

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL091721\
 Data File : VL037641.D
 Acq On : 17 Sep 2021 14:37
 Operator : SY/AP
 Sample : M3801-01DL 10X
 Misc : 400mL/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :

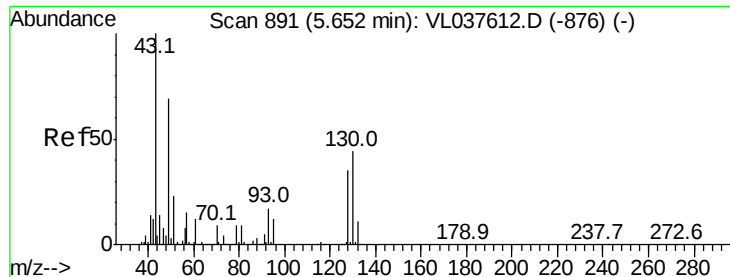
Quant Time: Sep 18 06:17:53 2021
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL091621AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Thu Sep 16 13:42:46 2021
 QLast Update : Thu Sep 16 13:42:46 2021
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.65	49	1408292	10.00	ppbv	0.00
33) 1,4-Difluorobenzene	7.16	114	4177424	10.00	ppbv	0.00
55) Chlorobenzene-d5	12.06	117	3531877	10.00	ppbv	0.00

System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	14.39	95	2583034	10.12	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	101.20%

Target Compounds					Ovalue
2) Dichlorodifluoromethane	3.04	85	22885	0.090 ppbv	97
3) Chlorodifluoromethane	2.98	51	66381	0.250 ppbv #	92
9) Propene	3.19	41	226403	2.416 ppbv	87
10) Heptane	8.10	43	98441	0.450 ppbv	100
11) Trichlorofluoromethane	3.93	101	56865	0.278 ppbv	89
13) Ethanol	3.60	45	22595	2.465 ppbv #	33
15) Acetone	3.84	43	1439216	9.836 ppbv	98
16) 1,3-Butadiene	3.29	39	59524	0.651 ppbv #	36
19) Isopropyl Alcohol	3.96	45	50492	0.634 ppbv #	89
20) Methylene Chloride	4.33	84	182717	2.616 ppbv	96
21) Allyl Chloride	4.35	41	10258	0.094 ppbv #	1
23) Vinyl Acetate	5.05	43	13215	0.065 ppbv #	36
25) Ethyl Acetate	5.67	43	346073	0.977 ppbv #	78
26) Hexane	5.67	57	480514	2.854 ppbv #	44
27) Carbon Disulfide	4.54	76	31847	0.207 ppbv #	86
29) Chloroform	5.74	83	30065	0.122 ppbv	99
30) Cyclohexane	7.10	84	4449	0.031 ppbv #	1
34) 2-Butanone	5.24	43	128845	0.759 ppbv #	80
39) 1,2-Dichloropropane	7.15	63	991862	7.434 ppbv #	26
52) Tetrachloroethene	11.20	164	99951	0.747 ppbv	92
53) Toluene	9.79	91	101807	0.263 ppbv	100
58) Ethyl Benzene	12.68	91	17324	0.037 ppbv	91
59) m/p-Xylene	12.98	91	13698	0.034 ppbv #	31
60) o-Xylene	13.67	91	94410	0.243 ppbv	98
65) tert-Butylbenzene	16.73	119	24785	0.051 ppbv #	46
72) 4-Ethyltoluene	15.81	105	31584	0.071 ppbv #	51
73) 1,3,5-Trimethylbenzene	15.97	105	61066	0.147 ppbv	97
74) 1,2,4-Trimethylbenzene	16.74	105	251617	0.574 ppbv #	76
79) Naphthalene	22.16	128	9333	0.035 ppbv #	82

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



#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.65 min Scan# 890

Delta R.T. -0.00 min

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Instrument :
MSVOA_L
ClientSampled :

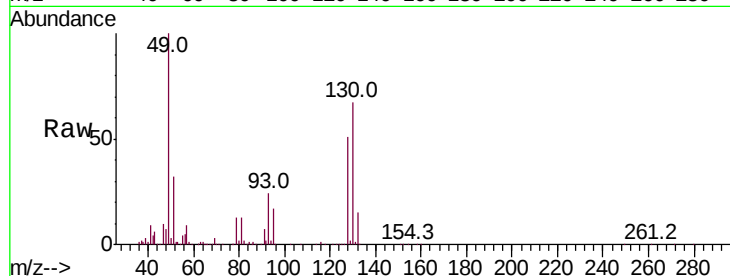
Tot Ion: 49 Resp: 1408292

Ion Ratio Lower Upper

49 100

128 54.9 27.9 83.6

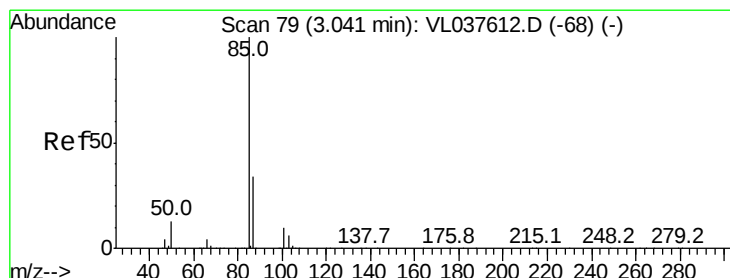
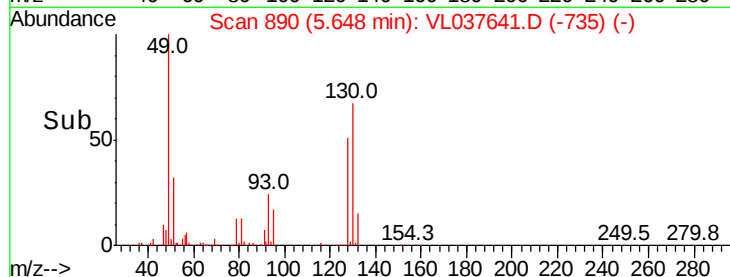
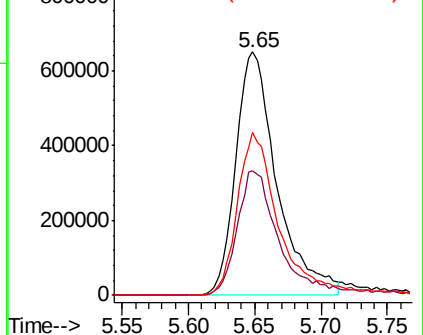
130 69.7 33.9 101.7



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: 0.090 ppbv

RT: 3.04 min Scan# 78

Delta R.T. -0.00 min

Lab File: VL037641.D

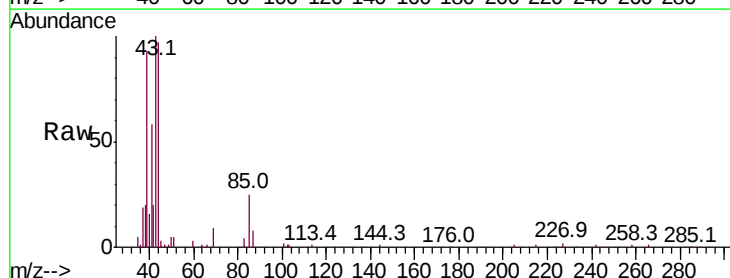
Acq: 17 Sep 2021 14:37

Tgt Ion: 85 Resp: 22885

Ion Ratio Lower Upper

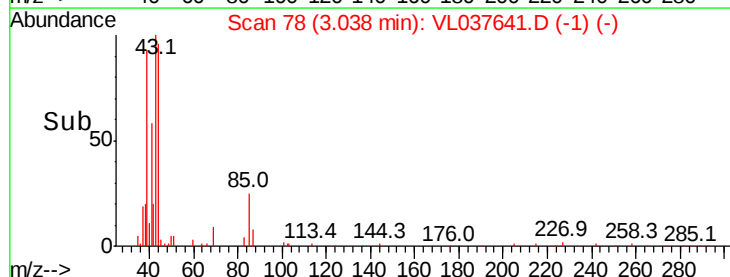
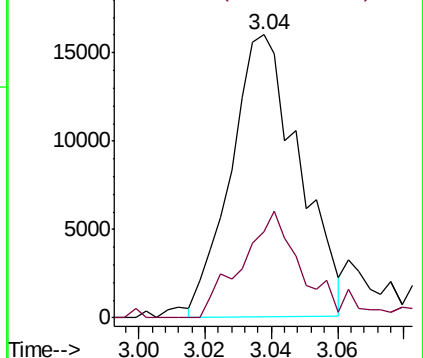
85 100

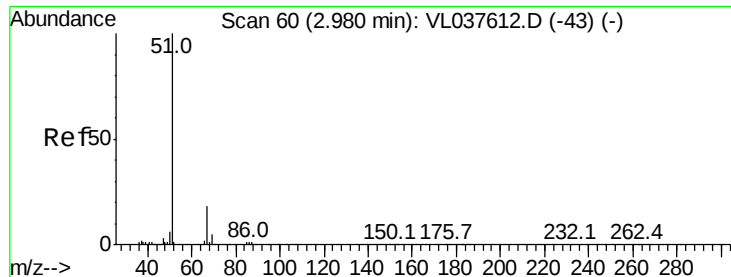
87 31.8 26.8 40.2



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0

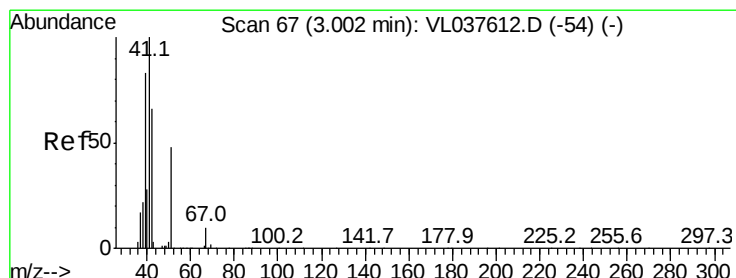
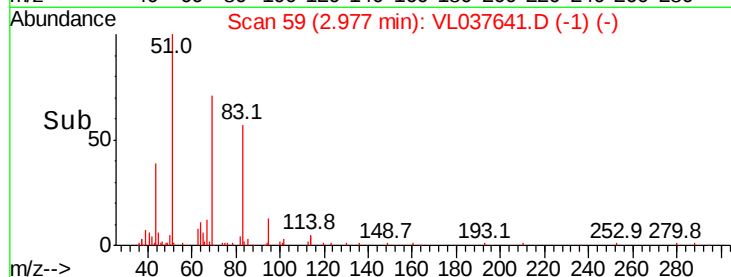
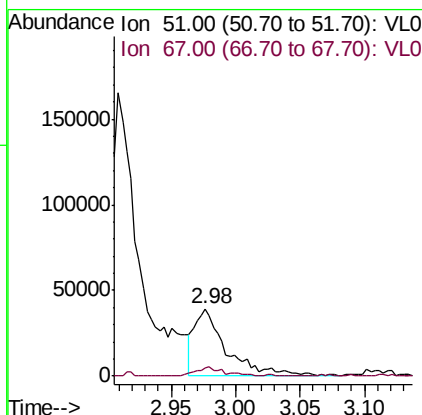
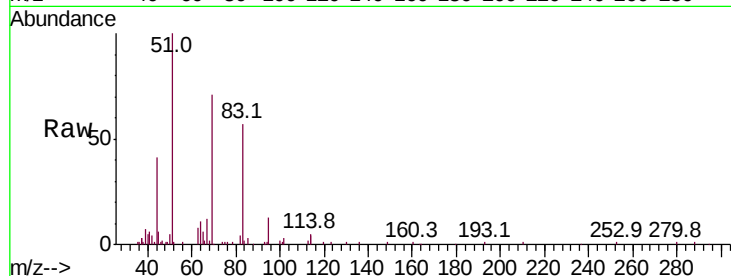




#3
Chlorodifluoromethane
Concen: 0.250 ppbv
RT: 2.98 min Scan# 59
Delta R.T. -0.00 min
Lab File: VL037641.D
Acq: 17 Sep 2021 14:37

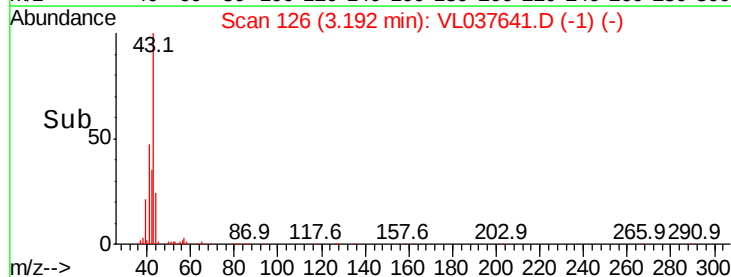
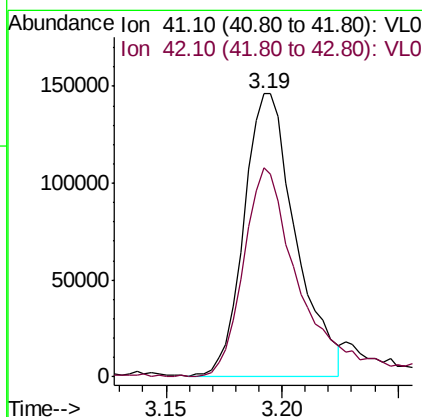
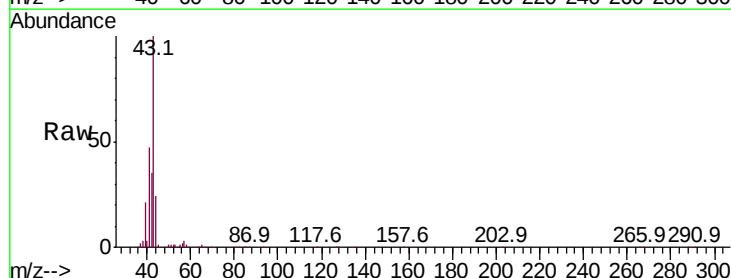
Instrument :
MSVOA_L
ClientSampleId :

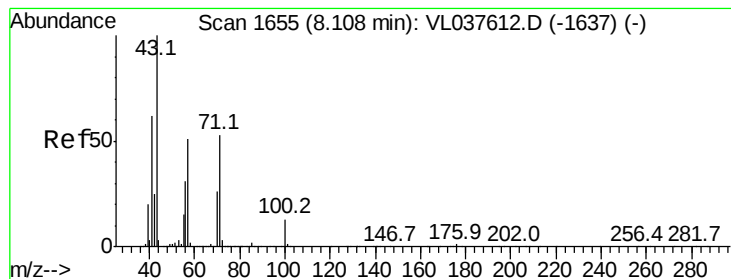
Tot Ion: 51 Resp: 66381
Ion Ratio Lower Upper
51 100
67 13.8 14.0 21.0#



#9
Propene
Concen: 2.416 ppbv
RT: 3.19 min Scan# 126
Delta R.T. 0.19 min
Lab File: VL037641.D
Acq: 17 Sep 2021 14:37

Tgt Ion: 41 Resp: 226403
Ion Ratio Lower Upper
41 100
42 82.3 57.2 85.8





#10

Heptane

Concen: 0.450 ppbv

RT: 8.10 min Scan# 1652

Delta R.T. -0.01 min

Lab File: VL037641.D

Acq: 17 Sep 2021 14:37

Instrument :

MSVOA_L

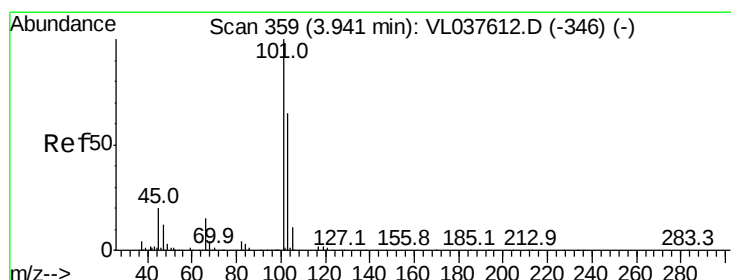
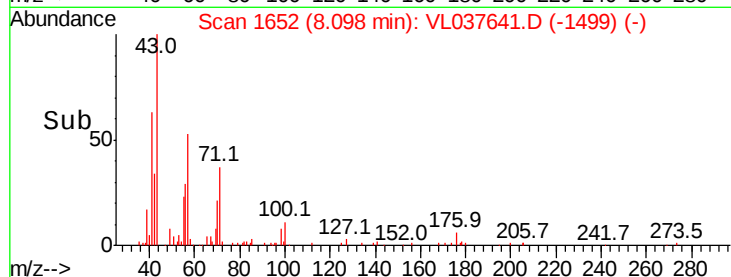
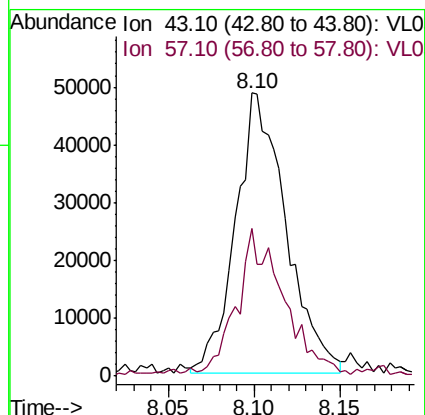
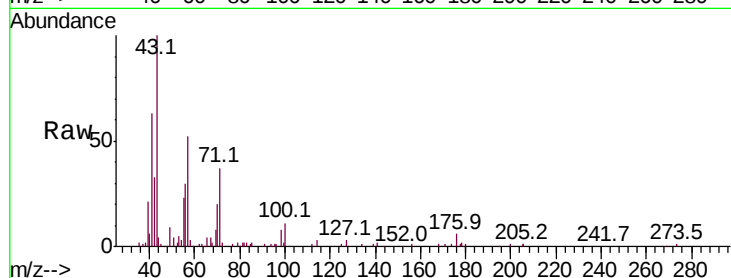
ClientSampleId :

Tot Ion: 43 Resp: 98441

Ion Ratio Lower Upper

43 100

57 50.0 40.1 60.1



#11

Trichlorofluoromethane

Concen: 0.278 ppbv

RT: 3.93 min Scan# 357

Delta R.T. -0.01 min

Lab File: VL037641.D

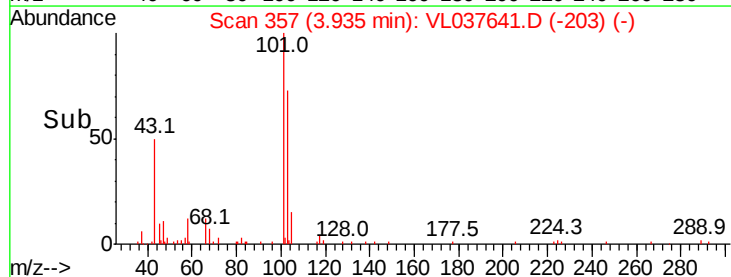
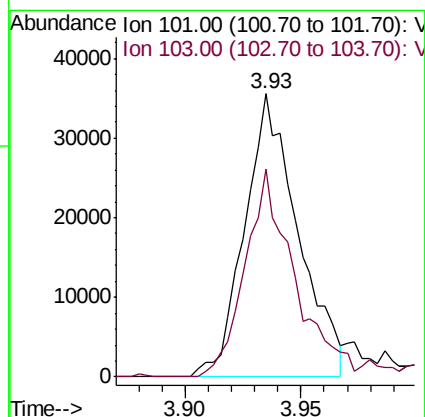
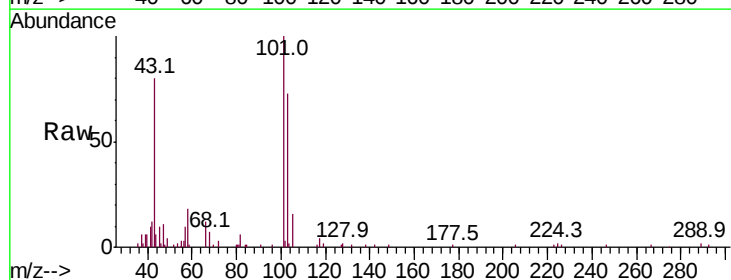
Acq: 17 Sep 2021 14:37

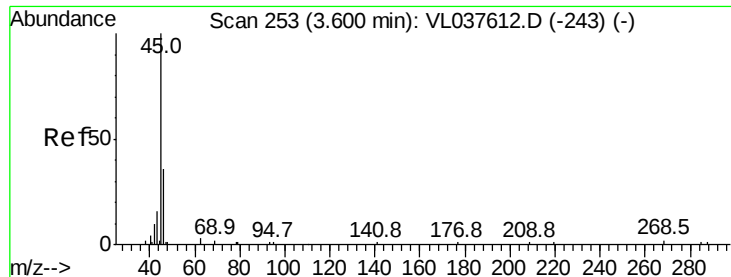
Tgt Ion: 101 Resp: 56865

Ion Ratio Lower Upper

101 100

103 73.4 51.9 77.9

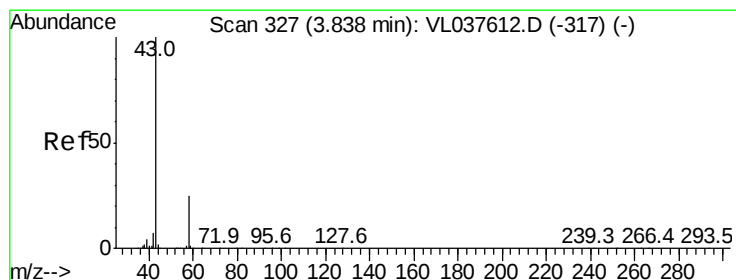
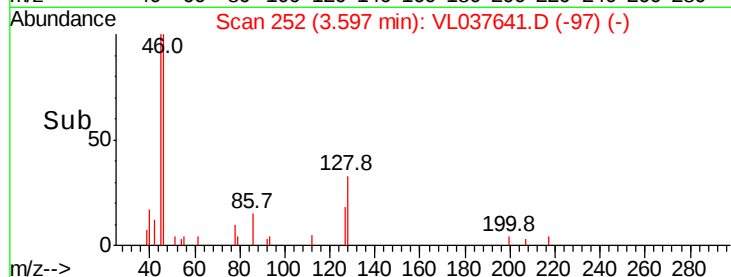
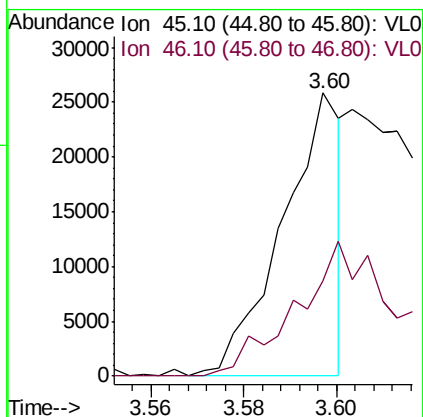
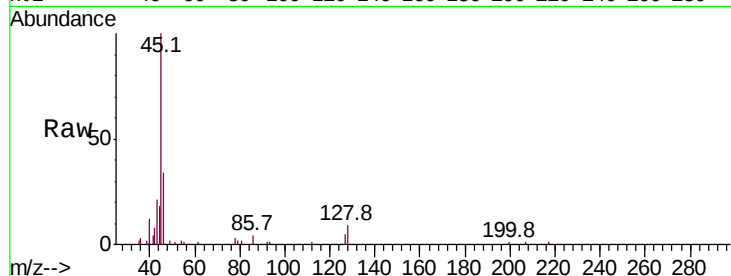




#13
Ethanol
Concen: 2.465 ppbv
RT: 3.60 min Scan# 252
Delta R.T. -0.00 min
Lab File: VL037641.D
Acq: 17 Sep 2021 14:37

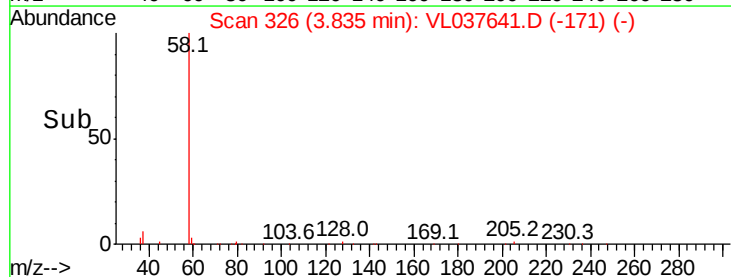
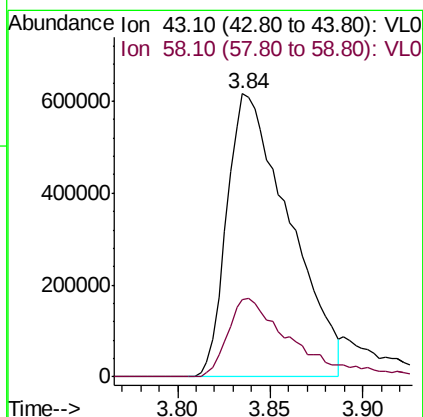
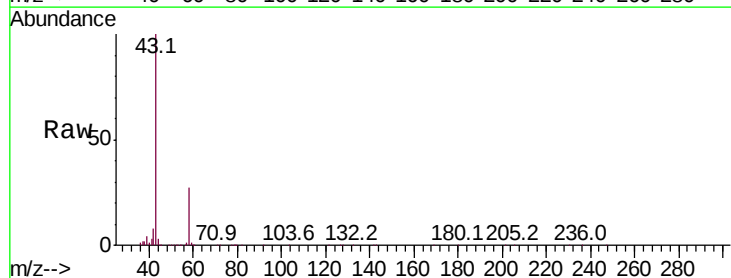
Instrument :
MSVOA_L
ClientSampleId :

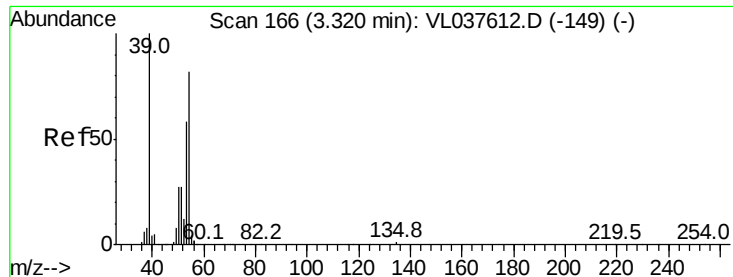
Tot Ion: 45 Resp: 22595
Ion Ratio Lower Upper
45 100
46 0.0 17.2 68.8#



#15
Acetone
Concen: 9.836 ppbv
RT: 3.84 min Scan# 326
Delta R.T. -0.00 min
Lab File: VL037641.D
Acq: 17 Sep 2021 14:37

Tgt Ion: 43 Resp: 1439216
Ion Ratio Lower Upper
43 100
58 29.9 24.9 37.3

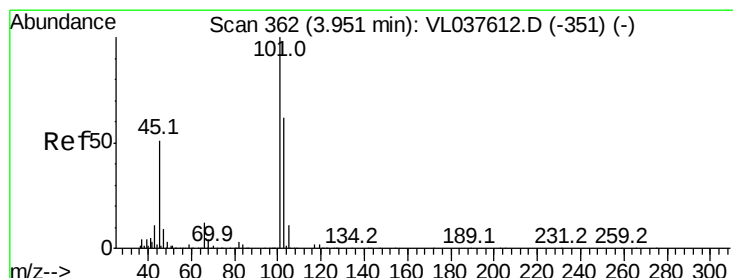
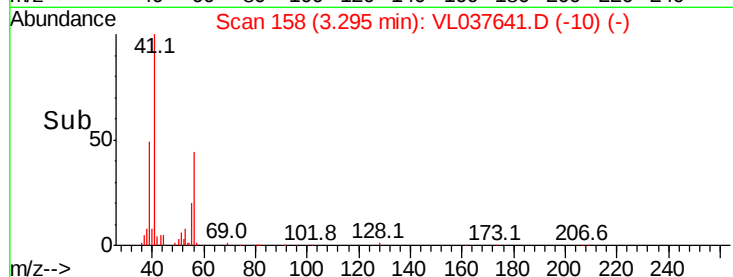
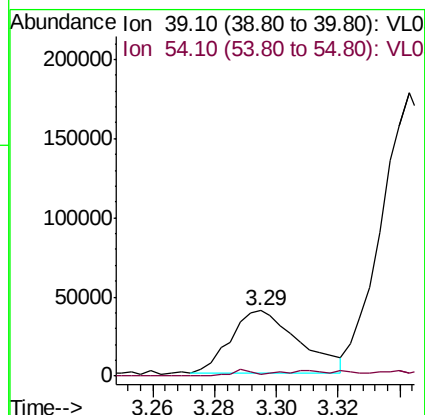
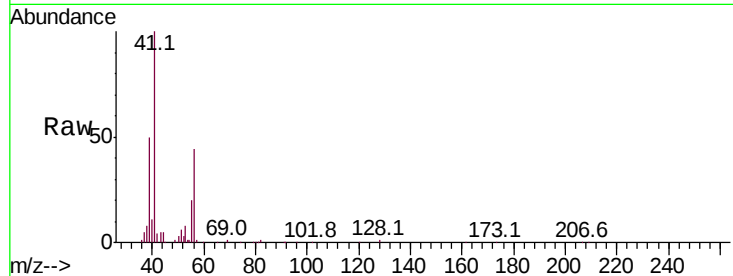




#16
 1,3-Butadiene
 Concen: 0.651 ppbv
 RT: 3.29 min Scan# 158
 Delta R.T. -0.03 min
 Lab File: VL037641.D
 Acq: 17 Sep 2021 14:37

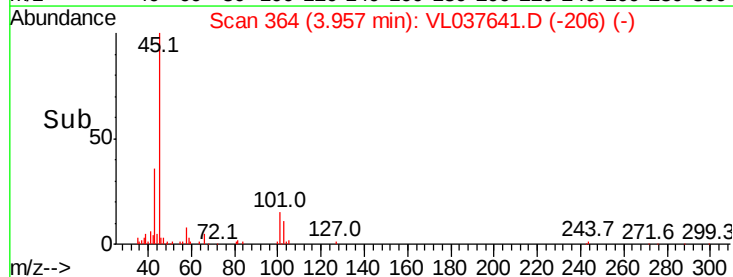
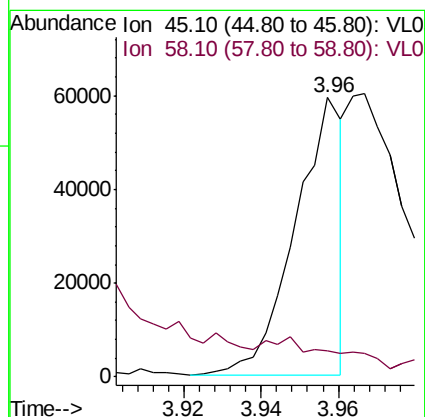
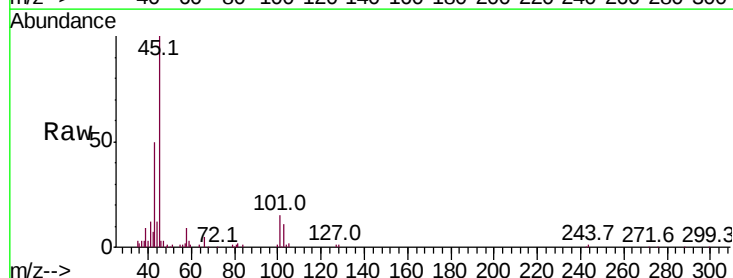
Instrument :
 MSVOA_L
 ClientSampleId :

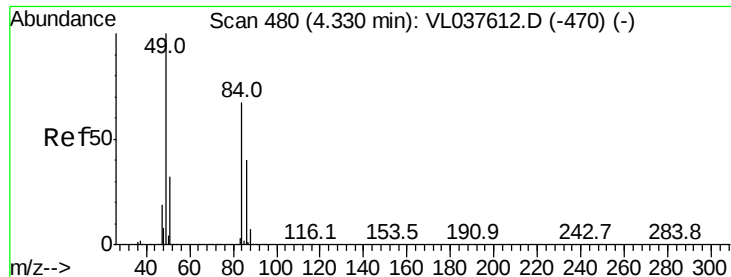
Tot Ion: 39 Resp: 59524
 Ion Ratio Lower Upper
 39 100
 54 22.7 62.6 93.8#



#19
 Isopropyl Alcohol
 Concen: 0.634 ppbv
 RT: 3.96 min Scan# 364
 Delta R.T. 0.01 min
 Lab File: VL037641.D
 Acq: 17 Sep 2021 14:37

Tgt Ion: 45 Resp: 50492
 Ion Ratio Lower Upper
 45 100
 58 0.0 2.9 4.3#

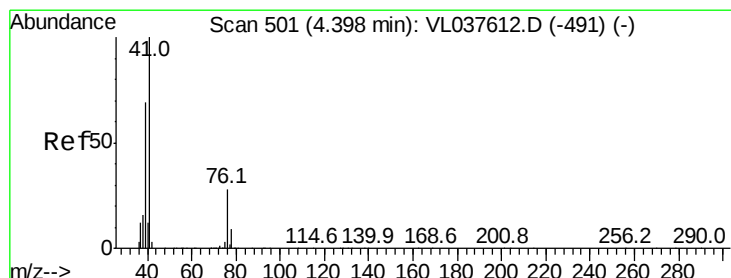
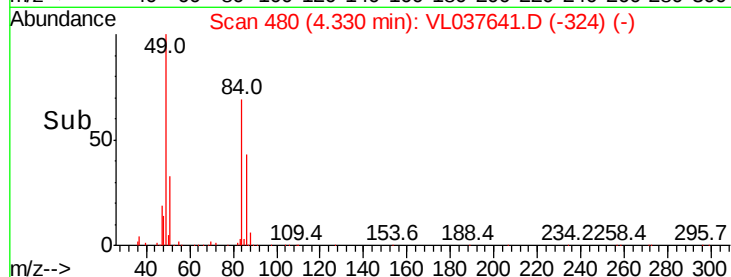
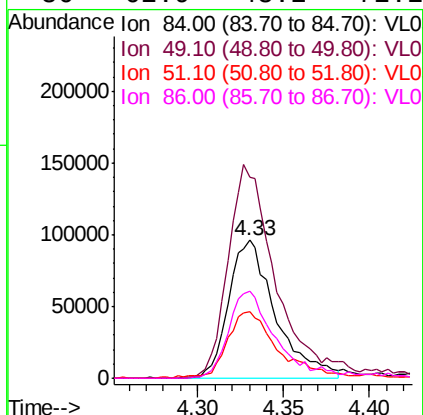
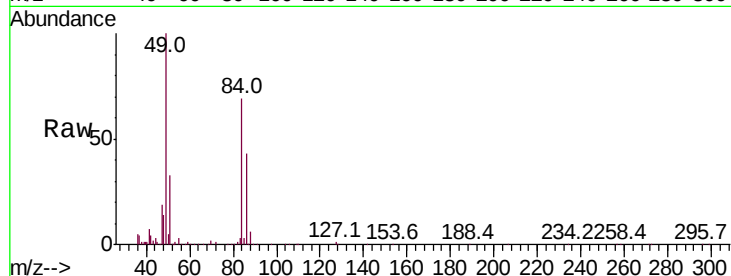




#20
Methvlene Chloride
Concen: 2.616 ppbv
RT: 4.33 min Scan# 480
Delta R.T. 0.00 min
Lab File: VL037641.D
Acq: 17 Sep 2021 14:37

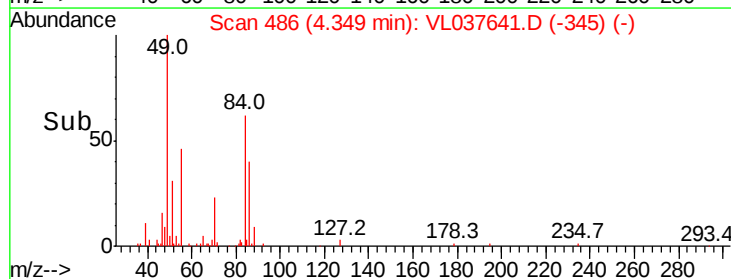
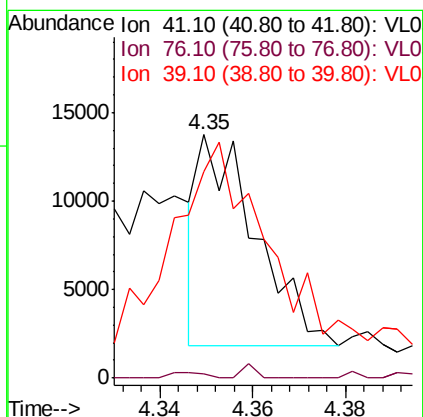
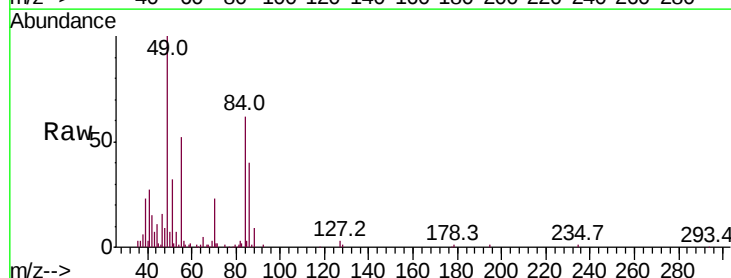
Instrument :
MSVOA_L
ClientSampled :

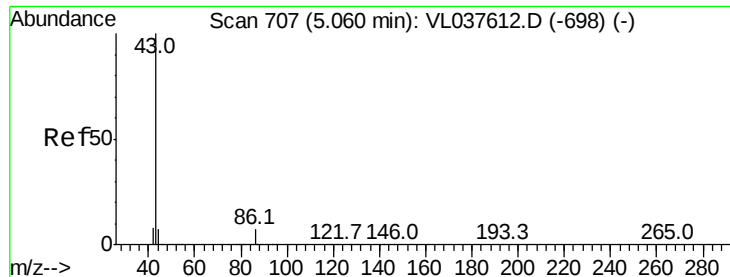
Tot Ion:	84	Resp:	182717
Ion	Ratio	Lower	Upper
84	100		
49	143.5	120.0	180.0
51	46.8	38.0	57.0
86	62.9	48.2	72.2



#21
Allyl Chloride
Concen: 0.094 ppbv
RT: 4.35 min Scan# 486
Delta R.T. -0.05 min
Lab File: VL037641.D
Acq: 17 Sep 2021 14:37

Tgt Ion:	41	Resp:	10258
Ion	Ratio	Lower	Upper
41	100		
76	0.0	23.1	34.7#
39	255.5	61.0	91.6#





#23

Vinyl Acetate

Concen: 0.065 ppbv

RT: 5.05 min Scan# 704

Delta R.T. -0.01 min

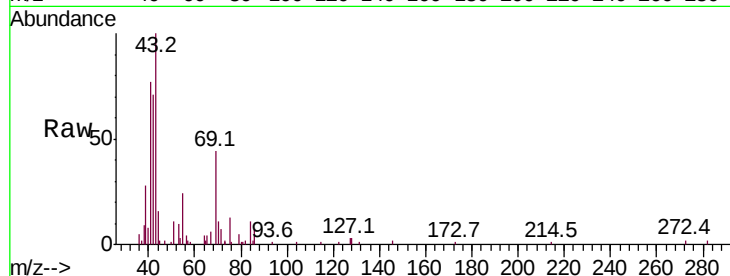
Lab File: VL037641.D

Acq: 17 Sep 2021 14:37

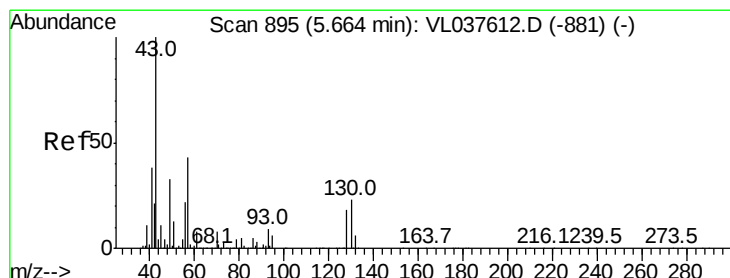
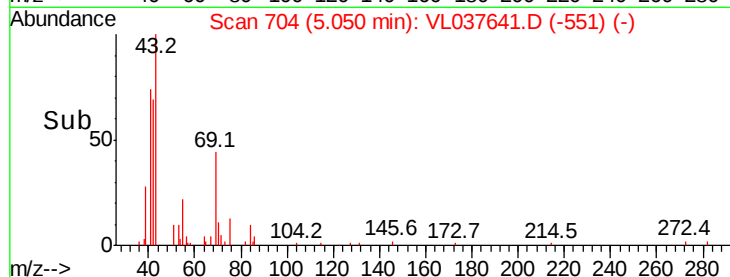
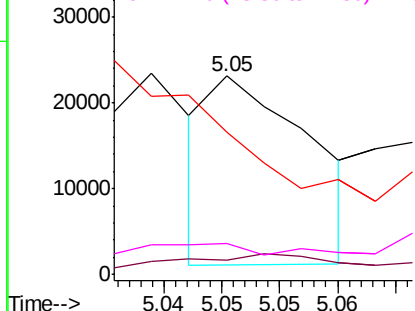
Instrument :
MSVOA_L
ClientSampleId :

Tot Ion: 43 Resp: 13215

Ion	Ratio	Lower	Upper
43	100		
86	2.0	5.0	7.6#
42	56.4	7.5	11.3#
44	11.3	4.7	7.1#



Abundance Ion 43.10 (42.80 to 43.80): VL0
Ion 86.10 (85.80 to 86.80): VL0
Ion 42.10 (41.80 to 42.80): VL0
Ion 44.10 (43.80 to 44.80): VL0



#25

Ethyl Acetate

Concen: 0.977 ppbv

RT: 5.67 min Scan# 896

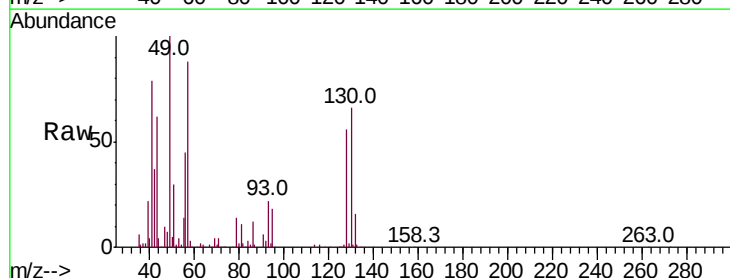
Delta R.T. 0.00 min

Lab File: VL037641.D

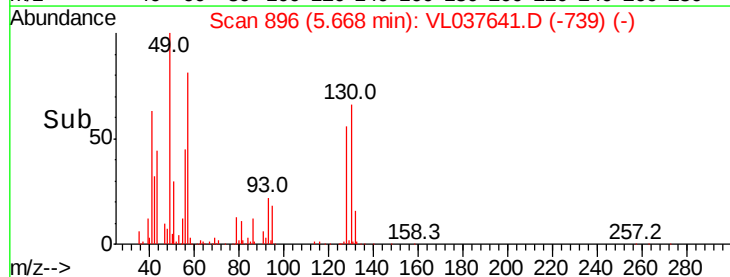
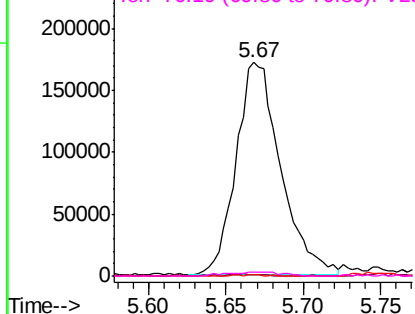
Acq: 17 Sep 2021 14:37

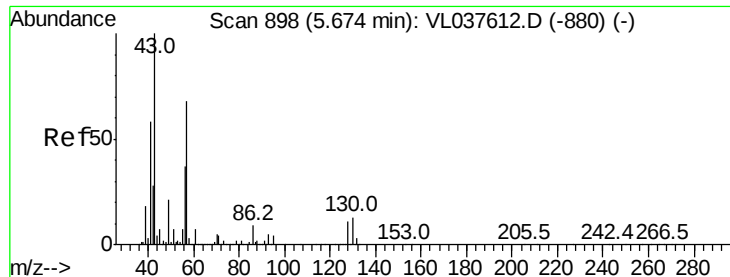
Tgt Ion: 43 Resp: 346073

Ion	Ratio	Lower	Upper
43	100		
45	0.8	8.0	12.0#
61	0.5	7.5	11.3#
70	2.4	5.6	8.4#



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: 2.854 ppbv

RT: 5.67 min Scan# 897

Delta R.T. -0.00 min

Lab File: VL037641.D

Acq: 17 Sep 2021 14:37

Instrument :

MSVOA_L

ClientSampleId :

Tot Ion: 57 Resp: 480514

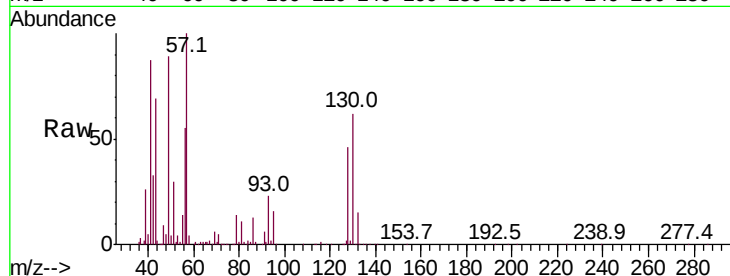
Ion Ratio Lower Upper

57 100

41 100.0 70.9 106.3

43 76.6 170.4 255.6#

56 57.8 42.6 64.0

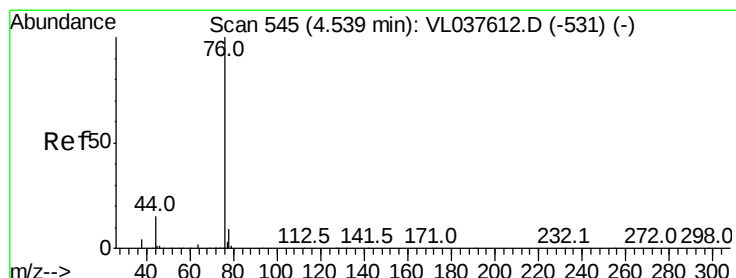
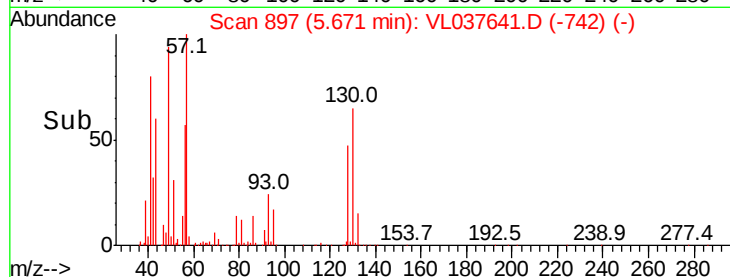
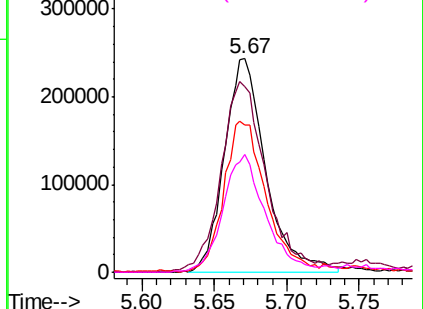


Abundance Ion 57.10 (56.80 to 57.80): VL0

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



#27

Carbon Disulfide

Concen: 0.207 ppbv

RT: 4.54 min Scan# 545

Delta R.T. 0.00 min

Lab File: VL037641.D

Acq: 17 Sep 2021 14:37

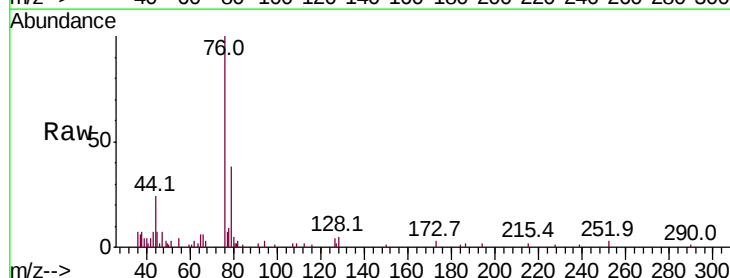
Tgt Ion: 76 Resp: 31847

Ion Ratio Lower Upper

76 100

44 23.8 14.2 21.2#

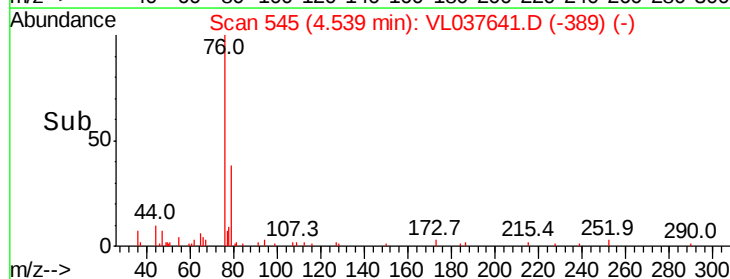
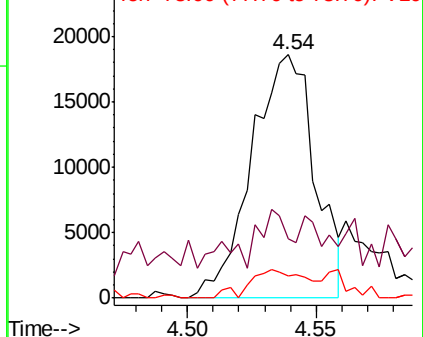
78 14.8 7.4 11.0#

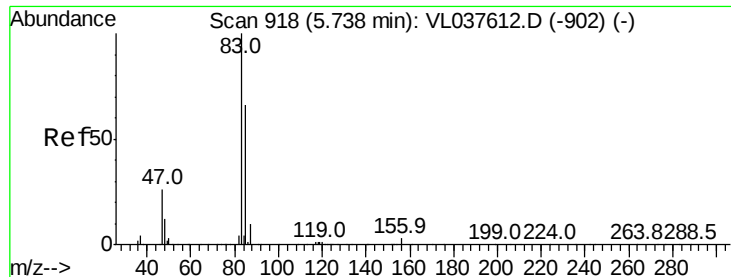


Abundance Ion 76.00 (75.70 to 76.70): VL0

Ion 44.10 (43.80 to 44.80): VL0

Ion 78.00 (77.70 to 78.70): VL0

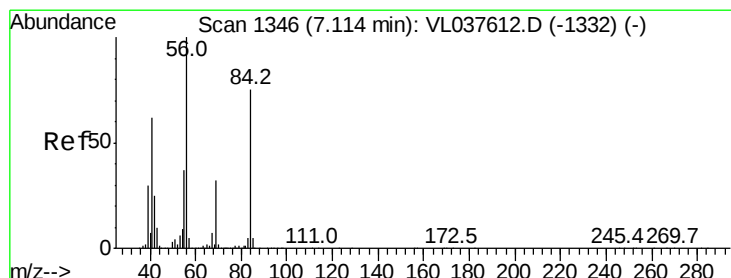
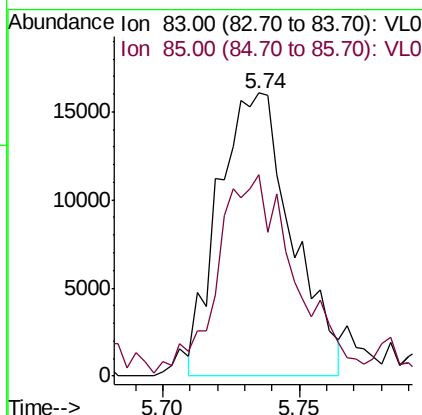
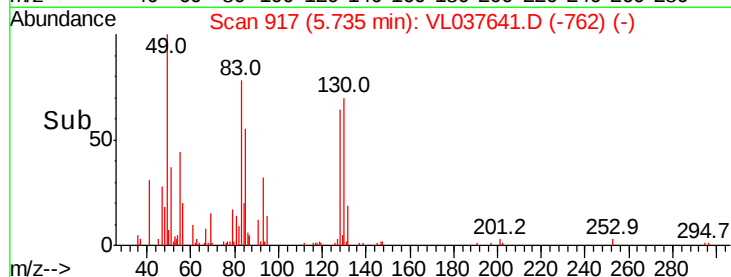
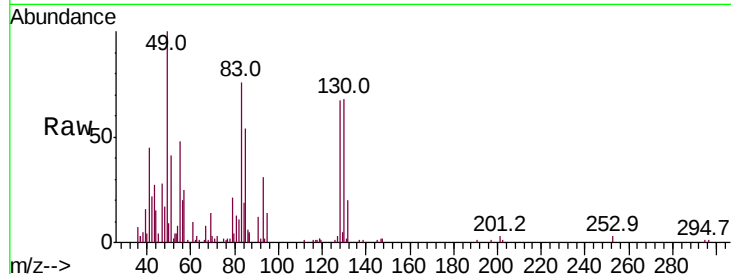




#29
Chloroform
Concen: 0.122 ppbv
RT: 5.74 min Scan# 917
Delta R.T. -0.00 min
Lab File: VL037641.D
Acq: 17 Sep 2021 14:37

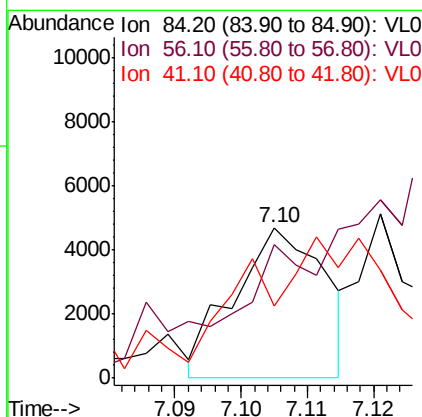
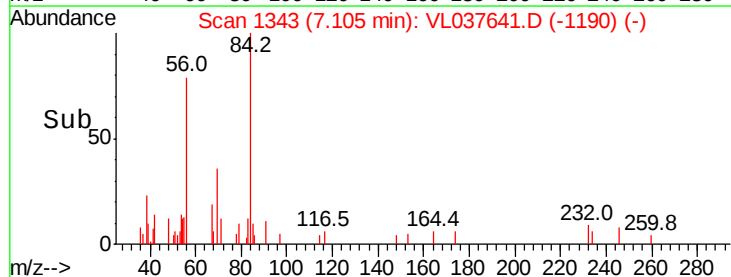
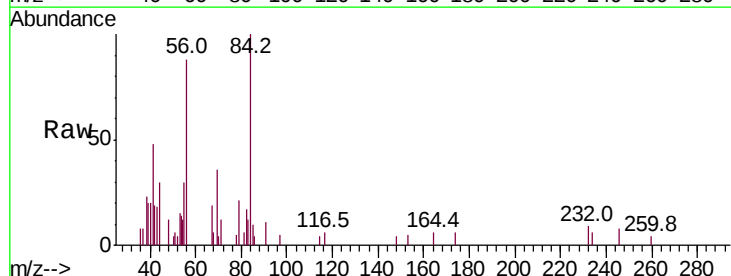
Instrument :
MSVOA_L
ClientSampleId :

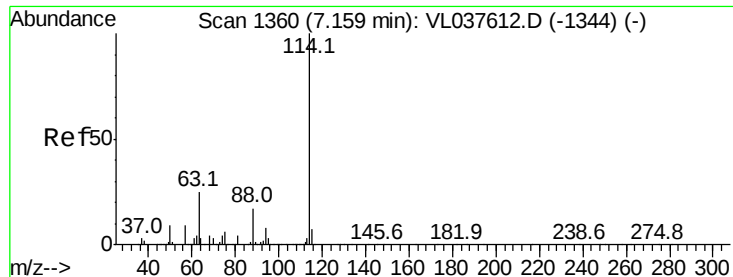
Tot Ion: 83 Resp: 30065
Ion Ratio Lower Upper
83 100
85 66.9 52.6 79.0



#30
Cyclohexane
Concen: 0.031 ppbv
RT: 7.10 min Scan# 1343
Delta R.T. -0.01 min
Lab File: VL037641.D
Acq: 17 Sep 2021 14:37

Tgt Ion: 84 Resp: 4449
Ion Ratio Lower Upper
84 100
56 0.0 113.6 170.4#
41 172.2 67.9 101.9#





#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 7.16 min Scan# 1359

Delta R.T. -0.00 min

Lab File: VL037641.D

Acq: 17 Sep 2021 14:37

Instrument :

MSVOA_L

ClientSampleId :

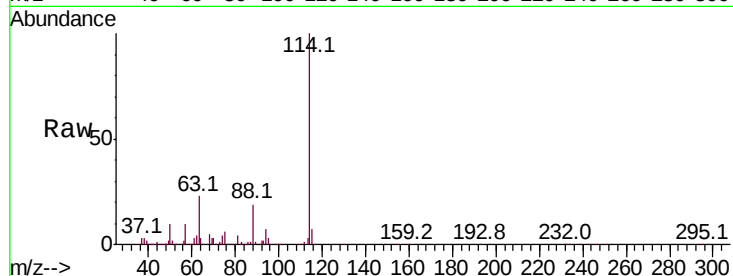
Tot Ion:114 Resp: 4177424

Ion Ratio Lower Upper

114 100

63 24.2 19.6 29.4

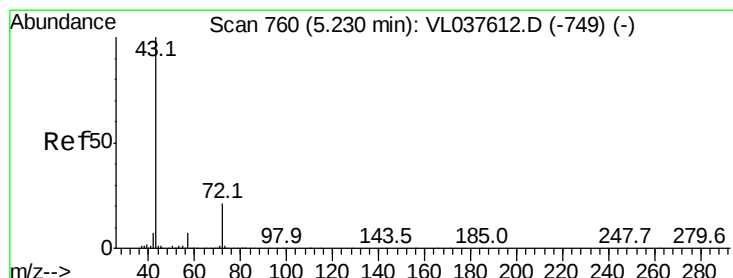
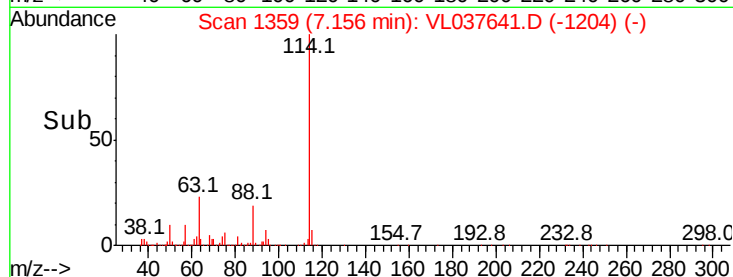
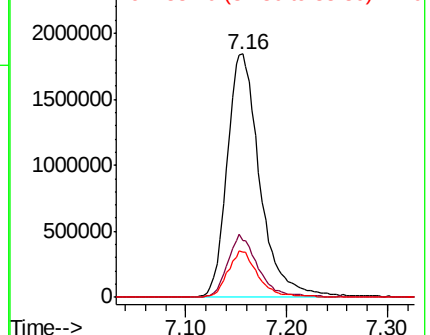
88 17.8 14.2 21.4



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: 0.759 ppbv

RT: 5.24 min Scan# 762

Delta R.T. 0.01 min

Lab File: VL037641.D

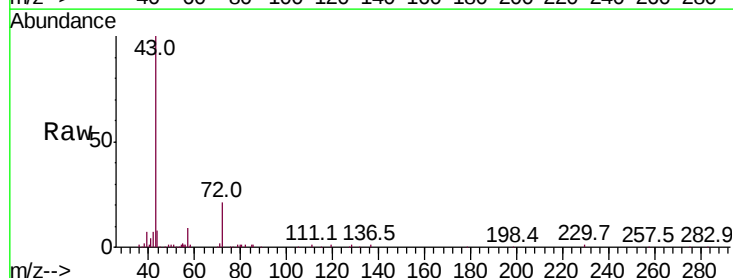
Acq: 17 Sep 2021 14:37

Tgt Ion: 43 Resp: 128845

Ion Ratio Lower Upper

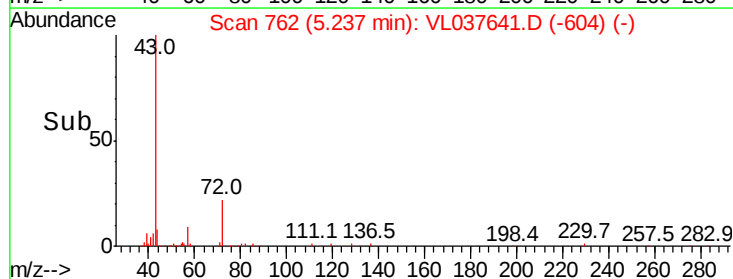
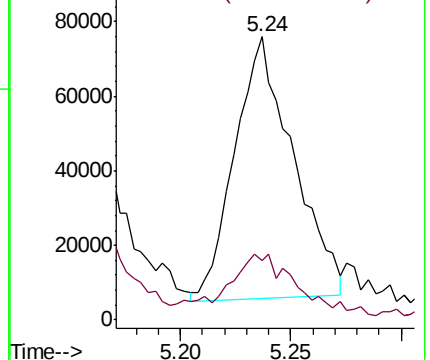
43 100

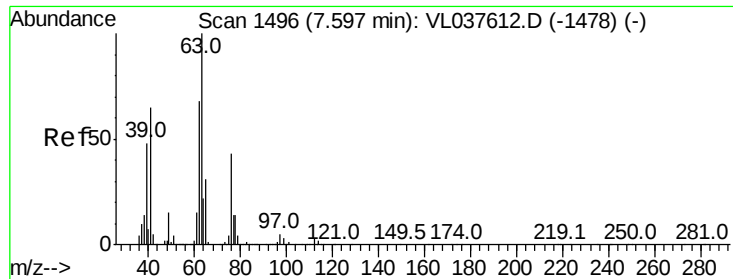
72 32.5 18.4 27.6#



Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 72.10 (71.80 to 72.80): VL0





#39

1,2-Dichloropropane

Concen: 7.434 ppbv

RT: 7.15 min Scan# 1358

Delta R.T. -0.44 min

Lab File: VL037641.D

Acq: 17 Sep 2021 14:37

Instrument :

MSVOA_L

ClientSampleId :

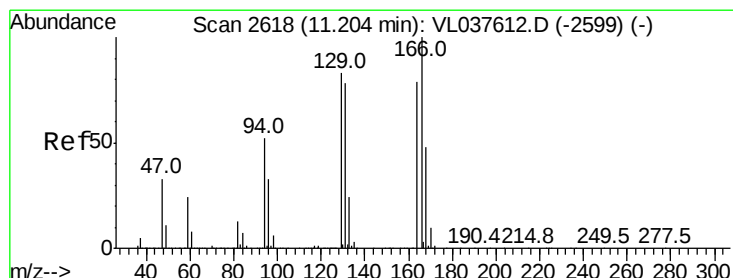
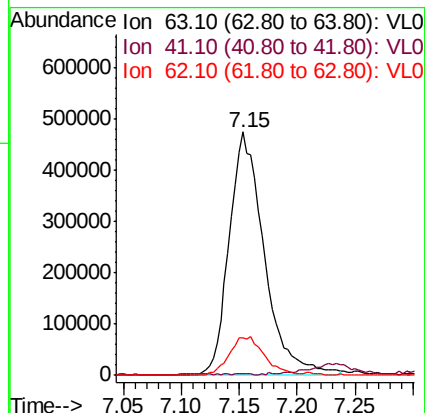
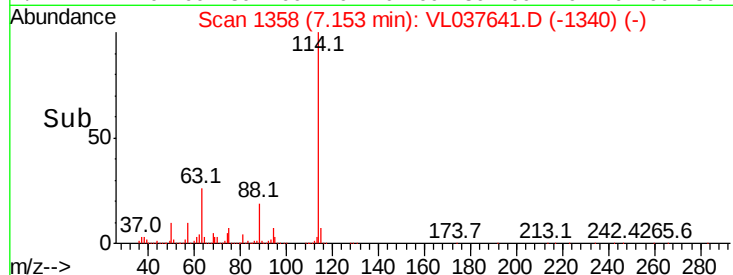
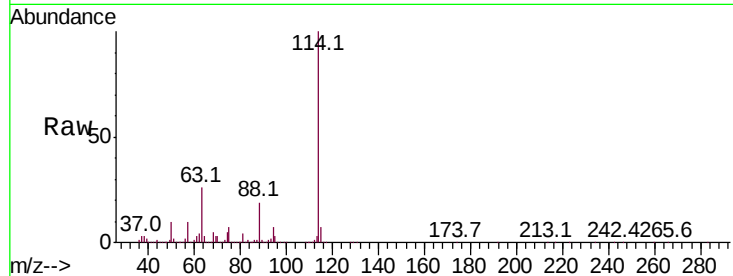
Tot Ion: 63 Resp: 991862

Ion Ratio Lower Upper

63 100

41 0.0 51.6 77.4#

62 15.3 54.6 81.8#



#52

Tetrachloroethene

Concen: 0.747 ppbv

RT: 11.20 min Scan# 2617

Delta R.T. -0.00 min

Lab File: VL037641.D

Acq: 17 Sep 2021 14:37

Tgt Ion: 164 Resp: 99951

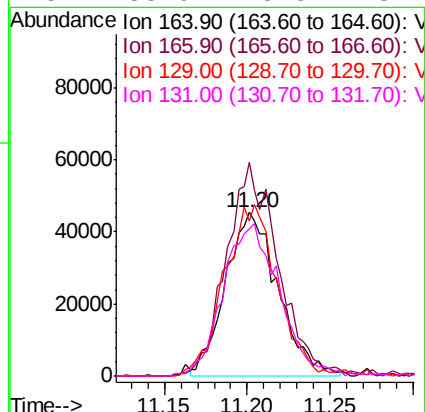
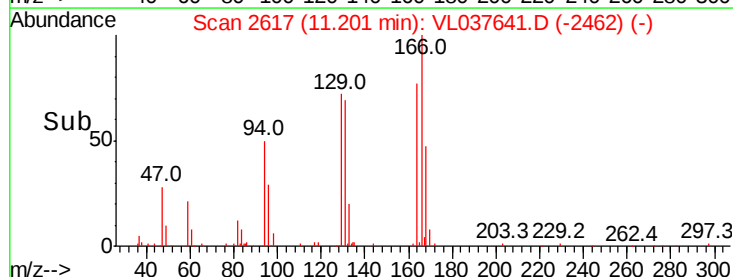
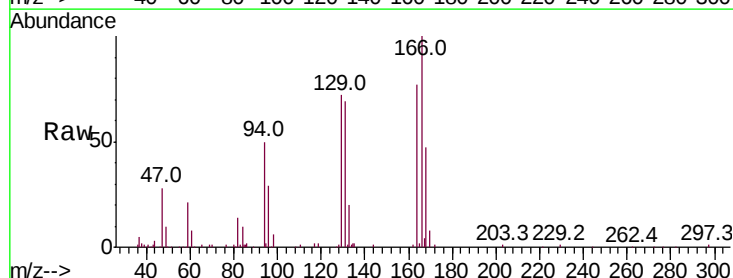
Ion Ratio Lower Upper

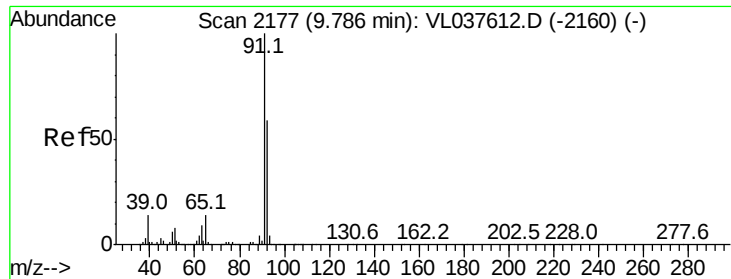
164 100

166 130.3 101.2 151.8

129 93.1 84.0 126.0

131 88.9 78.8 118.2





#53

Toluene

Concen: 0.263 ppbv

RT: 9.79 min Scan# 2177

Delta R.T. 0.00 min

Lab File: VL037641.D

Acq: 17 Sep 2021 14:37

Instrument :

MSVOA_L

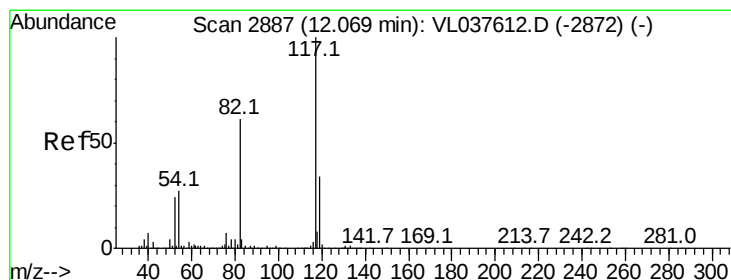
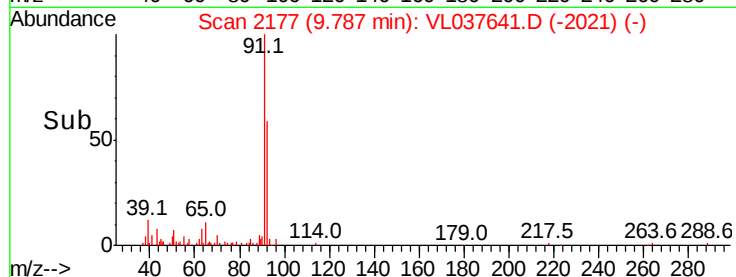
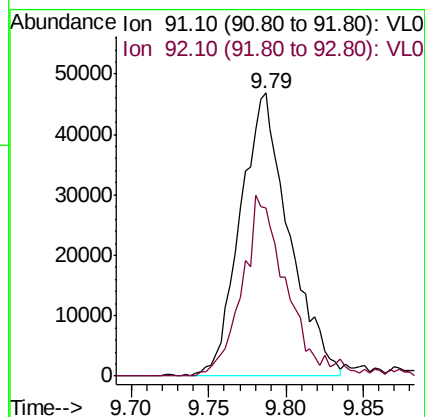
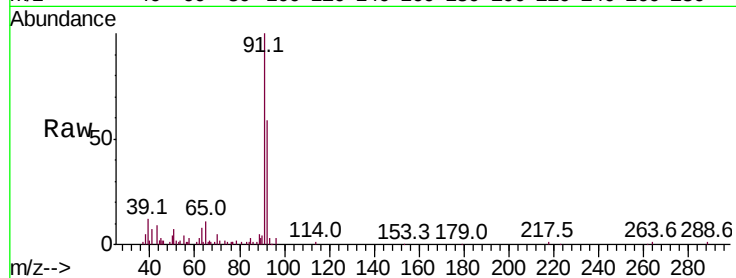
ClientSampled :

Tot Ion: 91 Resp: 101807

Ion Ratio Lower Upper

91 100

92 60.7 48.9 73.3



#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.06 min Scan# 2885

Delta R.T. -0.01 min

Lab File: VL037641.D

Acq: 17 Sep 2021 14:37

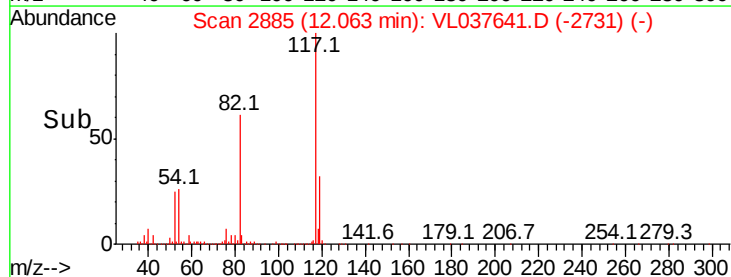
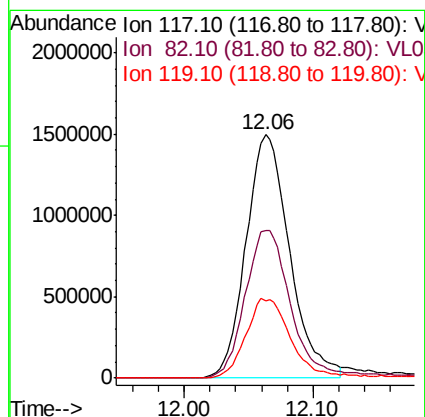
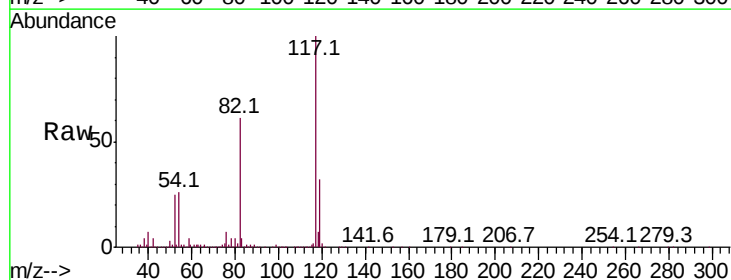
Tgt Ion: 117 Resp: 3531877

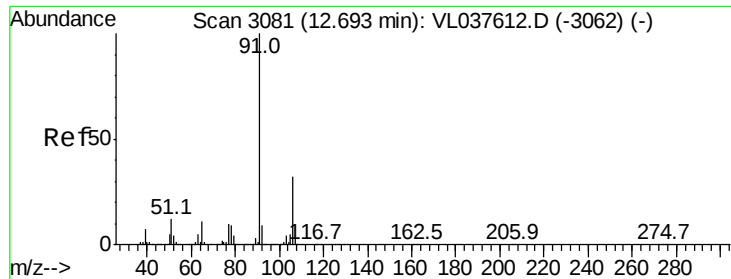
Ion Ratio Lower Upper

117 100

82 65.5 50.6 75.8

119 34.4 26.2 39.2





#58

Ethyl Benzene

Concen: 0.037 ppbv

RT: 12.68 min Scan# 3076

Delta R.T. -0.02 min

Lab File: VL037641.D

Acq: 17 Sep 2021 14:37

Instrument :

MSVOA_L

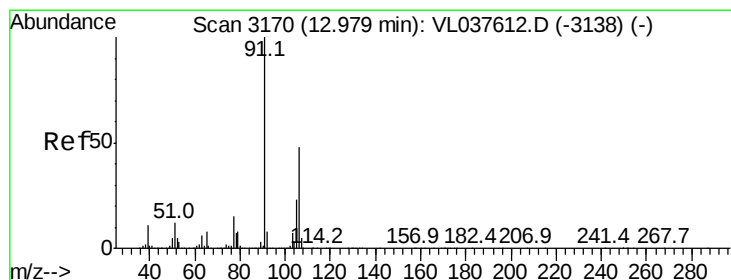
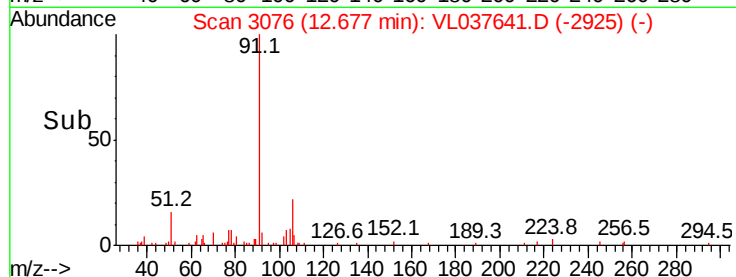
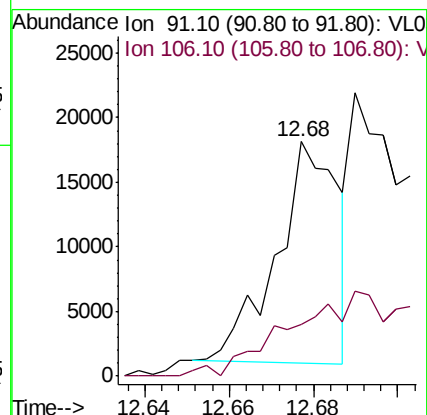
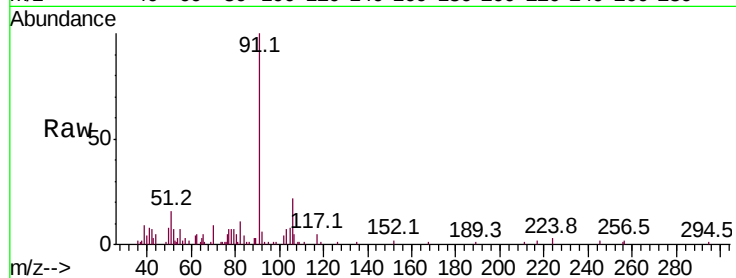
ClientSampleId :

Tot Ion: 91 Resp: 17324

Ion Ratio Lower Upper

91 100

106 26.5 25.3 37.9



#59

m/p-Xylene

Concen: 0.034 ppbv

RT: 12.98 min Scan# 3170

Delta R.T. 0.00 min

Lab File: VL037641.D

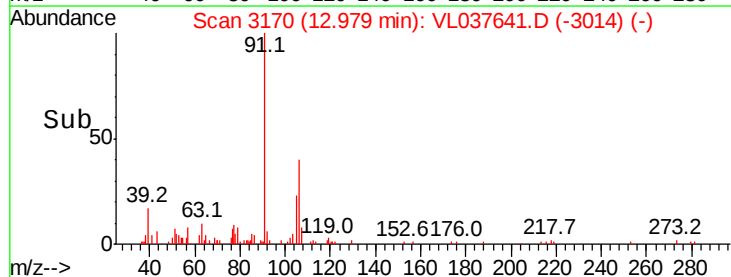
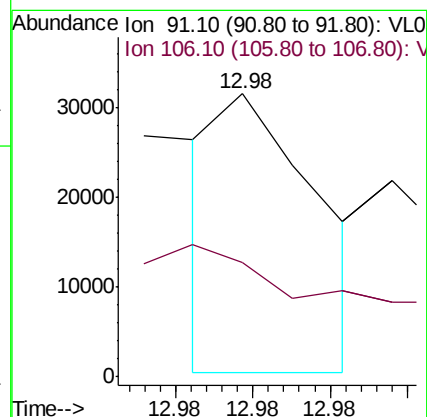
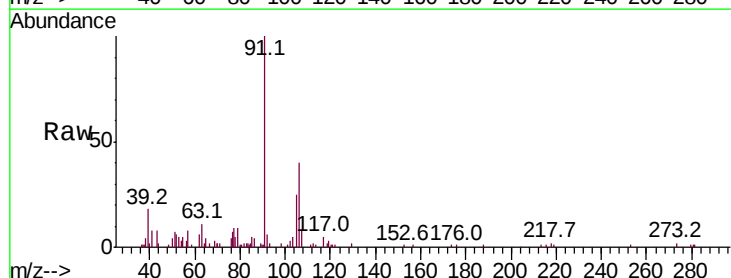
Acq: 17 Sep 2021 14:37

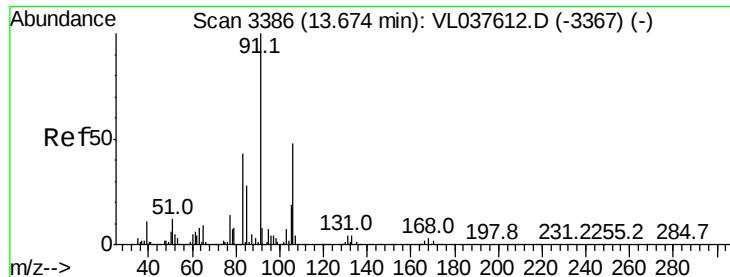
Tgt Ion: 91 Resp: 13698

Ion Ratio Lower Upper

91 100

106 0.0 36.6 55.0#





#60

o-Xylene

Concen: 0.243 ppbv

RT: 13.67 min Scan# 3384

Delta R.T. -0.01 min

Lab File: VL037641.D

Acq: 17 Sep 2021 14:37

Instrument :

MSVOA_L

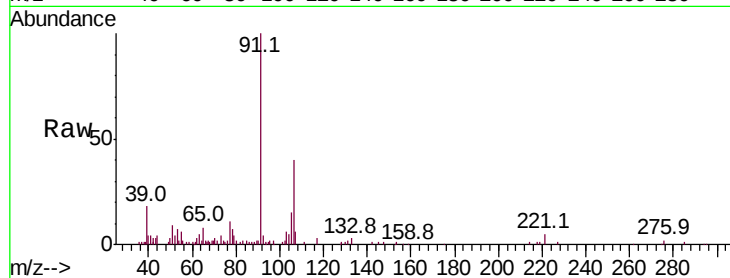
ClientSampleId :

Tot Ion: 91 Resp: 94410

Ion Ratio Lower Upper

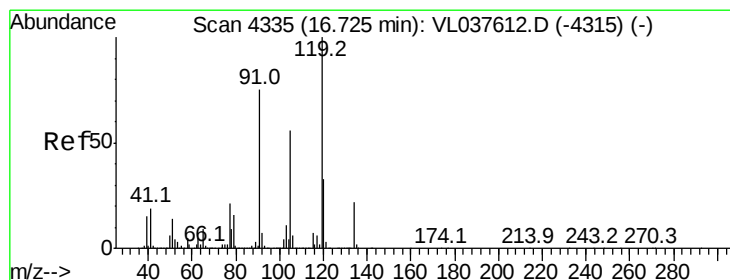
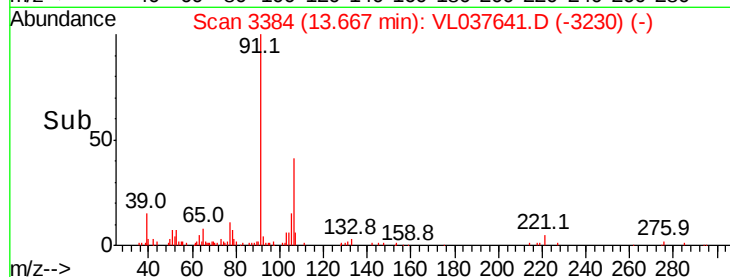
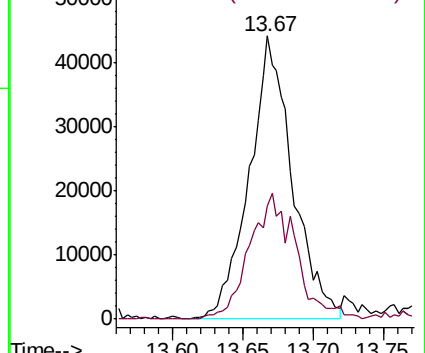
91 100

106 47.4 23.0 69.0



Abundance Ion 91.10 (90.80 to 91.80): VL0

Ion 106.10 (105.80 to 106.80): V



#65

tert-Butylbenzene

Concen: 0.051 ppbv

RT: 16.73 min Scan# 4338

Delta R.T. 0.01 min

Lab File: VL037641.D

Acq: 17 Sep 2021 14:37

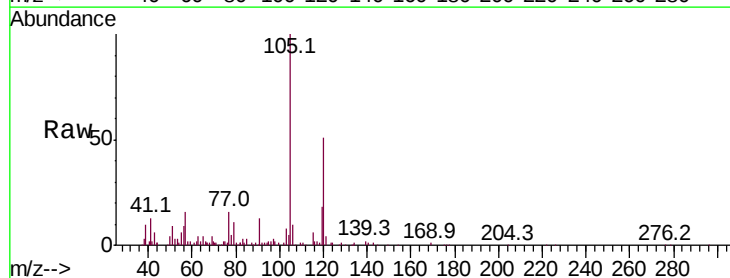
Tgt Ion: 119 Resp: 24785

Ion Ratio Lower Upper

119 100

91 125.9 61.9 92.9#

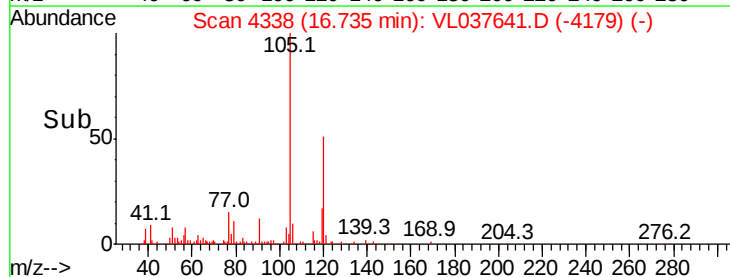
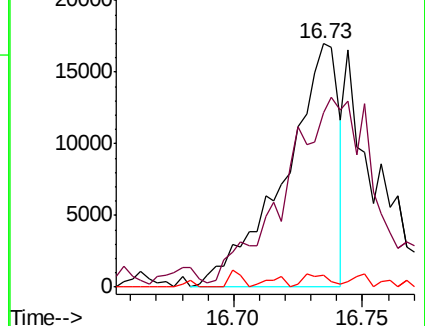
134 0.0 16.5 24.7#

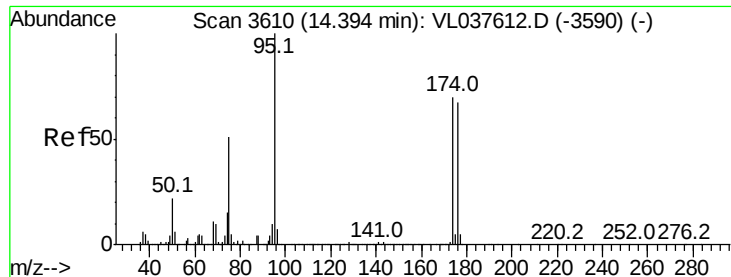


Abundance Ion 119.20 (118.90 to 119.90): V

Ion 91.10 (90.80 to 91.80): VL0

Ion 134.20 (133.90 to 134.90): V

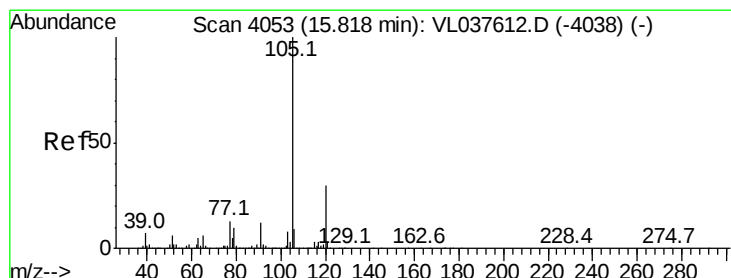
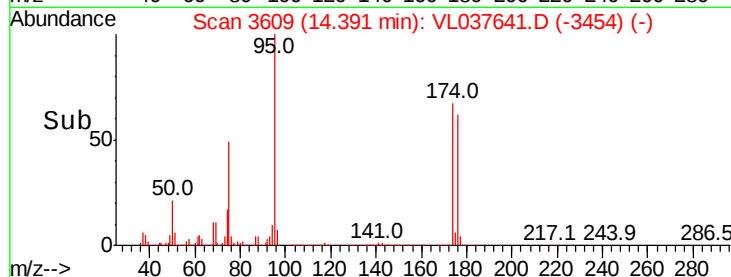
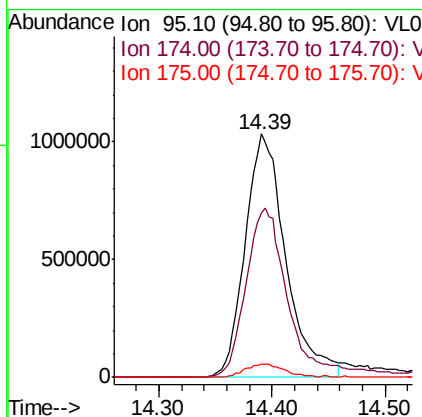
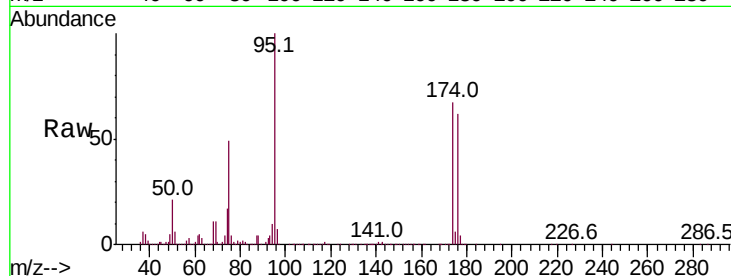




#68
 1-Bromo-4-Fluorobenzene
 Concen: 10.120 ppbv
 RT: 14.39 min Scan# 3609
 Delta R.T. -0.00 min
 Lab File: VL037641.D
 Acq: 17 Sep 2021 14:37

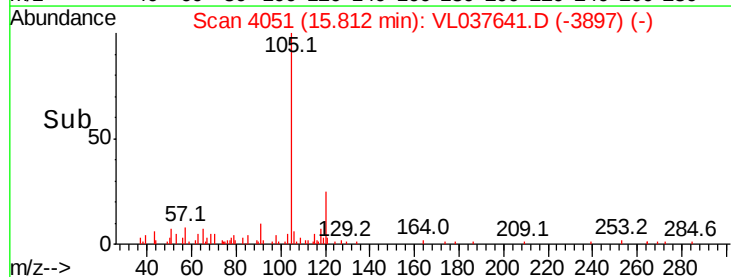
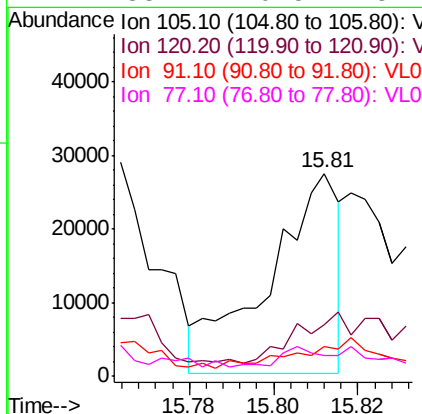
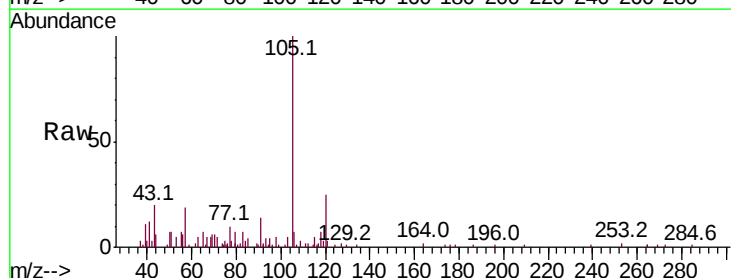
Instrument :
 MSVOA_L
 ClientSampled :

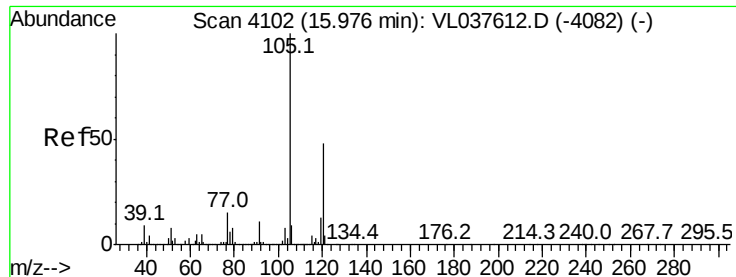
Tot Ion: 95 Resp: 2583034
 Ion Ratio Lower Upper
 95 100
 174 75.5 56.3 84.5
 175 5.6 4.4 6.6



#72
 4-Ethyltoluene
 Concen: 0.071 ppbv
 RT: 15.81 min Scan# 4051
 Delta R.T. -0.01 min
 Lab File: VL037641.D
 Acq: 17 Sep 2021 14:37

Tgt Ion:105 Resp: 31584
 Ion Ratio Lower Upper
 105 100
 120 0.0 24.7 37.1#
 91 0.0 9.9 14.9#
 77 33.2 10.5 15.7#





#73

1,3,5-Trimethylbenzene

Concen: 0.147 ppbv

RT: 15.97 min Scan# 4100

Delta R.T. -0.01 min

Lab File: VL037641.D

Acq: 17 Sep 2021 14:37

Instrument :

MSVOA_L

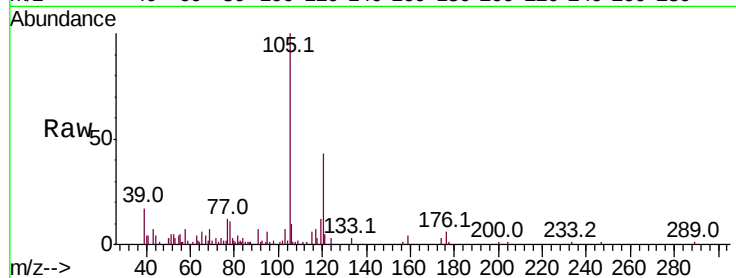
ClientSampleId :

Tot Ion:105 Resp: 61066

Ion Ratio Lower Upper

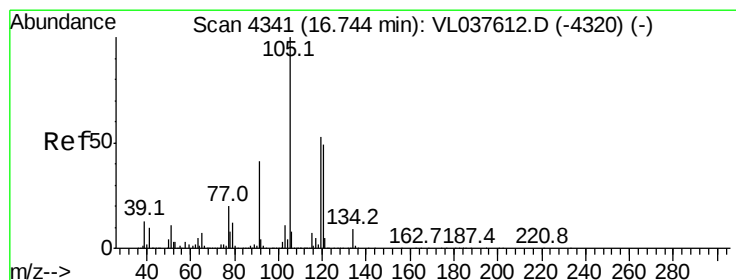
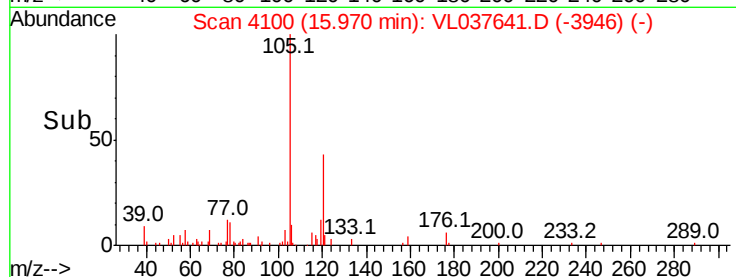
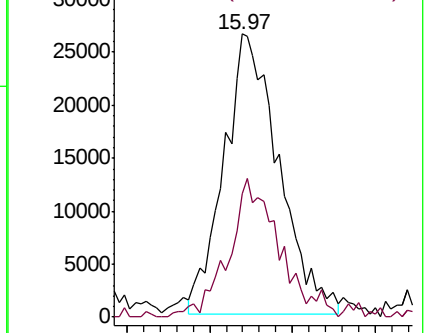
105 100

120 45.6 38.3 57.5



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: 0.574 ppbv

RT: 16.74 min Scan# 4339

Delta R.T. -0.01 min

Lab File: VL037641.D

Acq: 17 Sep 2021 14:37

Tgt Ion:105 Resp: 251617

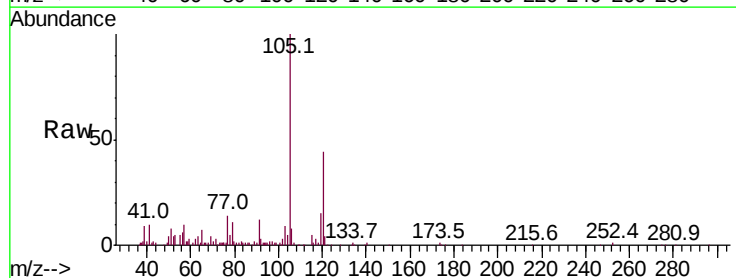
Ion Ratio Lower Upper

105 100

120 43.6 39.4 59.0

91 11.4 33.3 49.9#

77 13.4 15.7 23.5#

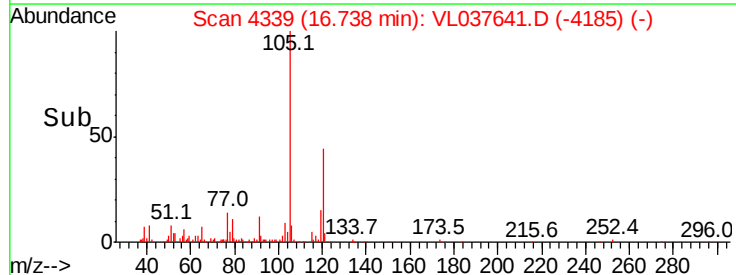
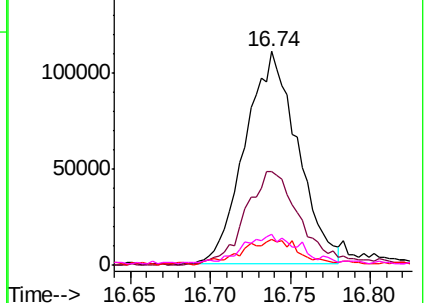


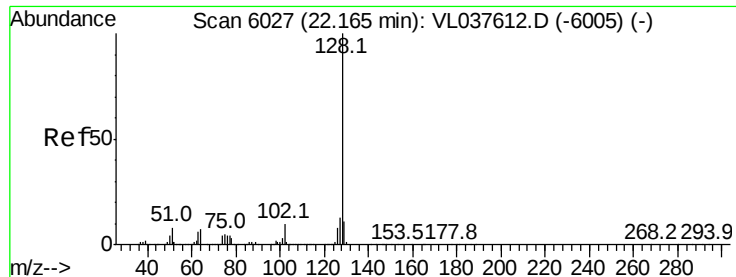
Abundance Ion 105.10 (104.80 to 105.80): V

Ion 120.20 (119.90 to 120.90): V

Ion 91.10 (90.80 to 91.80): VL0

Ion 77.10 (76.80 to 77.80): VL0





#79

Naphthalene

Concen: 0.035 ppbv

RT: 22.16 min Scan# 6025

Delta R.T. -0.01 min

Lab File: VL037641.D

Acq: 17 Sep 2021 14:37

Instrument :

MSVOA_L

ClientSampleId :

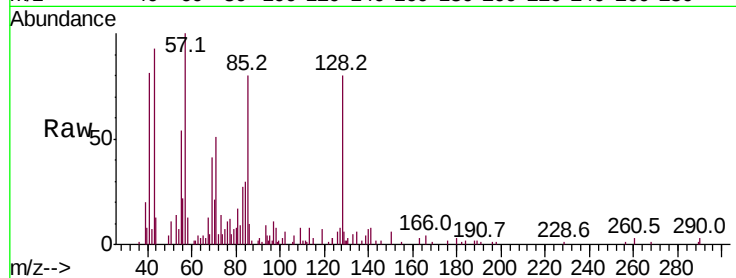
Tot Ion:128 Resp: 9333

Ion Ratio Lower Upper

128 100

127 0.8 10.6 16.0#

129 10.4 8.6 12.8



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

