

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL033121\
 Data File : VL036594.D
 Acq On : 31 Mar 2021 9:36
 Operator : SY/AP
 Sample : M1797-04 4X
 Misc : 400mL/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :

Quant Time: Apr 01 04:24:24 2021
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL032521AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Thu Mar 25 09:42:40 2021
 QLast Update : Thu Mar 25 09:42:40 2021
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.66	49	1757795	10.00	ppbv	0.00
33) 1,4-Difluorobenzene	7.17	114	3921671	10.00	ppbv	0.00
55) Chlorobenzene-d5	12.08	117	3507938	10.00	ppbv	-0.01

System Monitoring Compounds		R.T.	QIon	Response	Conc	Units	Dev(Min)
68) 1-Bromo-4-Fluorobenzene	14.41	95	2791938	9.99	ppbv	-0.01	
Spiked Amount	10.000	Range	65 - 135	Recovery	=	99.90%	

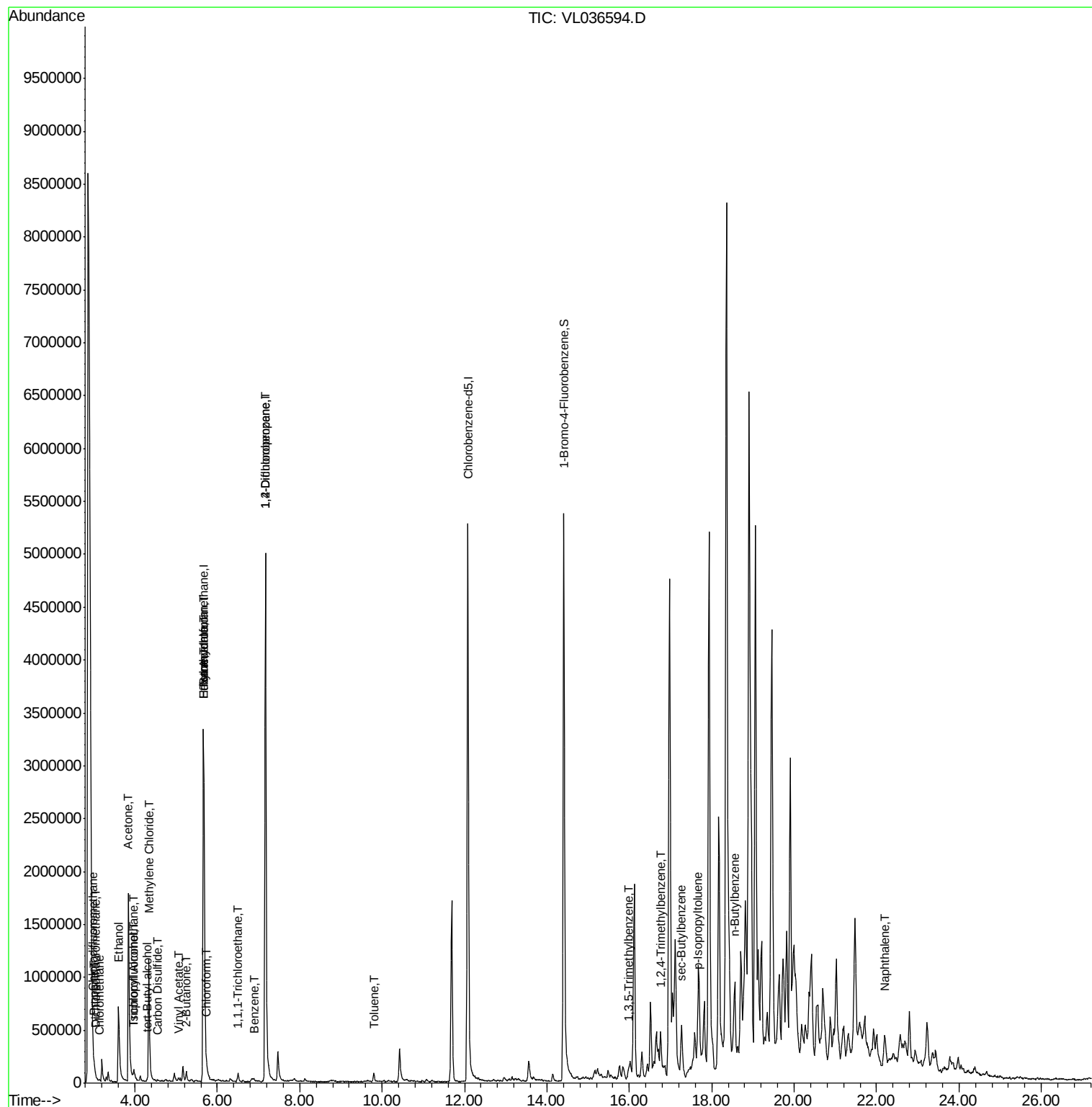
Target Compounds	R.T.	QIon	Response	Conc	Units	Ovalue
2) Dichlorodifluoromethane	3.05	85	26433	0.092	ppbv	98
3) Chlorodifluoromethane	2.99	51	31458	0.096	ppbv	96
4) Chloromethane	3.13	50	11927	0.103	ppbv	90
9) Propene	3.01	41	17318	0.165	ppbv #	81
11) Trichlorofluoromethane	3.95	101	9511	0.033	ppbv #	79
13) Ethanol	3.60	45	972764	78.021	ppbv	95
15) Acetone	3.84	43	2420766	13.992	ppbv	99
17) tert-Butyl alcohol	4.30	59	8423	0.056	ppbv #	16
19) Isopropyl Alcohol	3.98	45	40691	0.428	ppbv #	89
20) Methylene Chloride	4.34	84	446331	5.510	ppbv	93
23) Vinyl Acetate	5.06	43	24085	0.081	ppbv #	88
25) Ethyl Acetate	5.68	43	419277	1.019	ppbv #	78
26) Hexane	5.68	57	558388	2.925	ppbv #	46
27) Carbon Disulfide	4.55	76	5591	0.030	ppbv #	25
29) Chloroform	5.74	83	15328	0.050	ppbv	88
32) 1,1,1-Trichloroethane	6.51	97	34184	0.111	ppbv #	67
34) 2-Butanone	5.24	43	99665	0.521	ppbv	91
36) Benzene	6.89	78	8280	0.023	ppbv #	61
39) 1,2-Dichloropropane	7.17	63	1088622	7.420	ppbv #	23
41) Tetrahydrofuran	5.68	42	244072	2.765	ppbv #	53
53) Toluene	9.80	91	55613	0.144	ppbv	90
67) sec-Butylbenzene	17.28	105	14753	0.021	ppbv	96
69) p-Isopropyltoluene	17.65	119	43158	0.078	ppbv #	91
70) n-Butylbenzene	18.55	91	86364	0.150	ppbv #	84
73) 1,3,5-Trimethylbenzene	15.99	105	28374	0.064	ppbv #	83
74) 1,2,4-Trimethylbenzene	16.76	105	251043	0.533	ppbv #	68
79) Naphthalene	22.20	128	47253	0.172	ppbv #	86

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

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QLast Update : Thu Mar 25 09:42:40 2021
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#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.66 min Scan# 894

Delta R.T. -0.01 min

Lab File: VL036594.D

Acq: 31 Mar 2021 9:36

Instrument :

MSVOA_L

ClientSampleId :

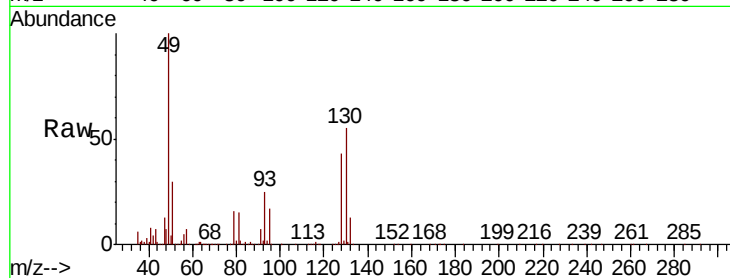
Tot Ion: 49 Resp: 1757795

Ion Ratio Lower Upper

49 100

128 43.5 23.5 70.6

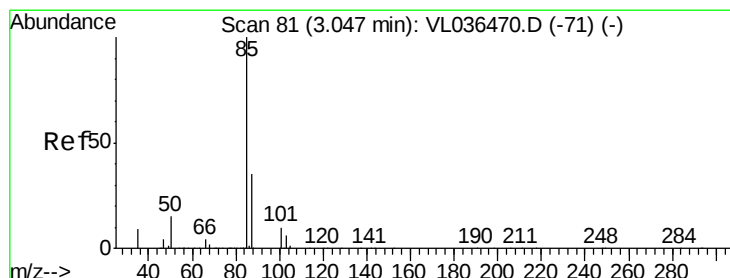
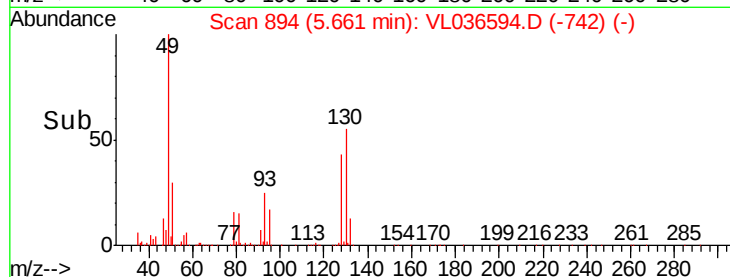
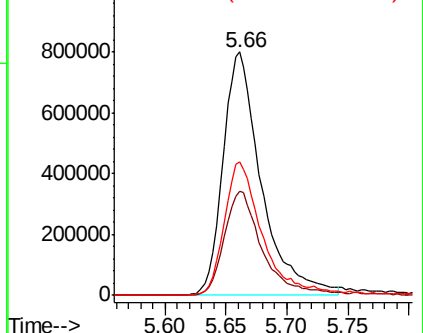
130 56.3 29.1 87.4



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: 0.092 ppbv

RT: 3.05 min Scan# 81

Delta R.T. -0.00 min

Lab File: VL036594.D

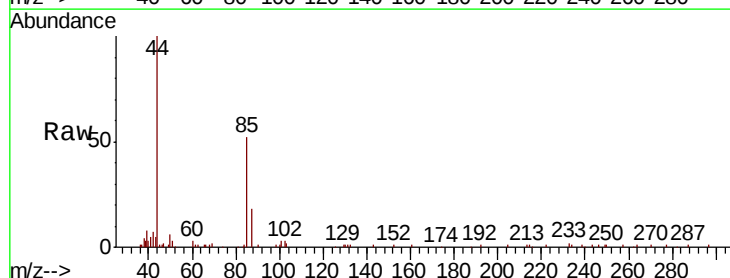
Acq: 31 Mar 2021 9:36

Tgt Ion: 85 Resp: 26433

Ion Ratio Lower Upper

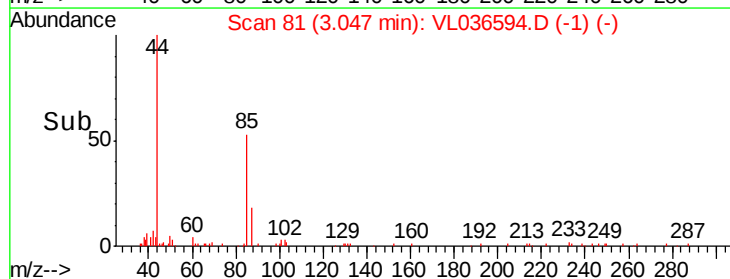
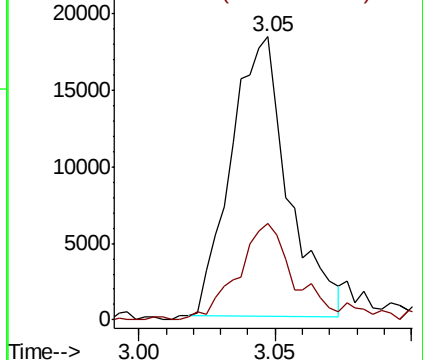
85 100

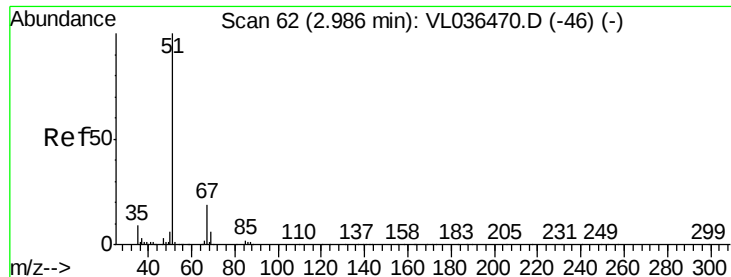
87 33.8 27.8 41.8



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0

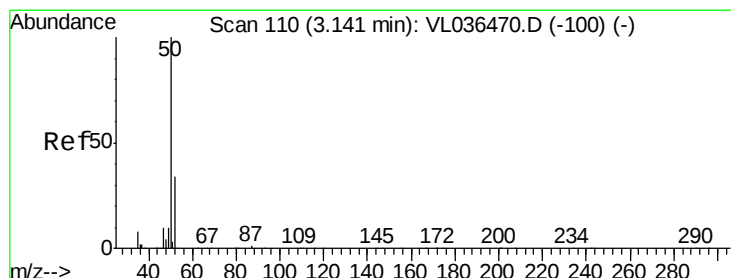
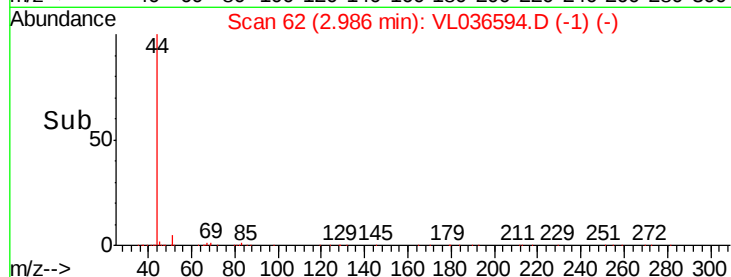
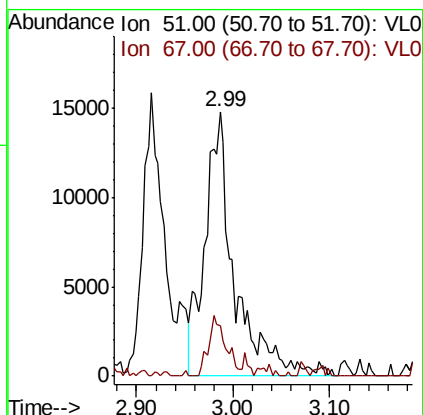
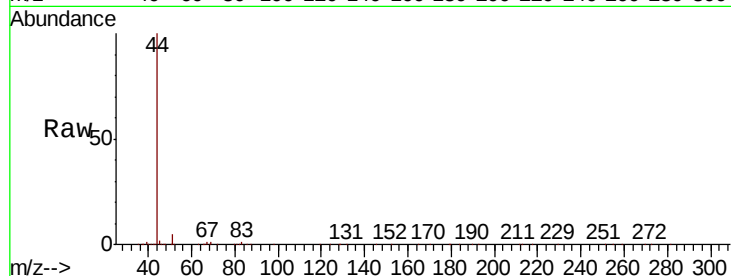




#3
Chlorodifluoromethane
Concen: 0.096 ppbv
RT: 2.99 min Scan# 62
Delta R.T. -0.00 min
Lab File: VL036594.D
Acq: 31 Mar 2021 9:36

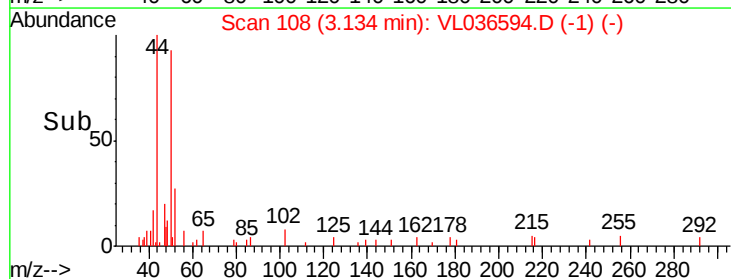
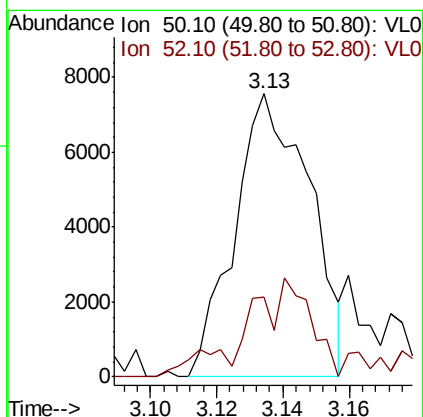
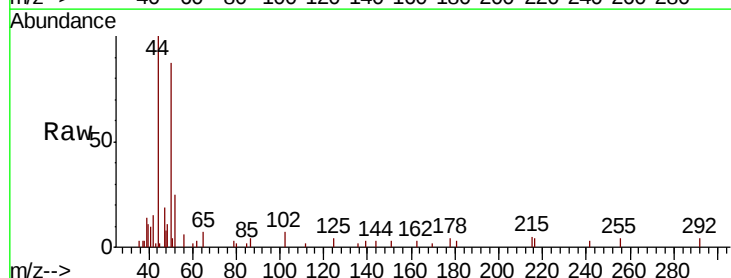
Instrument :
MSVOA_L
ClientSampleId :

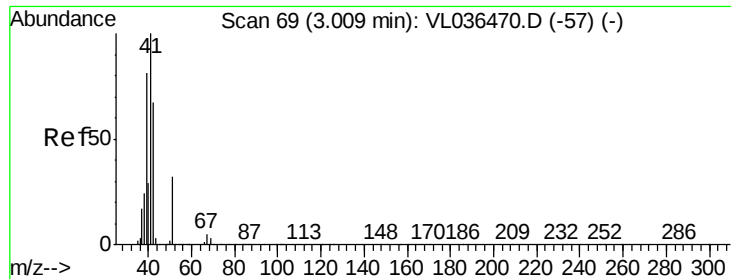
Tot Ion: 51 Resp: 31458
Ion Ratio Lower Upper
51 100
67 16.4 14.7 22.1



#4
Chloromethane
Concen: 0.103 ppbv
RT: 3.13 min Scan# 108
Delta R.T. -0.01 min
Lab File: VL036594.D
Acq: 31 Mar 2021 9:36

Tgt Ion: 50 Resp: 11927
Ion Ratio Lower Upper
50 100
52 28.1 27.0 40.6





#9

Propene

Concen: 0.165 ppbv

RT: 3.01 min Scan# 70

Delta R.T. 0.00 min

Lab File: VL036594.D

Acq: 31 Mar 2021 9:36

Instrument :

MSVOA_L

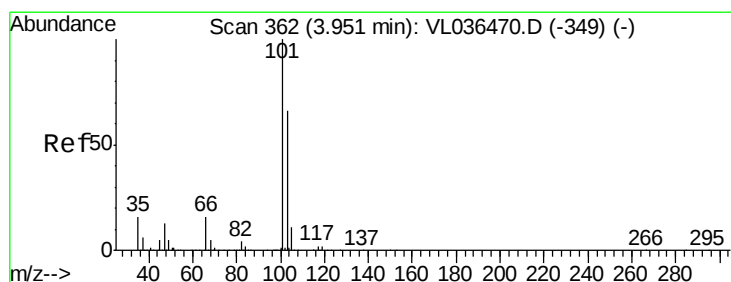
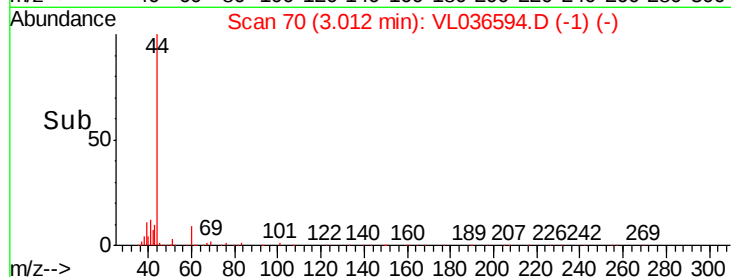
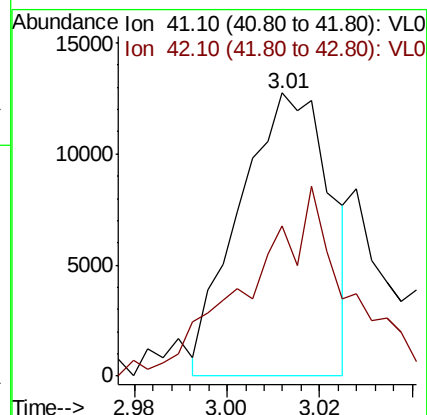
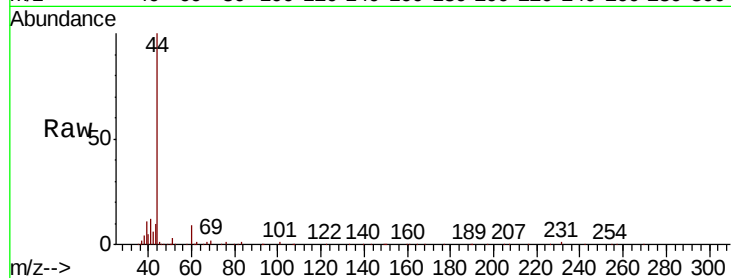
ClientSampleId :

Tot Ion: 41 Resp: 17318

Ion Ratio Lower Upper

41 100

42 87.2 57.0 85.4#



#11

Trichlorofluoromethane

Concen: 0.033 ppbv

RT: 3.95 min Scan# 362

Delta R.T. -0.00 min

Lab File: VL036594.D

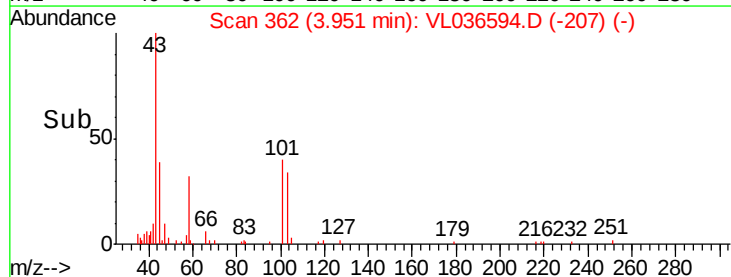
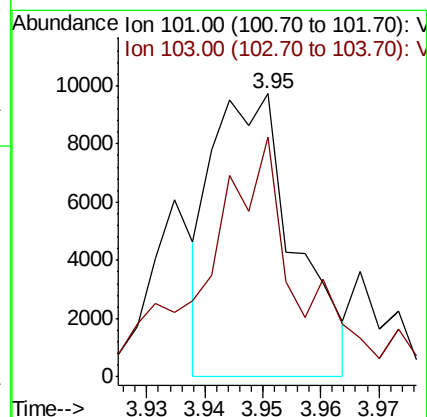
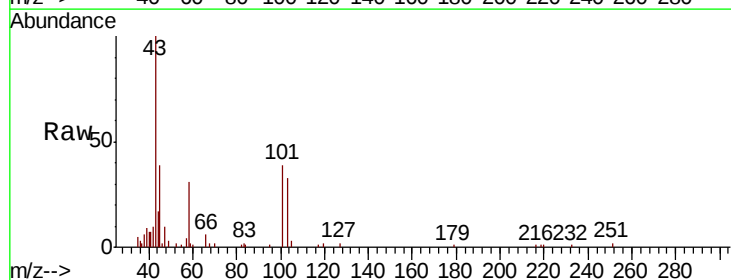
Acq: 31 Mar 2021 9:36

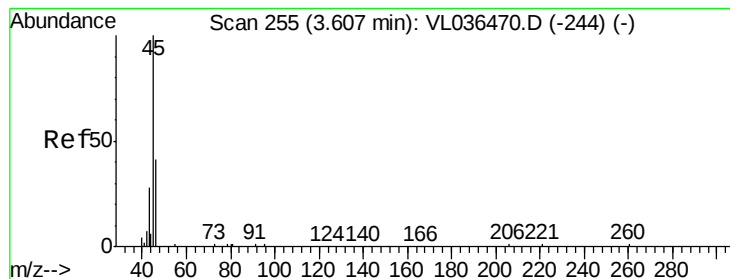
Tgt Ion: 101 Resp: 9511

Ion Ratio Lower Upper

101 100

103 82.3 52.5 78.7#





#13

Ethanol

Concen: 78.021 ppbv

RT: 3.60 min Scan# 253

Delta R.T. -0.01 min

Lab File: VL036594.D

Acq: 31 Mar 2021 9:36

Instrument :

MSVOA_L

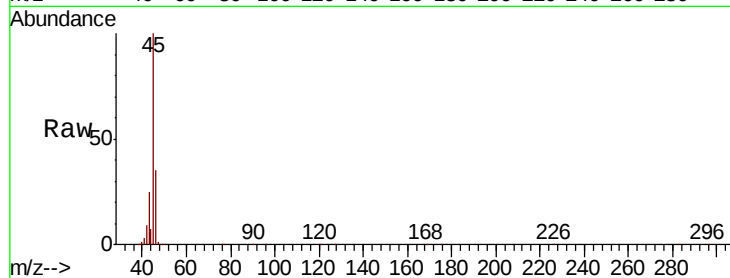
ClientSampleId :

Tot Ion: 45 Resp: 972764

Ion Ratio Lower Upper

45 100

46 38.3 16.6 66.2



Abundance Ion 45.10 (44.80 to 45.80): VL0

Ion 46.10 (45.80 to 46.80): VL0

3.60

400000

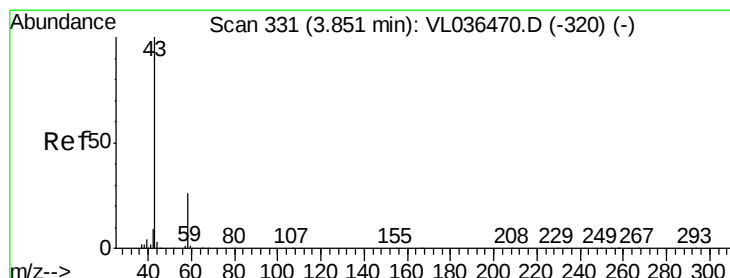
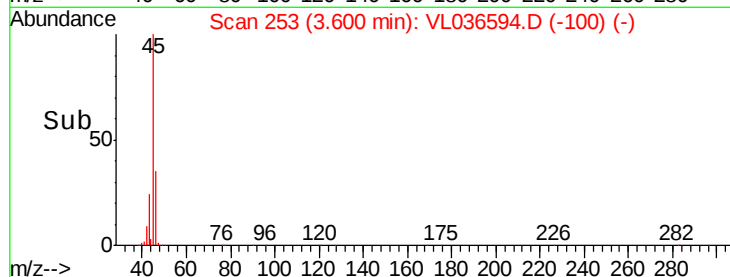
300000

200000

100000

0

Time-->



#15

Acetone

Concen: 13.992 ppbv

RT: 3.84 min Scan# 328

Delta R.T. -0.01 min

Lab File: VL036594.D

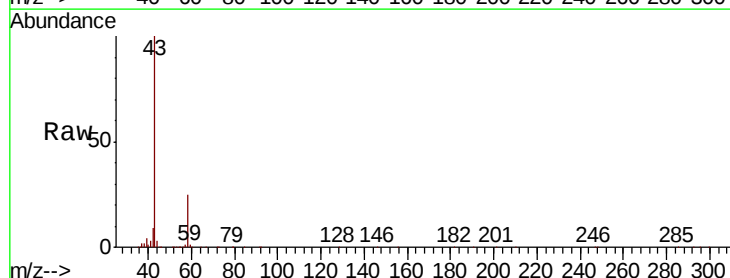
Acq: 31 Mar 2021 9:36

Tgt Ion: 43 Resp: 2420766

Ion Ratio Lower Upper

43 100

58 27.2 21.2 31.8



Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 58.10 (57.80 to 58.80): VL0

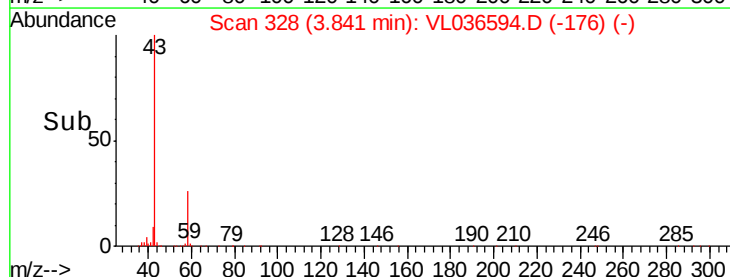
3.84

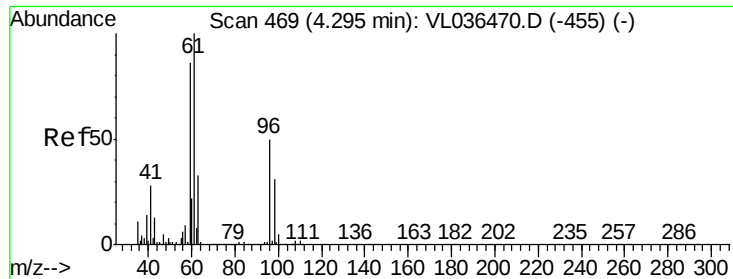
1000000

500000

0

Time-->



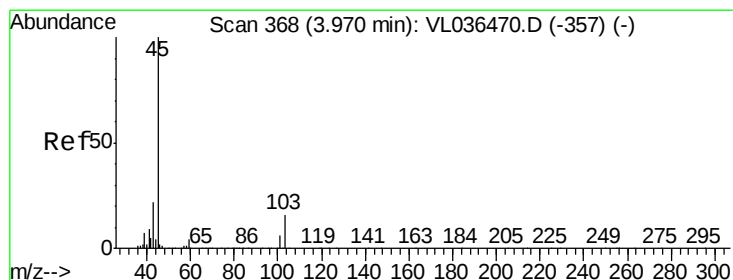
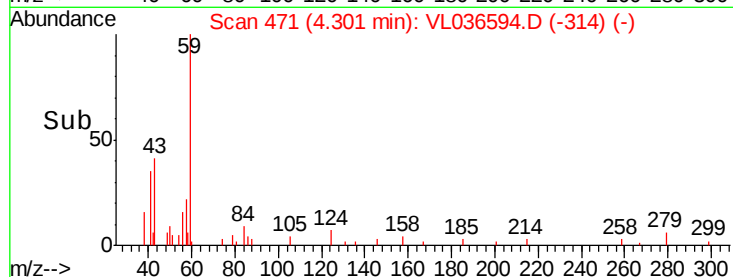
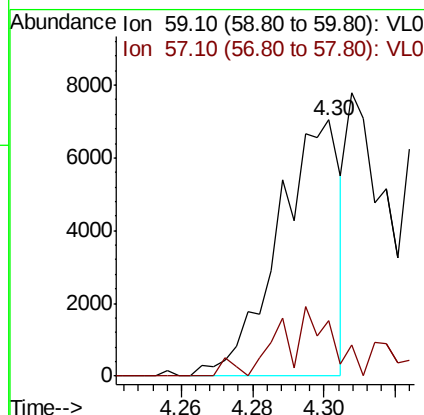
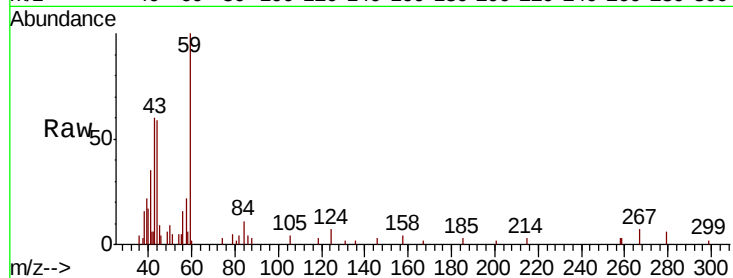


#17

tert-Butyl alcohol
 Concen: 0.056 ppbv
 RT: 4.30 min Scan# 471
 Delta R.T. 0.01 min
 Lab File: VL036594.D
 Acq: 31 Mar 2021 9:36

Instrument :
 MSVOA_L
 ClientSampleId :

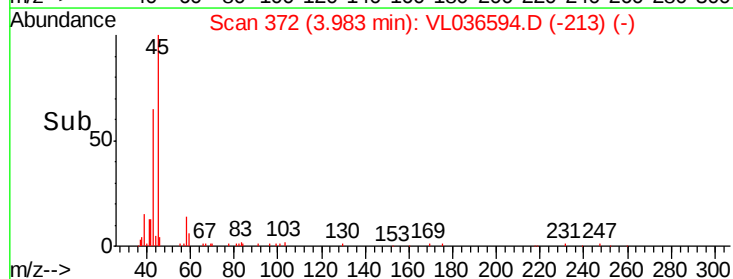
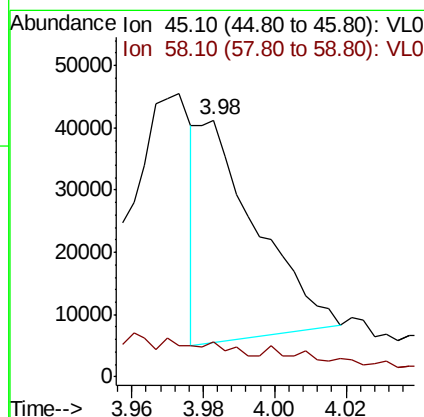
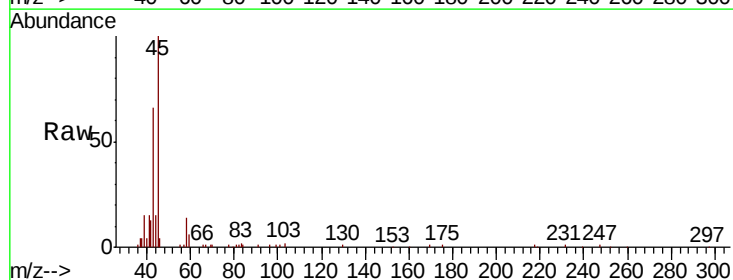
Tot Ion: 59 Resp: 8423
 Ion Ratio Lower Upper
 59 100
 57 42.2 8.6 12.8#

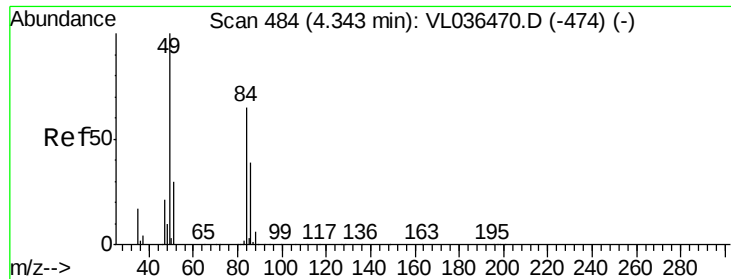


#19

Isopropyl Alcohol
 Concen: 0.428 ppbv
 RT: 3.98 min Scan# 372
 Delta R.T. 0.01 min
 Lab File: VL036594.D
 Acq: 31 Mar 2021 9:36

Tgt Ion: 45 Resp: 40691
 Ion Ratio Lower Upper
 45 100
 58 0.0 2.9 4.3#

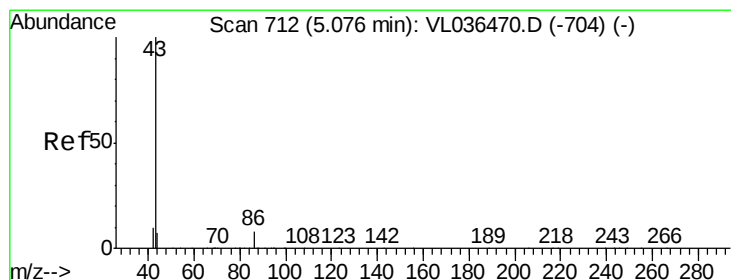
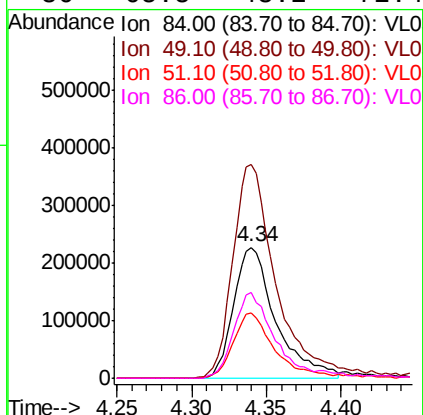
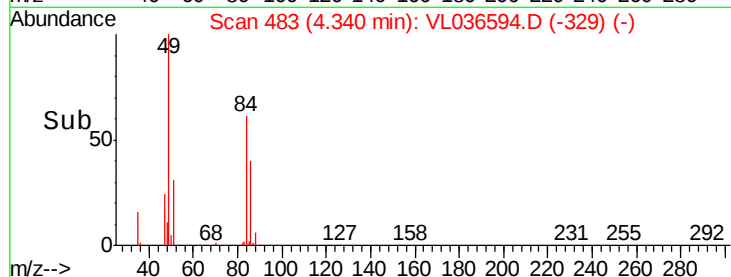
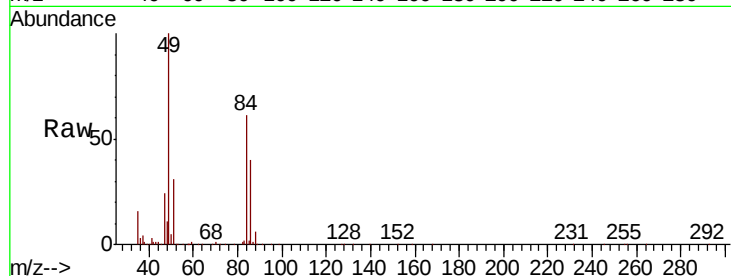




#20
Methylene Chloride
Concen: 5.510 ppbv
RT: 4.34 min Scan# 483
Delta R.T. -0.00 min
Lab File: VL036594.D
Acq: 31 Mar 2021 9:36

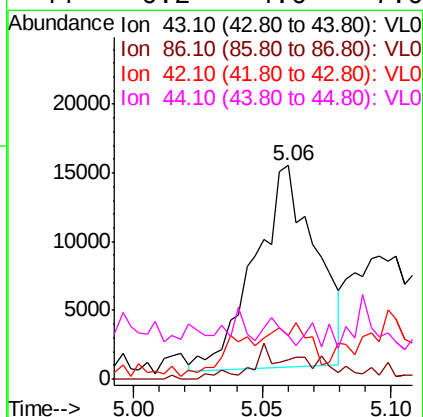
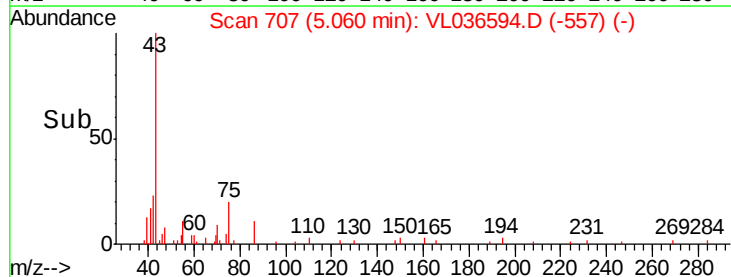
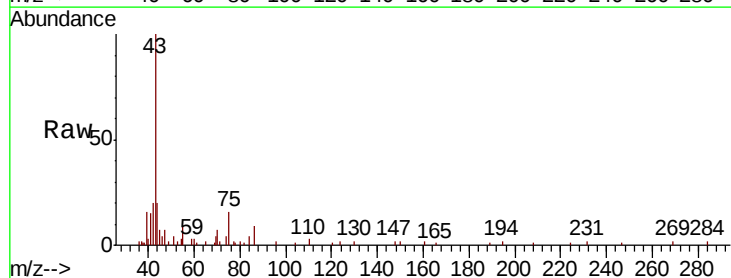
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MSVOA_L
ClientSampleId :

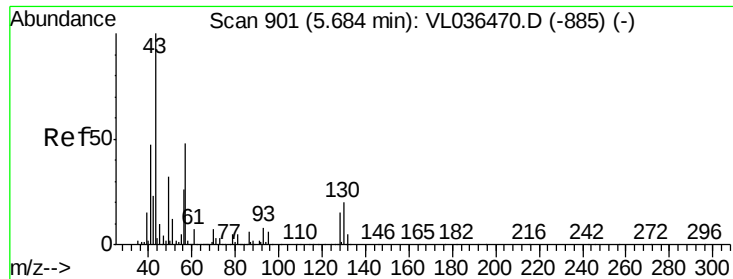
Tot Ion: 84 Resp: 446331
Ion Ratio Lower Upper
84 100
49 163.3 122.9 184.3
51 50.2 36.9 55.3
86 65.5 48.2 72.4



#23
Vinyl Acetate
Concen: 0.081 ppbv
RT: 5.06 min Scan# 707
Delta R.T. -0.02 min
Lab File: VL036594.D
Acq: 31 Mar 2021 9:36

Tgt Ion: 43 Resp: 24085
Ion Ratio Lower Upper
43 100
86 9.8 5.4 8.0#
42 17.7 8.5 12.7#
44 6.2 4.6 7.0

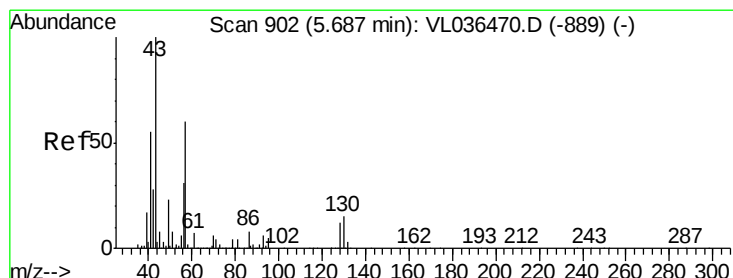
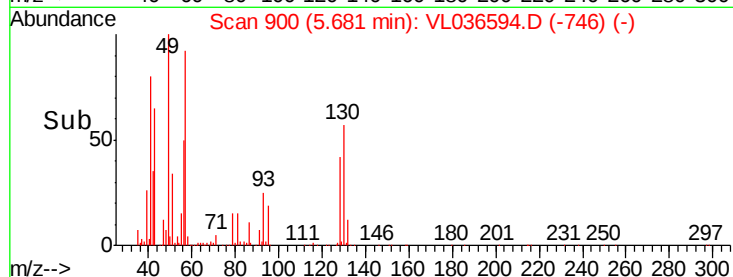
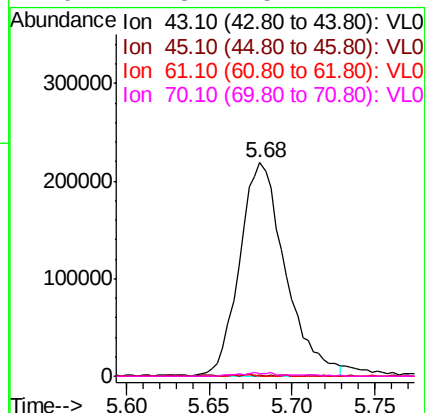
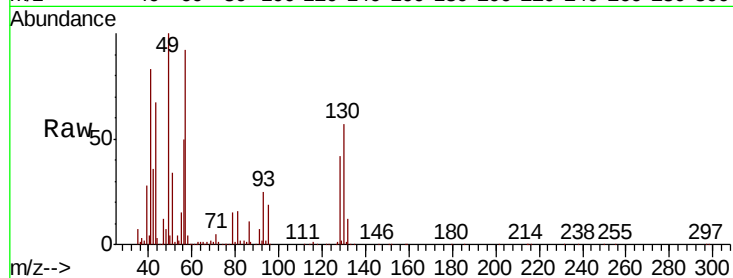




#25
Ethyl Acetate
Concen: 1.019 ppbv
RT: 5.68 min Scan# 900
Delta R.T. -0.00 min
Lab File: VL036594.D
Acq: 31 Mar 2021 9:36

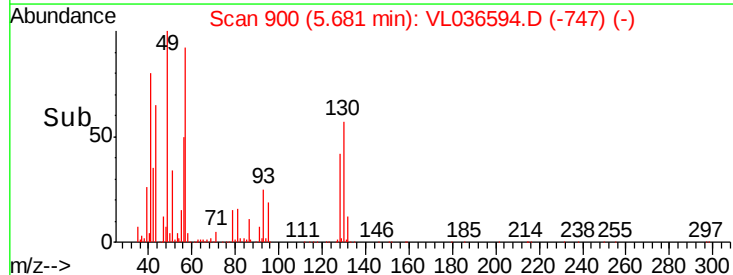
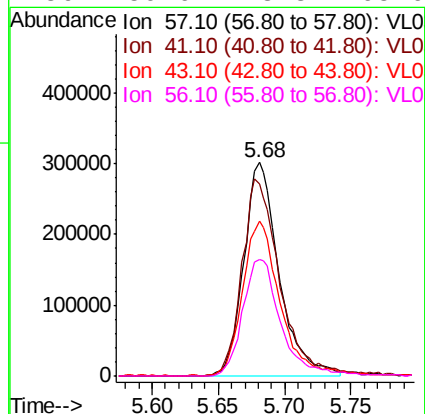
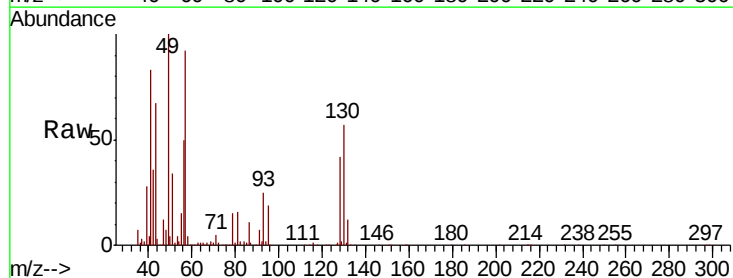
Instrument :
MSVOA_L
ClientSampleId :

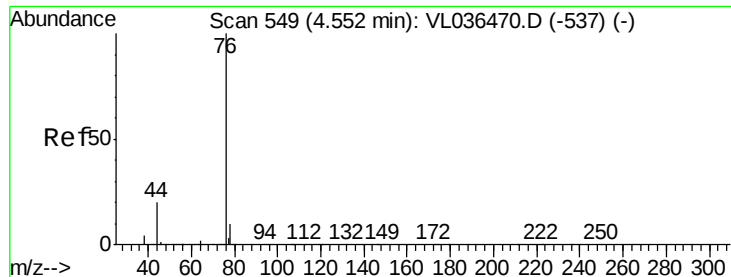
Tot Ion:	43	Resp:	419277
Ion	Ratio	Lower	Upper
43	100		
45	0.6	7.9	11.9#
61	0.4	7.4	11.2#
70	1.8	5.1	7.7#



#26
Hexane
Concen: 2.925 ppbv
RT: 5.68 min Scan# 900
Delta R.T. -0.01 min
Lab File: VL036594.D
Acq: 31 Mar 2021 9:36

Tgt Ion:	57	Resp:	558388
Ion	Ratio	Lower	Upper
57	100		
41	100.8	77.2	115.8
43	77.5	173.8	260.6#
56	59.6	43.8	65.6





#27

Carbon Disulfide

Concen: 0.030 ppbv

RT: 4.55 min Scan# 547

Delta R.T. -0.01 min

Lab File: VL036594.D

Acq: 31 Mar 2021 9:36

Instrument :

MSVOA_L

ClientSampled :

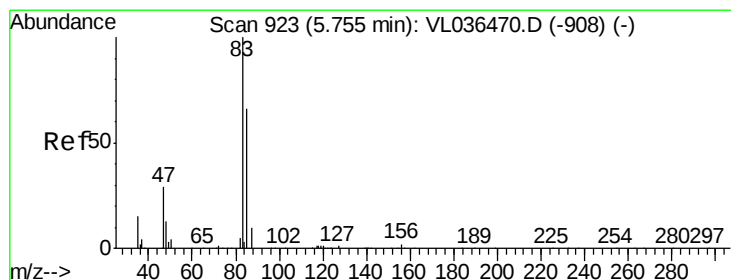
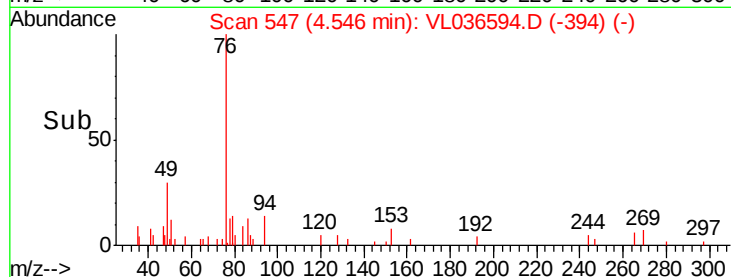
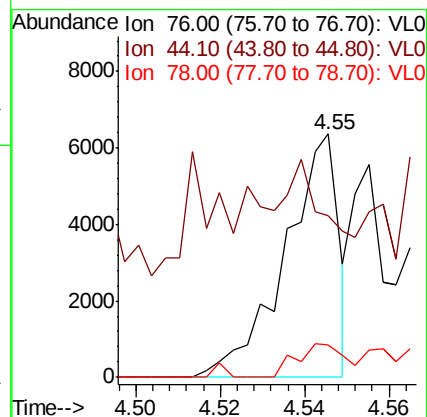
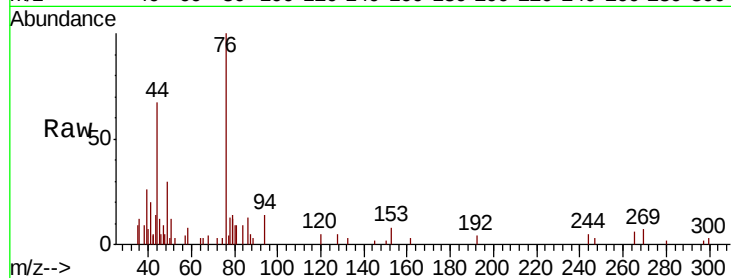
Tot Ion: 76 Resp: 5591

Ion Ratio Lower Upper

76 100

44 62.1 17.5 26.3#

78 32.1 8.6 13.0#



#29

Chloroform

Concen: 0.050 ppbv

RT: 5.74 min Scan# 920

Delta R.T. -0.01 min

Lab File: VL036594.D

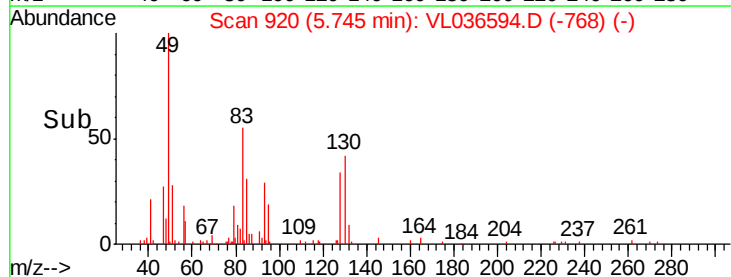
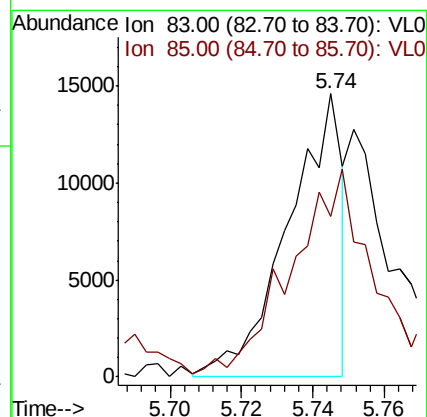
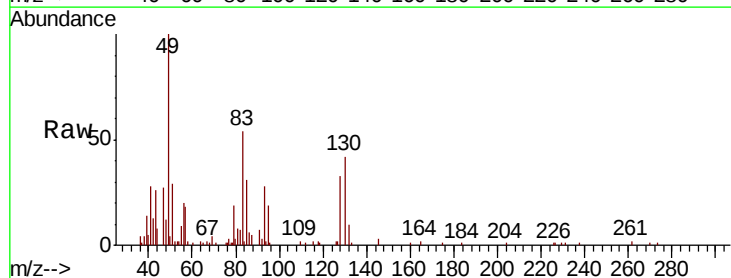
Acq: 31 Mar 2021 9:36

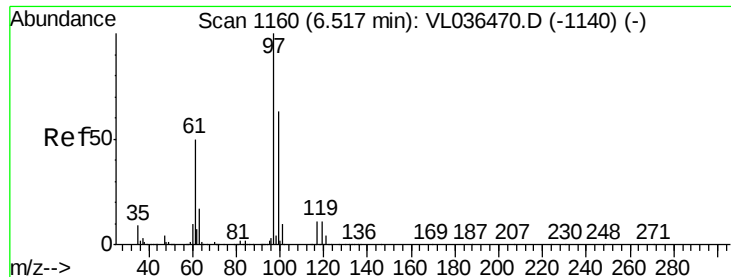
Tgt Ion: 83 Resp: 15328

Ion Ratio Lower Upper

83 100

85 56.3 52.6 78.8





#32

1,1,1-Trichloroethane

Concen: 0.111 ppbv

RT: 6.51 min Scan# 1157

Delta R.T. -0.01 min

Lab File: VL036594.D

Acq: 31 Mar 2021 9:36

Instrument :

MSVOA_L

ClientSampleId :

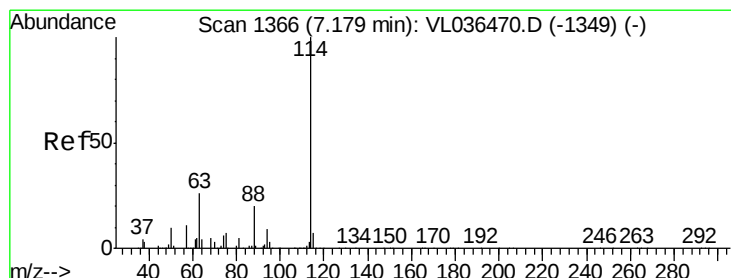
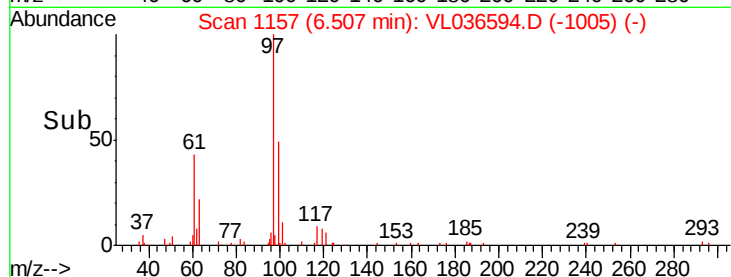
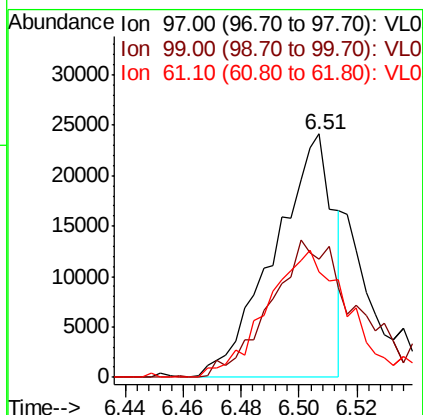
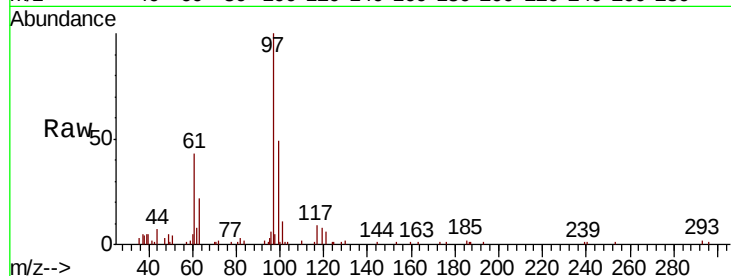
Tot Ion: 97 Resp: 34184

Ion Ratio Lower Upper

97 100

99 88.3 51.4 77.0#

61 75.6 40.6 60.8#



#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 7.17 min Scan# 1363

Delta R.T. -0.01 min

Lab File: VL036594.D

Acq: 31 Mar 2021 9:36

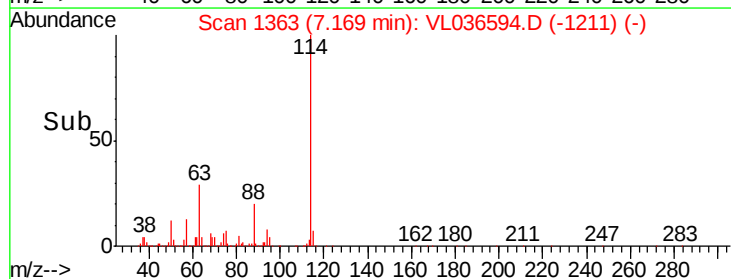
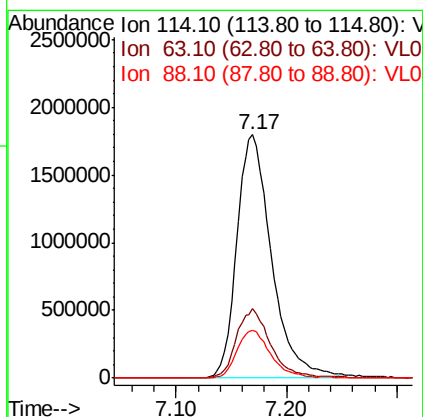
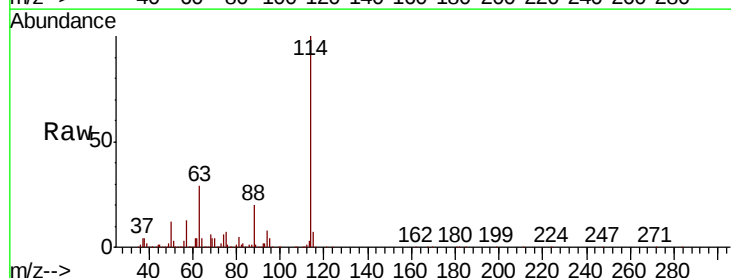
Tgt Ion: 114 Resp: 3921671

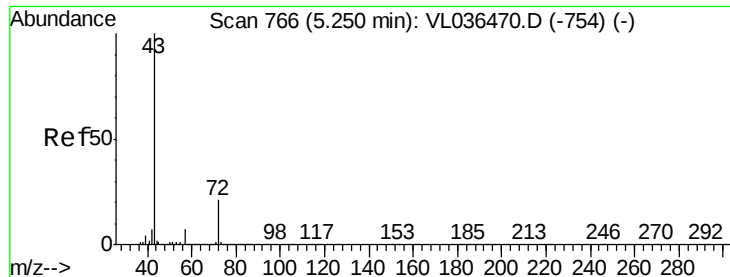
Ion Ratio Lower Upper

114 100

63 28.5 22.4 33.6

88 19.4 15.4 23.0

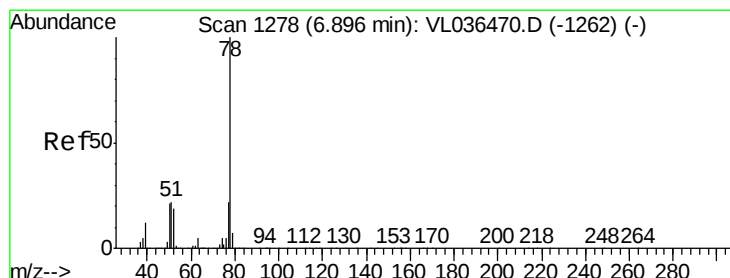
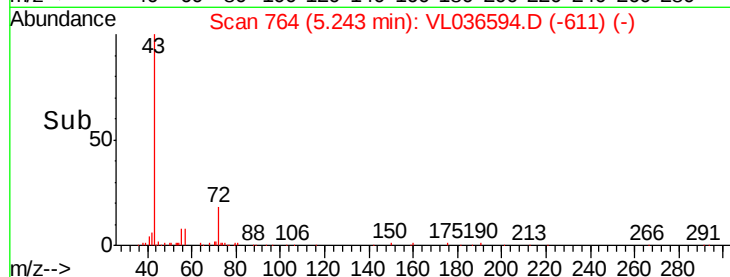
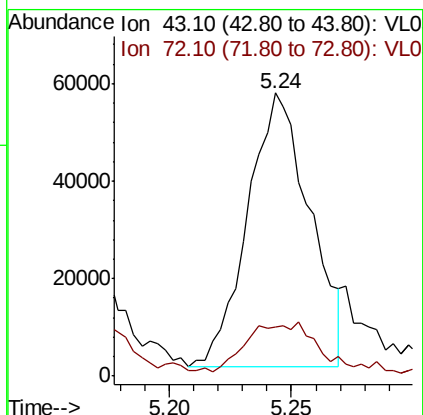
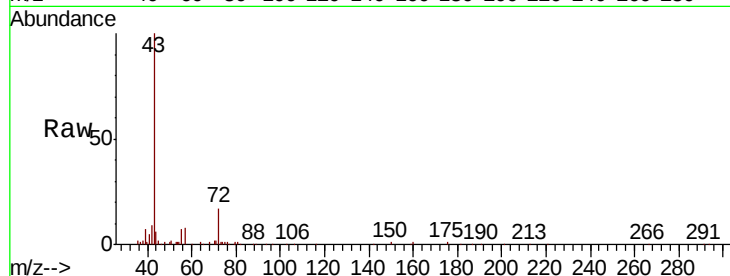




#34
2-Butanone
Concen: 0.521 ppbv
RT: 5.24 min Scan# 764
Delta R.T. -0.01 min
Lab File: VL036594.D
Acq: 31 Mar 2021 9:36

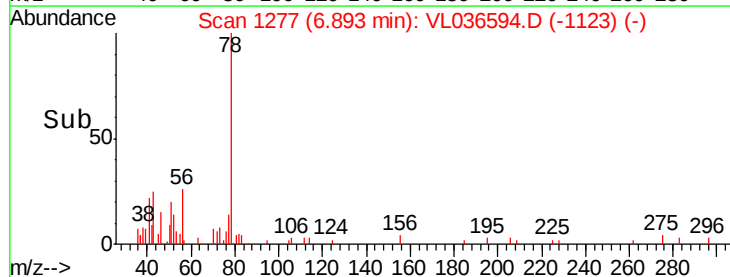
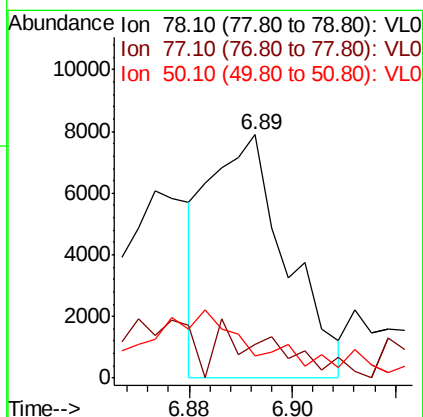
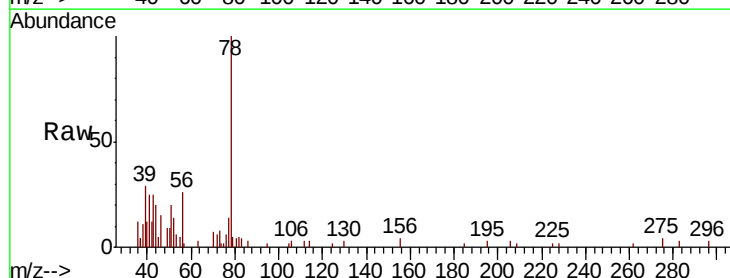
Instrument :
MSVOA_L
ClientSampleId :

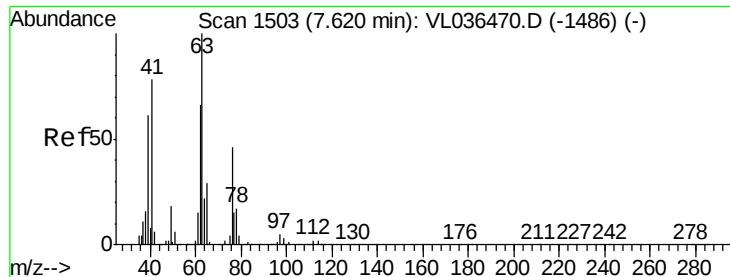
Tot Ion: 43 Resp: 99665
Ion Ratio Lower Upper
43 100
72 25.3 17.0 25.6



#36
Benzene
Concen: 0.023 ppbv
RT: 6.89 min Scan# 1277
Delta R.T. -0.00 min
Lab File: VL036594.D
Acq: 31 Mar 2021 9:36

Tgt Ion: 78 Resp: 8280
Ion Ratio Lower Upper
78 100
77 6.2 18.0 27.0#
50 0.0 16.5 24.7#



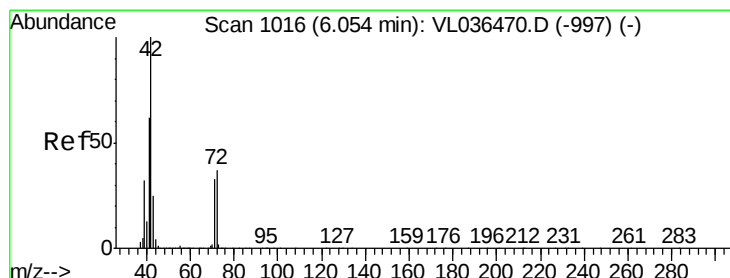
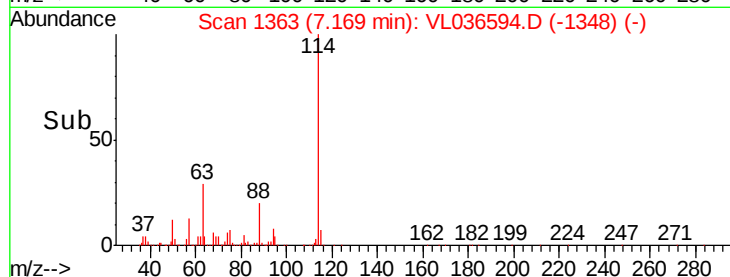
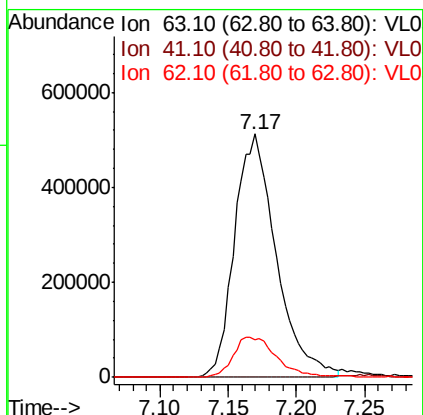
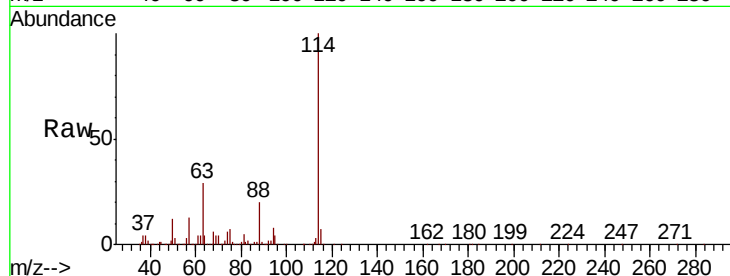


#39
 1,2-Dichloropropane
 Concen: 7.420 ppbv
 RT: 7.17 min Scan# 1363
 Delta R.T. -0.45 min
 Lab File: VL036594.D
 Acq: 31 Mar 2021 9:36

Instrument :
 MSVOA_L
 ClientSampleId :

Tot Ion: 63 Resp: 1088622

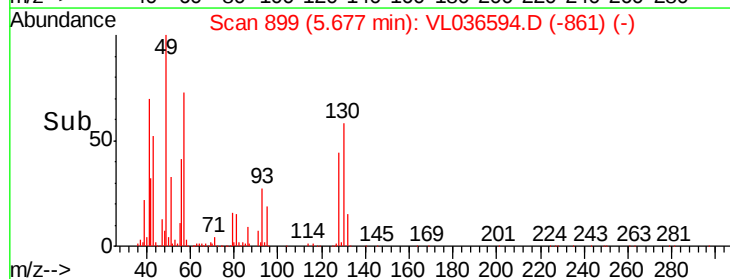
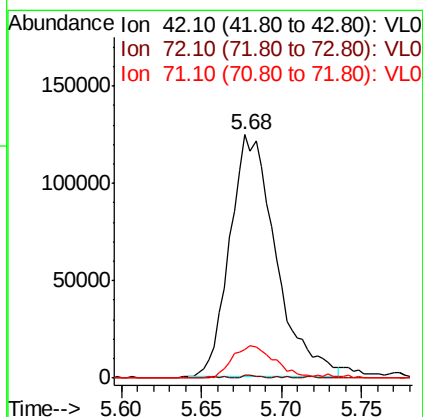
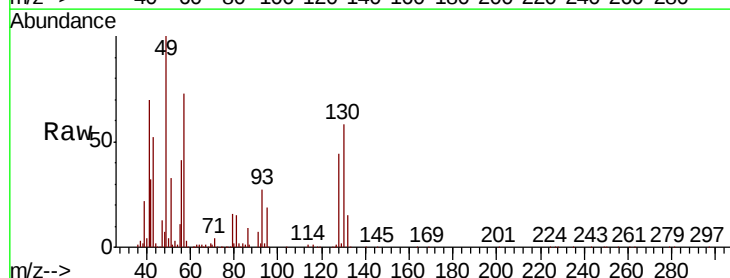
Ion	Ratio	Lower	Upper
63	100		
41	0.2	62.4	93.6#
62	15.6	52.8	79.2#

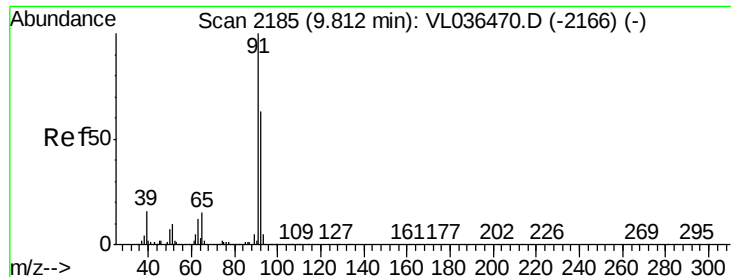


#41
 Tetrahydrofuran
 Concen: 2.765 ppbv
 RT: 5.68 min Scan# 899
 Delta R.T. -0.38 min
 Lab File: VL036594.D
 Acq: 31 Mar 2021 9:36

Tgt Ion: 42 Resp: 244072

Ion	Ratio	Lower	Upper
42	100		
72	0.9	27.6	41.4#
71	13.4	27.0	40.4#





#53

Toluene

Concen: 0.144 ppbv

RT: 9.80 min Scan# 2180

Delta R.T. -0.02 min

Lab File: VL036594.D

Acq: 31 Mar 2021 9:36

Instrument :

MSVOA_L

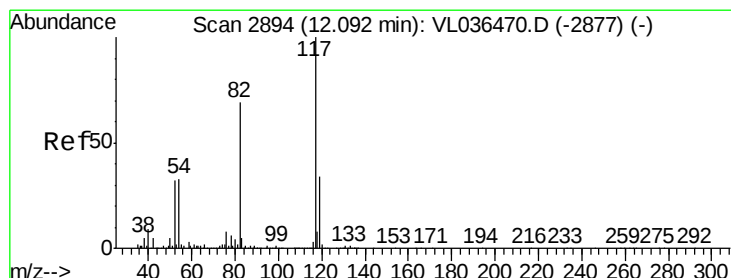
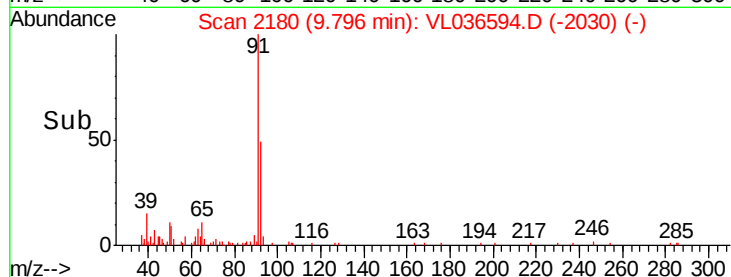
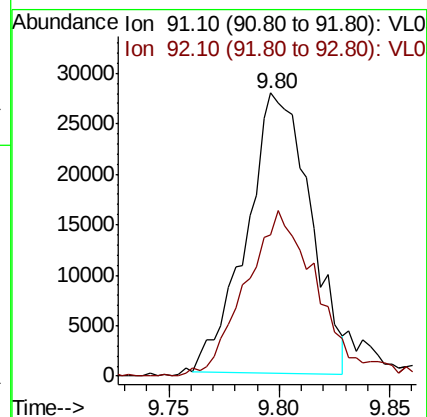
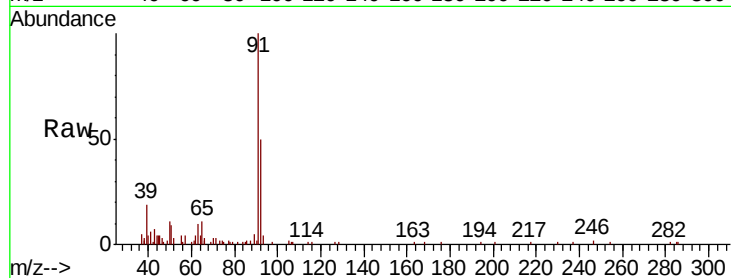
ClientSampleId :

Tot Ion: 91 Resp: 55613

Ion Ratio Lower Upper

91 100

92 68.9 48.8 73.2



#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.08 min Scan# 2890

Delta R.T. -0.01 min

Lab File: VL036594.D

Acq: 31 Mar 2021 9:36

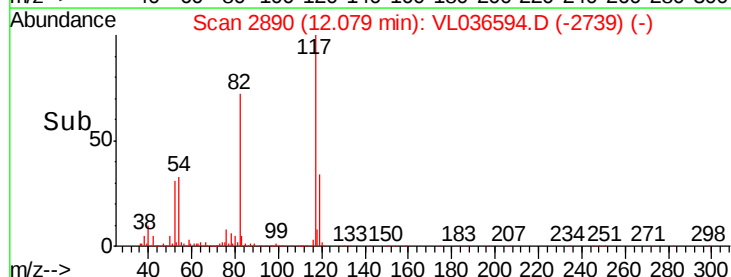
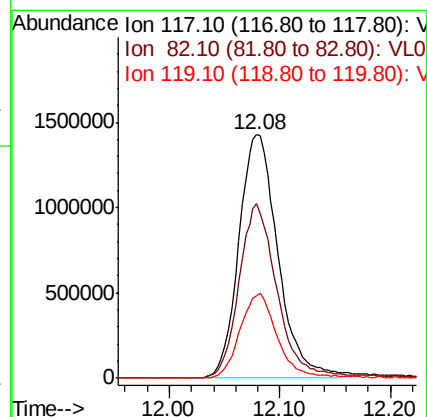
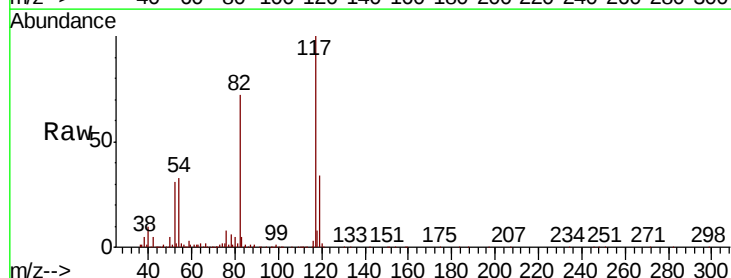
Tgt Ion: 117 Resp: 3507938

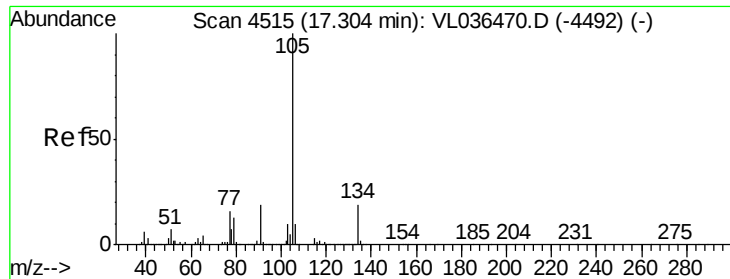
Ion Ratio Lower Upper

117 100

82 70.7 57.4 86.0

119 33.8 47.4 71.0#





#67

sec-Butylbenzene

Concen: 0.021 ppbv

RT: 17.28 min Scan# 4507

Delta R.T. -0.03 min

Lab File: VL036594.D

Acq: 31 Mar 2021 9:36

Instrument :

MSVOA_L

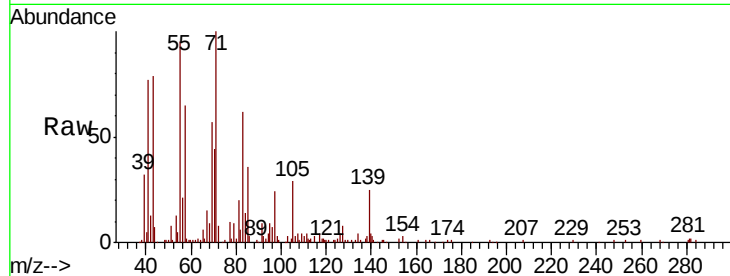
ClientSampleId :

Tot Ion:105 Resp: 14753

Ion Ratio Lower Upper

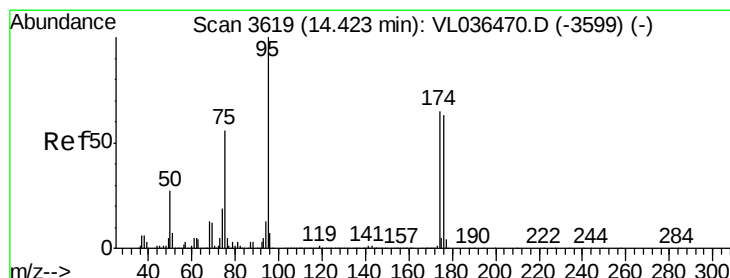
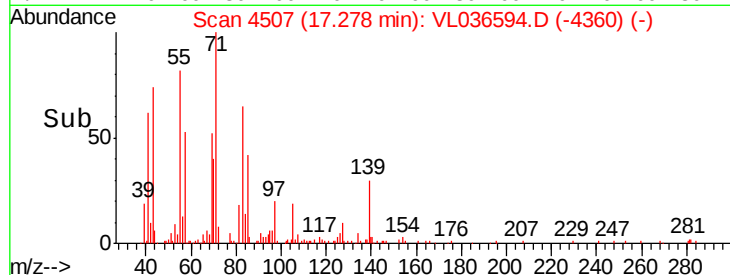
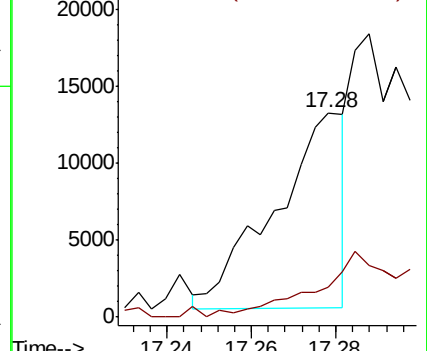
105 100

134 20.4 14.7 22.1



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: 9.986 ppbv

RT: 14.41 min Scan# 3615

Delta R.T. -0.01 min

Lab File: VL036594.D

Acq: 31 Mar 2021 9:36

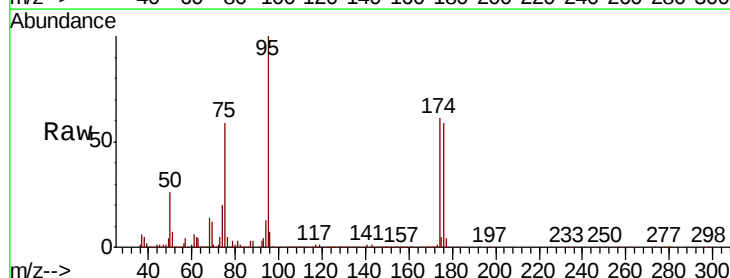
Tgt Ion: 95 Resp: 2791938

Ion Ratio Lower Upper

95 100

174 63.7 51.0 76.6

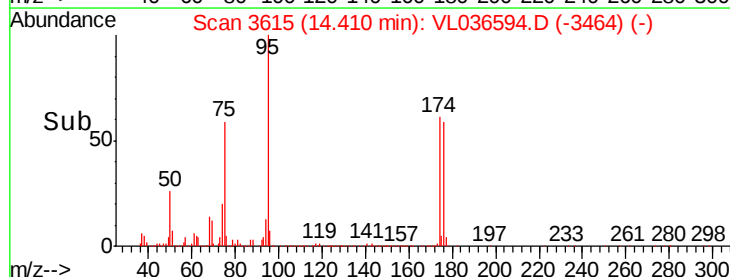
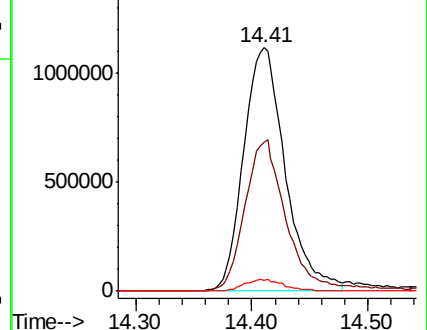
175 4.8 3.9 5.9

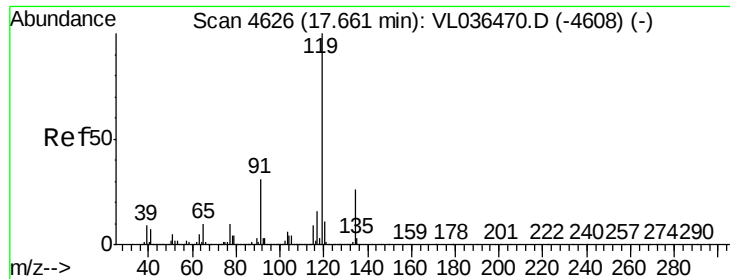


Abundance Ion 95.10 (94.80 to 95.80): VL0

Ion 174.00 (173.70 to 174.70): V

Ion 175.00 (174.70 to 175.70): V





#69

p-Isopropyltoluene

Concen: 0.078 ppbv

RT: 17.65 min Scan# 4623

Delta R.T. -0.01 min

Lab File: VL036594.D

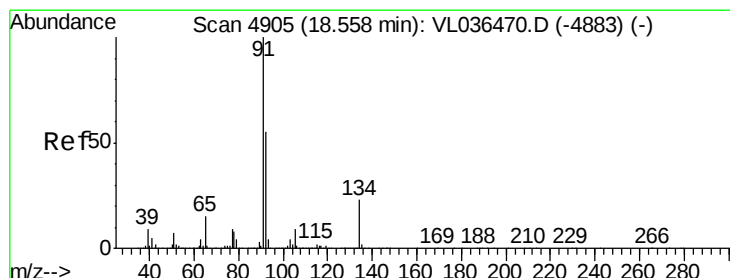
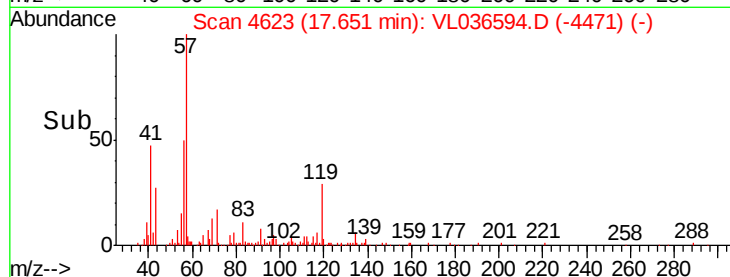
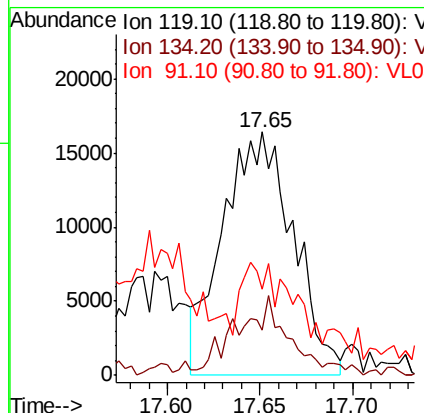
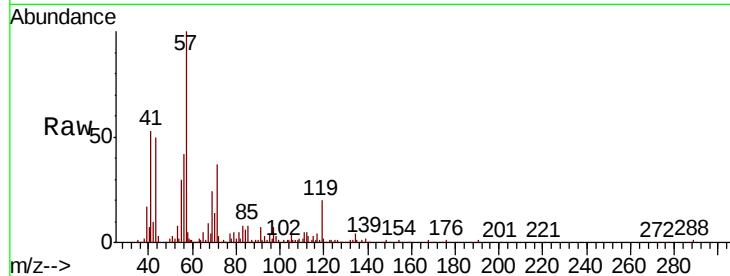
Acq: 31 Mar 2021 9:36

Instrument :

MSVOA_L

ClientSampled :

Tot Ion:	119	Resp:	43158
Ion	Ratio	Lower	Upper
119	100		
134	28.3	20.6	30.8
91	38.4	25.0	37.6



#70

n-Butylbenzene

Concen: 0.150 ppbv

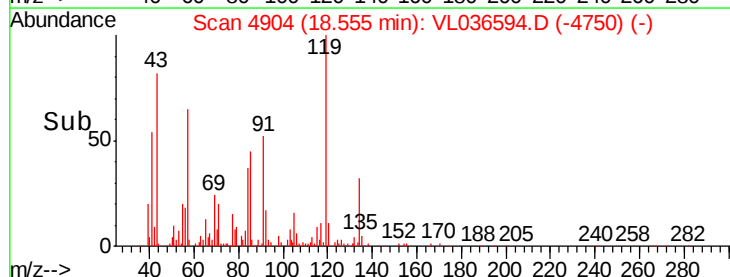
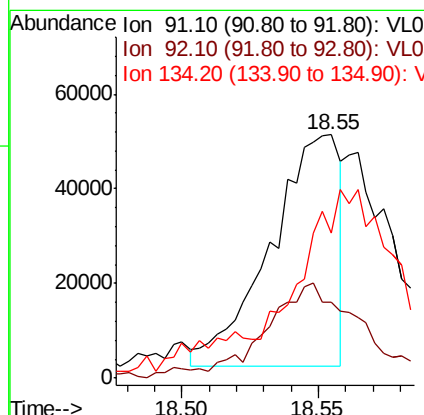
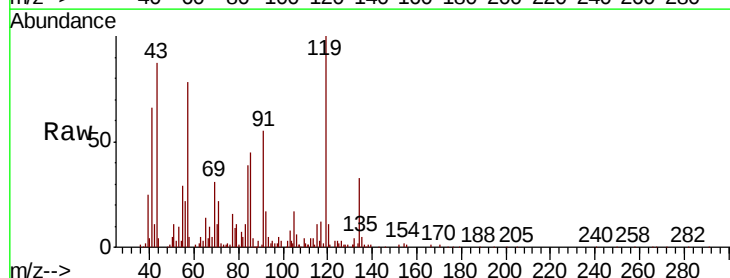
RT: 18.55 min Scan# 4904

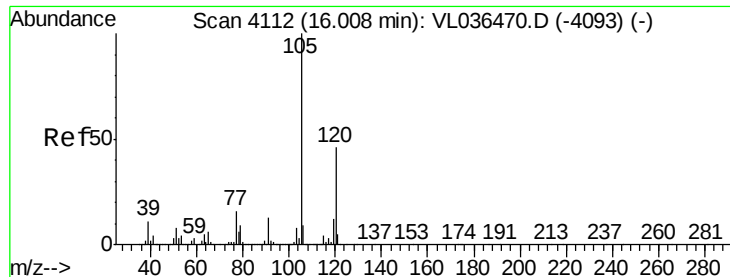
Delta R.T. -0.00 min

Lab File: VL036594.D

Acq: 31 Mar 2021 9:36

Tgt Ion:	91	Resp:	86364
Ion	Ratio	Lower	Upper
91	100		
92	57.3	43.8	65.8
134	0.0	18.0	27.0





#73

1,3,5-Trimethylbenzene

Concen: 0.064 ppbv

RT: 15.99 min Scan# 4106

Delta R.T. -0.02 min

Lab File: VL036594.D

Acq: 31 Mar 2021 9:36

Instrument :

MSVOA_L

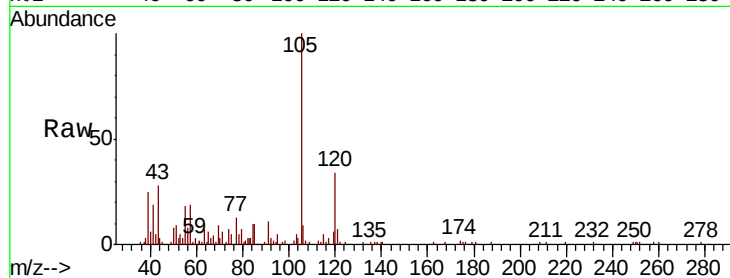
ClientSampleId :

Tot Ion:105 Resp: 28374

Ion Ratio Lower Upper

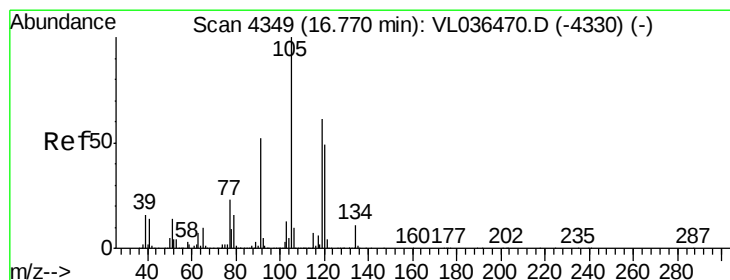
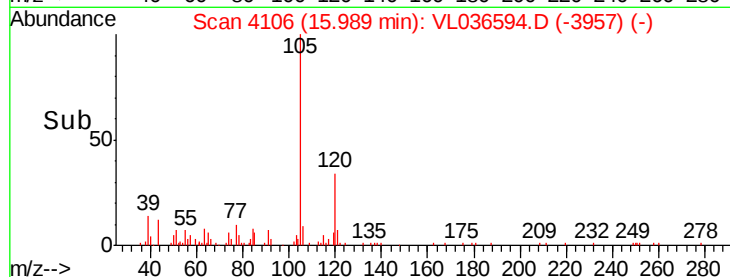
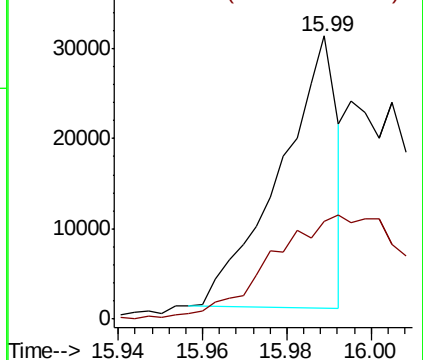
105 100

120 34.2 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: 0.533 ppbv

RT: 16.76 min Scan# 4346

Delta R.T. -0.01 min

Lab File: VL036594.D

Acq: 31 Mar 2021 9:36

Tgt Ion:105 Resp: 251043

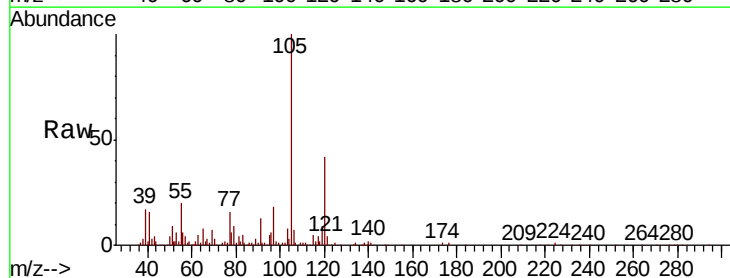
Ion Ratio Lower Upper

105 100

120 41.9 39.2 58.8

91 12.2 42.6 64.0#

77 14.9 18.6 28.0#

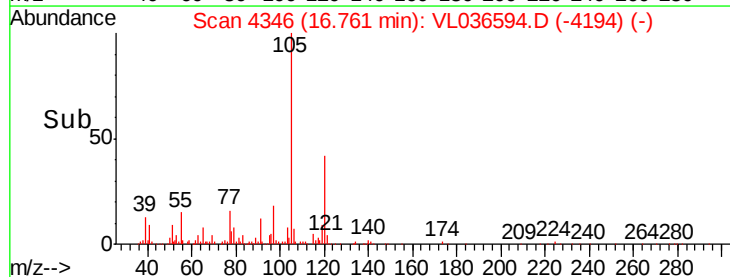
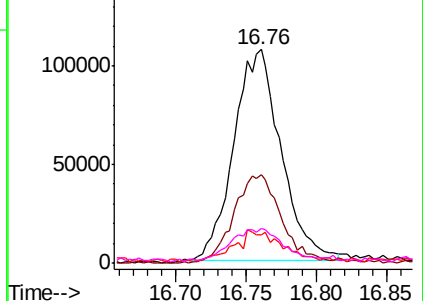


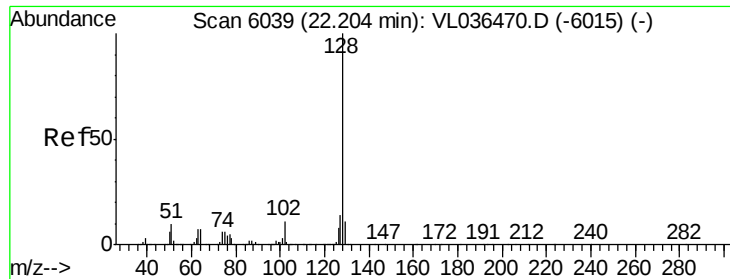
Abundance Ion 105.10 (104.80 to 105.80): V

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





#79

Naphthalene

Concen: 0.172 ppbv

RT: 22.20 min Scan# 6037

Delta R.T. -0.01 min

Lab File: VL036594.D

Acq: 31 Mar 2021 9:36

Instrument :

MSVOA_L

ClientSampleId :

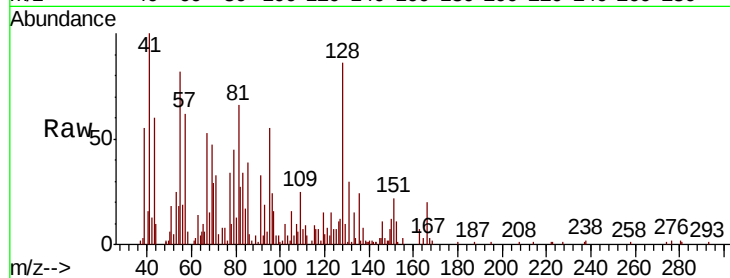
Tot Ion:128 Resp: 47253

Ion Ratio Lower Upper

128 100

127 8.7 10.9 16.3#

129 5.2 9.0 13.4#



Abundance Ion 128.10 (127.80 to 128.80): V

Ion 127.10 (126.80 to 127.80): V

Ion 129.10 (128.80 to 129.80): V

