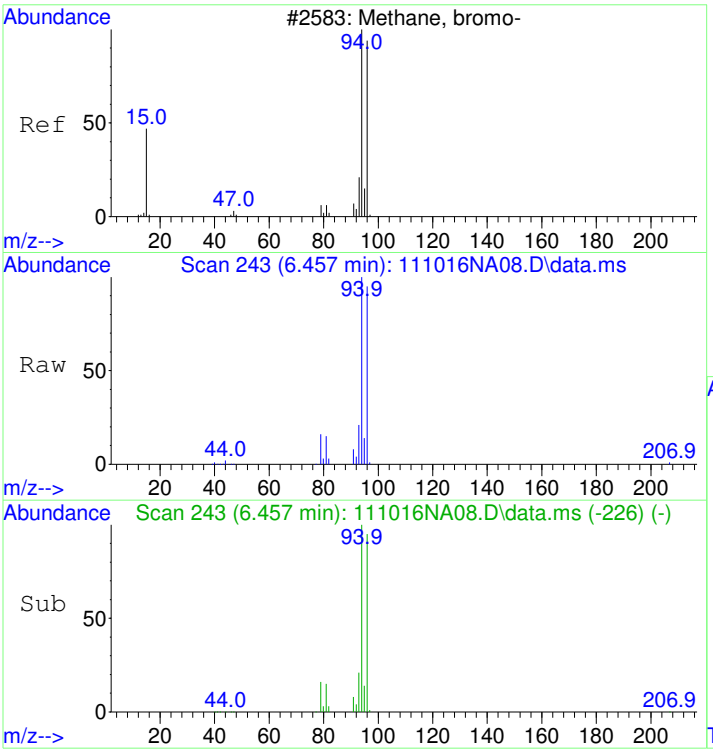


#7
1,3-Butadiene
Concen: 9.64 ppbv
RT: 5.520 min Scan# 164
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 54 Resp: 109870

Ion	Ratio	Lower	Upper
54	100		
39	90.2	70.2	110.2

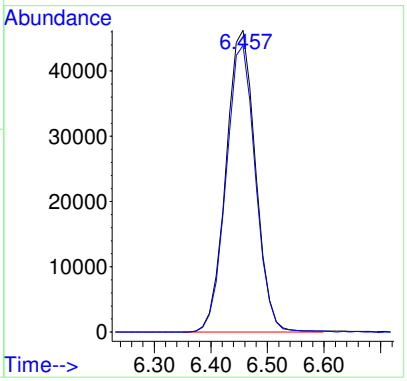


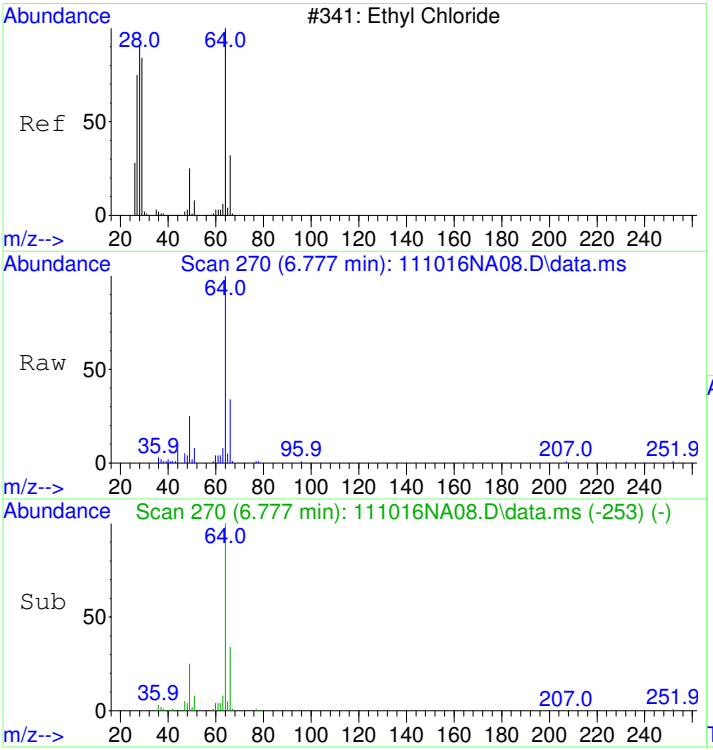


#8
Bromomethane
Concen: 9.40 ppbv
RT: 6.457 min Scan# 243
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 94 Resp: 168102

Ion	Ratio	Lower	Upper
94	100		
96	94.5	74.5	114.5

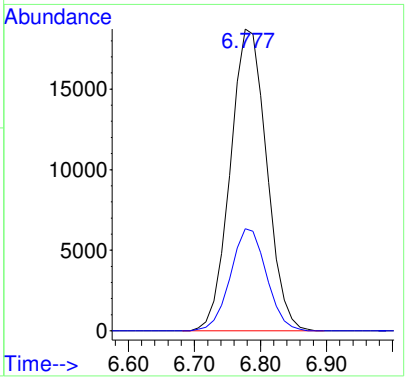


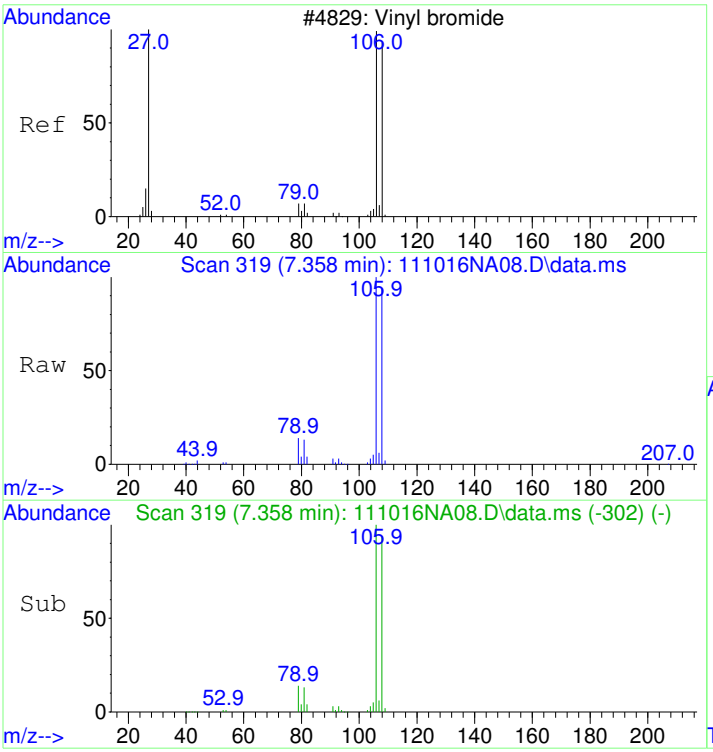


#9
Chloroethane
Concen: 9.21 ppbv
RT: 6.777 min Scan# 270
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 64 Resp: 71805

Ion	Ratio	Lower	Upper
64	100		
66	33.5	13.5	53.5

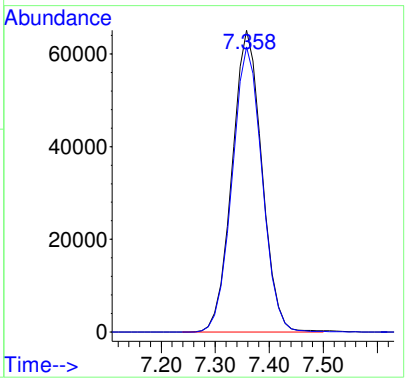


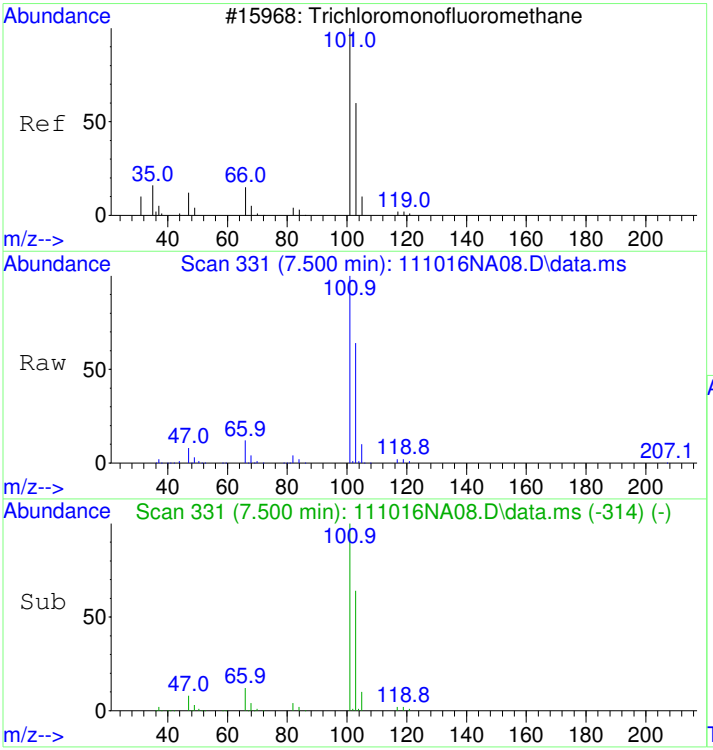


#10
Bromoethene
Concen: 11.50 ppbv
RT: 7.358 min Scan# 319
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion:106 Resp: 249132

Ion	Ratio	Lower	Upper
106	100		
108	94.9	0.0	214.9

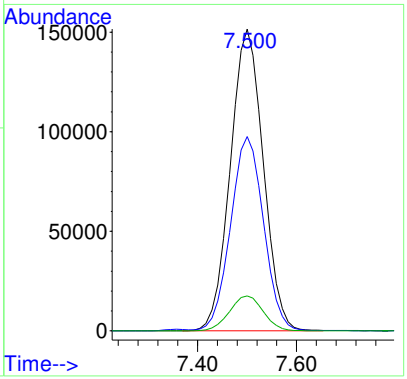


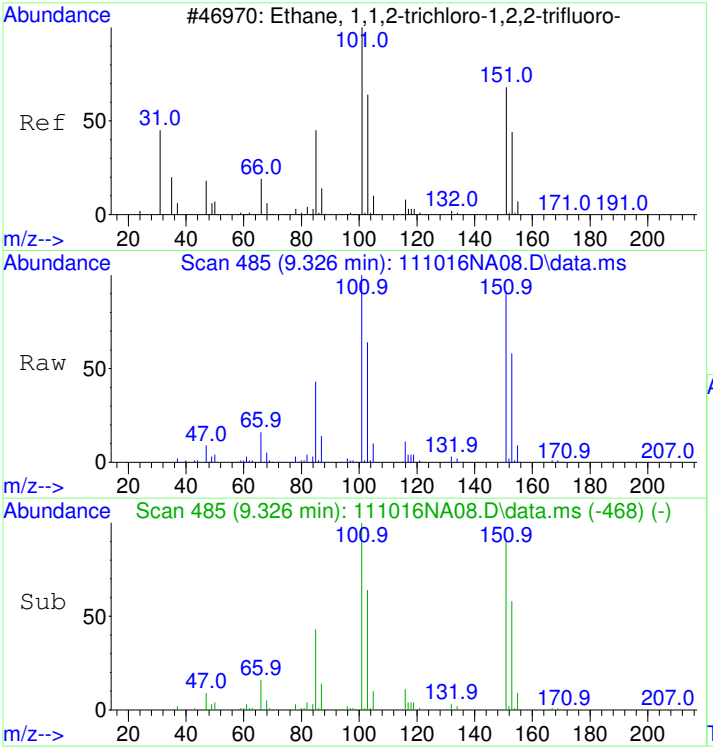


#11
Trichlorofluoromethane
Concen: 10.28 ppbv
RT: 7.500 min Scan# 331
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion:101 Resp: 701186

Ion	Ratio	Lower	Upper
101	100		
103	64.0	44.0	84.0
66	11.9	0.0	31.9

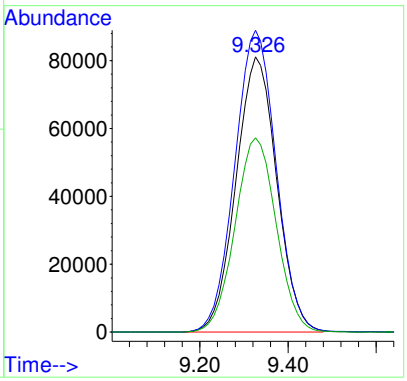


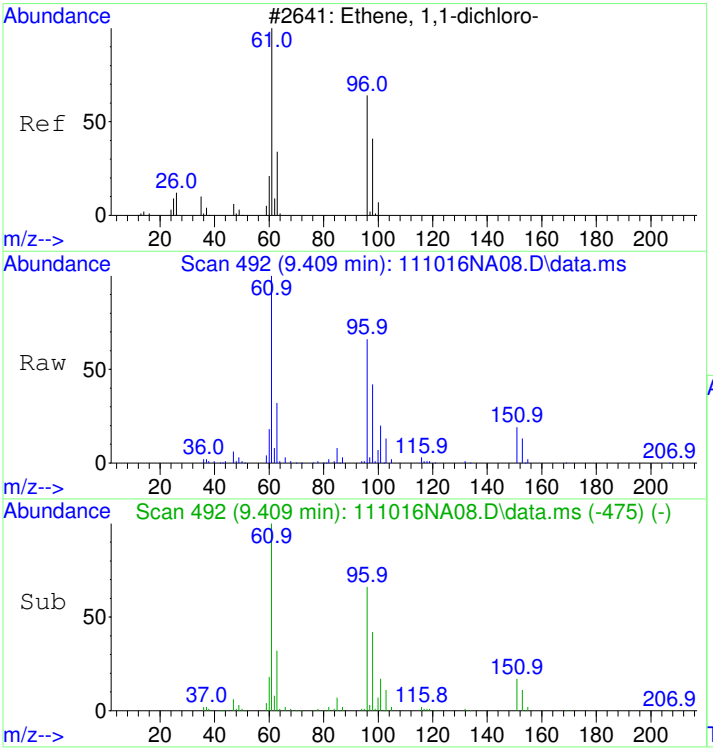


#12
1,1,2-Trichloro-1,2,2-trifluoroethane
Concen: 11.05 ppbv
RT: 9.326 min Scan# 485
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion:151 Resp: 523073

Ion	Ratio	Lower	Upper
151	100		
101	111.0	91.0	131.0
103	71.3	51.3	91.3

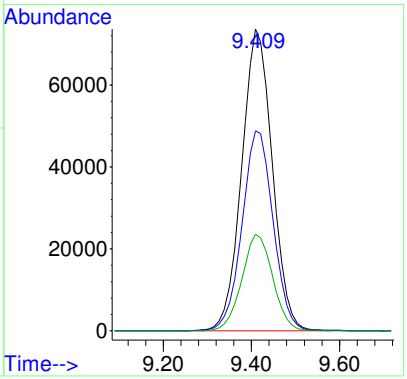


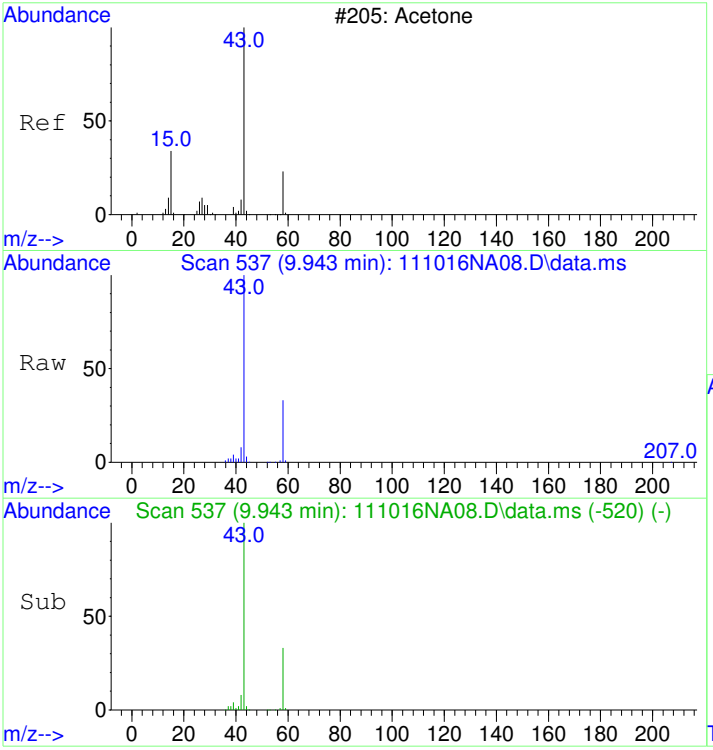


#13
1,1-Dichloroethene
Concen: 11.09 ppbv
RT: 9.409 min Scan# 492
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 61 Resp: 356291

Ion	Ratio	Lower	Upper
61	100		
96	67.3	47.3	87.3
63	32.3	12.3	52.3

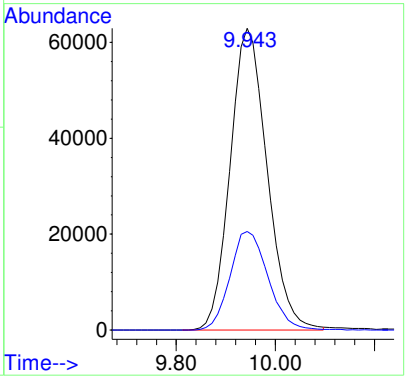


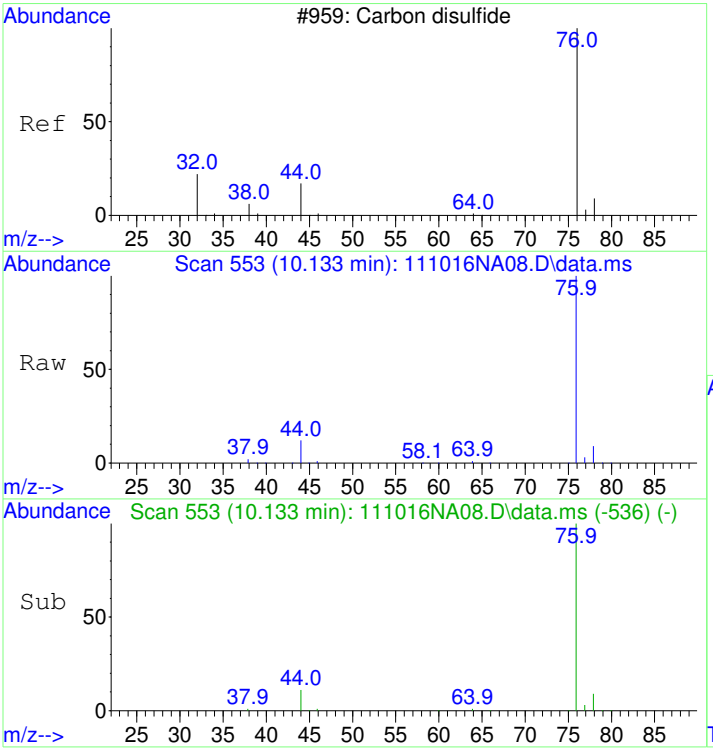


#14
Acetone
Concen: 11.50 ppbv
RT: 9.943 min Scan# 537
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 43 Resp: 326178

Ion	Ratio	Lower	Upper
43	100		
58	33.5	13.5	53.5

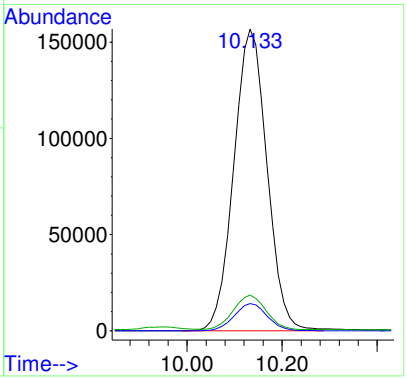


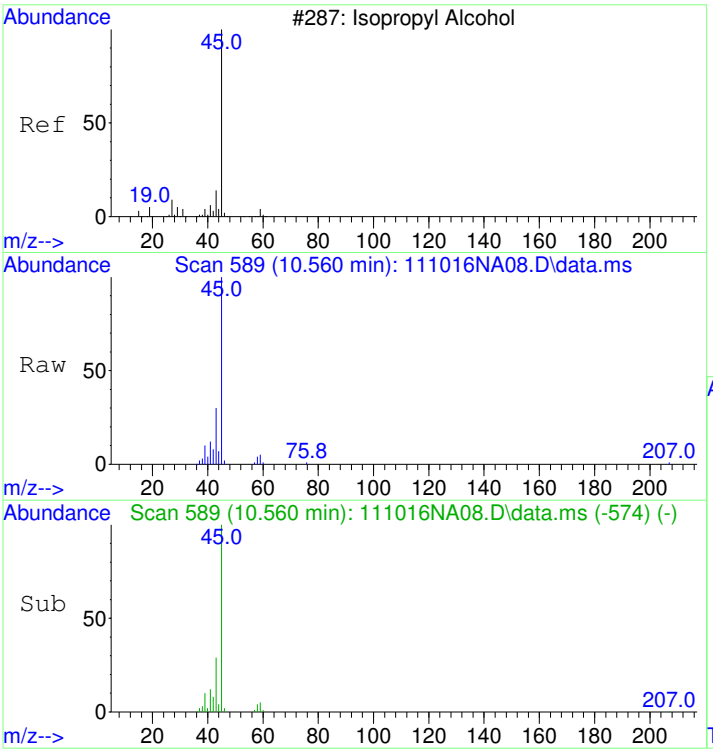


#15
Carbon disulfide
Concen: 11.37 ppbv
RT: 10.133 min Scan# 553
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 76 Resp: 759818

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.0
44	11.2	0.0	31.2

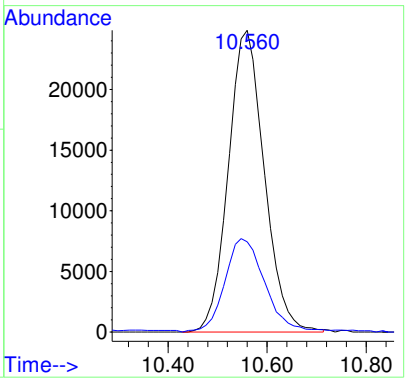


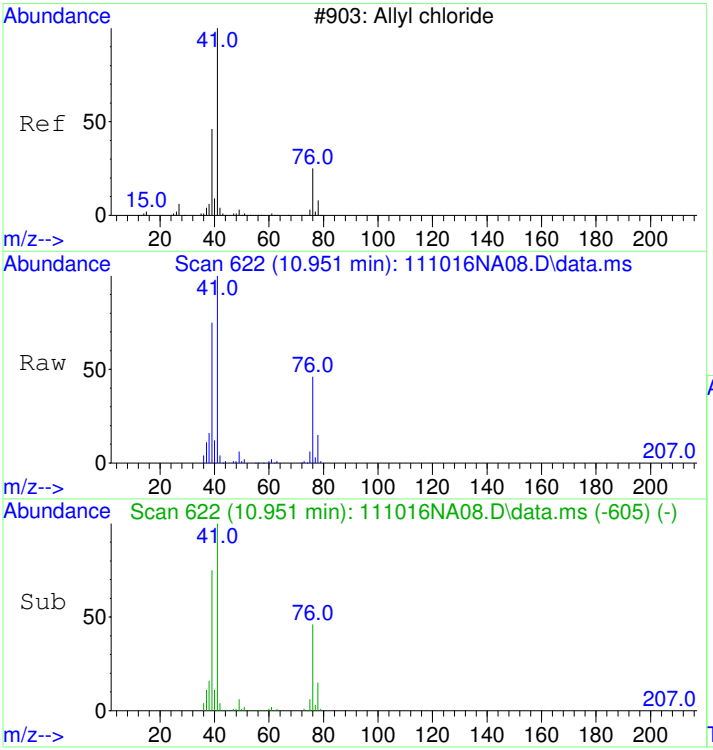


#16
2-Propanol
Concen: 5.63 ppbv
RT: 10.560 min Scan# 589
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 45 Resp: 125590

Ion	Ratio	Lower	Upper
45	100		
43	34.4	14.3	54.3

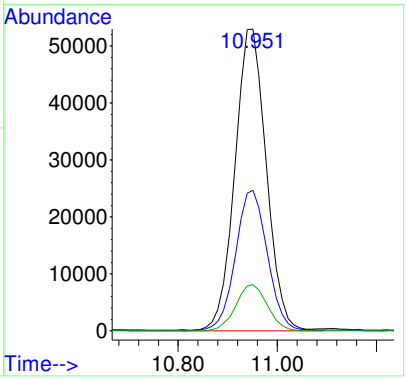


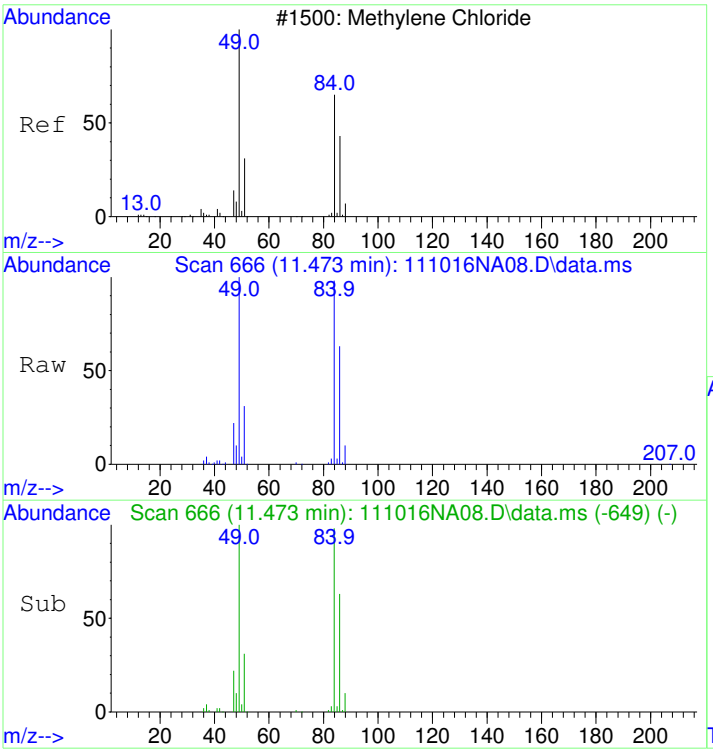


#17
Allyl chloride
Concen: 11.34 ppbv
RT: 10.951 min Scan# 622
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 41 Resp: 234272

Ion	Ratio	Lower	Upper
41	100		
76	46.4	26.4	66.4
78	15.4	0.0	35.4

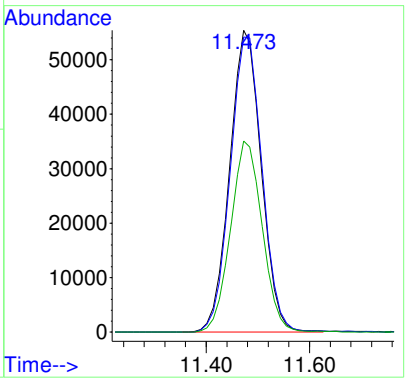


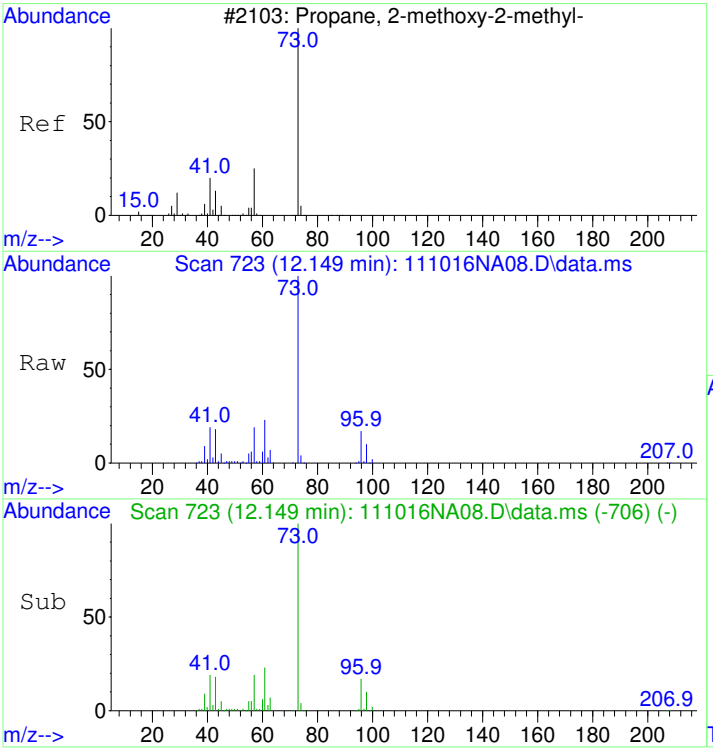


#18
Dichloromethane
Concen: 9.32 ppbv
RT: 11.473 min Scan# 666
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 49 Resp: 234728

Ion	Ratio	Lower	Upper
49	100		
84	99.0	79.0	119.0
86	63.4	43.4	83.4

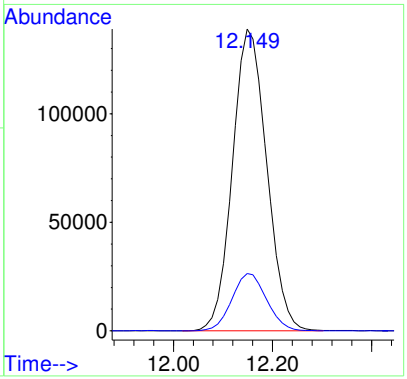


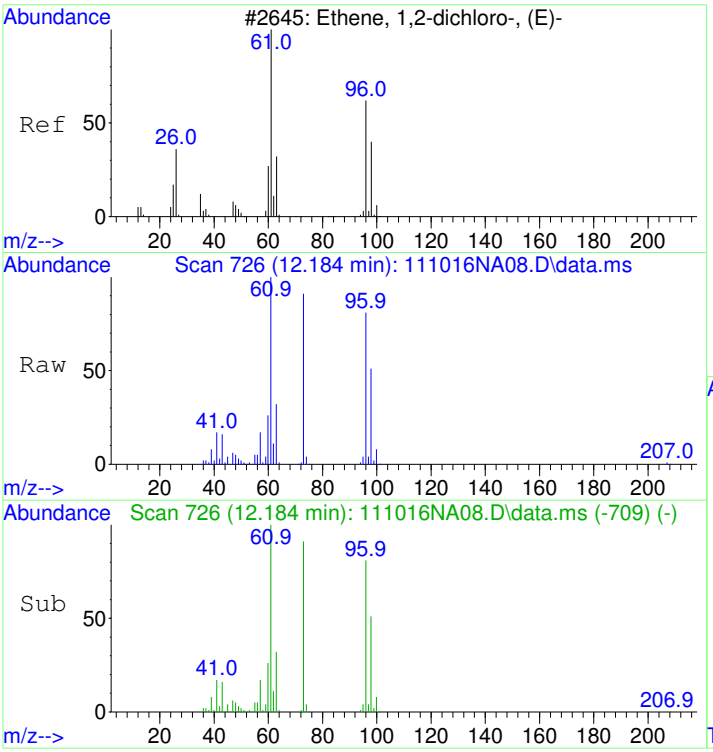


#19
tert-Butyl methyl ether (MTBE)
Concen: 12.29 ppbv
RT: 12.149 min Scan# 723
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 73 Resp: 667985

Ion	Ratio	Lower	Upper
73	100		
57	19.2	0.0	39.2

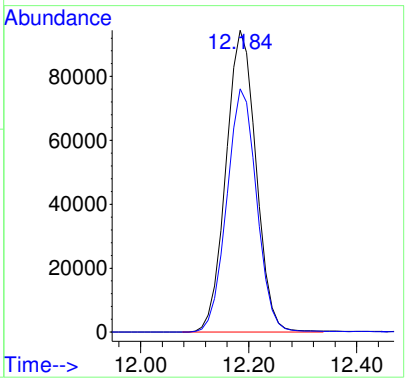


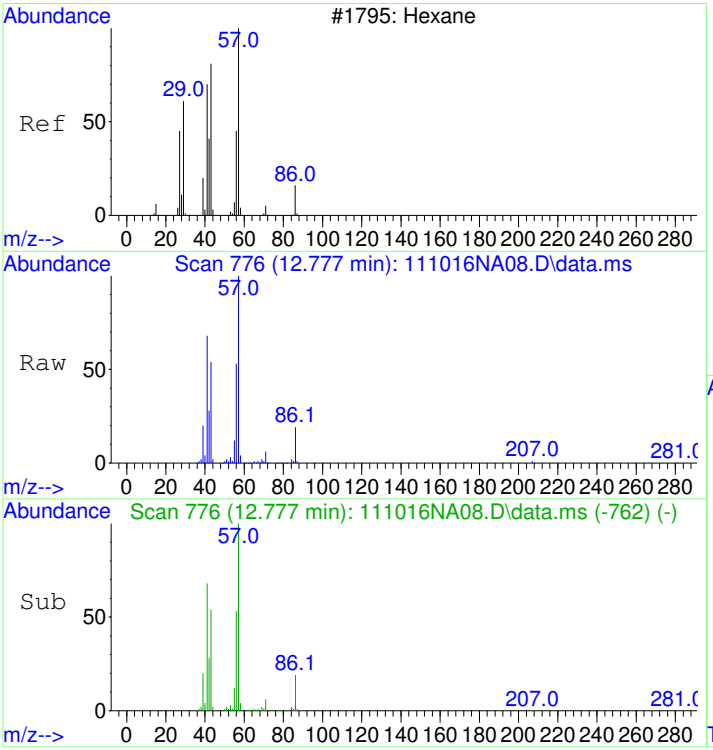


#20
trans-1,2-Dichloroethene
Concen: 11.58 ppbv
RT: 12.184 min Scan# 726
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 61 Resp: 366117

Ion	Ratio	Lower	Upper
61	100		
96	80.1	60.1	100.1

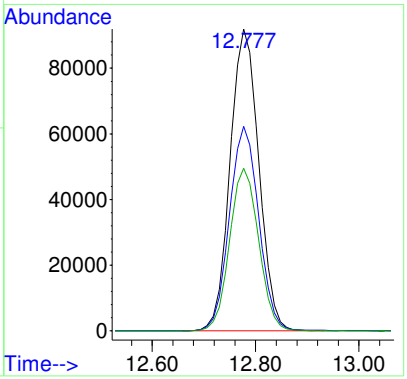


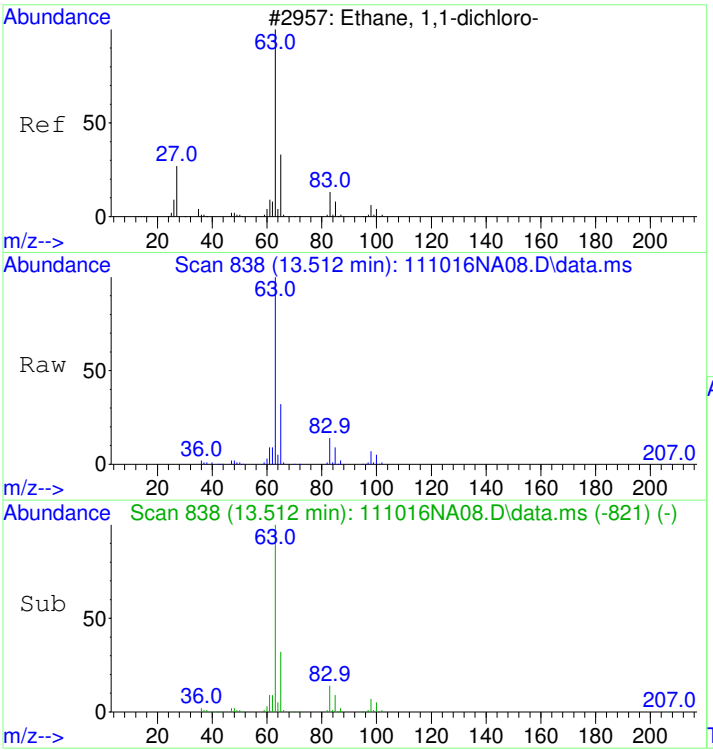


#21
Hexane
Concen: 11.28 ppbv
RT: 12.777 min Scan# 776
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 57 Resp: 354614

Ion	Ratio	Lower	Upper
57	100		
41	69.3	49.3	89.3
43	54.4	34.4	74.4

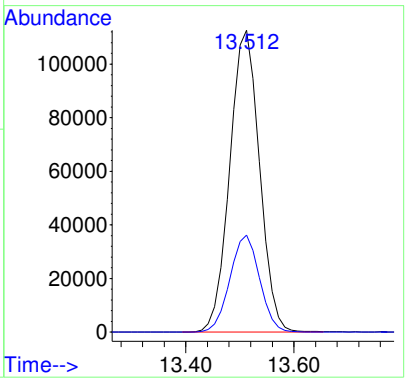


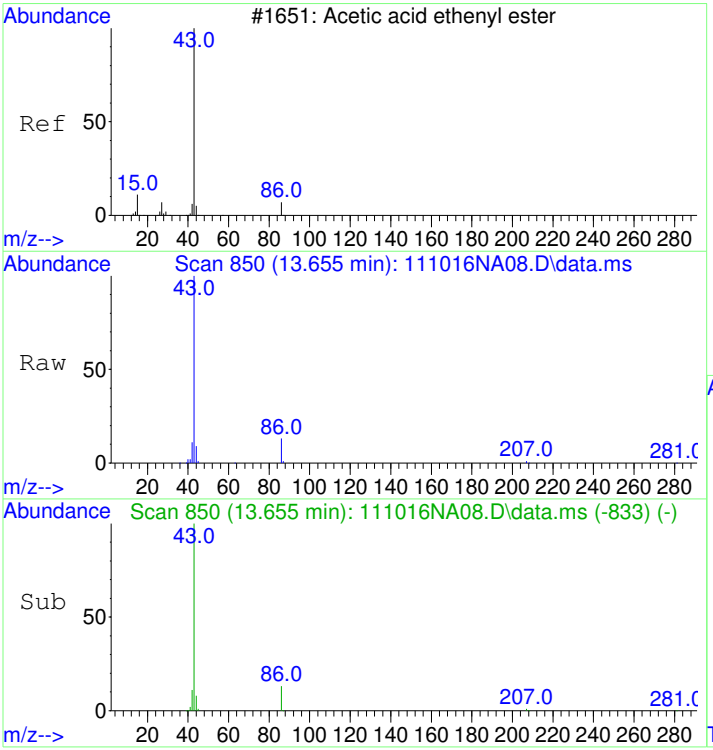


#22
1,1-Dichloroethane
Concen: 10.13 ppbv
RT: 13.512 min Scan# 838
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 63 Resp: 431723

Ion	Ratio	Lower	Upper
63	100		
65	31.9	11.9	51.9

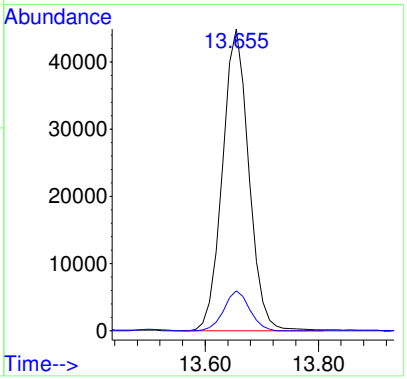


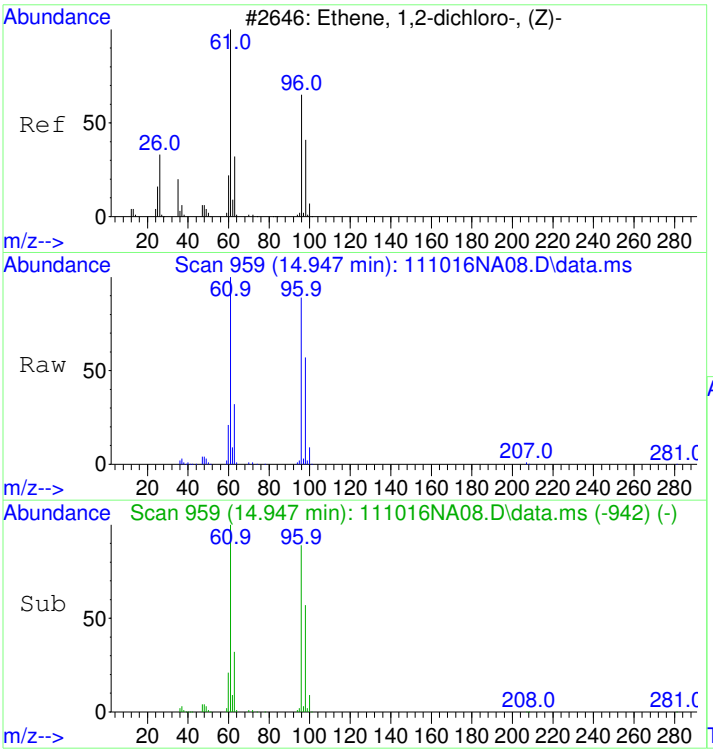


#23
Vinyl acetate
Concen: 5.34 ppbv
RT: 13.655 min Scan# 850
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 43 Resp: 145652

Ion	Ratio	Lower	Upper
43	100		
86	12.9	0.0	32.9

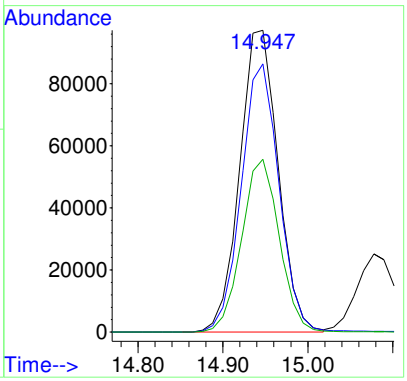


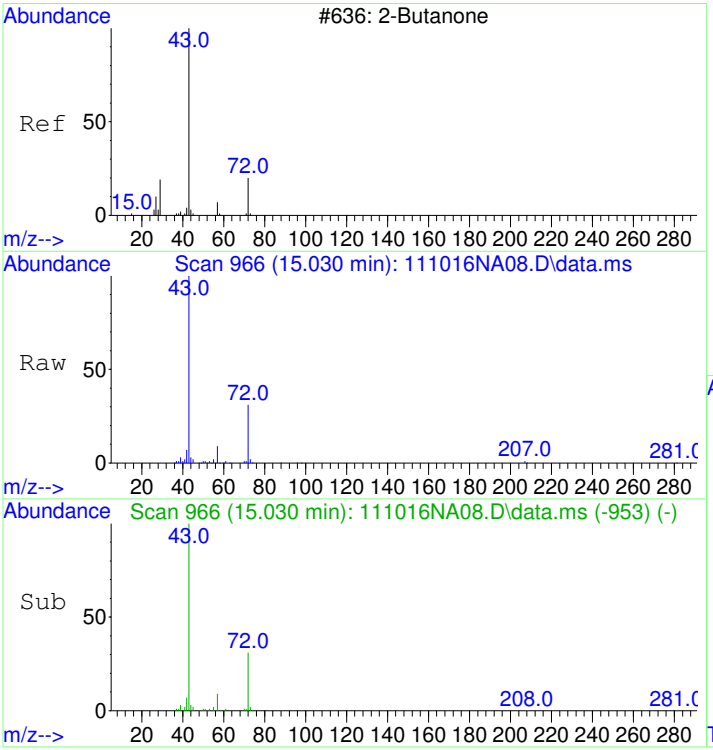


#24
cis-1,2-Dichloroethene
Concen: 11.34 ppbv
RT: 14.947 min Scan# 959
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 61 Resp: 306624

Ion	Ratio	Lower	Upper
61	100		
96	87.6	67.6	107.6
98	56.2	36.2	76.2

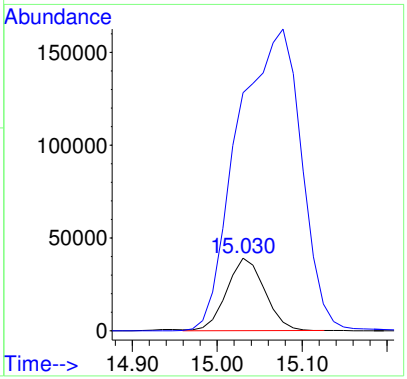


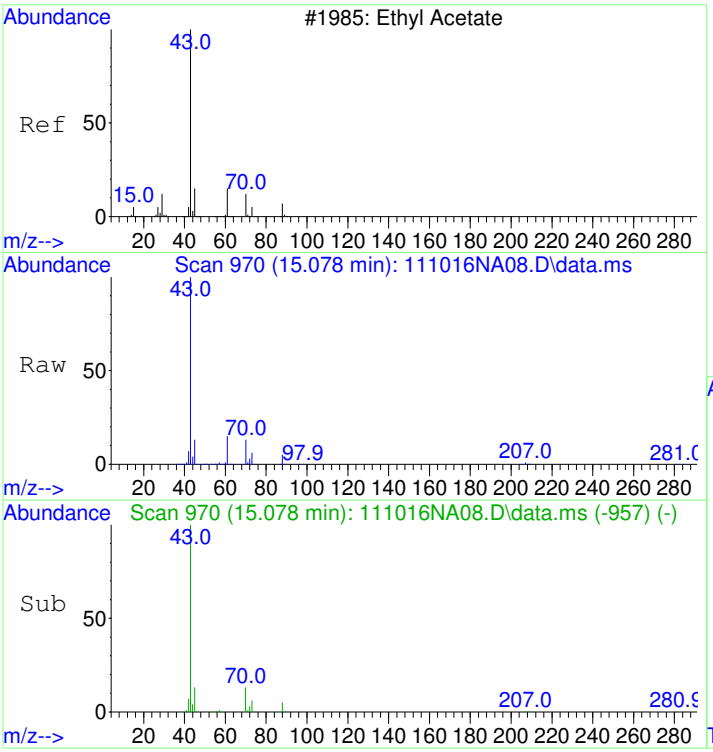


#25
2-Butanone (MEK)
Concen: 11.12 ppbv
RT: 15.030 min Scan# 966
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 72 Resp: 121316

Ion	Ratio	Lower	Upper
72	100		
43	0.0	0.0	10.0

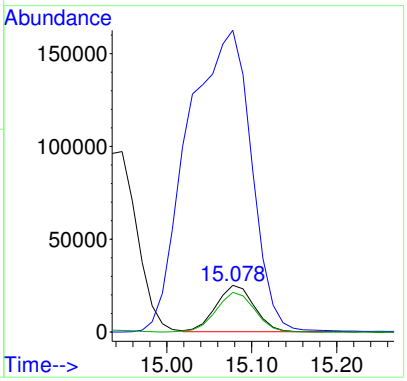


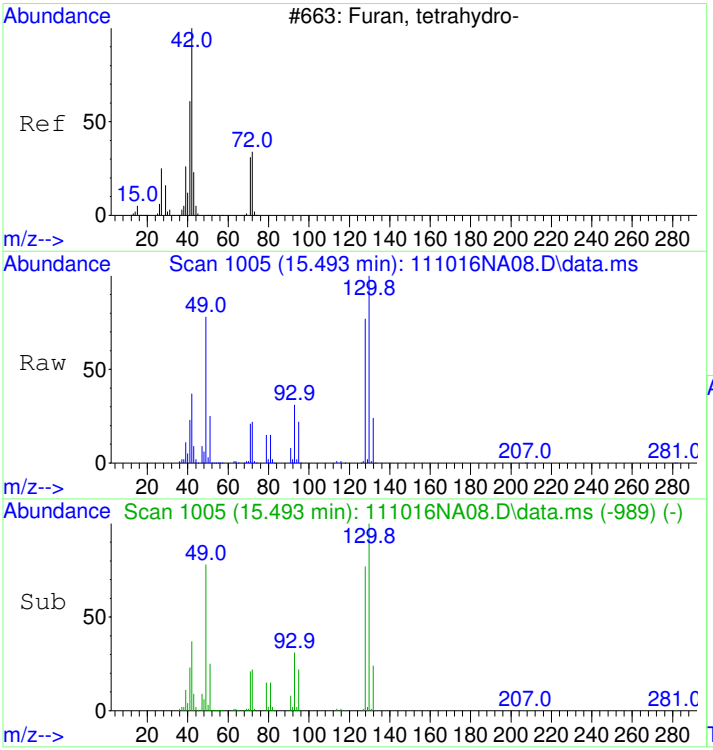


#26
Ethyl acetate
Concen: 11.06 ppbv
RT: 15.078 min Scan# 970
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 61 Resp: 78324

Ion	Ratio	Lower	Upper
61	100		
43	1082.2	1072.2	1092.2
70	87.3	77.3	97.3

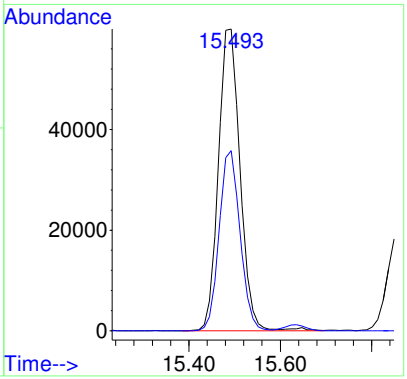


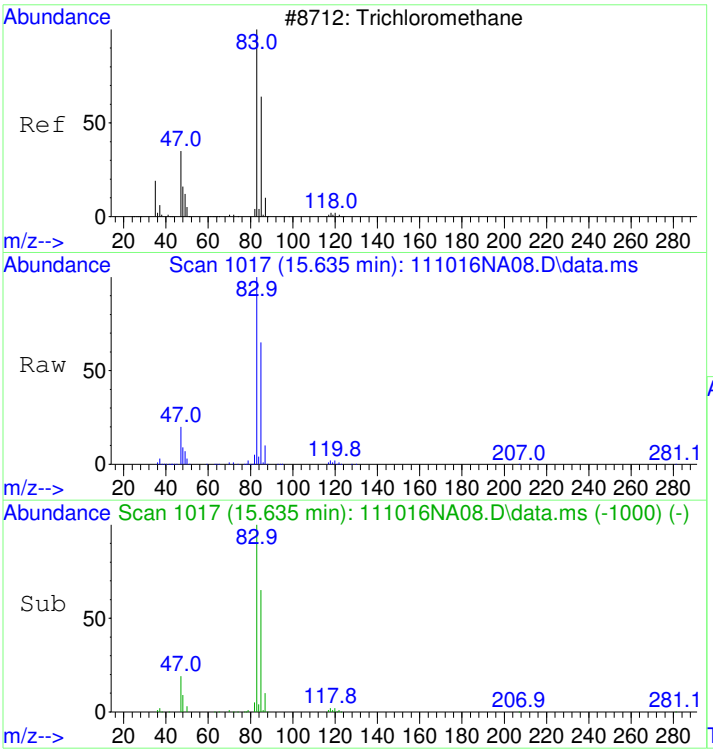


#27
Tetrahydrofuran
Concen: 9.72 ppbv
RT: 15.493 min Scan# 1005
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 42 Resp: 197315

Ion	Ratio	Lower	Upper
42	100		
72	57.4	37.4	77.4

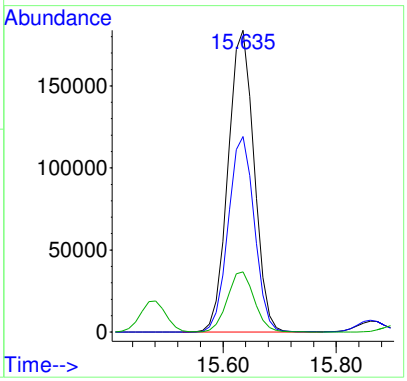


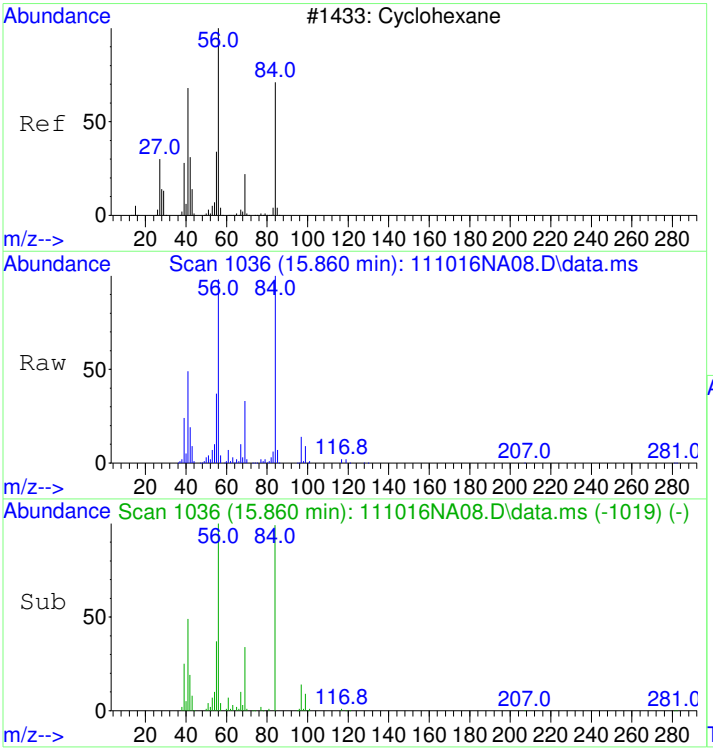


#28
Chloroform
Concen: 10.71 ppbv
RT: 15.635 min Scan# 1017
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 83 Resp: 588029

Ion	Ratio	Lower	Upper
83	100		
85	65.1	45.1	85.1
47	20.8	0.8	40.8

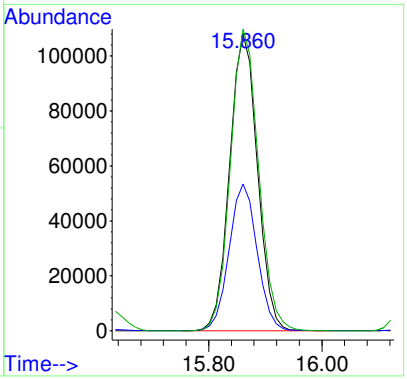


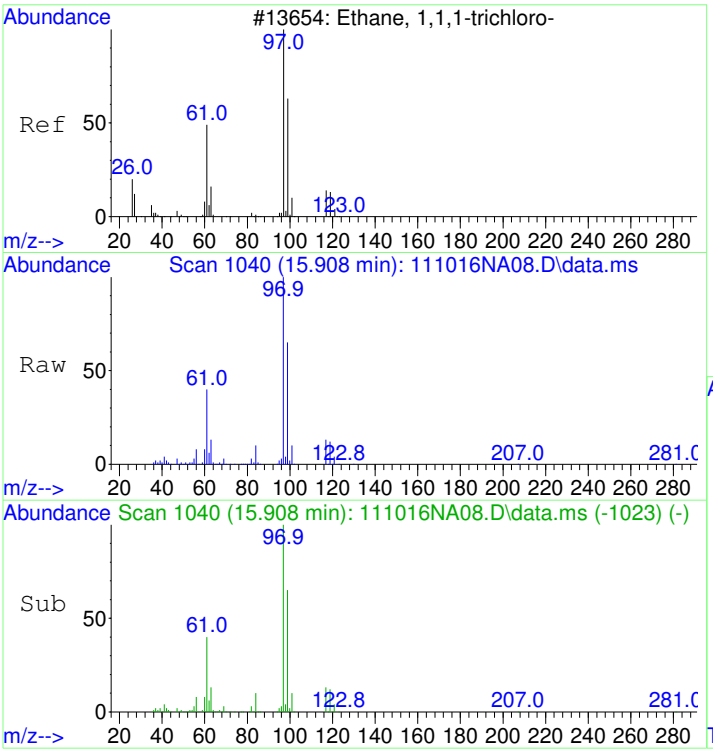


#29
Cyclohexane
Concen: 11.34 ppbv
RT: 15.860 min Scan# 1036
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 56 Resp: 370404

Ion	Ratio	Lower	Upper
56	100		
41	49.7	29.7	69.7
84	103.2	83.2	123.2

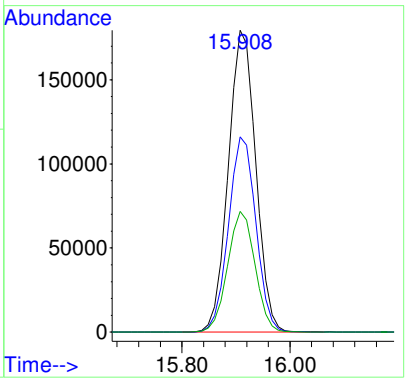


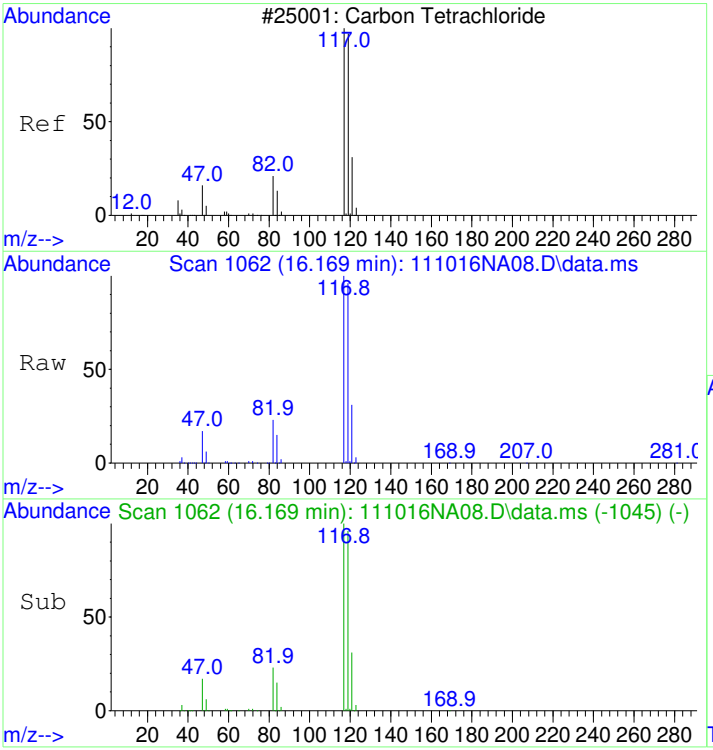


#30
1,1,1-Trichloroethane
Concen: 10.49 ppbv
RT: 15.908 min Scan# 1040
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 97 Resp: 634287

Ion	Ratio	Lower	Upper
97	100		
99	64.6	44.6	84.6
61	39.9	19.9	59.9

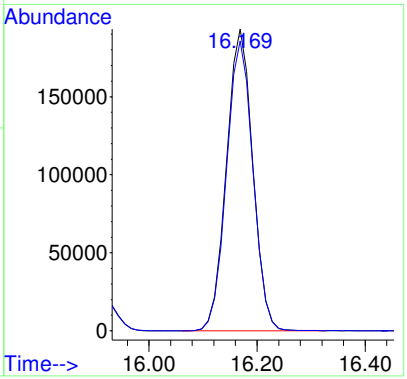


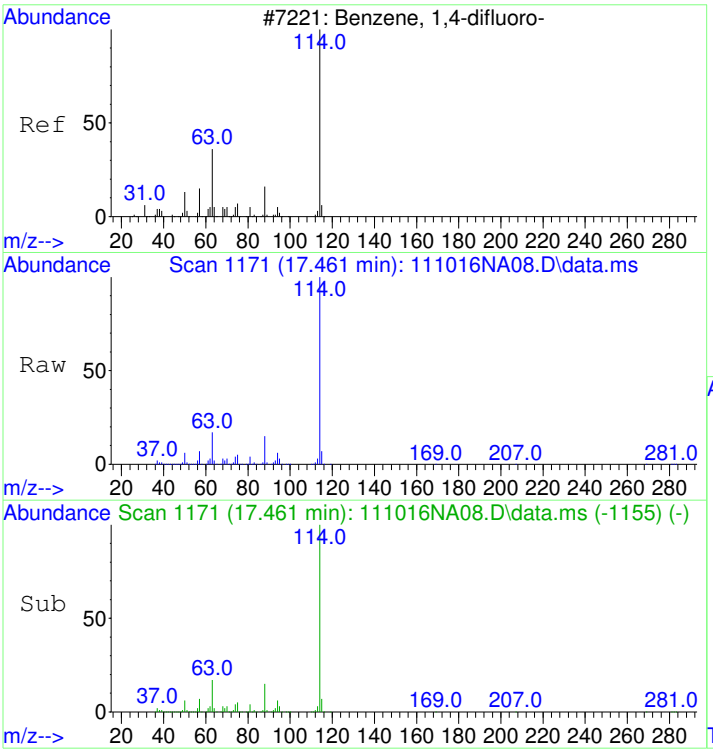


#31
Carbon tetrachloride
Concen: 10.31 ppbv
RT: 16.169 min Scan# 1062
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion:117 Resp: 655304

Ion	Ratio	Lower	Upper
117	100		
119	96.4	76.4	116.4

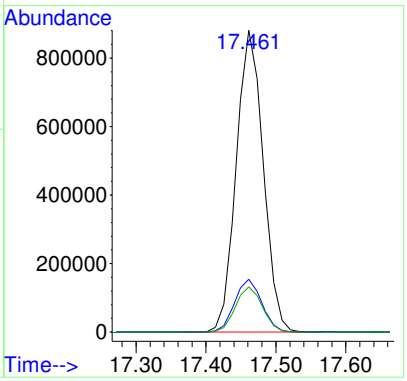


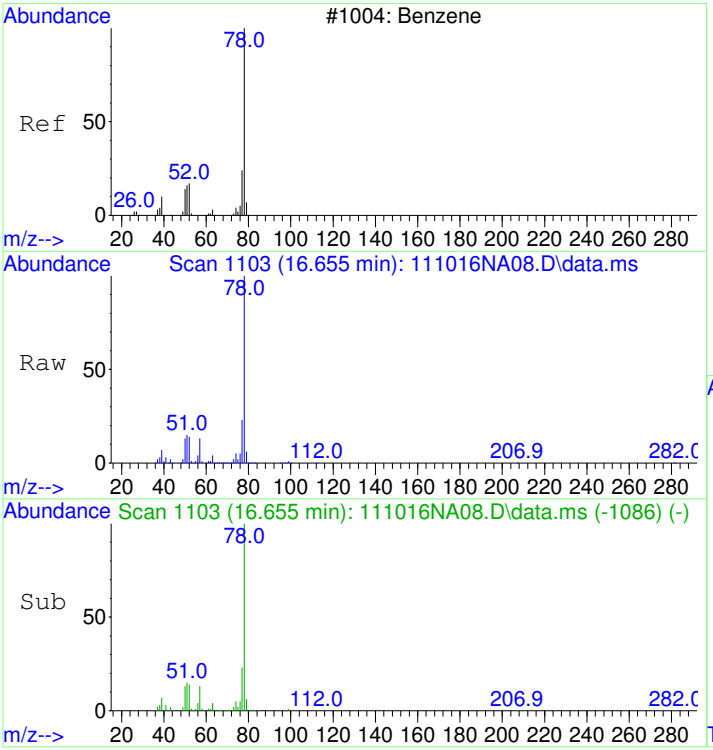


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion:114 Resp: 2356389

Ion	Ratio	Lower	Upper
114	100		
63	17.6	0.0	37.6
88	15.0	0.0	35.0

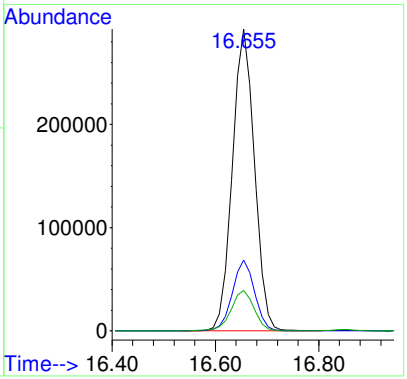


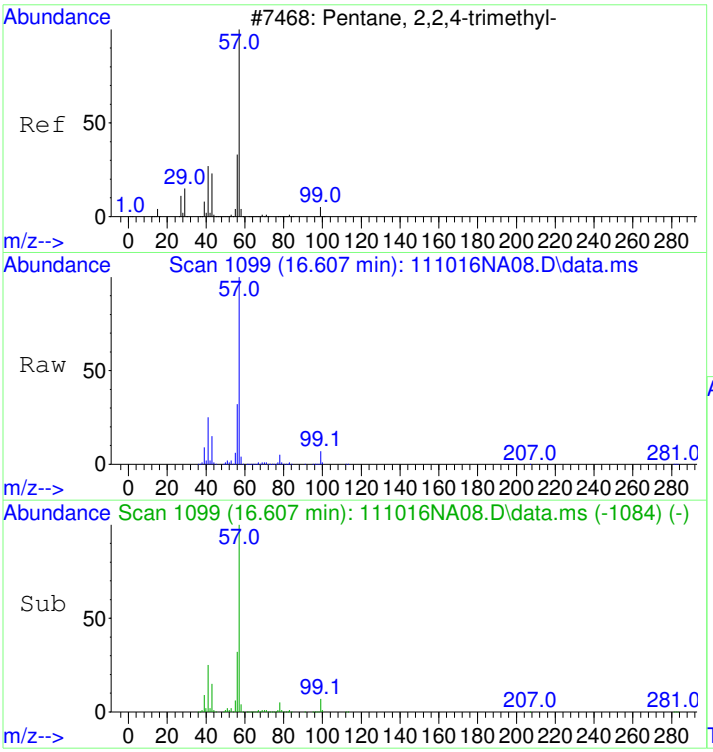


#33
Benzene
Concen: 9.82 ppbv
RT: 16.655 min Scan# 1103
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 78 Resp: 867805

Ion	Ratio	Lower	Upper
78	100		
77	23.7	3.7	43.7
50	14.0	0.0	34.0

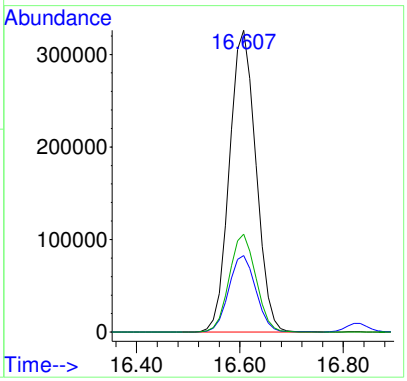


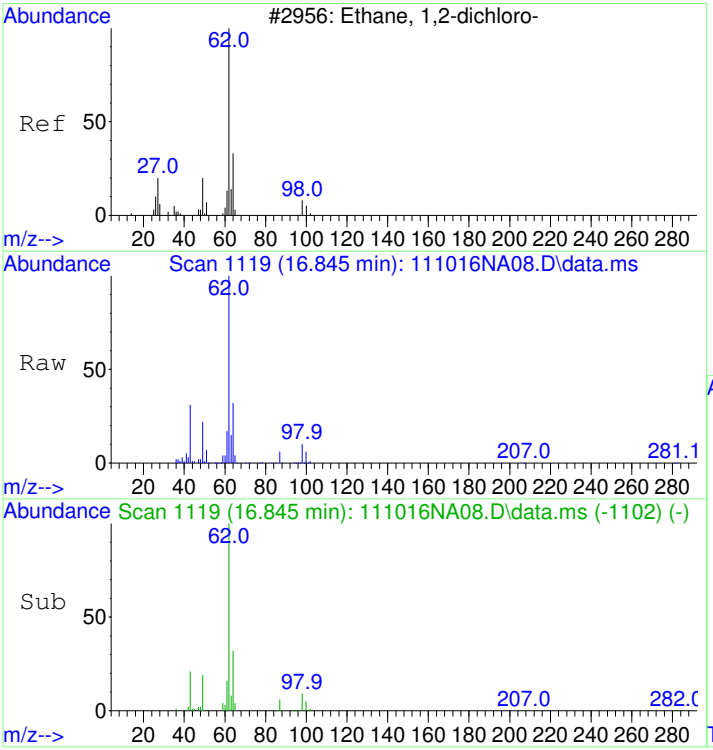


#34
2,2,4-Trimethylpentane
Concen: 10.04 ppbv
RT: 16.607 min Scan# 1099
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 57 Resp: 1160349

Ion	Ratio	Lower	Upper
57	100		
41	26.0	6.0	46.0
56	32.7	12.7	52.7

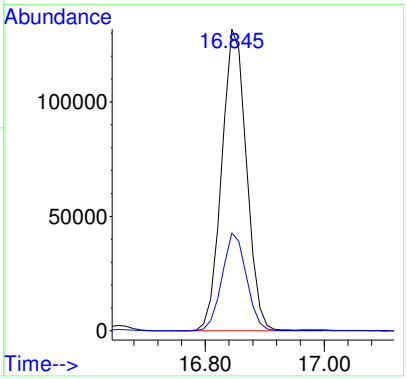


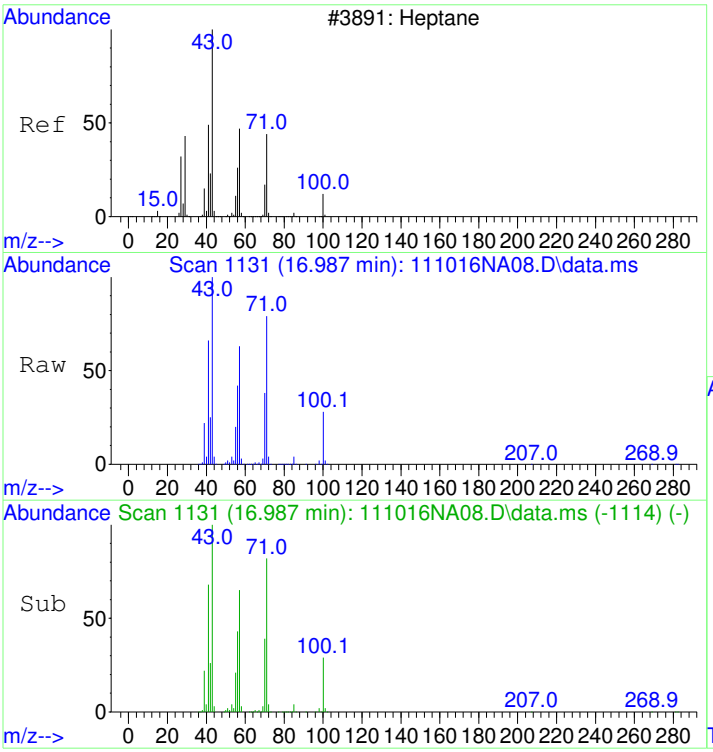


#35
1,2-Dichloroethane
Concen: 9.75 ppbv
RT: 16.845 min Scan# 1119
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 62 Resp: 382654

Ion	Ratio	Lower	Upper
62	100		
64	32.0	12.0	52.0

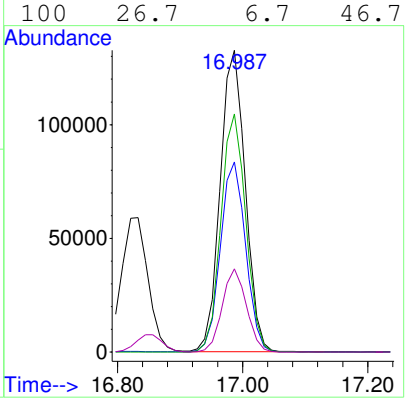


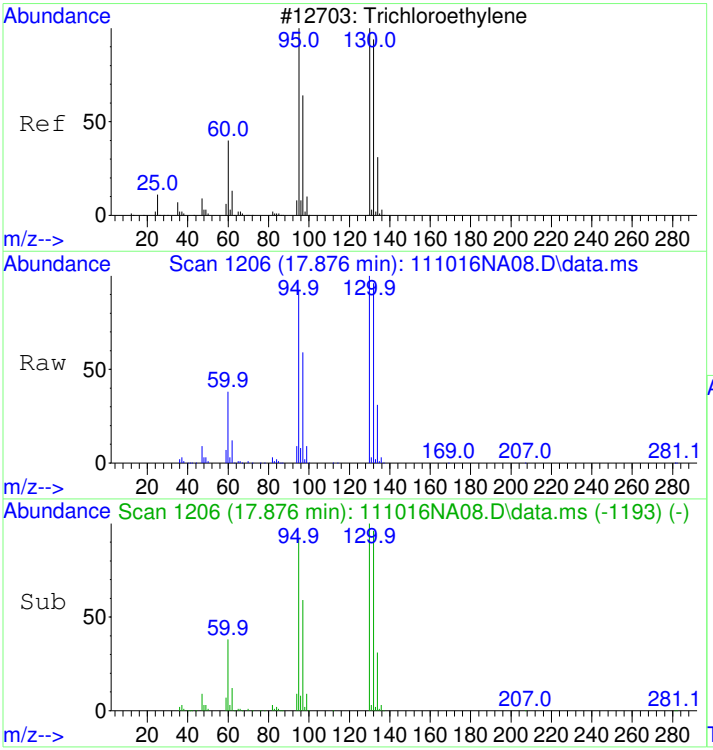


#36
Heptane
Concen: 9.70 ppbv
RT: 16.987 min Scan# 1131
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 43 Resp: 370887

Ion	Ratio	Lower	Upper
43	100		
57	63.5	43.5	83.5
71	78.1	58.1	98.1
100	26.7	6.7	46.7

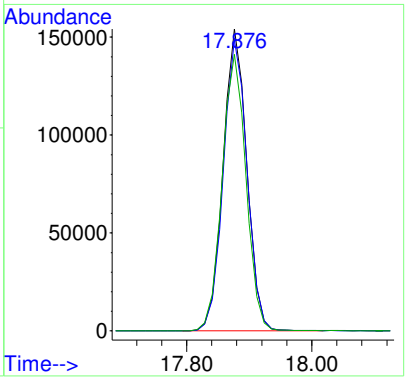


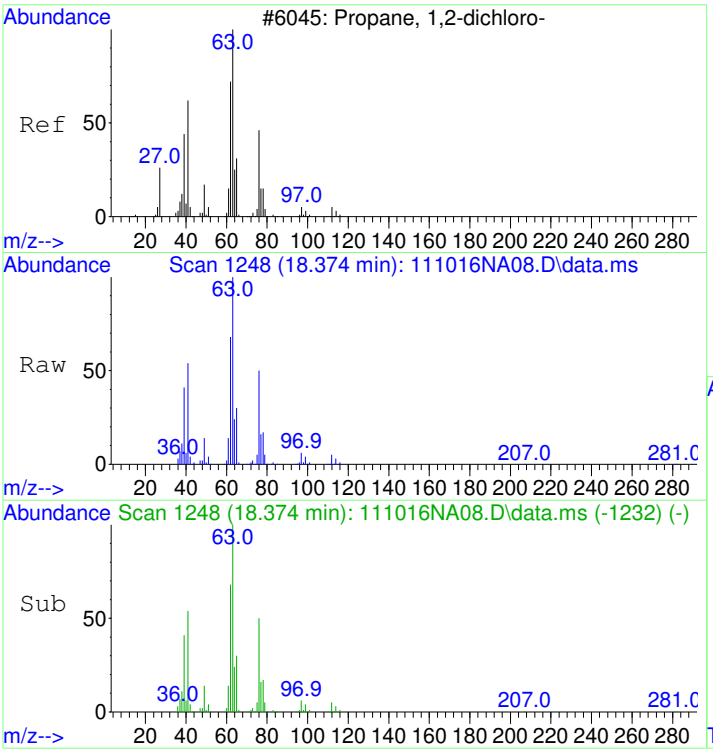


#37
Trichloroethene
Concen: 11.28 ppbv
RT: 17.876 min Scan# 1206
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion:130 Resp: 407346

Ion	Ratio	Lower	Upper
130	100		
132	96.8	76.8	116.8
95	92.4	72.4	112.4

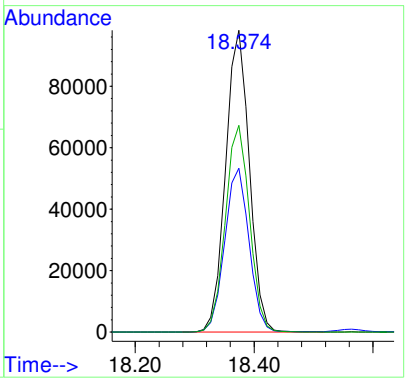


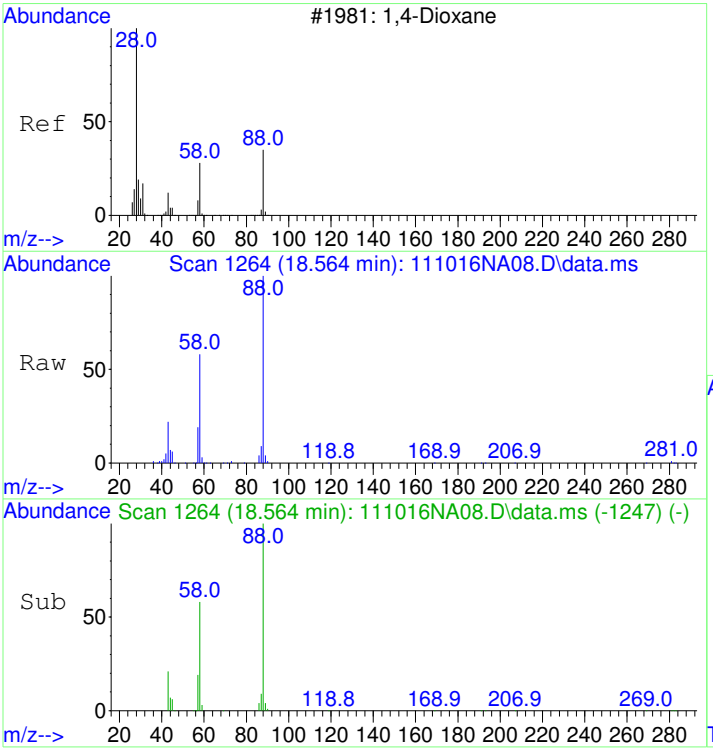


#38
1,2-Dichloropropane
Concen: 9.68 ppbv
RT: 18.374 min Scan# 1248
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 63 Resp: 273449

Ion	Ratio	Lower	Upper
63	100		
41	55.8	35.8	75.8
62	69.6	49.6	89.6

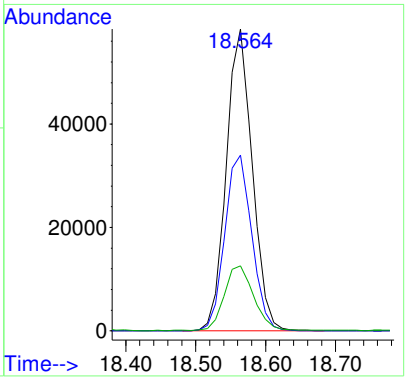


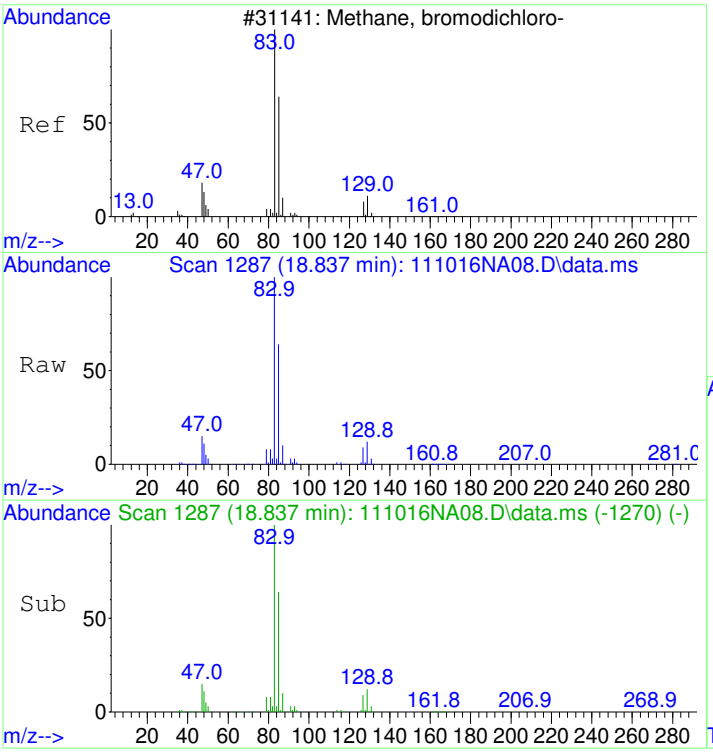


#39
1,4-Dioxane
Concen: 9.01 ppbv
RT: 18.564 min Scan# 1264
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 88 Resp: 150603

Ion	Ratio	Lower	Upper
88	100		
58	60.5	40.5	80.5
43	25.1	5.1	45.1

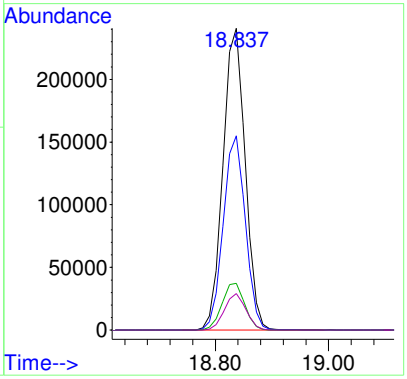


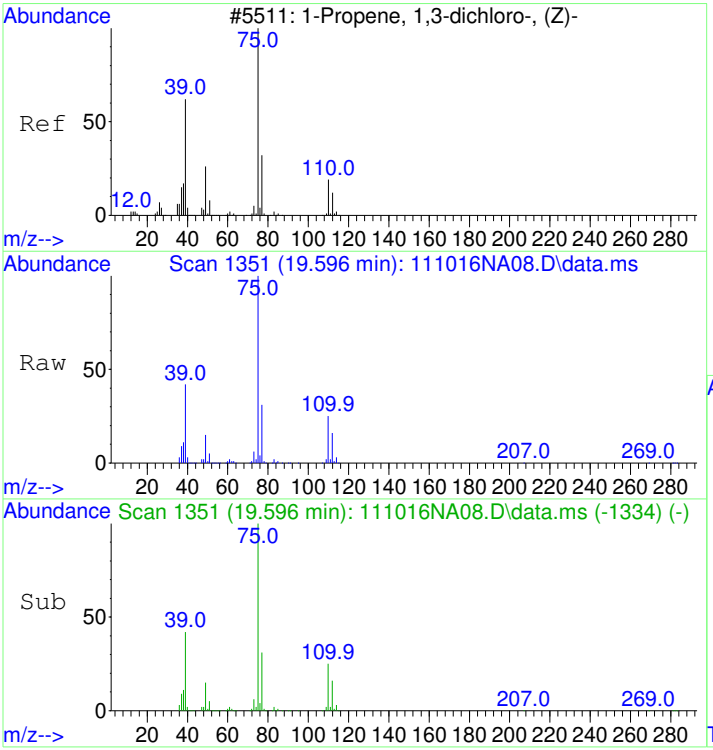


#40
Bromodichloromethane
Concen: 10.36 ppbv
RT: 18.837 min Scan# 1287
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 83 Resp: 657919

Ion	Ratio	Lower	Upper
83	100		
85	64.1	44.1	84.1
47	15.8	0.0	35.8
129	11.8	0.0	31.8

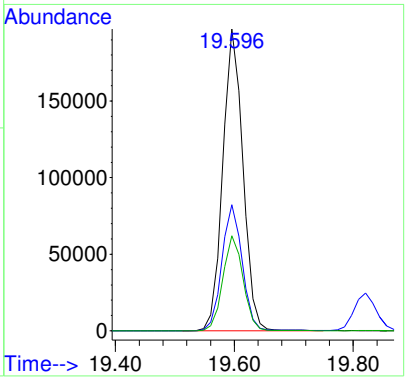


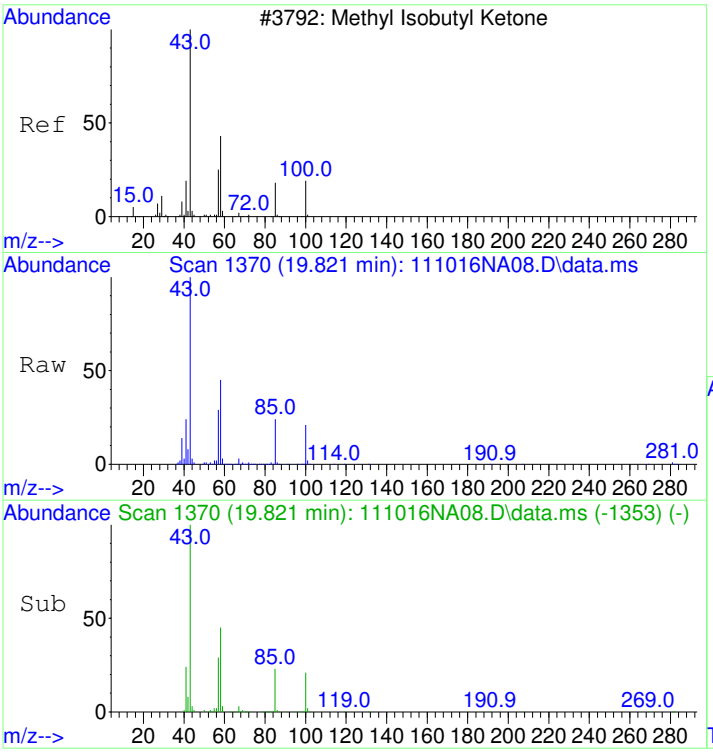


#41
cis-1,3-Dichloropropene
Concen: 11.32 ppbv
RT: 19.596 min Scan# 1351
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 75 Resp: 465073

Ion	Ratio	Lower	Upper
75	100		
39	42.3	22.3	62.3
77	31.7	11.7	51.7

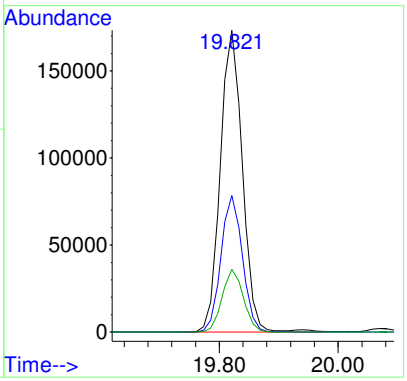


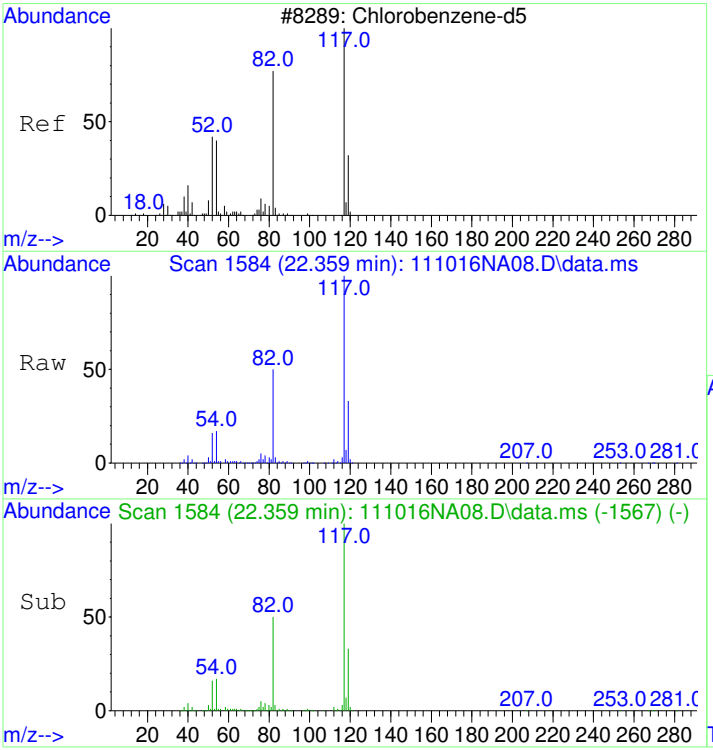


#42
4-Methyl-2-pentanone (MIBK)
Concen: 8.58 ppbv
RT: 19.821 min Scan# 1370
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 43 Resp: 448716

Ion	Ratio	Lower	Upper
43	100		
58	43.9	23.9	63.9
100	20.0	0.0	40.0

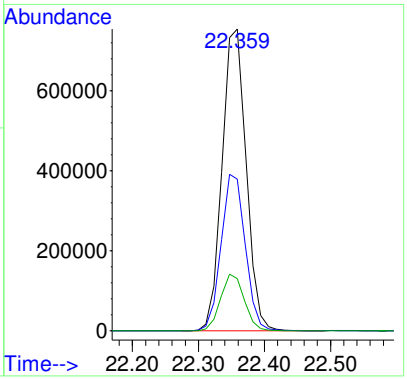


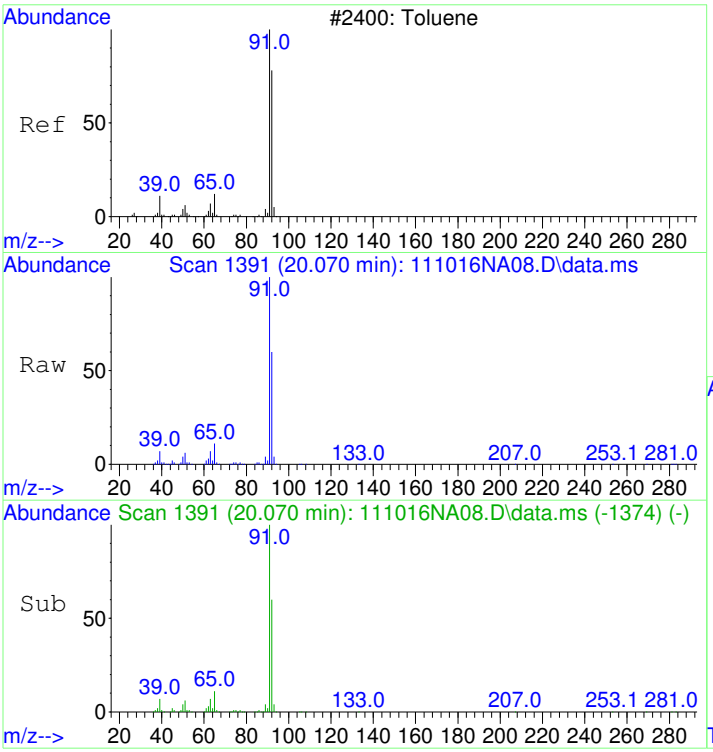


#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion:117 Resp: 1915969

Ion	Ratio	Lower	Upper
117	100		
82	51.9	31.9	71.9
54	18.5	0.0	38.5

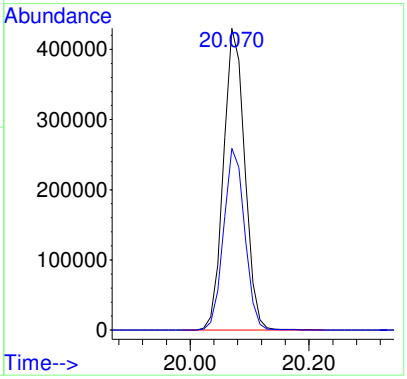


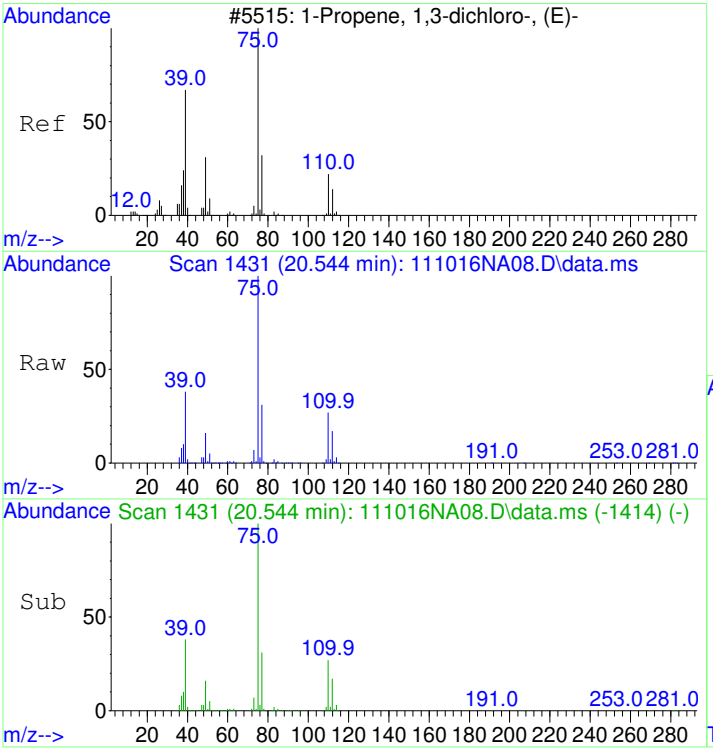


#44
Toluene
Concen: 11.30 ppbv
RT: 20.070 min Scan# 1391
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 91 Resp: 1070275

Ion	Ratio	Lower	Upper
91	100		
92	59.7	39.7	79.7

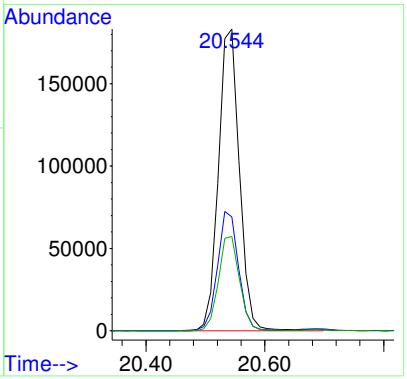


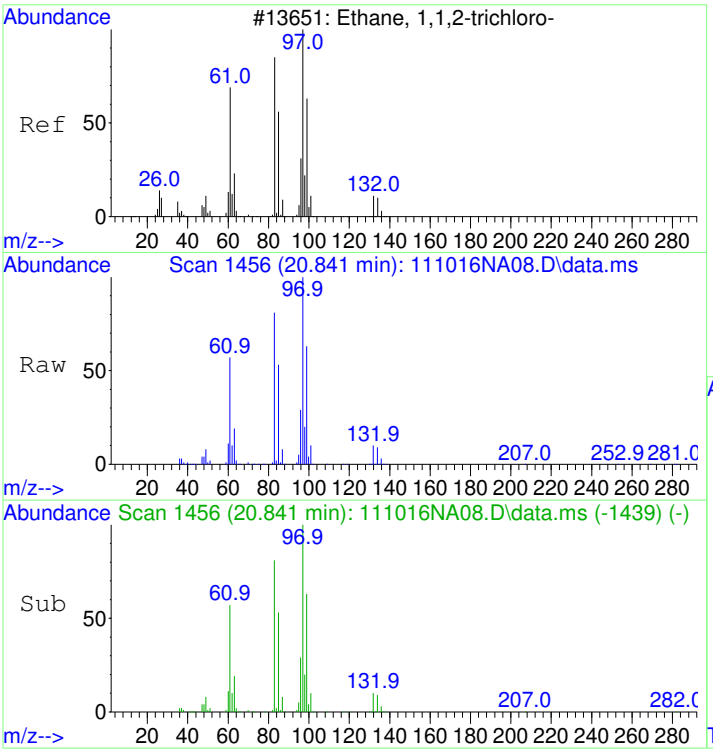


#45
trans-1,3-Dichloropropene
Concen: 11.42 ppbv
RT: 20.544 min Scan# 1431
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 75 Resp: 451673

Ion	Ratio	Lower	Upper
75	100		
39	39.9	19.9	59.9
77	31.5	11.5	51.5

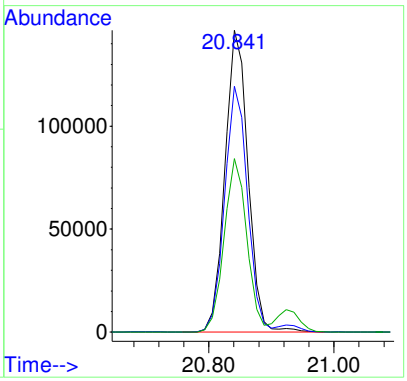


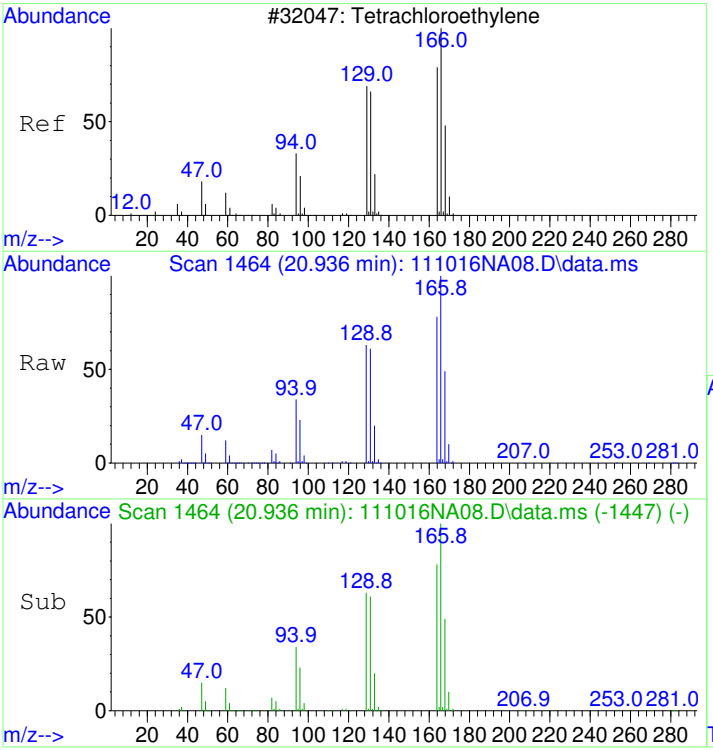


#46
1,1,2-Trichloroethane
Concen: 10.97 ppbv
RT: 20.841 min Scan# 1456
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 97 Resp: 376501

Ion	Ratio	Lower	Upper
97	100		
83	82.9	62.9	102.9
61	53.5	33.5	73.5

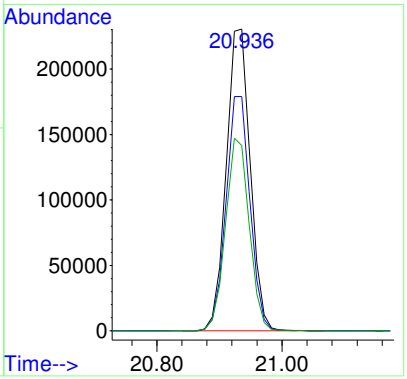


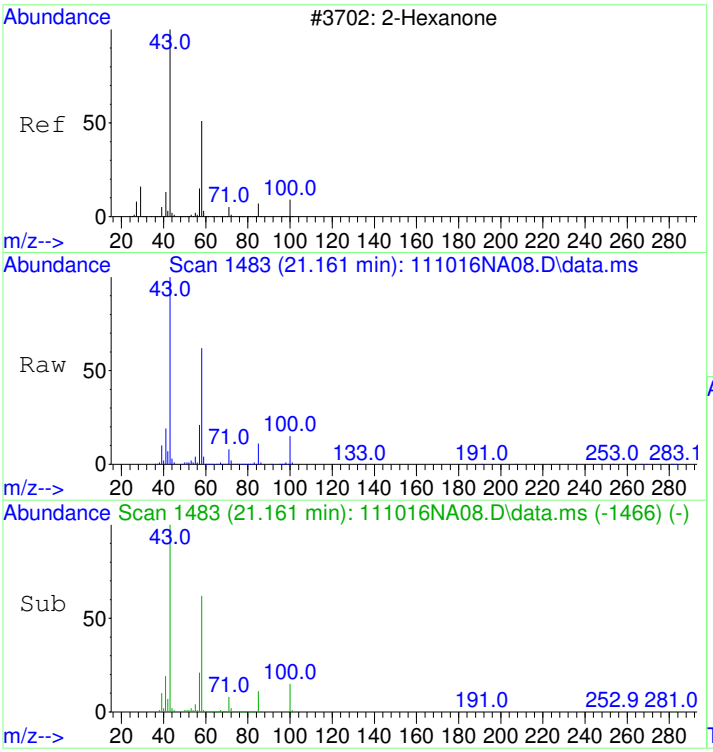


#47
Tetrachloroethene
Concen: 11.71 ppbv
RT: 20.936 min Scan# 1464
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion:166 Resp: 615396

Ion	Ratio	Lower	Upper
166	100		
164	77.8	57.8	97.8
131	63.3	43.3	83.3

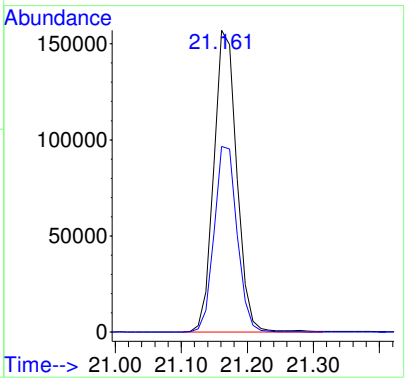


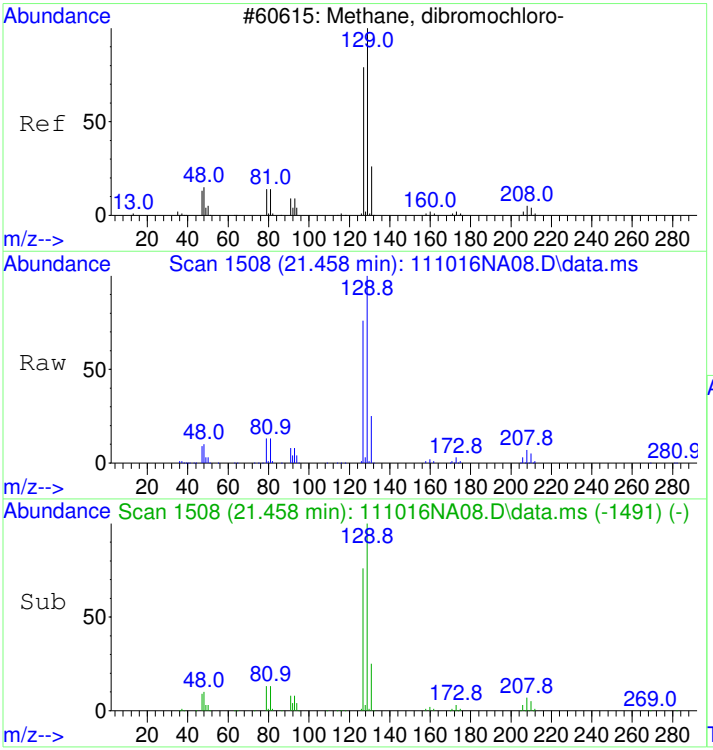


#48
2-Hexanone
Concen: 8.00 ppbv
RT: 21.161 min Scan# 1483
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 43 Resp: 380728

Ion	Ratio	Lower	Upper
43	100		
58	61.4	41.4	81.4

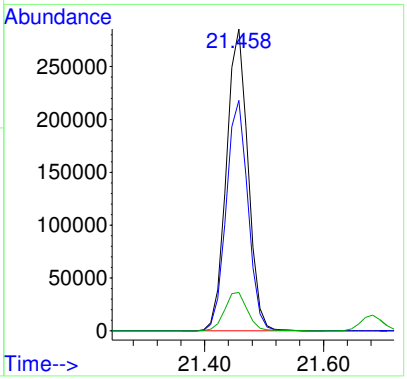


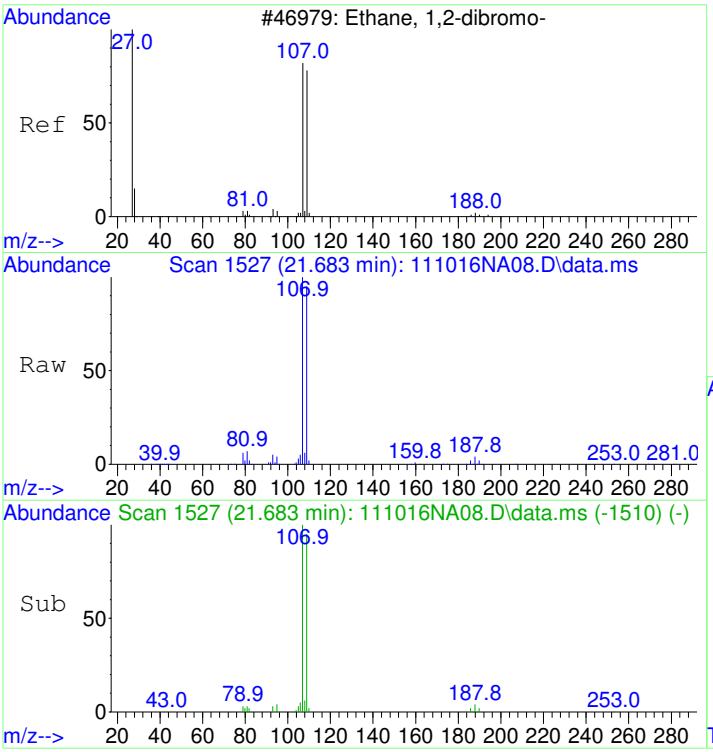


#49
Chlorodibromomethane
Concen: 11.07 ppbv
RT: 21.458 min Scan# 1508
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion:129 Resp: 722076

Ion	Ratio	Lower	Upper
129	100		
127	76.9	56.9	96.9
79	13.6	0.0	33.6

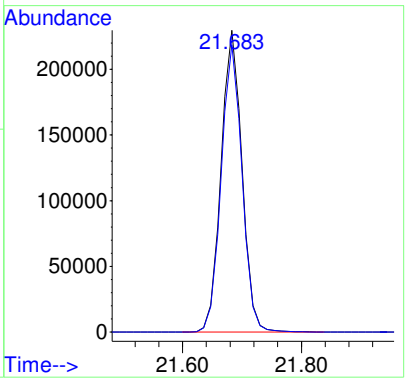


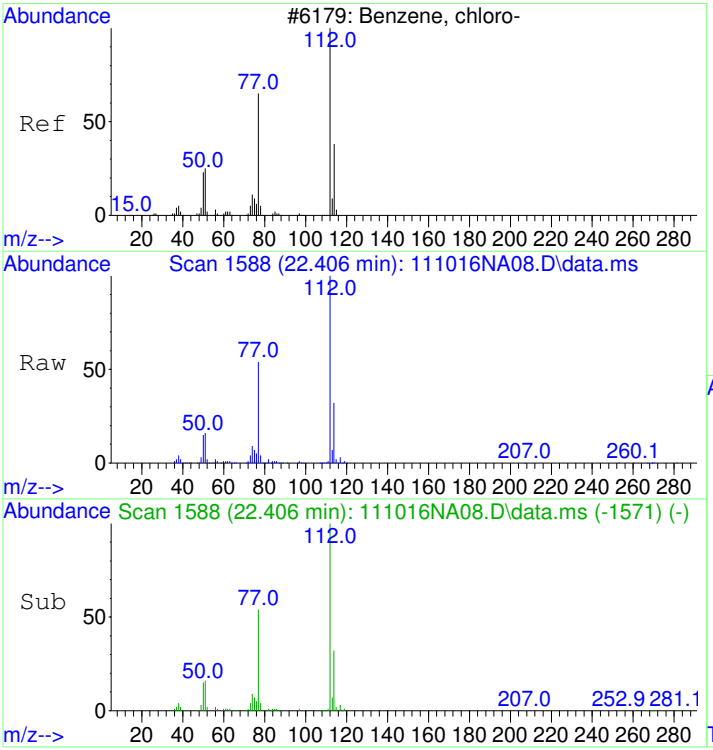


#50
1,2-Dibromoethane (EDB)
Concen: 11.48 ppbv
RT: 21.683 min Scan# 1527
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion:107 Resp: 561282

Ion	Ratio	Lower	Upper
107	100		
109	94.8	74.8	114.8

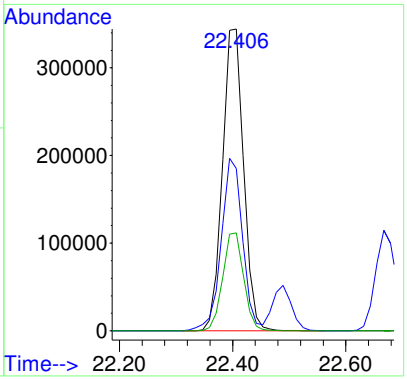


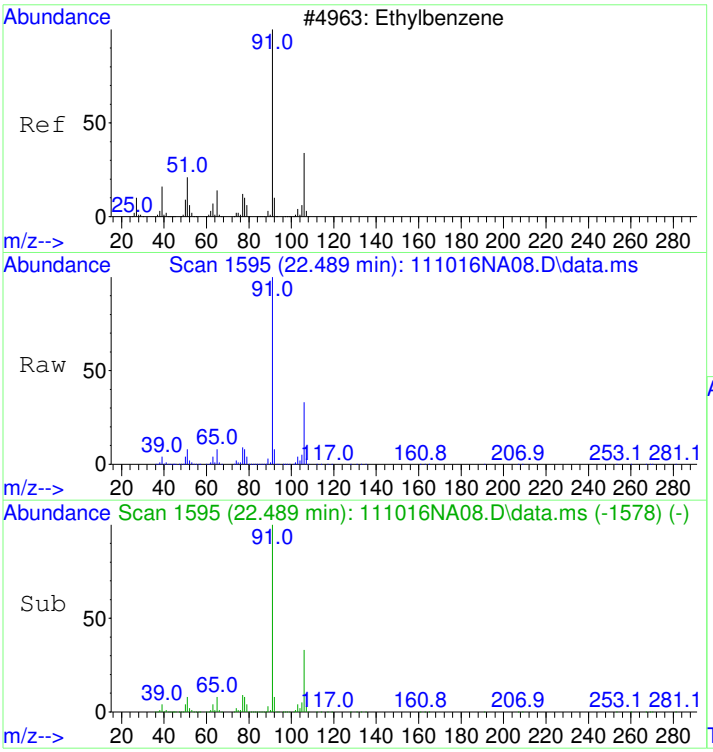


#51
Chlorobenzene
Concen: 11.11 ppbv
RT: 22.406 min Scan# 1588
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion:112 Resp: 893406

Ion	Ratio	Lower	Upper
112	100		
77	57.8	37.8	77.8
114	32.2	12.2	52.2

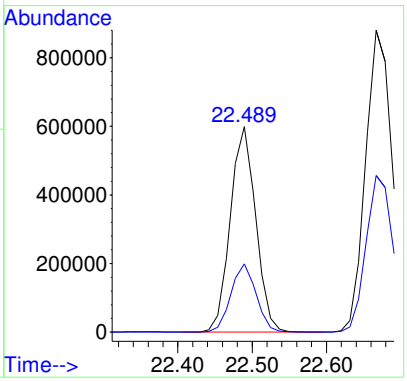


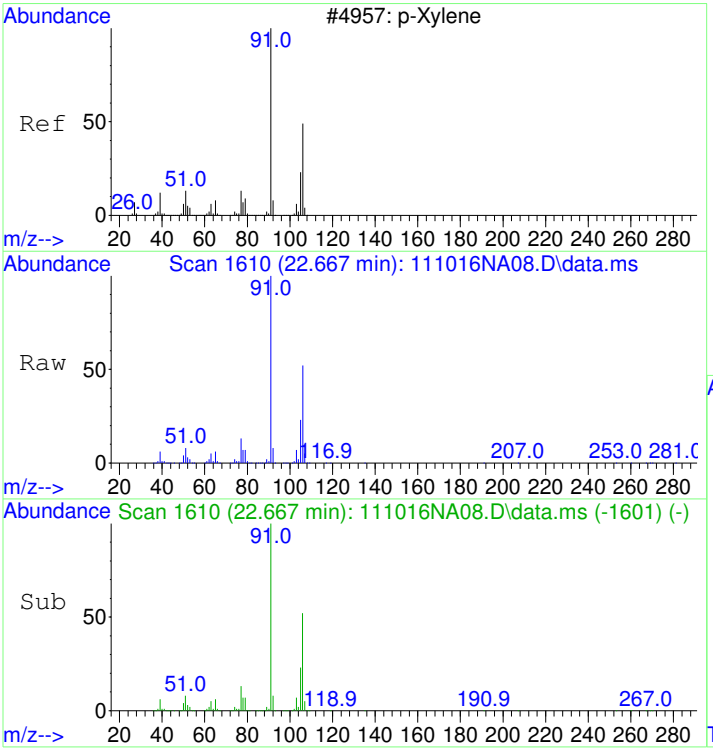


#52
Ethylbenzene
Concen: 11.20 ppbv
RT: 22.489 min Scan# 1595
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 91 Resp: 1419408

Ion	Ratio	Lower	Upper
91	100		
106	32.8	12.8	52.8

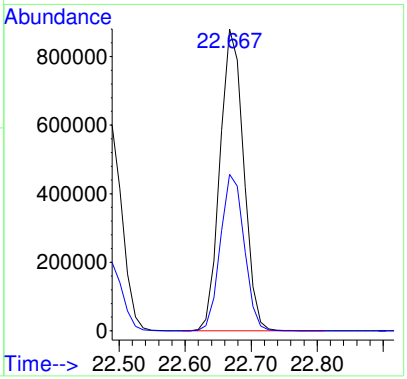


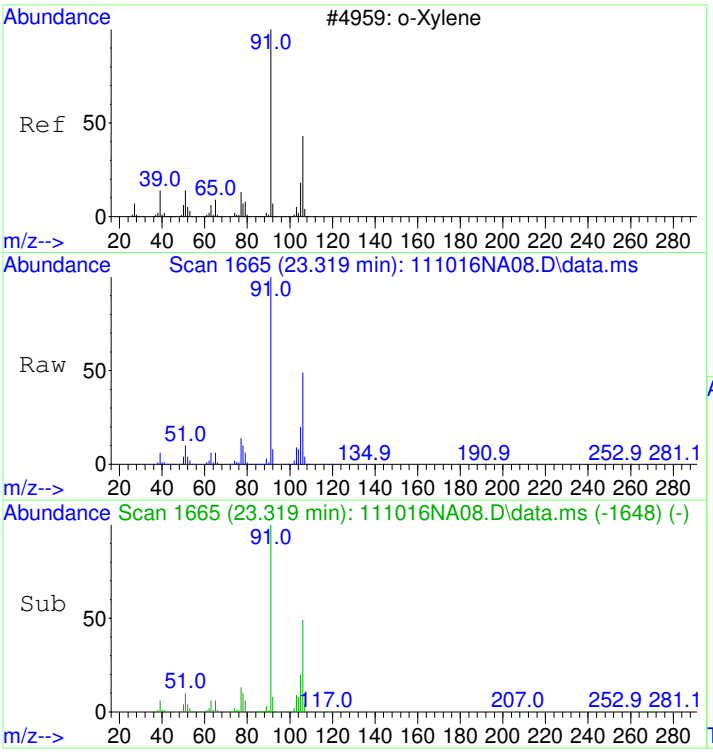


#53
m&p-Xylene
Concen: 22.06 ppbv
RT: 22.667 min Scan# 1610
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 91 Resp: 2188634

Ion	Ratio	Lower	Upper
91	100		
106	52.2	32.2	72.2

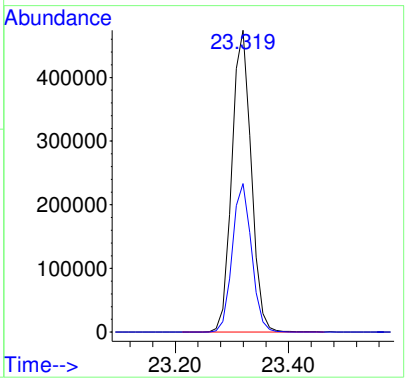


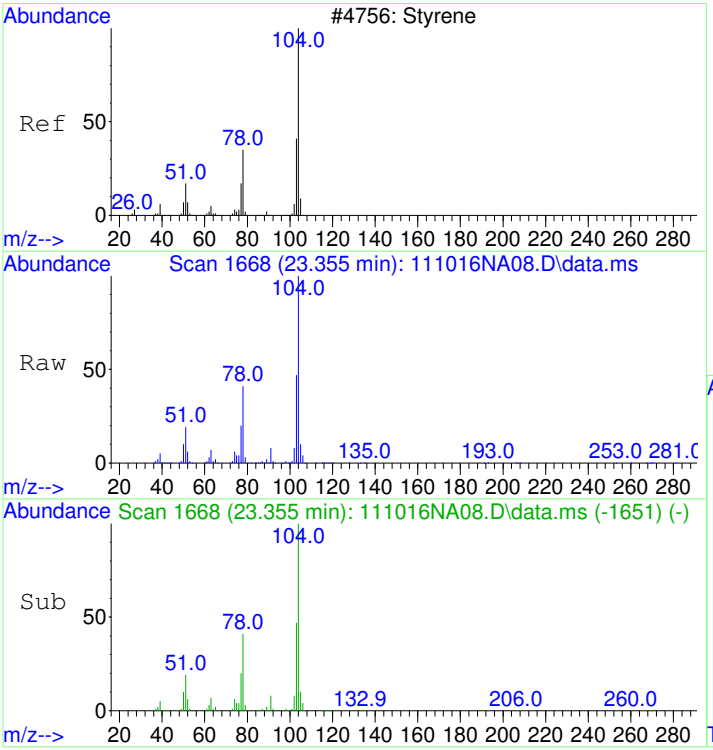


#54
o-Xylene
Concen: 11.46 ppbv
RT: 23.319 min Scan# 1665
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 91 Resp: 1126561

Ion	Ratio	Lower	Upper
91	100		
106	49.0	29.0	69.0

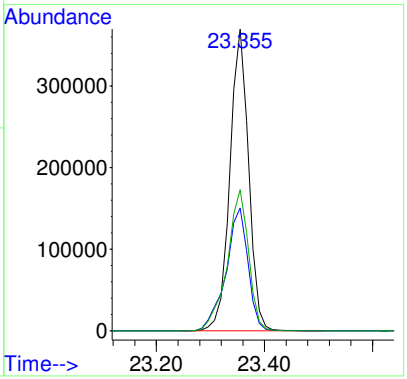


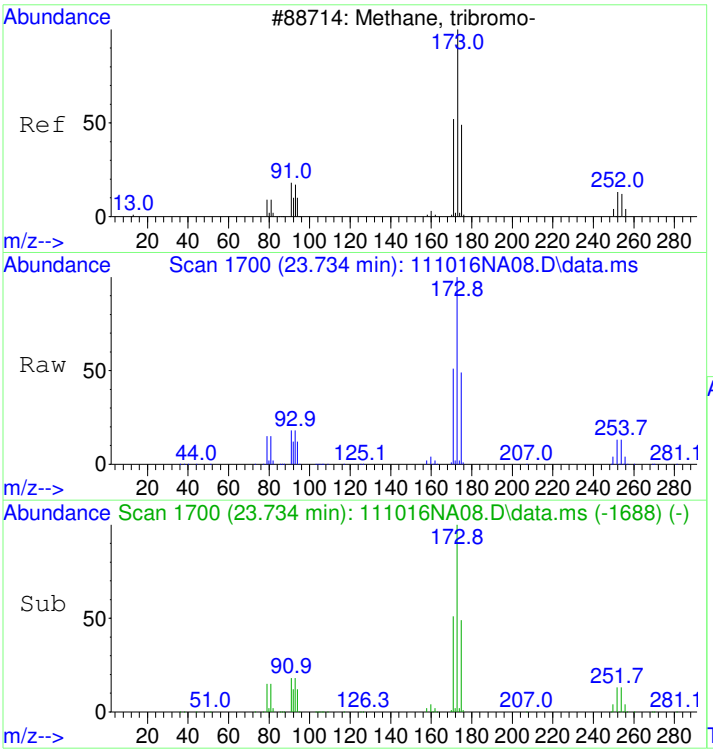


#55
Styrene
Concen: 11.12 ppbv
RT: 23.355 min Scan# 1668
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion:104 Resp: 890137

Ion	Ratio	Lower	Upper
104	100		
78	47.9	27.9	67.9
103	53.3	33.3	73.3

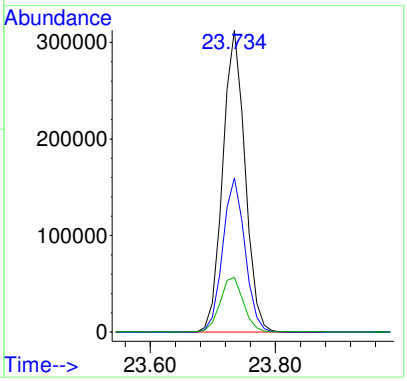


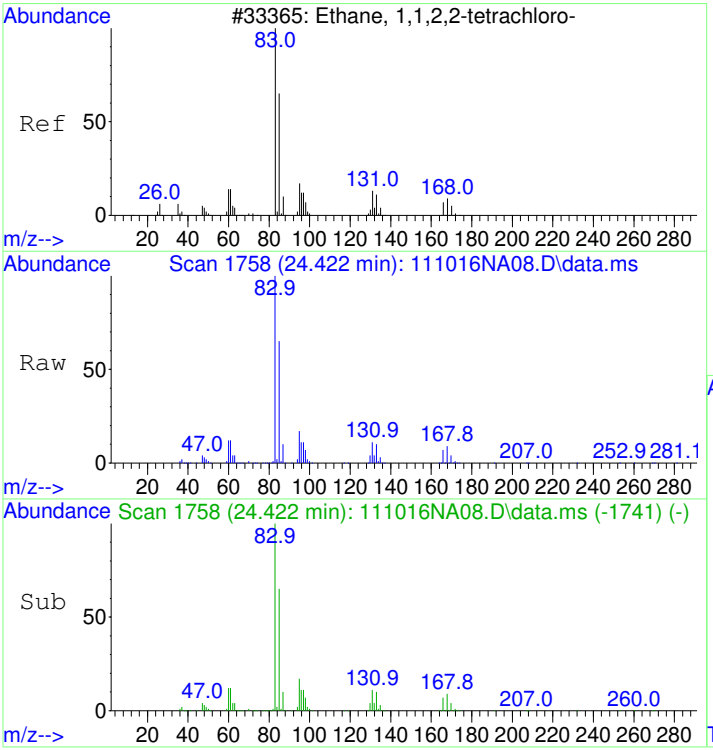


#56
Bromoform
Concen: 11.40 ppbv
RT: 23.734 min Scan# 1700
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion:173 Resp: 774061

Ion	Ratio	Lower	Upper
173	100		
171	51.0	31.0	71.0
91	18.9	0.0	38.9

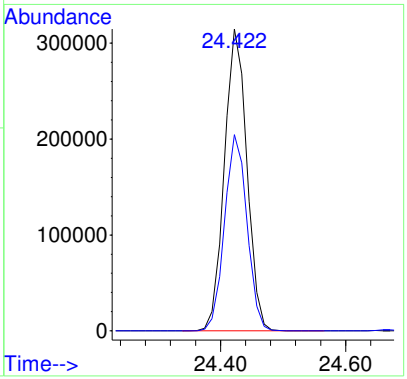


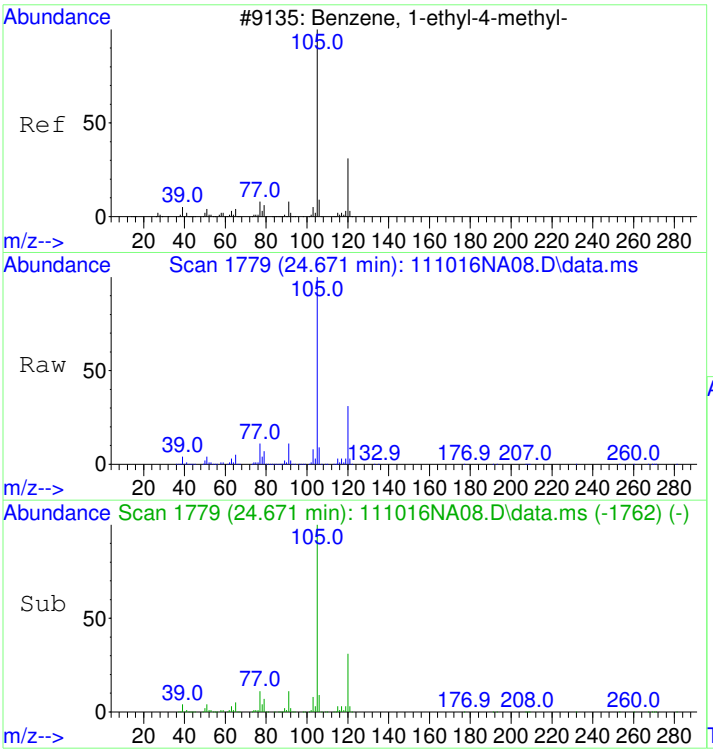


#57
1,1,2,2-Tetrachloroethane
Concen: 9.82 ppbv
RT: 24.422 min Scan# 1758
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 83 Resp: 786858

Ion	Ratio	Lower	Upper
83	100		
85	64.7	44.7	84.7

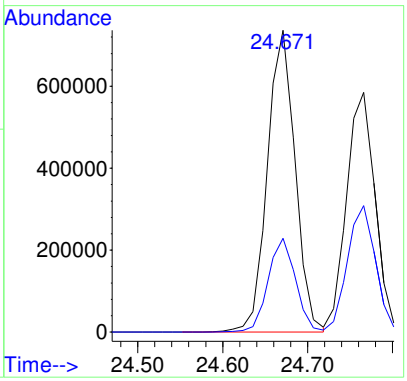


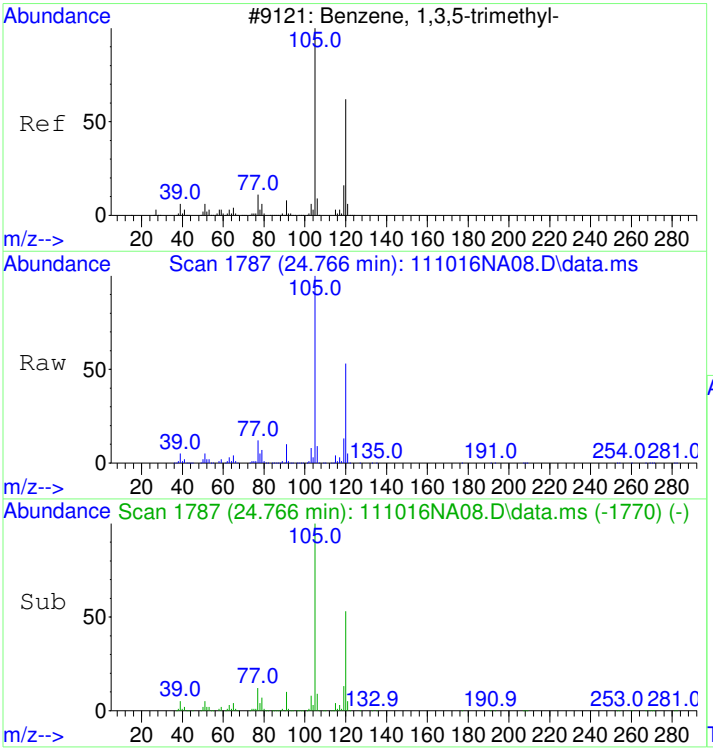


#58
4-Ethyltoluene
Concen: 10.60 ppbv
RT: 24.671 min Scan# 1779
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion:105 Resp: 1672025

Ion	Ratio	Lower	Upper
105	100		
120	30.9	10.9	50.9

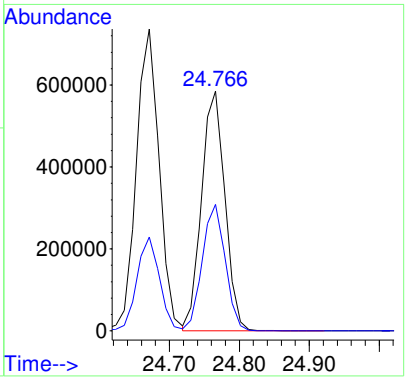


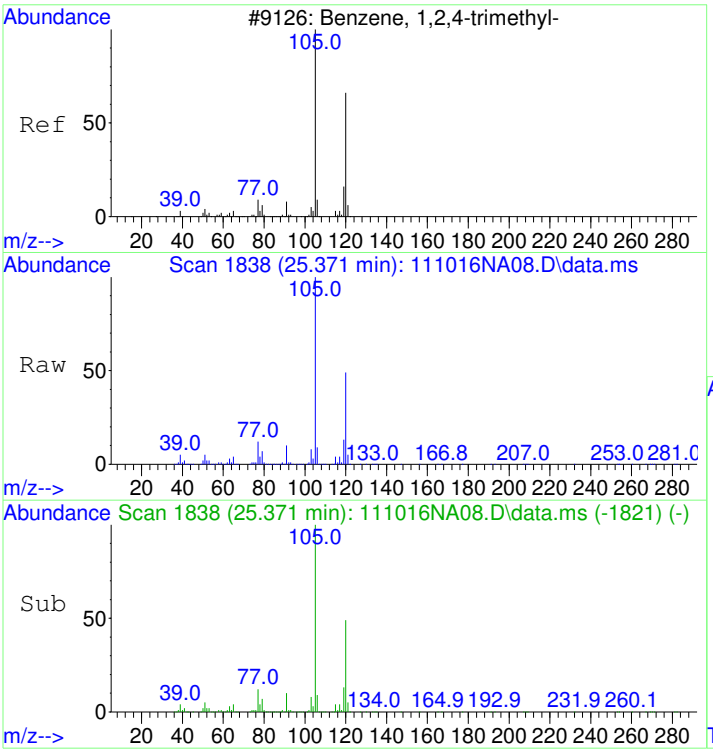


#59
1,3,5-Trimethylbenzene
Concen: 11.12 ppbv
RT: 24.766 min Scan# 1787
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion:105 Resp: 1365443

Ion	Ratio	Lower	Upper
105	100		
120	51.9	31.9	71.9

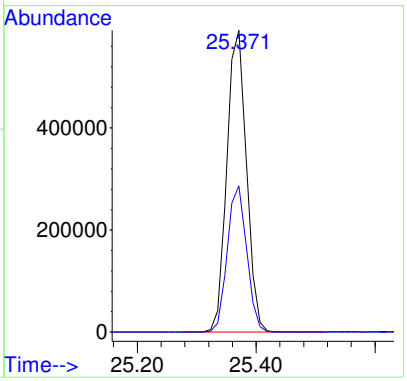


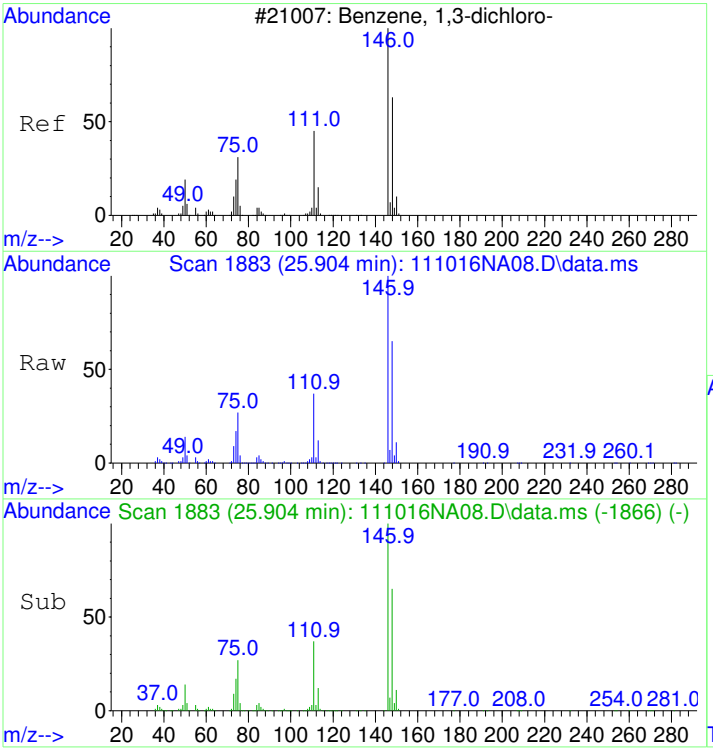


#60
1,2,4-Trimethylbenzene
Concen: 11.16 ppbv
RT: 25.371 min Scan# 1838
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion:105 Resp: 1356286

Ion	Ratio	Lower	Upper
105	100		
120	48.1	28.1	68.1

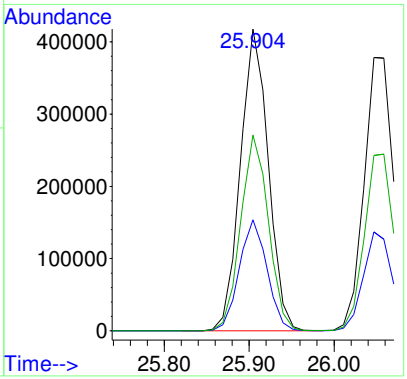


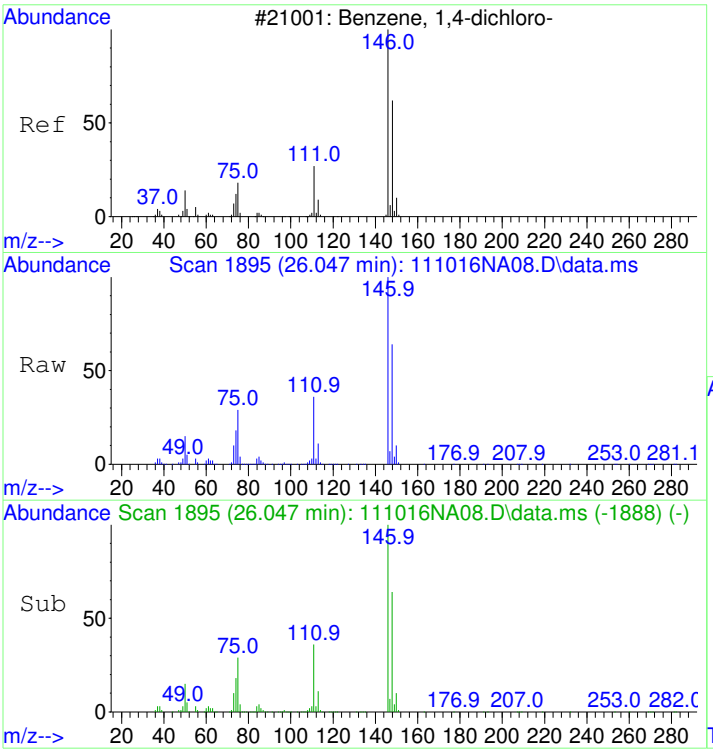


#61
1,3-Dichlorobenzene
Concen: 10.90 ppbv
RT: 25.904 min Scan# 1883
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion:146 Resp: 956206

Ion	Ratio	Lower	Upper
146	100		
111	36.8	16.8	56.8
148	64.6	44.6	84.6

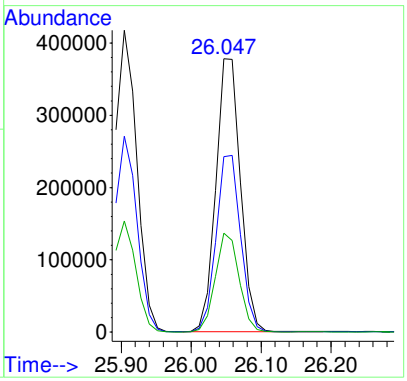


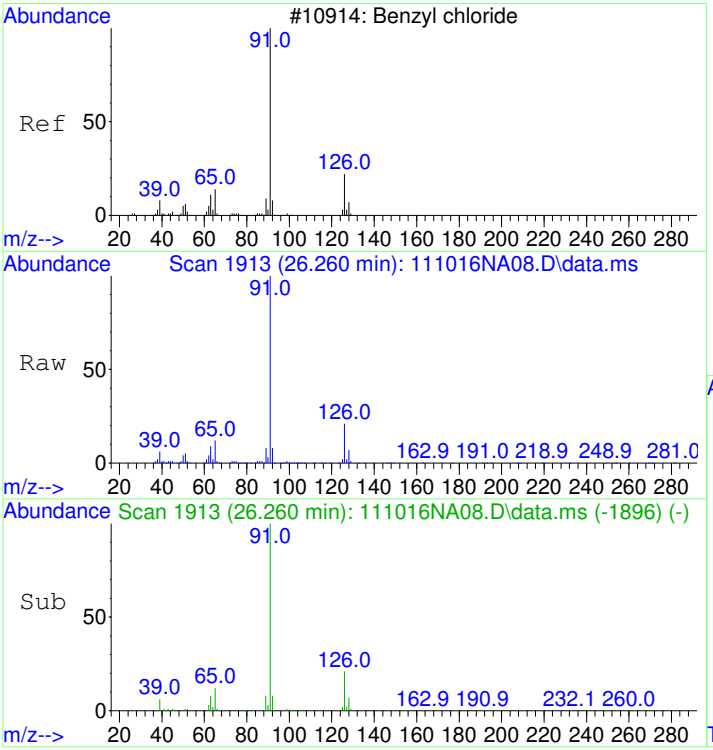


#62
1,4-Dichlorobenzene
Concen: 11.02 ppbv
RT: 26.047 min Scan# 1895
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion:146 Resp: 924223

Ion	Ratio	Lower	Upper
146	100		
148	64.3	44.3	84.3
111	35.0	15.0	55.0

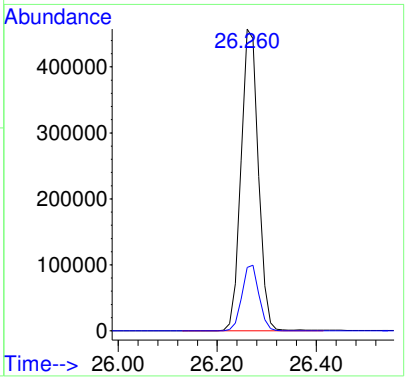


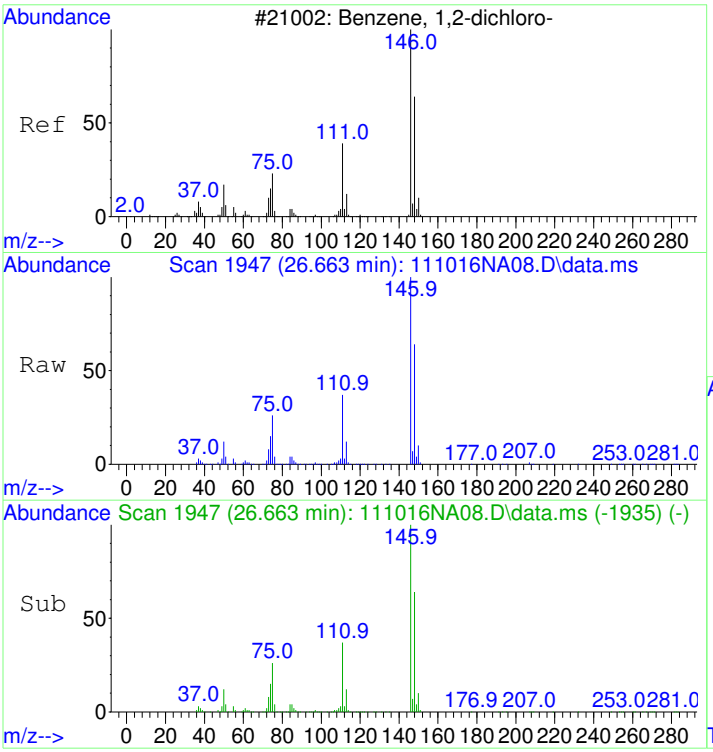


#63
Benzyl chloride
Concen: 11.07 ppbv
RT: 26.260 min Scan# 1913
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion: 91 Resp: 1113875

Ion	Ratio	Lower	Upper
91	100		
126	21.5	1.5	41.5

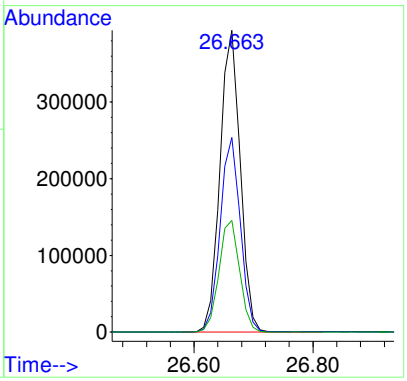


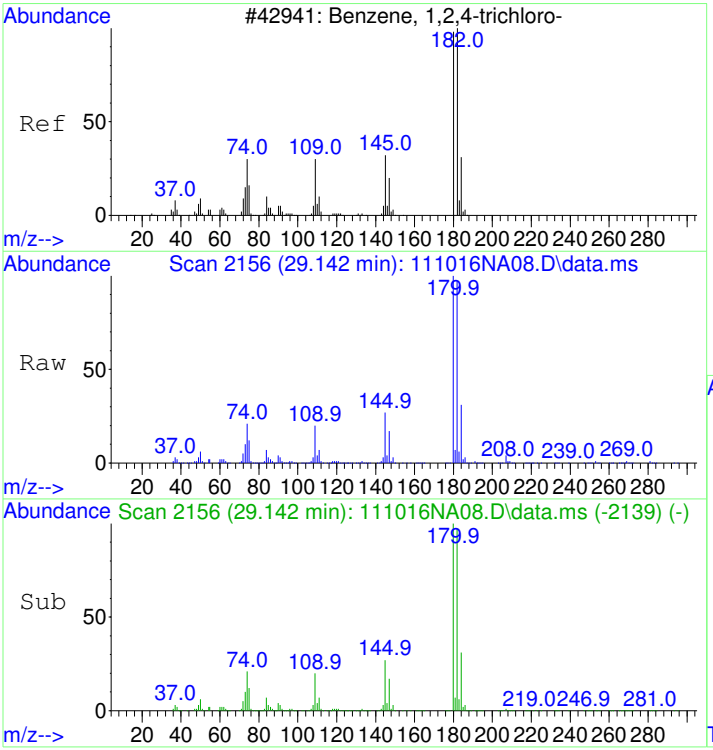


#64
1,2-Dichlorobenzene
Concen: 10.46 ppbv
RT: 26.663 min Scan# 1947
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion:146 Resp: 931609

Ion	Ratio	Lower	Upper
146	100		
148	64.2	44.2	84.2
111	37.8	17.8	57.8

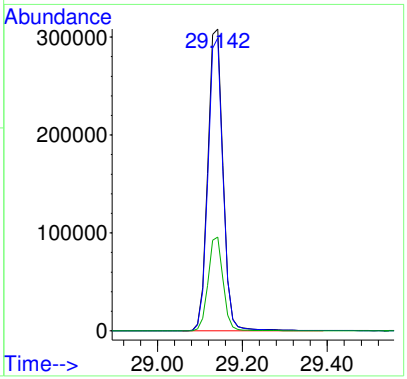


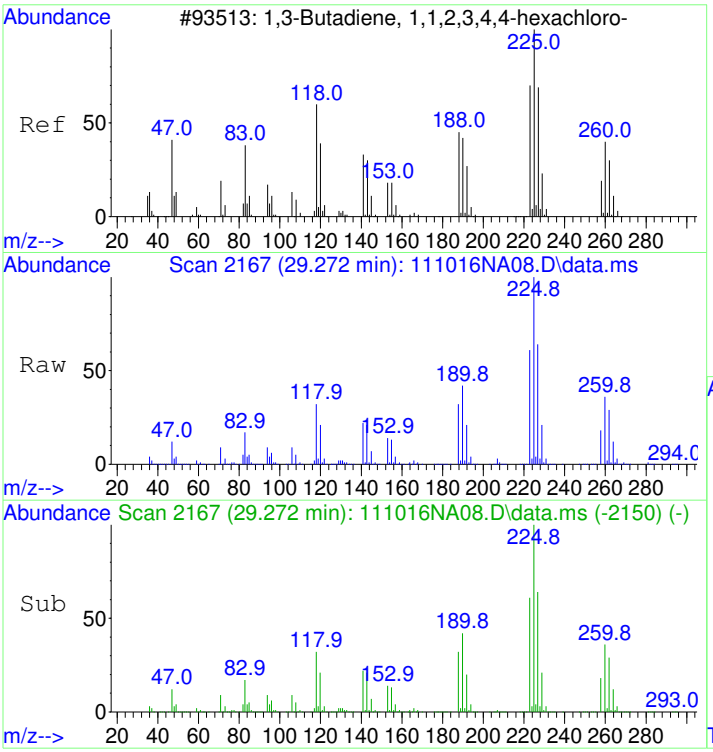


#65
1,2,4-Trichlorobenzene
Concen: 10.48 ppbv
RT: 29.142 min Scan# 2156
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion:180 Resp: 767278

Ion	Ratio	Lower	Upper
180	100		
182	95.8	75.8	115.8
184	30.5	10.5	50.5

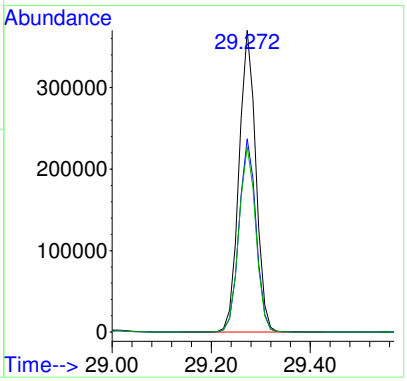




#66
Hexachlorobutadiene
Concen: 9.83 ppbv
RT: 29.272 min Scan# 2167
Delta R.T. 0.000 min
Lab File: 111016NA08.D
Acq: 10 Nov 2016 11:12 pm

Tgt Ion:225 Resp: 872649

Ion	Ratio	Lower	Upper
225	100		
227	64.7	44.7	84.7
223	62.1	42.1	82.1



S16K057-CAL5

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\111016_FSAAA\
Data File : 111016NA09.D
Acq On : 11 Nov 2016 12:00 am
InstName : AG5973N
Operator : LLH
Sample : S16K057-CAL5
Misc : 15ppbv 1646106
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 11 08:47:40 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 08:47:31 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	530653	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	2342805	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1888833	22.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.452	41	226789	16.05	ppbv	99
3) Dichlorodifluoromethane	4.547	85	1096870	15.29	ppbv	99
4) 1,2-Dichlorotetrafluor...	4.903	85	1071844	15.36	ppbv	99
5) Chloromethane	5.093	50	258443	14.71	ppbv	100
6) Vinyl chloride	5.413	62	231173	14.24	ppbv	99
7) 1,3-Butadiene	5.520	54	163977	14.66	ppbv	99
8) Bromomethane	6.456	94	247997	14.14	ppbv	100
9) Chloroethane	6.777	64	106032	13.87	ppbv	99
10) Bromoethene	7.358	106	380446	17.90	ppbv	100
11) Trichlorofluoromethane	7.500	101	1033083	15.43	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.326	151	774370	16.66	ppbv	100
13) 1,1-Dichloroethene	9.409	61	548843	17.41	ppbv	100
14) Acetone	9.943	43	501743	18.03	ppbv	100
15) Carbon disulfide	10.133	76	1120958	17.09	ppbv	100
16) 2-Propanol	10.559	45	211583	9.66	ppbv	90
17) Allyl chloride	10.951	41	359881	17.76	ppbv	100
18) Dichloromethane	11.473	49	341931	13.83	ppbv	100
19) tert-Butyl methyl ethe...	12.149	73	1056274	19.81	ppbv	100
20) trans-1,2-Dichloroethene	12.184	61	538295	17.35	ppbv	100
21) Hexane	12.777	57	535920	17.37	ppbv	99
22) 1,1-Dichloroethane	13.512	63	644988	15.42	ppbv	100
23) Vinyl acetate	13.655	43	242366	9.05	ppbv	100
24) cis-1,2-Dichloroethene	14.947	61	467890	17.64	ppbv	99
25) 2-Butanone (MEK)	15.030	72	189233	17.67	ppbv #	100
26) Ethyl acetate	15.078	61	118575	17.06	ppbv	98
27) Tetrahydrofuran	15.481	42	304859	15.31	ppbv	98
28) Chloroform	15.635	83	863418	16.02	ppbv	100
29) Cyclohexane	15.860	56	555886	17.34	ppbv	99
30) 1,1,1-Trichloroethane	15.908	97	935493	15.77	ppbv	100
31) Carbon tetrachloride	16.169	117	973256	15.60	ppbv	100
33) Benzene	16.655	78	1257834	14.32	ppbv	100
34) 2,2,4-Trimethylpentane	16.607	57	1723791	15.00	ppbv	99
35) 1,2-Dichloroethane	16.845	62	562882	14.42	ppbv	99
36) Heptane	16.987	43	547603	14.41	ppbv	99
37) Trichloroethene	17.876	130	616269	17.16	ppbv	100
38) 1,2-Dichloropropane	18.374	63	405667	14.44	ppbv	99
39) 1,4-Dioxane	18.564	88	239893	14.43	ppbv	99
40) Bromodichloromethane	18.837	83	976857	15.48	ppbv	100
41) cis-1,3-Dichloropropene	19.596	75	712829	17.45	ppbv	99
42) 4-Methyl-2-pentanone (...	19.821	43	693593	13.34	ppbv	98
44) Toluene	20.070	91	1594708	17.08	ppbv	100
45) trans-1,3-Dichloropropene	20.544	75	692983	17.77	ppbv	100
46) 1,1,2-Trichloroethane	20.841	97	557221	16.47	ppbv	99
47) Tetrachloroethene	20.936	166	924660	17.85	ppbv	100
48) 2-Hexanone	21.161	43	597282	12.74	ppbv	100
49) Chlorodibromomethane	21.457	129	1086052	16.88	ppbv	100
50) 1,2-Dibromoethane (EDB)	21.683	107	840537	17.44	ppbv	99
51) Chlorobenzene	22.406	112	1322353	16.69	ppbv	99
52) Ethylbenzene	22.489	91	2110142	16.90	ppbv	100
53) m&p-Xylene	22.667	91	3182030	32.53	ppbv	100
54) o-Xylene	23.319	91	1674166	17.27	ppbv	100

Data Path : D:\msdchem\1\2016\data\111016_FSAAA\
Data File : 111016NA09.D
Acq On : 11 Nov 2016 12:00 am
InstName : AG5973N
Operator : LLH
Sample : S16K057-CAL5
Misc : 15ppbv 1646106
ALS Vial : 32 Sample Multiplier: 1

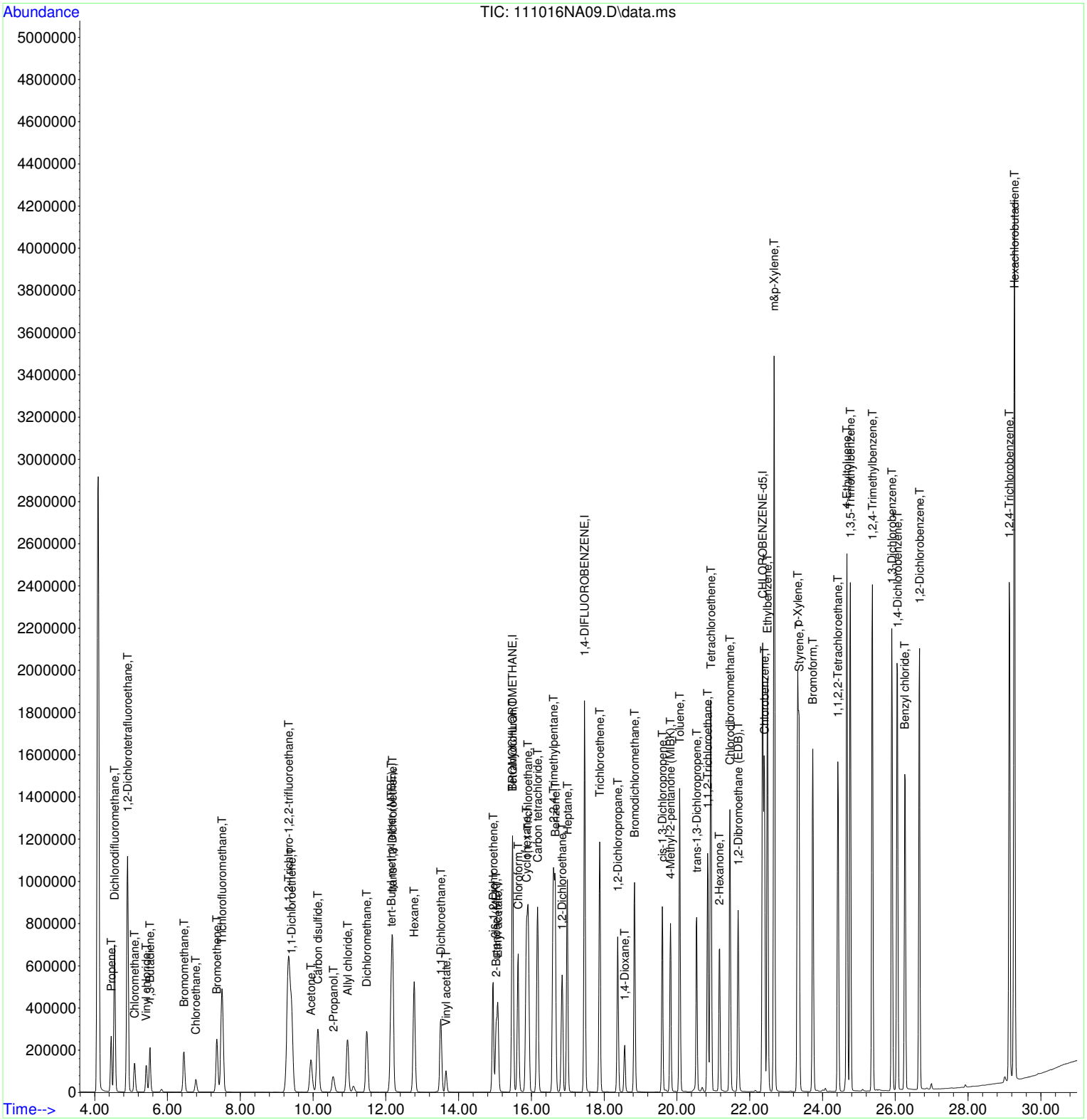
Quant Time: Nov 11 08:47:40 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 08:47:31 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	Styrene	23.355	104	1315728	16.67	ppbv	100
56)	Bromoform	23.734	173	1165998	17.42	ppbv	100
57)	1,1,2,2-Tetrachloroethane	24.422	83	1154150	14.61	ppbv	100
58)	4-Ethyltoluene	24.671	105	2507417	16.13	ppbv	99
59)	1,3,5-Trimethylbenzene	24.766	105	2037447	16.83	ppbv	100
60)	1,2,4-Trimethylbenzene	25.371	105	2040137	17.03	ppbv	99
61)	1,3-Dichlorobenzene	25.904	146	1441137	16.66	ppbv	100
62)	1,4-Dichlorobenzene	26.059	146	1391759	16.82	ppbv	100
63)	Benzyl chloride	26.260	91	1710380	17.24	ppbv	99
64)	1,2-Dichlorobenzene	26.663	146	1406693	16.02	ppbv	100
65)	1,2,4-Trichlorobenzene	29.130	180	1225300	16.97	ppbv	99
66)	Hexachlorobutadiene	29.272	225	1361955	15.57	ppbv	100

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

Data Path : D:\msdchem\1\2016\data\111016_FSAAA\
Data File : 111016NA09.D
Acq On : 11 Nov 2016 12:00 am
InstName : AG5973N
Operator : LLH
Sample : S16K057-CAL5
Misc : 15ppbv 1646106
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 11 08:47:40 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 08:47:31 2016
Response via : Initial Calibration



S16K057-CAL6

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\111016_FSAAA\
Data File : 111016NA10.D
Acq On : 11 Nov 2016 12:50 am
InstName : AG5973N
Operator : LLH
Sample : S16K057-CAL6
Misc : 20ppbv 1646107
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 11 08:48:28 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 08:48:20 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	520709	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	2327264	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1901539	22.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.452	41	296656	21.53	ppbv	99
3) Dichlorodifluoromethane	4.547	85	1433000	19.43	ppbv	99
4) 1,2-Dichlorotetrafluor...	4.903	85	1390193	19.50	ppbv	98
5) Chloromethane	5.105	50	339354	19.75	ppbv	100
6) Vinyl chloride	5.425	62	305951	19.64	ppbv	99
7) 1,3-Butadiene	5.520	54	219572	20.41	ppbv	99
8) Bromomethane	6.456	94	324706	18.80	ppbv	99
9) Chloroethane	6.788	64	139833	18.78	ppbv	99
10) Bromoethene	7.358	106	509258	22.97	ppbv	100
11) Trichlorofluoromethane	7.500	101	1357737	19.54	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.326	151	1019824	20.85	ppbv	99
13) 1,1-Dichloroethene	9.409	61	731657	22.97	ppbv	100
14) Acetone	9.943	43	671807	24.05	ppbv	99
15) Carbon disulfide	10.133	76	1466561	21.49	ppbv	100
16) 2-Propanol	10.560	45	291127	15.77	ppbv	86
17) Allyl chloride	10.951	41	482560	24.44	ppbv	99
18) Dichloromethane	11.473	49	447780	18.34	ppbv	100
19) tert-Butyl methyl ethe...	12.149	73	1447873	26.93	ppbv	100
20) trans-1,2-Dichloroethene	12.184	61	697686	22.12	ppbv	99
21) Hexane	12.777	57	716702	23.40	ppbv	98
22) 1,1-Dichloroethane	13.512	63	850656	20.21	ppbv	100
23) Vinyl acetate	13.655	43	344972	16.80	ppbv	100
24) cis-1,2-Dichloroethene	14.947	61	627516	23.55	ppbv	99
25) 2-Butanone (MEK)	15.030	72	250611	23.23	ppbv #	100
26) Ethyl acetate	15.078	61	157596	22.65	ppbv #	1
27) Tetrahydrofuran	15.481	42	407504	21.39	ppbv	97
28) Chloroform	15.635	83	1125432	20.26	ppbv	100
29) Cyclohexane	15.860	56	730331	22.94	ppbv	99
30) 1,1,1-Trichloroethane	15.908	97	1228407	20.03	ppbv	99
31) Carbon tetrachloride	16.169	117	1282998	19.90	ppbv	100
33) Benzene	16.655	78	1625111	18.86	ppbv	100
34) 2,2,4-Trimethylpentane	16.607	57	2258592	20.90	ppbv	99
35) 1,2-Dichloroethane	16.845	62	737845	19.15	ppbv	100
36) Heptane	16.987	43	714606	20.45	ppbv	99
37) Trichloroethene	17.876	130	821310	22.80	ppbv	99
38) 1,2-Dichloropropane	18.374	63	532825	19.90	ppbv	99
39) 1,4-Dioxane	18.564	88	311348	20.01	ppbv	98
40) Bromodichloromethane	18.837	83	1284505	20.63	ppbv	100
41) cis-1,3-Dichloropropene	19.596	75	949585	24.05	ppbv	99
42) 4-Methyl-2-pentanone (...	19.821	43	904189	19.08	ppbv	98
44) Toluene	20.070	91	2089177	22.27	ppbv	100
45) trans-1,3-Dichloropropene	20.544	75	927420	23.92	ppbv	100
46) 1,1,2-Trichloroethane	20.841	97	730198	21.29	ppbv	99
47) Tetrachloroethene	20.936	166	1227776	22.85	ppbv	99
48) 2-Hexanone	21.161	43	780581	18.20	ppbv	99
49) Chlorodibromomethane	21.457	129	1435155	21.91	ppbv	100
50) 1,2-Dibromoethane (EDB)	21.683	107	1108576	22.67	ppbv	99
51) Chlorobenzene	22.406	112	1727371	21.40	ppbv	99
52) Ethylbenzene	22.489	91	2760611	21.98	ppbv	100
53) m&p-Xylene	22.667	91	4100167	41.98	ppbv	100
54) o-Xylene	23.319	91	2187859	22.47	ppbv	99

Data Path : D:\msdchem\1\2016\data\111016_FSAAA\
Data File : 111016NA10.D
Acq On : 11 Nov 2016 12:50 am
InstName : AG5973N
Operator : LLH
Sample : S16K057-CAL6
Misc : 20ppbv 1646107
ALS Vial : 32 Sample Multiplier: 1

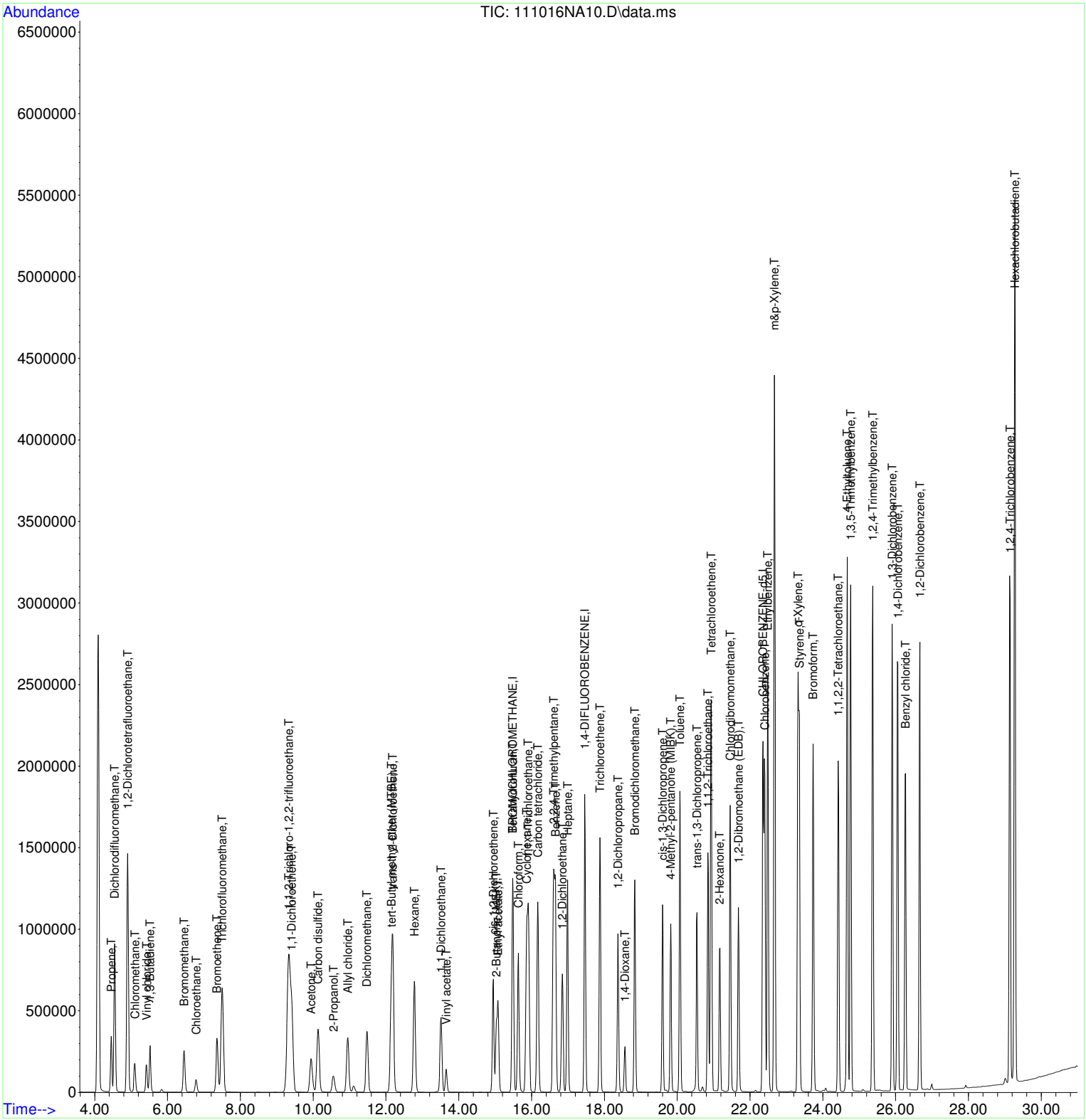
Quant Time: Nov 11 08:48:28 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 08:48:20 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	Styrene	23.355	104	1712909	21.49	ppbv	100
56)	Bromoform	23.734	173	1547940	22.51	ppbv	100
57)	1,1,2,2-Tetrachloroethane	24.422	83	1495062	18.92	ppbv	100
58)	4-Ethyltoluene	24.671	105	3268622	20.96	ppbv	99
59)	1,3,5-Trimethylbenzene	24.766	105	2642554	21.60	ppbv	100
60)	1,2,4-Trimethylbenzene	25.371	105	2658977	22.02	ppbv	99
61)	1,3-Dichlorobenzene	25.904	146	1891395	21.27	ppbv	99
62)	1,4-Dichlorobenzene	26.059	146	1830727	21.50	ppbv	99
63)	Benzyl chloride	26.272	91	2251320	22.49	ppbv	99
64)	1,2-Dichlorobenzene	26.663	146	1841276	20.39	ppbv	100
65)	1,2,4-Trichlorobenzene	29.142	180	1646304	22.21	ppbv	99
66)	Hexachlorobutadiene	29.272	225	1794148	20.00	ppbv	100

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

Data Path : D:\msdchem\1\2016\data\111016_FSAAA\
Data File : 111016NA10.D
Acq On : 11 Nov 2016 12:50 am
InstName : AG5973N
Operator : LLH
Sample : S16K057-CAL6
Misc : 20ppbv 1646107
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 11 08:48:28 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 08:48:20 2016
Response via : Initial Calibration



S16K057-SCV1

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\111016_FSAAA\
Data File : 111016NA11.D
Acq On : 11 Nov 2016 1:39 am
InstName : AG5973N
Operator : LLH
Sample : S16K057-SCV1
Misc : 10ppbv 1646109
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Nov 11 09:03:07 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 09:01:47 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	519277	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	2342125	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1936133	22.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.453	41	150812	11.04	ppbv	100
3) Dichlorodifluoromethane	4.547	85	786286	10.23	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.903	85	682107	9.24	ppbv	94
5) Chloromethane	5.105	50	240173	14.06	ppbv	99
6) Vinyl chloride	5.425	62	163878	10.78	ppbv	99
7) 1,3-Butadiene	5.520	54	115096	10.91	ppbv	99
8) Bromomethane	6.457	94	132192	7.65	ppbv	100
9) Chloroethane	6.789	64	76986	10.42	ppbv	99
10) Bromoethene	7.358	106	267414	11.38	ppbv	99
11) Trichlorofluoromethane	7.500	101	784547	10.73	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.326	151	563743	10.81	ppbv	99
13) 1,1-Dichloroethene	9.409	61	398726	12.15	ppbv	100
14) Acetone	9.943	43	319690	11.18	ppbv	100
15) Carbon disulfide	10.133	76	753607	10.48	ppbv	100
16) 2-Propanol	10.560	45	265922	17.06	ppbv	87
17) Allyl chloride	10.951	41	246498	12.52	ppbv	99
18) Dichloromethane	11.473	49	236809	9.64	ppbv	99
19) tert-Butyl methyl ethe...	12.149	73	750944	13.52	ppbv	100
20) trans-1,2-Dichloroethene	12.184	61	364696	11.21	ppbv	99
21) Hexane	12.777	57	361596	11.65	ppbv	99
22) 1,1-Dichloroethane	13.512	63	459364	10.65	ppbv	100
23) Vinyl acetate	13.655	43	494247	33.02	ppbv	100
24) cis-1,2-Dichloroethene	14.947	61	331778	12.14	ppbv	98
25) 2-Butanone (MEK)	15.030	72	137379	12.43	ppbv #	100
26) Ethyl acetate	15.078	61	79605	11.23	ppbv #	1
27) Tetrahydrofuran	15.493	42	215863	11.44	ppbv	100
28) Chloroform	15.635	83	605856	10.43	ppbv	100
29) Cyclohexane	15.860	56	371514	11.53	ppbv	99
30) 1,1,1-Trichloroethane	15.908	97	643667	10.00	ppbv	99
31) Carbon tetrachloride	16.169	117	699493	10.34	ppbv	99
33) Benzene	16.655	78	915234	10.71	ppbv	100
34) 2,2,4-Trimethylpentane	16.608	57	1177859	11.49	ppbv	99
35) 1,2-Dichloroethane	16.845	62	405867	10.55	ppbv	99
36) Heptane	16.987	43	370629	11.44	ppbv	99
37) Trichloroethene	17.876	130	448517	12.25	ppbv	99
38) 1,2-Dichloropropane	18.374	63	293447	11.36	ppbv	99
39) 1,4-Dioxane	18.564	88	207713	14.14	ppbv	96
40) Bromodichloromethane	18.837	83	675701	10.87	ppbv	100
41) cis-1,3-Dichloropropene	19.596	75	507505	13.13	ppbv	100
42) 4-Methyl-2-pentanone (...	19.821	43	482492	11.11	ppbv	98
44) Toluene	20.070	91	1178783	12.43	ppbv	100
45) trans-1,3-Dichloropropene	20.545	75	477123	12.29	ppbv	99
46) 1,1,2-Trichloroethane	20.841	97	409421	11.71	ppbv	99
47) Tetrachloroethene	20.936	166	669556	11.95	ppbv	100
48) 2-Hexanone	21.161	43	439773	11.27	ppbv	99
49) Chlorodibromomethane	21.458	129	748213	11.17	ppbv	100
50) 1,2-Dibromoethane (EDB)	21.683	107	485106	9.71	ppbv	100
51) Chlorobenzene	22.406	112	962330	11.65	ppbv	99
52) Ethylbenzene	22.489	91	1528555	12.04	ppbv	100
53) m&p-Xylene	22.667	91	2335228	23.91	ppbv	100
54) o-Xylene	23.319	91	1235963	12.59	ppbv	100

Data Path : D:\msdchem\1\2016\data\111016_FSAAA\
Data File : 111016NA11.D
Acq On : 11 Nov 2016 1:39 am
InstName : AG5973N
Operator : LLH
Sample : S16K057-SCV1
Misc : 10ppbv 1646109
ALS Vial : 34 Sample Multiplier: 1

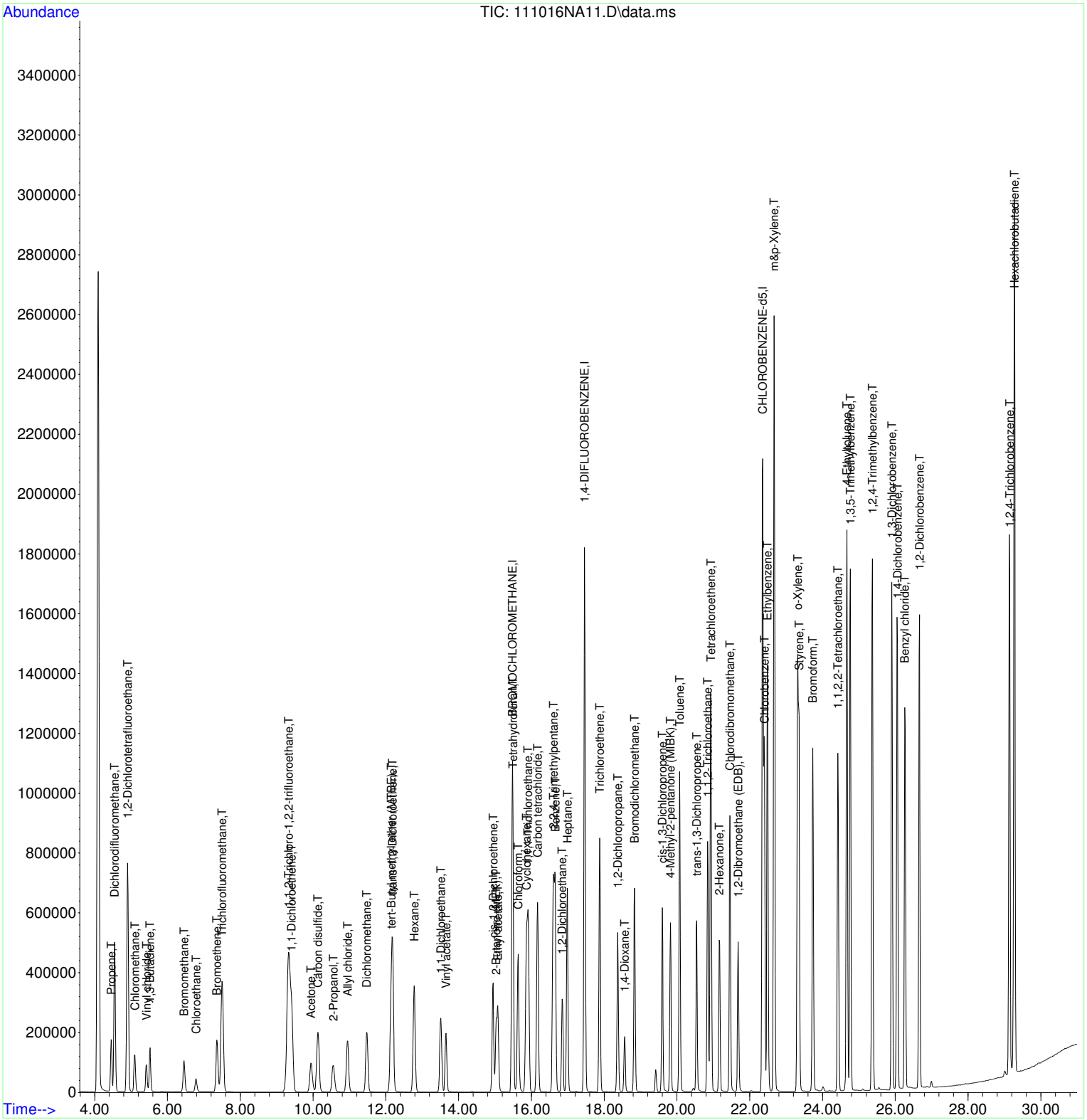
Quant Time: Nov 11 09:03:07 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 09:01:47 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	Styrene	23.355	104	929741	11.52	ppbv	100
56)	Bromoform	23.735	173	835158	11.77	ppbv	100
57)	1,1,2,2-Tetrachloroethane	24.422	83	826416	10.42	ppbv	100
58)	4-Ethyltoluene	24.671	105	1851031	11.80	ppbv	100
59)	1,3,5-Trimethylbenzene	24.766	105	1501076	12.11	ppbv	100
60)	1,2,4-Trimethylbenzene	25.371	105	1530221	12.54	ppbv	99
61)	1,3-Dichlorobenzene	25.905	146	1115899	12.15	ppbv	99
62)	1,4-Dichlorobenzene	26.059	146	1079848	12.27	ppbv	100
63)	Benzyl chloride	26.260	91	1442770	14.24	ppbv	99
64)	1,2-Dichlorobenzene	26.664	146	1061806	11.40	ppbv	100
65)	1,2,4-Trichlorobenzene	29.142	180	944868	12.36	ppbv	99
66)	Hexachlorobutadiene	29.272	225	953150	10.32	ppbv	100

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

Data Path : D:\msdchem\1\2016\data\111016_FSAAA\
Data File : 111016NA11.D
Acq On : 11 Nov 2016 1:39 am
InstName : AG5973N
Operator : LLH
Sample : S16K057-SCV1
Misc : 10ppbv 1646109
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Nov 11 09:03:07 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 09:01:47 2016
Response via : Initial Calibration



SEQUENCE

S16K061

ANALYST / REVIEWER - DATA REVIEW CHECKLIST

BATCH #:	B16K055	SEQUENCE #:	S16K061 11/14/16
BATCH #:	CAN CERTIFICATION	ANALYSIS:	TO15 AG5973N

	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.	11/10/16 Fri Nov 11, 2016 09:01:47			ICAL = Vinyl Acetate SCV = 2-Propanol; MTBE; Vinyl acetate
	Initial Calibration ID (LIMS number):	1611007			
	ICAL within QC criteria?	✔			
	SCV within QC criteria?	✔			
INSTRUMENT / QC CHECKS	Tune or degradation checks within QC criteria?	☐	Y	Y	
	CCV(s) within QC criteria?	☐	Y	Y	OK
	QLS(s) within QC criteria?	☐	Y	Y	2-Propanol = 141%; Vinyl acetate = 162%
	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 #:	B16K055	SEQUENCE #:	S16K061	11/14/16
BATCH #:	CAN CERTIFICATION	ANALYSIS:	TO15	AG5973N

	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?	☐	N	N	
	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:	LLH 11/14/16
	REVIEWED BY:	Ziyad Rajabi (affiliate) Digitally signed by Ziyad Rajabi (affiliate) Date: 2016.11.16 12:33:27 -08'00' SIGN HERE

COMMENTS

** see Discrepancy Rpt # D15-011 for Dichloromethane contamination in the Internal Std. LLH 11/11/16

Injection Log

Directory: d:\msdchem\1\2016\data\111116_FSAA

Table of Contents

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	31	111116N01.D	1.	S16K061-TUN1	BFB 1637033	11 Nov 2016 09:32
2	32	111116N02.D	1.	S16K061-CCV1@B16K055-BS1	10ppbv 1646105@1646108	11 Nov 2016 10:21
3	31	111116N03.D	1.	S16K061CRL1	1.0ppbv 1646102	11 Nov 2016 11:33
4	33	111116N04.D	1.	B16K055-BLK1	200ml BLANK #35	11 Nov 2016 12:23
5	31	111116N05.D	1.	S16K061-CRL1	1.0ppbv 1646102	11 Nov 2016 13:08
6	34	111116N06.D	5.47	1611021-01RE2	50ml RE-REPRESS	11 Nov 2016 14:06
7	35	111116N07.D	5.92	1611021-02RE2	50ml RE-REPRESS	11 Nov 2016 14:53
8	36	111116N08.D	6.56	1611021-08RE2	50ml RE-REPRESS	11 Nov 2016 15:39
9	33	111116N09.D	1.	S16K061-IBL1	200ml BLANK	11 Nov 2016 16:28
10	37	111116N10.D	1.	CAN 1555E	200ml CAN CERTIFICATION	11 Nov 2016 17:37
11	38	111116N11.D	1.	CAN 1585E	200ml CAN CERTIFICATION	11 Nov 2016 18:26
12	39	111116N12.D	1.	CAN 1590E	200ml CAN CERTIFICATION	11 Nov 2016 19:15
13	40	111116N13.D	1.	CAN 1589	200ml CAN CERTIFICATION	11 Nov 2016 20:04

GC/MS QA-QC Check Report

Table of Contents

Tune File : D:\msdchem\1\2016\data\111116_FSAA\111116N01.D
Tune Time : 11 Nov 2016 9:32 am

Daily Calibration File : D:\msdchem\1\2016\data\111116_FSAA\111116N02.D

File	Sample	Surrogate Recovery %			Internal Standard Responses		
					489682	2256940	1849660
111116N02.D	S16K061-CCV1	489682	2256936	1849661			
111116N03.D	S16K061CRL1	476543	2246368	1861898	NOT USED		
111116N04.D	B16K055-BLK1	466544	2182704	1778077			
111116N05.D	S16K061-CRL1	466125	2087688	1535567			
111116N06.D	1611021-01RE2	465517	2027853	1391441			
111116N07.D	1611021-02RE2	477323	2048275	1499286			
111116N08.D	1611021-08RE2	485873	2057178	1409203			
111116N09.D	S16K061-IBL1	487466	2181583	1697326			
111116N10.D	CAN 1555E	499203	2258137	1893904			
111116N11.D	CAN 1585E	510012	2255947	1857523			
111116N12.D	CAN 1590E	522761	2294233	1835982			
111116N13.D	CAN 1589	523385	2266811	1736070			

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

Created: Mon Nov 14 09:23:18 2016 AG5973N

----------SEQUENCE TABLE ----------

Sequence Name: D:\smart\2016\111116N_FSAA.SEQ
Date: 11-14-2016
Time: 09:20:54
Int. Std Volume: 40 cc

Sample Name	Inlet #	Auto Samp Pos	Cal Vol.	Std Vol.	Method	Time
BFB	3	1	20	40	D:\Smart\TO15.CTD	12:00
CCV1 10ppbv	3	2	100		D:\Smart\TO15.CTD	12:00
CRL1 1.0ppbv	3	1	20		D:\Smart\TO15.CTD	12:00
BLANK	3	3	200		D:\Smart\TO15.CTD	12:00
CRL1 1.0ppbv	3	1	20		D:\Smart\TO15.CTD	12:00
1611021-01RE2	3	4	50		D:\Smart\TO15.CTD	12:00
1611021-02RE2	3	5	50		D:\Smart\TO15.CTD	12:00
1611021-08RE2	3	6	50		D:\Smart\TO15.CTD	12:00
BLANK	3	3	200		D:\Smart\TO15.CTD	12:00
can 1555E	3	7	200		D:\Smart\TO15.CTD	12:00
can 1585E	3	8	200		D:\Smart\TO15.CTD	12:00
can 1590E	3	9	200		D:\Smart\TO15.CTD	12:00
can 1589	3	10	200		D:\Smart\TO15.CTD	12:00

Analysis Sequence

S16K061

Project: R17S16
Analysis: VOCs, Soil Gas

Instrument: AG5973N **Calibration ID:** 1611007 Printed: 11/14/2016 10:21 am

Lab Number	Sample Name	Order	Analyzed Date	STD ID	ISTD ID	Sequenced By	File ID	Comments
S16K061-TUN1	MS Tune	1	11/11/16 9:32	1617033		LLH	111116N01.D	
S16K061-CCV1	CCV	2	11/11/16 10:21	1646105		LLH	111116N02.D	
B16K055-BS1	LCS	3	11/11/16 10:21			LLH	111116N02.D	
B16K055-BLK1	Blank	4	11/11/16 12:23		1645030	LLH	111116N04.D	
S16K061-CRL1	CRL	5	11/11/16 13:08	1646102		LLH	111116N05.D	
1611021-01RE2 A	870 Leong-SS1	6	11/11/16 14:06		1645030	LLH	111116N06.D	
1611021-02RE2 A	870 Leong-SS1D	7	11/11/16 14:53		1645030	LLH	111116N07.D	
1611021-08RE2 A	870 Leong-SS6	8	11/11/16 15:39		1645030	LLH	111116N08.D	
S16K061-IBL1	blank	9	11/11/16 16:28		1645030	LLH	111116N09.D	

Sequence Comments

Reagents

Reagent # **Description**

Table of Contents

SEQUENCE DATA

S16K061

S16K061-TUN1

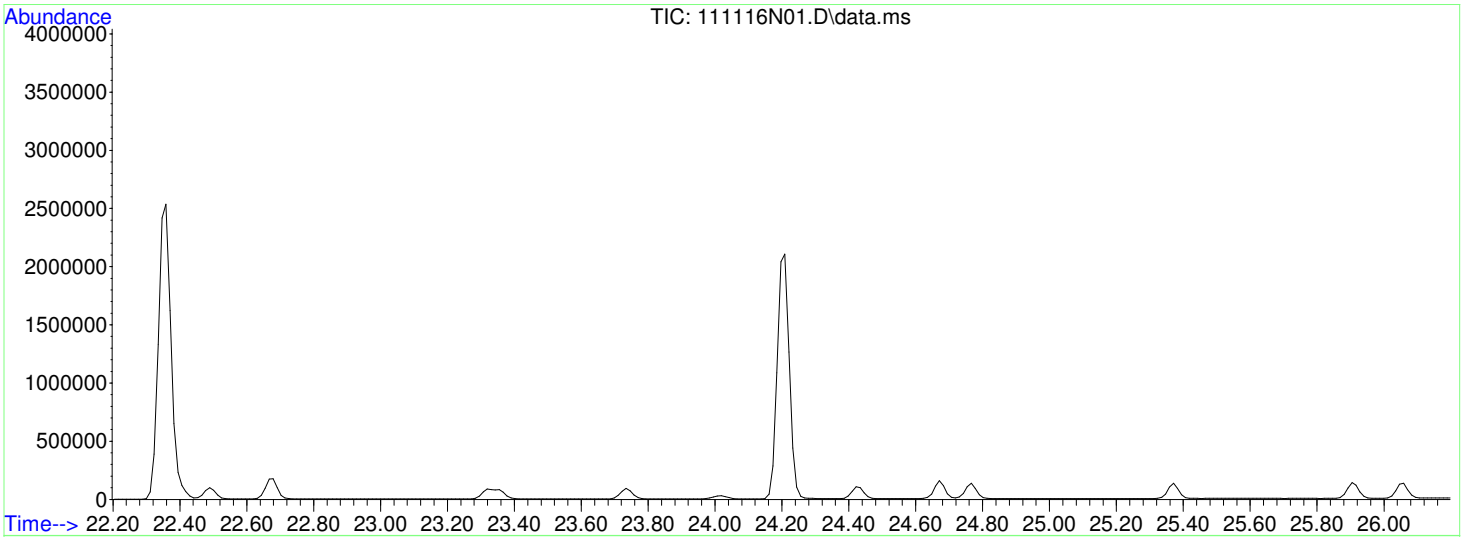
Table of Contents

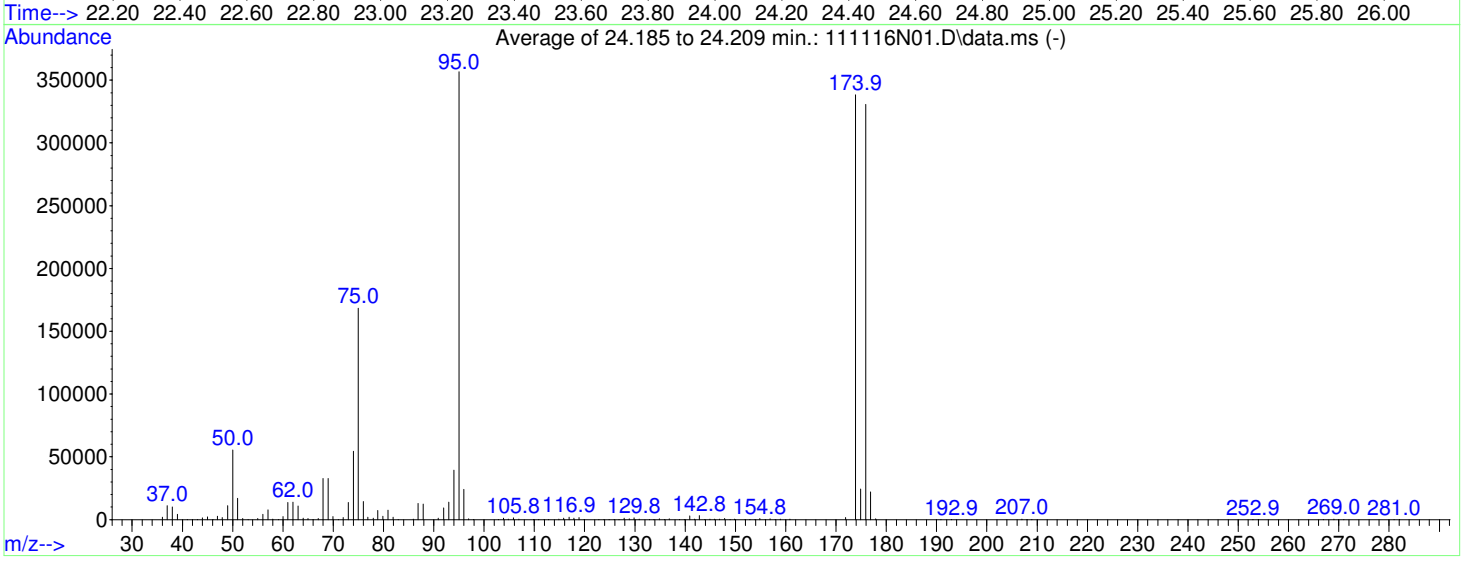
Data Path : D:\msdchem\1\2016\data\111116_FSAA\
Data File : 111116N01.D
Acq On : 11 Nov 2016 9:32 am
InstName : AG5973N
Operator : LLH
Sample : S16K061-TUN1
Misc : BFB 1637033
ALS Vial : 31 Sample Multiplier: 1

REVIEWED
By LLH at 11:19 am, Nov 11, 2016

Integration File: rteint.p

Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Title : TO15
Last Update : Fri Nov 11 09:01:47 2016



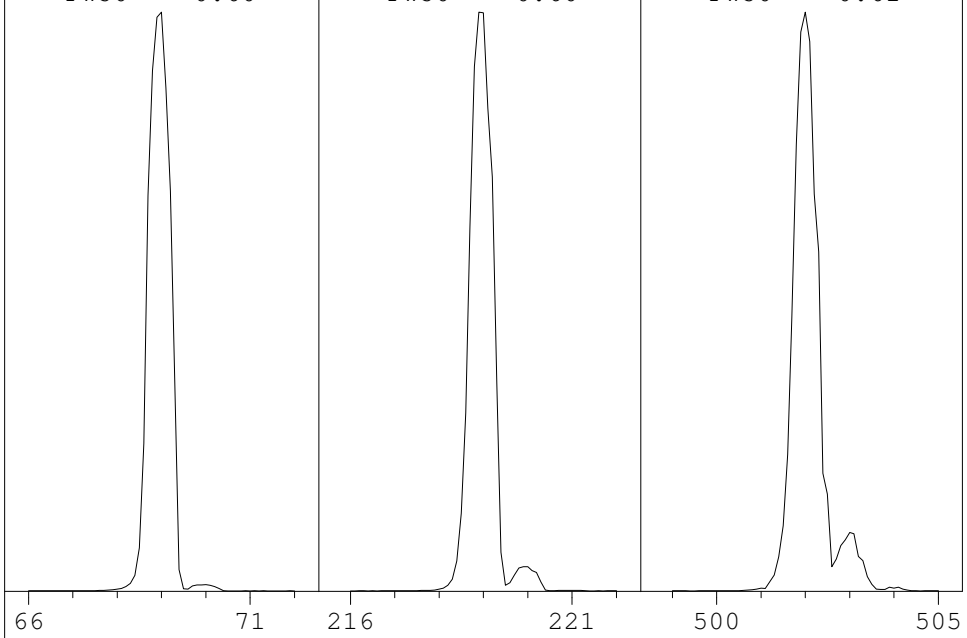


AutoFind: Scans 1738, 1739, 1740; Background Corrected with Scan 1732

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	15.6	55512	PASS
75	95	30	66	47.2	168395	PASS
95	95	100	100	100.0	356821	PASS
96	95	5	9	6.7	23997	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	94.8	338368	PASS
175	174	4	9	7.2	24286	PASS
176	174	93	101	97.7	330709	PASS
177	176	5	9	6.6	21987	PASS

Fri Nov 11 09:07:39 2016 Instrum
C:\msdchem\1\5973N\bfb0111116.u US43120931

Mass	69.00	Mass	218.90	Mass	502.00
Ab	378775	Ab	328749	Ab	32278
Pw50	0.60	Pw50	0.60	Pw50	0.61

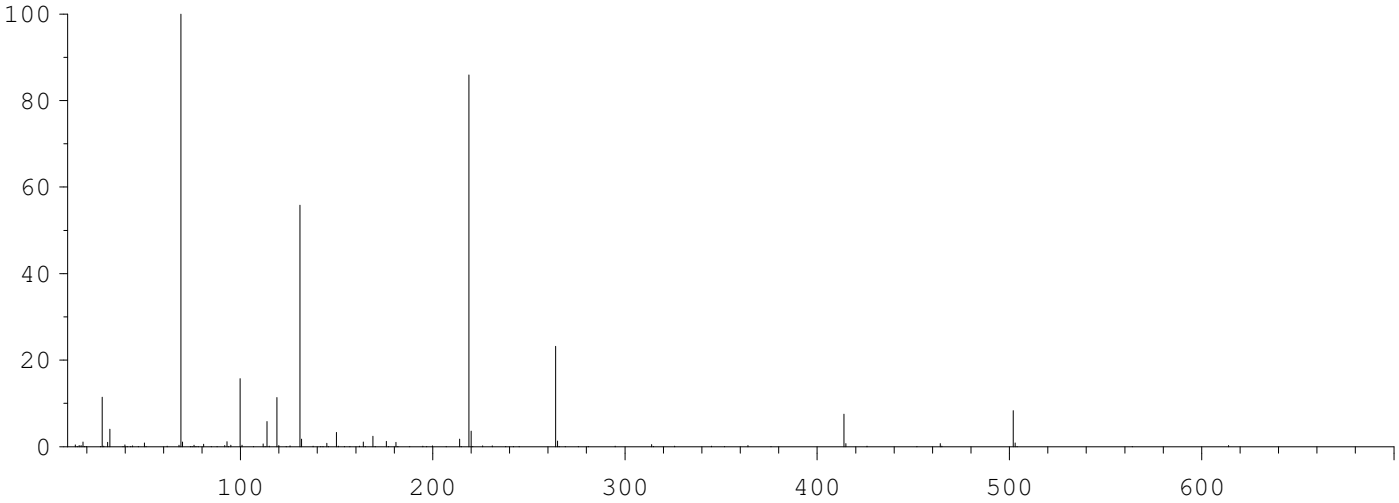


Ion Pol	Pos	MassGain	151
		MassOffs	-11
Emission	34.6	AmuGain	2546
EIEnrgy	69.9	AmuOffs	131
Filament	1	Wid219	-0.032
		DC Pol	Pos
Repeller	38.16		
IonFcus	90.2	HEDEnab	On
EntLens	12.0	EMVolts	1094
EntOffs	21.33		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	Turbo Speed	100
MS Quad	150		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
107 peaks Base: 69.00 Abundance: 361216



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	361216	100.00	69.90	3874	1.07
218.90	310336	85.91	220.00	12982	4.18
502.00	30192	8.36	503.00	3210	10.63

Air/Water Check: H20~1.10% N2~11.43% O2~4.03% CO2~0.22% N2/H2O~1041.05%

Column(1) Flow: 1.499 Column(2): 0 ml/min. Interface Temp: 230

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 219; EM Gain 76628
Repeller Maximum 35 volts using ion 502; Gain Factor 0.77

MassGain Values(Samples): 150(3) 164(2) 171(1) 199(0) 207(FS)

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	131.0	131.0	131.0	131.0	131.0	131.0	131.0
Entrance Lens Offset:	21.3	21.3	21.3	21.3	21.3	21.3	21.3

S16K061-CCV1

Data Path : D:\msdchem\1\2016\data\111116_FSAA\
Data File : 111116N02.D
Acq On : 11 Nov 2016 10:21 am
InstName : AG5973N
Operator : LLH
Sample : S16K061-CCV1@B16K055-BS1
Misc : 10ppbv 1646105@1646108
ALS Vial : 32 Sample Multiplier: 1

REVIEWED
By LLH at 11:18 am, Nov 11, 2016

Quant Time: Nov 11 11:17:13 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 09:01:47 2016
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	91	0.00
2	T	Propene	0.579	0.569	1.7	92	0.00
3	T	Dichlorodifluoromethane	3.256	3.334	-2.4	96	0.00
4	T	1,2-Dichlorotetrafluoroetha	3.128	3.139	-0.4	95	0.00
5	T	Chloromethane	0.724	0.693	4.3	92	0.00
6	T	Vinyl chloride	0.644	0.592	8.1	89	0.00
7	T	1,3-Butadiene	0.447	0.412	7.8	88	0.00
8	T	Bromomethane	0.732	0.681	7.0	90	0.00
9	T	Chloroethane	0.313	0.284	9.3	88	0.00
10	T	Bromoethene	0.996	1.028	-3.2	97	0.00
11	T	Trichlorofluoromethane	3.098	3.149	-1.6	98	0.00
12	T	1,1,2-Trichloro-1,2,2-trifl	2.210	2.269	-2.7	98	0.00
13	T	1,1-Dichloroethene	1.390	1.471	-5.8	96	0.00
14	T	Acetone	1.212	1.286	-6.1	97	0.00
15	T	Carbon disulfide	3.048	3.047	0.0	94	0.00
16	T	2-Propanol	0.660	0.622	5.8	101	0.00
17	T	Allyl chloride	0.834	0.888	-6.5	93	-0.01
18	T	Dichloromethane	1.041	0.959	7.9	92	0.00
19	T	tert-Butyl methyl ether (MT	2.353	2.864	-21.7	102	0.00
20	T	trans-1,2-Dichloroethene	1.378	1.395	-1.2	93	0.00
21	T	Hexane	1.315	1.437	-9.3	94	0.00
22	T	1,1-Dichloroethane	1.828	1.835	-0.4	95	0.00
23	T	Vinyl acetate	0.634	0.625	1.4	98	0.00
24	T	cis-1,2-Dichloroethene	1.158	1.268	-9.5	96	-0.01
25	T	2-Butanone (MEK)	0.468	0.517	-10.5	100	0.00
26	T	Ethyl acetate	0.300	0.325	-8.3	97	0.00
27	T	Tetrahydrofuran	0.799	0.843	-5.5	97	0.00
28	T	Chloroform	2.460	2.494	-1.4	95	0.00
29	T	Cyclohexane	1.365	1.466	-7.4	93	0.00
30	T	1,1,1-Trichloroethane	2.726	2.828	-3.7	97	0.00
31	T	Carbon tetrachloride	2.865	2.994	-4.5	99	0.00
32	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	96	0.00
33	T	Benzene	0.802	0.775	3.4	94	0.00
34	T	2,2,4-Trimethylpentane	0.963	1.015	-5.4	94	0.00
35	T	1,2-Dichloroethane	0.361	0.354	1.9	95	0.00
36	T	Heptane	0.304	0.315	-3.6	92	0.00
37	T	Trichloroethene	0.344	0.364	-5.8	99	0.00
38	T	1,2-Dichloropropane	0.243	0.246	-1.2	95	0.00
39	T	1,4-Dioxane	0.138	0.141	-2.2	99	0.00
40	T	Bromodichloromethane	0.584	0.587	-0.5	97	0.00
41	T	cis-1,3-Dichloropropene	0.363	0.410	-12.9	98	0.00
42	T	4-Methyl-2-pentanone (MIBK)	0.408	0.411	-0.7	98	0.00
43	I	CHLOROBENZENE-d5	1.000	1.000	0.0	97	0.00
44	T	Toluene	1.078	1.180	-9.5	97	0.00
45	T	trans-1,3-Dichloropropene	0.441	0.498	-12.9	98	0.00
46	T	1,1,2-Trichloroethane	0.397	0.411	-3.5	97	0.00
47	T	Tetrachloroethene	0.637	0.692	-8.6	100	0.00
48	T	2-Hexanone	0.444	0.442	0.5	99	0.00
49	T	Chlorodibromomethane	0.761	0.819	-7.6	101	0.00
50	T	1,2-Dibromoethane (EDB)	0.568	0.608	-7.0	99	0.00
51	T	Chlorobenzene	0.938	0.983	-4.8	99	-0.01

Data Path : D:\msdchem\1\2016\data\111116_FSAA\
Data File : 111116N02.D
Acq On : 11 Nov 2016 10:21 am
InstName : AG5973N
Operator : LLH
Sample : S16K061-CCV1@B16K055-BS1
Misc : 10ppbv 1646105@1646108
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 11 11:17:13 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 09:01:47 2016
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
52 T	Ethylbenzene	1.442	1.585	-9.9	99	0.00
53 T	m&p-Xylene	1.110	1.204	-8.5	98	0.00
54 T	o-Xylene	1.115	1.264	-13.4	99	0.00
55 T	Styrene	0.917	1.019	-11.1	99	0.00
56 T	Bromoform	0.806	0.889	-10.3	102	0.00
57 T	1,1,2,2-Tetrachloroethane	0.902	0.893	1.0	99	0.00
58 T	4-Ethyltoluene	1.783	1.962	-10.0	101	0.00
59 T	1,3,5-Trimethylbenzene	1.409	1.525	-8.2	100	0.00
60 T	1,2,4-Trimethylbenzene	1.387	1.534	-10.6	101	0.00
61 T	1,3-Dichlorobenzene	1.043	1.103	-5.8	102	0.00
62 T	1,4-Dichlorobenzene	1.000	1.063	-6.3	102	0.01
63 T	Benzyl chloride	1.152	1.233	-7.0	100	0.00
64 T	1,2-Dichlorobenzene	1.059	1.078	-1.8	101	0.00
65 T	1,2,4-Trichlorobenzene	0.869	0.895	-3.0	102	-0.01
66 T	Hexachlorobutadiene	1.050	1.075	-2.4	107	0.00

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

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\111116_FSAA\
Data File : 111116N02.D
Acq On : 11 Nov 2016 10:21 am
InstName : AG5973N
Operator : LLH
Sample : S16K061-CCV1@B16K055-BS1
Misc : 10ppbv 1646105@1646108
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 11 11:17:13 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 09:01:47 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	489682	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	2256936	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1849661	22.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.452	41	139384	10.82	ppbv	99
3) Dichlorodifluoromethane	4.547	85	719807	9.93	ppbv	99
4) 1,2-Dichlorotetrafluor...	4.903	85	698734	10.03	ppbv	99
5) Chloromethane	5.093	50	163491	10.15	ppbv	100
6) Vinyl chloride	5.413	62	137077	9.56	ppbv	100
7) 1,3-Butadiene	5.520	54	96217	9.67	ppbv	98
8) Bromomethane	6.457	94	151624	9.30	ppbv	100
9) Chloroethane	6.777	64	63186	9.07	ppbv	99
10) Bromoethene	7.358	106	242568	10.95	ppbv	100
11) Trichlorofluoromethane	7.500	101	686819	9.96	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.326	151	515102	10.47	ppbv	98
13) 1,1-Dichloroethene	9.409	61	340510	11.00	ppbv	98
14) Acetone	9.943	43	314839	11.67	ppbv	99
15) Carbon disulfide	10.133	76	712118	10.50	ppbv	100
16) 2-Propanol	10.560	45	127414	8.67	ppbv	94
17) Allyl chloride	10.939	41	217396	11.71	ppbv	98
18) Dichloromethane	11.473	49	215607	9.31	ppbv	97
19) tert-Butyl methyl ethe...	12.149	73	682184	13.03	ppbv	100
20) trans-1,2-Dichloroethene	12.184	61	341551	11.13	ppbv	98
21) Hexane	12.777	57	332574	11.36	ppbv	98
22) 1,1-Dichloroethane	13.512	63	408527	10.04	ppbv	99
23) Vinyl acetate	13.655	43	143209	10.15	ppbv	99
24) cis-1,2-Dichloroethene	14.935	61	293466	11.39	ppbv	98
25) 2-Butanone (MEK)	15.030	72	120920	11.60	ppbv #	100
26) Ethyl acetate	15.078	61	75906	11.35	ppbv	99
27) Tetrahydrofuran	15.493	42	191345	10.76	ppbv	98
28) Chloroform	15.635	83	560586	10.24	ppbv	100
29) Cyclohexane	15.860	56	345776	11.38	ppbv	98
30) 1,1,1-Trichloroethane	15.908	97	616794	10.17	ppbv	99
31) Carbon tetrachloride	16.169	117	646507	10.14	ppbv	100
33) Benzene	16.655	78	818480	9.94	ppbv	99
34) 2,2,4-Trimethylpentane	16.607	57	1092889	11.06	ppbv	99
35) 1,2-Dichloroethane	16.845	62	362700	9.78	ppbv	99
36) Heptane	16.987	43	342853	10.98	ppbv	98
37) Trichloroethene	17.876	130	403615	11.44	ppbv	99
38) 1,2-Dichloropropane	18.374	63	259744	10.44	ppbv	99
39) 1,4-Dioxane	18.564	88	148655	10.50	ppbv	98
40) Bromodichloromethane	18.837	83	638506	10.66	ppbv	100
41) cis-1,3-Dichloropropene	19.596	75	454764	12.21	ppbv	99
42) 4-Methyl-2-pentanone (...	19.821	43	438861	10.48	ppbv	98
44) Toluene	20.070	91	1041399	11.50	ppbv	100
45) trans-1,3-Dichloropropene	20.544	75	444138	11.98	ppbv	99
46) 1,1,2-Trichloroethane	20.841	97	366621	10.98	ppbv	99
47) Tetrachloroethene	20.936	166	616292	11.52	ppbv	100
48) 2-Hexanone	21.161	43	375327	10.06	ppbv	99
49) Chlorodibromomethane	21.458	129	729968	11.41	ppbv	100
50) 1,2-Dibromoethane (EDB)	21.683	107	557415	11.68	ppbv	100
51) Chlorobenzene	22.394	112	884753	11.22	ppbv	99
52) Ethylbenzene	22.489	91	1399142	11.54	ppbv	100
53) m&p-Xylene	22.667	91	2146577	23.00	ppbv	100
54) o-Xylene	23.319	91	1115527	11.90	ppbv	100

Data Path : D:\msdchem\1\2016\data\111116_FSAA\
Data File : 111116N02.D
Acq On : 11 Nov 2016 10:21 am
InstName : AG5973N
Operator : LLH
Sample : S16K061-CCV1@B16K055-BS1
Misc : 10ppbv 1646105@1646108
ALS Vial : 32 Sample Multiplier: 1

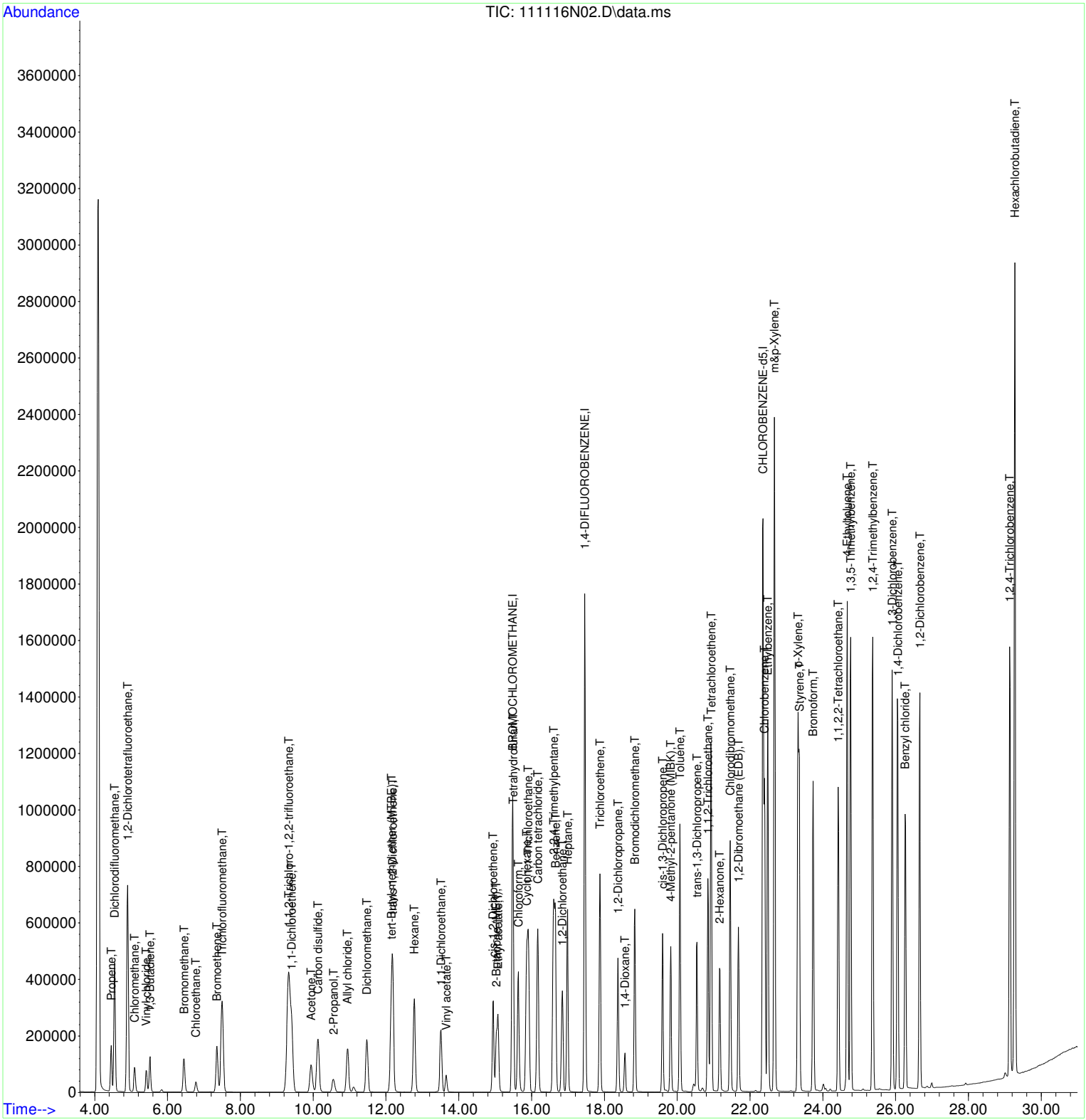
Quant Time: Nov 11 11:17:13 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 09:01:47 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	Styrene	23.355	104	882772	11.45	ppbv	100
56)	Bromoform	23.734	173	792224	11.68	ppbv	100
57)	1,1,2,2-Tetrachloroethane	24.422	83	780468	10.30	ppbv	100
58)	4-Ethyltoluene	24.671	105	1682222	11.22	ppbv	100
59)	1,3,5-Trimethylbenzene	24.766	105	1371801	11.58	ppbv	100
60)	1,2,4-Trimethylbenzene	25.371	105	1367521	11.73	ppbv	100
61)	1,3-Dichlorobenzene	25.905	146	973528	11.10	ppbv	100
62)	1,4-Dichlorobenzene	26.059	146	938642	11.16	ppbv	100
63)	Benzyl chloride	26.260	91	1108976	11.45	ppbv	99
64)	1,2-Dichlorobenzene	26.663	146	942530	10.59	ppbv	100
65)	1,2,4-Trichlorobenzene	29.130	180	782374	10.71	ppbv	100
66)	Hexachlorobutadiene	29.272	225	931282	10.55	ppbv	100

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

Data Path : D:\msdchem\1\2016\data\111116_FSAA\
Data File : 111116N02.D
Acq On : 11 Nov 2016 10:21 am
InstName : AG5973N
Operator : LLH
Sample : S16K061-CCV1@B16K055-BS1
Misc : 10ppbv 1646105@1646108
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 11 11:17:13 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 09:01:47 2016
Response via : Initial Calibration



LCS REPORT

REVIEWED
By LLH at 11:19 am, Nov 11, 2016

Instrument Name: AG5973N
Sample Name: S16K061-CCV1@B16K055-BS1
Misc Info: 10ppbv 1646105@1646108
Date Acquired: 11/11/2016 10:21
QLast Update: Fri Nov 11 09:01:47 2016
Operator: LLH

#	Name	Ret Time	Amount	Concentration	%R	QC	LIMIT	STATUS
1)	BROMOCHLOROMETHANE	15.48	#N/A	22.00	#N/A	70.0	130.0	#N/A
2)	Propene	4.45	11.00	10.82	98%	72.0	121.0	pass
3)	Dichlorodifluoromethane	4.55	9.70	9.93	102%	68.0	129.0	pass
4)	1,2-Dichlorotetrafluoroethane	4.90	10.00	10.03	100%	67.0	127.0	pass
5)	Chloromethane	5.09	10.60	10.15	96%	70.0	123.0	pass
6)	Vinyl chloride	5.41	10.40	9.56	92%	69.0	125.0	pass
7)	1,3-Butadiene	5.52	10.50	9.67	92%	75.0	121.0	pass
8)	Bromomethane	6.46	10.00	9.30	93%	66.0	125.0	pass
9)	Chloroethane	6.78	10.00	9.07	91%	67.0	125.0	pass
10)	Bromoethene	7.36	10.60	10.95	103%	68.0	124.0	pass
11)	Trichlorofluoromethane	7.50	9.80	9.96	102%	68.0	133.0	pass
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	9.33	10.20	10.47	103%	64.0	125.0	pass
13)	1,1-Dichloroethene	9.41	10.40	11.00	106%	73.0	128.0	pass
14)	Acetone	9.94	11.00	11.67	106%	67.0	141.0	pass
15)	Carbon disulfide	10.13	10.50	10.50	100%	45.0	158.0	pass
16)	2-Propanol	10.56	9.20	8.67	94%	72.0	132.0	pass
17)	Allyl chloride	10.94	11.00	11.71	106%	75.0	132.0	pass
18)	Dichloromethane	11.47	10.10	9.31	92%	73.0	116.0	pass
19)	tert-Butyl methyl ether (MTBE)	12.15	10.70	13.03	122%	74.0	131.0	pass
20)	trans-1,2-Dichloroethene	12.18	11.00	11.13	101%	80.0	123.0	pass
21)	Hexane	12.78	10.40	11.36	109%	75.0	124.0	pass
22)	1,1-Dichloroethane	13.51	10.00	10.04	100%	72.0	125.0	pass
23)	Vinyl acetate	13.65	10.30	10.15	99%	31.0	171.0	pass
24)	cis-1,2-Dichloroethene	14.94	10.40	11.39	109%	77.0	129.0	pass
25)	2-Butanone (MEK)	15.03	10.50	11.60	110%	69.0	137.0	pass
26)	Ethyl acetate	15.08	10.50	11.35	108%	75.0	127.0	pass
27)	Tetrahydrofuran	15.49	10.20	10.76	105%	78.0	120.0	pass
28)	Chloroform	15.64	10.10	10.24	101%	77.0	126.0	pass
29)	Cyclohexane	15.86	10.60	11.38	107%	76.0	124.0	pass
30)	1,1,1-Trichloroethane	15.91	9.80	10.17	104%	74.0	133.0	pass
31)	Carbon tetrachloride	16.17	9.70	10.14	105%	71.0	141.0	pass
32)	1,4-DIFLUOROBENZENE	17.46	#N/A	22.00	#N/A	70.0	130.0	#N/A
33)	Benzene	16.65	10.30	9.94	97%	81.0	125.0	pass
34)	2,2,4-Trimethylpentane	16.61	10.50	11.06	105%	82.0	125.0	pass
35)	1,2-Dichloroethane	16.84	10.00	9.78	98%	61.0	153.0	pass
36)	Heptane	16.99	10.60	10.98	104%	80.0	129.0	pass
37)	Trichloroethene	17.88	10.80	11.44	106%	73.0	128.0	pass
38)	1,2-Dichloropropane	18.37	10.30	10.44	101%	77.0	129.0	pass
39)	1,4-Dioxane	18.56	10.30	10.50	102%	58.0	140.0	pass
40)	Bromodichloromethane	18.84	10.60	10.66	101%	76.0	137.0	pass
41)	cis-1,3-Dichloropropene	19.60	10.80	12.21	113%	80.0	136.0	pass
42)	4-Methyl-2-pentanone (MIBK)	19.82	10.40	10.48	101%	65.0	140.0	pass
43)	CHLOROBENZENE-d5	22.36	#N/A	22.00	#N/A	70.0	130.0	#N/A
44)	Toluene	20.07	10.50	11.50	109%	78.0	133.0	pass
45)	trans-1,3-Dichloropropene	20.54	10.60	11.98	113%	79.0	146.0	pass
46)	1,1,2-Trichloroethane	20.84	10.60	10.98	104%	74.0	134.0	pass
47)	Tetrachloroethene	20.94	10.60	11.52	109%	73.0	130.0	pass

48)	2-Hexanone	21.16	10.10	10.06	100%	50.0	162.0	pass
49)	Chlorodibromomethane	21.46	10.60	11.41	108%	81.0	135.0	pass
50)	1,2-Dibromoethane (EDB)	21.68	10.90	11.68	107%	78.0	133.0	pass
51)	Chlorobenzene	22.39	10.70	11.22	105%	81.0	126.0	pass
52)	Ethylbenzene	22.49	10.50	11.54	110%	82.0	130.0	pass
53)	m&p-Xylene	22.67	21.20	23.00	109%	82.0	131.0	pass
54)	o-Xylene	23.32	10.50	11.90	113%	82.0	132.0	pass
55)	Styrene	23.35	10.30	11.45	111%	65.0	141.0	pass
56)	Bromoform	23.73	10.60	11.68	110%	84.0	137.0	pass
57)	1,1,2,2-Tetrachloroethane	24.42	10.40	10.30	99%	73.0	127.0	pass
58)	4-Ethyltoluene	24.67	10.20	11.22	110%	81.0	127.0	pass
59)	1,3,5-Trimethylbenzene	24.77	10.70	11.58	108%	77.0	132.0	pass
60)	1,2,4-Trimethylbenzene	25.37	10.60	11.73	111%	78.0	131.0	pass
61)	1,3-Dichlorobenzene	25.90	10.50	11.10	106%	79.0	124.0	pass
62)	1,4-Dichlorobenzene	26.06	10.50	11.16	106%	75.0	127.0	pass
63)	Benzyl chloride	26.26	10.70	11.45	107%	67.0	156.0	pass
64)	1,2-Dichlorobenzene	26.66	10.40	10.59	102%	77.0	124.0	pass
65)	1,2,4-Trichlorobenzene	29.13	10.40	10.71	103%	55.0	132.0	pass
66)	Hexachlorobutadiene	29.27	10.30	10.55	102%	52.0	131.0	pass

B16K055-BS1

Evaluate Continuing Calibration Report

Table of Contents

Data Path : D:\msdchem\1\2016\data\111116_FSAA\
Data File : 111116N02.D
Acq On : 11 Nov 2016 10:21 am
InstName : AG5973N
Operator : LLH
Sample : S16K061-CCV1@B16K055-BS1
Misc : 10ppbv 1646105@1646108
ALS Vial : 32 Sample Multiplier: 1

REVIEWED
By LLH at 11:18 am, Nov 11, 2016

Quant Time: Nov 11 11:17:13 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 09:01:47 2016
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 140%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	BROMOCHLOROMETHANE	1.000	1.000	0.0	91	0.00
2	T	Propene	0.579	0.569	1.7	92	0.00
3	T	Dichlorodifluoromethane	3.256	3.334	-2.4	96	0.00
4	T	1,2-Dichlorotetrafluoroetha	3.128	3.139	-0.4	95	0.00
5	T	Chloromethane	0.724	0.693	4.3	92	0.00
6	T	Vinyl chloride	0.644	0.592	8.1	89	0.00
7	T	1,3-Butadiene	0.447	0.412	7.8	88	0.00
8	T	Bromomethane	0.732	0.681	7.0	90	0.00
9	T	Chloroethane	0.313	0.284	9.3	88	0.00
10	T	Bromoethene	0.996	1.028	-3.2	97	0.00
11	T	Trichlorofluoromethane	3.098	3.149	-1.6	98	0.00
12	T	1,1,2-Trichloro-1,2,2-trifl	2.210	2.269	-2.7	98	0.00
13	T	1,1-Dichloroethene	1.390	1.471	-5.8	96	0.00
14	T	Acetone	1.212	1.286	-6.1	97	0.00
15	T	Carbon disulfide	3.048	3.047	0.0	94	0.00
16	T	2-Propanol	0.660	0.622	5.8	101	0.00
17	T	Allyl chloride	0.834	0.888	-6.5	93	-0.01
18	T	Dichloromethane	1.041	0.959	7.9	92	0.00
19	T	tert-Butyl methyl ether (MT	2.353	2.864	-21.7	102	0.00
20	T	trans-1,2-Dichloroethene	1.378	1.395	-1.2	93	0.00
21	T	Hexane	1.315	1.437	-9.3	94	0.00
22	T	1,1-Dichloroethane	1.828	1.835	-0.4	95	0.00
23	T	Vinyl acetate	0.634	0.625	1.4	98	0.00
24	T	cis-1,2-Dichloroethene	1.158	1.268	-9.5	96	-0.01
25	T	2-Butanone (MEK)	0.468	0.517	-10.5	100	0.00
26	T	Ethyl acetate	0.300	0.325	-8.3	97	0.00
27	T	Tetrahydrofuran	0.799	0.843	-5.5	97	0.00
28	T	Chloroform	2.460	2.494	-1.4	95	0.00
29	T	Cyclohexane	1.365	1.466	-7.4	93	0.00
30	T	1,1,1-Trichloroethane	2.726	2.828	-3.7	97	0.00
31	T	Carbon tetrachloride	2.865	2.994	-4.5	99	0.00
32	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	96	0.00
33	T	Benzene	0.802	0.775	3.4	94	0.00
34	T	2,2,4-Trimethylpentane	0.963	1.015	-5.4	94	0.00
35	T	1,2-Dichloroethane	0.361	0.354	1.9	95	0.00
36	T	Heptane	0.304	0.315	-3.6	92	0.00
37	T	Trichloroethene	0.344	0.364	-5.8	99	0.00
38	T	1,2-Dichloropropane	0.243	0.246	-1.2	95	0.00
39	T	1,4-Dioxane	0.138	0.141	-2.2	99	0.00
40	T	Bromodichloromethane	0.584	0.587	-0.5	97	0.00
41	T	cis-1,3-Dichloropropene	0.363	0.410	-12.9	98	0.00
42	T	4-Methyl-2-pentanone (MIBK)	0.408	0.411	-0.7	98	0.00
43	I	CHLOROBENZENE-d5	1.000	1.000	0.0	97	0.00
44	T	Toluene	1.078	1.180	-9.5	97	0.00
45	T	trans-1,3-Dichloropropene	0.441	0.498	-12.9	98	0.00
46	T	1,1,2-Trichloroethane	0.397	0.411	-3.5	97	0.00
47	T	Tetrachloroethene	0.637	0.692	-8.6	100	0.00
48	T	2-Hexanone	0.444	0.442	0.5	99	0.00
49	T	Chlorodibromomethane	0.761	0.819	-7.6	101	0.00
50	T	1,2-Dibromoethane (EDB)	0.568	0.608	-7.0	99	0.00
51	T	Chlorobenzene	0.938	0.983	-4.8	99	-0.01

Data Path : D:\msdchem\1\2016\data\111116_FSAA\
Data File : 111116N02.D
Acq On : 11 Nov 2016 10:21 am
InstName : AG5973N
Operator : LLH
Sample : S16K061-CCV1@B16K055-BS1
Misc : 10ppbv 1646105@1646108
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 11 11:17:13 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 09:01:47 2016
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 60% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 140%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
52 T	Ethylbenzene	1.442	1.585	-9.9	99	0.00
53 T	m&p-Xylene	1.110	1.204	-8.5	98	0.00
54 T	o-Xylene	1.115	1.264	-13.4	99	0.00
55 T	Styrene	0.917	1.019	-11.1	99	0.00
56 T	Bromoform	0.806	0.889	-10.3	102	0.00
57 T	1,1,2,2-Tetrachloroethane	0.902	0.893	1.0	99	0.00
58 T	4-Ethyltoluene	1.783	1.962	-10.0	101	0.00
59 T	1,3,5-Trimethylbenzene	1.409	1.525	-8.2	100	0.00
60 T	1,2,4-Trimethylbenzene	1.387	1.534	-10.6	101	0.00
61 T	1,3-Dichlorobenzene	1.043	1.103	-5.8	102	0.00
62 T	1,4-Dichlorobenzene	1.000	1.063	-6.3	102	0.01
63 T	Benzyl chloride	1.152	1.233	-7.0	100	0.00
64 T	1,2-Dichlorobenzene	1.059	1.078	-1.8	101	0.00
65 T	1,2,4-Trichlorobenzene	0.869	0.895	-3.0	102	-0.01
66 T	Hexachlorobutadiene	1.050	1.075	-2.4	107	0.00

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

Data Path : D:\msdchem\1\2016\data\111116_FSAA\
Data File : 111116N02.D
Acq On : 11 Nov 2016 10:21 am
InstName : AG5973N
Operator : LLH
Sample : S16K061-CCV1@B16K055-BS1
Misc : 10ppbv 1646105@1646108
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 11 11:17:13 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 09:01:47 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	489682	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	2256936	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1849661	22.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.452	41	139384	10.82	ppbv	99
3) Dichlorodifluoromethane	4.547	85	719807	9.93	ppbv	99
4) 1,2-Dichlorotetrafluor...	4.903	85	698734	10.03	ppbv	99
5) Chloromethane	5.093	50	163491	10.15	ppbv	100
6) Vinyl chloride	5.413	62	137077	9.56	ppbv	100
7) 1,3-Butadiene	5.520	54	96217	9.67	ppbv	98
8) Bromomethane	6.457	94	151624	9.30	ppbv	100
9) Chloroethane	6.777	64	63186	9.07	ppbv	99
10) Bromoethene	7.358	106	242568	10.95	ppbv	100
11) Trichlorofluoromethane	7.500	101	686819	9.96	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.326	151	515102	10.47	ppbv	98
13) 1,1-Dichloroethene	9.409	61	340510	11.00	ppbv	98
14) Acetone	9.943	43	314839	11.67	ppbv	99
15) Carbon disulfide	10.133	76	712118	10.50	ppbv	100
16) 2-Propanol	10.560	45	127414	8.67	ppbv	94
17) Allyl chloride	10.939	41	217396	11.71	ppbv	98
18) Dichloromethane	11.473	49	215607	9.31	ppbv	97
19) tert-Butyl methyl ethe...	12.149	73	682184	13.03	ppbv	100
20) trans-1,2-Dichloroethene	12.184	61	341551	11.13	ppbv	98
21) Hexane	12.777	57	332574	11.36	ppbv	98
22) 1,1-Dichloroethane	13.512	63	408527	10.04	ppbv	99
23) Vinyl acetate	13.655	43	143209	10.15	ppbv	99
24) cis-1,2-Dichloroethene	14.935	61	293466	11.39	ppbv	98
25) 2-Butanone (MEK)	15.030	72	120920	11.60	ppbv #	100
26) Ethyl acetate	15.078	61	75906	11.35	ppbv	99
27) Tetrahydrofuran	15.493	42	191345	10.76	ppbv	98
28) Chloroform	15.635	83	560586	10.24	ppbv	100
29) Cyclohexane	15.860	56	345776	11.38	ppbv	98
30) 1,1,1-Trichloroethane	15.908	97	616794	10.17	ppbv	99
31) Carbon tetrachloride	16.169	117	646507	10.14	ppbv	100
33) Benzene	16.655	78	818480	9.94	ppbv	99
34) 2,2,4-Trimethylpentane	16.607	57	1092889	11.06	ppbv	99
35) 1,2-Dichloroethane	16.845	62	362700	9.78	ppbv	99
36) Heptane	16.987	43	342853	10.98	ppbv	98
37) Trichloroethene	17.876	130	403615	11.44	ppbv	99
38) 1,2-Dichloropropane	18.374	63	259744	10.44	ppbv	99
39) 1,4-Dioxane	18.564	88	148655	10.50	ppbv	98
40) Bromodichloromethane	18.837	83	638506	10.66	ppbv	100
41) cis-1,3-Dichloropropene	19.596	75	454764	12.21	ppbv	99
42) 4-Methyl-2-pentanone (...	19.821	43	438861	10.48	ppbv	98
44) Toluene	20.070	91	1041399	11.50	ppbv	100
45) trans-1,3-Dichloropropene	20.544	75	444138	11.98	ppbv	99
46) 1,1,2-Trichloroethane	20.841	97	366621	10.98	ppbv	99
47) Tetrachloroethene	20.936	166	616292	11.52	ppbv	100
48) 2-Hexanone	21.161	43	375327	10.06	ppbv	99
49) Chlorodibromomethane	21.458	129	729968	11.41	ppbv	100
50) 1,2-Dibromoethane (EDB)	21.683	107	557415	11.68	ppbv	100
51) Chlorobenzene	22.394	112	884753	11.22	ppbv	99
52) Ethylbenzene	22.489	91	1399142	11.54	ppbv	100
53) m&p-Xylene	22.667	91	2146577	23.00	ppbv	100
54) o-Xylene	23.319	91	1115527	11.90	ppbv	100

Data Path : D:\msdchem\1\2016\data\111116_FSAA\
Data File : 111116N02.D
Acq On : 11 Nov 2016 10:21 am
InstName : AG5973N
Operator : LLH
Sample : S16K061-CCV1@B16K055-BS1
Misc : 10ppbv 1646105@1646108
ALS Vial : 32 Sample Multiplier: 1

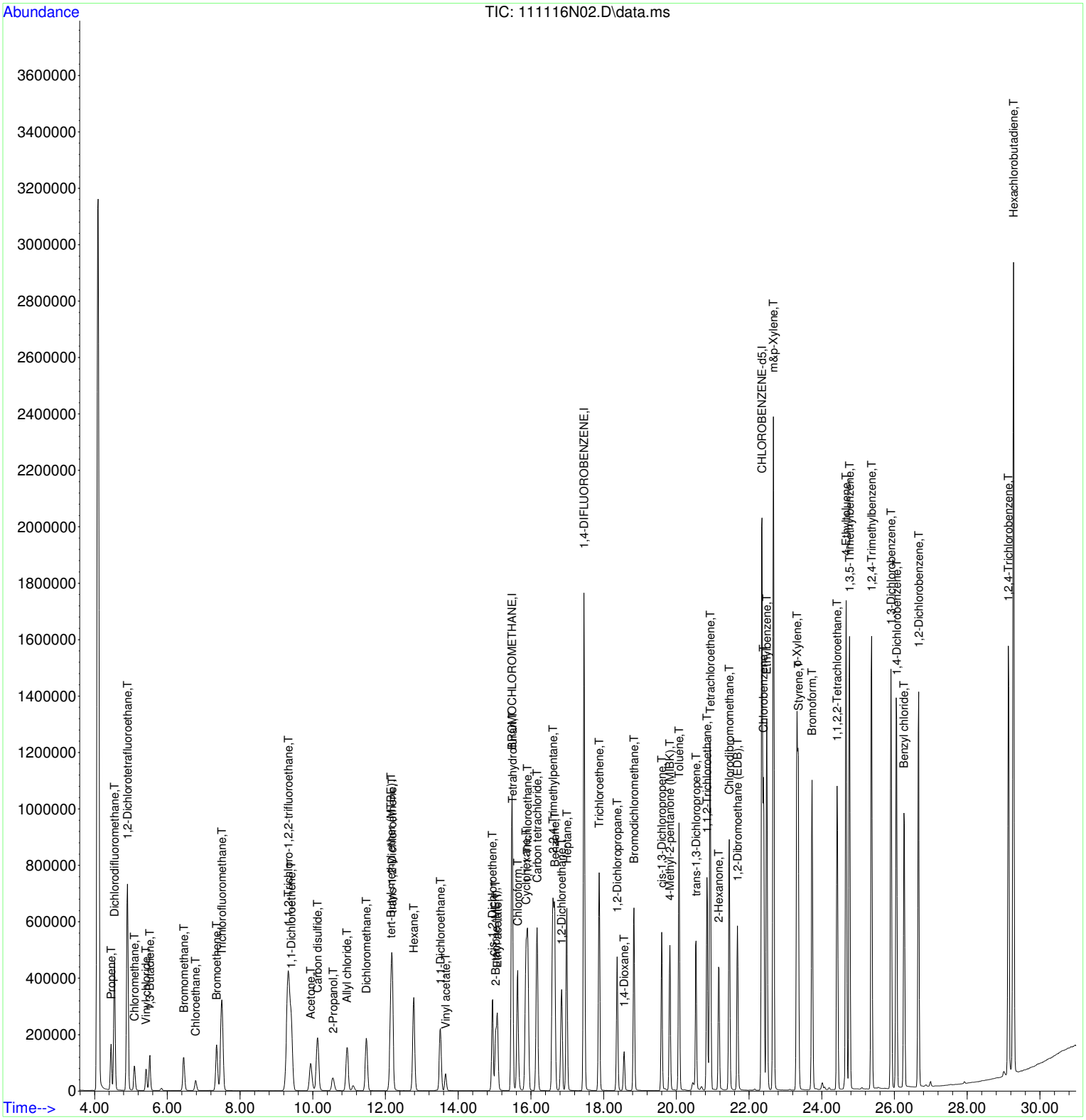
Quant Time: Nov 11 11:17:13 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 09:01:47 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	Styrene	23.355	104	882772	11.45	ppbv	100
56)	Bromoform	23.734	173	792224	11.68	ppbv	100
57)	1,1,2,2-Tetrachloroethane	24.422	83	780468	10.30	ppbv	100
58)	4-Ethyltoluene	24.671	105	1682222	11.22	ppbv	100
59)	1,3,5-Trimethylbenzene	24.766	105	1371801	11.58	ppbv	100
60)	1,2,4-Trimethylbenzene	25.371	105	1367521	11.73	ppbv	100
61)	1,3-Dichlorobenzene	25.905	146	973528	11.10	ppbv	100
62)	1,4-Dichlorobenzene	26.059	146	938642	11.16	ppbv	100
63)	Benzyl chloride	26.260	91	1108976	11.45	ppbv	99
64)	1,2-Dichlorobenzene	26.663	146	942530	10.59	ppbv	100
65)	1,2,4-Trichlorobenzene	29.130	180	782374	10.71	ppbv	100
66)	Hexachlorobutadiene	29.272	225	931282	10.55	ppbv	100

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

Data Path : D:\msdchem\1\2016\data\111116_FSAA\
Data File : 111116N02.D
Acq On : 11 Nov 2016 10:21 am
InstName : AG5973N
Operator : LLH
Sample : S16K061-CCV1@B16K055-BS1
Misc : 10ppbv 1646105@1646108
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Nov 11 11:17:13 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 09:01:47 2016
Response via : Initial Calibration



LCS REPORT

REVIEWED
By LLH at 11:19 am, Nov 11, 2016

Instrument Name: AG5973N
Sample Name: S16K061-CCV1@B16K055-BS1
Misc Info: 10ppbv 1646105@1646108
Date Acquired: 11/11/2016 10:21
QLast Update: Fri Nov 11 09:01:47 2016
Operator: LLH

#	Name	Ret Time	Amount	Concentration	%R	QC	LIMIT	STATUS
1)	BROMOCHLOROMETHANE	15.48	#N/A	22.00	#N/A	70.0	130.0	#N/A
2)	Propene	4.45	11.00	10.82	98%	72.0	121.0	pass
3)	Dichlorodifluoromethane	4.55	9.70	9.93	102%	68.0	129.0	pass
4)	1,2-Dichlorotetrafluoroethane	4.90	10.00	10.03	100%	67.0	127.0	pass
5)	Chloromethane	5.09	10.60	10.15	96%	70.0	123.0	pass
6)	Vinyl chloride	5.41	10.40	9.56	92%	69.0	125.0	pass
7)	1,3-Butadiene	5.52	10.50	9.67	92%	75.0	121.0	pass
8)	Bromomethane	6.46	10.00	9.30	93%	66.0	125.0	pass
9)	Chloroethane	6.78	10.00	9.07	91%	67.0	125.0	pass
10)	Bromoethene	7.36	10.60	10.95	103%	68.0	124.0	pass
11)	Trichlorofluoromethane	7.50	9.80	9.96	102%	68.0	133.0	pass
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	9.33	10.20	10.47	103%	64.0	125.0	pass
13)	1,1-Dichloroethene	9.41	10.40	11.00	106%	73.0	128.0	pass
14)	Acetone	9.94	11.00	11.67	106%	67.0	141.0	pass
15)	Carbon disulfide	10.13	10.50	10.50	100%	45.0	158.0	pass
16)	2-Propanol	10.56	9.20	8.67	94%	72.0	132.0	pass
17)	Allyl chloride	10.94	11.00	11.71	106%	75.0	132.0	pass
18)	Dichloromethane	11.47	10.10	9.31	92%	73.0	116.0	pass
19)	tert-Butyl methyl ether (MTBE)	12.15	10.70	13.03	122%	74.0	131.0	pass
20)	trans-1,2-Dichloroethene	12.18	11.00	11.13	101%	80.0	123.0	pass
21)	Hexane	12.78	10.40	11.36	109%	75.0	124.0	pass
22)	1,1-Dichloroethane	13.51	10.00	10.04	100%	72.0	125.0	pass
23)	Vinyl acetate	13.65	10.30	10.15	99%	31.0	171.0	pass
24)	cis-1,2-Dichloroethene	14.94	10.40	11.39	109%	77.0	129.0	pass
25)	2-Butanone (MEK)	15.03	10.50	11.60	110%	69.0	137.0	pass
26)	Ethyl acetate	15.08	10.50	11.35	108%	75.0	127.0	pass
27)	Tetrahydrofuran	15.49	10.20	10.76	105%	78.0	120.0	pass
28)	Chloroform	15.64	10.10	10.24	101%	77.0	126.0	pass
29)	Cyclohexane	15.86	10.60	11.38	107%	76.0	124.0	pass
30)	1,1,1-Trichloroethane	15.91	9.80	10.17	104%	74.0	133.0	pass
31)	Carbon tetrachloride	16.17	9.70	10.14	105%	71.0	141.0	pass
32)	1,4-DIFLUOROBENZENE	17.46	#N/A	22.00	#N/A	70.0	130.0	#N/A
33)	Benzene	16.65	10.30	9.94	97%	81.0	125.0	pass
34)	2,2,4-Trimethylpentane	16.61	10.50	11.06	105%	82.0	125.0	pass
35)	1,2-Dichloroethane	16.84	10.00	9.78	98%	61.0	153.0	pass
36)	Heptane	16.99	10.60	10.98	104%	80.0	129.0	pass
37)	Trichloroethene	17.88	10.80	11.44	106%	73.0	128.0	pass
38)	1,2-Dichloropropane	18.37	10.30	10.44	101%	77.0	129.0	pass
39)	1,4-Dioxane	18.56	10.30	10.50	102%	58.0	140.0	pass
40)	Bromodichloromethane	18.84	10.60	10.66	101%	76.0	137.0	pass
41)	cis-1,3-Dichloropropene	19.60	10.80	12.21	113%	80.0	136.0	pass
42)	4-Methyl-2-pentanone (MIBK)	19.82	10.40	10.48	101%	65.0	140.0	pass
43)	CHLOROBENZENE-d5	22.36	#N/A	22.00	#N/A	70.0	130.0	#N/A
44)	Toluene	20.07	10.50	11.50	109%	78.0	133.0	pass
45)	trans-1,3-Dichloropropene	20.54	10.60	11.98	113%	79.0	146.0	pass
46)	1,1,2-Trichloroethane	20.84	10.60	10.98	104%	74.0	134.0	pass
47)	Tetrachloroethene	20.94	10.60	11.52	109%	73.0	130.0	pass

48)	2-Hexanone	21.16	10.10	10.06	100%	50.0	162.0	pass
49)	Chlorodibromomethane	21.46	10.60	11.41	108%	81.0	135.0	pass
50)	1,2-Dibromoethane (EDB)	21.68	10.90	11.68	107%	78.0	133.0	pass
51)	Chlorobenzene	22.39	10.70	11.22	105%	81.0	126.0	pass
52)	Ethylbenzene	22.49	10.50	11.54	110%	82.0	130.0	pass
53)	m&p-Xylene	22.67	21.20	23.00	109%	82.0	131.0	pass
54)	o-Xylene	23.32	10.50	11.90	113%	82.0	132.0	pass
55)	Styrene	23.35	10.30	11.45	111%	65.0	141.0	pass
56)	Bromoform	23.73	10.60	11.68	110%	84.0	137.0	pass
57)	1,1,2,2-Tetrachloroethane	24.42	10.40	10.30	99%	73.0	127.0	pass
58)	4-Ethyltoluene	24.67	10.20	11.22	110%	81.0	127.0	pass
59)	1,3,5-Trimethylbenzene	24.77	10.70	11.58	108%	77.0	132.0	pass
60)	1,2,4-Trimethylbenzene	25.37	10.60	11.73	111%	78.0	131.0	pass
61)	1,3-Dichlorobenzene	25.90	10.50	11.10	106%	79.0	124.0	pass
62)	1,4-Dichlorobenzene	26.06	10.50	11.16	106%	75.0	127.0	pass
63)	Benzyl chloride	26.26	10.70	11.45	107%	67.0	156.0	pass
64)	1,2-Dichlorobenzene	26.66	10.40	10.59	102%	77.0	124.0	pass
65)	1,2,4-Trichlorobenzene	29.13	10.40	10.71	103%	55.0	132.0	pass
66)	Hexachlorobutadiene	29.27	10.30	10.55	102%	52.0	131.0	pass

B16K055-BLK1

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\111116_FSAA\
Data File : 111116N04.D
Acq On : 11 Nov 2016 12:23 pm
InstName : AG5973N
Operator : LLH
Sample : B16K055-BLK1
Misc : 200ml BLANK #35
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Nov 11 12:55:35 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 09:01:47 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	466544	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	2182704	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1778077	22.00	ppbv	0.00

Target Compounds Qvalue

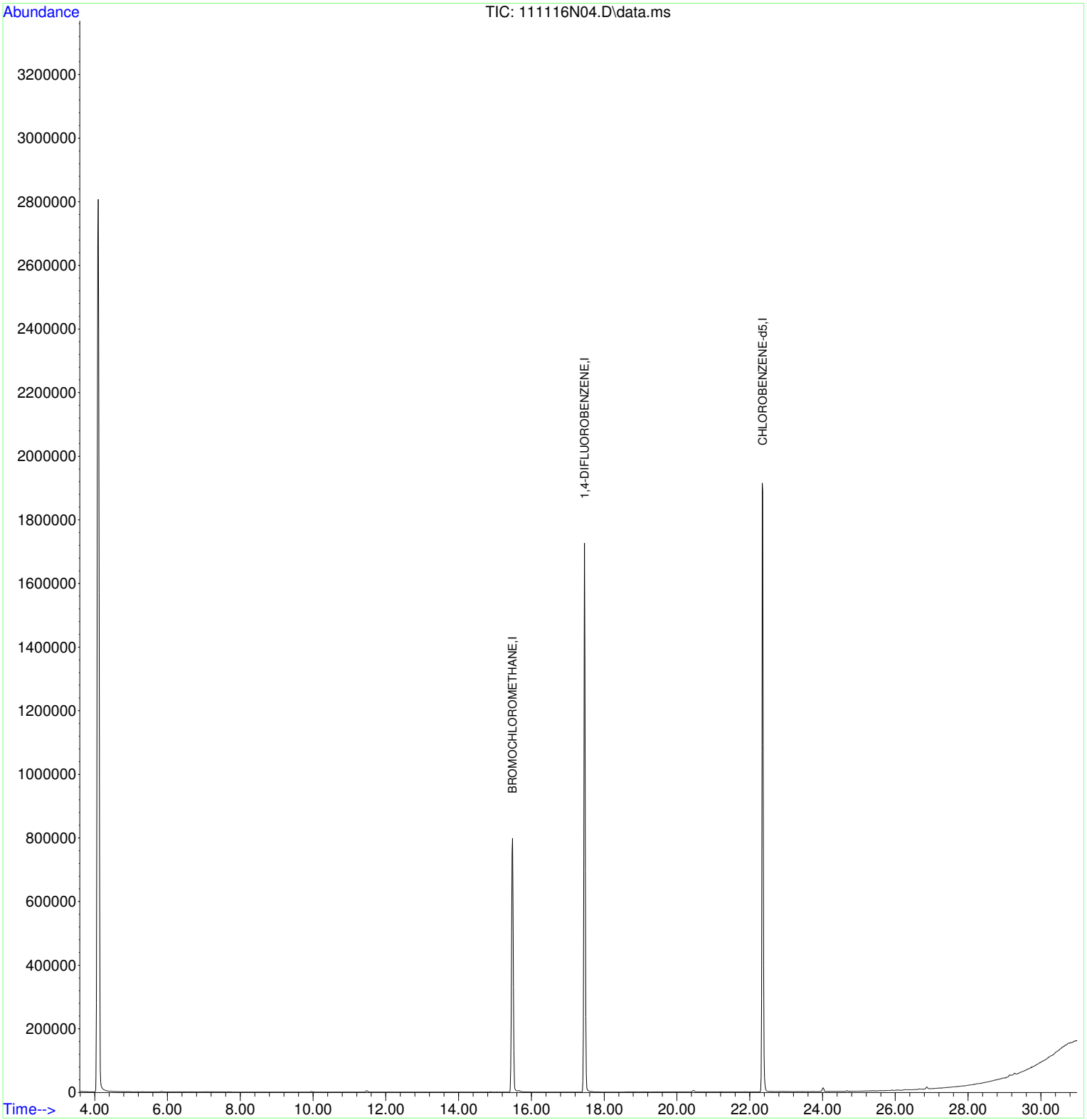
(#) = qualifier out of range (m) = manual integration (+) = signals summed

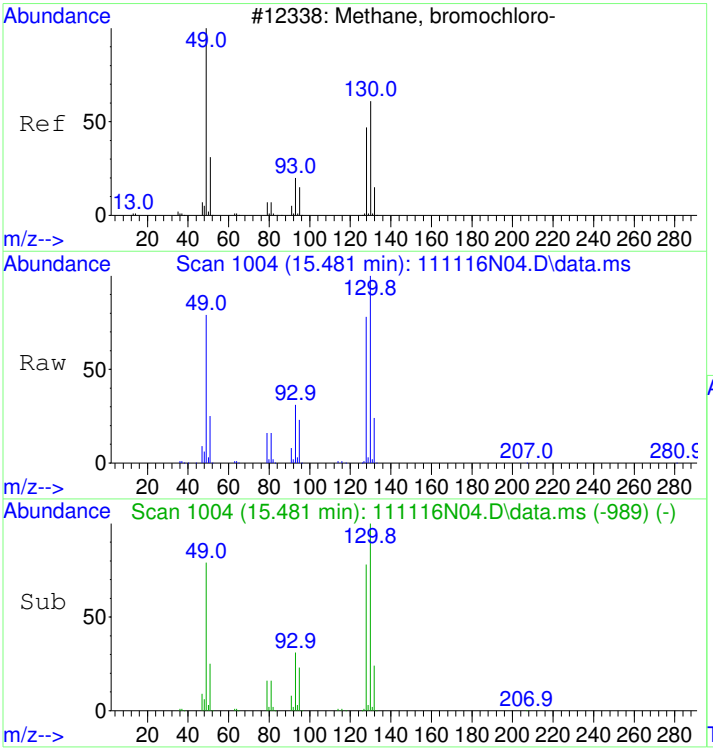
REVIEWED
By LLH at 9:26 am, Nov 14, 2016

Table of Contents

Data Path : D:\msdchem\1\2016\data\111116_FSAA\
Data File : 111116N04.D
Acq On : 11 Nov 2016 12:23 pm
InstName : AG5973N
Operator : LLH
Sample : B16K055-BLK1
Misc : 200ml BLANK #35
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Nov 11 12:55:35 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 09:01:47 2016
Response via : Initial Calibration

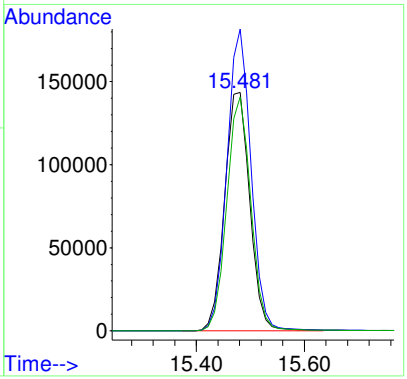


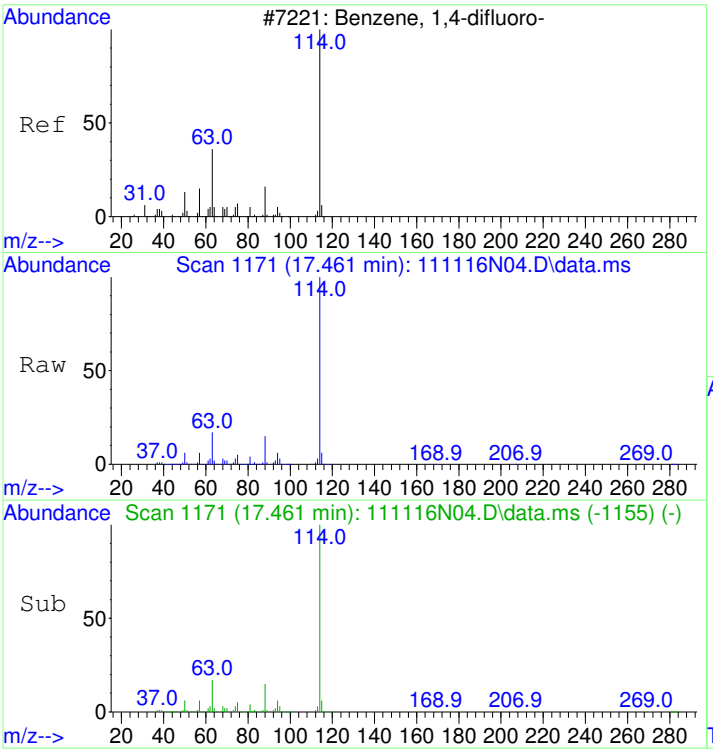


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. 0.000 min
Lab File: 111116N04.D
Acq: 11 Nov 2016 12:23 pm

Tgt Ion: 49 Resp: 466544

Ion	Ratio	Lower	Upper
49	100		
130	120.9	93.0	133.0
128	93.5	67.1	107.1

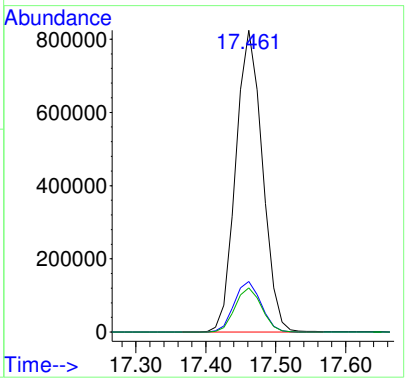


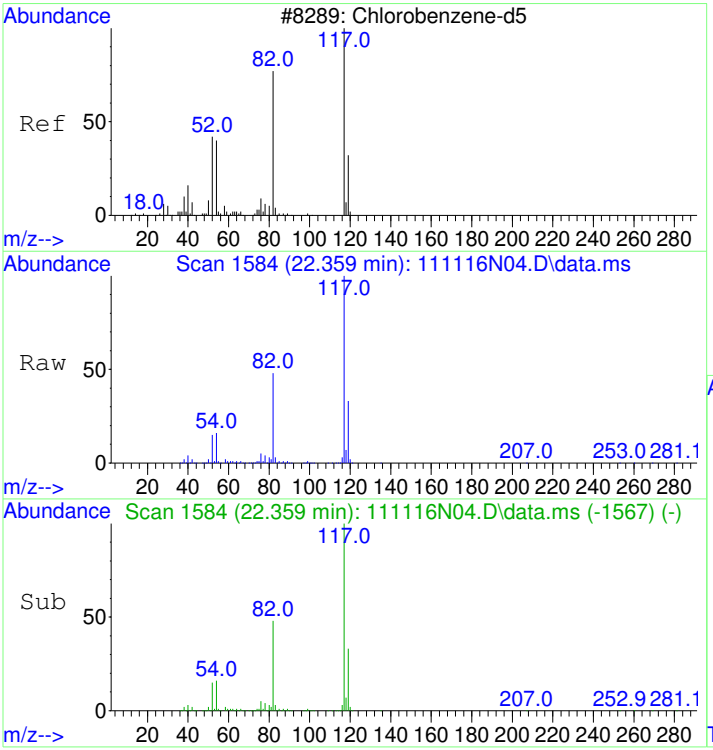


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. 0.000 min
Lab File: 111116N04.D
Acq: 11 Nov 2016 12:23 pm

Tgt Ion:114 Resp: 2182704

Ion	Ratio	Lower	Upper
114	100		
63	17.0	0.0	37.6
88	14.7	0.0	35.0

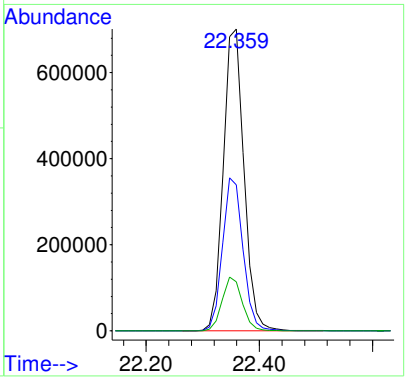




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. 0.000 min
Lab File: 111116N04.D
Acq: 11 Nov 2016 12:23 pm

Tgt Ion:117 Resp: 1778077

Ion	Ratio	Lower	Upper
117	100		
82	50.4	31.9	71.9
54	17.4	0.0	38.5



S16K061-CRL1

REVIEWED
By LLH at 3:02 pm, Nov 11, 2016

QLS REPORT

Instrument Name: AG5973N
Sample Name: S16K061-CRL1
Misc Info: 1.0ppbv 1646102
Date Acquired: 11/11/2016 13:08
QLast Update: Fri Nov 11 09:01:47 2016
Operator: LLH

2 OUT

#	Name	Ret Time	Amount	Concentration	%R	QC	LIMIT	STATUS	TYPE
1)	BROMOCHLOROMETHANE	15.48	#N/A	22.00	#N/A	60.0	140.0	#N/A	Internal
2)	Propene	4.45	1.10	1.31	119%	60.0	140.0	pass	Subset
3)	Dichlorodifluoromethane	4.55	0.97	1.16	120%	60.0	140.0	pass	Primary
4)	1,2-Dichlorotetrafluoroethane	4.90	1.00	1.21	121%	60.0	140.0	pass	Primary
5)	Chloromethane	5.09	1.06	1.27	120%	60.0	140.0	pass	Primary
6)	Vinyl chloride	5.43	1.04	1.23	119%	60.0	140.0	pass	Primary
7)	1,3-Butadiene	5.52	1.05	1.23	117%	60.0	140.0	pass	Subset
8)	Bromomethane	6.46	1.00	1.22	122%	60.0	140.0	pass	Primary
9)	Chloroethane	6.78	1.00	1.15	115%	60.0	140.0	pass	Primary
10)	Bromoethene	7.36	1.06	1.26	119%	60.0	140.0	pass	Subset
11)	Trichlorofluoromethane	7.50	0.98	1.25	127%	60.0	140.0	pass	Primary
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	9.34	1.02	1.29	127%	60.0	140.0	pass	Primary
13)	1,1-Dichloroethene	9.41	1.04	1.08	104%	60.0	140.0	pass	Primary
14)	Acetone	9.95	1.10	0.98	89%	60.0	140.0	pass	Subset
15)	Carbon disulfide	10.13	1.05	1.14	109%	60.0	140.0	pass	Subset
16)	2-Propanol	10.56	0.92	1.29	141%	60.0	140.0	FAIL	Subset
17)	Allyl chloride	10.95	1.10	0.98	89%	60.0	140.0	pass	Subset
18)	Dichloromethane	11.47	1.01	1.34	133%	60.0	140.0	pass	Primary
19)	tert-Butyl methyl ether (MTBE)	12.16	1.07	0.73	68%	60.0	140.0	pass	Subset
20)	trans-1,2-Dichloroethene	12.18	1.10	1.15	105%	60.0	140.0	pass	Subset
21)	Hexane	12.78	1.04	0.91	87%	60.0	140.0	pass	Subset
22)	1,1-Dichloroethane	13.51	1.00	1.12	112%	60.0	140.0	pass	Primary
23)	Vinyl acetate	13.65	1.03	1.66	162%	60.0	140.0	FAIL	Subset
24)	cis-1,2-Dichloroethene	14.94	1.04	1.00	97%	60.0	140.0	pass	Primary
25)	2-Butanone (MEK)	15.04	1.05	0.82	78%	60.0	140.0	pass	Subset
26)	Ethyl acetate	15.08	1.05	0.83	79%	60.0	140.0	pass	Subset
27)	Tetrahydrofuran	15.49	1.02	0.89	87%	60.0	140.0	pass	Subset
28)	Chloroform	15.64	1.01	1.19	118%	60.0	140.0	pass	Primary
29)	Cyclohexane	15.86	1.06	0.96	90%	60.0	140.0	pass	Subset
30)	1,1,1-Trichloroethane	15.91	0.98	1.16	118%	60.0	140.0	pass	Primary
31)	Carbon tetrachloride	16.17	0.97	1.17	120%	60.0	140.0	pass	Primary
32)	1,4-DIFLUOROBENZENE	17.46	#N/A	22.00	#N/A	60.0	140.0	#N/A	Internal
33)	Benzene	16.66	1.03	1.13	109%	60.0	140.0	pass	Primary
34)	2,2,4-Trimethylpentane	16.61	1.05	0.92	87%	60.0	140.0	pass	Subset
35)	1,2-Dichloroethane	16.84	1.00	1.06	106%	60.0	140.0	pass	Primary
36)	Heptane	16.99	1.06	0.89	84%	60.0	140.0	pass	Subset
37)	Trichloroethene	17.88	1.08	1.32	122%	60.0	140.0	pass	Primary
38)	1,2-Dichloropropane	18.37	1.03	1.05	102%	60.0	140.0	pass	Primary
39)	1,4-Dioxane	18.56	1.03	0.88	86%	60.0	140.0	pass	Subset
40)	Bromodichloromethane	18.84	1.06	1.19	113%	60.0	140.0	pass	Subset
41)	cis-1,3-Dichloropropene	19.60	1.08	0.82	76%	60.0	140.0	pass	Primary
42)	4-Methyl-2-pentanone (MIBK)	19.82	1.04	0.88	84%	60.0	140.0	pass	Subset
43)	CHLOROBENZENE-d5	22.36	#N/A	22.00	#N/A	60.0	140.0	#N/A	Internal
44)	Toluene	20.07	1.05	0.95	91%	60.0	140.0	pass	Primary
45)	trans-1,3-Dichloropropene	20.54	1.06	0.89	84%	60.0	140.0	pass	Primary
46)	1,1,2-Trichloroethane	20.84	1.06	1.18	112%	60.0	140.0	pass	Primary
47)	Tetrachloroethene	20.92	1.06	1.14	107%	60.0	140.0	pass	Primary
48)	2-Hexanone	21.17	1.01	0.93	92%	60.0	140.0	pass	Subset
49)	Chlorodibromomethane	21.46	1.06	1.20	114%	60.0	140.0	pass	Subset
50)	1,2-Dibromoethane (EDB)	21.68	1.09	1.15	105%	60.0	140.0	pass	Primary

51)	Chlorobenzene	22.39	1.07	1.18	111%	60.0	140.0	pass	Primary
52)	Ethylbenzene	22.49	1.05	0.96	92%	60.0	140.0	pass	Primary
53)	m&p-Xylene	22.67	2.12	1.98	94%	60.0	140.0	pass	Primary
54)	o-Xylene	23.32	1.05	0.86	82%	60.0	140.0	pass	Primary
55)	Styrene	23.36	1.03	0.86	83%	60.0	140.0	pass	Primary
56)	Bromoform	23.73	1.06	1.12	106%	60.0	140.0	pass	Subset
57)	1,1,2,2-Tetrachloroethane	24.42	1.04	1.17	113%	60.0	140.0	pass	Primary
58)	4-Ethyltoluene	24.67	1.02	0.92	90%	60.0	140.0	pass	Subset
59)	1,3,5-Trimethylbenzene	24.77	1.07	0.97	91%	60.0	140.0	pass	Primary
60)	1,2,4-Trimethylbenzene	25.37	1.06	0.90	84%	60.0	140.0	pass	Primary
61)	1,3-Dichlorobenzene	25.90	1.05	1.08	103%	60.0	140.0	pass	Primary
62)	1,4-Dichlorobenzene	26.06	1.05	1.04	99%	60.0	140.0	pass	Primary
63)	Benzyl chloride	26.27	1.07	0.90	84%	60.0	140.0	pass	Subset
64)	1,2-Dichlorobenzene	26.66	1.04	1.14	110%	60.0	140.0	pass	Primary
65)	1,2,4-Trichlorobenzene	29.14	1.04	1.09	104%	60.0	140.0	pass	Primary
66)	Hexachlorobutadiene	29.27	1.03	1.34	130%	60.0	140.0	pass	Primary

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\111116_FSAA\
Data File : 111116N05.D
Acq On : 11 Nov 2016 1:08 pm
InstName : AG5973N
Operator : LLH
Sample : S16K061-CRL1
Misc : 1.0ppbv 1646102
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Nov 11 13:49:39 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 09:01:47 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	466125	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	2087688	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1535567	22.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.453	41	16029	1.31	ppbv	98
3) Dichlorodifluoromethane	4.547	85	80220	1.16	ppbv	99
4) 1,2-Dichlorotetrafluor...	4.903	85	80528	1.21	ppbv	99
5) Chloromethane	5.093	50	19503	1.27	ppbv	99
6) Vinyl chloride	5.425	62	16827	1.23	ppbv	98
7) 1,3-Butadiene	5.520	54	11676	1.23	ppbv	86
8) Bromomethane	6.457	94	18961	1.22	ppbv	97
9) Chloroethane	6.777	64	7638	1.15	ppbv	99
10) Bromoethene	7.358	106	26529	1.26	ppbv	99
11) Trichlorofluoromethane	7.500	101	81983	1.25	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.338	151	60626	1.29	ppbv	98
13) 1,1-Dichloroethene	9.409	61	31817	1.08	ppbv	99
14) Acetone	9.955	43	25088	0.98	ppbv	99
15) Carbon disulfide	10.133	76	73753	1.14	ppbv	98
16) 2-Propanol	10.560	45	18120	1.29	ppbv	76
17) Allyl chloride	10.951	41	17309	0.98	ppbv	97
18) Dichloromethane	11.473	49	29587	1.34	ppbv	99
19) tert-Butyl methyl ethe...	12.161	73	36215	0.73	ppbv	96
20) trans-1,2-Dichloroethene	12.184	61	33640	1.15	ppbv	97
21) Hexane	12.777	57	25249	0.91	ppbv	90
22) 1,1-Dichloroethane	13.513	63	43346	1.12	ppbv	100
23) Vinyl acetate	13.655	43	22349	1.66	ppbv	100
24) cis-1,2-Dichloroethene	14.936	61	24629	1.00	ppbv	98
25) 2-Butanone (MEK)	15.042	72	8161	0.82	ppbv #	100
26) Ethyl acetate	15.078	61	5259	0.83	ppbv #	98
27) Tetrahydrofuran	15.493	42	15001	0.89	ppbv	99
28) Chloroform	15.635	83	62004	1.19	ppbv	99
29) Cyclohexane	15.861	56	27625	0.96	ppbv	94
30) 1,1,1-Trichloroethane	15.908	97	66973	1.16	ppbv	99
31) Carbon tetrachloride	16.169	117	70749	1.17	ppbv	100
33) Benzene	16.655	78	85697	1.13	ppbv	99
34) 2,2,4-Trimethylpentane	16.608	57	83711	0.92	ppbv	91
35) 1,2-Dichloroethane	16.845	62	36364	1.06	ppbv	99
36) Heptane	16.987	43	25612	0.89	ppbv	97
37) Trichloroethene	17.876	130	43075	1.32	ppbv	99
38) 1,2-Dichloropropane	18.375	63	24187	1.05	ppbv	97
39) 1,4-Dioxane	18.564	88	11580	0.88	ppbv	96
40) Bromodichloromethane	18.837	83	66088	1.19	ppbv	99
41) cis-1,3-Dichloropropene	19.596	75	28405	0.82	ppbv	99
42) 4-Methyl-2-pentanone (...	19.821	43	33987	0.88	ppbv	98
44) Toluene	20.070	91	71761	0.95	ppbv	99
45) trans-1,3-Dichloropropene	20.545	75	27523	0.89	ppbv	99
46) 1,1,2-Trichloroethane	20.841	97	32784	1.18	ppbv	98
47) Tetrachloroethene	20.924	166	50575	1.14	ppbv	98
48) 2-Hexanone	21.173	43	28872	0.93	ppbv	91
49) Chlorodibromomethane	21.458	129	63931	1.20	ppbv	99
50) 1,2-Dibromoethane (EDB)	21.683	107	45490	1.15	ppbv	98
51) Chlorobenzene	22.395	112	77455	1.18	ppbv	88
52) Ethylbenzene	22.489	91	97080	0.96	ppbv	99
53) m&p-Xylene	22.667	91	153585	1.98	ppbv	99
54) o-Xylene	23.320	91	66877	0.86	ppbv	99

Data Path : D:\msdchem\1\2016\data\111116_FSAA\
Data File : 111116N05.D
Acq On : 11 Nov 2016 1:08 pm
InstName : AG5973N
Operator : LLH
Sample : S16K061-CRL1
Misc : 1.0ppbv 1646102
ALS Vial : 31 Sample Multiplier: 1

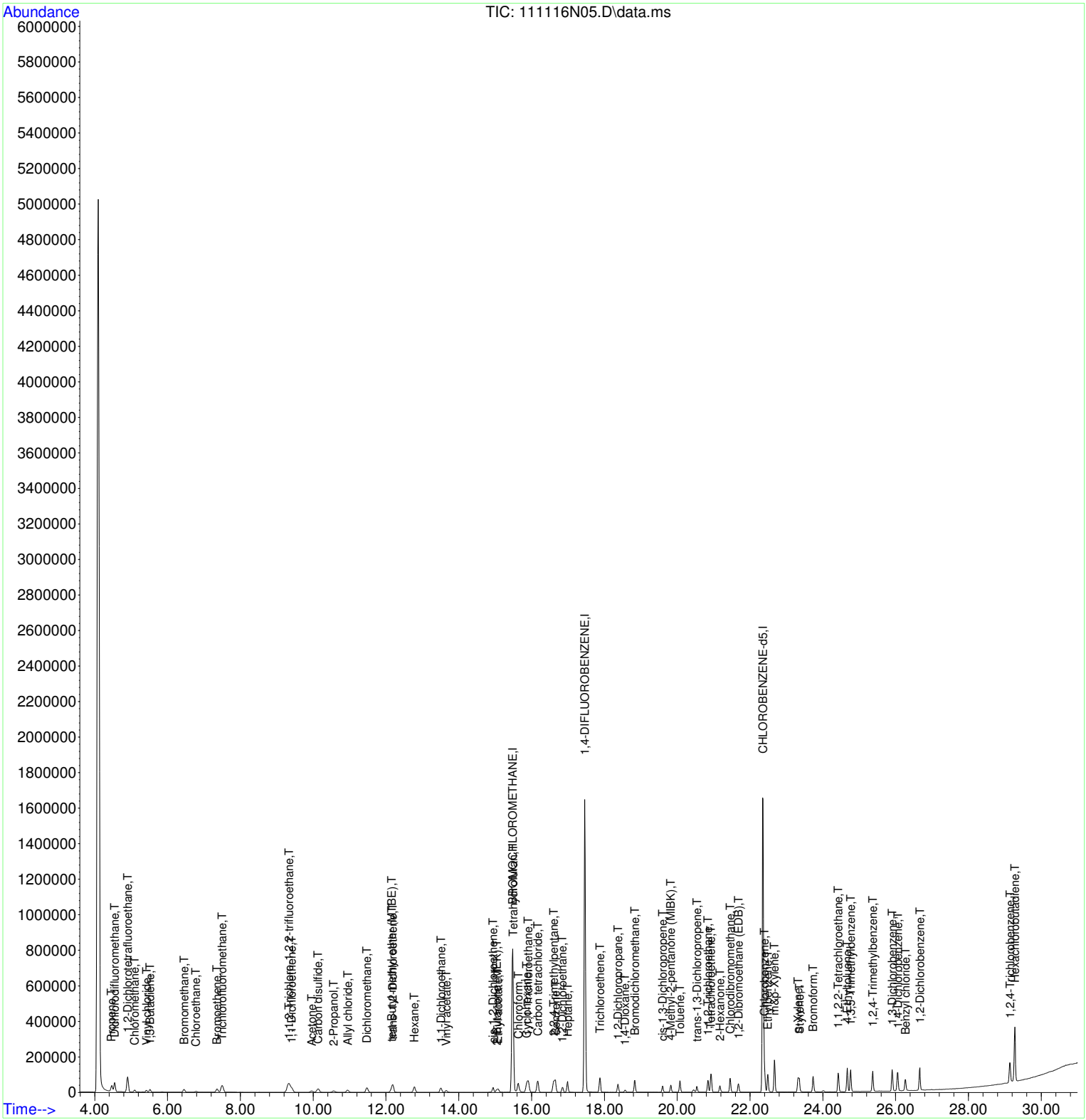
Quant Time: Nov 11 13:49:39 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 09:01:47 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	Styrene	23.355	104	54801	0.86	ppbv	96
56)	Bromoform	23.735	173	63065	1.12	ppbv	99
57)	1,1,2,2-Tetrachloroethane	24.422	83	73674	1.17	ppbv	99
58)	4-Ethyltoluene	24.671	105	114574	0.92	ppbv	100
59)	1,3,5-Trimethylbenzene	24.766	105	95443	0.97	ppbv	99
60)	1,2,4-Trimethylbenzene	25.371	105	86710	0.90	ppbv	100
61)	1,3-Dichlorobenzene	25.905	146	78513	1.08	ppbv	100
62)	1,4-Dichlorobenzene	26.059	146	72313	1.04	ppbv	99
63)	Benzyl chloride	26.272	91	72478	0.90	ppbv	99
64)	1,2-Dichlorobenzene	26.664	146	84469	1.14	ppbv	99
65)	1,2,4-Trichlorobenzene	29.142	180	65883	1.09	ppbv	99
66)	Hexachlorobutadiene	29.272	225	98261	1.34	ppbv	99

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

Data Path : D:\msdchem\1\2016\data\111116_FSAA\
Data File : 111116N05.D
Acq On : 11 Nov 2016 1:08 pm
InstName : AG5973N
Operator : LLH
Sample : S16K061-CRL1
Misc : 1.0ppbv 1646102
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Nov 11 13:49:39 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 09:01:47 2016
Response via : Initial Calibration



1611021-01RE2

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\111116_FSAA\
Data File : 111116N06.D
Acq On : 11 Nov 2016 2:06 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-01RE2
Misc : 50ml RE-REPRESS
ALS Vial : 34 Sample Multiplier: 5.47

report cis 12DCE

see -01RE1 for TCE

Quant Time: Nov 11 15:03:21 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 09:01:47 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	465517	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	2027853	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1391441	22.00	ppbv	0.00
Target Compounds						Qvalue
14) Acetone	9.955	43	26331	1.03	ppbv	99
20) trans-1,2-Dichloroethene	12.196	61	38682	1.33	ppbv	97
24) cis-1,2-Dichloroethene	14.947	61	40362	1.65	ppbv	99
37) Trichloroethene	17.876	130	1611128	50.82	ppbv	98 OC

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

REVIEWED
By LLH at 3:04 pm, Nov 11, 2016

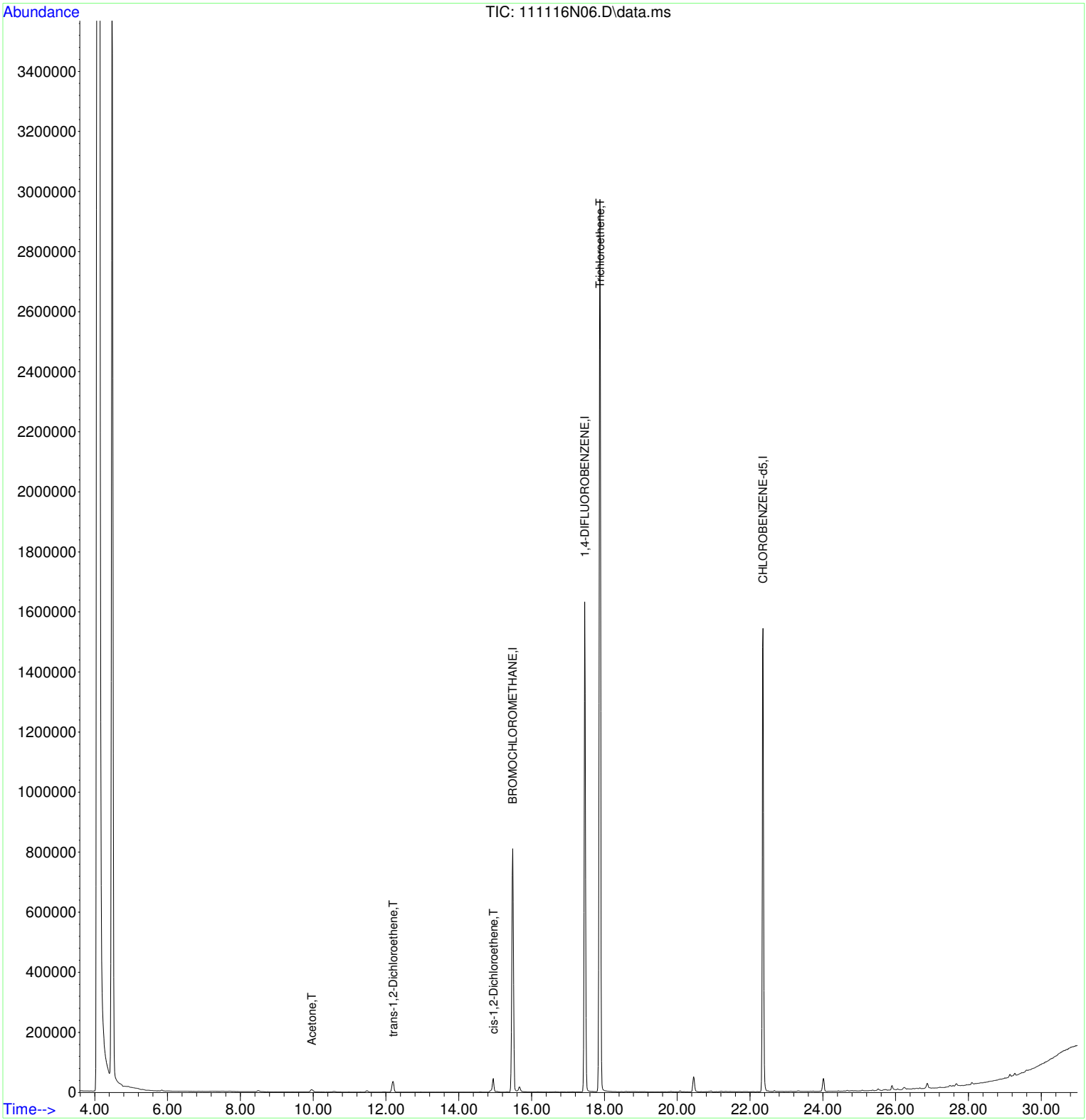
Table of Contents

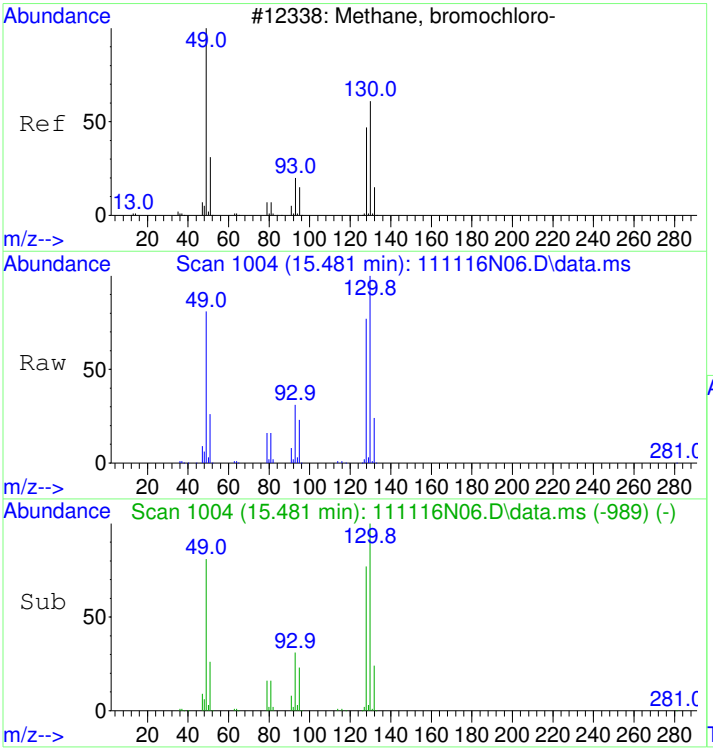
Data Path : D:\msdchem\1\2016\data\111116_FSAA\
Data File : 111116N06.D
Acq On : 11 Nov 2016 2:06 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-01RE2
Misc : 50ml RE-REPRESS
ALS Vial : 34 Sample Multiplier: 5.47

re-scaled chrom, replaced pdf

LLH 11/15/16

Quant Time: Nov 15 16:27:10 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 09:01:47 2016
Response via : Initial Calibration

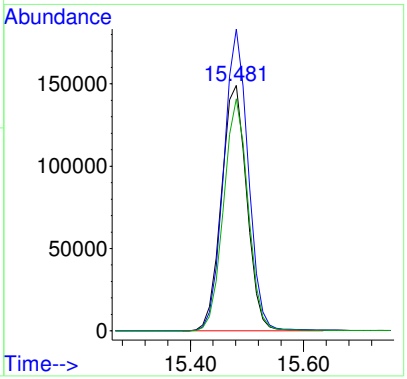


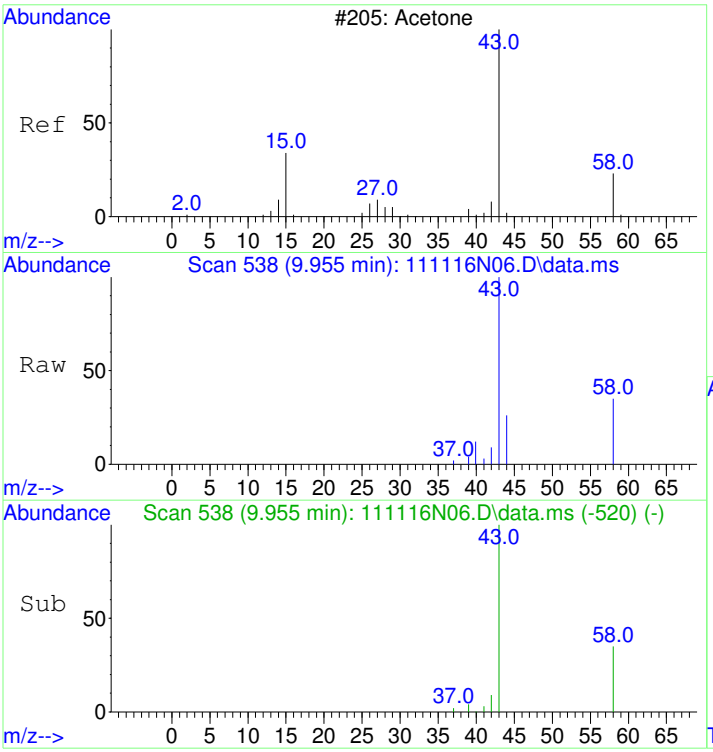


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. -0.000 min
Lab File: 111116N06.D
Acq: 11 Nov 2016 2:06 pm

Tgt Ion: 49 Resp: 465517

Ion	Ratio	Lower	Upper
49	100		
130	118.1	93.0	133.0
128	91.0	67.1	107.1

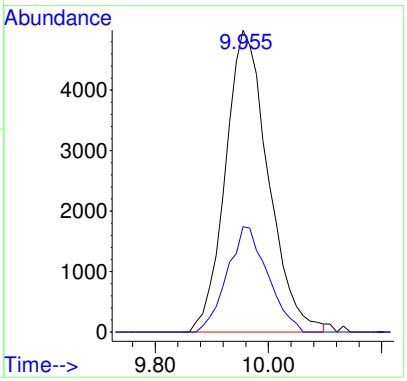


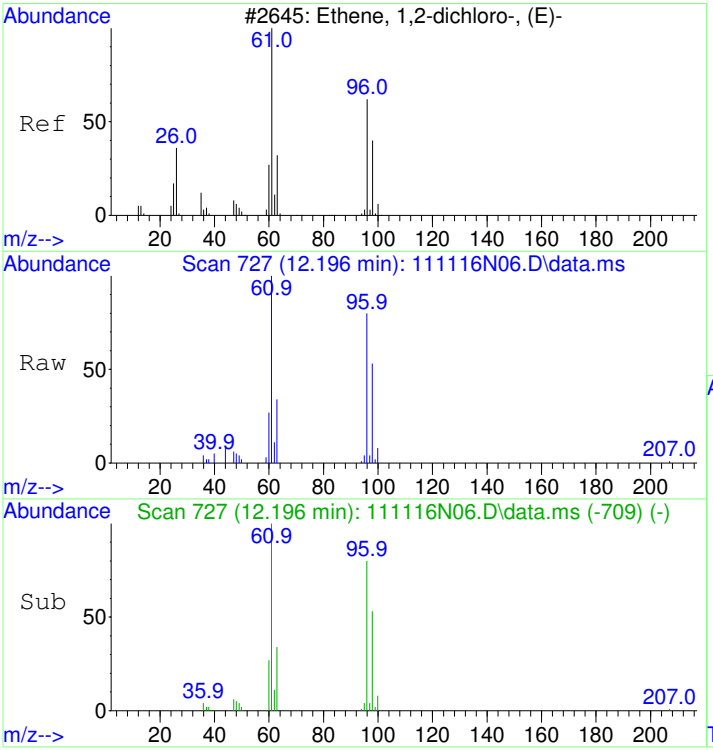


#14
Acetone
Concen: 1.03 ppbv
RT: 9.955 min Scan# 538
Delta R.T. 0.012 min
Lab File: 111116N06.D
Acq: 11 Nov 2016 2:06 pm

Tgt Ion: 43 Resp: 26331

Ion	Ratio	Lower	Upper
43	100		
58	32.9	13.5	53.5

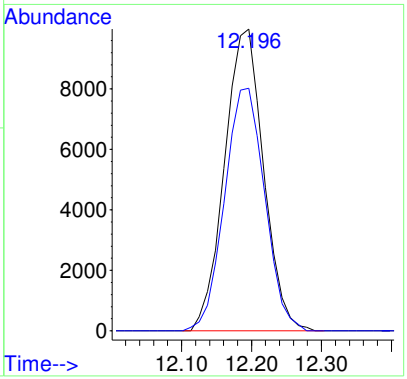


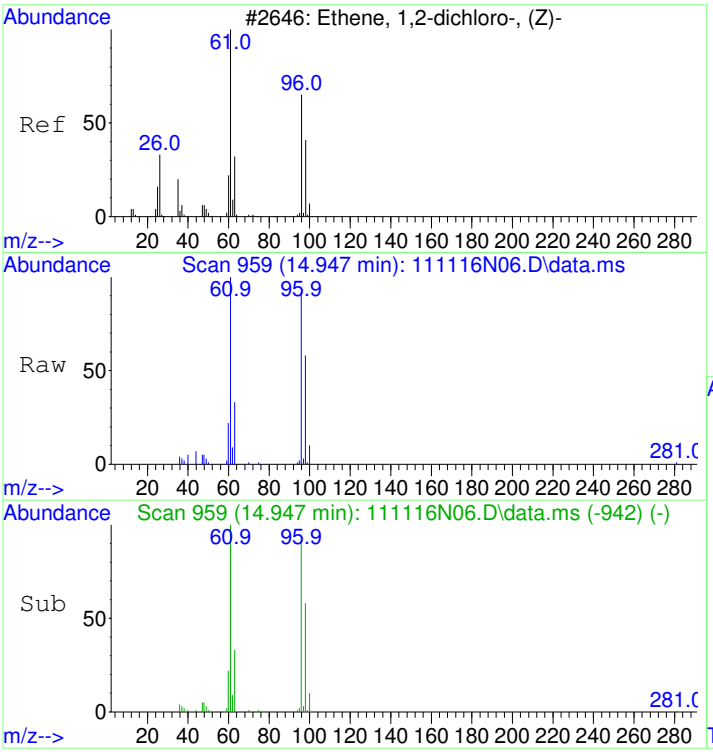


#20
trans-1,2-Dichloroethene
Concen: 1.33 ppbv
RT: 12.196 min Scan# 727
Delta R.T. 0.012 min
Lab File: 111116N06.D
Acq: 11 Nov 2016 2:06 pm

Tgt Ion: 61 Resp: 38682

Ion	Ratio	Lower	Upper
61	100		
96	82.5	60.1	100.1

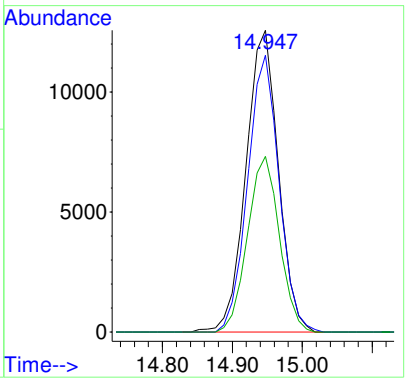


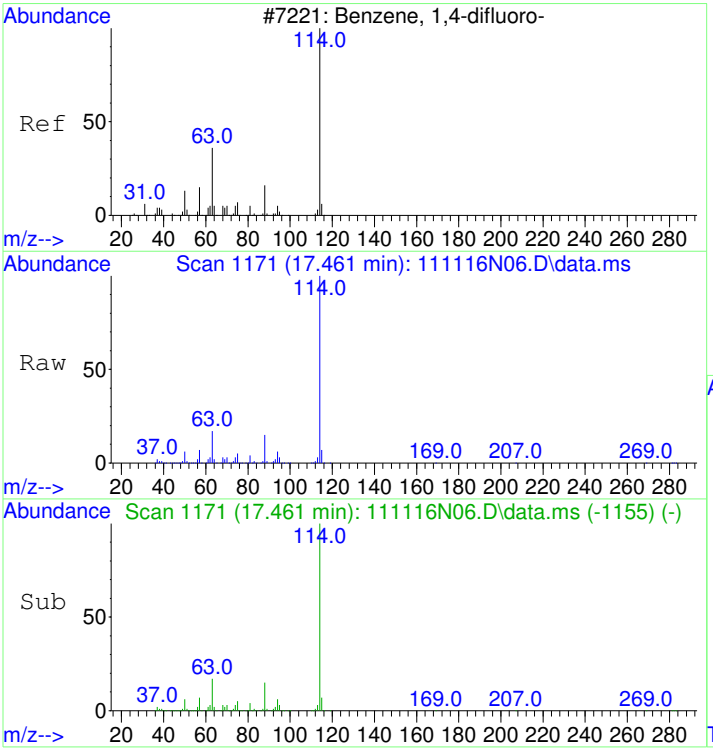


#24
cis-1,2-Dichloroethene
Concen: 1.65 ppbv
RT: 14.947 min Scan# 959
Delta R.T. 0.000 min
Lab File: 111116N06.D
Acq: 11 Nov 2016 2:06 pm

Tgt Ion: 61 Resp: 40362

Ion	Ratio	Lower	Upper
61	100		
96	88.8	67.6	107.6
98	57.2	36.2	76.2

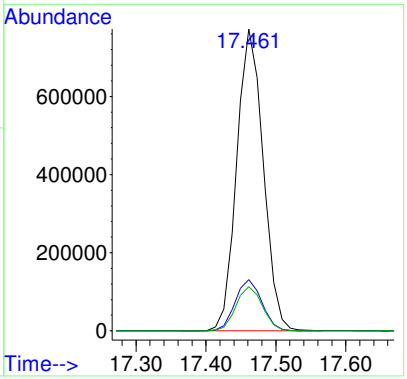


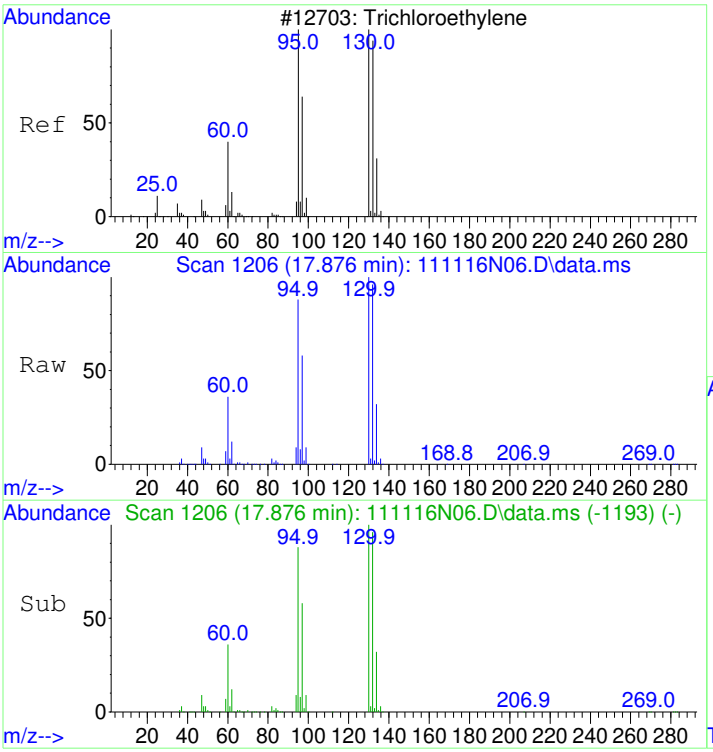


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. 0.000 min
Lab File: 111116N06.D
Acq: 11 Nov 2016 2:06 pm

Tgt Ion:114 Resp: 2027853

Ion	Ratio	Lower	Upper
114	100		
63	17.1	0.0	37.6
88	14.6	0.0	35.0

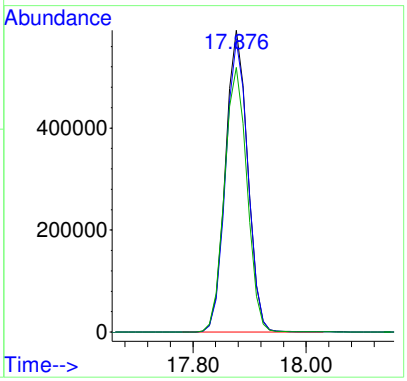


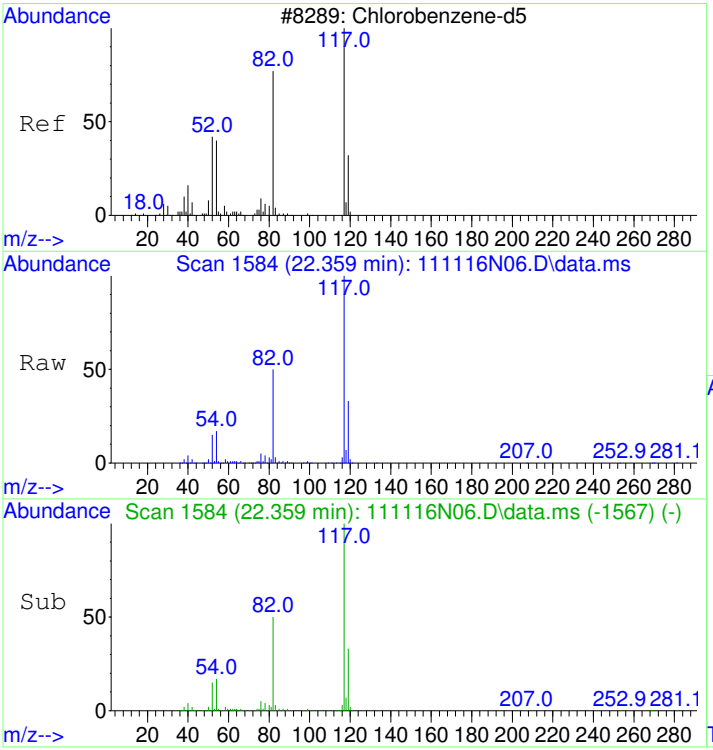


#37
Trichloroethene
Concen: 50.82 ppbv
RT: 17.876 min Scan# 1206
Delta R.T. 0.000 min
Lab File: 111116N06.D
Acq: 11 Nov 2016 2:06 pm

Tgt Ion:130 Resp: 1611128

Ion	Ratio	Lower	Upper
130	100		
132	96.9	76.8	116.8
95	89.2	72.4	112.4

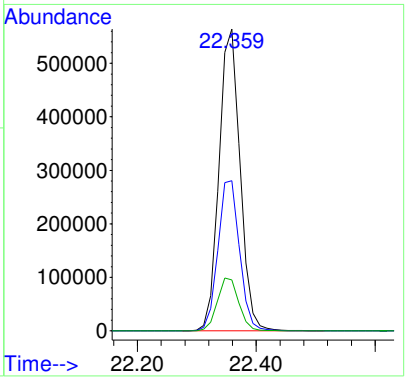




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. 0.000 min
Lab File: 111116N06.D
Acq: 11 Nov 2016 2:06 pm

Tgt Ion:117 Resp: 1391441

Ion	Ratio	Lower	Upper
117	100		
82	51.1	31.9	71.9
54	17.8	0.0	38.5



1611021-02RE2

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2016\data\111116_FSAA\
Data File : 111116N07.D
Acq On : 11 Nov 2016 2:53 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-02RE2
Misc : 50ml RE-REPRESS
ALS Vial : 35 Sample Multiplier: 5.92

report cis 12DCE

see -02RE1 for TCE

Quant Time: Nov 11 16:42:57 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 09:01:47 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	477323	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	2048275	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1499286	22.00	ppbv	0.00
Target Compounds						Qvalue
14) Acetone	9.967	43	22933	0.87	ppbv	99
16) 2-Propanol	10.560	45	149051	10.40	ppbv	96
20) trans-1,2-Dichloroethene	12.196	61	32034	1.07	ppbv	100
24) cis-1,2-Dichloroethene	14.947	61	32055	1.28	ppbv	99
37) Trichloroethene	17.876	130	1398245	43.67	ppbv	98

OC

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

REVIEWED
By LLH at 9:30 am, Nov 14, 2016

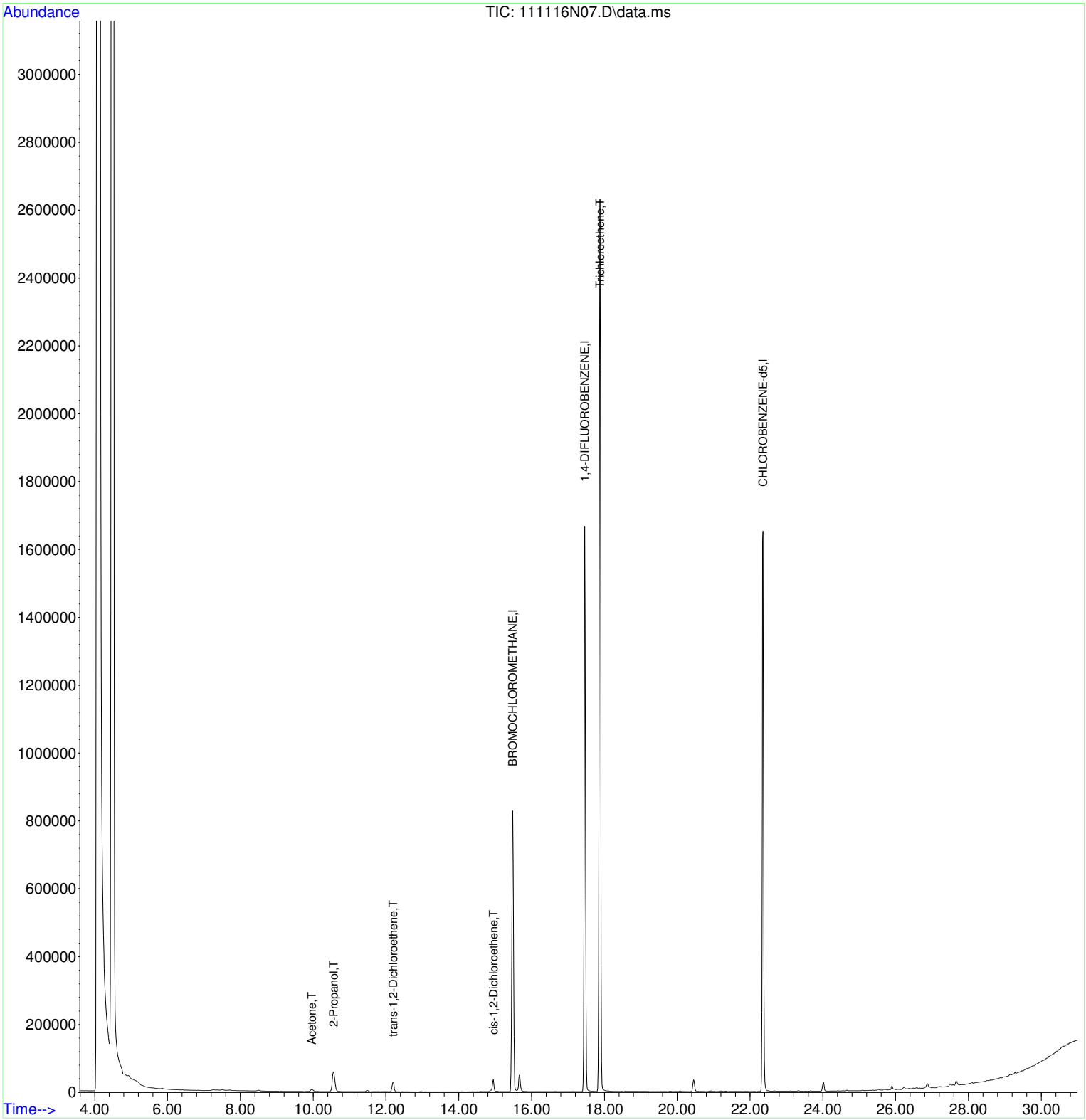
Table of Contents

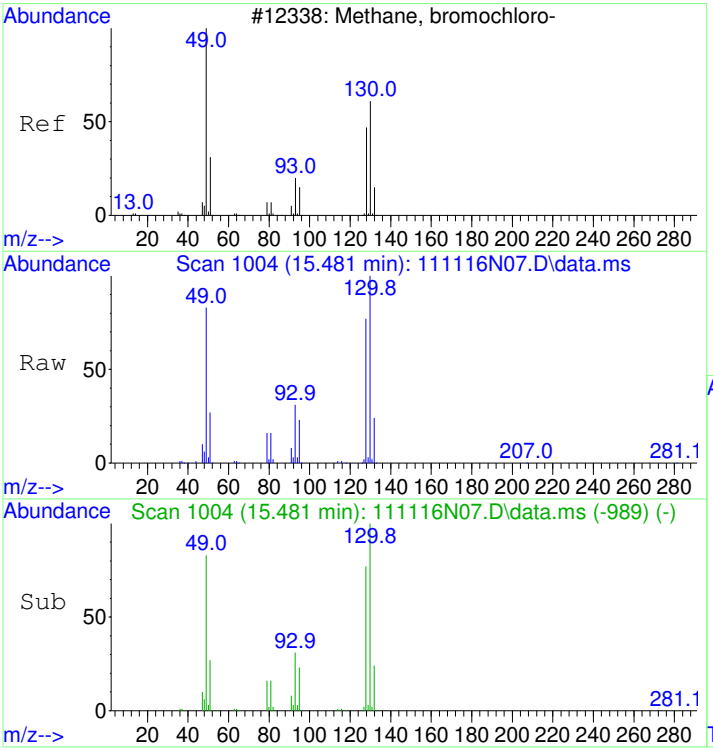
Data Path : D:\msdchem\1\2016\data\111116_FSAA\
Data File : 111116N07.D
Acq On : 11 Nov 2016 2:53 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-02RE2
Misc : 50ml RE-REPRESS
ALS Vial : 35 Sample Multiplier: 5.92

re-scaled chrom, replaced pdf

LLH 11/15/16

Quant Time: Nov 11 16:42:57 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 09:01:47 2016
Response via : Initial Calibration

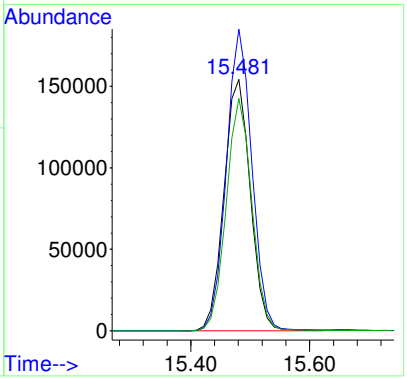


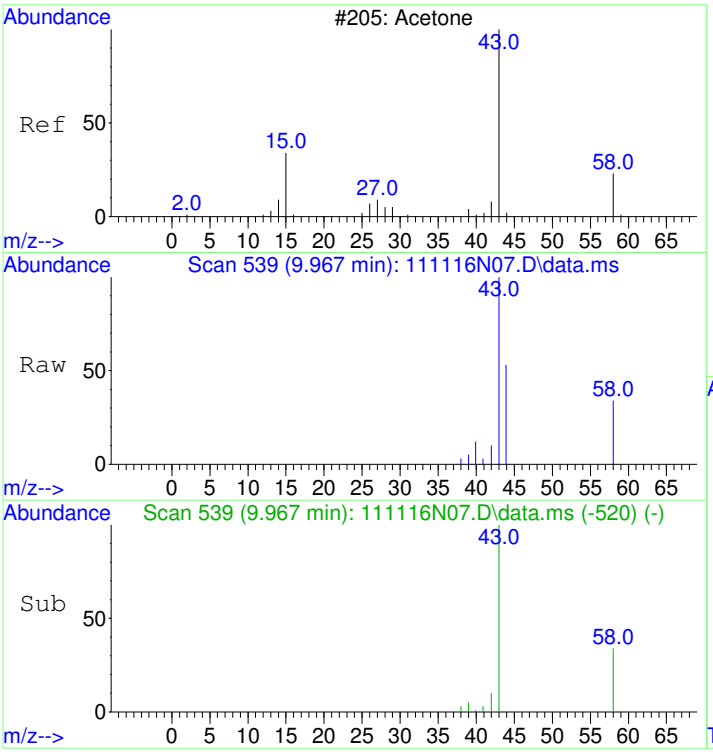


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. -0.000 min
Lab File: 111116N07.D
Acq: 11 Nov 2016 2:53 pm

Tgt Ion: 49 Resp: 477323

Ion	Ratio	Lower	Upper
49	100		
130	116.2	93.0	133.0
128	89.6	67.1	107.1

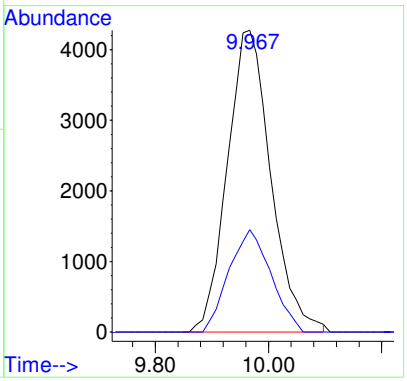


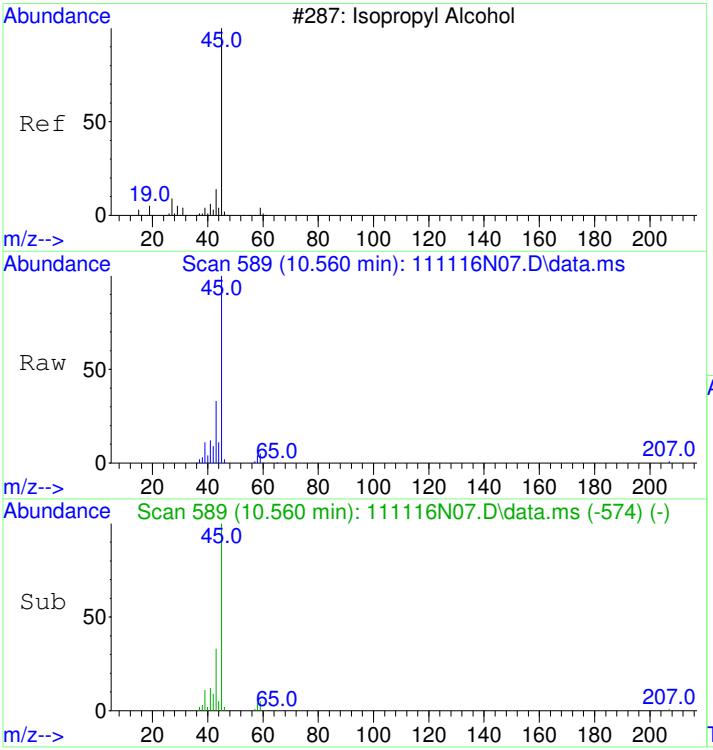


#14
Acetone
Concen: 0.87 ppbv
RT: 9.967 min Scan# 539
Delta R.T. 0.024 min
Lab File: 111116N07.D
Acq: 11 Nov 2016 2:53 pm

Tgt Ion: 43 Resp: 22933

Ion	Ratio	Lower	Upper
43	100		
58	32.7	13.5	53.5

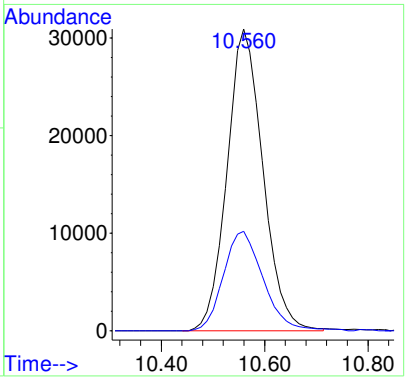


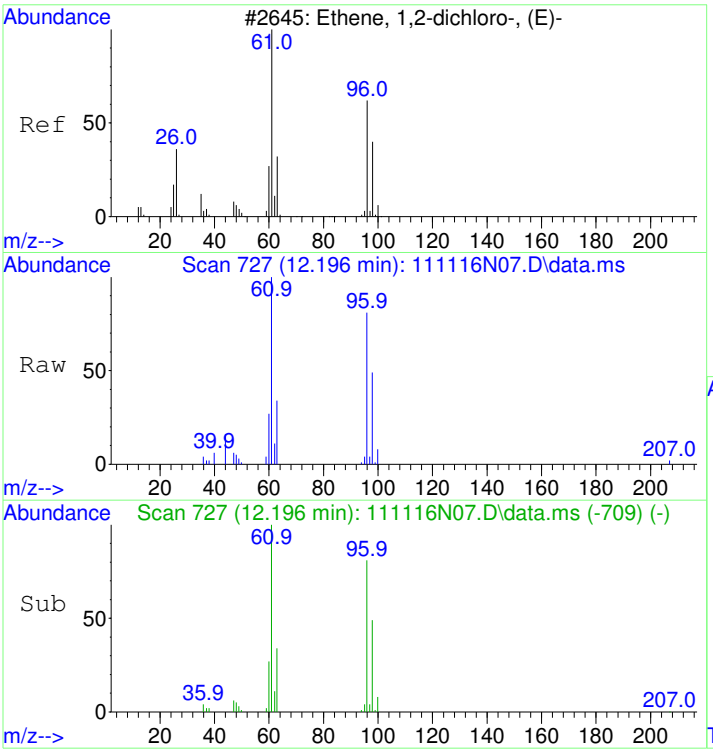


#16
2-Propanol
Concen: 10.40 ppbv
RT: 10.560 min Scan# 589
Delta R.T. -0.000 min
Lab File: 111116N07.D
Acq: 11 Nov 2016 2:53 pm

Tgt Ion: 45 Resp: 149051

Ion	Ratio	Lower	Upper
45	100		
43	36.4	14.4	54.4

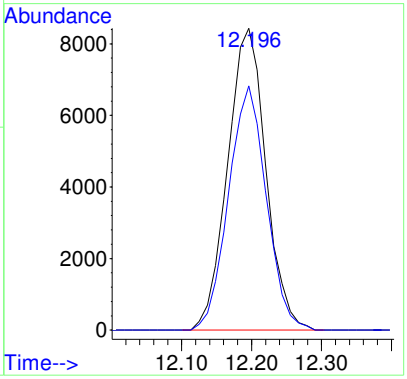


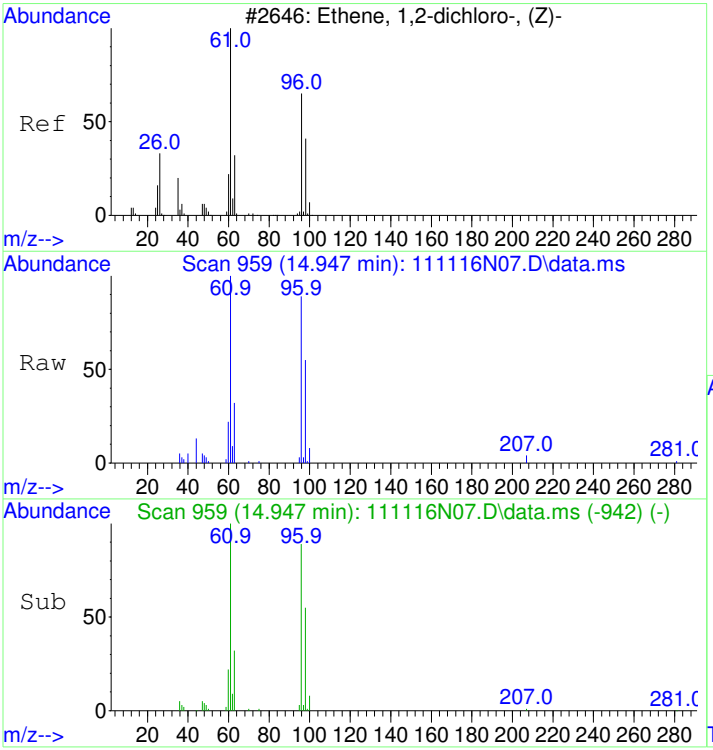


#20
trans-1,2-Dichloroethene
Concen: 1.07 ppbv
RT: 12.196 min Scan# 727
Delta R.T. 0.012 min
Lab File: 111116N07.D
Acq: 11 Nov 2016 2:53 pm

Tgt Ion: 61 Resp: 32034

Ion	Ratio	Lower	Upper
61	100		
96	79.8	60.1	100.1

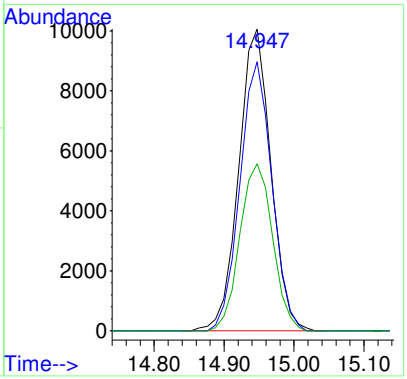


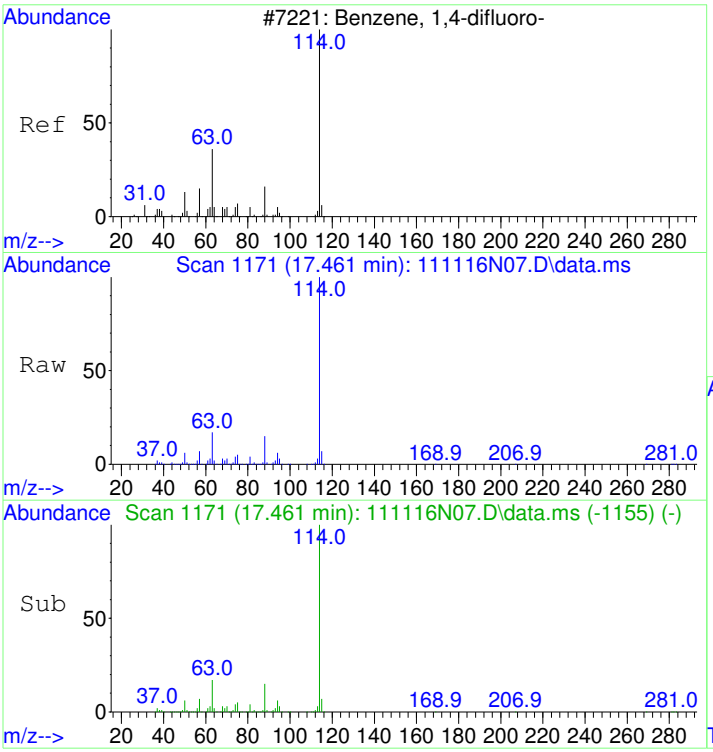


#24
cis-1,2-Dichloroethene
Concen: 1.28 ppbv
RT: 14.947 min Scan# 959
Delta R.T. -0.000 min
Lab File: 111116N07.D
Acq: 11 Nov 2016 2:53 pm

Tgt Ion: 61 Resp: 32055

Ion	Ratio	Lower	Upper
61	100		
96	88.5	67.6	107.6
98	56.3	36.2	76.2

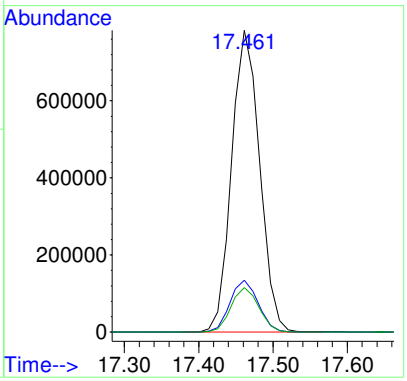


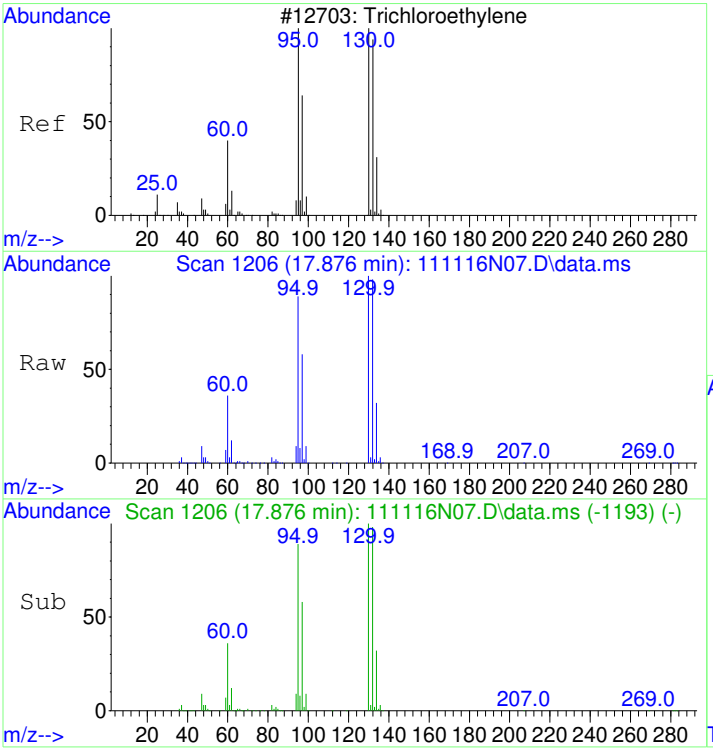


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. -0.000 min
Lab File: 111116N07.D
Acq: 11 Nov 2016 2:53 pm

Tgt Ion:114 Resp: 2048275

Ion	Ratio	Lower	Upper
114	100		
63	17.3	0.0	37.6
88	14.7	0.0	35.0

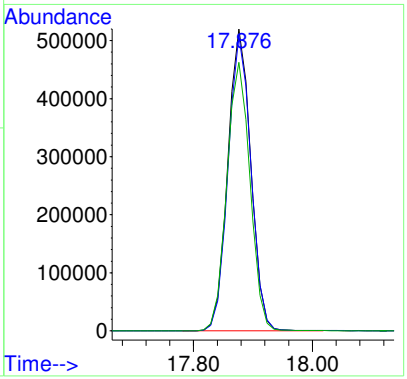


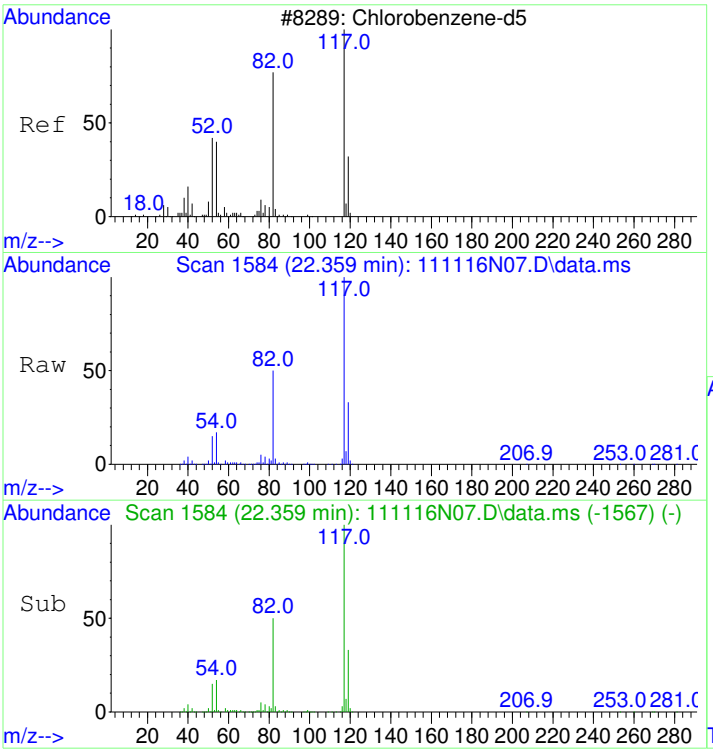


#37
Trichloroethene
Concen: 43.67 ppbv
RT: 17.876 min Scan# 1206
Delta R.T. -0.000 min
Lab File: 111116N07.D
Acq: 11 Nov 2016 2:53 pm

Tgt Ion:130 Resp: 1398245

Ion	Ratio	Lower	Upper
130	100		
132	97.2	76.8	116.8
95	89.8	72.4	112.4

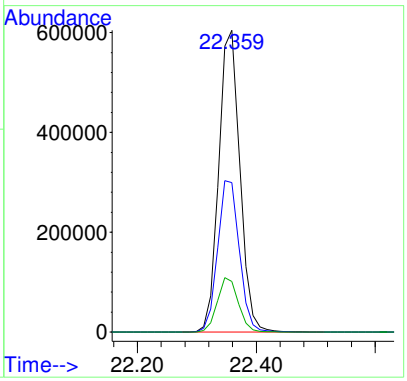




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. -0.000 min
Lab File: 111116N07.D
Acq: 11 Nov 2016 2:53 pm

Tgt Ion:117 Resp: 1499286

Ion	Ratio	Lower	Upper
117	100		
82	51.5	31.9	71.9
54	18.0	0.0	38.5



1611021-08RE2

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2016\data\111116_FSAA\
Data File : 111116N08.D
Acq On : 11 Nov 2016 3:39 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-08RE2
Misc : 50ml RE-REPRESS
ALS Vial : 36 Sample Multiplier: 6.56

report cis12DCE

see -08RE1 for TCE

Quant Time: Nov 11 16:43:09 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 09:01:47 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	485873	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.461	114	2057178	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.359	117	1409203	22.00	ppbv	0.00
Target Compounds						Qvalue
20) trans-1,2-Dichloroethene	12.196	61	24519	0.81	ppbv	99
24) cis-1,2-Dichloroethene	14.947	61	48882	1.91	ppbv	100
37) Trichloroethene	17.876	130	1550766	48.22	ppbv	99

OC

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

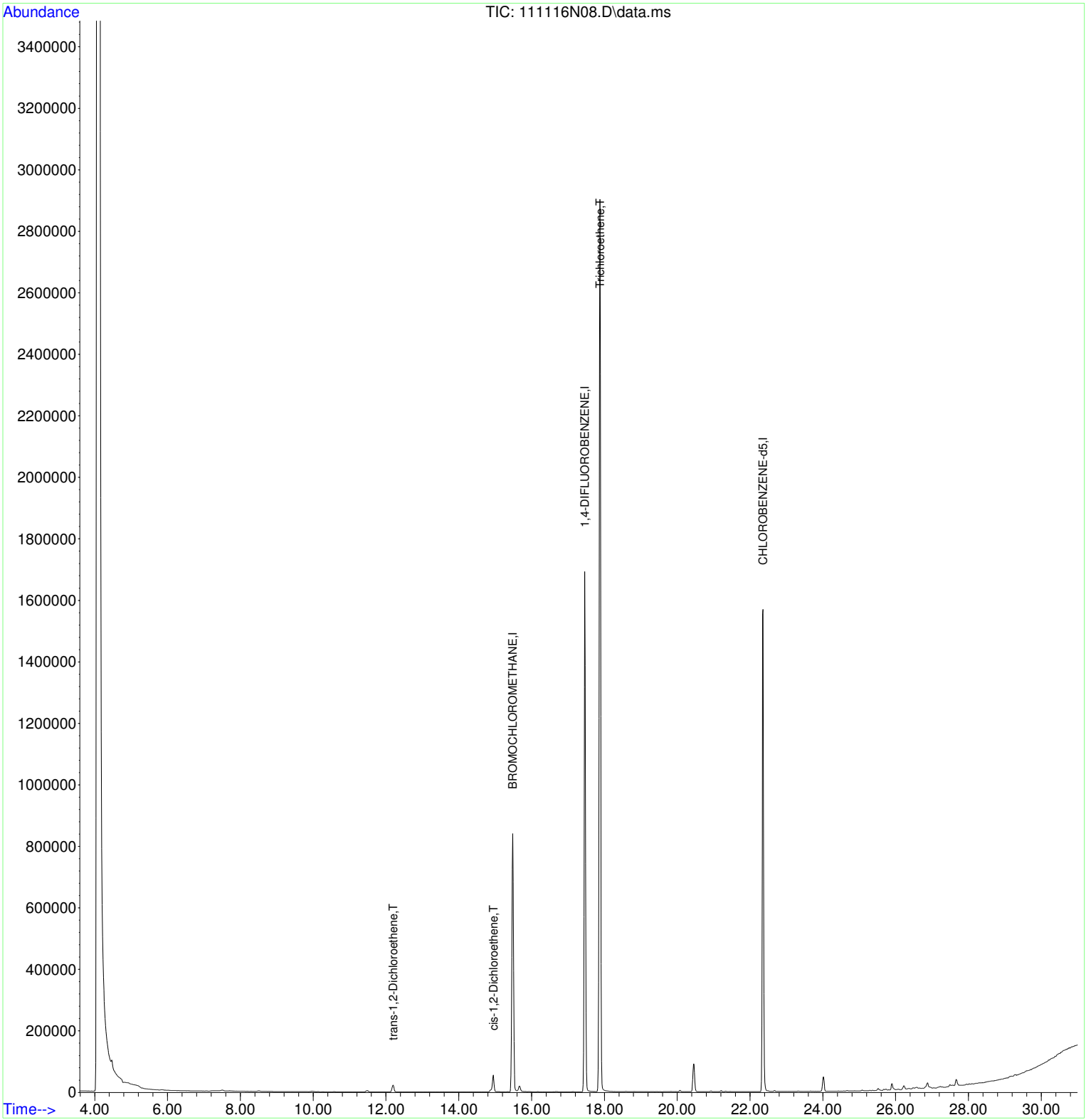
REVIEWED
By LLH at 9:31 am, Nov 14, 2016

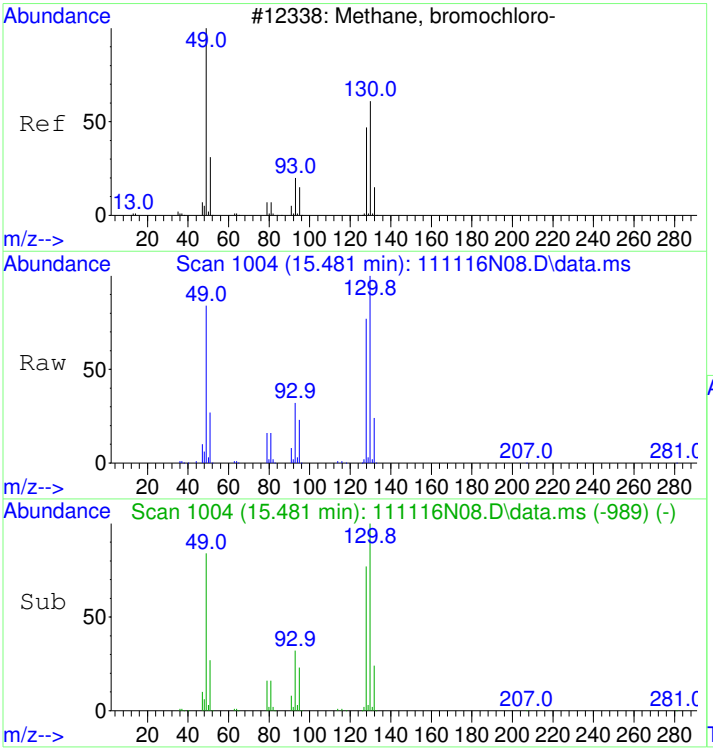
Data Path : D:\msdchem\1\2016\data\111116_FSAA\
Data File : 111116N08.D
Acq On : 11 Nov 2016 3:39 pm
InstName : AG5973N
Operator : LLH
Sample : 1611021-08RE2
Misc : 50ml RE-REPRESS
ALS Vial : 36 Sample Multiplier: 6.56

re-scaled chrom, replaced pdf

LLH 11/15/16

Quant Time: Nov 11 16:43:09 2016
Quant Method : D:\msdchem\1\2016\method\111016N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Nov 11 09:01:47 2016
Response via : Initial Calibration

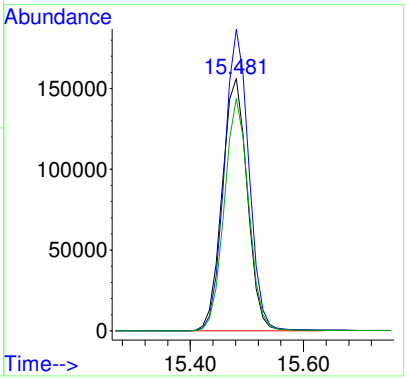


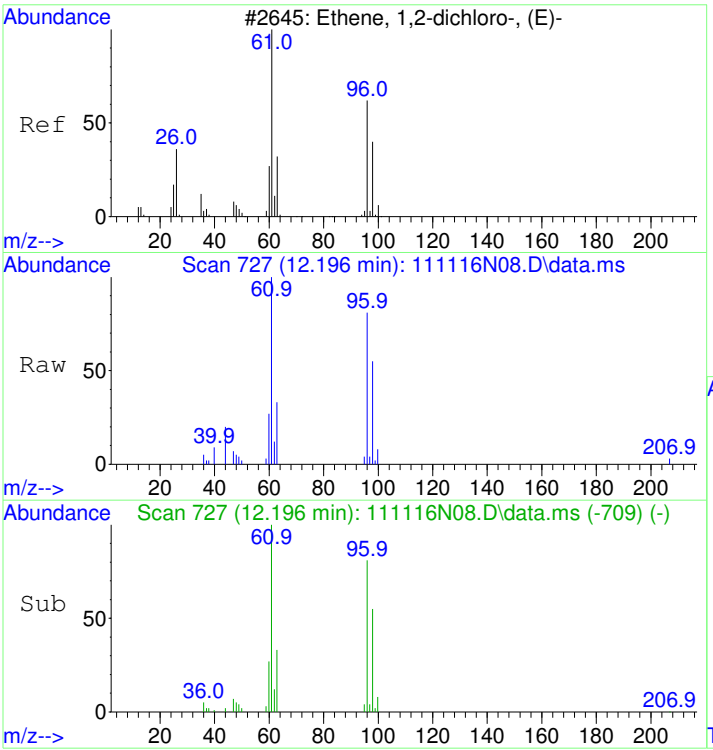


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. -0.000 min
Lab File: 111116N08.D
Acq: 11 Nov 2016 3:39 pm

Tgt Ion: 49 Resp: 485873

Ion	Ratio	Lower	Upper
49	100		
130	115.6	93.0	133.0
128	88.8	67.1	107.1

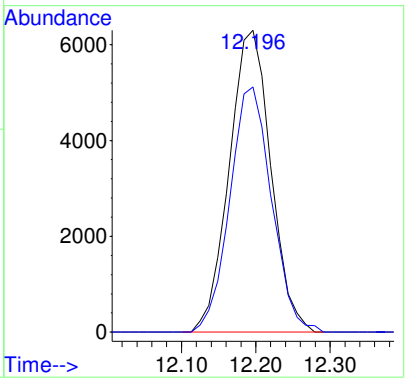


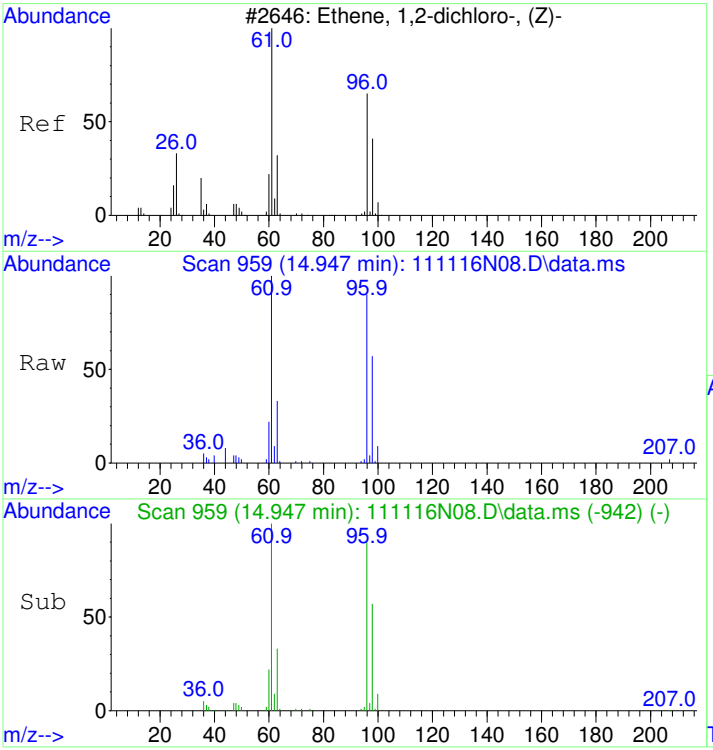


#20
trans-1,2-Dichloroethene
Concen: 0.81 ppbv
RT: 12.196 min Scan# 727
Delta R.T. 0.012 min
Lab File: 111116N08.D
Acq: 11 Nov 2016 3:39 pm

Tgt Ion: 61 Resp: 24519

Ion	Ratio	Lower	Upper
61	100		
96	81.3	60.1	100.1

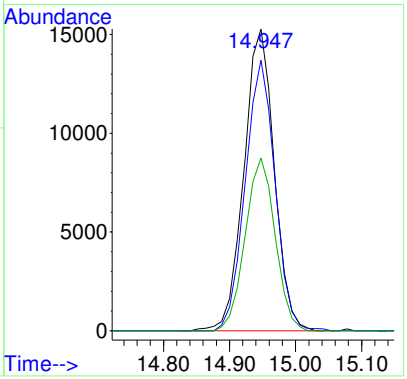


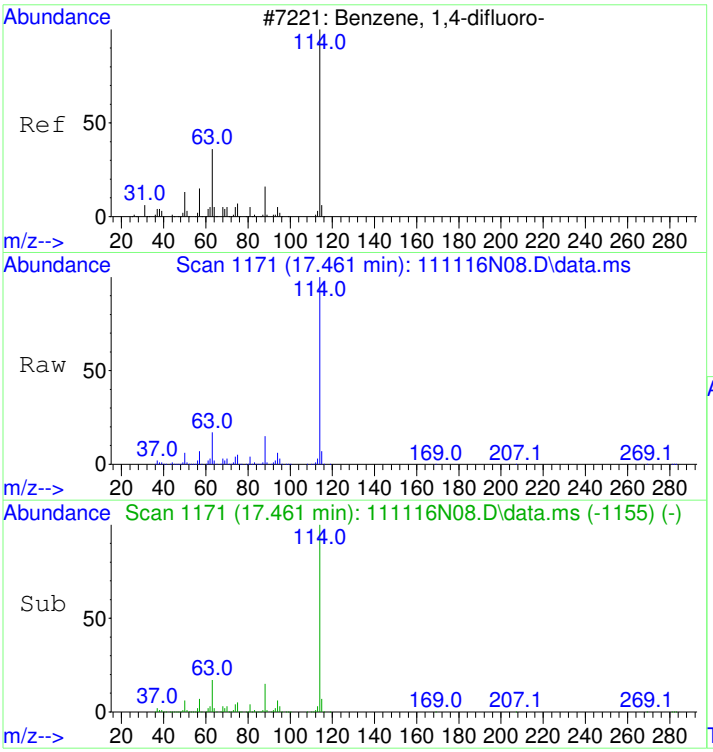


#24
cis-1,2-Dichloroethene
Concen: 1.91 ppbv
RT: 14.947 min Scan# 959
Delta R.T. 0.000 min
Lab File: 111116N08.D
Acq: 11 Nov 2016 3:39 pm

Tgt Ion: 61 Resp: 48882

Ion	Ratio	Lower	Upper
61	100		
96	87.9	67.6	107.6
98	56.4	36.2	76.2

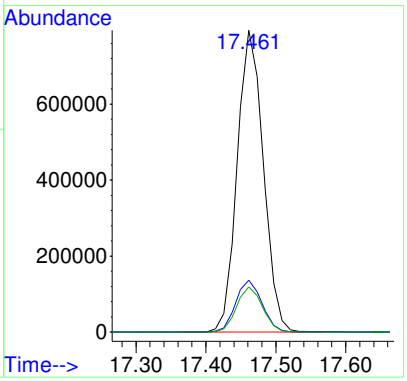


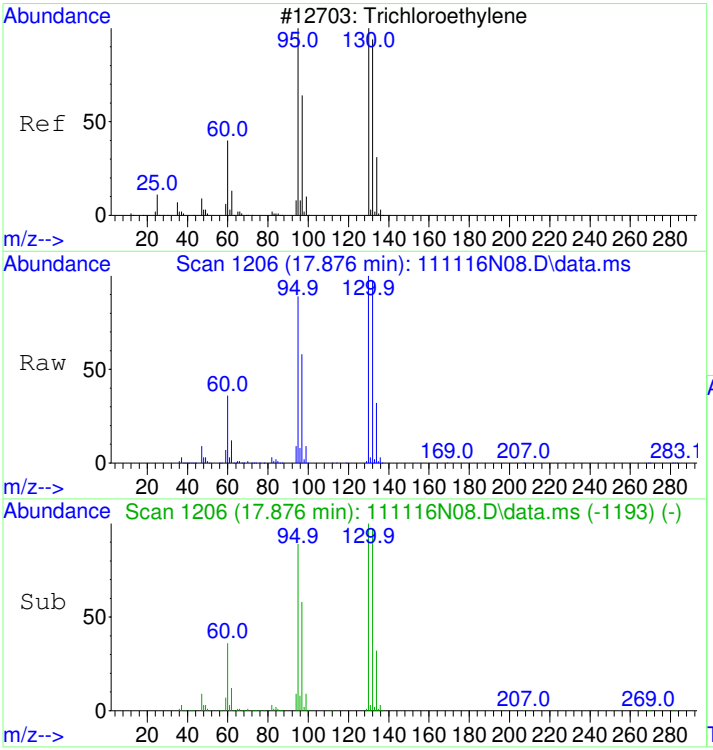


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. 0.000 min
Lab File: 111116N08.D
Acq: 11 Nov 2016 3:39 pm

Tgt Ion:114 Resp: 2057178

Ion	Ratio	Lower	Upper
114	100		
63	17.3	0.0	37.6
88	14.8	0.0	35.0

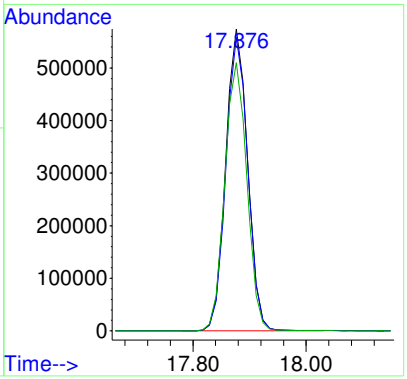


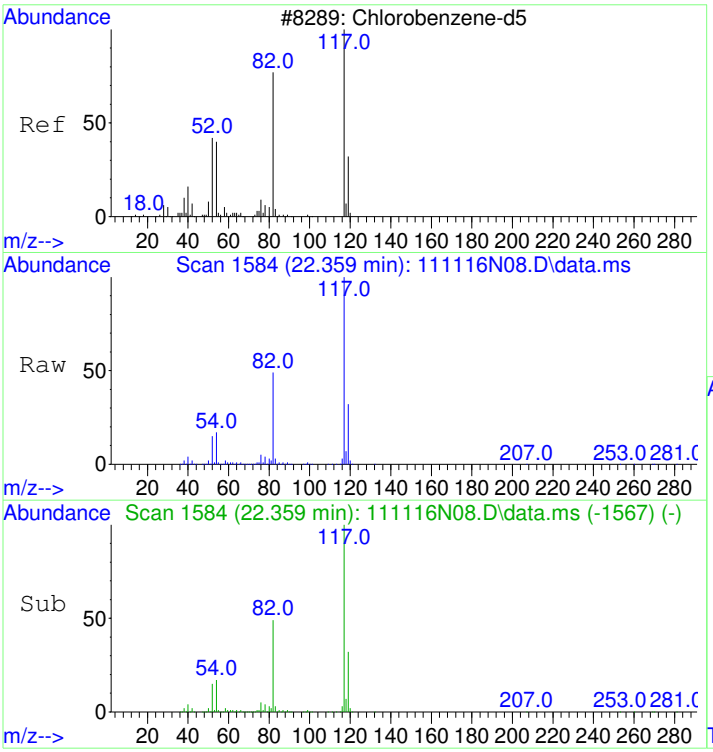


#37
Trichloroethene
Concen: 48.22 ppbv
RT: 17.876 min Scan# 1206
Delta R.T. 0.000 min
Lab File: 111116N08.D
Acq: 11 Nov 2016 3:39 pm

Tgt Ion:130 Resp: 1550766

Ion	Ratio	Lower	Upper
130	100		
132	97.0	76.8	116.8
95	89.7	72.4	112.4

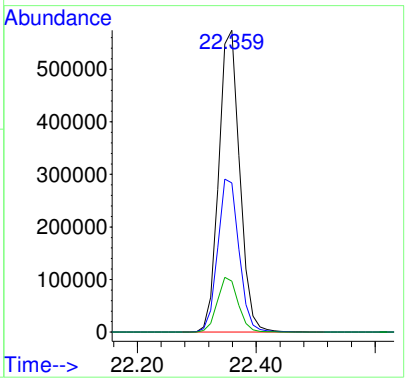




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.359 min Scan# 1584
Delta R.T. 0.000 min
Lab File: 111116N08.D
Acq: 11 Nov 2016 3:39 pm

Tgt Ion:117 Resp: 1409203

Ion	Ratio	Lower	Upper
117	100		
82	51.5	31.9	71.9
54	18.0	0.0	38.5



Cannister Certifications

1611021-01

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\2016\data\081116_FSAA\
Data File : 081116N11.D
Acq On : 11 Aug 2016 9:00 pm
InstName : AG5973N
Operator : LLH
Sample : CAN #1592
Misc : 200ml RECERTIFICATION
ALS Vial : 10 Sample Multiplier: 1

CLEAN

Quant Time: Aug 12 10:12:13 2016
Quant Method : C:\msdchem\1\2016\method\080416N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Aug 05 09:56:03 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	15.469	49	784905	22.00 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	2045526	19.80 ppbv	0.00
43) CHLOROBENZENE-d5	22.335	117	1695312	20.00 ppbv	0.00

Target Compounds Qvalue

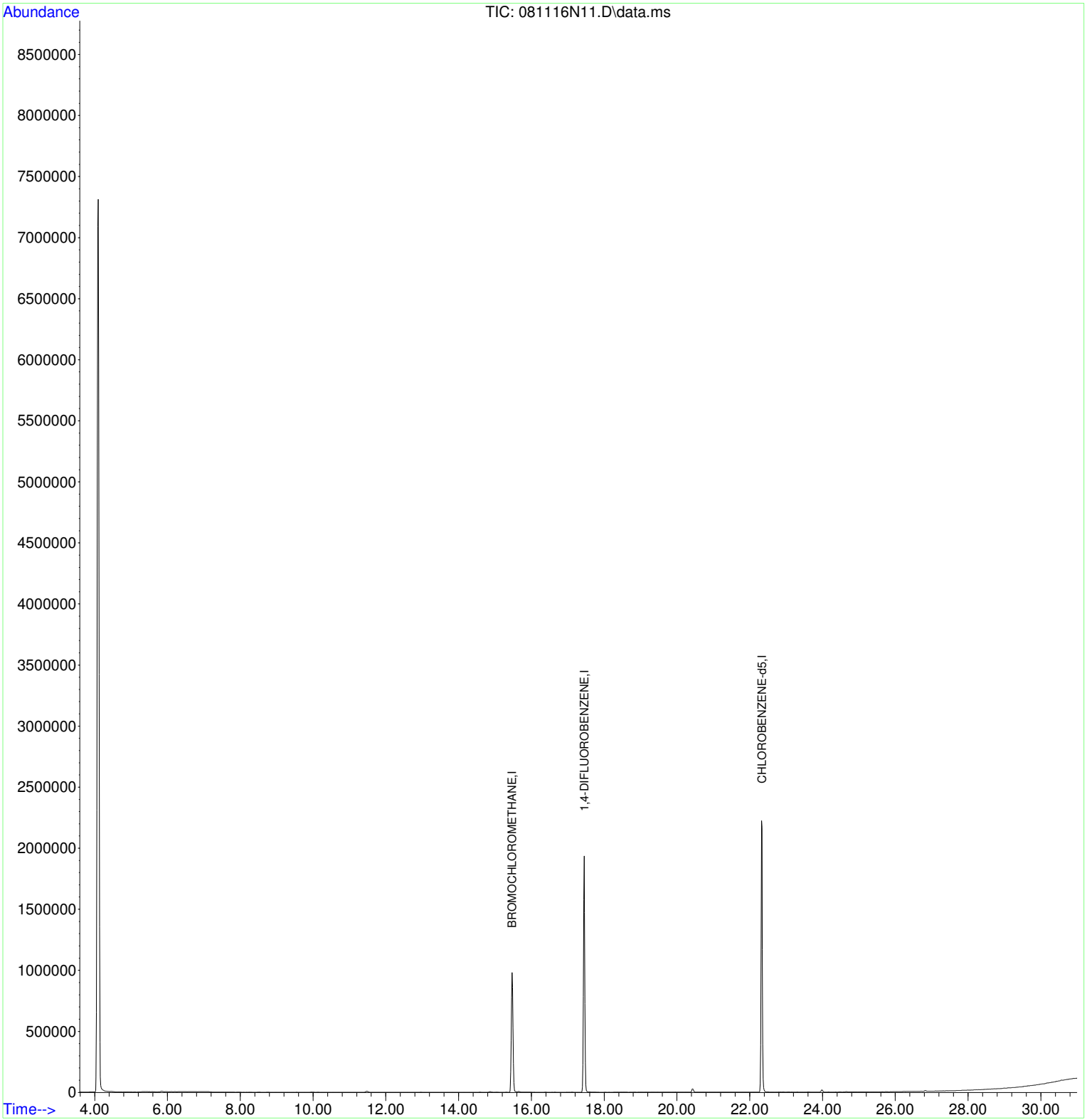
(#) = qualifier out of range (m) = manual integration (+) = signals summed

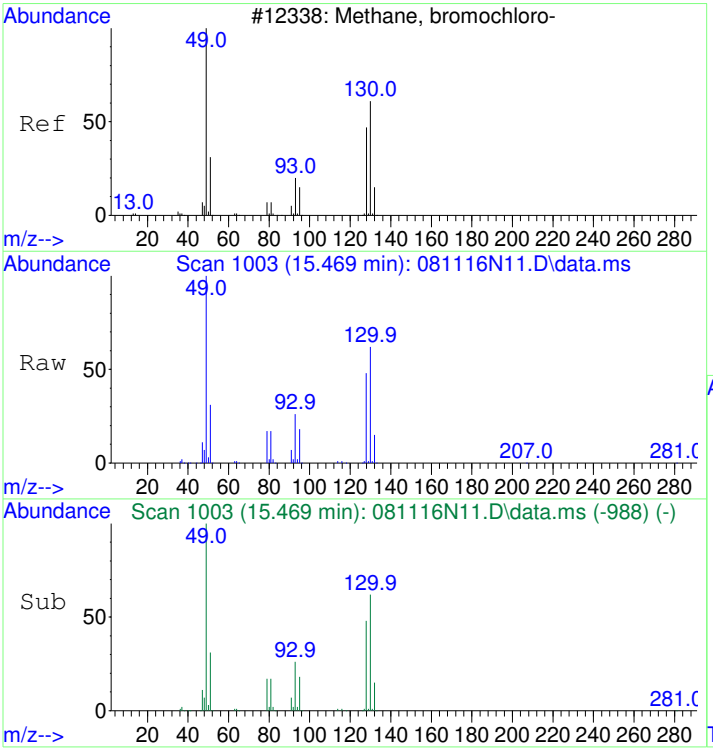
REVIEWED
By LLH at 10:18 am, Aug 12, 2016

Table of Contents

Data Path : C:\msdchem\1\2016\data\081116_FSAA\
Data File : 081116N11.D
Acq On : 11 Aug 2016 9:00 pm
InstName : AG5973N
Operator : LLH
Sample : CAN #1592
Misc : 200ml RECERTIFICATION
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 12 10:12:13 2016
Quant Method : C:\msdchem\1\2016\method\080416N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Aug 05 09:56:03 2016
Response via : Initial Calibration

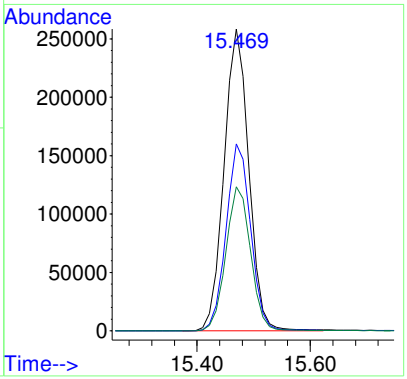


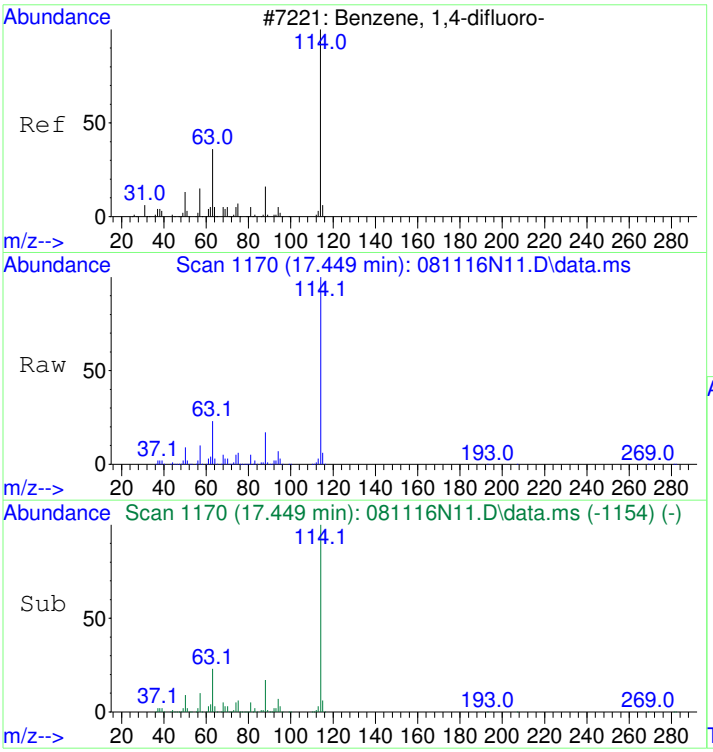


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.469 min Scan# 1003
Delta R.T. 0.000 min
Lab File: 081116N11.D
Acq: 11 Aug 2016 9:00 pm

Tgt Ion: 49 Resp: 784905

Ion	Ratio	Lower	Upper
49	100		
130	61.6	49.3	89.3
128	47.7	33.7	73.7

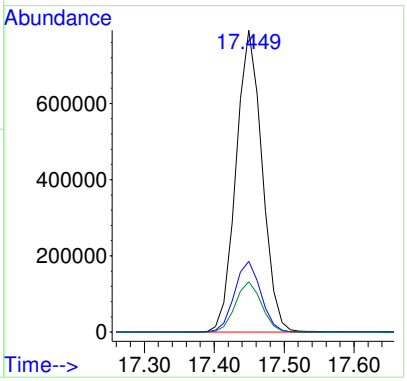


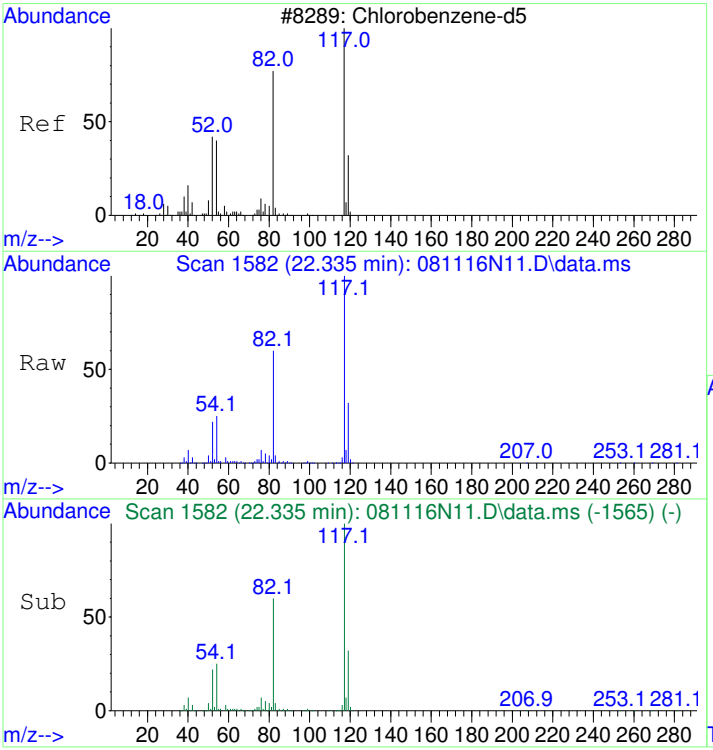


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.449 min Scan# 1170
Delta R.T. -0.000 min
Lab File: 081116N11.D
Acq: 11 Aug 2016 9:00 pm

Tgt Ion:114 Resp: 2045526

Ion	Ratio	Lower	Upper
114	100		
63	23.7	1.5	41.5
88	16.8	0.0	36.3

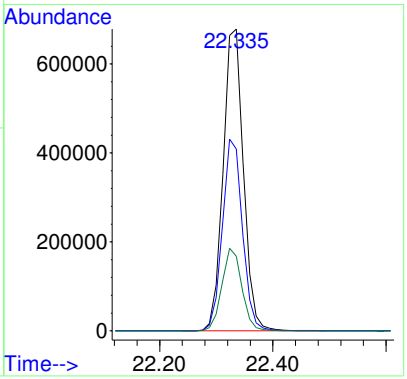




#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.335 min Scan# 1582
Delta R.T. -0.000 min
Lab File: 081116N11.D
Acq: 11 Aug 2016 9:00 pm

Tgt Ion:117 Resp: 1695312

Ion	Ratio	Lower	Upper
117	100		
82	62.6	39.9	79.9
54	26.8	3.7	43.7



1611021-02

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\2016\data\081116_FSAA\
Data File : 081116N10.D
Acq On : 11 Aug 2016 8:11 pm
InstName : AG5973N
Operator : LLH
Sample : CAN #1591
Misc : 200ml RECERTIFICATION
ALS Vial : 39 Sample Multiplier: 1

CLEAN

Quant Time: Aug 12 10:12:03 2016
Quant Method : C:\msdchem\1\2016\method\080416N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Aug 05 09:56:03 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.469	49	792852	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	2090195	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.323	117	1754480	20.00	ppbv	-0.01

Target Compounds	Qvalue

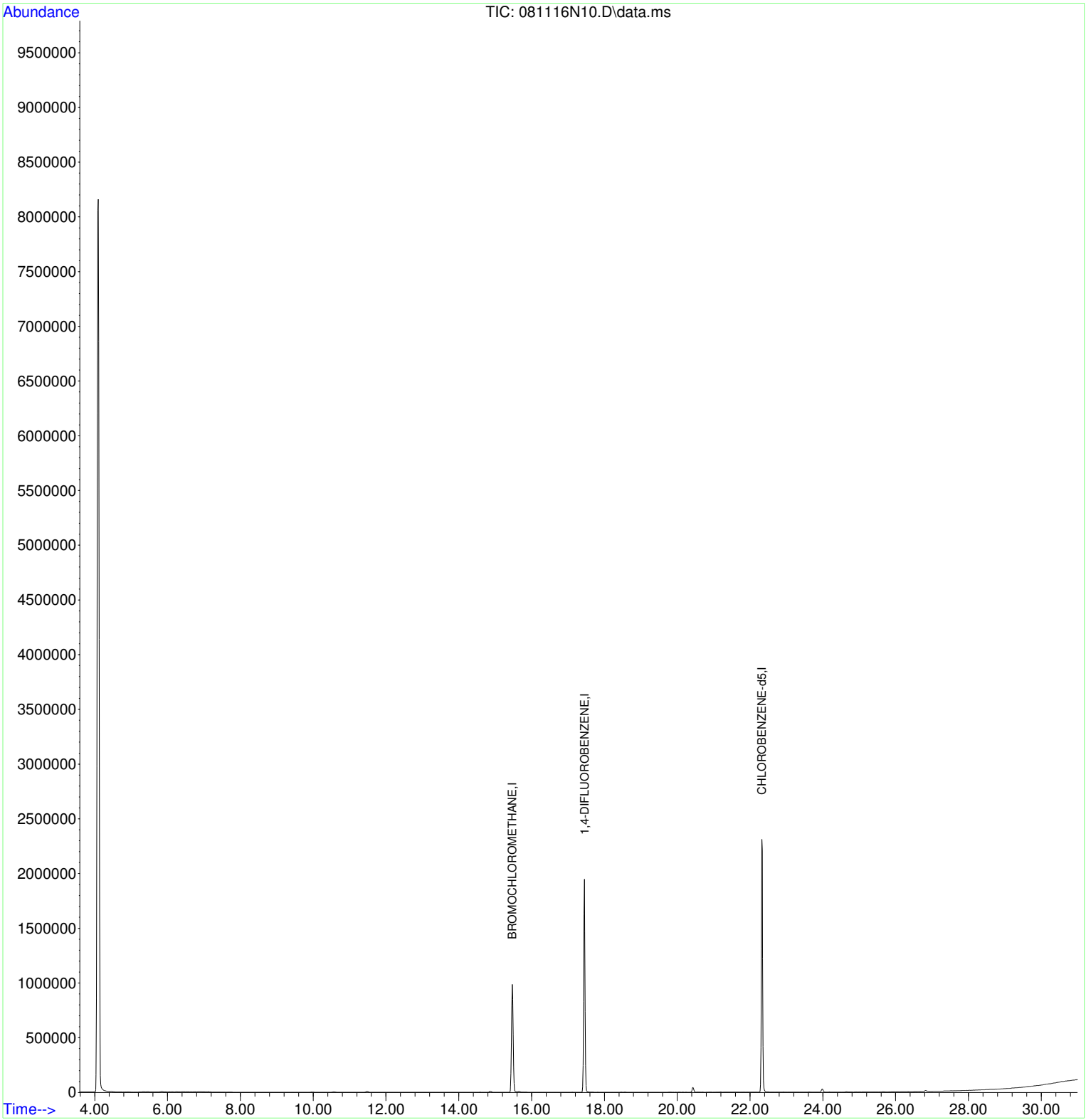
(#) = qualifier out of range (m) = manual integration (+) = signals summed

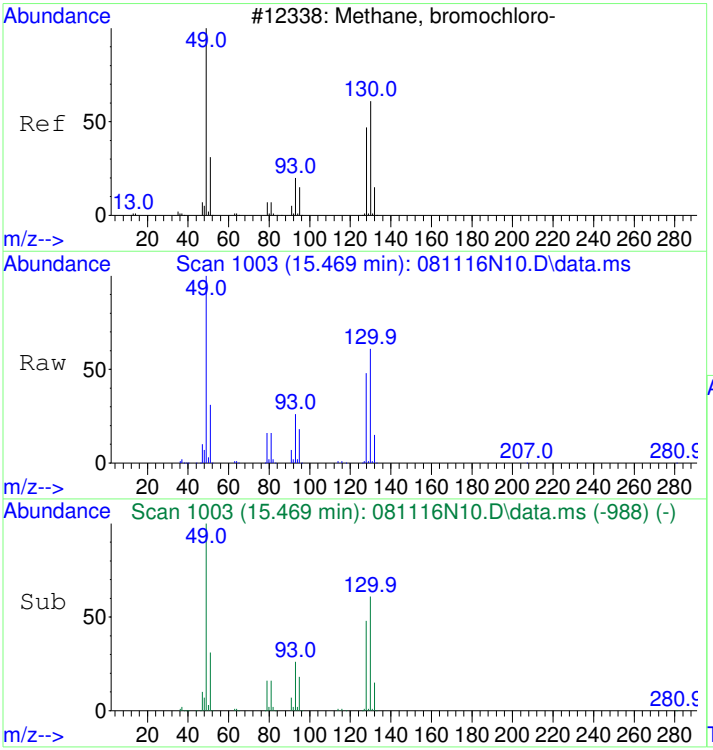
REVIEWED
By LLH at 10:18 am, Aug 12, 2016

Table of Contents

Data Path : C:\msdchem\1\2016\data\081116_FSAA\
Data File : 081116N10.D
Acq On : 11 Aug 2016 8:11 pm
InstName : AG5973N
Operator : LLH
Sample : CAN #1591
Misc : 200ml RECERTIFICATION
ALS Vial : 39 Sample Multiplier: 1

Quant Time: Aug 12 10:12:03 2016
Quant Method : C:\msdchem\1\2016\method\080416N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Aug 05 09:56:03 2016
Response via : Initial Calibration

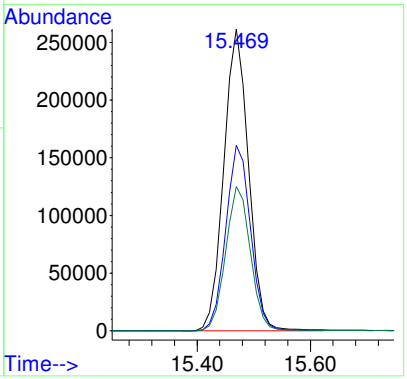


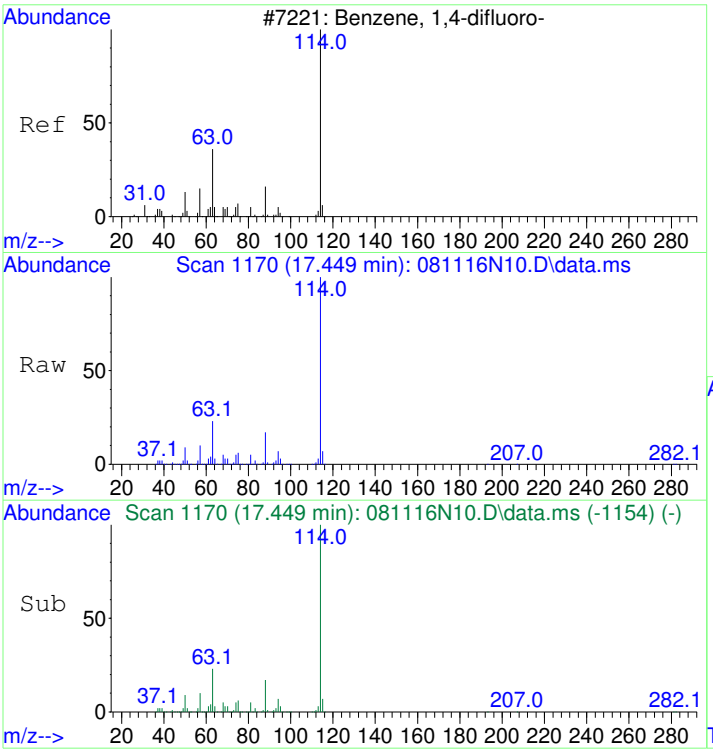


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.469 min Scan# 1003
Delta R.T. -0.000 min
Lab File: 081116N10.D
Acq: 11 Aug 2016 8:11 pm

Tgt Ion: 49 Resp: 792852

Ion	Ratio	Lower	Upper
49	100		
130	61.8	49.3	89.3
128	47.9	33.7	73.7

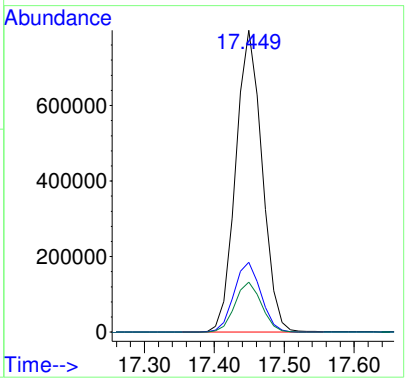


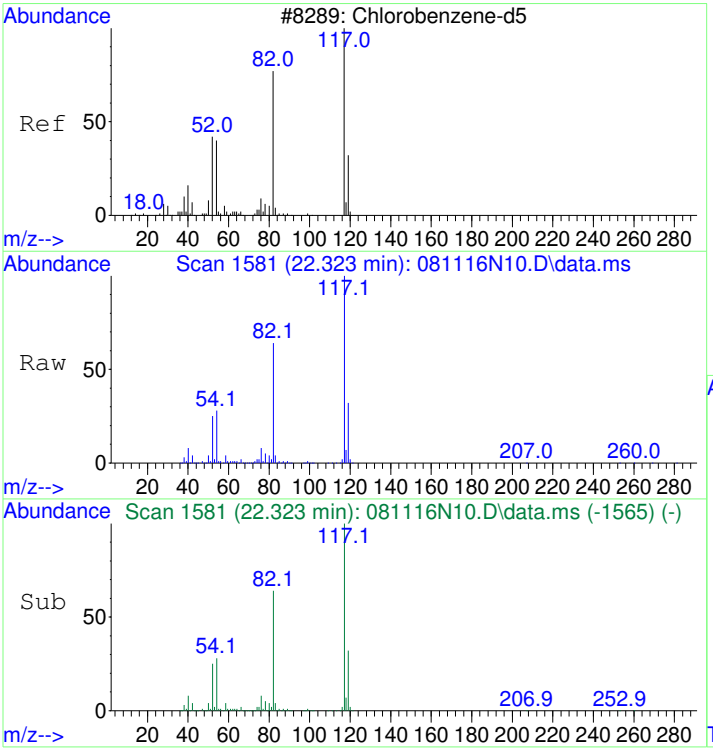


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.449 min Scan# 1170
Delta R.T. -0.000 min
Lab File: 081116N10.D
Acq: 11 Aug 2016 8:11 pm

Tgt Ion:114 Resp: 2090195

Ion	Ratio	Lower	Upper
114	100		
63	23.6	1.5	41.5
88	16.7	0.0	36.3

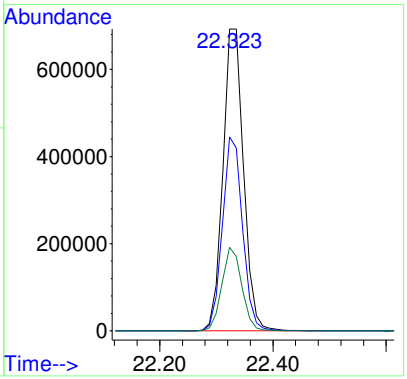




#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.323 min Scan# 1581
Delta R.T. -0.012 min
Lab File: 081116N10.D
Acq: 11 Aug 2016 8:11 pm

Tgt Ion:117 Resp: 1754480

Ion	Ratio	Lower	Upper
117	100		
82	62.7	39.9	79.9
54	26.7	3.7	43.7



1611021-03

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\2016\data\072716_FSAA\
Data File : 072716N06.D
Acq On : 27 Jul 2016 1:43 pm
InstName : AG5973N
Operator : LLH
Sample : CAN #885
Misc : 200ml RECERTIFICATION
ALS Vial : 43 Sample Multiplier: 1

CLEAN

Quant Time: Jul 27 14:14:54 2016
Quant Method : C:\msdchem\1\2016\method\072016N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 21 09:31:48 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	15.469	49	763439	22.00 ppbv	# 0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	2283634	19.80 ppbv	0.00
43) CHLOROBENZENE-d5	22.335	117	1847259	20.00 ppbv	0.00

Target Compounds Qvalue

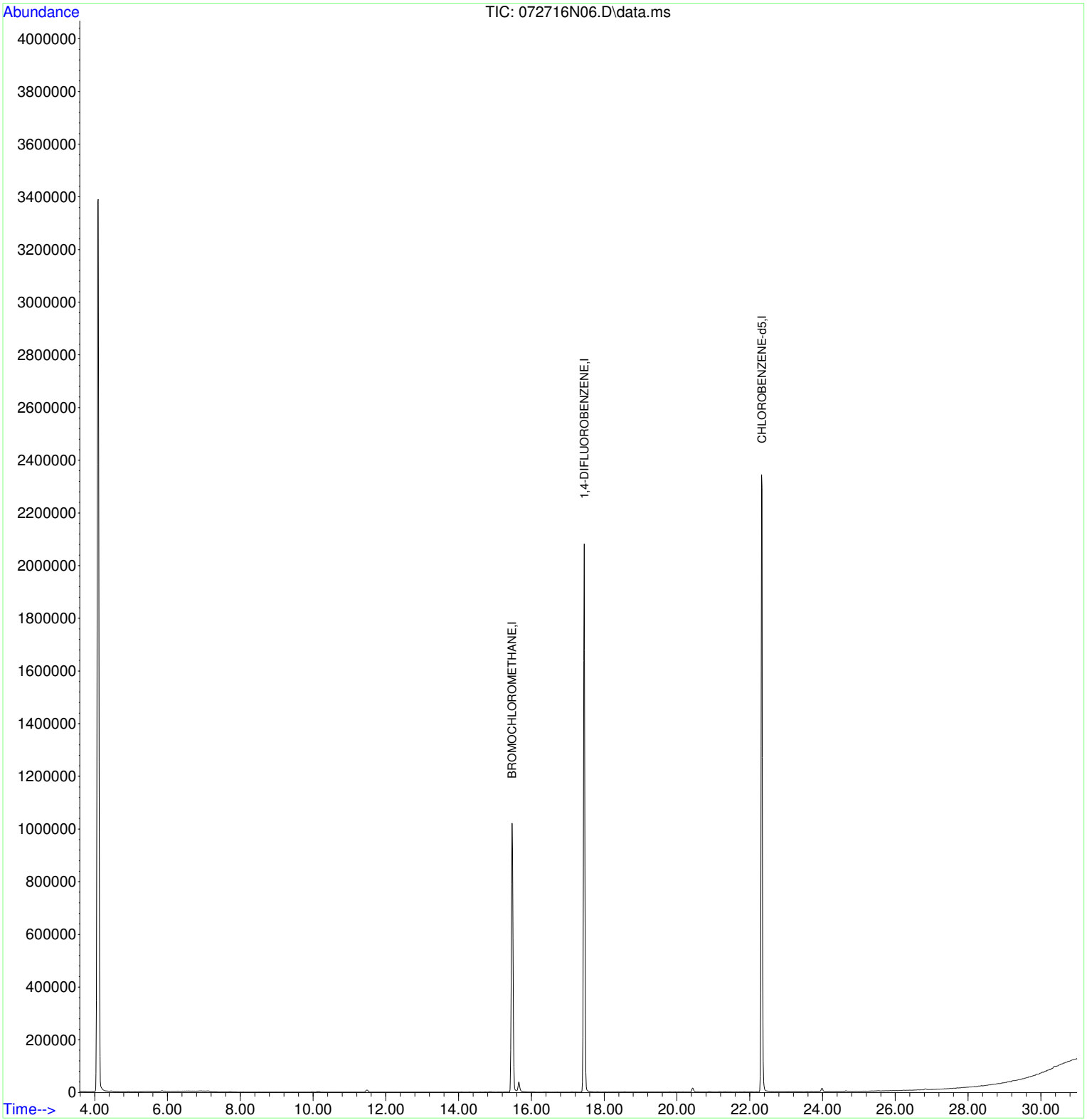
(#) = qualifier out of range (m) = manual integration (+) = signals summed

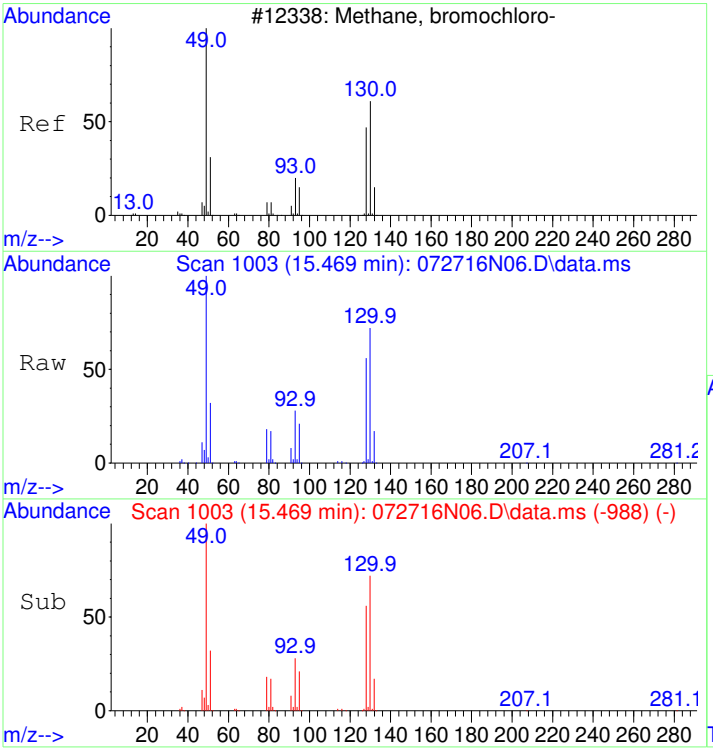
REVIEWED
By LLH at 9:49 am, Jul 28, 2016

Table of Contents

Data Path : C:\msdchem\1\2016\data\072716_FSAA\
Data File : 072716N06.D
Acq On : 27 Jul 2016 1:43 pm
InstName : AG5973N
Operator : LLH
Sample : CAN #885
Misc : 200ml RECERTIFICATION
ALS Vial : 43 Sample Multiplier: 1

Quant Time: Jul 27 14:14:54 2016
Quant Method : C:\msdchem\1\2016\method\072016N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 21 09:31:48 2016
Response via : Initial Calibration

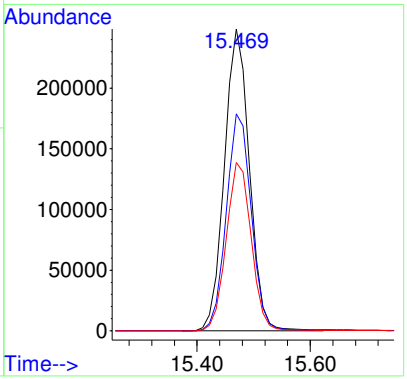


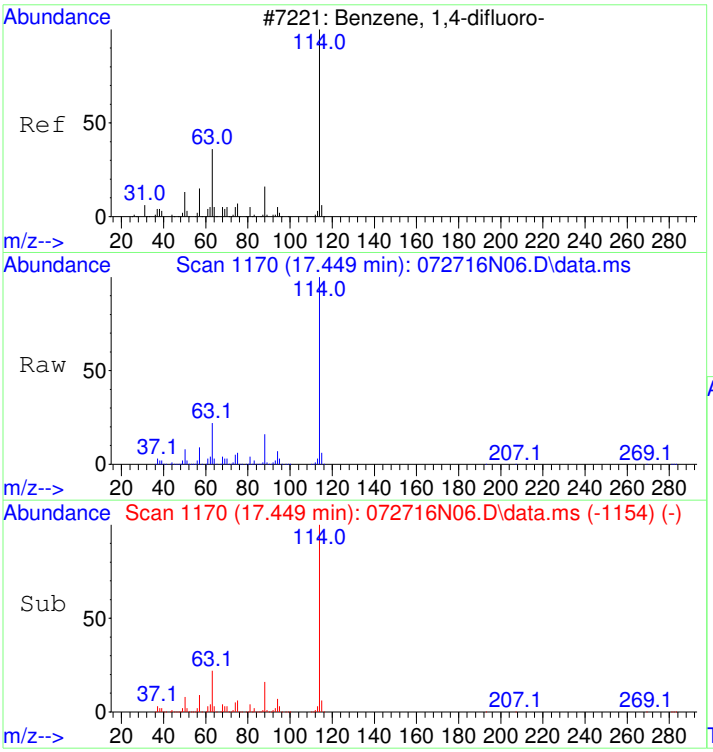


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.469 min Scan# 1003
Delta R.T. 0.000 min
Lab File: 072716N06.D
Acq: 27 Jul 2016 1:43 pm

Tgt Ion: 49 Resp: 763439

Ion	Ratio	Lower	Upper
49	100		
130	72.1	76.6	116.6#
128	55.9	54.3	94.3

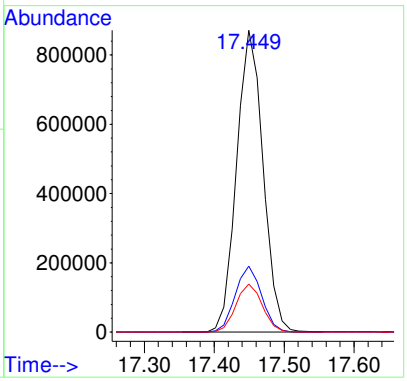


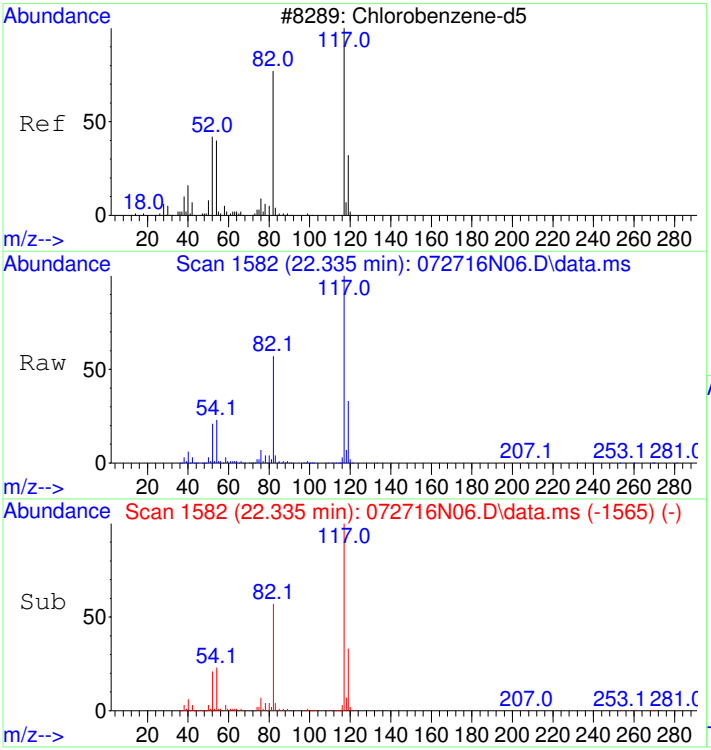


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.449 min Scan# 1170
Delta R.T. -0.000 min
Lab File: 072716N06.D
Acq: 27 Jul 2016 1:43 pm

Tgt Ion:114 Resp: 2283634

Ion	Ratio	Lower	Upper
114	100		
63	21.8	0.0	37.5
88	15.9	0.0	34.7

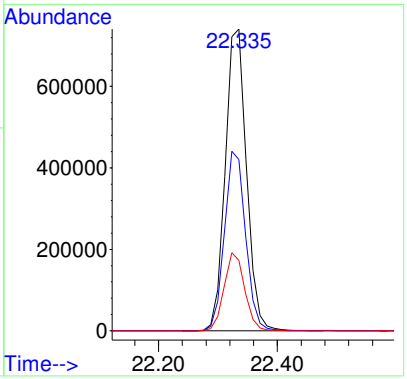




#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.335 min Scan# 1582
Delta R.T. 0.000 min
Lab File: 072716N06.D
Acq: 27 Jul 2016 1:43 pm

Tgt Ion:117 Resp: 1847259

Ion	Ratio	Lower	Upper
117	100		
82	59.1	31.8	71.8
54	25.2	0.0	38.7



1611021-04

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\081116K_FSAA\
Data File : 081116K10.D
InstName : HP5973K
Acq On : 11 Aug 2016 8:29 pm
Operator : LLH
Sample : CAN #1576
Misc : 200ml RECERTIFICATION
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Aug 12 09:21:06 2016
Quant Method : D:\msdchem\1\2016\method\080116K_TO15AA.M
Quant Title : TO15
QLast Update : Tue Aug 02 09:28:51 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.031	49	1712850	20.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.099	114	4871616	19.60	ppbv	0.00
43) CHLOROBENZENE-d5	22.045	117	3306096	19.80	ppbv	0.00
Target Compounds						Qvalue
16) 2-Propanol	9.750	45	172372	1.56	ppbv	92

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

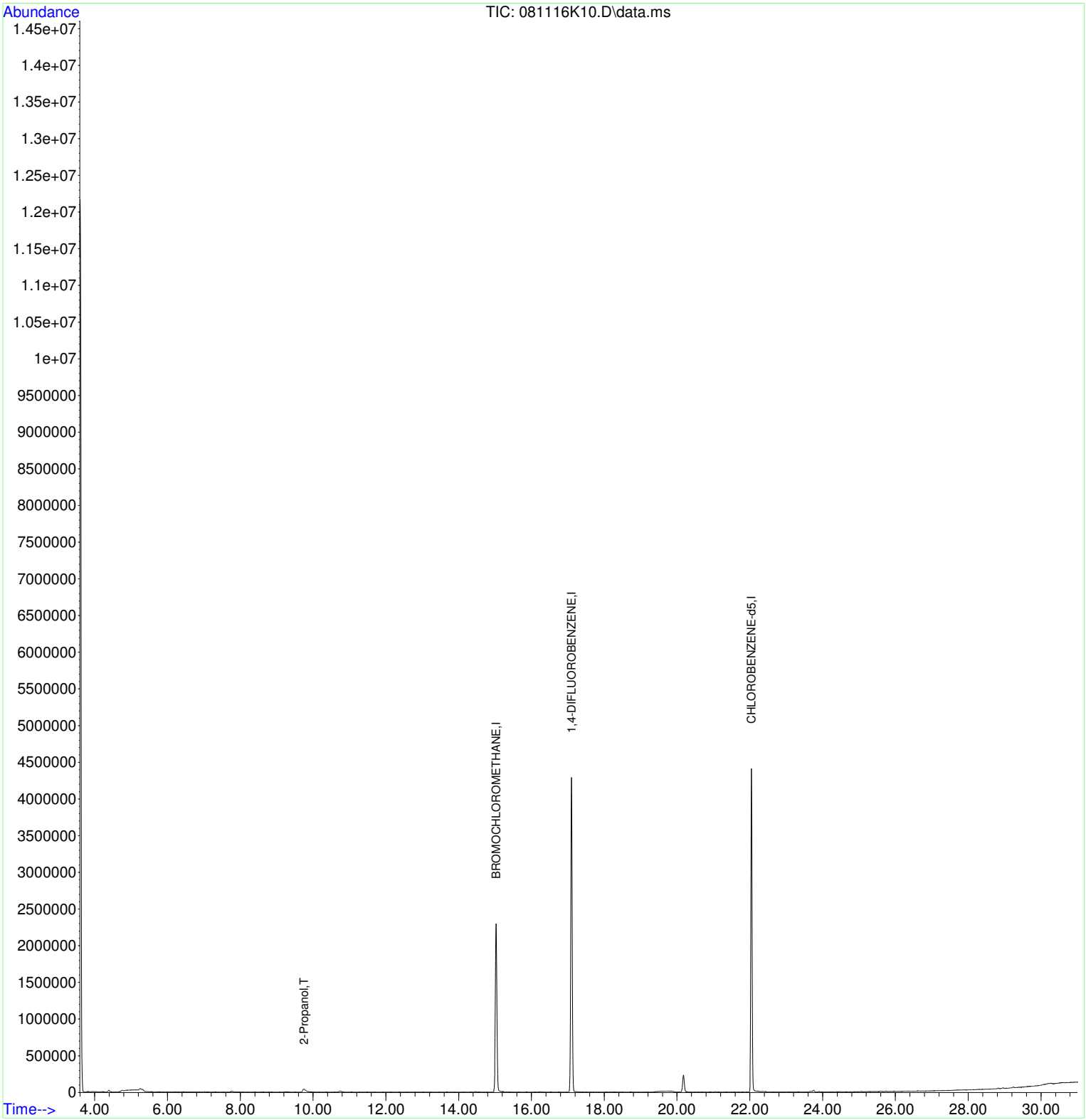
** see Discrepancy Report D16-015

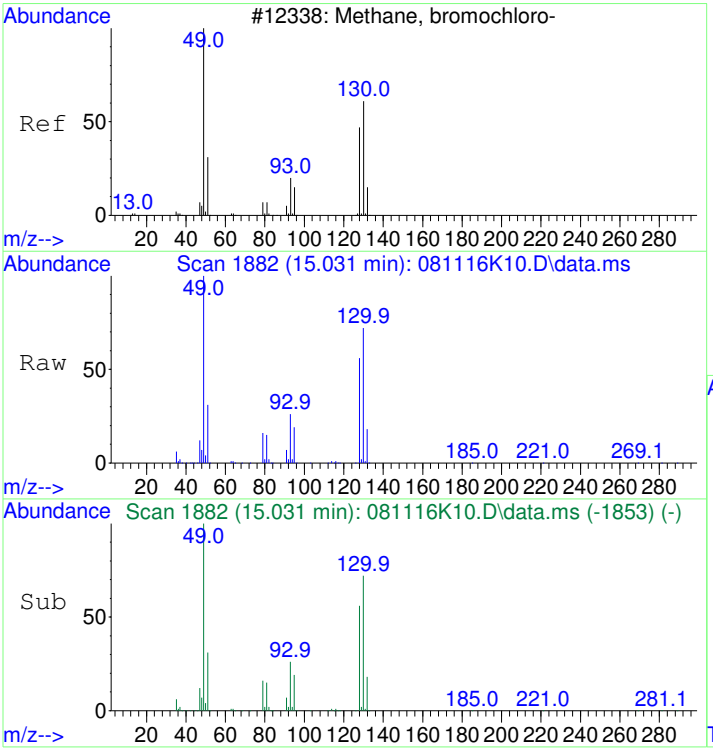
REVIEWED
By LLH at 9:36 am, Aug 12, 2016

Table of Contents

Data Path : D:\msdchem\1\2016\data\081116K_FSAA\
Data File : 081116K10.D
InstName : HP5973K
Acq On : 11 Aug 2016 8:29 pm
Operator : LLH
Sample : CAN #1576
Misc : 200ml RECERTIFICATION
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Aug 12 09:21:06 2016
Quant Method : D:\msdchem\1\2016\method\080116K_TO15AA.M
Quant Title : TO15
QLast Update : Tue Aug 02 09:28:51 2016
Response via : Initial Calibration

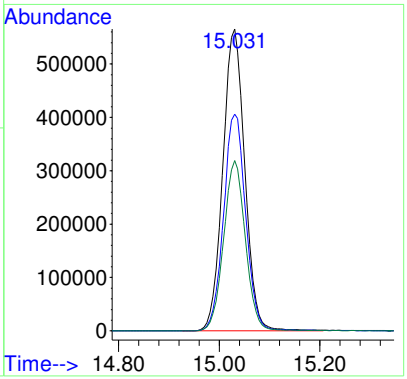


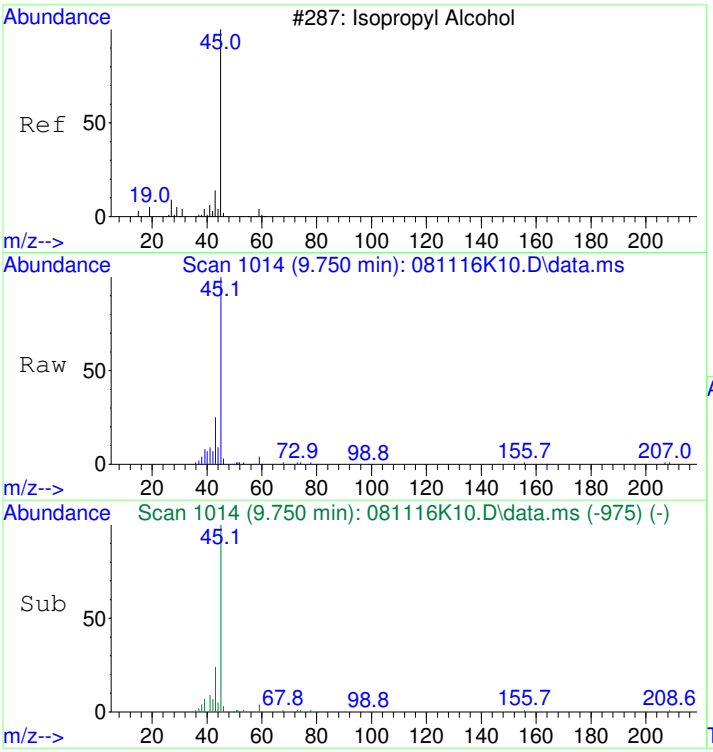


#1
BROMOCHLOROMETHANE
Concen: 20.00 ppbv
RT: 15.031 min Scan# 1882
Delta R.T. -0.001 min
Lab File: 081116K10.D
Acq: 11 Aug 2016 8:29 pm

Tgt Ion: 49 Resp: 1712850

Ion	Ratio	Lower	Upper
49	100		
130	72.4	55.7	95.7
128	55.8	38.5	78.5

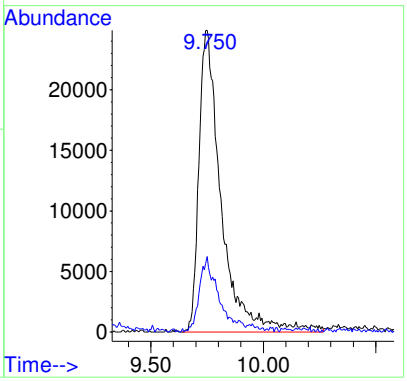


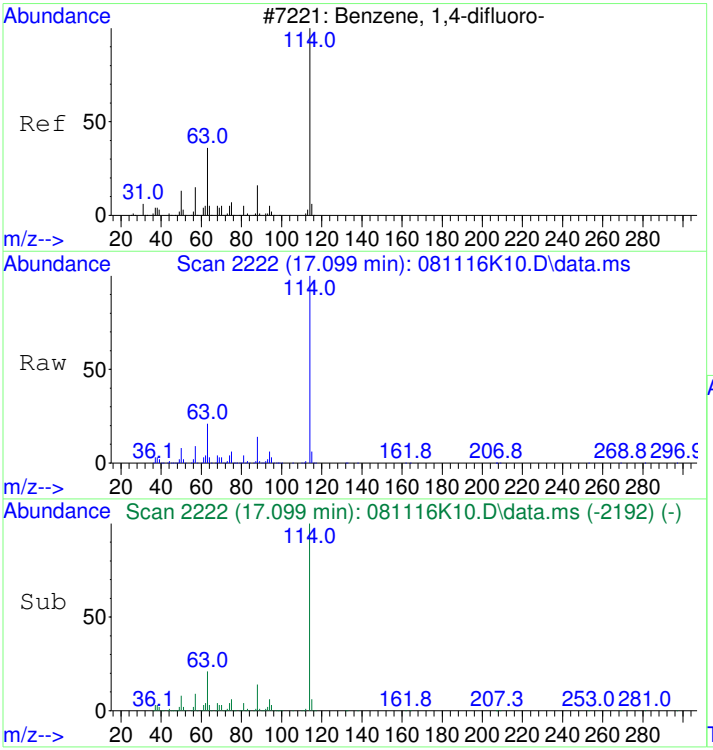


#16
2-Propanol
Concen: 1.56 ppbv
RT: 9.750 min Scan# 1014
Delta R.T. 0.055 min
Lab File: 081116K10.D
Acq: 11 Aug 2016 8:29 pm

Tgt Ion: 45 Resp: 172372

Ion	Ratio	Lower	Upper
45	100		
43	22.8	0.0	39.1

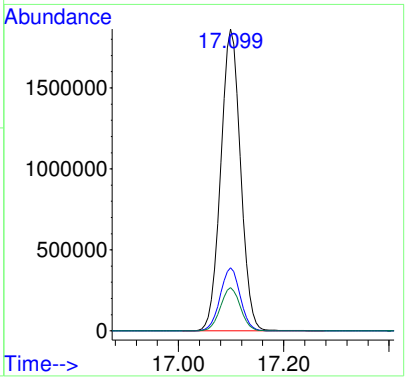


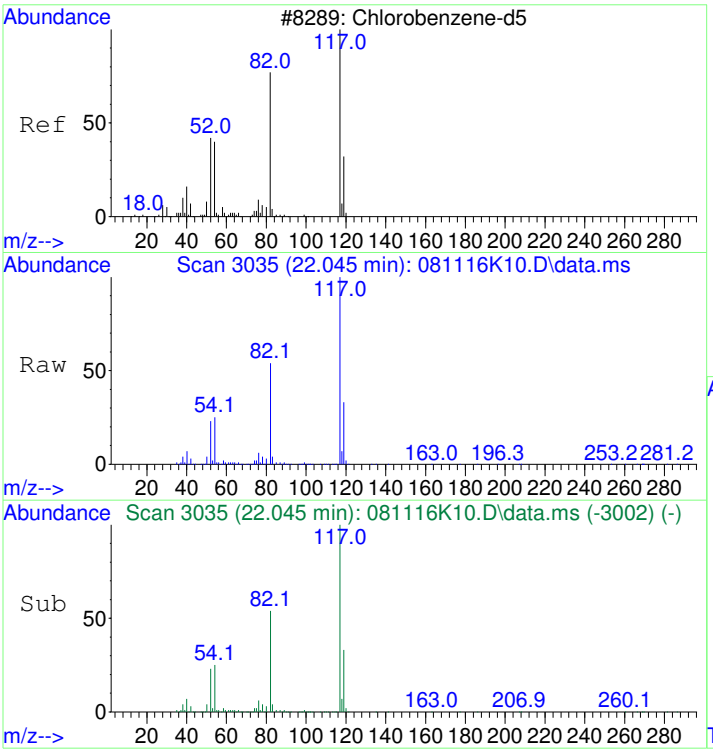


#32
1,4-DIFLUOROBENZENE
Concen: 19.60 ppbv
RT: 17.099 min Scan# 2222
Delta R.T. -0.000 min
Lab File: 081116K10.D
Acq: 11 Aug 2016 8:29 pm

Tgt Ion:114 Resp: 4871616

Ion	Ratio	Lower	Upper
114	100		
63	21.1	0.0	40.0
88	14.4	0.0	34.1

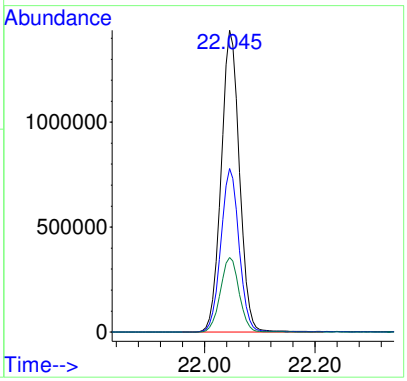




#43
CHLOROBENZENE-d5
Concen: 19.80 ppbv
RT: 22.045 min Scan# 3035
Delta R.T. -0.000 min
Lab File: 081116K10.D
Acq: 11 Aug 2016 8:29 pm

Tgt Ion:117 Resp: 3306096

Ion	Ratio	Lower	Upper
117	100		
82	54.2	32.8	72.8
54	25.3	2.2	42.2



1611021-05

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\2016\data\072716_FSAA\
Data File : 072716N08.D
Acq On : 27 Jul 2016 4:47 pm
InstName : AG5973N
Operator : LLH
Sample : CAN #1108
Misc : 200ml RECERTIFICATION
ALS Vial : 45 Sample Multiplier: 1

CLEAN

Quant Time: Jul 28 09:35:33 2016
Quant Method : C:\msdchem\1\2016\method\072016N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 21 09:31:48 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	15.469	49	770267	22.00 ppbv	# 0.00
32) 1,4-DIFLUOROBENZENE	17.450	114	2264982	19.80 ppbv	0.00
43) CHLOROBENZENE-d5	22.335	117	1889786	20.00 ppbv	0.00

Target Compounds Qvalue

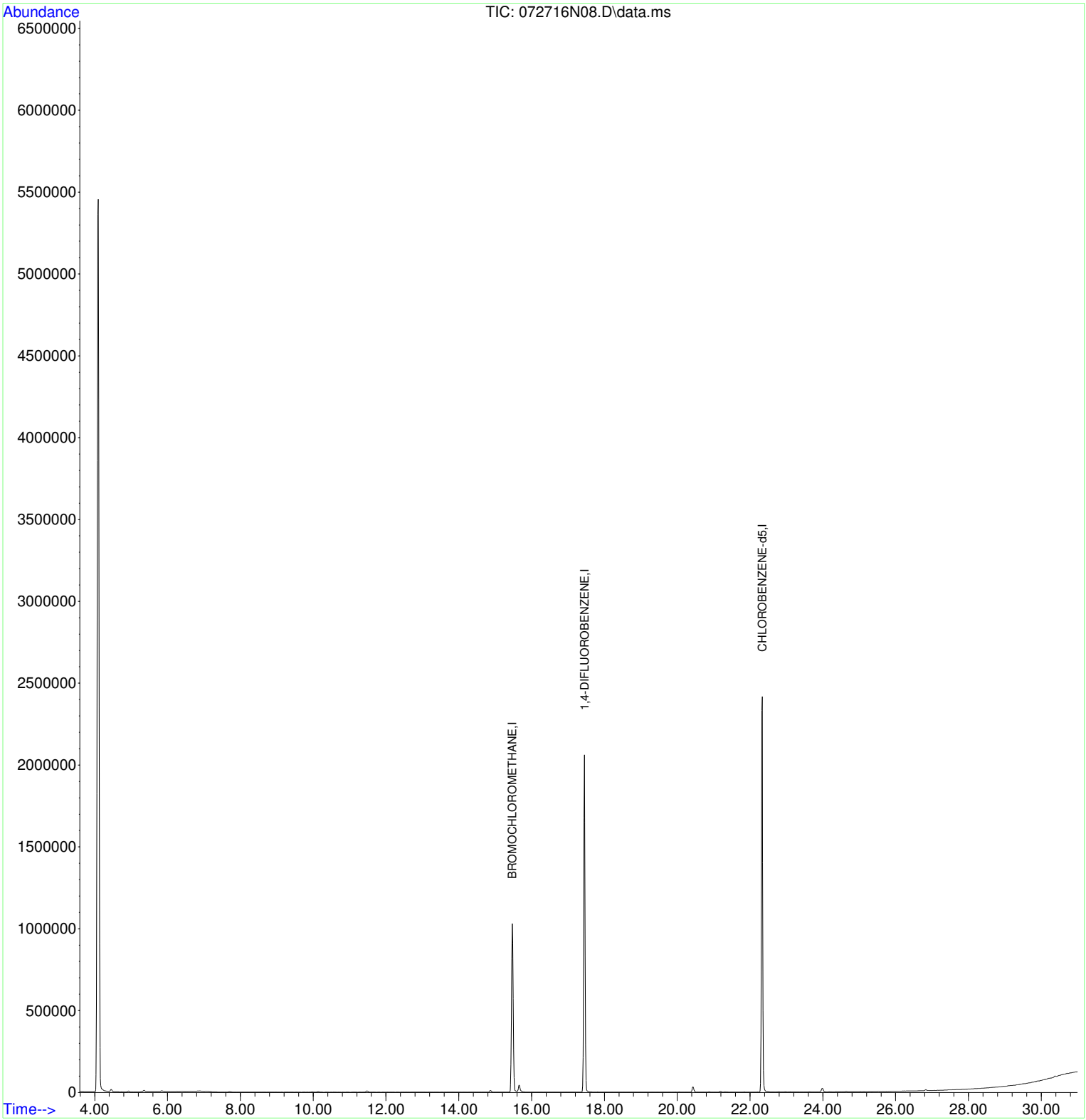
(#) = qualifier out of range (m) = manual integration (+) = signals summed

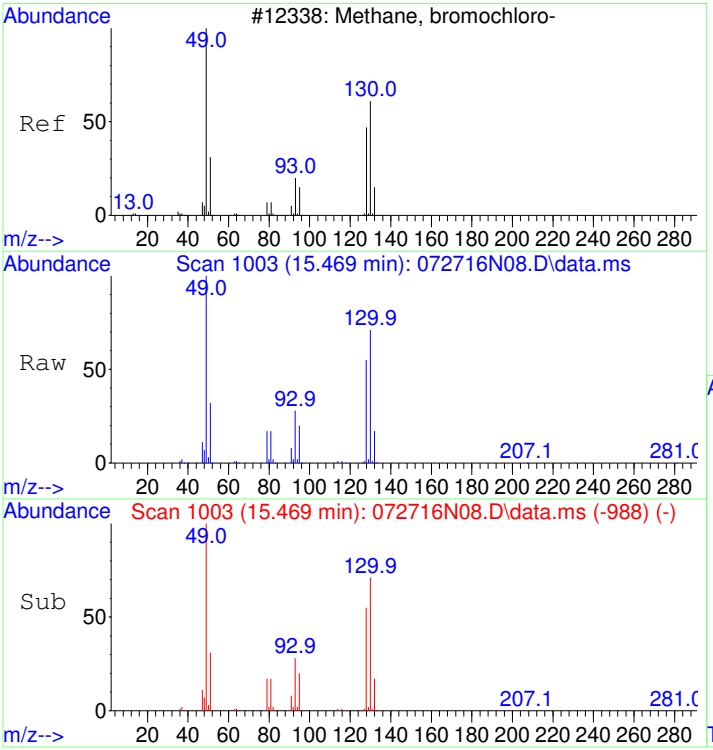
REVIEWED
By LLH at 9:49 am, Jul 28, 2016

Table of Contents

Data Path : C:\msdchem\1\2016\data\072716_FSAA\
Data File : 072716N08.D
Acq On : 27 Jul 2016 4:47 pm
InstName : AG5973N
Operator : LLH
Sample : CAN #1108
Misc : 200ml RECERTIFICATION
ALS Vial : 45 Sample Multiplier: 1

Quant Time: Jul 28 09:35:33 2016
Quant Method : C:\msdchem\1\2016\method\072016N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 21 09:31:48 2016
Response via : Initial Calibration

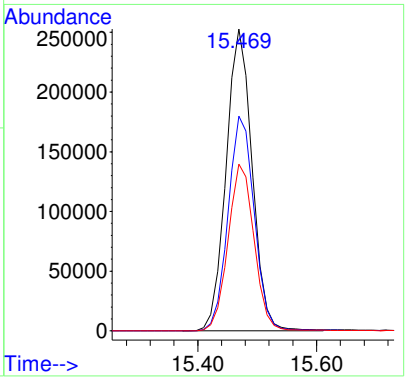


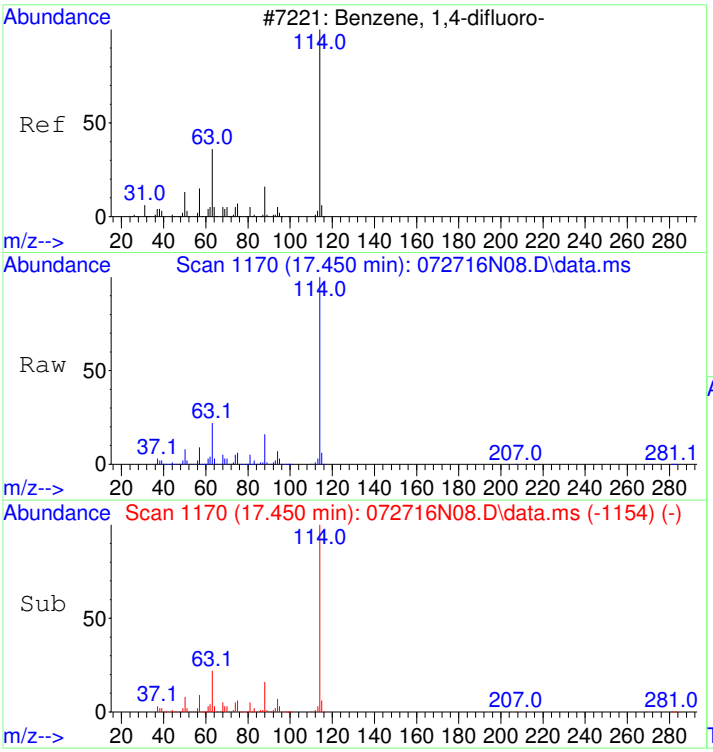


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.469 min Scan# 1003
Delta R.T. 0.000 min
Lab File: 072716N08.D
Acq: 27 Jul 2016 4:47 pm

Tgt Ion: 49 Resp: 770267

Ion	Ratio	Lower	Upper
49	100		
130	71.7	76.6	116.6#
128	55.3	54.3	94.3

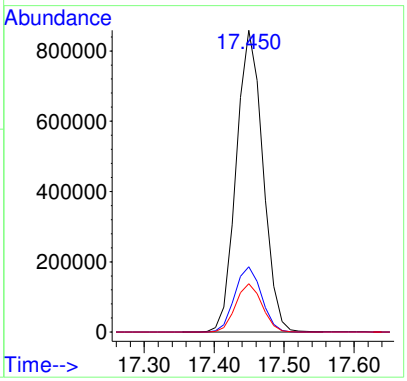


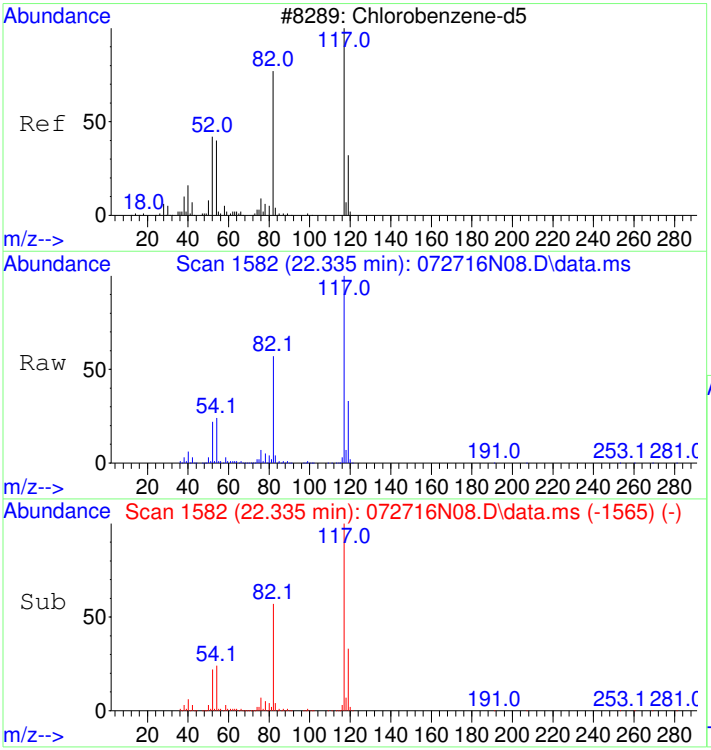


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.450 min Scan# 1170
Delta R.T. 0.000 min
Lab File: 072716N08.D
Acq: 27 Jul 2016 4:47 pm

Tgt Ion:114 Resp: 2264982

Ion	Ratio	Lower	Upper
114	100		
63	21.9	0.0	37.5
88	16.0	0.0	34.7

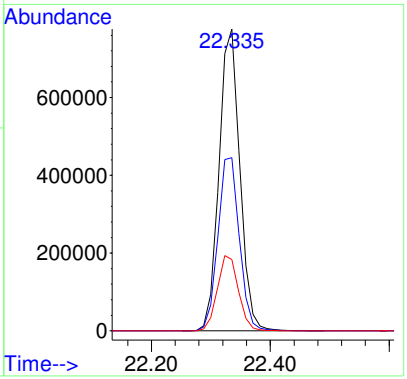




#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.335 min Scan# 1582
Delta R.T. 0.000 min
Lab File: 072716N08.D
Acq: 27 Jul 2016 4:47 pm

Tgt Ion:117 Resp: 1889786

Ion	Ratio	Lower	Upper
117	100		
82	59.3	31.8	71.8
54	25.4	0.0	38.7



1611021-06

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\2016\data\081116_FSAA\
Data File : 081116N09.D
Acq On : 11 Aug 2016 7:21 pm
InstName : AG5973N
Operator : LLH
Sample : CAN #1581
Misc : 200ml RECERTIFICATION
ALS Vial : 38 Sample Multiplier: 1

CLEAN

Quant Time: Aug 12 10:11:51 2016
Quant Method : C:\msdchem\1\2016\method\080416N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Aug 05 09:56:03 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	15.469	49	789835	22.00 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	2085976	19.80 ppbv	0.00
43) CHLOROBENZENE-d5	22.335	117	1727463	20.00 ppbv	0.00

Target Compounds Qvalue

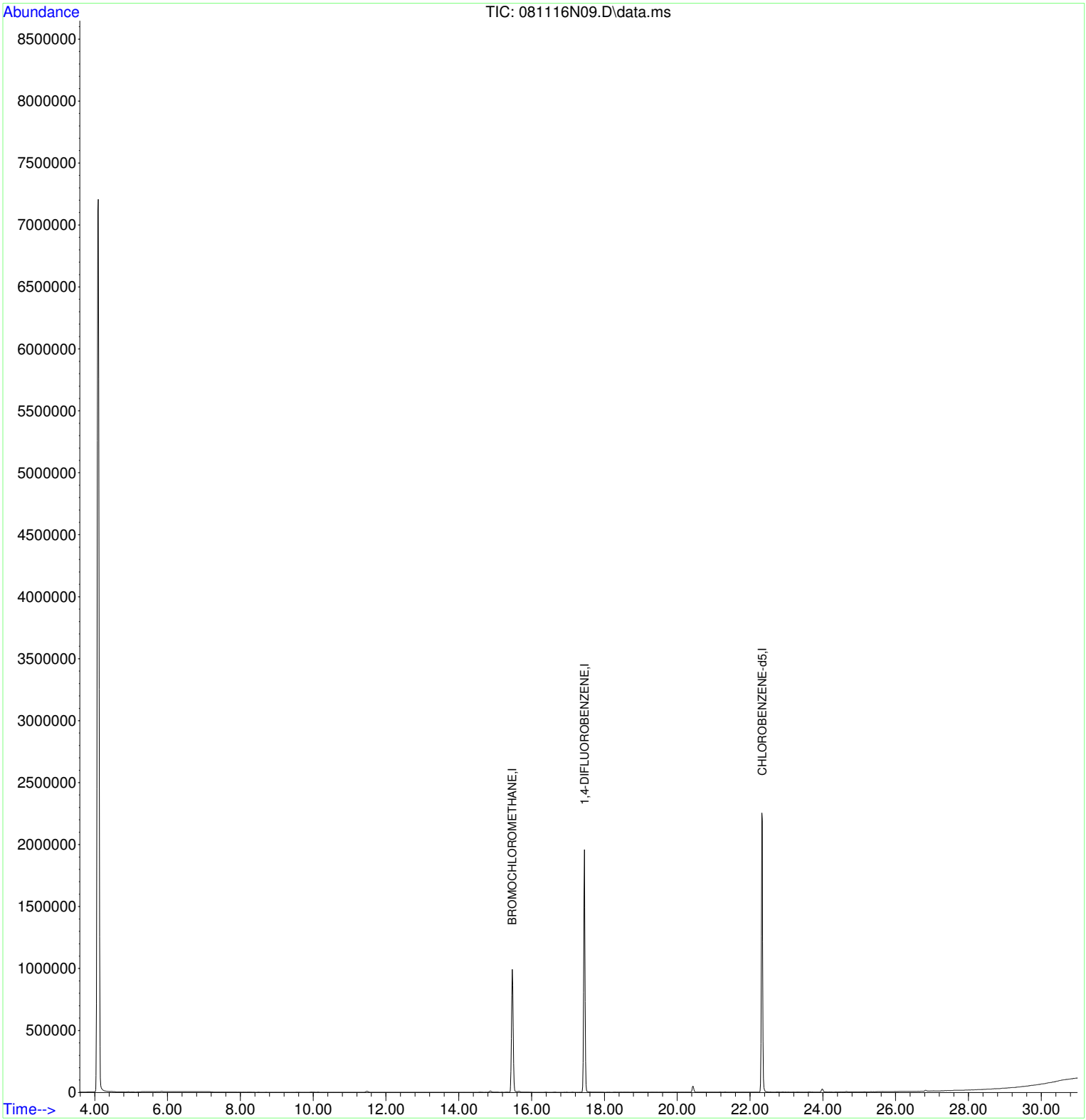
(#) = qualifier out of range (m) = manual integration (+) = signals summed

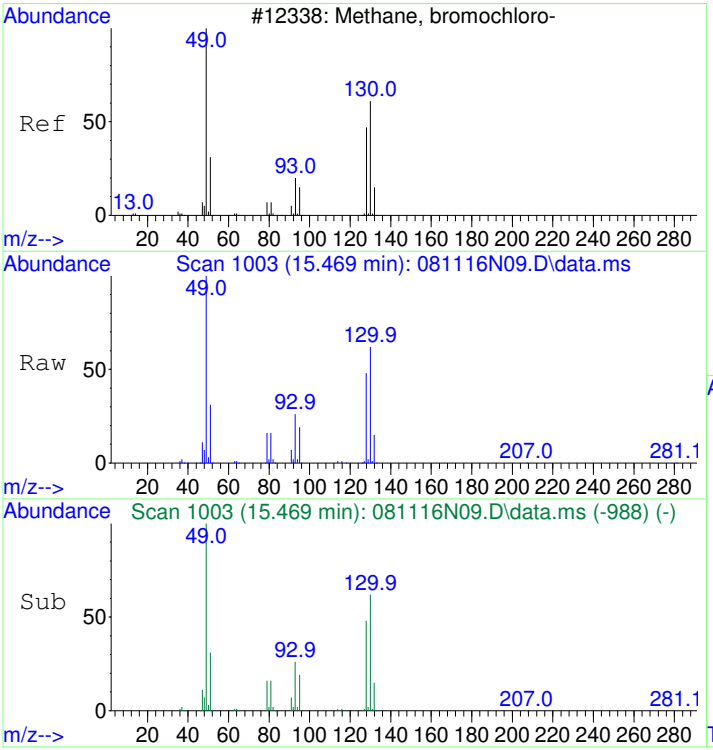
REVIEWED
By LLH at 10:17 am, Aug 12, 2016

Table of Contents

Data Path : C:\msdchem\1\2016\data\081116_FSAA\
Data File : 081116N09.D
Acq On : 11 Aug 2016 7:21 pm
InstName : AG5973N
Operator : LLH
Sample : CAN #1581
Misc : 200ml RECERTIFICATION
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Aug 12 10:11:51 2016
Quant Method : C:\msdchem\1\2016\method\080416N_TO15AA.M
Quant Title : TO15
QLast Update : Fri Aug 05 09:56:03 2016
Response via : Initial Calibration

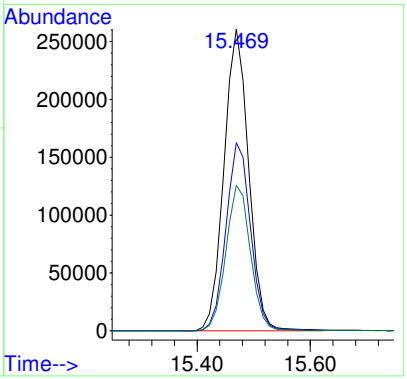


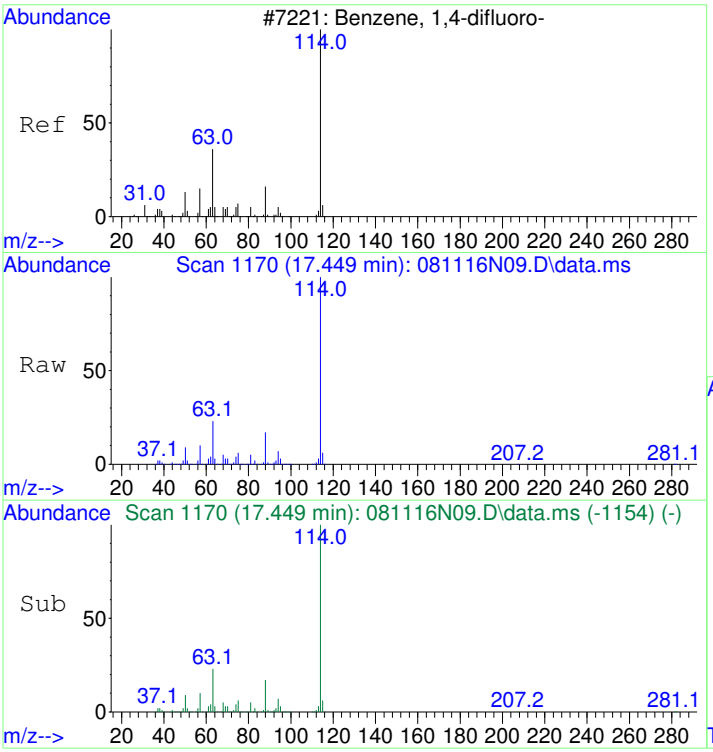


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.469 min Scan# 1003
Delta R.T. 0.000 min
Lab File: 081116N09.D
Acq: 11 Aug 2016 7:21 pm

Tgt Ion: 49 Resp: 789835

Ion	Ratio	Lower	Upper
49	100		
130	62.2	49.3	89.3
128	48.2	33.7	73.7

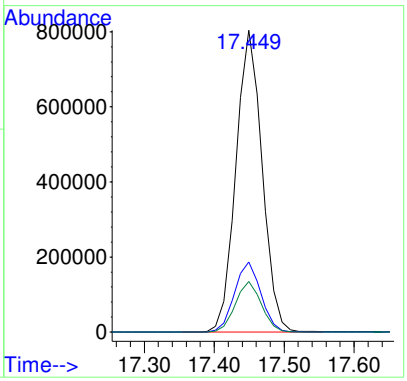


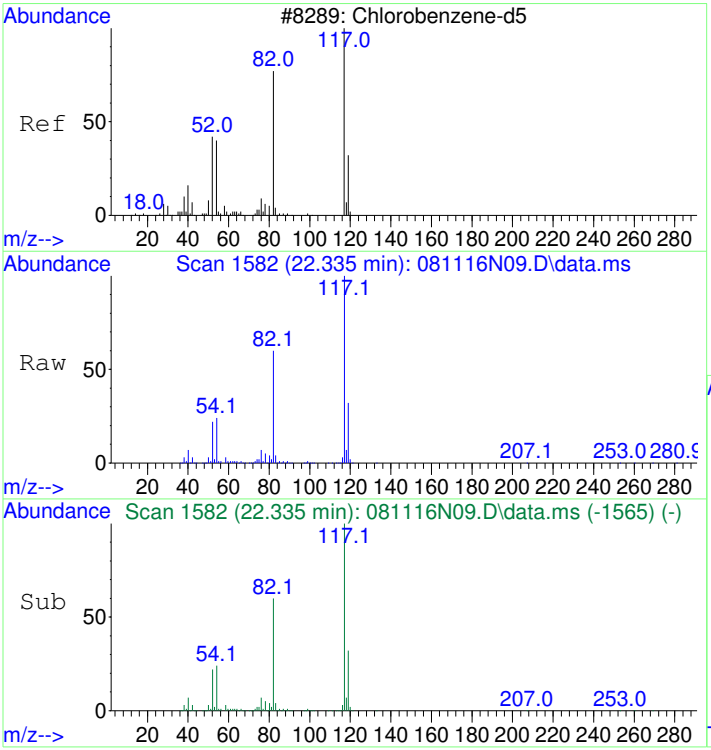


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.449 min Scan# 1170
Delta R.T. -0.000 min
Lab File: 081116N09.D
Acq: 11 Aug 2016 7:21 pm

Tgt Ion:114 Resp: 2085976

Ion	Ratio	Lower	Upper
114	100		
63	23.4	1.5	41.5
88	16.6	0.0	36.3

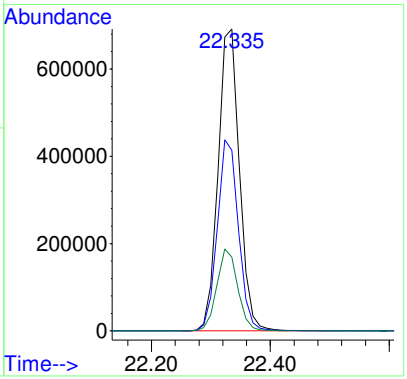




#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.335 min Scan# 1582
Delta R.T. -0.000 min
Lab File: 081116N09.D
Acq: 11 Aug 2016 7:21 pm

Tgt Ion:117 Resp: 1727463

Ion	Ratio	Lower	Upper
117	100		
82	62.6	39.9	79.9
54	26.6	3.7	43.7



1611021-07

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\2016\data\072616_FSAA\
Data File : 072616N13.D
Acq On : 26 Jul 2016 8:18 pm
InstName : AG5973N
Operator : LLH
Sample : CAN #899
Misc : 200ml RECERTIFICATION
ALS Vial : 11 Sample Multiplier: 1

CLEAN

Quant Time: Jul 27 09:18:35 2016
Quant Method : C:\msdchem\1\2016\method\072016N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 21 09:31:48 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	15.469	49	687812	22.00 ppbv	# 0.00
32) 1,4-DIFLUOROBENZENE	17.450	114	2158782	19.80 ppbv	0.00
43) CHLOROBENZENE-d5	22.335	117	1798202	20.00 ppbv	0.00

Target Compounds Qvalue

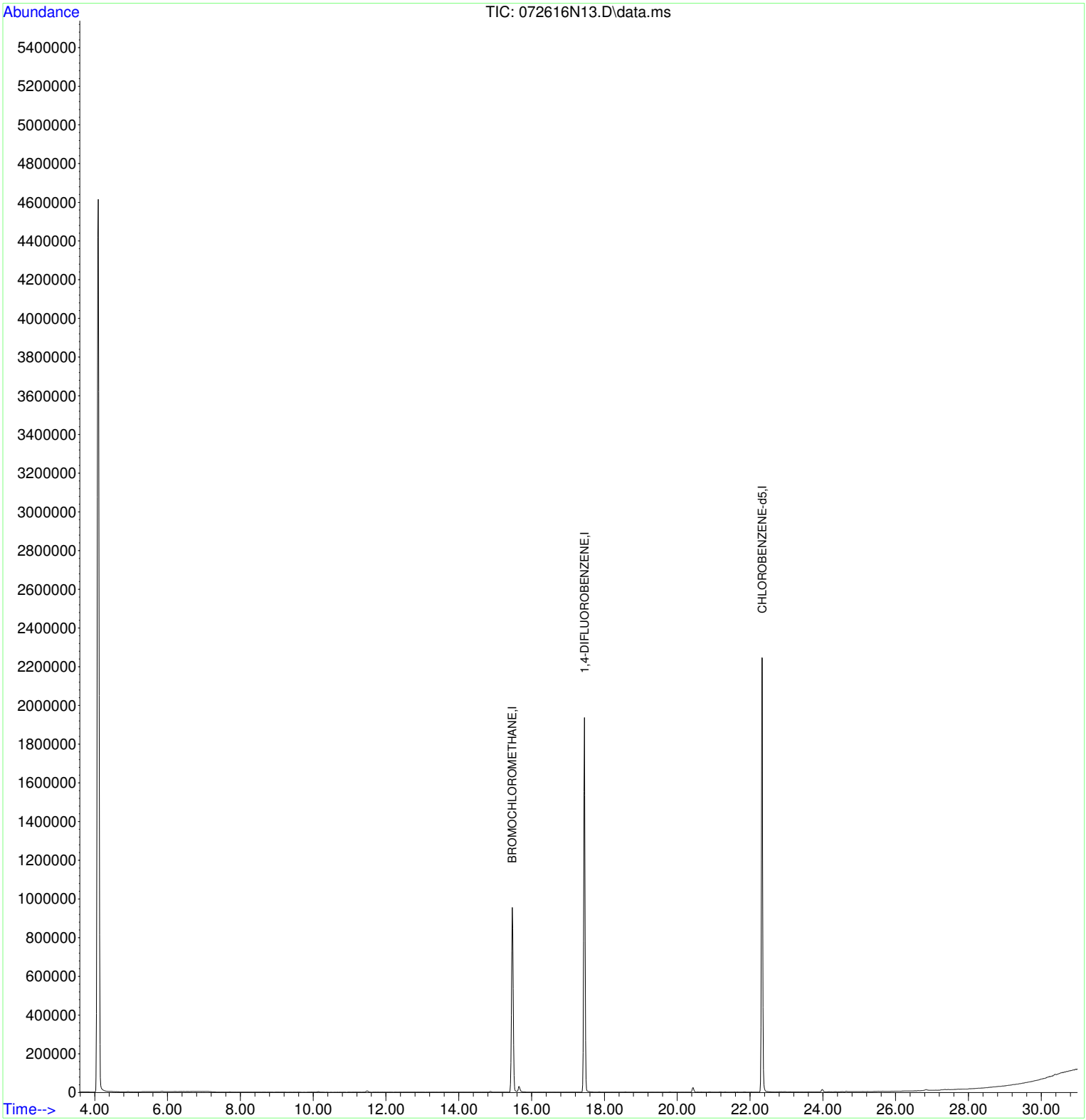
(#) = qualifier out of range (m) = manual integration (+) = signals summed

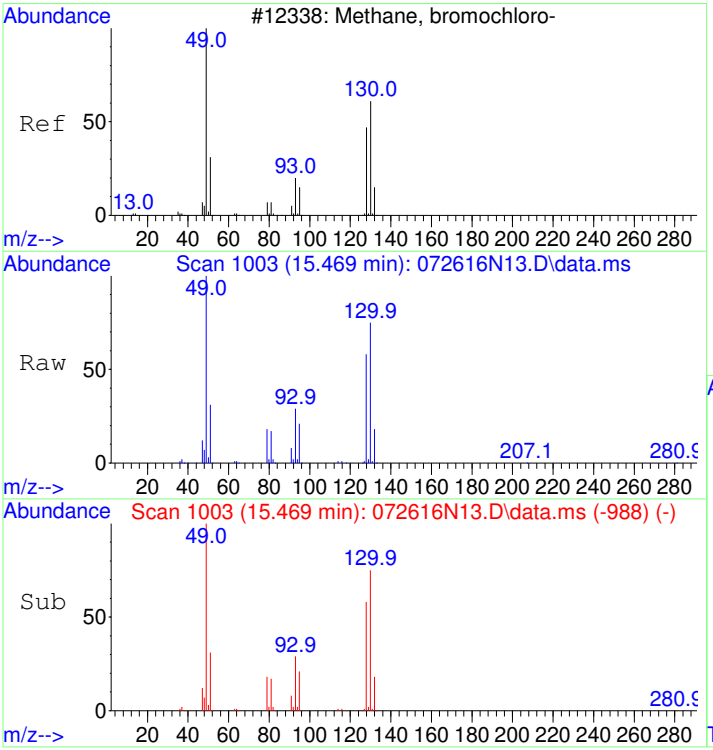
REVIEWED
By LLH at 9:26 am, Jul 27, 2016

Table of Contents

Data Path : C:\msdchem\1\2016\data\072616_FSAA\
Data File : 072616N13.D
Acq On : 26 Jul 2016 8:18 pm
InstName : AG5973N
Operator : LLH
Sample : CAN #899
Misc : 200ml RECERTIFICATION
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 27 09:18:35 2016
Quant Method : C:\msdchem\1\2016\method\072016N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 21 09:31:48 2016
Response via : Initial Calibration

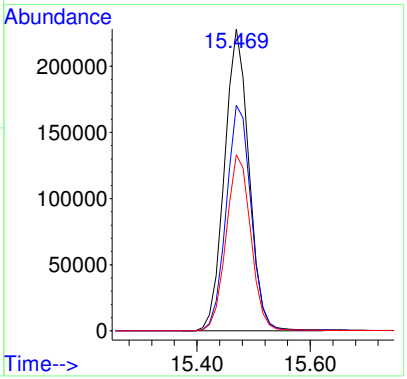


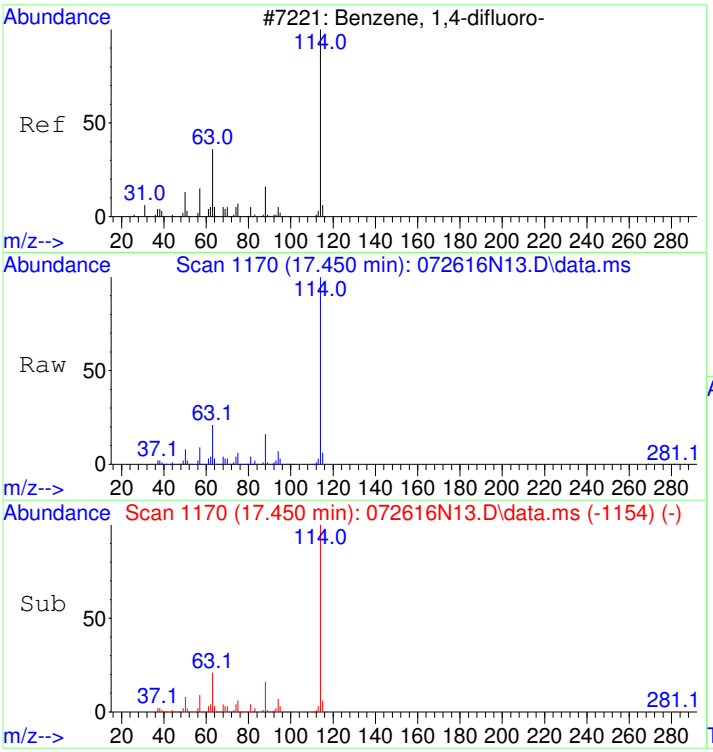


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.469 min Scan# 1003
Delta R.T. 0.000 min
Lab File: 072616N13.D
Acq: 26 Jul 2016 8:18 pm

Tgt Ion: 49 Resp: 687812

Ion	Ratio	Lower	Upper
49	100		
130	75.9	76.6	116.6#
128	58.8	54.3	94.3

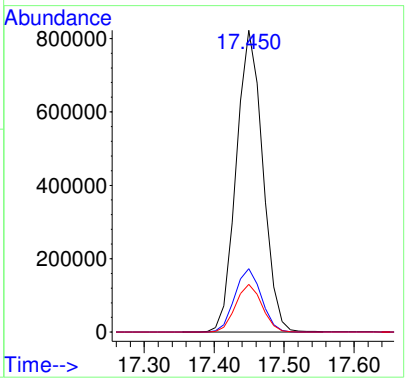


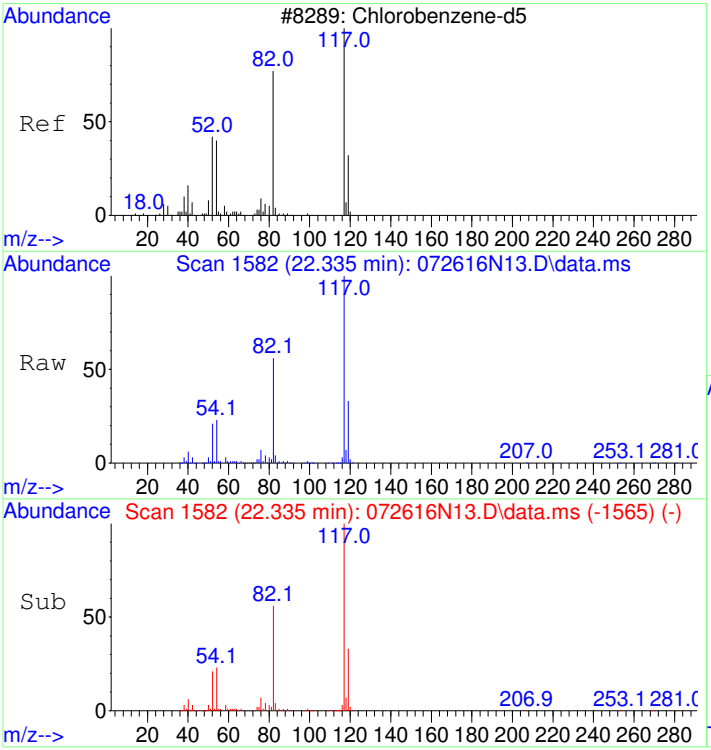


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.450 min Scan# 1170
Delta R.T. 0.000 min
Lab File: 072616N13.D
Acq: 26 Jul 2016 8:18 pm

Tgt Ion:114 Resp: 2158782

Ion	Ratio	Lower	Upper
114	100		
63	21.1	0.0	37.5
88	15.8	0.0	34.7

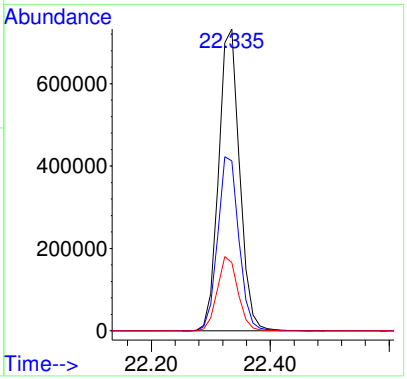




#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.335 min Scan# 1582
Delta R.T. 0.000 min
Lab File: 072616N13.D
Acq: 26 Jul 2016 8:18 pm

Tgt Ion:117 Resp: 1798202

Ion	Ratio	Lower	Upper
117	100		
82	58.4	31.8	71.8
54	24.3	0.0	38.7



1611021-08

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\2016\data\072616_FSAA\
Data File : 072616N11.D
Acq On : 26 Jul 2016 6:40 pm
InstName : AG5973N
Operator : LLH
Sample : CAN #889
Misc : 200ml RECERTIFICATION
ALS Vial : 39 Sample Multiplier: 1

CLEAN

Quant Time: Jul 27 09:18:13 2016
Quant Method : C:\msdchem\1\2016\method\072016N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 21 09:31:48 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	15.469	49	678519	22.00 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	2152717	19.80 ppbv	0.00
43) CHLOROBENZENE-d5	22.335	117	1787656	20.00 ppbv	0.00

Target Compounds Qvalue

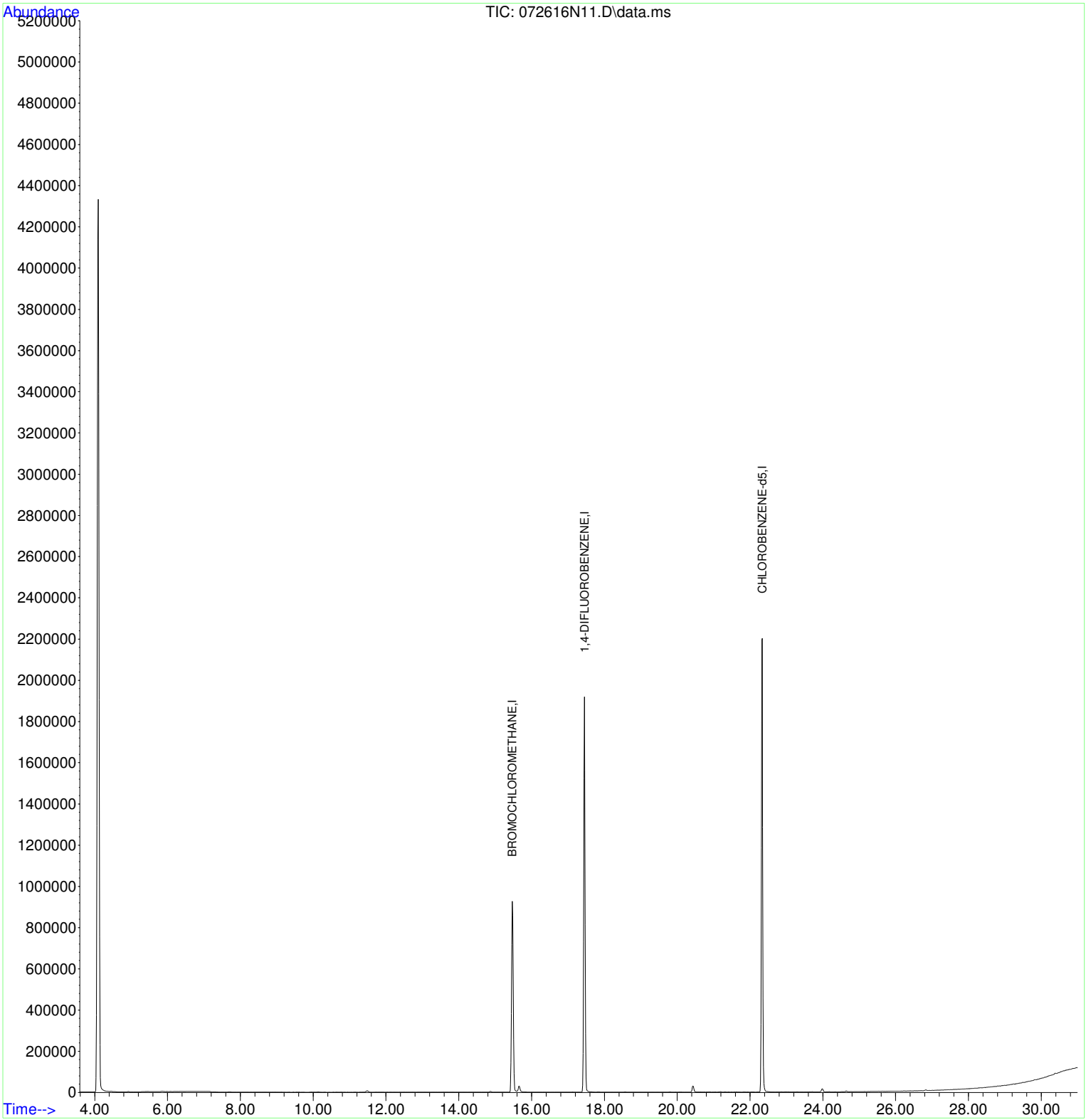
(#) = qualifier out of range (m) = manual integration (+) = signals summed

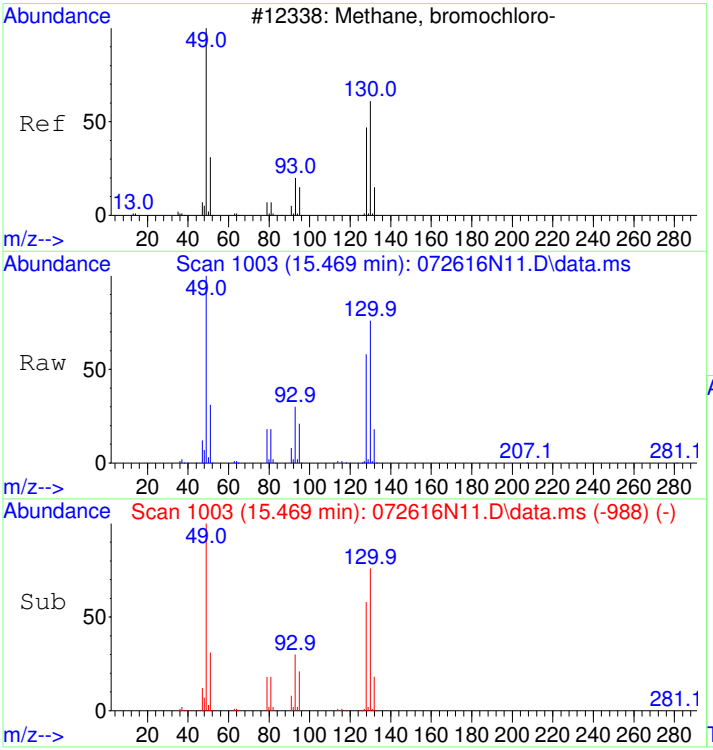
REVIEWED
By LLH at 9:26 am, Jul 27, 2016

Table of Contents

Data Path : C:\msdchem\1\2016\data\072616_FSAA\
Data File : 072616N11.D
Acq On : 26 Jul 2016 6:40 pm
InstName : AG5973N
Operator : LLH
Sample : CAN #889
Misc : 200ml RECERTIFICATION
ALS Vial : 39 Sample Multiplier: 1

Quant Time: Jul 27 09:18:13 2016
Quant Method : C:\msdchem\1\2016\method\072016N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 21 09:31:48 2016
Response via : Initial Calibration

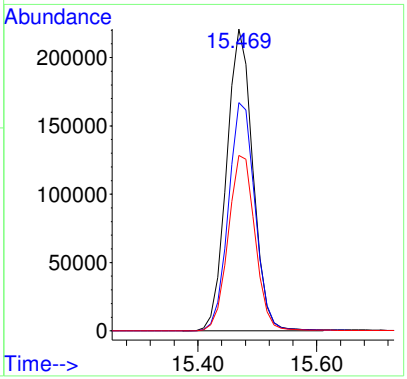


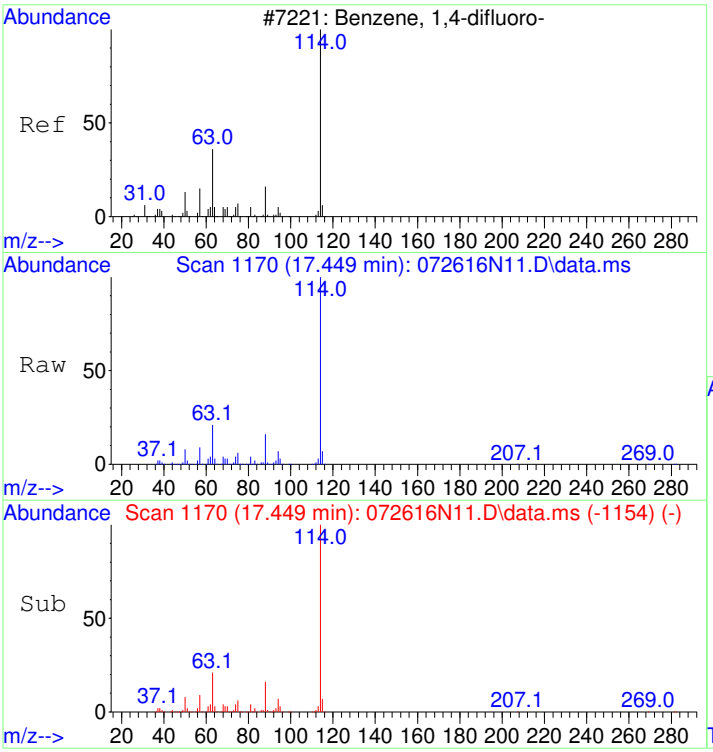


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.469 min Scan# 1003
Delta R.T. -0.000 min
Lab File: 072616N11.D
Acq: 26 Jul 2016 6:40 pm

Tgt Ion: 49 Resp: 678519

Ion	Ratio	Lower	Upper
49	100		
130	76.7	76.6	116.6
128	59.3	54.3	94.3

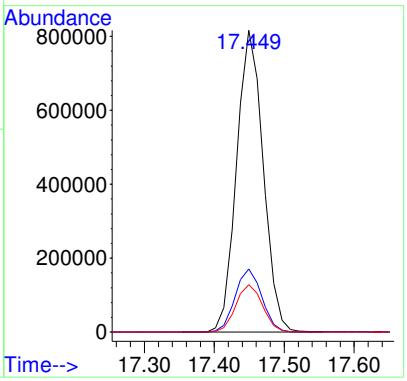


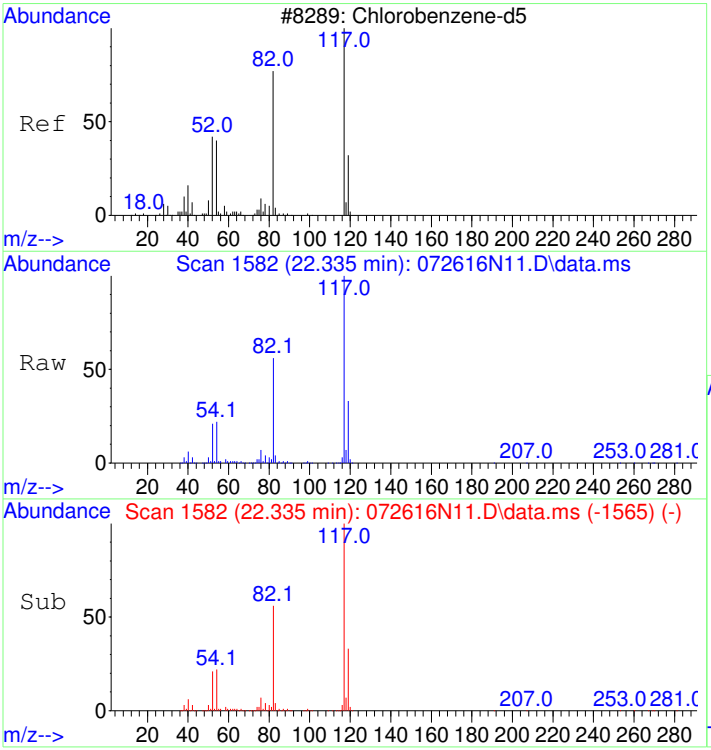


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.449 min Scan# 1170
Delta R.T. -0.000 min
Lab File: 072616N11.D
Acq: 26 Jul 2016 6:40 pm

Tgt Ion:114 Resp: 2152717

Ion	Ratio	Lower	Upper
114	100		
63	21.0	0.0	37.5
88	15.8	0.0	34.7

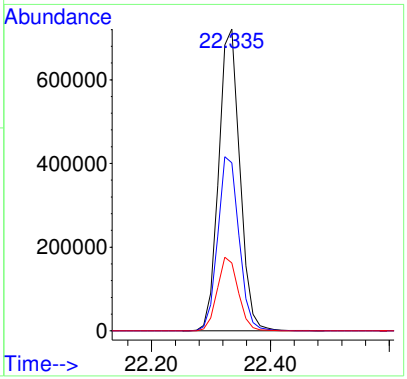




#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.335 min Scan# 1582
Delta R.T. -0.000 min
Lab File: 072616N11.D
Acq: 26 Jul 2016 6:40 pm

Tgt Ion:117 Resp: 1787656

Ion	Ratio	Lower	Upper
117	100		
82	58.1	31.8	71.8
54	24.3	0.0	38.7



1611021-09

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\2016\data\072716_FSAA\
Data File : 072716N05.D
Acq On : 27 Jul 2016 12:54 pm
InstName : AG5973N
Operator : LLH
Sample : CAN #876
Misc : 200ml RECERTIFICATION
ALS Vial : 42 Sample Multiplier: 1

CLEAN

Quant Time: Jul 27 13:49:15 2016
Quant Method : C:\msdchem\1\2016\method\072016N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 21 09:31:48 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	15.469	49	771098	22.00 ppbv	# 0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	2339664	19.80 ppbv	0.00
43) CHLOROBENZENE-d5	22.335	117	1893437	20.00 ppbv	0.00

Target Compounds	Qvalue

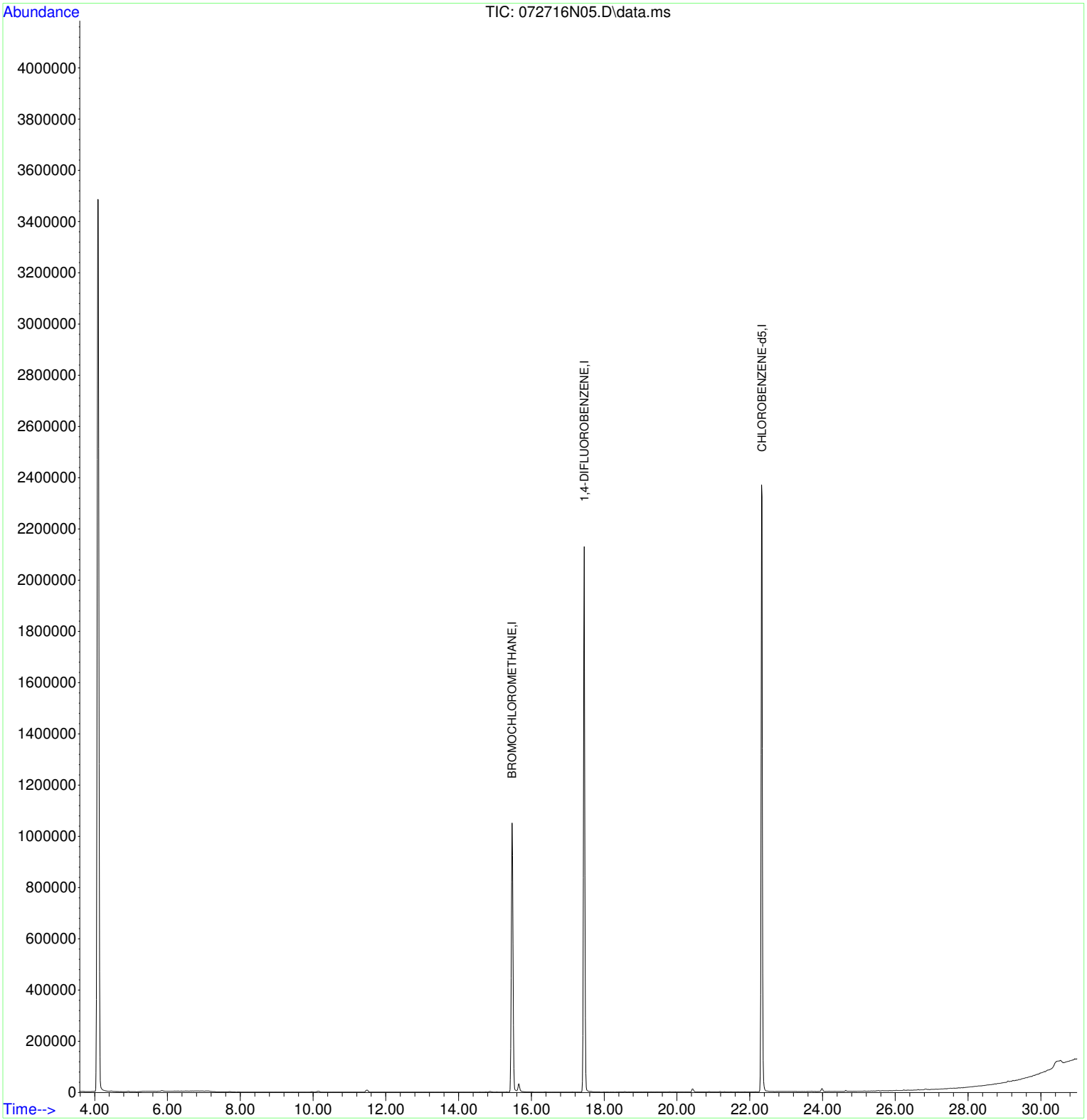
(#) = qualifier out of range (m) = manual integration (+) = signals summed

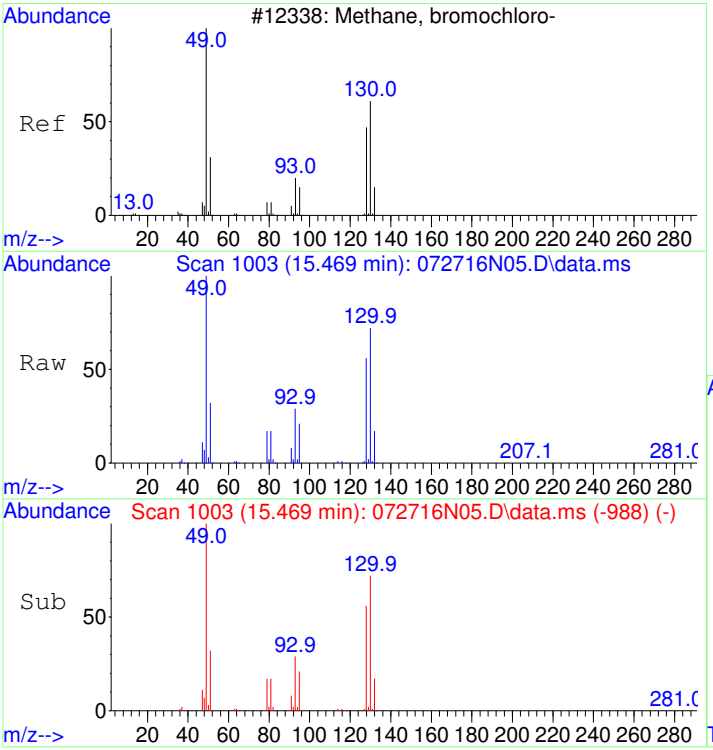
REVIEWED
By LLH at 9:48 am, Jul 28, 2016

Table of Contents

Data Path : C:\msdchem\1\2016\data\072716_FSAA\
Data File : 072716N05.D
Acq On : 27 Jul 2016 12:54 pm
InstName : AG5973N
Operator : LLH
Sample : CAN #876
Misc : 200ml RECERTIFICATION
ALS Vial : 42 Sample Multiplier: 1

Quant Time: Jul 27 13:49:15 2016
Quant Method : C:\msdchem\1\2016\method\072016N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 21 09:31:48 2016
Response via : Initial Calibration

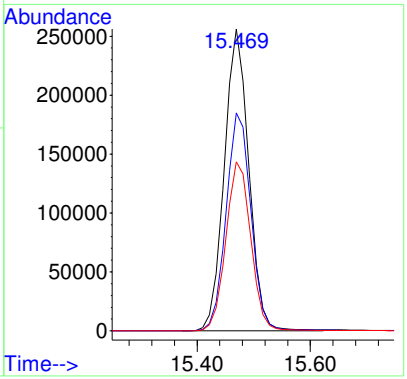


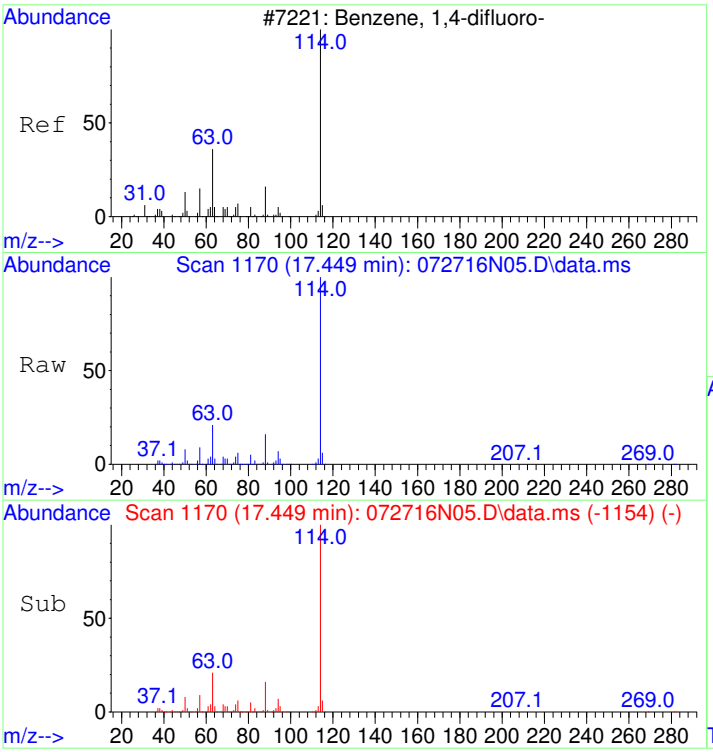


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.469 min Scan# 1003
Delta R.T. 0.000 min
Lab File: 072716N05.D
Acq: 27 Jul 2016 12:54 pm

Tgt Ion: 49 Resp: 771098

Ion	Ratio	Lower	Upper
49	100		
130	73.2	76.6	116.6#
128	56.9	54.3	94.3

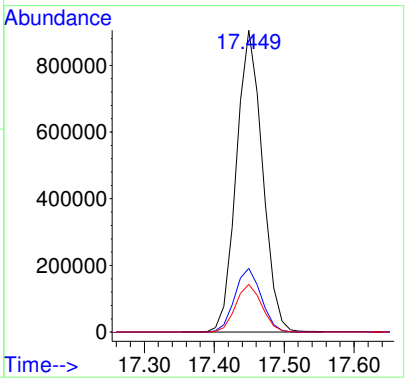


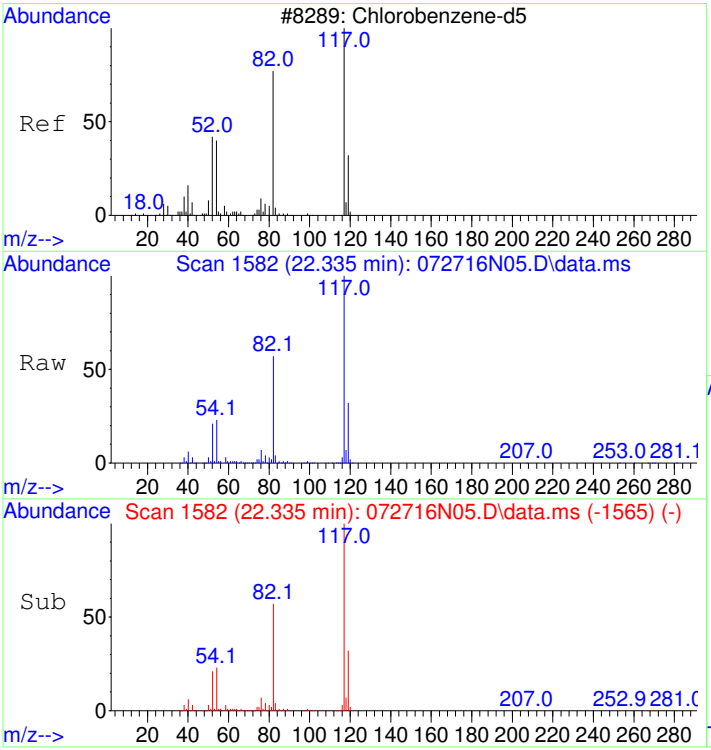


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.449 min Scan# 1170
Delta R.T. -0.000 min
Lab File: 072716N05.D
Acq: 27 Jul 2016 12:54 pm

Tgt Ion:114 Resp: 2339664

Ion	Ratio	Lower	Upper
114	100		
63	21.5	0.0	37.5
88	15.9	0.0	34.7

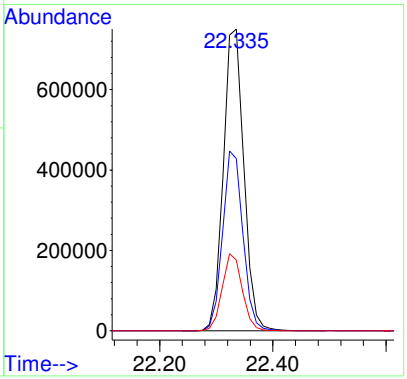




#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.335 min Scan# 1582
Delta R.T. -0.000 min
Lab File: 072716N05.D
Acq: 27 Jul 2016 12:54 pm

Tgt Ion:117 Resp: 1893437

Ion	Ratio	Lower	Upper
117	100		
82	58.9	31.8	71.8
54	25.0	0.0	38.7



1611021-10

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\2016\data\072716_FSAA\
Data File : 072716N09.D
Acq On : 27 Jul 2016 5:36 pm
InstName : AG5973N
Operator : LLH
Sample : CAN #1091
Misc : 200ml RECERTIFICATION
ALS Vial : 46 Sample Multiplier: 1

CLEAN

Quant Time: Jul 28 09:35:43 2016
Quant Method : C:\msdchem\1\2016\method\072016N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 21 09:31:48 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	15.469	49	779493	22.00 ppbv	# 0.00
32) 1,4-DIFLUOROBENZENE	17.450	114	2262022	19.80 ppbv	0.00
43) CHLOROBENZENE-d5	22.335	117	1882910	20.00 ppbv	0.00

Target Compounds Qvalue

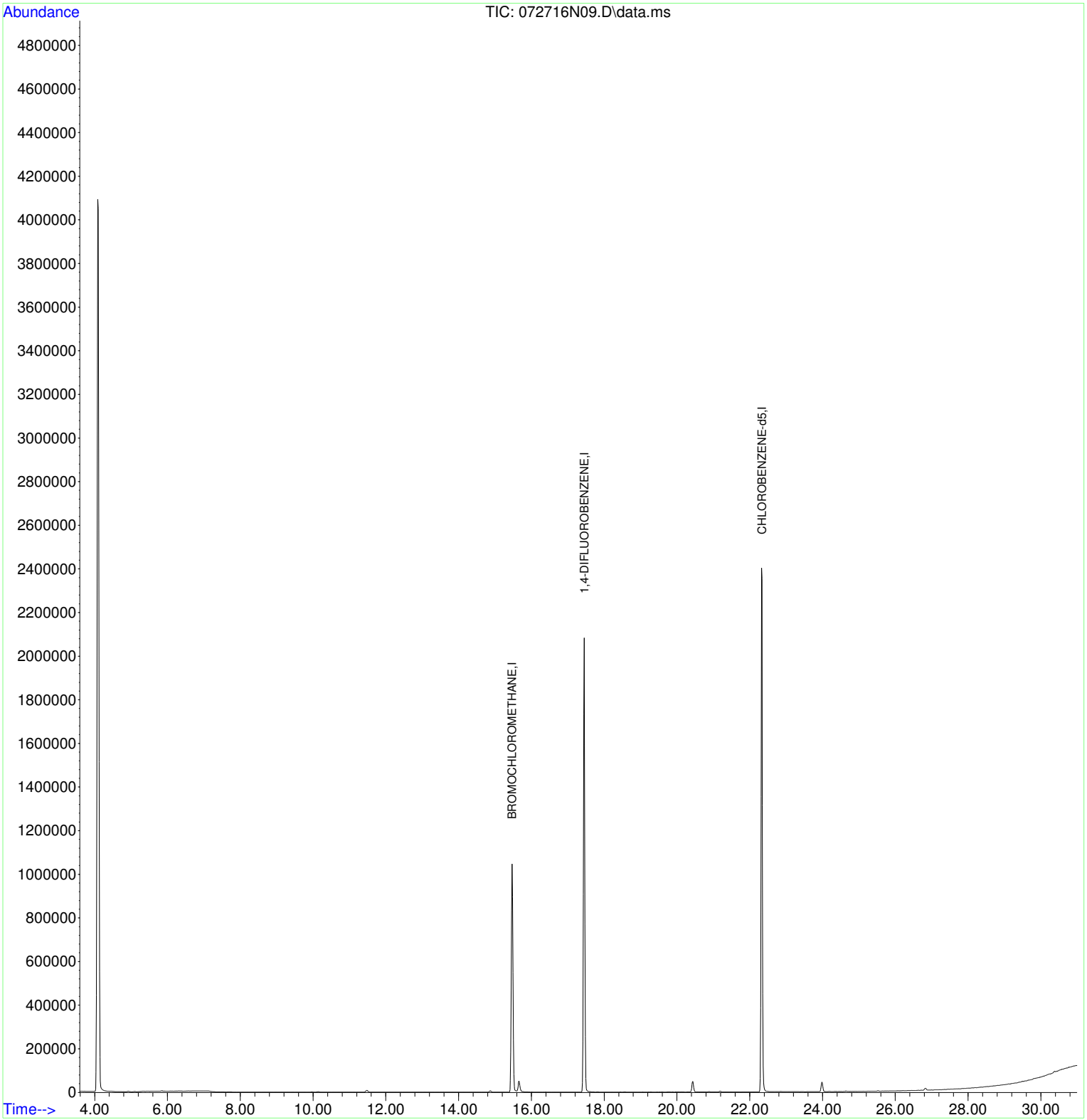
(#) = qualifier out of range (m) = manual integration (+) = signals summed

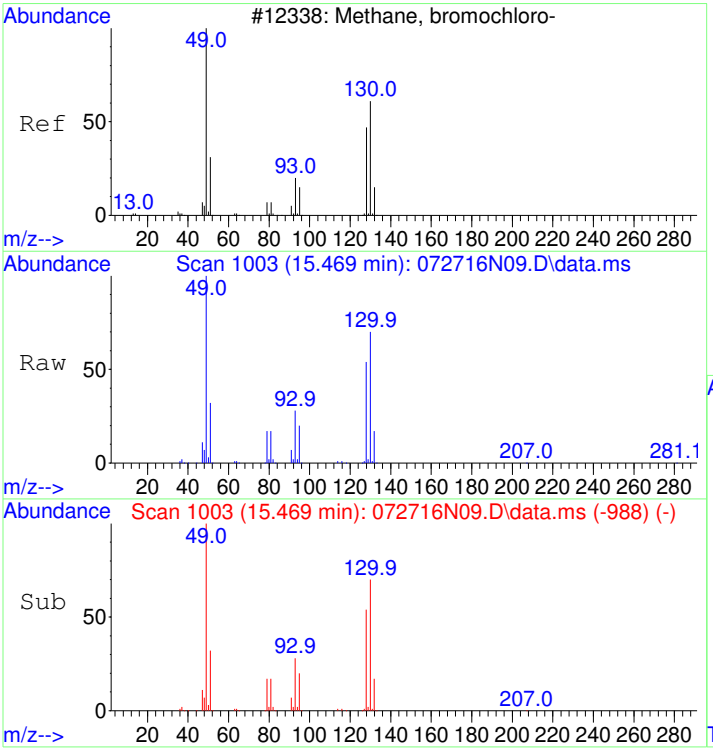
REVIEWED
By LLH at 9:49 am, Jul 28, 2016

Table of Contents

Data Path : C:\msdchem\1\2016\data\072716_FSAA\
Data File : 072716N09.D
Acq On : 27 Jul 2016 5:36 pm
InstName : AG5973N
Operator : LLH
Sample : CAN #1091
Misc : 200ml RECERTIFICATION
ALS Vial : 46 Sample Multiplier: 1

Quant Time: Jul 28 09:35:43 2016
Quant Method : C:\msdchem\1\2016\method\072016N_TO15AA.M
Quant Title : TO15
QLast Update : Thu Jul 21 09:31:48 2016
Response via : Initial Calibration

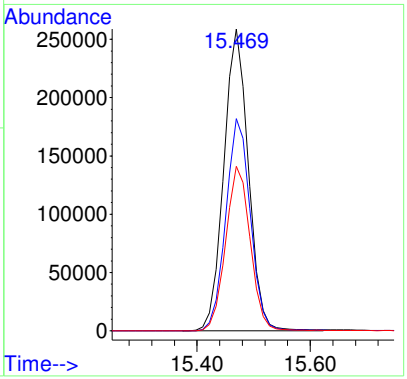


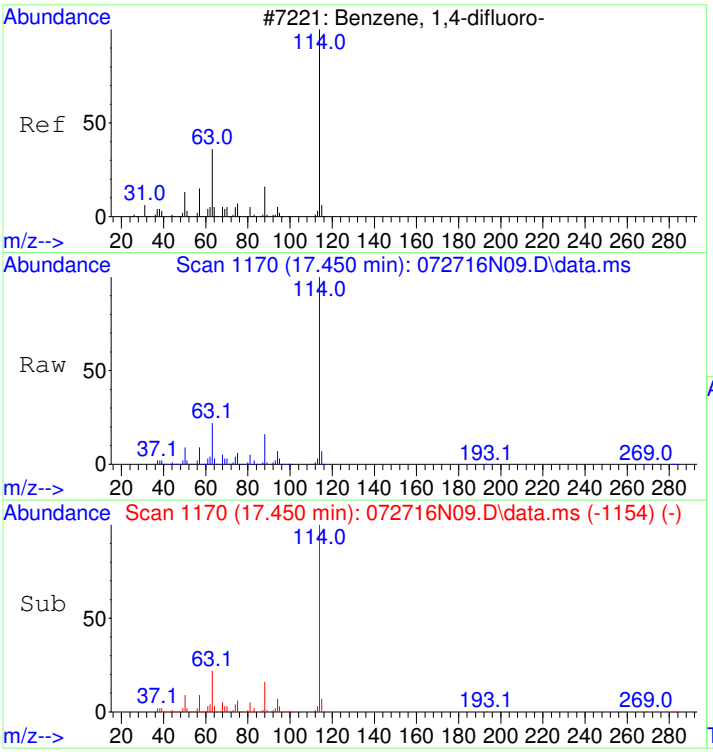


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.469 min Scan# 1003
Delta R.T. 0.000 min
Lab File: 072716N09.D
Acq: 27 Jul 2016 5:36 pm

Tgt Ion: 49 Resp: 779493

Ion	Ratio	Lower	Upper
49	100		
130	70.4	76.6	116.6#
128	54.5	54.3	94.3

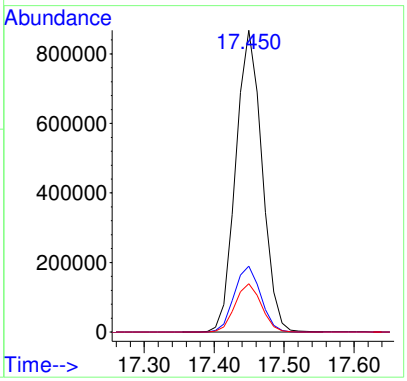


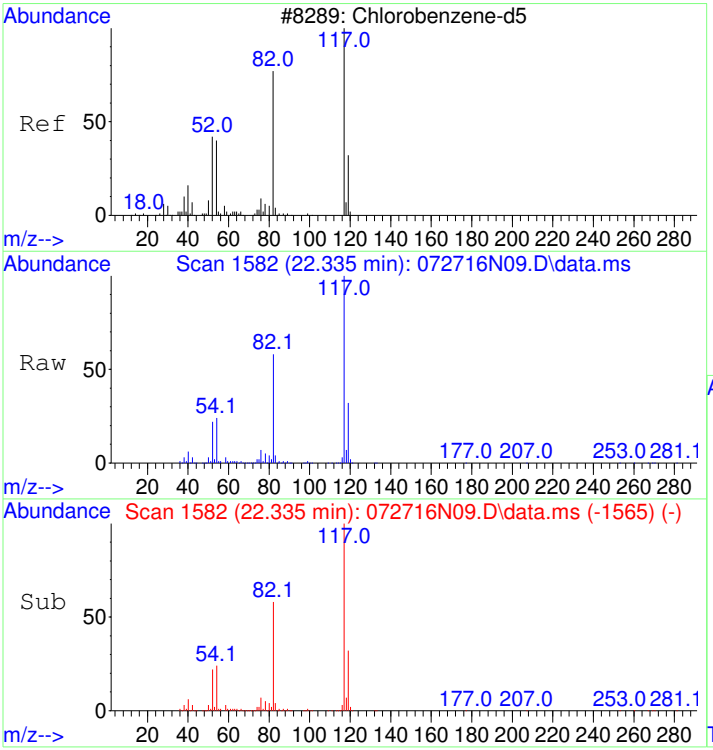


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.450 min Scan# 1170
Delta R.T. 0.000 min
Lab File: 072716N09.D
Acq: 27 Jul 2016 5:36 pm

Tgt Ion:114 Resp: 2262022

Ion	Ratio	Lower	Upper
114	100		
63	22.1	0.0	37.5
88	16.1	0.0	34.7

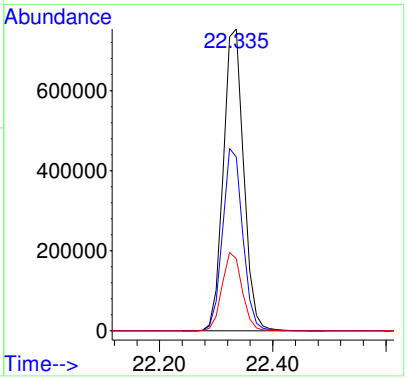




#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.335 min Scan# 1582
Delta R.T. 0.000 min
Lab File: 072716N09.D
Acq: 27 Jul 2016 5:36 pm

Tgt Ion:117 Resp: 1882910

Ion	Ratio	Lower	Upper
117	100		
82	59.8	31.8	71.8
54	25.7	0.0	38.7



ISO 9001:2008 99% Linde **SPECTRA** Environmental Gases, 80 Industrial Drive, Alpha, NJ 08865

THE LINDE GROUP

1511076

BPB AU07703

Linde

11-3/16/15

SHIPPED TO: GSS Warehouse
12351 Sunrise Valley Drive
Reston, VA 20191

PAGE: 1 of 1

CERTIFICATE OF ANALYSIS

Sales#:	112553824	**Cylinder Size:**	6A (3.2" X 9.4")
Production#:	1328433	**Cylinder # :**	AB-102585
Certification Date:	Feb-25-2015	**Cylinder Pressure:**	1700 psig
P.O.# :	99634-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:	Feb-25-2016	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative
Part Number:	34424	**NIST Traceable Certificate#:**	14-49683

COMPONENT	CAS NUMBER	REQUESTED CONC	CERTIFIED CONC
4-Bromofluorobenzene	460-00-4	100 ppb	92 ppb
Nitrogen	7727-37-9	Balance	Balance

ANALYST: Matthew Jackson

DATE: Feb-25-2015

Linde Gas North America LLC

(908) 329-9700 Main (908) 329-9740 Fax
www.Lindeus.com

Analytical Standard Record

EPA Region 9 Laboratory

1511076

Description:	TO/14A GC/MS Tuning Mix, Stock 1	**Expires:**	02/25/17
Standard Type:	Other Solution	**Prepared:**	02/25/15
Solvent:	Nitrogen	**Prepared By:**	** Vendor **
Final Volume (mls):	104000	**Department:**	Air
Vials:	1	**Last Edit:**	03/04/16 12:11 by LLH
Vendor:	Linde Spectra	**Lot Numb**	1328433

Part #34424 Bar Code# AU007003 Cylinder # AB-102585
Do not use under 150psig.
Recertified on 02/24/26 and expiration date has been extended to 02/25/17 from the original of 02/15/16. LLH 03/04/16

Analyte	CAS Number	Concentration (ppm)
4-Bromofluorobenzene	460-00-4	0.092

APPENDIX C.
DOCUMENTATION OF EXTENDED USE

	LIMS ID	Manu. Expiration Date	Reagent LIMS ID
Material, Expired	1511076	02/25/16	
Analysis: TOLS	SOP # 311	Rev. 3	

Analysis Date: 02/24/16	Instrument:	765973M	Analyst:
Criteria: ± 15% D			

Analyte	Ave Response, Expired	Comparison (explain in criteria section)	Fail criteria?
4-bromofluorobenzene	7659370/92	9372240/106	N
File ID (1)	022416M06	022416M02	
File ID (2)			
File ID (3)			

Notes: BFB = $\frac{7659370/92}{9372240/106} \times 100$ = 94%

Approval Signatures	Approve (Y/N)	Signature	Print Name
Group Leader/Supervisor	Y		Ziyad Rajabi
Technical Director	Y		R. Ramos
Lab QAO	Y		L. JONES
		LAB QAO Signature Date	3/1/16

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.

APPENDIX A.
DOCUMENTATION OF RECERTIFICATION – CALIBRATION STANDARD

	LIMS ID	Manu. Expiration Date	Dilution LIMS ID
Standard, Expired	1511076	02/25/16	
Standard, Verification	1447615	10/23/16	

Analysis: 8015	SOP # 311, Rev. 3	SCV Criteria %R or %D	±15%
Analysis Date: 02/24/16	Instrument: AG5973M	Analyst: LLH	

Analyte	Ave Response, Expired	Ave. Response, Verification	%R or %D	Fail criteria?
4-Bromofluorobenzene	7459370/92	9372240/106	94%	N
File ID (1)	022416M06	022416M02	----------	----------
File ID (2)			----------	----------
File ID (3)			----------	----------

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Approval Signatures	Approve (Y/N)	Print Name	Signature	Date
Group Leader/Supervisor	Y	Ziyad Rajabi		02-26-16
Technical Director	Y	R. Bawol		3/3/16
Lab QAO	Y	LUCRINA JONES		3/1/16

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.

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Library Search Compound Report

Data Path : C:\msdchem\1\2016\data\022416M_SIMAA\
Data File : 022416M02.D
Acq On : 24 Feb 2016 11:25 am
Operator : LLH
Sample : BFB 1447045
Misc : BFB 1447045 VERIFICATION
ALS Vial : 1 Sample Multiplier: 1

Quant Method : C:\msdchem\1\2016\method\021616M_BFB.M
Quant Title : TO15

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 1 Benzene, 1-bromo-3-fluoro- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
24.079	1457.68 ppbv	9372240	CHLOROBENZENE-d5	22.221

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-3-fluoro-	174	C6H4BrF	001073-06-9	95
3	p-Bromofluorobenzene	174	C6H4BrF	000460-00-4	94
4	Benzene, 1-bromo-2-fluoro-	174	C6H4BrF	001072-85-1	94
5	p-Bromofluorobenzene	174	C6H4BrF	000460-00-4	93

Analytical Standard Record

EPA Region 9 Laboratory

1447045

Description:	TO/14A GC/MS Tuning Mix, Stock 1	**Expires:**	10/23/16
Standard Type:	Other Solution	**Prepared:**	10/23/14
Solvent:	Nitrogen	**Prepared By:**	Liza Hernandez
Final Volume (mls):	104000	**Department:**	Air
Vials:	1	**Last Edit:**	11/09/15 14:22 by LLH
Vendor:	Linde Spectra	**Lot Numb**	1316153

Part #34424 Bar Code# AU006671 Cylinder # AB-102938 Do not use under 150psig.
Recertified standard on 10/19/15 and the expiration date was adjusted from 10/23/15 to 10/23/16. LLH 11/09/15

Analyte	CAS Number	Concentration (ppm)
4-Bromofluorobenzene	460-00-4	0.106

Library Search Compound Report

Data Path : C:\msdchem\1\2016\data\022416M_SIMAA\
Data File : 022416M06.D
Acq On : 24 Feb 2016 2:44 pm
Operator : LLH
Sample : BFB 1511076
Misc : BFB 1511076 RECERTIFICATION
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\msdchem\1\2016\method\021616M_BFB.M
Quant Title : TO15

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

****
Peak Number 1 Benzene, 1-bromo-3-fluoro- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
24.079	1163.63 ppbv	7659370	CHLOROBENZENE-d5	22.221

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	94
3	p-Bromofluorobenzene	174	C6H4BrF	000460-00-4	94
4	Benzene, 1-bromo-2-fluoro-	174	C6H4BrF	001072-85-1	94
5	Benzene, 1-bromo-3-fluoro-	174	C6H4BrF	001073-06-9	93

Analytical Standard Record

EPA Region 9 Laboratory

1511076

Description:	TO/14A GC/MS Tuning Mix, Stock 100pp	**Expires:**	02/25/16
Standard Type:	Other Solution	**Prepared:**	02/25/15
Solvent:	Nitrogen	**Prepared By:**	** Vendor **
Final Volume (mls):	104000	**Department:**	Air
Vials:	1	**Last Edit:**	03/10/15 14:19 by LLH
Vendor:	Linde Spectra	**Lot Numbe**	1328433

Part #34424 Bar Code# AU007003 Cylinder # AB-102585
Do not use under 150psig.

Analyte	CAS Number	Concentration (ppm)
4-Bromofluorobenzene	460-00-4	0.092

Analytical Standard Record

EPA Region 9 Laboratory

1542053

Description:	TO-14A 39 Component Mix Standard	**Expires:**	07/02/16
Standard Type:	Other Solution	**Prepared:**	09/22/15
Solvent:	Nitrogen	**Prepared By:**	Liza Hernandez
Final Volume (mls):	110000	**Department:**	Air
Vials:	1	**Last Edit:**	07/05/16 16:02 by LLH
Vendor:	Scott/Air Liquide	**Lot Numb**	403-52536

Cylinder # ST0000159648 39 component AIR LIQUIDE-SCOTT AU007547
CAT NO. 41900-U

Analyte	CAS Number	Concentration (ppm)
1,2-Dibromoethane (EDB)	106-93-4	0.1
1,1,1-Trichloroethane	71-55-6	0.1
Benzene	71-43-2	0.11
1,4-Dichlorobenzene	106-46-7	0.11
1,3-Dichlorobenzene	541-73-1	0.11
1,3,5-Trimethylbenzene	108-67-8	0.11
1,2-Dichlorotetrafluoroethane	76-14-2	0.1
1,2-Dichloropropane	78-87-5	0.11
Carbon tetrachloride	56-23-5	0.11
1,2-Dichlorobenzene	95-50-1	0.11
Chlorobenzene	108-90-7	0.11
1,2,4-Trimethylbenzene	95-63-6	0.11
1,2,4-Trichlorobenzene	120-82-1	0.11
1,1-Dichloroethene	75-35-4	0.11
1,1-Dichloroethane	75-34-3	0.12
1,1,2-Trichloroethane	79-00-5	0.11
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.11
1,1,2,2-Tetrachloroethane	79-34-5	0.11
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	0.11
Toluene	108-88-3	0.11
Tetrachloroethene	127-18-4	0.11
Styrene	100-42-5	0.11
o-Xylene	95-47-6	0.11
Bromomethane	74-83-9	0.11
Hexachlorobutadiene	87-68-3	0.11
Vinyl chloride	75-01-4	0.12

Analytical Standard Record

EPA Region 9 Laboratory

1542053

Dichloromethane	75-09-2	0.11
Dichlorodifluoromethane	75-71-8	0.11
cis-1,3-Dichloropropene	10061-01-5	0.11
cis-1,2-Dichloroethene	156-59-2	0.11
Chloromethane	74-87-3	0.11
Chloroform	67-66-3	0.11
Chloroethane	75-00-3	0.1
m&p-Xylene	179601-23-1	0.22

APPENDIX C.
DOCUMENTATION OF EXTENDED USE

	LIMS ID	Manu. Expiration Date	Reagent LIMS ID
Material, Expired	1547053	07/2/16	
Analysis: TO15	SOP # 311	Rev. 3	

Analysis Date: 7/5/16	Instrument: N	AE5973N	Analyst: LH
Criteria: +/- 15% of D			

Analyte	Ave Response, Expired	Comparison (explain in criteria section)	Fail criteria?
SIM Primary Std	@ 100 ppb	= 39 compounds	
File ID (1)	070516N08	070516N09	
File ID (2)			
File ID (3)			

Notes:
Per attached forms.
2 outliers: chloromethane & hexachlorobutadiene AS 8/2/16

Approval Signatures	Approve (Y/N)	Signature	Print Name
Group Leader/Supervisor	Y	[signature]	Ziyad Rajabi
Technical Director	Y	[signature]	JACK BERGES
Lab QAO	Y	Barbara Bates	Barbara Bates
		LAB QAO Signature Date	8-2-2016

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. 8/2/16

AS, 8/2/16:
Manufactured 6/29/15
Expiration 7/2/16 > 369 days
New expiration = 7/6/17

APPENDIX A.
DOCUMENTATION OF RECERTIFICATION – CALIBRATION STANDARD

	LIMS ID	Manu. Expiration Date	Dilution LIMS ID
Standard, Expired	1542053	7/2/16	
Standard, Verification	1542027	9/22/16	

Analysis: T015	SOP # 511, Rev. 3	SCV Criteria %R or %D	+/- 30 %D
Analysis Date: 7/5/16	Instrument: AE5973N	Analyst: LH	

Analyte	Ave Response, Expired	Ave. Response, Verification	%R or %D	Fail criteria?
SIM Primary Std @ 100ppb –		per attached	forms	
(39 compounds)				
File ID (1)	0705160108	0705160109	----------	----------
File ID (2)			----------	----------
File ID (3)			----------	----------

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Approval Signatures	Approve (Y/N)	Print Name	Signature	Date
Group Leader/Supervisor	Y	Ziyad Rajab	[illegible]	8-1-16
Technical Director	Y	JACK BERGES	[illegible]	8/2/16
Lab QAO	Y	Barbara Bates	Barbara Bates	8/2/16

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.

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RECERTIFICATION OF STANDARDS CALCULATION FORM

	EXPIRED STD	CONC ppbv	VERIFICATION STD	CONC ppbv	(EXPIRED/CONC) / (VERI/CONC) x100
standard #	1542053		1542067		
data file	070516N08		070516N09		
Dichlorofluoromethane	1861132	11	1695142	11	110
1,2-Dichlorotetrafluromethane	1532732	10	1392283	10	110
Chloromethane	484841	11	407356	11	119
Vinyl chloride	442583	12	392515	12	113
Bromomethane	450688	11	464586	11	97
Chloroethane	294098	10	268677	10	109
Trichlorofluoromethane	1835420	11	1682076	11	109
1,1,2,-Trichloro-1,2,2-trifluoroethane	1120708	11	1038740	11	108
1,1-Dichloroethene	910752	11	825924	11	110
Dichloromethane	499289	11	445938	11	112
1,1-Dichloroethane	1010566	12	907946	12	111
cis-1,2-Dichloroethene	734290	11	663790	11	111
Chloroform	1303177	11	1189437	11	110
1,1,1-Trichloroethane	1450317	10	1318235	10	110
Carbon tetrachloride	1622900	11	1485021	11	109
Benzene	1801937	11	1633251	11	110
1,2-Dichloroethane	874623	11	786233	11	111
Trichloroethene	872548	11	785744	11	111
1,2-Dichloropropane	615589	11	550148	11	112
cis-1,3-Dichloropropene	1079685	11	977084	11	111
Toluene	2316145	11	2070425	11	112
trans-1,3-Dichloropropene	1004128	11	932489	11	108
1,1,2-Trichloroethane	783968	11	703120	11	111
Tetrachloroethene	1204437	11	1081422	11	111
1,2-Dibromethane (EDB)	967366	10	947023	10	102
Chlorobenzene	1824224	11	1640937	11	111
Ethylbenzene	3065112	11	2760815	11	111
m/p-Xylenes	4879095	22	4428254	22	110
o-Xylene	2469753	11	2272814	11	109
Styrene	1718837	11	1573038	11	109
1,1,2,2-Tetrachloroethane	1537300	11	1424889	11	108
1,3,5-Trimethylbenzene	2943515	11	2851281	11	103
1,2,4-Trimethylbenzene	2930946	11	2848731	11	103
1,3-Dichlorobenzene	1856402	11	1793244	11	104
1,4-Dichlorobenzene	1795934	11	1723173	11	104
1,2-Dichlorobenzene	1733747	11	1676028	11	103
1,2,4-Trichlorobenzene	963992	11	1086125	11	89
Hexachlorobutadiene	1134964	11	1434099	11	79
	✓ em 7/21/16	✓ em 7/21/16	✓ em 7/21/16	✓ em 7/21/16	

Analytical Standard Record

EPA Region 9 Laboratory

1542053

Description:	TO-14A 39 Component Mix Standard, 100	**Expires:**	07/06/17
Standard Type:	Other Solution	**Prepared:**	09/22/15
Solvent:	Nitrogen	**Prepared By:**	Liza Hernandez
Final Volume (mls):	110000	**Department:**	Air
Vials:	1	**Last Edit:**	08/03/16 17:52 by LLH
Vendor:	Scott/Air Liquide	**Lot Numbe**	403-52536

Cylinder # ST0000159648 39 component AIR LIQUIDE-SCOTT AU007547
CAT NO. 41900 Original exp date was 07/02/16.
Recertified on 07/05/16. New exp date is 07/06/17. LLH 08/03/16

Analyte	CAS Number	Concentration (ppm)
1,2-Dibromoethane (EDB)	106-93-4	0.1
1,1,1-Trichloroethane	71-55-6	0.1
Benzene	71-43-2	0.11
1,4-Dichlorobenzene	106-46-7	0.11
1,3-Dichlorobenzene	541-73-1	0.11
1,3,5-Trimethylbenzene	108-67-8	0.11
1,2-Dichlorotetrafluoroethane	76-14-2	0.1
1,2-Dichloropropane	78-87-5	0.11
Carbon tetrachloride	56-23-5	0.11
1,2-Dichlorobenzene	95-50-1	0.11
Chlorobenzene	108-90-7	0.11
1,2,4-Trimethylbenzene	95-63-6	0.11
1,2,4-Trichlorobenzene	120-82-1	0.11
1,1-Dichloroethene	75-35-4	0.11
1,1-Dichloroethane	75-34-3	0.12
1,1,2-Trichloroethane	79-00-5	0.11
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.11
1,1,2,2-Tetrachloroethane	79-34-5	0.11
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	0.11
Toluene	108-88-3	0.11
Tetrachloroethene	127-18-4	0.11
Styrene	100-42-5	0.11
o-Xylene	95-47-6	0.11
Bromomethane	74-83-9	0.11
Hexachlorobutadiene	87-68-3	0.11
Vinyl chloride	75-01-4	0.12

Analytical Standard Record

EPA Region 9 Laboratory

1542053

Dichloromethane	75-09-2	0.11
Dichlorodifluoromethane	75-71-8	0.11
cis-1,3-Dichloropropene	10061-01-5	0.11
cis-1,2-Dichloroethene	156-59-2	0.11
Chloromethane	74-87-3	0.11
Chloroform	67-66-3	0.11
Chloroethane	75-00-3	0.1
m&p-Xylene	179601-23-1	0.22

Scott™

SM Primary
AU07547

1542053

WH 02/02/16

Shipped From: 6141 EASTON ROAD, BLDG 1 PO BOX 310
PLUMSTEADVILLE PA 18949-0310
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CERTIFICATE OF ANALYSIS

1 of 2

SIGMA-ALDRICH
P451179
595 NORTH HARRISON ROAD
BELLEFONTE PA 16823
US

DOCUMENT#:60466271 -001
PO#: P451179
ITEM #: T9Z90012-110
CUST ITEM #: 41900-U
DATE: 02Jul2015

CYLINDER #: ST0000159648
FILL PRESSURE: 1800 PSIG
LOT # : 180PLU5SPC01J

ANALYTICAL ACCURACY: +/- 10%
PRODUCT EXPIRATION: 02Jul2016

COMPONENT	REQUESTED GAS CONC MOLES		ANALYSIS (MOLES)	
BENZENE	100.	PPB	110.	PPB
BROMOMETHANE	100.	PPB	110.	PPB
CARBON TETRACHLORIDE	100.	PPB	110.	PPB
CHLOROBENZENE	100.	PPB	110.	PPB
CHLOROFORM	100.	PPB	110.	PPB
CIS-1,3-DICHLOROPROPENE	100.	PPB	110.	PPB
CIS-1,2-DICHLOROETHYLENE	100.	PPB	110.	PPB
1,2-DIBROMOETHANE (EDB)	100.	PPB	100.	PPB
1,2-DICHLOROBENZENE	100.	PPB	110.	PPB
1,3-DICHLOROBENZENE	100.	PPB	110.	PPB
1,4-DICHLOROBENZENE	100.	PPB	110.	PPB
DICHLORODIFLUOROMETHANE	100.	PPB	110.	PPB
1,1-DICHLOROETHANE	100.	PPB	120.	PPB
1,2-DICHLOROETHANE	100.	PPB	110.	PPB
1,1-DICHLOROETHYLENE	100.	PPB	110.	PPB
1,2-DICHLOROPROPANE	100.	PPB	110.	PPB
1,2-DICHLOROTETRAFLUOROETHANE	100.	PPB	100.	PPB
ETHYLBENZENE	100.	PPB	110.	PPB
ETHYL CHLORIDE Chloroethane	100.	PPB	100.	PPB
TRICHLOROFLUOROMETHANE	100.	PPB	110.	PPB
HEXACHLORO-1,3-BUTADIENE	100.	PPB	110.	PPB
METHYL CHLORIDE Chloromethane	100.	PPB	110.	PPB
METHYLENE CHLORIDE	100.	PPB	110.	PPB
STYRENE	100.	PPB	110.	PPB
1,1,2,2-TETRACHLOROETHANE	100.	PPB	110.	PPB
TETRACHLOROETHYLENE	100.	PPB	110.	PPB
TOLUENE	100.	PPB	110.	PPB
TRANS-1,3-DICHLOROPROPENE	100.	PPB	110.	PPB
1,1,1 TRICHLOROETHANE	100.	PPB	100.	PPB
1,1,2-TRICHLOROETHANE	100.	PPB	110.	PPB
TRICHLOROETHYLENE	100.	PPB	110.	PPB
1,2,4 TRICHLOROBENZENE	100.	PPB	110.	PPB
1,1,2-TRICHLOROTRIFLUOROETHANE	100.	PPB	110.	PPB

AIR LIQUIDE™

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1542053

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CERTIFICATE OF ANALYSIS

2 of 2

SIGMA-ALDRICH
P451179
595 NORTH HARRISON ROAD
BELLEFONTE PA 16823
US

DOCUMENT#:60466271 -001
PO#: P451179
ITEM #: T9Z90012-110
CUST ITEM #: 41900-U
DATE: 02Jul2015

CYLINDER #: ST0000159648
FILL PRESSURE: 1800 PSIG
LOT # : 180PLU5SPC01J

ANALYTICAL ACCURACY: +/- 10%
PRODUCT EXPIRATION: 02Jul2016

1,2,4-TRIMETHYLBENZENE	100.	PPB	110.	PPB
1,3,5-TRIMETHYLBENZENE	100.	PPB	110.	PPB
VINYL CHLORIDE	100.	PPB	120.	PPB
M-XYLENE	100.	PPB	110.	PPB
O-XYLENE	100.	PPB	110.	PPB
P-XYLENE	100.	PPB	110.	PPB
NITROGEN		BALANCE		BALANCE

CATALOG NUMBER: 41900-U

VALVE CONNECTION: CGA 180

MANUFACTURED DATE: 29Jun2015

SCOTTY SIZE: 110

ANALYST: COLIN MCCARTY

AIR LIQUIDE

Analytical Standard Record

EPA Region 9 Laboratory

1549114

Description:	TO-15 25 Compound Subset Standarc	**Expires:**	11/13/16
Standard Type:	Other Solution	**Prepared:**	11/13/15
Solvent:	Nitrogen	**Prepared By:**	Liza Hernandez
Final Volume (mls):	104000	**Department:**	Air
Vials:	1	**Last Edit:**	12/02/15 15:48 by LLH
Vendor:	Linde Spectra	**Lot Numb**	production# 1358698

Linde Spectra via Restek; Cylinder# LC-104259; Bar code: AU007661
Part #34434

Analyte	CAS Number	Concentration (ppm)
Bromoform	75-25-2	1.07
1,4-Dioxane	123-91-1	1.1
2,2,4-Trimethylpentane	540-84-1	1.06
2-Butanone (MEK)	78-93-3	1.09
2-Hexanone	591-78-6	1.09
2-Propanol	67-63-0	1.1
4-Ethyltoluene	622-96-8	1.08
4-Methyl-2-pentanone (MIBK)	108-10-1	1.07
Acetone	67-64-1	1.1
Allyl chloride	107-05-1	1.1
Benzyl chloride	100-44-7	1.1
1,3-Butadiene	106-99-0	1.01
Bromoethene	593-60-2	1.1
Vinyl acetate	108-05-4	1.09
Carbon disulfide	75-15-0	1.1
Chlorodibromomethane	124-48-1	1.08
Cyclohexane	110-82-7	1.06
Ethyl acetate	141-78-6	1.08
Heptane	142-82-5	1.06
Hexane	110-54-3	1.04
Propene	115-07-1	1.1
tert-Butyl methyl ether (MTBE)	1634-04-4	1.08
Tetrahydrofuran	109-99-9	1.06
trans-1,2-Dichloroethene	156-60-5	1.09
Bromodichloromethane	75-27-4	1.07

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SUBSET 1549114 Linde

BU007661

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Richmond, CA 94804

PAGE: 1 of 2

Wetlands

CERTIFICATE OF ANALYSIS

Sales#:	113462335	**Cylinder Size:**	6A (3.2" X 9.4")
Production#:	1358698	**Cylinder # :**	LC-104259
Certification Date:	Nov-13-2015	**Cylinder Pressure:**	1700 psig
P.O.# :	106578-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:	Nov-13-2016	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative
Part Number:	34434	**NIST Traceable Certificate#:**	15-54610

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	1.01 ppm
Vinyl Bromide Bromoethene	593-60-2	1.00 ppm	1.10 ppm
Acetone	67-64-1	1.00 ppm	1.10 ppm
Isopropyl Alcohol 2-Propanol	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	1.08 ppm
Vinyl Acetate	108-05-4	1.00 ppm	1.09 ppm
Methyl Ethyl Ketone 2-Butanone	78-93-3	1.00 ppm	1.09 ppm
n-Hexane	110-54-3	1.00 ppm	1.04 ppm
Ethyl Acetate	141-78-6	1.00 ppm	1.08 ppm
Tetrahydrofuran	109-99-9	1.00 ppm	1.06 ppm
Cyclohexane	110-82-7	1.00 ppm	1.06 ppm
Bromodichloromethane	75-27-4	1.00 ppm	1.07 ppm
1,4-Dioxane	123-91-1	1.00 ppm	1.10 ppm
2,2,4-Trimethylpentane	540-84-1	1.00 ppm	1.06 ppm
n-Heptane	142-82-5	1.00 ppm	1.06 ppm
Methyl Isobutyl Ketone 4-methyl-2-pentanone	108-10-1	1.00 ppm	1.07 ppm
Methyl Butyl Ketone 2-Hexanone	591-78-6	1.00 ppm	1.09 ppm
Dibromochloromethane	124-48-1	1.00 ppm	1.08 ppm
Bromoform	75-25-2	1.00 ppm	1.07 ppm

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15249114

PAGE: 2 of 2

CERTIFICATE OF ANALYSIS

Sales#:	113462335	**Cylinder Size:**	6A (3.2" X 9.4")
Production#:	1358698	**Cylinder # :**	LC-104259
Certification Date:	Nov-13-2015	**Cylinder Pressure:**	1700 psig
P.O.# :	106578-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:	Nov-13-2016	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative
Part Number:	34434	**NIST Traceable Certificate#:**	15-54610

COMPONENT	CAS NUMBER	REQUESTED CONC	CERTIFIED CONC
4-Ethyltoluene	622-96-8	1.00 ppm	1.08 ppm
Benzyl Chloride (Analytical Accuracy ± 10%)	100-44-7	1.00 ppm	1.10 ppm
Nitrogen	7727-37-9	Balance	Balance

ANALYST: Justin Kutz

DATE: Nov-13-2015

Linde Gas North America LLC

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Analytical Standard Record
EPA Region 9 Laboratory
1604090

Description:	TO-14A 39 Component Mix Standard, 1.0	Expires:	01/13/17
Standard Type:	Calibration Stan	Prepared:	01/13/16
Solvent:	Nitrogen	Prepared By:	** Vendor **
Final Volume (mls):	104000	Department:	Air
Vials:	1	Last Edit:	01/22/16 10:00 by LLH

Cylinder # AB-103749 39 component AU007858
Part # 34400

Analyte	CAS Number	Concentration	Units
1,2-Dibromoethane (EDB)	106-93-4	1.09	ppm
1,1,1-Trichloroethane	71-55-6	0.98	ppm
Benzene	71-43-2	1.03	ppm
1,4-Dichlorobenzene	106-46-7	1.05	ppm
1,3-Dichlorobenzene	541-73-1	1.05	ppm
1,3,5-Trimethylbenzene	108-67-8	1.07	ppm
1,2-Dichlorotetrafluoroethane	76-14-2	1	ppm
1,2-Dichloropropane	78-87-5	1.03	ppm
Carbon tetrachloride	56-23-5	0.97	ppm
1,2-Dichlorobenzene	95-50-1	1.04	ppm
Chlorobenzene	108-90-7	1.07	ppm
1,2,4-Trimethylbenzene	95-63-6	1.06	ppm
1,2,4-Trichlorobenzene	120-82-1	1.04	ppm
1,1-Dichloroethene	75-35-4	1.04	ppm
1,1-Dichloroethane	75-34-3	1	ppm
1,1,2-Trichloroethane	79-00-5	1.06	ppm
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	1.02	ppm
1,1,2,2-Tetrachloroethane	79-34-5	1.04	ppm
1,2-Dichloroethane	107-06-2	1	ppm
Ethylbenzene	100-41-4	1.05	ppm
Trichlorofluoromethane	75-69-4	0.98	ppm
Trichloroethene	79-01-6	1.08	ppm
trans-1,3-Dichloropropene	10061-02-6	1.06	ppm
Toluene	108-88-3	1.05	ppm
Tetrachloroethene	127-18-4	1.06	ppm
Styrene	100-42-5	1.03	ppm
o-Xylene	95-47-6	1.05	ppm
Bromomethane	74-83-9	1	ppm
Hexachlorobutadiene	87-68-3	1.03	ppm
Vinyl chloride	75-01-4	1.04	ppm

Reviewed By Date

Analytical Standard Record

EPA Region 9 Laboratory

1604090

Dichloromethane	75-09-2	1.01	ppm
Dichlorodifluoromethane	75-71-8	0.97	ppm
cis-1,3-Dichloropropene	10061-01-5	1.08	ppm
cis-1,2-Dichloroethene	156-59-2	1.04	ppm
Chloromethane	74-87-3	1.06	ppm
Chloroform	67-66-3	1.01	ppm
Chloroethane	75-00-3	1	ppm
m&p-Xylene	179601-23-1	2.12	ppm

Reviewed By Date

SCAN PRIMARY 1604090 AU007858

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Richmond, CA 94804

PAGE: 1 of 2

CH 1/22/16

CERTIFICATE OF ANALYSIS

Sales#:	113619102	**Cylinder Size:**	185 (3.2" X 9.4")
Production#:	1364466	**Cylinder # :**	AB-103749
Certification Date:	Jan-13-2016	**Cylinder Pressure:**	1700 psig
P.O.# :	107821-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:	Jan-13-2017	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative
Part Number:	34400	**NIST Traceable Certificate#:**	15-54610

COMPONENT	CAS NUMBER	REQUESTED CONC	CERTIFIED CONC
Freon-12 Dichlorodifluoromethane	75-71-8	1.00 ppm	0.97 ppm
Chloromethane	74-87-3	1.00 ppm	1.06 ppm
Freon-114 Dichlorotetrafluoroethane	76-14-2	1.00 ppm	1.00 ppm
Vinyl Chloride	75-01-4	1.00 ppm	1.04 ppm
Bromomethane	74-83-9	1.00 ppm	1.00 ppm
Chloroethane	75-00-3	1.00 ppm	1.00 ppm
Freon-11 Trichlorofluoromethane	75-69-4	1.00 ppm	0.98 ppm
1,1-Dichloroethene	75-35-4	1.00 ppm	1.04 ppm
Methylene Chloride	75-09-2	1.00 ppm	1.01 ppm
Freon-113 1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	1.00 ppm	1.02 ppm
1,1-Dichloroethane	75-34-3	1.00 ppm	1.00 ppm
Cis-1,2-Dichloroethylene	156-59-2	1.00 ppm	1.04 ppm
Chloroform	67-66-3	1.00 ppm	1.01 ppm
1,2-Dichloroethane	107-06-2	1.00 ppm	1.00 ppm
1,1,1-Trichloroethane	71-55-6	1.00 ppm	0.98 ppm
Benzene	71-43-2	1.00 ppm	1.03 ppm
Carbon Tetrachloride	56-23-5	1.00 ppm	0.97 ppm
1,2-Dichloropropane	78-87-5	1.00 ppm	1.03 ppm
Trichloroethylene	79-01-6	1.00 ppm	1.08 ppm
Cis-1,3-Dichloropropene	10061-01-5	1.00 ppm	1.08 ppm
Trans-1,3-Dichloropropene	10061-02-6	1.00 ppm	1.06 ppm
1,1,2-Trichloroethane	79-00-5	1.00 ppm	1.06 ppm
Toluene	108-88-3	1.00 ppm	1.05 ppm
1,2-Dibromoethane EDB	106-93-4	1.00 ppm	1.09 ppm
Tetrachloroethylene	127-18-4	1.00 ppm	1.06 ppm
Chlorobenzene	108-90-7	1.00 ppm	1.07 ppm
Ethylbenzene	100-41-4	1.00 ppm	1.05 ppm
P-Xylene	106-42-3	1.00 ppm	1.06 ppm

RECEIVED JAN 20 2016 BY: JAB

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

PAGE: 2 of 2

CERTIFICATE OF ANALYSIS

Sales#:	113619102	**Cylinder Size:**	185 (3.2" X 9.4")
Production#:	1364466	**Cylinder # :**	AB-103749
Certification Date:	Jan-13-2016	**Cylinder Pressure:**	1700 psig
P.O.# :	107821-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:	Jan-13-2017	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative
Part Number:	34400	**NIST Traceable Certificate#:**	15-54610

COMPONENT	CAS NUMBER	REQUESTED CONC	CERTIFIED CONC
M-Xylene	108-38-3	1.00 ppm	1.06 ppm
Styrene	100-42-5	1.00 ppm	1.03 ppm
O-Xylene	95-47-6	1.00 ppm	1.05 ppm
1,1,2,2-Tetrachloroethane	79-34-5	1.00 ppm	1.04 ppm
1,3,5-Trimethylbenzene	108-67-8	1.00 ppm	1.07 ppm
1,2,4-Trimethylbenzene	95-63-6	1.00 ppm	1.06 ppm
1,3-Dichlorobenzene	541-73-1	1.00 ppm	1.05 ppm
1,4-Dichlorobenzene	106-46-7	1.00 ppm	1.05 ppm
1,2-Dichlorobenzene	95-50-1	1.00 ppm	1.04 ppm
1,2,4-Trichlorobenzene	120-82-1	1.00 ppm	1.04 ppm
Hexachloro-1,3-Butadiene	87-68-3	1.00 ppm	1.03 ppm
Nitrogen	7727-37-9	Balance	Balance

ANALYST: Lou Lorenzetti

DATE: Jan-13-2016

Linde Gas North America LLC

(908) 329-9700 Main (908) 329-9740 Fax
www.Lindeus.com

Analytical Standard Record

EPA Region 9 Laboratory

1617033

Description:	TO/14A GC/MS Tuning Mix, Stock 100pp	**Expires:**	03/28/17
Standard Type:	Other Solution	**Prepared:**	03/28/16
Solvent:	Nitrogen	**Prepared By:**	** Vendor **
Final Volume (mls):	98000	**Department:**	Air
Vials:	1	**Last Edit:**	04/18/16 15:42 by LLH
Vendor:	Linde Spectra	**Lot Numbe**	1372989

Part #34424 Bar Code# AU008065 Cylinder # AB-104994
Do not use under 150psig.

Analyte	CAS Number	Concentration (ppm)
4-Bromofluorobenzene	460-00-4	0.105

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617033

Linde

SHIPPED TO: GSS Warehouse
6724 Preston Ave
Livermore, CA 94551-5145

PAGE: 1 of 1

All 8 Notes

CERTIFICATE OF ANALYSIS

Sales#:	113881816	**Cylinder Size:**	185 (3.2" X 9.4")
Production#:	1372989	**Cylinder # :**	AB-104994
Certification Date:	Mar-28-2016	**Cylinder Pressure:**	1700 psig
P.O.# :	109967-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:	Mar-28-2017	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	10% Relative
Part Number:	34424	**NIST Traceable Certificate#:**	15-54610

COMPONENT	CAS NUMBER	REQUESTED CONC	CERTIFIED CONC
4-Bromofluorobenzene	460-00-4	100 ppb	105 ppb
Nitrogen	7727-37-9	Balance	Balance

Source Identification Number: 279475

ANALYST: Lou Lorenzetti

DATE: Mar-28-2016

Linde Gas North America LLC

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www.Lindeus.com

Analytical Standard Record

EPA Region 9 Laboratory

1617034

Description:	TO-15 25 Compound Subset Standard	**Expires:**	03/31/17
Standard Type:	Other Solution	**Prepared:**	03/30/16
Solvent:	Nitrogen	**Prepared By:**	** Vendor **
Final Volume (mls):	110000	**Department:**	Air
Vials:	1	**Last Edit:**	04/19/16 09:36 by JDM
Vendor:	Scott/Air Liquide	**Lot Numb**	403-167363

Scott/Air Liquide Cylinder# ST0000166040; Bar code: AU008066 Supelco Cat No. 41979-U

Analyte	CAS Number	Concentration (ppm)
Bromoform	75-25-2	0.11
1,4-Dioxane	123-91-1	0.11
2,2,4-Trimethylpentane	540-84-1	0.1
2-Butanone (MEK)	78-93-3	0.1
2-Hexanone	591-78-6	0.1
2-Propanol	67-63-0	0.092
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	0.11
Benzyl chloride	100-44-7	0.11
1,3-Butadiene	106-99-0	0.11
Bromoethene	593-60-2	0.11
Vinyl acetate	108-05-4	0.11
Carbon disulfide	75-15-0	0.099
Chlorodibromomethane	124-48-1	0.099
Cyclohexane	110-82-7	0.1
Ethyl acetate	141-78-6	0.1
Heptane	142-82-5	0.1
Hexane	110-54-3	0.11
Propene	115-07-1	0.11
tert-Butyl methyl ether (MTBE)	1634-04-4	0.1
Tetrahydrofuran	109-99-9	0.096
trans-1,2-Dichloroethene	156-60-5	0.1
Bromodichloromethane	75-27-4	0.1

Scott™

1617034

Shipped From: 6141 Easton Road
Plumsteadville, PA 18949
Phone: 215-766-8860
Fax: 215-766-7226

AN00806

CERTIFICATE OF ANALYSIS

SIGMA-ALDRICH
SIGMA-ALDRICH
595 N Harrison Rd
Bellefonte, PA 16823-6217
US

Sales Order # : 919440
P.O. #.: P454299
Item No.: A0908848
Date: 30Mar2016

Cylinder #: ST0000166040
Fill Pressure: 1800 PSIG
CGA: 180

Product Expiration: 31Mar2017
Lot #: 403-167363

Blend Type: CERTIFIED SCOTTY

Component Name	Requested Gas Conc (Moles)	Analysis (Mole)	Accuracy (+ / - %)
1,3-BUTADIENE	100.00 PPB	110 PPB	10
2-PROPANOL	100.00 PPB	92 PPB	10
3-CHLORO-1-PROPENE Allyl chloride	100.00 PPB	110 PPB	10
4-ETHYL TOLUENE	100.00 PPB	110 PPB	10
ACETONE	100.00 PPB	100 PPB	10
BENZYL CHLORIDE	100.00 PPB	110 PPB	10
BROMODICHLOROMETHANE	100.00 PPB	100 PPB	10
BROMOETHENE	100.00 PPB	110 PPB	10
CARBON DISULFIDE	100.00 PPB	99 PPB	10
CHLORODIBROMOMETHANE	100.00 PPB	99 PPB	10
CYCLOHEXANE	100.00 PPB	100 PPB	10
ETHYL ACETATE	100.00 PPB	100 PPB	10
ETHYLENE 1,2 DICHLORO (TRANS)	100.00 PPB	100 PPB	10
ISOOCTANE 2,2,4 Trimethylpentane	100.00 PPB	100 PPB	10
METHYL ETHYL KETONE	100.00 PPB	100 PPB	10
METHYL ISOBUTYL KETONE	100.00 PPB	110 PPB	10
METHYL N-BUTYL KETONE	100.00 PPB	100 PPB	10
METHYL TRIBROMIDE Bromoform	100.00 PPB	110 PPB	10
N-HEPTANE	100.00 PPB	100 PPB	10
N-HEXANE	100.00 PPB	110 PPB	10
P-DIOXANE	100.00 PPB	110 PPB	10
PROPYLENE	100.00 PPB	110 PPB	10
TERT-BUTYL METHYL ETHER	100.00 PPB	100 PPB	10
TETRAHYDROFURAN	100.00 PPB	99 PPB	10
VINYL ACETATE	100.00 PPB	110 PPB	10
NITROGEN	BALANCE	BALANCE	

SPECIFICATIONS

Component Name	Requested Concentration (Mole)	Gravimetric Concentration (Mole)	Analyzed Concentration (Mole)	Blend Tolerance Result (+/- %)	Blend Process Accuracy Result (+/- %)	Analytical Accuracy Result (+/- %)	Interlocking Result (+/- %)
1,3-BUTADIENE	100.000 PPB	N/A PPB	110 PPB	10.00	N/A	10.00	N/A
2-PROPANOL	100.000 PPB	N/A PPB	92 PPB	8.00	N/A	10.00	N/A
3-CHLORO-1-PROPENE	100.000 PPB	N/A PPB	110 PPB	10.00	N/A	10.00	N/A

[redacted]

AIR LIQUIDE™

Analytical Standard Record

EPA Region 9 Laboratory

1621095

Description:	TO-15 25 Compound Subset Standard, 1ppm	Expires:	05/01/17
Standard Type:	Calibration Stand	Prepared:	05/01/16
Solvent:	Nitrogen	Prepared By:	** Vendor **
Final Volume (mls):	104000	Department:	Air
Vials:	1	Last Edit:	05/18/16 16:52 by EM

Linde Spectra via Restek; Cylinder# AB-104909; Bar code: AU008142
Part #34434

Analyte	CAS Number	Concentration	Units
Bromoform	75-25-2	1.06	ppm
1,4-Dioxane	123-91-1	1.03	ppm
2,2,4-Trimethylpentane	540-84-1	1.05	ppm
2-Butanone (MEK)	78-93-3	1.05	ppm
2-Hexanone	591-78-6	1.01	ppm
2-Propanol	67-63-0	0.92	ppm
4-Ethyltoluene	622-96-8	1.02	ppm
4-Methyl-2-pentanone (MIBK)	108-10-1	1.04	ppm
Acetone	67-64-1	1.1	ppm
Allyl chloride	107-05-1	1.1	ppm
Benzyl chloride	100-44-7	1.07	ppm
1,3-Butadiene	106-99-0	1.05	ppm
Bromoethene	593-60-2	1.06	ppm
Vinyl acetate	108-05-4	1.03	ppm
Carbon disulfide	75-15-0	1.05	ppm
Chlorodibromomethane	124-48-1	1.06	ppm
Cyclohexane	110-82-7	1.06	ppm
Ethyl acetate	141-78-6	1.05	ppm
Heptane	142-82-5	1.06	ppm
Hexane	110-54-3	1.04	ppm
Propene	115-07-1	1.1	ppm
tert-Butyl methyl ether (MTBE)	1634-04-4	1.07	ppm
Tetrahydrofuran	109-99-9	1.02	ppm
trans-1,2-Dichloroethene	156-60-5	1.1	ppm
Bromodichloromethane	75-27-4	1.06	ppm

Reviewed By Date

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6724 Prestron Ave.
Livermore, CA 94551

TO15
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PAGE: 1 of 2

1621095
AU008142

CERTIFICATE OF ANALYSIS

Sales#:	113989760	**Cylinder Size:**	185 (3.2" X 9.4")
Production#:	1376517	**Cylinder # :**	AB-104909
Certification Date:	May-01-2016	**Cylinder Pressure:**	1700 psig
P.O.# :	110906-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:	May-01-2017	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative
Part Number:	34434	**NIST Traceable Certificate#:**	15-54610

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	1.05 ppm
Vinyl Bromide Bromoethene	593-60-2	1.00 ppm	1.06 ppm
Acetone	67-64-1	1.00 ppm	1.10 ppm
Isopropyl Alcohol	67-63-0	1.00 ppm	0.92 ppm
Carbon Disulfide (Analytical Accuracy ± 10%)	75-15-0	1.00 ppm	1.05 ppm
Allyl Chloride	107-05-1	1.00 ppm	1.10 ppm
Trans-1,2-Dichloroethene	156-60-5	1.00 ppm	1.10 ppm
Methyl Tert-Butyl Ether	1634-04-4	1.00 ppm	1.07 ppm
Vinyl Acetate	108-05-4	1.00 ppm	1.03 ppm
Methyl Ethyl Ketone	78-93-3	1.00 ppm	1.05 ppm
n-Hexane	110-54-3	1.00 ppm	1.04 ppm
Ethyl Acetate	141-78-6	1.00 ppm	1.05 ppm
Tetrahydrofuran	109-99-9	1.00 ppm	1.02 ppm
Cyclohexane	110-82-7	1.00 ppm	1.06 ppm
Bromodichloromethane	75-27-4	1.00 ppm	1.06 ppm
1,4-Dioxane	123-91-1	1.00 ppm	1.03 ppm
2,2,4-Trimethylpentane	540-84-1	1.00 ppm	1.05 ppm
n-Heptane	142-82-5	1.00 ppm	1.06 ppm
Methyl Isobutyl Ketone	108-10-1	1.00 ppm	1.04 ppm
Methyl Butyl Ketone 2-Hexanone	591-78-6	1.00 ppm	1.01 ppm
Dibromochloromethane	124-48-1	1.00 ppm	1.06 ppm
Bromoform	75-25-2	1.00 ppm	1.06 ppm

Linde Gas North America LLC

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www.Lindeus.com

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6724 Prestron Ave.
Livermore, CA 94551

TO15
SUBSET

PAGE: 2 of 2

1621095

CERTIFICATE OF ANALYSIS

AU008142

Sales#:	113989760	**Cylinder Size:**	185 (3.2" X 9.4")
Production#:	1376517	**Cylinder # :**	AB-104909
Certification Date:	May-01-2016	**Cylinder Pressure:**	1700 psig
P.O.# :	110906-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:	May-01-2017	**Blend Tolerance:**	10% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	5% Relative
Part Number:	34434	**NIST Traceable Certificate#:**	15-54610

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	1.07 ppm ✓
Nitrogen	7727-37-9	Balance	Balance

Source Identification Number: 304061

ANALYST: Lou Lorenzetti

DATE: May-01-2016

Linde Gas North America LLC

(908) 329-9700 Main (908) 329-9740 Fax
www.Lindeus.com

Analytical Standard Record

EPA Region 9 Laboratory

1641048

Description:	TO-15 SCV Std, 10 ppbv	**Expires:**	11/05/16
Standard Type:	Other Solution	**Prepared:**	10/05/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	2500	**Department:**	Air
Vials:	1	**Last Edit:**	10/05/16 15:31 by LLH
Vendor:	*Prepared*	**Lot Numbe**	-

Analyte	CAS Number	Concentration (ppm)
1,3-Butadiene	106-99-0	0.011
Bromoethene	593-60-2	0.011
Bromodichloromethane	75-27-4	0.01
Benzyl chloride	100-44-7	0.011
Benzene	71-43-2	0.011
Allyl chloride	107-05-1	0.011
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	0.0092
2-Hexanone	591-78-6	0.01
2-Butanone (MEK)	78-93-3	0.01
2,2,4-Trimethylpentane	540-84-1	0.01
1,4-Dioxane	123-91-1	0.011
1,1,1-Trichloroethane	71-55-6	0.01
1,2-Dibromoethane (EDB)	106-93-4	0.01
1,1,2,2-Tetrachloroethane	79-34-5	0.011
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.011
1,1,2-Trichloroethane	79-00-5	0.011
1,1-Dichloroethane	75-34-3	0.012
1,1-Dichloroethene	75-35-4	0.011
1,4-Dichlorobenzene	106-46-7	0.011
1,2,4-Trimethylbenzene	95-63-6	0.011
1,3-Dichlorobenzene	541-73-1	0.011
1,2-Dichlorobenzene	95-50-1	0.011
1,2-Dichloroethane	107-06-2	0.011
1,2-Dichloropropane	78-87-5	0.011
1,2-Dichlorotetrafluoroethane	76-14-2	0.01
1,3,5-Trimethylbenzene	108-67-8	0.011
Carbon disulfide	75-15-0	0.0099

Analytical Standard Record

EPA Region 9 Laboratory

1641048

1,2,4-Trichlorobenzene	120-82-1	0.011
Tetrahydrofuran	109-99-9	0.0096
Bromoform	75-25-2	0.011
m&p-Xylene	179601-23-1	0.022
o-Xylene	95-47-6	0.011
Propene	115-07-1	0.011
Styrene	100-42-5	0.011
Hexachlorobutadiene	87-68-3	0.011
Tetrachloroethene	127-18-4	0.011
Heptane	142-82-5	0.01
Toluene	108-88-3	0.011
trans-1,2-Dichloroethene	156-60-5	0.01
trans-1,3-Dichloropropene	10061-02-6	0.011
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	0.01
cis-1,2-Dichloroethene	156-59-2	0.011
Vinyl chloride	75-01-4	0.012
Carbon tetrachloride	56-23-5	0.011
Chlorobenzene	108-90-7	0.011
Chlorodibromomethane	124-48-1	0.0099
Chloroethane	75-00-3	0.01
Hexane	110-54-3	0.011
Chloromethane	74-87-3	0.011
Bromomethane	74-83-9	0.011
cis-1,3-Dichloropropene	10061-01-5	0.011
Cyclohexane	110-82-7	0.01
Dichlorodifluoromethane	75-71-8	0.011
Dichloromethane	75-09-2	0.011
Ethyl acetate	141-78-6	0.01
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)
1617034	TO-15 25 Compound Subset Standard,	03/30/16	** Vendor **	03/31/17	04/19/16 09:36 by JDM	250
1542053	TO-14A 39 Component Mix Standard,	09/22/15	Liza Hernandez	07/06/17	08/03/16 17:52 by LLH	250

Analytical Standard Record

EPA Region 9 Laboratory

1643021

Description:	TO-15 LOW Std, 10 ppbv	**Expires:**	11/13/16
Standard Type:	Other Solution	**Prepared:**	10/18/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	2500	**Department:**	Air
Vials:	2	**Last Edit:**	10/18/16 10:07 by LLH
Vendor:	*Prepared*	**Lot Numbe**	-

Analyte	CAS Number	Concentration (ppm)
1,3-Butadiene	106-99-0	0.0101
Bromoethene	593-60-2	0.011
Bromodichloromethane	75-27-4	0.0107
Benzyl chloride	100-44-7	0.011
Benzene	71-43-2	0.0103
Allyl chloride	107-05-1	0.011
Acetone	67-64-1	0.011
4-Methyl-2-pentanone (MIBK)	108-10-1	0.0107
4-Ethyltoluene	622-96-8	0.0108
2-Propanol	67-63-0	0.011
2-Hexanone	591-78-6	0.0109
2-Butanone (MEK)	78-93-3	0.0109
2,2,4-Trimethylpentane	540-84-1	0.0106
1,4-Dioxane	123-91-1	0.011
1,1,1-Trichloroethane	71-55-6	0.0098
1,2-Dibromoethane (EDB)	106-93-4	0.0109
1,1,2,2-Tetrachloroethane	79-34-5	0.0104
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.0102
1,1,2-Trichloroethane	79-00-5	0.0106
1,1-Dichloroethane	75-34-3	0.01
1,1-Dichloroethene	75-35-4	0.0104
1,4-Dichlorobenzene	106-46-7	0.0105
1,2,4-Trimethylbenzene	95-63-6	0.0106
1,3-Dichlorobenzene	541-73-1	0.0105
1,2-Dichlorobenzene	95-50-1	0.0104
1,2-Dichloroethane	107-06-2	0.01
1,2-Dichloropropane	78-87-5	0.0103
1,2-Dichlorotetrafluoroethane	76-14-2	0.01
1,3,5-Trimethylbenzene	108-67-8	0.0107
Carbon disulfide	75-15-0	0.011

Analytical Standard Record

EPA Region 9 Laboratory

1643021

1,2,4-Trichlorobenzene	120-82-1	0.0104
Tetrahydrofuran	109-99-9	0.0106
Bromoform	75-25-2	0.0107
m&p-Xylene	179601-23-1	0.0212
o-Xylene	95-47-6	0.0105
Propene	115-07-1	0.011
Styrene	100-42-5	0.0103
Hexachlorobutadiene	87-68-3	0.0103
Tetrachloroethene	127-18-4	0.0106
Heptane	142-82-5	0.0106
Toluene	108-88-3	0.0105
trans-1,2-Dichloroethene	156-60-5	0.0109
trans-1,3-Dichloropropene	10061-02-6	0.0106
Trichloroethene	79-01-6	0.0108
Trichlorofluoromethane	75-69-4	0.0098
Vinyl acetate	108-05-4	0.0109
tert-Butyl methyl ether (MTBE)	1634-04-4	0.0108
cis-1,2-Dichloroethene	156-59-2	0.0104
Vinyl chloride	75-01-4	0.0104
Carbon tetrachloride	56-23-5	0.0097
Chlorobenzene	108-90-7	0.0107
Chlorodibromomethane	124-48-1	0.0108
Chloroethane	75-00-3	0.01
Hexane	110-54-3	0.0104
Chloromethane	74-87-3	0.0106
Bromomethane	74-83-9	0.01
cis-1,3-Dichloropropene	10061-01-5	0.0108
Cyclohexane	110-82-7	0.0106
Dichlorodifluoromethane	75-71-8	0.0097
Dichloromethane	75-09-2	0.0101
Ethyl acetate	141-78-6	0.0108
Ethylbenzene	100-41-4	0.0105
Chloroform	67-66-3	0.0101

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1604090	TO-14A 39 Component Mix Standard,	01/13/16	** Vendor **	01/13/17	01/22/16 10:00 by LLH	25
1549114	TO-15 25 Compound Subset Standard,	11/13/15	Liza Hernandez	11/13/16	12/02/15 15:48 by LLH	25

Analytical Standard Record

EPA Region 9 Laboratory

1643022

Description:	TO-15 Std, 20 ppbv	**Expires:**	11/13/16
Standard Type:	Other Solution	**Prepared:**	10/18/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	2500	**Department:**	Air
Vials:	2	**Last Edit:**	10/18/16 10:08 by LLH
Vendor:	*Prepared*	**Lot Numbe**	-

Analyte	CAS Number	Concentration (ppm)
1,3-Butadiene	106-99-0	0.0202
Bromoethene	593-60-2	0.022
Bromodichloromethane	75-27-4	0.0214
Benzyl chloride	100-44-7	0.022
Benzene	71-43-2	0.0206
Allyl chloride	107-05-1	0.022
Acetone	67-64-1	0.022
4-Methyl-2-pentanone (MIBK)	108-10-1	0.0214
4-Ethyltoluene	622-96-8	0.0216
2-Propanol	67-63-0	0.022
2-Hexanone	591-78-6	0.0218
2-Butanone (MEK)	78-93-3	0.0218
2,2,4-Trimethylpentane	540-84-1	0.0212
1,4-Dioxane	123-91-1	0.022
1,1,1-Trichloroethane	71-55-6	0.0196
1,2-Dibromoethane (EDB)	106-93-4	0.0218
1,1,2,2-Tetrachloroethane	79-34-5	0.0208
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.0204
1,1,2-Trichloroethane	79-00-5	0.0212
1,1-Dichloroethane	75-34-3	0.02
1,1-Dichloroethene	75-35-4	0.0208
1,4-Dichlorobenzene	106-46-7	0.021
1,2,4-Trimethylbenzene	95-63-6	0.0212
1,3-Dichlorobenzene	541-73-1	0.021
1,2-Dichlorobenzene	95-50-1	0.0208
1,2-Dichloroethane	107-06-2	0.02
1,2-Dichloropropane	78-87-5	0.0206
1,2-Dichlorotetrafluoroethane	76-14-2	0.02
1,3,5-Trimethylbenzene	108-67-8	0.0214
Carbon disulfide	75-15-0	0.022

Analytical Standard Record

EPA Region 9 Laboratory

1643022

1,2,4-Trichlorobenzene	120-82-1	0.0208
Tetrahydrofuran	109-99-9	0.0212
Bromoform	75-25-2	0.0214
m&p-Xylene	179601-23-1	0.0424
o-Xylene	95-47-6	0.021
Propene	115-07-1	0.022
Styrene	100-42-5	0.0206
Hexachlorobutadiene	87-68-3	0.0206
Tetrachloroethene	127-18-4	0.0212
Heptane	142-82-5	0.0212
Toluene	108-88-3	0.021
trans-1,2-Dichloroethene	156-60-5	0.0218
trans-1,3-Dichloropropene	10061-02-6	0.0212
Trichloroethene	79-01-6	0.0216
Trichlorofluoromethane	75-69-4	0.0196
Vinyl acetate	108-05-4	0.0218
tert-Butyl methyl ether (MTBE)	1634-04-4	0.0216
cis-1,2-Dichloroethene	156-59-2	0.0208
Vinyl chloride	75-01-4	0.0208
Carbon tetrachloride	56-23-5	0.0194
Chlorobenzene	108-90-7	0.0214
Chlorodibromomethane	124-48-1	0.0216
Chloroethane	75-00-3	0.02
Hexane	110-54-3	0.0208
Chloromethane	74-87-3	0.0212
Bromomethane	74-83-9	0.02
cis-1,3-Dichloropropene	10061-01-5	0.0216
Cyclohexane	110-82-7	0.0212
Dichlorodifluoromethane	75-71-8	0.0194
Dichloromethane	75-09-2	0.0202
Ethyl acetate	141-78-6	0.0216
Ethylbenzene	100-41-4	0.021
Chloroform	67-66-3	0.0202

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1549114	TO-15 25 Compound Subset Standard,	11/13/15	Liza Hernandez	11/13/16	12/02/15 15:48 by LLH	50
1604090	TO-14A 39 Component Mix Standard,	01/13/16	** Vendor **	01/13/17	01/22/16 10:00 by LLH	50

Analytical Standard Record

EPA Region 9 Laboratory

1645030

Description:	TO-14A Internal Standard Mix, Stock	**Expires:**	10/17/17
Standard Type:	Other Solution	**Prepared:**	10/17/16
Solvent:	Nitrogen	**Prepared By:**	** Vendor **
Final Volume (mls):	110000	**Department:**	Air
Vials:	1	**Last Edit:**	11/02/16 10:28 by LLH
Vendor:	Scott/Air Liquide	**Lot Numb**	160-400790433-1

Part # 26353, Cylinder #: ST0000166891 AU008584

Analyte	CAS Number	Concentration (ppm)
Chlorobenzene-d5	3114-55-4	0.11
Bromochloromethane	74-97-5	0.11
1,4-Difluorobenzene	540-36-3	0.11

1 Std
AU008584

1645030

CERTIFICATE OF ANALYSIS

Grade of Product: CERTIFIED STANDARD-SPEC

Part Number:	X04NI99CA98C000	Reference Number:	160-400790433-1
Cylinder Number:	ST0000166891	Cylinder Volume:	110 LG
Laboratory:	124 - Plumsteadville - PA	Cylinder Pressure:	1800 PSIG
Analysis Date:	Oct 17, 2016	Valve Outlet:	180
Lot Number:	160-400790433-1		

Expiration Date: Oct 17, 2017

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	100.00 PPB	110.00 PPB	+/- 10%
BROMOCHLOROMETHANE	100.00 PPB	110.00 PPB	+/- 10%
CHLOROBENZENE-D5	100.00 PPB	110.00 PPB	+/- 10%
NITROGEN	Balance		

Permanent Notes: RESTEK P/N 26353

Lot 11/2/16

Approved for Release

Analytical Standard Record
EPA Region 9 Laboratory
1645034

Description:	TO-15 CAL1 1.0 ppbv (VIRTUAL)	**Expires:**	11/13/16
Standard Type:	Other Solution	**Prepared:**	11/02/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	11/02/16 16:47 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
Acetone	67-64-1	0.0011
1,4-Dioxane	123-91-1	0.0011
2,2,4-Trimethylpentane	540-84-1	0.00106
2-Butanone (MEK)	78-93-3	0.00109
2-Hexanone	591-78-6	0.00109
2-Propanol	67-63-0	0.0011
Bromoform	75-25-2	0.00107
4-Methyl-2-pentanone (MIBK)	108-10-1	0.00107
1,3-Dichlorobenzene	541-73-1	0.00105
Allyl chloride	107-05-1	0.0011
Benzene	71-43-2	0.00103
Benzyl chloride	100-44-7	0.0011
Bromochloromethane	74-97-5	0.022
Bromodichloromethane	75-27-4	0.00107
1,1,1-Trichloroethane	71-55-6	0.00098
4-Ethyltoluene	622-96-8	0.00108
1,2-Dichlorobenzene	95-50-1	0.00104
1,1,2,2-Tetrachloroethane	79-34-5	0.00104
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.00102
1,1,2-Trichloroethane	79-00-5	0.00106
1,1-Dichloroethane	75-34-3	0.001
1,1-Dichloroethene	75-35-4	0.00104
1,2,4-Trichlorobenzene	120-82-1	0.00104
1,4-Difluorobenzene	540-36-3	0.022
1,2-Dibromoethane (EDB)	106-93-4	0.00109
1,4-Dichlorobenzene	106-46-7	0.00105
1,2-Dichloroethane	107-06-2	0.001
1,2-Dichloropropane	78-87-5	0.00103
1,2-Dichlorotetrafluoroethane	76-14-2	0.001
1,3,5-Trimethylbenzene	108-67-8	0.00107

Analytical Standard Record

EPA Region 9 Laboratory

1645034

1,3-Butadiene	106-99-0	0.00101
Bromomethane	74-83-9	0.001
1,2,4-Trimethylbenzene	95-63-6	0.00106
Tetrahydrofuran	109-99-9	0.00106
Hexane	110-54-3	0.00104
m&p-Xylene	179601-23-1	0.00212
o-Xylene	95-47-6	0.00105
Propene	115-07-1	0.0011
Styrene	100-42-5	0.00103
Bromoethene	593-60-2	0.0011
Tetrachloroethene	127-18-4	0.00106
Ethylbenzene	100-41-4	0.00105
Toluene	108-88-3	0.00105
trans-1,2-Dichloroethene	156-60-5	0.00109
trans-1,3-Dichloropropene	10061-02-6	0.00106
Trichloroethene	79-01-6	0.00108
Trichlorofluoromethane	75-69-4	0.00098
Vinyl acetate	108-05-4	0.00109
tert-Butyl methyl ether (MTBE)	1634-04-4	0.00108
cis-1,2-Dichloroethene	156-59-2	0.00104
Carbon disulfide	75-15-0	0.0011
Carbon tetrachloride	56-23-5	0.00097
Chlorobenzene	108-90-7	0.00107
Chlorobenzene-d5	3114-55-4	0.022
Chlorodibromomethane	124-48-1	0.00108
Chloroethane	75-00-3	0.001
Hexachlorobutadiene	87-68-3	0.00103
Chloromethane	74-87-3	0.00106
Heptane	142-82-5	0.00106
cis-1,3-Dichloropropene	10061-01-5	0.00108
Cyclohexane	110-82-7	0.00106
Dichlorodifluoromethane	75-71-8	0.00097
Dichloromethane	75-09-2	0.00101
Ethyl acetate	141-78-6	0.00108
Vinyl chloride	75-01-4	0.00104
Chloroform	67-66-3	0.00101

Analytical Standard Record
EPA Region 9 Laboratory
1645034

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1645030	TO-14A Internal Standard Mix, Stc	10/17/16	** Vendor **	10/17/17	11/02/16 10:28 by LLH	40
1643021	TO-15 LOW Std, 10 ppbv	10/18/16	Liza Hernandez	11/13/16	10/18/16 10:07 by LLH	20

Analytical Standard Record
EPA Region 9 Laboratory
1645035

Description:	TO-15 CAL2 2.0 ppbv (VIRTUAL)	**Expires:**	11/13/16
Standard Type:	Other Solution	**Prepared:**	11/02/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	11/02/16 16:49 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
Acetone	67-64-1	0.0022
1,4-Dioxane	123-91-1	0.0022
2,2,4-Trimethylpentane	540-84-1	0.00212
2-Butanone (MEK)	78-93-3	0.00218
2-Hexanone	591-78-6	0.00218
2-Propanol	67-63-0	0.0022
Bromoform	75-25-2	0.00214
4-Methyl-2-pentanone (MIBK)	108-10-1	0.00214
1,3-Dichlorobenzene	541-73-1	0.0021
Allyl chloride	107-05-1	0.0022
Benzene	71-43-2	0.00206
Benzyl chloride	100-44-7	0.0022
Bromochloromethane	74-97-5	0.022
Bromodichloromethane	75-27-4	0.00214
1,1,1-Trichloroethane	71-55-6	0.00196
4-Ethyltoluene	622-96-8	0.00216
1,2-Dichlorobenzene	95-50-1	0.00208
1,1,2,2-Tetrachloroethane	79-34-5	0.00208
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.00204
1,1,2-Trichloroethane	79-00-5	0.00212
1,1-Dichloroethane	75-34-3	0.002
1,1-Dichloroethene	75-35-4	0.00208
1,2,4-Trichlorobenzene	120-82-1	0.00208
1,4-Difluorobenzene	540-36-3	0.022
1,2-Dibromoethane (EDB)	106-93-4	0.00218
1,4-Dichlorobenzene	106-46-7	0.0021
1,2-Dichloroethane	107-06-2	0.002
1,2-Dichloropropane	78-87-5	0.00206
1,2-Dichlorotetrafluoroethane	76-14-2	0.002
1,3,5-Trimethylbenzene	108-67-8	0.00214

Analytical Standard Record

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1645035

1,3-Butadiene	106-99-0	0.00202
Bromomethane	74-83-9	0.002
1,2,4-Trimethylbenzene	95-63-6	0.00212
Tetrahydrofuran	109-99-9	0.00212
Hexane	110-54-3	0.00208
m&p-Xylene	179601-23-1	0.00424
o-Xylene	95-47-6	0.0021
Propene	115-07-1	0.0022
Styrene	100-42-5	0.00206
Bromoethene	593-60-2	0.0022
Tetrachloroethene	127-18-4	0.00212
Ethylbenzene	100-41-4	0.0021
Toluene	108-88-3	0.0021
trans-1,2-Dichloroethene	156-60-5	0.00218
trans-1,3-Dichloropropene	10061-02-6	0.00212
Trichloroethene	79-01-6	0.00216
Trichlorofluoromethane	75-69-4	0.00196
Vinyl acetate	108-05-4	0.00218
tert-Butyl methyl ether (MTBE)	1634-04-4	0.00216
cis-1,2-Dichloroethene	156-59-2	0.00208
Carbon disulfide	75-15-0	0.0022
Carbon tetrachloride	56-23-5	0.00194
Chlorobenzene	108-90-7	0.00214
Chlorobenzene-d5	3114-55-4	0.022
Chlorodibromomethane	124-48-1	0.00216
Chloroethane	75-00-3	0.002
Hexachlorobutadiene	87-68-3	0.00206
Chloromethane	74-87-3	0.00212
Heptane	142-82-5	0.00212
cis-1,3-Dichloropropene	10061-01-5	0.00216
Cyclohexane	110-82-7	0.00212
Dichlorodifluoromethane	75-71-8	0.00194
Dichloromethane	75-09-2	0.00202
Ethyl acetate	141-78-6	0.00216
Vinyl chloride	75-01-4	0.00208
Chloroform	67-66-3	0.00202

Analytical Standard Record
EPA Region 9 Laboratory
1645035

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1645030	TO-14A Internal Standard Mix, Stc	10/17/16	** Vendor **	10/17/17	11/02/16 10:28 by LLH	40
1643022	TO-15 Std, 20 ppbv	10/18/16	Liza Hernandez	11/13/16	10/18/16 10:08 by LLH	20

Analytical Standard Record
EPA Region 9 Laboratory
1645036

Description:	TO-15 CAL3 5.0 ppbv (VIRTUAL)	**Expires:**	11/13/16
Standard Type:	Other Solution	**Prepared:**	11/02/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	11/02/16 16:50 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
Acetone	67-64-1	0.0055
1,4-Dioxane	123-91-1	0.0055
2,2,4-Trimethylpentane	540-84-1	0.0053
2-Butanone (MEK)	78-93-3	0.00545
2-Hexanone	591-78-6	0.00545
2-Propanol	67-63-0	0.0055
Bromoform	75-25-2	0.00535
4-Methyl-2-pentanone (MIBK)	108-10-1	0.00535
1,3-Dichlorobenzene	541-73-1	0.00525
Allyl chloride	107-05-1	0.0055
Benzene	71-43-2	0.00515
Benzyl chloride	100-44-7	0.0055
Bromochloromethane	74-97-5	0.022
Bromodichloromethane	75-27-4	0.00535
1,1,1-Trichloroethane	71-55-6	0.0049
4-Ethyltoluene	622-96-8	0.0054
1,2-Dichlorobenzene	95-50-1	0.0052
1,1,2,2-Tetrachloroethane	79-34-5	0.0052
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.0051
1,1,2-Trichloroethane	79-00-5	0.0053
1,1-Dichloroethane	75-34-3	0.005
1,1-Dichloroethene	75-35-4	0.0052
1,2,4-Trichlorobenzene	120-82-1	0.0052
1,4-Difluorobenzene	540-36-3	0.022
1,2-Dibromoethane (EDB)	106-93-4	0.00545
1,4-Dichlorobenzene	106-46-7	0.00525
1,2-Dichloroethane	107-06-2	0.005
1,2-Dichloropropane	78-87-5	0.00515
1,2-Dichlorotetrafluoroethane	76-14-2	0.005
1,3,5-Trimethylbenzene	108-67-8	0.00535

Analytical Standard Record

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1,3-Butadiene	106-99-0	0.00505
Bromomethane	74-83-9	0.005
1,2,4-Trimethylbenzene	95-63-6	0.0053
Tetrahydrofuran	109-99-9	0.0053
Hexane	110-54-3	0.0052
m&p-Xylene	179601-23-1	0.0106
o-Xylene	95-47-6	0.00525
Propene	115-07-1	0.0055
Styrene	100-42-5	0.00515
Bromoethene	593-60-2	0.0055
Tetrachloroethene	127-18-4	0.0053
Ethylbenzene	100-41-4	0.00525
Toluene	108-88-3	0.00525
trans-1,2-Dichloroethene	156-60-5	0.00545
trans-1,3-Dichloropropene	10061-02-6	0.0053
Trichloroethene	79-01-6	0.0054
Trichlorofluoromethane	75-69-4	0.0049
Vinyl acetate	108-05-4	0.00545
tert-Butyl methyl ether (MTBE)	1634-04-4	0.0054
cis-1,2-Dichloroethene	156-59-2	0.0052
Carbon disulfide	75-15-0	0.0055
Carbon tetrachloride	56-23-5	0.00485
Chlorobenzene	108-90-7	0.00535
Chlorobenzene-d5	3114-55-4	0.022
Chlorodibromomethane	124-48-1	0.0054
Chloroethane	75-00-3	0.005
Hexachlorobutadiene	87-68-3	0.00515
Chloromethane	74-87-3	0.0053
Heptane	142-82-5	0.0053
cis-1,3-Dichloropropene	10061-01-5	0.0054
Cyclohexane	110-82-7	0.0053
Dichlorodifluoromethane	75-71-8	0.00485
Dichloromethane	75-09-2	0.00505
Ethyl acetate	141-78-6	0.0054
Vinyl chloride	75-01-4	0.0052
Chloroform	67-66-3	0.00505

Analytical Standard Record
EPA Region 9 Laboratory
1645036

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1645030	TO-14A Internal Standard Mix, Stc	10/17/16	** Vendor **	10/17/17	11/02/16 10:28 by LLH	40
1643022	TO-15 Std, 20 ppbv	10/18/16	Liza Hernandez	11/13/16	10/18/16 10:08 by LLH	50

Analytical Standard Record
EPA Region 9 Laboratory
1645037

Description:	TO-15 CAL4 10 ppbv (VIRTUAL)	**Expires:**	11/13/16
Standard Type:	Other Solution	**Prepared:**	11/02/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	11/02/16 16:50 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
Acetone	67-64-1	0.011
1,4-Dioxane	123-91-1	0.011
2,2,4-Trimethylpentane	540-84-1	0.0106
2-Butanone (MEK)	78-93-3	0.0109
2-Hexanone	591-78-6	0.0109
2-Propanol	67-63-0	0.011
Bromoform	75-25-2	0.0107
4-Methyl-2-pentanone (MIBK)	108-10-1	0.0107
1,3-Dichlorobenzene	541-73-1	0.0105
Allyl chloride	107-05-1	0.011
Benzene	71-43-2	0.0103
Benzyl chloride	100-44-7	0.011
Bromochloromethane	74-97-5	0.022
Bromodichloromethane	75-27-4	0.0107
1,1,1-Trichloroethane	71-55-6	0.0098
4-Ethyltoluene	622-96-8	0.0108
1,2-Dichlorobenzene	95-50-1	0.0104
1,1,2,2-Tetrachloroethane	79-34-5	0.0104
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.0102
1,1,2-Trichloroethane	79-00-5	0.0106
1,1-Dichloroethane	75-34-3	0.01
1,1-Dichloroethene	75-35-4	0.0104
1,2,4-Trichlorobenzene	120-82-1	0.0104
1,4-Difluorobenzene	540-36-3	0.022
1,2-Dibromoethane (EDB)	106-93-4	0.0109
1,4-Dichlorobenzene	106-46-7	0.0105
1,2-Dichloroethane	107-06-2	0.01
1,2-Dichloropropane	78-87-5	0.0103
1,2-Dichlorotetrafluoroethane	76-14-2	0.01
1,3,5-Trimethylbenzene	108-67-8	0.0107

Analytical Standard Record

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1645037

1,3-Butadiene	106-99-0	0.0101
Bromomethane	74-83-9	0.01
1,2,4-Trimethylbenzene	95-63-6	0.0106
Tetrahydrofuran	109-99-9	0.0106
Hexane	110-54-3	0.0104
m&p-Xylene	179601-23-1	0.0212
o-Xylene	95-47-6	0.0105
Propene	115-07-1	0.011
Styrene	100-42-5	0.0103
Bromoethene	593-60-2	0.011
Tetrachloroethene	127-18-4	0.0106
Ethylbenzene	100-41-4	0.0105
Toluene	108-88-3	0.0105
trans-1,2-Dichloroethene	156-60-5	0.0109
trans-1,3-Dichloropropene	10061-02-6	0.0106
Trichloroethene	79-01-6	0.0108
Trichlorofluoromethane	75-69-4	0.0098
Vinyl acetate	108-05-4	0.0109
tert-Butyl methyl ether (MTBE)	1634-04-4	0.0108
cis-1,2-Dichloroethene	156-59-2	0.0104
Carbon disulfide	75-15-0	0.011
Carbon tetrachloride	56-23-5	0.0097
Chlorobenzene	108-90-7	0.0107
Chlorobenzene-d5	3114-55-4	0.022
Chlorodibromomethane	124-48-1	0.0108
Chloroethane	75-00-3	0.01
Hexachlorobutadiene	87-68-3	0.0103
Chloromethane	74-87-3	0.0106
Heptane	142-82-5	0.0106
cis-1,3-Dichloropropene	10061-01-5	0.0108
Cyclohexane	110-82-7	0.0106
Dichlorodifluoromethane	75-71-8	0.0097
Dichloromethane	75-09-2	0.0101
Ethyl acetate	141-78-6	0.0108
Vinyl chloride	75-01-4	0.0104
Chloroform	67-66-3	0.0101

Analytical Standard Record
EPA Region 9 Laboratory
1645037

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1643022	TO-15 Std, 20 ppbv	10/18/16	Liza Hernandez	11/13/16	10/18/16 10:08 by LLH	100
1645030	TO-14A Internal Standard Mix, Stc	10/17/16	** Vendor **	10/17/17	11/02/16 10:28 by LLH	40

Analytical Standard Record
EPA Region 9 Laboratory
1645038

Description:	TO-15 CAL5 15 ppbv (VIRTUAL)	**Expires:**	11/13/16
Standard Type:	Other Solution	**Prepared:**	11/02/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	11/02/16 16:51 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
Acetone	67-64-1	0.0165
1,4-Dioxane	123-91-1	0.0165
2,2,4-Trimethylpentane	540-84-1	0.0159
2-Butanone (MEK)	78-93-3	0.0164
2-Hexanone	591-78-6	0.0164
2-Propanol	67-63-0	0.0165
Bromoform	75-25-2	0.016
4-Methyl-2-pentanone (MIBK)	108-10-1	0.016
1,3-Dichlorobenzene	541-73-1	0.0158
Allyl chloride	107-05-1	0.0165
Benzene	71-43-2	0.0154
Benzyl chloride	100-44-7	0.0165
Bromochloromethane	74-97-5	0.022
Bromodichloromethane	75-27-4	0.016
1,1,1-Trichloroethane	71-55-6	0.0147
4-Ethyltoluene	622-96-8	0.0162
1,2-Dichlorobenzene	95-50-1	0.0156
1,1,2,2-Tetrachloroethane	79-34-5	0.0156
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.0153
1,1,2-Trichloroethane	79-00-5	0.0159
1,1-Dichloroethane	75-34-3	0.015
1,1-Dichloroethene	75-35-4	0.0156
1,2,4-Trichlorobenzene	120-82-1	0.0156
1,4-Difluorobenzene	540-36-3	0.022
1,2-Dibromoethane (EDB)	106-93-4	0.0164
1,4-Dichlorobenzene	106-46-7	0.0158
1,2-Dichloroethane	107-06-2	0.015
1,2-Dichloropropane	78-87-5	0.0154
1,2-Dichlorotetrafluoroethane	76-14-2	0.015
1,3,5-Trimethylbenzene	108-67-8	0.016

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1,3-Butadiene	106-99-0	0.0152
Bromomethane	74-83-9	0.015
1,2,4-Trimethylbenzene	95-63-6	0.0159
Tetrahydrofuran	109-99-9	0.0159
Hexane	110-54-3	0.0156
m&p-Xylene	179601-23-1	0.0318
o-Xylene	95-47-6	0.0158
Propene	115-07-1	0.0165
Styrene	100-42-5	0.0154
Bromoethene	593-60-2	0.0165
Tetrachloroethene	127-18-4	0.0159
Ethylbenzene	100-41-4	0.0158
Toluene	108-88-3	0.0158
trans-1,2-Dichloroethene	156-60-5	0.0164
trans-1,3-Dichloropropene	10061-02-6	0.0159
Trichloroethene	79-01-6	0.0162
Trichlorofluoromethane	75-69-4	0.0147
Vinyl acetate	108-05-4	0.0164
tert-Butyl methyl ether (MTBE)	1634-04-4	0.0162
cis-1,2-Dichloroethene	156-59-2	0.0156
Carbon disulfide	75-15-0	0.0165
Carbon tetrachloride	56-23-5	0.0146
Chlorobenzene	108-90-7	0.016
Chlorobenzene-d5	3114-55-4	0.022
Chlorodibromomethane	124-48-1	0.0162
Chloroethane	75-00-3	0.015
Hexachlorobutadiene	87-68-3	0.0154
Chloromethane	74-87-3	0.0159
Heptane	142-82-5	0.0159
cis-1,3-Dichloropropene	10061-01-5	0.0162
Cyclohexane	110-82-7	0.0159
Dichlorodifluoromethane	75-71-8	0.0146
Dichloromethane	75-09-2	0.0152
Ethyl acetate	141-78-6	0.0162
Vinyl chloride	75-01-4	0.0156
Chloroform	67-66-3	0.0152

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1645038

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1645030	TO-14A Internal Standard Mix, Stc	10/17/16	** Vendor **	10/17/17	11/02/16 10:28 by LLH	40
1643022	TO-15 Std, 20 ppbv	10/18/16	Liza Hernandez	11/13/16	10/18/16 10:08 by LLH	150

Analytical Standard Record
EPA Region 9 Laboratory
1645039

Description:	TO-15 CAL6 20 ppbv (VIRTUAL)	**Expires:**	11/13/16
Standard Type:	Other Solution	**Prepared:**	11/02/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	11/02/16 16:52 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
Acetone	67-64-1	0.022
1,4-Dioxane	123-91-1	0.022
2,2,4-Trimethylpentane	540-84-1	0.0212
2-Butanone (MEK)	78-93-3	0.0218
2-Hexanone	591-78-6	0.0218
2-Propanol	67-63-0	0.022
Bromoform	75-25-2	0.0214
4-Methyl-2-pentanone (MIBK)	108-10-1	0.0214
1,3-Dichlorobenzene	541-73-1	0.021
Allyl chloride	107-05-1	0.022
Benzene	71-43-2	0.0206
Benzyl chloride	100-44-7	0.022
Bromochloromethane	74-97-5	0.022
Bromodichloromethane	75-27-4	0.0214
1,1,1-Trichloroethane	71-55-6	0.0196
4-Ethyltoluene	622-96-8	0.0216
1,2-Dichlorobenzene	95-50-1	0.0208
1,1,2,2-Tetrachloroethane	79-34-5	0.0208
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.0204
1,1,2-Trichloroethane	79-00-5	0.0212
1,1-Dichloroethane	75-34-3	0.02
1,1-Dichloroethene	75-35-4	0.0208
1,2,4-Trichlorobenzene	120-82-1	0.0208
1,4-Difluorobenzene	540-36-3	0.022
1,2-Dibromoethane (EDB)	106-93-4	0.0218
1,4-Dichlorobenzene	106-46-7	0.021
1,2-Dichloroethane	107-06-2	0.02
1,2-Dichloropropane	78-87-5	0.0206
1,2-Dichlorotetrafluoroethane	76-14-2	0.02
1,3,5-Trimethylbenzene	108-67-8	0.0214

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1,3-Butadiene	106-99-0	0.0202
Bromomethane	74-83-9	0.02
1,2,4-Trimethylbenzene	95-63-6	0.0212
Tetrahydrofuran	109-99-9	0.0212
Hexane	110-54-3	0.0208
m&p-Xylene	179601-23-1	0.0424
o-Xylene	95-47-6	0.021
Propene	115-07-1	0.022
Styrene	100-42-5	0.0206
Bromoethene	593-60-2	0.022
Tetrachloroethene	127-18-4	0.0212
Ethylbenzene	100-41-4	0.021
Toluene	108-88-3	0.021
trans-1,2-Dichloroethene	156-60-5	0.0218
trans-1,3-Dichloropropene	10061-02-6	0.0212
Trichloroethene	79-01-6	0.0216
Trichlorofluoromethane	75-69-4	0.0196
Vinyl acetate	108-05-4	0.0218
tert-Butyl methyl ether (MTBE)	1634-04-4	0.0216
cis-1,2-Dichloroethene	156-59-2	0.0208
Carbon disulfide	75-15-0	0.022
Carbon tetrachloride	56-23-5	0.0194
Chlorobenzene	108-90-7	0.0214
Chlorobenzene-d5	3114-55-4	0.022
Chlorodibromomethane	124-48-1	0.0216
Chloroethane	75-00-3	0.02
Hexachlorobutadiene	87-68-3	0.0206
Chloromethane	74-87-3	0.0212
Heptane	142-82-5	0.0212
cis-1,3-Dichloropropene	10061-01-5	0.0216
Cyclohexane	110-82-7	0.0212
Dichlorodifluoromethane	75-71-8	0.0194
Dichloromethane	75-09-2	0.0202
Ethyl acetate	141-78-6	0.0216
Vinyl chloride	75-01-4	0.0208
Chloroform	67-66-3	0.0202

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1645039

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1645030	TO-14A Internal Standard Mix, Stc	10/17/16	** Vendor **	10/17/17	11/02/16 10:28 by LLH	40
1643022	TO-15 Std, 20 ppbv	10/18/16	Liza Hernandez	11/13/16	10/18/16 10:08 by LLH	200

Analytical Standard Record
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1645040

Description:	TO15 LCS Std, VIRTUAL	**Expires:**	11/13/16
Standard Type:	Analyte Spike	**Prepared:**	11/02/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	11/02/16 16:53 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
Acetone	67-64-1	0.022
1,4-Dioxane	123-91-1	0.022
2,2,4-Trimethylpentane	540-84-1	0.0212
2-Butanone (MEK)	78-93-3	0.0218
2-Hexanone	591-78-6	0.0218
2-Propanol	67-63-0	0.022
Bromoform	75-25-2	0.0214
4-Methyl-2-pentanone (MIBK)	108-10-1	0.0214
1,3-Dichlorobenzene	541-73-1	0.021
Allyl chloride	107-05-1	0.022
Benzene	71-43-2	0.0206
Benzyl chloride	100-44-7	0.022
Bromochloromethane	74-97-5	0.022
Bromodichloromethane	75-27-4	0.0214
1,1,1-Trichloroethane	71-55-6	0.0196
4-Ethyltoluene	622-96-8	0.0216
1,2-Dichlorobenzene	95-50-1	0.0208
1,1,2,2-Tetrachloroethane	79-34-5	0.0208
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.0204
1,1,2-Trichloroethane	79-00-5	0.0212
1,1-Dichloroethane	75-34-3	0.02
1,1-Dichloroethene	75-35-4	0.0208
1,2,4-Trichlorobenzene	120-82-1	0.0208
1,4-Difluorobenzene	540-36-3	0.022
1,2-Dibromoethane (EDB)	106-93-4	0.0218
1,4-Dichlorobenzene	106-46-7	0.021
1,2-Dichloroethane	107-06-2	0.02
1,2-Dichloropropane	78-87-5	0.0206
1,2-Dichlorotetrafluoroethane	76-14-2	0.02
1,3,5-Trimethylbenzene	108-67-8	0.0214

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1,3-Butadiene	106-99-0	0.0202
Bromomethane	74-83-9	0.02
1,2,4-Trimethylbenzene	95-63-6	0.0212
Tetrahydrofuran	109-99-9	0.0212
Hexane	110-54-3	0.0208
m&p-Xylene	179601-23-1	0.0424
o-Xylene	95-47-6	0.021
Propene	115-07-1	0.022
Styrene	100-42-5	0.0206
Bromoethene	593-60-2	0.022
Tetrachloroethene	127-18-4	0.0212
Ethylbenzene	100-41-4	0.021
Toluene	108-88-3	0.021
trans-1,2-Dichloroethene	156-60-5	0.0218
trans-1,3-Dichloropropene	10061-02-6	0.0212
Trichloroethene	79-01-6	0.0216
Trichlorofluoromethane	75-69-4	0.0196
Vinyl acetate	108-05-4	0.0218
tert-Butyl methyl ether (MTBE)	1634-04-4	0.0216
cis-1,2-Dichloroethene	156-59-2	0.0208
Carbon disulfide	75-15-0	0.022
Carbon tetrachloride	56-23-5	0.0194
Chlorobenzene	108-90-7	0.0214
Chlorobenzene-d5	3114-55-4	0.022
Chlorodibromomethane	124-48-1	0.0216
Chloroethane	75-00-3	0.02
Hexachlorobutadiene	87-68-3	0.0206
Chloromethane	74-87-3	0.0212
Heptane	142-82-5	0.0212
cis-1,3-Dichloropropene	10061-01-5	0.0216
Cyclohexane	110-82-7	0.0212
Dichlorodifluoromethane	75-71-8	0.0194
Dichloromethane	75-09-2	0.0202
Ethyl acetate	141-78-6	0.0216
Vinyl chloride	75-01-4	0.0208
Chloroform	67-66-3	0.0202

Analytical Standard Record
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1645040

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1643022	TO-15 Std, 20 ppbv	10/18/16	Liza Hernandez	11/13/16	10/18/16 10:08 by LLH	200
1645030	TO-14A Internal Standard Mix, Stc	10/17/16	** Vendor **	10/17/17	11/02/16 10:28 by LLH	40

Analytical Standard Record
EPA Region 9 Laboratory
1645041

Description:	TO-15 SCV 10 ppbv (VIRTUAL)	**Expires:**	11/05/16
Standard Type:	Other Solution	**Prepared:**	11/02/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	11/02/16 16:54 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	0.01
2-Butanone (MEK)	78-93-3	0.01
2-Hexanone	591-78-6	0.01
2-Propanol	67-63-0	0.0092
Bromoform	75-25-2	0.011
4-Methyl-2-pentanone (MIBK)	108-10-1	0.011
1,3-Dichlorobenzene	541-73-1	0.011
Allyl chloride	107-05-1	0.011
Benzene	71-43-2	0.011
Benzyl chloride	100-44-7	0.011
Bromochloromethane	74-97-5	0.022
Bromodichloromethane	75-27-4	0.01
1,1,1-Trichloroethane	71-55-6	0.01
4-Ethyltoluene	622-96-8	0.011
1,2-Dichlorobenzene	95-50-1	0.011
1,1,2,2-Tetrachloroethane	79-34-5	0.011
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.011
1,1,2-Trichloroethane	79-00-5	0.011
1,1-Dichloroethane	75-34-3	0.012
1,1-Dichloroethene	75-35-4	0.011
1,2,4-Trichlorobenzene	120-82-1	0.011
1,4-Difluorobenzene	540-36-3	0.022
1,2-Dibromoethane (EDB)	106-93-4	0.01
1,4-Dichlorobenzene	106-46-7	0.011
1,2-Dichloroethane	107-06-2	0.011
1,2-Dichloropropane	78-87-5	0.011
1,2-Dichlorotetrafluoroethane	76-14-2	0.01
1,3,5-Trimethylbenzene	108-67-8	0.011

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1,3-Butadiene	106-99-0	0.011
Bromomethane	74-83-9	0.011
1,2,4-Trimethylbenzene	95-63-6	0.011
Tetrahydrofuran	109-99-9	0.0096
Hexane	110-54-3	0.011
m&p-Xylene	179601-23-1	0.022
o-Xylene	95-47-6	0.011
Propene	115-07-1	0.011
Styrene	100-42-5	0.011
Bromoethene	593-60-2	0.011
Tetrachloroethene	127-18-4	0.011
Ethylbenzene	100-41-4	0.011
Toluene	108-88-3	0.011
trans-1,2-Dichloroethene	156-60-5	0.01
trans-1,3-Dichloropropene	10061-02-6	0.011
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	0.01
cis-1,2-Dichloroethene	156-59-2	0.011
Carbon disulfide	75-15-0	0.0099
Carbon tetrachloride	56-23-5	0.011
Chlorobenzene	108-90-7	0.011
Chlorobenzene-d5	3114-55-4	0.022
Chlorodibromomethane	124-48-1	0.0099
Chloroethane	75-00-3	0.01
Hexachlorobutadiene	87-68-3	0.011
Chloromethane	74-87-3	0.011
Heptane	142-82-5	0.01
cis-1,3-Dichloropropene	10061-01-5	0.011
Cyclohexane	110-82-7	0.01
Dichlorodifluoromethane	75-71-8	0.011
Dichloromethane	75-09-2	0.011
Ethyl acetate	141-78-6	0.01
Vinyl chloride	75-01-4	0.012
Chloroform	67-66-3	0.011

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1645041

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1645030	TO-14A Internal Standard Mix, Stc	10/17/16	** Vendor **	10/17/17	11/02/16 10:28 by LLH	40
1641048	TO-15 SCV Std, 10 ppbv	10/05/16	Liza Hernandez	11/05/16	10/05/16 15:31 by LLH	200

Analytical Standard Record

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1646033

Description:	TO-15 LOW Std, 10 ppbv	**Expires:**	12/06/16
Standard Type:	Other Solution	**Prepared:**	11/08/16
Solvent:	Zero Grade Air	**Prepared By:**	Estrellita Manuel
Final Volume (mls):	2500	**Department:**	Air
Vials:	2	**Last Edit:**	11/08/16 12:11 by EM
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
1,3-Butadiene	106-99-0	0.0105
Bromoethene	593-60-2	0.0106
Bromodichloromethane	75-27-4	0.0106
Benzyl chloride	100-44-7	0.0107
Benzene	71-43-2	0.0103
Allyl chloride	107-05-1	0.011
Acetone	67-64-1	0.011
4-Methyl-2-pentanone (MIBK)	108-10-1	0.0104
4-Ethyltoluene	622-96-8	0.0102
2-Propanol	67-63-0	0.0092
2-Hexanone	591-78-6	0.0101
2-Butanone (MEK)	78-93-3	0.0105
2,2,4-Trimethylpentane	540-84-1	0.0105
1,4-Dioxane	123-91-1	0.0103
1,1,1-Trichloroethane	71-55-6	0.0098
1,2-Dibromoethane (EDB)	106-93-4	0.0109
1,1,2,2-Tetrachloroethane	79-34-5	0.0104
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.0102
1,1,2-Trichloroethane	79-00-5	0.0106
1,1-Dichloroethane	75-34-3	0.01
1,1-Dichloroethene	75-35-4	0.0104
1,4-Dichlorobenzene	106-46-7	0.0105
1,2,4-Trimethylbenzene	95-63-6	0.0106
1,3-Dichlorobenzene	541-73-1	0.0105
1,2-Dichlorobenzene	95-50-1	0.0104
1,2-Dichloroethane	107-06-2	0.01
1,2-Dichloropropane	78-87-5	0.0103
1,2-Dichlorotetrafluoroethane	76-14-2	0.01
1,3,5-Trimethylbenzene	108-67-8	0.0107
Carbon disulfide	75-15-0	0.0105

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1,2,4-Trichlorobenzene	120-82-1	0.0104
Tetrahydrofuran	109-99-9	0.0102
Bromoform	75-25-2	0.0106
m&p-Xylene	179601-23-1	0.0212
o-Xylene	95-47-6	0.0105
Propene	115-07-1	0.011
Styrene	100-42-5	0.0103
Hexachlorobutadiene	87-68-3	0.0103
Tetrachloroethene	127-18-4	0.0106
Heptane	142-82-5	0.0106
Toluene	108-88-3	0.0105
trans-1,2-Dichloroethene	156-60-5	0.011
trans-1,3-Dichloropropene	10061-02-6	0.0106
Trichloroethene	79-01-6	0.0108
Trichlorofluoromethane	75-69-4	0.0098
Vinyl acetate	108-05-4	0.0103
tert-Butyl methyl ether (MTBE)	1634-04-4	0.0107
cis-1,2-Dichloroethene	156-59-2	0.0104
Vinyl chloride	75-01-4	0.0104
Carbon tetrachloride	56-23-5	0.0097
Chlorobenzene	108-90-7	0.0107
Chlorodibromomethane	124-48-1	0.0106
Chloroethane	75-00-3	0.01
Hexane	110-54-3	0.0104
Chloromethane	74-87-3	0.0106
Bromomethane	74-83-9	0.01
cis-1,3-Dichloropropene	10061-01-5	0.0108
Cyclohexane	110-82-7	0.0106
Dichlorodifluoromethane	75-71-8	0.0097
Dichloromethane	75-09-2	0.0101
Ethyl acetate	141-78-6	0.0105
Ethylbenzene	100-41-4	0.0105
Chloroform	67-66-3	0.0101

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1604090	TO-14A 39 Component Mix Stand	01/13/16	** Vendor **	01/13/17	01/22/16 10:00 by LLH	25
1621095	TO-15 25 Compound Subset Stand	05/01/16	** Vendor **	05/01/17	05/18/16 16:52 by EM	25

Analytical Standard Record

EPA Region 9 Laboratory

1646033

Description:	TO-15 LOW Std, 10 ppbv	**Expires:**	12/06/16
Standard Type:	Other Solution	**Prepared:**	11/08/16
Solvent:	Zero Grade Air	**Prepared By:**	Estrellita Manuel
Final Volume (mls):	2500	**Department:**	Air
Vials:	2	**Last Edit:**	11/08/16 12:11 by EM
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
1,3-Butadiene	106-99-0	0.0105
Bromoethene	593-60-2	0.0106
Bromodichloromethane	75-27-4	0.0106
Benzyl chloride	100-44-7	0.0107
Benzene	71-43-2	0.0103
Allyl chloride	107-05-1	0.011
Acetone	67-64-1	0.011
4-Methyl-2-pentanone (MIBK)	108-10-1	0.0104
4-Ethyltoluene	622-96-8	0.0102
2-Propanol	67-63-0	0.0092
2-Hexanone	591-78-6	0.0101
2-Butanone (MEK)	78-93-3	0.0105
2,2,4-Trimethylpentane	540-84-1	0.0105
1,4-Dioxane	123-91-1	0.0103
1,1,1-Trichloroethane	71-55-6	0.0098
1,2-Dibromoethane (EDB)	106-93-4	0.0109
1,1,2,2-Tetrachloroethane	79-34-5	0.0104
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.0102
1,1,2-Trichloroethane	79-00-5	0.0106
1,1-Dichloroethane	75-34-3	0.01
1,1-Dichloroethene	75-35-4	0.0104
1,4-Dichlorobenzene	106-46-7	0.0105
1,2,4-Trimethylbenzene	95-63-6	0.0106
1,3-Dichlorobenzene	541-73-1	0.0105
1,2-Dichlorobenzene	95-50-1	0.0104
1,2-Dichloroethane	107-06-2	0.01
1,2-Dichloropropane	78-87-5	0.0103
1,2-Dichlorotetrafluoroethane	76-14-2	0.01
1,3,5-Trimethylbenzene	108-67-8	0.0107
Carbon disulfide	75-15-0	0.0105

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1,2,4-Trichlorobenzene	120-82-1	0.0104
Tetrahydrofuran	109-99-9	0.0102
Bromoform	75-25-2	0.0106
m&p-Xylene	179601-23-1	0.0212
o-Xylene	95-47-6	0.0105
Propene	115-07-1	0.011
Styrene	100-42-5	0.0103
Hexachlorobutadiene	87-68-3	0.0103
Tetrachloroethene	127-18-4	0.0106
Heptane	142-82-5	0.0106
Toluene	108-88-3	0.0105
trans-1,2-Dichloroethene	156-60-5	0.011
trans-1,3-Dichloropropene	10061-02-6	0.0106
Trichloroethene	79-01-6	0.0108
Trichlorofluoromethane	75-69-4	0.0098
Vinyl acetate	108-05-4	0.0103
tert-Butyl methyl ether (MTBE)	1634-04-4	0.0107
cis-1,2-Dichloroethene	156-59-2	0.0104
Vinyl chloride	75-01-4	0.0104
Carbon tetrachloride	56-23-5	0.0097
Chlorobenzene	108-90-7	0.0107
Chlorodibromomethane	124-48-1	0.0106
Chloroethane	75-00-3	0.01
Hexane	110-54-3	0.0104
Chloromethane	74-87-3	0.0106
Bromomethane	74-83-9	0.01
cis-1,3-Dichloropropene	10061-01-5	0.0108
Cyclohexane	110-82-7	0.0106
Dichlorodifluoromethane	75-71-8	0.0097
Dichloromethane	75-09-2	0.0101
Ethyl acetate	141-78-6	0.0105
Ethylbenzene	100-41-4	0.0105
Chloroform	67-66-3	0.0101

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1604090	TO-14A 39 Component Mix Stand	01/13/16	** Vendor **	01/13/17	01/22/16 10:00 by LLH	25
1621095	TO-15 25 Compound Subset Stand	05/01/16	** Vendor **	05/01/17	05/18/16 16:52 by EM	25

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1646034

Description:	TO-15 CCV Std, 20 ppbv	**Expires:**	12/06/16
Standard Type:	Other Solution	**Prepared:**	11/08/16
Solvent:	Zero Grade Air	**Prepared By:**	Estrellita Manuel
Final Volume (mls):	2500	**Department:**	Air
Vials:	2	**Last Edit:**	11/08/16 12:15 by EM
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
1,3-Butadiene	106-99-0	0.021
Bromoethene	593-60-2	0.0212
Bromodichloromethane	75-27-4	0.0212
Benzyl chloride	100-44-7	0.0214
Benzene	71-43-2	0.0206
Allyl chloride	107-05-1	0.022
Acetone	67-64-1	0.022
4-Methyl-2-pentanone (MIBK)	108-10-1	0.0208
4-Ethyltoluene	622-96-8	0.0204
2-Propanol	67-63-0	0.0184
2-Hexanone	591-78-6	0.0202
2-Butanone (MEK)	78-93-3	0.021
2,2,4-Trimethylpentane	540-84-1	0.021
1,4-Dioxane	123-91-1	0.0206
1,1,1-Trichloroethane	71-55-6	0.0196
1,2-Dibromoethane (EDB)	106-93-4	0.0218
1,1,2,2-Tetrachloroethane	79-34-5	0.0208
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.0204
1,1,2-Trichloroethane	79-00-5	0.0212
1,1-Dichloroethane	75-34-3	0.02
1,1-Dichloroethene	75-35-4	0.0208
1,4-Dichlorobenzene	106-46-7	0.021
1,2,4-Trimethylbenzene	95-63-6	0.0212
1,3-Dichlorobenzene	541-73-1	0.021
1,2-Dichlorobenzene	95-50-1	0.0208
1,2-Dichloroethane	107-06-2	0.02
1,2-Dichloropropane	78-87-5	0.0206
1,2-Dichlorotetrafluoroethane	76-14-2	0.02
1,3,5-Trimethylbenzene	108-67-8	0.0214
Carbon disulfide	75-15-0	0.021

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1,2,4-Trichlorobenzene	120-82-1	0.0208
Tetrahydrofuran	109-99-9	0.0204
Bromoform	75-25-2	0.0212
m&p-Xylene	179601-23-1	0.0424
o-Xylene	95-47-6	0.021
Propene	115-07-1	0.022
Styrene	100-42-5	0.0206
Hexachlorobutadiene	87-68-3	0.0206
Tetrachloroethene	127-18-4	0.0212
Heptane	142-82-5	0.0212
Toluene	108-88-3	0.021
trans-1,2-Dichloroethene	156-60-5	0.022
trans-1,3-Dichloropropene	10061-02-6	0.0212
Trichloroethene	79-01-6	0.0216
Trichlorofluoromethane	75-69-4	0.0196
Vinyl acetate	108-05-4	0.0206
tert-Butyl methyl ether (MTBE)	1634-04-4	0.0214
cis-1,2-Dichloroethene	156-59-2	0.0208
Vinyl chloride	75-01-4	0.0208
Carbon tetrachloride	56-23-5	0.0194
Chlorobenzene	108-90-7	0.0214
Chlorodibromomethane	124-48-1	0.0212
Chloroethane	75-00-3	0.02
Hexane	110-54-3	0.0208
Chloromethane	74-87-3	0.0212
Bromomethane	74-83-9	0.02
cis-1,3-Dichloropropene	10061-01-5	0.0216
Cyclohexane	110-82-7	0.0212
Dichlorodifluoromethane	75-71-8	0.0194
Dichloromethane	75-09-2	0.0202
Ethyl acetate	141-78-6	0.021
Ethylbenzene	100-41-4	0.021
Chloroform	67-66-3	0.0202

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1621095	TO-15 25 Compound Subset Stand	05/01/16	** Vendor **	05/01/17	05/18/16 16:52 by EM	50
1604090	TO-14A 39 Component Mix Stand	01/13/16	** Vendor **	01/13/17	01/22/16 10:00 by LLH	50

Analytical Standard Record

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1646034

Description:	TO-15 CCV Std, 20 ppbv	**Expires:**	12/06/16
Standard Type:	Other Solution	**Prepared:**	11/08/16
Solvent:	Zero Grade Air	**Prepared By:**	Estrellita Manuel
Final Volume (mls):	2500	**Department:**	Air
Vials:	2	**Last Edit:**	11/08/16 12:15 by EM
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
1,3-Butadiene	106-99-0	0.021
Bromoethene	593-60-2	0.0212
Bromodichloromethane	75-27-4	0.0212
Benzyl chloride	100-44-7	0.0214
Benzene	71-43-2	0.0206
Allyl chloride	107-05-1	0.022
Acetone	67-64-1	0.022
4-Methyl-2-pentanone (MIBK)	108-10-1	0.0208
4-Ethyltoluene	622-96-8	0.0204
2-Propanol	67-63-0	0.0184
2-Hexanone	591-78-6	0.0202
2-Butanone (MEK)	78-93-3	0.021
2,2,4-Trimethylpentane	540-84-1	0.021
1,4-Dioxane	123-91-1	0.0206
1,1,1-Trichloroethane	71-55-6	0.0196
1,2-Dibromoethane (EDB)	106-93-4	0.0218
1,1,2,2-Tetrachloroethane	79-34-5	0.0208
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.0204
1,1,2-Trichloroethane	79-00-5	0.0212
1,1-Dichloroethane	75-34-3	0.02
1,1-Dichloroethene	75-35-4	0.0208
1,4-Dichlorobenzene	106-46-7	0.021
1,2,4-Trimethylbenzene	95-63-6	0.0212
1,3-Dichlorobenzene	541-73-1	0.021
1,2-Dichlorobenzene	95-50-1	0.0208
1,2-Dichloroethane	107-06-2	0.02
1,2-Dichloropropane	78-87-5	0.0206
1,2-Dichlorotetrafluoroethane	76-14-2	0.02
1,3,5-Trimethylbenzene	108-67-8	0.0214
Carbon disulfide	75-15-0	0.021

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1,2,4-Trichlorobenzene	120-82-1	0.0208
Tetrahydrofuran	109-99-9	0.0204
Bromoform	75-25-2	0.0212
m&p-Xylene	179601-23-1	0.0424
o-Xylene	95-47-6	0.021
Propene	115-07-1	0.022
Styrene	100-42-5	0.0206
Hexachlorobutadiene	87-68-3	0.0206
Tetrachloroethene	127-18-4	0.0212
Heptane	142-82-5	0.0212
Toluene	108-88-3	0.021
trans-1,2-Dichloroethene	156-60-5	0.022
trans-1,3-Dichloropropene	10061-02-6	0.0212
Trichloroethene	79-01-6	0.0216
Trichlorofluoromethane	75-69-4	0.0196
Vinyl acetate	108-05-4	0.0206
tert-Butyl methyl ether (MTBE)	1634-04-4	0.0214
cis-1,2-Dichloroethene	156-59-2	0.0208
Vinyl chloride	75-01-4	0.0208
Carbon tetrachloride	56-23-5	0.0194
Chlorobenzene	108-90-7	0.0214
Chlorodibromomethane	124-48-1	0.0212
Chloroethane	75-00-3	0.02
Hexane	110-54-3	0.0208
Chloromethane	74-87-3	0.0212
Bromomethane	74-83-9	0.02
cis-1,3-Dichloropropene	10061-01-5	0.0216
Cyclohexane	110-82-7	0.0212
Dichlorodifluoromethane	75-71-8	0.0194
Dichloromethane	75-09-2	0.0202
Ethyl acetate	141-78-6	0.021
Ethylbenzene	100-41-4	0.021
Chloroform	67-66-3	0.0202

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1621095	TO-15 25 Compound Subset Stand	05/01/16	** Vendor **	05/01/17	05/18/16 16:52 by EM	50
1604090	TO-14A 39 Component Mix Stand	01/13/16	** Vendor **	01/13/17	01/22/16 10:00 by LLH	50

Analytical Standard Record

EPA Region 9 Laboratory

1646036

Description:	TO-15 SCV Std, 10 ppbv	**Expires:**	12/06/16
Standard Type:	Other Solution	**Prepared:**	11/08/16
Solvent:	Zero Grade Air	**Prepared By:**	Estrellita Manuel
Final Volume (mls):	2500	**Department:**	Air
Vials:	1	**Last Edit:**	11/08/16 12:29 by EM
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
1,3-Butadiene	106-99-0	0.011
Bromoethene	593-60-2	0.011
Bromodichloromethane	75-27-4	0.01
Benzyl chloride	100-44-7	0.011
Benzene	71-43-2	0.011
Allyl chloride	107-05-1	0.011
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	0.0092
2-Hexanone	591-78-6	0.01
2-Butanone (MEK)	78-93-3	0.01
2,2,4-Trimethylpentane	540-84-1	0.01
1,4-Dioxane	123-91-1	0.011
1,1,1-Trichloroethane	71-55-6	0.01
1,2-Dibromoethane (EDB)	106-93-4	0.01
1,1,2,2-Tetrachloroethane	79-34-5	0.011
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.011
1,1,2-Trichloroethane	79-00-5	0.011
1,1-Dichloroethane	75-34-3	0.012
1,1-Dichloroethene	75-35-4	0.011
1,4-Dichlorobenzene	106-46-7	0.011
1,2,4-Trimethylbenzene	95-63-6	0.011
1,3-Dichlorobenzene	541-73-1	0.011
1,2-Dichlorobenzene	95-50-1	0.011
1,2-Dichloroethane	107-06-2	0.011
1,2-Dichloropropane	78-87-5	0.011
1,2-Dichlorotetrafluoroethane	76-14-2	0.01
1,3,5-Trimethylbenzene	108-67-8	0.011
Carbon disulfide	75-15-0	0.0099

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1,2,4-Trichlorobenzene	120-82-1	0.011
Tetrahydrofuran	109-99-9	0.0096
Bromoform	75-25-2	0.011
m&p-Xylene	179601-23-1	0.022
o-Xylene	95-47-6	0.011
Propene	115-07-1	0.011
Styrene	100-42-5	0.011
Hexachlorobutadiene	87-68-3	0.011
Tetrachloroethene	127-18-4	0.011
Heptane	142-82-5	0.01
Toluene	108-88-3	0.011
trans-1,2-Dichloroethene	156-60-5	0.01
trans-1,3-Dichloropropene	10061-02-6	0.011
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	0.01
cis-1,2-Dichloroethene	156-59-2	0.011
Vinyl chloride	75-01-4	0.012
Carbon tetrachloride	56-23-5	0.011
Chlorobenzene	108-90-7	0.011
Chlorodibromomethane	124-48-1	0.0099
Chloroethane	75-00-3	0.01
Hexane	110-54-3	0.011
Chloromethane	74-87-3	0.011
Bromomethane	74-83-9	0.011
cis-1,3-Dichloropropene	10061-01-5	0.011
Cyclohexane	110-82-7	0.01
Dichlorodifluoromethane	75-71-8	0.011
Dichloromethane	75-09-2	0.011
Ethyl acetate	141-78-6	0.01
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)
1617034	TO-15 25 Compound Subset Stand	03/30/16	** Vendor **	03/31/17	04/19/16 09:36 by JDM	250
1542053	TO-14A 39 Component Mix Stand	09/22/15	Liza Hernandez	07/06/17	08/03/16 17:52 by LLH	250

Analytical Standard Record

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1646036

Description:	TO-15 SCV Std, 10 ppbv	**Expires:**	12/06/16
Standard Type:	Other Solution	**Prepared:**	11/08/16
Solvent:	Zero Grade Air	**Prepared By:**	Estrellita Manuel
Final Volume (mls):	2500	**Department:**	Air
Vials:	1	**Last Edit:**	11/08/16 12:29 by EM
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
1,3-Butadiene	106-99-0	0.011
Bromoethene	593-60-2	0.011
Bromodichloromethane	75-27-4	0.01
Benzyl chloride	100-44-7	0.011
Benzene	71-43-2	0.011
Allyl chloride	107-05-1	0.011
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	0.0092
2-Hexanone	591-78-6	0.01
2-Butanone (MEK)	78-93-3	0.01
2,2,4-Trimethylpentane	540-84-1	0.01
1,4-Dioxane	123-91-1	0.011
1,1,1-Trichloroethane	71-55-6	0.01
1,2-Dibromoethane (EDB)	106-93-4	0.01
1,1,2,2-Tetrachloroethane	79-34-5	0.011
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.011
1,1,2-Trichloroethane	79-00-5	0.011
1,1-Dichloroethane	75-34-3	0.012
1,1-Dichloroethene	75-35-4	0.011
1,4-Dichlorobenzene	106-46-7	0.011
1,2,4-Trimethylbenzene	95-63-6	0.011
1,3-Dichlorobenzene	541-73-1	0.011
1,2-Dichlorobenzene	95-50-1	0.011
1,2-Dichloroethane	107-06-2	0.011
1,2-Dichloropropane	78-87-5	0.011
1,2-Dichlorotetrafluoroethane	76-14-2	0.01
1,3,5-Trimethylbenzene	108-67-8	0.011
Carbon disulfide	75-15-0	0.0099

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1,2,4-Trichlorobenzene	120-82-1	0.011
Tetrahydrofuran	109-99-9	0.0096
Bromoform	75-25-2	0.011
m&p-Xylene	179601-23-1	0.022
o-Xylene	95-47-6	0.011
Propene	115-07-1	0.011
Styrene	100-42-5	0.011
Hexachlorobutadiene	87-68-3	0.011
Tetrachloroethene	127-18-4	0.011
Heptane	142-82-5	0.01
Toluene	108-88-3	0.011
trans-1,2-Dichloroethene	156-60-5	0.01
trans-1,3-Dichloropropene	10061-02-6	0.011
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	0.01
cis-1,2-Dichloroethene	156-59-2	0.011
Vinyl chloride	75-01-4	0.012
Carbon tetrachloride	56-23-5	0.011
Chlorobenzene	108-90-7	0.011
Chlorodibromomethane	124-48-1	0.0099
Chloroethane	75-00-3	0.01
Hexane	110-54-3	0.011
Chloromethane	74-87-3	0.011
Bromomethane	74-83-9	0.011
cis-1,3-Dichloropropene	10061-01-5	0.011
Cyclohexane	110-82-7	0.01
Dichlorodifluoromethane	75-71-8	0.011
Dichloromethane	75-09-2	0.011
Ethyl acetate	141-78-6	0.01
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)
1617034	TO-15 25 Compound Subset Stand	03/30/16	** Vendor **	03/31/17	04/19/16 09:36 by JDM	250
1542053	TO-14A 39 Component Mix Stand	09/22/15	Liza Hernandez	07/06/17	08/03/16 17:52 by LLH	250

Analytical Standard Record
EPA Region 9 Laboratory
1646102

Description:	TO-15 CAL1 1.0 ppbv (VIRTUAL)	**Expires:**	12/06/16
Standard Type:	Other Solution	**Prepared:**	11/10/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	11/10/16 16:46 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
Acetone	67-64-1	0.0011
1,4-Dioxane	123-91-1	0.00103
2,2,4-Trimethylpentane	540-84-1	0.00105
2-Butanone (MEK)	78-93-3	0.00105
2-Hexanone	591-78-6	0.00101
2-Propanol	67-63-0	0.00092
Bromoform	75-25-2	0.00106
4-Methyl-2-pentanone (MIBK)	108-10-1	0.00104
1,3-Dichlorobenzene	541-73-1	0.00105
Allyl chloride	107-05-1	0.0011
Benzene	71-43-2	0.00103
Benzyl chloride	100-44-7	0.00107
Bromochloromethane	74-97-5	0.022
Bromodichloromethane	75-27-4	0.00106
1,1,1-Trichloroethane	71-55-6	0.00098
4-Ethyltoluene	622-96-8	0.00102
1,2-Dichlorobenzene	95-50-1	0.00104
1,1,2,2-Tetrachloroethane	79-34-5	0.00104
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.00102
1,1,2-Trichloroethane	79-00-5	0.00106
1,1-Dichloroethane	75-34-3	0.001
1,1-Dichloroethene	75-35-4	0.00104
1,2,4-Trichlorobenzene	120-82-1	0.00104
1,4-Difluorobenzene	540-36-3	0.022
1,2-Dibromoethane (EDB)	106-93-4	0.00109
1,4-Dichlorobenzene	106-46-7	0.00105
1,2-Dichloroethane	107-06-2	0.001
1,2-Dichloropropane	78-87-5	0.00103
1,2-Dichlorotetrafluoroethane	76-14-2	0.001
1,3,5-Trimethylbenzene	108-67-8	0.00107

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1646102

1,3-Butadiene	106-99-0	0.00105
Bromomethane	74-83-9	0.001
1,2,4-Trimethylbenzene	95-63-6	0.00106
Tetrahydrofuran	109-99-9	0.00102
Hexane	110-54-3	0.00104
m&p-Xylene	179601-23-1	0.00212
o-Xylene	95-47-6	0.00105
Propene	115-07-1	0.0011
Styrene	100-42-5	0.00103
Bromoethene	593-60-2	0.00106
Tetrachloroethene	127-18-4	0.00106
Ethylbenzene	100-41-4	0.00105
Toluene	108-88-3	0.00105
trans-1,2-Dichloroethene	156-60-5	0.0011
trans-1,3-Dichloropropene	10061-02-6	0.00106
Trichloroethene	79-01-6	0.00108
Trichlorofluoromethane	75-69-4	0.00098
Vinyl acetate	108-05-4	0.00103
tert-Butyl methyl ether (MTBE)	1634-04-4	0.00107
cis-1,2-Dichloroethene	156-59-2	0.00104
Carbon disulfide	75-15-0	0.00105
Carbon tetrachloride	56-23-5	0.00097
Chlorobenzene	108-90-7	0.00107
Chlorobenzene-d5	3114-55-4	0.022
Chlorodibromomethane	124-48-1	0.00106
Chloroethane	75-00-3	0.001
Hexachlorobutadiene	87-68-3	0.00103
Chloromethane	74-87-3	0.00106
Heptane	142-82-5	0.00106
cis-1,3-Dichloropropene	10061-01-5	0.00108
Cyclohexane	110-82-7	0.00106
Dichlorodifluoromethane	75-71-8	0.00097
Dichloromethane	75-09-2	0.00101
Ethyl acetate	141-78-6	0.00105
Vinyl chloride	75-01-4	0.00104
Chloroform	67-66-3	0.00101

Analytical Standard Record
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1646102

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1646033	TO-15 LOW Std, 10 ppbv	11/08/16	Estrellita Manuel	12/06/16	11/08/16 13:17 by EM	20
1645030	TO-14A Internal Standard Mix, Stc	10/17/16	** Vendor **	10/17/17	11/02/16 10:28 by LLH	40

Analytical Standard Record
EPA Region 9 Laboratory
1646103

Description:	TO-15 CAL2 2.0 ppbv (VIRTUAL)	**Expires:**	12/06/16
Standard Type:	Other Solution	**Prepared:**	11/10/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	11/10/16 16:47 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
Acetone	67-64-1	0.0022
1,4-Dioxane	123-91-1	0.00206
2,2,4-Trimethylpentane	540-84-1	0.0021
2-Butanone (MEK)	78-93-3	0.0021
2-Hexanone	591-78-6	0.00202
2-Propanol	67-63-0	0.00184
Bromoform	75-25-2	0.00212
4-Methyl-2-pentanone (MIBK)	108-10-1	0.00208
1,3-Dichlorobenzene	541-73-1	0.0021
Allyl chloride	107-05-1	0.0022
Benzene	71-43-2	0.00206
Benzyl chloride	100-44-7	0.00214
Bromochloromethane	74-97-5	0.022
Bromodichloromethane	75-27-4	0.00212
1,1,1-Trichloroethane	71-55-6	0.00196
4-Ethyltoluene	622-96-8	0.00204
1,2-Dichlorobenzene	95-50-1	0.00208
1,1,2,2-Tetrachloroethane	79-34-5	0.00208
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.00204
1,1,2-Trichloroethane	79-00-5	0.00212
1,1-Dichloroethane	75-34-3	0.002
1,1-Dichloroethene	75-35-4	0.00208
1,2,4-Trichlorobenzene	120-82-1	0.00208
1,4-Difluorobenzene	540-36-3	0.022
1,2-Dibromoethane (EDB)	106-93-4	0.00218
1,4-Dichlorobenzene	106-46-7	0.0021
1,2-Dichloroethane	107-06-2	0.002
1,2-Dichloropropane	78-87-5	0.00206
1,2-Dichlorotetrafluoroethane	76-14-2	0.002
1,3,5-Trimethylbenzene	108-67-8	0.00214

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1,3-Butadiene	106-99-0	0.0021
Bromomethane	74-83-9	0.002
1,2,4-Trimethylbenzene	95-63-6	0.00212
Tetrahydrofuran	109-99-9	0.00204
Hexane	110-54-3	0.00208
m&p-Xylene	179601-23-1	0.00424
o-Xylene	95-47-6	0.0021
Propene	115-07-1	0.0022
Styrene	100-42-5	0.00206
Bromoethene	593-60-2	0.00212
Tetrachloroethene	127-18-4	0.00212
Ethylbenzene	100-41-4	0.0021
Toluene	108-88-3	0.0021
trans-1,2-Dichloroethene	156-60-5	0.0022
trans-1,3-Dichloropropene	10061-02-6	0.00212
Trichloroethene	79-01-6	0.00216
Trichlorofluoromethane	75-69-4	0.00196
Vinyl acetate	108-05-4	0.00206
tert-Butyl methyl ether (MTBE)	1634-04-4	0.00214
cis-1,2-Dichloroethene	156-59-2	0.00208
Carbon disulfide	75-15-0	0.0021
Carbon tetrachloride	56-23-5	0.00194
Chlorobenzene	108-90-7	0.00214
Chlorobenzene-d5	3114-55-4	0.022
Chlorodibromomethane	124-48-1	0.00212
Chloroethane	75-00-3	0.002
Hexachlorobutadiene	87-68-3	0.00206
Chloromethane	74-87-3	0.00212
Heptane	142-82-5	0.00212
cis-1,3-Dichloropropene	10061-01-5	0.00216
Cyclohexane	110-82-7	0.00212
Dichlorodifluoromethane	75-71-8	0.00194
Dichloromethane	75-09-2	0.00202
Ethyl acetate	141-78-6	0.0021
Vinyl chloride	75-01-4	0.00208
Chloroform	67-66-3	0.00202

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1646103

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1645030	TO-14A Internal Standard Mix, Stc	10/17/16	** Vendor **	10/17/17	11/02/16 10:28 by LLH	40
1646034	TO-15 CCV Std, 20 ppbv	11/08/16	Estrellita Manuel	12/06/16	11/08/16 13:17 by EM	20

Analytical Standard Record
EPA Region 9 Laboratory
1646104

Description:	TO-15 CAL3 5.0 ppbv (VIRTUAL)	**Expires:**	12/06/16
Standard Type:	Other Solution	**Prepared:**	11/10/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	11/10/16 16:48 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
Acetone	67-64-1	0.0055
1,4-Dioxane	123-91-1	0.00515
2,2,4-Trimethylpentane	540-84-1	0.00525
2-Butanone (MEK)	78-93-3	0.00525
2-Hexanone	591-78-6	0.00505
2-Propanol	67-63-0	0.0046
Bromoform	75-25-2	0.0053
4-Methyl-2-pentanone (MIBK)	108-10-1	0.0052
1,3-Dichlorobenzene	541-73-1	0.00525
Allyl chloride	107-05-1	0.0055
Benzene	71-43-2	0.00515
Benzyl chloride	100-44-7	0.00535
Bromochloromethane	74-97-5	0.022
Bromodichloromethane	75-27-4	0.0053
1,1,1-Trichloroethane	71-55-6	0.0049
4-Ethyltoluene	622-96-8	0.0051
1,2-Dichlorobenzene	95-50-1	0.0052
1,1,2,2-Tetrachloroethane	79-34-5	0.0052
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.0051
1,1,2-Trichloroethane	79-00-5	0.0053
1,1-Dichloroethane	75-34-3	0.005
1,1-Dichloroethene	75-35-4	0.0052
1,2,4-Trichlorobenzene	120-82-1	0.0052
1,4-Difluorobenzene	540-36-3	0.022
1,2-Dibromoethane (EDB)	106-93-4	0.00545
1,4-Dichlorobenzene	106-46-7	0.00525
1,2-Dichloroethane	107-06-2	0.005
1,2-Dichloropropane	78-87-5	0.00515
1,2-Dichlorotetrafluoroethane	76-14-2	0.005
1,3,5-Trimethylbenzene	108-67-8	0.00535

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1,3-Butadiene	106-99-0	0.00525
Bromomethane	74-83-9	0.005
1,2,4-Trimethylbenzene	95-63-6	0.0053
Tetrahydrofuran	109-99-9	0.0051
Hexane	110-54-3	0.0052
m&p-Xylene	179601-23-1	0.0106
o-Xylene	95-47-6	0.00525
Propene	115-07-1	0.0055
Styrene	100-42-5	0.00515
Bromoethene	593-60-2	0.0053
Tetrachloroethene	127-18-4	0.0053
Ethylbenzene	100-41-4	0.00525
Toluene	108-88-3	0.00525
trans-1,2-Dichloroethene	156-60-5	0.0055
trans-1,3-Dichloropropene	10061-02-6	0.0053
Trichloroethene	79-01-6	0.0054
Trichlorofluoromethane	75-69-4	0.0049
Vinyl acetate	108-05-4	0.00515
tert-Butyl methyl ether (MTBE)	1634-04-4	0.00535
cis-1,2-Dichloroethene	156-59-2	0.0052
Carbon disulfide	75-15-0	0.00525
Carbon tetrachloride	56-23-5	0.00485
Chlorobenzene	108-90-7	0.00535
Chlorobenzene-d5	3114-55-4	0.022
Chlorodibromomethane	124-48-1	0.0053
Chloroethane	75-00-3	0.005
Hexachlorobutadiene	87-68-3	0.00515
Chloromethane	74-87-3	0.0053
Heptane	142-82-5	0.0053
cis-1,3-Dichloropropene	10061-01-5	0.0054
Cyclohexane	110-82-7	0.0053
Dichlorodifluoromethane	75-71-8	0.00485
Dichloromethane	75-09-2	0.00505
Ethyl acetate	141-78-6	0.00525
Vinyl chloride	75-01-4	0.0052
Chloroform	67-66-3	0.00505

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1646104

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1645030	TO-14A Internal Standard Mix, Stc	10/17/16	** Vendor **	10/17/17	11/02/16 10:28 by LLH	40
1646034	TO-15 CCV Std, 20 ppbv	11/08/16	Estrellita Manuel	12/06/16	11/08/16 13:17 by EM	50

Analytical Standard Record
EPA Region 9 Laboratory
1646105

Description:	TO-15 CAL4 10 ppbv (VIRTUAL)	**Expires:**	12/06/16
Standard Type:	Other Solution	**Prepared:**	11/10/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	11/10/16 16:49 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
Acetone	67-64-1	0.011
1,4-Dioxane	123-91-1	0.0103
2,2,4-Trimethylpentane	540-84-1	0.0105
2-Butanone (MEK)	78-93-3	0.0105
2-Hexanone	591-78-6	0.0101
2-Propanol	67-63-0	0.0092
Bromoform	75-25-2	0.0106
4-Methyl-2-pentanone (MIBK)	108-10-1	0.0104
1,3-Dichlorobenzene	541-73-1	0.0105
Allyl chloride	107-05-1	0.011
Benzene	71-43-2	0.0103
Benzyl chloride	100-44-7	0.0107
Bromochloromethane	74-97-5	0.022
Bromodichloromethane	75-27-4	0.0106
1,1,1-Trichloroethane	71-55-6	0.0098
4-Ethyltoluene	622-96-8	0.0102
1,2-Dichlorobenzene	95-50-1	0.0104
1,1,2,2-Tetrachloroethane	79-34-5	0.0104
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.0102
1,1,2-Trichloroethane	79-00-5	0.0106
1,1-Dichloroethane	75-34-3	0.01
1,1-Dichloroethene	75-35-4	0.0104
1,2,4-Trichlorobenzene	120-82-1	0.0104
1,4-Difluorobenzene	540-36-3	0.022
1,2-Dibromoethane (EDB)	106-93-4	0.0109
1,4-Dichlorobenzene	106-46-7	0.0105
1,2-Dichloroethane	107-06-2	0.01
1,2-Dichloropropane	78-87-5	0.0103
1,2-Dichlorotetrafluoroethane	76-14-2	0.01
1,3,5-Trimethylbenzene	108-67-8	0.0107

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1,3-Butadiene	106-99-0	0.0105
Bromomethane	74-83-9	0.01
1,2,4-Trimethylbenzene	95-63-6	0.0106
Tetrahydrofuran	109-99-9	0.0102
Hexane	110-54-3	0.0104
m&p-Xylene	179601-23-1	0.0212
o-Xylene	95-47-6	0.0105
Propene	115-07-1	0.011
Styrene	100-42-5	0.0103
Bromoethene	593-60-2	0.0106
Tetrachloroethene	127-18-4	0.0106
Ethylbenzene	100-41-4	0.0105
Toluene	108-88-3	0.0105
trans-1,2-Dichloroethene	156-60-5	0.011
trans-1,3-Dichloropropene	10061-02-6	0.0106
Trichloroethene	79-01-6	0.0108
Trichlorofluoromethane	75-69-4	0.0098
Vinyl acetate	108-05-4	0.0103
tert-Butyl methyl ether (MTBE)	1634-04-4	0.0107
cis-1,2-Dichloroethene	156-59-2	0.0104
Carbon disulfide	75-15-0	0.0105
Carbon tetrachloride	56-23-5	0.0097
Chlorobenzene	108-90-7	0.0107
Chlorobenzene-d5	3114-55-4	0.022
Chlorodibromomethane	124-48-1	0.0106
Chloroethane	75-00-3	0.01
Hexachlorobutadiene	87-68-3	0.0103
Chloromethane	74-87-3	0.0106
Heptane	142-82-5	0.0106
cis-1,3-Dichloropropene	10061-01-5	0.0108
Cyclohexane	110-82-7	0.0106
Dichlorodifluoromethane	75-71-8	0.0097
Dichloromethane	75-09-2	0.0101
Ethyl acetate	141-78-6	0.0105
Vinyl chloride	75-01-4	0.0104
Chloroform	67-66-3	0.0101

Analytical Standard Record

EPA Region 9 Laboratory

1646105

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1645030	TO-14A Internal Standard Mix, Stc	10/17/16	** Vendor **	10/17/17	11/02/16 10:28 by LLH	40
1646034	TO-15 CCV Std, 20 ppbv	11/08/16	Estrellita Manuel	12/06/16	11/08/16 13:17 by EM	100

Analytical Standard Record
EPA Region 9 Laboratory
1646106

Description:	TO-15 CAL5 15 ppbv (VIRTUAL)	**Expires:**	12/06/16
Standard Type:	Other Solution	**Prepared:**	11/10/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	11/10/16 16:49 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
Acetone	67-64-1	0.0165
1,4-Dioxane	123-91-1	0.0154
2,2,4-Trimethylpentane	540-84-1	0.0158
2-Butanone (MEK)	78-93-3	0.0158
2-Hexanone	591-78-6	0.0152
2-Propanol	67-63-0	0.0138
Bromoform	75-25-2	0.0159
4-Methyl-2-pentanone (MIBK)	108-10-1	0.0156
1,3-Dichlorobenzene	541-73-1	0.0158
Allyl chloride	107-05-1	0.0165
Benzene	71-43-2	0.0154
Benzyl chloride	100-44-7	0.016
Bromochloromethane	74-97-5	0.022
Bromodichloromethane	75-27-4	0.0159
1,1,1-Trichloroethane	71-55-6	0.0147
4-Ethyltoluene	622-96-8	0.0153
1,2-Dichlorobenzene	95-50-1	0.0156
1,1,2,2-Tetrachloroethane	79-34-5	0.0156
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.0153
1,1,2-Trichloroethane	79-00-5	0.0159
1,1-Dichloroethane	75-34-3	0.015
1,1-Dichloroethene	75-35-4	0.0156
1,2,4-Trichlorobenzene	120-82-1	0.0156
1,4-Difluorobenzene	540-36-3	0.022
1,2-Dibromoethane (EDB)	106-93-4	0.0164
1,4-Dichlorobenzene	106-46-7	0.0158
1,2-Dichloroethane	107-06-2	0.015
1,2-Dichloropropane	78-87-5	0.0154
1,2-Dichlorotetrafluoroethane	76-14-2	0.015
1,3,5-Trimethylbenzene	108-67-8	0.016

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1,3-Butadiene	106-99-0	0.0158
Bromomethane	74-83-9	0.015
1,2,4-Trimethylbenzene	95-63-6	0.0159
Tetrahydrofuran	109-99-9	0.0153
Hexane	110-54-3	0.0156
m&p-Xylene	179601-23-1	0.0318
o-Xylene	95-47-6	0.0158
Propene	115-07-1	0.0165
Styrene	100-42-5	0.0154
Bromoethene	593-60-2	0.0159
Tetrachloroethene	127-18-4	0.0159
Ethylbenzene	100-41-4	0.0158
Toluene	108-88-3	0.0158
trans-1,2-Dichloroethene	156-60-5	0.0165
trans-1,3-Dichloropropene	10061-02-6	0.0159
Trichloroethene	79-01-6	0.0162
Trichlorofluoromethane	75-69-4	0.0147
Vinyl acetate	108-05-4	0.0154
tert-Butyl methyl ether (MTBE)	1634-04-4	0.016
cis-1,2-Dichloroethene	156-59-2	0.0156
Carbon disulfide	75-15-0	0.0158
Carbon tetrachloride	56-23-5	0.0146
Chlorobenzene	108-90-7	0.016
Chlorobenzene-d5	3114-55-4	0.022
Chlorodibromomethane	124-48-1	0.0159
Chloroethane	75-00-3	0.015
Hexachlorobutadiene	87-68-3	0.0154
Chloromethane	74-87-3	0.0159
Heptane	142-82-5	0.0159
cis-1,3-Dichloropropene	10061-01-5	0.0162
Cyclohexane	110-82-7	0.0159
Dichlorodifluoromethane	75-71-8	0.0146
Dichloromethane	75-09-2	0.0152
Ethyl acetate	141-78-6	0.0158
Vinyl chloride	75-01-4	0.0156
Chloroform	67-66-3	0.0152

Analytical Standard Record

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1646106

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1645030	TO-14A Internal Standard Mix, Stc	10/17/16	** Vendor **	10/17/17	11/02/16 10:28 by LLH	40
1646034	TO-15 CCV Std, 20 ppbv	11/08/16	Estrellita Manuel	12/06/16	11/08/16 13:17 by EM	150

Analytical Standard Record
EPA Region 9 Laboratory
1646107

Description:	TO-15 CAL6 20 ppbv (VIRTUAL)	**Expires:**	12/06/16
Standard Type:	Other Solution	**Prepared:**	11/10/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	11/10/16 16:50 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
Acetone	67-64-1	0.022
1,4-Dioxane	123-91-1	0.0206
2,2,4-Trimethylpentane	540-84-1	0.021
2-Butanone (MEK)	78-93-3	0.021
2-Hexanone	591-78-6	0.0202
2-Propanol	67-63-0	0.0184
Bromoform	75-25-2	0.0212
4-Methyl-2-pentanone (MIBK)	108-10-1	0.0208
1,3-Dichlorobenzene	541-73-1	0.021
Allyl chloride	107-05-1	0.022
Benzene	71-43-2	0.0206
Benzyl chloride	100-44-7	0.0214
Bromochloromethane	74-97-5	0.022
Bromodichloromethane	75-27-4	0.0212
1,1,1-Trichloroethane	71-55-6	0.0196
4-Ethyltoluene	622-96-8	0.0204
1,2-Dichlorobenzene	95-50-1	0.0208
1,1,2,2-Tetrachloroethane	79-34-5	0.0208
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.0204
1,1,2-Trichloroethane	79-00-5	0.0212
1,1-Dichloroethane	75-34-3	0.02
1,1-Dichloroethene	75-35-4	0.0208
1,2,4-Trichlorobenzene	120-82-1	0.0208
1,4-Difluorobenzene	540-36-3	0.022
1,2-Dibromoethane (EDB)	106-93-4	0.0218
1,4-Dichlorobenzene	106-46-7	0.021
1,2-Dichloroethane	107-06-2	0.02
1,2-Dichloropropane	78-87-5	0.0206
1,2-Dichlorotetrafluoroethane	76-14-2	0.02
1,3,5-Trimethylbenzene	108-67-8	0.0214

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1,3-Butadiene	106-99-0	0.021
Bromomethane	74-83-9	0.02
1,2,4-Trimethylbenzene	95-63-6	0.0212
Tetrahydrofuran	109-99-9	0.0204
Hexane	110-54-3	0.0208
m&p-Xylene	179601-23-1	0.0424
o-Xylene	95-47-6	0.021
Propene	115-07-1	0.022
Styrene	100-42-5	0.0206
Bromoethene	593-60-2	0.0212
Tetrachloroethene	127-18-4	0.0212
Ethylbenzene	100-41-4	0.021
Toluene	108-88-3	0.021
trans-1,2-Dichloroethene	156-60-5	0.022
trans-1,3-Dichloropropene	10061-02-6	0.0212
Trichloroethene	79-01-6	0.0216
Trichlorofluoromethane	75-69-4	0.0196
Vinyl acetate	108-05-4	0.0206
tert-Butyl methyl ether (MTBE)	1634-04-4	0.0214
cis-1,2-Dichloroethene	156-59-2	0.0208
Carbon disulfide	75-15-0	0.021
Carbon tetrachloride	56-23-5	0.0194
Chlorobenzene	108-90-7	0.0214
Chlorobenzene-d5	3114-55-4	0.022
Chlorodibromomethane	124-48-1	0.0212
Chloroethane	75-00-3	0.02
Hexachlorobutadiene	87-68-3	0.0206
Chloromethane	74-87-3	0.0212
Heptane	142-82-5	0.0212
cis-1,3-Dichloropropene	10061-01-5	0.0216
Cyclohexane	110-82-7	0.0212
Dichlorodifluoromethane	75-71-8	0.0194
Dichloromethane	75-09-2	0.0202
Ethyl acetate	141-78-6	0.021
Vinyl chloride	75-01-4	0.0208
Chloroform	67-66-3	0.0202

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Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1645030	TO-14A Internal Standard Mix, Stc	10/17/16	** Vendor **	10/17/17	11/02/16 10:28 by LLH	40
1646034	TO-15 CCV Std, 20 ppbv	11/08/16	Estrellita Manuel	12/06/16	11/08/16 13:17 by EM	200

Analytical Standard Record
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1646108

Description:	TO15 LCS Std, VIRTUAL	**Expires:**	12/06/16
Standard Type:	Analyte Spike	**Prepared:**	11/10/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	11/10/16 16:51 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

Analyte	CAS Number	Concentration (ppm)
Acetone	67-64-1	0.022
1,4-Dioxane	123-91-1	0.0206
2,2,4-Trimethylpentane	540-84-1	0.021
2-Butanone (MEK)	78-93-3	0.021
2-Hexanone	591-78-6	0.0202
2-Propanol	67-63-0	0.0184
Bromoform	75-25-2	0.0212
4-Methyl-2-pentanone (MIBK)	108-10-1	0.0208
1,3-Dichlorobenzene	541-73-1	0.021
Allyl chloride	107-05-1	0.022
Benzene	71-43-2	0.0206
Benzyl chloride	100-44-7	0.0214
Bromochloromethane	74-97-5	0.022
Bromodichloromethane	75-27-4	0.0212
1,1,1-Trichloroethane	71-55-6	0.0196
4-Ethyltoluene	622-96-8	0.0204
1,2-Dichlorobenzene	95-50-1	0.0208
1,1,2,2-Tetrachloroethane	79-34-5	0.0208
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.0204
1,1,2-Trichloroethane	79-00-5	0.0212
1,1-Dichloroethane	75-34-3	0.02
1,1-Dichloroethene	75-35-4	0.0208
1,2,4-Trichlorobenzene	120-82-1	0.0208
1,4-Difluorobenzene	540-36-3	0.022
1,2-Dibromoethane (EDB)	106-93-4	0.0218
1,4-Dichlorobenzene	106-46-7	0.021
1,2-Dichloroethane	107-06-2	0.02
1,2-Dichloropropane	78-87-5	0.0206
1,2-Dichlorotetrafluoroethane	76-14-2	0.02
1,3,5-Trimethylbenzene	108-67-8	0.0214

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1,3-Butadiene	106-99-0	0.021
Bromomethane	74-83-9	0.02
1,2,4-Trimethylbenzene	95-63-6	0.0212
Tetrahydrofuran	109-99-9	0.0204
Hexane	110-54-3	0.0208
m&p-Xylene	179601-23-1	0.0424
o-Xylene	95-47-6	0.021
Propene	115-07-1	0.022
Styrene	100-42-5	0.0206
Bromoethene	593-60-2	0.0212
Tetrachloroethene	127-18-4	0.0212
Ethylbenzene	100-41-4	0.021
Toluene	108-88-3	0.021
trans-1,2-Dichloroethene	156-60-5	0.022
trans-1,3-Dichloropropene	10061-02-6	0.0212
Trichloroethene	79-01-6	0.0216
Trichlorofluoromethane	75-69-4	0.0196
Vinyl acetate	108-05-4	0.0206
tert-Butyl methyl ether (MTBE)	1634-04-4	0.0214
cis-1,2-Dichloroethene	156-59-2	0.0208
Carbon disulfide	75-15-0	0.021
Carbon tetrachloride	56-23-5	0.0194
Chlorobenzene	108-90-7	0.0214
Chlorobenzene-d5	3114-55-4	0.022
Chlorodibromomethane	124-48-1	0.0212
Chloroethane	75-00-3	0.02
Hexachlorobutadiene	87-68-3	0.0206
Chloromethane	74-87-3	0.0212
Heptane	142-82-5	0.0212
cis-1,3-Dichloropropene	10061-01-5	0.0216
Cyclohexane	110-82-7	0.0212
Dichlorodifluoromethane	75-71-8	0.0194
Dichloromethane	75-09-2	0.0202
Ethyl acetate	141-78-6	0.021
Vinyl chloride	75-01-4	0.0208
Chloroform	67-66-3	0.0202

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1646108

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1645030	TO-14A Internal Standard Mix, Stc	10/17/16	** Vendor **	10/17/17	11/02/16 10:28 by LLH	40
1646034	TO-15 CCV Std, 20 ppbv	11/08/16	Estrellita Manuel	12/06/16	11/08/16 13:17 by EM	200

Analytical Standard Record
EPA Region 9 Laboratory
1646109

Description:	TO-15 SCV 10 ppbv (VIRTUAL)	**Expires:**	12/06/16
Standard Type:	Other Solution	**Prepared:**	11/10/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	11/10/16 16:52 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	0.01
2-Butanone (MEK)	78-93-3	0.01
2-Hexanone	591-78-6	0.01
2-Propanol	67-63-0	0.0092
Bromoform	75-25-2	0.011
4-Methyl-2-pentanone (MIBK)	108-10-1	0.011
1,3-Dichlorobenzene	541-73-1	0.011
Allyl chloride	107-05-1	0.011
Benzene	71-43-2	0.011
Benzyl chloride	100-44-7	0.011
Bromochloromethane	74-97-5	0.022
Bromodichloromethane	75-27-4	0.01
1,1,1-Trichloroethane	71-55-6	0.01
4-Ethyltoluene	622-96-8	0.011
1,2-Dichlorobenzene	95-50-1	0.011
1,1,2,2-Tetrachloroethane	79-34-5	0.011
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.011
1,1,2-Trichloroethane	79-00-5	0.011
1,1-Dichloroethane	75-34-3	0.012
1,1-Dichloroethene	75-35-4	0.011
1,2,4-Trichlorobenzene	120-82-1	0.011
1,4-Difluorobenzene	540-36-3	0.022
1,2-Dibromoethane (EDB)	106-93-4	0.01
1,4-Dichlorobenzene	106-46-7	0.011
1,2-Dichloroethane	107-06-2	0.011
1,2-Dichloropropane	78-87-5	0.011
1,2-Dichlorotetrafluoroethane	76-14-2	0.01
1,3,5-Trimethylbenzene	108-67-8	0.011

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1,3-Butadiene	106-99-0	0.011
Bromomethane	74-83-9	0.011
1,2,4-Trimethylbenzene	95-63-6	0.011
Tetrahydrofuran	109-99-9	0.0096
Hexane	110-54-3	0.011
m&p-Xylene	179601-23-1	0.022
o-Xylene	95-47-6	0.011
Propene	115-07-1	0.011
Styrene	100-42-5	0.011
Bromoethene	593-60-2	0.011
Tetrachloroethene	127-18-4	0.011
Ethylbenzene	100-41-4	0.011
Toluene	108-88-3	0.011
trans-1,2-Dichloroethene	156-60-5	0.01
trans-1,3-Dichloropropene	10061-02-6	0.011
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	0.01
cis-1,2-Dichloroethene	156-59-2	0.011
Carbon disulfide	75-15-0	0.0099
Carbon tetrachloride	56-23-5	0.011
Chlorobenzene	108-90-7	0.011
Chlorobenzene-d5	3114-55-4	0.022
Chlorodibromomethane	124-48-1	0.0099
Chloroethane	75-00-3	0.01
Hexachlorobutadiene	87-68-3	0.011
Chloromethane	74-87-3	0.011
Heptane	142-82-5	0.01
cis-1,3-Dichloropropene	10061-01-5	0.011
Cyclohexane	110-82-7	0.01
Dichlorodifluoromethane	75-71-8	0.011
Dichloromethane	75-09-2	0.011
Ethyl acetate	141-78-6	0.01
Vinyl chloride	75-01-4	0.012
Chloroform	67-66-3	0.011

Analytical Standard Record

EPA Region 9 Laboratory

1646109

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1645030	TO-14A Internal Standard Mix, Stc	10/17/16	** Vendor **	10/17/17	11/02/16 10:28 by LLH	40
1646036	TO-15 SCV Std, 10 ppbv	11/08/16	Estrellita Manuel	12/06/16	11/08/16 12:29 by EM	200