

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL120820\
 Data File : VL036114.D
 Acq On : 9 Dec 2020 3:34
 Operator : SY/AP
 Sample : L4948-11 10X
 Misc : 400ml/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 SS-5B

Quant Time: Dec 09 07:24:06 2020
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL120720AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Mon Dec 07 16:56:49 2020
 QLast Update : Mon Dec 07 16:56:49 2020
 Response via : Initial Calibration

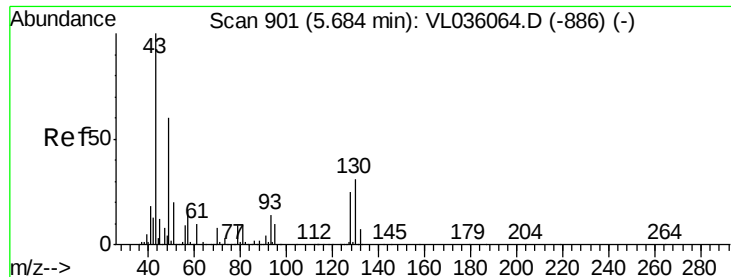
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.67	49	1150959	10.00	ppbv	-0.01
33) 1,4-Difluorobenzene	7.18	114	2457575	10.00	ppbv	-0.02
55) Chlorobenzene-d5	12.10	117	2197528	10.00	ppbv	0.00

System Monitoring Compounds

68) 1-Bromo-4-Fluorobenzene	14.43	95	1838429	10.54	ppbv	-0.01
Spiked Amount	10.000	Range	65 - 135	Recovery	=	105.40%

Target Compounds	R.T.	QIon	Response	Conc	Units	Ovalue
2) Dichlorodifluoromethane	3.04	85	2321363	17.307	ppbv	100
3) Chlorodifluoromethane	2.99	51	17229	0.131	ppbv	92
4) Chloromethane	3.09	50	6315	0.098	ppbv #	42
8) Dichlorotetrafluoroethane	3.04	85	2321363	15.572	ppbv #	16
9) Propene	3.01	41	7788	0.118	ppbv #	14
13) Ethanol	3.61	45	549365	60.579	ppbv	97
15) Acetone	3.85	43	551373	3.986	ppbv	97
16) 1,3-Butadiene	3.33	39	2297	0.033	ppbv #	11
18) 1,1-Dichloroethene	4.29	96	22739	0.478	ppbv	97
19) Isopropyl Alcohol	3.97	45	12209	0.144	ppbv #	100
20) Methylene Chloride	4.35	84	28566	0.504	ppbv	85
22) trans-1,2-Dichloroethene	4.89	96	22055	0.463	ppbv	96
24) 1,1-Dichloroethane	5.01	63	175258	1.353	ppbv	98
25) Ethyl Acetate	5.69	43	9944	0.036	ppbv #	88
26) Hexane	5.69	57	11359	0.091	ppbv #	41
29) Chloroform	5.75	83	49563	0.303	ppbv #	77
30) Cyclohexane	7.14	84	8848	0.097	ppbv #	2
31) cis-1,2-Dichloroethene	5.55	61	1024533	9.062	ppbv	97
32) 1,1,1-Trichloroethane	6.52	97	232176	1.378	ppbv	96
34) 2-Butanone	5.25	43	21950	0.135	ppbv #	56
36) Benzene	6.90	78	64173	0.308	ppbv #	94
38) Trichloroethene	7.84	130	1035421	13.299	ppbv	93
39) 1,2-Dichloropropane	7.18	63	713080	8.670	ppbv #	23
40) 1,4-Dioxane	7.85	88	4274	0.165	ppbv #	1
52) Tetrachloroethene	11.24	164	5294855	70.228	ppbv	92
53) Toluene	9.82	91	25755	0.110	ppbv #	21
58) Ethyl Benzene	12.72	91	23809	0.079	ppbv	96
60) o-Xylene	13.72	91	7402	0.031	ppbv #	1
62) Isopropylbenzene	14.68	105	11923	0.034	ppbv	95

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



#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.67 min Scan# 897

Delta R.T. -0.01 min

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SS-5B

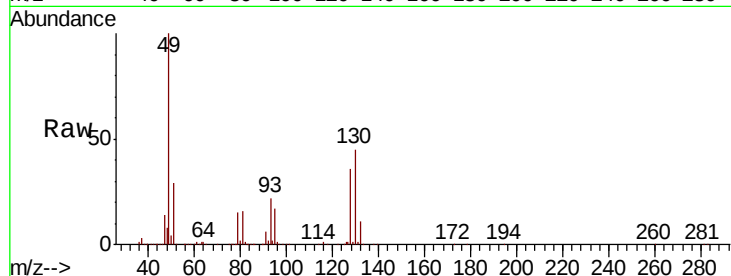
Tot Ion: 49 Resp: 1150959

Ion Ratio Lower Upper

49 100

128 38.1 21.1 63.1

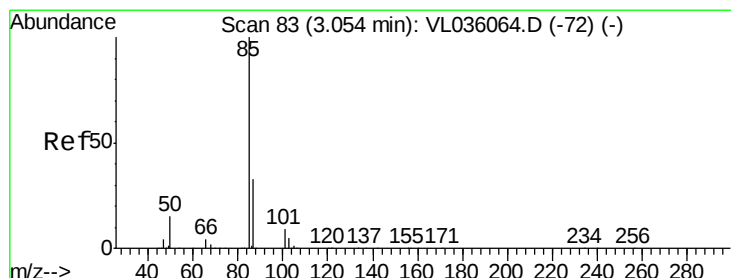
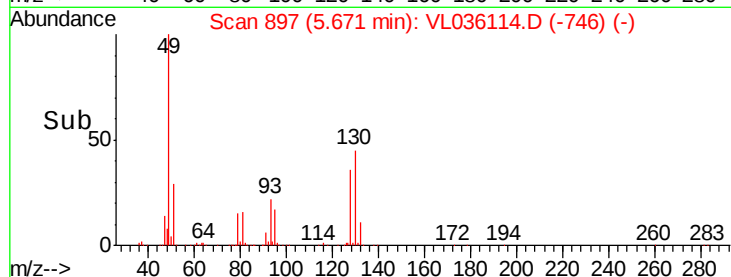
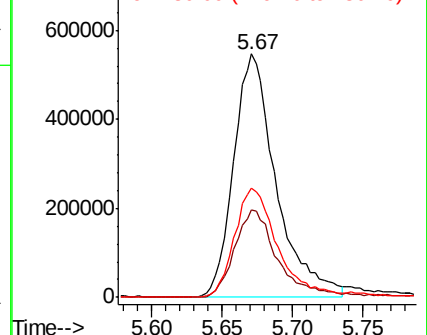
130 47.8 27.1 81.3



Abundance Ion 49.10 (48.80 to 49.80): VL0

Ion 128.00 (127.70 to 128.70): VL0

Ion 130.00 (129.70 to 130.70): VL0



#2

Dichlorodifluoromethane

Concen: 17.307 ppbv

RT: 3.04 min Scan# 80

Delta R.T. -0.01 min

Lab File: VL036114.D

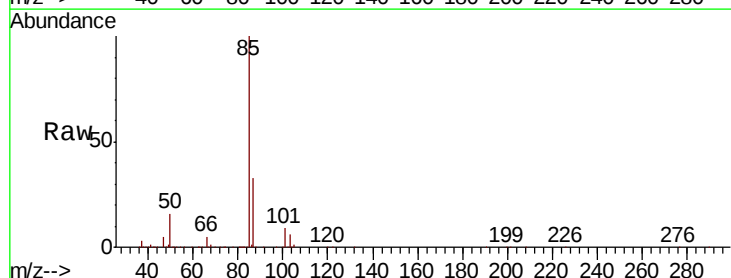
Acq: 9 Dec 2020 3:34

Tgt Ion: 85 Resp: 2321363

Ion Ratio Lower Upper

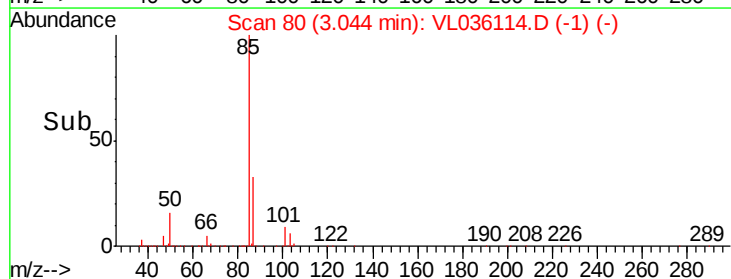
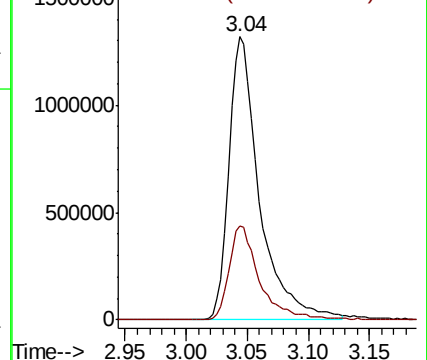
85 100

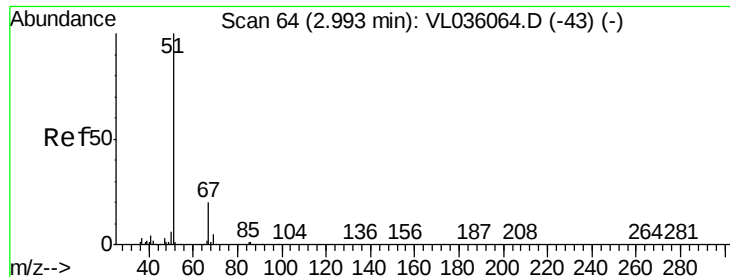
87 33.4 26.5 39.7



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0





#3

Chlorodifluoromethane

Concen: 0.131 ppbv

RT: 2.99 min Scan# 63

Delta R.T. -0.00 min

Lab File: VL036114.D

Acq: 9 Dec 2020 3:34

Instrument :

MSVOA_L

ClientSampleId :

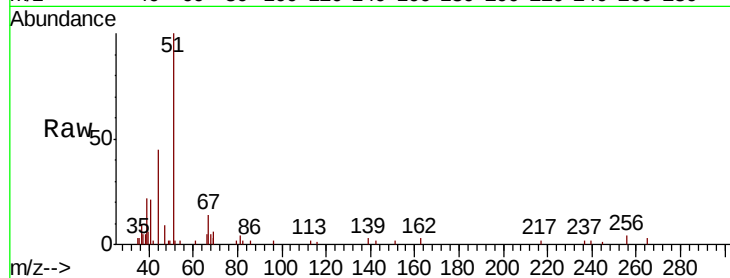
SS-5B

Tot Ion: 51 Resp: 17229

Ion Ratio Lower Upper

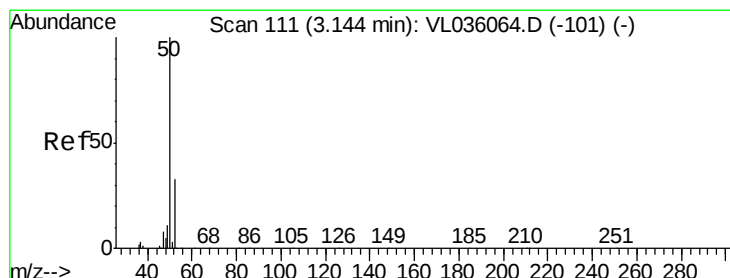
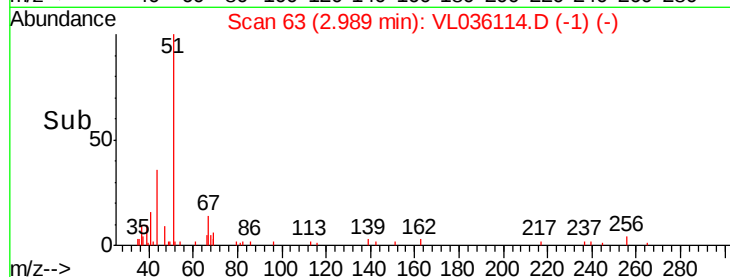
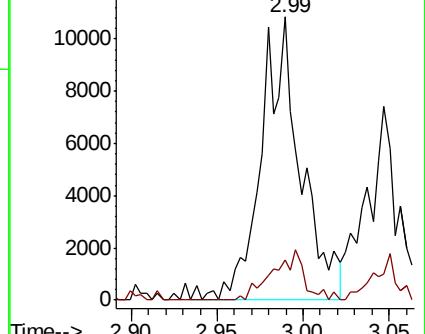
51 100

67 14.3 14.3 21.5



Abundance Ion 51.00 (50.70 to 51.70): VL0

Ion 67.00 (66.70 to 67.70): VL0



#4

Chloromethane

Concen: 0.098 ppbv

RT: 3.09 min Scan# 95

Delta R.T. -0.05 min

Lab File: VL036114.D

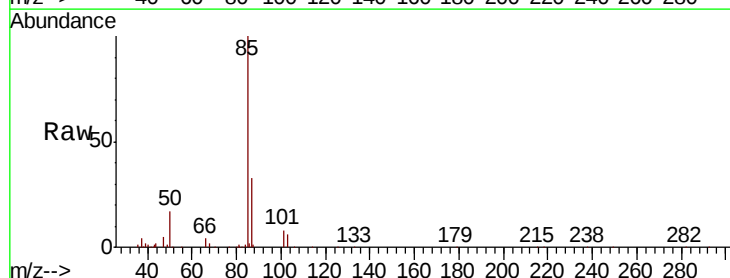
Acq: 9 Dec 2020 3:34

Tgt Ion: 50 Resp: 6315

Ion Ratio Lower Upper

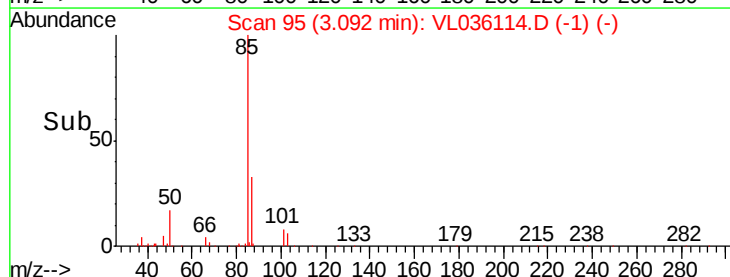
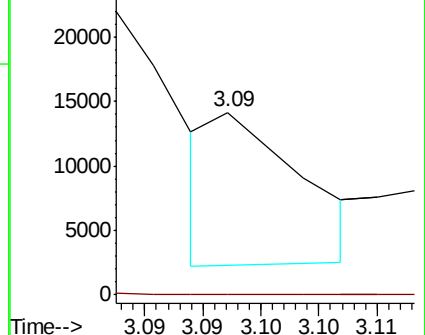
50 100

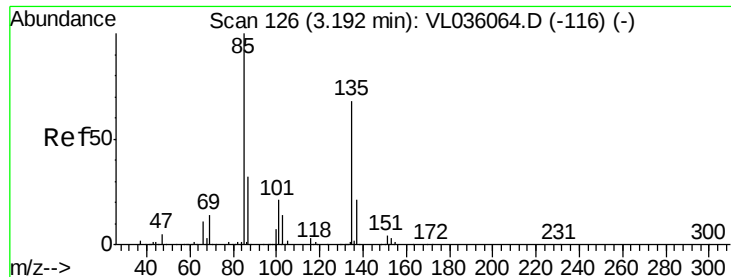
52 0.0 26.1 39.1#



Abundance Ion 50.10 (49.80 to 50.80): VL0

Ion 52.10 (51.80 to 52.80): VL0





#8

Dichlorotetrafluoroethane

Concen: 15.572 ppbv

RT: 3.04 min Scan# 80

Delta R.T. -0.15 min

Lab File: VL036114.D

Acq: 9 Dec 2020 3:34

Instrument :

MSVOA_L

ClientSampleId :

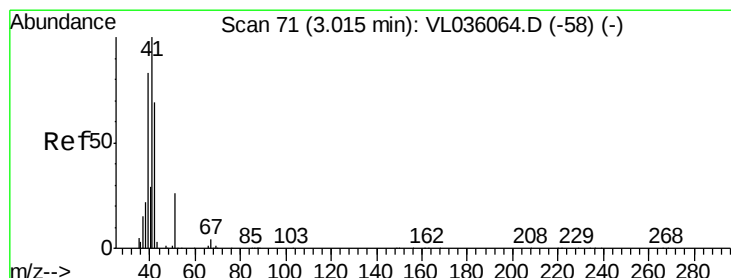
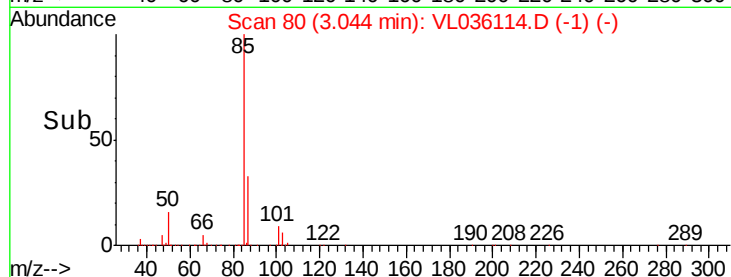
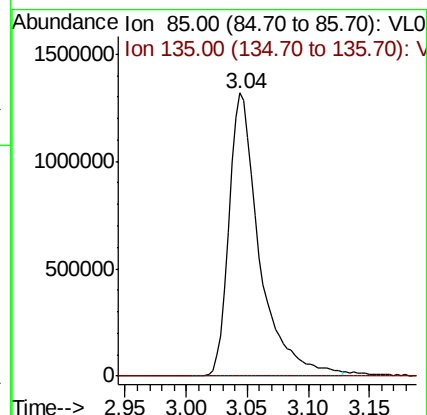
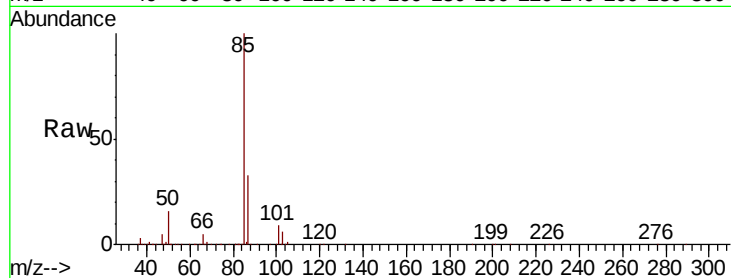
SS-5B

Tot Ion: 85 Resp: 2321363

Ion Ratio Lower Upper

85 100

135 0.0 53.8 80.8#



#9

Propene

Concen: 0.118 ppbv

RT: 3.01 min Scan# 69

Delta R.T. -0.01 min

Lab File: VL036114.D

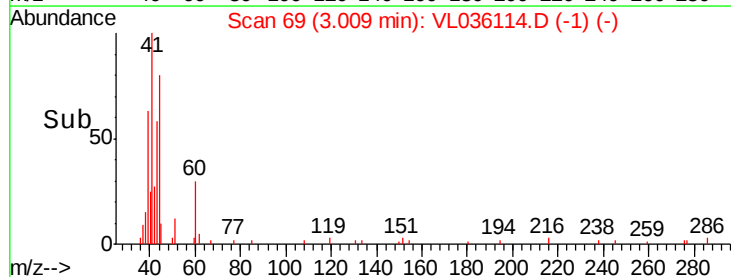
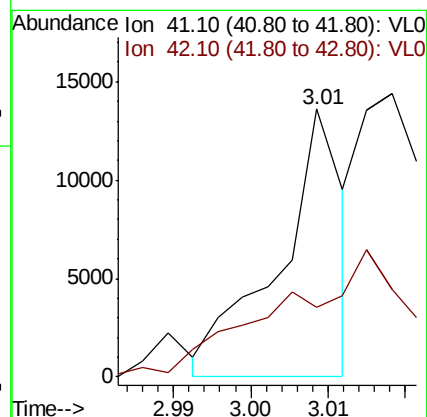
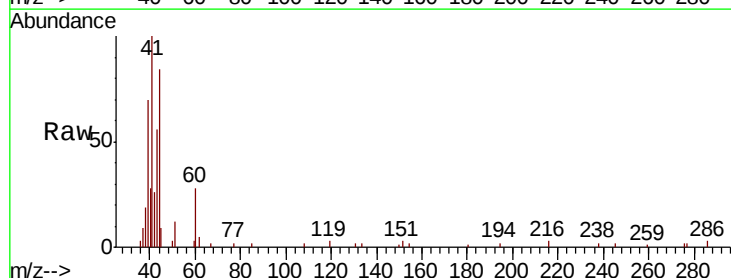
Acq: 9 Dec 2020 3:34

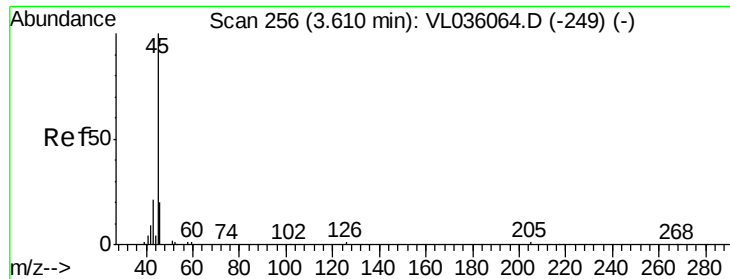
Tgt Ion: 41 Resp: 7788

Ion Ratio Lower Upper

41 100

42 0.0 57.0 85.6#





#13

Ethanol

Concen: 60.579 ppbv

RT: 3.61 min Scan# 255

Delta R.T. -0.00 min

Lab File: VL036114.D

Acq: 9 Dec 2020 3:34

Instrument :

MSVOA_L

ClientSampleID :

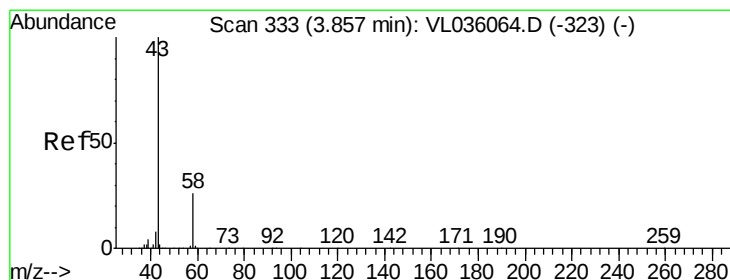
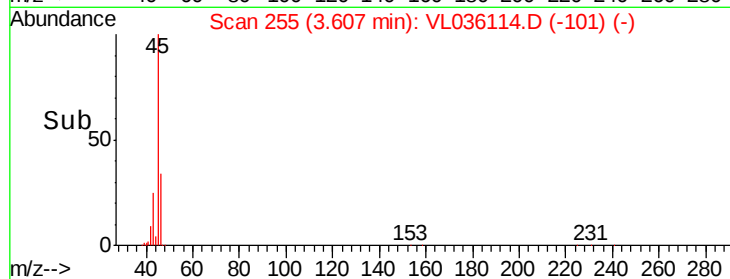
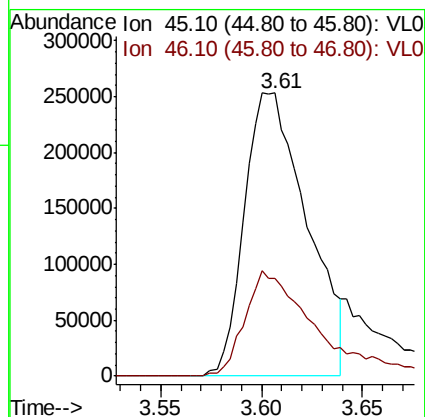
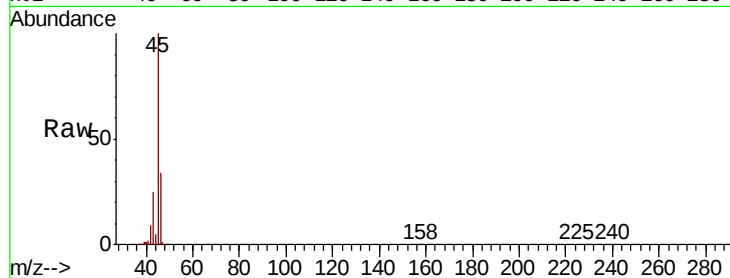
SS-5B

Tot Ion: 45 Resp: 549365

Ion Ratio Lower Upper

45 100

46 45.1 19.0 75.8



#15

Acetone

Concen: 3.986 ppbv

RT: 3.85 min Scan# 331

Delta R.T. -0.01 min

Lab File: VL036114.D

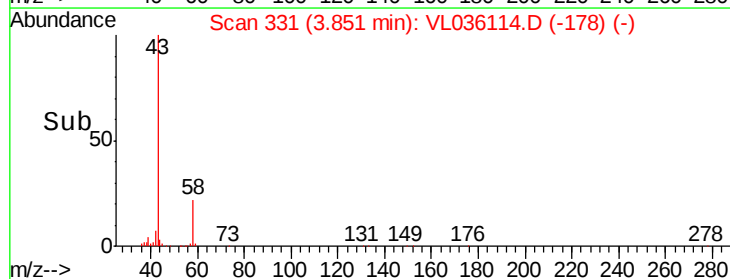
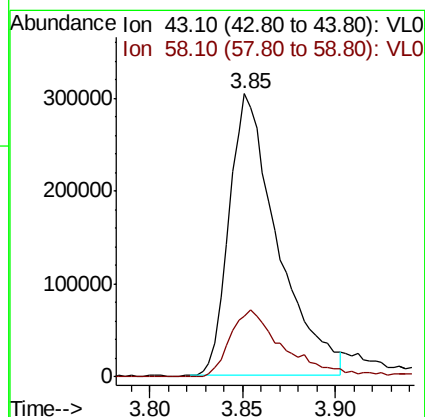
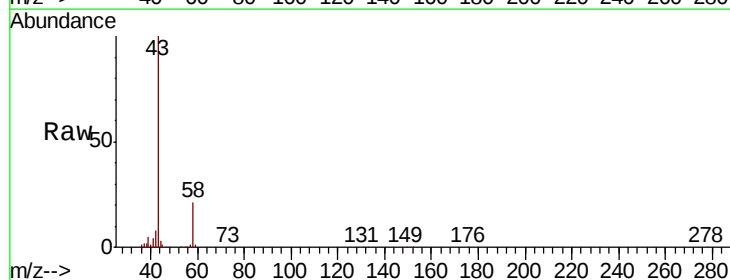
Acq: 9 Dec 2020 3:34

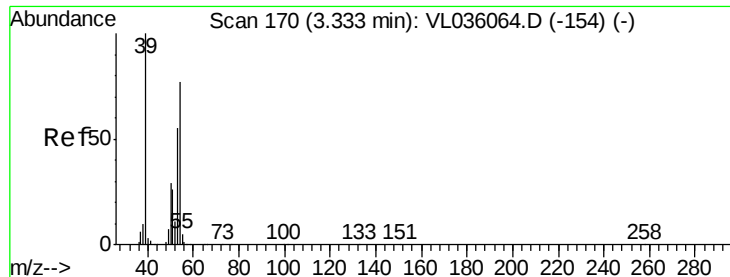
Tgt Ion: 43 Resp: 551373

Ion Ratio Lower Upper

43 100

58 27.8 20.9 31.3

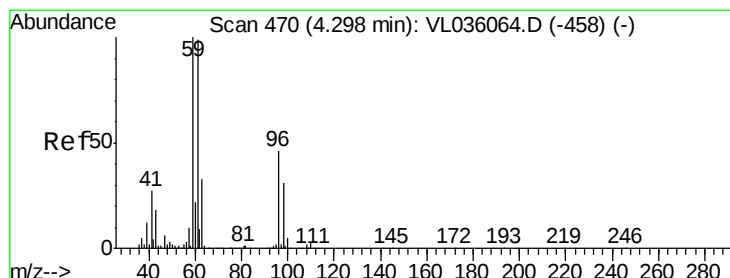
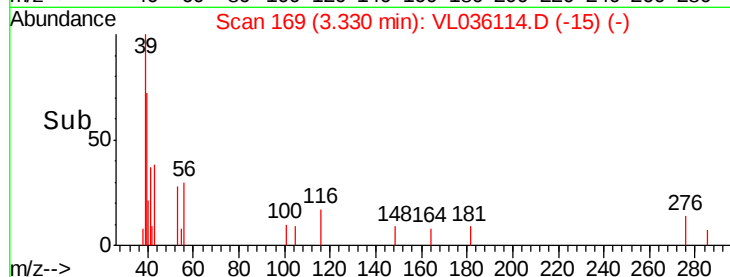
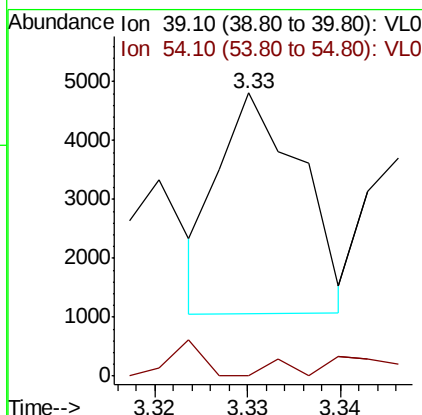
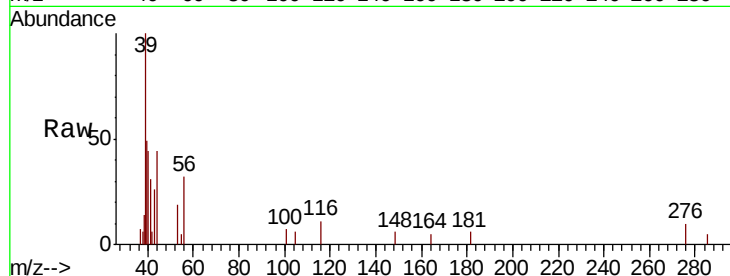




#16
 1,3-Butadiene
 Concen: 0.033 ppbv
 RT: 3.33 min Scan# 169
 Delta R.T. -0.00 min
 Lab File: VL036114.D
 Acq: 9 Dec 2020 3:34

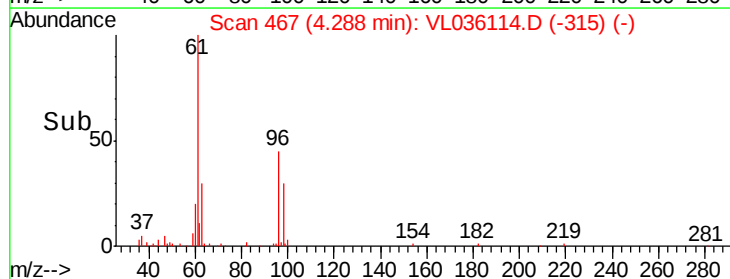
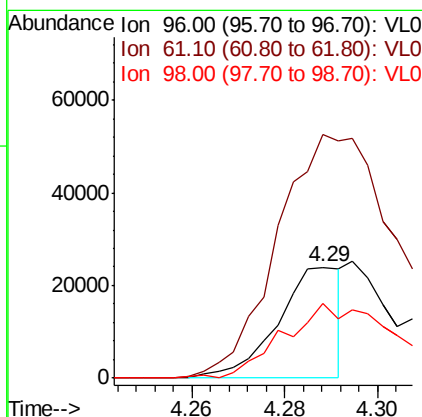
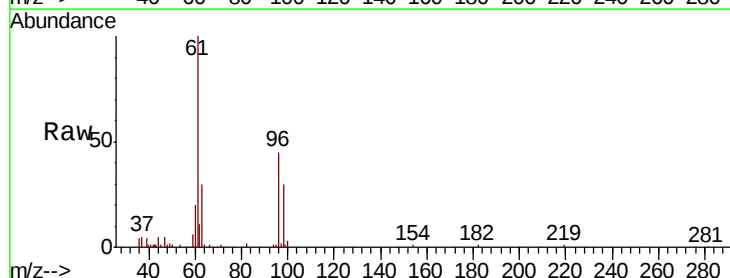
Instrument :
 MSVOA_L
 ClientSampleId :
 SS-5B

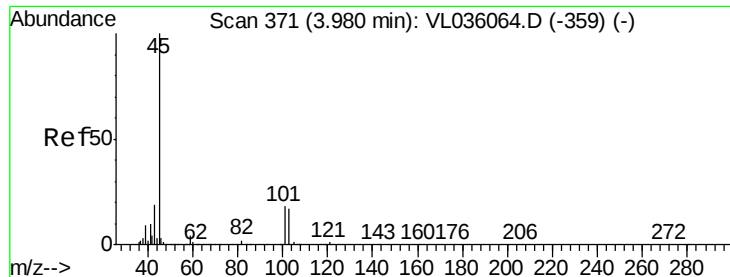
Tot Ion: 39 Resp: 2297
 Ion Ratio Lower Upper
 39 100
 54 0.0 62.1 93.1#



#18
 1,1-Dichloroethene
 Concen: 0.478 ppbv
 RT: 4.29 min Scan# 467
 Delta R.T. -0.01 min
 Lab File: VL036114.D
 Acq: 9 Dec 2020 3:34

Tgt Ion: 96 Resp: 22739
 Ion Ratio Lower Upper
 96 100
 61 218.5 171.4 257.2
 98 66.0 54.2 81.2





#19

Isopropyl Alcohol

Concen: 0.144 ppbv

RT: 3.97 min Scan# 369

Delta R.T. -0.01 min

Lab File: VL036114.D

Acq: 9 Dec 2020 3:34

Instrument :

MSVOA_L

ClientSampled :

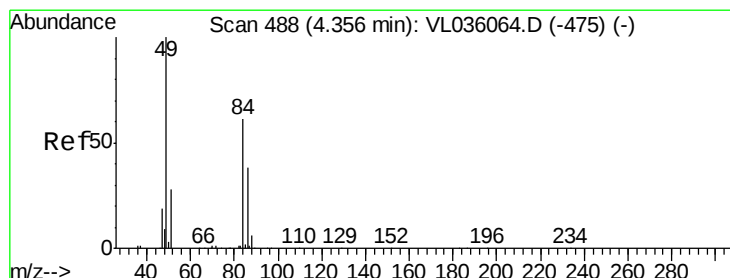
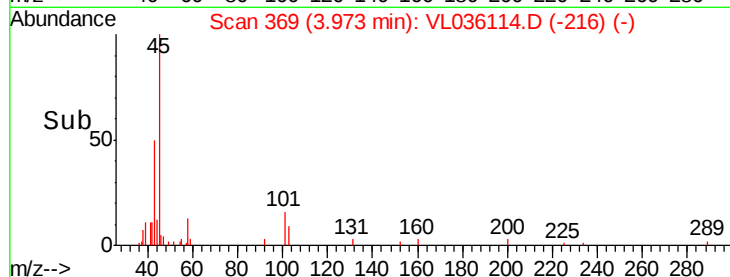
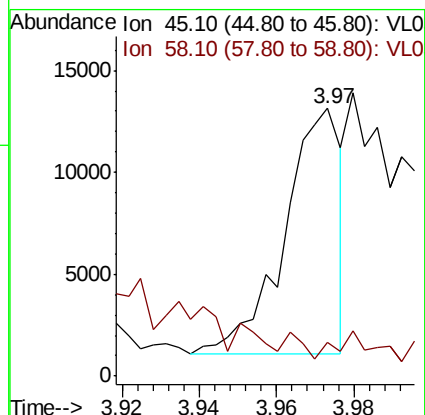
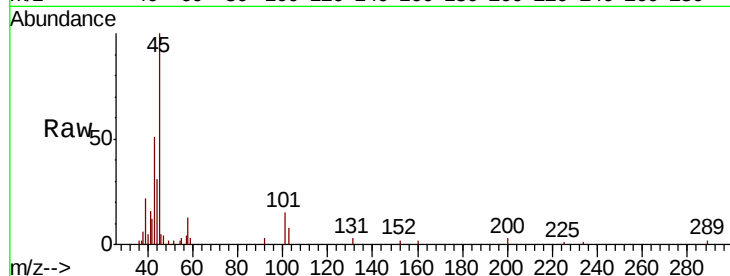
SS-5B

Tot Ion: 45 Resp: 12209

Ion Ratio Lower Upper

45 100

58 1276.4 0.0 0.0#



#20

Methylene Chloride

Concen: 0.504 ppbv

RT: 4.35 min Scan# 485

Delta R.T. -0.01 min

Lab File: VL036114.D

Acq: 9 Dec 2020 3:34

Tgt Ion: 84 Resp: 28566

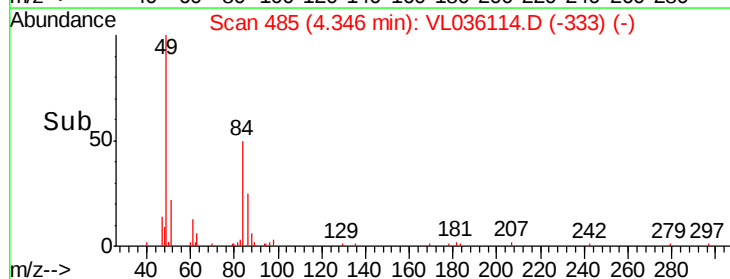
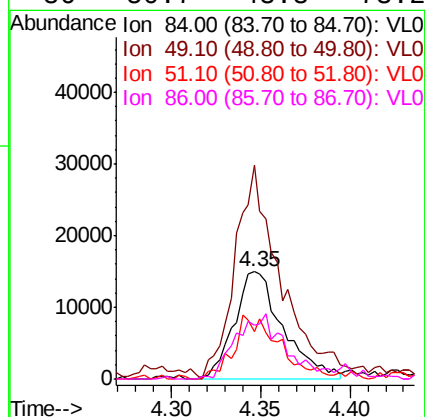
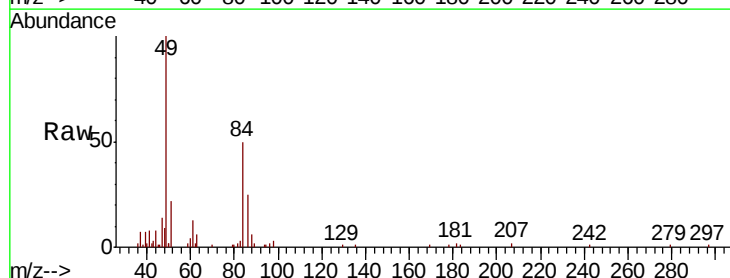
Ion Ratio Lower Upper

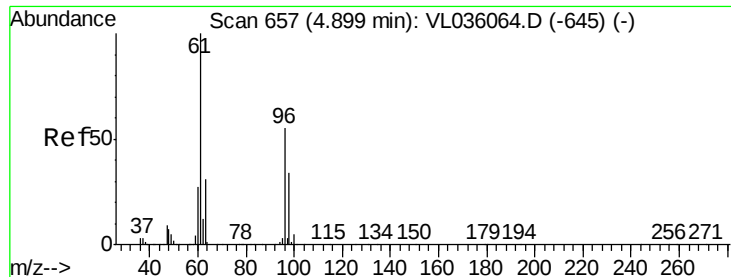
84 100

49 190.3 133.0 199.4

51 44.7 38.9 58.3

86 50.7 48.8 73.2





#22

trans-1,2-Dichloroethene

Concen: 0.463 ppbv

RT: 4.89 min Scan# 653

Delta R.T. -0.01 min

Lab File: VL036114.D

Acq: 9 Dec 2020 3:34

Instrument :

MSVOA_L

ClientSampleId :

SS-5B

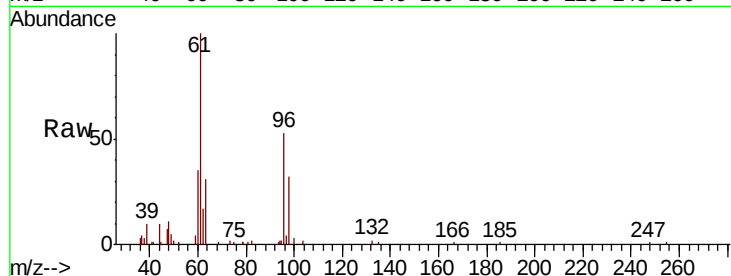
Tot Ion: 96 Resp: 22055

Ion Ratio Lower Upper

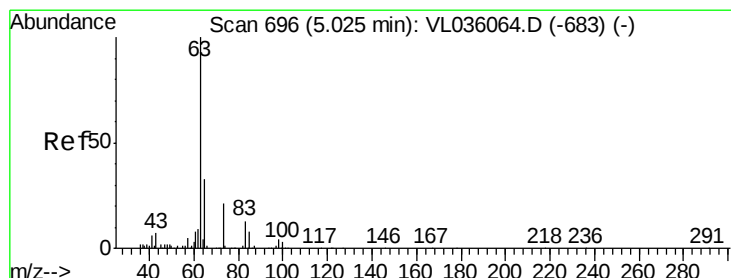
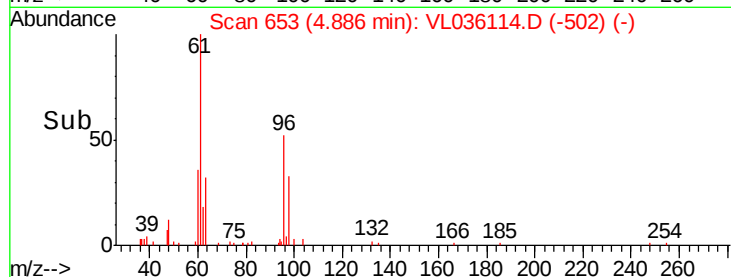
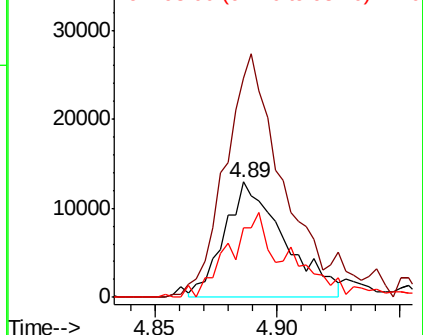
96 100

61 184.5 145.7 218.5

98 52.6 49.2 73.8



Abundance Ion 96.00 (95.70 to 96.70): VL0
Ion 61.10 (60.80 to 61.80): VL0
Ion 98.00 (97.70 to 98.70): VL0



#24

1,1-Dichloroethane

Concen: 1.353 ppbv

RT: 5.01 min Scan# 692

Delta R.T. -0.01 min

Lab File: VL036114.D

Acq: 9 Dec 2020 3:34

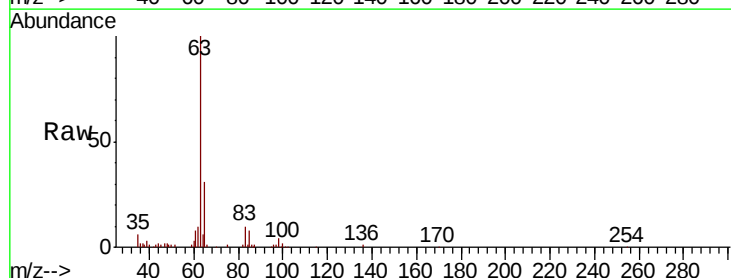
Tgt Ion: 63 Resp: 175258

Ion Ratio Lower Upper

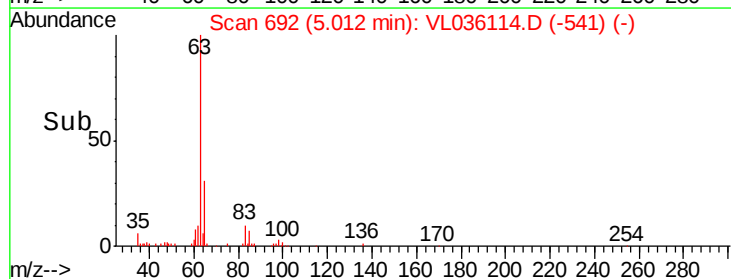
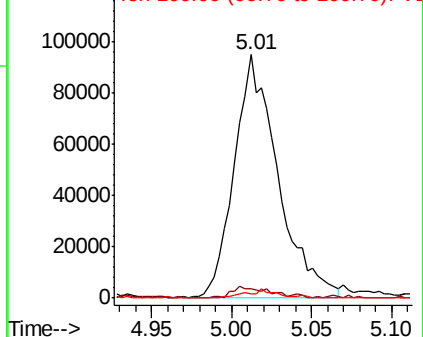
63 100

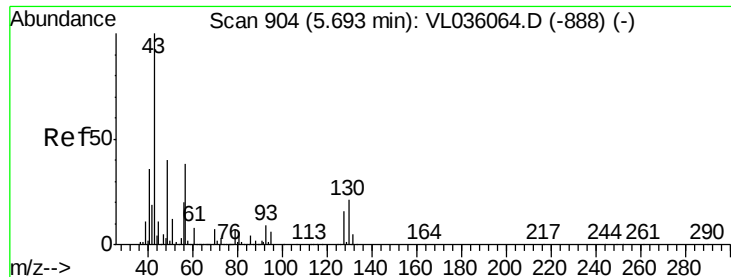
98 3.8 2.2 6.6

100 2.0 1.5 4.4



Abundance Ion 63.10 (62.80 to 63.80): VL0
Ion 98.00 (97.70 to 98.70): VL0
Ion 100.00 (99.70 to 100.70): VL0





#25

Ethyl Acetate

Concen: 0.036 ppbv

RT: 5.69 min Scan# 902

Delta R.T. -0.01 min

Lab File: VL036114.D

Acq: 9 Dec 2020 3:34

Instrument :

MSVOA_L

ClientSampleId :

SS-5B

Tot Ion: 43 Resp: 9944

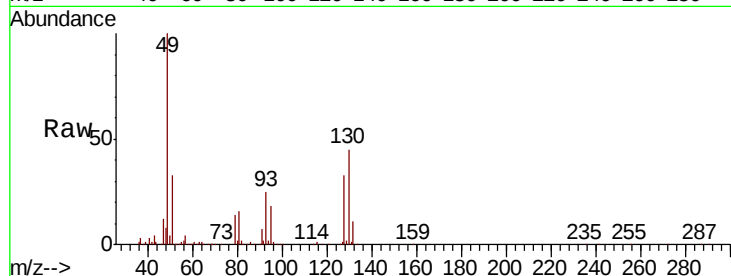
Ion Ratio Lower Upper

43 100

45 11.6 8.2 12.4

61 0.0 7.4 11.2#

70 4.0 5.4 8.0#

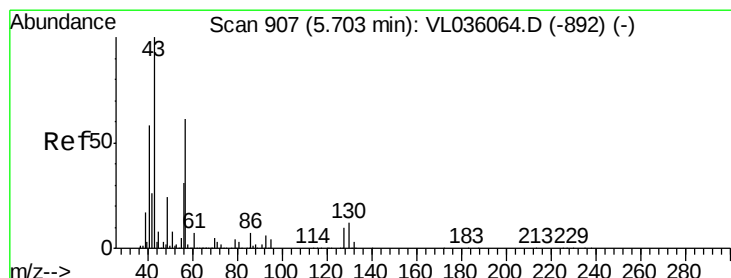
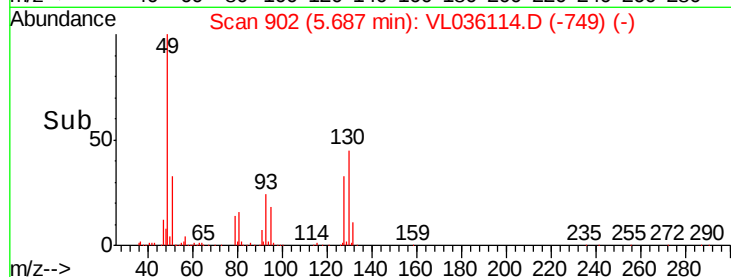
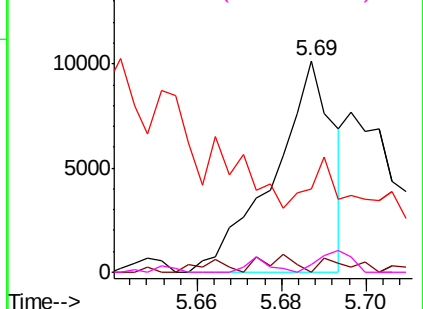


Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 45.10 (44.80 to 45.80): VL0

Ion 61.10 (60.80 to 61.80): VL0

Ion 70.10 (69.80 to 70.80): VL0



#26

Hexane

Concen: 0.091 ppbv

RT: 5.69 min Scan# 902

Delta R.T. -0.02 min

Lab File: VL036114.D

Acq: 9 Dec 2020 3:34

Tgt Ion: 57 Resp: 11359

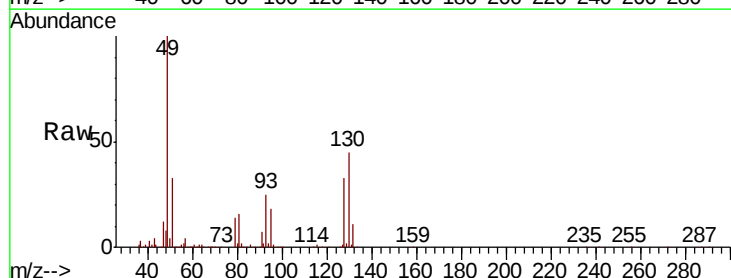
Ion Ratio Lower Upper

57 100

41 0.0 82.9 124.3#

43 184.2 199.9 299.9#

56 0.0 43.1 64.7#

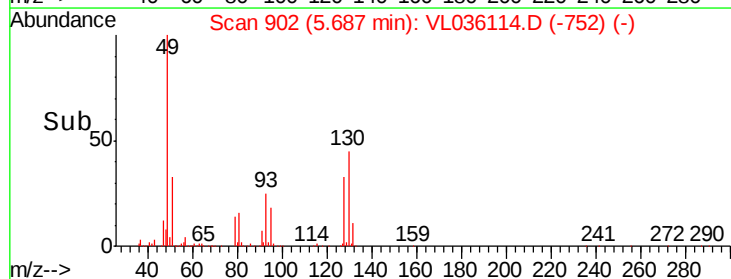
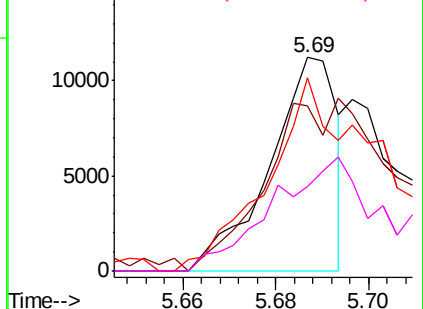


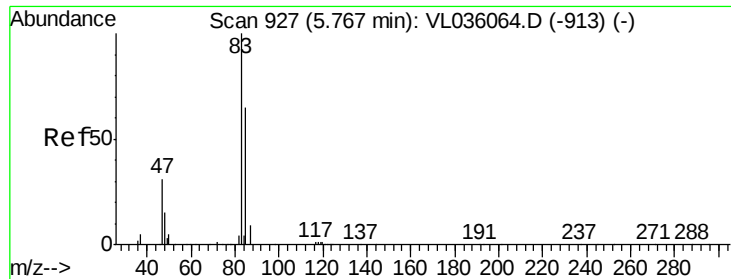
Abundance Ion 57.10 (56.80 to 57.80): VL0

Ion 41.10 (40.80 to 41.80): VL0

Ion 43.10 (42.80 to 43.80): VL0

Ion 56.10 (55.80 to 56.80): VL0





#29

Chloroform

Concen: 0.303 ppbv

RT: 5.75 min Scan# 922

Delta R.T. -0.02 min

Lab File: VL036114.D

Acq: 9 Dec 2020 3:34

Instrument :

MSVOA_L

ClientSampleId :

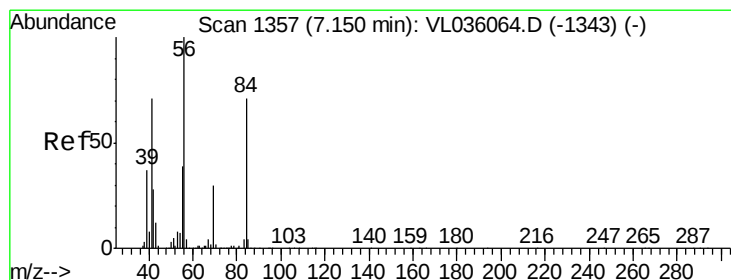
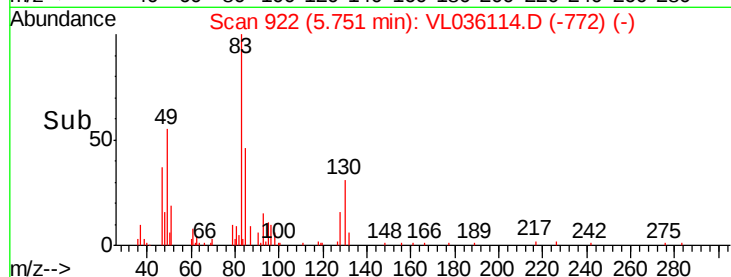
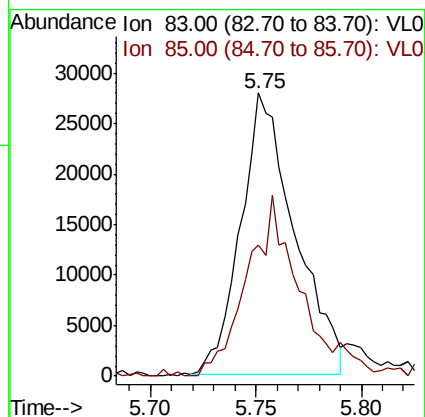
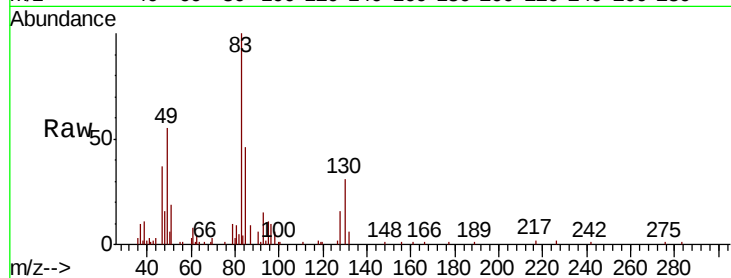
SS-5B

Tot Ion: 83 Resp: 49563

Ion Ratio Lower Upper

83 100

85 46.7 51.8 77.6#



#30

Cyclohexane

Concen: 0.097 ppbv

RT: 7.14 min Scan# 1353

Delta R.T. -0.01 min

Lab File: VL036114.D

Acq: 9 Dec 2020 3:34

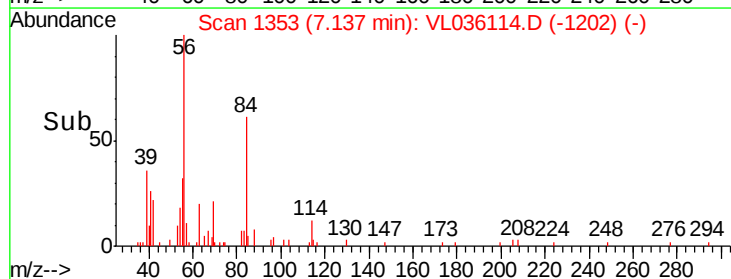
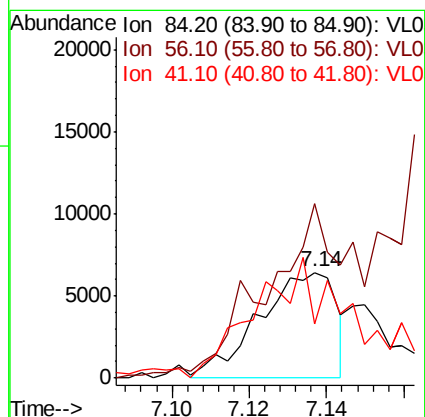
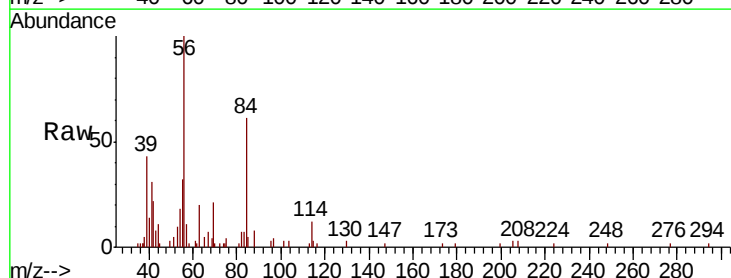
Tgt Ion: 84 Resp: 8848

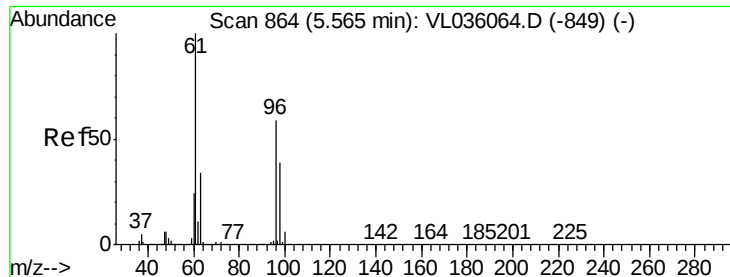
Ion Ratio Lower Upper

84 100

56 0.0 128.0 192.0#

41 164.2 81.3 121.9#



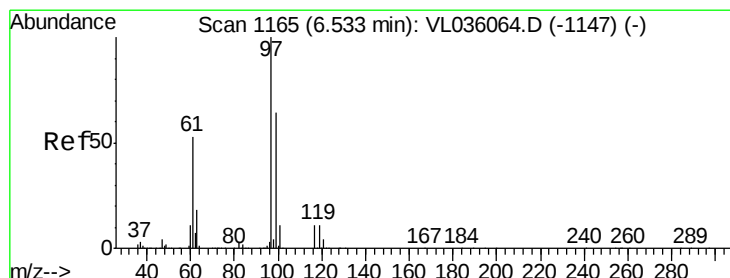
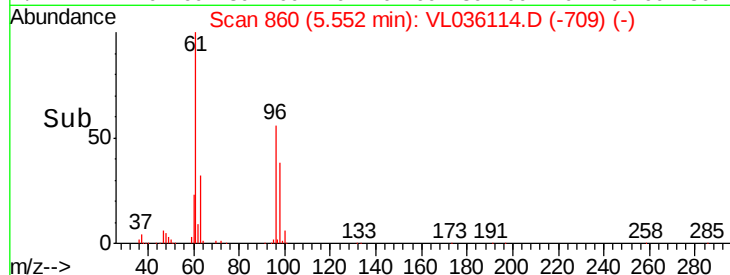
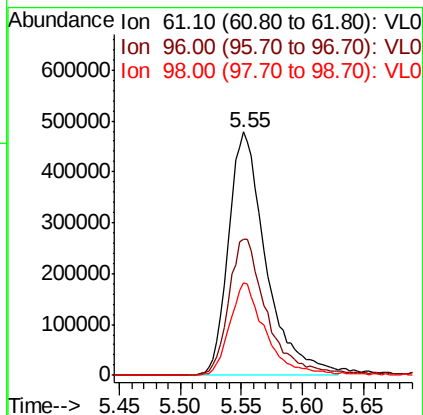
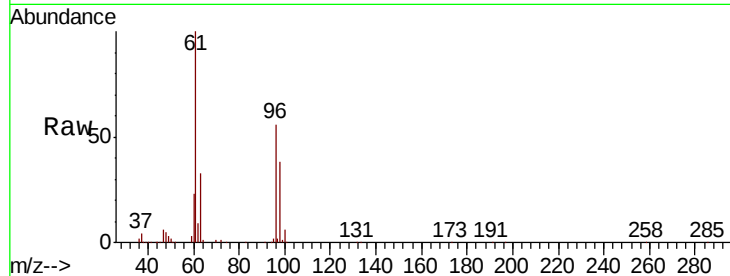


#31

cis-1,2-Dichloroethene
 Concen: 9.062 ppbv
 RT: 5.55 min Scan# 860
 Delta R.T. -0.01 min
 Lab File: VL036114.D
 Acq: 9 Dec 2020 3:34

Instrument :
 MSVOA_L
 ClientSampleId :
 SS-5B

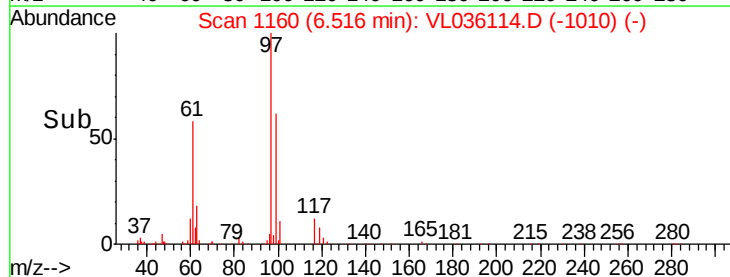
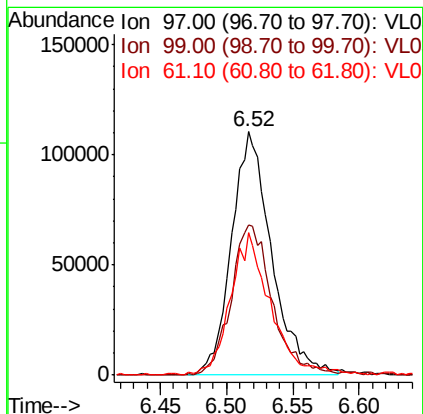
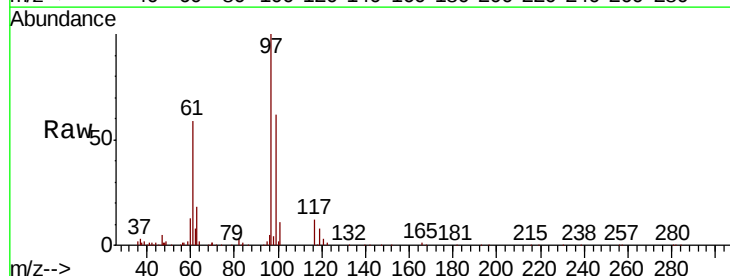
Tot Ion: 61 Resp: 1024533
 Ion Ratio Lower Upper
 61 100
 96 56.2 47.3 70.9
 98 37.9 31.4 47.0

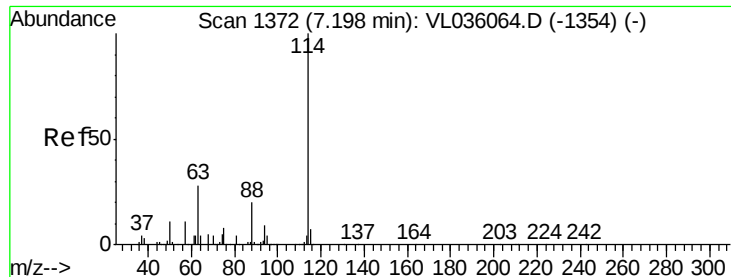


#32

1,1,1-Trichloroethane
 Concen: 1.378 ppbv
 RT: 6.52 min Scan# 1160
 Delta R.T. -0.02 min
 Lab File: VL036114.D
 Acq: 9 Dec 2020 3:34

Tgt Ion: 97 Resp: 232176
 Ion Ratio Lower Upper
 97 100
 99 64.5 52.4 78.6
 61 58.7 43.4 65.0

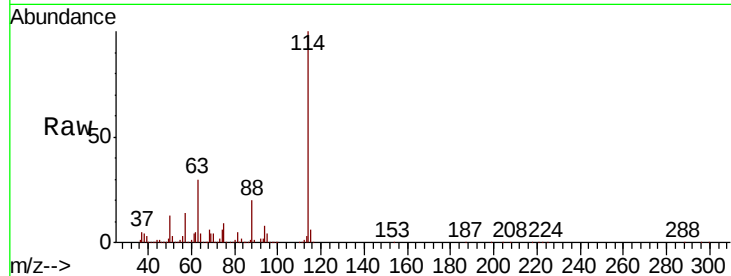




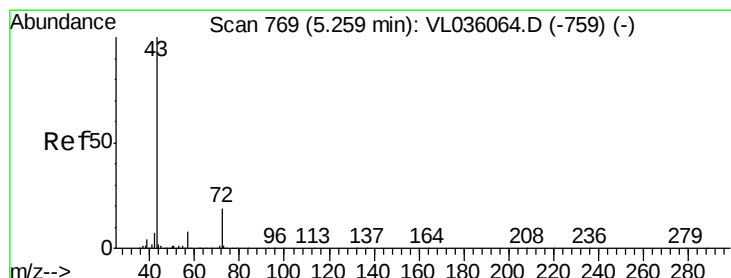
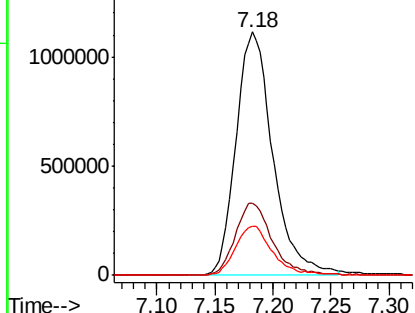
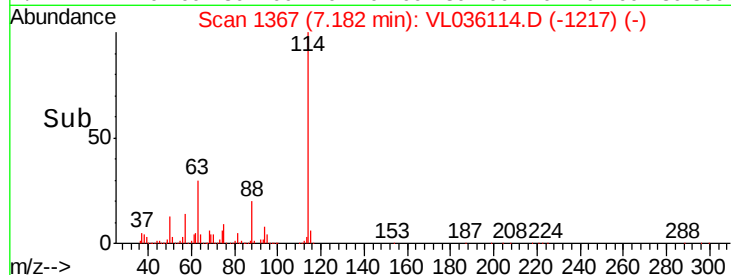
#33
 1,4-Difluorobenzene
 Concen: 10.000 ppbv
 RT: 7.18 min Scan# 1367
 Delta R.T. -0.02 min
 Lab File: VL036114.D
 Acq: 9 Dec 2020 3:34

Instrument :
 MSVOA_L
 ClientSampled :
 SS-5B

Tot Ion:114 Resp: 2457575
 Ion Ratio Lower Upper
 114 100
 63 30.3 23.6 35.4
 88 20.5 15.8 23.6

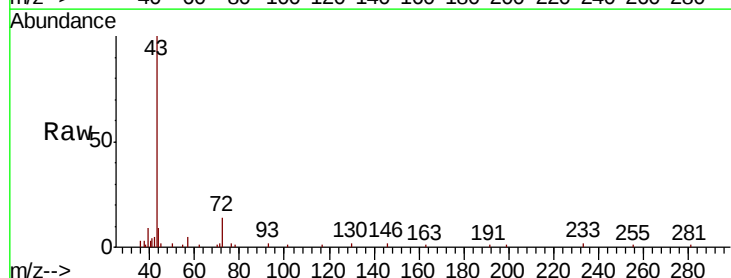


Abundance Ion 114.10 (113.80 to 114.80): VL0
 Ion 63.10 (62.80 to 63.80): VL0
 Ion 88.10 (87.80 to 88.80): VL0

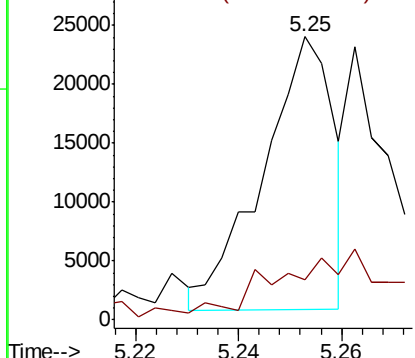
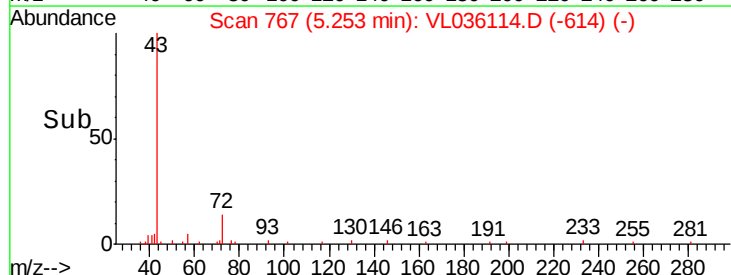


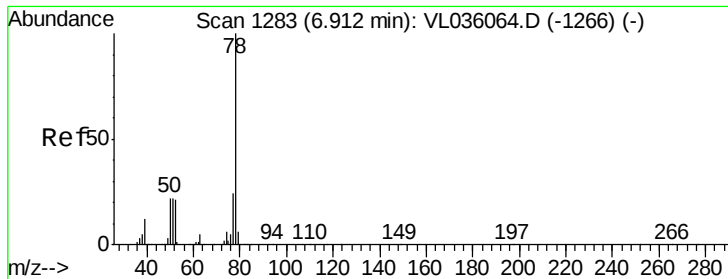
#34
 2-Butanone
 Concen: 0.135 ppbv
 RT: 5.25 min Scan# 767
 Delta R.T. -0.01 min
 Lab File: VL036114.D
 Acq: 9 Dec 2020 3:34

Tgt Ion: 43 Resp: 21950
 Ion Ratio Lower Upper
 43 100
 72 0.0 16.5 24.7#



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





#36

Benzene

Concen: 0.308 ppbv

RT: 6.90 min Scan# 1278

Delta R.T. -0.02 min

Lab File: VL036114.D

Acq: 9 Dec 2020 3:34

Instrument :

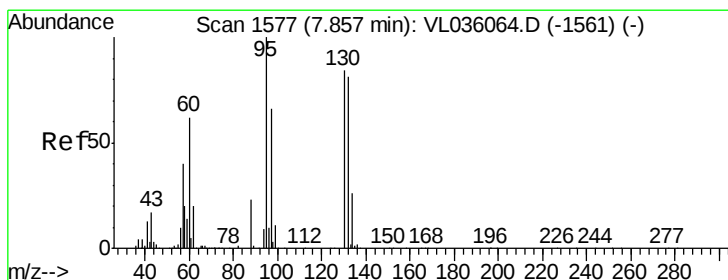
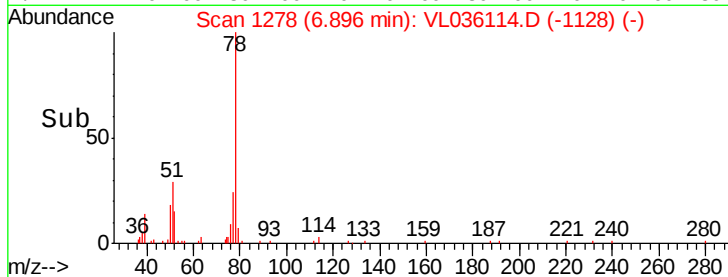
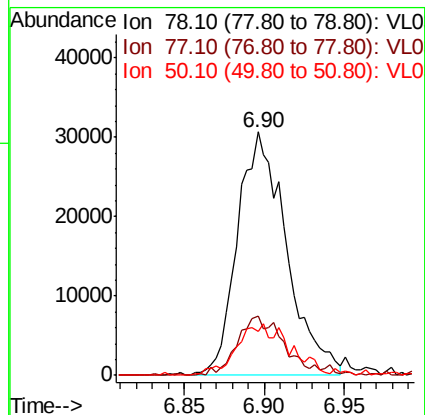
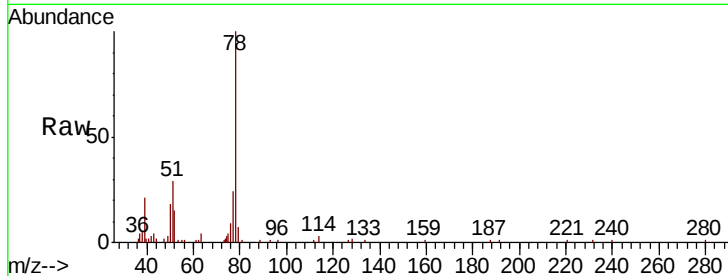
MSVOA_L

ClientSampleId :

SS-5B

Tot Ion: 78 Resp: 64173

Ion	Ratio	Lower	Upper
78	100		
77	24.4	19.4	29.2
50	16.6	17.8	26.8#



#38

Trichloroethene

Concen: 13.299 ppbv

RT: 7.84 min Scan# 1572

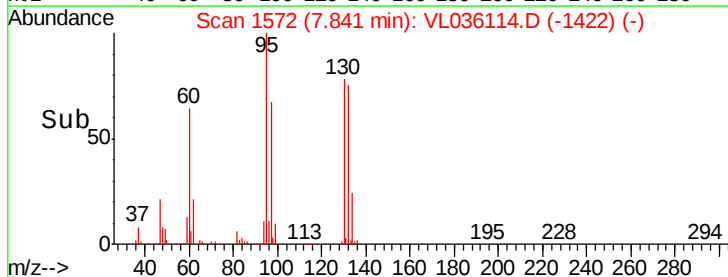
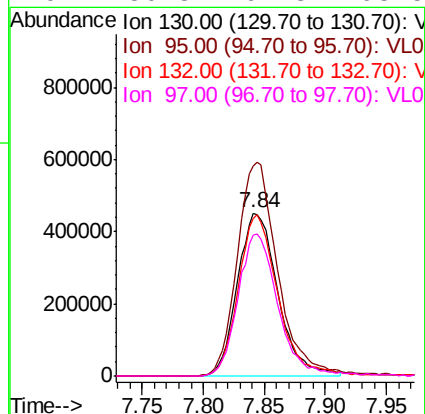
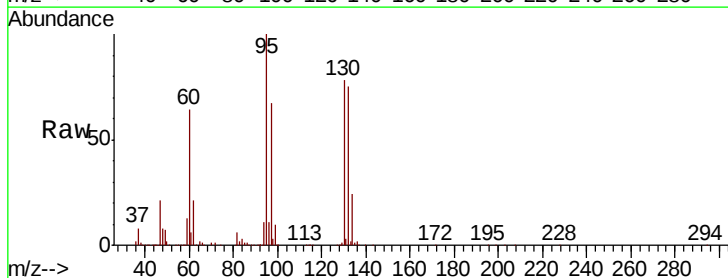
Delta R.T. -0.02 min

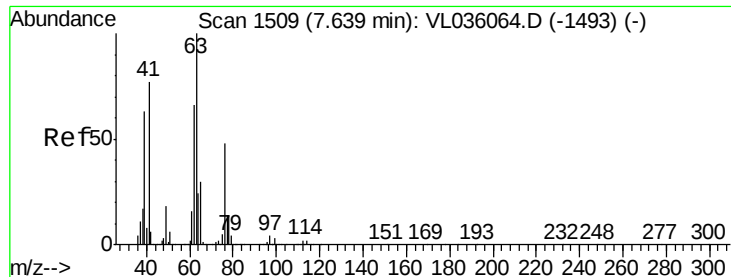
Lab File: VL036114.D

Acq: 9 Dec 2020 3:34

Tgt Ion: 130 Resp: 1035421

Ion	Ratio	Lower	Upper
130	100		
95	128.8	95.2	142.8
132	96.9	76.9	115.3
97	86.8	62.3	93.5





#39

1,2-Dichloropropane

Concen: 8.670 ppbv

RT: 7.18 min Scan# 1367

Delta R.T. -0.46 min

Lab File: VL036114.D

Acq: 9 Dec 2020 3:34

Instrument :

MSVOA_L

ClientSampleId :

SS-5B

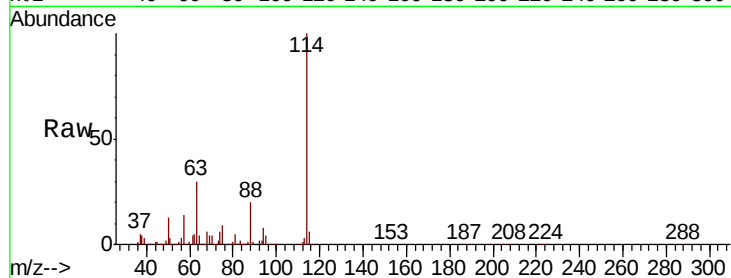
Tot Ion: 63 Resp: 713080

Ion Ratio Lower Upper

63 100

41 0.0 61.9 92.9#

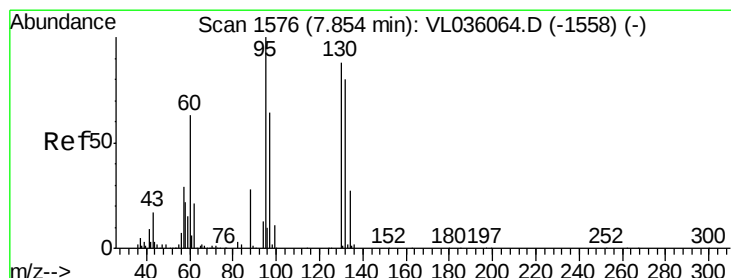
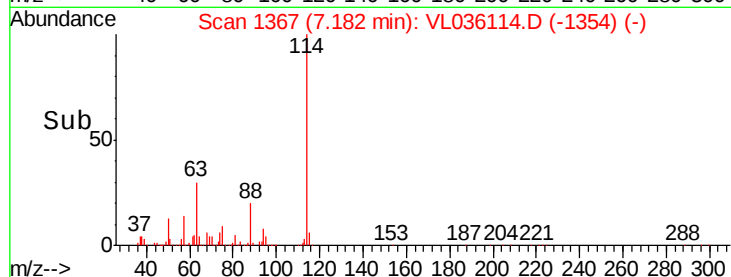
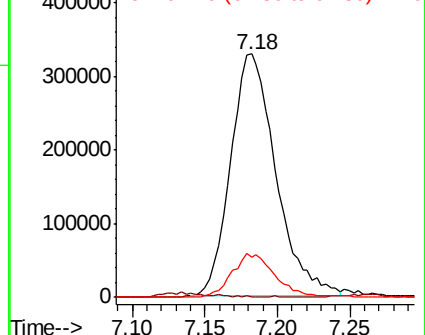
62 16.7 52.5 78.7#



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



#40

1,4-Dioxane

Concen: 0.165 ppbv

RT: 7.85 min Scan# 1574

Delta R.T. -0.01 min

Lab File: VL036114.D

Acq: 9 Dec 2020 3:34

Tgt Ion: 88 Resp: 4274

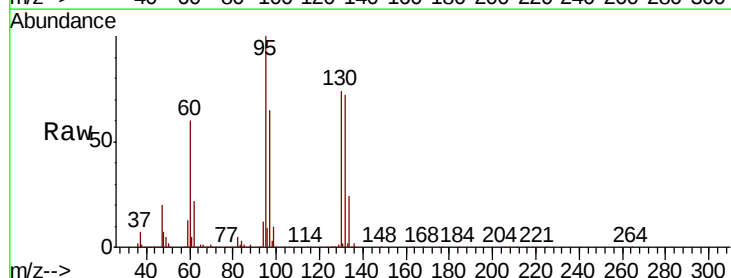
Ion Ratio Lower Upper

88 100

58 0.0 122.6 184.0#

43 0.0 0.0 0.0

57 0.0 0.0 0.0

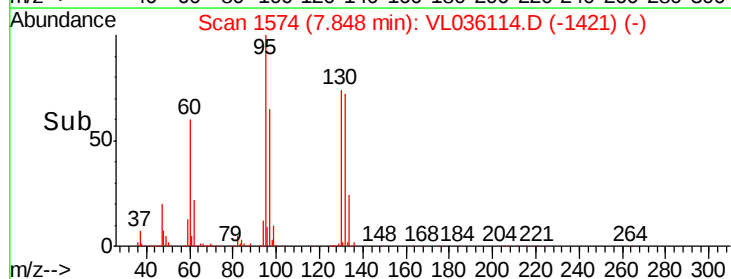
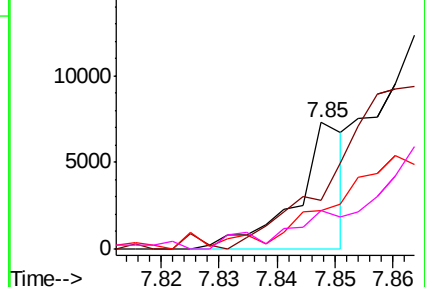


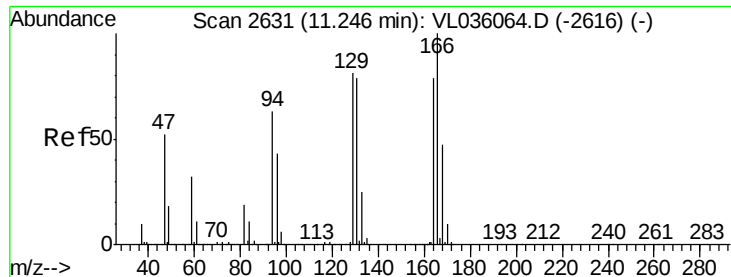
Abundance Ion 88.10 (87.80 to 88.80): VL0

Ion 58.10 (57.80 to 58.80): VL0

Ion 43.10 (42.80 to 43.80): VL0

Ion 57.10 (56.80 to 57.80): VL0





#52

Tetrachloroethene

Concen: 70.228 ppbv

RT: 11.24 min Scan# 2630

Delta R.T. -0.00 min

Lab File: VL036114.D

Acq: 9 Dec 2020 3:34

Instrument :

MSVOA_L

ClientSampleId :

SS-5B

Tot Ion:164 Resp: 5294855

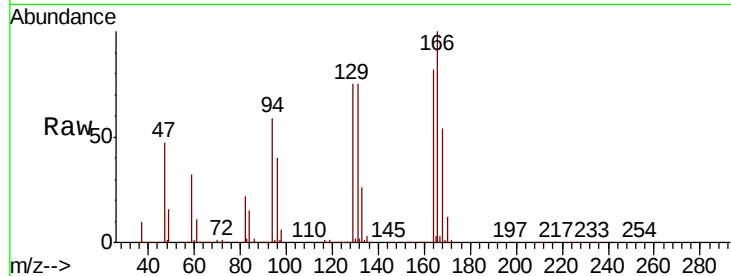
Ion Ratio Lower Upper

164 100

166 121.6 101.9 152.9

129 91.2 82.1 123.1

131 91.4 80.8 121.2



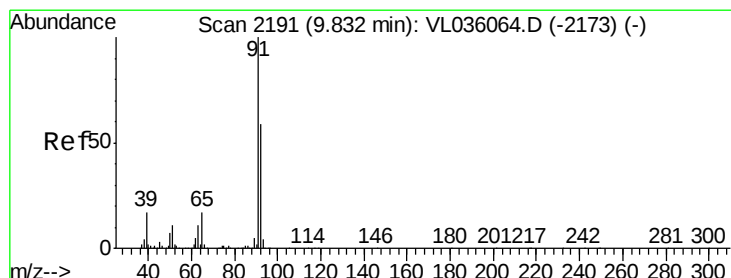
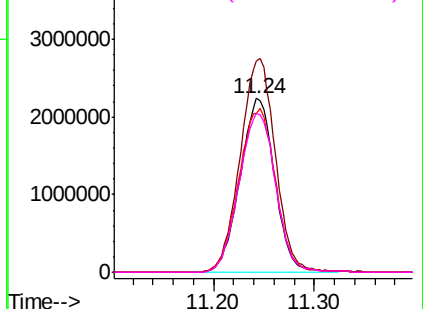
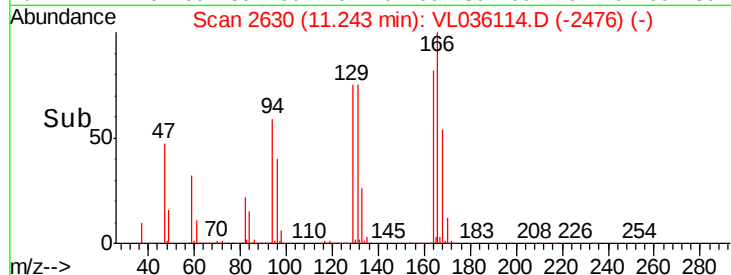
Abundance

Ion 163.90 (163.60 to 164.60): V

Ion 165.90 (165.60 to 166.60): V

Ion 129.00 (128.70 to 129.70): V

Ion 131.00 (130.70 to 131.70): V



#53

Toluene

Concen: 0.110 ppbv

RT: 9.82 min Scan# 2186

Delta R.T. -0.02 min

Lab File: VL036114.D

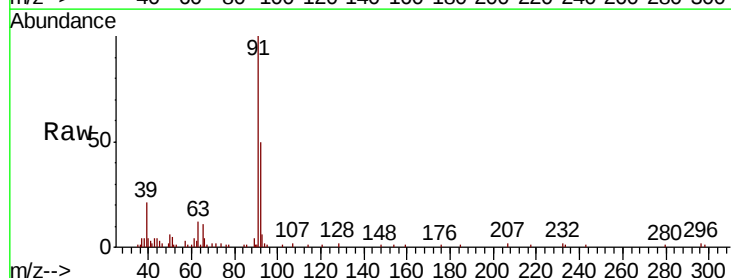
Acq: 9 Dec 2020 3:34

Tgt Ion: 91 Resp: 25755

Ion Ratio Lower Upper

91 100

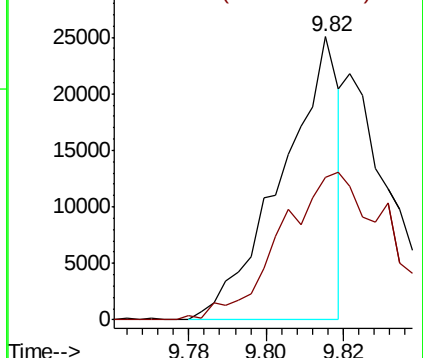
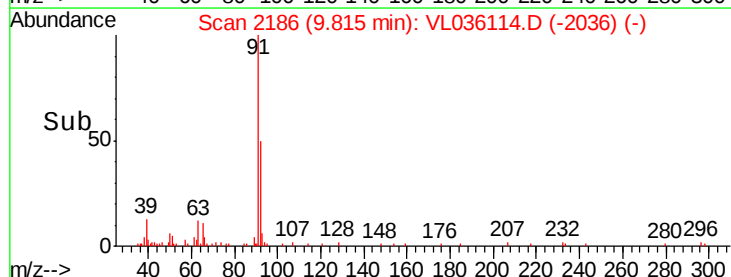
92 0.0 48.2 72.2#

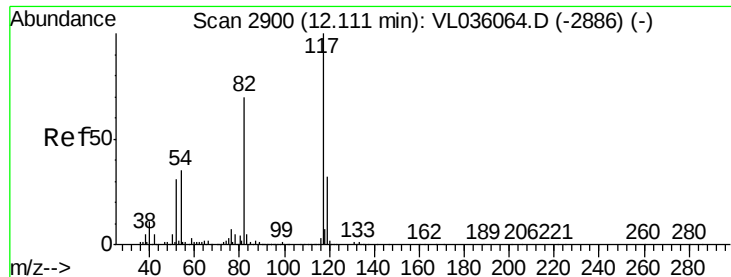


Abundance

Ion 91.10 (90.80 to 91.80): VL0

Ion 92.10 (91.80 to 92.80): VL0

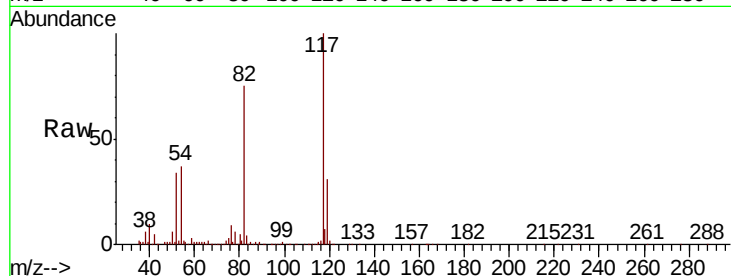




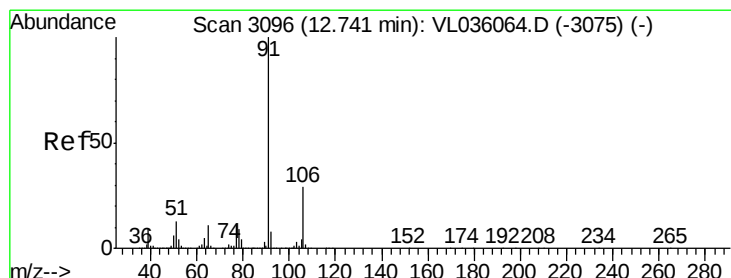
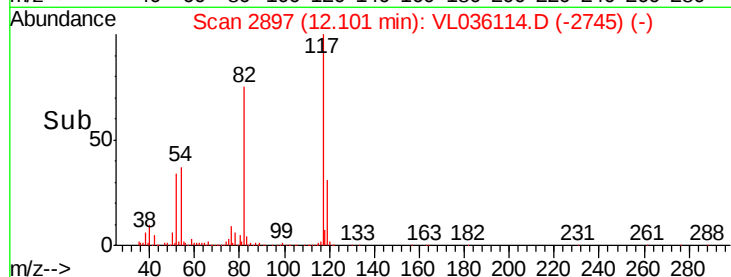
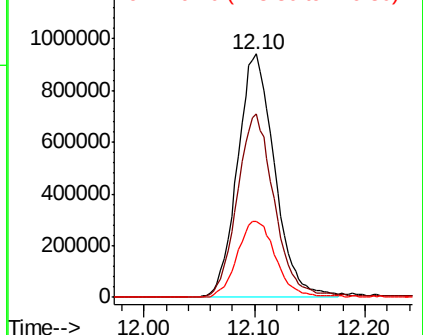
#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 12.10 min Scan# 2897
Delta R.T. -0.01 min
Lab File: VL036114.D
Acq: 9 Dec 2020 3:34

Instrument :
MSVOA_L
ClientSampleId :
SS-5B

Tot Ion:117 Resp: 2197528
Ion Ratio Lower Upper
117 100
82 76.1 0.0 0.0#
119 33.0 0.0 0.0#

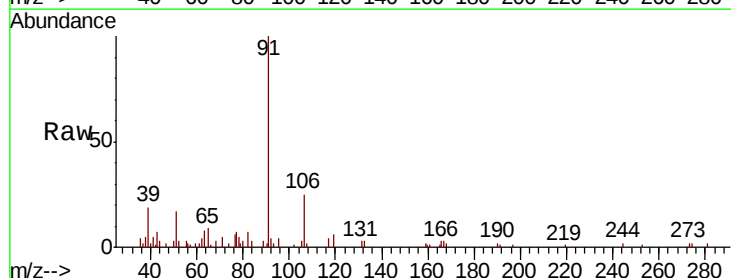


Abundance Ion 117.10 (116.80 to 117.80): V
Ion 82.10 (81.80 to 82.80): VL0
Ion 119.10 (118.80 to 119.80): V

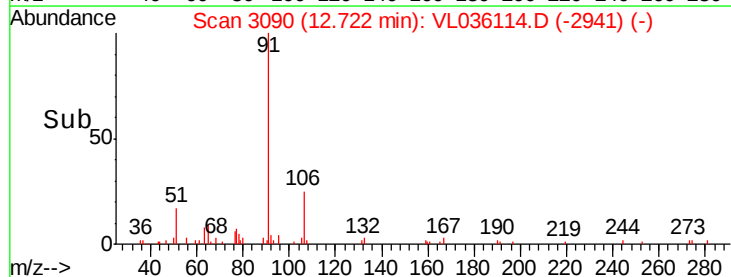
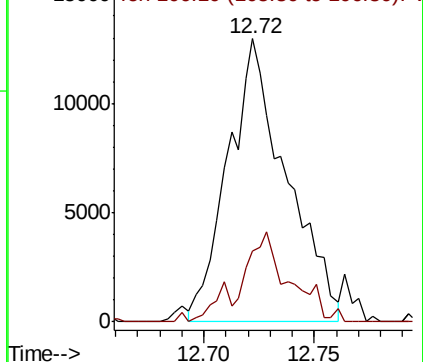


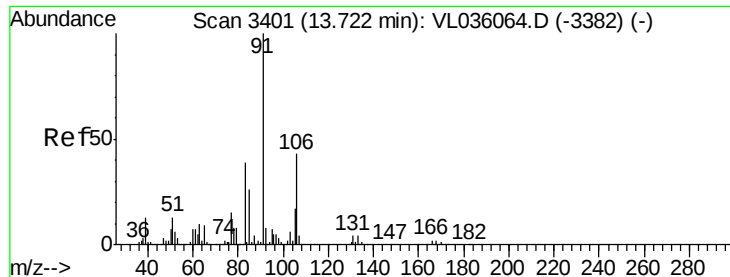
#58
Ethyl Benzene
Concen: 0.079 ppbv
RT: 12.72 min Scan# 3090
Delta R.T. -0.02 min
Lab File: VL036114.D
Acq: 9 Dec 2020 3:34

Tgt Ion: 91 Resp: 23809
Ion Ratio Lower Upper
91 100
106 26.3 23.0 34.4



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

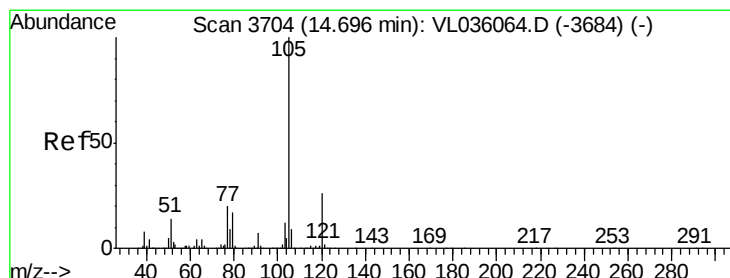
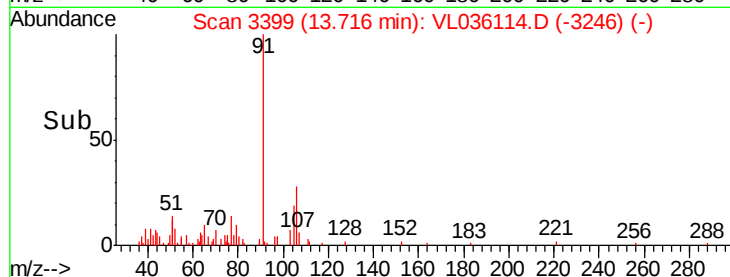
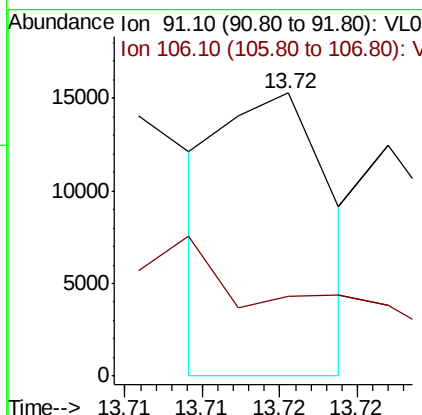
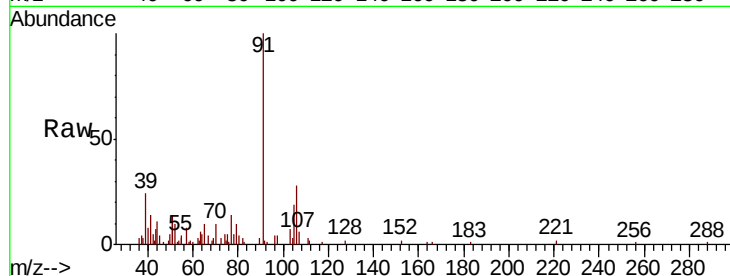




#60
o-Xylene
Concen: 0.031 ppbv
RT: 13.72 min Scan# 3399
Delta R.T. -0.01 min
Lab File: VL036114.D
Acq: 9 Dec 2020 3:34

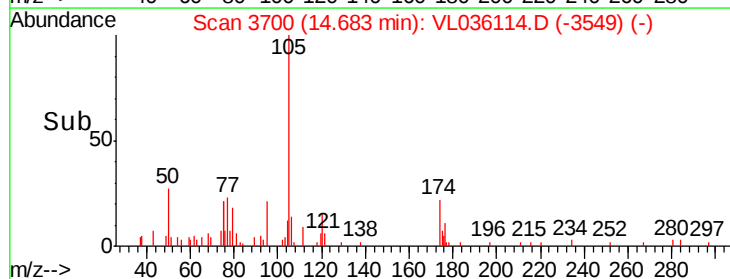
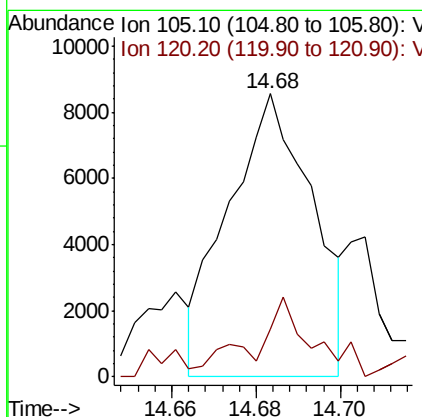
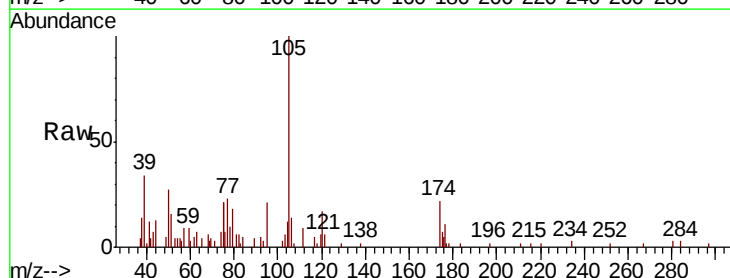
Instrument :
MSVOA_L
ClientSampleId :
SS-5B

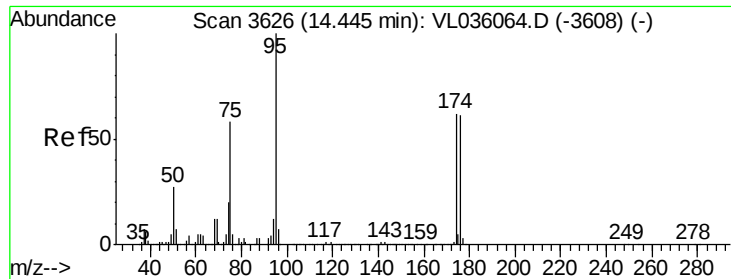
Tot Ion: 91 Resp: 7402
Ion Ratio Lower Upper
91 100
106 186.6 21.6 64.6#



#62
Isopropylbenzene
Concen: 0.034 ppbv
RT: 14.68 min Scan# 3700
Delta R.T. -0.01 min
Lab File: VL036114.D
Acq: 9 Dec 2020 3:34

Tgt Ion: 105 Resp: 11923
Ion Ratio Lower Upper
105 100
120 27.8 20.1 30.1





#68

1-Bromo-4-Fluorobenzene

Concen: 10.536 ppbv

RT: 14.43 min Scan# 3622

Delta R.T. -0.01 min

Lab File: VL036114.D

Acq: 9 Dec 2020 3:34

Instrument :

MSVOA_L

ClientSampleId :

SS-5B

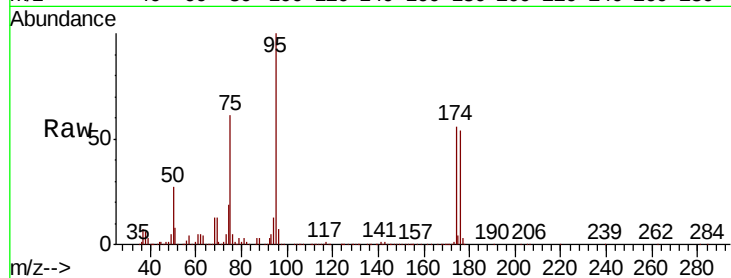
Tot Ion: 95 Resp: 1838429

Ion Ratio Lower Upper

95 100

174 58.5 50.7 76.1

175 4.2 4.0 6.0



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

