

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL050619\
 Data File : VL033659.D
 Acq On : 6 May 2019 14:10
 Operator : SY/AP
 Sample : VSTDIC0.03
 Misc : 400ml/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :

Quant Time: May 06 14:39:11 2019
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL050619AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Mon May 06 12:00:34 2019
 QLast Update : Mon May 06 12:00:34 2019
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.76	49	900545	10.00	ppbv	0.00
33) 1,4-Difluorobenzene	7.28	114	2148372	10.00	ppbv	0.00
55) Chlorobenzene-d5	12.23	117	2303875	10.00	ppbv	0.00

System Monitoring Compounds

68) 1-Bromo-4-Fluorobenzene	14.57	95	1887385	10.26	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	102.60%

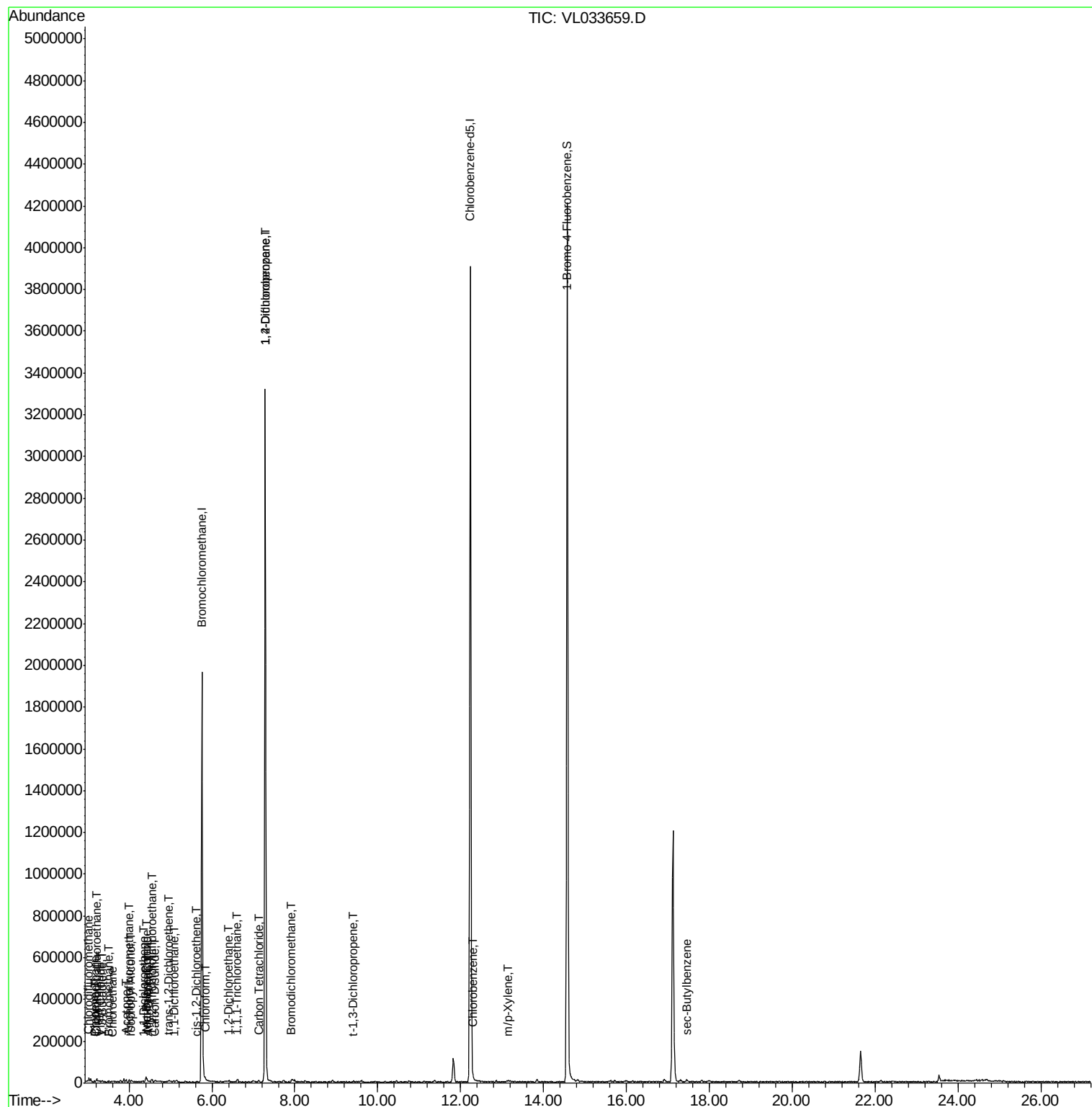
Target Compounds	R.T.	QIon	Response	Conc	Units	Ovalue
3) Chlorodifluoromethane	3.02	51	5119	0.047	ppbv	98
4) Chloromethane	3.17	50	1624	0.027	ppbv #	42
5) Vinyl Chloride	3.29	62	1376	0.022	ppbv #	83
6) Bromomethane	3.52	94	559	0.015	ppbv #	12
7) Chloroethane	3.60	64	979	0.047	ppbv #	43
8) Dichlorotetrafluoroethane	3.22	85	6040	0.040	ppbv	97
9) Propene	3.18	41	469	0.012	ppbv	96
11) Trichlorofluoromethane	4.00	101	6223	0.037	ppbv	84
12) 1,1,2-Trichlorotrifluoroet	4.54	101	1808	0.016	ppbv #	13
15) Acetone	3.93	43	10878	0.096	ppbv #	81
16) 1,3-Butadiene	3.36	39	888	0.018	ppbv #	21
17) tert-Butyl alcohol	4.40	59	3765	0.039	ppbv	96
18) 1,1-Dichloroethene	4.35	96	627	0.013	ppbv #	85
19) Isopropyl Alcohol	4.05	45	1129	0.015	ppbv #	93
20) Methylene Chloride	4.40	84	2311	0.052	ppbv #	65
21) Allyl Chloride	4.47	41	901	0.013	ppbv #	1
22) trans-1,2-Dichloroethene	4.96	96	1346	0.027	ppbv #	68
24) 1,1-Dichloroethane	5.08	63	4006	0.033	ppbv #	89
27) Carbon Disulfide	4.62	76	2381	0.022	ppbv #	64
29) Chloroform	5.84	83	2882	0.018	ppbv	94
31) cis-1,2-Dichloroethene	5.63	61	1120	0.013	ppbv #	66
32) 1,1,1-Trichloroethane	6.62	97	2008	0.012	ppbv #	1
35) Carbon Tetrachloride	7.12	117	1918	0.011	ppbv #	20
37) 1,2-Dichloroethane	6.40	62	1692	0.014	ppbv #	83
39) 1,2-Dichloropropane	7.28	63	582442	8.353	ppbv #	23
42) Bromodichloromethane	7.91	83	2752	0.016	ppbv #	64
45) t-1,3-Dichloropropene	9.41	75	1031	0.011	ppbv #	71
57) Chlorobenzene	12.30	112	2118	0.012	ppbv #	89
59) m/p-Xylene	13.14	91	2494	0.010	ppbv #	31
67) sec-Butylbenzene	17.45	105	5953	0.014	ppbv #	59

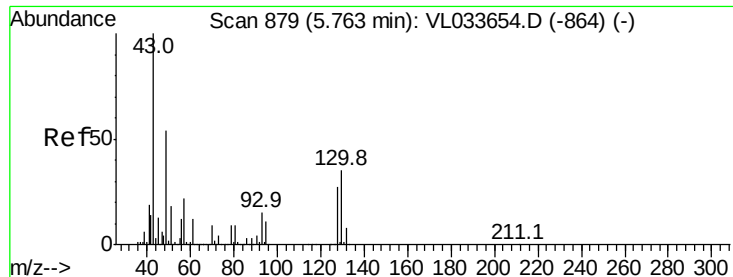
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\V0ASRV\HPCHEM1\MSVOA L\DATA\VL050619\
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Instrument :
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Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Mon May 06 12:00:34 2019
QLast Update : Mon May 06 12:00:34 2019
Response via : Initial Calibration





#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.76 min Scan# 877

Delta R.T. -0.01 min

Lab File: VL033659.D

Acq: 6 May 2019 14:10

Instrument :
MSVOA_L
ClientSampleId :

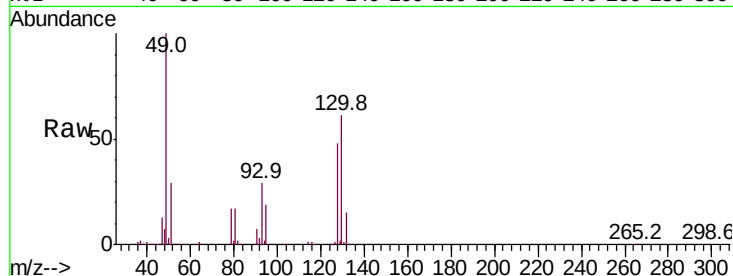
Tot Ion: 49 Resp: 900545

Ion Ratio Lower Upper

49 100

128 49.5 24.8 74.4

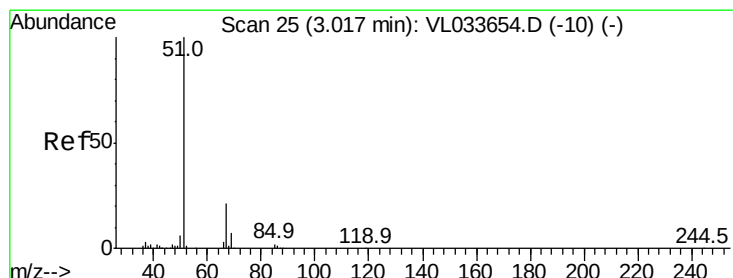
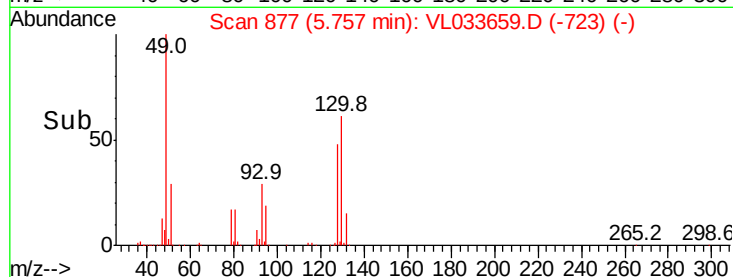
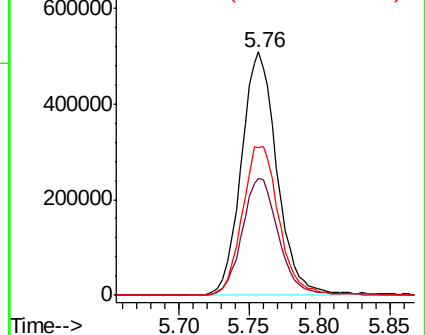
130 63.9 32.1 96.5



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



#3

Chlorodifluoromethane

Concen: 0.047 ppbv

RT: 3.02 min Scan# 25

Delta R.T. 0.00 min

Lab File: VL033659.D

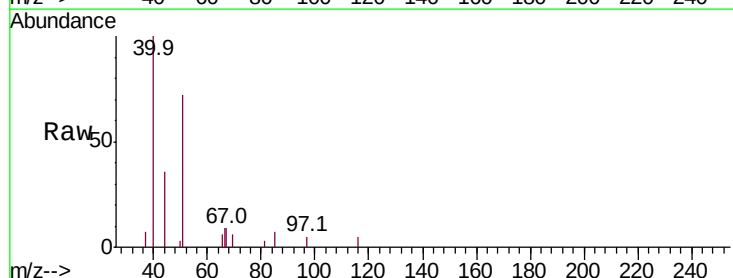
Acq: 6 May 2019 14:10

Tgt Ion: 51 Resp: 5119

Ion Ratio Lower Upper

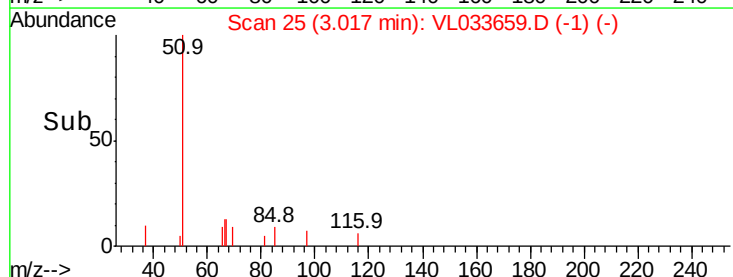
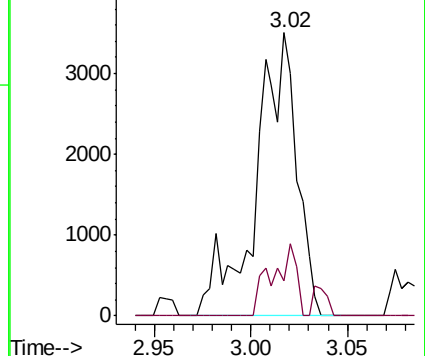
51 100

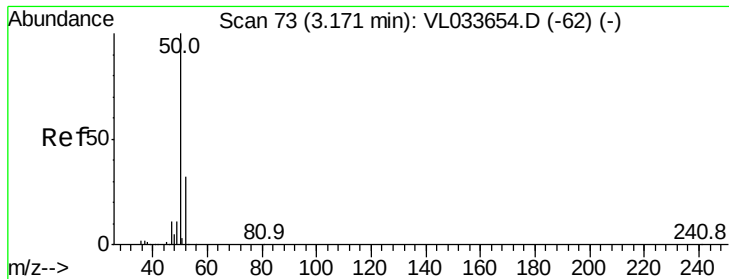
67 18.6 15.7 23.5



Abundance Ion 51.00 (50.70 to 51.70): VL0

Ion 67.00 (66.70 to 67.70): VL0





#4

Chloromethane

Concen: 0.027 ppbv

RT: 3.17 min Scan# 72

Delta R.T. -0.00 min

Lab File: VL033659.D

Acq: 6 May 2019 14:10

Instrument :

MSVOA_L

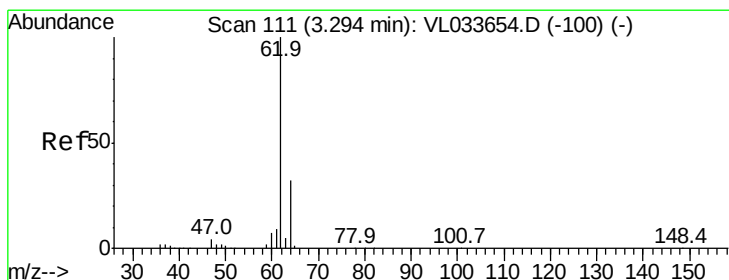
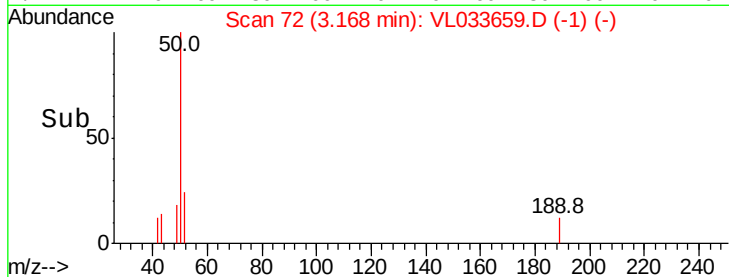
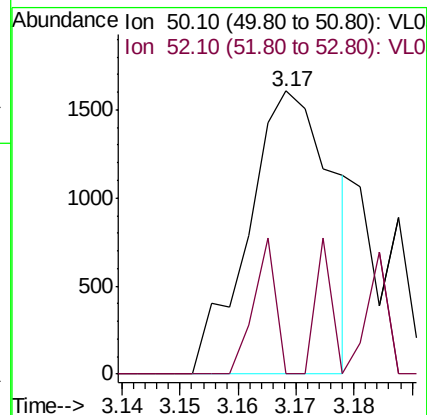
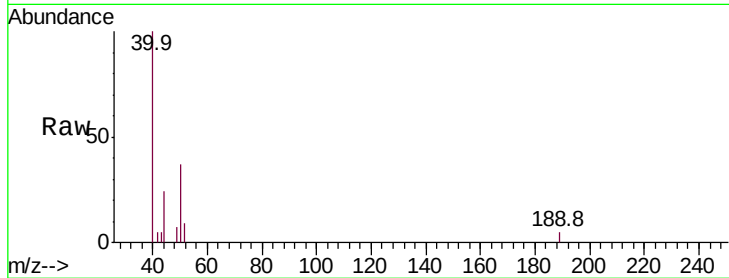
ClientSampleId :

Tot Ion: 50 Resp: 1624

Ion Ratio Lower Upper

50 100

52 0.0 25.8 38.8#



#5

Vinyl Chloride

Concen: 0.022 ppbv

RT: 3.29 min Scan# 111

Delta R.T. 0.00 min

Lab File: VL033659.D

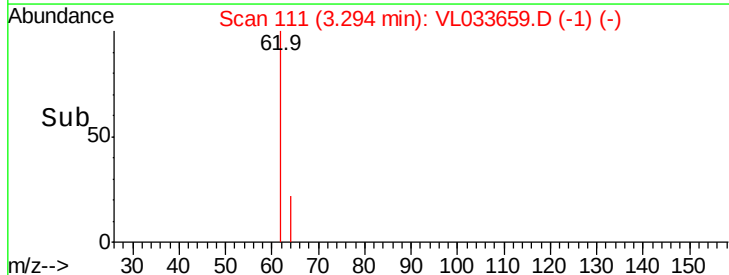
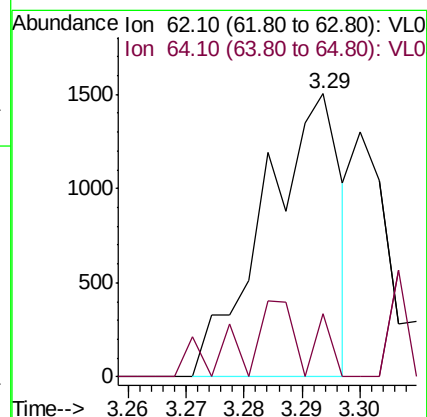
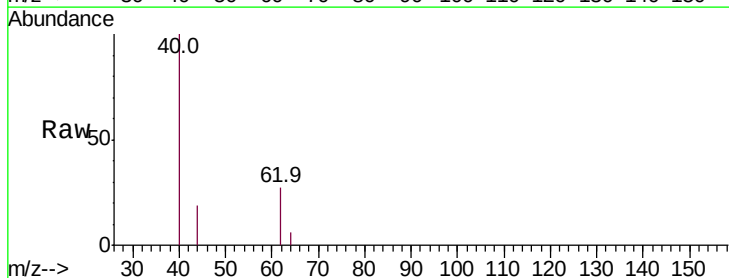
Acq: 6 May 2019 14:10

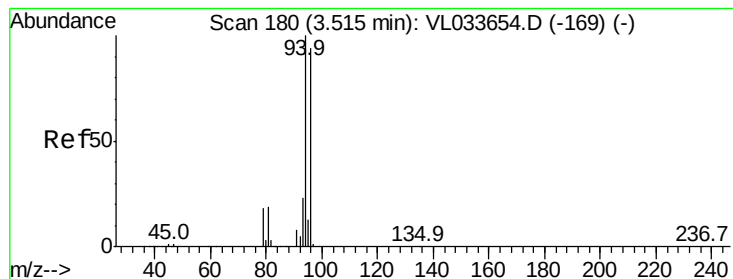
Tgt Ion: 62 Resp: 1376

Ion Ratio Lower Upper

62 100

64 22.5 25.6 38.4#





#6

Bromomethane

Concen: 0.015 ppbv

RT: 3.52 min Scan# 180

Delta R.T. 0.00 min

Lab File: VL033659.D

Acq: 6 May 2019 14:10

Instrument :

MSVOA_L

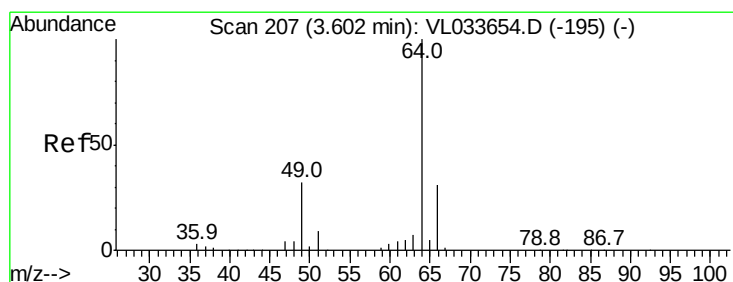
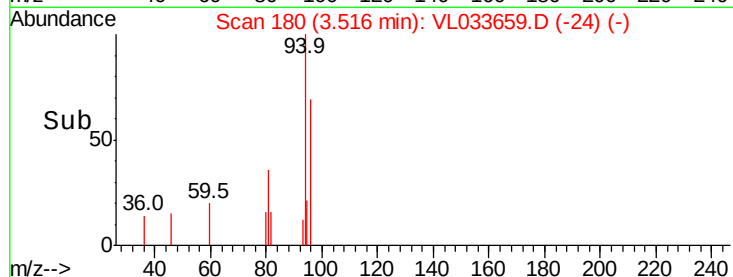
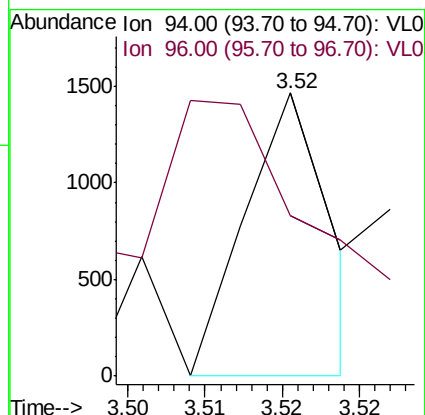
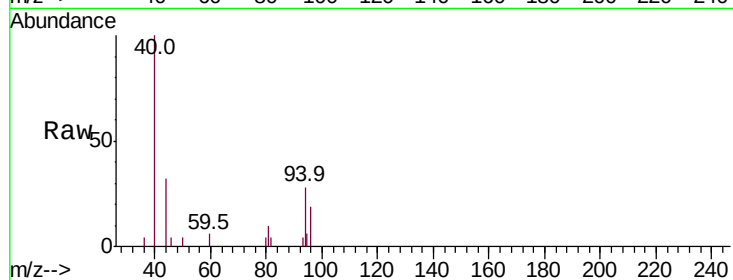
ClientSampleId :

Tot Ion: 94 Resp: 559

Ion Ratio Lower Upper

94 100

96 8.7 75.2 112.8#



#7

Chloroethane

Concen: 0.047 ppbv

RT: 3.60 min Scan# 206

Delta R.T. -0.00 min

Lab File: VL033659.D

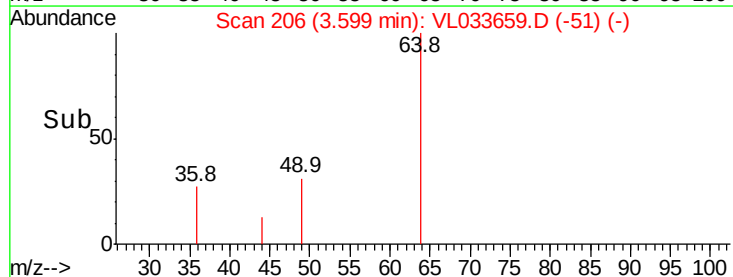
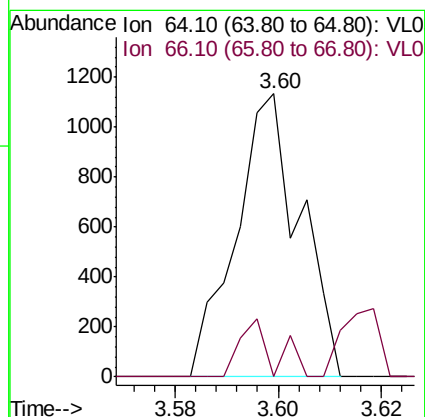
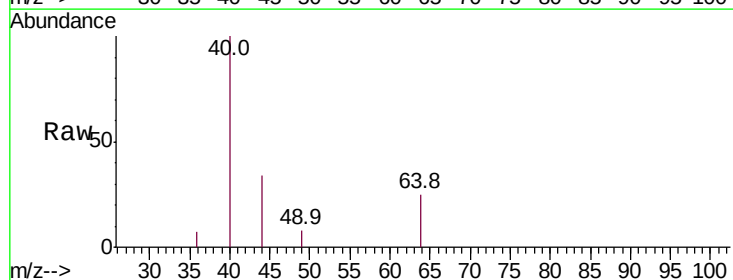
Acq: 6 May 2019 14:10

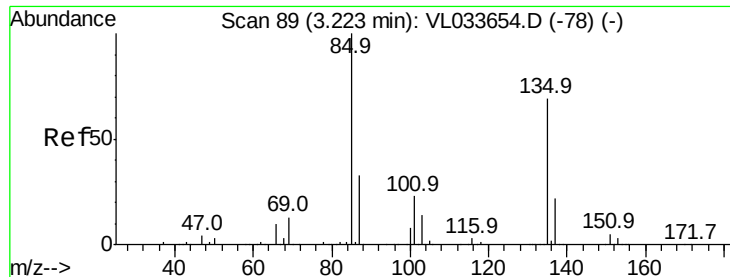
Tgt Ion: 64 Resp: 979

Ion Ratio Lower Upper

64 100

66 0.0 25.1 37.7#





#8

Dichlorotetrafluoroethane

Concen: 0.040 ppbv

RT: 3.22 min Scan# 88

Delta R.T. -0.00 min

Lab File: VL033659.D

Acq: 6 May 2019 14:10

Instrument :

MSVOA_L

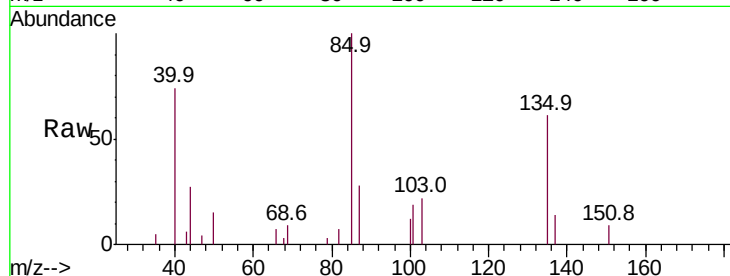
ClientSampleId :

Tot Ion: 85 Resp: 6040

Ion Ratio Lower Upper

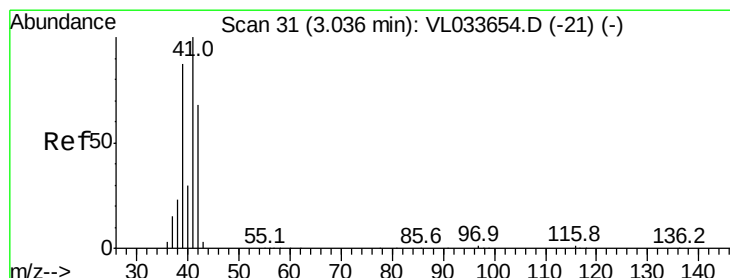
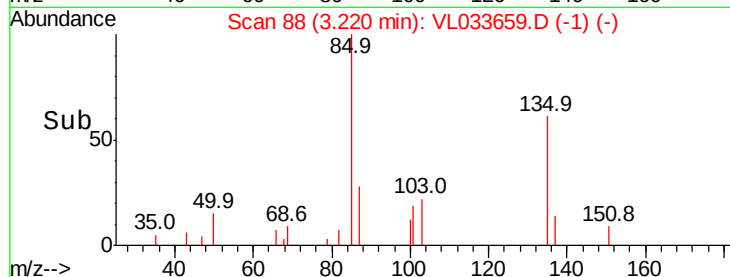
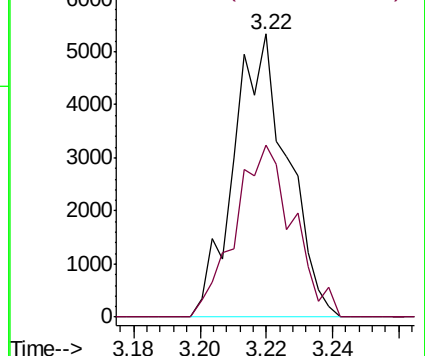
85 100

135 65.5 54.3 81.5



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 135.00 (134.70 to 135.70): VL0



#9

Propene

Concen: 0.012 ppbv

RT: 3.18 min Scan# 75

Delta R.T. 0.14 min

Lab File: VL033659.D

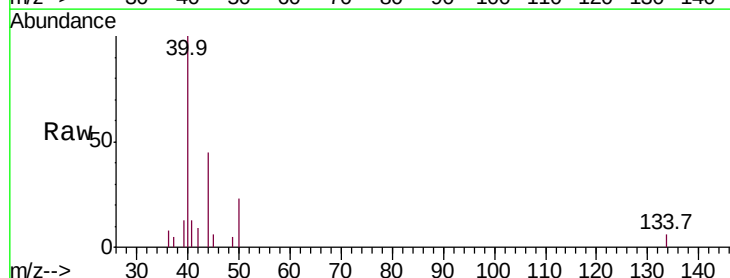
Acq: 6 May 2019 14:10

Tgt Ion: 41 Resp: 469

Ion Ratio Lower Upper

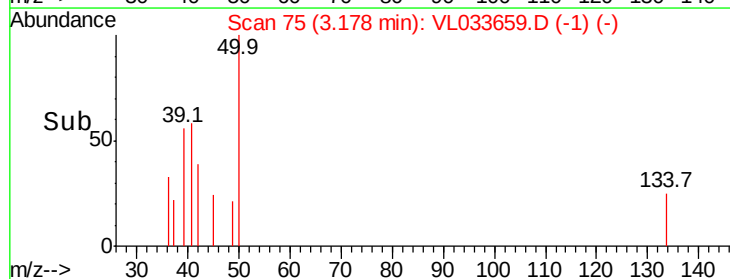
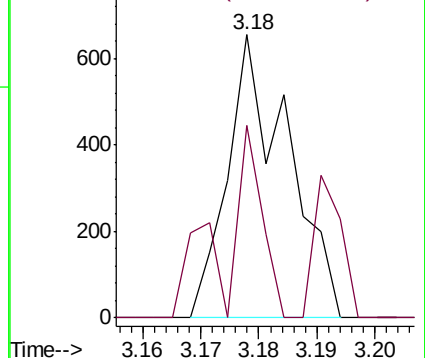
41 100

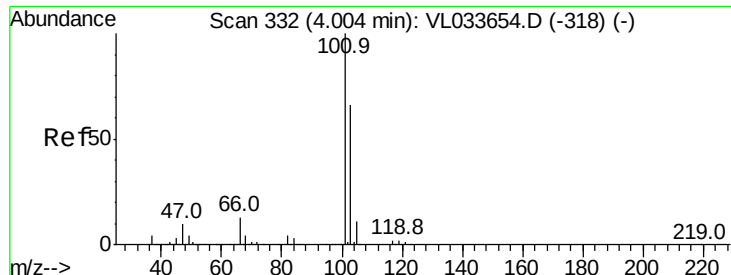
42 66.3 55.6 83.4



Abundance Ion 41.10 (40.80 to 41.80): VL0

Ion 42.10 (41.80 to 42.80): VL0

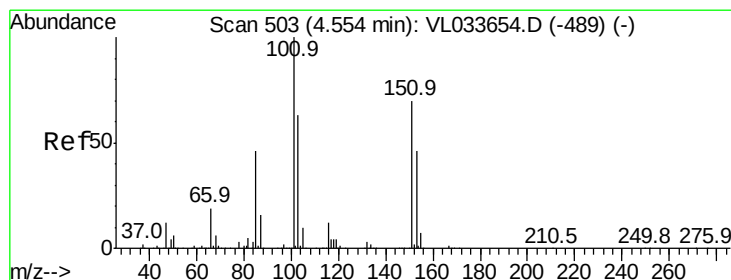
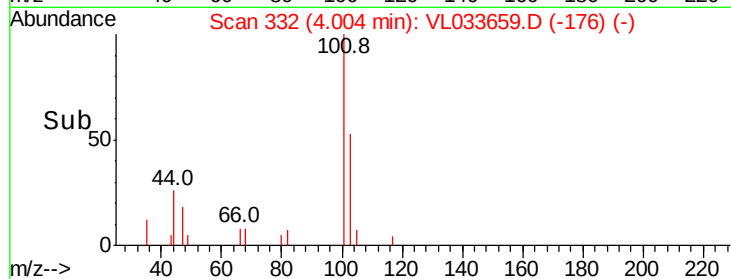
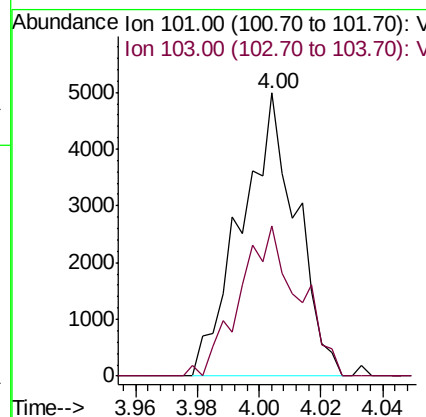
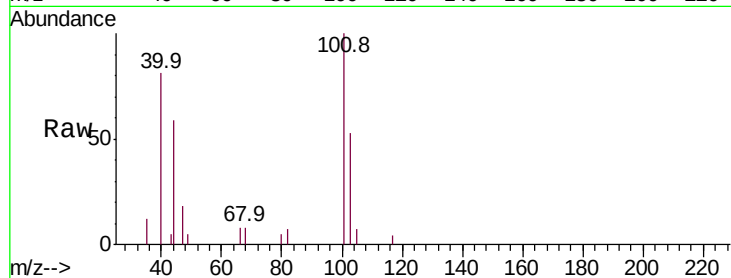




#11
 Trichlorofluoromethane
 Concen: 0.037 ppbv
 RT: 4.00 min Scan# 332
 Delta R.T. 0.00 min
 Lab File: VL033659.D
 Acq: 6 May 2019 14:10

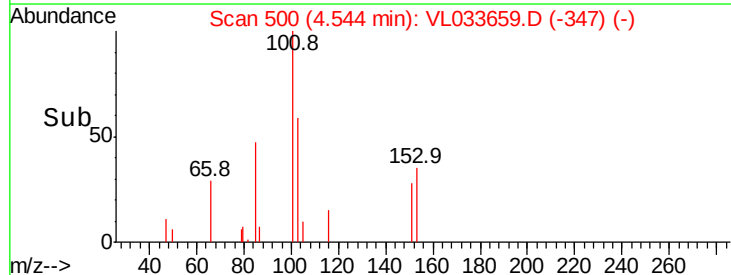
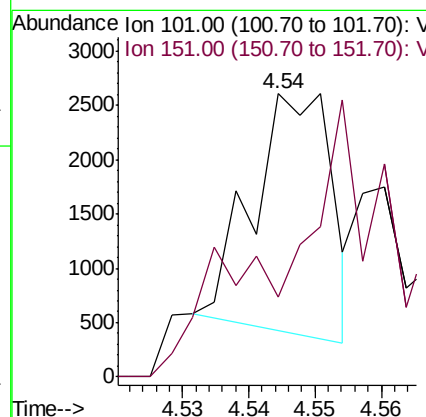
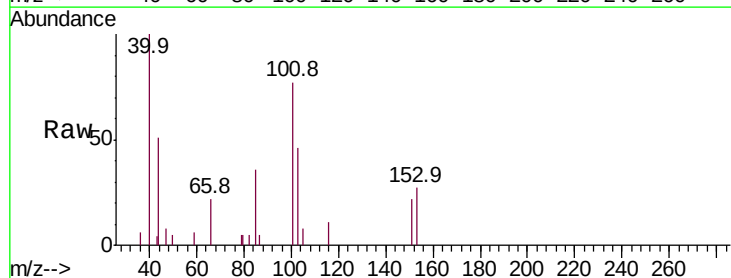
Instrument :
 MSVOA_L
 ClientSampled :

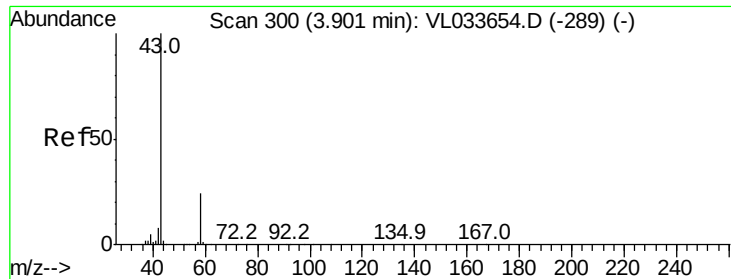
Tot Ion:101 Resp: 6223
 Ion Ratio Lower Upper
 101 100
 103 53.0 52.7 79.1



#12
 1,1,2-Trichlorotrifluoroethane
 Concen: 0.016 ppbv
 RT: 4.54 min Scan# 500
 Delta R.T. -0.01 min
 Lab File: VL033659.D
 Acq: 6 May 2019 14:10

Tgt Ion:101 Resp: 1808
 Ion Ratio Lower Upper
 101 100
 151 0.0 58.0 87.0#





#15

Acetone

Concen: 0.096 ppbv

RT: 3.93 min Scan# 309

Delta R.T. 0.03 min

Lab File: VL033659.D

Acq: 6 May 2019 14:10

Instrument :

MSVOA_L

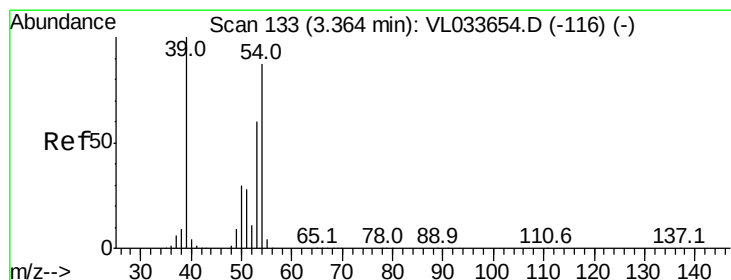
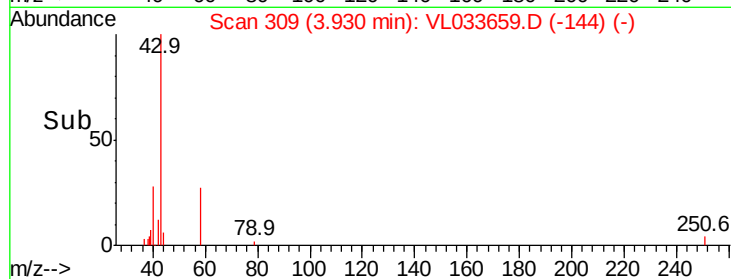
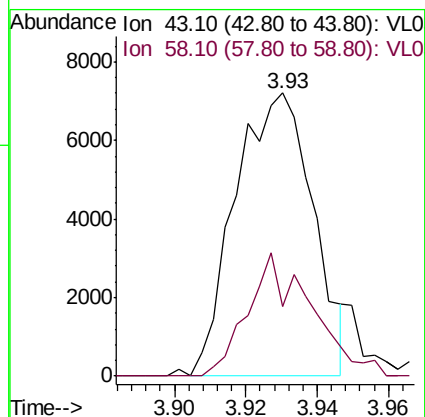
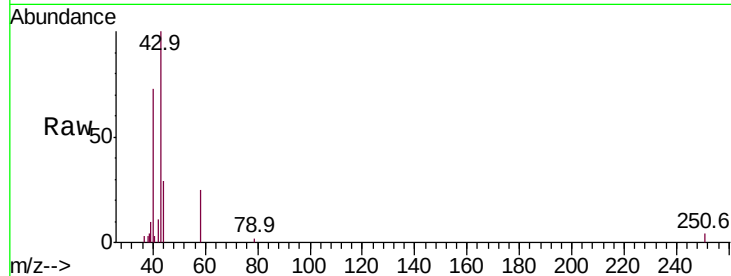
ClientSampleId :

Tot Ion: 43 Resp: 10878

Ion Ratio Lower Upper

43 100

58 35.6 20.9 31.3#



#16

1,3-Butadiene

Concen: 0.018 ppbv

RT: 3.36 min Scan# 133

Delta R.T. 0.00 min

Lab File: VL033659.D

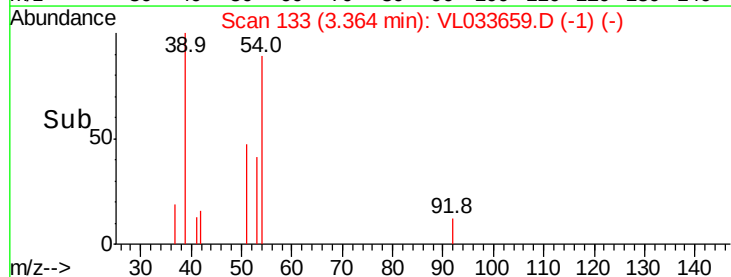
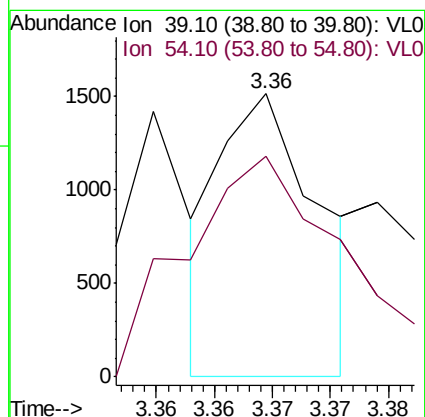
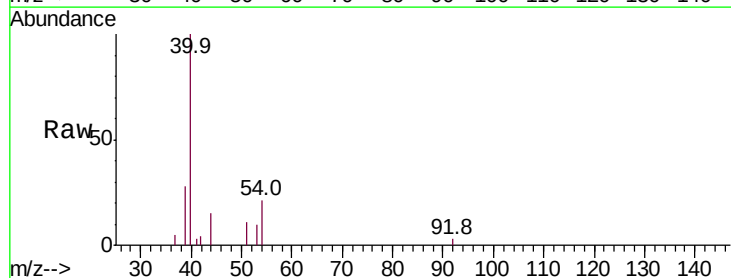
Acq: 6 May 2019 14:10

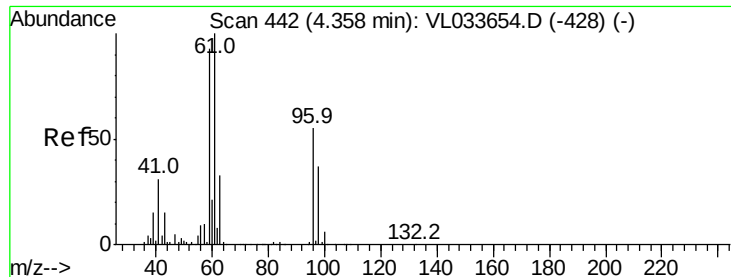
Tgt Ion: 39 Resp: 888

Ion Ratio Lower Upper

39 100

54 155.2 67.0 100.4#





#17

tert-Butyl alcohol

Concen: 0.039 ppbv

RT: 4.40 min Scan# 456

Delta R.T. 0.05 min

Lab File: VL033659.D

Acq: 6 May 2019 14:10

Instrument :

MSVOA_L

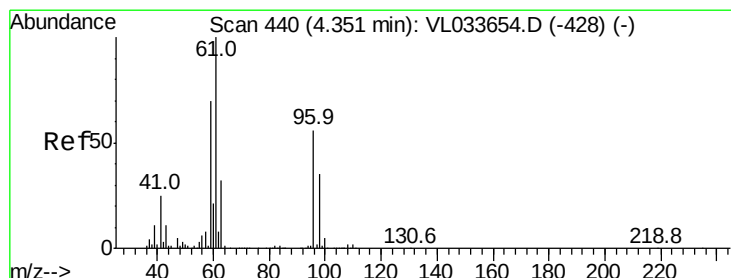
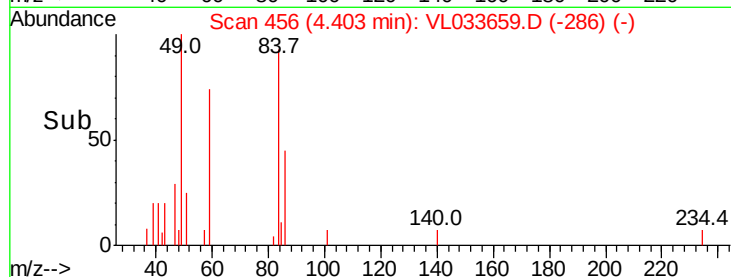
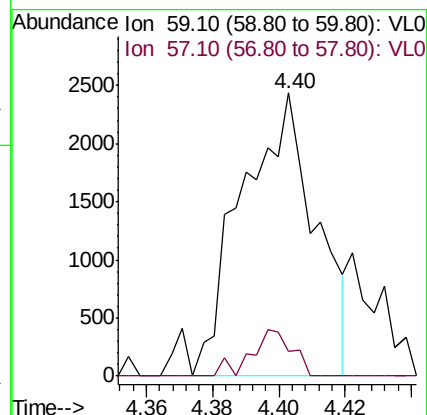
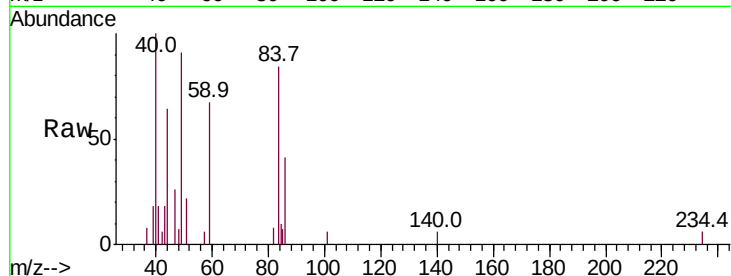
ClientSampleId :

Tot Ion: 59 Resp: 3765

Ion Ratio Lower Upper

59 100

57 9.0 8.4 12.6



#18

1,1-Dichloroethene

Concen: 0.013 ppbv

RT: 4.35 min Scan# 438

Delta R.T. -0.01 min

Lab File: VL033659.D

Acq: 6 May 2019 14:10

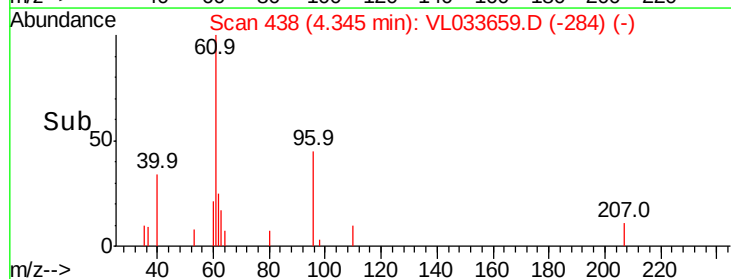
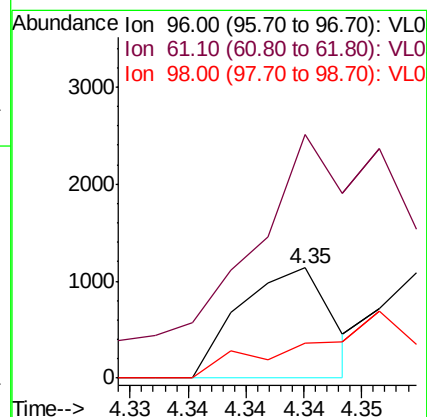
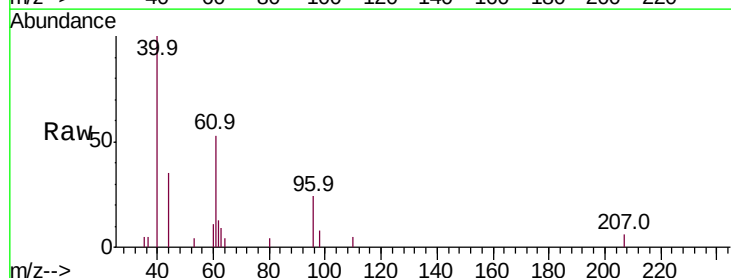
Tgt Ion: 96 Resp: 627

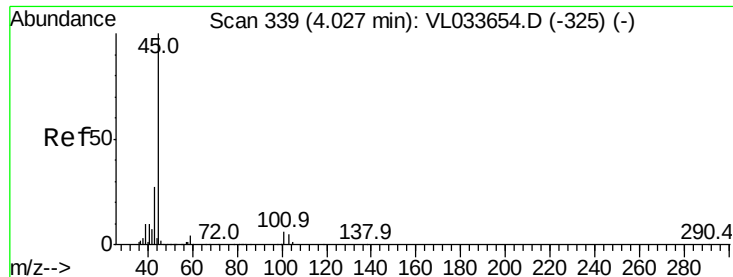
Ion Ratio Lower Upper

96 100

61 171.1 143.4 215.0

98 32.3 50.4 75.6#





#19

Isopropyl Alcohol

Concen: 0.015 ppbv

RT: 4.05 min Scan# 345

Delta R.T. 0.02 min

Lab File: VL033659.D

Acq: 6 May 2019 14:10

Instrument :

MSVOA_L

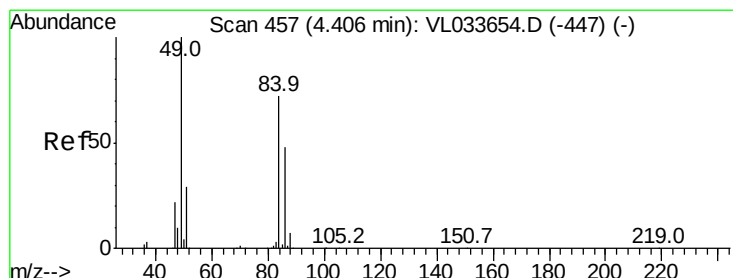
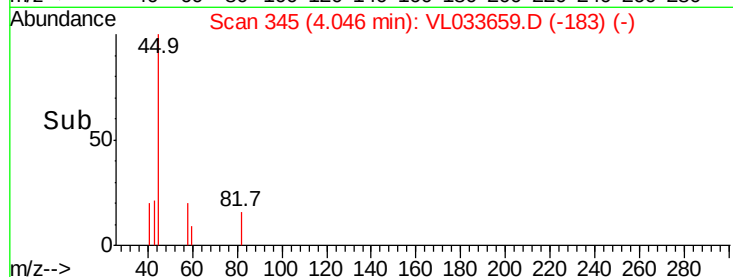
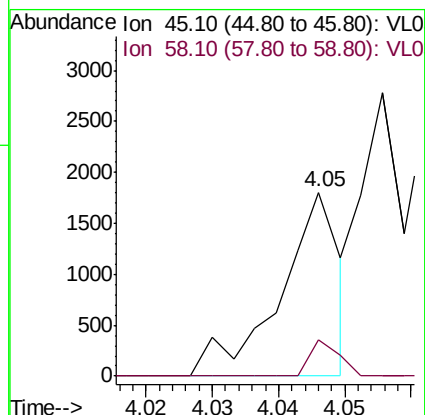
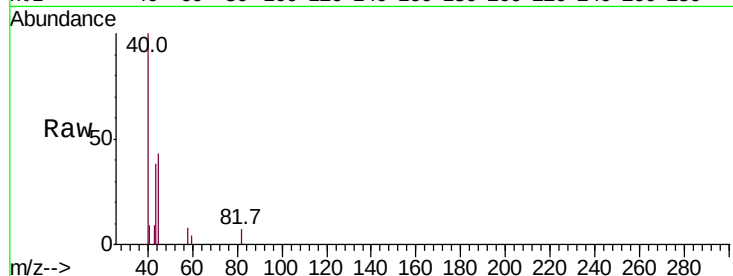
ClientSampleId :

Tot Ion: 45 Resp: 1129

Ion Ratio Lower Upper

45 100

58 0.0 1.9 2.9#



#20

Methylene Chloride

Concen: 0.052 ppbv

RT: 4.40 min Scan# 456

Delta R.T. -0.00 min

Lab File: VL033659.D

Acq: 6 May 2019 14:10

Tgt Ion: 84 Resp: 2311

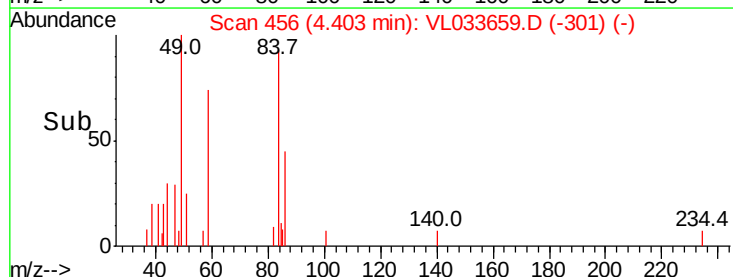
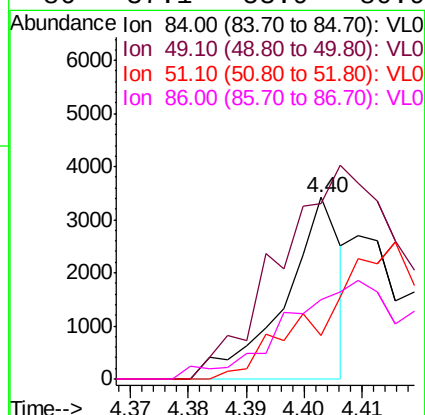
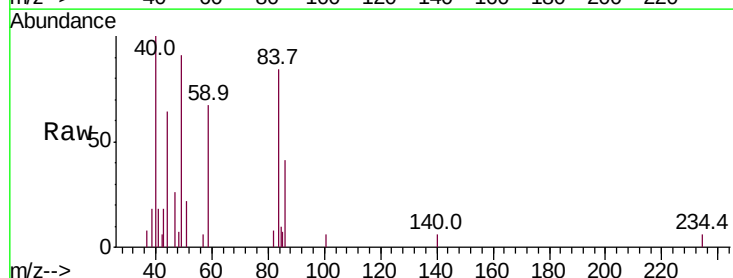
Ion Ratio Lower Upper

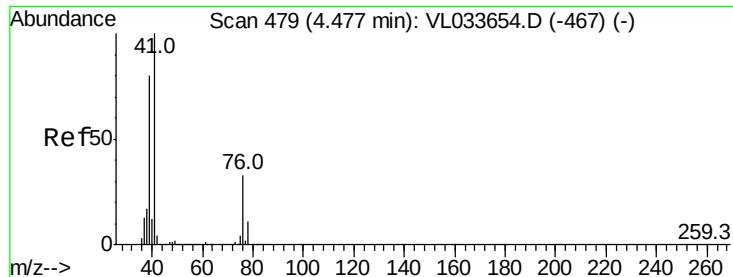
84 100

49 96.5 111.8 167.6#

51 23.9 32.3 48.5#

86 37.1 53.9 80.9#





#21

Allvl Chloride

Concen: 0.013 ppbv

RT: 4.47 min Scan# 477

Delta R.T. -0.01 min

Lab File: VL033659.D

Acq: 6 May 2019 14:10

Instrument :

MSVOA_L

ClientSampleId :

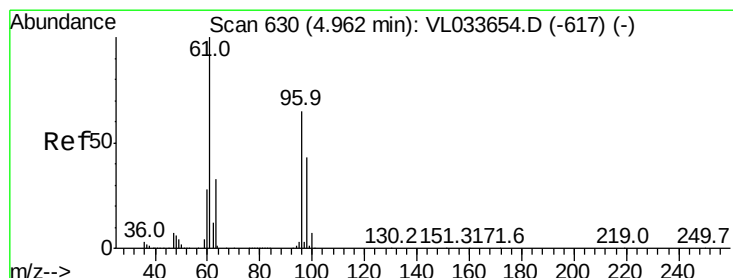
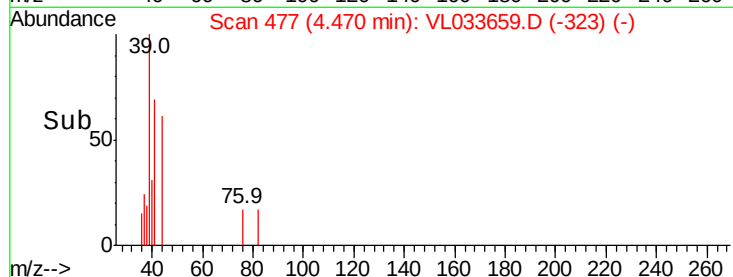
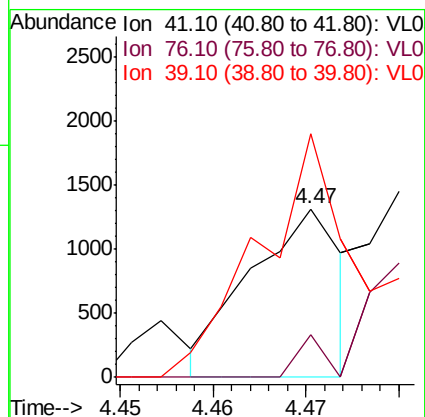
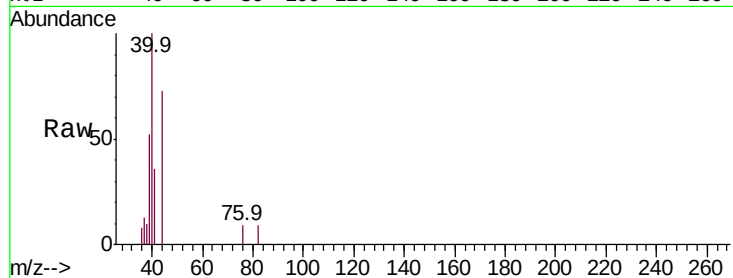
Tot Ion: 41 Resp: 901

Ion Ratio Lower Upper

41 100

76 0.0 26.0 39.0#

39 230.9 64.4 96.6#



#22

trans-1,2-Dichloroethene

Concen: 0.027 ppbv

RT: 4.96 min Scan# 629

Delta R.T. -0.00 min

Lab File: VL033659.D

Acq: 6 May 2019 14:10

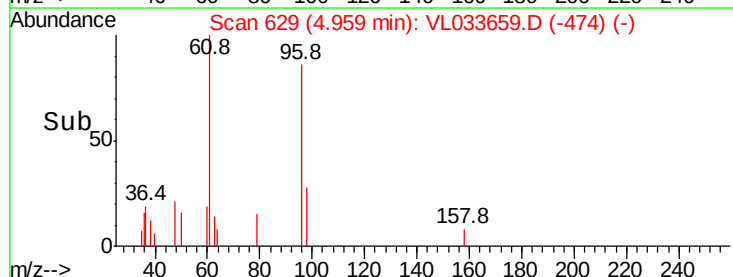
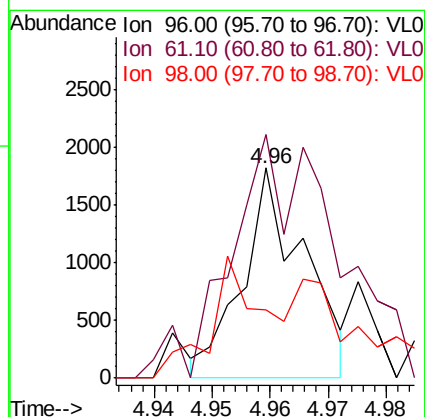
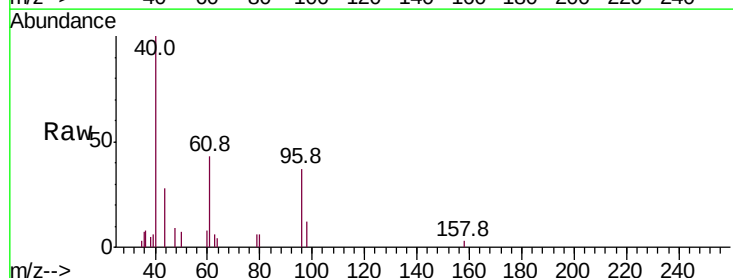
Tgt Ion: 96 Resp: 1346

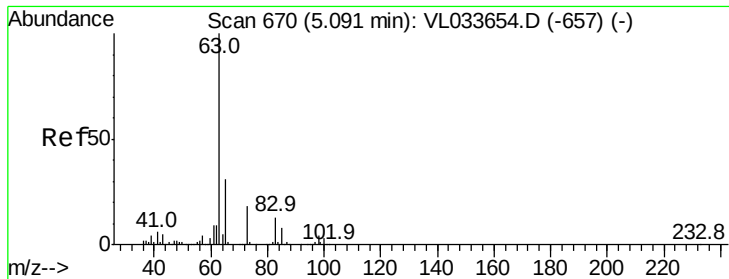
Ion Ratio Lower Upper

96 100

61 127.5 123.1 184.7

98 18.0 52.6 79.0#





#24

1,1-Dichloroethane

Concen: 0.033 ppbv

RT: 5.08 min Scan# 668

Delta R.T. -0.01 min

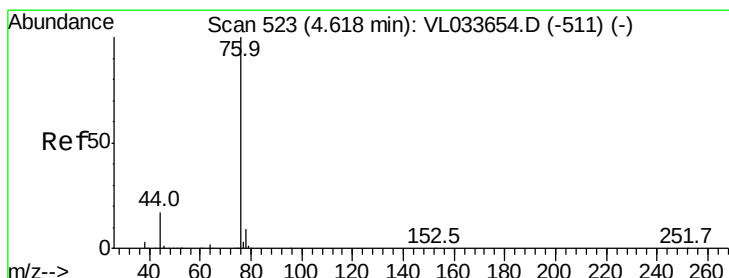
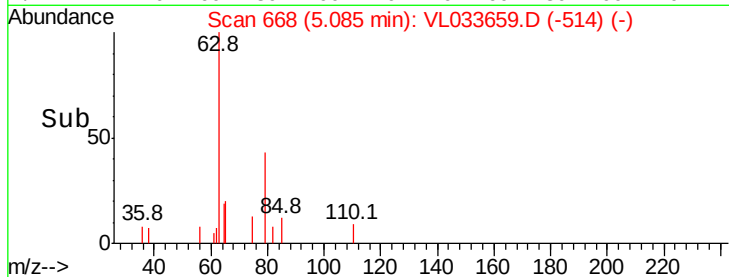
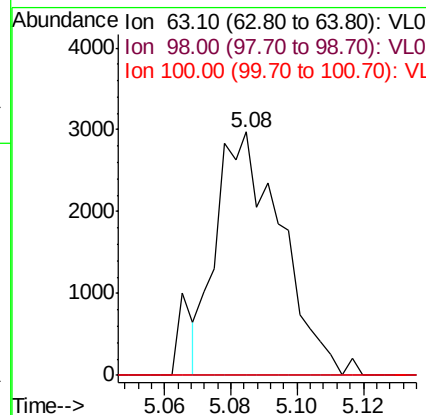
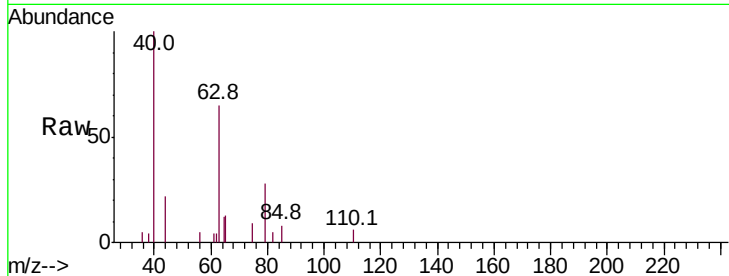
Lab File: VL033659.D

Acq: 6 May 2019 14:10

Instrument :
MSVOA_L
ClientSampleId :

Tot Ion: 63 Resp: 4006

Ion	Ratio	Lower	Upper
63	100		
98	0.0	2.1	6.2#
100	0.0	1.5	4.4#



#27

Carbon Disulfide

Concen: 0.022 ppbv

RT: 4.62 min Scan# 523

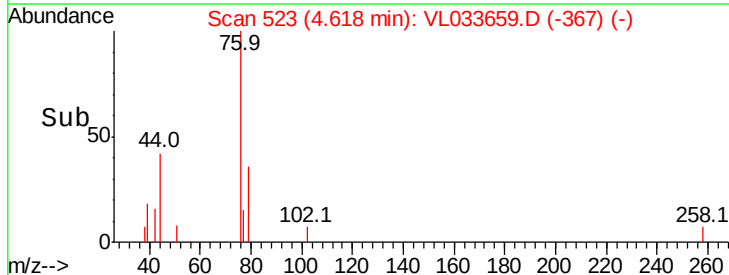
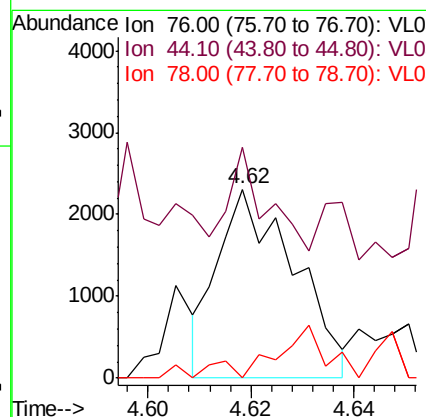
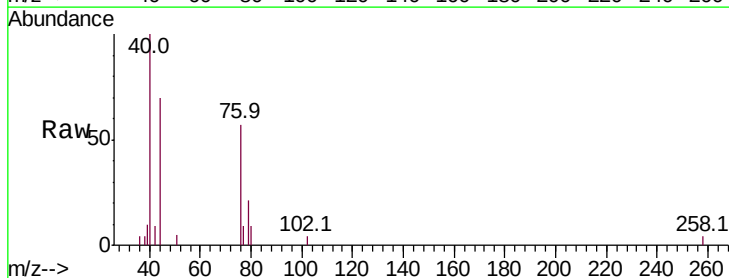
Delta R.T. 0.00 min

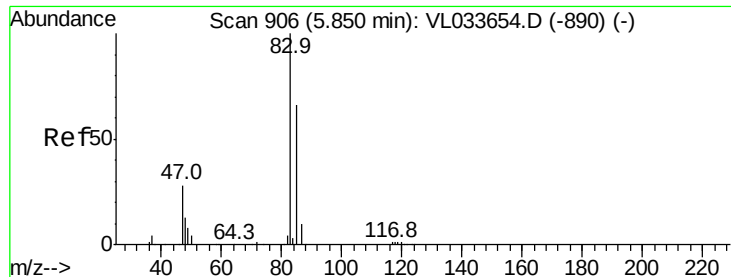
Lab File: VL033659.D

Acq: 6 May 2019 14:10

Tgt Ion: 76 Resp: 2381

Ion	Ratio	Lower	Upper
76	100		
44	0.0	14.4	21.6#
78	0.0	7.4	11.2#

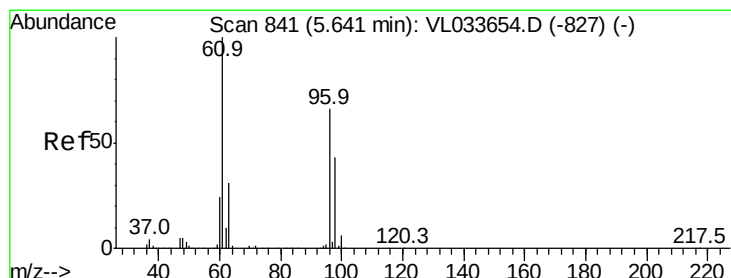
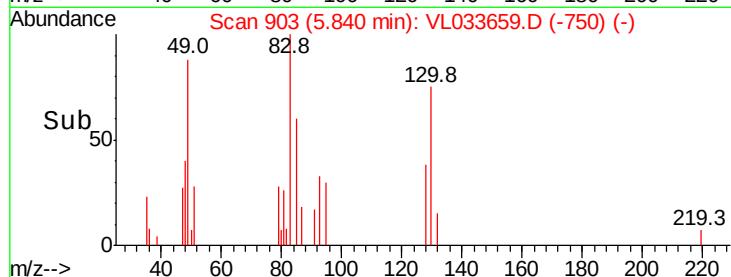
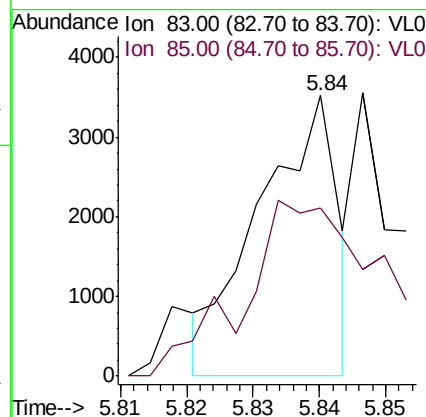
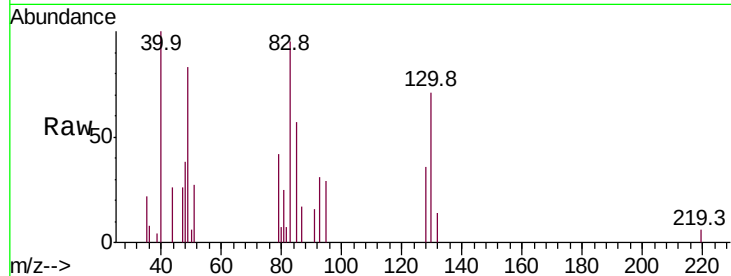




#29
Chloroform
Concen: 0.018 ppbv
RT: 5.84 min Scan# 903
Delta R.T. -0.01 min
Lab File: VL033659.D
Acq: 6 May 2019 14:10

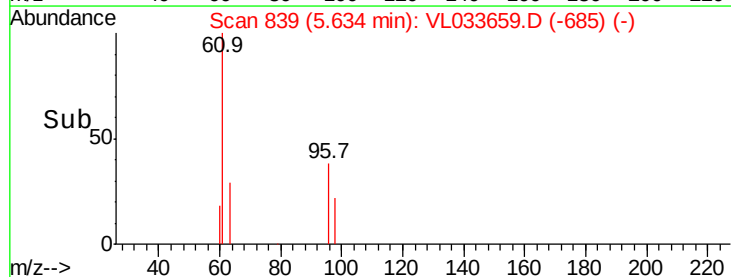
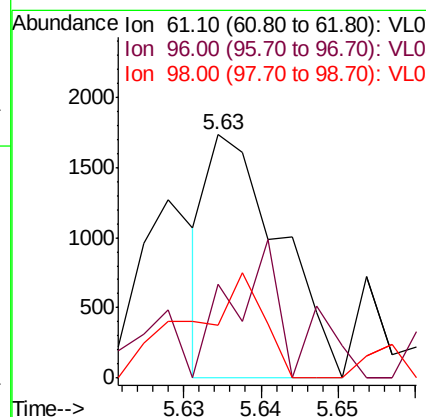
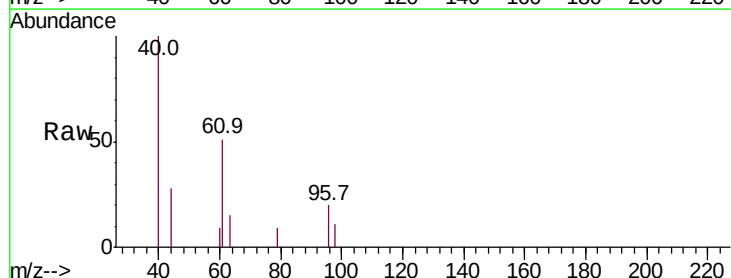
Instrument :
MSVOA_L
ClientSampled :

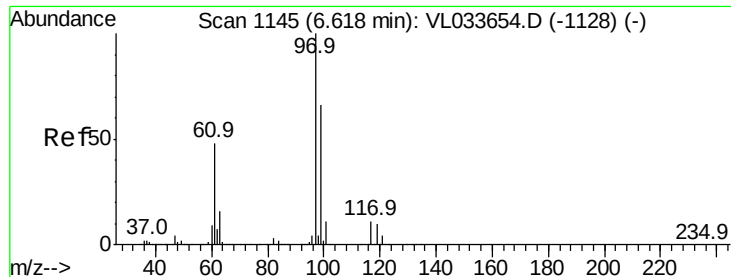
Tot Ion: 83 Resp: 2882
Ion Ratio Lower Upper
83 100
85 61.1 52.6 78.8



#31
cis-1,2-Dichloroethene
Concen: 0.013 ppbv
RT: 5.63 min Scan# 839
Delta R.T. -0.01 min
Lab File: VL033659.D
Acq: 6 May 2019 14:10

Tgt Ion: 61 Resp: 1120
Ion Ratio Lower Upper
61 100
96 38.4 53.2 79.8#
98 21.8 34.2 51.4#





#32

1,1,1-Trichloroethane

Concen: 0.012 ppbv

RT: 6.62 min Scan# 1144

Delta R.T. -0.00 min

Lab File: VL033659.D

Acq: 6 May 2019 14:10

Instrument :

MSVOA_L

ClientSampleId :

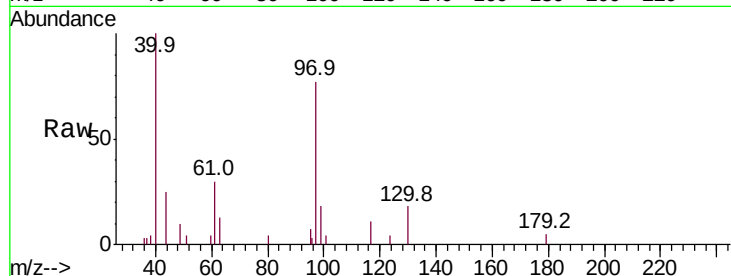
Tot Ion: 97 Resp: 2008

Ion Ratio Lower Upper

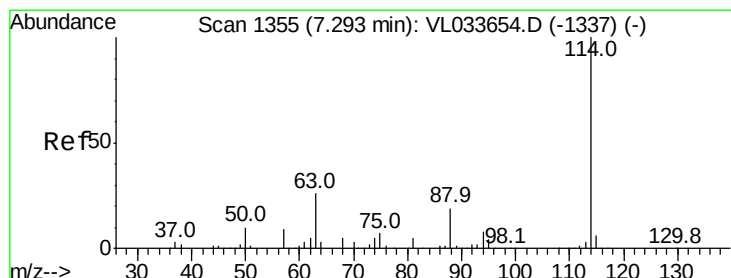
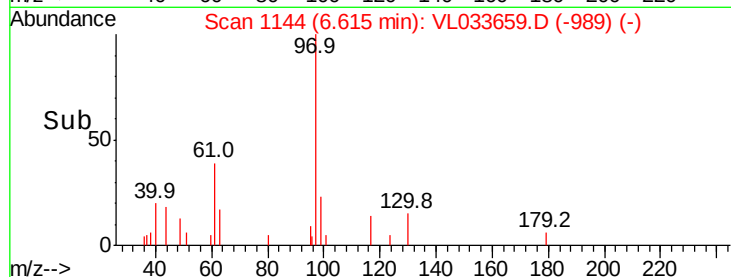
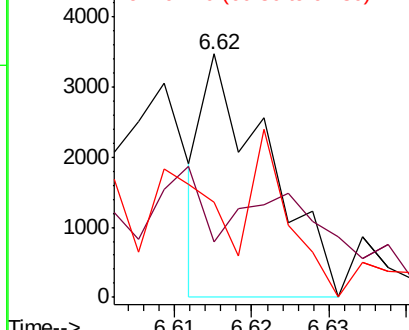
97 100

99 163.5 51.5 77.3#

61 157.6 38.5 57.7#



Abundance Ion 97.00 (96.70 to 97.70): VL0
Ion 99.00 (98.70 to 99.70): VL0
Ion 61.10 (60.80 to 61.80): VL0



#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 7.28 min Scan# 1352

Delta R.T. -0.01 min

Lab File: VL033659.D

Acq: 6 May 2019 14:10

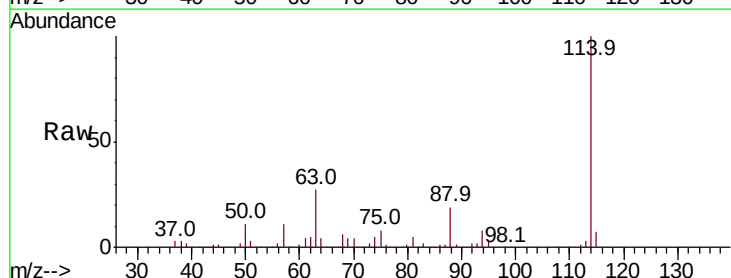
Tgt Ion: 114 Resp: 2148372

Ion Ratio Lower Upper

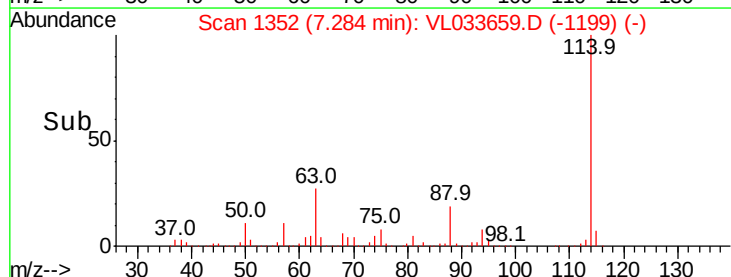
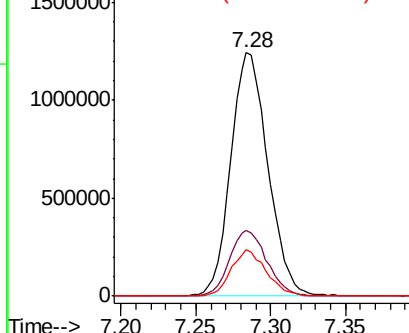
114 100

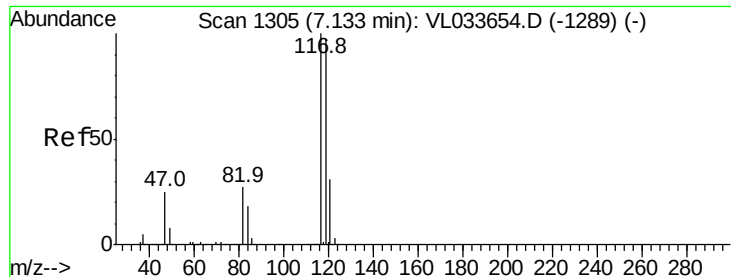
63 27.3 21.2 31.8

88 18.2 14.4 21.6



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





#35

Carbon Tetrachloride

Concen: 0.011 ppbv

RT: 7.12 min Scan# 1302

Delta R.T. -0.01 min

Lab File: VL033659.D

Acq: 6 May 2019 14:10

Instrument :

MSVOA_L

ClientSampleId :

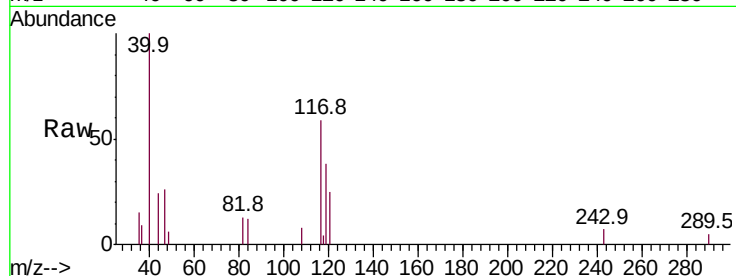
Tot Ion:117 Resp: 1918

Ion Ratio Lower Upper

117 100

119 13.3 77.9 116.9#

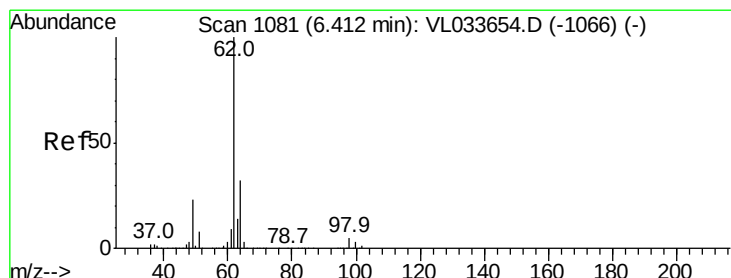
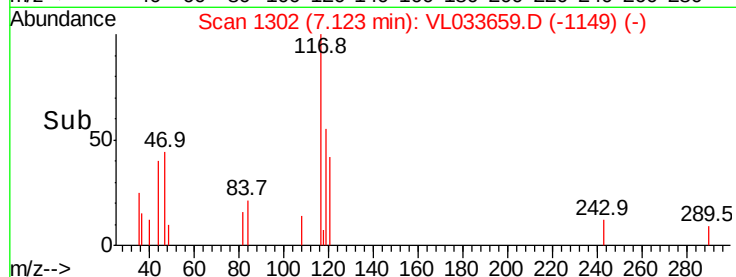
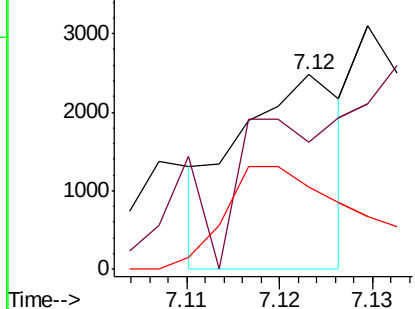
121 66.6 25.0 37.6#



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



#37

1,2-Dichloroethane

Concen: 0.014 ppbv

RT: 6.40 min Scan# 1077

Delta R.T. -0.01 min

Lab File: VL033659.D

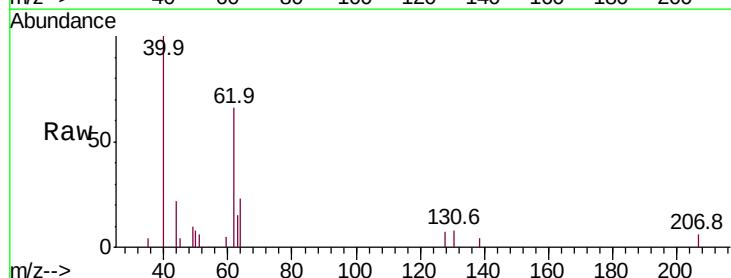
Acq: 6 May 2019 14:10

Tgt Ion: 62 Resp: 1692

Ion Ratio Lower Upper

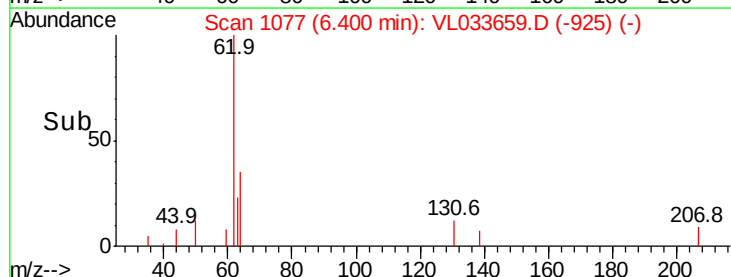
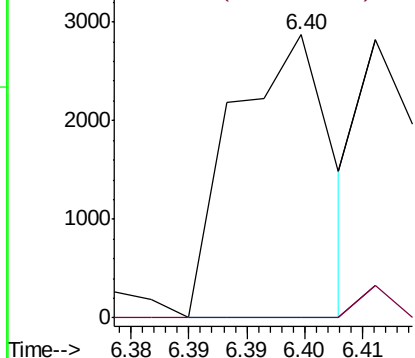
62 100

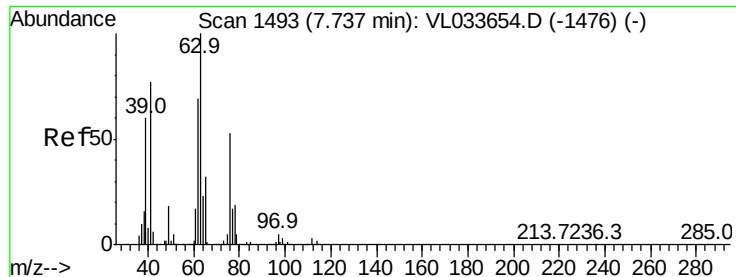
98 0.0 4.5 6.7#



Abundance Ion 62.10 (61.80 to 62.80): VL0

Ion 98.00 (97.70 to 98.70): VL0





#39

1,2-Dichloropropane

Concen: 8.353 ppbv

RT: 7.28 min Scan# 1352

Delta R.T. -0.45 min

Lab File: VL033659.D

Acq: 6 May 2019 14:10

Instrument :

MSVOA_L

ClientSampleId :

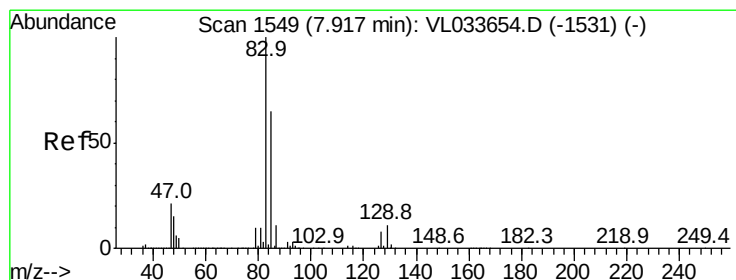
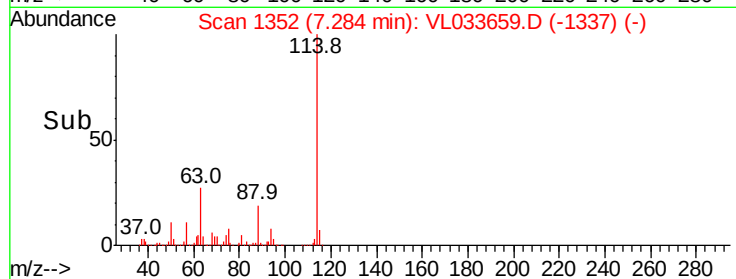
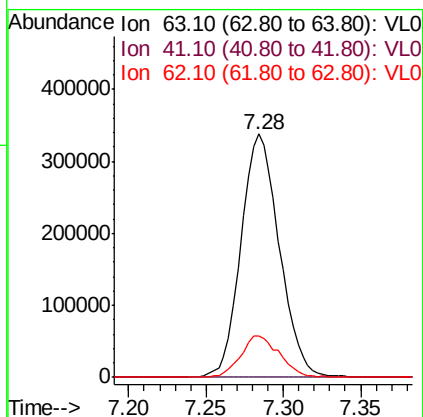
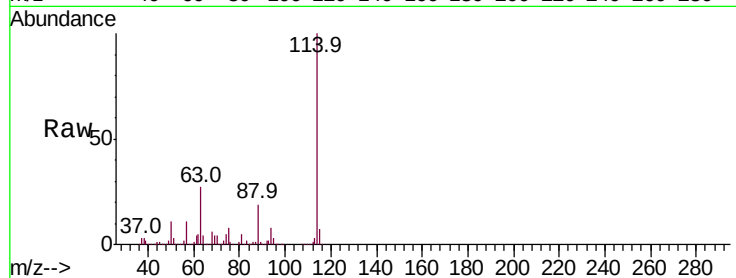
Tot Ion: 63 Resp: 582442

Ion Ratio Lower Upper

63 100

41 0.2 61.6 92.4#

62 17.1 55.0 82.6#



#42

Bromodichloromethane

Concen: 0.016 ppbv

RT: 7.91 min Scan# 1546

Delta R.T. -0.01 min

Lab File: VL033659.D

Acq: 6 May 2019 14:10

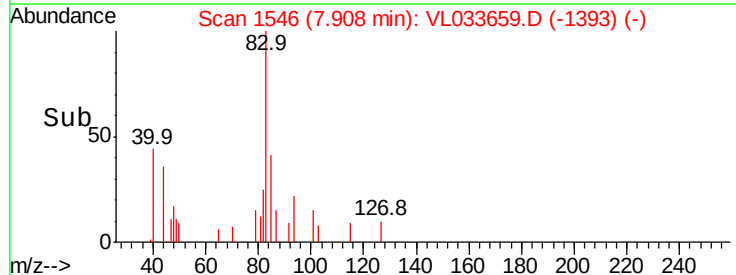
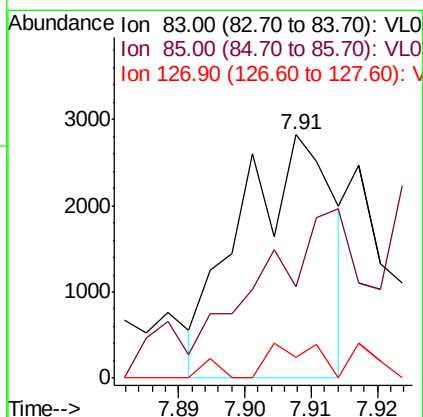
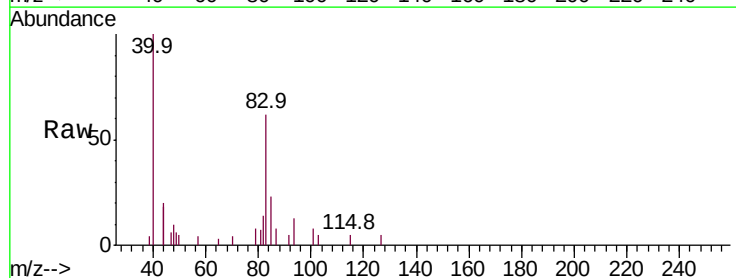
Tgt Ion: 83 Resp: 2752

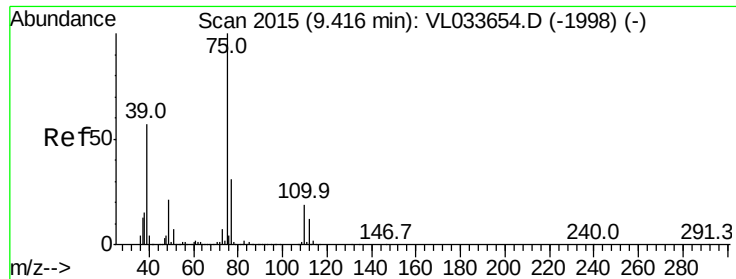
Ion Ratio Lower Upper

83 100

85 34.2 52.4 78.6#

127 10.8 6.6 9.8#





#45

t-1,3-Dichloropropene

Concen: 0.011 ppbv

RT: 9.41 min Scan# 2012

Delta R.T. -0.01 min

Lab File: VL033659.D

Acq: 6 May 2019 14:10

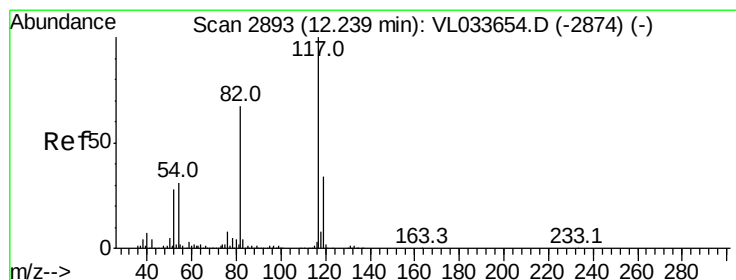
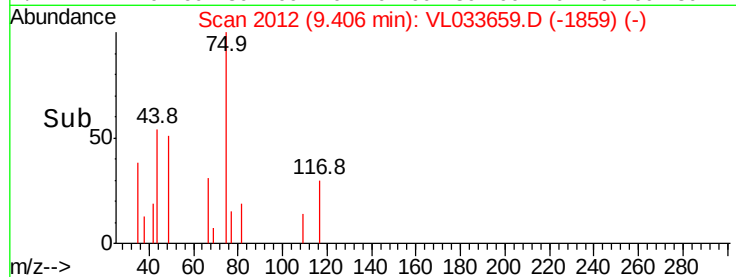
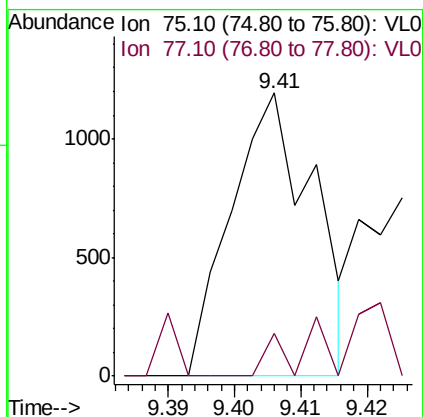
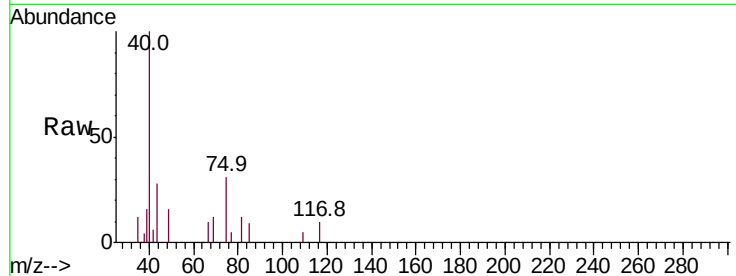
Instrument :
MSVOA_L
ClientSampled :

Tot Ion: 75 Resp: 1031

Ion Ratio Lower Upper

75 100

77 15.2 24.7 37.1#



#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.23 min Scan# 2891

Delta R.T. -0.01 min

Lab File: VL033659.D

Acq: 6 May 2019 14:10

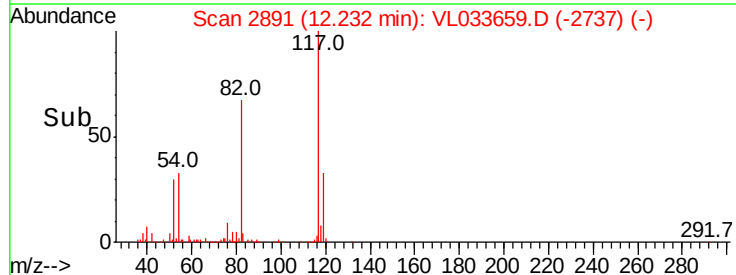
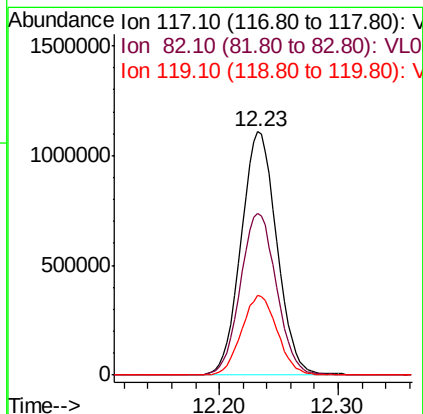
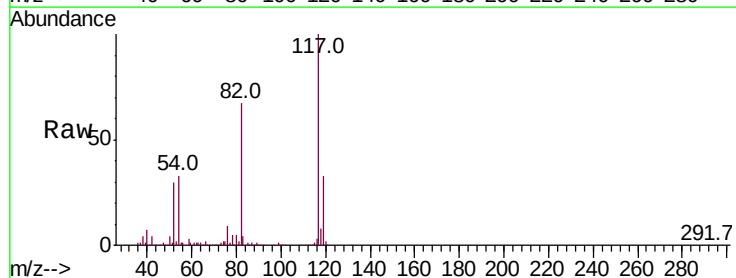
Tgt Ion: 117 Resp: 2303875

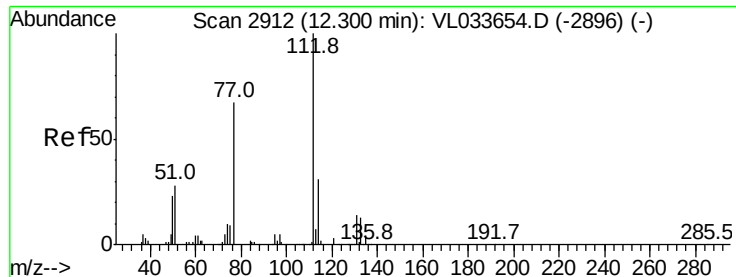
Ion Ratio Lower Upper

117 100

82 67.8 49.7 74.5

119 32.8 23.3 34.9

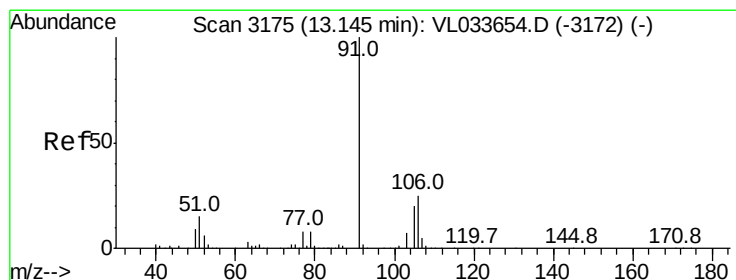
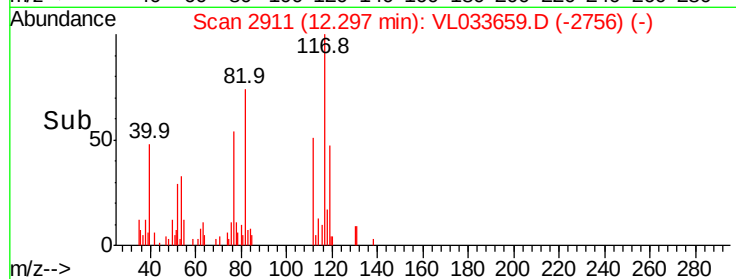
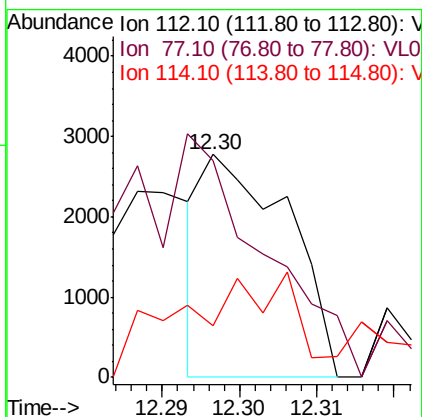
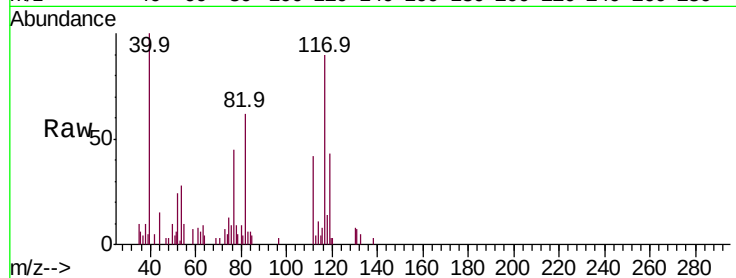




#57
Chlorobenzene
Concen: 0.012 ppbv
RT: 12.30 min Scan# 2911
Delta R.T. -0.00 min
Lab File: VL033659.D
Acq: 6 May 2019 14:10

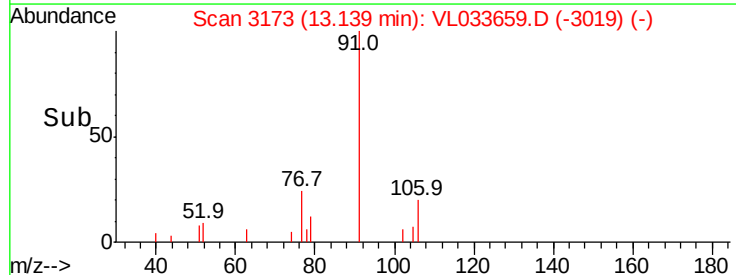
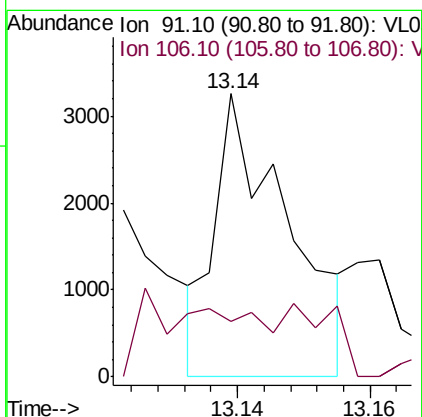
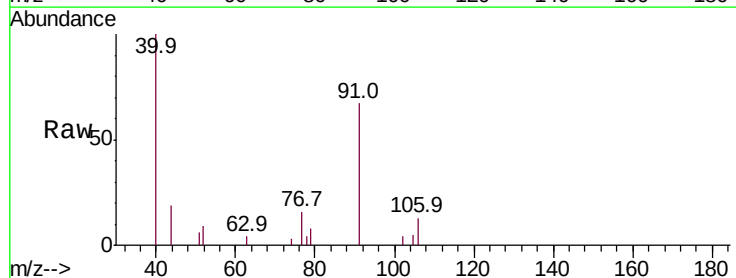
Instrument :
MSVOA_L
ClientSampleId :

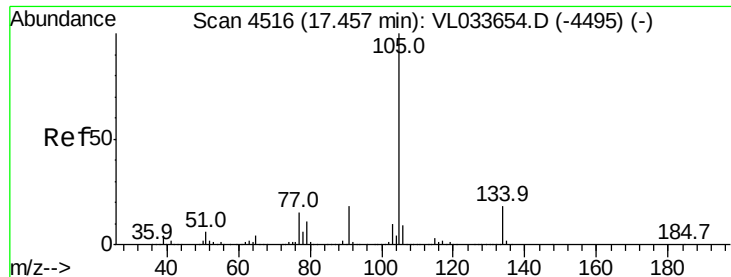
Tot Ion:112 Resp: 2118
Ion Ratio Lower Upper
112 100
77 69.6 54.4 81.6
114 14.0 28.2 34.4#



#59
m/p-Xylene
Concen: 0.010 ppbv
RT: 13.14 min Scan# 3173
Delta R.T. -0.01 min
Lab File: VL033659.D
Acq: 6 May 2019 14:10

Tgt Ion: 91 Resp: 2494
Ion Ratio Lower Upper
91 100
106 0.0 35.9 53.9#





#67

sec-Butylbenzene

Concen: 0.014 ppbv

RT: 17.45 min Scan# 4514

Delta R.T. -0.01 min

Lab File: VL033659.D

Acq: 6 May 2019 14:10

Instrument :

MSVOA_L

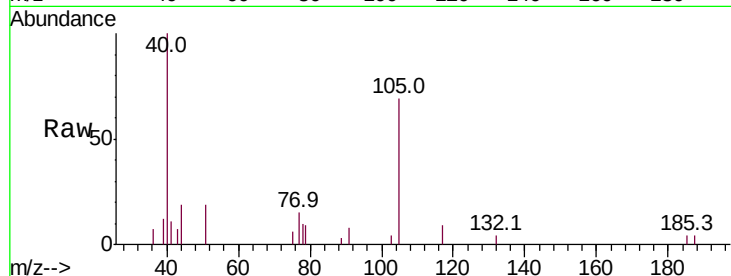
ClientSampleId :

Tot Ion:105 Resp: 5953

Ion Ratio Lower Upper

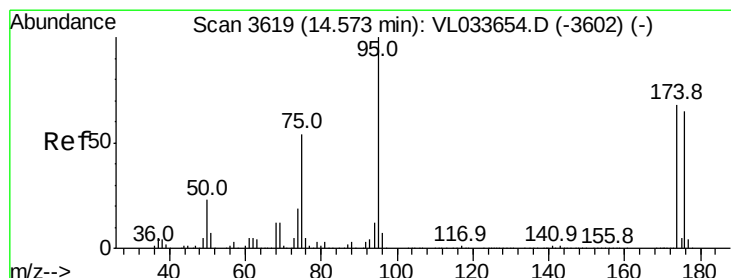
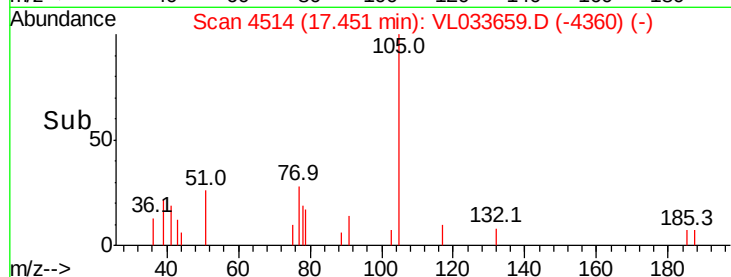
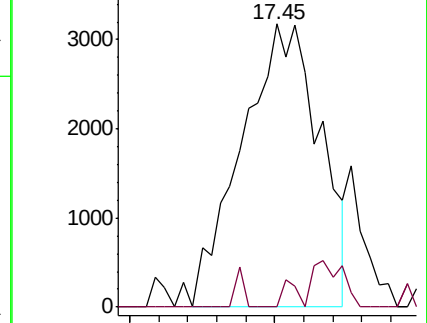
105 100

134 0.0 14.6 22.0#



Abundance Ion 105.10 (104.80 to 105.80): V

Ion 134.20 (133.90 to 134.90): V



#68

1-Bromo-4-Fluorobenzene

Concen: 10.260 ppbv

RT: 14.57 min Scan# 3619

Delta R.T. 0.00 min

Lab File: VL033659.D

Acq: 6 May 2019 14:10

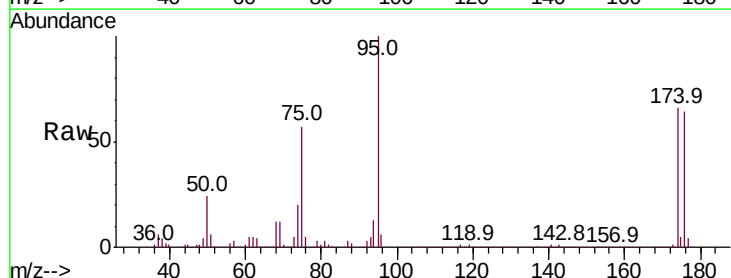
Tgt Ion: 95 Resp: 1887385

Ion Ratio Lower Upper

95 100

174 66.1 54.0 81.0

175 4.9 3.8 5.8



Abundance Ion 95.10 (94.80 to 95.80): VL0

Ion 174.00 (173.70 to 174.70): V

Ion 175.00 (174.70 to 175.70): V

