

Data Path : W:\HPCHEM1\MSVOA L\DATA\VL102015\
 Data File : VL026227.D
 Acq On : 21 Oct 2015 4:58
 Operator : SY/MD
 Sample : G4112-03DUP
 Misc : 400mL/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 INDOOR-239DUP

Manual Integrations
 APPROVED

MMDadoda
 10/22/2015 4:32:59 PM

Quant Time: Oct 21 17:06:05 2015
 Quant Method : W:\HPCHEM1\MSVOA L\METHODS\VL102015AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_LWed Oct 21 17:06:05 2015
 QLast Update : Wed Oct 21 01:20:55 2015
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.62	49	532360	10.00	ppbv	-0.02
33) 1,4-Difluorobenzene	8.30	114	1563106	10.00	ppbv	-0.01
55) Chlorobenzene-d5	13.71	117	1864600	10.00	ppbv	-0.02

System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	16.25	95	1470569	10.23	ppbv	-0.02
Spiked Amount	10.000	Range	65 - 135	Recovery	=	102.30%

Target Compounds	R.T.	QIon	Response	Conc	Units	Ovalue
2) Dichlorodifluoromethane	3.62	85	78886	0.72	ppbv	99
3) Chlorodifluoromethane	3.56	51	209236m	3.10	ppbv	
4) Chloromethane	3.73	50	16943	0.47	ppbv	99
9) Propene	3.81	41	30265	0.96	ppbv	84
10) Heptane	9.32	43	18180	0.17	ppbv	88
11) Trichlorofluoromethane	4.68	101	61075	0.56	ppbv	98
13) Ethanol	4.31	45	178699	37.76	ppbv	97
15) Acetone	4.59	43	366517	4.68	ppbv	94
19) Isopropyl Alcohol	4.76	45	28599	0.93	ppbv #	27
20) Methylene Chloride	5.13	84	111945	3.58	ppbv	98
25) Ethyl Acetate	6.66	43	59487	0.40	ppbv #	97
30) Cyclohexane	8.26	84	8083	0.11	ppbv #	1
34) 2-Butanone	6.19	43	31612	0.36	ppbv	95
35) Carbon Tetrachloride	8.13	117	8417	0.07	ppbv	91
36) Benzene	7.99	78	45704	0.29	ppbv	98
38) Trichloroethene	9.04	130	51526	0.67	ppbv	98
41) Tetrahydrofuran	7.13	42	5030	0.10	ppbv #	71
44) 2,2,4-Trimethylpentane	9.06	57	38462	0.15	ppbv #	86
50) 4-Methyl-2-Pentanone	10.10	43	16386m	0.14	ppbv	
52) Tetrachloroethene	12.77	164	5074945	55.59	ppbv	98
53) Toluene	11.20	91	304920	1.41	ppbv	98
58) Ethyl Benzene	14.38	91	37102	0.12	ppbv	99
59) m/p-Xylene	14.66	91	93355	0.39	ppbv	99
60) o-Xylene	15.46	91	38171	0.15	ppbv	98
72) 4-Ethyltoluene	17.79	105	30746	0.11	ppbv #	94
74) 1,2,4-Trimethylbenzene	18.79	105	70699	0.25	ppbv #	74

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

```
Data Path : W:\HPCHEM1\MSVOA L\DATA\VL102015\  
Data File : VL026227.D  
Acq On    : 21 Oct 2015    4:58  
Operator  : SY/MD  
Sample    : G4112-03DUP  
Misc      : 400mL/MSVOA L  
ALS Vial  : 1    Sample Multiplier: 1
```

Data File : VL026227.D

Aca On : 21 Oct 2015 4:58

Operator : SY/MD

Sample : G4112-03DUP

Misc : 400mL/MSVOA L

ALS Vial : 1 Sample Multiplier: 1

Instrument :
MSVOA_L
ClientSampleId :
INDOOR-239DUP

ClientSampleId :
INDOOR-239DUP

Manual Integrations APPROVED

MMDadoda
10/22/2015 4:32:59 PM

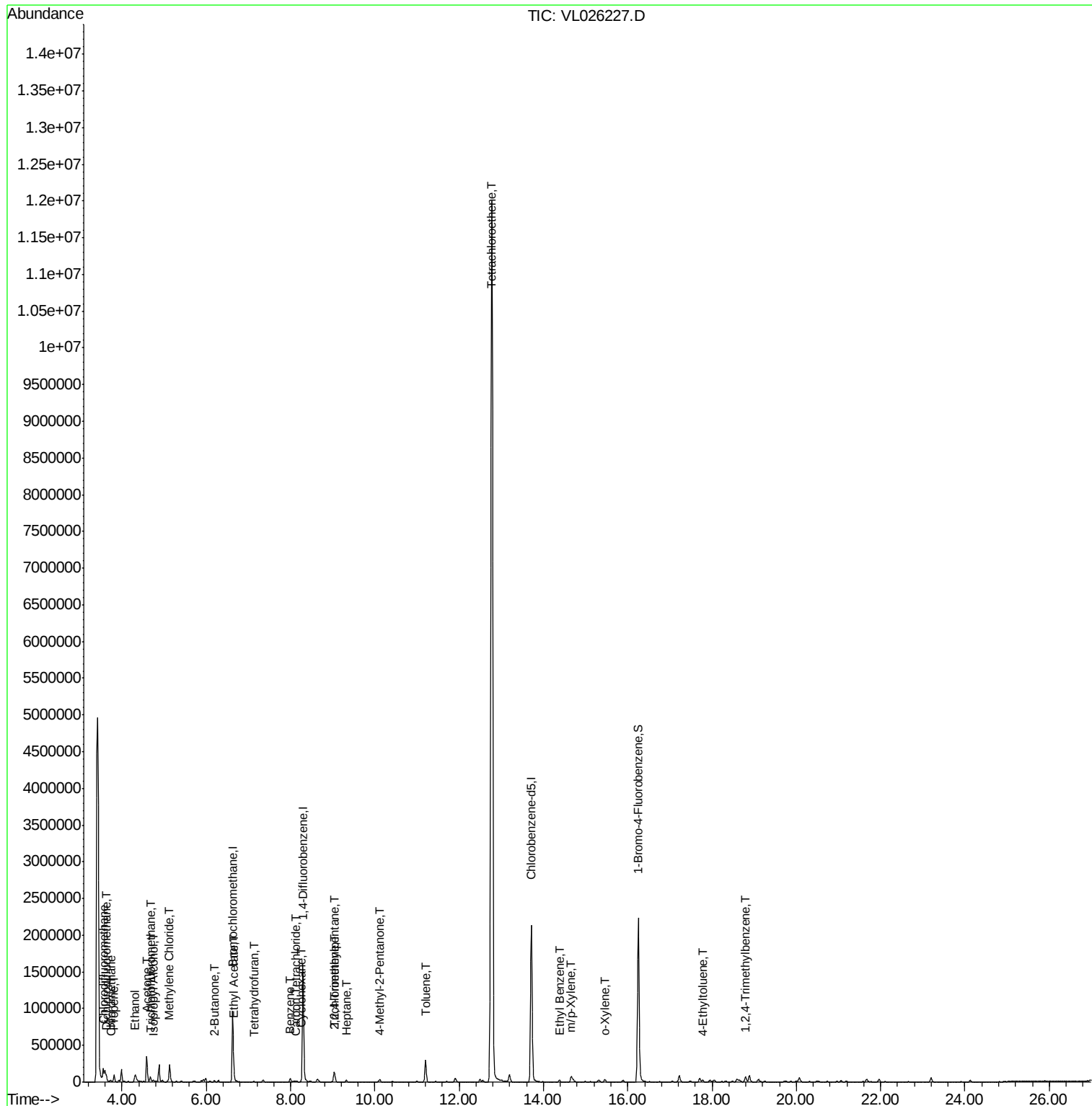
Quant Time: Oct 21 17:06:05 2015

Quant Method : W:\HPCHEM1\MSVOA L\METHODS\VL102015AIR.M

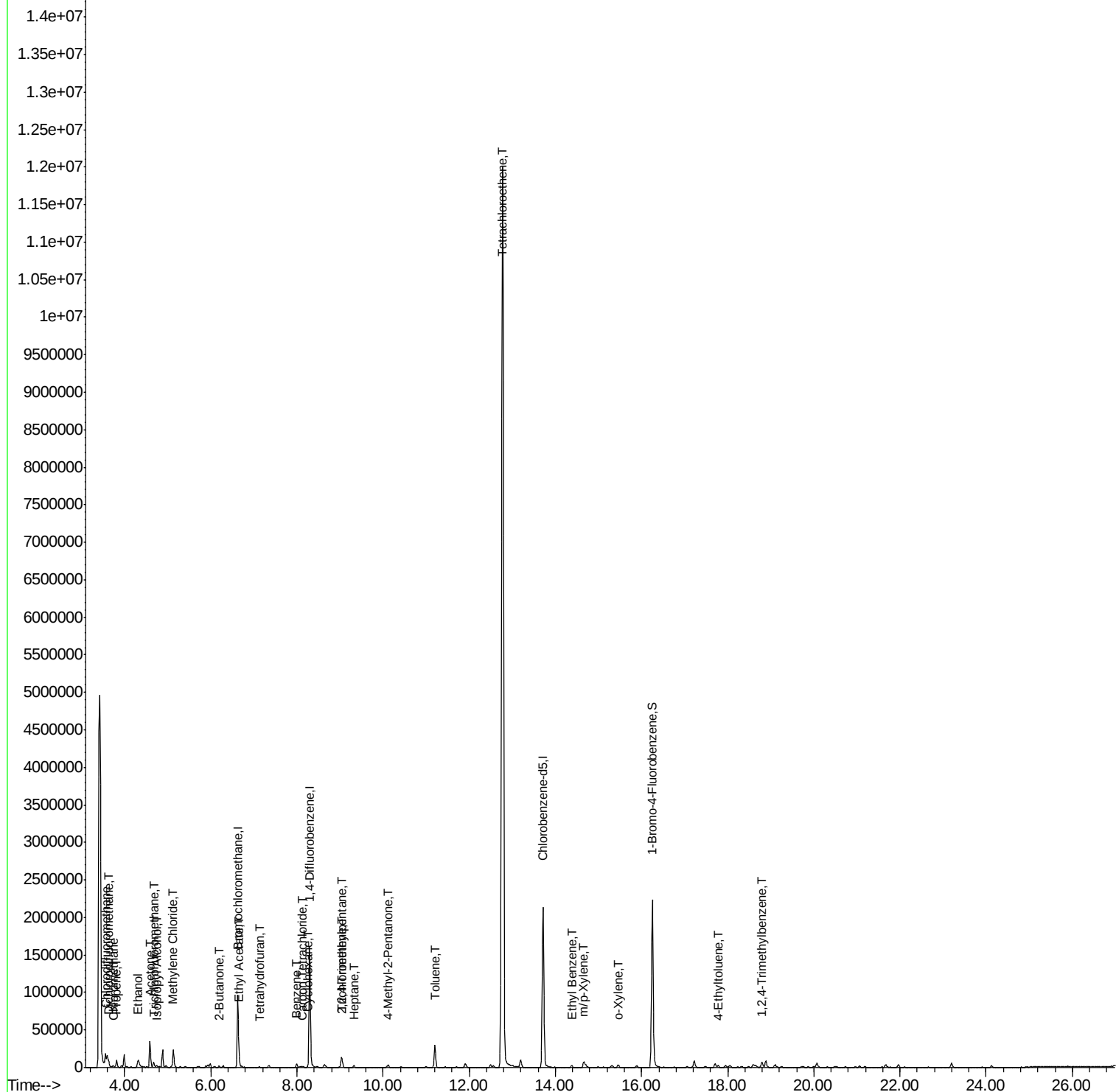
Quant Title : AIR ANALYSIS BY METHOD T0-15 Instrument: MSV0A_LWed Oct

QLast Update : Wed Oct 21 01:20:55 2015

Response via : Initial Calibration



TIC: VL026227.D



Tetrachloroethene: T

Chlorobenzene-d5,1

1-Bromo-4-Fluorobenzene, S

4-Ethyltoluene, T

1,2,4-Trimethylbenzene, T

Toluene, T

4-Methyl-2-Pentanone, T

Pentane T

Carbon tetrachloride, CCl₄, 4-D-

etrahydroturan, l

2-Butanone, T

Methylene Chloride, I

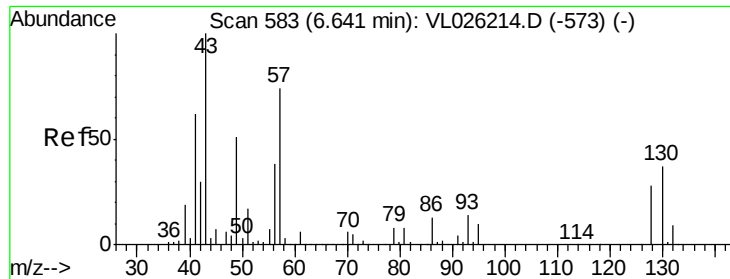
Ethanol

1000

000
000
000
000

100

_102015AIR.M Thu Oct 22 17:30:17 2015



#1

Bromochloromethane

Concen: 10.00 ppbv

RT: 6.62 min Scan# 580

Delta R.T. -0.02 min

Lab File: VL026227.D

Acq: 21 Oct 2015 4:58

Instrument :

MSVOA_L

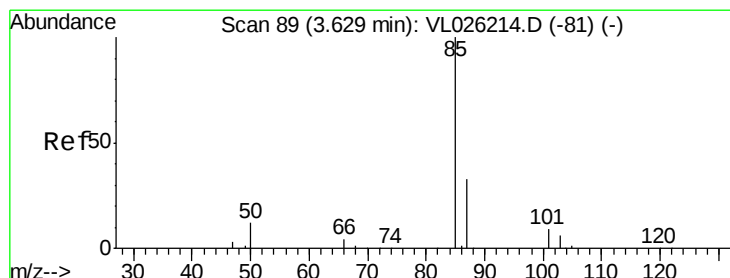
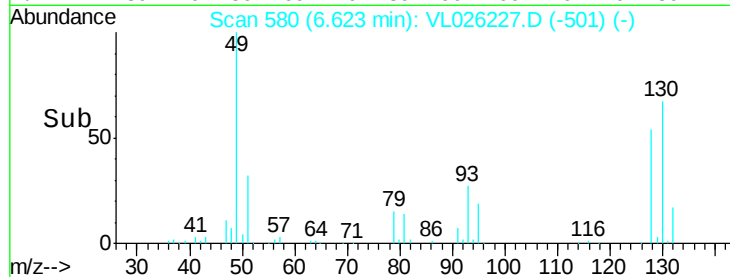
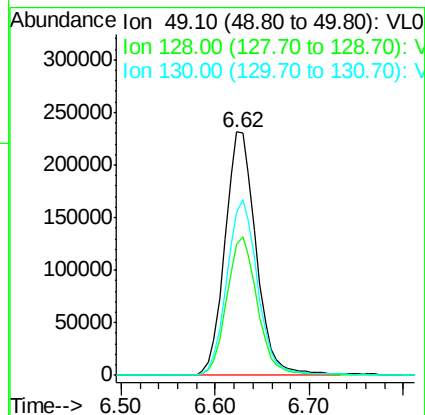
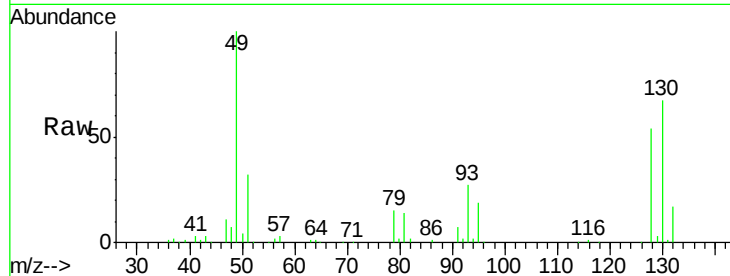
ClientSampleId :

INDOOR-239DUP

Tot Ion	49	Resp	532360
Ion	Ratio	Lower	Upper
49	100		
128	56.6	28.2	84.7
130	72.6	36.0	108.1

Manual Integrations
APPROVED

MMDadoda
10/22/2015 4:32:59 PM



#2

Dichlorodifluoromethane

Concen: 0.72 ppbv

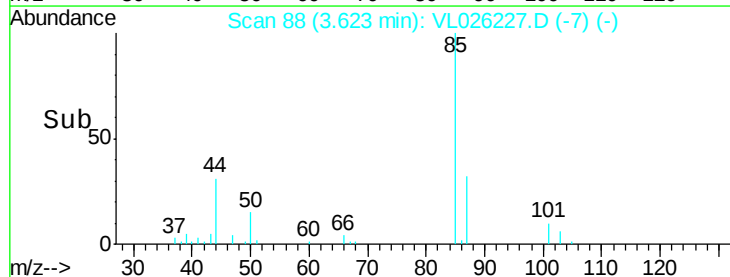
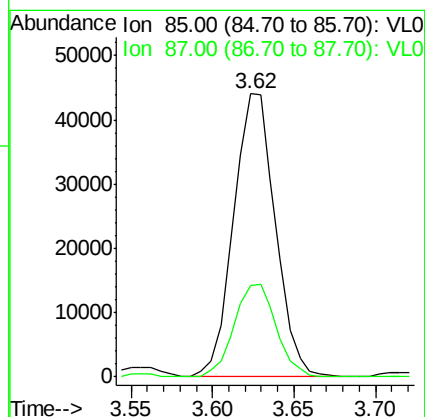
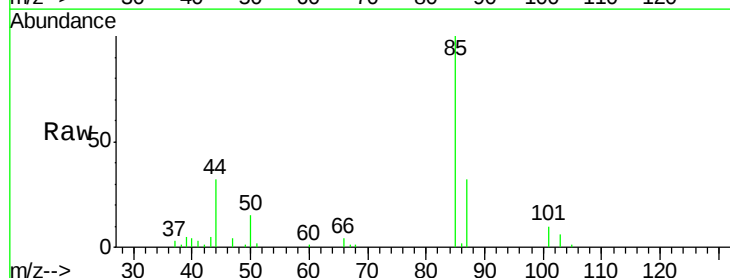
RT: 3.62 min Scan# 88

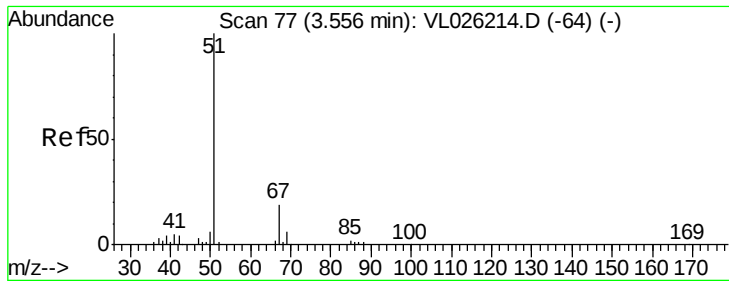
Delta R.T. -0.01 min

Lab File: VL026227.D

Acq: 21 Oct 2015 4:58

Tgt Ion	85	Resp	78886
Ion	Ratio	Lower	Upper
85	100		
87	32.2	26.1	39.1





#3

Chlorodifluoromethane

Concen: 3.10 ppbv m

RT: 3.56 min Scan# 77

Delta R.T. 0.00 min

Lab File: VL026227.D

Acq: 21 Oct 2015 4:58

Instrument :

MSVOA_L

ClientSampleId :

INDOOR-239DUP

Tot Ion: 51 Resp: 209236

Ion Ratio Lower Upper

51 100

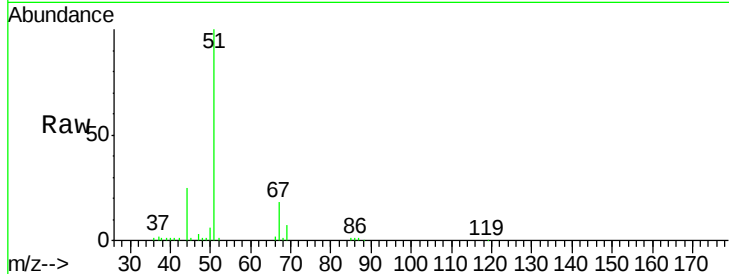
67 16.8 15.3 22.9

Manual Integrations

APPROVED

MMDadoda

10/22/2015 4:32:59 PM



Abundance Ion 51.00 (50.70 to 51.70): VL0

Ion 67.00 (66.70 to 67.70): VL0

120000

100000

80000

60000

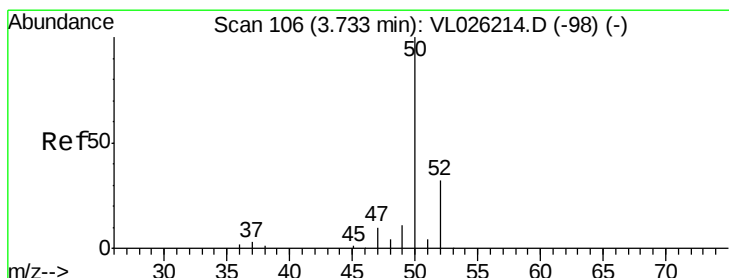
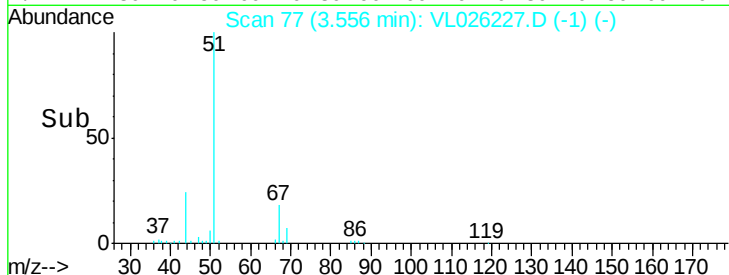
40000

20000

0

3.45 3.50 3.55 3.60 3.65

Time-->



#4

Chloromethane

Concen: 0.47 ppbv

RT: 3.73 min Scan# 106

Delta R.T. 0.00 min

Lab File: VL026227.D

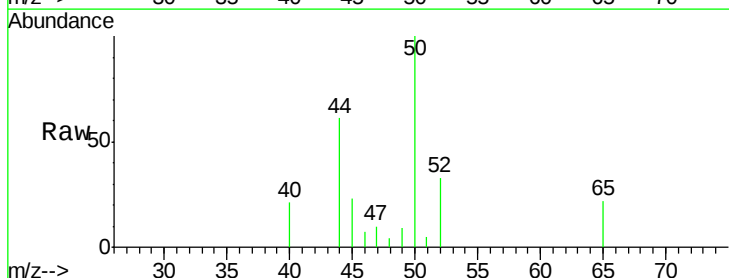
Acq: 21 Oct 2015 4:58

Tgt Ion: 50 Resp: 16943

Ion Ratio Lower Upper

50 100

52 32.8 25.8 38.6



Abundance Ion 50.10 (49.80 to 50.80): VL0

Ion 52.10 (51.80 to 52.80): VL0

8000

6000

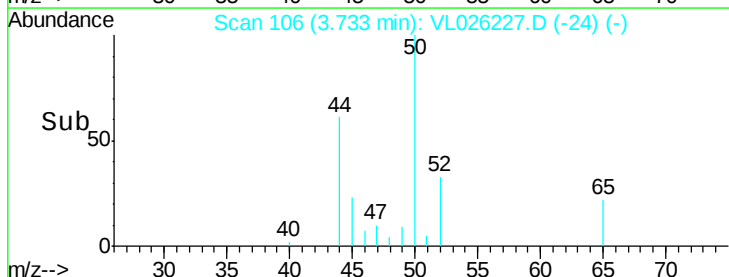
4000

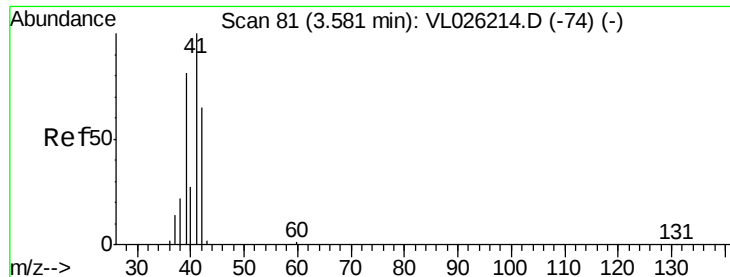
2000

0

3.70 3.75 3.80

Time-->





#9

Propene

Concen: 0.96 ppbv

RT: 3.81 min Scan# 119

Delta R.T. 0.23 min

Lab File: VL026227.D

Acq: 21 Oct 2015 4:58

Instrument :

MSVOA_L

ClientSampleId :

INDOOR-239DUP

Tot Ion: 41 Resp: 30265

Ion Ratio Lower Upper

41 100

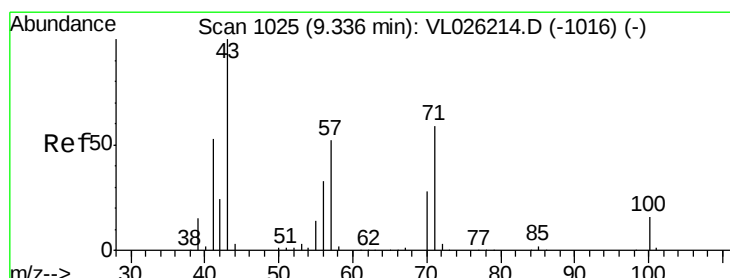
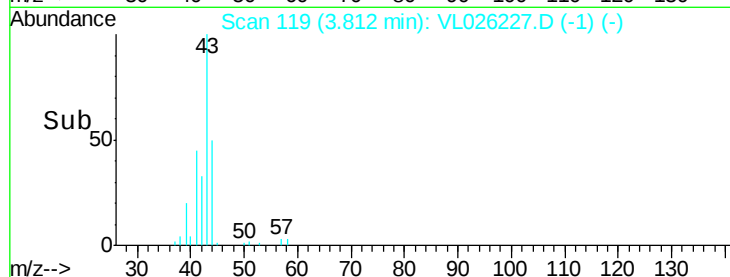
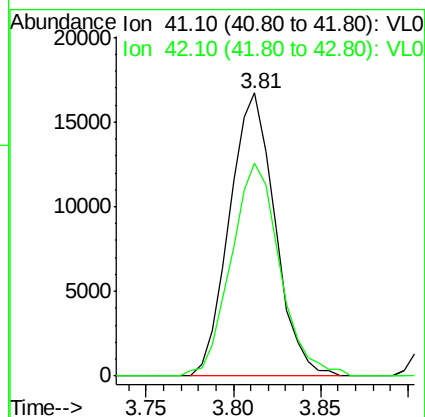
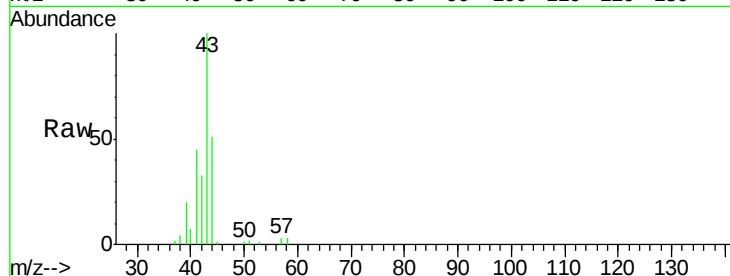
42 80.3 53.8 80.8

Manual Integrations

APPROVED

MMDadoda

10/22/2015 4:32:59 PM



#10

Heptane

Concen: 0.17 ppbv

RT: 9.32 min Scan# 1022

Delta R.T. -0.02 min

Lab File: VL026227.D

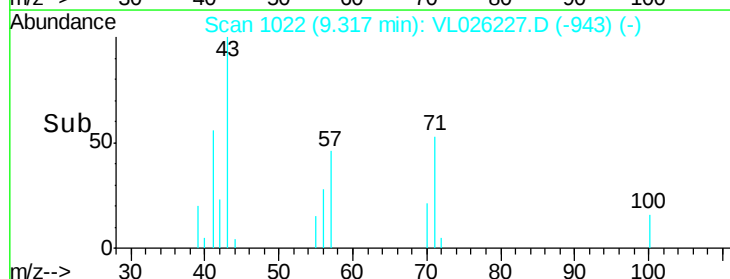
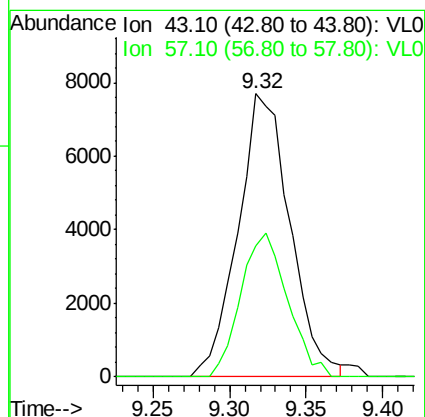
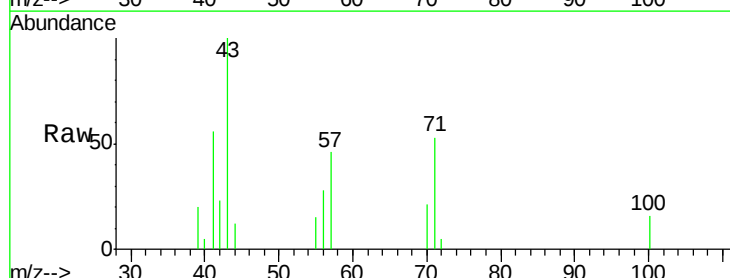
Acq: 21 Oct 2015 4:58

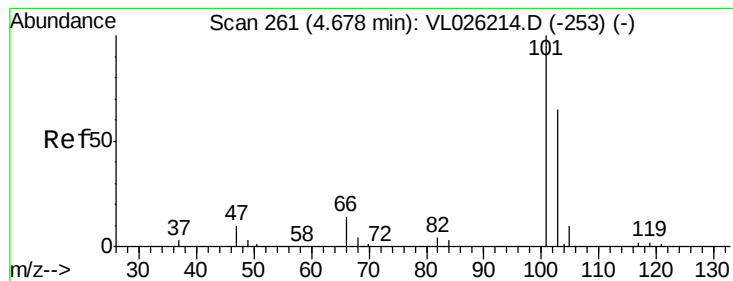
Tgt Ion: 43 Resp: 18180

Ion Ratio Lower Upper

43 100

57 45.7 43.7 65.5





#11

Trichlorofluoromethane

Concen: 0.56 ppbv

RT: 4.68 min Scan# 261

Delta R.T. 0.00 min

Lab File: VL026227.D

Acq: 21 Oct 2015 4:58

Tot Ion: 101 Resp: 61075

Ion Ratio Lower Upper

101 100

103 66.5 52.2 78.2

Instrument :

MSVOA_L

ClientSampleId :

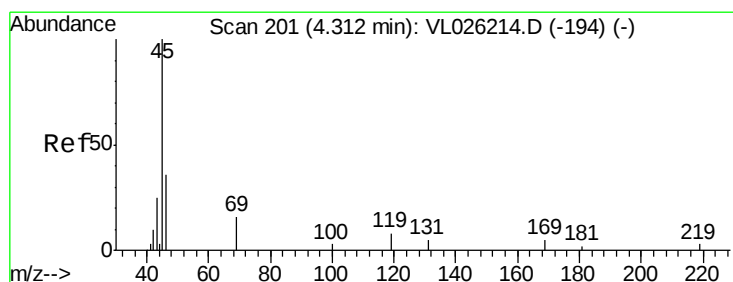
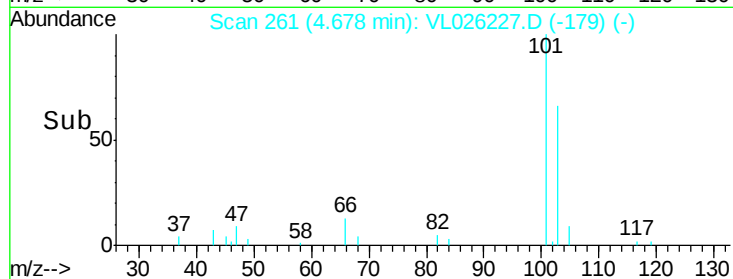
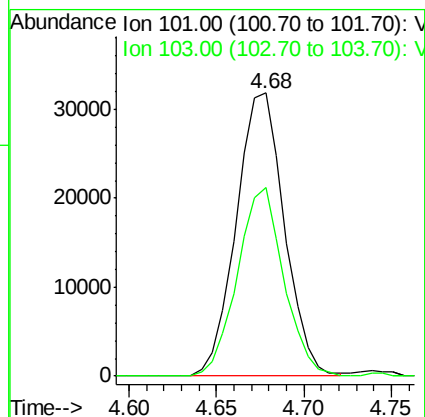
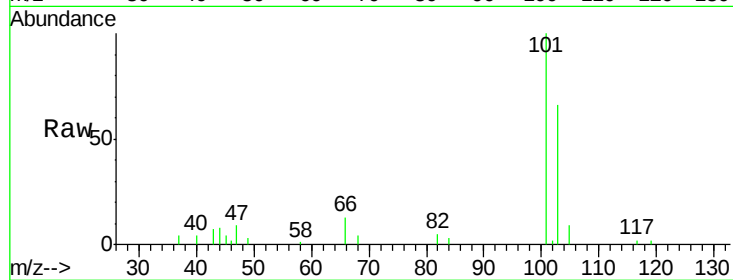
INDOOR-239DUP

Manual Integrations

APPROVED

MMDadoda

10/22/2015 4:32:59 PM



#13

Ethanol

Concen: 37.76 ppbv

RT: 4.31 min Scan# 201

Delta R.T. 0.00 min

Lab File: VL026227.D

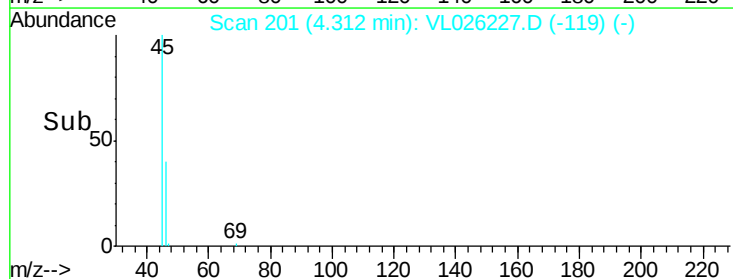
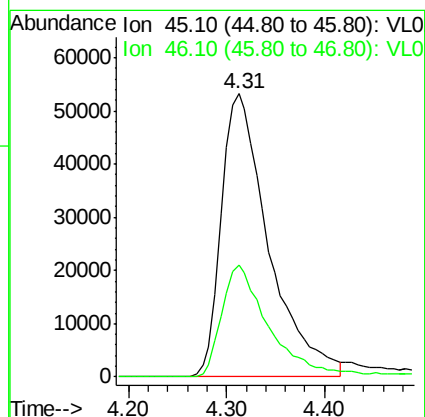
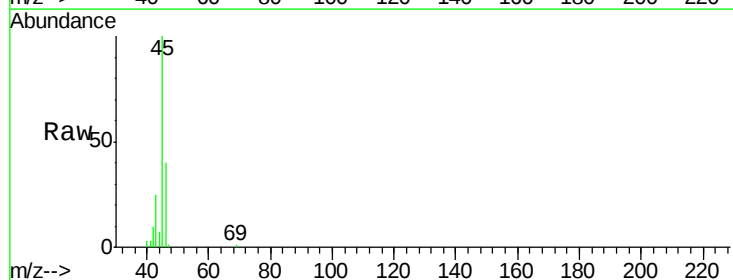
Acq: 21 Oct 2015 4:58

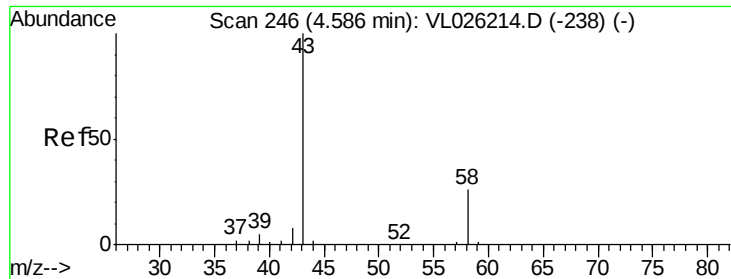
Tgt Ion: 45 Resp: 178699

Ion Ratio Lower Upper

45 100

46 41.0 15.8 63.0





#15

Acetone

Concen: 4.68 ppbv

RT: 4.59 min Scan# 246

Delta R.T. 0.00 min

Lab File: VL026227.D

Acq: 21 Oct 2015 4:58

Instrument :

MSVOA_L

ClientSampleId :

INDOOR-239DUP

Tot Ion: 43 Resp: 366517

Ion Ratio Lower Upper

43 100

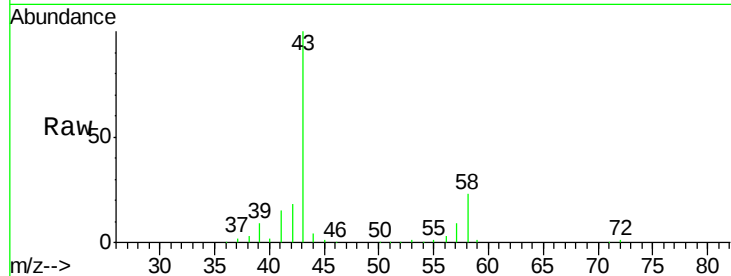
58 24.2 21.8 32.6

Manual Integrations

APPROVED

MMDadoda

10/22/2015 4:32:59 PM



Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 58.10 (57.80 to 58.80): VL0

4.59

200000

150000

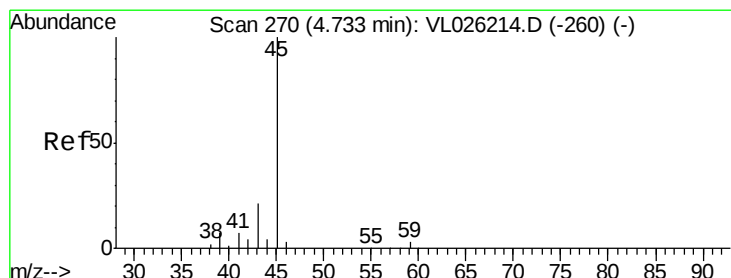
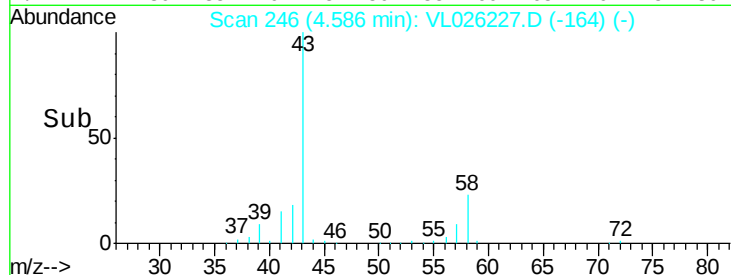
100000

50000

0

Time-->

4.50 4.60 4.70



#19

Isopropyl Alcohol

Concen: 0.93 ppbv

RT: 4.76 min Scan# 274

Delta R.T. 0.02 min

Lab File: VL026227.D

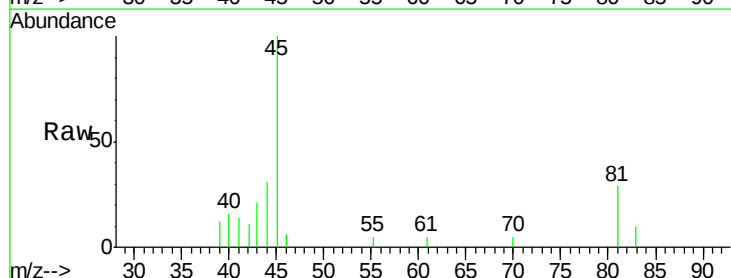
Acq: 21 Oct 2015 4:58

Tgt Ion: 45 Resp: 28599

Ion Ratio Lower Upper

45 100

58 0.0 40.3 60.5#



Abundance Ion 45.10 (44.80 to 45.80): VL0

Ion 58.10 (57.80 to 58.80): VL0

4.76

8000

6000

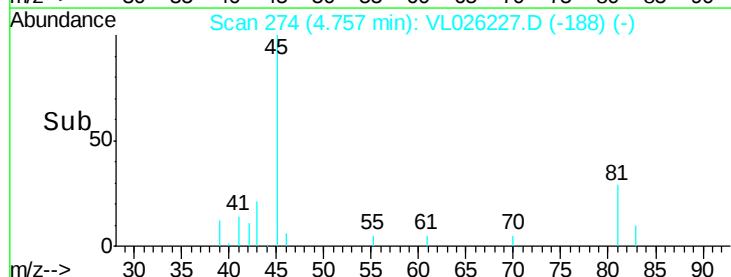
4000

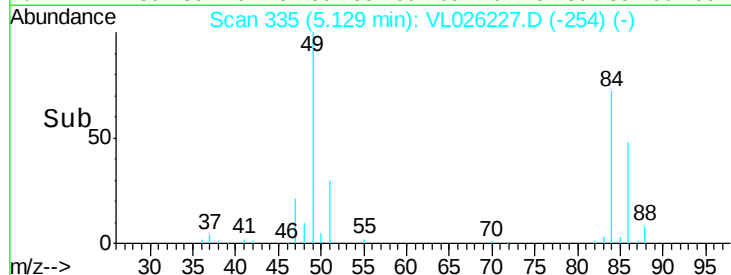
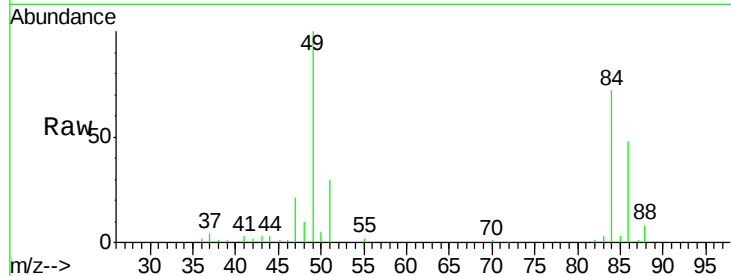
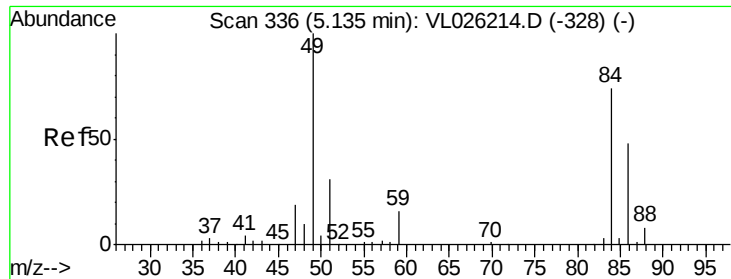
2000

0

Time-->

4.70 4.80 4.90





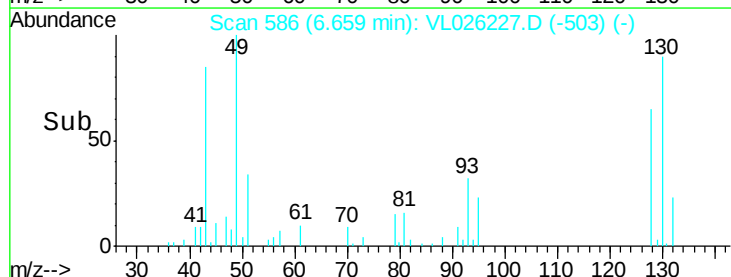
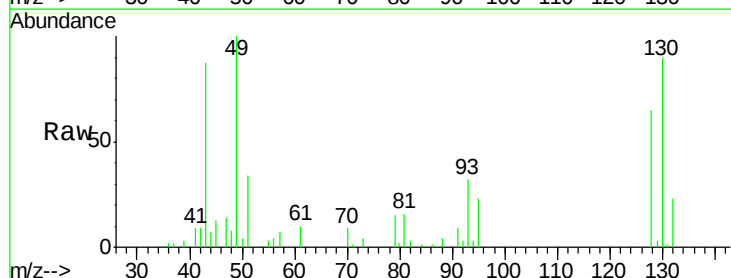
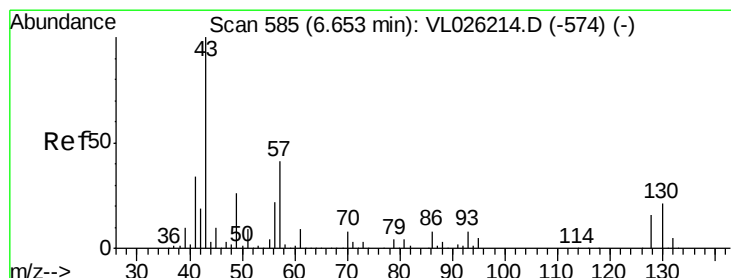
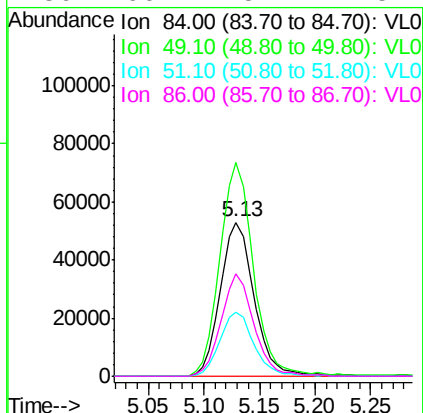
#20
Methvlene Chloride
Concen: 3.58 ppbv
RT: 5.13 min Scan# 335
Delta R.T. -0.01 min
Lab File: VL026227.D
Acq: 21 Oct 2015 4:58

Tot Ion	Ratio	Lower	Upper
84	100		
49	138.8	108.7	163.1
51	42.0	33.7	50.5
86	66.4	52.2	78.2

Instrument :
MSVOA_L
ClientSampleId :
INDOOR-239DUP

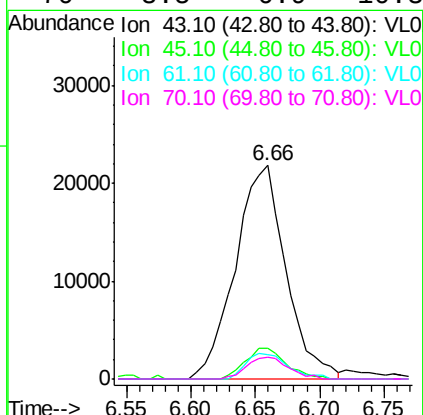
Manual Integrations
APPROVED

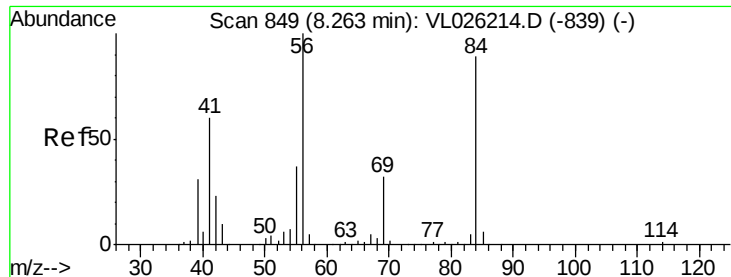
MMDadoda
10/22/2015 4:32:59 PM



#25
Ethyl Acetate
Concen: 0.40 ppbv
RT: 6.66 min Scan# 586
Delta R.T. 0.01 min
Lab File: VL026227.D
Acq: 21 Oct 2015 4:58

Tgt Ion	Ratio	Lower	Upper
43	100		
45	11.7	7.7	11.5#
61	10.1	7.5	11.3
70	8.5	6.9	10.3





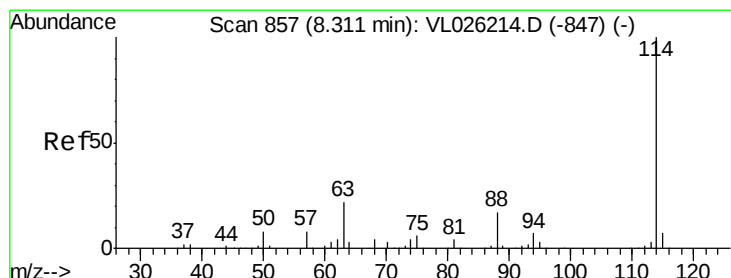
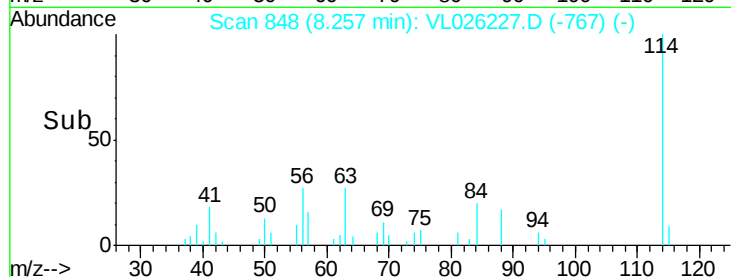
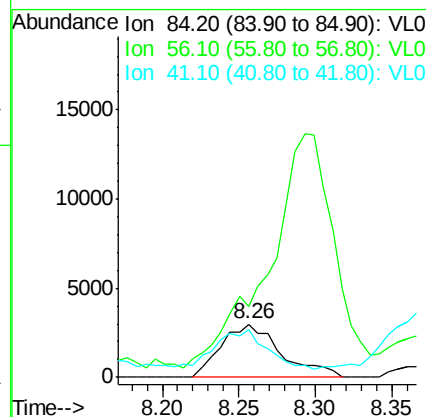
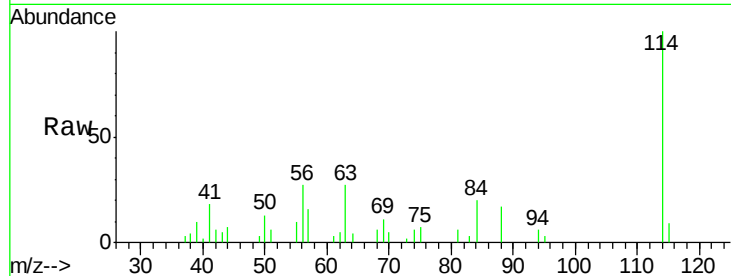
#30
Cvclohexane
Concen: 0.11 ppbv
RT: 8.26 min Scan# 848
Delta R.T. -0.01 min
Lab File: VL026227.D
Acq: 21 Oct 2015 4:58

Instrument :
MSVOA_L
ClientSampleId :
INDOOR-239DUP

Tot Ion	Ratio	Lower	Upper
84	100		
56	582.3	95.9	143.9#
41	103.9	54.8	82.2#

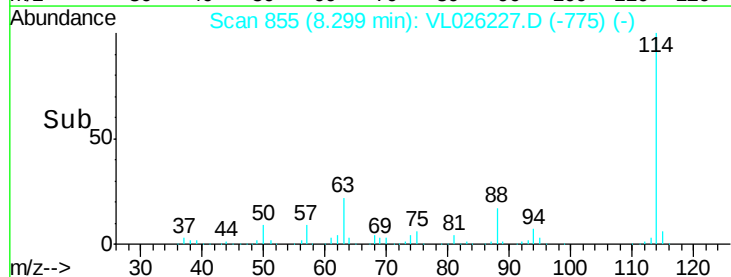
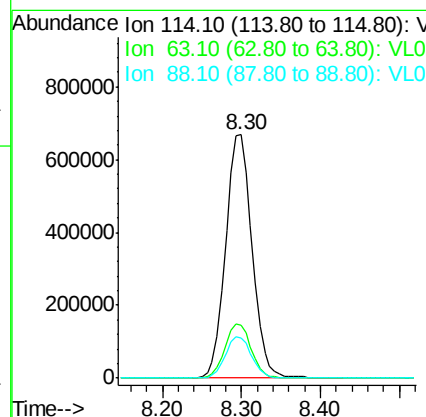
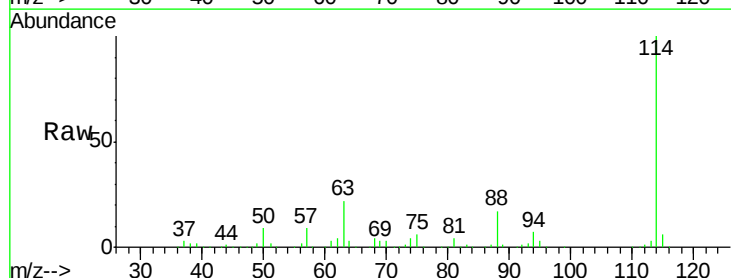
Manual Integrations
APPROVED

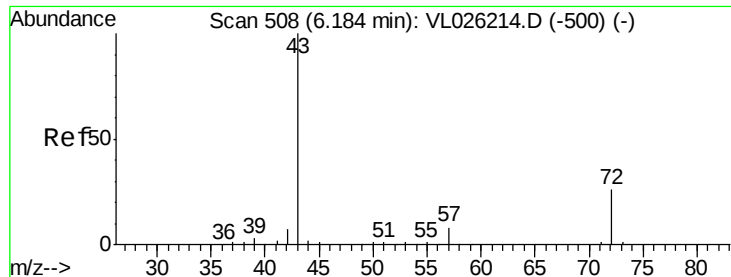
MMDadoda
10/22/2015 4:32:59 PM



#33
1,4-Difluorobenzene
Concen: 10.00 ppbv
RT: 8.30 min Scan# 855
Delta R.T. -0.01 min
Lab File: VL026227.D
Acq: 21 Oct 2015 4:58

Tgt Ion	Ratio	Lower	Upper
114	100		
63	22.3	18.2	27.4
88	17.0	13.5	20.3





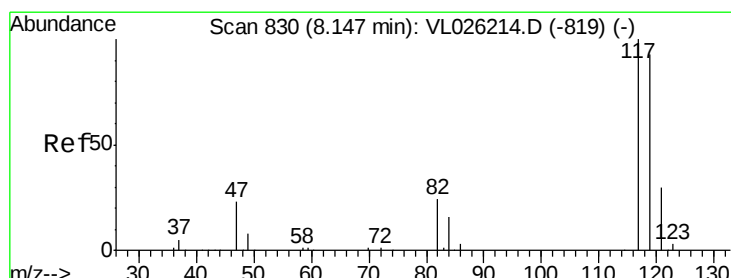
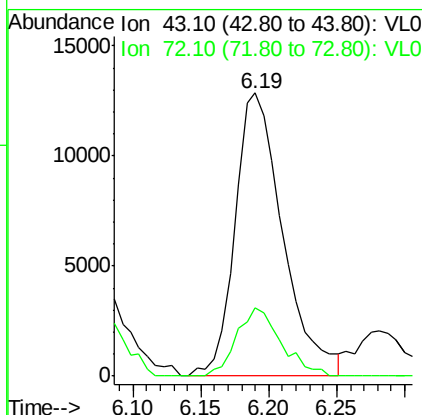
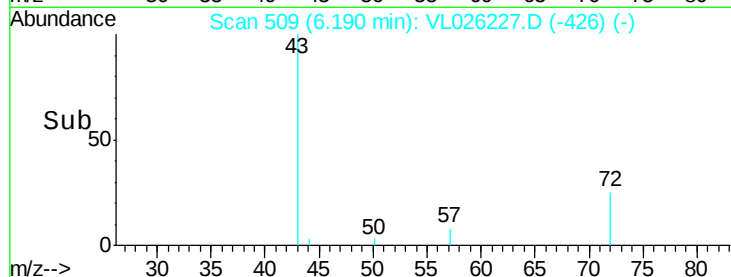
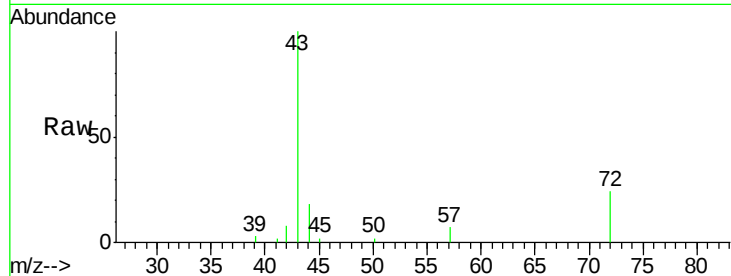
#34
2-Butanone
Concen: 0.36 ppbv
RT: 6.19 min Scan# 509
Delta R.T. 0.01 min
Lab File: VL026227.D
Acq: 21 Oct 2015 4:58

Instrument :
MSVOA_L
ClientSampleId :
INDOOR-239DUP

Tot Ion: 43 Resp: 31612
Ion Ratio Lower Upper
43 100
72 22.4 20.1 30.1

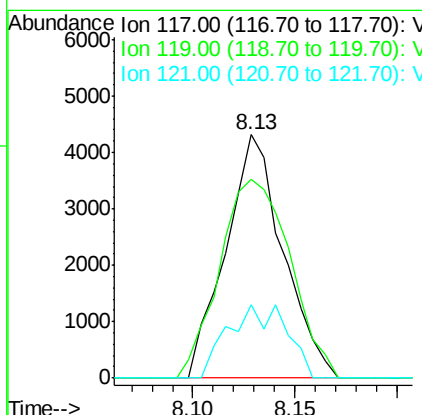
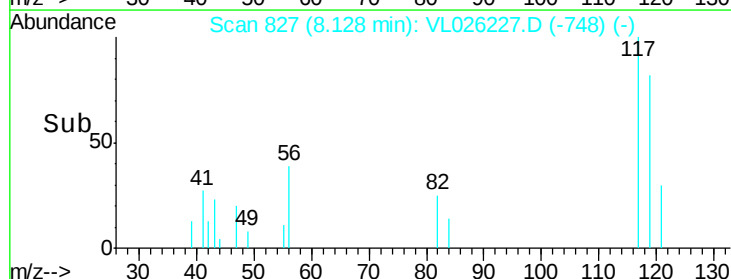
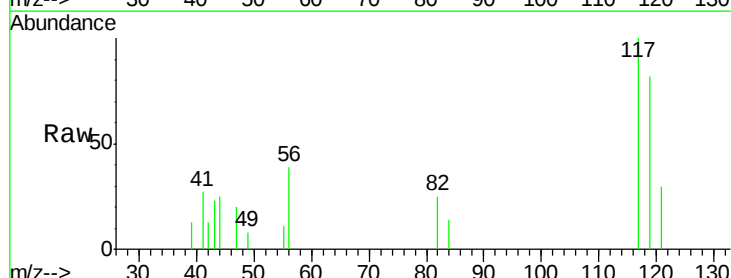
Manual Integrations
APPROVED

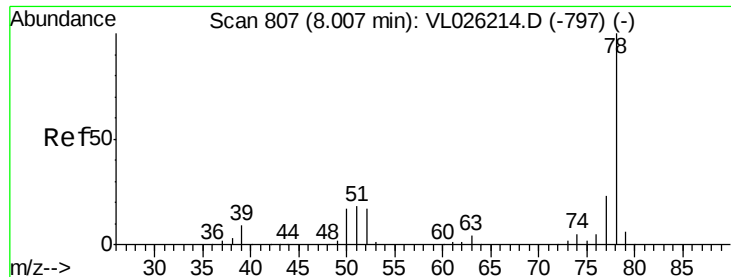
MMDadoda
10/22/2015 4:32:59 PM



#35
Carbon Tetrachloride
Concen: 0.07 ppbv
RT: 8.13 min Scan# 827
Delta R.T. -0.02 min
Lab File: VL026227.D
Acq: 21 Oct 2015 4:58

Tgt Ion: 117 Resp: 8417
Ion Ratio Lower Upper
117 100
119 81.6 74.6 111.8
121 30.2 24.2 36.2





#36

Benzene

Concen: 0.29 ppbv

RT: 7.99 min Scan# 805

Delta R.T. -0.01 min

Lab File: VL026227.D

Acq: 21 Oct 2015 4:58

Instrument :

MSVOA_L

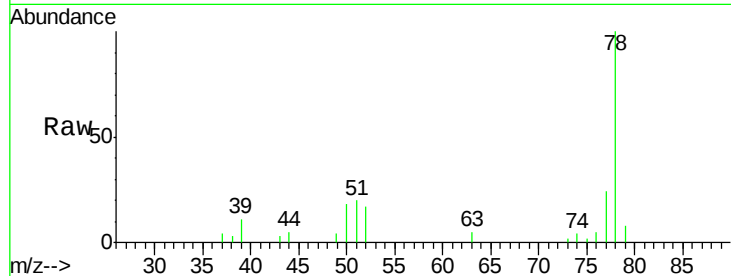
ClientSampleID :

INDOOR-239DUP

Tot Ion:	78	Resp:	45704
Ion	Ratio	Lower	Upper
78	100		
77	23.7	18.1	27.1
50	17.7	13.8	20.8

Manual Integrations
APPROVED

MMDadoda
10/22/2015 4:32:59 PM

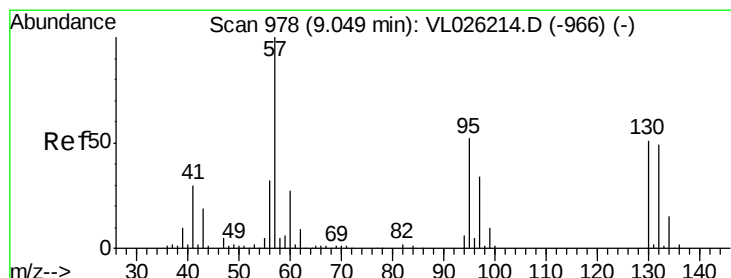
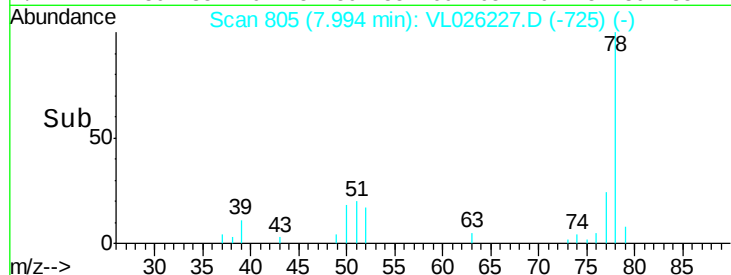
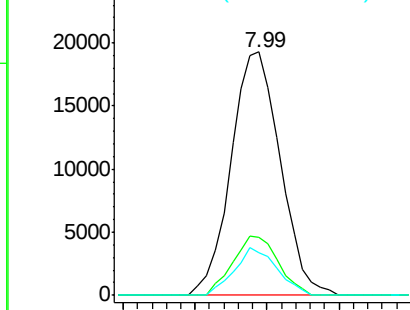


Abundance

Ion 78.10 (77.80 to 78.80): VL0

Ion 77.10 (76.80 to 77.80): VL0

Ion 50.10 (49.80 to 50.80): VL0



#38

Trichloroethene

Concen: 0.67 ppbv

RT: 9.04 min Scan# 976

Delta R.T. -0.01 min

Lab File: VL026227.D

Acq: 21 Oct 2015 4:58

Tgt Ion:	130	Resp:	51526
Ion	Ratio	Lower	Upper
130	100		
95	101.8	81.0	121.4
132	96.7	76.5	114.7
97	61.5	52.5	78.7

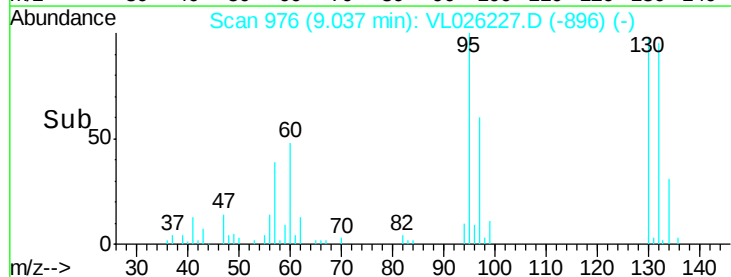
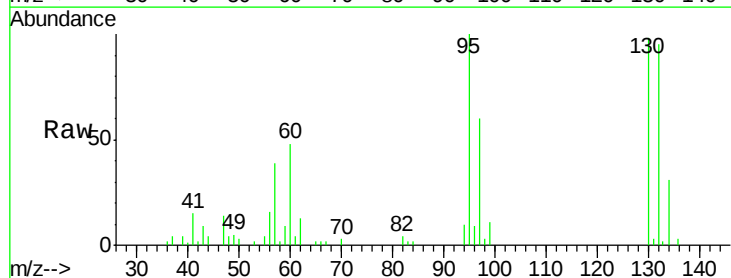
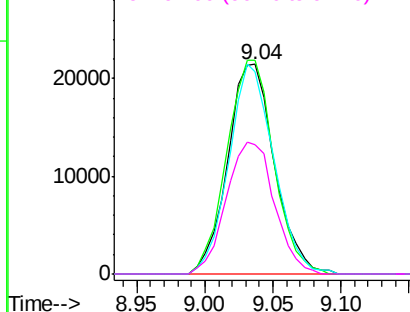
Abundance

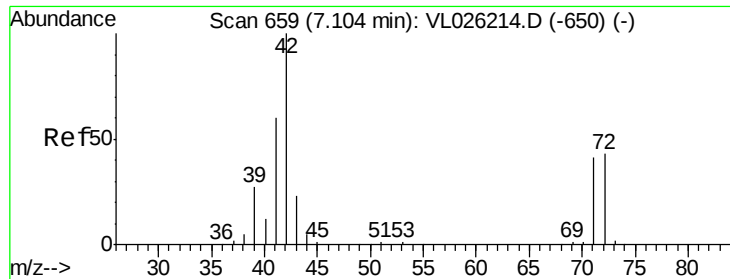
Ion 130.00 (129.70 to 130.70): V

Ion 95.00 (94.70 to 95.70): VL0

Ion 132.00 (131.70 to 132.70): V

Ion 97.00 (96.70 to 97.70): VL0





#41

Tetrahydrofuran

Concen: 0.10 ppbv

RT: 7.13 min Scan# 663

Delta R.T. 0.02 min

Lab File: VL026227.D

Acq: 21 Oct 2015 4:58

Instrument :

MSVOA_L

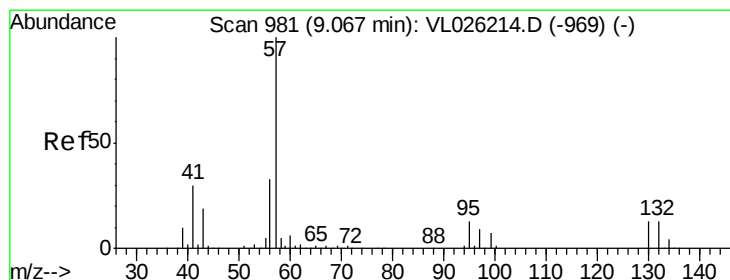
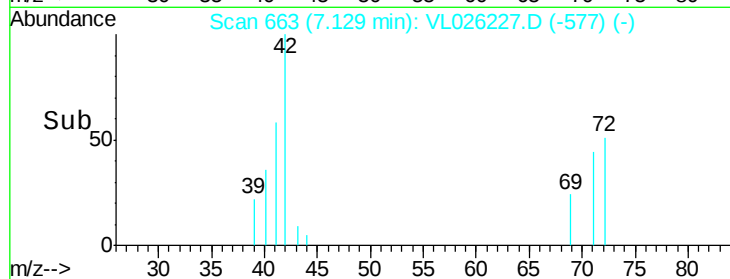
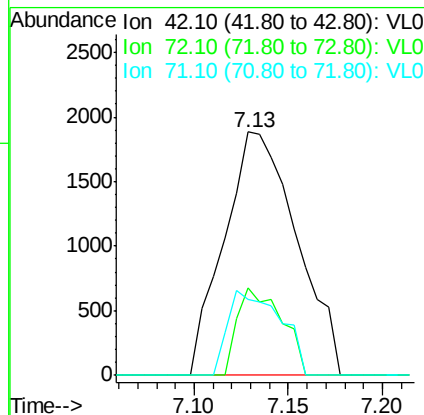
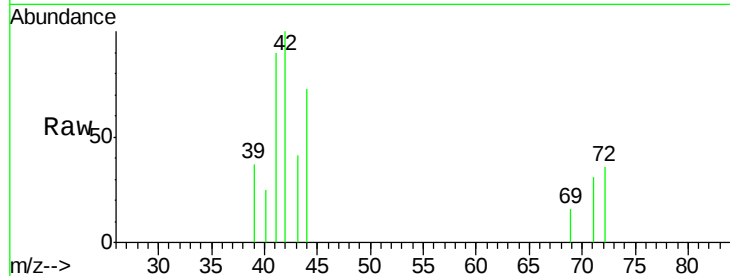
ClientSampleId :

INDOOR-239DUP

Tot Ion:	42	Resp:	5030
Ion	Ratio	Lower	Upper
42	100		
72	22.1	34.3	51.5#
71	25.1	32.1	48.1#

Manual Integrations
APPROVED

MMDadoda
10/22/2015 4:32:59 PM



#44

2,2,4-Trimethylpentane

Concen: 0.15 ppbv

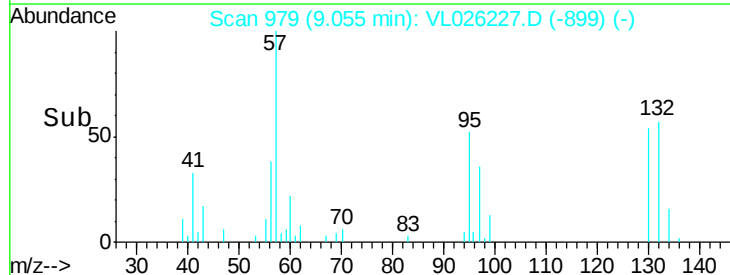
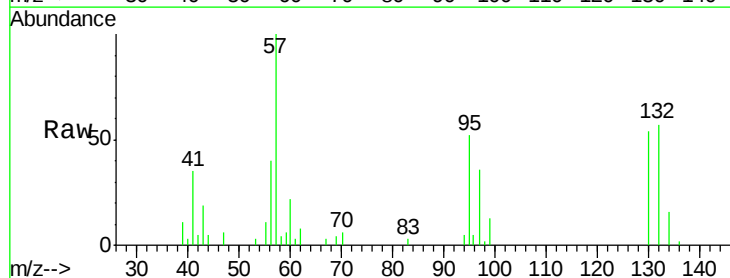
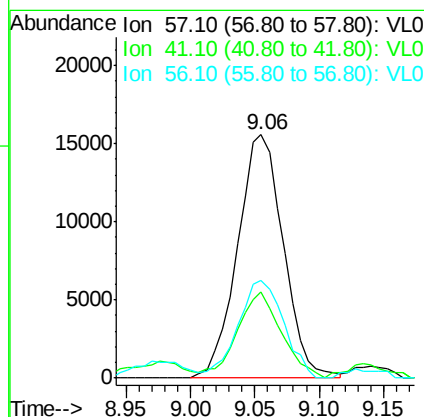
RT: 9.06 min Scan# 979

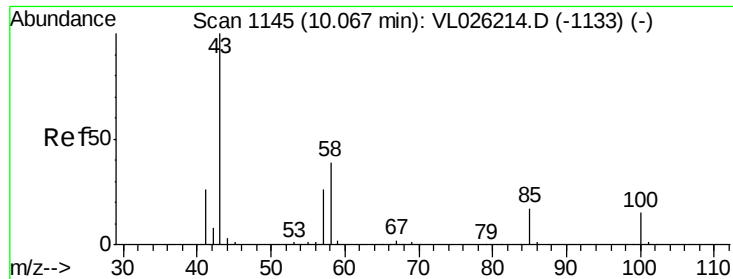
Delta R.T. -0.01 min

Lab File: VL026227.D

Acq: 21 Oct 2015 4:58

Tgt Ion:	57	Resp:	38462
Ion	Ratio	Lower	Upper
57	100		
41	34.9	23.7	35.5
56	42.6	25.9	38.9#





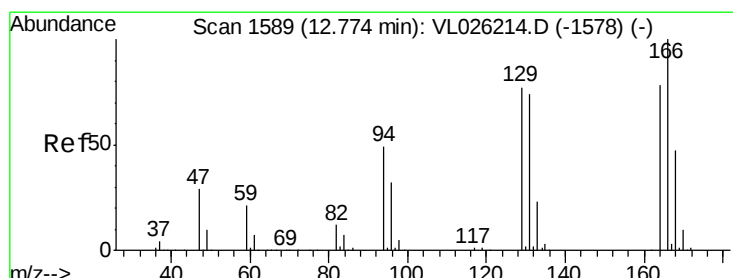
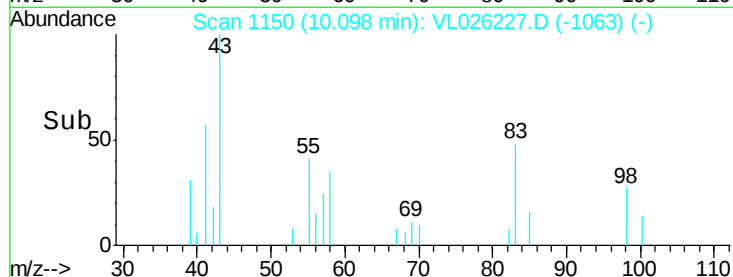
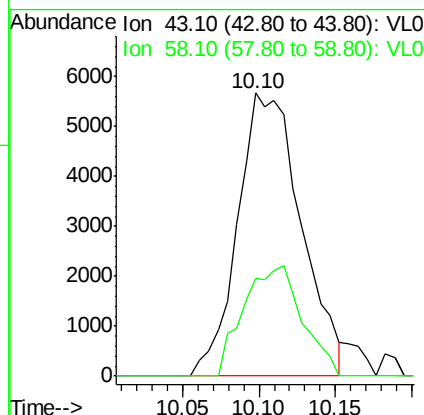
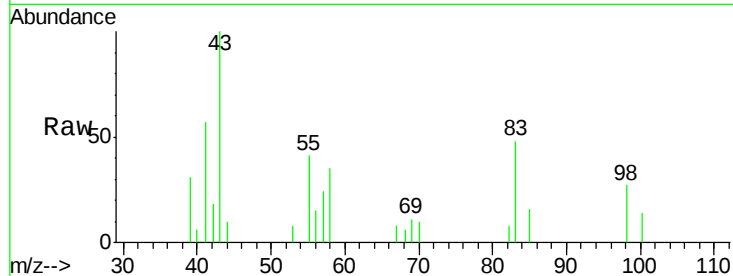
#50
4-Methyl-2-Pentanone
Concen: 0.14 ppbv m
RT: 10.10 min Scan# 1150
Delta R.T. 0.03 min
Lab File: VL026227.D
Acq: 21 Oct 2015 4:58

Instrument :
MSVOA_L
ClientSampleId :
INDOOR-239DUP

Tot Ion: 43 Resp: 16386
Ion Ratio Lower Upper
43 100
58 0.0 31.1 46.7#

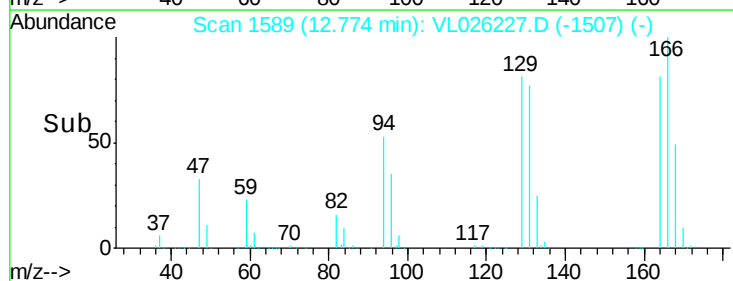
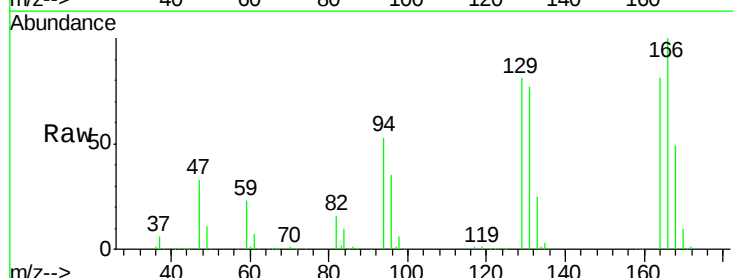
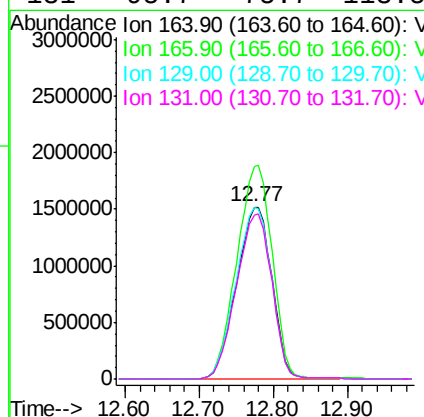
Manual Integrations
APPROVED

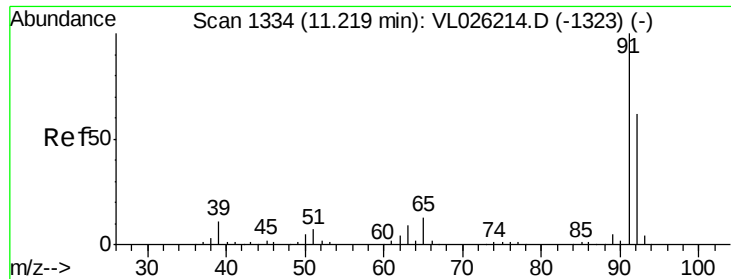
MMDadoda
10/22/2015 4:32:59 PM



#52
Tetrachloroethene
Concen: 55.59 ppbv
RT: 12.77 min Scan# 1589
Delta R.T. 0.00 min
Lab File: VL026227.D
Acq: 21 Oct 2015 4:58

Tgt Ion: 164 Resp: 5074945
Ion Ratio Lower Upper
164 100
166 123.7 102.3 153.5
129 99.8 78.2 117.4
131 95.7 75.7 113.5





#53

Toluene

Concen: 1.41 ppbv

RT: 11.20 min Scan# 1331

Delta R.T. -0.02 min

Lab File: VL026227.D

Acq: 21 Oct 2015 4:58

Instrument :

MSVOA_L

ClientSampleId :

INDOOR-239DUP

Tot Ion: 91 Resp: 304920

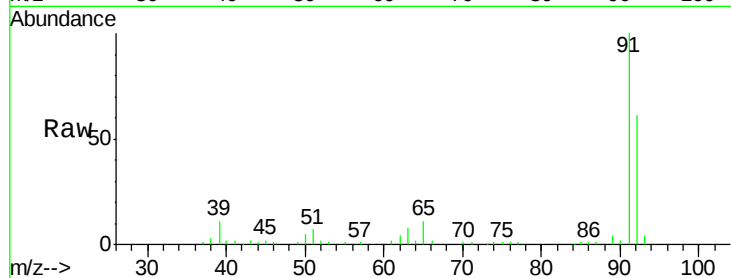
Ion Ratio Lower Upper

91 100

92 60.0 49.2 73.8

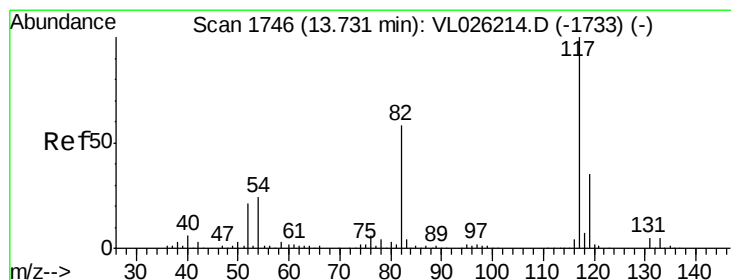
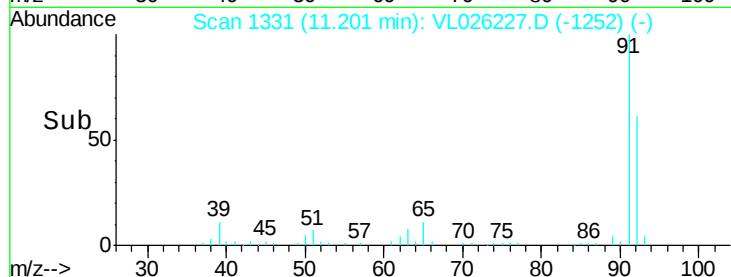
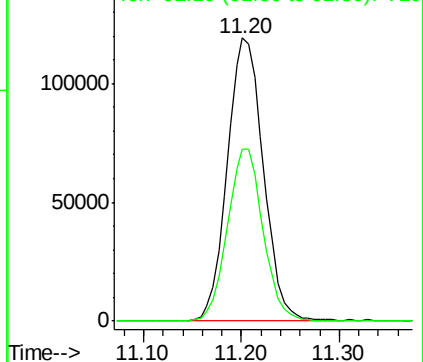
Manual Integrations
APPROVED

MMDadoda
10/22/2015 4:32:59 PM



Abundance Ion 91.10 (90.80 to 91.80): VL0

Ion 92.10 (91.80 to 92.80): VL0



#55

Chlorobenzene-d5

Concen: 10.00 ppbv

RT: 13.71 min Scan# 1743

Delta R.T. -0.02 min

Lab File: VL026227.D

Acq: 21 Oct 2015 4:58

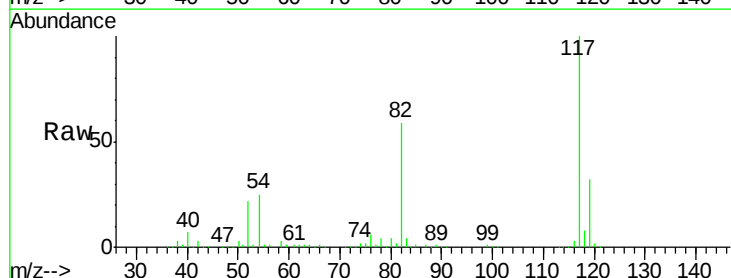
Tgt Ion: 117 Resp: 1864600

Ion Ratio Lower Upper

117 100

82 59.9 45.8 68.8

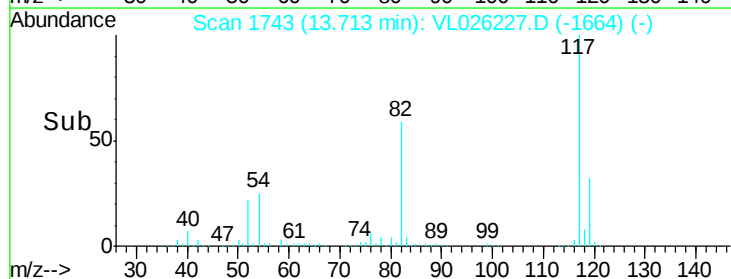
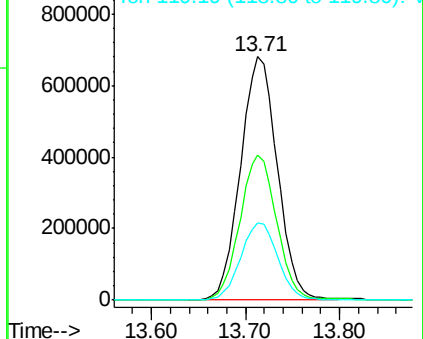
119 32.5 45.0 67.4#

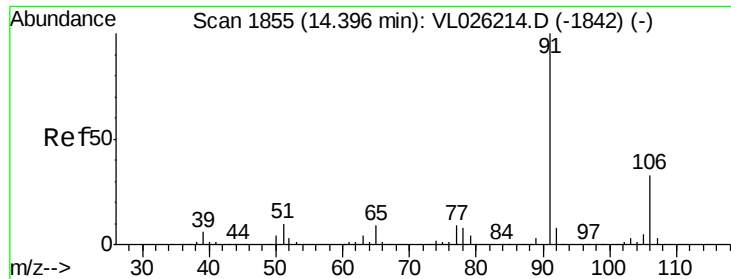


Abundance Ion 117.10 (116.80 to 117.80): V

Ion 82.10 (81.80 to 82.80): VL0

Ion 119.10 (118.80 to 119.80): V





#58

Ethyl Benzene

Concen: 0.12 ppbv

RT: 14.38 min Scan# 1853

Delta R.T. -0.01 min

Lab File: VL026227.D

Acq: 21 Oct 2015 4:58

Instrument :

MSVOA_L

ClientSampleId :

INDOOR-239DUP

Tot Ion: 91 Resp: 37102

Ion Ratio Lower Upper

91 100

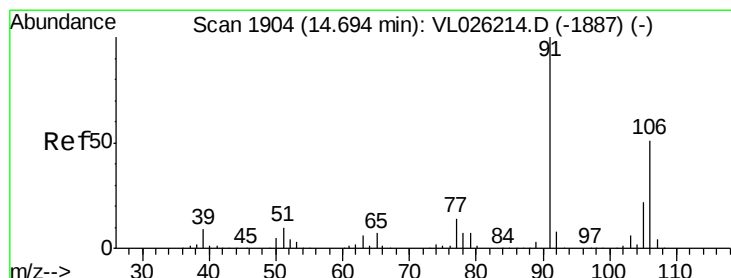
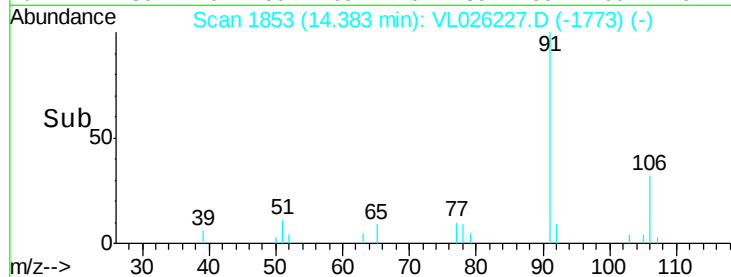
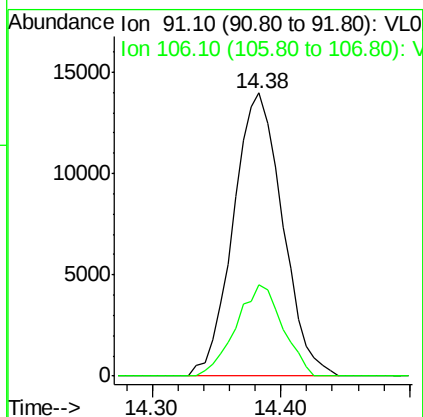
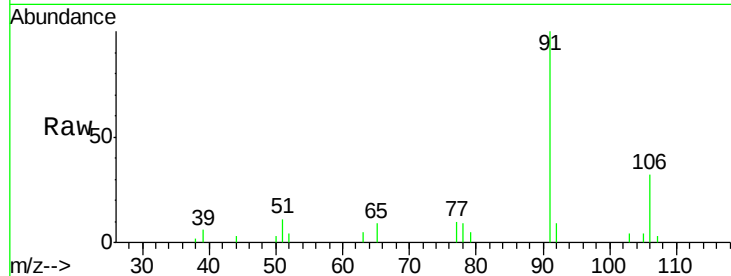
106 32.2 26.1 39.1

Manual Integrations

APPROVED

MMDadoda

10/22/2015 4:32:59 PM



#59

m/p-Xylene

Concen: 0.39 ppbv

RT: 14.66 min Scan# 1898

Delta R.T. -0.04 min

Lab File: VL026227.D

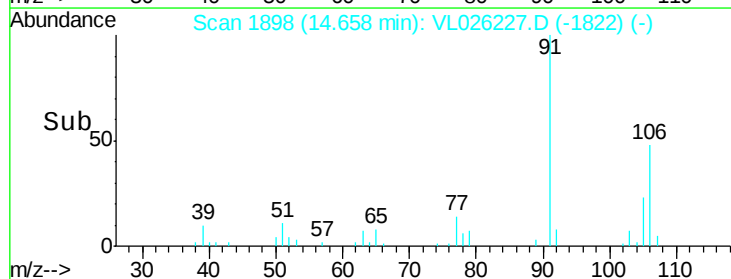
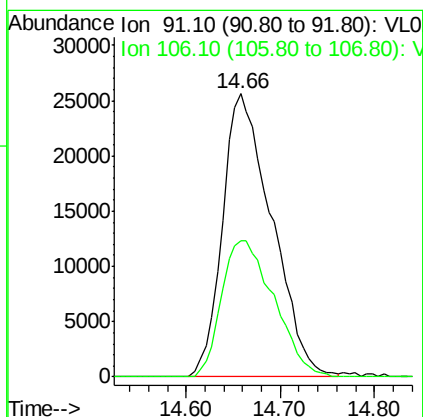
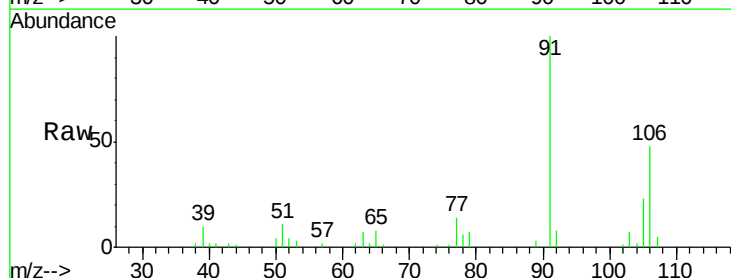
Acq: 21 Oct 2015 4:58

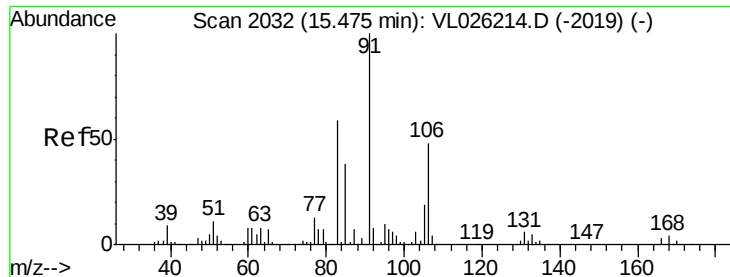
Tgt Ion: 91 Resp: 93355

Ion Ratio Lower Upper

91 100

106 51.2 40.6 61.0





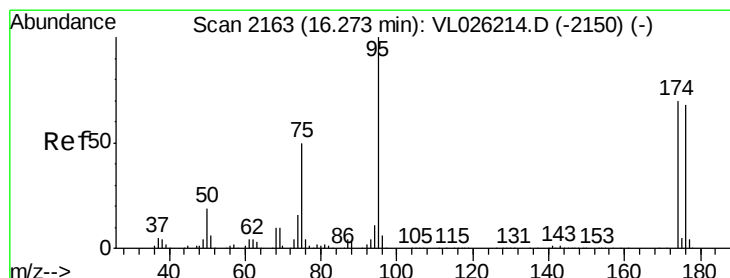
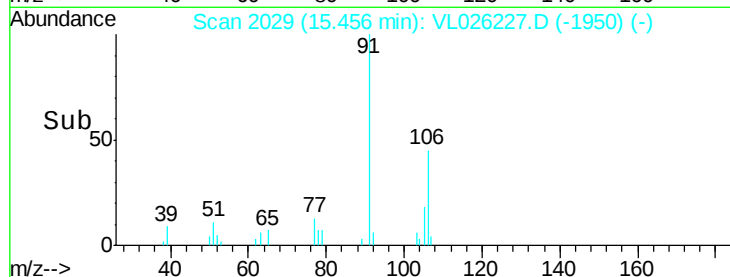
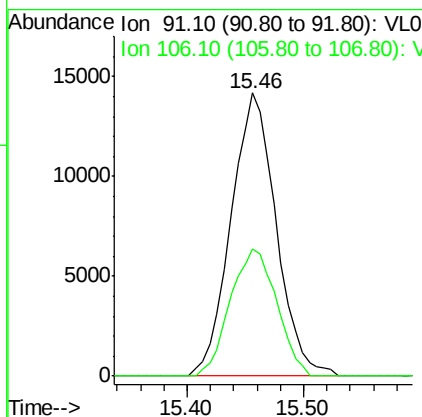
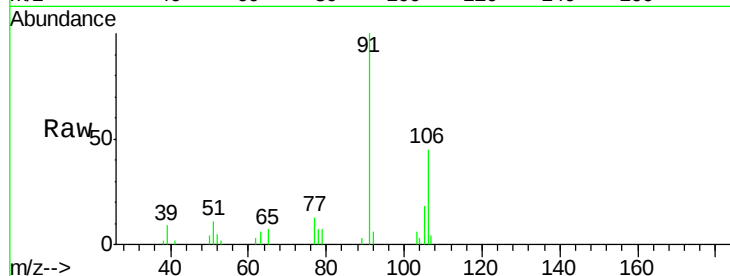
#60
o-Xylene
Concen: 0.15 ppbv
RT: 15.46 min Scan# 2029
Delta R.T. -0.02 min
Lab File: VL026227.D
Acq: 21 Oct 2015 4:58

Instrument :
MSVOA_L
ClientSampleId :
INDOOR-239DUP

Tot Ion: 91 Resp: 38171
Ion Ratio Lower Upper
91 100
106 46.1 23.8 71.5

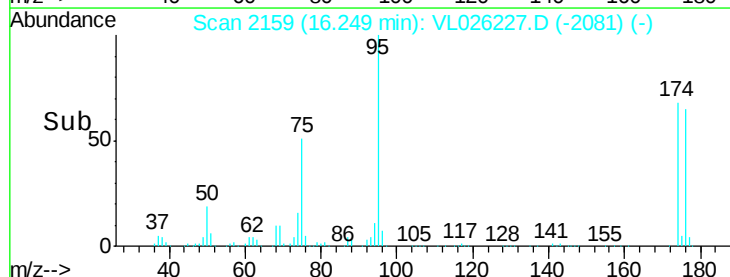
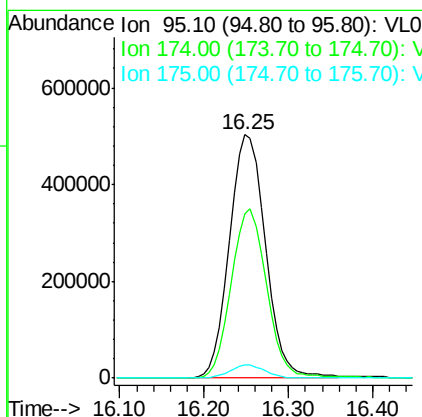
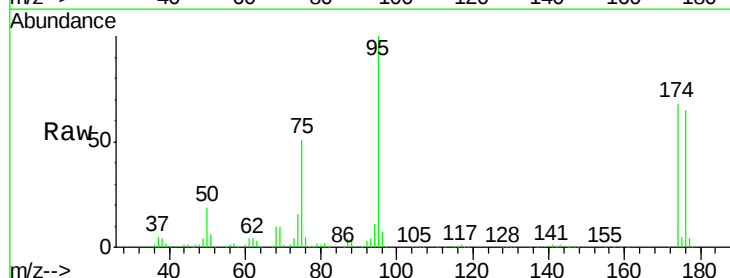
Manual Integrations
APPROVED

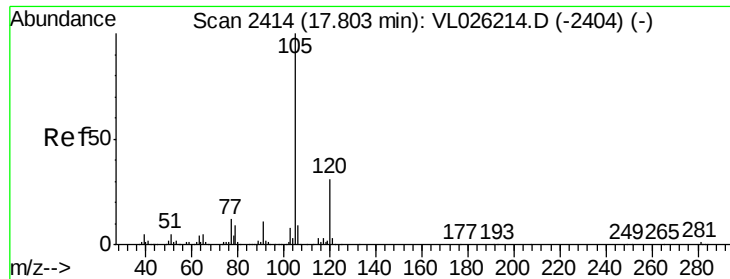
MMDadoda
10/22/2015 4:32:59 PM



#68
1-Bromo-4-Fluorobenzene
Concen: 10.23 ppbv
RT: 16.25 min Scan# 2159
Delta R.T. -0.02 min
Lab File: VL026227.D
Acq: 21 Oct 2015 4:58

Tgt Ion: 95 Resp: 1470569
Ion Ratio Lower Upper
95 100
174 68.9 55.8 83.8
175 5.3 4.3 6.5





#72

4-Ethyltoluene

Concen: 0.11 ppbv

RT: 17.79 min Scan# 2411

Delta R.T. -0.02 min

Lab File: VL026227.D

Acq: 21 Oct 2015 4:58

Instrument :

MSVOA_L

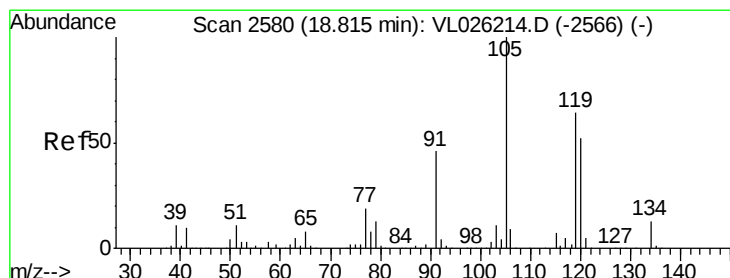
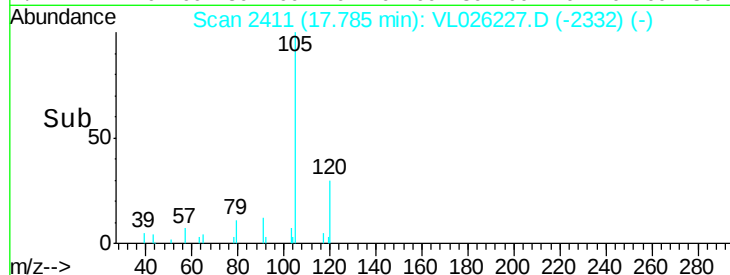
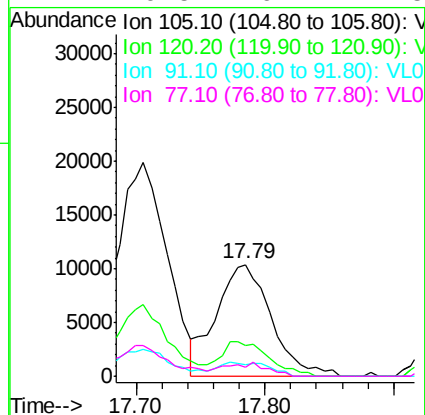
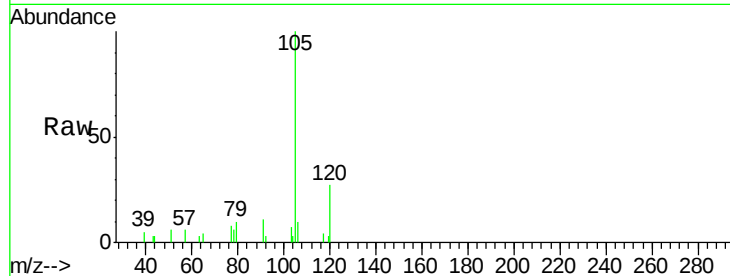
ClientSampleId :

INDOOR-239DUP

Tot Ion:	105	Resp:	30746
Ion Ratio	Lower	Upper	
105	100		
120	27.1	25.2	37.8
91	11.3	9.0	13.6
77	9.5	9.7	14.5#

Manual Integrations
APPROVED

MMDadoda
10/22/2015 4:32:59 PM



#74

1,2,4-Trimethylbenzene

Concen: 0.25 ppbv

RT: 18.79 min Scan# 2576

Delta R.T. -0.02 min

Lab File: VL026227.D

Acq: 21 Oct 2015 4:58

Tgt Ion:	105	Resp:	70699
Ion Ratio	Lower	Upper	
105	100		
120	47.4	41.2	61.8
91	11.0	37.2	55.8#
77	13.4	15.6	23.4#

