

Data Path : W:\HPCHEM1\MSVOA L\DATA\VL011216\
 Data File : VL026673.D
 Acq On : 12 Jan 2016 14:02
 Operator : SY/AP
 Sample : H1064-01DL 10X
 Misc : 400mL/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :

Quant Time: Jan 13 03:01:15 2016
 Quant Method : W:\HPCHEM1\MSVOA L\METHODS\VL010816AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Mon Jan 11 17:14:02 2016
 QLast Update : Mon Jan 11 17:14:02 2016
 Response via : Initial Calibration

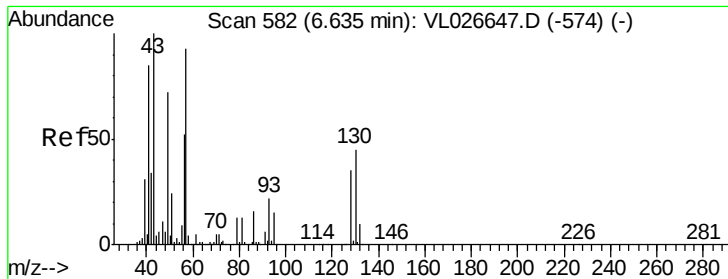
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	6.68	49	901219	10.00	ppbv	0.04
33) 1,4-Difluorobenzene	8.35	114	2702701	10.00	ppbv	0.04
55) Chlorobenzene-d5	13.78	117	3388842	10.00	ppbv	0.05

System Monitoring Compounds

68) 1-Bromo-4-Fluorobenzene	16.32	95	2793228	10.34	ppbv	0.05
Spiked Amount	10.000	Range	65 - 135	Recovery	=	103.40%

Target Compounds	R.T.	QIon	Response	Conc	Units	Ovalue
2) Dichlorodifluoromethane	3.66	85	13487	0.06	ppbv	# 87
3) Chlorodifluoromethane	3.59	51	66183	0.55	ppbv	90
4) Chloromethane	3.77	50	2033	0.03	ppbv	96
8) Dichlorotetrafluoroethane	3.66	85	13487	0.07	ppbv	# 19
9) Propene	3.85	41	481962	11.17	ppbv	86
10) Heptane	9.38	43	96882	0.60	ppbv	95
15) Acetone	4.64	43	425672	2.87	ppbv	99
16) 1,3-Butadiene	3.97	39	33243	0.56	ppbv	# 48
17) tert-Butyl alcohol	4.94	59	73188	0.65	ppbv	# 79
19) Isopropyl Alcohol	4.82	45	5672	0.09	ppbv	# 96
20) Methylene Chloride	5.17	84	16989	0.28	ppbv	# 89
21) Allyl Chloride	5.20	41	9947	0.11	ppbv	# 51
23) Vinyl Acetate	5.98	43	13601	0.06	ppbv	# 1
25) Ethyl Acetate	6.68	43	29720	0.13	ppbv	# 81
26) Hexane	6.69	57	39574	0.33	ppbv	# 55
30) Cyclohexane	8.31	84	5771	0.05	ppbv	# 6
34) 2-Butanone	6.25	43	17502	0.12	ppbv	92
36) Benzene	8.05	78	89978	0.32	ppbv	# 92
38) Trichloroethene	9.10	130	36448	0.29	ppbv	# 88
44) 2,2,4-Trimethylpentane	9.12	57	56875	0.13	ppbv	# 55
53) Toluene	11.27	91	297923	0.76	ppbv	99
58) Ethyl Benzene	14.44	91	95860	0.16	ppbv	94
59) m/p-Xylene	14.72	91	316454	0.63	ppbv	98
60) o-Xylene	15.52	91	132957	0.25	ppbv	100
64) n-propylbenzene	17.55	120	9458	0.05	ppbv	# 64
65) tert-Butylbenzene	18.86	119	30910	0.05	ppbv	# 63
70) n-Butylbenzene	20.80	91	45903	0.06	ppbv	# 53
72) 4-Ethyltoluene	17.86	105	67100	0.11	ppbv	# 95
73) 1,3,5-Trimethylbenzene	18.02	105	63267	0.11	ppbv	92
74) 1,2,4-Trimethylbenzene	18.87	105	272397	0.45	ppbv	# 76

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



#1

Bromochloromethane

Concen: 10.00 ppbv

RT: 6.68 min Scan# 589

Delta R.T. 0.04 min

Lab File: VL026673.D

Acq: 12 Jan 2016 14:02

Instrument :
MSVOA_L
ClientSampleId :

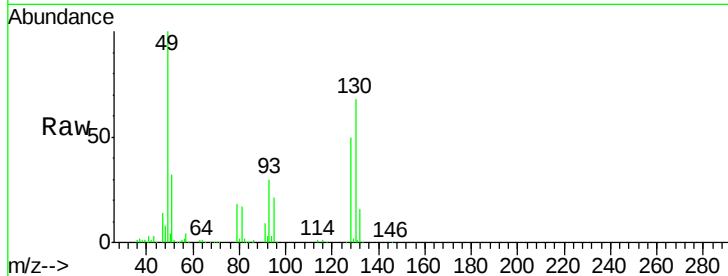
Tot Ion: 49 Resp: 901219

Ion Ratio Lower Upper

49 100

128 54.6 25.9 77.7

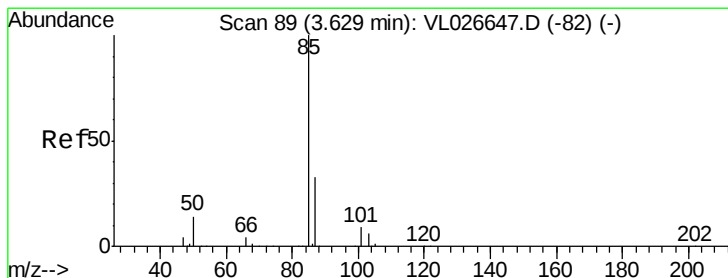
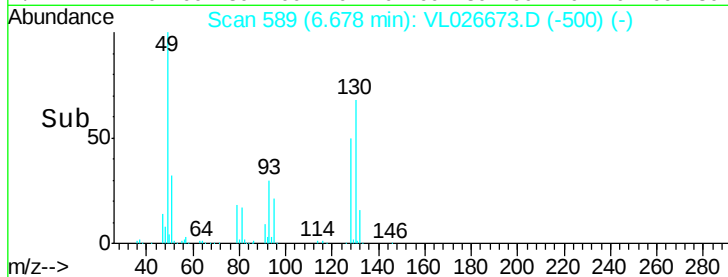
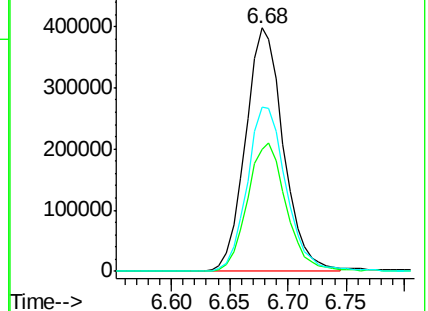
130 70.9 33.6 100.8



Abundance Ion 49.10 (48.80 to 49.80): VL0

Ion 128.00 (127.70 to 128.70): VL0

Ion 130.00 (129.70 to 130.70): VL0



#2

Dichlorodifluoromethane

Concen: 0.06 ppbv

RT: 3.66 min Scan# 94

Delta R.T. 0.03 min

Lab File: VL026673.D

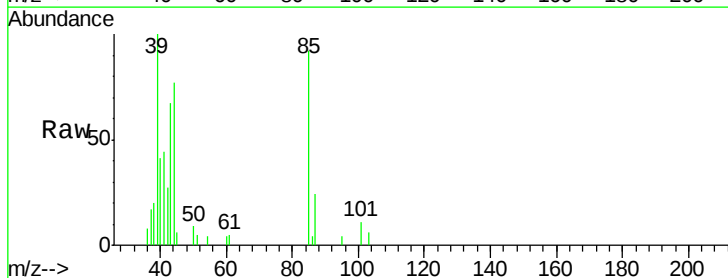
Acq: 12 Jan 2016 14:02

Tgt Ion: 85 Resp: 13487

Ion Ratio Lower Upper

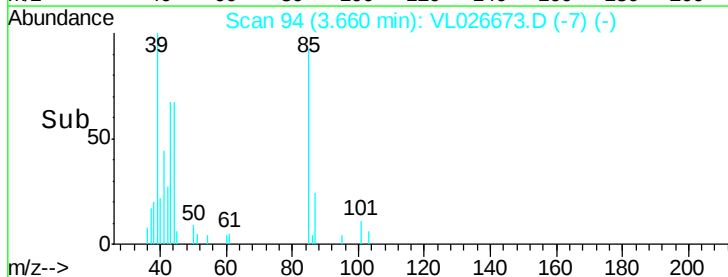
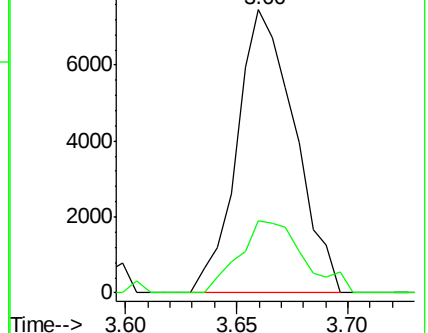
85 100

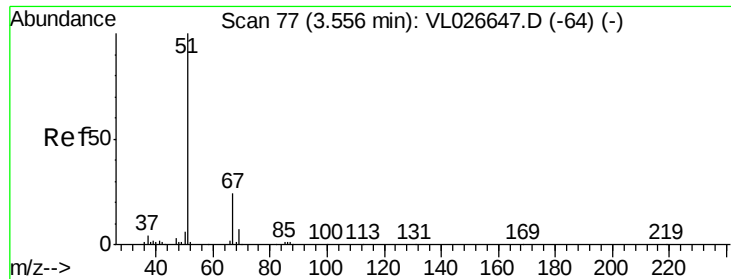
87 25.7 26.4 39.6#



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0





#3

Chlorodifluoromethane

Concen: 0.55 ppbv

RT: 3.59 min Scan# 83

Delta R.T. 0.04 min

Lab File: VL026673.D

Acq: 12 Jan 2016 14:02

Instrument :

MSVOA_L

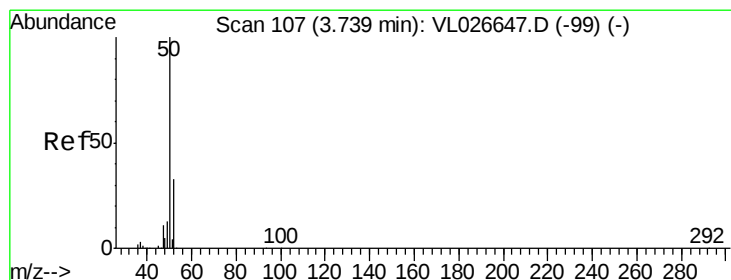
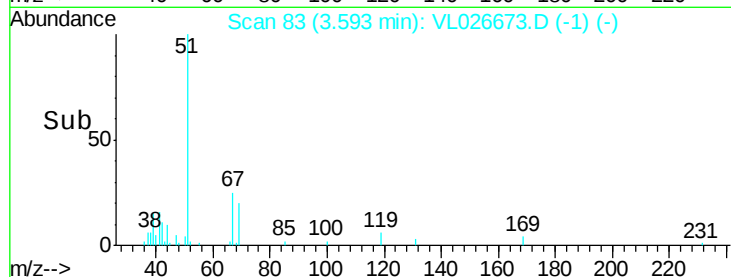
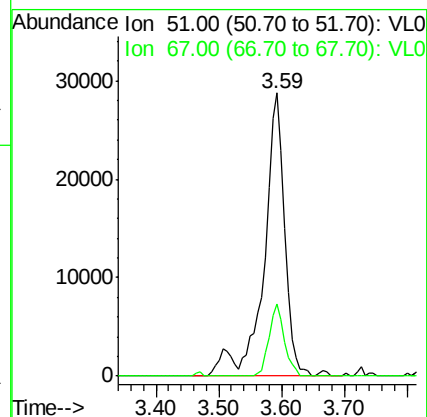
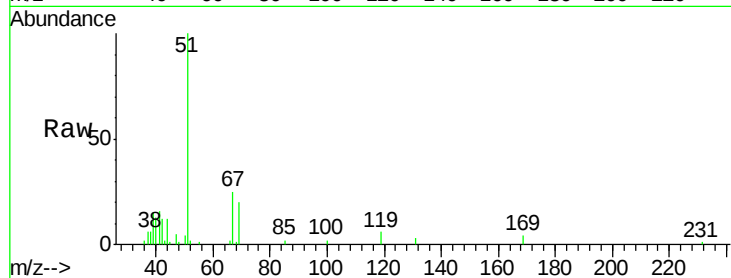
ClientSampleId :

Tot Ion: 51 Resp: 66183

Ion Ratio Lower Upper

51 100

67 18.7 18.6 28.0



#4

Chloromethane

Concen: 0.03 ppbv

RT: 3.77 min Scan# 112

Delta R.T. 0.03 min

Lab File: VL026673.D

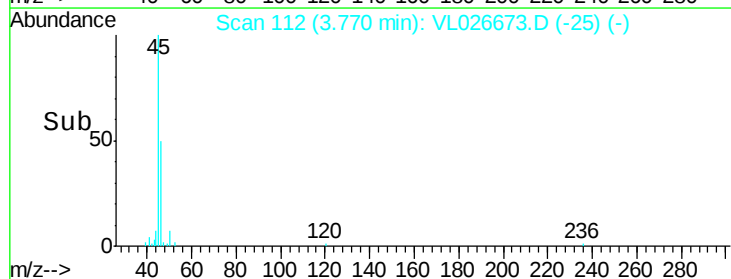
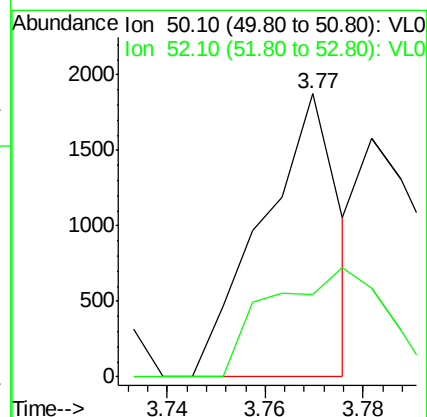
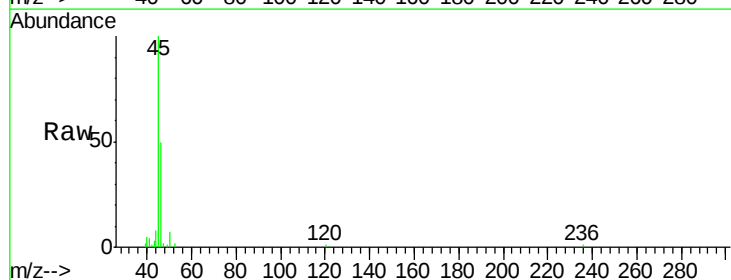
Acq: 12 Jan 2016 14:02

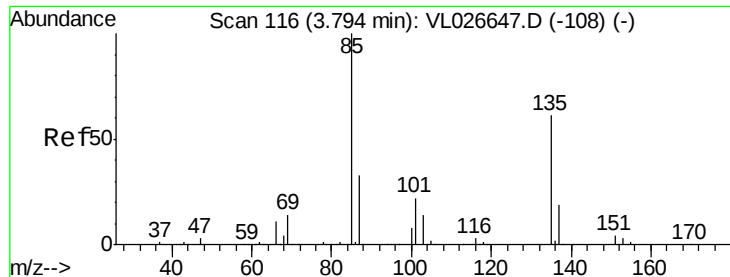
Tgt Ion: 50 Resp: 2033

Ion Ratio Lower Upper

50 100

52 35.6 26.7 40.1





#8

Dichlorotetrafluoroethane

Concen: 0.07 ppbv

RT: 3.66 min Scan# 94

Delta R.T. -0.13 min

Lab File: VL026673.D

Acq: 12 Jan 2016 14:02

Instrument :

MSVOA_L

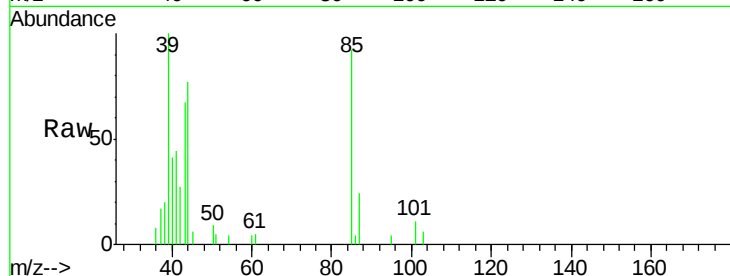
ClientSampleId :

Tot Ion: 85 Resp: 13487

Ion Ratio Lower Upper

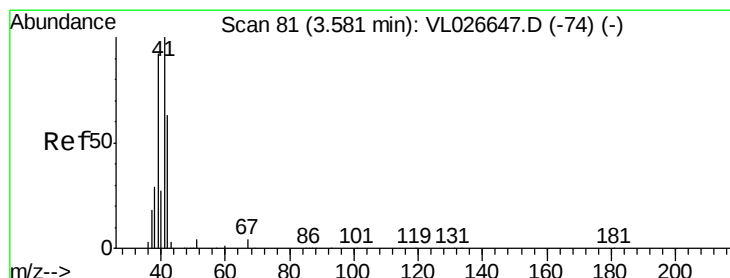
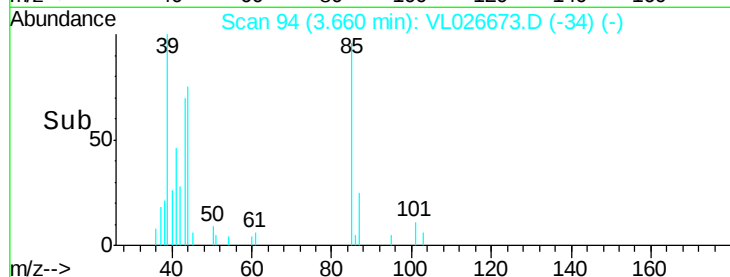
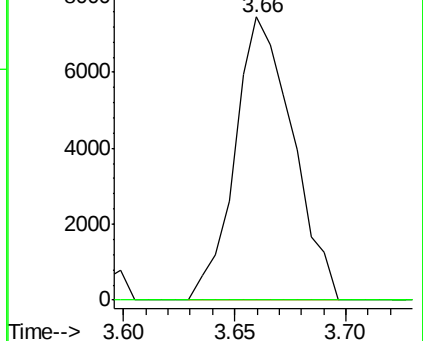
85 100

135 0.0 49.8 74.6#



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 135.00 (134.70 to 135.70): VL0



#9

Propene

Concen: 11.17 ppbv

RT: 3.85 min Scan# 125

Delta R.T. 0.27 min

Lab File: VL026673.D

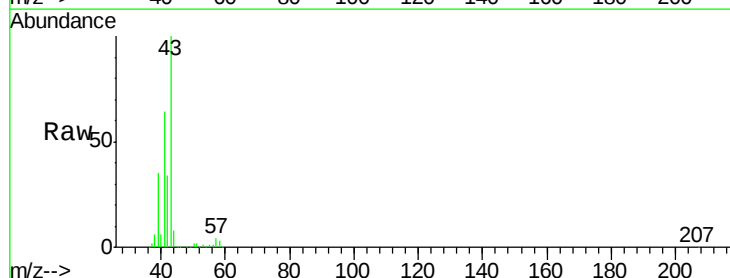
Acq: 12 Jan 2016 14:02

Tgt Ion: 41 Resp: 481962

Ion Ratio Lower Upper

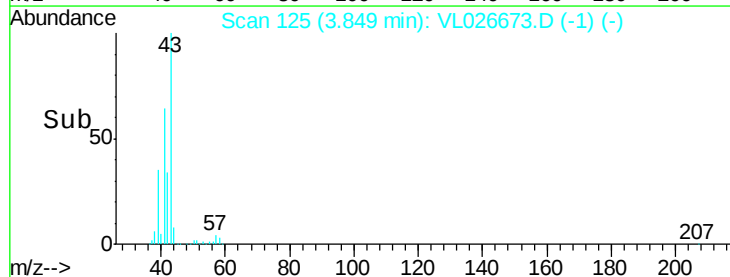
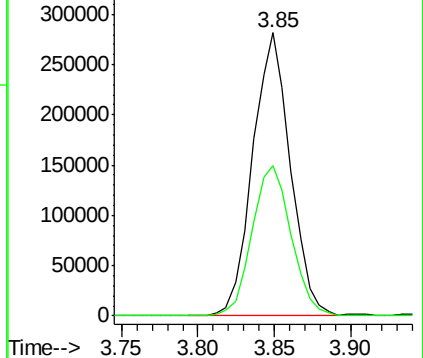
41 100

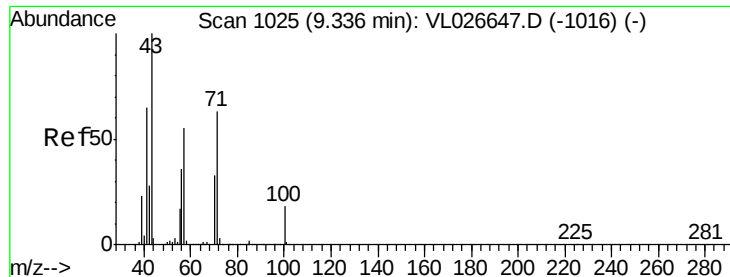
42 55.8 53.6 80.4



Abundance Ion 41.10 (40.80 to 41.80): VL0

Ion 42.10 (41.80 to 42.80): VL0

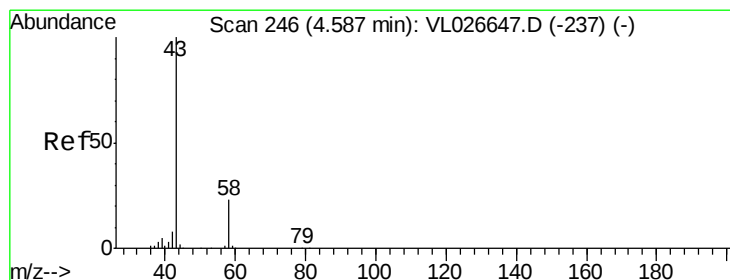
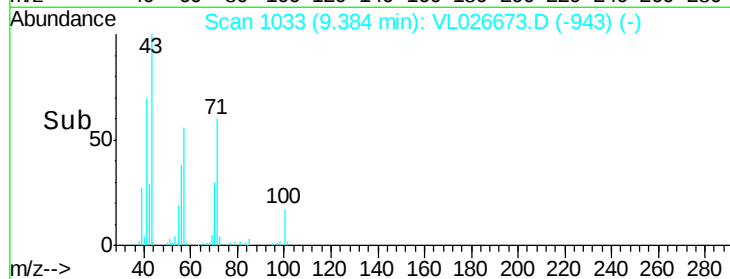
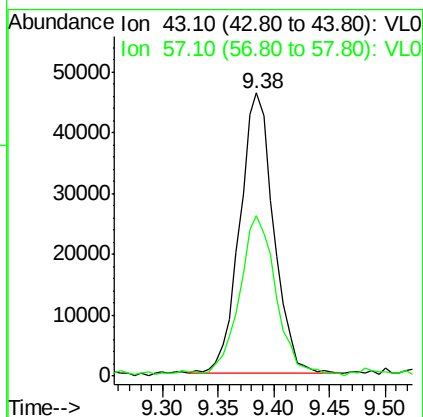
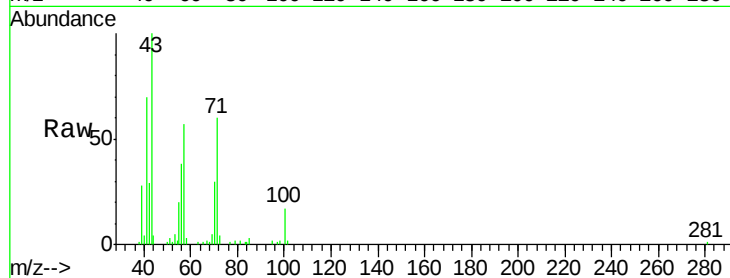




#10
Heptane
Concen: 0.60 ppbv
RT: 9.38 min Scan# 1033
Delta R.T. 0.05 min
Lab File: VL026673.D
Acq: 12 Jan 2016 14:02

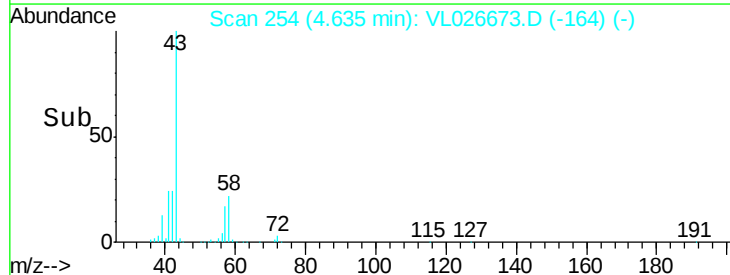
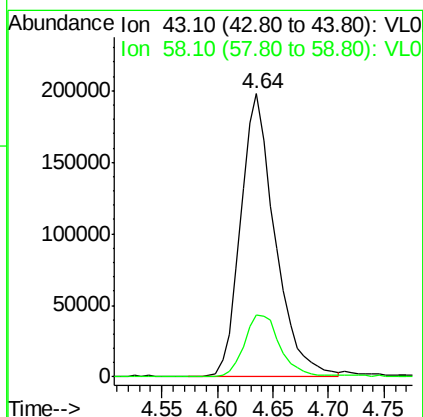
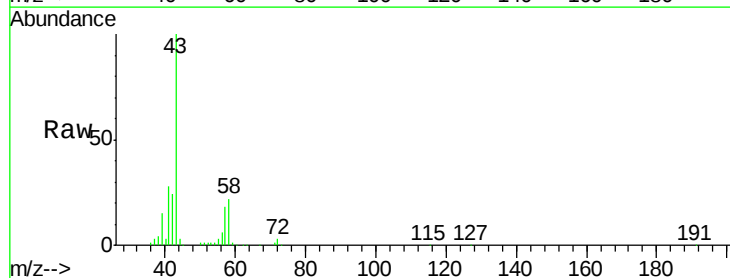
Instrument :
MSVOA_L
ClientSampleId :

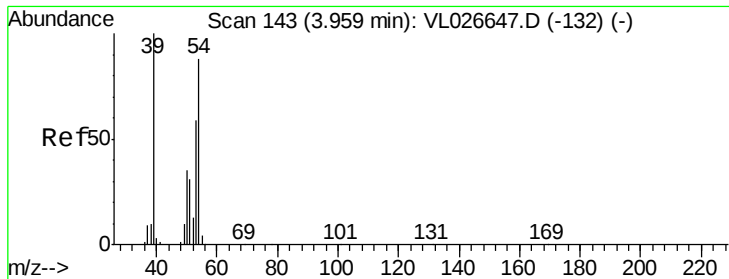
Tot Ion: 43 Resp: 96882
Ion Ratio Lower Upper
43 100
57 61.1 45.8 68.6



#15
Acetone
Concen: 2.87 ppbv
RT: 4.64 min Scan# 254
Delta R.T. 0.05 min
Lab File: VL026673.D
Acq: 12 Jan 2016 14:02

Tgt Ion: 43 Resp: 425672
Ion Ratio Lower Upper
43 100
58 23.7 19.2 28.8





#16

1,3-Butadiene

Concen: 0.56 ppbv

RT: 3.97 min Scan# 145

Delta R.T. 0.01 min

Lab File: VL026673.D

Acq: 12 Jan 2016 14:02

Instrument :

MSVOA_L

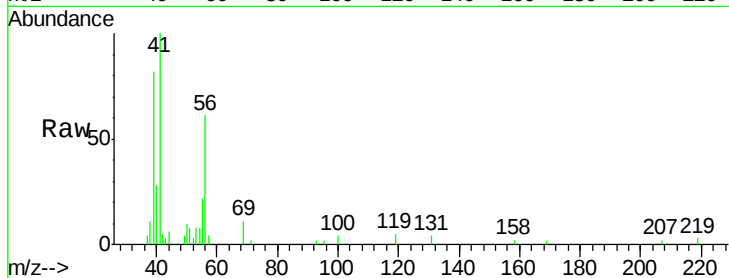
ClientSampleId :

Tot Ion: 39 Resp: 33243

Ion Ratio Lower Upper

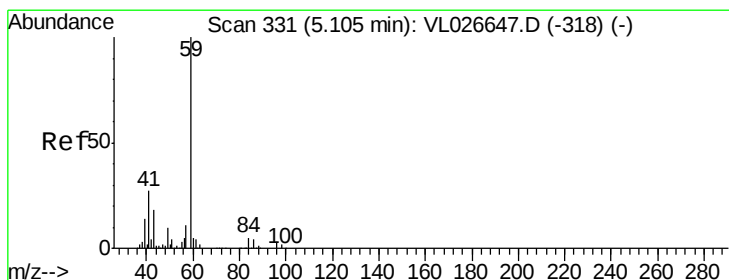
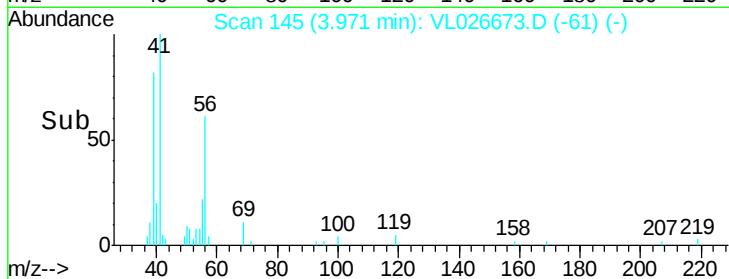
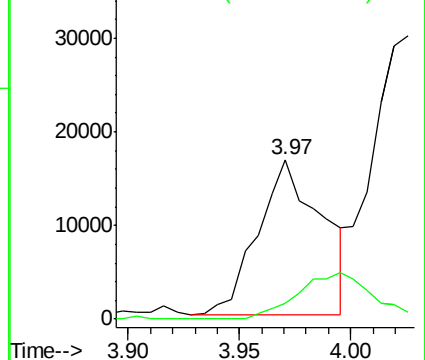
39 100

54 36.3 66.6 100.0#



Abundance Ion 39.10 (38.80 to 39.80): VL0

Ion 54.10 (53.80 to 54.80): VL0



#17

tert-Butyl alcohol

Concen: 0.65 ppbv

RT: 4.94 min Scan# 304

Delta R.T. -0.16 min

Lab File: VL026673.D

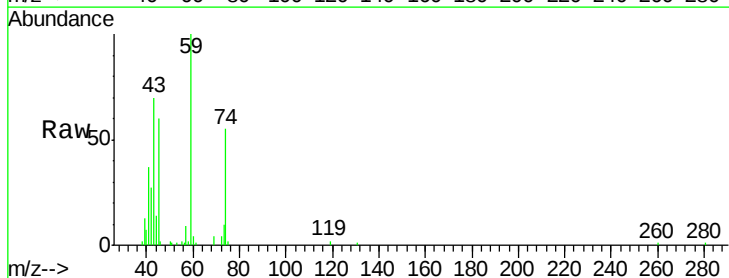
Acq: 12 Jan 2016 14:02

Tgt Ion: 59 Resp: 73188

Ion Ratio Lower Upper

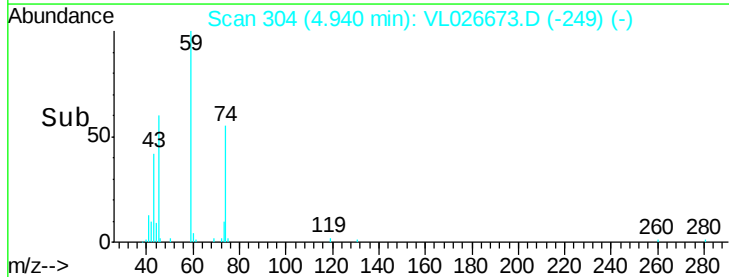
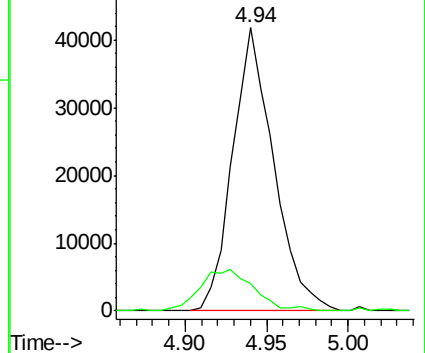
59 100

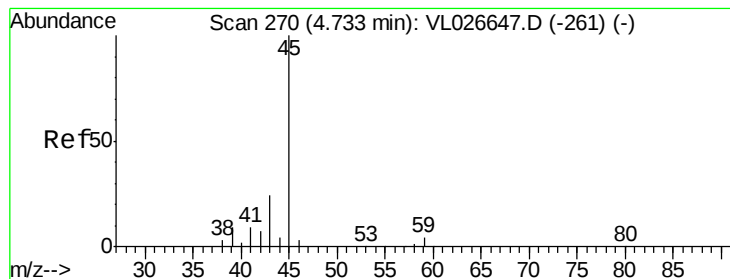
57 19.4 9.0 13.6#



Abundance Ion 59.10 (58.80 to 59.80): VL0

Ion 57.10 (56.80 to 57.80): VL0





#19

Isopropyl Alcohol

Concen: 0.09 ppbv

RT: 4.82 min Scan# 284

Delta R.T. 0.09 min

Lab File: VL026673.D

Acq: 12 Jan 2016 14:02

Instrument :

MSVOA_L

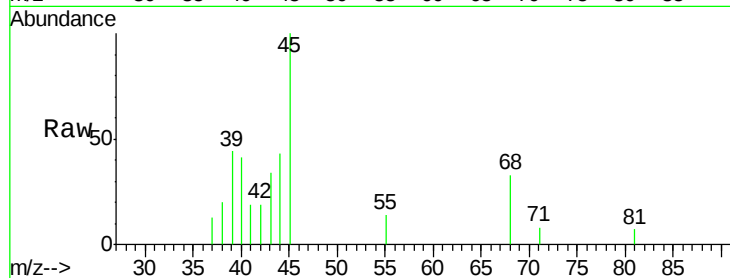
ClientSampleId :

Tot Ion: 45 Resp: 5672

Ion Ratio Lower Upper

45 100

58 0.0 1.3 1.9#



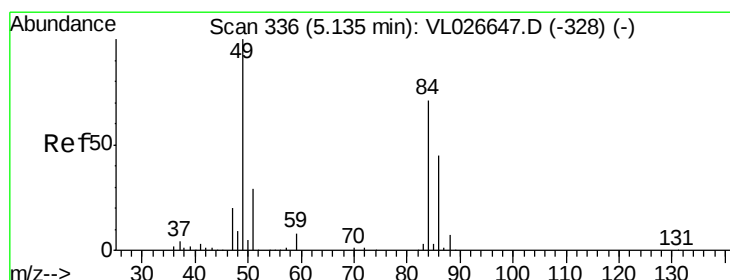
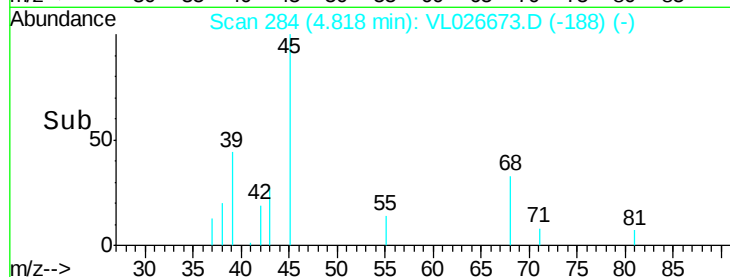
Abundance Ion 45.10 (44.80 to 45.80): VL0

Ion 58.10 (57.80 to 58.80): VL0

4.82

4.78 4.80 4.82

Time-->



#20

Methylene Chloride

Concen: 0.28 ppbv

RT: 5.17 min Scan# 342

Delta R.T. 0.04 min

Lab File: VL026673.D

Acq: 12 Jan 2016 14:02

Tgt Ion: 84 Resp: 16989

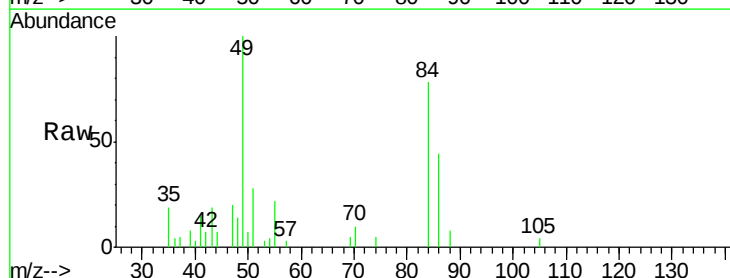
Ion Ratio Lower Upper

84 100

49 128.4 112.3 168.5

51 30.2 32.5 48.7#

86 56.1 50.3 75.5



Abundance Ion 84.00 (83.70 to 84.70): VL0

Ion 49.10 (48.80 to 49.80): VL0

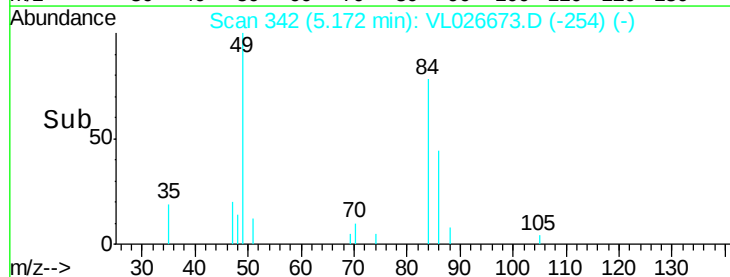
Ion 51.10 (50.80 to 51.80): VL0

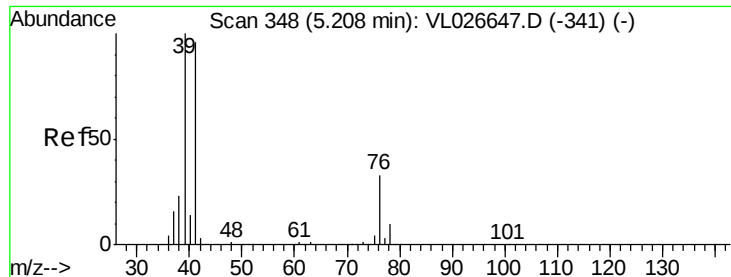
Ion 86.00 (85.70 to 86.70): VL0

5.17

5.10 5.15 5.20 5.25

Time-->





#21

Allvl Chloride

Concen: 0.11 ppbv

RT: 5.20 min Scan# 346

Delta R.T. -0.01 min

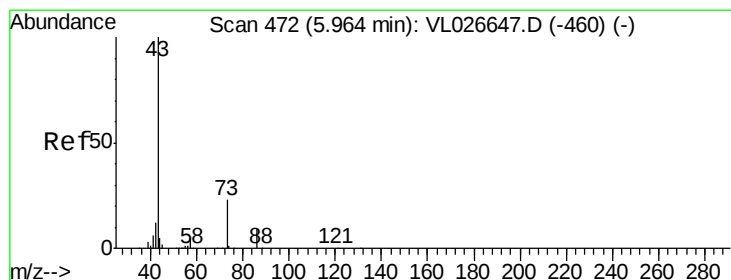
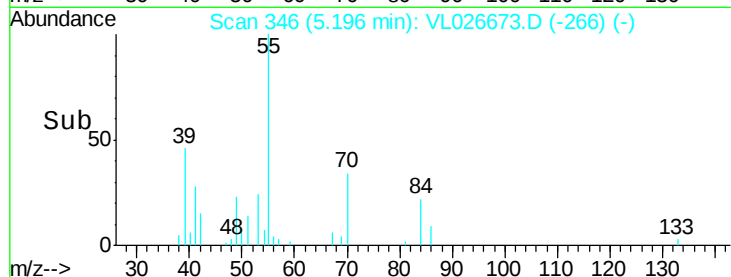
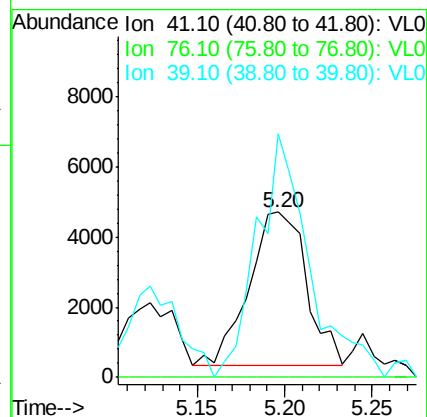
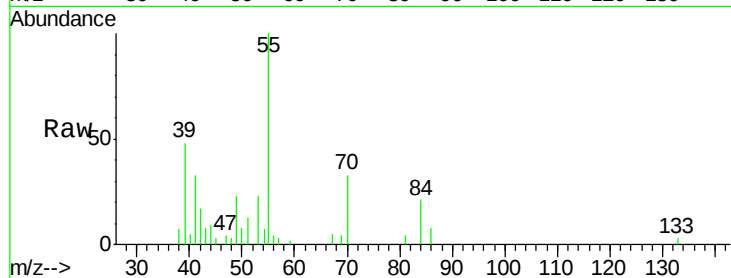
Lab File: VL026673.D

Acq: 12 Jan 2016 14:02

Instrument :
MSVOA_L
ClientSampleId :

Tot Ion: 41 Resp: 9947

Ion	Ratio	Lower	Upper
41	100		
76	0.0	27.5	41.3#
39	150.1	83.0	124.6#



#23

Vinyl Acetate

Concen: 0.06 ppbv

RT: 5.98 min Scan# 475

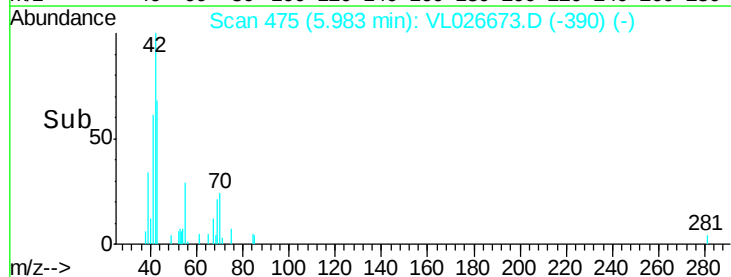
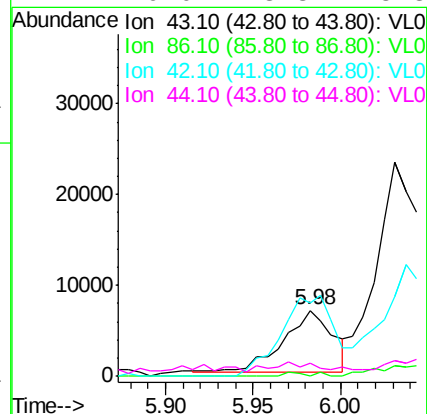
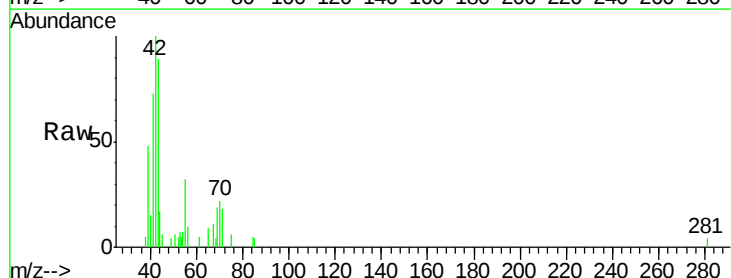
Delta R.T. 0.02 min

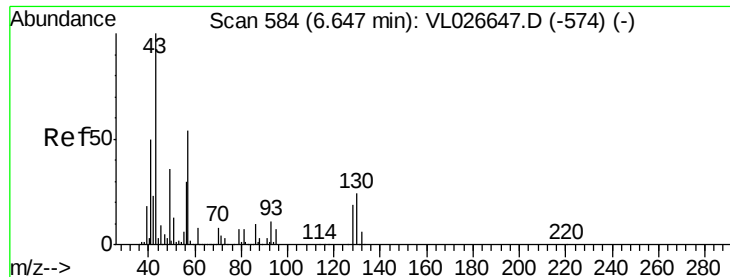
Lab File: VL026673.D

Acq: 12 Jan 2016 14:02

Tgt Ion: 43 Resp: 13601

Ion	Ratio	Lower	Upper
43	100		
86	0.0	7.4	11.0#
42	121.4	9.2	13.8#
44	10.0	3.8	5.8#

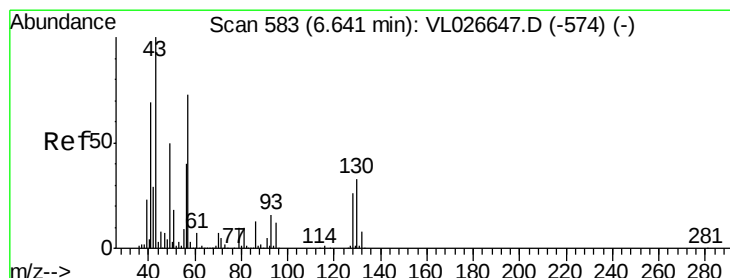
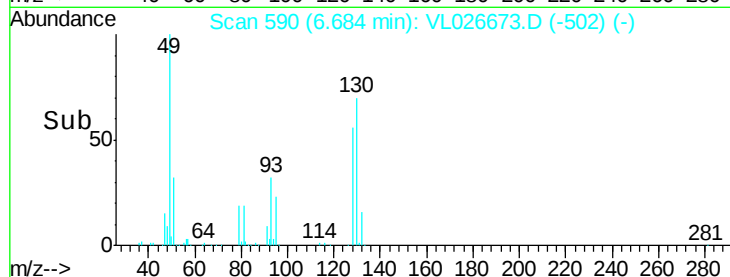
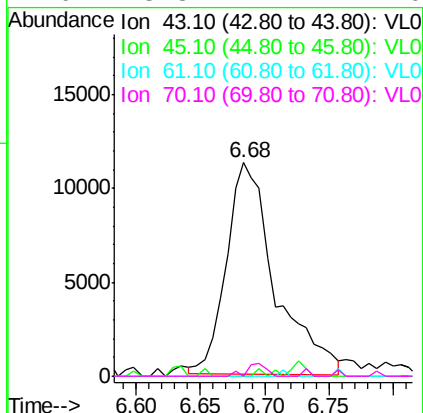
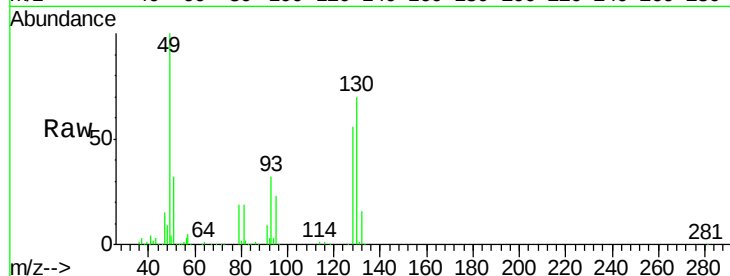




#25
Ethyl Acetate
Concen: 0.13 ppbv
RT: 6.68 min Scan# 590
Delta R.T. 0.04 min
Lab File: VL026673.D
Acq: 12 Jan 2016 14:02

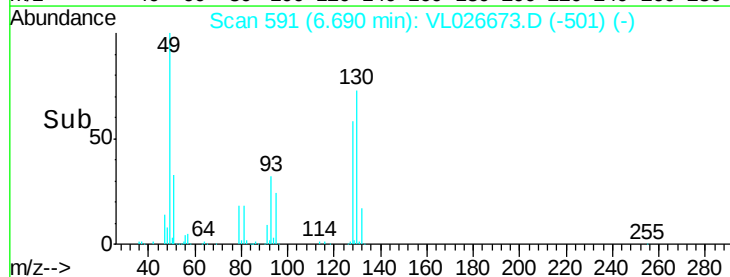
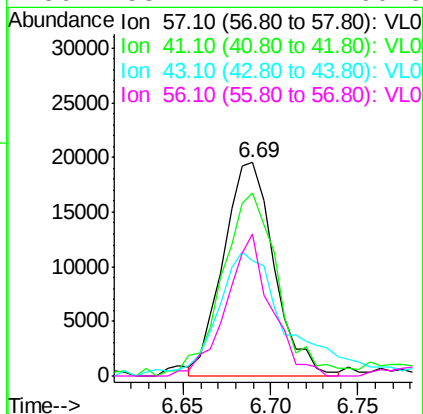
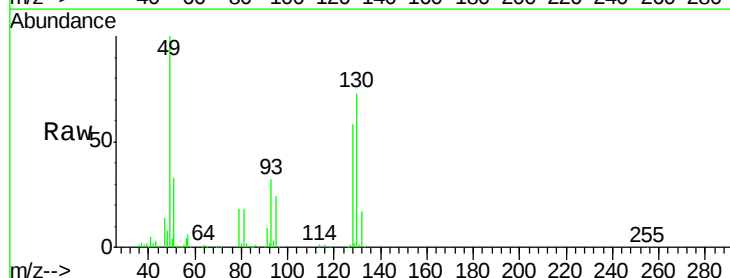
Instrument :
MSVOA_L
ClientSampleId :

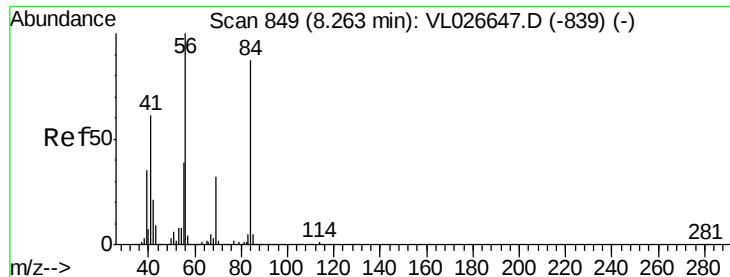
Tot Ion: 43 Resp: 29720
Ion Ratio Lower Upper
43 100
45 2.7 7.5 11.3#
61 0.4 7.3 10.9#
70 3.3 7.4 11.0#



#26
Hexane
Concen: 0.33 ppbv
RT: 6.69 min Scan# 591
Delta R.T. 0.05 min
Lab File: VL026673.D
Acq: 12 Jan 2016 14:02

Tgt Ion: 57 Resp: 39574
Ion Ratio Lower Upper
57 100
41 94.1 74.8 112.2
43 83.8 161.5 242.3#
56 58.2 44.4 66.6





#30

Cvclohexane

Concen: 0.05 ppbv

RT: 8.31 min Scan# 857

Delta R.T. 0.05 min

Lab File: VL026673.D

Acq: 12 Jan 2016 14:02

Instrument :

MSVOA_L

ClientSampleId :

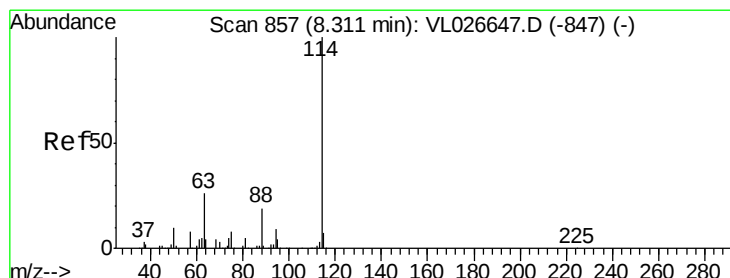
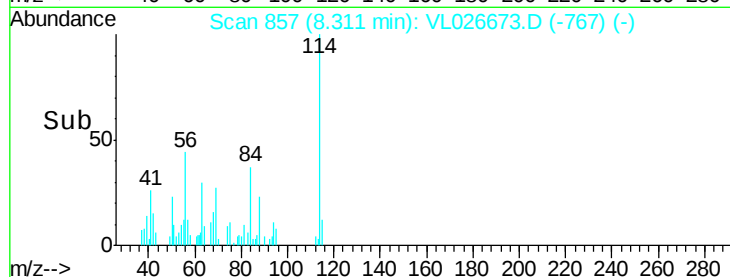
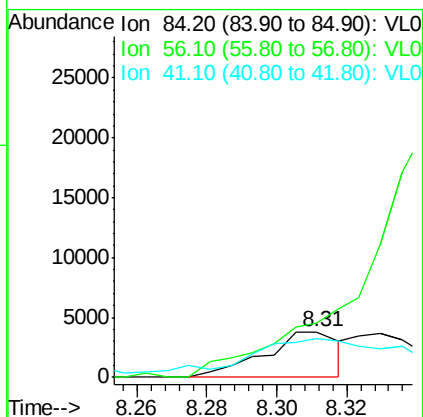
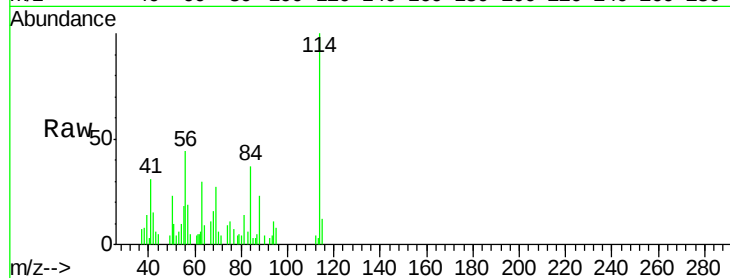
Tot Ion: 84 Resp: 5771

Ion Ratio Lower Upper

84 100

56 0.0 95.9 143.9#

41 125.6 54.8 82.2#



#33

1,4-Difluorobenzene

Concen: 10.00 ppbv

RT: 8.35 min Scan# 864

Delta R.T. 0.04 min

Lab File: VL026673.D

Acq: 12 Jan 2016 14:02

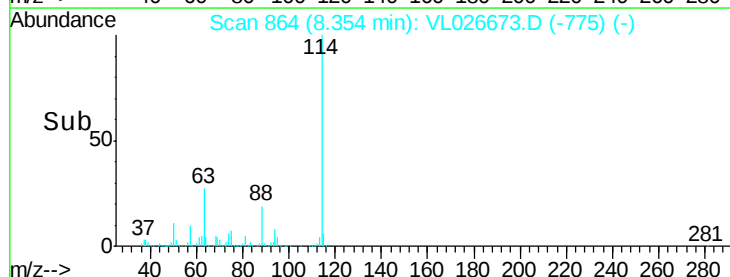
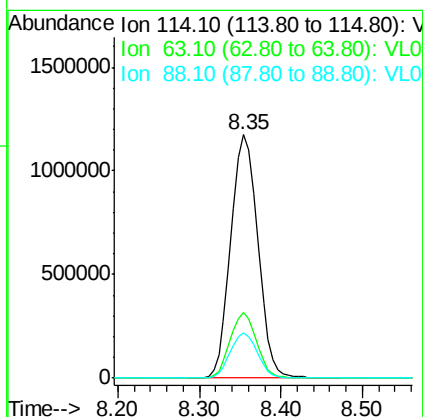
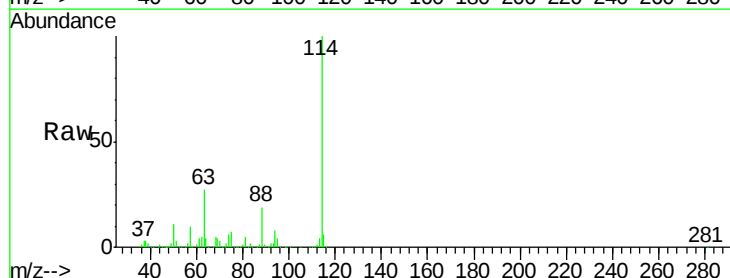
Tgt Ion:114 Resp: 2702701

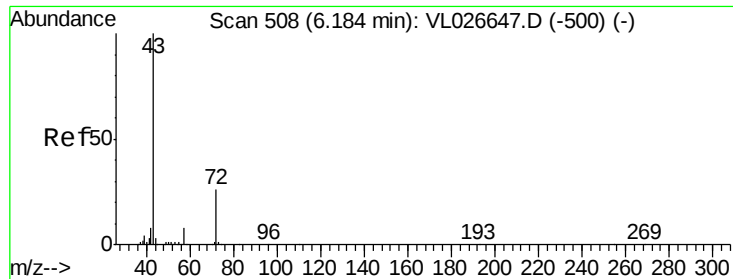
Ion Ratio Lower Upper

114 100

63 26.5 21.7 32.5

88 18.8 15.2 22.8

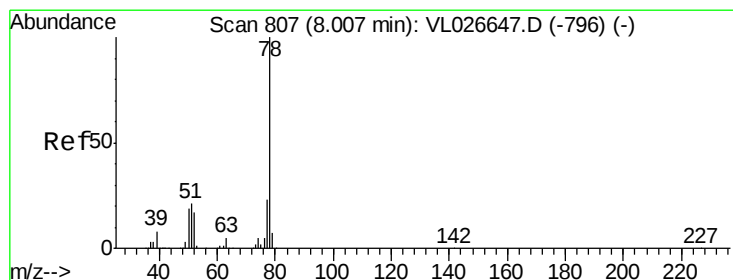
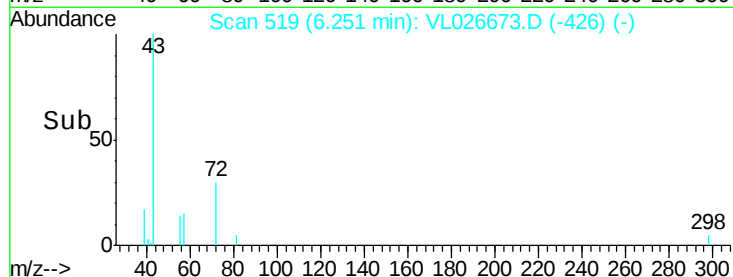
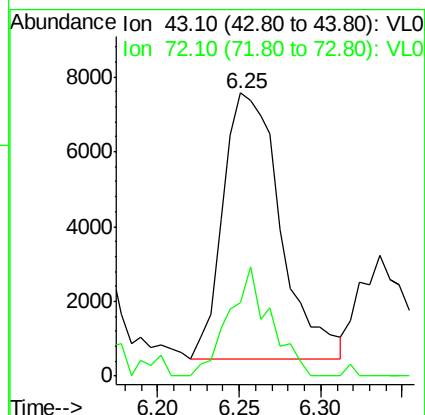
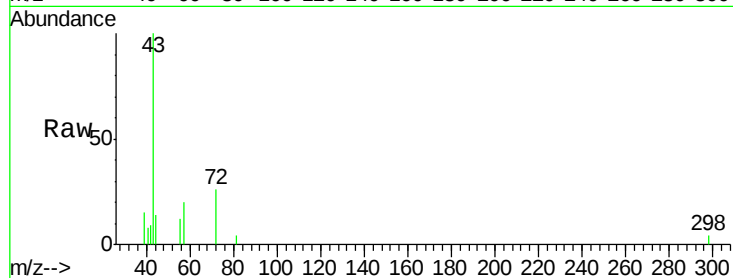




#34
2-Butanone
Concen: 0.12 ppbv
RT: 6.25 min Scan# 519
Delta R.T. 0.07 min
Lab File: VL026673.D
Acq: 12 Jan 2016 14:02

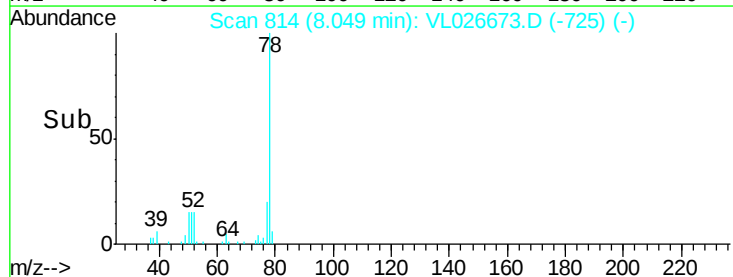
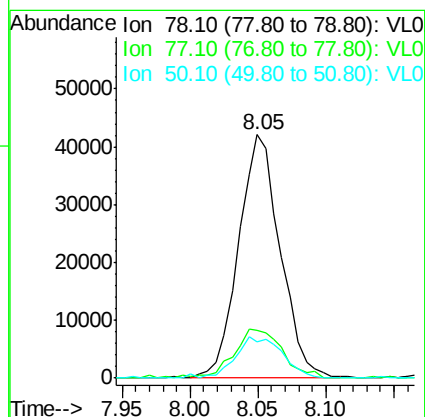
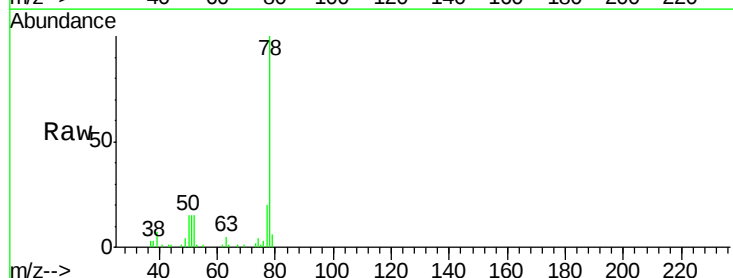
Instrument :
MSVOA_L
ClientSampleId :

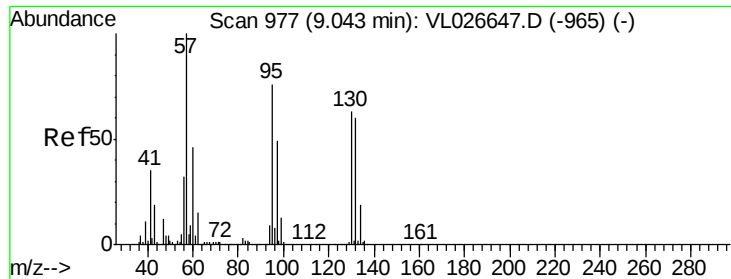
Tot Ion: 43 Resp: 17502
Ion Ratio Lower Upper
43 100
72 30.1 20.9 31.3



#36
Benzene
Concen: 0.32 ppbv
RT: 8.05 min Scan# 814
Delta R.T. 0.04 min
Lab File: VL026673.D
Acq: 12 Jan 2016 14:02

Tgt Ion: 78 Resp: 89978
Ion Ratio Lower Upper
78 100
77 19.7 18.5 27.7
50 15.1 15.4 23.2#

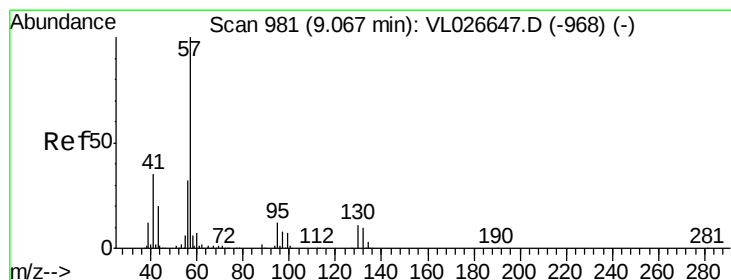
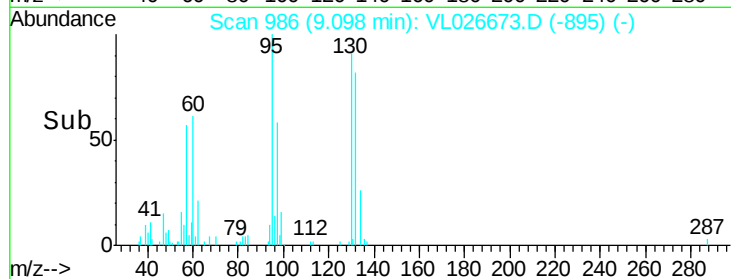
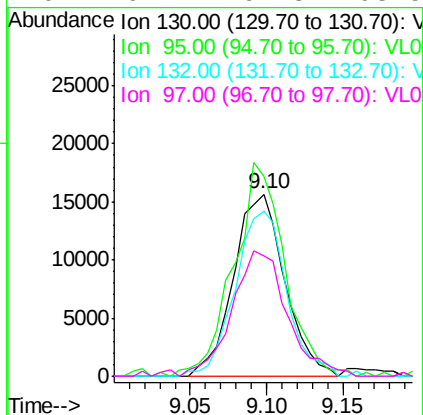
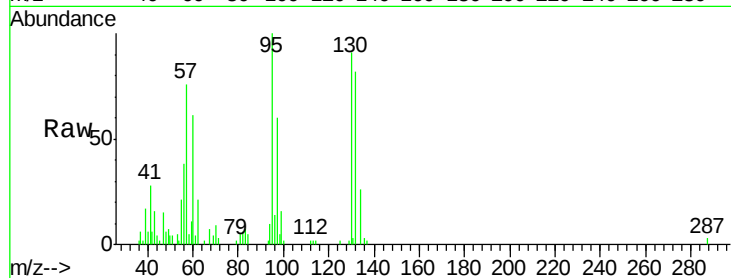




#38
 Trichloroethene
 Concen: 0.29 ppbv
 RT: 9.10 min Scan# 986
 Delta R.T. 0.05 min
 Lab File: VL026673.D
 Acq: 12 Jan 2016 14:02

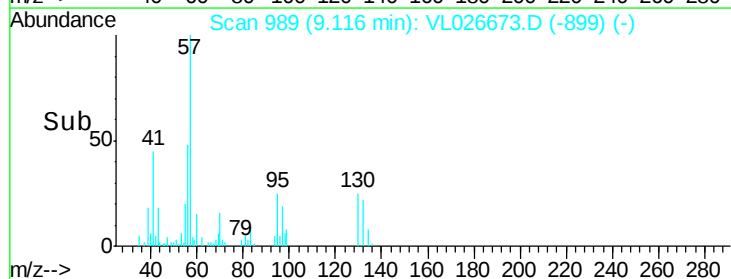
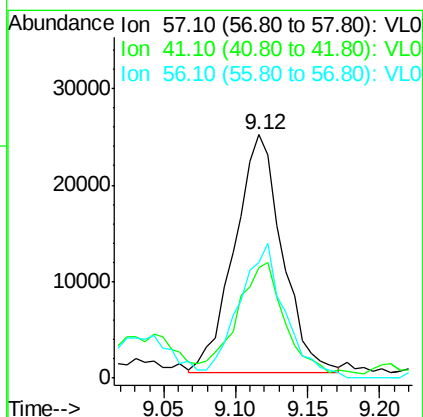
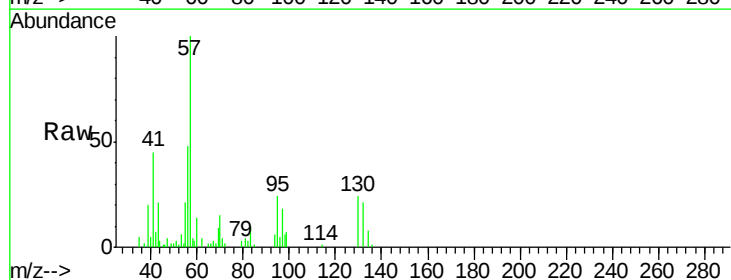
Instrument :
 MSVOA_L
 ClientSampleId :

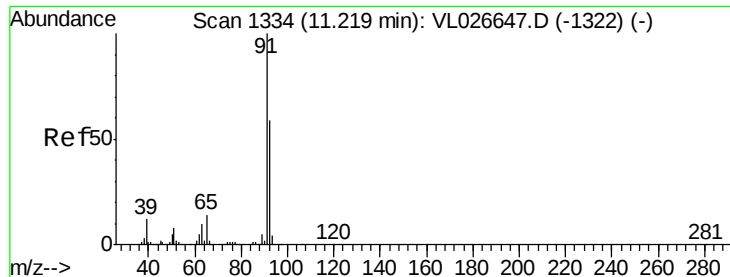
Tot Ion:130 Resp: 36448
 Ion Ratio Lower Upper
 130 100
 95 106.4 96.6 145.0
 132 90.4 76.2 114.4
 97 62.2 62.3 93.5#



#44
 2,2,4-Trimethylpentane
 Concen: 0.13 ppbv
 RT: 9.12 min Scan# 989
 Delta R.T. 0.05 min
 Lab File: VL026673.D
 Acq: 12 Jan 2016 14:02

Tgt Ion: 57 Resp: 56875
 Ion Ratio Lower Upper
 57 100
 41 61.0 26.9 40.3#
 56 55.3 25.4 38.0#





#53

Toluene

Concen: 0.76 ppbv

RT: 11.27 min Scan# 1342

Delta R.T. 0.05 min

Lab File: VL026673.D

Acq: 12 Jan 2016 14:02

Instrument :

MSVOA_L

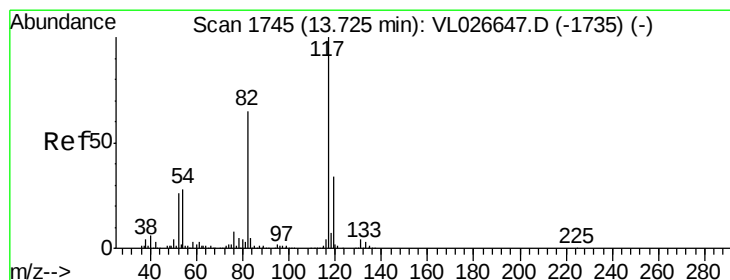
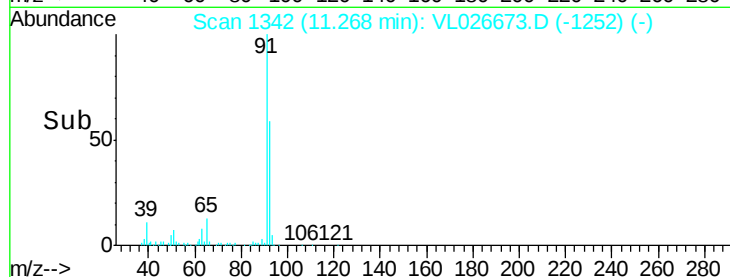
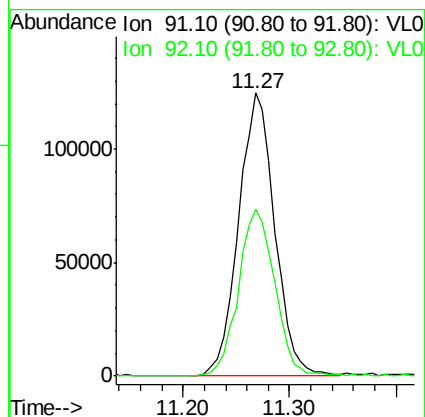
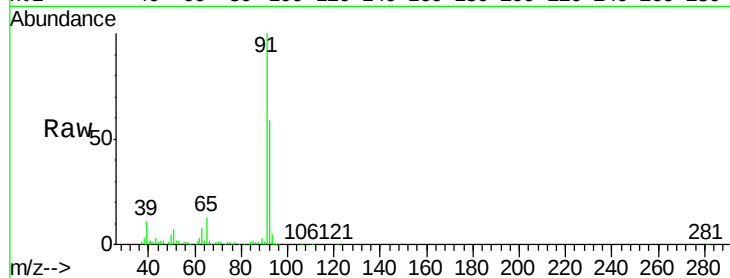
ClientSampleId :

Tot Ion: 91 Resp: 297923

Ion Ratio Lower Upper

91 100

92 59.7 48.2 72.4



#55

Chlorobenzene-d5

Concen: 10.00 ppbv

RT: 13.78 min Scan# 1754

Delta R.T. 0.05 min

Lab File: VL026673.D

Acq: 12 Jan 2016 14:02

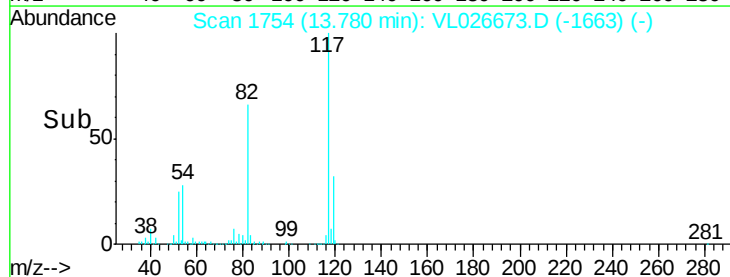
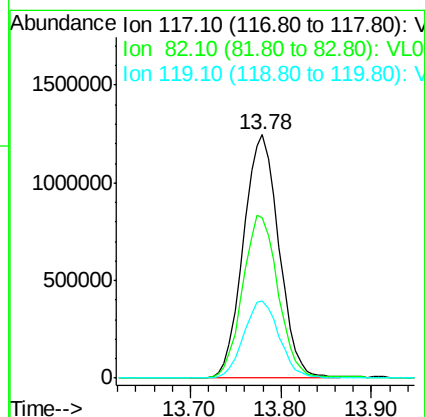
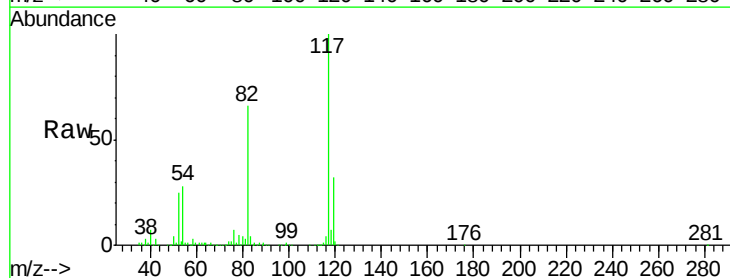
Tgt Ion: 117 Resp: 3388842

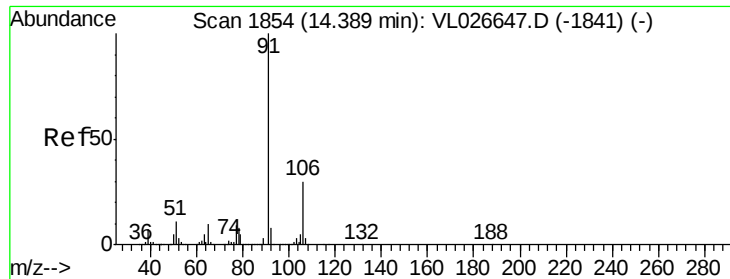
Ion Ratio Lower Upper

117 100

82 67.6 49.7 74.5

119 31.9 43.8 65.8#





#58

Ethyl Benzene

Concen: 0.16 ppbv

RT: 14.44 min Scan# 1863

Delta R.T. 0.05 min

Lab File: VL026673.D

Acq: 12 Jan 2016 14:02

Instrument :

MSVOA_L

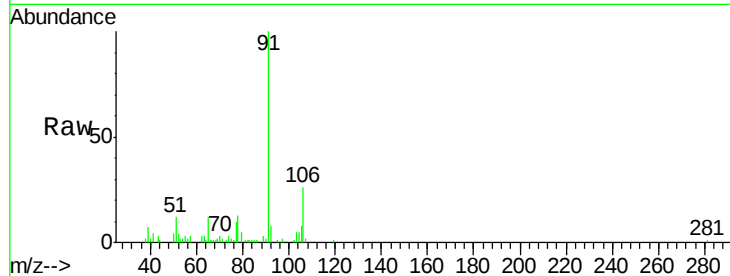
ClientSampleId :

Tot Ion: 91 Resp: 95860

Ion Ratio Lower Upper

91 100

106 26.2 23.8 35.6



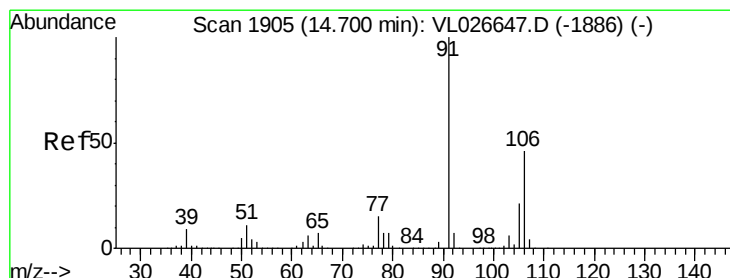
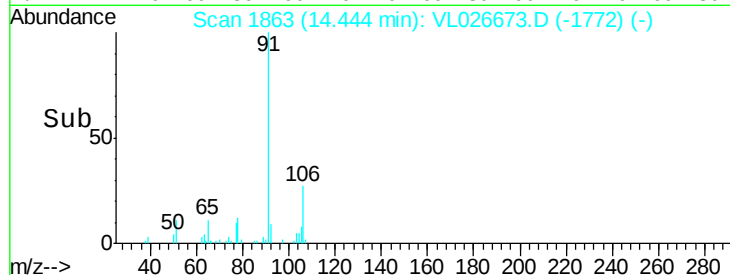
Abundance Ion 91.10 (90.80 to 91.80): VL0

Ion 106.10 (105.80 to 106.80): V

14.44

Time-->

Time-->



#59

m/p-Xylene

Concen: 0.63 ppbv

RT: 14.72 min Scan# 1909

Delta R.T. 0.02 min

Lab File: VL026673.D

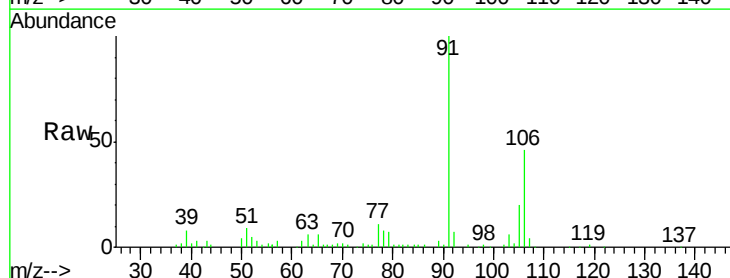
Acq: 12 Jan 2016 14:02

Tgt Ion: 91 Resp: 316454

Ion Ratio Lower Upper

91 100

106 46.9 36.6 55.0



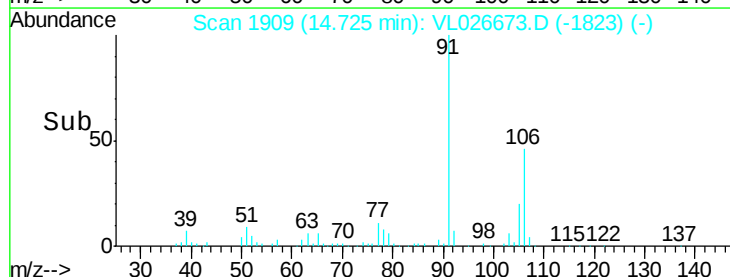
Abundance Ion 91.10 (90.80 to 91.80): VL0

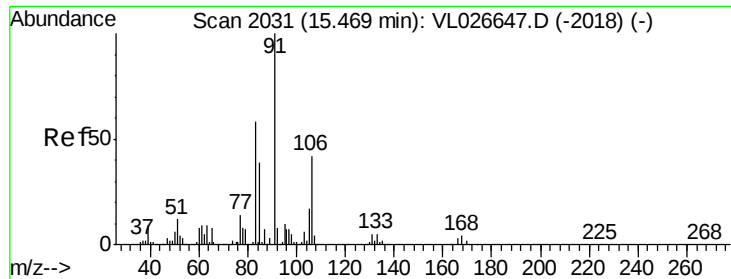
Ion 106.10 (105.80 to 106.80): V

14.72

Time-->

Time-->

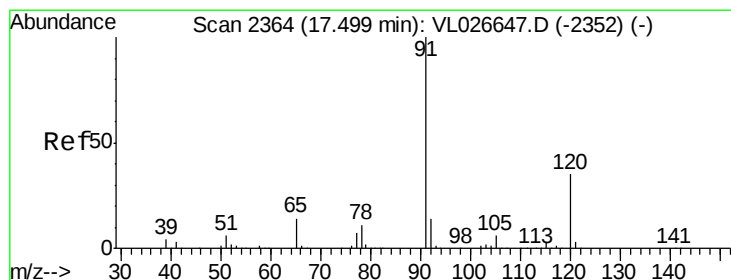
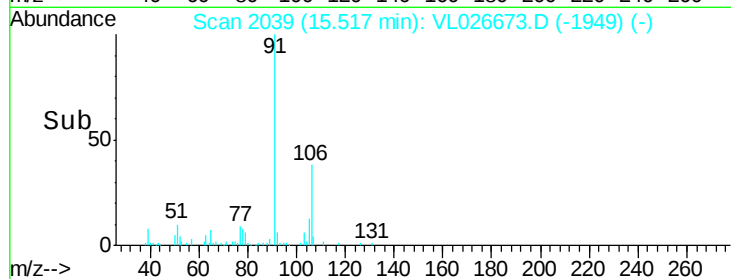
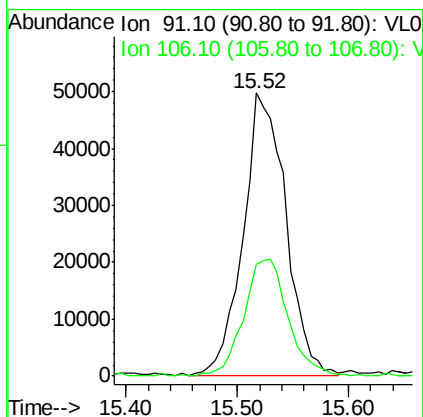
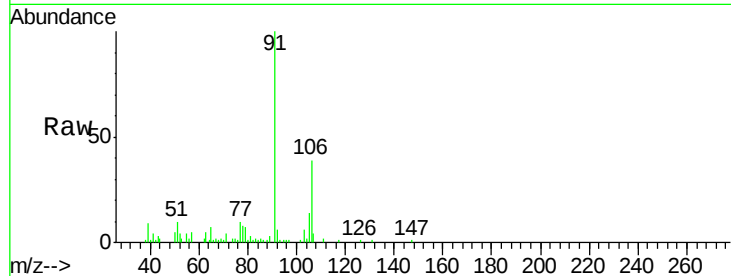




#60
o-Xylene
Concen: 0.25 ppbv
RT: 15.52 min Scan# 2039
Delta R.T. 0.05 min
Lab File: VL026673.D
Acq: 12 Jan 2016 14:02

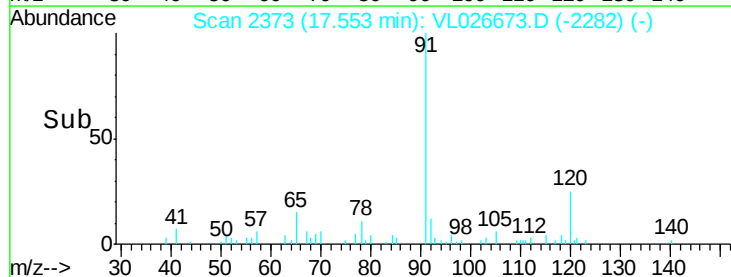
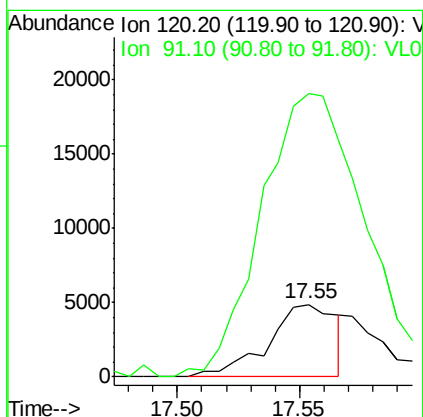
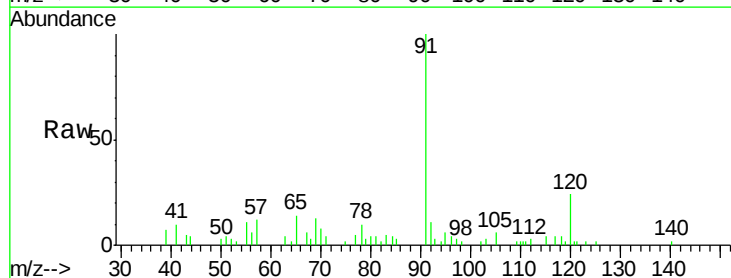
Instrument :
MSVOA_L
ClientSampled :

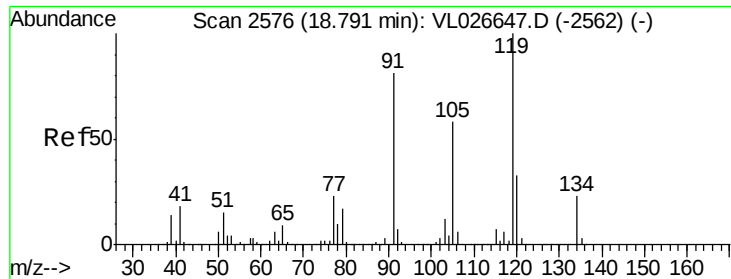
Tot Ion: 91 Resp: 132957
Ion Ratio Lower Upper
91 100
106 43.1 21.5 64.5



#64
n-propylbenzene
Concen: 0.05 ppbv
RT: 17.55 min Scan# 2373
Delta R.T. 0.05 min
Lab File: VL026673.D
Acq: 12 Jan 2016 14:02

Tgt Ion:120 Resp: 9458
Ion Ratio Lower Upper
120 100
91 563.7 375.8 563.6#

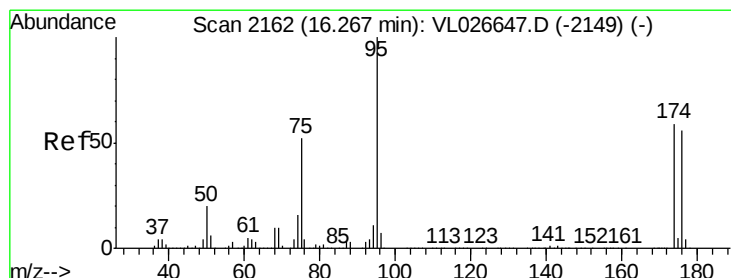
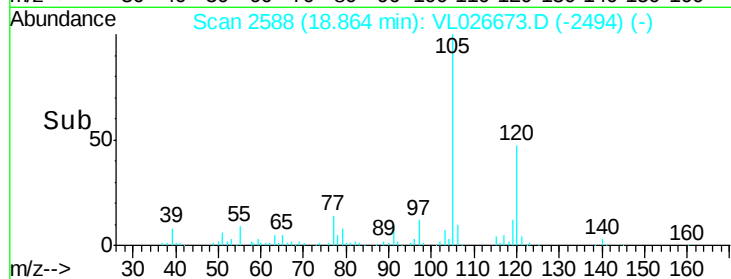
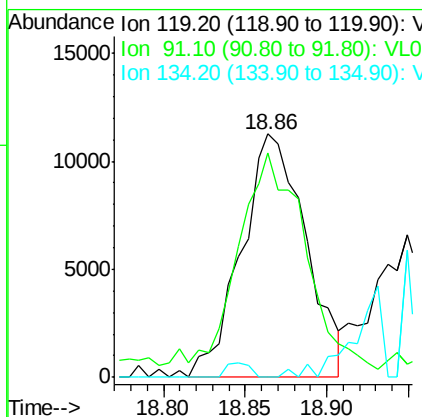
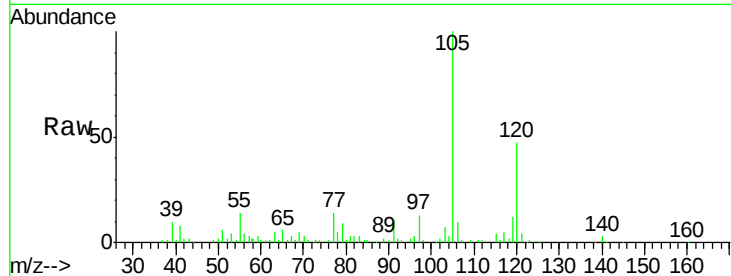




#65
 tert-Butylbenzene
 Concen: 0.05 ppbv
 RT: 18.86 min Scan# 2588
 Delta R.T. 0.07 min
 Lab File: VL026673.D
 Acq: 12 Jan 2016 14:02

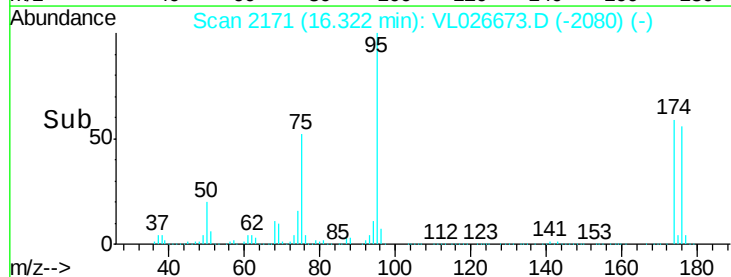
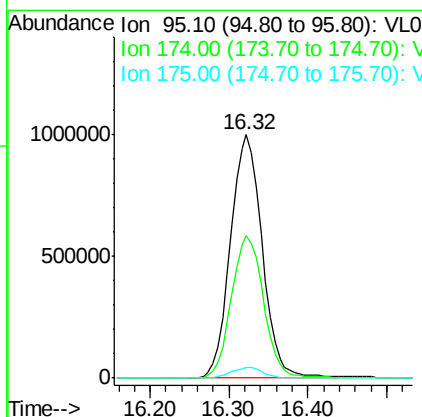
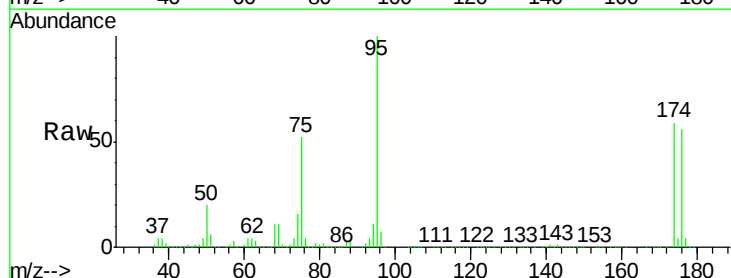
Instrument :
 MSVOA_L
 ClientSampled :

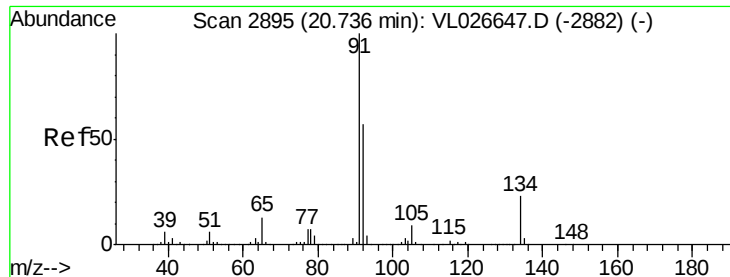
Tot Ion: 119 Resp: 30910
 Ion Ratio Lower Upper
 119 100
 91 112.9 64.8 97.2#
 134 2.1 17.4 26.0#



#68
 1-Bromo-4-Fluorobenzene
 Concen: 10.34 ppbv
 RT: 16.32 min Scan# 2171
 Delta R.T. 0.05 min
 Lab File: VL026673.D
 Acq: 12 Jan 2016 14:02

Tgt Ion: 95 Resp: 2793228
 Ion Ratio Lower Upper
 95 100
 174 60.0 47.8 71.8
 175 4.5 3.6 5.4





#70

n-Butylbenzene

Concen: 0.06 ppbv

RT: 20.80 min Scan# 2905

Delta R.T. 0.06 min

Lab File: VL026673.D

Acq: 12 Jan 2016 14:02

Instrument :

MSVOA_L

ClientSampleId :

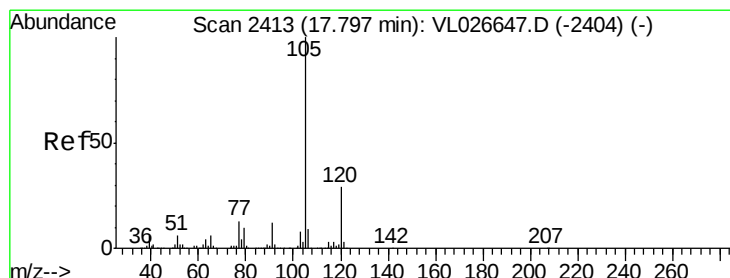
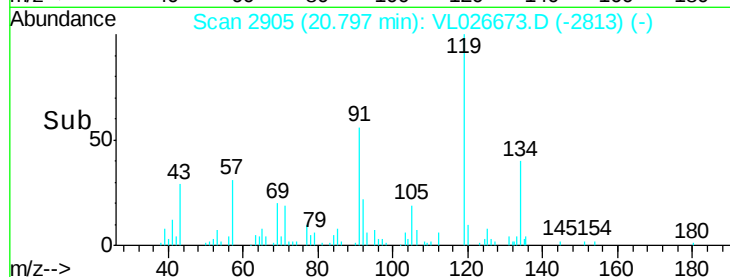
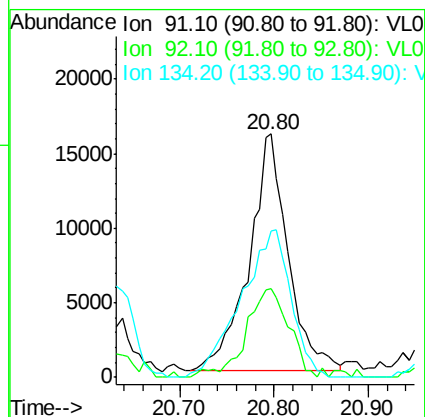
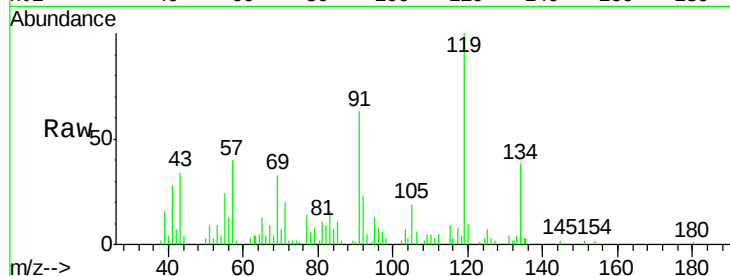
Tot Ion: 91 Resp: 45903

Ion Ratio Lower Upper

91 100

92 43.2 45.0 67.4#

134 79.9 18.2 27.2#



#72

4-Ethyltoluene

Concen: 0.11 ppbv

RT: 17.86 min Scan# 2423

Delta R.T. 0.06 min

Lab File: VL026673.D

Acq: 12 Jan 2016 14:02

Tgt Ion: 105 Resp: 67100

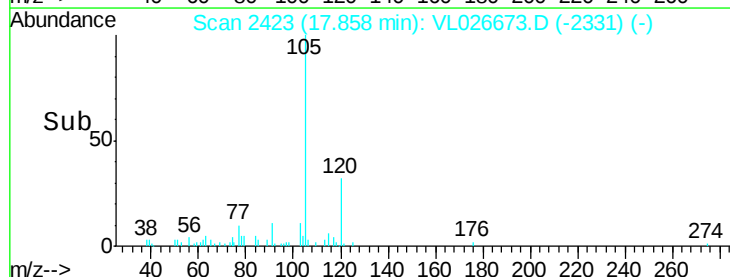
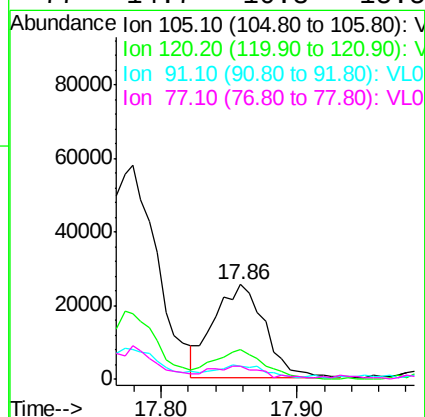
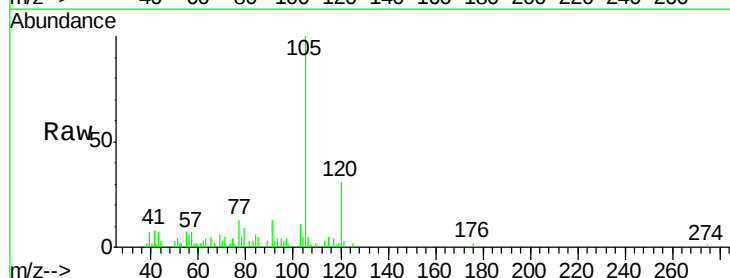
Ion Ratio Lower Upper

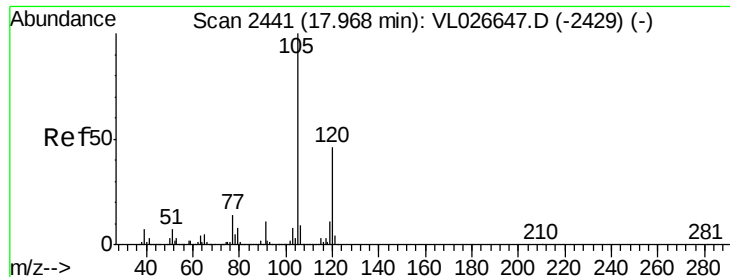
105 100

120 31.4 23.7 35.5

91 15.6 9.7 14.5#

77 14.7 10.3 15.5





#73

1,3,5-Trimethylbenzene

Concen: 0.11 ppbv

RT: 18.02 min Scan# 2449

Delta R.T. 0.05 min

Lab File: VL026673.D

Acq: 12 Jan 2016 14:02

Instrument :

MSVOA_L

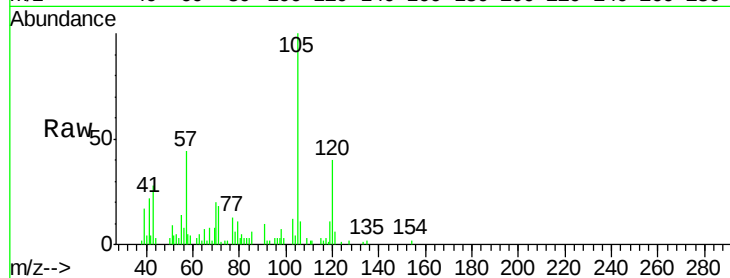
ClientSampleId :

Tot Ion:105 Resp: 63267

Ion Ratio Lower Upper

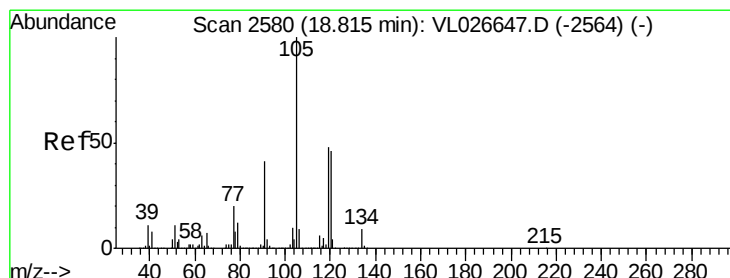
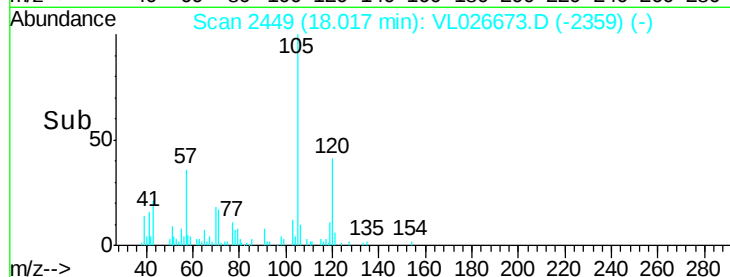
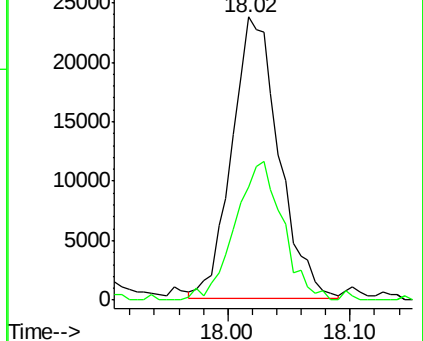
105 100

120 40.7 36.6 54.8



Abundance Ion 105.10 (104.80 to 105.80): V

Ion 120.20 (119.90 to 120.90): V



#74

1,2,4-Trimethylbenzene

Concen: 0.45 ppbv

RT: 18.87 min Scan# 2589

Delta R.T. 0.05 min

Lab File: VL026673.D

Acq: 12 Jan 2016 14:02

Tgt Ion:105 Resp: 272397

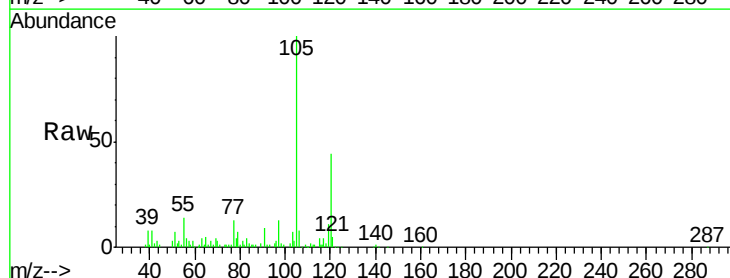
Ion Ratio Lower Upper

105 100

120 44.4 36.6 55.0

91 8.4 32.5 48.7#

77 12.2 15.7 23.5#



Abundance Ion 105.10 (104.80 to 105.80): V

Ion 120.20 (119.90 to 120.90): V

Ion 91.10 (90.80 to 91.80): VL0

Ion 77.10 (76.80 to 77.80): VL0

