

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL082720\  
 Data File : VL035516.D  
 Acq On : 27 Aug 2020 11:15  
 Operator : SY/AP  
 Sample : L3510-01  
 Misc : 400ml/MSVOA L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 E053-1100

Quant Time: Aug 28 01:26:52 2020  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL082720AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Thu Aug 27 06:46:28 2020  
 QLast Update : Thu Aug 27 06:46:28 2020  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.68  | 49   | 955980   | 10.00 | ppbv  | 0.00     |
| 33) 1,4-Difluorobenzene | 7.20  | 114  | 4082032  | 10.00 | ppbv  | 0.00     |
| 55) Chlorobenzene-d5    | 12.12 | 117  | 4134682  | 10.00 | ppbv  | 0.00     |

System Monitoring Compounds

|                             |        |       |          |          |      |         |
|-----------------------------|--------|-------|----------|----------|------|---------|
| 68) 1-Bromo-4-Fluorobenzene | 14.45  | 95    | 3119229  | 10.62    | ppbv | 0.00    |
| Spiked Amount               | 10.000 | Range | 65 - 135 | Recovery | =    | 106.20% |

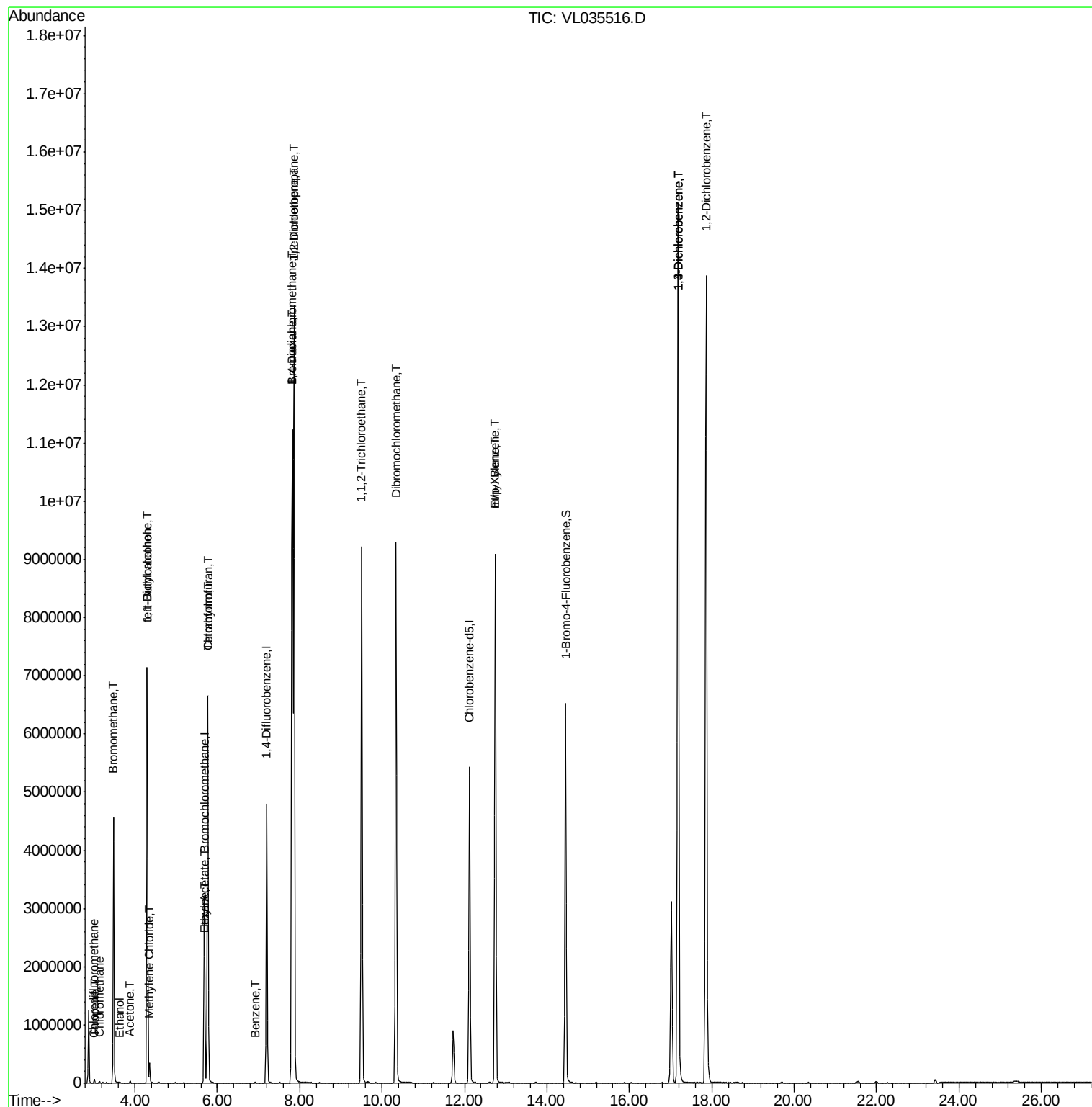
| Target Compounds          | R.T.  | QIon | Response | Conc   | Units  | Ovalue |
|---------------------------|-------|------|----------|--------|--------|--------|
| 3) Chlorodifluoromethane  | 2.99  | 51   | 3490     | 0.033  | ppbv   | 97     |
| 4) Chloromethane          | 3.15  | 50   | 4598     | 0.081  | ppbv # | 87     |
| 6) Bromomethane           | 3.48  | 94   | 2412652  | 41.130 | ppbv   | 100    |
| 9) Propene                | 3.02  | 41   | 1742     | 0.043  | ppbv # | 55     |
| 13) Ethanol               | 3.62  | 45   | 1934     | 0.191  | ppbv # | 4      |
| 15) Acetone               | 3.88  | 43   | 32262    | 0.306  | ppbv # | 88     |
| 17) tert-Butyl alcohol    | 4.30  | 59   | 130519   | 1.017  | ppbv # | 72     |
| 18) 1,1-Dichloroethene    | 4.30  | 96   | 2577434  | 32.098 | ppbv   | 95     |
| 20) Methylene Chloride    | 4.36  | 84   | 132971   | 1.693  | ppbv   | 99     |
| 25) Ethyl Acetate         | 5.71  | 43   | 30190    | 0.162  | ppbv # | 70     |
| 26) Hexane                | 5.71  | 57   | 54439    | 0.516  | ppbv # | 47     |
| 29) Chloroform            | 5.76  | 83   | 4785718  | 22.256 | ppbv   | 95     |
| 36) Benzene               | 6.92  | 78   | 9755     | 0.037  | ppbv   | 97     |
| 38) Trichloroethene       | 7.86  | 130  | 4991003  | 32.517 | ppbv   | 97     |
| 39) 1,2-Dichloropropane   | 7.86  | 63   | 11564    | 0.130  | ppbv # | 1      |
| 40) 1,4-Dioxane           | 7.81  | 88   | 11135    | 0.250  | ppbv # | 1      |
| 41) Tetrahydrofuran       | 5.77  | 42   | 4857     | 0.076  | ppbv # | 1      |
| 42) Bromodichloromethane  | 7.82  | 83   | 7726820  | 37.929 | ppbv # | 86     |
| 47) 1,1,2-Trichloroethane | 9.50  | 97   | 3642959  | 27.658 | ppbv   | 97     |
| 48) Dibromochloromethane  | 10.34 | 129  | 6311199  | 30.445 | ppbv   | 97     |
| 58) Ethyl Benzene         | 12.75 | 91   | 8578639  | 20.120 | ppbv # | 86     |
| 59) m/p-Xylene            | 12.75 | 91   | 8578639  | 24.079 | ppbv # | 82     |
| 75) 1,3-Dichlorobenzene   | 17.18 | 146  | 9288015  | 27.061 | ppbv   | 92     |
| 76) 1,4-Dichlorobenzene   | 17.18 | 146  | 9288015  | 27.440 | ppbv   | 91     |
| 77) 1,2-Dichlorobenzene   | 17.86 | 146  | 8921071  | 26.828 | ppbv   | 92     |

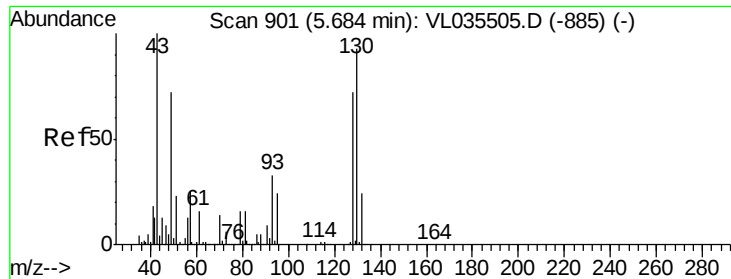
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\V0ASRV\HPCHEM1\MSVOA L\DATA\VL082720\  
Data File : VL035516.D  
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Misc : 400ml/MSVOA L  
ALS Vial : 1 Sample Multiplier: 1

Instrument :  
MSVOA\_L  
ClientSampleId :  
E053-1100

Quant Time: Aug 28 01:26:52 2020  
Quant Method : Z:\V0ASRV\HPCHEM1\MSVOA L\METHODS\VL082720AIR.M  
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Thu Aug 27 06:46:28 2020  
QLast Update : Thu Aug 27 06:46:28 2020  
Response via : Initial Calibration





#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.68 min Scan# 901

Delta R.T. -0.00 min

Lab File: VL035516.D

Acq: 27 Aug 2020 11:15

Instrument :

MSVOA\_L

ClientSampleId :

E053-1100

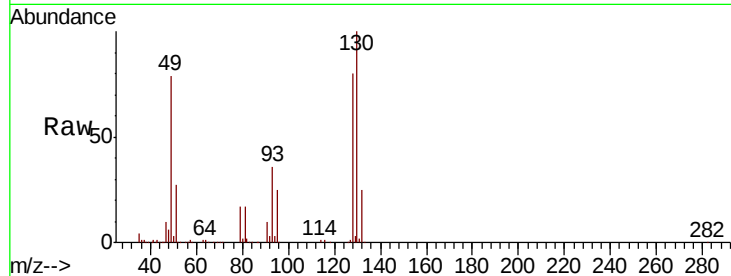
Tot Ion: 49 Resp: 955980

Ion Ratio Lower Upper

49 100

128 99.2 50.0 150.1

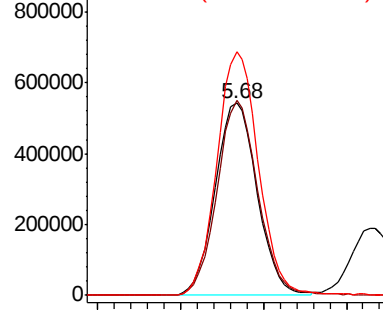
130 126.2 64.4 193.2



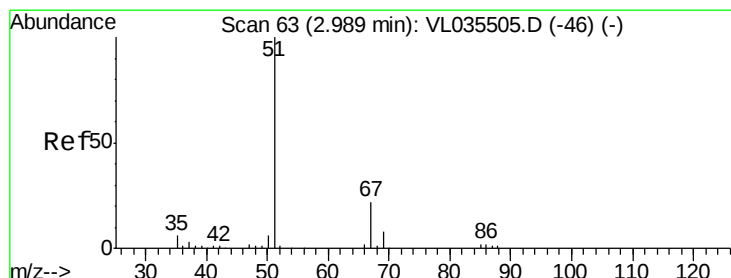
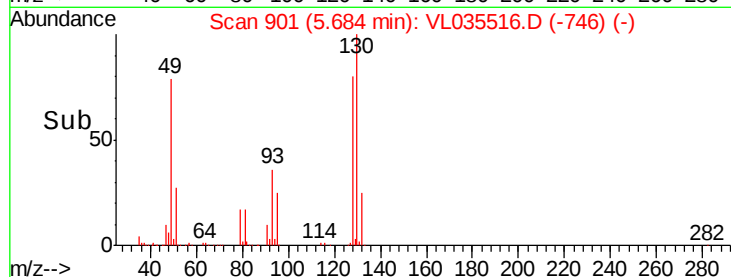
Abundance Ion 49.10 (48.80 to 49.80): VL0

Ion 128.00 (127.70 to 128.70): VL0

Ion 130.00 (129.70 to 130.70): VL0



Time-->



#3

Chlorodifluoromethane

Concen: 0.033 ppbv

RT: 2.99 min Scan# 63

Delta R.T. -0.00 min

Lab File: VL035516.D

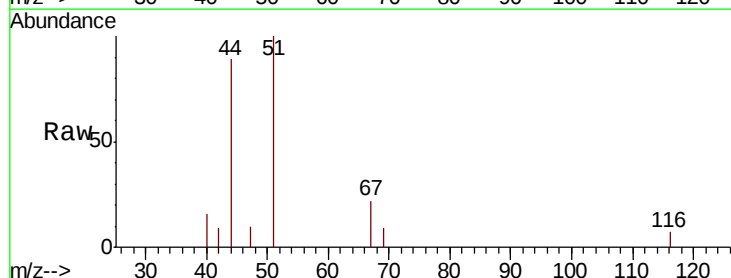
Acq: 27 Aug 2020 11:15

Tgt Ion: 51 Resp: 3490

Ion Ratio Lower Upper

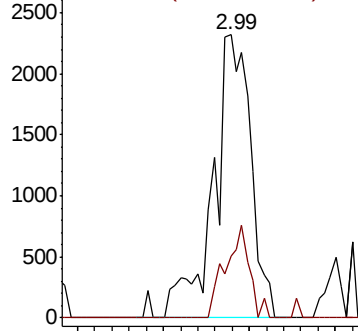
51 100

67 21.1 17.8 26.8

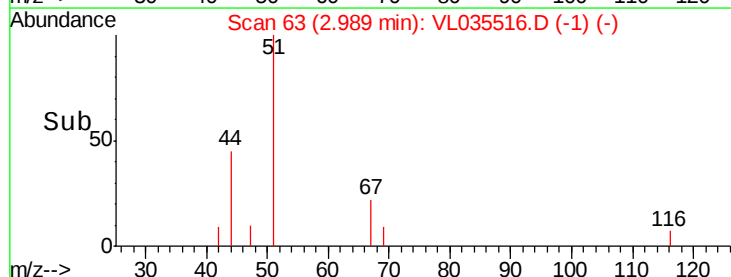


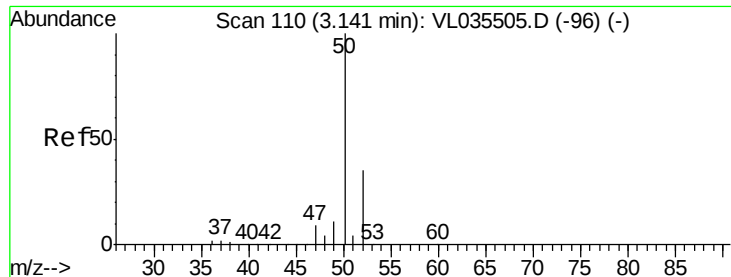
Abundance Ion 51.00 (50.70 to 51.70): VL0

Ion 67.00 (66.70 to 67.70): VL0



Time-->





#4

Chloromethane

Concen: 0.081 ppbv

RT: 3.15 min Scan# 112

Delta R.T. 0.01 min

Lab File: VL035516.D

Acq: 27 Aug 2020 11:15

Instrument :

MSVOA\_L

ClientSampleId :

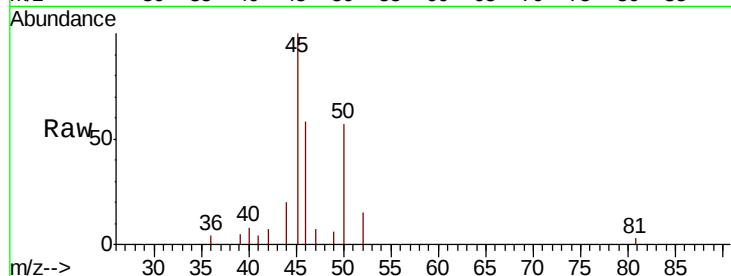
E053-1100

Tot Ion: 50 Resp: 4598

Ion Ratio Lower Upper

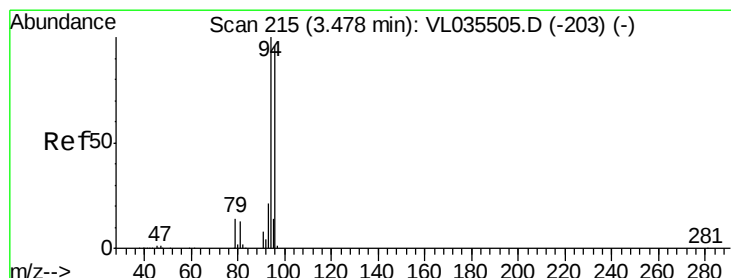
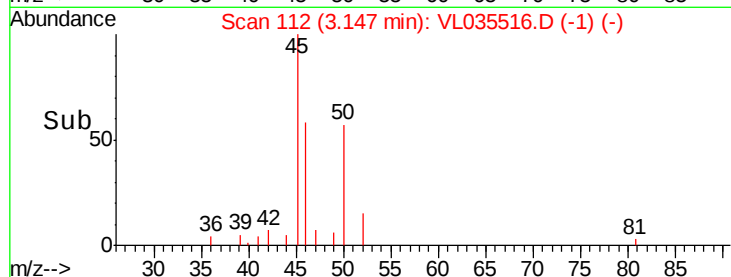
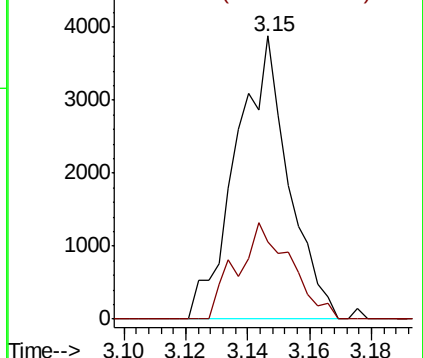
50 100

52 27.1 27.7 41.5#



Abundance Ion 50.10 (49.80 to 50.80): VL0

Ion 52.10 (51.80 to 52.80): VL0



#6

Bromomethane

Concen: 41.130 ppbv

RT: 3.48 min Scan# 216

Delta R.T. 0.00 min

Lab File: VL035516.D

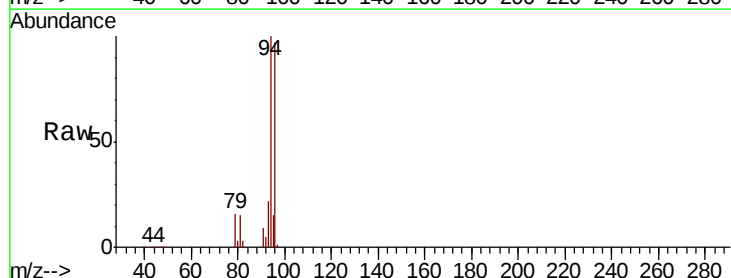
Acq: 27 Aug 2020 11:15

Tgt Ion: 94 Resp: 2412652

Ion Ratio Lower Upper

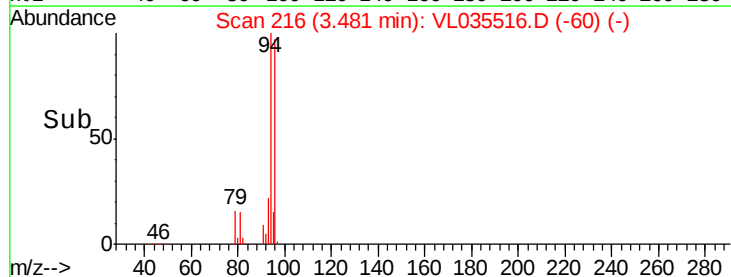
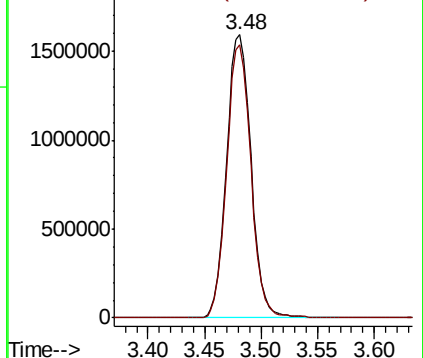
94 100

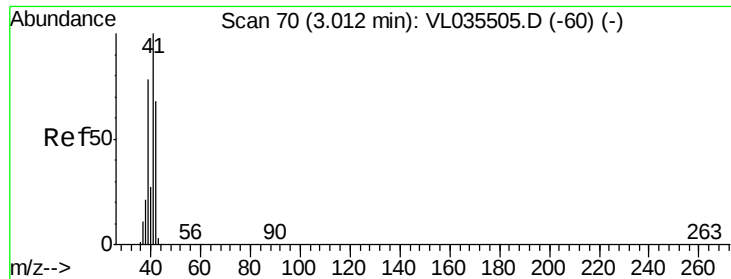
96 96.6 77.1 115.7



Abundance Ion 94.00 (93.70 to 94.70): VL0

Ion 96.00 (95.70 to 96.70): VL0





#9

Propene

Concen: 0.043 ppbv

RT: 3.02 min Scan# 73

Delta R.T. 0.01 min

Lab File: VL035516.D

Acq: 27 Aug 2020 11:15

Instrument :

MSVOA\_L

ClientSampleId :

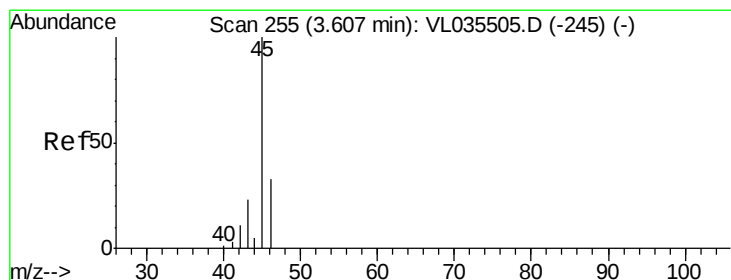
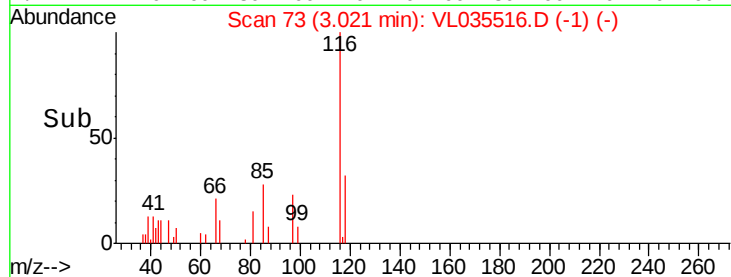
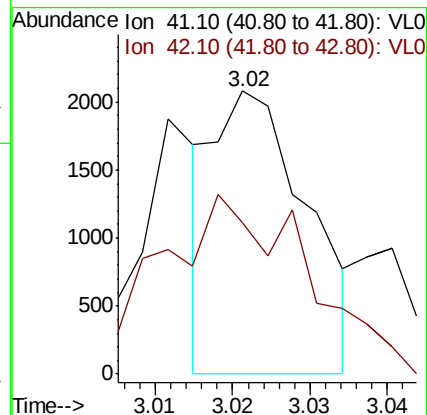
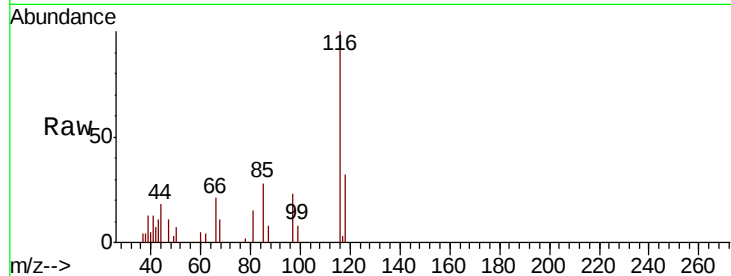
E053-1100

Tot Ion: 41 Resp: 1742

Ion Ratio Lower Upper

41 100

42 107.8 56.3 84.5#



#13

Ethanol

Concen: 0.191 ppbv

RT: 3.62 min Scan# 260

Delta R.T. 0.02 min

Lab File: VL035516.D

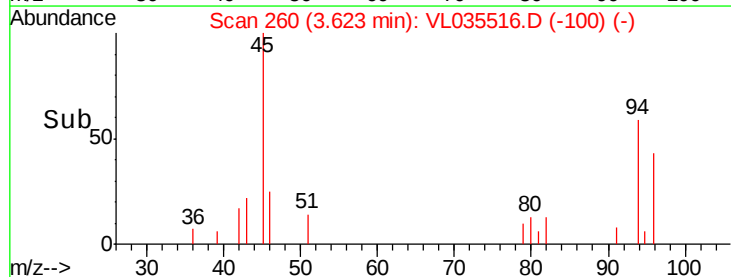
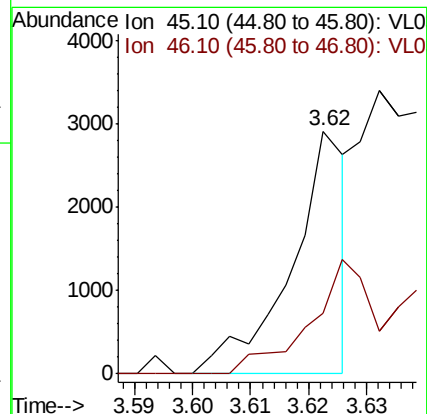
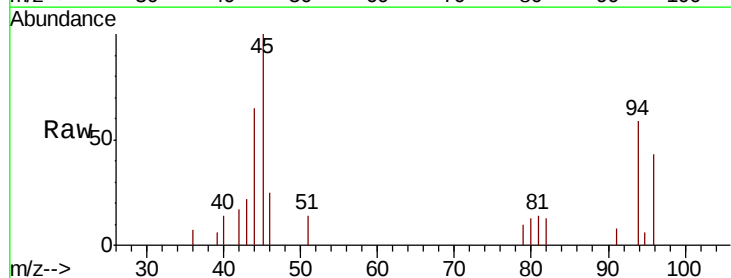
Acq: 27 Aug 2020 11:15

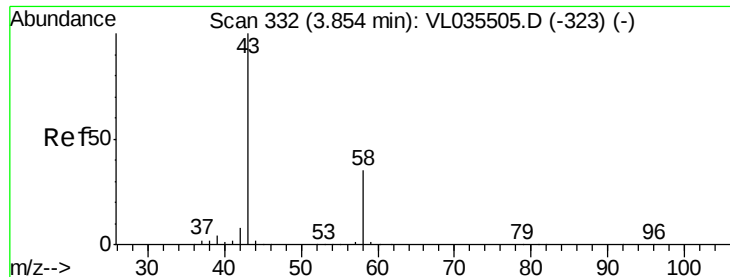
Tgt Ion: 45 Resp: 1934

Ion Ratio Lower Upper

45 100

46 95.8 15.2 60.6#





#15

Acetone

Concen: 0.306 ppbv

RT: 3.88 min Scan# 340

Delta R.T. 0.03 min

Lab File: VL035516.D

Acq: 27 Aug 2020 11:15

Instrument :

MSVOA\_L

ClientSampleId :

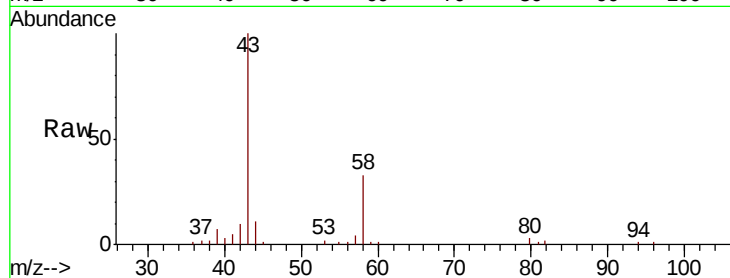
E053-1100

Tot Ion: 43 Resp: 32262

Ion Ratio Lower Upper

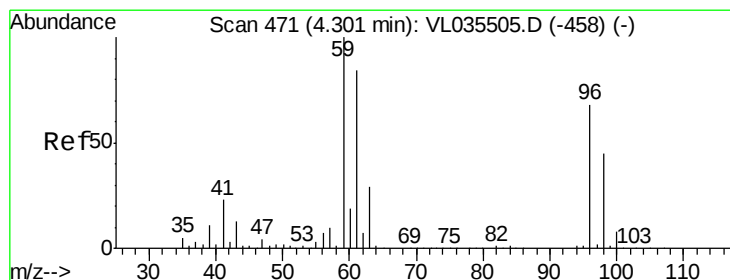
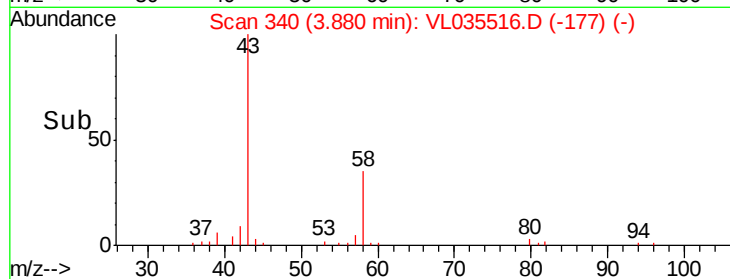
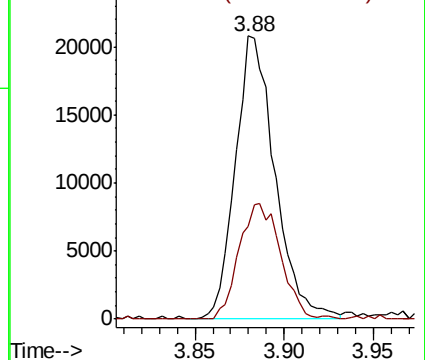
43 100

58 42.8 28.4 42.6#



Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 58.10 (57.80 to 58.80): VL0



#17

tert-Butyl alcohol

Concen: 1.017 ppbv

RT: 4.30 min Scan# 471

Delta R.T. -0.00 min

Lab File: VL035516.D

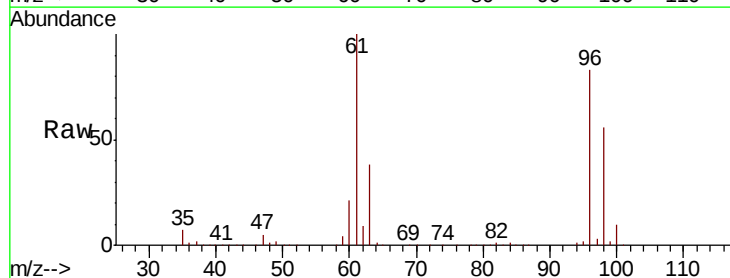
Acq: 27 Aug 2020 11:15

Tgt Ion: 59 Resp: 130519

Ion Ratio Lower Upper

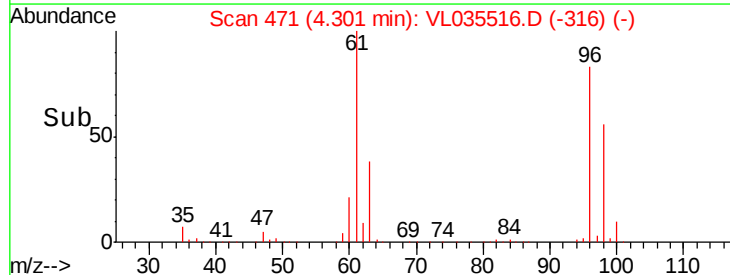
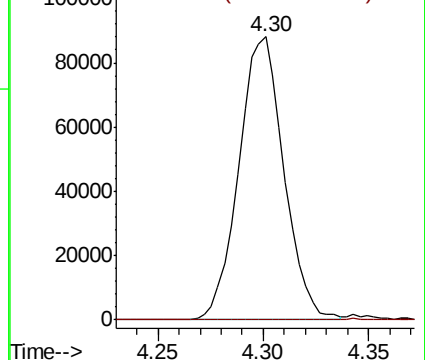
59 100

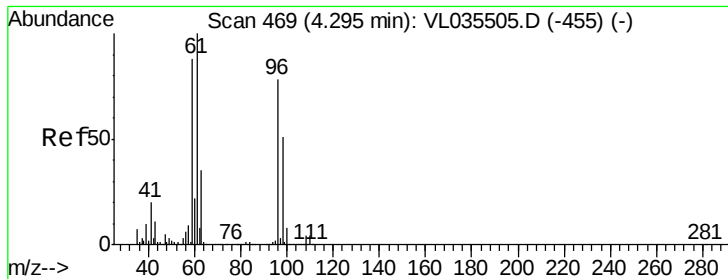
57 0.1 8.4 12.6#



Abundance Ion 59.10 (58.80 to 59.80): VL0

Ion 57.10 (56.80 to 57.80): VL0





#18

1,1-Dichloroethene

Concen: 32.098 ppbv

RT: 4.30 min Scan# 471

Delta R.T. 0.01 min

Lab File: VL035516.D

Acq: 27 Aug 2020 11:15

Instrument :

MSVOA\_L

ClientSampleId :

E053-1100

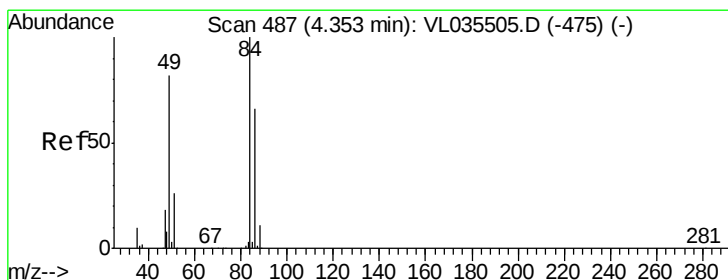
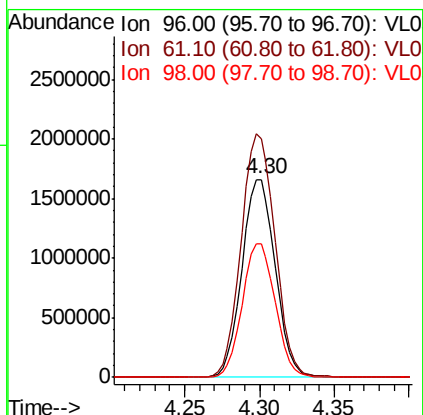
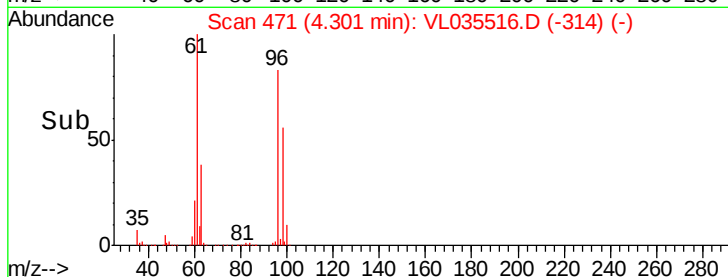
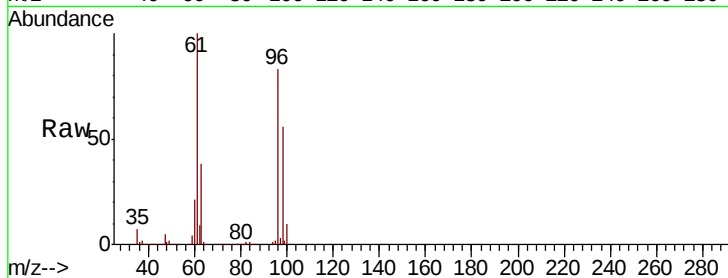
Tot Ion: 96 Resp: 2577434

Ion Ratio Lower Upper

96 100

61 120.9 103.0 154.6

98 67.4 52.8 79.2



#20

Methylene Chloride

Concen: 1.693 ppbv

RT: 4.36 min Scan# 488

Delta R.T. 0.00 min

Lab File: VL035516.D

Acq: 27 Aug 2020 11:15

Tgt Ion: 84 Resp: 132971

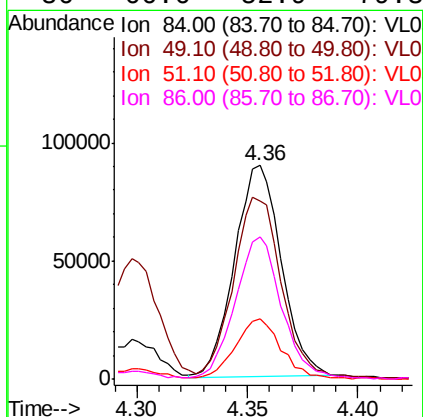
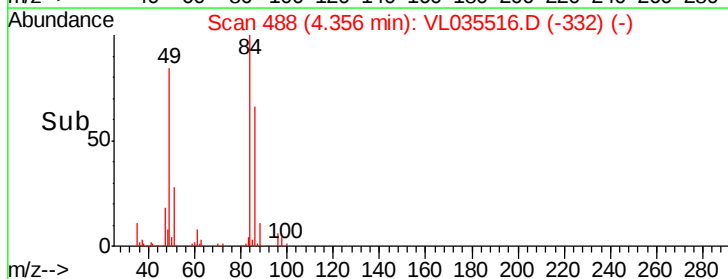
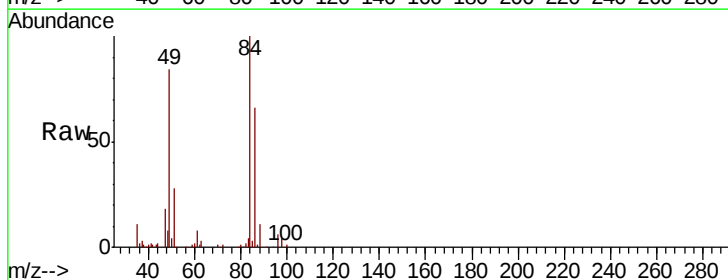
Ion Ratio Lower Upper

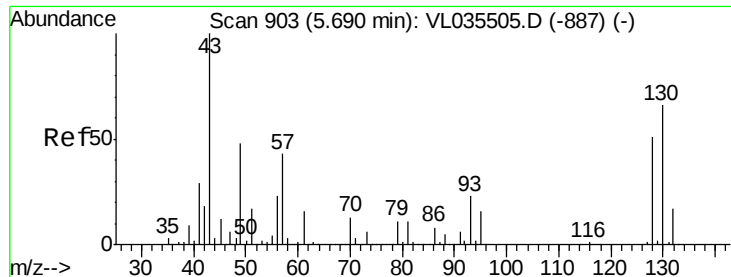
84 100

49 83.0 65.4 98.0

51 28.1 21.5 32.3

86 66.6 52.9 79.3

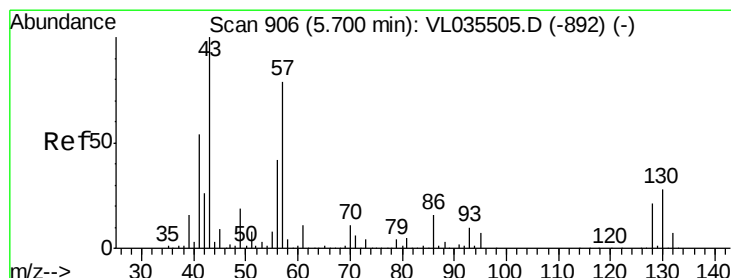
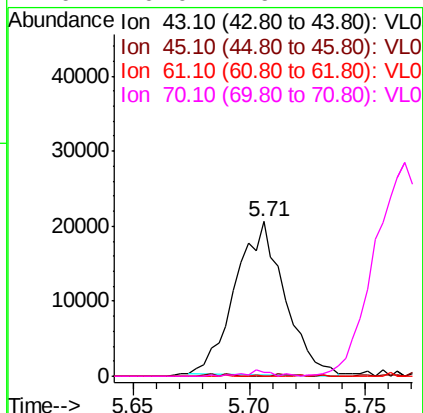
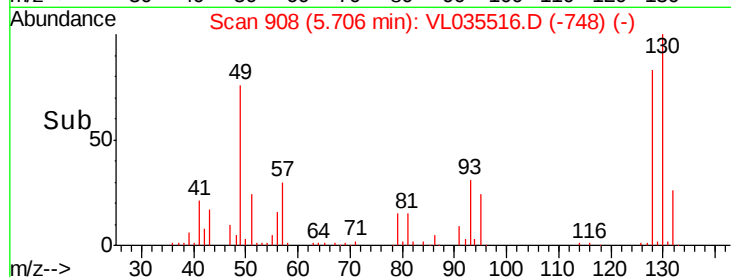
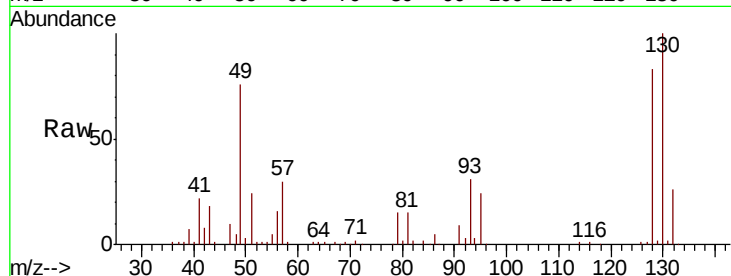




#25  
Ethyl Acetate  
Concen: 0.162 ppbv  
RT: 5.71 min Scan# 908  
Delta R.T. 0.02 min  
Lab File: VL035516.D  
Acq: 27 Aug 2020 11:15

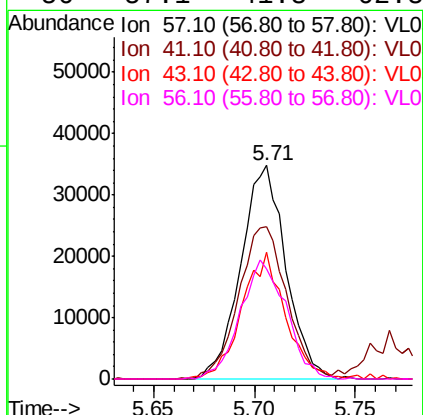
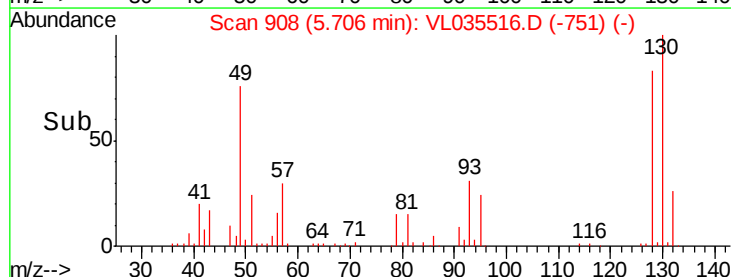
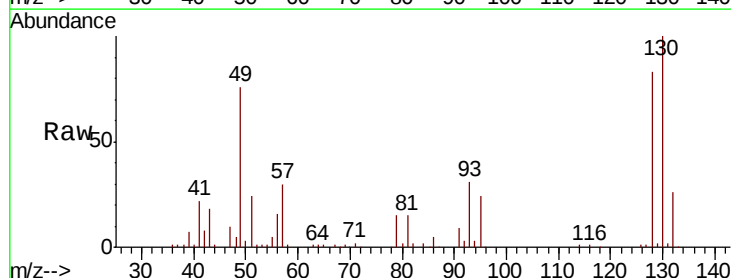
Instrument :  
MSVOA\_L  
ClientSampleId :  
E053-1100

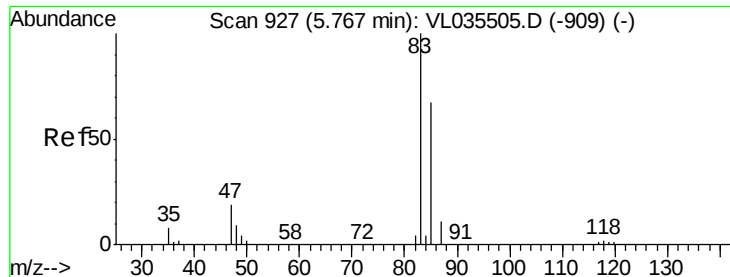
Tot Ion: 43 Resp: 30190  
Ion Ratio Lower Upper  
43 100  
45 0.7 8.4 12.6#  
61 0.3 10.6 16.0#  
70 0.0 9.4 14.2#



#26  
Hexane  
Concen: 0.516 ppbv  
RT: 5.71 min Scan# 908  
Delta R.T. 0.01 min  
Lab File: VL035516.D  
Acq: 27 Aug 2020 11:15

Tgt Ion: 57 Resp: 54439  
Ion Ratio Lower Upper  
57 100  
41 76.6 55.9 83.9  
43 58.5 141.8 212.8#  
56 57.1 41.8 62.8





#29

Chloroform

Concen: 22.256 ppbv

RT: 5.76 min Scan# 926

Delta R.T. -0.00 min

Lab File: VL035516.D

Acq: 27 Aug 2020 11:15

Instrument :

MSVOA\_L

ClientSampleId :

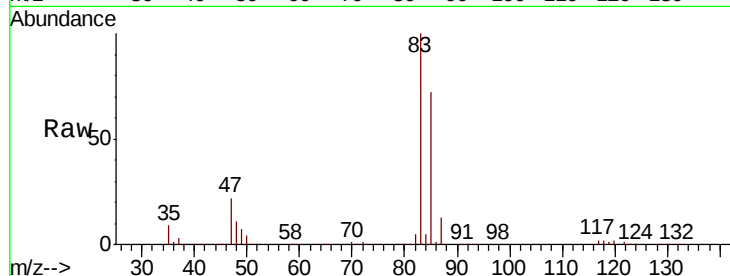
E053-1100

Tot Ion: 83 Resp: 4785718

Ion Ratio Lower Upper

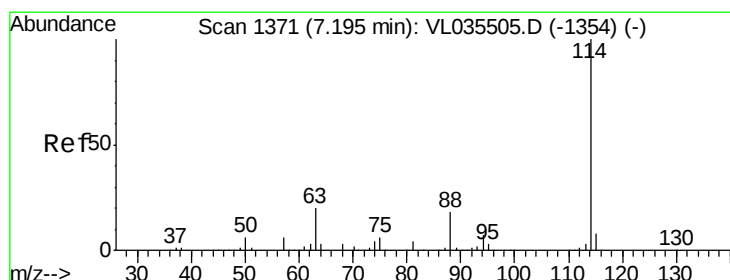
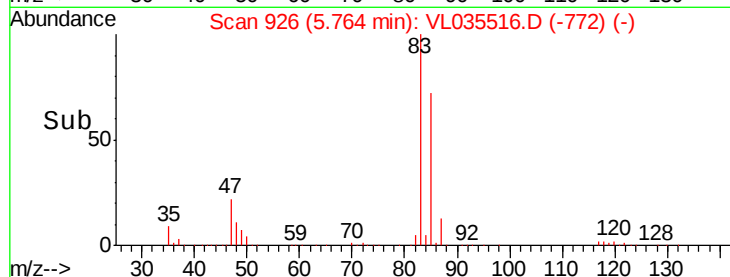
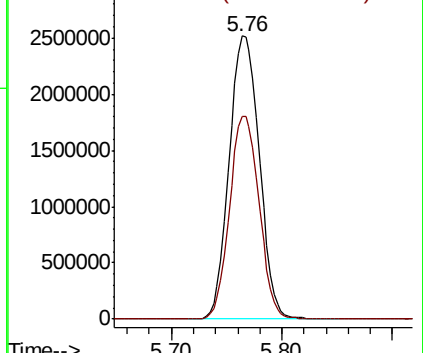
83 100

85 71.6 53.9 80.9



Abundance Ion 83.00 (82.70 to 83.70): VL0

Ion 85.00 (84.70 to 85.70): VL0



#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 7.20 min Scan# 1372

Delta R.T. 0.00 min

Lab File: VL035516.D

Acq: 27 Aug 2020 11:15

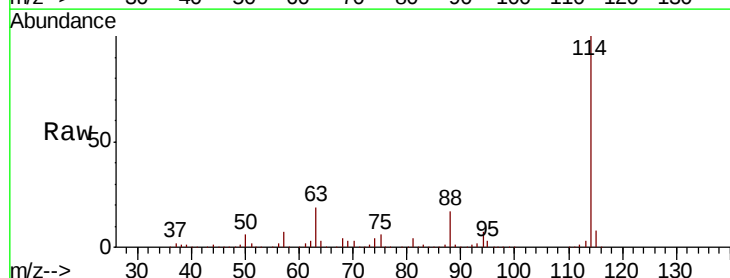
Tgt Ion: 114 Resp: 4082032

Ion Ratio Lower Upper

114 100

63 18.0 14.7 22.1

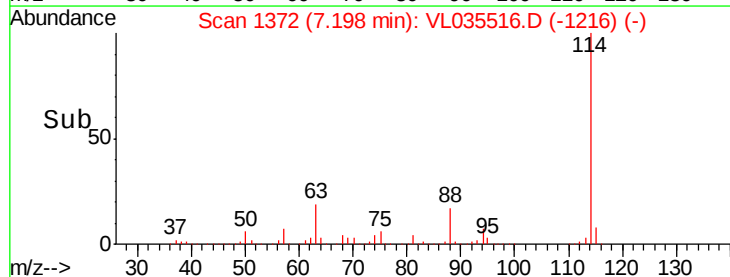
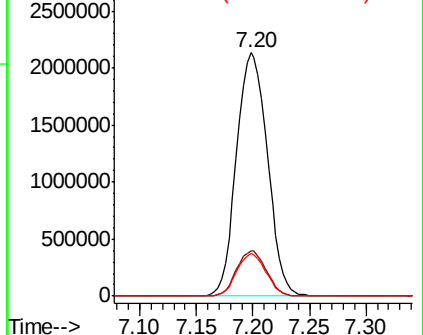
88 16.5 13.4 20.2

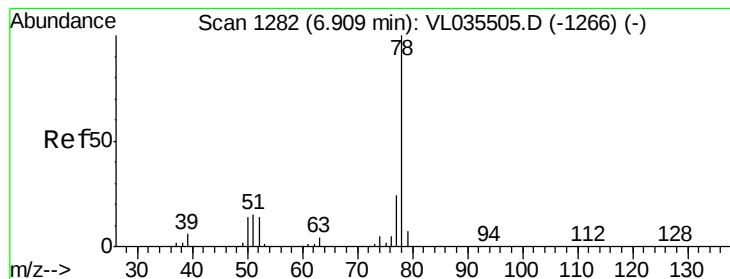


Abundance Ion 114.10 (113.80 to 114.80): V

Ion 63.10 (62.80 to 63.80): VL0

Ion 88.10 (87.80 to 88.80): VL0





#36

Benzene

Concen: 0.037 ppbv

RT: 6.92 min Scan# 1284

Delta R.T. 0.01 min

Lab File: VL035516.D

Acq: 27 Aug 2020 11:15

Instrument :

MSVOA\_L

ClientSampleId :

E053-1100

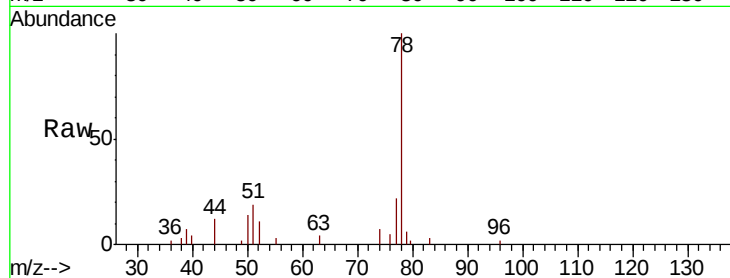
Tot Ion: 78 Resp: 9755

Ion Ratio Lower Upper

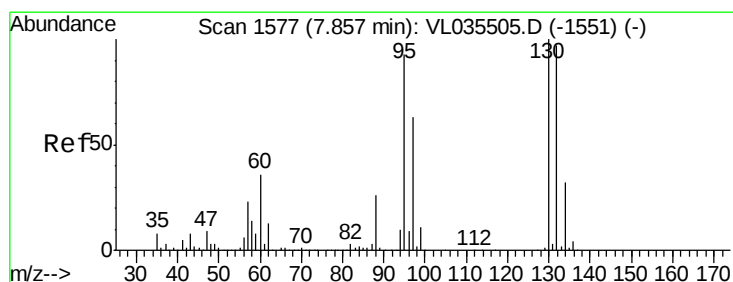
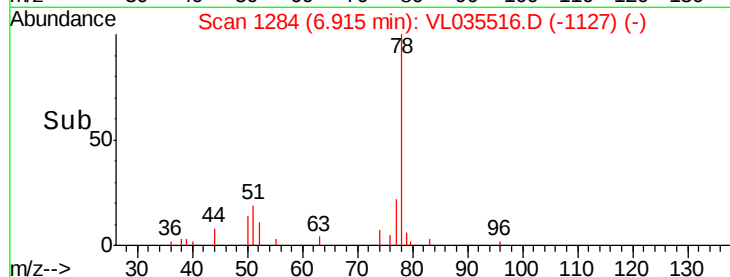
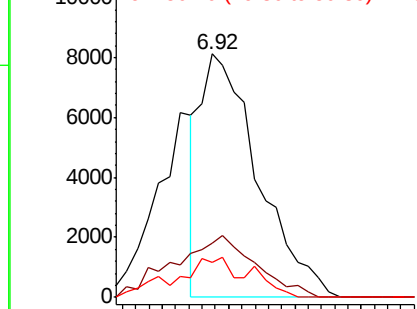
78 100

77 22.3 19.3 28.9

50 14.4 11.0 16.6



Abundance Ion 78.10 (77.80 to 78.80): VL0  
Ion 77.10 (76.80 to 77.80): VL0  
Ion 50.10 (49.80 to 50.80): VL0



#38

Trichloroethene

Concen: 32.517 ppbv

RT: 7.86 min Scan# 1578

Delta R.T. 0.00 min

Lab File: VL035516.D

Acq: 27 Aug 2020 11:15

Tgt Ion:130 Resp: 4991003

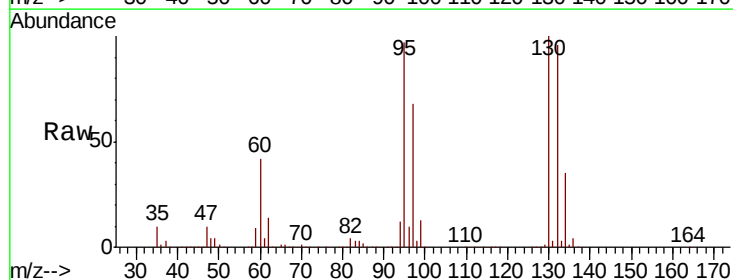
Ion Ratio Lower Upper

130 100

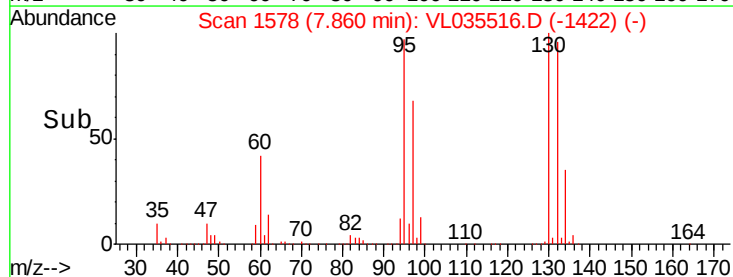
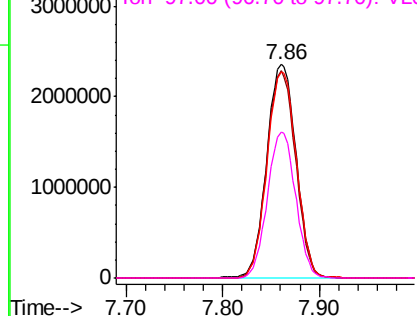
95 97.0 74.6 112.0

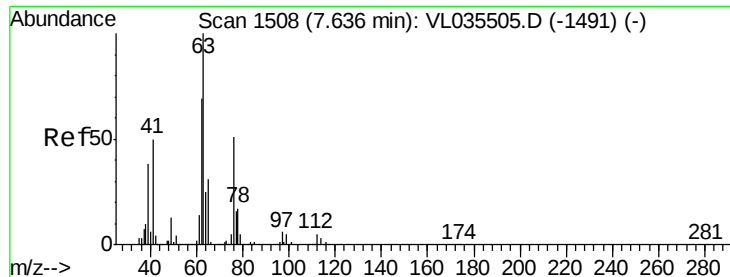
132 96.3 77.6 116.4

97 68.5 50.6 76.0



Abundance Ion 130.00 (129.70 to 130.70): V  
Ion 95.00 (94.70 to 95.70): VL0  
Ion 132.00 (131.70 to 132.70): V  
Ion 97.00 (96.70 to 97.70): VL0





#39

1,2-Dichloropropane

Concen: 0.130 ppbv

RT: 7.86 min Scan# 1579

Delta R.T. 0.23 min

Lab File: VL035516.D

Acq: 27 Aug 2020 11:15

Instrument :

MSVOA\_L

ClientSampleId :

E053-1100

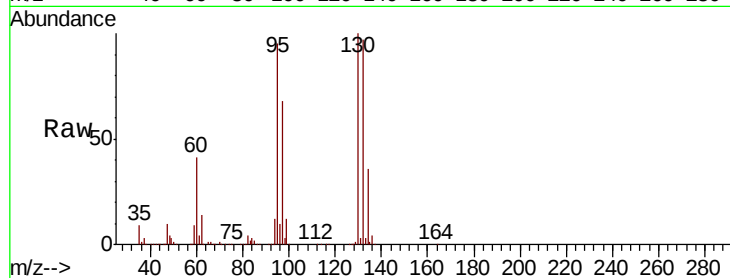
Tot Ion: 63 Resp: 11564

Ion Ratio Lower Upper

63 100

41 3.9 40.0 60.0#

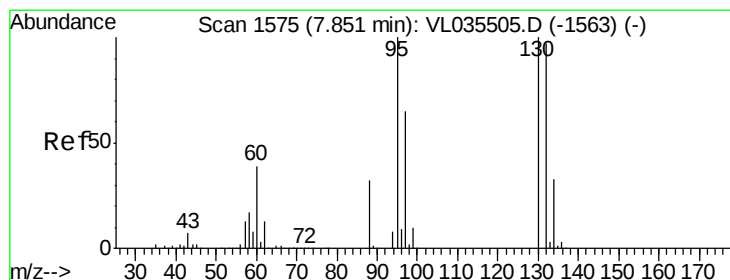
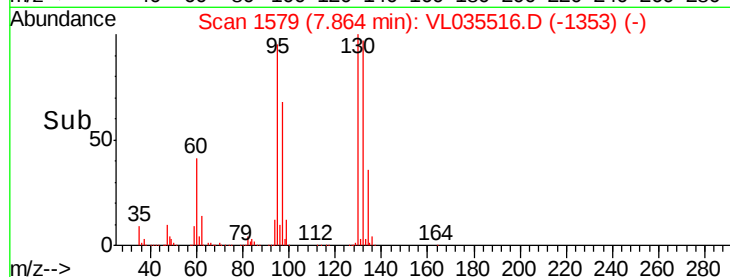
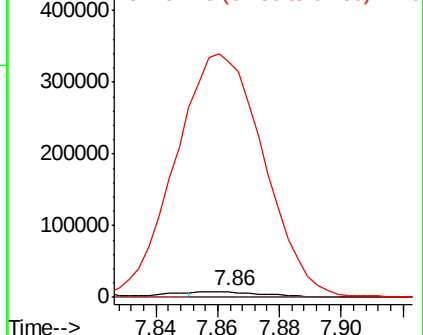
62 3965.4 55.4 83.0#



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: 0.250 ppbv

RT: 7.81 min Scan# 1563

Delta R.T. -0.04 min

Lab File: VL035516.D

Acq: 27 Aug 2020 11:15

Tgt Ion: 88 Resp: 11135

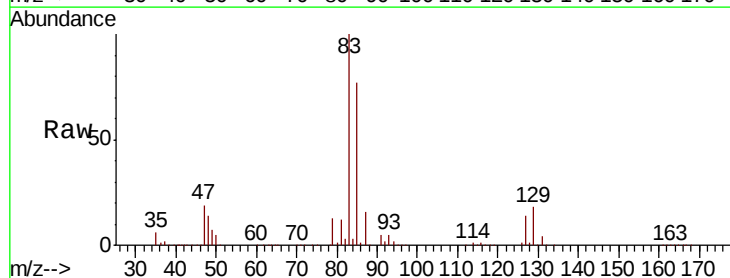
Ion Ratio Lower Upper

88 100

58 10.2 68.7 103.1#

43 2.8 104.3 156.5#

57 1.5 560.7 841.1#

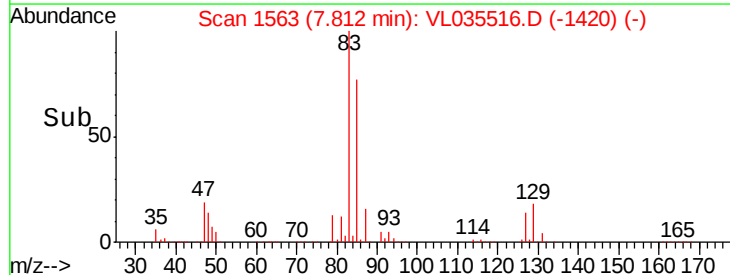
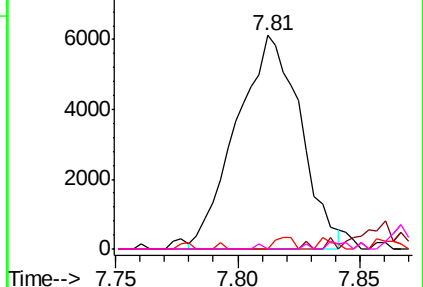


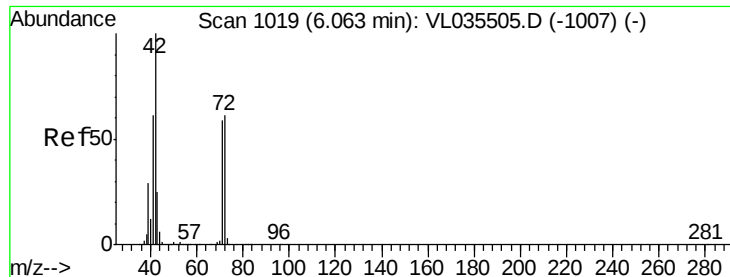
Abundance Ion 88.10 (87.80 to 88.80): VL0

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





#41

Tetrahydrofuran

Concen: 0.076 ppbv

RT: 5.77 min Scan# 927

Delta R.T. -0.30 min

Lab File: VL035516.D

Acq: 27 Aug 2020 11:15

Instrument :

MSVOA\_L

ClientSampleId :

E053-1100

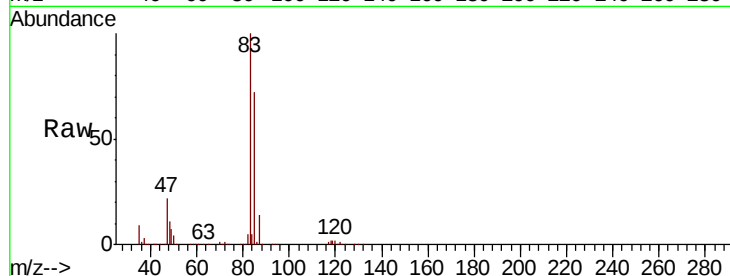
Tot Ion: 42 Resp: 4857

Ion Ratio Lower Upper

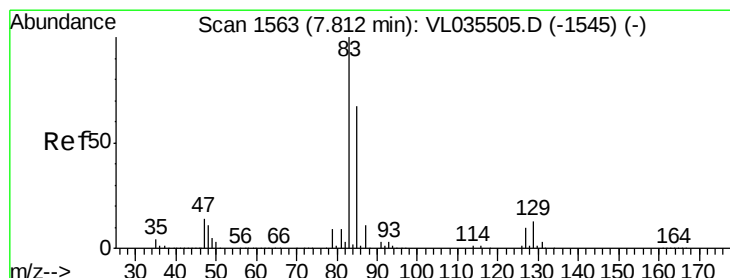
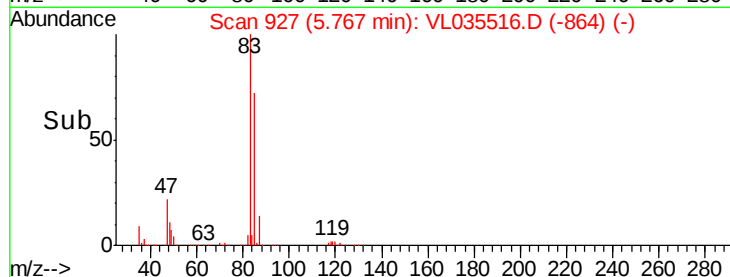
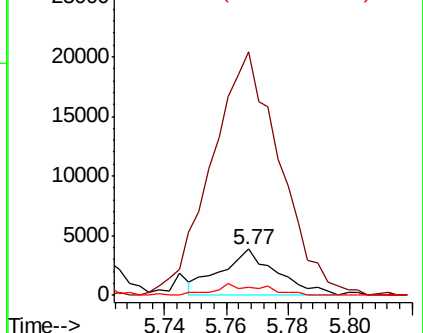
42 100

72 654.4 48.6 73.0#

71 22.6 46.1 69.1#



Abundance Ion 42.10 (41.80 to 42.80): VL0  
Ion 72.10 (71.80 to 72.80): VL0  
Ion 71.10 (70.80 to 71.80): VL0



#42

Bromodichloromethane

Concen: 37.929 ppbv

RT: 7.82 min Scan# 1564

Delta R.T. 0.00 min

Lab File: VL035516.D

Acq: 27 Aug 2020 11:15

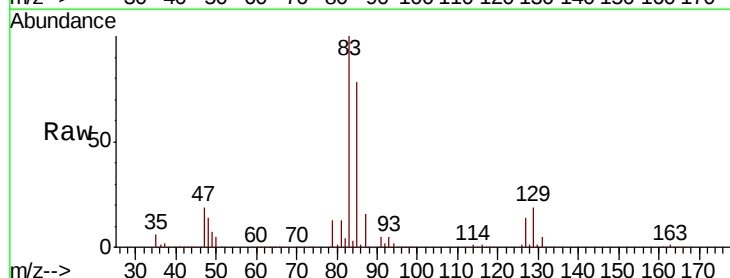
Tgt Ion: 83 Resp: 7726820

Ion Ratio Lower Upper

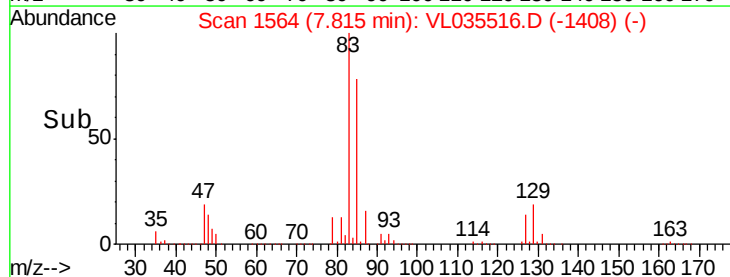
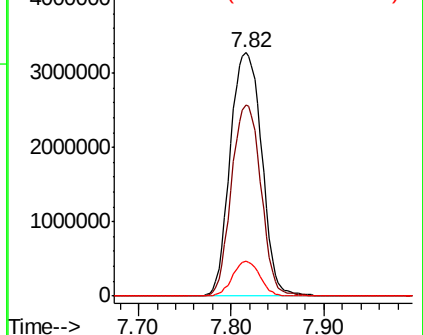
83 100

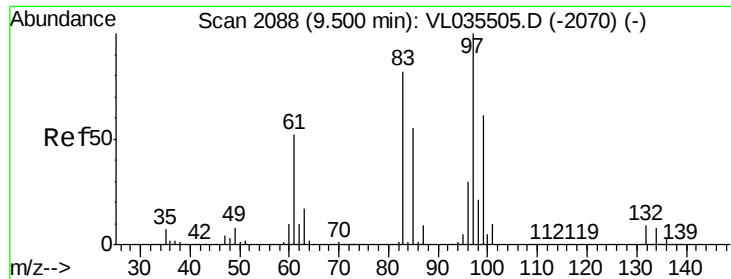
85 78.4 53.7 80.5

127 14.3 8.1 12.1#



Abundance Ion 83.00 (82.70 to 83.70): VL0  
Ion 85.00 (84.70 to 85.70): VL0  
Ion 126.90 (126.60 to 127.60): V



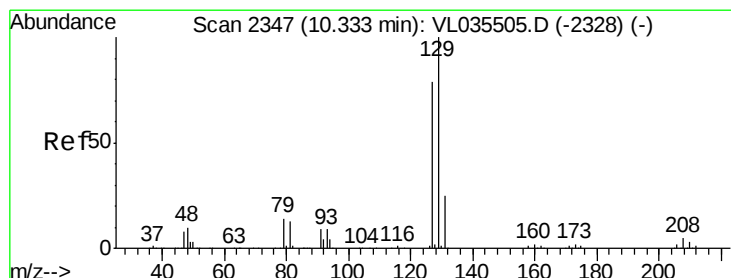
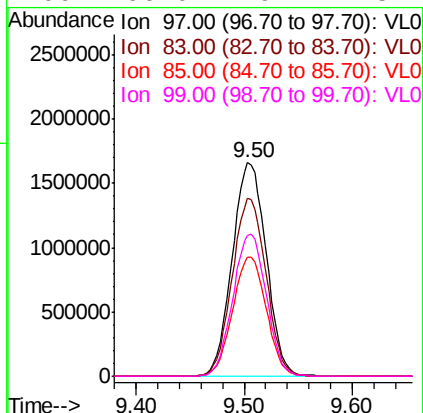
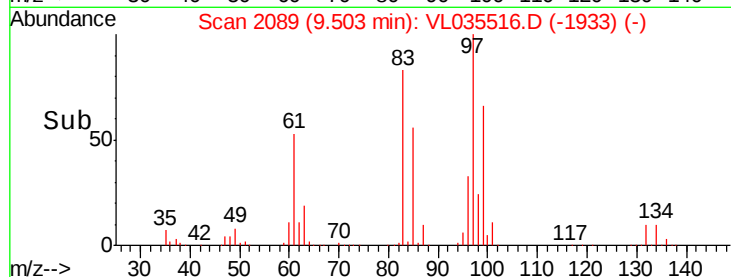
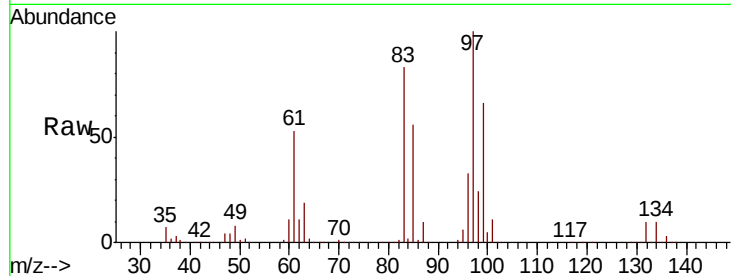


#47  
 1,1,2-Trichloroethane  
 Concen: 27.658 ppbv  
 RT: 9.50 min Scan# 2089  
 Delta R.T. 0.00 min  
 Lab File: VL035516.D  
 Acq: 27 Aug 2020 11:15

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 E053-1100

Tot Ion: 97 Resp: 3642959

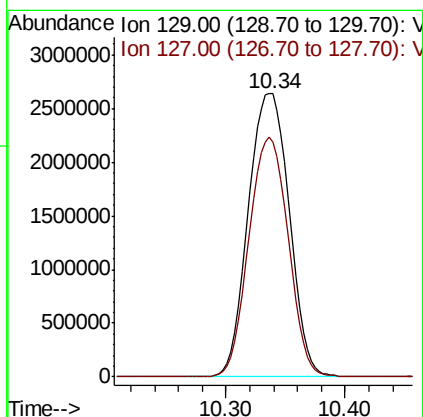
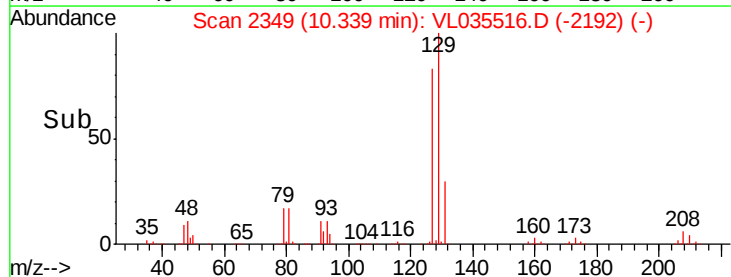
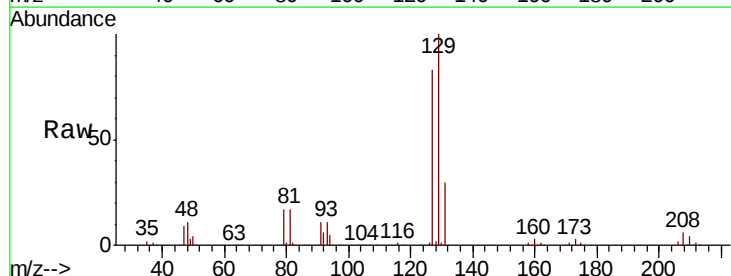
| Ion | Ratio | Lower | Upper |
|-----|-------|-------|-------|
| 97  | 100   |       |       |
| 83  | 83.0  | 65.4  | 98.2  |
| 85  | 55.7  | 43.7  | 65.5  |
| 99  | 66.0  | 49.1  | 73.7  |

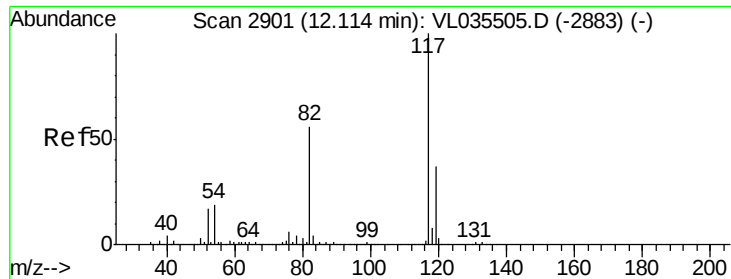


#48  
 Dibromochloromethane  
 Concen: 30.445 ppbv  
 RT: 10.34 min Scan# 2349  
 Delta R.T. 0.01 min  
 Lab File: VL035516.D  
 Acq: 27 Aug 2020 11:15

Tgt Ion: 129 Resp: 6311199

| Ion | Ratio | Lower | Upper |
|-----|-------|-------|-------|
| 129 | 100   |       |       |
| 127 | 81.5  | 39.3  | 117.8 |

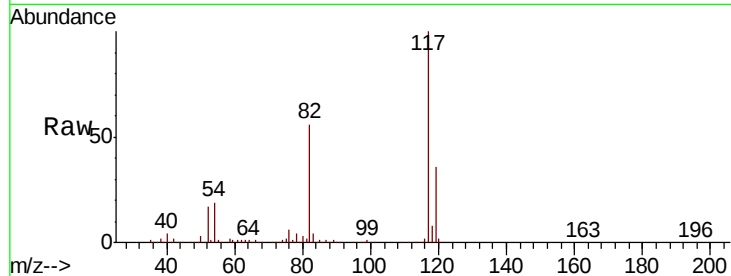




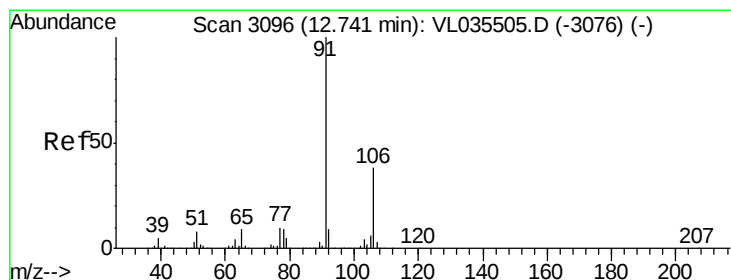
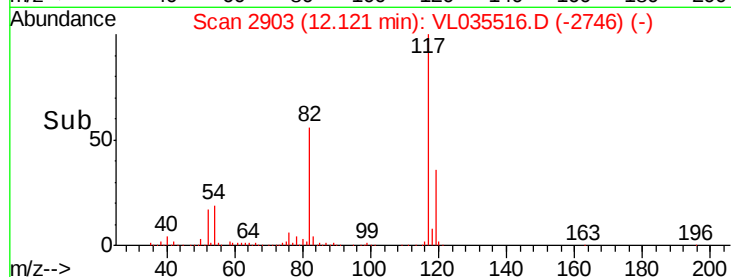
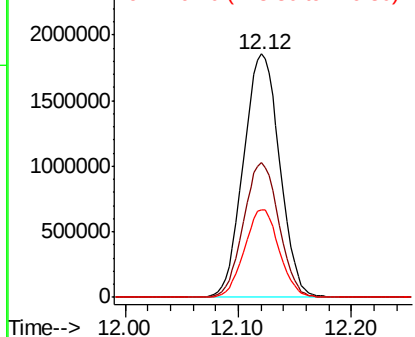
#55  
Chlorobenzene-d5  
Concen: 10.000 ppbv  
RT: 12.12 min Scan# 2903  
Delta R.T. 0.01 min  
Lab File: VL035516.D  
Acq: 27 Aug 2020 11:15

Instrument :  
MSVOA\_L  
ClientSampleId :  
E053-1100

Tot Ion:117 Resp: 4134682  
Ion Ratio Lower Upper  
117 100  
82 54.3 41.6 62.4  
119 34.7 29.3 43.9

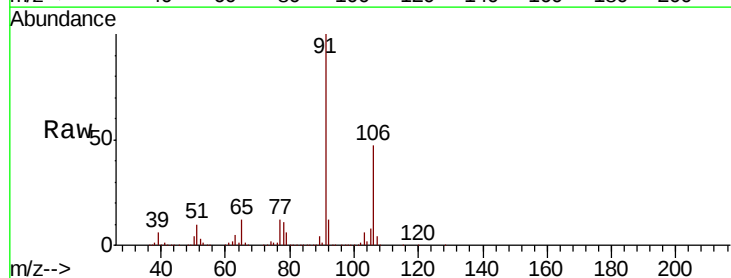


Abundance Ion 117.10 (116.80 to 117.80): V  
2500000 Ion 82.10 (81.80 to 82.80): VL0  
Ion 119.10 (118.80 to 119.80): V

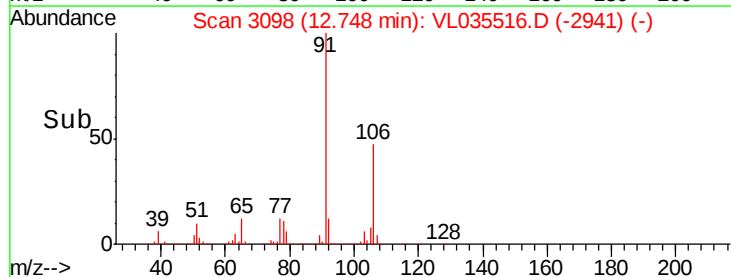
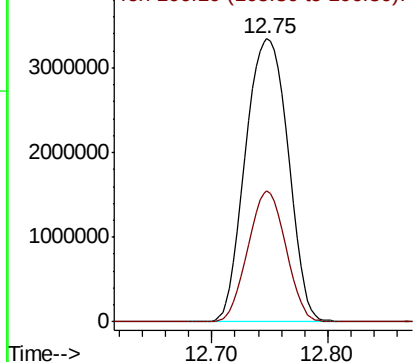


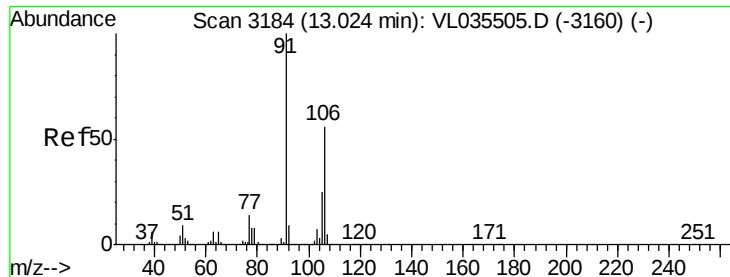
#58  
Ethyl Benzene  
Concen: 20.120 ppbv  
RT: 12.75 min Scan# 3098  
Delta R.T. 0.01 min  
Lab File: VL035516.D  
Acq: 27 Aug 2020 11:15

Tgt Ion: 91 Resp: 8578639  
Ion Ratio Lower Upper  
91 100  
106 46.5 30.3 45.5#



Abundance Ion 91.10 (90.80 to 91.80): VL0  
4000000 Ion 106.10 (105.80 to 106.80): V

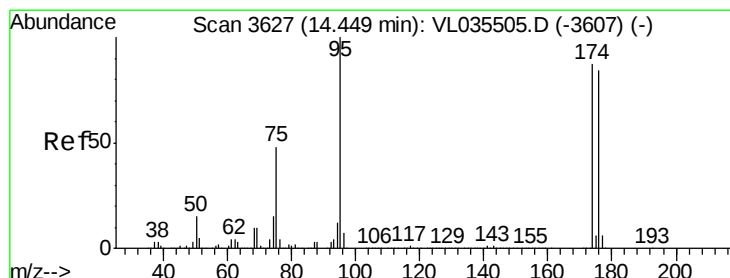
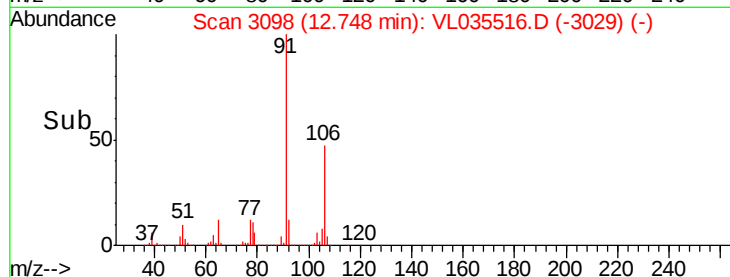
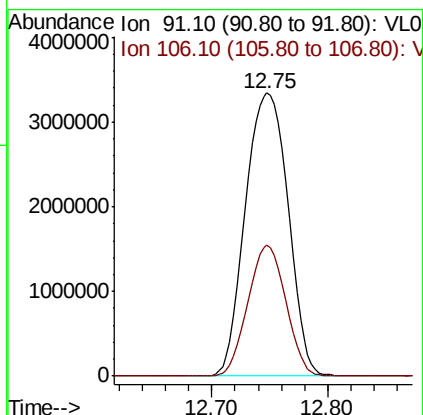
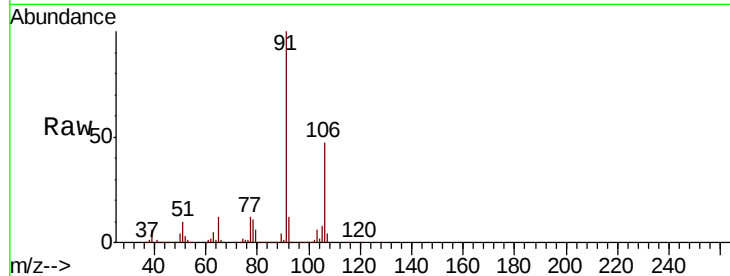




#59  
m/p-Xylene  
Concen: 24.079 ppbv  
RT: 12.75 min Scan# 3098  
Delta R.T. -0.28 min  
Lab File: VL035516.D  
Acq: 27 Aug 2020 11:15

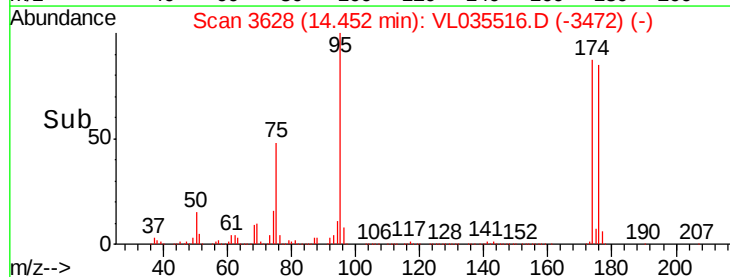
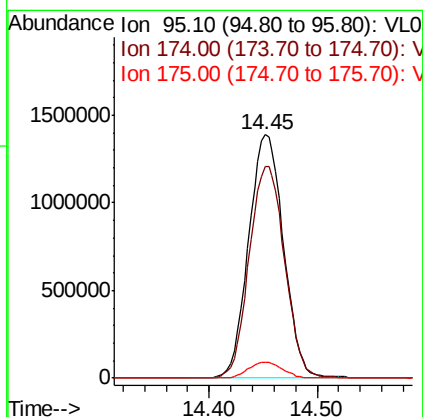
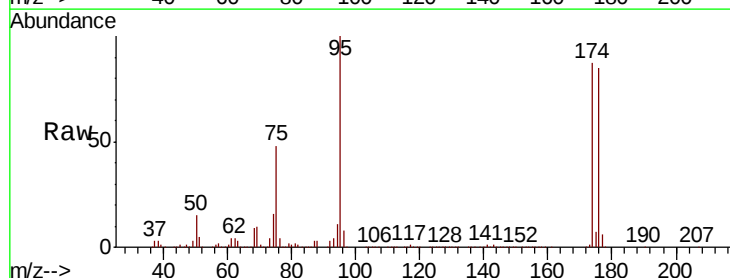
Instrument :  
MSVOA\_L  
ClientSampleId :  
E053-1100

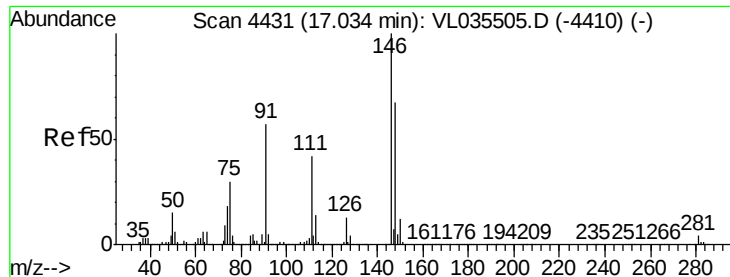
Tot Ion: 91 Resp: 8578639  
Ion Ratio Lower Upper  
91 100  
106 41.1 43.4 65.2#



#68  
1-Bromo-4-Fluorobenzene  
Concen: 10.623 ppbv  
RT: 14.45 min Scan# 3628  
Delta R.T. 0.00 min  
Lab File: VL035516.D  
Acq: 27 Aug 2020 11:15

Tgt Ion: 95 Resp: 3119229  
Ion Ratio Lower Upper  
95 100  
174 88.8 69.6 104.4  
175 6.5 5.1 7.7





#75

1,3-Dichlorobenzene

Concen: 27.061 ppbv

RT: 17.18 min Scan# 4477

Delta R.T. 0.15 min

Lab File: VL035516.D

Acq: 27 Aug 2020 11:15

Instrument :

MSVOA\_L

ClientSampleId :

E053-1100

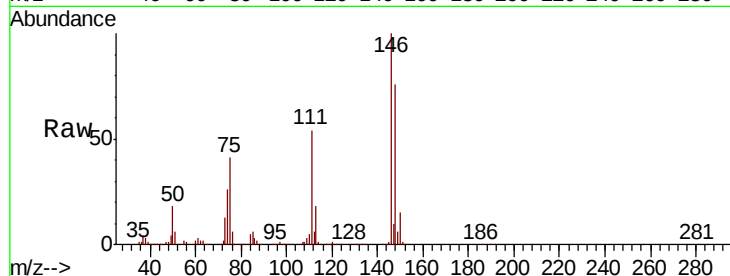
Tot Ion:146 Resp: 9288015

Ion Ratio Lower Upper

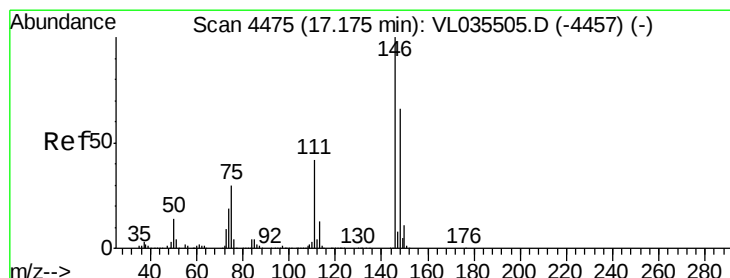
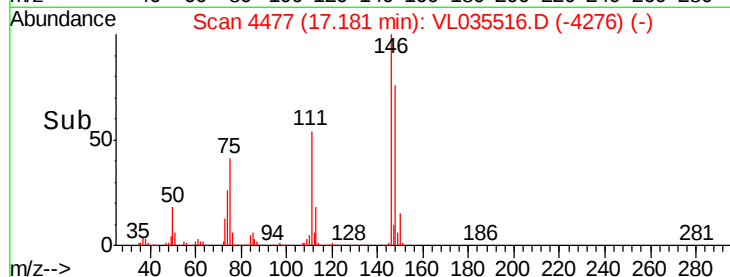
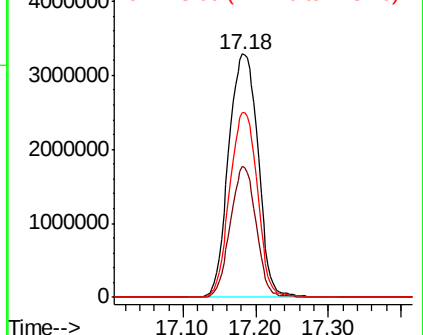
146 100

111 47.3 20.7 62.1

148 71.9 33.0 98.9



Abundance Ion 146.00 (145.70 to 146.70): V  
Ion 111.10 (110.80 to 111.80): V  
Ion 148.00 (147.70 to 148.70): V



#76

1,4-Dichlorobenzene

Concen: 27.440 ppbv

RT: 17.18 min Scan# 4477

Delta R.T. 0.01 min

Lab File: VL035516.D

Acq: 27 Aug 2020 11:15

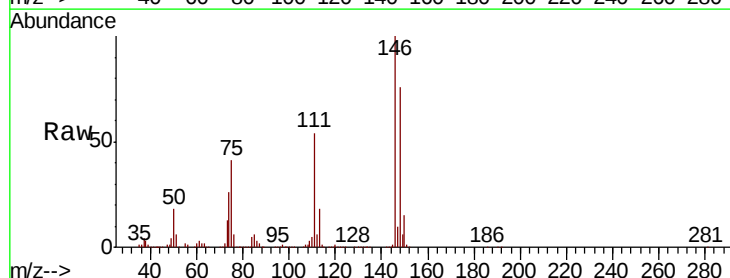
Tgt Ion:146 Resp: 9288015

Ion Ratio Lower Upper

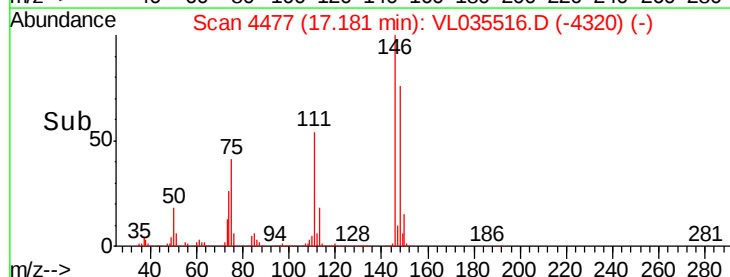
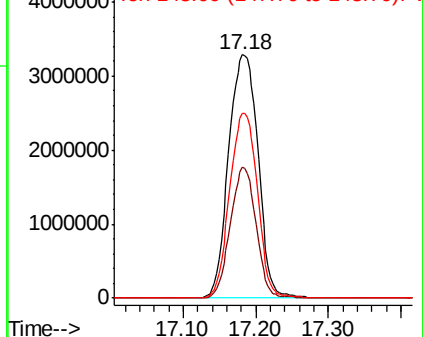
146 100

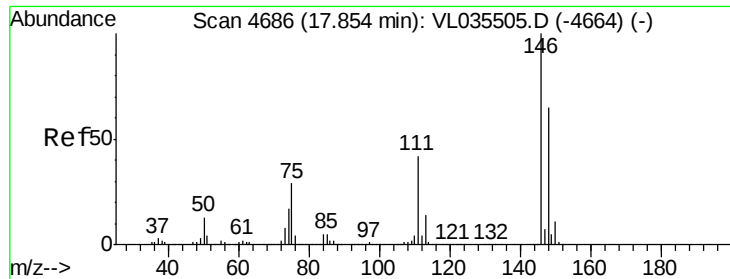
111 47.3 20.0 60.0

148 71.9 33.2 99.6



Abundance Ion 146.00 (145.70 to 146.70): V  
Ion 111.10 (110.80 to 111.80): V  
Ion 148.00 (147.70 to 148.70): V





#77

1,2-Dichlorobenzene

Concen: 26.828 ppbv

RT: 17.86 min Scan# 4689

Delta R.T. 0.01 min

Lab File: VL035516.D

Acq: 27 Aug 2020 11:15

Instrument :

MSVOA\_L

ClientSampleId :

E053-1100

Tot Ion:146 Resp: 8921071

Ion Ratio Lower Upper

146 100

111 48.6 21.1 63.3

148 71.0 32.9 98.7

