

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL032719\
 Data File : VL033473.D
 Acq On : 27 Mar 2019 18:06
 Operator : SY/AP
 Sample : K2042-11DUP
 Misc : 400ml/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :

Quant Time: Mar 28 07:29:08 2019
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL032519AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Tue Mar 26 16:00:50 2019
 QLast Update : Tue Mar 26 16:00:50 2019
 Response via : Initial Calibration

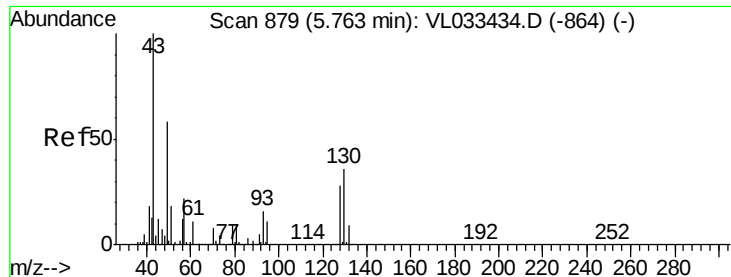
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.75	49	720920	10.00	ppbv	0.00
33) 1,4-Difluorobenzene	7.28	114	1663809	10.00	ppbv	0.00
55) Chlorobenzene-d5	12.23	117	1630984	10.00	ppbv	-0.01

System Monitoring Compounds

68) 1-Bromo-4-Fluorobenzene	14.57	95	1284775	10.05	ppbv	-0.01
Spiked Amount	10.000	Range	65 - 135	Recovery	=	100.50%

Target Compounds	R.T.	QIon	Response	Conc	Units	Ovalue
2) Dichlorodifluoromethane	3.07	85	28196	0.268	ppbv	92
3) Chlorodifluoromethane	2.98	51	1936196	23.329	ppbv #	58
4) Chloromethane	3.17	50	25349	0.577	ppbv	95
9) Propene	3.23	41	55601	1.595	ppbv	89
10) Heptane	8.24	43	6970	0.075	ppbv #	66
11) Trichlorofluoromethane	4.00	101	38129	0.294	ppbv	96
12) 1,1,2-Trichlorotrifluoroet	4.54	101	6756	0.078	ppbv	95
13) Ethanol	3.65	45	863204	95.705	ppbv	65
15) Acetone	3.89	43	1206226	13.915	ppbv	99
16) 1,3-Butadiene	3.34	39	9550	0.278	ppbv #	35
17) tert-Butyl alcohol	4.36	59	9850	0.618	ppbv #	73
19) Isopropyl Alcohol	4.03	45	193911	3.537	ppbv #	1
20) Methylene Chloride	4.40	84	953223	25.906	ppbv	95
21) Allyl Chloride	4.40	41	30267	0.552	ppbv #	26
23) Vinyl Acetate	5.14	43	5220	0.042	ppbv #	55
25) Ethyl Acetate	5.77	43	447222	2.781	ppbv #	79
26) Hexane	5.77	57	608532	8.510	ppbv #	41
29) Chloroform	5.84	83	6274	0.051	ppbv #	71
30) Cyclohexane	7.24	84	5639	0.100	ppbv #	1
34) 2-Butanone	5.32	43	15941	0.159	ppbv #	57
35) Carbon Tetrachloride	7.12	117	5032	0.043	ppbv #	93
36) Benzene	6.99	78	33077	0.237	ppbv #	93
39) 1,2-Dichloropropane	7.28	63	437525	8.000	ppbv #	22
41) Tetrahydrofuran	5.77	42	228404	4.154	ppbv #	51
44) 2,2,4-Trimethylpentane	7.98	57	7729	0.032	ppbv #	1
53) Toluene	9.94	91	1892739	11.667	ppbv	99
58) Ethyl Benzene	13.12	91	8977	0.041	ppbv	90
59) m/p-Xylene	13.15	91	9368	0.048	ppbv #	100
60) o-Xylene	13.84	91	7196	0.038	ppbv #	33
61) Styrene	13.67	104	4398	0.034	ppbv #	27
74) 1,2,4-Trimethylbenzene	16.91	105	7990	0.037	ppbv #	67

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



#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.75 min Scan# 876

Delta R.T. -0.01 min

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ClientSampleId :

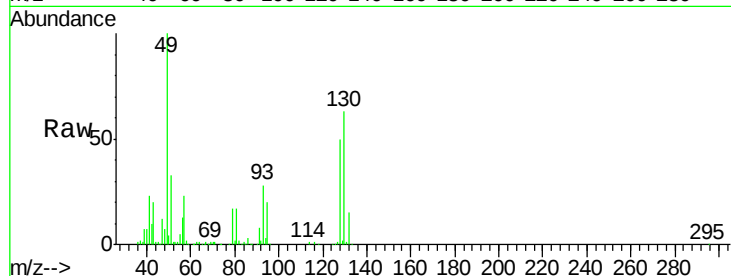
Tot Ion: 49 Resp: 720920

Ion Ratio Lower Upper

49 100

128 48.2 24.0 72.0

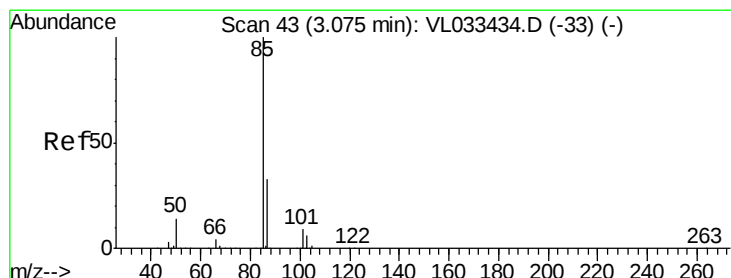
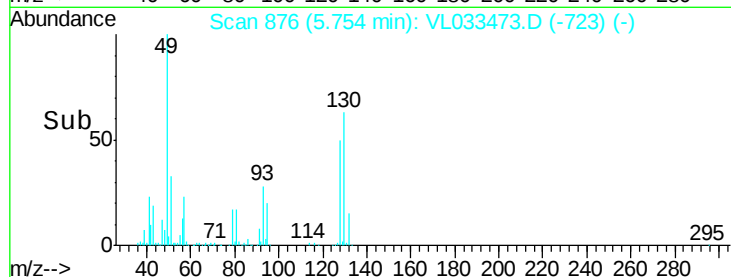
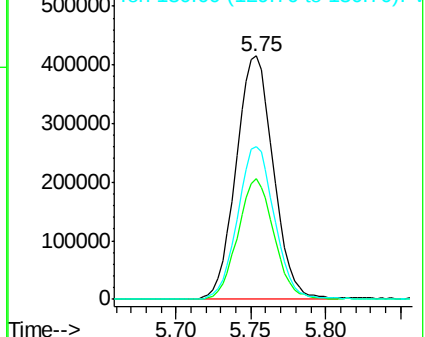
130 62.4 31.2 93.6



Abundance Ion 49.10 (48.80 to 49.80): VL0

Ion 128.00 (127.70 to 128.70): V

Ion 130.00 (129.70 to 130.70): V



#2

Dichlorodifluoromethane

Concen: 0.268 ppbv

RT: 3.07 min Scan# 42

Delta R.T. -0.00 min

Lab File: VL033473.D

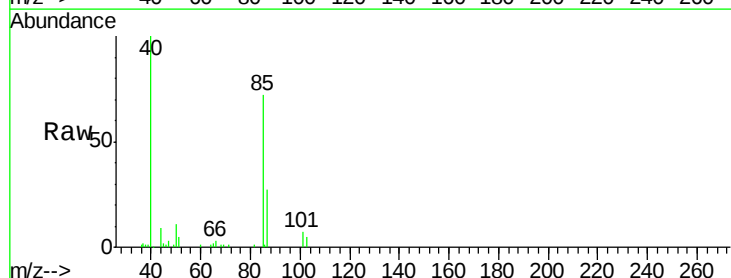
Acq: 27 Mar 2019 18:06

Tgt Ion: 85 Resp: 28196

Ion Ratio Lower Upper

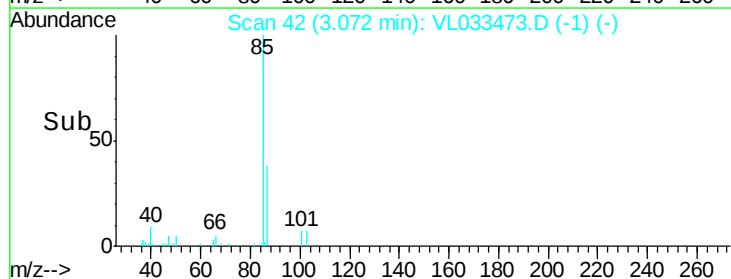
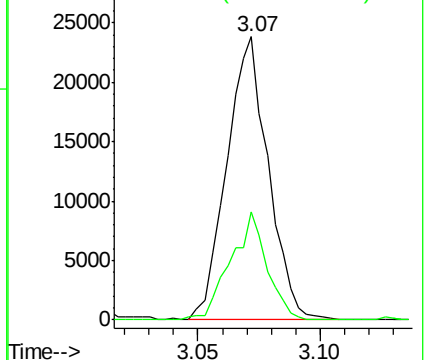
85 100

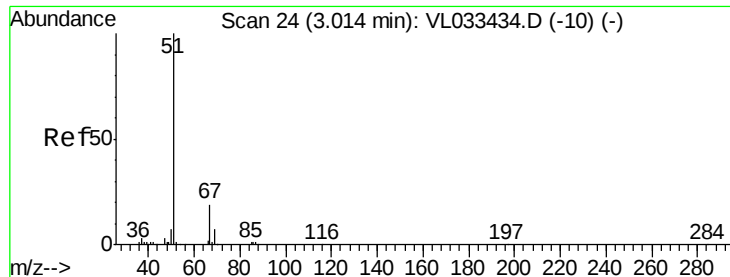
87 38.1 26.7 40.1



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0

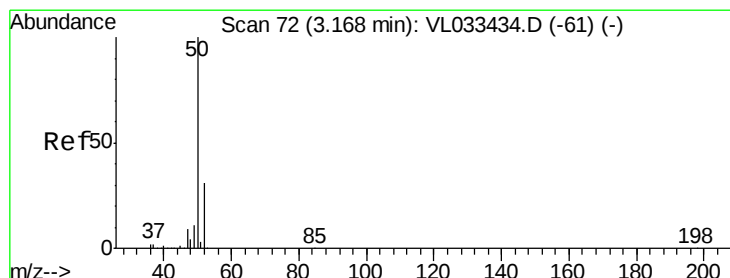
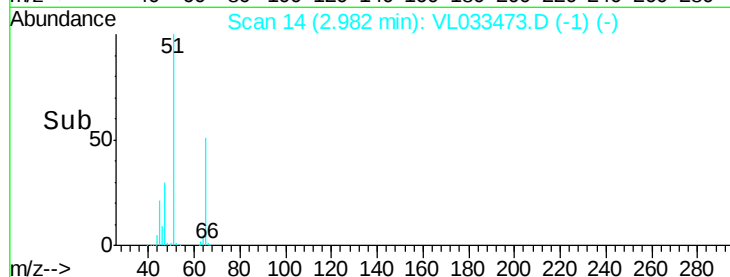
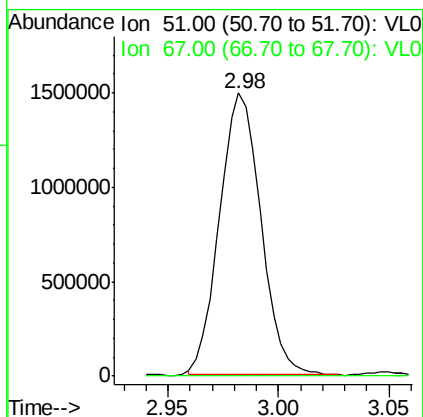
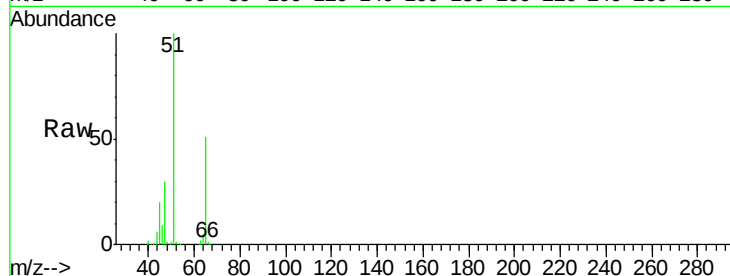




#3
Chlorodifluoromethane
Concen: 23.329 ppbv
RT: 2.98 min Scan# 14
Delta R.T. -0.03 min
Lab File: VL033473.D
Acq: 27 Mar 2019 18:06

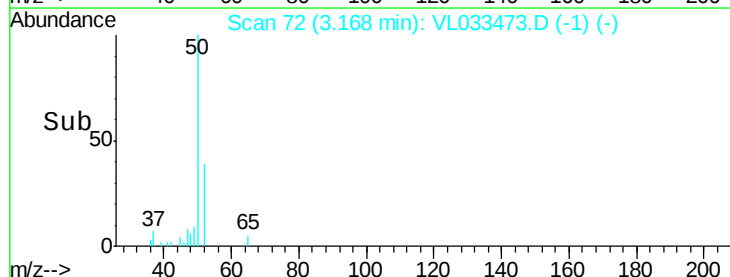
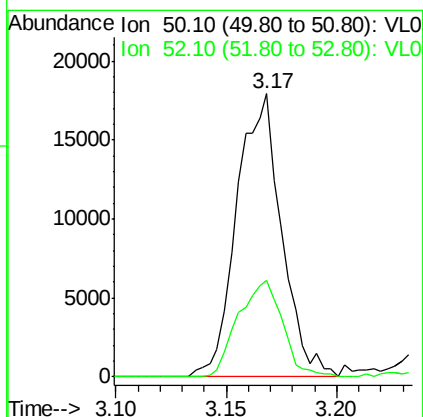
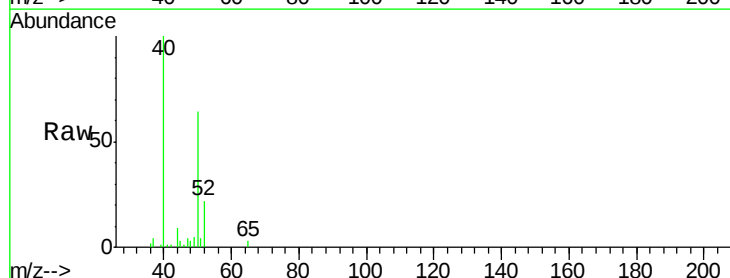
Instrument :
MSVOA_L
ClientSampleId :

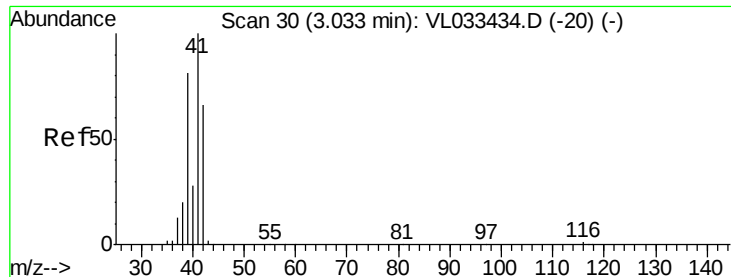
Tot Ion: 51 Resp: 1936196
Ion Ratio Lower Upper
51 100
67 0.3 15.7 23.5#



#4
Chloromethane
Concen: 0.577 ppbv
RT: 3.17 min Scan# 72
Delta R.T. 0.00 min
Lab File: VL033473.D
Acq: 27 Mar 2019 18:06

Tgt Ion: 50 Resp: 25349
Ion Ratio Lower Upper
50 100
52 34.0 25.0 37.6





#9

Propene

Concen: 1.595 ppbv

RT: 3.23 min Scan# 92

Delta R.T. 0.20 min

Lab File: VL033473.D

Acq: 27 Mar 2019 18:06

Instrument :

MSVOA_L

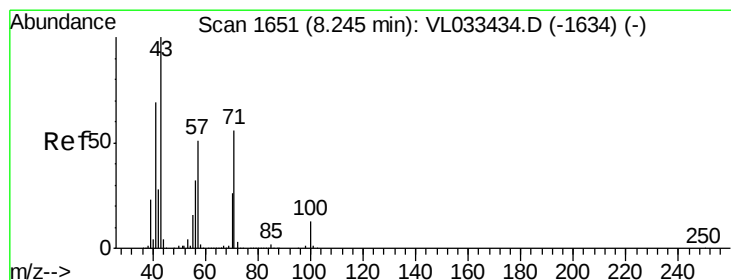
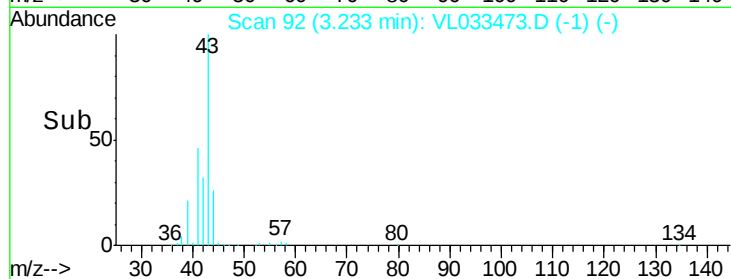
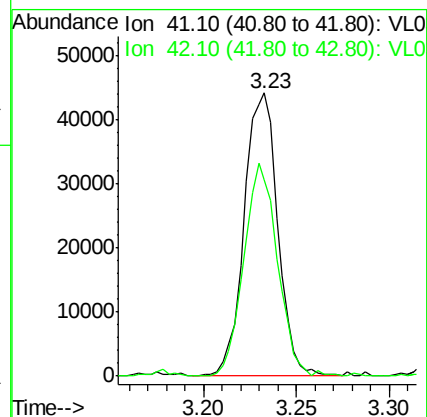
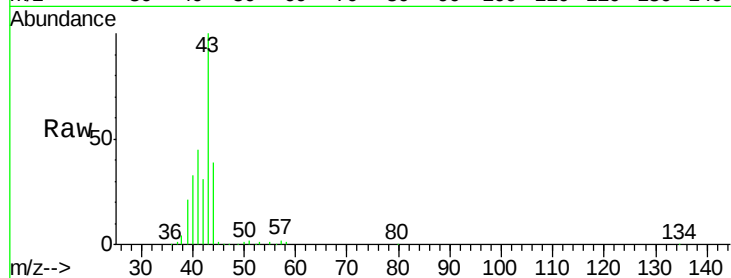
ClientSampleId :

Tot Ion: 41 Resp: 55601

Ion Ratio Lower Upper

41 100

42 75.9 53.9 80.9



#10

Heptane

Concen: 0.075 ppbv

RT: 8.24 min Scan# 1649

Delta R.T. -0.01 min

Lab File: VL033473.D

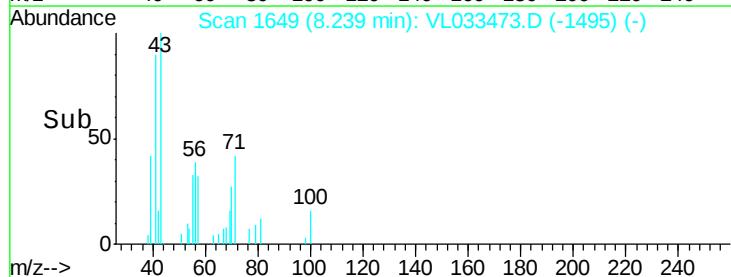
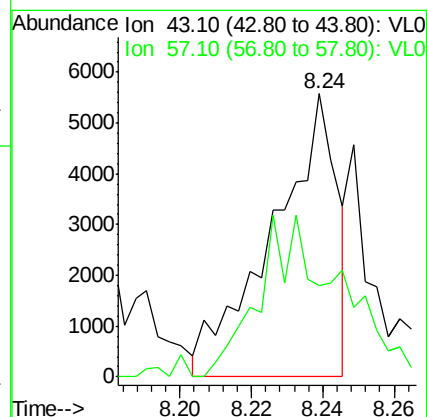
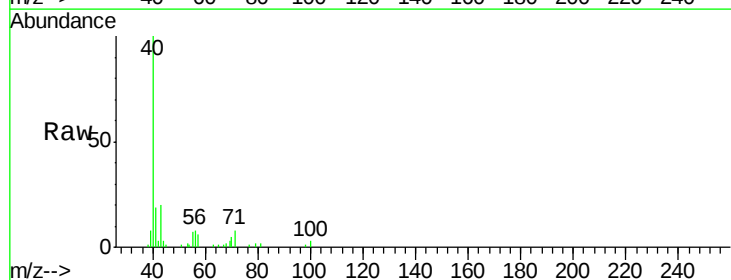
Acq: 27 Mar 2019 18:06

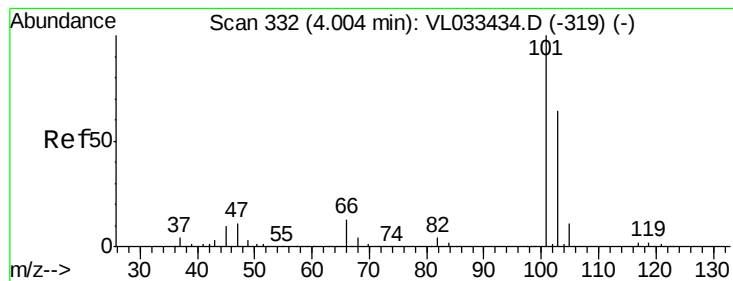
Tgt Ion: 43 Resp: 6970

Ion Ratio Lower Upper

43 100

57 74.5 40.6 60.8#





#11

Trichlorofluoromethane

Concen: 0.294 ppbv

RT: 4.00 min Scan# 330

Delta R.T. -0.01 min

Lab File: VL033473.D

Acq: 27 Mar 2019 18:06

Instrument :

MSVOA_L

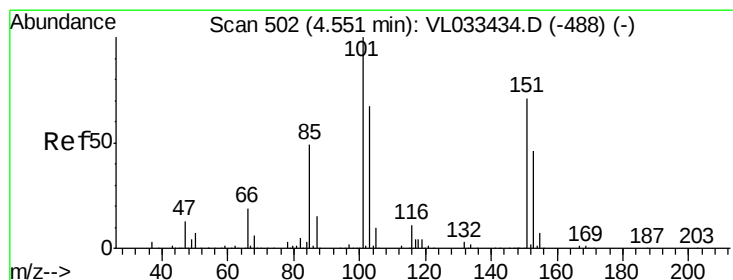
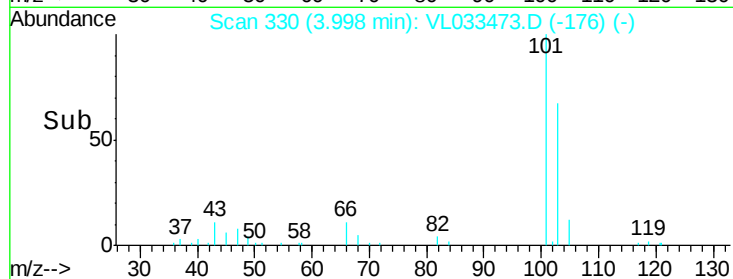
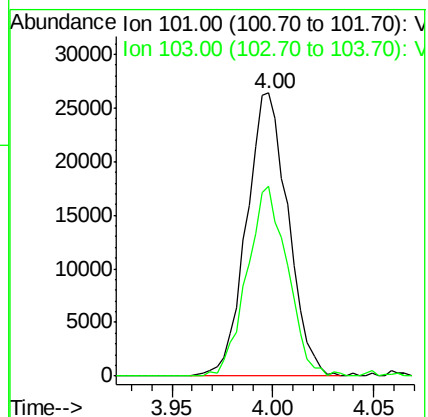
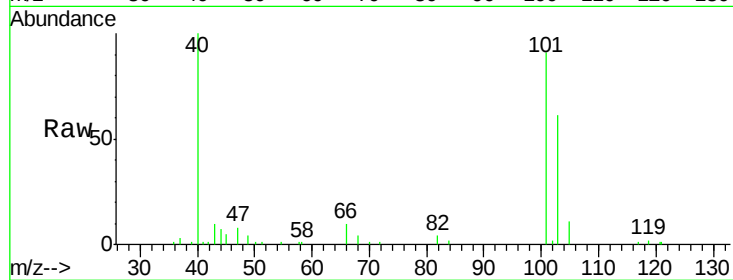
ClientSampleId :

Tot Ion:101 Resp: 38129

Ion Ratio Lower Upper

101 100

103 67.3 51.3 76.9



#12

1,1,2-Trichlorotrifluoroethane

Concen: 0.078 ppbv

RT: 4.54 min Scan# 500

Delta R.T. -0.01 min

Lab File: VL033473.D

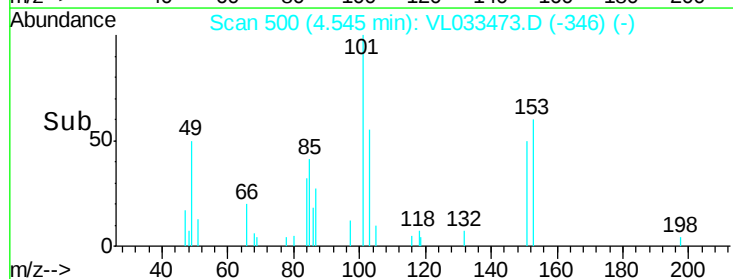
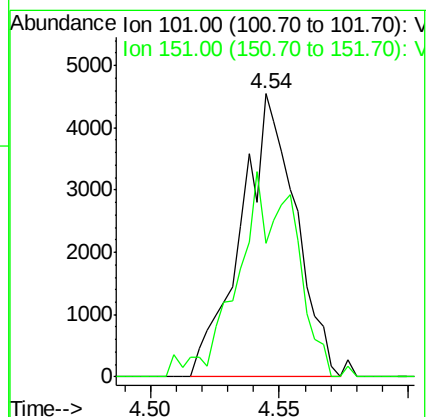
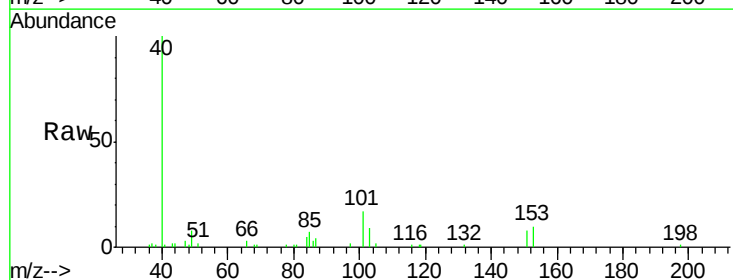
Acq: 27 Mar 2019 18:06

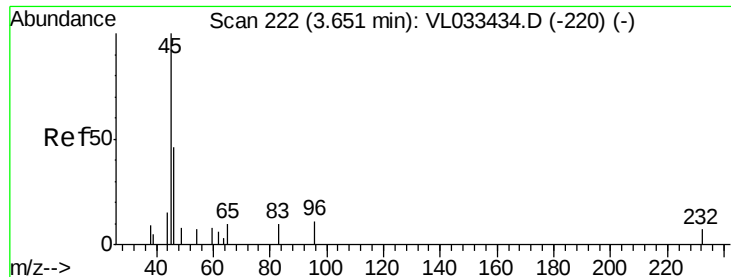
Tgt Ion:101 Resp: 6756

Ion Ratio Lower Upper

101 100

151 76.0 57.7 86.5

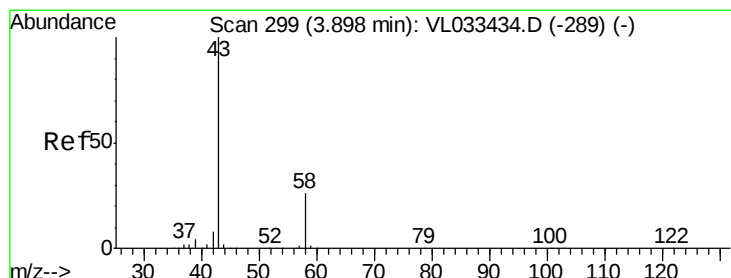
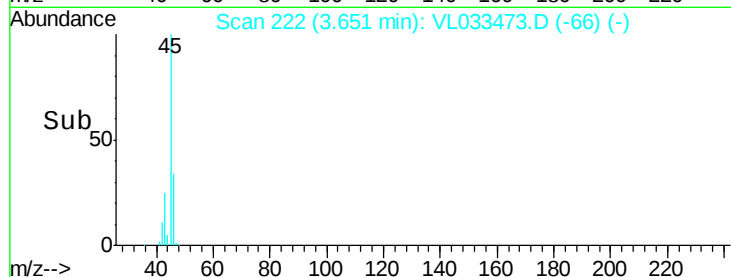
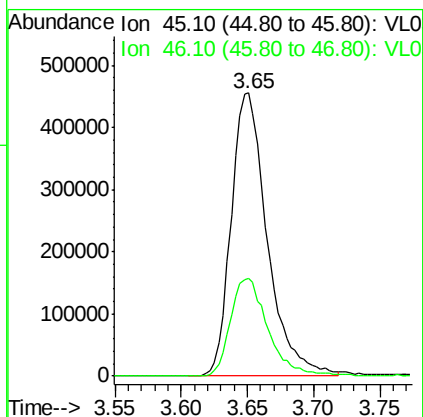
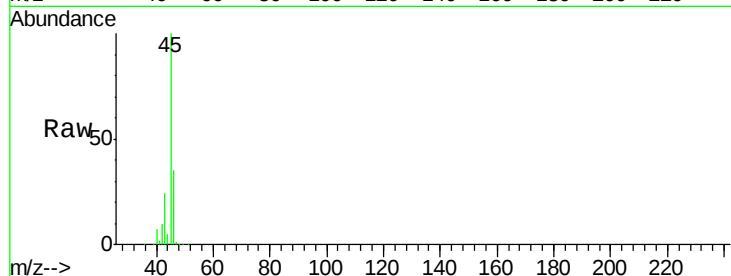




#13
Ethanol
Concen: 95.705 ppbv
RT: 3.65 min Scan# 222
Delta R.T. 0.00 min
Lab File: VL033473.D
Acq: 27 Mar 2019 18:06

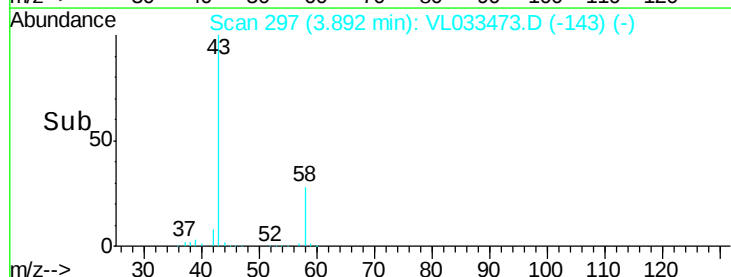
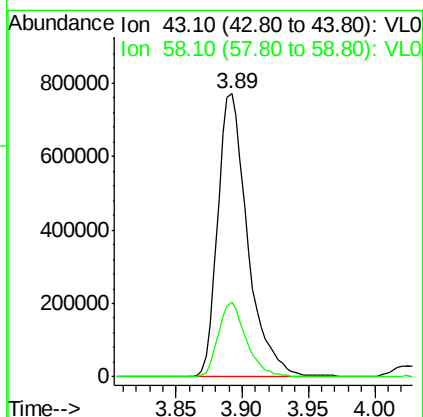
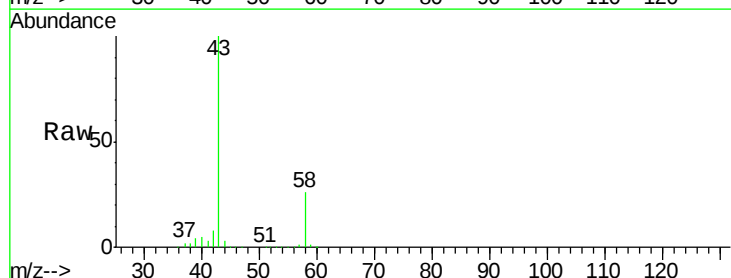
Instrument :
MSVOA_L
ClientSampleId :

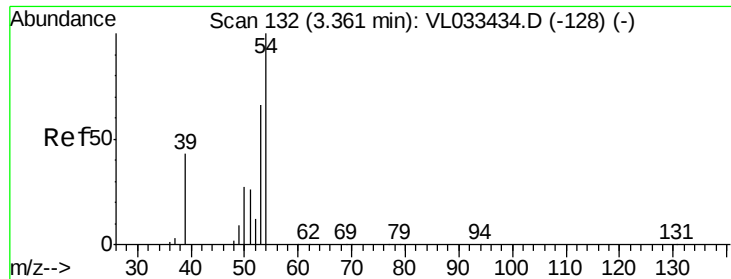
Tot Ion: 45 Resp: 863204
Ion Ratio Lower Upper
45 100
46 36.2 25.4 101.8



#15
Acetone
Concen: 13.915 ppbv
RT: 3.89 min Scan# 297
Delta R.T. -0.01 min
Lab File: VL033473.D
Acq: 27 Mar 2019 18:06

Tgt Ion: 43 Resp: 1206226
Ion Ratio Lower Upper
43 100
58 25.1 20.5 30.7





#16

1,3-Butadiene

Concen: 0.278 ppbv

RT: 3.34 min Scan# 124

Delta R.T. -0.03 min

Lab File: VL033473.D

Acq: 27 Mar 2019 18:06

Instrument :

MSVOA_L

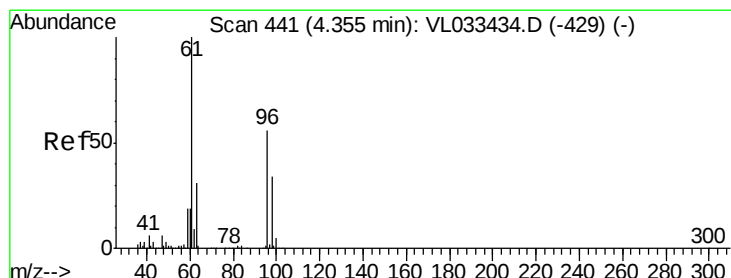
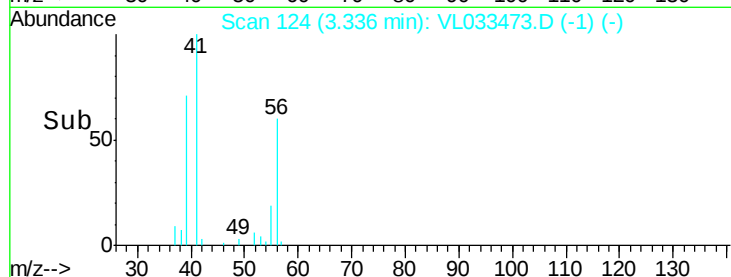
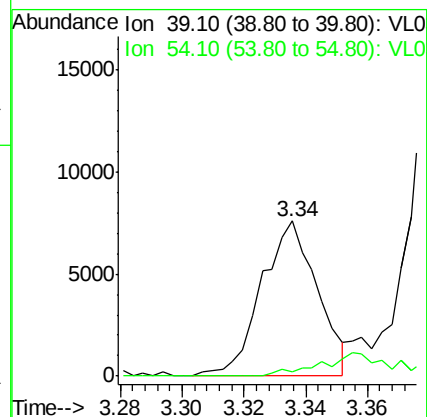
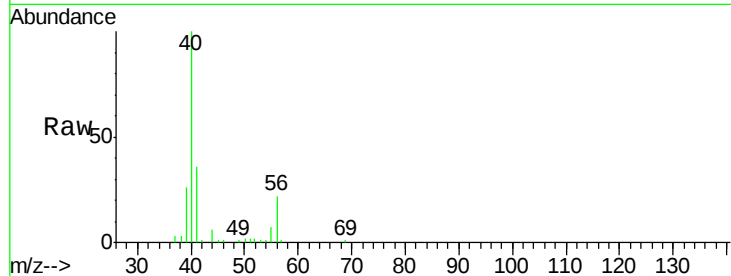
ClientSampled :

Tot Ion: 39 Resp: 9550

Ion Ratio Lower Upper

39 100

54 27.0 69.4 104.2#



#17

tert-Butyl alcohol

Concen: 0.618 ppbv

RT: 4.36 min Scan# 444

Delta R.T. 0.01 min

Lab File: VL033473.D

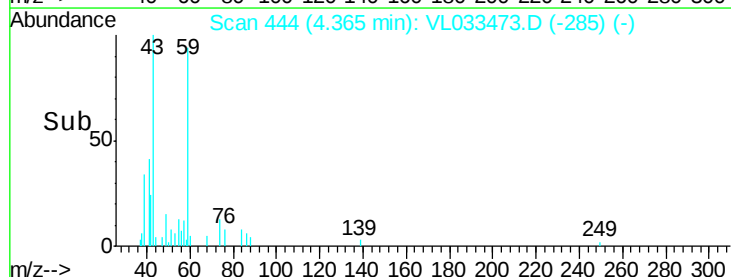
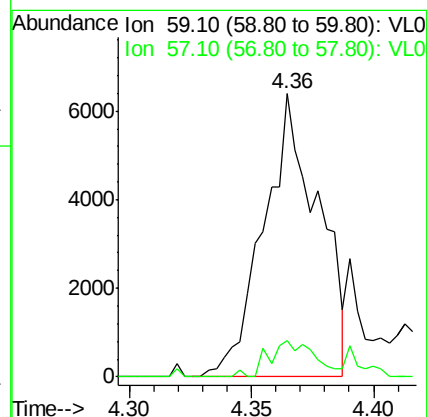
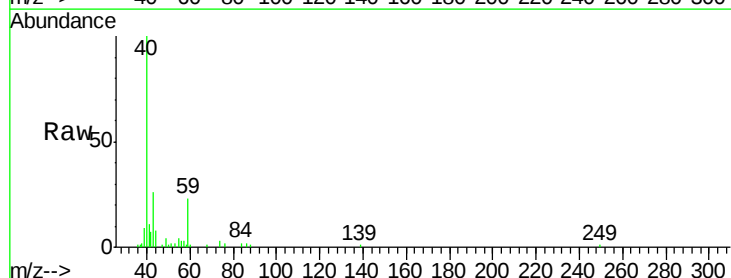
Acq: 27 Mar 2019 18:06

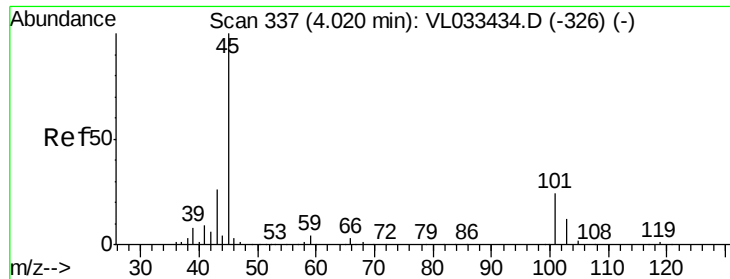
Tgt Ion: 59 Resp: 9850

Ion Ratio Lower Upper

59 100

57 0.0 7.8 11.8#





#19

Isopropyl Alcohol

Concen: 3.537 ppbv

RT: 4.03 min Scan# 339

Delta R.T. 0.01 min

Lab File: VL033473.D

Acq: 27 Mar 2019 18:06

Instrument :

MSVOA_L

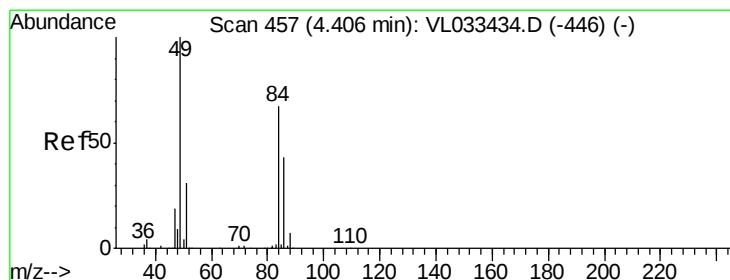
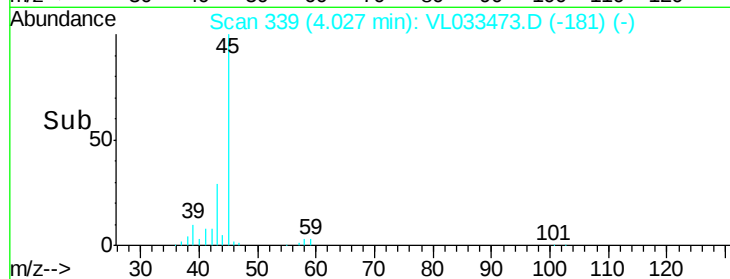
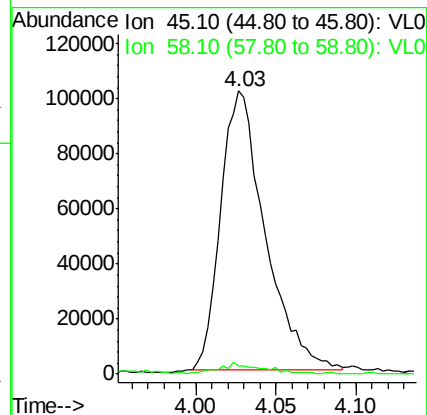
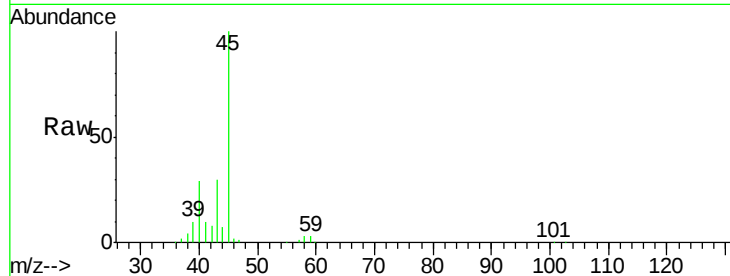
ClientSampleId :

Tot Ion: 45 Resp: 193911

Ion Ratio Lower Upper

45 100

58 156.1 1.4 2.2#



#20

Methylene Chloride

Concen: 25.906 ppbv

RT: 4.40 min Scan# 455

Delta R.T. -0.01 min

Lab File: VL033473.D

Acq: 27 Mar 2019 18:06

Tgt Ion: 84 Resp: 953223

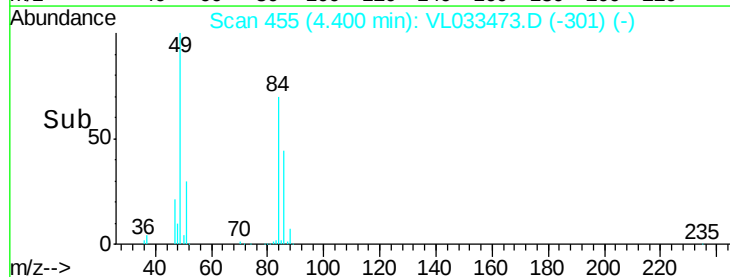
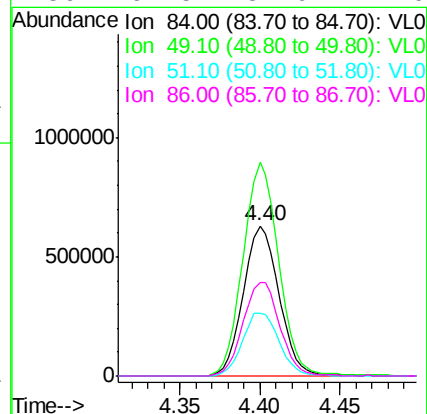
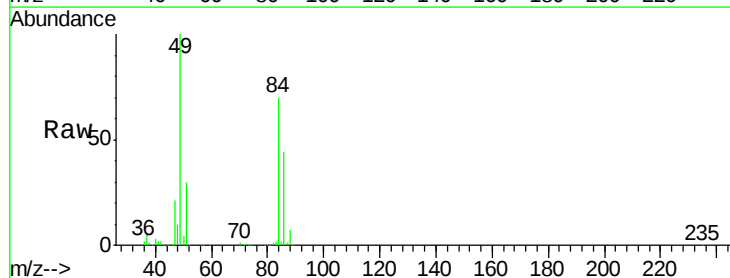
Ion Ratio Lower Upper

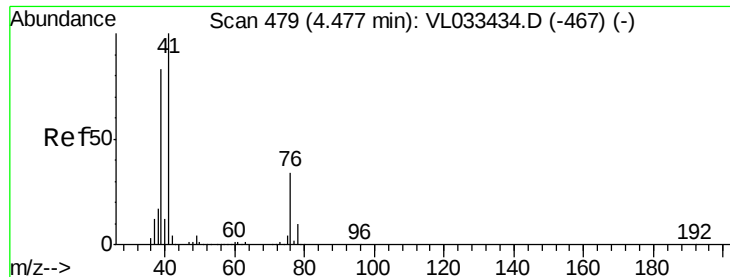
84 100

49 142.0 120.0 180.0

51 42.1 36.7 55.1

86 62.5 51.9 77.9

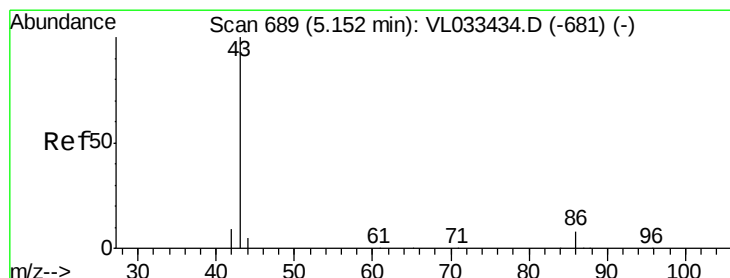
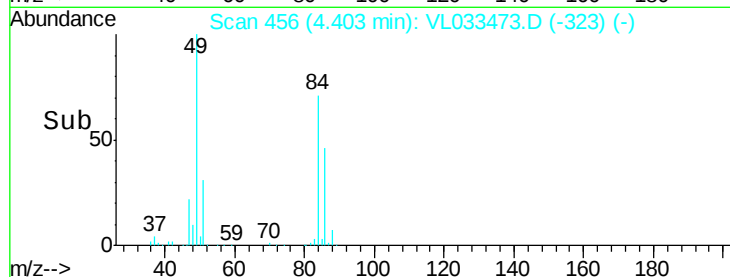
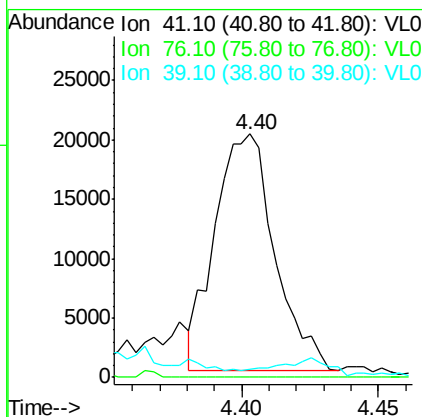
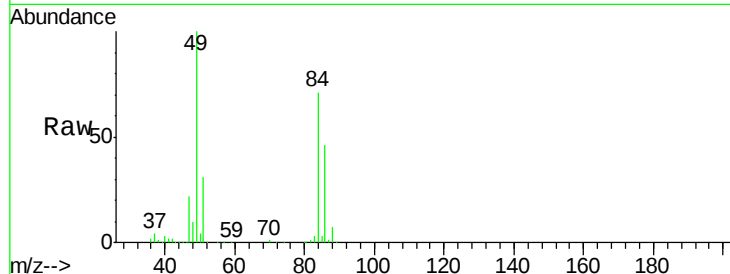




#21
Allvl Chloride
Concen: 0.552 ppbv
RT: 4.40 min Scan# 456
Delta R.T. -0.07 min
Lab File: VL033473.D
Acq: 27 Mar 2019 18:06

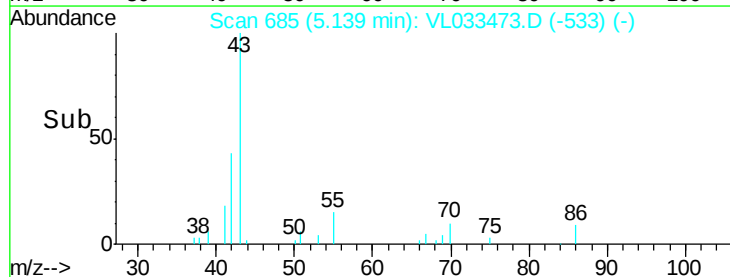
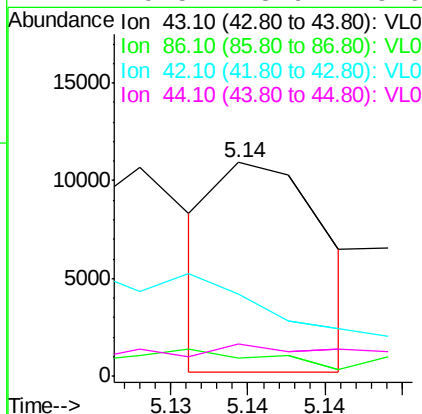
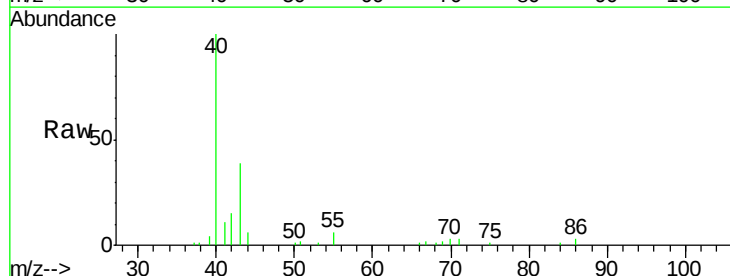
Instrument :
MSVOA_L
ClientSampled :

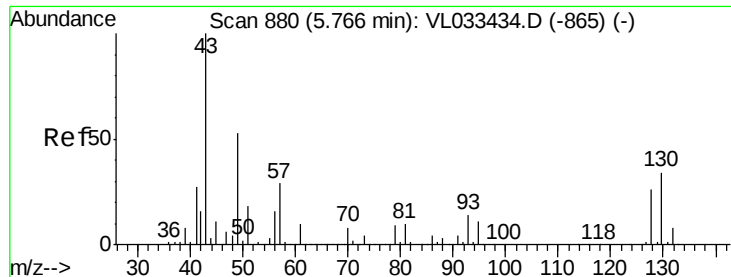
Tot Ion: 41 Resp: 30267
Ion Ratio Lower Upper
41 100
76 0.0 25.4 38.2#
39 9.9 65.3 97.9#



#23
Vinyl Acetate
Concen: 0.042 ppbv
RT: 5.14 min Scan# 685
Delta R.T. -0.01 min
Lab File: VL033473.D
Acq: 27 Mar 2019 18:06

Tgt Ion: 43 Resp: 5220
Ion Ratio Lower Upper
43 100
86 12.8 5.6 8.4#
42 39.6 8.0 12.0#
44 9.5 3.9 5.9#

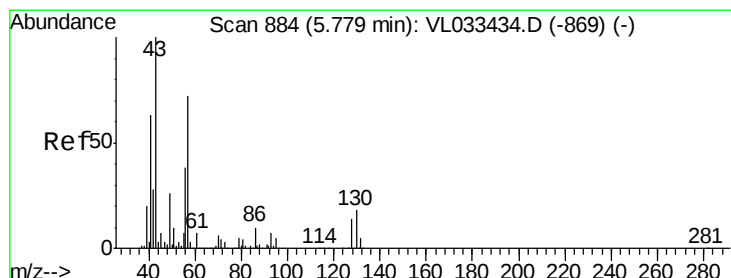
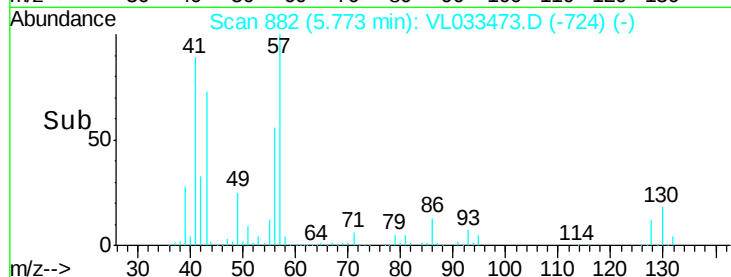
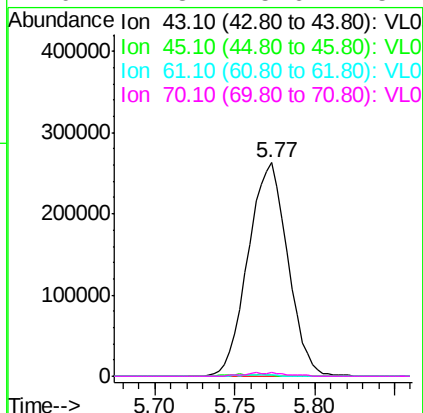
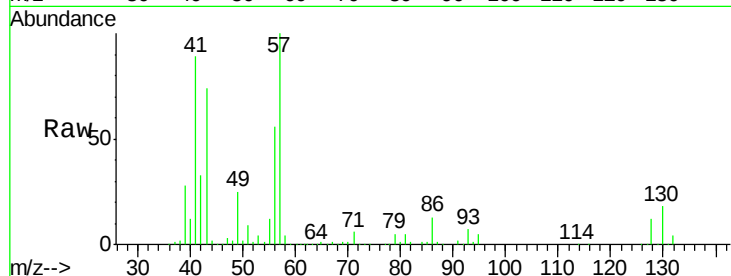




#25
Ethyl Acetate
Concen: 2.781 ppbv
RT: 5.77 min Scan# 882
Delta R.T. 0.01 min
Lab File: VL033473.D
Acq: 27 Mar 2019 18:06

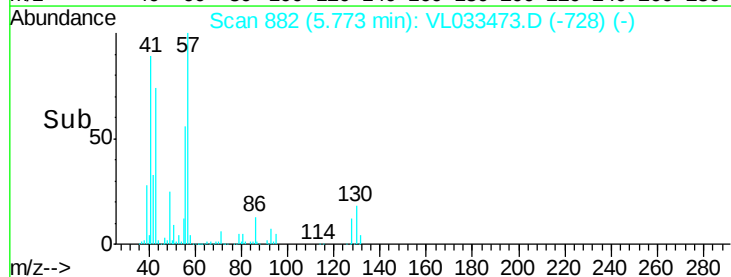
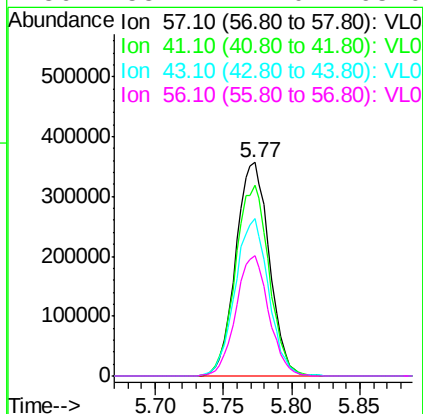
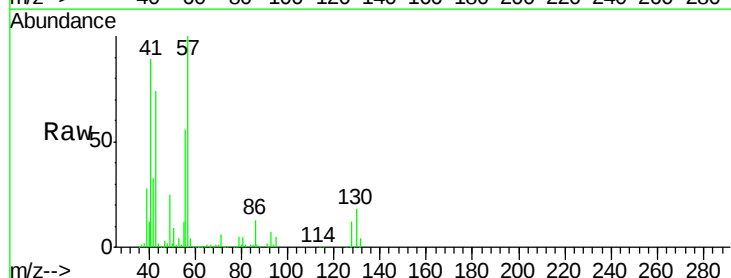
Instrument :
MSVOA_L
ClientSampleId :

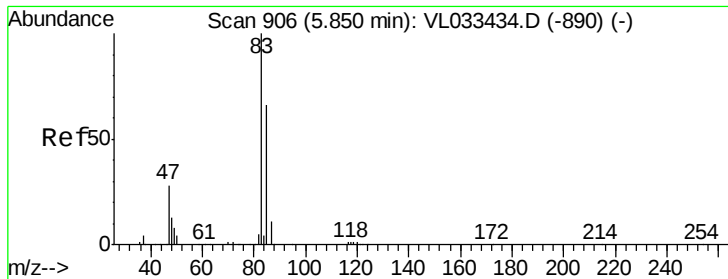
Tot Ion:	43	Resp:	447222
Ion	Ratio	Lower	Upper
43	100		
45	1.1	7.8	11.6#
61	0.7	7.3	10.9#
70	1.8	5.6	8.4#



#26
Hexane
Concen: 8.510 ppbv
RT: 5.77 min Scan# 882
Delta R.T. -0.01 min
Lab File: VL033473.D
Acq: 27 Mar 2019 18:06

Tgt Ion:	57	Resp:	608532
Ion	Ratio	Lower	Upper
57	100		
41	90.1	70.7	106.1
43	73.9	182.6	274.0#
56	55.4	42.0	63.0





#29

Chloroform

Concen: 0.051 ppbv

RT: 5.84 min Scan# 903

Delta R.T. -0.01 min

Lab File: VL033473.D

Acq: 27 Mar 2019 18:06

Instrument :

MSVOA_L

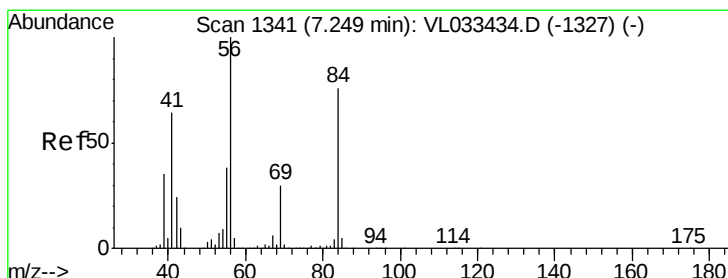
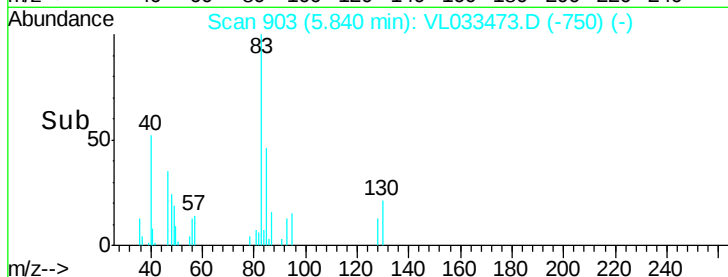
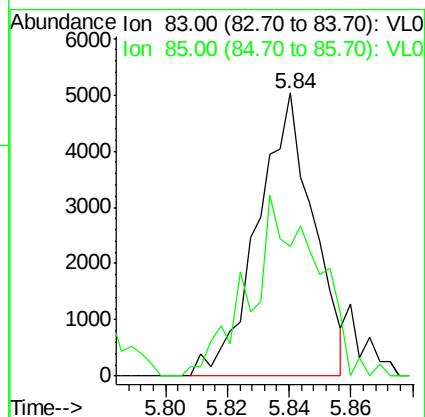
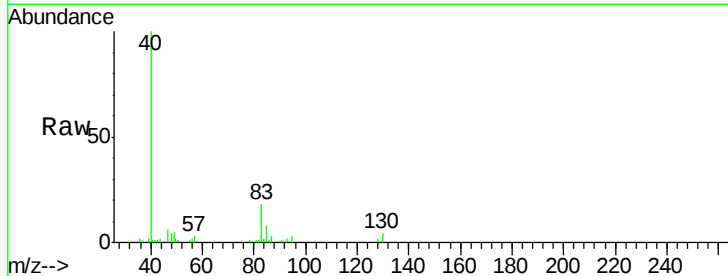
ClientSampled :

Tot Ion: 83 Resp: 6274

Ion Ratio Lower Upper

83 100

85 42.6 52.6 79.0#



#30

Cyclohexane

Concen: 0.100 ppbv

RT: 7.24 min Scan# 1338

Delta R.T. -0.01 min

Lab File: VL033473.D

Acq: 27 Mar 2019 18:06

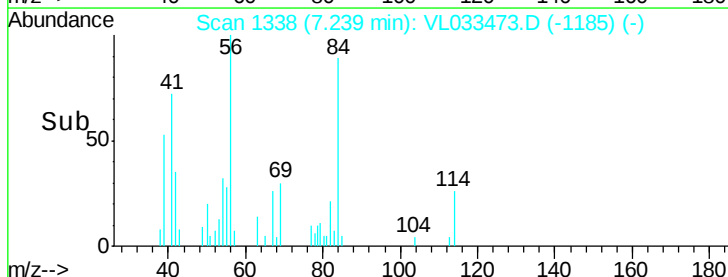
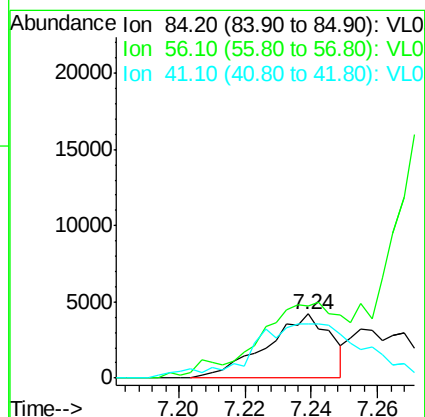
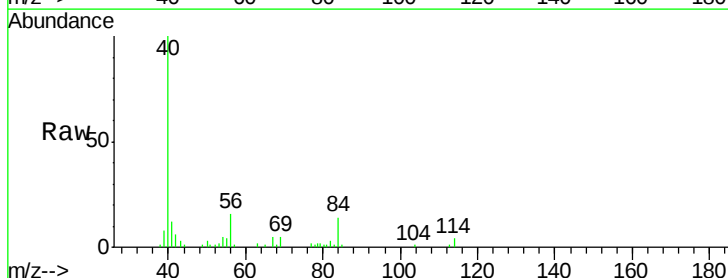
Tgt Ion: 84 Resp: 5639

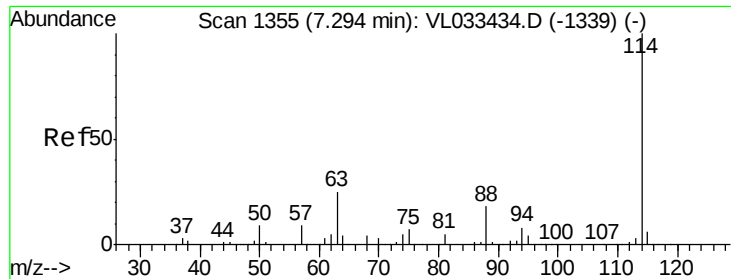
Ion Ratio Lower Upper

84 100

56 0.0 109.7 164.5#

41 155.3 68.2 102.2#

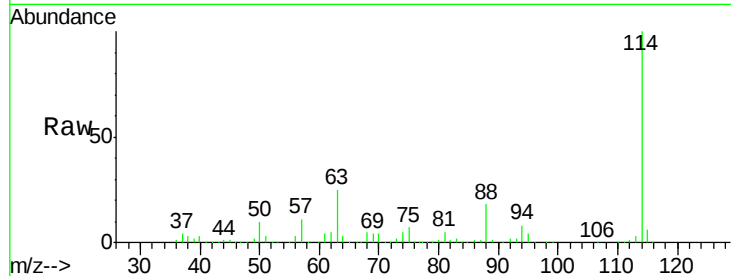




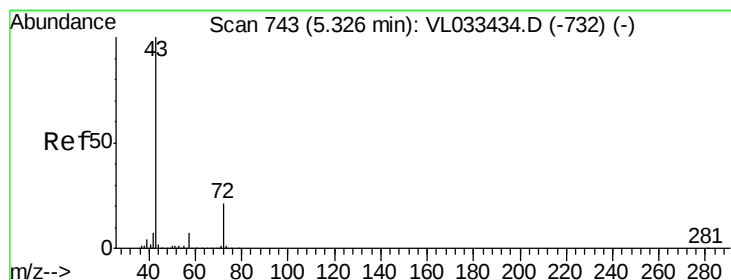
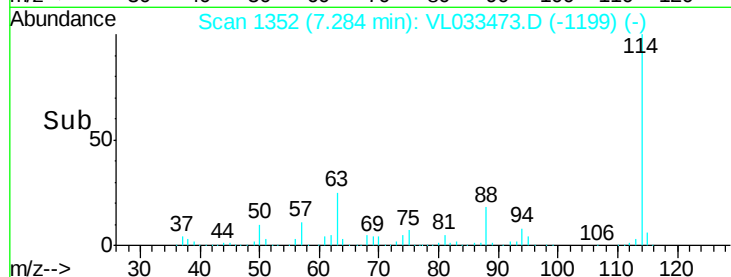
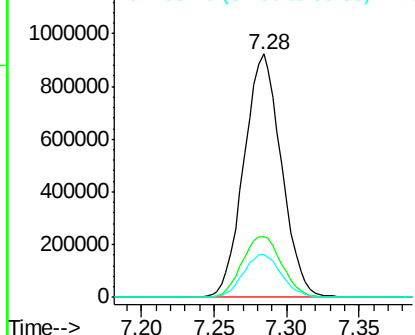
#33
 1,4-Difluorobenzene
 Concen: 10.000 ppbv
 RT: 7.28 min Scan# 1352
 Delta R.T. -0.01 min
 Lab File: VL033473.D
 Acq: 27 Mar 2019 18:06

Instrument :
 MSVOA_L
 ClientSampled :

Tot Ion:114 Resp: 1663809
 Ion Ratio Lower Upper
 114 100
 63 26.6 21.5 32.3
 88 17.9 14.5 21.7

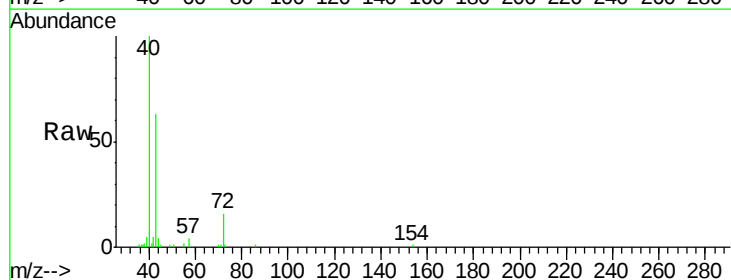


Abundance Ion 114.10 (113.80 to 114.80): V
 Ion 63.10 (62.80 to 63.80): VL0
 Ion 88.10 (87.80 to 88.80): VL0

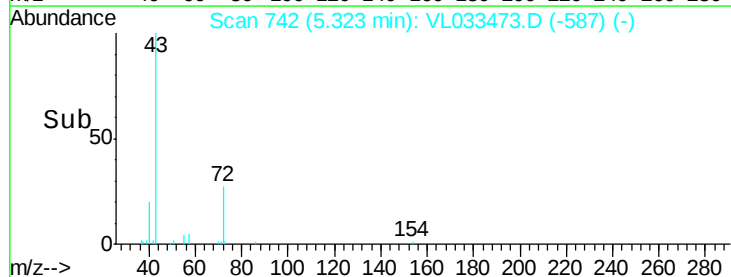
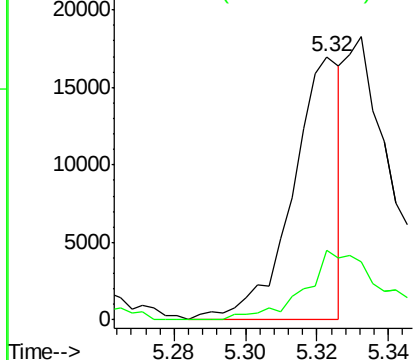


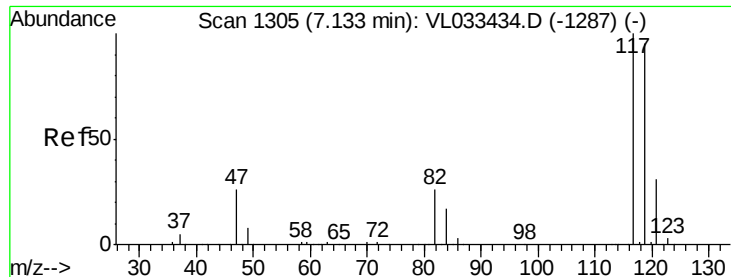
#34
 2-Butanone
 Concen: 0.159 ppbv
 RT: 5.32 min Scan# 742
 Delta R.T. -0.00 min
 Lab File: VL033473.D
 Acq: 27 Mar 2019 18:06

Tgt Ion: 43 Resp: 15941
 Ion Ratio Lower Upper
 43 100
 72 42.2 17.4 26.2#



Abundance Ion 43.10 (42.80 to 43.80): VL0
 Ion 72.10 (71.80 to 72.80): VL0





#35

Carbon Tetrachloride

Concen: 0.043 ppbv

RT: 7.12 min Scan# 1301

Delta R.T. -0.01 min

Lab File: VL033473.D

Acq: 27 Mar 2019 18:06

Instrument :

MSVOA_L

ClientSampleId :

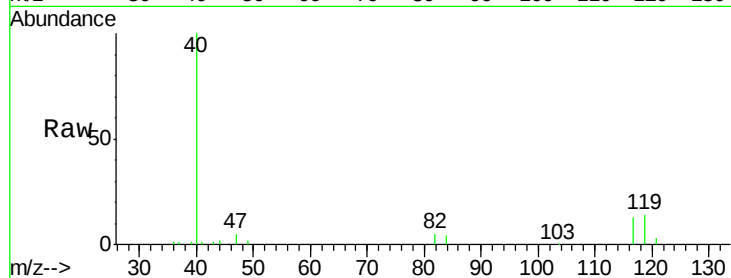
Tot Ion:117 Resp: 5032

Ion Ratio Lower Upper

117 100

119 97.4 75.8 113.8

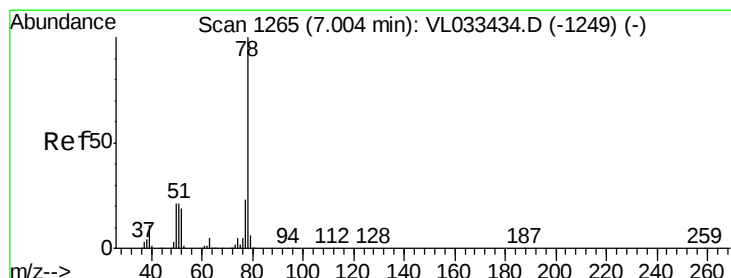
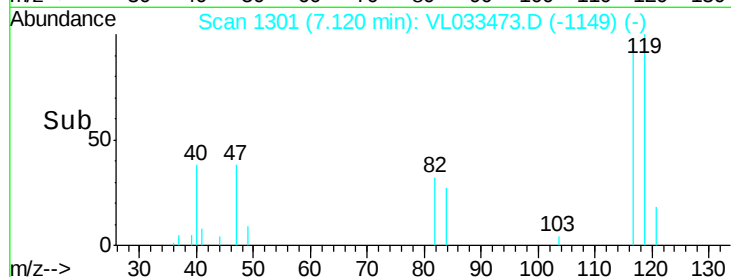
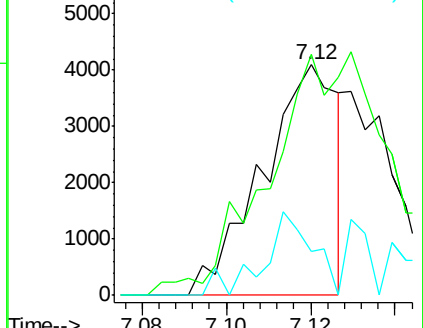
121 19.3 24.7 37.1#



Abundance Ion 117.00 (116.70 to 117.70): V

Ion 119.00 (118.70 to 119.70): V

Ion 121.00 (120.70 to 121.70): V



#36

Benzene

Concen: 0.237 ppbv

RT: 6.99 min Scan# 1261

Delta R.T. -0.01 min

Lab File: VL033473.D

Acq: 27 Mar 2019 18:06

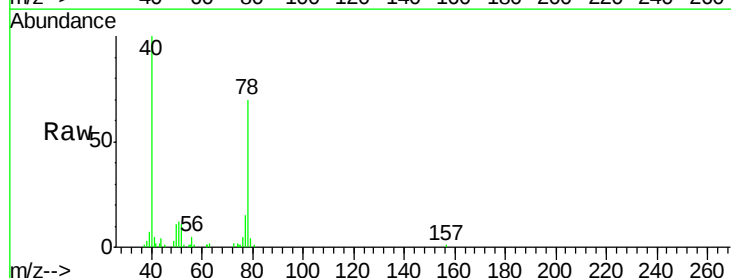
Tgt Ion: 78 Resp: 33077

Ion Ratio Lower Upper

78 100

77 21.1 18.1 27.1

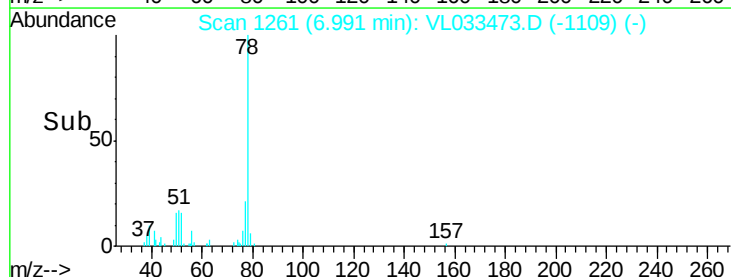
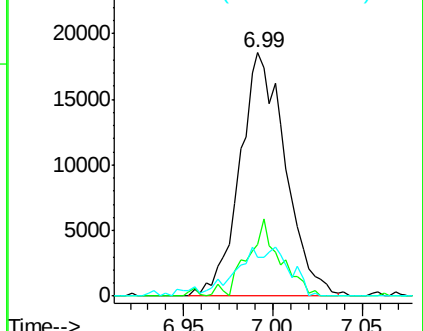
50 16.1 16.7 25.1#

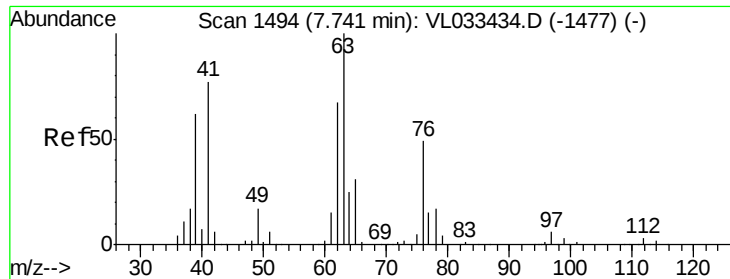


Abundance Ion 78.10 (77.80 to 78.80): VL0

Ion 77.10 (76.80 to 77.80): VL0

Ion 50.10 (49.80 to 50.80): VL0

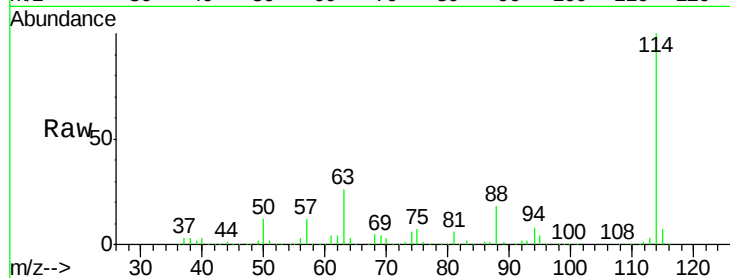




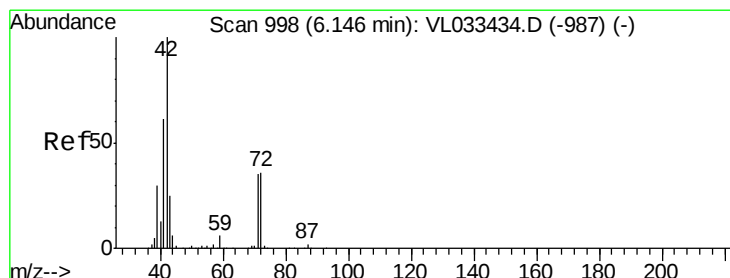
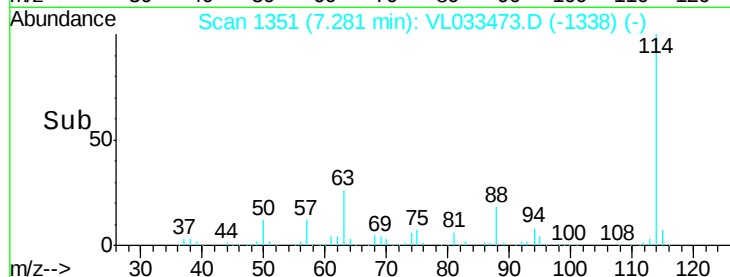
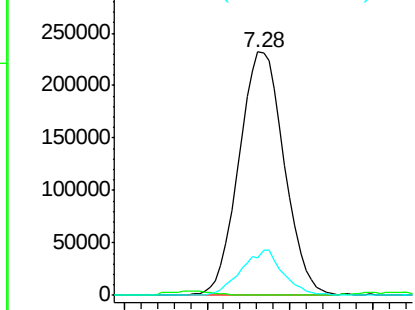
#39
 1,2-Dichloropropane
 Concen: 8.000 ppbv
 RT: 7.28 min Scan# 1351
 Delta R.T. -0.46 min
 Lab File: VL033473.D
 Acq: 27 Mar 2019 18:06

Instrument :
 MSVOA_L
 ClientSampleId :

Tot Ion: 63 Resp: 437525
 Ion Ratio Lower Upper
 63 100
 41 0.0 61.2 91.8#
 62 15.4 54.0 81.0#

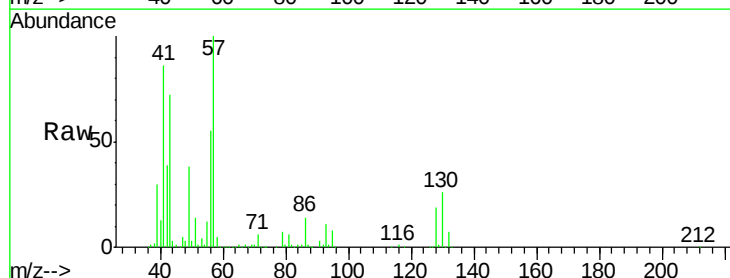


Abundance Ion 63.10 (62.80 to 63.80): VL0
 Ion 41.10 (40.80 to 41.80): VL0
 Ion 62.10 (61.80 to 62.80): VL0

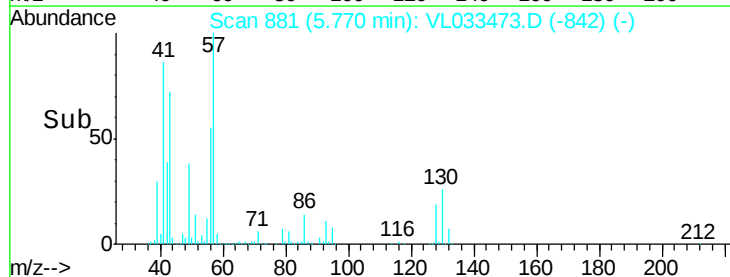
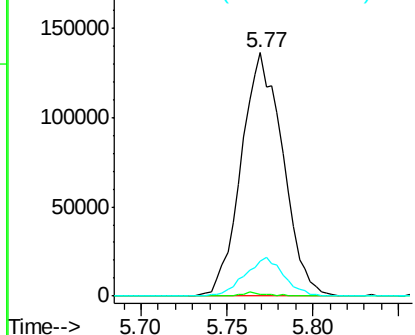


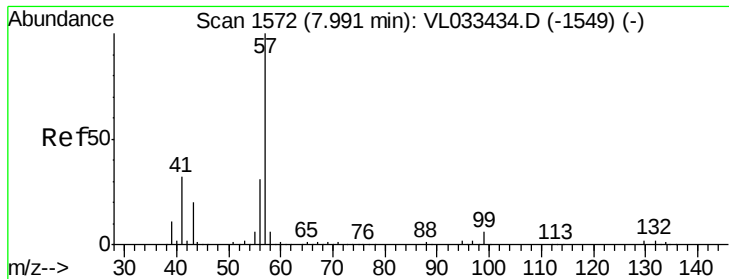
#41
 Tetrahydrofuran
 Concen: 4.154 ppbv
 RT: 5.77 min Scan# 881
 Delta R.T. -0.38 min
 Lab File: VL033473.D
 Acq: 27 Mar 2019 18:06

Tgt Ion: 42 Resp: 228404
 Ion Ratio Lower Upper
 42 100
 72 1.0 30.2 45.2#
 71 14.8 29.4 44.2#



Abundance Ion 42.10 (41.80 to 42.80): VL0
 Ion 72.10 (71.80 to 72.80): VL0
 Ion 71.10 (70.80 to 71.80): VL0





#44

2,2,4-Trimethylpentane

Concen: 0.032 ppbv

RT: 7.98 min Scan# 1569

Delta R.T. -0.01 min

Lab File: VL033473.D

Acq: 27 Mar 2019 18:06

Instrument :

MSVOA_L

ClientSampled :

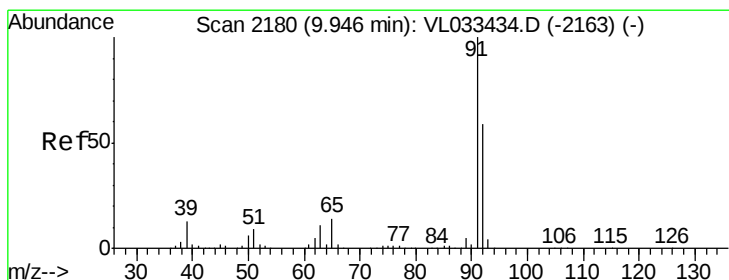
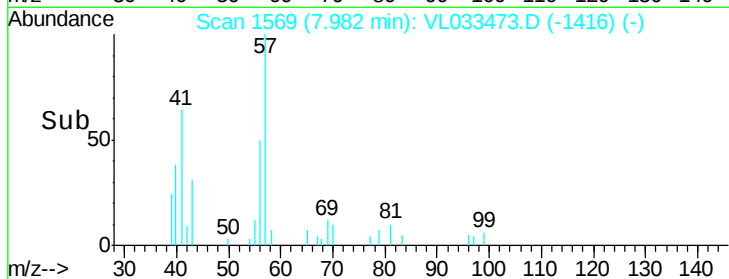
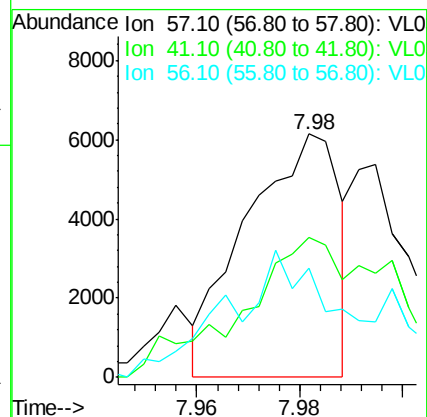
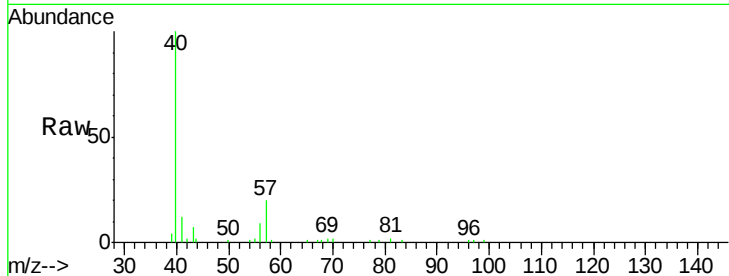
Tot Ion: 57 Resp: 7729

Ion Ratio Lower Upper

57 100

41 99.4 26.0 39.0#

56 76.0 24.6 37.0#



#53

Toluene

Concen: 11.667 ppbv

RT: 9.94 min Scan# 2177

Delta R.T. -0.01 min

Lab File: VL033473.D

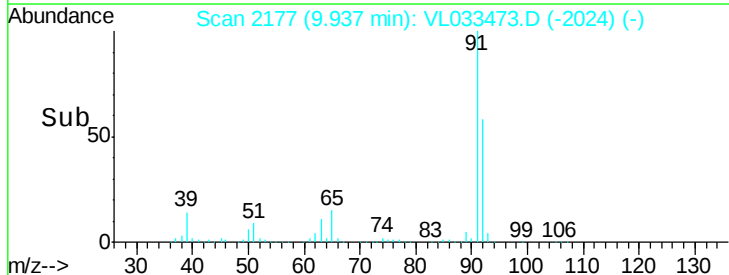
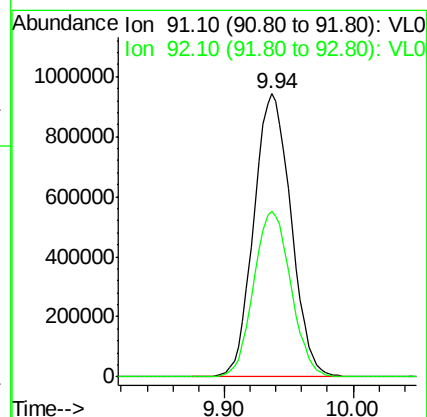
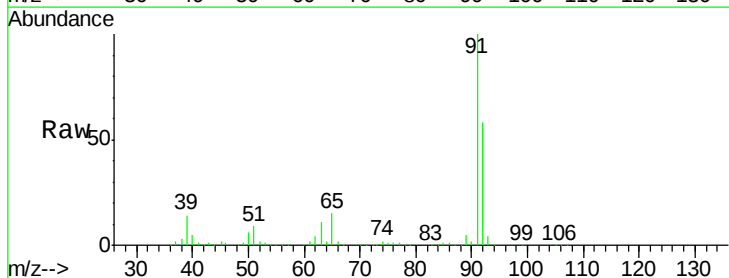
Acq: 27 Mar 2019 18:06

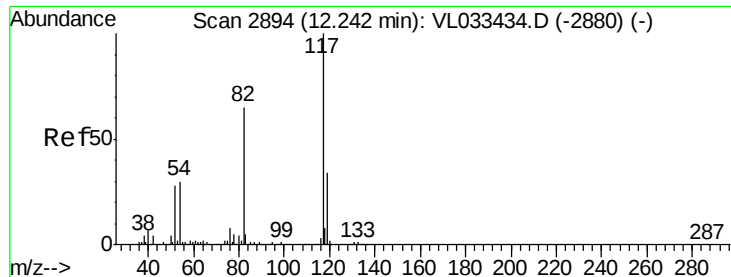
Tgt Ion: 91 Resp: 1892739

Ion Ratio Lower Upper

91 100

92 58.8 47.4 71.0

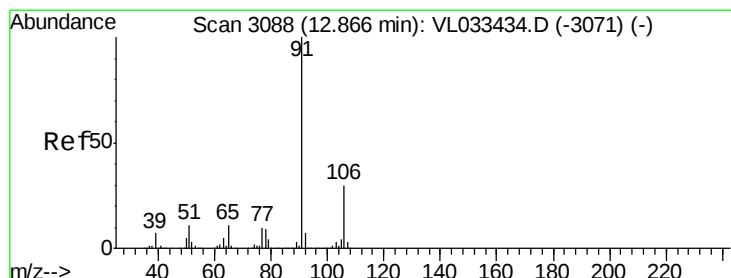
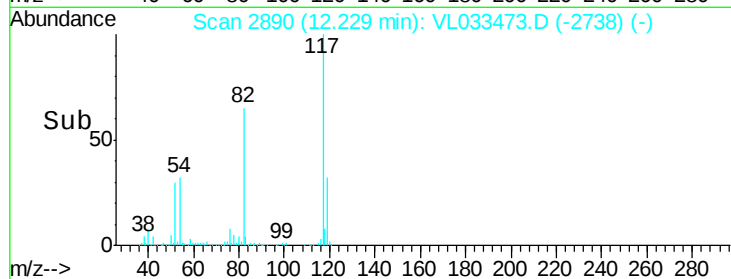
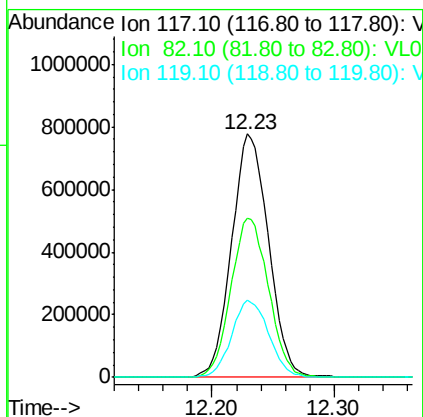
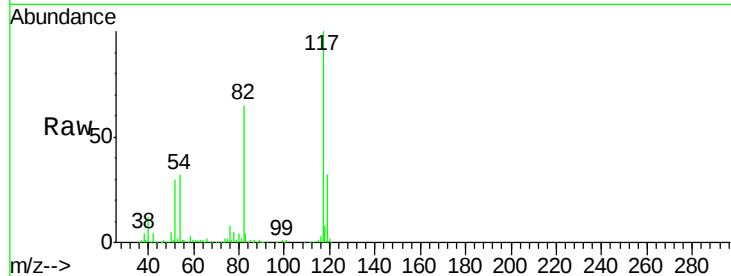




#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 12.23 min Scan# 2890
Delta R.T. -0.01 min
Lab File: VL033473.D
Acq: 27 Mar 2019 18:06

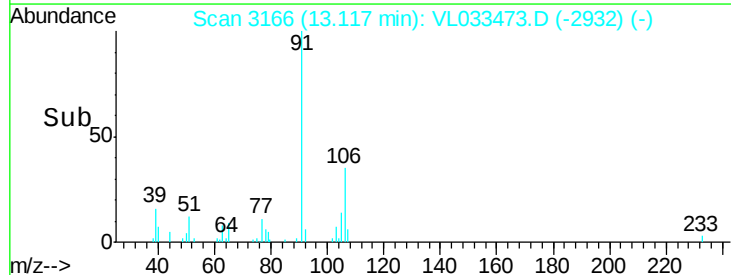
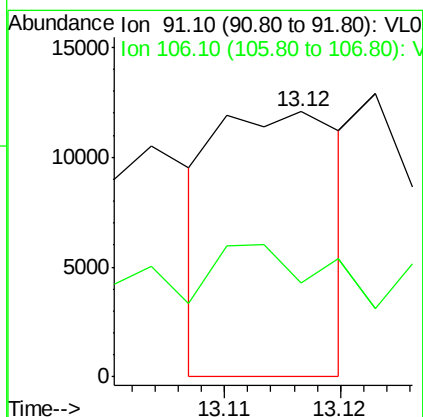
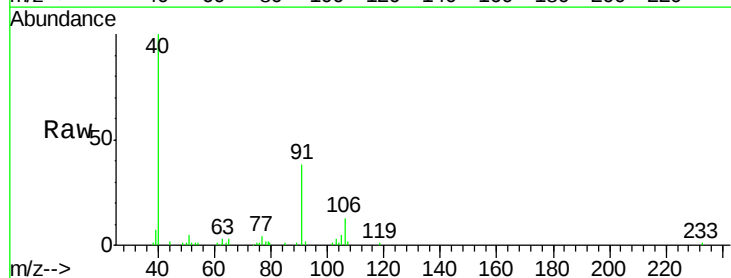
Instrument :
MSVOA_L
ClientSampleId :

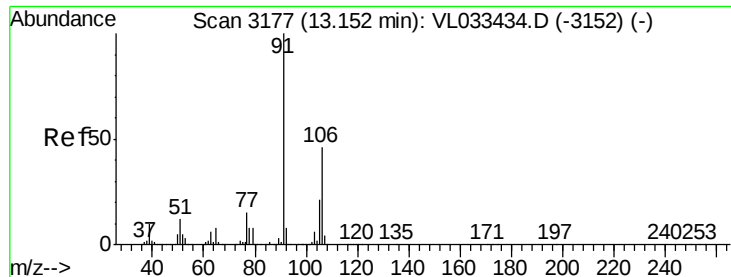
Tot Ion:117 Resp: 1630984
Ion Ratio Lower Upper
117 100
82 66.7 51.5 77.3
119 31.9 25.5 38.3



#58
Ethyl Benzene
Concen: 0.041 ppbv
RT: 13.12 min Scan# 3166
Delta R.T. 0.25 min
Lab File: VL033473.D
Acq: 27 Mar 2019 18:06

Tgt Ion: 91 Resp: 8977
Ion Ratio Lower Upper
91 100
106 24.2 23.8 35.6

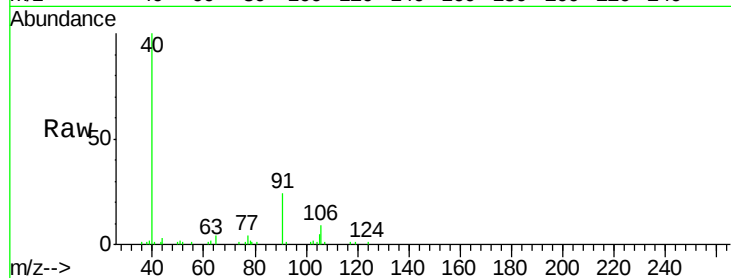




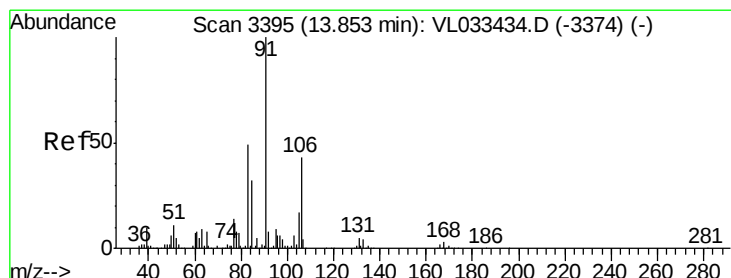
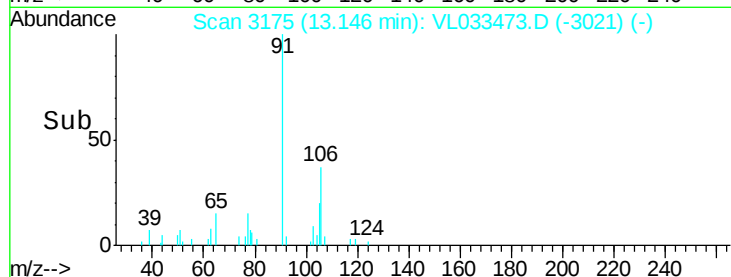
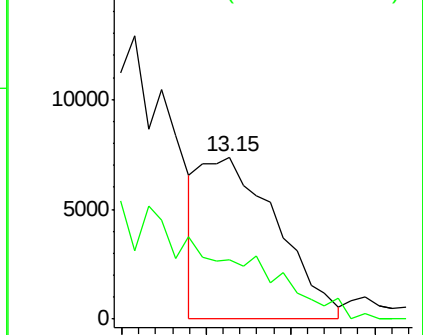
#59
m/p-Xylene
Concen: 0.048 ppbv
RT: 13.15 min Scan# 3175
Delta R.T. -0.01 min
Lab File: VL033473.D
Acq: 27 Mar 2019 18:06

Instrument :
MSVOA_L
ClientSampleId :

Tot Ion: 91 Resp: 9368
Ion Ratio Lower Upper
91 100
106 0.0 0.0 0.0

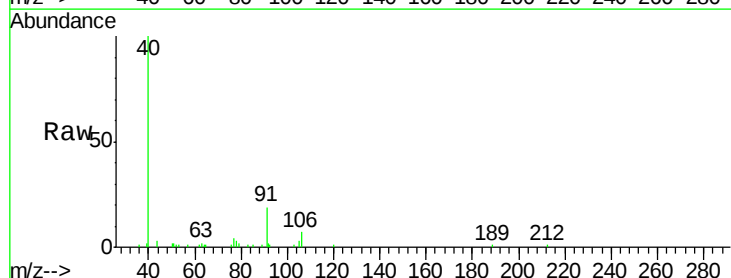


Abundance Ion 91.10 (90.80 to 91.80): VL0
Ion 106.10 (105.80 to 106.80): V

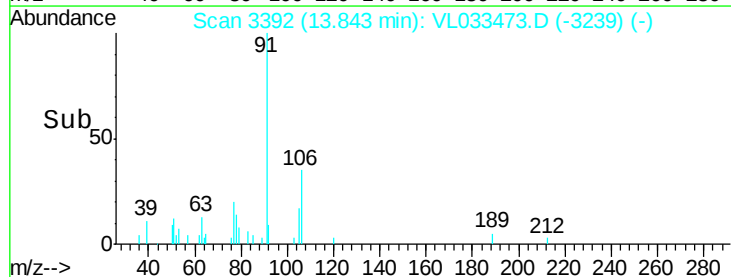
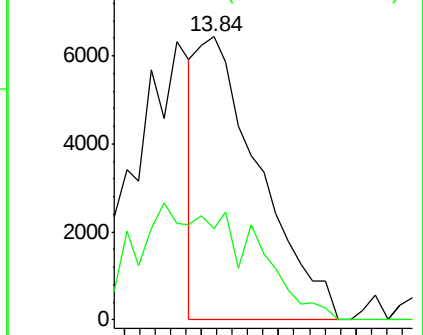


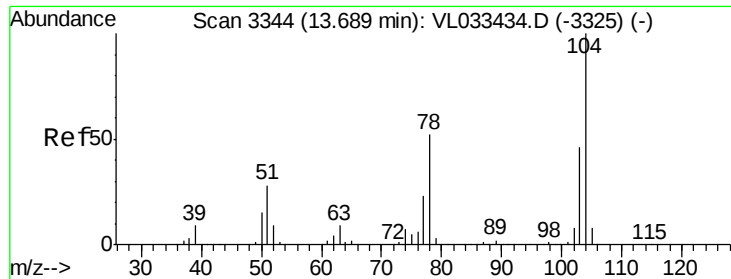
#60
o-Xylene
Concen: 0.038 ppbv
RT: 13.84 min Scan# 3392
Delta R.T. -0.01 min
Lab File: VL033473.D
Acq: 27 Mar 2019 18:06

Tgt Ion: 91 Resp: 7196
Ion Ratio Lower Upper
91 100
106 0.0 21.4 64.3#



Abundance Ion 91.10 (90.80 to 91.80): VL0
Ion 106.10 (105.80 to 106.80): V

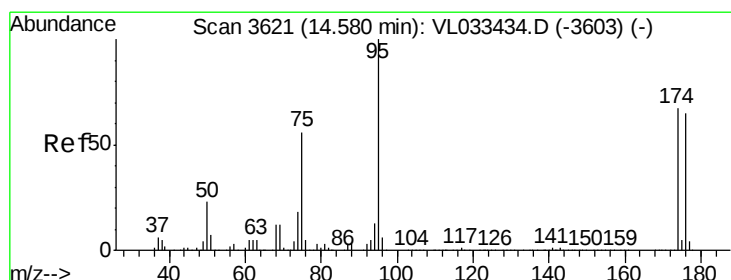
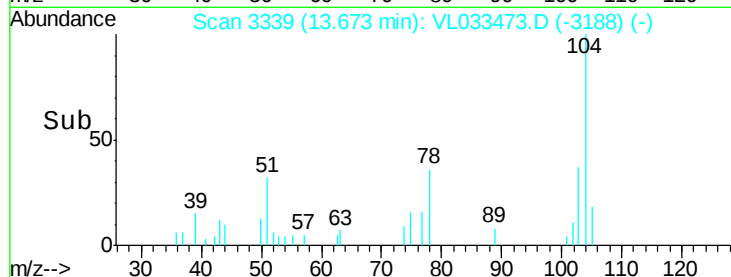
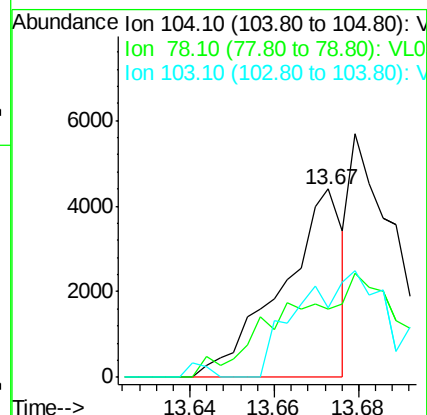
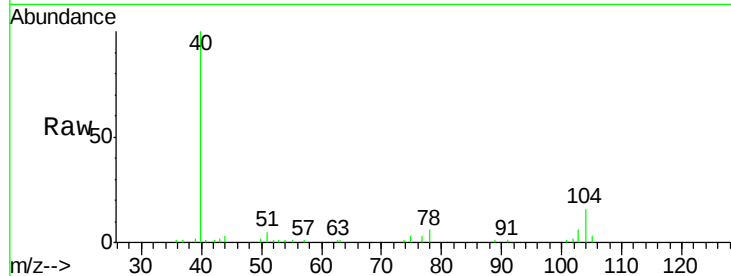




#61
Stvrene
Concen: 0.034 ppbv
RT: 13.67 min Scan# 3339
Delta R.T. -0.02 min
Lab File: VL033473.D
Acq: 27 Mar 2019 18:06

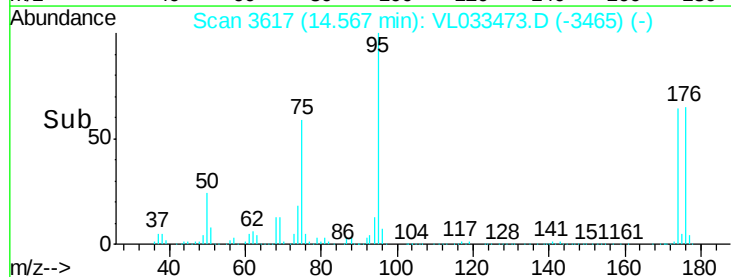
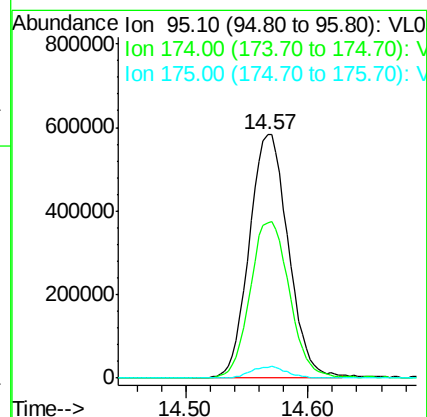
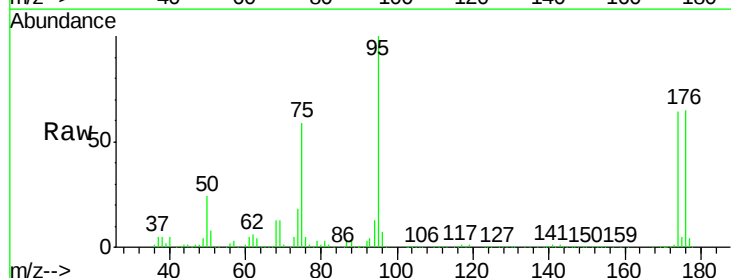
Instrument :
MSVOA_L
ClientSampleId :

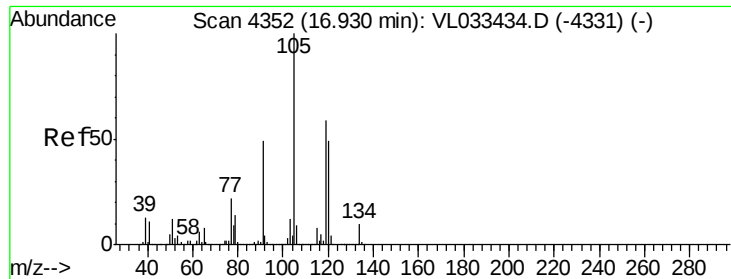
Tot Ion:104 Resp: 4398
Ion Ratio Lower Upper
104 100
78 0.0 43.2 64.8#
103 0.0 37.8 56.8#



#68
1-Bromo-4-Fluorobenzene
Concen: 10.048 ppbv
RT: 14.57 min Scan# 3617
Delta R.T. -0.01 min
Lab File: VL033473.D
Acq: 27 Mar 2019 18:06

Tgt Ion: 95 Resp: 1284775
Ion Ratio Lower Upper
95 100
174 65.0 52.9 79.3
175 4.6 3.8 5.6





#74
 1,2,4-Trimethylbenzene
 Concen: 0.037 ppbv
 RT: 16.91 min Scan# 4347
 Delta R.T. -0.02 min
 Lab File: VL033473.D
 Acq: 27 Mar 2019 18:06

Instrument :
 MSVOA_L
 ClientSampleId :

Tot Ion	Ratio	Lower	Upper
105	100		
120	29.2	39.0	58.6#
91	18.7	40.0	60.0#
77	15.8	17.5	26.3#

