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United States Environmental Protection Agency
Region 9 Laboratory

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

Date: **10/17/2016**

Subject: **Analytical Testing Results - Project R17S02**
SDG: 16274B

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 2016 Sewer Pathway 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:**	16274B
Project Number:	R17S02	**75 Hawthorne Street**		**Reported:**	10/17/16 11:04
Project:	MEW 2016 Sewer Pathway Investigation	**San Francisco CA, 94105**			

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
870 Leong-SC-G	1609103-01	Air	09/29/16 14:50	09/30/16 13:30
PRV Evandale-SC-G	1609103-02	Air	09/29/16 15:20	09/30/16 13:30
F5-062	1609103-03	Air	09/29/16 15:55	09/30/16 13:30
F5-054-10ft	1609103-04	Air	09/29/16 16:23	09/30/16 13:30
F5-054-5ft	1609103-05	Air	09/29/16 16:39	09/30/16 13:30

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Project Manager: Alana Lee	**California Site Cleanup Section 3**	**SDG:** 16274B	
Project Number: R17S02	**75 Hawthorne Street**	**Reported:** 10/17/16 11:04	
Project: MEW 2016 Sewer Pathway Investigation	**San Francisco CA, 94105**		

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1609103-01									**Air - Sampled: 09/29/16 14:50**
Sample ID: 870 Leong-SC-G									**Volatile Organic Compounds by TO-15**
Vinyl chloride		ND	U	4	ug/m³ Air	B16J004	09/30/16	10/03/16	TO-15
1,1-Dichloroethene		ND	U	7	"	"	"	"	TO-15
trans-1,2-Dichloroethene		ND	U	7	"	"	"	"	TO-15
1,1-Dichloroethane		ND	U	7	"	"	"	"	TO-15
cis-1,2-Dichloroethene		ND	U	7	"	"	"	"	TO-15
Chloroform		ND	U	9	"	"	"	"	TO-15
Benzene		ND	U	6	"	"	"	"	TO-15
Trichloroethene		10		9	"	"	"	"	TO-15
Tetrachloroethene		ND	U	10	"	"	"	"	TO-15
Lab ID: 1609103-02									**Air - Sampled: 09/29/16 15:20**
Sample ID: FRV Evandale-SC-G									**Volatile Organic Compounds by TO-15**
Vinyl chloride		ND	U	4	ug/m³ Air	B16J004	09/30/16	10/03/16	TO-15
1,1-Dichloroethene		ND	U	7	"	"	"	"	TO-15
trans-1,2-Dichloroethene		ND	U	7	"	"	"	"	TO-15
1,1-Dichloroethane		ND	U	7	"	"	"	"	TO-15
cis-1,2-Dichloroethene		ND	U	7	"	"	"	"	TO-15
Chloroform		ND	U	8	"	"	"	"	TO-15
Benzene		ND	U	6	"	"	"	"	TO-15
Trichloroethene		ND	U	9	"	"	"	"	TO-15
Tetrachloroethene		ND	U	10	"	"	"	"	TO-15
Lab ID: 1609103-03									**Air - Sampled: 09/29/16 15:55**
Sample ID: F5-062									**Volatile Organic Compounds by TO-15**
Vinyl chloride		ND	U	4	ug/m³ Air	B16J004	09/30/16	10/03/16	TO-15
1,1-Dichloroethene		ND	U	7	"	"	"	"	TO-15
trans-1,2-Dichloroethene		ND	U	7	"	"	"	"	TO-15
1,1-Dichloroethane		ND	U	7	"	"	"	"	TO-15
cis-1,2-Dichloroethene		7		7	"	"	"	"	TO-15
Chloroform	RE2	1,100		90	"	B16J018	10/04/16	10/05/16	TO-15
Benzene		ND	U	5	"	B16J004	09/30/16	10/03/16	TO-15
Trichloroethene		30		9	"	"	"	"	TO-15
Tetrachloroethene		100		10	"	"	"	"	TO-15
Lab ID: 1609103-04									**Air - Sampled: 09/29/16 16:23**
Sample ID: F5-054-10ft									**Volatile Organic Compounds by TO-15**
Vinyl chloride		8		4	ug/m³ Air	B16J004	09/30/16	10/03/16	TO-15
1,1-Dichloroethene		ND	U	7	"	"	"	"	TO-15
trans-1,2-Dichloroethene		10		7	"	"	"	"	TO-15
1,1-Dichloroethane		ND	U	7	"	"	"	"	TO-15

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Project Manager:	Alana Lee	**California Site Cleanup Section 3**	**SDG:** 16274B
Project Number:	R17S02	**75 Hawthorne Street**	**Reported:** 10/17/16 11:04
Project:	MEW 2016 Sewer Pathway Investigation	**San Francisco CA, 94105**	

Sample Results

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1609103-04									**Air - Sampled: 09/29/16 16:23**
Sample ID: F5-054-10ft									**Volatile Organic Compounds by TO-15**
cis-1,2-Dichloroethene	RE2	900		60	ug/m³ Air	B16J018	10/04/16	10/05/16	TO-15
Chloroform	RE2	400		70	"	"	"	"	TO-15
Benzene		ND	U	6	"	B16J004	09/30/16	10/03/16	TO-15
Trichloroethene	RE2	900		80	"	B16J018	10/04/16	10/05/16	TO-15
Tetrachloroethene		50		10	"	B16J004	09/30/16	10/03/16	TO-15
Lab ID: 1609103-05									**Air - Sampled: 09/29/16 16:39**
Sample ID: F5-054-5ft									**Volatile Organic Compounds by TO-15**
Vinyl chloride		6		4	ug/m³ Air	B16J004	09/30/16	10/03/16	TO-15
1,1-Dichloroethene		ND	U	7	"	"	"	"	TO-15
trans-1,2-Dichloroethene		9		7	"	"	"	"	TO-15
1,1-Dichloroethane		ND	U	7	"	"	"	"	TO-15
cis-1,2-Dichloroethene	RE2	500		60	"	B16J018	10/04/16	10/05/16	TO-15
Chloroform	RE2	300		80	"	"	"	"	TO-15
Benzene		ND	U	6	"	B16J004	09/30/16	10/03/16	TO-15
Trichloroethene	RE2	600		80	"	B16J018	10/04/16	10/05/16	TO-15
Tetrachloroethene		40		10	"	B16J004	09/30/16	10/03/16	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 B16J004 - Air_Can_Pressure										
Blank (B16J004-BLK1)				Prepared & Analyzed: 10/03/16						
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 (B16J004-BS1)				Prepared & Analyzed: 10/03/16						
1,2-Dichlorotetrafluoroethane	59	7	ug/m³ Air	69.8		84	67-127		200	
Chloromethane	18	2	ug/m³ Air	21.9		83	70-123		200	
Vinyl chloride	22	3	ug/m³ Air	26.6		82	69-125		200	
Bromomethane	33	4	ug/m³ Air	38.8		86	66-125		200	
Chloroethane	22	3	ug/m³ Air	26.4		84	67-125		200	
Trichlorofluoromethane	47	6	ug/m³ Air	55.0		85	68-133		200	
1,1,2-Trichloro-1,2,2-trifluoroethane	62	8	ug/m³ Air	78.1		80	64-125		200	
1,1-Dichloroethene	32	4	ug/m³ Air	41.2		78	73-128		200	
Dichloromethane	28	3	ug/m³ Air	35.1		80	73-116		200	
trans-1,2-Dichloroethene	37	4	ug/m³ Air	43.2		86	80-123		200	
1,1-Dichloroethane	34	4	ug/m³ Air	40.4		84	72-125		200	
cis-1,2-Dichloroethene	34	4	ug/m³ Air	41.2		83	77-129		200	
Chloroform	43	5	ug/m³ Air	49.3		88	77-126		200	
1,1,1-Trichloroethane	47	5	ug/m³ Air	53.4		89	74-133		200	
Carbon tetrachloride	54	6	ug/m³ Air	61.0		88	71-141		200	
Benzene	32	3	ug/m³ Air	32.9		97	81-125		200	
1,2-Dichloroethane	41	4	ug/m³ Air	40.4		100	61-153		200	
Trichloroethene	53	5	ug/m³ Air	58.0		91	73-128		200	
1,2-Dichloropropane	47	5	ug/m³ Air	47.6		99	77-129		200	
cis-1,3-Dichloropropene	49	5	ug/m³ Air	49.0		101	80-136		200	
Toluene	39	4	ug/m³ Air	39.5		98	78-133		200	
trans-1,3-Dichloropropene	49	5	ug/m³ Air	48.1		102	79-146		200	
1,1,2-Trichloroethane	58	5	ug/m³ Air	57.8		100	74-134		200	
Tetrachloroethene	68	7	ug/m³ Air	71.8		94	73-130		200	
1,2-Dibromoethane (EDB)	81	8	ug/m³ Air	83.7		97	78-133		200	
Chlorobenzene	48	5	ug/m³ Air	49.2		98	81-126		200	
Ethylbenzene	45	4	ug/m³ Air	45.6		99	82-130		200	
m&p-Xylene	93	9	ug/m³ Air	92.0		101	82-131		200	
o-Xylene	45	4	ug/m³ Air	45.6		98	82-132		200	
Styrene	43	4	ug/m³ Air	43.8		98	65-141		200	

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Project Number:	R17S02	**75 Hawthorne Street**		**Reported:**	10/17/16 11:04
Project:	MEW 2016 Sewer Pathway 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 B16J004 - Air_Can_Pressure										
LCS (B16J004-BS1)				Prepared & Analyzed: 10/03/16						
1,1,2,2-Tetrachloroethane	67	7	ug/m³ Air	71.3		93	73-127		200	
1,3,5-Trimethylbenzene	46	5	ug/m³ Air	52.6		88	77-132		200	
1,2,4-Trimethylbenzene	44	5	ug/m³ Air	52.1		85	78-131		200	
1,3-Dichlorobenzene	52	6	ug/m³ Air	63.1		82	79-124		200	
1,4-Dichlorobenzene	51	6	ug/m³ Air	63.1		81	75-127		200	
1,2-Dichlorobenzene	48	6	ug/m³ Air	62.5		77	77-124		200	
1,2,4-Trichlorobenzene	45	7	ug/m³ Air	77.1		59	55-132		200	
Hexachlorobutadiene	68	10	ug/m³ Air	110		62	52-131		200	
Batch B16J018 - Air_Can_Pressure										
Blank (B16J018-BLK1)				Prepared & Analyzed: 10/05/16						
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 (B16J018-BS1)				Prepared & Analyzed: 10/05/16						
1,2-Dichlorotetrafluoroethane	64	7	ug/m³ Air	69.8		91	67-127		200	
Chloromethane	20	2	ug/m³ Air	21.9		92	70-123		200	
Vinyl chloride	25	3	ug/m³ Air	26.6		93	69-125		200	
Bromomethane	36	4	ug/m³ Air	38.8		92	66-125		200	
Chloroethane	24	3	ug/m³ Air	26.4		92	67-125		200	
Trichlorofluoromethane	51	6	ug/m³ Air	55.0		92	68-133		200	
1,1,2-Trichloro-1,2,2-trifluoroethane	72	8	ug/m³ Air	78.1		92	64-125		200	
1,1-Dichloroethene	44	4	ug/m³ Air	41.2		107	73-128		200	
Dichloromethane	29	3	ug/m³ Air	35.1		83	73-116		200	
trans-1,2-Dichloroethene	42	4	ug/m³ Air	43.2		97	80-123		200	
1,1-Dichloroethane	39	4	ug/m³ Air	40.4		97	72-125		200	
cis-1,2-Dichloroethene	45	4	ug/m³ Air	41.2		108	77-129		200	
Chloroform	46	5	ug/m³ Air	49.3		92	77-126		200	
1,1,1-Trichloroethane	50	5	ug/m³ Air	53.4		94	74-133		200	
Carbon tetrachloride	57	6	ug/m³ Air	61.0		93	71-141		200	
Benzene	31	3	ug/m³ Air	32.9		93	81-125		200	
1,2-Dichloroethane	39	4	ug/m³ Air	40.4		96	61-153		200	
Trichloroethene	58	5	ug/m³ Air	58.0		100	73-128		200	
1,2-Dichloropropane	47	5	ug/m³ Air	47.6		98	77-129		200	
cis-1,3-Dichloropropene	53	5	ug/m³ Air	49.0		108	80-136		200	
Toluene	41	4	ug/m³ Air	39.5		104	78-133		200	

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Project Manager:	Alana Lee	**California Site Cleanup Section 3**		**SDG:**	16274B
Project Number:	R17S02	**75 Hawthorne Street**		**Reported:**	10/17/16 11:04
Project:	MEW 2016 Sewer Pathway 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 B16J018 - Air_Can_Pressure										
LCS (B16J018-BS1)				Prepared & Analyzed: 10/05/16						
trans-1,3-Dichloropropene	52	5	ug/m³ Air	48.1		109	79-146		200	
1,1,2-Trichloroethane	55	5	ug/m³ Air	57.8		96	74-134		200	
Tetrachloroethene	70	7	ug/m³ Air	71.8		98	73-130		200	
1,2-Dibromoethane (EDB)	83	8	ug/m³ Air	83.7		99	78-133		200	
Chlorobenzene	47	5	ug/m³ Air	49.2		95	81-126		200	
Ethylbenzene	46	4	ug/m³ Air	45.6		101	82-130		200	
m&p-Xylene	92	9	ug/m³ Air	92.0		100	82-131		200	
o-Xylene	47	4	ug/m³ Air	45.6		104	82-132		200	
Styrene	45	4	ug/m³ Air	43.8		102	65-141		200	
1,1,2,2-Tetrachloroethane	66	7	ug/m³ Air	71.3		93	73-127		200	
1,3,5-Trimethylbenzene	53	5	ug/m³ Air	52.6		101	77-132		200	
1,2,4-Trimethylbenzene	55	5	ug/m³ Air	52.1		105	78-131		200	
1,3-Dichlorobenzene	63	6	ug/m³ Air	63.1		99	79-124		200	
1,4-Dichlorobenzene	63	6	ug/m³ Air	63.1		100	75-127		200	
1,2-Dichlorobenzene	61	6	ug/m³ Air	62.5		98	77-124		200	
1,2,4-Trichlorobenzene	79	7	ug/m³ Air	77.1		102	55-132		200	
Hexachlorobutadiene	107	10	ug/m³ Air	110		98	52-131		200	
Duplicate (B16J018-DUP1)		**Source: 1609103-05RE2**		Prepared & Analyzed: 10/05/16						
1,2-Dichlorotetrafluoroethane	ND	100	ug/m³ Air		ND				20	U
Chloromethane	ND	30	ug/m³ Air		ND				20	U
Vinyl chloride	ND	40	ug/m³ Air		ND				20	U
Bromomethane	ND	60	ug/m³ Air		ND				20	C3, J, U
Chloroethane	ND	40	ug/m³ Air		ND				20	U
Trichlorofluoromethane	ND	90	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	60	ug/m³ Air		ND				20	U
Dichloromethane	30	50	ug/m³ Air		30			5	20	B1, C1, J, Q3
trans-1,2-Dichloroethene	ND	60	ug/m³ Air		ND				20	U
1,1-Dichloroethane	ND	60	ug/m³ Air		ND				20	U
cis-1,2-Dichloroethene	500	60	ug/m³ Air		500			2	20	
Chloroform	300	80	ug/m³ Air		300			2	20	
1,1,1-Trichloroethane	ND	80	ug/m³ Air		ND				20	U
Carbon tetrachloride	ND	100	ug/m³ Air		ND				20	U
Benzene	ND	50	ug/m³ Air		ND				20	U
1,2-Dichloroethane	ND	60	ug/m³ Air		ND				20	U
Trichloroethene	700	80	ug/m³ Air		600			10	20	
1,2-Dichloropropane	ND	70	ug/m³ Air		ND				20	U
cis-1,3-Dichloropropene	ND	70	ug/m³ Air		ND				20	U
Toluene	ND	60	ug/m³ Air		ND				20	J, Q1, U
trans-1,3-Dichloropropene	ND	70	ug/m³ Air		ND				20	J, Q1, U
1,1,2-Trichloroethane	ND	80	ug/m³ Air		ND				20	J, Q1, U
Tetrachloroethene	50	100	ug/m³ Air		ND				20	J, Q1, C1

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Project:	MEW 2016 Sewer Pathway 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 B16J018 - Air_Can_Pressure										
Duplicate (B16J018-DUP1)		**Source: 1609103-05RE2**		Prepared & Analyzed: 10/05/16						
1,2-Dibromoethane (EDB)	ND	100	ug/m³ Air		ND				20	J, Q1, U
Chlorobenzene	ND	70	ug/m³ Air		ND				20	J, Q1, U
Ethylbenzene	ND	70	ug/m³ Air		ND				20	J, Q1, U
m&p-Xylene	ND	100	ug/m³ Air		ND				20	J, Q1, U
o-Xylene	ND	70	ug/m³ Air		ND				20	J, Q1, U
Styrene	ND	70	ug/m³ Air		ND				20	J, Q1, U
1,1,2,2-Tetrachloroethane	ND	100	ug/m³ Air		ND				20	J, Q1, U
1,3,5-Trimethylbenzene	ND	80	ug/m³ Air		ND				20	J, Q1, U
1,2,4-Trimethylbenzene	ND	80	ug/m³ Air		ND				20	J, Q1, U
1,3-Dichlorobenzene	ND	90	ug/m³ Air		ND				20	J, Q1, U
1,4-Dichlorobenzene	ND	90	ug/m³ Air		ND				20	J, Q1, U
1,2-Dichlorobenzene	ND	90	ug/m³ Air		ND				20	J, Q1, U
1,2,4-Trichlorobenzene	ND	100	ug/m³ Air		ND				20	J, Q1, U
Hexachlorobutadiene	ND	200	ug/m³ Air		ND				20	J, Q1, U

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Project:	MEW 2016 Sewer Pathway Investigation	**San Francisco CA, 94105**			

Qualifiers and Comments

Q3	The quantitation limit standard did not meet recovery criteria for this analyte.
Q1	The internal standard associated with this analyte did not meet area count criteria.
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.
B1	The concentration of this analyte found in this sample was less than five times the concentration found in the associated method blank.
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:**	16274B
Project Number:	R17S02	**75 Hawthorne Street**		**Reported:**	10/17/16 11:04
Project:	MEW 2016 Sewer Pathway Investigation	**San Francisco CA, 94105**			

WORK ORDER

Printed: 9/30/2016 2:14:03PM

1609103

EPA Region 9 Laboratory

Client: **California Site Cleanup Section 3**
Project: **MEW 2016 Sewer Pathway Investigation**
Project Number: **R17S02**

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	No	Yes	Yes	No	Yes	

Date Due:	10/15/16 17:00 (14 day TAT)	SDG:	16274B
Received By:	Tatyana Dadiomov	Date Received:	09/30/16 13:30
Logged In By:	Junn Masongsong	Date Logged In:	09/30/16 14:01

Analysis	Hold Time Expires	Comments
1609103-01 870 Leong-SC-G [Air] Sampled 09/29/16 14:50 (GMT-08:00) Pacific Time (US &		**Can 1977**
VOCs, Soil Gas	10/29/16	9 analytes
1609103-02[redacted] Evandale-SC-G [Air] Sampled 09/29/16 15:20 (GMT-08:00) Pacific Time (US &		**Can 657**
VOCs, Soil Gas	10/29/16	9 analytes
1609103-03 F5-062 [Air] Sampled 09/29/16 15:55 (GMT-08:00) Pacific Time (US &		**Can 1973**
VOCs, Soil Gas	10/29/16	9 analytes
1609103-04 F5-054-10ft [Air] Sampled 09/29/16 16:23 (GMT-08:00) Pacific Time (US &		**Can 1594**
VOCs, Soil Gas	10/29/16	9 analytes
1609103-05 F5-054-5ft [Air] Sampled 09/29/16 16:39 (GMT-08:00) Pacific Time (US &		**Can 1577**
VOCs, Soil Gas	10/29/16	9 analytes

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 - M6 / R17S02**	Project Name: MEW 003 Sewer Investigation	**EPA Project Manager contact:** Alana Lee, 415-972-3141 Lee.Alana@epa.gov
EPA R9 Laboratory	Samplers: *(Signature)* Alana Lee	**Analysis Requested: TO15 - MEW Analyte List, 14 day TAT**

Lab ID	Field Sample ID (Location)	Canister ID	Comp	Grab	Date	Time	Initial Pressure	Final Pressure	TCE Screen (ug/kg)	COMMENTS
	[redacted] Leong-SC-G	1977		X	9/29/16	1450	-28	0	58	870 Leong sewer cleanout -SC17
	[redacted] Evandale-SC-G	657		X	9/29/16	1520	-30	0	ND	[redacted] Evandale SC14
	F5-062	1973		X	9/29/16	1555	-30	0	95	Evandale/Emily MH
	F5-054-10ft	1594		X	9/29/16	1623	-30	0	2562 / 1119	10ft MH F5-064
	F5-054-5ft	1577		X	9/29/16	1639	-30	0	1256	5ft MH F5-064

9/29/16

Relinquished by: *(Signature)*	Date/Time	Received by: *(Signature)*	Date/Time	
Alana Lee	9/30/16 1728	Hadfree	TD 9-30-16 30 9-~~29~~-16 13:30	Hand delivered

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

Table of Contents

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: R17S02 **Work Order No(s):** 1609103 **Date:** 9/30/16 **by** TD

CUSTODY SEALS Intact

□ Yes □ No ☒ N/A- None

Check if applies: □ External Seals □ Internal Seals ☒ Hand Delivered

TEMPERATURE 23 °C Within Acceptable Range

□ Yes □ No ☒ Ambient OK

Check if applies:
□ Provided Temp Blank ☒ Between 6°C to 10°C TD 9-30-16 □ 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

B16J004

PREPARATION BENCH SHEET

B16J004

EPA Region 9 Laboratory

Project: R17S02

Printed: 10/6/2016 9:46:50AM

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
1609103-01 A	870 Leong-SC-G	09/30/16 15:38	200	200				1977	14.78	25.81	1	1.75	LLH	9 analytes
1609103-02 A	PRV Evandale-SC-G	09/30/16 15:44	200	200				657	14.99	26.11	1	1.74	LLH	9 analytes
1609103-03 A	F5-062	09/30/16 15:50	200	200				1973	14.79	25.37	1	1.72	LLH	9 analytes
1609103-03RE1 A	F5-062	09/30/16 15:50	20	200				1973	14.79	25.37	1	1.72	LLH	9 analytes
1609103-04 A	F5-054-10ft	09/30/16 15:53	200	200				1594	15.00	26.01	1	1.73	LLH	9 analytes
1609103-04RE1 A	F5-054-10ft	09/30/16 15:53	20	200				1594	15.00	26.01	1	1.73	LLH	9 analytes
1609103-05 A	F5-054-5ft	09/30/16 15:55	200	200				1577	14.97	26.06	1	1.74	LLH	9 analytes
1609103-05RE1 A	F5-054-5ft	09/30/16 15:55	20	200				1577	14.97	26.06	1	1.74	LLH	9 analytes
B16J004-BLK1	Blank	10/03/16 11:03	200	200									LLH	
B16J004-BS1	LCS	10/03/16 11:03	200	200	1638121		100000						LLH	
B16J004-DUP1	Duplicate	10/03/16 11:03	20	200		1609103-03 RE1		1973	14.79	25.37	1	1.72	LLH	

Batch Comments

PREPARATION BENCH SHEET

B16J004

EPA Region 9 Laboratory

Project: R17S02

Printed: 10/6/2016 9:46:50AM

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

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

Reagents

Reagent #	Description

TO15 DILUTION LOGBOOK

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
9/30/16 EM	1538	1609103 -01	870 LEONG SC-G	1977	14.78	400	400	25.81	29.97/14.72	1.75
	1544	-02	[redacted] Evandale - SG-G	657	14.99	400	400	26.11	–	1.74
	1550	-03	F5-062	1973	14.79	400	400	25.57	–	1.72
	1553	-04	F5-054-10ft	1594	15.00	400	400	26.01	–	1.73
	1555	-05	F5-054-5ft	1577	14.97	400	400	26.06	–	1.74

EM 9/30/16

USEPA REGION 9 LABORATORY

TO15 DILUTION LOGBOOK 02-15.xls

Reviewed by: UH

Date: 10/5/16

Table of Contents

Page 18 of 508 1609103 DATA_PKG (Rev1).PDF 10/17/16 11:18:55

BATCH

B16J018

PREPARATION BENCH SHEET

B16J018

EPA Region 9 Laboratory

Project: R17S02

Printed: 10/6/2016 9:49:25AM

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
1609103-03RE2 A	F5-062	10/04/16 10:39	50	200				1973	8.75	23.38	1.72	4.59	LLH	repress
1609103-04RE2 A	F5-054-10ft	10/04/16 10:41	50	200				1594	10.77	23.69	1.73	3.81	LLH	repress
1609103-05RE2 A	F5-054-5ft	10/04/16 10:44	50	200				1577	10.77	23.92	1.74	3.86	LLH	repress
B16J018-BLK1	Blank	10/05/16 14:00	200	200									LLH	
B16J018-BS1	LCS	10/05/16 14:00	200	200	1638121		100000						LLH	
B16J018-DUP1	Duplicate	10/05/16 14:00	50	200		1609103-05 RE2		1577	10.77	23.92	1.74	3.86	LLH	

Batch Comments

Reagents

Reagent #	Description

PREPARATION BENCH SHEET

B16J018

EPA Region 9 Laboratory

Project: R17S02

Printed: 10/6/2016 9:49:25AM

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

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
10/04/16	1039	1609103-03RE2	reprep	1473	8.75	400	400	23.38	29.94/14.71	2.67
LH	1041	" -04RE2	"	1594	10.77	400	400	23.69	—	2.20
"	1044	" -05RE2	"	1577	10.77	400	400	23.92	—	2.22

~~10/5/16~~ 10/6/16

USEPA REGION 9 LABORATORY

TO15 DILUTION LOGBOOK 02-15.xls

Reviewed by: [signature]

Date: 10/6/16

Calibration

1609015

Table of Contents

Method Path : D:\msdchem\1\2016\method\
Method File : 091516N_TO15AA.M
Title : TO15
Last Update : Tue Sep 20 16:22:25 2016
Response Via : Initial Calibration

REVIEWED
By LLH at 4:24 pm, Sep 20, 2016

Calibration Files
1 =091516N05.D 2 =091516N06.D 5 =091516N07.D 10 =091516N08.D 15 =091516N09.D
20 =091516N10.D

		Compound	1	2	5	10	15	20	Avg	%RSD
1)	I	BROMOCHLOROMETHANE	----------ISTD----------							
2)	T	Propene	0.815	0.780	0.684	0.643	0.644	0.635	0.700	11.19
3)	T	Dichlorodifluo...	2.847	2.971	2.691	2.575	2.553	2.519	2.693	6.74
4)	T	1,2-Dichlorote...	2.775	2.907	2.547	2.418	2.419	2.395	2.577	8.36
5)	T	Chloromethane	0.843	0.908	0.763	0.710	0.702	0.694	0.770	11.37
6)	T	Vinyl chloride	0.884	0.930	0.799	0.750	0.750	0.742	0.809	9.87
7)	T	1,3-Butadiene	0.710	0.713	0.610	0.583	0.582	0.579	0.630	10.27
8)	T	Bromomethane	0.853	0.917	0.770	0.720	0.703	0.698	0.777	11.57
9)	T	Chloroethane	0.440	0.463	0.387	0.362	0.356	0.351	0.393	12.06
10)	T	Bromoethene	0.865	0.878	0.751	0.714	0.703	0.700	0.768	10.65
11)	T	Trichlorofluor...	2.798	2.950	2.503	2.328	2.282	2.247	2.518	11.65
12)	T	1,1,2-Trichlor...	1.828	1.926	1.637	1.538	1.511	1.504	1.657	10.82
13)	T	1,1-Dichloroet...	1.464	1.549	1.337	1.265	1.248	1.234	1.350	9.59
14)	T	Acetone	1.123	1.280	1.347	1.228	1.209	1.173	1.227	6.44
15)	T	Carbon disulfide	2.414	2.472	2.116	1.981	1.943	1.926	2.142	11.36
16)	T	2-Propanol	1.157	1.348	1.258	1.168	1.169	1.147	1.208	6.58
17)	T	Allyl chloride	1.130	1.151	1.019	0.975	0.970	0.964	1.035	8.15
18)	T	Dichloromethane	1.568	1.365	1.067	0.950	0.918	0.900	1.128	24.48
19)	T	tert-Butyl met...	1.809	2.143	2.520	2.378	2.373	2.301	2.254	11.10
20)	T	trans-1,2-Dich...	1.326	1.364	1.187	1.106	1.085	1.071	1.190	10.71
21)	T	Hexane	1.457	1.512	1.335	1.282	1.278	1.269	1.356	7.68
22)	T	1,1-Dichloroet...	1.790	1.899	1.629	1.531	1.511	1.497	1.643	10.13
23)	T	Vinyl acetate	1.661	1.909	2.112	2.063	2.087	2.078	1.985	8.78
24)	T	cis-1,2-Dichlo...	1.184	1.287	1.137	1.096	1.082	1.079	1.144	7.03
25)	T	2-Butanone (MEK)	0.340	0.402	0.437	0.409	0.402	0.392	0.397	8.05
26)	T	Ethyl acetate	0.229	0.272	0.287	0.267	0.266	0.256	0.263	7.37
27)	T	Tetrahydrofuran	0.906	1.034	1.052	0.965	0.954	0.924	0.973	6.05
28)	T	Chloroform	2.128	2.304	1.987	1.867	1.837	1.820	1.991	9.66
29)	T	Cyclohexane	1.470	1.530	1.368	1.313	1.307	1.295	1.380	7.09
30)	T	1,1,1-Trichlor...	2.397	2.584	2.240	2.117	2.092	2.069	2.250	9.09
31)	T	Carbon tetrach...	2.555	2.744	2.399	2.282	2.257	2.236	2.412	8.34
32)	I	1,4-DIFLUOROBENZENE	----------ISTD----------							
33)	T	Benzene	0.796	0.864	0.760	0.712	0.705	0.693	0.755	8.74
34)	T	2,2,4-Trimethy...	1.160	1.227	1.146	1.101	1.105	1.094	1.139	4.44
35)	T	1,2-Dichloroet...	0.366	0.406	0.357	0.340	0.335	0.329	0.356	7.97
36)	T	Heptane	0.427	0.451	0.431	0.416	0.415	0.410	0.425	3.51
37)	T	Trichloroethene	0.321	0.354	0.327	0.314	0.315	0.315	0.324	4.67
38)	T	1,2-Dichloropr...	0.259	0.280	0.265	0.252	0.253	0.250	0.260	4.29
39)	T	1,4-Dioxane	0.146	0.197	0.185	0.167	0.167	0.162	0.171	10.52
40)	T	Bromodichlorom...	0.571	0.598	0.572	0.547	0.547	0.541	0.563	3.91
41)	T	cis-1,3-Dichlo...	0.337	0.390	0.407	0.400	0.404	0.403	0.390	6.84
42)	T	4-Methyl-2-pen...	0.551	0.706	0.650	0.594	0.584	0.564	0.608	9.67
43)	I	CHLOROBENZENE-d5	----------ISTD----------							
44)	T	Toluene	1.005	1.122	1.119	1.080	1.078	1.073	1.079	3.92
45)	T	trans-1,3-Dich...	0.395	0.458	0.499	0.489	0.497	0.491	0.472	8.55
46)	T	1,1,2-Trichlor...	0.336	0.365	0.376	0.362	0.363	0.360	0.360	3.72
47)	T	Tetrachloroethene	0.551	0.594	0.609	0.587	0.596	0.598	0.589	3.39
48)	T	2-Hexanone	0.621	0.874	0.762	0.695	0.680	0.661	0.716	12.64
49)	T	Chlorodibromom...	0.693	0.728	0.757	0.738	0.746	0.746	0.735	3.10
50)	T	1,2-Dibromoeth...	0.503	0.568	0.579	0.559	0.560	0.556	0.554	4.73
51)	T	Chlorobenzene	0.793	0.875	0.908	0.863	0.860	0.851	0.858	4.39
52)	T	Ethylbenzene	1.296	1.481	1.561	1.489	1.483	1.464	1.463	6.02
53)	T	m&p-Xylene	1.009	1.155	1.231	1.166	1.163	1.141	1.144	6.39
54)	T	o-Xylene	1.003	1.180	1.254	1.190	1.189	1.168	1.164	7.24
55)	T	Styrene	0.771	0.939	0.997	0.952	0.949	0.931	0.923	8.46
56)	T	Bromoform	0.729	0.810	0.875	0.839	0.852	0.844	0.825	6.25
57)	T	1,1,2,2-Tetrac...	0.846	0.981	0.936	0.856	0.844	0.815	0.880	7.31
58)	T	4-Ethyltoluene	1.763	2.018	1.960	1.832	1.825	1.766	1.861	5.64
59)	T	1,3,5-Trimethy...	1.347	1.644	1.569	1.462	1.440	1.398	1.476	7.48

Table of Contents

Method Path : D:\msdchem\1\2016\method\
Method File : 091516N_TO15AA.M
Title : TO15

60)	T	1,2,4-Trimethy...	1.378	1.684	1.607	1.506	1.492	1.442	1.518	7.32
61)	T	1,3-Dichlorobe...	0.986	1.178	1.127	1.055	1.053	1.014	1.069	6.71
62)	T	1,4-Dichlorobe...	0.947	1.140	1.104	1.035	1.028	0.993	1.041	6.80
63)	T	Benzyl chloride	0.983	1.291	1.273	1.243	1.250	1.206	1.208	9.41
64)	T	1,2-Dichlorobe...	1.045	1.225	1.129	1.061	1.045	1.008	1.085	7.27
65)	T	1,2,4-Trichlor...	0.897	1.013	0.967	0.971	1.008	1.020	0.979	4.71
66)	T	Hexachlorobuta...	1.187	1.200	1.056	1.016	1.048	1.082	1.098	6.99

(#) = Out of Range

REVIEWED
By LLH at 4:24 pm, Sep 20, 2016

SCV REPORT

Instrument Name: AG5973N
Sample Name: S16I025-SCV1
Misc Info: 10ppbv 1635090
Date Acquired: 9/16/2016 0:26
QLast Update: Tue Sep 20 16:22:25 2016
Operator: LLH

#	Name	Ret Time	Amount	Concentration	%R	QC	LIMIT	STATUS	
1)	BROMOCHLOROMETHANE	15.47	#N/A	22.00	#N/A	70.0	130.0	#N/A	Internal
2)	Propene	4.46	11.00	10.56	96%	70.0	130.0	pass	Subset
3)	Dichlorodifluoromethane	4.56	11.00	9.71	88%	70.0	130.0	pass	Primary
4)	1,2-Dichlorotetrafluoroethane	4.91	10.00	8.87	89%	70.0	130.0	pass	Primary
5)	Chloromethane	5.12	11.00	12.59	114%	70.0	130.0	pass	Primary
6)	Vinyl chloride	5.44	12.00	10.18	85%	70.0	130.0	pass	Primary
7)	1,3-Butadiene	5.53	11.00	10.05	91%	70.0	130.0	pass	Subset
8)	Bromomethane	6.47	11.00	8.31	76%	70.0	130.0	pass	Primary
9)	Chloroethane	6.80	10.00	9.87	99%	70.0	130.0	pass	Primary
10)	Bromoethene	7.38	11.00	10.09	92%	70.0	130.0	pass	Subset
11)	Trichlorofluoromethane	7.52	11.00	9.85	90%	70.0	130.0	pass	Primary
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	9.35	11.00	9.91	90%	70.0	130.0	pass	Primary
13)	1,1-Dichloroethene	9.43	11.00	10.24	93%	70.0	130.0	pass	Primary
14)	Acetone	9.95	10.00	10.83	108%	70.0	130.0	pass	Subset
15)	Carbon disulfide	10.16	9.90	11.02	111%	70.0	130.0	pass	Subset
16)	2-Propanol	10.56	9.20	9.88	107%	70.0	130.0	pass	Subset
17)	Allyl chloride	10.96	11.00	10.76	98%	70.0	130.0	pass	Subset
18)	Dichloromethane	11.48	11.00	8.58	78%	70.0	130.0	pass	Primary
19)	tert-Butyl methyl ether (MTBE)	12.16	10.00	11.35	114%	70.0	130.0	pass	Subset
20)	trans-1,2-Dichloroethene	12.20	10.00	10.34	103%	70.0	130.0	pass	Subset
21)	Hexane	12.79	11.00	10.06	91%	70.0	130.0	pass	Subset
22)	1,1-Dichloroethane	13.51	12.00	9.78	81%	70.0	130.0	pass	Primary
23)	Vinyl acetate	13.65	11.00	11.39	104%	70.0	130.0	pass	Subset
24)	cis-1,2-Dichloroethene	14.94	11.00	10.28	93%	70.0	130.0	pass	Primary
25)	2-Butanone (MEK)	15.03	10.00	11.16	112%	70.0	130.0	pass	Subset
26)	Ethyl acetate	15.08	10.00	10.84	108%	70.0	130.0	pass	Subset
27)	Tetrahydrofuran	15.48	9.60	10.61	110%	70.0	130.0	pass	Subset
28)	Chloroform	15.62	11.00	9.65	88%	70.0	130.0	pass	Primary
29)	Cyclohexane	15.86	10.00	10.14	101%	70.0	130.0	pass	Subset
30)	1,1,1-Trichloroethane	15.91	10.00	9.20	92%	70.0	130.0	pass	Primary
31)	Carbon tetrachloride	16.16	11.00	9.56	87%	70.0	130.0	pass	Primary
32)	1,4-DIFLUOROBENZENE	17.45	#N/A	19.80	#N/A	70.0	130.0	#N/A	Internal
33)	Benzene	16.64	11.00	10.35	94%	70.0	130.0	pass	Primary
34)	2,2,4-Trimethylpentane	16.60	10.00	10.47	105%	70.0	130.0	pass	Subset
35)	1,2-Dichloroethane	16.84	11.00	9.97	91%	70.0	130.0	pass	Primary
36)	Heptane	16.98	10.00	10.47	105%	70.0	130.0	pass	Subset
37)	Trichloroethene	17.86	11.00	11.12	101%	70.0	130.0	pass	Primary
38)	1,2-Dichloropropane	18.36	11.00	10.83	98%	70.0	130.0	pass	Primary
39)	1,4-Dioxane	18.54	11.00	10.89	99%	70.0	130.0	pass	Subset
40)	Bromodichloromethane	18.81	10.00	10.32	103%	70.0	130.0	pass	Subset
41)	cis-1,3-Dichloropropene	19.58	11.00	11.68	106%	70.0	130.0	pass	Primary
42)	4-Methyl-2-pentanone (MIBK)	19.80	11.00	10.54	96%	70.0	130.0	pass	Subset
43)	CHLOROBENZENE-d5	22.34	#N/A	20.00	#N/A	70.0	130.0	#N/A	Internal
44)	Toluene	20.06	11.00	11.72	107%	70.0	130.0	pass	Primary
45)	trans-1,3-Dichloropropene	20.52	11.00	11.64	106%	70.0	130.0	pass	Primary
46)	1,1,2-Trichloroethane	20.83	11.00	11.80	107%	70.0	130.0	pass	Primary
47)	Tetrachloroethene	20.91	11.00	11.55	105%	70.0	130.0	pass	Primary
48)	2-Hexanone	21.14	10.00	9.63	96%	70.0	130.0	pass	Subset
49)	Chlorodibromomethane	21.43	9.90	11.17	113%	70.0	130.0	pass	Subset
50)	1,2-Dibromoethane (EDB)	21.66	10.00	10.42	104%	70.0	130.0	pass	Primary

51)	Chlorobenzene	22.37	11.00	11.39	104%	70.0	130.0	pass	Primary
52)	Ethylbenzene	22.47	11.00	11.44	104%	70.0	130.0	pass	Primary
53)	m&p-Xylene	22.64	22.00	22.90	104%	70.0	130.0	pass	Primary
54)	o-Xylene	23.28	11.00	11.66	106%	70.0	130.0	pass	Primary
55)	Styrene	23.33	11.00	10.49	95%	70.0	130.0	pass	Primary
56)	Bromoform	23.71	11.00	11.05	100%	70.0	130.0	pass	Subset
57)	1,1,2,2-Tetrachloroethane	24.40	11.00	10.43	95%	70.0	130.0	pass	Primary
58)	4-Ethyltoluene	24.64	11.00	10.49	95%	70.0	130.0	pass	Subset
59)	1,3,5-Trimethylbenzene	24.73	11.00	11.03	100%	70.0	130.0	pass	Primary
60)	1,2,4-Trimethylbenzene	25.34	11.00	10.87	99%	70.0	130.0	pass	Primary
61)	1,3-Dichlorobenzene	25.87	11.00	10.46	95%	70.0	130.0	pass	Primary
62)	1,4-Dichlorobenzene	26.02	11.00	10.10	92%	70.0	130.0	pass	Primary
63)	Benzyl chloride	26.22	11.00	11.66	106%	70.0	130.0	pass	Subset
64)	1,2-Dichlorobenzene	26.63	11.00	10.08	92%	70.0	130.0	pass	Primary
65)	1,2,4-Trichlorobenzene	29.09	11.00	9.75	89%	70.0	130.0	pass	Primary
66)	Hexachlorobutadiene	29.22	11.00	10.38	94%	70.0	130.0	pass	Primary

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RT DUPLICATE REPORT

Instrument Name: AG5973N
Sample Name: S16I025-CAL4
Misc Info: 10ppbv 1638118
Date Acquired: 9/15/2016 21:59
QLast Update: Tue Sep 20 16:22:25 2016
Operator: LLH

#	Name	RT	CONC	Qion	
1)	BROMOCHLOROMETHANE	15.469	22.000	49	15.078
2)	Propene	4.464	10.100	41	
3)	Dichlorodifluoromethane	4.559	9.275	84.9	
4)	1,2-Dichlorotetrafluoroethane	4.915	9.384	84.9	
5)	Chloromethane	5.117	9.772	50	
6)	Vinyl chloride	5.437	9.641	61.9	
7)	1,3-Butadiene	5.532	9.358	54	
8)	Bromomethane	6.468	9.270	93.9	
9)	Chloroethane	6.800	9.212	64	
10)	Bromoethene	7.381	10.217	105.9	
11)	Trichlorofluoromethane	7.524	9.061	100.9	
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	9.350	9.462	150.9	
13)	1,1-Dichloroethene	9.433	9.749	61	
14)	Acetone	9.955	11.009	43	
15)	Carbon disulfide	10.156	10.175	75.9	
16)	2-Propanol	10.560	10.636	45	
17)	Allyl chloride	10.963	10.366	41	
18)	Dichloromethane	11.485	8.510	49	
19)	tert-Butyl methyl ether (MTBE)	12.160	11.395	73	
20)	trans-1,2-Dichloroethene	12.196	10.135	61	
21)	Hexane	12.789	9.835	57.1	
22)	1,1-Dichloroethane	13.512	9.317	63	
23)	Vinyl acetate	13.655	11.329	43	
24)	cis-1,2-Dichloroethene	14.935	9.966	61	
25)	2-Butanone (MEK)	15.030	11.233	72	
26)	Ethyl acetate	15.078	10.968	61	
27)	Tetrahydrofuran	15.481	10.520	42.1	
28)	Chloroform	15.623	9.472	82.9	
29)	Cyclohexane	15.860	10.079	56.1	
30)	1,1,1-Trichloroethane	15.908	9.220	96.9	
31)	Carbon tetrachloride	16.169	9.177	116.9	
32)	1,4-DIFLUOROBENZENE	17.449	19.800	114	16.975
33)	Benzene	16.643	9.713	78	16.596
34)	2,2,4-Trimethylpentane	16.596	10.251	57.1	
35)	1,2-Dichloroethane	16.845	9.564	62	
36)	Heptane	16.975	10.371	43.1	
37)	Trichloroethene	17.864	10.468	129.9	
38)	1,2-Dichloropropane	18.362	9.998	63	
39)	1,4-Dioxane	18.540	10.779	88	
40)	Bromodichloromethane	18.813	10.395	82.9	
41)	cis-1,3-Dichloropropene	19.584	11.066	75	
42)	4-Methyl-2-pentanone (MIBK)	19.797	10.457	43	

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43)	CHLOROBENZENE-d5	22.335	20.000	117	21.659
44)	Toluene	20.058	10.506	91	
45)	trans-1,3-Dichloropropene	20.521	10.989	75	
46)	1,1,2-Trichloroethane	20.829	10.649	96.9	
47)	Tetrachloroethene	20.912	10.565	165.8	
48)	2-Hexanone	21.149	10.593	43	
49)	Chlorodibromomethane	21.434	10.858	128.8	
50)	1,2-Dibromoethane (EDB)	21.659	10.983	106.9	
51)	Chlorobenzene	22.371	10.759	112	
52)	Ethylbenzene	22.466	10.688	91	
53)	m&p-Xylene	22.643	21.602	91	
54)	o-Xylene	23.284	10.736	91	
55)	Styrene	23.331	10.626	104	
56)	Bromoform	23.711	10.883	172.8	
57)	1,1,2,2-Tetrachloroethane	24.398	10.118	82.9	
58)	4-Ethyltoluene	24.636	10.635	105	
59)	1,3,5-Trimethylbenzene	24.730	10.592	105	
60)	1,2,4-Trimethylbenzene	25.335	10.513	105	
61)	1,3-Dichlorobenzene	25.869	10.367	145.9	
62)	1,4-Dichlorobenzene	26.023	10.439	145.9	
63)	Benzyl chloride	26.225	11.318	91	0.000
64)	1,2-Dichlorobenzene	26.628	10.162	145.9	0.000
65)	1,2,4-Trichlorobenzene	29.094	10.317	179.9	0.000
66)	Hexachlorobutadiene	29.225	9.532	224.8	0.000

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CHEMSTATION CONCENTRATION REPORT

Instrument Name: AG5973N
Sample Name: S16I025-SCV1
Misc Info: 10ppbv 1635090
Date Acquired: 9/16/2016 0:26
QLast Update: Tue Sep 20 16:22:25 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	19.80	19.80	19.80	19.80	19.80	19.80
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	20.00	20.00	20.00	20.00	20.00	20.00
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: S16I025-SCV1
Misc Info: 10ppbv 1635090
Date Acquired: 9/16/2016 0:26
QLast Update: Tue Sep 20 16:22:25 20
Operator: LLH

#	Name	L1	L2	L3	L4	L5	L6
1)	BROMOCHLOROMETHANE	1099060	1105697	1124669	1138192	1155341	1168961
2)	Propene	44795	86276	192235	365787	557709	742078
3)	Dichlorodifluoromethane	137948	289716	667165	1292167	1951040	2596950
4)	1,2-Dichlorotetrafluoroethane	138617	292186	651151	1251085	1905664	2545607
5)	Chloromethane	44657	96721	206733	389340	586512	781801
6)	Vinyl chloride	45915	97259	212286	403543	614462	819715
7)	1,3-Butadiene	35820	72433	157482	304796	463013	620999
8)	Bromomethane	42627	92169	196745	372573	553834	741589
9)	Chloroethane	21989	46492	98806	187290	280039	373043
10)	Bromoethene	47518	97052	211108	406116	609122	818339
11)	Trichlorofluoromethane	136989	290633	626865	1180425	1761824	2340458
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	93151	197490	426752	811350	1214405	1630567
13)	1,1-Dichloroethene	76050	161945	355533	680701	1022126	1364094
14)	Acetone	61725	141484	378780	698599	1047200	1371708
15)	Carbon disulfide	132649	273383	594896	1127512	1683398	2250953
16)	2-Propanol	63566	149050	353685	664601	1013251	1340933
17)	Allyl chloride	62092	127281	286517	555013	840432	1127401
18)	Dichloromethane	79102	138557	275572	496581	730017	965552
19)	tert-Butyl methyl ether (MTBE)	97599	232669	695605	1328780	2018793	2640797
20)	trans-1,2-Dichloroethene	72210	149480	330688	623898	931299	1240575
21)	Hexane	75709	158087	354762	689793	1047287	1402817
22)	1,1-Dichloroethane	89419	190871	416509	791932	1190566	1591026
23)	Vinyl acetate	90433	209206	588325	1163435	1791703	2407240
24)	cis-1,2-Dichloroethene	61495	134503	302185	589830	886344	1192143
25)	2-Butanone (MEK)	18488	44020	121681	230674	345483	454074
26)	Ethyl acetate	12350	29550	79136	149163	226404	294298
27)	Tetrahydrofuran	47954	110204	285006	529302	796343	1041389
28)	Chloroform	107391	233899	512895	975434	1461722	1953675
29)	Cyclohexane	77867	163020	370598	719821	1091622	1458528
30)	1,1,1-Trichloroethane	117353	254571	561112	1073165	1614833	2154225
31)	Carbon tetrachloride	123793	267548	594760	1145231	1724740	2305027
32)	1,4-DIFLUOROBENZENE	3682552	3703327	3741606	3799063	3843554	3908072
33)	Benzene	152398	332970	739395	1406907	2113330	2819099
34)	2,2,4-Trimethylpentane	228654	486403	1147595	2239711	3409175	4579334
35)	1,2-Dichloroethane	68164	151896	337131	652652	975961	1299446
36)	Heptane	84234	178704	431869	845659	1279595	1716739
37)	Trichloroethene	64498	142829	333965	651522	990563	1342682
38)	1,2-Dichloropropane	49704	107748	258289	498772	759481	1016160
39)	1,4-Dioxane	29895	81150	192611	353398	533960	705326
40)	Bromodichloromethane	113592	239533	578337	1122047	1703273	2285079
41)	cis-1,3-Dichloropropene	67688	157387	415823	828152	1270236	1716044
42)	4-Methyl-2-pentanone (MIBK)	109619	282478	656928	1220061	1820431	2380518

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43)	CHLOROBENZENE-d5	2899949	2872981	3070505	3115587	3148843	3185074
44)	Toluene	152998	338319	902186	1766486	2672315	3586836
45)	trans-1,3-Dichloropropene	60732	139487	406199	807293	1243636	1659143
46)	1,1,2-Trichloroethane	51577	111143	306162	597747	908376	1216731
47)	Tetrachloroethene	84683	180951	495604	969612	1491226	2017776
48)	2-Hexanone	98088	273812	637194	1180870	1751659	2296051
49)	Chlorodibromomethane	108448	225809	627847	1242443	1901605	2564897
50)	1,2-Dibromoethane (EDB)	79565	178002	484263	948358	1442021	1931858
51)	Chlorobenzene	123020	269025	745638	1438591	2173913	2899165
52)	Ethylbenzene	197383	446783	1258528	2435086	3677643	4897463
53)	m&p-Xylene	310116	703404	2002504	3849860	5822371	7705779
54)	o-Xylene	152703	356034	1010418	1946691	2948108	3906307
55)	Styrene	115123	277803	788360	1528133	2309055	3053671
56)	Bromoform	113035	248927	718817	1398013	2152487	2874765
57)	1,1,2,2-Tetrachloroethane	127587	293144	747567	1386411	2071894	2699502
58)	4-Ethyltoluene	276135	626184	1625078	3082917	4654630	6075380
59)	1,3,5-Trimethylbenzene	208965	505257	1288365	2436114	3638670	4763784
60)	1,2,4-Trimethylbenzene	211745	512780	1307425	2486064	3735318	4868476
61)	1,3-Dichlorobenzene	150117	355430	908709	1726262	2610247	3391227
62)	1,4-Dichlorobenzene	144185	343840	889646	1692844	2548298	3320263
63)	Benzyl chloride	156862	408094	1074825	2129362	3248321	4224470
64)	1,2-Dichlorobenzene	157610	365890	901565	1718214	2566070	3339856
65)	1,2,4-Trichlorobenzene	135191	302616	771647	1573783	2476423	3377072
66)	Hexachlorobutadiene	177206	355094	834655	1630568	2550347	3549350

CHEMSTATION VS LIMS CONCENTRATION REPORT

Instrument Name: AG5973N
Sample Name: S16I025-SCV1
Misc Info: 10ppbv 1635090
Date Acquired: 9/16/2016 0:26
QLast Update: Tue Sep 20 16:22:25 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: S16I025-SCV1
Misc Info: 10ppbv 1635090
Date Acquired: 9/16/2016 0:26
QLast Update: Tue Sep 20 16:22:25 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

SEQUENCE

S16I025

Injection Log

Directory: d:\msdchem\1\2016\data\091516_FSAA

Table of Contents

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	34	091516N01.D	1.	PRIME		15 Sep 2016 16:26
2	31	091516N02.D	1.	PRIME		15 Sep 2016 17:21
3	32	091516N03.D	1.	PRIME		15 Sep 2016 18:08
4	31	091516N04.D	1.	S16I025-TUN1	BFB 1637033	15 Sep 2016 18:54
5	31	091516N05.D	1.	S16I025-CAL1	1.0ppbv 1638115	15 Sep 2016 19:40
6	32	091516N06.D	1.	S16I025-CAL2	2.0ppbv 1638116	15 Sep 2016 20:26
7	32	091516N07.D	1.	S16I025-CAL3	5.0ppbv 1638117	15 Sep 2016 21:12
8	32	091516N08.D	1.	S16I025-CAL4	10ppbv 1638118	15 Sep 2016 21:59
9	32	091516N09.D	1.	S16I025-CAL5	15ppbv 1638119	15 Sep 2016 22:47
10	32	091516N10.D	1.	S16I025-CAL6	20ppbv 1638120	15 Sep 2016 23:37
11	34	091516N11.D	1.	S16I025-SCV1	10ppbv 1635090	16 Sep 2016 00:26
12	34	091516N12.D	1.	S16I025SCV1	10ppbv 1635090	16 Sep 2016 01:15
13	33	091516N13.D	1.	IB	200mL BLANK	16 Sep 2016 02:04

GC/MS QA-QC Check Report

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Tune File : D:\msdchem\1\2016\data\091516_FSAA\091516N04.D
Tune Time : 15 Sep 2016 6:54 pm

Daily Calibration File : D:\msdchem\1\2016\data\091516_FSAA\091516N08.D

File	Sample	Surrogate Recovery %			Internal Standard Responses	
			1138190	3799060	3115590	
091516N05.D						
	S16I025-CAL1	1099060	3682552	2899949		
091516N06.D						
	S16I025-CAL2	1105697	3703327	2872981		
091516N07.D						
	S16I025-CAL3	1124669	3741606	3070505		
091516N08.D						
	S16I025-CAL4	1138192	3799063	3115587		
091516N09.D						
	S16I025-CAL5	1155341	3843554	3148843		
091516N10.D						
	S16I025-CAL6	1168961	3908072	3185074		
091516N11.D						
	S16I025-SCV1	1178927	3948439	3112578		
091516N12.D						
	S16I025SCV1	1177449	3944374	3185987	NOT USED	
091516N13.D						
	IB	1169106	3931068	3130885		

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

Created: Tue Sep 20 13:55:40 2016 AG5973N

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

Sequence Name: D:\smart\2016\091516N_FSAA.SEQ
Date: 09-20-2016
Time: 13:20:12
Int. Std Volume: 40 cc

Sample Name	Inlet #	Auto Pos	Samp Vol.	Cal Std Vol.	Method	Time
PRIME	3	4	200	40	D:\Smart\TO15.CTD	12:00
PRIME	3	1	50	40	D:\Smart\TO15.CTD	12:00
PRIME	3	2	50	40	D:\Smart\TO15.CTD	12:00
BFB	3	1	20	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

S16I025

Project:
Analysis:

Instrument: AG5973N **Calibration ID:** 1609015 Printed: 09/20/2016 3:30 pm

Lab Number	Sample Name	Order	Analyzed Date	STD ID	ISTD ID	Sequenced By	File ID	Comments
S16I025-TUN1	MS Tune	1	9/15/16 18:54	1617033		LLH	091516N04.D	
S16I025-CAL1	Cal Std TO15	2	9/15/16 19:40	1638115		LLH	091516N05.D	
S16I025-CAL2	Cal Std TO15	3	9/15/16 20:26	1638116		LLH	091516N06.D	
S16I025-CAL3	Cal Std TO15	4	9/15/16 21:12	1638117		LLH	091516N07.D	
S16I025-CAL4	Cal Std TO15	5	9/15/16 21:59	1638118		LLH	091516N08.D	
S16I025-CAL5	Cal Std TO15	6	9/15/16 22:47	1638119		LLH	091516N09.D	
S16I025-CAL6	Cal Std TO15	7	9/15/16 23:37	1638120		LLH	091516N10.D	
S16I025-SCV1	SCV TO15	8	9/16/16 0:26	1635090		LLH	091516N11.D	

Sequence Comments

Reagents

Reagent #	Description

ANALYST / REVIEWER - DATA REVIEW CHECKLIST

BATCH #:	N / A	SEQUENCE #:		S16I025	09/15/16
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?	☑			
	ANALYST: Every run has a PDF in LIMS? REVIEWER: Every PDF reviewed?	☑			
INITIAL CALIBRATION	Date of Initial Calibration used: If applicable, note date of "Last Update" in Comments.	09/15/16 Tue Sept 20, 2016 16:22:25			ICAL / SCV = OK
	Initial Calibration ID (LIMS number):	1609015			
	ICAL within QC criteria?	☐	Y	Y	OK
	SCV within QC criteria?	☐	Y	Y	OK
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 #:	S16I025	09/15/16
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 09/20/16
	REVIEWED BY:	Ziyad Rajabi (affiliate) Digitally signed by Ziyad Rajabi (affiliate) Date: 2016.09.30 14:42:51 -07'00' SIGN HERE

COMMENTS

FORM #: Q015
REV #: 1

SEQUENCE DATA

S16I025

S16I025-TUN1

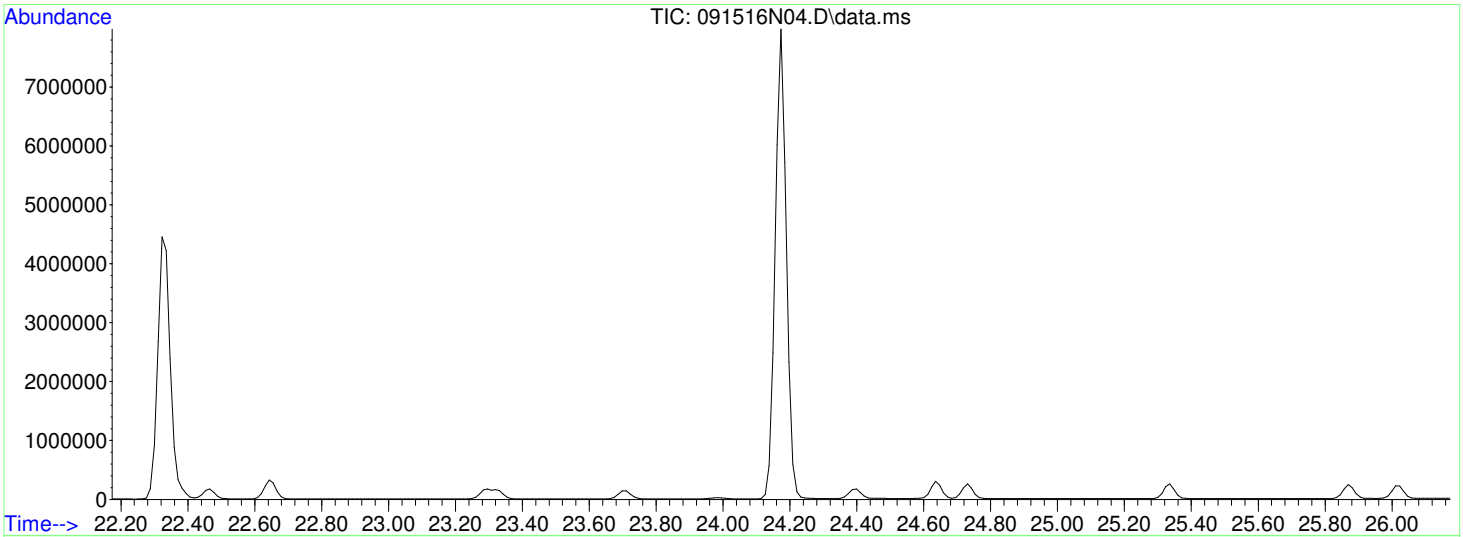
Table of Contents

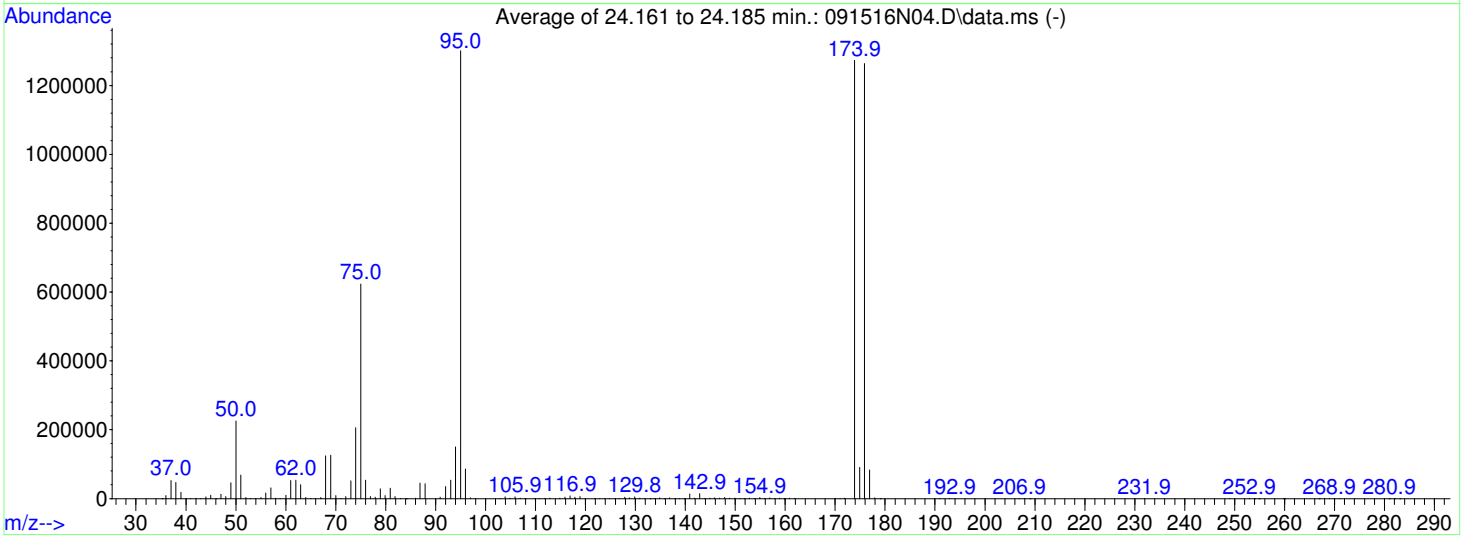
Data Path : D:\msdchem\1\2016\data\091516_FSAA\
Data File : 091516N04.D
Acq On : 15 Sep 2016 6:54 pm
InstName : AG5973N
Operator : LLH
Sample : S16I025-TUN1
Misc : BFB 1637033
ALS Vial : 31 Sample Multiplier: 1

REVIEWED
By LLH at 4:26 pm, Sep 20, 2016

Integration File: rteint.p

Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Title : TO15
Last Update : Tue Sep 20 13:34:06 2016





AutoFind: Scans 1736, 1737, 1738; Background Corrected with Scan 1729

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	17.3	225045	PASS
75	95	30	66	47.9	622977	PASS
95	95	100	100	100.0	1301333	PASS
96	95	5	9	6.6	85709	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	97.8	1273109	PASS
175	174	4	9	7.2	91080	PASS
176	174	93	101	99.3	1263616	PASS
177	176	5	9	6.6	83408	PASS

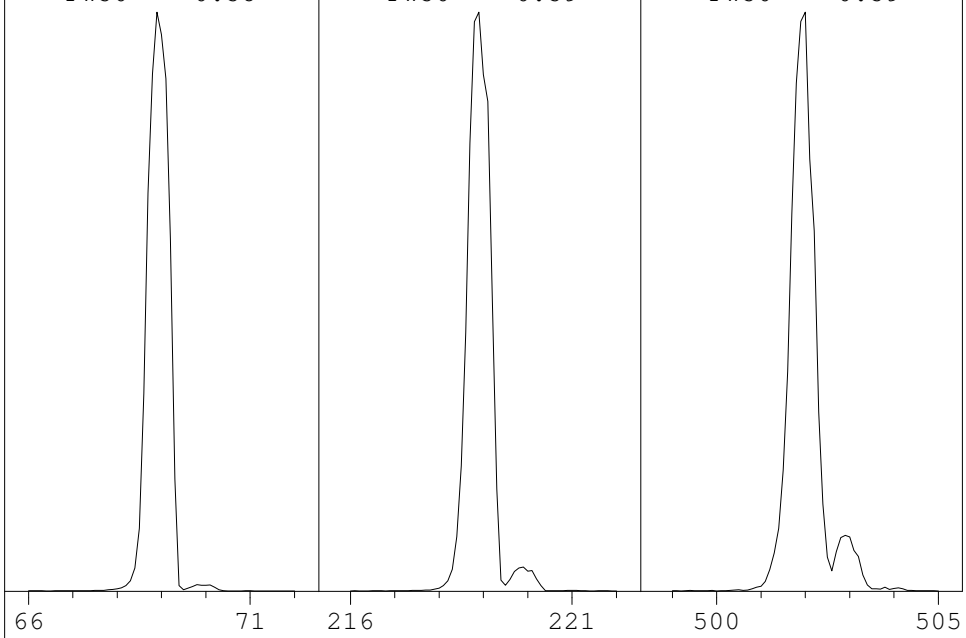
BFB Autotune

Thu Sep 15 15:54:10 2016 Instrum

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

Table of Contents

Mass	68.90	Mass	218.90	Mass	502.00
Ab	468035	Ab	324491	Ab	34358
Pw50	0.58	Pw50	0.59	Pw50	0.59



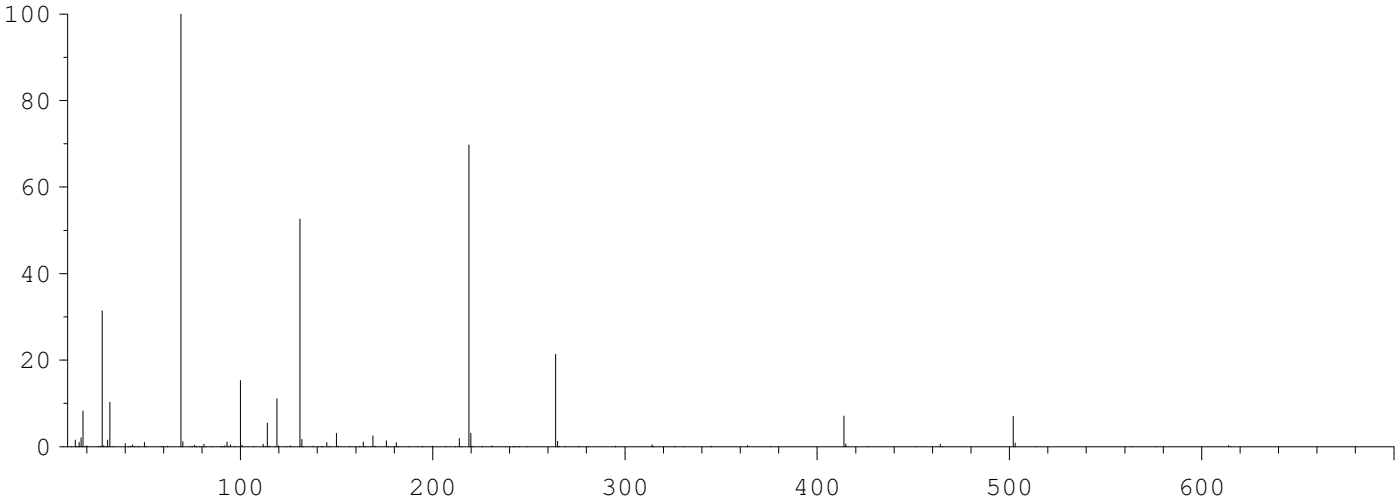
Ion Pol	Pos	MassGain	145
		MassOffs	-11
Emission	34.6	AmuGain	2536
EIEnrgy	69.9	AmuOffs	133
Filament	1	Wid219	-0.018
		DC Pol	Pos
Repeller	30.12		
IonFcus	111.0	HEDEnab	On
EntLens	14.5	EMVolts	1200
EntOffs	19.07		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	Turbo Speed	100
MS Quad	150		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10

121 peaks Base: 69.00 Abundance: 446912



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	446912	100.00	70.00	5076	1.14
218.90	311424	69.68	219.90	13599	4.37
502.00	31216	6.98	503.00	3844	12.31

Air/Water Check: H2O~8.26% N2~31.40% O2~10.22% CO2~0.44% N2/H2O~380.07%

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 174998

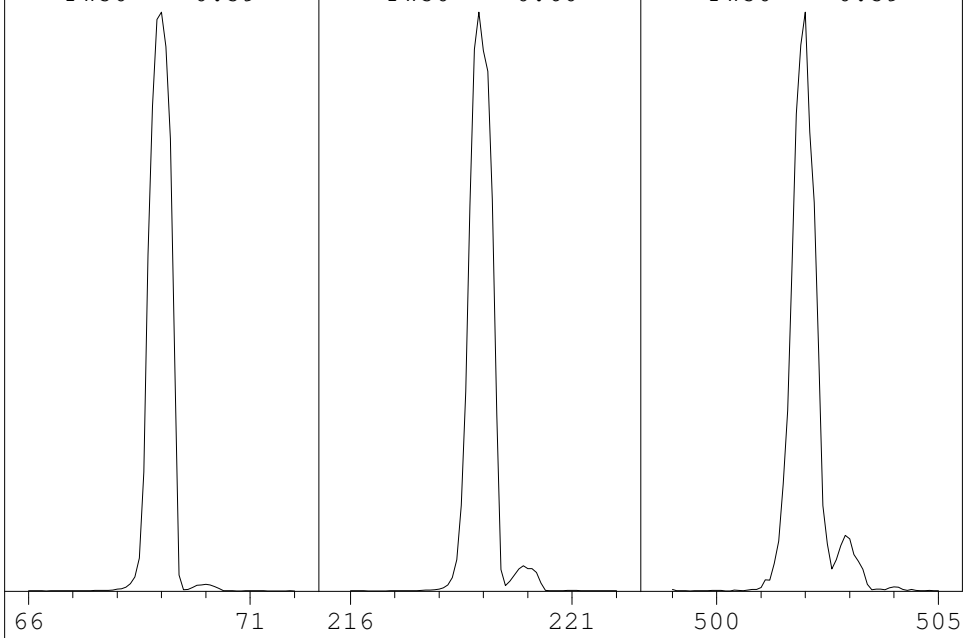
Repeller Maximum 35 volts using ion 502; Gain Factor 1.75

MassGain Values(Samples): 148(3) 152(2) 164(1) 194(0) 220(FS)

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	133.0	133.0	133.0	133.0	133.0	133.0	133.0
Entrance Lens Offset:	19.1	19.1	19.1	19.1	19.1	19.1	19.1

Thu Sep 15 16:00:26 2016 Instrum
C:\MSDCHEM\1\5973N\bfb091516.u US43120931

Mass	69.00	Mass	218.90	Mass	502.00
Ab	355382	Ab	237830	Ab	22478
Pw50	0.59	Pw50	0.60	Pw50	0.59

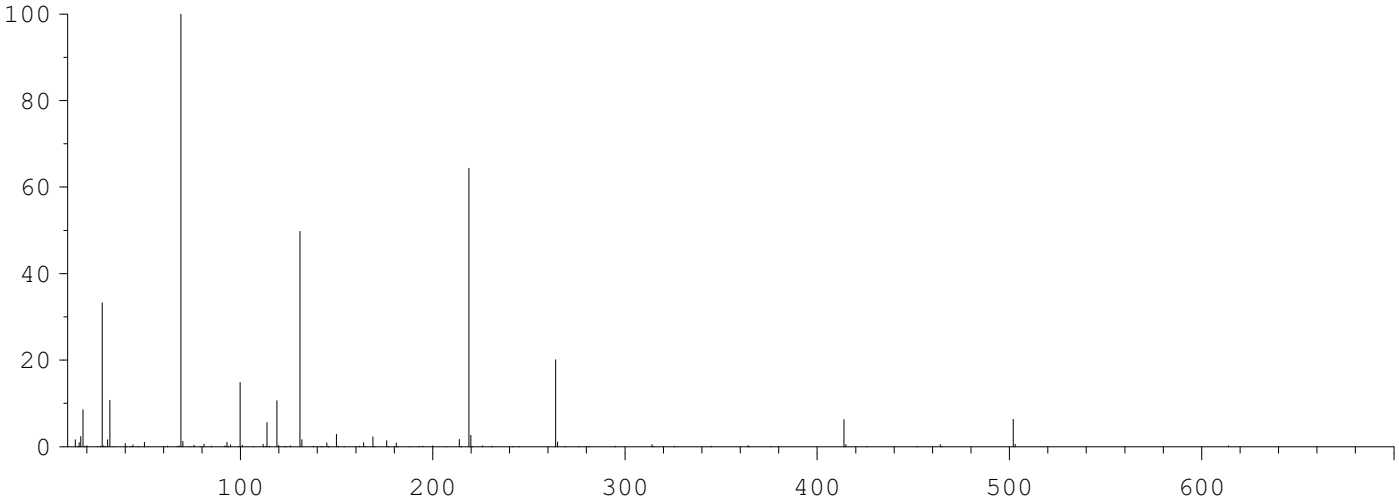


Ion Pol	Pos	MassGain	145
		MassOffs	-11
Emission	34.6	AmuGain	2536
EIEnrgy	69.9	AmuOffs	133
Filament	1	Wid219	-0.018
		DC Pol	Pos
Repeller	28.78		
IonFcus	111.0	HEDEnab	On
EntLens	14.5	EMVolts	1176
EntOffs	19.07		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	Turbo Speed	100
MS Quad	150		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
105 peaks Base: 69.00 Abundance: 347008



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	347008	100.00	70.00	4169	1.20
218.90	223168	64.31	219.90	9093	4.07
502.00	21992	6.34	503.00	2081	9.46

Air/Water Check: H2O~8.58% N2~33.27% O2~10.66% CO2~0.42% N2/H2O~387.85%

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 148899
Repeller Maximum 35 volts using ion 502; Gain Factor 1.49

MassGain Values(Samples): 148(3) 152(2) 164(1) 194(0) 220(FS)

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	133.0	133.0	133.0	133.0	133.0	133.0	133.0
Entrance Lens Offset:	19.1	19.1	19.1	19.1	19.1	19.1	19.1

S16I025-CAL1

Data Path : D:\msdchem\1\2016\data\091516_FSAA\
Data File : 091516N05.D
Acq On : 15 Sep 2016 7:40 pm
InstName : AG5973N
Operator : LLH
Sample : S16I025-CAL1
Misc : 1.0ppbv 1638115
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Sep 20 16:19:52 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:15:43 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.469	49	1099060	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	3682552	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.323	117	2899949	20.00	ppbv	-0.01
Target Compounds						Qvalue
2) Propene	4.464	41	44795	1.28	ppbv	98
3) Dichlorodifluoromethane	4.559	85	137948	1.03	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.915	85	138617	1.08	ppbv	99
5) Chloromethane	5.105	50	44657	1.16	ppbv	99
6) Vinyl chloride	5.437	62	45915	1.14	ppbv	99
7) 1,3-Butadiene	5.532	54	35820	1.14	ppbv	96
8) Bromomethane	6.468	94	42627	1.10	ppbv	97
9) Chloroethane	6.800	64	21989	1.12	ppbv	96
10) Bromoethene	7.382	106	47518	1.24	ppbv	99
11) Trichlorofluoromethane	7.512	101	136989	1.09	ppbv	99
12) 1,1,2-Trichloro-1,2,2-...	9.350	151	93151	1.13	ppbv	99
13) 1,1-Dichloroethene	9.433	61	76050	1.13	ppbv	100
14) Acetone	9.967	43	61725	1.01	ppbv	100
15) Carbon disulfide	10.156	76	132649	1.24	ppbv	97
16) 2-Propanol	10.560	45	63566	1.05	ppbv	87
17) Allyl chloride	10.963	41	62092	1.20	ppbv	99
18) Dichloromethane	11.485	49	79102	1.40	ppbv	98
19) tert-Butyl methyl ethe...	12.172	73	97599	0.87	ppbv	99
20) trans-1,2-Dichloroethene	12.196	61	72210	1.21	ppbv	99
21) Hexane	12.789	57	75709	1.12	ppbv	95
22) 1,1-Dichloroethane	13.512	63	89419	1.09	ppbv	100
23) Vinyl acetate	13.655	43	90433	0.91	ppbv	100
24) cis-1,2-Dichloroethene	14.935	61	61495	1.08	ppbv	98
25) 2-Butanone (MEK)	15.030	72	18488	0.93	ppbv #	1
26) Ethyl acetate	15.078	61	12350	0.94	ppbv #	96
27) Tetrahydrofuran	15.493	42	47954	0.99	ppbv	99
28) Chloroform	15.623	83	107391	1.08	ppbv	98
29) Cyclohexane	15.860	56	77867	1.13	ppbv	97
30) 1,1,1-Trichloroethane	15.908	97	117353	1.04	ppbv	99
31) Carbon tetrachloride	16.157	117	123793	1.03	ppbv	100
33) Benzene	16.643	78	152398	1.09	ppbv	100
34) 2,2,4-Trimethylpentane	16.596	57	228654	1.08	ppbv	98
35) 1,2-Dichloroethane	16.845	62	68164	1.03	ppbv	98
36) Heptane	16.975	43	84234	1.07	ppbv	99
37) Trichloroethene	17.864	130	64498	1.07	ppbv	99
38) 1,2-Dichloropropane	18.362	63	49704	1.03	ppbv	98
39) 1,4-Dioxane	18.552	88	29895	0.94	ppbv	94
40) Bromodichloromethane	18.813	83	113592	1.09	ppbv	99
41) cis-1,3-Dichloropropene	19.584	75	67688	0.93	ppbv	97
42) 4-Methyl-2-pentanone (...	19.797	43	109619	0.97	ppbv	97
44) Toluene	20.058	91	152998	0.98	ppbv	99
45) trans-1,3-Dichloropropene	20.521	75	60732	0.89	ppbv	96
46) 1,1,2-Trichloroethane	20.829	97	51577	0.99	ppbv	99
47) Tetrachloroethene	20.912	166	84683	0.99	ppbv	99
48) 2-Hexanone	21.149	43	98088	0.95	ppbv	96
49) Chlorodibromomethane	21.434	129	108448	1.02	ppbv	99
50) 1,2-Dibromoethane (EDB)	21.659	107	79565	0.99	ppbv	99
51) Chlorobenzene	22.371	112	123020	0.99	ppbv	83
52) Ethylbenzene	22.466	91	197383	0.93	ppbv	100
53) m&p-Xylene	22.643	91	310116	1.87	ppbv	98
54) o-Xylene	23.296	91	152703	0.90	ppbv	99

Data Path : D:\msdchem\1\2016\data\091516_FSAA\
Data File : 091516N05.D
Acq On : 15 Sep 2016 7:40 pm
InstName : AG5973N
Operator : LLH
Sample : S16I025-CAL1
Misc : 1.0ppbv 1638115
ALS Vial : 31 Sample Multiplier: 1

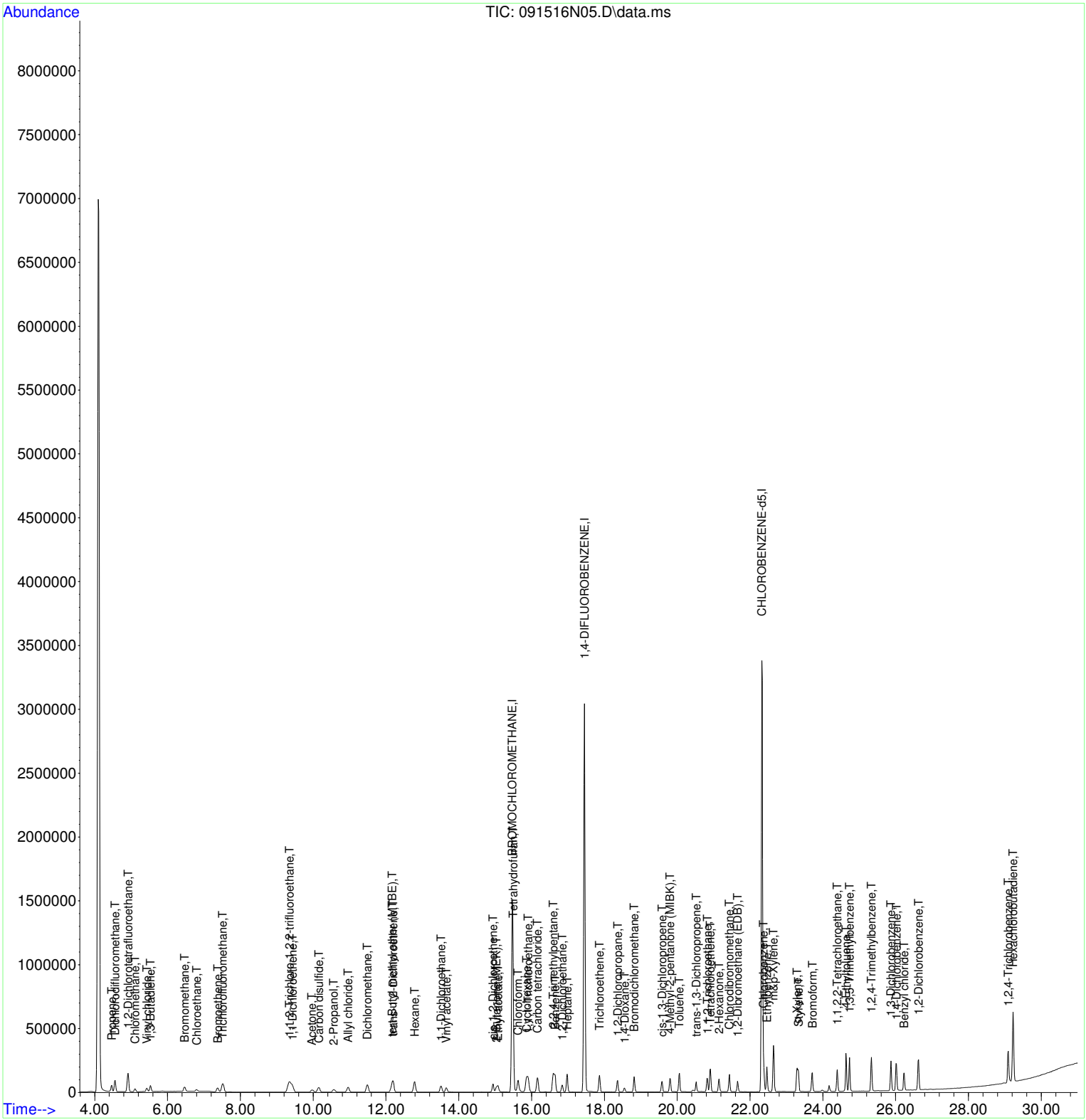
Quant Time: Sep 20 16:19:52 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:15:43 2016
Response via : Initial Calibration

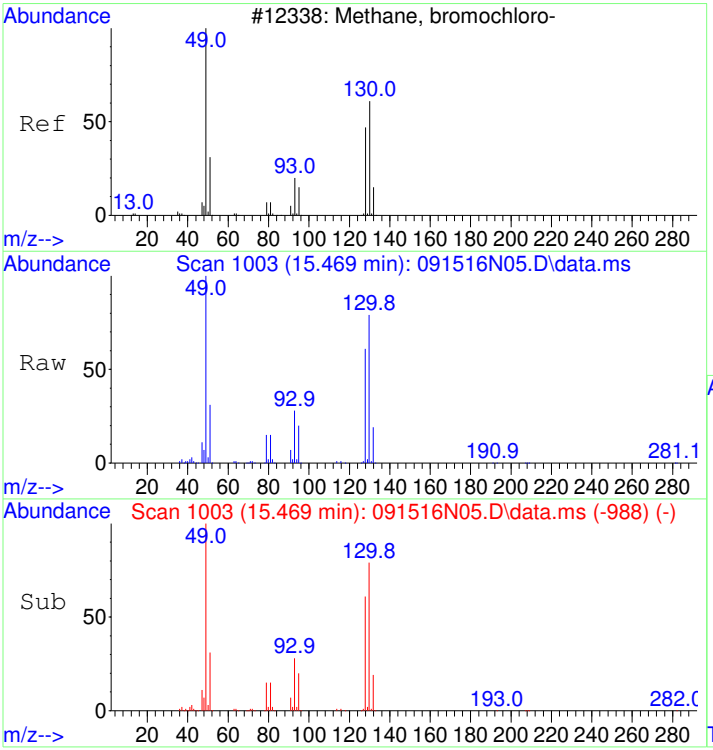
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55) Styrene	23.331	104	115123	0.86	ppbv	98
56) Bromoform	23.711	173	113035	0.95	ppbv	99
57) 1,1,2,2-Tetrachloroethane	24.398	83	127587	1.00	ppbv	98
58) 4-Ethyltoluene	24.636	105	276135	1.02	ppbv	100
59) 1,3,5-Trimethylbenzene	24.730	105	208965	0.98	ppbv	100
60) 1,2,4-Trimethylbenzene	25.335	105	211745	0.96	ppbv	97
61) 1,3-Dichlorobenzene	25.869	146	150117	0.97	ppbv	99
62) 1,4-Dichlorobenzene	26.023	146	144185	0.96	ppbv	98
63) Benzyl chloride	26.237	91	156862	0.90	ppbv	98
64) 1,2-Dichlorobenzene	26.628	146	157610	1.00	ppbv	99
65) 1,2,4-Trichlorobenzene	29.094	180	135191	0.95	ppbv	98
66) Hexachlorobutadiene	29.225	225	177206	1.11	ppbv	99

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

Data Path : D:\msdchem\1\2016\data\091516_FSAA\
Data File : 091516N05.D
Acq On : 15 Sep 2016 7:40 pm
InstName : AG5973N
Operator : LLH
Sample : S16I025-CAL1
Misc : 1.0ppbv 1638115
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Sep 20 16:19:52 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:15:43 2016
Response via : Initial Calibration

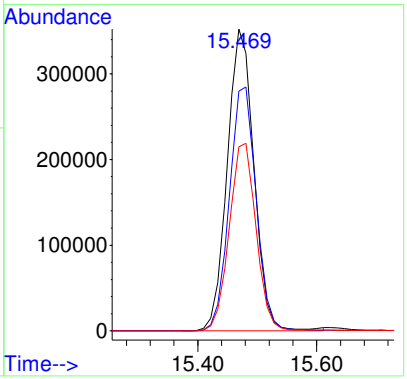


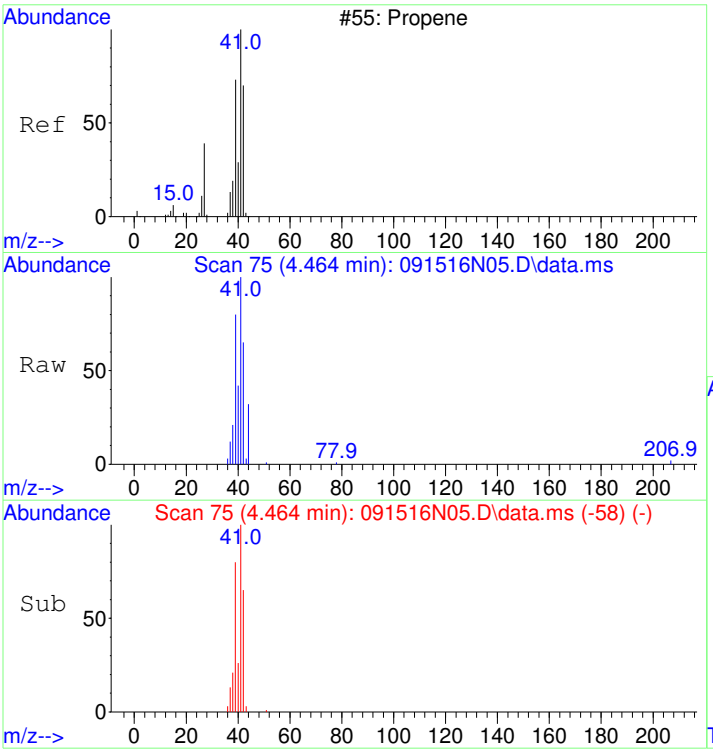


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.469 min Scan# 1003
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 49 Resp: 1099060

Ion	Ratio	Lower	Upper
49	100		
130	81.4	62.1	102.1
128	62.6	42.9	82.9

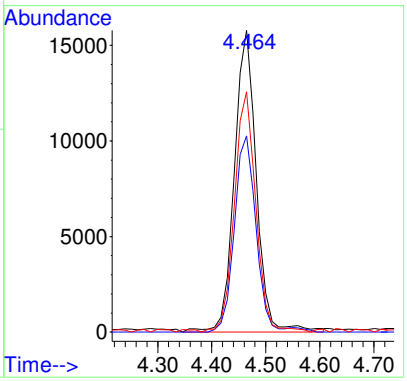


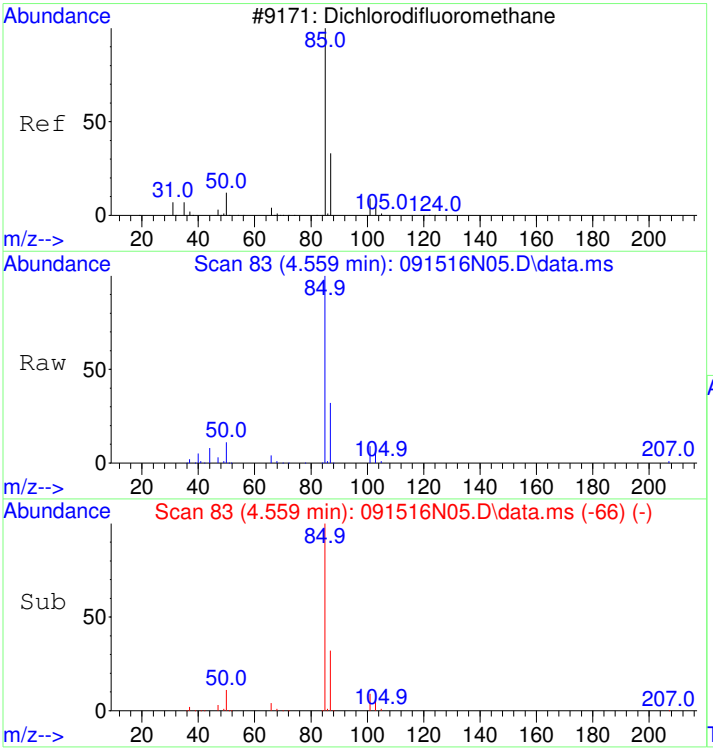


#2
Propene
Concen: 1.28 ppbv
RT: 4.464 min Scan# 75
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 41 Resp: 44795

Ion	Ratio	Lower	Upper
41	100		
42	64.3	46.6	86.6
39	77.4	55.5	95.5

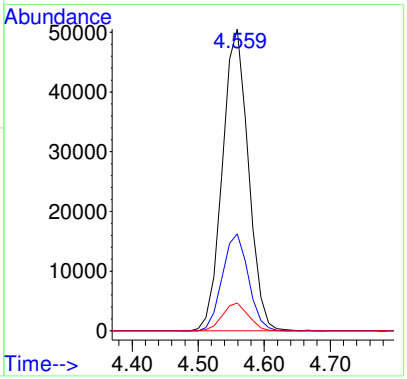


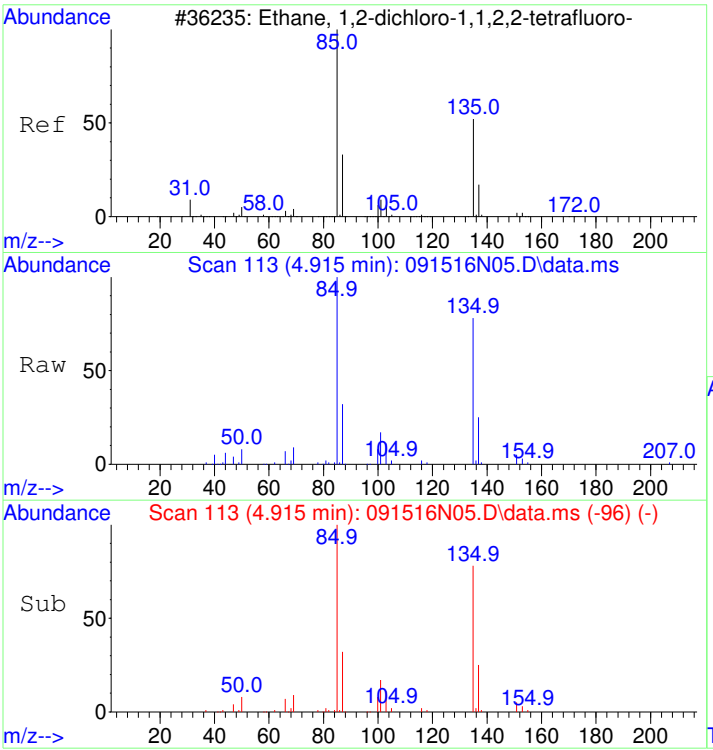


#3
Dichlorodifluoromethane
Concen: 1.03 ppbv
RT: 4.559 min Scan# 83
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 85 Resp: 137948

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.3	52.3
101	9.2	0.0	29.2

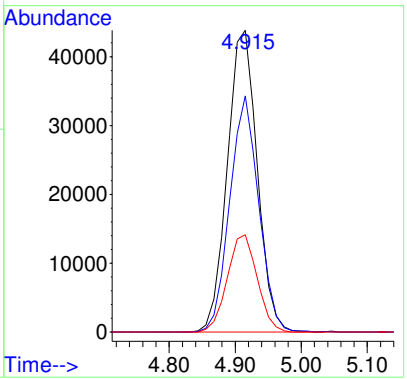


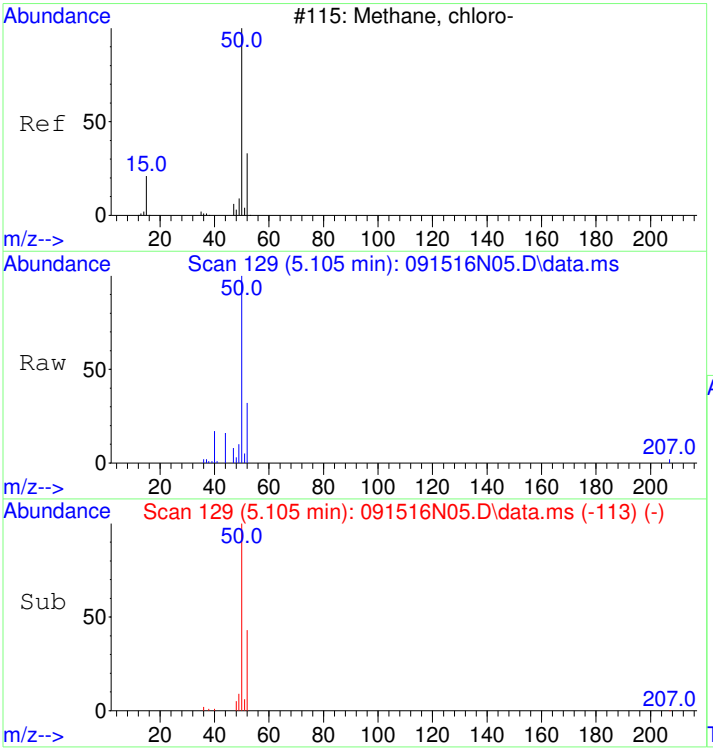


#4
1,2-Dichlorotetrafluoroethane
Concen: 1.08 ppbv
RT: 4.915 min Scan# 113
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 85 Resp: 138617

Ion	Ratio	Lower	Upper
85	100		
135	75.6	57.4	97.4
87	32.2	12.2	52.2

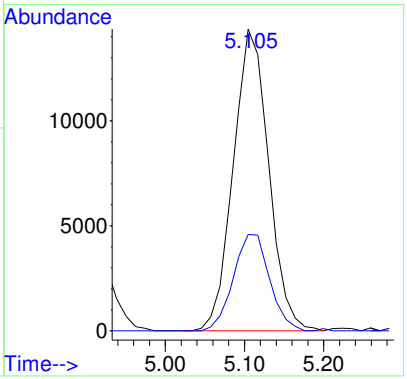


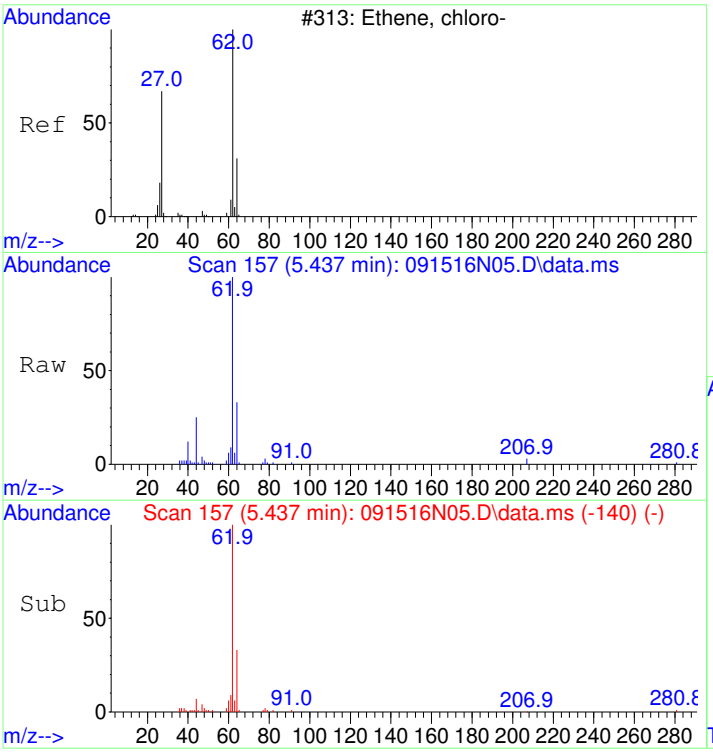


#5
Chloromethane
Concen: 1.16 ppbv
RT: 5.105 min Scan# 129
Delta R.T. -0.012 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 50 Resp: 44657

Ion	Ratio	Lower	Upper
50	100		
52	32.7	12.4	52.4

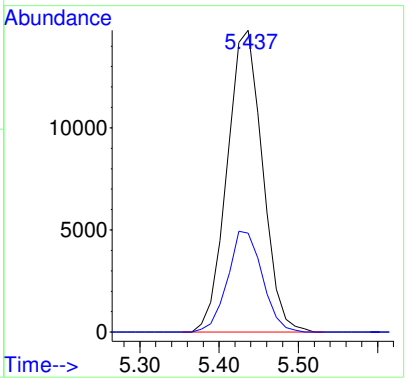


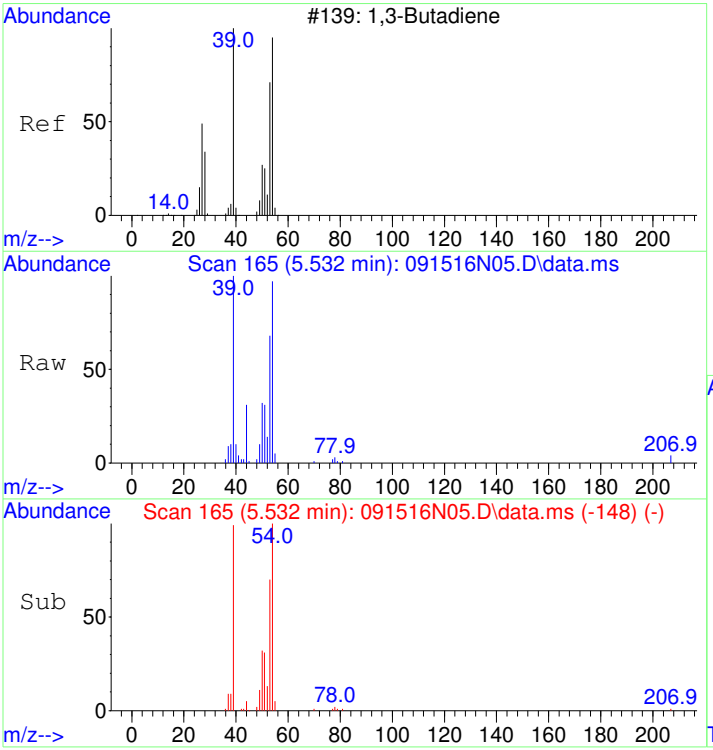


#6
Vinyl chloride
Concen: 1.14 ppbv
RT: 5.437 min Scan# 157
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 62 Resp: 45915

Ion	Ratio	Lower	Upper
62	100		
64	32.8	12.0	52.0

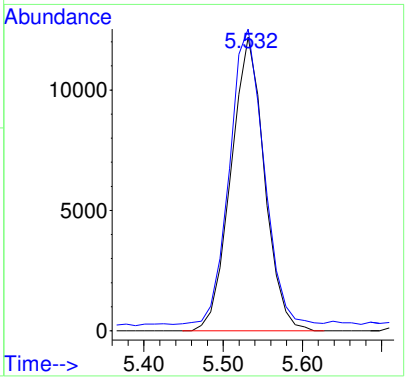


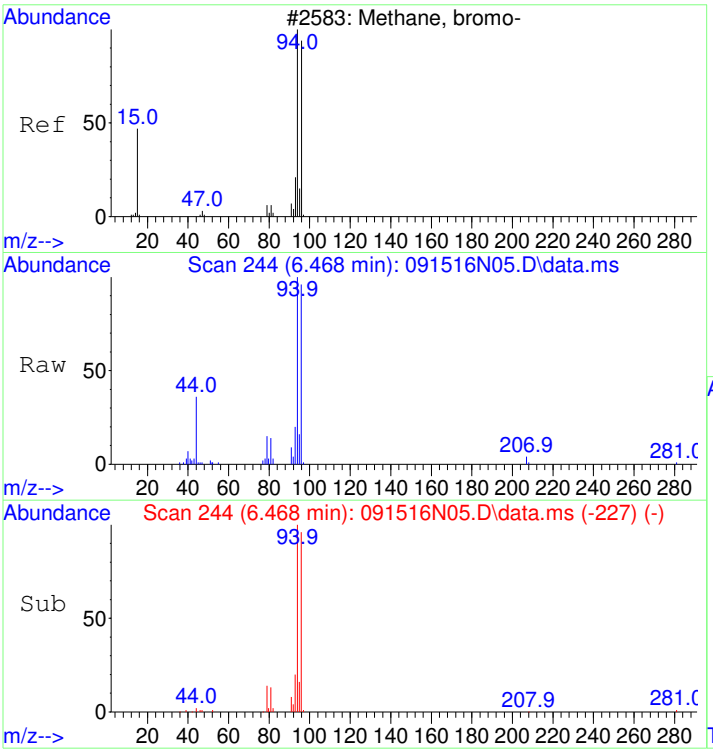


#7
1,3-Butadiene
Concen: 1.14 ppbv
RT: 5.532 min Scan# 165
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 54 Resp: 35820

Ion	Ratio	Lower	Upper
54	100		
39	106.0	82.4	122.4

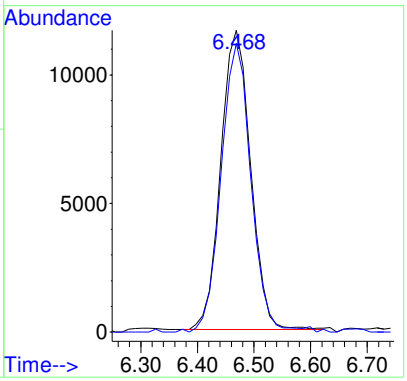


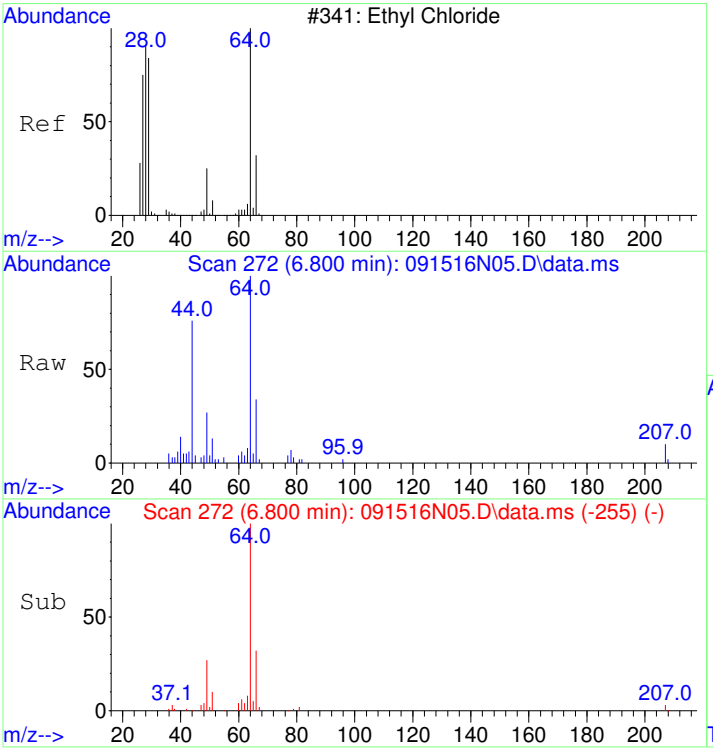


#8
Bromomethane
Concen: 1.10 ppbv
RT: 6.468 min Scan# 244
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 94 Resp: 42627

Ion	Ratio	Lower	Upper
94	100		
96	96.6	74.0	114.0

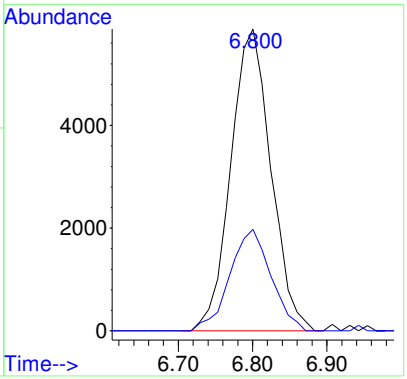


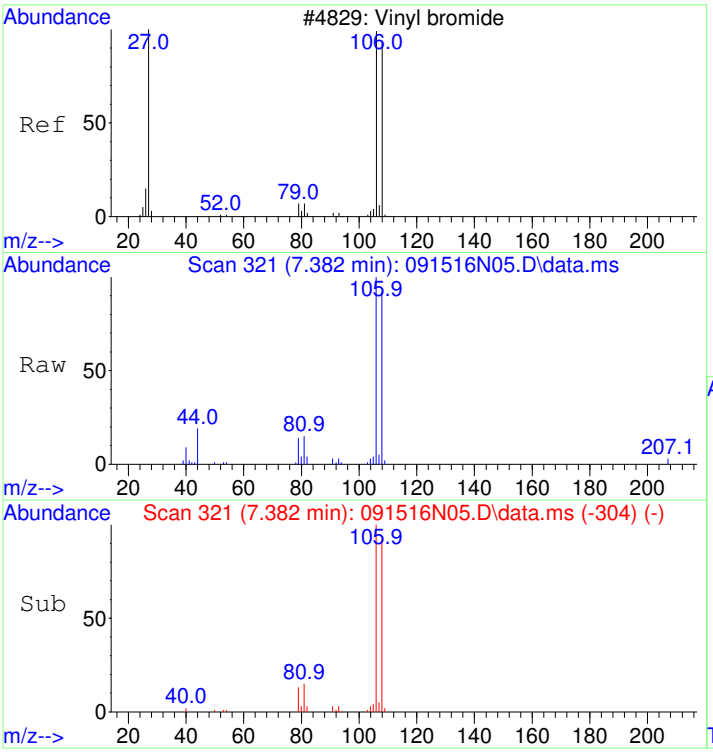


#9
Chloroethane
Concen: 1.12 ppbv
RT: 6.800 min Scan# 272
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 64 Resp: 21989

Ion	Ratio	Lower	Upper
64	100		
66	34.5	12.4	52.4

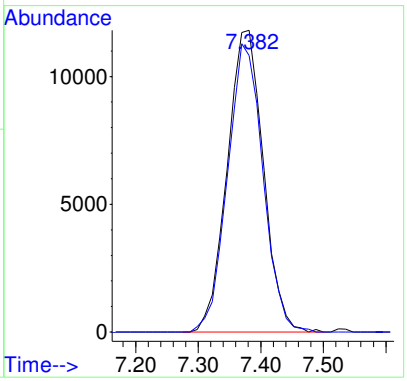


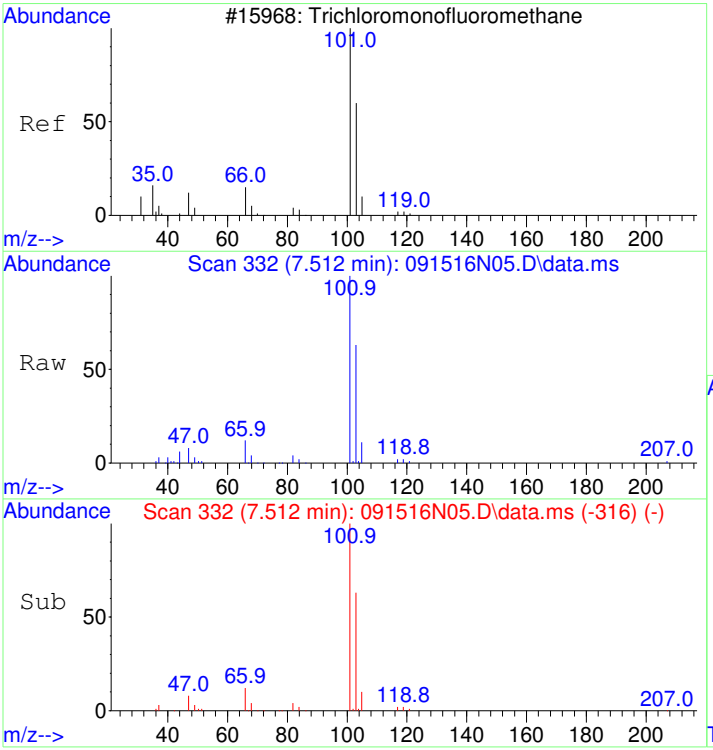


#10
Bromoethene
Concen: 1.24 ppbv
RT: 7.382 min Scan# 321
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion:106 Resp: 47518

Ion	Ratio	Lower	Upper
106	100		
108	93.4	0.0	214.4

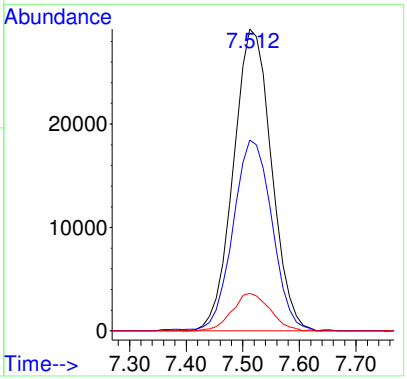


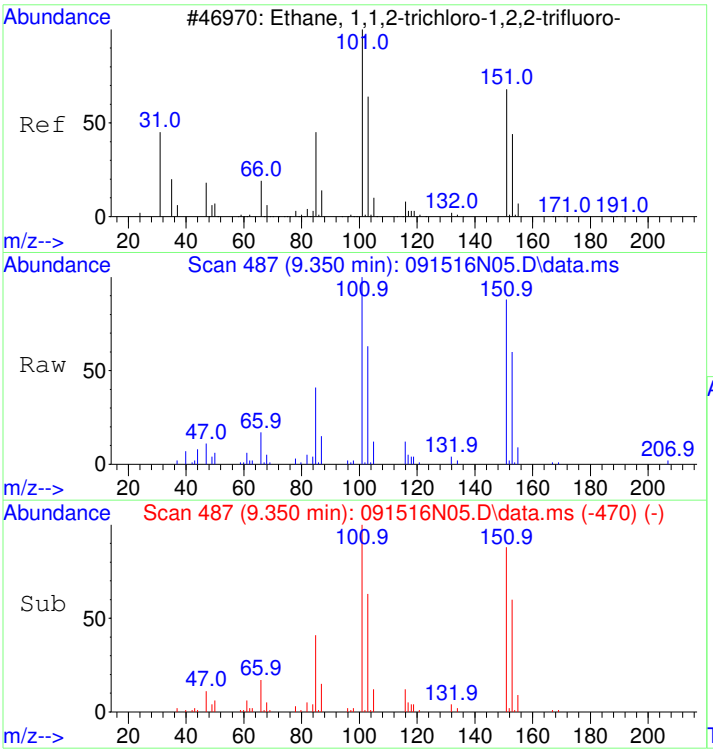


#11
Trichlorofluoromethane
Concen: 1.09 ppbv
RT: 7.512 min Scan# 332
Delta R.T. -0.012 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion:101 Resp: 136989

Ion	Ratio	Lower	Upper
101	100		
103	64.6	44.4	84.4
66	12.3	0.0	31.7

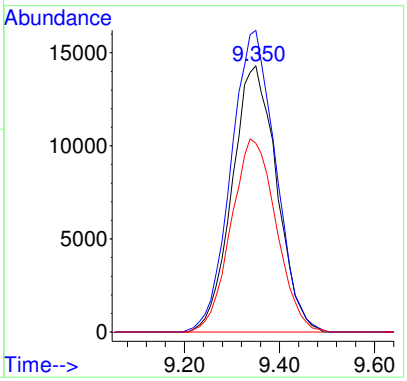


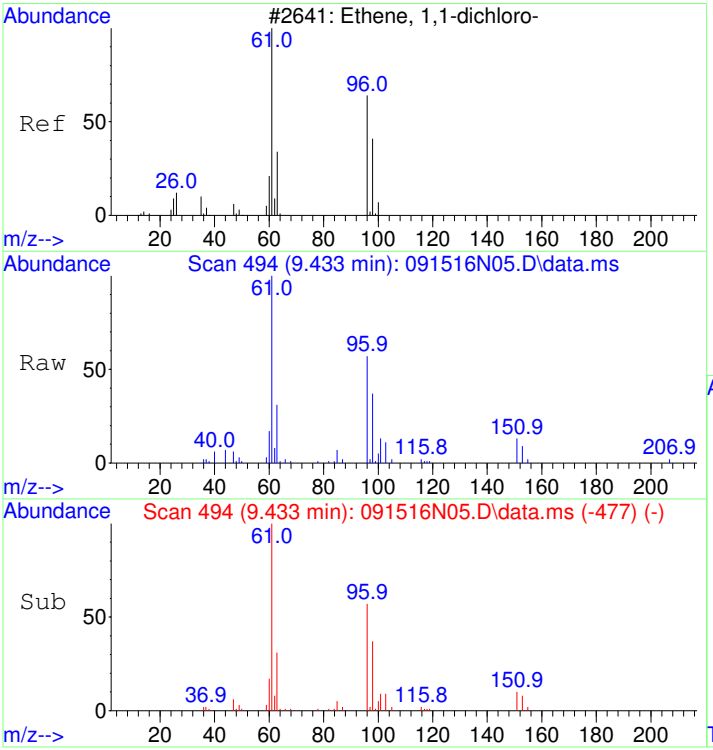


#12
1,1,2-Trichloro-1,2,2-trifluoroethane
Concen: 1.13 ppbv
RT: 9.350 min Scan# 487
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion:151 Resp: 93151

Ion	Ratio	Lower	Upper
151	100		
101	113.2	92.2	132.2
103	73.3	52.2	92.2

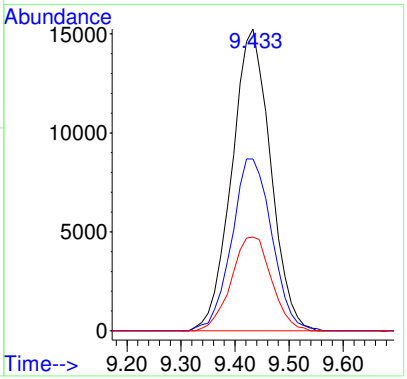


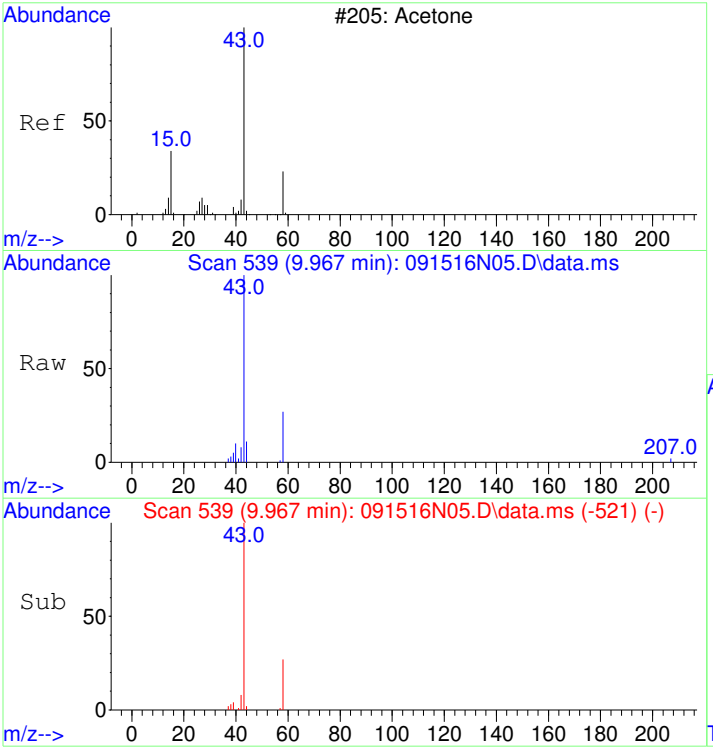


#13
1,1-Dichloroethene
Concen: 1.13 ppbv
RT: 9.433 min Scan# 494
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 61 Resp: 76050

Ion	Ratio	Lower	Upper
61	100		
96	59.1	39.4	79.4
63	32.3	12.0	52.0

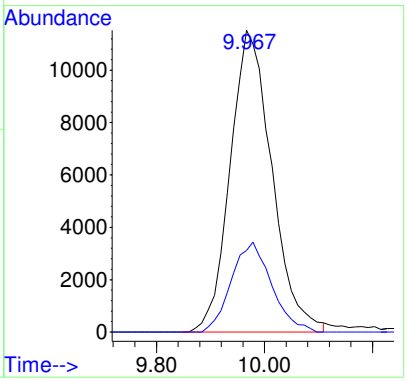


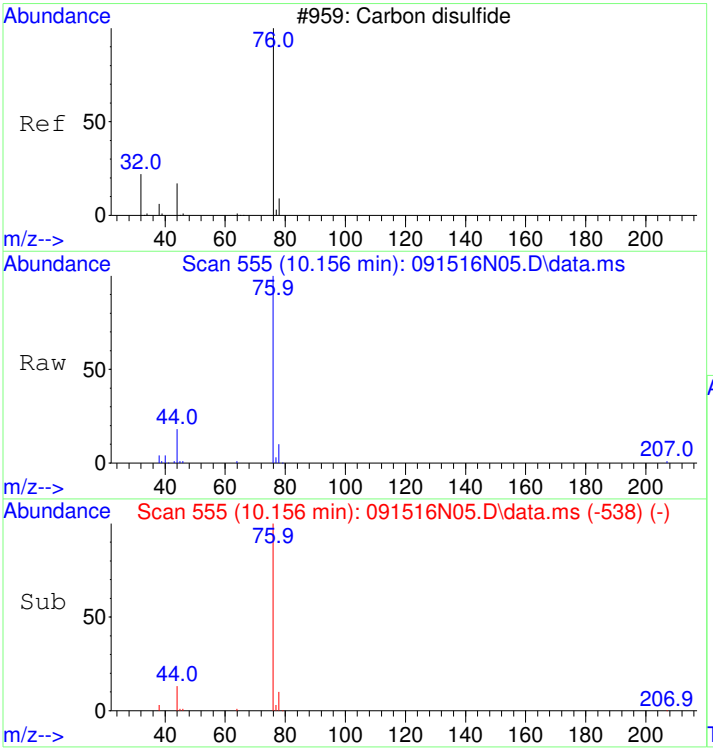


#14
Acetone
Concen: 1.01 ppbv
RT: 9.967 min Scan# 539
Delta R.T. 0.012 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 43 Resp: 61725

Ion	Ratio	Lower	Upper
43	100		
58	28.8	8.8	48.8

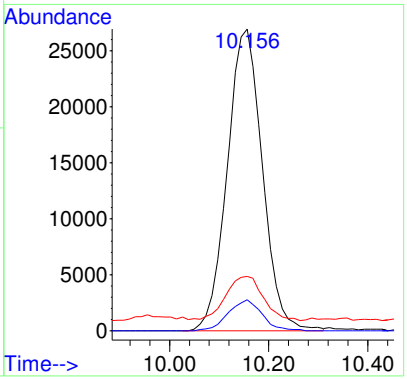


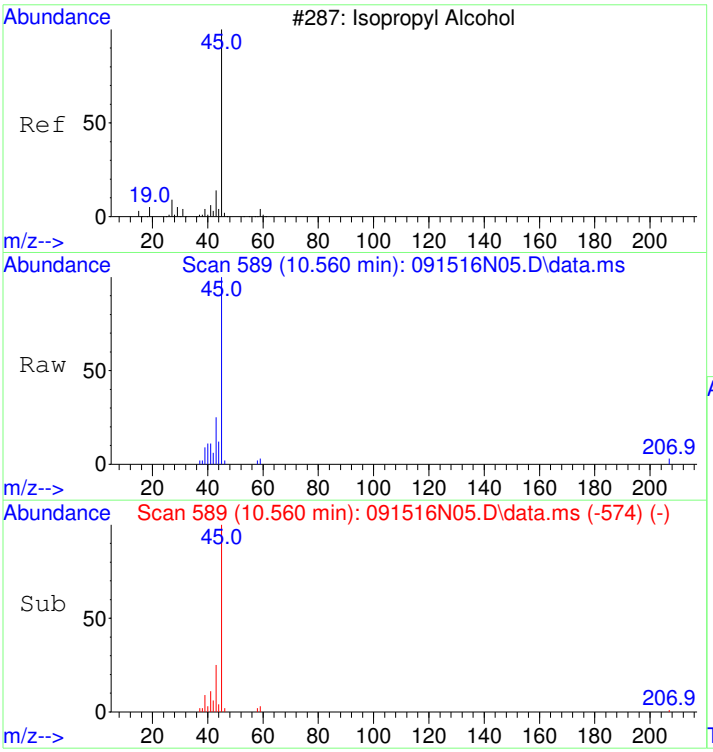


#15
Carbon disulfide
Concen: 1.24 ppbv
RT: 10.156 min Scan# 555
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 76 Resp: 132649

Ion	Ratio	Lower	Upper
76	100		
78	10.0	0.0	29.0
44	15.2	0.0	33.8

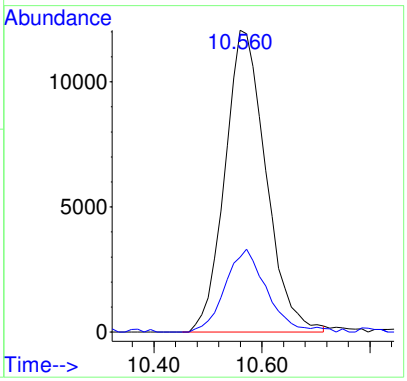


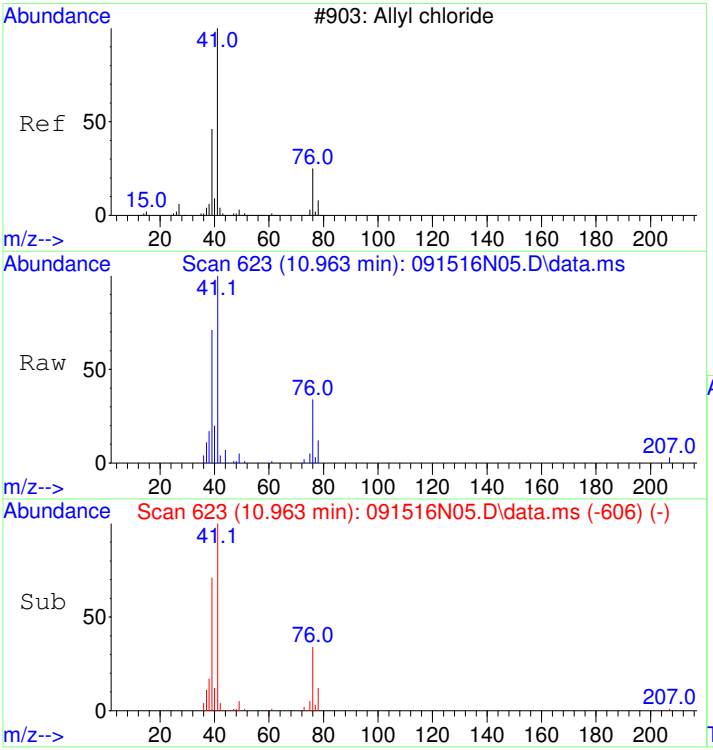


#16
2-Propanol
Concen: 1.05 ppbv
RT: 10.560 min Scan# 589
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 45 Resp: 63566

Ion	Ratio	Lower	Upper
45	100		
43	27.9	1.9	41.9

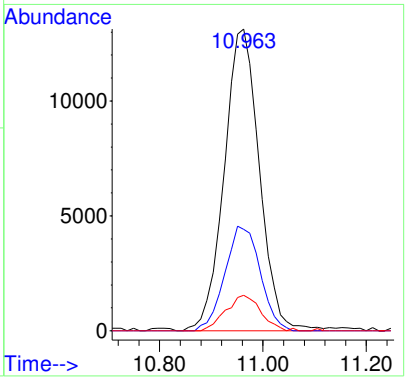


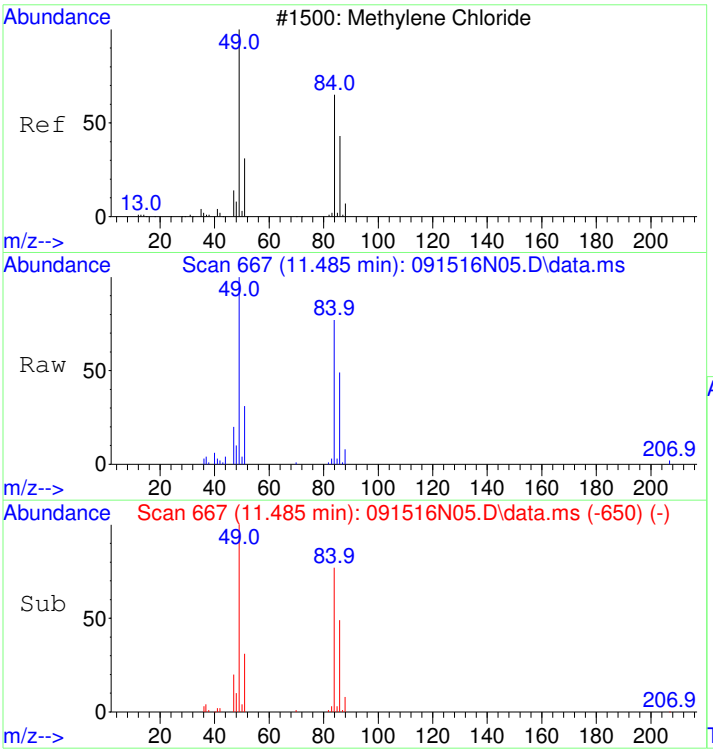


#17
Allyl chloride
Concen: 1.20 ppbv
RT: 10.963 min Scan# 623
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 41 Resp: 62092

Ion	Ratio	Lower	Upper
41	100		
76	34.8	14.5	54.5
78	11.8	0.0	31.2

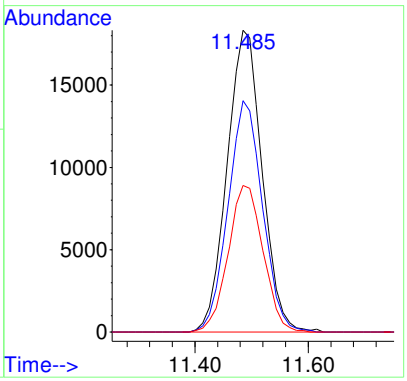


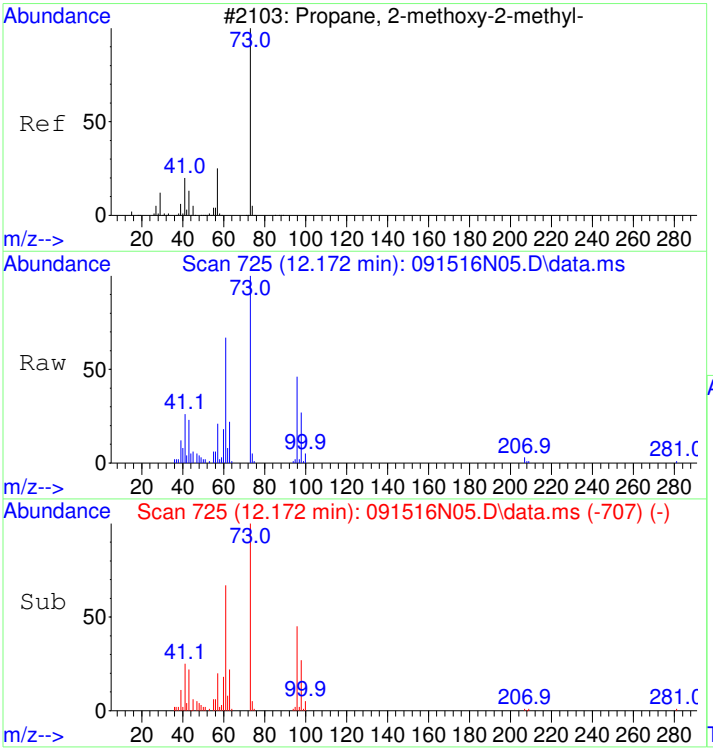


#18
Dichloromethane
Concen: 1.40 ppbv
RT: 11.485 min Scan# 667
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 49 Resp: 79102

Ion	Ratio	Lower	Upper
49	100		
84	75.7	57.2	97.2
86	48.5	29.6	69.6

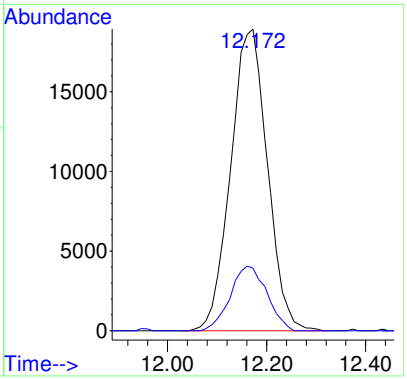


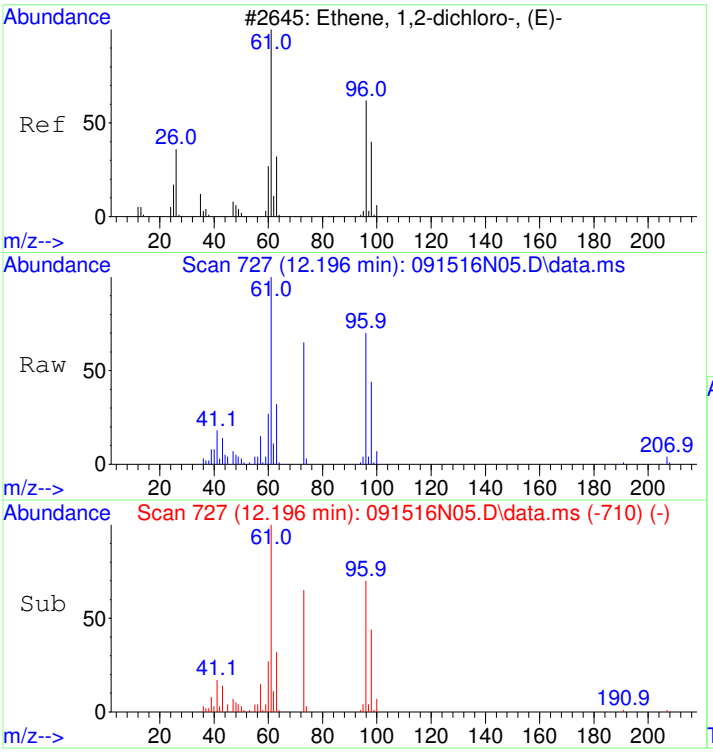


#19
tert-Butyl methyl ether (MTBE)
Concen: 0.87 ppbv
RT: 12.172 min Scan# 725
Delta R.T. 0.012 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 73 Resp: 97599

Ion	Ratio	Lower	Upper
73	100		
57	21.4	0.9	40.9

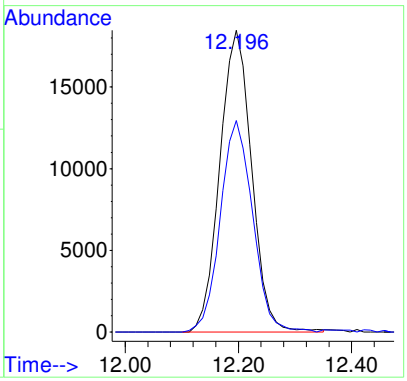


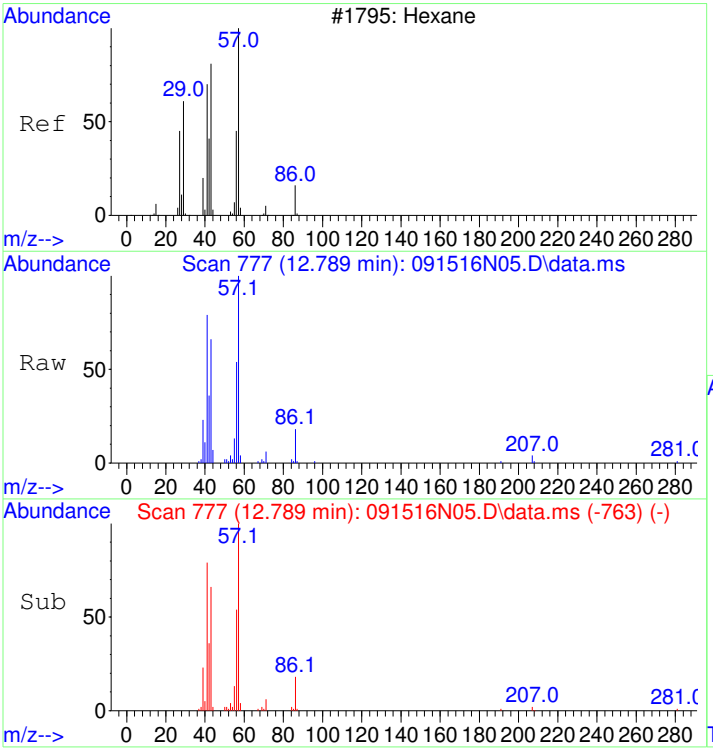


#20
trans-1,2-Dichloroethene
Concen: 1.21 ppbv
RT: 12.196 min Scan# 727
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 61 Resp: 72210

Ion	Ratio	Lower	Upper
61	100		
96	71.4	50.3	90.3

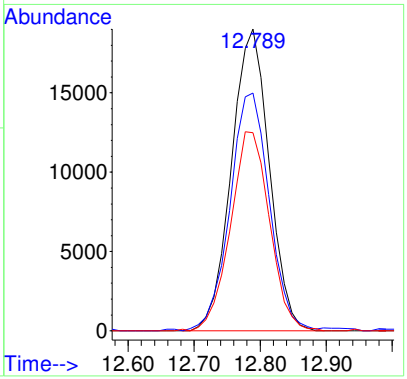


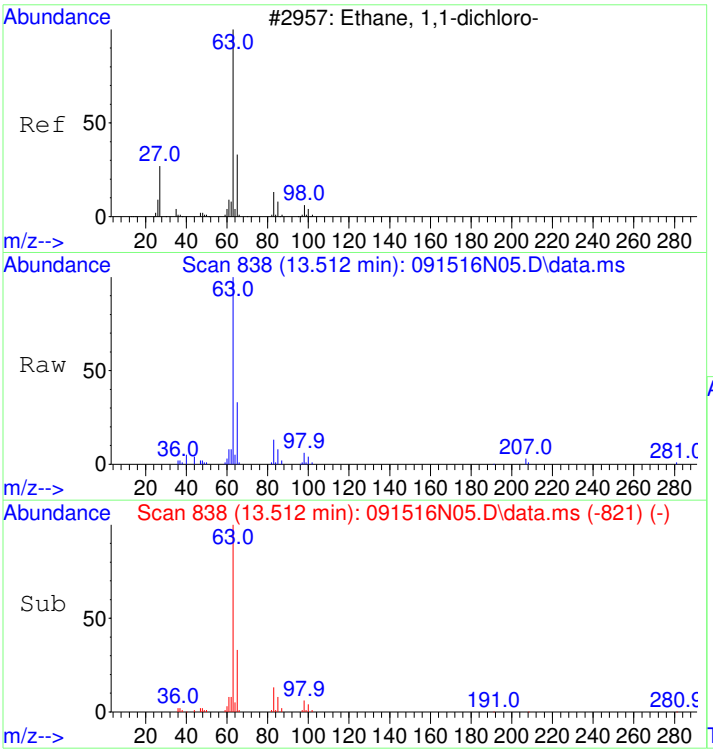


#21
Hexane
Concen: 1.12 ppbv
RT: 12.789 min Scan# 777
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 57 Resp: 75709

Ion	Ratio	Lower	Upper
57	100		
41	82.9	57.7	97.7
43	68.3	45.7	85.7

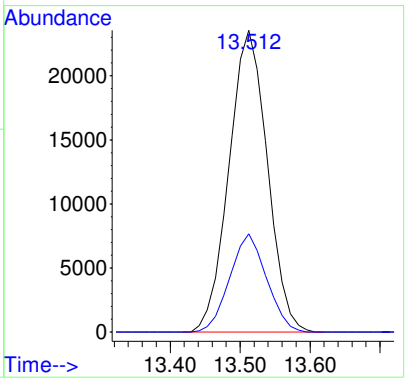


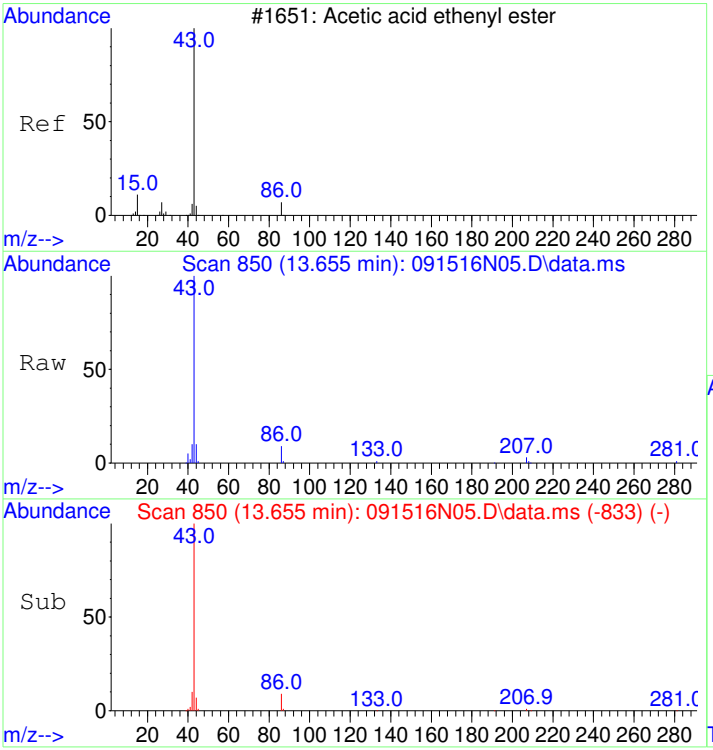


#22
1,1-Dichloroethane
Concen: 1.09 ppbv
RT: 13.512 min Scan# 838
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 63 Resp: 89419

Ion	Ratio	Lower	Upper
63	100		
65	31.3	11.3	51.3

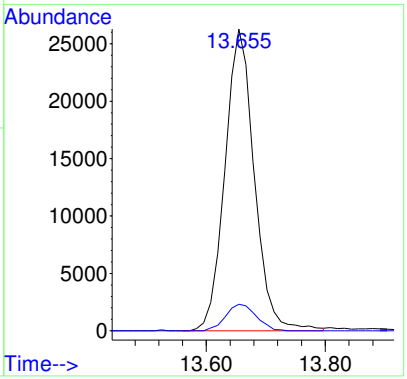


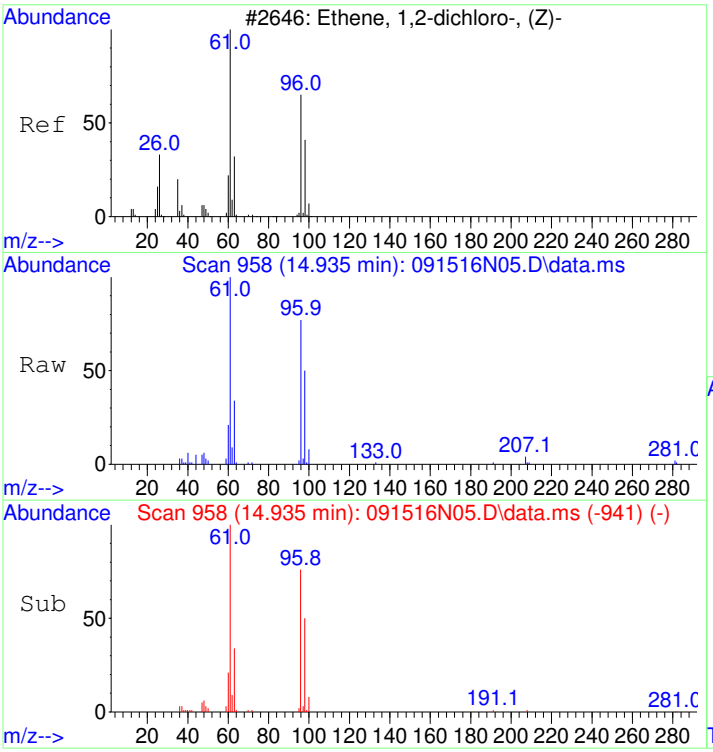


#23
Vinyl acetate
Concen: 0.91 ppbv
RT: 13.655 min Scan# 850
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 43 Resp: 90433

Ion	Ratio	Lower	Upper
43	100		
86	9.2	0.0	29.3

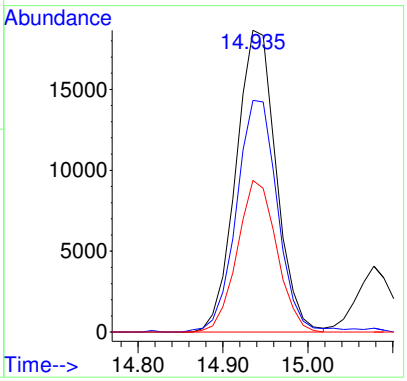


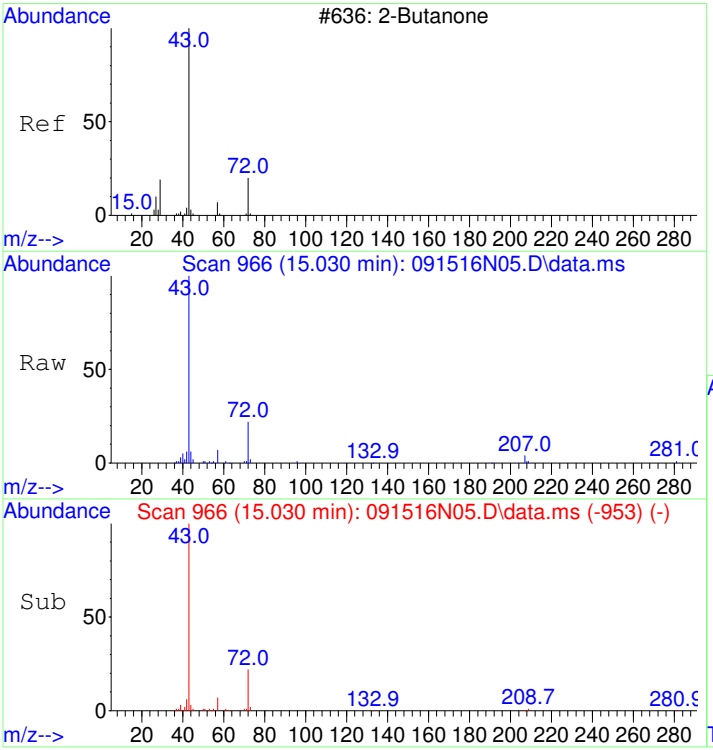


#24
cis-1,2-Dichloroethene
Concen: 1.08 ppbv
RT: 14.935 min Scan# 958
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 61 Resp: 61495

Ion	Ratio	Lower	Upper
61	100		
96	79.3	56.8	96.8
98	49.2	29.0	69.0

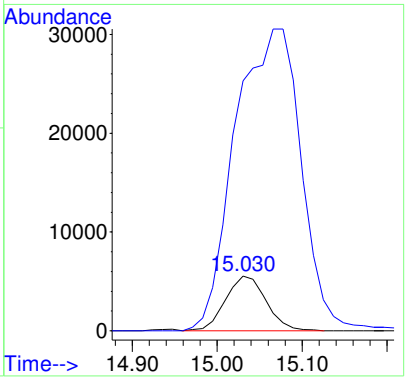


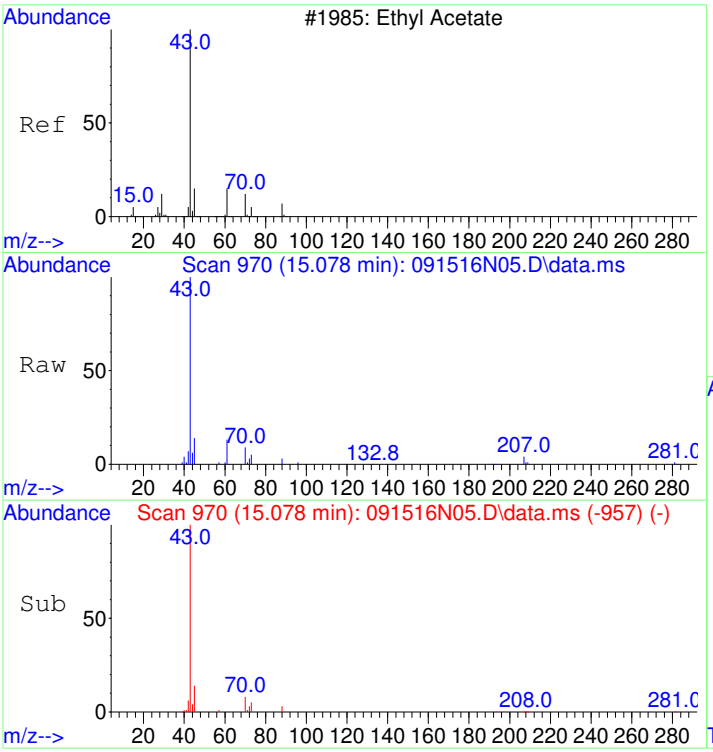


#25
2-Butanone (MEK)
Concen: 0.93 ppbv
RT: 15.030 min Scan# 966
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 72 Resp: 18488

Ion	Ratio	Lower	Upper
72	100		
43	0.0	366.2	386.2#

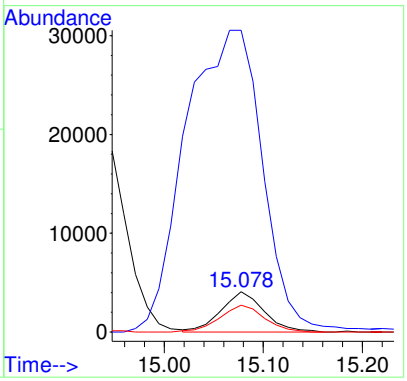


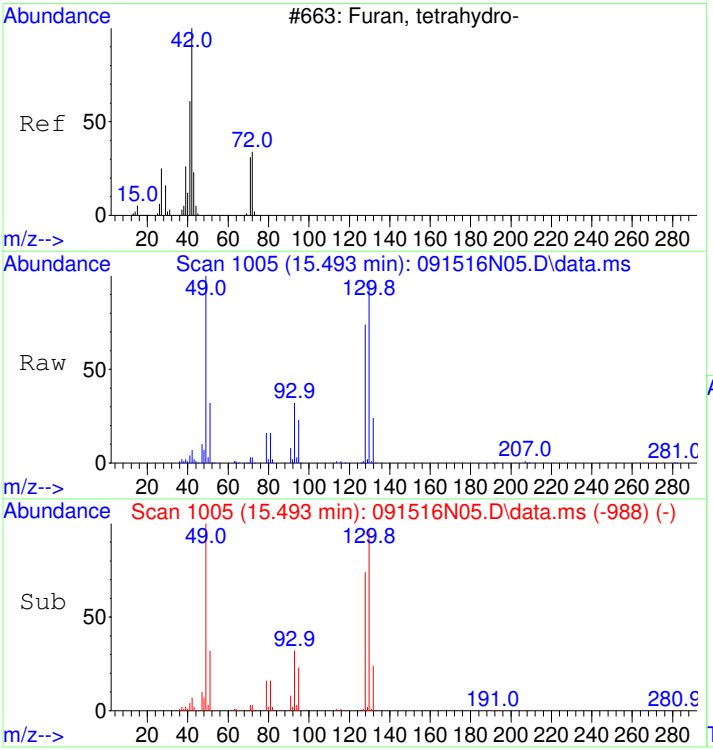


#26
Ethyl acetate
Concen: 0.94 ppbv
RT: 15.078 min Scan# 970
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 61 Resp: 12350

Ion	Ratio	Lower	Upper
61	100		
43	1334.7	0.0	10.0#
70	69.3	62.4	82.4

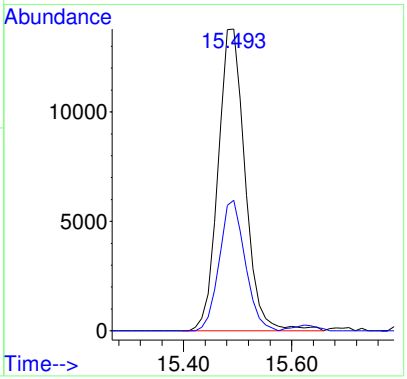


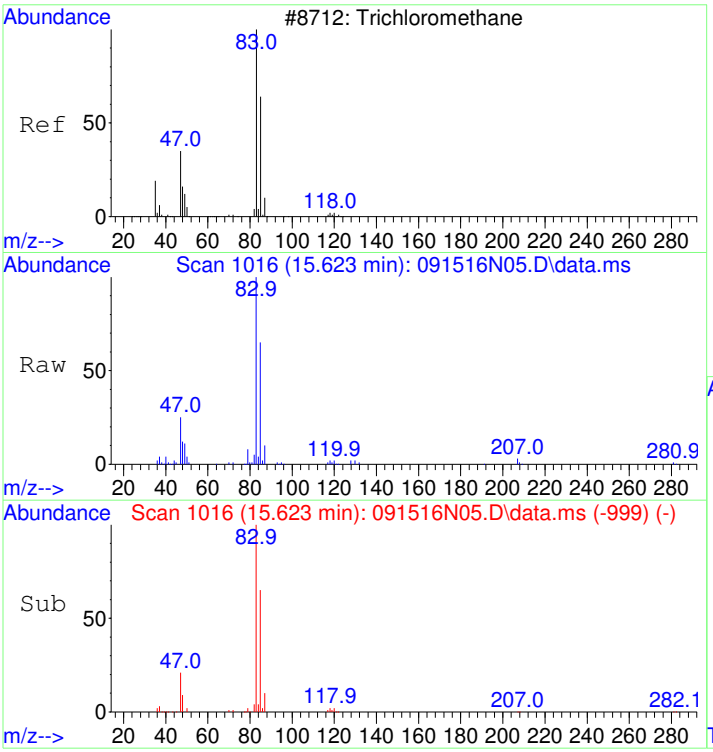


#27
Tetrahydrofuran
Concen: 0.99 ppbv
RT: 15.493 min Scan# 1005
Delta R.T. 0.012 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 42 Resp: 47954

Ion	Ratio	Lower	Upper
42	100		
72	41.3	22.2	62.2

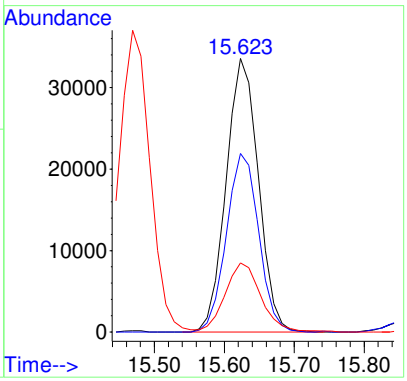


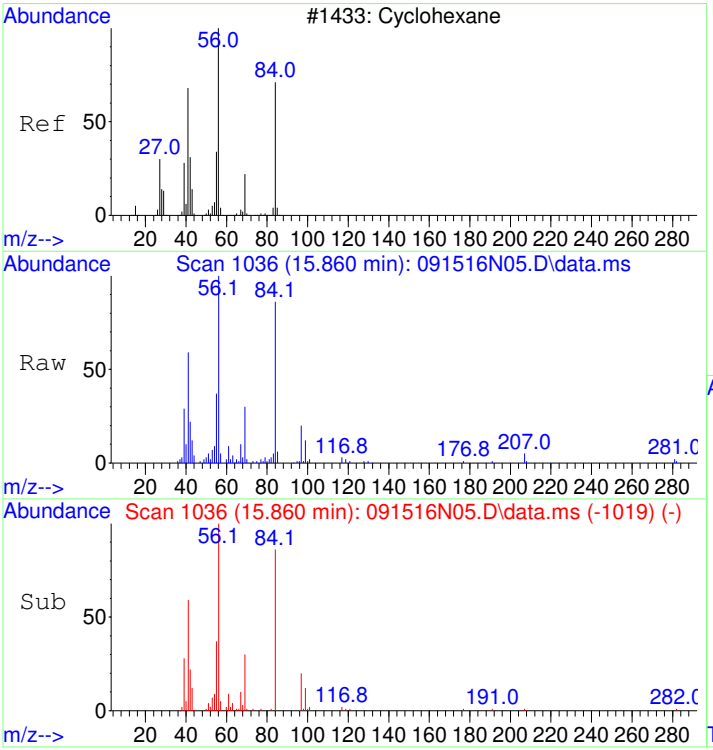


#28
Chloroform
Concen: 1.08 ppbv
RT: 15.623 min Scan# 1016
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 83 Resp: 107391

Ion	Ratio	Lower	Upper
83	100		
85	65.3	44.7	84.7
47	26.7	4.0	44.0

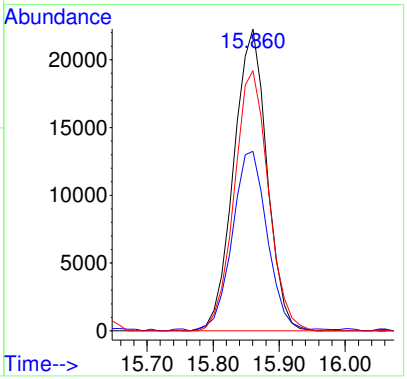


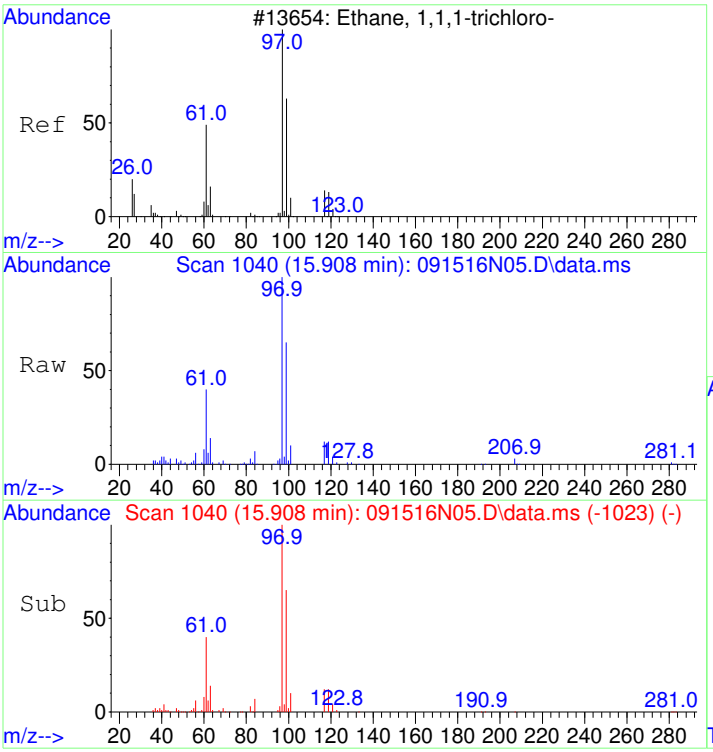


#29
Cyclohexane
Concen: 1.13 ppbv
RT: 15.860 min Scan# 1036
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 56 Resp: 77867

Ion	Ratio	Lower	Upper
56	100		
41	63.4	38.7	78.7
84	88.4	68.5	108.5

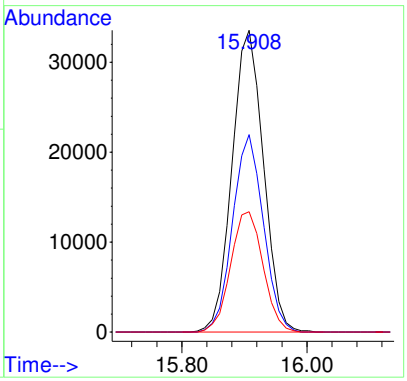


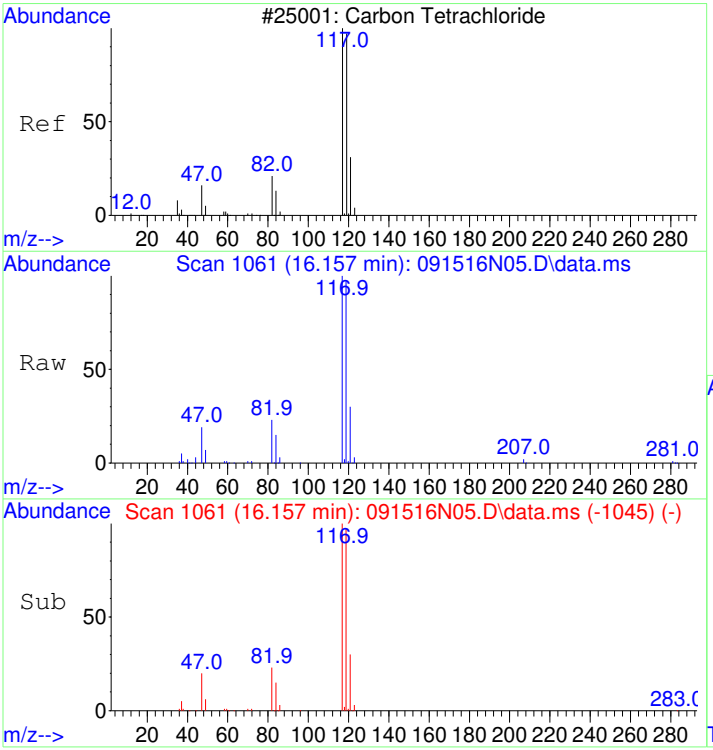


#30
1,1,1-Trichloroethane
Concen: 1.04 ppbv
RT: 15.908 min Scan# 1040
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 97 Resp: 117353

Ion	Ratio	Lower	Upper
97	100		
99	63.9	44.7	84.7
61	41.1	20.4	60.4

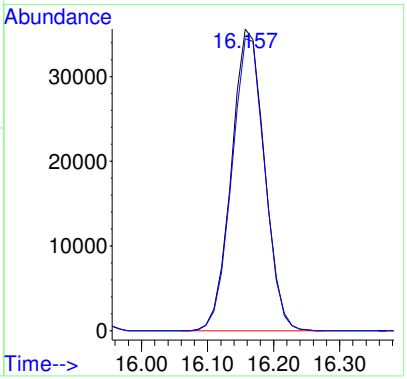


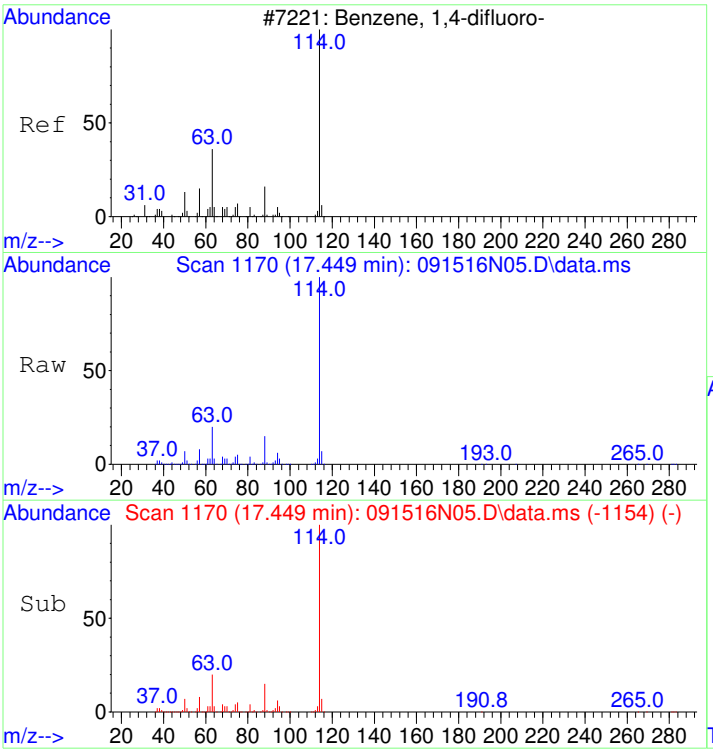


#31
Carbon tetrachloride
Concen: 1.03 ppbv
RT: 16.157 min Scan# 1061
Delta R.T. -0.012 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion:117 Resp: 123793

Ion	Ratio	Lower	Upper
117	100		
119	96.8	76.6	116.6

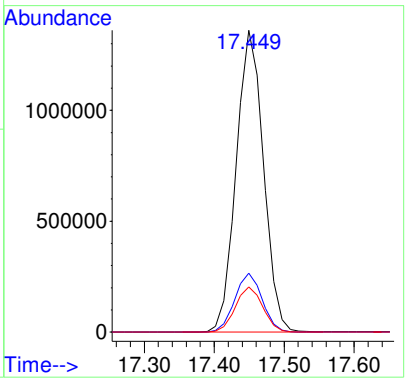


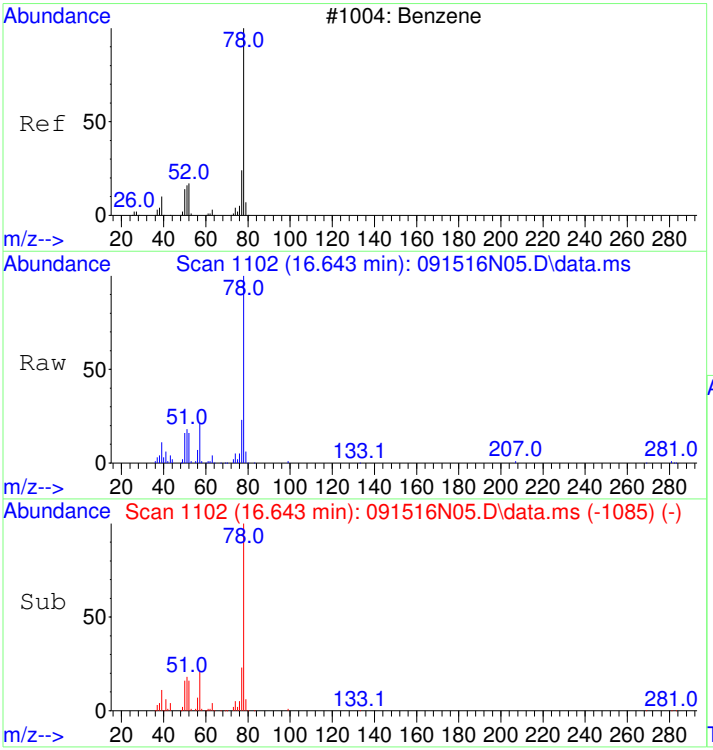


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.449 min Scan# 1170
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion:114 Resp: 3682552

Ion	Ratio	Lower	Upper
114	100		
63	19.6	0.0	39.5
88	15.0	0.0	35.0

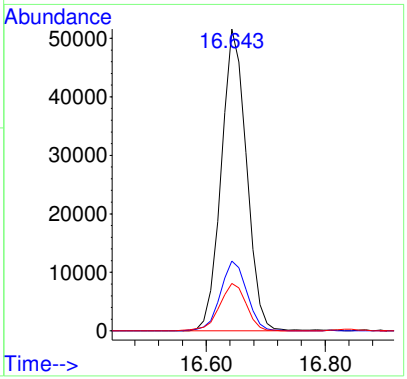


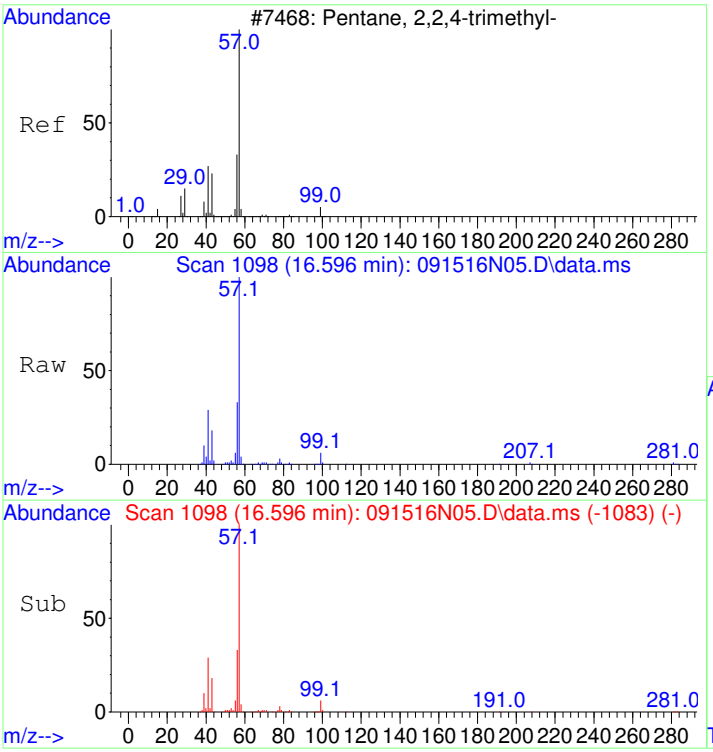


#33
Benzene
Concen: 1.09 ppbv
RT: 16.643 min Scan# 1102
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 78 Resp: 152398

Ion	Ratio	Lower	Upper
78	100		
77	24.1	4.0	44.0
50	16.6	0.0	36.4

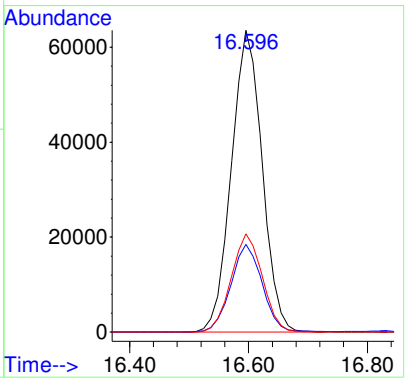


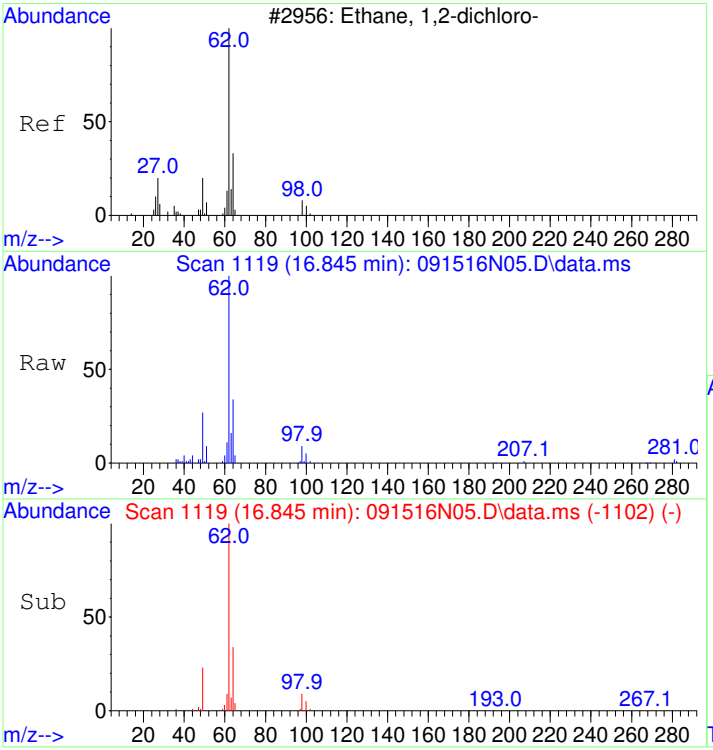


#34
2,2,4-Trimethylpentane
Concen: 1.08 ppbv
RT: 16.596 min Scan# 1098
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 57 Resp: 228654

Ion	Ratio	Lower	Upper
57	100		
41	29.7	8.1	48.1
56	33.0	12.4	52.4

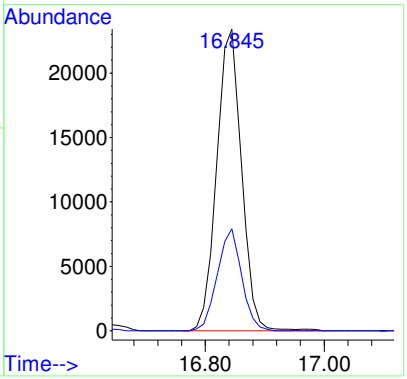


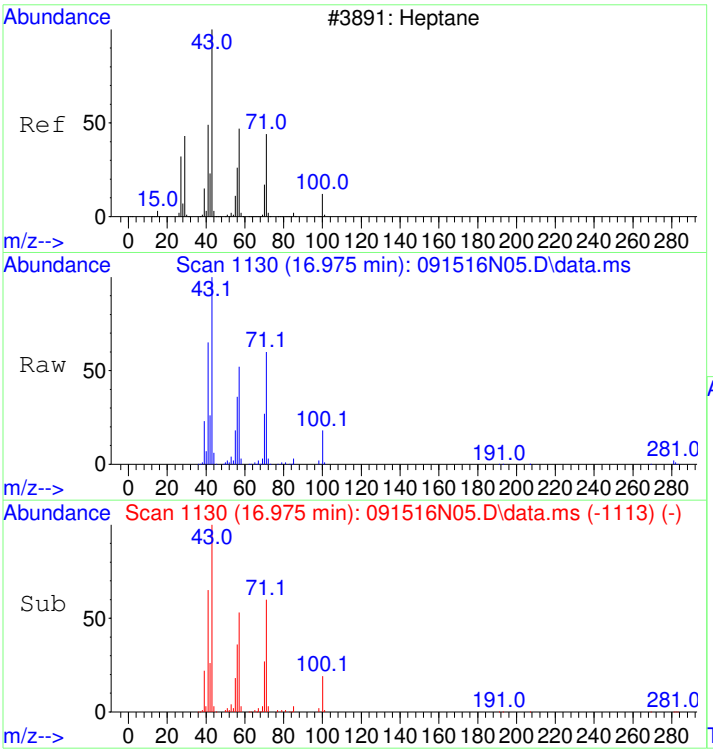


#35
1,2-Dichloroethane
Concen: 1.03 ppbv
RT: 16.845 min Scan# 1119
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 62 Resp: 68164

Ion	Ratio	Lower	Upper
62	100		
64	33.0	12.0	52.0

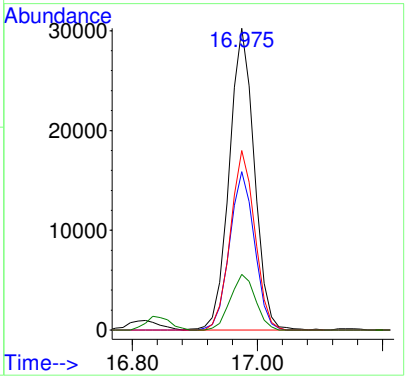


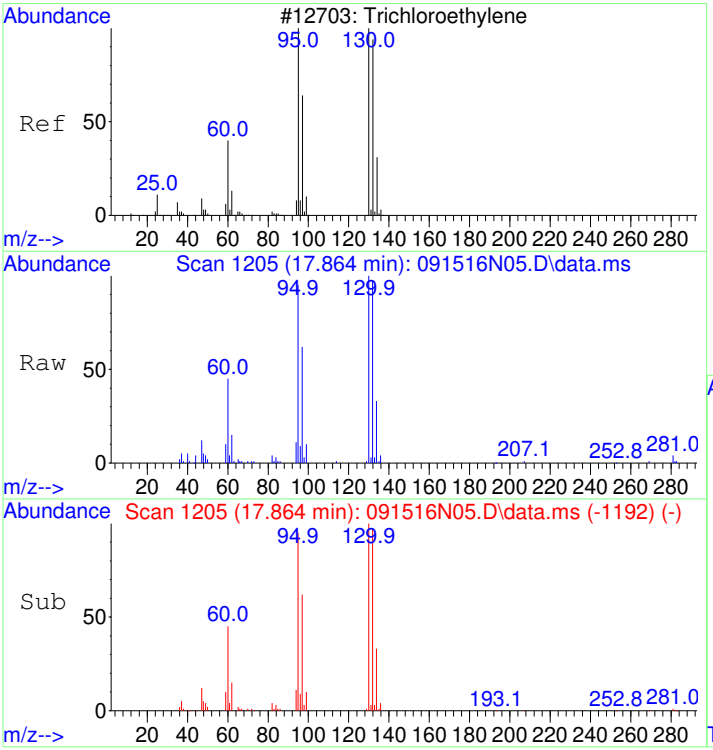


#36
Heptane
Concen: 1.07 ppbv
RT: 16.975 min Scan# 1130
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 43 Resp: 84234

Ion	Ratio	Lower	Upper
43	100		
57	52.0	32.4	72.4
71	57.9	39.4	79.4
100	18.5	0.0	39.0

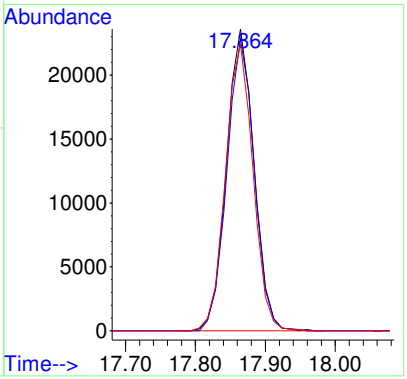


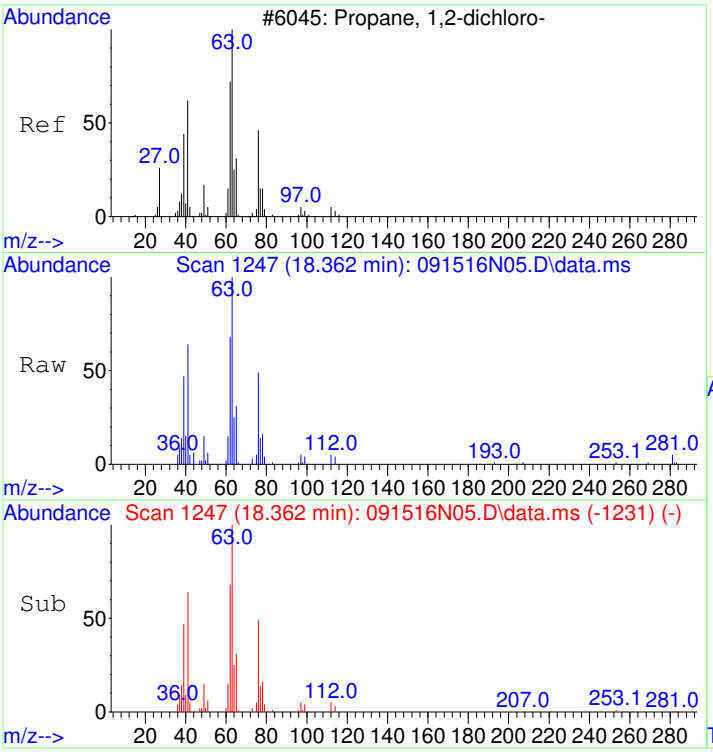


#37
Trichloroethene
Concen: 1.07 ppbv
RT: 17.864 min Scan# 1205
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion:130 Resp: 64498

Ion	Ratio	Lower	Upper
130	100		
132	96.1	77.1	117.1
95	94.9	76.1	116.1

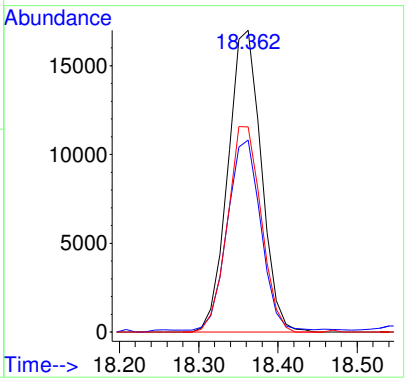


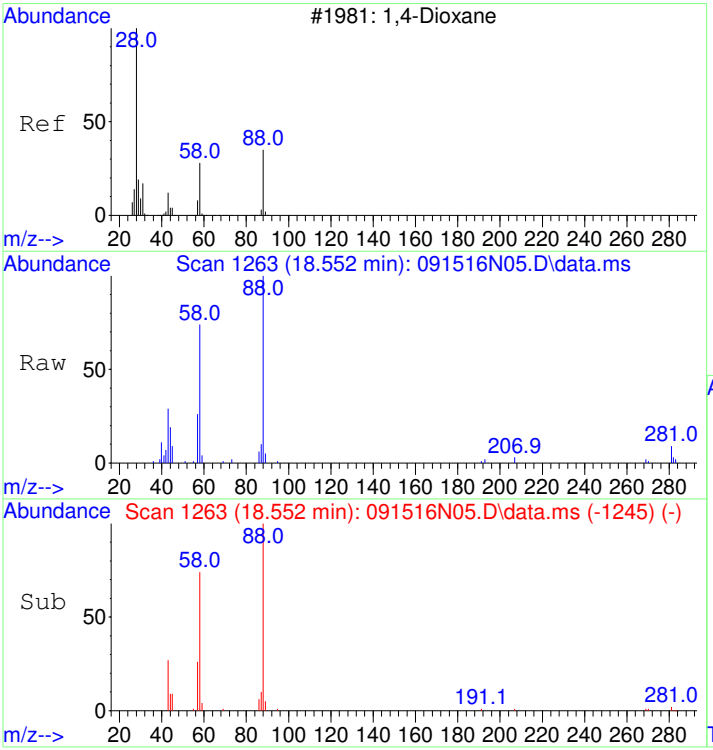


#38
1,2-Dichloropropane
Concen: 1.03 ppbv
RT: 18.362 min Scan# 1247
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 63 Resp: 49704

Ion	Ratio	Lower	Upper
63	100		
41	64.3	41.8	81.8
62	68.8	49.9	89.9

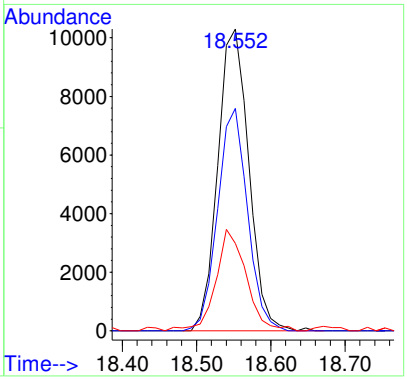


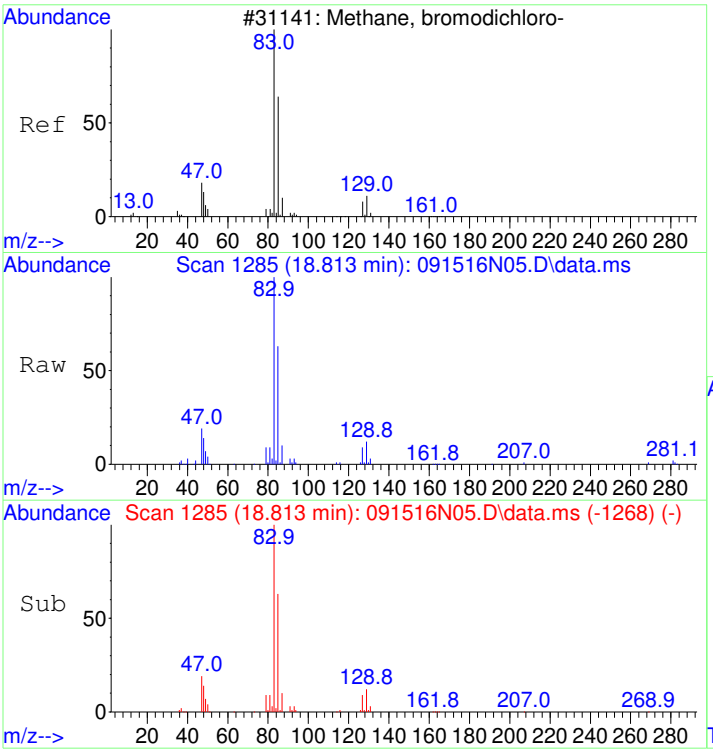


#39
1,4-Dioxane
Concen: 0.94 ppbv
RT: 18.552 min Scan# 1263
Delta R.T. 0.012 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 88 Resp: 29895

Ion	Ratio	Lower	Upper
88	100		
58	70.9	47.1	87.1
43	32.9	8.6	48.6

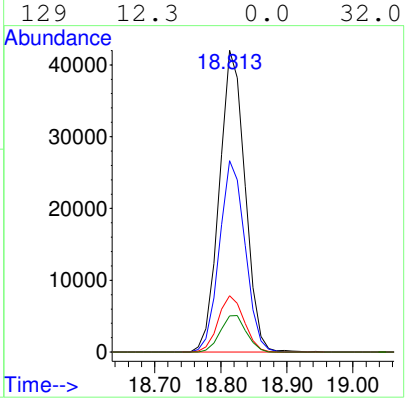


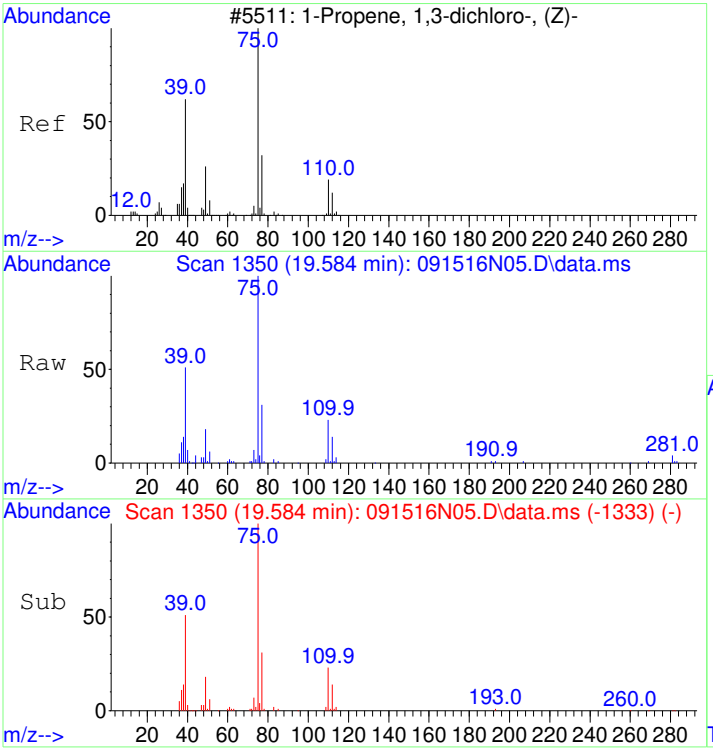


#40
Bromodichloromethane
Concen: 1.09 ppbv
RT: 18.813 min Scan# 1285
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 83 Resp: 113592

Ion	Ratio	Lower	Upper
83	100		
85	63.3	44.3	84.3
47	18.9	0.0	38.3
129	12.3	0.0	32.0

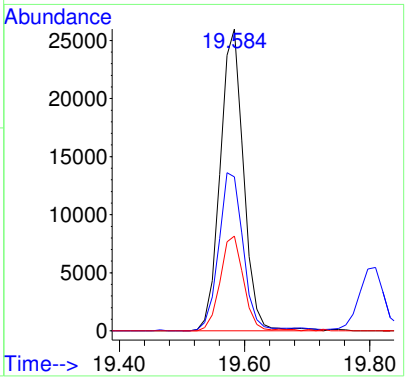


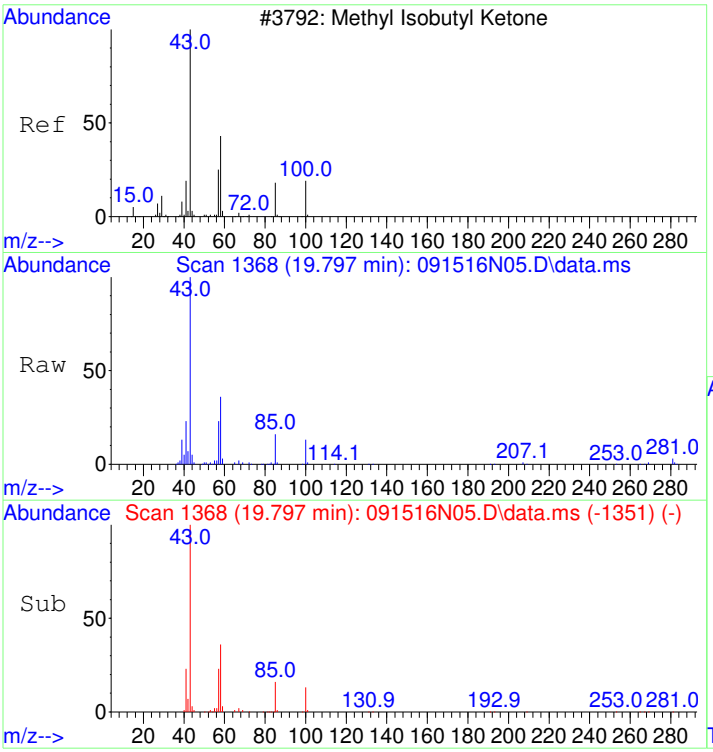


#41
cis-1,3-Dichloropropene
Concen: 0.93 ppbv
RT: 19.584 min Scan# 1350
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 75 Resp: 67688

Ion	Ratio	Lower	Upper
75	100		
39	55.8	33.0	73.0
77	31.5	11.6	51.6

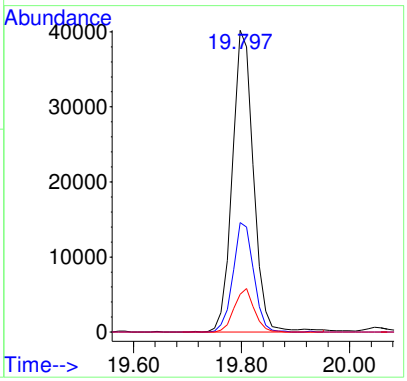


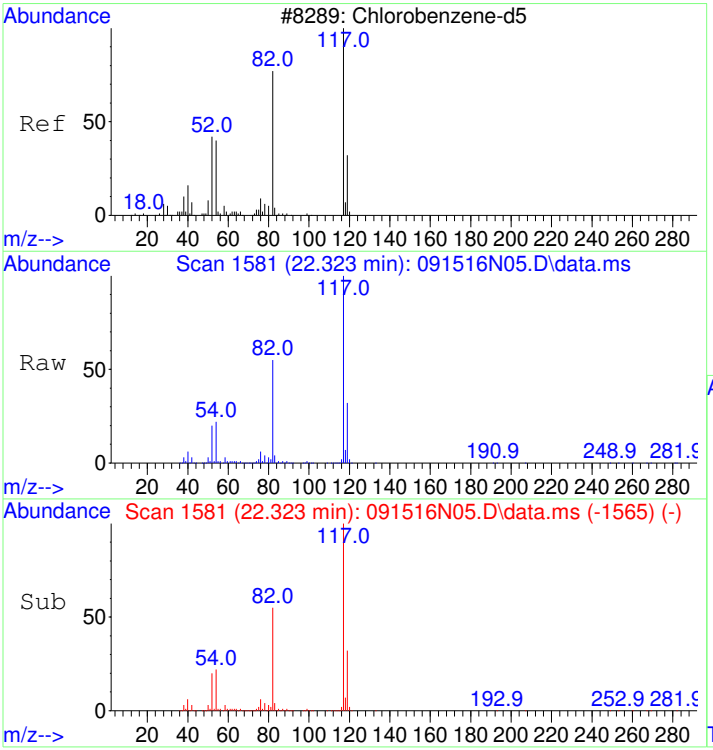


#42
4-Methyl-2-pentanone (MIBK)
Concen: 0.97 ppbv
RT: 19.797 min Scan# 1368
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 43 Resp: 109619

Ion	Ratio	Lower	Upper
43	100		
58	35.4	17.6	57.6
100	13.6	0.0	34.6

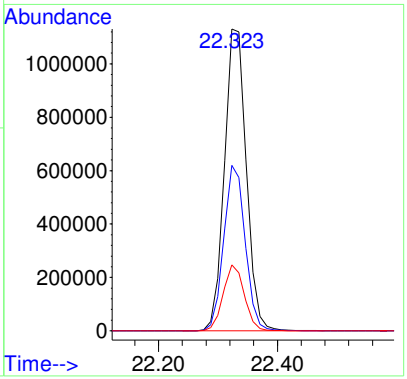


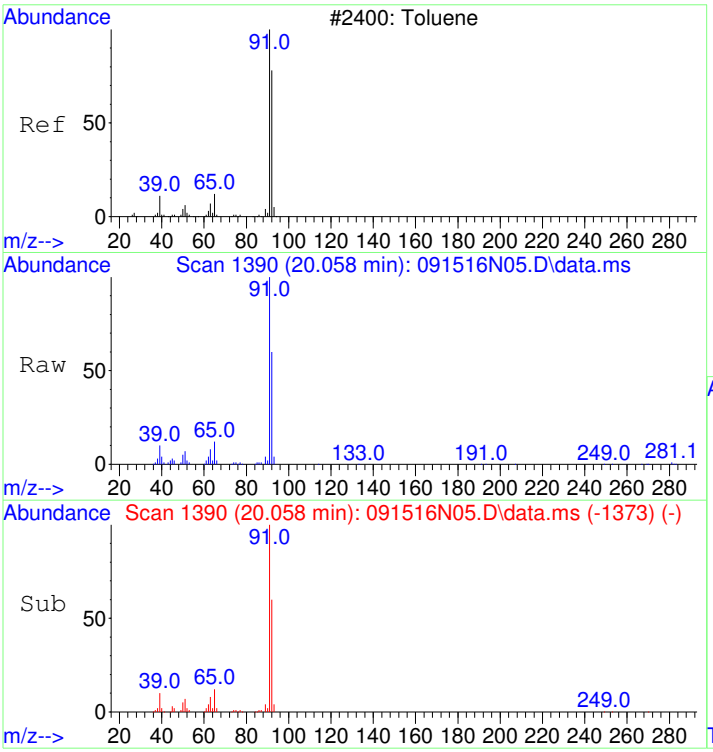


#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.323 min Scan# 1581
Delta R.T. -0.012 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion:117 Resp: 2899949

Ion	Ratio	Lower	Upper
117	100		
82	53.7	33.7	73.7
54	21.2	1.1	41.1

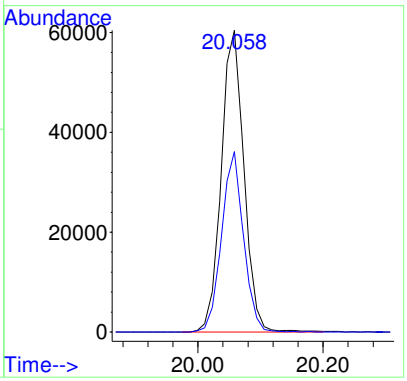


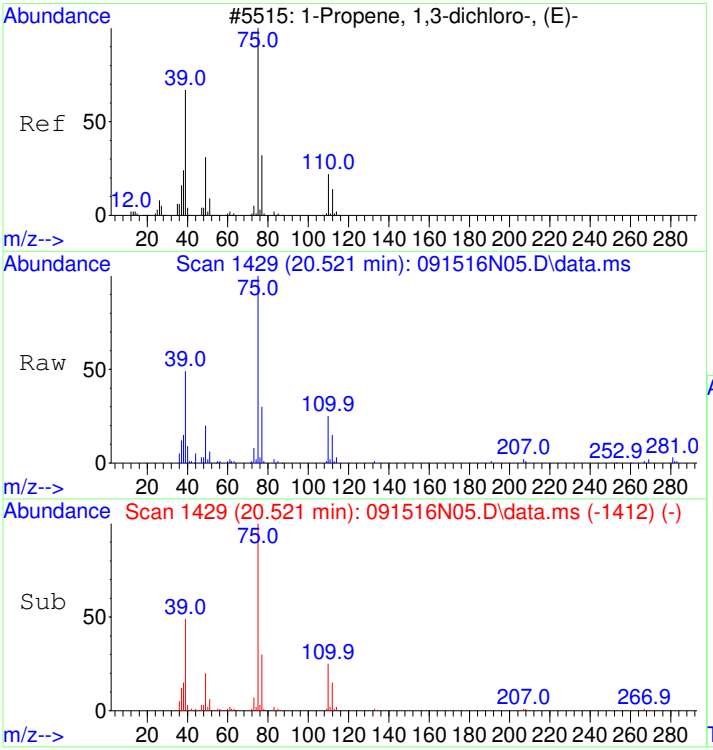


#44
Toluene
Concen: 0.98 ppbv
RT: 20.058 min Scan# 1390
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 91 Resp: 152998

Ion	Ratio	Lower	Upper
91	100		
92	57.7	38.7	78.7

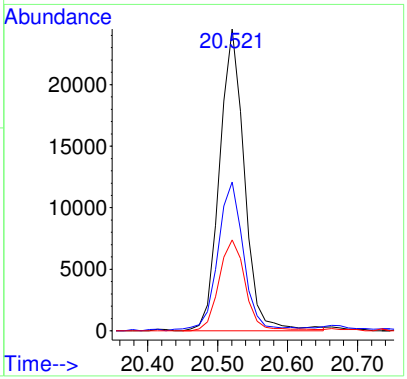


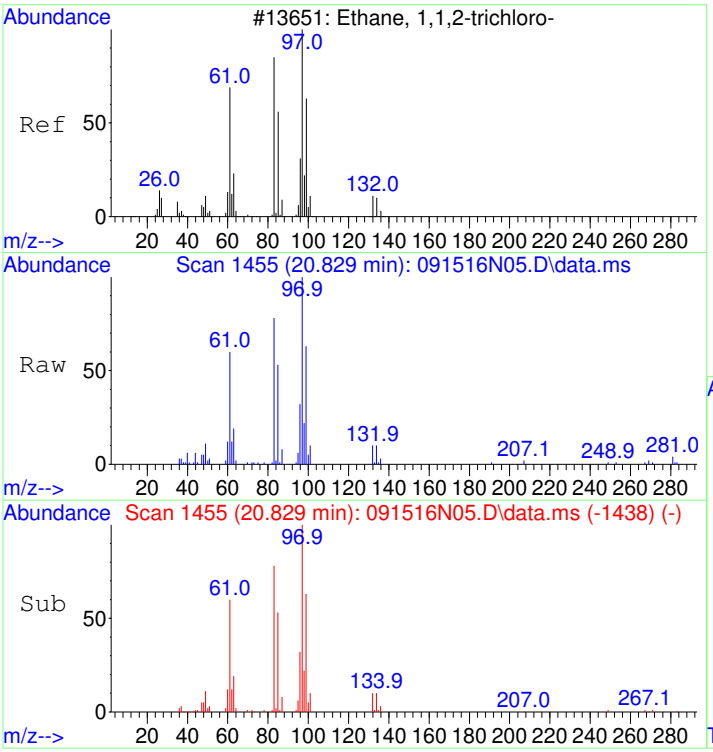


#45
trans-1,3-Dichloropropene
Concen: 0.89 ppbv
RT: 20.521 min Scan# 1429
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 75 Resp: 60732

Ion	Ratio	Lower	Upper
75	100		
39	52.6	28.6	68.6
77	31.1	11.3	51.3

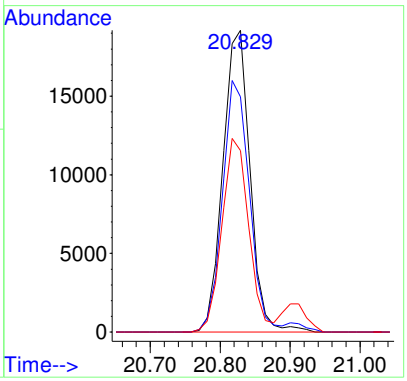


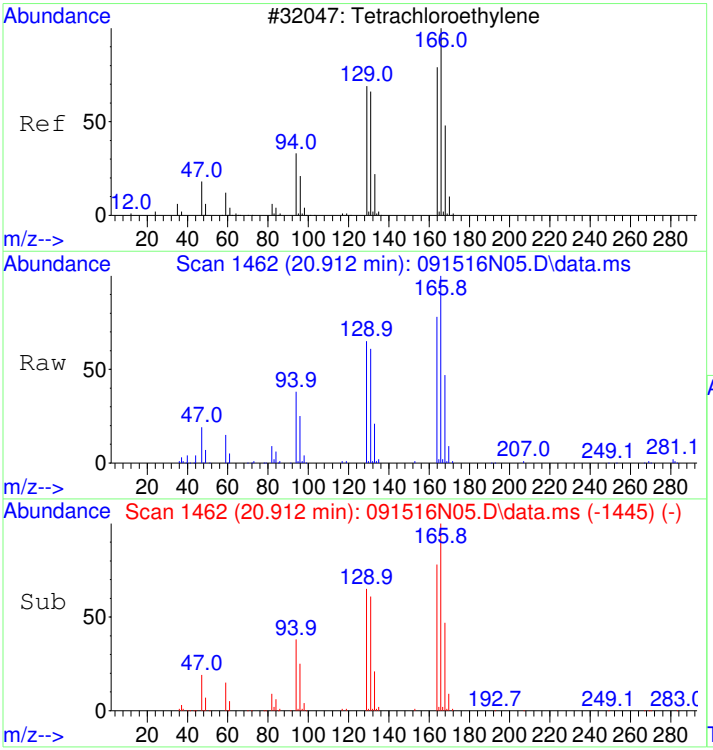


#46
1,1,2-Trichloroethane
Concen: 0.99 ppbv
RT: 20.829 min Scan# 1455
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 97 Resp: 51577

Ion	Ratio	Lower	Upper
97	100		
83	85.0	65.3	105.3
61	59.6	38.3	78.3

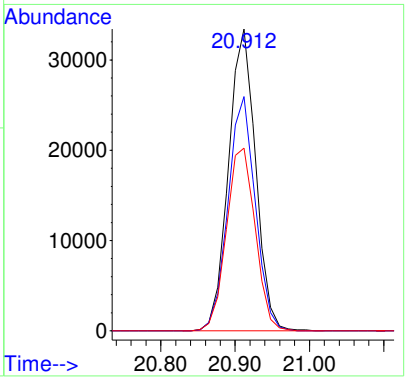


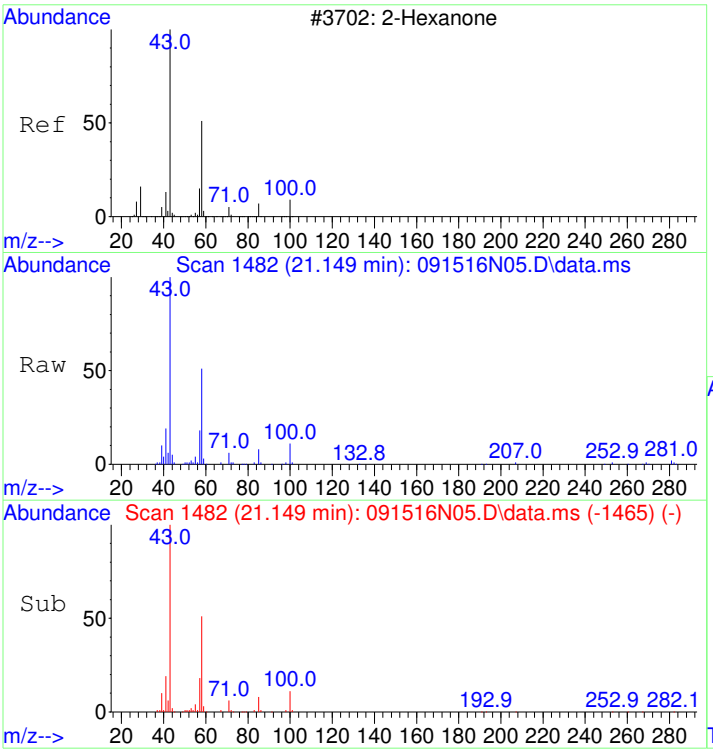


#47
Tetrachloroethene
Concen: 0.99 ppbv
RT: 20.912 min Scan# 1462
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion:166 Resp: 84683

Ion	Ratio	Lower	Upper
166	100		
164	77.9	58.1	98.1
131	64.2	45.2	85.2

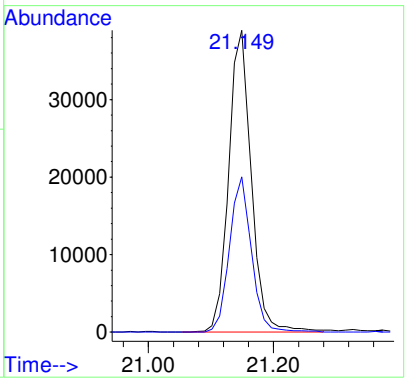


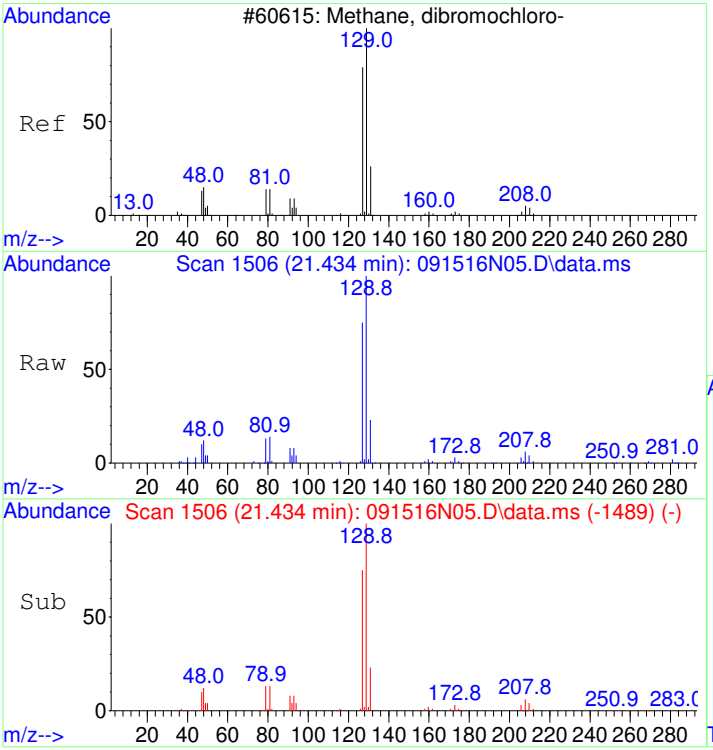


#48
2-Hexanone
Concen: 0.95 ppbv
RT: 21.149 min Scan# 1482
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 43 Resp: 98088

Ion	Ratio	Lower	Upper
43	100		
58	49.8	32.6	72.6

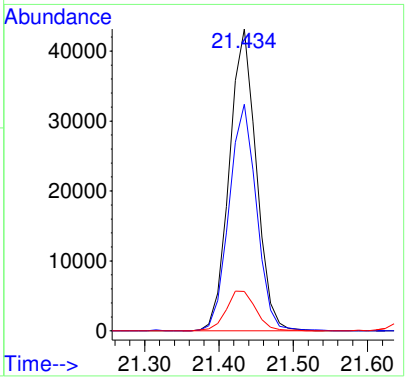


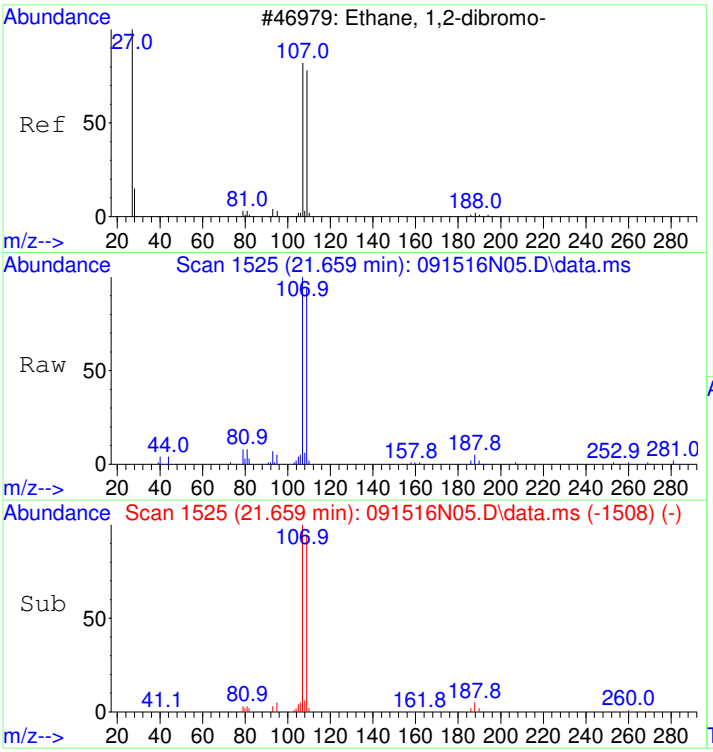


#49
Chlorodibromomethane
Concen: 1.02 ppbv
RT: 21.434 min Scan# 1506
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion:129 Resp: 108448

Ion	Ratio	Lower	Upper
129	100		
127	76.4	56.7	96.7
79	14.6	0.0	33.9

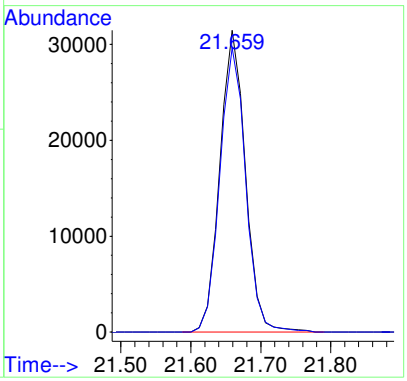


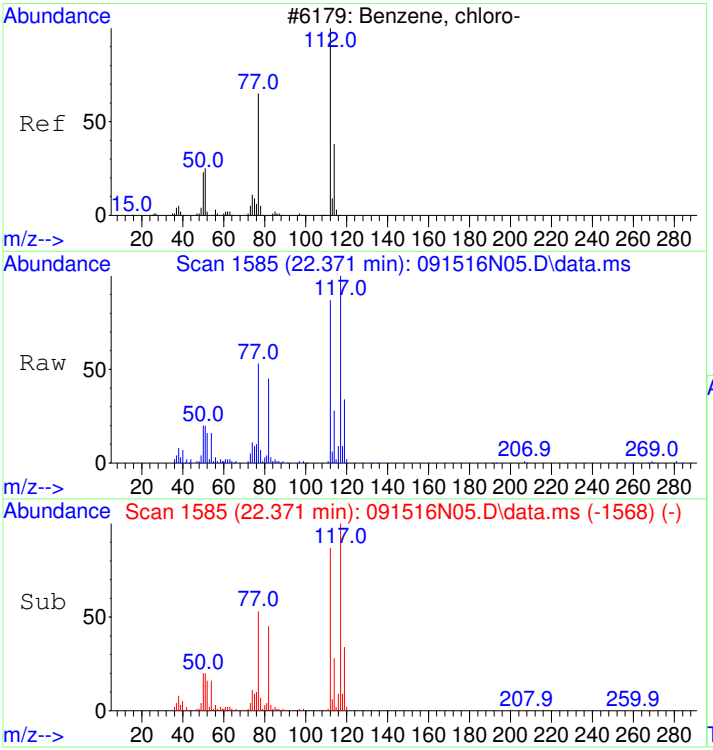


#50
1,2-Dibromoethane (EDB)
Concen: 0.99 ppbv
RT: 21.659 min Scan# 1525
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion:107 Resp: 79565

Ion	Ratio	Lower	Upper
107	100		
109	95.4	74.8	114.8

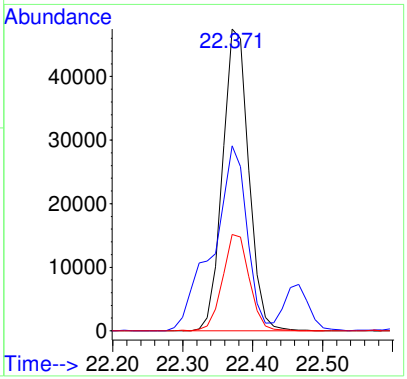


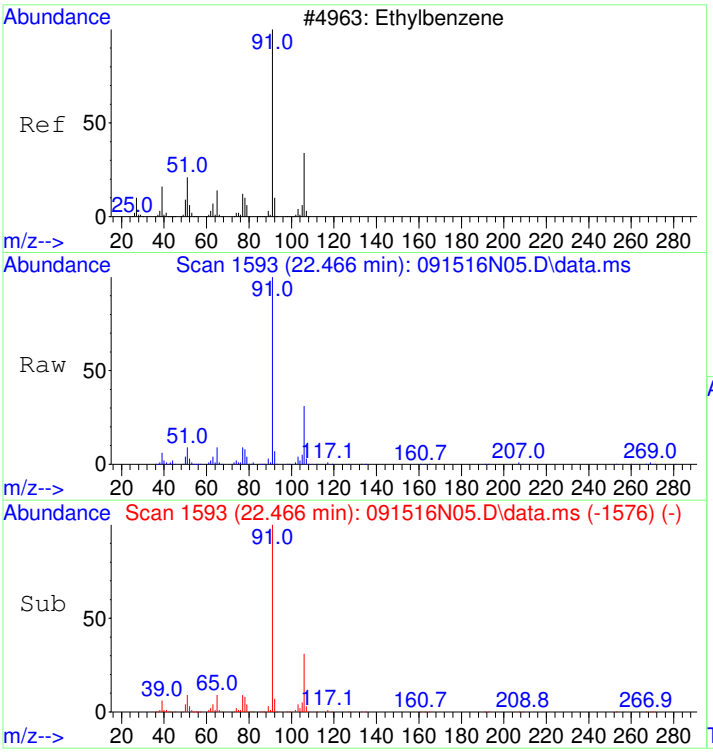


#51
Chlorobenzene
Concen: 0.99 ppbv
RT: 22.371 min Scan# 1585
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion:112 Resp: 123020

Ion	Ratio	Lower	Upper
112	100		
77	80.2	40.4	80.4
114	32.7	12.2	52.2

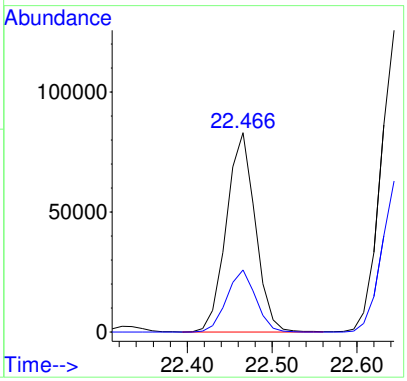


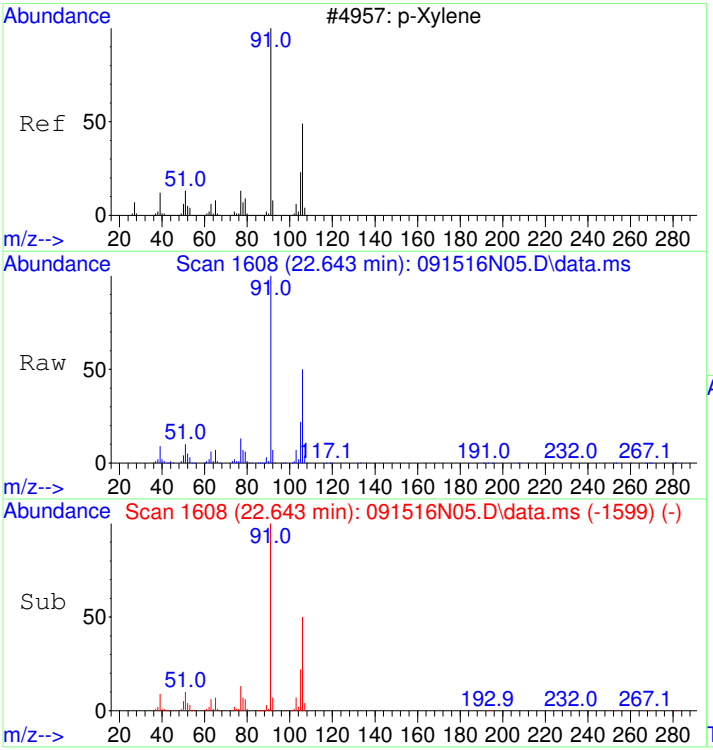


#52
Ethylbenzene
Concen: 0.93 ppbv
RT: 22.466 min Scan# 1593
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 91 Resp: 197383

Ion	Ratio	Lower	Upper
91	100		
106	31.2	11.3	51.3

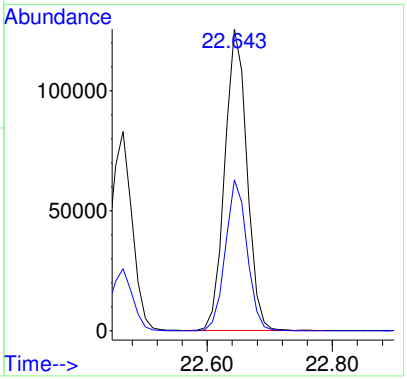


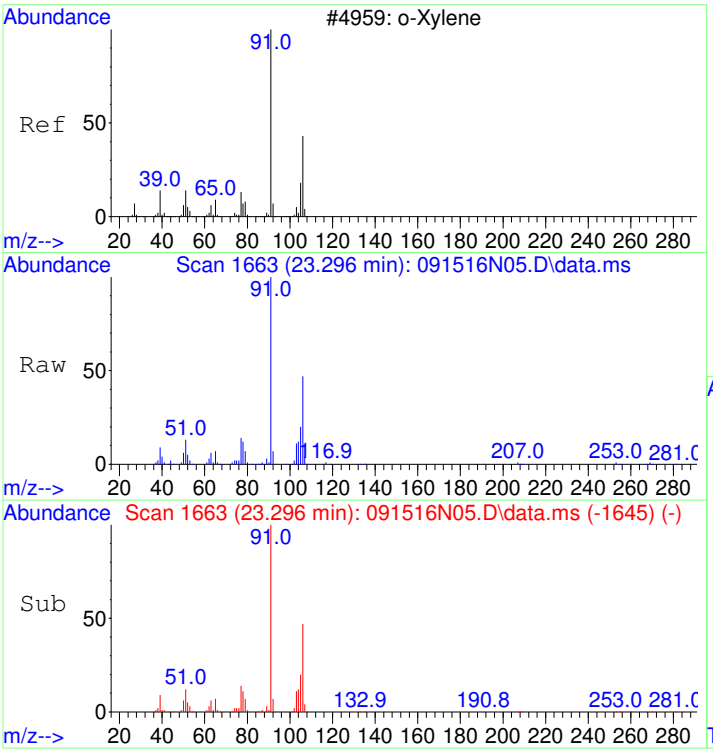


#53
m&p-Xylene
Concen: 1.87 ppbv
RT: 22.643 min Scan# 1608
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 91 Resp: 310116

Ion	Ratio	Lower	Upper
91	100		
106	48.9	30.2	70.2

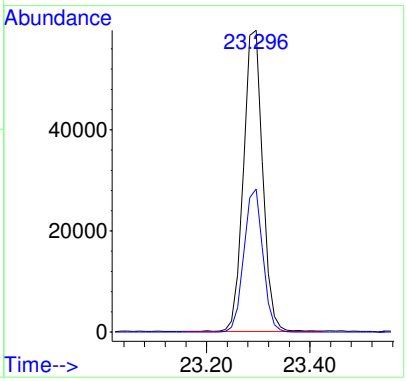


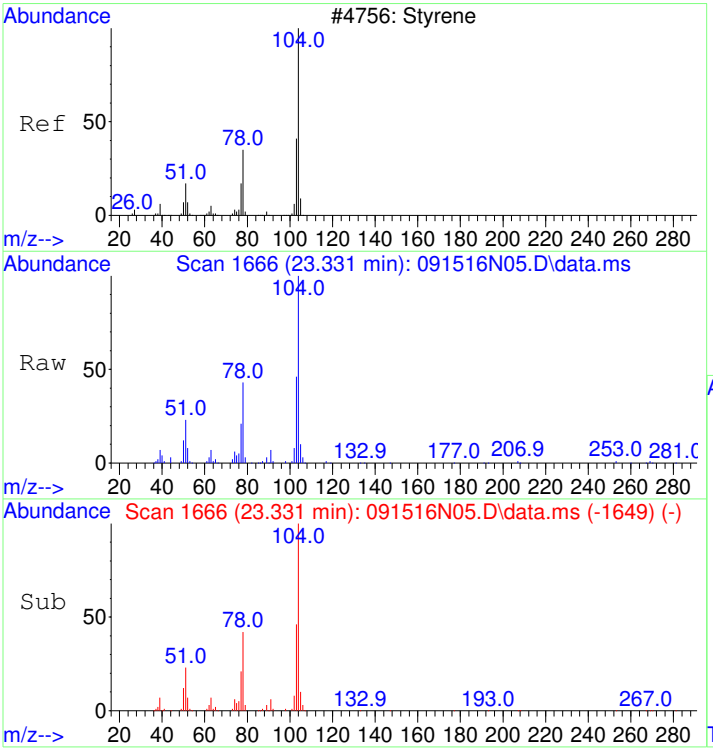


#54
o-Xylene
Concen: 0.90 ppbv
RT: 23.296 min Scan# 1663
Delta R.T. 0.012 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 91 Resp: 152703

Ion	Ratio	Lower	Upper
91	100		
106	46.9	27.4	67.4

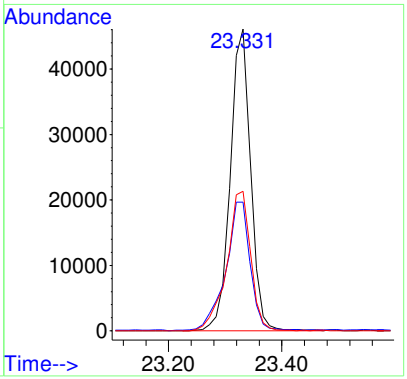


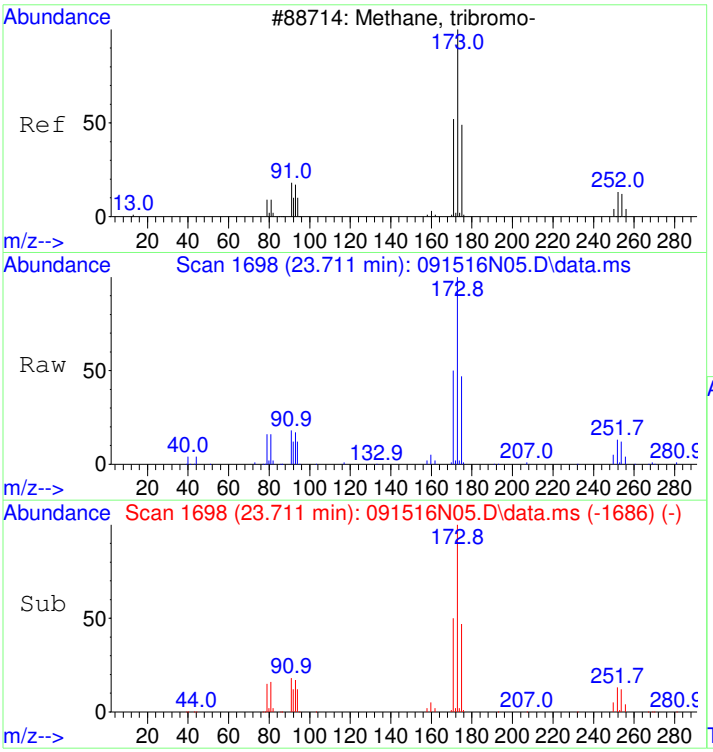


#55
Styrene
Concen: 0.86 ppbv
RT: 23.331 min Scan# 1666
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion:104 Resp: 115123

Ion	Ratio	Lower	Upper
104	100		
78	52.1	29.6	69.6
103	54.1	34.1	74.1

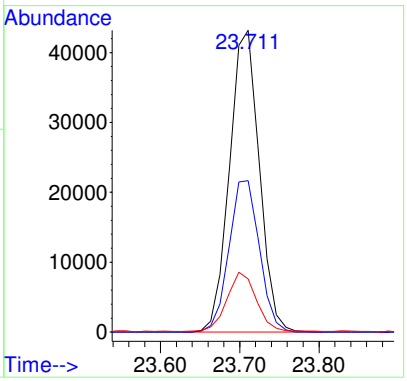


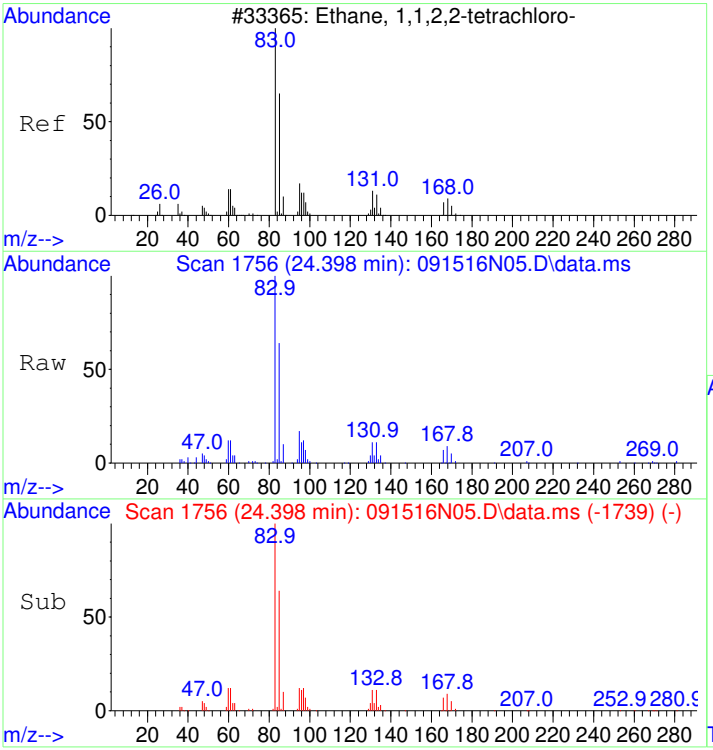


#56
Bromoform
Concen: 0.95 ppbv
RT: 23.711 min Scan# 1698
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion:173 Resp: 113035

Ion	Ratio	Lower	Upper
173	100		
171	51.3	31.0	71.0
91	19.2	0.0	38.5

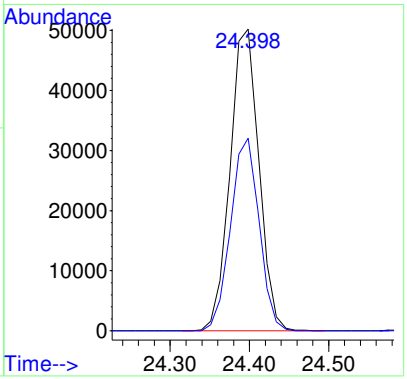


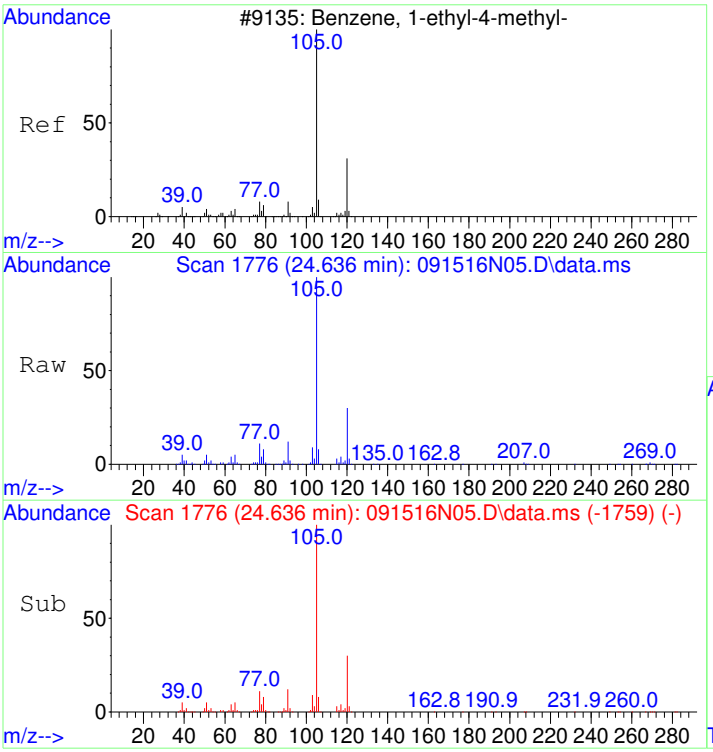


#57
1,1,2,2-Tetrachloroethane
Concen: 1.00 ppbv
RT: 24.398 min Scan# 1756
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 83 Resp: 127587

Ion	Ratio	Lower	Upper
83	100		
85	62.9	44.5	84.5

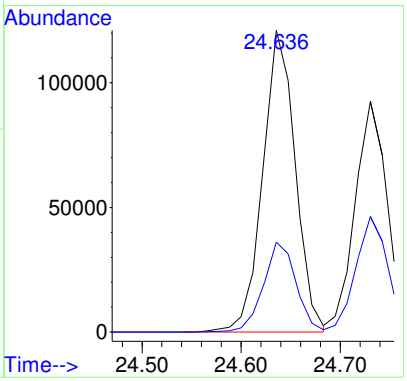


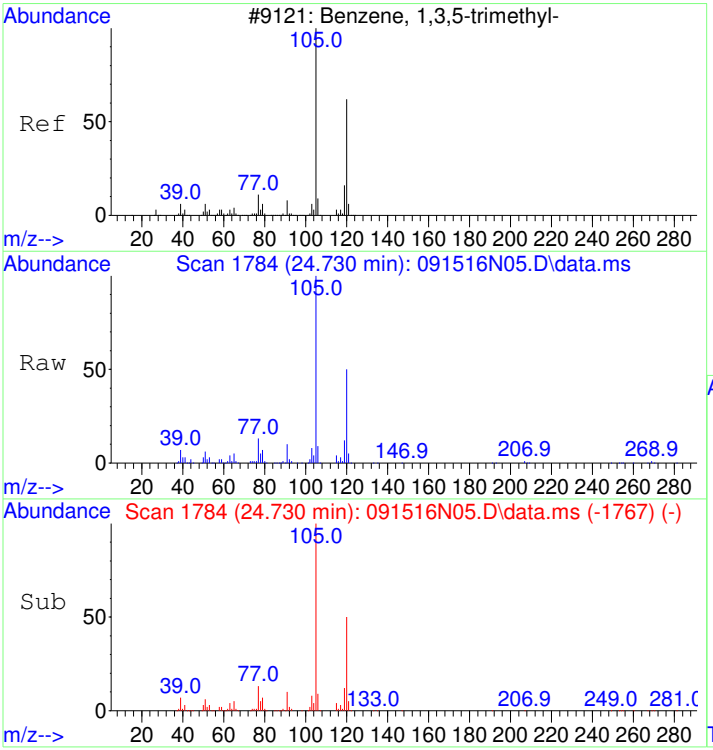


#58
4-Ethyltoluene
Concen: 1.02 ppbv
RT: 24.636 min Scan# 1776
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion:105 Resp: 276135

Ion	Ratio	Lower	Upper
105	100		
120	30.0	10.0	50.0

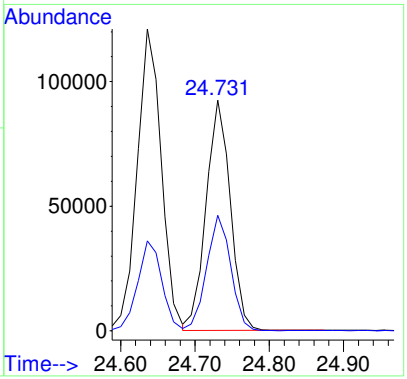


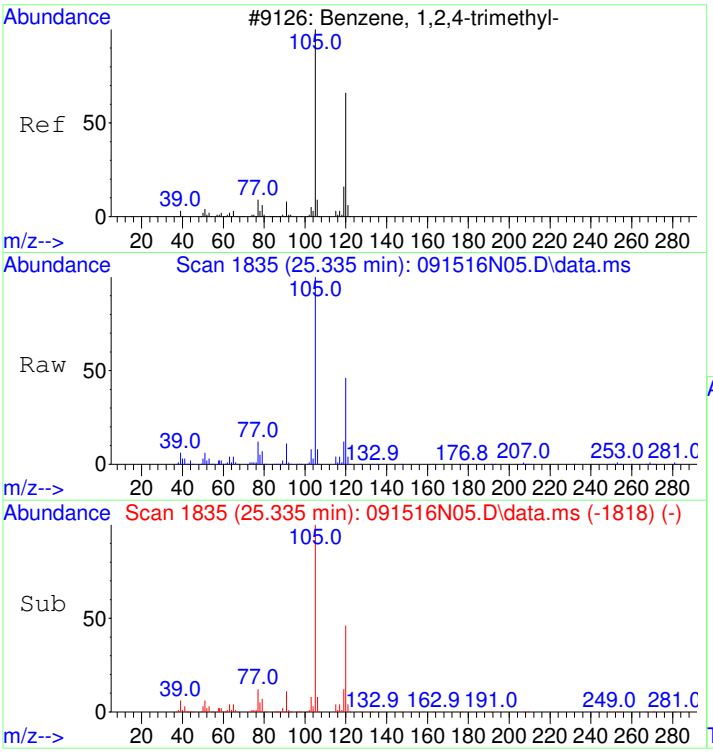


#59
1,3,5-Trimethylbenzene
Concen: 0.98 ppbv
RT: 24.730 min Scan# 1784
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion:105 Resp: 208965

Ion	Ratio	Lower	Upper
105	100		
120	50.0	30.0	70.0

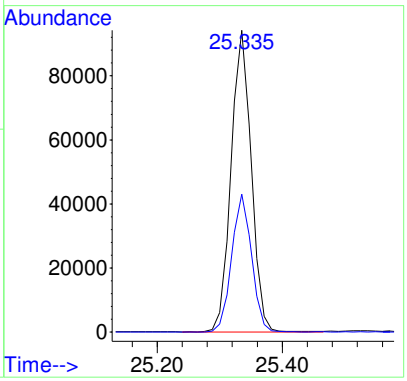


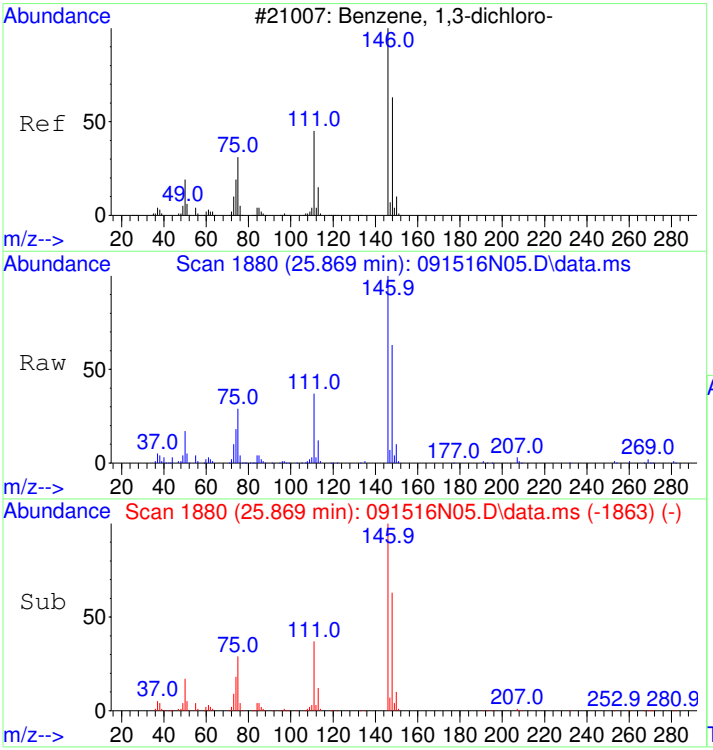


#60
1,2,4-Trimethylbenzene
Concen: 0.96 ppbv
RT: 25.335 min Scan# 1835
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion:105 Resp: 211745

Ion	Ratio	Lower	Upper
105	100		
120	44.9	26.7	66.7

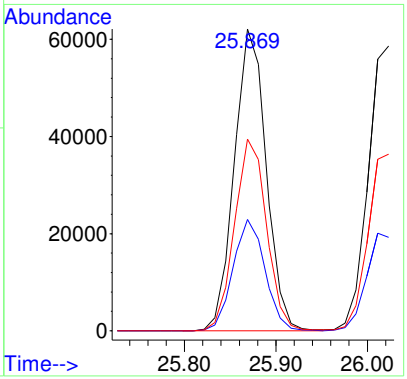


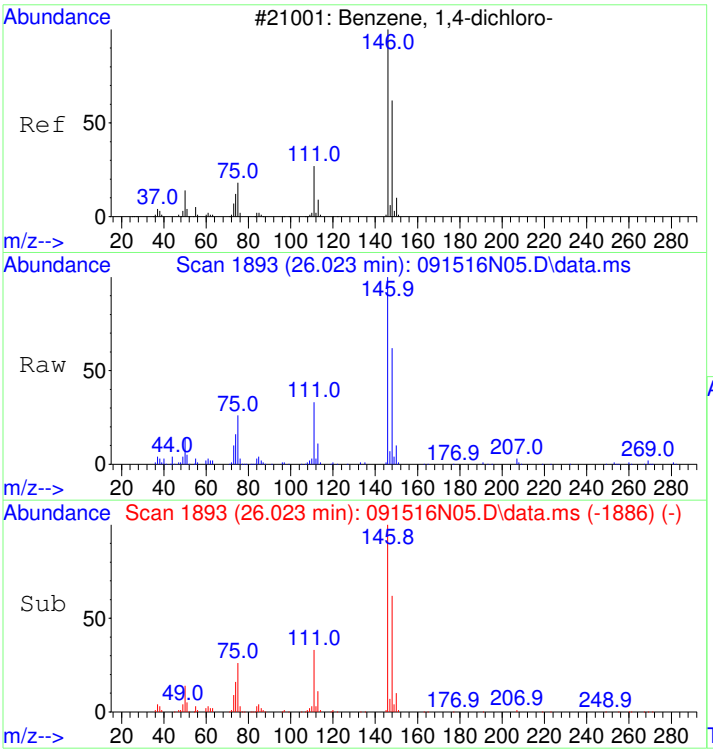


#61
1,3-Dichlorobenzene
Concen: 0.97 ppbv
RT: 25.869 min Scan# 1880
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion:146 Resp: 150117

Ion	Ratio	Lower	Upper
146	100		
111	37.1	16.8	56.8
148	63.9	44.8	84.8

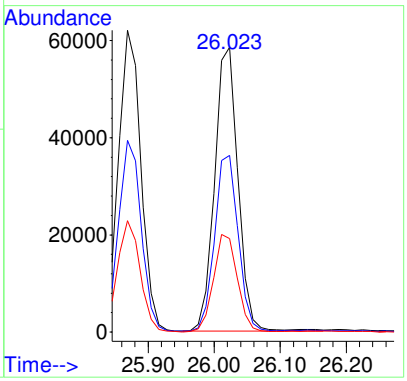


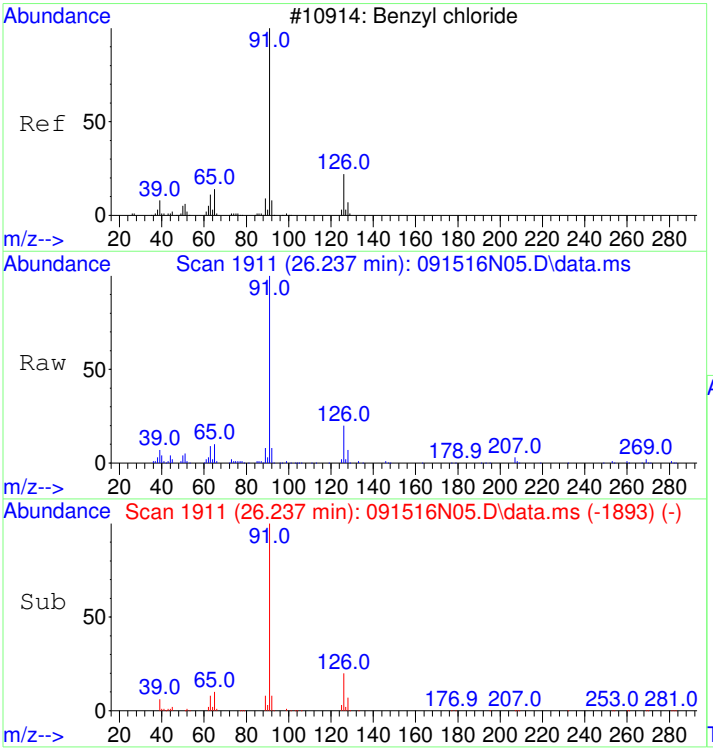


#62
1,4-Dichlorobenzene
Concen: 0.96 ppbv
RT: 26.023 min Scan# 1893
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion:146 Resp: 144185

Ion	Ratio	Lower	Upper
146	100		
148	62.2	44.1	84.1
111	35.4	15.3	55.3

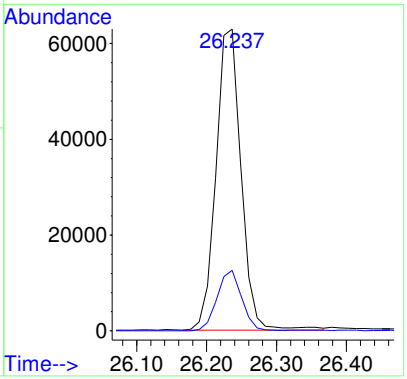


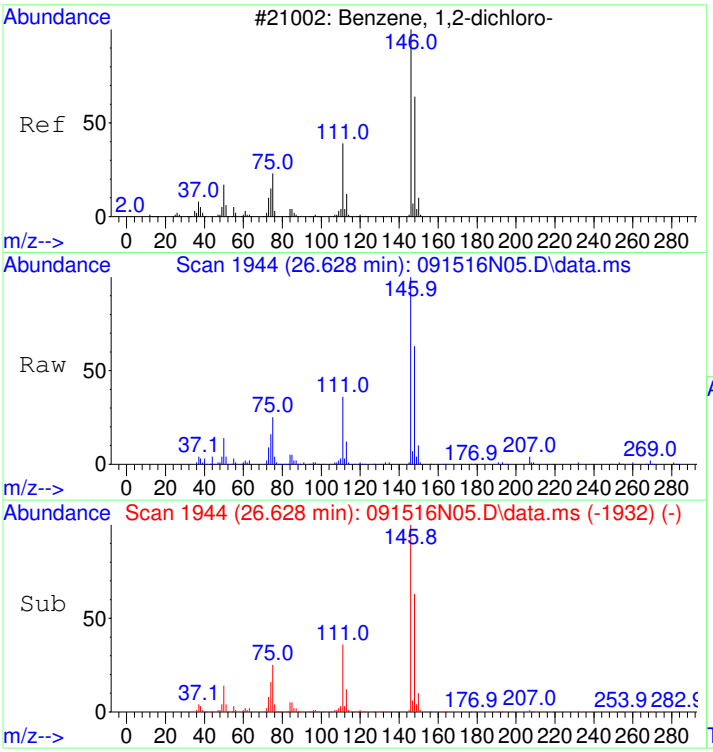


#63
Benzyl chloride
Concen: 0.90 ppbv
RT: 26.237 min Scan# 1911
Delta R.T. 0.012 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion: 91 Resp: 156862

Ion	Ratio	Lower	Upper
91	100		
126	20.0	0.9	40.9

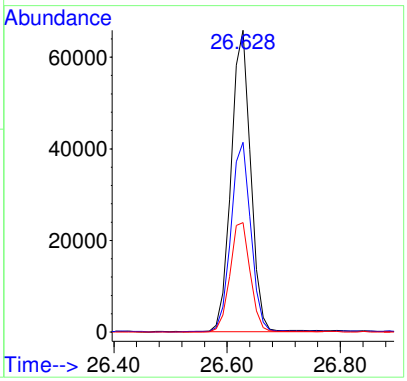


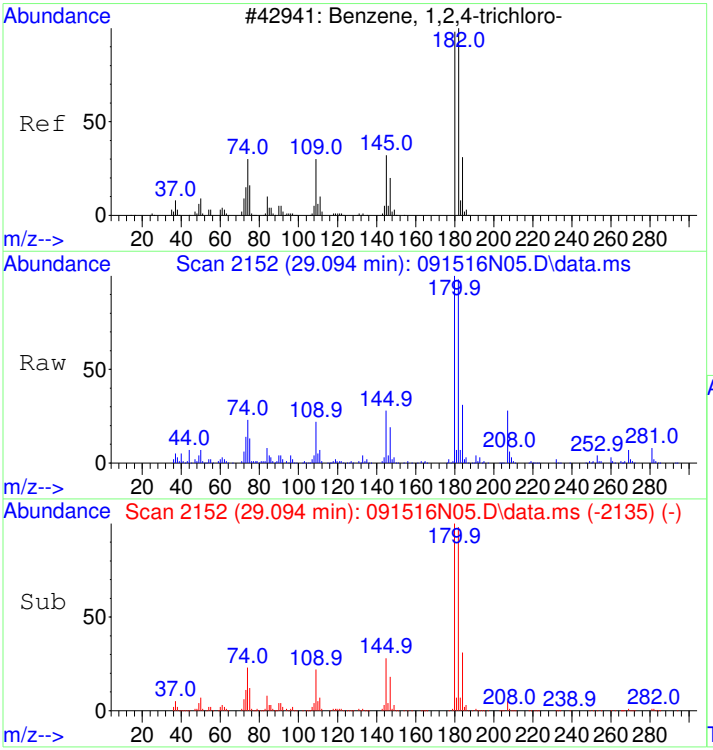


#64
1,2-Dichlorobenzene
Concen: 1.00 ppbv
RT: 26.628 min Scan# 1944
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion:146 Resp: 157610

Ion	Ratio	Lower	Upper
146	100		
148	64.8	44.2	84.2
111	38.2	18.0	58.0

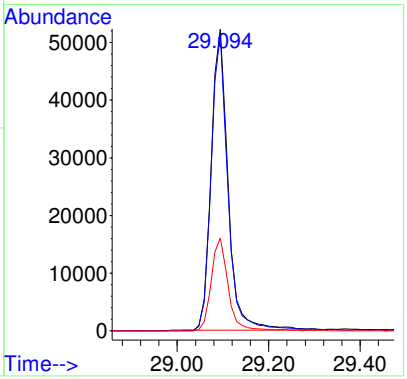


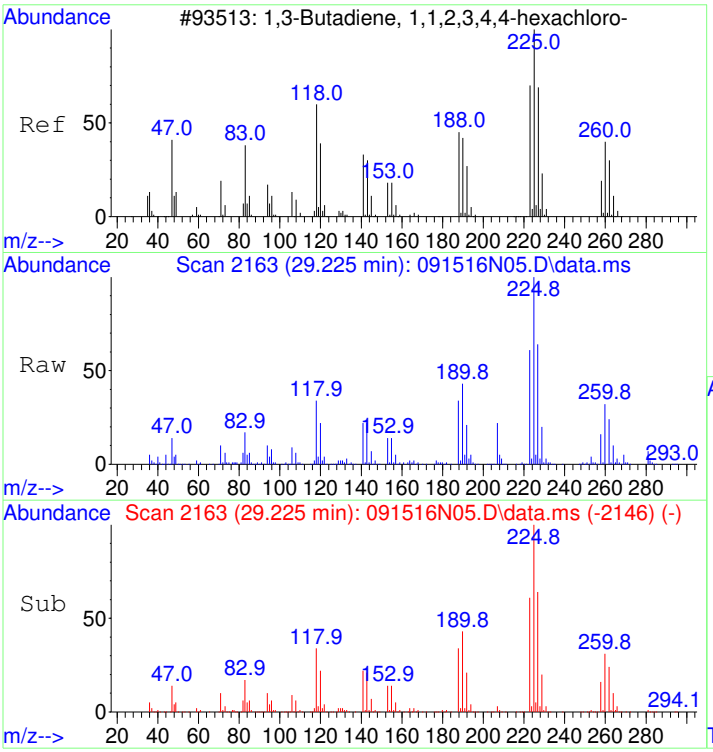


#65
1,2,4-Trichlorobenzene
Concen: 0.95 ppbv
RT: 29.094 min Scan# 2152
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion:180 Resp: 135191

Ion	Ratio	Lower	Upper
180	100		
182	97.4	75.6	115.6
184	30.7	10.4	50.4

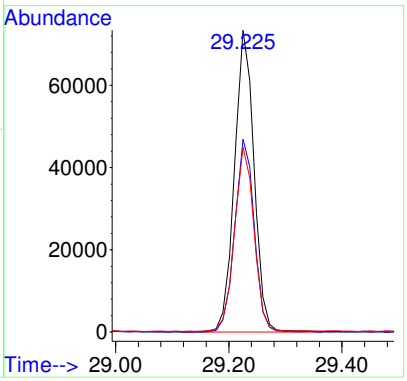




#66
Hexachlorobutadiene
Concen: 1.11 ppbv
RT: 29.225 min Scan# 2163
Delta R.T. 0.000 min
Lab File: 091516N05.D
Acq: 15 Sep 2016 7:40 pm

Tgt Ion:225 Resp: 177206

Ion	Ratio	Lower	Upper
225	100		
227	63.5	44.4	84.4
223	60.9	42.0	82.0



S16I025-CAL2

Data Path : D:\msdchem\1\2016\data\091516_FSAA\
Data File : 091516N06.D
Acq On : 15 Sep 2016 8:26 pm
InstName : AG5973N
Operator : LLH
Sample : S16I025-CAL2
Misc : 2.0ppbv 1638116
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Sep 20 16:20:27 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:15:43 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.469	49	1105697	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	3703327	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.323	117	2872981	20.00	ppbv	-0.01
Target Compounds						Qvalue
2) Propene	4.464	41	86276	2.45	ppbv	99
3) Dichlorodifluoromethane	4.559	85	289716	2.14	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.915	85	292186	2.26	ppbv	99
5) Chloromethane	5.117	50	96721	2.50	ppbv	100
6) Vinyl chloride	5.437	62	97259	2.39	ppbv	99
7) 1,3-Butadiene	5.532	54	72433	2.29	ppbv	97
8) Bromomethane	6.468	94	92169	2.36	ppbv	99
9) Chloroethane	6.800	64	46492	2.35	ppbv	98
10) Bromoethene	7.382	106	97052	2.51	ppbv	99
11) Trichlorofluoromethane	7.524	101	290633	2.30	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.350	151	197490	2.37	ppbv	100
13) 1,1-Dichloroethene	9.433	61	161945	2.39	ppbv	100
14) Acetone	9.967	43	141484	2.30	ppbv	99
15) Carbon disulfide	10.156	76	273383	2.54	ppbv	99
16) 2-Propanol	10.571	45	149050	2.46	ppbv	93
17) Allyl chloride	10.963	41	127281	2.45	ppbv	99
18) Dichloromethane	11.485	49	138557	2.44	ppbv	99
19) tert-Butyl methyl ethe...	12.161	73	232669	2.05	ppbv	100
20) trans-1,2-Dichloroethene	12.196	61	149480	2.50	ppbv	99
21) Hexane	12.789	57	158087	2.32	ppbv	97
22) 1,1-Dichloroethane	13.512	63	190871	2.31	ppbv	100
23) Vinyl acetate	13.655	43	209206	2.10	ppbv	100
24) cis-1,2-Dichloroethene	14.935	61	134503	2.34	ppbv	100
25) 2-Butanone (MEK)	15.030	72	44020	2.21	ppbv	97
26) Ethyl acetate	15.078	61	29550	2.24	ppbv #	99
27) Tetrahydrofuran	15.481	42	110204	2.25	ppbv	100
28) Chloroform	15.623	83	233899	2.34	ppbv	99
29) Cyclohexane	15.860	56	163020	2.35	ppbv	100
30) 1,1,1-Trichloroethane	15.908	97	254571	2.25	ppbv	99
31) Carbon tetrachloride	16.157	117	267548	2.21	ppbv	100
33) Benzene	16.643	78	332970	2.36	ppbv	99
34) 2,2,4-Trimethylpentane	16.596	57	486403	2.28	ppbv	99
35) 1,2-Dichloroethane	16.845	62	151896	2.28	ppbv	99
36) Heptane	16.975	43	178704	2.25	ppbv	99
37) Trichloroethene	17.864	130	142829	2.35	ppbv	99
38) 1,2-Dichloropropane	18.363	63	107748	2.22	ppbv	98
39) 1,4-Dioxane	18.552	88	81150	2.54	ppbv	99
40) Bromodichloromethane	18.813	83	239533	2.28	ppbv	99
41) cis-1,3-Dichloropropene	19.584	75	157387	2.16	ppbv	99
42) 4-Methyl-2-pentanone (...	19.797	43	282478	2.48	ppbv	98
44) Toluene	20.058	91	338319	2.18	ppbv	100
45) trans-1,3-Dichloropropene	20.521	75	139487	2.06	ppbv	97
46) 1,1,2-Trichloroethane	20.829	97	111143	2.15	ppbv	98
47) Tetrachloroethene	20.912	166	180951	2.14	ppbv	100
48) 2-Hexanone	21.149	43	273812	2.66	ppbv	97
49) Chlorodibromomethane	21.434	129	225809	2.14	ppbv	100
50) 1,2-Dibromoethane (EDB)	21.659	107	178002	2.24	ppbv	99
51) Chlorobenzene	22.371	112	269025	2.18	ppbv	94
52) Ethylbenzene	22.466	91	446783	2.13	ppbv	99
53) m&p-Xylene	22.643	91	703404	4.28	ppbv	100
54) o-Xylene	23.284	91	356034	2.13	ppbv	99

Data Path : D:\msdchem\1\2016\data\091516_FSAA\
Data File : 091516N06.D
Acq On : 15 Sep 2016 8:26 pm
InstName : AG5973N
Operator : LLH
Sample : S16I025-CAL2
Misc : 2.0ppbv 1638116
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Sep 20 16:20:27 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:15:43 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55) Styrene	23.331	104	277803	2.09	ppbv	99
56) Bromoform	23.711	173	248927	2.10	ppbv	100
57) 1,1,2,2-Tetrachloroethane	24.398	83	293144	2.32	ppbv	99
58) 4-Ethyltoluene	24.636	105	626184	2.34	ppbv	100
59) 1,3,5-Trimethylbenzene	24.731	105	505257	2.38	ppbv	100
60) 1,2,4-Trimethylbenzene	25.335	105	512780	2.35	ppbv	100
61) 1,3-Dichlorobenzene	25.869	146	355430	2.31	ppbv	99
62) 1,4-Dichlorobenzene	26.023	146	343840	2.30	ppbv	100
63) Benzyl chloride	26.237	91	408094	2.35	ppbv	100
64) 1,2-Dichlorobenzene	26.628	146	365890	2.35	ppbv	100
65) 1,2,4-Trichlorobenzene	29.094	180	302616	2.15	ppbv	100
66) Hexachlorobutadiene	29.225	225	355094	2.25	ppbv	99

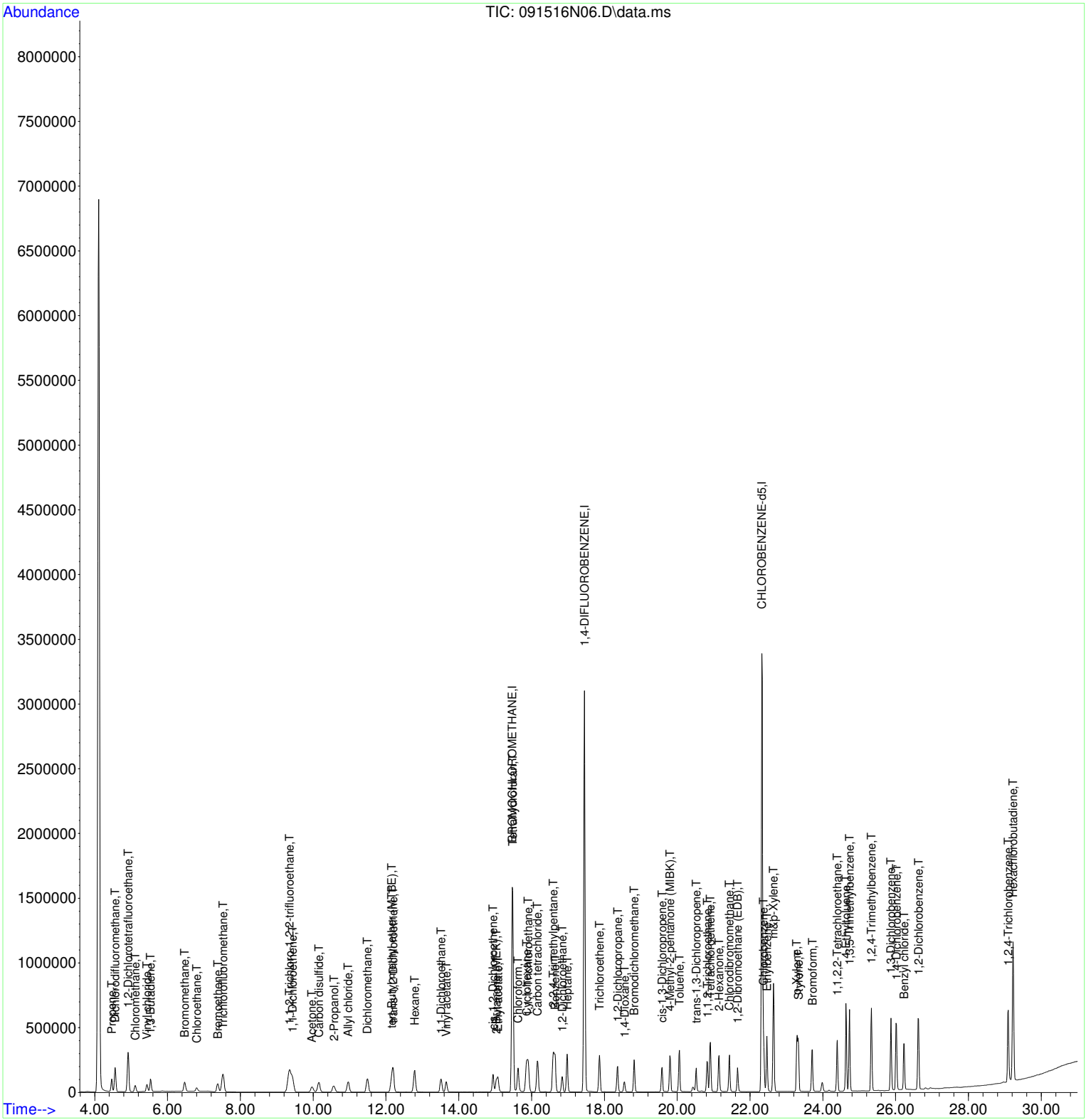
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2016\data\091516_FSAA\
Data File : 091516N06.D
Acq On : 15 Sep 2016 8:26 pm
InstName : AG5973N
Operator : LLH
Sample : S16I025-CAL2
Misc : 2.0ppbv 1638116
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Sep 20 16:20:27 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:15:43 2016
Response via : Initial Calibration



S16I025-CAL3

Data Path : D:\msdchem\1\2016\data\091516_FSAA\
Data File : 091516N07.D
Acq On : 15 Sep 2016 9:12 pm
InstName : AG5973N
Operator : LLH
Sample : S16I025-CAL3
Misc : 5.0ppbv 1638117
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Sep 20 16:20:38 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:15:43 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.469	49	1124669	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.450	114	3741606	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.323	117	3070505	20.00	ppbv	-0.01
Target Compounds						Qvalue
2) Propene	4.464	41	192235	5.37	ppbv	99
3) Dichlorodifluoromethane	4.559	85	667165	4.85	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.903	85	651151	4.94	ppbv	99
5) Chloromethane	5.105	50	206733	5.25	ppbv	100
6) Vinyl chloride	5.425	62	212286	5.13	ppbv	99
7) 1,3-Butadiene	5.532	54	157482	4.89	ppbv	98
8) Bromomethane	6.469	94	196745	4.95	ppbv	100
9) Chloroethane	6.789	64	98806	4.92	ppbv	99
10) Bromoethene	7.370	106	211108	5.37	ppbv	99
11) Trichlorofluoromethane	7.512	101	626865	4.87	ppbv	99
12) 1,1,2-Trichloro-1,2,2-...	9.350	151	426752	5.04	ppbv	100
13) 1,1-Dichloroethene	9.421	61	355533	5.15	ppbv	99
14) Acetone	9.955	43	378780	6.04	ppbv	99
15) Carbon disulfide	10.145	76	594896	5.43	ppbv	99
16) 2-Propanol	10.560	45	353685	5.73	ppbv	97
17) Allyl chloride	10.963	41	286517	5.42	ppbv	99
18) Dichloromethane	11.485	49	275572	4.78	ppbv	99
19) tert-Butyl methyl ethe...	12.161	73	695605	6.04	ppbv	100
20) trans-1,2-Dichloroethene	12.196	61	330688	5.44	ppbv	99
21) Hexane	12.789	57	354762	5.12	ppbv	98
22) 1,1-Dichloroethane	13.513	63	416509	4.96	ppbv	100
23) Vinyl acetate	13.655	43	588325	5.80	ppbv	100
24) cis-1,2-Dichloroethene	14.936	61	302185	5.17	ppbv	99
25) 2-Butanone (MEK)	15.030	72	121681	6.00	ppbv #	94
26) Ethyl acetate	15.078	61	79136	5.89	ppbv #	98
27) Tetrahydrofuran	15.481	42	285006	5.73	ppbv	100
28) Chloroform	15.623	83	512895	5.04	ppbv	100
29) Cyclohexane	15.861	56	370598	5.25	ppbv	99
30) 1,1,1-Trichloroethane	15.908	97	561112	4.88	ppbv	100
31) Carbon tetrachloride	16.157	117	594760	4.82	ppbv	100
33) Benzene	16.643	78	739395	5.18	ppbv	100
34) 2,2,4-Trimethylpentane	16.596	57	1147595	5.33	ppbv	99
35) 1,2-Dichloroethane	16.845	62	337131	5.02	ppbv	100
36) Heptane	16.975	43	431869	5.38	ppbv	99
37) Trichloroethene	17.865	130	333965	5.45	ppbv	99
38) 1,2-Dichloropropane	18.363	63	258289	5.26	ppbv	99
39) 1,4-Dioxane	18.541	88	192611	5.97	ppbv	100
40) Bromodichloromethane	18.813	83	578337	5.44	ppbv	100
41) cis-1,3-Dichloropropene	19.584	75	415823	5.64	ppbv	99
42) 4-Methyl-2-pentanone (...	19.798	43	656928	5.72	ppbv	99
44) Toluene	20.058	91	902186	5.44	ppbv	99
45) trans-1,3-Dichloropropene	20.521	75	406199	5.61	ppbv	99
46) 1,1,2-Trichloroethane	20.817	97	306162	5.53	ppbv	99
47) Tetrachloroethene	20.912	166	495604	5.48	ppbv	99
48) 2-Hexanone	21.138	43	637194	5.80	ppbv	99
49) Chlorodibromomethane	21.434	129	627847	5.57	ppbv	100
50) 1,2-Dibromoethane (EDB)	21.659	107	484263	5.69	ppbv	100
51) Chlorobenzene	22.371	112	745638	5.66	ppbv	98
52) Ethylbenzene	22.466	91	1258528	5.61	ppbv	100
53) m&p-Xylene	22.644	91	2002504	11.40	ppbv	100
54) o-Xylene	23.284	91	1010418	5.65	ppbv	100

Data Path : D:\msdchem\1\2016\data\091516_FSAA\
Data File : 091516N07.D
Acq On : 15 Sep 2016 9:12 pm
InstName : AG5973N
Operator : LLH
Sample : S16I025-CAL3
Misc : 5.0ppbv 1638117
ALS Vial : 32 Sample Multiplier: 1

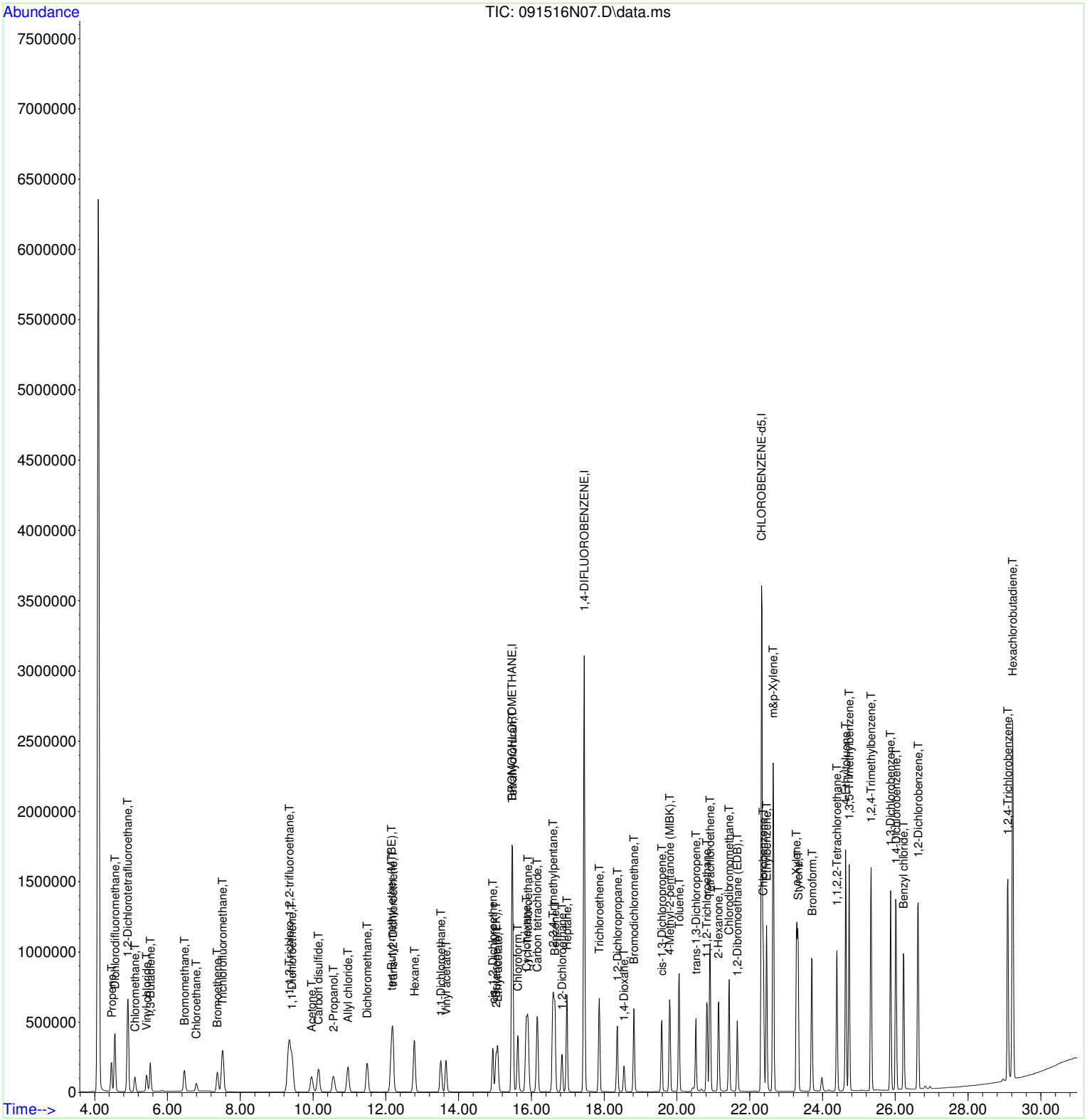
Quant Time: Sep 20 16:20:38 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:15:43 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55) Styrene	23.331	104	788360	5.56	ppbv	100
56) Bromoform	23.711	173	718817	5.68	ppbv	100
57) 1,1,2,2-Tetrachloroethane	24.399	83	747567	5.54	ppbv	100
58) 4-Ethyltoluene	24.636	105	1625078	5.69	ppbv	100
59) 1,3,5-Trimethylbenzene	24.731	105	1288365	5.68	ppbv	100
60) 1,2,4-Trimethylbenzene	25.335	105	1307425	5.61	ppbv	100
61) 1,3-Dichlorobenzene	25.869	146	908709	5.54	ppbv	99
62) 1,4-Dichlorobenzene	26.023	146	889646	5.57	ppbv	100
63) Benzyl chloride	26.225	91	1074825	5.80	ppbv	100
64) 1,2-Dichlorobenzene	26.628	146	901565	5.41	ppbv	99
65) 1,2,4-Trichlorobenzene	29.095	180	771647	5.13	ppbv	100
66) Hexachlorobutadiene	29.225	225	834655	4.95	ppbv	100

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

Data Path : D:\msdchem\1\2016\data\091516_FSAA\
Data File : 091516N07.D
Acq On : 15 Sep 2016 9:12 pm
InstName : AG5973N
Operator : LLH
Sample : S16I025-CAL3
Misc : 5.0ppbv 1638117
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Sep 20 16:20:38 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:15:43 2016
Response via : Initial Calibration



S16I025-CAL4

Data Path : D:\msdchem\1\2016\data\091516_FSAA\
Data File : 091516N08.D
Acq On : 15 Sep 2016 9:59 pm
InstName : AG5973N
Operator : LLH
Sample : S16I025-CAL4
Misc : 10ppbv 1638118
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Sep 20 16:21:08 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:15:43 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	15.469	49	1138192	22.00	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	3799063	19.80	ppbv		0.00
43) CHLOROBENZENE-d5	22.335	117	3115587	20.00	ppbv		0.00
Target Compounds							Qvalue
2) Propene	4.464	41	365787	10.10	ppbv		100
3) Dichlorodifluoromethane	4.559	85	1292167	9.28	ppbv		100
4) 1,2-Dichlorotetrafluor...	4.915	85	1251085	9.38	ppbv		100
5) Chloromethane	5.117	50	389340	9.77	ppbv		100
6) Vinyl chloride	5.437	62	403543	9.64	ppbv		100
7) 1,3-Butadiene	5.532	54	304796	9.36	ppbv		100
8) Bromomethane	6.468	94	372573	9.27	ppbv		100
9) Chloroethane	6.800	64	187290	9.21	ppbv		100
10) Bromoethene	7.381	106	406116	10.22	ppbv		100
11) Trichlorofluoromethane	7.524	101	1180425	9.06	ppbv		100
12) 1,1,2-Trichloro-1,2,2-...	9.350	151	811350	9.46	ppbv		100
13) 1,1-Dichloroethene	9.433	61	680701	9.75	ppbv		100
14) Acetone	9.955	43	698599	11.01	ppbv		100
15) Carbon disulfide	10.156	76	1127512	10.17	ppbv		100
16) 2-Propanol	10.560	45	664601	10.64	ppbv		100
17) Allyl chloride	10.963	41	555013	10.37	ppbv		100
18) Dichloromethane	11.485	49	496581	8.51	ppbv		100
19) tert-Butyl methyl ethe...	12.160	73	1328780	11.39	ppbv		100
20) trans-1,2-Dichloroethene	12.196	61	623898	10.13	ppbv		100
21) Hexane	12.789	57	689793	9.84	ppbv		100
22) 1,1-Dichloroethane	13.512	63	791932	9.32	ppbv		100
23) Vinyl acetate	13.655	43	1163435	11.33	ppbv		100
24) cis-1,2-Dichloroethene	14.935	61	589830	9.97	ppbv		100
25) 2-Butanone (MEK)	15.030	72	230674	11.23	ppbv		100
26) Ethyl acetate	15.078	61	149163	10.97	ppbv	#	100
27) Tetrahydrofuran	15.481	42	529302	10.52	ppbv		100
28) Chloroform	15.623	83	975434	9.47	ppbv		100
29) Cyclohexane	15.860	56	719821	10.08	ppbv		100
30) 1,1,1-Trichloroethane	15.908	97	1073165	9.22	ppbv		100
31) Carbon tetrachloride	16.169	117	1145231	9.18	ppbv		100
33) Benzene	16.643	78	1406907	9.71	ppbv		100
34) 2,2,4-Trimethylpentane	16.596	57	2239711	10.25	ppbv		100
35) 1,2-Dichloroethane	16.845	62	652652	9.56	ppbv		100
36) Heptane	16.975	43	845659	10.37	ppbv		100
37) Trichloroethene	17.864	130	651522	10.47	ppbv		100
38) 1,2-Dichloropropane	18.362	63	498772	10.00	ppbv		100
39) 1,4-Dioxane	18.540	88	353398	10.78	ppbv		100
40) Bromodichloromethane	18.813	83	1122047	10.39	ppbv		100
41) cis-1,3-Dichloropropene	19.584	75	828152	11.07	ppbv		100
42) 4-Methyl-2-pentanone (...	19.797	43	1220061	10.46	ppbv		100
44) Toluene	20.058	91	1766486	10.51	ppbv		100
45) trans-1,3-Dichloropropene	20.521	75	807293	10.99	ppbv		100
46) 1,1,2-Trichloroethane	20.829	97	597747	10.65	ppbv		100
47) Tetrachloroethene	20.912	166	969612	10.57	ppbv		100
48) 2-Hexanone	21.149	43	1180870	10.59	ppbv		100
49) Chlorodibromomethane	21.434	129	1242443	10.86	ppbv		100
50) 1,2-Dibromoethane (EDB)	21.659	107	948358	10.98	ppbv		100
51) Chlorobenzene	22.371	112	1438591	10.76	ppbv		100
52) Ethylbenzene	22.465	91	2435086	10.69	ppbv		100
53) m&p-Xylene	22.643	91	3849860	21.60	ppbv		100
54) o-Xylene	23.284	91	1946691	10.74	ppbv		100

Data Path : D:\msdchem\1\2016\data\091516_FSAA\
Data File : 091516N08.D
Acq On : 15 Sep 2016 9:59 pm
InstName : AG5973N
Operator : LLH
Sample : S16I025-CAL4
Misc : 10ppbv 1638118
ALS Vial : 32 Sample Multiplier: 1

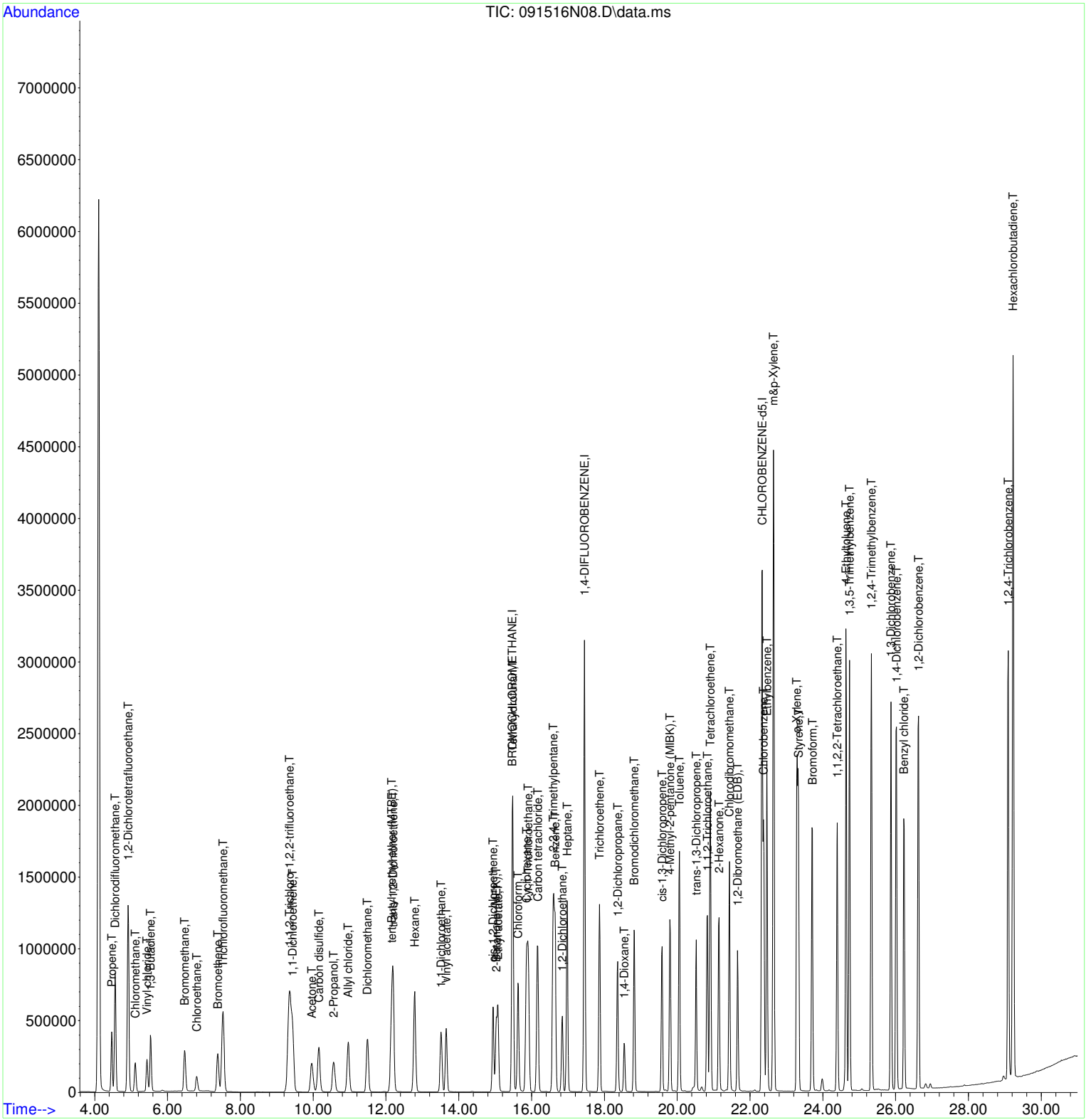
Quant Time: Sep 20 16:21:08 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:15:43 2016
Response via : Initial Calibration

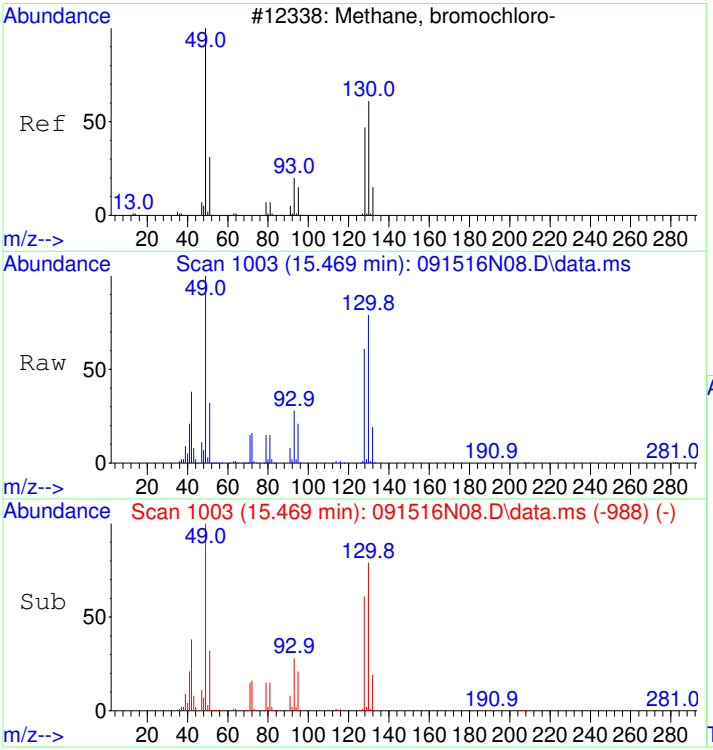
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55) Styrene	23.331	104	1528133	10.63	ppbv	100
56) Bromoform	23.711	173	1398013	10.88	ppbv	100
57) 1,1,2,2-Tetrachloroethane	24.398	83	1386411	10.12	ppbv	100
58) 4-Ethyltoluene	24.636	105	3082917	10.63	ppbv	100
59) 1,3,5-Trimethylbenzene	24.730	105	2436114	10.59	ppbv	100
60) 1,2,4-Trimethylbenzene	25.335	105	2486064	10.51	ppbv	100
61) 1,3-Dichlorobenzene	25.869	146	1726262	10.37	ppbv	100
62) 1,4-Dichlorobenzene	26.023	146	1692844	10.44	ppbv	100
63) Benzyl chloride	26.225	91	2129362	11.32	ppbv	100
64) 1,2-Dichlorobenzene	26.628	146	1718214	10.16	ppbv	100
65) 1,2,4-Trichlorobenzene	29.094	180	1573783	10.32	ppbv	100
66) Hexachlorobutadiene	29.225	225	1630568	9.53	ppbv	100

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

Data Path : D:\msdchem\1\2016\data\091516_FSAA\
Data File : 091516N08.D
Acq On : 15 Sep 2016 9:59 pm
InstName : AG5973N
Operator : LLH
Sample : S16I025-CAL4
Misc : 10ppbv 1638118
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Sep 20 16:21:08 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:15:43 2016
Response via : Initial Calibration

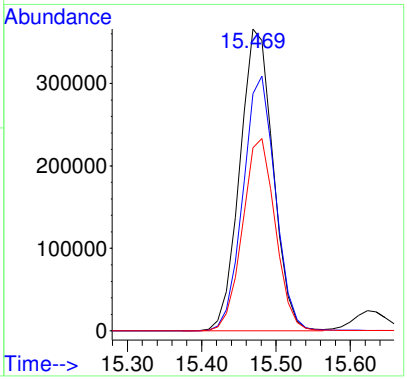


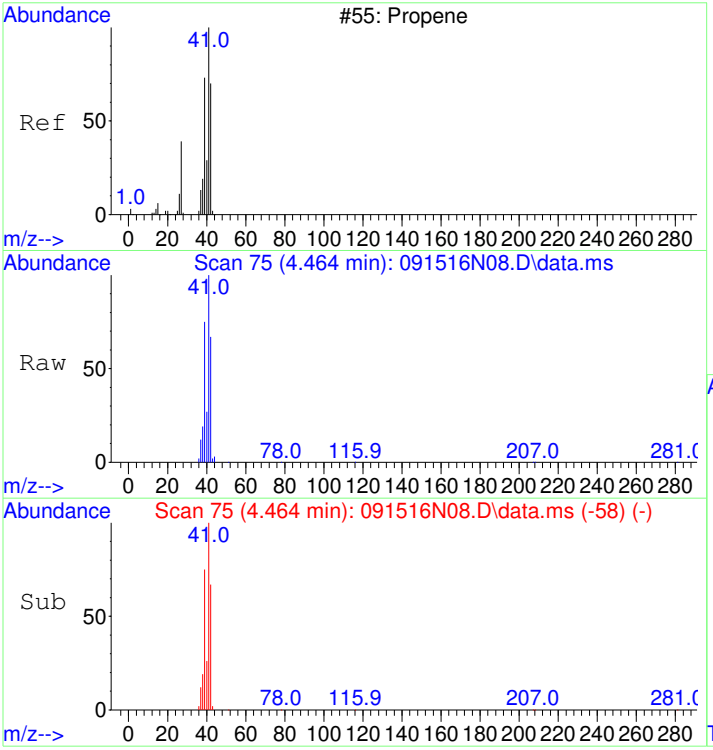


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.469 min Scan# 1003
Delta R.T. -0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 49 Resp: 1138192

Ion	Ratio	Lower	Upper
49	100		
130	82.1	62.1	102.1
128	62.9	42.9	82.9

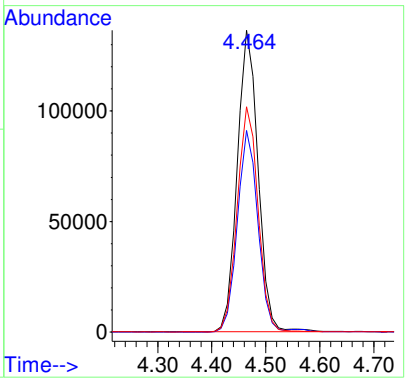


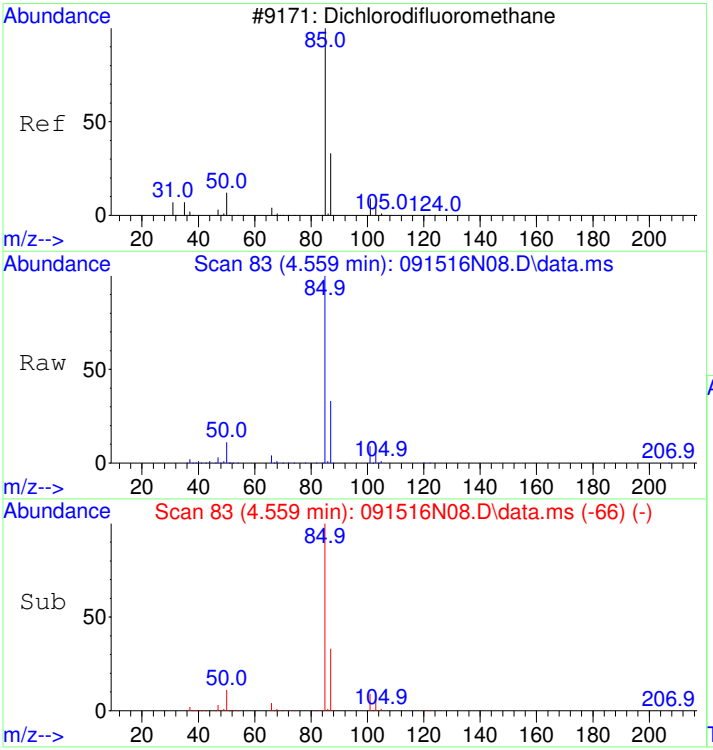


#2
Propene
Concen: 10.10 ppbv
RT: 4.464 min Scan# 75
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 41 Resp: 365787

Ion	Ratio	Lower	Upper
41	100		
42	66.6	46.6	86.6
39	75.5	55.5	95.5

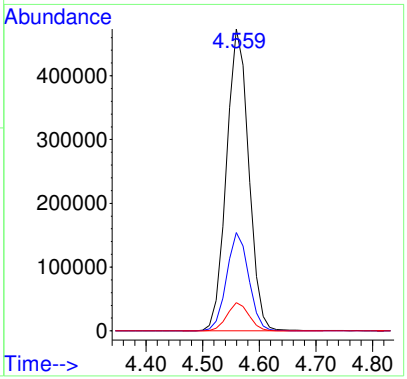


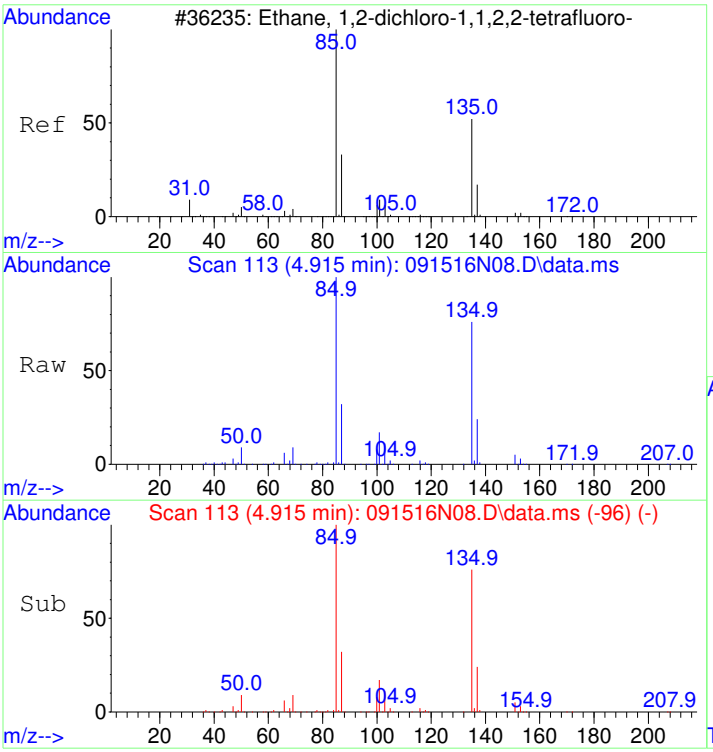


#3
Dichlorodifluoromethane
Concen: 9.28 ppbv
RT: 4.559 min Scan# 83
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 85 Resp: 1292167

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.3	52.3
101	9.2	0.0	29.2

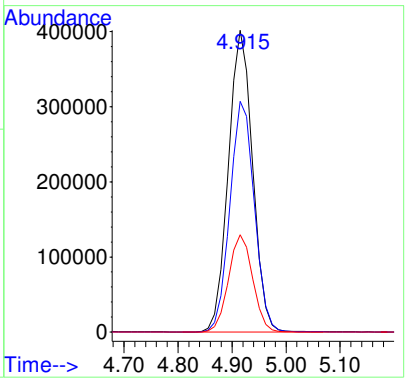


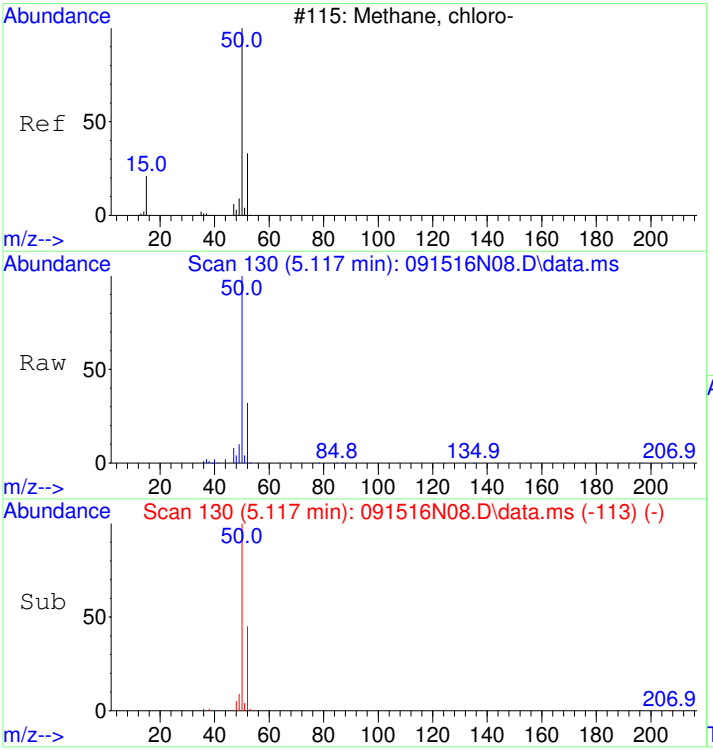


#4
1,2-Dichlorotetrafluoroethane
Concen: 9.38 ppbv
RT: 4.915 min Scan# 113
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 85 Resp: 1251085

Ion	Ratio	Lower	Upper
85	100		
135	77.4	57.4	97.4
87	32.2	12.2	52.2

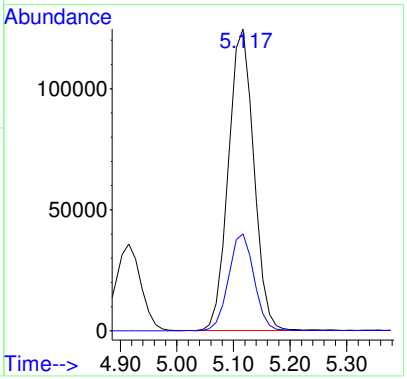


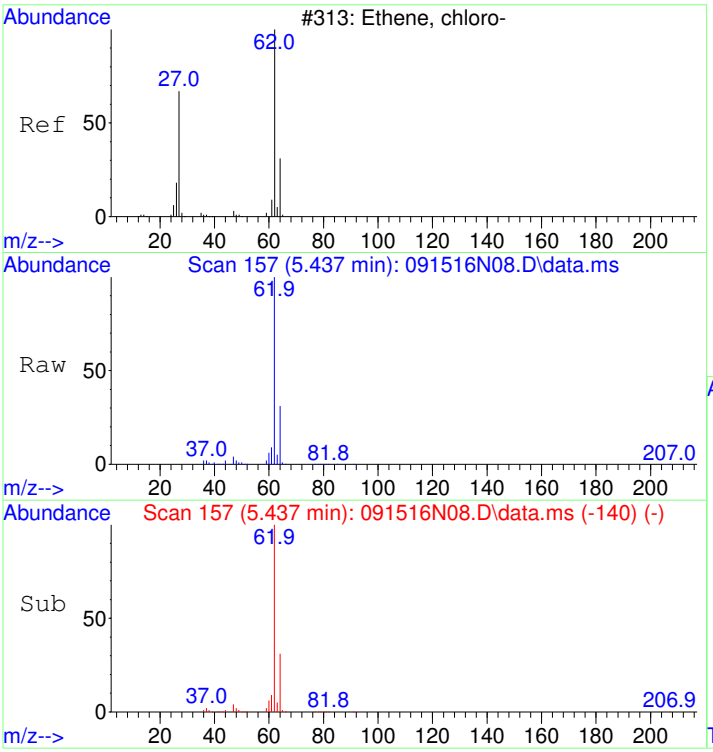


#5
Chloromethane
Concen: 9.77 ppbv
RT: 5.117 min Scan# 130
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 50 Resp: 389340

Ion	Ratio	Lower	Upper
50	100		
52	32.4	12.4	52.4

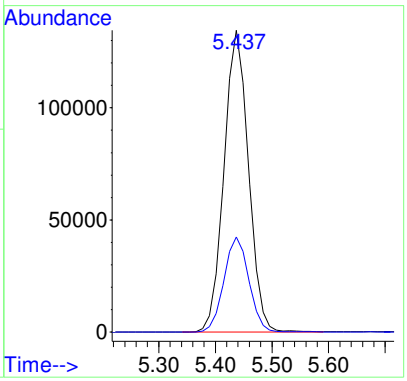


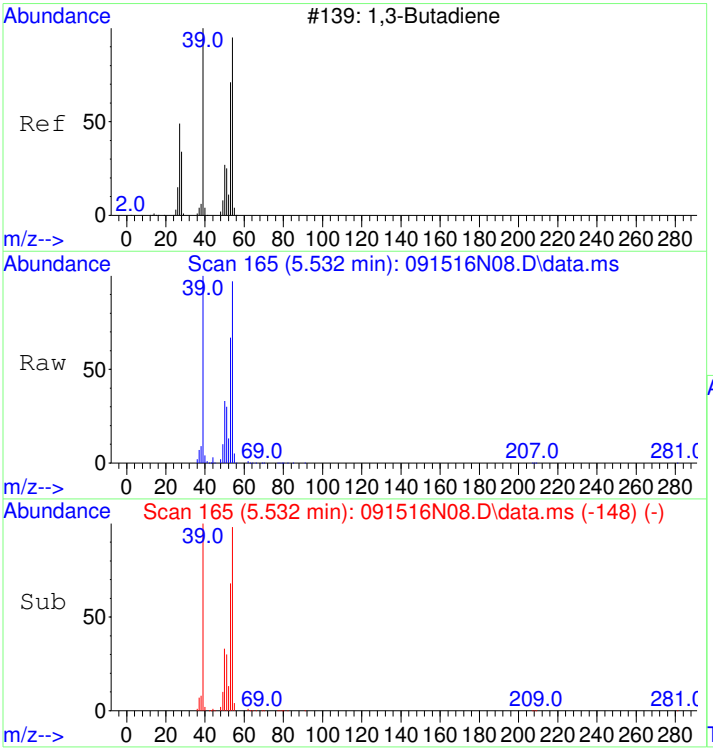


#6
Vinyl chloride
Concen: 9.64 ppbv
RT: 5.437 min Scan# 157
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 62 Resp: 403543

Ion	Ratio	Lower	Upper
62	100		
64	32.0	12.0	52.0

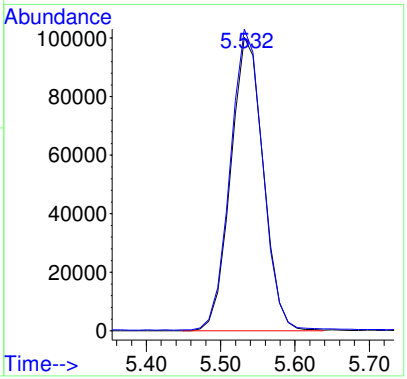


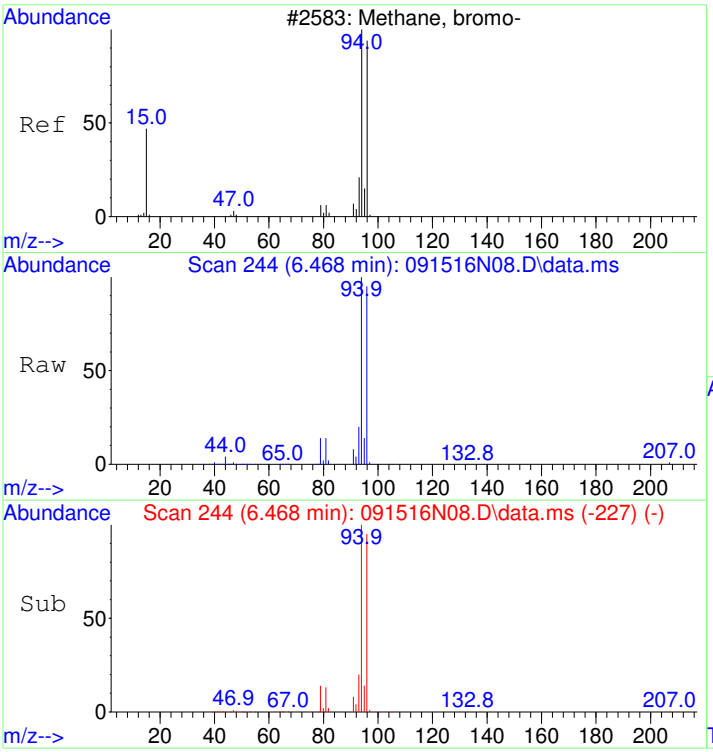


#7
1,3-Butadiene
Concen: 9.36 ppbv
RT: 5.532 min Scan# 165
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 54 Resp: 304796

Ion	Ratio	Lower	Upper
54	100		
39	102.4	82.4	122.4

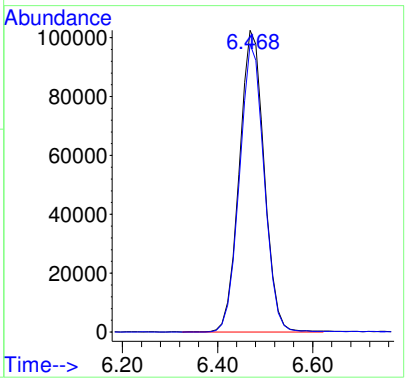


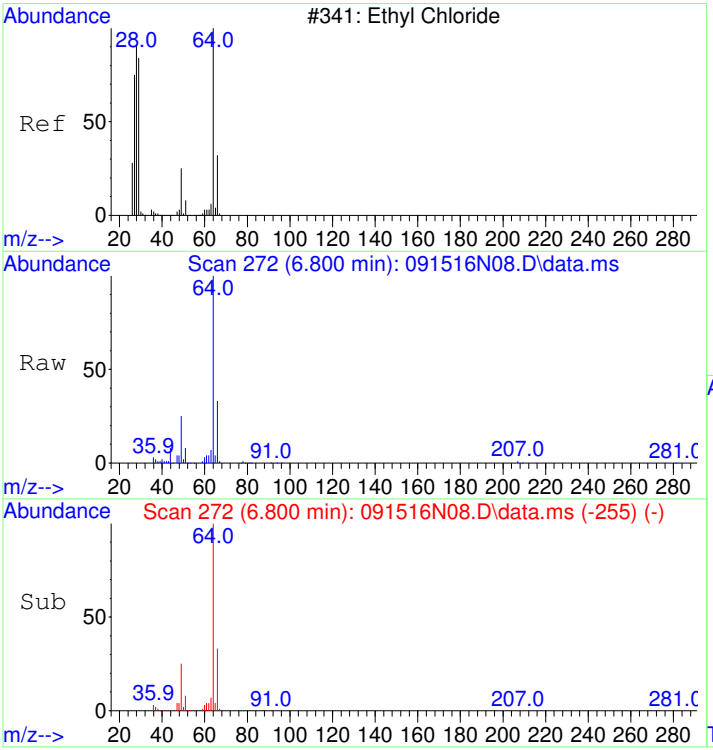


#8
Bromomethane
Concen: 9.27 ppbv
RT: 6.468 min Scan# 244
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 94 Resp: 372573

Ion	Ratio	Lower	Upper
94	100		
96	94.0	74.0	114.0

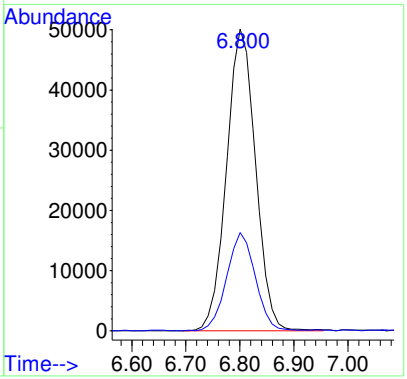


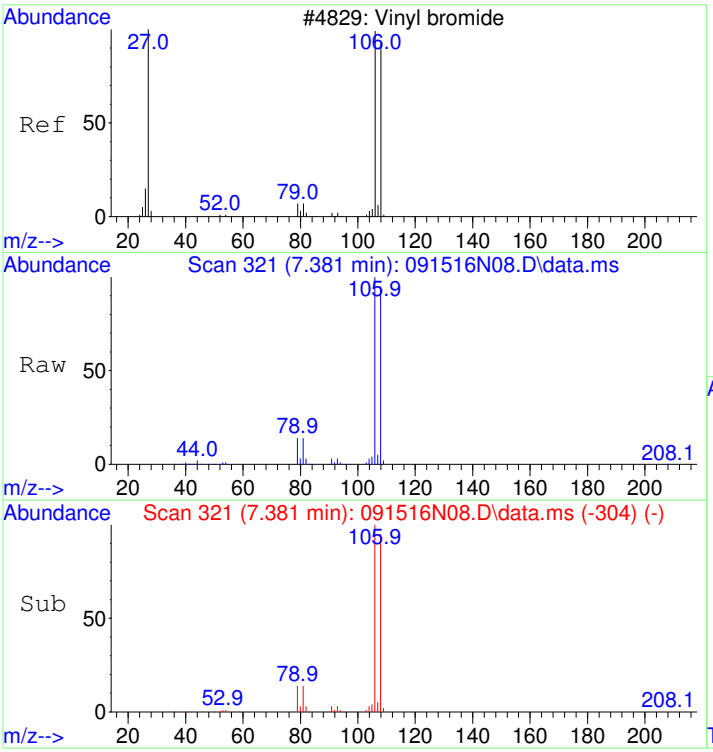


#9
Chloroethane
Concen: 9.21 ppbv
RT: 6.800 min Scan# 272
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 64 Resp: 187290

Ion	Ratio	Lower	Upper
64	100		
66	32.4	12.4	52.4

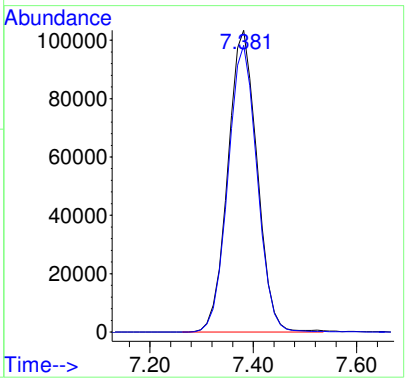


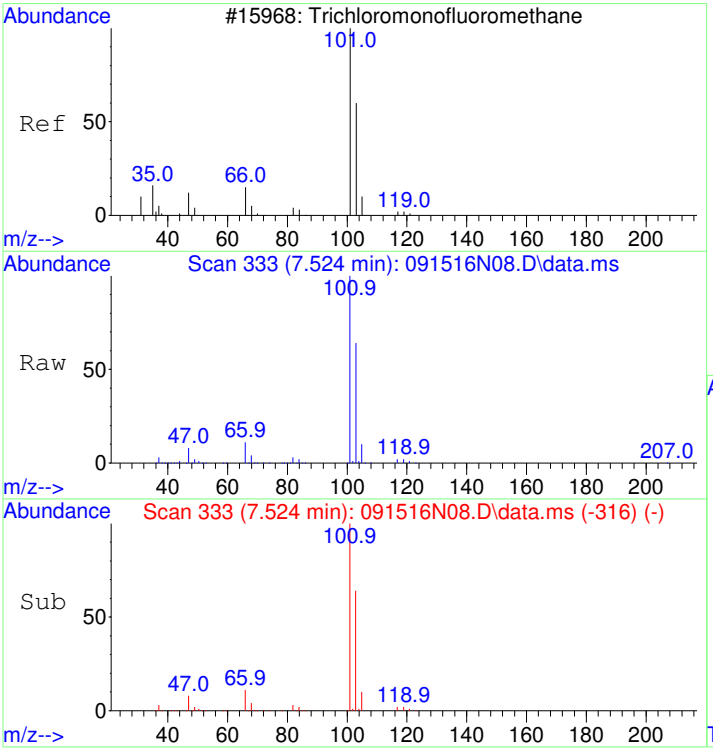


#10
Bromoethene
Concen: 10.22 ppbv
RT: 7.381 min Scan# 321
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion:106 Resp: 406116

Ion	Ratio	Lower	Upper
106	100		
108	94.4	0.0	214.4

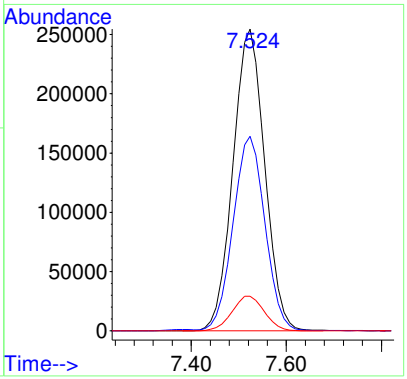


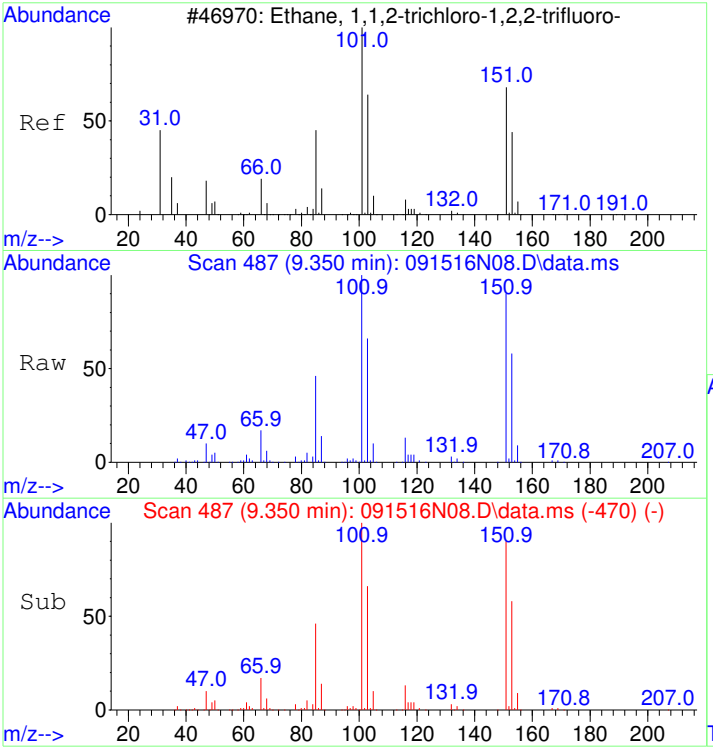


#11
Trichlorofluoromethane
Concen: 9.06 ppbv
RT: 7.524 min Scan# 333
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion:101 Resp: 1180425

Ion	Ratio	Lower	Upper
101	100		
103	64.4	44.4	84.4
66	11.7	0.0	31.7

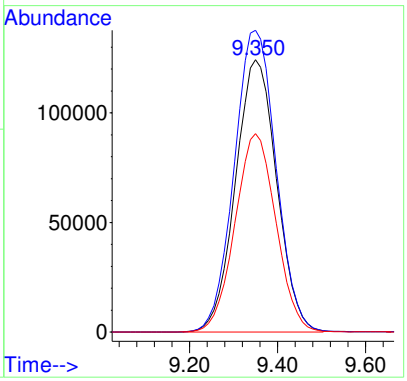


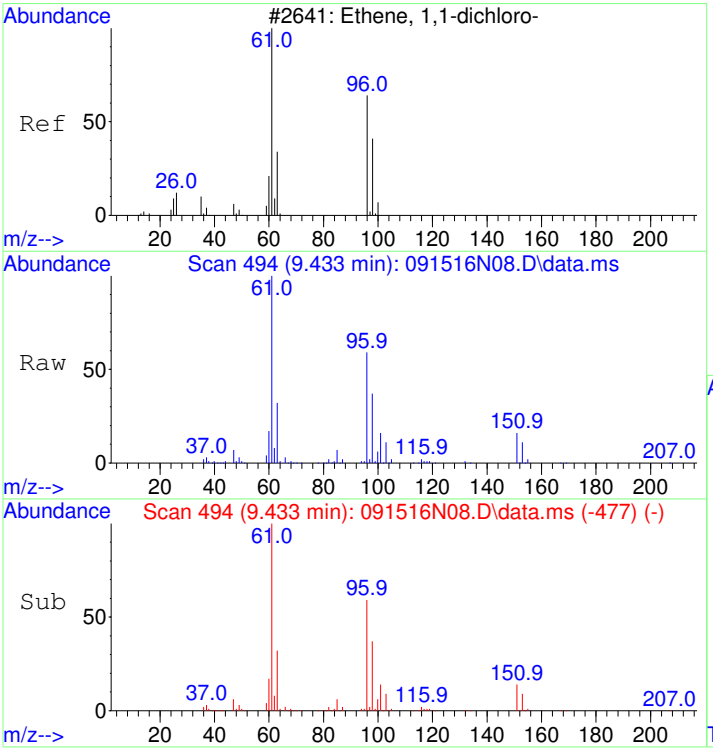


#12
1,1,2-Trichloro-1,2,2-trifluoroethane
Concen: 9.46 ppbv
RT: 9.350 min Scan# 487
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion:151 Resp: 811350

Ion	Ratio	Lower	Upper
151	100		
101	112.2	92.2	132.2
103	72.2	52.2	92.2

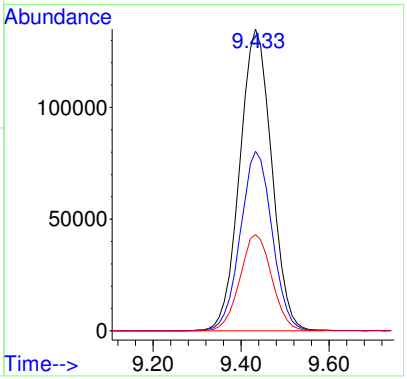


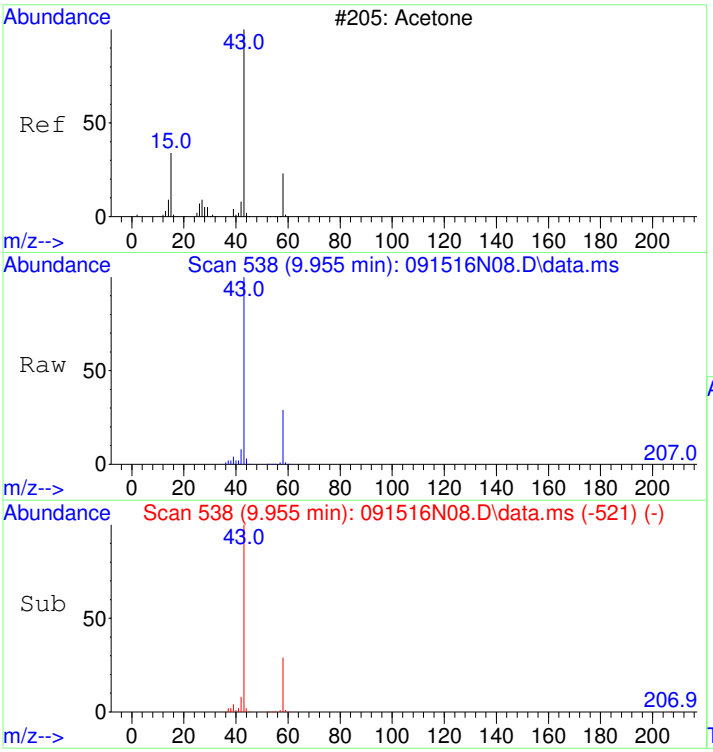


#13
1,1-Dichloroethene
Concen: 9.75 ppbv
RT: 9.433 min Scan# 494
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 61 Resp: 680701

Ion	Ratio	Lower	Upper
61	100		
96	59.4	39.4	79.4
63	32.0	12.0	52.0

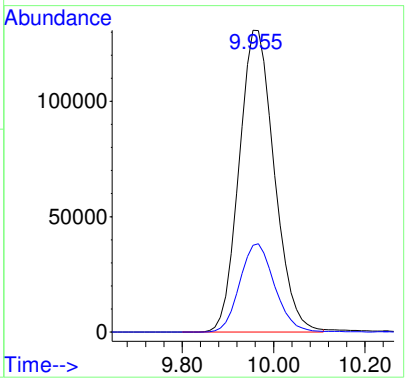


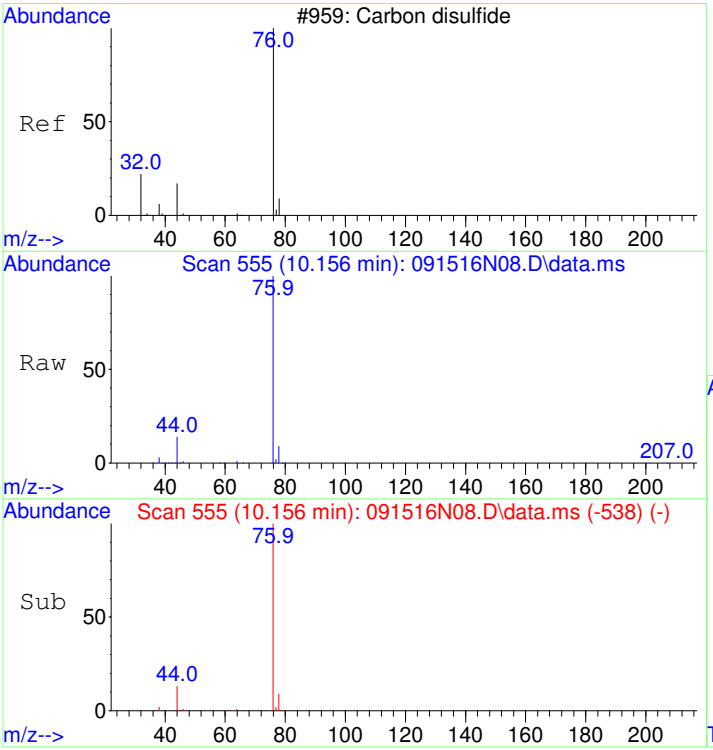


#14
Acetone
Concen: 11.01 ppbv
RT: 9.955 min Scan# 538
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 43 Resp: 698599

Ion	Ratio	Lower	Upper
43	100		
58	28.8	8.8	48.8

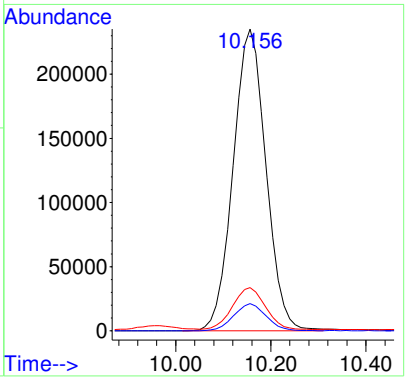


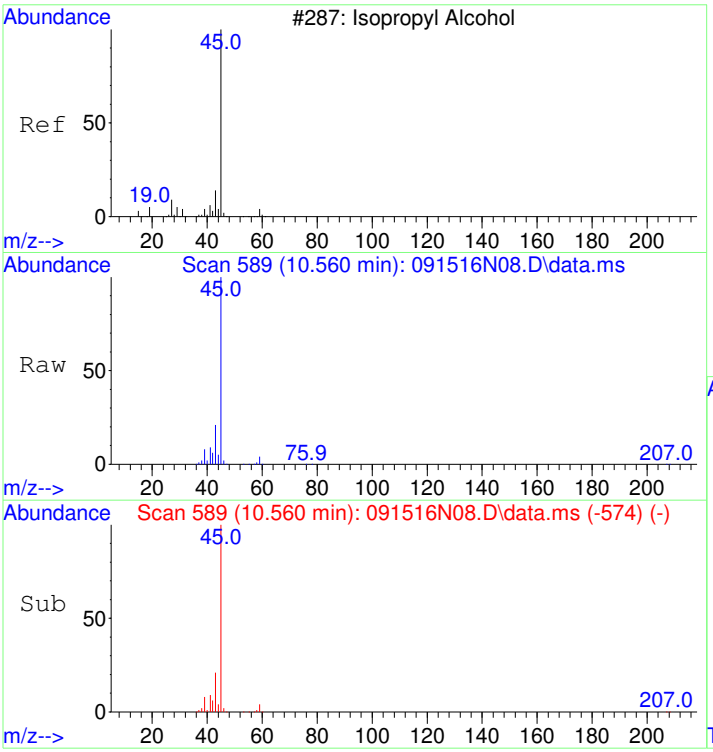


#15
Carbon disulfide
Concen: 10.17 ppbv
RT: 10.156 min Scan# 555
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 76 Resp: 1127512

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.0
44	13.8	0.0	33.8

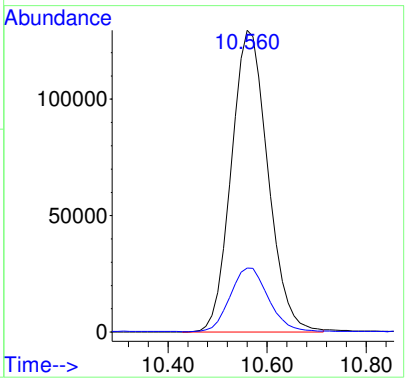


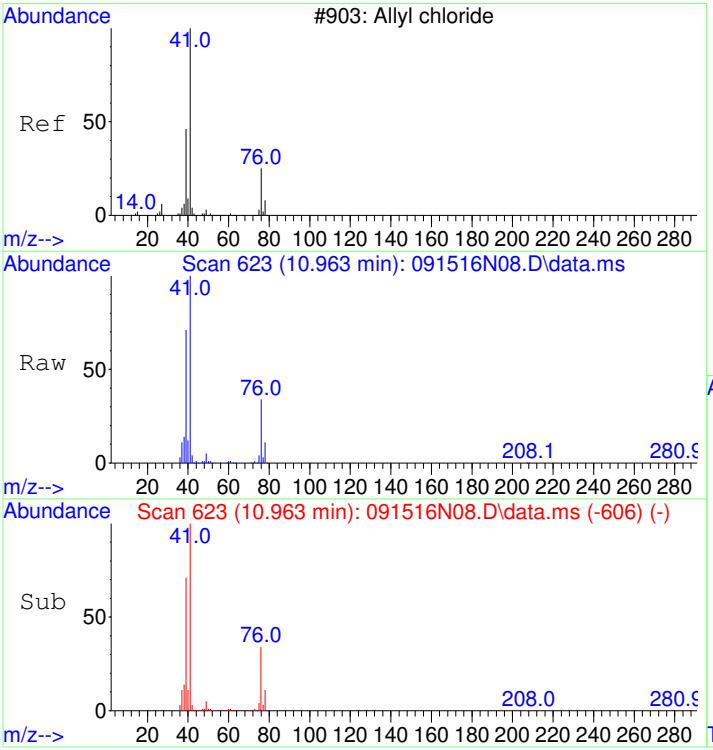


#16
2-Propanol
Concen: 10.64 ppbv
RT: 10.560 min Scan# 589
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 45 Resp: 664601

Ion	Ratio	Lower	Upper
45	100		
43	21.9	1.9	41.9

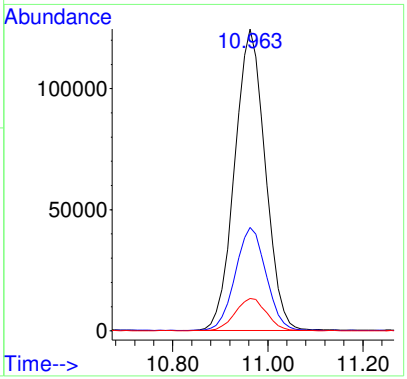


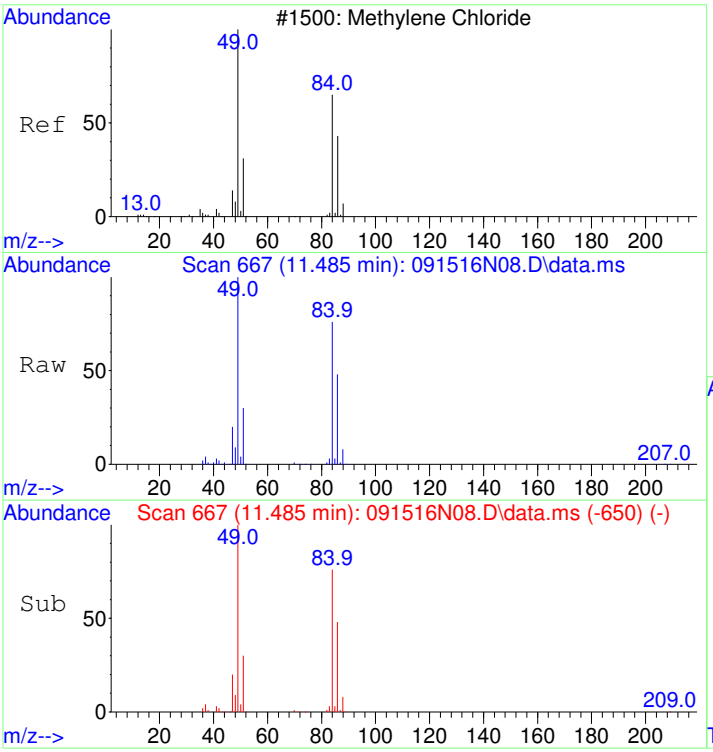


#17
Allyl chloride
Concen: 10.37 ppbv
RT: 10.963 min Scan# 623
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 41 Resp: 555013

Ion	Ratio	Lower	Upper
41	100		
76	34.5	14.5	54.5
78	11.2	0.0	31.2

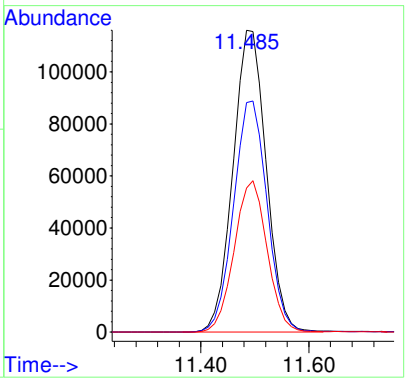


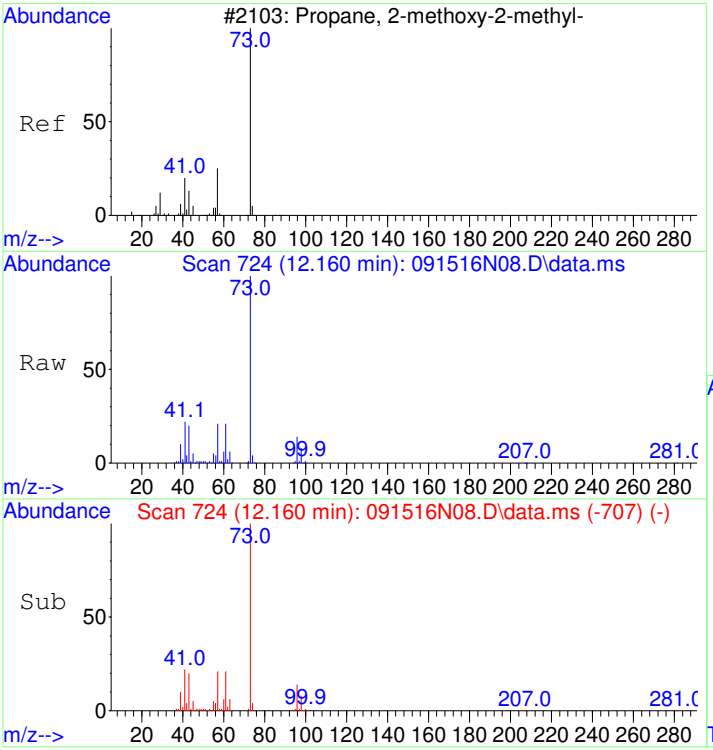


#18
Dichloromethane
Concen: 8.51 ppbv
RT: 11.485 min Scan# 667
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 49 Resp: 496581

Ion	Ratio	Lower	Upper
49	100		
84	77.2	57.2	97.2
86	49.6	29.6	69.6

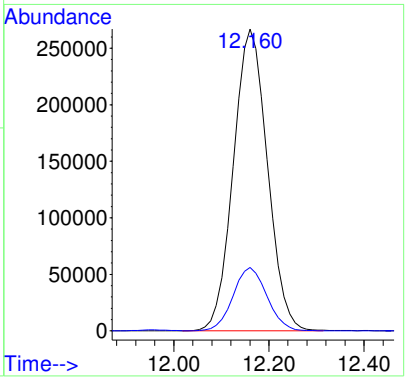


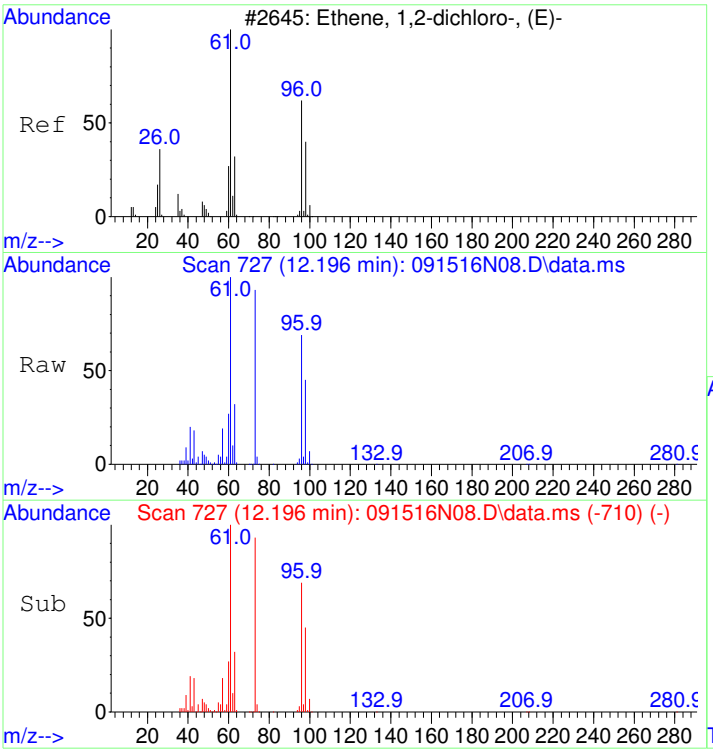


#19
tert-Butyl methyl ether (MTBE)
Concen: 11.39 ppbv
RT: 12.160 min Scan# 724
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 73 Resp: 1328780

Ion	Ratio	Lower	Upper
73	100		
57	20.9	0.9	40.9

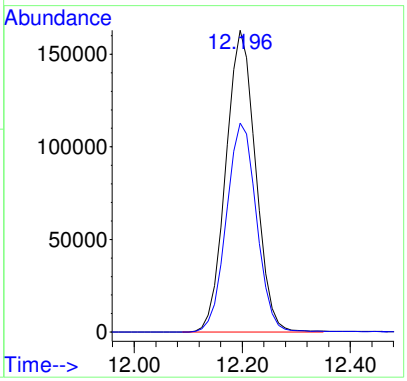


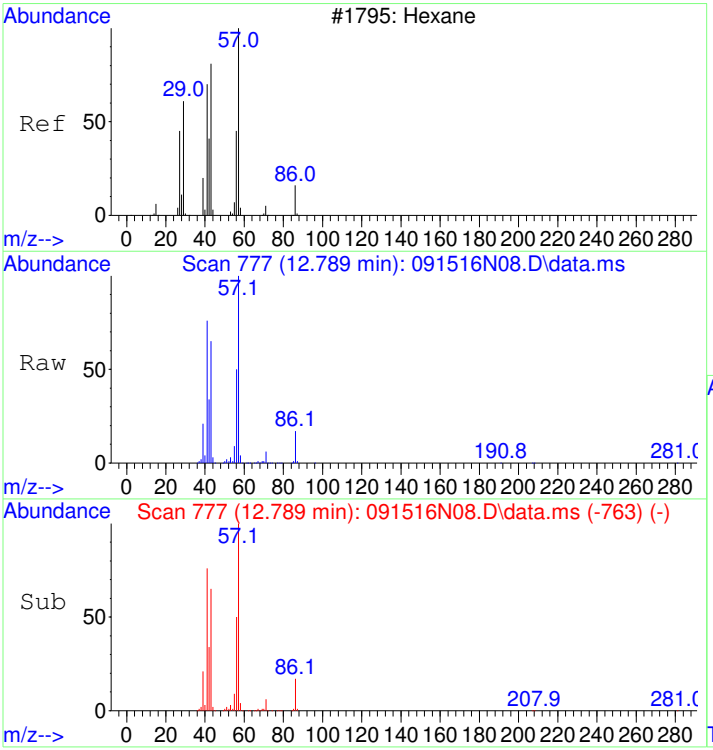


#20
trans-1,2-Dichloroethene
Concen: 10.13 ppbv
RT: 12.196 min Scan# 727
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 61 Resp: 623898

Ion	Ratio	Lower	Upper
61	100		
96	70.3	50.3	90.3

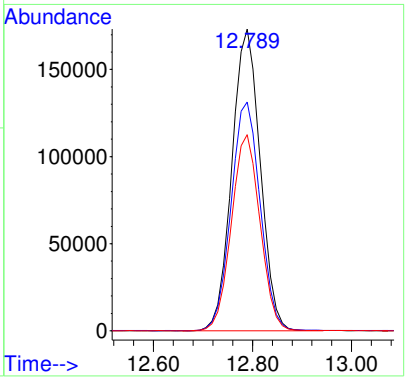


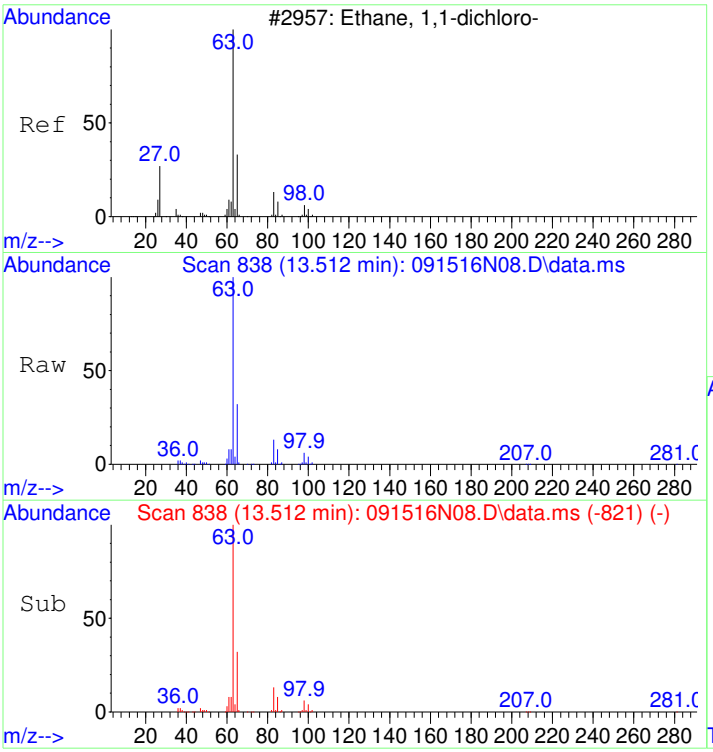


#21
Hexane
Concen: 9.84 ppbv
RT: 12.789 min Scan# 777
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 57 Resp: 689793

Ion	Ratio	Lower	Upper
57	100		
41	77.7	57.7	97.7
43	65.7	45.7	85.7

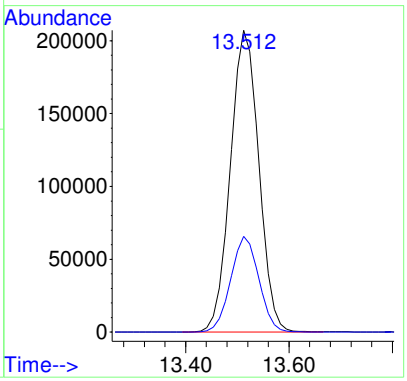


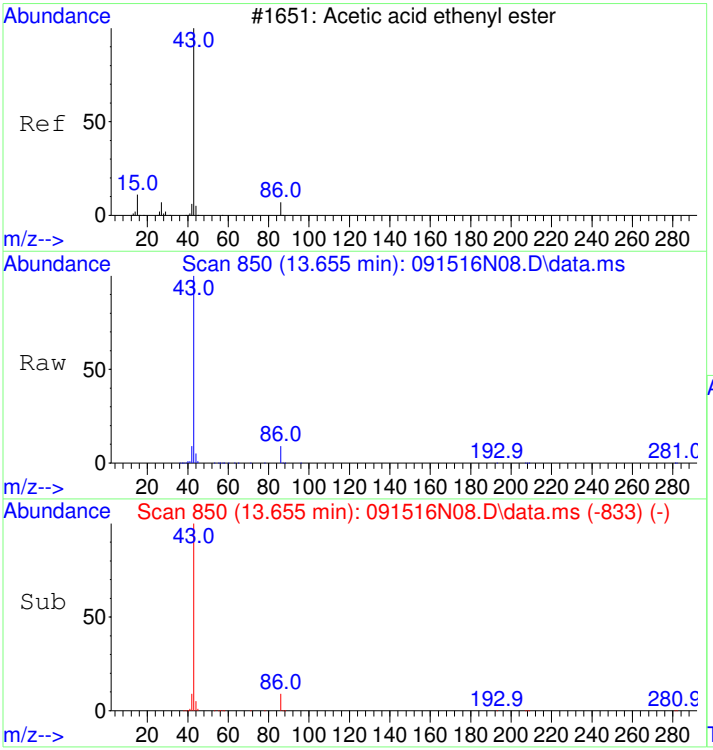


#22
1,1-Dichloroethane
Concen: 9.32 ppbv
RT: 13.512 min Scan# 838
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 63 Resp: 791932

Ion	Ratio	Lower	Upper
63	100		
65	31.3	11.3	51.3

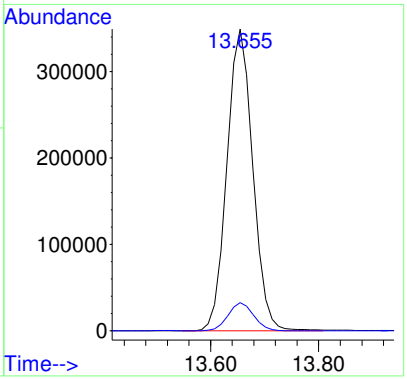


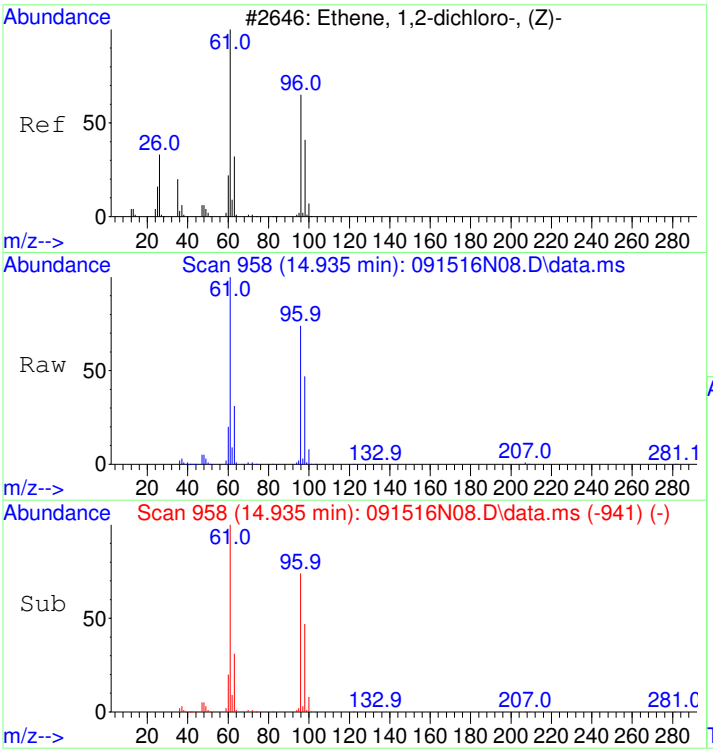


#23
Vinyl acetate
Concen: 11.33 ppbv
RT: 13.655 min Scan# 850
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 43 Resp: 1163435

Ion	Ratio	Lower	Upper
43	100		
86	9.3	0.0	29.3

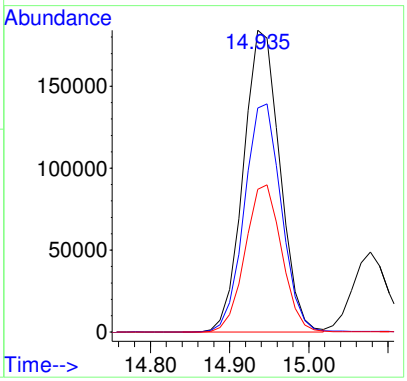


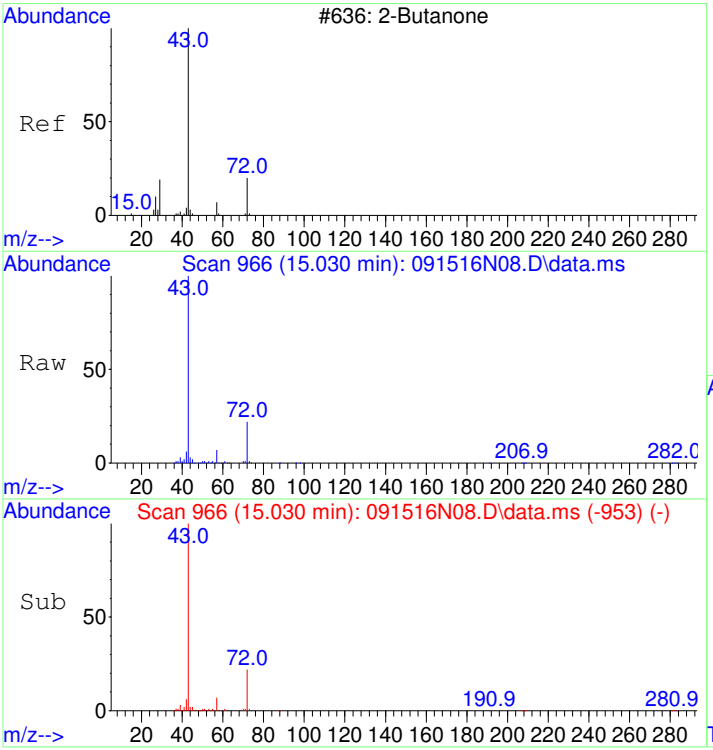


#24
cis-1,2-Dichloroethene
Concen: 9.97 ppbv
RT: 14.935 min Scan# 958
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 61 Resp: 589830

Ion	Ratio	Lower	Upper
61	100		
96	76.8	56.8	96.8
98	49.0	29.0	69.0

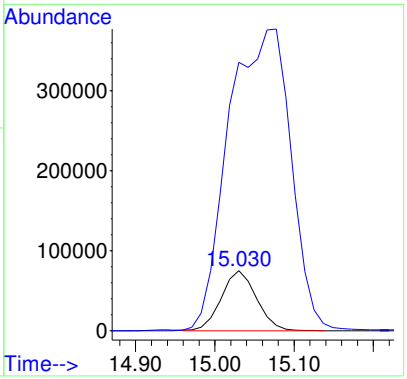


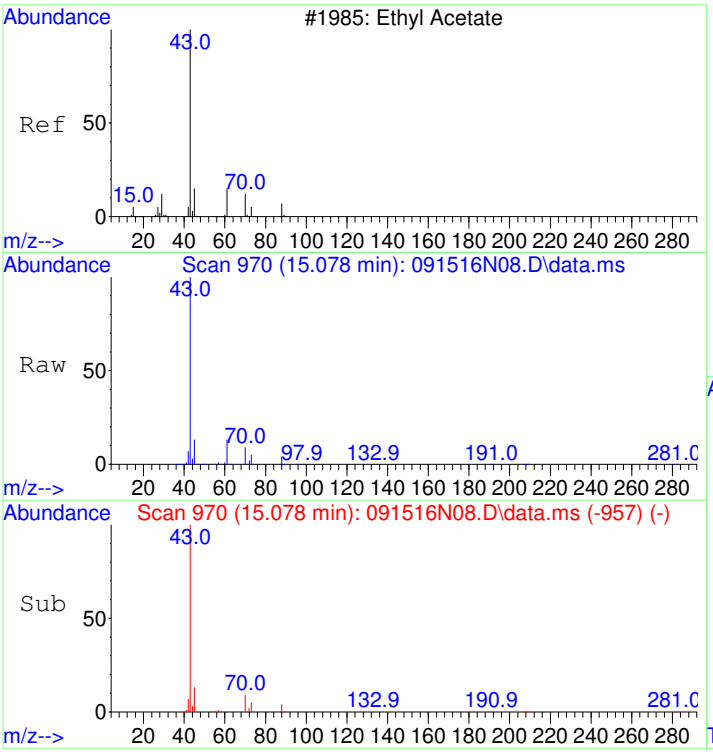


#25
2-Butanone (MEK)
Concen: 11.23 ppbv
RT: 15.030 min Scan# 966
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 72 Resp: 230674

Ion	Ratio	Lower	Upper
72	100		
43	376.2	366.2	386.2

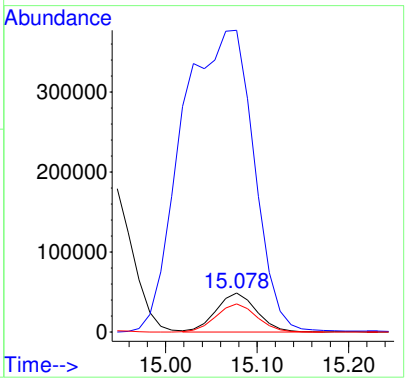


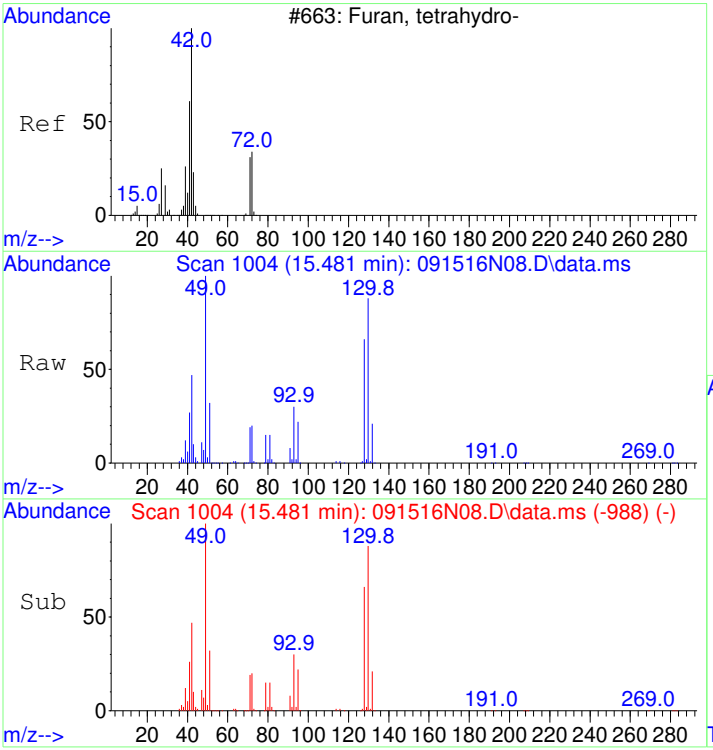


#26
Ethyl acetate
Concen: 10.97 ppbv
RT: 15.078 min Scan# 970
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 61 Resp: 149163

Ion	Ratio	Lower	Upper
61	100		
43	0.0	0.0	10.0
70	72.4	62.4	82.4

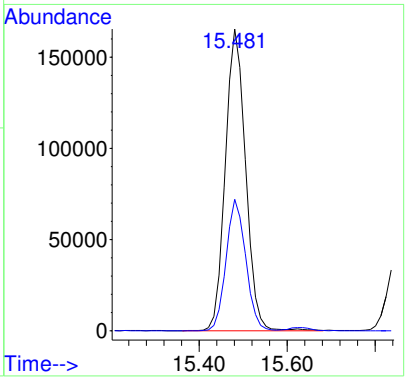


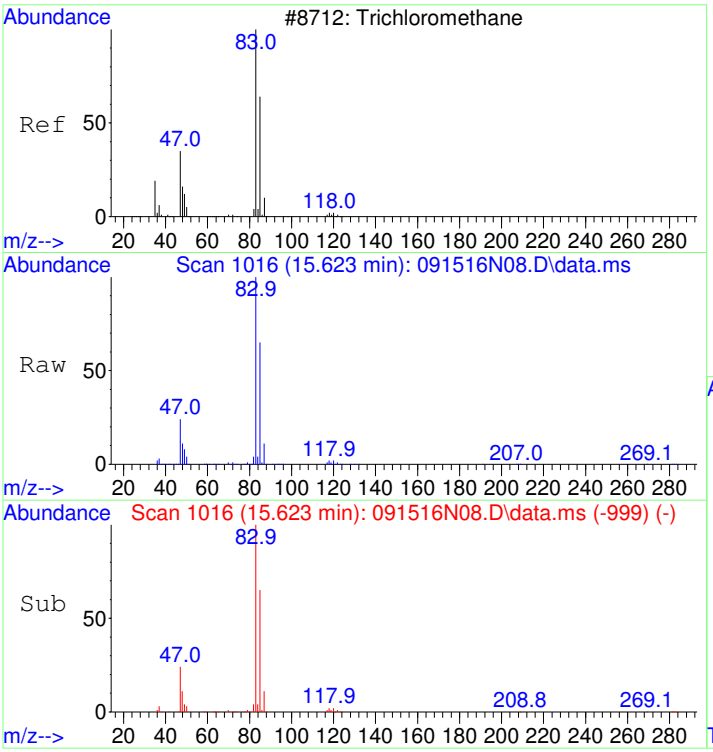


#27
Tetrahydrofuran
Concen: 10.52 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 42 Resp: 529302

Ion	Ratio	Lower	Upper
42	100		
72	42.2	22.2	62.2

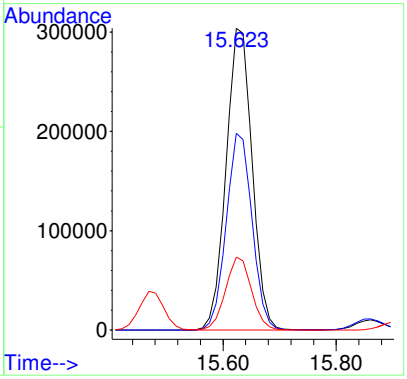


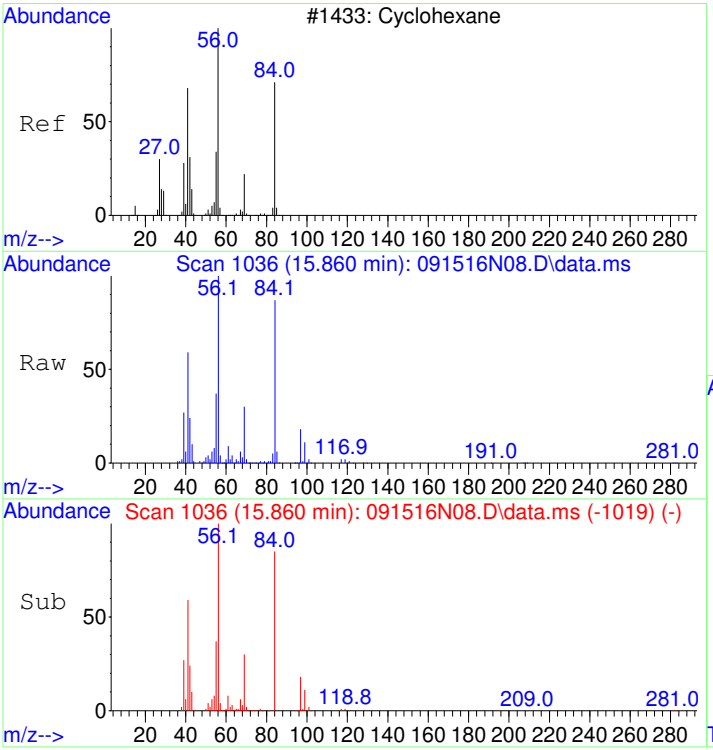


#28
Chloroform
Concen: 9.47 ppbv
RT: 15.623 min Scan# 1016
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 83 Resp: 975434

Ion	Ratio	Lower	Upper
83	100		
85	64.7	44.7	84.7
47	24.0	4.0	44.0

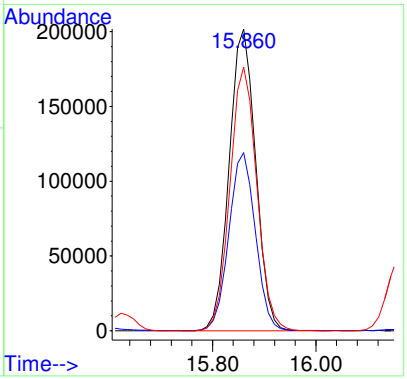


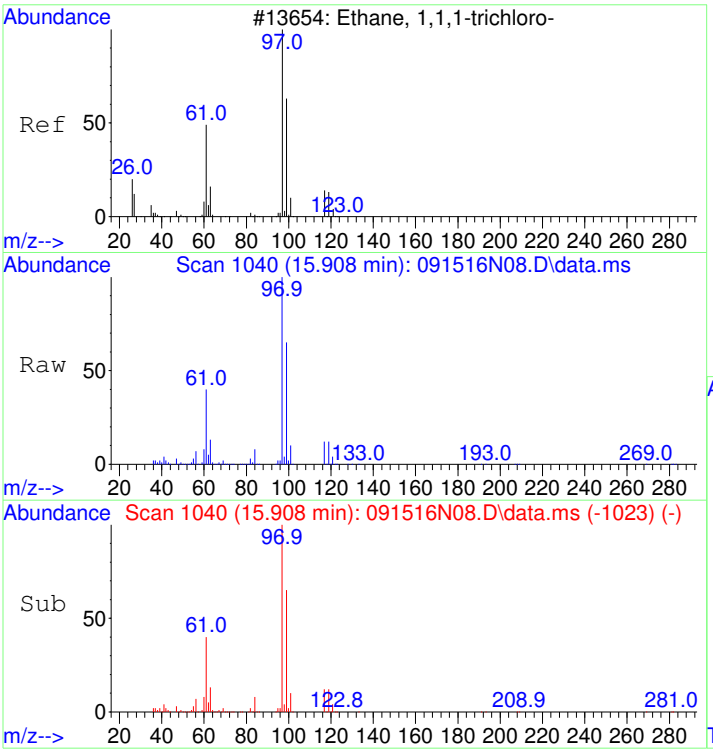


#29
Cyclohexane
Concen: 10.08 ppbv
RT: 15.860 min Scan# 1036
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 56 Resp: 719821

Ion	Ratio	Lower	Upper
56	100		
41	58.7	38.7	78.7
84	88.5	68.5	108.5

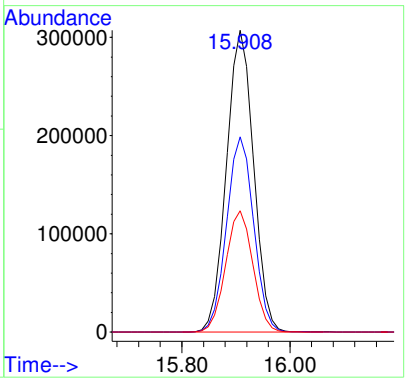


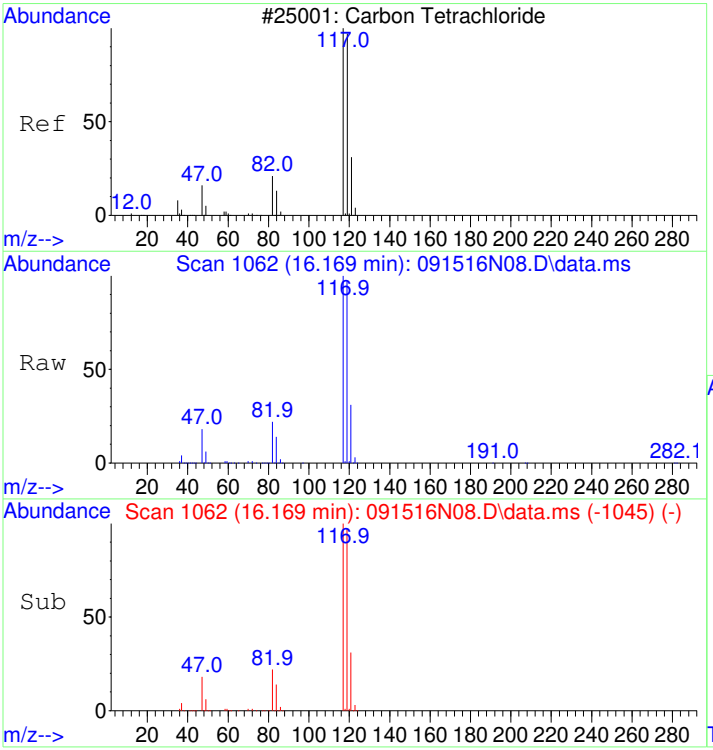


#30
1,1,1-Trichloroethane
Concen: 9.22 ppbv
RT: 15.908 min Scan# 1040
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 97 Resp: 1073165

Ion	Ratio	Lower	Upper
97	100		
99	64.7	44.7	84.7
61	40.4	20.4	60.4

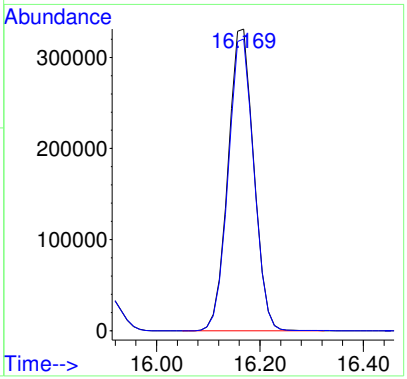


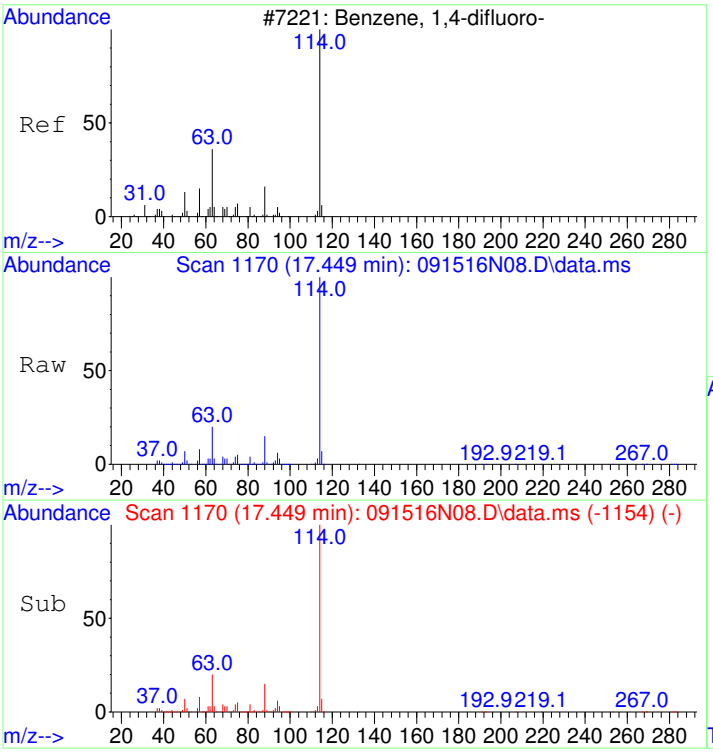


#31
Carbon tetrachloride
Concen: 9.18 ppbv
RT: 16.169 min Scan# 1062
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion:117 Resp: 1145231

Ion	Ratio	Lower	Upper
117	100		
119	96.6	76.6	116.6

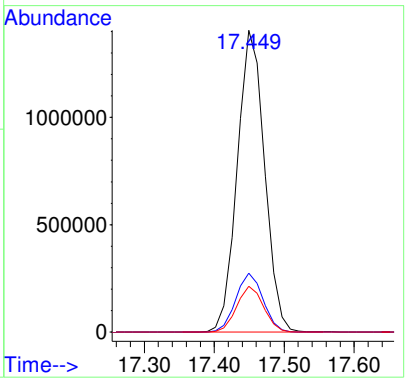


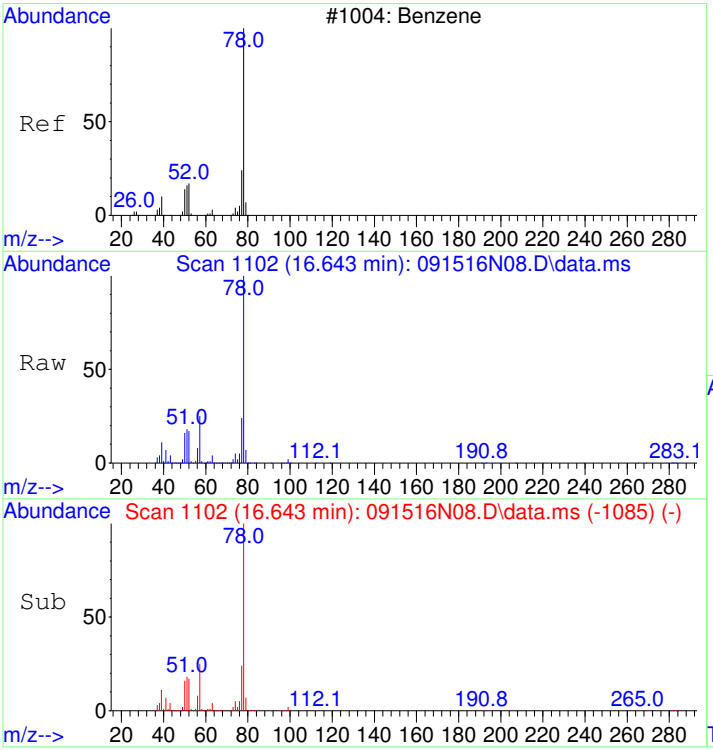


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.449 min Scan# 1170
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion:114 Resp: 3799063

Ion	Ratio	Lower	Upper
114	100		
63	19.5	0.0	39.5
88	15.0	0.0	35.0

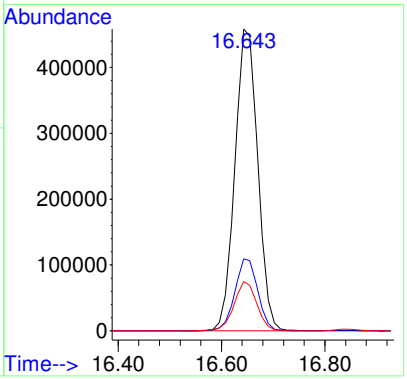


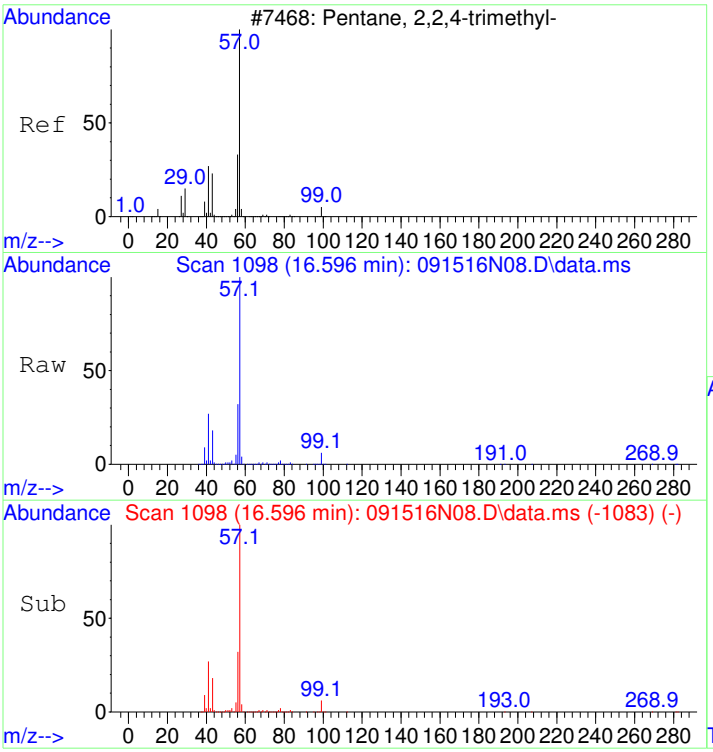


#33
Benzene
Concen: 9.71 ppbv
RT: 16.643 min Scan# 1102
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 78 Resp: 1406907

Ion	Ratio	Lower	Upper
78	100		
77	24.0	4.0	44.0
50	16.4	0.0	36.4

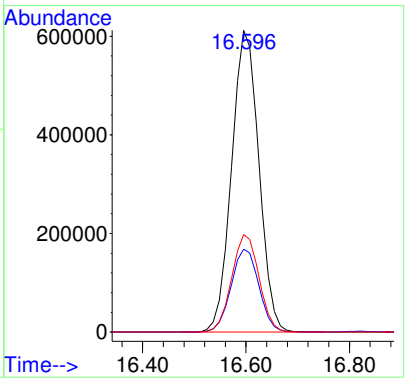


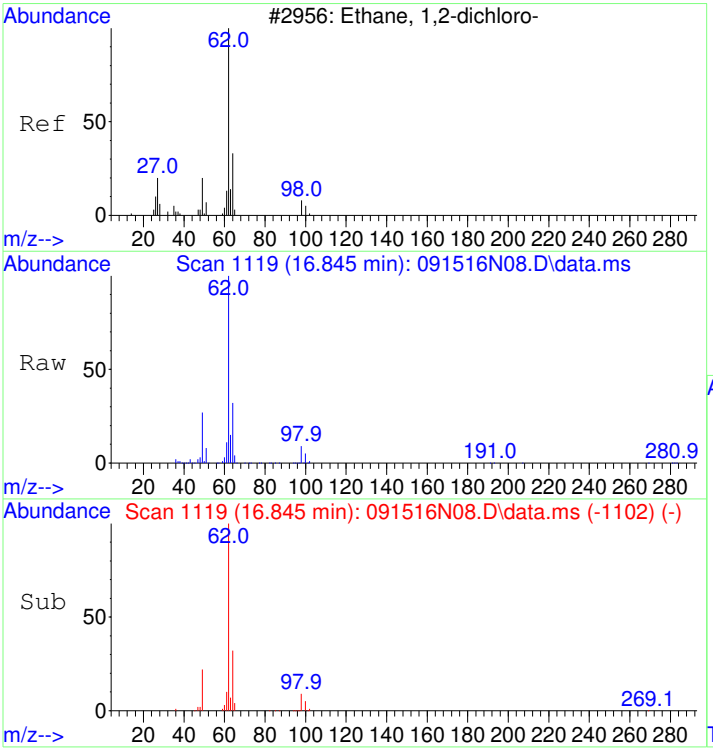


#34
2,2,4-Trimethylpentane
Concen: 10.25 ppbv
RT: 16.596 min Scan# 1098
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 57 Resp: 2239711

Ion	Ratio	Lower	Upper
57	100		
41	28.1	8.1	48.1
56	32.4	12.4	52.4

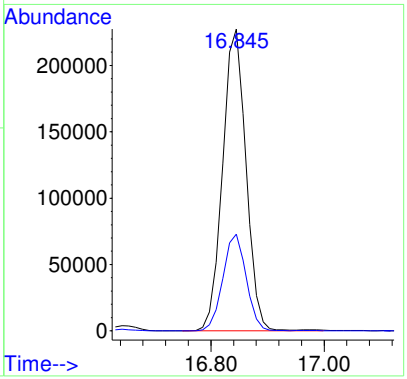


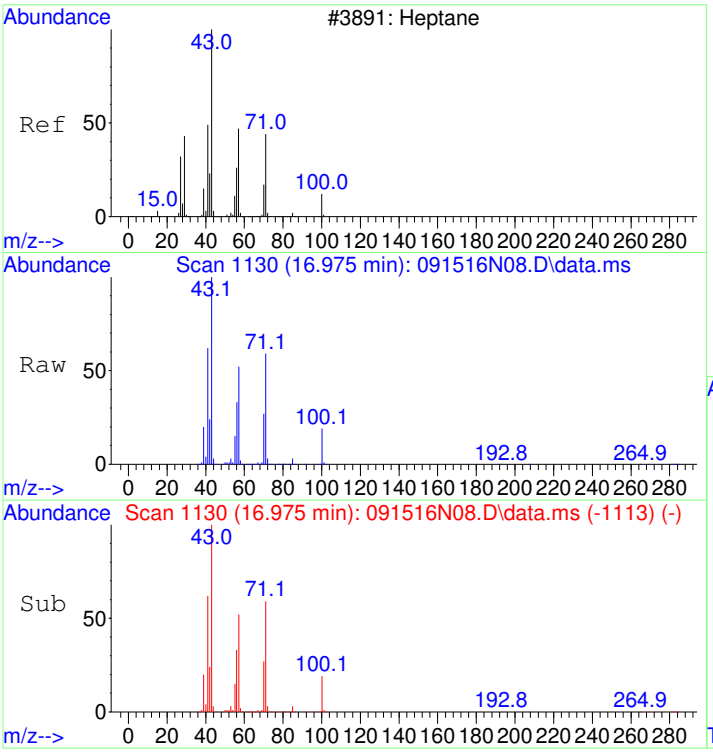


#35
1,2-Dichloroethane
Concen: 9.56 ppbv
RT: 16.845 min Scan# 1119
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 62 Resp: 652652

Ion	Ratio	Lower	Upper
62	100		
64	32.0	12.0	52.0

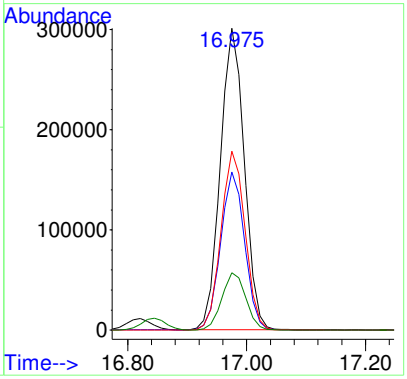


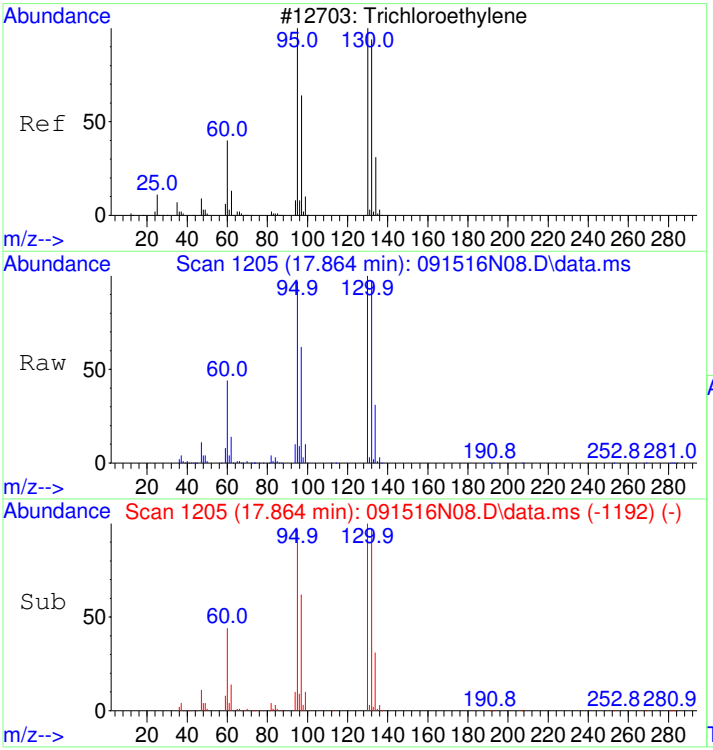


#36
Heptane
Concen: 10.37 ppbv
RT: 16.975 min Scan# 1130
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 43 Resp: 845659

Ion	Ratio	Lower	Upper
43	100		
57	52.4	32.4	72.4
71	59.4	39.4	79.4
100	19.0	0.0	39.0

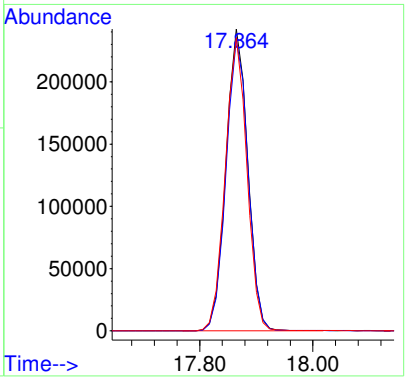


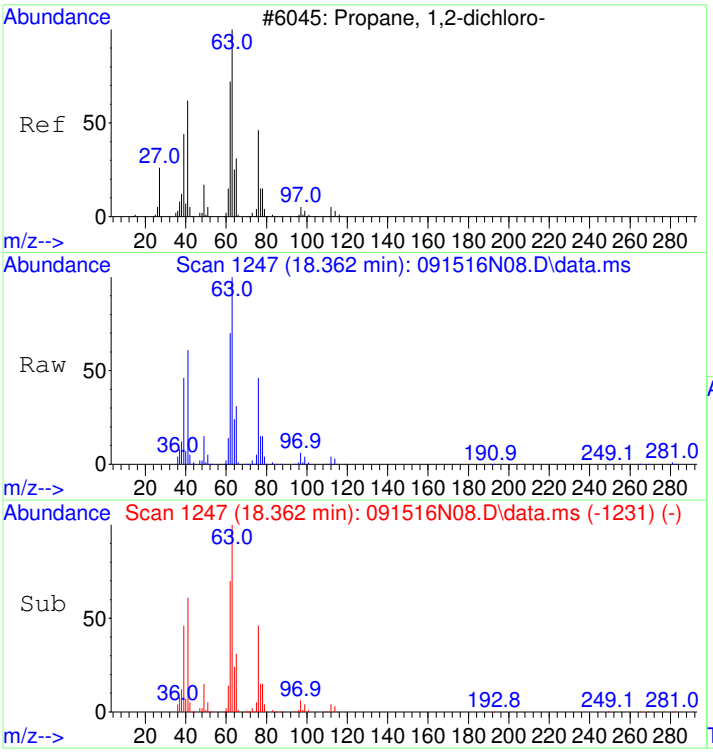


#37
Trichloroethene
Concen: 10.47 ppbv
RT: 17.864 min Scan# 1205
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion:130 Resp: 651522

Ion	Ratio	Lower	Upper
130	100		
132	97.1	77.1	117.1
95	96.1	76.1	116.1

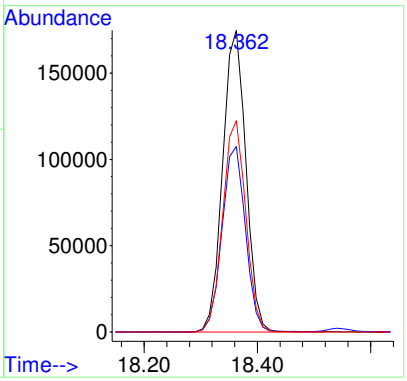


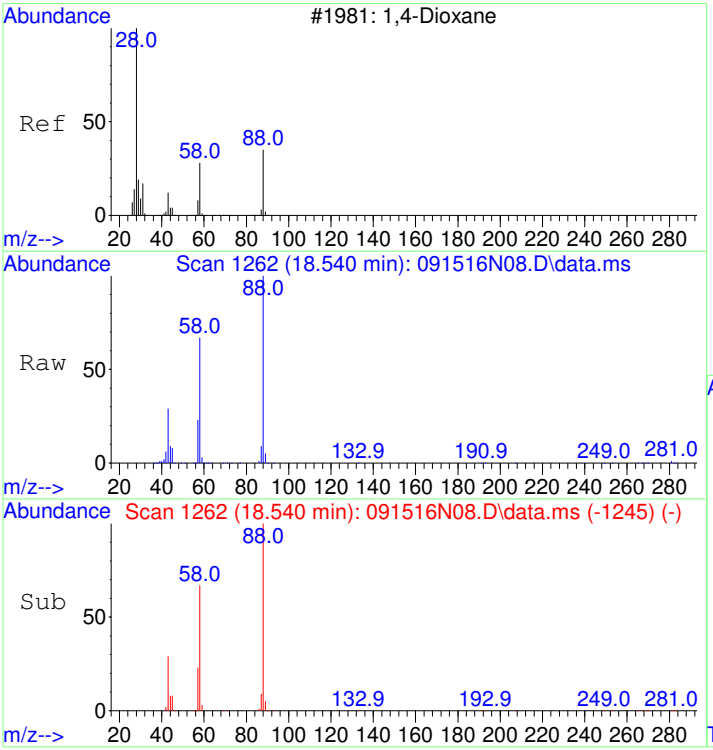


#38
1,2-Dichloropropane
Concen: 10.00 ppbv
RT: 18.362 min Scan# 1247
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 63 Resp: 498772

Ion	Ratio	Lower	Upper
63	100		
41	61.8	41.8	81.8
62	69.9	49.9	89.9

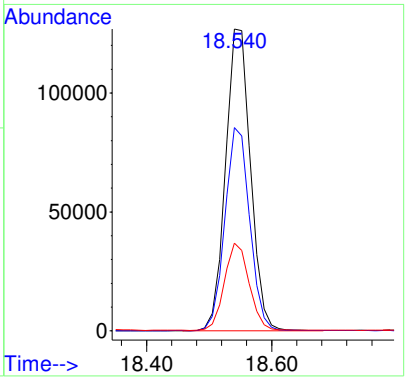


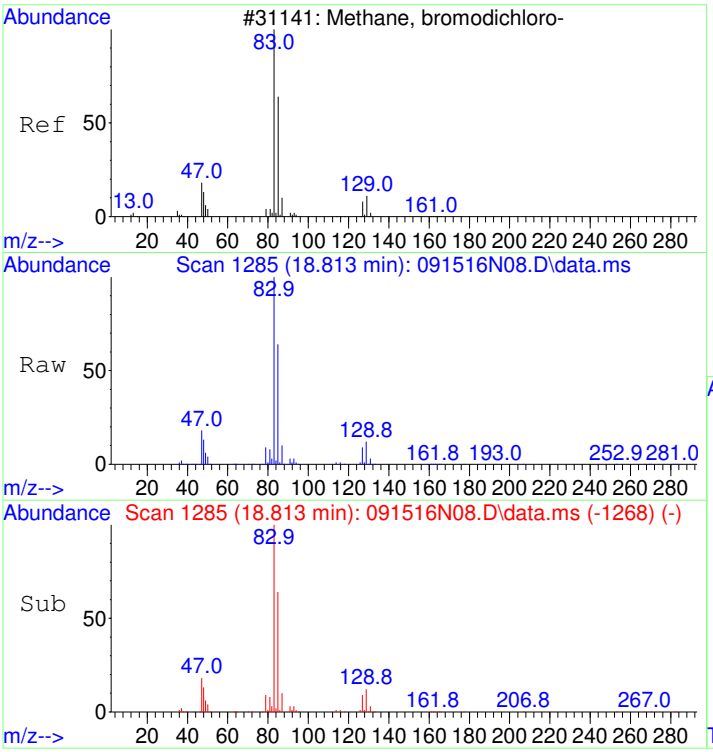


#39
1,4-Dioxane
Concen: 10.78 ppbv
RT: 18.540 min Scan# 1262
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 88 Resp: 353398

Ion	Ratio	Lower	Upper
88	100		
58	67.1	47.1	87.1
43	28.6	8.6	48.6

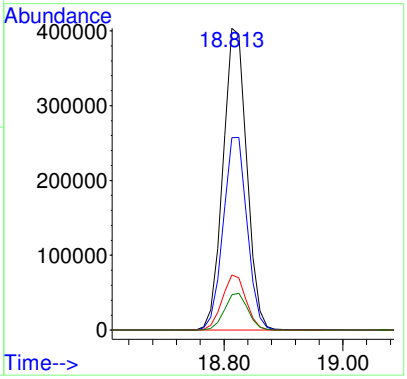


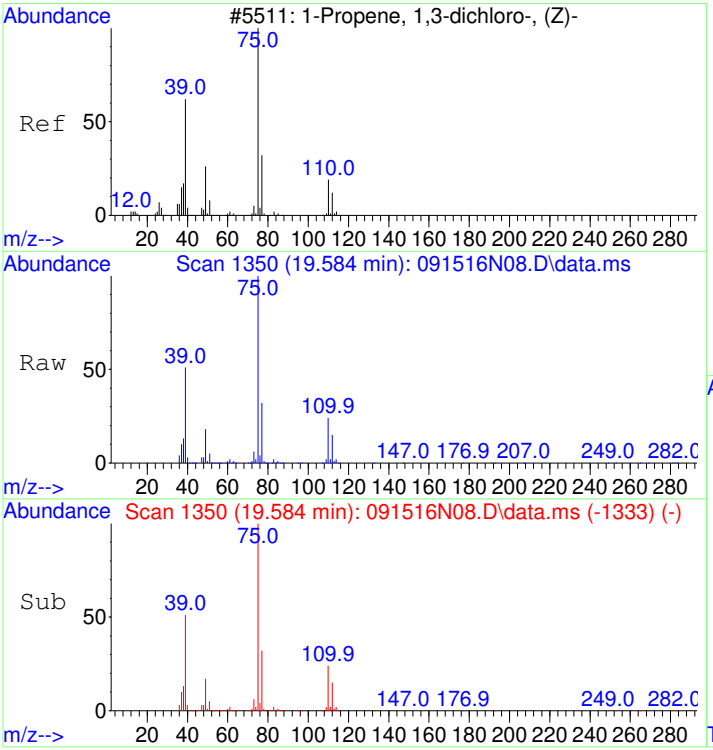


#40
Bromodichloromethane
Concen: 10.39 ppbv
RT: 18.813 min Scan# 1285
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 83 Resp: 1122047

Ion	Ratio	Lower	Upper
83	100		
85	64.3	44.3	84.3
47	18.3	0.0	38.3
129	12.0	0.0	32.0

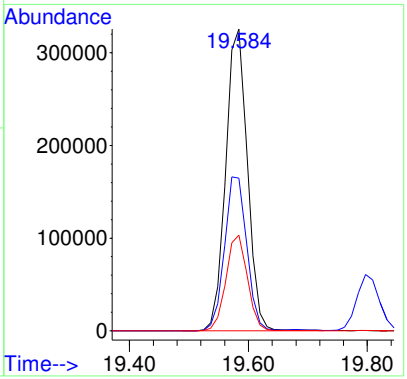


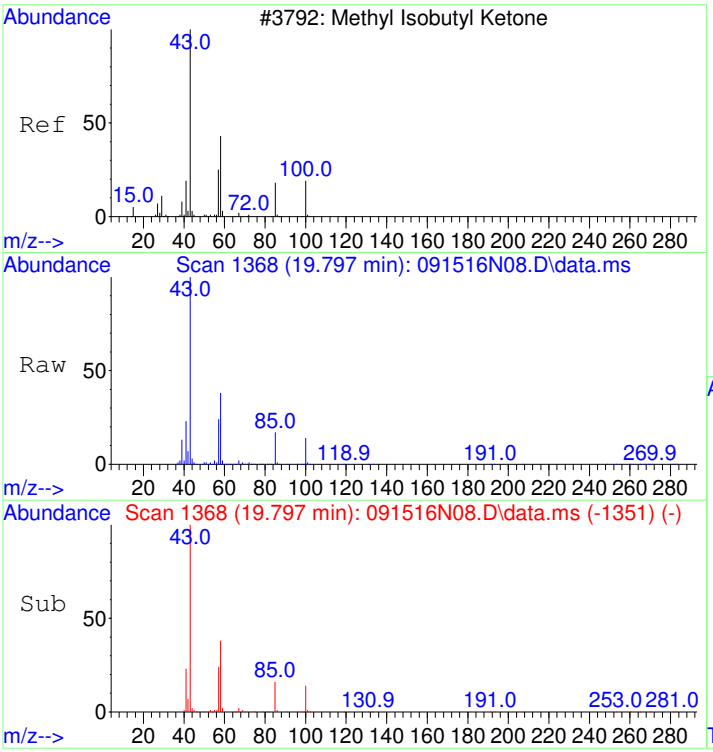


#41
cis-1,3-Dichloropropene
Concen: 11.07 ppbv
RT: 19.584 min Scan# 1350
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 75 Resp: 828152

Ion	Ratio	Lower	Upper
75	100		
39	53.0	33.0	73.0
77	31.6	11.6	51.6

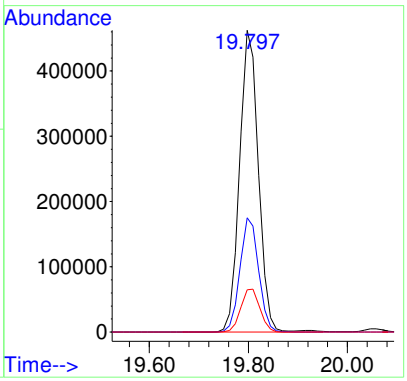


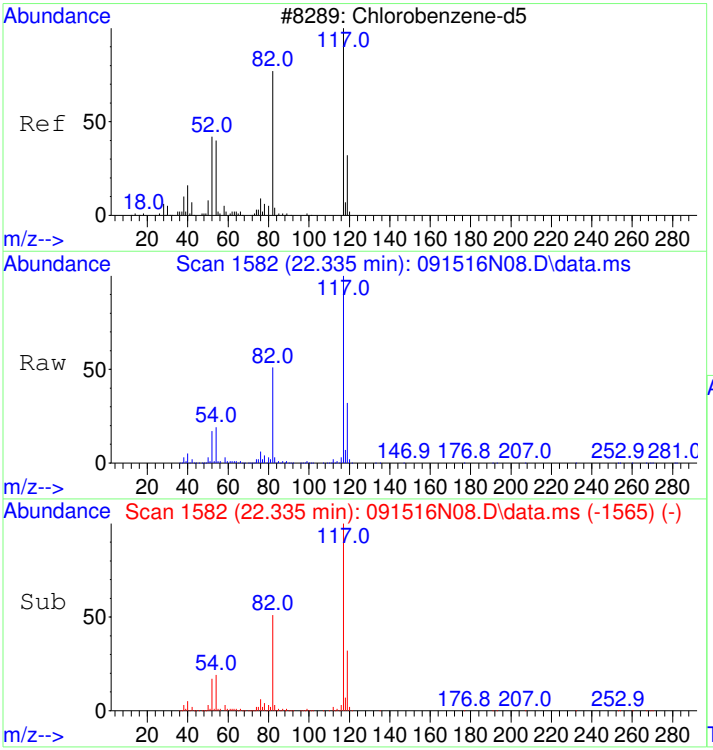


#42
4-Methyl-2-pentanone (MIBK)
Concen: 10.46 ppbv
RT: 19.797 min Scan# 1368
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 43 Resp: 1220061

Ion	Ratio	Lower	Upper
43	100		
58	37.6	17.6	57.6
100	14.6	0.0	34.6

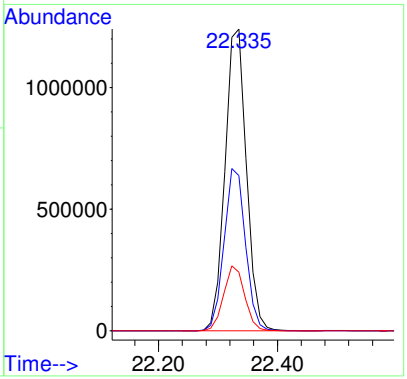


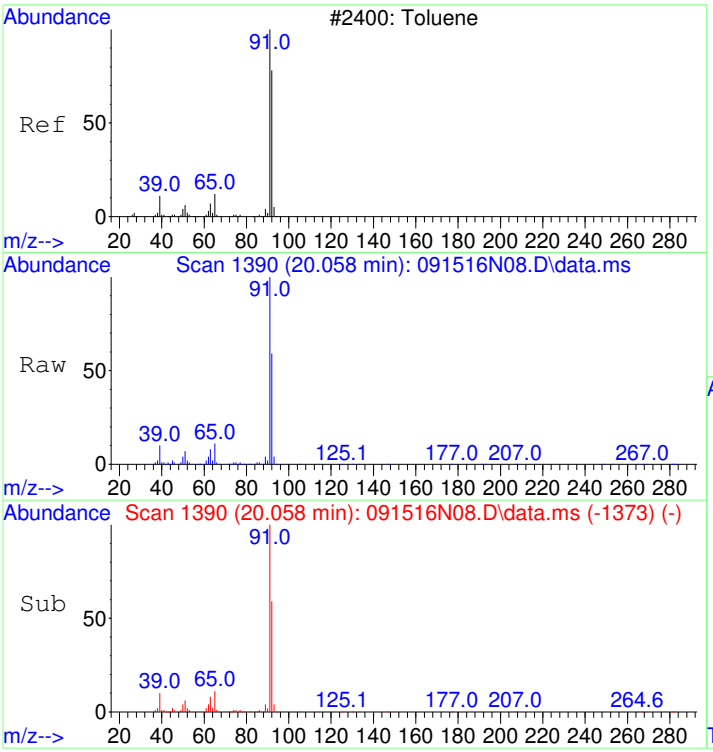


#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.335 min Scan# 1582
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion:117 Resp: 3115587

Ion	Ratio	Lower	Upper
117	100		
82	53.7	33.7	73.7
54	21.1	1.1	41.1

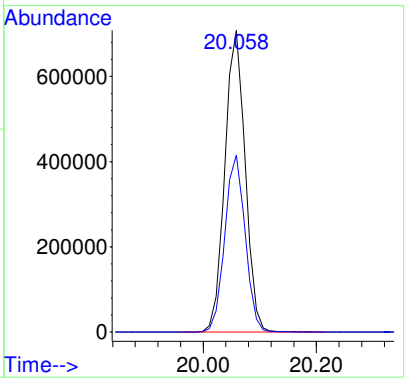


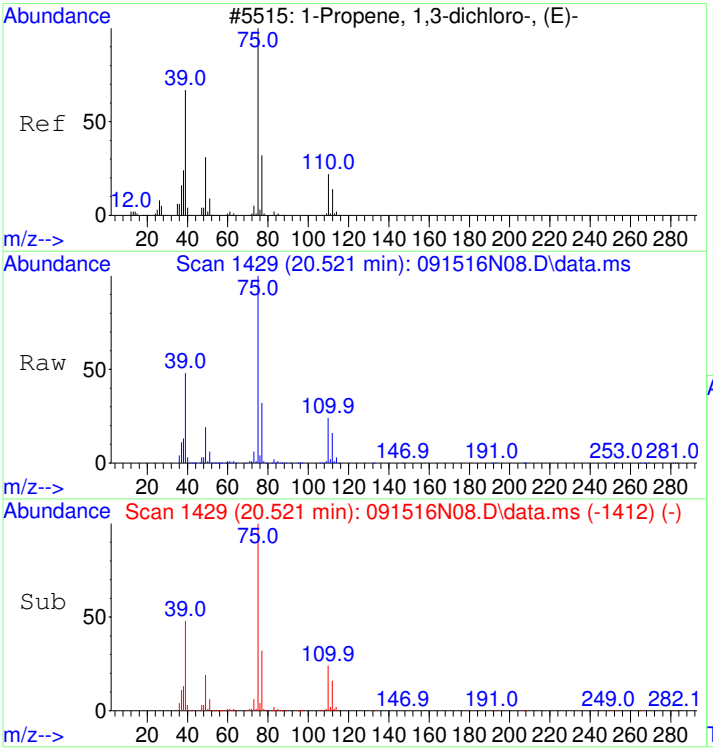


#44
Toluene
Concen: 10.51 ppbv
RT: 20.058 min Scan# 1390
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 91 Resp: 1766486

Ion	Ratio	Lower	Upper
91	100		
92	58.7	38.7	78.7

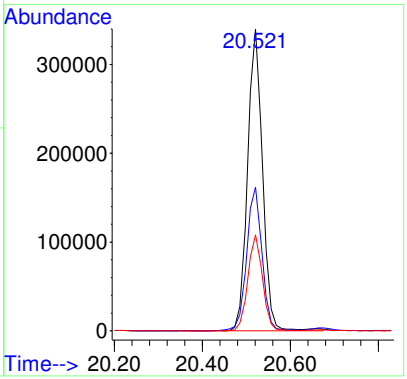


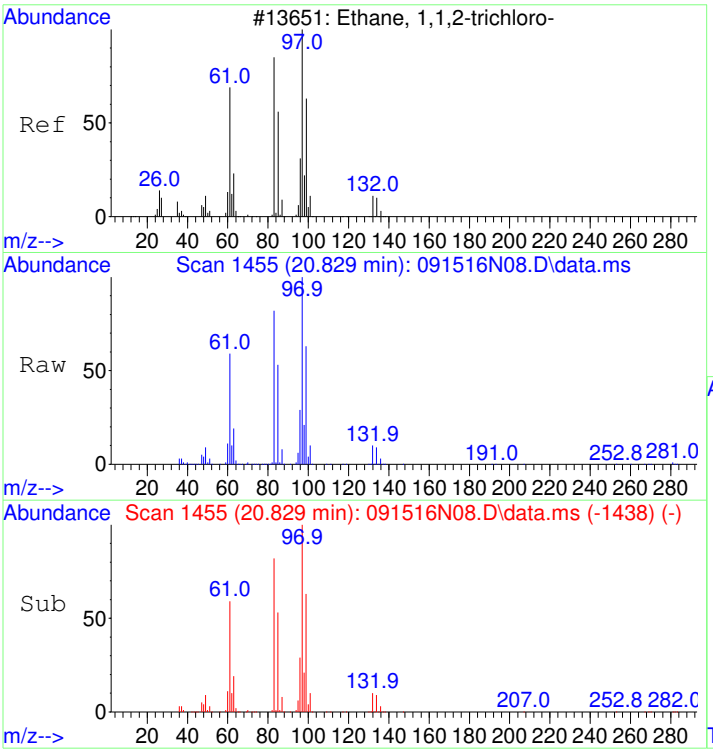


#45
trans-1,3-Dichloropropene
Concen: 10.99 ppbv
RT: 20.521 min Scan# 1429
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 75 Resp: 807293

Ion	Ratio	Lower	Upper
75	100		
39	48.6	28.6	68.6
77	31.3	11.3	51.3

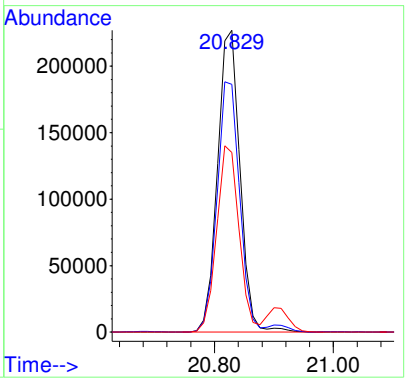


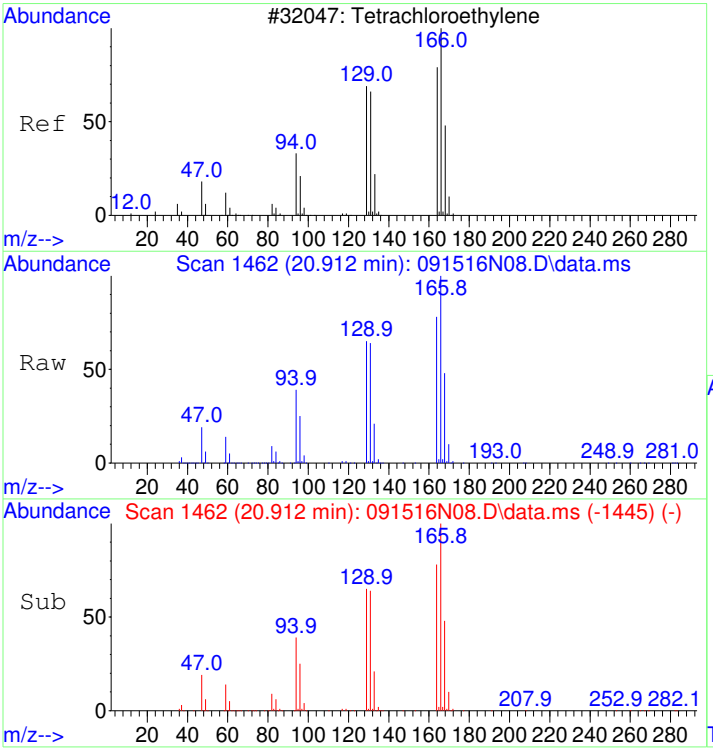


#46
1,1,2-Trichloroethane
Concen: 10.65 ppbv
RT: 20.829 min Scan# 1455
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 97 Resp: 597747

Ion	Ratio	Lower	Upper
97	100		
83	85.3	65.3	105.3
61	58.3	38.3	78.3

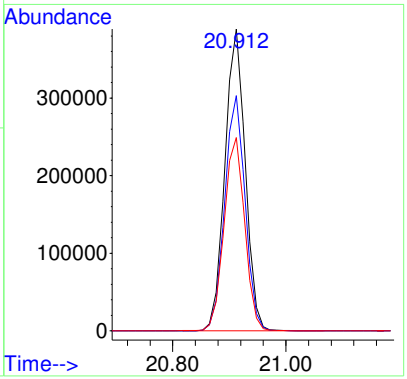


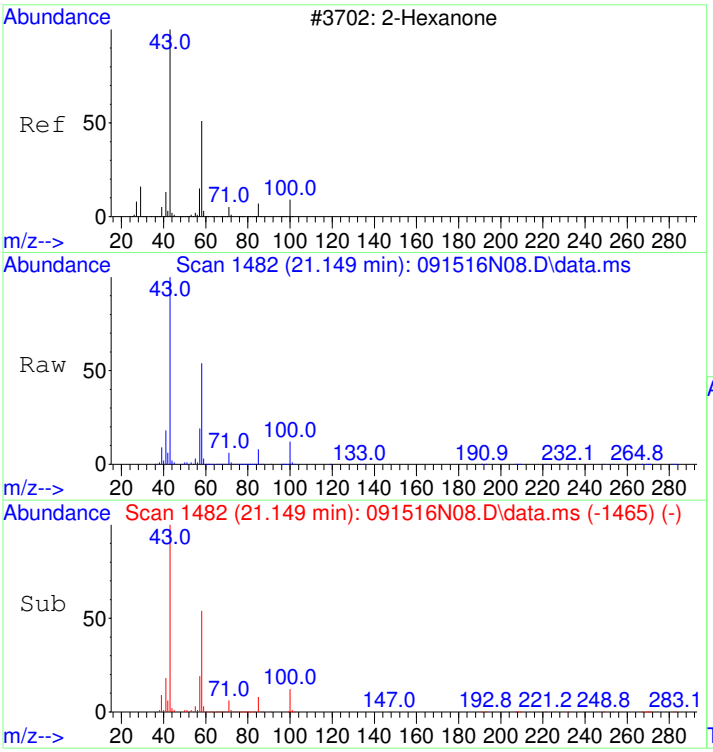


#47
Tetrachloroethene
Concen: 10.57 ppbv
RT: 20.912 min Scan# 1462
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion:166 Resp: 969612

Ion	Ratio	Lower	Upper
166	100		
164	78.1	58.1	98.1
131	65.2	45.2	85.2

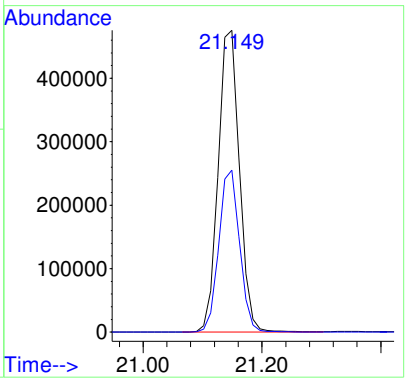


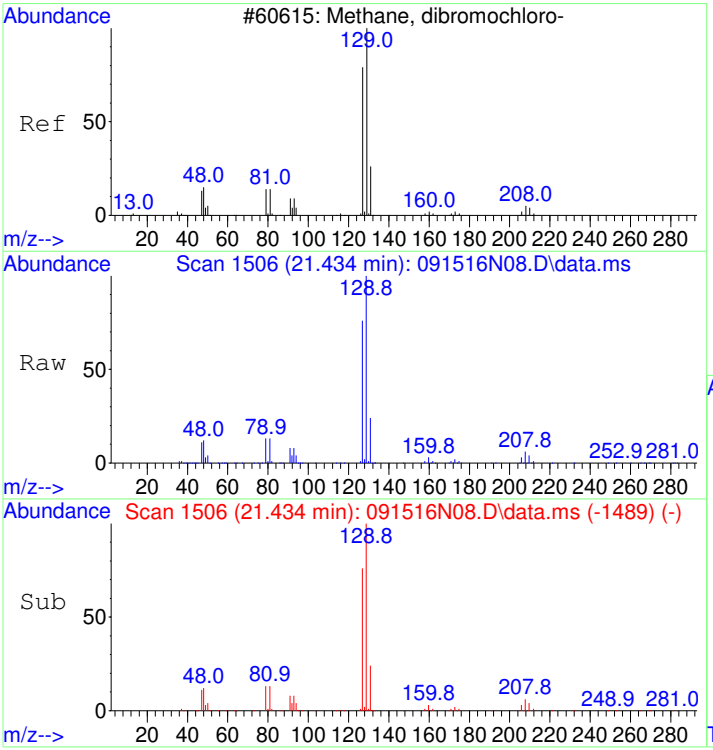


#48
2-Hexanone
Concen: 10.59 ppbv
RT: 21.149 min Scan# 1482
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 43 Resp: 1180870

Ion	Ratio	Lower	Upper
43	100		
58	52.6	32.6	72.6

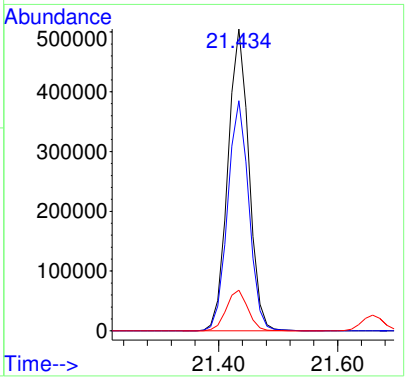


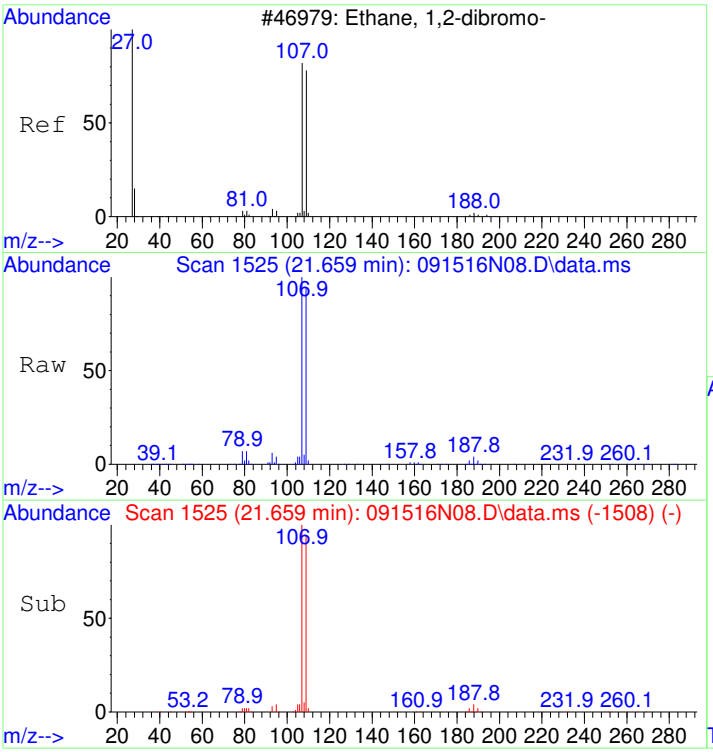


#49
Chlorodibromomethane
Concen: 10.86 ppbv
RT: 21.434 min Scan# 1506
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion:129 Resp: 1242443

Ion	Ratio	Lower	Upper
129	100		
127	76.7	56.7	96.7
79	13.9	0.0	33.9

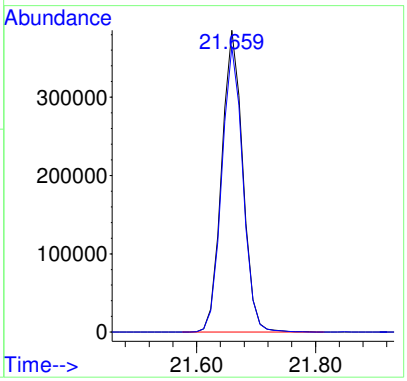


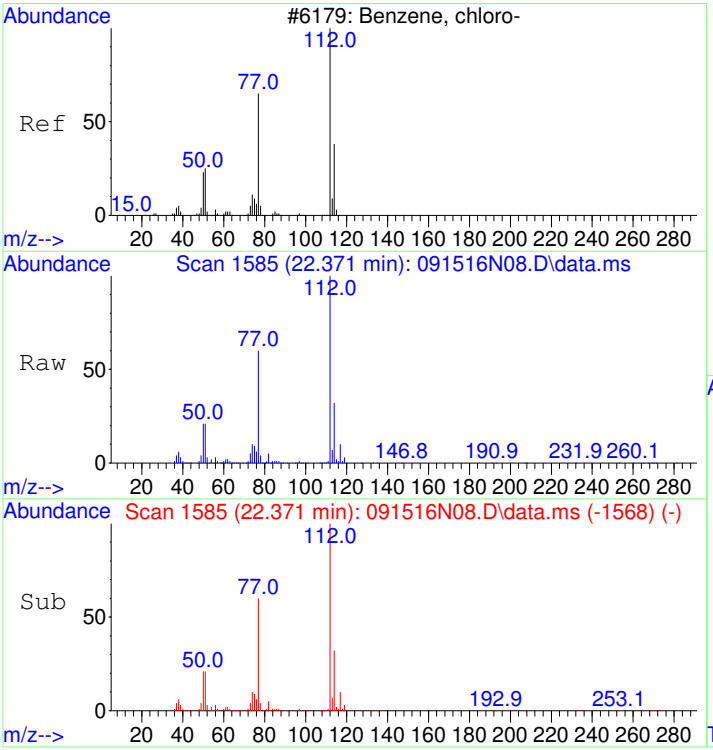


#50
1,2-Dibromoethane (EDB)
Concen: 10.98 ppbv
RT: 21.659 min Scan# 1525
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion:107 Resp: 948358

Ion	Ratio	Lower	Upper
107	100		
109	94.8	74.8	114.8

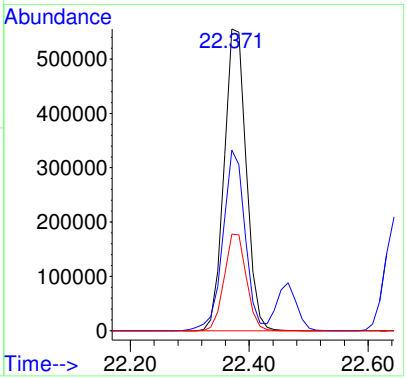


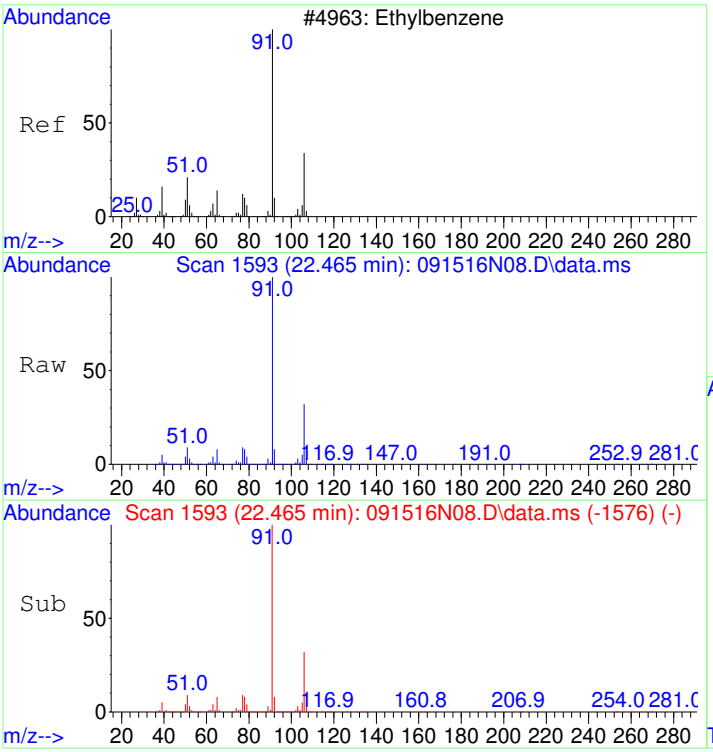


#51
Chlorobenzene
Concen: 10.76 ppbv
RT: 22.371 min Scan# 1585
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion:112 Resp: 1438591

Ion	Ratio	Lower	Upper
112	100		
77	60.4	40.4	80.4
114	32.2	12.2	52.2

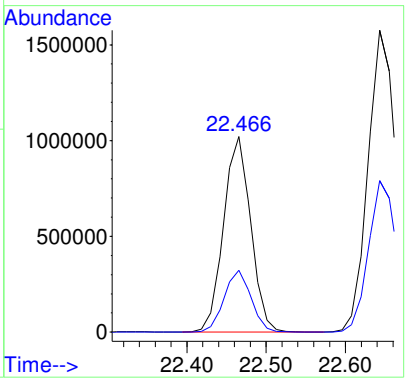


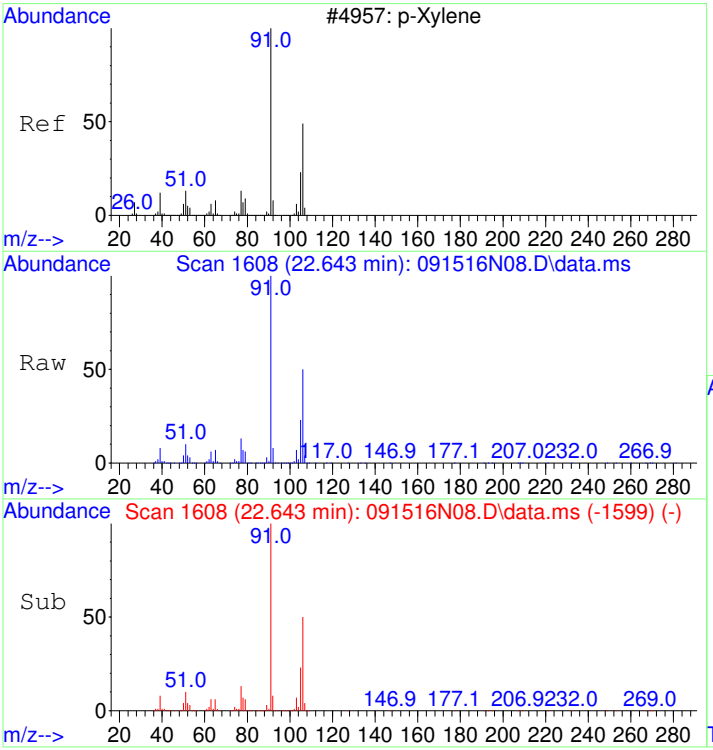


#52
Ethylbenzene
Concen: 10.69 ppbv
RT: 22.465 min Scan# 1593
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 91 Resp: 2435086

Ion	Ratio	Lower	Upper
91	100		
106	31.3	11.3	51.3

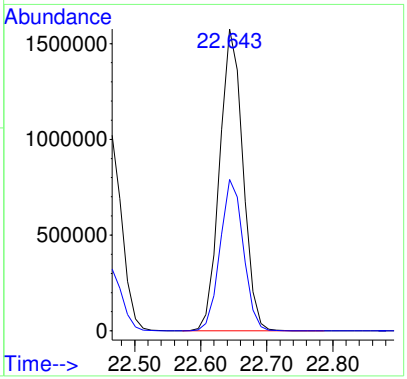


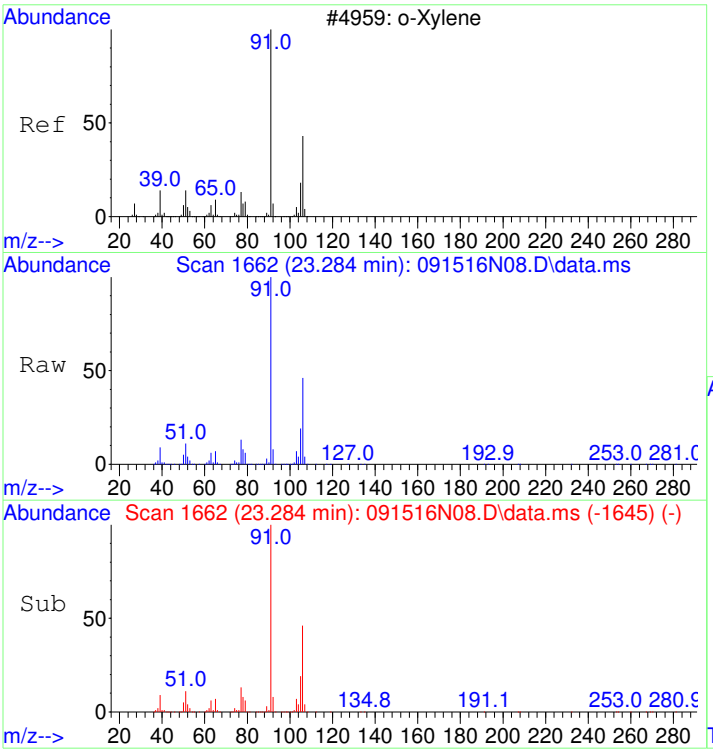


#53
m&p-Xylene
Concen: 21.60 ppbv
RT: 22.643 min Scan# 1608
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 91 Resp: 3849860

Ion	Ratio	Lower	Upper
91	100		
106	50.2	30.2	70.2

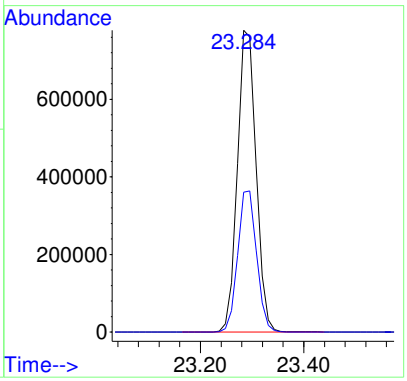


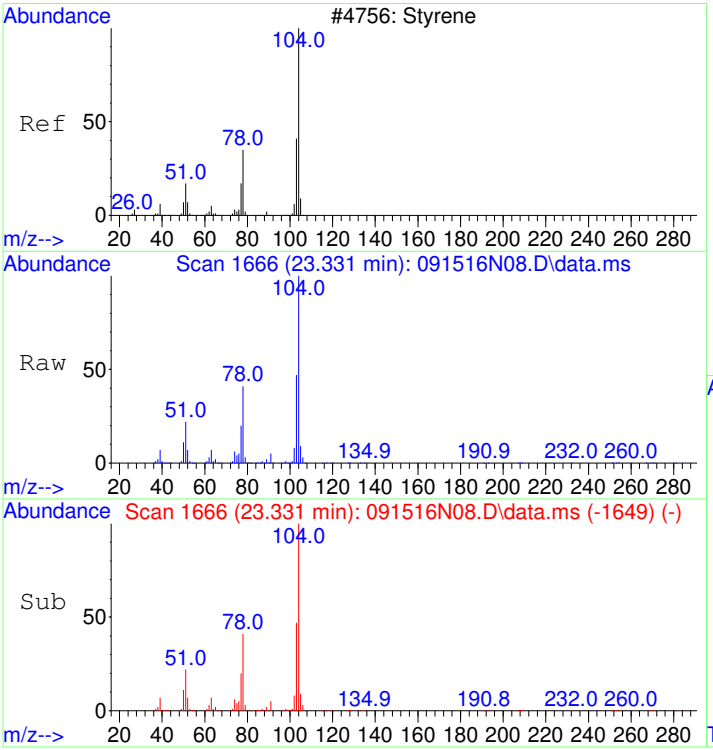


#54
o-Xylene
Concen: 10.74 ppbv
RT: 23.284 min Scan# 1662
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 91 Resp: 1946691

Ion	Ratio	Lower	Upper
91	100		
106	47.4	27.4	67.4

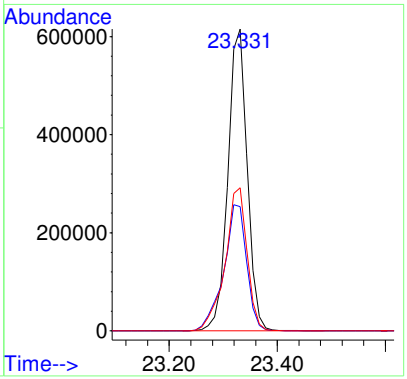


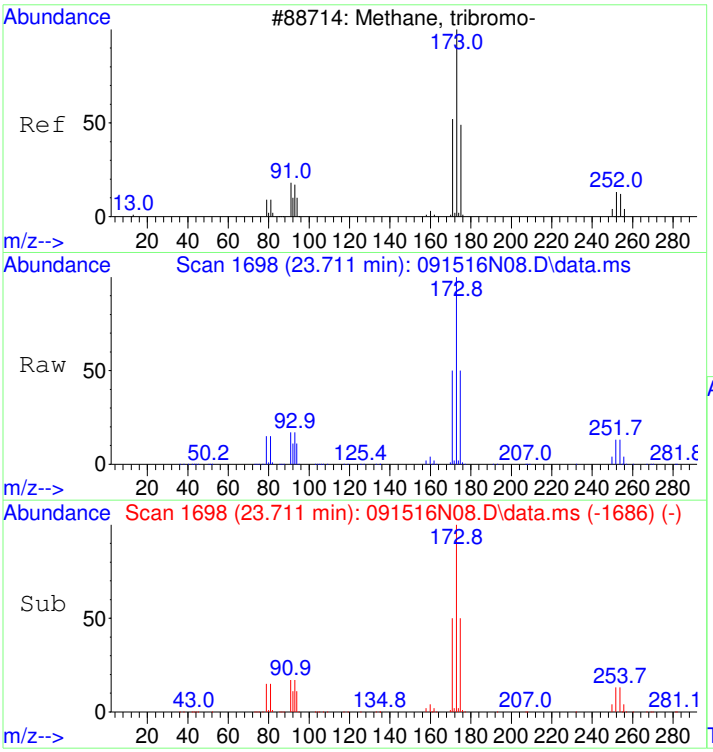


#55
Styrene
Concen: 10.63 ppbv
RT: 23.331 min Scan# 1666
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion:104 Resp: 1528133

Ion	Ratio	Lower	Upper
104	100		
78	49.6	29.6	69.6
103	54.1	34.1	74.1

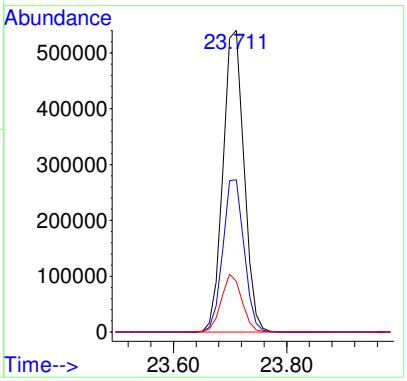


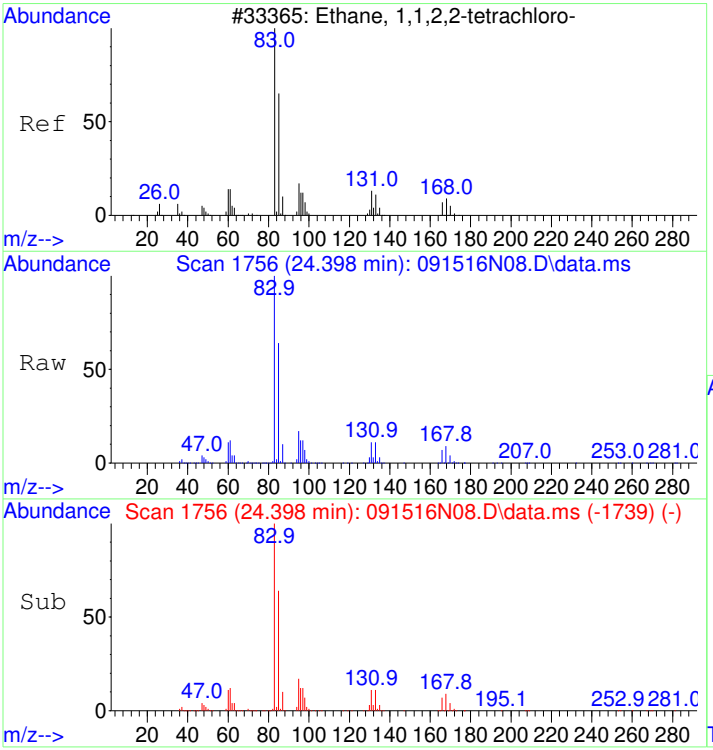


#56
Bromoform
Concen: 10.88 ppbv
RT: 23.711 min Scan# 1698
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion:173 Resp: 1398013

Ion	Ratio	Lower	Upper
173	100		
171	51.0	31.0	71.0
91	18.5	0.0	38.5

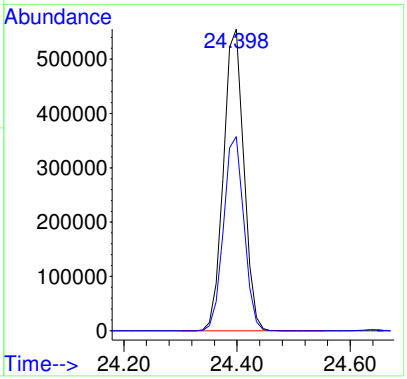


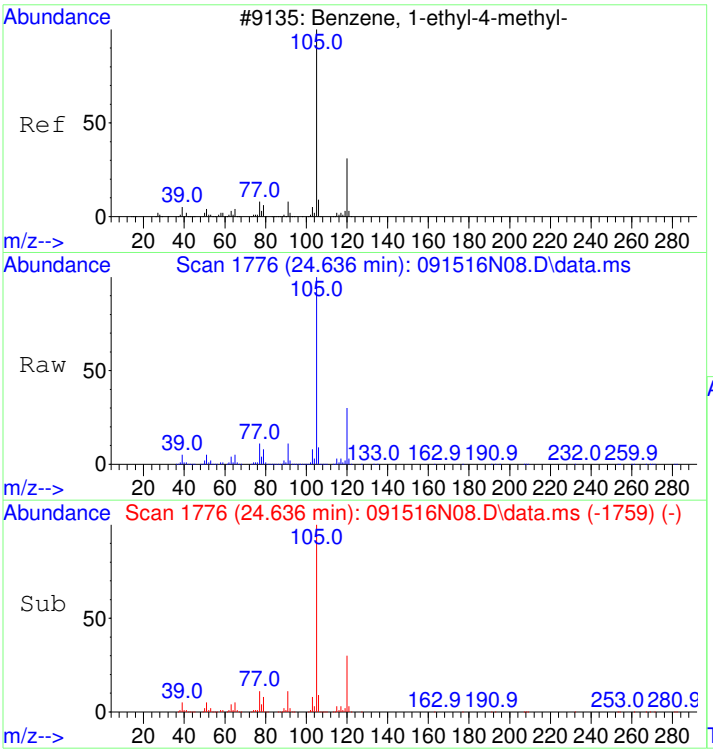


#57
1,1,2,2-Tetrachloroethane
Concen: 10.12 ppbv
RT: 24.398 min Scan# 1756
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 83 Resp: 1386411

Ion	Ratio	Lower	Upper
83	100		
85	64.5	44.5	84.5

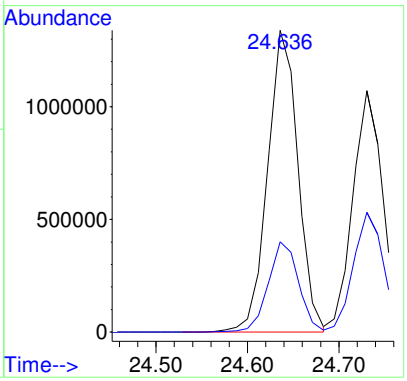


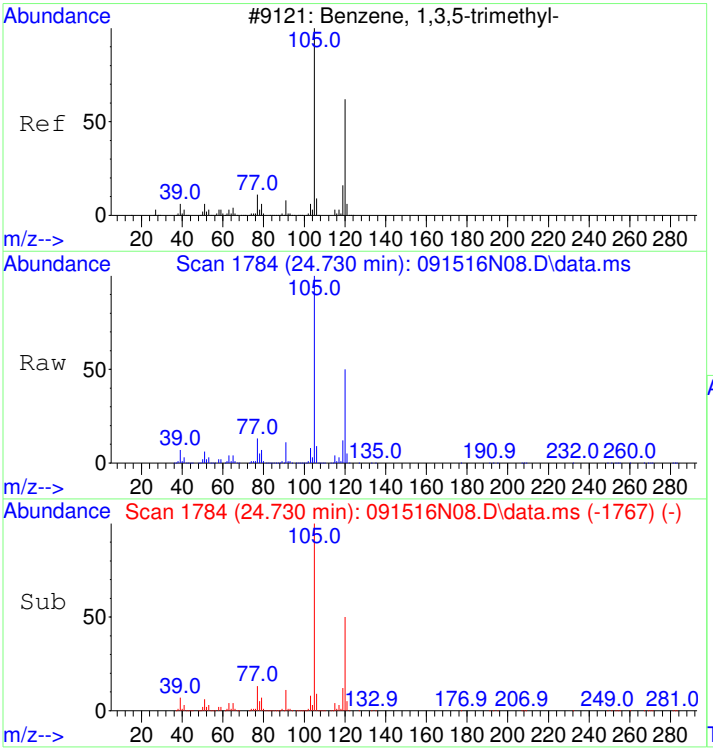


#58
4-Ethyltoluene
Concen: 10.63 ppbv
RT: 24.636 min Scan# 1776
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion:105 Resp: 3082917

Ion	Ratio	Lower	Upper
105	100		
120	30.0	10.0	50.0

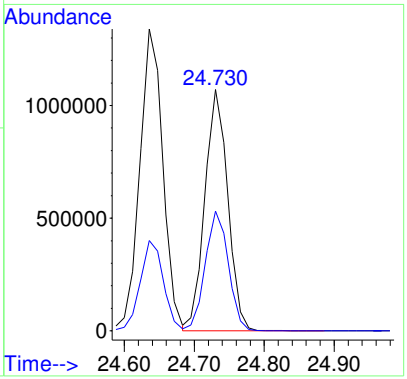


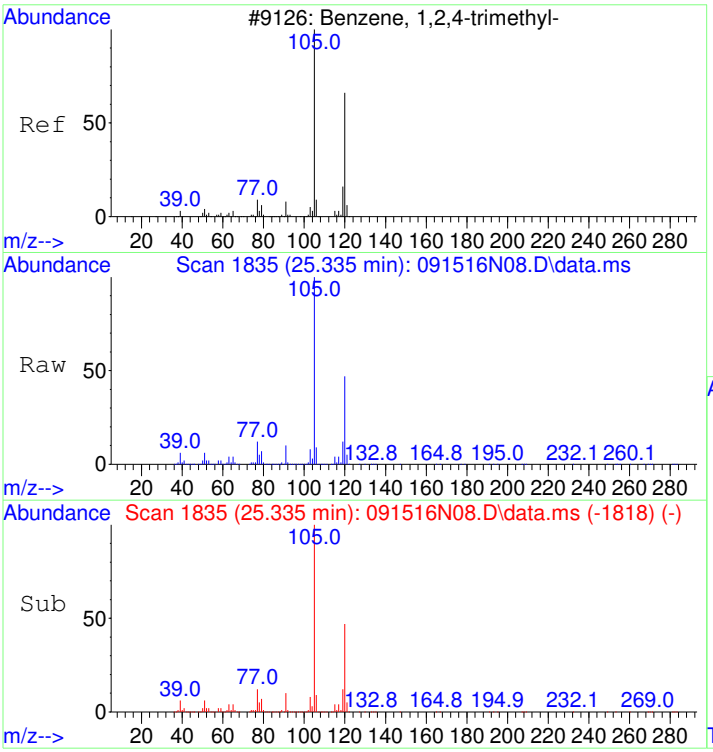


#59
1,3,5-Trimethylbenzene
Concen: 10.59 ppbv
RT: 24.730 min Scan# 1784
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion:105 Resp: 2436114

Ion	Ratio	Lower	Upper
105	100		
120	50.0	30.0	70.0

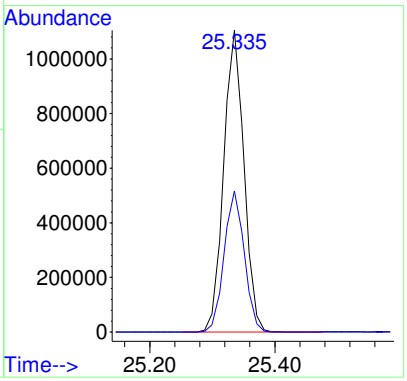


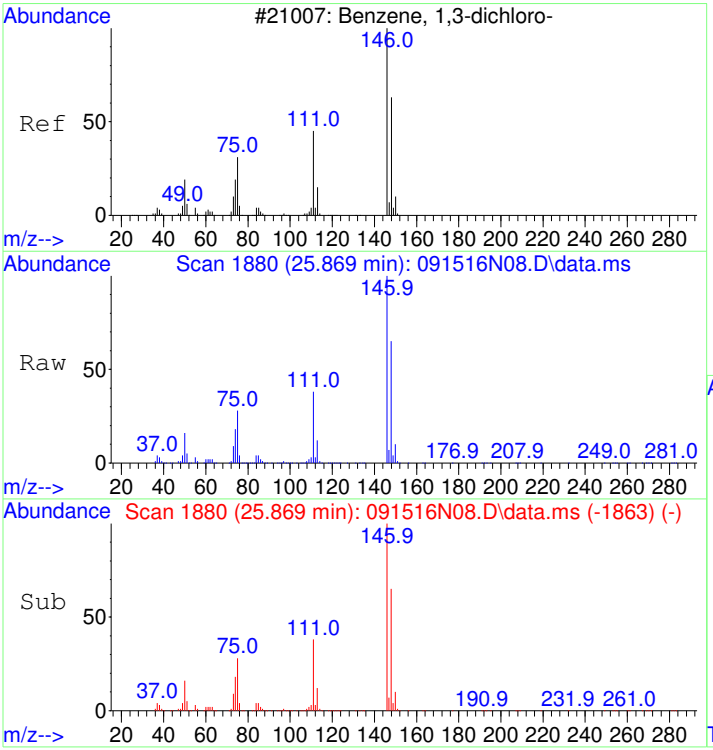


#60
1,2,4-Trimethylbenzene
Concen: 10.51 ppbv
RT: 25.335 min Scan# 1835
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion:105 Resp: 2486064

Ion	Ratio	Lower	Upper
105	100		
120	46.7	26.7	66.7

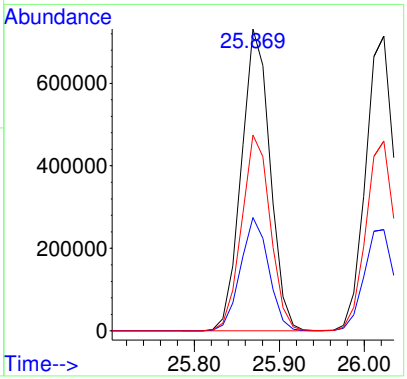


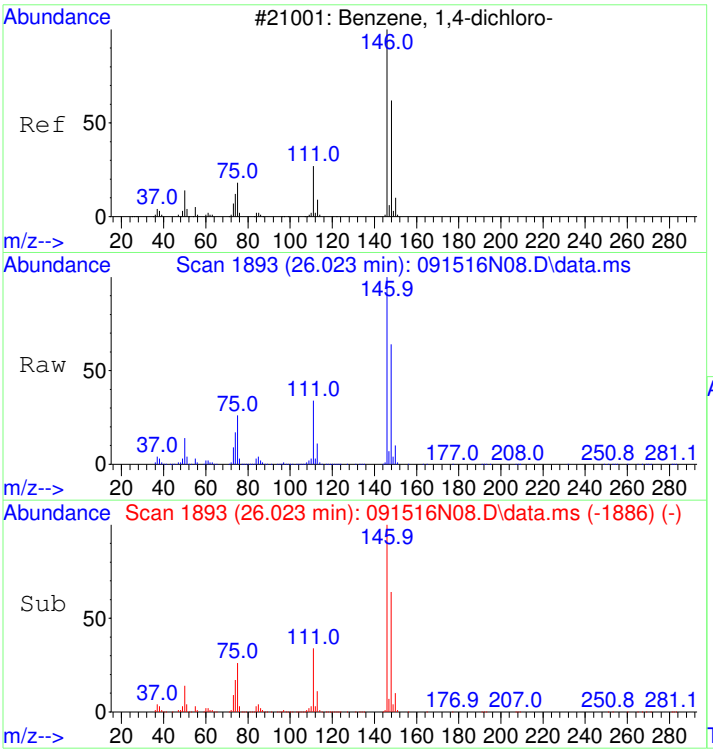


#61
1,3-Dichlorobenzene
Concen: 10.37 ppbv
RT: 25.869 min Scan# 1880
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion:146 Resp: 1726262

Ion	Ratio	Lower	Upper
146	100		
111	36.8	16.8	56.8
148	64.8	44.8	84.8

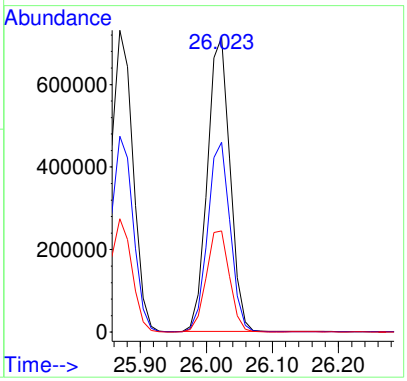


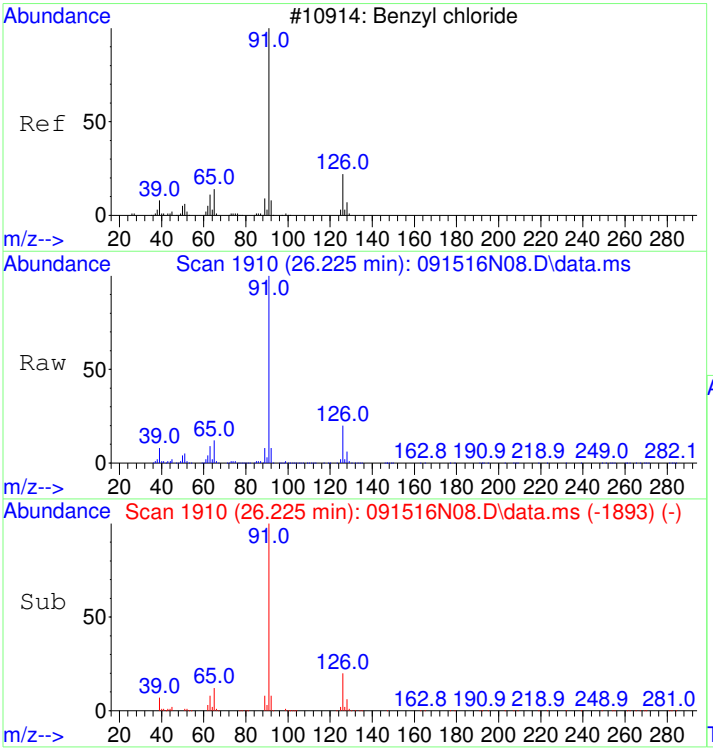


#62
1,4-Dichlorobenzene
Concen: 10.44 ppbv
RT: 26.023 min Scan# 1893
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion:146 Resp: 1692844

Ion	Ratio	Lower	Upper
146	100		
148	64.1	44.1	84.1
111	35.3	15.3	55.3

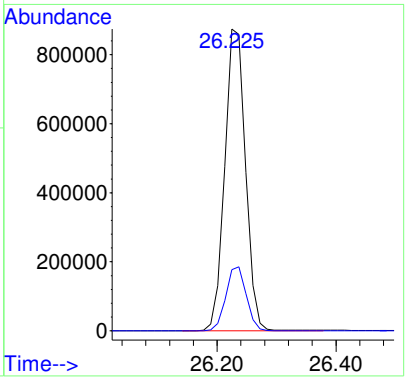


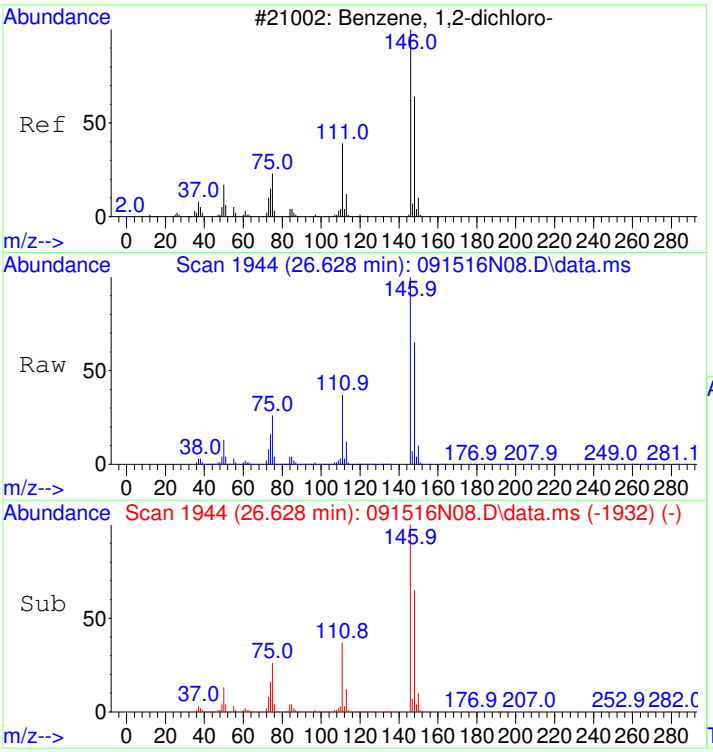


#63
Benzyl chloride
Concen: 11.32 ppbv
RT: 26.225 min Scan# 1910
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion: 91 Resp: 2129362

Ion	Ratio	Lower	Upper
91	100		
126	20.9	0.9	40.9

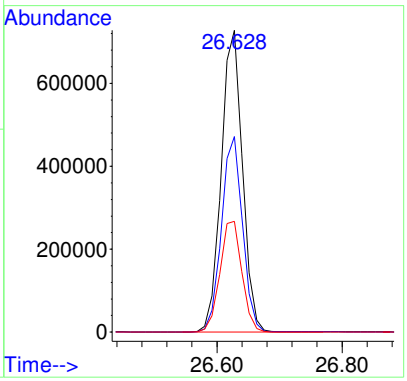


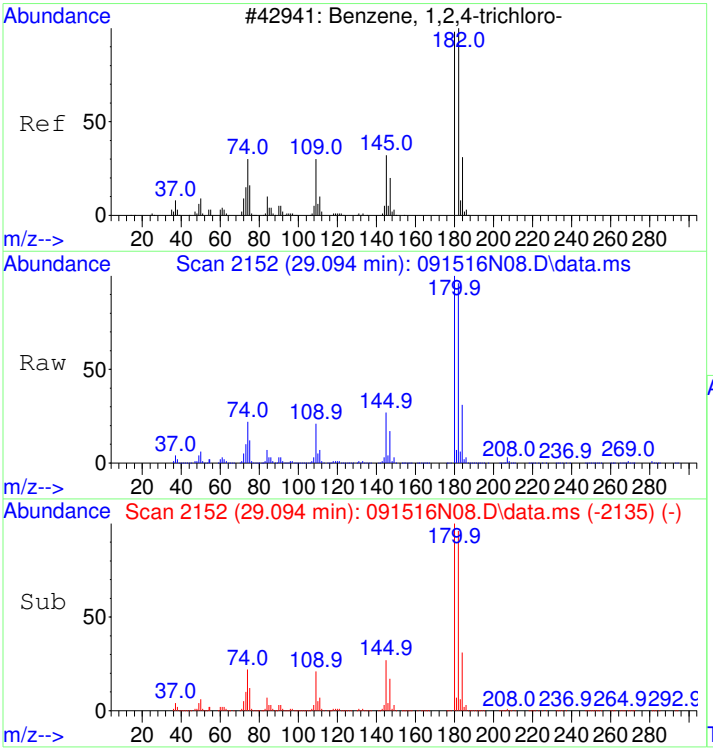


#64
1,2-Dichlorobenzene
Concen: 10.16 ppbv
RT: 26.628 min Scan# 1944
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion:146 Resp: 1718214

Ion	Ratio	Lower	Upper
146	100		
148	64.2	44.2	84.2
111	38.0	18.0	58.0

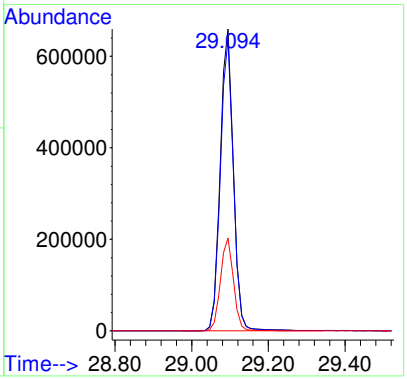


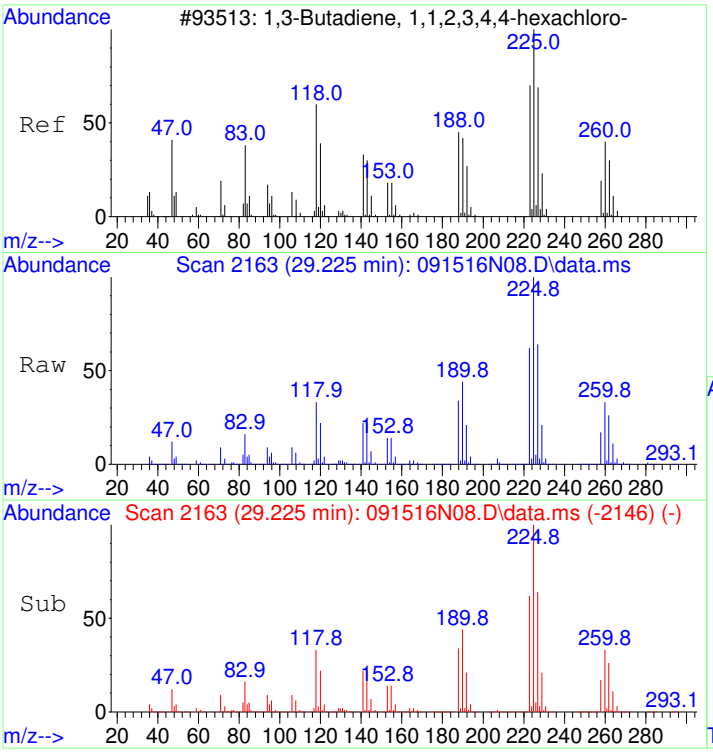


#65
1,2,4-Trichlorobenzene
Concen: 10.32 ppbv
RT: 29.094 min Scan# 2152
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion:180 Resp: 1573783

Ion	Ratio	Lower	Upper
180	100		
182	95.6	75.6	115.6
184	30.4	10.4	50.4

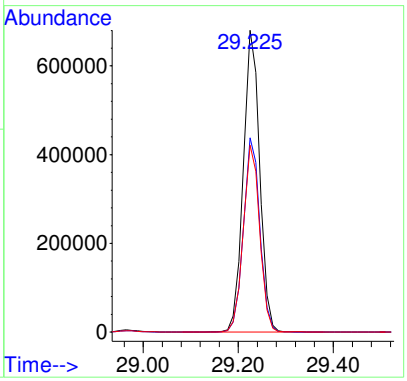




#66
Hexachlorobutadiene
Concen: 9.53 ppbv
RT: 29.225 min Scan# 2163
Delta R.T. 0.000 min
Lab File: 091516N08.D
Acq: 15 Sep 2016 9:59 pm

Tgt Ion:225 Resp: 1630568

Ion	Ratio	Lower	Upper
225	100		
227	64.4	44.4	84.4
223	62.0	42.0	82.0



S16I025-CAL5

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\091516_FSAA\
Data File : 091516N09.D
Acq On : 15 Sep 2016 10:47 pm
InstName : AG5973N
Operator : LLH
Sample : S16I025-CAL5
Misc : 15ppbv 1638119
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Sep 20 16:21:25 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:15:43 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.469	49	1155341	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	3843554	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.335	117	3148843	20.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.464	41	557709	15.17	ppbv	99
3) Dichlorodifluoromethane	4.559	85	1951040	13.80	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.915	85	1905664	14.08	ppbv	100
5) Chloromethane	5.117	50	586512	14.50	ppbv	99
6) Vinyl chloride	5.437	62	614462	14.46	ppbv	99
7) 1,3-Butadiene	5.532	54	463013	14.01	ppbv	100
8) Bromomethane	6.468	94	553834	13.58	ppbv	99
9) Chloroethane	6.800	64	280039	13.57	ppbv	100
10) Bromoethene	7.382	106	609122	15.10	ppbv	100
11) Trichlorofluoromethane	7.524	101	1761824	13.32	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.350	151	1214405	13.95	ppbv	100
13) 1,1-Dichloroethene	9.433	61	1022126	14.42	ppbv	100
14) Acetone	9.955	43	1047200	16.26	ppbv	100
15) Carbon disulfide	10.156	76	1683398	14.97	ppbv	100
16) 2-Propanol	10.560	45	1013251	15.97	ppbv	98
17) Allyl chloride	10.963	41	840432	15.46	ppbv	100
18) Dichloromethane	11.485	49	730017	12.32	ppbv	100
19) tert-Butyl methyl ethe...	12.161	73	2018793	17.05	ppbv	100
20) trans-1,2-Dichloroethene	12.196	61	931299	14.90	ppbv	99
21) Hexane	12.789	57	1047287	14.71	ppbv	99
22) 1,1-Dichloroethane	13.512	63	1190566	13.80	ppbv	100
23) Vinyl acetate	13.655	43	1791703	17.19	ppbv	100
24) cis-1,2-Dichloroethene	14.935	61	886344	14.75	ppbv	100
25) 2-Butanone (MEK)	15.030	72	345483	16.57	ppbv	96
26) Ethyl acetate	15.078	61	226404	16.40	ppbv #	100
27) Tetrahydrofuran	15.481	42	796343	15.59	ppbv	99
28) Chloroform	15.623	83	1461722	13.98	ppbv	99
29) Cyclohexane	15.860	56	1091622	15.06	ppbv	99
30) 1,1,1-Trichloroethane	15.908	97	1614833	13.67	ppbv	100
31) Carbon tetrachloride	16.169	117	1724740	13.62	ppbv	100
33) Benzene	16.643	78	2113330	14.42	ppbv	99
34) 2,2,4-Trimethylpentane	16.596	57	3409175	15.42	ppbv	100
35) 1,2-Dichloroethane	16.845	62	975961	14.14	ppbv	100
36) Heptane	16.975	43	1279595	15.51	ppbv	100
37) Trichloroethene	17.864	130	990563	15.73	ppbv	100
38) 1,2-Dichloropropane	18.363	63	759481	15.05	ppbv	99
39) 1,4-Dioxane	18.540	88	533960	16.10	ppbv	99
40) Bromodichloromethane	18.813	83	1703273	15.60	ppbv	100
41) cis-1,3-Dichloropropene	19.584	75	1270236	16.78	ppbv	99
42) 4-Methyl-2-pentanone (...	19.797	43	1820431	15.42	ppbv	99
44) Toluene	20.058	91	2672315	15.73	ppbv	99
45) trans-1,3-Dichloropropene	20.521	75	1243636	16.75	ppbv	99
46) 1,1,2-Trichloroethane	20.829	97	908376	16.01	ppbv	100
47) Tetrachloroethene	20.912	166	1491226	16.08	ppbv	99
48) 2-Hexanone	21.149	43	1751659	15.55	ppbv	100
49) Chlorodibromomethane	21.434	129	1901605	16.44	ppbv	100
50) 1,2-Dibromoethane (EDB)	21.659	107	1442021	16.52	ppbv	100
51) Chlorobenzene	22.371	112	2173913	16.09	ppbv	100
52) Ethylbenzene	22.466	91	3677643	15.97	ppbv	100
53) m&p-Xylene	22.643	91	5822371	32.33	ppbv	100
54) o-Xylene	23.284	91	2948108	16.09	ppbv	100

Data Path : D:\msdchem\1\2016\data\091516_FSAA\
Data File : 091516N09.D
Acq On : 15 Sep 2016 10:47 pm
InstName : AG5973N
Operator : LLH
Sample : S16I025-CAL5
Misc : 15ppbv 1638119
ALS Vial : 32 Sample Multiplier: 1

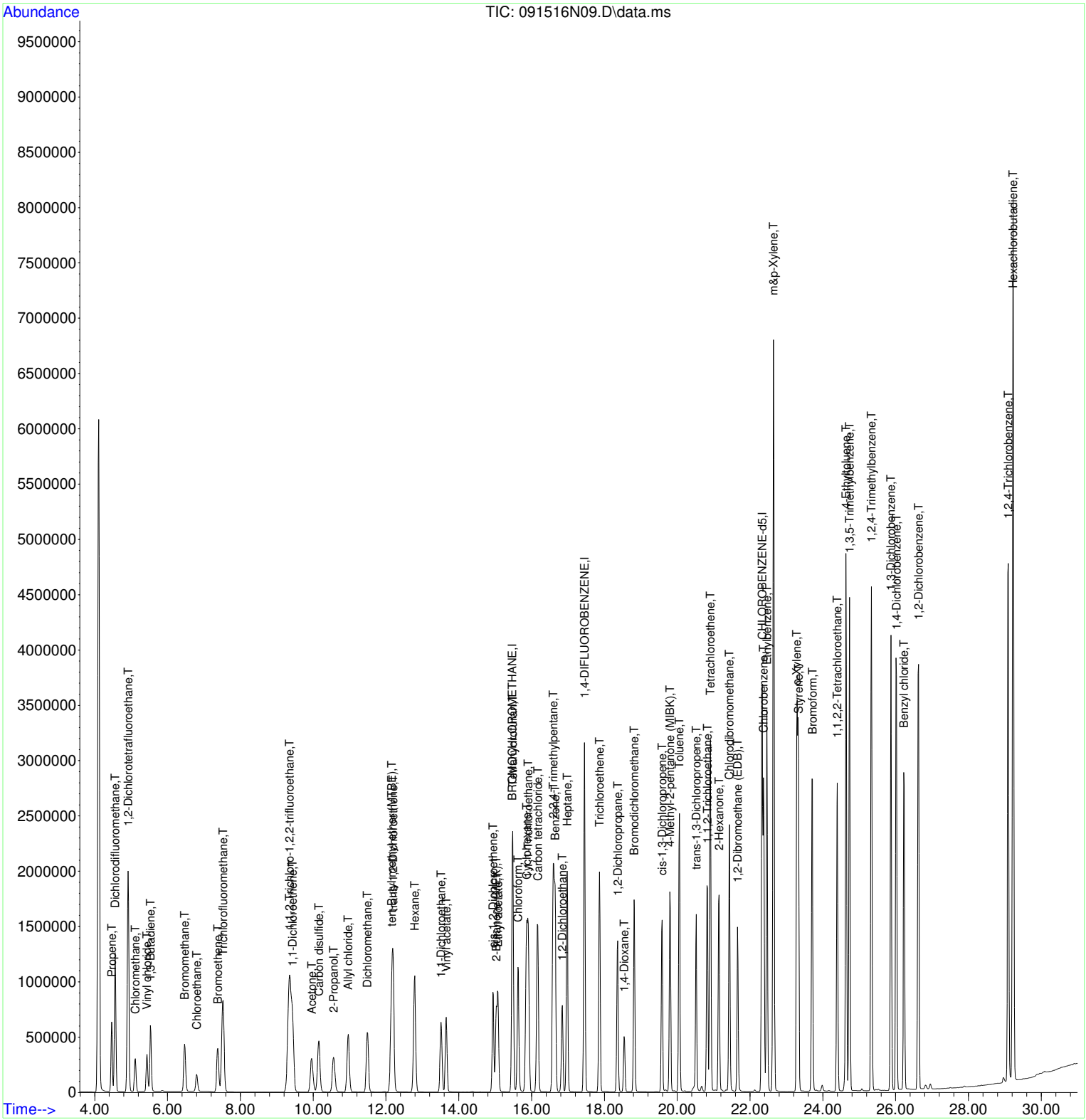
Quant Time: Sep 20 16:21:25 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:15:43 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	Styrene	23.331	104	2309055	15.89	ppbv	100
56)	Bromoform	23.711	173	2152487	16.58	ppbv	100
57)	1,1,2,2-Tetrachloroethane	24.398	83	2071894	14.96	ppbv	100
58)	4-Ethyltoluene	24.636	105	4654630	15.89	ppbv	100
59)	1,3,5-Trimethylbenzene	24.731	105	3638670	15.65	ppbv	100
60)	1,2,4-Trimethylbenzene	25.335	105	3735318	15.63	ppbv	100
61)	1,3-Dichlorobenzene	25.869	146	2610247	15.51	ppbv	100
62)	1,4-Dichlorobenzene	26.023	146	2548298	15.55	ppbv	100
63)	Benzyl chloride	26.225	91	3248321	17.08	ppbv	100
64)	1,2-Dichlorobenzene	26.628	146	2566070	15.02	ppbv	100
65)	1,2,4-Trichlorobenzene	29.094	180	2476423	16.06	ppbv	99
66)	Hexachlorobutadiene	29.225	225	2550347	14.75	ppbv	100

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

Data Path : D:\msdchem\1\2016\data\091516_FSAA\
Data File : 091516N09.D
Acq On : 15 Sep 2016 10:47 pm
InstName : AG5973N
Operator : LLH
Sample : S16I025-CAL5
Misc : 15ppbv 1638119
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Sep 20 16:21:25 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:15:43 2016
Response via : Initial Calibration



S16I025-CAL6

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\091516_FSAA\
Data File : 091516N10.D
Acq On : 15 Sep 2016 11:37 pm
InstName : AG5973N
Operator : LLH
Sample : S16I025-CAL6
Misc : 20ppbv 1638120
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Sep 20 16:21:36 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:15:43 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	15.469	49	1168961	22.00	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	17.450	114	3908072	19.80	ppbv		0.00
43) CHLOROBENZENE-d5	22.335	117	3185074	20.00	ppbv		0.00
Target Compounds							Qvalue
2) Propene	4.464	41	742078	19.95	ppbv		99
3) Dichlorodifluoromethane	4.559	85	2596950	18.15	ppbv		100
4) 1,2-Dichlorotetrafluor...	4.915	85	2545607	18.59	ppbv		99
5) Chloromethane	5.117	50	781801	19.11	ppbv		100
6) Vinyl chloride	5.437	62	819715	19.07	ppbv		100
7) 1,3-Butadiene	5.532	54	620999	18.56	ppbv		99
8) Bromomethane	6.469	94	741589	17.97	ppbv		99
9) Chloroethane	6.801	64	373043	17.87	ppbv		99
10) Bromoethene	7.382	106	818339	20.05	ppbv		100
11) Trichlorofluoromethane	7.524	101	2340458	17.49	ppbv		100
12) 1,1,2-Trichloro-1,2,2-...	9.350	151	1630567	18.52	ppbv		99
13) 1,1-Dichloroethene	9.433	61	1364094	19.02	ppbv		100
14) Acetone	9.955	43	1371708	21.05	ppbv		99
15) Carbon disulfide	10.157	76	2250953	19.78	ppbv		100
16) 2-Propanol	10.560	45	1340933	20.89	ppbv		98
17) Allyl chloride	10.963	41	1127401	20.50	ppbv		100
18) Dichloromethane	11.497	49	965552	16.11	ppbv		100
19) tert-Butyl methyl ethe...	12.161	73	2640797	22.05	ppbv		100
20) trans-1,2-Dichloroethene	12.196	61	1240575	19.62	ppbv		99
21) Hexane	12.789	57	1402817	19.48	ppbv		99
22) 1,1-Dichloroethane	13.512	63	1591026	18.23	ppbv		100
23) Vinyl acetate	13.655	43	2407240	22.82	ppbv		100
24) cis-1,2-Dichloroethene	14.947	61	1192143	19.61	ppbv		99
25) 2-Butanone (MEK)	15.030	72	454074	21.53	ppbv		98
26) Ethyl acetate	15.078	61	294298	21.07	ppbv	#	99
27) Tetrahydrofuran	15.481	42	1041389	20.15	ppbv		99
28) Chloroform	15.623	83	1953675	18.47	ppbv		100
29) Cyclohexane	15.860	56	1458528	19.88	ppbv		99
30) 1,1,1-Trichloroethane	15.908	97	2154225	18.02	ppbv		100
31) Carbon tetrachloride	16.169	117	2305027	17.98	ppbv		100
33) Benzene	16.655	78	2819099	18.92	ppbv		99
34) 2,2,4-Trimethylpentane	16.596	57	4579334	20.37	ppbv		99
35) 1,2-Dichloroethane	16.845	62	1299446	18.51	ppbv		99
36) Heptane	16.975	43	1716739	20.47	ppbv		100
37) Trichloroethene	17.865	130	1342682	20.97	ppbv		99
38) 1,2-Dichloropropane	18.363	63	1016160	19.80	ppbv		99
39) 1,4-Dioxane	18.541	88	705326	20.91	ppbv		99
40) Bromodichloromethane	18.813	83	2285079	20.58	ppbv		100
41) cis-1,3-Dichloropropene	19.584	75	1716044	22.29	ppbv		99
42) 4-Methyl-2-pentanone (...	19.798	43	2380518	19.83	ppbv		100
44) Toluene	20.058	91	3586836	20.87	ppbv		99
45) trans-1,3-Dichloropropene	20.521	75	1659143	22.09	ppbv		100
46) 1,1,2-Trichloroethane	20.829	97	1216731	21.20	ppbv		100
47) Tetrachloroethene	20.912	166	2017776	21.51	ppbv		99
48) 2-Hexanone	21.149	43	2296051	20.15	ppbv		99
49) Chlorodibromomethane	21.434	129	2564897	21.93	ppbv		99
50) 1,2-Dibromoethane (EDB)	21.659	107	1931858	21.88	ppbv		100
51) Chlorobenzene	22.383	112	2899165	21.21	ppbv		99
52) Ethylbenzene	22.466	91	4897463	21.03	ppbv		100
53) m&p-Xylene	22.644	91	7705779	42.30	ppbv		99
54) o-Xylene	23.284	91	3906307	21.07	ppbv		100

Data Path : D:\msdchem\1\2016\data\091516_FSAA\
Data File : 091516N10.D
Acq On : 15 Sep 2016 11:37 pm
InstName : AG5973N
Operator : LLH
Sample : S16I025-CAL6
Misc : 20ppbv 1638120
ALS Vial : 32 Sample Multiplier: 1

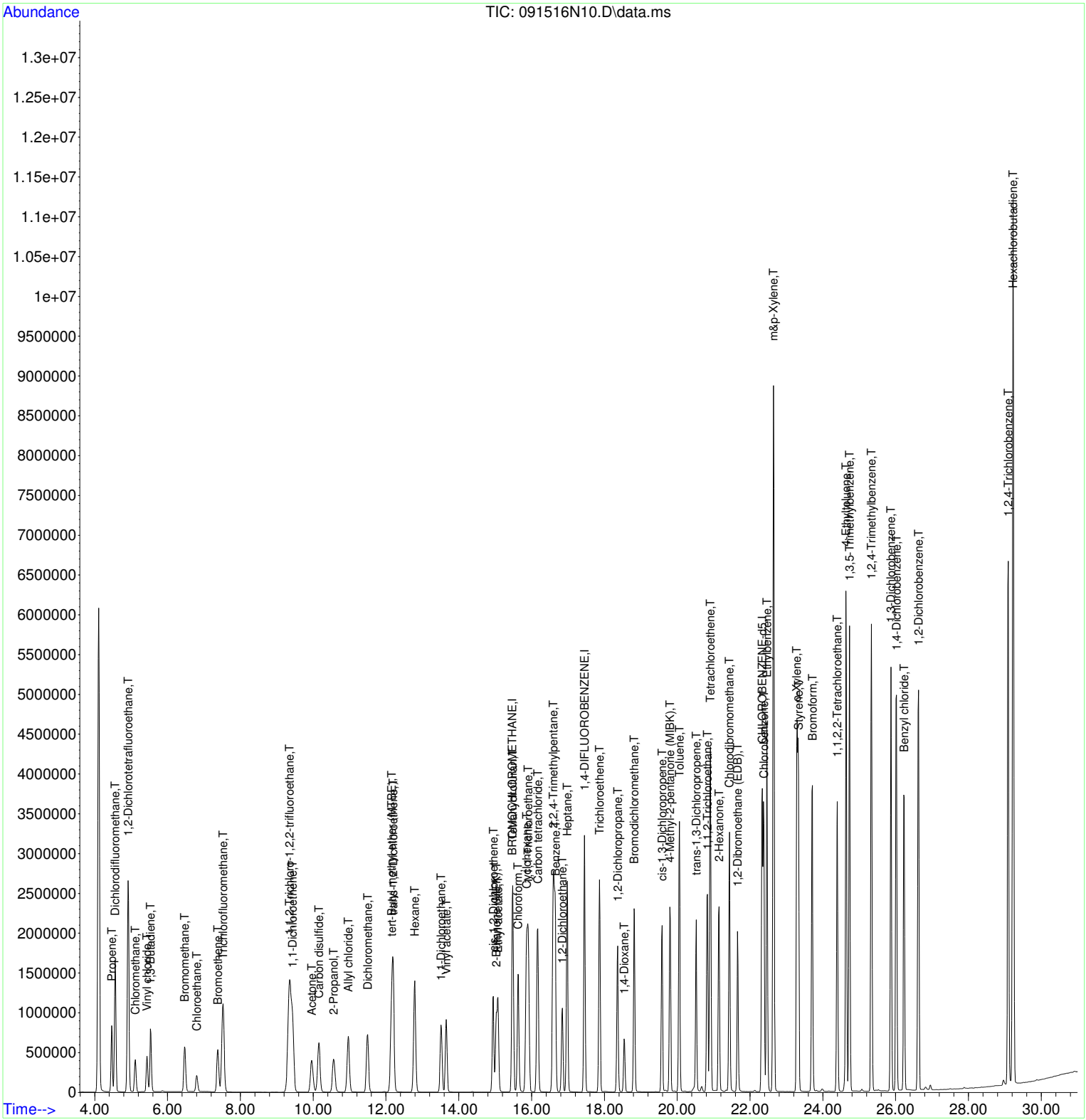
Quant Time: Sep 20 16:21:36 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:15:43 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55) Styrene	23.331	104	3053671	20.77	ppbv	100
56) Bromoform	23.711	173	2874765	21.89	ppbv	100
57) 1,1,2,2-Tetrachloroethane	24.399	83	2699502	19.27	ppbv	100
58) 4-Ethyltoluene	24.636	105	6075380	20.50	ppbv	100
59) 1,3,5-Trimethylbenzene	24.731	105	4763784	20.26	ppbv	100
60) 1,2,4-Trimethylbenzene	25.335	105	4868476	20.14	ppbv	100
61) 1,3-Dichlorobenzene	25.869	146	3391227	19.92	ppbv	100
62) 1,4-Dichlorobenzene	26.023	146	3320263	20.03	ppbv	100
63) Benzyl chloride	26.237	91	4224470	21.96	ppbv	100
64) 1,2-Dichlorobenzene	26.628	146	3339856	19.32	ppbv	99
65) 1,2,4-Trichlorobenzene	29.095	180	3377072	21.66	ppbv	99
66) Hexachlorobutadiene	29.225	225	3549350	20.30	ppbv	100

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

Data Path : D:\msdchem\1\2016\data\091516_FSAA\
Data File : 091516N10.D
Acq On : 15 Sep 2016 11:37 pm
InstName : AG5973N
Operator : LLH
Sample : S16I025-CAL6
Misc : 20ppbv 1638120
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Sep 20 16:21:36 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:15:43 2016
Response via : Initial Calibration



S16I025-SCV1

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\091516_FSAA\
Data File : 091516N11.D
Acq On : 16 Sep 2016 12:26 am
InstName : AG5973N
Operator : LLH
Sample : S16I025-SCV1
Misc : 10ppbv 1635090
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Sep 20 16:22:58 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.469	49	1178927	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	3948439	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.335	117	3112578	20.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.464	41	396203	10.56	ppbv	99
3) Dichlorodifluoromethane	4.559	85	1401834	9.71	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.915	85	1225068	8.87	ppbv	96
5) Chloromethane	5.117	50	519446	12.59	ppbv	99
6) Vinyl chloride	5.437	62	441370	10.18	ppbv	100
7) 1,3-Butadiene	5.532	54	339031	10.05	ppbv	100
8) Bromomethane	6.468	94	346114	8.31	ppbv	100
9) Chloroethane	6.800	64	207896	9.87	ppbv	99
10) Bromoethene	7.382	106	415347	10.09	ppbv	100
11) Trichlorofluoromethane	7.524	101	1329617	9.85	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.350	151	879767	9.91	ppbv	100
13) 1,1-Dichloroethene	9.433	61	740259	10.24	ppbv	100
14) Acetone	9.955	43	711978	10.83	ppbv	100
15) Carbon disulfide	10.156	76	1264597	11.02	ppbv	100
16) 2-Propanol	10.560	45	639173	9.88	ppbv	99
17) Allyl chloride	10.963	41	596781	10.76	ppbv	100
18) Dichloromethane	11.485	49	518733	8.58	ppbv	100
19) tert-Butyl methyl ethe...	12.160	73	1371025	11.35	ppbv	100
20) trans-1,2-Dichloroethene	12.196	61	659461	10.34	ppbv	100
21) Hexane	12.789	57	731116	10.06	ppbv	99
22) 1,1-Dichloroethane	13.512	63	860998	9.78	ppbv	100
23) Vinyl acetate	13.655	43	1211924	11.39	ppbv	100
24) cis-1,2-Dichloroethene	14.935	61	630439	10.28	ppbv	99
25) 2-Butanone (MEK)	15.030	72	237405	11.16	ppbv #	1
26) Ethyl acetate	15.078	61	152679	10.84	ppbv #	100
27) Tetrahydrofuran	15.481	42	552812	10.61	ppbv	100
28) Chloroform	15.623	83	1029465	9.65	ppbv	100
29) Cyclohexane	15.860	56	750079	10.14	ppbv	99
30) 1,1,1-Trichloroethane	15.908	97	1108954	9.20	ppbv	100
31) Carbon tetrachloride	16.157	117	1235900	9.56	ppbv	100
33) Benzene	16.643	78	1557414	10.35	ppbv	99
34) 2,2,4-Trimethylpentane	16.596	57	2378271	10.47	ppbv	100
35) 1,2-Dichloroethane	16.845	62	707179	9.97	ppbv	99
36) Heptane	16.975	43	887641	10.47	ppbv	100
37) Trichloroethene	17.864	130	719518	11.12	ppbv	99
38) 1,2-Dichloropropane	18.362	63	561640	10.83	ppbv	99
39) 1,4-Dioxane	18.540	88	371030	10.89	ppbv	99
40) Bromodichloromethane	18.813	83	1158232	10.32	ppbv	100
41) cis-1,3-Dichloropropene	19.584	75	908173	11.68	ppbv	99
42) 4-Methyl-2-pentanone (...	19.797	43	1278444	10.54	ppbv	100
44) Toluene	20.058	91	1968740	11.72	ppbv	100
45) trans-1,3-Dichloropropene	20.521	75	854283	11.64	ppbv	99
46) 1,1,2-Trichloroethane	20.829	97	662010	11.80	ppbv	100
47) Tetrachloroethene	20.912	166	1058931	11.55	ppbv	99
48) 2-Hexanone	21.137	43	1072666	9.63	ppbv	100
49) Chlorodibromomethane	21.434	129	1276371	11.17	ppbv	100
50) 1,2-Dibromoethane (EDB)	21.659	107	899097	10.42	ppbv	100
51) Chlorobenzene	22.371	112	1520846	11.39	ppbv	100
52) Ethylbenzene	22.466	91	2603963	11.44	ppbv	100
53) m&p-Xylene	22.643	91	4077134	22.90	ppbv	100
54) o-Xylene	23.284	91	2112174	11.66	ppbv	100

Data Path : D:\msdchem\1\2016\data\091516_FSAA\
Data File : 091516N11.D
Acq On : 16 Sep 2016 12:26 am
InstName : AG5973N
Operator : LLH
Sample : S16I025-SCV1
Misc : 10ppbv 1635090
ALS Vial : 34 Sample Multiplier: 1

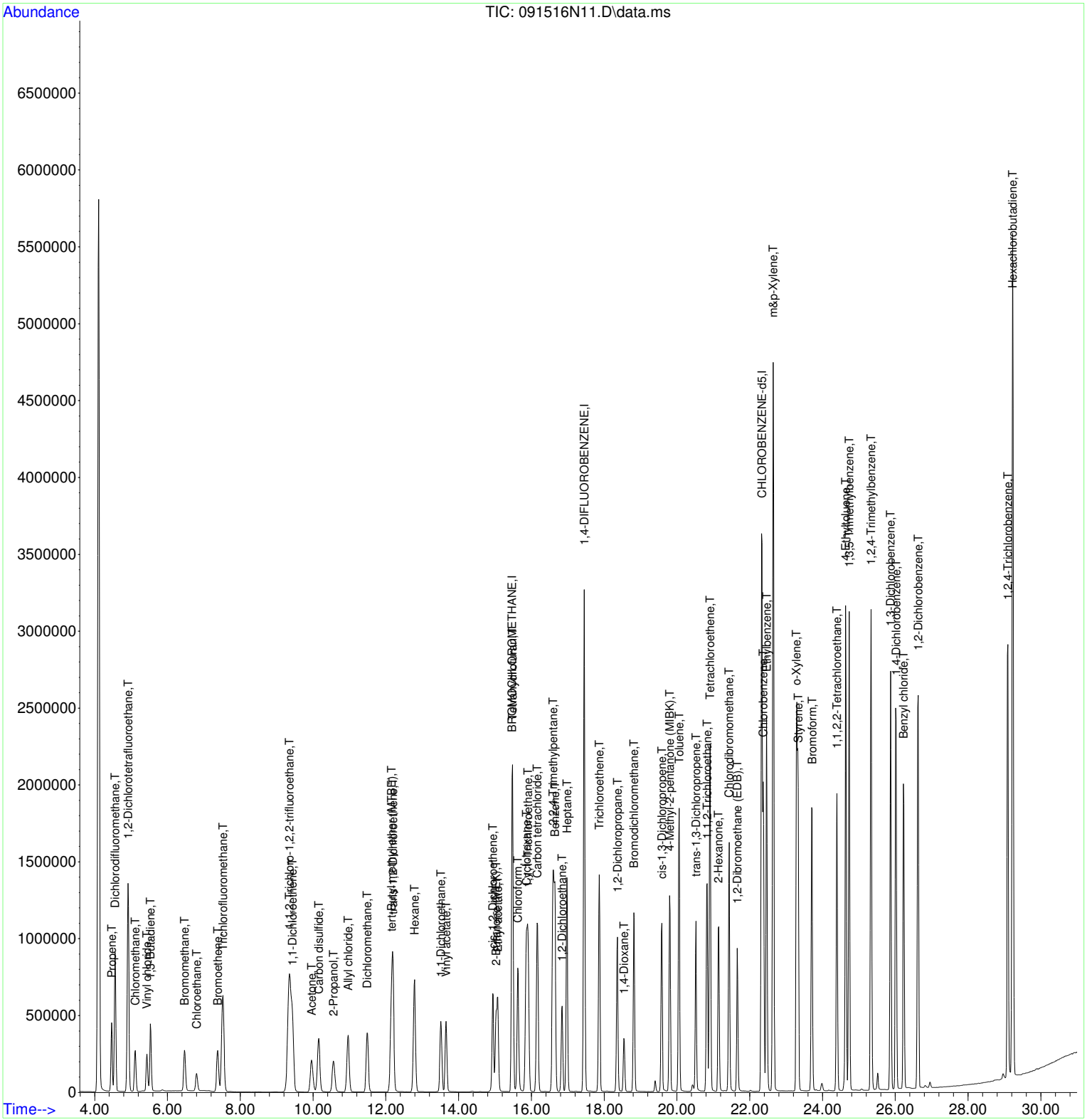
Quant Time: Sep 20 16:22:58 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55) Styrene	23.331	104	1506937	10.49	ppbv	99
56) Bromoform	23.711	173	1418085	11.05	ppbv	100
57) 1,1,2,2-Tetrachloroethane	24.398	83	1428210	10.43	ppbv	100
58) 4-Ethyltoluene	24.636	105	3038138	10.49	ppbv	100
59) 1,3,5-Trimethylbenzene	24.730	105	2534581	11.03	ppbv	100
60) 1,2,4-Trimethylbenzene	25.335	105	2568321	10.87	ppbv	100
61) 1,3-Dichlorobenzene	25.869	146	1740041	10.46	ppbv	99
62) 1,4-Dichlorobenzene	26.023	146	1635736	10.10	ppbv	100
63) Benzyl chloride	26.225	91	2191276	11.66	ppbv	100
64) 1,2-Dichlorobenzene	26.628	146	1701961	10.08	ppbv	100
65) 1,2,4-Trichlorobenzene	29.094	180	1486055	9.75	ppbv	100
66) Hexachlorobutadiene	29.225	225	1773898	10.38	ppbv	100

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

Data Path : D:\msdchem\1\2016\data\091516_FSAA\
Data File : 091516N11.D
Acq On : 16 Sep 2016 12:26 am
InstName : AG5973N
Operator : LLH
Sample : S16I025-SCV1
Misc : 10ppbv 1635090
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Sep 20 16:22:58 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 2016
Response via : Initial Calibration



SEQUENCE

S16J006

ANALYST / REVIEWER - DATA REVIEW CHECKLIST

BATCH #:	B16J004	SEQUENCE #:	S16J006 10/03/16
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.	09/15/16 Tue Sept 20, 2016 16:22:25			ICAL / SCV = OK
	Initial Calibration ID (LIMS number):	1609015			
	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	1,2,4-Trichlorobenzene = 41.4 %D (NT) Hexachlorobutadiene = 37.6 %D (NT)
	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	OK
	LCS(s) or SRM(s) within QC criteria?	☐	Y	Y	OK
	MSs/MSDs and/or DUPs within QC criteria?	☐	Y	Y	Dup NU; is 3 out, low can pressure
	Other method-specific QCs within QC criteria? Specify if applicable.	✔			

ANALYST / REVIEWER - DATA REVIEW CHECKLIST

BATCH #:	B16J004	SEQUENCE #:	S16J006	10/03/16
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	1609103-03RE1, -04RE1, -05RE1, S16J006-DUP1 had #3 IS low due to low can pressure
	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	same sequence
	Do any samples need to be re-digested or re-extracted?	☐	Y	Y	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 10/04/16
	REVIEWED BY:	NICK KISH (affiliate) Digitally signed by NICK KISH (affiliate) Date: 2016.10.12 13:21:33 -07'00' SIGN HERE

COMMENTS

Injection Log

Directory: d:\msdchem\1\2016\data\100316_FSAA

Table of Contents

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	31	100316N01.D	1.	S16J006-TUN1	BFB 1637033	3 Oct 2016 11:03
2	32	100316N02.D	1.	S16J006-CCV1@B16J004-BS1	10ppbv 1638118@1638121	3 Oct 2016 11:51
3	31	100316N03.D	1.	S16J006-CRL1	1.0ppbv 1638115	3 Oct 2016 12:39
4	33	100316N04.D	1.	B16J004-BLK1	200mL BLANK	3 Oct 2016 13:28
5	34	100316N05.D	1.75	1609103-01	200mL 870 LEONG-SC-G	3 Oct 2016 14:23
6	35	100316N06.D	1.74	1609103-02	200mL [redacted]EVANDALE-SC-G	3 Oct 2016 15:12
7	36	100316N07.D	1.72	1609103-03	200mL F5-062	3 Oct 2016 16:01
8	37	100316N08.D	1.73	1609103-04	200mL F5-054-10ft	3 Oct 2016 16:50
9	38	100316N09.D	1.74	1609103-05	200mL F5-054-5f	3 Oct 2016 17:40
10	39	100316N10.D	1.	S16J06-IBL1	200mL CAN #874 RECERTIFICATION	3 Oct 2016 18:29
11	36	100316N11.D	1.72	1609103-03RE1	20mL F5-062	3 Oct 2016 19:14
12	36	100316N12.D	1.72	B16J004-DUP1	20mL 1609103-03RE1	3 Oct 2016 20:00
13	37	100316N13.D	1.73	1609103-04RE1	20mL F5-054-10ft	3 Oct 2016 20:46
14	38	100316N14.D	1.74	1609103-05RE1	20mL F5-054-5f	3 Oct 2016 21:31
15	10	100316N15.D	1.	S16J06-IBL2	200mL CAN #2003 RECERTIFICATION	3 Oct 2016 22:21

GC/MS QA-QC Check Report

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Tune File : D:\msdchem\1\2016\data\100316_FSAA\100316N01.D
Tune Time : 3 Oct 2016 11:03 am

Daily Calibration File : D:\msdchem\1\2016\data\100316_FSAA\100316N02.D

File	Sample	Surrogate Recovery %		Internal Standard Responses	
		1022910	3098560	2535690	
100316N02.D	S16J006-CCV1	1022906	3098557	2535686	
100316N03.D	S16J006-CRL1	1010164	3099691	2572327	
100316N04.D	B16J004-BLK1	988033	3033084	2470603	
100316N05.D	1609103-01	1004748	3066041	2550022	
100316N06.D	1609103-02	1009416	3089421	2527352	
100316N07.D	1609103-03	1026640	3036697	2559679	
100316N08.D	1609103-04	1044938	3076914	2761909	
100316N09.D	1609103-05	1051433	3149931	2755538	
100316N10.D	S16J06-IBL1	1027997	3149155	2525392	CAN #874 - RECLEAN
100316N11.D	1609103-03RE1	926981	2622031	657832*	
100316N12.D	B16J004-DUP1	935565	2684098	574758*	
100316N13.D	1609103-04RE1	983292	2698379	1030527*	
100316N14.D	1609103-05RE1	954476	2619195	946824*	
100316N15.D	S16J06-IBL2	1011417	2957589	2287825	CAN #2003

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

Created: Tue Oct 04 10:21:58 2016 AG5973N

Analysis Sequence

S16J006

Project: R17S02
Analysis: VOCs, Soil Gas

Instrument: AG5973N **Calibration ID:** 1609015 Printed: 10/04/2016 4:12 pm

Lab Number	Sample Name	Order	Analyzed Date	STD ID	ISTD ID	Sequenced By	File ID	Comments
S16J006-TUN1	MS Tune	1	10/3/16 11:03	1617033		LLH	100316N01.D	
S16J006-CCV1	CCV	2	10/3/16 11:51	1638118		LLH	100316N02.D	
B16J004-BS1	LCS	3	10/3/16 11:51			LLH	100316N02.D	
S16J006-CRL1	CRL	4	10/3/16 12:39	1638115		LLH	100316N03.D	
B16J004-BLK1	Blank	5	10/3/16 13:28		1625064	LLH	100316N04.D	
1609103-01 A	870 Leong-SC-G	6	10/3/16 14:23		1625064	LLH	100316N05.D	
1609103-02 A	[redacted] Evandale-SC-G	7	10/3/16 15:12		1625064	LLH	100316N06.D	
1609103-03 A	F5-062	8	10/3/16 16:01		1625064	LLH	100316N07.D	
1609103-04 A	F5-054-10ft	9	10/3/16 16:50		1625064	LLH	100316N08.D	
1609103-05 A	F5-054-5ft	10	10/3/16 17:40		1625064	LLH	100316N09.D	
S16J006-IBL1	can #874	11	10/3/16 18:29		1625064	LLH	100316N10.D	
1609103-03RE1 A	F5-062	12	10/3/16 19:14		1625064	LLH	100316N11.D	
B16J004-DUP1	Duplicate	13	10/3/16 20:00		1625064	LLH	100316N12.D	
1609103-04RE1 A	F5-054-10ft	14	10/3/16 20:46		1625064	LLH	100316N13.D	
1609103-05RE1 A	F5-054-5ft	15	10/3/16 21:31		1625064	LLH	100316N14.D	
S16J006-IBL2	can #2003	16	10/3/16 22:21		1625064	LLH	100316N15.D	

Sequence Comments

Reagents

Reagent #	Description

Page 149 of 508 1609103 DATA_PKG (Rev1).PDF 10/17/16 11:18:55

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Analysis Sequence

S16J006

(Continued)

Project: R17S02
Analysis: VOCs, Soil Gas

Instrument: AG5973N **Calibration ID:** 1609015 Printed: 10/04/2016 4:12 pm

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

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

Sequence Name: D:\smart\2016\100316N_FSAA.SEQ
Date: 10-04-2016
Time: 10:16:02
Int. Std Volume: 40 cc

Sample Name	Inlet #	Auto Pos	Samp Vol.	Cal 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
1609103-01	3	4	200		D:\Smart\TO15.CTD	12:00
1609103-02	3	5	200		D:\Smart\TO15.CTD	12:00
1609103-03	3	6	200		D:\Smart\TO15.CTD	12:00
1609103-04	3	7	200		D:\Smart\TO15.CTD	12:00
1609103-05	3	8	200		D:\Smart\TO15.CTD	12:00
CAN #874	3	9	200		D:\Smart\TO15.CTD	12:00
1609103-03RE1	3	6	20		D:\Smart\TO15.CTD	12:00
1609103-03RE1 DUP	3	6	20		D:\Smart\TO15.CTD	12:00
1609103-04RE1	3	7	20		D:\Smart\TO15.CTD	12:00
1609103-05RE1	3	8	20		D:\Smart\TO15.CTD	12:00
CAN #2003	3	10	200		D:\Smart\TO15.CTD	12:00

SEQUENCE DATA

S16J006

S16J006-TUN1

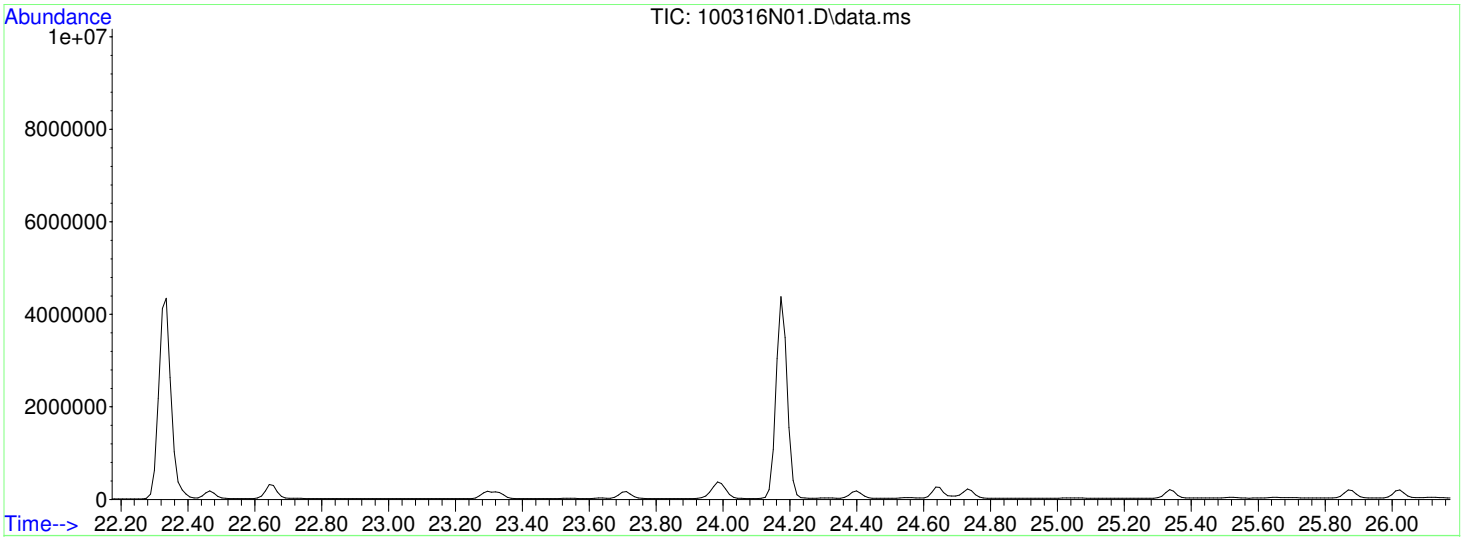
Table of Contents

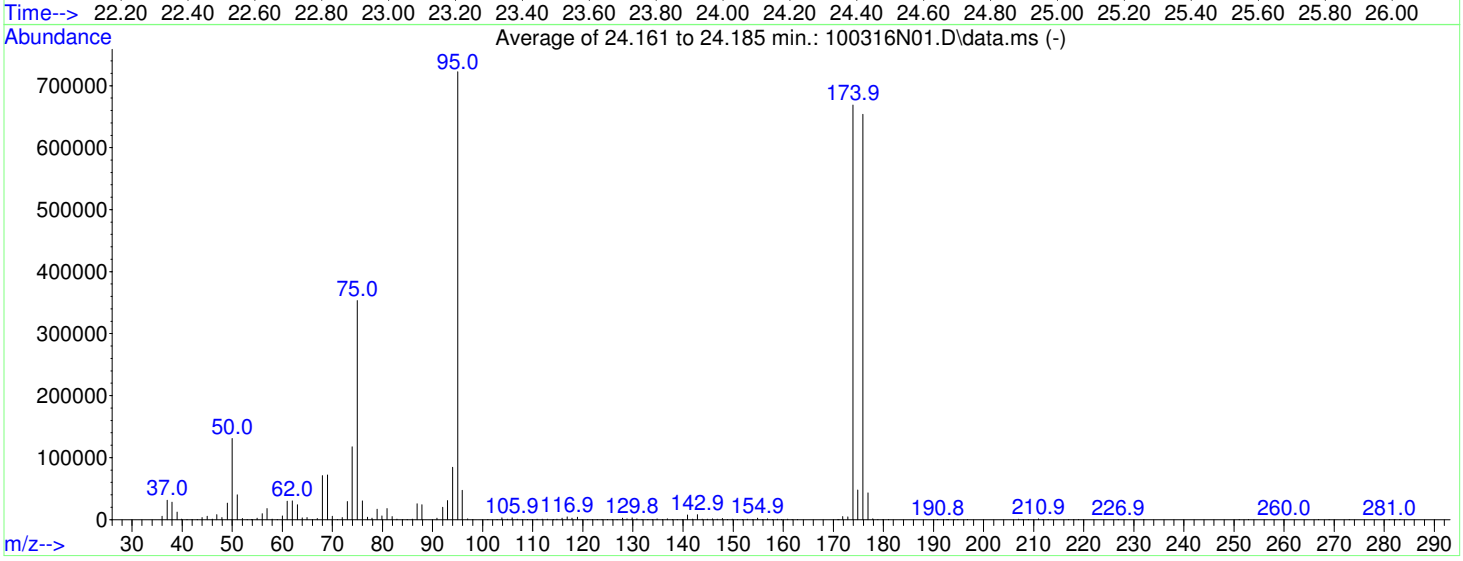
Data Path : D:\msdchem\1\2016\data\100316_FSAA\
Data File : 100316N01.D
Acq On : 3 Oct 2016 11:03 am
InstName : AG5973N
Operator : LLH
Sample : S16J006-TUN1
Misc : BFB 1637033
ALS Vial : 31 Sample Multiplier: 1

REVIEWED
By LLH at 12:25 pm, Oct 03, 2016

Integration File: rteint.p

Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Title : TO15
Last Update : Tue Sep 20 16:22:25 2016



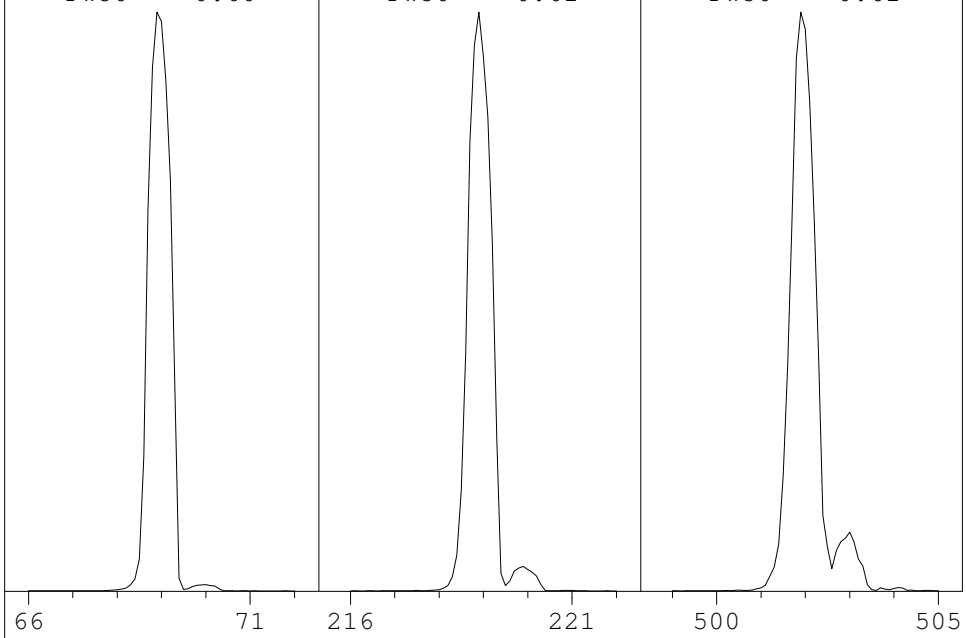


AutoFind: Scans 1736, 1737, 1738; Background Corrected with Scan 1728

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	18.1	130842	PASS
75	95	30	66	48.9	353251	PASS
95	95	100	100	100.0	722714	PASS
96	95	5	9	6.6	47480	PASS
173	174	0.00	2	0.7	4457	PASS
174	95	50	120	92.6	668907	PASS
175	174	4	9	7.1	47792	PASS
176	174	93	101	97.8	654037	PASS
177	176	5	9	6.6	42955	PASS

Mon Oct 03 10:33:09 2016 Instrum
C:\msdchem\1\5973N\bfb0100316.u US43120931

Mass	68.90	Mass	218.90	Mass	501.90
Ab	425382	Ab	296087	Ab	22824
Pw50	0.60	Pw50	0.61	Pw50	0.61

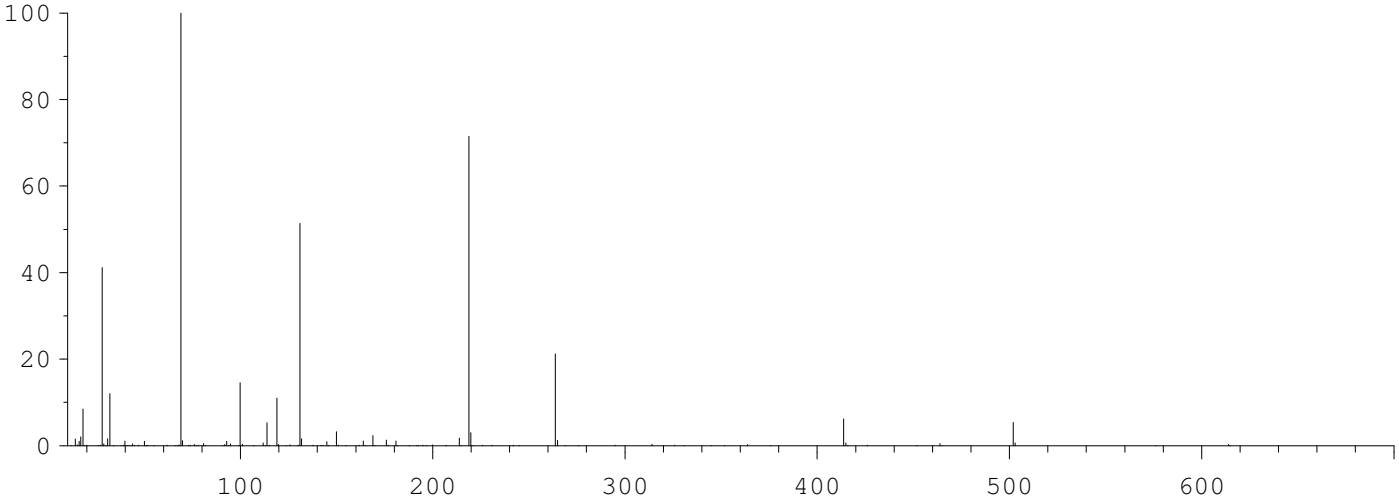


Ion Pol	Pos	MassGain	145
		MassOffs	-11
Emission	34.6	AmuGain	2536
EIEnrgy	69.9	AmuOffs	133
Filament	1	Wid219	-0.018
		DC Pol	Pos
Repeller	28.78		
IonFcus	111.0	HEDEnab	On
EntLens	14.5	EMVolts	1153
EntOffs	19.07		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	Turbo Speed	100
MS Quad	150		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
119 peaks Base: 69.00 Abundance: 396800



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	396800	100.00	69.90	4639	1.17
218.90	283648	71.48	219.90	12024	4.24
502.00	21240	5.35	503.00	2397	11.29

Air/Water Check: H2O~8.44% N2~41.19% O2~12.01% CO2~0.42% N2/H2O~488.22%

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 119137
Repeller Maximum 35 volts using ion 502; Gain Factor 1.19

MassGain Values(Samples): 148(3) 152(2) 164(1) 194(0) 220(FS)

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	133.0	133.0	133.0	133.0	133.0	133.0	133.0
Entrance Lens Offset:	19.1	19.1	19.1	19.1	19.1	19.1	19.1

S16J006-CCV1

Data Path : D:\msdchem\1\2016\data\100316_FSAA\
Data File : 100316N02.D
Acq On : 3 Oct 2016 11:51 am
InstName : AG5973N
Operator : LLH
Sample : S16J006-CCV1@B16J004-BS1
Misc : 10ppbv 1638118@1638121
ALS Vial : 32 Sample Multiplier: 1

REVIEWED
By LLH at 12:24 pm, Oct 03, 2016

Quant Time: Oct 03 12:22:19 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 2016
Response via : Initial Calibration

2 OUT - nontarget

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	90	0.00
2	T	Propene	0.700	0.581	17.0	81	-0.01
3	T	Dichlorodifluoromethane	2.693	2.363	12.3	82	-0.01
4	T	1,2-Dichlorotetrafluoroetha	2.577	2.174	15.6	81	-0.01
5	T	Chloromethane	0.770	0.643	16.5	81	-0.01
6	T	Vinyl chloride	0.809	0.667	17.6	80	-0.01
7	T	1,3-Butadiene	0.630	0.520	17.5	80	-0.01
8	T	Bromomethane	0.777	0.667	14.2	83	-0.01
9	T	Chloroethane	0.393	0.329	16.3	82	-0.01
10	T	Bromoethene	0.768	0.579	24.6	73	-0.01
11	T	Trichlorofluoromethane	2.518	2.136	15.2	82	-0.01
12	T	1,1,2-Trichloro-1,2,2-trifl	1.657	1.319	20.4	77	-0.01
13	T	1,1-Dichloroethene	1.350	1.053	22.0	75	-0.01
14	T	Acetone	1.227	1.097	10.6	80	0.00
15	T	Carbon disulfide	2.142	1.786	16.6	81	-0.01
16	T	2-Propanol	1.208	0.935	22.6	72	0.00
17	T	Allyl chloride	1.035	0.839	18.9	77	-0.01
18	T	Dichloromethane	1.128	0.897	20.5	85	0.00
19	T	tert-Butyl methyl ether (MT	2.254	1.863	17.3	70	0.00
20	T	trans-1,2-Dichloroethene	1.190	1.028	13.6	83	0.00
21	T	Hexane	1.356	1.108	18.3	78	-0.01
22	T	1,1-Dichloroethane	1.643	1.376	16.3	81	0.00
23	T	Vinyl acetate	1.985	1.625	18.1	71	0.00
24	T	cis-1,2-Dichloroethene	1.144	0.953	16.7	78	0.00
25	T	2-Butanone (MEK)	0.397	0.358	9.8	79	0.00
26	T	Ethyl acetate	0.263	0.234	11.0	79	0.00
27	T	Tetrahydrofuran	0.973	0.866	11.0	81	0.00
28	T	Chloroform	1.991	1.746	12.3	84	0.00
29	T	Cyclohexane	1.380	1.183	14.3	81	-0.01
30	T	1,1,1-Trichloroethane	2.250	1.996	11.3	85	0.00
31	T	Carbon tetrachloride	2.412	2.125	11.9	84	-0.01
32	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	82	0.00
33	T	Benzene	0.755	0.736	2.5	84	0.00
34	T	2,2,4-Trimethylpentane	1.139	1.116	2.0	83	0.00
35	T	1,2-Dichloroethane	0.356	0.358	-0.6	86	0.00
36	T	Heptane	0.425	0.436	-2.6	85	0.00
37	T	Trichloroethene	0.324	0.296	8.6	77	0.00
38	T	1,2-Dichloropropane	0.260	0.257	1.2	83	0.00
39	T	1,4-Dioxane	0.171	0.153	10.5	75	0.00
40	T	Bromodichloromethane	0.563	0.561	0.4	84	0.00
41	T	cis-1,3-Dichloropropene	0.390	0.392	-0.5	80	0.00
42	T	4-Methyl-2-pentanone (MIBK)	0.608	0.604	0.7	83	0.00
43	I	CHLOROBENZENE-d5	1.000	1.000	0.0	81	0.00
44	T	Toluene	1.079	1.060	1.8	80	0.00
45	T	trans-1,3-Dichloropropene	0.472	0.483	-2.3	80	0.00
46	T	1,1,2-Trichloroethane	0.360	0.361	-0.3	81	0.00
47	T	Tetrachloroethene	0.589	0.556	5.6	77	0.00
48	T	2-Hexanone	0.716	0.696	2.8	81	-0.01
49	T	Chlorodibromomethane	0.735	0.733	0.3	81	0.00
50	T	1,2-Dibromoethane (EDB)	0.554	0.537	3.1	78	0.00
51	T	Chlorobenzene	0.858	0.843	1.7	80	0.01

Data Path : D:\msdchem\1\2016\data\100316_FSAA\
Data File : 100316N02.D
Acq On : 3 Oct 2016 11:51 am
InstName : AG5973N
Operator : LLH
Sample : S16J006-CCV1@B16J004-BS1
Misc : 10ppbv 1638118@1638121
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Oct 03 12:22:19 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 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	1.463	1.446	1.2	79	0.00
53 T	m&p-Xylene	1.144	1.154	-0.9	81	0.00
54 T	o-Xylene	1.164	1.145	1.6	78	0.01
55 T	Styrene	0.923	0.901	2.4	77	0.00
56 T	Bromoform	0.825	0.809	1.9	79	0.00
57 T	1,1,2,2-Tetrachloroethane	0.880	0.820	6.8	78	0.00
58 T	4-Ethyltoluene	1.861	1.621	12.9	72	0.00
59 T	1,3,5-Trimethylbenzene	1.476	1.300	11.9	72	0.00
60 T	1,2,4-Trimethylbenzene	1.518	1.285	15.3	69	0.00
61 T	1,3-Dichlorobenzene	1.069	0.878	17.9	68	0.00
62 T	1,4-Dichlorobenzene	1.041	0.845	18.8	66	0.00
63 T	Benzyl chloride	1.208	1.034	14.4	68	0.00
64 T	1,2-Dichlorobenzene	1.085	0.835	23.0	64	0.00
65 T	1,2,4-Trichlorobenzene	0.979	0.574	41.4#	48#	0.00
66 T	Hexachlorobutadiene	1.098	0.685	37.6#	55#	0.00

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

Data Path : D:\msdchem\1\2016\data\100316_FSAA\
Data File : 100316N02.D
Acq On : 3 Oct 2016 11:51 am
InstName : AG5973N
Operator : LLH
Sample : S16J006-CCV1@B16J004-BS1
Misc : 10ppbv 1638118@1638121
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Oct 03 12:22:19 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.469	49	1022906	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	3098557	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.335	117	2535686	20.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.452	41	297134	9.13	ppbv	99
3) Dichlorodifluoromethane	4.547	85	1065594	8.51	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.903	85	1010780	8.44	ppbv	97
5) Chloromethane	5.105	50	316884	8.85	ppbv	99
6) Vinyl chloride	5.425	62	322684	8.58	ppbv	99
7) 1,3-Butadiene	5.520	54	244247	8.34	ppbv	97
8) Bromomethane	6.457	94	310355	8.59	ppbv	99
9) Chloroethane	6.789	64	152907	8.37	ppbv	99
10) Bromoethene	7.370	106	295976	8.29	ppbv	99
11) Trichlorofluoromethane	7.512	101	973366	8.31	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.338	151	625457	8.12	ppbv	97
13) 1,1-Dichloroethene	9.421	61	509370	8.12	ppbv	97
14) Acetone	9.955	43	561108	9.84	ppbv	98
15) Carbon disulfide	10.145	76	913483	9.17	ppbv	99
16) 2-Propanol	10.560	45	478456	8.52	ppbv	86
17) Allyl chloride	10.951	41	429069	8.92	ppbv	97
18) Dichloromethane	11.485	49	421101	8.03	ppbv	95
19) tert-Butyl methyl ethe...	12.160	73	935432	8.93	ppbv	99
20) trans-1,2-Dichloroethene	12.196	61	520776	9.41	ppbv	96
21) Hexane	12.777	57	535990	8.50	ppbv	94
22) 1,1-Dichloroethane	13.512	63	639926	8.38	ppbv	100
23) Vinyl acetate	13.655	43	823742	8.93	ppbv	99
24) cis-1,2-Dichloroethene	14.935	61	460682	8.66	ppbv	97
25) 2-Butanone (MEK)	15.030	72	181197	9.82	ppbv #	1
26) Ethyl acetate	15.078	61	117596	9.62	ppbv #	98
27) Tetrahydrofuran	15.481	42	426736	9.44	ppbv	97
28) Chloroform	15.623	83	819823	8.86	ppbv	95
29) Cyclohexane	15.848	56	582905	9.08	ppbv	96
30) 1,1,1-Trichloroethane	15.908	97	909567	8.70	ppbv	99
31) Carbon tetrachloride	16.157	117	958588	8.55	ppbv	100
33) Benzene	16.643	78	1186568	10.04	ppbv	99
34) 2,2,4-Trimethylpentane	16.596	57	1851050	10.39	ppbv	97
35) 1,2-Dichloroethane	16.845	62	559577	10.05	ppbv	100
36) Heptane	16.975	43	722688	10.87	ppbv	97
37) Trichloroethene	17.864	130	500884	9.87	ppbv	99
38) 1,2-Dichloropropane	18.362	63	414558	10.19	ppbv	97
39) 1,4-Dioxane	18.540	88	263858	9.87	ppbv	95
40) Bromodichloromethane	18.813	83	939670	10.67	ppbv	99
41) cis-1,3-Dichloropropene	19.584	75	662810	10.86	ppbv	98
42) 4-Methyl-2-pentanone (...	19.797	43	1010595	10.62	ppbv	97
44) Toluene	20.058	91	1411263	10.31	ppbv	100
45) trans-1,3-Dichloropropene	20.521	75	649284	10.86	ppbv	97
46) 1,1,2-Trichloroethane	20.829	97	485722	10.63	ppbv	97
47) Tetrachloroethene	20.912	166	746861	10.00	ppbv	99
48) 2-Hexanone	21.137	43	961751	10.60	ppbv	96
49) Chlorodibromomethane	21.434	129	1003281	10.77	ppbv	100
50) 1,2-Dibromoethane (EDB)	21.659	107	742468	10.57	ppbv	100
51) Chlorobenzene	22.383	112	1143930	10.51	ppbv	98
52) Ethylbenzene	22.465	91	1924861	10.38	ppbv	100
53) m&p-Xylene	22.643	91	3102839	21.39	ppbv	99
54) o-Xylene	23.296	91	1524634	10.33	ppbv	98

Data Path : D:\msdchem\1\2016\data\100316_FSAA\
Data File : 100316N02.D
Acq On : 3 Oct 2016 11:51 am
InstName : AG5973N
Operator : LLH
Sample : S16J006-CCV1@B16J004-BS1
Misc : 10ppbv 1638118@1638121
ALS Vial : 32 Sample Multiplier: 1

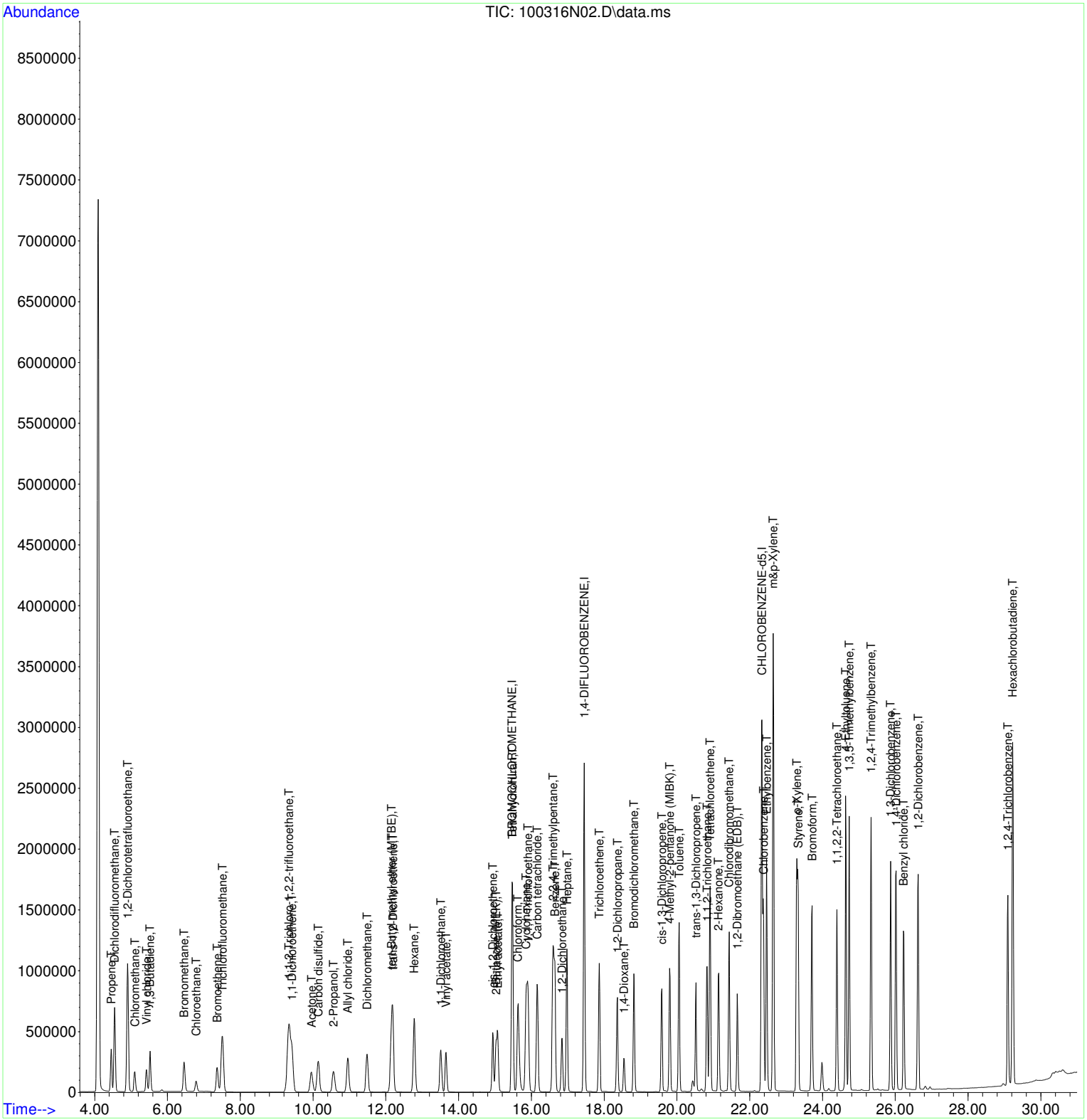
Quant Time: Oct 03 12:22:19 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55) Styrene	23.331	104	1176279	10.05	ppbv	98
56) Bromoform	23.711	173	1097461	10.50	ppbv	99
57) 1,1,2,2-Tetrachloroethane	24.398	83	1081450	9.70	ppbv	100
58) 4-Ethyltoluene	24.636	105	2219302	9.41	ppbv	99
59) 1,3,5-Trimethylbenzene	24.730	105	1763910	9.42	ppbv	99
60) 1,2,4-Trimethylbenzene	25.335	105	1727598	8.98	ppbv	99
61) 1,3-Dichlorobenzene	25.869	146	1168595	8.62	ppbv	99
62) 1,4-Dichlorobenzene	26.023	146	1125388	8.53	ppbv	99
63) Benzyl chloride	26.225	91	1441700	9.42	ppbv	99
64) 1,2-Dichlorobenzene	26.628	146	1101080	8.00	ppbv	99
65) 1,2,4-Trichlorobenzene	29.094	180	756929	6.10	ppbv	100
66) Hexachlorobutadiene	29.225	225	894491	6.42	ppbv	100

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

Data Path : D:\msdchem\1\2016\data\100316_FSAA\
Data File : 100316N02.D
Acq On : 3 Oct 2016 11:51 am
InstName : AG5973N
Operator : LLH
Sample : S16J006-CCV1@B16J004-BS1
Misc : 10ppbv 1638118@1638121
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Oct 03 12:22:19 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 2016
Response via : Initial Calibration



REVIEWED
By LLH at 12:25 pm, Oct 03, 2016

LCS REPORT

Instrument Name: AG5973N
Sample Name: S16J006-CCV1@B16J004-BS1
Misc Info: 10ppbv 1638118@1638121
Date Acquired: 10/3/2016 11:51
QLast Update: Tue Sep 20 16:22:25 2016
Operator: LLH

#	Name	Ret Time	Amount	Concentration	%R	QC	LIMIT	STATUS
1)	BROMOCHLOROMETHANE	15.47	#N/A	22.00	#N/A	70.0	130.0	#N/A
2)	Propene	4.45	11.00	9.13	83%	72.0	121.0	pass
3)	Dichlorodifluoromethane	4.55	9.70	8.51	88%	68.0	129.0	pass
4)	1,2-Dichlorotetrafluoroethane	4.90	10.00	8.44	84%	67.0	127.0	pass
5)	Chloromethane	5.10	10.60	8.85	83%	70.0	123.0	pass
6)	Vinyl chloride	5.42	10.40	8.58	82%	69.0	125.0	pass
7)	1,3-Butadiene	5.52	10.10	8.34	83%	75.0	121.0	pass
8)	Bromomethane	6.46	10.00	8.59	86%	66.0	125.0	pass
9)	Chloroethane	6.79	10.00	8.37	84%	67.0	125.0	pass
10)	Bromoethene	7.37	11.00	8.29	75%	68.0	124.0	pass
11)	Trichlorofluoromethane	7.51	9.80	8.31	85%	68.0	133.0	pass
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	9.34	10.20	8.12	80%	64.0	125.0	pass
13)	1,1-Dichloroethene	9.42	10.40	8.12	78%	73.0	128.0	pass
14)	Acetone	9.95	11.00	9.84	89%	67.0	141.0	pass
15)	Carbon disulfide	10.14	11.00	9.17	83%	45.0	158.0	pass
16)	2-Propanol	10.56	11.00	8.52	77%	72.0	132.0	pass
17)	Allyl chloride	10.95	11.00	8.92	81%	75.0	132.0	pass
18)	Dichloromethane	11.48	10.10	8.03	80%	73.0	116.0	pass
19)	tert-Butyl methyl ether (MTBE)	12.16	10.80	8.93	83%	74.0	131.0	pass
20)	trans-1,2-Dichloroethene	12.20	10.90	9.41	86%	80.0	123.0	pass
21)	Hexane	12.78	10.40	8.50	82%	75.0	124.0	pass
22)	1,1-Dichloroethane	13.51	10.00	8.38	84%	72.0	125.0	pass
23)	Vinyl acetate	13.65	10.90	8.93	82%	31.0	171.0	pass
24)	cis-1,2-Dichloroethene	14.94	10.40	8.66	83%	77.0	129.0	pass
25)	2-Butanone (MEK)	15.03	10.90	9.82	90%	69.0	137.0	pass
26)	Ethyl acetate	15.08	10.80	9.62	89%	75.0	127.0	pass
27)	Tetrahydrofuran	15.48	10.60	9.44	89%	78.0	120.0	pass
28)	Chloroform	15.62	10.10	8.86	88%	77.0	126.0	pass
29)	Cyclohexane	15.85	10.60	9.08	86%	76.0	124.0	pass
30)	1,1,1-Trichloroethane	15.91	9.80	8.70	89%	74.0	133.0	pass
31)	Carbon tetrachloride	16.16	9.70	8.55	88%	71.0	141.0	pass
32)	1,4-DIFLUOROBENZENE	17.45	#N/A	19.80	#N/A	70.0	130.0	#N/A
33)	Benzene	16.64	10.30	10.04	98%	81.0	125.0	pass
34)	2,2,4-Trimethylpentane	16.60	10.60	10.39	98%	82.0	125.0	pass
35)	1,2-Dichloroethane	16.84	10.00	10.05	101%	61.0	153.0	pass
36)	Heptane	16.98	10.60	10.87	103%	80.0	129.0	pass
37)	Trichloroethene	17.86	10.80	9.87	91%	73.0	128.0	pass
38)	1,2-Dichloropropane	18.36	10.30	10.19	99%	77.0	129.0	pass
39)	1,4-Dioxane	18.54	11.00	9.87	90%	58.0	140.0	pass
40)	Bromodichloromethane	18.81	10.70	10.67	100%	76.0	137.0	pass
41)	cis-1,3-Dichloropropene	19.58	10.80	10.86	101%	80.0	136.0	pass
42)	4-Methyl-2-pentanone (MIBK)	19.80	10.70	10.62	99%	65.0	140.0	pass
43)	CHLOROBENZENE-d5	22.34	#N/A	20.00	#N/A	70.0	130.0	#N/A
44)	Toluene	20.06	10.50	10.31	98%	78.0	133.0	pass
45)	trans-1,3-Dichloropropene	20.52	10.60	10.86	102%	79.0	146.0	pass
46)	1,1,2-Trichloroethane	20.83	10.60	10.63	100%	74.0	134.0	pass
47)	Tetrachloroethene	20.91	10.60	10.00	94%	73.0	130.0	pass

48)	2-Hexanone	21.14	10.90	10.60	97%	50.0	162.0	pass	
49)	Chlorodibromomethane	21.43	10.80	10.77	100%	81.0	135.0	pass	
50)	1,2-Dibromoethane (EDB)	21.66	10.90	10.57	97%	78.0	133.0	pass	
51)	Chlorobenzene	22.38	10.70	10.51	98%	81.0	126.0	pass	
52)	Ethylbenzene	22.47	10.50	10.38	99%	82.0	130.0	pass	
53)	m&p-Xylene	22.64	21.20	21.39	101%	82.0	131.0	pass	
54)	o-Xylene	23.30	10.50	10.33	98%	82.0	132.0	pass	
55)	Styrene	23.33	10.30	10.05	98%	65.0	141.0	pass	
56)	Bromoform	23.71	10.70	10.50	98%	84.0	137.0	pass	
57)	1,1,2,2-Tetrachloroethane	24.40	10.40	9.70	93%	73.0	127.0	pass	
58)	4-Ethyltoluene	24.64	10.80	9.41	87%	81.0	127.0	pass	
59)	1,3,5-Trimethylbenzene	24.73	10.70	9.42	88%	77.0	132.0	pass	
60)	1,2,4-Trimethylbenzene	25.34	10.60	8.98	85%	78.0	131.0	pass	
61)	1,3-Dichlorobenzene	25.87	10.50	8.62	82%	79.0	124.0	pass	
62)	1,4-Dichlorobenzene	26.02	10.50	8.53	81%	75.0	127.0	pass	
63)	Benzyl chloride	26.22	11.00	9.42	86%	67.0	156.0	pass	
64)	1,2-Dichlorobenzene	26.63	10.40	8.00	77%	77.0	124.0	FAIL	ok
65)	1,2,4-Trichlorobenzene	29.09	10.40	6.10	59%	55.0	132.0	pass	
66)	Hexachlorobutadiene	29.22	10.30	6.42	62%	52.0	131.0	pass	

B16J004-BS1

Table of Contents

Data Path : D:\msdchem\1\2016\data\100316_FSAA\
Data File : 100316N02.D
Acq On : 3 Oct 2016 11:51 am
InstName : AG5973N
Operator : LLH
Sample : S16J006-CCV1@B16J004-BS1
Misc : 10ppbv 1638118@1638121
ALS Vial : 32 Sample Multiplier: 1

REVIEWED
By LLH at 12:24 pm, Oct 03, 2016

Quant Time: Oct 03 12:22:19 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 2016
Response via : Initial Calibration

2 OUT - nontarget

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	90	0.00
2	T	Propene	0.700	0.581	17.0	81	-0.01
3	T	Dichlorodifluoromethane	2.693	2.363	12.3	82	-0.01
4	T	1,2-Dichlorotetrafluoroetha	2.577	2.174	15.6	81	-0.01
5	T	Chloromethane	0.770	0.643	16.5	81	-0.01
6	T	Vinyl chloride	0.809	0.667	17.6	80	-0.01
7	T	1,3-Butadiene	0.630	0.520	17.5	80	-0.01
8	T	Bromomethane	0.777	0.667	14.2	83	-0.01
9	T	Chloroethane	0.393	0.329	16.3	82	-0.01
10	T	Bromoethene	0.768	0.579	24.6	73	-0.01
11	T	Trichlorofluoromethane	2.518	2.136	15.2	82	-0.01
12	T	1,1,2-Trichloro-1,2,2-trifl	1.657	1.319	20.4	77	-0.01
13	T	1,1-Dichloroethene	1.350	1.053	22.0	75	-0.01
14	T	Acetone	1.227	1.097	10.6	80	0.00
15	T	Carbon disulfide	2.142	1.786	16.6	81	-0.01
16	T	2-Propanol	1.208	0.935	22.6	72	0.00
17	T	Allyl chloride	1.035	0.839	18.9	77	-0.01
18	T	Dichloromethane	1.128	0.897	20.5	85	0.00
19	T	tert-Butyl methyl ether (MT	2.254	1.863	17.3	70	0.00
20	T	trans-1,2-Dichloroethene	1.190	1.028	13.6	83	0.00
21	T	Hexane	1.356	1.108	18.3	78	-0.01
22	T	1,1-Dichloroethane	1.643	1.376	16.3	81	0.00
23	T	Vinyl acetate	1.985	1.625	18.1	71	0.00
24	T	cis-1,2-Dichloroethene	1.144	0.953	16.7	78	0.00
25	T	2-Butanone (MEK)	0.397	0.358	9.8	79	0.00
26	T	Ethyl acetate	0.263	0.234	11.0	79	0.00
27	T	Tetrahydrofuran	0.973	0.866	11.0	81	0.00
28	T	Chloroform	1.991	1.746	12.3	84	0.00
29	T	Cyclohexane	1.380	1.183	14.3	81	-0.01
30	T	1,1,1-Trichloroethane	2.250	1.996	11.3	85	0.00
31	T	Carbon tetrachloride	2.412	2.125	11.9	84	-0.01
32	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	82	0.00
33	T	Benzene	0.755	0.736	2.5	84	0.00
34	T	2,2,4-Trimethylpentane	1.139	1.116	2.0	83	0.00
35	T	1,2-Dichloroethane	0.356	0.358	-0.6	86	0.00
36	T	Heptane	0.425	0.436	-2.6	85	0.00
37	T	Trichloroethene	0.324	0.296	8.6	77	0.00
38	T	1,2-Dichloropropane	0.260	0.257	1.2	83	0.00
39	T	1,4-Dioxane	0.171	0.153	10.5	75	0.00
40	T	Bromodichloromethane	0.563	0.561	0.4	84	0.00
41	T	cis-1,3-Dichloropropene	0.390	0.392	-0.5	80	0.00
42	T	4-Methyl-2-pentanone (MIBK)	0.608	0.604	0.7	83	0.00
43	I	CHLOROBENZENE-d5	1.000	1.000	0.0	81	0.00
44	T	Toluene	1.079	1.060	1.8	80	0.00
45	T	trans-1,3-Dichloropropene	0.472	0.483	-2.3	80	0.00
46	T	1,1,2-Trichloroethane	0.360	0.361	-0.3	81	0.00
47	T	Tetrachloroethene	0.589	0.556	5.6	77	0.00
48	T	2-Hexanone	0.716	0.696	2.8	81	-0.01
49	T	Chlorodibromomethane	0.735	0.733	0.3	81	0.00
50	T	1,2-Dibromoethane (EDB)	0.554	0.537	3.1	78	0.00
51	T	Chlorobenzene	0.858	0.843	1.7	80	0.01

Data Path : D:\msdchem\1\2016\data\100316_FSAA\
Data File : 100316N02.D
Acq On : 3 Oct 2016 11:51 am
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Operator : LLH
Sample : S16J006-CCV1@B16J004-BS1
Misc : 10ppbv 1638118@1638121
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Oct 03 12:22:19 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 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	1.463	1.446	1.2	79	0.00
53 T	m&p-Xylene	1.144	1.154	-0.9	81	0.00
54 T	o-Xylene	1.164	1.145	1.6	78	0.01
55 T	Styrene	0.923	0.901	2.4	77	0.00
56 T	Bromoform	0.825	0.809	1.9	79	0.00
57 T	1,1,2,2-Tetrachloroethane	0.880	0.820	6.8	78	0.00
58 T	4-Ethyltoluene	1.861	1.621	12.9	72	0.00
59 T	1,3,5-Trimethylbenzene	1.476	1.300	11.9	72	0.00
60 T	1,2,4-Trimethylbenzene	1.518	1.285	15.3	69	0.00
61 T	1,3-Dichlorobenzene	1.069	0.878	17.9	68	0.00
62 T	1,4-Dichlorobenzene	1.041	0.845	18.8	66	0.00
63 T	Benzyl chloride	1.208	1.034	14.4	68	0.00
64 T	1,2-Dichlorobenzene	1.085	0.835	23.0	64	0.00
65 T	1,2,4-Trichlorobenzene	0.979	0.574	41.4#	48#	0.00
66 T	Hexachlorobutadiene	1.098	0.685	37.6#	55#	0.00

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

Data Path : D:\msdchem\1\2016\data\100316_FSAA\
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Quant Time: Oct 03 12:22:19 2016
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Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.469	49	1022906	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	3098557	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.335	117	2535686	20.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.452	41	297134	9.13	ppbv	99
3) Dichlorodifluoromethane	4.547	85	1065594	8.51	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.903	85	1010780	8.44	ppbv	97
5) Chloromethane	5.105	50	316884	8.85	ppbv	99
6) Vinyl chloride	5.425	62	322684	8.58	ppbv	99
7) 1,3-Butadiene	5.520	54	244247	8.34	ppbv	97
8) Bromomethane	6.457	94	310355	8.59	ppbv	99
9) Chloroethane	6.789	64	152907	8.37	ppbv	99
10) Bromoethene	7.370	106	295976	8.29	ppbv	99
11) Trichlorofluoromethane	7.512	101	973366	8.31	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.338	151	625457	8.12	ppbv	97
13) 1,1-Dichloroethene	9.421	61	509370	8.12	ppbv	97
14) Acetone	9.955	43	561108	9.84	ppbv	98
15) Carbon disulfide	10.145	76	913483	9.17	ppbv	99
16) 2-Propanol	10.560	45	478456	8.52	ppbv	86
17) Allyl chloride	10.951	41	429069	8.92	ppbv	97
18) Dichloromethane	11.485	49	421101	8.03	ppbv	95
19) tert-Butyl methyl ethe...	12.160	73	935432	8.93	ppbv	99
20) trans-1,2-Dichloroethene	12.196	61	520776	9.41	ppbv	96
21) Hexane	12.777	57	535990	8.50	ppbv	94
22) 1,1-Dichloroethane	13.512	63	639926	8.38	ppbv	100
23) Vinyl acetate	13.655	43	823742	8.93	ppbv	99
24) cis-1,2-Dichloroethene	14.935	61	460682	8.66	ppbv	97
25) 2-Butanone (MEK)	15.030	72	181197	9.82	ppbv #	1
26) Ethyl acetate	15.078	61	117596	9.62	ppbv #	98
27) Tetrahydrofuran	15.481	42	426736	9.44	ppbv	97
28) Chloroform	15.623	83	819823	8.86	ppbv	95
29) Cyclohexane	15.848	56	582905	9.08	ppbv	96
30) 1,1,1-Trichloroethane	15.908	97	909567	8.70	ppbv	99
31) Carbon tetrachloride	16.157	117	958588	8.55	ppbv	100
33) Benzene	16.643	78	1186568	10.04	ppbv	99
34) 2,2,4-Trimethylpentane	16.596	57	1851050	10.39	ppbv	97
35) 1,2-Dichloroethane	16.845	62	559577	10.05	ppbv	100
36) Heptane	16.975	43	722688	10.87	ppbv	97
37) Trichloroethene	17.864	130	500884	9.87	ppbv	99
38) 1,2-Dichloropropane	18.362	63	414558	10.19	ppbv	97
39) 1,4-Dioxane	18.540	88	263858	9.87	ppbv	95
40) Bromodichloromethane	18.813	83	939670	10.67	ppbv	99
41) cis-1,3-Dichloropropene	19.584	75	662810	10.86	ppbv	98
42) 4-Methyl-2-pentanone (...	19.797	43	1010595	10.62	ppbv	97
44) Toluene	20.058	91	1411263	10.31	ppbv	100
45) trans-1,3-Dichloropropene	20.521	75	649284	10.86	ppbv	97
46) 1,1,2-Trichloroethane	20.829	97	485722	10.63	ppbv	97
47) Tetrachloroethene	20.912	166	746861	10.00	ppbv	99
48) 2-Hexanone	21.137	43	961751	10.60	ppbv	96
49) Chlorodibromomethane	21.434	129	1003281	10.77	ppbv	100
50) 1,2-Dibromoethane (EDB)	21.659	107	742468	10.57	ppbv	100
51) Chlorobenzene	22.383	112	1143930	10.51	ppbv	98
52) Ethylbenzene	22.465	91	1924861	10.38	ppbv	100
53) m&p-Xylene	22.643	91	3102839	21.39	ppbv	99
54) o-Xylene	23.296	91	1524634	10.33	ppbv	98

Data Path : D:\msdchem\1\2016\data\100316_FSAA\
Data File : 100316N02.D
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InstName : AG5973N
Operator : LLH
Sample : S16J006-CCV1@B16J004-BS1
Misc : 10ppbv 1638118@1638121
ALS Vial : 32 Sample Multiplier: 1

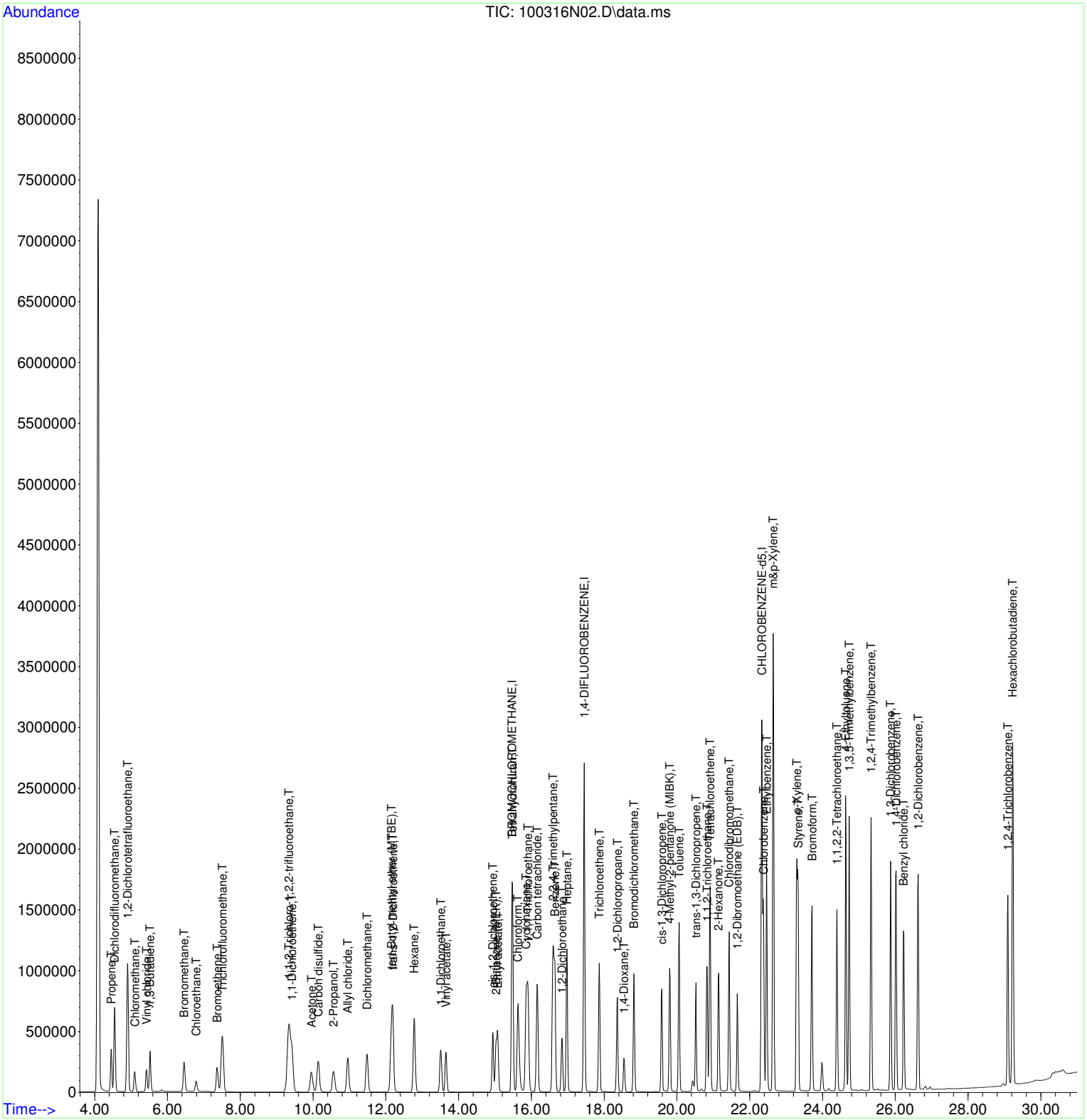
Quant Time: Oct 03 12:22:19 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	Styrene	23.331	104	1176279	10.05	ppbv	98
56)	Bromoform	23.711	173	1097461	10.50	ppbv	99
57)	1,1,2,2-Tetrachloroethane	24.398	83	1081450	9.70	ppbv	100
58)	4-Ethyltoluene	24.636	105	2219302	9.41	ppbv	99
59)	1,3,5-Trimethylbenzene	24.730	105	1763910	9.42	ppbv	99
60)	1,2,4-Trimethylbenzene	25.335	105	1727598	8.98	ppbv	99
61)	1,3-Dichlorobenzene	25.869	146	1168595	8.62	ppbv	99
62)	1,4-Dichlorobenzene	26.023	146	1125388	8.53	ppbv	99
63)	Benzyl chloride	26.225	91	1441700	9.42	ppbv	99
64)	1,2-Dichlorobenzene	26.628	146	1101080	8.00	ppbv	99
65)	1,2,4-Trichlorobenzene	29.094	180	756929	6.10	ppbv	100
66)	Hexachlorobutadiene	29.225	225	894491	6.42	ppbv	100

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

Data Path : D:\msdchem\1\2016\data\100316_FSAA\
Data File : 100316N02.D
Acq On : 3 Oct 2016 11:51 am
InstName : AG5973N
Operator : LLH
Sample : S16J006-CCV1@B16J004-BS1
Misc : 10ppbv 1638118@1638121
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Oct 03 12:22:19 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 2016
Response via : Initial Calibration



REVIEWED
By LLH at 12:25 pm, Oct 03, 2016

LCS REPORT

Instrument Name: AG5973N
Sample Name: S16J006-CCV1@B16J004-BS1
Misc Info: 10ppbv 1638118@1638121
Date Acquired: 10/3/2016 11:51
QLast Update: Tue Sep 20 16:22:25 2016
Operator: LLH

#	Name	Ret Time	Amount	Concentration	%R	QC	LIMIT	STATUS
1)	BROMOCHLOROMETHANE	15.47	#N/A	22.00	#N/A	70.0	130.0	#N/A
2)	Propene	4.45	11.00	9.13	83%	72.0	121.0	pass
3)	Dichlorodifluoromethane	4.55	9.70	8.51	88%	68.0	129.0	pass
4)	1,2-Dichlorotetrafluoroethane	4.90	10.00	8.44	84%	67.0	127.0	pass
5)	Chloromethane	5.10	10.60	8.85	83%	70.0	123.0	pass
6)	Vinyl chloride	5.42	10.40	8.58	82%	69.0	125.0	pass
7)	1,3-Butadiene	5.52	10.10	8.34	83%	75.0	121.0	pass
8)	Bromomethane	6.46	10.00	8.59	86%	66.0	125.0	pass
9)	Chloroethane	6.79	10.00	8.37	84%	67.0	125.0	pass
10)	Bromoethene	7.37	11.00	8.29	75%	68.0	124.0	pass
11)	Trichlorofluoromethane	7.51	9.80	8.31	85%	68.0	133.0	pass
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	9.34	10.20	8.12	80%	64.0	125.0	pass
13)	1,1-Dichloroethene	9.42	10.40	8.12	78%	73.0	128.0	pass
14)	Acetone	9.95	11.00	9.84	89%	67.0	141.0	pass
15)	Carbon disulfide	10.14	11.00	9.17	83%	45.0	158.0	pass
16)	2-Propanol	10.56	11.00	8.52	77%	72.0	132.0	pass
17)	Allyl chloride	10.95	11.00	8.92	81%	75.0	132.0	pass
18)	Dichloromethane	11.48	10.10	8.03	80%	73.0	116.0	pass
19)	tert-Butyl methyl ether (MTBE)	12.16	10.80	8.93	83%	74.0	131.0	pass
20)	trans-1,2-Dichloroethene	12.20	10.90	9.41	86%	80.0	123.0	pass
21)	Hexane	12.78	10.40	8.50	82%	75.0	124.0	pass
22)	1,1-Dichloroethane	13.51	10.00	8.38	84%	72.0	125.0	pass
23)	Vinyl acetate	13.65	10.90	8.93	82%	31.0	171.0	pass
24)	cis-1,2-Dichloroethene	14.94	10.40	8.66	83%	77.0	129.0	pass
25)	2-Butanone (MEK)	15.03	10.90	9.82	90%	69.0	137.0	pass
26)	Ethyl acetate	15.08	10.80	9.62	89%	75.0	127.0	pass
27)	Tetrahydrofuran	15.48	10.60	9.44	89%	78.0	120.0	pass
28)	Chloroform	15.62	10.10	8.86	88%	77.0	126.0	pass
29)	Cyclohexane	15.85	10.60	9.08	86%	76.0	124.0	pass
30)	1,1,1-Trichloroethane	15.91	9.80	8.70	89%	74.0	133.0	pass
31)	Carbon tetrachloride	16.16	9.70	8.55	88%	71.0	141.0	pass
32)	1,4-DIFLUOROBENZENE	17.45	#N/A	19.80	#N/A	70.0	130.0	#N/A
33)	Benzene	16.64	10.30	10.04	98%	81.0	125.0	pass
34)	2,2,4-Trimethylpentane	16.60	10.60	10.39	98%	82.0	125.0	pass
35)	1,2-Dichloroethane	16.84	10.00	10.05	101%	61.0	153.0	pass
36)	Heptane	16.98	10.60	10.87	103%	80.0	129.0	pass
37)	Trichloroethene	17.86	10.80	9.87	91%	73.0	128.0	pass
38)	1,2-Dichloropropane	18.36	10.30	10.19	99%	77.0	129.0	pass
39)	1,4-Dioxane	18.54	11.00	9.87	90%	58.0	140.0	pass
40)	Bromodichloromethane	18.81	10.70	10.67	100%	76.0	137.0	pass
41)	cis-1,3-Dichloropropene	19.58	10.80	10.86	101%	80.0	136.0	pass
42)	4-Methyl-2-pentanone (MIBK)	19.80	10.70	10.62	99%	65.0	140.0	pass
43)	CHLOROBENZENE-d5	22.34	#N/A	20.00	#N/A	70.0	130.0	#N/A
44)	Toluene	20.06	10.50	10.31	98%	78.0	133.0	pass
45)	trans-1,3-Dichloropropene	20.52	10.60	10.86	102%	79.0	146.0	pass
46)	1,1,2-Trichloroethane	20.83	10.60	10.63	100%	74.0	134.0	pass
47)	Tetrachloroethene	20.91	10.60	10.00	94%	73.0	130.0	pass

48)	2-Hexanone	21.14	10.90	10.60	97%	50.0	162.0	pass	
49)	Chlorodibromomethane	21.43	10.80	10.77	100%	81.0	135.0	pass	
50)	1,2-Dibromoethane (EDB)	21.66	10.90	10.57	97%	78.0	133.0	pass	
51)	Chlorobenzene	22.38	10.70	10.51	98%	81.0	126.0	pass	
52)	Ethylbenzene	22.47	10.50	10.38	99%	82.0	130.0	pass	
53)	m&p-Xylene	22.64	21.20	21.39	101%	82.0	131.0	pass	
54)	o-Xylene	23.30	10.50	10.33	98%	82.0	132.0	pass	
55)	Styrene	23.33	10.30	10.05	98%	65.0	141.0	pass	
56)	Bromoform	23.71	10.70	10.50	98%	84.0	137.0	pass	
57)	1,1,2,2-Tetrachloroethane	24.40	10.40	9.70	93%	73.0	127.0	pass	
58)	4-Ethyltoluene	24.64	10.80	9.41	87%	81.0	127.0	pass	
59)	1,3,5-Trimethylbenzene	24.73	10.70	9.42	88%	77.0	132.0	pass	
60)	1,2,4-Trimethylbenzene	25.34	10.60	8.98	85%	78.0	131.0	pass	
61)	1,3-Dichlorobenzene	25.87	10.50	8.62	82%	79.0	124.0	pass	
62)	1,4-Dichlorobenzene	26.02	10.50	8.53	81%	75.0	127.0	pass	
63)	Benzyl chloride	26.22	11.00	9.42	86%	67.0	156.0	pass	
64)	1,2-Dichlorobenzene	26.63	10.40	8.00	77%	77.0	124.0	FAIL	ok
65)	1,2,4-Trichlorobenzene	29.09	10.40	6.10	59%	55.0	132.0	pass	
66)	Hexachlorobutadiene	29.22	10.30	6.42	62%	52.0	131.0	pass	

S16J006-CRL1

REVIEWED
By LLH at 1:44 pm, Oct 03, 2016

QLS REPORT

Instrument Name: AG5973N
Sample Name: S16J006-CRL1
Misc Info: 1.0ppbv 1638115
Date Acquired: 10/3/2016 12:39
QLast Update: Tue Sep 20 16:22:25 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	1.13	103%	60.0	140.0	pass	Subset
3)	Dichlorodifluoromethane	4.55	0.97	1.01	104%	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	5.10	1.06	1.12	106%	60.0	140.0	pass	Primary
6)	Vinyl chloride	5.42	1.04	1.07	103%	60.0	140.0	pass	Primary
7)	1,3-Butadiene	5.52	1.01	1.06	105%	60.0	140.0	pass	Subset
8)	Bromomethane	6.46	1.00	1.07	107%	60.0	140.0	pass	Primary
9)	Chloroethane	6.79	1.00	1.07	107%	60.0	140.0	pass	Primary
10)	Bromoethene	7.36	1.10	0.97	88%	60.0	140.0	pass	Subset
11)	Trichlorofluoromethane	7.50	0.98	0.98	100%	60.0	140.0	pass	Primary
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	9.34	1.02	0.96	94%	60.0	140.0	pass	Primary
13)	1,1-Dichloroethene	9.42	1.04	0.82	79%	60.0	140.0	pass	Primary
14)	Acetone	9.95	1.10	1.28	116%	60.0	140.0	pass	Subset
15)	Carbon disulfide	10.14	1.10	1.10	100%	60.0	140.0	pass	Subset
16)	2-Propanol	10.56	1.10	0.88	80%	60.0	140.0	pass	Subset
17)	Allyl chloride	10.95	1.10	0.84	76%	60.0	140.0	pass	Subset
18)	Dichloromethane	11.48	1.01	1.36	135%	60.0	140.0	pass	Primary
19)	tert-Butyl methyl ether (MTBE)	12.16	1.08	0.84	78%	60.0	140.0	pass	Subset
20)	trans-1,2-Dichloroethene	12.18	1.09	1.03	94%	60.0	140.0	pass	Subset
21)	Hexane	12.79	1.04	0.73	70%	60.0	140.0	pass	Subset
22)	1,1-Dichloroethane	13.51	1.00	0.94	94%	60.0	140.0	pass	Primary
23)	Vinyl acetate	13.65	1.09	0.69	63%	60.0	140.0	pass	Subset
24)	cis-1,2-Dichloroethene	14.94	1.04	0.77	74%	60.0	140.0	pass	Primary
25)	2-Butanone (MEK)	15.03	1.09	1.04	95%	60.0	140.0	pass	Subset
26)	Ethyl acetate	15.08	1.08	1.11	103%	60.0	140.0	pass	Subset
27)	Tetrahydrofuran	15.48	1.06	1.13	107%	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	0.83	78%	60.0	140.0	pass	Subset
30)	1,1,1-Trichloroethane	15.91	0.98	0.97	99%	60.0	140.0	pass	Primary
31)	Carbon tetrachloride	16.16	0.97	0.95	98%	60.0	140.0	pass	Primary
32)	1,4-DIFLUOROBENZENE	17.45	#N/A	19.80	#N/A	60.0	140.0	#N/A	Internal
33)	Benzene	16.64	1.03	1.07	104%	60.0	140.0	pass	Primary
34)	2,2,4-Trimethylpentane	16.60	1.06	0.90	85%	60.0	140.0	pass	Subset
35)	1,2-Dichloroethane	16.83	1.00	1.08	108%	60.0	140.0	pass	Primary
36)	Heptane	16.98	1.06	0.95	90%	60.0	140.0	pass	Subset
37)	Trichloroethene	17.86	1.08	0.94	87%	60.0	140.0	pass	Primary
38)	1,2-Dichloropropane	18.35	1.03	1.06	103%	60.0	140.0	pass	Primary
39)	1,4-Dioxane	18.55	1.10	0.82	75%	60.0	140.0	pass	Subset
40)	Bromodichloromethane	18.81	1.07	1.21	113%	60.0	140.0	pass	Subset
41)	cis-1,3-Dichloropropene	19.58	1.08	0.88	81%	60.0	140.0	pass	Primary
42)	4-Methyl-2-pentanone (MIBK)	19.80	1.07	1.03	96%	60.0	140.0	pass	Subset
43)	CHLOROBENZENE-d5	22.32	#N/A	20.00	#N/A	60.0	140.0	#N/A	Internal
44)	Toluene	20.06	1.05	0.86	82%	60.0	140.0	pass	Primary
45)	trans-1,3-Dichloropropene	20.52	1.06	0.85	80%	60.0	140.0	pass	Primary
46)	1,1,2-Trichloroethane	20.82	1.06	1.13	107%	60.0	140.0	pass	Primary
47)	Tetrachloroethene	20.91	1.06	0.98	93%	60.0	140.0	pass	Primary
48)	2-Hexanone	21.15	1.09	0.91	83%	60.0	140.0	pass	Subset
49)	Chlorodibromomethane	21.43	1.08	1.16	108%	60.0	140.0	pass	Subset
50)	1,2-Dibromoethane (EDB)	21.66	1.09	1.04	95%	60.0	140.0	pass	Primary

51)	Chlorobenzene	22.37	1.07	1.12	105%	60.0	140.0	pass	Primary
52)	Ethylbenzene	22.47	1.05	0.95	90%	60.0	140.0	pass	Primary
53)	m&p-Xylene	22.64	2.12	1.95	92%	60.0	140.0	pass	Primary
54)	o-Xylene	23.30	1.05	0.89	84%	60.0	140.0	pass	Primary
55)	Styrene	23.33	1.03	0.84	81%	60.0	140.0	pass	Primary
56)	Bromoform	23.71	1.07	1.12	105%	60.0	140.0	pass	Subset
57)	1,1,2,2-Tetrachloroethane	24.40	1.04	1.16	112%	60.0	140.0	pass	Primary
58)	4-Ethyltoluene	24.64	1.08	0.91	84%	60.0	140.0	pass	Subset
59)	1,3,5-Trimethylbenzene	24.73	1.07	0.88	82%	60.0	140.0	pass	Primary
60)	1,2,4-Trimethylbenzene	25.34	1.06	0.79	75%	60.0	140.0	pass	Primary
61)	1,3-Dichlorobenzene	25.87	1.05	0.91	87%	60.0	140.0	pass	Primary
62)	1,4-Dichlorobenzene	26.02	1.05	0.86	82%	60.0	140.0	pass	Primary
63)	Benzyl chloride	26.24	1.10	0.91	83%	60.0	140.0	pass	Subset
64)	1,2-Dichlorobenzene	26.63	1.04	0.93	89%	60.0	140.0	pass	Primary
65)	1,2,4-Trichlorobenzene	29.09	1.04	0.79	76%	60.0	140.0	pass	Primary
66)	Hexachlorobutadiene	29.22	1.03	1.01	98%	60.0	140.0	pass	Primary

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\100316_FSAA\
Data File : 100316N03.D
Acq On : 3 Oct 2016 12:39 pm
InstName : AG5973N
Operator : LLH
Sample : S16J006-CRL1
Misc : 1.0ppbv 1638115
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Oct 03 13:42:58 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) BROMOCHLOROMETHANE	15.469	49	1010164	22.00	ppbv		0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	3099691	19.80	ppbv		0.00
43) CHLOROBENZENE-d5	22.323	117	2572327	20.00	ppbv		-0.01
Target Compounds							Qvalue
2) Propene	4.452	41	36361	1.13	ppbv		98
3) Dichlorodifluoromethane	4.547	85	125320	1.01	ppbv		100
4) 1,2-Dichlorotetrafluor...	4.903	85	119870	1.01	ppbv		96
5) Chloromethane	5.105	50	39641	1.12	ppbv		100
6) Vinyl chloride	5.425	62	39659	1.07	ppbv		98
7) 1,3-Butadiene	5.520	54	30666	1.06	ppbv		94
8) Bromomethane	6.457	94	38262	1.07	ppbv		99
9) Chloroethane	6.789	64	19336	1.07	ppbv		96
10) Bromoethene	7.358	106	34217	0.97	ppbv		99
11) Trichlorofluoromethane	7.500	101	113800	0.98	ppbv		98
12) 1,1,2-Trichloro-1,2,2-...	9.338	151	72938	0.96	ppbv		96
13) 1,1-Dichloroethene	9.421	61	50730	0.82	ppbv		97
14) Acetone	9.955	43	72052	1.28	ppbv		99
15) Carbon disulfide	10.145	76	107799	1.10	ppbv		98
16) 2-Propanol	10.560	45	48546	0.88	ppbv	#	51
17) Allyl chloride	10.951	41	39980	0.84	ppbv		98
18) Dichloromethane	11.485	49	70460	1.36	ppbv		95
19) tert-Butyl methyl ethe...	12.160	73	86701	0.84	ppbv		95
20) trans-1,2-Dichloroethene	12.184	61	56155	1.03	ppbv		96
21) Hexane	12.789	57	45563	0.73	ppbv	#	81
22) 1,1-Dichloroethane	13.512	63	70720	0.94	ppbv		99
23) Vinyl acetate	13.655	43	62777	0.69	ppbv		97
24) cis-1,2-Dichloroethene	14.935	61	40497	0.77	ppbv		98
25) 2-Butanone (MEK)	15.030	72	18870	1.04	ppbv	#	1
26) Ethyl acetate	15.078	61	13414	1.11	ppbv	#	99
27) Tetrahydrofuran	15.481	42	50507	1.13	ppbv		91
28) Chloroform	15.623	83	89771	0.98	ppbv		89
29) Cyclohexane	15.860	56	52583	0.83	ppbv		91
30) 1,1,1-Trichloroethane	15.908	97	99907	0.97	ppbv		98
31) Carbon tetrachloride	16.157	117	105033	0.95	ppbv		100
33) Benzene	16.643	78	126120	1.07	ppbv		98
34) 2,2,4-Trimethylpentane	16.596	57	160906	0.90	ppbv		88
35) 1,2-Dichloroethane	16.833	62	60144	1.08	ppbv		100
36) Heptane	16.975	43	63230	0.95	ppbv		96
37) Trichloroethene	17.864	130	47962	0.94	ppbv		97
38) 1,2-Dichloropropane	18.351	63	43051	1.06	ppbv		93
39) 1,4-Dioxane	18.552	88	21998	0.82	ppbv		85
40) Bromodichloromethane	18.813	83	106239	1.21	ppbv		98
41) cis-1,3-Dichloropropene	19.584	75	53738	0.88	ppbv		95
42) 4-Methyl-2-pentanone (...	19.797	43	97932	1.03	ppbv		93
44) Toluene	20.058	91	119418	0.86	ppbv		98
45) trans-1,3-Dichloropropene	20.521	75	51518	0.85	ppbv		92
46) 1,1,2-Trichloroethane	20.817	97	52336	1.13	ppbv		97
47) Tetrachloroethene	20.912	166	74502	0.98	ppbv		99
48) 2-Hexanone	21.149	43	83608	0.91	ppbv		89
49) Chlorodibromomethane	21.434	129	109750	1.16	ppbv		99
50) 1,2-Dibromoethane (EDB)	21.659	107	73831	1.04	ppbv		99
51) Chlorobenzene	22.371	112	124174	1.12	ppbv	#	82
52) Ethylbenzene	22.465	91	177939	0.95	ppbv		98
53) m&p-Xylene	22.643	91	286726	1.95	ppbv		98
54) o-Xylene	23.296	91	132549	0.89	ppbv		97

Data Path : D:\msdchem\1\2016\data\100316_FSAA\
Data File : 100316N03.D
Acq On : 3 Oct 2016 12:39 pm
InstName : AG5973N
Operator : LLH
Sample : S16J006-CRL1
Misc : 1.0ppbv 1638115
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Oct 03 13:42:58 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
55) Styrene	23.331	104	99485	0.84 ppbv	97
56) Bromoform	23.711	173	118655	1.12 ppbv	98
57) 1,1,2,2-Tetrachloroethane	24.398	83	131461	1.16 ppbv	99
58) 4-Ethyltoluene	24.636	105	217785	0.91 ppbv	99
59) 1,3,5-Trimethylbenzene	24.730	105	166646	0.88 ppbv	99
60) 1,2,4-Trimethylbenzene	25.335	105	154860	0.79 ppbv	98
61) 1,3-Dichlorobenzene	25.869	146	125025	0.91 ppbv	99
62) 1,4-Dichlorobenzene	26.023	146	114755	0.86 ppbv	99
63) Benzyl chloride	26.236	91	141457	0.91 ppbv	98
64) 1,2-Dichlorobenzene	26.628	146	129615	0.93 ppbv	99
65) 1,2,4-Trichlorobenzene	29.094	180	98962	0.79 ppbv	100
66) Hexachlorobutadiene	29.225	225	142505	1.01 ppbv	99

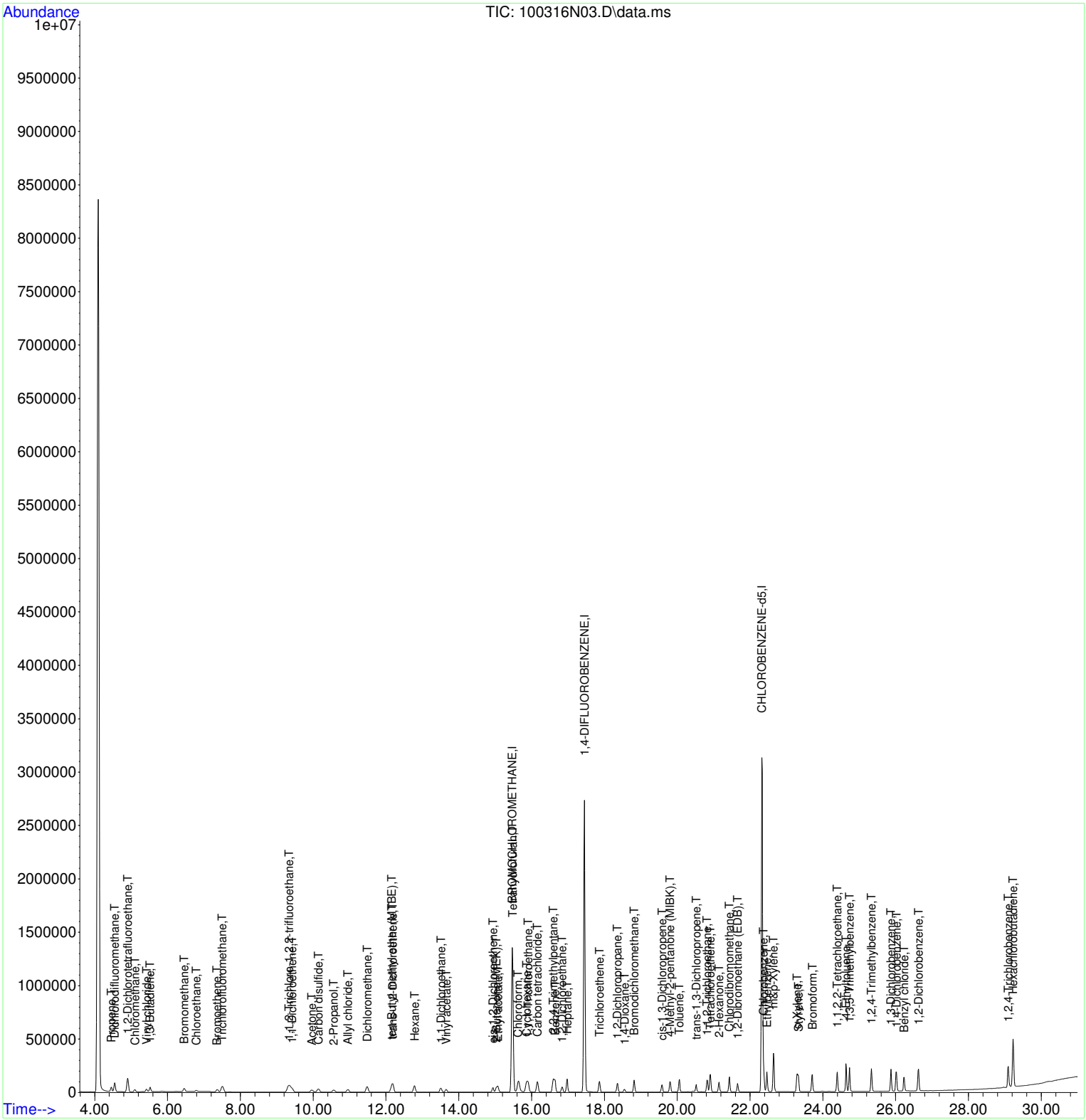
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2016\data\100316_FSAA\
Data File : 100316N03.D
Acq On : 3 Oct 2016 12:39 pm
InstName : AG5973N
Operator : LLH
Sample : S16J006-CRL1
Misc : 1.0ppbv 1638115
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Oct 03 13:42:58 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 2016
Response via : Initial Calibration



B16J004-BLK1

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\100316_FSAA\
Data File : 100316N04.D
Acq On : 3 Oct 2016 1:28 pm
InstName : AG5973N
Operator : LLH
Sample : B16J004-BLK1
Misc : 200mL BLANK
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Oct 03 14:00:11 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.469	49	988033	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	3033084	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.323	117	2470603	20.00	ppbv	-0.01

Target Compounds Qvalue

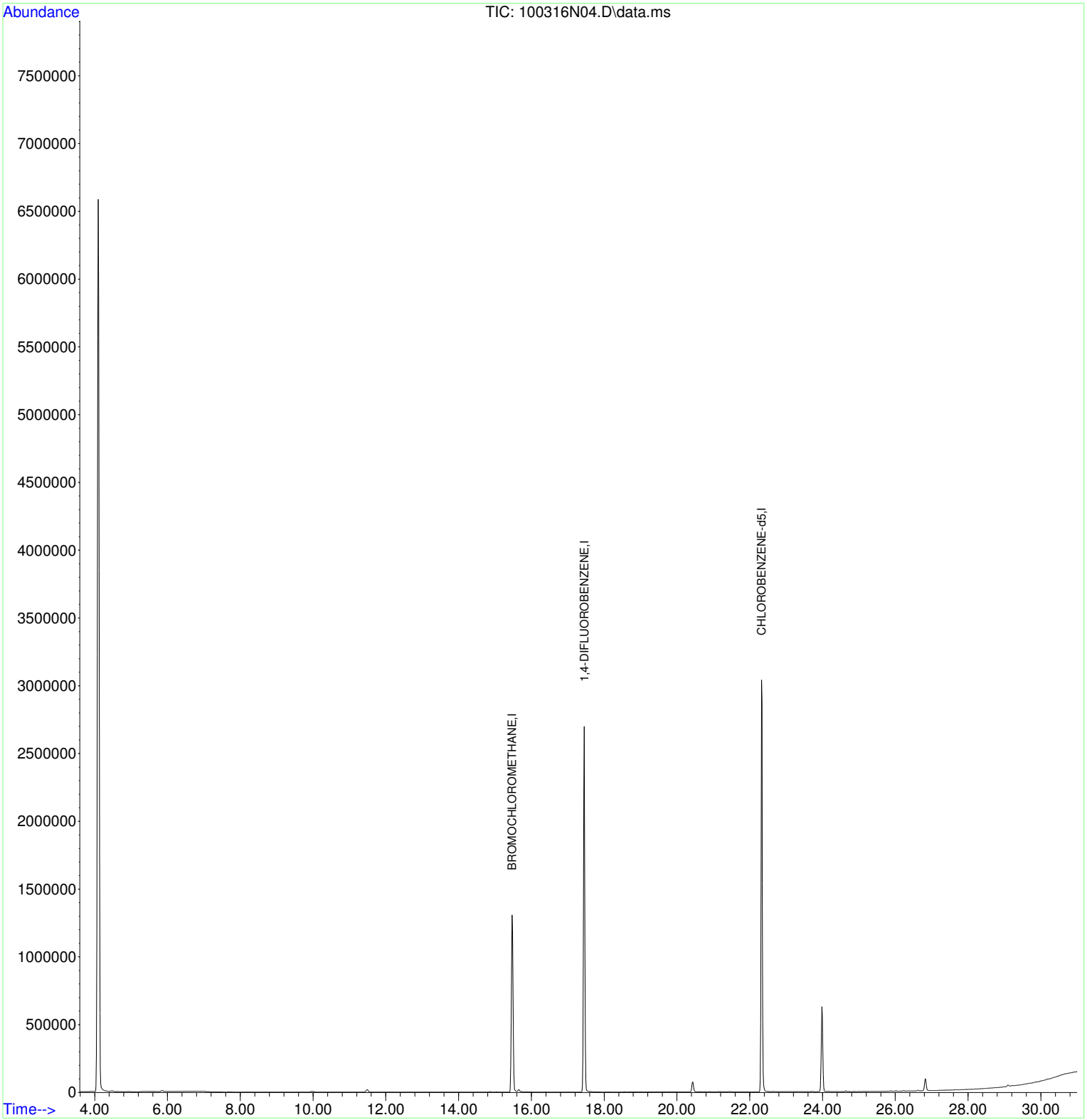
(#) = qualifier out of range (m) = manual integration (+) = signals summed

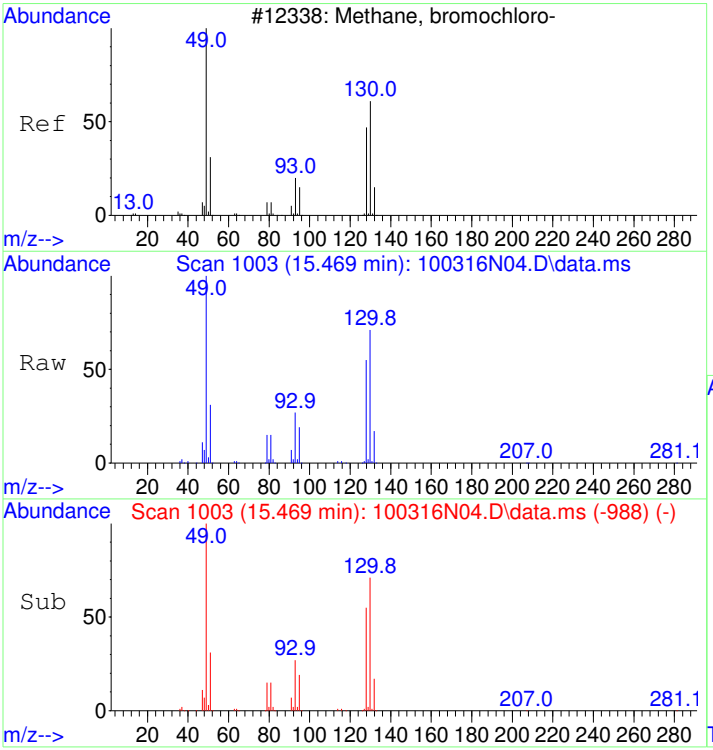
REVIEWED
By LLH at 10:29 am, Oct 04, 2016

Table of Contents

Data Path : D:\msdchem\1\2016\data\100316_FSAA\
Data File : 100316N04.D
Acq On : 3 Oct 2016 1:28 pm
InstName : AG5973N
Operator : LLH
Sample : B16J004-BLK1
Misc : 200mL BLANK
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Oct 03 14:00:11 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 2016
Response via : Initial Calibration

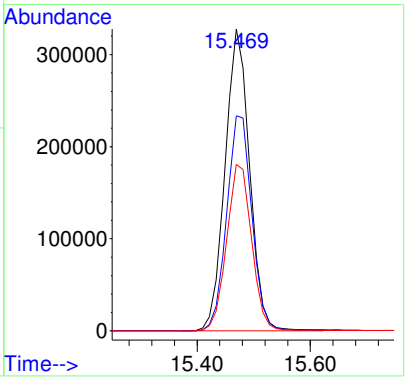


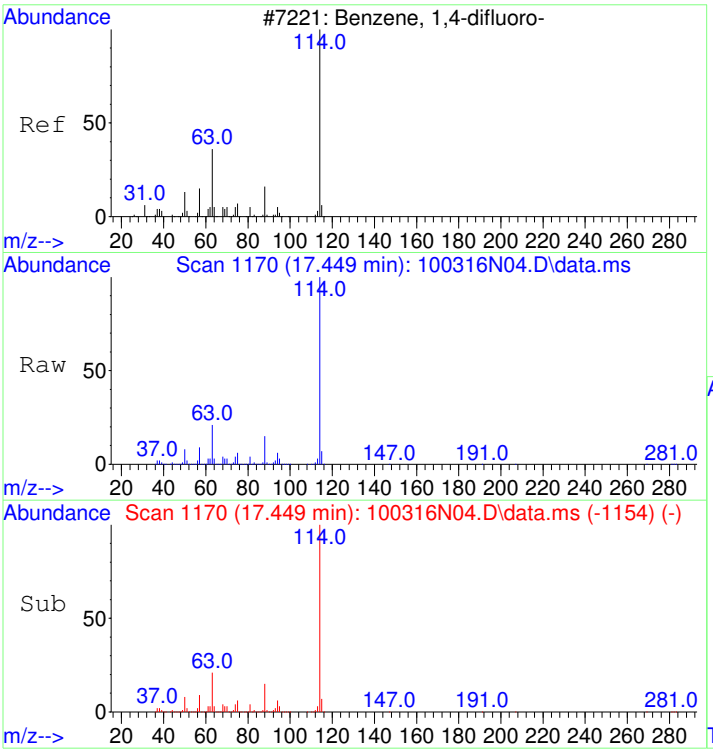


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.469 min Scan# 1003
Delta R.T. 0.000 min
Lab File: 100316N04.D
Acq: 3 Oct 2016 1:28 pm

Tgt Ion: 49 Resp: 988033

Ion	Ratio	Lower	Upper
49	100		
130	73.3	62.1	102.1
128	56.3	42.9	82.9

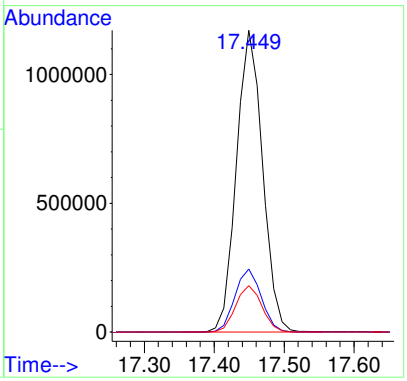


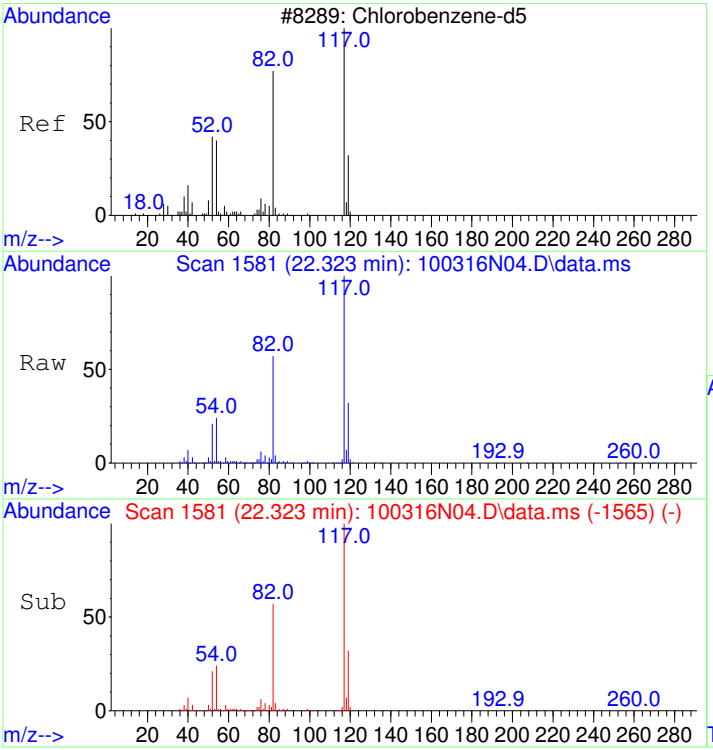


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.449 min Scan# 1170
Delta R.T. 0.000 min
Lab File: 100316N04.D
Acq: 3 Oct 2016 1:28 pm

Tgt Ion:114 Resp: 3033084

Ion	Ratio	Lower	Upper
114	100		
63	21.1	0.0	39.5
88	15.5	0.0	35.0

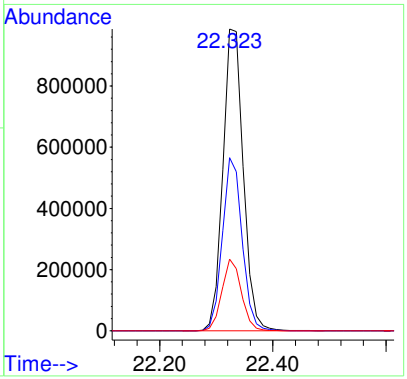




#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.323 min Scan# 1581
Delta R.T. -0.012 min
Lab File: 100316N04.D
Acq: 3 Oct 2016 1:28 pm

Tgt Ion:117 Resp: 2470603

Ion	Ratio	Lower	Upper
117	100		
82	55.5	33.7	73.7
54	22.7	1.1	41.1



1609103-01

Data Path : D:\msdchem\1\2016\data\100316_FSAA\
Data File : 100316N05.D
Acq On : 3 Oct 2016 2:23 pm
InstName : AG5973N
Operator : LLH
Sample : 1609103-01
Misc : 200mL 870 LEONG-SC-G
ALS Vial : 34 Sample Multiplier: 1.75

REPORT

Quant Time: Oct 03 16:53:20 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) BROMOCHLOROMETHANE	15.469	49	1004748	22.00 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	3066041	19.80 ppbv	0.00
43) CHLOROBENZENE-d5	22.335	117	2550022	20.00 ppbv	0.00
Target Compounds					Qvalue
14) Acetone	9.979	43	66675	1.19 ppbv	99
18) Dichloromethane	11.496	49	26649	0.52 ppbv	92
37) Trichloroethene	17.864	130	79968	1.59 ppbv	98

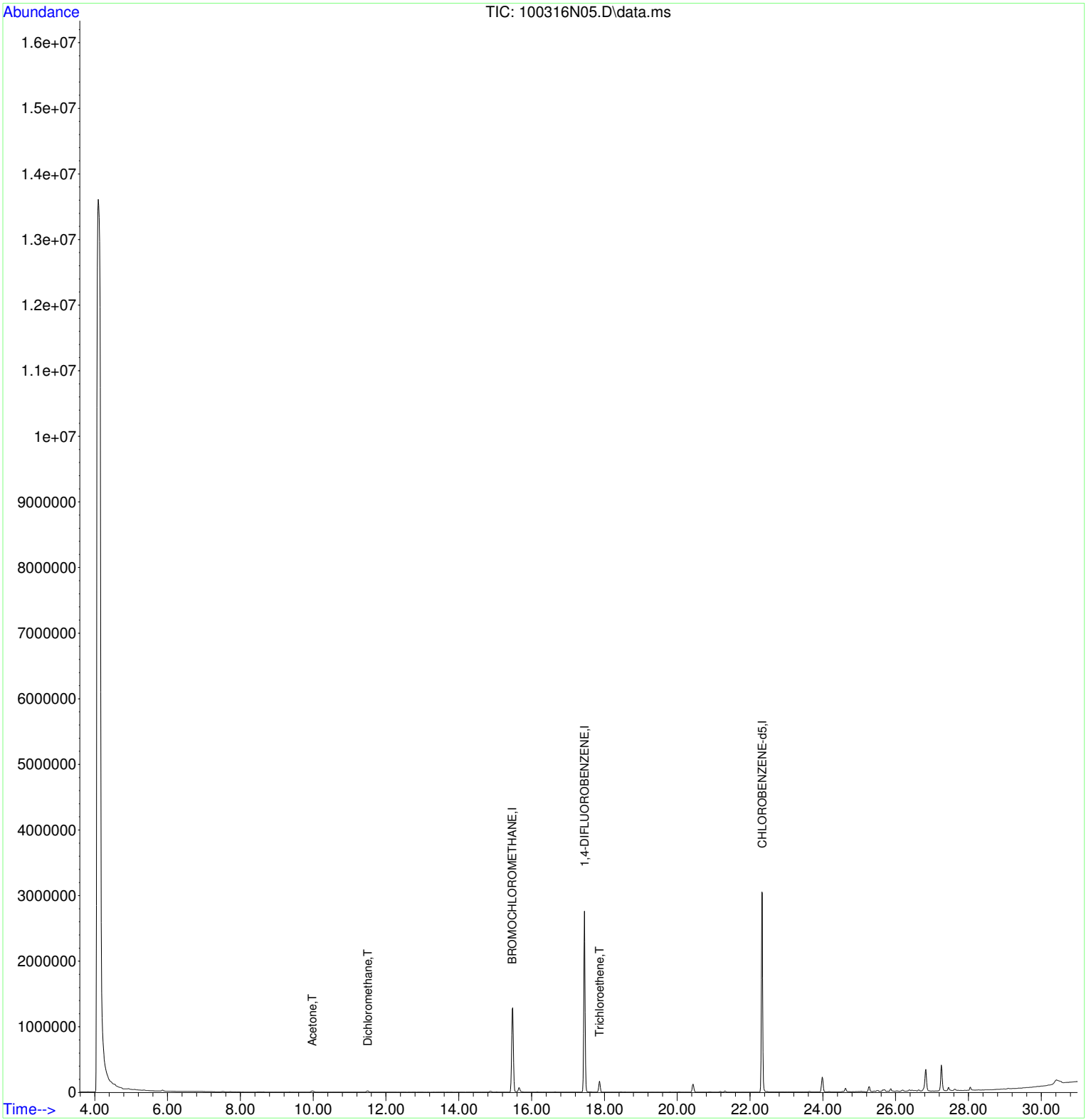
(#) = qualifier out of range (m) = manual integration (+) = signals summed

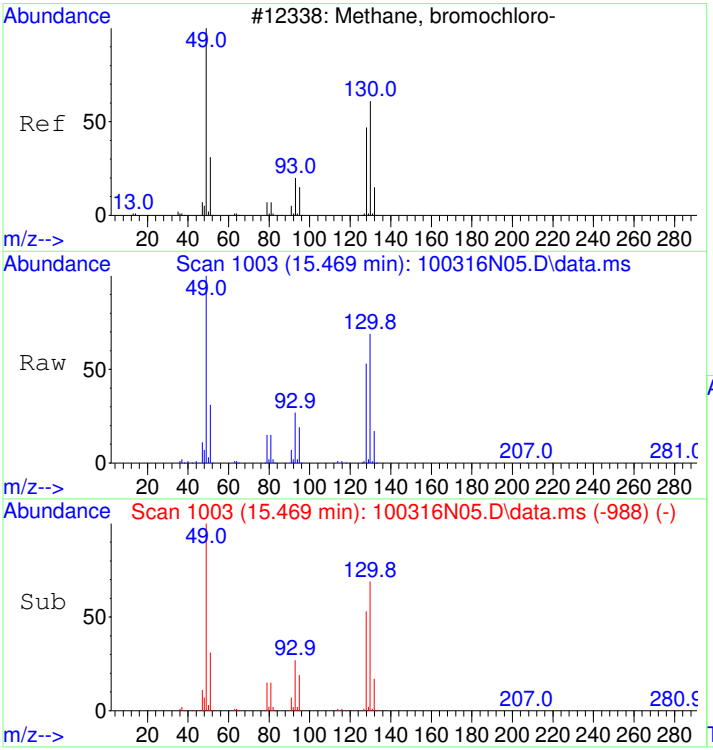
REVIEWED
By LLH at 3:50 pm, Oct 04, 2016

Table of Contents

Data Path : D:\msdchem\1\2016\data\100316_FSAA\
Data File : 100316N05.D
Acq On : 3 Oct 2016 2:23 pm
InstName : AG5973N
Operator : LLH
Sample : 1609103-01
Misc : 200mL 870 LEONG-SC-G
ALS Vial : 34 Sample Multiplier: 1.75

Quant Time: Oct 03 16:53:20 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 2016
Response via : Initial Calibration

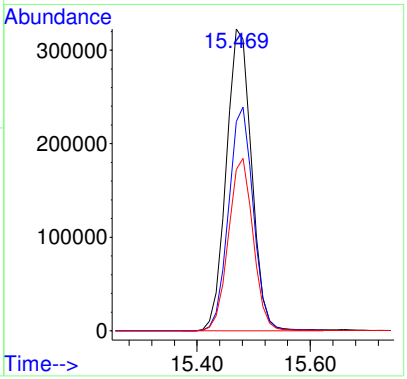


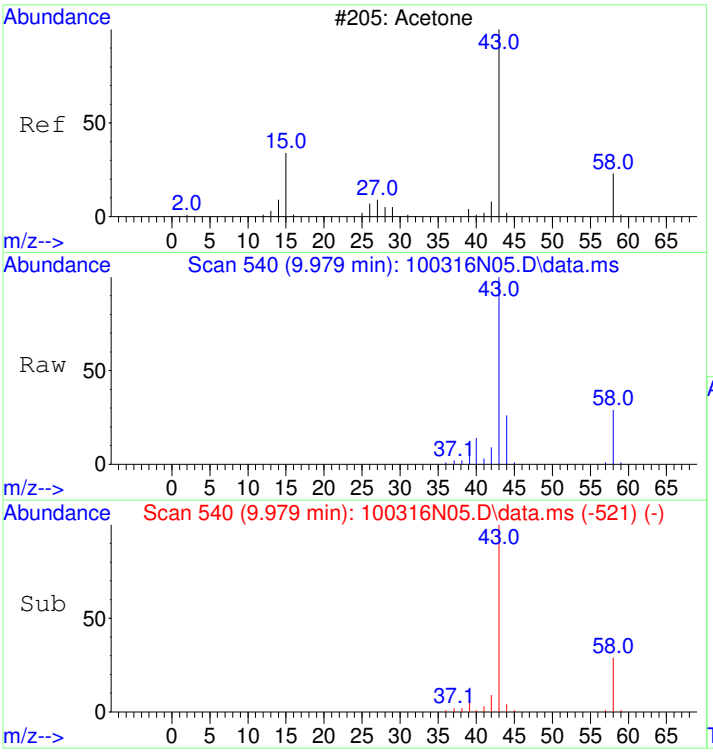


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.469 min Scan# 1003
Delta R.T. 0.000 min
Lab File: 100316N05.D
Acq: 3 Oct 2016 2:23 pm

Tgt Ion: 49 Resp: 1004748

Ion	Ratio	Lower	Upper
49	100		
130	72.4	62.1	102.1
128	55.7	42.9	82.9

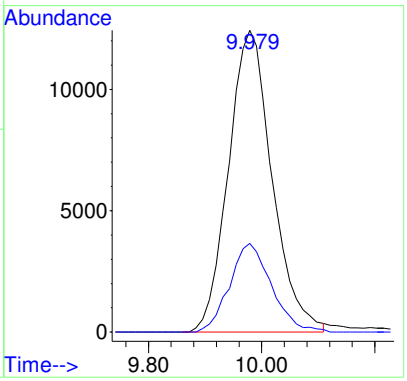


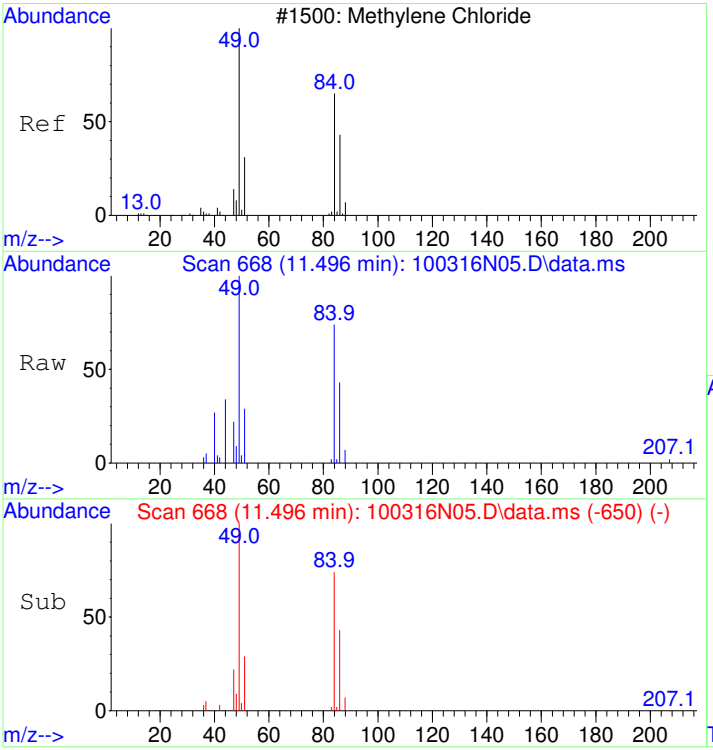


#14
Acetone
Concen: 1.19 ppbv
RT: 9.979 min Scan# 540
Delta R.T. 0.024 min
Lab File: 100316N05.D
Acq: 3 Oct 2016 2:23 pm

Tgt Ion: 43 Resp: 66675

Ion	Ratio	Lower	Upper
43	100		
58	28.3	8.8	48.8

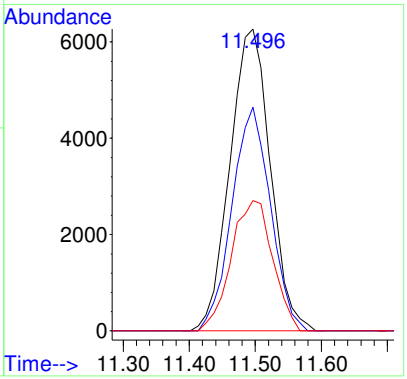


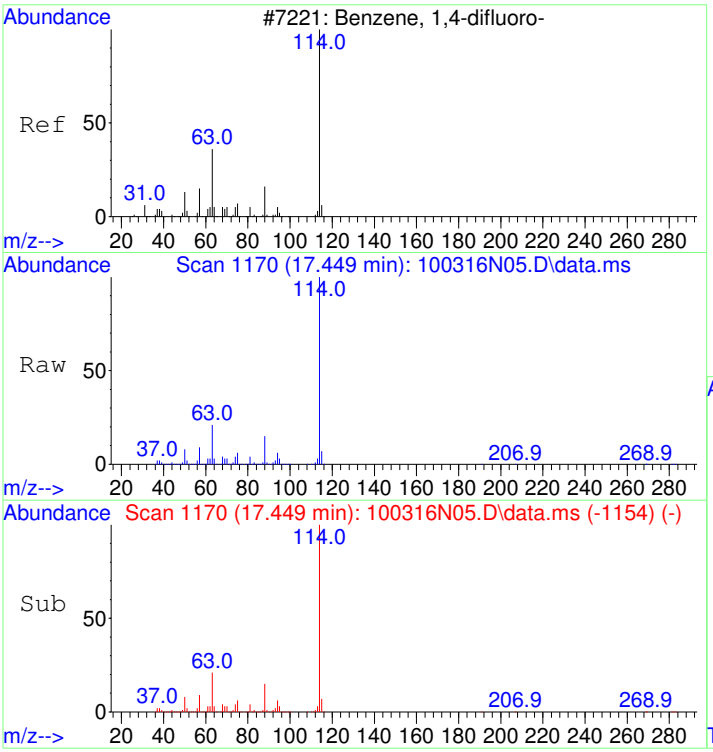


#18
Dichloromethane
Concen: 0.52 ppbv
RT: 11.496 min Scan# 668
Delta R.T. 0.012 min
Lab File: 100316N05.D
Acq: 3 Oct 2016 2:23 pm

Tgt Ion: 49 Resp: 26649

Ion	Ratio	Lower	Upper
49	100		
84	70.7	57.2	97.2
86	44.3	29.6	69.6

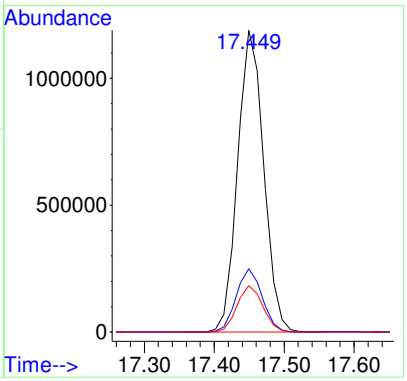


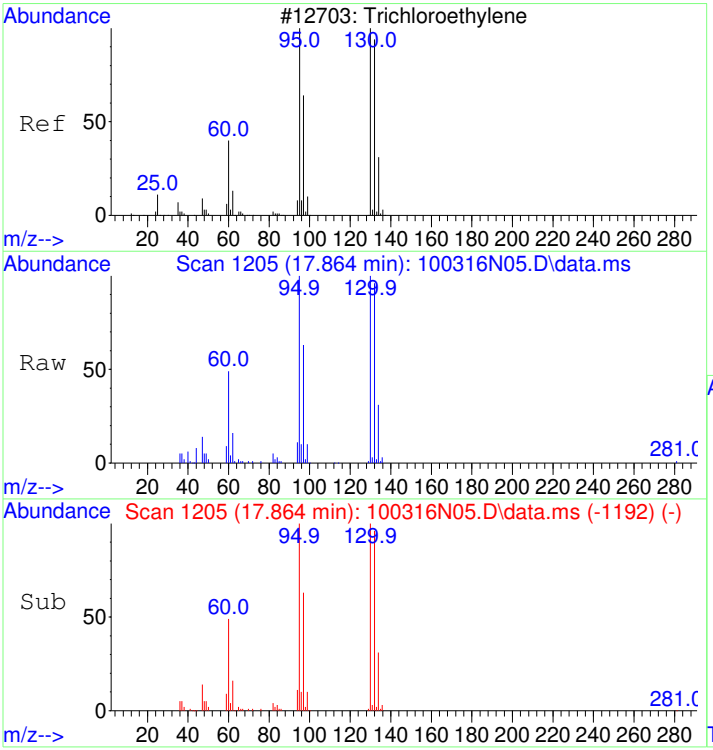


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.449 min Scan# 1170
Delta R.T. 0.000 min
Lab File: 100316N05.D
Acq: 3 Oct 2016 2:23 pm

Tgt Ion:114 Resp: 3066041

Ion	Ratio	Lower	Upper
114	100		
63	20.9	0.0	39.5
88	15.3	0.0	35.0

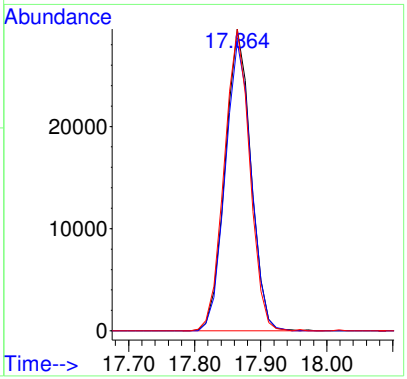


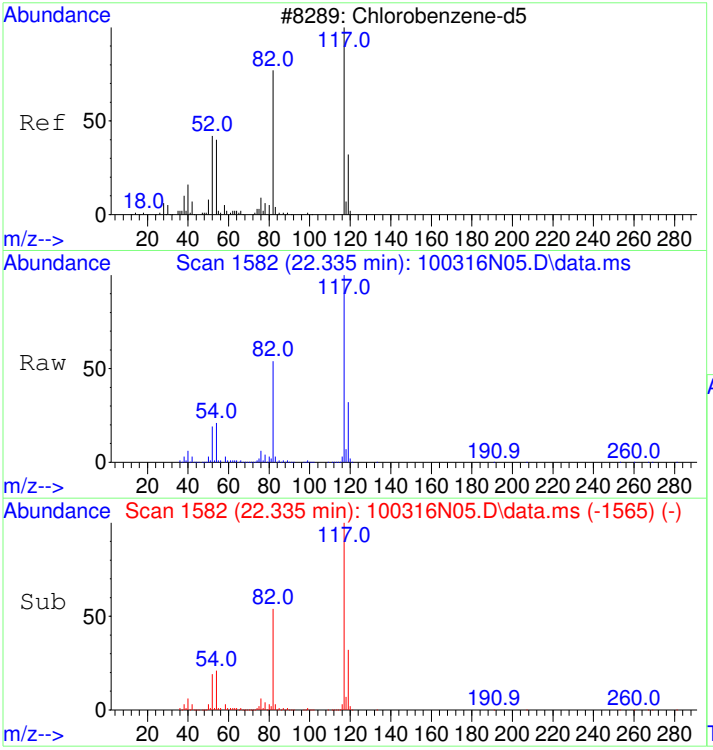


#37
Trichloroethene
Concen: 1.59 ppbv
RT: 17.864 min Scan# 1205
Delta R.T. 0.000 min
Lab File: 100316N05.D
Acq: 3 Oct 2016 2:23 pm

Tgt Ion:130 Resp: 79968

Ion	Ratio	Lower	Upper
130	100		
132	96.3	77.1	117.1
95	99.1	76.1	116.1

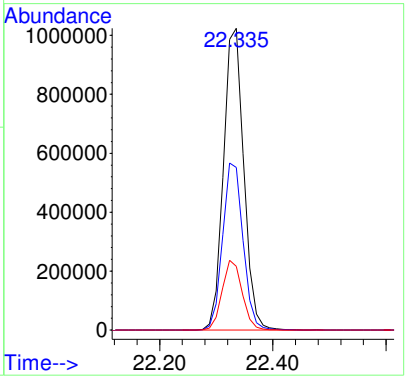




#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.335 min Scan# 1582
Delta R.T. 0.000 min
Lab File: 100316N05.D
Acq: 3 Oct 2016 2:23 pm

Tgt Ion:117 Resp: 2550022

Ion	Ratio	Lower	Upper
117	100		
82	55.8	33.7	73.7
54	22.9	1.1	41.1



1609103-02

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\100316_FSAA\
Data File : 100316N06.D
Acq On : 3 Oct 2016 3:12 pm
InstName : AG5973N
Operator : LLH
Sample : 1609103-02
Misc : 200mL [redacted] EVANDALE-SC-G
ALS Vial : 35 Sample Multiplier: 1.74

REPORT

Quant Time: Oct 03 16:53:33 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.469	49	1009416	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	3089421	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.335	117	2527352	20.00	ppbv	0.00
Target Compounds						Qvalue
14) Acetone	9.979	43	90602	1.61	ppbv	99
18) Dichloromethane	11.496	49	25911	0.50	ppbv	94

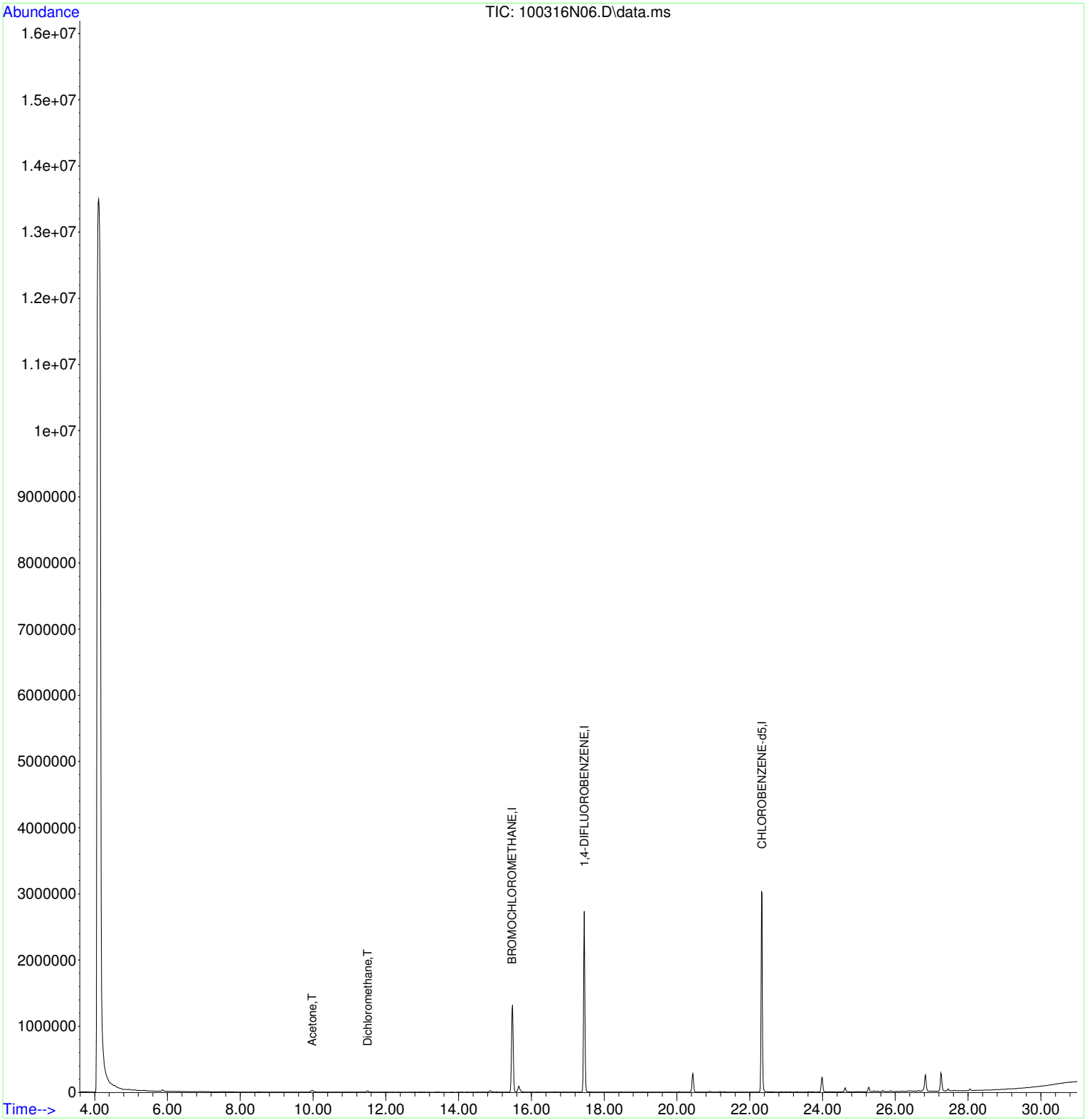
(#) = qualifier out of range (m) = manual integration (+) = signals summed

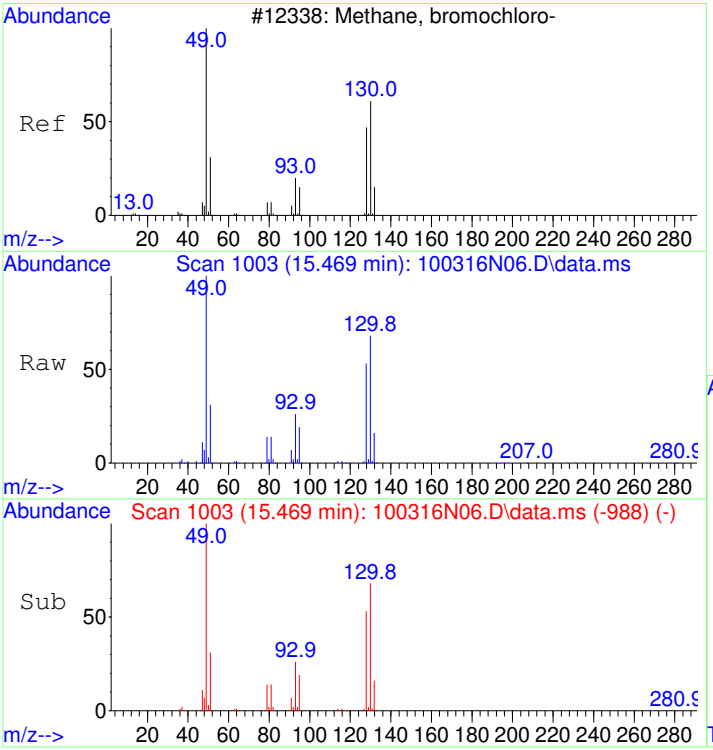
REVIEWED
By LLH at 3:50 pm, Oct 04, 2016

Table of Contents

Data Path : D:\msdchem\1\2016\data\100316_FSAA\
Data File : 100316N06.D
Acq On : 3 Oct 2016 3:12 pm
InstName : AG5973N
Operator : LLH
Sample : 1609103-02
Misc : 200mL [redacted] EVANDALE-SC-G
ALS Vial : 35 Sample Multiplier: 1.74

Quant Time: Oct 03 16:53:33 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 2016
Response via : Initial Calibration

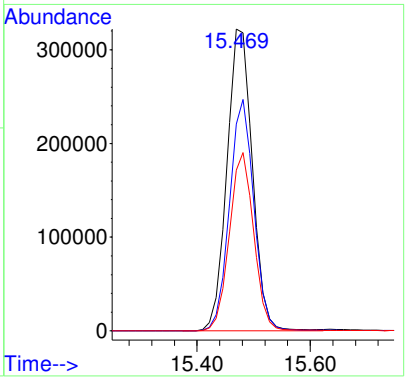


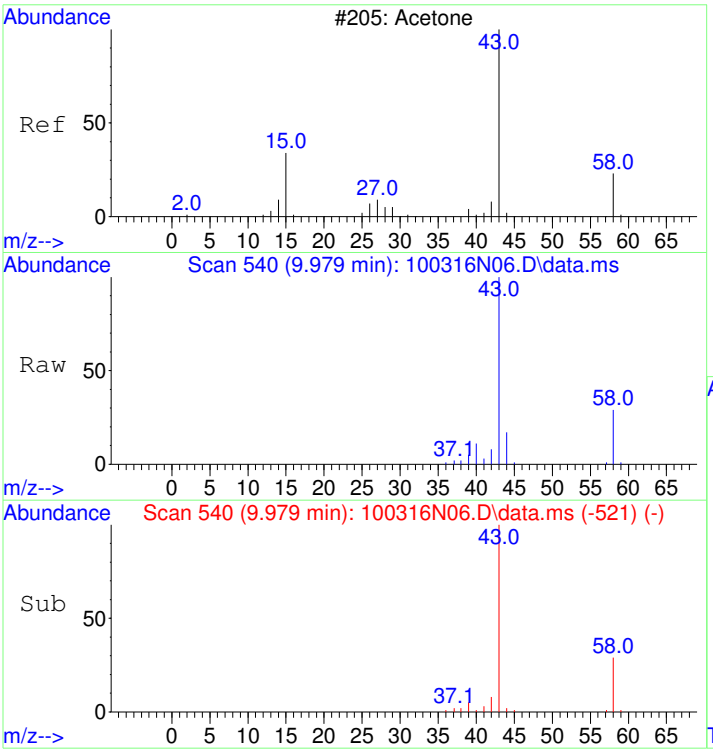


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.469 min Scan# 1003
Delta R.T. 0.000 min
Lab File: 100316N06.D
Acq: 3 Oct 2016 3:12 pm

Tgt Ion: 49 Resp: 1009416

Ion	Ratio	Lower	Upper
49	100		
130	73.2	62.1	102.1
128	56.5	42.9	82.9

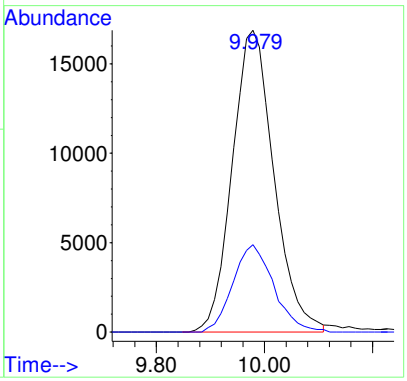


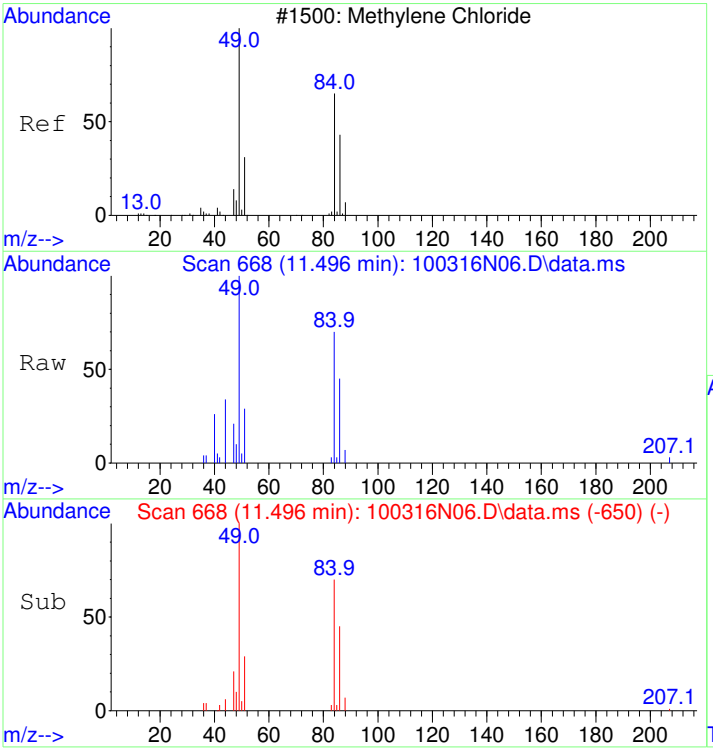


#14
Acetone
Concen: 1.61 ppbv
RT: 9.979 min Scan# 540
Delta R.T. 0.024 min
Lab File: 100316N06.D
Acq: 3 Oct 2016 3:12 pm

Tgt Ion: 43 Resp: 90602

Ion	Ratio	Lower	Upper
43	100		
58	28.3	8.8	48.8

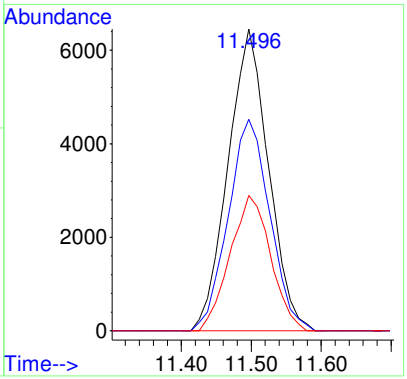


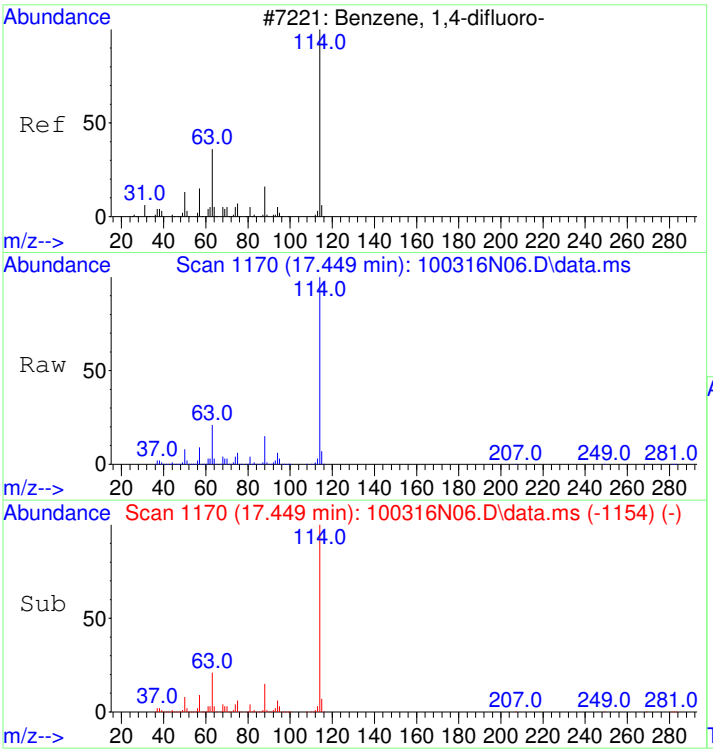


#18
Dichloromethane
Concen: 0.50 ppbv
RT: 11.496 min Scan# 668
Delta R.T. 0.012 min
Lab File: 100316N06.D
Acq: 3 Oct 2016 3:12 pm

Tgt Ion: 49 Resp: 25911

Ion	Ratio	Lower	Upper
49	100		
84	72.1	57.2	97.2
86	45.0	29.6	69.6

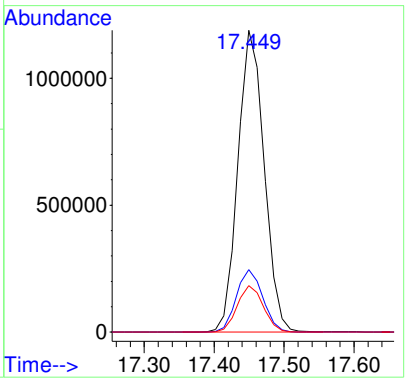


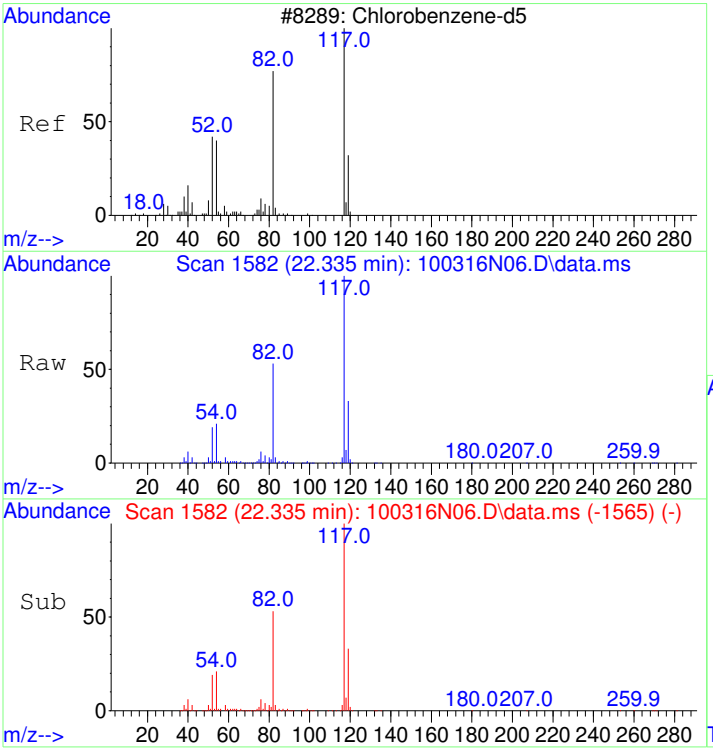


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.449 min Scan# 1170
Delta R.T. 0.000 min
Lab File: 100316N06.D
Acq: 3 Oct 2016 3:12 pm

Tgt Ion:114 Resp: 3089421

Ion	Ratio	Lower	Upper
114	100		
63	20.8	0.0	39.5
88	15.4	0.0	35.0

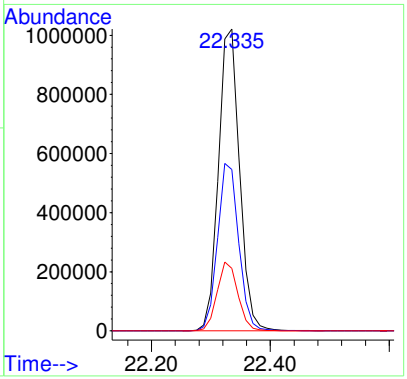




#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.335 min Scan# 1582
Delta R.T. 0.000 min
Lab File: 100316N06.D
Acq: 3 Oct 2016 3:12 pm

Tgt Ion:117 Resp: 2527352

Ion	Ratio	Lower	Upper
117	100		
82	55.5	33.7	73.7
54	22.5	1.1	41.1



1609103-03

Data Path : D:\msdchem\1\2016\data\100316_FSAA\
Data File : 100316N07.D
Acq On : 3 Oct 2016 4:01 pm
InstName : AG5973N
Operator : LLH
Sample : 1609103-03
Misc : 200mL F5-062
ALS Vial : 36 Sample Multiplier: 1.72

REPORT

rerun 20ml for Chloroform

Quant Time: Oct 03 16:53:52 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	
Internal Standards								
1) BROMOCHLOROMETHANE	15.481	49	1026640	22.00	ppbv		0.01	
32) 1,4-DIFLUOROBENZENE	17.461	114	3036697	19.80	ppbv		0.01	
43) CHLOROBENZENE-d5	22.335	117	2559679	20.00	ppbv		0.00	
Target Compounds							Qvalue	
2) Propene	4.452	41	64808	1.98	ppbv	#	63	
5) Chloromethane	5.093	50	22605	0.63	ppbv		99	
14) Acetone	9.990	43	1016675	17.76	ppbv		99	
18) Dichloromethane	11.508	49	71742	1.36	ppbv		94	
21) Hexane	12.789	57	38582	0.61	ppbv	#	80	
24) cis-1,2-Dichloroethene	14.947	61	53027	0.99	ppbv		94	
25) 2-Butanone (MEK)	15.042	72	10227	0.55	ppbv	#	32	
26) Ethyl acetate	15.078	61	17175	~~1.40~~	~~ppbv~~	~~#~~	21	
28) Chloroform	15.635	83	12810239	137.91	ppbv		98	OC
37) Trichloroethene	17.864	130	141145	2.84	ppbv		98	
40) Bromodichloromethane	18.825	83	177005	2.05	ppbv		98	
44) Toluene	20.058	91	379680	2.75	ppbv		99	
47) Tetrachloroethene	20.912	166	969769	12.86	ppbv		99	

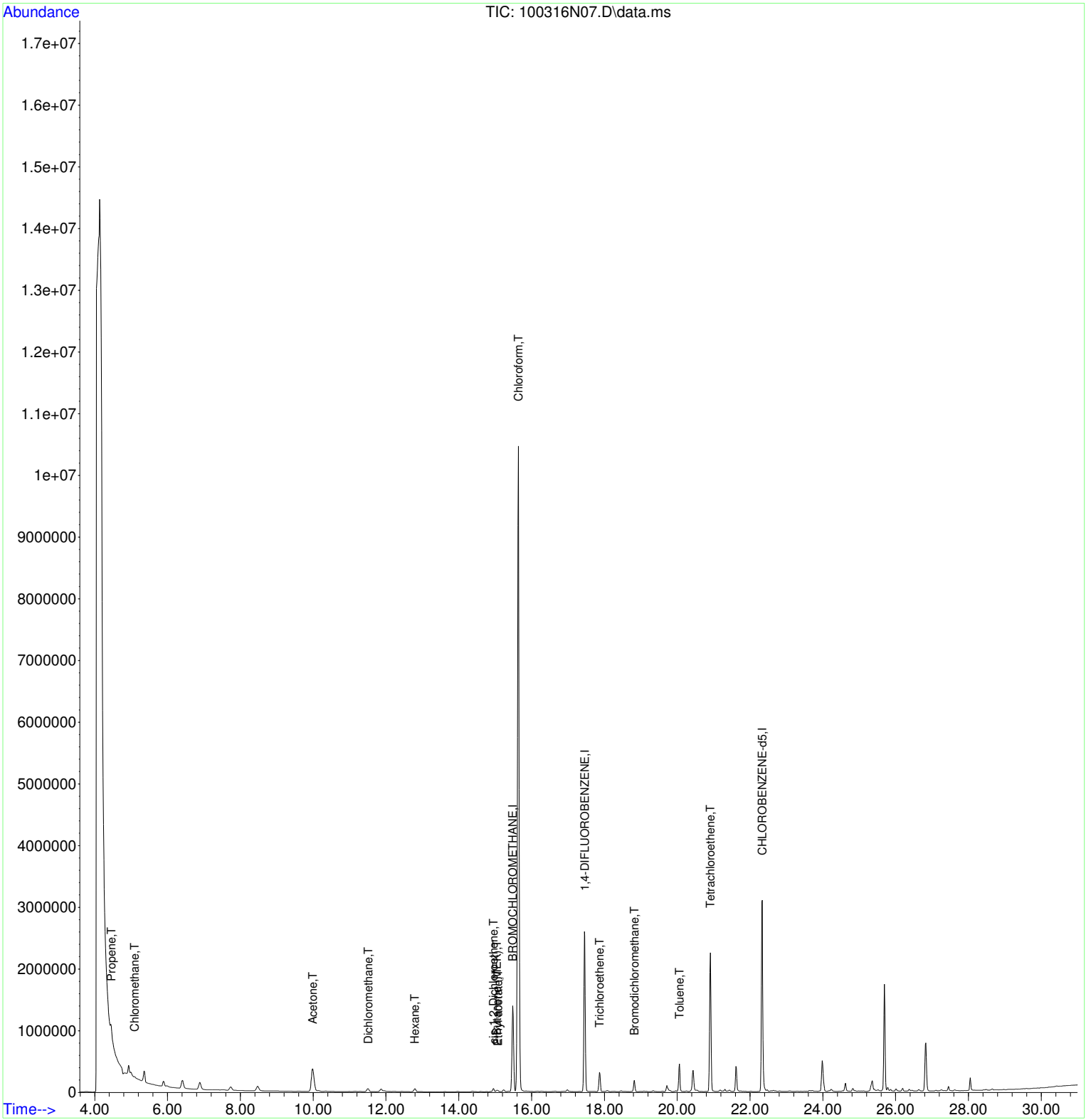
(#) = qualifier out of range (m) = manual integration (+) = signals summed

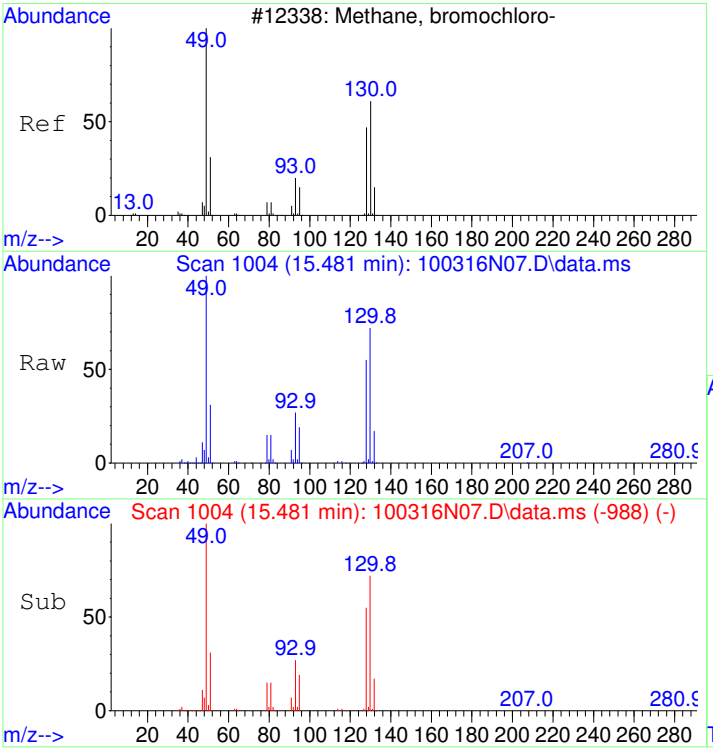
REVIEWED
By LLH at 3:51 pm, Oct 04, 2016

Table of Contents

Data Path : D:\msdchem\1\2016\data\100316_FSAA\
Data File : 100316N07.D
Acq On : 3 Oct 2016 4:01 pm
InstName : AG5973N
Operator : LLH
Sample : 1609103-03
Misc : 200mL F5-062
ALS Vial : 36 Sample Multiplier: 1.72

Quant Time: Oct 03 16:53:52 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 2016
Response via : Initial Calibration

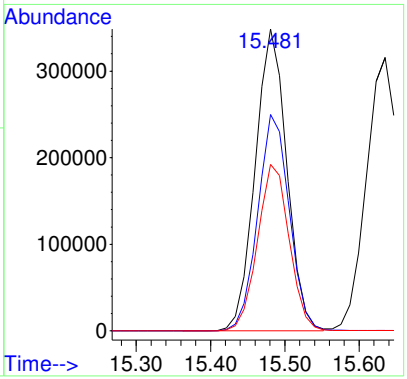


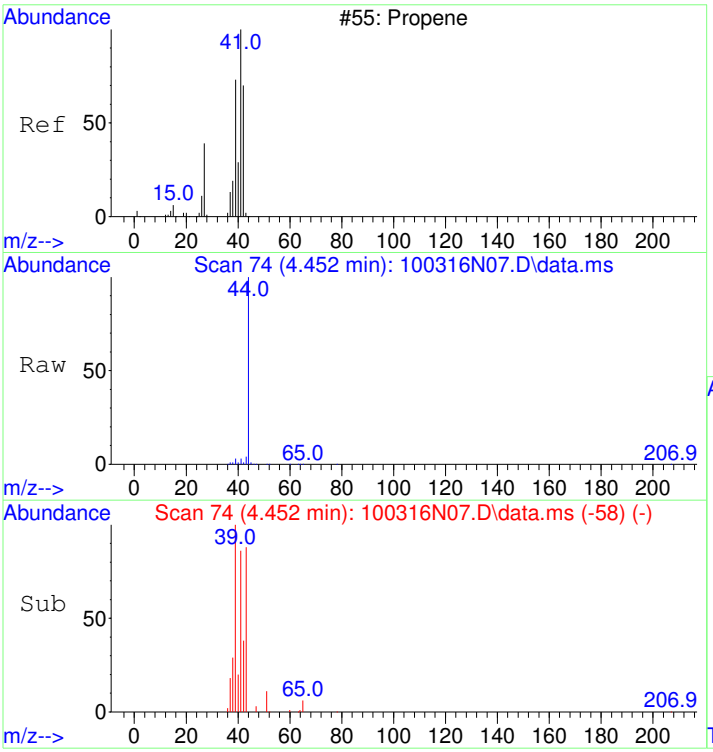


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. 0.012 min
Lab File: 100316N07.D
Acq: 3 Oct 2016 4:01 pm

Tgt Ion: 49 Resp: 1026640

Ion	Ratio	Lower	Upper
49	100		
130	72.0	62.1	102.1
128	55.5	42.9	82.9

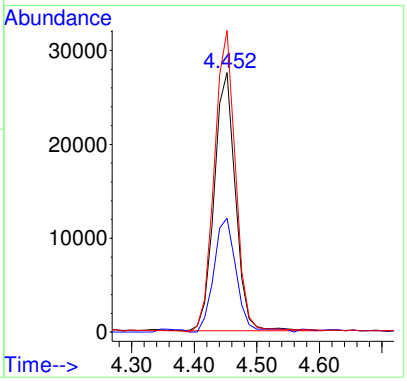


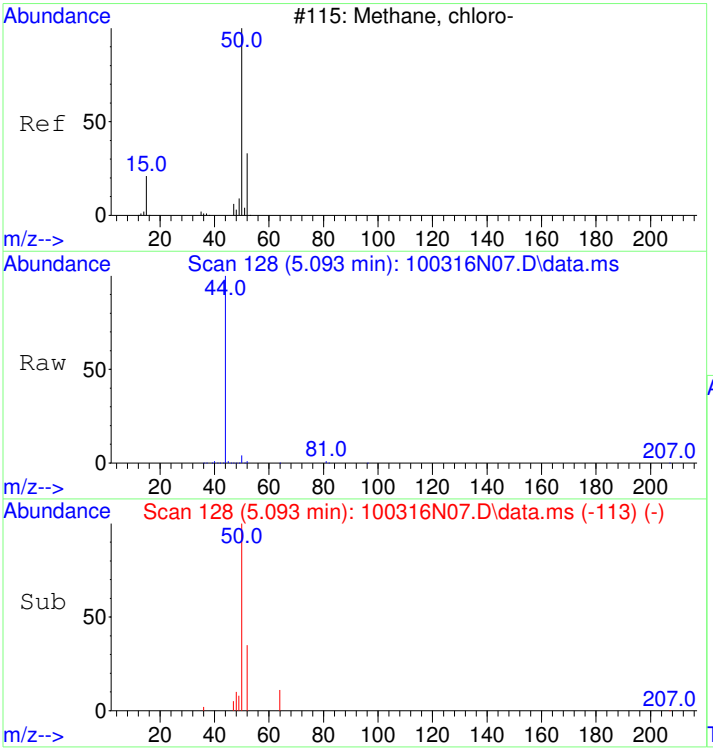


#2
Propene
Concen: 1.98 ppbv
RT: 4.452 min Scan# 74
Delta R.T. -0.012 min
Lab File: 100316N07.D
Acq: 3 Oct 2016 4:01 pm

Tgt Ion: 41 Resp: 64808

Ion	Ratio	Lower	Upper
41	100		
42	47.0	46.6	86.6
39	116.0	55.5	95.5#

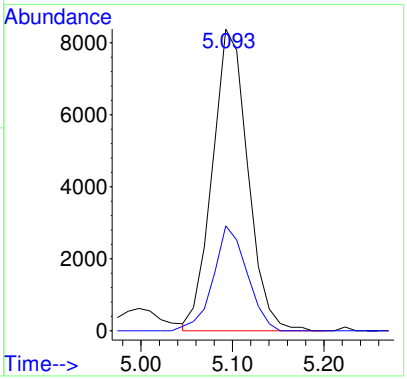


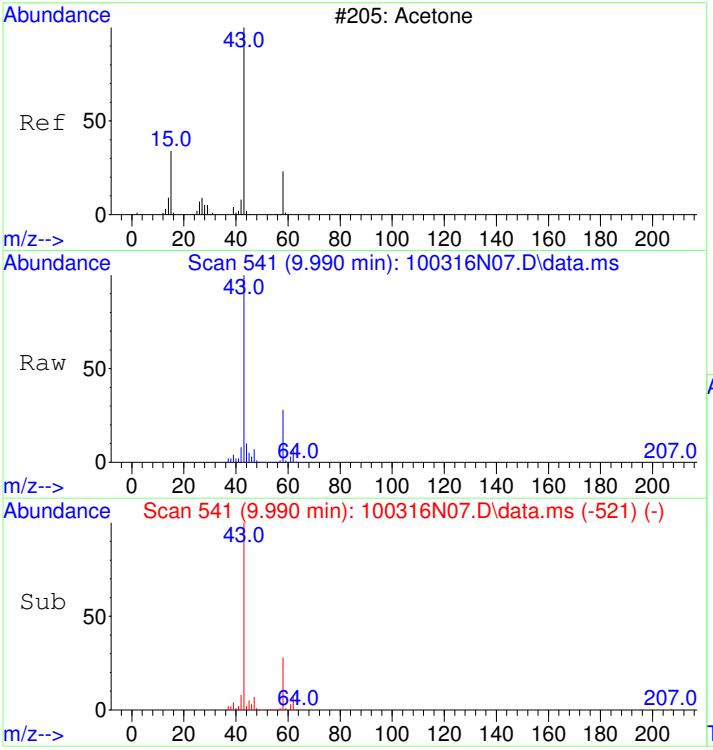


#5
Chloromethane
Concen: 0.63 ppbv
RT: 5.093 min Scan# 128
Delta R.T. -0.024 min
Lab File: 100316N07.D
Acq: 3 Oct 2016 4:01 pm

Tgt Ion: 50 Resp: 22605

Ion	Ratio	Lower	Upper
50	100		
52	33.1	12.4	52.4

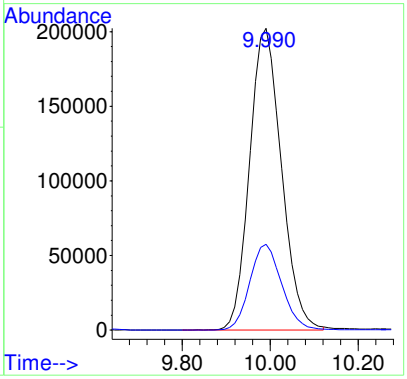


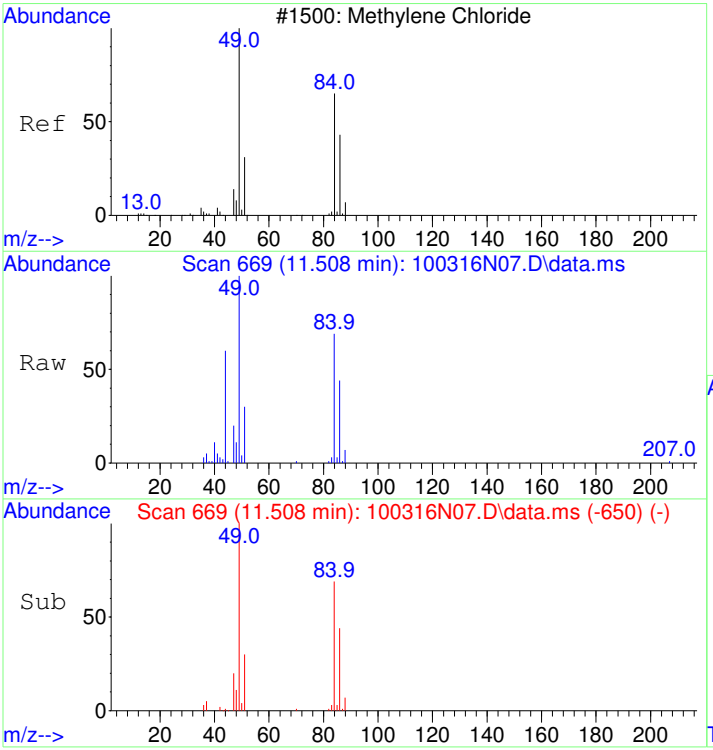


#14
Acetone
Concen: 17.76 ppbv
RT: 9.990 min Scan# 541
Delta R.T. 0.035 min
Lab File: 100316N07.D
Acq: 3 Oct 2016 4:01 pm

Tgt Ion: 43 Resp: 1016675

Ion	Ratio	Lower	Upper
43	100		
58	28.4	8.8	48.8

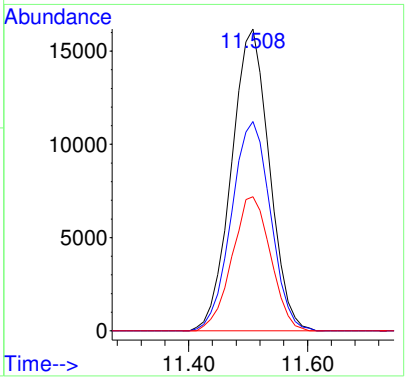


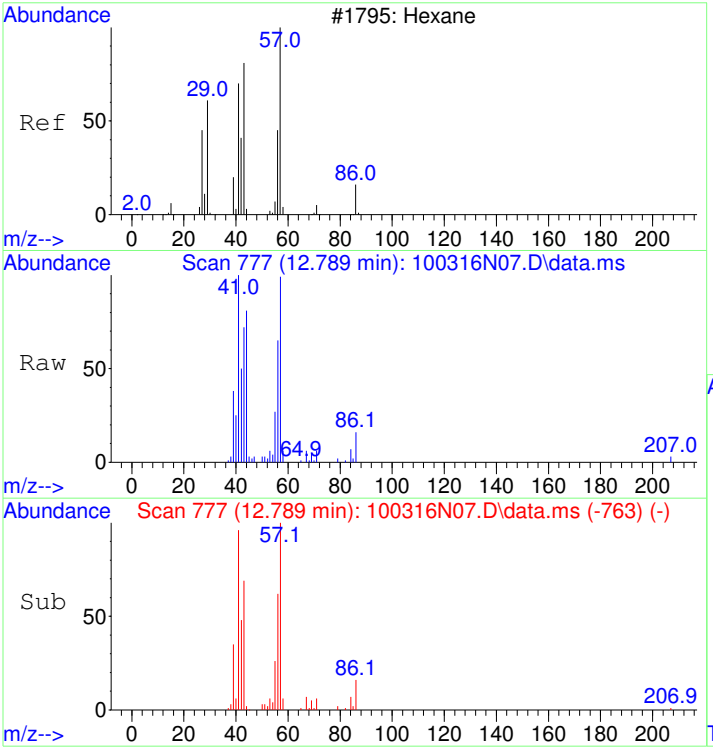


#18
Dichloromethane
Concen: 1.36 ppbv
RT: 11.508 min Scan# 669
Delta R.T. 0.024 min
Lab File: 100316N07.D
Acq: 3 Oct 2016 4:01 pm

Tgt Ion: 49 Resp: 71742

Ion	Ratio	Lower	Upper
49	100		
84	71.6	57.2	97.2
86	45.2	29.6	69.6

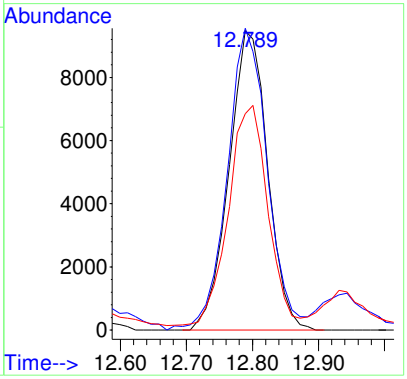


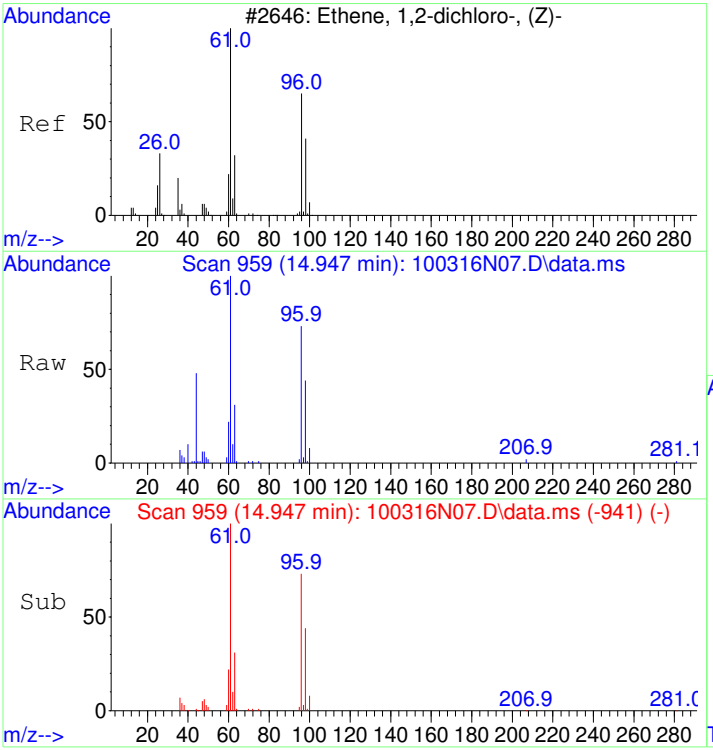


#21
Hexane
Concen: 0.61 ppbv
RT: 12.789 min Scan# 777
Delta R.T. -0.000 min
Lab File: 100316N07.D
Acq: 3 Oct 2016 4:01 pm

Tgt Ion: 57 Resp: 38582

Ion	Ratio	Lower	Upper
57	100		
41	104.5	57.7	97.7#
43	70.8	45.7	85.7

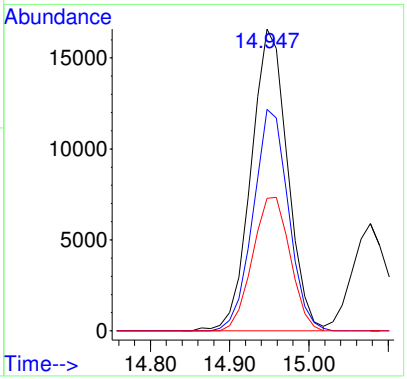


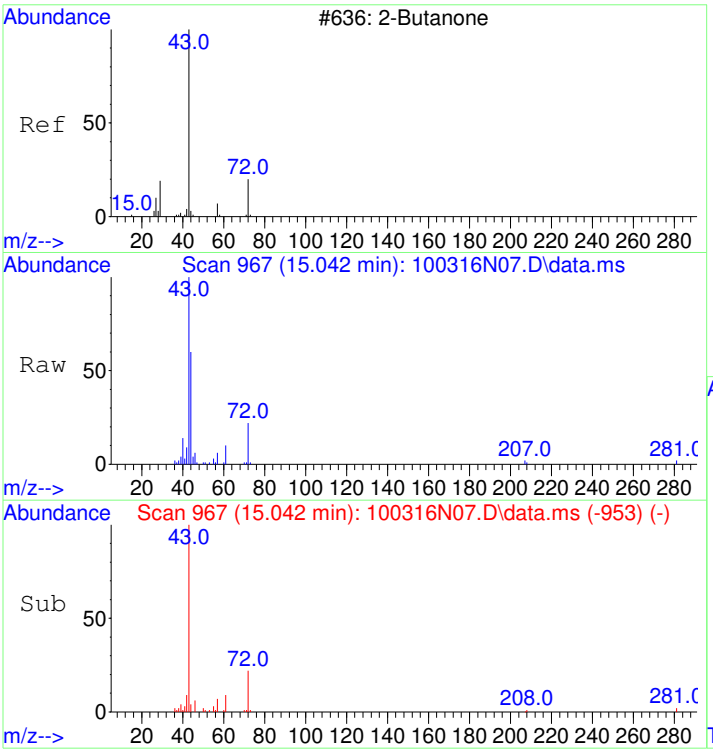


#24
cis-1,2-Dichloroethene
Concen: 0.99 ppbv
RT: 14.947 min Scan# 959
Delta R.T. 0.012 min
Lab File: 100316N07.D
Acq: 3 Oct 2016 4:01 pm

Tgt Ion: 61 Resp: 53027

Ion	Ratio	Lower	Upper
61	100		
96	71.0	56.8	96.8
98	45.5	29.0	69.0

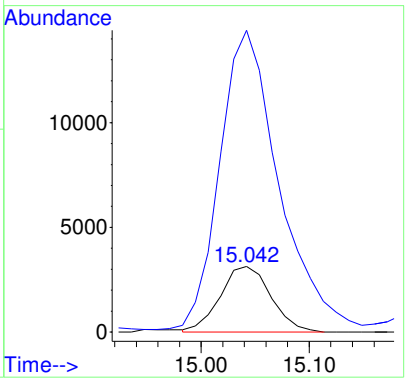


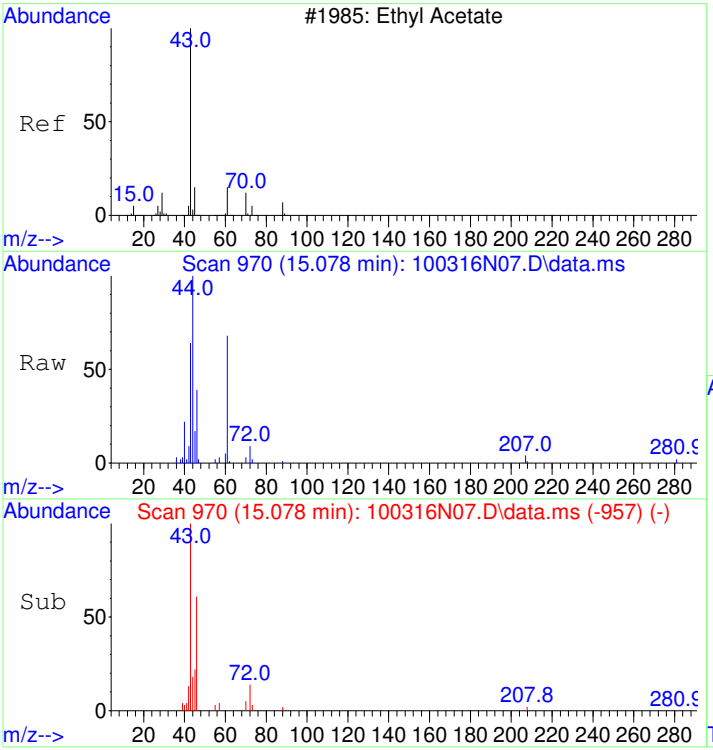


#25
2-Butanone (MEK)
Concen: 0.55 ppbv
RT: 15.042 min Scan# 967
Delta R.T. 0.012 min
Lab File: 100316N07.D
Acq: 3 Oct 2016 4:01 pm

Tgt Ion: 72 Resp: 10227

Ion	Ratio	Lower	Upper
72	100		
43	529.9	366.2	386.2#

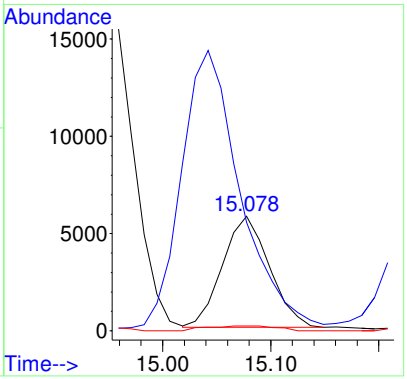




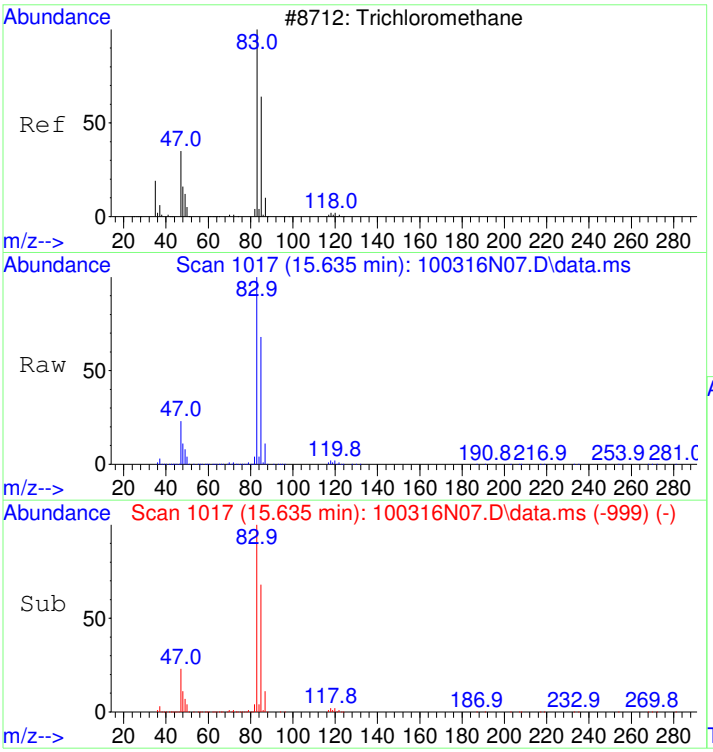
#26
Ethyl acetate
Concen: 1.40 ppbv
RT: 15.078 min Scan# 970
Delta R.T. -0.000 min
Lab File: 100316N07.D
Acq: 3 Oct 2016 4:01 pm

Tgt Ion: 61 Resp: 17175

Ion	Ratio	Lower	Upper
61	100		
43	0.0	0.0	10.0
70	6.7	62.4	82.4#



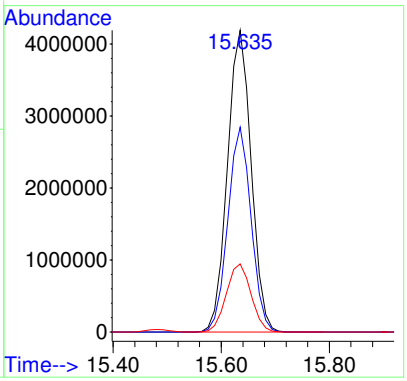
NOT REAL

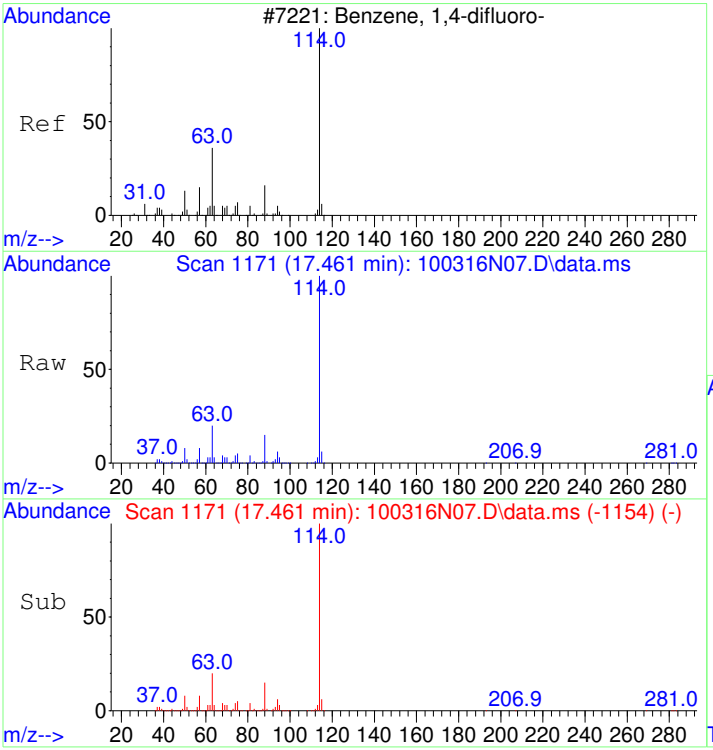


#28
Chloroform
Concen: 137.91 ppbv
RT: 15.635 min Scan# 1017
Delta R.T. 0.012 min
Lab File: 100316N07.D
Acq: 3 Oct 2016 4:01 pm

Tgt Ion: 83 Resp:12810239

Ion	Ratio	Lower	Upper
83	100		
85	66.5	44.7	84.7
47	23.5	4.0	44.0

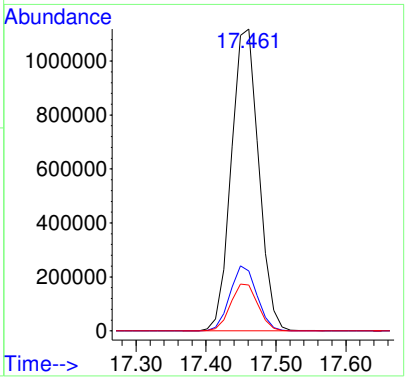


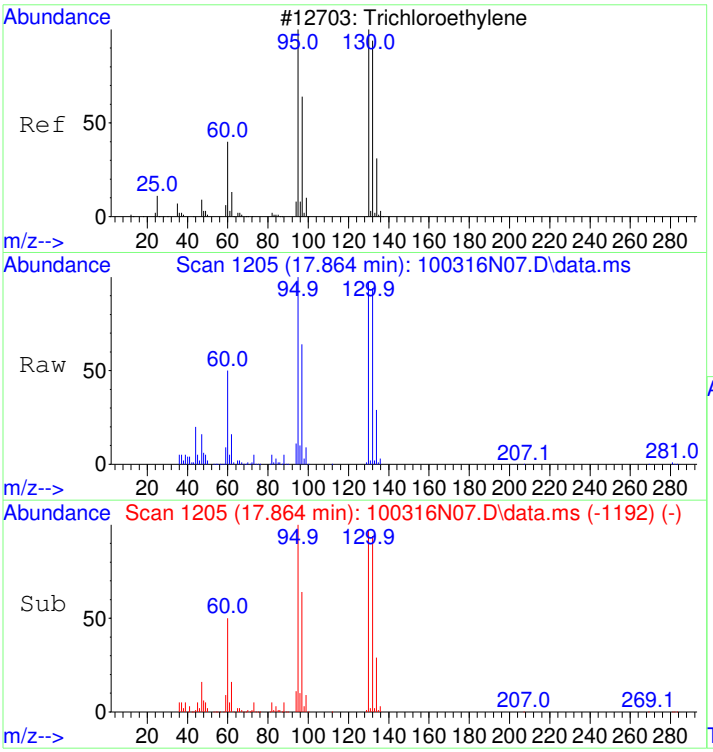


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.461 min Scan# 1171
Delta R.T. 0.012 min
Lab File: 100316N07.D
Acq: 3 Oct 2016 4:01 pm

Tgt Ion:114 Resp: 3036697

Ion	Ratio	Lower	Upper
114	100		
63	21.2	0.0	39.5
88	15.6	0.0	35.0

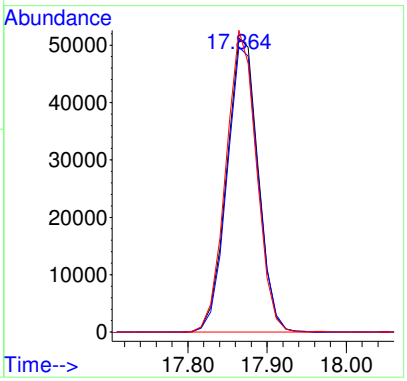


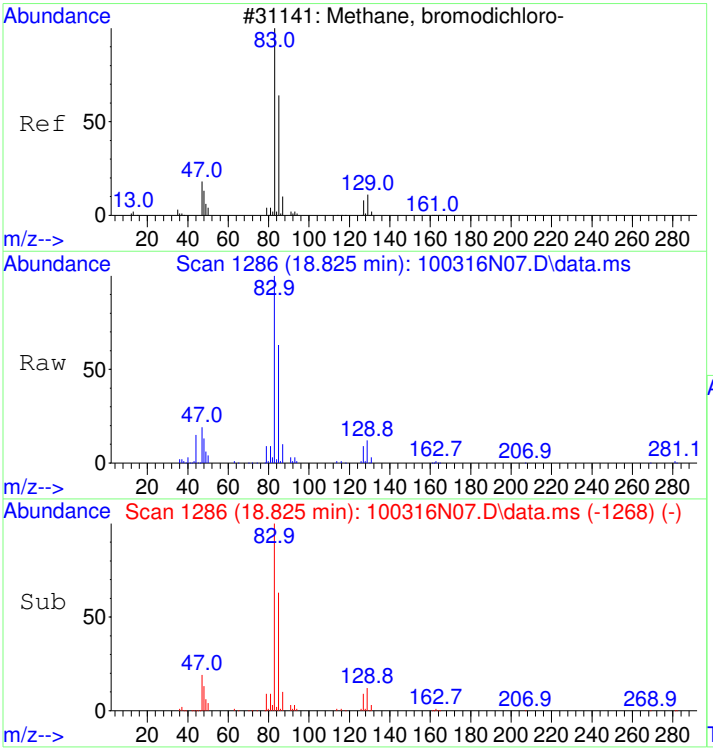


#37
Trichloroethene
Concen: 2.84 ppbv
RT: 17.864 min Scan# 1205
Delta R.T. -0.000 min
Lab File: 100316N07.D
Acq: 3 Oct 2016 4:01 pm

Tgt Ion:130 Resp: 141145

Ion	Ratio	Lower	Upper
130	100		
132	96.2	77.1	117.1
95	99.7	76.1	116.1

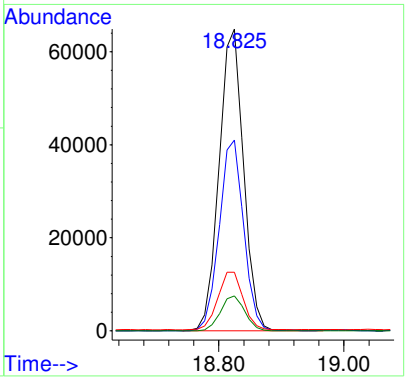


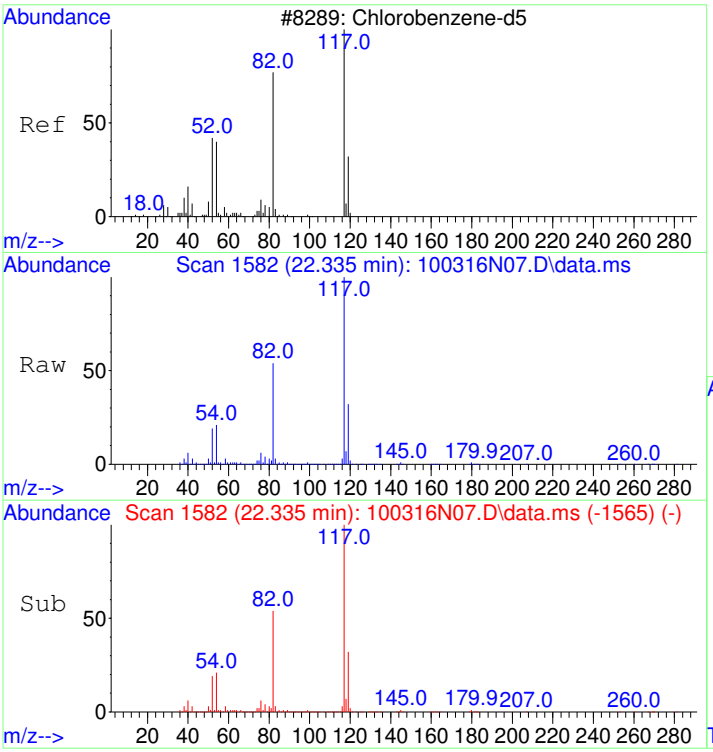


#40
Bromodichloromethane
Concen: 2.05 ppbv
RT: 18.825 min Scan# 1286
Delta R.T. 0.012 min
Lab File: 100316N07.D
Acq: 3 Oct 2016 4:01 pm

Tgt Ion: 83 Resp: 177005

Ion	Ratio	Lower	Upper
83	100		
85	63.0	44.3	84.3
47	19.7	0.0	38.3
129	11.5	0.0	32.0

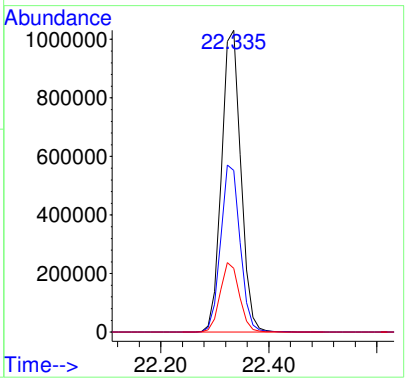


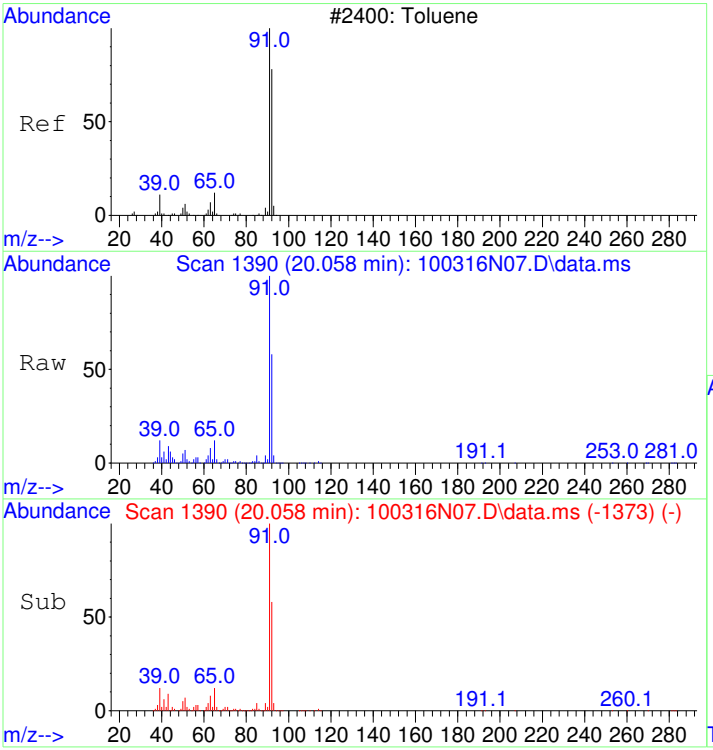


#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.335 min Scan# 1582
Delta R.T. -0.000 min
Lab File: 100316N07.D
Acq: 3 Oct 2016 4:01 pm

Tgt Ion:117 Resp: 2559679

Ion	Ratio	Lower	Upper
117	100		
82	55.9	33.7	73.7
54	23.0	1.1	41.1

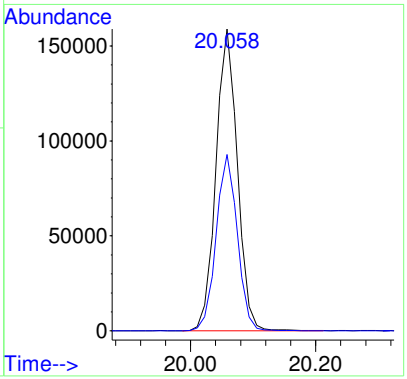


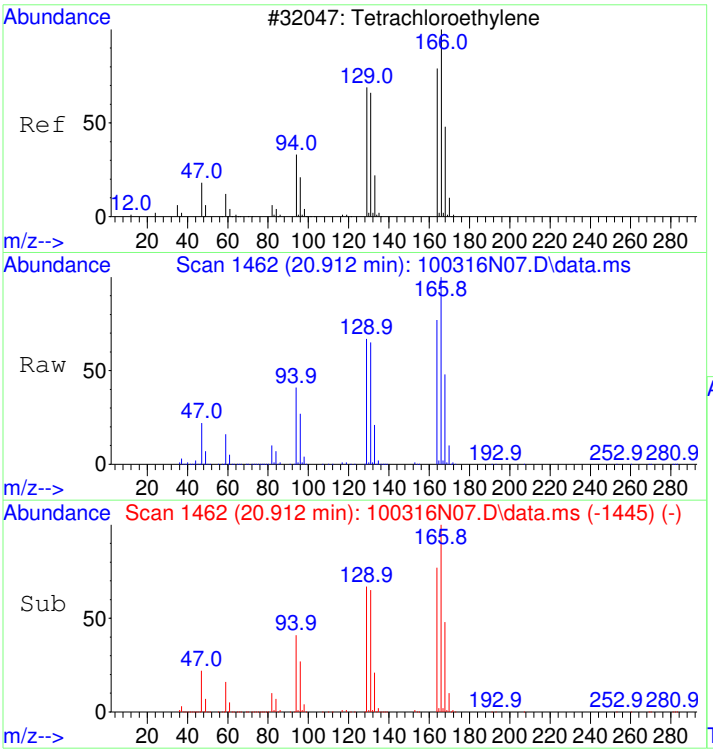


#44
Toluene
Concen: 2.75 ppbv
RT: 20.058 min Scan# 1390
Delta R.T. -0.000 min
Lab File: 100316N07.D
Acq: 3 Oct 2016 4:01 pm

Tgt Ion: 91 Resp: 379680

Ion	Ratio	Lower	Upper
91	100		
92	57.7	38.7	78.7

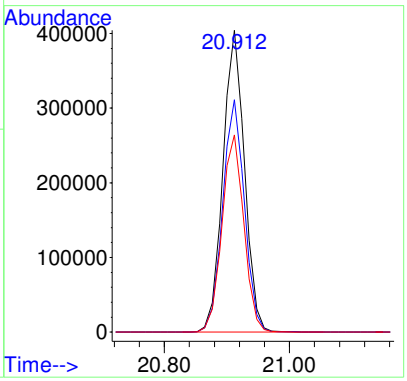




#47
Tetrachloroethene
Concen: 12.86 ppbv
RT: 20.912 min Scan# 1462
Delta R.T. -0.000 min
Lab File: 100316N07.D
Acq: 3 Oct 2016 4:01 pm

Tgt Ion:166 Resp: 969769

Ion	Ratio	Lower	Upper
166	100		
164	77.7	58.1	98.1
131	66.3	45.2	85.2



1609103-04

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2016\data\100316_FSAA\
Data File : 100316N08.D
Acq On : 3 Oct 2016 4:50 pm
InstName : AG5973N
Operator : LLH
Sample : 1609103-04
Misc : 200mL F5-054-10ft
ALS Vial : 37 Sample Multiplier: 1.73

REPORT

rerun 20ml for <LR

Quant Time: Oct 04 10:16:38 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Qvalue	Dev(Min)	
Internal Standards								
1) BROMOCHLOROMETHANE	15.481	49	1044938	22.00	ppbv		0.01	
32) 1,4-DIFLUOROBENZENE	17.449	114	3076914	19.80	ppbv		0.00	
43) CHLOROBENZENE-d5	22.335	117	2761909	20.00	ppbv		0.00	
Target Compounds								
2) Propene	4.452	41	3241254	97.48	ppbv	# 44		oc NT
6) Vinyl chloride	5.425	62	70069	1.82	ppbv	100		
14) Acetone	9.990	43	139361	2.39	ppbv	97		
16) 2-Propanol	10.583	45	30554	0.53	ppbv	# 39		
18) Dichloromethane	11.496	49	49917	0.93	ppbv	94		
20) trans-1,2-Dichloroethene	12.208	61	111454	1.97	ppbv	93		
21) Hexane	12.801	57	2383340	37.02	ppbv	97		oc NT
24) cis-1,2-Dichloroethene	14.947	61	6196471	114.04	ppbv	98		oc
25) 2-Butanone (MEK)	15.042	72	13588	0.72	ppbv	# 67		
28) Chloroform	15.635	83	4580416	48.45	ppbv	99		oc
29) Cyclohexane	15.872	56	53148	0.81	ppbv	87		
37) Trichloroethene	17.864	130	5757154	114.21	ppbv	99		oc
40) Bromodichloromethane	18.813	83	66282	0.76	ppbv	94		
42) 4-Methyl-2-pentanone (...	19.750	43	202856	~~2.15 ppbv~~		# 48		
44) Toluene	20.058	91	122990	0.83	ppbv	97		
47) Tetrachloroethene	20.912	166	366677	4.51	ppbv	99		
48) 2-Hexanone	21.161	43	56455	~~0.57 ppbv~~		# 32		
52) Ethylbenzene	22.466	91	401443	1.99	ppbv	98		
53) m&p-Xylene	22.643	91	1161350	7.35	ppbv	98		
54) o-Xylene	23.284	91	401001	2.49	ppbv	98		

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

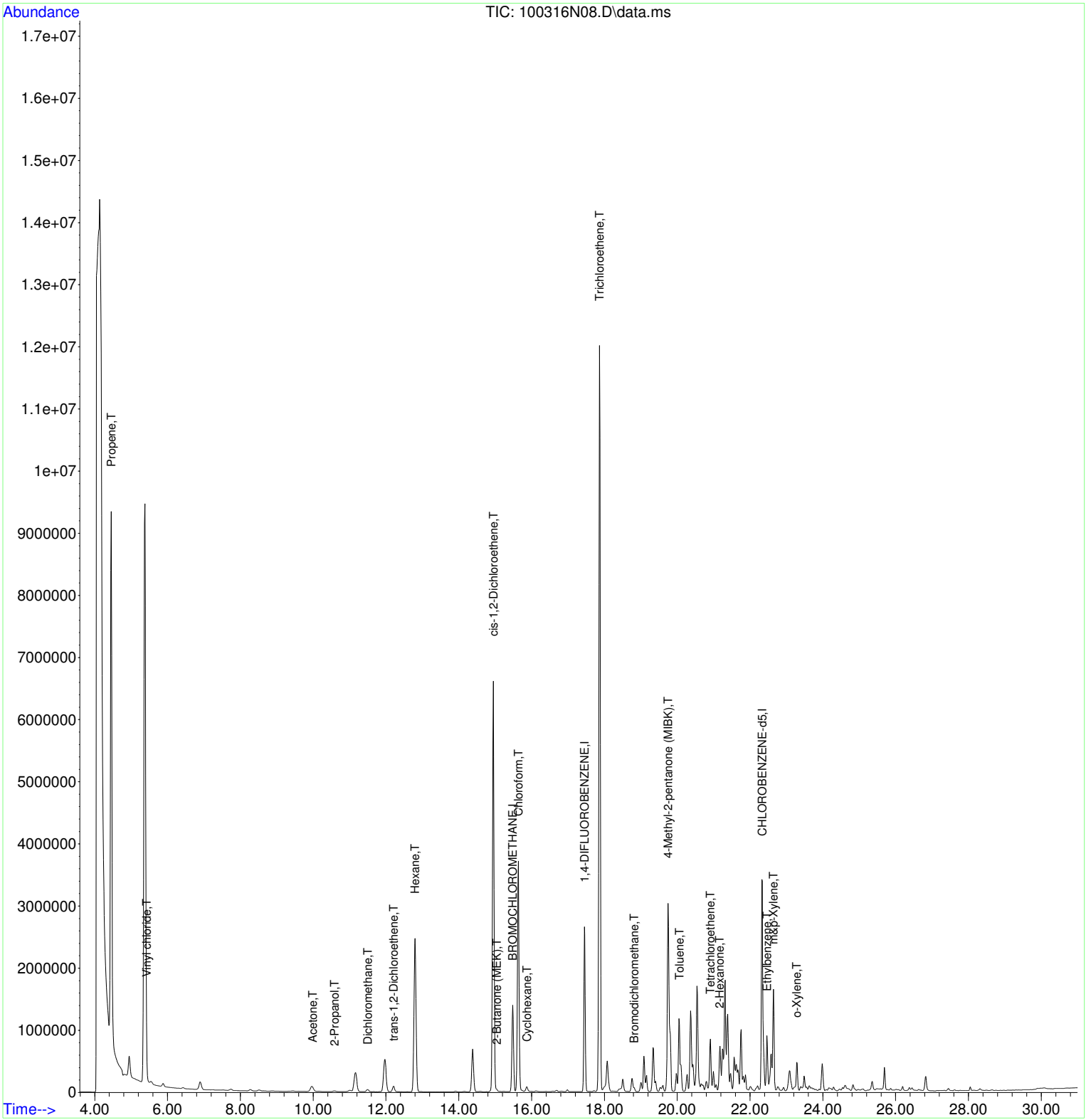
AFTER Q DELETE

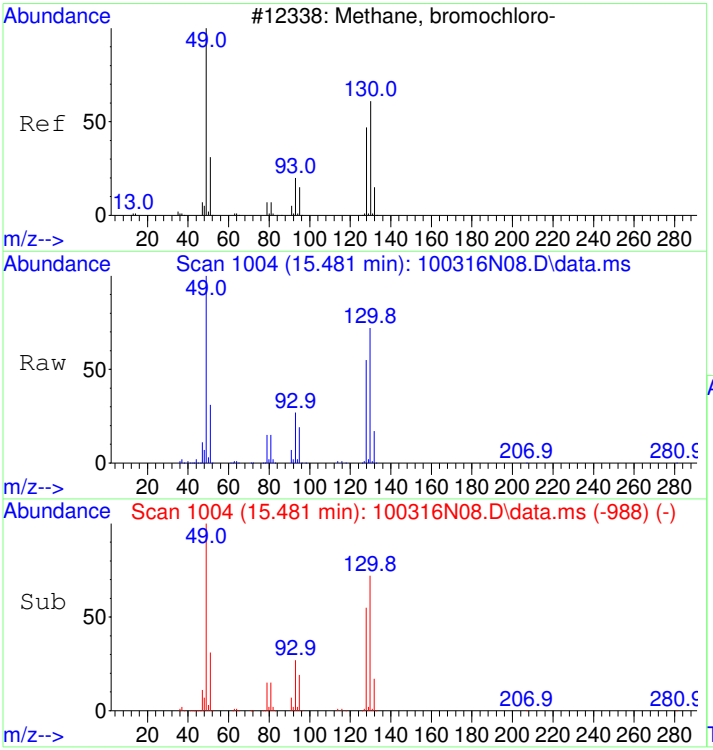
REVIEWED
By LLH at 3:55 pm, Oct 04, 2016

Table of Contents

Data Path : D:\msdchem\1\2016\data\100316_FSAA\
Data File : 100316N08.D
Acq On : 3 Oct 2016 4:50 pm
InstName : AG5973N
Operator : LLH
Sample : 1609103-04
Misc : 200mL F5-054-10ft
ALS Vial : 37 Sample Multiplier: 1.73

Quant Time: Oct 04 10:16:38 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 2016
Response via : Initial Calibration

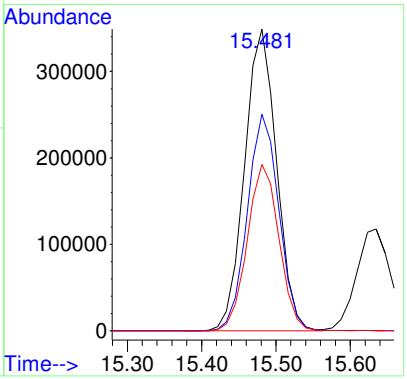


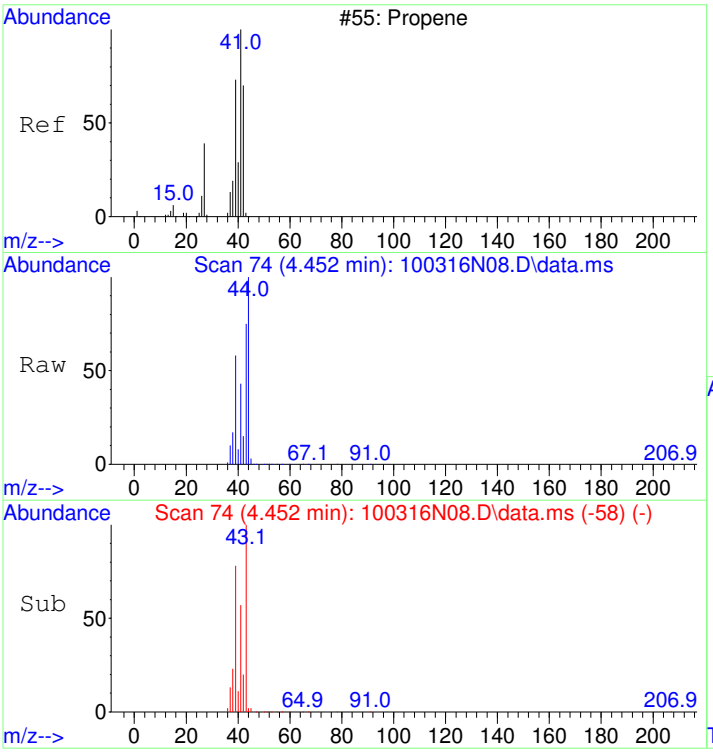


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. 0.012 min
Lab File: 100316N08.D
Acq: 3 Oct 2016 4:50 pm

Tgt Ion: 49 Resp: 1044938

Ion	Ratio	Lower	Upper
49	100		
130	71.1	62.1	102.1
128	54.7	42.9	82.9

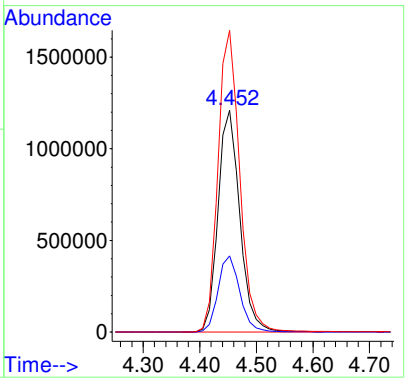


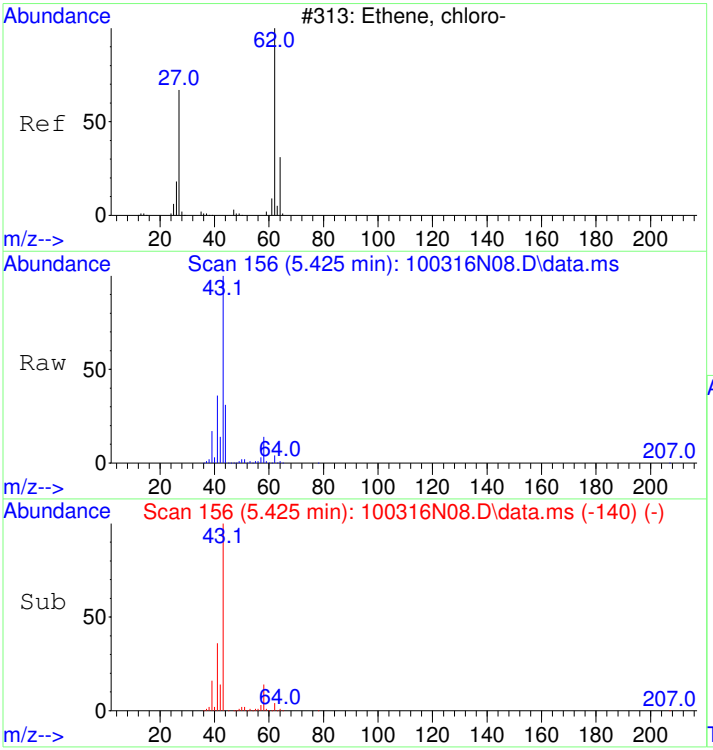


#2
Propene
Concen: 97.48 ppbv
RT: 4.452 min Scan# 74
Delta R.T. -0.012 min
Lab File: 100316N08.D
Acq: 3 Oct 2016 4:50 pm

Tgt Ion: 41 Resp: 3241254

Ion	Ratio	Lower	Upper
41	100		
42	34.5	46.6	86.6#
39	135.9	55.5	95.5#

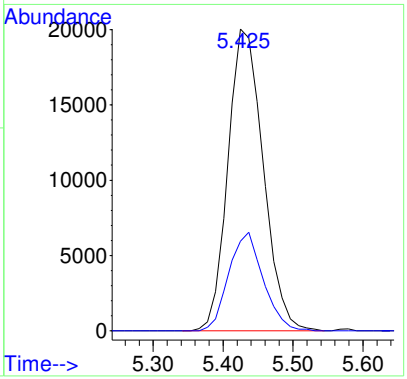


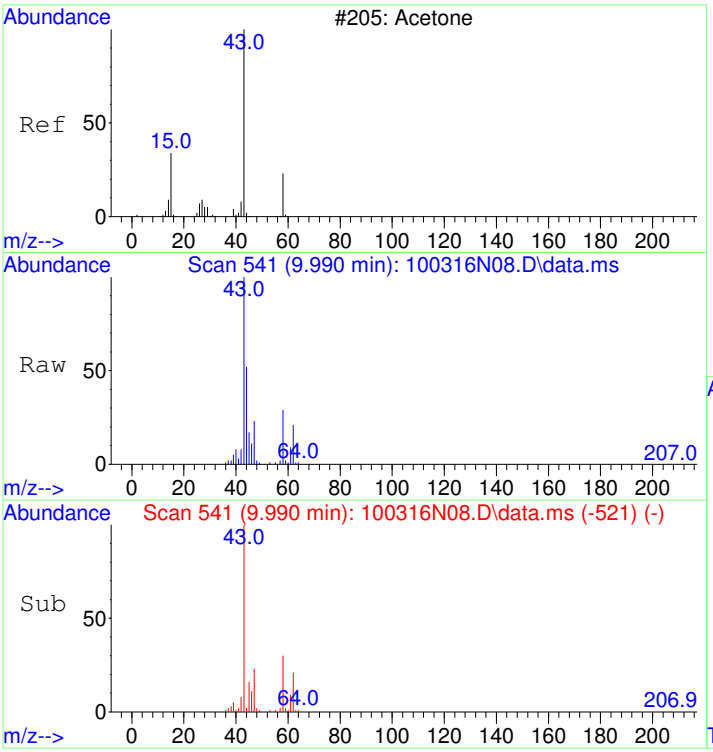


#6
Vinyl chloride
Concen: 1.82 ppbv
RT: 5.425 min Scan# 156
Delta R.T. -0.012 min
Lab File: 100316N08.D
Acq: 3 Oct 2016 4:50 pm

Tgt Ion: 62 Resp: 70069

Ion	Ratio	Lower	Upper
62	100		
64	31.9	12.0	52.0

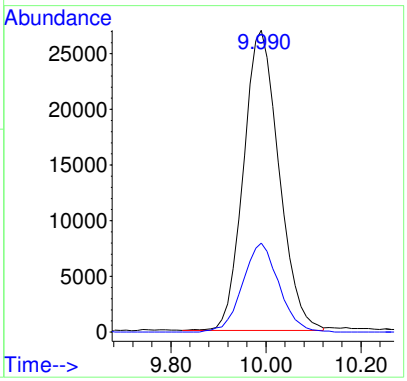


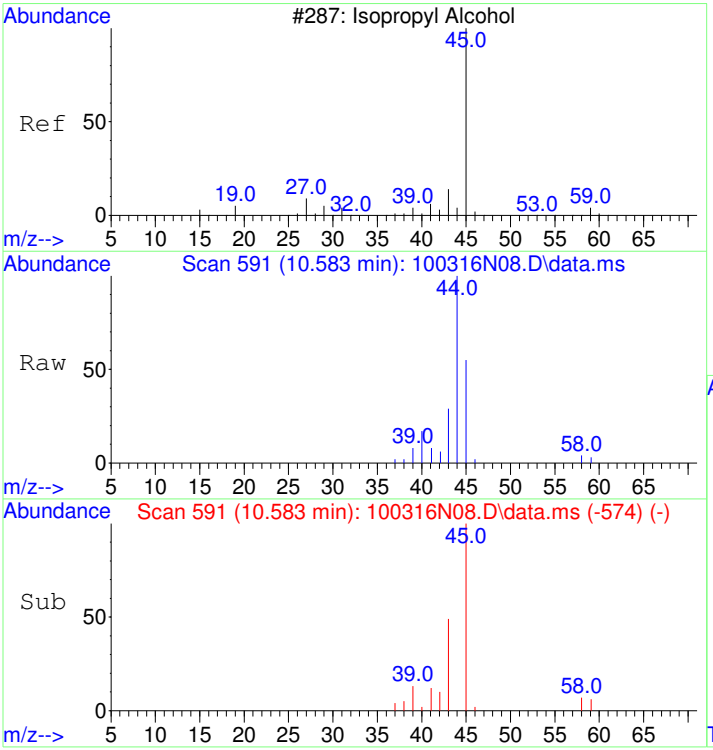


#14
Acetone
Concen: 2.39 ppbv
RT: 9.990 min Scan# 541
Delta R.T. 0.036 min
Lab File: 100316N08.D
Acq: 3 Oct 2016 4:50 pm

Tgt Ion: 43 Resp: 139361

Ion	Ratio	Lower	Upper
43	100		
58	30.4	8.8	48.8

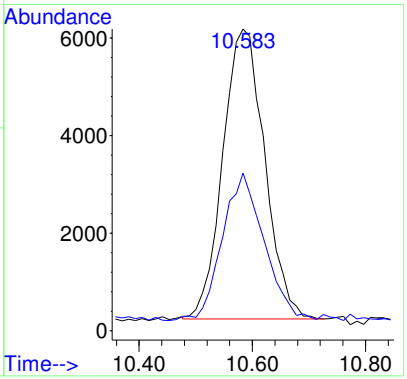


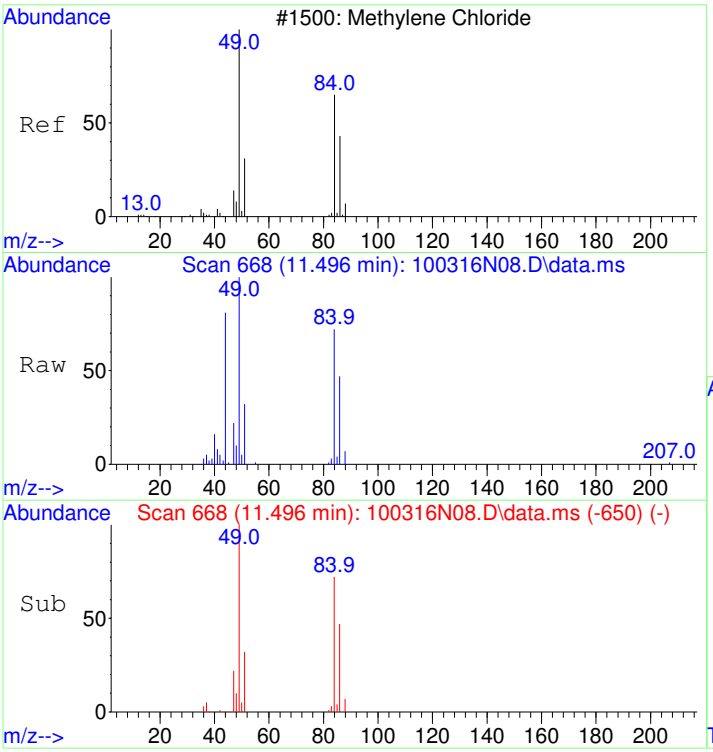


#16
2-Propanol
Concen: 0.53 ppbv
RT: 10.583 min Scan# 591
Delta R.T. 0.024 min
Lab File: 100316N08.D
Acq: 3 Oct 2016 4:50 pm

Tgt Ion: 45 Resp: 30554

Ion	Ratio	Lower	Upper
45	100		
43	50.8	1.9	41.9#

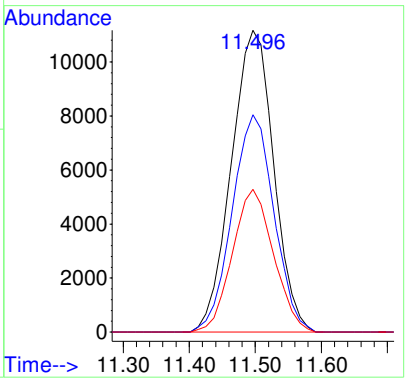


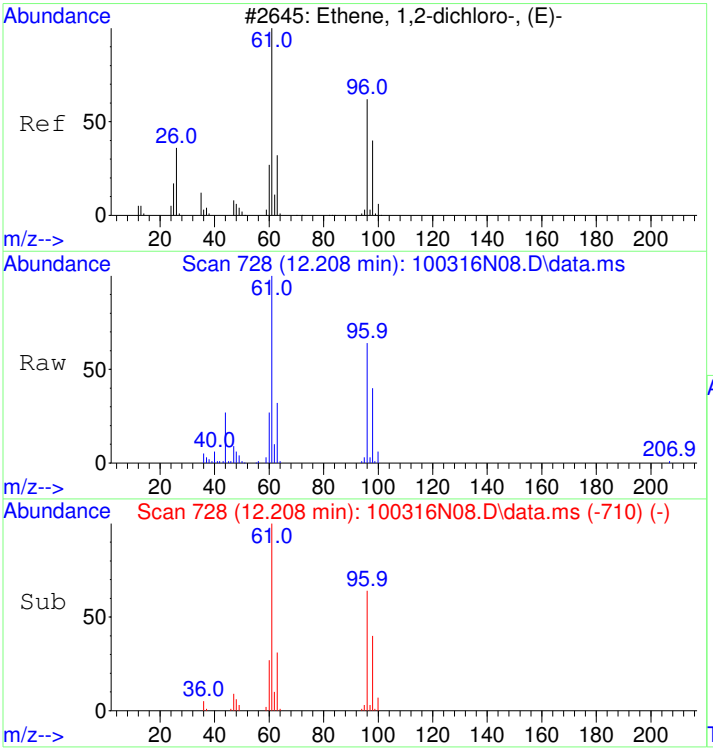


#18
Dichloromethane
Concen: 0.93 ppbv
RT: 11.496 min Scan# 668
Delta R.T. 0.012 min
Lab File: 100316N08.D
Acq: 3 Oct 2016 4:50 pm

Tgt Ion: 49 Resp: 49917

Ion	Ratio	Lower	Upper
49	100		
84	71.1	57.2	97.2
86	45.9	29.6	69.6

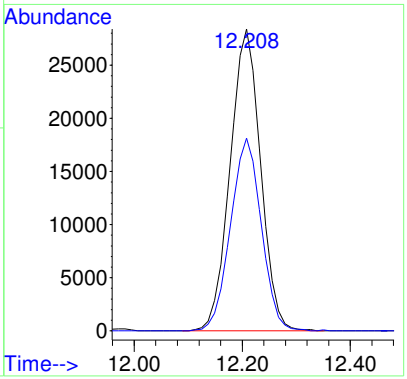


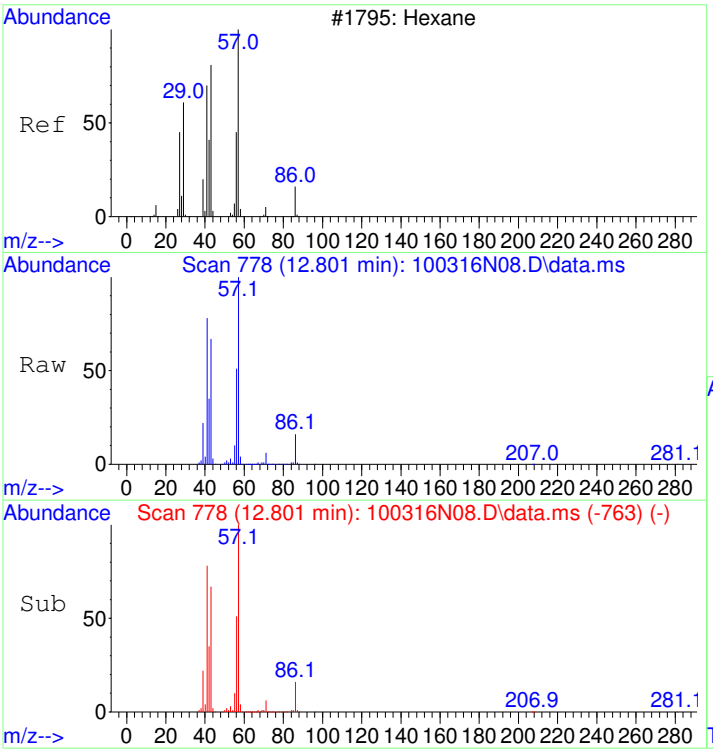


#20
trans-1,2-Dichloroethene
Concen: 1.97 ppbv
RT: 12.208 min Scan# 728
Delta R.T. 0.012 min
Lab File: 100316N08.D
Acq: 3 Oct 2016 4:50 pm

Tgt Ion: 61 Resp: 111454

Ion	Ratio	Lower	Upper
61	100		
96	64.4	50.3	90.3

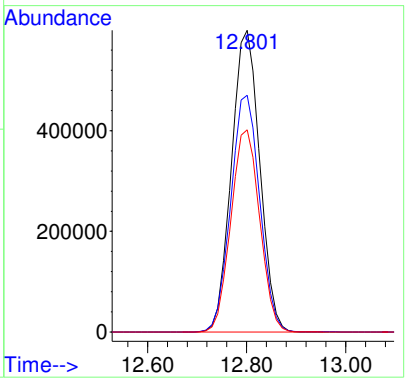


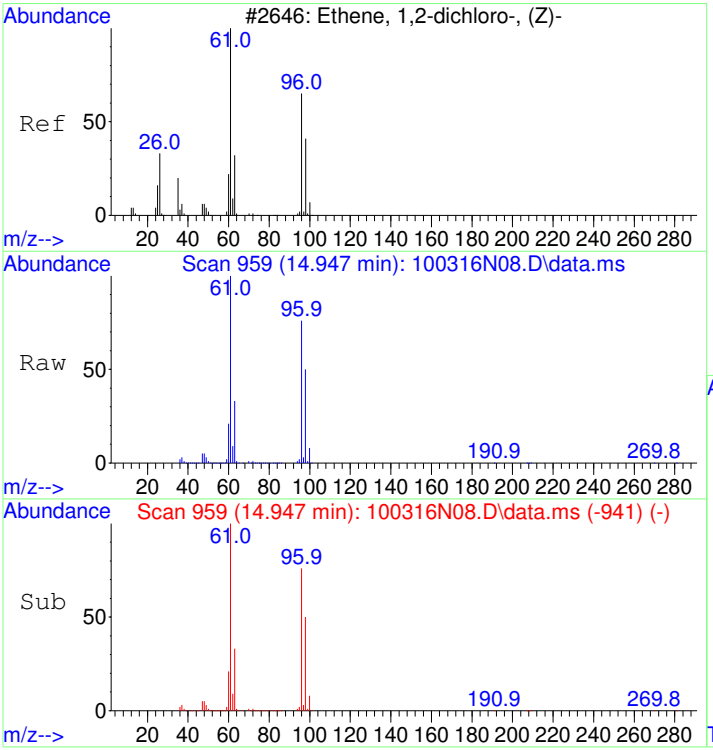


#21
Hexane
Concen: 37.02 ppbv
RT: 12.801 min Scan# 778
Delta R.T. 0.012 min
Lab File: 100316N08.D
Acq: 3 Oct 2016 4:50 pm

Tgt Ion: 57 Resp: 2383340

Ion	Ratio	Lower	Upper
57	100		
41	80.4	57.7	97.7
43	68.2	45.7	85.7

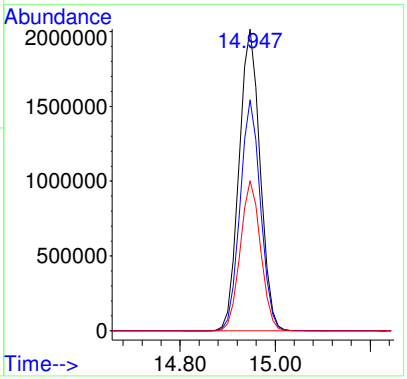


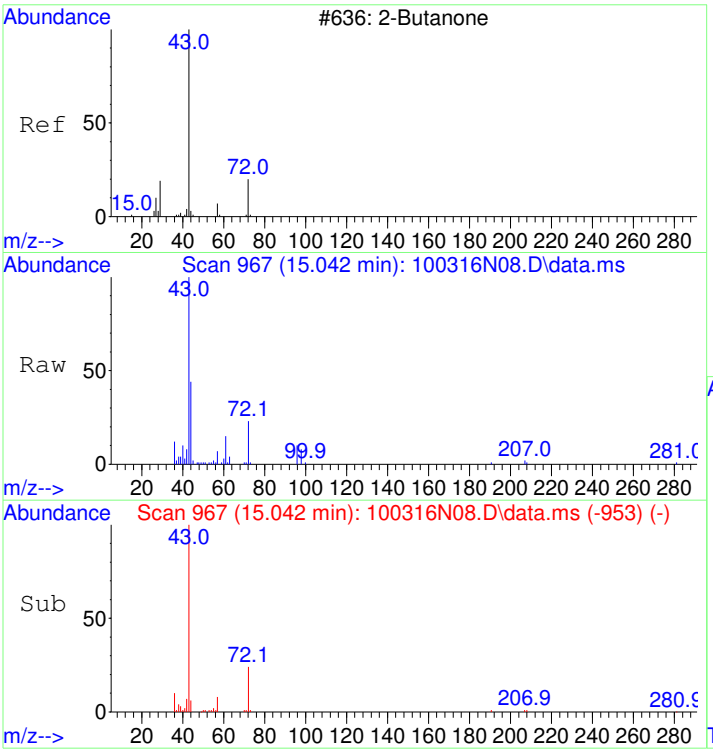


#24
cis-1,2-Dichloroethene
Concen: 114.04 ppbv
RT: 14.947 min Scan# 959
Delta R.T. 0.012 min
Lab File: 100316N08.D
Acq: 3 Oct 2016 4:50 pm

Tgt Ion: 61 Resp: 6196471

Ion	Ratio	Lower	Upper
61	100		
96	74.6	56.8	96.8
98	48.3	29.0	69.0

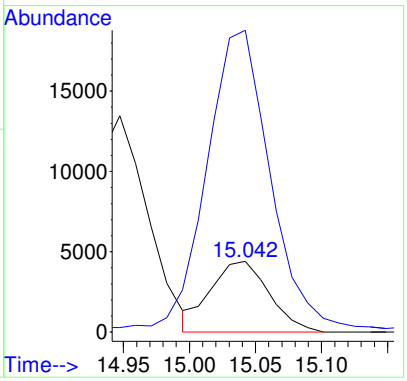


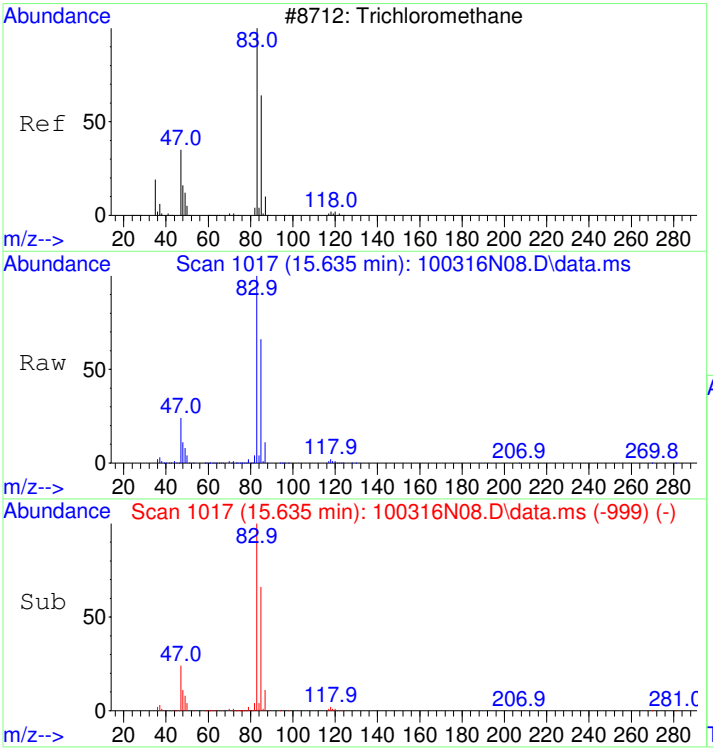


#25
2-Butanone (MEK)
Concen: 0.72 ppbv
RT: 15.042 min Scan# 967
Delta R.T. 0.012 min
Lab File: 100316N08.D
Acq: 3 Oct 2016 4:50 pm

Tgt Ion: 72 Resp: 13588

Ion	Ratio	Lower	Upper
72	100		
43	452.3	366.2	386.2#

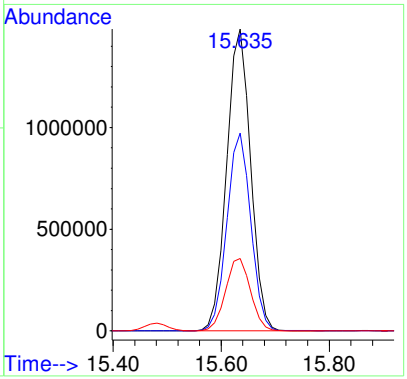


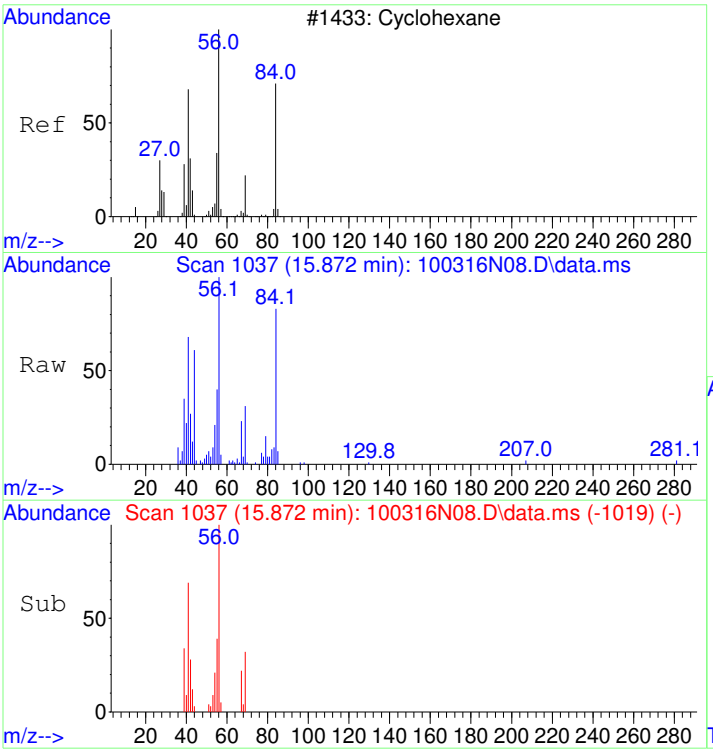


#28
Chloroform
Concen: 48.45 ppbv
RT: 15.635 min Scan# 1017
Delta R.T. 0.012 min
Lab File: 100316N08.D
Acq: 3 Oct 2016 4:50 pm

Tgt Ion: 83 Resp: 4580416

Ion	Ratio	Lower	Upper
83	100		
85	65.2	44.7	84.7
47	24.9	4.0	44.0

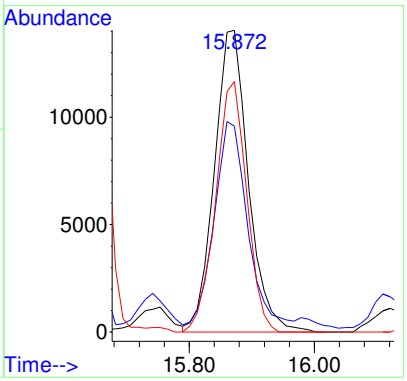


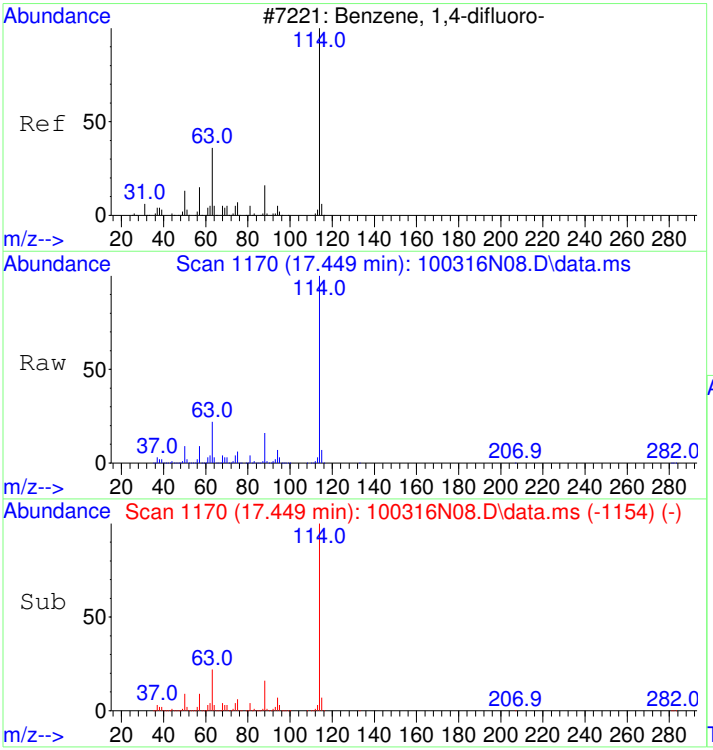


#29
Cyclohexane
Concen: 0.81 ppbv
RT: 15.872 min Scan# 1037
Delta R.T. 0.012 min
Lab File: 100316N08.D
Acq: 3 Oct 2016 4:50 pm

Tgt Ion: 56 Resp: 53148

Ion	Ratio	Lower	Upper
56	100		
41	66.8	38.7	78.7
84	75.8	68.5	108.5

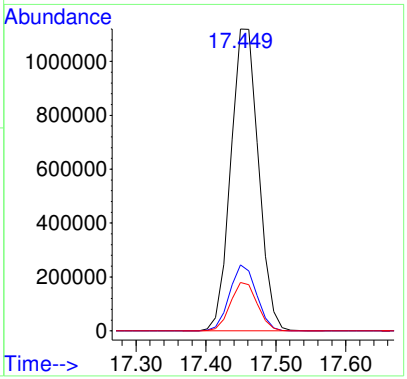


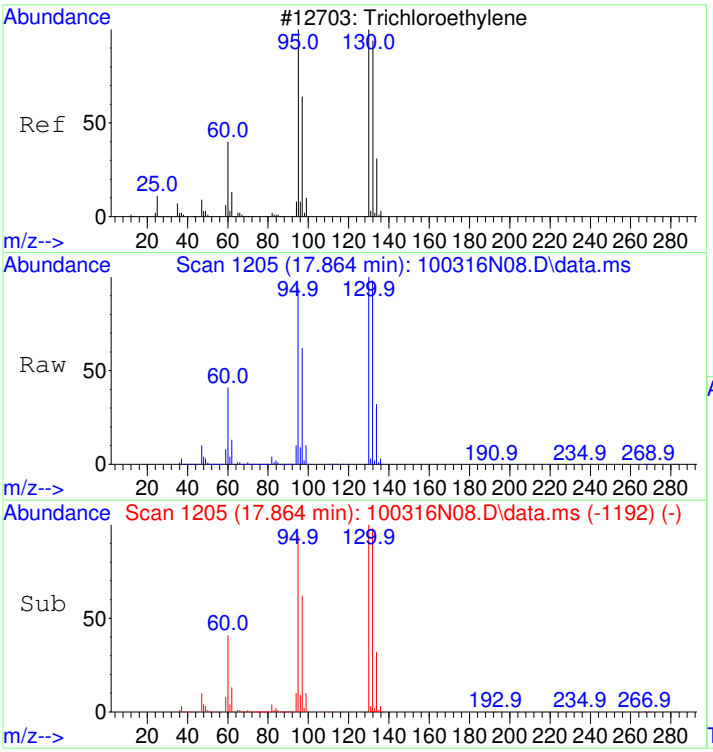


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.449 min Scan# 1170
Delta R.T. 0.000 min
Lab File: 100316N08.D
Acq: 3 Oct 2016 4:50 pm

Tgt Ion:114 Resp: 3076914

Ion	Ratio	Lower	Upper
114	100		
63	21.2	0.0	39.5
88	15.6	0.0	35.0

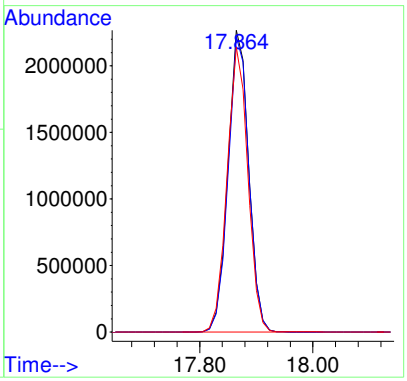


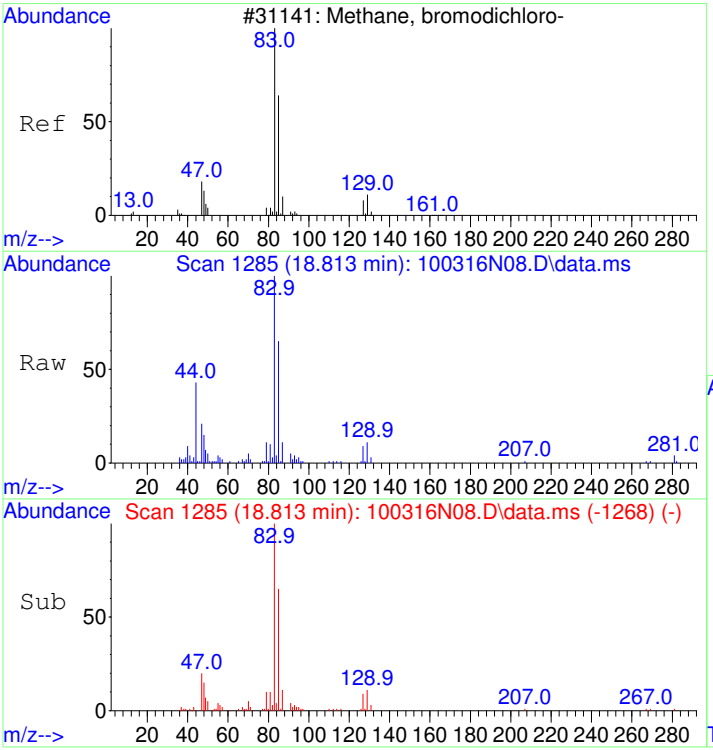


#37
Trichloroethene
Concen: 114.21 ppbv
RT: 17.864 min Scan# 1205
Delta R.T. 0.000 min
Lab File: 100316N08.D
Acq: 3 Oct 2016 4:50 pm

Tgt Ion:130 Resp: 5757154

Ion	Ratio	Lower	Upper
130	100		
132	97.9	77.1	117.1
95	94.9	76.1	116.1

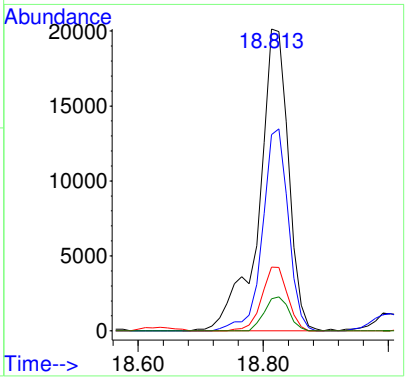


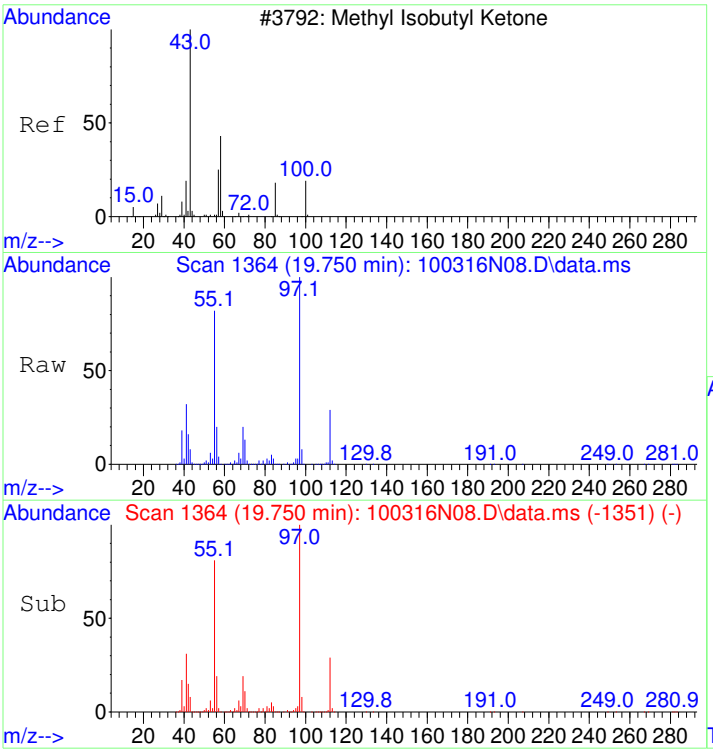


#40
Bromodichloromethane
Concen: 0.76 ppbv
RT: 18.813 min Scan# 1285
Delta R.T. 0.000 min
Lab File: 100316N08.D
Acq: 3 Oct 2016 4:50 pm

Tgt Ion: 83 Resp: 66282

Ion	Ratio	Lower	Upper
83	100		
85	58.1	44.3	84.3
47	18.4	0.0	38.3
129	9.3	0.0	32.0

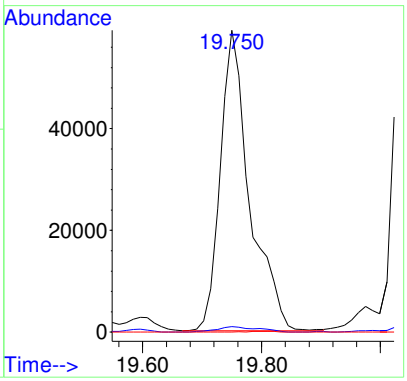




#42
4-Methyl-2-pentanone (MIBK)
Concen: 2.15 ppbv
RT: 19.750 min Scan# 1364
Delta R.T. -0.047 min
Lab File: 100316N08.D
Acq: 3 Oct 2016 4:50 pm

Tgt Ion: 43 Resp: 202856

Ion	Ratio	Lower	Upper
43	100		
58	2.6	17.6	57.6#
100	0.0	0.0	34.6



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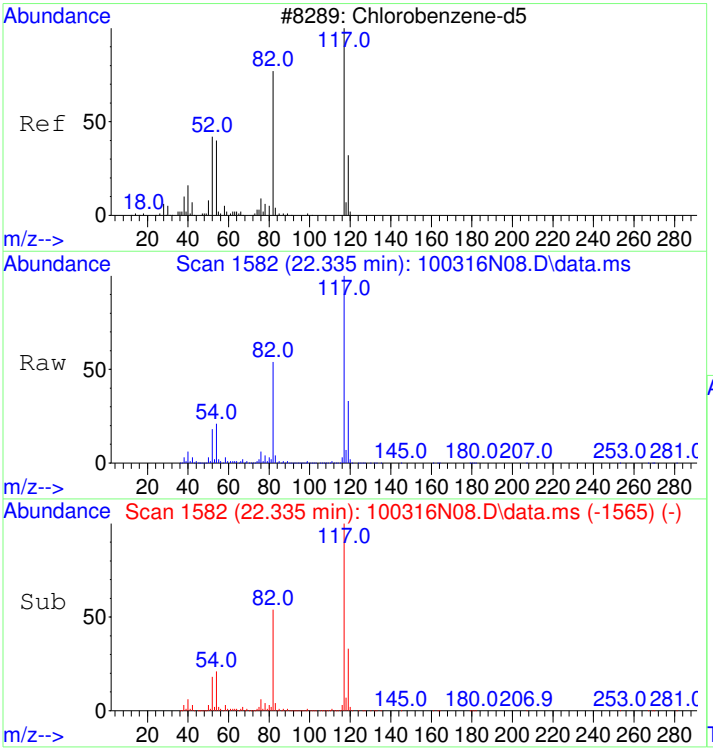
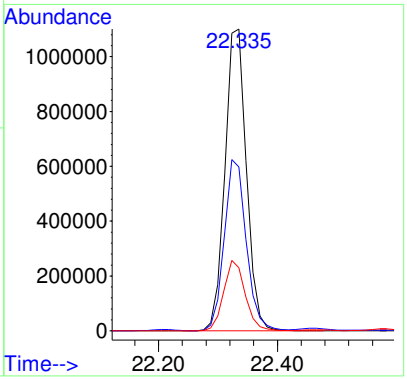
LLH 10/04/16

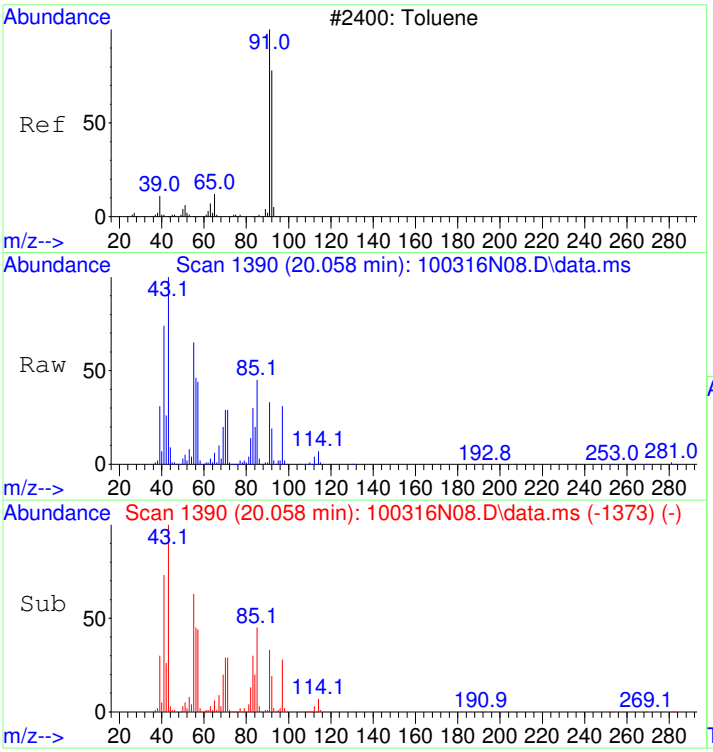


#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.335 min Scan# 1582
Delta R.T. 0.000 min
Lab File: 100316N08.D
Acq: 3 Oct 2016 4:50 pm

Tgt Ion:117 Resp: 2761909

Ion	Ratio	Lower	Upper
117	100		
82	58.2	33.7	73.7
54	23.3	1.1	41.1

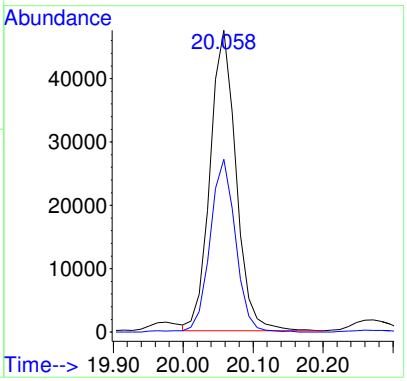


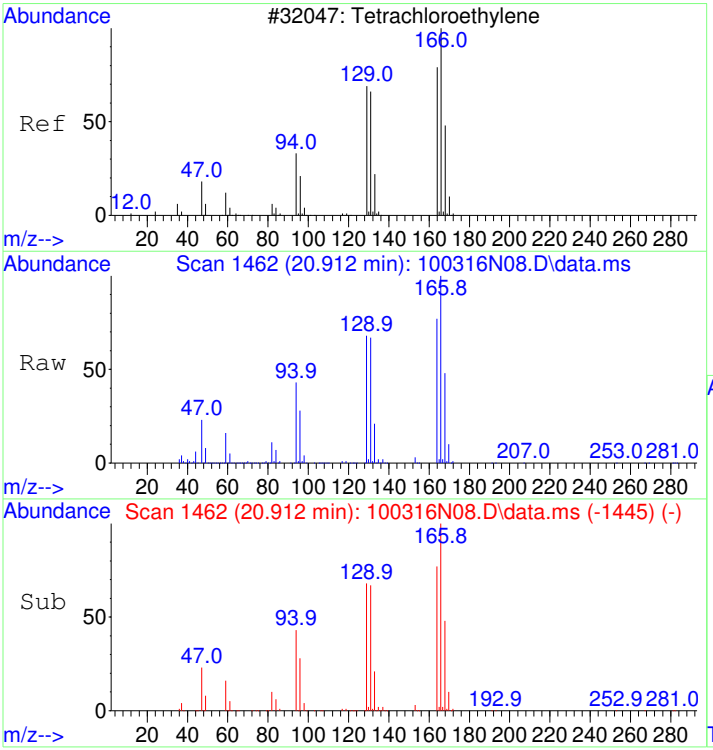


#44
Toluene
Concen: 0.83 ppbv
RT: 20.058 min Scan# 1390
Delta R.T. 0.000 min
Lab File: 100316N08.D
Acq: 3 Oct 2016 4:50 pm

Tgt Ion: 91 Resp: 122990

Ion	Ratio	Lower	Upper
91	100		
92	56.1	38.7	78.7

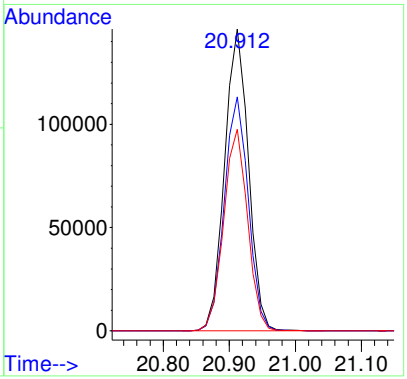


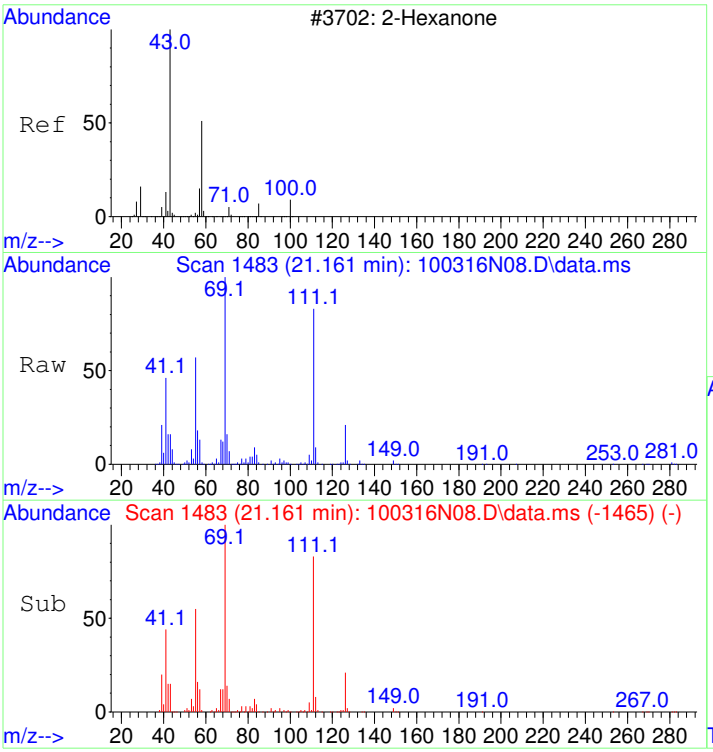


#47
Tetrachloroethene
Concen: 4.51 ppbv
RT: 20.912 min Scan# 1462
Delta R.T. 0.000 min
Lab File: 100316N08.D
Acq: 3 Oct 2016 4:50 pm

Tgt Ion:166 Resp: 366677

Ion	Ratio	Lower	Upper
166	100		
164	78.1	58.1	98.1
131	66.9	45.2	85.2

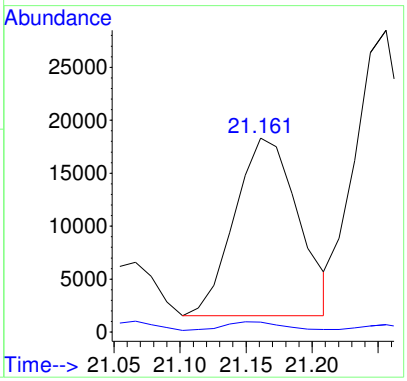




#48
2-Hexanone
Concen: 0.57 ppbv
RT: 21.161 min Scan# 1483
Delta R.T. 0.012 min
Lab File: 100316N08.D
Acq: 3 Oct 2016 4:50 pm

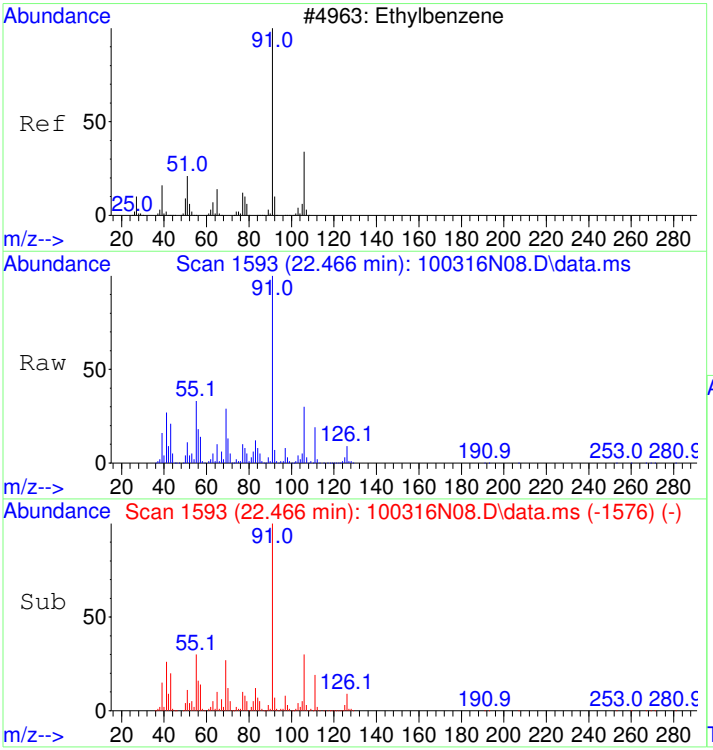
Tgt Ion: 43 Resp: 56455

Ion	Ratio	Lower	Upper
43	100		
58	4.3	32.6	72.6#



spectra off

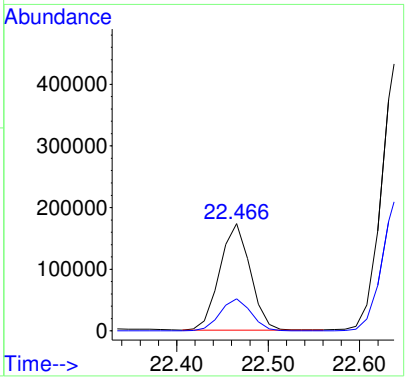
LLH 10/04/16

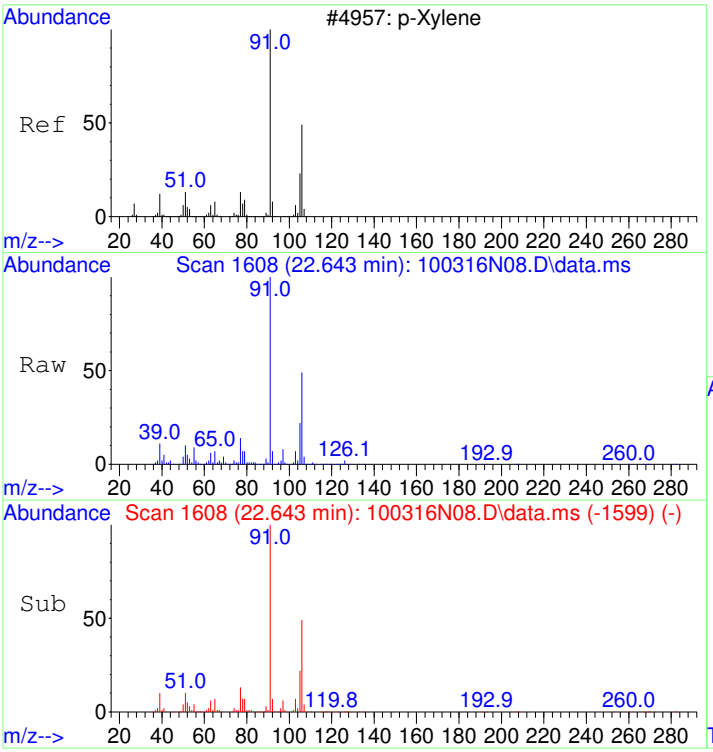


#52
Ethylbenzene
Concen: 1.99 ppbv
RT: 22.466 min Scan# 1593
Delta R.T. 0.000 min
Lab File: 100316N08.D
Acq: 3 Oct 2016 4:50 pm

Tgt Ion: 91 Resp: 401443

Ion	Ratio	Lower	Upper
91	100		
106	30.3	11.3	51.3

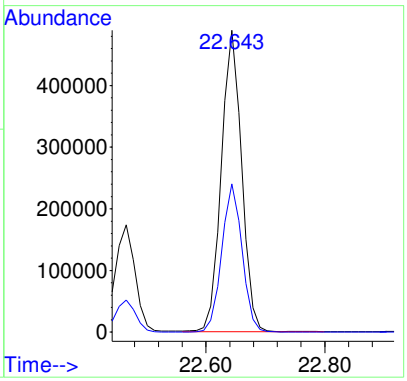


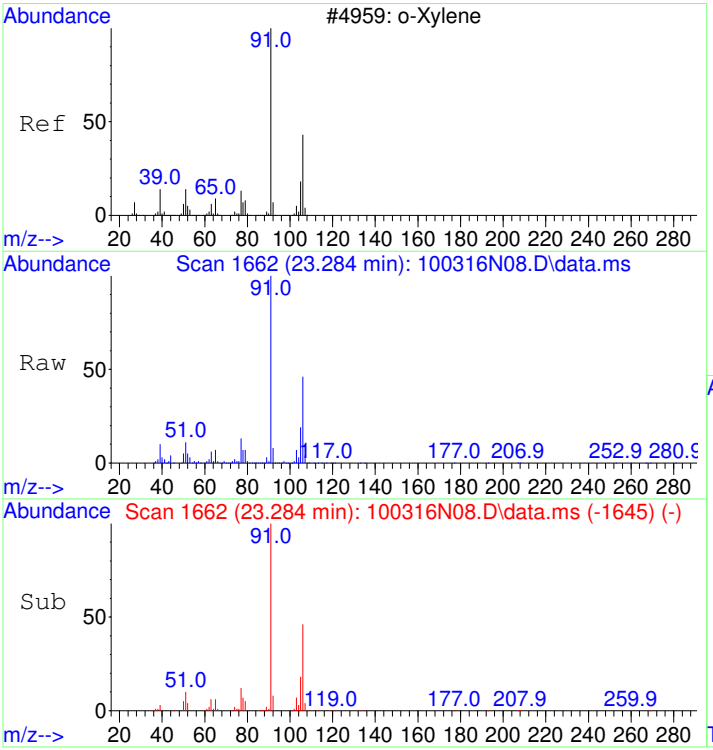


#53
m&p-Xylene
Concen: 7.35 ppbv
RT: 22.643 min Scan# 1608
Delta R.T. 0.000 min
Lab File: 100316N08.D
Acq: 3 Oct 2016 4:50 pm

Tgt Ion: 91 Resp: 1161350

Ion	Ratio	Lower	Upper
91	100		
106	49.0	30.2	70.2

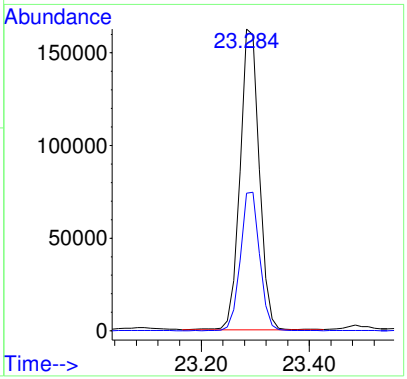




#54
o-Xylene
Concen: 2.49 ppbv
RT: 23.284 min Scan# 1662
Delta R.T. 0.000 min
Lab File: 100316N08.D
Acq: 3 Oct 2016 4:50 pm

Tgt Ion: 91 Resp: 401001

Ion	Ratio	Lower	Upper
91	100		
106	46.1	27.4	67.4



1609103-05

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2016\data\100316_FSAA\
Data File : 100316N09.D
Acq On : 3 Oct 2016 5:40 pm
InstName : AG5973N
Operator : LLH
Sample : 1609103-05
Misc : 200mL F5-054-5f
ALS Vial : 38 Sample Multiplier: 1.74

REPORT

rerun 20ml for >LR

Quant Time: Oct 04 10:17:59 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)			
Internal Standards									
1) BROMOCHLOROMETHANE	15.481	49	1051433	22.00	ppbv	0.01			
32) 1,4-DIFLUOROBENZENE	17.449	114	3149931	19.80	ppbv	0.00			
43) CHLOROBENZENE-d5	22.335	117	2755538	20.00	ppbv	0.00			
Target Compounds							Qvalue		
2) Propene	4.452	41	2142621	64.04	ppbv	#	44	oc	NT
6) Vinyl chloride	5.425	62	49977	1.29	ppbv		98		
14) Acetone	9.979	43	119713	2.04	ppbv		98		
16) 2-Propanol	10.571	45	32278	0.56	ppbv	#	41		
18) Dichloromethane	11.496	49	43448	0.81	ppbv		93		
20) trans-1,2-Dichloroethene	12.208	61	70760	1.24	ppbv		95		
21) Hexane	12.801	57	1478137	22.82	ppbv		97	oc	NT
24) cis-1,2-Dichloroethene	14.947	61	4006015	73.27	ppbv		97	oc	
25) 2-Butanone (MEK)	15.030	72	11587	0.61	ppbv	#	65		
28) Chloroform	15.635	83	3238390	34.04	ppbv		99	oc	
29) Cyclohexane	15.860	56	35835	0.54	ppbv		89		
37) Trichloroethene	17.864	130	3638183	70.50	ppbv		100	oc	
42) 4-Methyl-2-pentanone (...	19.750	43	113747	~~1.18~~	~~ppbv~~	#	48		
44) Toluene	20.058	91	81294	0.55	ppbv		97		
47) Tetrachloroethene	20.912	166	261591	3.22	ppbv		99		
52) Ethylbenzene	22.465	91	238175	1.18	ppbv		100		
53) m&p-Xylene	22.643	91	708031	4.49	ppbv		98		
54) o-Xylene	23.296	91	261482	1.63	ppbv		99		

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

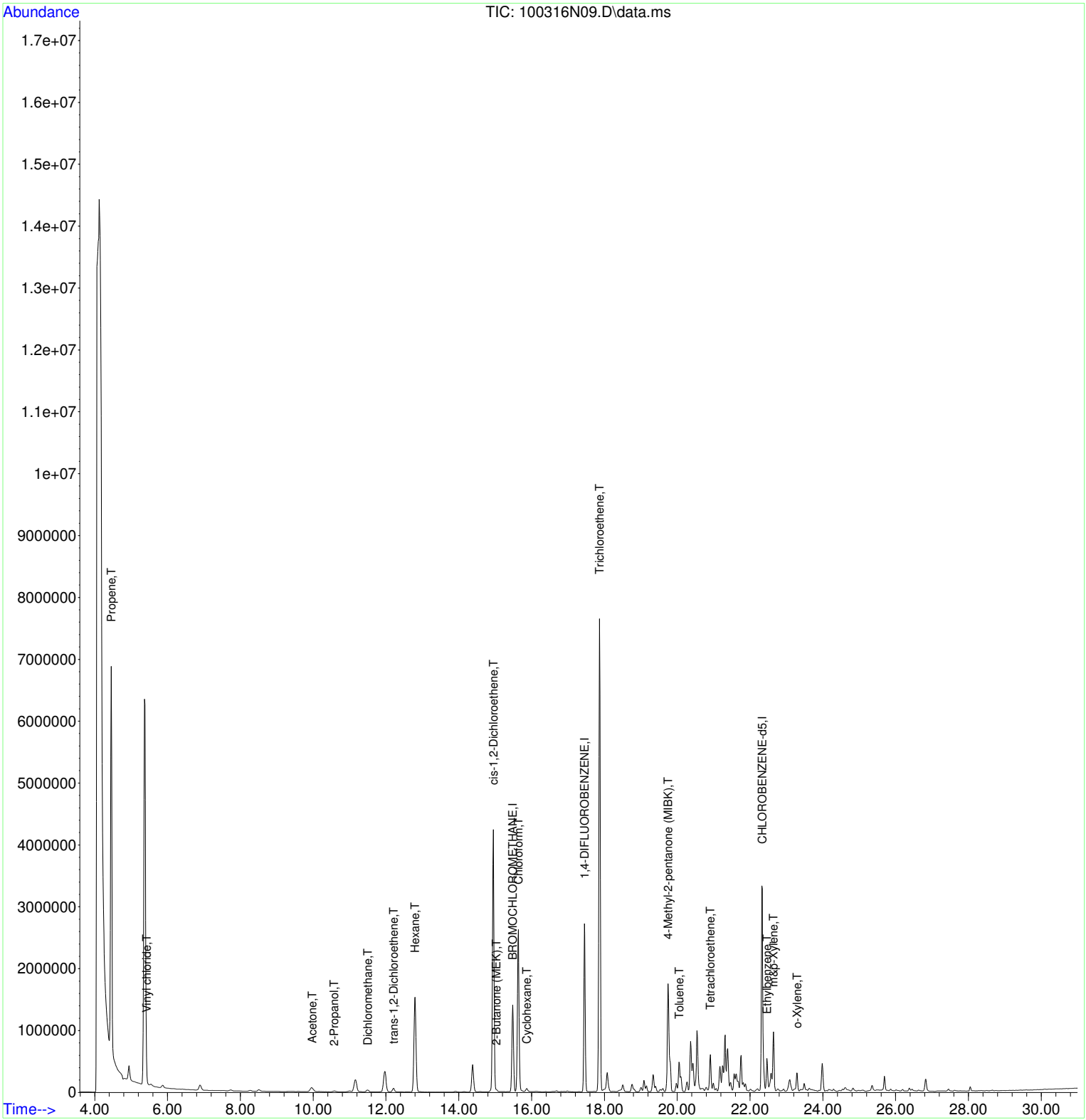
AFTER Q DELETE

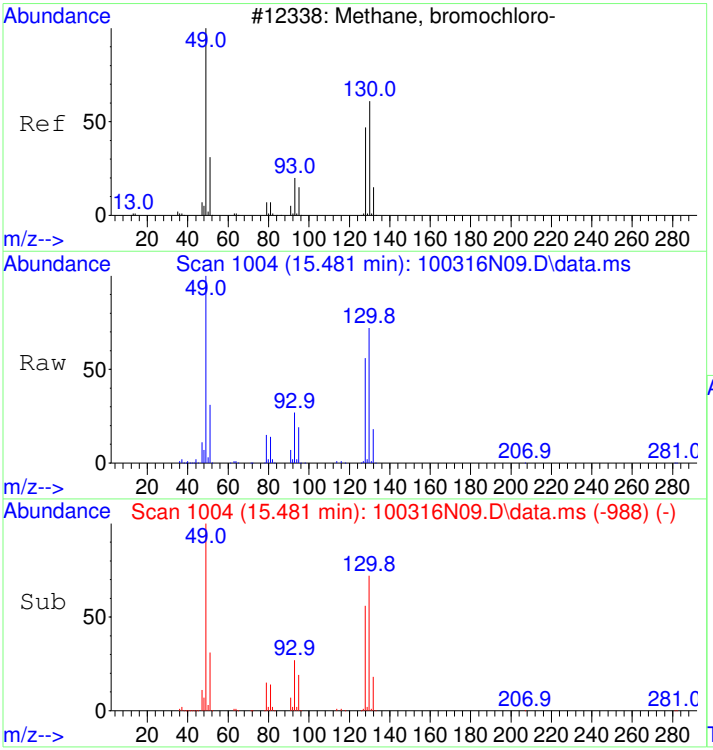
REVIEWED
By LLH at 3:59 pm, Oct 04, 2016

Table of Contents

Data Path : D:\msdchem\1\2016\data\100316_FSAA\
Data File : 100316N09.D
Acq On : 3 Oct 2016 5:40 pm
InstName : AG5973N
Operator : LLH
Sample : 1609103-05
Misc : 200mL F5-054-5f
ALS Vial : 38 Sample Multiplier: 1.74

Quant Time: Oct 04 10:17:59 2016
Quant Method : D:\msdchem\1\2016\method\091516N_TO15AA.M
Quant Title : TO15
QLast Update : Tue Sep 20 16:22:25 2016
Response via : Initial Calibration

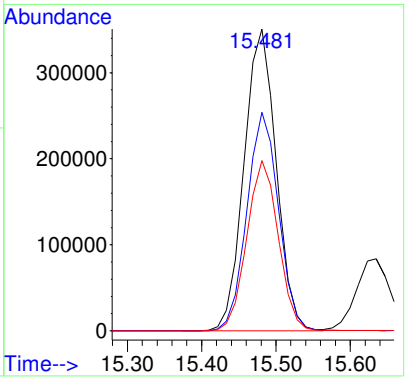


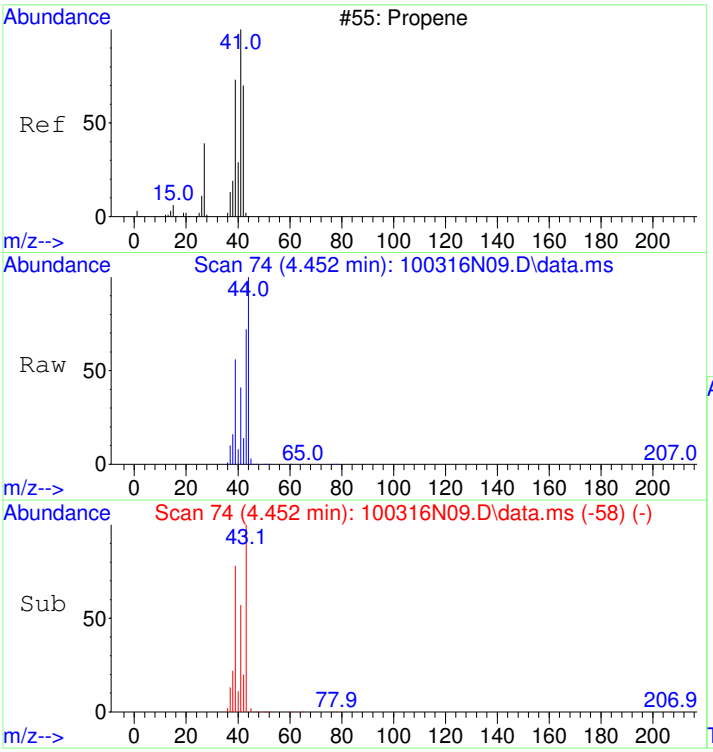


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. 0.012 min
Lab File: 100316N09.D
Acq: 3 Oct 2016 5:40 pm

Tgt Ion: 49 Resp: 1051433

Ion	Ratio	Lower	Upper
49	100		
130	71.6	62.1	102.1
128	55.4	42.9	82.9

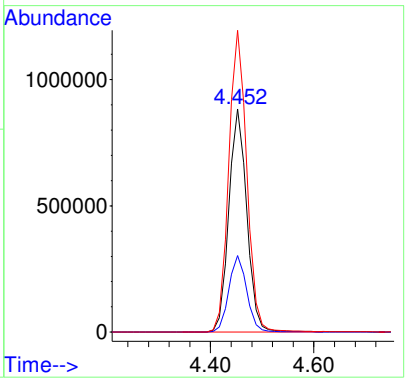


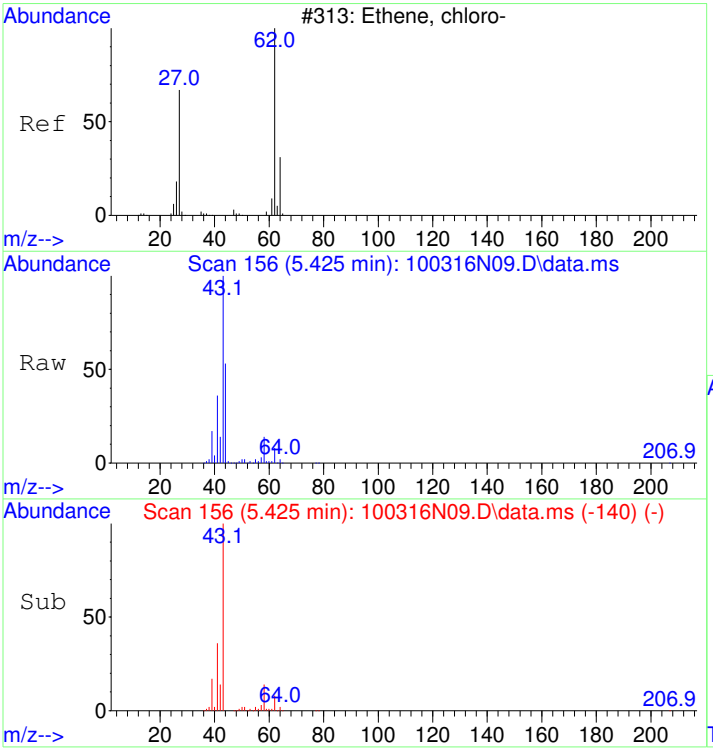


#2
Propene
Concen: 64.04 ppbv
RT: 4.452 min Scan# 74
Delta R.T. -0.012 min
Lab File: 100316N09.D
Acq: 3 Oct 2016 5:40 pm

Tgt Ion: 41 Resp: 2142621

Ion	Ratio	Lower	Upper
41	100		
42	34.4	46.6	86.6#
39	135.5	55.5	95.5#

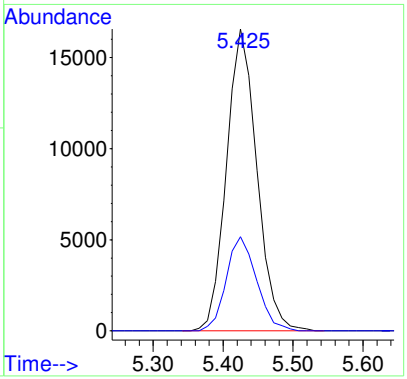


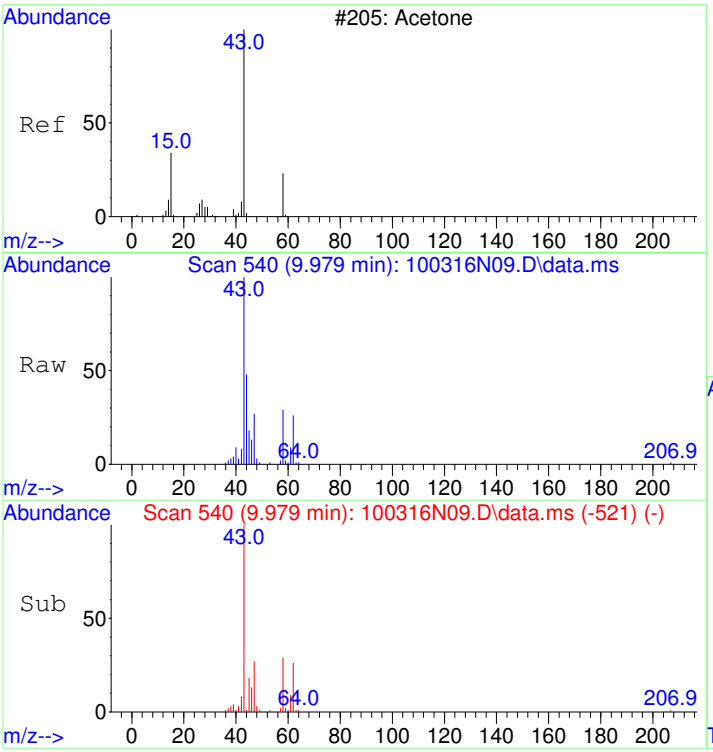


#6
Vinyl chloride
Concen: 1.29 ppbv
RT: 5.425 min Scan# 156
Delta R.T. -0.012 min
Lab File: 100316N09.D
Acq: 3 Oct 2016 5:40 pm

Tgt Ion: 62 Resp: 49977

Ion	Ratio	Lower	Upper
62	100		
64	31.1	12.0	52.0

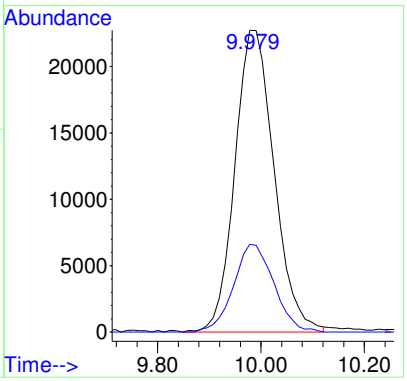


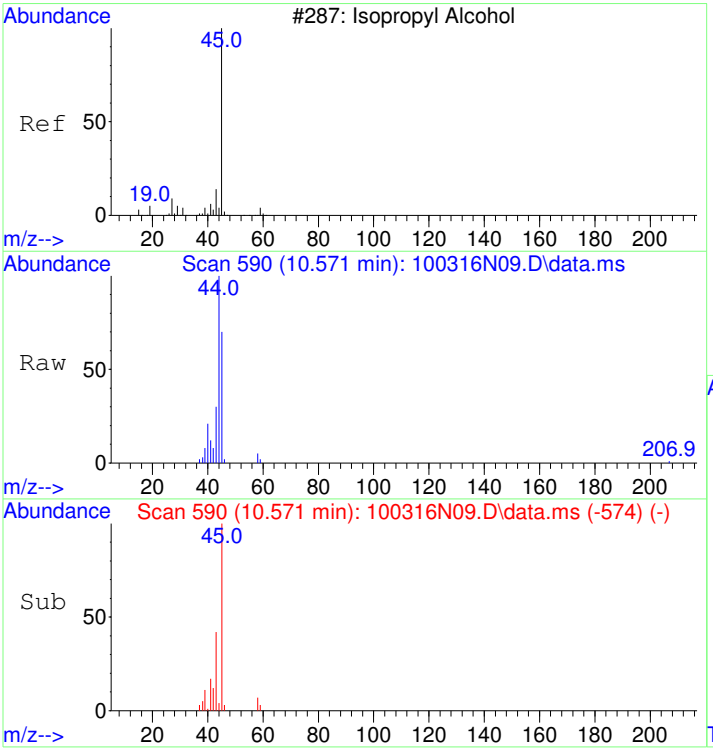


#14
Acetone
Concen: 2.04 ppbv
RT: 9.979 min Scan# 540
Delta R.T. 0.024 min
Lab File: 100316N09.D
Acq: 3 Oct 2016 5:40 pm

Tgt Ion: 43 Resp: 119713

Ion	Ratio	Lower	Upper
43	100		
58	29.9	8.8	48.8

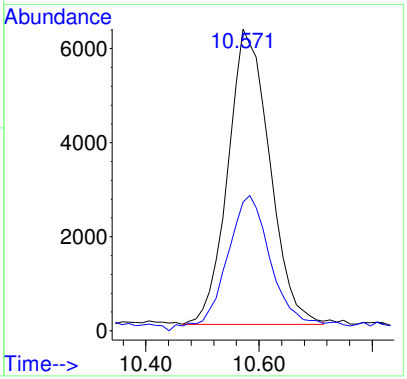


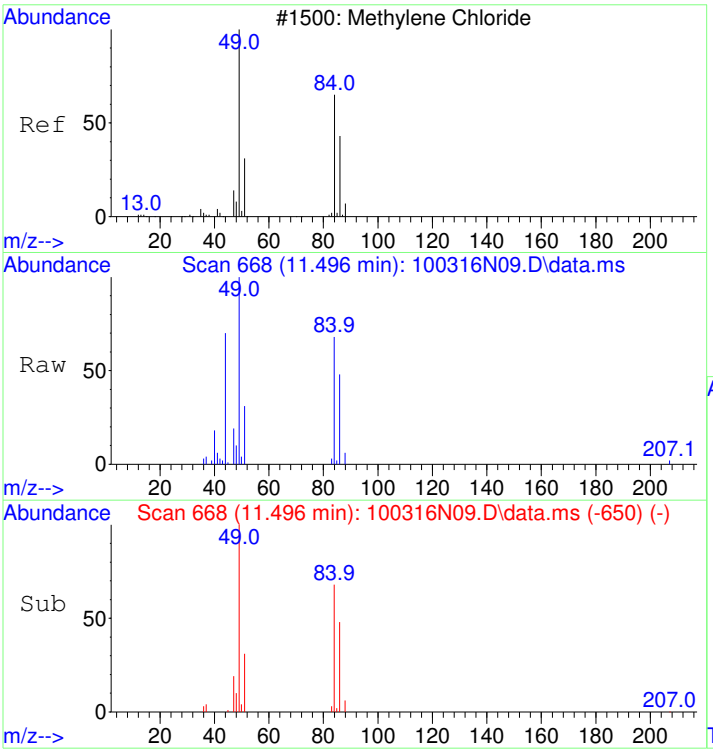


#16
2-Propanol
Concen: 0.56 ppbv
RT: 10.571 min Scan# 590
Delta R.T. 0.012 min
Lab File: 100316N09.D
Acq: 3 Oct 2016 5:40 pm

Tgt Ion: 45 Resp: 32278

Ion	Ratio	Lower	Upper
45	100		
43	49.9	1.9	41.9#

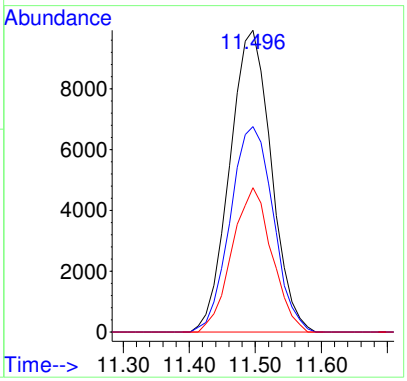


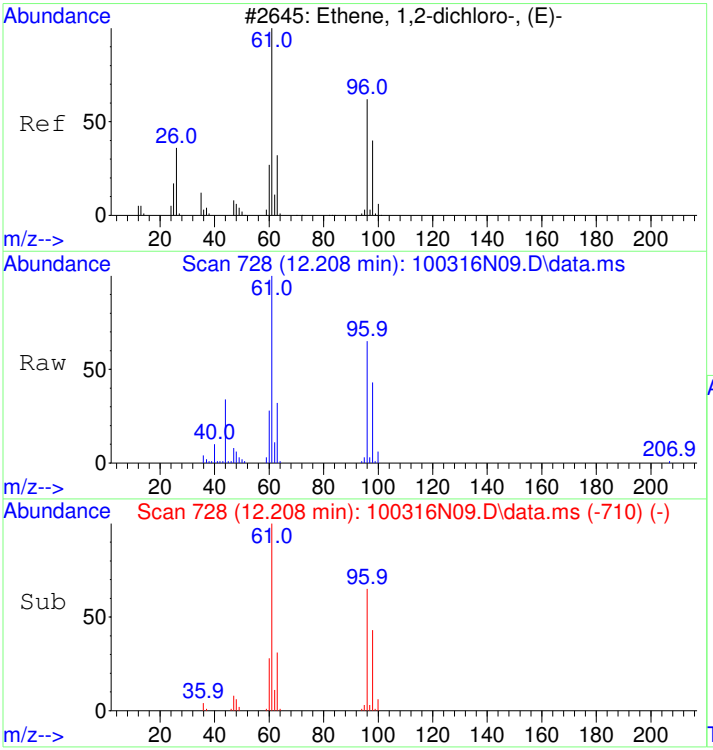


#18
Dichloromethane
Concen: 0.81 ppbv
RT: 11.496 min Scan# 668
Delta R.T. 0.012 min
Lab File: 100316N09.D
Acq: 3 Oct 2016 5:40 pm

Tgt Ion: 49 Resp: 43448

Ion	Ratio	Lower	Upper
49	100		
84	70.5	57.2	97.2
86	46.0	29.6	69.6

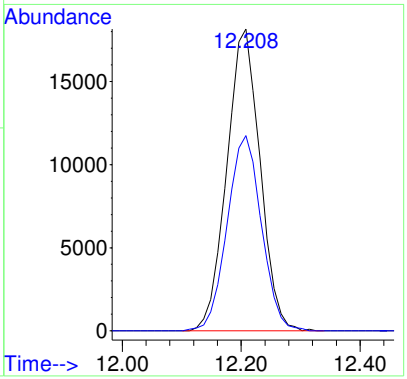


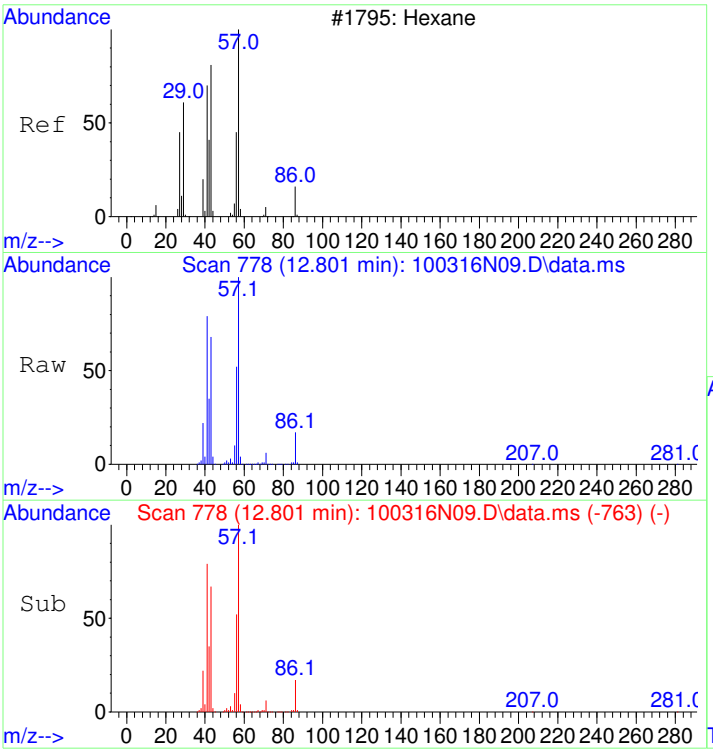


#20
trans-1,2-Dichloroethene
Concen: 1.24 ppbv
RT: 12.208 min Scan# 728
Delta R.T. 0.012 min
Lab File: 100316N09.D
Acq: 3 Oct 2016 5:40 pm

Tgt Ion: 61 Resp: 70760

Ion	Ratio	Lower	Upper
61	100		
96	66.4	50.3	90.3

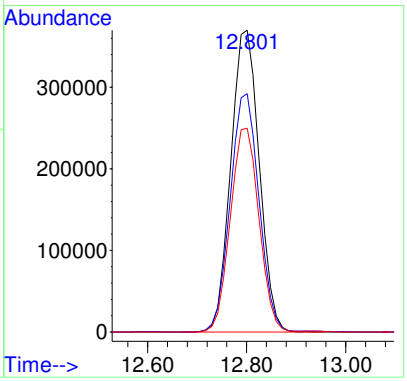


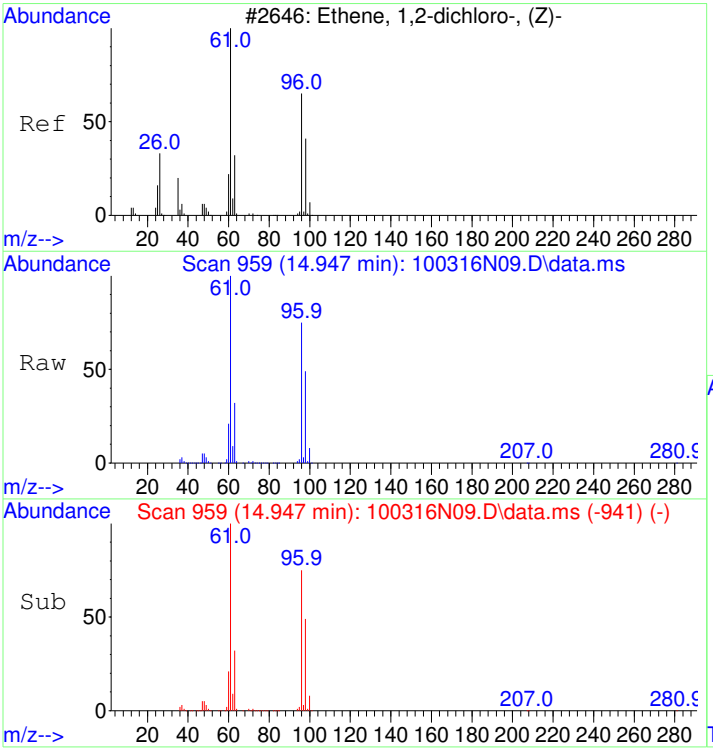


#21
Hexane
Concen: 22.82 ppbv
RT: 12.801 min Scan# 778
Delta R.T. 0.012 min
Lab File: 100316N09.D
Acq: 3 Oct 2016 5:40 pm

Tgt Ion: 57 Resp: 1478137

Ion	Ratio	Lower	Upper
57	100		
41	80.1	57.7	97.7
43	68.3	45.7	85.7

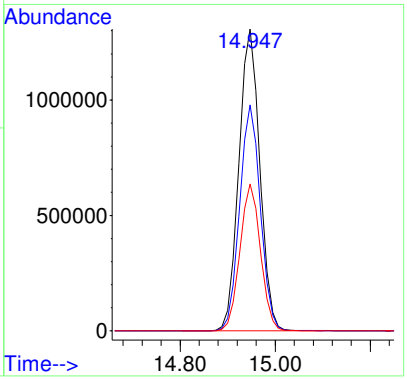


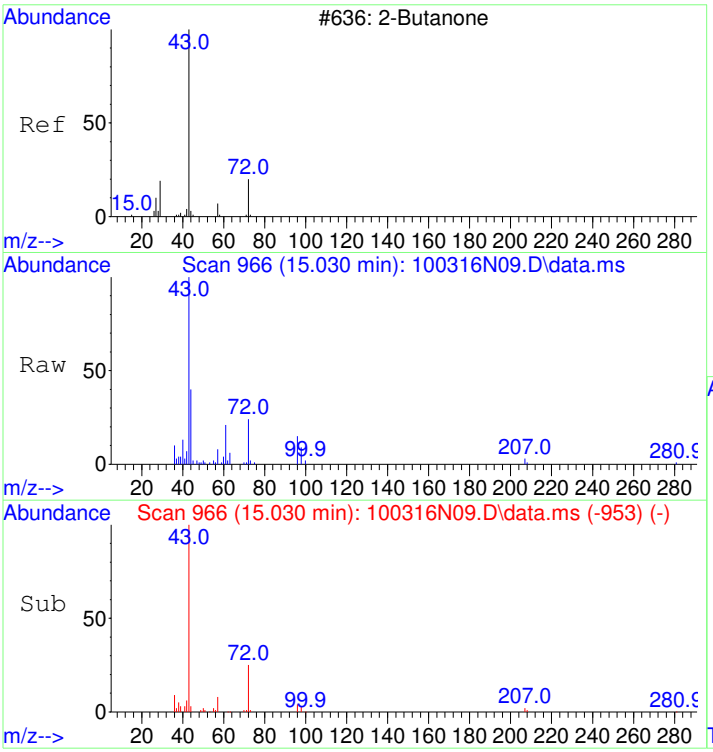


#24
cis-1,2-Dichloroethene
Concen: 73.27 ppbv
RT: 14.947 min Scan# 959
Delta R.T. 0.012 min
Lab File: 100316N09.D
Acq: 3 Oct 2016 5:40 pm

Tgt Ion: 61 Resp: 4006015

Ion	Ratio	Lower	Upper
61	100		
96	74.1	56.8	96.8
98	47.8	29.0	69.0

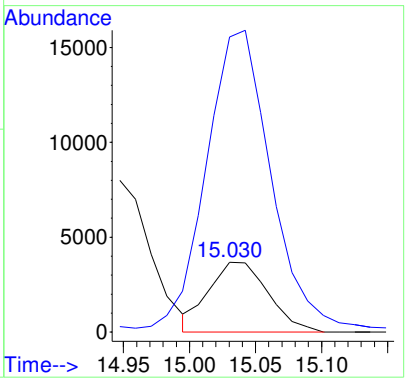


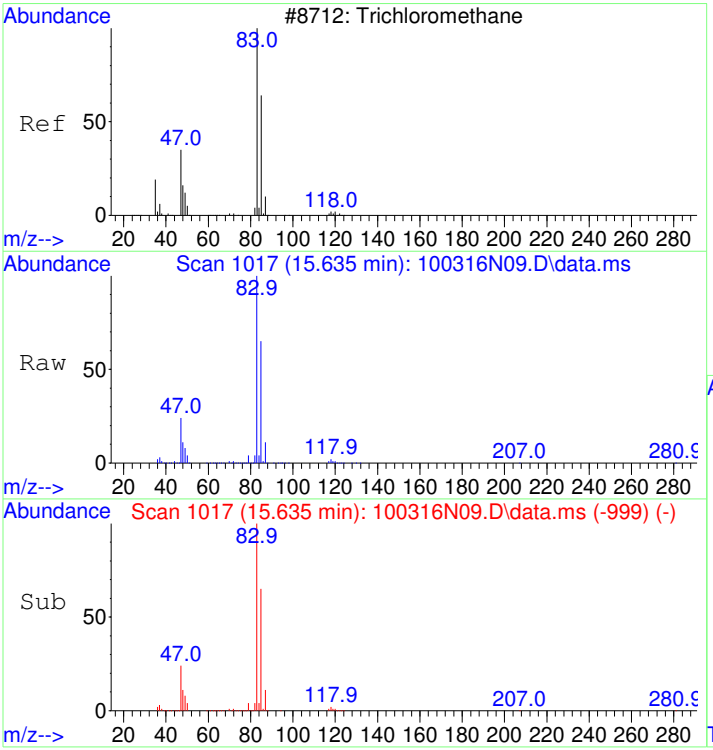


#25
2-Butanone (MEK)
Concen: 0.61 ppbv
RT: 15.030 min Scan# 966
Delta R.T. 0.000 min
Lab File: 100316N09.D
Acq: 3 Oct 2016 5:40 pm

Tgt Ion: 72 Resp: 11587

Ion	Ratio	Lower	Upper
72	100		
43	456.0	366.2	386.2#

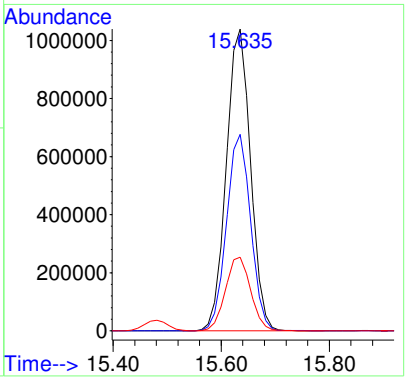


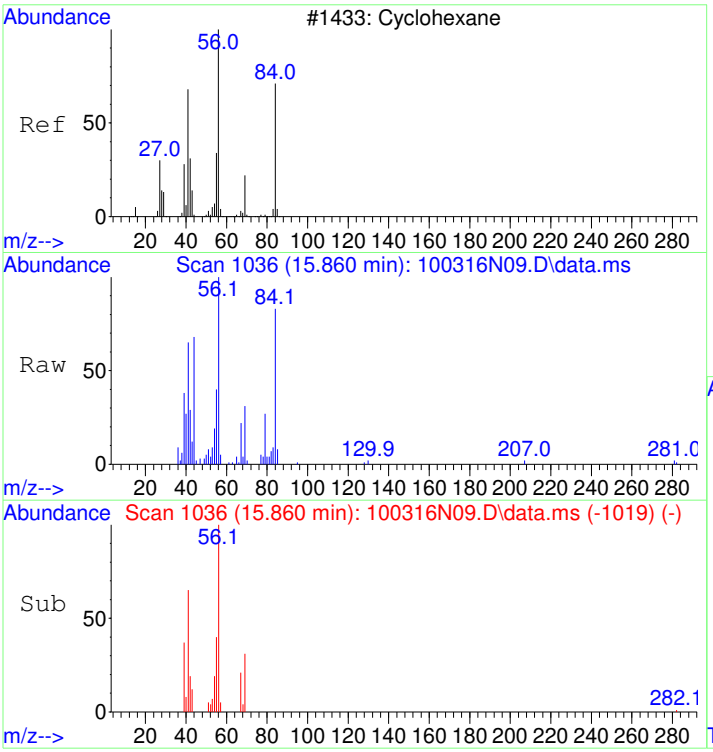


#28
Chloroform
Concen: 34.04 ppbv
RT: 15.635 min Scan# 1017
Delta R.T. 0.012 min
Lab File: 100316N09.D
Acq: 3 Oct 2016 5:40 pm

Tgt Ion: 83 Resp: 3238390

Ion	Ratio	Lower	Upper
83	100		
85	65.0	44.7	84.7
47	25.4	4.0	44.0

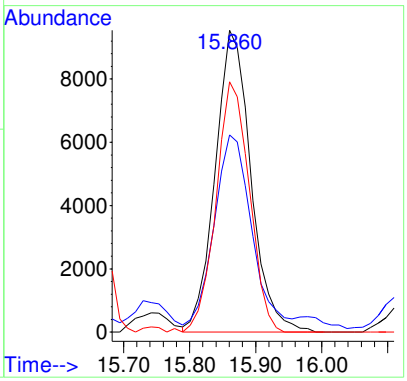


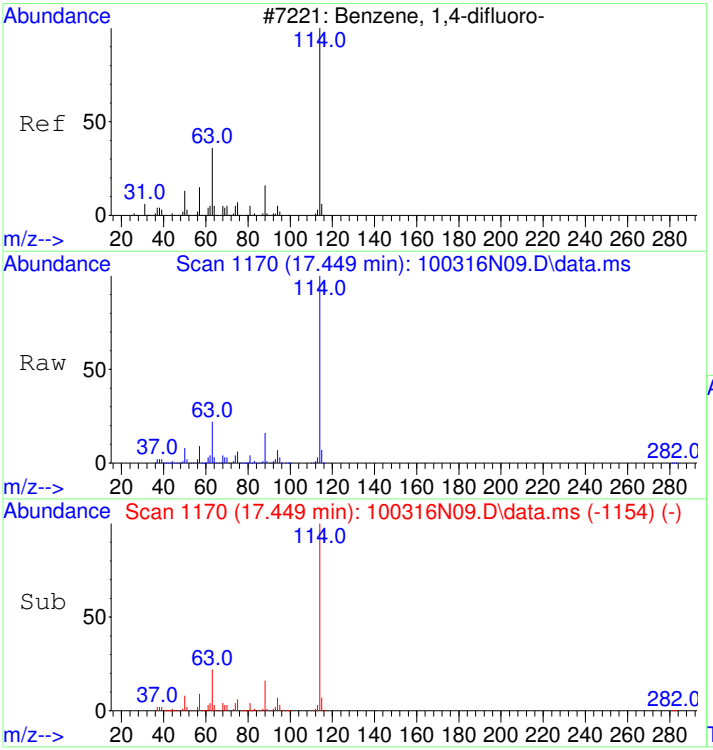


#29
Cyclohexane
Concen: 0.54 ppbv
RT: 15.860 min Scan# 1036
Delta R.T. 0.000 min
Lab File: 100316N09.D
Acq: 3 Oct 2016 5:40 pm

Tgt Ion: 56 Resp: 35835

Ion	Ratio	Lower	Upper
56	100		
41	65.8	38.7	78.7
84	77.4	68.5	108.5

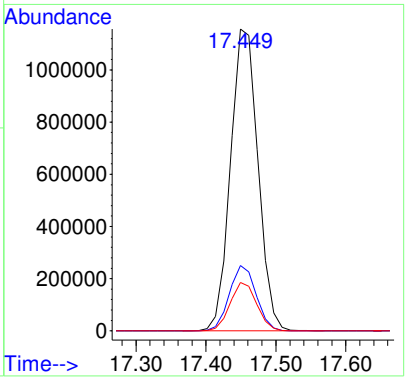


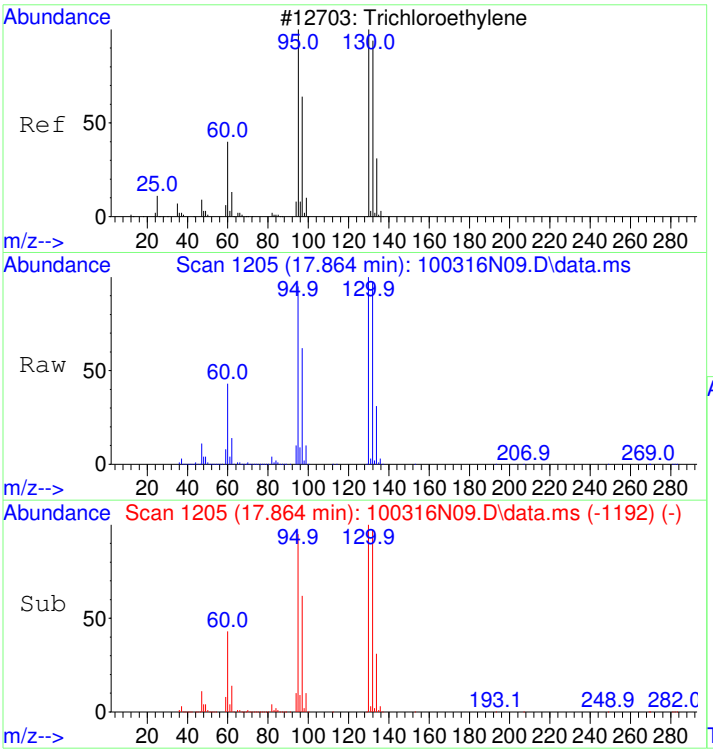


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.449 min Scan# 1170
Delta R.T. 0.000 min
Lab File: 100316N09.D
Acq: 3 Oct 2016 5:40 pm

Tgt Ion:114 Resp: 3149931

Ion	Ratio	Lower	Upper
114	100		
63	21.1	0.0	39.5
88	15.6	0.0	35.0

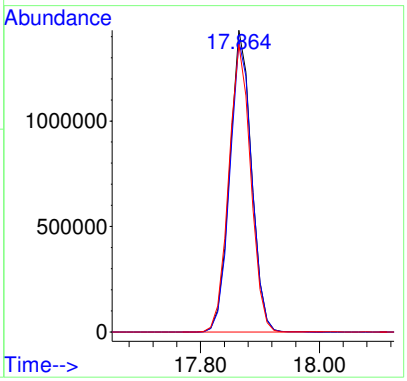


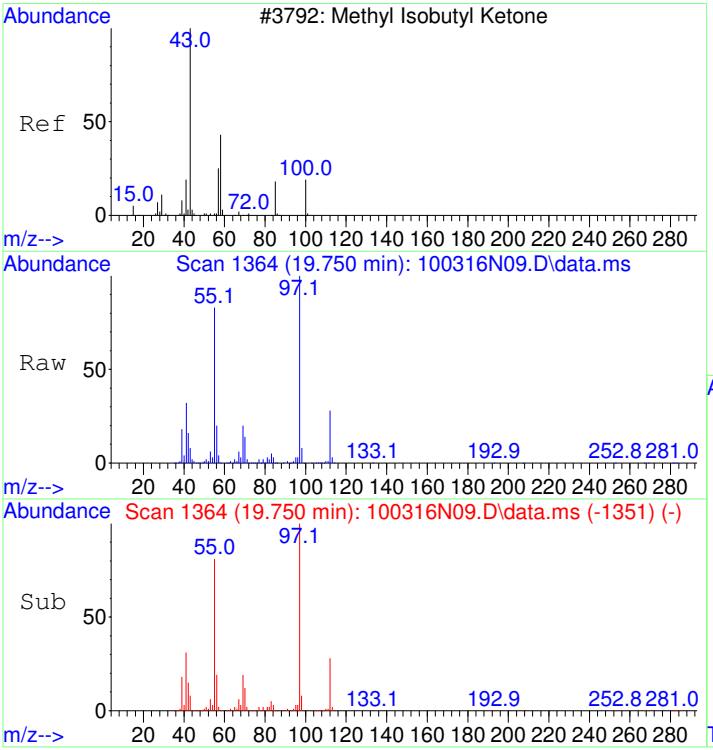


#37
Trichloroethene
Concen: 70.50 ppbv
RT: 17.864 min Scan# 1205
Delta R.T. 0.000 min
Lab File: 100316N09.D
Acq: 3 Oct 2016 5:40 pm

Tgt Ion:130 Resp: 3638183

Ion	Ratio	Lower	Upper
130	100		
132	97.1	77.1	117.1
95	96.3	76.1	116.1

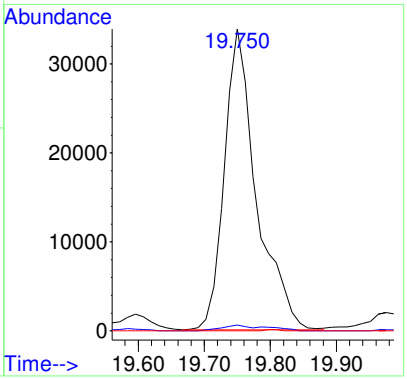




#42
4-Methyl-2-pentanone (MIBK)
Concen: 1.18 ppbv
RT: 19.750 min Scan# 1364
Delta R.T. -0.047 min
Lab File: 100316N09.D
Acq: 3 Oct 2016 5:40 pm

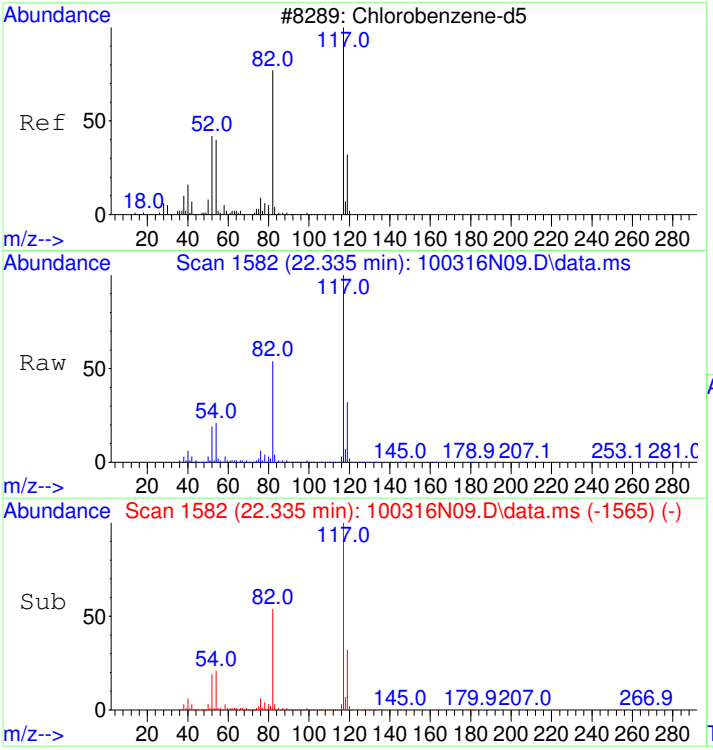
Tgt Ion: 43 Resp: 113747

Ion	Ratio	Lower	Upper
43	100		
58	2.7	17.6	57.6#
100	0.0	0.0	34.6



spectra off

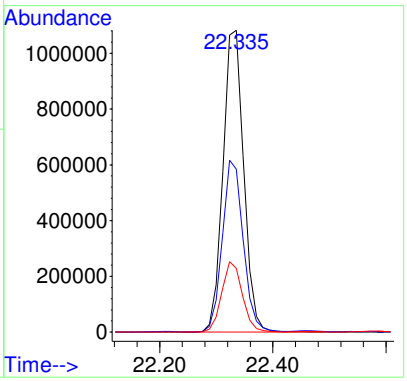
LLH 10/04/16

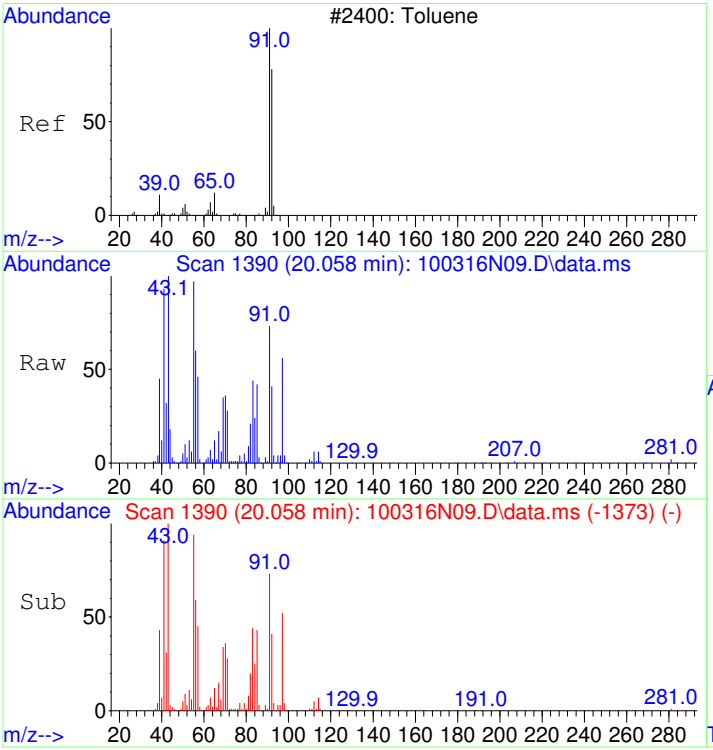


#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.335 min Scan# 1582
Delta R.T. -0.000 min
Lab File: 100316N09.D
Acq: 3 Oct 2016 5:40 pm

Tgt Ion:117 Resp: 2755538

Ion	Ratio	Lower	Upper
117	100		
82	57.3	33.7	73.7
54	23.1	1.1	41.1

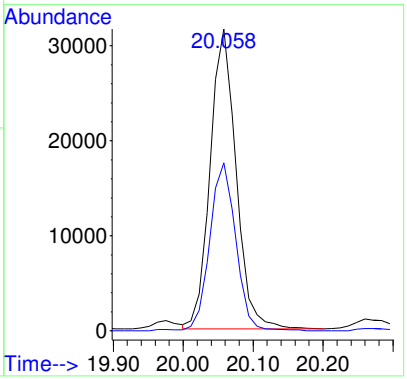


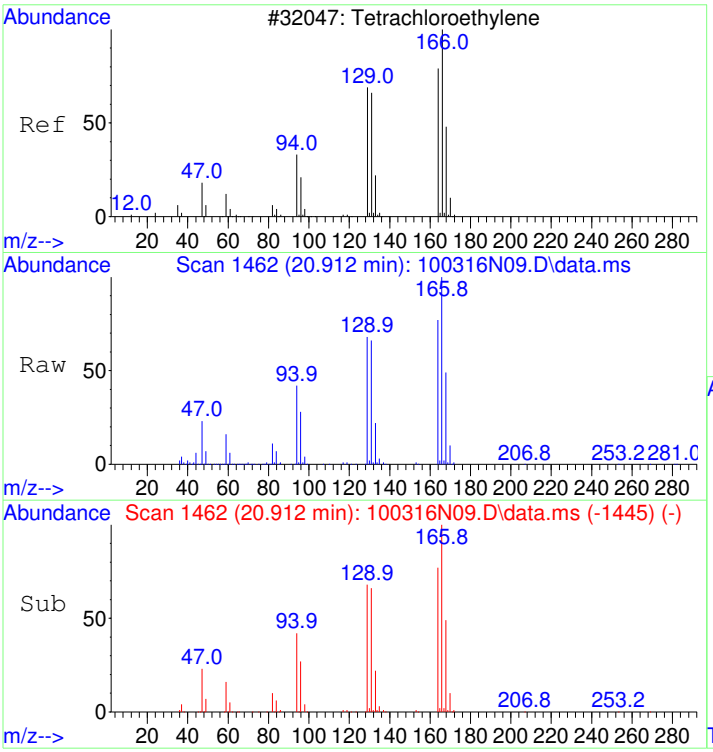


#44
Toluene
Concen: 0.55 ppbv
RT: 20.058 min Scan# 1390
Delta R.T. -0.000 min
Lab File: 100316N09.D
Acq: 3 Oct 2016 5:40 pm

Tgt Ion: 91 Resp: 81294

Ion	Ratio	Lower	Upper
91	100		
92	56.4	38.7	78.7

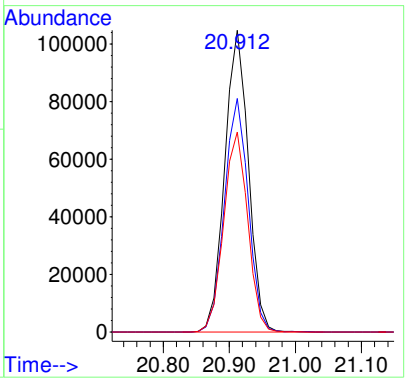


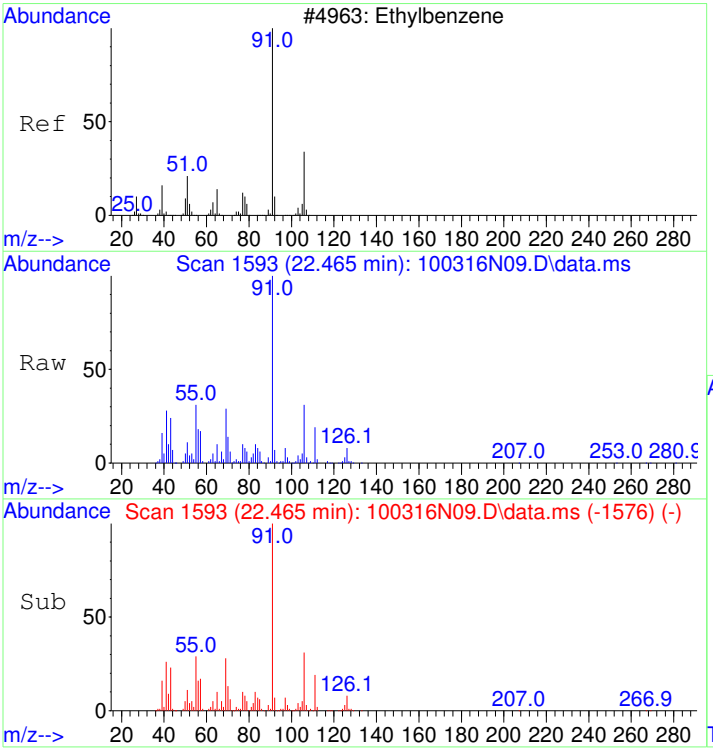


#47
Tetrachloroethene
Concen: 3.22 ppbv
RT: 20.912 min Scan# 1462
Delta R.T. 0.000 min
Lab File: 100316N09.D
Acq: 3 Oct 2016 5:40 pm

Tgt Ion:166 Resp: 261591

Ion	Ratio	Lower	Upper
166	100		
164	78.0	58.1	98.1
131	67.3	45.2	85.2

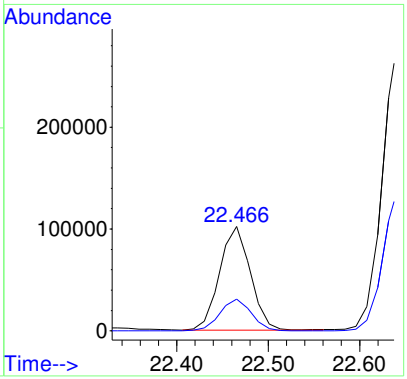


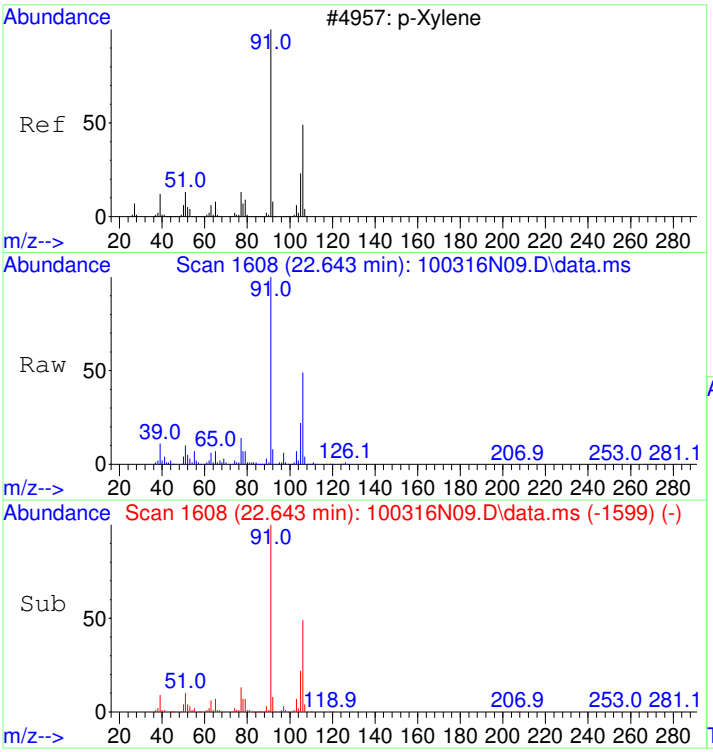


#52
Ethylbenzene
Concen: 1.18 ppbv
RT: 22.465 min Scan# 1593
Delta R.T. 0.000 min
Lab File: 100316N09.D
Acq: 3 Oct 2016 5:40 pm

Tgt Ion: 91 Resp: 238175

Ion	Ratio	Lower	Upper
91	100		
106	31.5	11.3	51.3

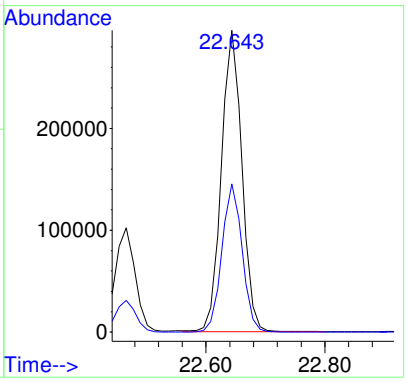


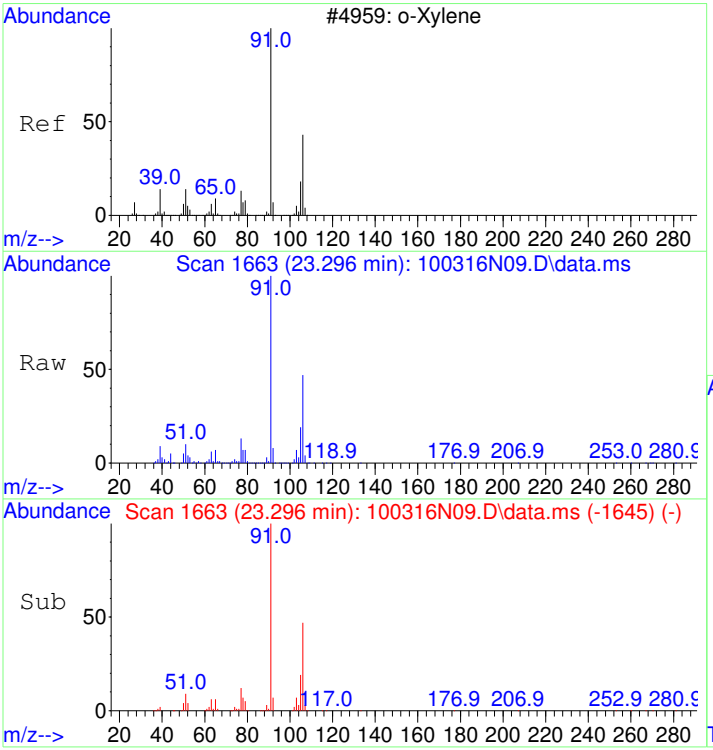


#53
m&p-Xylene
Concen: 4.49 ppbv
RT: 22.643 min Scan# 1608
Delta R.T. 0.000 min
Lab File: 100316N09.D
Acq: 3 Oct 2016 5:40 pm

Tgt Ion: 91 Resp: 708031

Ion	Ratio	Lower	Upper
91	100		
106	48.6	30.2	70.2

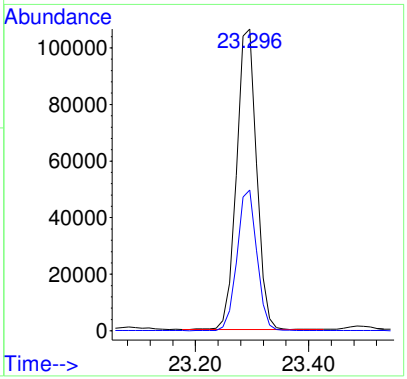




#54
o-Xylene
Concen: 1.63 ppbv
RT: 23.296 min Scan# 1663
Delta R.T. 0.012 min
Lab File: 100316N09.D
Acq: 3 Oct 2016 5:40 pm

Tgt Ion: 91 Resp: 261482

Ion	Ratio	Lower	Upper
91	100		
106	46.7	27.4	67.4



Calibration

1610004

Table of Contents

Method Path : D:\msdchem\1\2016\method\
Method File : 100416N_TO15AA.M
Title : TO15
Last Update : Wed Oct 05 13:13:53 2016
Response Via : Initial Calibration

REVIEWED
By LLH at 1:28 pm, Oct 05, 2016

Calibration Files
1 =100416NA02.D 2 =100416NA03.D 5 =100416NA04.D 10 =100416NA05.D 15 =100416NA06.D
20 =100416NA07.D

		Compound	1	2	5	10	15	20	Avg	%RSD
1)	I	BROMOCHLOROMETHANE	----------ISTD----------							
2)	T	Propene	0.656	0.647	0.594	0.593	0.606	0.611	0.618	4.36
3)	T	Dichlorodifluo...	2.684	2.751	2.396	2.232	2.227	2.252	2.424	9.77
4)	T	1,2-Dichlorote...	2.501	2.570	2.242	2.106	2.094	2.124	2.273	9.30
5)	T	Chloromethane	0.797	0.799	0.698	0.654	0.651	0.658	0.710	9.96
6)	T	Vinyl chloride	0.809	0.821	0.726	0.698	0.707	0.712	0.746	7.33
7)	T	1,3-Butadiene	0.641	0.613	0.557	0.547	0.557	0.563	0.580	6.61
8)	T	Bromomethane	0.814	0.809	0.703	0.656	0.648	0.653	0.714	10.97
9)	T	Chloroethane	0.423	0.407	0.354	0.344	0.342	0.341	0.368	9.91
10)	T	Bromoethene	0.614	0.596	0.554	0.564	0.577	0.585	0.582	3.70
11)	T	Trichlorofluor...	2.450	2.437	2.131	1.995	1.963	1.957	2.155	10.76
12)	T	1,1,2-Trichlor...	1.479	1.486	1.310	1.232	1.221	1.212	1.323	9.70
13)	T	1,1-Dichloroet...	0.911	0.950	0.941	1.002	1.056	1.082	0.990	6.87
14)	T	Acetone	1.271	1.220	1.089	1.061	1.070	1.095	1.134	7.79
15)	T	Carbon disulfide	2.029	2.025	1.813	1.725	1.702	1.704	1.833	8.50
16)	T	2-Propanol	0.800	0.825	0.816	0.887	0.952	0.997	0.879	9.18
17)	T	Allyl chloride	0.689	0.731	0.764	0.820	0.864	0.893	0.794	9.98
18)	T	Dichloromethane	1.495	1.234	0.973	0.870	0.852	0.844	1.045	25.37
19)	T	tert-Butyl met...	1.430	1.605	1.659	1.776	1.887	1.986	1.724	11.68
20)	T	trans-1,2-Dich...	1.058	1.105	1.037	0.990	0.984	0.989	1.027	4.74
21)	T	Hexane	0.849	0.966	1.040	1.090	1.130	1.150	1.038	10.98
22)	T	1,1-Dichloroet...	1.469	1.503	1.359	1.322	1.326	1.343	1.387	5.66
23)	T	Vinyl acetate	1.087	1.208	1.388	1.555	1.669	1.739	1.441	18.00
24)	T	cis-1,2-Dichlo...	0.753	0.820	0.847	0.896	0.933	0.959	0.868	8.83
25)	T	2-Butanone (MEK)	0.329	0.367	0.347	0.348	0.351	0.357	0.350	3.57
26)	T	Ethyl acetate	0.245	0.271	0.240	0.234	0.235	0.239	0.244	5.72
27)	T	Tetrahydrofuran	0.949	0.964	0.887	0.876	0.888	0.906	0.912	3.99
28)	T	Chloroform	1.917	1.960	1.727	1.630	1.607	1.612	1.742	9.10
29)	T	Cyclohexane	0.975	1.072	1.128	1.157	1.186	1.203	1.120	7.57
30)	T	1,1,1-Trichlor...	2.079	2.171	1.928	1.829	1.808	1.824	1.940	7.85
31)	T	Carbon tetrach...	2.250	2.312	2.050	1.928	1.923	1.940	2.067	8.37
32)	I	1,4-DIFLUOROBENZENE	----------ISTD----------							
33)	T	Benzene	0.802	0.860	0.772	0.730	0.717	0.719	0.767	7.39
34)	T	2,2,4-Trimethy...	0.942	1.078	1.114	1.130	1.148	1.168	1.097	7.44
35)	T	1,2-Dichloroet...	0.385	0.406	0.365	0.344	0.341	0.344	0.364	7.30
36)	T	Heptane	0.377	0.437	0.444	0.446	0.449	0.457	0.435	6.76
37)	T	Trichloroethene	0.274	0.298	0.285	0.285	0.292	0.296	0.288	3.01
38)	T	1,2-Dichloropr...	0.265	0.280	0.262	0.257	0.258	0.261	0.264	3.21
39)	T	1,4-Dioxane	0.108	0.155	0.153	0.155	0.155	0.158	0.147	13.24
40)	T	Bromodichlorom...	0.631	0.638	0.569	0.542	0.540	0.548	0.578	7.78
41)	T	cis-1,3-Dichlo...	0.285	0.347	0.362	0.378	0.392	0.403	0.361	11.72
42)	T	4-Methyl-2-pen...	0.522	0.650	0.623	0.611	0.606	0.621	0.605	7.21
43)	I	CHLOROBENZENE-d5	----------ISTD----------							
44)	T	Toluene	0.853	1.019	1.022	1.027	1.035	1.042	0.999	7.20
45)	T	trans-1,3-Dich...	0.342	0.433	0.444	0.461	0.472	0.489	0.440	11.84
46)	T	1,1,2-Trichlor...	0.381	0.404	0.368	0.351	0.347	0.350	0.367	6.15
47)	T	Tetrachloroethene	0.521	0.582	0.544	0.534	0.536	0.545	0.544	3.76
48)	T	2-Hexanone	0.524	0.719	0.697	0.691	0.689	0.699	0.670	10.77
49)	T	Chlorodibromom...	0.775	0.774	0.710	0.691	0.695	0.703	0.725	5.40
50)	T	1,2-Dibromoeth...	0.511	0.570	0.531	0.520	0.523	0.524	0.530	3.94
51)	T	Chlorobenzene	0.900	0.973	0.873	0.822	0.812	0.807	0.865	7.49
52)	T	Ethylbenzene	1.273	1.480	1.441	1.412	1.413	1.417	1.406	4.99
53)	T	m&p-Xylene	1.002	1.205	1.157	1.130	1.131	1.137	1.127	5.99
54)	T	o-Xylene	0.867	1.111	1.117	1.115	1.124	1.133	1.078	9.61
55)	T	Styrene	0.708	0.921	0.902	0.884	0.880	0.882	0.863	8.99
56)	T	Bromoform	0.802	0.841	0.765	0.748	0.756	0.768	0.780	4.49
57)	T	1,1,2,2-Tetrac...	0.957	0.986	0.873	0.820	0.800	0.796	0.872	9.44
58)	T	4-Ethyltoluene	1.293	1.592	1.654	1.657	1.648	1.668	1.585	9.19
59)	T	1,3,5-Trimethy...	1.125	1.375	1.373	1.342	1.319	1.330	1.311	7.15

Table of Contents

Method Path : D:\msdchem\1\2016\method\
Method File : 100416N_TO15AA.M
Title : TO15

60)	T	1,2,4-Trimethy...	0.957	1.293	1.340	1.348	1.337	1.353	1.271	12.23
61)	T	1,3-Dichlorobe...	0.800	0.959	0.936	0.916	0.894	0.907	0.902	6.06
62)	T	1,4-Dichlorobe...	0.727	0.920	0.902	0.896	0.874	0.883	0.867	8.11
63)	T	Benzyl chloride	0.780	1.041	1.070	1.102	1.095	1.118	1.034	12.32
64)	T	1,2-Dichlorobe...	0.850	0.997	0.946	0.923	0.898	0.898	0.919	5.43
65)	T	1,2,4-Trichlor...	0.606	0.749	0.782	0.827	0.842	0.879	0.781	12.43
66)	T	Hexachlorobuta...	1.017	1.017	0.943	0.937	0.945	0.993	0.975	3.90

(#) = Out of Range

REVIEWED
By LLH at 1:28 pm, Oct 05, 2016

SCV REPORT

Instrument Name: AG5973N
Sample Name: S16J013-SCV1
Misc Info: 10ppbv 1641031
Date Acquired: 10/5/2016 10:33
QLast Update: Wed Oct 05 13:13:53 2016
Operator: LLH

4 OUT

#	Name	Ret Time	Amount	Concentration	%R	QC	LIMIT	STATUS	
1)	BROMOCHLOROMETHANE	15.47	#N/A	22.00	#N/A	70.0	130.0	#N/A	Internal
2)	Propene	4.48	11.00	11.31	103%	70.0	130.0	pass	Subset
3)	Dichlorodifluoromethane	4.57	11.00	9.46	86%	70.0	130.0	pass	Primary
4)	1,2-Dichlorotetrafluoroethane	4.92	10.00	8.60	86%	70.0	130.0	pass	Primary
5)	Chloromethane	5.12	11.00	13.44	122%	70.0	130.0	pass	Primary
6)	Vinyl chloride	5.44	12.00	10.24	85%	70.0	130.0	pass	Primary
7)	1,3-Butadiene	5.54	11.00	10.28	93%	70.0	130.0	pass	Subset
8)	Bromomethane	6.48	11.00	7.59	69%	70.0	130.0	FAIL	Primary
9)	Chloroethane	6.80	10.00	10.03	100%	70.0	130.0	pass	Primary
10)	Bromoethene	7.38	11.00	11.02	100%	70.0	130.0	pass	Subset
11)	Trichlorofluoromethane	7.52	11.00	10.09	92%	70.0	130.0	pass	Primary
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	9.35	11.00	9.98	91%	70.0	130.0	pass	Primary
13)	1,1-Dichloroethene	9.43	11.00	12.01	109%	70.0	130.0	pass	Primary
14)	Acetone	9.97	10.00	10.61	106%	70.0	130.0	pass	Subset
15)	Carbon disulfide	10.16	9.90	11.34	115%	70.0	130.0	pass	Subset
16)	2-Propanol	10.57	9.20	9.82	107%	70.0	130.0	pass	Subset
17)	Allyl chloride	10.96	11.00	12.74	116%	70.0	130.0	pass	Subset
18)	Dichloromethane	11.50	11.00	8.84	80%	70.0	130.0	pass	Primary
19)	tert-Butyl methyl ether (MTBE)	12.16	10.00	12.02	120%	70.0	130.0	pass	Subset
20)	trans-1,2-Dichloroethene	12.20	10.00	11.10	111%	70.0	130.0	pass	Subset
21)	Hexane	12.79	11.00	11.54	105%	70.0	130.0	pass	Subset
22)	1,1-Dichloroethane	13.51	12.00	10.31	86%	70.0	130.0	pass	Primary
23)	Vinyl acetate	13.65	11.00	14.05	128%	70.0	130.0	pass	Subset
24)	cis-1,2-Dichloroethene	14.94	11.00	11.84	108%	70.0	130.0	pass	Primary
25)	2-Butanone (MEK)	15.03	10.00	10.95	109%	70.0	130.0	pass	Subset
26)	Ethyl acetate	15.08	10.00	10.32	103%	70.0	130.0	pass	Subset
27)	Tetrahydrofuran	15.48	9.60	10.77	112%	70.0	130.0	pass	Subset
28)	Chloroform	15.62	11.00	9.75	89%	70.0	130.0	pass	Primary
29)	Cyclohexane	15.86	10.00	11.30	113%	70.0	130.0	pass	Subset
30)	1,1,1-Trichloroethane	15.91	10.00	9.37	94%	70.0	130.0	pass	Primary
31)	Carbon tetrachloride	16.17	11.00	9.68	88%	70.0	130.0	pass	Primary
32)	1,4-DIFLUOROBENZENE	17.45	#N/A	19.80	#N/A	70.0	130.0	#N/A	Internal
33)	Benzene	16.64	11.00	10.66	97%	70.0	130.0	pass	Primary
34)	2,2,4-Trimethylpentane	16.60	10.00	11.63	116%	70.0	130.0	pass	Subset
35)	1,2-Dichloroethane	16.84	11.00	10.67	97%	70.0	130.0	pass	Primary
36)	Heptane	16.98	10.00	11.49	115%	70.0	130.0	pass	Subset
37)	Trichloroethene	17.86	11.00	11.89	108%	70.0	130.0	pass	Primary
38)	1,2-Dichloropropane	18.36	11.00	11.20	102%	70.0	130.0	pass	Primary
39)	1,4-Dioxane	18.55	11.00	5.92	54%	70.0	130.0	FAIL	Subset
40)	Bromodichloromethane	18.81	10.00	10.46	105%	70.0	130.0	pass	Subset
41)	cis-1,3-Dichloropropene	19.58	11.00	12.67	115%	70.0	130.0	pass	Primary
42)	4-Methyl-2-pentanone (MIBK)	19.80	11.00	3.32	30%	70.0	130.0	FAIL	Subset
43)	CHLOROBENZENE-d5	22.32	#N/A	20.00	#N/A	70.0	130.0	#N/A	Internal
44)	Toluene	20.06	11.00	13.49	123%	70.0	130.0	pass	Primary
45)	trans-1,3-Dichloropropene	20.52	11.00	13.25	120%	70.0	130.0	pass	Primary
46)	1,1,2-Trichloroethane	20.82	11.00	12.45	113%	70.0	130.0	pass	Primary
47)	Tetrachloroethene	20.91	11.00	12.38	113%	70.0	130.0	pass	Primary
48)	2-Hexanone	21.15	10.00	2.55	25%	70.0	130.0	FAIL	Subset
49)	Chlorodibromomethane	21.43	9.90	11.78	119%	70.0	130.0	pass	Subset
50)	1,2-Dibromoethane (EDB)	21.66	10.00	10.29	103%	70.0	130.0	pass	Primary

51)	Chlorobenzene	22.37	11.00	12.05	110%	70.0	130.0	pass	Primary
52)	Ethylbenzene	22.47	11.00	12.72	116%	70.0	130.0	pass	Primary
53)	m&p-Xylene	22.64	22.00	25.68	117%	70.0	130.0	pass	Primary
54)	o-Xylene	23.28	11.00	13.49	123%	70.0	130.0	pass	Primary
55)	Styrene	23.33	11.00	11.97	109%	70.0	130.0	pass	Primary
56)	Bromoform	23.71	11.00	11.81	107%	70.0	130.0	pass	Subset
57)	1,1,2,2-Tetrachloroethane	24.40	11.00	11.34	103%	70.0	130.0	pass	Primary
58)	4-Ethyltoluene	24.64	11.00	12.77	116%	70.0	130.0	pass	Subset
59)	1,3,5-Trimethylbenzene	24.73	11.00	12.95	118%	70.0	130.0	pass	Primary
60)	1,2,4-Trimethylbenzene	25.34	11.00	13.26	121%	70.0	130.0	pass	Primary
61)	1,3-Dichlorobenzene	25.87	11.00	12.36	112%	70.0	130.0	pass	Primary
62)	1,4-Dichlorobenzene	26.02	11.00	12.30	112%	70.0	130.0	pass	Primary
63)	Benzyl chloride	26.22	11.00	14.28	130%	70.0	130.0	pass	Subset
64)	1,2-Dichlorobenzene	26.63	11.00	11.67	106%	70.0	130.0	pass	Primary
65)	1,2,4-Trichlorobenzene	29.09	11.00	9.31	85%	70.0	130.0	pass	Primary
66)	Hexachlorobutadiene	29.22	11.00	10.65	97%	70.0	130.0	pass	Primary

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RT DUPLICATE REPORT

Instrument Name: AG5973N
Sample Name: S16J013-CAL4
Misc Info: 10ppbv 1638118
Date Acquired: 10/4/2016 18:22
QLast Update: Wed Oct 05 13:13:53 2016
Operator: LLH

#	Name	RT	CONC	Qion	
1)	BROMOCHLOROMETHANE	15.469	22.000	49	15.078
2)	Propene	4.464	10.392	41	
3)	Dichlorodifluoromethane	4.559	8.583	84.9	
4)	1,2-Dichlorotetrafluoroethane	4.915	8.879	84.9	
5)	Chloromethane	5.105	9.571	50	
6)	Vinyl chloride	5.437	9.577	62	
7)	1,3-Butadiene	5.532	9.414	54	
8)	Bromomethane	6.469	8.983	93.9	
9)	Chloroethane	6.801	9.246	64	
10)	Bromoethene	7.382	9.983	105.9	
11)	Trichlorofluoromethane	7.524	8.663	100.9	
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	9.350	8.844	150.9	
13)	1,1-Dichloroethene	9.433	9.947	61	
14)	Acetone	9.967	9.976	43	
15)	Carbon disulfide	10.157	9.936	75.9	
16)	2-Propanol	10.560	10.374	45	
17)	Allyl chloride	10.963	10.962	41.1	
18)	Dichloromethane	11.485	8.253	49	
19)	tert-Butyl methyl ether (MTBE)	12.161	10.326	73	
20)	trans-1,2-Dichloroethene	12.196	10.199	61	
21)	Hexane	12.789	10.478	57.1	
22)	1,1-Dichloroethane	13.512	9.159	63	
23)	Vinyl acetate	13.655	10.814	43	
24)	cis-1,2-Dichloroethene	14.936	10.209	61	
25)	2-Butanone (MEK)	15.030	10.421	72	
26)	Ethyl acetate	15.078	10.020	61	
27)	Tetrahydrofuran	15.481	10.027	42.1	
28)	Chloroform	15.623	9.071	82.9	
29)	Cyclohexane	15.860	10.612	56.1	
30)	1,1,1-Trichloroethane	15.908	8.839	96.9	
31)	Carbon tetrachloride	16.157	8.610	116.9	
32)	1,4-DIFLUOROBENZENE	17.450	19.800	114	16.975
33)	Benzene	16.643	9.885	78	16.596
34)	2,2,4-Trimethylpentane	16.596	11.120	57.1	
35)	1,2-Dichloroethane	16.845	9.535	62	
36)	Heptane	16.975	11.230	43.1	
37)	Trichloroethene	17.865	10.435	129.9	
38)	1,2-Dichloropropane	18.363	10.126	63	
39)	1,4-Dioxane	18.540	11.348	88	
40)	Bromodichloromethane	18.813	10.039	82.9	
41)	cis-1,3-Dichloropropene	19.584	11.234	75	
42)	4-Methyl-2-pentanone (MIBK)	19.797	11.040	43	

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43)	CHLOROBENZENE-d5	22.323	20.000	117	21.659
44)	Toluene	20.058	10.655	91	
45)	trans-1,3-Dichloropropene	20.521	10.993	75	
46)	1,1,2-Trichloroethane	20.829	10.014	96.9	
47)	Tetrachloroethene	20.912	10.067	165.8	
48)	2-Hexanone	21.149	11.366	43	
49)	Chlorodibromomethane	21.434	10.088	128.8	
50)	1,2-Dibromoethane (EDB)	21.659	10.469	106.9	
51)	Chlorobenzene	22.371	9.997	112	
52)	Ethylbenzene	22.466	10.398	91	
53)	m&p-Xylene	22.644	21.150	91	
54)	o-Xylene	23.284	10.698	91	
55)	Styrene	23.331	10.314	104	
56)	Bromoform	23.711	9.905	172.8	
57)	1,1,2,2-Tetrachloroethane	24.399	9.662	82.9	
58)	4-Ethyltoluene	24.636	10.969	105	
59)	1,3,5-Trimethylbenzene	24.731	10.695	105	
60)	1,2,4-Trimethylbenzene	25.335	10.891	105	
61)	1,3-Dichlorobenzene	25.869	10.163	145.9	
62)	1,4-Dichlorobenzene	26.011	10.329	145.9	
63)	Benzyl chloride	26.225	11.278	91	0.000
64)	1,2-Dichlorobenzene	26.628	9.981	145.9	0.000
65)	1,2,4-Trichlorobenzene	29.095	10.339	179.9	0.000
66)	Hexachlorobutadiene	29.225	9.582	224.8	0.000

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CHEMSTATION CONCENTRATION REPORT

Instrument Name: AG5973N
Sample Name: S16J013-SCV1
Misc Info: 10ppbv 1641031
Date Acquired: 10/5/2016 10:33
QLast Update: Wed Oct 05 13:13:53 2(
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	19.80	19.80	19.80	19.80	19.80	19.80
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	20.00	20.00	20.00	20.00	20.00	20.00
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: S16J013-SCV1
Misc Info: 10ppbv 1641031
Date Acquired: 10/5/2016 10:33
QLast Update: Wed Oct 05 13:13:53 20
Operator: LLH

#	Name	L1	L2	L3	L4	L5	L6
1)	BROMOCHLOROMETHANE	1060939	1076910	1096751	1130062	1137966	1119945
2)	Propene	34791	69639	162934	335275	516915	684600
3)	Dichlorodifluoromethane	125570	261231	579335	1112255	1675713	2224428
4)	1,2-Dichlorotetrafluoroethane	120618	251573	558943	1081997	1624683	2162004
5)	Chloromethane	40743	82943	184345	355993	535455	710582
6)	Vinyl chloride	40574	83584	188295	372687	570844	754153
7)	1,3-Butadiene	31235	60659	140129	283584	436343	579375
8)	Bromomethane	39261	79239	175223	337147	502641	664938
9)	Chloroethane	20375	39836	88232	176846	265067	347184
10)	Bromoethene	32546	64188	151934	318893	492577	655535
11)	Trichlorofluoromethane	115800	233778	520481	1004297	1492751	1952411
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	72772	148429	333026	645316	966007	1258856
13)	1,1-Dichloroethene	45713	96704	243960	535314	852360	1145617
14)	Acetone	67400	131409	298627	599730	913048	1225805
15)	Carbon disulfide	107652	218120	497064	974898	1452724	1908242
16)	2-Propanol	42423	88837	223609	501250	812289	1117041
17)	Allyl chloride	36555	78689	209525	463486	737231	1000497
18)	Dichloromethane	72794	121976	245035	451407	667479	867792
19)	tert-Butyl methyl ether (MTBE)	74488	169733	446575	985109	1581638	2183630
20)	trans-1,2-Dichloroethene	55592	117966	281762	554030	832399	1097738
21)	Hexane	42558	98356	269549	582351	911965	1218142
22)	1,1-Dichloroethane	70825	147157	338675	679096	1029016	1367612
23)	Vinyl acetate	57132	128946	377032	870450	1411871	1929955
24)	cis-1,2-Dichloroethene	37748	83472	219674	478641	753222	1015392
25)	2-Butanone (MEK)	17316	39172	94221	195030	296507	396419
26)	Ethyl acetate	12781	28677	64593	129802	196698	262383
27)	Tetrahydrofuran	48507	100058	234430	476789	730648	977602
28)	Chloroform	93379	193795	434669	845826	1259586	1658125
29)	Cyclohexane	49848	111231	297926	629926	975464	1297955
30)	1,1,1-Trichloroethane	98273	208311	470975	920761	1375067	1820195
31)	Carbon tetrachloride	105228	219572	495616	960729	1447357	1915880
32)	1,4-DIFLUOROBENZENE	3119446	3150151	3204023	3311923	3336672	3275971
33)	Benzene	130124	281853	643532	1257108	1867796	2450368
34)	2,2,4-Trimethylpentane	157360	363675	955330	2003679	3074986	4096353
35)	1,2-Dichloroethane	60597	129213	295134	575142	861676	1139041
36)	Heptane	62902	147319	380602	791593	1204141	1604058
37)	Trichloroethene	46672	102365	248776	515550	796887	1056723
38)	1,2-Dichloropropane	42975	91773	218014	442153	672652	889631
39)	1,4-Dioxane	18653	54160	136338	284517	431985	575756
40)	Bromodichloromethane	106418	217180	492437	970533	1461893	1939073
41)	cis-1,3-Dichloropropene	48499	119205	316559	682177	1070336	1439553
42)	4-Methyl-2-pentanone (MIBK)	87968	221241	539495	1093728	1639161	2197859

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43)	CHLOROBENZENE-d5	2589903	2659729	2694201	2774693	2791532	2749859
44)	Toluene	116048	284458	722523	1495412	2274780	3007219
45)	trans-1,3-Dichloropropene	46954	122137	317297	678265	1048382	1426523
46)	1,1,2-Trichloroethane	52290	113956	263075	515776	769656	1019603
47)	Tetrachloroethene	71556	163960	388474	785426	1189974	1589640
48)	2-Hexanone	74015	208545	511981	1044182	1572021	2096085
49)	Chlorodibromomethane	108381	222315	516202	1035836	1570830	2088722
50)	1,2-Dibromoethane (EDB)	72059	165291	389928	786277	1193588	1570733
51)	Chlorobenzene	124726	276929	629505	1220390	1818841	2375713
52)	Ethylbenzene	173103	413418	1018952	2056380	3105784	4091236
53)	m&p-Xylene	274966	679293	1652580	3324396	5021139	6629123
54)	o-Xylene	117861	310210	789767	1624142	2470419	3270487
55)	Styrene	94397	252291	626052	1262541	1898706	2498806
56)	Bromoform	111158	239267	551119	1111099	1692980	2259697
57)	1,1,2,2-Tetrachloroethane	128940	272736	611721	1182796	1742405	2277633
58)	4-Ethyltoluene	180833	457338	1203187	2482204	3727428	4953174
59)	1,3,5-Trimethylbenzene	155892	391452	989533	1991599	2955440	3912923
60)	1,2,4-Trimethylbenzene	131336	364532	956671	1982298	2967343	3943576
61)	1,3-Dichlorobenzene	108820	267688	661622	1333945	1966179	2618470
62)	1,4-Dichlorobenzene	98869	256867	637970	1305344	1921025	2548420
63)	Benzyl chloride	111100	304519	792627	1681418	2521281	3381964
64)	1,2-Dichlorobenzene	114502	275792	662683	1331289	1954869	2568785
65)	1,2,4-Trichlorobenzene	81573	207311	548011	1193203	1833644	2512704
66)	Hexachlorobutadiene	135696	278598	654447	1339234	2037004	2811222

CHEMSTATION VS LIMS CONCENTRATION REPORT

Instrument Name: AG5973N
Sample Name: S16J013-SCV1
Misc Info: 10ppbv 1641031
Date Acquired: 10/5/2016 10:33
QLast Update: Wed Oct 05 13:13:53 2(
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: S16J013-SCV1
Misc Info: 10ppbv 1641031
Date Acquired: 10/5/2016 10:33
QLast Update: Wed Oct 05 13:13:53 2
Operator: LLH

#	Name	Amount	L1	L2	L3	L4	L5	L6
			1	2	5	10	15	20
1)	BROMOCHLOROMETHANE	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
2)	Propene	0.022	1.10	2.20	5.50	11.00	16.50	22.00
3)	Dichlorodifluoromethane	0.0194	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

S16J013

ANALYST / REVIEWER - DATA REVIEW CHECKLIST

BATCH #:	N / A	SEQUENCE #:	S16J013 10/04/16
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?	✔			
	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.	10/04/16 Wed Oct 05, 2016 13:13:53			SCV = Bromomethane = 69%; 1,4-Dioxane = 54%; MIBK = 30%;
	Initial Calibration ID (LIMS number):	1610004			
	ICAL within QC criteria?		Y	Y	OK
	SCV within QC criteria?		Y	Y	4 OUT
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 #:	S16J013	10/04/16
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 10/05/16
	REVIEWED BY:	NICK KISH (affiliate) Digitally signed by NICK KISH (affiliate) Date: 2016.10.12 14:16:22 -07'00' SIGN HERE

COMMENTS

** see Discrepancy Rpt D15-011 for Dichloromethane contamination in the Internal Standard. LLH 10/05/16

Injection Log

Directory: d:\msdchem\1\2016\data\100416_FSAAA

Table of Contents

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	31	100416NA01.D	1.	S16J013-TUN1	BFB 1637033	4 Oct 2016 15:16
2	31	100416NA02.D	1.	S16J013-CAL1	1.0ppbv 1638115	4 Oct 2016 16:02
3	32	100416NA03.D	1.	S16J013-CAL2	2.0ppbv 1638116	4 Oct 2016 16:48
4	32	100416NA04.D	1.	S16J013-CAL3	5.0ppbv 1638117	4 Oct 2016 17:34
5	32	100416NA05.D	1.	S16J013-CAL4	10ppbv 1638118	4 Oct 2016 18:22
6	32	100416NA06.D	1.	S16J013-CAL5	15ppbv 1638119	4 Oct 2016 19:10
7	32	100416NA07.D	1.	S16J013-CAL6	20ppbv 1638120	4 Oct 2016 20:00
8	34	100416NA08.D	1.	IB	200ml BLANK	4 Oct 2016 20:49
9	34	100416NA09.D	1.	S16J013SCV1	10ppbv 1641031	5 Oct 2016 09:44
10	34	100416NA10.D	1.	S16J013-SCV1	10ppbv 1641031	5 Oct 2016 10:33

GC/MS QA-QC Check Report

Table of Contents

Tune File : D:\msdchem\1\2016\data\100416_FSAAA\100416NA01.D
Tune Time : 4 Oct 2016 3:16 pm

Daily Calibration File : D:\msdchem\1\2016\data\100416_FSAAA\100416NA05.D

File	Sample	Surrogate Recovery %		Internal Standard Responses	
			1130060	3311920	2774690
100416NA02.D					
	S16J013-CAL1	1060939	3119446	2589903	
100416NA03.D					
	S16J013-CAL2	1076910	3150151	2659729	
100416NA04.D					
	S16J013-CAL3	1096751	3204023	2694201	
100416NA05.D					
	S16J013-CAL4	1130062	3311923	2774693	
100416NA06.D					
	S16J013-CAL5	1137966	3336672	2791532	
100416NA07.D					
	S16J013-CAL6	1119945	3275971	2749859	
100416NA08.D					
	IB	1066258	3199649	2604466	
100416NA09.D					
	S16J013SCV1	1106459	3283314	2825759	NOT USED
100416NA10.D					
	S16J013-SCV1	1068037	3043258	2245231	

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

Created: Wed Oct 05 13:30:06 2016 AG5973N

Analysis Sequence

S16J013

Project:
Analysis:

Instrument: AG5973N **Calibration ID:** 1610004 Printed: 10/05/2016 1:47 pm

Lab Number	Sample Name	Order	Analyzed Date	STD ID	ISTD ID	Sequenced By	File ID	Comments
S16J013-TUN1	MS Tune	1	10/4/16 15:16	1617033		LLH	100416NA01.D	
S16J013-CAL1	Cal Std TO15	2	10/4/16 16:02	1638115		LLH	100416NA02.D	
S16J013-CAL2	Cal Std TO15	3	10/4/16 16:48	1638116		LLH	100416NA03.D	
S16J013-CAL3	Cal Std TO15	4	10/4/16 17:34	1638117		LLH	100416NA04.D	
S16J013-CAL4	Cal Std TO15	5	10/4/16 18:22	1638118		LLH	100416NA05.D	
S16J013-CAL5	Cal Std TO15	6	10/4/16 19:10	1638119		LLH	100416NA06.D	
S16J013-CAL6	Cal Std TO15	7	10/4/16 20:00	1638120		LLH	100416NA07.D	
S16J013-SCV1	SCV TO15	8	10/5/16 10:33	1641031		LLH	100416NA10.D	

Sequence Comments

Reagents

Reagent #	Description

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

Sequence Name: D:\smart\2016\100416N_FSAAA.SEQ
Date: 10-05-2016
Time: 12:59:42
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
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
IB	3	3	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

SEQUENCE DATA

S16J013

S16J013-TUN1

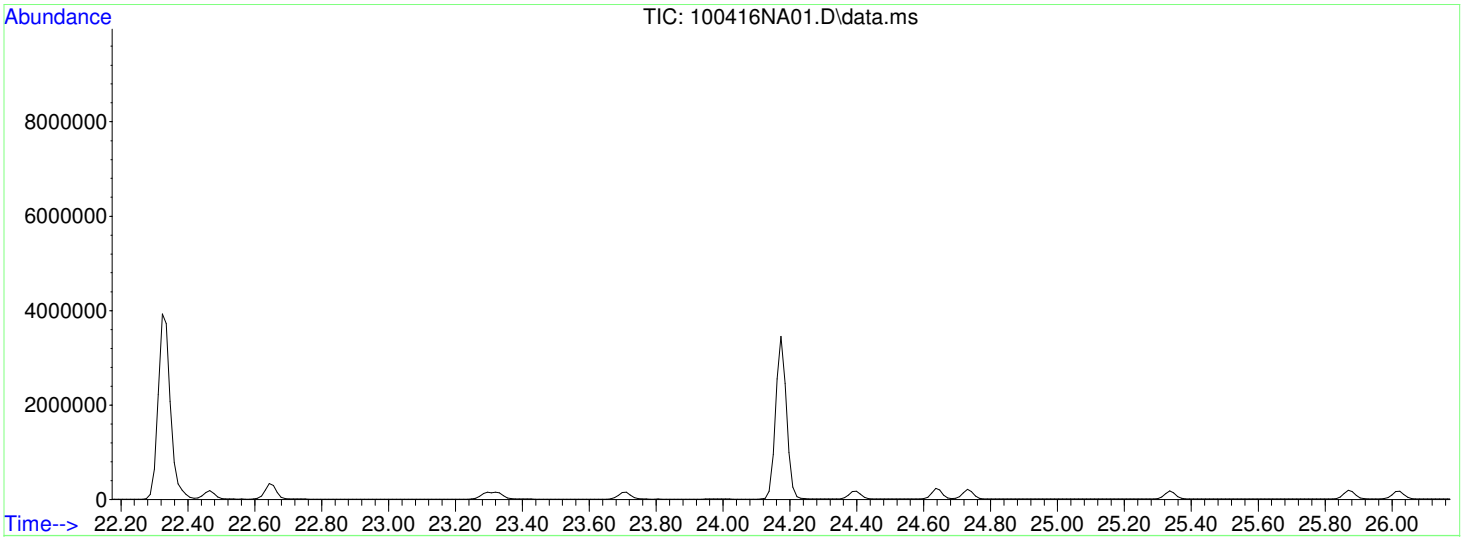
Table of Contents

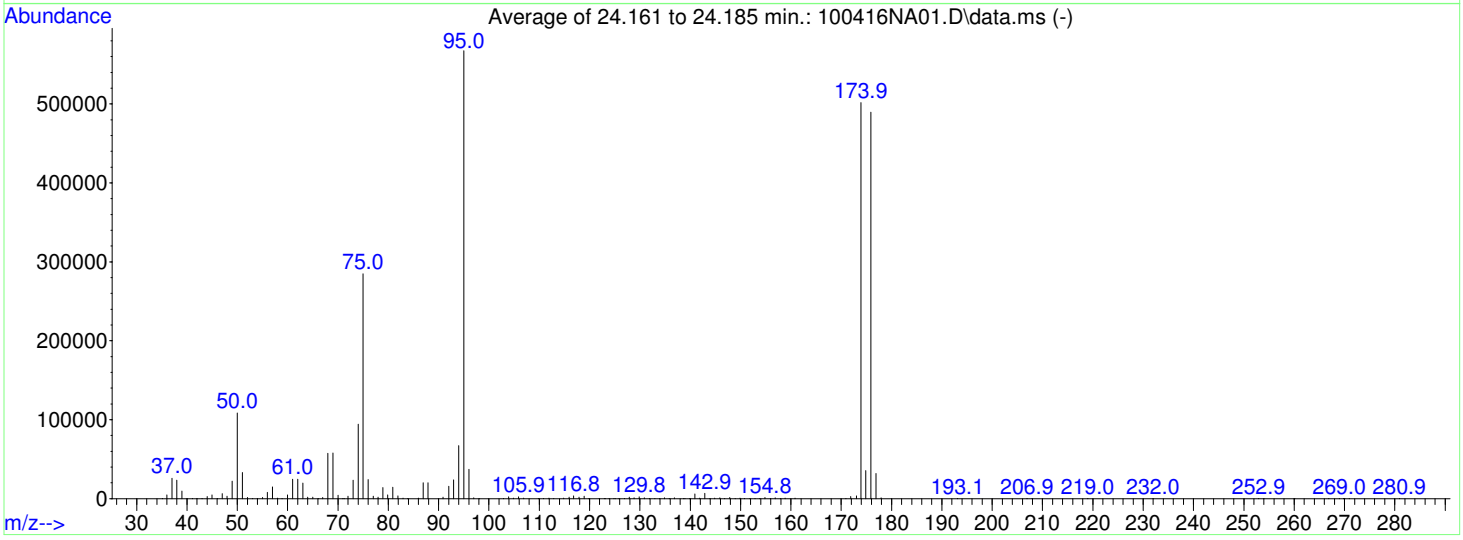
Data Path : D:\msdchem\1\2016\data\100416_FSAAA\
Data File : 100416NA01.D
Acq On : 4 Oct 2016 3:16 pm
InstName : AG5973N
Operator : LLH
Sample : S16J013-TUN1
Misc : BFB 1637033
ALS Vial : 31 Sample Multiplier: 1

REVIEWED
By LLH at 1:28 pm, Oct 05, 2016

Integration File: rteint.p

Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Title : TO15
Last Update : Wed Oct 05 13:07:01 2016



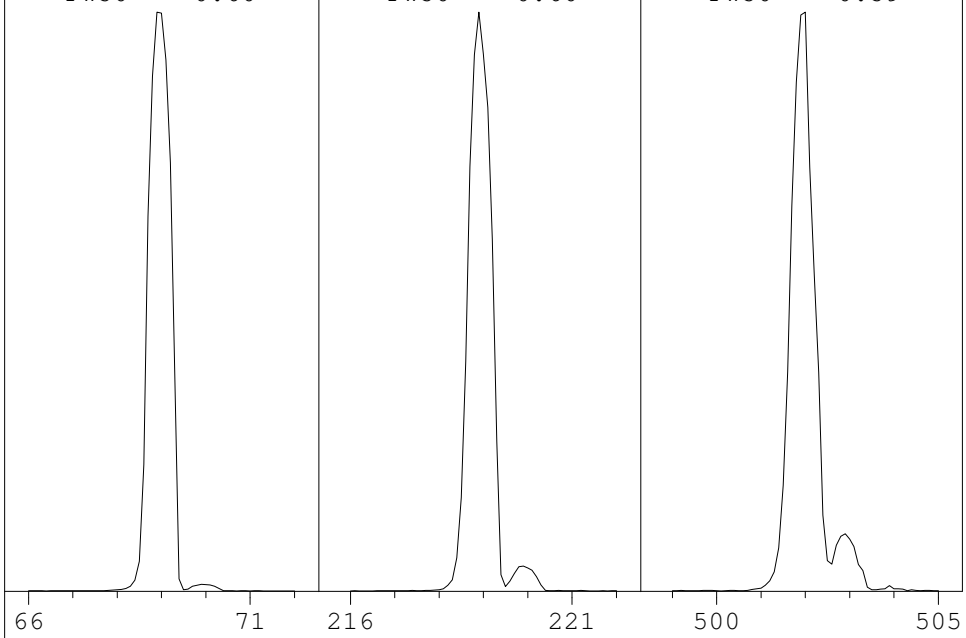


AutoFind: Scans 1736, 1737, 1738; Background Corrected with Scan 1729

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	19.1	108339	PASS
75	95	30	66	50.2	284821	PASS
95	95	100	100	100.0	567595	PASS
96	95	5	9	6.5	36979	PASS
173	174	0.00	2	0.7	3302	PASS
174	95	50	120	88.4	501760	PASS
175	174	4	9	7.1	35416	PASS
176	174	93	101	97.5	489429	PASS
177	176	5	9	6.5	31667	PASS

Tue Oct 04 10:44:47 2016 Instrum
C:\msdchem\1\5973N\bfb0100416.u US43120931

Mass	68.90	Mass	218.90	Mass	502.00
Ab	396385	Ab	247683	Ab	19136
Pw50	0.60	Pw50	0.60	Pw50	0.59

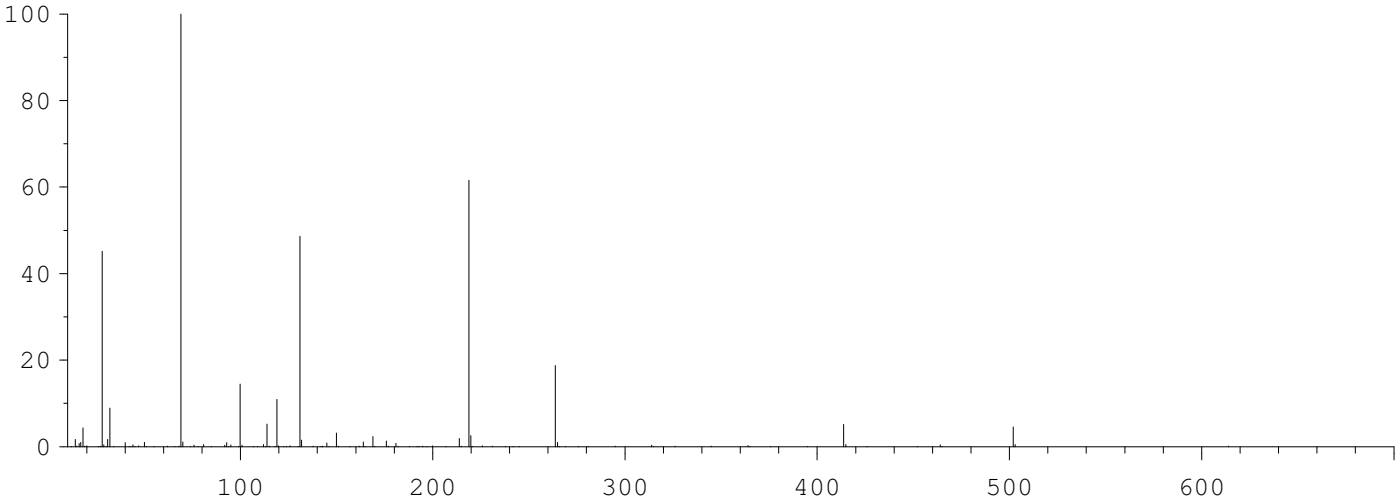


Ion Pol	Pos	MassGain	145
		MassOffs	-11
Emission	34.6	AmuGain	2536
EIEnrgy	69.9	AmuOffs	133
Filament	1	Wid219	-0.018
		DC Pol	Pos
Repeller	28.78		
IonFcus	111.0	HEDEnab	On
EntLens	14.5	EMVolts	1153
EntOffs	19.07		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	Turbo Speed	100
MS Quad	150		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
115 peaks Base: 69.00 Abundance: 379776



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	379776	100.00	70.00	4212	1.11
218.90	233728	61.54	219.90	9832	4.21
502.00	17176	4.52	503.00	1823	10.61

Air/Water Check: H20~4.32% N2~45.16% O2~8.93% CO2~0.44% N2/H2O~1045.34%

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 126914
Repeller Maximum 35 volts using ion 502; Gain Factor 1.27

MassGain Values(Samples): 148(3) 152(2) 164(1) 194(0) 220(FS)

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	133.0	133.0	133.0	133.0	133.0	133.0	133.0
Entrance Lens Offset:	19.1	19.1	19.1	19.1	19.1	19.1	19.1

S16J013-CAL1

Data Path : D:\msdchem\1\2016\data\100416_FSAAA\
Data File : 100416NA02.D
Acq On : 4 Oct 2016 4:02 pm
InstName : AG5973N
Operator : LLH
Sample : S16J013-CAL1
Misc : 1.0ppbv 1638115
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Oct 05 13:07:39 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:07:01 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.469	49	1060939	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	3119446	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.323	117	2589903	20.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.464	41	34791	1.04	ppbv	97
3) Dichlorodifluoromethane	4.559	85	125570	0.99	ppbv	99
4) 1,2-Dichlorotetrafluor...	4.915	85	120618	0.99	ppbv	99
5) Chloromethane	5.105	50	40743	1.11	ppbv	98
6) Vinyl chloride	5.425	62	40574	1.05	ppbv	99
7) 1,3-Butadiene	5.532	54	31235	1.04	ppbv	97
8) Bromomethane	6.468	94	39261	1.06	ppbv	98
9) Chloroethane	6.789	64	20375	1.08	ppbv	95
10) Bromoethene	7.370	106	32546	0.91	ppbv	99
11) Trichlorofluoromethane	7.512	101	115800	0.98	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.338	151	72772	0.94	ppbv	99
13) 1,1-Dichloroethene	9.433	61	45713	0.73	ppbv	99
14) Acetone	9.967	43	67400	1.17	ppbv	99
15) Carbon disulfide	10.156	76	107652	1.06	ppbv	99
16) 2-Propanol	10.572	45	42423	0.76	ppbv #	58
17) Allyl chloride	10.963	41	36555	0.75	ppbv	100
18) Dichloromethane	11.485	49	72794	1.35	ppbv	99
19) tert-Butyl methyl ethe...	12.161	73	74488	0.72	ppbv	96
20) trans-1,2-Dichloroethene	12.196	61	55592	0.98	ppbv	99
21) Hexane	12.789	57	42558	0.67	ppbv #	81
22) 1,1-Dichloroethane	13.512	63	70825	0.91	ppbv	98
23) Vinyl acetate	13.655	43	57132	0.62	ppbv	100
24) cis-1,2-Dichloroethene	14.935	61	37748	0.70	ppbv	100
25) 2-Butanone (MEK)	15.030	72	17316	0.93	ppbv #	1
26) Ethyl acetate	15.078	61	12781	1.03	ppbv #	97
27) Tetrahydrofuran	15.493	42	48507	1.05	ppbv	96
28) Chloroform	15.623	83	93379	0.99	ppbv	99
29) Cyclohexane	15.860	56	49848	0.76	ppbv	94
30) 1,1,1-Trichloroethane	15.908	97	98273	0.93	ppbv	98
31) Carbon tetrachloride	16.157	117	105228	0.93	ppbv	99
33) Benzene	16.643	78	130124	1.09	ppbv	98
34) 2,2,4-Trimethylpentane	16.596	57	157360	0.87	ppbv	88
35) 1,2-Dichloroethane	16.845	62	60597	1.08	ppbv	100
36) Heptane	16.975	43	62902	0.93	ppbv	96
37) Trichloroethene	17.865	130	46672	0.93	ppbv	100
38) 1,2-Dichloropropane	18.363	63	42975	1.05	ppbv	95
39) 1,4-Dioxane	18.552	88	18653	0.70	ppbv	89
40) Bromodichloromethane	18.813	83	106418	1.20	ppbv	99
41) cis-1,3-Dichloropropene	19.584	75	48499	0.80	ppbv	98
42) 4-Methyl-2-pentanone (...	19.809	43	87968	0.91	ppbv	95
44) Toluene	20.058	91	116048	0.84	ppbv	97
45) trans-1,3-Dichloropropene	20.521	75	46954	0.78	ppbv	95
46) 1,1,2-Trichloroethane	20.817	97	52290	1.13	ppbv	97
47) Tetrachloroethene	20.912	166	71556	0.95	ppbv	99
48) 2-Hexanone	21.149	43	74015	0.80	ppbv	90
49) Chlorodibromomethane	21.434	129	108381	1.15	ppbv	99
50) 1,2-Dibromoethane (EDB)	21.659	107	72059	1.02	ppbv	99
51) Chlorobenzene	22.371	112	124726	1.13	ppbv	85
52) Ethylbenzene	22.466	91	173103	0.92	ppbv	99
53) m&p-Xylene	22.643	91	274966	1.87	ppbv	99
54) o-Xylene	23.296	91	117861	0.79	ppbv	98

Data Path : D:\msdchem\1\2016\data\100416_FSAAA\
Data File : 100416NA02.D
Acq On : 4 Oct 2016 4:02 pm
InstName : AG5973N
Operator : LLH
Sample : S16J013-CAL1
Misc : 1.0ppbv 1638115
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Oct 05 13:07:39 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:07:01 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55) Styrene	23.331	104	94397	0.80	ppbv	99
56) Bromoform	23.711	173	111158	1.06	ppbv	98
57) 1,1,2,2-Tetrachloroethane	24.399	83	128940	1.14	ppbv	98
58) 4-Ethyltoluene	24.636	105	180833	0.76	ppbv	100
59) 1,3,5-Trimethylbenzene	24.731	105	155892	0.83	ppbv	100
60) 1,2,4-Trimethylbenzene	25.335	105	131336	0.68	ppbv	99
61) 1,3-Dichlorobenzene	25.869	146	108820	0.80	ppbv	100
62) 1,4-Dichlorobenzene	26.023	146	98869	0.75	ppbv	99
63) Benzyl chloride	26.237	91	111100	0.72	ppbv	99
64) 1,2-Dichlorobenzene	26.628	146	114502	0.83	ppbv	100
65) 1,2,4-Trichlorobenzene	29.095	180	81573	0.66	ppbv	99
66) Hexachlorobutadiene	29.225	225	135696	0.97	ppbv	99

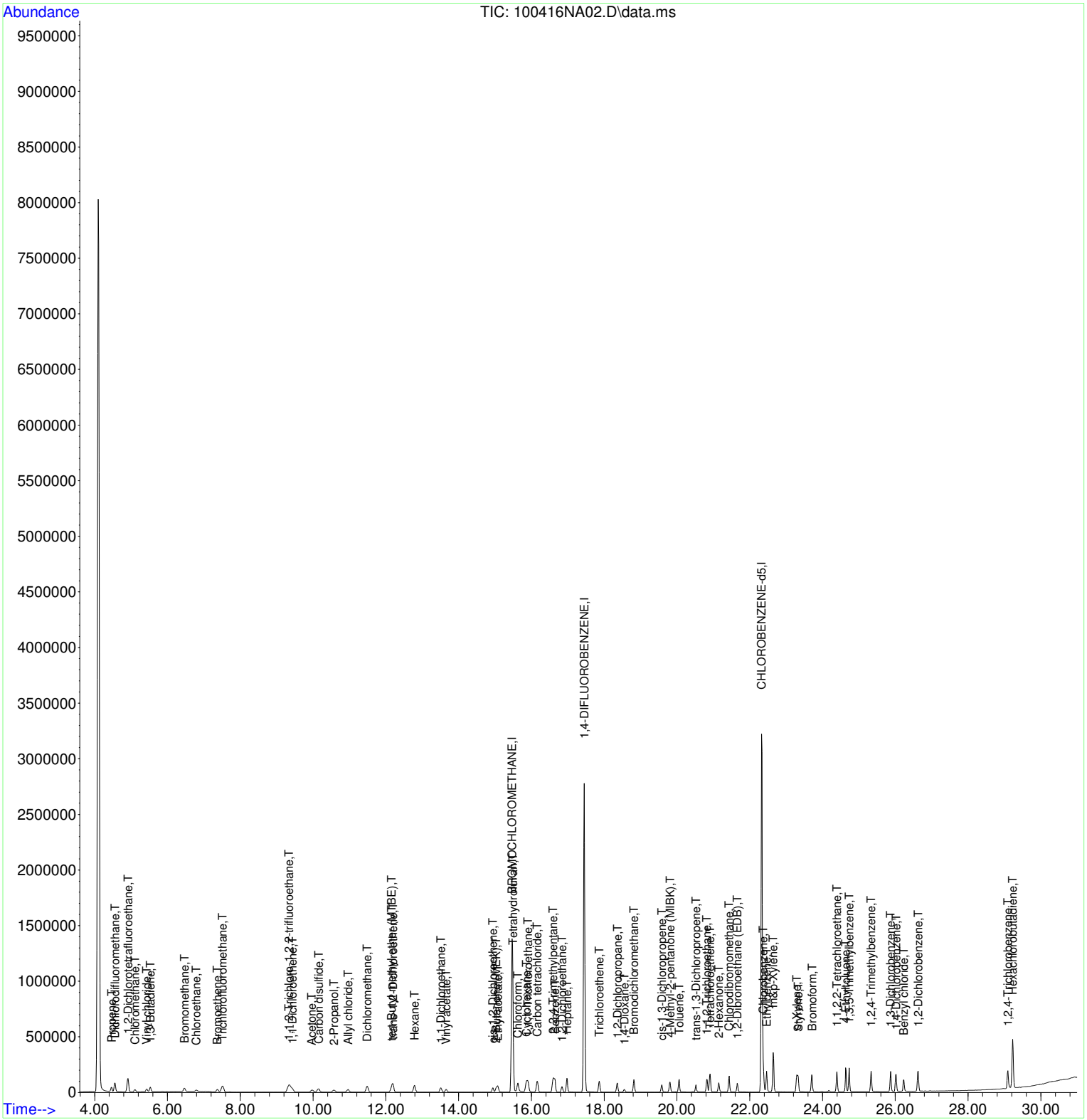
(#) = qualifier out of range (m) = manual integration (+) = signals summed

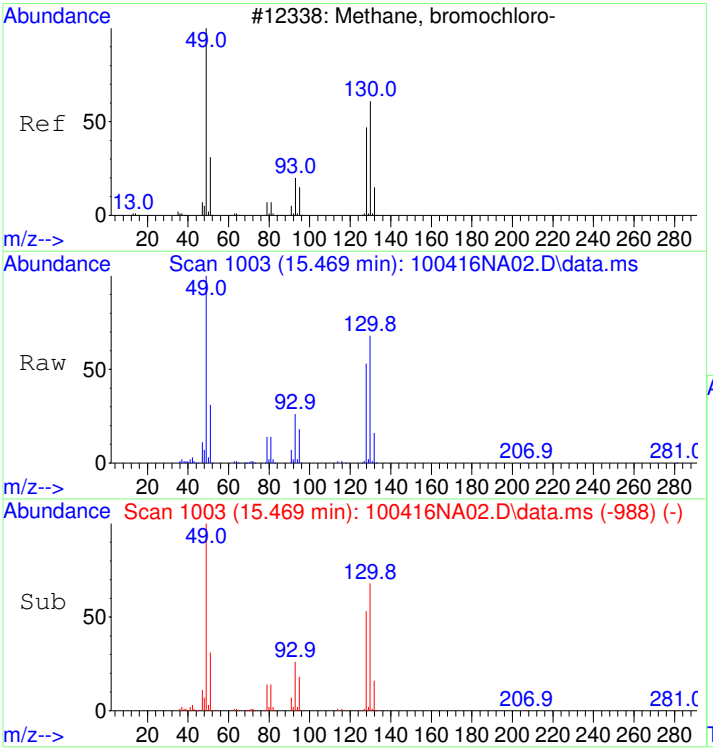
Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2016\data\100416_FSAAA\
Data File : 100416NA02.D
Acq On : 4 Oct 2016 4:02 pm
InstName : AG5973N
Operator : LLH
Sample : S16J013-CAL1
Misc : 1.0ppbv 1638115
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Oct 05 13:07:39 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:07:01 2016
Response via : Initial Calibration

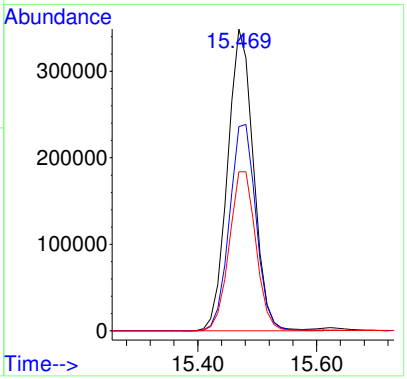


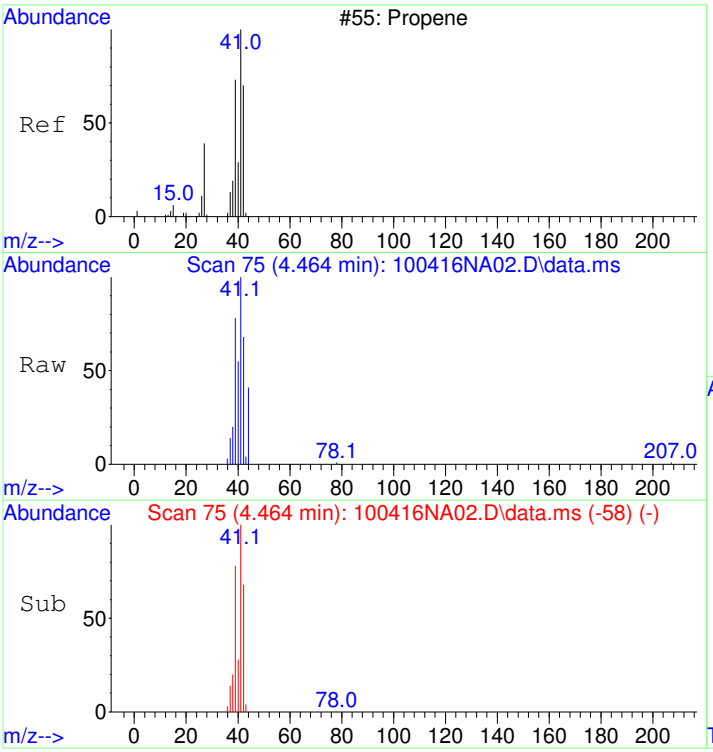


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.469 min Scan# 1003
Delta R.T. 0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 49 Resp: 1060939

Ion	Ratio	Lower	Upper
49	100		
130	70.1	51.9	91.9
128	54.2	35.4	75.4

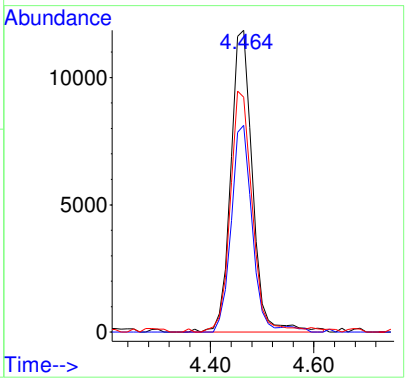


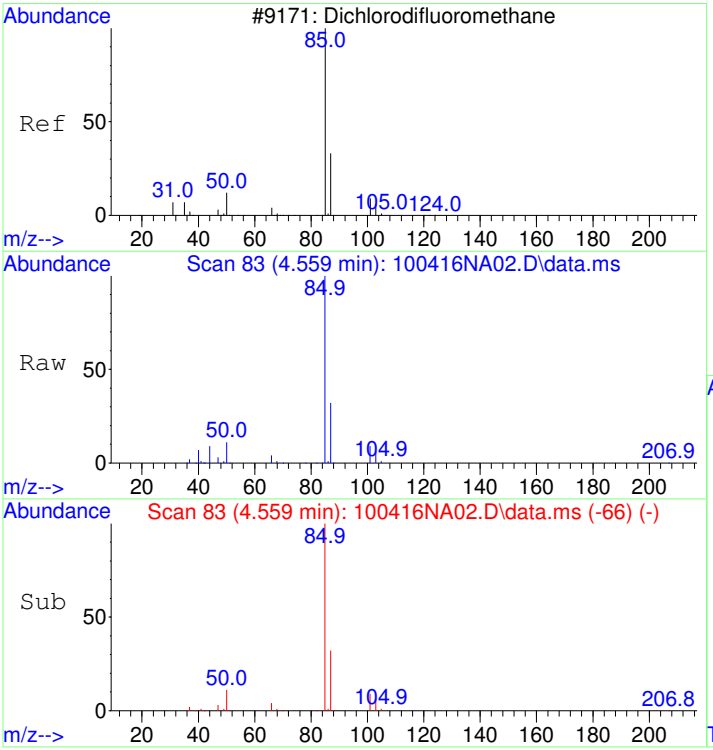


#2
Propene
Concen: 1.04 ppbv
RT: 4.464 min Scan# 75
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 41 Resp: 34791

Ion	Ratio	Lower	Upper
41	100		
42	66.3	45.9	85.9
39	79.1	54.4	94.4

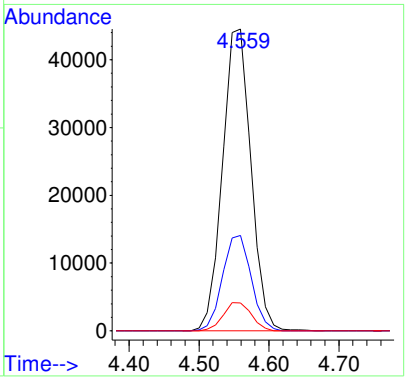


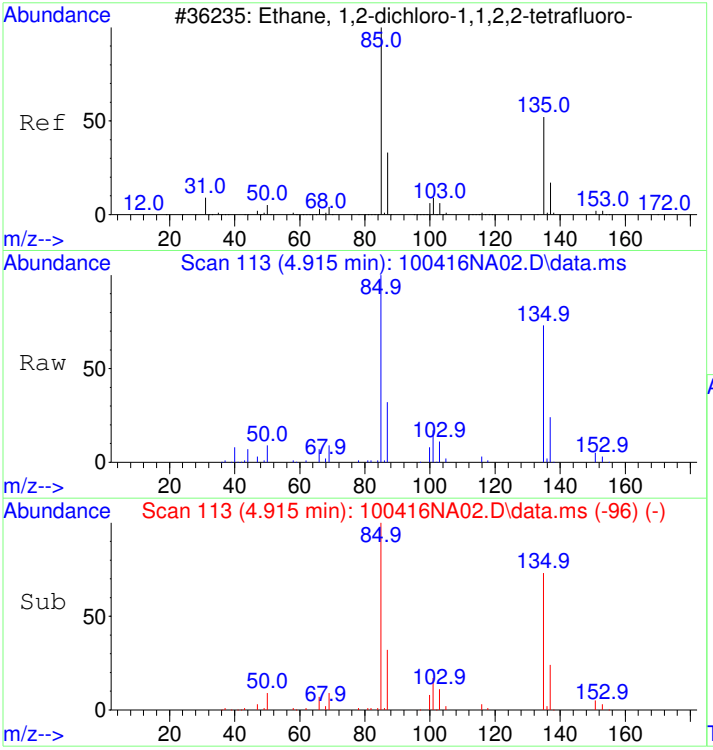


#3
Dichlorodifluoromethane
Concen: 0.99 ppbv
RT: 4.559 min Scan# 83
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 85 Resp: 125570

Ion	Ratio	Lower	Upper
85	100		
87	31.9	12.3	52.3
101	9.3	0.0	29.1

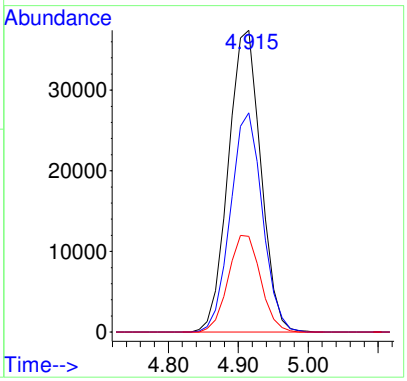


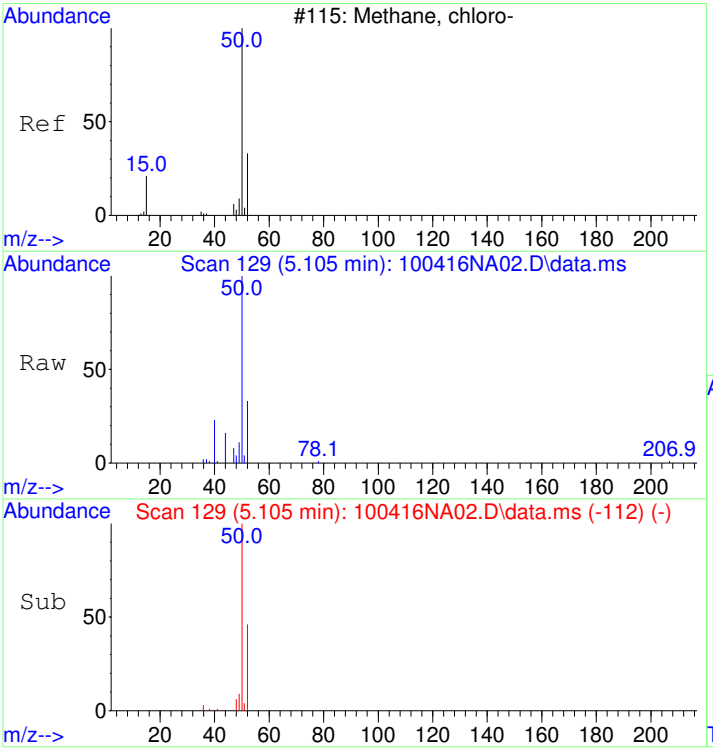


#4
1,2-Dichlorotetrafluoroethane
Concen: 0.99 ppbv
RT: 4.915 min Scan# 113
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 85 Resp: 120618

Ion	Ratio	Lower	Upper
85	100		
135	71.4	52.7	92.7
87	31.9	12.3	52.3

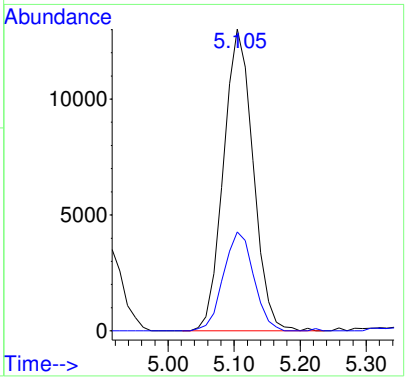


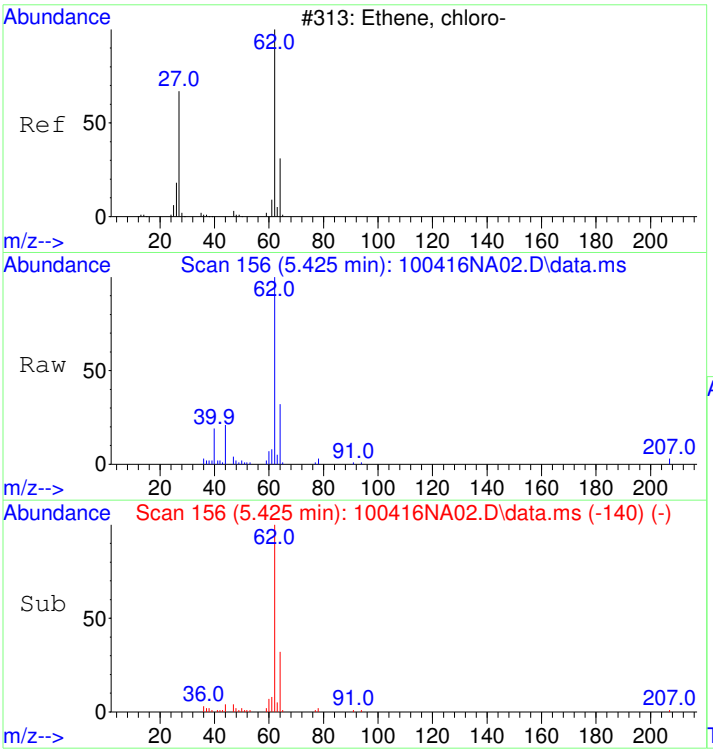


#5
Chloromethane
Concen: 1.11 ppbv
RT: 5.105 min Scan# 129
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 50 Resp: 40743

Ion	Ratio	Lower	Upper
50	100		
52	33.4	12.3	52.3

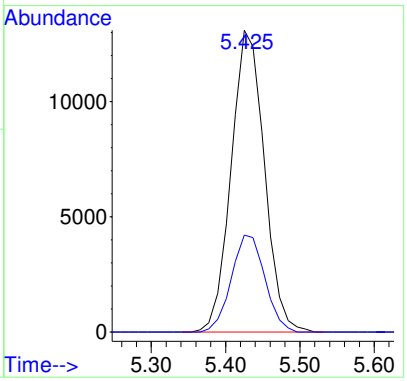


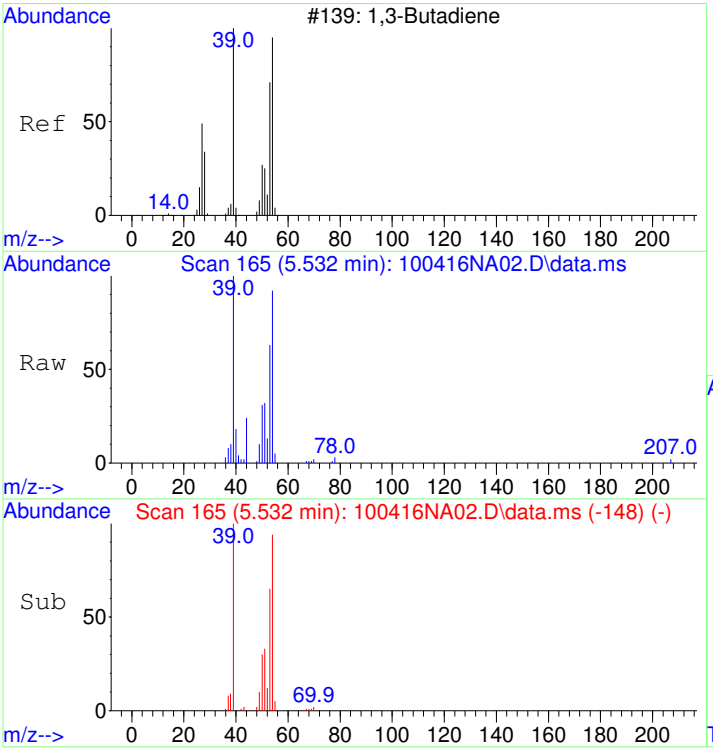


#6
Vinyl chloride
Concen: 1.05 ppbv
RT: 5.425 min Scan# 156
Delta R.T. -0.012 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 62 Resp: 40574

Ion	Ratio	Lower	Upper
62	100		
64	32.5	11.8	51.8

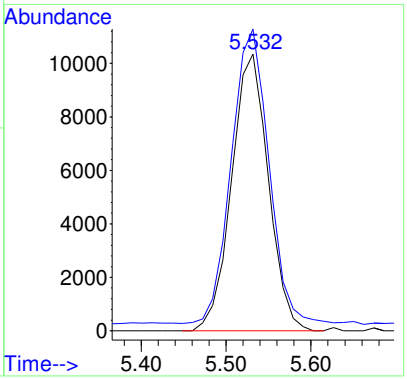


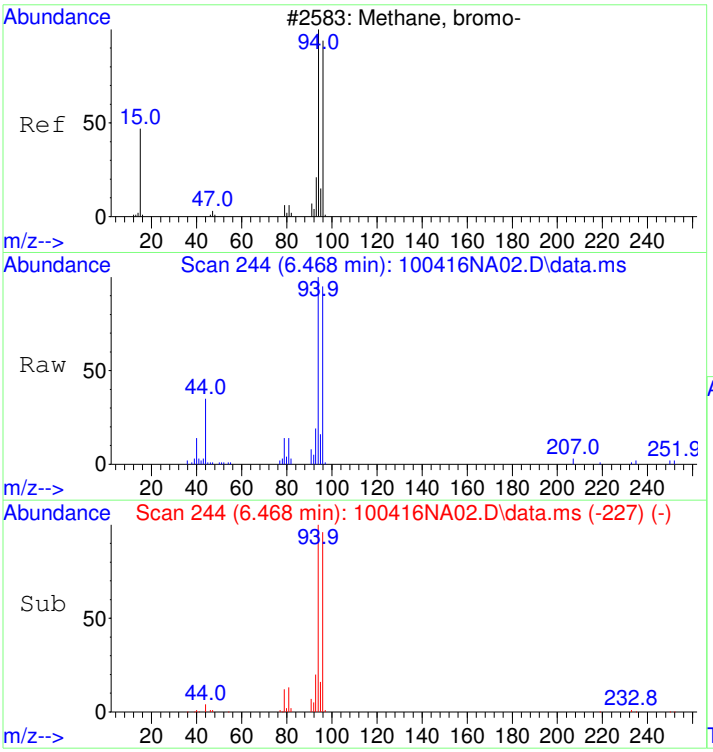


#7
1,3-Butadiene
Concen: 1.04 ppbv
RT: 5.532 min Scan# 165
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 54 Resp: 31235

Ion	Ratio	Lower	Upper
54	100		
39	108.4	85.1	125.1

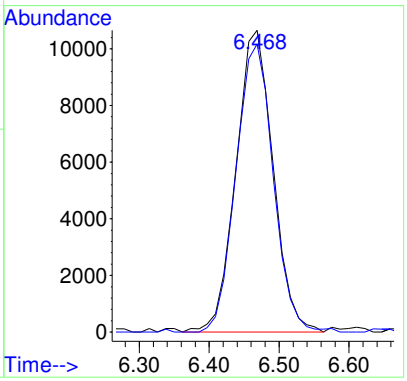


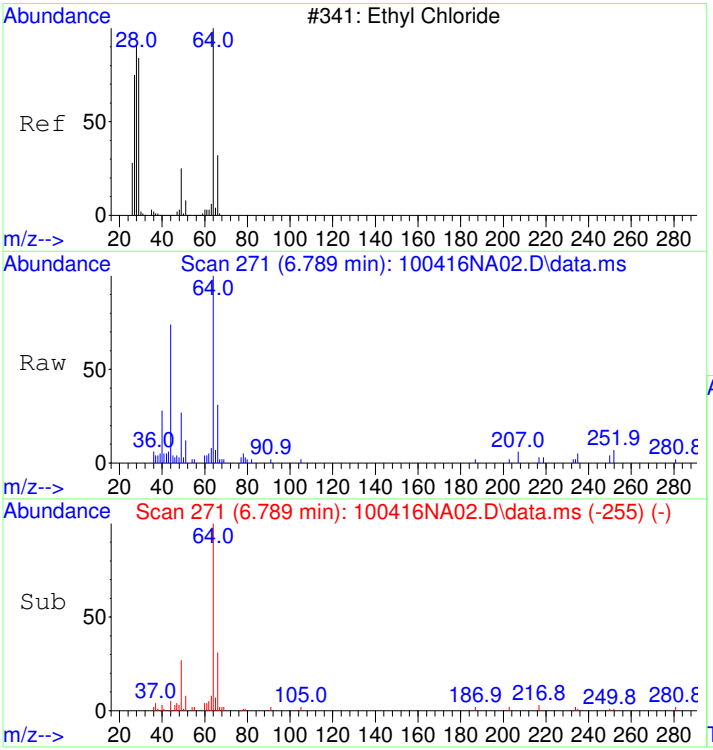


#8
Bromomethane
Concen: 1.06 ppbv
RT: 6.468 min Scan# 244
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 94 Resp: 39261

Ion	Ratio	Lower	Upper
94	100		
96	95.6	73.6	113.6

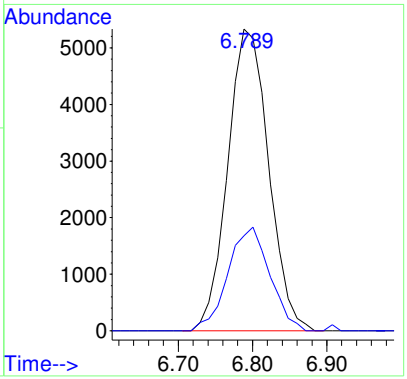


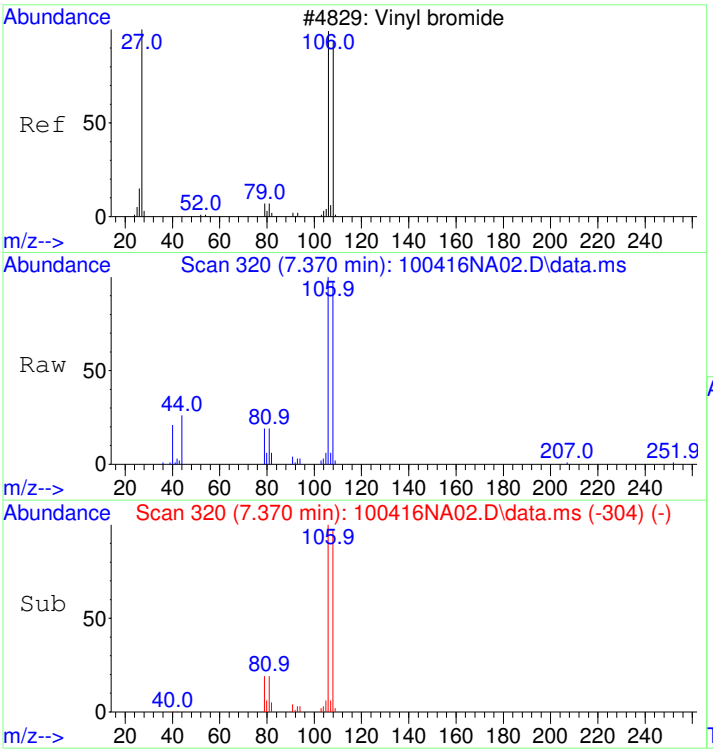


#9
Chloroethane
Concen: 1.08 ppbv
RT: 6.789 min Scan# 271
Delta R.T. -0.012 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 64 Resp: 20375

Ion	Ratio	Lower	Upper
64	100		
66	35.1	12.1	52.1

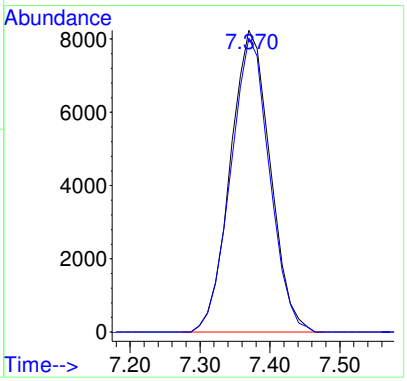


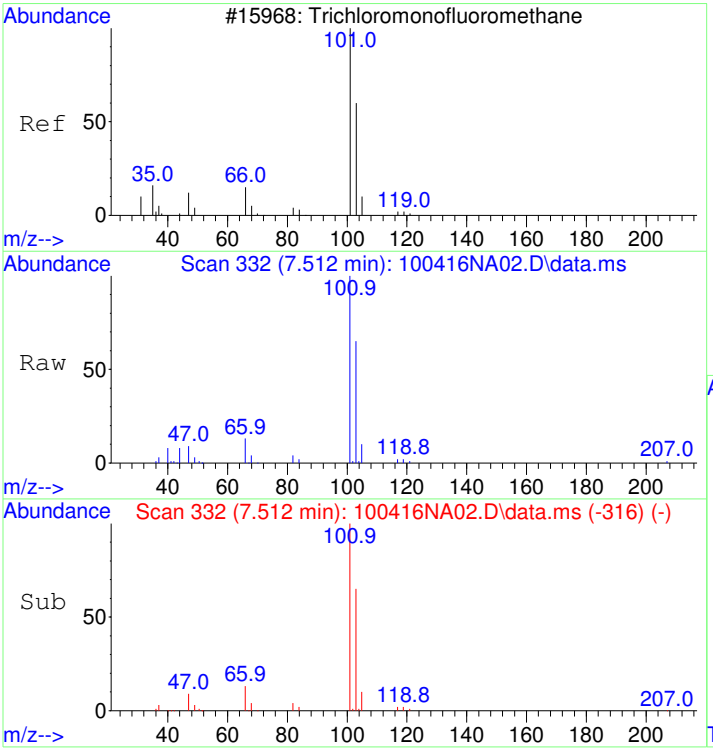


#10
Bromoethene
Concen: 0.91 ppbv
RT: 7.370 min Scan# 320
Delta R.T. -0.012 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion:106 Resp: 32546

Ion	Ratio	Lower	Upper
106	100		
108	95.0	0.0	213.9

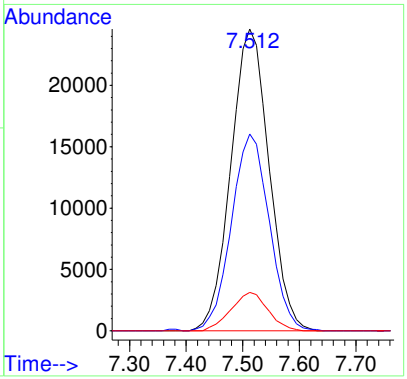


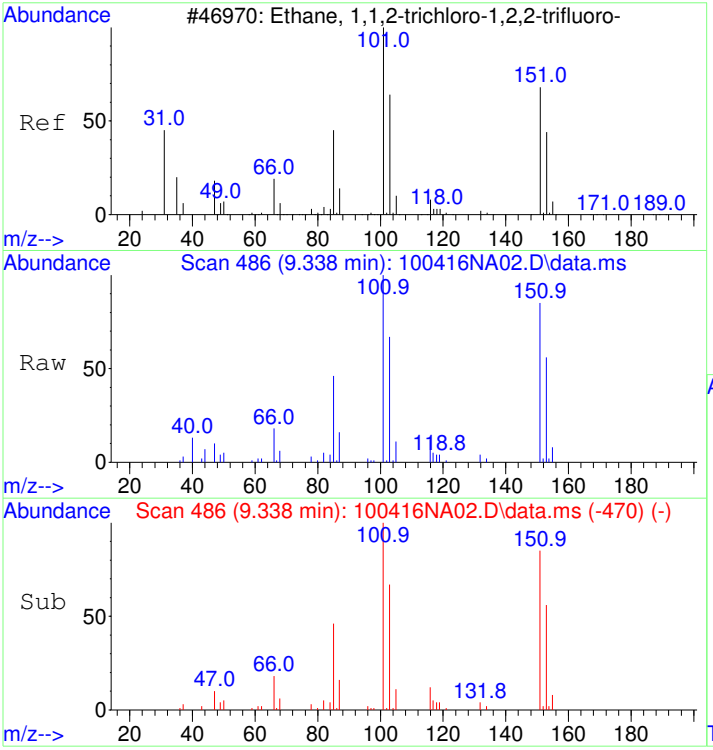


#11
Trichlorofluoromethane
Concen: 0.98 ppbv
RT: 7.512 min Scan# 332
Delta R.T. -0.012 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion:101 Resp: 115800

Ion	Ratio	Lower	Upper
101	100		
103	64.6	44.3	84.3
66	12.4	0.0	32.1

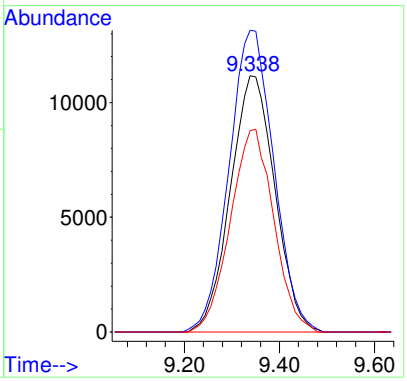


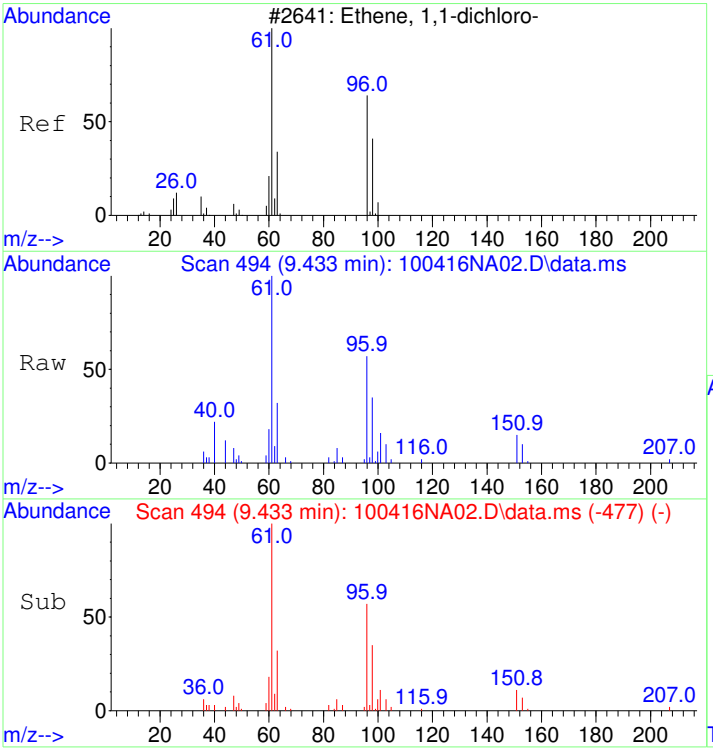


#12
1,1,2-Trichloro-1,2,2-trifluoroethane
Concen: 0.94 ppbv
RT: 9.338 min Scan# 486
Delta R.T. -0.012 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion:151 Resp: 72772

Ion	Ratio	Lower	Upper
151	100		
101	118.2	97.9	137.9
103	77.0	56.0	96.0

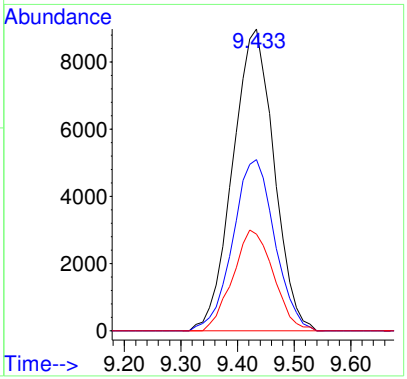


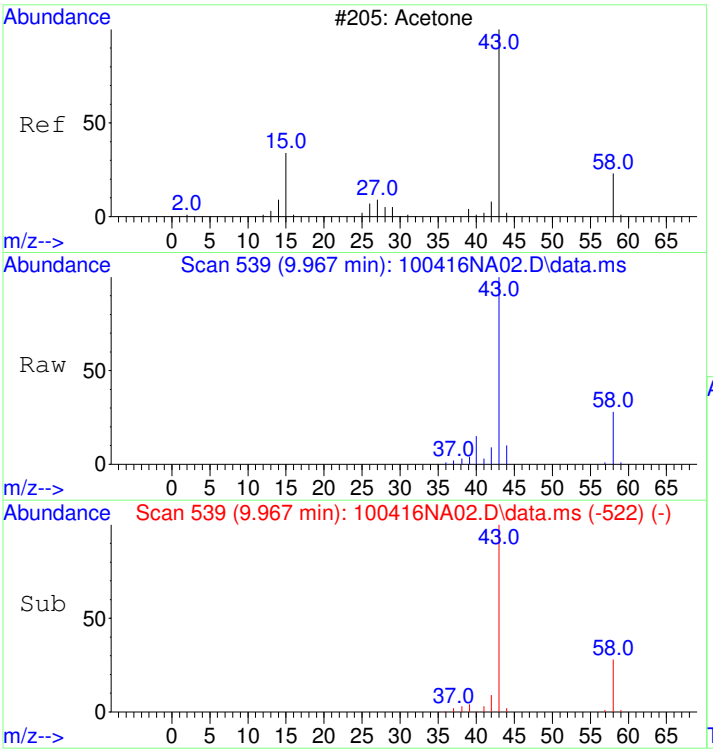


#13
1,1-Dichloroethene
Concen: 0.73 ppbv
RT: 9.433 min Scan# 494
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 61 Resp: 45713

Ion	Ratio	Lower	Upper
61	100		
96	57.5	36.7	76.7
63	32.9	11.8	51.8

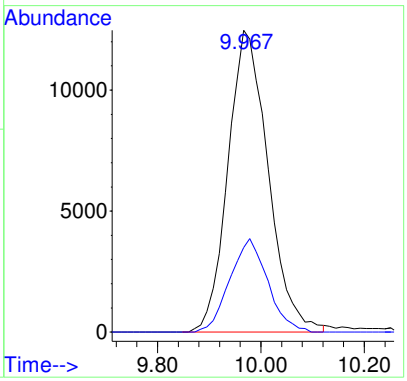


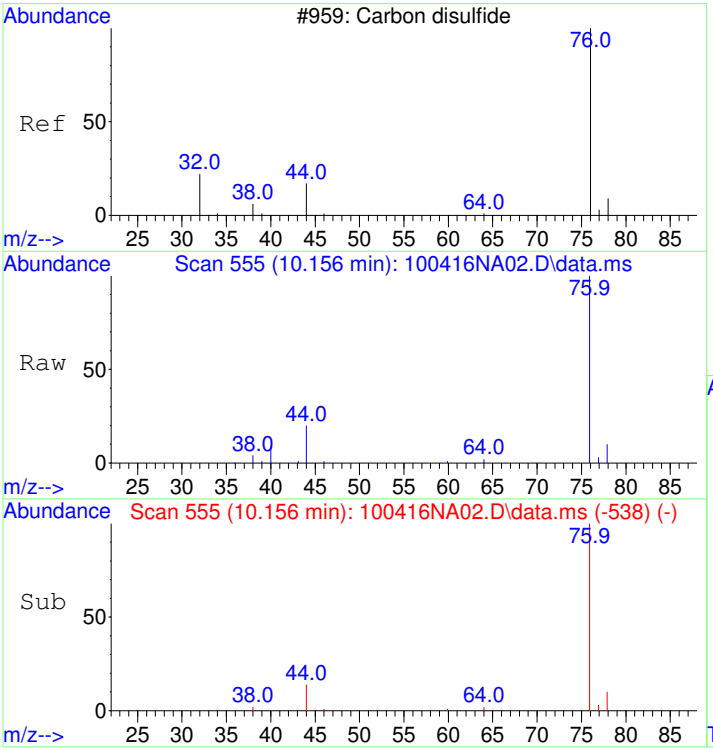


#14
Acetone
Concen: 1.17 ppbv
RT: 9.967 min Scan# 539
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 43 Resp: 67400

Ion	Ratio	Lower	Upper
43	100		
58	29.1	8.4	48.4

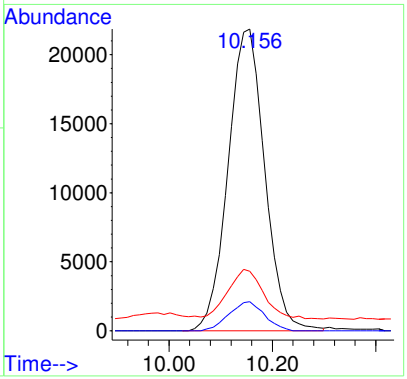


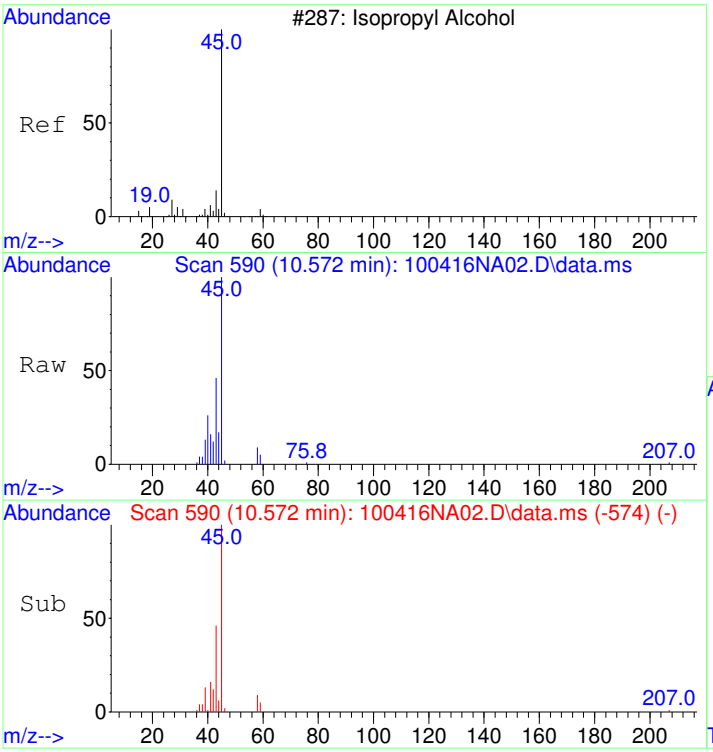


#15
Carbon disulfide
Concen: 1.06 ppbv
RT: 10.156 min Scan# 555
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 76 Resp: 107652

Ion	Ratio	Lower	Upper
76	100		
78	9.4	0.0	29.0
44	15.0	0.0	34.4

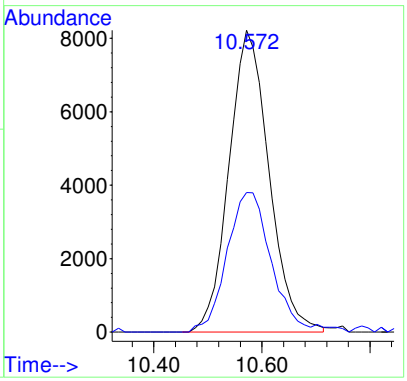


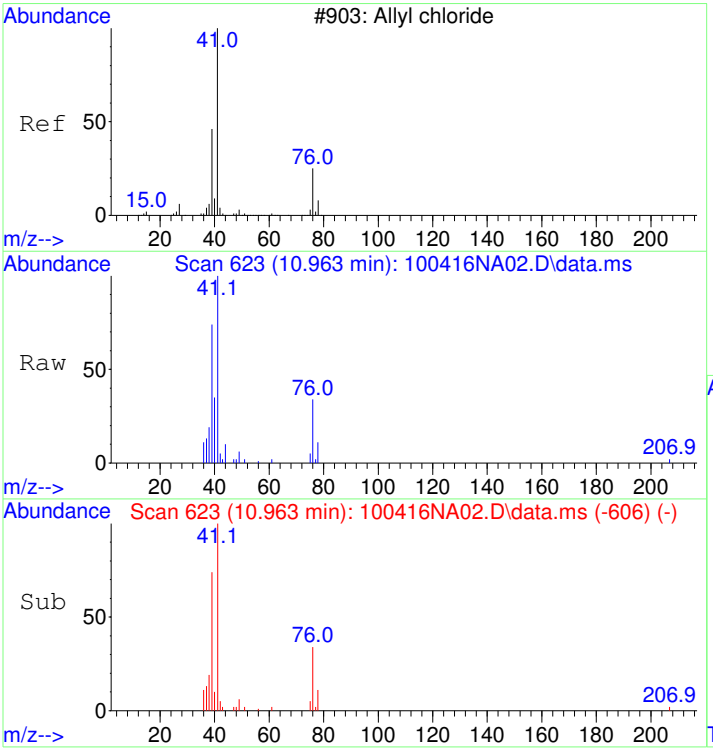


#16
2-Propanol
Concen: 0.76 ppbv
RT: 10.572 min Scan# 590
Delta R.T. 0.012 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 45 Resp: 42423

Ion	Ratio	Lower	Upper
45	100		
43	50.9	8.8	48.8#

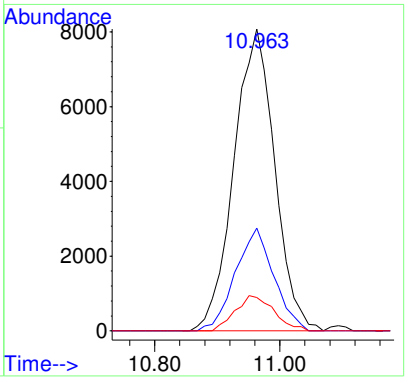


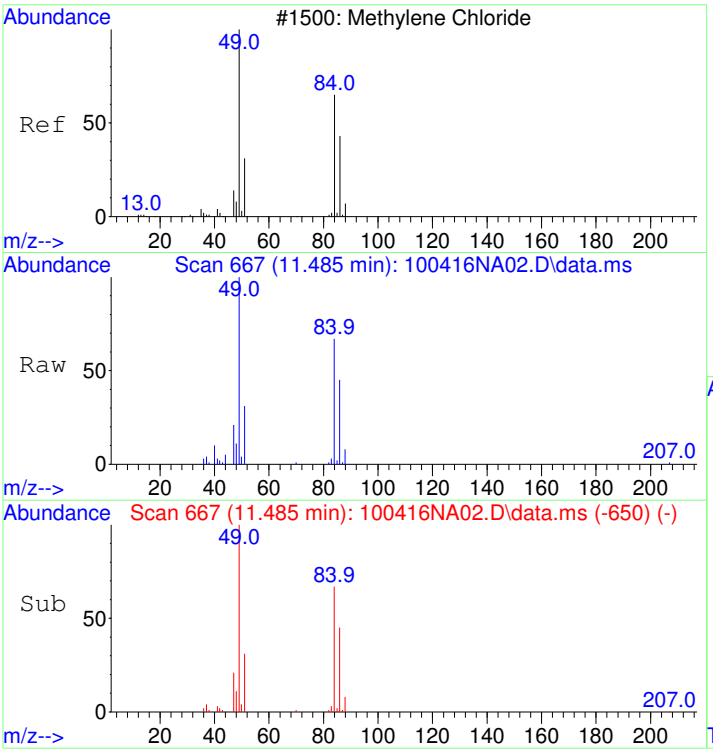


#17
Allyl chloride
Concen: 0.75 ppbv
RT: 10.963 min Scan# 623
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 41 Resp: 36555

Ion	Ratio	Lower	Upper
41	100		
76	32.0	12.0	52.0
78	11.0	0.0	30.5

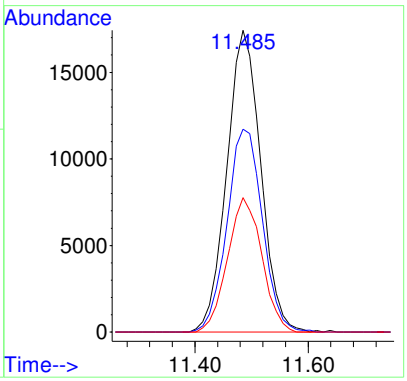


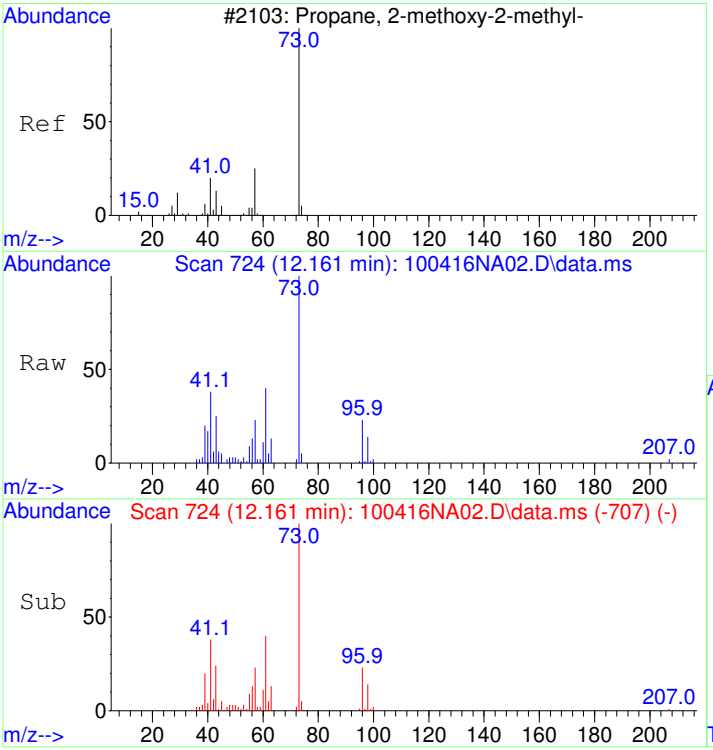


#18
Dichloromethane
Concen: 1.35 ppbv
RT: 11.485 min Scan# 667
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 49 Resp: 72794

Ion	Ratio	Lower	Upper
49	100		
84	70.2	51.4	91.4
86	45.0	25.8	65.8

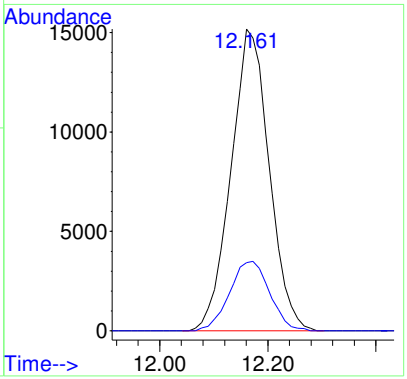


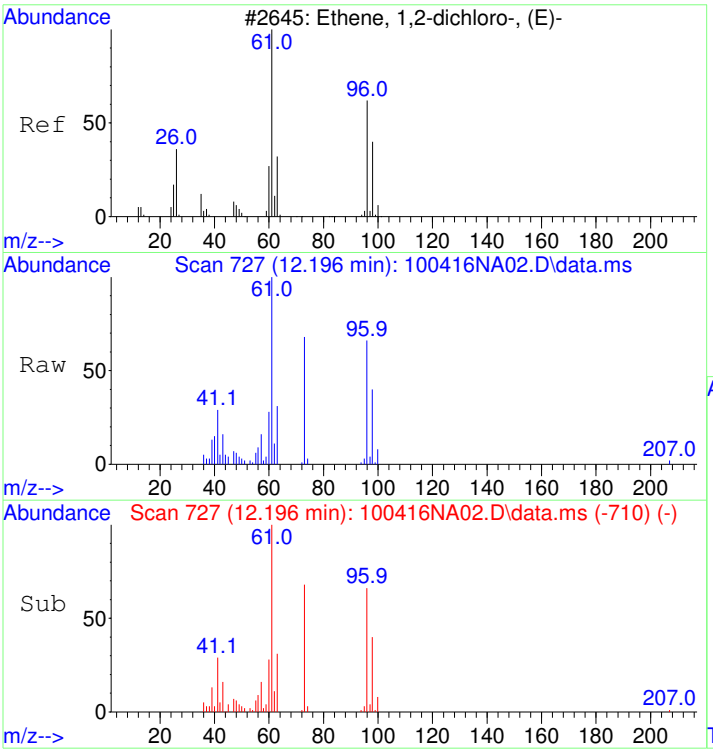


#19
tert-Butyl methyl ether (MTBE)
Concen: 0.72 ppbv
RT: 12.161 min Scan# 724
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 73 Resp: 74488

Ion	Ratio	Lower	Upper
73	100		
57	24.2	2.2	42.2

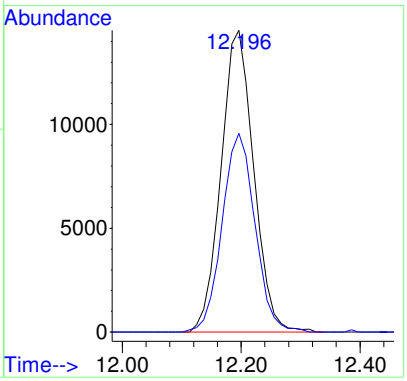


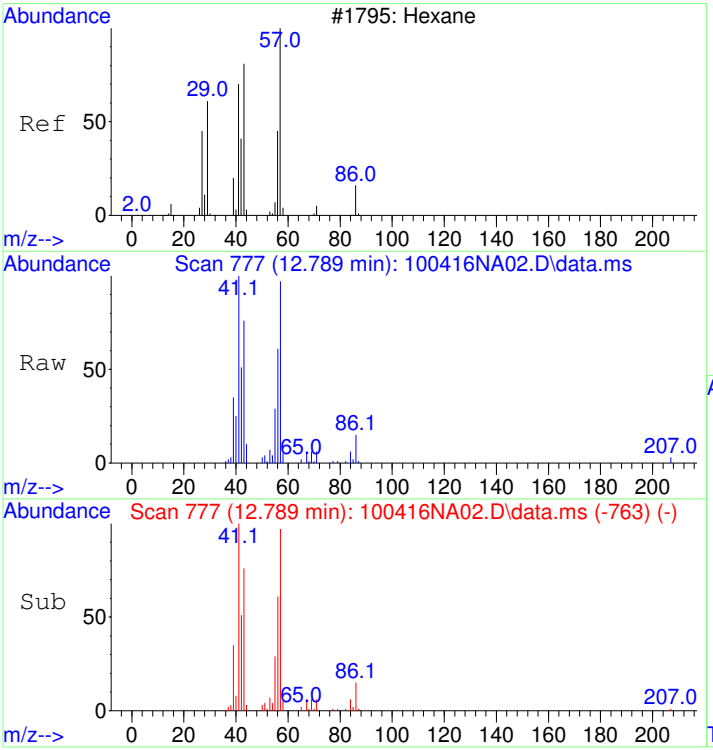


#20
trans-1,2-Dichloroethene
Concen: 0.98 ppbv
RT: 12.196 min Scan# 727
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 61 Resp: 55592

Ion	Ratio	Lower	Upper
61	100		
96	66.3	46.8	86.8

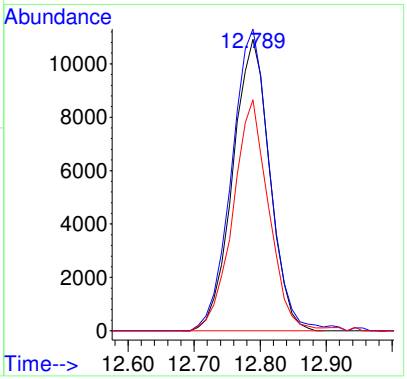


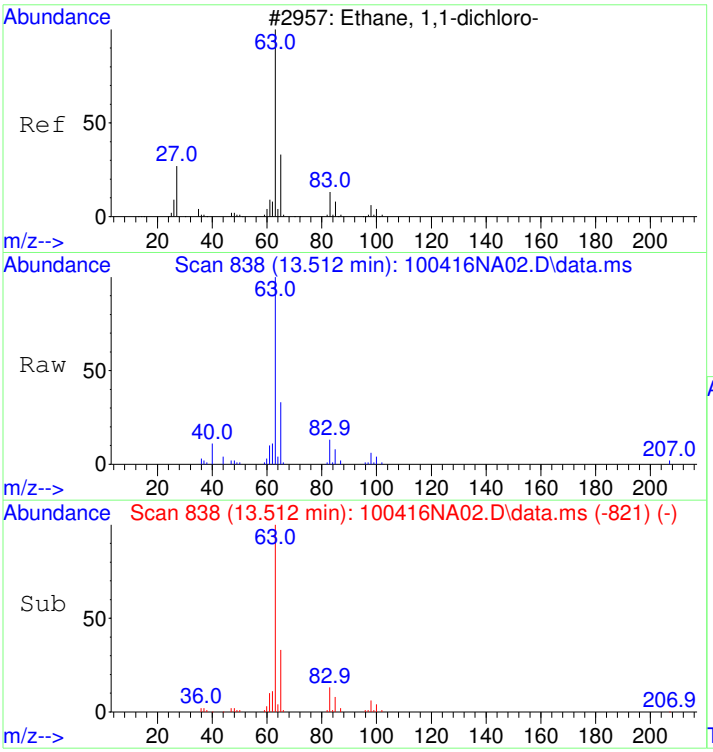


#21
Hexane
Concen: 0.67 ppbv
RT: 12.789 min Scan# 777
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 57 Resp: 42558

Ion	Ratio	Lower	Upper
57	100		
41	106.8	62.9	102.9#
43	77.1	49.3	89.3

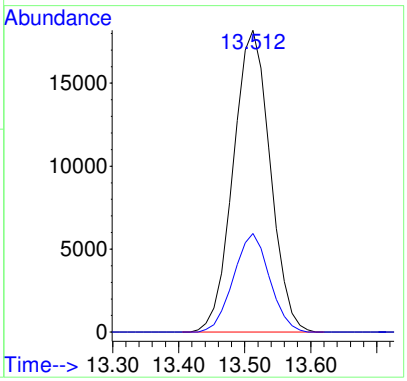


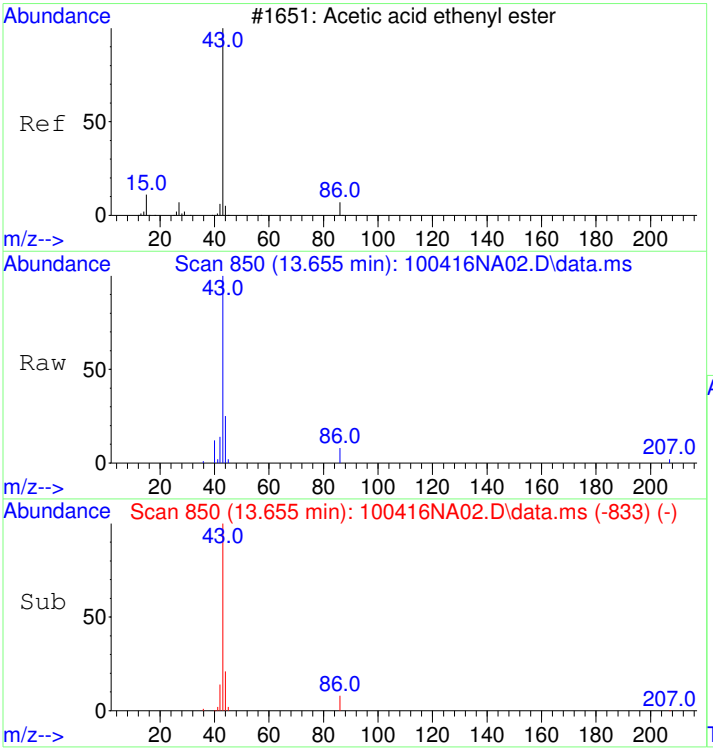


#22
1,1-Dichloroethane
Concen: 0.91 ppbv
RT: 13.512 min Scan# 838
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 63 Resp: 70825

Ion	Ratio	Lower	Upper
63	100		
65	31.9	11.0	51.0

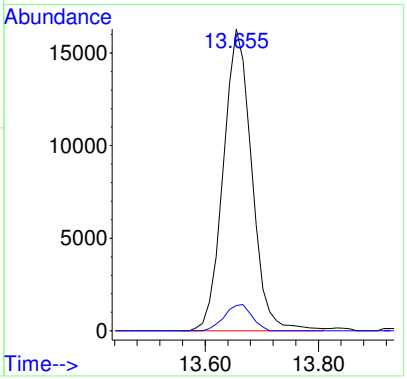


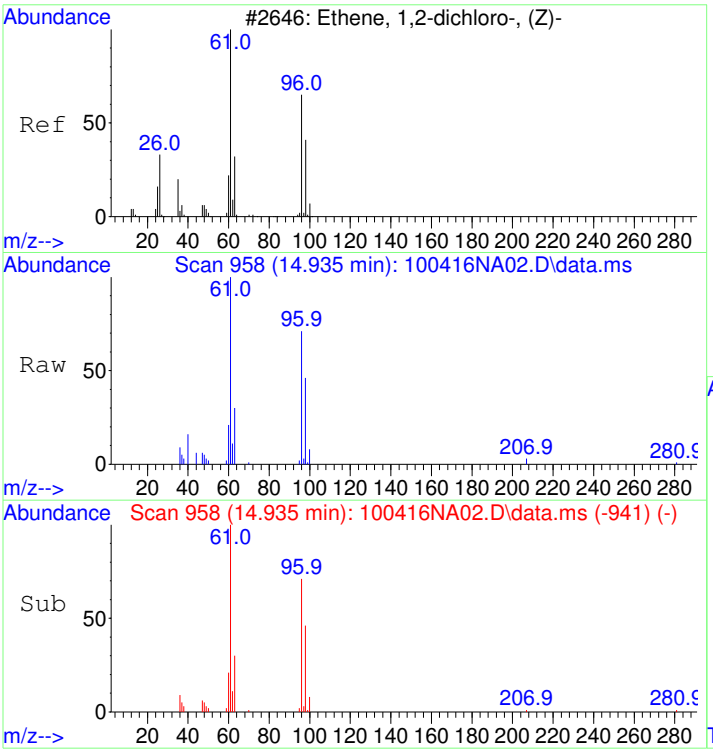


#23
Vinyl acetate
Concen: 0.62 ppbv
RT: 13.655 min Scan# 850
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 43 Resp: 57132

Ion	Ratio	Lower	Upper
43	100		
86	8.4	0.0	28.5

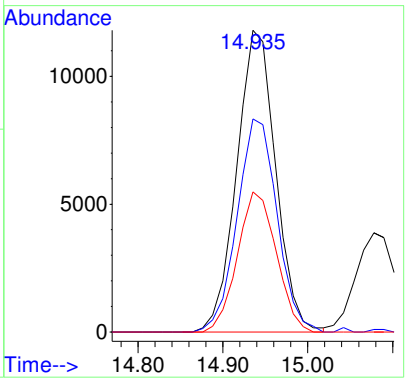


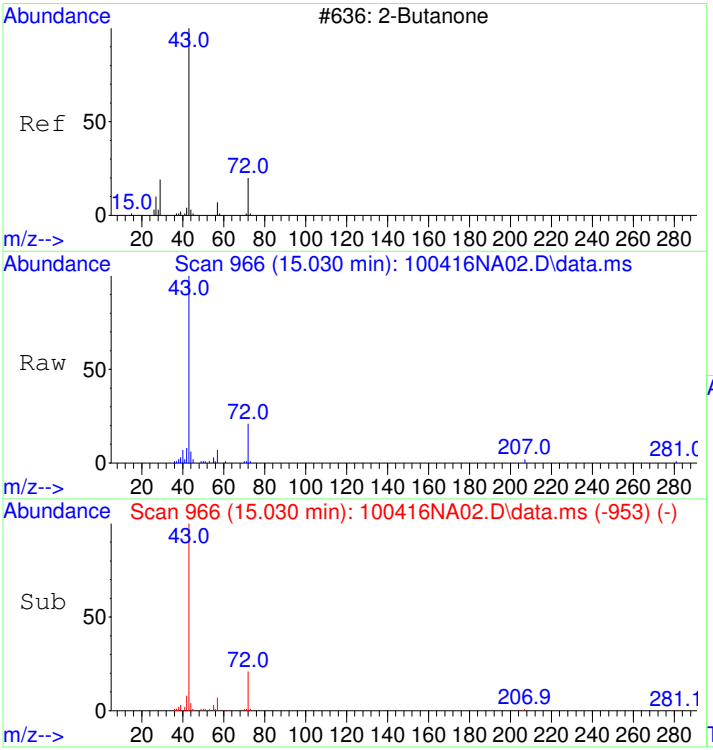


#24
cis-1,2-Dichloroethene
Concen: 0.70 ppbv
RT: 14.935 min Scan# 958
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 61 Resp: 37748

Ion	Ratio	Lower	Upper
61	100		
96	72.5	52.9	92.9
98	46.3	26.2	66.2

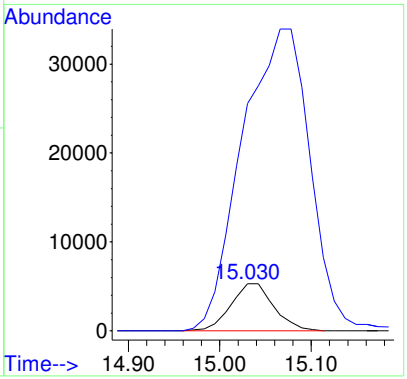


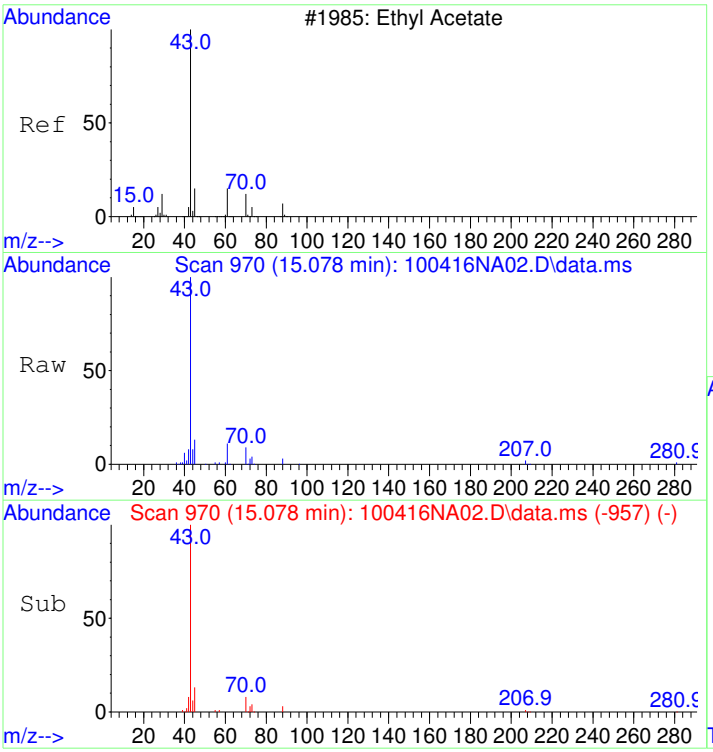


#25
2-Butanone (MEK)
Concen: 0.93 ppbv
RT: 15.030 min Scan# 966
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 72 Resp: 17316

Ion	Ratio	Lower	Upper
72	100		
43	0.0	389.1	409.1#

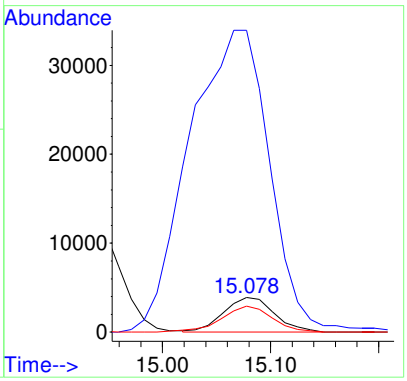


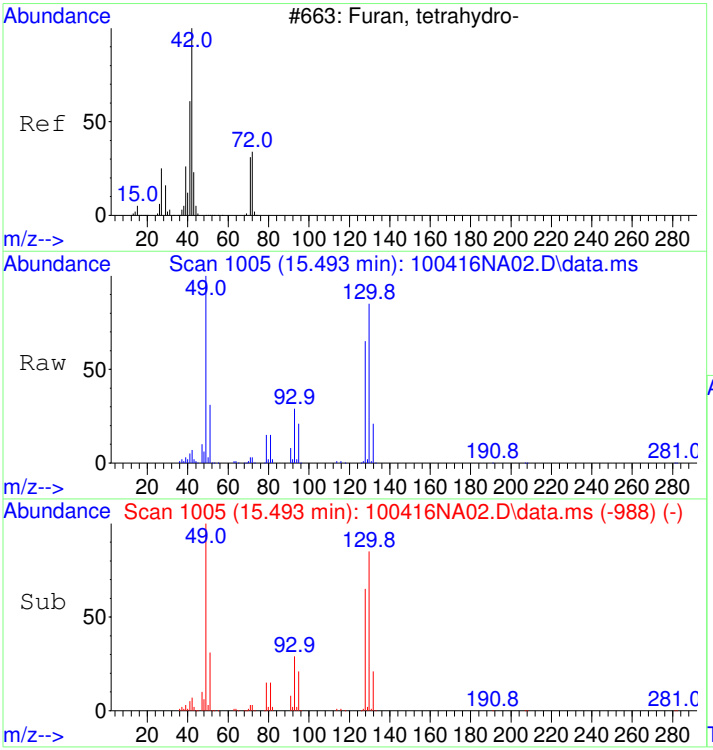


#26
Ethyl acetate
Concen: 1.03 ppbv
RT: 15.078 min Scan# 970
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 61 Resp: 12781

Ion	Ratio	Lower	Upper
61	100		
43	1370.8	0.0	10.0#
70	74.9	62.6	82.6

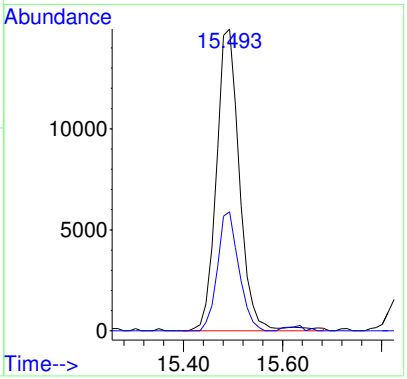


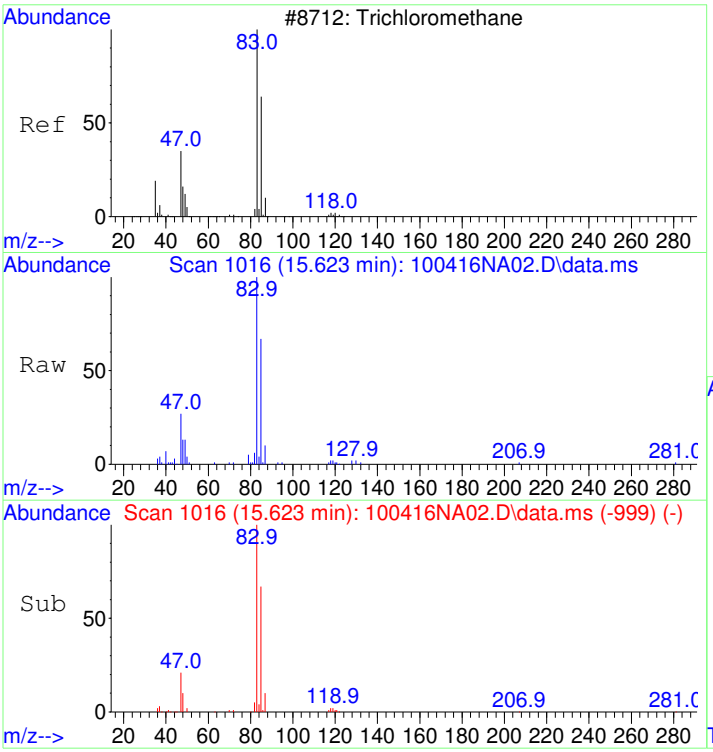


#27
Tetrahydrofuran
Concen: 1.05 ppbv
RT: 15.493 min Scan# 1005
Delta R.T. 0.012 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 42 Resp: 48507

Ion	Ratio	Lower	Upper
42	100		
72	36.4	18.9	58.9

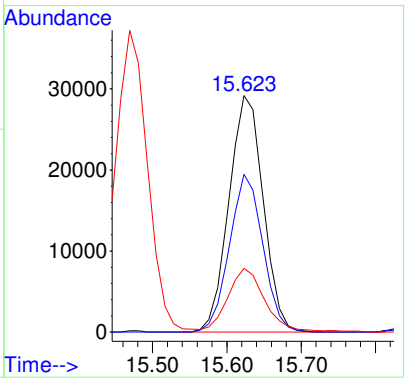


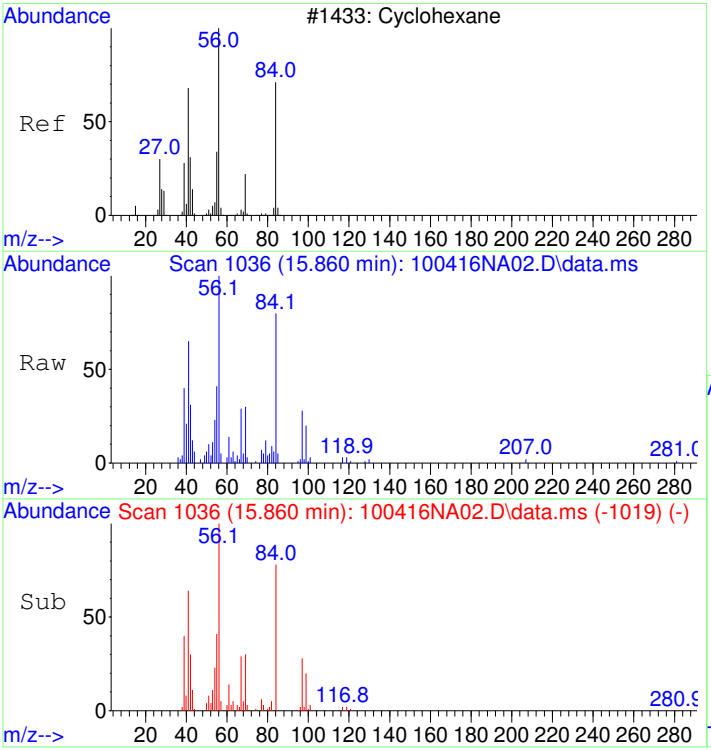


#28
Chloroform
Concen: 0.99 ppbv
RT: 15.623 min Scan# 1016
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 83 Resp: 93379

Ion	Ratio	Lower	Upper
83	100		
85	64.9	44.7	84.7
47	26.5	5.4	45.4

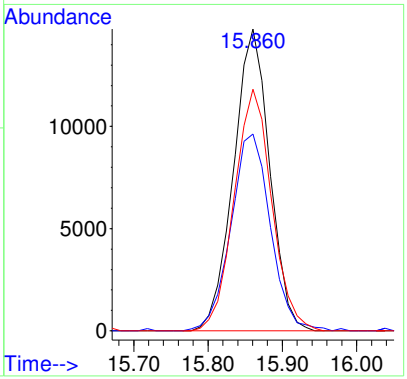


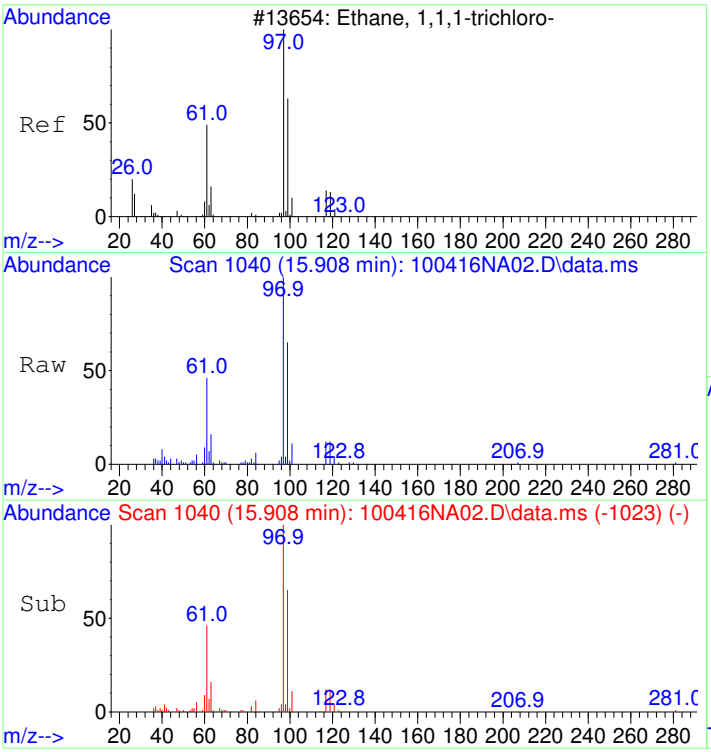


#29
Cyclohexane
Concen: 0.76 ppbv
RT: 15.860 min Scan# 1036
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 56 Resp: 49848

Ion	Ratio	Lower	Upper
56	100		
41	71.3	41.5	81.5
84	83.2	63.6	103.6

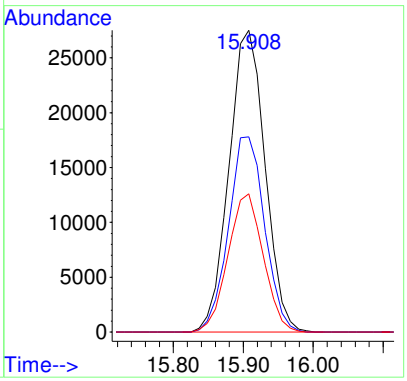


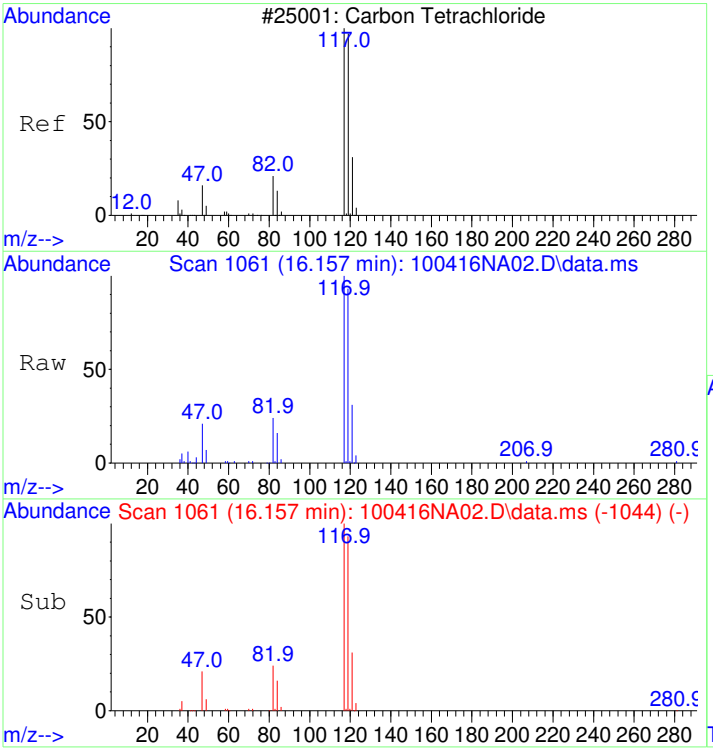


#30
1,1,1-Trichloroethane
Concen: 0.93 ppbv
RT: 15.908 min Scan# 1040
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 97 Resp: 98273

Ion	Ratio	Lower	Upper
97	100		
99	65.0	44.6	84.6
61	44.9	22.9	62.9

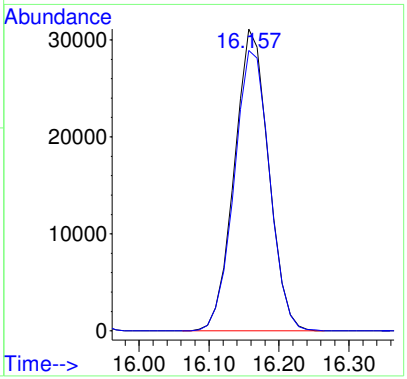


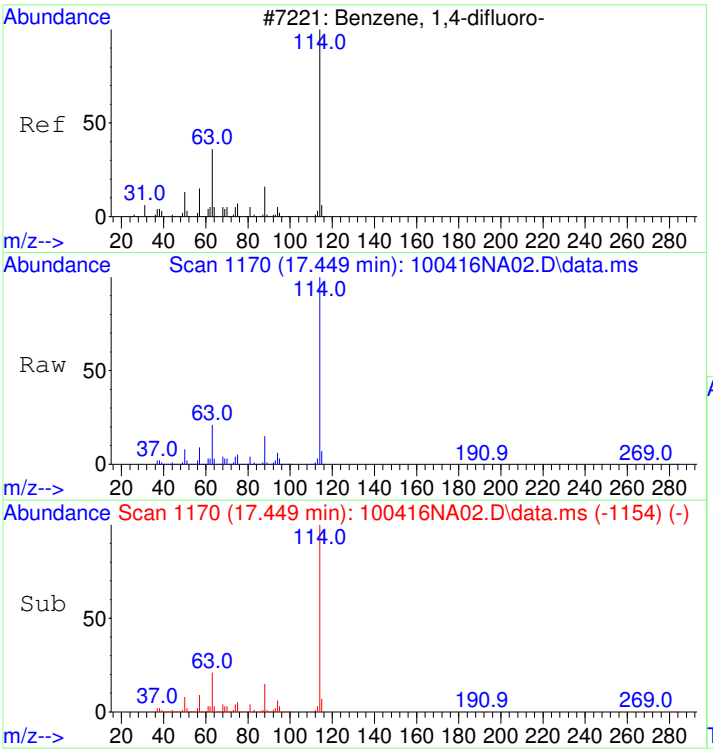


#31
Carbon tetrachloride
Concen: 0.93 ppbv
RT: 16.157 min Scan# 1061
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion:117 Resp: 105228

Ion	Ratio	Lower	Upper
117	100		
119	96.0	76.7	116.7

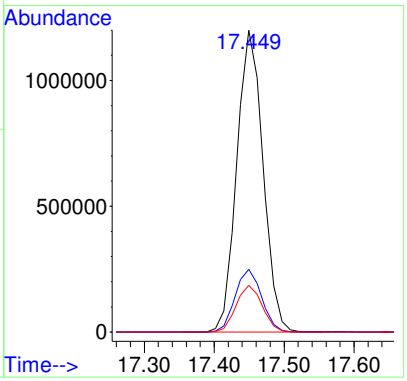


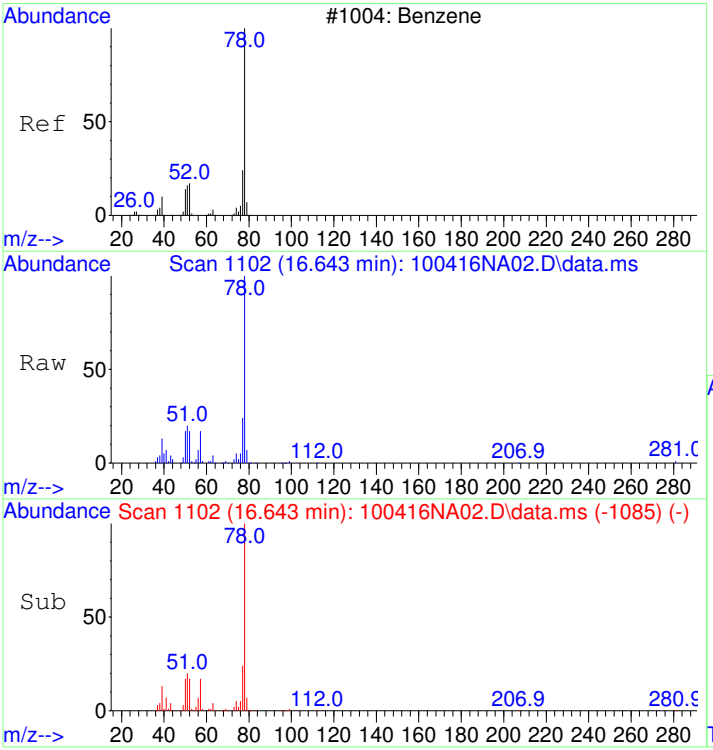


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.449 min Scan# 1170
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion:114 Resp: 3119446

Ion	Ratio	Lower	Upper
114	100		
63	21.1	0.9	40.9
88	15.5	0.0	35.4

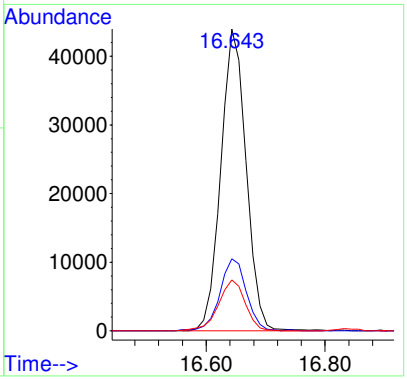


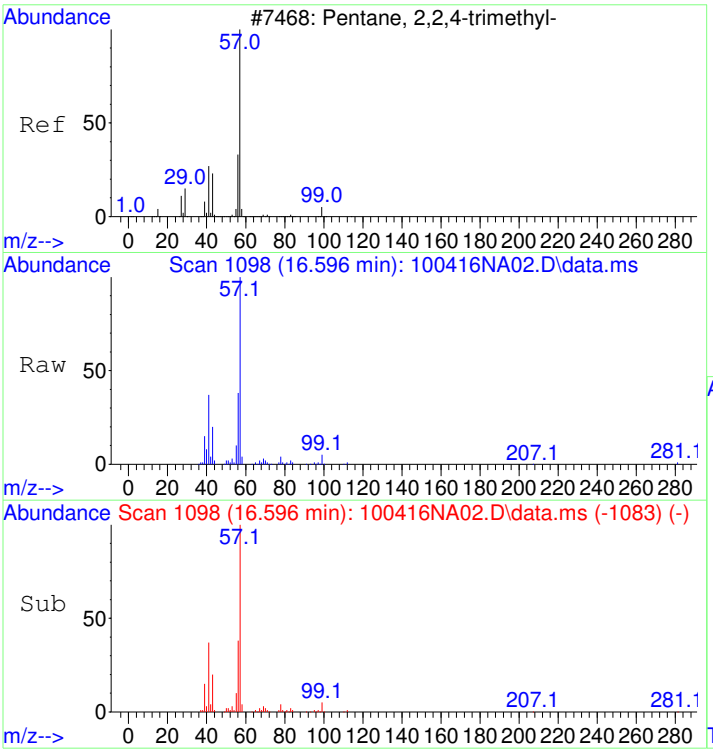


#33
Benzene
Concen: 1.09 ppbv
RT: 16.643 min Scan# 1102
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 78 Resp: 130124

Ion	Ratio	Lower	Upper
78	100		
77	25.0	4.0	44.0
50	17.9	0.0	36.9

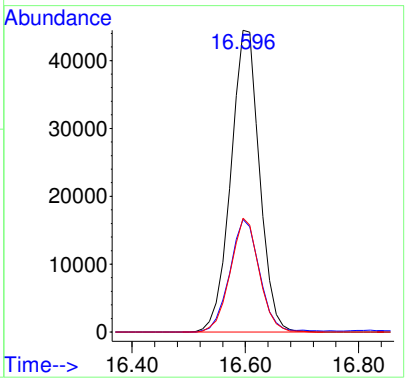


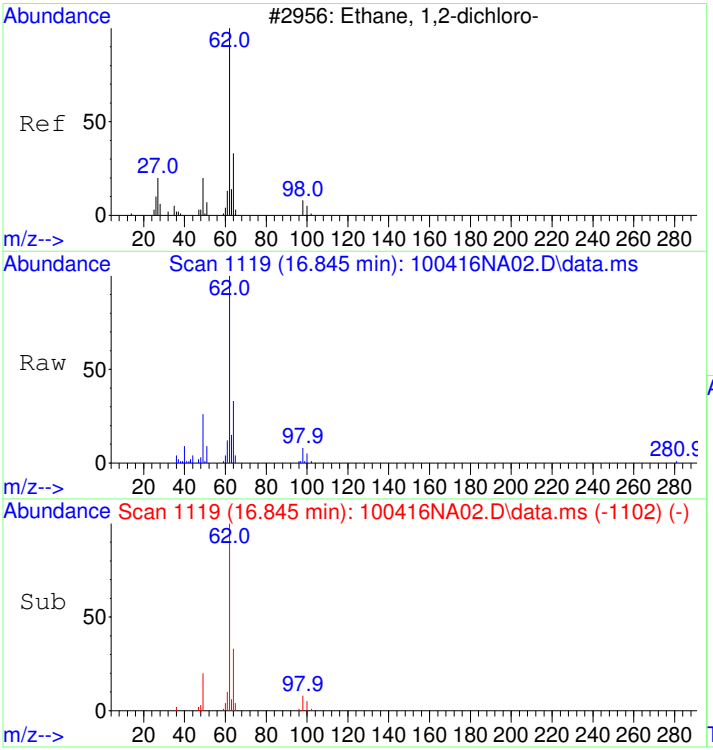


#34
2,2,4-Trimethylpentane
Concen: 0.87 ppbv
RT: 16.596 min Scan# 1098
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 57 Resp: 157360

Ion	Ratio	Lower	Upper
57	100		
41	39.0	9.7	49.7
56	37.8	13.4	53.4

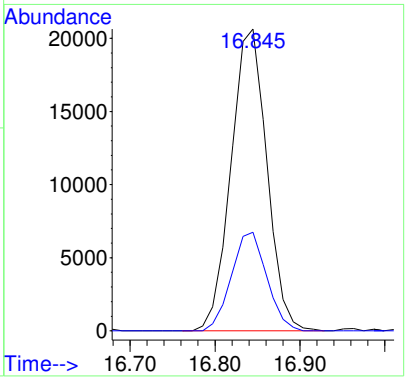


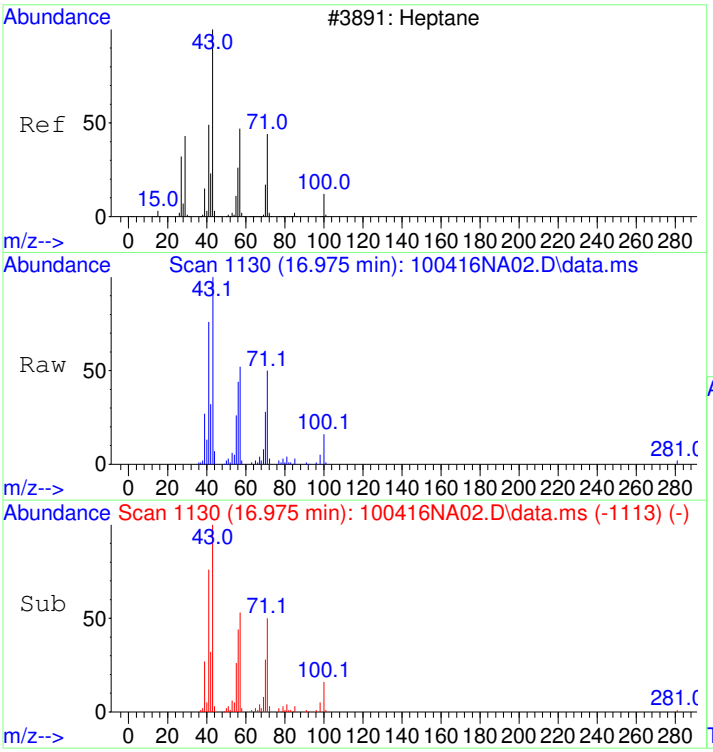


#35
1,2-Dichloroethane
Concen: 1.08 ppbv
RT: 16.845 min Scan# 1119
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 62 Resp: 60597

Ion	Ratio	Lower	Upper
62	100		
64	32.2	12.2	52.2

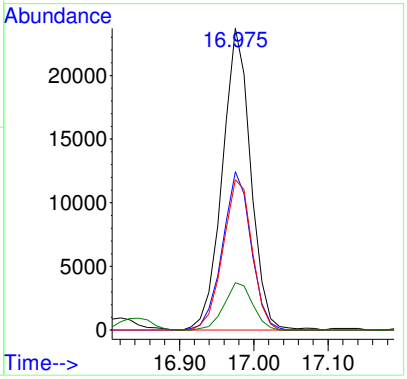


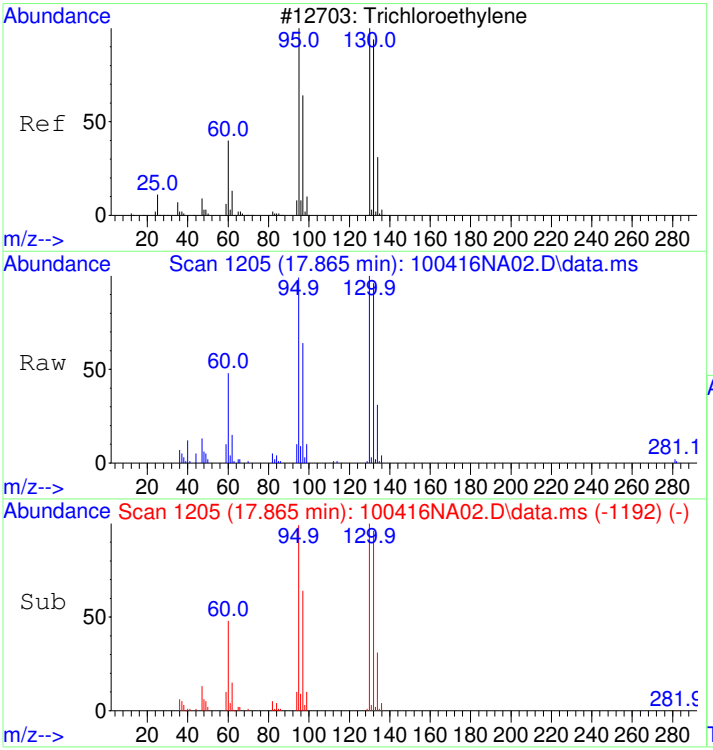


#36
Heptane
Concen: 0.93 ppbv
RT: 16.975 min Scan# 1130
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 43 Resp: 62902

Ion	Ratio	Lower	Upper
43	100		
57	52.8	31.1	71.1
71	50.9	35.2	75.2
100	15.8	0.0	36.6

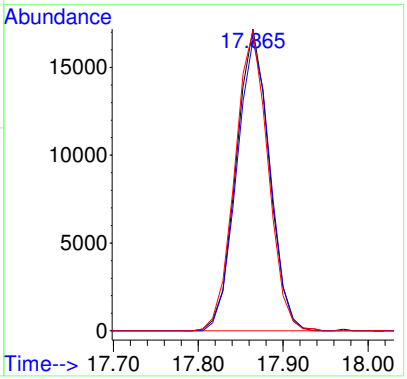


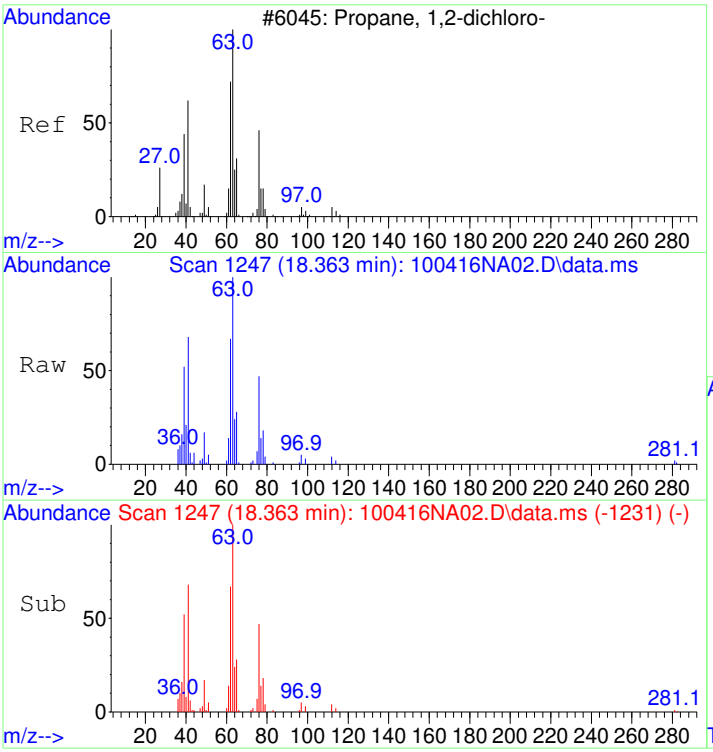


#37
Trichloroethene
Concen: 0.93 ppbv
RT: 17.865 min Scan# 1205
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion:130 Resp: 46672

Ion	Ratio	Lower	Upper
130	100		
132	97.4	76.9	116.9
95	99.7	79.4	119.4

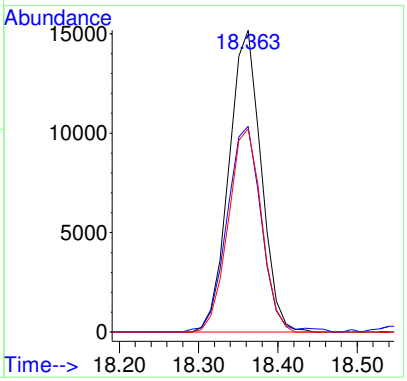


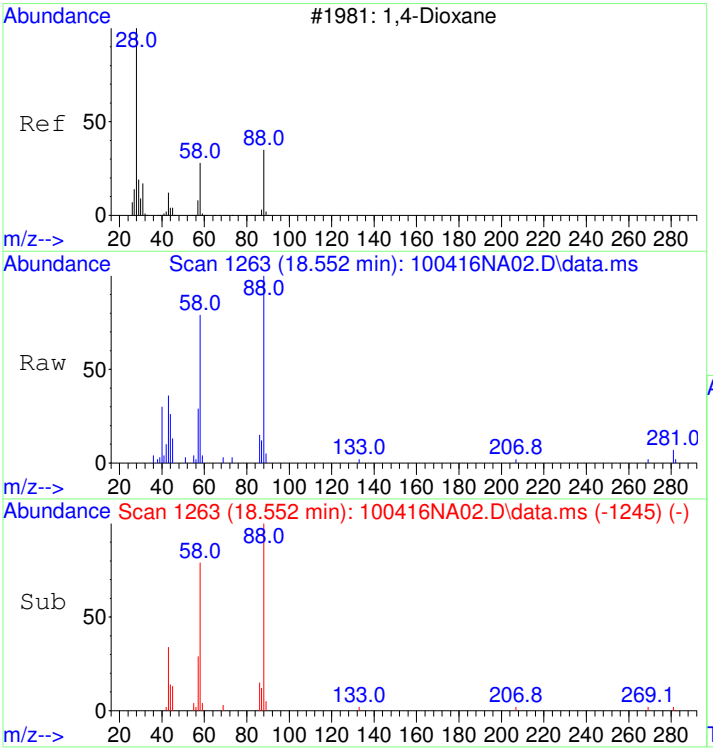


#38
1,2-Dichloropropane
Concen: 1.05 ppbv
RT: 18.363 min Scan# 1247
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 63 Resp: 42975

Ion	Ratio	Lower	Upper
63	100		
41	72.8	45.7	85.7
62	69.1	50.2	90.2

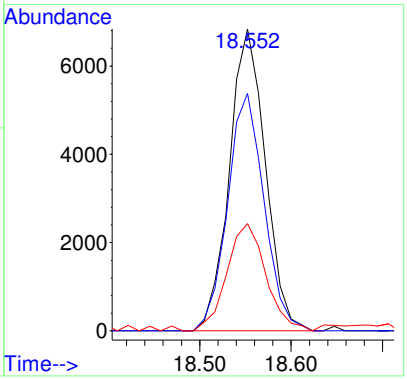


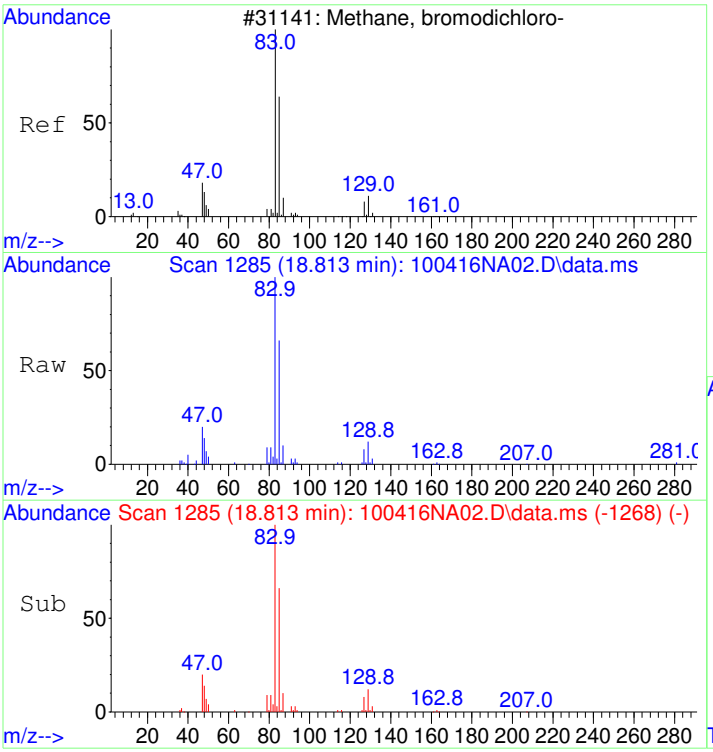


#39
1,4-Dioxane
Concen: 0.70 ppbv
RT: 18.552 min Scan# 1263
Delta R.T. 0.012 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 88 Resp: 18653

Ion	Ratio	Lower	Upper
88	100		
58	79.8	52.5	92.5
43	38.4	10.3	50.3

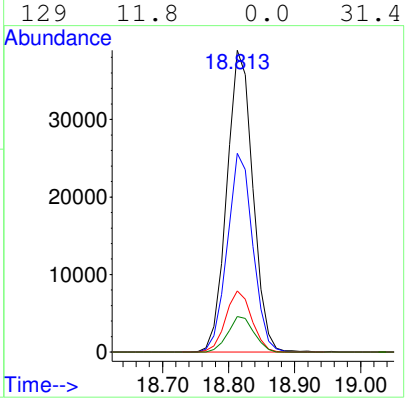


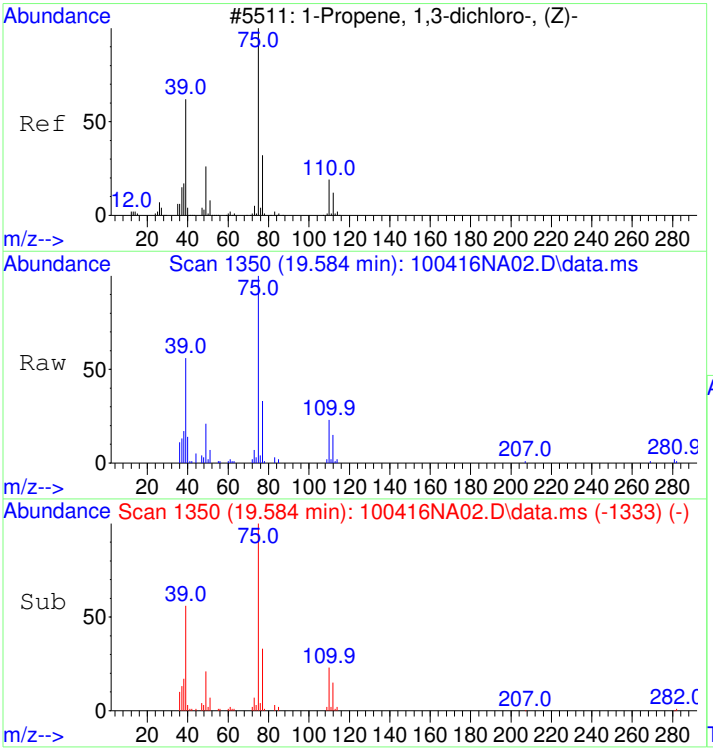


#40
Bromodichloromethane
Concen: 1.20 ppbv
RT: 18.813 min Scan# 1285
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 83 Resp: 106418

Ion	Ratio	Lower	Upper
83	100		
85	64.7	44.4	84.4
47	20.3	0.0	39.6
129	11.8	0.0	31.4

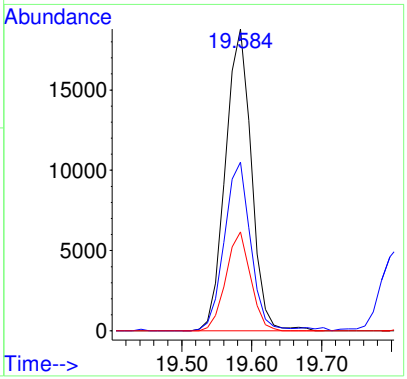


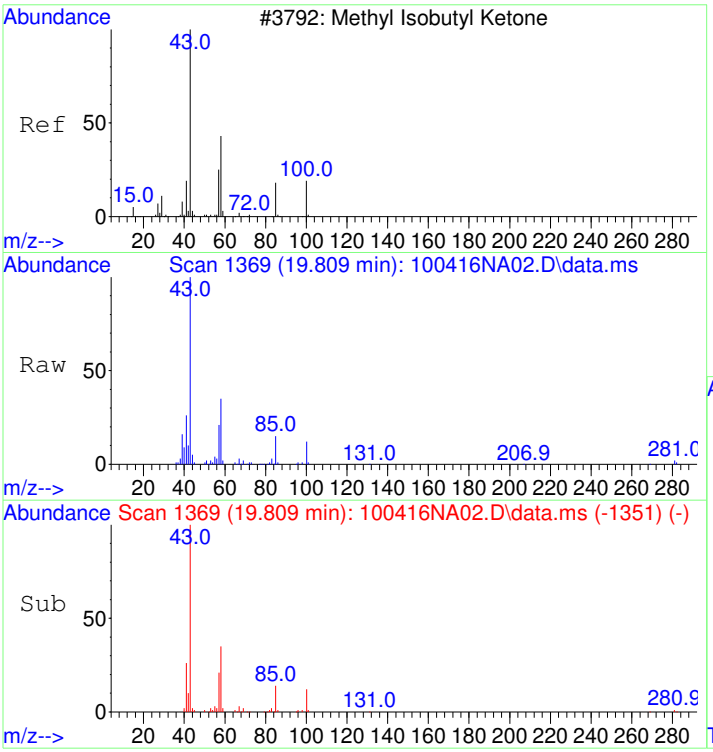


#41
cis-1,3-Dichloropropene
Concen: 0.80 ppbv
RT: 19.584 min Scan# 1350
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 75 Resp: 48499

Ion	Ratio	Lower	Upper
75	100		
39	57.3	34.8	74.8
77	31.2	11.3	51.3

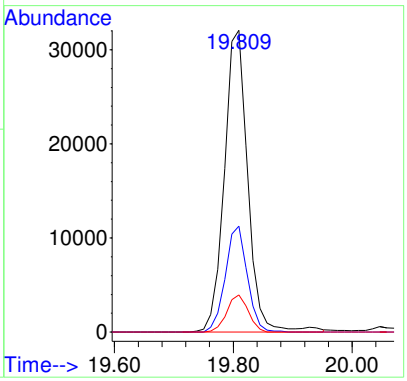


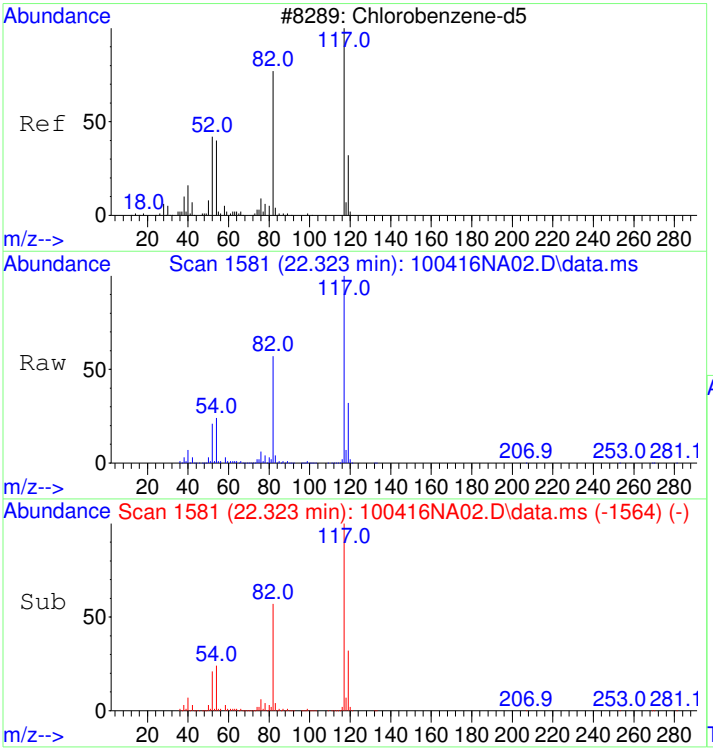


#42
4-Methyl-2-pentanone (MIBK)
Concen: 0.91 ppbv
RT: 19.809 min Scan# 1369
Delta R.T. 0.012 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 43 Resp: 87968

Ion	Ratio	Lower	Upper
43	100		
58	32.8	16.0	56.0
100	11.3	0.0	32.7

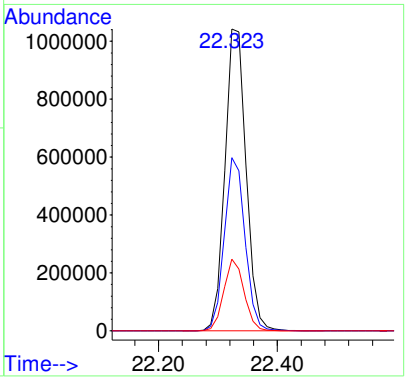


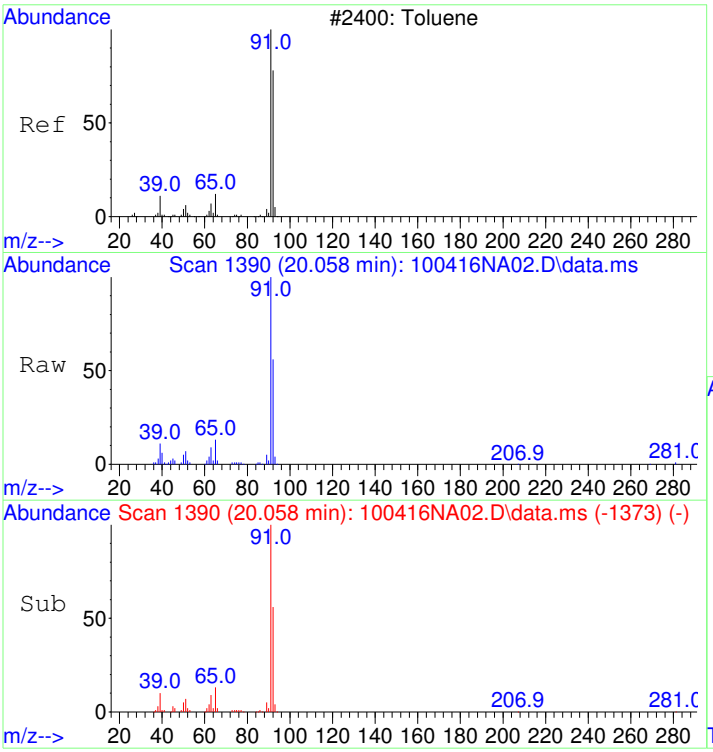


#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.323 min Scan# 1581
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion:117 Resp: 2589903

Ion	Ratio	Lower	Upper
117	100		
82	55.9	35.8	75.8
54	22.8	2.6	42.6

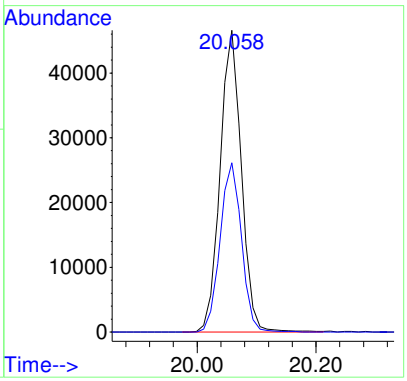


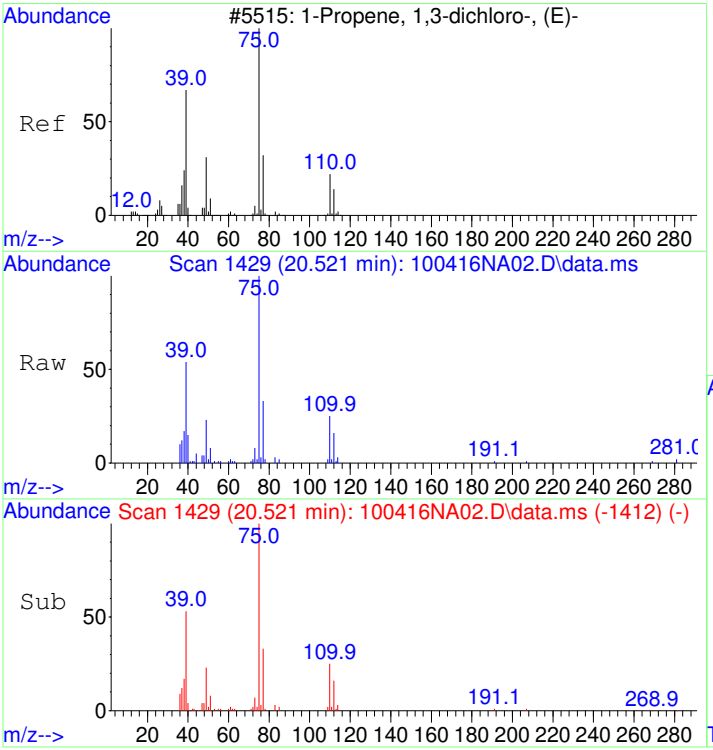


#44
Toluene
Concen: 0.84 ppbv
RT: 20.058 min Scan# 1390
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 91 Resp: 116048

Ion	Ratio	Lower	Upper
91	100		
92	56.4	38.6	78.6

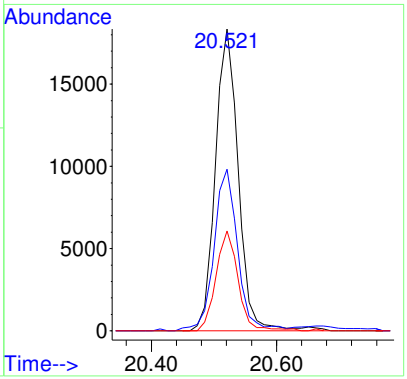


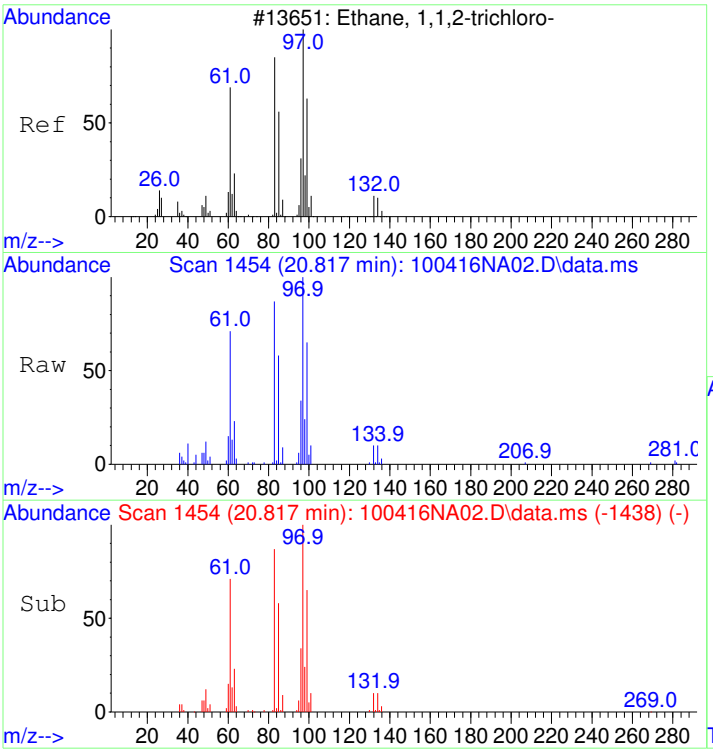


#45
trans-1,3-Dichloropropene
Concen: 0.78 ppbv
RT: 20.521 min Scan# 1429
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 75 Resp: 46954

Ion	Ratio	Lower	Upper
75	100		
39	56.6	31.0	71.0
77	31.9	11.2	51.2

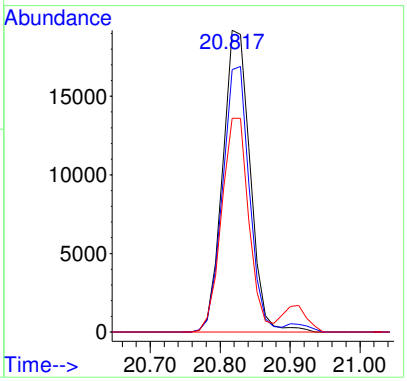


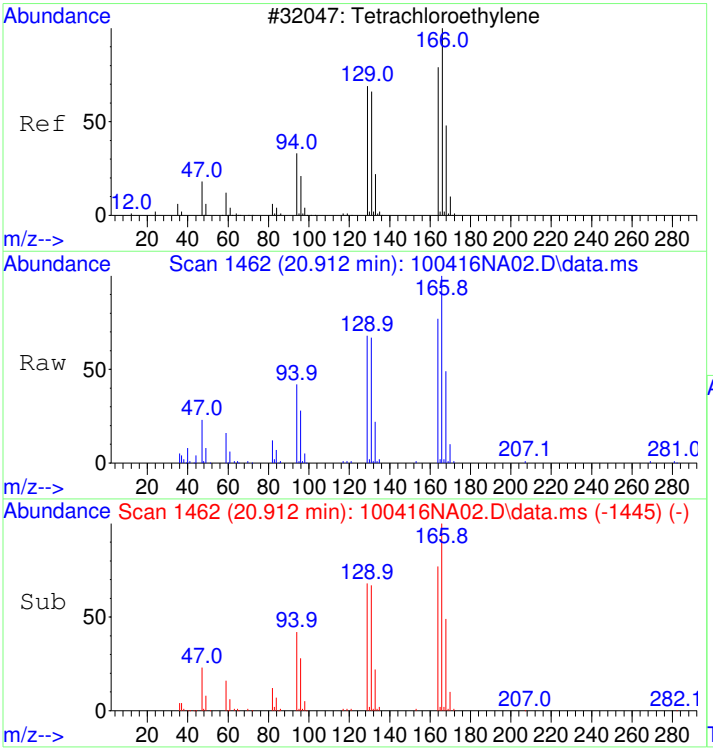


#46
1,1,2-Trichloroethane
Concen: 1.13 ppbv
RT: 20.817 min Scan# 1454
Delta R.T. -0.012 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 97 Resp: 52290

Ion	Ratio	Lower	Upper
97	100		
83	88.0	66.8	106.8
61	66.8	42.2	82.2

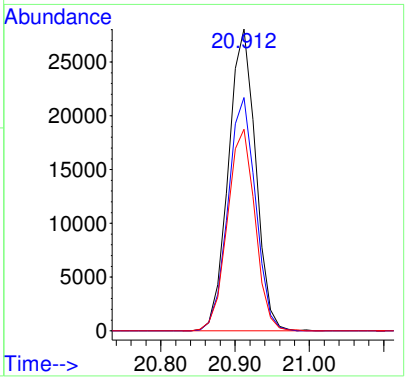


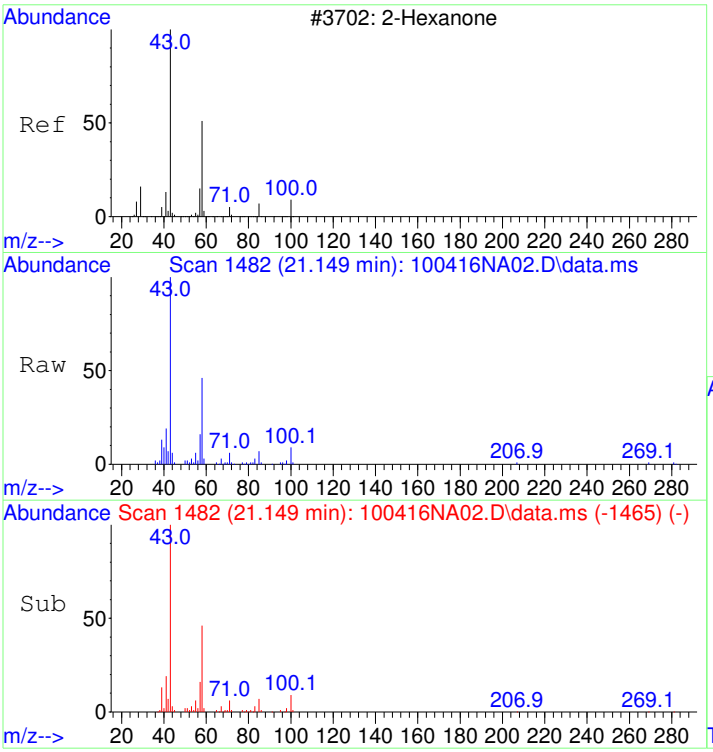


#47
Tetrachloroethene
Concen: 0.95 ppbv
RT: 20.912 min Scan# 1462
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion:166 Resp: 71556

Ion	Ratio	Lower	Upper
166	100		
164	77.9	57.9	97.9
131	67.6	46.4	86.4

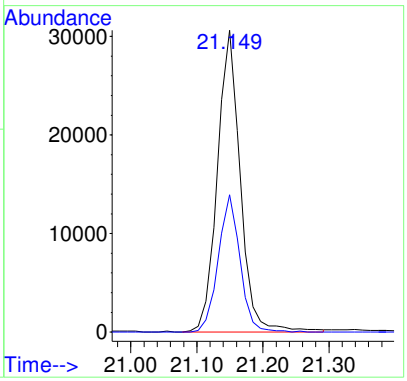


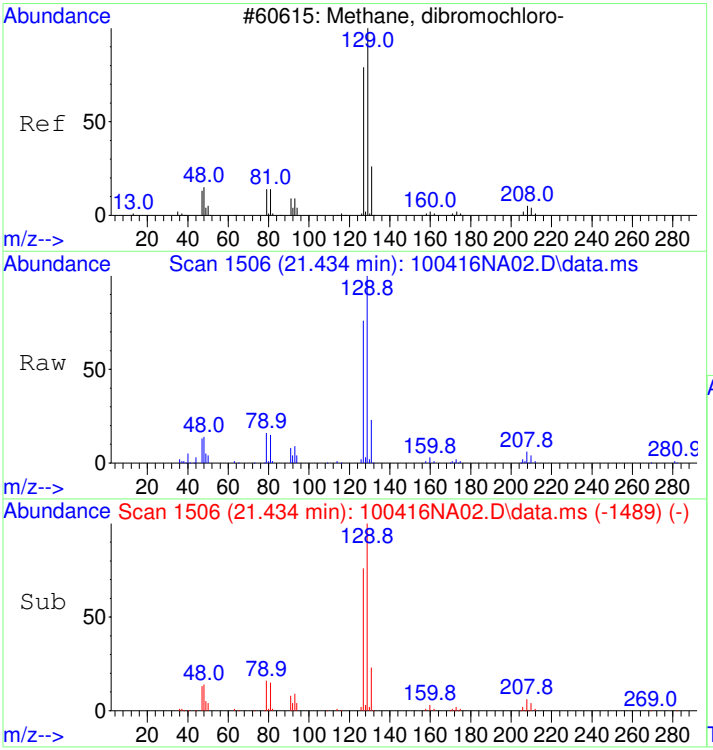


#48
2-Hexanone
Concen: 0.80 ppbv
RT: 21.149 min Scan# 1482
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 43 Resp: 74015

Ion	Ratio	Lower	Upper
43	100		
58	43.0	30.2	70.2

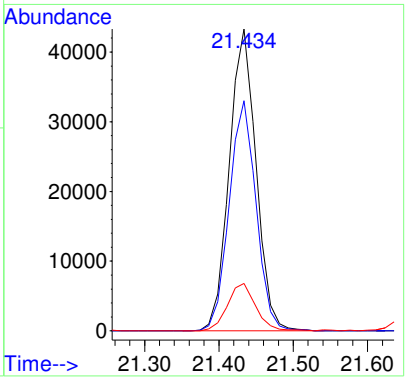


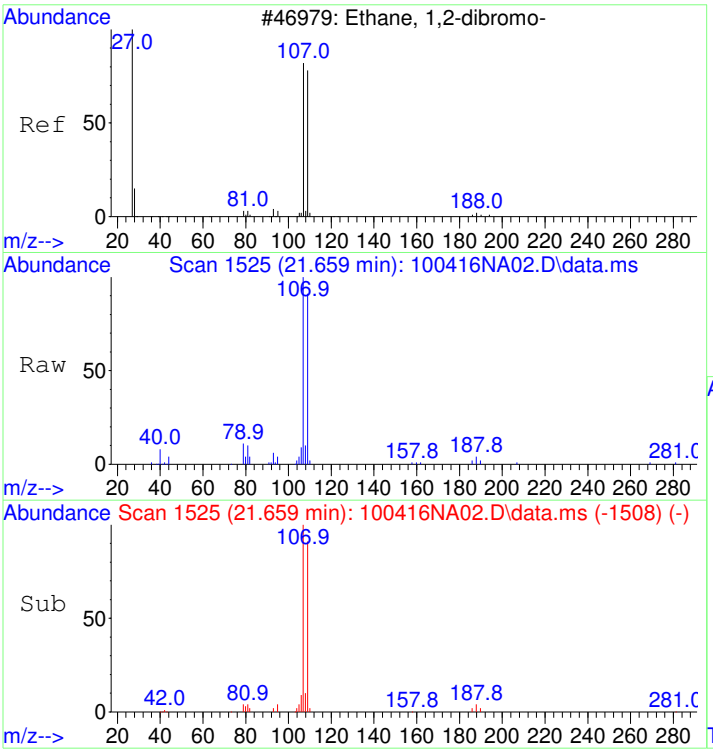


#49
Chlorodibromomethane
Concen: 1.15 ppbv
RT: 21.434 min Scan# 1506
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion:129 Resp: 108381

Ion	Ratio	Lower	Upper
129	100		
127	76.5	56.5	96.5
79	16.6	0.0	35.1

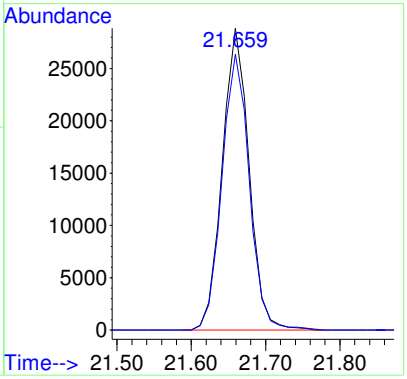


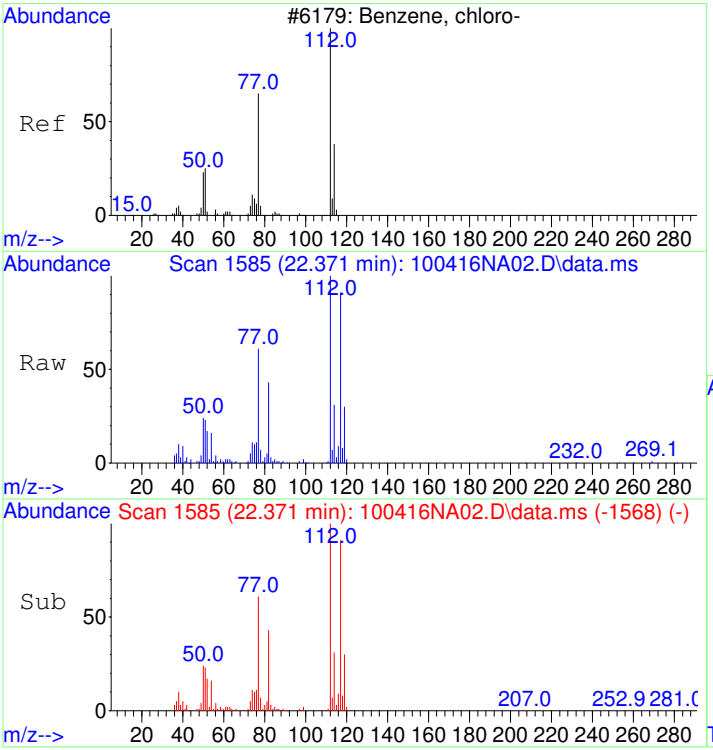


#50
1,2-Dibromoethane (EDB)
Concen: 1.02 ppbv
RT: 21.659 min Scan# 1525
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion:107 Resp: 72059

Ion	Ratio	Lower	Upper
107	100		
109	93.3	74.7	114.7

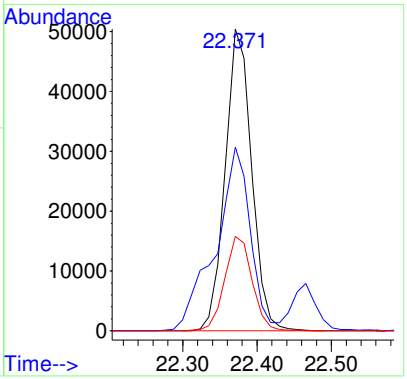


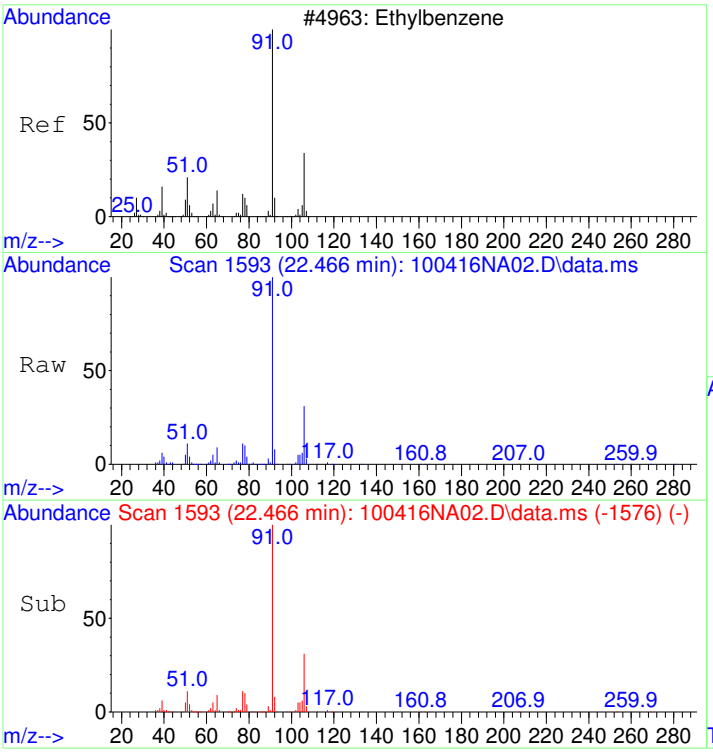


#51
Chlorobenzene
Concen: 1.13 ppbv
RT: 22.371 min Scan# 1585
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion:112 Resp: 124726

Ion	Ratio	Lower	Upper
112	100		
77	80.2	42.7	82.7
114	32.5	12.0	52.0

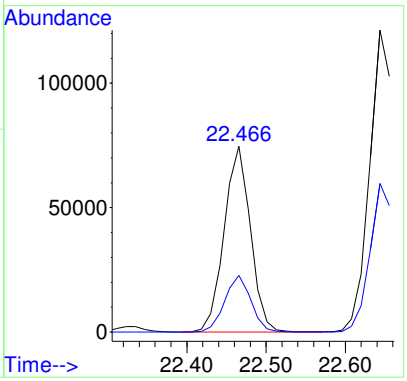


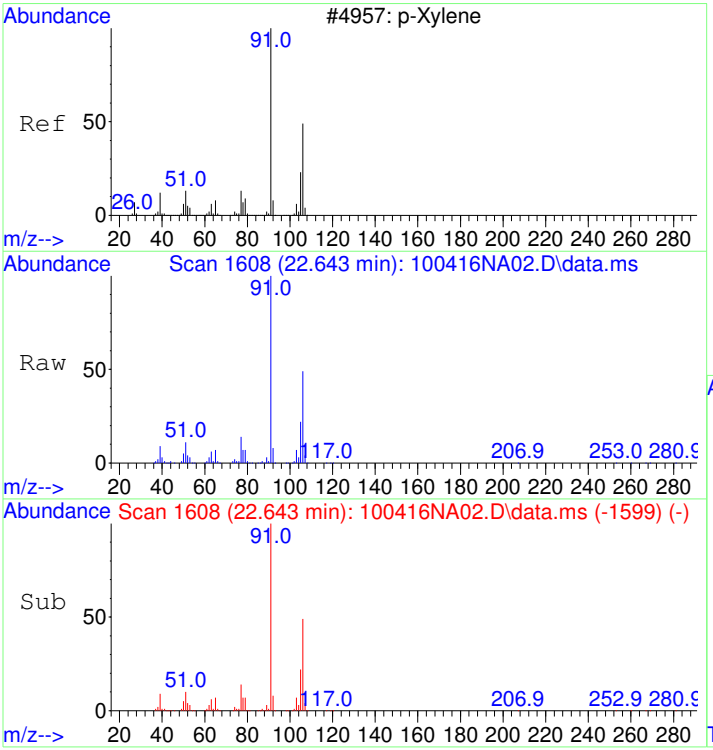


#52
Ethylbenzene
Concen: 0.92 ppbv
RT: 22.466 min Scan# 1593
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 91 Resp: 173103

Ion	Ratio	Lower	Upper
91	100		
106	30.3	11.0	51.0

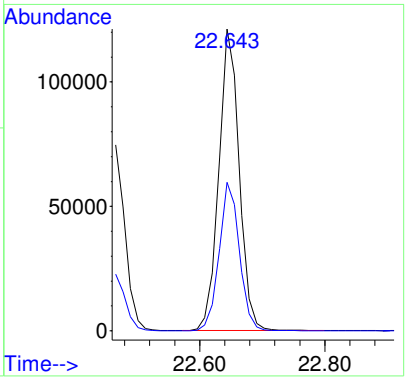


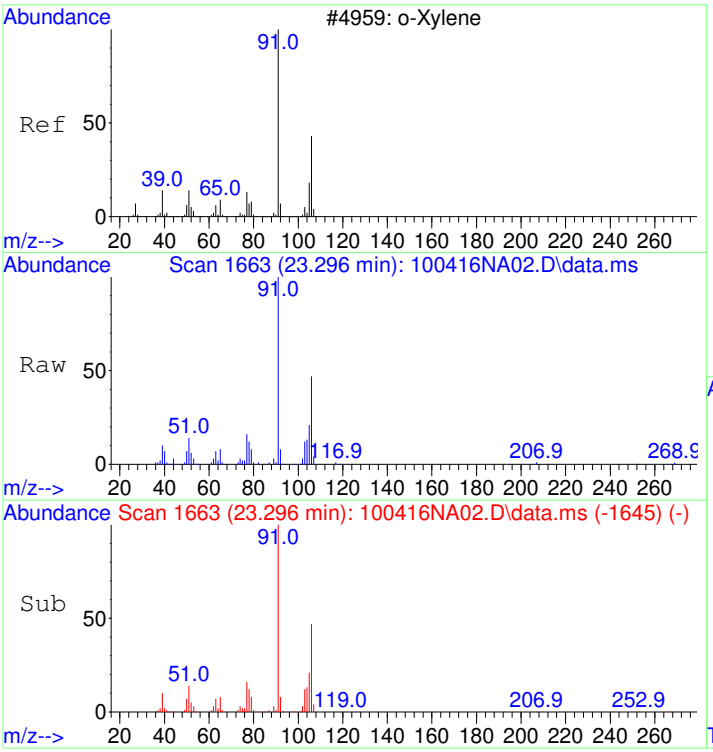


#53
m&p-Xylene
Concen: 1.87 ppbv
RT: 22.643 min Scan# 1608
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 91 Resp: 274966

Ion	Ratio	Lower	Upper
91	100		
106	49.1	29.7	69.7

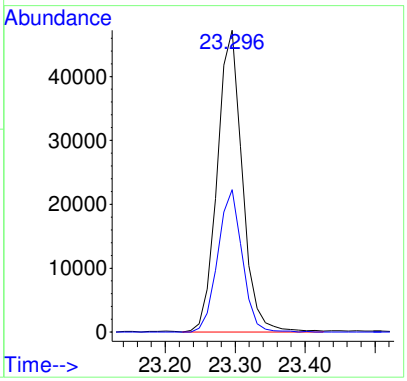


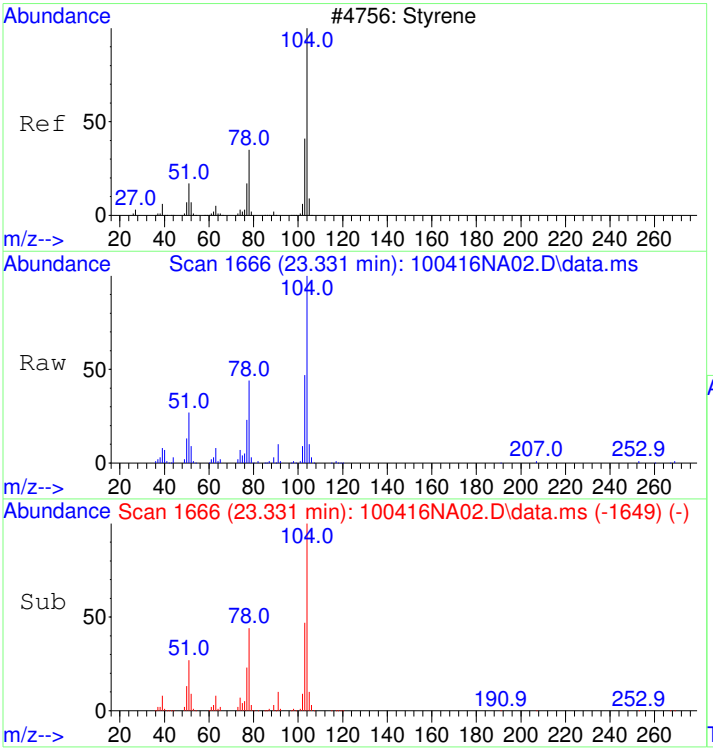


#54
o-Xylene
Concen: 0.79 ppbv
RT: 23.296 min Scan# 1663
Delta R.T. 0.012 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 91 Resp: 117861

Ion	Ratio	Lower	Upper
91	100		
106	45.7	26.8	66.8

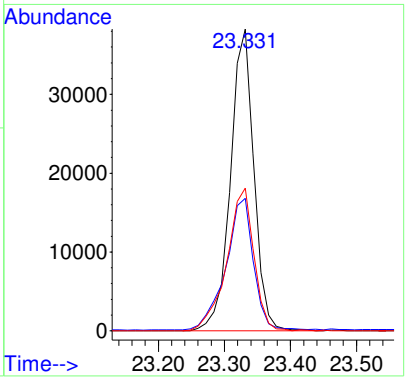


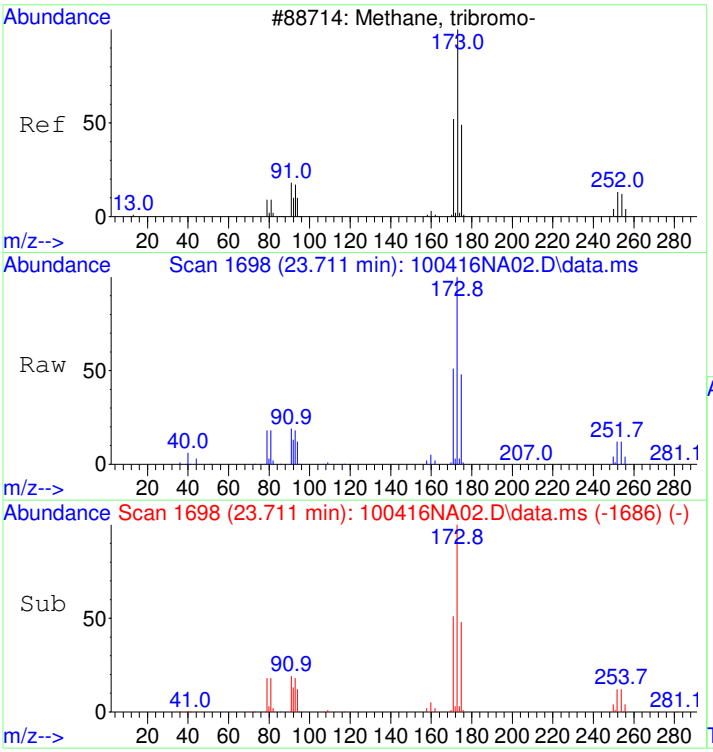


#55
Styrene
Concen: 0.80 ppbv
RT: 23.331 min Scan# 1666
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion:104 Resp: 94397

Ion	Ratio	Lower	Upper
104	100		
78	51.4	31.2	71.2
103	54.7	34.0	74.0

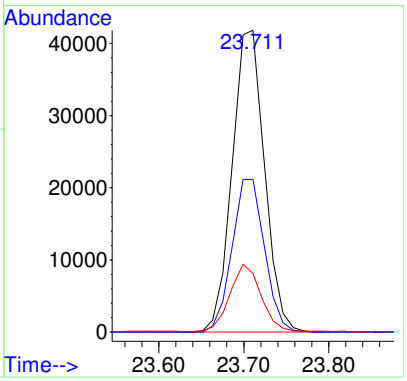


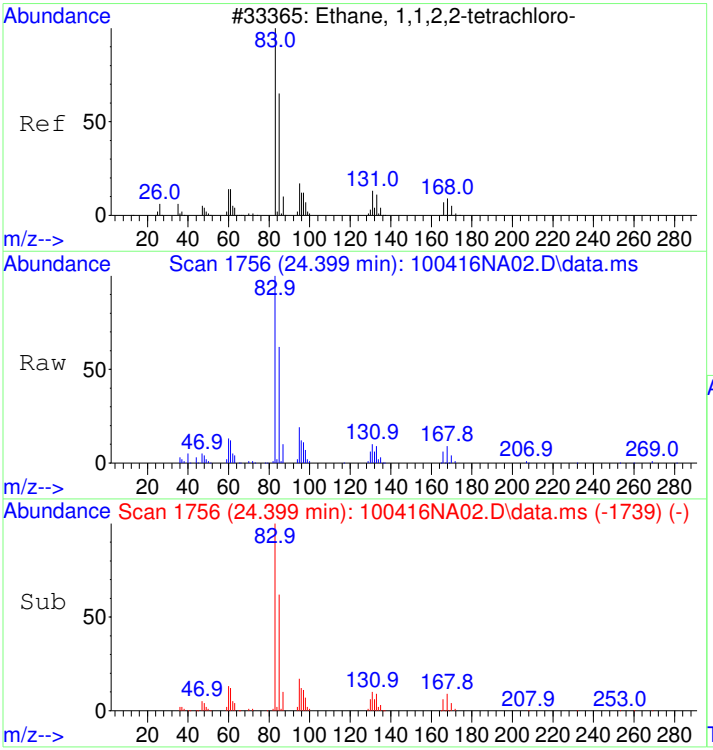


#56
Bromoform
Concen: 1.06 ppbv
RT: 23.711 min Scan# 1698
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion:173 Resp: 111158

Ion	Ratio	Lower	Upper
173	100		
171	50.9	31.6	71.6
91	21.8	0.2	40.2

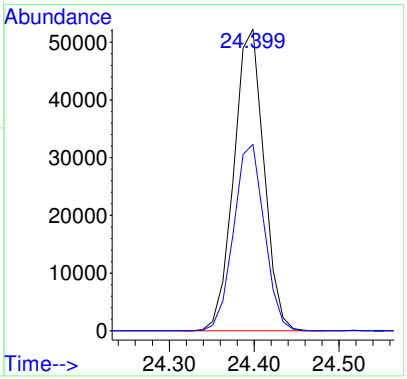


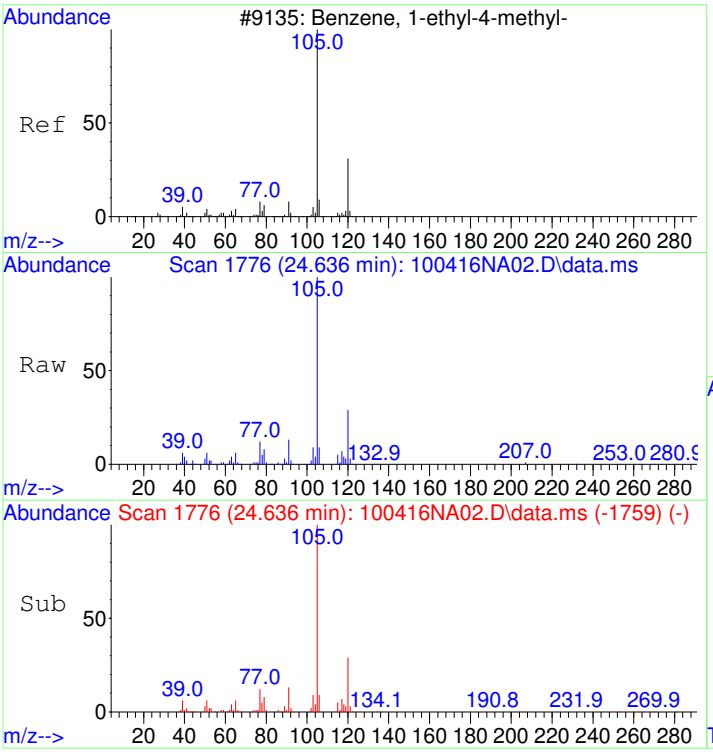


#57
1,1,2,2-Tetrachloroethane
Concen: 1.14 ppbv
RT: 24.399 min Scan# 1756
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 83 Resp: 128940

Ion	Ratio	Lower	Upper
83	100		
85	62.9	44.5	84.5

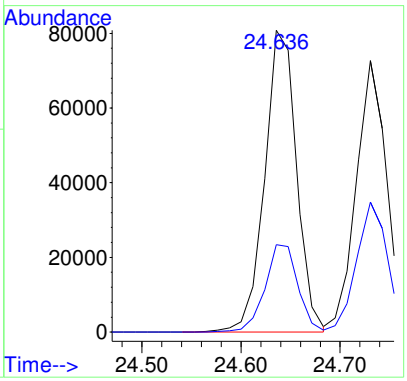


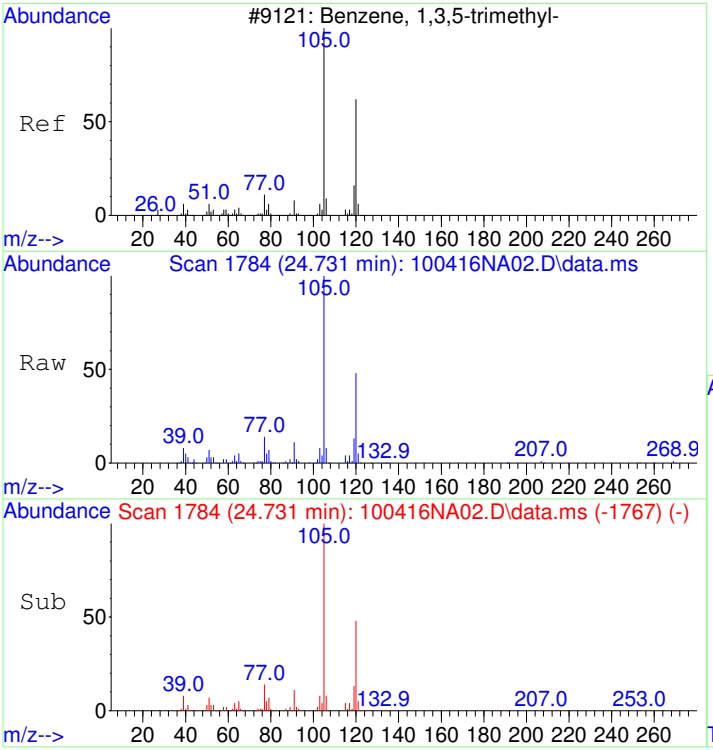


#58
4-Ethyltoluene
Concen: 0.76 ppbv
RT: 24.636 min Scan# 1776
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion:105 Resp: 180833

Ion	Ratio	Lower	Upper
105	100		
120	29.9	9.8	49.8

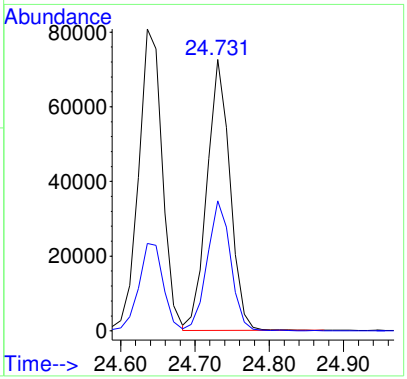


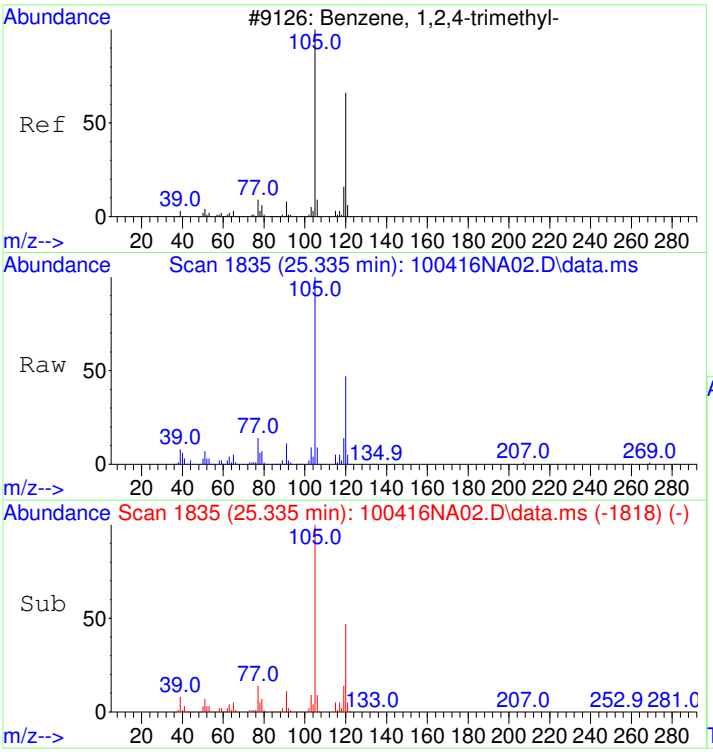


#59
1,3,5-Trimethylbenzene
Concen: 0.83 ppbv
RT: 24.731 min Scan# 1784
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion:105 Resp: 155892

Ion	Ratio	Lower	Upper
105	100		
120	49.1	29.4	69.4

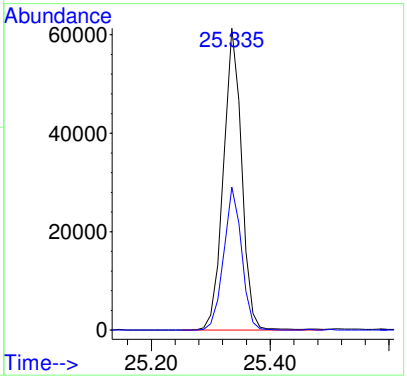


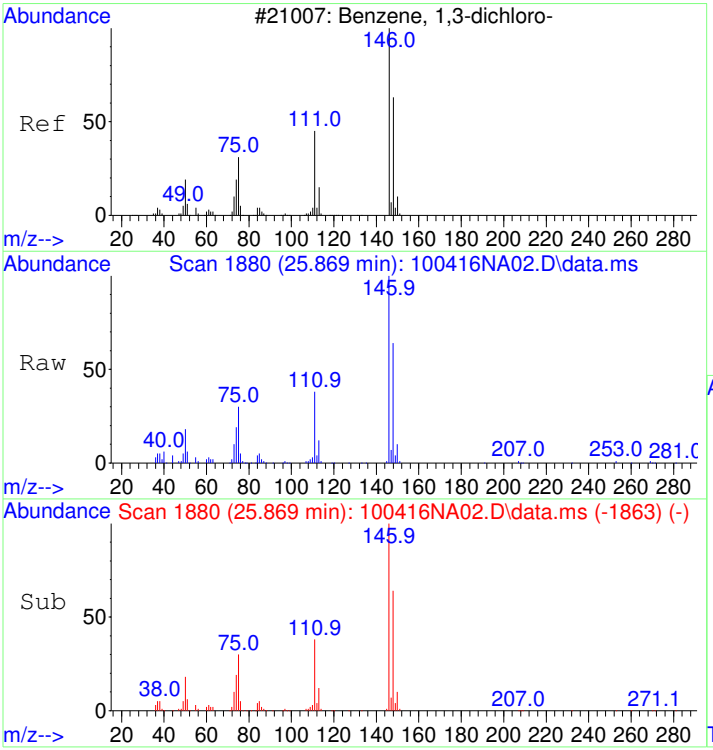


#60
1,2,4-Trimethylbenzene
Concen: 0.68 ppbv
RT: 25.335 min Scan# 1835
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion:105 Resp: 131336

Ion	Ratio	Lower	Upper
105	100		
120	46.4	25.9	65.9

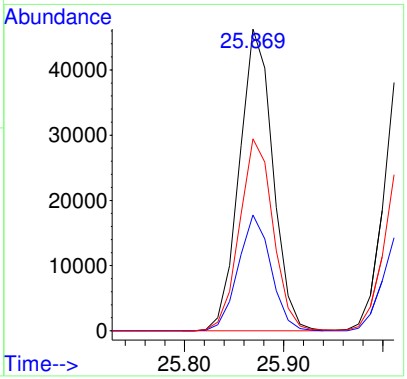


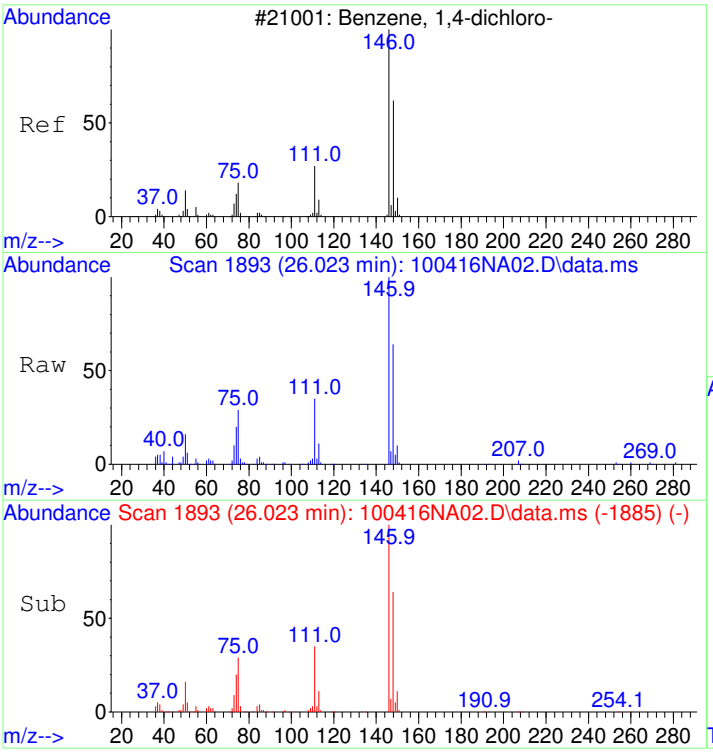


#61
1,3-Dichlorobenzene
Concen: 0.80 ppbv
RT: 25.869 min Scan# 1880
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion:146 Resp: 108820

Ion	Ratio	Lower	Upper
146	100		
111	37.5	18.0	58.0
148	63.9	44.2	84.2

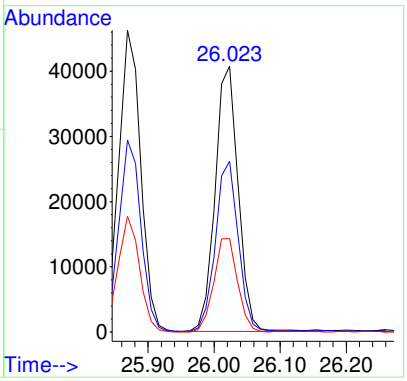


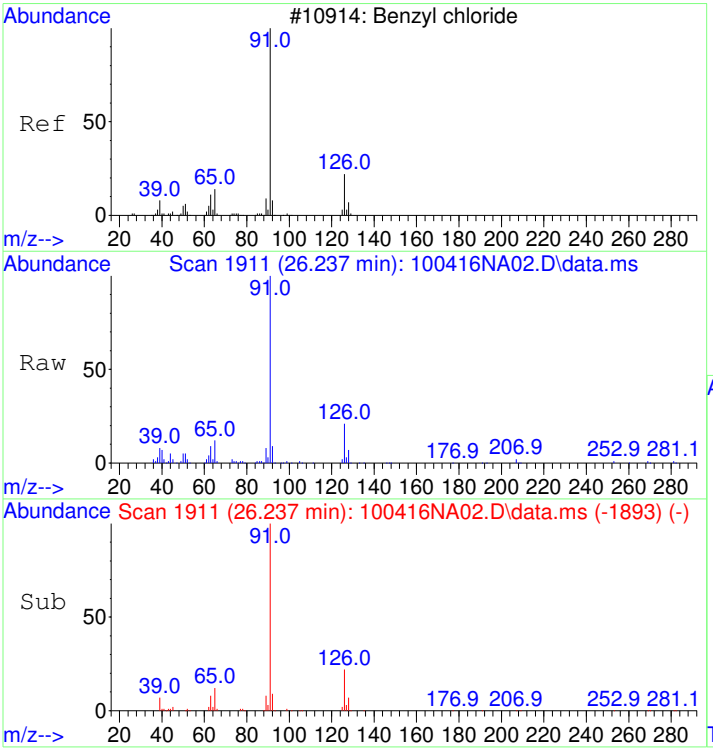


#62
1,4-Dichlorobenzene
Concen: 0.75 ppbv
RT: 26.023 min Scan# 1893
Delta R.T. 0.012 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion:146 Resp: 98869

Ion	Ratio	Lower	Upper
146	100		
148	63.4	44.0	84.0
111	36.3	16.4	56.4

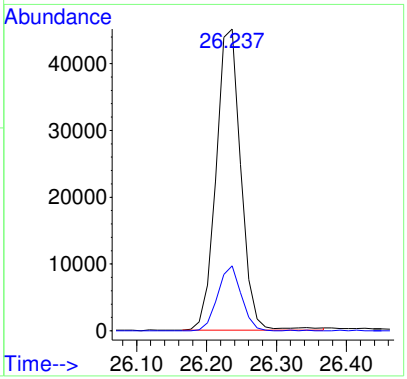


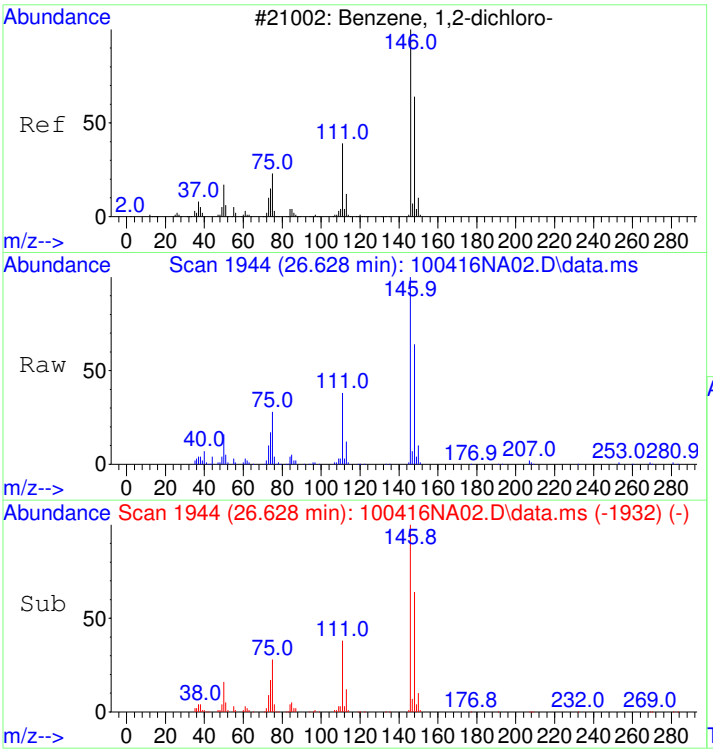


#63
Benzyl chloride
Concen: 0.72 ppbv
RT: 26.237 min Scan# 1911
Delta R.T. 0.012 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion: 91 Resp: 111100

Ion	Ratio	Lower	Upper
91	100		
126	20.6	0.1	40.1

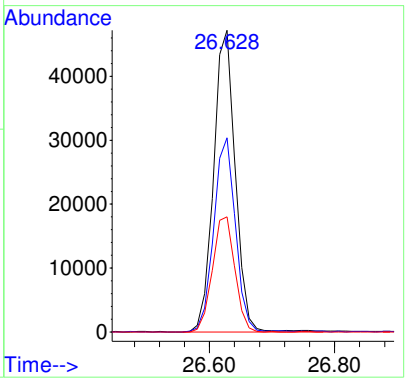


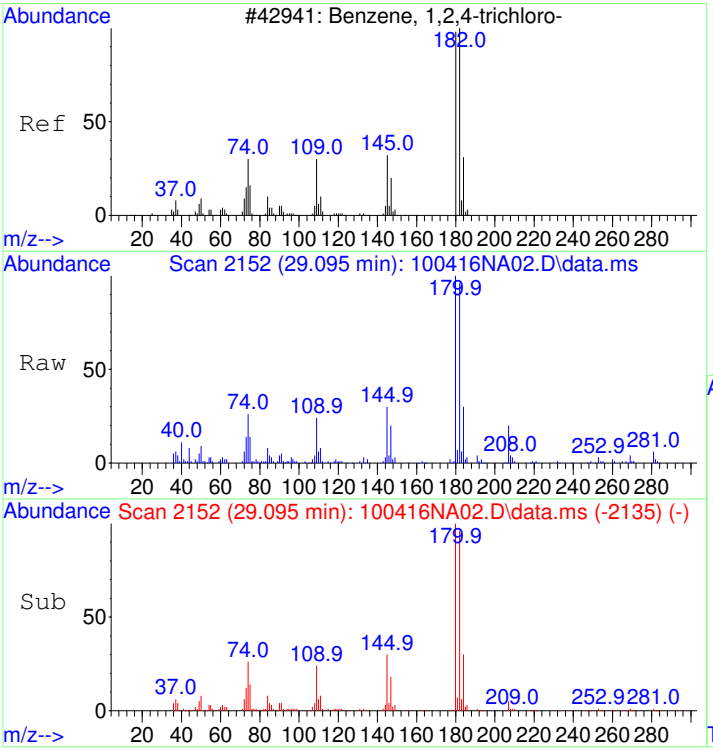


#64
1,2-Dichlorobenzene
Concen: 0.83 ppbv
RT: 26.628 min Scan# 1944
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion:146 Resp: 114502

Ion	Ratio	Lower	Upper
146	100		
148	64.7	44.2	84.2
111	39.3	19.2	59.2

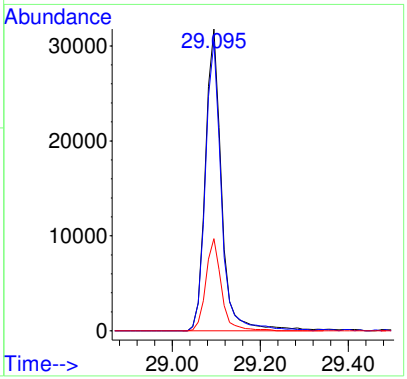


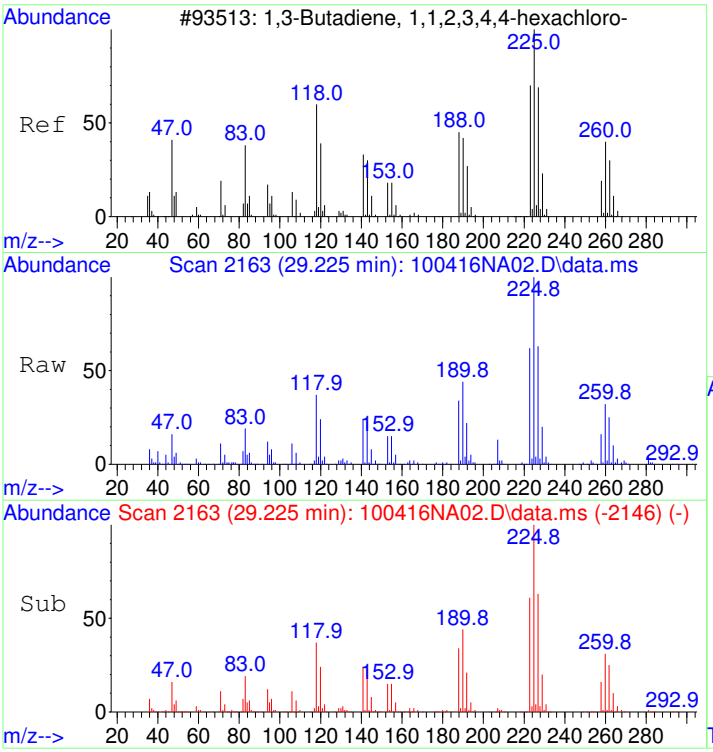


#65
1,2,4-Trichlorobenzene
Concen: 0.66 ppbv
RT: 29.095 min Scan# 2152
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion:180 Resp: 81573

Ion	Ratio	Lower	Upper
180	100		
182	94.5	75.4	115.4
184	29.2	10.6	50.6

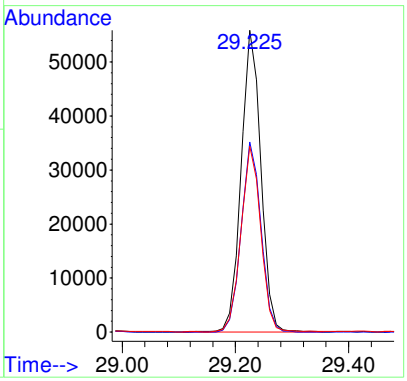




#66
Hexachlorobutadiene
Concen: 0.97 ppbv
RT: 29.225 min Scan# 2163
Delta R.T. -0.000 min
Lab File: 100416NA02.D
Acq: 4 Oct 2016 4:02 pm

Tgt Ion:225 Resp: 135696

Ion	Ratio	Lower	Upper
225	100		
227	62.9	44.4	84.4
223	62.2	42.2	82.2



S16J013-CAL2

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\100416_FSAAA\
Data File : 100416NA03.D
Acq On : 4 Oct 2016 4:48 pm
InstName : AG5973N
Operator : LLH
Sample : S16J013-CAL2
Misc : 2.0ppbv 1638116
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Oct 05 13:08:37 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:08:28 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.469	49	1076910	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	3150151	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.323	117	2659729	20.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.452	41	69639	2.14	ppbv	98
3) Dichlorodifluoromethane	4.547	85	261231	2.05	ppbv	99
4) 1,2-Dichlorotetrafluor...	4.903	85	251573	2.07	ppbv	99
5) Chloromethane	5.105	50	82943	2.25	ppbv	99
6) Vinyl chloride	5.425	62	83584	2.17	ppbv	100
7) 1,3-Butadiene	5.520	54	60659	2.02	ppbv	98
8) Bromomethane	6.457	94	79239	2.13	ppbv	100
9) Chloroethane	6.789	64	39836	2.10	ppbv	97
10) Bromoethene	7.358	106	64188	1.87	ppbv	100
11) Trichlorofluoromethane	7.500	101	233778	1.99	ppbv	99
12) 1,1,2-Trichloro-1,2,2-...	9.338	151	148429	1.96	ppbv	100
13) 1,1-Dichloroethene	9.421	61	96704	1.63	ppbv	99
14) Acetone	9.967	43	131409	2.19	ppbv	99
15) Carbon disulfide	10.145	76	218120	2.19	ppbv	99
16) 2-Propanol	10.571	45	88837	1.65	ppbv	66
17) Allyl chloride	10.951	41	78689	1.72	ppbv	99
18) Dichloromethane	11.485	49	121976	2.26	ppbv	100
19) tert-Butyl methyl ethe...	12.160	73	169733	1.66	ppbv	98
20) trans-1,2-Dichloroethene	12.184	61	117966	2.14	ppbv	100
21) Hexane	12.777	57	98356	1.64	ppbv	88
22) 1,1-Dichloroethane	13.512	63	147157	1.93	ppbv	99
23) Vinyl acetate	13.655	43	128946	1.46	ppbv	99
24) cis-1,2-Dichloroethene	14.935	61	83472	1.64	ppbv	98
25) 2-Butanone (MEK)	15.030	72	39172	2.08	ppbv #	1
26) Ethyl acetate	15.078	61	28677	2.25	ppbv #	100
27) Tetrahydrofuran	15.481	42	100058	2.12	ppbv	98
28) Chloroform	15.623	83	193795	2.07	ppbv	100
29) Cyclohexane	15.860	56	111231	1.79	ppbv	96
30) 1,1,1-Trichloroethane	15.896	97	208311	1.98	ppbv	99
31) Carbon tetrachloride	16.157	117	219572	1.95	ppbv	100
33) Benzene	16.643	78	281853	2.33	ppbv	99
34) 2,2,4-Trimethylpentane	16.596	57	363675	2.06	ppbv	92
35) 1,2-Dichloroethane	16.833	62	129213	2.26	ppbv	100
36) Heptane	16.975	43	147319	2.20	ppbv	97
37) Trichloroethene	17.864	130	102365	2.06	ppbv	99
38) 1,2-Dichloropropane	18.362	63	91773	2.20	ppbv	96
39) 1,4-Dioxane	18.552	88	54160	2.10	ppbv	93
40) Bromodichloromethane	18.813	83	217180	2.39	ppbv	99
41) cis-1,3-Dichloropropene	19.584	75	119205	1.98	ppbv	99
42) 4-Methyl-2-pentanone (...	19.797	43	221241	2.29	ppbv	97
44) Toluene	20.058	91	284458	2.05	ppbv	98
45) trans-1,3-Dichloropropene	20.521	75	122137	2.01	ppbv	97
46) 1,1,2-Trichloroethane	20.817	97	113956	2.34	ppbv	99
47) Tetrachloroethene	20.912	166	163960	2.14	ppbv	99
48) 2-Hexanone	21.149	43	208545	2.24	ppbv	94
49) Chlorodibromomethane	21.434	129	222315	2.26	ppbv	99
50) 1,2-Dibromoethane (EDB)	21.659	107	165291	2.26	ppbv	98
51) Chlorobenzene	22.371	112	276929	2.40	ppbv	94
52) Ethylbenzene	22.465	91	413418	2.15	ppbv	100
53) m&p-Xylene	22.643	91	679293	4.49	ppbv	99
54) o-Xylene	23.296	91	310210	2.07	ppbv	98

Data Path : D:\msdchem\1\2016\data\100416_FSAAA\
Data File : 100416NA03.D
Acq On : 4 Oct 2016 4:48 pm
InstName : AG5973N
Operator : LLH
Sample : S16J013-CAL2
Misc : 2.0ppbv 1638116
ALS Vial : 32 Sample Multiplier: 1

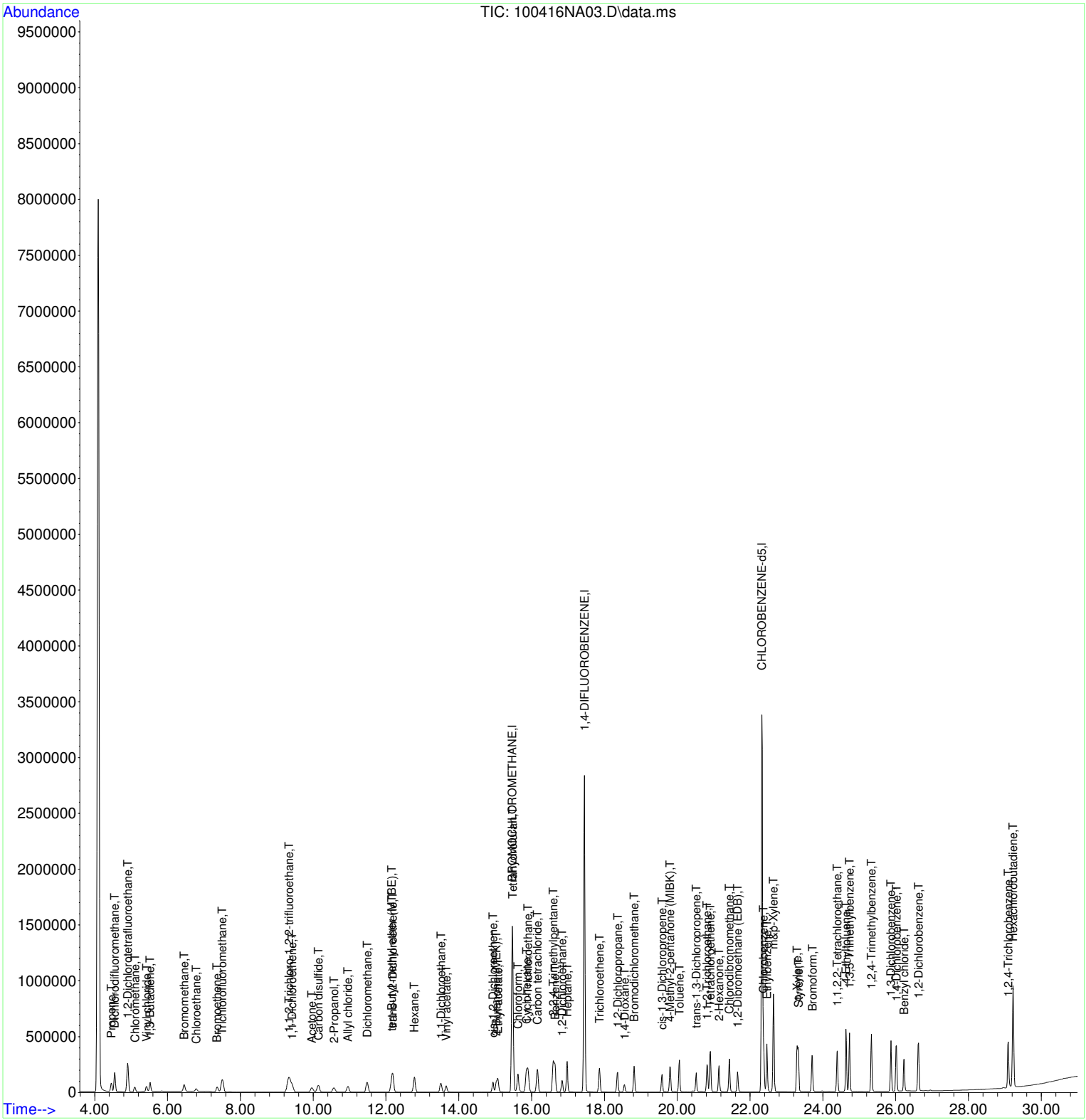
Quant Time: Oct 05 13:08:37 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:08:28 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55) Styrene	23.331	104	252291	2.11	ppbv	99
56) Bromoform	23.711	173	239267	2.19	ppbv	98
57) 1,1,2,2-Tetrachloroethane	24.398	83	272736	2.30	ppbv	99
58) 4-Ethyltoluene	24.636	105	457338	1.96	ppbv	100
59) 1,3,5-Trimethylbenzene	24.730	105	391452	2.07	ppbv	99
60) 1,2,4-Trimethylbenzene	25.335	105	364532	1.93	ppbv	100
61) 1,3-Dichlorobenzene	25.869	146	267688	1.98	ppbv	99
62) 1,4-Dichlorobenzene	26.023	146	256867	1.97	ppbv	99
63) Benzyl chloride	26.237	91	304519	1.99	ppbv	99
64) 1,2-Dichlorobenzene	26.628	146	275792	2.01	ppbv	99
65) 1,2,4-Trichlorobenzene	29.094	180	207311	1.72	ppbv	99
66) Hexachlorobutadiene	29.225	225	278598	1.98	ppbv	100

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

Data Path : D:\msdchem\1\2016\data\100416_FSAAA\
Data File : 100416NA03.D
Acq On : 4 Oct 2016 4:48 pm
InstName : AG5973N
Operator : LLH
Sample : S16J013-CAL2
Misc : 2.0ppbv 1638116
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Oct 05 13:08:37 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:08:28 2016
Response via : Initial Calibration



S16J013-CAL3

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\100416_FSAAA\
Data File : 100416NA04.D
Acq On : 4 Oct 2016 5:34 pm
InstName : AG5973N
Operator : LLH
Sample : S16J013-CAL3
Misc : 5.0ppbv 1638117
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Oct 05 13:09:26 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:09:21 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.469	49	1096751	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	3204023	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.335	117	2694201	20.00	ppbv	0.01
Target Compounds						Qvalue
2) Propene	4.464	41	162934	5.08	ppbv	99
3) Dichlorodifluoromethane	4.559	85	579335	4.52	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.915	85	558943	4.63	ppbv	99
5) Chloromethane	5.105	50	184345	5.03	ppbv	99
6) Vinyl chloride	5.437	62	188295	4.91	ppbv	100
7) 1,3-Butadiene	5.532	54	140129	4.72	ppbv	98
8) Bromomethane	6.468	94	175223	4.74	ppbv	99
9) Chloroethane	6.801	64	88232	4.68	ppbv	98
10) Bromoethene	7.370	106	151934	4.66	ppbv	100
11) Trichlorofluoromethane	7.512	101	520481	4.50	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.350	151	333026	4.53	ppbv	99
13) 1,1-Dichloroethene	9.433	61	243960	4.39	ppbv	100
14) Acetone	9.967	43	298627	4.94	ppbv	100
15) Carbon disulfide	10.156	76	497064	5.09	ppbv	100
16) 2-Propanol	10.572	45	223609	4.42	ppbv	85
17) Allyl chloride	10.963	41	209525	4.86	ppbv	99
18) Dichloromethane	11.485	49	245035	4.55	ppbv	99
19) tert-Butyl methyl ethe...	12.161	73	446575	4.48	ppbv	99
20) trans-1,2-Dichloroethene	12.196	61	281762	5.22	ppbv	98
21) Hexane	12.789	57	269549	4.78	ppbv	96
22) 1,1-Dichloroethane	13.512	63	338675	4.56	ppbv	100
23) Vinyl acetate	13.655	43	377032	4.48	ppbv	100
24) cis-1,2-Dichloroethene	14.947	61	219674	4.59	ppbv	100
25) 2-Butanone (MEK)	15.030	72	94221	4.98	ppbv #	1
26) Ethyl acetate	15.078	61	64593	4.98	ppbv #	99
27) Tetrahydrofuran	15.481	42	234430	4.93	ppbv	98
28) Chloroform	15.623	83	434669	4.69	ppbv	100
29) Cyclohexane	15.860	56	297926	5.00	ppbv	99
30) 1,1,1-Trichloroethane	15.908	97	470975	4.54	ppbv	100
31) Carbon tetrachloride	16.157	117	495616	4.46	ppbv	99
33) Benzene	16.643	78	643532	5.25	ppbv	100
34) 2,2,4-Trimethylpentane	16.596	57	955330	5.45	ppbv	97
35) 1,2-Dichloroethane	16.845	62	295134	5.08	ppbv	99
36) Heptane	16.975	43	380602	5.61	ppbv	99
37) Trichloroethene	17.864	130	248776	5.08	ppbv	100
38) 1,2-Dichloropropane	18.363	63	218014	5.15	ppbv	97
39) 1,4-Dioxane	18.552	88	136338	5.43	ppbv	97
40) Bromodichloromethane	18.813	83	492437	5.26	ppbv	100
41) cis-1,3-Dichloropropene	19.584	75	316559	5.28	ppbv	99
42) 4-Methyl-2-pentanone (...	19.797	43	539495	5.59	ppbv	99
44) Toluene	20.058	91	722523	5.22	ppbv	99
45) trans-1,3-Dichloropropene	20.521	75	317297	5.19	ppbv	100
46) 1,1,2-Trichloroethane	20.829	97	263075	5.24	ppbv	98
47) Tetrachloroethene	20.912	166	388474	5.03	ppbv	99
48) 2-Hexanone	21.149	43	511981	5.65	ppbv	98
49) Chlorodibromomethane	21.434	129	516202	5.12	ppbv	100
50) 1,2-Dibromoethane (EDB)	21.659	107	389928	5.27	ppbv	100
51) Chlorobenzene	22.371	112	629505	5.28	ppbv	99
52) Ethylbenzene	22.466	91	1018952	5.23	ppbv	100
53) m&p-Xylene	22.643	91	1652580	10.71	ppbv	99
54) o-Xylene	23.284	91	789767	5.25	ppbv	100

Data Path : D:\msdchem\1\2016\data\100416_FSAAA\
Data File : 100416NA04.D
Acq On : 4 Oct 2016 5:34 pm
InstName : AG5973N
Operator : LLH
Sample : S16J013-CAL3
Misc : 5.0ppbv 1638117
ALS Vial : 32 Sample Multiplier: 1

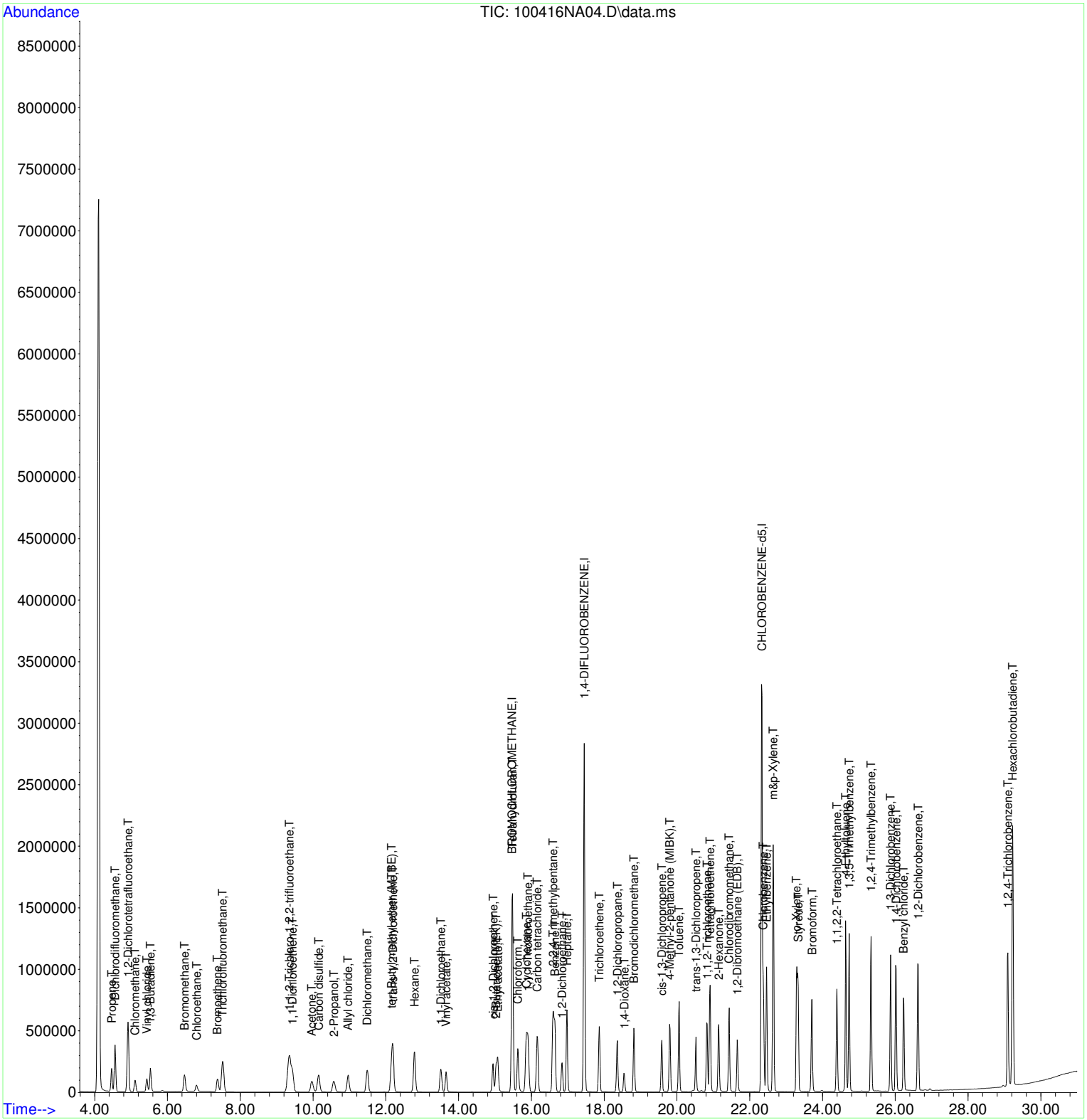
Quant Time: Oct 05 13:09:26 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:09:21 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55) Styrene	23.331	104	626052	5.17	ppbv	100
56) Bromoform	23.711	173	551119	4.95	ppbv	99
57) 1,1,2,2-Tetrachloroethane	24.399	83	611721	5.09	ppbv	100
58) 4-Ethyltoluene	24.636	105	1203187	5.31	ppbv	99
59) 1,3,5-Trimethylbenzene	24.731	105	989533	5.34	ppbv	100
60) 1,2,4-Trimethylbenzene	25.335	105	956671	5.24	ppbv	99
61) 1,3-Dichlorobenzene	25.869	146	661622	5.02	ppbv	100
62) 1,4-Dichlorobenzene	26.023	146	637970	5.01	ppbv	100
63) Benzyl chloride	26.225	91	792627	5.31	ppbv	99
64) 1,2-Dichlorobenzene	26.628	146	662683	4.96	ppbv	100
65) 1,2,4-Trichlorobenzene	29.094	180	548011	4.72	ppbv	100
66) Hexachlorobutadiene	29.225	225	654447	4.73	ppbv	100

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

Data Path : D:\msdchem\1\2016\data\100416_FSAAA\
Data File : 100416NA04.D
Acq On : 4 Oct 2016 5:34 pm
InstName : AG5973N
Operator : LLH
Sample : S16J013-CAL3
Misc : 5.0ppbv 1638117
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Oct 05 13:09:26 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:09:21 2016
Response via : Initial Calibration



S16J013-CAL4

Data Path : D:\msdchem\1\2016\data\100416_FSAAA\
Data File : 100416NA05.D
Acq On : 4 Oct 2016 6:22 pm
InstName : AG5973N
Operator : LLH
Sample : S16J013-CAL4
Misc : 10ppbv 1638118
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Oct 05 13:10:15 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:10:08 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.469	49	1130062	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.450	114	3311923	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.323	117	2774693	20.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.464	41	335275	10.39	ppbv	100
3) Dichlorodifluoromethane	4.559	85	1112255	8.58	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.915	85	1081997	8.88	ppbv	100
5) Chloromethane	5.105	50	355993	9.57	ppbv	100
6) Vinyl chloride	5.437	62	372687	9.58	ppbv	100
7) 1,3-Butadiene	5.532	54	283584	9.41	ppbv	100
8) Bromomethane	6.469	94	337147	8.98	ppbv	100
9) Chloroethane	6.801	64	176846	9.25	ppbv	100
10) Bromoethene	7.382	106	318893	9.98	ppbv	100
11) Trichlorofluoromethane	7.524	101	1004297	8.66	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.350	151	645316	8.84	ppbv	100
13) 1,1-Dichloroethene	9.433	61	535314	9.95	ppbv	100
14) Acetone	9.967	43	599730	9.98	ppbv	100
15) Carbon disulfide	10.157	76	974898	9.94	ppbv	100
16) 2-Propanol	10.560	45	501250	10.37	ppbv	100
17) Allyl chloride	10.963	41	463486	10.96	ppbv	100
18) Dichloromethane	11.485	49	451407	8.25	ppbv	100
19) tert-Butyl methyl ethe...	12.161	73	985109	10.33	ppbv	100
20) trans-1,2-Dichloroethene	12.196	61	554030	10.20	ppbv	100
21) Hexane	12.789	57	582351	10.48	ppbv	100
22) 1,1-Dichloroethane	13.512	63	679096	9.16	ppbv	100
23) Vinyl acetate	13.655	43	870450	10.81	ppbv	100
24) cis-1,2-Dichloroethene	14.935	61	478641	10.21	ppbv	100
25) 2-Butanone (MEK)	15.030	72	195030	10.42	ppbv	100
26) Ethyl acetate	15.078	61	129802	10.02	ppbv #	100
27) Tetrahydrofuran	15.481	42	476789	10.03	ppbv	100
28) Chloroform	15.623	83	845826	9.07	ppbv	100
29) Cyclohexane	15.860	56	629926	10.61	ppbv	100
30) 1,1,1-Trichloroethane	15.908	97	920761	8.84	ppbv	100
31) Carbon tetrachloride	16.157	117	960729	8.61	ppbv	100
33) Benzene	16.643	78	1257108	9.89	ppbv	100
34) 2,2,4-Trimethylpentane	16.596	57	2003679	11.12	ppbv	100
35) 1,2-Dichloroethane	16.845	62	575142	9.53	ppbv	100
36) Heptane	16.975	43	791593	11.23	ppbv	100
37) Trichloroethene	17.865	130	515550	10.44	ppbv	100
38) 1,2-Dichloropropane	18.363	63	442153	10.13	ppbv	100
39) 1,4-Dioxane	18.540	88	284517	11.35	ppbv	100
40) Bromodichloromethane	18.813	83	970533	10.04	ppbv	100
41) cis-1,3-Dichloropropene	19.584	75	682177	11.23	ppbv	100
42) 4-Methyl-2-pentanone (...	19.797	43	1093728	11.04	ppbv	100
44) Toluene	20.058	91	1495412	10.65	ppbv	100
45) trans-1,3-Dichloropropene	20.521	75	678265	10.99	ppbv	100
46) 1,1,2-Trichloroethane	20.829	97	515776	10.01	ppbv	100
47) Tetrachloroethene	20.912	166	785426	10.07	ppbv	100
48) 2-Hexanone	21.149	43	1044182	11.37	ppbv	100
49) Chlorodibromomethane	21.434	129	1035836	10.09	ppbv	100
50) 1,2-Dibromoethane (EDB)	21.659	107	786277	10.47	ppbv	100
51) Chlorobenzene	22.371	112	1220390	10.00	ppbv	100
52) Ethylbenzene	22.466	91	2056380	10.40	ppbv	100
53) m&p-Xylene	22.644	91	3324396	21.15	ppbv	100
54) o-Xylene	23.284	91	1624142	10.70	ppbv	100

Data Path : D:\msdchem\1\2016\data\100416_FSAAA\
Data File : 100416NA05.D
Acq On : 4 Oct 2016 6:22 pm
InstName : AG5973N
Operator : LLH
Sample : S16J013-CAL4
Misc : 10ppbv 1638118
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Oct 05 13:10:15 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:10:08 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	Styrene	23.331	104	1262541	10.31	ppbv	100
56)	Bromoform	23.711	173	1111099	9.91	ppbv	100
57)	1,1,2,2-Tetrachloroethane	24.399	83	1182796	9.66	ppbv	100
58)	4-Ethyltoluene	24.636	105	2482204	10.97	ppbv	100
59)	1,3,5-Trimethylbenzene	24.731	105	1991599	10.70	ppbv	100
60)	1,2,4-Trimethylbenzene	25.335	105	1982298	10.89	ppbv	100
61)	1,3-Dichlorobenzene	25.869	146	1333945	10.16	ppbv	100
62)	1,4-Dichlorobenzene	26.011	146	1305344	10.33	ppbv	100
63)	Benzyl chloride	26.225	91	1681418	11.28	ppbv	100
64)	1,2-Dichlorobenzene	26.628	146	1331289	9.98	ppbv	100
65)	1,2,4-Trichlorobenzene	29.095	180	1193203	10.34	ppbv	100
66)	Hexachlorobutadiene	29.225	225	1339234	9.58	ppbv	100

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

Quantitation Report (Not Reviewed)

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Data Path : D:\msdchem\1\2016\data\100416_FSAAA\
Data File : 100416NA05.D
Acq On    :  4 Oct 2016   6:22 pm
InstName  : AG5973N
Operator  : LLH
Sample    : S16J013-CAL4
Misc      : 10ppbv 1638118
ALS Vial  : 32   Sample Multiplier: 1

Quant Time: Oct 05 13:10:15 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title  : TO15
QLast Update : Wed Oct 05 13:10:08 2016
Response via : Initial Calibration
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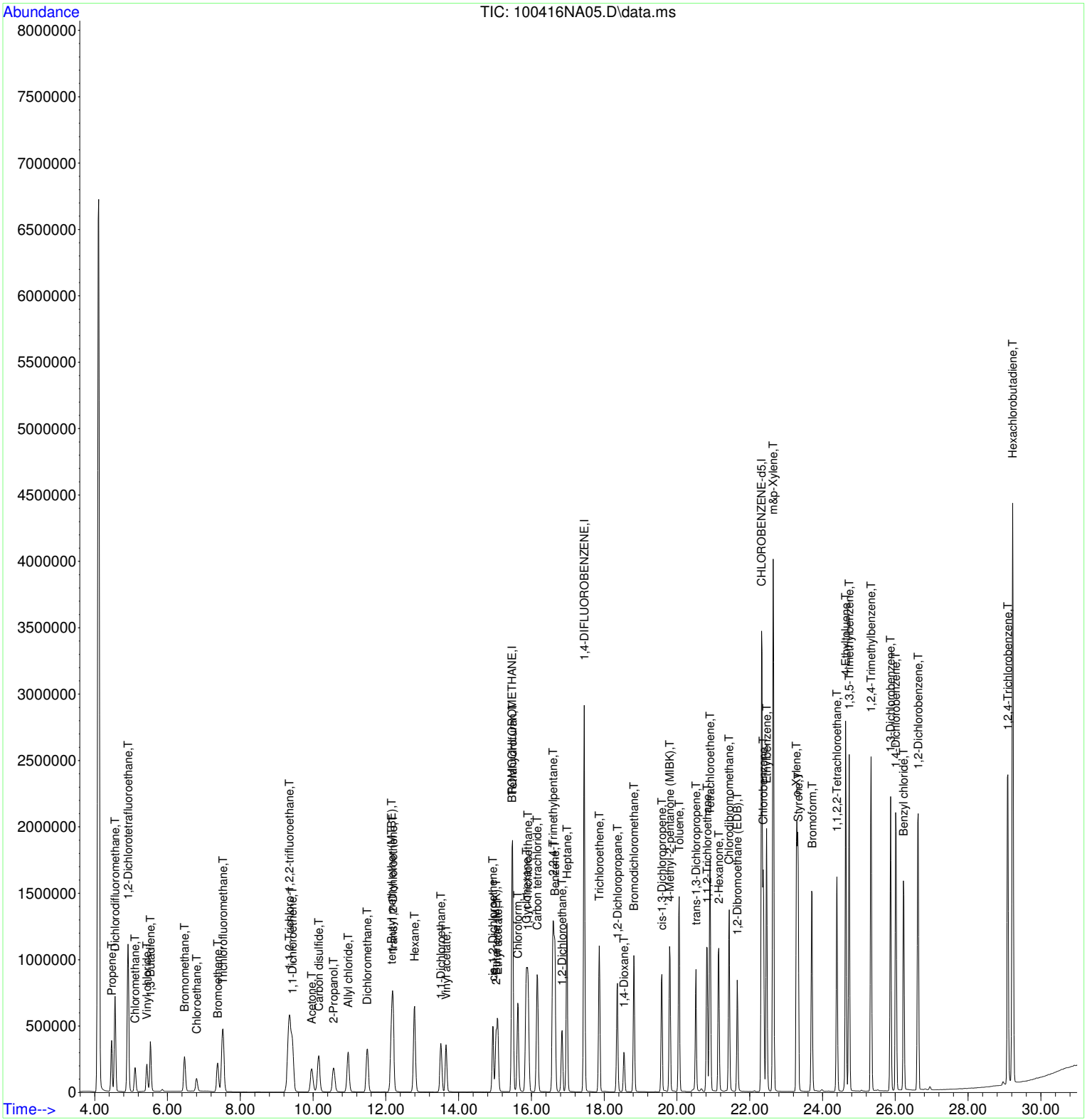
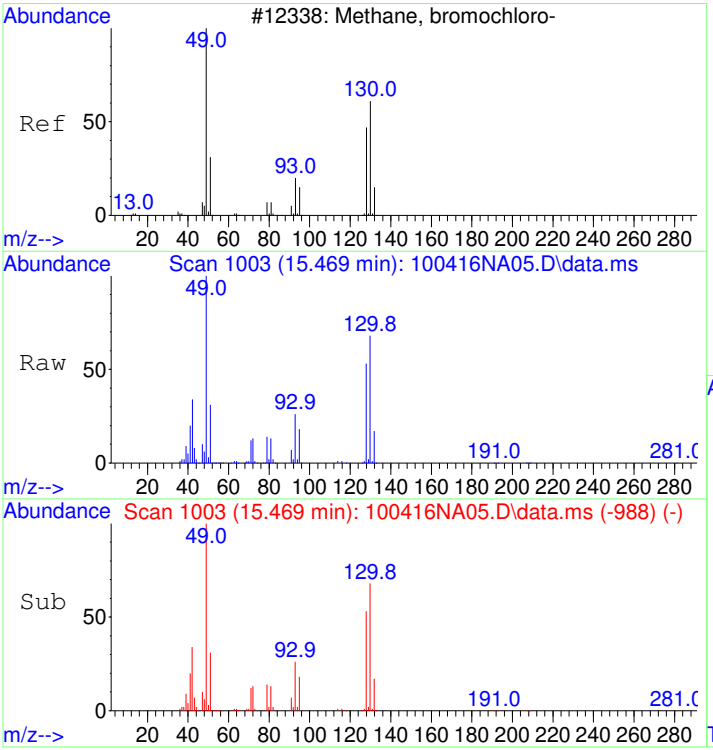
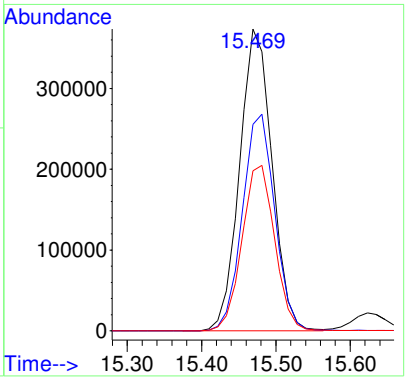


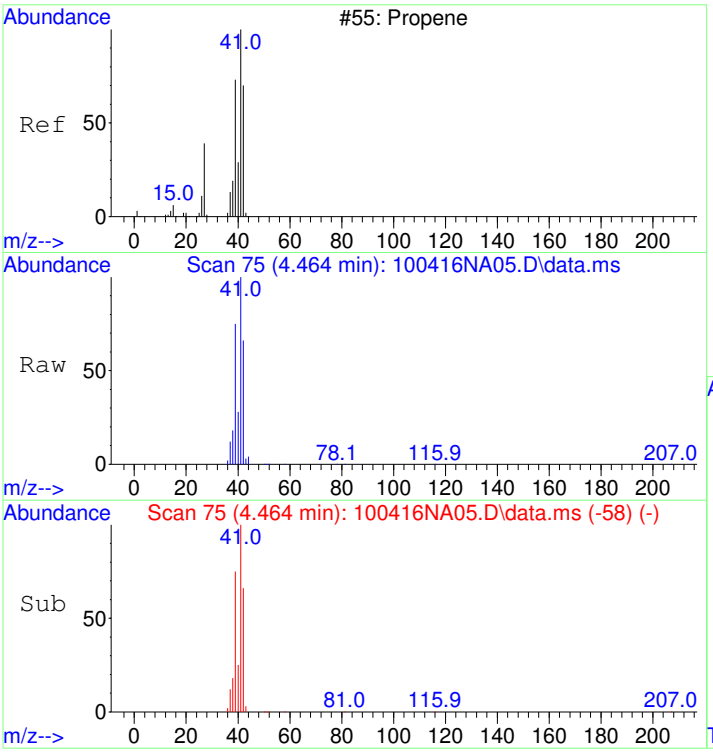


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.469 min Scan# 1003
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 49 Resp: 1130062

Ion	Ratio	Lower	Upper
49	100		
130	71.9	51.9	91.9
128	55.4	35.4	75.4

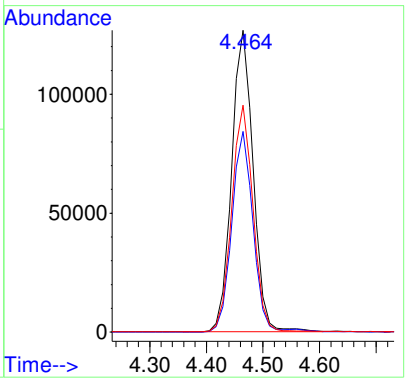


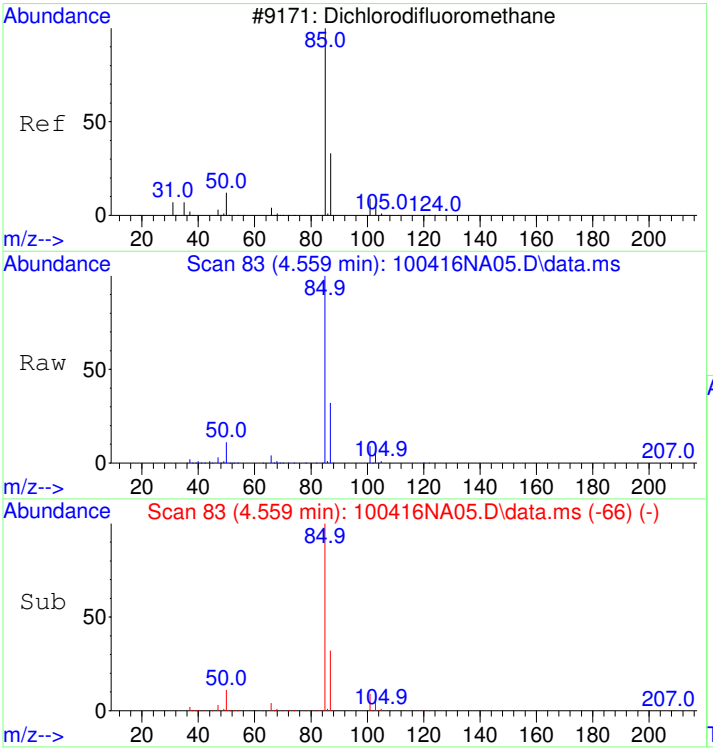


#2
Propene
Concen: 10.39 ppbv
RT: 4.464 min Scan# 75
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 41 Resp: 335275

Ion	Ratio	Lower	Upper
41	100		
42	65.9	45.9	85.9
39	74.4	54.4	94.4

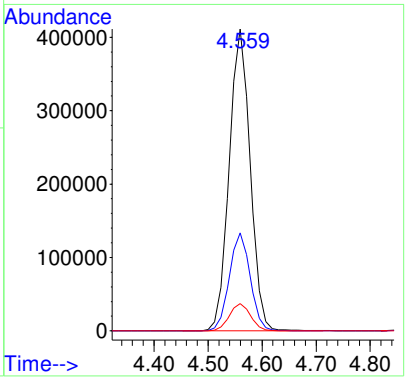


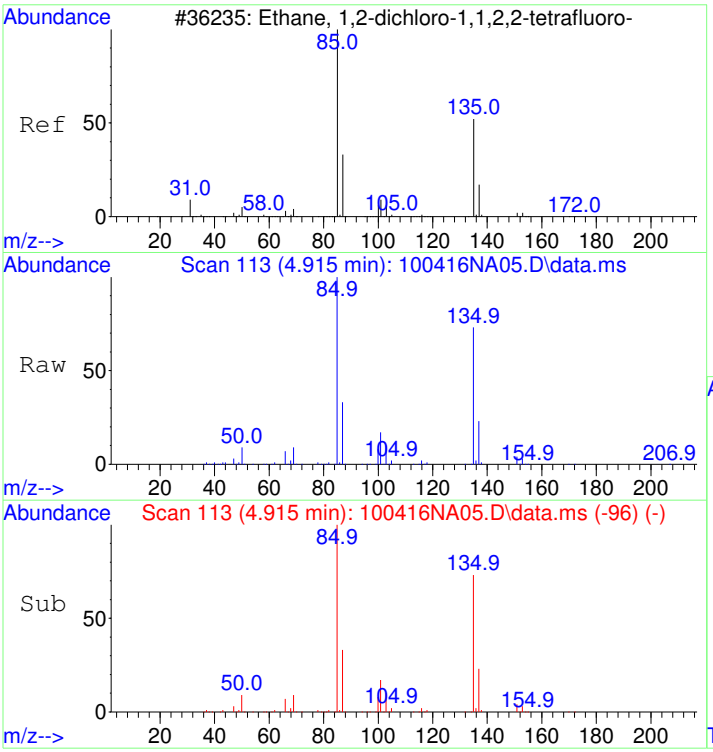


#3
Dichlorodifluoromethane
Concen: 8.58 ppbv
RT: 4.559 min Scan# 83
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 85 Resp: 1112255

Ion	Ratio	Lower	Upper
85	100		
87	32.3	12.3	52.3
101	9.1	0.0	29.1

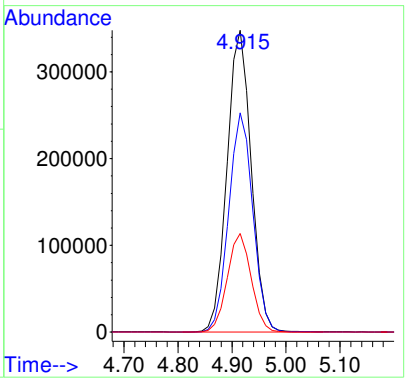


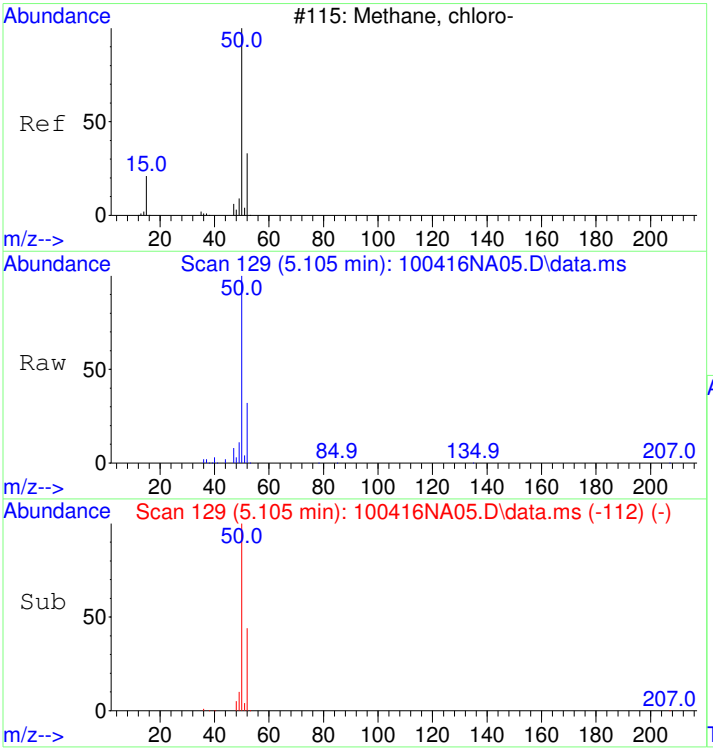


#4
1,2-Dichlorotetrafluoroethane
Concen: 8.88 ppbv
RT: 4.915 min Scan# 113
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 85 Resp: 1081997

Ion	Ratio	Lower	Upper
85	100		
135	72.7	52.7	92.7
87	32.3	12.3	52.3

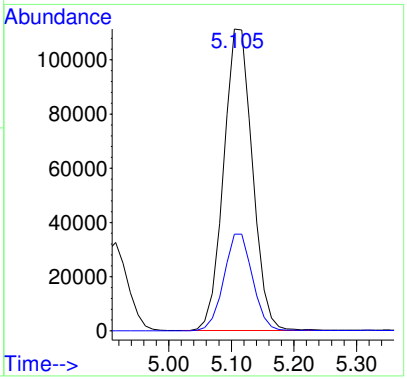


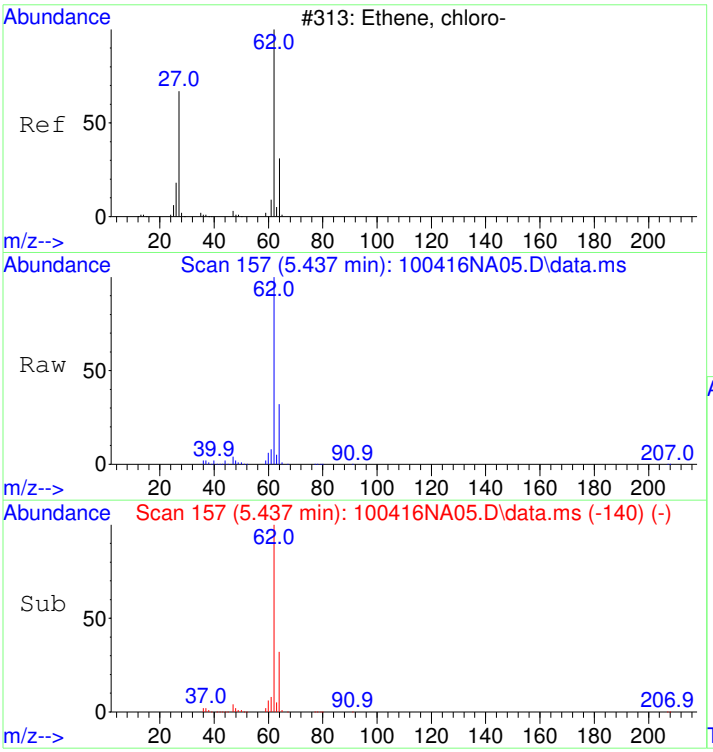


#5
Chloromethane
Concen: 9.57 ppbv
RT: 5.105 min Scan# 129
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 50 Resp: 355993

Ion	Ratio	Lower	Upper
50	100		
52	32.3	12.3	52.3

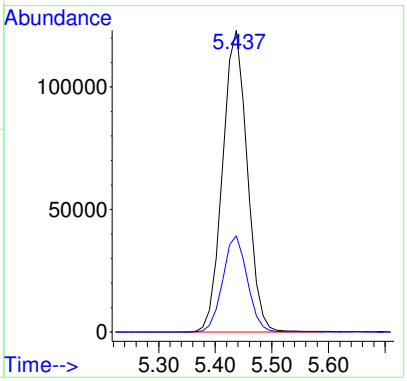


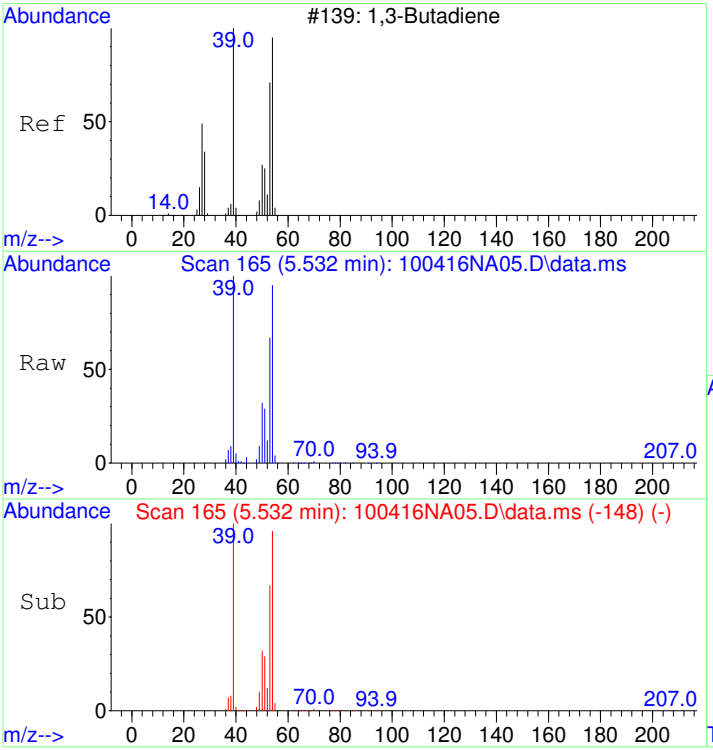


#6
Vinyl chloride
Concen: 9.58 ppbv
RT: 5.437 min Scan# 157
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 62 Resp: 372687

Ion	Ratio	Lower	Upper
62	100		
64	31.8	11.8	51.8

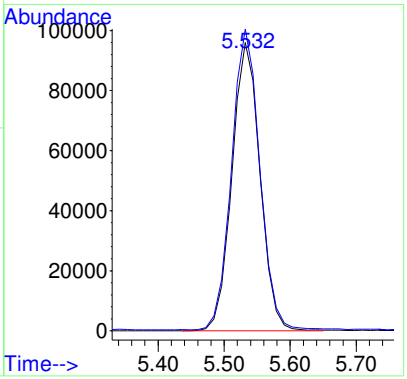


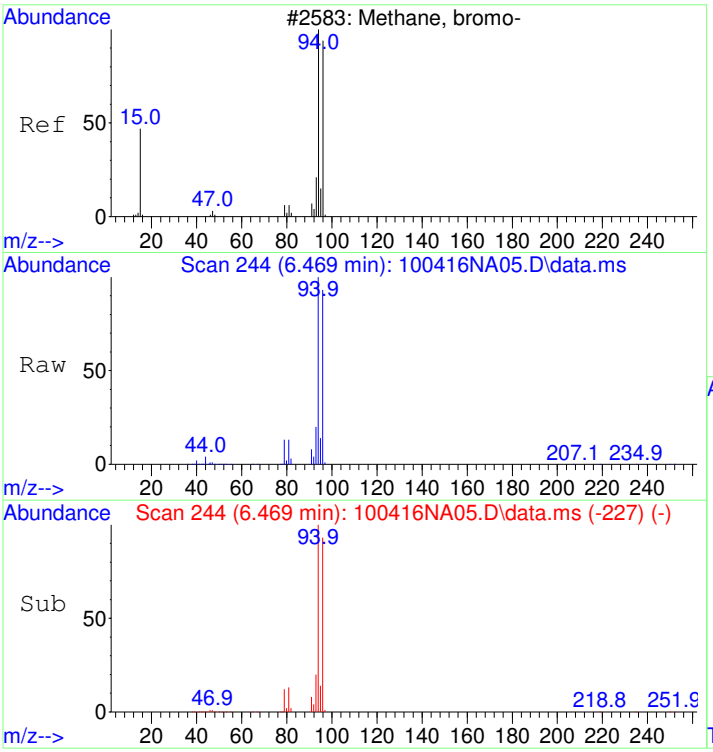


#7
1,3-Butadiene
Concen: 9.41 ppbv
RT: 5.532 min Scan# 165
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 54 Resp: 283584

Ion	Ratio	Lower	Upper
54	100		
39	105.1	85.1	125.1

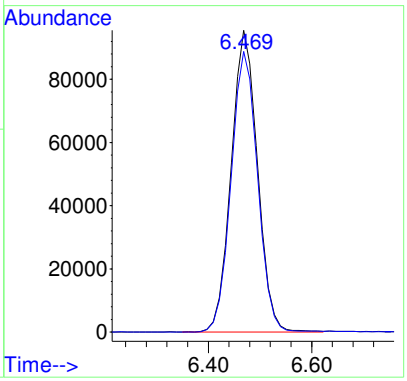


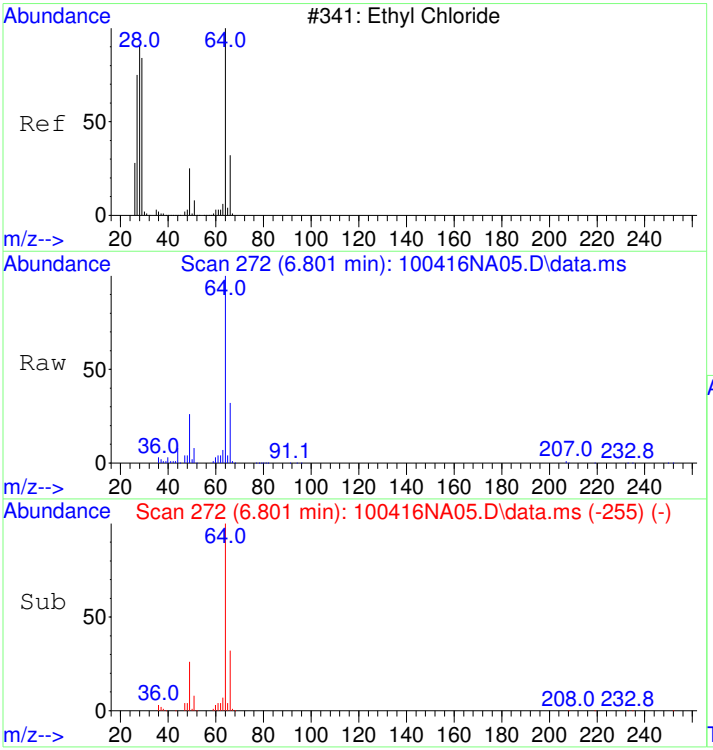


#8
Bromomethane
Concen: 8.98 ppbv
RT: 6.469 min Scan# 244
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 94 Resp: 337147

Ion	Ratio	Lower	Upper
94	100		
96	93.6	73.6	113.6

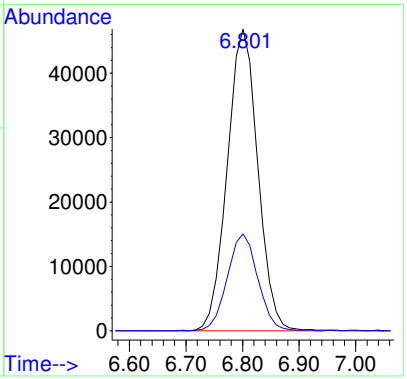


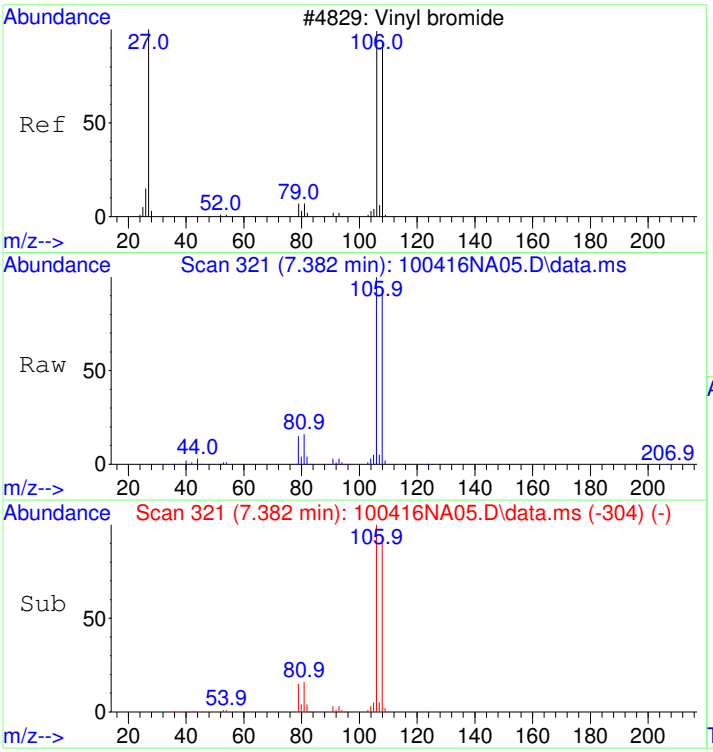


#9
Chloroethane
Concen: 9.25 ppbv
RT: 6.801 min Scan# 272
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 64 Resp: 176846

Ion	Ratio	Lower	Upper
64	100		
66	32.1	12.1	52.1

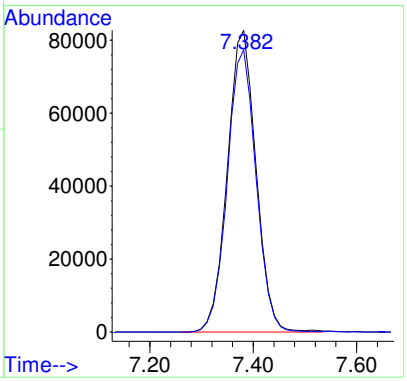


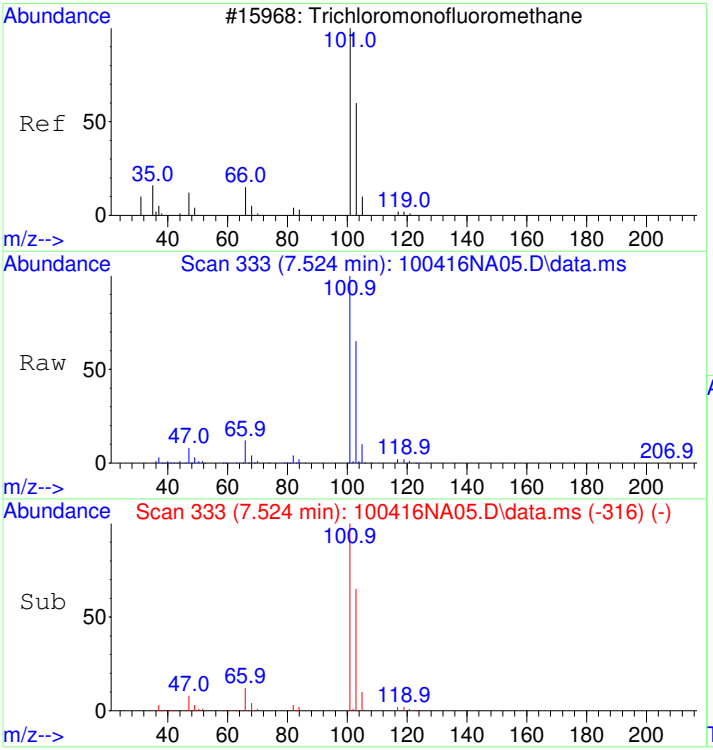


#10
Bromoethene
Concen: 9.98 ppbv
RT: 7.382 min Scan# 321
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion:106 Resp: 318893

Ion	Ratio	Lower	Upper
106	100		
108	93.9	0.0	213.9

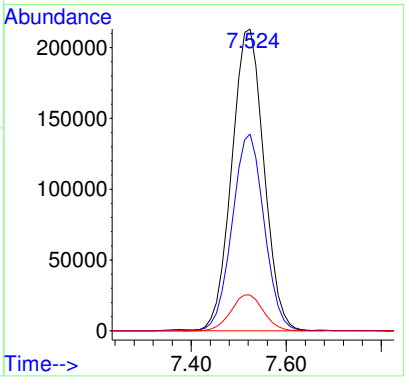


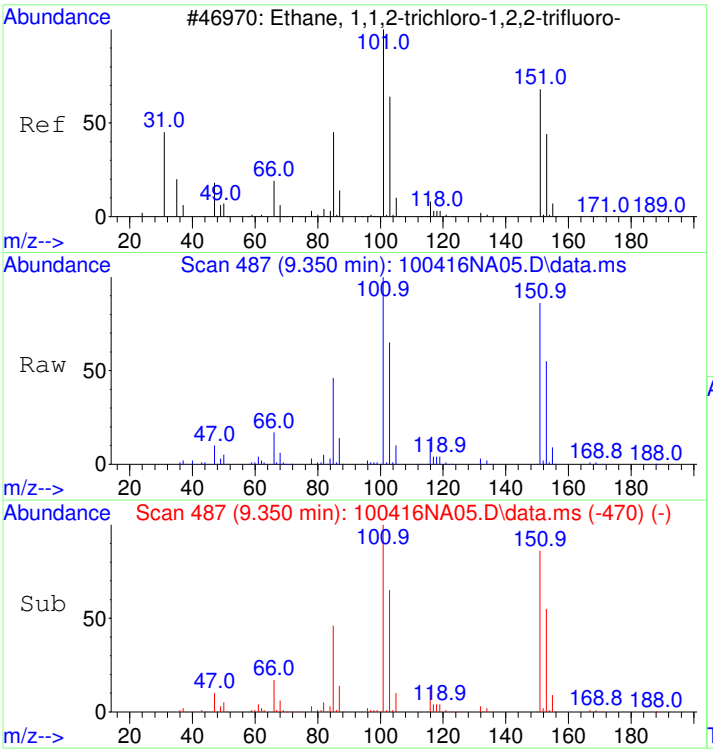


#11
Trichlorofluoromethane
Concen: 8.66 ppbv
RT: 7.524 min Scan# 333
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion:101 Resp: 1004297

Ion	Ratio	Lower	Upper
101	100		
103	64.3	44.3	84.3
66	12.1	0.0	32.1

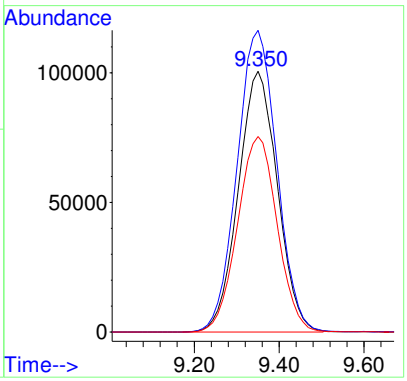


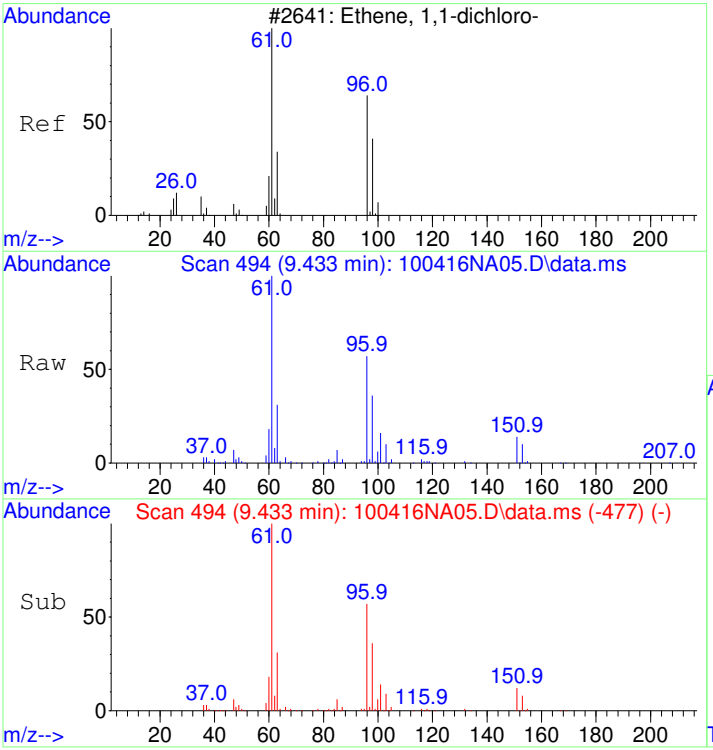


#12
1,1,2-Trichloro-1,2,2-trifluoroethane
Concen: 8.84 ppbv
RT: 9.350 min Scan# 487
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion:151 Resp: 645316

Ion	Ratio	Lower	Upper
151	100		
101	117.9	97.9	137.9
103	76.0	56.0	96.0

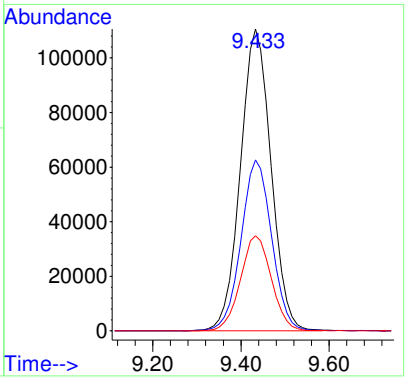


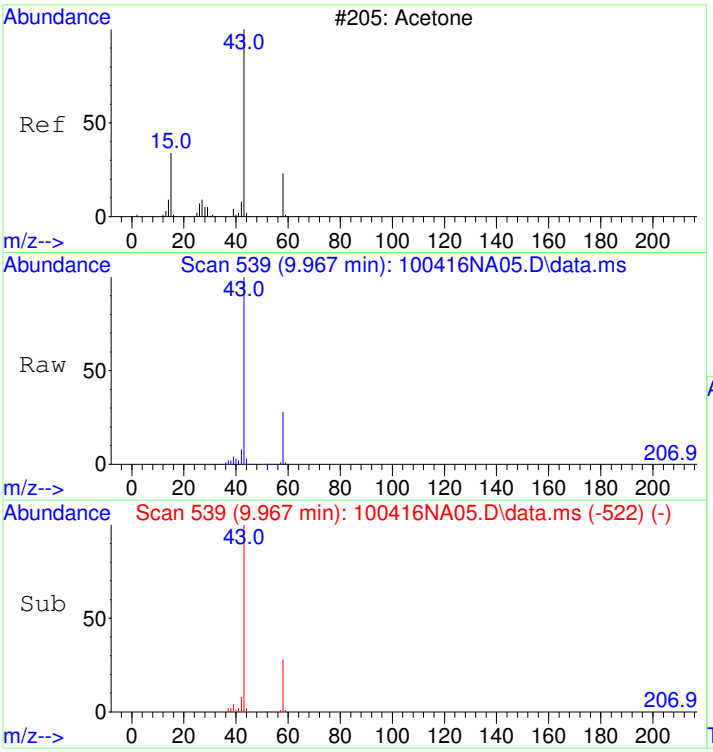


#13
1,1-Dichloroethene
Concen: 9.95 ppbv
RT: 9.433 min Scan# 494
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 61 Resp: 535314

Ion	Ratio	Lower	Upper
61	100		
96	56.7	36.7	76.7
63	31.8	11.8	51.8

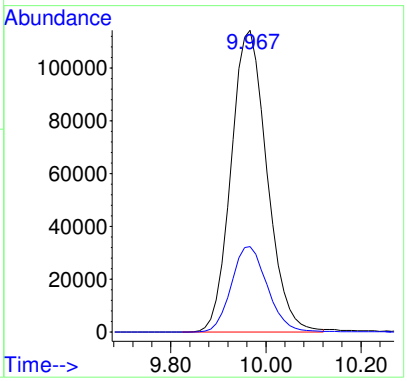


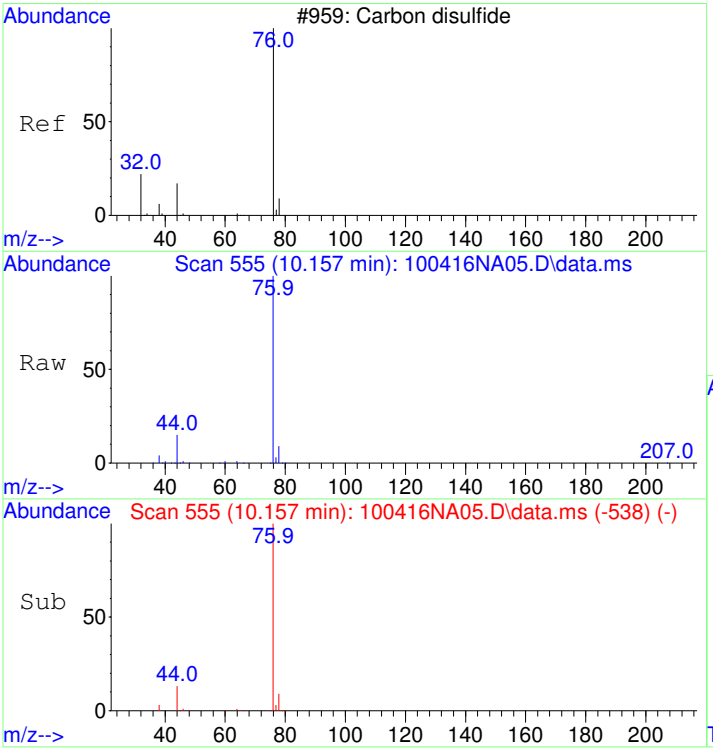


#14
Acetone
Concen: 9.98 ppbv
RT: 9.967 min Scan# 539
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 43 Resp: 599730

Ion	Ratio	Lower	Upper
43	100		
58	28.4	8.4	48.4

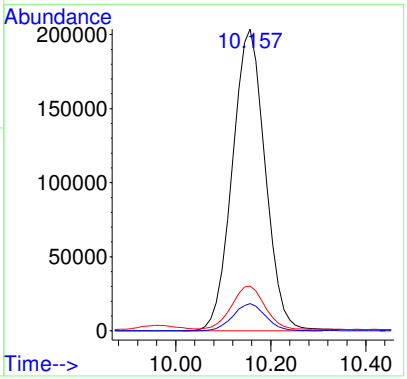


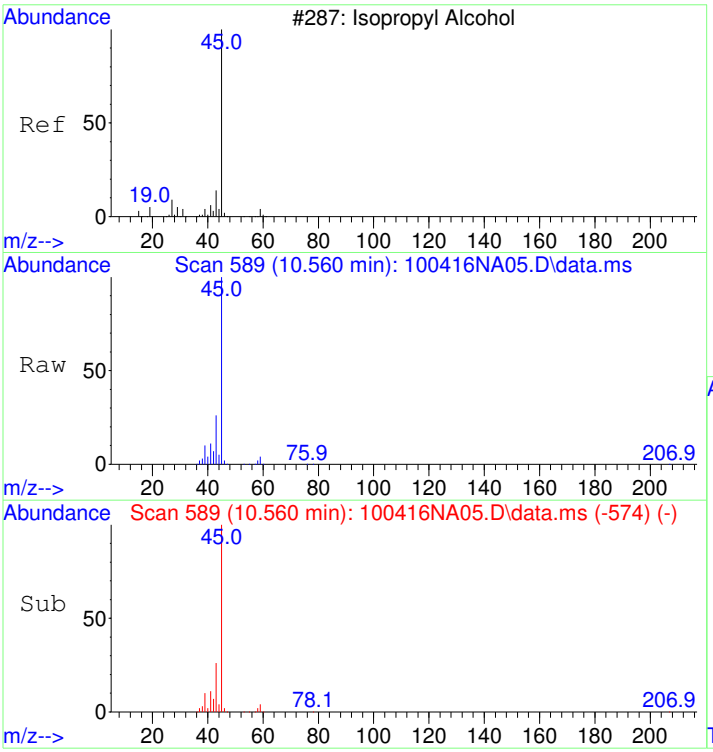


#15
Carbon disulfide
Concen: 9.94 ppbv
RT: 10.157 min Scan# 555
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 76 Resp: 974898

Ion	Ratio	Lower	Upper
76	100		
78	9.0	0.0	29.0
44	14.4	0.0	34.4

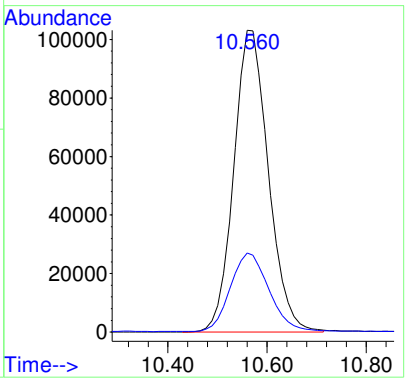


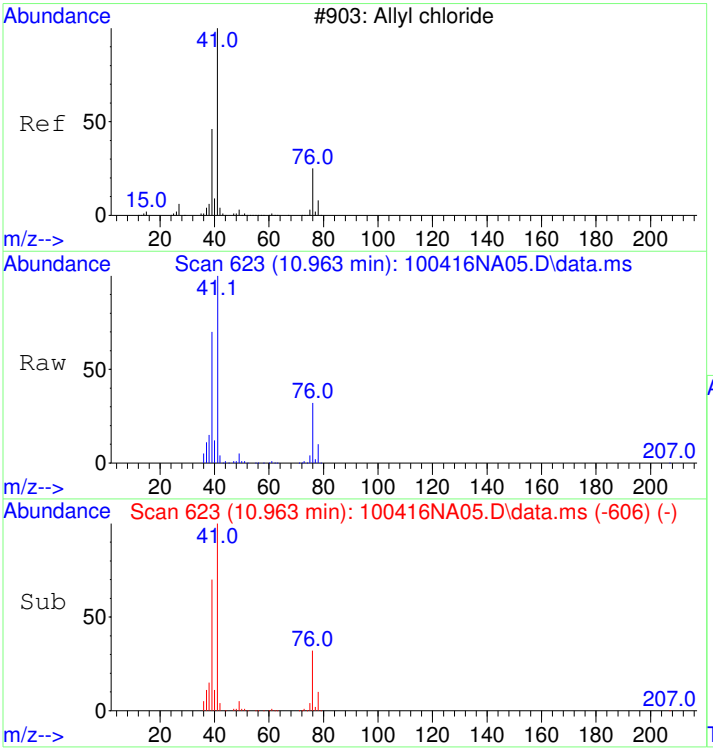


#16
2-Propanol
Concen: 10.37 ppbv
RT: 10.560 min Scan# 589
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 45 Resp: 501250

Ion	Ratio	Lower	Upper
45	100		
43	28.8	8.8	48.8

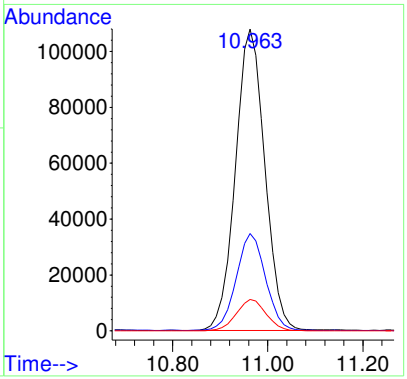


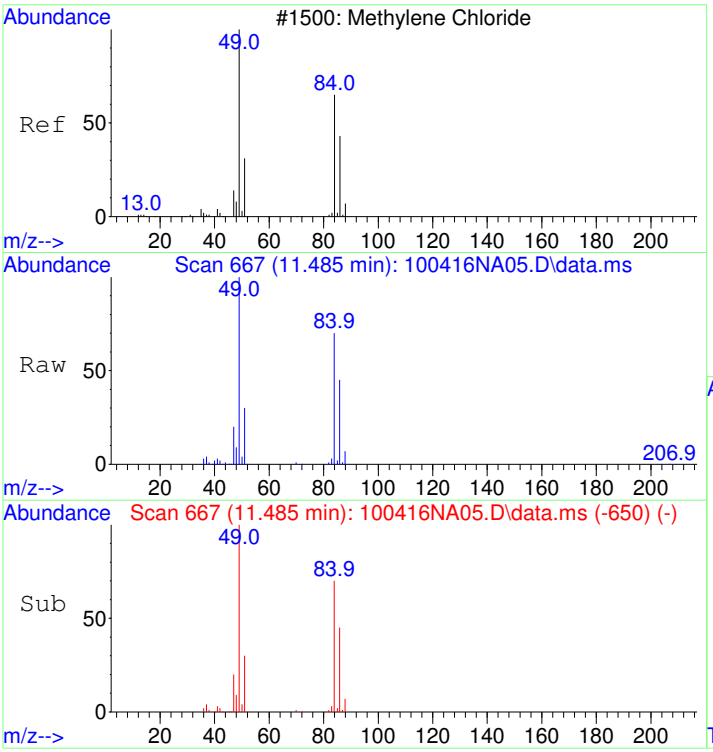


#17
Allyl chloride
Concen: 10.96 ppbv
RT: 10.963 min Scan# 623
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 41 Resp: 463486

Ion	Ratio	Lower	Upper
41	100		
76	32.0	12.0	52.0
78	10.5	0.0	30.5

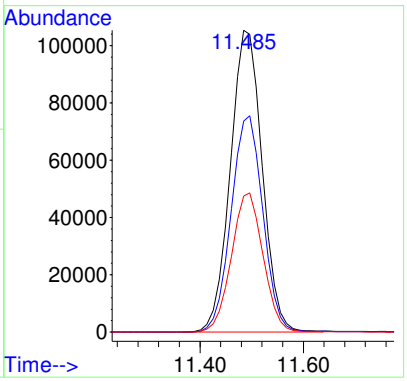


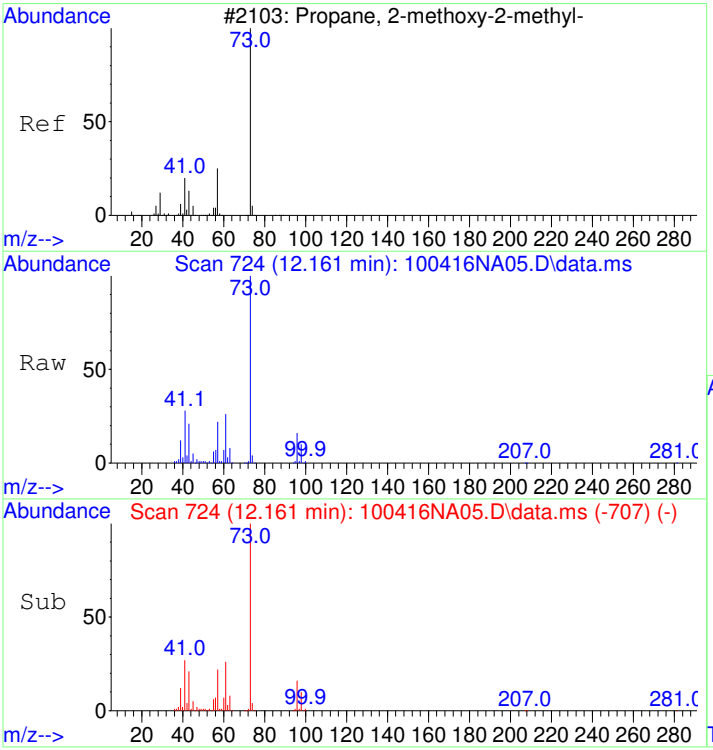


#18
Dichloromethane
Concen: 8.25 ppbv
RT: 11.485 min Scan# 667
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 49 Resp: 451407

Ion	Ratio	Lower	Upper
49	100		
84	71.4	51.4	91.4
86	45.8	25.8	65.8

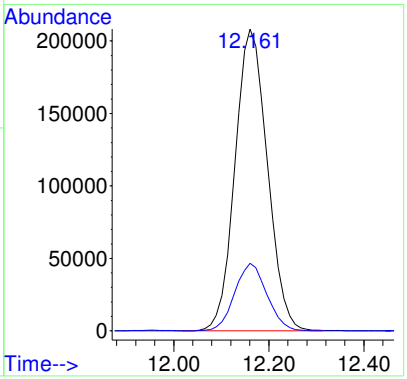


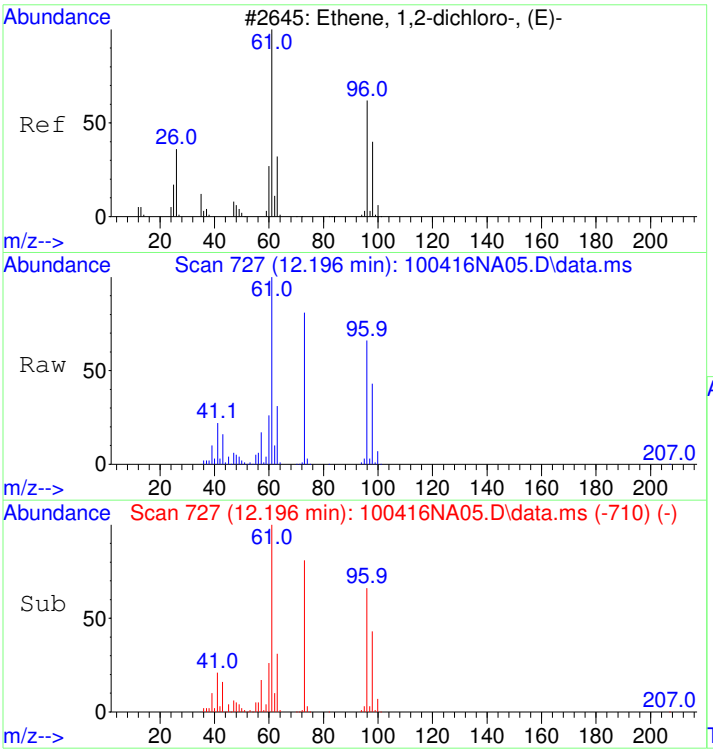


#19
tert-Butyl methyl ether (MTBE)
Concen: 10.33 ppbv
RT: 12.161 min Scan# 724
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 73 Resp: 985109

Ion	Ratio	Lower	Upper
73	100		
57	22.2	2.2	42.2

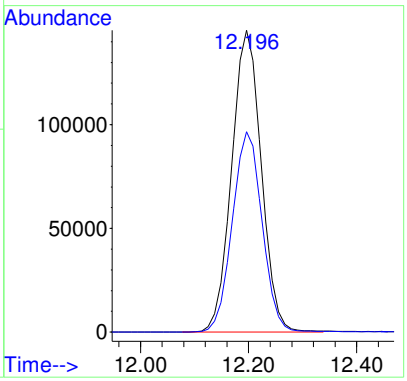


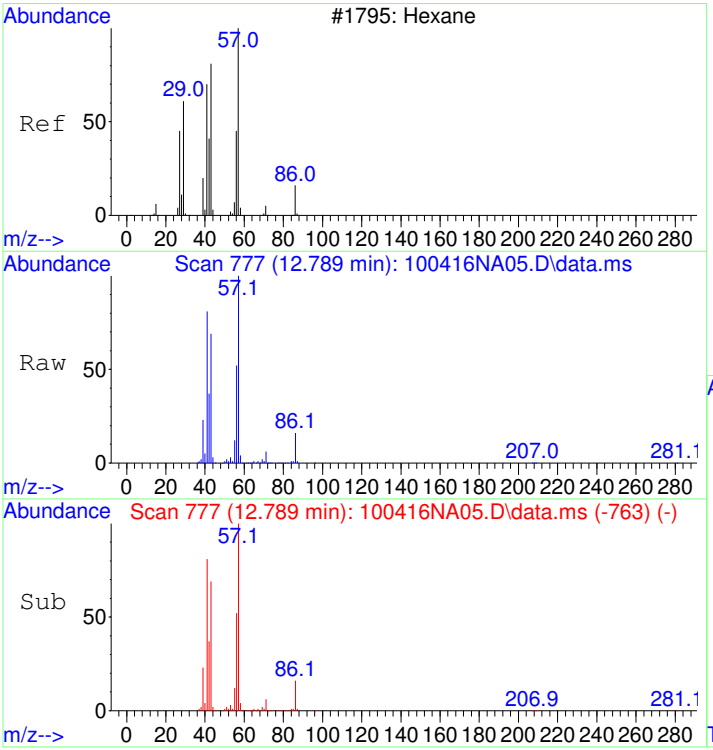


#20
trans-1,2-Dichloroethene
Concen: 10.20 ppbv
RT: 12.196 min Scan# 727
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 61 Resp: 554030

Ion	Ratio	Lower	Upper
61	100		
96	66.8	46.8	86.8

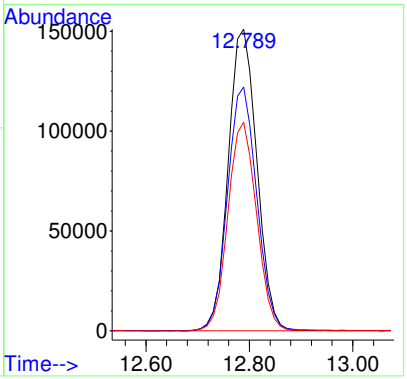


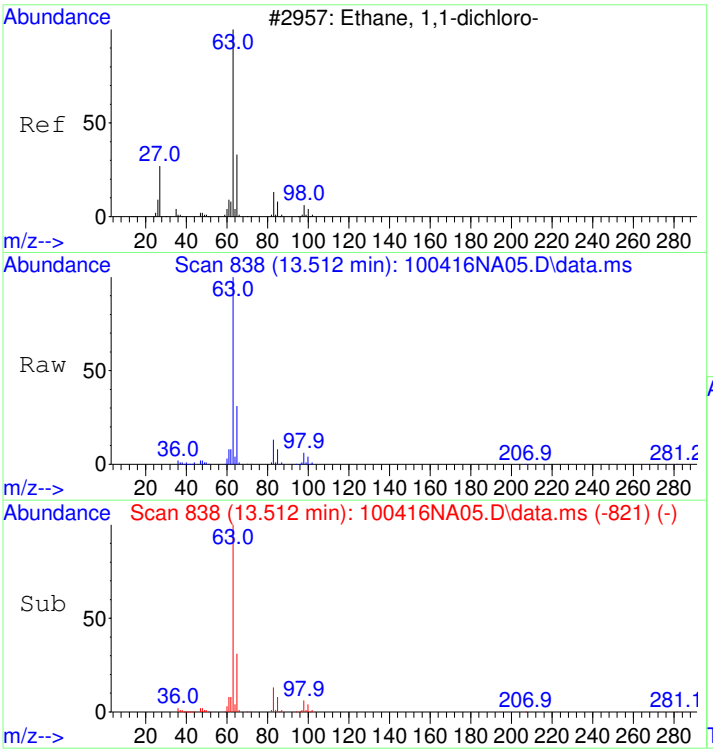


#21
Hexane
Concen: 10.48 ppbv
RT: 12.789 min Scan# 777
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 57 Resp: 582351

Ion	Ratio	Lower	Upper
57	100		
41	82.9	62.9	102.9
43	69.3	49.3	89.3

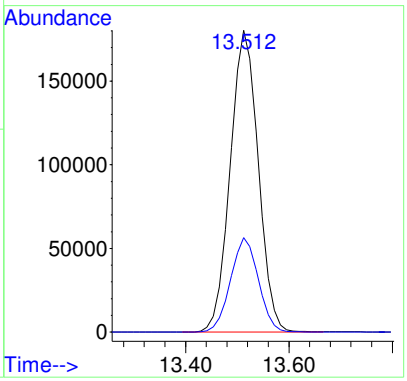


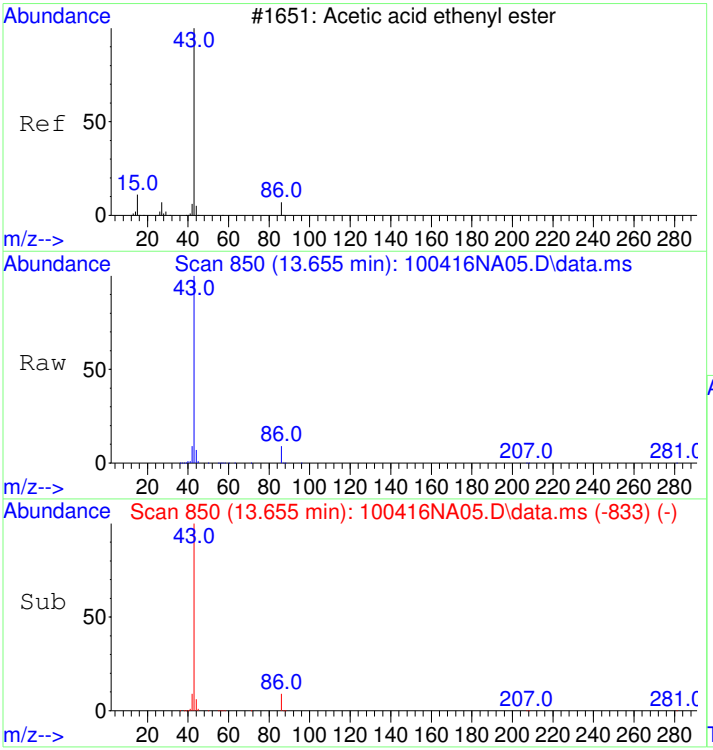


#22
1,1-Dichloroethane
Concen: 9.16 ppbv
RT: 13.512 min Scan# 838
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 63 Resp: 679096

Ion	Ratio	Lower	Upper
63	100		
65	31.0	11.0	51.0

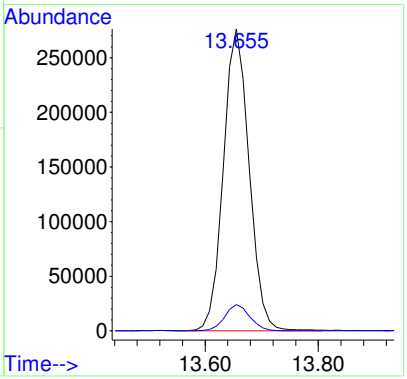


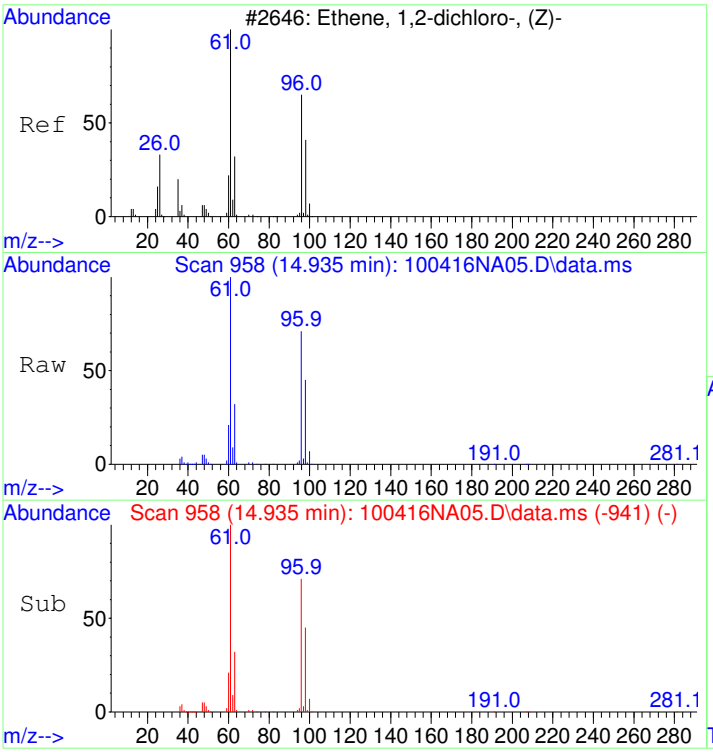


#23
Vinyl acetate
Concen: 10.81 ppbv
RT: 13.655 min Scan# 850
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 43 Resp: 870450

Ion	Ratio	Lower	Upper
43	100		
86	8.5	0.0	28.5

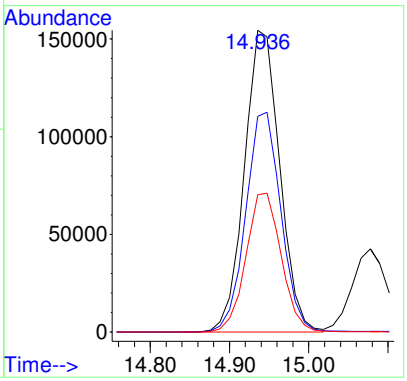


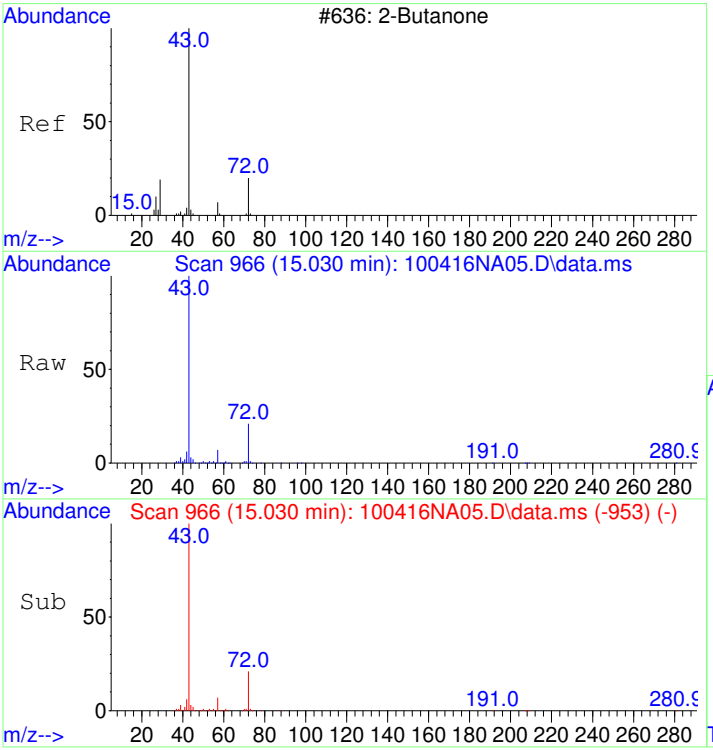


#24
cis-1,2-Dichloroethene
Concen: 10.21 ppbv
RT: 14.935 min Scan# 958
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 61 Resp: 478641

Ion	Ratio	Lower	Upper
61	100		
96	72.9	52.9	92.9
98	46.2	26.2	66.2

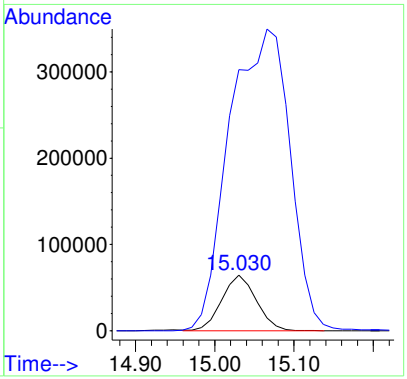


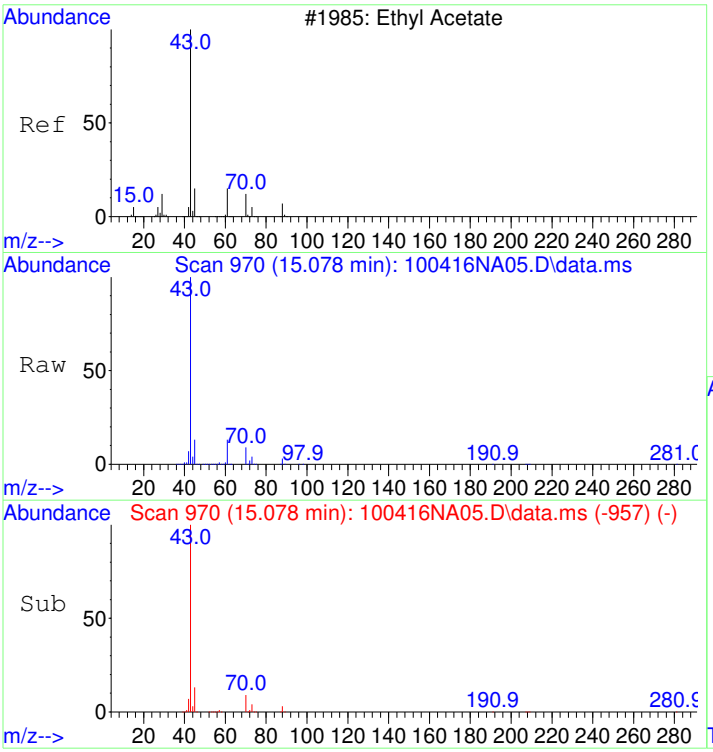


#25
2-Butanone (MEK)
Concen: 10.42 ppbv
RT: 15.030 min Scan# 966
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 72 Resp: 195030

Ion	Ratio	Lower	Upper
72	100		
43	399.1	389.1	409.1

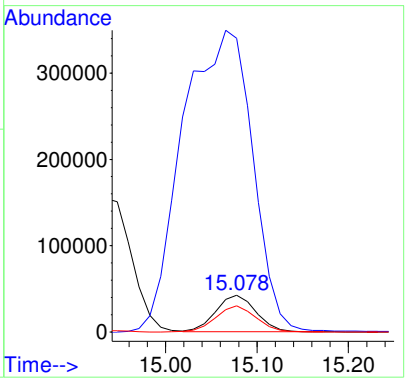


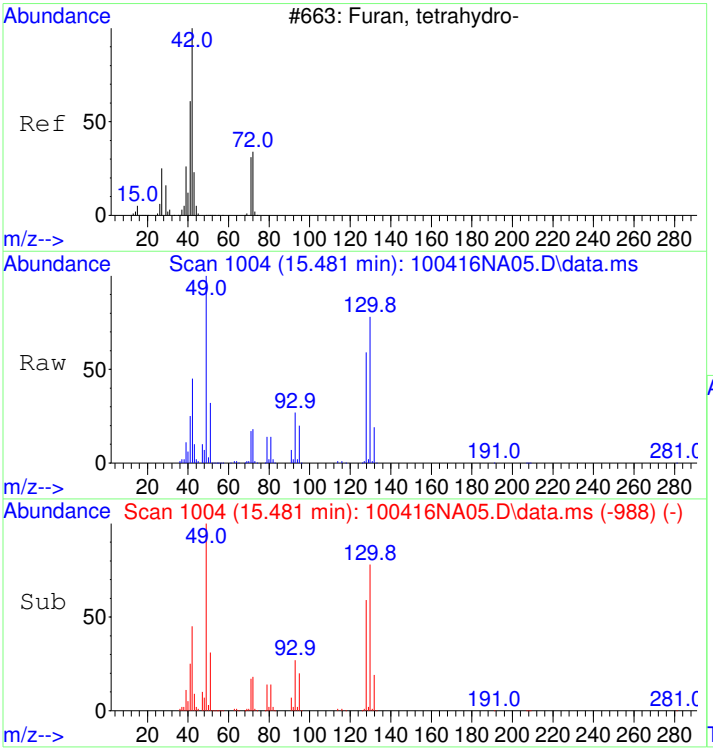


#26
Ethyl acetate
Concen: 10.02 ppbv
RT: 15.078 min Scan# 970
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 61 Resp: 129802

Ion	Ratio	Lower	Upper
61	100		
43	0.0	0.0	10.0
70	72.6	62.6	82.6

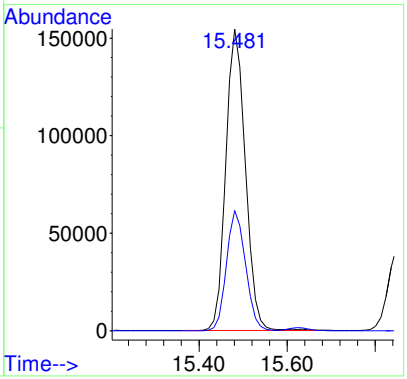


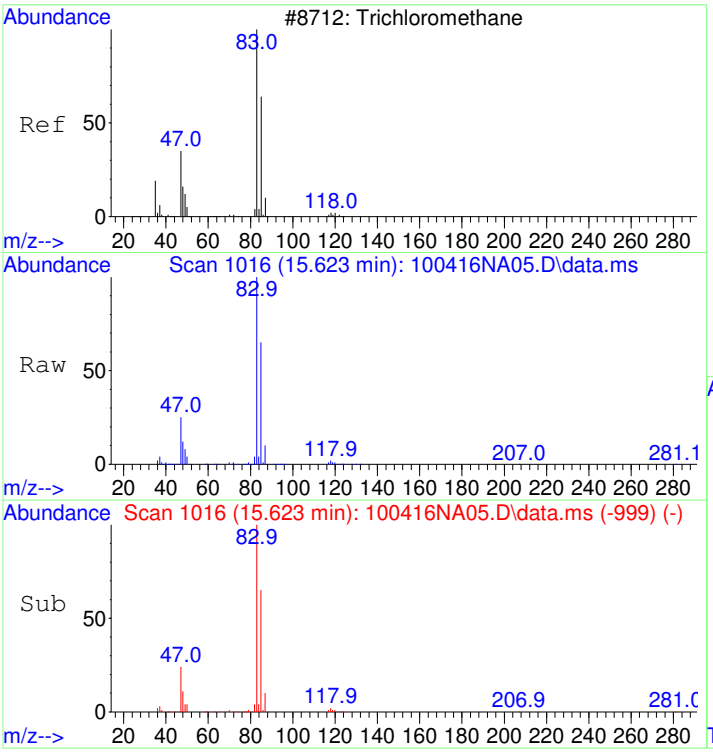


#27
Tetrahydrofuran
Concen: 10.03 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 42 Resp: 476789

Ion	Ratio	Lower	Upper
42	100		
72	38.9	18.9	58.9

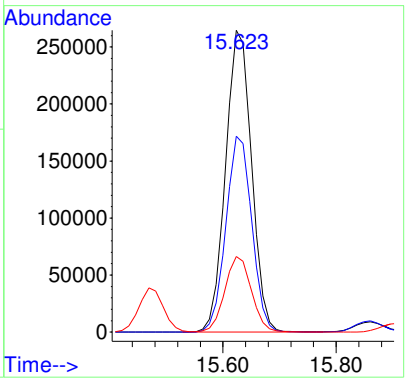


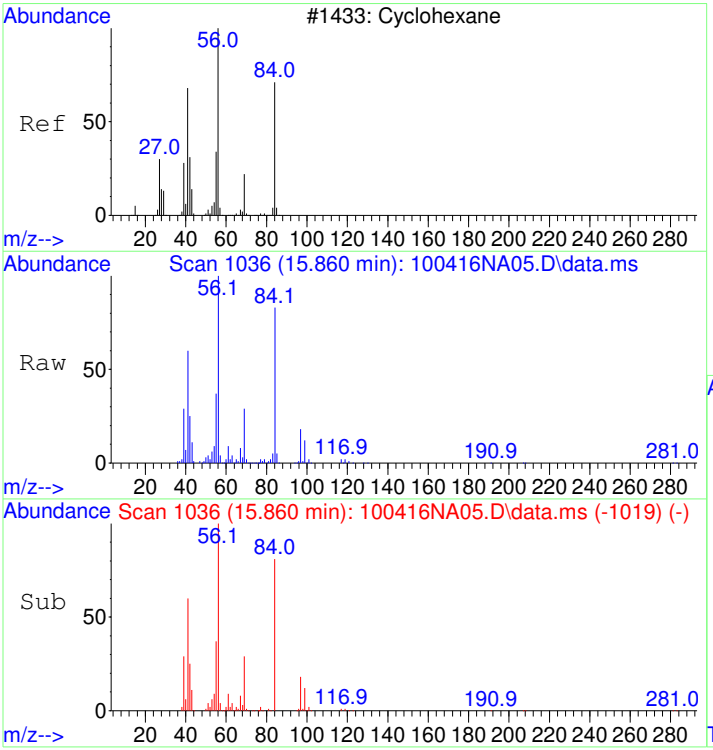


#28
Chloroform
Concen: 9.07 ppbv
RT: 15.623 min Scan# 1016
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 83 Resp: 845826

Ion	Ratio	Lower	Upper
83	100		
85	64.7	44.7	84.7
47	25.4	5.4	45.4

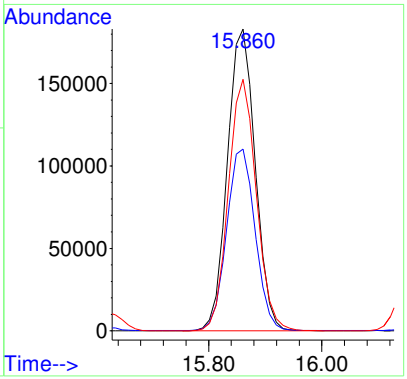


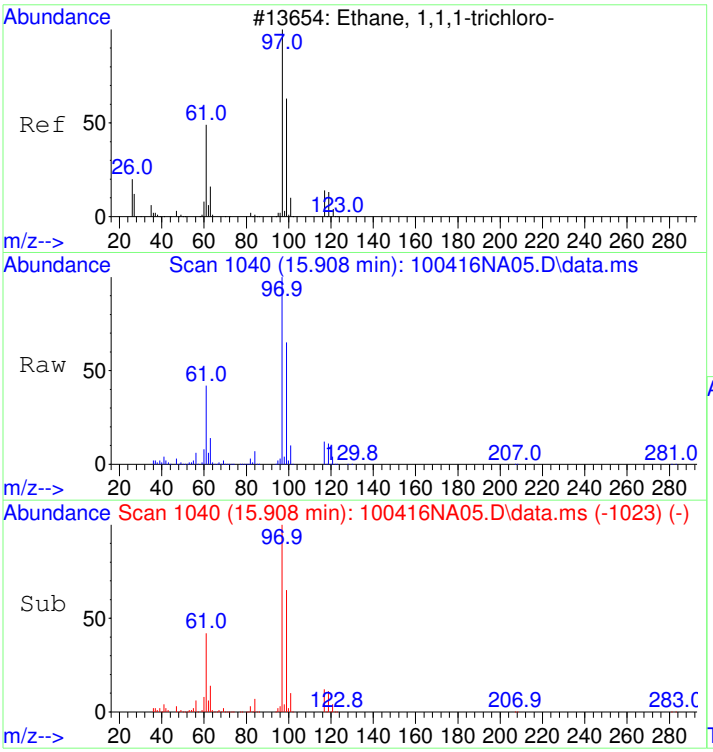


#29
Cyclohexane
Concen: 10.61 ppbv
RT: 15.860 min Scan# 1036
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 56 Resp: 629926

Ion	Ratio	Lower	Upper
56	100		
41	61.5	41.5	81.5
84	83.6	63.6	103.6

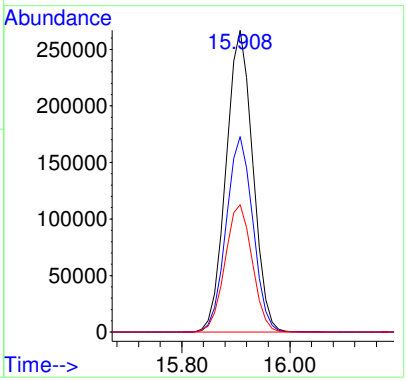


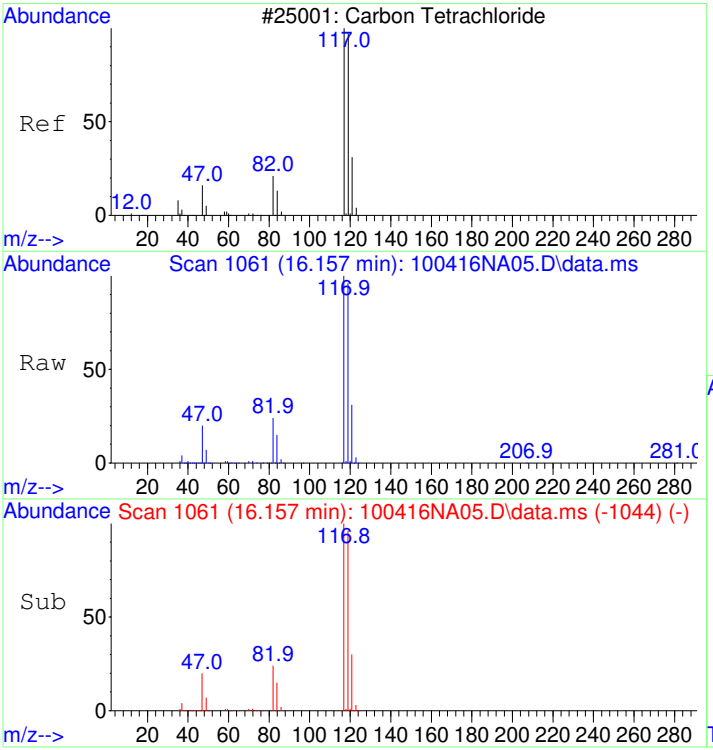


#30
1,1,1-Trichloroethane
Concen: 8.84 ppbv
RT: 15.908 min Scan# 1040
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 97 Resp: 920761

Ion	Ratio	Lower	Upper
97	100		
99	64.6	44.6	84.6
61	42.9	22.9	62.9

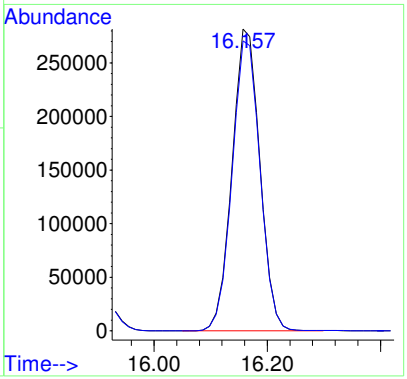


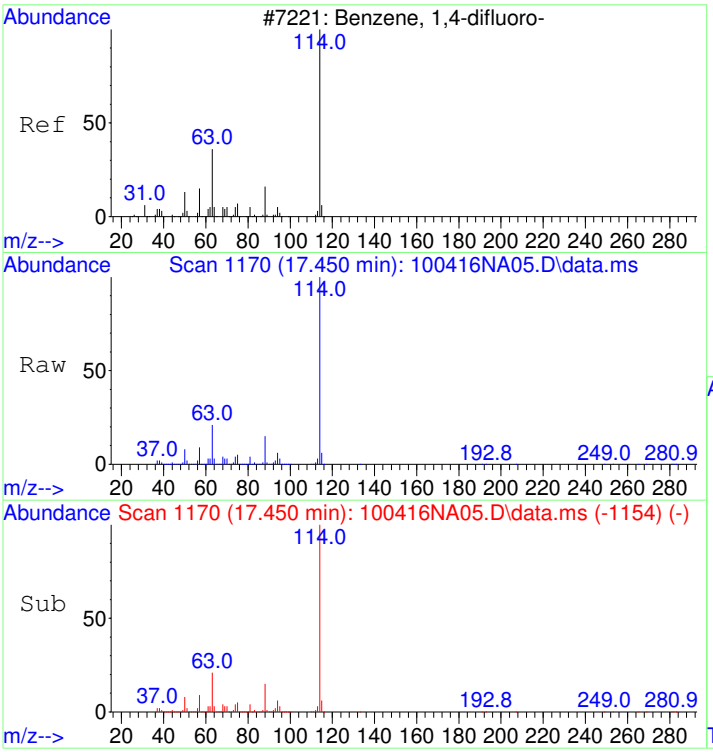


#31
Carbon tetrachloride
Concen: 8.61 ppbv
RT: 16.157 min Scan# 1061
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion:117 Resp: 960729

Ion	Ratio	Lower	Upper
117	100		
119	96.7	76.7	116.7

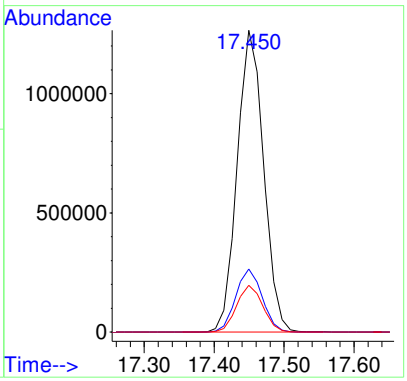


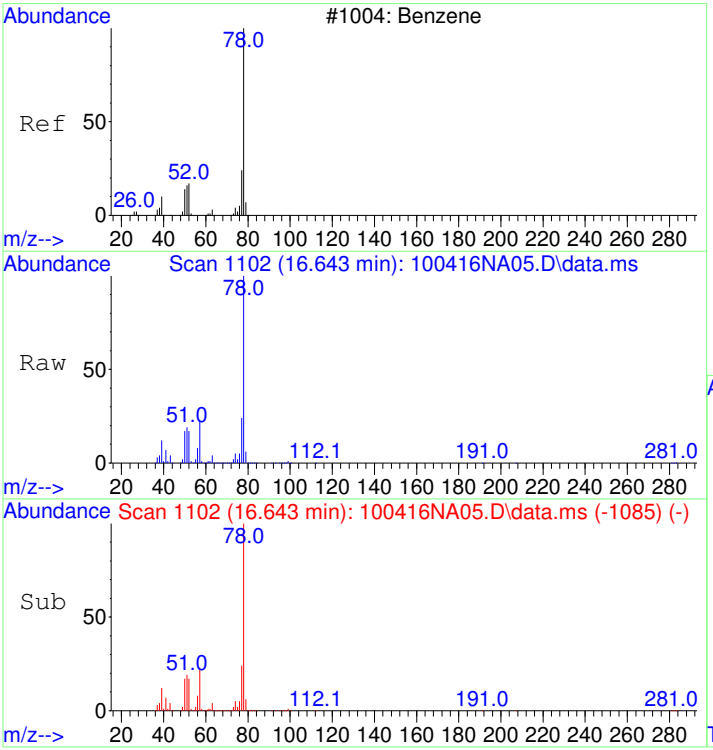


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.450 min Scan# 1170
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion:114 Resp: 3311923

Ion	Ratio	Lower	Upper
114	100		
63	20.9	0.9	40.9
88	15.4	0.0	35.4

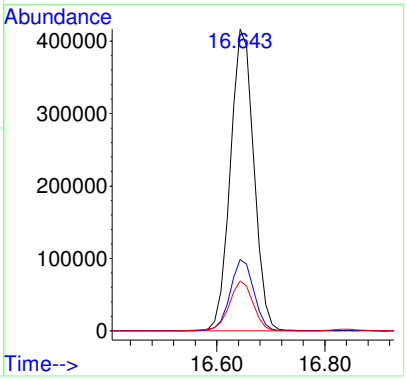


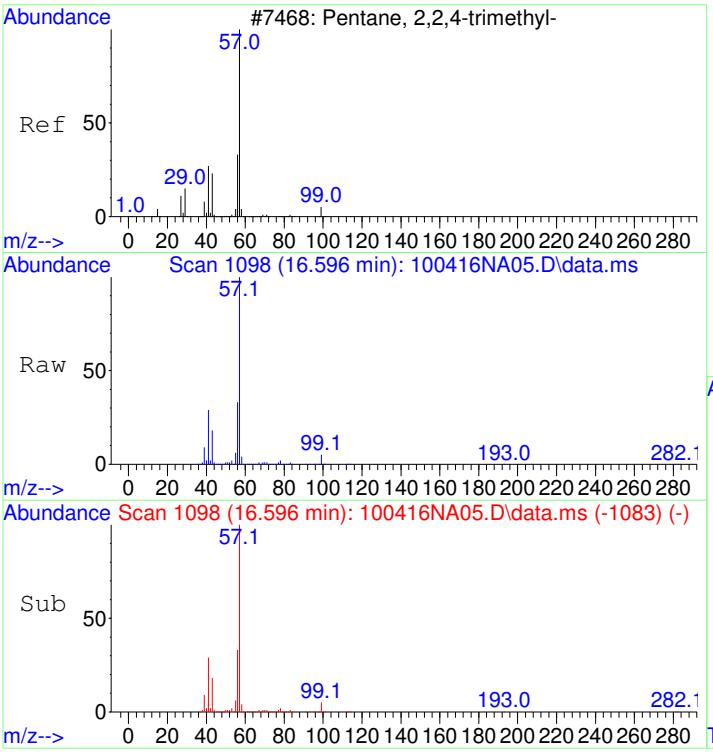


#33
Benzene
Concen: 9.89 ppbv
RT: 16.643 min Scan# 1102
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 78 Resp: 1257108

Ion	Ratio	Lower	Upper
78	100		
77	24.0	4.0	44.0
50	16.9	0.0	36.9

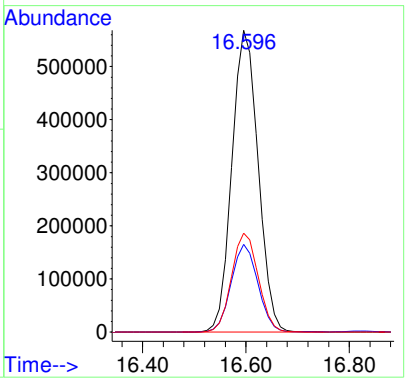


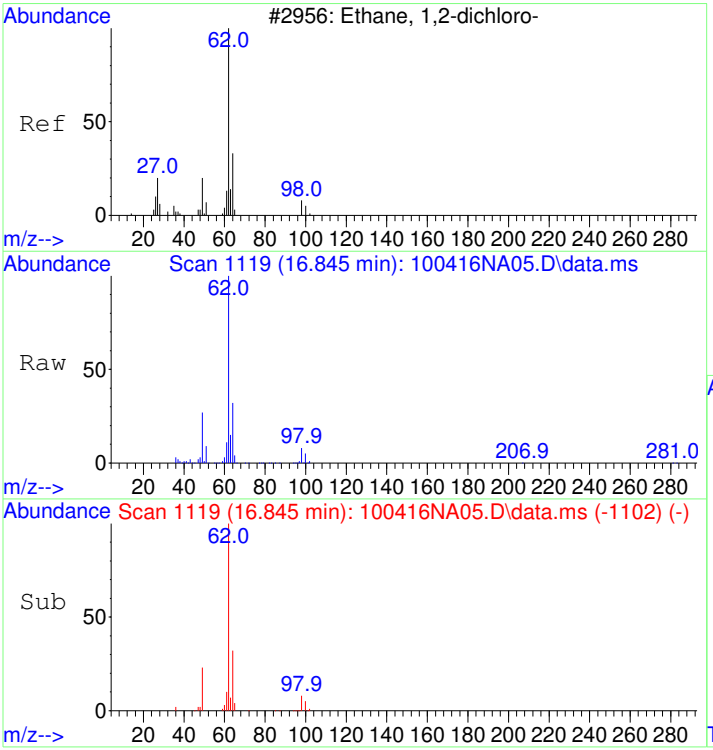


#34
2,2,4-Trimethylpentane
Concen: 11.12 ppbv
RT: 16.596 min Scan# 1098
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 57 Resp: 2003679

Ion	Ratio	Lower	Upper
57	100		
41	29.7	9.7	49.7
56	33.4	13.4	53.4

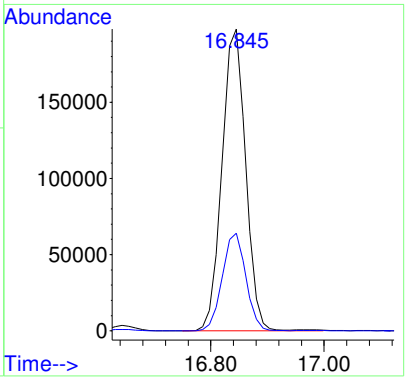


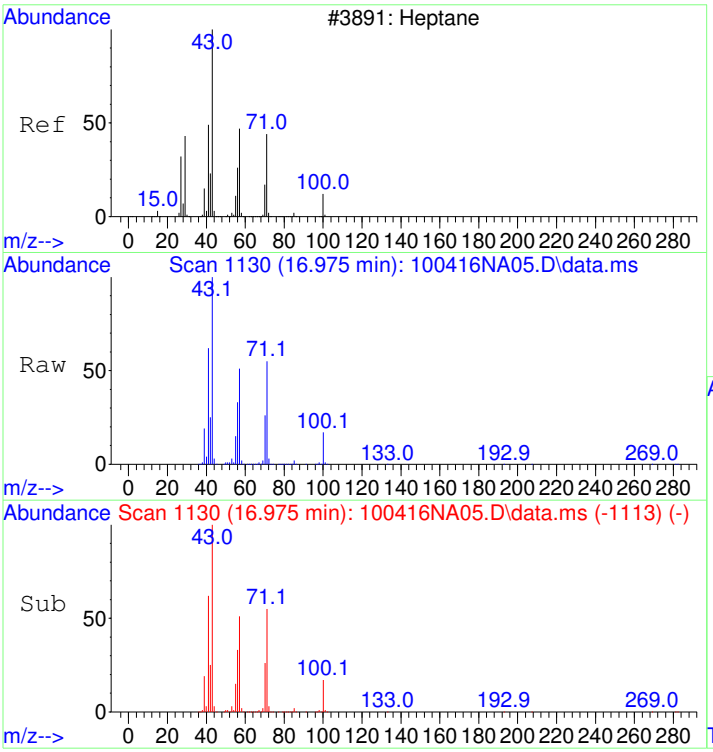


#35
1,2-Dichloroethane
Concen: 9.53 ppbv
RT: 16.845 min Scan# 1119
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 62 Resp: 575142

Ion	Ratio	Lower	Upper
62	100		
64	32.2	12.2	52.2

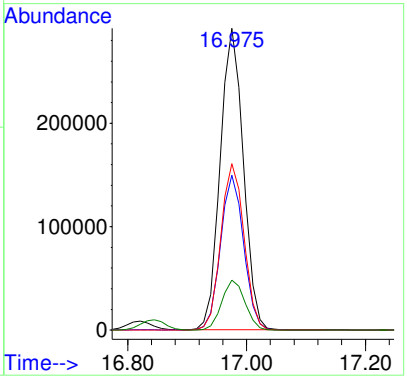


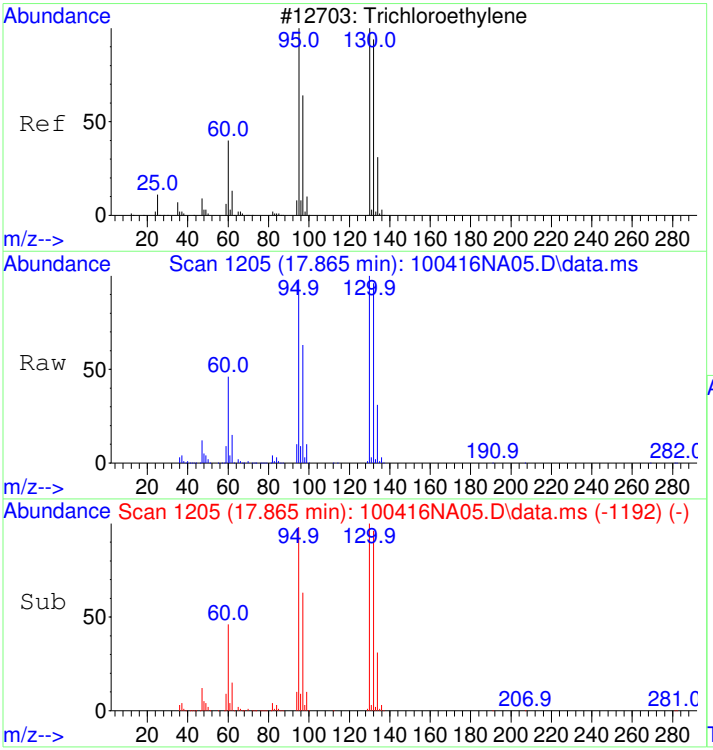


#36
Heptane
Concen: 11.23 ppbv
RT: 16.975 min Scan# 1130
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 43 Resp: 791593

Ion	Ratio	Lower	Upper
43	100		
57	51.1	31.1	71.1
71	55.2	35.2	75.2
100	16.6	0.0	36.6

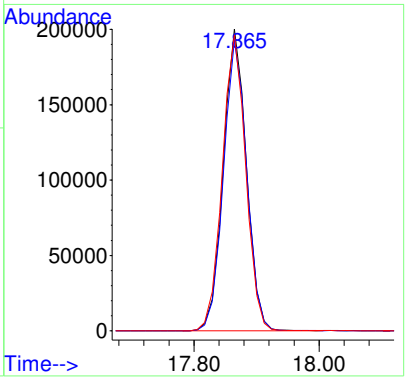


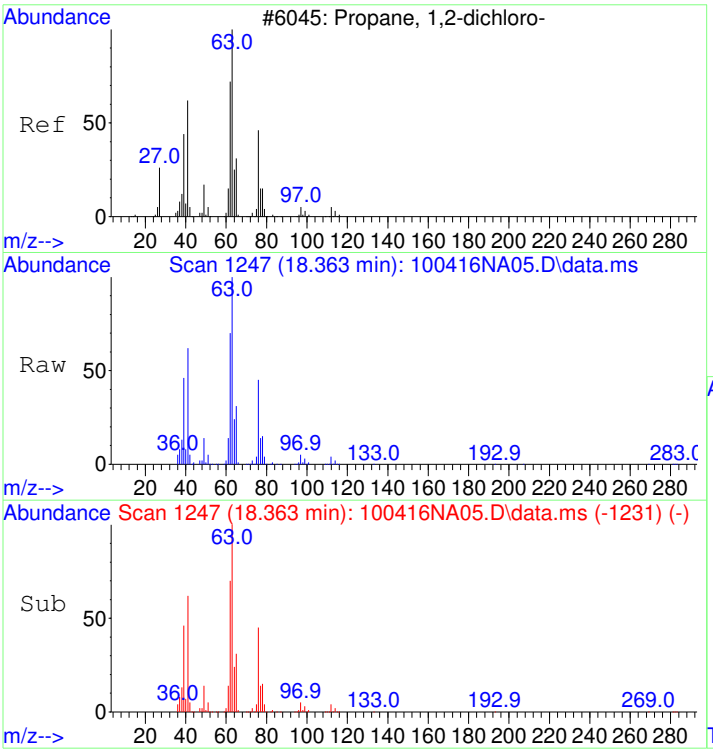


#37
Trichloroethene
Concen: 10.44 ppbv
RT: 17.865 min Scan# 1205
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion:130 Resp: 515550

Ion	Ratio	Lower	Upper
130	100		
132	96.9	76.9	116.9
95	99.4	79.4	119.4

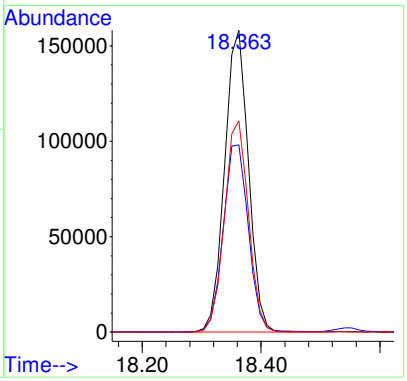


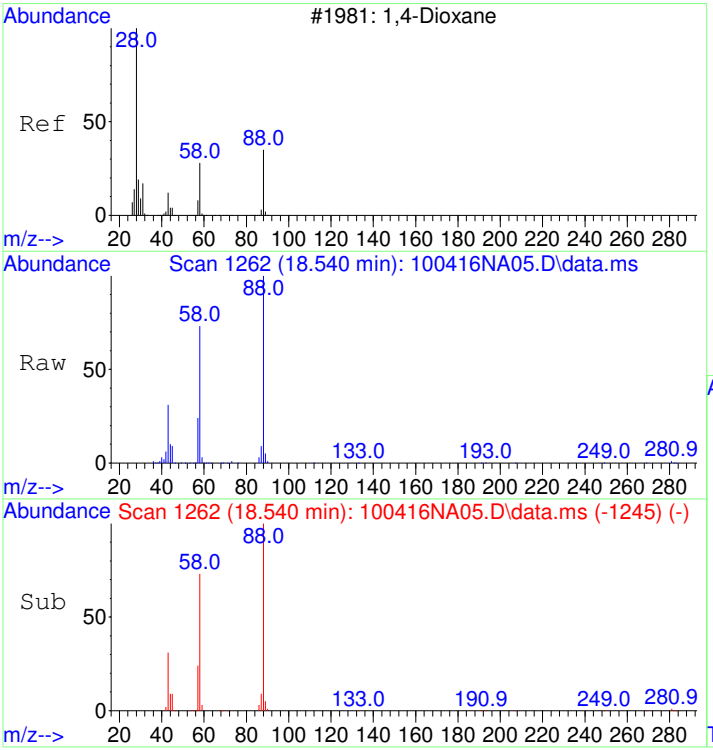


#38
1,2-Dichloropropane
Concen: 10.13 ppbv
RT: 18.363 min Scan# 1247
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 63 Resp: 442153

Ion	Ratio	Lower	Upper
63	100		
41	65.7	45.7	85.7
62	70.2	50.2	90.2

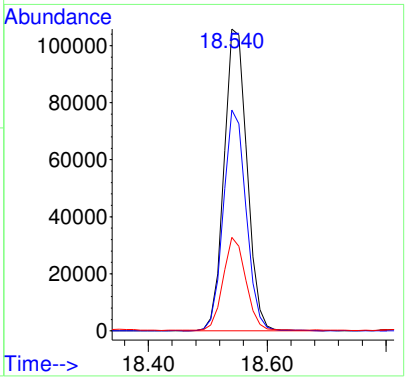


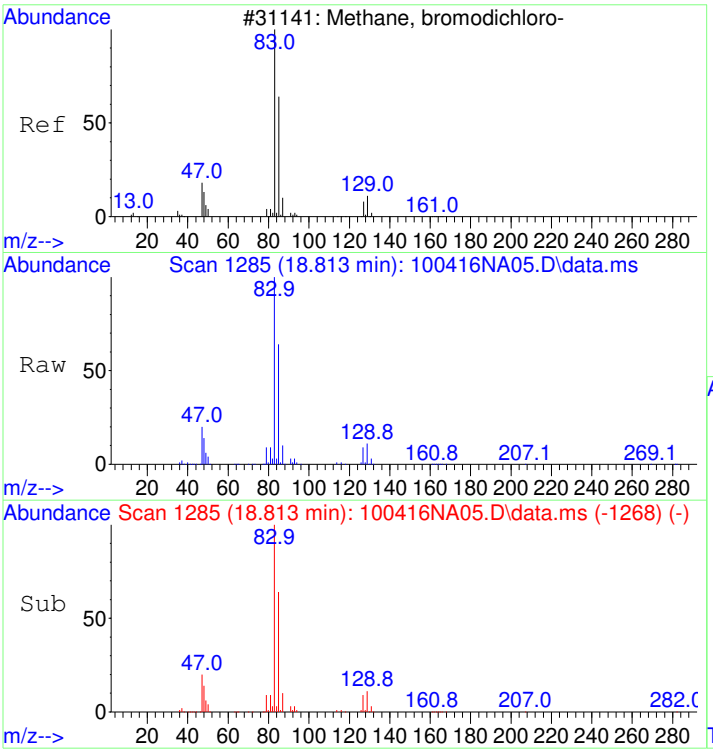


#39
1,4-Dioxane
Concen: 11.35 ppbv
RT: 18.540 min Scan# 1262
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 88 Resp: 284517

Ion	Ratio	Lower	Upper
88	100		
58	72.5	52.5	92.5
43	30.3	10.3	50.3

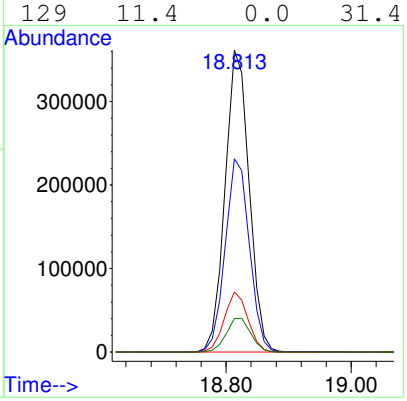


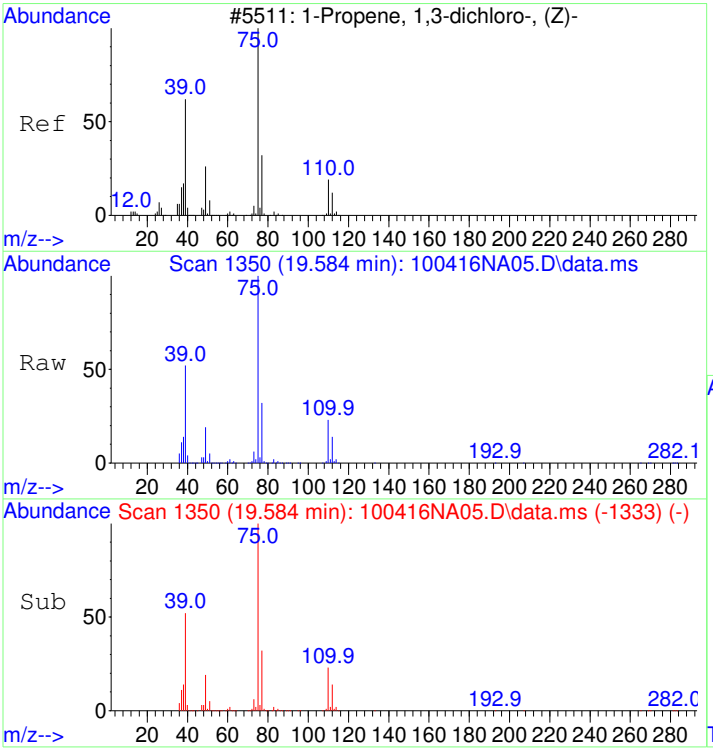


#40
Bromodichloromethane
Concen: 10.04 ppbv
RT: 18.813 min Scan# 1285
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 83 Resp: 970533

Ion	Ratio	Lower	Upper
83	100		
85	64.4	44.4	84.4
47	19.6	0.0	39.6
129	11.4	0.0	31.4

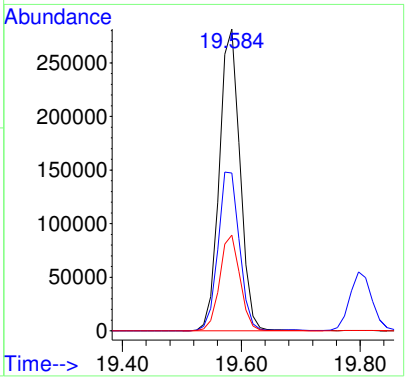


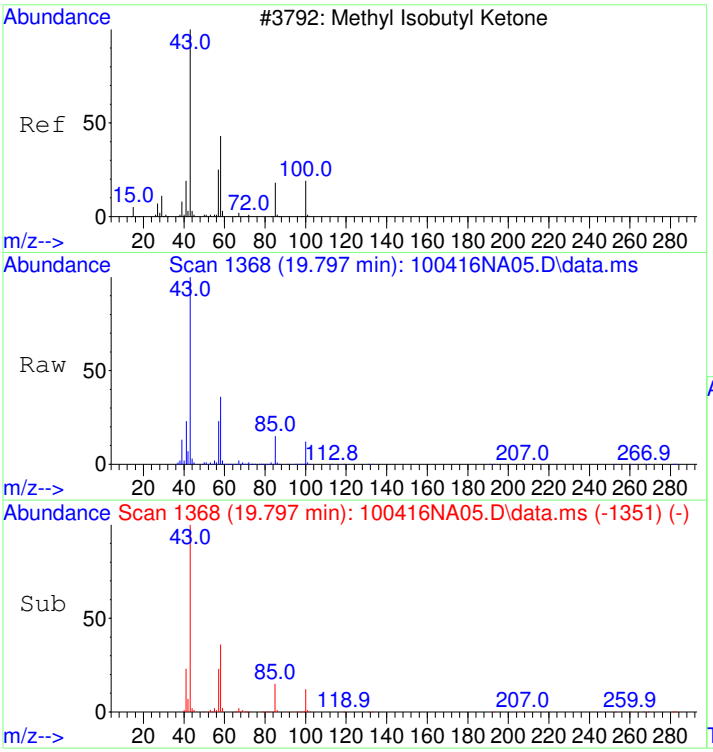


#41
cis-1,3-Dichloropropene
Concen: 11.23 ppbv
RT: 19.584 min Scan# 1350
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 75 Resp: 682177

Ion	Ratio	Lower	Upper
75	100		
39	54.8	34.8	74.8
77	31.3	11.3	51.3

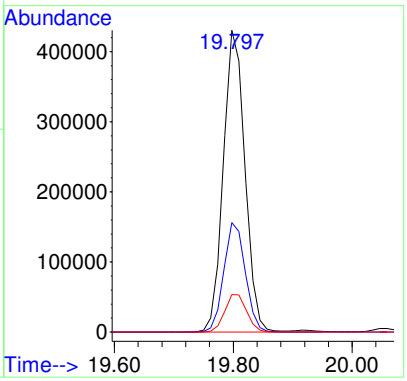


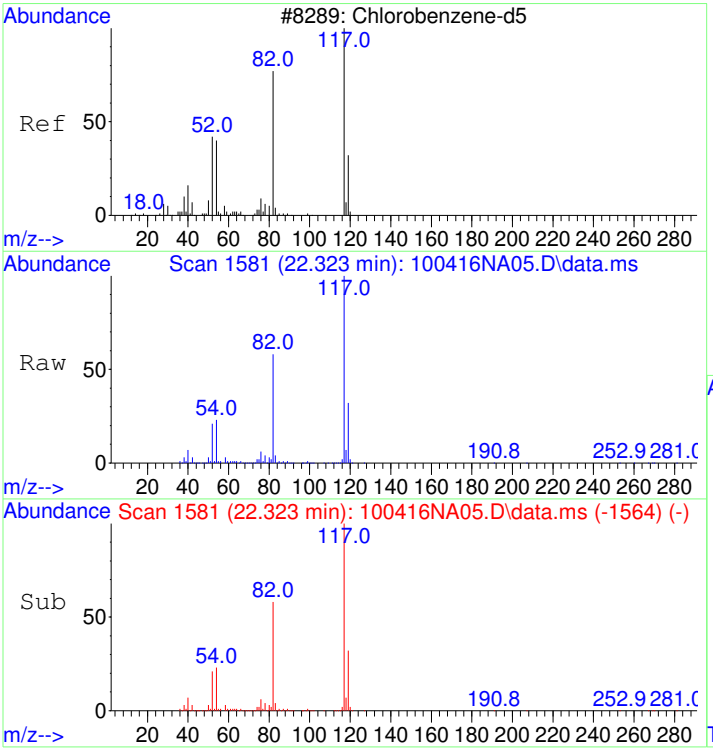


#42
4-Methyl-2-pentanone (MIBK)
Concen: 11.04 ppbv
RT: 19.797 min Scan# 1368
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 43 Resp: 1093728

Ion	Ratio	Lower	Upper
43	100		
58	36.0	16.0	56.0
100	12.7	0.0	32.7

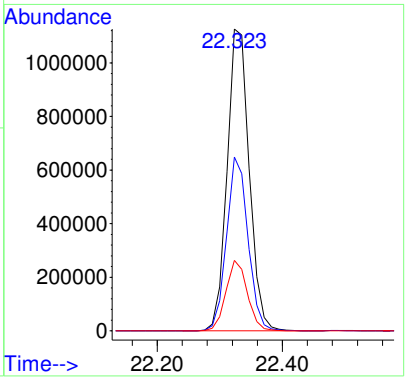


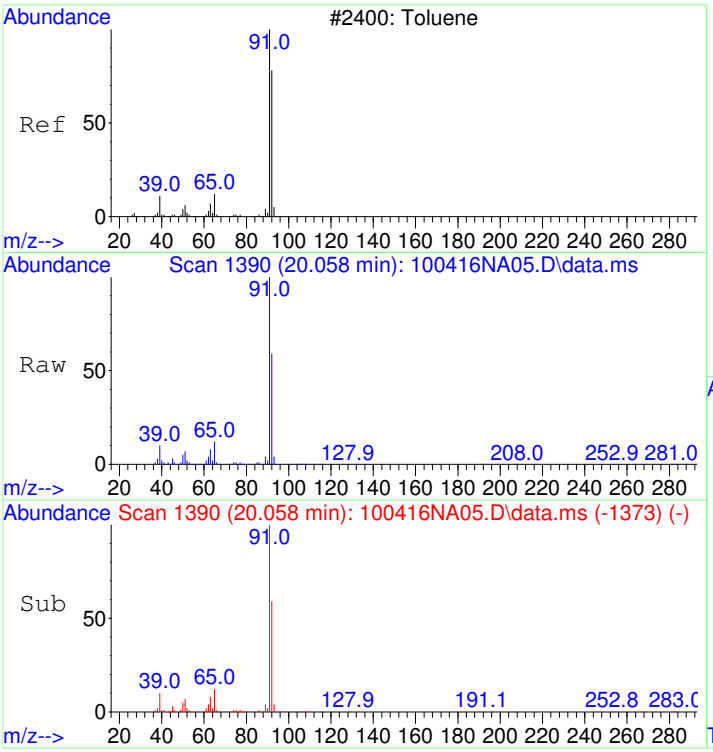


#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.323 min Scan# 1581
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion:117 Resp: 2774693

Ion	Ratio	Lower	Upper
117	100		
82	55.8	35.8	75.8
54	22.7	2.6	42.6

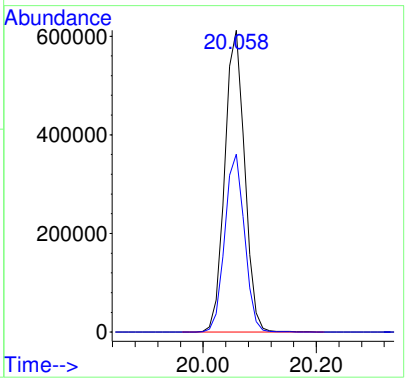


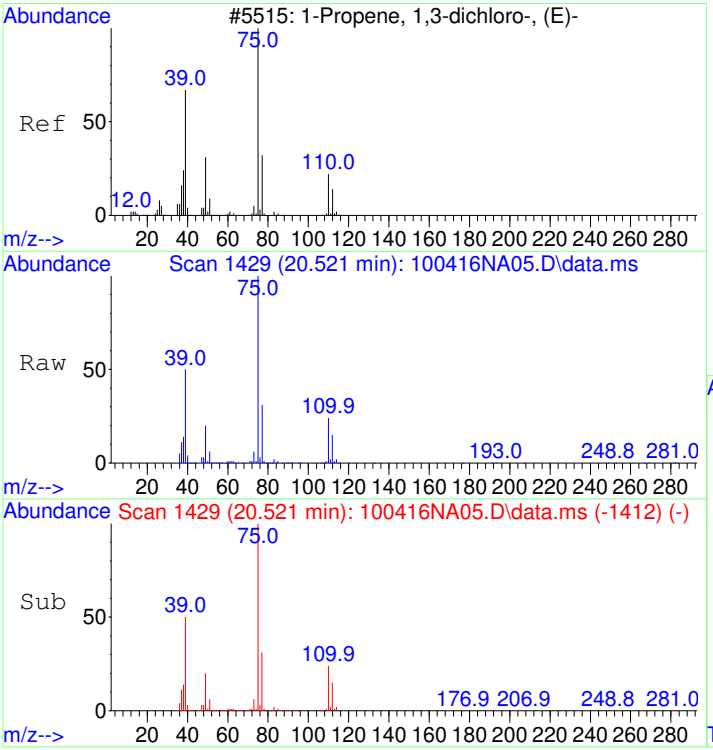


#44
Toluene
Concen: 10.65 ppbv
RT: 20.058 min Scan# 1390
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 91 Resp: 1495412

Ion	Ratio	Lower	Upper
91	100		
92	58.6	38.6	78.6

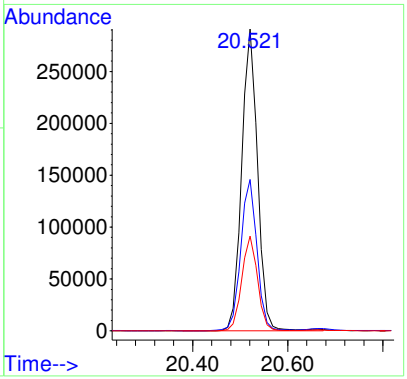


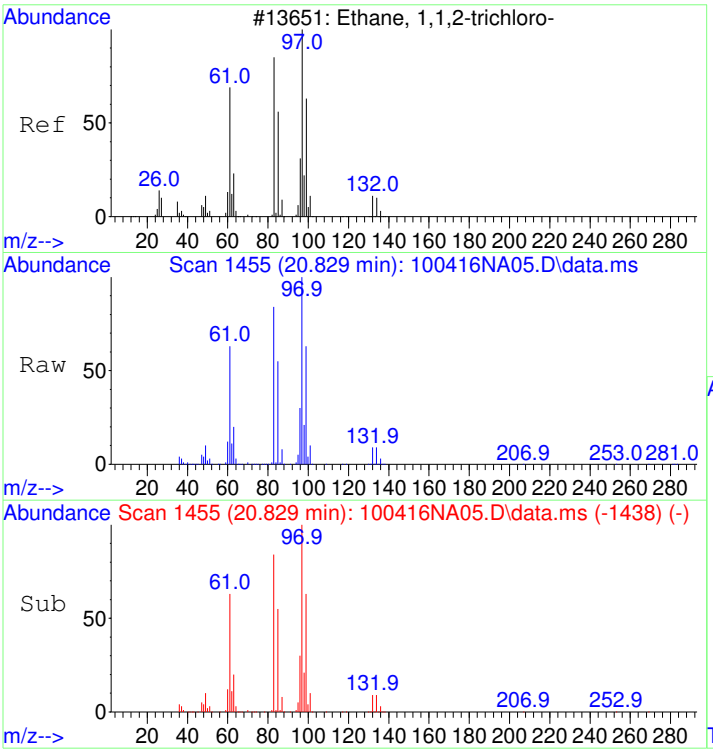


#45
trans-1,3-Dichloropropene
Concen: 10.99 ppbv
RT: 20.521 min Scan# 1429
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 75 Resp: 678265

Ion	Ratio	Lower	Upper
75	100		
39	50.9	31.0	71.0
77	31.1	11.2	51.2

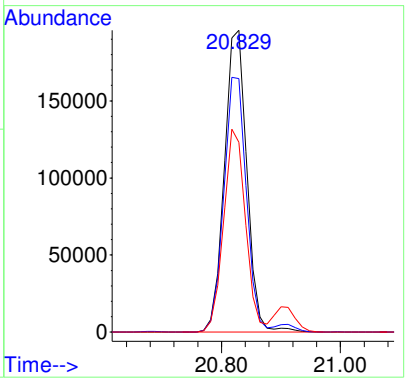


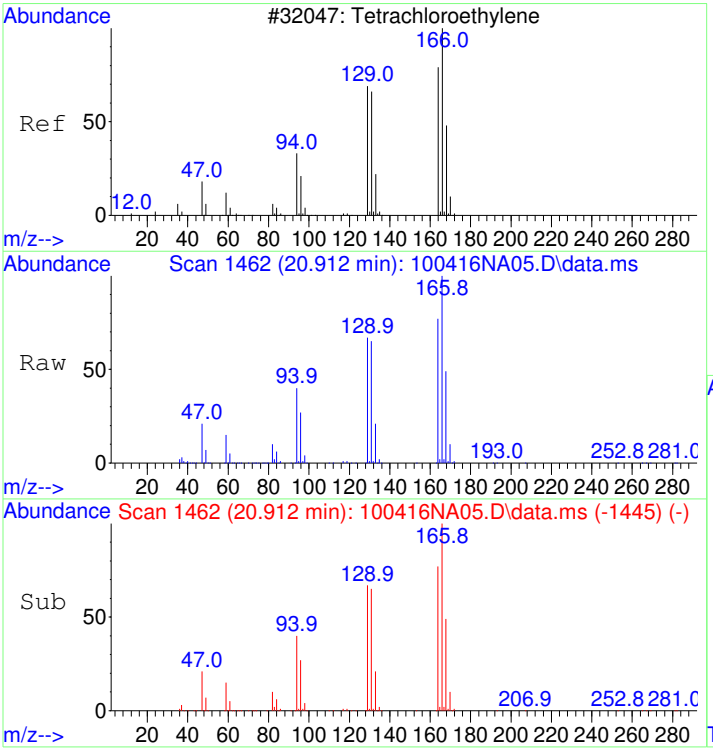


#46
1,1,2-Trichloroethane
Concen: 10.01 ppbv
RT: 20.829 min Scan# 1455
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 97 Resp: 515776

Ion	Ratio	Lower	Upper
97	100		
83	86.8	66.8	106.8
61	62.2	42.2	82.2

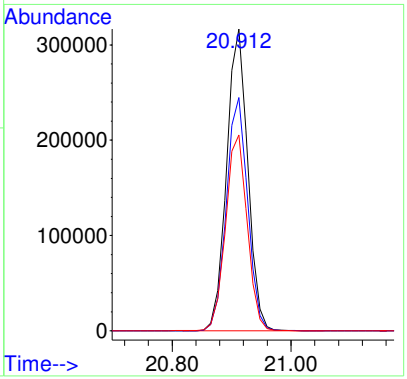


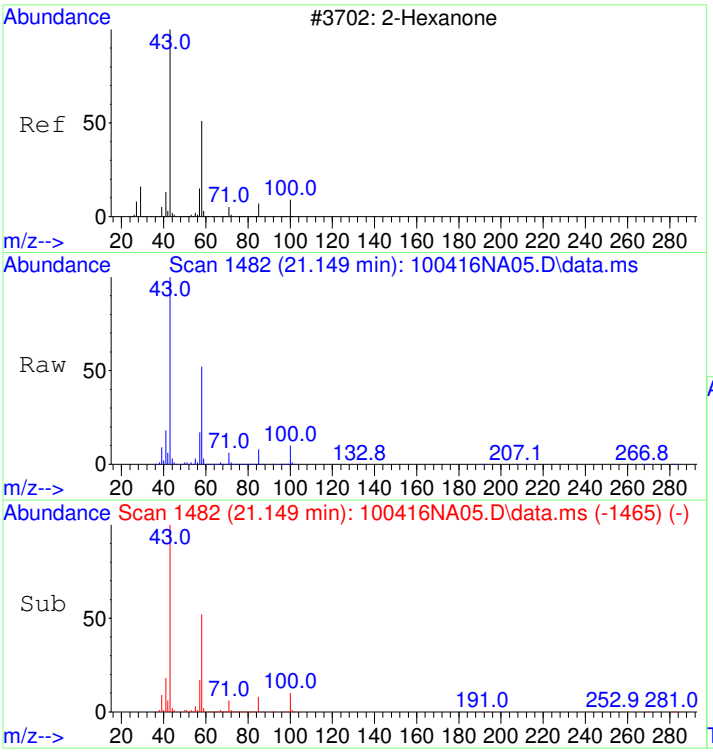


#47
Tetrachloroethene
Concen: 10.07 ppbv
RT: 20.912 min Scan# 1462
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion:166 Resp: 785426

Ion	Ratio	Lower	Upper
166	100		
164	77.9	57.9	97.9
131	66.4	46.4	86.4

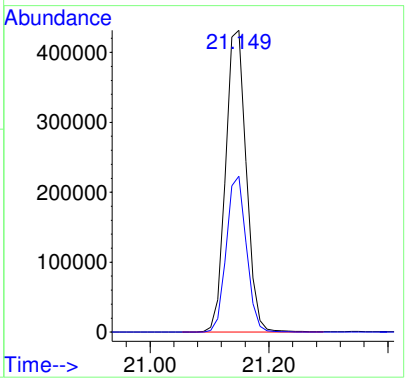


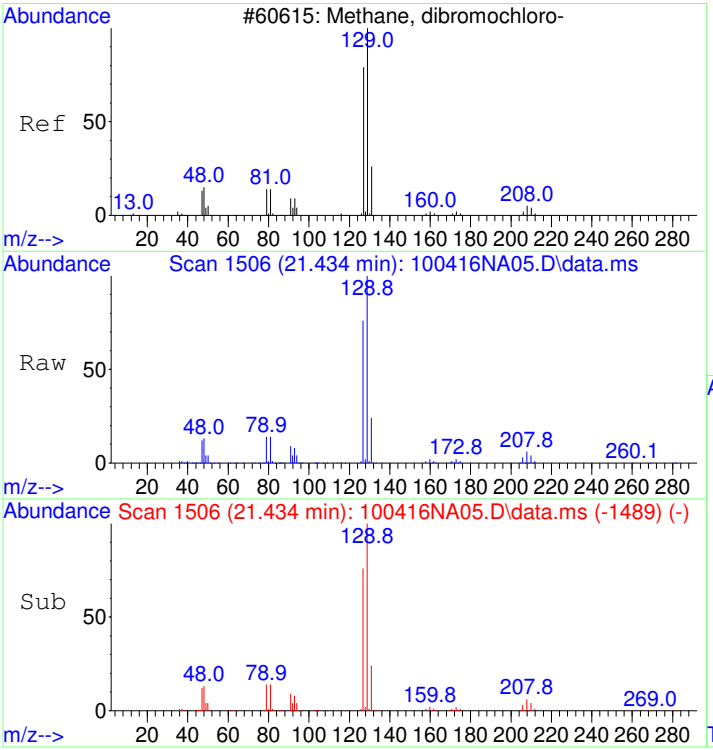


#48
2-Hexanone
Concen: 11.37 ppbv
RT: 21.149 min Scan# 1482
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 43 Resp: 1044182

Ion	Ratio	Lower	Upper
43	100		
58	50.2	30.2	70.2

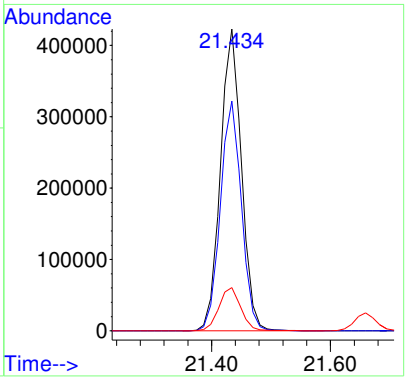


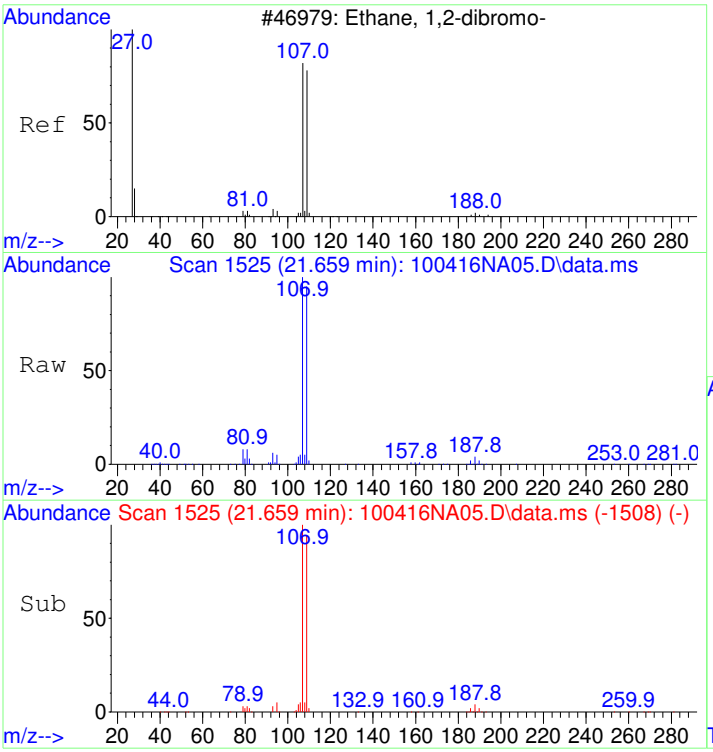


#49
Chlorodibromomethane
Concen: 10.09 ppbv
RT: 21.434 min Scan# 1506
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion:129 Resp: 1035836

Ion	Ratio	Lower	Upper
129	100		
127	76.5	56.5	96.5
79	15.1	0.0	35.1

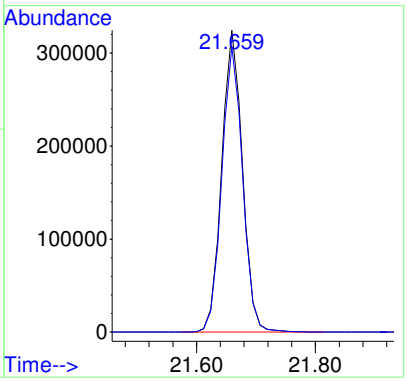


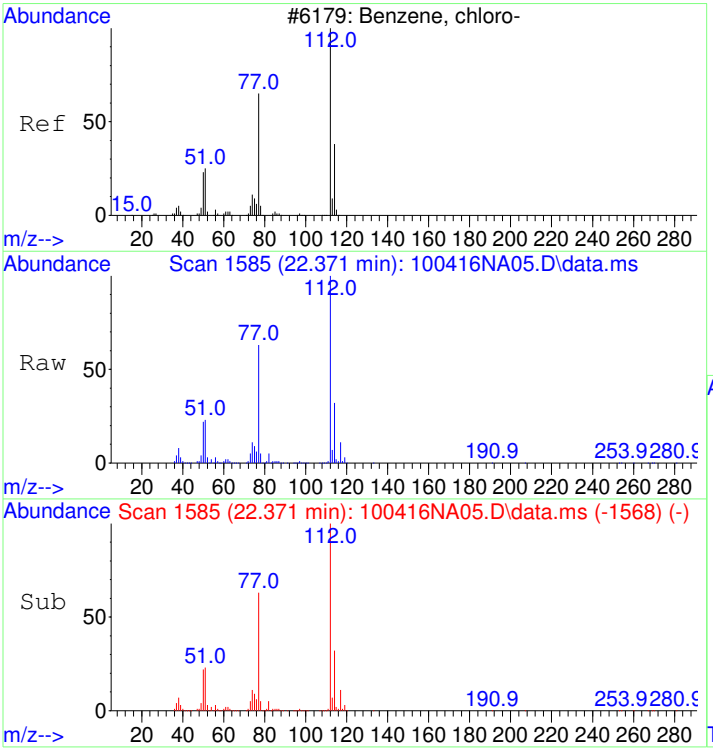


#50
1,2-Dibromoethane (EDB)
Concen: 10.47 ppbv
RT: 21.659 min Scan# 1525
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion:107 Resp: 786277

Ion	Ratio	Lower	Upper
107	100		
109	94.7	74.7	114.7

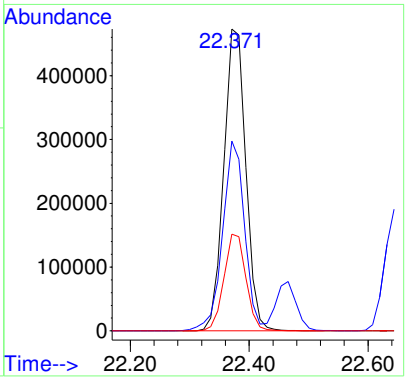


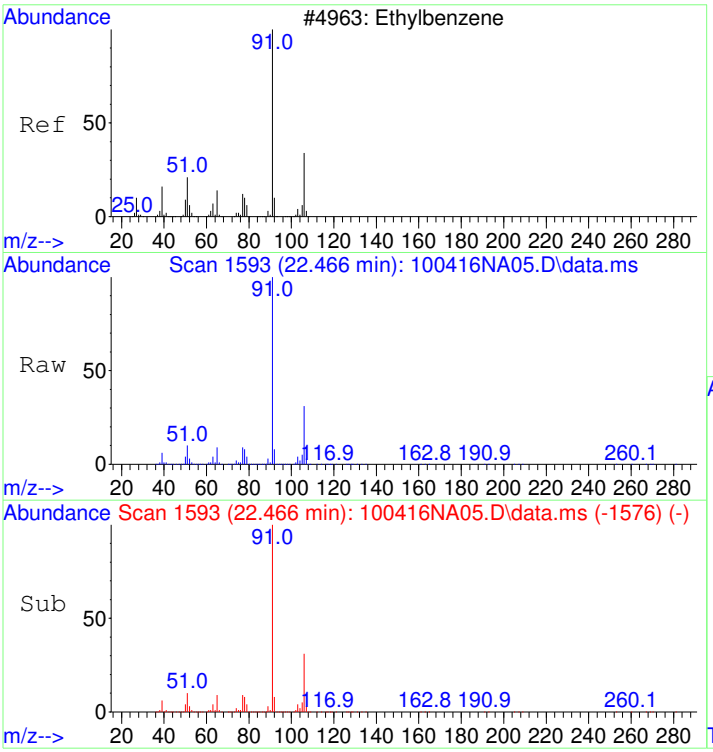


#51
Chlorobenzene
Concen: 10.00 ppbv
RT: 22.371 min Scan# 1585
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion:112 Resp: 1220390

Ion	Ratio	Lower	Upper
112	100		
77	62.7	42.7	82.7
114	32.0	12.0	52.0

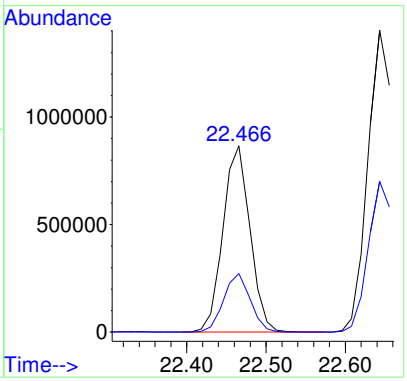


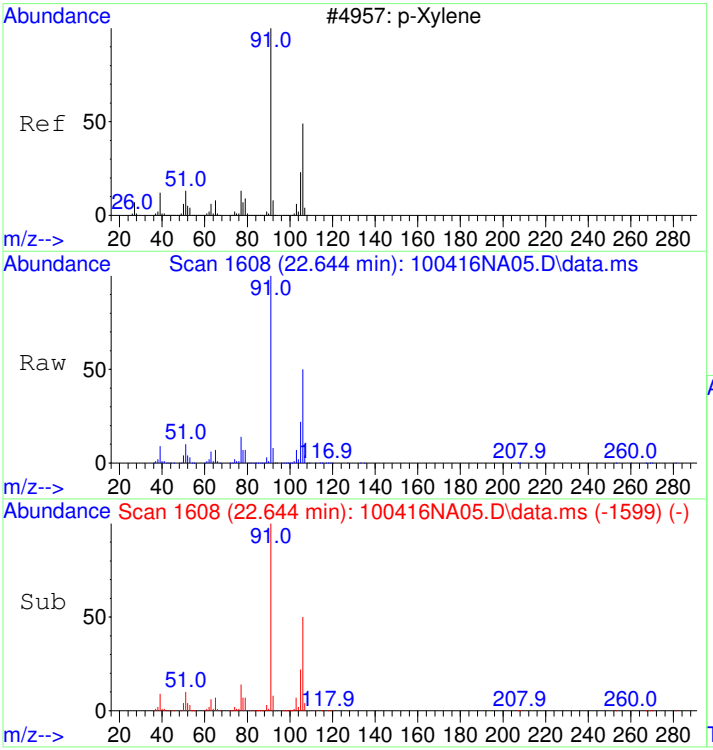


#52
Ethylbenzene
Concen: 10.40 ppbv
RT: 22.466 min Scan# 1593
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 91 Resp: 2056380

Ion	Ratio	Lower	Upper
91	100		
106	31.0	11.0	51.0

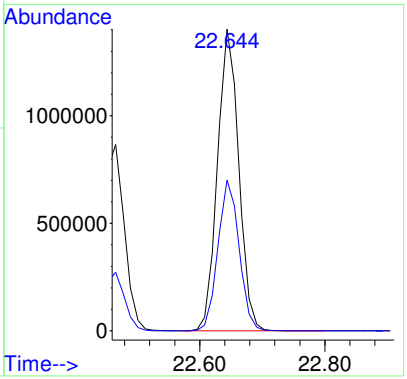


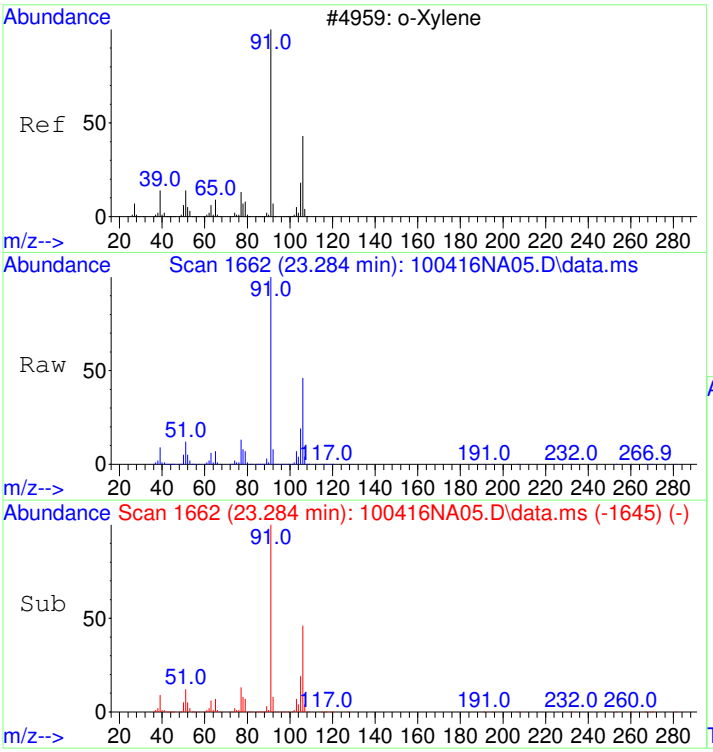


#53
m&p-Xylene
Concen: 21.15 ppbv
RT: 22.644 min Scan# 1608
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 91 Resp: 3324396

Ion	Ratio	Lower	Upper
91	100		
106	49.7	29.7	69.7

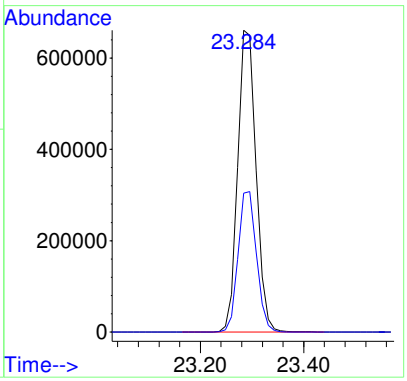


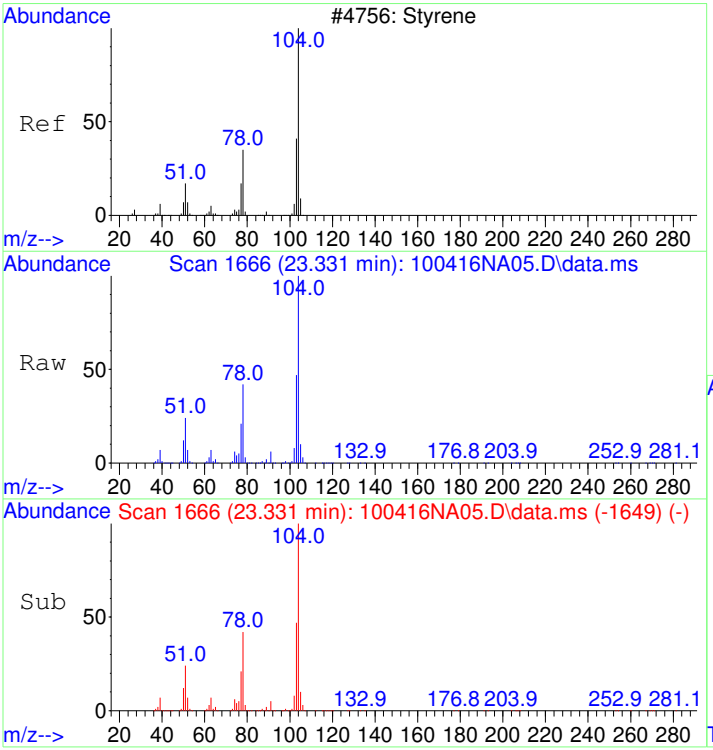


#54
o-Xylene
Concen: 10.70 ppbv
RT: 23.284 min Scan# 1662
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 91 Resp: 1624142

Ion	Ratio	Lower	Upper
91	100		
106	46.8	26.8	66.8

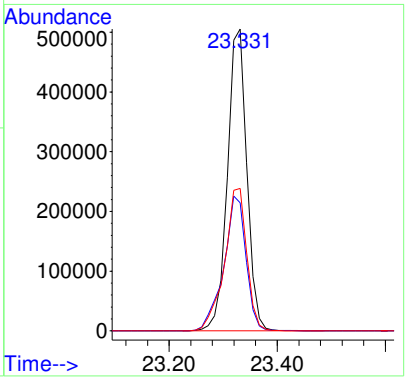


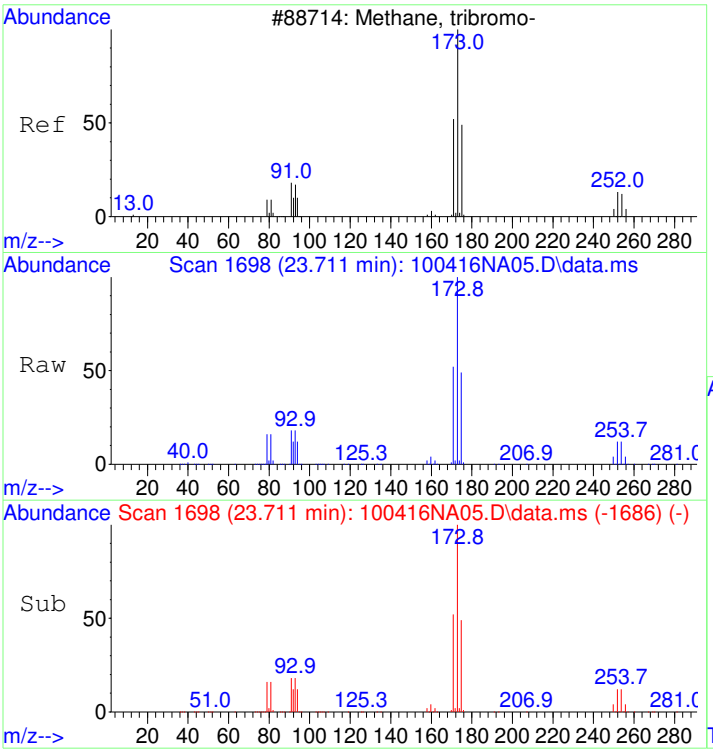


#55
Styrene
Concen: 10.31 ppbv
RT: 23.331 min Scan# 1666
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion:104 Resp: 1262541

Ion	Ratio	Lower	Upper
104	100		
78	51.2	31.2	71.2
103	54.0	34.0	74.0

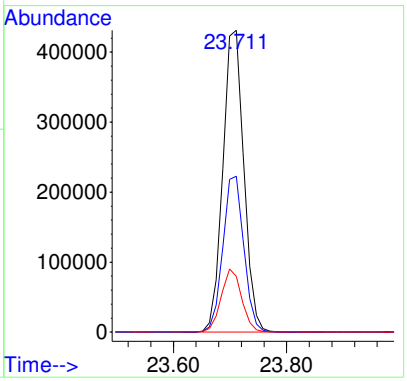


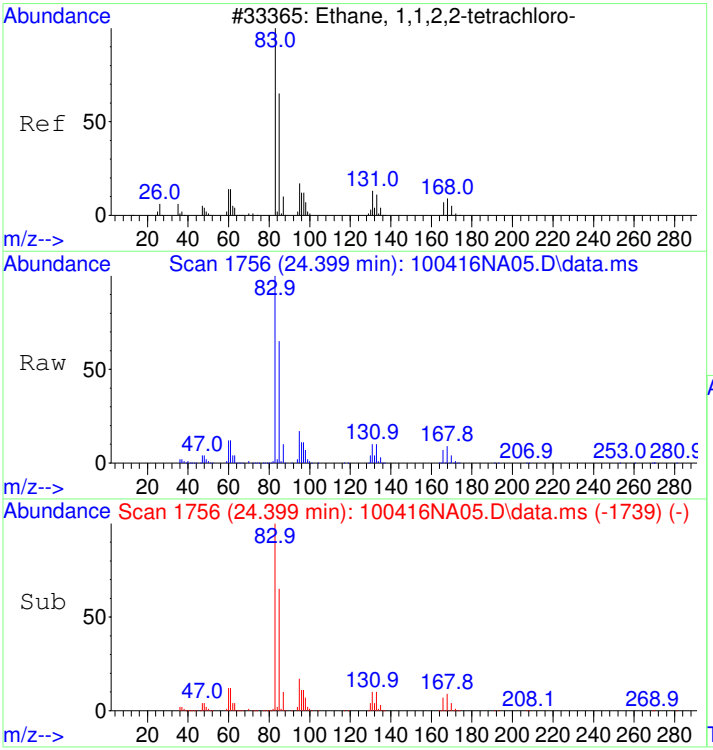


#56
Bromoform
Concen: 9.91 ppbv
RT: 23.711 min Scan# 1698
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion:173 Resp: 1111099

Ion	Ratio	Lower	Upper
173	100		
171	51.6	31.6	71.6
91	20.2	0.2	40.2

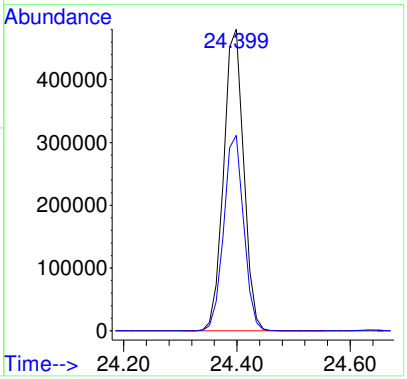


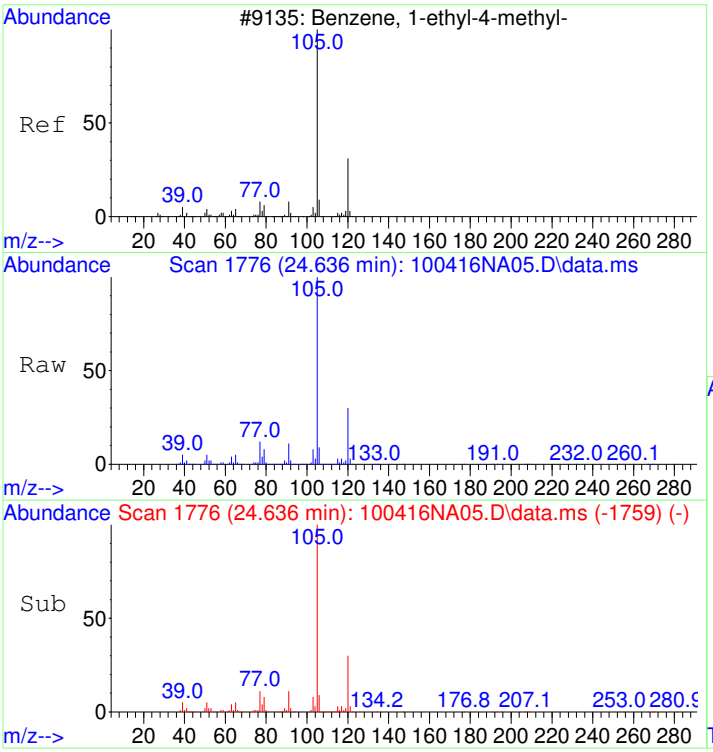


#57
1,1,2,2-Tetrachloroethane
Concen: 9.66 ppbv
RT: 24.399 min Scan# 1756
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 83 Resp: 1182796

Ion	Ratio	Lower	Upper
83	100		
85	64.4	44.5	84.5

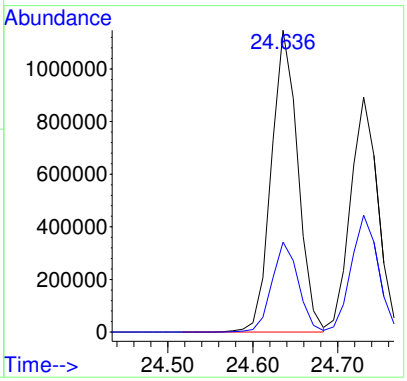


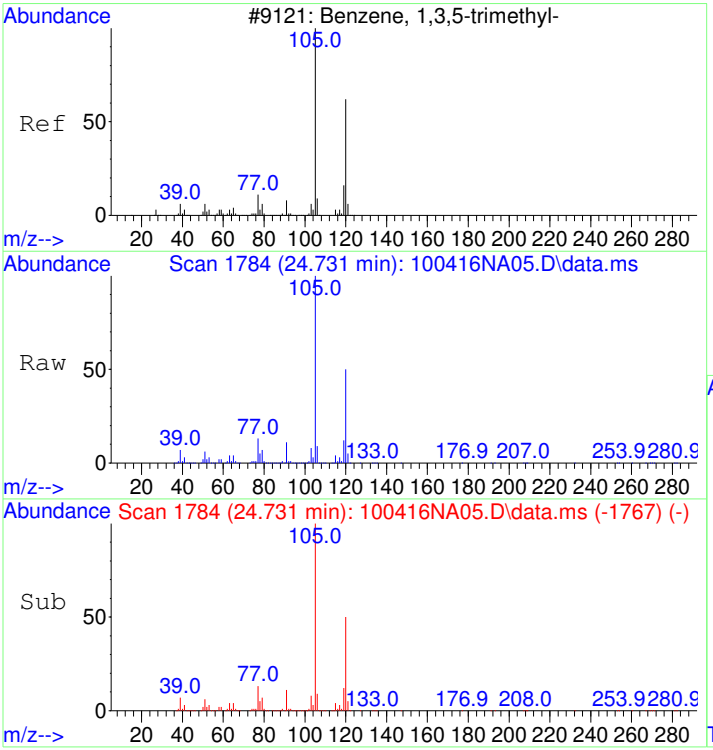


#58
4-Ethyltoluene
Concen: 10.97 ppbv
RT: 24.636 min Scan# 1776
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion:105 Resp: 2482204

Ion	Ratio	Lower	Upper
105	100		
120	29.8	9.8	49.8

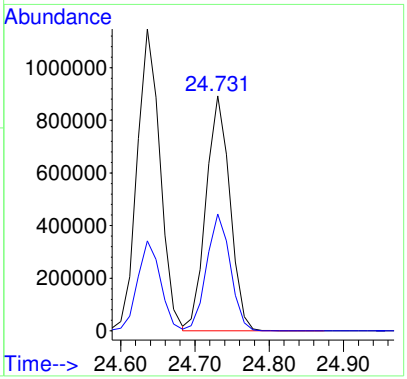


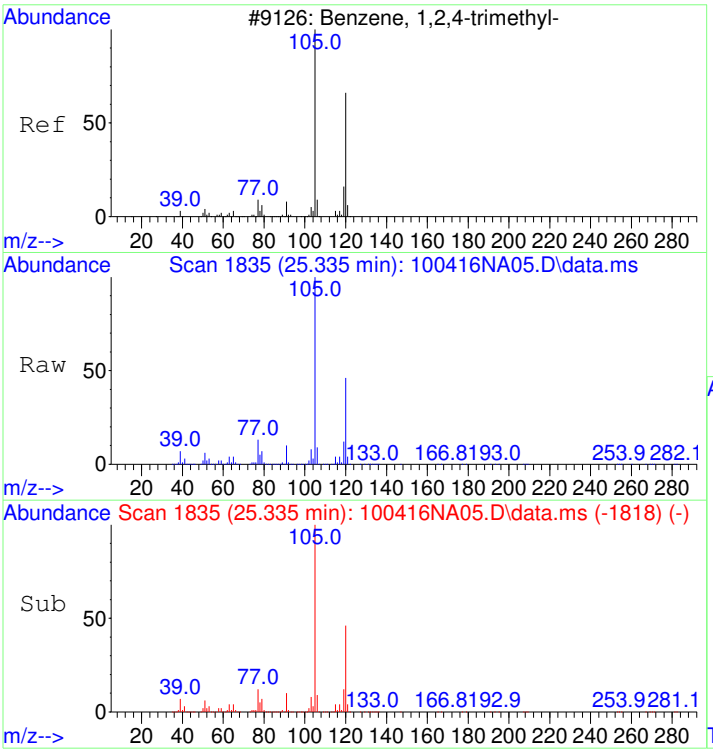


#59
1,3,5-Trimethylbenzene
Concen: 10.70 ppbv
RT: 24.731 min Scan# 1784
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion:105 Resp: 1991599

Ion	Ratio	Lower	Upper
105	100		
120	49.4	29.4	69.4

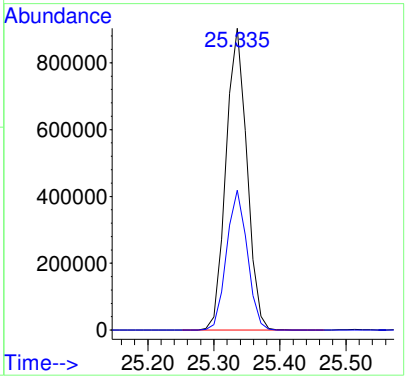


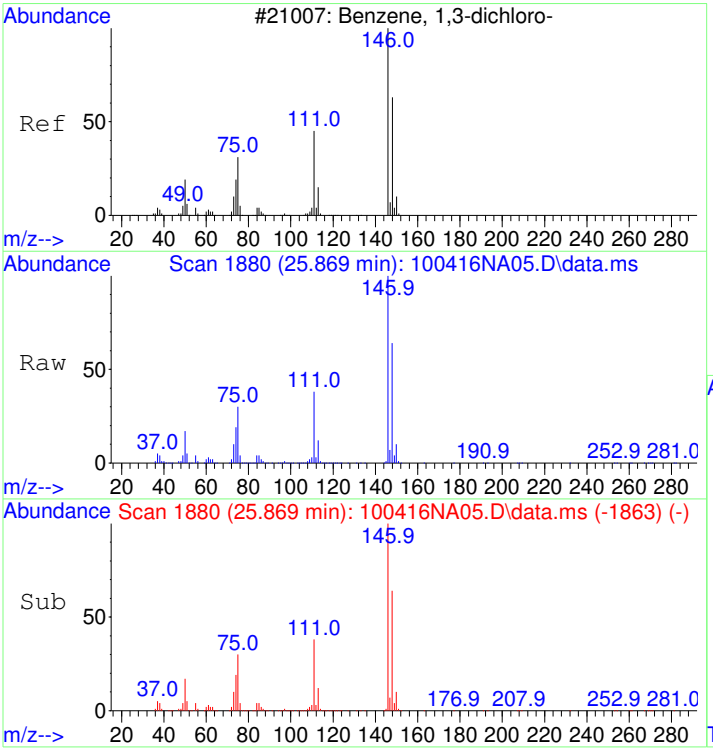


#60
1,2,4-Trimethylbenzene
Concen: 10.89 ppbv
RT: 25.335 min Scan# 1835
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion:105 Resp: 1982298

Ion	Ratio	Lower	Upper
105	100		
120	46.0	25.9	65.9

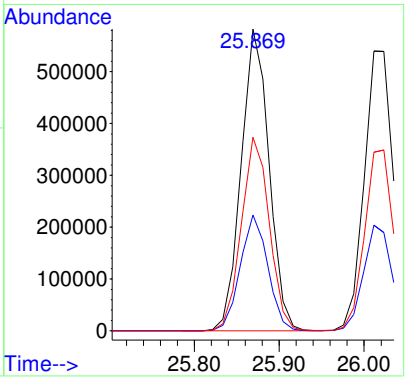


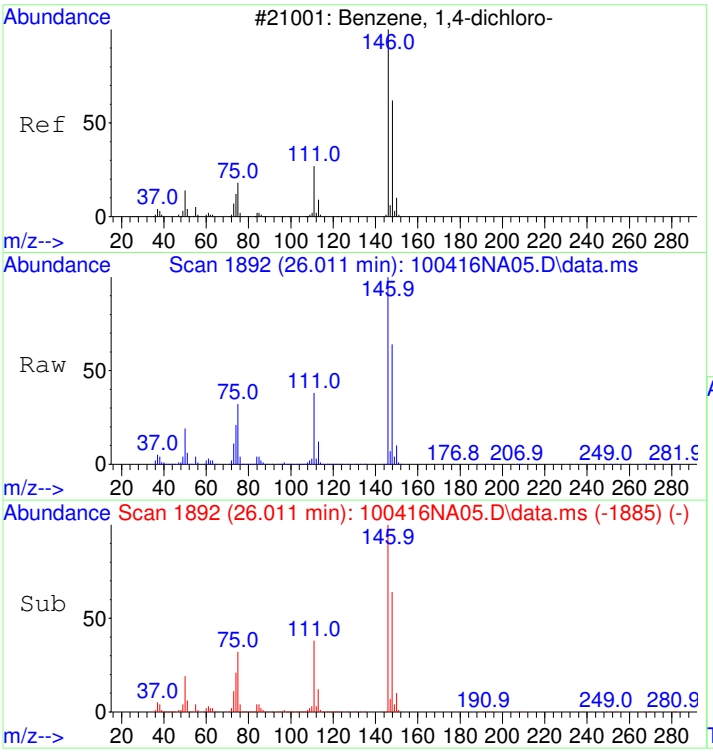


#61
1,3-Dichlorobenzene
Concen: 10.16 ppbv
RT: 25.869 min Scan# 1880
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion:146 Resp: 1333945

Ion	Ratio	Lower	Upper
146	100		
111	38.0	18.0	58.0
148	64.2	44.2	84.2

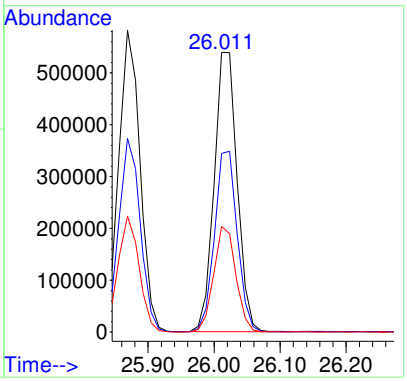


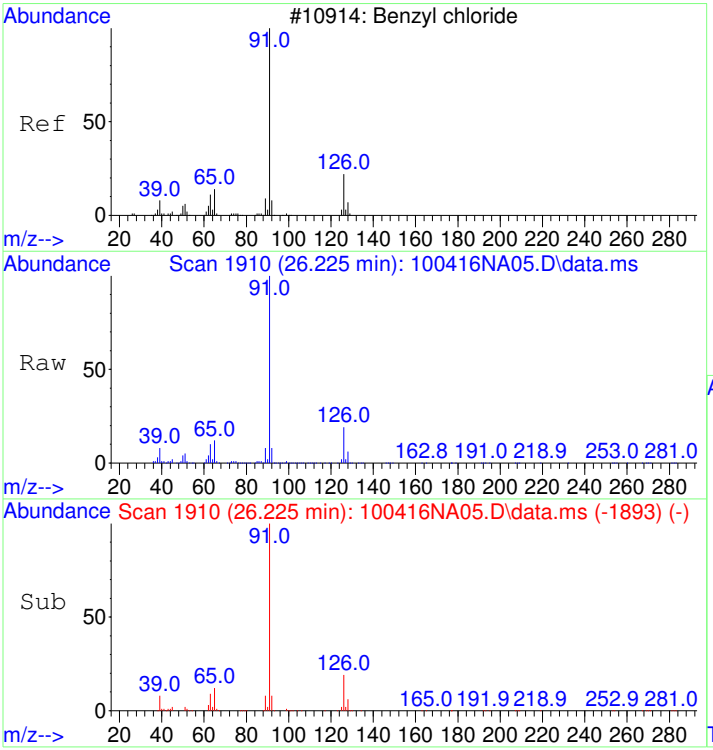


#62
1,4-Dichlorobenzene
Concen: 10.33 ppbv
RT: 26.011 min Scan# 1892
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion:146 Resp: 1305344

Ion	Ratio	Lower	Upper
146	100		
148	64.0	44.0	84.0
111	36.4	16.4	56.4

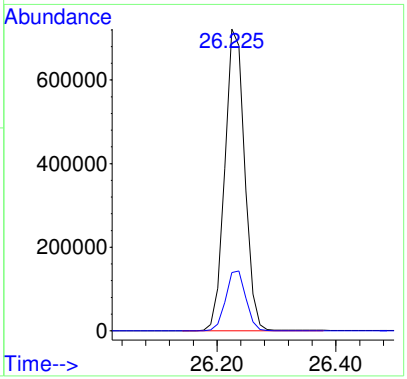


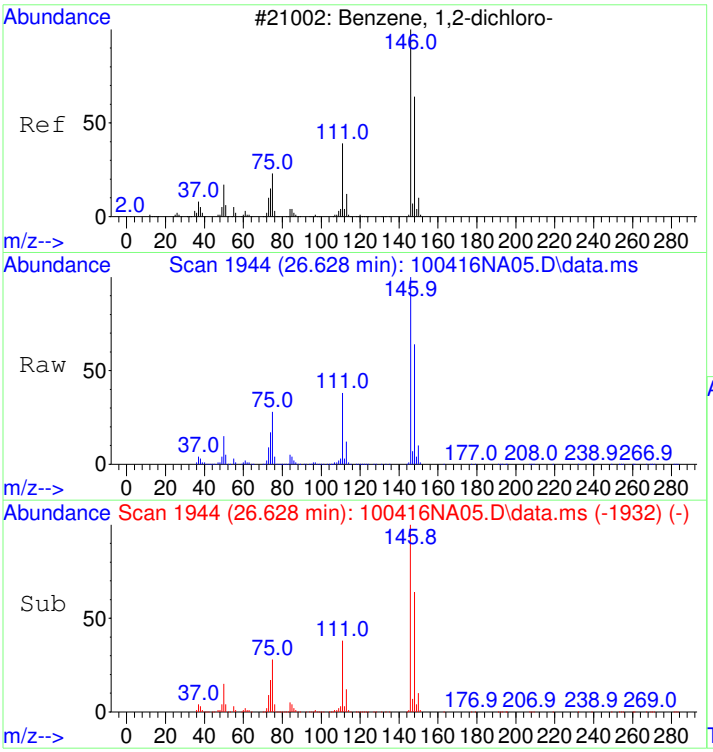


#63
Benzyl chloride
Concen: 11.28 ppbv
RT: 26.225 min Scan# 1910
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion: 91 Resp: 1681418

Ion	Ratio	Lower	Upper
91	100		
126	20.1	0.1	40.1

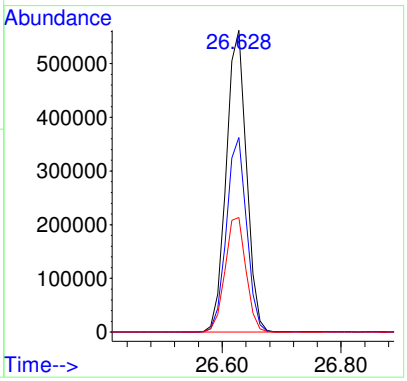


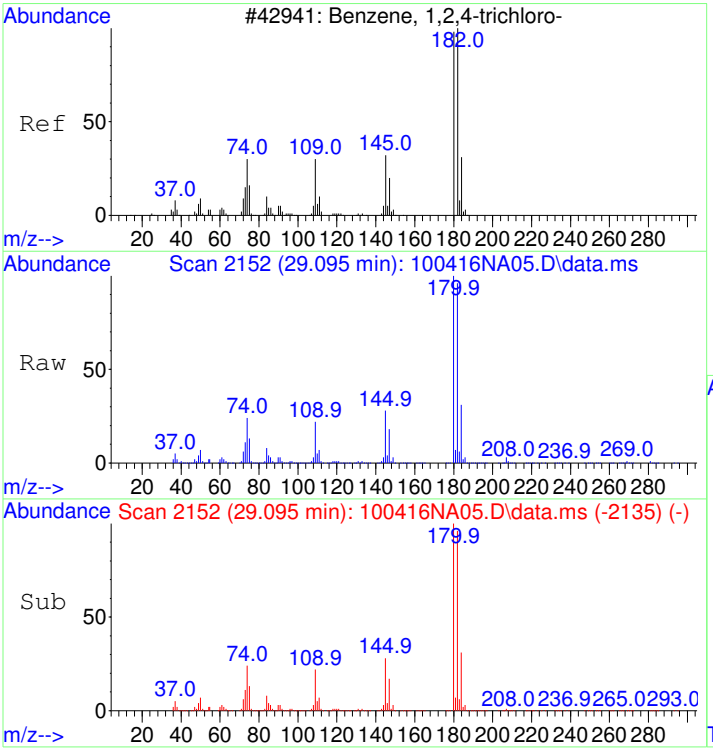


#64
1,2-Dichlorobenzene
Concen: 9.98 ppbv
RT: 26.628 min Scan# 1944
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion:146 Resp: 1331289

Ion	Ratio	Lower	Upper
146	100		
148	64.3	44.2	84.2
111	39.2	19.2	59.2

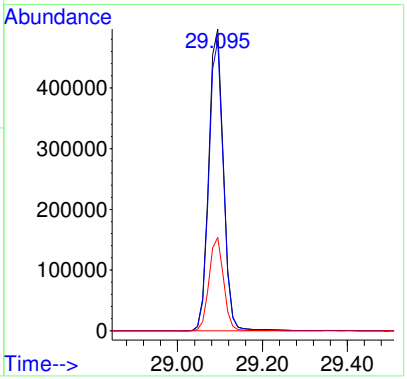


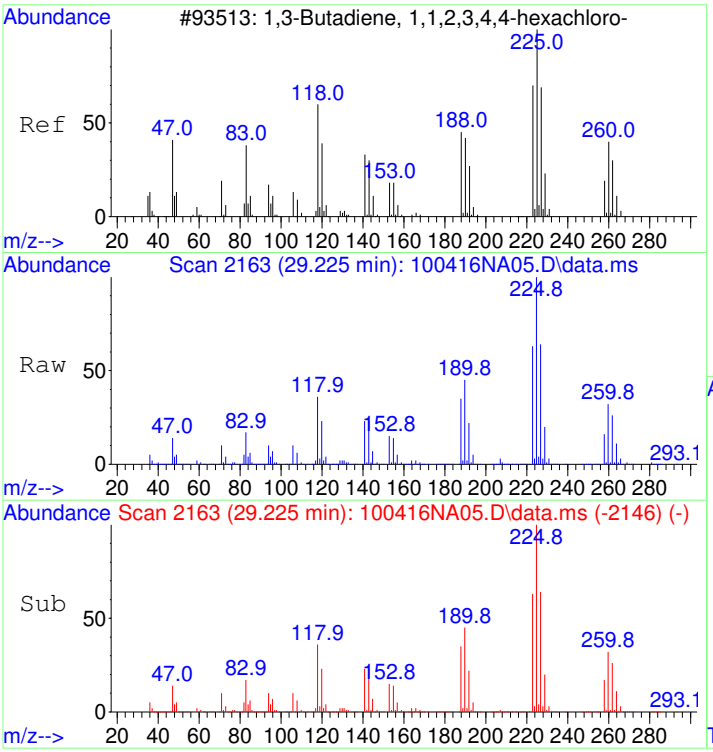


#65
1,2,4-Trichlorobenzene
Concen: 10.34 ppbv
RT: 29.095 min Scan# 2152
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion:180 Resp: 1193203

Ion	Ratio	Lower	Upper
180	100		
182	95.3	75.4	115.4
184	30.6	10.6	50.6

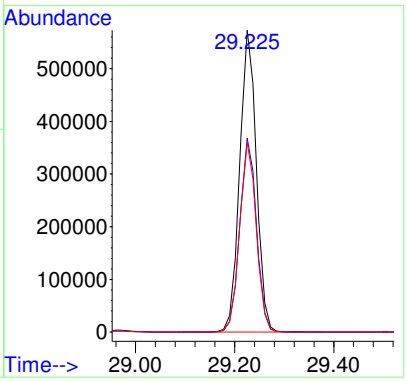




#66
Hexachlorobutadiene
Concen: 9.58 ppbv
RT: 29.225 min Scan# 2163
Delta R.T. 0.000 min
Lab File: 100416NA05.D
Acq: 4 Oct 2016 6:22 pm

Tgt Ion:225 Resp: 1339234

Ion	Ratio	Lower	Upper
225	100		
227	64.4	44.4	84.4
223	62.2	42.2	82.2



S16J013-CAL5

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\100416_FSAAA\
Data File : 100416NA06.D
Acq On : 4 Oct 2016 7:10 pm
InstName : AG5973N
Operator : LLH
Sample : S16J013-CAL5
Misc : 15ppbv 1638119
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Oct 05 13:11:19 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:11:11 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.469	49	1137966	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	3336672	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.335	117	2791532	20.00	ppbv	0.01
Target Compounds						Qvalue
2) Propene	4.476	41	516915	15.91	ppbv	100
3) Dichlorodifluoromethane	4.571	85	1675713	12.84	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.915	85	1624683	13.24	ppbv	99
5) Chloromethane	5.116	50	535455	14.30	ppbv	99
6) Vinyl chloride	5.437	62	570844	14.57	ppbv	100
7) 1,3-Butadiene	5.543	54	436343	14.39	ppbv	99
8) Bromomethane	6.480	94	502641	13.30	ppbv	99
9) Chloroethane	6.812	64	265067	13.76	ppbv	99
10) Bromoethene	7.381	106	492577	15.31	ppbv	100
11) Trichlorofluoromethane	7.524	101	1492751	12.79	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.350	151	966007	13.15	ppbv	100
13) 1,1-Dichloroethene	9.433	61	852360	15.73	ppbv	100
14) Acetone	9.967	43	913048	15.08	ppbv	100
15) Carbon disulfide	10.156	76	1452724	14.70	ppbv	100
16) 2-Propanol	10.571	45	812289	16.69	ppbv	93
17) Allyl chloride	10.963	41	737231	17.32	ppbv	100
18) Dichloromethane	11.496	49	667479	12.12	ppbv	100
19) tert-Butyl methyl ethe...	12.160	73	1581638	16.46	ppbv	100
20) trans-1,2-Dichloroethene	12.196	61	832399	15.22	ppbv	100
21) Hexane	12.789	57	911965	16.29	ppbv	98
22) 1,1-Dichloroethane	13.512	63	1029016	13.78	ppbv	99
23) Vinyl acetate	13.655	43	1411871	17.42	ppbv	100
24) cis-1,2-Dichloroethene	14.947	61	753222	15.95	ppbv	100
25) 2-Butanone (MEK)	15.030	72	296507	15.73	ppbv #	1
26) Ethyl acetate	15.078	61	196698	15.08	ppbv #	100
27) Tetrahydrofuran	15.481	42	730648	15.26	ppbv	99
28) Chloroform	15.635	83	1259586	13.41	ppbv	100
29) Cyclohexane	15.860	56	975464	16.32	ppbv	99
30) 1,1,1-Trichloroethane	15.908	97	1375067	13.11	ppbv	100
31) Carbon tetrachloride	16.169	117	1447357	12.88	ppbv	100
33) Benzene	16.643	78	1867796	14.58	ppbv	100
34) 2,2,4-Trimethylpentane	16.595	57	3074986	16.94	ppbv	99
35) 1,2-Dichloroethane	16.845	62	861676	14.18	ppbv	100
36) Heptane	16.975	43	1204141	16.96	ppbv	100
37) Trichloroethene	17.864	130	796887	16.01	ppbv	99
38) 1,2-Dichloropropane	18.362	63	672652	15.29	ppbv	99
39) 1,4-Dioxane	18.552	88	431985	17.10	ppbv	99
40) Bromodichloromethane	18.813	83	1461893	15.01	ppbv	100
41) cis-1,3-Dichloropropene	19.584	75	1070336	17.50	ppbv	99
42) 4-Methyl-2-pentanone (...	19.797	43	1639161	16.42	ppbv	99
44) Toluene	20.058	91	2274780	16.11	ppbv	99
45) trans-1,3-Dichloropropene	20.521	75	1048382	16.88	ppbv	100
46) 1,1,2-Trichloroethane	20.829	97	769656	14.85	ppbv	99
47) Tetrachloroethene	20.912	166	1189974	15.16	ppbv	100
48) 2-Hexanone	21.149	43	1572021	17.01	ppbv	99
49) Chlorodibromomethane	21.434	129	1570830	15.20	ppbv	100
50) 1,2-Dibromoethane (EDB)	21.659	107	1193588	15.80	ppbv	100
51) Chlorobenzene	22.371	112	1818841	14.81	ppbv	100
52) Ethylbenzene	22.465	91	3105784	15.61	ppbv	100
53) m&p-Xylene	22.643	91	5021139	31.75	ppbv	100
54) o-Xylene	23.284	91	2470419	16.17	ppbv	100

Data Path : D:\msdchem\1\2016\data\100416_FSAAA\
Data File : 100416NA06.D
Acq On : 4 Oct 2016 7:10 pm
InstName : AG5973N
Operator : LLH
Sample : S16J013-CAL5
Misc : 15ppbv 1638119
ALS Vial : 32 Sample Multiplier: 1

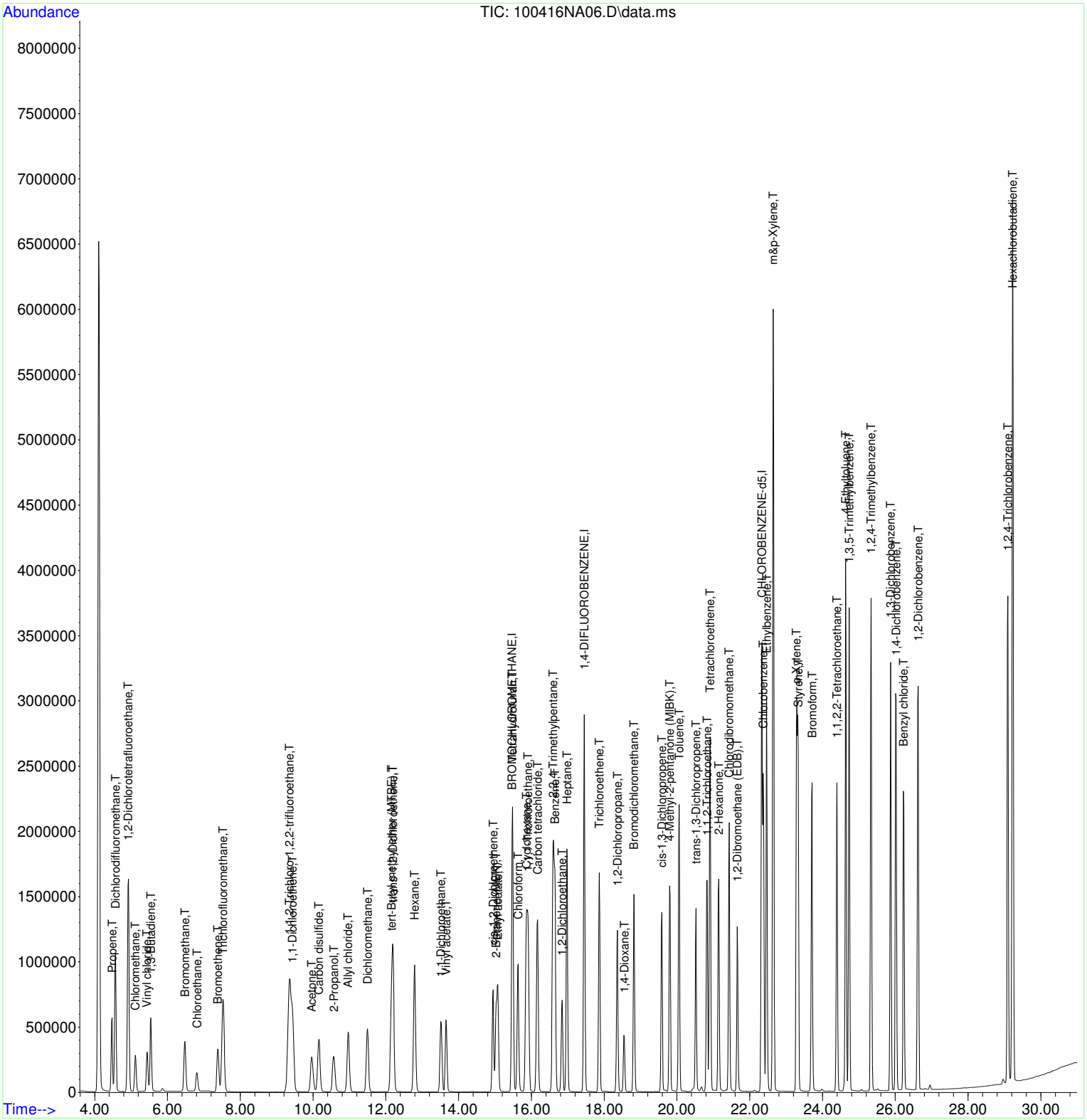
Quant Time: Oct 05 13:11:19 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:11:11 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55) Styrene	23.331	104	1898706	15.42	ppbv	100
56) Bromoform	23.711	173	1692980	15.00	ppbv	99
57) 1,1,2,2-Tetrachloroethane	24.398	83	1742405	14.15	ppbv	100
58) 4-Ethyltoluene	24.636	105	3727428	16.37	ppbv	100
59) 1,3,5-Trimethylbenzene	24.730	105	2955440	15.78	ppbv	100
60) 1,2,4-Trimethylbenzene	25.335	105	2967343	16.20	ppbv	100
61) 1,3-Dichlorobenzene	25.869	146	1966179	14.89	ppbv	99
62) 1,4-Dichlorobenzene	26.023	146	1921025	15.11	ppbv	99
63) Benzyl chloride	26.225	91	2521281	16.81	ppbv	100
64) 1,2-Dichlorobenzene	26.628	146	1954869	14.57	ppbv	100
65) 1,2,4-Trichlorobenzene	29.094	180	1833644	15.79	ppbv	100
66) Hexachlorobutadiene	29.225	225	2037004	14.48	ppbv	100

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

Data Path : D:\msdchem\1\2016\data\100416_FSAAA\
Data File : 100416NA06.D
Acq On : 4 Oct 2016 7:10 pm
InstName : AG5973N
Operator : LLH
Sample : S16J013-CAL5
Misc : 15ppbv 1638119
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Oct 05 13:11:19 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:11:11 2016
Response via : Initial Calibration



S16J013-CAL6

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\100416_FSAAA\
Data File : 100416NA07.D
Acq On : 4 Oct 2016 8:00 pm
InstName : AG5973N
Operator : LLH
Sample : S16J013-CAL6
Misc : 20ppbv 1638120
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Oct 05 13:12:41 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:12:14 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.469	49	1119945	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	3275971	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.335	117	2749859	20.00	ppbv	0.01
Target Compounds						Qvalue
2) Propene	4.464	41	684600	21.63	ppbv	100
3) Dichlorodifluoromethane	4.559	85	2224428	17.70	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.915	85	2162004	18.32	ppbv	99
5) Chloromethane	5.105	50	710582	19.51	ppbv	100
6) Vinyl chloride	5.437	62	754153	19.74	ppbv	100
7) 1,3-Butadiene	5.532	54	579375	19.55	ppbv	98
8) Bromomethane	6.468	94	664938	18.11	ppbv	99
9) Chloroethane	6.800	64	347184	18.43	ppbv	100
10) Bromoethene	7.370	106	655535	21.43	ppbv	99
11) Trichlorofluoromethane	7.524	101	1952411	17.40	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.350	151	1258856	18.02	ppbv	100
13) 1,1-Dichloroethene	9.433	61	1145617	22.15	ppbv	100
14) Acetone	9.955	43	1225805	20.99	ppbv	100
15) Carbon disulfide	10.156	76	1908242	20.04	ppbv	100
16) 2-Propanol	10.560	45	1117041	24.26	ppbv	89
17) Allyl chloride	10.963	41	1000497	24.40	ppbv	100
18) Dichloromethane	11.485	49	867792	16.18	ppbv	100
19) tert-Butyl methyl ethe...	12.160	73	2183630	24.15	ppbv	99
20) trans-1,2-Dichloroethene	12.196	61	1097738	20.72	ppbv	100
21) Hexane	12.789	57	1218142	22.63	ppbv	97
22) 1,1-Dichloroethane	13.512	63	1367612	19.02	ppbv	99
23) Vinyl acetate	13.655	43	1929955	25.32	ppbv	100
24) cis-1,2-Dichloroethene	14.935	61	1015392	22.46	ppbv	100
25) 2-Butanone (MEK)	15.030	72	396419	21.89	ppbv	97
26) Ethyl acetate	15.078	61	262383	20.87	ppbv #	99
27) Tetrahydrofuran	15.481	42	977602	20.99	ppbv	99
28) Chloroform	15.623	83	1658125	18.33	ppbv	100
29) Cyclohexane	15.860	56	1297955	22.46	ppbv	99
30) 1,1,1-Trichloroethane	15.908	97	1820195	18.05	ppbv	100
31) Carbon tetrachloride	16.169	117	1915880	17.78	ppbv	100
33) Benzene	16.643	78	2450368	19.43	ppbv	99
34) 2,2,4-Trimethylpentane	16.596	57	4096353	22.83	ppbv	98
35) 1,2-Dichloroethane	16.845	62	1139041	19.04	ppbv	100
36) Heptane	16.975	43	1604058	22.69	ppbv	100
37) Trichloroethene	17.864	130	1056723	21.91	ppbv	100
38) 1,2-Dichloropropane	18.362	63	889631	20.53	ppbv	98
39) 1,4-Dioxane	18.540	88	575756	23.51	ppbv	98
40) Bromodichloromethane	18.813	83	1939073	20.31	ppbv	100
41) cis-1,3-Dichloropropene	19.584	75	1439553	24.10	ppbv	100
42) 4-Methyl-2-pentanone (...	19.797	43	2197859	22.29	ppbv	99
44) Toluene	20.058	91	3007219	21.77	ppbv	99
45) trans-1,3-Dichloropropene	20.521	75	1426523	23.54	ppbv	99
46) 1,1,2-Trichloroethane	20.829	97	1019603	20.12	ppbv	99
47) Tetrachloroethene	20.912	166	1589640	20.93	ppbv	100
48) 2-Hexanone	21.149	43	2096085	22.97	ppbv	99
49) Chlorodibromomethane	21.434	129	2088722	20.76	ppbv	100
50) 1,2-Dibromoethane (EDB)	21.659	107	1570733	21.35	ppbv	100
51) Chlorobenzene	22.383	112	2375713	19.82	ppbv	100
52) Ethylbenzene	22.466	91	4091236	21.05	ppbv	100
53) m&p-Xylene	22.643	91	6629123	42.75	ppbv	99
54) o-Xylene	23.284	91	3270487	21.95	ppbv	100

Data Path : D:\msdchem\1\2016\data\100416_FSAAA\
Data File : 100416NA07.D
Acq On : 4 Oct 2016 8:00 pm
InstName : AG5973N
Operator : LLH
Sample : S16J013-CAL6
Misc : 20ppbv 1638120
ALS Vial : 32 Sample Multiplier: 1

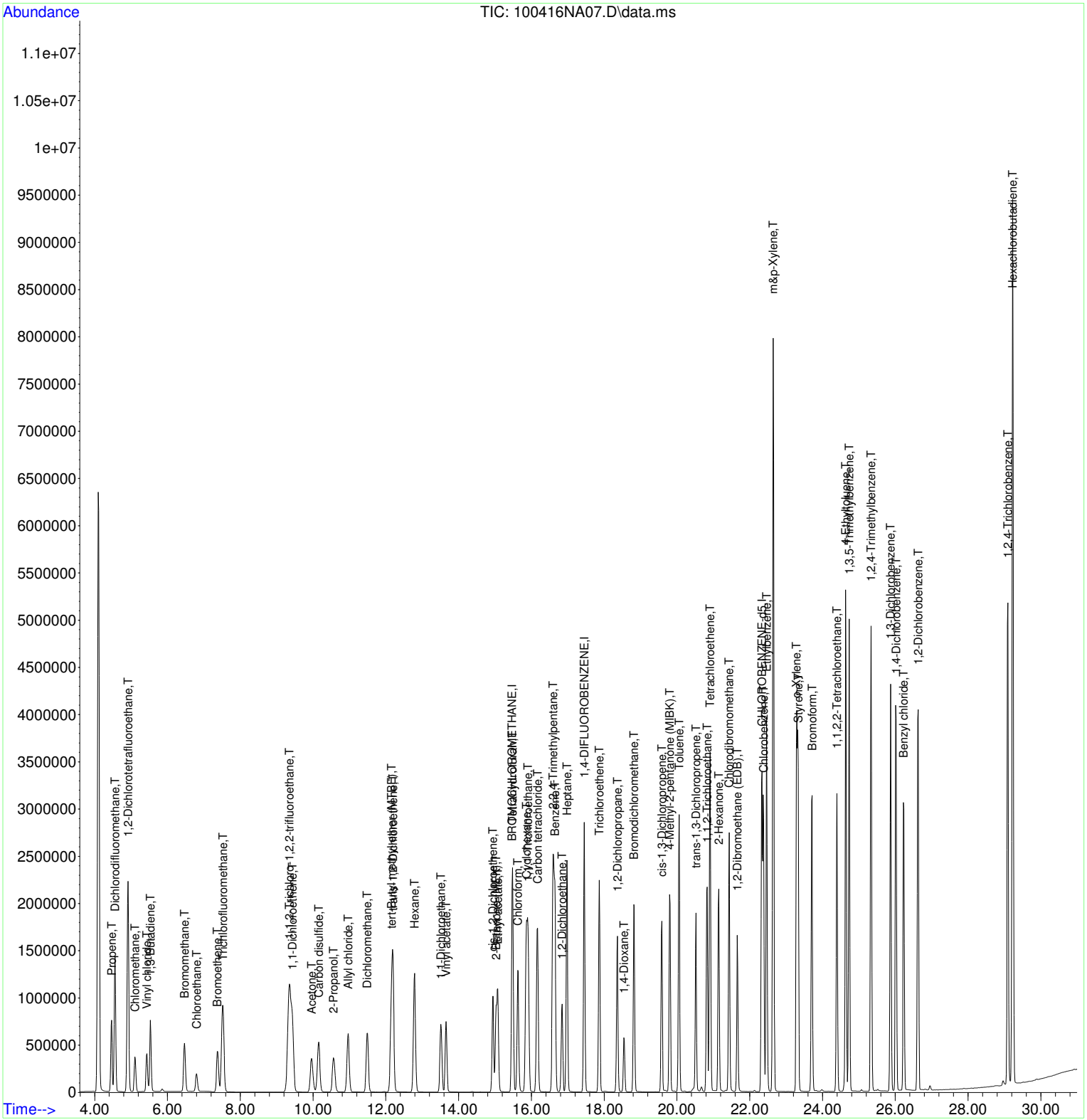
Quant Time: Oct 05 13:12:41 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:12:14 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55) Styrene	23.331	104	2498806	20.87	ppbv	100
56) Bromoform	23.711	173	2259697	20.74	ppbv	99
57) 1,1,2,2-Tetrachloroethane	24.398	83	2277633	18.93	ppbv	100
58) 4-Ethyltoluene	24.636	105	4953174	22.49	ppbv	100
59) 1,3,5-Trimethylbenzene	24.730	105	3912923	21.53	ppbv	100
60) 1,2,4-Trimethylbenzene	25.335	105	3943576	22.30	ppbv	100
61) 1,3-Dichlorobenzene	25.869	146	2618470	20.71	ppbv	99
62) 1,4-Dichlorobenzene	26.023	146	2548420	20.94	ppbv	99
63) Benzyl chloride	26.225	91	3381964	23.45	ppbv	100
64) 1,2-Dichlorobenzene	26.628	146	2568785	19.94	ppbv	99
65) 1,2,4-Trichlorobenzene	29.094	180	2512704	22.72	ppbv	99
66) Hexachlorobutadiene	29.225	225	2811222	20.65	ppbv	100

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

Data Path : D:\msdchem\1\2016\data\100416_FSAAA\
Data File : 100416NA07.D
Acq On : 4 Oct 2016 8:00 pm
InstName : AG5973N
Operator : LLH
Sample : S16J013-CAL6
Misc : 20ppbv 1638120
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Oct 05 13:12:41 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:12:14 2016
Response via : Initial Calibration



S16J013-SCV1

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\100416_FSAAA\
Data File : 100416NA10.D
Acq On : 5 Oct 2016 10:33 am
InstName : AG5973N
Operator : LLH
Sample : S16J013-SCV1
Misc : 10ppbv 1641031
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Oct 05 13:25:22 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:13:53 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.469	49	1068037	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	3043258	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.323	117	2245231	20.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.476	41	339150	11.31	ppbv	99
3) Dichlorodifluoromethane	4.571	85	1112755	9.46	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.915	85	949147	8.60	ppbv	96
5) Chloromethane	5.117	50	463093	13.44	ppbv	99
6) Vinyl chloride	5.437	62	370712	10.24	ppbv	99
7) 1,3-Butadiene	5.544	54	289328	10.28	ppbv	99
8) Bromomethane	6.480	94	263025	7.59	ppbv	100
9) Chloroethane	6.801	64	179356	10.03	ppbv	99
10) Bromoethene	7.382	106	311322	11.02	ppbv	100
11) Trichlorofluoromethane	7.524	101	1055448	10.09	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.350	151	641066	9.98	ppbv	100
13) 1,1-Dichloroethene	9.433	61	577689	12.01	ppbv	98
14) Acetone	9.967	43	584359	10.61	ppbv	99
15) Carbon disulfide	10.156	76	1009188	11.34	ppbv	99
16) 2-Propanol	10.572	45	419426	9.82	ppbv	96
17) Allyl chloride	10.963	41	490800	12.74	ppbv	99
18) Dichloromethane	11.496	49	448421	8.84	ppbv	98
19) tert-Butyl methyl ethe...	12.161	73	1005591	12.02	ppbv	100
20) trans-1,2-Dichloroethene	12.196	61	553389	11.10	ppbv	99
21) Hexane	12.789	57	581472	11.54	ppbv	100
22) 1,1-Dichloroethane	13.512	63	694480	10.31	ppbv	100
23) Vinyl acetate	13.655	43	982873	14.05	ppbv	99
24) cis-1,2-Dichloroethene	14.935	61	499011	11.84	ppbv	99
25) 2-Butanone (MEK)	15.030	72	185936	10.95	ppbv #	1
26) Ethyl acetate	15.078	61	122204	10.32	ppbv #	99
27) Tetrahydrofuran	15.481	42	476551	10.77	ppbv	98
28) Chloroform	15.623	83	824885	9.75	ppbv	100
29) Cyclohexane	15.860	56	614222	11.30	ppbv	99
30) 1,1,1-Trichloroethane	15.908	97	882673	9.37	ppbv	100
31) Carbon tetrachloride	16.169	117	970982	9.68	ppbv	100
33) Benzene	16.643	78	1255561	10.66	ppbv	100
34) 2,2,4-Trimethylpentane	16.596	57	1960051	11.63	ppbv	100
35) 1,2-Dichloroethane	16.845	62	596825	10.67	ppbv	100
36) Heptane	16.975	43	768521	11.49	ppbv	99
37) Trichloroethene	17.865	130	526962	11.89	ppbv	100
38) 1,2-Dichloropropane	18.363	63	453957	11.20	ppbv	99
39) 1,4-Dioxane	18.552	88	133975	5.92	ppbv	98
40) Bromodichloromethane	18.813	83	929733	10.46	ppbv	100
41) cis-1,3-Dichloropropene	19.584	75	703315	12.67	ppbv	99
42) 4-Methyl-2-pentanone (...	19.797	43	308770	3.32	ppbv	99
44) Toluene	20.058	91	1513373	13.49	ppbv	99
45) trans-1,3-Dichloropropene	20.521	75	654965	13.25	ppbv	98
46) 1,1,2-Trichloroethane	20.817	97	512622	12.45	ppbv	99
47) Tetrachloroethene	20.912	166	755710	12.38	ppbv	99
48) 2-Hexanone	21.149	43	191719	2.55	ppbv	94
49) Chlorodibromomethane	21.434	129	957928	11.78	ppbv	100
50) 1,2-Dibromoethane (EDB)	21.659	107	612105	10.29	ppbv	100
51) Chlorobenzene	22.371	112	1170060	12.05	ppbv	99
52) Ethylbenzene	22.466	91	2008259	12.72	ppbv	99
53) m&p-Xylene	22.643	91	3248577	25.68	ppbv	99
54) o-Xylene	23.284	91	1631561	13.49	ppbv	99

Data Path : D:\msdchem\1\2016\data\100416_FSAAA\
Data File : 100416NA10.D
Acq On : 5 Oct 2016 10:33 am
InstName : AG5973N
Operator : LLH
Sample : S16J013-SCV1
Misc : 10ppbv 1641031
ALS Vial : 34 Sample Multiplier: 1

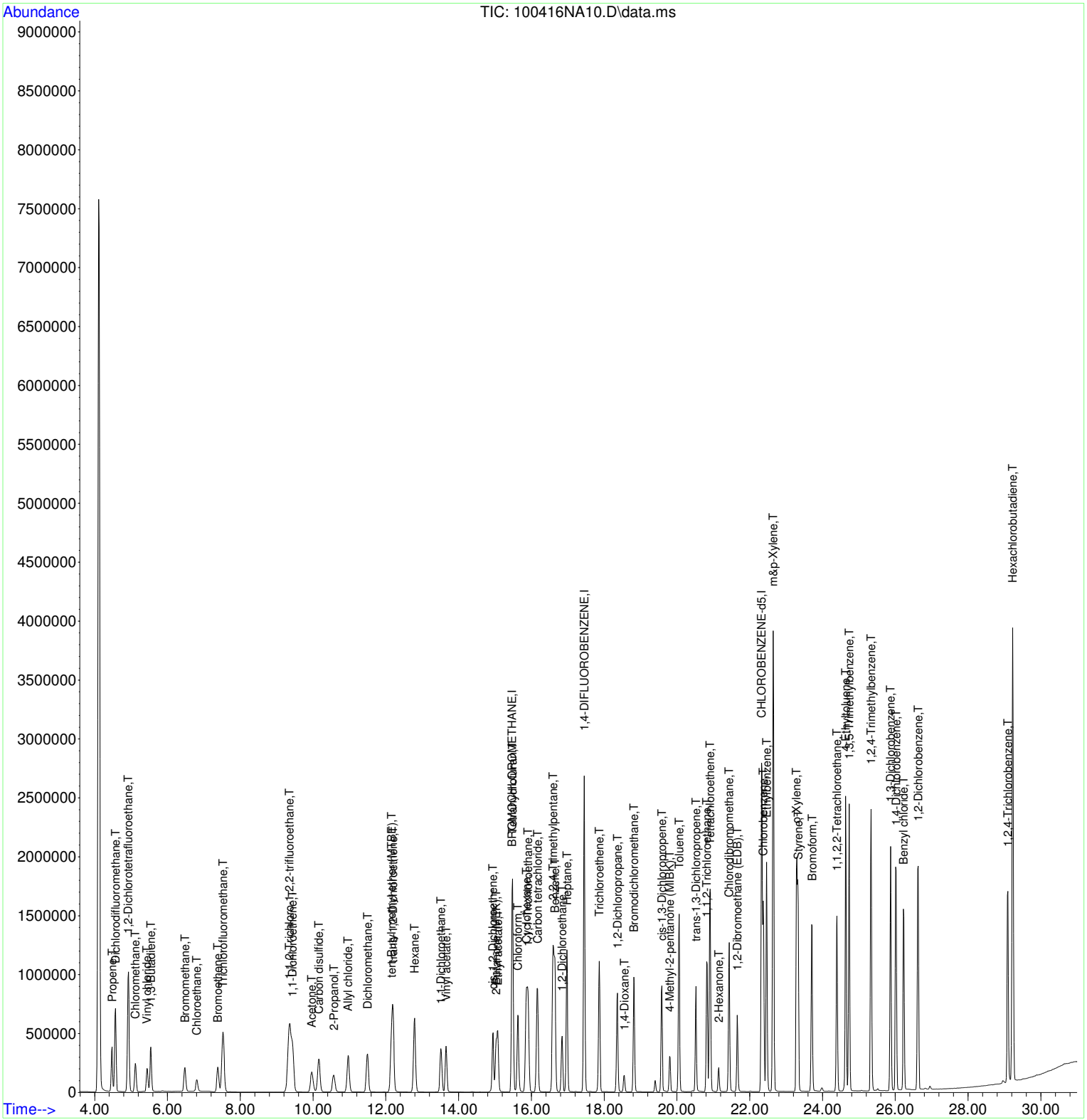
Quant Time: Oct 05 13:25:22 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:13:53 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55) Styrene	23.331	104	1159565	11.97	ppbv	99
56) Bromoform	23.711	173	1033705	11.81	ppbv	99
57) 1,1,2,2-Tetrachloroethane	24.399	83	1109943	11.34	ppbv	99
58) 4-Ethyltoluene	24.636	105	2271925	12.77	ppbv	99
59) 1,3,5-Trimethylbenzene	24.731	105	1905832	12.95	ppbv	99
60) 1,2,4-Trimethylbenzene	25.335	105	1892724	13.26	ppbv	100
61) 1,3-Dichlorobenzene	25.869	146	1251398	12.36	ppbv	99
62) 1,4-Dichlorobenzene	26.023	146	1196599	12.30	ppbv	99
63) Benzyl chloride	26.225	91	1657377	14.28	ppbv	100
64) 1,2-Dichlorobenzene	26.628	146	1203178	11.67	ppbv	99
65) 1,2,4-Trichlorobenzene	29.095	180	815875	9.31	ppbv	100
66) Hexachlorobutadiene	29.225	225	1165828	10.65	ppbv	100

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

Data Path : D:\msdchem\1\2016\data\100416_FSAAA\
Data File : 100416NA10.D
Acq On : 5 Oct 2016 10:33 am
InstName : AG5973N
Operator : LLH
Sample : S16J013-SCV1
Misc : 10ppbv 1641031
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Oct 05 13:25:22 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:13:53 2016
Response via : Initial Calibration



SEQUENCE

S16J028

ANALYST / REVIEWER - DATA REVIEW CHECKLIST

BATCH #:	B16J018	SEQUENCE #:	S16J028 10/05/16
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.	10/04/16 Wed Oct 05, 2016 13:13:53			SCV = Bromomethane = 69%; 1,4-Dioxane = 54%; MIBK = 30%;
	Initial Calibration ID (LIMS number):	1610004			
	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	DCM = 146%
	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	DCM = 0.52 see Discrepancy Rpt D15-011
	LCS(s) or SRM(s) within QC criteria?	☐	Y	Y	
	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 #:	B16J018	SEQUENCE #:	S16J028	10/05/16
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	B16J018-DUP1 had #3 IS low due to low can pressure
	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 10/06/16
	REVIEWED BY:	NICK KISH (affiliate) Digitally signed by NICK KISH (affiliate) Date: 2016.10.12 13:54:40 -07'00' SIGN HERE

COMMENTS

** see Discrepancy Rpt D15-011 for Dichloromethane contamination in the Internal Standard. LLH 10/05/16

Injection Log

Directory: d:\msdchem\1\2016\data\100516_FSAA

Table of Contents

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	31	100516N01.D	1.	S16J028-TUN1	BFB 1637033	5 Oct 2016 14:00
2	32	100516N02.D	1.	S16J028-CCV1@B16J018-BS1	10ppbv 1638118@1638121	5 Oct 2016 14:47
3	31	100516N03.D	1.	S16J028-CRL1	1.0ppbv 1638115	5 Oct 2016 15:33
4	33	100516N04.D	1.	B16J018-BLK1	200mL BLANK	5 Oct 2016 16:22
5	36	100516N05.D	4.59	1609103-03RE2	50mL REPRESS	5 Oct 2016 17:12
6	37	100516N06.D	3.81	1609103-04RE2	50mL REPRESS	5 Oct 2016 17:58
7	38	100516N07.D	3.86	1609103-05RE2	50mL REPRESS	5 Oct 2016 18:44
8	38	100516N08.D	3.86	B16J008-DUP1	50mL 1609103-05RE2	5 Oct 2016 19:30
9	39	100516N09.D	1.	S16J028-IBL1	200mL CAN #874 RECERTIFICATION	5 Oct 2016 20:19

GC/MS QA-QC Check Report

Table of Contents

Tune File : D:\msdchem\1\2016\data\100516_FSAA\100516N01.D
Tune Time : 5 Oct 2016 2:00 pm

Daily Calibration File : D:\msdchem\1\2016\data\100516_FSAA\100516N02.D

File	Sample	Surrogate Recovery %		Internal Standard Responses	
		1076560	3129050	2585180	
100516N02.D	S16J028-CCV1	1076556	3129051	2585177	
100516N03.D	S16J028-CRL1	1036734	3049774	2490980	
100516N04.D	B16J018-BLK1	1019185	3027992	2428239	
100516N05.D	1609103-03RE2	971650	2754028	2167277	
100516N06.D	1609103-04RE2	964421	2725655	2173398	
100516N07.D	1609103-05RE2	958130	2670274	2182822	
100516N08.D	B16J008-DUP1	910707	2352041	1482802*	
100516N09.D	S16J028-IBL1	965968	2778473	2184595	CAN #874

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

Created: Thu Oct 06 09:24:22 2016 AG5973N

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

Sequence Name: D:\smart\2016\100516N_FSAA.SEQ
Date: 10-06-2016
Time: 09:21:29
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
1609103-03RE2	3	6	50		D:\Smart\TO15.CTD	12:00
1609103-04RE2	3	7	50		D:\Smart\TO15.CTD	12:00
1609103-05RE2	3	8	50		D:\Smart\TO15.CTD	12:00
1609103-05RE2 DUP	3	8	50		D:\Smart\TO15.CTD	12:00
CAN #874	3	9	200		D:\Smart\TO15.CTD	12:00

Analysis Sequence

S16J028

Project: R17S02
Analysis: VOCs, Soil Gas

Instrument: AG5973N **Calibration ID:** 1610004 Printed: 10/06/2016 5:09 pm

Lab Number	Sample Name	Order	Analyzed Date	STD ID	ISTD ID	Sequenced By	File ID	Comments
S16J028-TUN1	MS Tune	1	10/5/16 14:00	1617033		LLH	100516N01.D	
S16J028-CCV1	CCV	2	10/5/16 14:47	1638118		LLH	100516N02.D	
B16J018-BS1	LCS	3	10/5/16 14:47			LLH	100516N02.D	
S16J028-CRL1	CRL	4	10/5/16 15:33	1638115		LLH	100516N03.D	
B16J018-BLK1	Blank	5	10/5/16 16:22		1625064	LLH	100516N04.D	
1609103-03RE2 A	F5-062	6	10/5/16 17:12		1625064	LLH	100516N05.D	
1609103-04RE2 A	F5-054-10ft	7	10/5/16 17:58		1625064	LLH	100516N06.D	
1609103-05RE2 A	F5-054-5ft	8	10/5/16 18:44		1625064	LLH	100516N07.D	
B16J018-DUP1	Duplicate	9	10/5/16 19:30		1625064	LLH	100516N08.D	
S16J028-IBL1	can #874	10	10/5/16 20:19		1625064	LLH	100516N09.D	

Sequence Comments

Reagents

Reagent #	Description

SEQUENCE DATA

S16J028

S16J028-TUN1

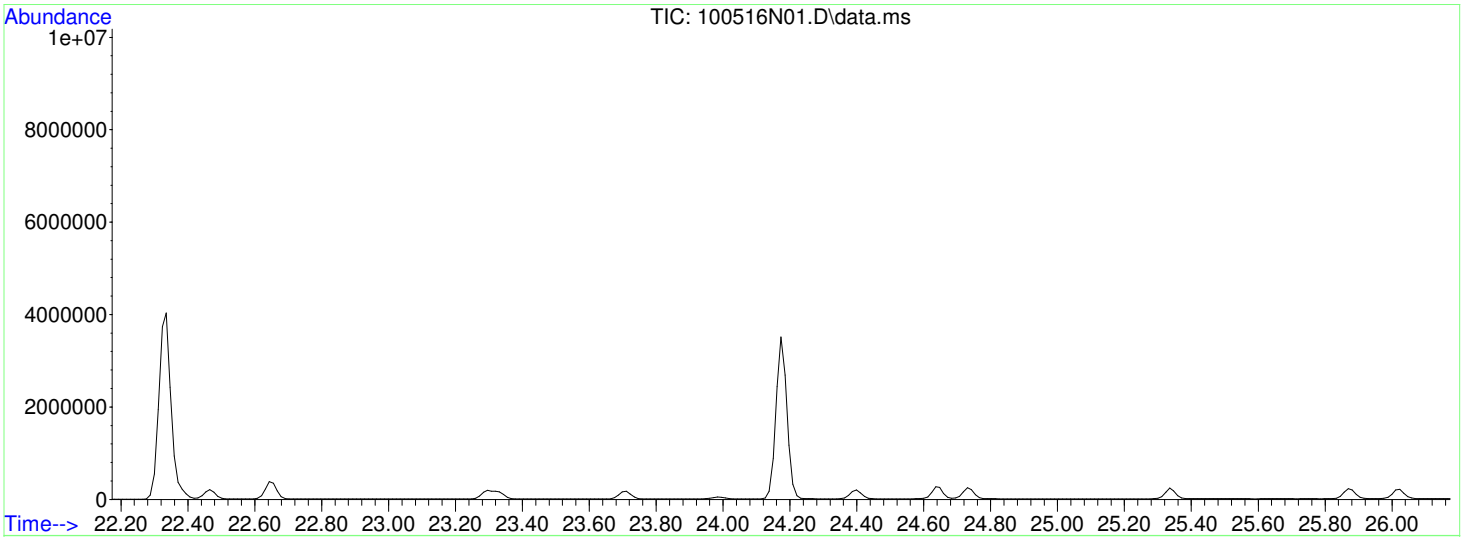
Table of Contents

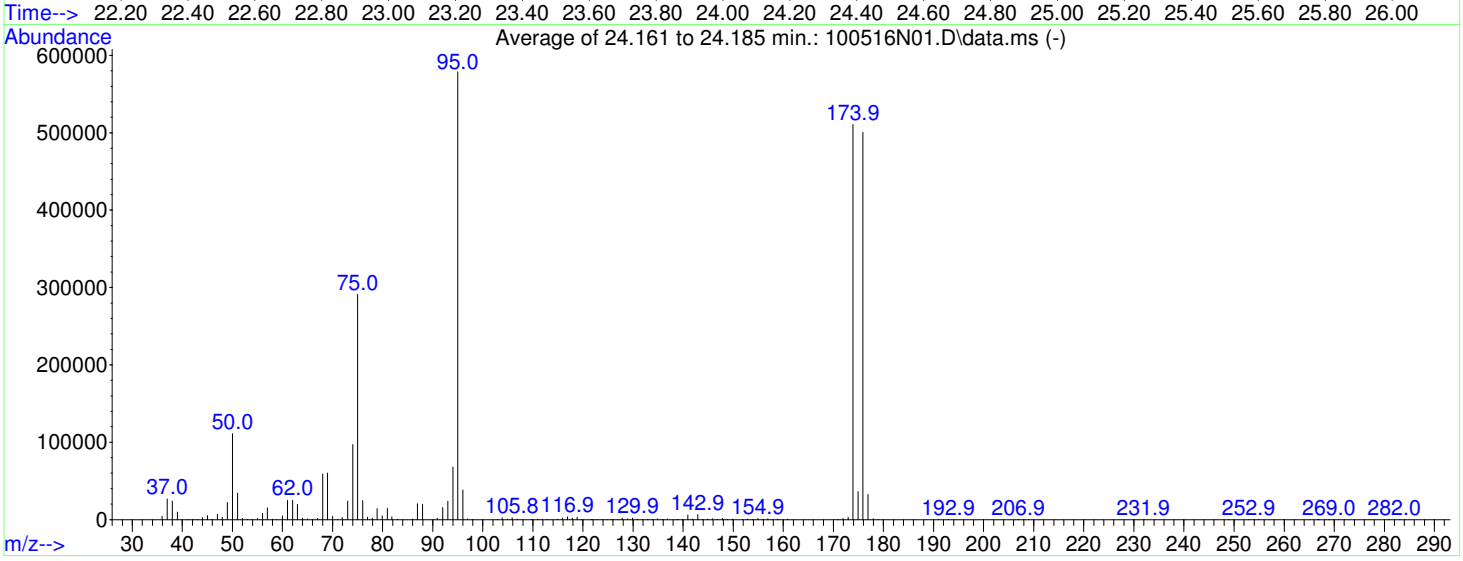
Data Path : D:\msdchem\1\2016\data\100516_FSAA\
Data File : 100516N01.D
Acq On : 5 Oct 2016 2:00 pm
InstName : AG5973N
Operator : LLH
Sample : S16J028-TUN1
Misc : BFB 1637033
ALS Vial : 31 Sample Multiplier: 1

REVIEWED
By LLH at 3:22 pm, Oct 05, 2016

Integration File: rteint.p

Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Title : TO15
Last Update : Wed Oct 05 13:13:53 2016



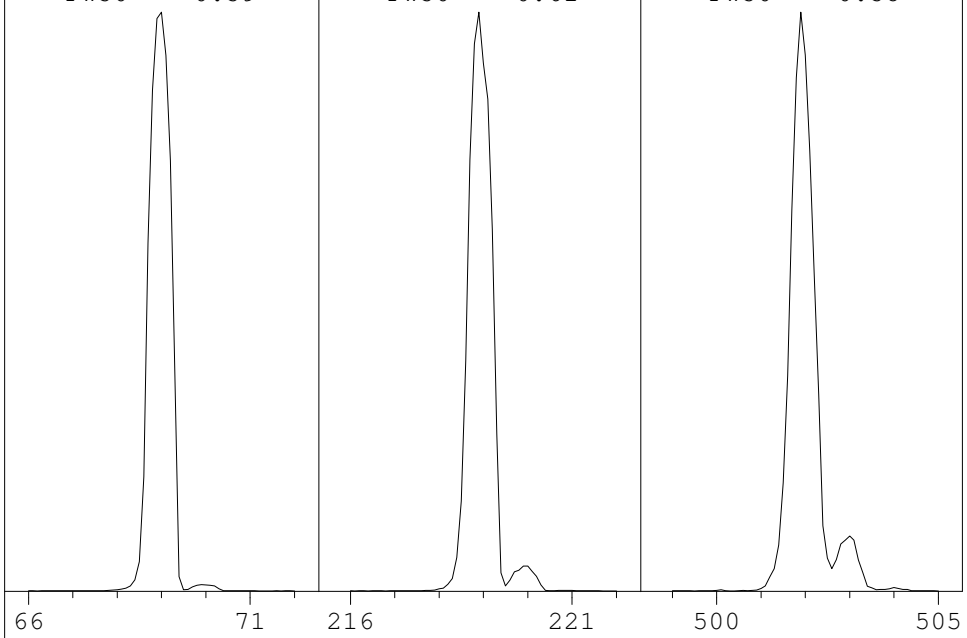


AutoFind: Scans 1736, 1737, 1738; Background Corrected with Scan 1729

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	19.2	111048	PASS
75	95	30	66	50.2	290923	PASS
95	95	100	100	100.0	579029	PASS
96	95	5	9	6.6	38339	PASS
173	174	0.00	2	0.6	3265	PASS
174	95	50	120	88.2	510421	PASS
175	174	4	9	7.1	36115	PASS
176	174	93	101	98.1	500693	PASS
177	176	5	9	6.5	32554	PASS

Wed Oct 05 13:33:03 2016 Instrum
C:\msdchem\1\5973N\bfb0100516.u US43120931

Mass	69.00	Mass	218.90	Mass	501.90
Ab	375019	Ab	226657	Ab	18985
Pw50	0.59	Pw50	0.61	Pw50	0.58

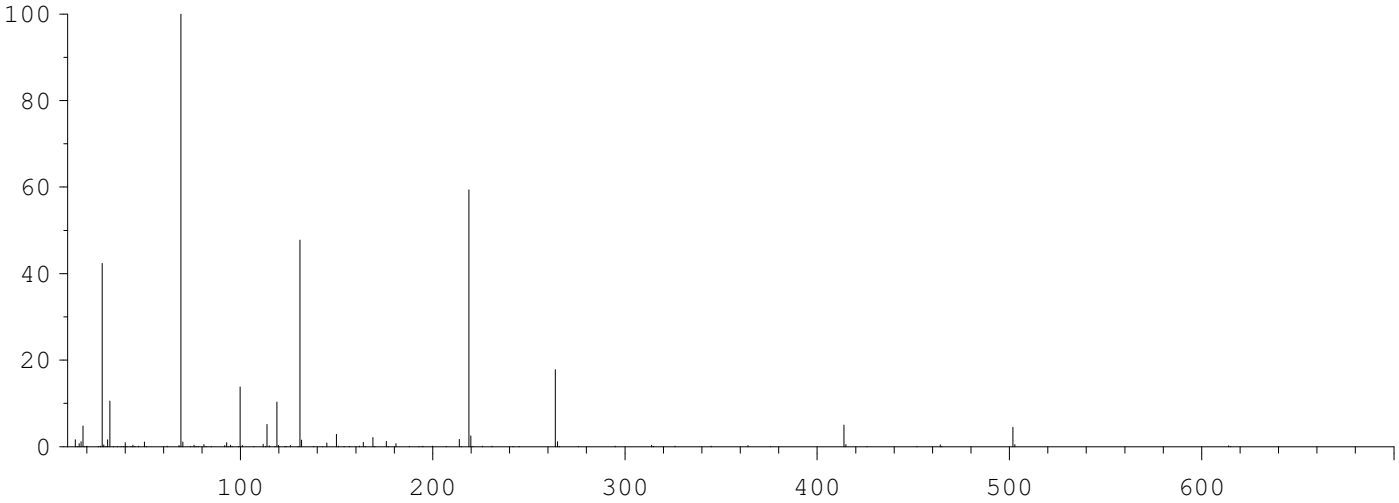


Ion Pol	Pos	MassGain	145
		MassOffs	-11
Emission	34.6	AmuGain	2536
EIEnrgy	69.9	AmuOffs	133
Filament	1	Wid219	-0.018
		DC Pol	Pos
Repeller	28.78		
IonFcus	111.0	HEDEnab	On
EntLens	14.5	EMVolts	1153
EntOffs	19.07		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	Turbo Speed	100
MS Quad	150		

Scan: 10.00 - 700.00 Samples: 8 Thresh: 100 Step: 0.10
109 peaks Base: 69.00 Abundance: 361536



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	361536	100.00	70.00	3987	1.10
218.90	214720	59.39	219.90	9113	4.24
501.90	16202	4.48	502.90	1714	10.58

Air/Water Check: H2O~4.78% N2~42.36% O2~10.52% CO2~0.37% N2/H2O~885.89%

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 124262
Repeller Maximum 35 volts using ion 502; Gain Factor 1.24

MassGain Values(Samples): 148(3) 152(2) 164(1) 194(0) 220(FS)

TARGET MASS:	50	69	131	219	414	502	800
Amu Offset:	133.0	133.0	133.0	133.0	133.0	133.0	133.0
Entrance Lens Offset:	19.1	19.1	19.1	19.1	19.1	19.1	19.1

S16J028-CCV1

Data Path : D:\msdchem\1\2016\data\100516_FSAA\
Data File : 100516N02.D
Acq On : 5 Oct 2016 2:47 pm
InstName : AG5973N
Operator : LLH
Sample : S16J028-CCV1@B16J018-BS1
Misc : 10ppbv 1638118@1638121
ALS Vial : 32 Sample Multiplier: 1

REVIEWED
By LLH at 3:21 pm, Oct 05, 2016

Quant Time: Oct 05 15:19:59 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:13:53 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	95	0.00
2	T	Propene	0.618	0.601	2.8	97	0.00
3	T	Dichlorodifluoromethane	2.424	2.229	8.0	95	0.00
4	T	1,2-Dichlorotetrafluoroetha	2.273	2.072	8.8	94	0.00
5	T	Chloromethane	0.710	0.651	8.3	95	0.00
6	T	Vinyl chloride	0.746	0.694	7.0	95	0.00
7	T	1,3-Butadiene	0.580	0.547	5.7	95	0.00
8	T	Bromomethane	0.714	0.655	8.3	95	0.00
9	T	Chloroethane	0.368	0.338	8.2	94	0.00
10	T	Bromoethene	0.582	0.574	1.4	97	0.00
11	T	Trichlorofluoromethane	2.155	1.985	7.9	95	-0.01
12	T	1,1,2-Trichloro-1,2,2-trifl	1.323	1.214	8.2	94	0.00
13	T	1,1-Dichloroethene	0.990	1.057	-6.8	101	0.00
14	T	Acetone	1.134	1.075	5.2	97	0.00
15	T	Carbon disulfide	1.833	1.694	7.6	94	0.00
16	T	2-Propanol	0.879	0.940	-6.9	101	0.01
17	T	Allyl chloride	0.794	0.857	-7.9	100	0.00
18	T	Dichloromethane	1.045	0.872	16.6	95	0.00
19	T	tert-Butyl methyl ether (MT	1.724	1.894	-9.9	102	0.00
20	T	trans-1,2-Dichloroethene	1.027	0.991	3.5	95	0.00
21	T	Hexane	1.038	1.118	-7.7	98	0.00
22	T	1,1-Dichloroethane	1.387	1.343	3.2	97	0.00
23	T	Vinyl acetate	1.441	1.652	-14.6	101	0.00
24	T	cis-1,2-Dichloroethene	0.868	0.938	-8.1	100	0.00
25	T	2-Butanone (MEK)	0.350	0.346	1.1	95	0.00
26	T	Ethyl acetate	0.244	0.232	4.9	95	0.00
27	T	Tetrahydrofuran	0.912	0.898	1.5	98	0.00
28	T	Chloroform	1.742	1.611	7.5	94	0.00
29	T	Cyclohexane	1.120	1.177	-5.1	97	0.00
30	T	1,1,1-Trichloroethane	1.940	1.822	6.1	95	0.00
31	T	Carbon tetrachloride	2.067	1.928	6.7	95	0.01
32	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	94	0.00
33	T	Benzene	0.767	0.717	6.5	93	0.00
34	T	2,2,4-Trimethylpentane	1.097	1.141	-4.0	95	0.00
35	T	1,2-Dichloroethane	0.364	0.348	4.4	96	0.00
36	T	Heptane	0.435	0.449	-3.2	95	0.00
37	T	Trichloroethene	0.288	0.288	0.0	95	0.00
38	T	1,2-Dichloropropane	0.264	0.260	1.5	96	0.00
39	T	1,4-Dioxane	0.147	0.154	-4.8	94	0.01
40	T	Bromodichloromethane	0.578	0.543	6.1	95	0.00
41	T	cis-1,3-Dichloropropene	0.361	0.390	-8.0	97	0.00
42	T	4-Methyl-2-pentanone (MIBK)	0.605	0.609	-0.7	94	0.00
43	I	CHLOROBENZENE-d5	1.000	1.000	0.0	93	0.01
44	T	Toluene	0.999	1.040	-4.1	94	0.00
45	T	trans-1,3-Dichloropropene	0.440	0.480	-9.1	97	0.00
46	T	1,1,2-Trichloroethane	0.367	0.350	4.6	93	0.00
47	T	Tetrachloroethene	0.544	0.532	2.2	93	0.00
48	T	2-Hexanone	0.670	0.691	-3.1	93	0.00
49	T	Chlorodibromomethane	0.725	0.697	3.9	94	0.00
50	T	1,2-Dibromoethane (EDB)	0.530	0.526	0.8	94	0.00
51	T	Chlorobenzene	0.865	0.820	5.2	93	0.00

Data Path : D:\msdchem\1\2016\data\100516_FSAA\
Data File : 100516N02.D
Acq On : 5 Oct 2016 2:47 pm
InstName : AG5973N
Operator : LLH
Sample : S16J028-CCV1@B16J018-BS1
Misc : 10ppbv 1638118@1638121
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Oct 05 15:19:59 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:13:53 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	1.406	1.420	-1.0	94	0.00
53	T	m&p-Xylene	1.127	1.129	-0.2	93	0.00
54	T	o-Xylene	1.078	1.123	-4.2	94	0.00
55	T	Styrene	0.863	0.880	-2.0	93	0.00
56	T	Bromoform	0.780	0.755	3.2	94	0.00
57	T	1,1,2,2-Tetrachloroethane	0.872	0.809	7.2	92	0.00
58	T	4-Ethyltoluene	1.585	1.642	-3.6	92	0.00
59	T	1,3,5-Trimethylbenzene	1.311	1.325	-1.1	92	0.00
60	T	1,2,4-Trimethylbenzene	1.271	1.335	-5.0	92	0.00
61	T	1,3-Dichlorobenzene	0.902	0.897	0.6	91	0.00
62	T	1,4-Dichlorobenzene	0.867	0.871	-0.5	91	0.01
63	T	Benzyl chloride	1.034	1.080	-4.4	91	0.00
64	T	1,2-Dichlorobenzene	0.919	0.896	2.5	90	0.00
65	T	1,2,4-Trichlorobenzene	0.781	0.796	-1.9	90	0.00
66	T	Hexachlorobutadiene	0.975	0.953	2.3	95	0.00

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

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\100516_FSAA\
Data File : 100516N02.D
Acq On : 5 Oct 2016 2:47 pm
InstName : AG5973N
Operator : LLH
Sample : S16J028-CCV1@B16J018-BS1
Misc : 10ppbv 1638118@1638121
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Oct 05 15:19:59 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:13:53 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.469	49	1076556	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	3129051	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.335	117	2585177	20.00	ppbv	0.01
Target Compounds						Qvalue
2) Propene	4.464	41	323678	10.71	ppbv	100
3) Dichlorodifluoromethane	4.559	85	1057978	8.92	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.915	85	1013899	9.12	ppbv	100
5) Chloromethane	5.105	50	337770	9.73	ppbv	99
6) Vinyl chloride	5.437	62	353352	9.68	ppbv	100
7) 1,3-Butadiene	5.532	54	270144	9.52	ppbv	100
8) Bromomethane	6.468	94	320529	9.17	ppbv	100
9) Chloroethane	6.800	64	165390	9.17	ppbv	99
10) Bromoethene	7.381	106	309086	10.86	ppbv	100
11) Trichlorofluoromethane	7.512	101	952108	9.03	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.350	151	605927	9.36	ppbv	100
13) 1,1-Dichloroethene	9.433	61	538104	11.10	ppbv	99
14) Acetone	9.967	43	578748	10.43	ppbv	100
15) Carbon disulfide	10.156	76	911672	10.16	ppbv	99
16) 2-Propanol	10.571	45	505757	11.75	ppbv	94
17) Allyl chloride	10.963	41	461262	11.88	ppbv	100
18) Dichloromethane	11.485	49	431093	8.43	ppbv	99
19) tert-Butyl methyl ethe...	12.160	73	1000797	11.86	ppbv	100
20) trans-1,2-Dichloroethene	12.196	61	528690	10.52	ppbv	98
21) Hexane	12.789	57	568724	11.20	ppbv	100
22) 1,1-Dichloroethane	13.512	63	657188	9.68	ppbv	100
23) Vinyl acetate	13.655	43	881176	12.50	ppbv	99
24) cis-1,2-Dichloroethene	14.935	61	477357	11.24	ppbv	99
25) 2-Butanone (MEK)	15.030	72	184434	10.77	ppbv	99
26) Ethyl acetate	15.078	61	122757	10.28	ppbv #	100
27) Tetrahydrofuran	15.481	42	465729	10.44	ppbv	99
28) Chloroform	15.623	83	796421	9.34	ppbv	100
29) Cyclohexane	15.860	56	610657	11.14	ppbv	100
30) 1,1,1-Trichloroethane	15.908	97	873746	9.20	ppbv	100
31) Carbon tetrachloride	16.169	117	915022	9.05	ppbv	99
33) Benzene	16.643	78	1166785	9.63	ppbv	100
34) 2,2,4-Trimethylpentane	16.596	57	1911550	11.03	ppbv	99
35) 1,2-Dichloroethane	16.845	62	549884	9.56	ppbv	100
36) Heptane	16.975	43	751710	10.93	ppbv	100
37) Trichloroethene	17.864	130	490714	10.77	ppbv	99
38) 1,2-Dichloropropane	18.362	63	422573	10.14	ppbv	99
39) 1,4-Dioxane	18.552	88	267427	11.49	ppbv	99
40) Bromodichloromethane	18.813	83	918653	10.06	ppbv	100
41) cis-1,3-Dichloropropene	19.584	75	665109	11.65	ppbv	99
42) 4-Methyl-2-pentanone (...	19.797	43	1028962	10.75	ppbv	100
44) Toluene	20.058	91	1411124	10.92	ppbv	100
45) trans-1,3-Dichloropropene	20.521	75	657418	11.55	ppbv	99
46) 1,1,2-Trichloroethane	20.829	97	480087	10.13	ppbv	100
47) Tetrachloroethene	20.912	166	729558	10.38	ppbv	100
48) 2-Hexanone	21.149	43	973153	11.24	ppbv	100
49) Chlorodibromomethane	21.434	129	973537	10.39	ppbv	100
50) 1,2-Dibromoethane (EDB)	21.659	107	741506	10.83	ppbv	100
51) Chlorobenzene	22.371	112	1133722	10.14	ppbv	99
52) Ethylbenzene	22.465	91	1926941	10.60	ppbv	100
53) m&p-Xylene	22.643	91	3094930	21.24	ppbv	100
54) o-Xylene	23.284	91	1523802	10.94	ppbv	100

Data Path : D:\msdchem\1\2016\data\100516_FSAA\
Data File : 100516N02.D
Acq On : 5 Oct 2016 2:47 pm
InstName : AG5973N
Operator : LLH
Sample : S16J028-CCV1@B16J018-BS1
Misc : 10ppbv 1638118@1638121
ALS Vial : 32 Sample Multiplier: 1

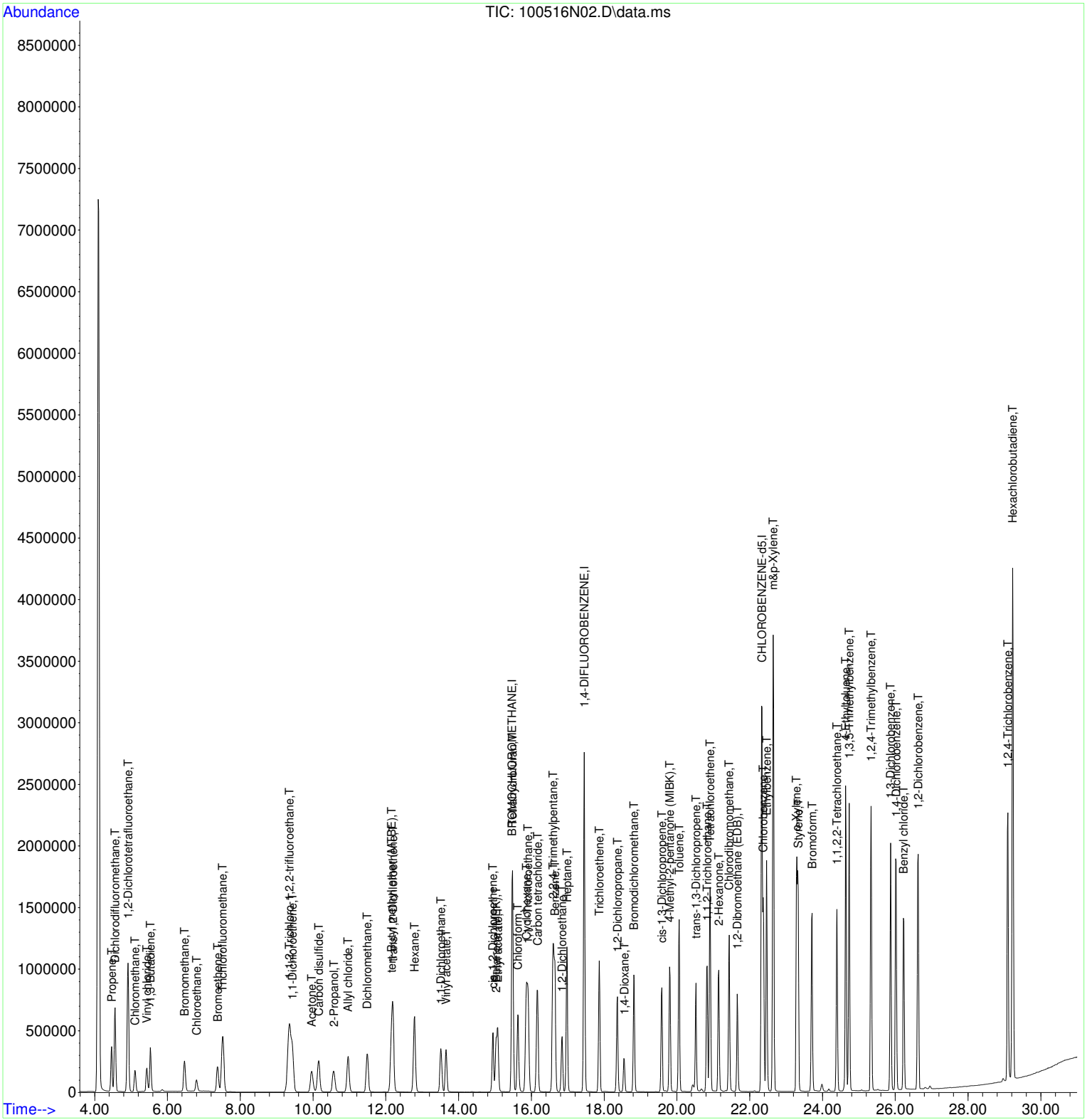
Quant Time: Oct 05 15:19:59 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:13:53 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55) Styrene	23.331	104	1171490	10.50	ppbv	99
56) Bromoform	23.711	173	1044477	10.36	ppbv	99
57) 1,1,2,2-Tetrachloroethane	24.398	83	1087208	9.64	ppbv	100
58) 4-Ethyltoluene	24.636	105	2292084	11.19	ppbv	100
59) 1,3,5-Trimethylbenzene	24.730	105	1832988	10.82	ppbv	99
60) 1,2,4-Trimethylbenzene	25.335	105	1829162	11.13	ppbv	100
61) 1,3-Dichlorobenzene	25.869	146	1217086	10.44	ppbv	100
62) 1,4-Dichlorobenzene	26.023	146	1182719	10.55	ppbv	100
63) Benzyl chloride	26.225	91	1535631	11.49	ppbv	100
64) 1,2-Dichlorobenzene	26.628	146	1204518	10.14	ppbv	100
65) 1,2,4-Trichlorobenzene	29.094	180	1070405	10.60	ppbv	100
66) Hexachlorobutadiene	29.225	225	1268474	10.06	ppbv	100

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

Data Path : D:\msdchem\1\2016\data\100516_FSAA\
Data File : 100516N02.D
Acq On : 5 Oct 2016 2:47 pm
InstName : AG5973N
Operator : LLH
Sample : S16J028-CCV1@B16J018-BS1
Misc : 10ppbv 1638118@1638121
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Oct 05 15:19:59 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:13:53 2016
Response via : Initial Calibration



REVIEWED
By LLH at 3:21 pm, Oct 05, 2016

LCS REPORT

Instrument Name: AG5973N
Sample Name: S16J028-CCV1@B16J018-BS1
Misc Info: 10ppbv 1638118@1638121
Date Acquired: 10/5/2016 14:47
QLast Update: Wed Oct 05 13:13:53 2016
Operator: LLH

#	Name	Ret Time	Amount	Concentration	%R	QC	LIMIT	STATUS
1)	BROMOCHLOROMETHANE	15.47	#N/A	22.00	#N/A	70.0	130.0	#N/A
2)	Propene	4.46	11.00	10.71	97%	72.0	121.0	pass
3)	Dichlorodifluoromethane	4.56	9.70	8.92	92%	68.0	129.0	pass
4)	1,2-Dichlorotetrafluoroethane	4.91	10.00	9.12	91%	67.0	127.0	pass
5)	Chloromethane	5.10	10.60	9.73	92%	70.0	123.0	pass
6)	Vinyl chloride	5.44	10.40	9.68	93%	69.0	125.0	pass
7)	1,3-Butadiene	5.53	10.10	9.52	94%	75.0	121.0	pass
8)	Bromomethane	6.47	10.00	9.17	92%	66.0	125.0	pass
9)	Chloroethane	6.80	10.00	9.17	92%	67.0	125.0	pass
10)	Bromoethene	7.38	11.00	10.86	99%	68.0	124.0	pass
11)	Trichlorofluoromethane	7.51	9.80	9.03	92%	68.0	133.0	pass
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	9.35	10.20	9.36	92%	64.0	125.0	pass
13)	1,1-Dichloroethene	9.43	10.40	11.10	107%	73.0	128.0	pass
14)	Acetone	9.97	11.00	10.43	95%	67.0	141.0	pass
15)	Carbon disulfide	10.16	11.00	10.16	92%	45.0	158.0	pass
16)	2-Propanol	10.57	11.00	11.75	107%	72.0	132.0	pass
17)	Allyl chloride	10.96	11.00	11.88	108%	75.0	132.0	pass
18)	Dichloromethane	11.48	10.10	8.43	84%	73.0	116.0	pass
19)	tert-Butyl methyl ether (MTBE)	12.16	10.80	11.86	110%	74.0	131.0	pass
20)	trans-1,2-Dichloroethene	12.20	10.90	10.52	96%	80.0	123.0	pass
21)	Hexane	12.79	10.40	11.20	108%	75.0	124.0	pass
22)	1,1-Dichloroethane	13.51	10.00	9.68	97%	72.0	125.0	pass
23)	Vinyl acetate	13.65	10.90	12.50	115%	31.0	171.0	pass
24)	cis-1,2-Dichloroethene	14.94	10.40	11.24	108%	77.0	129.0	pass
25)	2-Butanone (MEK)	15.03	10.90	10.77	99%	69.0	137.0	pass
26)	Ethyl acetate	15.08	10.80	10.28	95%	75.0	127.0	pass
27)	Tetrahydrofuran	15.48	10.60	10.44	98%	78.0	120.0	pass
28)	Chloroform	15.62	10.10	9.34	92%	77.0	126.0	pass
29)	Cyclohexane	15.86	10.60	11.14	105%	76.0	124.0	pass
30)	1,1,1-Trichloroethane	15.91	9.80	9.20	94%	74.0	133.0	pass
31)	Carbon tetrachloride	16.17	9.70	9.05	93%	71.0	141.0	pass
32)	1,4-DIFLUOROBENZENE	17.45	#N/A	19.80	#N/A	70.0	130.0	#N/A
33)	Benzene	16.64	10.30	9.63	93%	81.0	125.0	pass
34)	2,2,4-Trimethylpentane	16.60	10.60	11.03	104%	82.0	125.0	pass
35)	1,2-Dichloroethane	16.84	10.00	9.56	96%	61.0	153.0	pass
36)	Heptane	16.98	10.60	10.93	103%	80.0	129.0	pass
37)	Trichloroethene	17.86	10.80	10.77	100%	73.0	128.0	pass
38)	1,2-Dichloropropane	18.36	10.30	10.14	98%	77.0	129.0	pass
39)	1,4-Dioxane	18.55	11.00	11.49	104%	58.0	140.0	pass
40)	Bromodichloromethane	18.81	10.70	10.06	94%	76.0	137.0	pass
41)	cis-1,3-Dichloropropene	19.58	10.80	11.65	108%	80.0	136.0	pass
42)	4-Methyl-2-pentanone (MIBK)	19.80	10.70	10.75	101%	65.0	140.0	pass
43)	CHLOROBENZENE-d5	22.34	#N/A	20.00	#N/A	70.0	130.0	#N/A
44)	Toluene	20.06	10.50	10.92	104%	78.0	133.0	pass
45)	trans-1,3-Dichloropropene	20.52	10.60	11.55	109%	79.0	146.0	pass
46)	1,1,2-Trichloroethane	20.83	10.60	10.13	96%	74.0	134.0	pass
47)	Tetrachloroethene	20.91	10.60	10.38	98%	73.0	130.0	pass

48)	2-Hexanone	21.15	10.90	11.24	103%	50.0	162.0	pass
49)	Chlorodibromomethane	21.43	10.80	10.39	96%	81.0	135.0	pass
50)	1,2-Dibromoethane (EDB)	21.66	10.90	10.83	99%	78.0	133.0	pass
51)	Chlorobenzene	22.37	10.70	10.14	95%	81.0	126.0	pass
52)	Ethylbenzene	22.47	10.50	10.60	101%	82.0	130.0	pass
53)	m&p-Xylene	22.64	21.20	21.24	100%	82.0	131.0	pass
54)	o-Xylene	23.28	10.50	10.94	104%	82.0	132.0	pass
55)	Styrene	23.33	10.30	10.50	102%	65.0	141.0	pass
56)	Bromoform	23.71	10.70	10.36	97%	84.0	137.0	pass
57)	1,1,2,2-Tetrachloroethane	24.40	10.40	9.64	93%	73.0	127.0	pass
58)	4-Ethyltoluene	24.64	10.80	11.19	104%	81.0	127.0	pass
59)	1,3,5-Trimethylbenzene	24.73	10.70	10.82	101%	77.0	132.0	pass
60)	1,2,4-Trimethylbenzene	25.34	10.60	11.13	105%	78.0	131.0	pass
61)	1,3-Dichlorobenzene	25.87	10.50	10.44	99%	79.0	124.0	pass
62)	1,4-Dichlorobenzene	26.02	10.50	10.55	101%	75.0	127.0	pass
63)	Benzyl chloride	26.22	11.00	11.49	104%	67.0	156.0	pass
64)	1,2-Dichlorobenzene	26.63	10.40	10.14	98%	77.0	124.0	pass
65)	1,2,4-Trichlorobenzene	29.09	10.40	10.60	102%	55.0	132.0	pass
66)	Hexachlorobutadiene	29.22	10.30	10.06	98%	52.0	131.0	pass

B16J018-BS1

Table of Contents

Data Path : D:\msdchem\1\2016\data\100516_FSAA\
Data File : 100516N02.D
Acq On : 5 Oct 2016 2:47 pm
InstName : AG5973N
Operator : LLH
Sample : S16J028-CCV1@B16J018-BS1
Misc : 10ppbv 1638118@1638121
ALS Vial : 32 Sample Multiplier: 1

REVIEWED
By LLH at 3:21 pm, Oct 05, 2016

Quant Time: Oct 05 15:19:59 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:13:53 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	95	0.00
2	T	Propene	0.618	0.601	2.8	97	0.00
3	T	Dichlorodifluoromethane	2.424	2.229	8.0	95	0.00
4	T	1,2-Dichlorotetrafluoroetha	2.273	2.072	8.8	94	0.00
5	T	Chloromethane	0.710	0.651	8.3	95	0.00
6	T	Vinyl chloride	0.746	0.694	7.0	95	0.00
7	T	1,3-Butadiene	0.580	0.547	5.7	95	0.00
8	T	Bromomethane	0.714	0.655	8.3	95	0.00
9	T	Chloroethane	0.368	0.338	8.2	94	0.00
10	T	Bromoethene	0.582	0.574	1.4	97	0.00
11	T	Trichlorofluoromethane	2.155	1.985	7.9	95	-0.01
12	T	1,1,2-Trichloro-1,2,2-trifl	1.323	1.214	8.2	94	0.00
13	T	1,1-Dichloroethene	0.990	1.057	-6.8	101	0.00
14	T	Acetone	1.134	1.075	5.2	97	0.00
15	T	Carbon disulfide	1.833	1.694	7.6	94	0.00
16	T	2-Propanol	0.879	0.940	-6.9	101	0.01
17	T	Allyl chloride	0.794	0.857	-7.9	100	0.00
18	T	Dichloromethane	1.045	0.872	16.6	95	0.00
19	T	tert-Butyl methyl ether (MT	1.724	1.894	-9.9	102	0.00
20	T	trans-1,2-Dichloroethene	1.027	0.991	3.5	95	0.00
21	T	Hexane	1.038	1.118	-7.7	98	0.00
22	T	1,1-Dichloroethane	1.387	1.343	3.2	97	0.00
23	T	Vinyl acetate	1.441	1.652	-14.6	101	0.00
24	T	cis-1,2-Dichloroethene	0.868	0.938	-8.1	100	0.00
25	T	2-Butanone (MEK)	0.350	0.346	1.1	95	0.00
26	T	Ethyl acetate	0.244	0.232	4.9	95	0.00
27	T	Tetrahydrofuran	0.912	0.898	1.5	98	0.00
28	T	Chloroform	1.742	1.611	7.5	94	0.00
29	T	Cyclohexane	1.120	1.177	-5.1	97	0.00
30	T	1,1,1-Trichloroethane	1.940	1.822	6.1	95	0.00
31	T	Carbon tetrachloride	2.067	1.928	6.7	95	0.01
32	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	94	0.00
33	T	Benzene	0.767	0.717	6.5	93	0.00
34	T	2,2,4-Trimethylpentane	1.097	1.141	-4.0	95	0.00
35	T	1,2-Dichloroethane	0.364	0.348	4.4	96	0.00
36	T	Heptane	0.435	0.449	-3.2	95	0.00
37	T	Trichloroethene	0.288	0.288	0.0	95	0.00
38	T	1,2-Dichloropropane	0.264	0.260	1.5	96	0.00
39	T	1,4-Dioxane	0.147	0.154	-4.8	94	0.01
40	T	Bromodichloromethane	0.578	0.543	6.1	95	0.00
41	T	cis-1,3-Dichloropropene	0.361	0.390	-8.0	97	0.00
42	T	4-Methyl-2-pentanone (MIBK)	0.605	0.609	-0.7	94	0.00
43	I	CHLOROBENZENE-d5	1.000	1.000	0.0	93	0.01
44	T	Toluene	0.999	1.040	-4.1	94	0.00
45	T	trans-1,3-Dichloropropene	0.440	0.480	-9.1	97	0.00
46	T	1,1,2-Trichloroethane	0.367	0.350	4.6	93	0.00
47	T	Tetrachloroethene	0.544	0.532	2.2	93	0.00
48	T	2-Hexanone	0.670	0.691	-3.1	93	0.00
49	T	Chlorodibromomethane	0.725	0.697	3.9	94	0.00
50	T	1,2-Dibromoethane (EDB)	0.530	0.526	0.8	94	0.00
51	T	Chlorobenzene	0.865	0.820	5.2	93	0.00

Data Path : D:\msdchem\1\2016\data\100516_FSAA\
Data File : 100516N02.D
Acq On : 5 Oct 2016 2:47 pm
InstName : AG5973N
Operator : LLH
Sample : S16J028-CCV1@B16J018-BS1
Misc : 10ppbv 1638118@1638121
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Oct 05 15:19:59 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:13:53 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	1.406	1.420	-1.0	94	0.00
53 T	m&p-Xylene	1.127	1.129	-0.2	93	0.00
54 T	o-Xylene	1.078	1.123	-4.2	94	0.00
55 T	Styrene	0.863	0.880	-2.0	93	0.00
56 T	Bromoform	0.780	0.755	3.2	94	0.00
57 T	1,1,2,2-Tetrachloroethane	0.872	0.809	7.2	92	0.00
58 T	4-Ethyltoluene	1.585	1.642	-3.6	92	0.00
59 T	1,3,5-Trimethylbenzene	1.311	1.325	-1.1	92	0.00
60 T	1,2,4-Trimethylbenzene	1.271	1.335	-5.0	92	0.00
61 T	1,3-Dichlorobenzene	0.902	0.897	0.6	91	0.00
62 T	1,4-Dichlorobenzene	0.867	0.871	-0.5	91	0.01
63 T	Benzyl chloride	1.034	1.080	-4.4	91	0.00
64 T	1,2-Dichlorobenzene	0.919	0.896	2.5	90	0.00
65 T	1,2,4-Trichlorobenzene	0.781	0.796	-1.9	90	0.00
66 T	Hexachlorobutadiene	0.975	0.953	2.3	95	0.00

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

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\100516_FSAA\
Data File : 100516N02.D
Acq On : 5 Oct 2016 2:47 pm
InstName : AG5973N
Operator : LLH
Sample : S16J028-CCV1@B16J018-BS1
Misc : 10ppbv 1638118@1638121
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Oct 05 15:19:59 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:13:53 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.469	49	1076556	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	3129051	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.335	117	2585177	20.00	ppbv	0.01
Target Compounds						Qvalue
2) Propene	4.464	41	323678	10.71	ppbv	100
3) Dichlorodifluoromethane	4.559	85	1057978	8.92	ppbv	100
4) 1,2-Dichlorotetrafluor...	4.915	85	1013899	9.12	ppbv	100
5) Chloromethane	5.105	50	337770	9.73	ppbv	99
6) Vinyl chloride	5.437	62	353352	9.68	ppbv	100
7) 1,3-Butadiene	5.532	54	270144	9.52	ppbv	100
8) Bromomethane	6.468	94	320529	9.17	ppbv	100
9) Chloroethane	6.800	64	165390	9.17	ppbv	99
10) Bromoethene	7.381	106	309086	10.86	ppbv	100
11) Trichlorofluoromethane	7.512	101	952108	9.03	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.350	151	605927	9.36	ppbv	100
13) 1,1-Dichloroethene	9.433	61	538104	11.10	ppbv	99
14) Acetone	9.967	43	578748	10.43	ppbv	100
15) Carbon disulfide	10.156	76	911672	10.16	ppbv	99
16) 2-Propanol	10.571	45	505757	11.75	ppbv	94
17) Allyl chloride	10.963	41	461262	11.88	ppbv	100
18) Dichloromethane	11.485	49	431093	8.43	ppbv	99
19) tert-Butyl methyl ethe...	12.160	73	1000797	11.86	ppbv	100
20) trans-1,2-Dichloroethene	12.196	61	528690	10.52	ppbv	98
21) Hexane	12.789	57	568724	11.20	ppbv	100
22) 1,1-Dichloroethane	13.512	63	657188	9.68	ppbv	100
23) Vinyl acetate	13.655	43	881176	12.50	ppbv	99
24) cis-1,2-Dichloroethene	14.935	61	477357	11.24	ppbv	99
25) 2-Butanone (MEK)	15.030	72	184434	10.77	ppbv	99
26) Ethyl acetate	15.078	61	122757	10.28	ppbv #	100
27) Tetrahydrofuran	15.481	42	465729	10.44	ppbv	99
28) Chloroform	15.623	83	796421	9.34	ppbv	100
29) Cyclohexane	15.860	56	610657	11.14	ppbv	100
30) 1,1,1-Trichloroethane	15.908	97	873746	9.20	ppbv	100
31) Carbon tetrachloride	16.169	117	915022	9.05	ppbv	99
33) Benzene	16.643	78	1166785	9.63	ppbv	100
34) 2,2,4-Trimethylpentane	16.596	57	1911550	11.03	ppbv	99
35) 1,2-Dichloroethane	16.845	62	549884	9.56	ppbv	100
36) Heptane	16.975	43	751710	10.93	ppbv	100
37) Trichloroethene	17.864	130	490714	10.77	ppbv	99
38) 1,2-Dichloropropane	18.362	63	422573	10.14	ppbv	99
39) 1,4-Dioxane	18.552	88	267427	11.49	ppbv	99
40) Bromodichloromethane	18.813	83	918653	10.06	ppbv	100
41) cis-1,3-Dichloropropene	19.584	75	665109	11.65	ppbv	99
42) 4-Methyl-2-pentanone (...	19.797	43	1028962	10.75	ppbv	100
44) Toluene	20.058	91	1411124	10.92	ppbv	100
45) trans-1,3-Dichloropropene	20.521	75	657418	11.55	ppbv	99
46) 1,1,2-Trichloroethane	20.829	97	480087	10.13	ppbv	100
47) Tetrachloroethene	20.912	166	729558	10.38	ppbv	100
48) 2-Hexanone	21.149	43	973153	11.24	ppbv	100
49) Chlorodibromomethane	21.434	129	973537	10.39	ppbv	100
50) 1,2-Dibromoethane (EDB)	21.659	107	741506	10.83	ppbv	100
51) Chlorobenzene	22.371	112	1133722	10.14	ppbv	99
52) Ethylbenzene	22.465	91	1926941	10.60	ppbv	100
53) m&p-Xylene	22.643	91	3094930	21.24	ppbv	100
54) o-Xylene	23.284	91	1523802	10.94	ppbv	100

Data Path : D:\msdchem\1\2016\data\100516_FSAA\
Data File : 100516N02.D
Acq On : 5 Oct 2016 2:47 pm
InstName : AG5973N
Operator : LLH
Sample : S16J028-CCV1@B16J018-BS1
Misc : 10ppbv 1638118@1638121
ALS Vial : 32 Sample Multiplier: 1

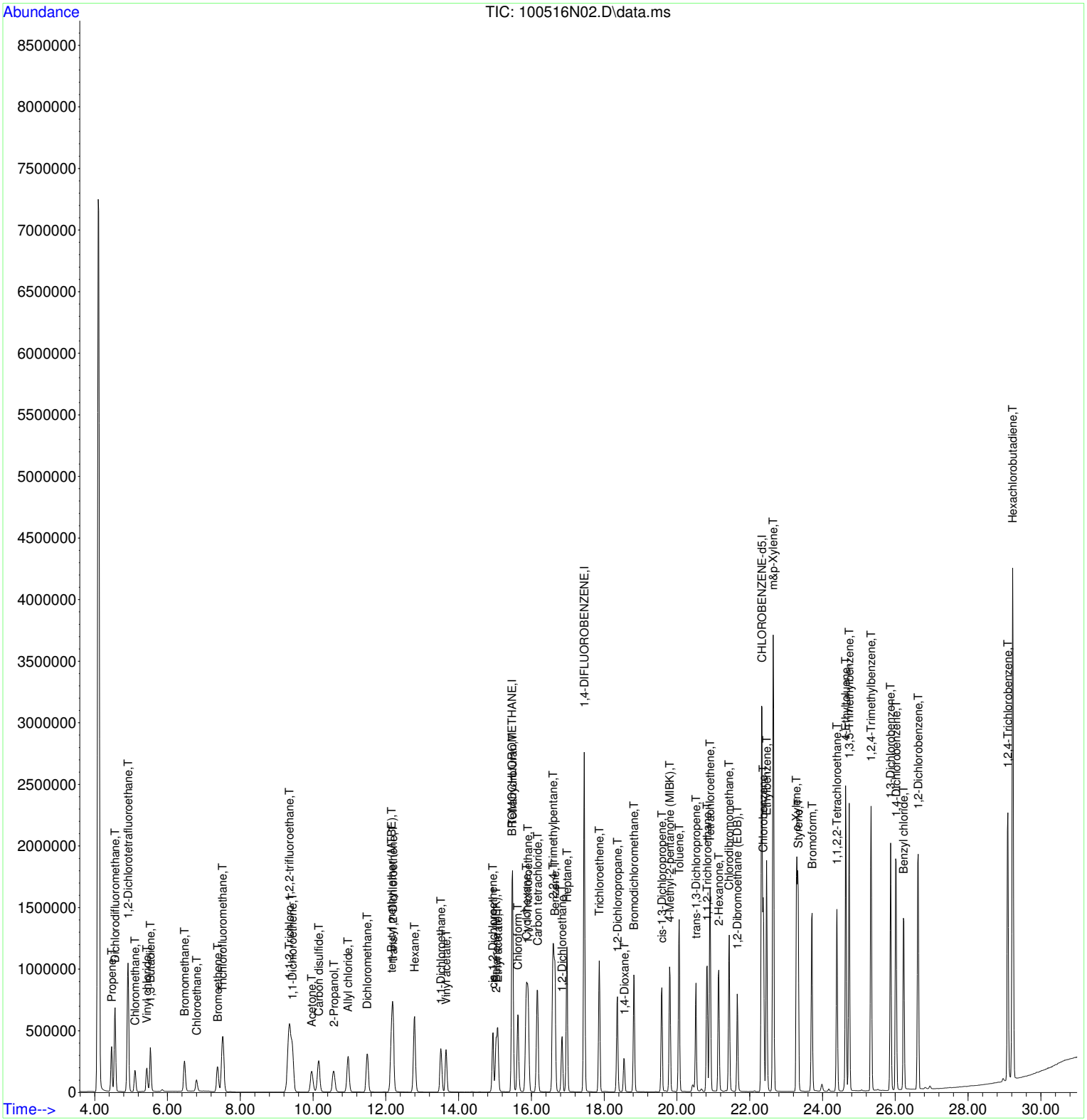
Quant Time: Oct 05 15:19:59 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:13:53 2016
Response via : Initial Calibration

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55)	Styrene	23.331	104	1171490	10.50	ppbv	99
56)	Bromoform	23.711	173	1044477	10.36	ppbv	99
57)	1,1,2,2-Tetrachloroethane	24.398	83	1087208	9.64	ppbv	100
58)	4-Ethyltoluene	24.636	105	2292084	11.19	ppbv	100
59)	1,3,5-Trimethylbenzene	24.730	105	1832988	10.82	ppbv	99
60)	1,2,4-Trimethylbenzene	25.335	105	1829162	11.13	ppbv	100
61)	1,3-Dichlorobenzene	25.869	146	1217086	10.44	ppbv	100
62)	1,4-Dichlorobenzene	26.023	146	1182719	10.55	ppbv	100
63)	Benzyl chloride	26.225	91	1535631	11.49	ppbv	100
64)	1,2-Dichlorobenzene	26.628	146	1204518	10.14	ppbv	100
65)	1,2,4-Trichlorobenzene	29.094	180	1070405	10.60	ppbv	100
66)	Hexachlorobutadiene	29.225	225	1268474	10.06	ppbv	100

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

Data Path : D:\msdchem\1\2016\data\100516_FSAA\
Data File : 100516N02.D
Acq On : 5 Oct 2016 2:47 pm
InstName : AG5973N
Operator : LLH
Sample : S16J028-CCV1@B16J018-BS1
Misc : 10ppbv 1638118@1638121
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Oct 05 15:19:59 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:13:53 2016
Response via : Initial Calibration



REVIEWED
By LLH at 3:21 pm, Oct 05, 2016

LCS REPORT

Instrument Name: AG5973N
Sample Name: S16J028-CCV1@B16J018-BS1
Misc Info: 10ppbv 1638118@1638121
Date Acquired: 10/5/2016 14:47
QLast Update: Wed Oct 05 13:13:53 2016
Operator: LLH

#	Name	Ret Time	Amount	Concentration	%R	QC	LIMIT	STATUS
1)	BROMOCHLOROMETHANE	15.47	#N/A	22.00	#N/A	70.0	130.0	#N/A
2)	Propene	4.46	11.00	10.71	97%	72.0	121.0	pass
3)	Dichlorodifluoromethane	4.56	9.70	8.92	92%	68.0	129.0	pass
4)	1,2-Dichlorotetrafluoroethane	4.91	10.00	9.12	91%	67.0	127.0	pass
5)	Chloromethane	5.10	10.60	9.73	92%	70.0	123.0	pass
6)	Vinyl chloride	5.44	10.40	9.68	93%	69.0	125.0	pass
7)	1,3-Butadiene	5.53	10.10	9.52	94%	75.0	121.0	pass
8)	Bromomethane	6.47	10.00	9.17	92%	66.0	125.0	pass
9)	Chloroethane	6.80	10.00	9.17	92%	67.0	125.0	pass
10)	Bromoethene	7.38	11.00	10.86	99%	68.0	124.0	pass
11)	Trichlorofluoromethane	7.51	9.80	9.03	92%	68.0	133.0	pass
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	9.35	10.20	9.36	92%	64.0	125.0	pass
13)	1,1-Dichloroethene	9.43	10.40	11.10	107%	73.0	128.0	pass
14)	Acetone	9.97	11.00	10.43	95%	67.0	141.0	pass
15)	Carbon disulfide	10.16	11.00	10.16	92%	45.0	158.0	pass
16)	2-Propanol	10.57	11.00	11.75	107%	72.0	132.0	pass
17)	Allyl chloride	10.96	11.00	11.88	108%	75.0	132.0	pass
18)	Dichloromethane	11.48	10.10	8.43	84%	73.0	116.0	pass
19)	tert-Butyl methyl ether (MTBE)	12.16	10.80	11.86	110%	74.0	131.0	pass
20)	trans-1,2-Dichloroethene	12.20	10.90	10.52	96%	80.0	123.0	pass
21)	Hexane	12.79	10.40	11.20	108%	75.0	124.0	pass
22)	1,1-Dichloroethane	13.51	10.00	9.68	97%	72.0	125.0	pass
23)	Vinyl acetate	13.65	10.90	12.50	115%	31.0	171.0	pass
24)	cis-1,2-Dichloroethene	14.94	10.40	11.24	108%	77.0	129.0	pass
25)	2-Butanone (MEK)	15.03	10.90	10.77	99%	69.0	137.0	pass
26)	Ethyl acetate	15.08	10.80	10.28	95%	75.0	127.0	pass
27)	Tetrahydrofuran	15.48	10.60	10.44	98%	78.0	120.0	pass
28)	Chloroform	15.62	10.10	9.34	92%	77.0	126.0	pass
29)	Cyclohexane	15.86	10.60	11.14	105%	76.0	124.0	pass
30)	1,1,1-Trichloroethane	15.91	9.80	9.20	94%	74.0	133.0	pass
31)	Carbon tetrachloride	16.17	9.70	9.05	93%	71.0	141.0	pass
32)	1,4-DIFLUOROBENZENE	17.45	#N/A	19.80	#N/A	70.0	130.0	#N/A
33)	Benzene	16.64	10.30	9.63	93%	81.0	125.0	pass
34)	2,2,4-Trimethylpentane	16.60	10.60	11.03	104%	82.0	125.0	pass
35)	1,2-Dichloroethane	16.84	10.00	9.56	96%	61.0	153.0	pass
36)	Heptane	16.98	10.60	10.93	103%	80.0	129.0	pass
37)	Trichloroethene	17.86	10.80	10.77	100%	73.0	128.0	pass
38)	1,2-Dichloropropane	18.36	10.30	10.14	98%	77.0	129.0	pass
39)	1,4-Dioxane	18.55	11.00	11.49	104%	58.0	140.0	pass
40)	Bromodichloromethane	18.81	10.70	10.06	94%	76.0	137.0	pass
41)	cis-1,3-Dichloropropene	19.58	10.80	11.65	108%	80.0	136.0	pass
42)	4-Methyl-2-pentanone (MIBK)	19.80	10.70	10.75	101%	65.0	140.0	pass
43)	CHLOROBENZENE-d5	22.34	#N/A	20.00	#N/A	70.0	130.0	#N/A
44)	Toluene	20.06	10.50	10.92	104%	78.0	133.0	pass
45)	trans-1,3-Dichloropropene	20.52	10.60	11.55	109%	79.0	146.0	pass
46)	1,1,2-Trichloroethane	20.83	10.60	10.13	96%	74.0	134.0	pass
47)	Tetrachloroethene	20.91	10.60	10.38	98%	73.0	130.0	pass

48)	2-Hexanone	21.15	10.90	11.24	103%	50.0	162.0	pass
49)	Chlorodibromomethane	21.43	10.80	10.39	96%	81.0	135.0	pass
50)	1,2-Dibromoethane (EDB)	21.66	10.90	10.83	99%	78.0	133.0	pass
51)	Chlorobenzene	22.37	10.70	10.14	95%	81.0	126.0	pass
52)	Ethylbenzene	22.47	10.50	10.60	101%	82.0	130.0	pass
53)	m&p-Xylene	22.64	21.20	21.24	100%	82.0	131.0	pass
54)	o-Xylene	23.28	10.50	10.94	104%	82.0	132.0	pass
55)	Styrene	23.33	10.30	10.50	102%	65.0	141.0	pass
56)	Bromoform	23.71	10.70	10.36	97%	84.0	137.0	pass
57)	1,1,2,2-Tetrachloroethane	24.40	10.40	9.64	93%	73.0	127.0	pass
58)	4-Ethyltoluene	24.64	10.80	11.19	104%	81.0	127.0	pass
59)	1,3,5-Trimethylbenzene	24.73	10.70	10.82	101%	77.0	132.0	pass
60)	1,2,4-Trimethylbenzene	25.34	10.60	11.13	105%	78.0	131.0	pass
61)	1,3-Dichlorobenzene	25.87	10.50	10.44	99%	79.0	124.0	pass
62)	1,4-Dichlorobenzene	26.02	10.50	10.55	101%	75.0	127.0	pass
63)	Benzyl chloride	26.22	11.00	11.49	104%	67.0	156.0	pass
64)	1,2-Dichlorobenzene	26.63	10.40	10.14	98%	77.0	124.0	pass
65)	1,2,4-Trichlorobenzene	29.09	10.40	10.60	102%	55.0	132.0	pass
66)	Hexachlorobutadiene	29.22	10.30	10.06	98%	52.0	131.0	pass

S16J028-CRL1

REVIEWED
By LLH at 4:06 pm, Oct 05, 2016

QLS REPORT

Instrument Name: AG5973N
Sample Name: S16J028-CRL1
Misc Info: 1.0ppbv 1638115
Date Acquired: 10/5/2016 15:33
QLast Update: Wed Oct 05 13:13:53 2016
Operator: LLH

1 OUT

#	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	1.39	127%	60.0	140.0	pass	Subset
3)	Dichlorodifluoromethane	4.55	0.97	1.13	117%	60.0	140.0	pass	Primary
4)	1,2-Dichlorotetrafluoroethane	4.90	1.00	1.15	115%	60.0	140.0	pass	Primary
5)	Chloromethane	5.10	1.06	1.28	121%	60.0	140.0	pass	Primary
6)	Vinyl chloride	5.43	1.04	1.21	116%	60.0	140.0	pass	Primary
7)	1,3-Butadiene	5.52	1.01	1.23	122%	60.0	140.0	pass	Subset
8)	Bromomethane	6.46	1.00	1.14	114%	60.0	140.0	pass	Primary
9)	Chloroethane	6.79	1.00	1.18	118%	60.0	140.0	pass	Primary
10)	Bromoethene	7.36	1.10	1.31	119%	60.0	140.0	pass	Subset
11)	Trichlorofluoromethane	7.50	0.98	1.10	112%	60.0	140.0	pass	Primary
12)	1,1,2-Trichloro-1,2,2-trifluoroethane	9.34	1.02	1.14	111%	60.0	140.0	pass	Primary
13)	1,1-Dichloroethene	9.42	1.04	1.22	117%	60.0	140.0	pass	Primary
14)	Acetone	9.95	1.10	1.35	123%	60.0	140.0	pass	Subset
15)	Carbon disulfide	10.14	1.10	1.25	114%	60.0	140.0	pass	Subset
16)	2-Propanol	10.57	1.10	1.27	115%	60.0	140.0	pass	Subset
17)	Allyl chloride	10.95	1.10	1.24	112%	60.0	140.0	pass	Subset
18)	Dichloromethane	11.47	1.01	1.48	146%	60.0	140.0	FAIL	Primary
19)	tert-Butyl methyl ether (MTBE)	12.16	1.08	1.18	109%	60.0	140.0	pass	Subset
20)	trans-1,2-Dichloroethene	12.18	1.09	1.19	109%	60.0	140.0	pass	Subset
21)	Hexane	12.78	1.04	1.07	103%	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	1.09	1.09	100%	60.0	140.0	pass	Subset
24)	cis-1,2-Dichloroethene	14.94	1.04	1.11	107%	60.0	140.0	pass	Primary
25)	2-Butanone (MEK)	15.03	1.09	1.20	111%	60.0	140.0	pass	Subset
26)	Ethyl acetate	15.08	1.08	1.23	114%	60.0	140.0	pass	Subset
27)	Tetrahydrofuran	15.48	1.06	1.23	116%	60.0	140.0	pass	Subset
28)	Chloroform	15.62	1.01	1.10	109%	60.0	140.0	pass	Primary
29)	Cyclohexane	15.85	1.06	1.11	105%	60.0	140.0	pass	Subset
30)	1,1,1-Trichloroethane	15.90	0.98	1.07	109%	60.0	140.0	pass	Primary
31)	Carbon tetrachloride	16.16	0.97	1.06	109%	60.0	140.0	pass	Primary
32)	1,4-DIFLUOROBENZENE	17.45	#N/A	19.80	#N/A	60.0	140.0	#N/A	Internal
33)	Benzene	16.64	1.03	1.10	107%	60.0	140.0	pass	Primary
34)	2,2,4-Trimethylpentane	16.60	1.06	1.09	103%	60.0	140.0	pass	Subset
35)	1,2-Dichloroethane	16.83	1.00	1.10	110%	60.0	140.0	pass	Primary
36)	Heptane	16.98	1.06	1.08	102%	60.0	140.0	pass	Subset
37)	Trichloroethene	17.86	1.08	1.14	105%	60.0	140.0	pass	Primary
38)	1,2-Dichloropropane	18.35	1.03	1.10	107%	60.0	140.0	pass	Primary
39)	1,4-Dioxane	18.55	1.10	0.99	90%	60.0	140.0	pass	Subset
40)	Bromodichloromethane	18.81	1.07	1.20	112%	60.0	140.0	pass	Subset
41)	cis-1,3-Dichloropropene	19.58	1.08	1.04	96%	60.0	140.0	pass	Primary
42)	4-Methyl-2-pentanone (MIBK)	19.80	1.07	1.05	98%	60.0	140.0	pass	Subset
43)	CHLOROBENZENE-d5	22.32	#N/A	20.00	#N/A	60.0	140.0	#N/A	Internal
44)	Toluene	20.06	1.05	1.09	104%	60.0	140.0	pass	Primary
45)	trans-1,3-Dichloropropene	20.52	1.06	1.03	97%	60.0	140.0	pass	Primary
46)	1,1,2-Trichloroethane	20.82	1.06	1.15	109%	60.0	140.0	pass	Primary
47)	Tetrachloroethene	20.91	1.06	1.13	107%	60.0	140.0	pass	Primary
48)	2-Hexanone	21.15	1.09	0.99	91%	60.0	140.0	pass	Subset
49)	Chlorodibromomethane	21.43	1.08	1.20	111%	60.0	140.0	pass	Subset
50)	1,2-Dibromoethane (EDB)	21.66	1.09	1.16	107%	60.0	140.0	pass	Primary

51)	Chlorobenzene	22.37	1.07	1.17	109%	60.0	140.0	pass	Primary
52)	Ethylbenzene	22.47	1.05	1.10	105%	60.0	140.0	pass	Primary
53)	m&p-Xylene	22.64	2.12	2.17	102%	60.0	140.0	pass	Primary
54)	o-Xylene	23.28	1.05	1.04	99%	60.0	140.0	pass	Primary
55)	Styrene	23.33	1.03	0.98	95%	60.0	140.0	pass	Primary
56)	Bromoform	23.71	1.07	1.16	108%	60.0	140.0	pass	Subset
57)	1,1,2,2-Tetrachloroethane	24.40	1.04	1.16	112%	60.0	140.0	pass	Primary
58)	4-Ethyltoluene	24.64	1.08	1.12	103%	60.0	140.0	pass	Subset
59)	1,3,5-Trimethylbenzene	24.73	1.07	1.08	101%	60.0	140.0	pass	Primary
60)	1,2,4-Trimethylbenzene	25.34	1.06	1.05	99%	60.0	140.0	pass	Primary
61)	1,3-Dichlorobenzene	25.87	1.05	1.11	106%	60.0	140.0	pass	Primary
62)	1,4-Dichlorobenzene	26.02	1.05	1.09	104%	60.0	140.0	pass	Primary
63)	Benzyl chloride	26.22	1.10	1.11	101%	60.0	140.0	pass	Subset
64)	1,2-Dichlorobenzene	26.63	1.04	1.14	109%	60.0	140.0	pass	Primary
65)	1,2,4-Trichlorobenzene	29.09	1.04	1.12	107%	60.0	140.0	pass	Primary
66)	Hexachlorobutadiene	29.23	1.03	1.13	109%	60.0	140.0	pass	Primary

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\100516_FSAA\
Data File : 100516N03.D
Acq On : 5 Oct 2016 3:33 pm
InstName : AG5973N
Operator : LLH
Sample : S16J028-CRL1
Misc : 1.0ppbv 1638115
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Oct 05 16:04:47 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:13:53 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.469	49	1036734	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.450	114	3049774	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.323	117	2490980	20.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.453	41	40529	1.39	ppbv	97
3) Dichlorodifluoromethane	4.547	85	129223	1.13	ppbv	99
4) 1,2-Dichlorotetrafluor...	4.903	85	123065	1.15	ppbv	99
5) Chloromethane	5.105	50	42806	1.28	ppbv	99
6) Vinyl chloride	5.425	62	42547	1.21	ppbv	98
7) 1,3-Butadiene	5.520	54	33676	1.23	ppbv	100
8) Bromomethane	6.457	94	38433	1.14	ppbv	98
9) Chloroethane	6.789	64	20411	1.18	ppbv	89
10) Bromoethene	7.358	106	35802	1.31	ppbv	98
11) Trichlorofluoromethane	7.500	101	111713	1.10	ppbv	100
12) 1,1,2-Trichloro-1,2,2-...	9.338	151	70875	1.14	ppbv	100
13) 1,1-Dichloroethene	9.421	61	56818	1.22	ppbv	99
14) Acetone	9.955	43	72384	1.35	ppbv	98
15) Carbon disulfide	10.145	76	108080	1.25	ppbv	97
16) 2-Propanol	10.572	45	52608	1.27	ppbv	81
17) Allyl chloride	10.951	41	46247	1.24	ppbv	100
18) Dichloromethane	11.473	49	72832	1.48	ppbv	99
19) tert-Butyl methyl ethe...	12.161	73	95473	1.18	ppbv	98
20) trans-1,2-Dichloroethene	12.184	61	57469	1.19	ppbv	100
21) Hexane	12.777	57	52238	1.07	ppbv	91
22) 1,1-Dichloroethane	13.512	63	73014	1.12	ppbv	99
23) Vinyl acetate	13.655	43	74005	1.09	ppbv	99
24) cis-1,2-Dichloroethene	14.936	61	45567	1.11	ppbv	99
25) 2-Butanone (MEK)	15.030	72	19869	1.20	ppbv #	1
26) Ethyl acetate	15.078	61	14197	1.23	ppbv #	94
27) Tetrahydrofuran	15.481	42	52853	1.23	ppbv	98
28) Chloroform	15.623	83	90455	1.10	ppbv	98
29) Cyclohexane	15.849	56	58489	1.11	ppbv	95
30) 1,1,1-Trichloroethane	15.896	97	97993	1.07	ppbv	99
31) Carbon tetrachloride	16.157	117	102876	1.06	ppbv	99
33) Benzene	16.643	78	129946	1.10	ppbv	99
34) 2,2,4-Trimethylpentane	16.596	57	184228	1.09	ppbv	95
35) 1,2-Dichloroethane	16.833	62	61800	1.10	ppbv	99
36) Heptane	16.975	43	72291	1.08	ppbv	98
37) Trichloroethene	17.865	130	50577	1.14	ppbv	99
38) 1,2-Dichloropropane	18.351	63	44668	1.10	ppbv	97
39) 1,4-Dioxane	18.552	88	22386	0.99	ppbv	94
40) Bromodichloromethane	18.813	83	106478	1.20	ppbv	98
41) cis-1,3-Dichloropropene	19.584	75	57906	1.04	ppbv	96
42) 4-Methyl-2-pentanone (...	19.798	43	97918	1.05	ppbv	97
44) Toluene	20.058	91	135291	1.09	ppbv	98
45) trans-1,3-Dichloropropene	20.521	75	56268	1.03	ppbv	95
46) 1,1,2-Trichloroethane	20.817	97	52644	1.15	ppbv	98
47) Tetrachloroethene	20.912	166	76488	1.13	ppbv	100
48) 2-Hexanone	21.149	43	82370	0.99	ppbv	95
49) Chlorodibromomethane	21.434	129	108309	1.20	ppbv	99
50) 1,2-Dibromoethane (EDB)	21.659	107	76629	1.16	ppbv	99
51) Chlorobenzene	22.371	112	125493	1.17	ppbv	84
52) Ethylbenzene	22.466	91	193191	1.10	ppbv	99
53) m&p-Xylene	22.644	91	304678	2.17	ppbv	98
54) o-Xylene	23.284	91	139964	1.04	ppbv	98

Data Path : D:\msdchem\1\2016\data\100516_FSAA\
Data File : 100516N03.D
Acq On : 5 Oct 2016 3:33 pm
InstName : AG5973N
Operator : LLH
Sample : S16J028-CRL1
Misc : 1.0ppbv 1638115
ALS Vial : 31 Sample Multiplier: 1

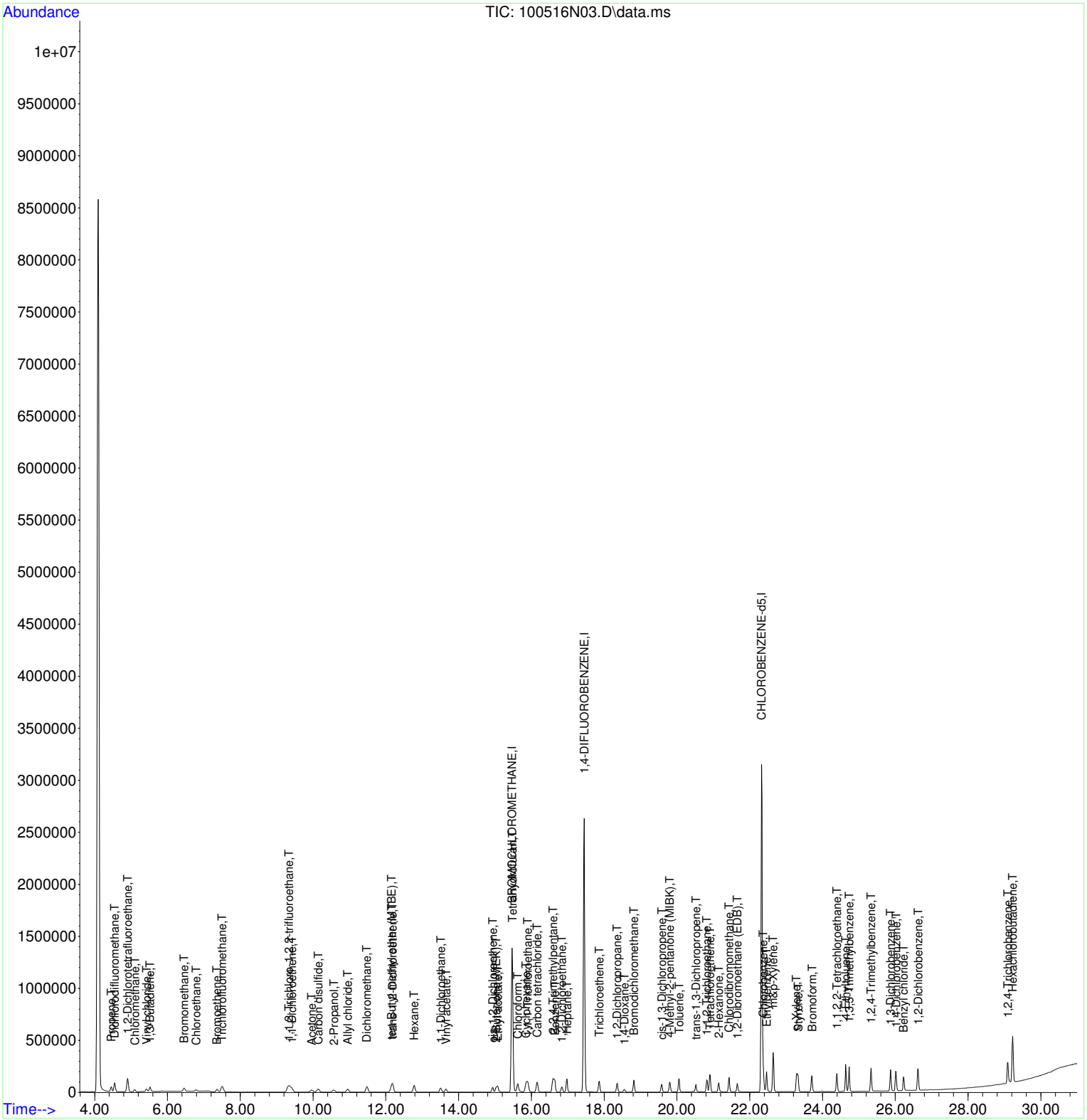
Quant Time: Oct 05 16:04:47 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:13:53 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
55) Styrene	23.331	104	105079	0.98	ppbv	98
56) Bromoform	23.711	173	112588	1.16	ppbv	98
57) 1,1,2,2-Tetrachloroethane	24.399	83	126246	1.16	ppbv	99
58) 4-Ethyltoluene	24.636	105	220666	1.12	ppbv	99
59) 1,3,5-Trimethylbenzene	24.731	105	175681	1.08	ppbv	100
60) 1,2,4-Trimethylbenzene	25.335	105	165719	1.05	ppbv	99
61) 1,3-Dichlorobenzene	25.869	146	124911	1.11	ppbv	100
62) 1,4-Dichlorobenzene	26.023	146	117364	1.09	ppbv	99
63) Benzyl chloride	26.225	91	142730	1.11	ppbv	99
64) 1,2-Dichlorobenzene	26.628	146	130211	1.14	ppbv	100
65) 1,2,4-Trichlorobenzene	29.095	180	108724	1.12	ppbv	99
66) Hexachlorobutadiene	29.225	225	136973	1.13	ppbv	99

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

Data Path : D:\msdchem\1\2016\data\100516_FSAA\
Data File : 100516N03.D
Acq On : 5 Oct 2016 3:33 pm
InstName : AG5973N
Operator : LLH
Sample : S16J028-CRL1
Misc : 1.0ppbv 1638115
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Oct 05 16:04:47 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:13:53 2016
Response via : Initial Calibration



B16J018-BLK1

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : D:\msdchem\1\2016\data\100516_FSAA\
Data File : 100516N04.D
Acq On : 5 Oct 2016 4:22 pm
InstName : AG5973N
Operator : LLH
Sample : B16J018-BLK1
Misc : 200mL BLANK
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Oct 05 16:53:33 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:13:53 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.469	49	1019185	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	3027992	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.323	117	2428239	20.00	ppbv	0.00
Target Compounds						Qvalue
18) Dichloromethane	11.473	49	25023	0.52	ppbv	98

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

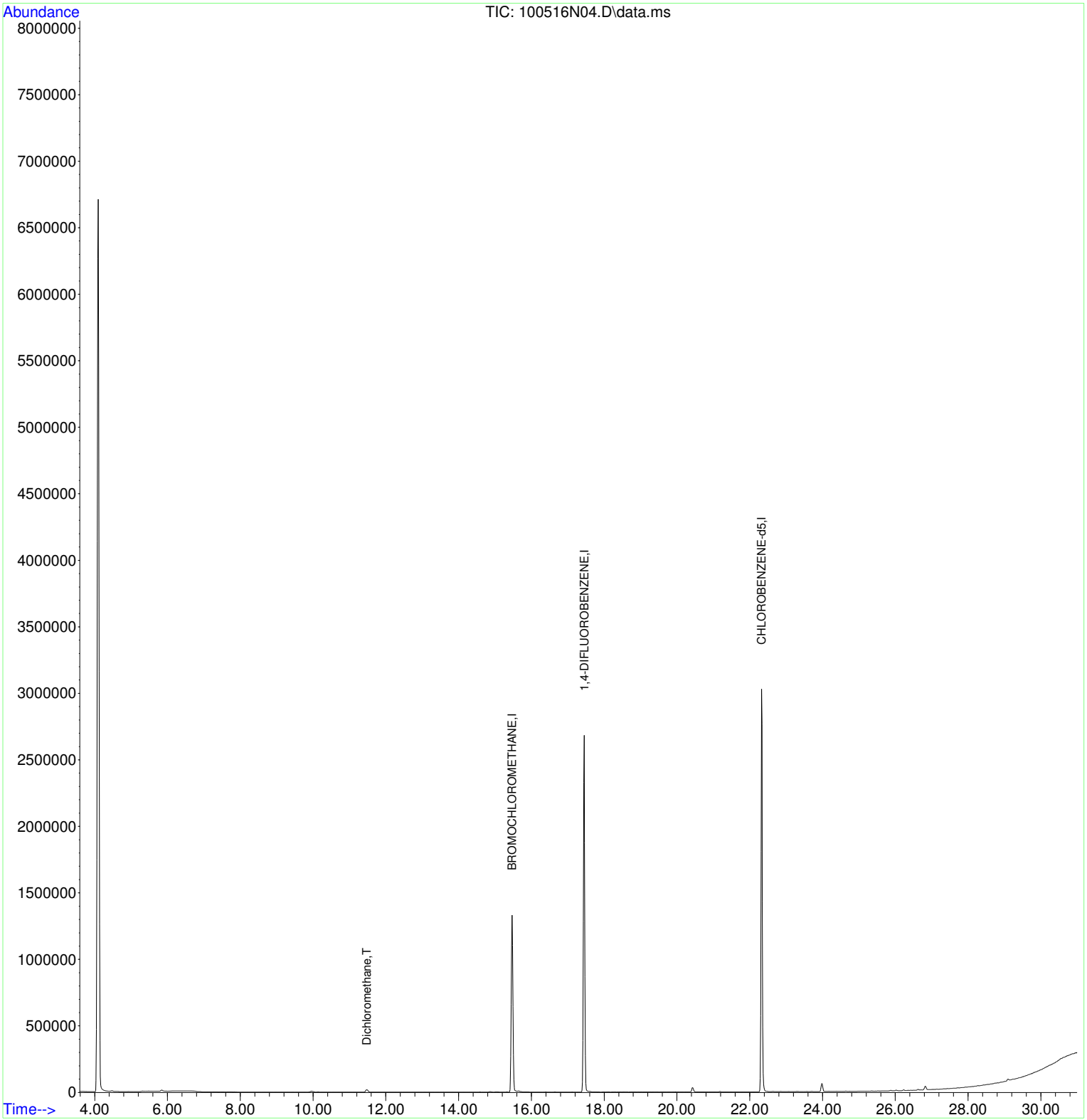
*see Discrepancy Report #D15-011

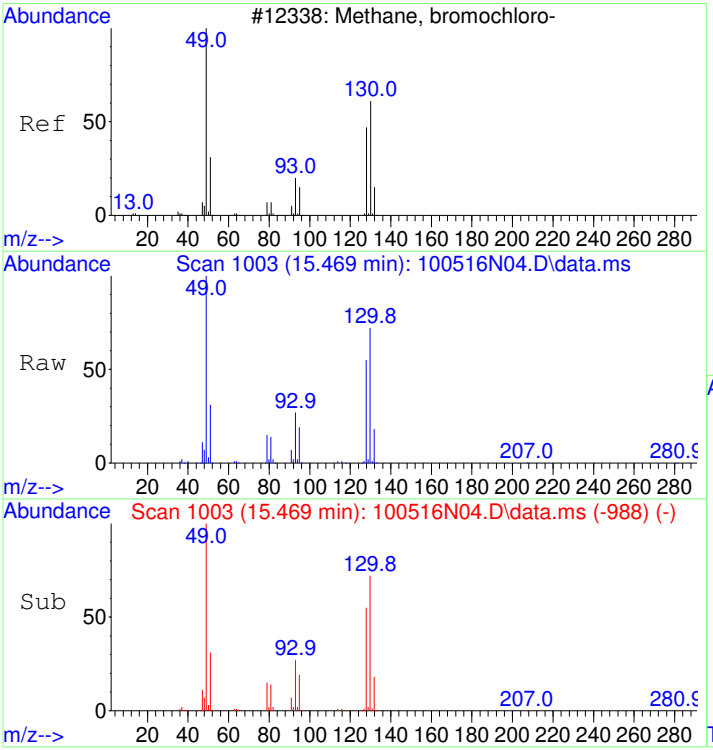
REVIEWED
By LLH at 4:56 pm, Oct 05, 2016

Table of Contents

Data Path : D:\msdchem\1\2016\data\100516_FSAA\
Data File : 100516N04.D
Acq On : 5 Oct 2016 4:22 pm
InstName : AG5973N
Operator : LLH
Sample : B16J018-BLK1
Misc : 200mL BLANK
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Oct 05 16:53:33 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:13:53 2016
Response via : Initial Calibration

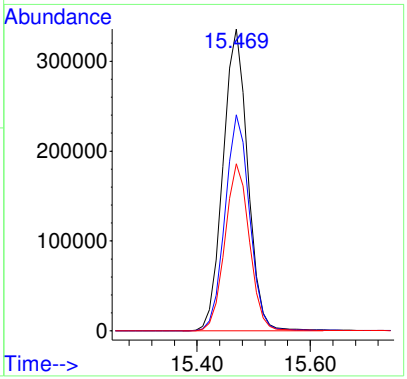


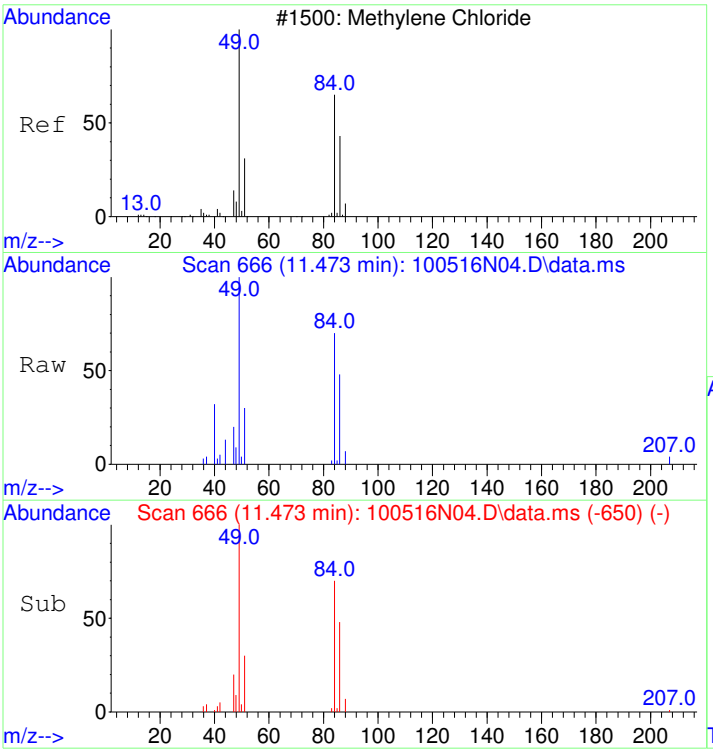


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.469 min Scan# 1003
Delta R.T. 0.000 min
Lab File: 100516N04.D
Acq: 5 Oct 2016 4:22 pm

Tgt Ion: 49 Resp: 1019185

Ion	Ratio	Lower	Upper
49	100		
130	71.0	51.9	91.9
128	54.9	35.4	75.4

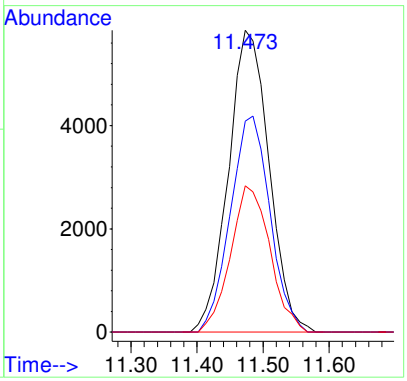


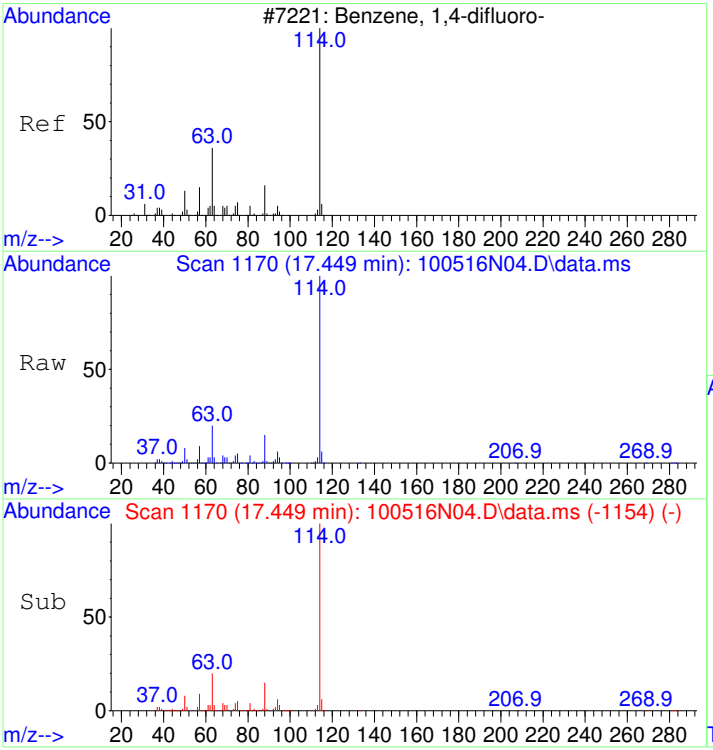


#18
Dichloromethane
Concen: 0.52 ppbv
RT: 11.473 min Scan# 666
Delta R.T. -0.012 min
Lab File: 100516N04.D
Acq: 5 Oct 2016 4:22 pm

Tgt Ion: 49 Resp: 25023

Ion	Ratio	Lower	Upper
49	100		
84	69.8	51.4	91.4
86	47.0	25.8	65.8

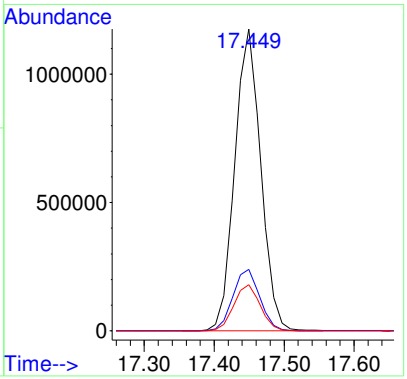


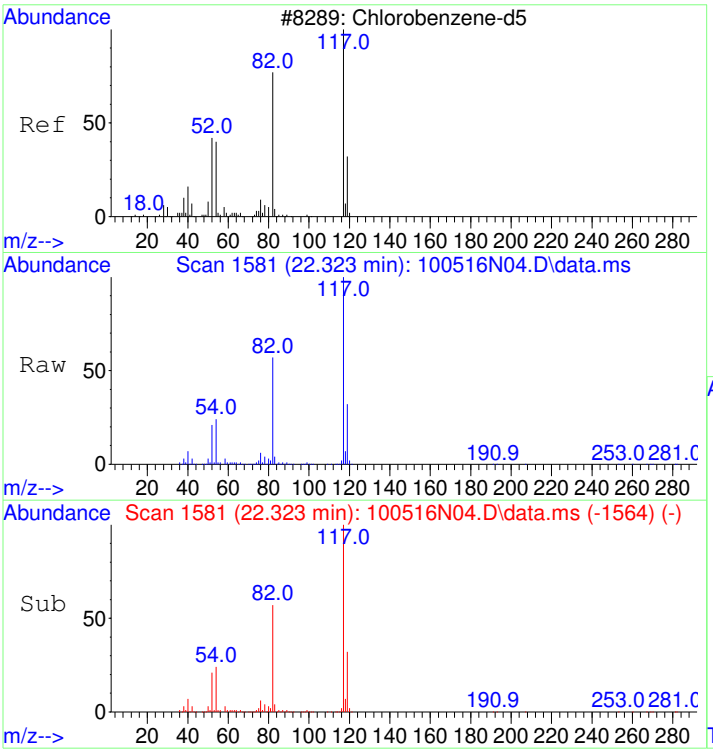


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.449 min Scan# 1170
Delta R.T. -0.000 min
Lab File: 100516N04.D
Acq: 5 Oct 2016 4:22 pm

Tgt Ion:114 Resp: 3027992

Ion	Ratio	Lower	Upper
114	100		
63	21.1	0.9	40.9
88	15.6	0.0	35.4

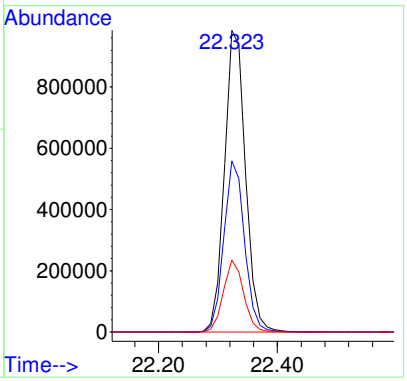




#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.323 min Scan# 1581
Delta R.T. -0.000 min
Lab File: 100516N04.D
Acq: 5 Oct 2016 4:22 pm

Tgt Ion:117 Resp: 2428239

Ion	Ratio	Lower	Upper
117	100		
82	55.8	35.8	75.8
54	23.1	2.7	42.7



1609103-03RE2

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\100516_FSAA\
Data File : 100516N05.D
Acq On : 5 Oct 2016 5:12 pm
InstName : AG5973N
Operator : LLH
Sample : 1609103-03RE2
Misc : 50mL REPRESS
ALS Vial : 36 Sample Multiplier: 4.59

report Chloroform

Quant Time: Oct 06 09:21:51 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:13:53 2016
Response via : Initial Calibration

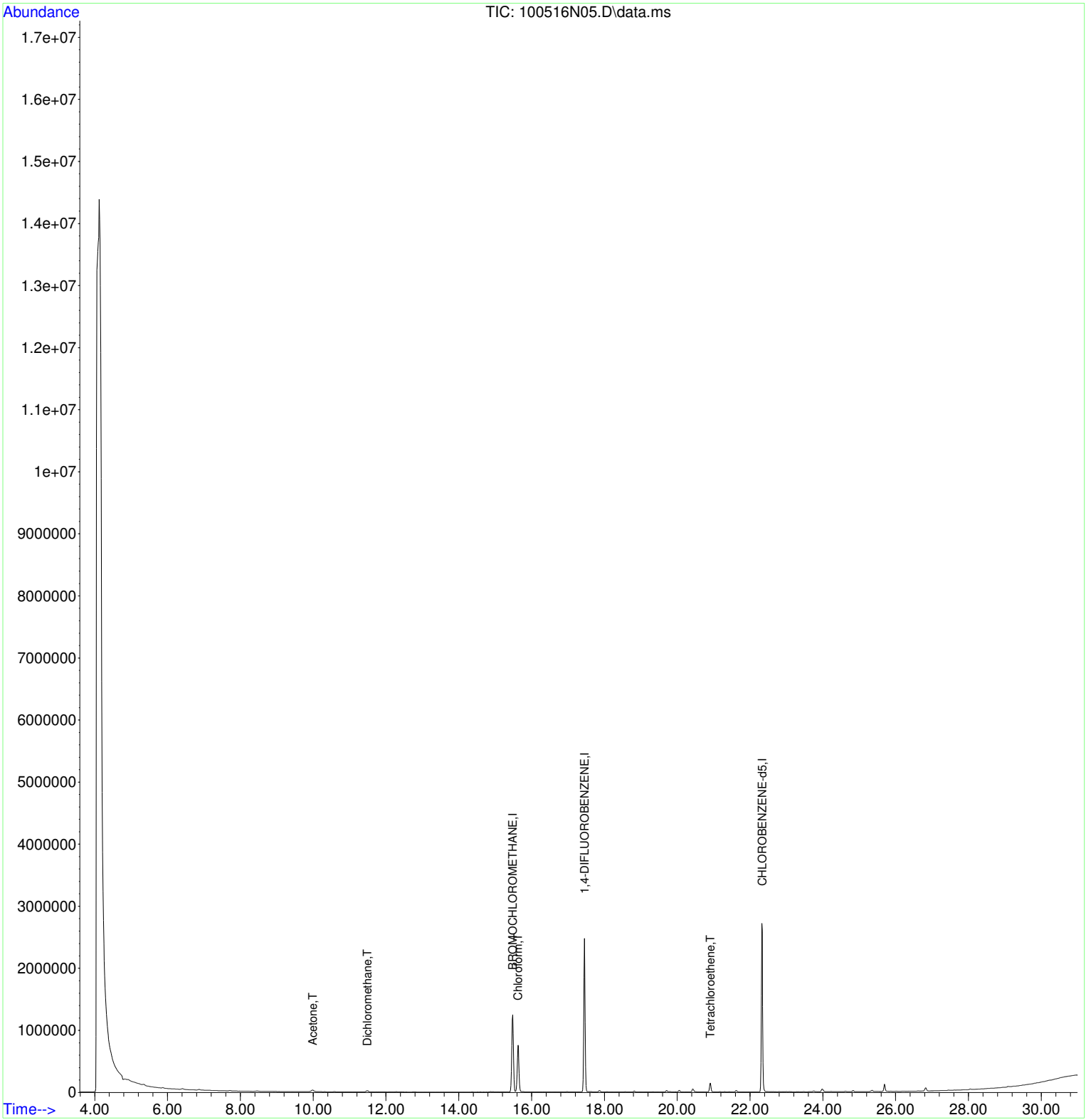
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.481	49	971650	22.00	ppbv	0.01
32) 1,4-DIFLUOROBENZENE	17.450	114	2754028	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.335	117	2167277	20.00	ppbv	0.01
Target Compounds						Qvalue
14) Acetone	9.991	43	80004	1.60	ppbv	100
18) Dichloromethane	11.485	49	27870	0.60	ppbv	97
28) Chloroform	15.623	83	962674	12.51	ppbv	100
47) Tetrachloroethene	20.912	166	63782	1.08	ppbv	98

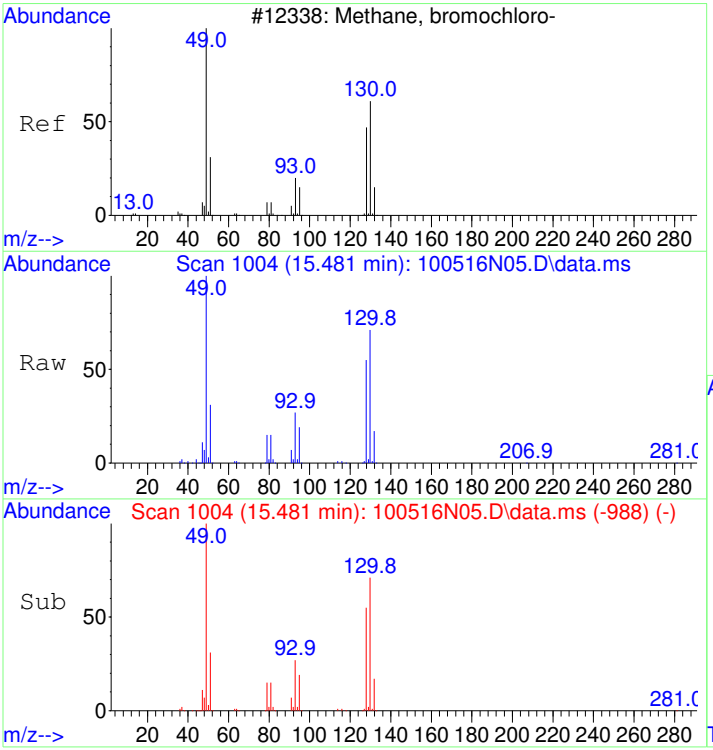
(#) = qualifier out of range (m) = manual integration (+) = signals summed

REVIEWED
By LLH at 4:30 pm, Oct 06, 2016

Data Path : D:\msdchem\1\2016\data\100516_FSAA\
Data File : 100516N05.D
Acq On : 5 Oct 2016 5:12 pm
InstName : AG5973N
Operator : LLH
Sample : 1609103-03RE2
Misc : 50mL REPRESS
ALS Vial : 36 Sample Multiplier: 4.59

Quant Time: Oct 06 09:21:51 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:13:53 2016
Response via : Initial Calibration

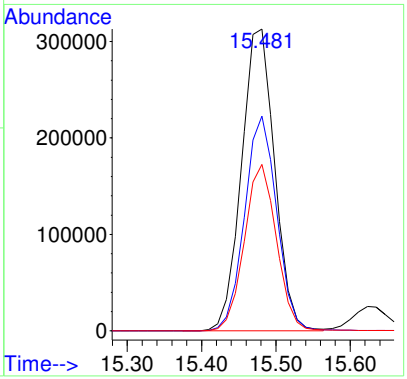


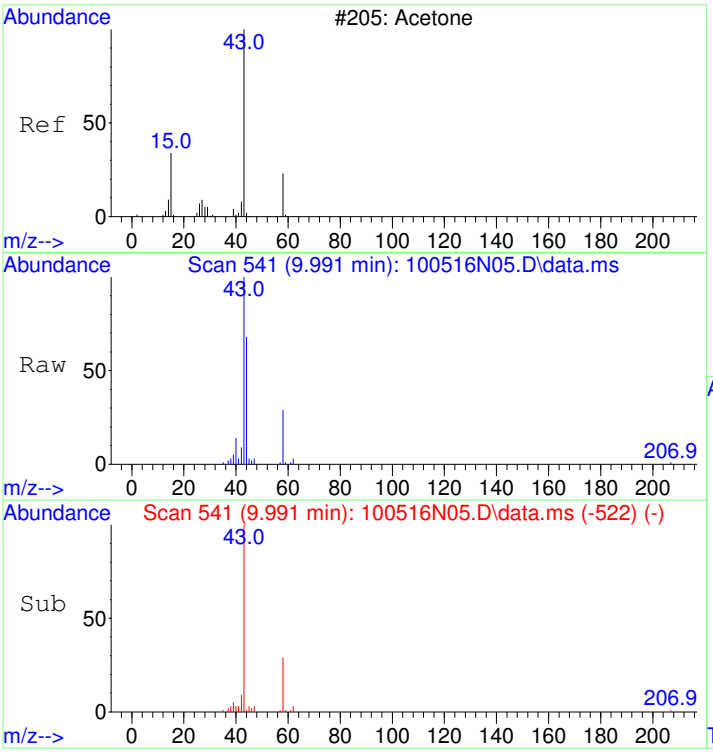


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.481 min Scan# 1004
Delta R.T. 0.012 min
Lab File: 100516N05.D
Acq: 5 Oct 2016 5:12 pm

Tgt Ion: 49 Resp: 971650

Ion	Ratio	Lower	Upper
49	100		
130	69.1	51.9	91.9
128	53.4	35.4	75.4

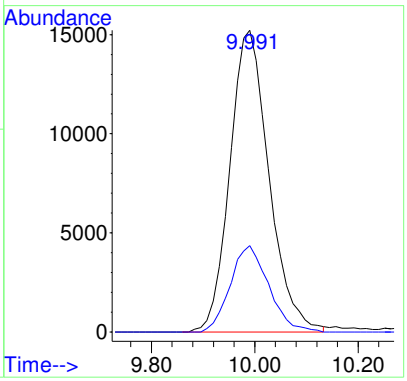


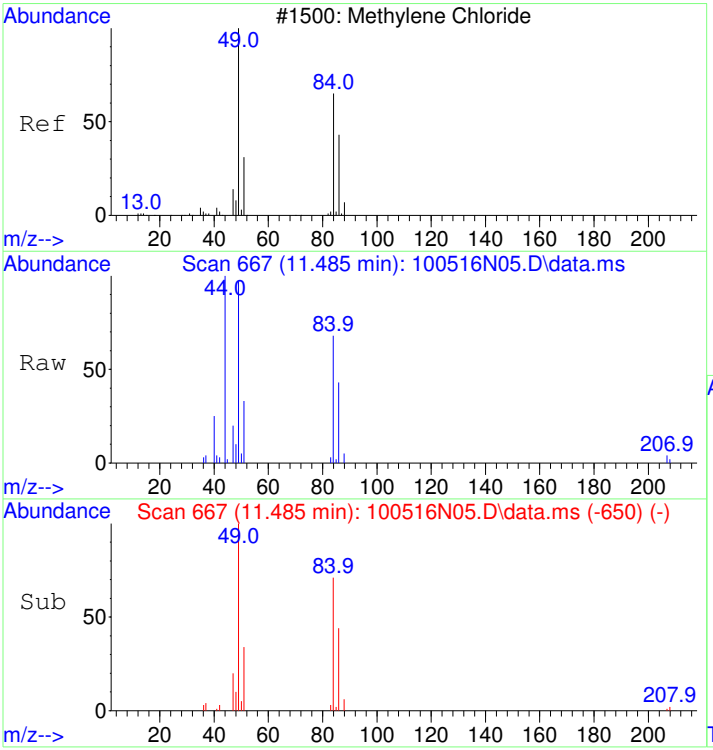


#14
Acetone
Concen: 1.60 ppbv
RT: 9.991 min Scan# 541
Delta R.T. 0.024 min
Lab File: 100516N05.D
Acq: 5 Oct 2016 5:12 pm

Tgt Ion: 43 Resp: 80004

Ion	Ratio	Lower	Upper
43	100		
58	28.2	8.4	48.4

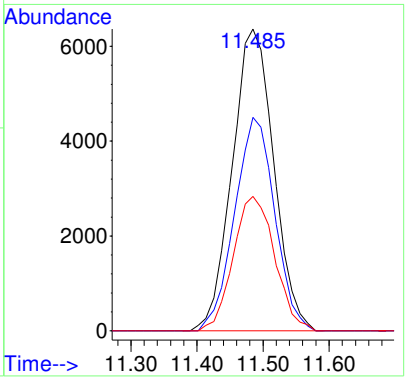


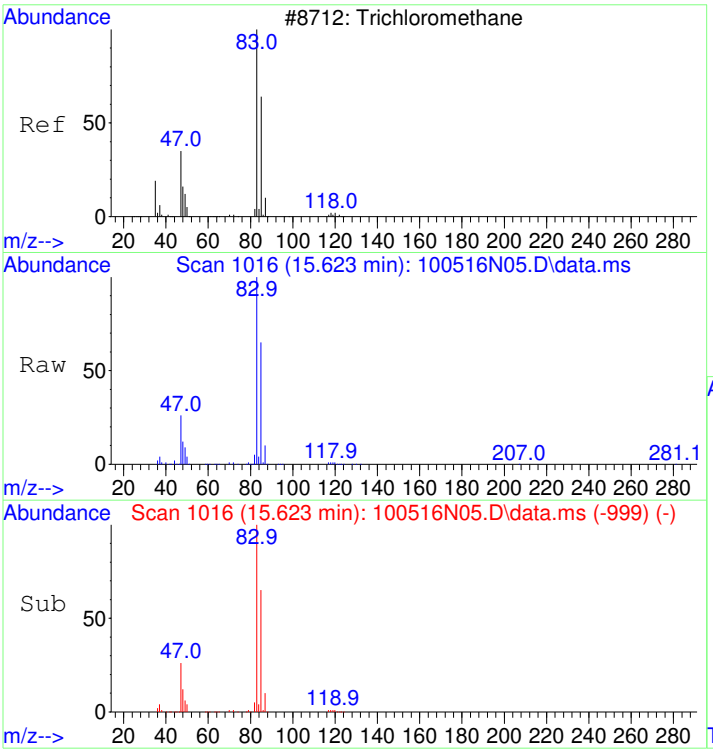


#18
Dichloromethane
Concen: 0.60 ppbv
RT: 11.485 min Scan# 667
Delta R.T. 0.000 min
Lab File: 100516N05.D
Acq: 5 Oct 2016 5:12 pm

Tgt Ion: 49 Resp: 27870

Ion	Ratio	Lower	Upper
49	100		
84	68.5	51.4	91.4
86	44.5	25.8	65.8

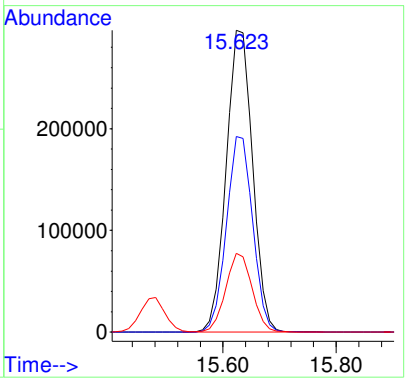


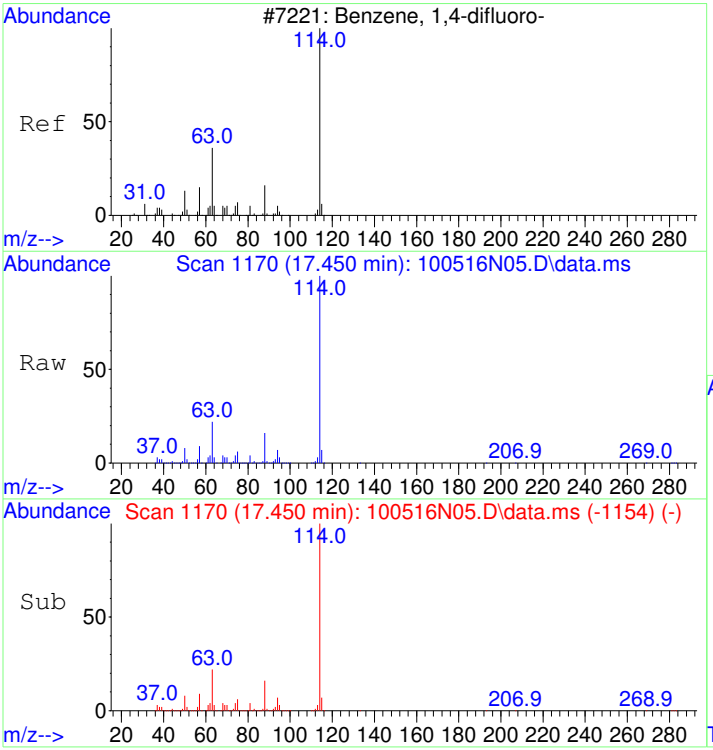


#28
Chloroform
Concen: 12.51 ppbv
RT: 15.623 min Scan# 1016
Delta R.T. 0.000 min
Lab File: 100516N05.D
Acq: 5 Oct 2016 5:12 pm

Tgt Ion: 83 Resp: 962674

Ion	Ratio	Lower	Upper
83	100		
85	64.5	44.7	84.7
47	25.9	5.4	45.4

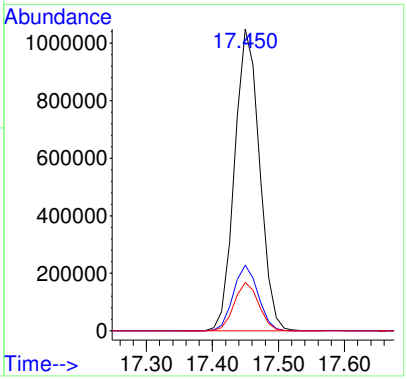


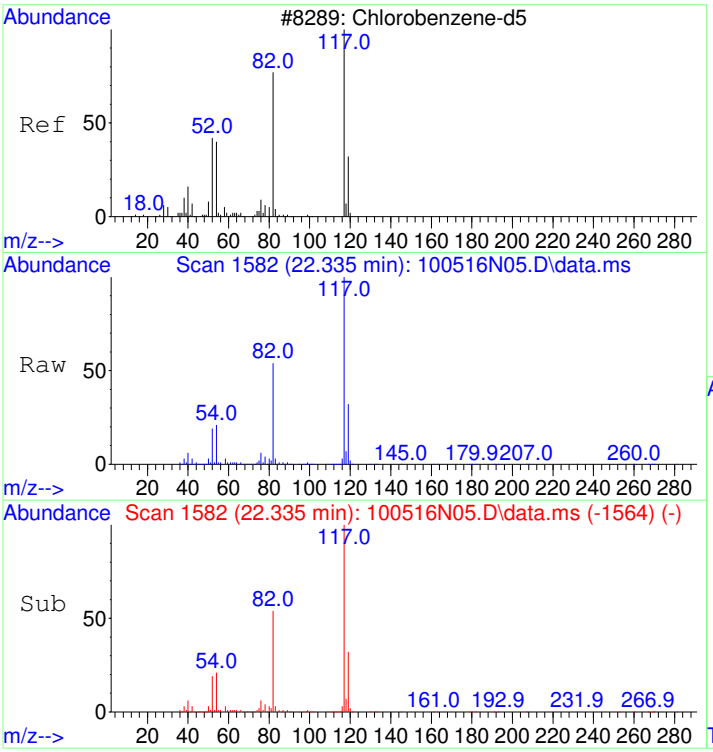


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.450 min Scan# 1170
Delta R.T. 0.000 min
Lab File: 100516N05.D
Acq: 5 Oct 2016 5:12 pm

Tgt Ion:114 Resp: 2754028

Ion	Ratio	Lower	Upper
114	100		
63	21.6	0.9	40.9
88	15.8	0.0	35.4

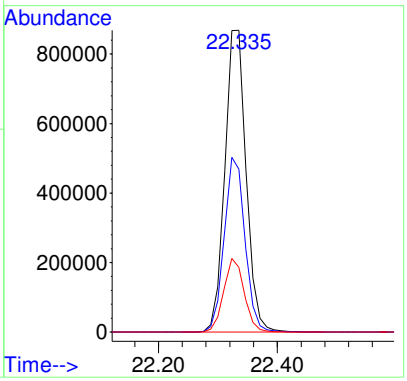


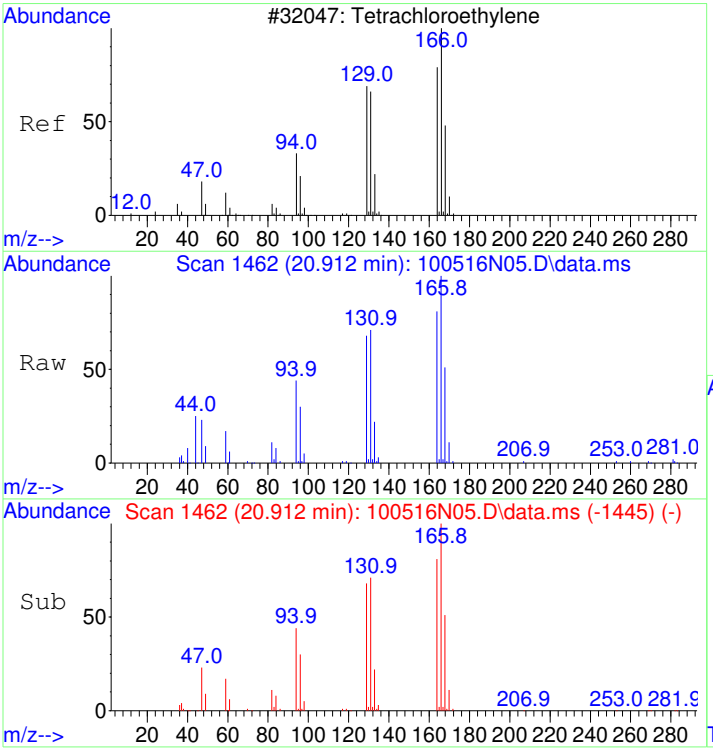


#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.335 min Scan# 1582
Delta R.T. 0.012 min
Lab File: 100516N05.D
Acq: 5 Oct 2016 5:12 pm

Tgt Ion:117 Resp: 2167277

Ion	Ratio	Lower	Upper
117	100		
82	56.5	35.8	75.8
54	23.5	2.7	42.7

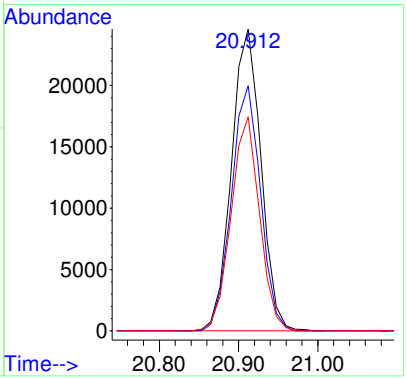




#47
Tetrachloroethene
Concen: 1.08 ppbv
RT: 20.912 min Scan# 1462
Delta R.T. 0.000 min
Lab File: 100516N05.D
Acq: 5 Oct 2016 5:12 pm

Tgt Ion:166 Resp: 63782

Ion	Ratio	Lower	Upper
166	100		
164	80.0	57.9	97.9
131	68.2	46.4	86.4



1609103-04RE2

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\100516_FSAA\
Data File : 100516N06.D
Acq On : 5 Oct 2016 5:58 pm
InstName : AG5973N
Operator : LLH
Sample : 1609103-04RE2
Misc : 50mL REPRESS
ALS Vial : 37 Sample Multiplier: 3.81

report cis12DCE, Chloroform, TCE

Quant Time: Oct 06 09:22:35 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:13:53 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.469	49	964421	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	2725655	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.323	117	2173398	20.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.440	41	370956	13.70	ppbv #	45
18) Dichloromethane	11.473	49	25689	0.56	ppbv	97
21) Hexane	12.789	57	187593	4.12	ppbv	95
24) cis-1,2-Dichloroethene	14.947	61	542542	14.26	ppbv	98
28) Chloroform	15.623	83	432422	5.66	ppbv	99
37) Trichloroethene	17.864	130	445211	11.22	ppbv	100
47) Tetrachloroethene	20.912	166	30994	0.52	ppbv	97
53) m&p-Xylene	22.643	91	83204	0.68	ppbv	98

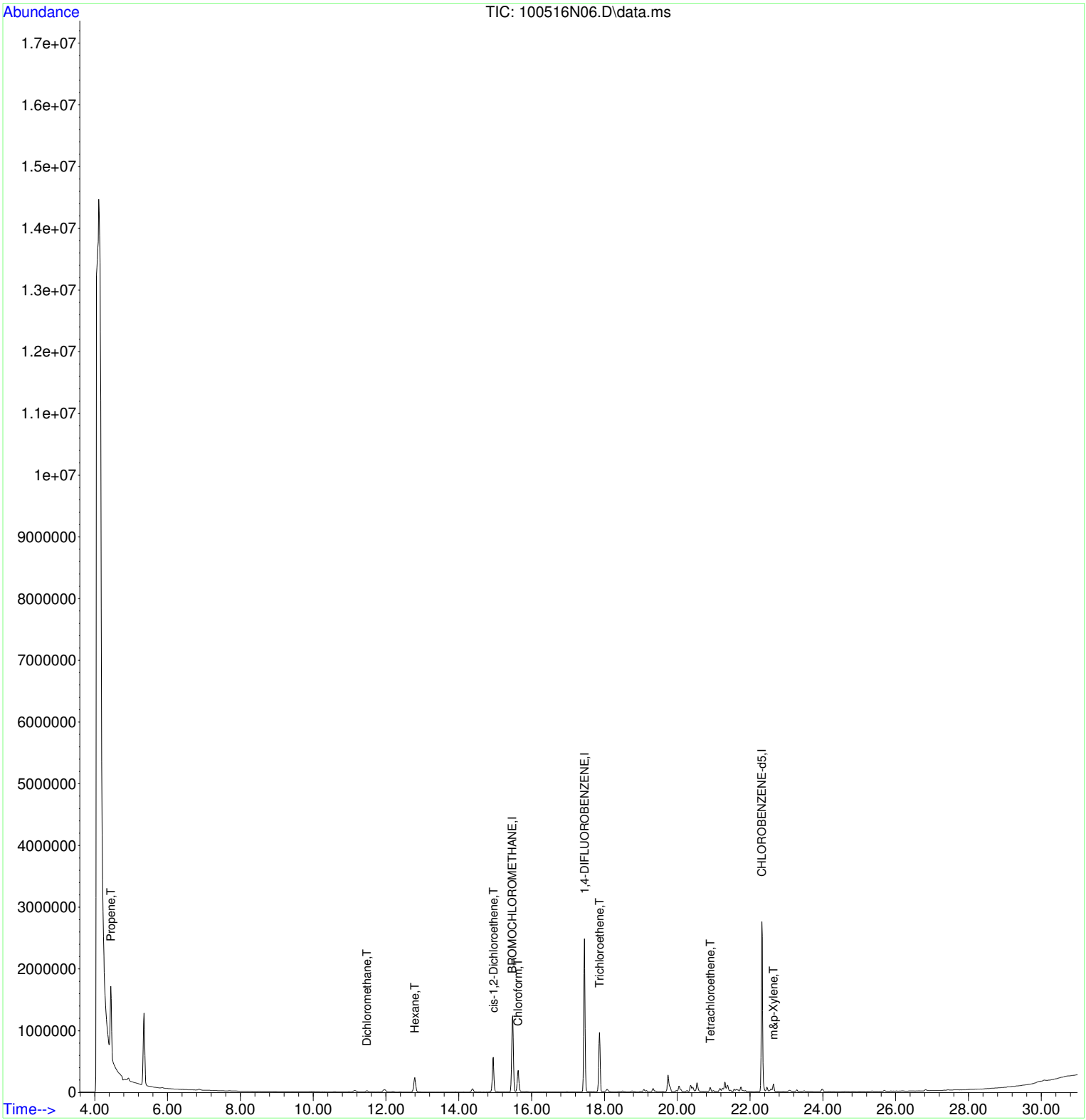
(#) = qualifier out of range (m) = manual integration (+) = signals summed

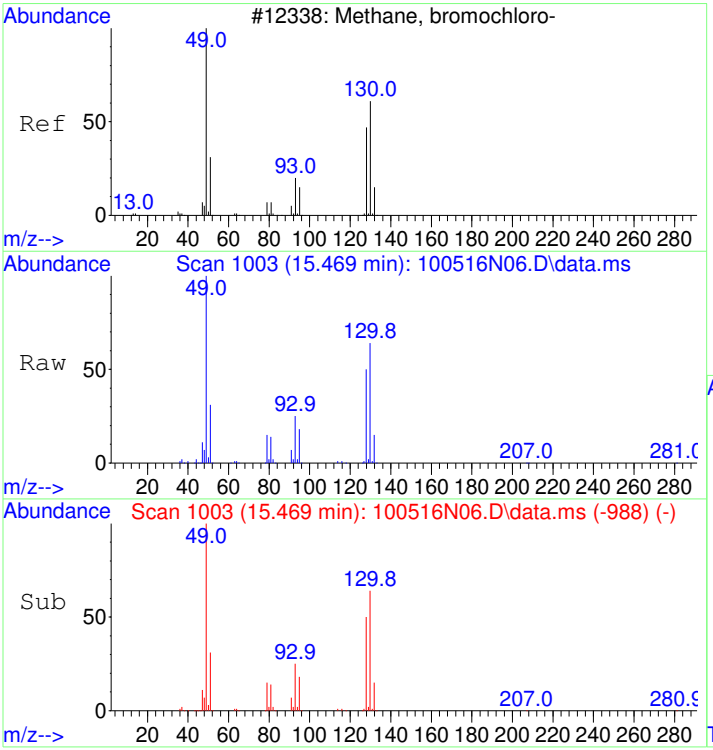
REVIEWED
By LLH at 4:32 pm, Oct 06, 2016

Table of Contents

Data Path : D:\msdchem\1\2016\data\100516_FSAA\
Data File : 100516N06.D
Acq On : 5 Oct 2016 5:58 pm
InstName : AG5973N
Operator : LLH
Sample : 1609103-04RE2
Misc : 50mL REPRESS
ALS Vial : 37 Sample Multiplier: 3.81

Quant Time: Oct 06 09:22:35 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:13:53 2016
Response via : Initial Calibration

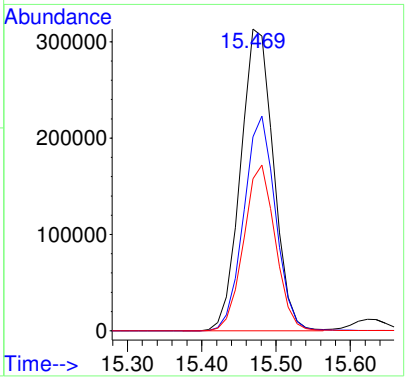


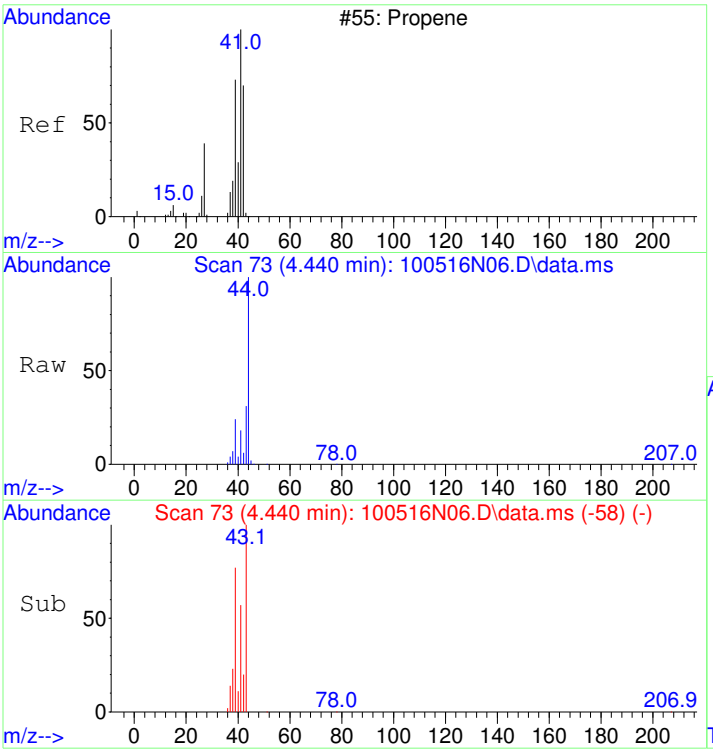


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.469 min Scan# 1003
Delta R.T. -0.000 min
Lab File: 100516N06.D
Acq: 5 Oct 2016 5:58 pm

Tgt Ion: 49 Resp: 964421

Ion	Ratio	Lower	Upper
49	100		
130	68.7	51.9	91.9
128	52.9	35.4	75.4

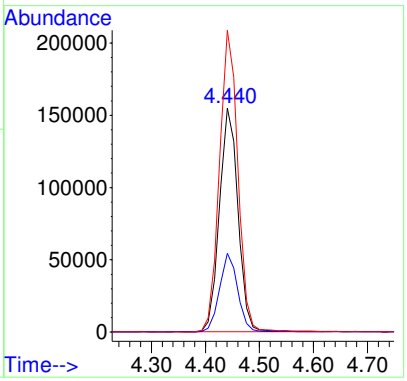


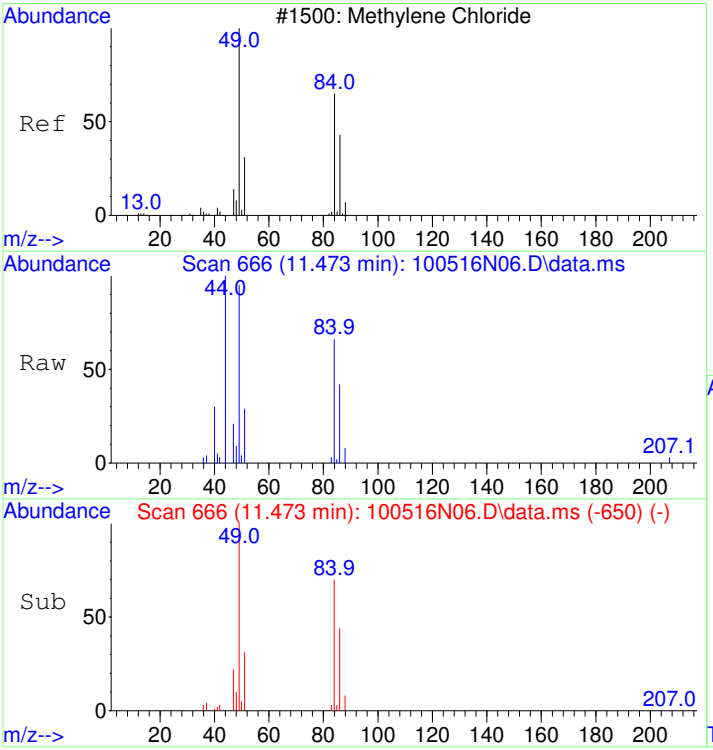


#2
Propene
Concen: 13.70 ppbv
RT: 4.440 min Scan# 73
Delta R.T. -0.024 min
Lab File: 100516N06.D
Acq: 5 Oct 2016 5:58 pm

Tgt Ion: 41 Resp: 370956

Ion	Ratio	Lower	Upper
41	100		
42	35.0	45.9	85.9#
39	133.8	54.4	94.4#

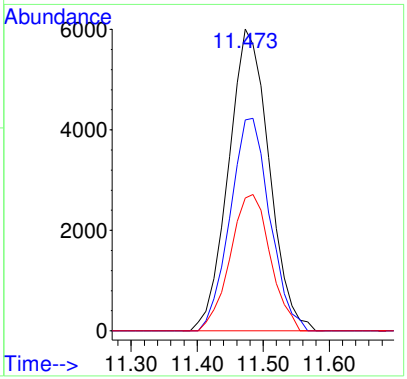


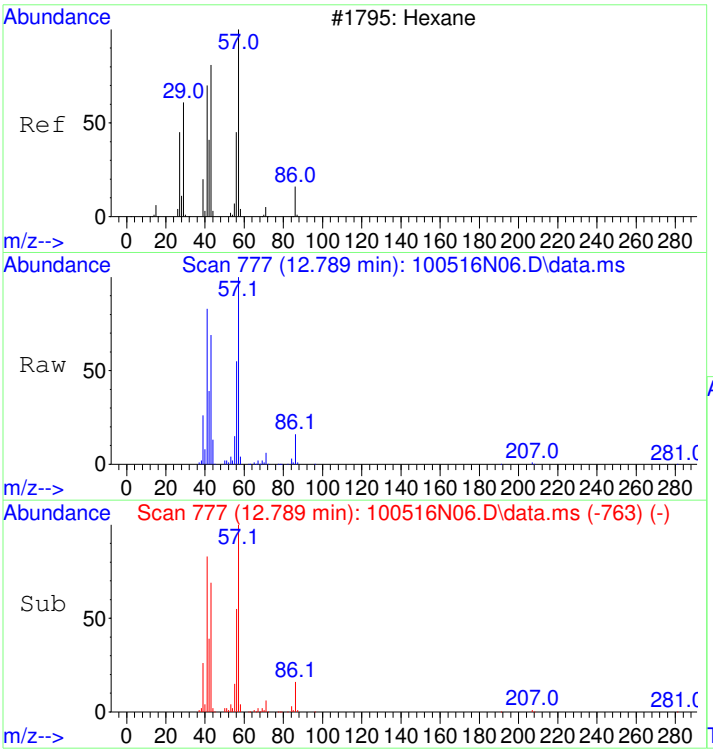


#18
Dichloromethane
Concen: 0.56 ppbv
RT: 11.473 min Scan# 666
Delta R.T. -0.012 min
Lab File: 100516N06.D
Acq: 5 Oct 2016 5:58 pm

Tgt Ion: 49 Resp: 25689

Ion	Ratio	Lower	Upper
49	100		
84	68.9	51.4	91.4
86	44.7	25.8	65.8

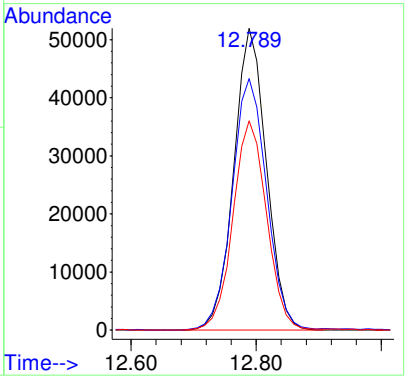


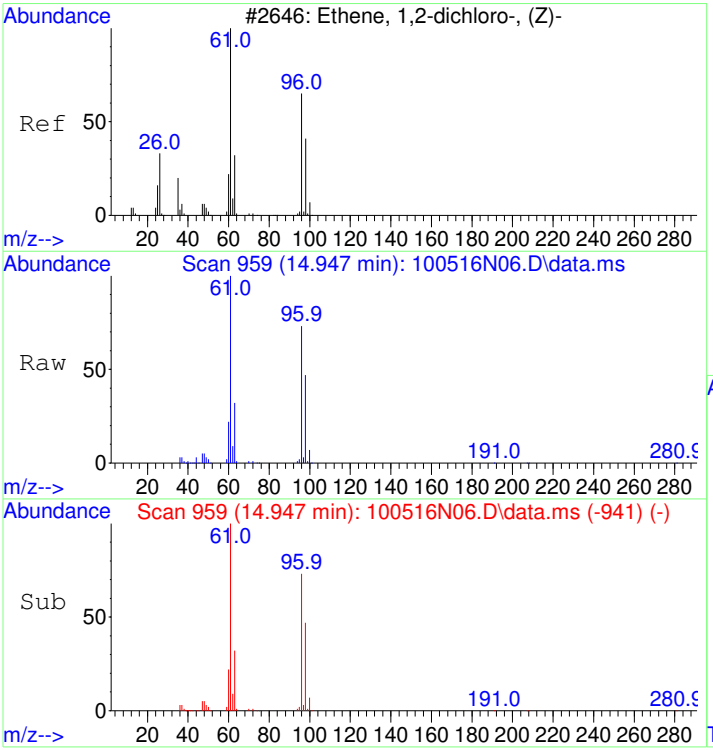


#21
Hexane
Concen: 4.12 ppbv
RT: 12.789 min Scan# 777
Delta R.T. -0.000 min
Lab File: 100516N06.D
Acq: 5 Oct 2016 5:58 pm

Tgt Ion: 57 Resp: 187593

Ion	Ratio	Lower	Upper
57	100		
41	89.1	62.9	102.9
43	71.9	49.3	89.3

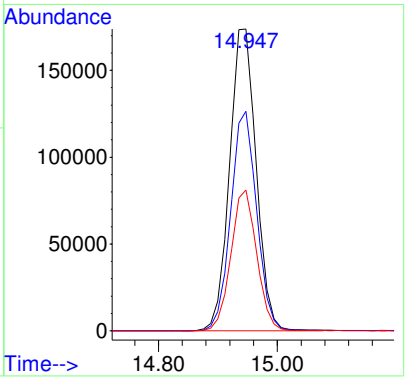


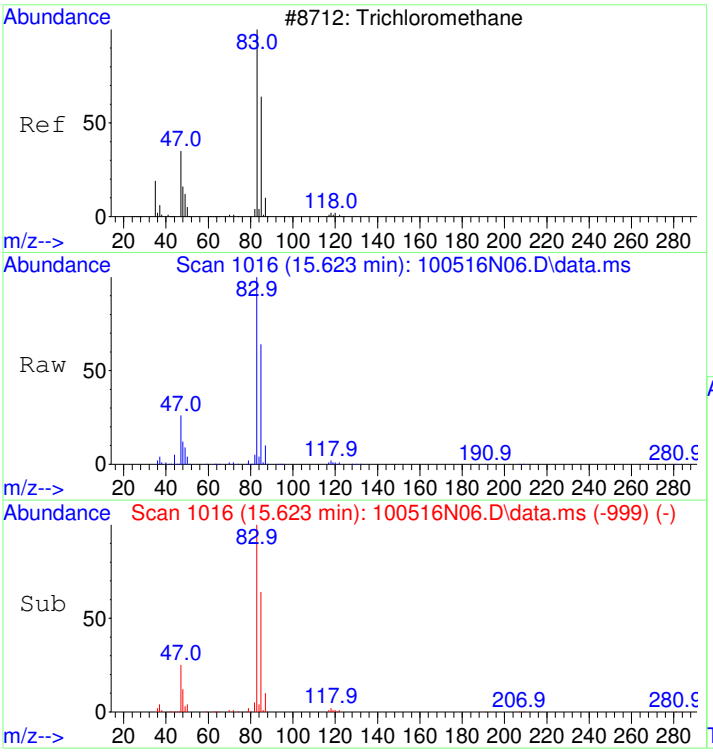


#24
cis-1,2-Dichloroethene
Concen: 14.26 ppbv
RT: 14.947 min Scan# 959
Delta R.T. 0.012 min
Lab File: 100516N06.D
Acq: 5 Oct 2016 5:58 pm

Tgt Ion: 61 Resp: 542542

Ion	Ratio	Lower	Upper
61	100		
96	71.0	52.9	92.9
98	45.2	26.2	66.2

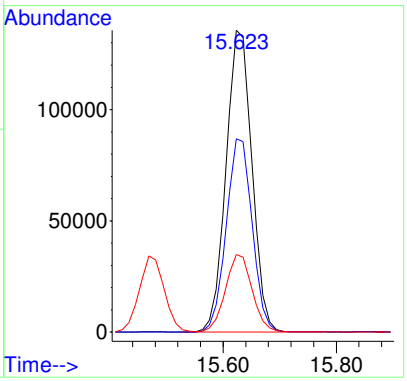


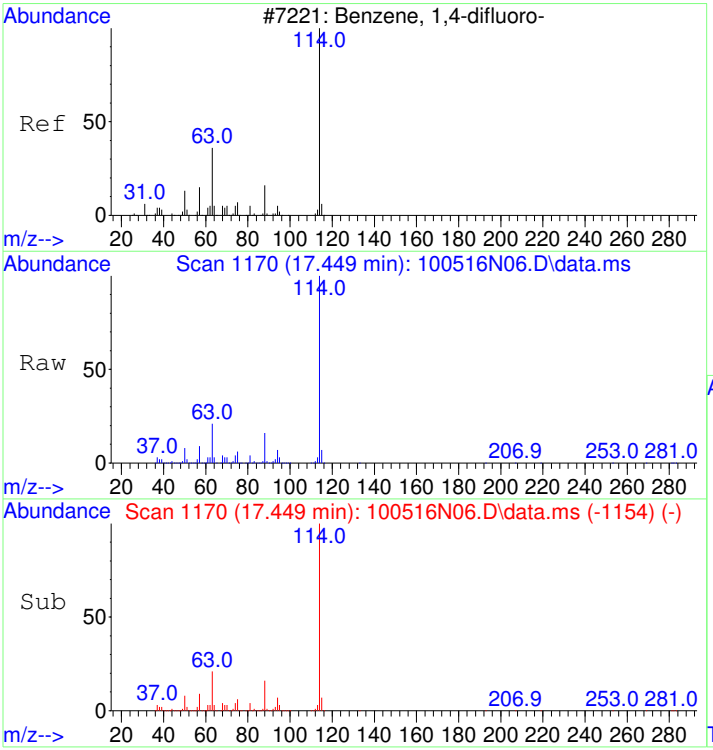


#28
Chloroform
Concen: 5.66 ppbv
RT: 15.623 min Scan# 1016
Delta R.T. -0.000 min
Lab File: 100516N06.D
Acq: 5 Oct 2016 5:58 pm

Tgt Ion: 83 Resp: 432422

Ion	Ratio	Lower	Upper
83	100		
85	64.2	44.7	84.7
47	26.3	5.4	45.4

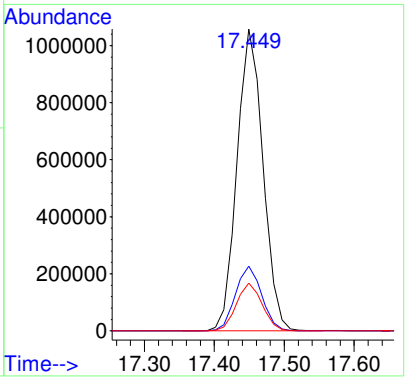


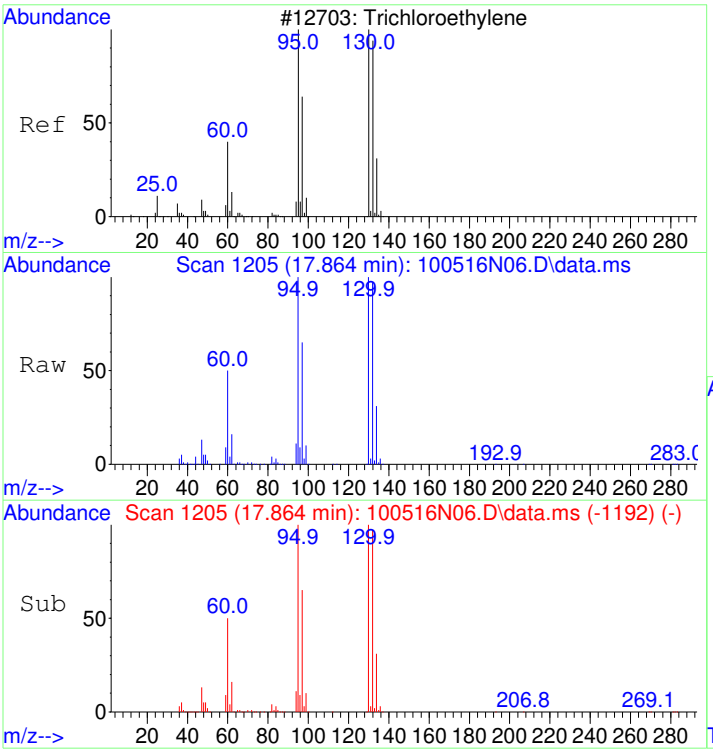


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.449 min Scan# 1170
Delta R.T. -0.000 min
Lab File: 100516N06.D
Acq: 5 Oct 2016 5:58 pm

Tgt Ion:114 Resp: 2725655

Ion	Ratio	Lower	Upper
114	100		
63	21.6	0.9	40.9
88	15.6	0.0	35.4

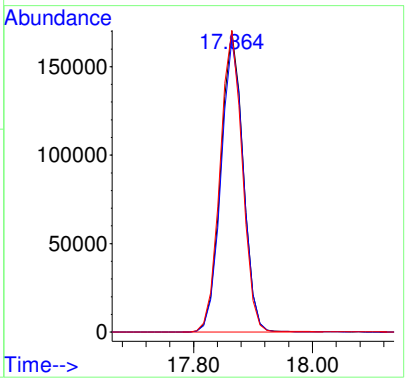


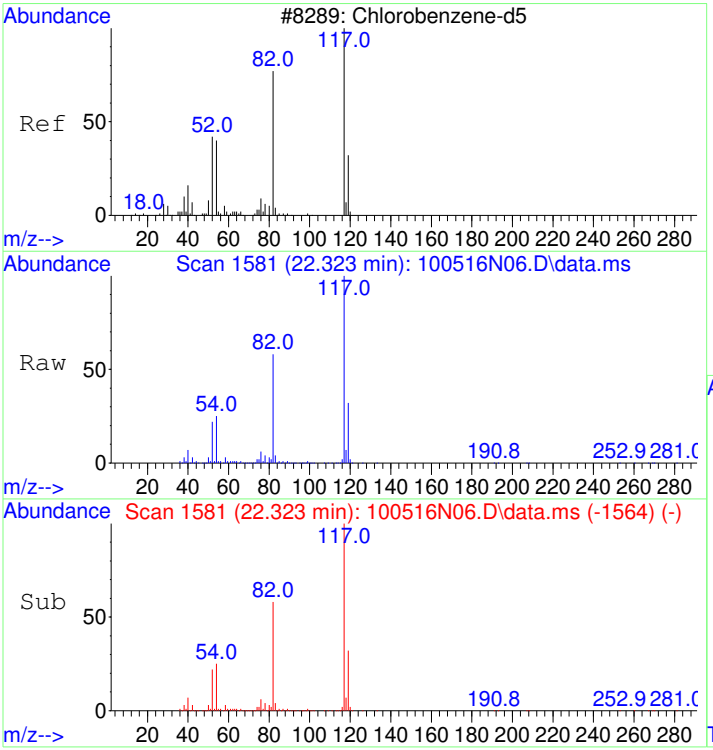


#37
Trichloroethene
Concen: 11.22 ppbv
RT: 17.864 min Scan# 1205
Delta R.T. -0.000 min
Lab File: 100516N06.D
Acq: 5 Oct 2016 5:58 pm

Tgt Ion:130 Resp: 445211

Ion	Ratio	Lower	Upper
130	100		
132	96.7	76.9	116.9
95	99.7	79.4	119.4

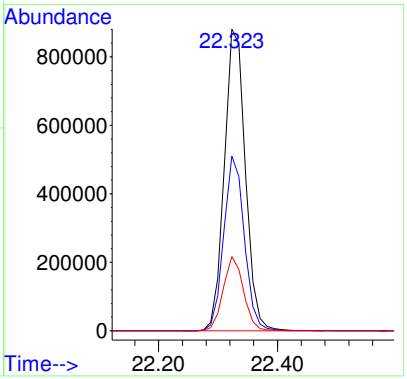


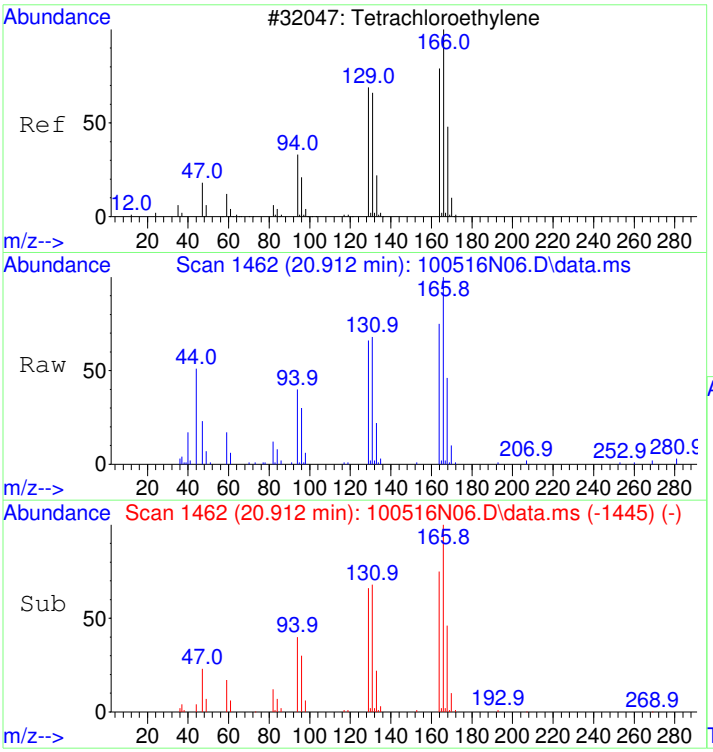


#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.323 min Scan# 1581
Delta R.T. -0.000 min
Lab File: 100516N06.D
Acq: 5 Oct 2016 5:58 pm

Tgt Ion:117 Resp: 2173398

Ion	Ratio	Lower	Upper
117	100		
82	56.9	35.8	75.8
54	23.8	2.7	42.7

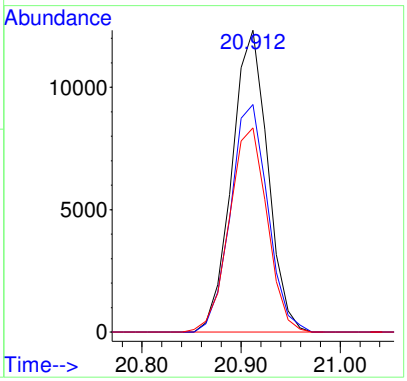


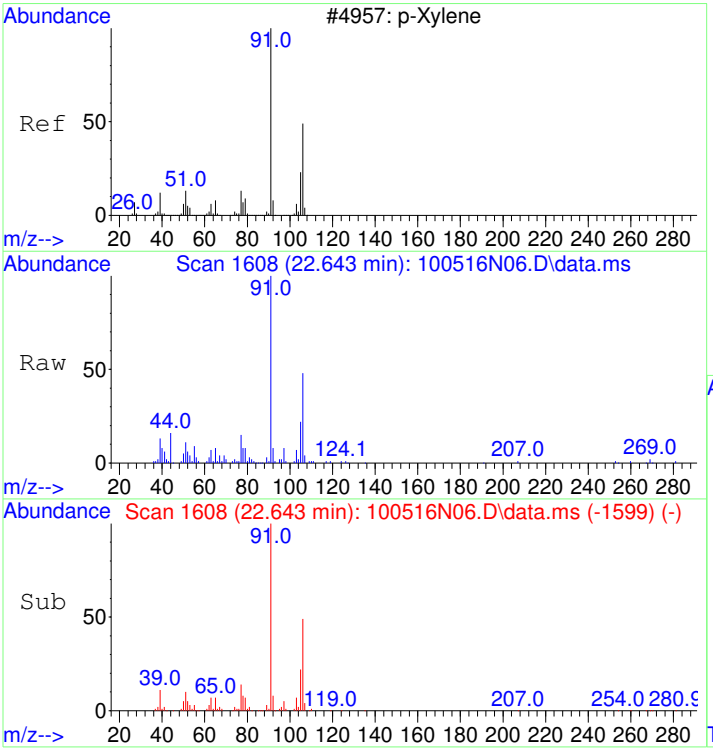


#47
Tetrachloroethene
Concen: 0.52 ppbv
RT: 20.912 min Scan# 1462
Delta R.T. -0.000 min
Lab File: 100516N06.D
Acq: 5 Oct 2016 5:58 pm

Tgt Ion:166 Resp: 30994

Ion	Ratio	Lower	Upper
166	100		
164	78.5	57.9	97.9
131	71.4	46.4	86.4

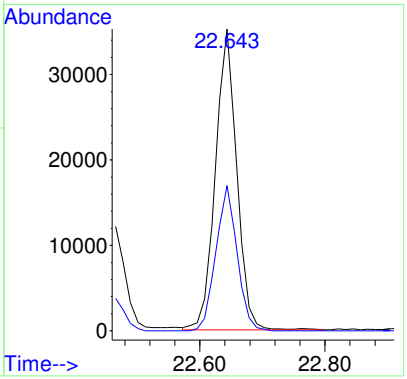




#53
m&p-Xylene
Concen: 0.68 ppbv
RT: 22.643 min Scan# 1608
Delta R.T. -0.000 min
Lab File: 100516N06.D
Acq: 5 Oct 2016 5:58 pm

Tgt Ion: 91 Resp: 83204

Ion	Ratio	Lower	Upper
91	100		
106	48.0	29.7	69.7



1609103-05RE2

Quantitation Report (Not Reviewed)

Data Path : D:\msdchem\1\2016\data\100516_FSAA\
Data File : 100516N07.D
Acq On : 5 Oct 2016 6:44 pm
InstName : AG5973N
Operator : LLH
Sample : 1609103-05RE2
Misc : 50mL REPRESS
ALS Vial : 38 Sample Multiplier: 3.86

report cis12DCE, Chloroform, TCE

Quant Time: Oct 06 09:22:55 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:13:53 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.469	49	958130	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	2670274	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.323	117	2182822	20.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.452	41	231019	8.59	ppbv #	44
18) Dichloromethane	11.484	49	24751	0.54	ppbv	98
21) Hexane	12.789	57	102101	2.26	ppbv	89
24) cis-1,2-Dichloroethene	14.935	61	330335	8.74	ppbv	98
28) Chloroform	15.623	83	298738	3.94	ppbv	98
37) Trichloroethene	17.864	130	278558	7.16	ppbv	99

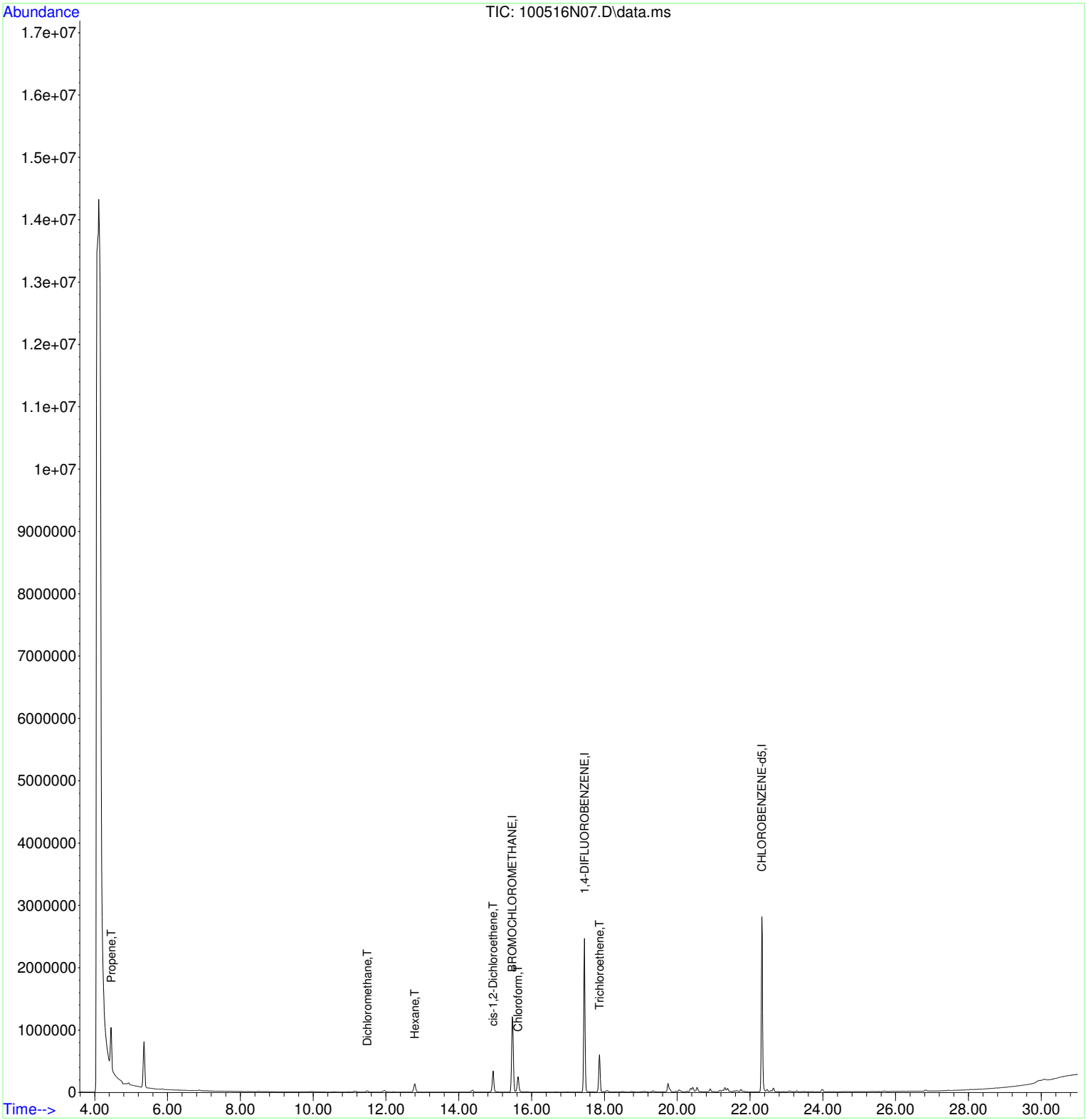
(#) = qualifier out of range (m) = manual integration (+) = signals summed

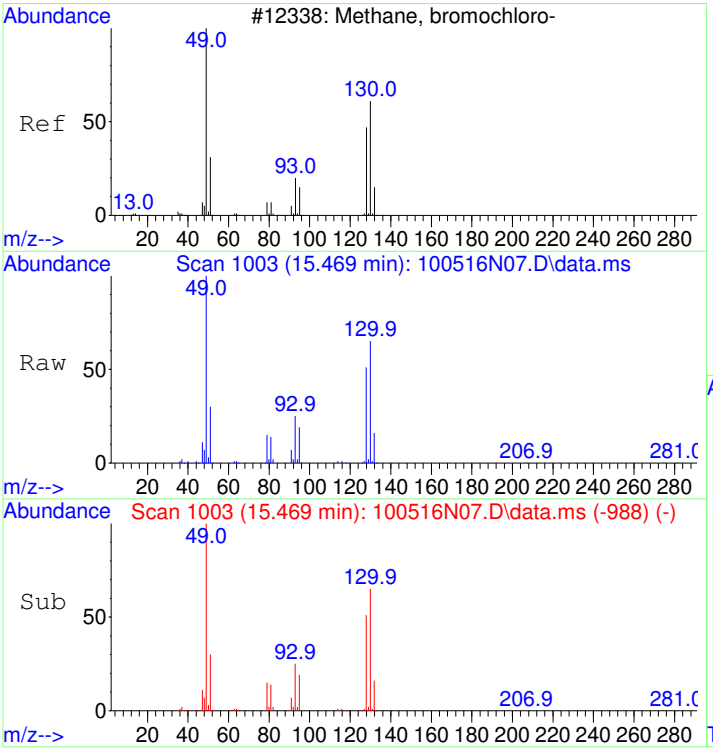
REVIEWED
By LLH at 4:57 pm, Oct 06, 2016

Table of Contents

Data Path : D:\msdchem\1\2016\data\100516_FSAA\
Data File : 100516N07.D
Acq On : 5 Oct 2016 6:44 pm
InstName : AG5973N
Operator : LLH
Sample : 1609103-05RE2
Misc : 50mL REPRESS
ALS Vial : 38 Sample Multiplier: 3.86

Quant Time: Oct 06 09:22:55 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:13:53 2016
Response via : Initial Calibration

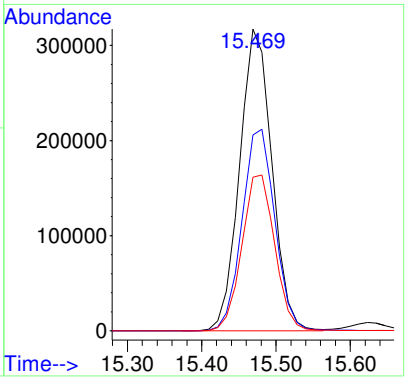


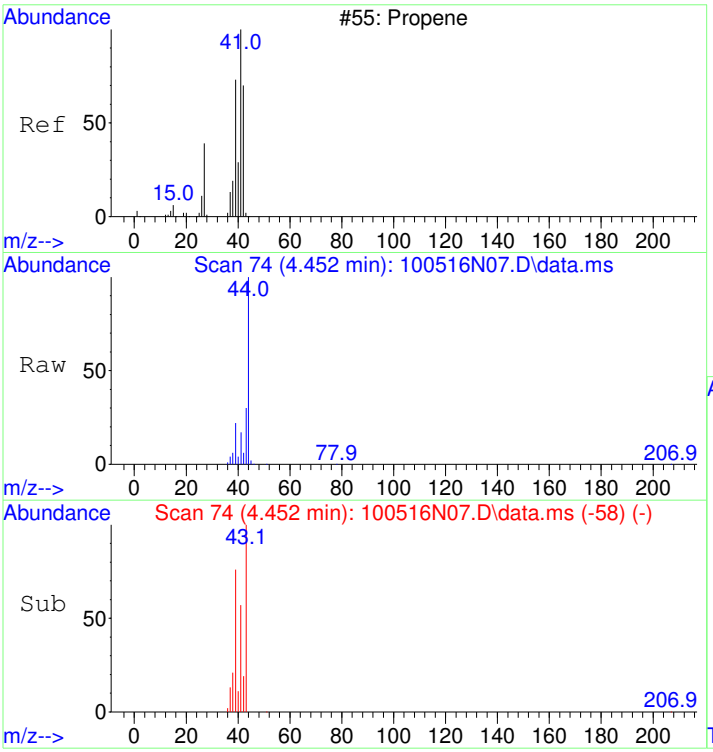


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.469 min Scan# 1003
Delta R.T. -0.000 min
Lab File: 100516N07.D
Acq: 5 Oct 2016 6:44 pm

Tgt Ion: 49 Resp: 958130

Ion	Ratio	Lower	Upper
49	100		
130	68.1	51.9	91.9
128	52.7	35.4	75.4

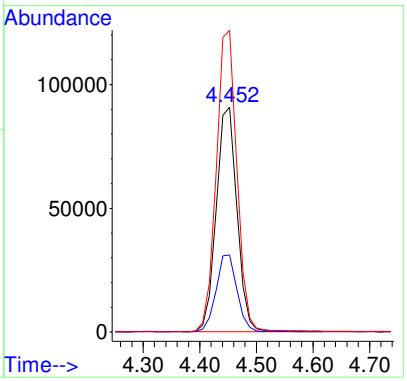


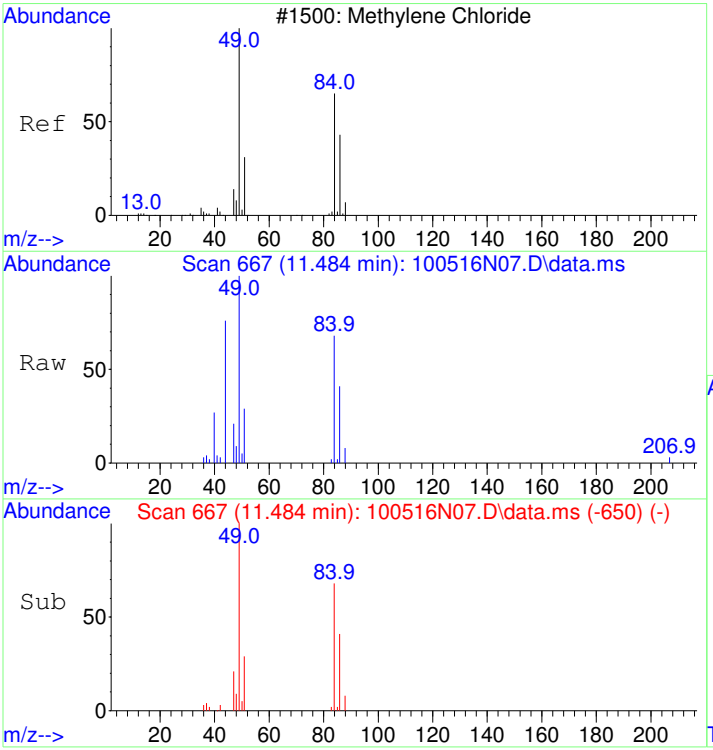


#2
Propene
Concen: 8.59 ppbv
RT: 4.452 min Scan# 74
Delta R.T. -0.012 min
Lab File: 100516N07.D
Acq: 5 Oct 2016 6:44 pm

Tgt Ion: 41 Resp: 231019

Ion	Ratio	Lower	Upper
41	100		
42	34.7	45.9	85.9#
39	134.2	54.4	94.4#

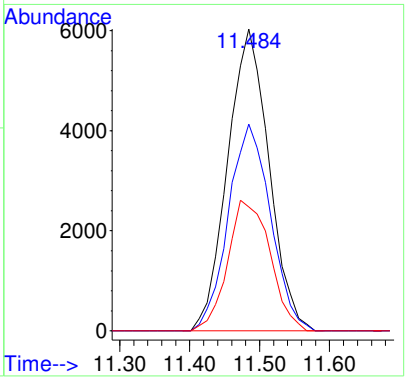


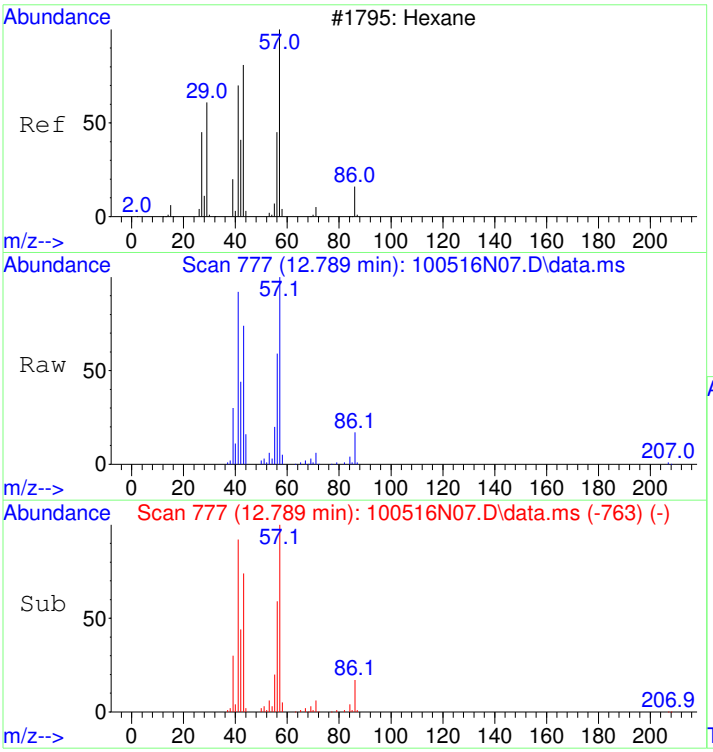


#18
Dichloromethane
Concen: 0.54 ppbv
RT: 11.484 min Scan# 667
Delta R.T. -0.000 min
Lab File: 100516N07.D
Acq: 5 Oct 2016 6:44 pm

Tgt Ion: 49 Resp: 24751

Ion	Ratio	Lower	Upper
49	100		
84	69.9	51.4	91.4
86	44.2	25.8	65.8

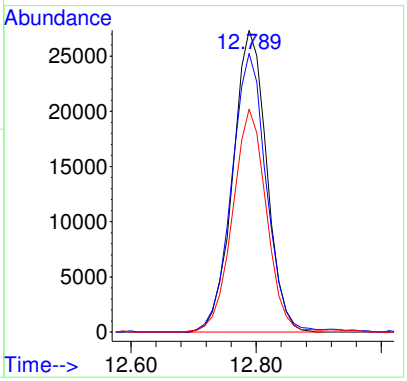


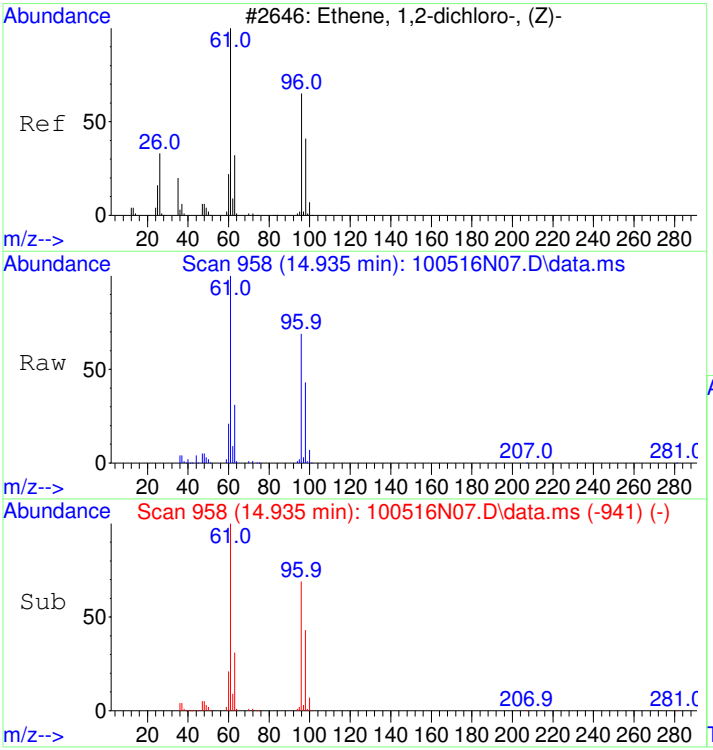


#21
Hexane
Concen: 2.26 ppbv
RT: 12.789 min Scan# 777
Delta R.T. -0.000 min
Lab File: 100516N07.D
Acq: 5 Oct 2016 6:44 pm

Tgt Ion: 57 Resp: 102101

Ion	Ratio	Lower	Upper
57	100		
41	95.4	62.9	102.9
43	74.7	49.3	89.3

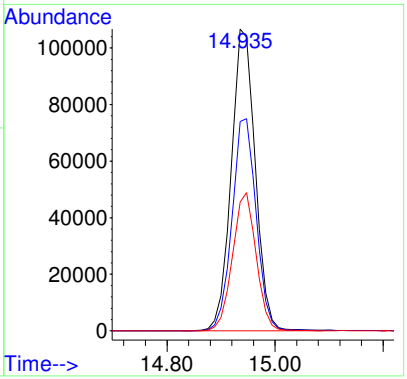


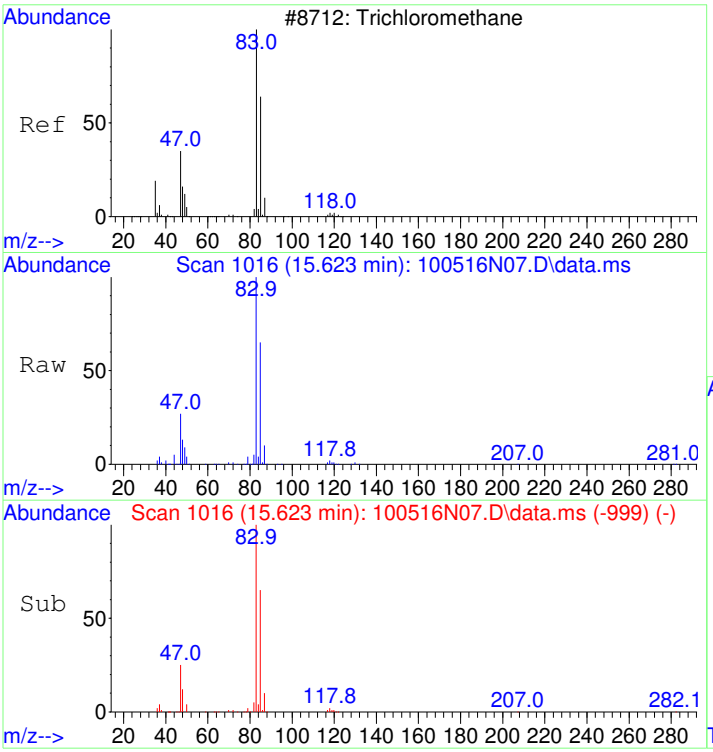


#24
cis-1,2-Dichloroethene
Concen: 8.74 ppbv
RT: 14.935 min Scan# 958
Delta R.T. -0.000 min
Lab File: 100516N07.D
Acq: 5 Oct 2016 6:44 pm

Tgt Ion: 61 Resp: 330335

Ion	Ratio	Lower	Upper
61	100		
96	70.7	52.9	92.9
98	45.0	26.2	66.2

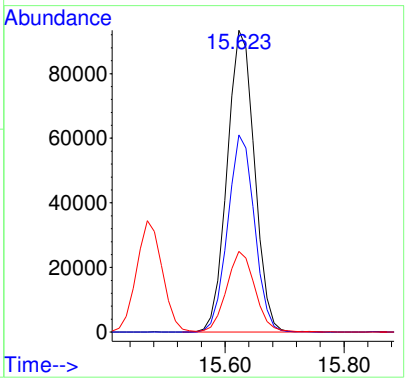


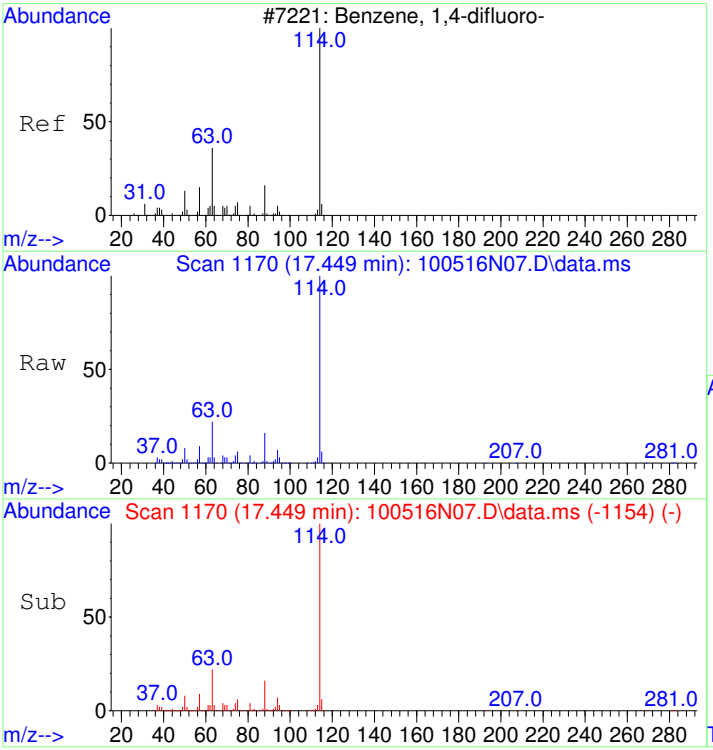


#28
Chloroform
Concen: 3.94 ppbv
RT: 15.623 min Scan# 1016
Delta R.T. -0.000 min
Lab File: 100516N07.D
Acq: 5 Oct 2016 6:44 pm

Tgt Ion: 83 Resp: 298738

Ion	Ratio	Lower	Upper
83	100		
85	64.1	44.7	84.7
47	27.2	5.4	45.4

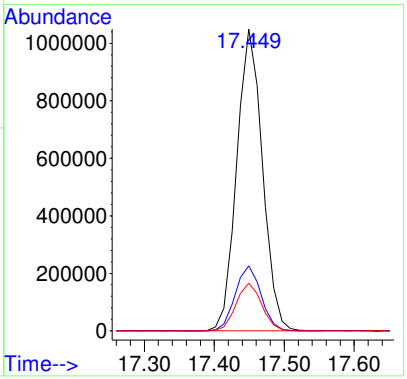


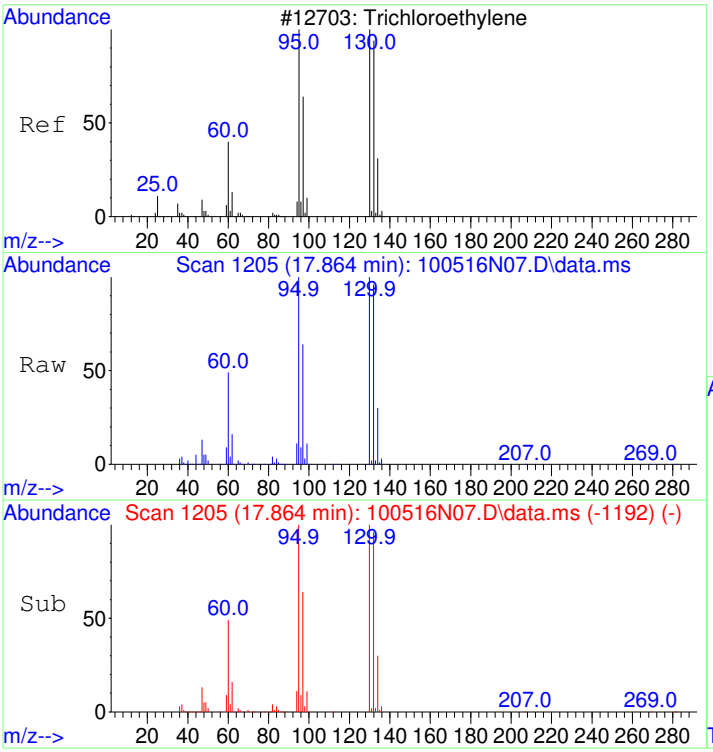


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.449 min Scan# 1170
Delta R.T. -0.000 min
Lab File: 100516N07.D
Acq: 5 Oct 2016 6:44 pm

Tgt Ion:114 Resp: 2670274

Ion	Ratio	Lower	Upper
114	100		
63	21.7	0.9	40.9
88	15.8	0.0	35.4

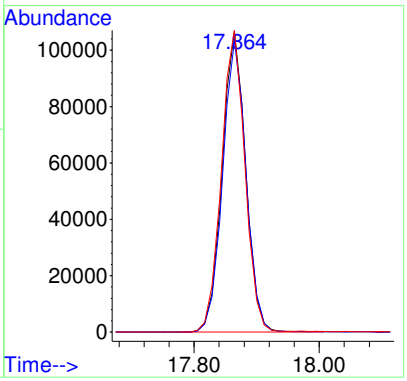


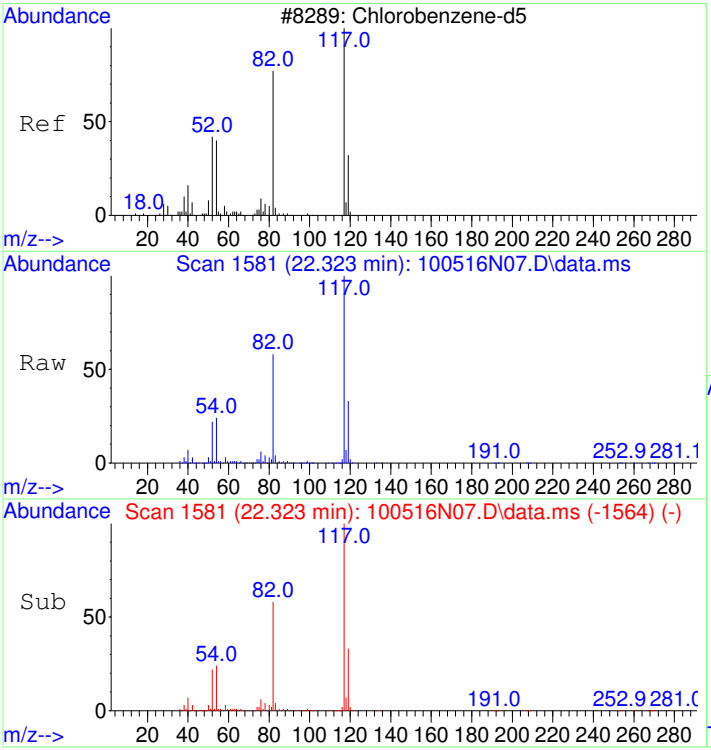


#37
Trichloroethene
Concen: 7.16 ppbv
RT: 17.864 min Scan# 1205
Delta R.T. -0.000 min
Lab File: 100516N07.D
Acq: 5 Oct 2016 6:44 pm

Tgt Ion:130 Resp: 278558

Ion	Ratio	Lower	Upper
130	100		
132	96.7	76.9	116.9
95	100.7	79.4	119.4

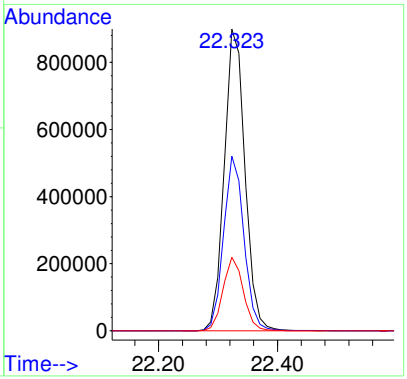




#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.323 min Scan# 1581
Delta R.T. -0.000 min
Lab File: 100516N07.D
Acq: 5 Oct 2016 6:44 pm

Tgt Ion:117 Resp: 2182822

Ion	Ratio	Lower	Upper
117	100		
82	57.1	35.8	75.8
54	24.0	2.7	42.7



B16J018-DUP1

Data Path : D:\msdchem\1\2016\data\100516_FSAA\
Data File : 100516N08.D
Acq On : 5 Oct 2016 7:30 pm
InstName : AG5973N
Operator : LLH
Sample : B16J018-DUP1
Misc : 50mL 1609103-05RE2
ALS Vial : 38 Sample Multiplier: 3.86

REPORT

#3 IS out low
due to low can pressure

Quant Time: Oct 06 09:23:13 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:13:53 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.469	49	910707	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	2352041	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.323	117	1482802	20.00	ppbv	0.00
Target Compounds						Qvalue
2) Propene	4.452	41	234771	9.18	ppbv #	45
18) Dichloromethane	11.485	49	24647	0.57	ppbv	96
21) Hexane	12.789	57	97052	2.26	ppbv	89
24) cis-1,2-Dichloroethene	14.935	61	319544	8.89	ppbv	97
28) Chloroform	15.623	83	290942	4.03	ppbv	98
37) Trichloroethene	17.864	130	270198	7.89	ppbv	99
47) Tetrachloroethene	20.912	166	20363	0.51	ppbv	97
53) m&p-Xylene	22.643	91	41179	0.49	ppbv	98

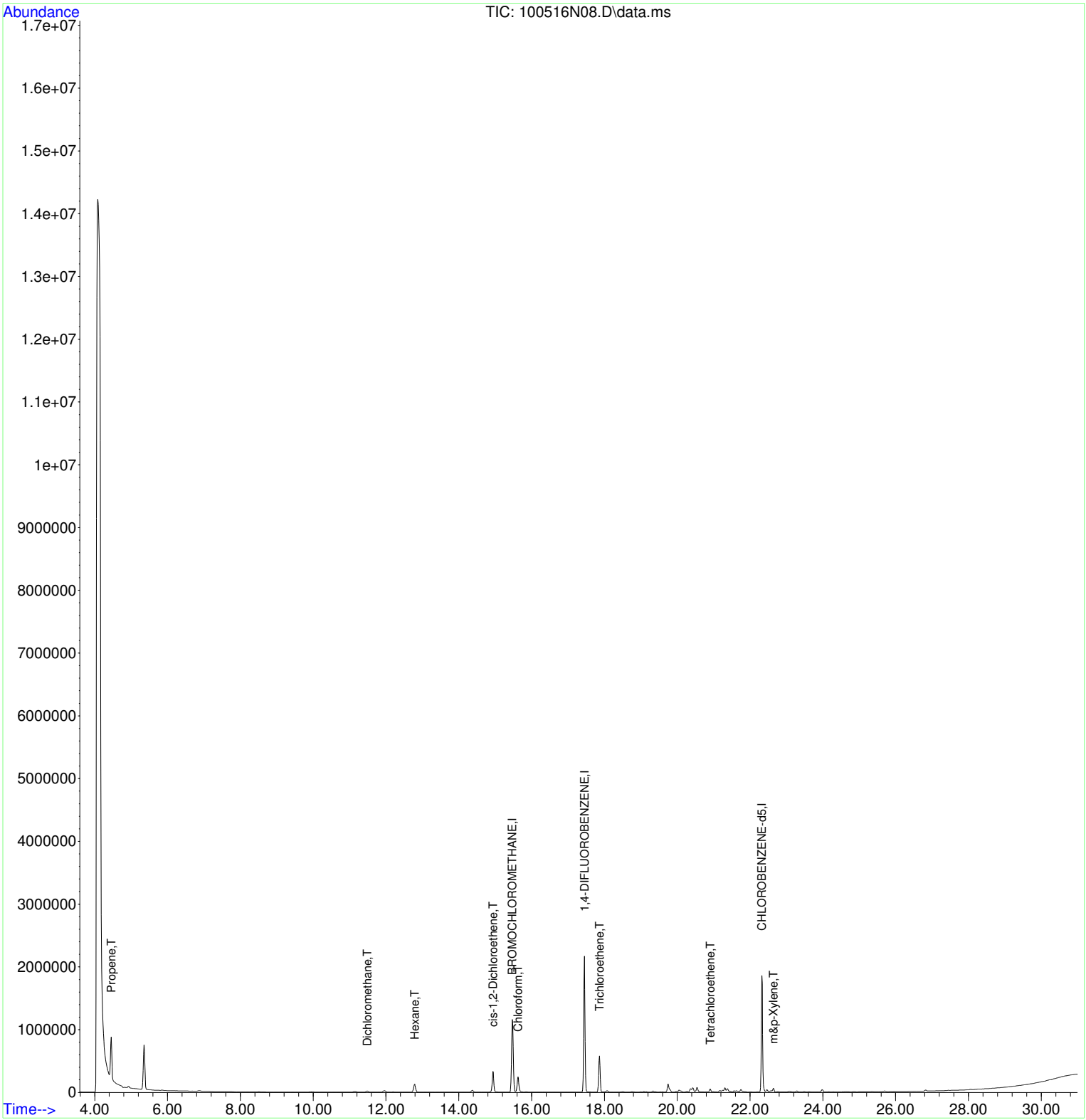
(#) = qualifier out of range (m) = manual integration (+) = signals summed

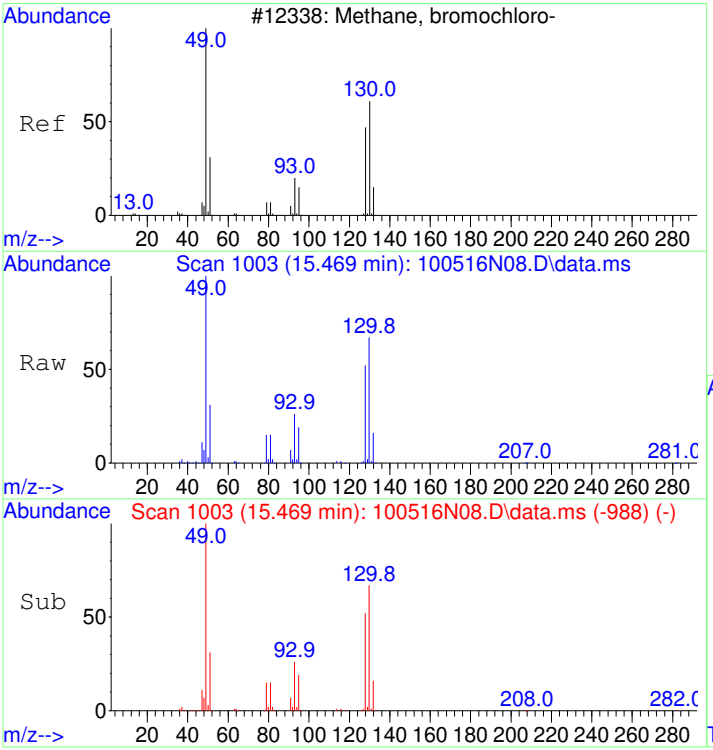
REVIEWED
By LLH at 5:03 pm, Oct 06, 2016

Table of Contents

Data Path : D:\msdchem\1\2016\data\100516_FSAA\
Data File : 100516N08.D
Acq On : 5 Oct 2016 7:30 pm
InstName : AG5973N
Operator : LLH
Sample : B16J018-DUP1
Misc : 50mL 1609103-05RE2
ALS Vial : 38 Sample Multiplier: 3.86

Quant Time: Oct 06 09:23:13 2016
Quant Method : D:\msdchem\1\2016\method\100416N_TO15AA.M
Quant Title : TO15
QLast Update : Wed Oct 05 13:13:53 2016
Response via : Initial Calibration

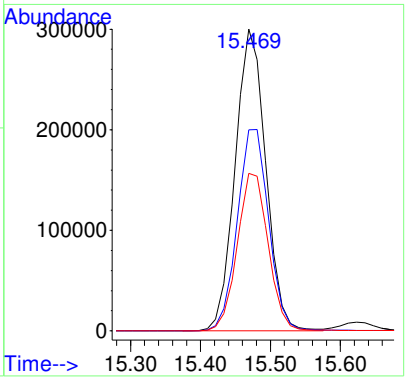


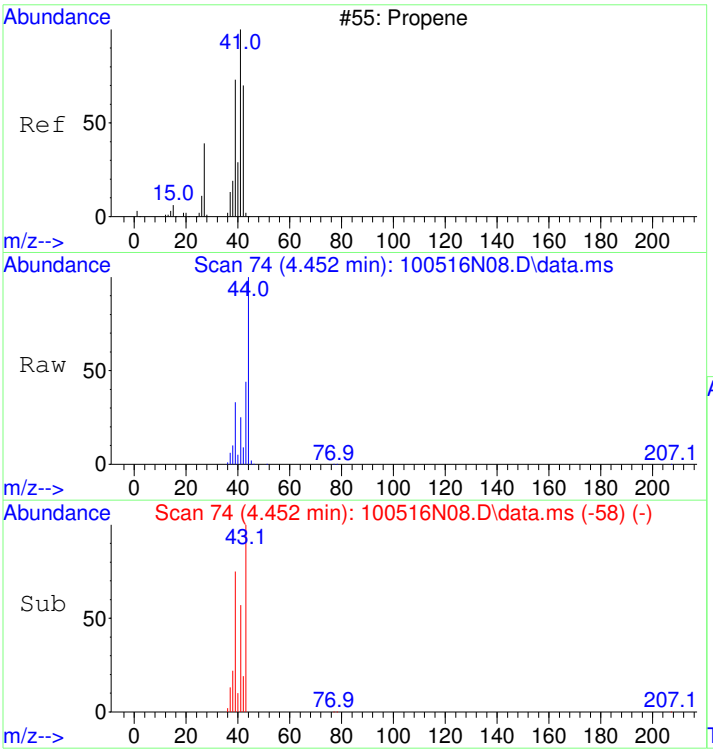


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.469 min Scan# 1003
Delta R.T. 0.000 min
Lab File: 100516N08.D
Acq: 5 Oct 2016 7:30 pm

Tgt Ion: 49 Resp: 910707

Ion	Ratio	Lower	Upper
49	100		
130	68.6	51.9	91.9
128	52.9	35.4	75.4

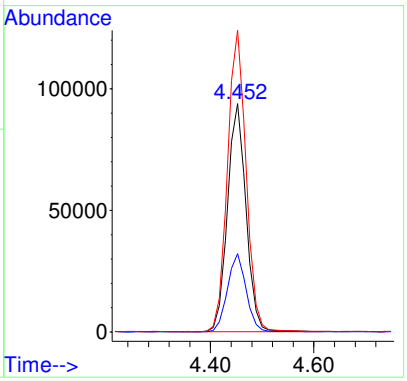


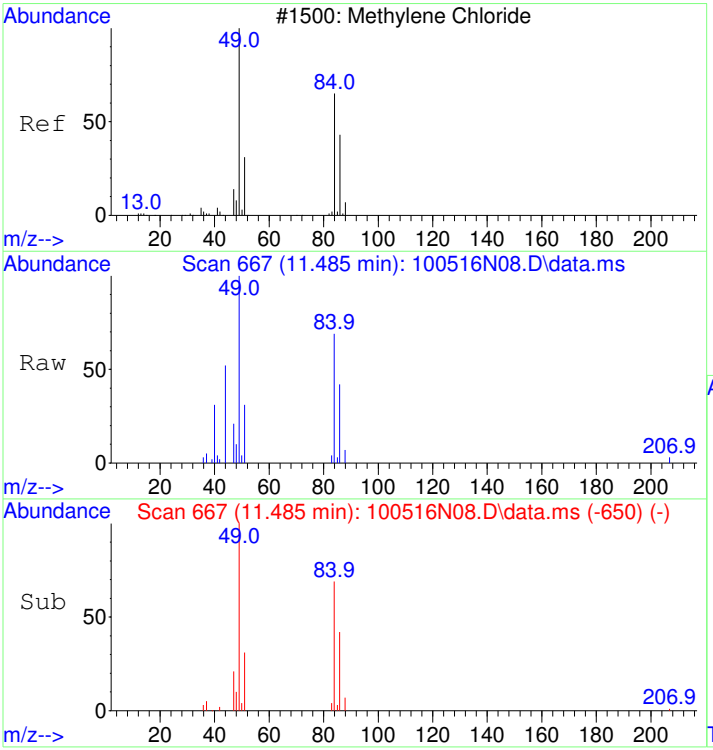


#2
Propene
Concen: 9.18 ppbv
RT: 4.452 min Scan# 74
Delta R.T. -0.012 min
Lab File: 100516N08.D
Acq: 5 Oct 2016 7:30 pm

Tgt Ion: 41 Resp: 234771

Ion	Ratio	Lower	Upper
41	100		
42	34.5	45.9	85.9#
39	132.2	54.4	94.4#

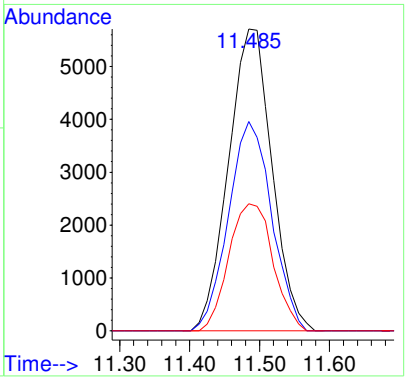


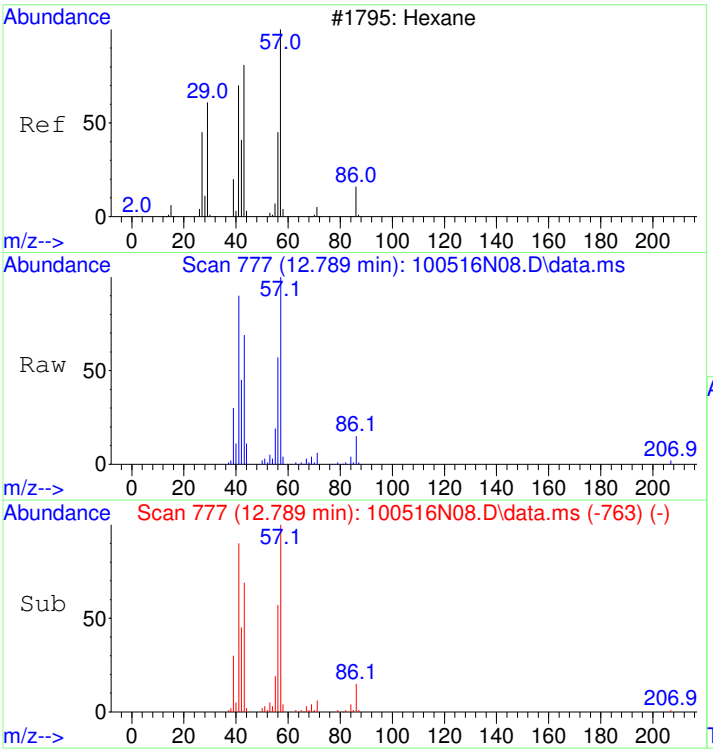


#18
Dichloromethane
Concen: 0.57 ppbv
RT: 11.485 min Scan# 667
Delta R.T. -0.000 min
Lab File: 100516N08.D
Acq: 5 Oct 2016 7:30 pm

Tgt Ion: 49 Resp: 24647

Ion	Ratio	Lower	Upper
49	100		
84	68.8	51.4	91.4
86	42.6	25.8	65.8

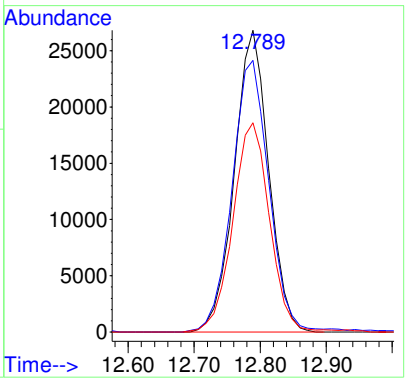


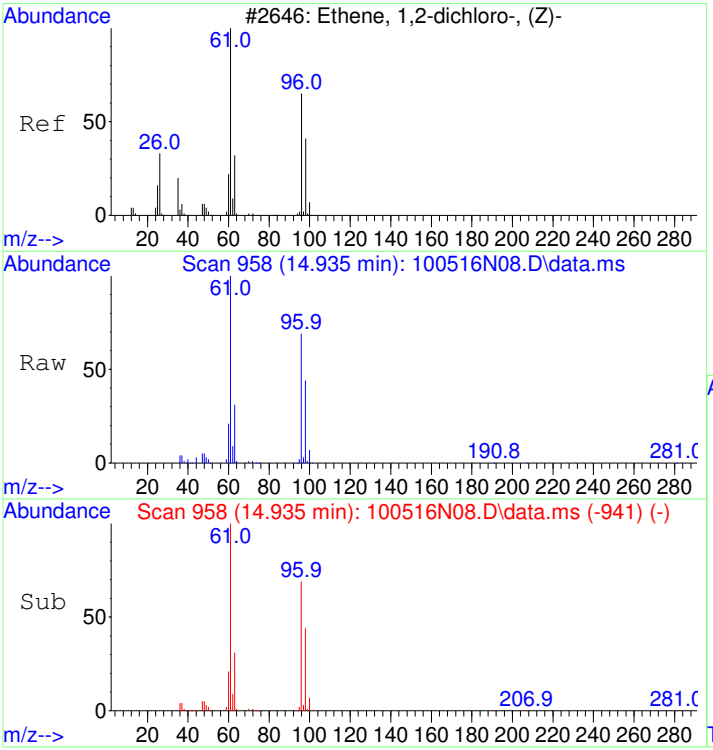


#21
Hexane
Concen: 2.26 ppbv
RT: 12.789 min Scan# 777
Delta R.T. -0.000 min
Lab File: 100516N08.D
Acq: 5 Oct 2016 7:30 pm

Tgt Ion: 57 Resp: 97052

Ion	Ratio	Lower	Upper
57	100		
41	97.0	62.9	102.9
43	74.5	49.3	89.3

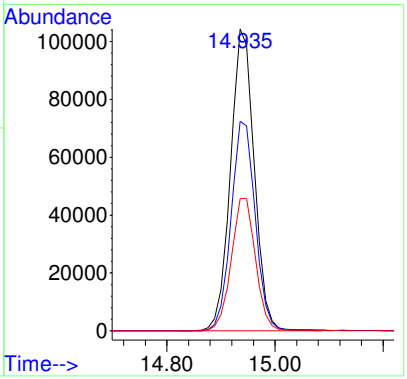


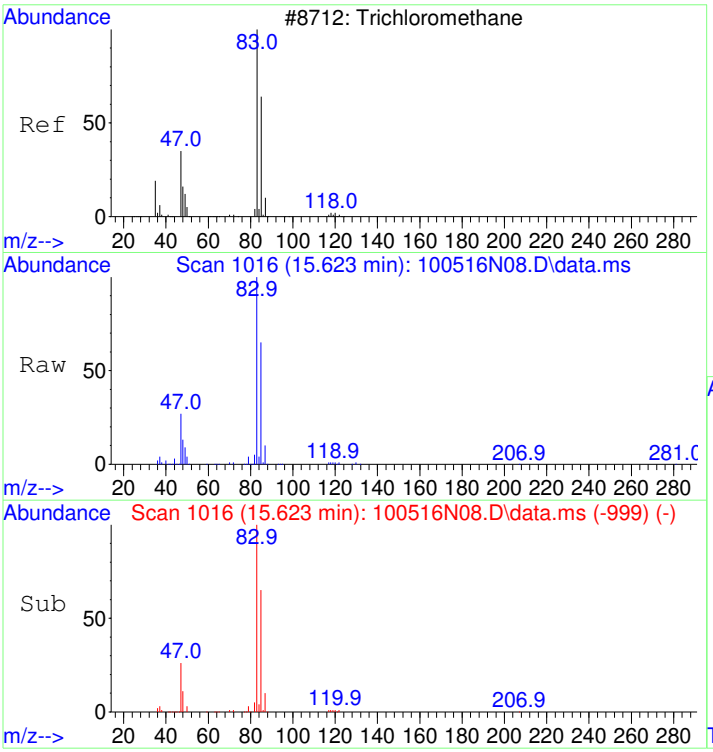


#24
cis-1,2-Dichloroethene
Concen: 8.89 ppbv
RT: 14.935 min Scan# 958
Delta R.T. -0.000 min
Lab File: 100516N08.D
Acq: 5 Oct 2016 7:30 pm

Tgt Ion: 61 Resp: 319544

Ion	Ratio	Lower	Upper
61	100		
96	70.5	52.9	92.9
98	44.8	26.2	66.2

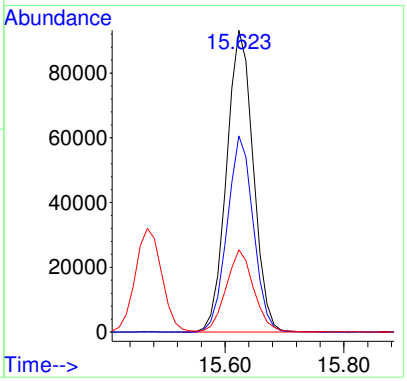


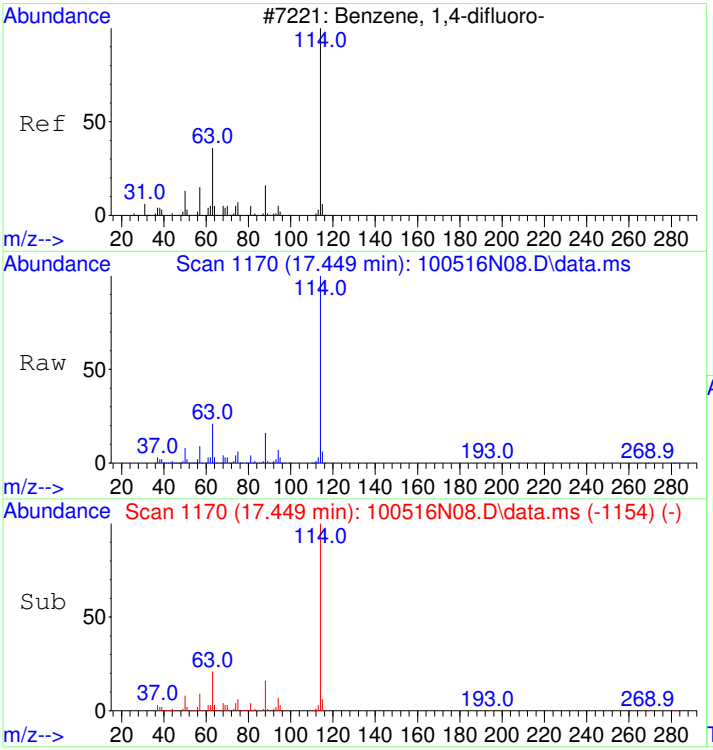


#28
Chloroform
Concen: 4.03 ppbv
RT: 15.623 min Scan# 1016
Delta R.T. -0.000 min
Lab File: 100516N08.D
Acq: 5 Oct 2016 7:30 pm

Tgt Ion: 83 Resp: 290942

Ion	Ratio	Lower	Upper
83	100		
85	63.9	44.7	84.7
47	27.5	5.4	45.4

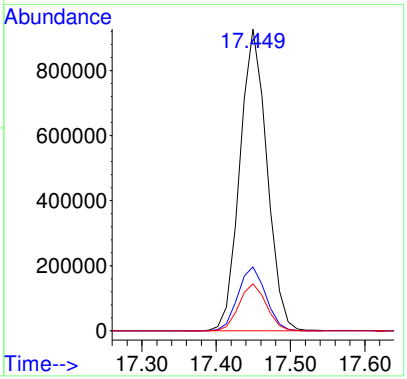


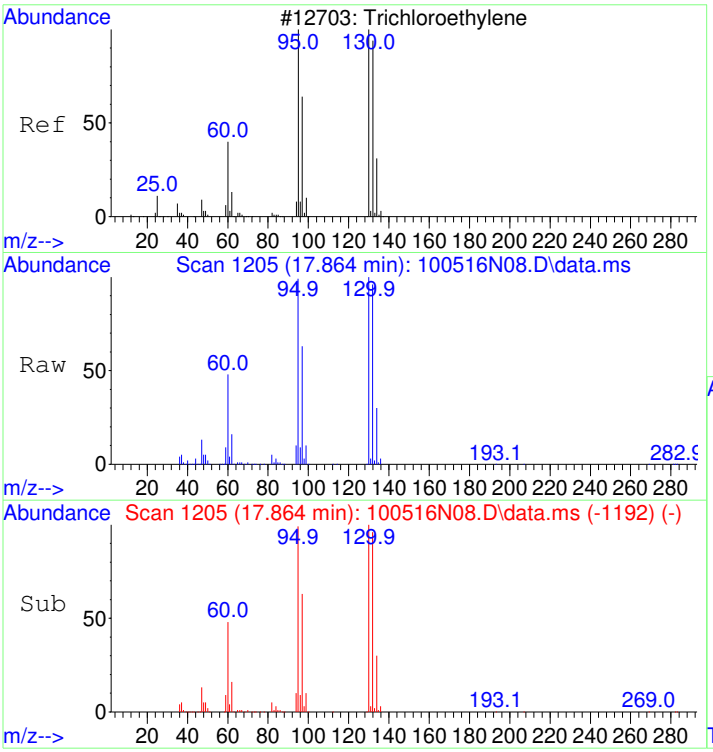


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.449 min Scan# 1170
Delta R.T. -0.000 min
Lab File: 100516N08.D
Acq: 5 Oct 2016 7:30 pm

Tgt Ion:114 Resp: 2352041

Ion	Ratio	Lower	Upper
114	100		
63	21.7	0.9	40.9
88	15.7	0.0	35.4

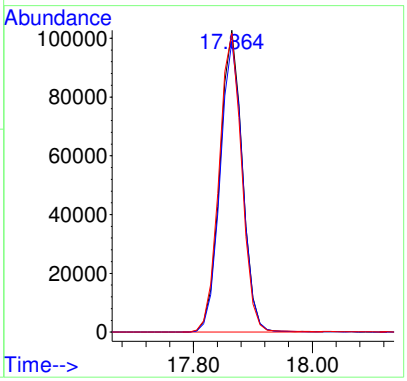


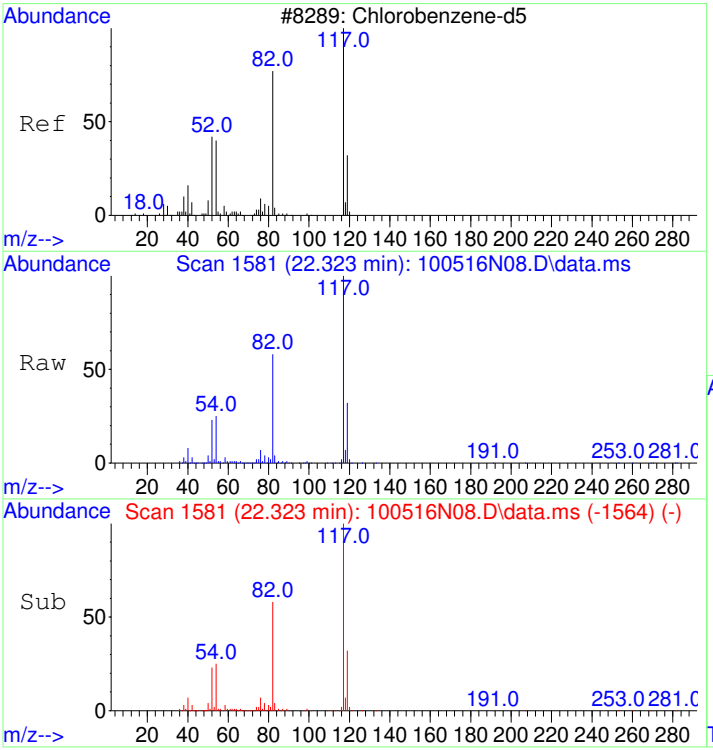


#37
Trichloroethene
Concen: 7.89 ppbv
RT: 17.864 min Scan# 1205
Delta R.T. -0.000 min
Lab File: 100516N08.D
Acq: 5 Oct 2016 7:30 pm

Tgt Ion:130 Resp: 270198

Ion	Ratio	Lower	Upper
130	100		
132	96.1	76.9	116.9
95	99.7	79.4	119.4

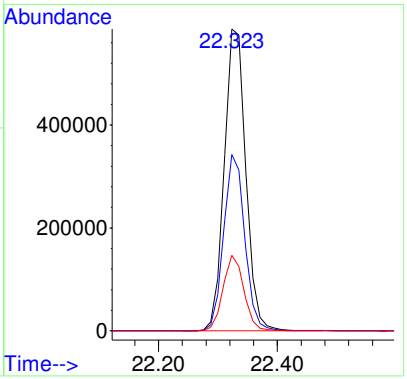


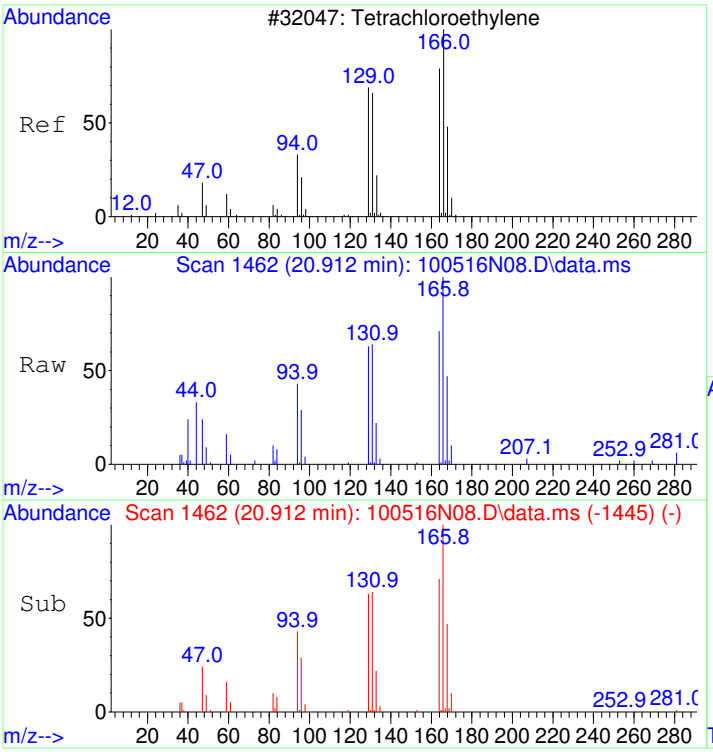


#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.323 min Scan# 1581
Delta R.T. -0.000 min
Lab File: 100516N08.D
Acq: 5 Oct 2016 7:30 pm

Tgt Ion:117 Resp: 1482802

Ion	Ratio	Lower	Upper
117	100		
82	57.2	35.8	75.8
54	24.3	2.7	42.7

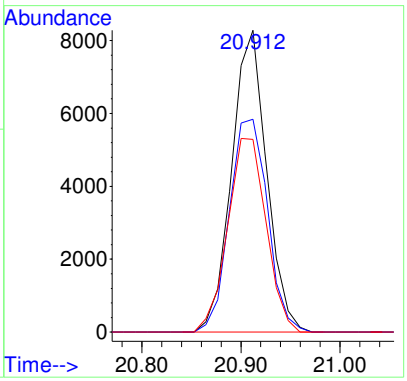


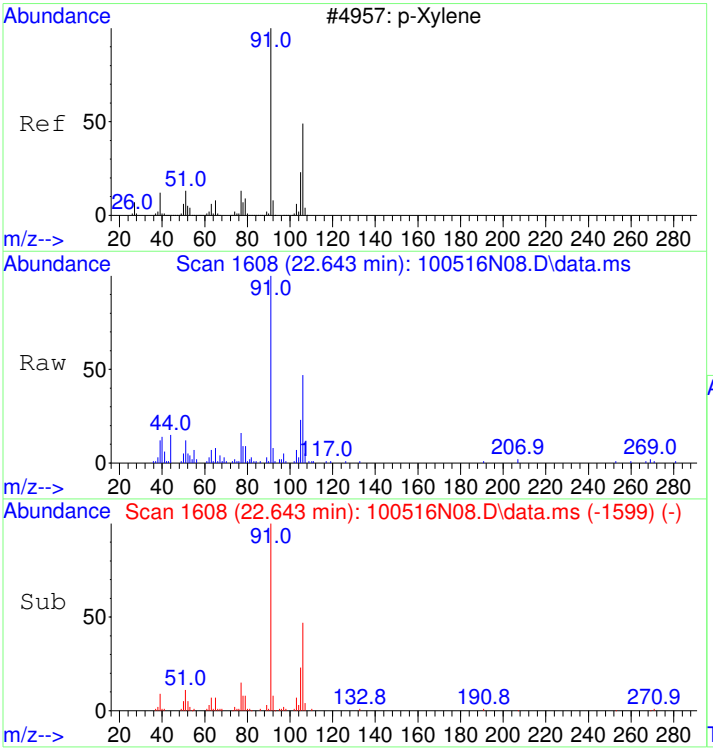


#47
Tetrachloroethene
Concen: 0.51 ppbv
RT: 20.912 min Scan# 1462
Delta R.T. -0.000 min
Lab File: 100516N08.D
Acq: 5 Oct 2016 7:30 pm

Tgt Ion:166 Resp: 20363

Ion	Ratio	Lower	Upper
166	100		
164	76.8	57.9	97.9
131	70.5	46.4	86.4

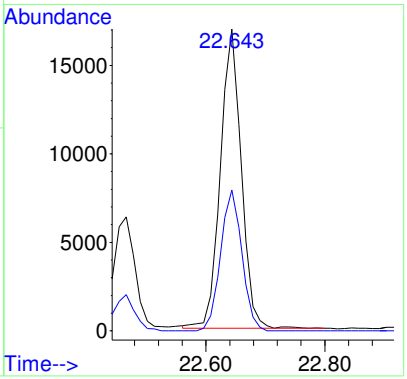




#53
m&p-Xylene
Concen: 0.49 ppbv
RT: 22.643 min Scan# 1608
Delta R.T. -0.000 min
Lab File: 100516N08.D
Acq: 5 Oct 2016 7:30 pm

Tgt Ion: 91 Resp: 41179

Ion	Ratio	Lower	Upper
91	100		
106	48.0	29.7	69.7



Cannister Certifications

1609103-01

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\2016\data\081616_FSAA\
Data File : 081616N12.D
Acq On : 16 Aug 2016 8:52 pm
InstName : AG5973N
Operator : LLH
Sample : S16H075-IBL1
Misc : 200ml CAN #1977 RECERTIFICATION
ALS Vial : 38 Sample Multiplier: 1

CLEAN

Quant Time: Aug 17 09:53:12 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	933797	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	2228076	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.335	117	1839591	20.00	ppbv	0.00

Target Compounds Qvalue

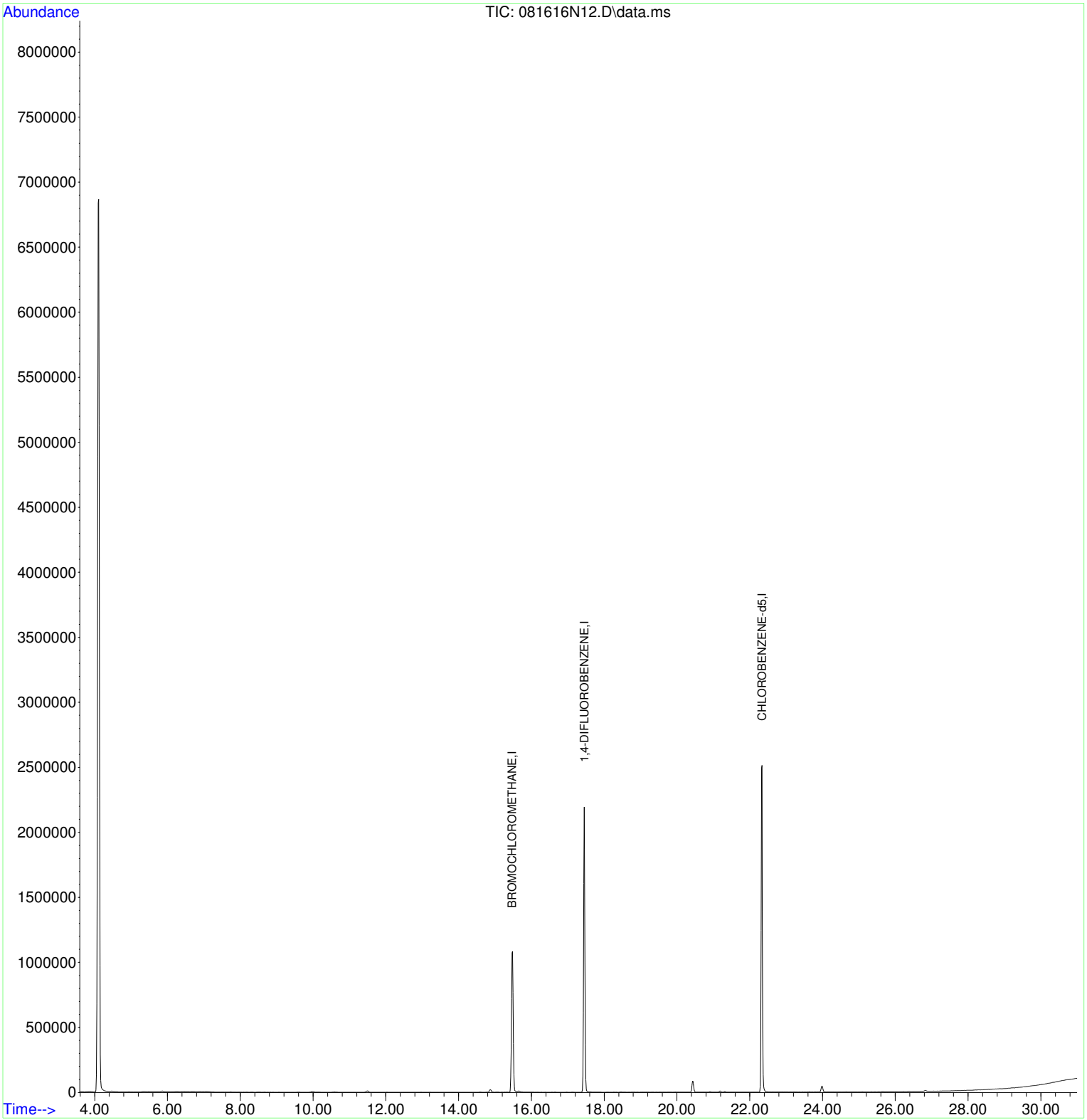
(#) = qualifier out of range (m) = manual integration (+) = signals summed

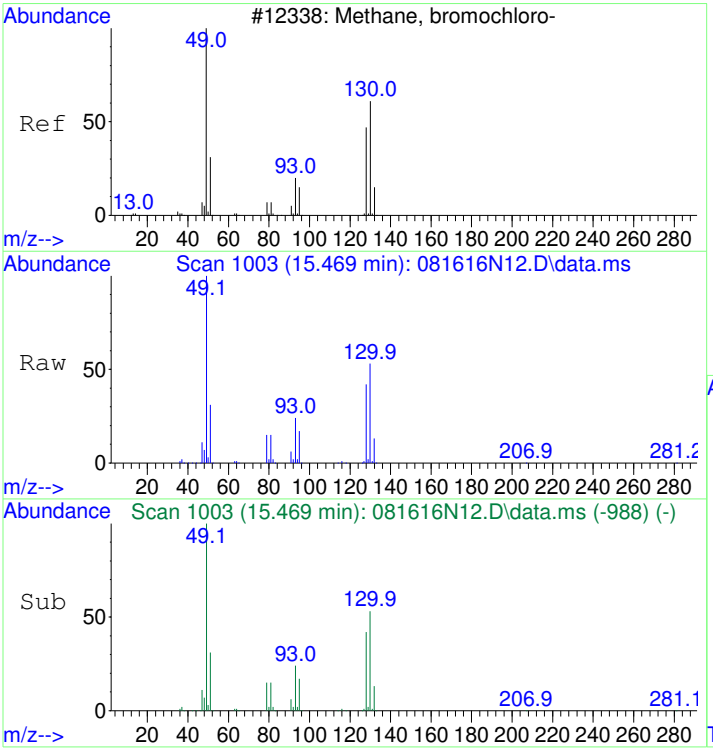
REVIEWED
By LLH at 11:33 am, Aug 17, 2016

Table of Contents

Data Path : C:\msdchem\1\2016\data\081616_FSAA\
Data File : 081616N12.D
Acq On : 16 Aug 2016 8:52 pm
InstName : AG5973N
Operator : LLH
Sample : S16H075-IBL1
Misc : 200ml CAN #1977 RECERTIFICATION
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Aug 17 09:53:12 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

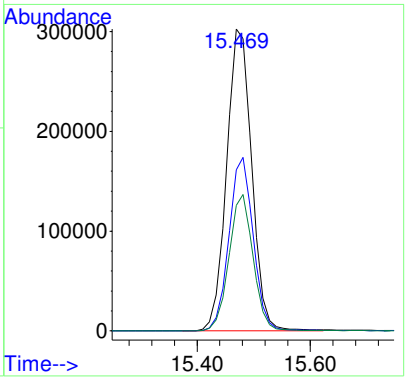


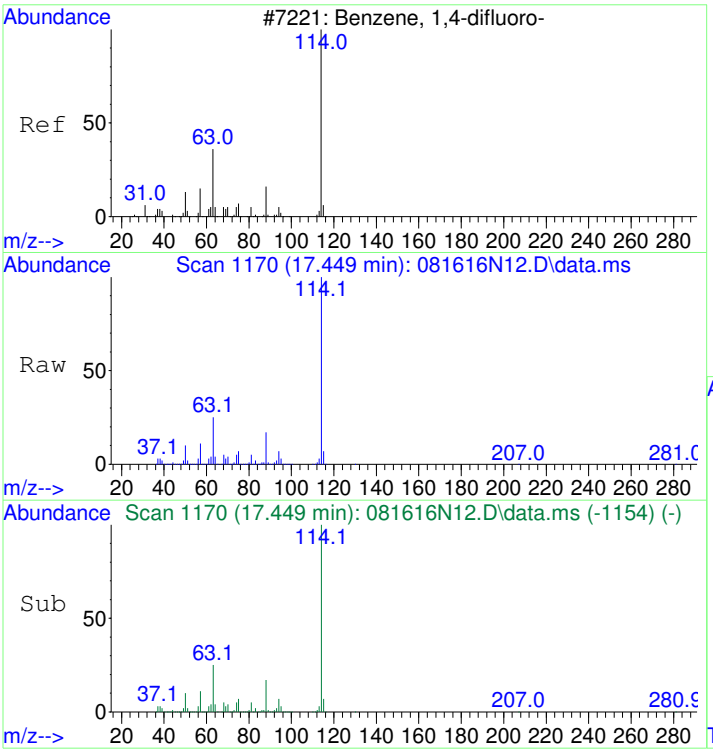


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.469 min Scan# 1003
Delta R.T. -0.000 min
Lab File: 081616N12.D
Acq: 16 Aug 2016 8:52 pm

Tgt Ion: 49 Resp: 933797

Ion	Ratio	Lower	Upper
49	100		
130	55.6	49.3	89.3
128	43.4	33.7	73.7

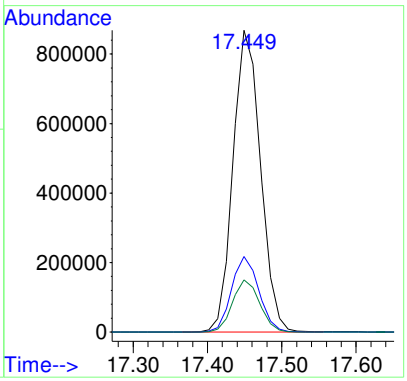


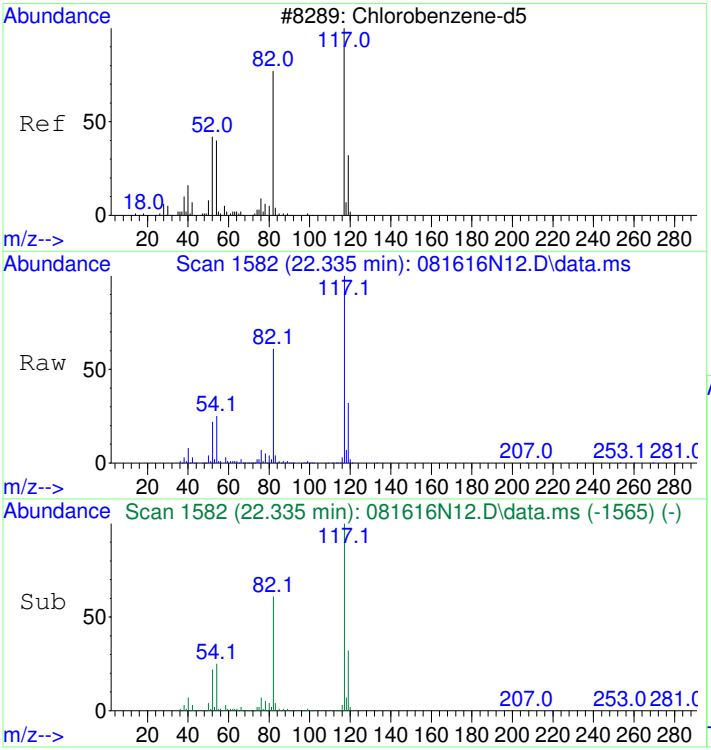


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.449 min Scan# 1170
Delta R.T. -0.000 min
Lab File: 081616N12.D
Acq: 16 Aug 2016 8:52 pm

Tgt Ion:114 Resp: 2228076

Ion	Ratio	Lower	Upper
114	100		
63	24.9	1.5	41.5
88	17.1	0.0	36.3

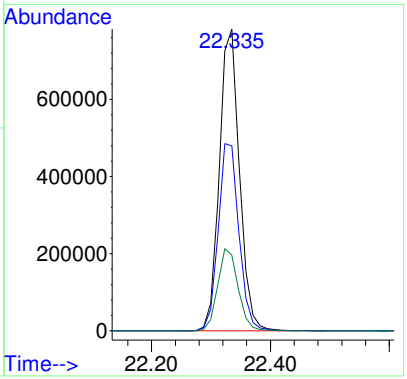




#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.335 min Scan# 1582
Delta R.T. -0.000 min
Lab File: 081616N12.D
Acq: 16 Aug 2016 8:52 pm

Tgt Ion:117 Resp: 1839591

Ion	Ratio	Lower	Upper
117	100		
82	64.0	39.9	79.9
54	27.7	3.7	43.7



1609103-02

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\2016\data\081516_FSAA\
Data File : 081516N11.D
Acq On : 15 Aug 2016 5:57 pm
InstName : AG5973N
Operator : LLH
Sample : S16H066-IBL1
Misc : 200ml CAN #657 RECERTIFICATION
ALS Vial : 39 Sample Multiplier: 1

CLEAN

Quant Time: Aug 16 09:24:18 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	785396	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	1925668	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.335	117	1663489	20.00	ppbv	0.00

Target Compounds Qvalue

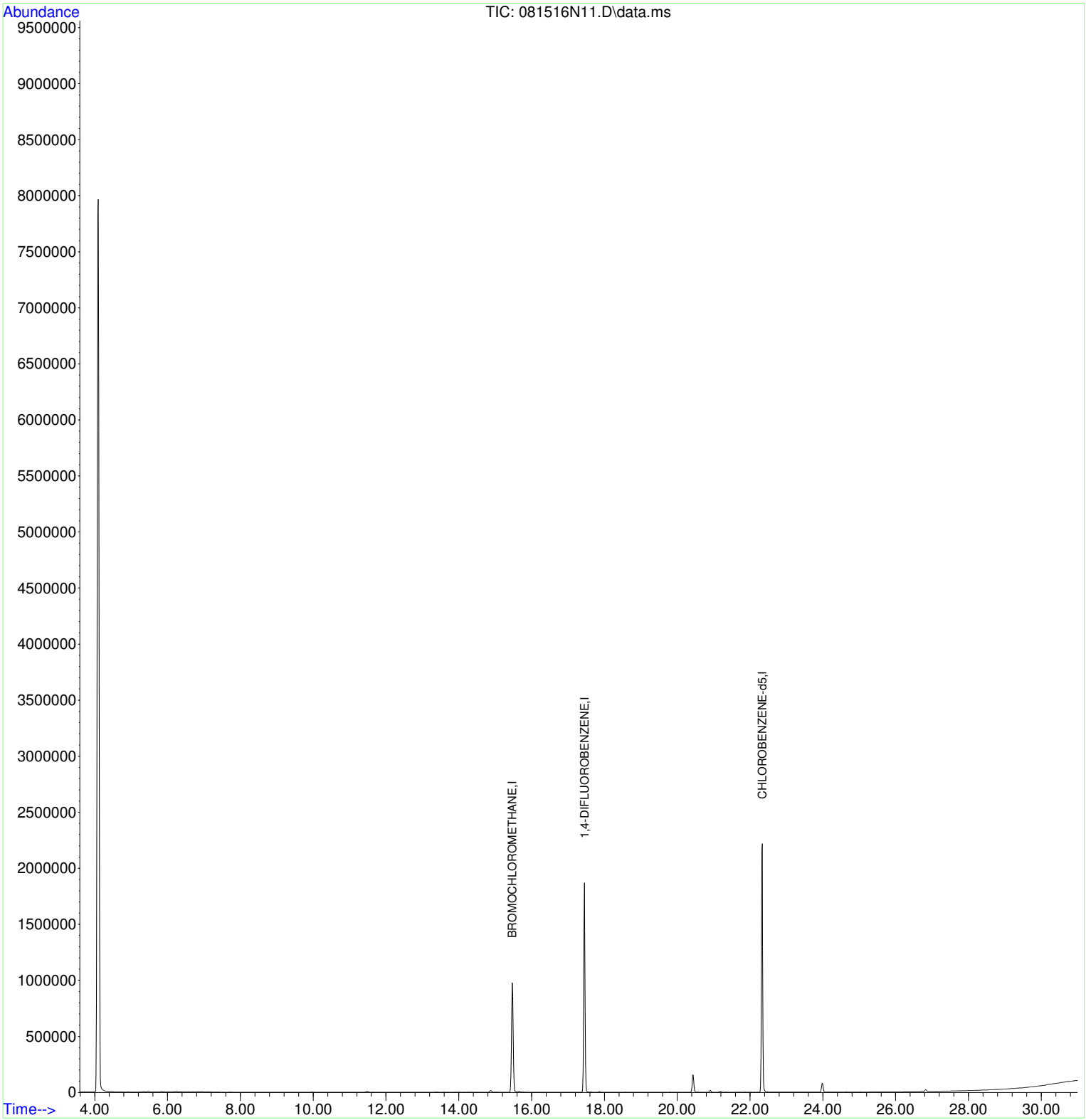
(#) = qualifier out of range (m) = manual integration (+) = signals summed

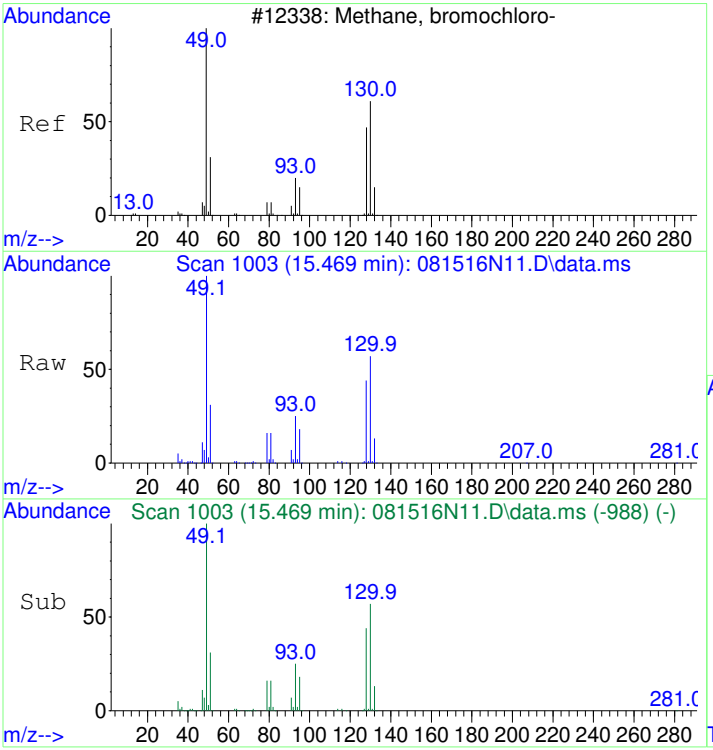
REVIEWED
By LLH at 10:36 am, Aug 16, 2016

Table of Contents

Data Path : C:\msdchem\1\2016\data\081516_FSAA\
Data File : 081516N11.D
Acq On : 15 Aug 2016 5:57 pm
InstName : AG5973N
Operator : LLH
Sample : S16H066-IBL1
Misc : 200ml CAN #657 RECERTIFICATION
ALS Vial : 39 Sample Multiplier: 1

Quant Time: Aug 16 09:24:18 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

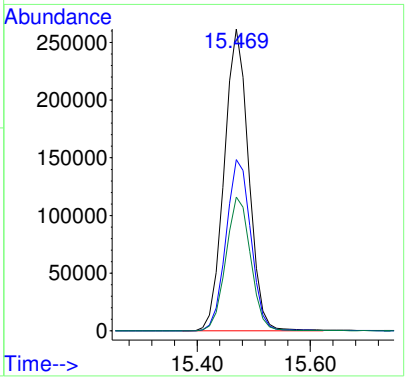


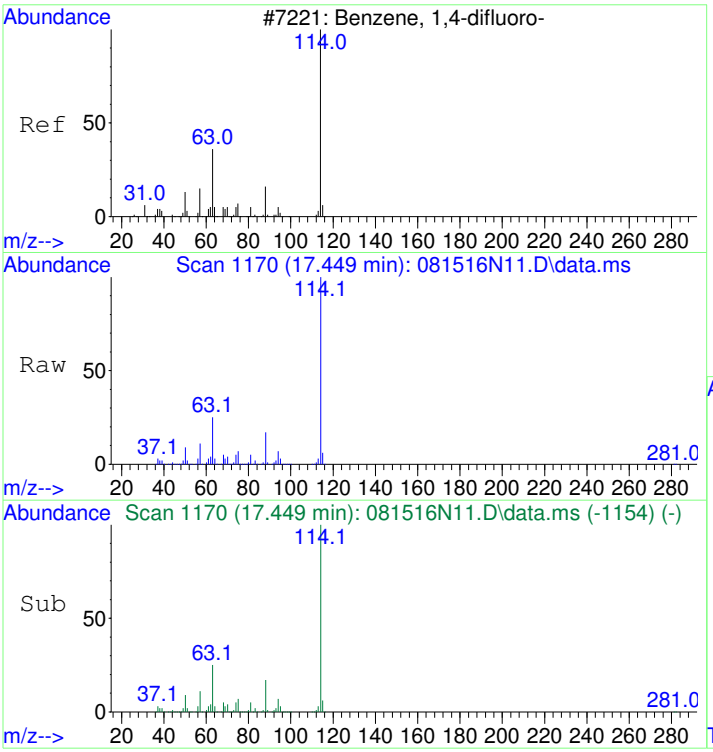


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.469 min Scan# 1003
Delta R.T. -0.000 min
Lab File: 081516N11.D
Acq: 15 Aug 2016 5:57 pm

Tgt Ion: 49 Resp: 785396

Ion	Ratio	Lower	Upper
49	100		
130	57.8	49.3	89.3
128	44.8	33.7	73.7

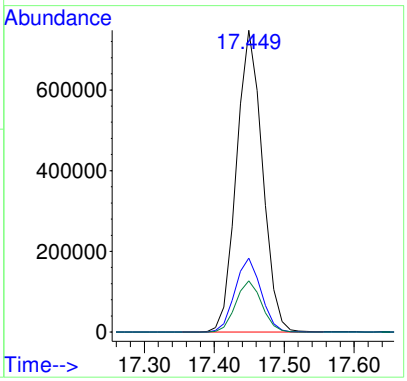


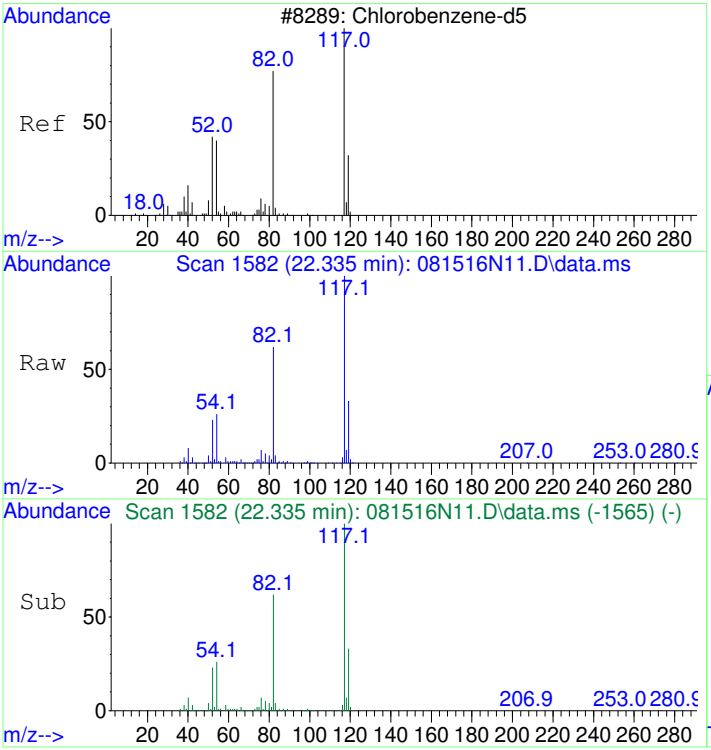


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.449 min Scan# 1170
Delta R.T. -0.000 min
Lab File: 081516N11.D
Acq: 15 Aug 2016 5:57 pm

Tgt Ion:114 Resp: 1925668

Ion	Ratio	Lower	Upper
114	100		
63	24.7	1.5	41.5
88	17.0	0.0	36.3

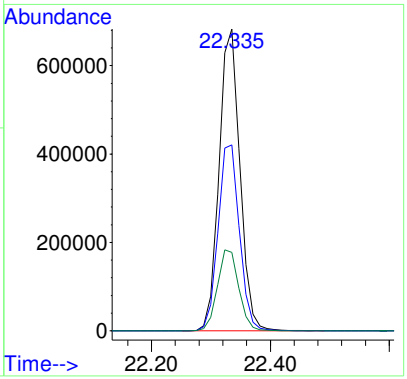




#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.335 min Scan# 1582
Delta R.T. -0.000 min
Lab File: 081516N11.D
Acq: 15 Aug 2016 5:57 pm

Tgt Ion:117 Resp: 1663489

Ion	Ratio	Lower	Upper
117	100		
82	63.3	39.9	79.9
54	27.6	3.7	43.7



1609103-03

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\2016\data\081516_FSAA\
Data File : 081516N23.D
Acq On : 16 Aug 2016 3:26 am
InstName : AG5973N
Operator : LLH
Sample : S16H066-IBL3
Misc : 200ml CAN #1973 RECERTIFICATION
ALS Vial : 49 Sample Multiplier: 1

CLEAN

Quant Time: Aug 16 09:27:14 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	824643	22.00	ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.449	114	1925266	19.80	ppbv	0.00
43) CHLOROBENZENE-d5	22.335	117	1556381	20.00	ppbv	0.00

Target Compounds Qvalue

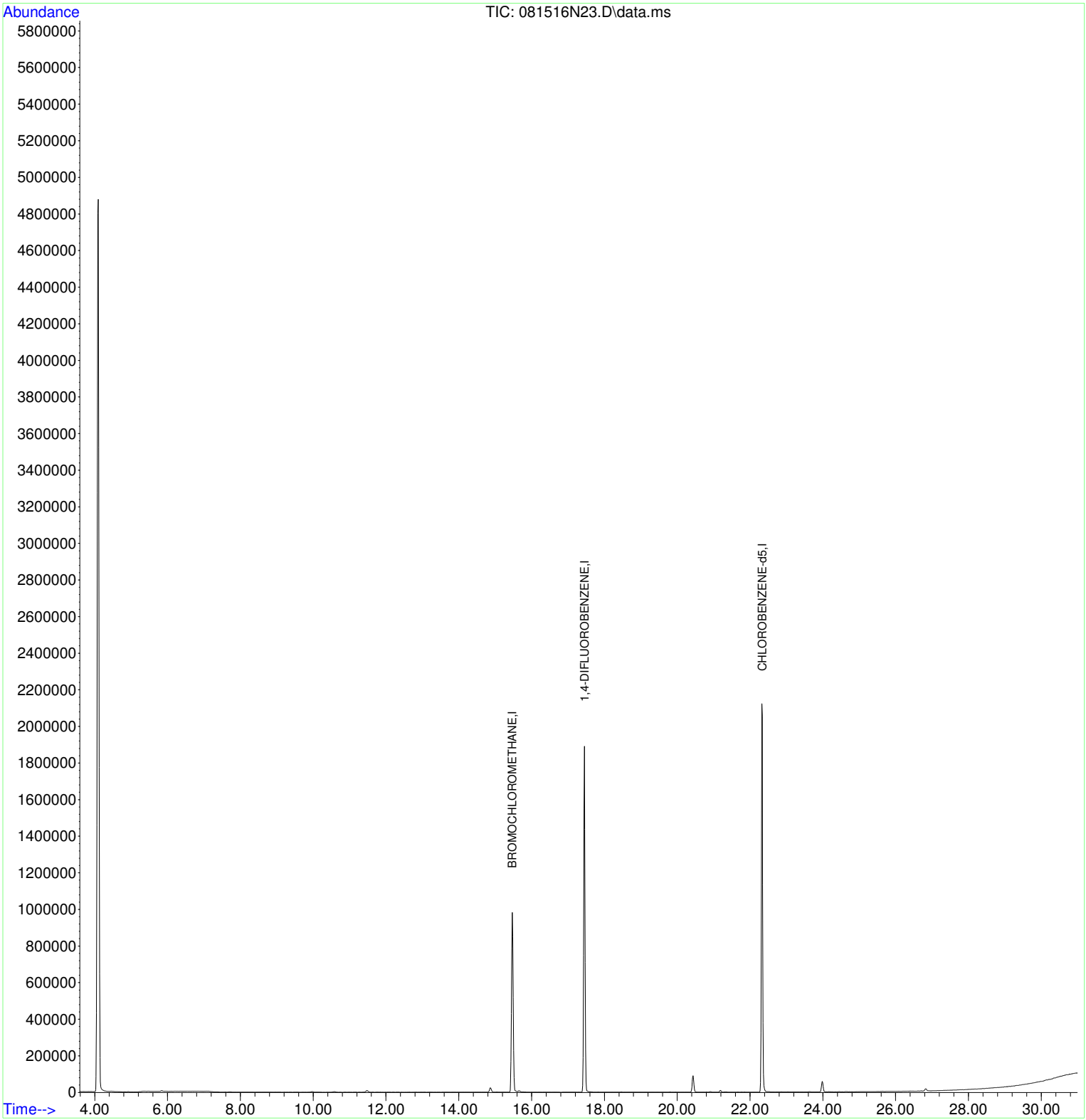
(#) = qualifier out of range (m) = manual integration (+) = signals summed

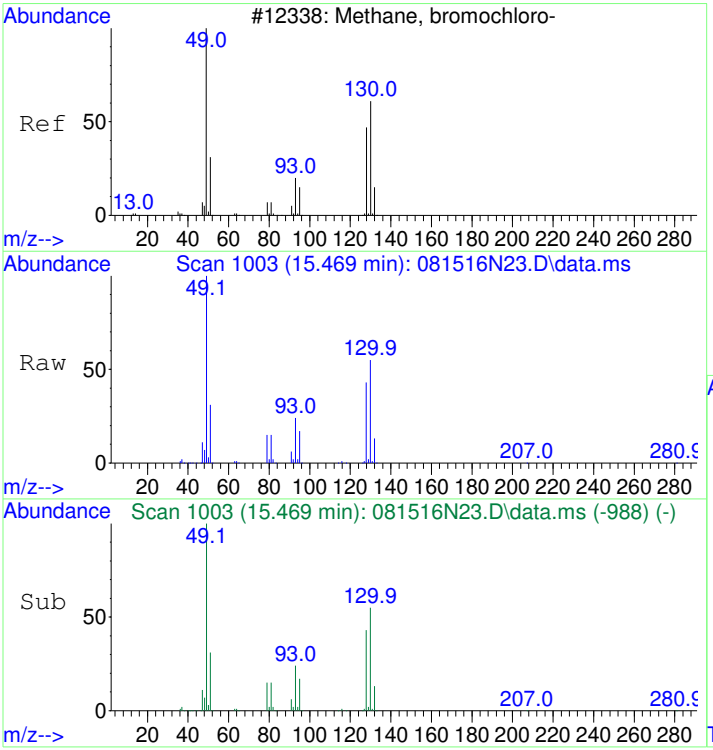
REVIEWED
By LLH at 10:41 am, Aug 16, 2016

Table of Contents

Data Path : C:\msdchem\1\2016\data\081516_FSAA\
Data File : 081516N23.D
Acq On : 16 Aug 2016 3:26 am
InstName : AG5973N
Operator : LLH
Sample : S16H066-IBL3
Misc : 200ml CAN #1973 RECERTIFICATION
ALS Vial : 49 Sample Multiplier: 1

Quant Time: Aug 16 09:27:14 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

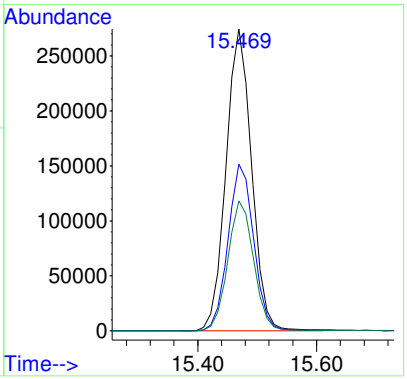


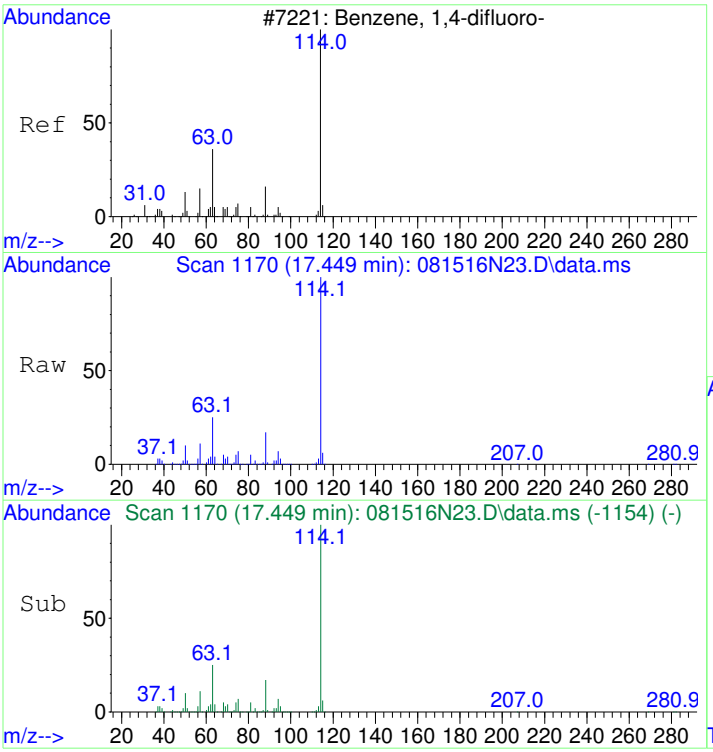


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.469 min Scan# 1003
Delta R.T. 0.000 min
Lab File: 081516N23.D
Acq: 16 Aug 2016 3:26 am

Tgt Ion: 49 Resp: 824643

Ion	Ratio	Lower	Upper
49	100		
130	55.4	49.3	89.3
128	43.2	33.7	73.7

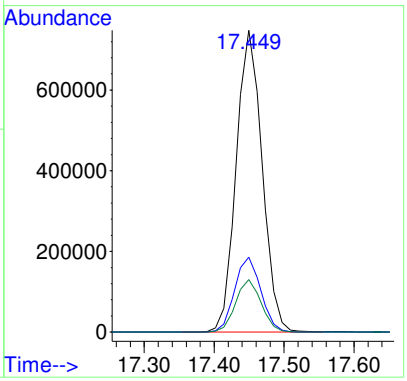


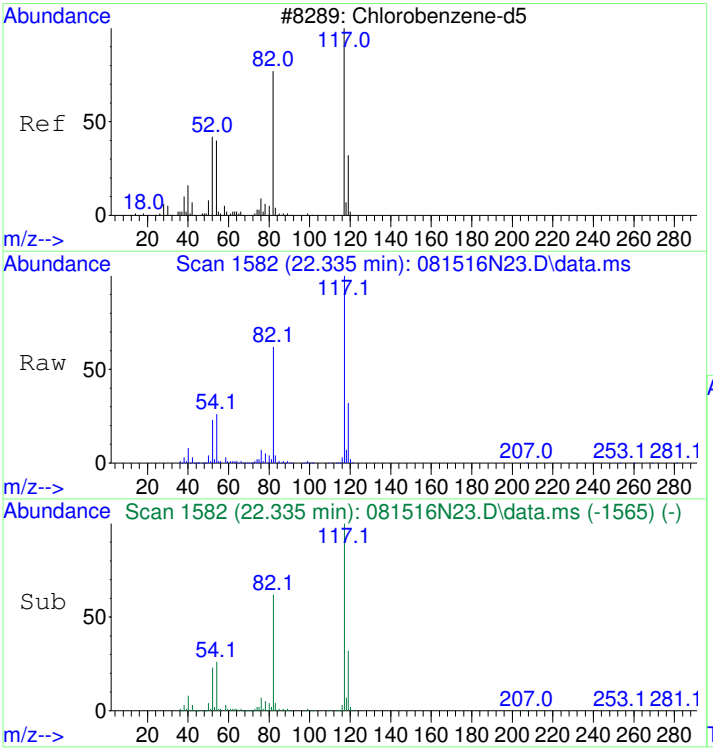


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.449 min Scan# 1170
Delta R.T. -0.000 min
Lab File: 081516N23.D
Acq: 16 Aug 2016 3:26 am

Tgt Ion:114 Resp: 1925266

Ion	Ratio	Lower	Upper
114	100		
63	25.1	1.5	41.5
88	17.1	0.0	36.3

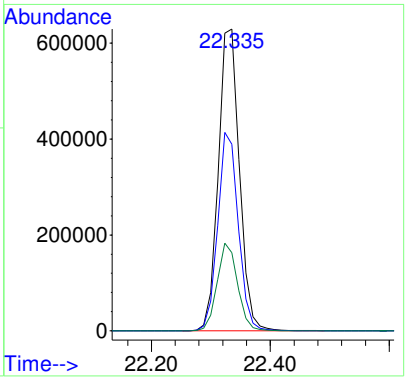




#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.335 min Scan# 1582
Delta R.T. -0.000 min
Lab File: 081516N23.D
Acq: 16 Aug 2016 3:26 am

Tgt Ion:117 Resp: 1556381

Ion	Ratio	Lower	Upper
117	100		
82	64.0	39.9	79.9
54	28.2	3.7	43.7



1609103-04

Quantitation Report (Not Reviewed)

Table of Contents

Data Path : C:\msdchem\1\2015\data\082415KA\
Data File : 082415K17.D
Acq On : 25 Aug 2015 2:11 am
Operator : LLH
Sample : CAN #1594
Misc : 400mL RECERTIFICATION
ALS Vial : 48 Sample Multiplier: 1

Quant Time: Aug 25 09:52:27 2015
Quant Method : C:\msdchem\1\2015\methods\081315KAA.M
Quant Title : TO15
QLast Update : Fri Aug 14 12:56:31 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) BROMOCHLOROMETHANE	15.125	49	1195658	20.00	ppbv	# 0.00
32) 1,4-DIFLUOROBENZENE	17.172	114	2916587	22.00	ppbv	0.00
43) CHLOROBENZENE-d5	22.094	117	2121767	22.00	ppbv	0.00
Target Compounds						Qvalue
18) Dichloromethane	10.936	49	43638	0.52	ppbv	# 40

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

*see Discrepancy D15-011

REVIEWED
By LLH at 10:50 am, Aug 25, 2015

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\2015\data\082415KA\
Data File : 082415K17.D
Acq On : 25 Aug 2015 2:11 am
Operator : LLH
Sample : CAN #1594
Misc : 400mL RECERTIFICATION
ALS Vial : 48 Sample Multiplier: 1

Quant Time: Aug 25 09:52:27 2015
Quant Method : C:\msdchem\1\2015\methods\081315KAA.M
Quant Title : TO15
QLast Update : Fri Aug 14 12:56:31 2015
Response via : Initial Calibration

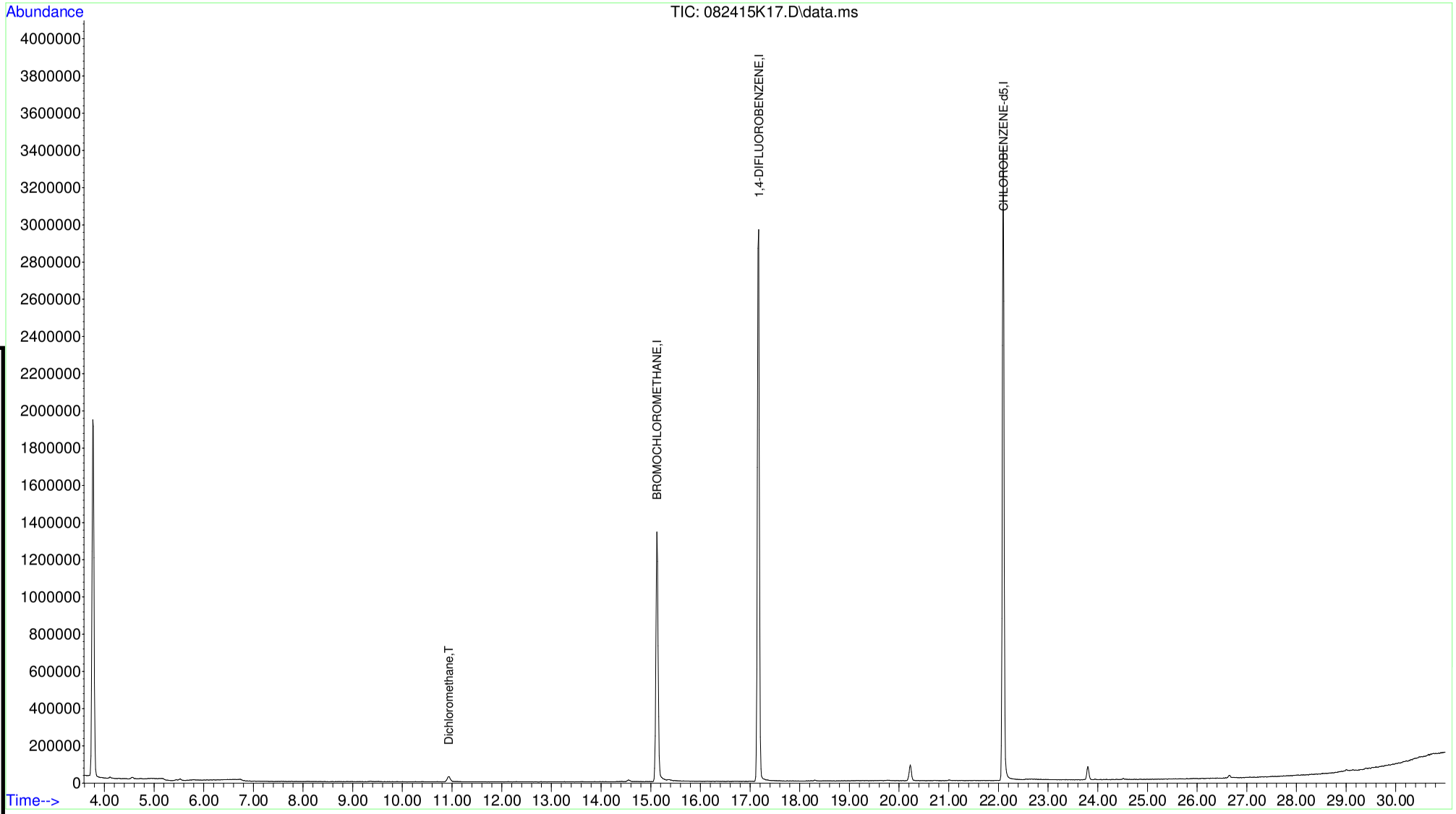
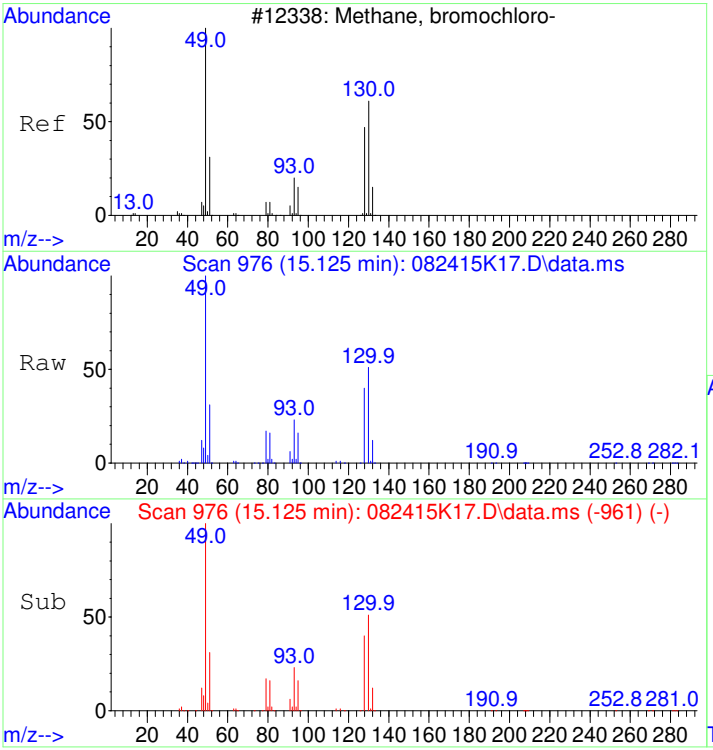


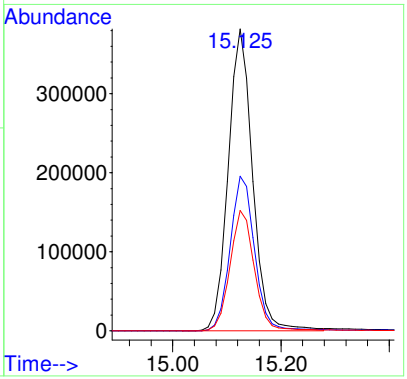
Table of Contents

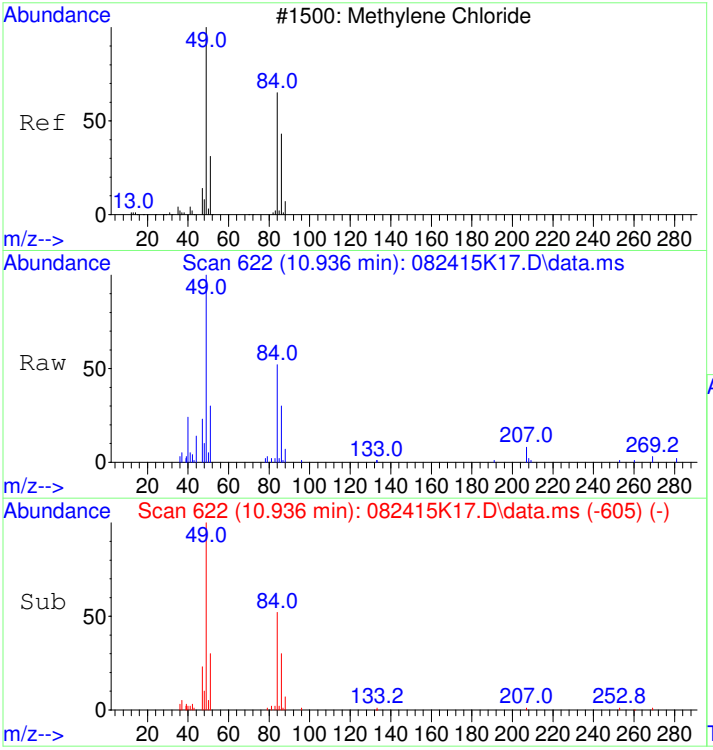


#1
BROMOCHLOROMETHANE
Concen: 20.00 ppbv
RT: 15.125 min Scan# 976
Delta R.T. 0.001 min
Lab File: 082415K17.D
Acq: 25 Aug 2015 2:11 am

Tgt Ion: 49 Resp: 1195658

Ion	Ratio	Lower	Upper
49	100		
130	51.5	53.6	93.6#
128	39.8	37.0	77.0

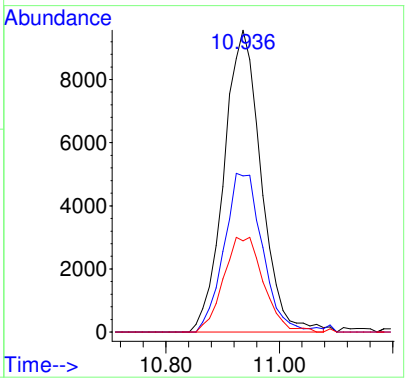


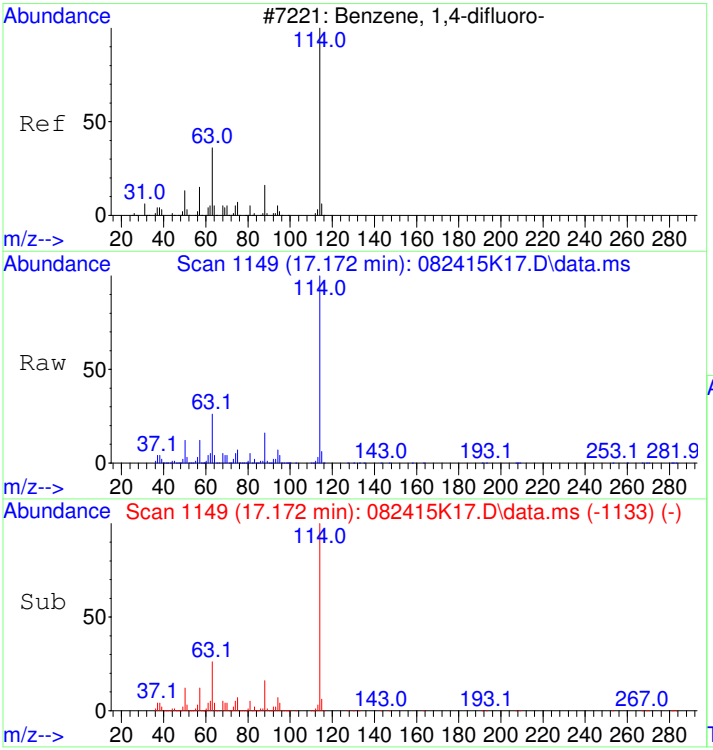


#18
Dichloromethane
Concen: 0.52 ppbv
RT: 10.936 min Scan# 622
Delta R.T. 0.000 min
Lab File: 082415K17.D
Acq: 25 Aug 2015 2:11 am

Tgt Ion: 49 Resp: 43638

Ion	Ratio	Lower	Upper
49	100		
84	0.0	51.8	91.8#
86	33.9	25.9	65.9

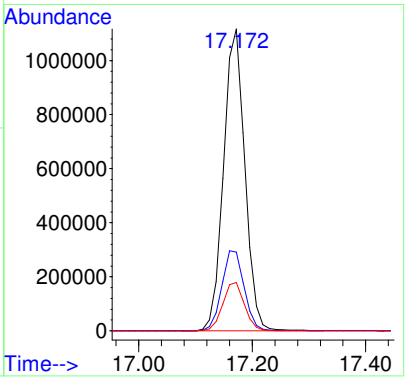


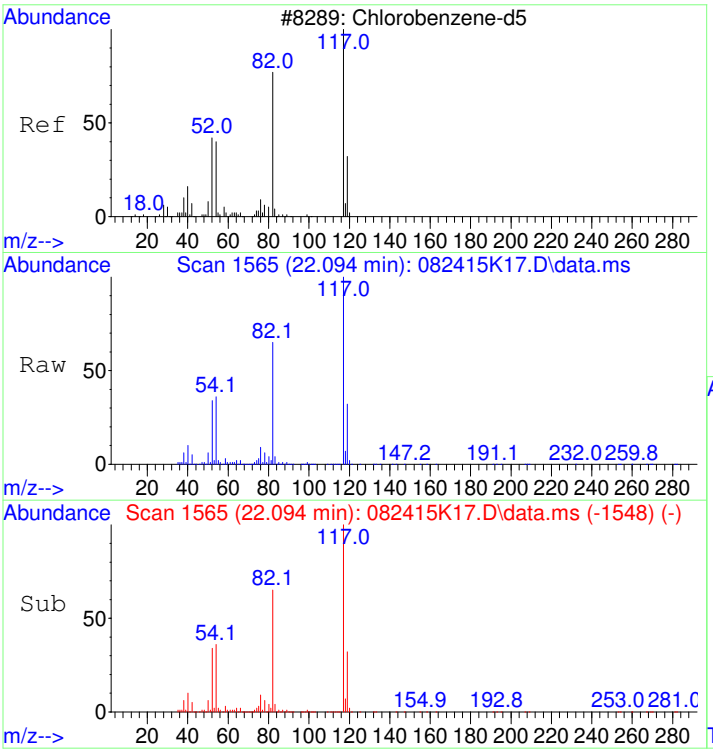


#32
1,4-DIFLUOROBENZENE
Concen: 22.00 ppbv
RT: 17.172 min Scan# 1149
Delta R.T. 0.000 min
Lab File: 082415K17.D
Acq: 25 Aug 2015 2:11 am

Tgt Ion:114 Resp: 2916587

Ion	Ratio	Lower	Upper
114	100		
63	27.9	1.4	41.4
88	16.4	0.0	34.9

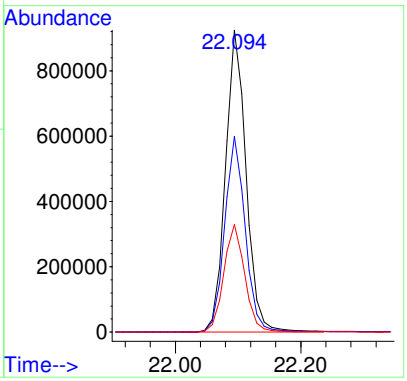




#43
CHLOROBENZENE-d5
Concen: 22.00 ppbv
RT: 22.094 min Scan# 1565
Delta R.T. 0.000 min
Lab File: 082415K17.D
Acq: 25 Aug 2015 2:11 am

Tgt Ion:117 Resp: 2121767

Ion	Ratio	Lower	Upper
117	100		
82	64.7	35.5	75.5
54	36.4	4.0	44.0



1609103-05

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\2016\data\081116_FSAA\
Data File : 081116N08.D
Acq On : 11 Aug 2016 6:32 pm
InstName : AG5973N
Operator : LLH
Sample : CAN #1577
Misc : 200ml RECERTIFICATION
ALS Vial : 37 Sample Multiplier: 1

CLEAN

Quant Time: Aug 12 10:11:39 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	796236	22.00 ppbv	0.00
32) 1,4-DIFLUOROBENZENE	17.450	114	2115677	19.80 ppbv	0.00
43) CHLOROBENZENE-d5	22.335	117	1780428	20.00 ppbv	0.00

Target Compounds Qvalue

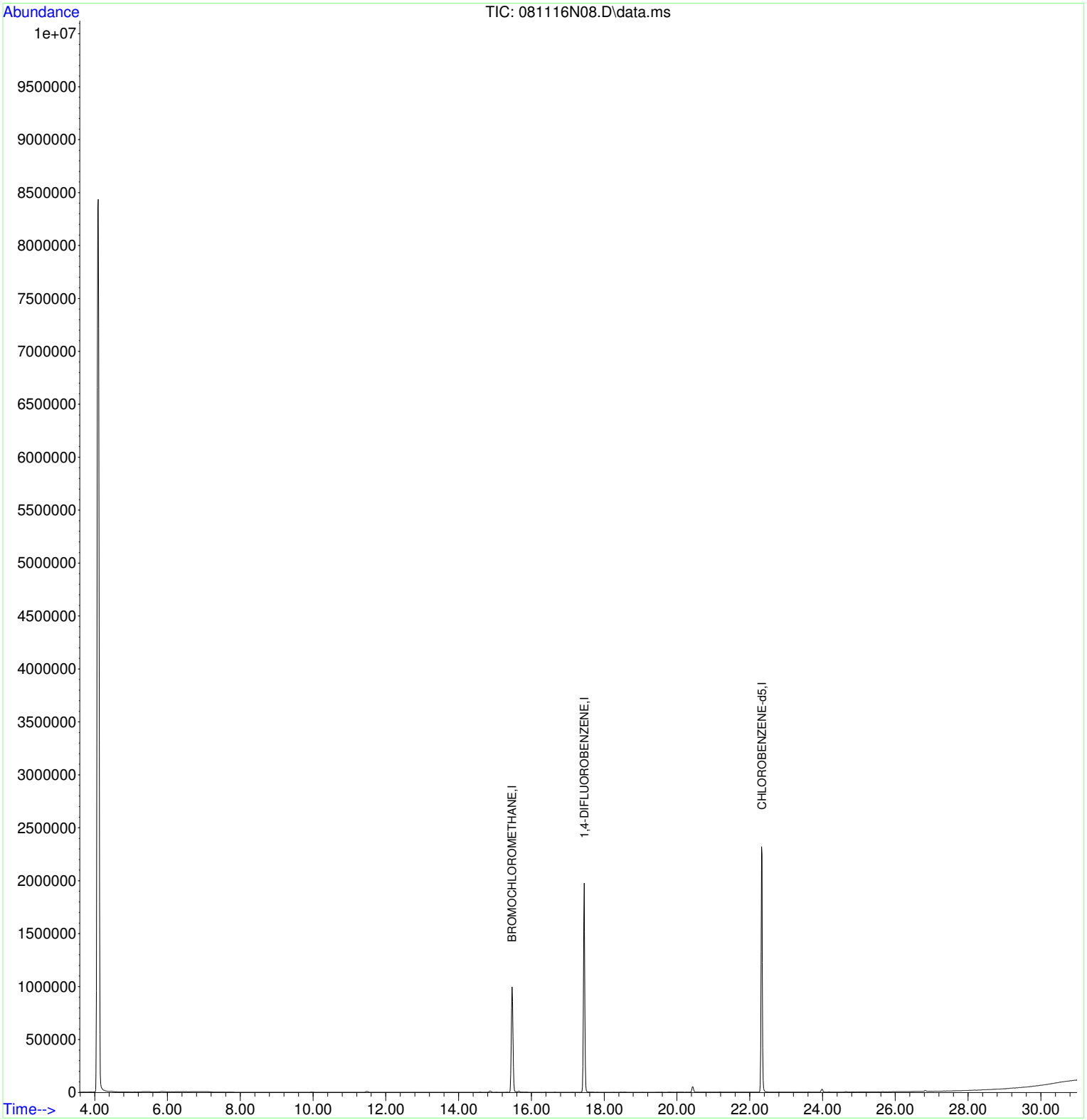
(#) = qualifier out of range (m) = manual integration (+) = signals summed

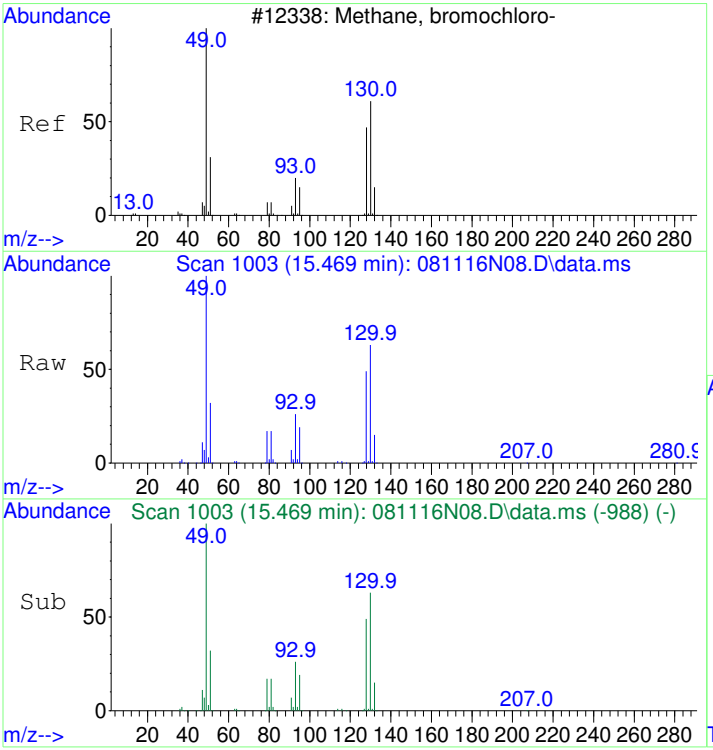
REVIEWED
By LLH at 10:17 am, Aug 12, 2016

Table of Contents

Data Path : C:\msdchem\1\2016\data\081116_FSAA\
Data File : 081116N08.D
Acq On : 11 Aug 2016 6:32 pm
InstName : AG5973N
Operator : LLH
Sample : CAN #1577
Misc : 200ml RECERTIFICATION
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Aug 12 10:11:39 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

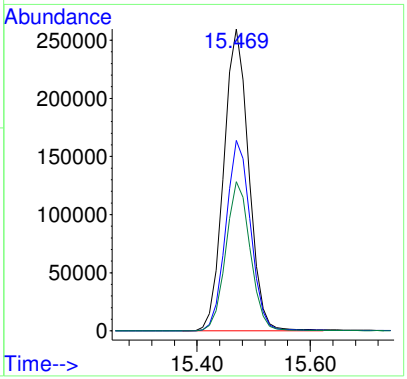


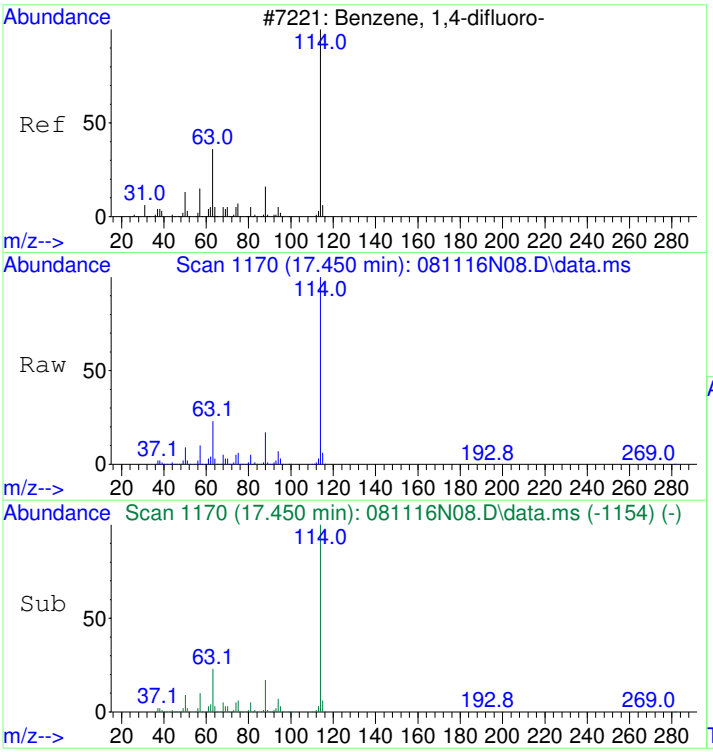


#1
BROMOCHLOROMETHANE
Concen: 22.00 ppbv
RT: 15.469 min Scan# 1003
Delta R.T. 0.000 min
Lab File: 081116N08.D
Acq: 11 Aug 2016 6:32 pm

Tgt Ion: 49 Resp: 796236

Ion	Ratio	Lower	Upper
49	100		
130	62.5	49.3	89.3
128	48.3	33.7	73.7

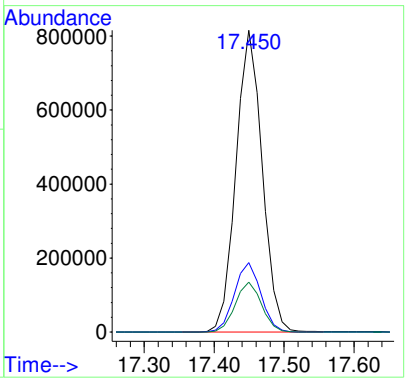


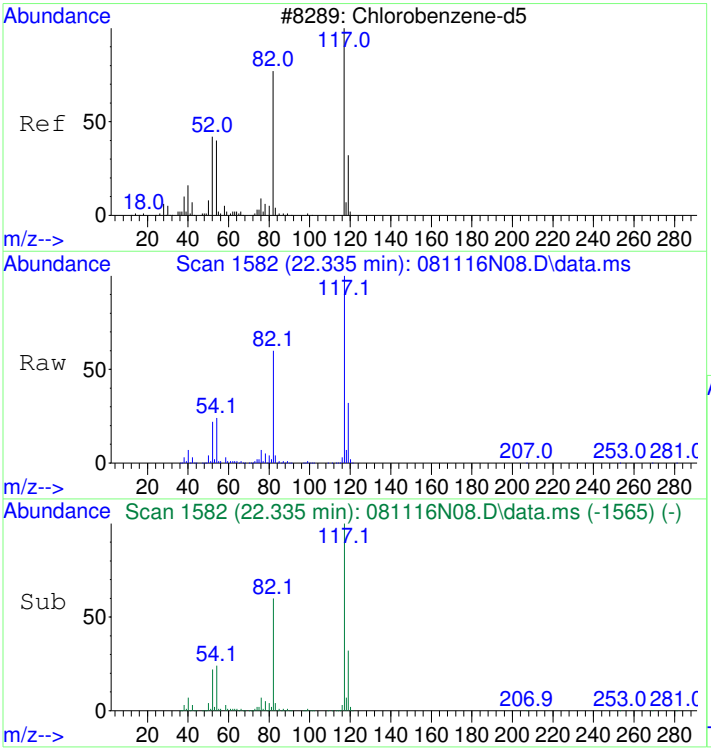


#32
1,4-DIFLUOROBENZENE
Concen: 19.80 ppbv
RT: 17.450 min Scan# 1170
Delta R.T. 0.000 min
Lab File: 081116N08.D
Acq: 11 Aug 2016 6:32 pm

Tgt Ion:114 Resp: 2115677

Ion	Ratio	Lower	Upper
114	100		
63	23.3	1.5	41.5
88	16.7	0.0	36.3

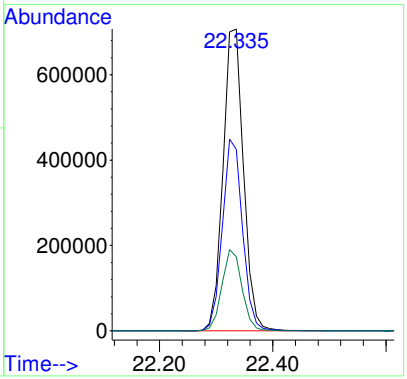




#43
CHLOROBENZENE-d5
Concen: 20.00 ppbv
RT: 22.335 min Scan# 1582
Delta R.T. 0.000 min
Lab File: 081116N08.D
Acq: 11 Aug 2016 6:32 pm

Tgt Ion:117 Resp: 1780428

Ion	Ratio	Lower	Upper
117	100		
82	62.4	39.9	79.9
54	26.3	3.7	43.7



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. –		see 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
Phone: 800-331-4953 Fax: 215-766-7226

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™

Scott™

1542053

Shipped From:
6141 EASTON ROAD, BLDG 1 PO BOX 310
PLUMSTEADVILLE PA 18949-0310
Phone: 800-331-4953 Fax: 215-766-7226

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
1542067

Description:	TO-14A 39 Component Mix Standard, 100	Expires:	09/22/16
Standard Type:	Calibration Stan	Prepared:	09/21/15
Solvent:	Nitrogen	Prepared By:	Liza Hernandez
Final Volume (mls):	110000	Department:	Air
Vials:	1	Last Edit:	10/15/15 11:38 by LLH

Cylinder # ST0000163006 39 component AIR LIQUIDE-SCOTT AU007581
CAT NO. 41900-U

Analyte	CAS Number	Concentration	Units
1,2-Dibromoethane (EDB)	106-93-4	0.1	ppm
1,1,1-Trichloroethane	71-55-6	0.1	ppm
Benzene	71-43-2	0.11	ppm
1,4-Dichlorobenzene	106-46-7	0.11	ppm
1,3-Dichlorobenzene	541-73-1	0.11	ppm
1,3,5-Trimethylbenzene	108-67-8	0.11	ppm
1,2-Dichlorotetrafluoroethane	76-14-2	0.1	ppm
1,2-Dichloropropane	78-87-5	0.11	ppm
Carbon tetrachloride	56-23-5	0.11	ppm
1,2-Dichlorobenzene	95-50-1	0.11	ppm
Chlorobenzene	108-90-7	0.11	ppm
1,2,4-Trimethylbenzene	95-63-6	0.11	ppm
1,2,4-Trichlorobenzene	120-82-1	0.11	ppm
1,1-Dichloroethene	75-35-4	0.11	ppm
1,1-Dichloroethane	75-34-3	0.12	ppm
1,1,2-Trichloroethane	79-00-5	0.11	ppm
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.11	ppm
1,1,2,2-Tetrachloroethane	79-34-5	0.11	ppm
1,2-Dichloroethane	107-06-2	0.11	ppm
Ethylbenzene	100-41-4	0.11	ppm
Trichlorofluoromethane	75-69-4	0.11	ppm
Trichloroethene	79-01-6	0.11	ppm
trans-1,3-Dichloropropene	10061-02-6	0.11	ppm
Toluene	108-88-3	0.11	ppm
Tetrachloroethene	127-18-4	0.11	ppm
Styrene	100-42-5	0.11	ppm
o-Xylene	95-47-6	0.11	ppm
Bromomethane	74-83-9	0.11	ppm
Hexachlorobutadiene	87-68-3	0.11	ppm
Vinyl chloride	75-01-4	0.12	ppm

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Analytical Standard Record

EPA Region 9 Laboratory

1542067

Dichloromethane	75-09-2	0.11	ppm
Dichlorodifluoromethane	75-71-8	0.11	ppm
cis-1,3-Dichloropropene	10061-01-5	0.11	ppm
cis-1,2-Dichloroethene	156-59-2	0.11	ppm
Chloromethane	74-87-3	0.11	ppm
Chloroform	67-66-3	0.11	ppm
Chloroethane	75-00-3	0.1	ppm
m&p-Xylene	179601-23-1	0.22	ppm

Reviewed By Date

AIR LIQUIDE Air Liquide America Specialty Gases LLC Scott™ SIM PRIMARY

1542067

Shipped From: 6141 Easton Road
Plumsteadville, PA 18949
Phone: 215-766-8860
Fax: 215-766-7226

AU007581

CERTIFICATE OF ANALYSIS

11/10/15/15

SIGMA-ALDRICH
SIGMA-ALDRICH
595 N Harrison Rd
Bellefonte, PA 16823-6217
US

Sales Order # : 218299
P.O. #.: P451943
Item No.: A0905282
Date: 22Sep2015

Cylinder #: ST0000163006
Fill Pressure: 1800 PSIG
CGA: 180

Product Expiration: 22Sep2016
Lot #: 403-64552

Blend Type: CERTIFIED SCOTTY

Component Name	Requested Gas Conc (Moles)	Analysis (Mole)	Accuracy (+ / - %)
1,1,1-TRICHLOROETHANE	100.00 PPB	100 PPB	10
1,1,2,2-TETRACHLOROETHANE	100.00 PPB	110 PPB	10
1,1,2-TRICHLOROETHANE	100.00 PPB	110 PPB	10
1,1,2-TRICHLOROTRIFLUOROETHANE	100.00 PPB	110 PPB	10
1,1-DICHLOROETHANE	100.00 PPB	120 PPB	10
1,1-DICHLOROETHYLENE	100.00 PPB	110 PPB	10
1,2,4-TRICHLOROBENZENE	100.00 PPB	110 PPB	10
1,2,4-TRIMETHYLBENZENE	100.00 PPB	110 PPB	10
1,2-DIBROMOETHANE – (EDB)	100.00 PPB	100 PPB	10
1,2-DICHLOROBENZENE	100.00 PPB	110 PPB	10
1,2-DICHLOROETHANE	100.00 PPB	110 PPB	10
1,2-DICHLOROPROPANE	100.00 PPB	110 PPB	10
1,2-DICHLOROTETRAFLUOROETHANE	100.00 PPB	100 PPB	10
1,3,5-TRIMETHYLBENZENE	100.00 PPB	110 PPB	10
1,3-DICHLOROBENZENE	100.00 PPB	110 PPB	10
1,4-DICHLOROBENZENE	100.00 PPB	110 PPB	10
BENZENE	100.00 PPB	110 PPB	10
CARBON TETRACHLORIDE	100.00 PPB	110 PPB	10
CHLOROBENZENE	100.00 PPB	110 PPB	10
CHLOROFORM	100.00 PPB	110 PPB	10
CIS-1,2-DICHLOROETHYLENE	100.00 PPB	110 PPB	10
CIS-1,3-DICHLOROPROPENE	100.00 PPB	110 PPB	10
DICHLORODIFLUOROMETHANE	100.00 PPB	110 PPB	10
ETHYL CHLORIDE – Chloroethane	100.00 PPB	100 PPB	10
ETHYLBENZENE	100.00 PPB	110 PPB	10
HEXACHLORO-1,3-BUTADIENE	100.00 PPB	110 PPB	10
METHYL BROMIDE – Bromomethane	100.00 PPB	110 PPB	10
METHYL CHLORIDE – Chloromethane	100.00 PPB	110 PPB	10
METHYLENE CHLORIDE – DCM	100.00 PPB	110 PPB	10
M-XYLENE	100.00 PPB	110 PPB } 220	10
O-XYLENE	100.00 PPB	110 PPB	10
P-XYLENE	100.00 PPB	110 PPB	10
STYRENE	100.00 PPB	100 PPB	10
TETRACHLOROETHYLENE	100.00 PPB	110 PPB	10
TOLUENE	100.00 PPB	110 PPB	10
TRANS-1,3-DICHLOROPROPENE	100.00 PPB	110 PPB	10
TRICHLOROETHYLENE	100.00 PPB	110 PPB	10
TRICHLOROFLUOROMETHANE	100.00 PPB	110 PPB	10
VINYL CHLORIDE	100.00 PPB	120 PPB	10
NITROGEN	BALANCE	BALANCE	

AIR LIQUIDE Air Liquide America Specialty Gases LLC Scott™

1542067

APPROVED BY: COLIN MCCARTY

DATE: 21Sep2015

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

SHIPPED TO: USEPA Region 9
1337 S. 46th St Bldg 201
Richmond, CA 94804

PAGE: 1 of 2

Metals

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

Linde Gas North America LLC

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

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

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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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1337 S. 46th St Bldg 201
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

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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

THE LINDE GROUP

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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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 Number**	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

1625064

Description:	TO-14A Internal Standard Mix, Stock	**Expires:**	06/02/17
Standard Type:	Other Solution	**Prepared:**	06/03/16
Solvent:	Nitrogen	**Prepared By:**	** Vendor **
Final Volume (mls):	110000	**Department:**	Air
Vials:	1	**Last Edit:**	06/15/16 10:37 by LLH
Vendor:	Scott/Air Liquide	**Lot Numb**	403-416654

Part # 26353, Cylinder #: ST0000166225 AU008199

Analyte	CAS Number	Concentration (ppm)
Chlorobenzene-d5	3114-55-4	0.1
Bromochloromethane	74-97-5	0.11
1,4-Difluorobenzene	540-36-3	0.099

Scott™

16250664

Shipped From: 6141 Easton Road
Plumsteadville, PA 18949
Phone: 215-766-8860
Fax: 215-766-7226

AU008199

CERTIFICATE OF ANALYSIS

Letter 15mo

RESTEK CORP
GSS WAREHOUSE-3
6724 Preston Ave
Livermore, CA 94551-5145
US

Sales Order # : 3016303
P.O. #.: 111026
Item No.: A0913151
Date: 03Jun2016

Cylinder #: ST0000166225
Fill Pressure: 1800 PSIG
CGA: 180
Blend Type: CERTIFIED SCOTTY

Product Expiration: 02Jun2017
Lot #: 403-416654

Component Name	Requested Gas Conc (Moles)	Analysis (Mole)	Accuracy (+ / - %)
1,4-DIFLUOROBENZENE	100.00 PPB	99 PPB	10
BROMOCHLOROMETHANE	100.00 PPB	110 PPB	10
CHLOROBENZENE D5	100.00 PPB	100 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 (+/- %)
1,4-DIFLUOROBENZENE	100.000 PPB	N/A PPB	99 PPB	1.00	N/A	10.00	N/A
BROMOCHLOROMETHANE	100.000 PPB	N/A PPB	110 PPB	10.00	N/A	10.00	N/A
CHLOROBENZENE D5	100.000 PPB	N/A PPB	100 PPB	0.00	N/A	10.00	N/A

Instrumentation

Instrument/Model/Serial#	Last Date Calibrated	Analytical Principle
AGILENT 7890A GC-MS -- S/N CN10813101	06/01/2016	GC-MS

COMMENTS

Part number: 26353

APPROVED BY: COLIN MCCARTY

DATE: 01Jun2016

AIR LIQUIDE

Analytical Standard Record
EPA Region 9 Laboratory
1635084

Description:	TO-15 SCV Std, 10 ppbv	**Expires:**	09/22/16
Standard Type:	Other Solution	**Prepared:**	08/25/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	2500	**Department:**	Air
Vials:	1	**Last Edit:**	09/20/16 13:44 by LLH
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

Analytical Standard Record
EPA Region 9 Laboratory
1635084

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
1542067	TO-14A 39 Component Mix Stand	09/21/15	Liza Hernandez	09/22/16	10/15/15 11:38 by LLH	250

Analytical Standard Record
EPA Region 9 Laboratory
1638024

Description:	TO-15 LOW Std, 10 ppbv	**Expires:**	10/13/16
Standard Type:	Other Solution	**Prepared:**	09/13/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	2500	**Department:**	Air
Vials:	2	**Last Edit:**	09/13/16 09:28 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

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
1638024

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)
1549114	TO-15 25 Compound Subset Stand	11/13/15	Liza Hernandez	11/13/16	12/02/15 15:48 by LLH	25
1604090	TO-14A 39 Component Mix Stand	01/13/16	** Vendor **	01/13/17	01/22/16 10:00 by LLH	25

Analytical Standard Record
EPA Region 9 Laboratory
1638025

Description:	TO-15 Std, 20 ppbv	**Expires:**	10/13/16
Standard Type:	Other Solution	**Prepared:**	09/13/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	2500	**Department:**	Air
Vials:	2	**Last Edit:**	09/13/16 09:29 by LLH
Vendor:	*Prepared*	**Lot Numb**	-

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
1638025

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 Stand	11/13/15	Liza Hernandez	11/13/16	12/02/15 15:48 by LLH	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
1638115

Description:	TO-15 CAL1 1.0 ppbv (VIRTUAL)	**Expires:**	10/13/16
Standard Type:	Other Solution	**Prepared:**	09/15/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	09/15/16 16:17 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	0.0198
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

1638115

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	0.02
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

1638115

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1638024	TO-15 LOW Std, 10 ppbv	09/13/16	Liza Hernandez	10/13/16	09/13/16 09:28 by LLH	20
1625064	TO-14A Internal Standard Mix, Stc	06/03/16	** Vendor **	06/02/17	06/16/16 10:12 by LLH	40

Analytical Standard Record
EPA Region 9 Laboratory
1638116

Description:	TO-15 CAL2 2.0 ppbv (VIRTUAL)	**Expires:**	10/13/16
Standard Type:	Other Solution	**Prepared:**	09/15/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	09/15/16 16:18 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	0.0198
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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1638116

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	0.02
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

1638116

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1625064	TO-14A Internal Standard Mix, Stc	06/03/16	** Vendor **	06/02/17	06/16/16 10:12 by LLH	40
1638025	TO-15 Std, 20 ppbv	09/13/16	Liza Hernandez	10/13/16	09/13/16 09:29 by LLH	20

Analytical Standard Record
EPA Region 9 Laboratory
1638117

Description:	TO-15 CAL3 5.0 ppbv (VIRTUAL)	**Expires:**	10/13/16
Standard Type:	Other Solution	**Prepared:**	09/15/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	09/15/16 16:19 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	0.0198
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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1638117

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	0.02
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

1638117

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1625064	TO-14A Internal Standard Mix, Stc	06/03/16	** Vendor **	06/02/17	06/16/16 10:12 by LLH	40
1638025	TO-15 Std, 20 ppbv	09/13/16	Liza Hernandez	10/13/16	09/13/16 09:29 by LLH	50

Analytical Standard Record
EPA Region 9 Laboratory
1638118

Description:	TO-15 CAL4 10 ppbv (VIRTUAL)	**Expires:**	10/13/16
Standard Type:	Other Solution	**Prepared:**	09/15/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	09/15/16 16:24 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	0.0198
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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1638118

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	0.02
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

1638118

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1625064	TO-14A Internal Standard Mix, Stc	06/03/16	** Vendor **	06/02/17	06/16/16 10:12 by LLH	40
1638025	TO-15 Std, 20 ppbv	09/13/16	Liza Hernandez	10/13/16	09/13/16 09:29 by LLH	100

Analytical Standard Record
EPA Region 9 Laboratory
1638119

Description:	TO-15 CAL5 15 ppbv (VIRTUAL)	**Expires:**	10/13/16
Standard Type:	Other Solution	**Prepared:**	09/15/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	09/15/16 16:20 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	0.0198
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

Analytical Standard Record

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1638119

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	0.02
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

Analytical Standard Record

EPA Region 9 Laboratory

1638119

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1625064	TO-14A Internal Standard Mix, Stc	06/03/16	** Vendor **	06/02/17	06/16/16 10:12 by LLH	40
1638025	TO-15 Std, 20 ppbv	09/13/16	Liza Hernandez	10/13/16	09/13/16 09:29 by LLH	150

Analytical Standard Record
EPA Region 9 Laboratory
1638120

Description:	TO-15 CAL6 20 ppbv (VIRTUAL)	**Expires:**	10/13/16
Standard Type:	Other Solution	**Prepared:**	09/15/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	09/15/16 16:21 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	0.0198
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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1638120

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	0.02
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

EPA Region 9 Laboratory

1638120

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1625064	TO-14A Internal Standard Mix, Stc	06/03/16	** Vendor **	06/02/17	06/16/16 10:12 by LLH	40
1638025	TO-15 Std, 20 ppbv	09/13/16	Liza Hernandez	10/13/16	09/13/16 09:29 by LLH	200

Analytical Standard Record
EPA Region 9 Laboratory
1638121

Description:	TO15 LCS Std, VIRTUAL	**Expires:**	10/13/16
Standard Type:	Analyte Spike	**Prepared:**	09/15/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	200	**Department:**	Air
Vials:	1	**Last Edit:**	09/15/16 16:21 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	0.0198
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

Analytical Standard Record

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1638121

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	0.02
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

EPA Region 9 Laboratory

1638121

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
1625064	TO-14A Internal Standard Mix, Stc	06/03/16	** Vendor **	06/02/17	06/16/16 10:12 by LLH	40
1638025	TO-15 Std, 20 ppbv	09/13/16	Liza Hernandez	10/13/16	09/13/16 09:29 by LLH	200

Analytical Standard Record
EPA Region 9 Laboratory
1639108

Description:	TO-15 SCV Std, 10 ppbv	**Expires:**	10/23/16
Standard Type:	Other Solution	**Prepared:**	09/23/16
Solvent:	Zero Grade Air	**Prepared By:**	Liza Hernandez
Final Volume (mls):	2500	**Department:**	Air
Vials:	1	**Last Edit:**	09/23/16 10:14 by LLH
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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1639108

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