

Data Path : Z:\VOASRV\HPCHEM1\MSVOA_L\DATA\VL121719\
 Data File : VL034503.D
 Acq On : 17 Dec 2019 21:52
 Operator : SY/AP
 Sample : K6319-04
 Misc : 400ml/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 LIHA-IA3

Quant Time: Dec 18 04:23:30 2019
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA_L\METHODS\VL111919AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Tue Nov 19 14:15:35 2019
 QLast Update : Tue Nov 19 14:15:35 2019
 Response via : Initial Calibration

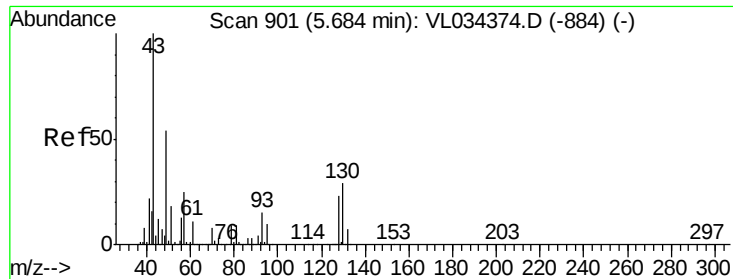
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.67	49	935220	10.00	ppbv	0.00
33) 1,4-Difluorobenzene	7.19	114	1856477	10.00	ppbv	0.00
55) Chlorobenzene-d5	12.13	117	1873687	10.00	ppbv	0.00

System Monitoring Compounds

68) 1-Bromo-4-Fluorobenzene	14.47	95	1617002	10.26	ppbv	-0.01
Spiked Amount	10.000	Range	65 - 135	Recovery	=	102.60%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.02	85	94898	0.561	ppbv	95
3) Chlorodifluoromethane	2.96	51	58292	0.500	ppbv #	86
4) Chloromethane	3.11	50	38260	0.556	ppbv	98
7) Chloroethane	3.54	64	965	0.041	ppbv #	42
9) Propene	3.18	41	275064	5.310	ppbv	97
10) Heptane	8.15	43	516587	3.864	ppbv	98
11) Trichlorofluoromethane	3.93	101	39704	0.236	ppbv #	82
13) Ethanol	3.61	45	7338514	508.532	ppbv	89
15) Acetone	3.83	43	1825781	13.634	ppbv	96
16) 1,3-Butadiene	3.29	39	9854	0.169	ppbv #	9
17) tert-Butyl alcohol	4.30	59	8072	0.072	ppbv #	71
19) Isopropyl Alcohol	3.98	45	887612	10.340	ppbv #	99
20) Methylene Chloride	4.34	84	35626	0.750	ppbv #	83
23) Vinyl Acetate	5.07	43	92245	0.527	ppbv #	95
25) Ethyl Acetate	5.68	43	41579	0.174	ppbv #	76
26) Hexane	5.69	57	18978	0.185	ppbv #	1
27) Carbon Disulfide	4.55	76	5403	0.048	ppbv #	64
29) Chloroform	5.76	83	125023	0.752	ppbv	94
34) 2-Butanone	5.25	43	57407	0.376	ppbv	100
35) Carbon Tetrachloride	7.03	117	8367	0.052	ppbv #	35
36) Benzene	6.91	78	48827	0.263	ppbv #	89
39) 1,2-Dichloropropane	7.19	63	549243	7.682	ppbv #	23
44) 2,2,4-Trimethylpentane	7.90	57	11796	0.035	ppbv #	1
52) Tetrachloroethene	11.26	164	3604	0.045	ppbv #	70
53) Toluene	9.84	91	239610	1.137	ppbv	98
60) o-Xylene	13.74	91	18763	0.076	ppbv #	33
74) 1,2,4-Trimethylbenzene	16.82	105	43640	0.146	ppbv #	62

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



#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.67 min Scan# 898

Delta R.T. -0.01 min

Lab File: VL034503.D

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LIHA-IA3

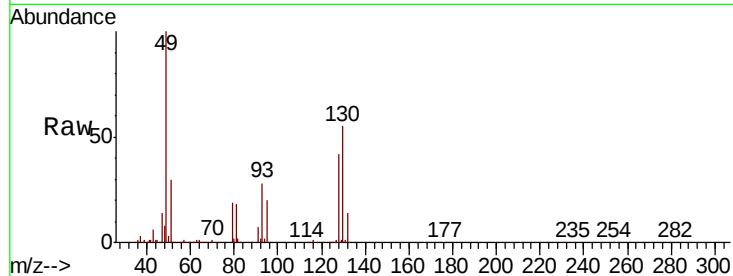
Tgt Ion: 49 Resp: 935220

Ion Ratio Lower Upper

49 100

128 43.9 21.8 65.3

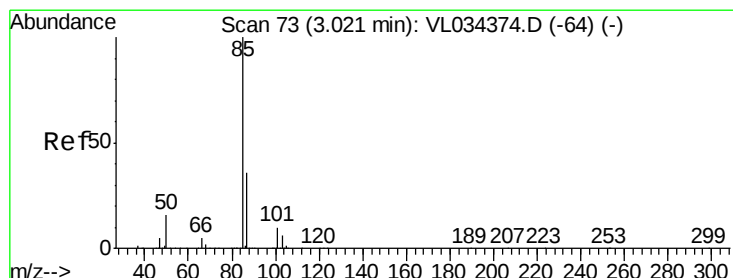
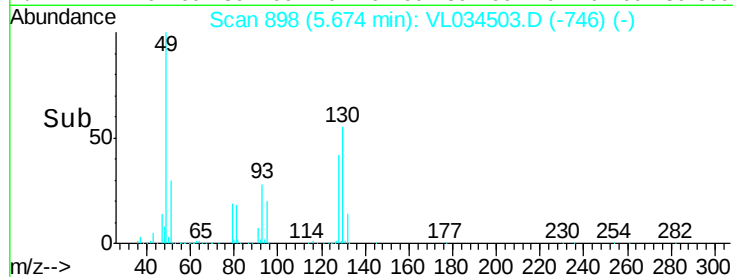
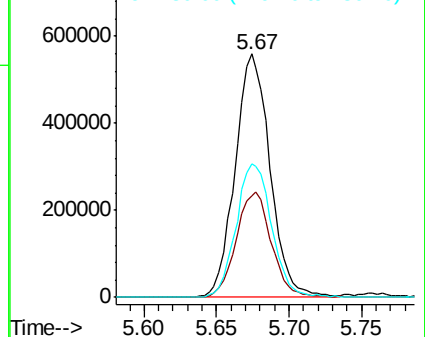
130 56.1 28.0 84.0



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: 0.561 ppbv

RT: 3.02 min Scan# 72

Delta R.T. -0.00 min

Lab File: VL034503.D

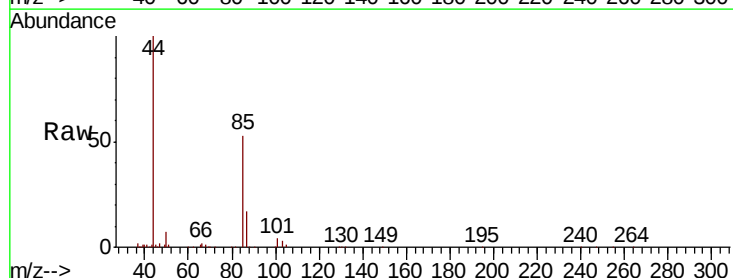
Acq: 17 Dec 2019 21:52

Tgt Ion: 85 Resp: 94898

Ion Ratio Lower Upper

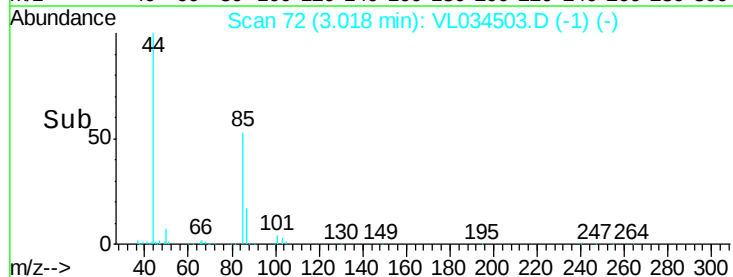
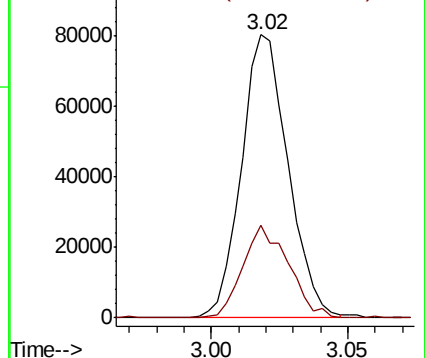
85 100

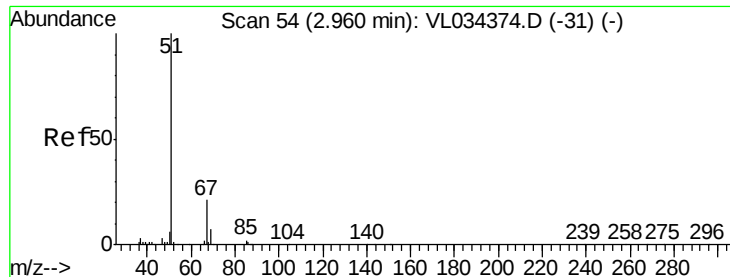
87 32.6 28.5 42.7



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0





#3

Chlorodifluoromethane

Concen: 0.500 ppbv

RT: 2.96 min Scan# 54

Delta R.T. -0.00 min

Lab File: VL034503.D

Acq: 17 Dec 2019 21:52

Instrument :

MSVOA_L

ClientSampleId :

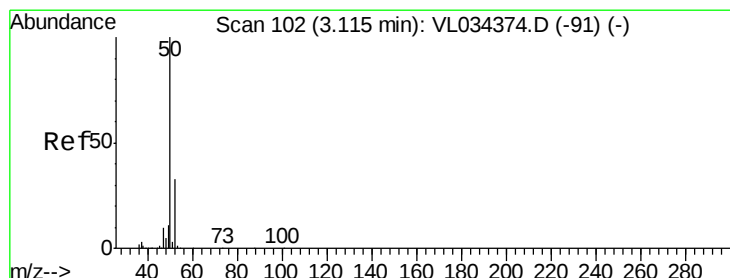
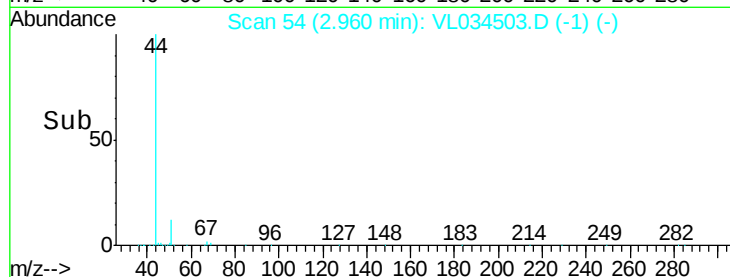
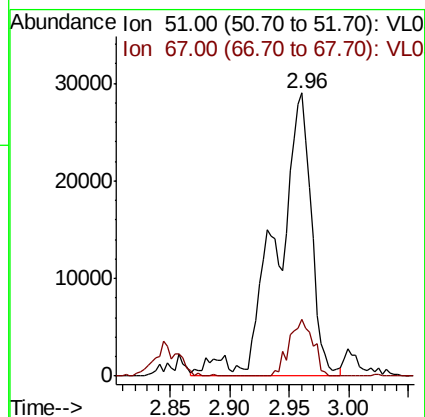
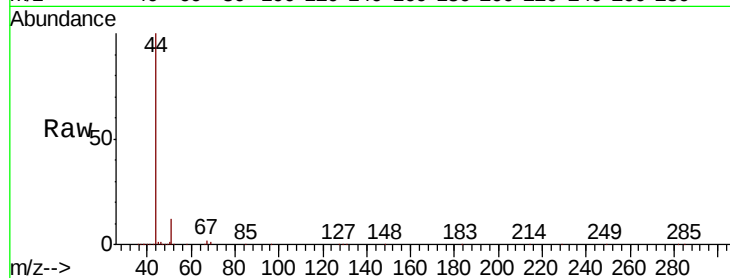
LIHA-IA3

Tgt Ion: 51 Resp: 58292

Ion Ratio Lower Upper

51 100

67 13.8 16.2 24.2#



#4

Chloromethane

Concen: 0.556 ppbv

RT: 3.11 min Scan# 101

Delta R.T. -0.00 min

Lab File: VL034503.D

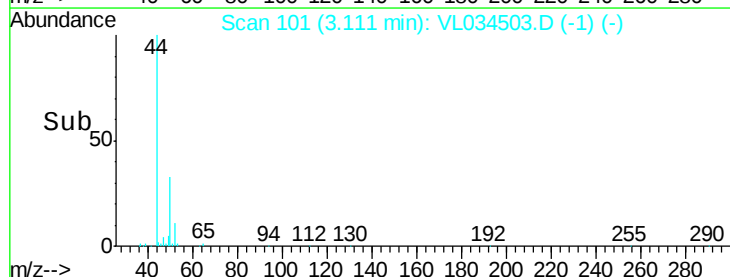
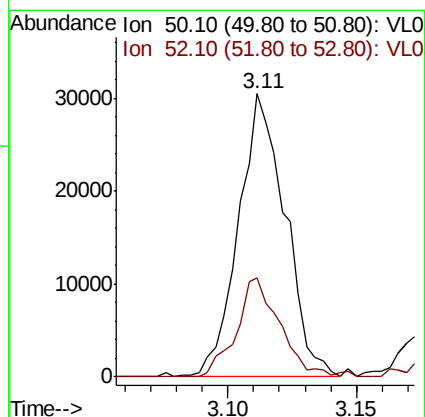
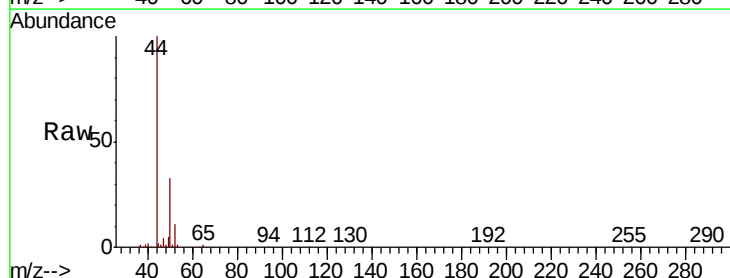
Acq: 17 Dec 2019 21:52

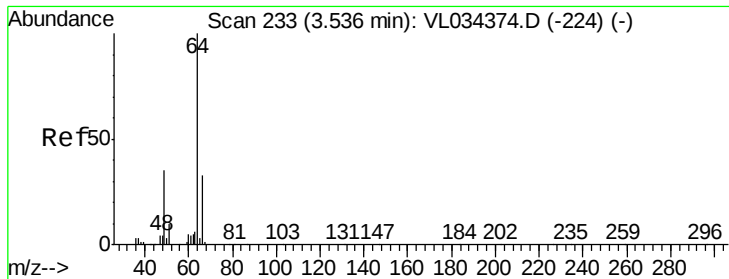
Tgt Ion: 50 Resp: 38260

Ion Ratio Lower Upper

50 100

52 34.9 26.8 40.2





#7

Chloroethane

Concen: 0.041 ppbv

RT: 3.54 min Scan# 235

Delta R.T. 0.01 min

Lab File: VL034503.D

Acq: 17 Dec 2019 21:52

Instrument :

MSVOA_L

ClientSampleId :

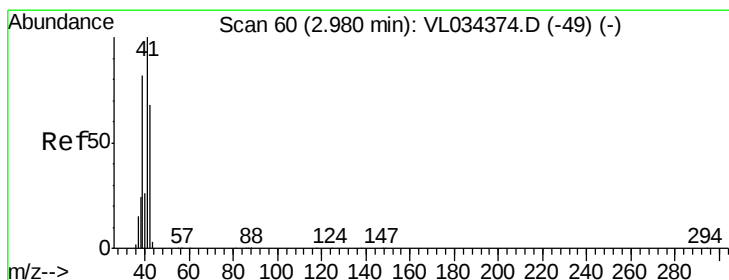
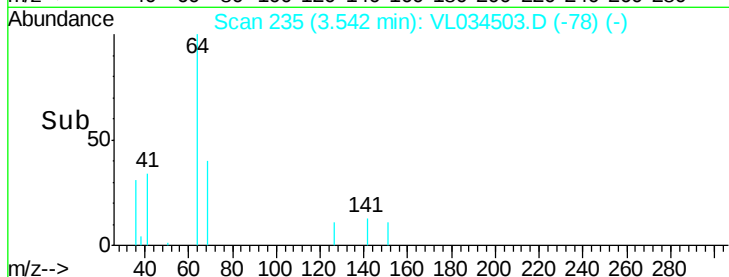
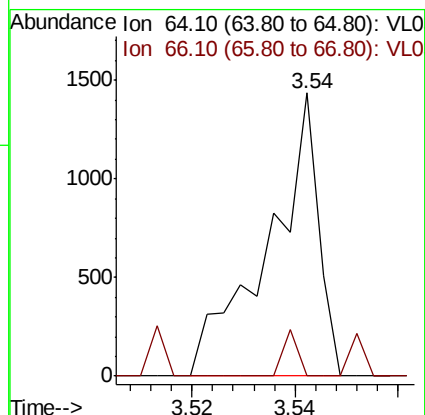
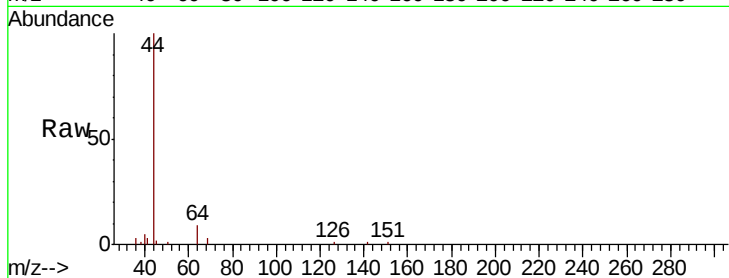
LIHA-IA3

Tgt Ion: 64 Resp: 965

Ion Ratio Lower Upper

64 100

66 0.0 26.0 39.0#



#9

Propene

Concen: 5.310 ppbv

RT: 3.18 min Scan# 122

Delta R.T. 0.20 min

Lab File: VL034503.D

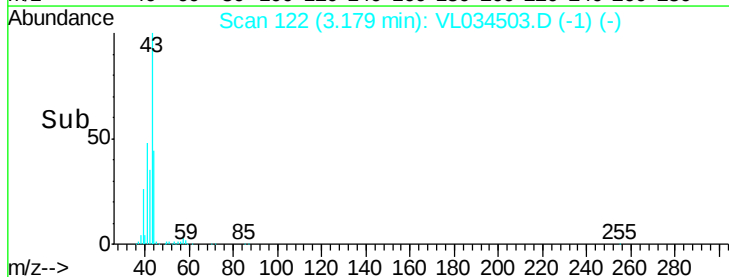
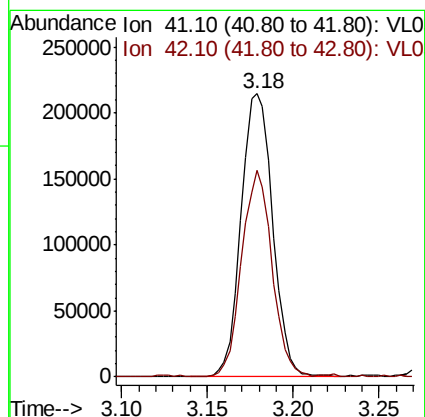
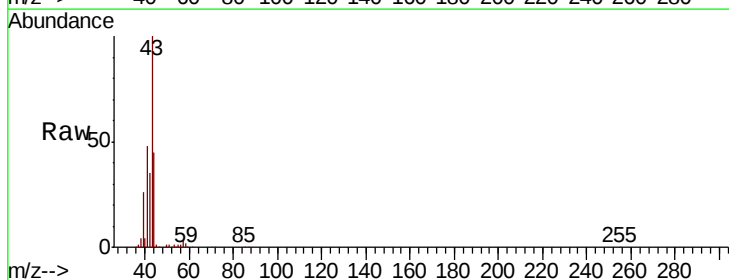
Acq: 17 Dec 2019 21:52

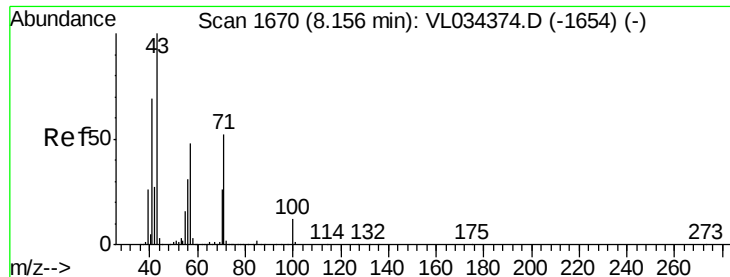
Tgt Ion: 41 Resp: 275064

Ion Ratio Lower Upper

41 100

42 71.0 54.6 82.0





#10

Heptane

Concen: 3.864 ppbv

RT: 8.15 min Scan# 1667

Delta R.T. -0.01 min

Lab File: VL034503.D

Acq: 17 Dec 2019 21:52

Instrument :

MSVOA_L

ClientSampleId :

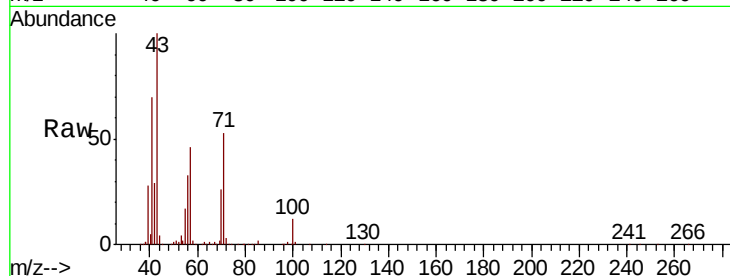
LIHA-IA3

Tgt Ion: 43 Resp: 516587

Ion Ratio Lower Upper

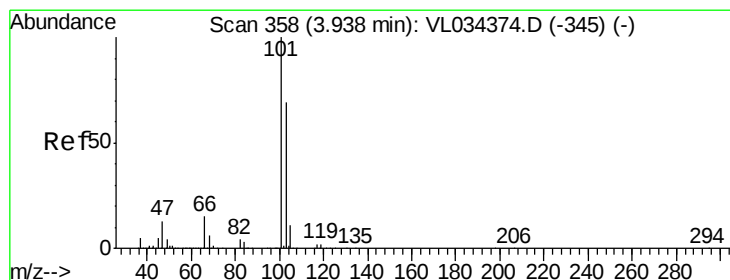
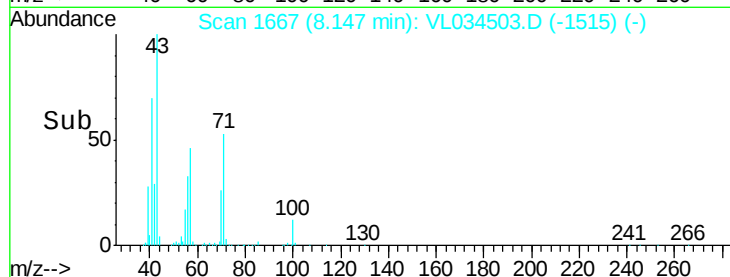
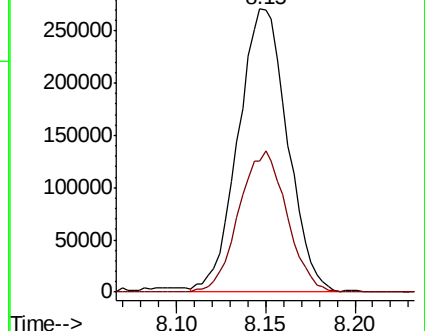
43 100

57 49.1 40.2 60.2



Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 57.10 (56.80 to 57.80): VL0



#11

Trichlorofluoromethane

Concen: 0.236 ppbv

RT: 3.93 min Scan# 357

Delta R.T. -0.00 min

Lab File: VL034503.D

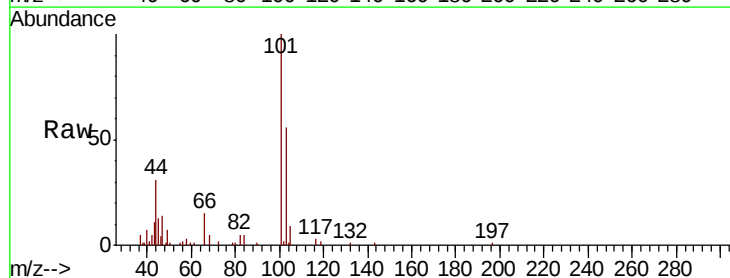
Acq: 17 Dec 2019 21:52

Tgt Ion: 101 Resp: 39704

Ion Ratio Lower Upper

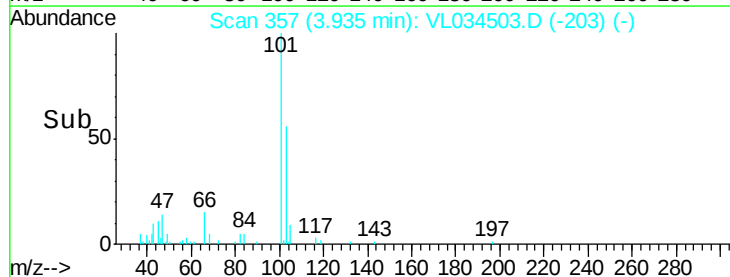
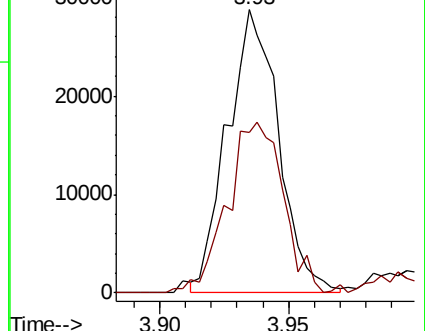
101 100

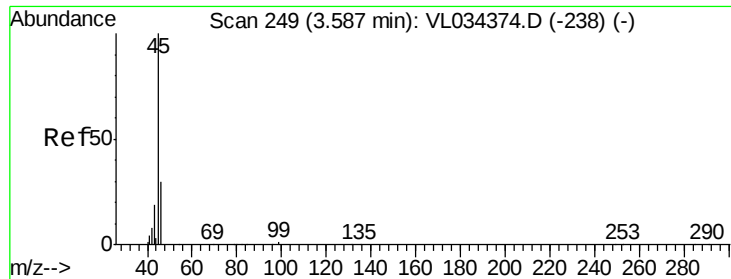
103 54.3 55.4 83.0#



Abundance Ion 101.00 (100.70 to 101.70): V

Ion 103.00 (102.70 to 103.70): V





#13

Ethanol

Concen: 508.532 ppbv

RT: 3.61 min Scan# 255

Delta R.T. 0.02 min

Lab File: VL034503.D

Acq: 17 Dec 2019 21:52

Instrument :

MSVOA_L

ClientSampleId :

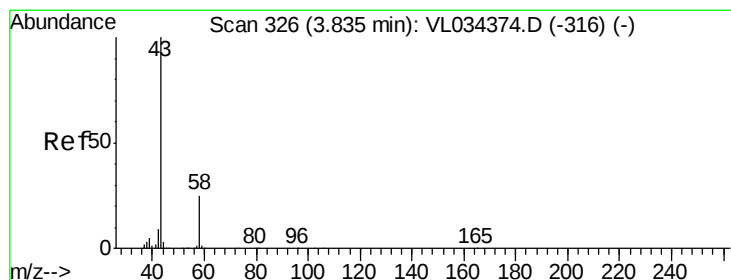
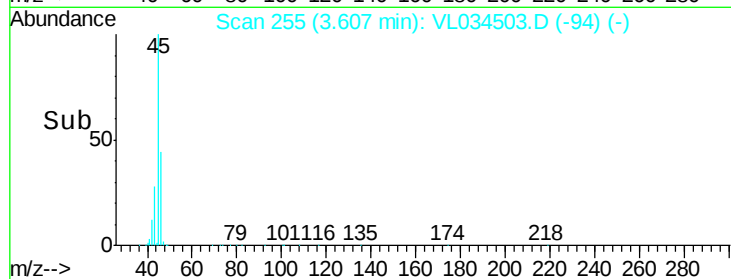
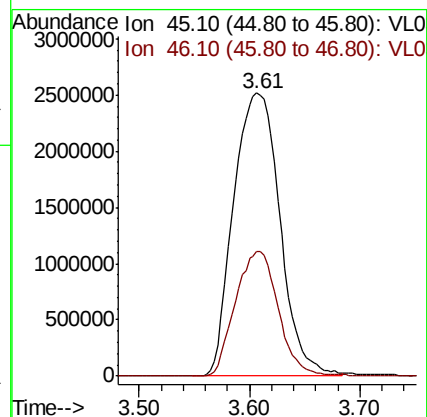
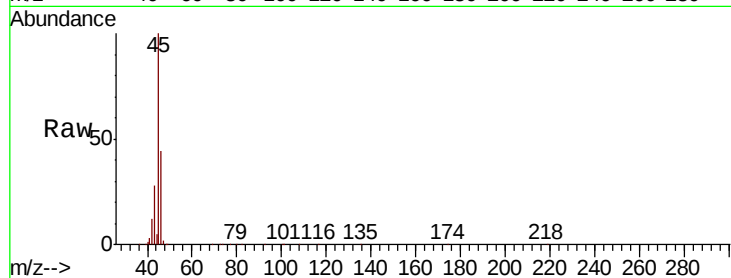
LIHA-IA3

Tgt Ion: 45 Resp: 7338514

Ion Ratio Lower Upper

45 100

46 41.1 13.8 55.4



#15

Acetone

Concen: 13.634 ppbv

RT: 3.83 min Scan# 325

Delta R.T. -0.00 min

Lab File: VL034503.D

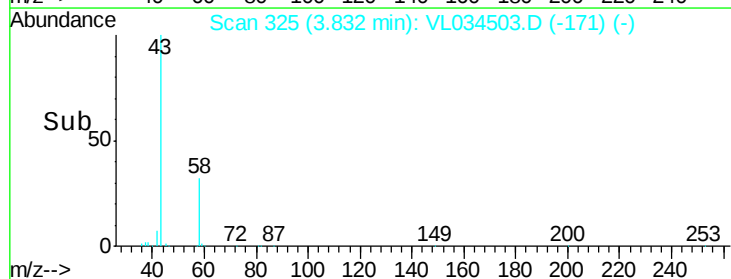
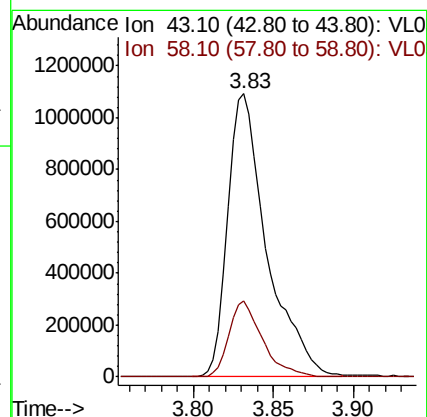
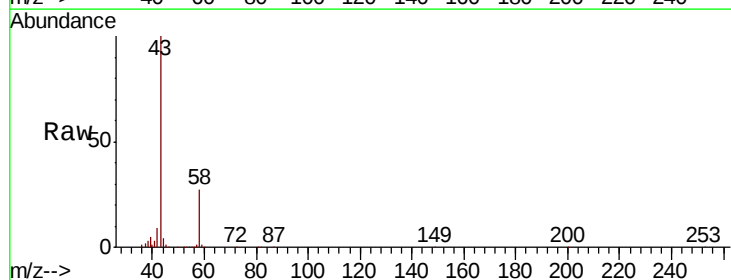
Acq: 17 Dec 2019 21:52

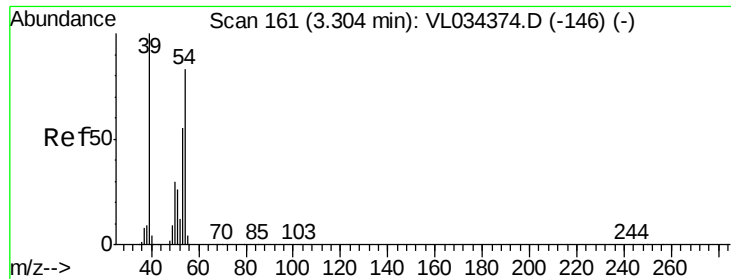
Tgt Ion: 43 Resp: 1825781

Ion Ratio Lower Upper

43 100

58 23.3 20.2 30.4

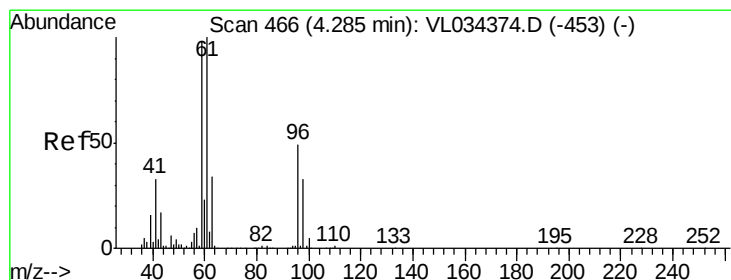
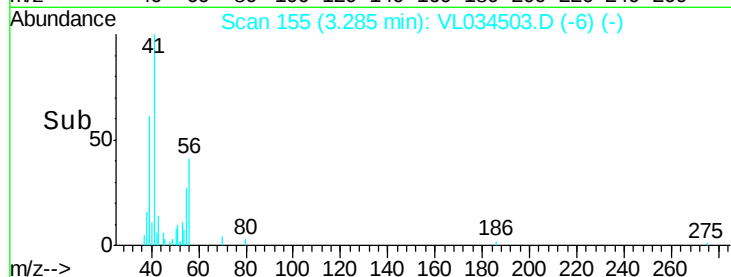
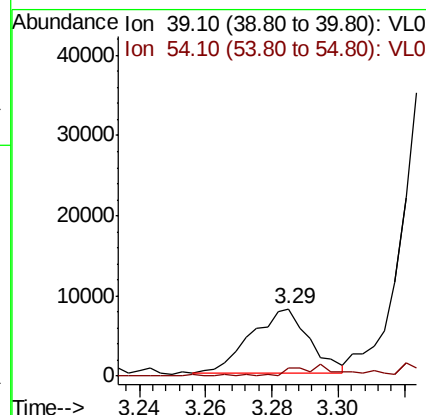
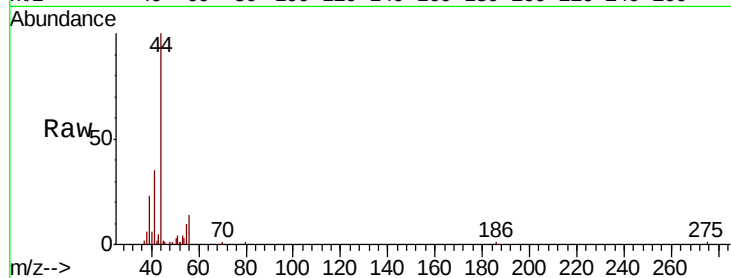




#16
1,3-Butadiene
Concen: 0.169 ppbv
RT: 3.29 min Scan# 155
Delta R.T. -0.02 min
Lab File: VL034503.D
Acq: 17 Dec 2019 21:52

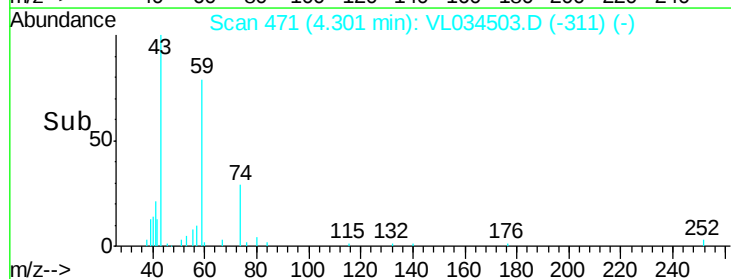
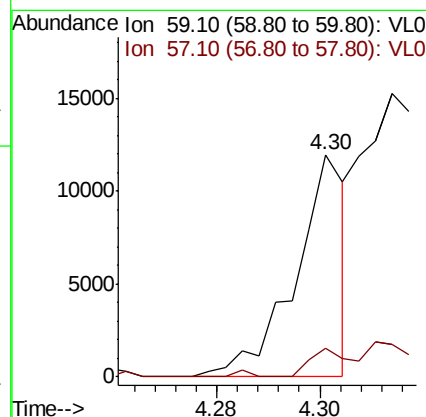
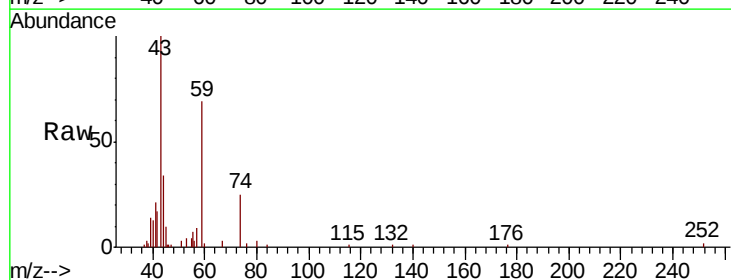
Instrument :
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LIHA-IA3

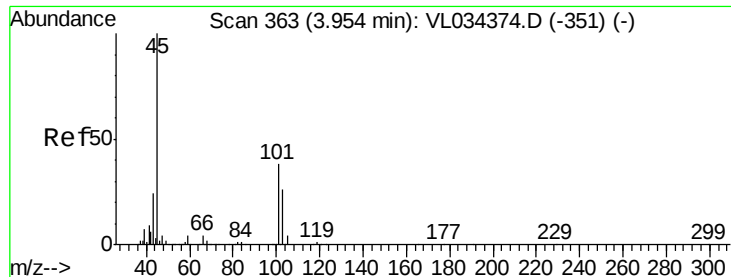
Tgt Ion: 39 Resp: 9854
Ion Ratio Lower Upper
39 100
54 0.0 64.7 97.1#



#17
tert-Butyl alcohol
Concen: 0.072 ppbv
RT: 4.30 min Scan# 471
Delta R.T. 0.02 min
Lab File: VL034503.D
Acq: 17 Dec 2019 21:52

Tgt Ion: 59 Resp: 8072
Ion Ratio Lower Upper
59 100
57 0.0 8.8 13.2#





#19

Isopropyl Alcohol

Concen: 10.340 ppbv

RT: 3.98 min Scan# 371

Delta R.T. 0.03 min

Lab File: VL034503.D

Acq: 17 Dec 2019 21:52

Instrument :

MSVOA_L

ClientSampleId :

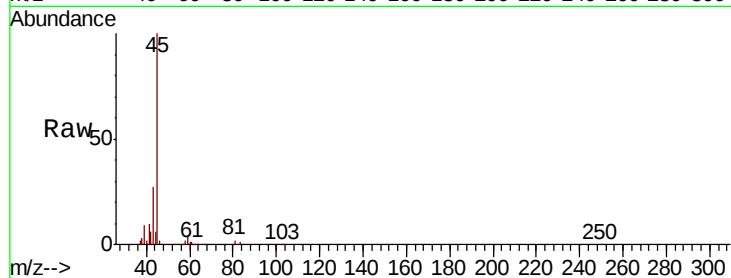
LIHA-IA3

Tgt Ion: 45 Resp: 887612

Ion Ratio Lower Upper

45 100

58 2.1 1.3 1.9#



Abundance Ion 45.10 (44.80 to 45.80): VL0

Ion 58.10 (57.80 to 58.80): VL0

3.98

400000

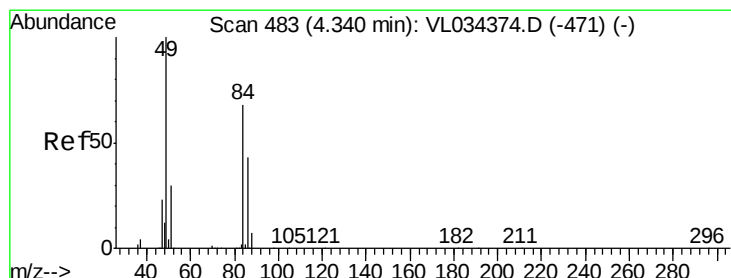
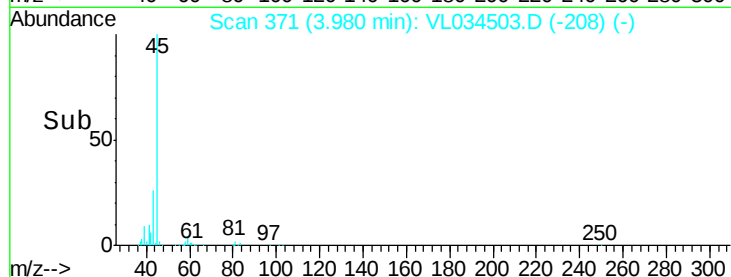
300000

200000

100000

0

Time-->



#20

Methylene Chloride

Concen: 0.750 ppbv

RT: 4.34 min Scan# 483

Delta R.T. -0.00 min

Lab File: VL034503.D

Acq: 17 Dec 2019 21:52

Tgt Ion: 84 Resp: 35626

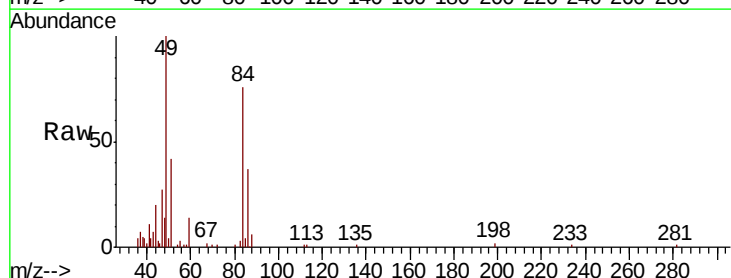
Ion Ratio Lower Upper

84 100

49 124.2 116.8 175.2

51 51.7 35.6 53.4

86 47.2 50.7 76.1#



Abundance Ion 84.00 (83.70 to 84.70): VL0

Ion 49.10 (48.80 to 49.80): VL0

Ion 51.10 (50.80 to 51.80): VL0

Ion 86.00 (85.70 to 86.70): VL0

60000

50000

40000

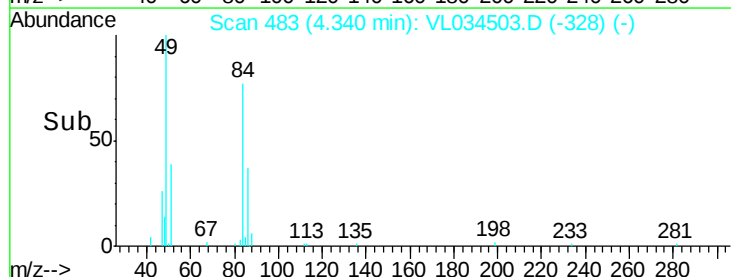
30000

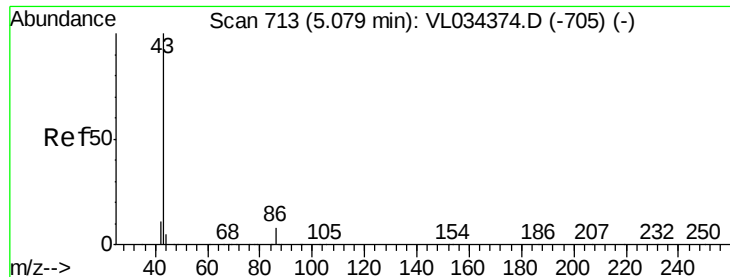
20000

10000

0

Time-->





#23

Vinyl Acetate

Concen: 0.527 ppbv

RT: 5.07 min Scan# 709

Delta R.T. -0.01 min

Lab File: VL034503.D

Acq: 17 Dec 2019 21:52

Instrument :

MSVOA_L

ClientSampleId :

LIHA-IA3

Tgt Ion: 43 Resp: 92245

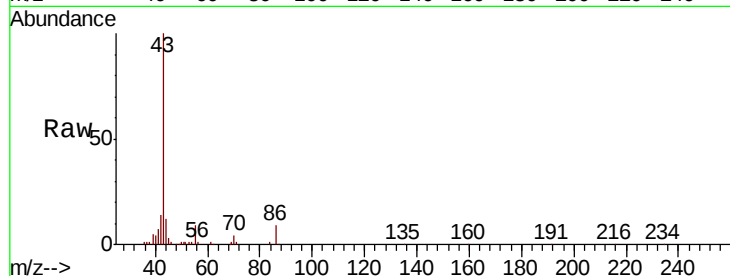
Ion Ratio Lower Upper

43 100

86 8.7 5.8 8.6#

42 13.2 8.9 13.3

44 6.0 4.0 6.0#

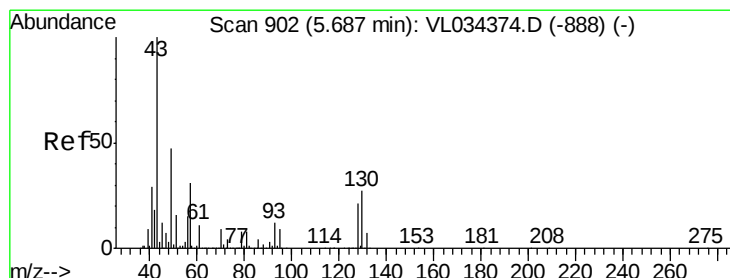
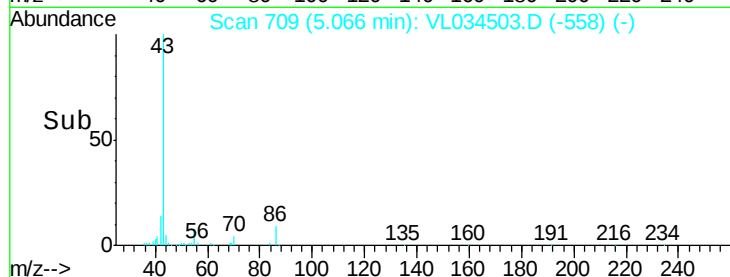
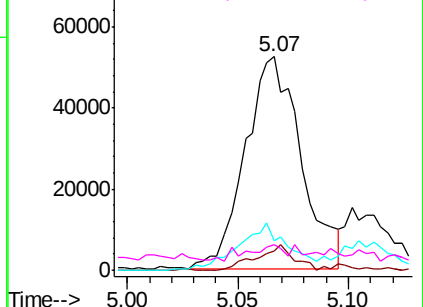


Abundance Ion 43.10 (42.80 to 43.80): VL0

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: 0.174 ppbv

RT: 5.68 min Scan# 900

Delta R.T. -0.01 min

Lab File: VL034503.D

Acq: 17 Dec 2019 21:52

Tgt Ion: 43 Resp: 41579

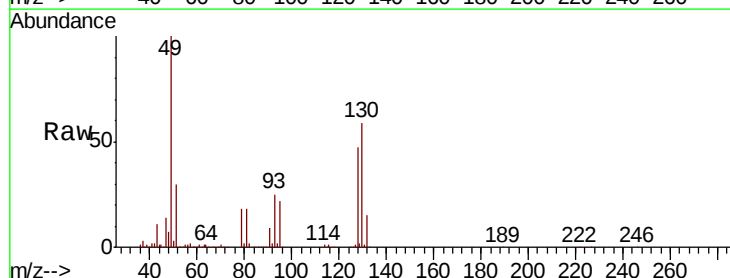
Ion Ratio Lower Upper

43 100

45 0.0 8.2 12.4#

61 17.2 7.5 11.3#

70 0.0 5.7 8.5#

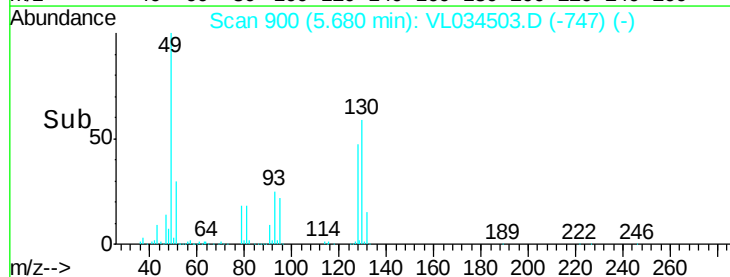
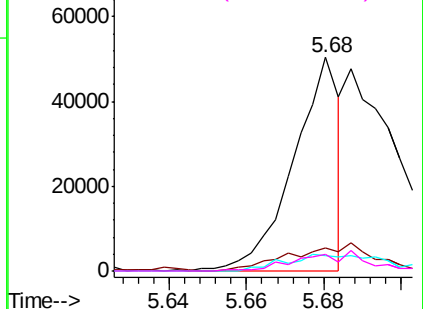


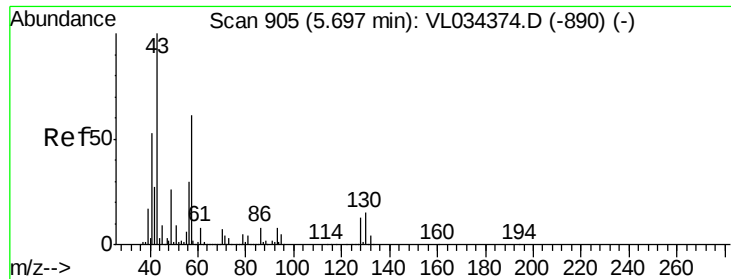
Abundance Ion 43.10 (42.80 to 43.80): VL0

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: 0.185 ppbv

RT: 5.69 min Scan# 903

Delta R.T. -0.01 min

Lab File: VL034503.D

Acq: 17 Dec 2019 21:52

Instrument :

MSVOA_L

ClientSampleId :

LIHA-IA3

Tgt Ion: 57 Resp: 18978

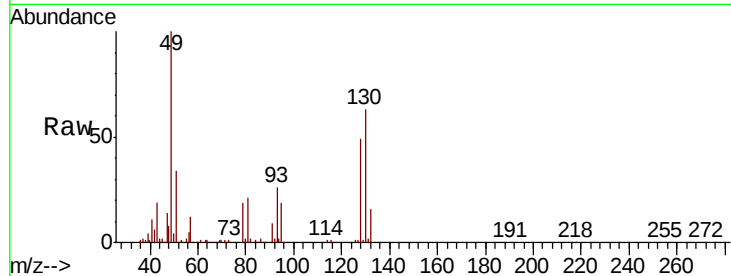
Ion Ratio Lower Upper

57 100

41 212.8 75.0 112.4#

43 468.7 186.6 279.8#

56 0.0 41.5 62.3#

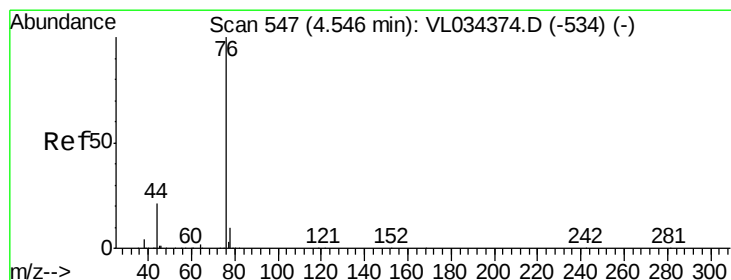
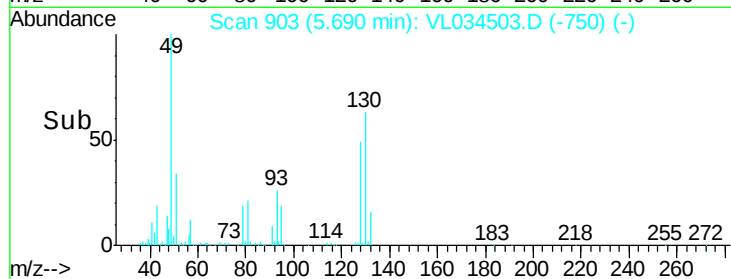
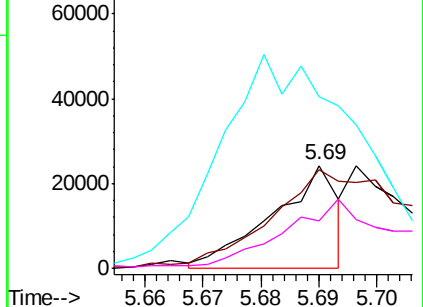


Abundance Ion 57.10 (56.80 to 57.80): VL0

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: 0.048 ppbv

RT: 4.55 min Scan# 547

Delta R.T. -0.00 min

Lab File: VL034503.D

Acq: 17 Dec 2019 21:52

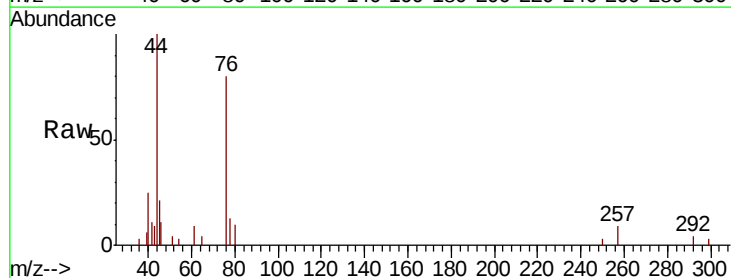
Tgt Ion: 76 Resp: 5403

Ion Ratio Lower Upper

76 100

44 0.0 17.0 25.4#

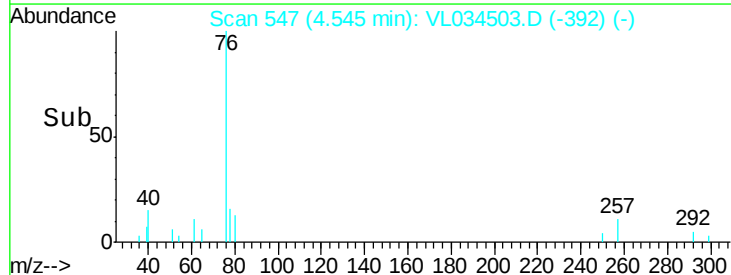
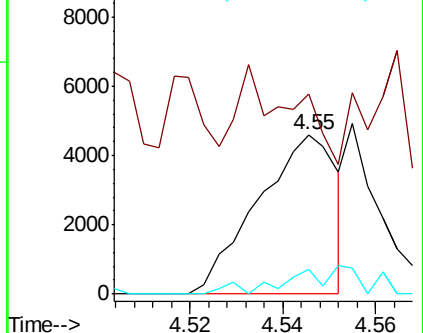
78 14.7 7.6 11.4#

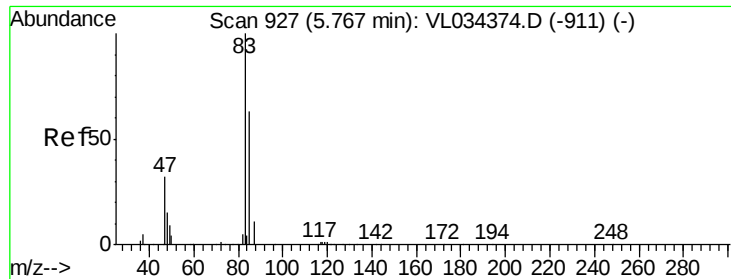


Abundance Ion 76.00 (75.70 to 76.70): VL0

Ion 44.10 (43.80 to 44.80): VL0

Ion 78.00 (77.70 to 78.70): VL0





#29

Chloroform

Concen: 0.752 ppbv

RT: 5.76 min Scan# 924

Delta R.T. -0.01 min

Lab File: VL034503.D

Acq: 17 Dec 2019 21:52

Instrument :

MSVOA_L

ClientSampleId :

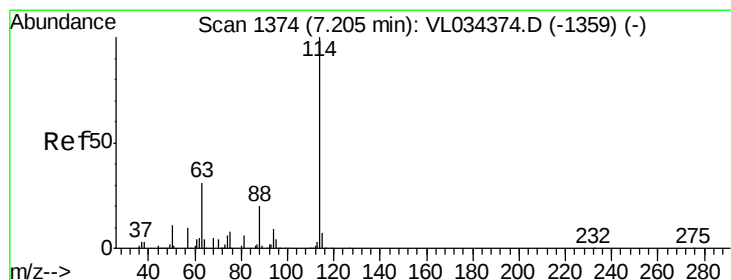
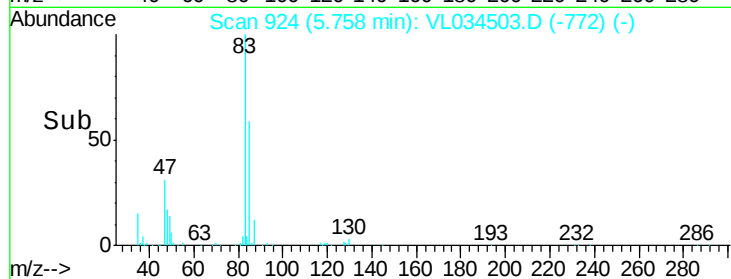
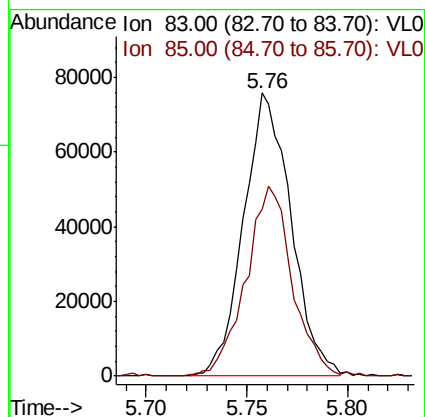
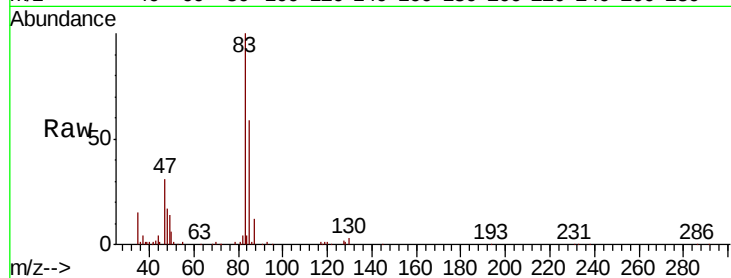
LIHA-IA3

Tgt Ion: 83 Resp: 125023

Ion Ratio Lower Upper

83 100

85 58.2 50.4 75.6



#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 7.19 min Scan# 1371

Delta R.T. -0.01 min

Lab File: VL034503.D

Acq: 17 Dec 2019 21:52

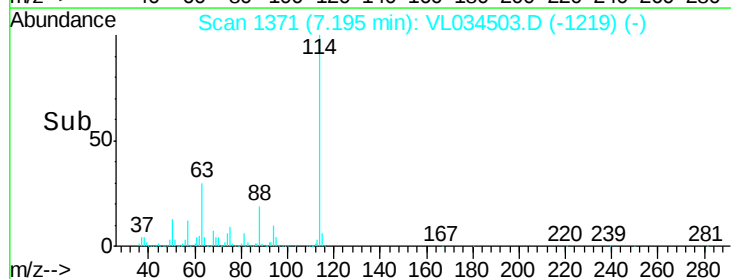
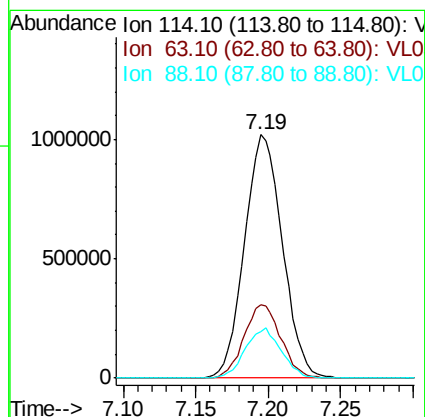
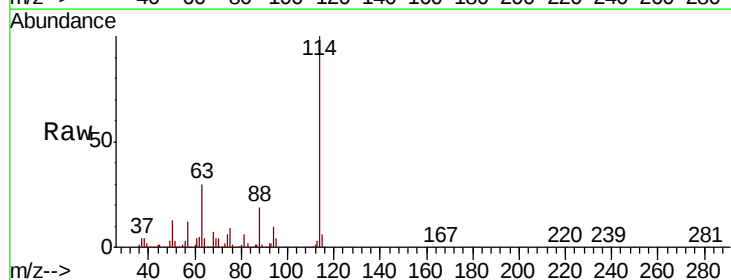
Tgt Ion: 114 Resp: 1856477

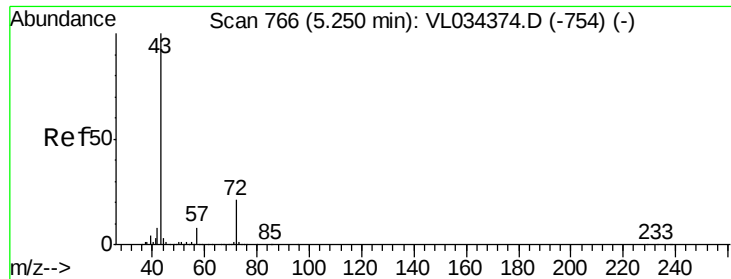
Ion Ratio Lower Upper

114 100

63 29.8 24.2 36.4

88 19.7 15.9 23.9

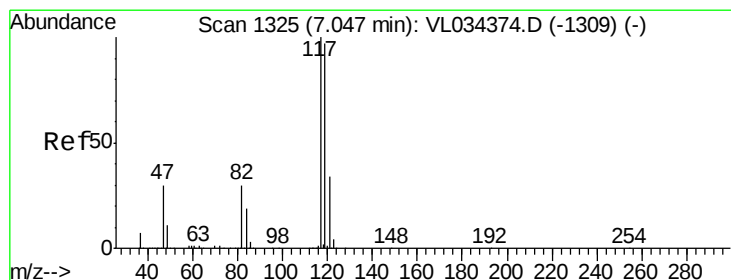
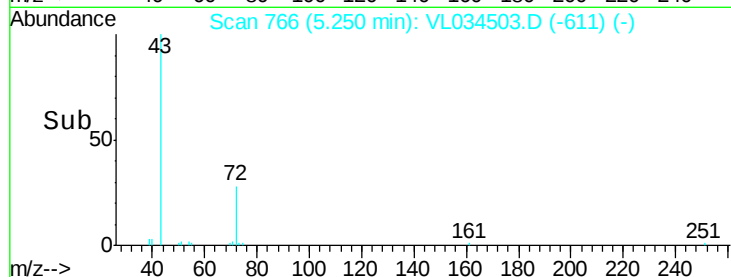
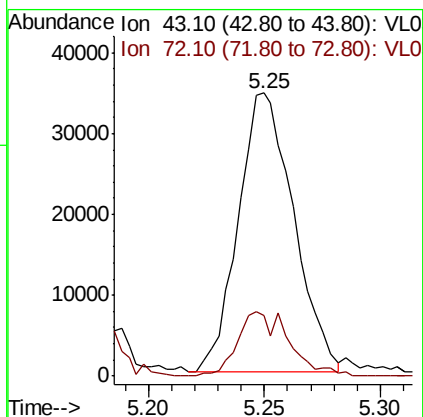
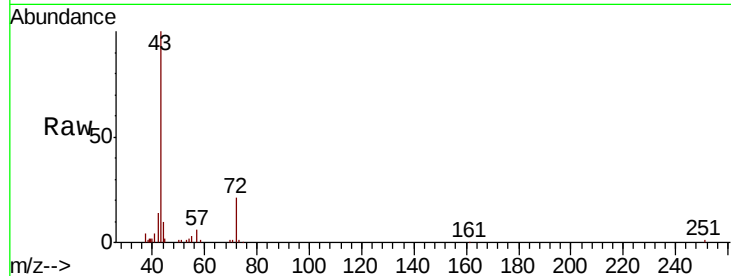




#34
 2-Butanone
 Concen: 0.376 ppbv
 RT: 5.25 min Scan# 766
 Delta R.T. -0.00 min
 Lab File: VL034503.D
 Acq: 17 Dec 2019 21:52

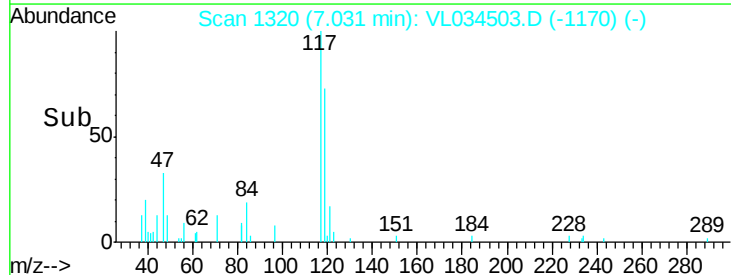
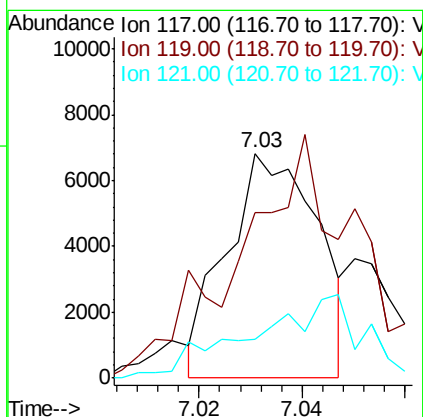
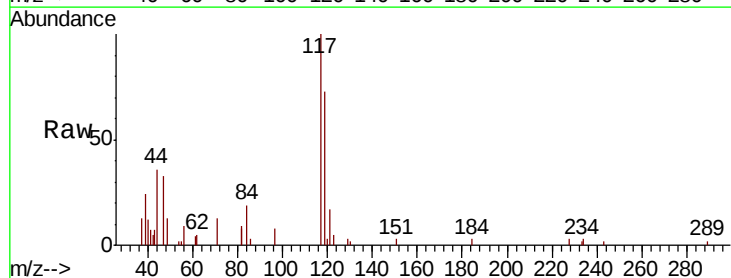
Instrument :
 MSVOA_L
 ClientSampleId :
 LIHA-IA3

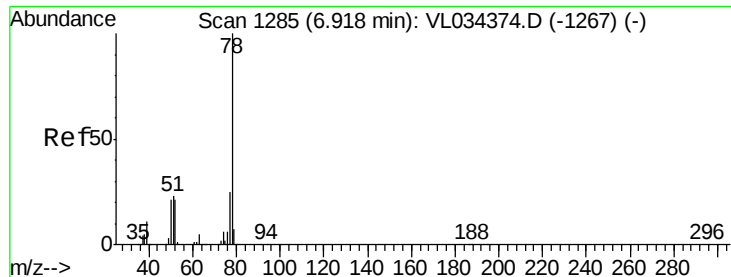
Tgt Ion: 43 Resp: 57407
 Ion Ratio Lower Upper
 43 100
 72 21.4 17.0 25.6



#35
 Carbon Tetrachloride
 Concen: 0.052 ppbv
 RT: 7.03 min Scan# 1320
 Delta R.T. -0.02 min
 Lab File: VL034503.D
 Acq: 17 Dec 2019 21:52

Tgt Ion: 117 Resp: 8367
 Ion Ratio Lower Upper
 117 100
 119 29.3 77.3 115.9#
 121 1.8 27.4 41.2#





#36

Benzene

Concen: 0.263 ppbv

RT: 6.91 min Scan# 1282

Delta R.T. -0.01 min

Lab File: VL034503.D

Acq: 17 Dec 2019 21:52

Instrument :

MSVOA_L

ClientSampleId :

LIHA-IA3

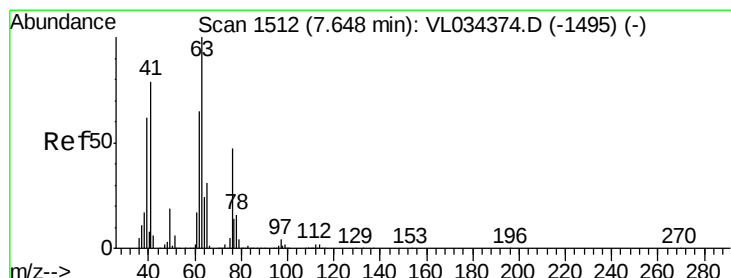
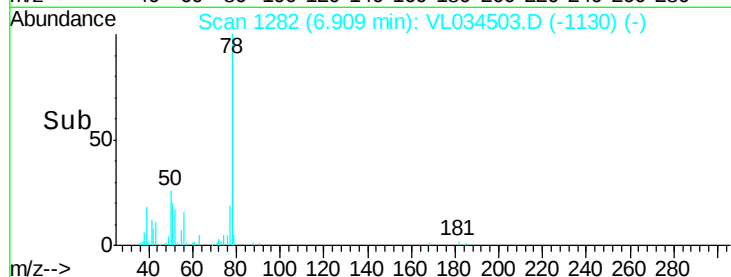
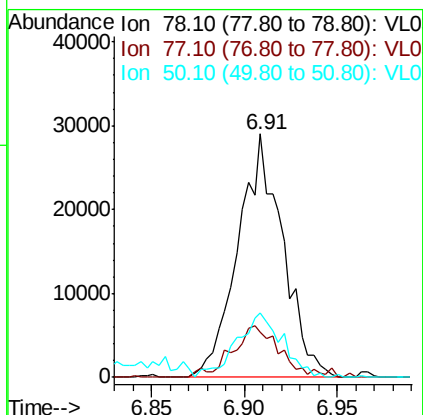
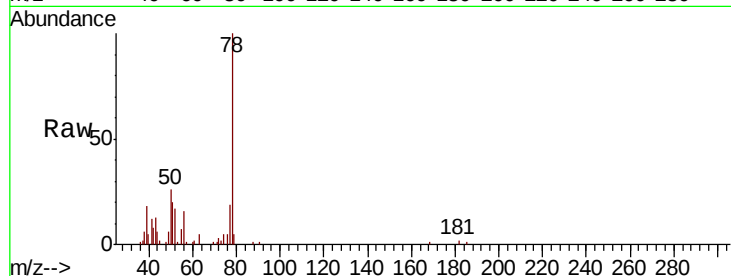
Tgt Ion: 78 Resp: 48827

Ion Ratio Lower Upper

78 100

77 18.6 20.2 30.4#

50 25.3 17.1 25.7



#39

1,2-Dichloropropane

Concen: 7.682 ppbv

RT: 7.19 min Scan# 1371

Delta R.T. -0.45 min

Lab File: VL034503.D

Acq: 17 Dec 2019 21:52

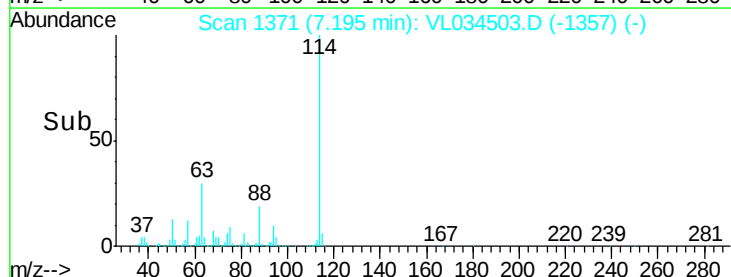
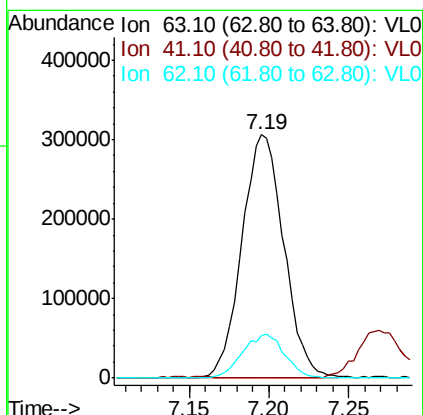
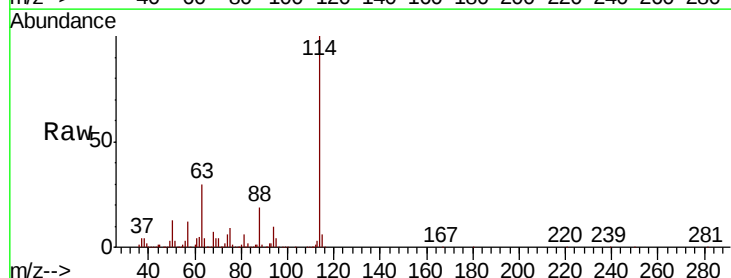
Tgt Ion: 63 Resp: 549243

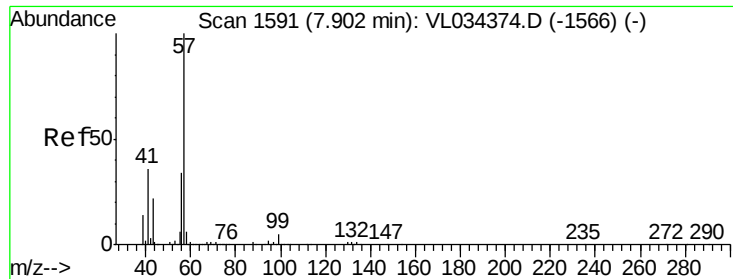
Ion Ratio Lower Upper

63 100

41 0.0 63.1 94.7#

62 17.6 52.3 78.5#





#44

2,2,4-Trimethylpentane

Concen: 0.035 ppbv

RT: 7.90 min Scan# 1590

Delta R.T. -0.00 min

Lab File: VL034503.D

Acq: 17 Dec 2019 21:52

Instrument :

MSVOA_L

ClientSampleId :

LIHA-IA3

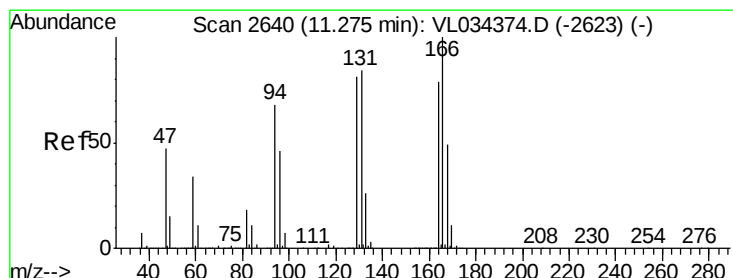
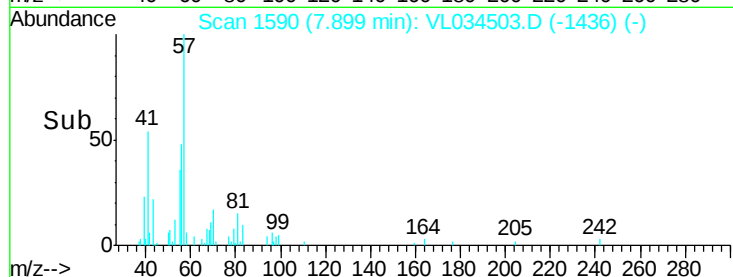
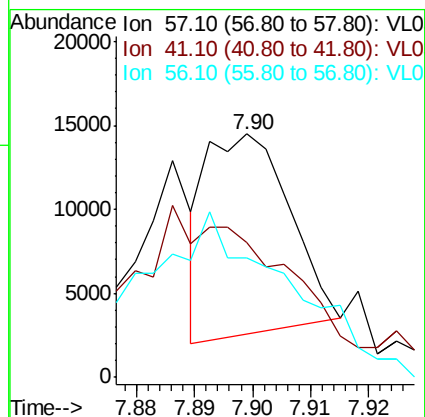
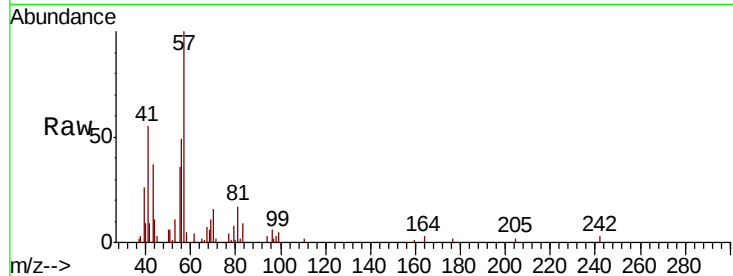
Tgt Ion: 57 Resp: 11796

Ion Ratio Lower Upper

57 100

41 0.0 28.6 42.8#

56 167.2 25.3 37.9#



#52

Tetrachloroethene

Concen: 0.045 ppbv

RT: 11.26 min Scan# 2635

Delta R.T. -0.02 min

Lab File: VL034503.D

Acq: 17 Dec 2019 21:52

Tgt Ion: 164 Resp: 3604

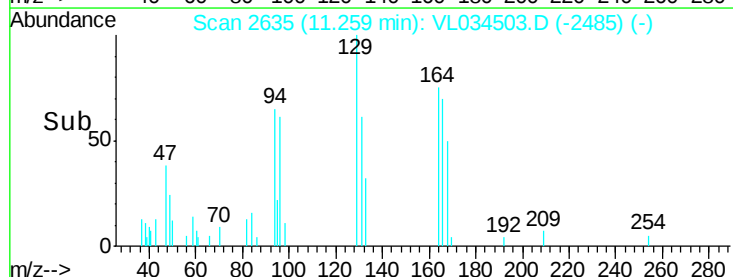
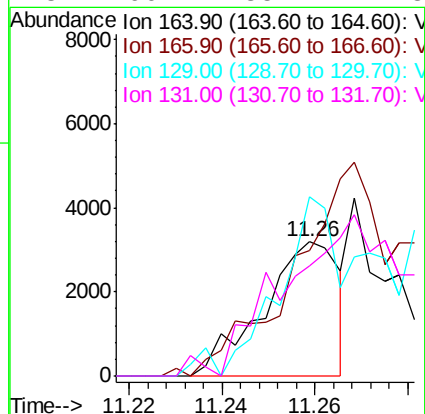
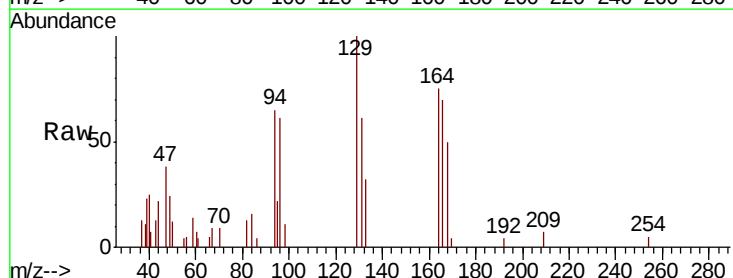
Ion Ratio Lower Upper

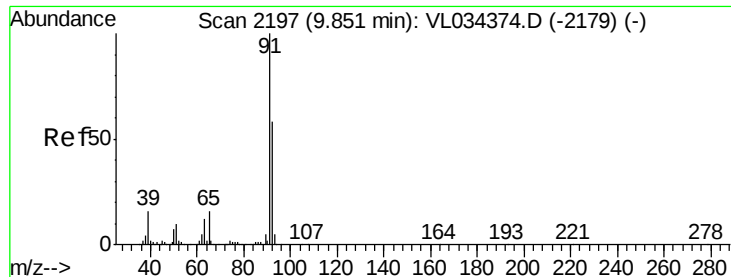
164 100

166 93.5 101.7 152.5#

129 125.4 82.6 123.8#

131 66.1 85.2 127.8#





#53

Toluene

Concen: 1.137 ppbv

RT: 9.84 min Scan# 2194

Delta R.T. -0.01 min

Lab File: VL034503.D

Acq: 17 Dec 2019 21:52

Instrument :

MSVOA_L

ClientSampleId :

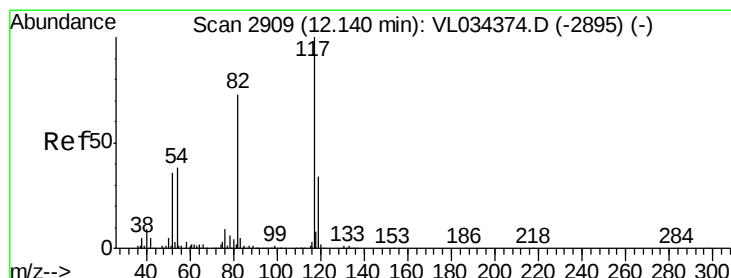
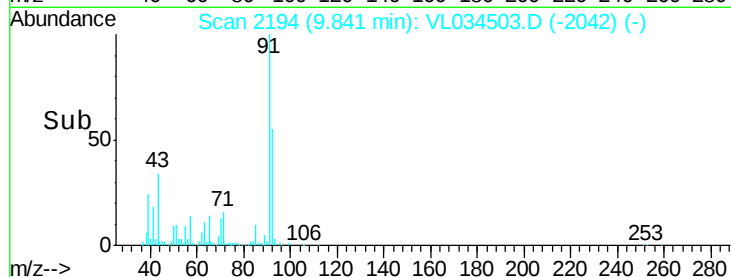
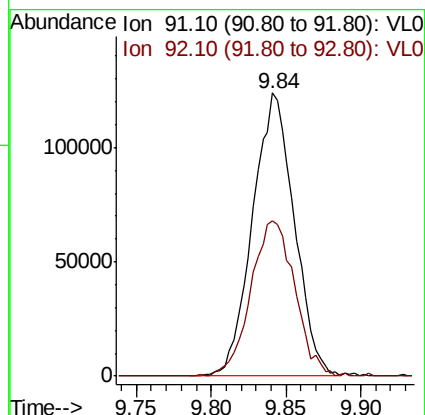
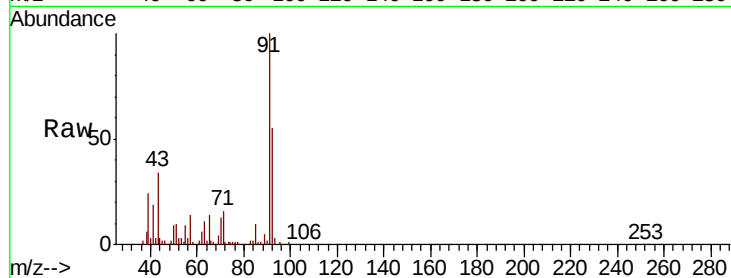
LIHA-IA3

Tgt Ion: 91 Resp: 239610

Ion Ratio Lower Upper

91 100

92 58.1 47.9 71.9



#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.13 min Scan# 2906

Delta R.T. -0.01 min

Lab File: VL034503.D

Acq: 17 Dec 2019 21:52

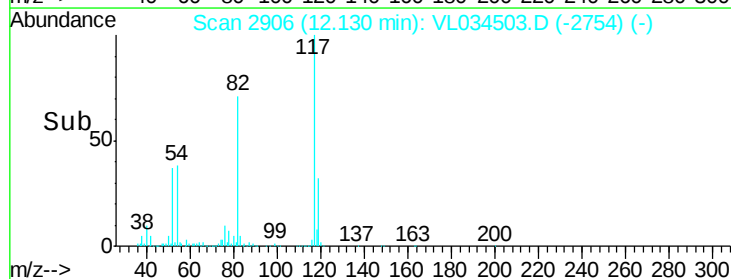
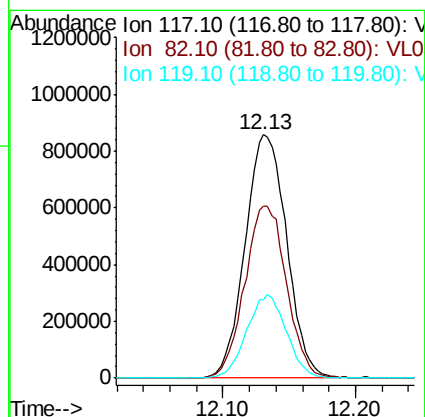
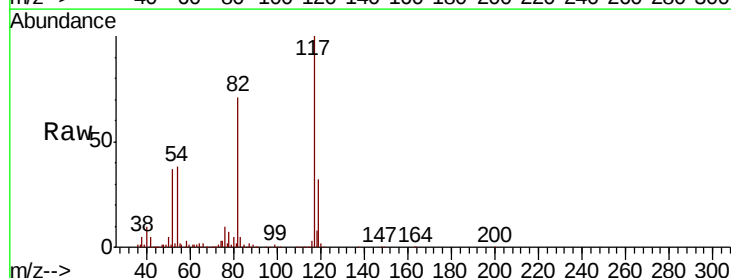
Tgt Ion: 117 Resp: 1873687

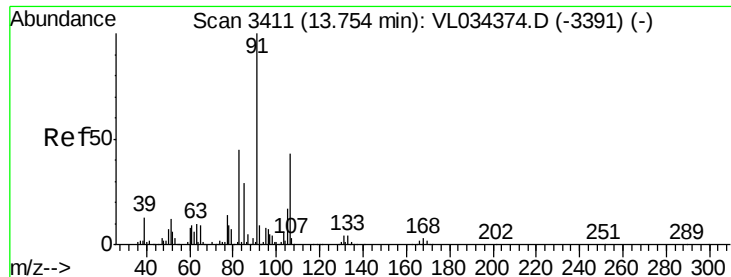
Ion Ratio Lower Upper

117 100

82 71.2 57.5 86.3

119 32.9 25.4 38.2

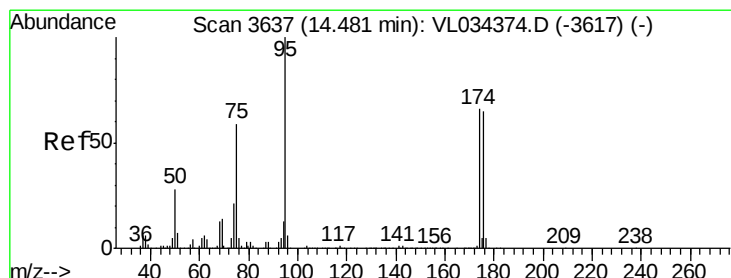
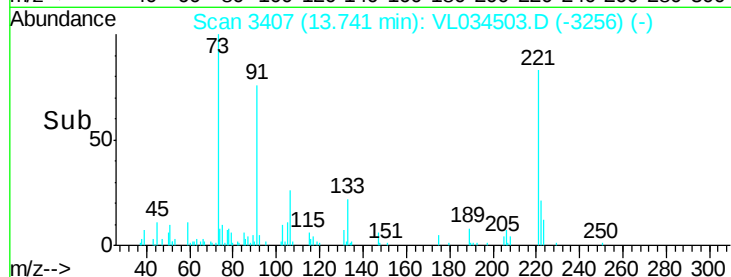
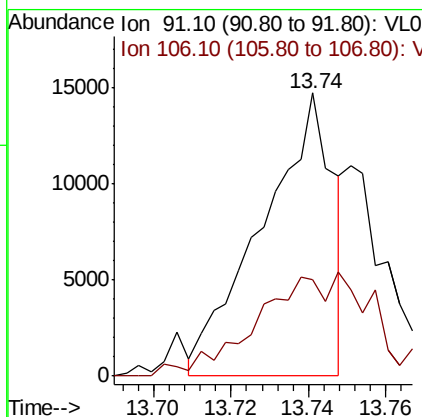
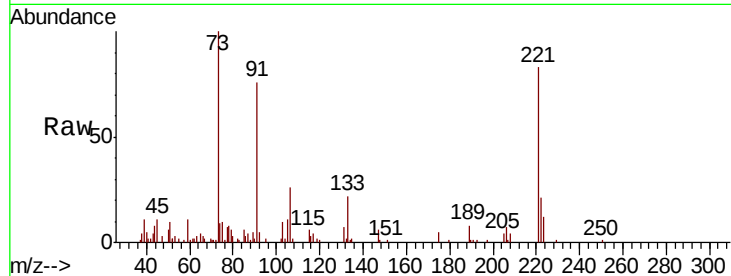




#60
o-Xylene
Concen: 0.076 ppbv
RT: 13.74 min Scan# 3407
Delta R.T. -0.01 min
Lab File: VL034503.D
Acq: 17 Dec 2019 21:52

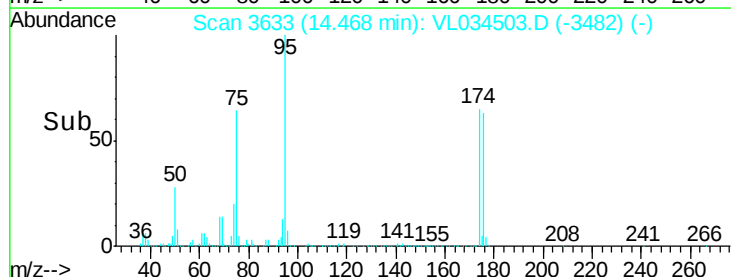
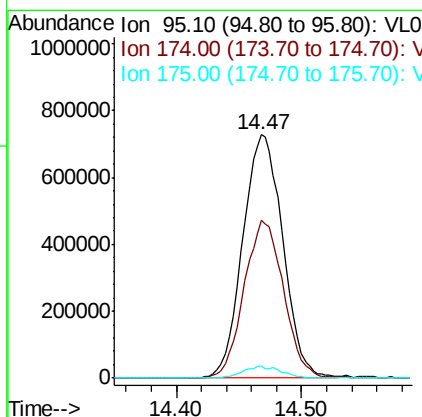
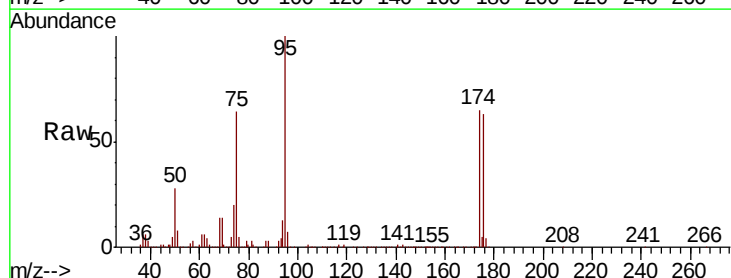
Instrument :
MSVOA_L
ClientSampleId :
LIHA-IA3

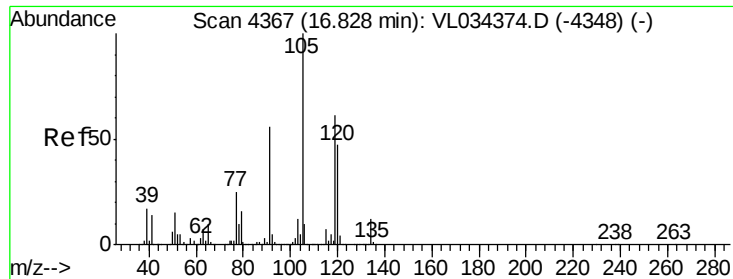
Tgt Ion: 91 Resp: 18763
Ion Ratio Lower Upper
91 100
106 0.0 21.3 64.0#



#68
1-Bromo-4-Fluorobenzene
Concen: 10.258 ppbv
RT: 14.47 min Scan# 3633
Delta R.T. -0.01 min
Lab File: VL034503.D
Acq: 17 Dec 2019 21:52

Tgt Ion: 95 Resp: 1617002
Ion Ratio Lower Upper
95 100
174 64.0 52.2 78.2
175 4.6 3.8 5.8





#74
 1,2,4-Trimethylbenzene
 Concen: 0.146 ppbv
 RT: 16.82 min Scan# 4365
 Delta R.T. -0.01 min
 Lab File: VL034503.D
 Acq: 17 Dec 2019 21:52

Instrument :
 MSVOA_L
 ClientSampleId :
 LIHA-IA3

Tgt Ion:	105	Resp:	43640
Ion Ratio	Lower	Upper	
105	100		
120	30.8	37.4	56.0#
91	17.9	46.3	69.5#
77	12.6	20.6	30.8#

