

Data Path : W:\HPCHEM1\MSVOA L\DATA\VL053118\  
 Data File : VL032018.D  
 Acq On : 31 May 2018 17:23  
 Operator : SY/AP  
 Sample : VSTDIC001  
 Misc : 400ml/MSVOA L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 VSTDIC001

Manual Integrations  
 APPROVED

MMDadoda  
 6/4/2018 10:54:54 AM

Quant Time: Jun 01 02:17:14 2018  
 Quant Method : W:\HPCHEM1\MSVOA L\METHODS\VL053118AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Fri Jun 01  
 QLast Update : Fri Jun 01 01:58:27 2018  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.86  | 49   | 1366534  | 10.00 | ppbv  | 0.00     |
| 33) 1,4-Difluorobenzene | 7.40  | 114  | 2536598  | 10.00 | ppbv  | 0.00     |
| 55) Chlorobenzene-d5    | 12.37 | 117  | 2603517  | 10.00 | ppbv  | 0.00     |

|                             |        |       |          |          |      |        |
|-----------------------------|--------|-------|----------|----------|------|--------|
| System Monitoring Compounds |        |       |          |          |      |        |
| 68) 1-Bromo-4-Fluorobenzene | 14.70  | 95    | 2007228  | 9.93     | ppbv | 0.00   |
| Spiked Amount               | 10.000 | Range | 65 - 135 | Recovery | =    | 99.30% |

| Target Compounds               |      |     |        |      |        | Ovalue |
|--------------------------------|------|-----|--------|------|--------|--------|
| 2) Dichlorodifluoromethane     | 3.15 | 85  | 175568 | 1.01 | ppbv   | 99     |
| 3) Chlorodifluoromethane       | 3.08 | 51  | 154904 | 1.21 | ppbv   | 98     |
| 4) Chloromethane               | 3.24 | 50  | 74506  | 1.12 | ppbv   | 91     |
| 5) Vinyl Chloride              | 3.37 | 62  | 81488  | 1.08 | ppbv   | 92     |
| 6) Bromomethane                | 3.59 | 94  | 55727  | 1.13 | ppbv   | 90     |
| 7) Chloroethane                | 3.68 | 64  | 38064  | 1.31 | ppbv   | 99     |
| 8) Dichlorotetrafluoroethane   | 3.29 | 85  | 220732 | 1.24 | ppbv   | 99     |
| 9) Propene                     | 3.11 | 41  | 42544  | 0.91 | ppbv   | 98     |
| 10) Heptane                    | 8.36 | 43  | 153877 | 0.95 | ppbv   | 98     |
| 11) Trichlorofluoromethane     | 4.09 | 101 | 292864 | 1.32 | ppbv   | 93     |
| 12) 1,1,2-Trichlorotrifluoroet | 4.65 | 101 | 189177 | 1.20 | ppbv   | 99     |
| 13) Ethanol                    | 3.74 | 45  | 21292m | 1.22 | ppbv   |        |
| 14) Bromoethene                | 3.87 | 108 | 73467  | 1.30 | ppbv   | 96     |
| 15) Acetone                    | 3.99 | 43  | 212069 | 1.11 | ppbv   | 100    |
| 16) 1,3-Butadiene              | 3.44 | 39  | 61547  | 1.00 | ppbv   | 84     |
| 17) tert-Butyl alcohol         | 4.46 | 59  | 86813  | 1.09 | ppbv # | 94     |
| 18) 1,1-Dichloroethene         | 4.44 | 96  | 80826  | 1.18 | ppbv   | 96     |
| 19) Isopropyl Alcohol          | 4.12 | 45  | 121127 | 1.14 | ppbv # | 94     |
| 20) Methylene Chloride         | 4.50 | 84  | 81936  | 1.24 | ppbv   | 94     |
| 21) Allyl Chloride             | 4.57 | 41  | 124932 | 1.12 | ppbv   | 97     |
| 22) trans-1,2-Dichloroethene   | 5.06 | 96  | 85862  | 1.12 | ppbv   | 94     |
| 23) Vinyl Acetate              | 5.25 | 43  | 236675 | 1.07 | ppbv # | 95     |
| 24) 1,1-Dichloroethane         | 5.19 | 63  | 235295 | 1.12 | ppbv   | 99     |
| 25) Ethyl Acetate              | 5.88 | 43  | 340166 | 1.02 | ppbv   | 100    |
| 26) Hexane                     | 5.88 | 57  | 158408 | 1.01 | ppbv   | 96     |
| 27) Carbon Disulfide           | 4.72 | 76  | 209267 | 1.16 | ppbv   | 96     |
| 28) Methyl tert-Butyl Ether    | 5.22 | 73  | 196543 | 1.02 | ppbv   | 98     |
| 29) Chloroform                 | 5.95 | 83  | 266441 | 1.07 | ppbv   | 97     |
| 30) Cyclohexane                | 7.37 | 84  | 84212  | 0.81 | ppbv   | 93     |
| 31) cis-1,2-Dichloroethene     | 5.74 | 61  | 140057 | 0.97 | ppbv   | 92     |
| 32) 1,1,1-Trichloroethane      | 6.73 | 97  | 215019 | 0.95 | ppbv   | 98     |
| 34) 2-Butanone                 | 5.43 | 43  | 211942 | 1.01 | ppbv   | 98     |
| 35) Carbon Tetrachloride       | 7.24 | 117 | 215680 | 1.06 | ppbv   | 97     |
| 36) Benzene                    | 7.12 | 78  | 233790 | 0.98 | ppbv   | 97     |
| 37) 1,2-Dichloroethane         | 6.52 | 62  | 179402 | 1.06 | ppbv   | 100    |
| 38) Trichloroethene            | 8.08 | 130 | 91749  | 1.01 | ppbv   | 91     |
| 39) 1,2-Dichloropropane        | 7.85 | 63  | 86372m | 1.04 | ppbv   |        |
| 40) 1,4-Dioxane                | 8.10 | 88  | 40649m | 1.09 | ppbv   |        |
| 41) Tetrahydrofuran            | 6.27 | 42  | 74447  | 0.82 | ppbv   | 97     |
| 42) Bromodichloromethane       | 8.03 | 83  | 216643 | 1.12 | ppbv   | 99     |
| 43) Methyl Methacrylate        | 8.25 | 69  | 76609m | 0.94 | ppbv   |        |

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 VSTDIC001

Manual Integrations  
 APPROVED

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 6/4/2018 10:54:54 AM

Quant Time: Jun 01 02:17:14 2018  
 Quant Method : W:\HPCHEM1\MSVOA L\METHODS\VL053118AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Fri Jun 01 02:17:14 2018  
 QLast Update : Fri Jun 01 01:58:27 2018  
 Response via : Initial Calibration

| Internal Standards            | R.T.  | QIon | Response | Conc | Units  | Dev(Min) |
|-------------------------------|-------|------|----------|------|--------|----------|
| 44) 2,2,4-Trimethylpentane    | 8.11  | 57   | 419695   | 1.08 | ppbv   | 98       |
| 45) t-1,3-Dichloropropene     | 9.54  | 75   | 97827    | 0.91 | ppbv   | 94       |
| 46) cis-1,3-Dichloropropene   | 8.96  | 75   | 130808   | 0.98 | ppbv # | 92       |
| 47) 1,1,2-Trichloroethane     | 9.73  | 97   | 110801m  | 1.12 | ppbv   |          |
| 48) Dibromochloromethane      | 10.57 | 129  | 177181   | 1.11 | ppbv   | 99       |
| 49) Bromoform                 | 13.32 | 173  | 131959   | 1.05 | ppbv   | 98       |
| 50) 4-Methyl-2-Pentanone      | 9.00  | 43   | 200100   | 1.01 | ppbv   | 98       |
| 51) 2-Hexanone                | 10.40 | 43   | 175050   | 0.97 | ppbv # | 92       |
| 52) Tetrachloroethene         | 11.50 | 164  | 95509m   | 1.08 | ppbv   |          |
| 53) Toluene                   | 10.07 | 91   | 251863   | 0.97 | ppbv   | 98       |
| 54) 1,2-Dibromoethane         | 10.88 | 107  | 158260   | 1.08 | ppbv   | 87       |
| 56) 1,1,1,2-Tetrachloroethane | 12.40 | 131  | 133770   | 1.12 | ppbv # | 1        |
| 57) Chlorobenzene             | 12.43 | 112  | 255262   | 1.12 | ppbv   | 91       |
| 58) Ethyl Benzene             | 12.99 | 91   | 368585   | 0.98 | ppbv   | 97       |
| 59) m/p-Xylene                | 13.27 | 91   | 664749m  | 2.06 | ppbv   |          |
| 60) o-Xylene                  | 13.97 | 91   | 326884   | 1.01 | ppbv   | 100      |
| 61) Styrene                   | 13.81 | 104  | 49954m   | 0.76 | ppbv   |          |
| 62) Isopropylbenzene          | 14.95 | 105  | 415829   | 1.01 | ppbv   | 99       |
| 63) 1,1,2,2-Tetrachloroethane | 13.96 | 83   | 256968   | 1.12 | ppbv   | 98       |
| 64) n-propylbenzene           | 15.85 | 120  | 102917m  | 0.99 | ppbv   |          |
| 65) tert-Butylbenzene         | 17.03 | 119  | 379416   | 1.03 | ppbv   | 100      |
| 66) Benzyl Chloride           | 17.28 | 91   | 36950    | 1.08 | ppbv # | 91       |
| 67) sec-Butylbenzene          | 17.58 | 105  | 538872   | 1.06 | ppbv   | 100      |
| 69) p-Isopropyltoluene        | 17.94 | 119  | 402723   | 0.99 | ppbv   | 97       |
| 70) n-Butylbenzene            | 18.84 | 91   | 418062   | 0.99 | ppbv   | 98       |
| 71) 2-Chlorotoluene           | 15.75 | 91   | 301303   | 1.00 | ppbv   | 100      |
| 72) 4-Ethyltoluene            | 16.12 | 105  | 313851   | 0.96 | ppbv   | 99       |
| 73) 1,3,5-Trimethylbenzene    | 16.29 | 105  | 289336   | 0.96 | ppbv   | 97       |
| 74) 1,2,4-Trimethylbenzene    | 17.05 | 105  | 343471m  | 1.02 | ppbv   |          |
| 75) 1,3-Dichlorobenzene       | 17.29 | 146  | 249795m  | 1.20 | ppbv   |          |
| 76) 1,4-Dichlorobenzene       | 17.43 | 146  | 228819m  | 1.11 | ppbv   |          |
| 77) 1,2-Dichlorobenzene       | 18.11 | 146  | 223157   | 1.07 | ppbv   | 99       |
| 78) Hexachloro-1,3-Butadiene  | 23.66 | 225  | 98273    | 1.16 | ppbv   | 97       |
| 79) Naphthalene               | 22.56 | 128  | 141597m  | 0.61 | ppbv   |          |
| 80) Naphthalene, 2-methyl-    | 25.21 | 142  | 11050    | 0.18 | ppbv # | 92       |
| 81) 1,2,4-Trichlorobenzene    | 22.29 | 180  | 96355m   | 0.76 | ppbv   |          |

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

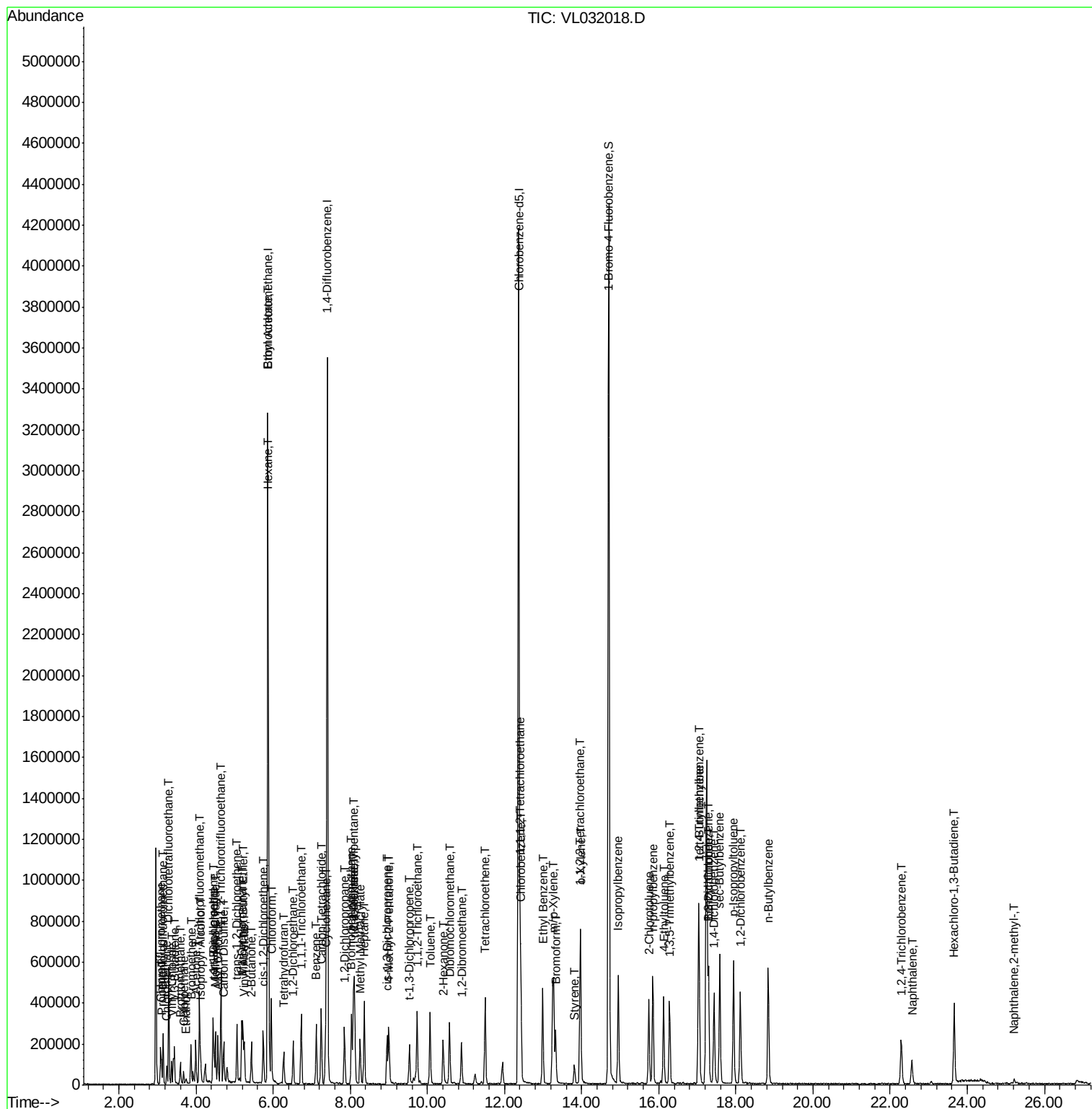
Data Path : W:\HPCHEM1\MSVOA L\DATA\VL053118\  
Data File : VL032018.D  
Acq On : 31 May 2018 17:23  
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ALS Vial : 1 Sample Multiplier: 1

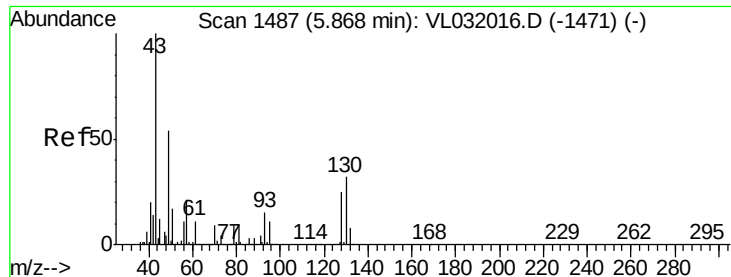
Instrument :  
MSVOA\_L  
ClientSampleId :  
VSTDIC001

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Quant Time: Jun 01 02:17:14 2018  
Quant Method : W:\HPCHEM1\MSVOA L\METHODS\VL053118AIR.M  
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Fri Jun  
QLast Update : Fri Jun 01 01:58:27 2018  
Response via : Initial Calibration





#1

Bromochloromethane

Concen: 10.00 ppbv

RT: 5.86 min Scan# 1486

Delta R.T. -0.00 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

Instrument :

MSVOA\_L

ClientSampleId :

VSTDIC001

Tot Ion: 49 Resp: 1366534

Ion Ratio Lower Upper

49 100

128 49.0 24.1 72.3

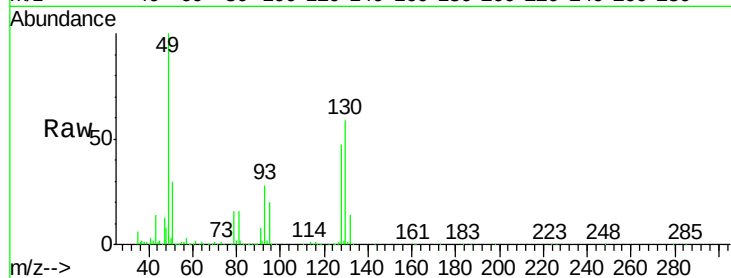
130 63.6 30.9 92.8

Manual Integrations

APPROVED

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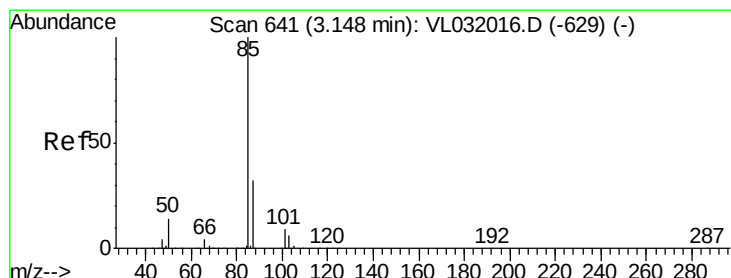
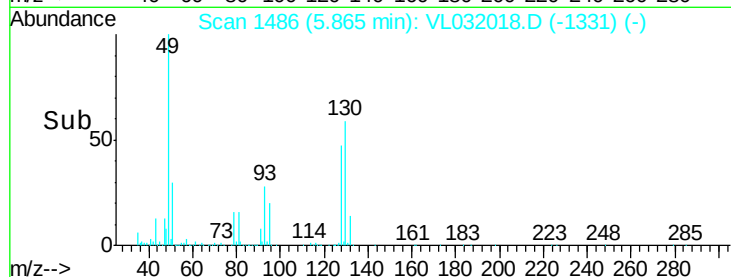
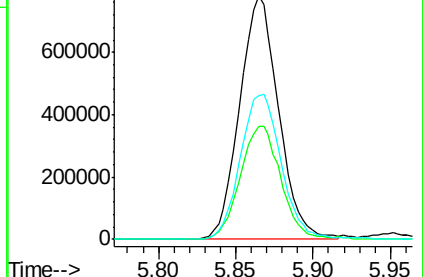
6/4/2018 10:54:54 AM



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: 1.01 ppbv

RT: 3.15 min Scan# 641

Delta R.T. 0.00 min

Lab File: VL032018.D

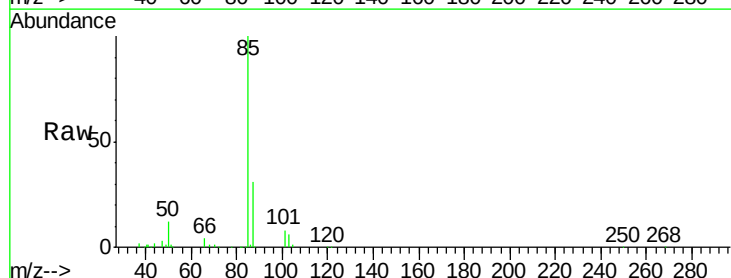
Acq: 31 May 2018 17:23

Tgt Ion: 85 Resp: 175568

Ion Ratio Lower Upper

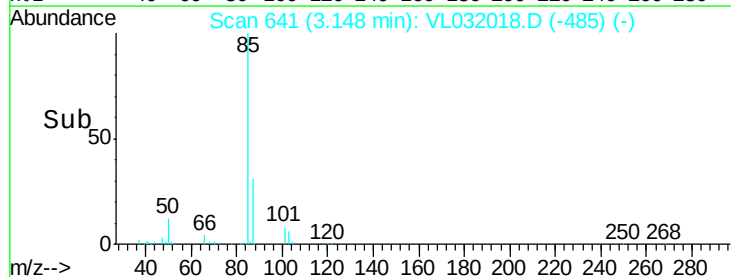
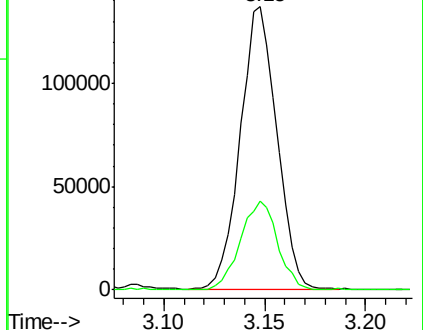
85 100

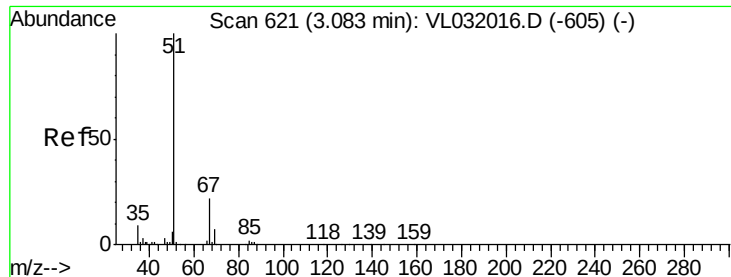
87 31.3 25.5 38.3



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0





#3

Chlorodifluoromethane

Concen: 1.21 ppbv

RT: 3.08 min Scan# 621

Delta R.T. 0.00 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

Instrument :

MSVOA\_L

ClientSampleId :

VSTDIC001

Tot Ion: 51 Resp: 154904

Ion Ratio Lower Upper

51 100

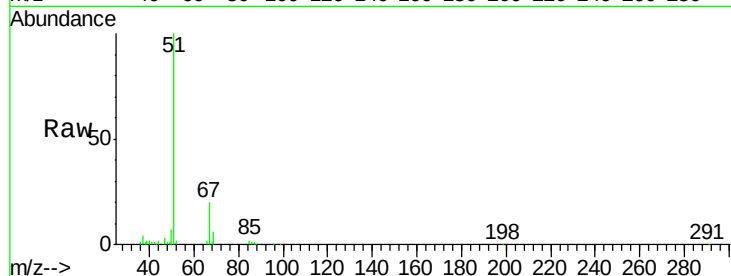
67 20.3 17.2 25.8

Manual Integrations

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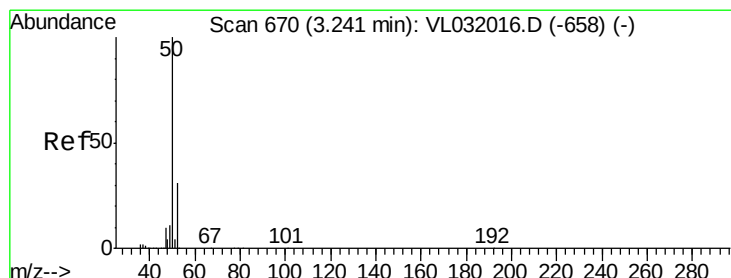
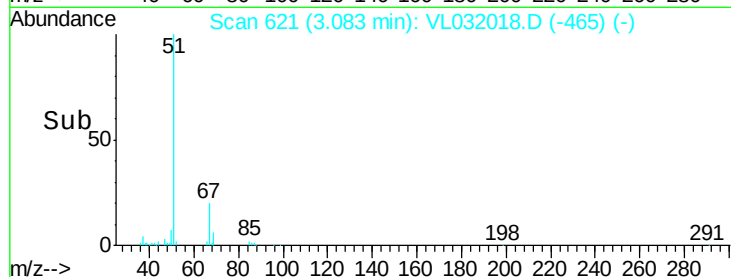
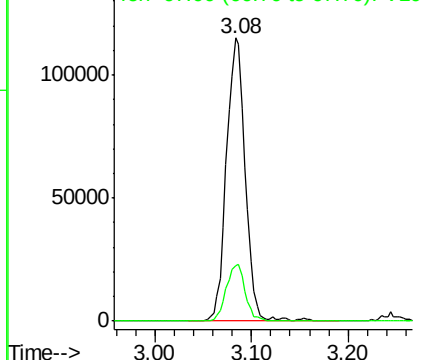
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Abundance Ion 51.00 (50.70 to 51.70): VL0

Ion 67.00 (66.70 to 67.70): VL0



#4

Chloromethane

Concen: 1.12 ppbv

RT: 3.24 min Scan# 670

Delta R.T. 0.00 min

Lab File: VL032018.D

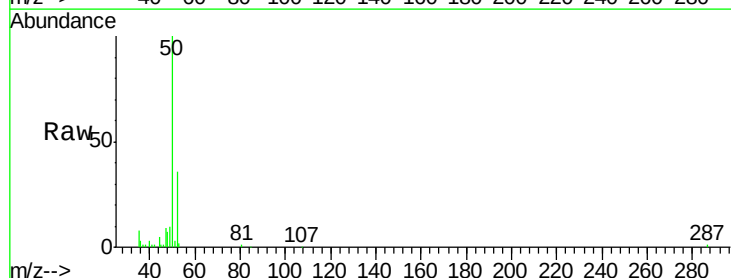
Acq: 31 May 2018 17:23

Tgt Ion: 50 Resp: 74506

Ion Ratio Lower Upper

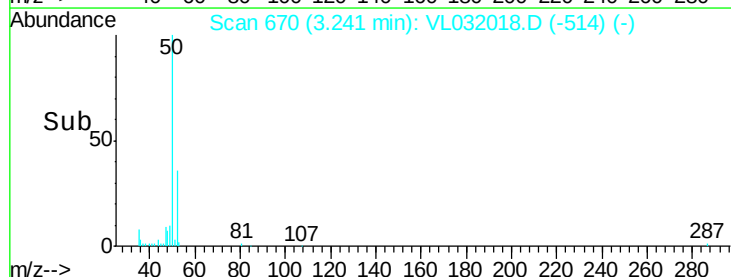
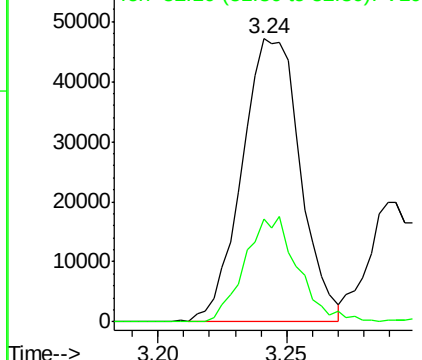
50 100

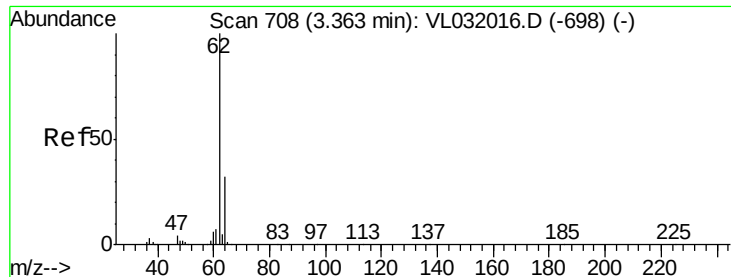
52 36.3 25.0 37.6



Abundance Ion 50.10 (49.80 to 50.80): VL0

Ion 52.10 (51.80 to 52.80): VL0





#5

Vinyl Chloride

Concen: 1.08 ppbv

RT: 3.37 min Scan# 709

Delta R.T. 0.00 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

Instrument :

MSVOA\_L

ClientSampleId :

VSTDIC001

Tot Ion: 62 Resp: 81488

Ion Ratio Lower Upper

62 100

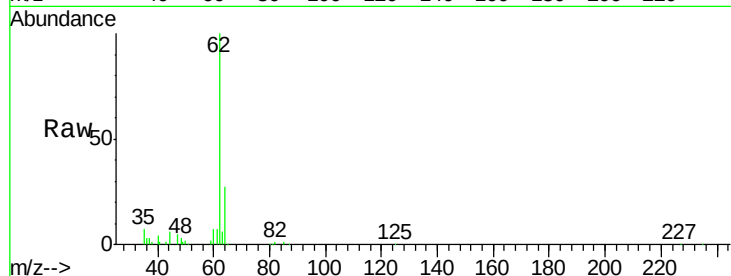
64 27.3 25.2 37.8

Manual Integrations

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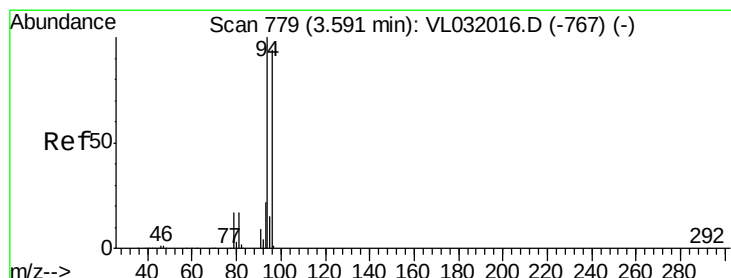
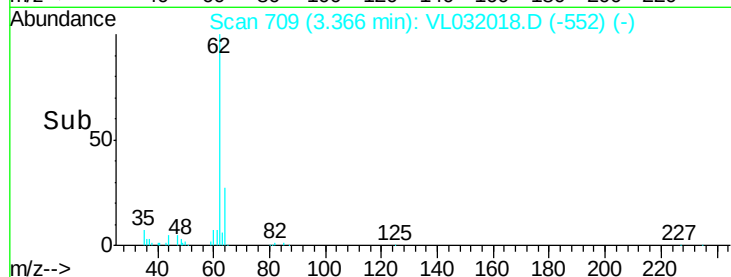
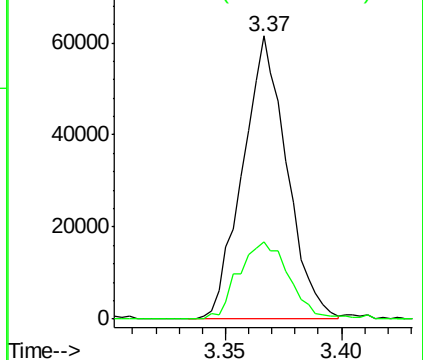
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Abundance Ion 62.10 (61.80 to 62.80): VL0

Ion 64.10 (63.80 to 64.80): VL0



#6

Bromomethane

Concen: 1.13 ppbv

RT: 3.59 min Scan# 780

Delta R.T. 0.00 min

Lab File: VL032018.D

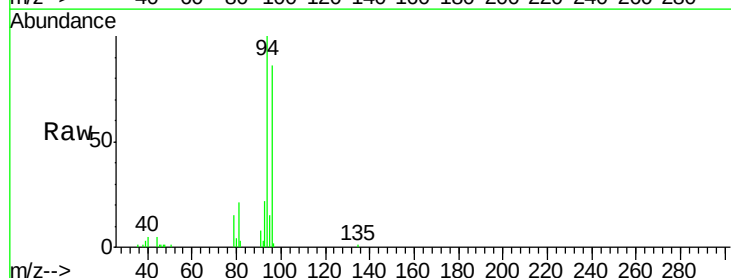
Acq: 31 May 2018 17:23

Tgt Ion: 94 Resp: 55727

Ion Ratio Lower Upper

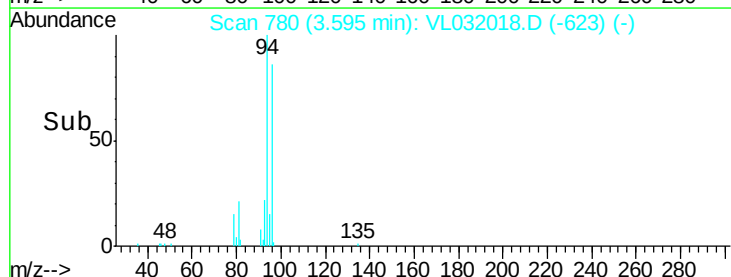
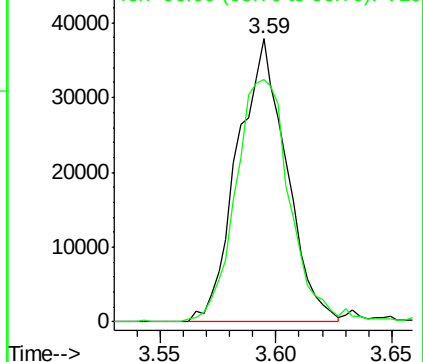
94 100

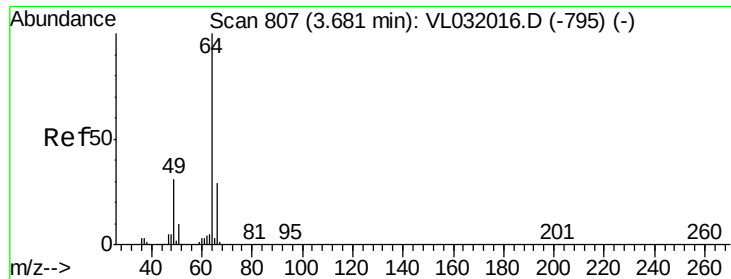
96 84.5 75.1 112.7



Abundance Ion 94.00 (93.70 to 94.70): VL0

Ion 96.00 (95.70 to 96.70): VL0





#7

Chloroethane

Concen: 1.31 ppbv

RT: 3.68 min Scan# 807

Delta R.T. 0.00 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

Instrument :

MSVOA\_L

ClientSampleId :

VSTDIC001

Tot Ion: 64 Resp: 38064

Ion Ratio Lower Upper

64 100

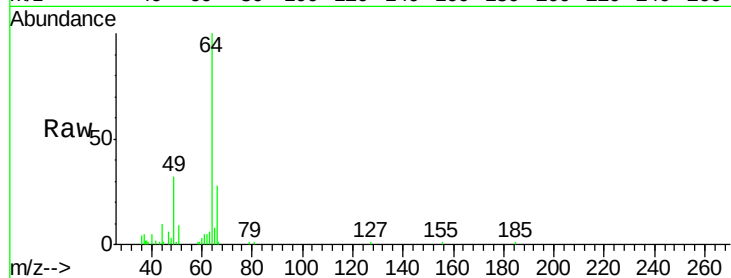
66 28.8 23.4 35.2

Manual Integrations

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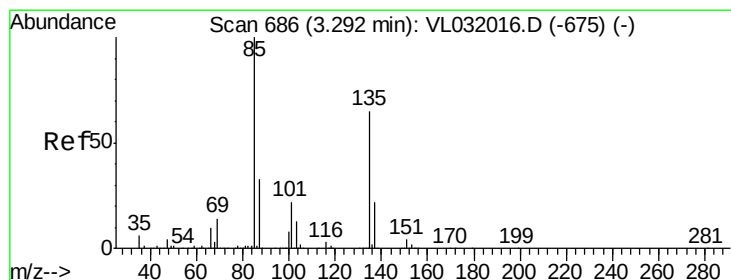
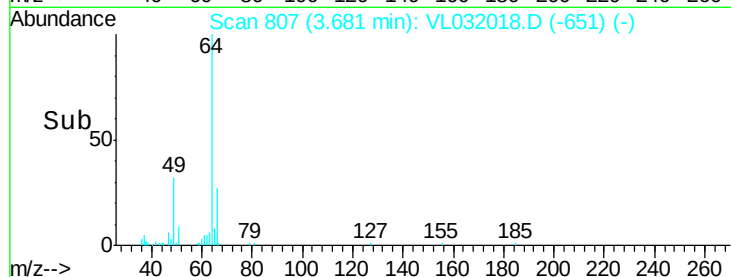
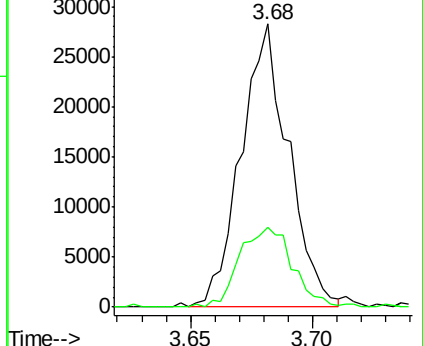
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Abundance Ion 64.10 (63.80 to 64.80): VL0

Ion 66.10 (65.80 to 66.80): VL0



#8

Dichlorotetrafluoroethane

Concen: 1.24 ppbv

RT: 3.29 min Scan# 686

Delta R.T. 0.00 min

Lab File: VL032018.D

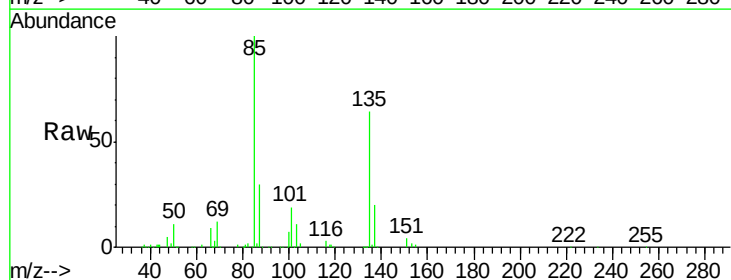
Acq: 31 May 2018 17:23

Tgt Ion: 85 Resp: 220732

Ion Ratio Lower Upper

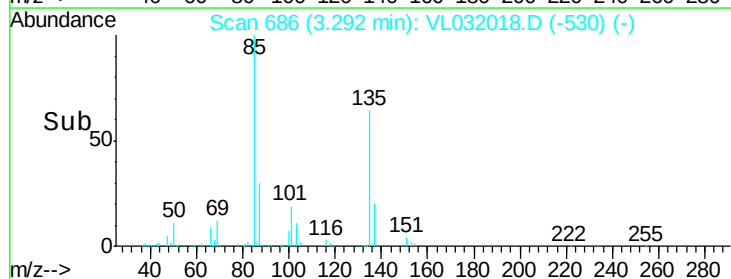
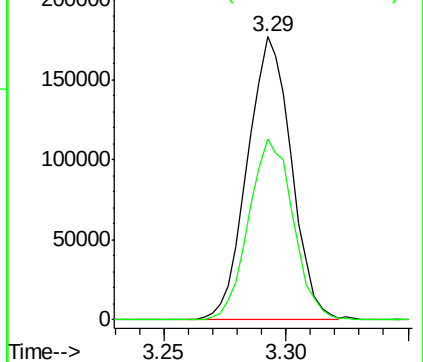
85 100

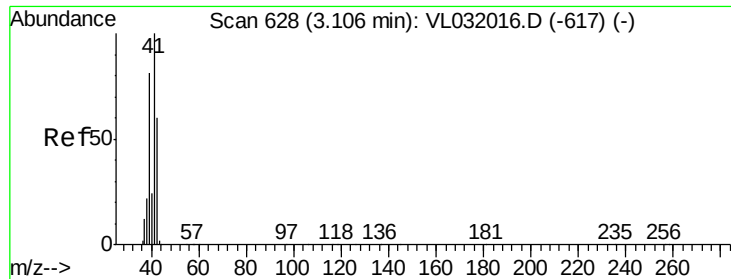
135 64.8 52.6 79.0



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 135.00 (134.70 to 135.70): V





#9

Propene

Concen: 0.91 ppbv

RT: 3.11 min Scan# 628

Delta R.T. 0.00 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

Instrument :

MSVOA\_L

ClientSampleId :

VSTDIC001

Tot Ion: 41 Resp: 42544

Ion Ratio Lower Upper

41 100

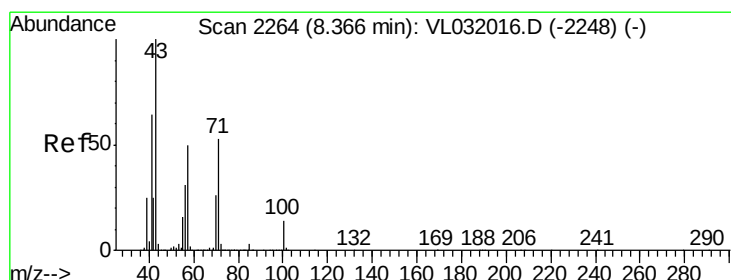
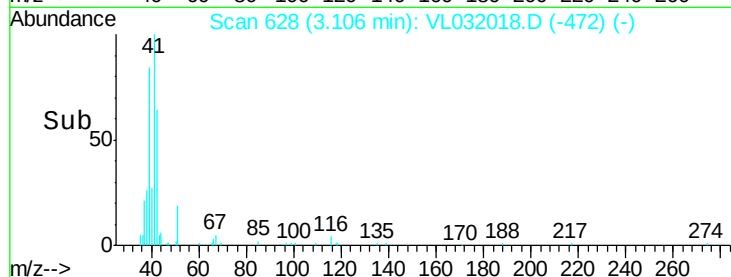
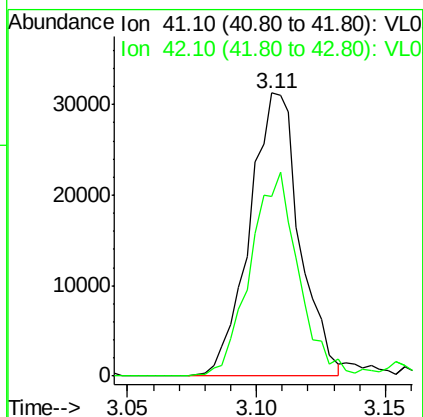
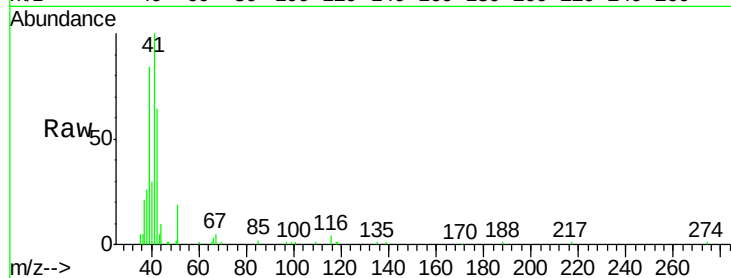
42 69.7 54.4 81.6

Manual Integrations

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#10

Heptane

Concen: 0.95 ppbv

RT: 8.36 min Scan# 2263

Delta R.T. -0.00 min

Lab File: VL032018.D

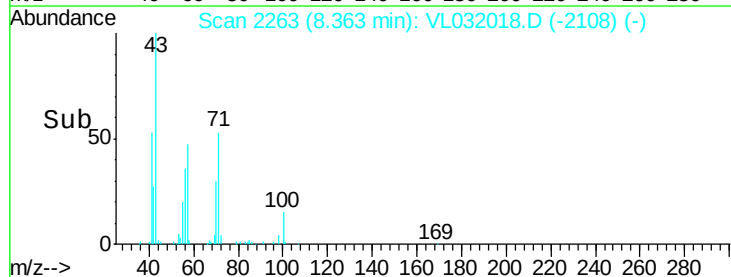
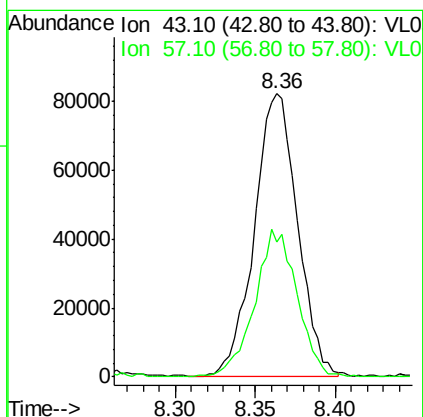
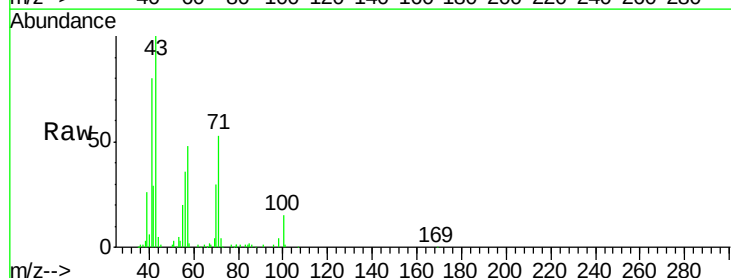
Acq: 31 May 2018 17:23

Tgt Ion: 43 Resp: 153877

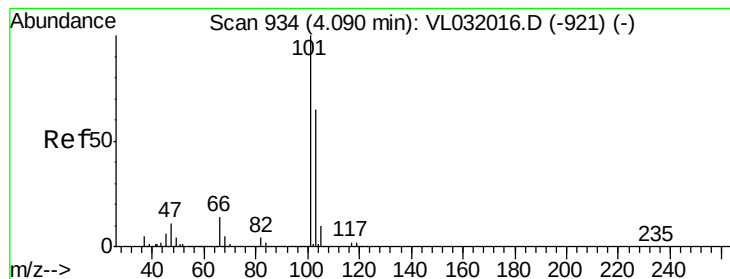
Ion Ratio Lower Upper

43 100

57 50.9 41.7 62.5







#11

Trichlorofluoromethane

Concen: 1.32 ppbv

RT: 4.09 min Scan# 934

Delta R.T. 0.00 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

Instrument :

MSVOA\_L

ClientSampleId :

VSTDIC001

Tot Ion:101 Resp: 292864

Ion Ratio Lower Upper

101 100

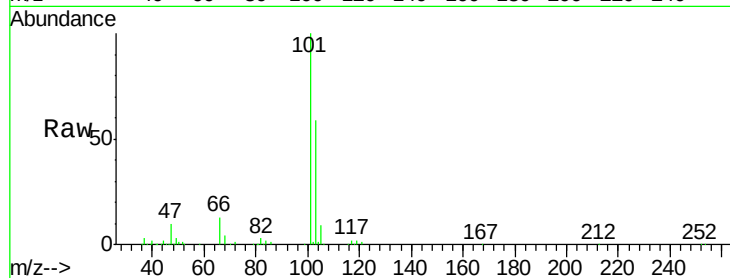
103 59.4 52.0 78.0

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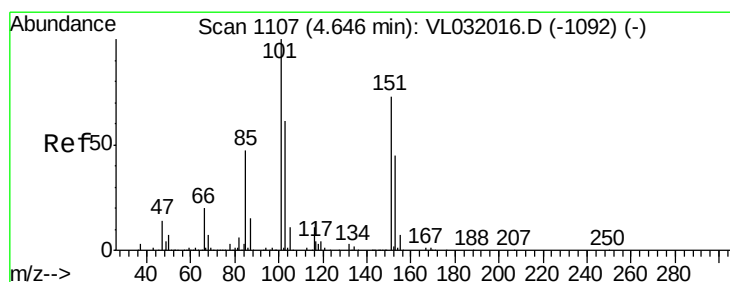
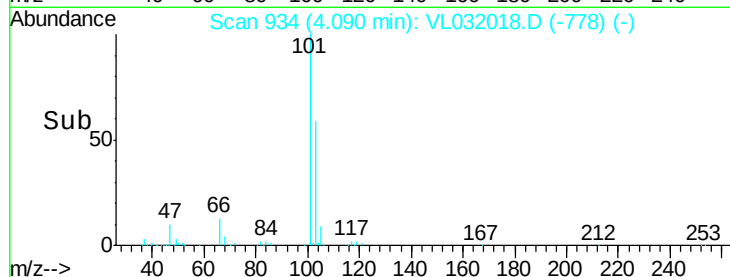
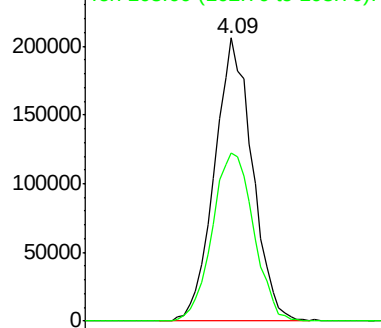
MMDadoda

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Abundance Ion 101.00 (100.70 to 101.70): V

Ion 103.00 (102.70 to 103.70): V



#12

1,1,2-Trichlorotrifluoroethane

Concen: 1.20 ppbv

RT: 4.65 min Scan# 1107

Delta R.T. 0.00 min

Lab File: VL032018.D

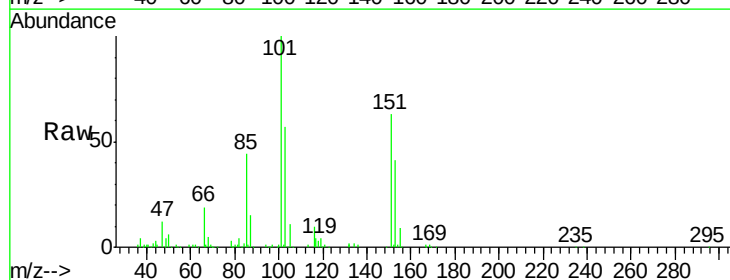
Acq: 31 May 2018 17:23

Tgt Ion:101 Resp: 189177

Ion Ratio Lower Upper

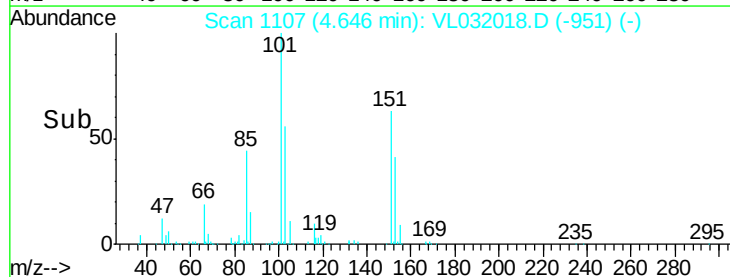
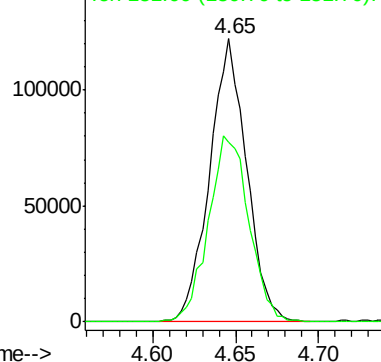
101 100

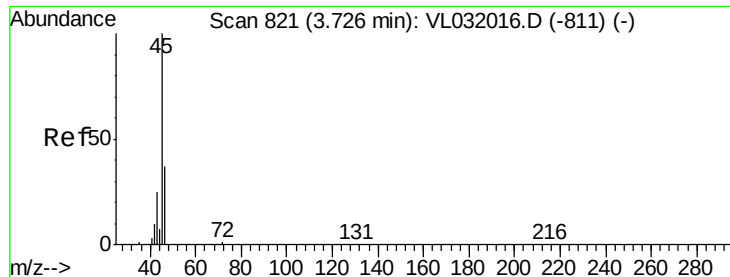
151 72.1 58.2 87.4



Abundance Ion 101.00 (100.70 to 101.70): V

Ion 151.00 (150.70 to 151.70): V





#13

Ethanol

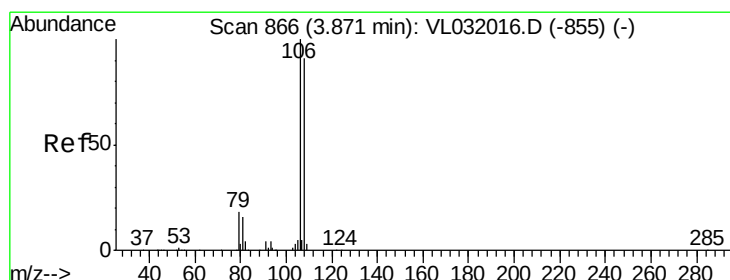
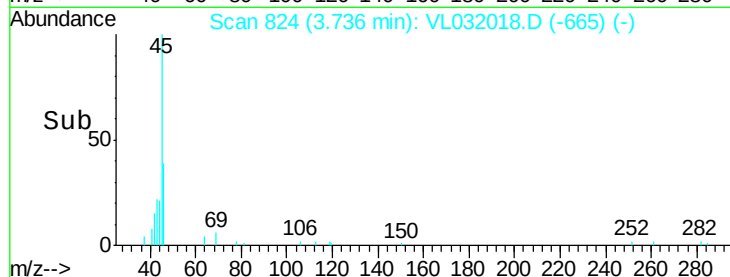
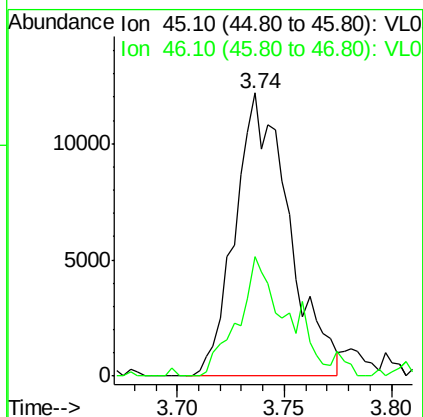
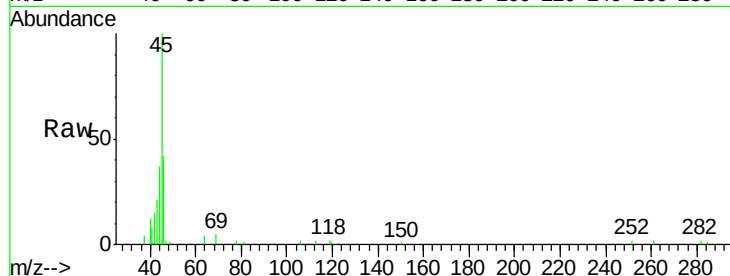
Concen: 1.22 ppbv m  
RT: 3.74 min Scan# 824  
Delta R.T. 0.01 min  
Lab File: VL032018.D  
Acq: 31 May 2018 17:23

Instrument :  
MSVOA\_L  
ClientSampleId :  
VSTDIC001

| Tot Ion   | 45   | Resp  | 21292 |
|-----------|------|-------|-------|
| Ion Ratio | 100  | Lower | Upper |
| 45        | 100  |       |       |
| 46        | 41.7 | 14.9  | 59.5  |

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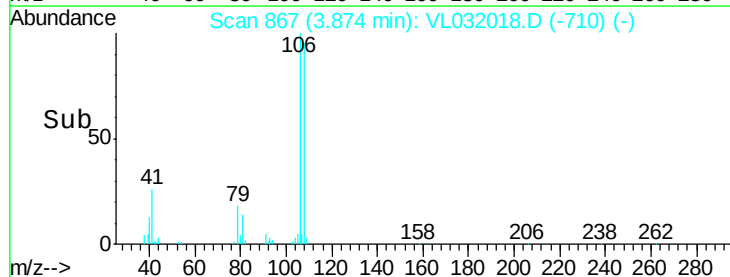
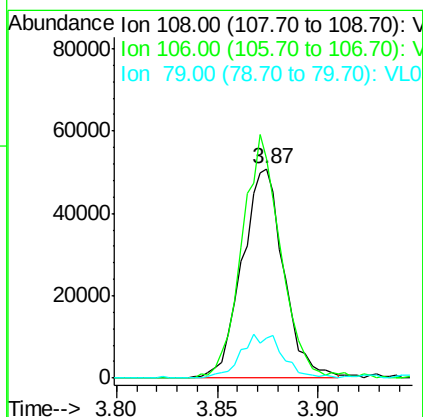
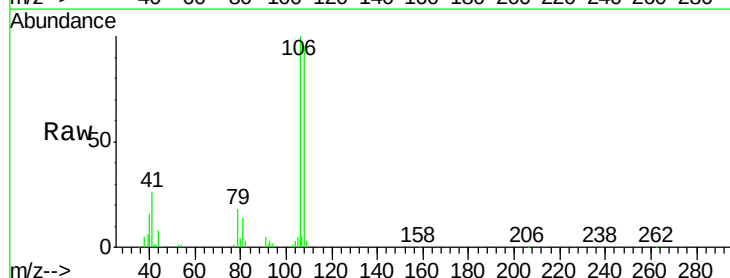


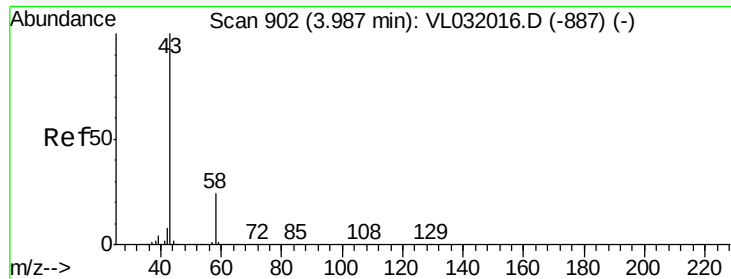
#14

Bromoethene

Concen: 1.30 ppbv  
RT: 3.87 min Scan# 867  
Delta R.T. 0.00 min  
Lab File: VL032018.D  
Acq: 31 May 2018 17:23

| Tgt Ion   | 108   | Resp  | 73467 |
|-----------|-------|-------|-------|
| Ion Ratio | 100   | Lower | Upper |
| 108       | 100   |       |       |
| 106       | 109.9 | 85.1  | 127.7 |
| 79        | 21.1  | 15.2  | 22.8  |





#15

Acetone

Concen: 1.11 ppbv

RT: 3.99 min Scan# 904

Delta R.T. 0.01 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

Instrument :

MSVOA\_L

ClientSampleId :

VSTDIC001

Tot Ion: 43 Resp: 212069

Ion Ratio Lower Upper

43 100

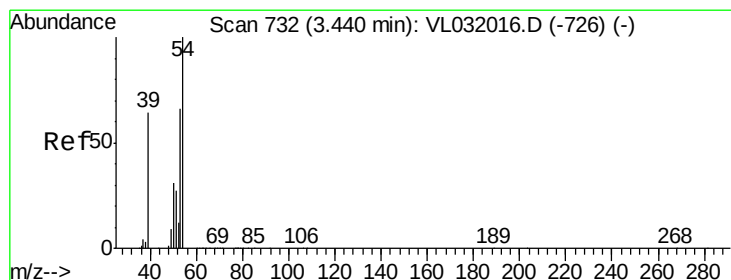
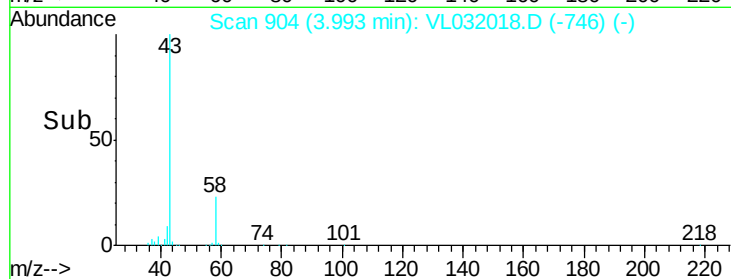
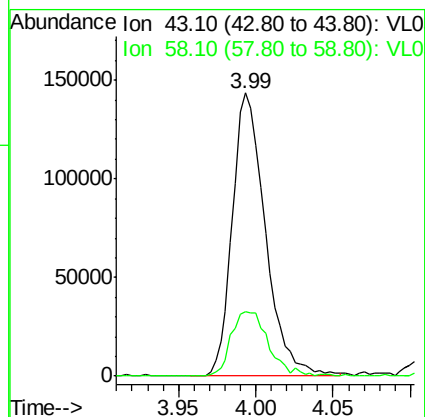
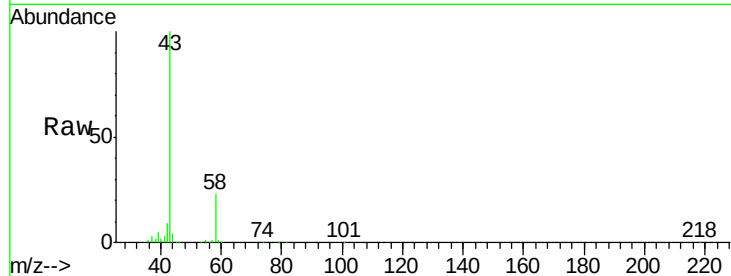
58 26.0 20.7 31.1

Manual Integrations

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#16

1,3-Butadiene

Concen: 1.00 ppbv

RT: 3.44 min Scan# 731

Delta R.T. -0.00 min

Lab File: VL032018.D

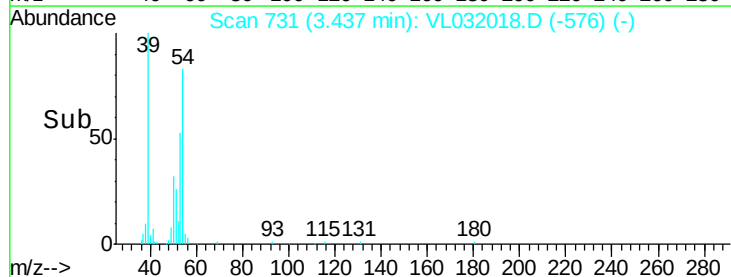
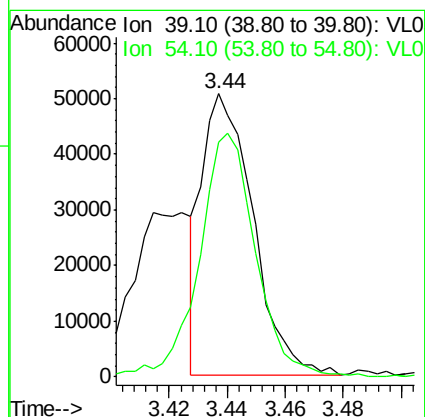
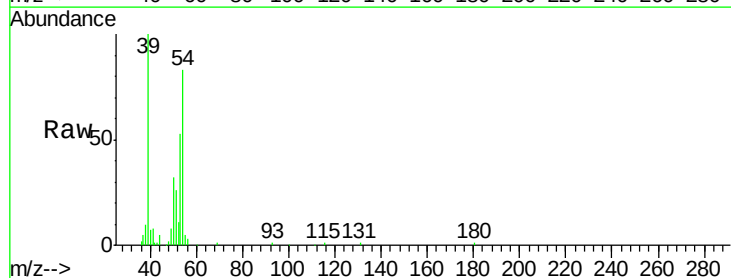
Acq: 31 May 2018 17:23

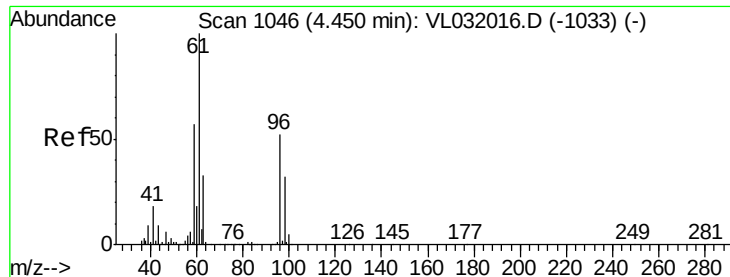
Tgt Ion: 39 Resp: 61547

Ion Ratio Lower Upper

39 100

54 96.9 65.7 98.5





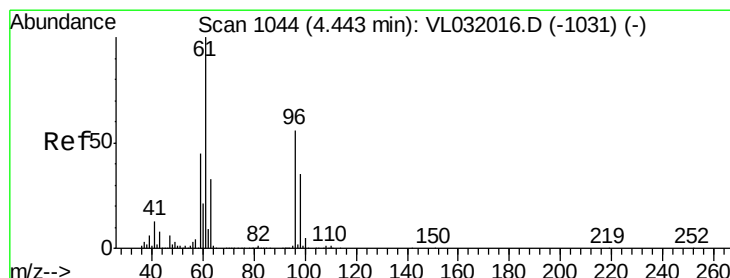
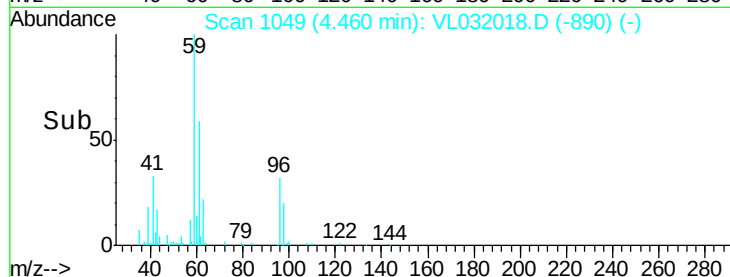
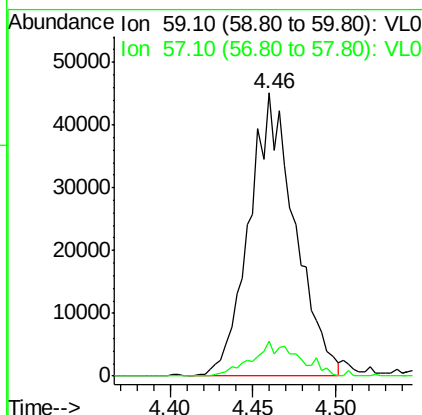
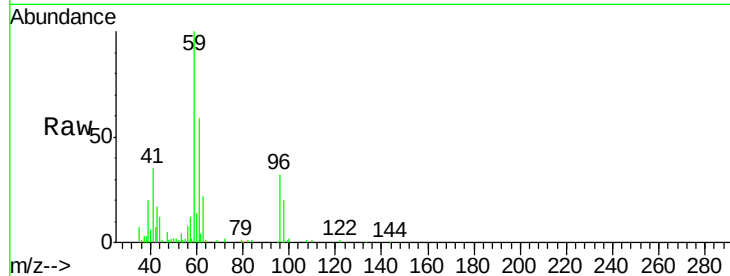
#17  
 tert-Butyl alcohol  
 Concen: 1.09 ppbv  
 RT: 4.46 min Scan# 1049  
 Delta R.T. 0.01 min  
 Lab File: VL032018.D  
 Acq: 31 May 2018 17:23

Instrument :  
 MSVOA\_L  
 ClientSampleID :  
 VSTDIC001

Tot Ion: 59 Resp: 86813  
 Ion Ratio Lower Upper  
 59 100  
 57 12.6 8.3 12.5#

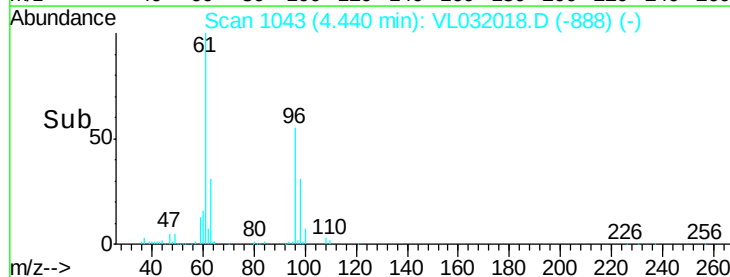
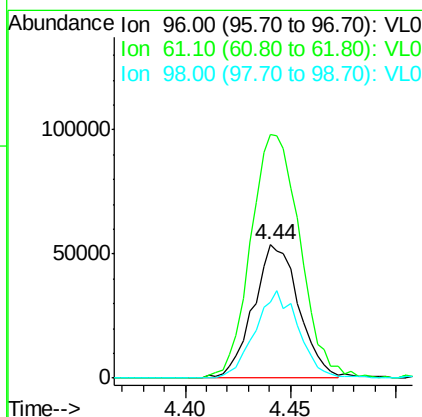
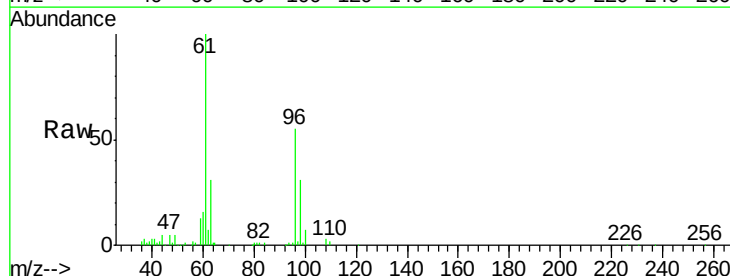
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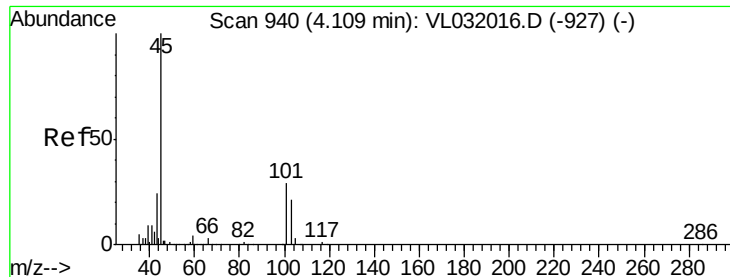
MMDadoda  
 6/4/2018 10:54:54 AM



#18  
 1,1-Dichloroethene  
 Concen: 1.18 ppbv  
 RT: 4.44 min Scan# 1043  
 Delta R.T. -0.00 min  
 Lab File: VL032018.D  
 Acq: 31 May 2018 17:23

Tgt Ion: 96 Resp: 80826  
 Ion Ratio Lower Upper  
 96 100  
 61 183.1 143.5 215.3  
 98 57.6 50.0 75.0





#19

Isopropyl Alcohol

Concen: 1.14 ppbv

RT: 4.12 min Scan# 943

Delta R.T. 0.01 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

Instrument :

MSVOA\_L

ClientSampleId :

VSTDIC001

Tot Ion: 45 Resp: 121127

Ion Ratio Lower Upper

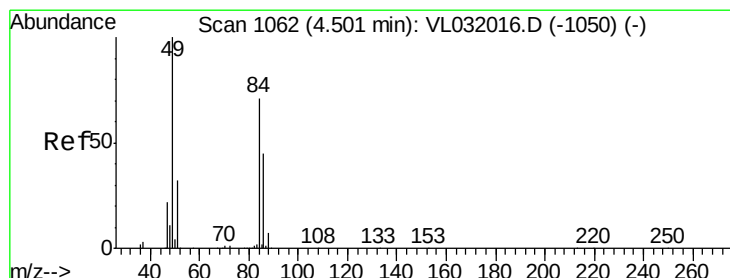
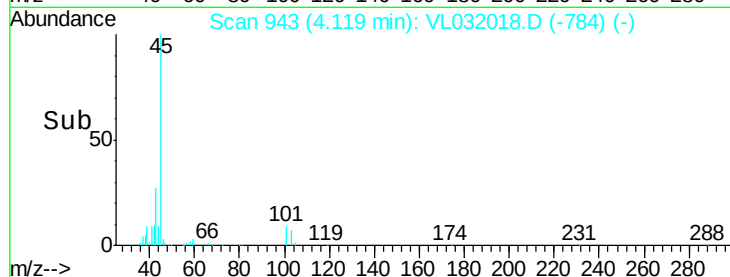
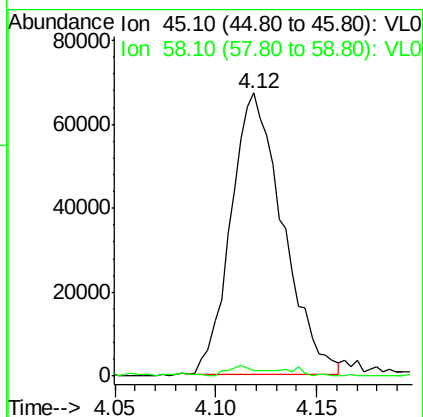
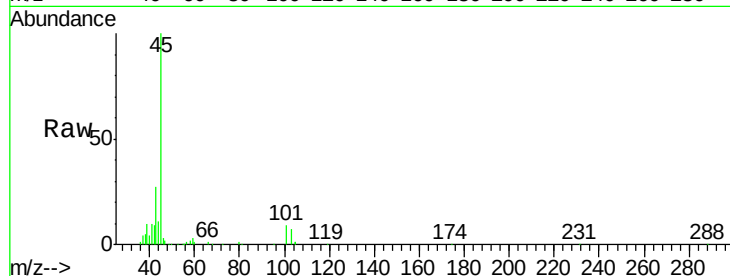
45 100

58 4.0 1.5 2.3#

Manual Integrations  
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6/4/2018 10:54:54 AM



#20

Methylene Chloride

Concen: 1.24 ppbv

RT: 4.50 min Scan# 1061

Delta R.T. -0.00 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

Tgt Ion: 84 Resp: 81936

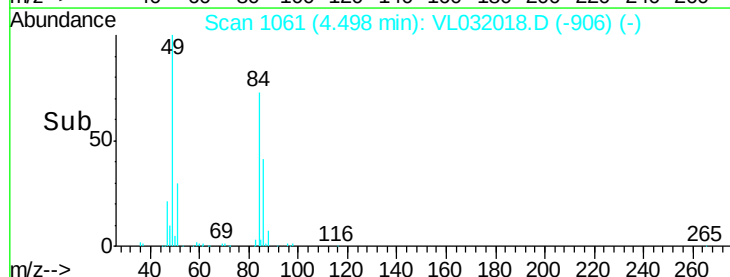
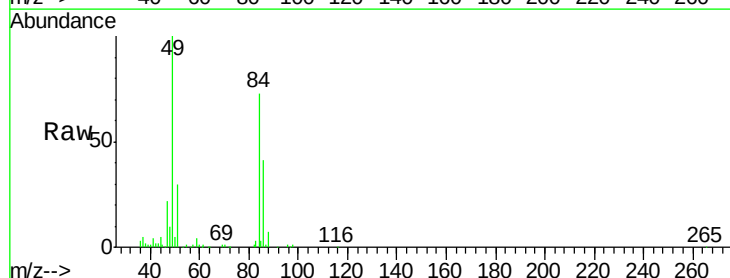
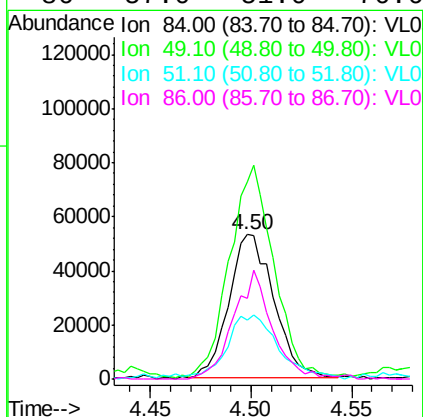
Ion Ratio Lower Upper

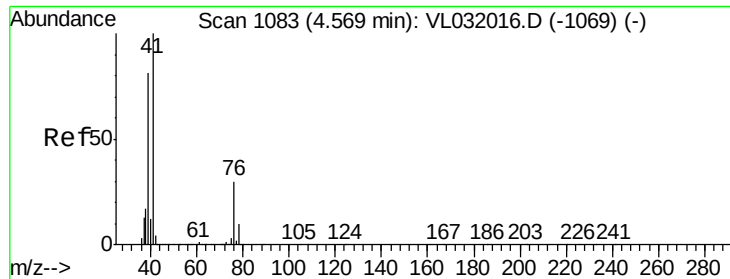
84 100

49 135.5 113.0 169.4

51 39.7 36.4 54.6

86 57.0 51.0 76.6





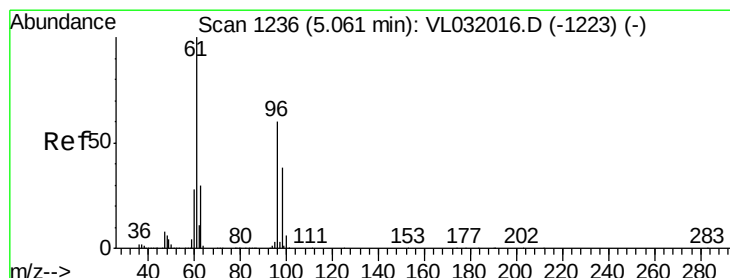
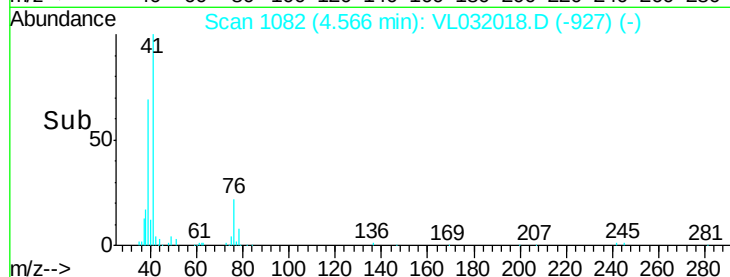
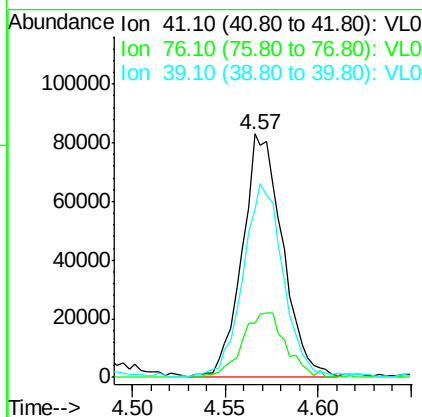
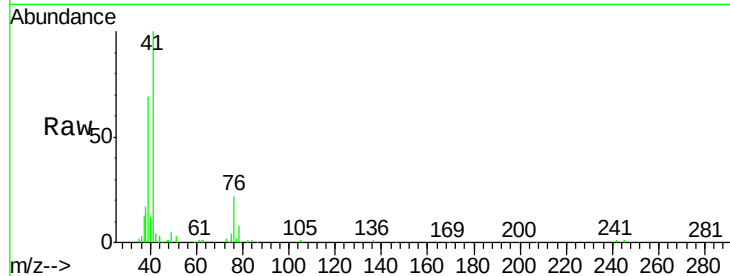
#21  
Allvl Chloride  
Concen: 1.12 ppbv  
RT: 4.57 min Scan# 1082  
Delta R.T. -0.00 min  
Lab File: VL032018.D  
Acq: 31 May 2018 17:23

Instrument :  
MSVOA\_L  
ClientSampleId :  
VSTDIC001

| Tot Ion | Ratio | Resp   | Lower | Upper |
|---------|-------|--------|-------|-------|
| 41      | 100   | 124932 |       |       |
| 76      | 29.2  |        | 23.9  | 35.9  |
| 39      | 79.7  |        | 65.9  | 98.9  |

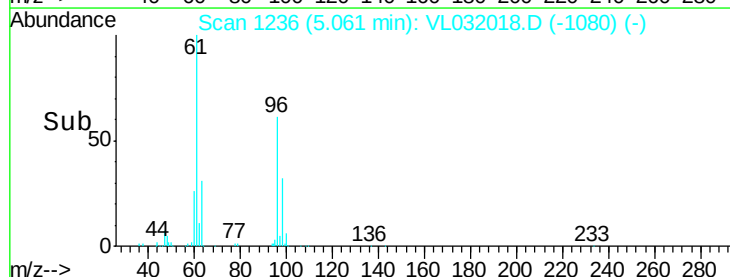
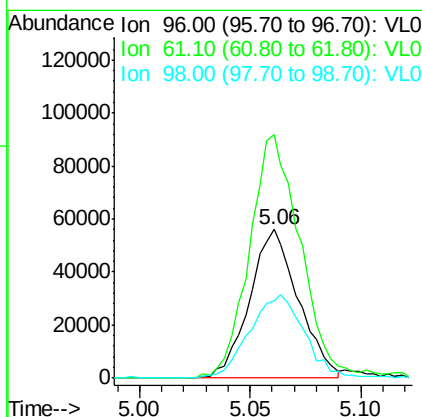
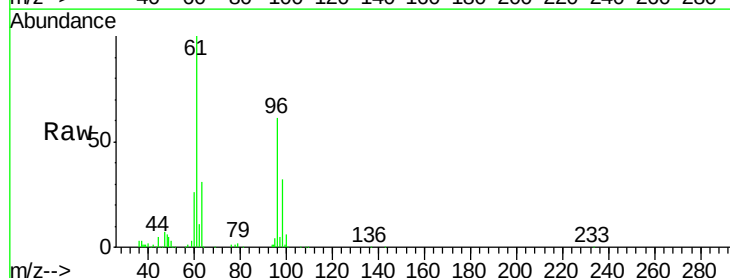
Manual Integrations  
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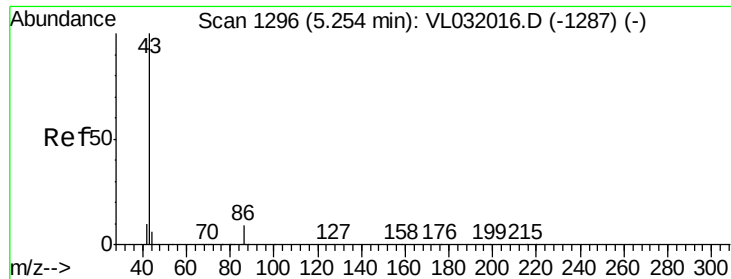
MMDadoda  
6/4/2018 10:54:54 AM



#22  
trans-1,2-Dichloroethene  
Concen: 1.12 ppbv  
RT: 5.06 min Scan# 1236  
Delta R.T. 0.00 min  
Lab File: VL032018.D  
Acq: 31 May 2018 17:23

| Tgt Ion | Ratio | Resp  | Lower | Upper |
|---------|-------|-------|-------|-------|
| 96      | 100   | 85862 |       |       |
| 61      | 163.7 |       | 133.3 | 199.9 |
| 98      | 52.0  |       | 51.0  | 76.4  |





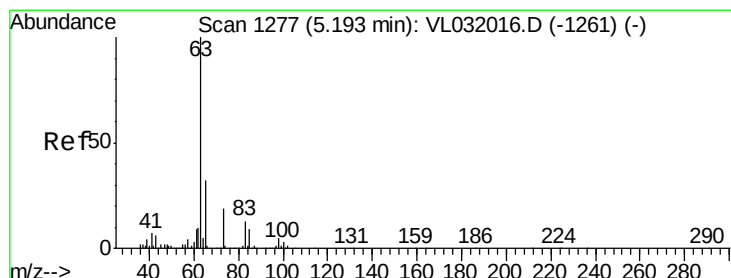
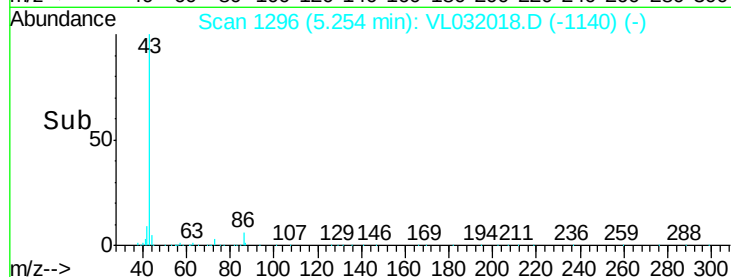
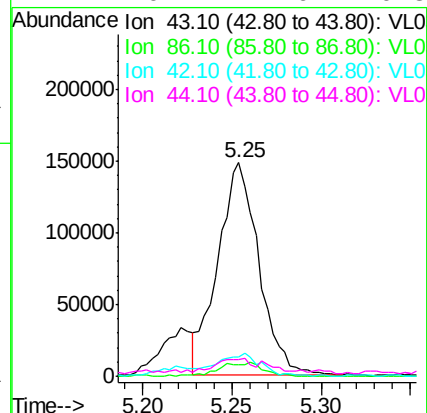
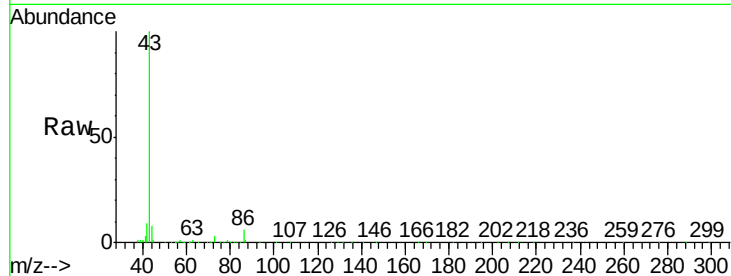
#23  
 Vinyl Acetate  
 Concen: 1.07 ppbv  
 RT: 5.25 min Scan# 1296  
 Delta R.T. 0.00 min  
 Lab File: VL032018.D  
 Acq: 31 May 2018 17:23

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 VSTDIC001

| Tot Ion   | 43    | Resp  | 236675 |
|-----------|-------|-------|--------|
| Ion Ratio | Lower | Upper |        |
| 43        | 100   |       |        |
| 86        | 5.6   | 6.2   | 9.4#   |
| 42        | 8.6   | 8.7   | 13.1#  |
| 44        | 6.1   | 4.6   | 6.8    |

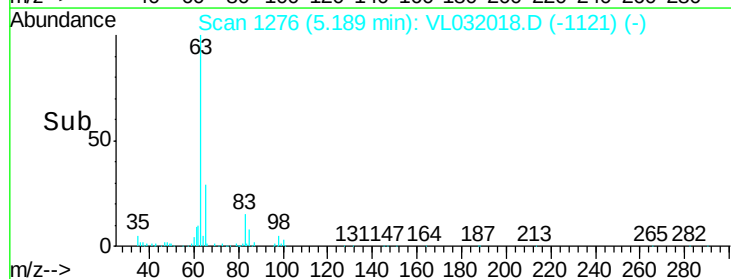
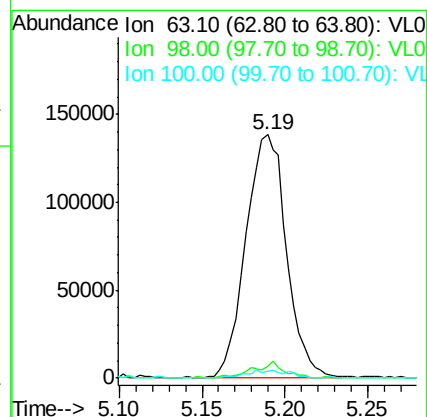
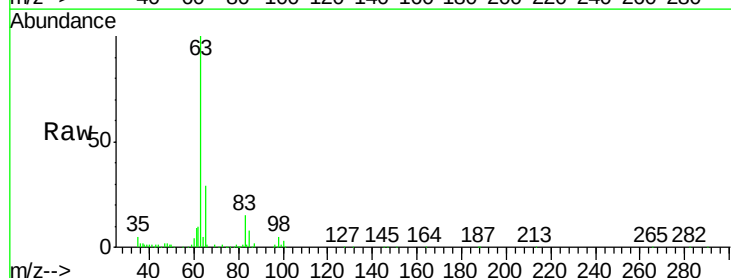
Manual Integrations  
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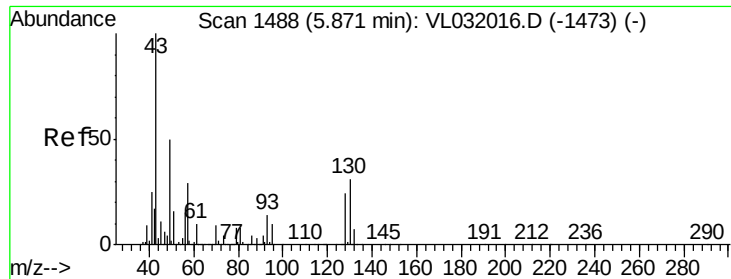
MMDadoda  
 6/4/2018 10:54:54 AM



#24  
 1,1-Dichloroethane  
 Concen: 1.12 ppbv  
 RT: 5.19 min Scan# 1276  
 Delta R.T. -0.00 min  
 Lab File: VL032018.D  
 Acq: 31 May 2018 17:23

| Tgt Ion   | 63    | Resp  | 235295 |
|-----------|-------|-------|--------|
| Ion Ratio | Lower | Upper |        |
| 63        | 100   |       |        |
| 98        | 5.1   | 2.4   | 7.1    |
| 100       | 2.7   | 1.5   | 4.5    |





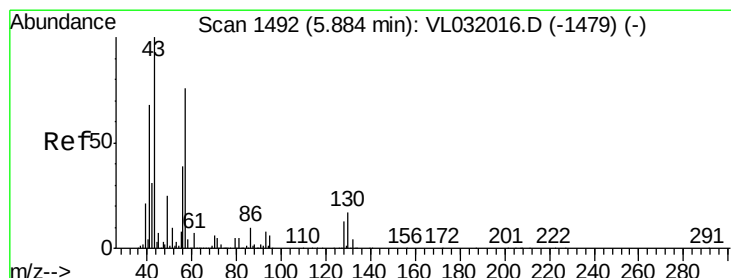
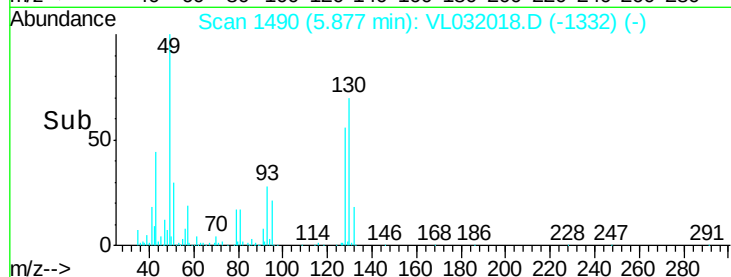
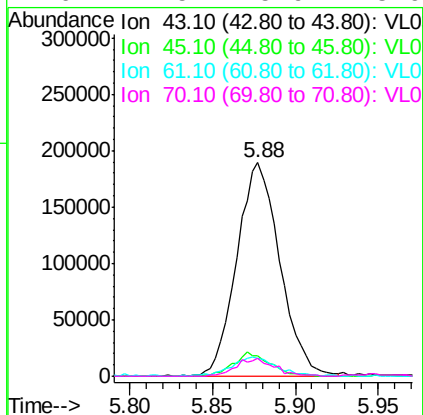
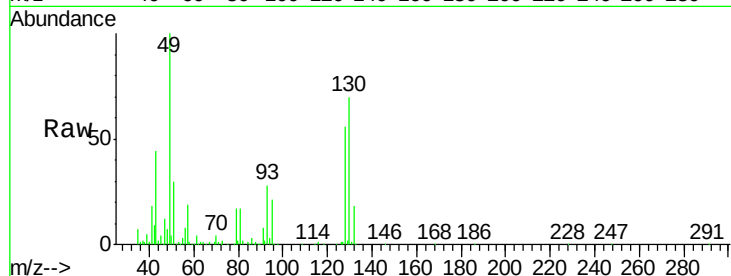
#25  
Ethyl Acetate  
Concen: 1.02 ppbv  
RT: 5.88 min Scan# 1490  
Delta R.T. 0.01 min  
Lab File: VL032018.D  
Acq: 31 May 2018 17:23

Instrument :  
MSVOA\_L  
ClientSampleId :  
VSTDIC001

| Tot Ion | Ratio | Resp   | Lower | Upper |
|---------|-------|--------|-------|-------|
| 43      | 100   | 340166 |       |       |
| 45      | 9.7   |        | 7.8   | 11.6  |
| 61      | 9.7   |        | 7.4   | 11.2  |
| 70      | 7.5   |        | 5.9   | 8.9   |

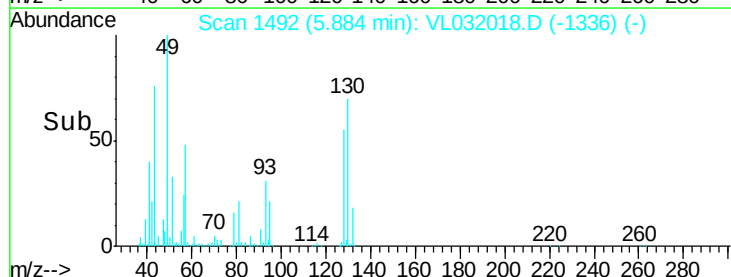
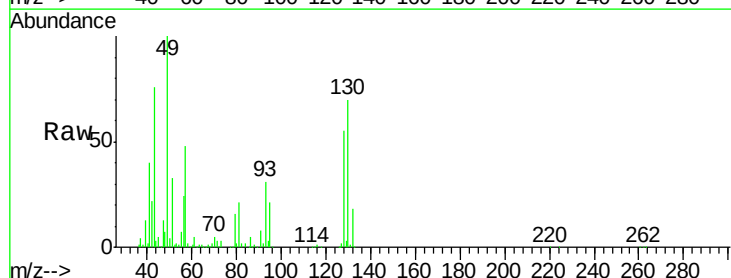
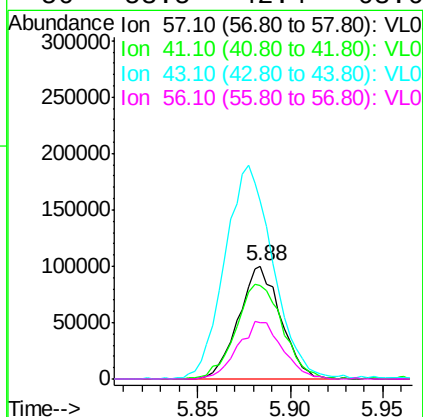
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6/4/2018 10:54:54 AM

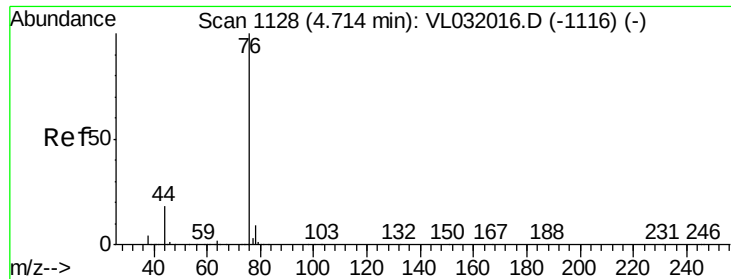


#26  
Hexane  
Concen: 1.01 ppbv  
RT: 5.88 min Scan# 1492  
Delta R.T. 0.00 min  
Lab File: VL032018.D  
Acq: 31 May 2018 17:23

| Tgt Ion | Ratio | Resp   | Lower | Upper |
|---------|-------|--------|-------|-------|
| 57      | 100   | 158408 |       |       |
| 41      | 92.9  |        | 71.4  | 107.2 |
| 43      | 218.9 |        | 168.6 | 252.8 |
| 56      | 53.5  |        | 42.4  | 63.6  |







#27

Carbon Disulfide

Concen: 1.16 ppbv

RT: 4.72 min Scan# 1129

Delta R.T. 0.00 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

Instrument :

MSVOA\_L

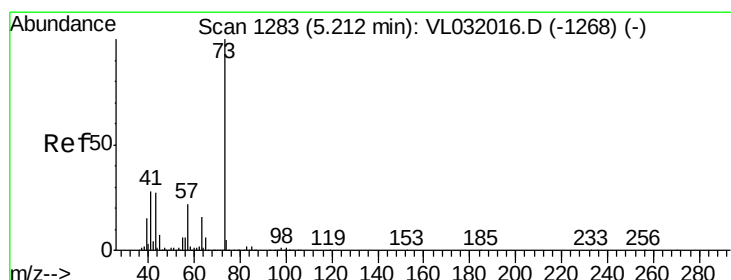
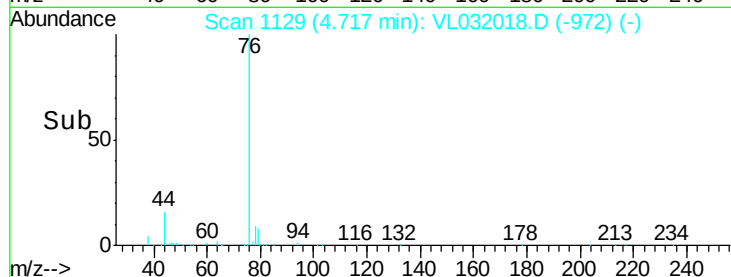
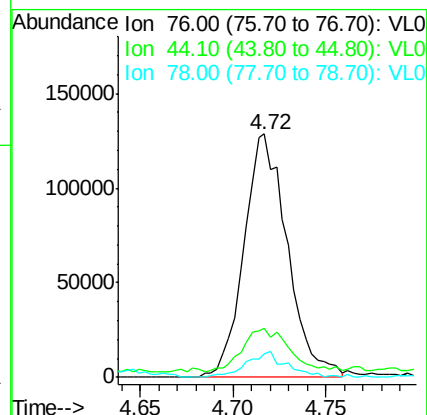
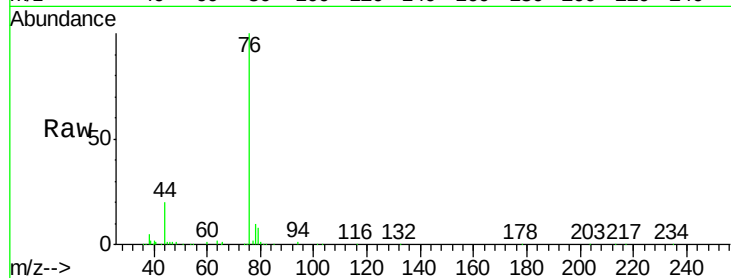
ClientSampleId :

VSTDIC001

|           |       |       |        |
|-----------|-------|-------|--------|
| Tot Ion:  | 76    | Resp: | 209267 |
| Ion Ratio | Lower | Upper |        |
| 76        | 100   |       |        |
| 44        | 21.0  | 14.9  | 22.3   |
| 78        | 10.2  | 7.6   | 11.4   |

Manual Integrations  
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6/4/2018 10:54:54 AM



#28

Methyl tert-Butyl Ether

Concen: 1.02 ppbv

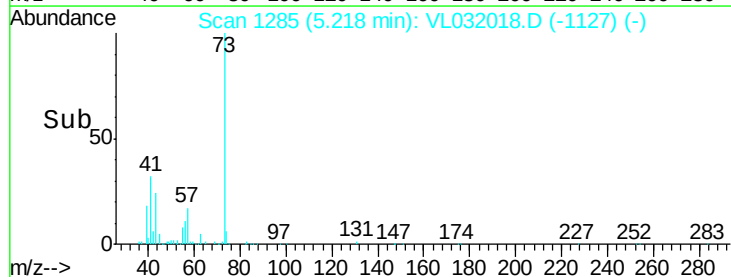
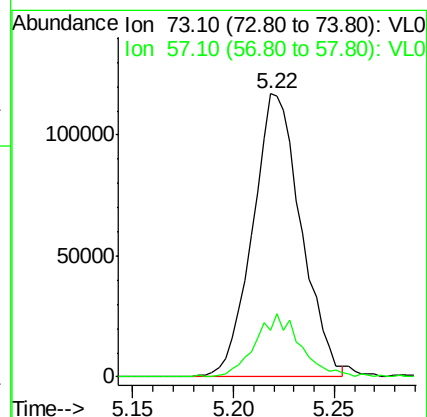
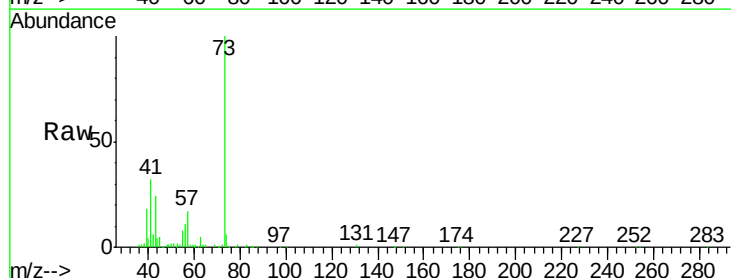
RT: 5.22 min Scan# 1285

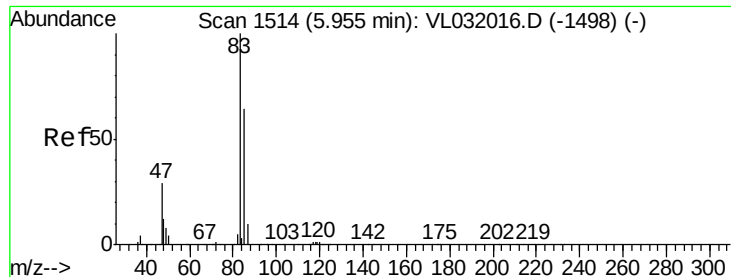
Delta R.T. 0.01 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

|           |       |       |        |
|-----------|-------|-------|--------|
| Tgt Ion:  | 73    | Resp: | 196543 |
| Ion Ratio | Lower | Upper |        |
| 73        | 100   |       |        |
| 57        | 21.3  | 17.8  | 26.8   |





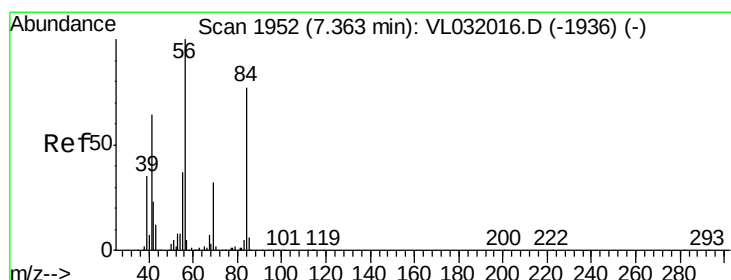
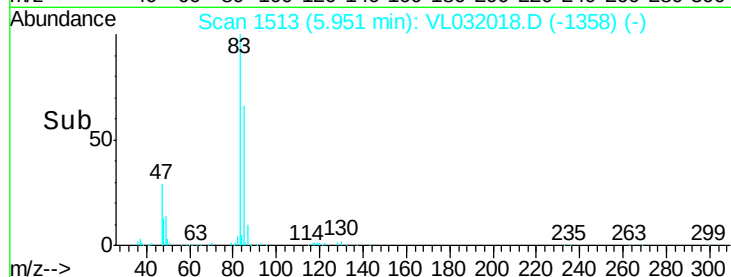
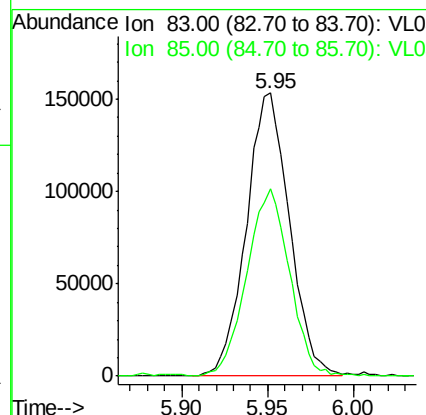
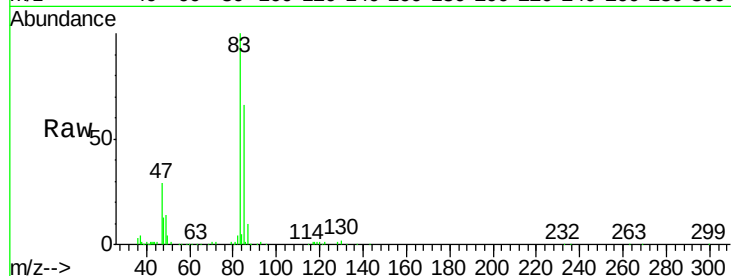
#29  
Chloroform  
Concen: 1.07 ppbv  
RT: 5.95 min Scan# 1513  
Delta R.T. -0.00 min  
Lab File: VL032018.D  
Acq: 31 May 2018 17:23

Instrument :  
MSVOA\_L  
ClientSampleId :  
VSTDIC001

| Tot Ion   | 83   | Resp  | 266441 |
|-----------|------|-------|--------|
| Ion Ratio | 100  | Lower | Upper  |
| 83        | 100  |       |        |
| 85        | 66.1 | 50.9  | 76.3   |

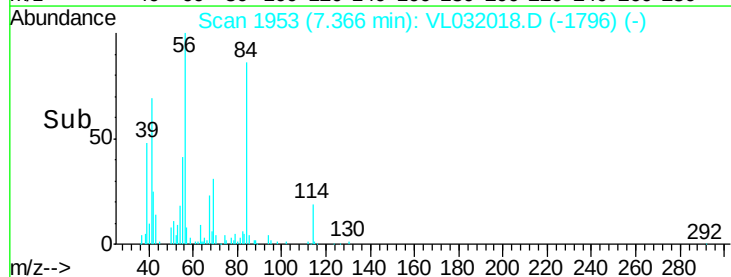
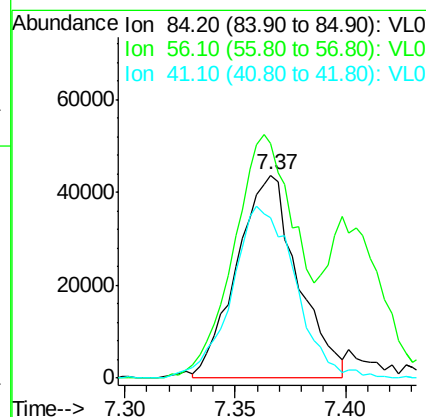
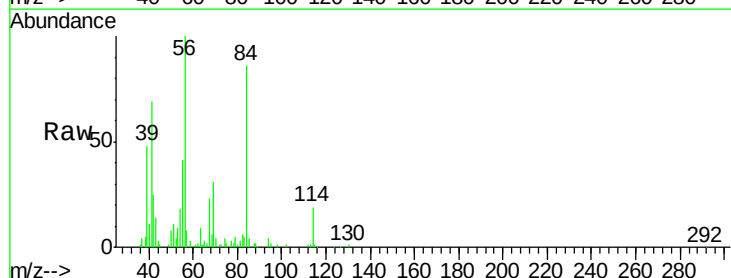
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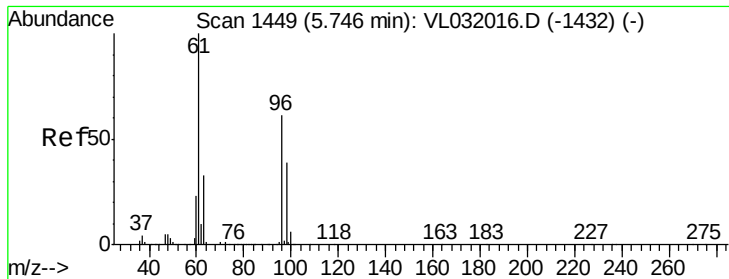
MMDadoda  
6/4/2018 10:54:54 AM



#30  
Cyclohexane  
Concen: 0.81 ppbv  
RT: 7.37 min Scan# 1953  
Delta R.T. 0.00 min  
Lab File: VL032018.D  
Acq: 31 May 2018 17:23

| Tgt Ion   | 84    | Resp  | 84212 |
|-----------|-------|-------|-------|
| Ion Ratio | 100   | Lower | Upper |
| 84        | 100   |       |       |
| 56        | 126.4 | 108.6 | 162.8 |
| 41        | 88.7  | 66.8  | 100.2 |





#31

cis-1,2-Dichloroethene

Concen: 0.97 ppbv

RT: 5.74 min Scan# 1448

Delta R.T. -0.00 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

Instrument :

MSVOA\_L

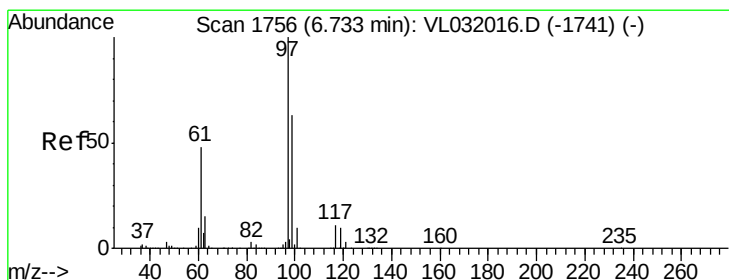
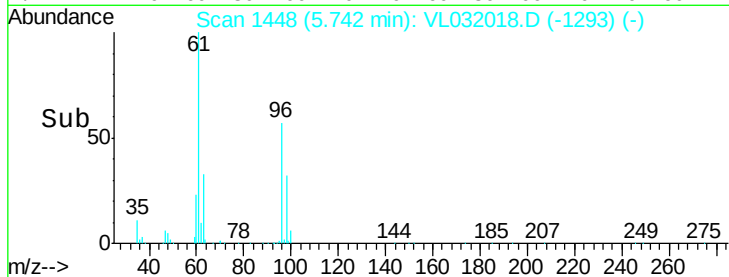
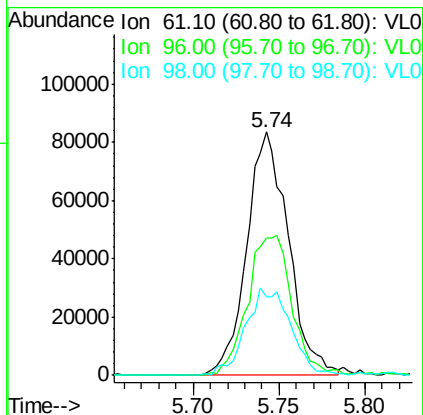
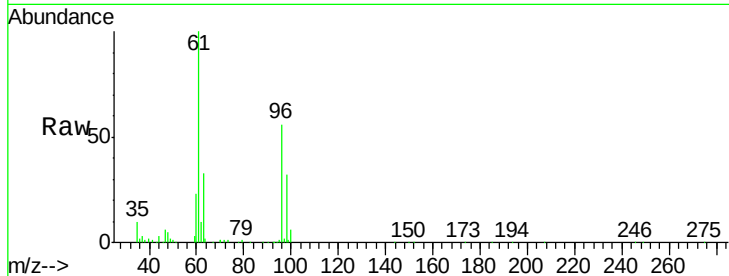
ClientSampleId :

VSTDIC001

| Tot Ion   | 61    | Resp  | 140057 |
|-----------|-------|-------|--------|
| Ion Ratio | Lower | Upper |        |
| 61        | 100   |       |        |
| 96        | 56.0  | 49.0  | 73.6   |
| 98        | 32.9  | 31.2  | 46.8   |

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6/4/2018 10:54:54 AM



#32

1,1,1-Trichloroethane

Concen: 0.95 ppbv

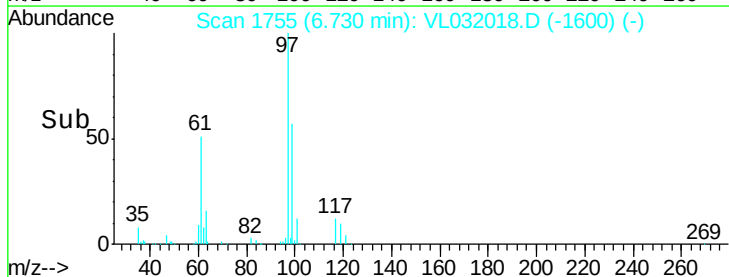
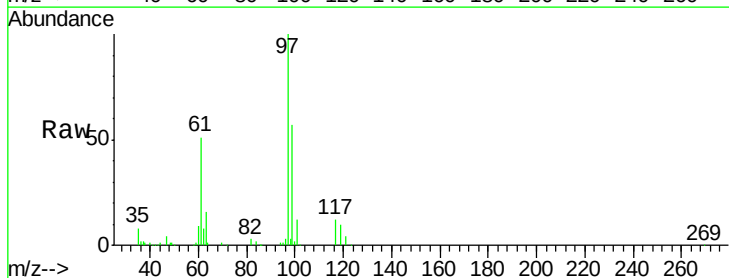
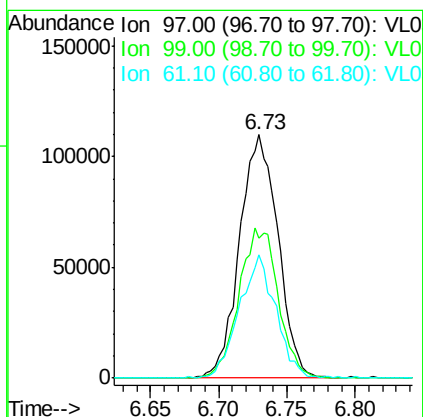
RT: 6.73 min Scan# 1755

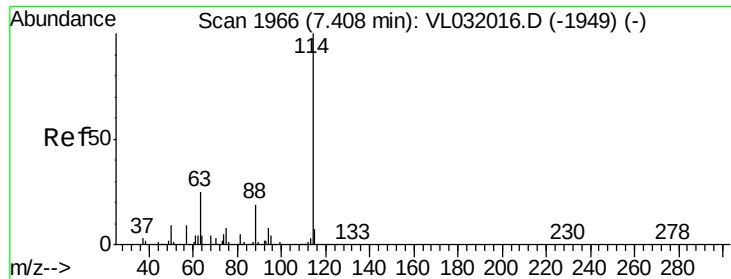
Delta R.T. -0.00 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

| Tgt Ion   | 97    | Resp  | 215019 |
|-----------|-------|-------|--------|
| Ion Ratio | Lower | Upper |        |
| 97        | 100   |       |        |
| 99        | 62.8  | 51.5  | 77.3   |
| 61        | 48.3  | 39.4  | 59.2   |





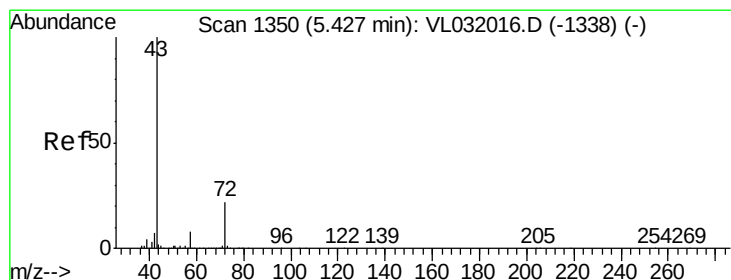
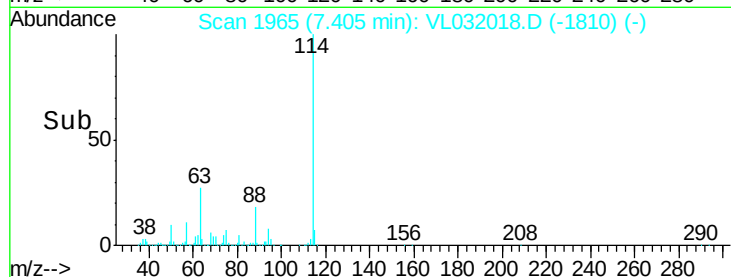
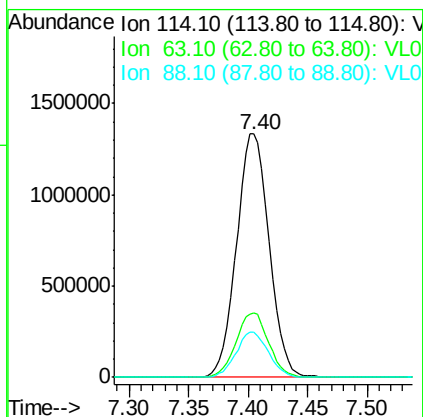
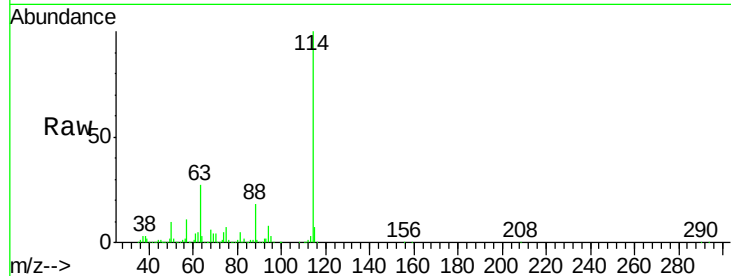
#33  
 1,4-Difluorobenzene  
 Concen: 10.00 ppbv  
 RT: 7.40 min Scan# 1965  
 Delta R.T. -0.00 min  
 Lab File: VL032018.D  
 Acq: 31 May 2018 17:23

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 VSTDIC001

| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 114     | 100   |       |       |
| 63      | 26.5  | 21.1  | 31.7  |
| 88      | 18.5  | 14.8  | 22.2  |

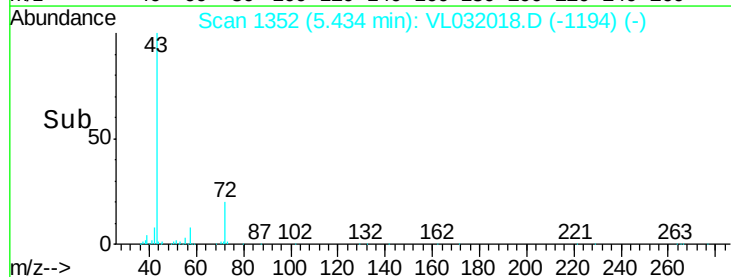
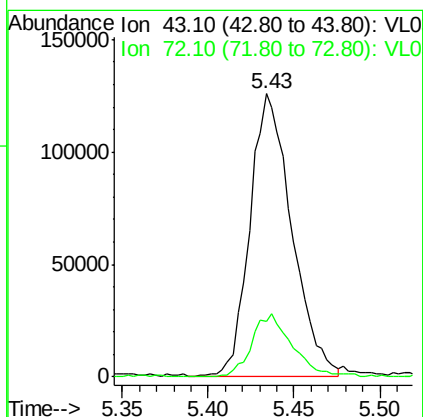
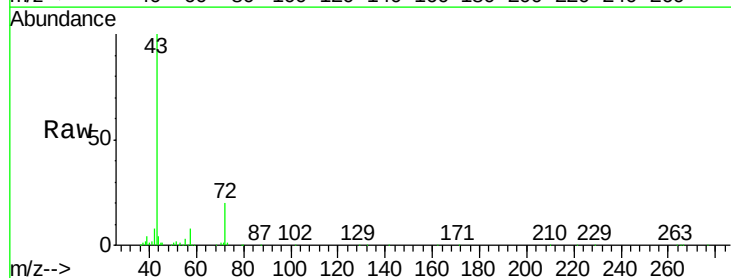
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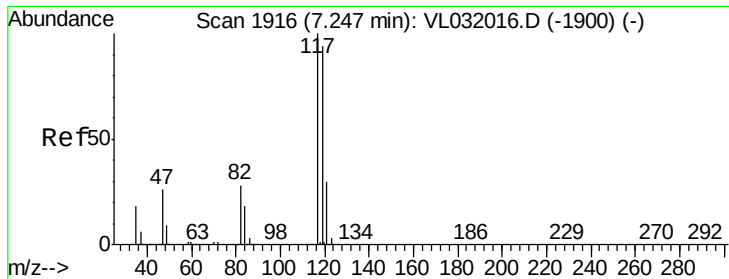
MMDadoda  
 6/4/2018 10:54:54 AM



#34  
 2-Butanone  
 Concen: 1.01 ppbv  
 RT: 5.43 min Scan# 1352  
 Delta R.T. 0.01 min  
 Lab File: VL032018.D  
 Acq: 31 May 2018 17:23

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 43      | 100   |       |       |
| 72      | 22.0  | 18.6  | 27.8  |





#35

Carbon Tetrachloride

Concen: 1.06 ppbv

RT: 7.24 min Scan# 1915

Delta R.T. -0.00 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

Instrument :

MSVOA\_L

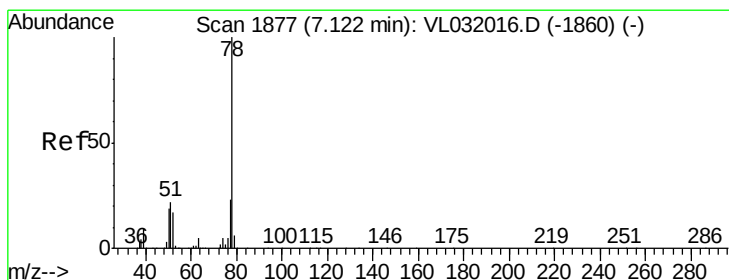
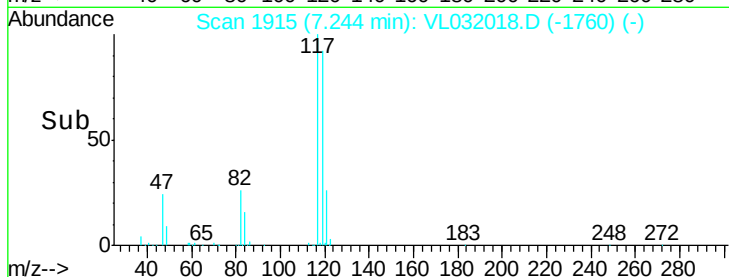
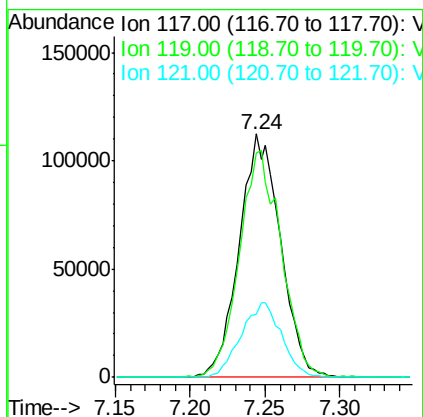
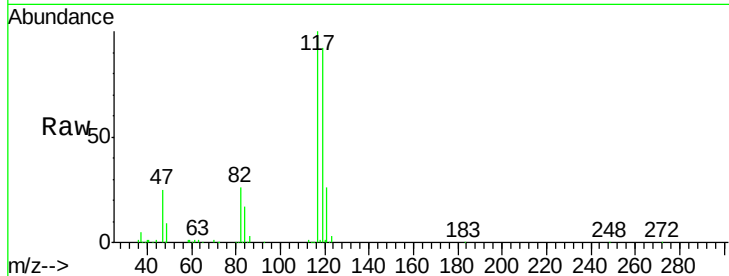
ClientSampleId :

VSTDIC001

|           |       |       |        |
|-----------|-------|-------|--------|
| Tot Ion:  | 117   | Resp: | 215680 |
| Ion Ratio | Lower | Upper |        |
| 117       | 100   |       |        |
| 119       | 92.1  | 75.3  | 112.9  |
| 121       | 26.1  | 24.1  | 36.1   |

Manual Integrations  
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6/4/2018 10:54:54 AM



#36

Benzene

Concen: 0.98 ppbv

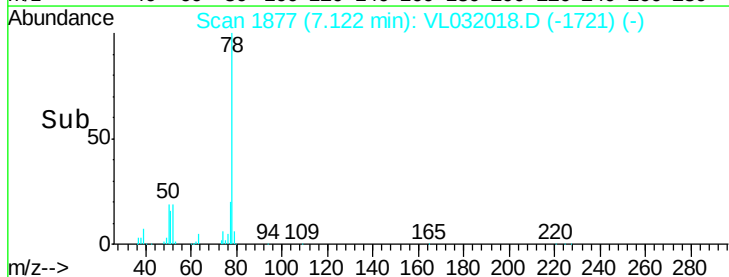
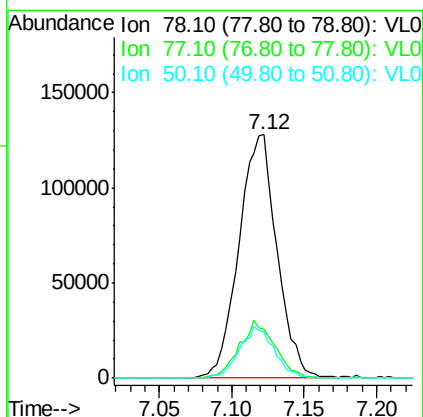
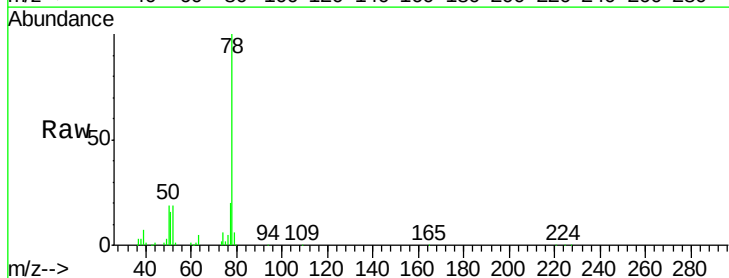
RT: 7.12 min Scan# 1877

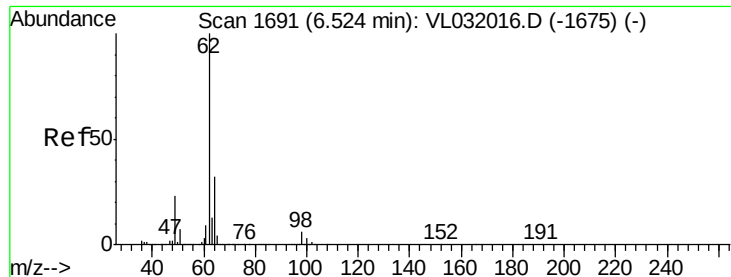
Delta R.T. 0.00 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

|           |       |       |        |
|-----------|-------|-------|--------|
| Tgt Ion:  | 78    | Resp: | 233790 |
| Ion Ratio | Lower | Upper |        |
| 78        | 100   |       |        |
| 77        | 20.3  | 18.1  | 27.1   |
| 50        | 19.2  | 14.9  | 22.3   |





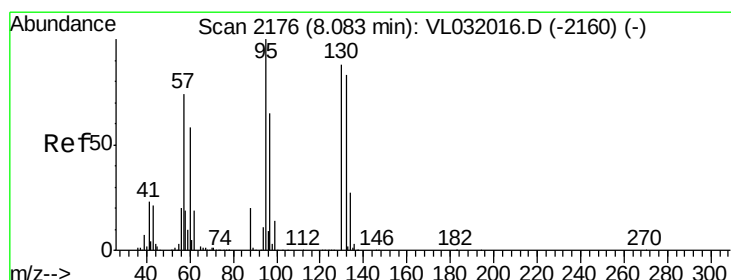
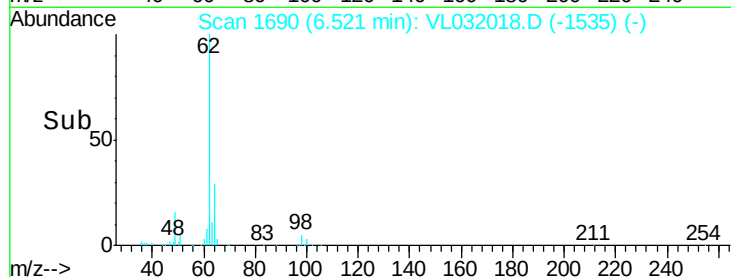
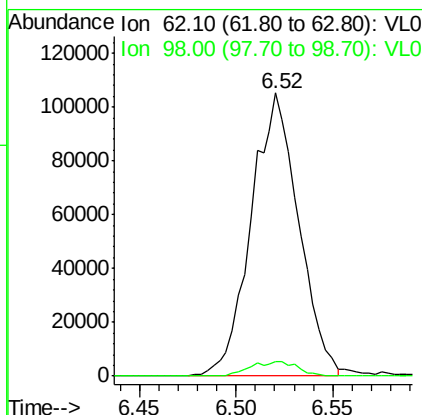
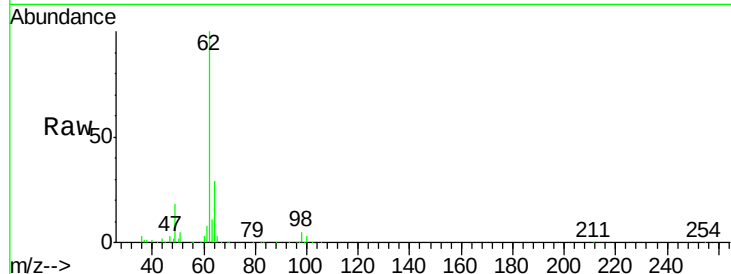
#37  
 1,2-Dichloroethane  
 Concen: 1.06 ppbv  
 RT: 6.52 min Scan# 1690  
 Delta R.T. -0.00 min  
 Lab File: VL032018.D  
 Acq: 31 May 2018 17:23

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 VSTDIC001

| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 62      | 100   |       |       |
| 98      | 5.4   | 4.2   | 6.4   |

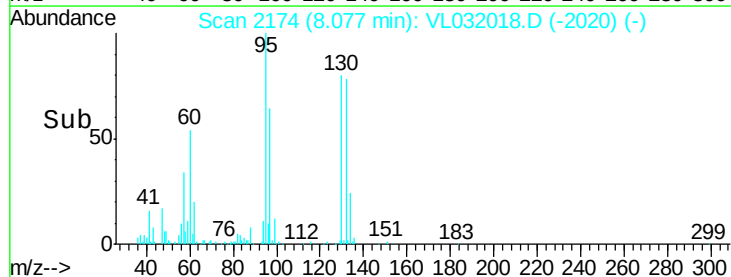
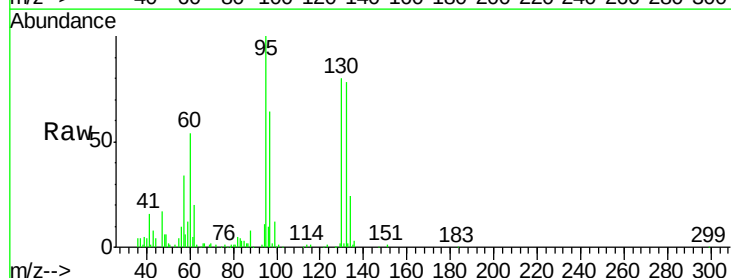
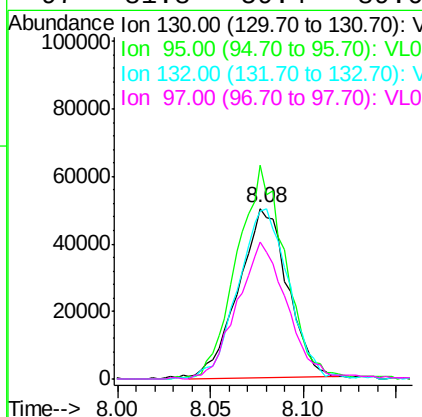
Manual Integrations  
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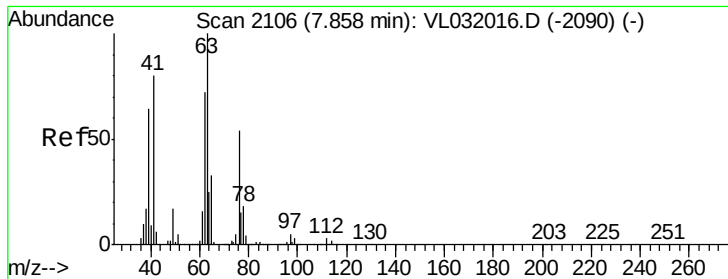
MMDadoda  
 6/4/2018 10:54:54 AM



#38  
 Trichloroethene  
 Concen: 1.01 ppbv  
 RT: 8.08 min Scan# 2174  
 Delta R.T. -0.01 min  
 Lab File: VL032018.D  
 Acq: 31 May 2018 17:23

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 130     | 100   |       |       |
| 95      | 126.3 | 90.7  | 136.1 |
| 132     | 99.2  | 75.6  | 113.4 |
| 97      | 81.8  | 59.4  | 89.0  |





#39

1,2-Dichloropropane

Concen: 1.04 ppbv m

RT: 7.85 min Scan# 2103

Delta R.T. -0.01 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

Instrument :

MSVOA\_L

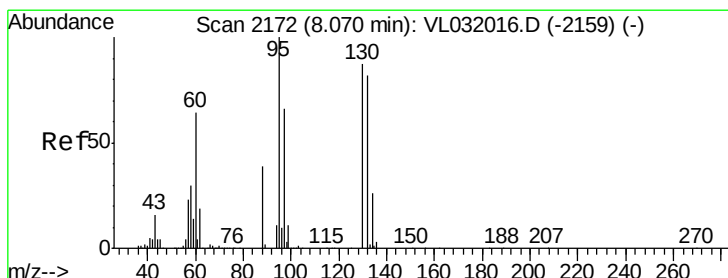
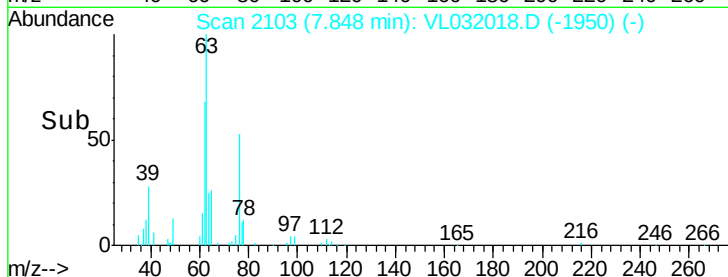
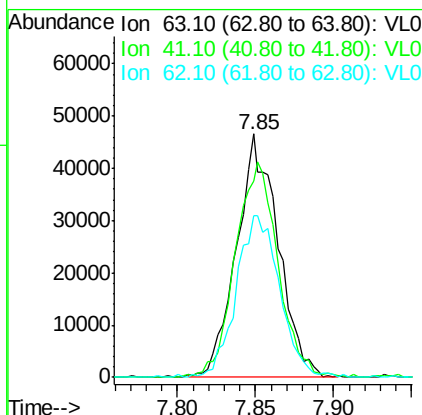
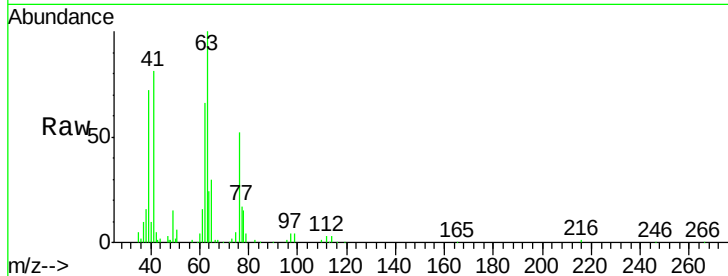
ClientSampleId :

VSTDIC001

|          |       |       |       |
|----------|-------|-------|-------|
| Tot Ion: | 63    | Resp: | 86372 |
| Ion      | Ratio | Lower | Upper |
| 63       | 100   |       |       |
| 41       | 80.6  | 64.0  | 96.0  |
| 62       | 66.2  | 57.6  | 86.4  |

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6/4/2018 10:54:54 AM



#40

1,4-Dioxane

Concen: 1.09 ppbv m

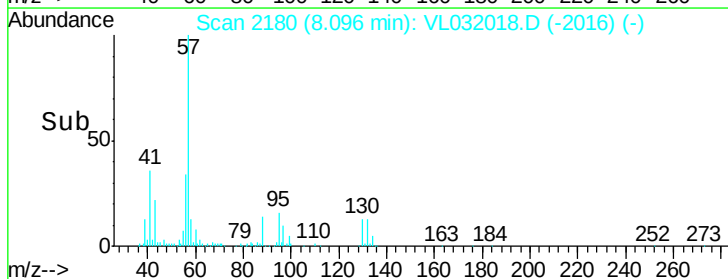
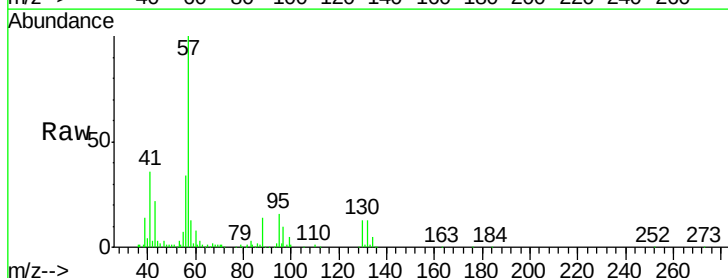
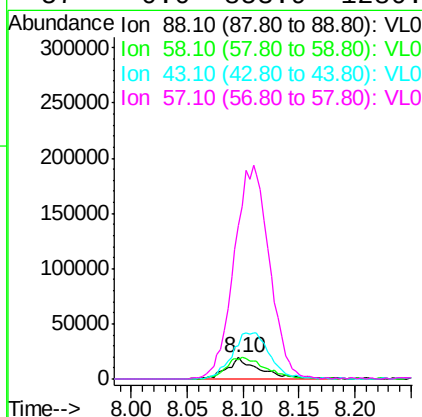
RT: 8.10 min Scan# 2180

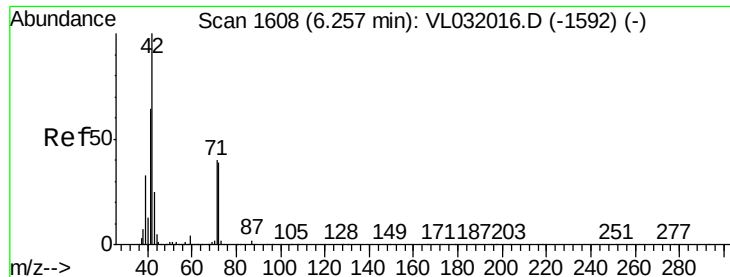
Delta R.T. 0.03 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

|          |       |       |         |
|----------|-------|-------|---------|
| Tgt Ion: | 88    | Resp: | 40649   |
| Ion      | Ratio | Lower | Upper   |
| 88       | 100   |       |         |
| 58       | 121.3 | 100.5 | 150.7   |
| 43       | 0.0   | 193.8 | 290.6#  |
| 57       | 0.0   | 853.9 | 1280.9# |





#41

Tetrahydrofuran

Concen: 0.82 ppbv

RT: 6.27 min Scan# 1612

Delta R.T. 0.01 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

Instrument :

MSVOA\_L

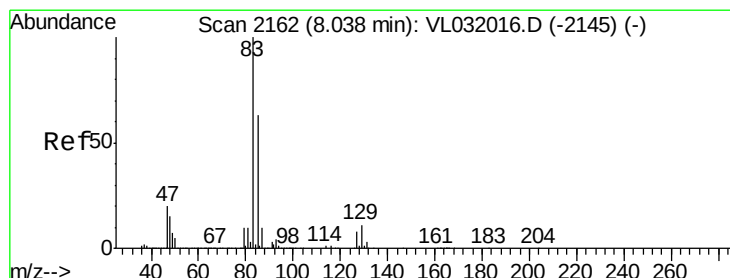
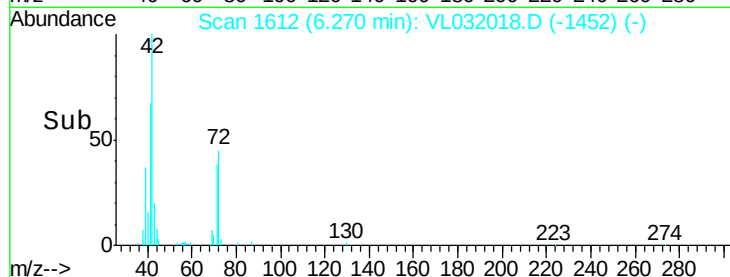
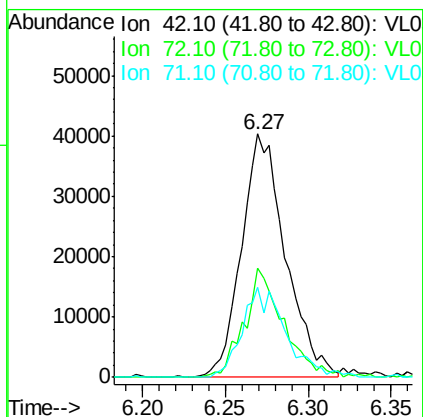
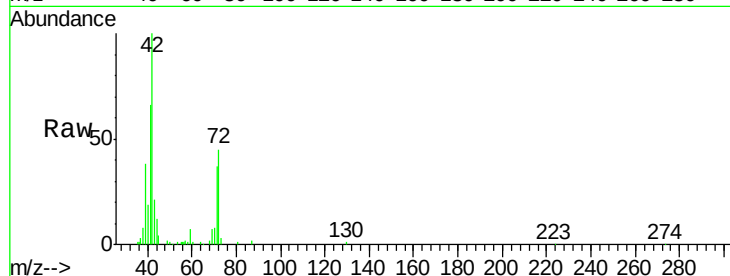
ClientSampleId :

VSTDIC001

|          |       |       |       |
|----------|-------|-------|-------|
| Tot Ion: | 42    | Resp: | 74447 |
| Ion      | Ratio | Lower | Upper |
| 42       | 100   |       |       |
| 72       | 40.4  | 32.3  | 48.5  |
| 71       | 36.7  | 32.3  | 48.5  |

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6/4/2018 10:54:54 AM



#42

Bromodichloromethane

Concen: 1.12 ppbv

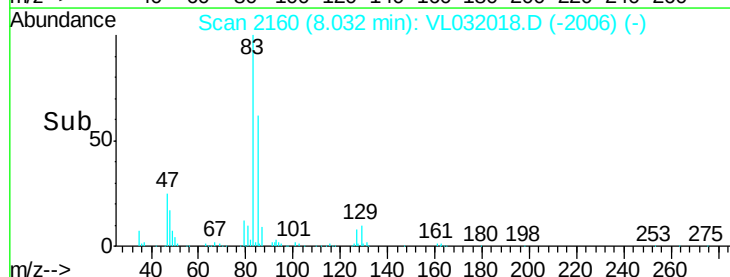
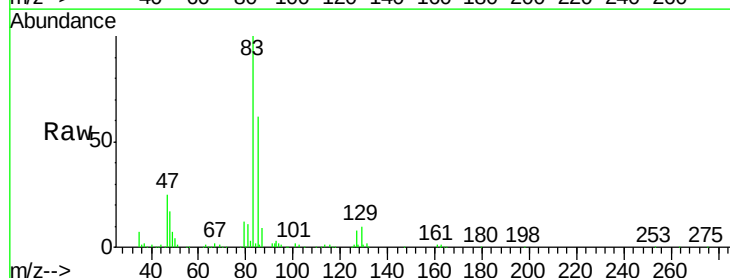
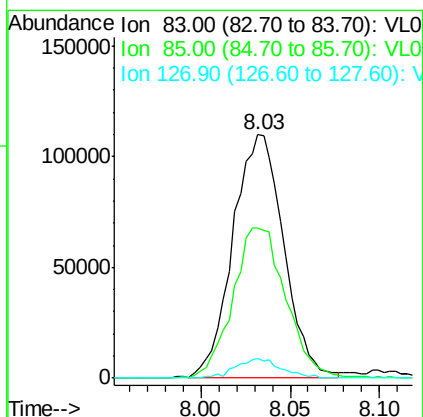
RT: 8.03 min Scan# 2160

Delta R.T. -0.01 min

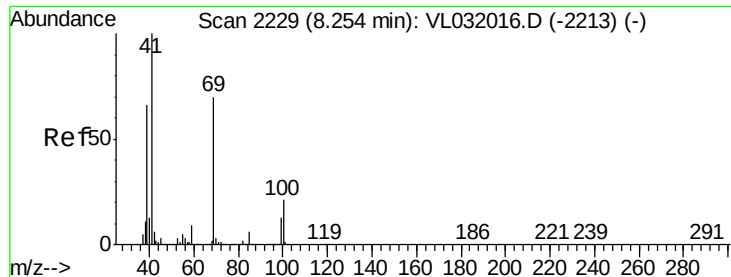
Lab File: VL032018.D

Acq: 31 May 2018 17:23

|          |       |       |        |
|----------|-------|-------|--------|
| Tgt Ion: | 83    | Resp: | 216643 |
| Ion      | Ratio | Lower | Upper  |
| 83       | 100   |       |        |
| 85       | 62.0  | 50.3  | 75.5   |
| 127      | 7.9   | 6.6   | 9.8    |







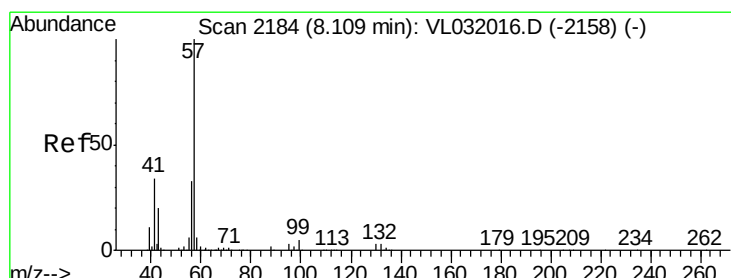
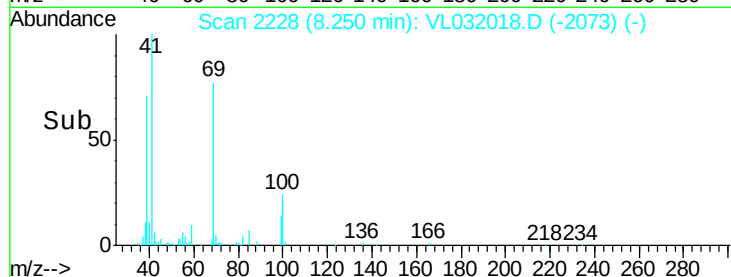
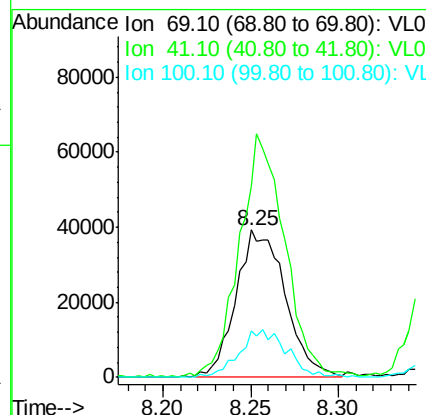
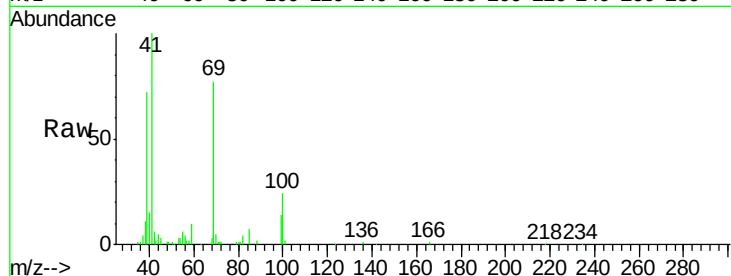
#43  
Methyl Methacrylate  
Concen: 0.94 ppbv m  
RT: 8.25 min Scan# 2228  
Delta R.T. -0.00 min  
Lab File: VL032018.D  
Acq: 31 May 2018 17:23

Instrument :  
MSVOA\_L  
ClientSampleId :  
VSTDIC001

| Tot Ion | Ion | Ratio | Resp   | Lower | Upper |
|---------|-----|-------|--------|-------|-------|
| 69      | 100 |       | 76609  |       |       |
| 41      | 0.0 | 115.5 | 173.3# |       |       |
| 100     | 0.0 | 25.4  | 38.0#  |       |       |

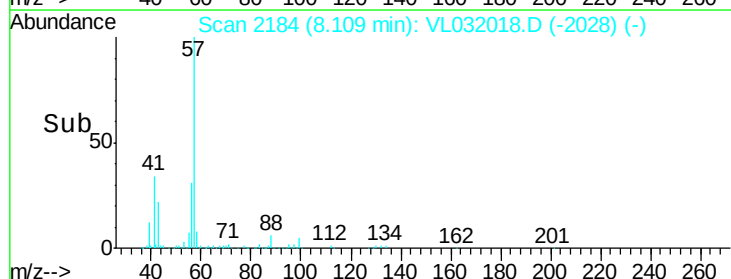
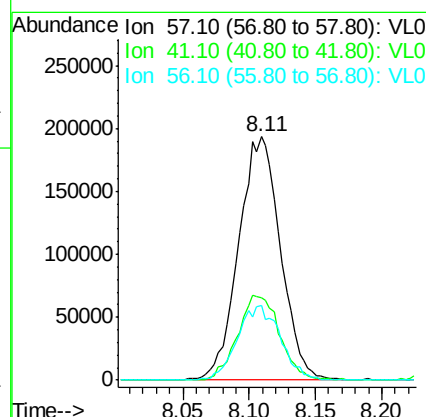
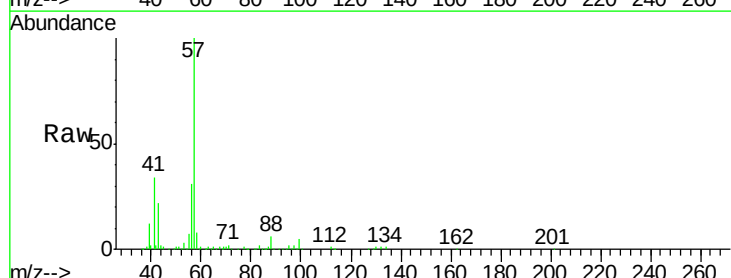
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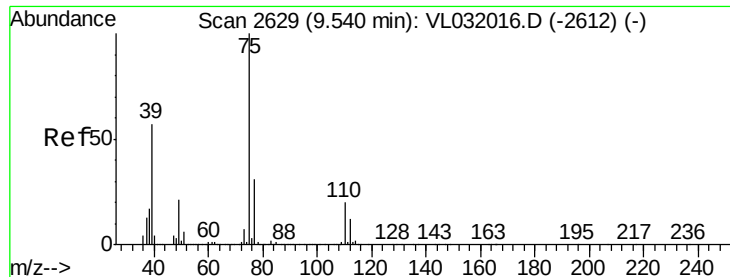
MMDadoda  
6/4/2018 10:54:54 AM



#44  
2,2,4-Trimethylpentane  
Concen: 1.08 ppbv  
RT: 8.11 min Scan# 2184  
Delta R.T. 0.00 min  
Lab File: VL032018.D  
Acq: 31 May 2018 17:23

| Tgt Ion | Ion  | Ratio | Resp   | Lower | Upper |
|---------|------|-------|--------|-------|-------|
| 57      | 100  |       | 419695 |       |       |
| 41      | 35.5 | 26.6  | 40.0   |       |       |
| 56      | 31.6 | 24.9  | 37.3   |       |       |





#45

t-1,3-Dichloropropene

Concen: 0.91 ppbv

RT: 9.54 min Scan# 2628

Delta R.T. -0.00 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

Instrument :

MSVOA\_L

ClientSampleId :

VSTDIC001

Tot Ion: 75 Resp: 97827

Ion Ratio Lower Upper

75 100

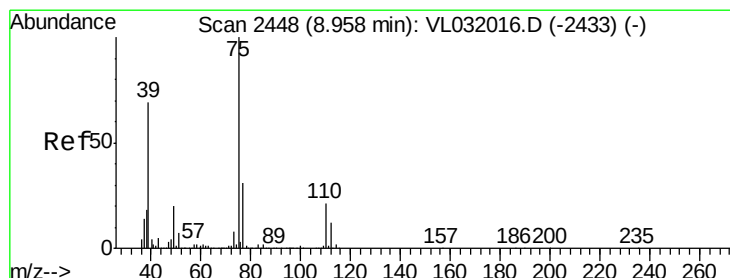
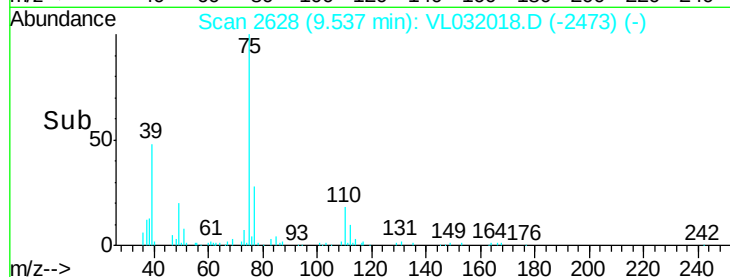
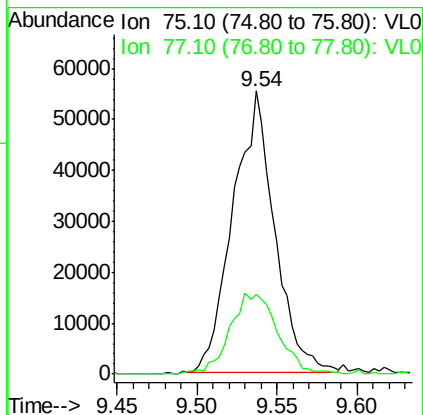
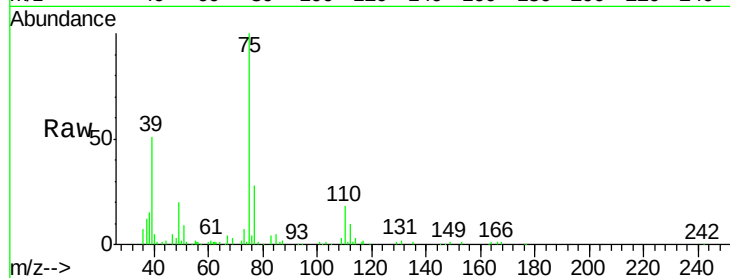
77 28.2 25.0 37.4

Manual Integrations

APPROVED

MMDadoda

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#46

cis-1,3-Dichloropropene

Concen: 0.98 ppbv

RT: 8.96 min Scan# 2448

Delta R.T. 0.00 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

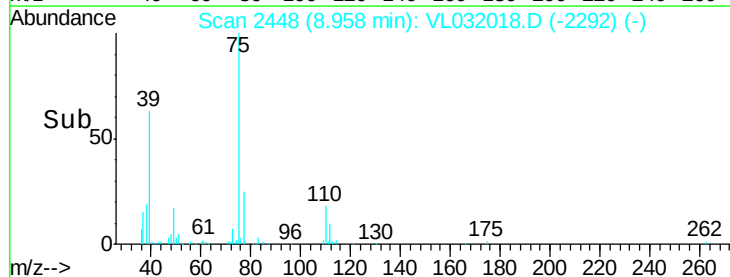
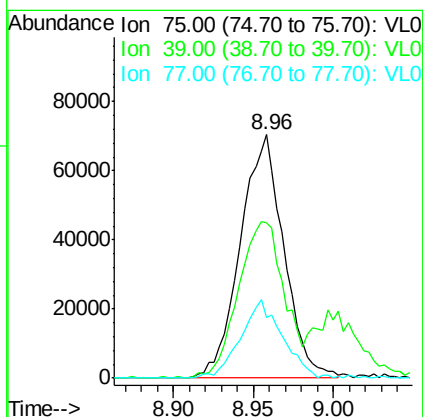
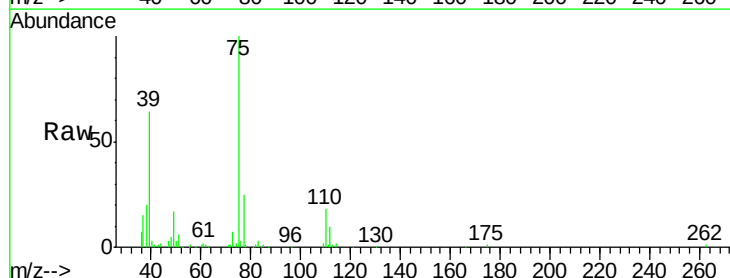
Tgt Ion: 75 Resp: 130808

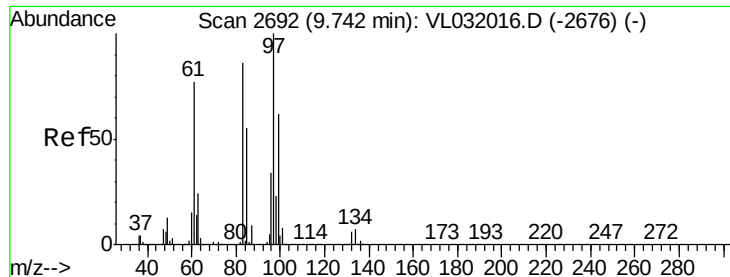
Ion Ratio Lower Upper

75 100

39 63.1 55.0 82.6

77 24.8 25.0 37.6#





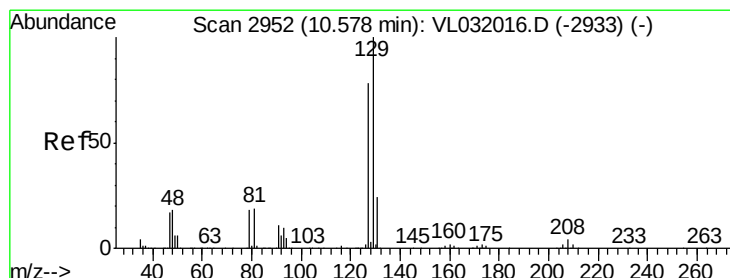
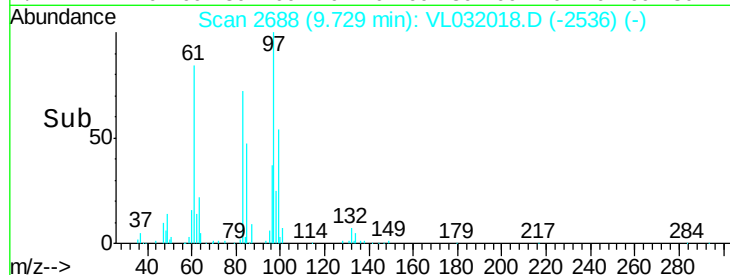
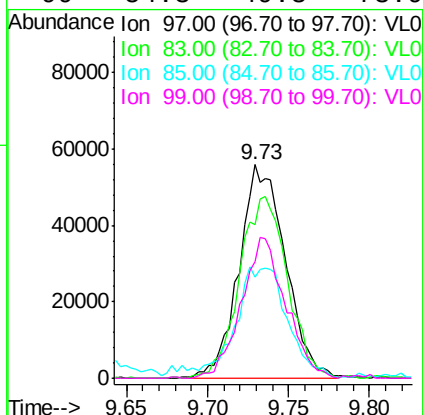
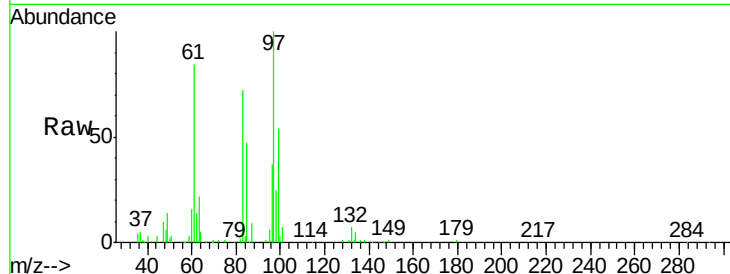
#47  
 1,1,2-Trichloroethane  
 Concen: 1.12 ppbv m  
 RT: 9.73 min Scan# 2688  
 Delta R.T. -0.01 min  
 Lab File: VL032018.D  
 Acq: 31 May 2018 17:23

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 VSTDIC001

|          |       |       |        |
|----------|-------|-------|--------|
| Tot Ion: | 97    | Resp: | 110801 |
| Ion      | Ratio | Lower | Upper  |
| 97       | 100   |       |        |
| 83       | 71.7  | 69.1  | 103.7  |
| 85       | 47.4  | 44.5  | 66.7   |
| 99       | 54.3  | 49.3  | 73.9   |

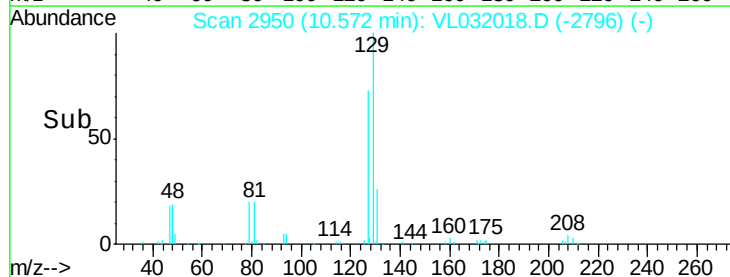
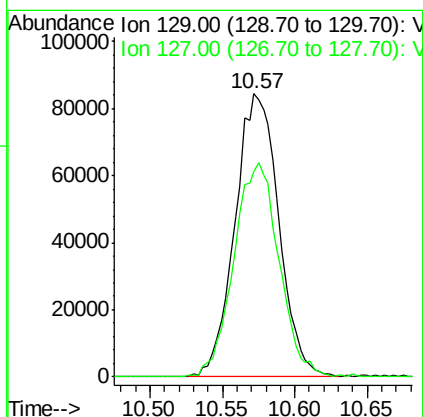
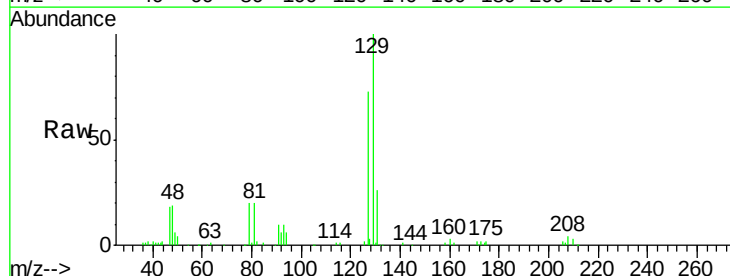
Manual Integrations  
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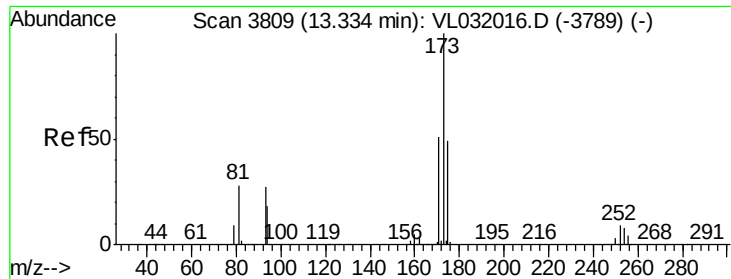
MMDadoda  
 6/4/2018 10:54:54 AM



#48  
 Dibromochloromethane  
 Concen: 1.11 ppbv  
 RT: 10.57 min Scan# 2950  
 Delta R.T. -0.01 min  
 Lab File: VL032018.D  
 Acq: 31 May 2018 17:23

|          |       |       |        |
|----------|-------|-------|--------|
| Tgt Ion: | 129   | Resp: | 177181 |
| Ion      | Ratio | Lower | Upper  |
| 129      | 100   |       |        |
| 127      | 78.0  | 39.3  | 117.9  |





#49

Bromoform

Concen: 1.05 ppbv

RT: 13.32 min Scan# 3806

Delta R.T. -0.01 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

Instrument :

MSVOA\_L

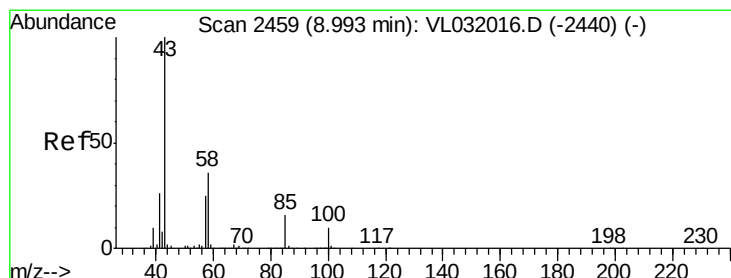
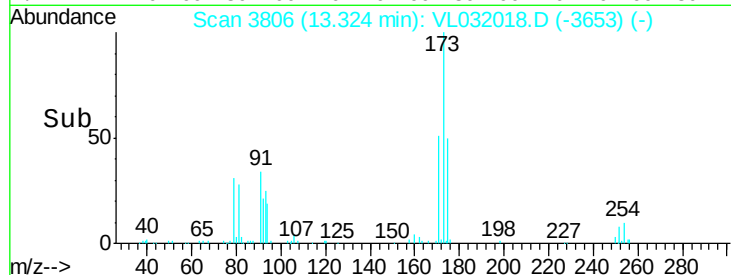
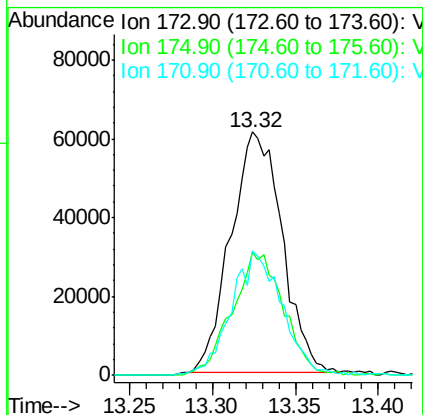
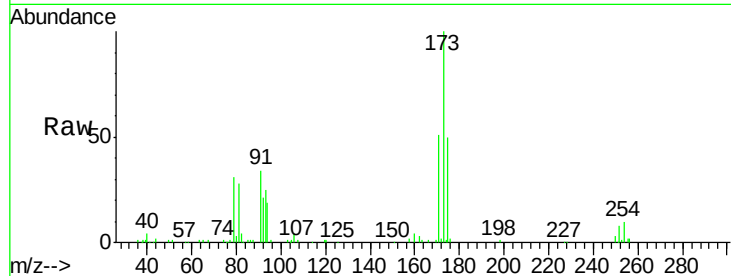
ClientSampleId :

VSTDIC001

|          |       |       |        |
|----------|-------|-------|--------|
| Tot Ion: | 173   | Resp: | 131959 |
| Ion      | Ratio | Lower | Upper  |
| 173      | 100   |       |        |
| 175      | 51.2  | 39.8  | 59.8   |
| 171      | 51.2  | 41.7  | 62.5   |

Manual Integrations  
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MMDadoda  
6/4/2018 10:54:54 AM



#50

4-Methyl-2-Pentanone

Concen: 1.01 ppbv

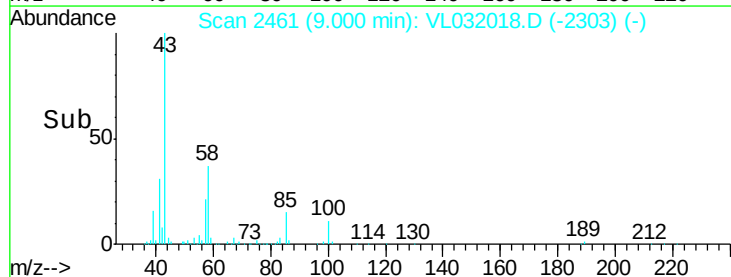
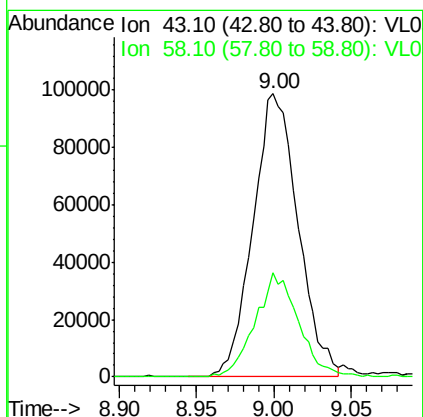
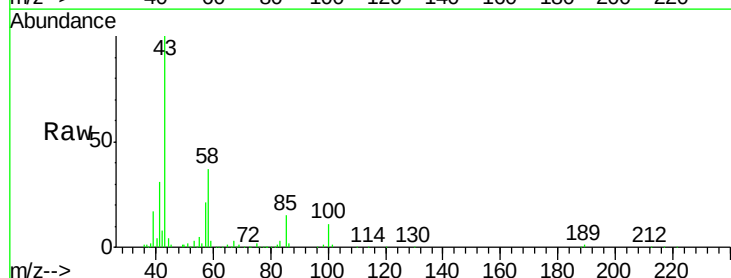
RT: 9.00 min Scan# 2461

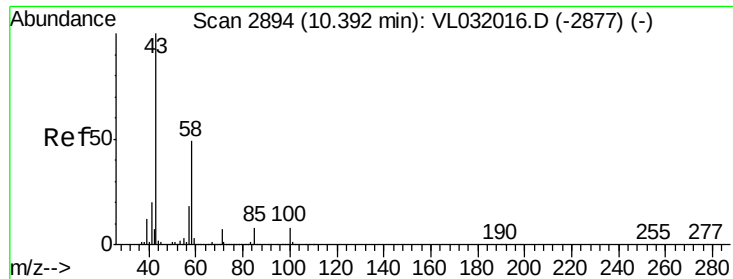
Delta R.T. 0.01 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

|          |       |       |        |
|----------|-------|-------|--------|
| Tgt Ion: | 43    | Resp: | 200100 |
| Ion      | Ratio | Lower | Upper  |
| 43       | 100   |       |        |
| 58       | 35.3  | 29.1  | 43.7   |





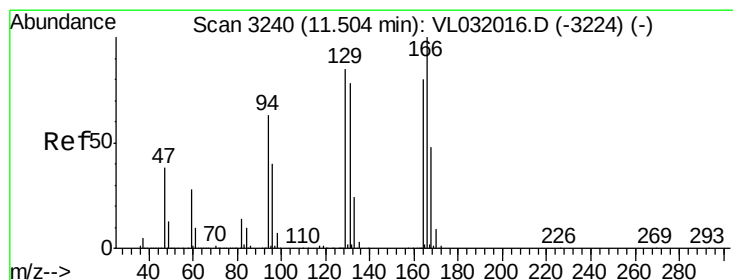
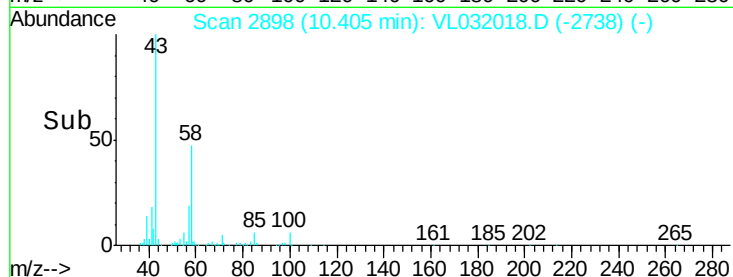
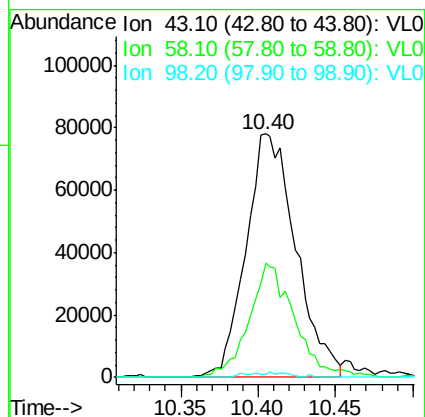
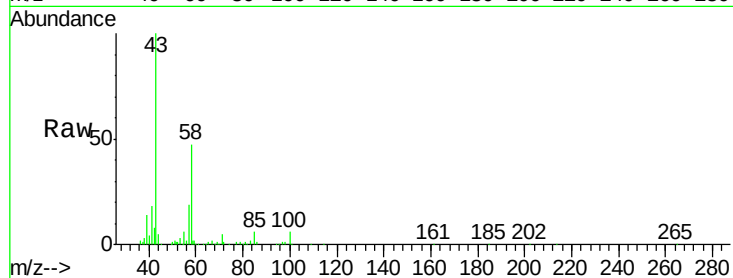
#51  
2-Hexanone  
Concen: 0.97 ppbv  
RT: 10.40 min Scan# 2898  
Delta R.T. 0.01 min  
Lab File: VL032018.D  
Acq: 31 May 2018 17:23

Instrument :  
MSVOA\_L  
ClientSampleId :  
VSTDIC001

| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 43      | 100   |       |       |
| 58      | 43.1  | 39.0  | 58.6  |
| 98      | 1.7   | 0.4   | 0.6#  |

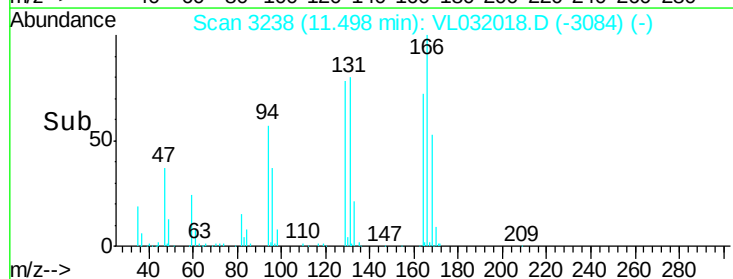
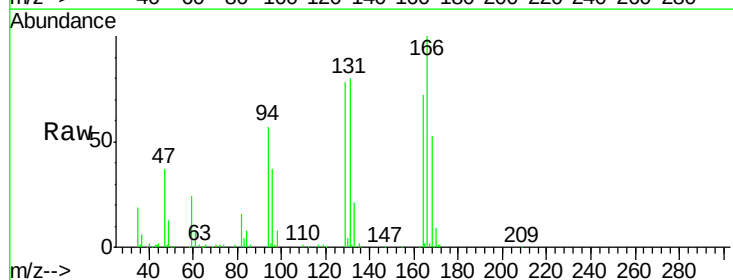
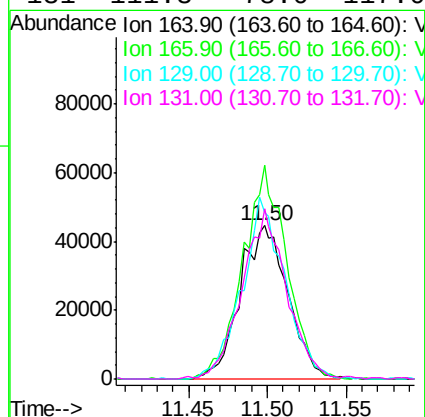
Manual Integrations  
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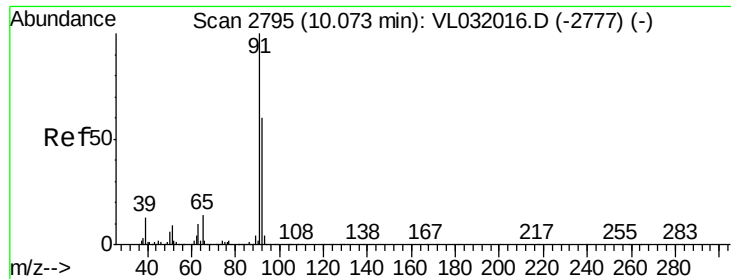
MMDadoda  
6/4/2018 10:54:54 AM



#52  
Tetrachloroethene  
Concen: 1.08 ppbv m  
RT: 11.50 min Scan# 3238  
Delta R.T. -0.01 min  
Lab File: VL032018.D  
Acq: 31 May 2018 17:23

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 164     | 100   |       |       |
| 166     | 139.5 | 100.2 | 150.2 |
| 129     | 108.5 | 85.4  | 128.0 |
| 131     | 111.3 | 78.0  | 117.0 |





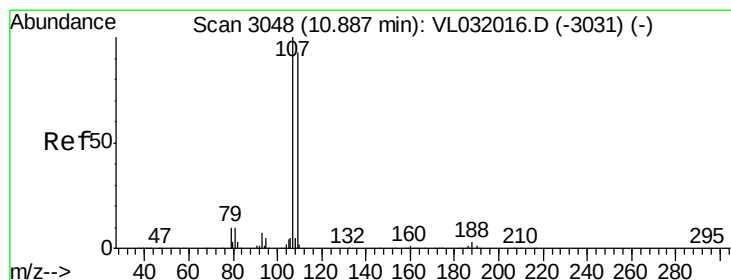
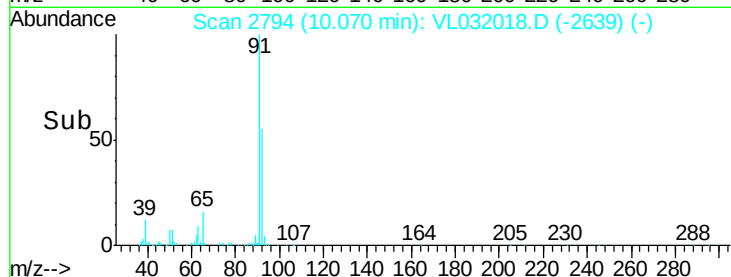
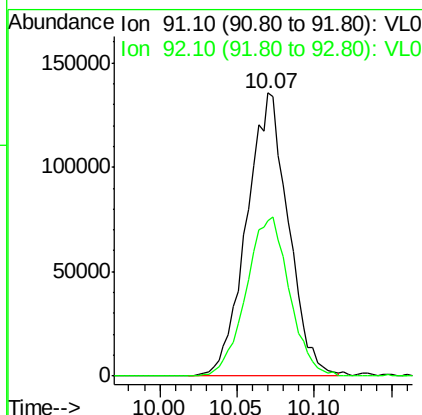
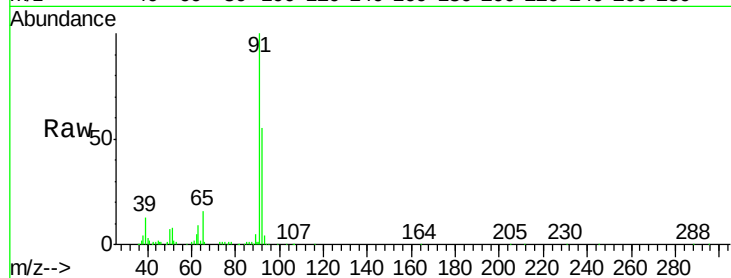
#53  
Toluene  
Concen: 0.97 ppbv  
RT: 10.07 min Scan# 2794  
Delta R.T. -0.00 min  
Lab File: VL032018.D  
Acq: 31 May 2018 17:23

Instrument :  
MSVOA\_L  
ClientSampleId :  
VSTDIC001

| Tot Ion | Ion  | Ratio | Resp   | Lower | Upper |
|---------|------|-------|--------|-------|-------|
| 91      | 100  |       | 251863 |       |       |
| 92      | 58.8 | 48.2  | 72.2   |       |       |

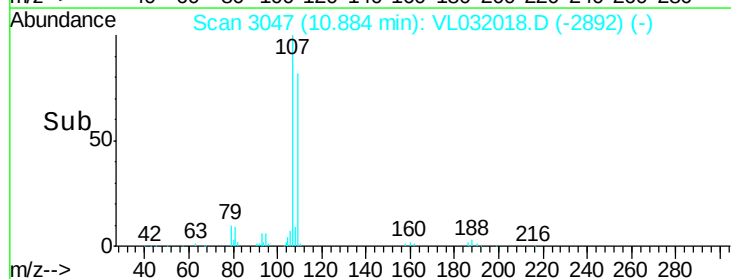
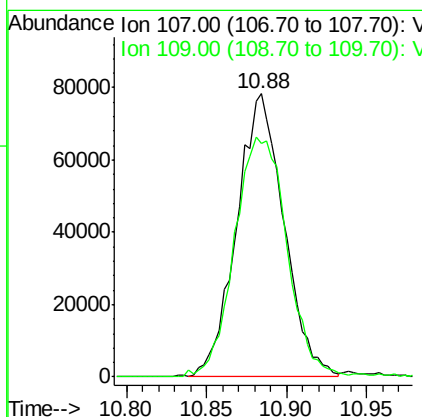
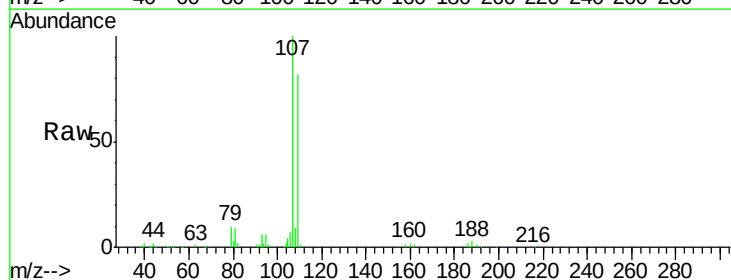
Manual Integrations  
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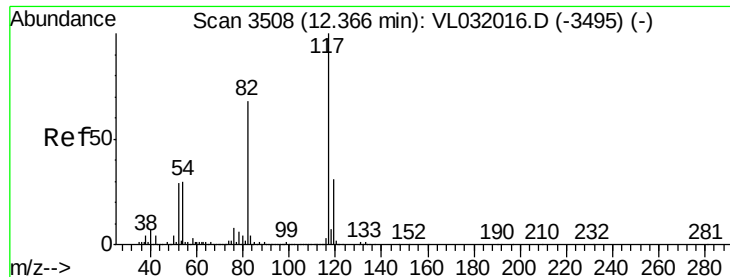
MMDadoda  
6/4/2018 10:54:54 AM



#54  
1,2-Dibromoethane  
Concen: 1.08 ppbv  
RT: 10.88 min Scan# 3047  
Delta R.T. -0.00 min  
Lab File: VL032018.D  
Acq: 31 May 2018 17:23

| Tgt Ion | Ion  | Ratio | Resp   | Lower | Upper |
|---------|------|-------|--------|-------|-------|
| 107     | 100  |       | 158260 |       |       |
| 109     | 80.8 | 74.6  | 111.8  |       |       |





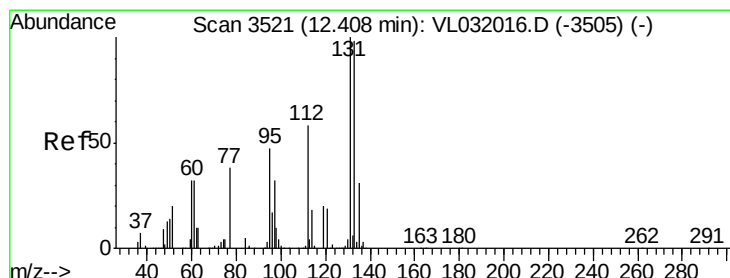
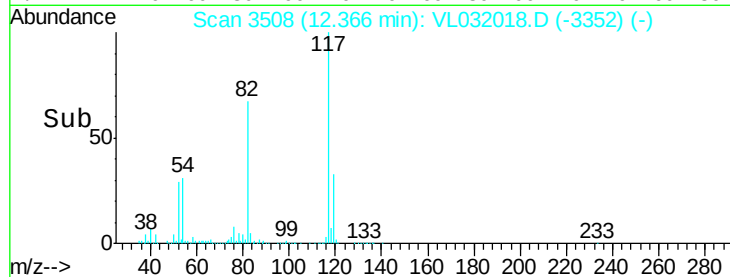
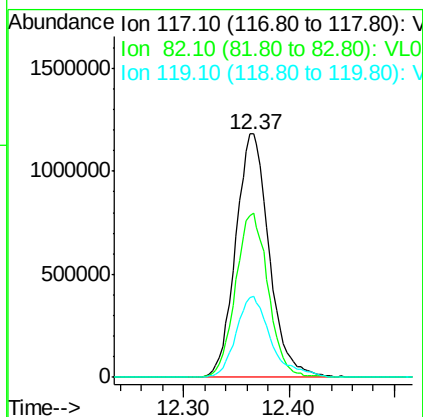
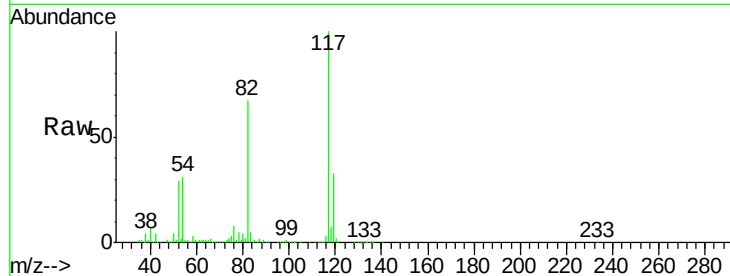
#55  
Chlorobenzene-d5  
Concen: 10.00 ppbv  
RT: 12.37 min Scan# 3508  
Delta R.T. 0.00 min  
Lab File: VL032018.D  
Acq: 31 May 2018 17:23

Instrument :  
MSVOA\_L  
ClientSampleId :  
VSTDIC001

| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 117     | 100   |       |       |
| 82      | 65.7  | 52.7  | 79.1  |
| 119     | 34.7  | 25.5  | 38.3  |

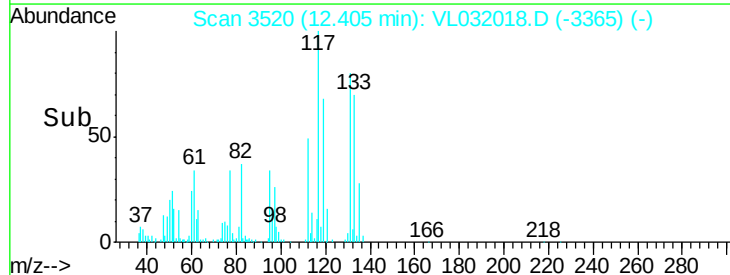
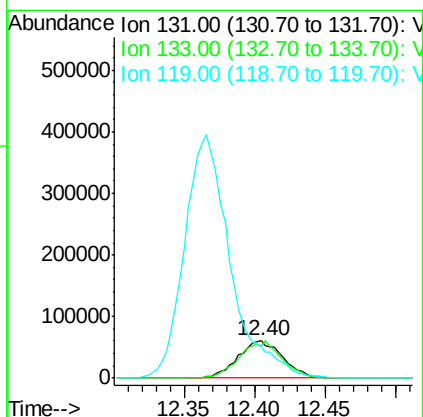
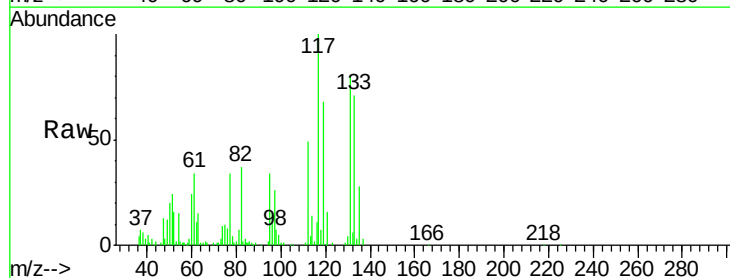
Manual Integrations  
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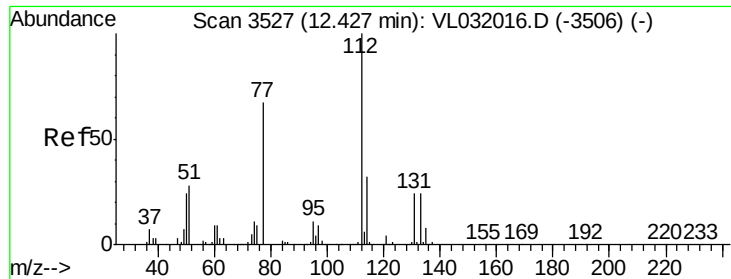
MMDadoda  
6/4/2018 10:54:54 AM



#56  
1,1,1,2-Tetrachloroethane  
Concen: 1.12 ppbv  
RT: 12.40 min Scan# 3520  
Delta R.T. -0.00 min  
Lab File: VL032018.D  
Acq: 31 May 2018 17:23

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 131     | 100   |       |       |
| 133     | 95.9  | 76.7  | 115.1 |
| 119     | 675.4 | 49.2  | 73.8# |





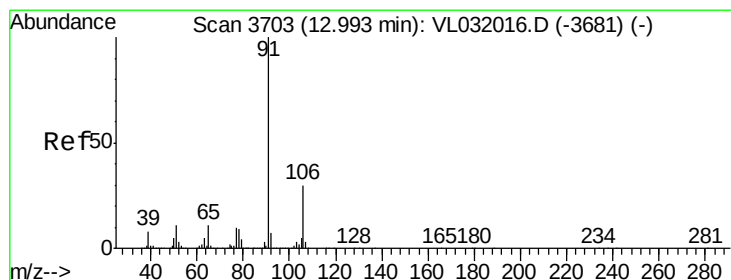
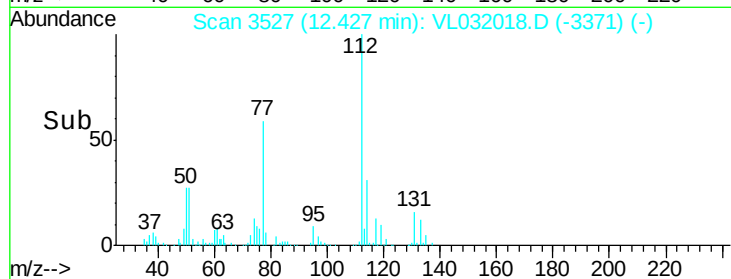
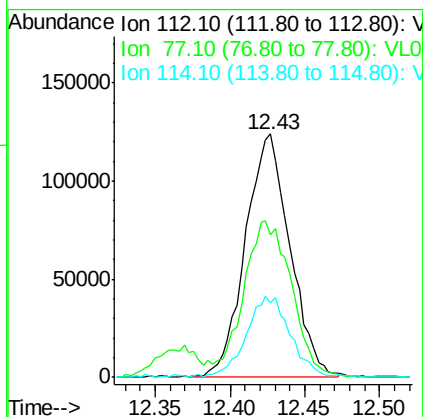
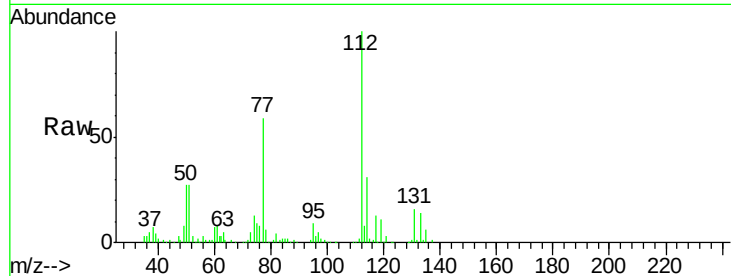
#57  
Chlorobenzene  
Concen: 1.12 ppbv  
RT: 12.43 min Scan# 3527  
Delta R.T. 0.00 min  
Lab File: VL032018.D  
Acq: 31 May 2018 17:23

Instrument :  
MSVOA\_L  
ClientSampleId :  
VSTDIC001

| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 112     | 100   |       |       |
| 77      | 57.6  | 54.3  | 81.5  |
| 114     | 30.8  | 28.6  | 35.0  |

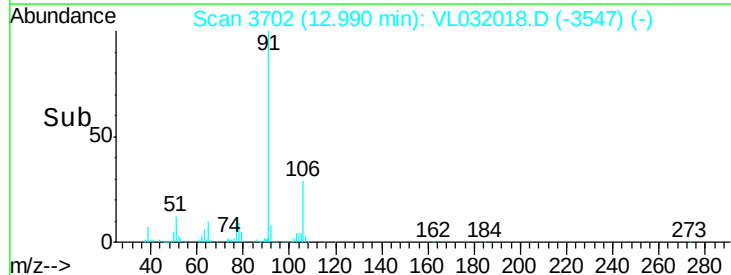
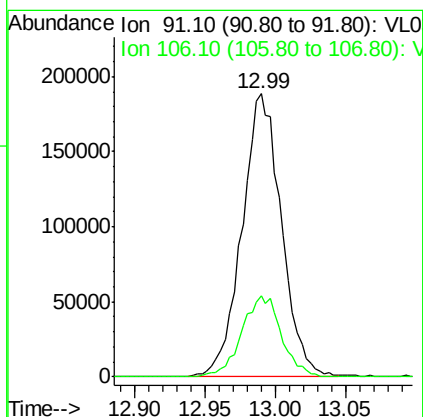
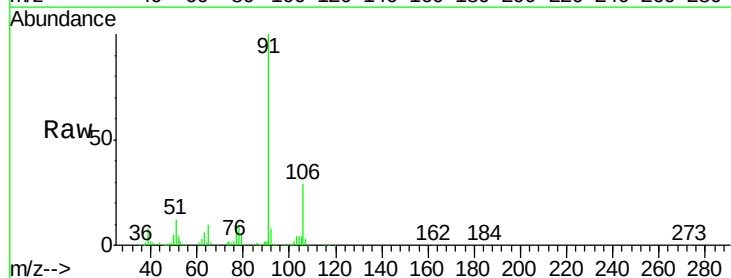
Manual Integrations  
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MMDadoda  
6/4/2018 10:54:54 AM

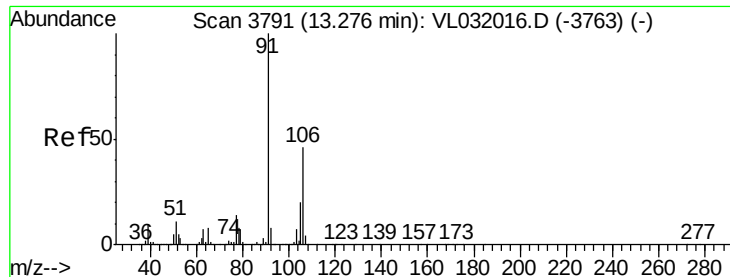


#58  
Ethyl Benzene  
Concen: 0.98 ppbv  
RT: 12.99 min Scan# 3702  
Delta R.T. -0.00 min  
Lab File: VL032018.D  
Acq: 31 May 2018 17:23

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 91      | 100   |       |       |
| 106     | 28.5  | 24.2  | 36.2  |







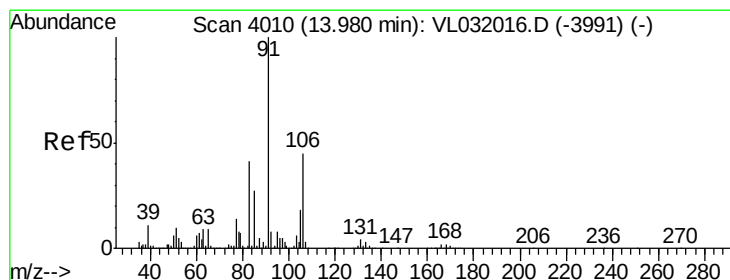
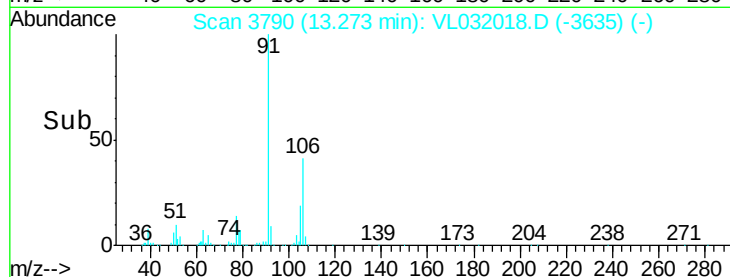
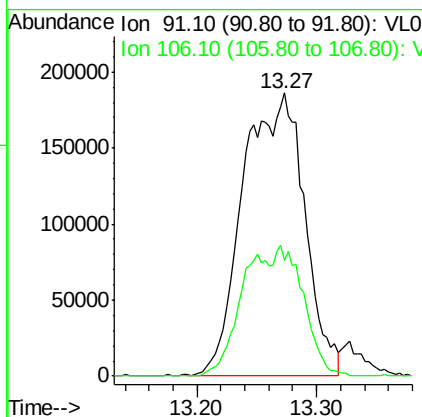
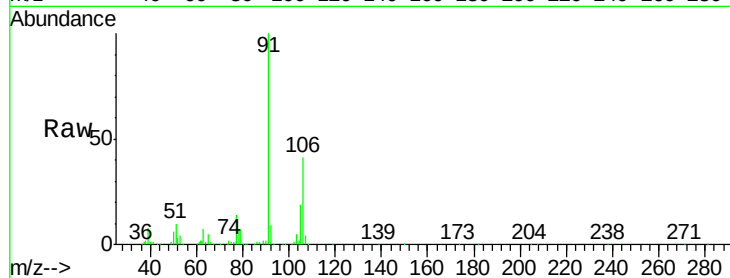
#59  
m/p-Xylene  
Concen: 2.06 ppbv m  
RT: 13.27 min Scan# 3790  
Delta R.T. -0.00 min  
Lab File: VL032018.D  
Acq: 31 May 2018 17:23

Instrument :  
MSVOA\_L  
ClientSampleId :  
VSTDIC001

Tot Ion: 91 Resp: 664749  
Ion Ratio Lower Upper  
91 100  
106 45.1 35.7 53.5

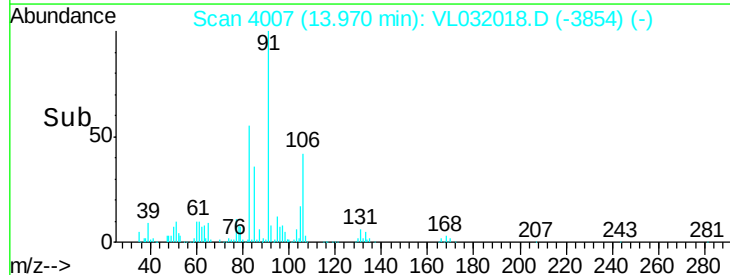
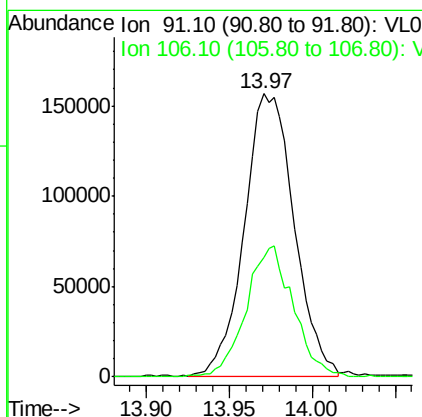
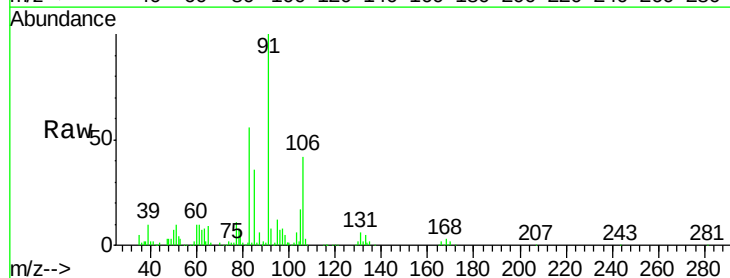
Manual Integrations  
APPROVED

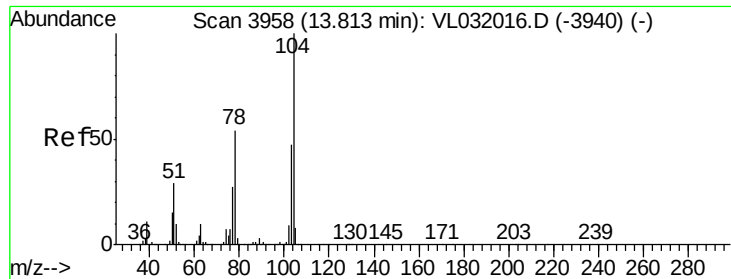
MMDadoda  
6/4/2018 10:54:54 AM



#60  
o-Xylene  
Concen: 1.01 ppbv  
RT: 13.97 min Scan# 4007  
Delta R.T. -0.01 min  
Lab File: VL032018.D  
Acq: 31 May 2018 17:23

Tgt Ion: 91 Resp: 326884  
Ion Ratio Lower Upper  
91 100  
106 44.0 21.9 65.5





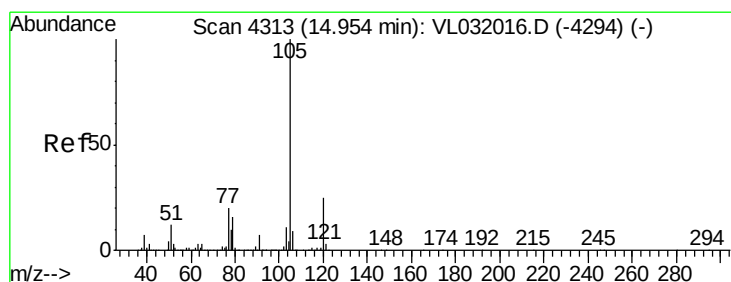
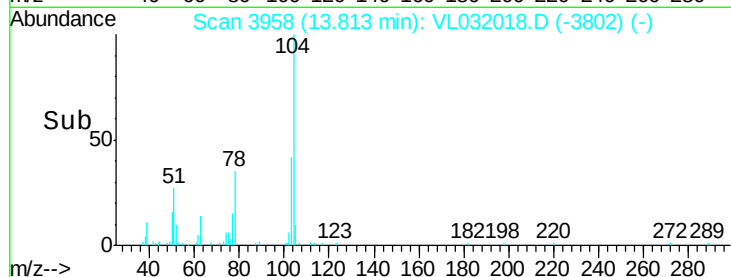
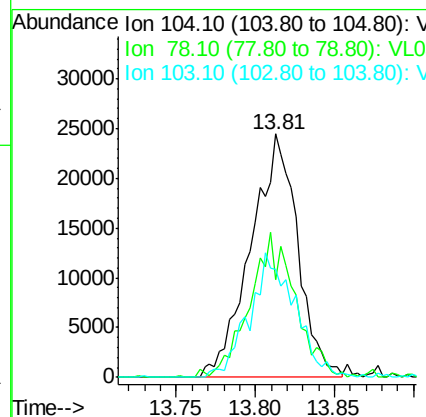
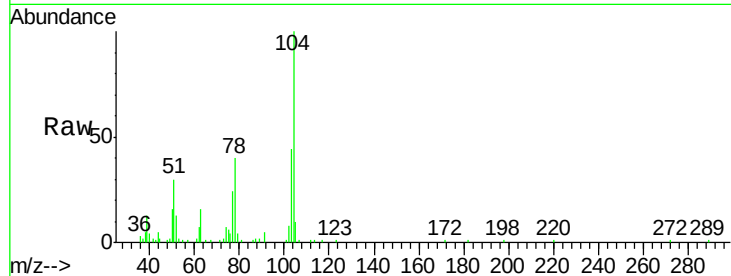
#61  
Stvrene  
Concen: 0.76 ppbv m  
RT: 13.81 min Scan# 3958  
Delta R.T. 0.00 min  
Lab File: VL032018.D  
Acq: 31 May 2018 17:23

Instrument :  
MSVOA\_L  
ClientSampleId :  
VSTDIC001

| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 104     | 100   |       |       |
| 78      | 58.7  | 43.0  | 64.4  |
| 103     | 49.9  | 37.4  | 56.2  |

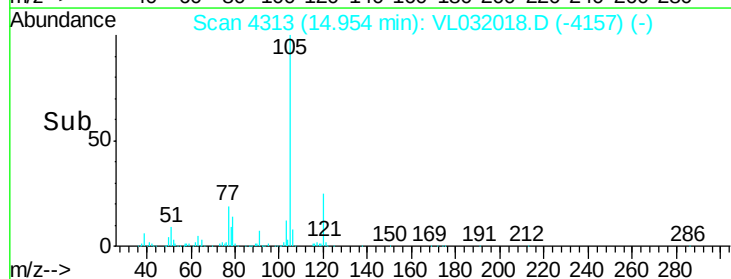
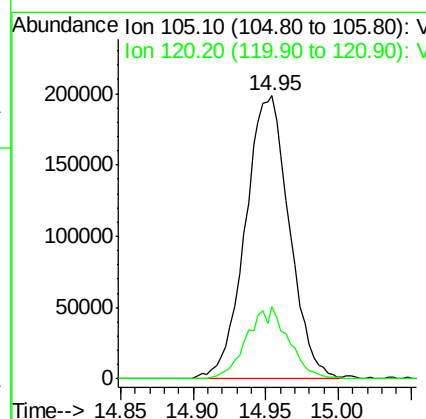
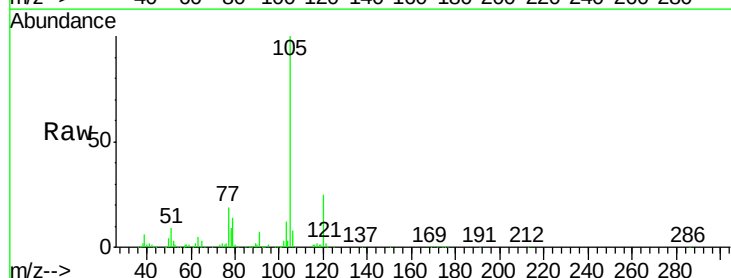
Manual Integrations  
APPROVED

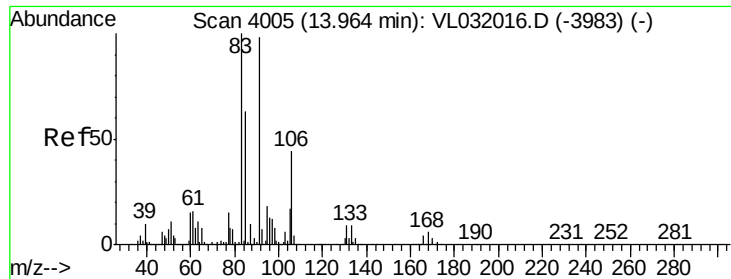
MMDadoda  
6/4/2018 10:54:54 AM



#62  
Isopropylbenzene  
Concen: 1.01 ppbv  
RT: 14.95 min Scan# 4313  
Delta R.T. 0.00 min  
Lab File: VL032018.D  
Acq: 31 May 2018 17:23

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 105     | 100   |       |       |
| 120     | 24.1  | 19.8  | 29.8  |





#63

1,1,2,2-Tetrachloroethane

Concen: 1.12 ppbv

RT: 13.96 min Scan# 4003

Delta R.T. -0.01 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

Instrument :

MSVOA\_L

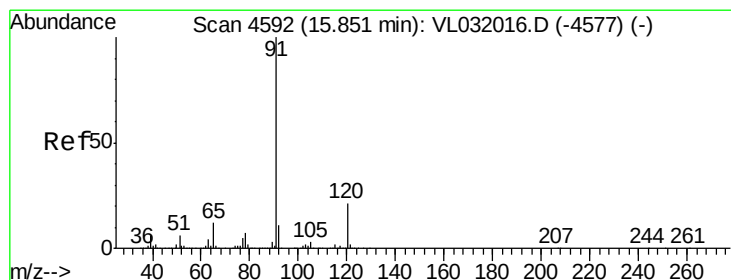
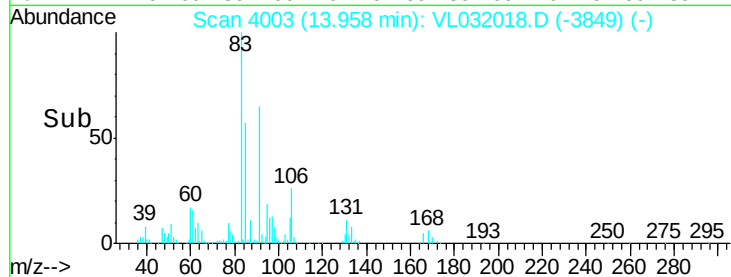
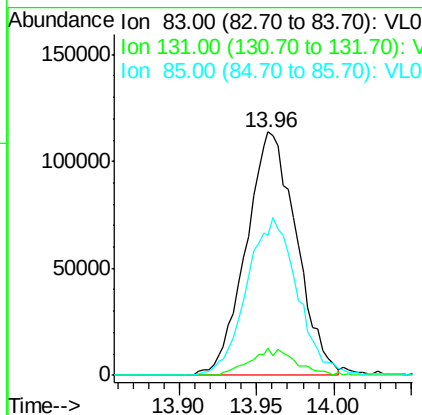
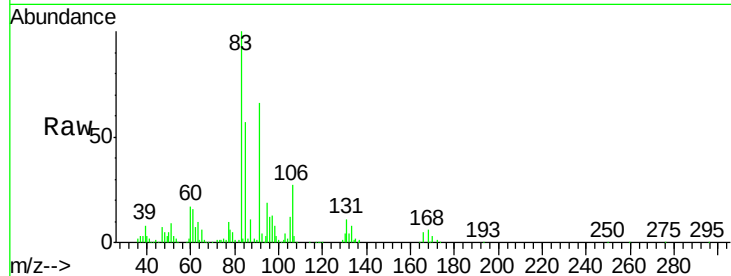
ClientSampleId :

VSTDIC001

|           |       |       |        |
|-----------|-------|-------|--------|
| Tot Ion:  | 83    | Resp: | 256968 |
| Ion Ratio | Lower | Upper |        |
| 83        | 100   |       |        |
| 131       | 10.1  | 4.7   | 14.0   |
| 85        | 65.7  | 32.2  | 96.6   |

Manual Integrations  
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MMDadoda  
6/4/2018 10:54:54 AM



#64

n-propylbenzene

Concen: 0.99 ppbv m

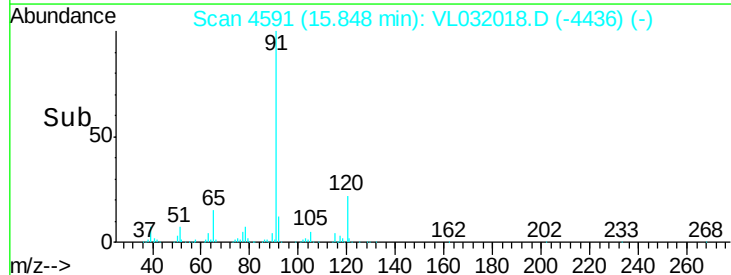
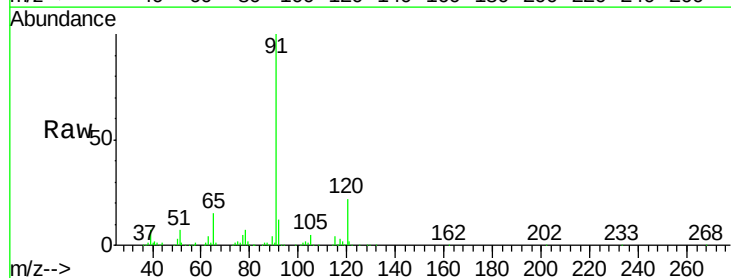
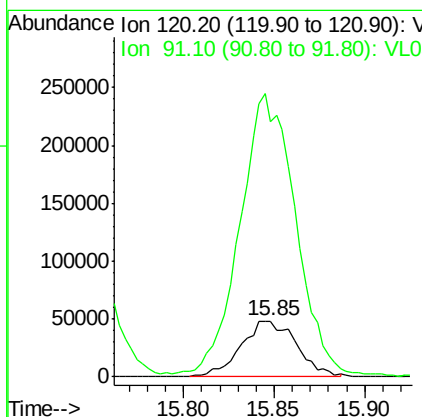
RT: 15.85 min Scan# 4591

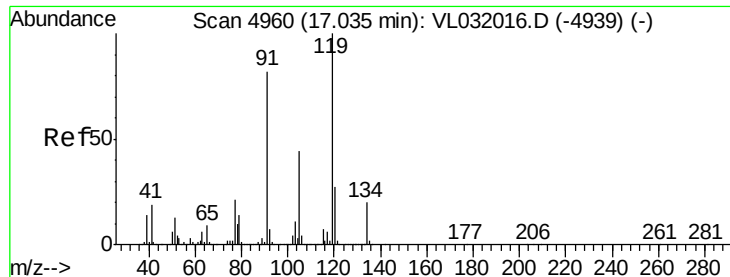
Delta R.T. -0.00 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

|           |       |       |        |
|-----------|-------|-------|--------|
| Tgt Ion:  | 120   | Resp: | 102917 |
| Ion Ratio | Lower | Upper |        |
| 120       | 100   |       |        |
| 91        | 516.6 | 391.1 | 586.7  |





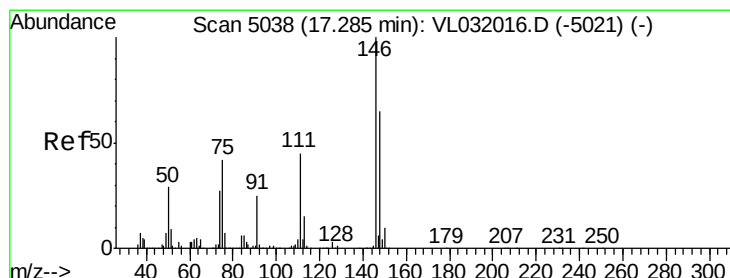
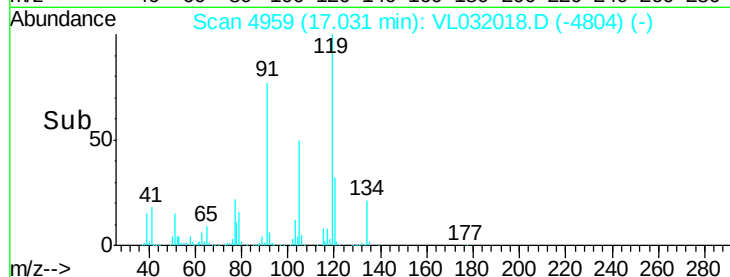
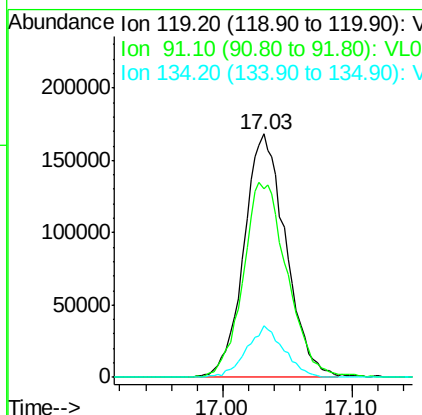
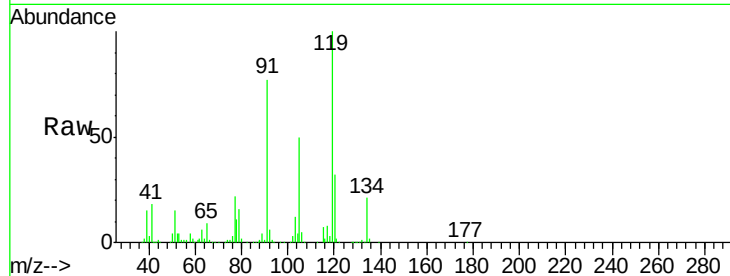
#65  
 tert-Butylbenzene  
 Concen: 1.03 ppbv  
 RT: 17.03 min Scan# 4959  
 Delta R.T. -0.00 min  
 Lab File: VL032018.D  
 Acq: 31 May 2018 17:23

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 VSTDIC001

| Tot Ion | Ratio | Resp   | Lower | Upper |
|---------|-------|--------|-------|-------|
| 119     | 100   | 379416 |       |       |
| 91      | 85.3  | 68.2   | 102.4 |       |
| 134     | 19.0  | 15.6   | 23.4  |       |

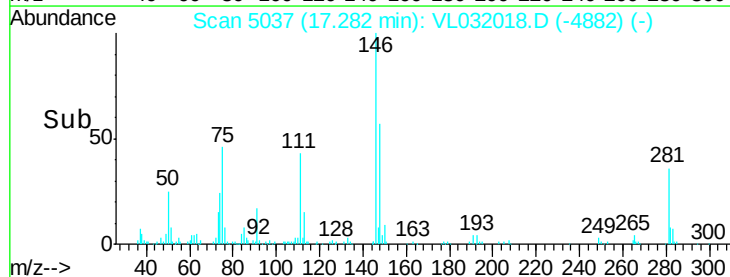
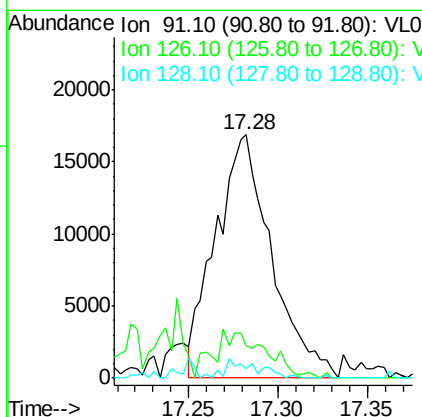
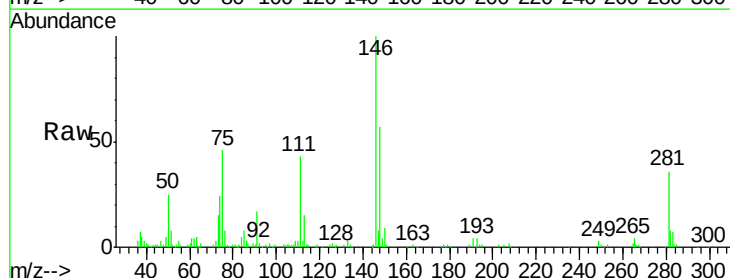
Manual Integrations  
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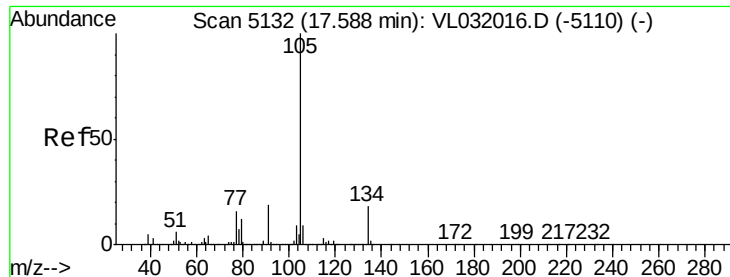
MMDadoda  
 6/4/2018 10:54:54 AM



#66  
 Benzyl Chloride  
 Concen: 1.08 ppbv  
 RT: 17.28 min Scan# 5037  
 Delta R.T. -0.00 min  
 Lab File: VL032018.D  
 Acq: 31 May 2018 17:23

| Tgt Ion | Ratio | Resp  | Lower | Upper |
|---------|-------|-------|-------|-------|
| 91      | 100   | 36950 |       |       |
| 126     | 14.7  | 14.2  | 21.2  |       |
| 128     | 0.2   | 4.5   | 6.7#  |       |





#67

sec-Butylbenzene

Concen: 1.06 ppbv

RT: 17.58 min Scan# 5130

Delta R.T. -0.01 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

Instrument :

MSVOA\_L

ClientSampleId :

VSTDIC001

Tot Ion: 105 Resp: 538872

Ion Ratio Lower Upper

105 100

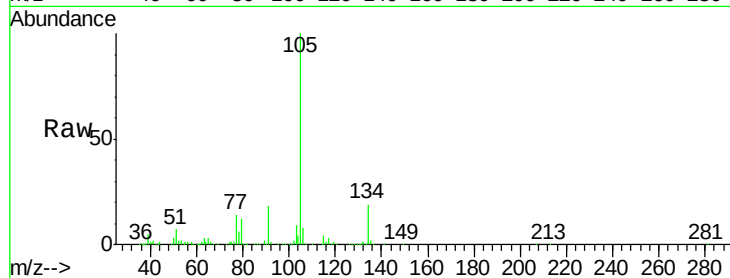
134 18.0 14.4 21.6

Manual Integrations

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6/4/2018 10:54:54 AM



Abundance Ion 105.10 (104.80 to 105.80): V

Ion 134.20 (133.90 to 134.90): V

17.58

250000

200000

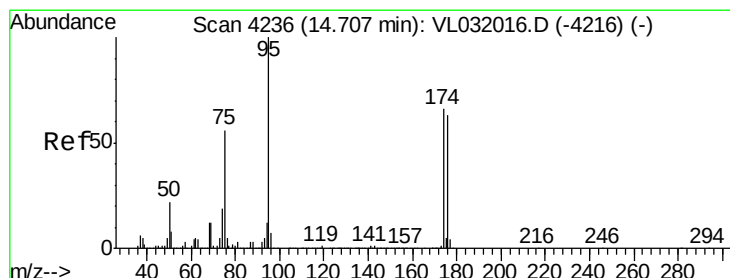
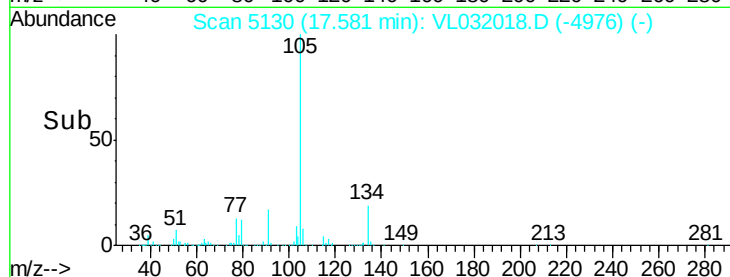
150000

100000

50000

0

Time-->



#68

1-Bromo-4-Fluorobenzene

Concen: 9.93 ppbv

RT: 14.70 min Scan# 4234

Delta R.T. -0.01 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

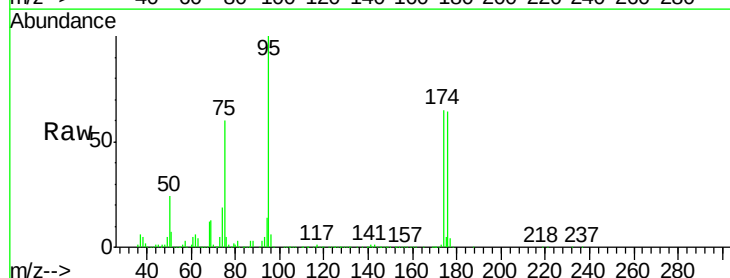
Tgt Ion: 95 Resp: 2007228

Ion Ratio Lower Upper

95 100

174 66.3 53.2 79.8

175 4.8 3.7 5.5



Abundance Ion 95.10 (94.80 to 95.80): VL0

Ion 174.00 (173.70 to 174.70): V

Ion 175.00 (174.70 to 175.70): V

14.70

1200000

1000000

800000

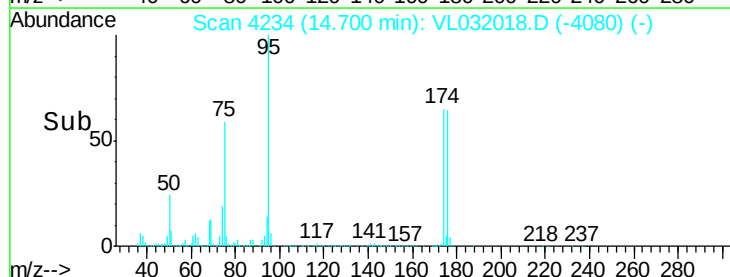
600000

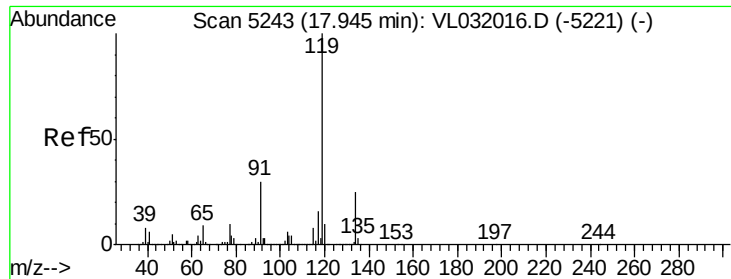
400000

200000

0

Time-->





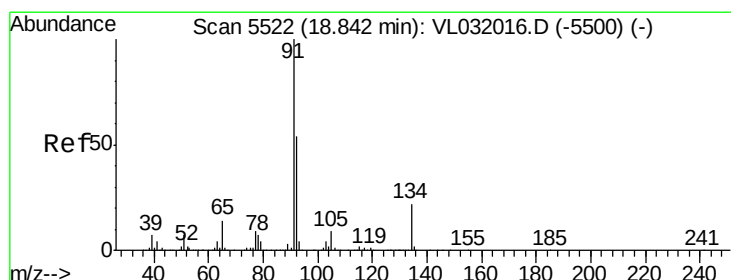
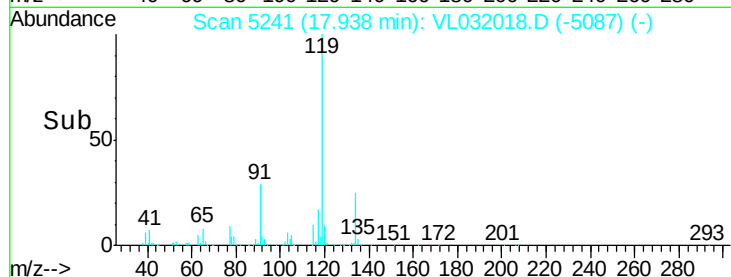
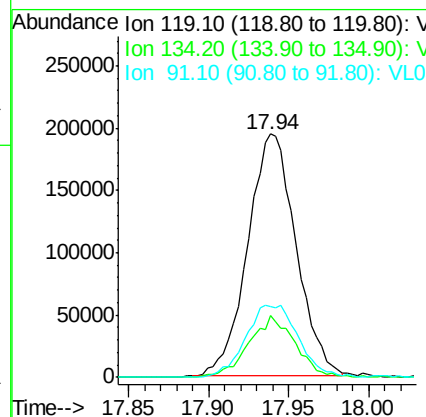
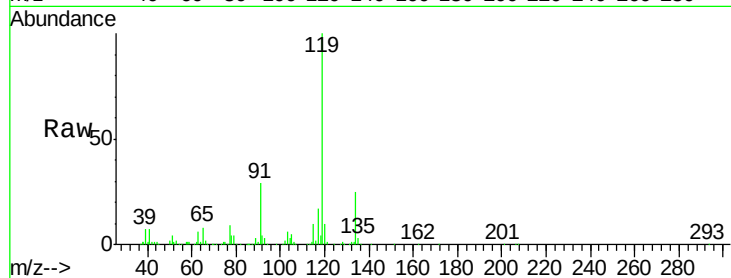
#69  
 p-Isopropyltoluene  
 Concen: 0.99 ppbv  
 RT: 17.94 min Scan# 5241  
 Delta R.T. -0.01 min  
 Lab File: VL032018.D  
 Acq: 31 May 2018 17:23

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 VSTDIC001

| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 119     | 100   |       |       |
| 134     | 24.7  | 19.9  | 29.9  |
| 91      | 33.0  | 24.1  | 36.1  |

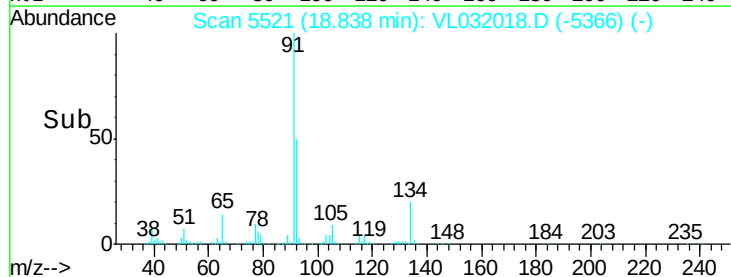
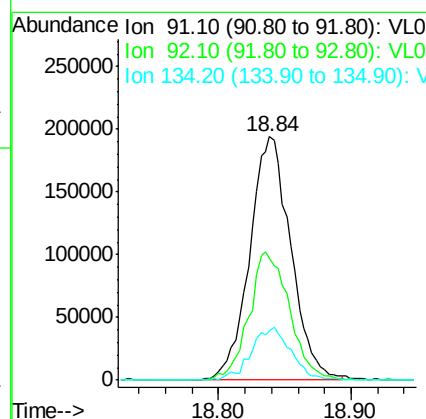
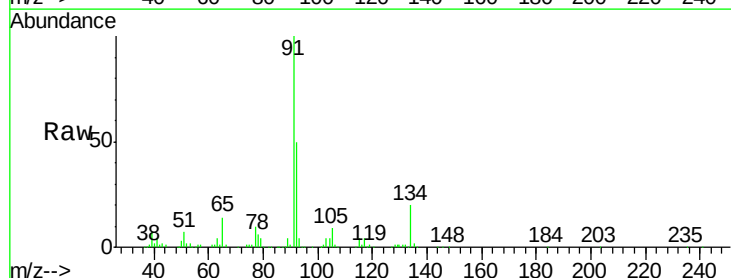
Manual Integrations  
 APPROVED

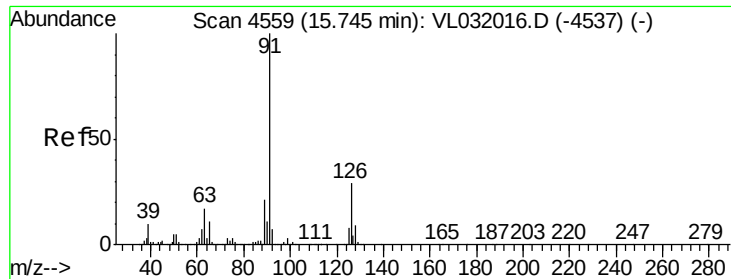
MMDadoda  
 6/4/2018 10:54:54 AM



#70  
 n-Butylbenzene  
 Concen: 0.99 ppbv  
 RT: 18.84 min Scan# 5521  
 Delta R.T. -0.00 min  
 Lab File: VL032018.D  
 Acq: 31 May 2018 17:23

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 91      | 100   |       |       |
| 92      | 51.8  | 42.5  | 63.7  |
| 134     | 21.1  | 17.4  | 26.2  |





#71

2-Chlorotoluene

Concen: 1.00 ppbv

RT: 15.75 min Scan# 4559

Delta R.T. 0.00 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

Instrument :

MSVOA\_L

ClientSampleId :

VSTDIC001

Tot Ion: 91 Resp: 301303

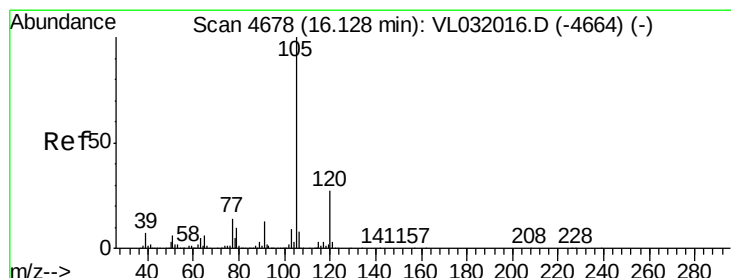
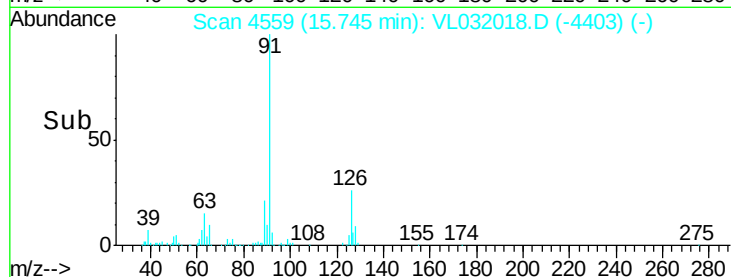
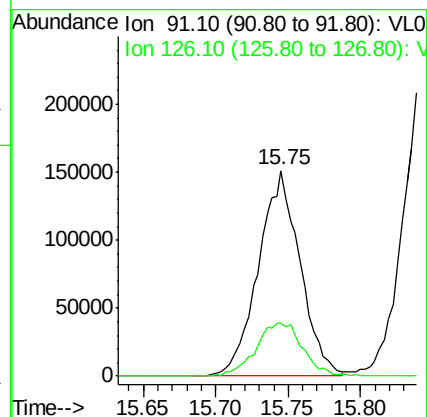
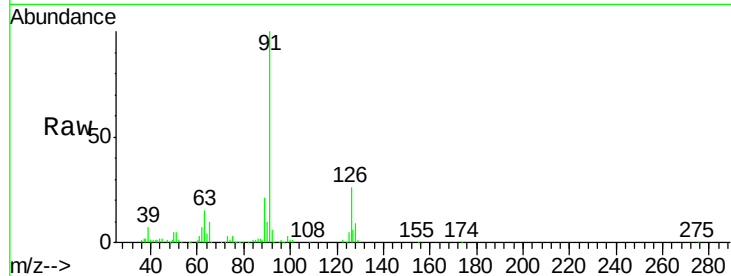
Ion Ratio Lower Upper

91 100

126 29.2 11.7 46.7

Manual Integrations  
APPROVED

MMDadoda  
6/4/2018 10:54:54 AM



#72

4-Ethyltoluene

Concen: 0.96 ppbv

RT: 16.12 min Scan# 4677

Delta R.T. -0.00 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

Tgt Ion: 105 Resp: 313851

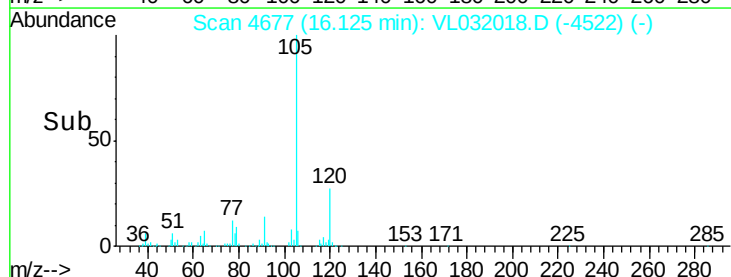
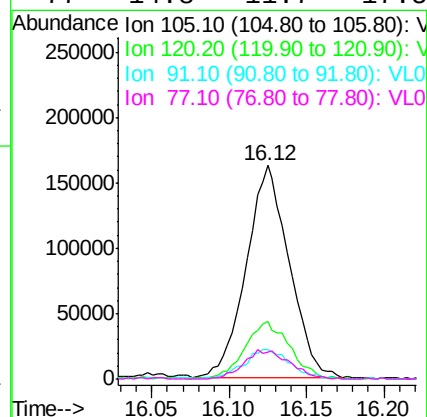
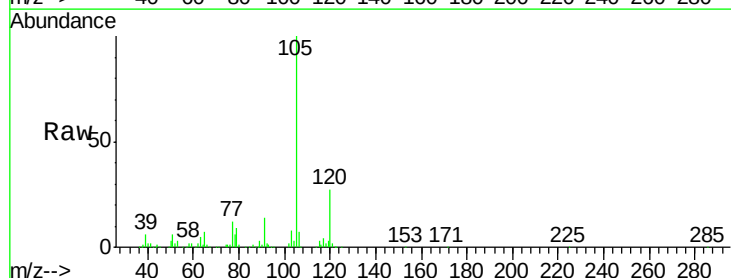
Ion Ratio Lower Upper

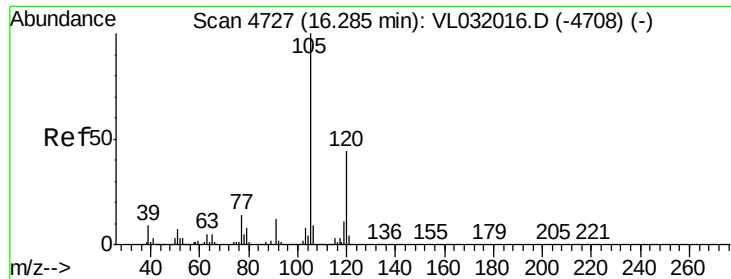
105 100

120 29.0 23.4 35.0

91 15.4 10.7 16.1

77 14.8 11.7 17.5





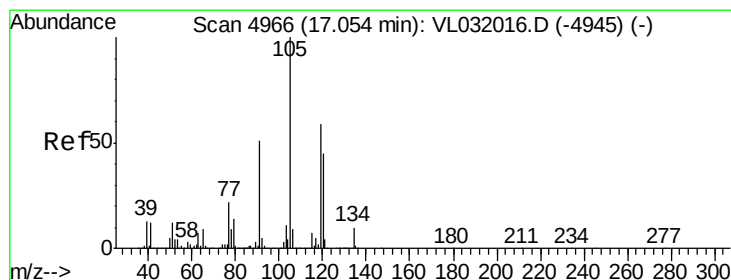
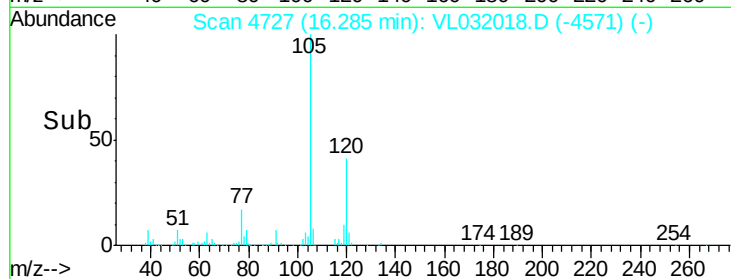
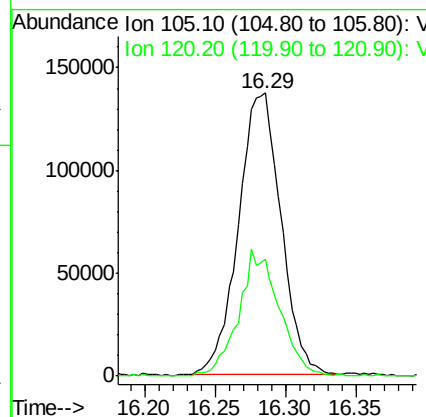
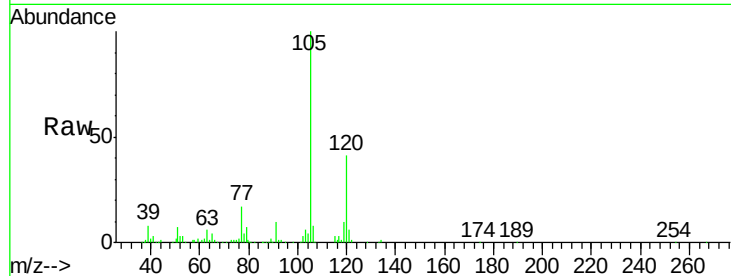
#73  
 1,3,5-Trimethylbenzene  
 Concen: 0.96 ppbv  
 RT: 16.29 min Scan# 4727  
 Delta R.T. 0.00 min  
 Lab File: VL032018.D  
 Acq: 31 May 2018 17:23

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 VSTDIC001

| Tot Ion | Ratio | Resp   | Lower | Upper |
|---------|-------|--------|-------|-------|
| 105     | 100   | 289336 |       |       |
| 120     | 41.5  | 35.0   | 52.4  |       |

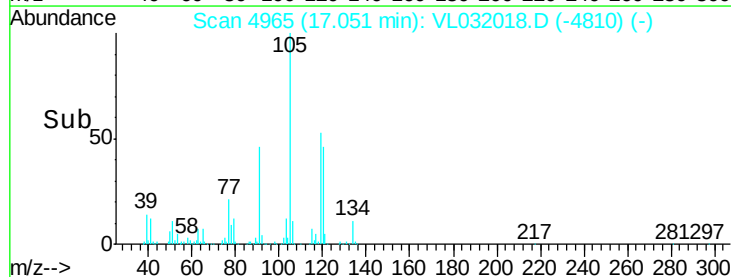
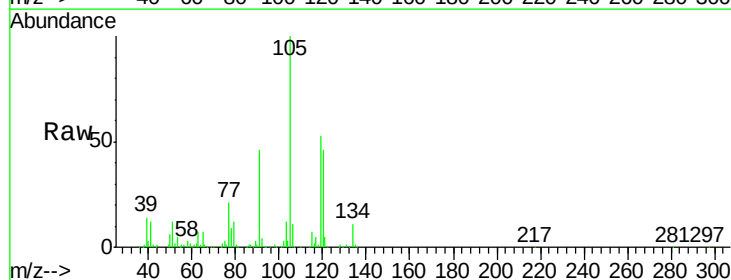
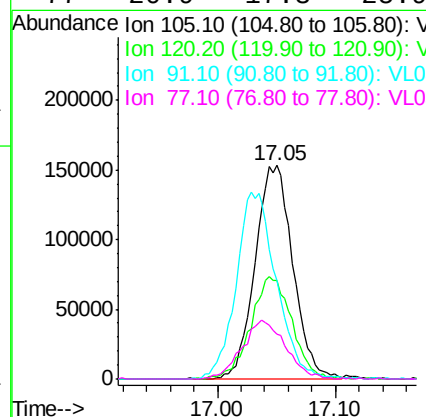
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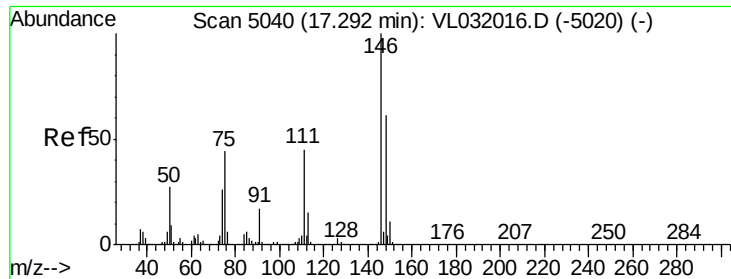


#74  
 1,2,4-Trimethylbenzene  
 Concen: 1.02 ppbv m  
 RT: 17.05 min Scan# 4965  
 Delta R.T. -0.00 min  
 Lab File: VL032018.D  
 Acq: 31 May 2018 17:23

| Tgt Ion | Ratio | Resp   | Lower | Upper |
|---------|-------|--------|-------|-------|
| 105     | 100   | 343471 |       |       |
| 120     | 45.9  | 36.0   | 54.0  |       |
| 91      | 46.3  | 41.4   | 62.0  |       |
| 77      | 20.9  | 17.3   | 25.9  |       |







#75

1,3-Dichlorobenzene

Concen: 1.20 ppbv m

RT: 17.29 min Scan# 5040

Delta R.T. 0.00 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

Instrument :

MSVOA\_L

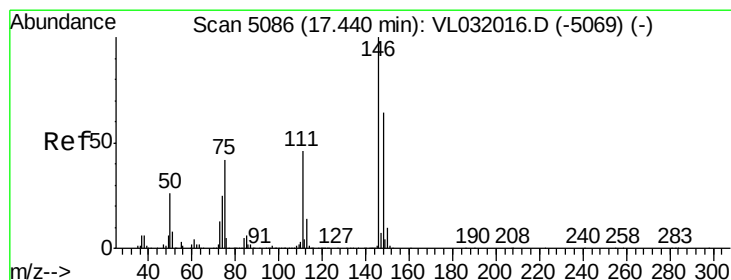
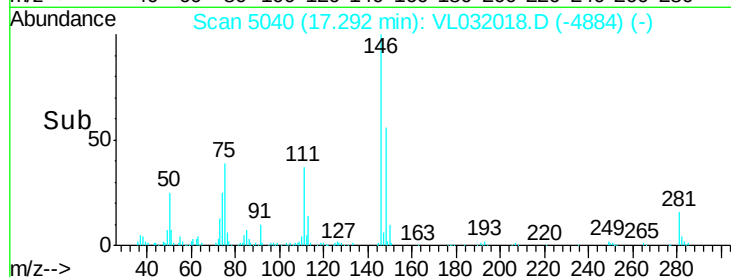
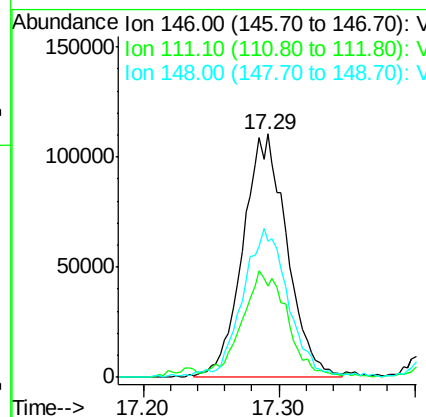
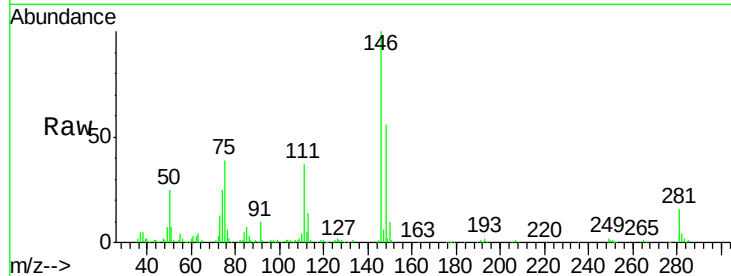
ClientSampleId :

VSTDIC001

|           |       |       |        |
|-----------|-------|-------|--------|
| Tot Ion:  | 146   | Resp: | 249795 |
| Ion Ratio | Lower | Upper |        |
| 146       | 100   |       |        |
| 111       | 0.0   | 23.7  | 71.1#  |
| 148       | 0.0   | 32.1  | 96.5#  |

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#76

1,4-Dichlorobenzene

Concen: 1.11 ppbv m

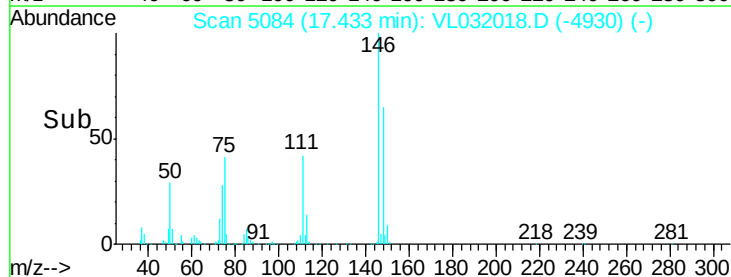
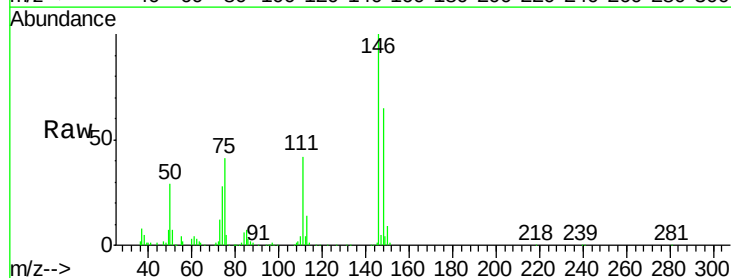
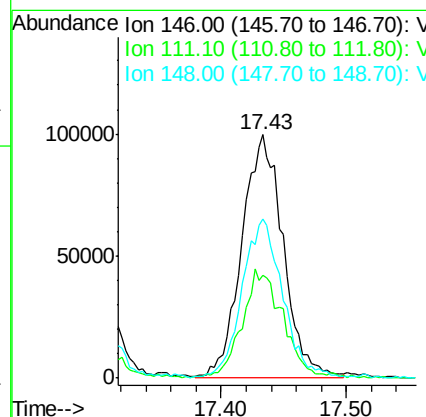
RT: 17.43 min Scan# 5084

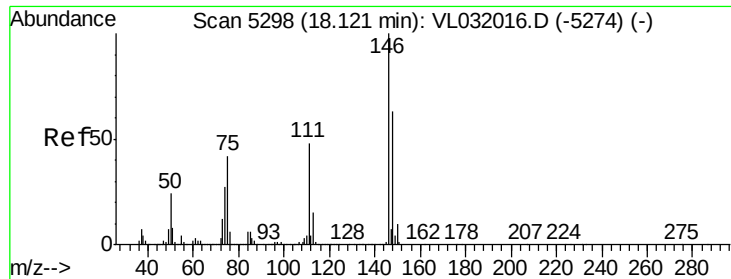
Delta R.T. -0.01 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

|           |       |       |        |
|-----------|-------|-------|--------|
| Tgt Ion:  | 146   | Resp: | 228819 |
| Ion Ratio | Lower | Upper |        |
| 146       | 100   |       |        |
| 111       | 0.0   | 22.4  | 67.0#  |
| 148       | 0.0   | 32.1  | 96.3#  |





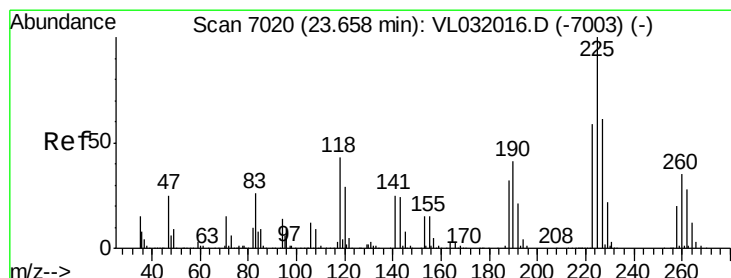
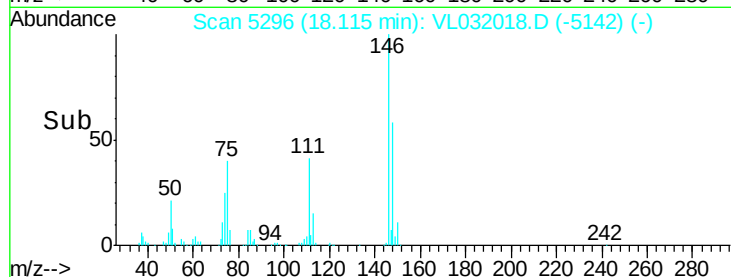
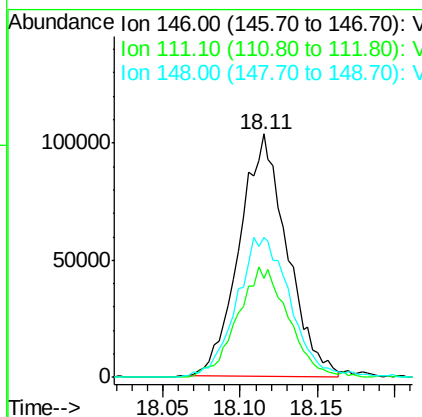
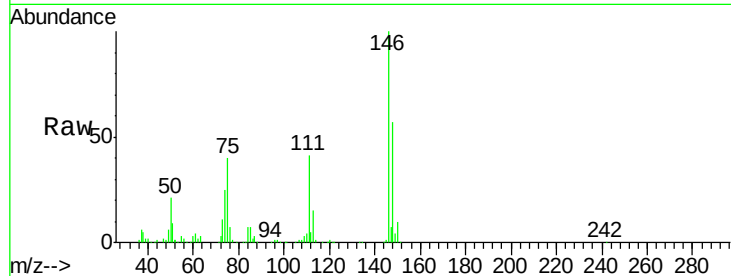
#77  
 1,2-Dichlorobenzene  
 Concen: 1.07 ppbv  
 RT: 18.11 min Scan# 5296  
 Delta R.T. -0.01 min  
 Lab File: VL032018.D  
 Acq: 31 May 2018 17:23

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 VSTDIC001

| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 146     | 100   |       |       |
| 111     | 48.6  | 24.2  | 72.6  |
| 148     | 65.5  | 32.0  | 96.2  |

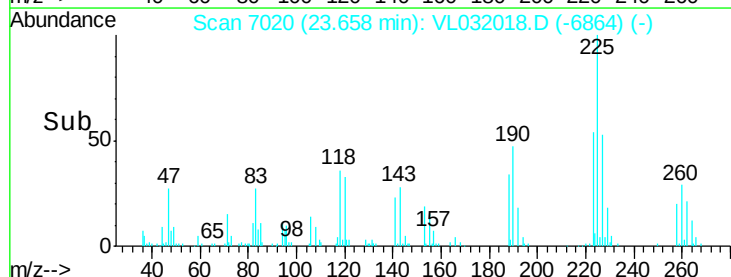
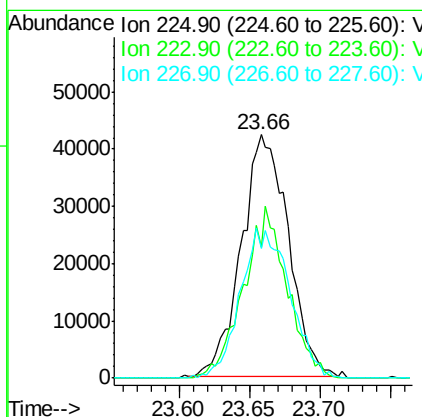
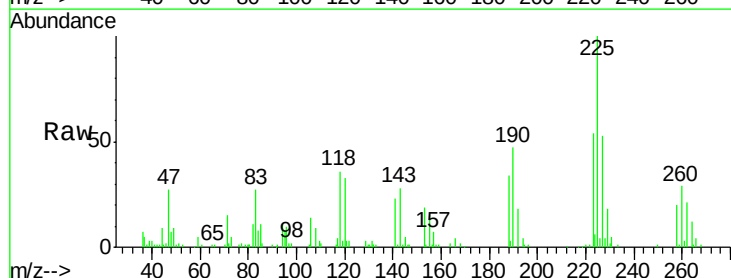
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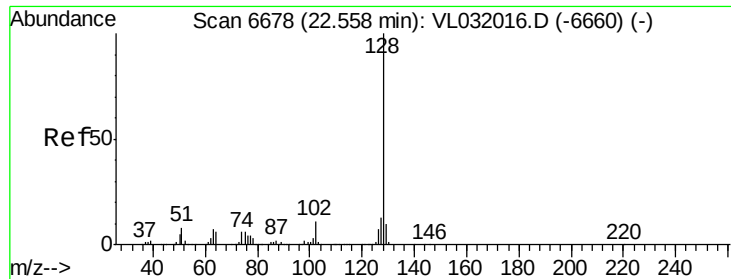
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#78  
 Hexachloro-1,3-Butadiene  
 Concen: 1.16 ppbv  
 RT: 23.66 min Scan# 7020  
 Delta R.T. 0.00 min  
 Lab File: VL032018.D  
 Acq: 31 May 2018 17:23

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 225     | 100   |       |       |
| 223     | 65.7  | 49.4  | 74.2  |
| 227     | 65.2  | 51.2  | 76.8  |





#79

Naphthalene

Concen: 0.61 ppbv m

RT: 22.56 min Scan# 6680

Delta R.T. 0.01 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

Instrument :

MSVOA\_L

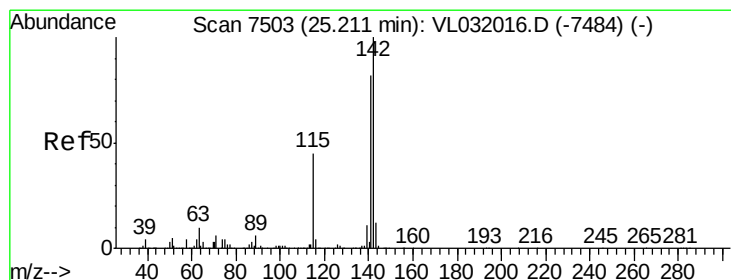
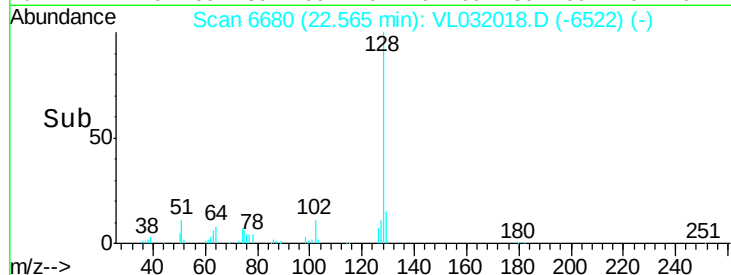
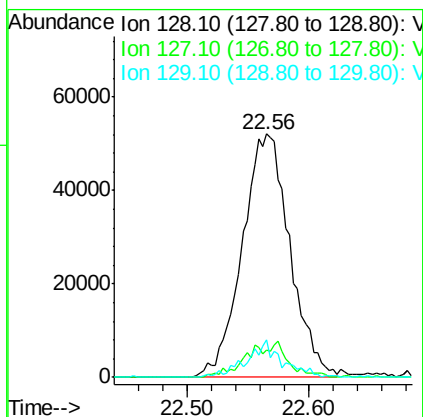
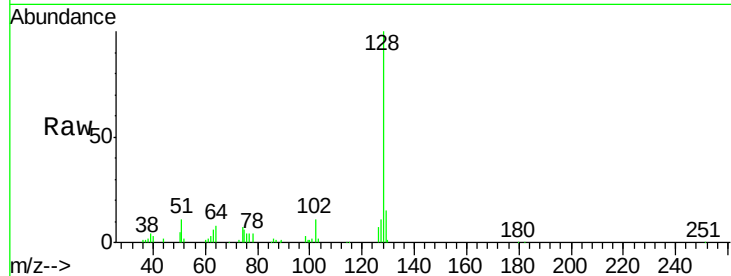
ClientSampleId :

VSTDIC001

|           |       |       |        |
|-----------|-------|-------|--------|
| Tot Ion:  | 128   | Resp: | 141597 |
| Ion Ratio | Lower | Upper |        |
| 128       | 100   |       |        |
| 127       | 11.4  | 10.2  | 15.2   |
| 129       | 15.2  | 8.2   | 12.2#  |

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#80

Naphthalene, 2-methyl-

Concen: 0.18 ppbv

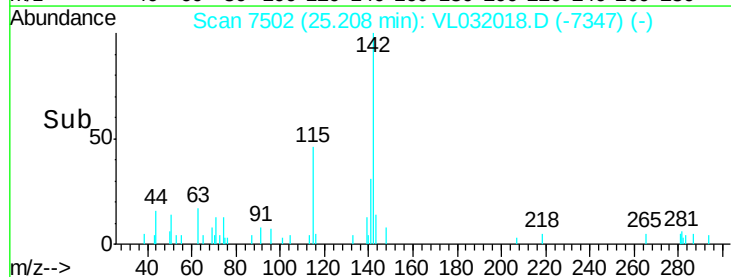
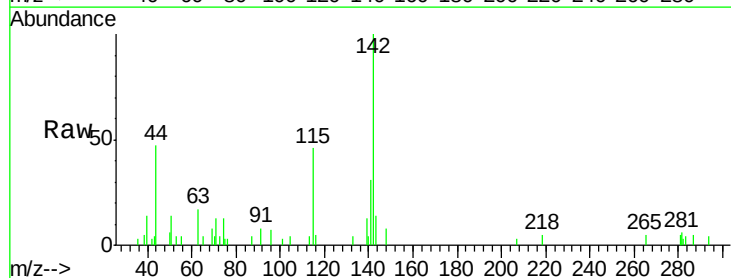
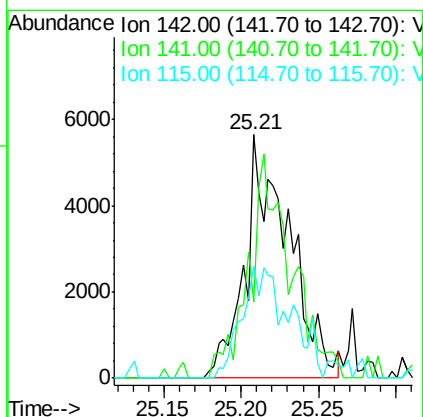
RT: 25.21 min Scan# 7502

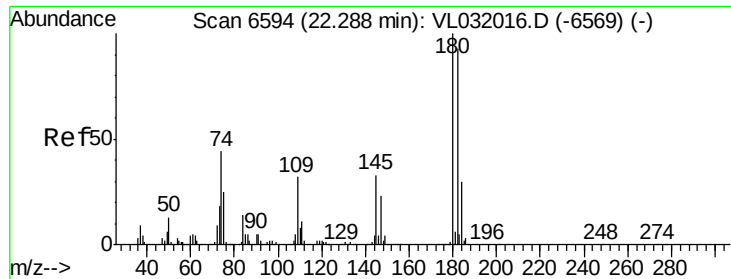
Delta R.T. -0.00 min

Lab File: VL032018.D

Acq: 31 May 2018 17:23

|           |       |       |       |
|-----------|-------|-------|-------|
| Tgt Ion:  | 142   | Resp: | 11050 |
| Ion Ratio | Lower | Upper |       |
| 142       | 100   |       |       |
| 141       | 88.4  | 67.4  | 101.2 |
| 115       | 54.5  | 35.3  | 52.9# |





#81  
 1,2,4-Trichlorobenzene  
 Concen: 0.76 ppbv m  
 RT: 22.29 min Scan# 6594  
 Delta R.T. 0.00 min  
 Lab File: VL032018.D  
 Acq: 31 May 2018 17:23

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 VSTDIC001

| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 180     | 100   |       |       |
| 182     | 97.1  | 77.8  | 116.6 |
| 184     | 0.0   | 24.9  | 37.3# |

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