

Data Path : Z:\HPCHEM1\BNA\_F\DATA\BF091517\  
 Data File : BF098567.D  
 Acq On : 15 Sep 2017 14:10  
 Operator : SJ/JU  
 Sample : I5188-05  
 Misc :  
 ALS Vial : 11 Sample Multiplier: 1

Instrument :  
 BNA\_F  
 ClientSampleId :  
 RL-4-0-12.25

Integration Parameters: rteint.p  
 Integrator: RTE  
 Smoothing : ON  
 Sampling : 1  
 Start Thrs: 0.2  
 Stop Thrs : 0  
 Filtering: 5  
 Min Area: 3 % of largest Peak  
 Max Peaks: 100  
 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >  
 Peak separation: 5

Method : Z:\HPCHEM1\BNA\_F\METHODS\8270-BF091117.M  
 Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

Signal : TIC

| peak<br># | R.T.<br>min | first<br>scan | max<br>scan | last<br>scan | PK<br>TY | peak<br>height | corr.<br>area | corr.<br>% max. | % of<br>total |
|-----------|-------------|---------------|-------------|--------------|----------|----------------|---------------|-----------------|---------------|
| 1         | 3.534       | 239           | 246         | 252          | rBV      | 81466          | 137138        | 4.25%           | 0.288%        |
| 2         | 4.146       | 347           | 350         | 359          | rBV      | 50376          | 79950         | 2.48%           | 0.168%        |
| 3         | 4.816       | 460           | 464         | 480          | rBV      | 390532         | 527351        | 16.34%          | 1.108%        |
| 4         | 5.251       | 534           | 538         | 553          | rBV      | 2605377        | 2658434       | 82.40%          | 5.584%        |
| 5         | 6.304       | 712           | 717         | 732          | rBV      | 2508957        | 3017564       | 93.53%          | 6.339%        |
| 6         | 6.416       | 732           | 736         | 740          | rBV      | 3091943        | 2832155       | 87.78%          | 5.949%        |
| 7         | 6.640       | 771           | 774         | 781          | rVB      | 854864         | 804494        | 24.93%          | 1.690%        |
| 8         | 6.798       | 797           | 801         | 810          | rBV      | 2489371        | 2156775       | 66.85%          | 4.531%        |
| 9         | 7.216       | 867           | 872         | 875          | rBV      | 1881354        | 1794103       | 55.61%          | 3.769%        |
| 10        | 7.245       | 875           | 877         | 883          | rVB2     | 41914          | 48361         | 1.50%           | 0.102%        |
| 11        | 7.928       | 988           | 993         | 995          | rBV      | 1300223        | 1070081       | 33.17%          | 2.248%        |
| 12        | 7.945       | 995           | 996         | 1002         | rVB      | 135292         | 121061        | 3.75%           | 0.254%        |
| 13        | 8.639       | 1111          | 1114        | 1120         | rVB      | 80921          | 69581         | 2.16%           | 0.146%        |
| 14        | 8.739       | 1127          | 1131        | 1137         | rVB      | 55103          | 48377         | 1.50%           | 0.102%        |
| 15        | 9.004       | 1171          | 1176        | 1179         | rBV      | 3554345        | 3226443       | 100.00%         | 6.777%        |
| 16        | 9.086       | 1186          | 1190        | 1192         | rBV2     | 31234          | 36852         | 1.14%           | 0.077%        |
| 17        | 9.275       | 1218          | 1222        | 1226         | rBV3     | 31740          | 50066         | 1.55%           | 0.105%        |
| 18        | 9.339       | 1230          | 1233        | 1236         | rBV      | 52231          | 50141         | 1.55%           | 0.105%        |
| 19        | 9.404       | 1240          | 1244        | 1247         | rVV      | 347385         | 273329        | 8.47%           | 0.574%        |
| 20        | 9.539       | 1263          | 1267        | 1272         | rVB      | 43458          | 38401         | 1.19%           | 0.081%        |
| 21        | 9.616       | 1277          | 1280        | 1283         | rVB      | 55465          | 41298         | 1.28%           | 0.087%        |
| 22        | 9.681       | 1283          | 1291        | 1294         | rBV      | 1245757        | 1111308       | 34.44%          | 2.334%        |
| 23        | 9.710       | 1294          | 1296        | 1301         | rVB      | 404526         | 311148        | 9.64%           | 0.654%        |
| 24        | 9.886       | 1322          | 1326        | 1329         | rBV      | 151722         | 141500        | 4.39%           | 0.297%        |
| 25        | 10.116      | 1362          | 1365        | 1367         | rVB      | 65483          | 54051         | 1.68%           | 0.114%        |
| 26        | 10.228      | 1380          | 1384        | 1389         | rBV      | 342458         | 314582        | 9.75%           | 0.661%        |
| 27        | 10.292      | 1389          | 1395        | 1396         | rBV      | 46937          | 61339         | 1.90%           | 0.129%        |
| 28        | 10.381      | 1408          | 1410        | 1414         | rVB      | 72981          | 72993         | 2.26%           | 0.153%        |
| 29        | 10.469      | 1419          | 1425        | 1429         | rBV      | 1252610        | 1099233       | 34.07%          | 2.309%        |
| 30        | 10.586      | 1442          | 1445        | 1452         | rVB3     | 110468         | 140421        | 4.35%           | 0.295%        |
| 31        | 10.775      | 1470          | 1477        | 1480         | rBV3     | 76110          | 104069        | 3.23%           | 0.219%        |
| 32        | 10.975      | 1507          | 1511        | 1514         | rVB      | 64739          | 66031         | 2.05%           | 0.139%        |
| 33        | 11.016      | 1514          | 1518        | 1519         | rVV2     | 47382          | 54779         | 1.70%           | 0.115%        |
| 34        | 11.033      | 1519          | 1521        | 1523         | rVV      | 75541          | 67215         | 2.08%           | 0.141%        |

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 RL-4-0-12.25

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 Sampling : 1  
 Start Thrs: 0.2  
 Stop Thrs : 0

Filtering: 5  
 Min Area: 3 % of largest Peak  
 Max Peaks: 100  
 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >  
 Peak separation: 5

Method : Z:\HPCHEM1\BNA\_F\METHODS\8270-BF091117.M  
 Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

|    |        |      |      |      |      |         |         |        |        |
|----|--------|------|------|------|------|---------|---------|--------|--------|
| 35 | 11.057 | 1523 | 1525 | 1531 | rVB  | 150558  | 139656  | 4.33%  | 0.293% |
| 36 | 11.163 | 1539 | 1543 | 1545 | rBV  | 1060417 | 1003494 | 31.10% | 2.108% |
| 37 | 11.186 | 1545 | 1547 | 1551 | rVV  | 2149923 | 1831243 | 56.76% | 3.847% |
| 38 | 11.239 | 1551 | 1556 | 1559 | rVV  | 675667  | 598195  | 18.54% | 1.257% |
| 39 | 11.275 | 1559 | 1562 | 1565 | rVV2 | 39365   | 43951   | 1.36%  | 0.092% |
| 40 | 11.380 | 1577 | 1580 | 1581 | rBV  | 69310   | 59126   | 1.83%  | 0.124% |
| 41 | 11.398 | 1581 | 1583 | 1590 | rVB  | 154679  | 166599  | 5.16%  | 0.350% |
| 42 | 11.457 | 1590 | 1593 | 1597 | rBV2 | 76477   | 72727   | 2.25%  | 0.153% |
| 43 | 11.663 | 1625 | 1628 | 1630 | rBV  | 255233  | 201392  | 6.24%  | 0.423% |
| 44 | 11.692 | 1630 | 1633 | 1637 | rVB  | 308825  | 267955  | 8.30%  | 0.563% |
| 45 | 11.739 | 1637 | 1641 | 1644 | rBV  | 123245  | 121689  | 3.77%  | 0.256% |
| 46 | 11.775 | 1644 | 1647 | 1649 | rVV  | 471706  | 440173  | 13.64% | 0.925% |
| 47 | 11.798 | 1649 | 1651 | 1655 | rVB  | 150457  | 133249  | 4.13%  | 0.280% |
| 48 | 11.869 | 1661 | 1663 | 1666 | rVB2 | 44619   | 44337   | 1.37%  | 0.093% |
| 49 | 11.898 | 1666 | 1668 | 1672 | rBV4 | 30791   | 36962   | 1.15%  | 0.078% |
| 50 | 11.957 | 1675 | 1678 | 1681 | rVV  | 180025  | 156560  | 4.85%  | 0.329% |
| 51 | 11.992 | 1681 | 1684 | 1689 | rVB  | 109345  | 98961   | 3.07%  | 0.208% |
| 52 | 12.104 | 1701 | 1703 | 1706 | rVB  | 44826   | 40249   | 1.25%  | 0.085% |
| 53 | 12.139 | 1706 | 1709 | 1711 | rBV  | 60885   | 49817   | 1.54%  | 0.105% |
| 54 | 12.163 | 1711 | 1713 | 1717 | rVB2 | 37839   | 38482   | 1.19%  | 0.081% |
| 55 | 12.210 | 1718 | 1721 | 1724 | rBV  | 107601  | 110283  | 3.42%  | 0.232% |
| 56 | 12.251 | 1724 | 1728 | 1730 | rBV3 | 93537   | 98883   | 3.06%  | 0.208% |
| 57 | 12.304 | 1733 | 1737 | 1741 | rBV3 | 89984   | 111148  | 3.44%  | 0.233% |
| 58 | 12.374 | 1745 | 1749 | 1753 | rBV  | 2303098 | 2265447 | 70.22% | 4.759% |
| 59 | 12.439 | 1758 | 1760 | 1763 | rVB2 | 46167   | 37656   | 1.17%  | 0.079% |
| 60 | 12.522 | 1771 | 1774 | 1778 | rVB  | 73651   | 73814   | 2.29%  | 0.155% |
| 61 | 12.604 | 1782 | 1788 | 1791 | rVV  | 1999975 | 2176991 | 67.47% | 4.573% |
| 62 | 12.639 | 1791 | 1794 | 1804 | rVB2 | 251112  | 418795  | 12.98% | 0.880% |
| 63 | 12.722 | 1805 | 1808 | 1809 | rVV  | 112784  | 95182   | 2.95%  | 0.200% |
| 64 | 12.751 | 1809 | 1813 | 1819 | rVB  | 2394063 | 2407251 | 74.61% | 5.057% |
| 65 | 12.822 | 1820 | 1825 | 1829 | rBV2 | 124113  | 207581  | 6.43%  | 0.436% |
| 66 | 12.910 | 1836 | 1840 | 1841 | rBV3 | 96198   | 112515  | 3.49%  | 0.236% |
| 67 | 12.933 | 1841 | 1844 | 1847 | rVB  | 378338  | 351336  | 10.89% | 0.738% |
| 68 | 12.998 | 1852 | 1855 | 1858 | rVB  | 347862  | 273684  | 8.48%  | 0.575% |
| 69 | 13.033 | 1858 | 1861 | 1863 | rBV2 | 181067  | 191822  | 5.95%  | 0.403% |
| 70 | 13.127 | 1874 | 1877 | 1879 | rBV2 | 88552   | 80011   | 2.48%  | 0.168% |
| 71 | 13.157 | 1879 | 1882 | 1890 | rVV2 | 106186  | 130176  | 4.03%  | 0.273% |

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 Start Thrs: 0.2  
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 Min Area: 3 % of largest Peak  
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 Peak Location: TOP

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 Peak separation: 5

Method : Z:\HPCHEM1\BNA\_F\METHODS\8270-BF091117.M  
 Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

|     |        |      |      |      |      |         |         |        |        |
|-----|--------|------|------|------|------|---------|---------|--------|--------|
| 72  | 13.351 | 1913 | 1915 | 1918 | rVB2 | 59345   | 53828   | 1.67%  | 0.113% |
| 73  | 13.416 | 1923 | 1926 | 1928 | rBV  | 62183   | 74154   | 2.30%  | 0.156% |
| 74  | 13.445 | 1928 | 1931 | 1935 | rVB  | 99941   | 93444   | 2.90%  | 0.196% |
| 75  | 13.551 | 1946 | 1949 | 1951 | rBV  | 168454  | 158270  | 4.91%  | 0.332% |
| 76  | 13.574 | 1951 | 1953 | 1955 | rVV  | 167836  | 133718  | 4.14%  | 0.281% |
| 77  | 13.598 | 1955 | 1957 | 1959 | rVV  | 126738  | 126230  | 3.91%  | 0.265% |
| 78  | 13.651 | 1963 | 1966 | 1970 | rVB2 | 253387  | 286557  | 8.88%  | 0.602% |
| 79  | 13.798 | 1983 | 1991 | 1994 | rBV2 | 1321458 | 2238241 | 69.37% | 4.702% |
| 80  | 13.827 | 1994 | 1996 | 1999 | rVB  | 968285  | 756665  | 23.45% | 1.589% |
| 81  | 13.904 | 2007 | 2009 | 2012 | rVB  | 245485  | 184012  | 5.70%  | 0.387% |
| 82  | 13.951 | 2015 | 2017 | 2019 | rBV2 | 69806   | 77029   | 2.39%  | 0.162% |
| 83  | 13.998 | 2023 | 2025 | 2027 | rVV  | 103503  | 96360   | 2.99%  | 0.202% |
| 84  | 14.033 | 2029 | 2031 | 2033 | rVB  | 109861  | 79914   | 2.48%  | 0.168% |
| 85  | 14.151 | 2048 | 2051 | 2053 | rBV  | 70360   | 67952   | 2.11%  | 0.143% |
| 86  | 14.186 | 2055 | 2057 | 2060 | rVB  | 174009  | 148384  | 4.60%  | 0.312% |
| 87  | 14.280 | 2069 | 2073 | 2075 | rBV3 | 133690  | 156479  | 4.85%  | 0.329% |
| 88  | 14.310 | 2076 | 2078 | 2080 | rVV  | 118499  | 110142  | 3.41%  | 0.231% |
| 89  | 14.333 | 2080 | 2082 | 2084 | rVB  | 121233  | 101164  | 3.14%  | 0.213% |
| 90  | 14.498 | 2108 | 2110 | 2113 | rBV2 | 89720   | 101836  | 3.16%  | 0.214% |
| 91  | 14.663 | 2136 | 2138 | 2142 | rBV  | 81181   | 106306  | 3.29%  | 0.223% |
| 92  | 14.810 | 2159 | 2163 | 2171 | rBV  | 847093  | 1562764 | 48.44% | 3.283% |
| 93  | 14.874 | 2172 | 2174 | 2177 | rVV2 | 103130  | 99604   | 3.09%  | 0.209% |
| 94  | 14.910 | 2177 | 2180 | 2184 | rVB  | 200309  | 200078  | 6.20%  | 0.420% |
| 95  | 15.086 | 2207 | 2210 | 2216 | rVB  | 500604  | 621926  | 19.28% | 1.306% |
| 96  | 15.145 | 2216 | 2220 | 2225 | rVB  | 738700  | 846589  | 26.24% | 1.778% |
| 97  | 15.204 | 2226 | 2230 | 2233 | rBV  | 628133  | 776481  | 24.07% | 1.631% |
| 98  | 15.610 | 2296 | 2299 | 2302 | rVB  | 76746   | 91446   | 2.83%  | 0.192% |
| 99  | 16.545 | 2452 | 2458 | 2463 | rBV  | 294680  | 515744  | 15.98% | 1.083% |
| 100 | 16.945 | 2521 | 2526 | 2536 | rVB  | 183054  | 372065  | 11.53% | 0.782% |

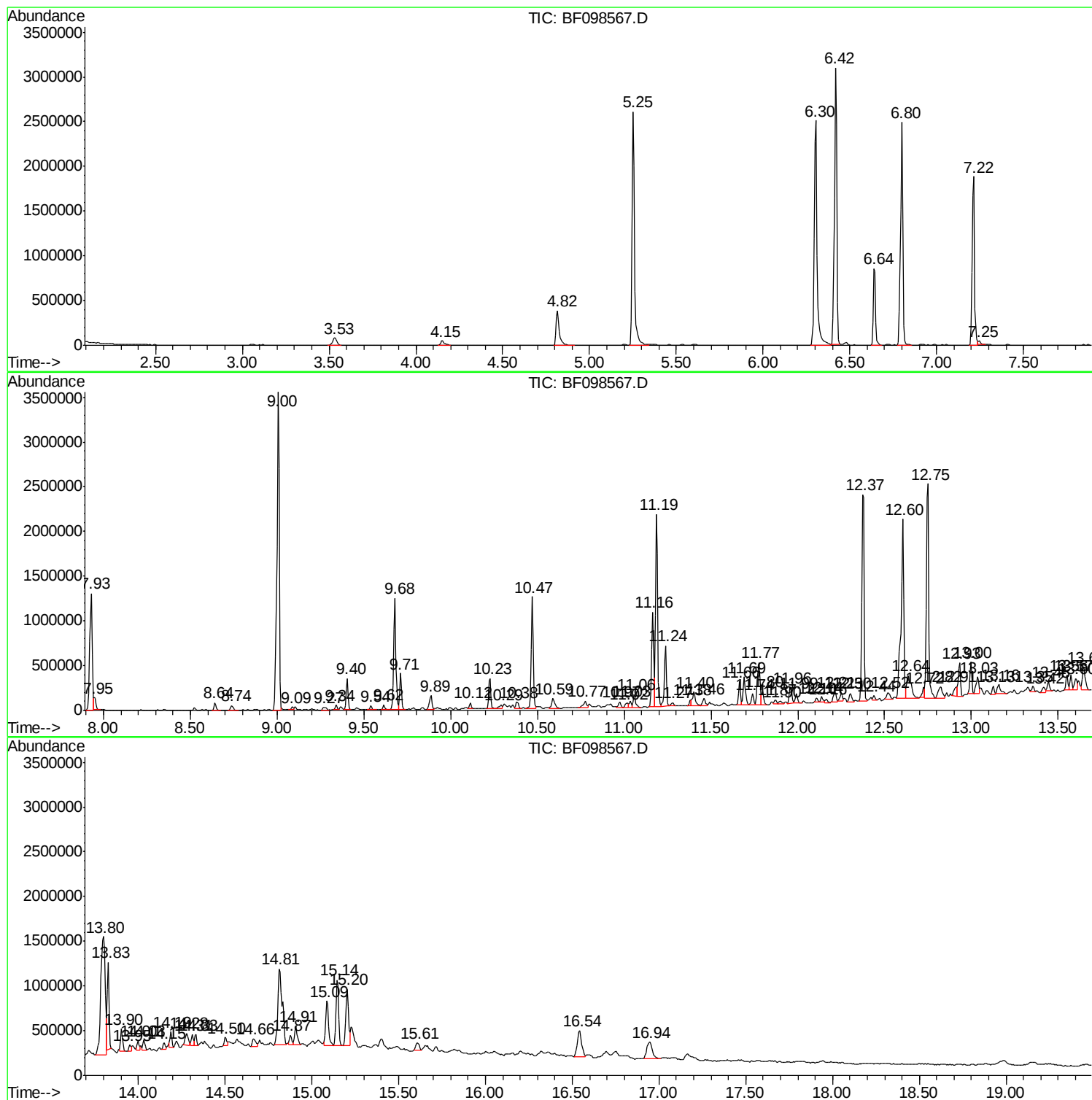
Sum of corrected areas: 47605398

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Instrument :  
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Quant Method : Z:\HPCHEM1\BNA\_F\METHODS\8270-BF091117.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P



Data Path : Z:\HPCHEM1\BNA\_F\DATA\BF091517\  
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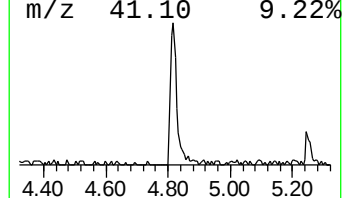
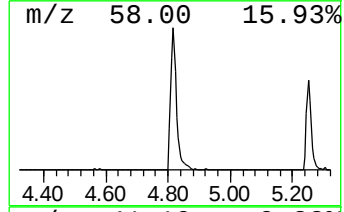
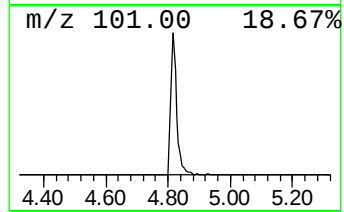
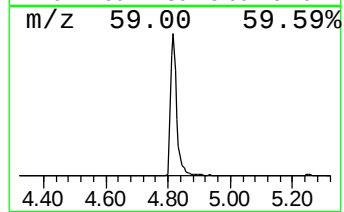
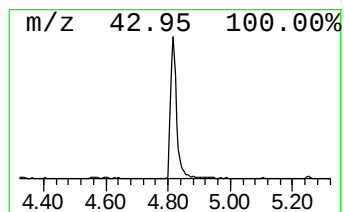
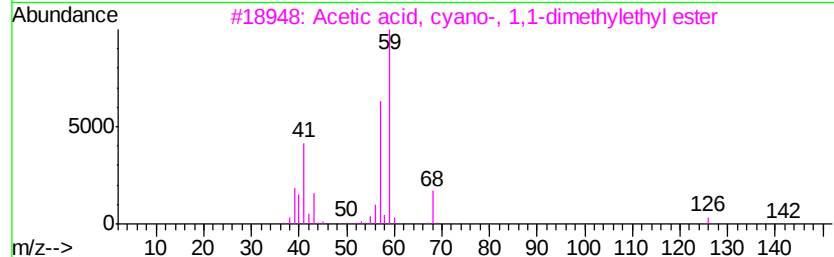
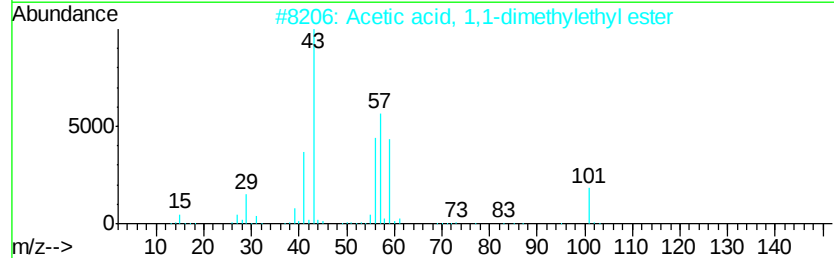
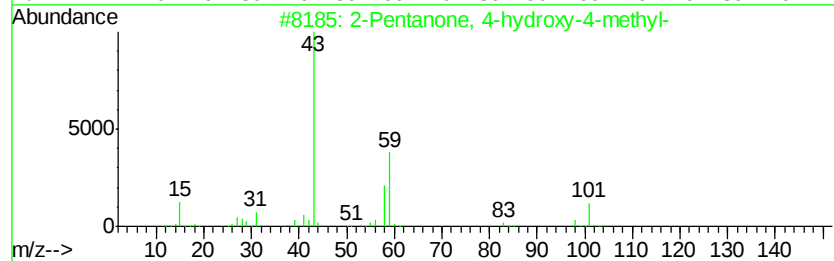
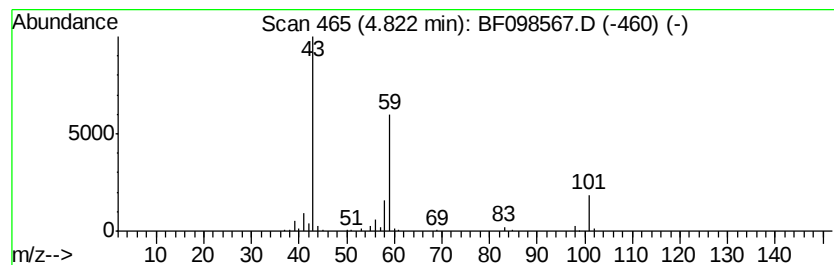
Quant Method : Z:\HPCHEM1\BNA\_F\METHODS\8270-BF091117.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 2 2-Pentanone, 4-hydroxy-4-me... Concentration Rank 4

| R.T. | EstConc  | Area   | Relative to ISTD       | R.T. |
|------|----------|--------|------------------------|------|
| 4.82 | 13.11 ng | 527351 | 1,4-Dichlorobenzene-d4 | 6.65 |

| Hit# | of | 5 | Tentative ID                        | MW  | MolForm  | CAS#        | Qual |
|------|----|---|-------------------------------------|-----|----------|-------------|------|
| 1    |    |   | 2-Pentanone, 4-hydroxy-4-methyl-    | 116 | C6H12O2  | 000123-42-2 | 59   |
| 2    |    |   | Acetic acid, 1,1-dimethylethyl e... | 116 | C6H12O2  | 000540-88-5 | 39   |
| 3    |    |   | Acetic acid, cyano-, 1,1-dimethy... | 141 | C7H11NO2 | 001116-98-9 | 23   |
| 4    |    |   | 1-Propen-2-ol, acetate              | 100 | C5H8O2   | 000108-22-5 | 10   |
| 5    |    |   | Morpholine, 4-methyl-               | 101 | C5H11NO  | 000109-02-4 | 9    |



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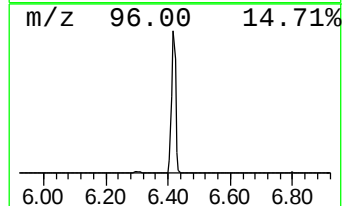
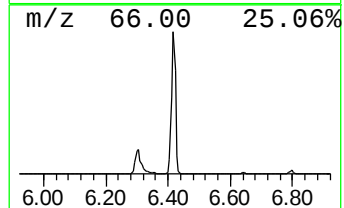
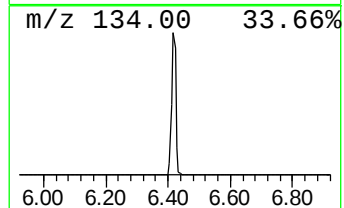
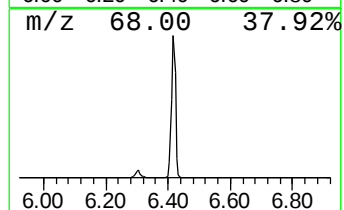
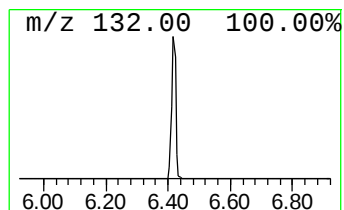
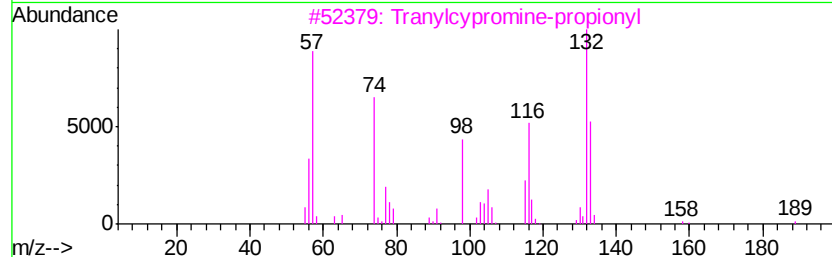
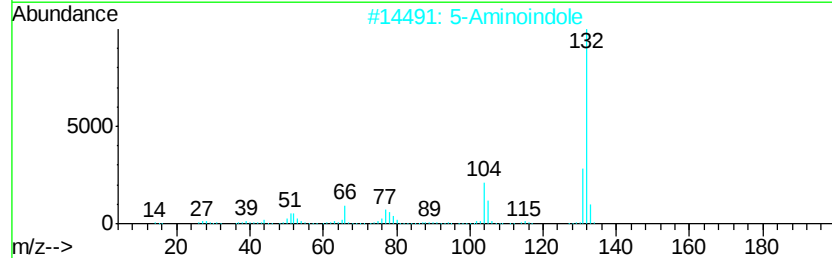
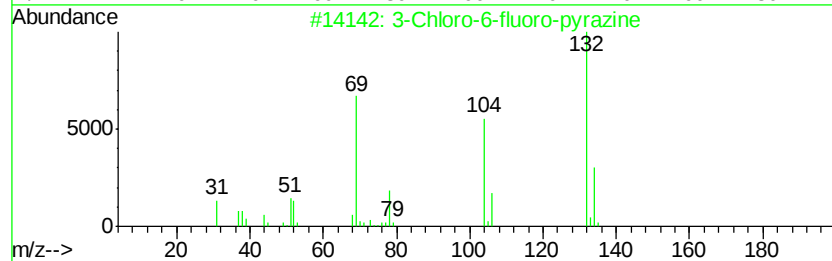
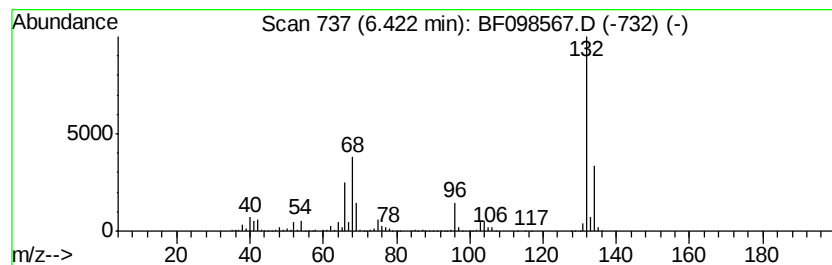
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TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 3 unknown6.42 Concentration Rank 1

| R.T. | EstConc  | Area    | Relative to ISTD       | R.T. |
|------|----------|---------|------------------------|------|
| 6.42 | 70.41 ng | 2832160 | 1,4-Dichlorobenzene-d4 | 6.65 |

| Hit# | of | 5 | Tentative ID                     | MW  | MolForm   | CAS#         | Qual |
|------|----|---|----------------------------------|-----|-----------|--------------|------|
| 1    |    |   | 3-Chloro-6-fluoro-pyrazine       | 132 | C4H2ClFN2 | 1000146-10-7 | 27   |
| 2    |    |   | 5-Aminoindole                    | 132 | C8H8N2    | 005192-03-0  | 12   |
| 3    |    |   | Tranylcypromine-propionyl        | 189 | C12H15NO  | 1000123-86-3 | 10   |
| 4    |    |   | Benzene, 1-ethenyl-3,5-dimethyl- | 132 | C10H12    | 005379-20-4  | 9    |
| 5    |    |   | 5-Fluoro-2-chloropyrimidine      | 132 | C4H2ClFN2 | 062802-42-0  | 9    |



Data Path : Z:\HPCHEM1\BNA\_F\DATA\BF091517\  
Data File : BF098567.D  
Acq On : 15 Sep 2017 14:10  
Operator : SJ/JU  
Sample : I5188-05  
Misc :  
ALS Vial : 11 Sample Multiplier: 1

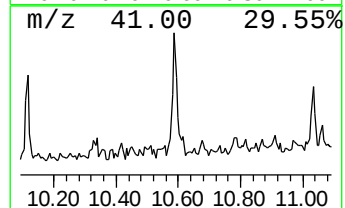
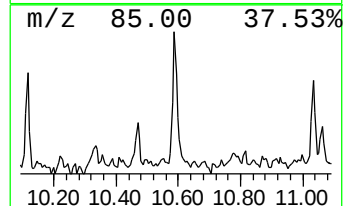
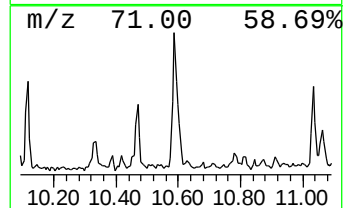
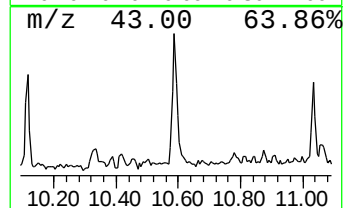
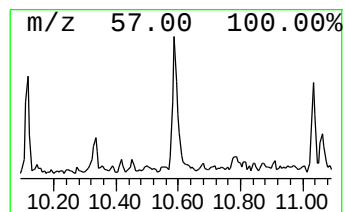
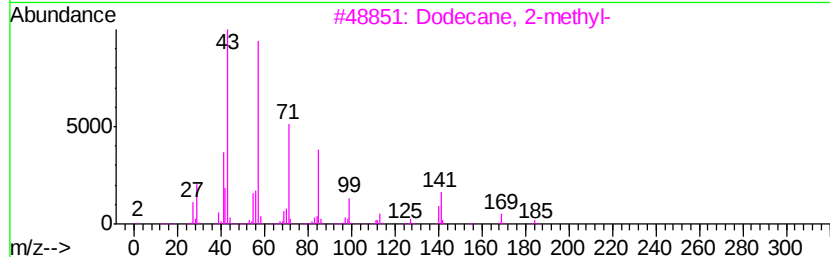
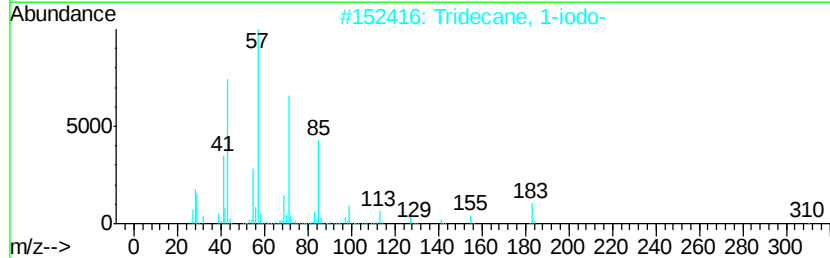
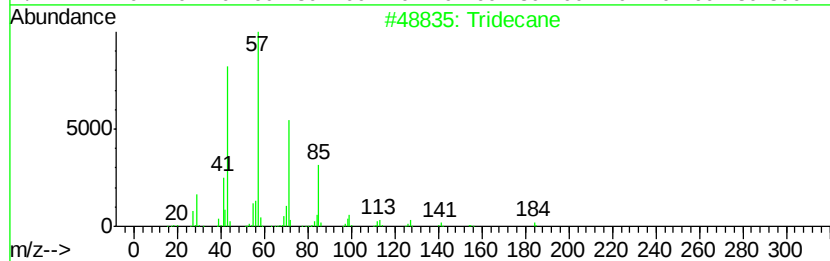
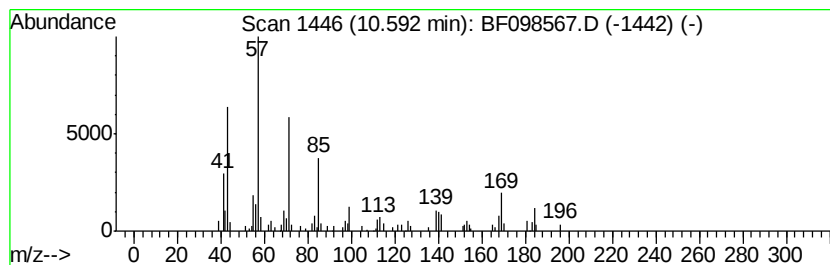
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Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 5 Tridecane Concentration Rank 12

| R.T.      | EstConc             | Area   | Relative to ISTD | R.T.        |      |
|-----------|---------------------|--------|------------------|-------------|------|
| 10.59     | 2.80 ng             | 140421 | Phenanthrene-d10 | 11.16       |      |
| Hit# of 5 | Tentative ID        | MW     | MolForm          | CAS#        | Qual |
| 1         | Tridecane           | 184    | C13H28           | 000629-50-5 | 81   |
| 2         | Tridecane, 1-iodo-  | 310    | C13H27I          | 035599-77-0 | 80   |
| 3         | Dodecane, 2-methyl- | 184    | C13H28           | 001560-97-0 | 80   |
| 4         | Hexadecane          | 226    | C16H34           | 000544-76-3 | 78   |
| 5         | Octadecane          | 254    | C18H38           | 000593-45-3 | 78   |



Data Path : Z:\HPCHEM1\BNA\_F\DATA\BF091517\  
Data File : BF098567.D  
Acq On : 15 Sep 2017 14:10  
Operator : SJ/JU  
Sample : I5188-05  
Misc :  
ALS Vial : 11 Sample Multiplier: 1

Instrument :  
BNA\_F  
ClientSampleId :  
RL-4-0-12.25

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Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

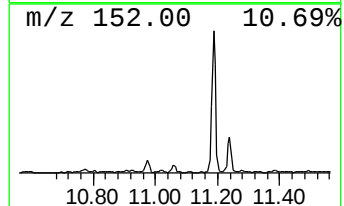
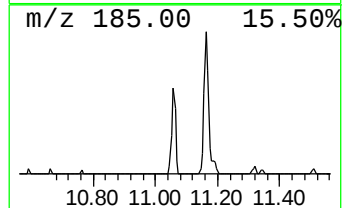
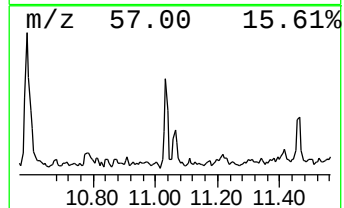
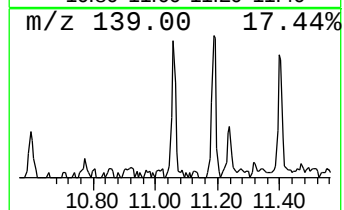
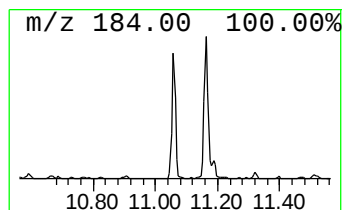
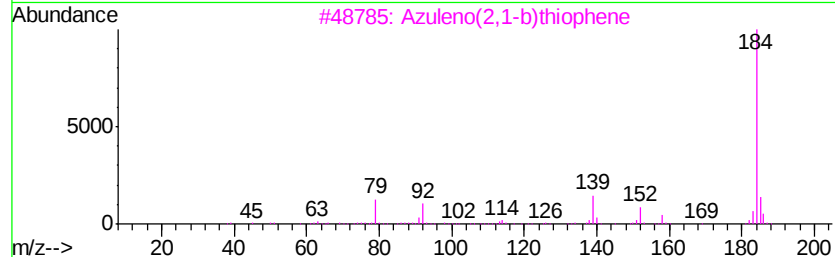
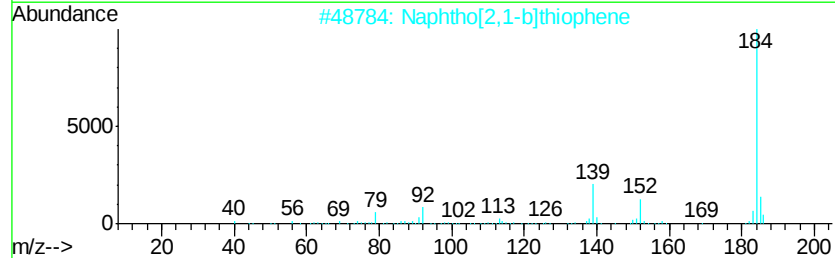
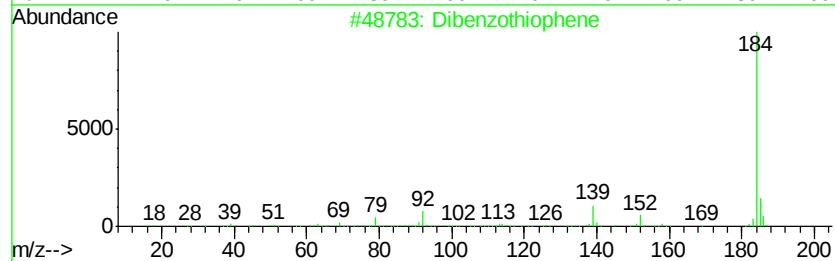
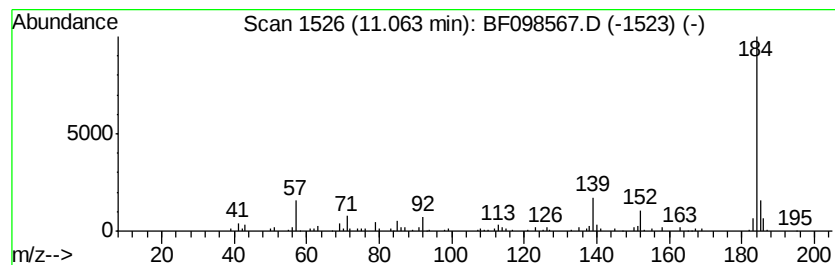
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TIC Integration Parameters: LSCINT.P

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Peak Number 6 Dibenzothiophene Concentration Rank 13

| R.T.  | EstConc | Area   | Relative to ISTD | R.T.  |
|-------|---------|--------|------------------|-------|
| 11.06 | 2.78 ng | 139656 | Phenanthrene-d10 | 11.16 |

| Hit# of | 5 | Tentative ID                      | MW  | MolForm | CAS#        | Qual |
|---------|---|-----------------------------------|-----|---------|-------------|------|
| 1       |   | Dibenzothiophene                  | 184 | C12H8S  | 000132-65-0 | 95   |
| 2       |   | Naphtho[2,1-b]thiophene           | 184 | C12H8S  | 000233-02-3 | 94   |
| 3       |   | Azuleno(2,1-b)thiophene           | 184 | C12H8S  | 000248-13-5 | 87   |
| 4       |   | Naphtho[1,2-b]thiophene           | 184 | C12H8S  | 000234-41-3 | 86   |
| 5       |   | Naphthalene, 2-ethenyl-6-methoxy- | 184 | C13H12O | 063444-51-9 | 72   |



Data Path : Z:\HPCHEM1\BNA\_F\DATA\BF091517\  
Data File : BF098567.D  
Acq On : 15 Sep 2017 14:10  
Operator : SJ/JU  
Sample : I5188-05  
Misc :  
ALS Vial : 11 Sample Multiplier: 1

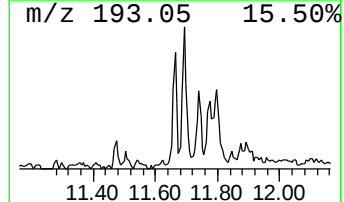
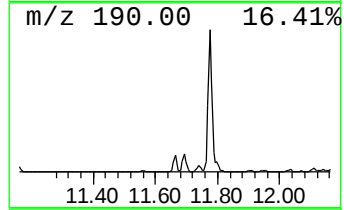
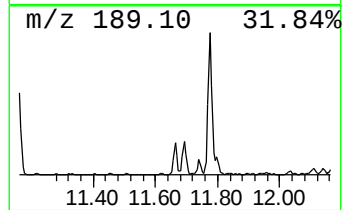
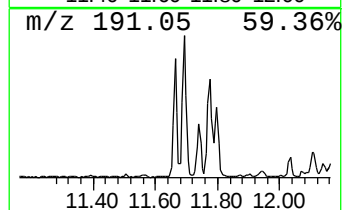
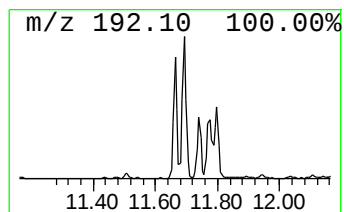
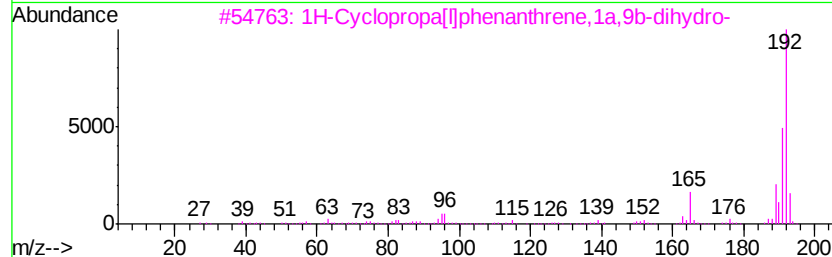
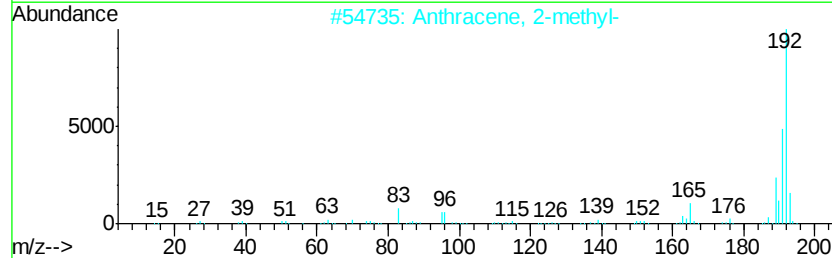
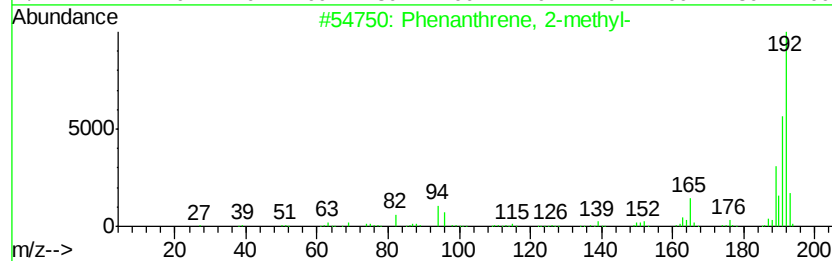
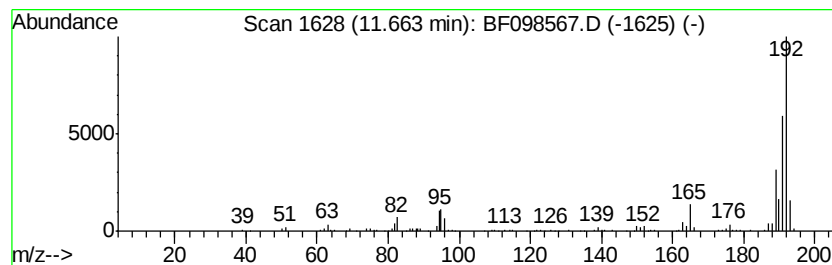
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ClientSampleId :  
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Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 7 Phenanthrene, 2-methyl- Concentration Rank 8

| R.T.      | EstConc                             | Area   | Relative to ISTD | R.T.        |      |
|-----------|-------------------------------------|--------|------------------|-------------|------|
| 11.66     | 4.01 ng                             | 201392 | Phenanthrene-d10 | 11.16       |      |
| Hit# of 5 | Tentative ID                        | MW     | MolForm          | CAS#        | Qual |
| 1         | Phenanthrene, 2-methyl-             | 192    | C15H12           | 002531-84-2 | 98   |
| 2         | Anthracene, 2-methyl-               | 192    | C15H12           | 000613-12-7 | 97   |
| 3         | 1H-Cyclopropa[1]phenanthrene,1a,... | 192    | C15H12           | 000949-41-7 | 96   |
| 4         | Phenanthrene, 1-methyl-             | 192    | C15H12           | 000832-69-9 | 95   |
| 5         | Anthracene, 1-methyl-               | 192    | C15H12           | 000610-48-0 | 93   |



Data Path : Z:\HPCHEM1\BNA\_F\DATA\BF091517\  
Data File : BF098567.D  
Acq On : 15 Sep 2017 14:10  
Operator : SJ/JU  
Sample : I5188-05  
Misc :  
ALS Vial : 11 Sample Multiplier: 1

Instrument :  
BNA\_F  
ClientSampleId :  
RL-4-0-12.25

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Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

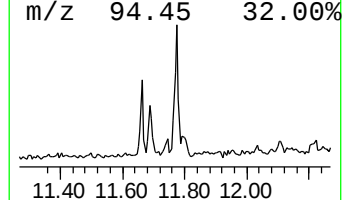
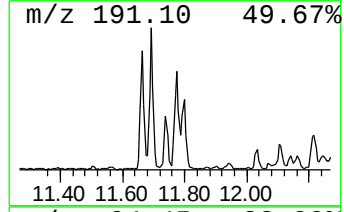
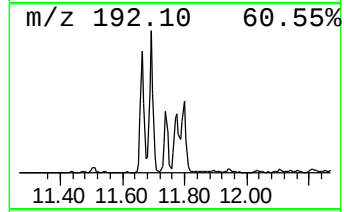
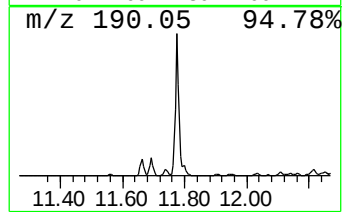
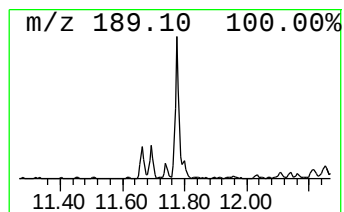
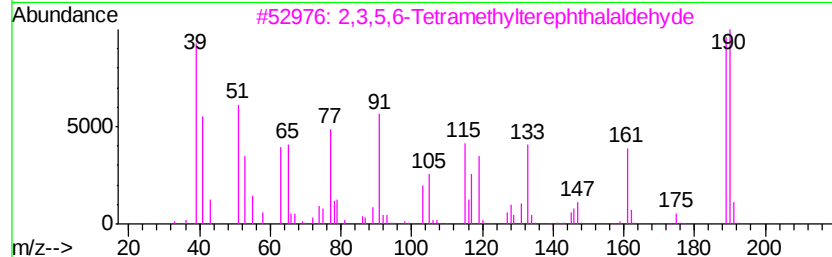
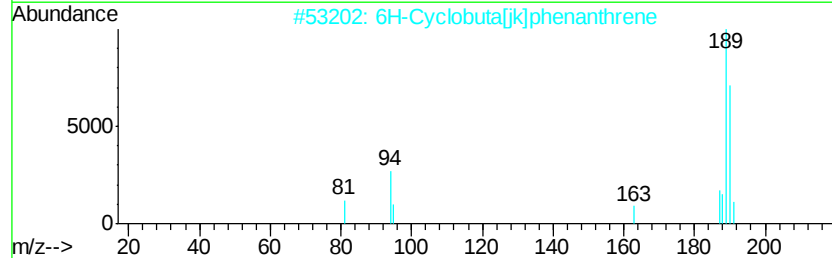
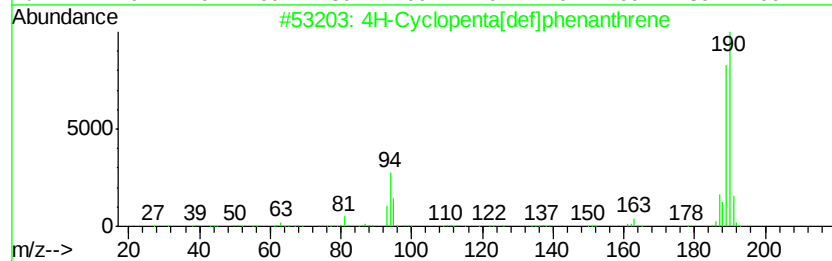
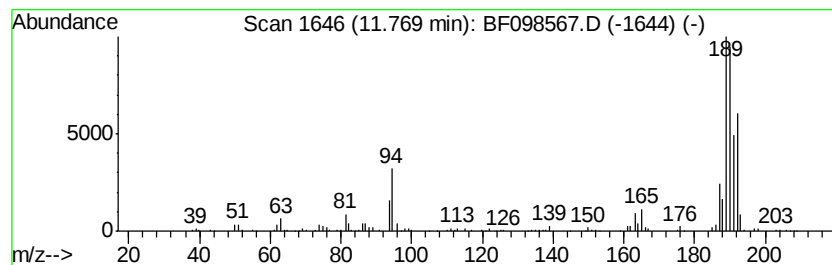
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 10 4H-Cyclopenta[def]phenanthrene Concentration Rank 5

| R.T.  | EstConc | Area   | Relative to ISTD | R.T.  |
|-------|---------|--------|------------------|-------|
| 11.77 | 8.77 ng | 440173 | Phenanthrene-d10 | 11.16 |

| Hit# | of | Tentative ID                        | MW  | MolForm  | CAS#        | Qual |
|------|----|-------------------------------------|-----|----------|-------------|------|
| 1    | 5  | 4H-Cyclopenta[def]phenanthrene      | 190 | C15H10   | 000203-64-5 | 93   |
| 2    |    | 6H-Cyclobuta[jk]phenanthrene        | 190 | C15H10   | 083469-43-6 | 64   |
| 3    |    | 2,3,5,6-Tetramethylterephthalald... | 190 | C12H14O2 | 007072-01-7 | 47   |
| 4    |    | 2,2'-Bis(4,5-dimethylimidazole)     | 190 | C10H14N4 | 069286-06-2 | 40   |
| 5    |    | 1-(Phenylethynyl)-1H-1,2,3-benzo... | 219 | C14H9N3  | 209912-23-2 | 16   |



Data Path : Z:\HPCHEM1\BNA\_F\DATA\BF091517\  
Data File : BF098567.D  
Acq On : 15 Sep 2017 14:10  
Operator : SJ/JU  
Sample : I5188-05  
Misc :  
ALS Vial : 11 Sample Multiplier: 1

Instrument :  
BNA\_F  
ClientSampleId :  
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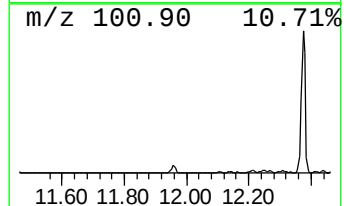
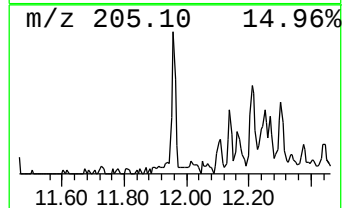
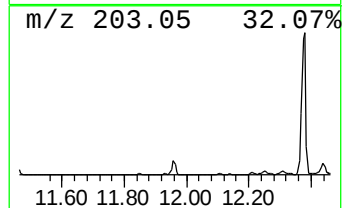
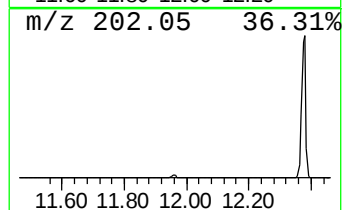
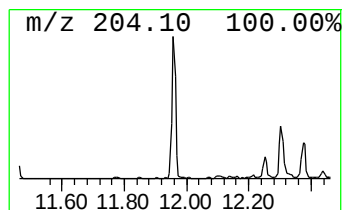
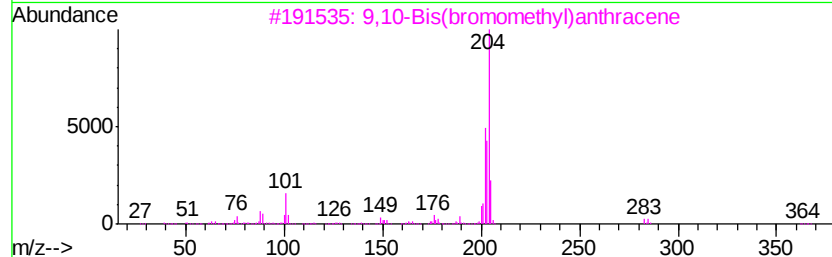
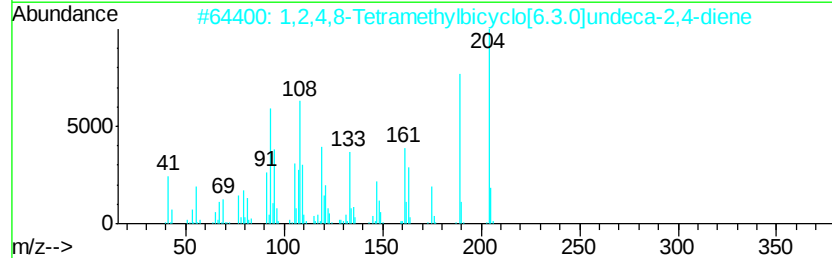
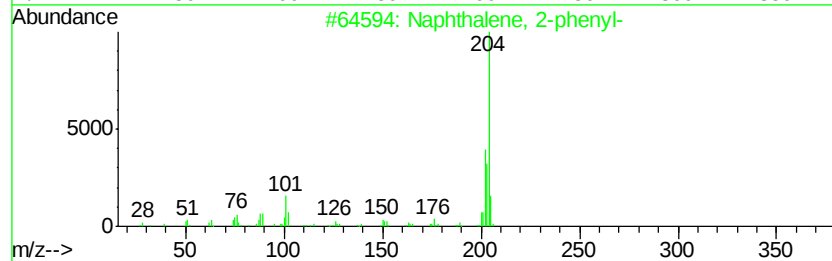
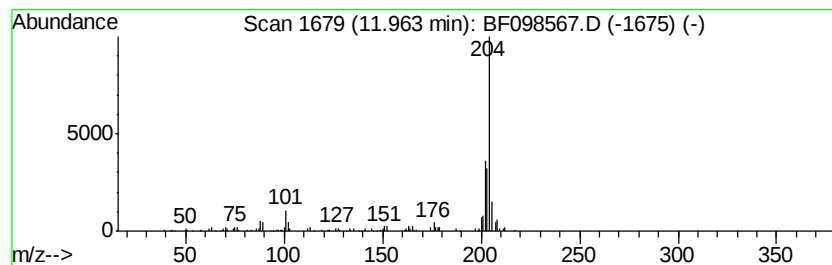
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TIC Integration Parameters: LSCINT.P

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Peak Number 12 Naphthalene, 2-phenyl- Concentration Rank 11

| R.T.  | EstConc | Area   | Relative to ISTD | R.T.  |
|-------|---------|--------|------------------|-------|
| 11.96 | 3.12 ng | 156560 | Phenanthrene-d10 | 11.16 |

| Hit# | of | Tentative ID                         | MW  | MolForm   | CAS#        | Qual |
|------|----|--------------------------------------|-----|-----------|-------------|------|
| 1    | 5  | Naphthalene, 2-phenyl-               | 204 | C16H12    | 000612-94-2 | 93   |
| 2    |    | 1,2,4,8-Tetramethylbicyclo[6.3.0...] | 204 | C15H24    | 137235-51-9 | 89   |
| 3    |    | 9,10-Bis(bromomethyl)anthracene      | 362 | C16H12Br2 | 034373-96-1 | 87   |
| 4    |    | 5,16[1',2']:8,13[1'',2'']-Dibenz...  | 408 | C32H24    | 005672-97-9 | 86   |
| 5    |    | Tricyclo[8.2.2.2(4,7)]hexadeca-2...  | 204 | C16H12    | 006572-60-7 | 70   |



Data Path : Z:\HPCHEM1\BNA\_F\DATA\BF091517\  
Data File : BF098567.D  
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Operator : SJ/JU  
Sample : I5188-05  
Misc :  
ALS Vial : 11 Sample Multiplier: 1

Instrument :  
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ClientSampleId :  
RL-4-0-12.25

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Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

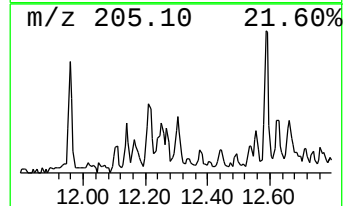
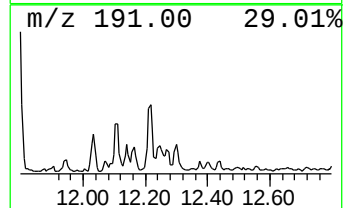
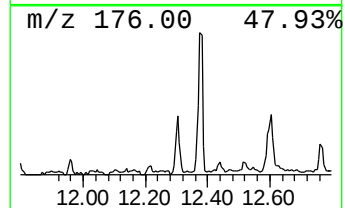
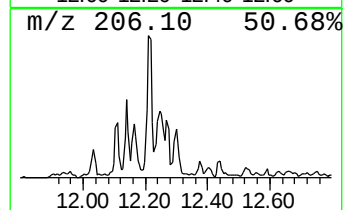
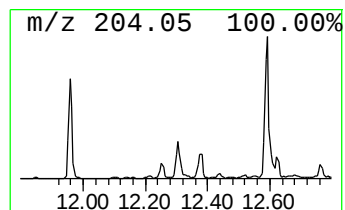
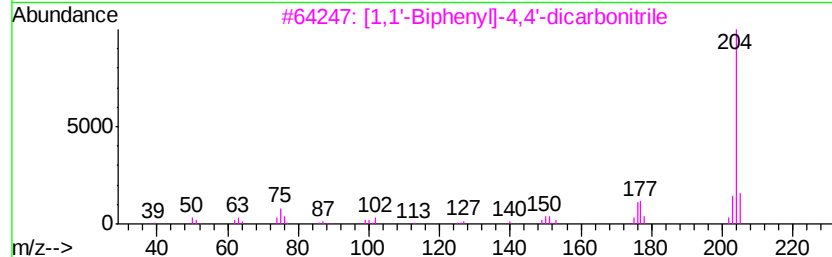
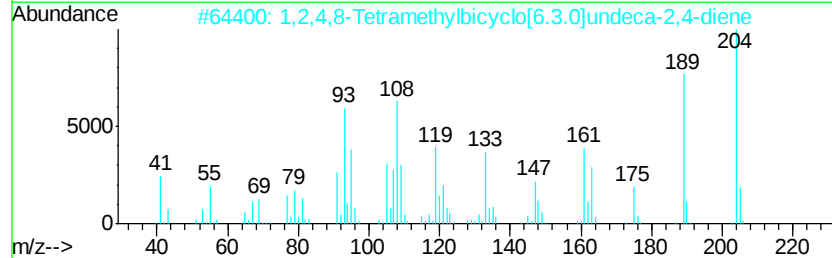
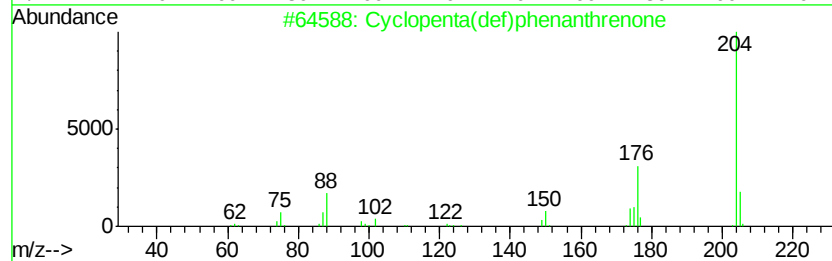
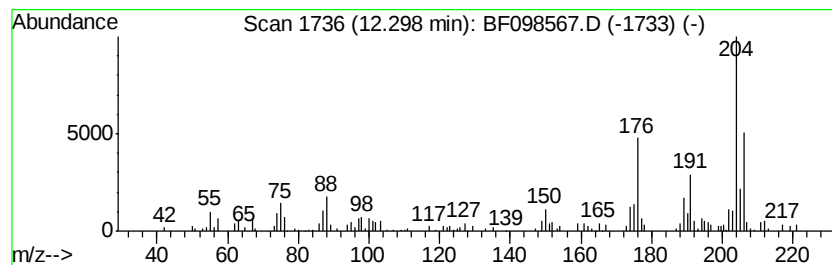
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TIC Integration Parameters: LSCINT.P

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Peak Number 13 Cyclopenta(def)phenanthrenone Concentration Rank 20

| R.T.  | EstConc | Area   | Relative to ISTD | R.T.  |
|-------|---------|--------|------------------|-------|
| 12.30 | 2.22 ng | 111148 | Phenanthrene-d10 | 11.16 |

| Hit# | of | Tentative ID                        | MW  | MolForm  | CAS#        | Qual |
|------|----|-------------------------------------|-----|----------|-------------|------|
| 1    | 5  | Cyclopenta(def)phenanthrenone       | 204 | C15H8O   | 005737-13-3 | 92   |
| 2    |    | 1,2,4,8-Tetramethylbicyclo[6.3.0... | 204 | C15H24   | 137235-51-9 | 50   |
| 3    |    | [1,1'-Biphenyl]-4,4'-dicarbonitrile | 204 | C14H8N2  | 001591-30-6 | 46   |
| 4    |    | 4(equat)-(but-3-en-1-ynyl)-2(axi... | 219 | C14H21NO | 038423-22-2 | 45   |
| 5    |    | 6-Cyanophenanthridine               | 204 | C14H8N2  | 002176-28-5 | 43   |



Data Path : Z:\HPCHEM1\BNA\_F\DATA\BF091517\  
Data File : BF098567.D  
Acq On : 15 Sep 2017 14:10  
Operator : SJ/JU  
Sample : I5188-05  
Misc :  
ALS Vial : 11 Sample Multiplier: 1

Instrument :  
BNA\_F  
ClientSampleId :  
RL-4-0-12.25

Quant Method : Z:\HPCHEM1\BNA\_F\METHODS\8270-BF091117.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

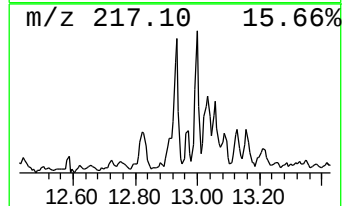
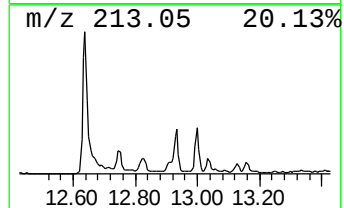
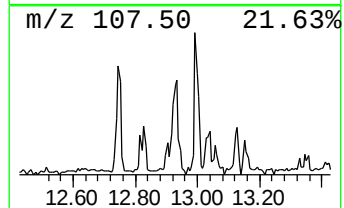
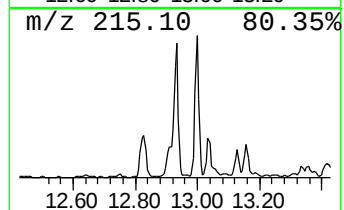
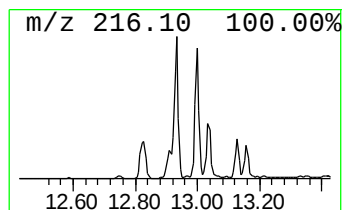
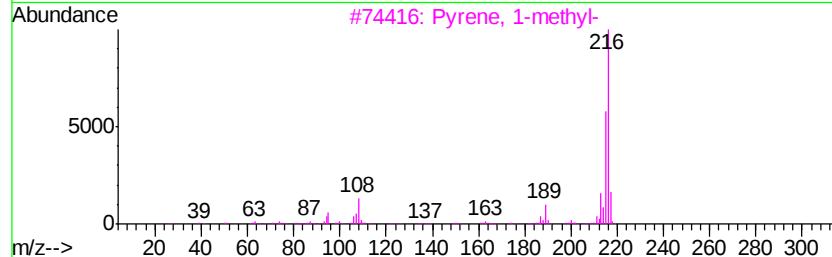
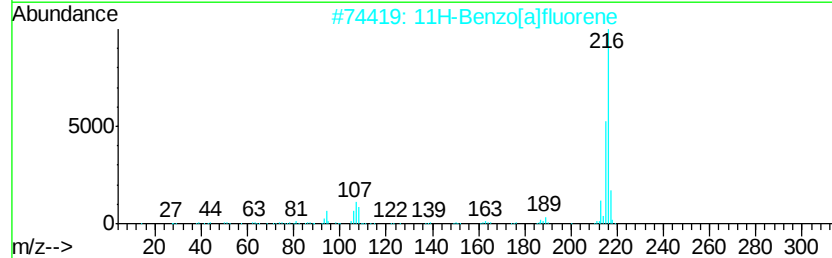
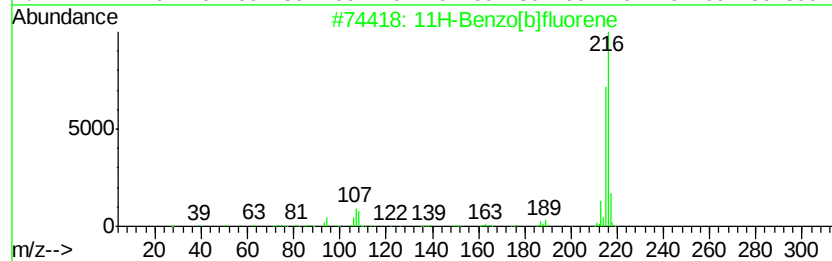
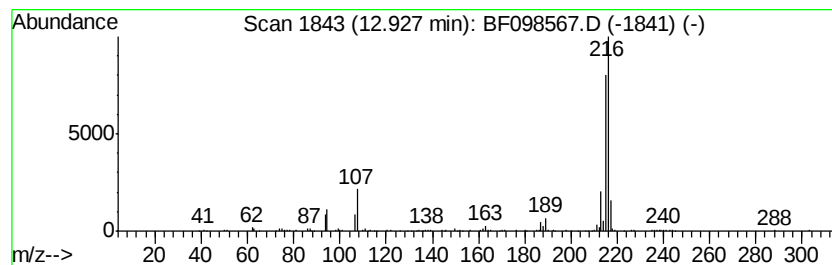
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 14 11H-Benzo[b]fluorene Concentration Rank 10

| R.T.  | EstConc | Area   | Relative to ISTD | R.T.  |
|-------|---------|--------|------------------|-------|
| 12.93 | 3.14 ng | 351336 | Chrysene-d12     | 13.80 |

| Hit# | of | Tentative ID            | MW  | MolForm | CAS#        | Qual |
|------|----|-------------------------|-----|---------|-------------|------|
| 1    | 5  | 11H-Benzo[b]fluorene    | 216 | C17H12  | 000243-17-4 | 94   |
| 2    |    | 11H-Benzo[a]fluorene    | 216 | C17H12  | 000238-84-6 | 94   |
| 3    |    | Pyrene, 1-methyl-       | 216 | C17H12  | 002381-21-7 | 91   |
| 4    |    | Fluoranthene, 2-methyl- | 216 | C17H12  | 033543-31-6 | 80   |
| 5    |    | 7H-Benzo[c]fluorene     | 216 | C17H12  | 000205-12-9 | 78   |



Data Path : Z:\HPCHEM1\BNA\_F\DATA\BF091517\  
Data File : BF098567.D  
Acq On : 15 Sep 2017 14:10  
Operator : SJ/JU  
Sample : I5188-05  
Misc :  
ALS Vial : 11 Sample Multiplier: 1

Instrument :  
BNA\_F  
ClientSampleId :  
RL-4-0-12.25

Quant Method : Z:\HPCHEM1\BNA\_F\METHODS\8270-BF091117.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

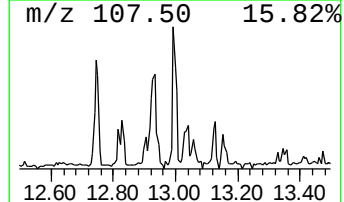
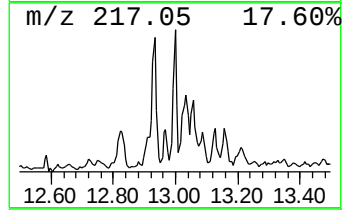
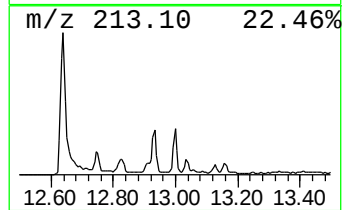
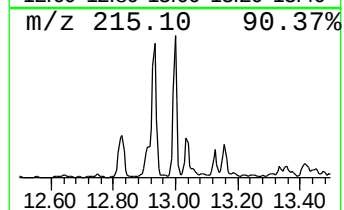
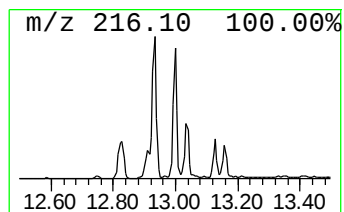
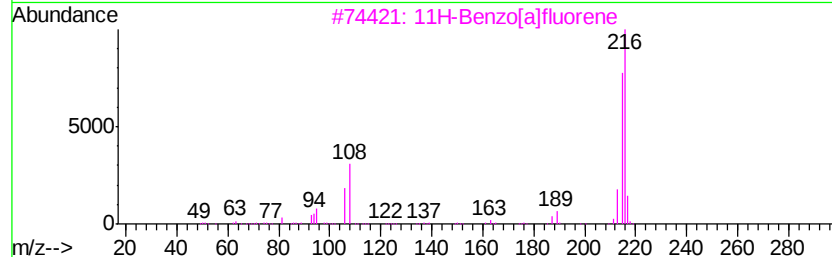
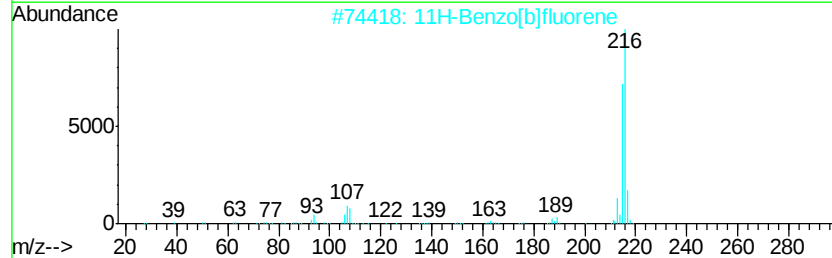
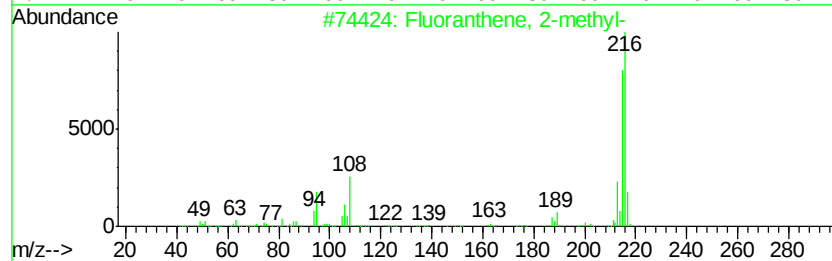
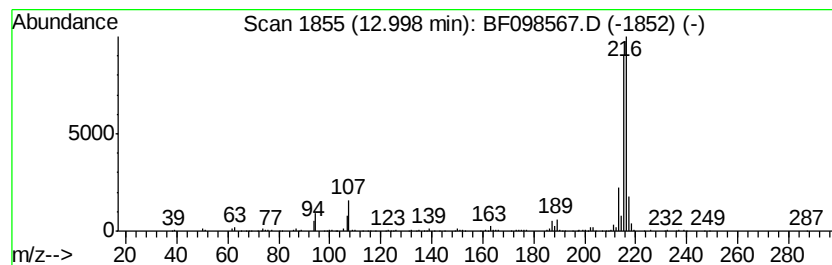
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 15 Fluoranthene, 2-methyl- Concentration Rank 17

| R.T.  | EstConc | Area   | Relative to ISTD | R.T.  |
|-------|---------|--------|------------------|-------|
| 13.00 | 2.45 ng | 273684 | Chrysene-d12     | 13.80 |

| Hit# | of | Tentative ID            | MW  | MolForm | CAS#        | Qual |
|------|----|-------------------------|-----|---------|-------------|------|
| 1    | 5  | Fluoranthene, 2-methyl- | 216 | C17H12  | 033543-31-6 | 93   |
| 2    |    | 11H-Benzo[b]fluorene    | 216 | C17H12  | 000243-17-4 | 87   |
| 3    |    | 11H-Benzo[a]fluorene    | 216 | C17H12  | 000238-84-6 | 87   |
| 4    |    | Pyrene, 1-methyl-       | 216 | C17H12  | 002381-21-7 | 87   |
| 5    |    | 7H-Benzo[c]fluorene     | 216 | C17H12  | 000205-12-9 | 74   |



Data Path : Z:\HPCHEM1\BNA\_F\DATA\BF091517\  
Data File : BF098567.D  
Acq On : 15 Sep 2017 14:10  
Operator : SJ/JU  
Sample : I5188-05  
Misc :  
ALS Vial : 11 Sample Multiplier: 1

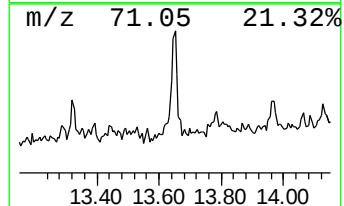
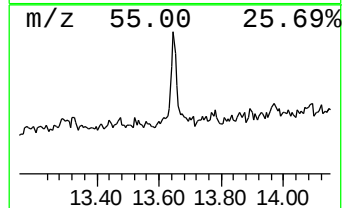
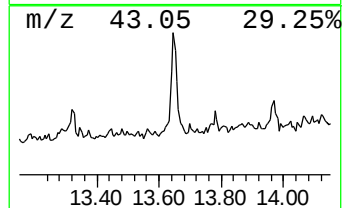
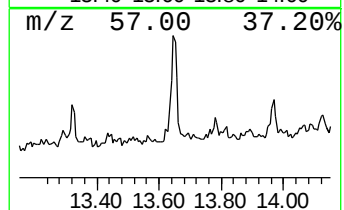
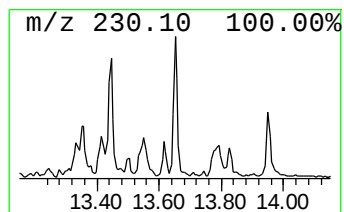
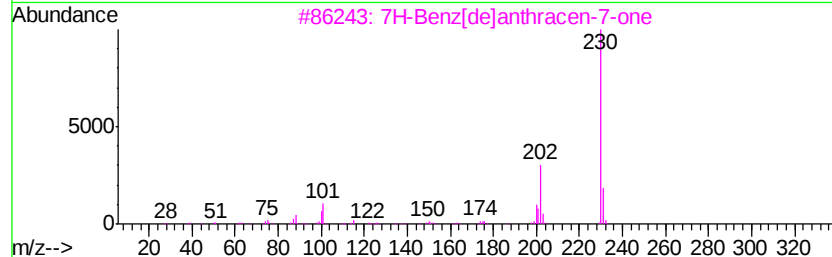
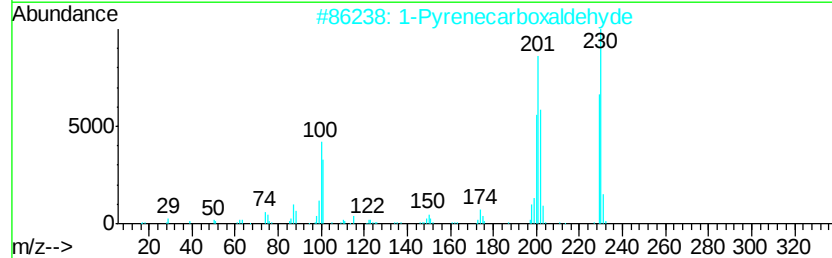
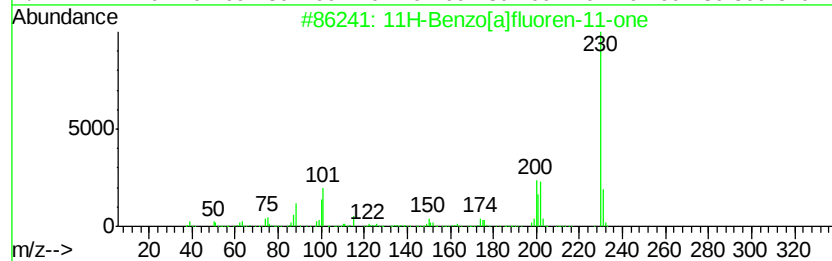
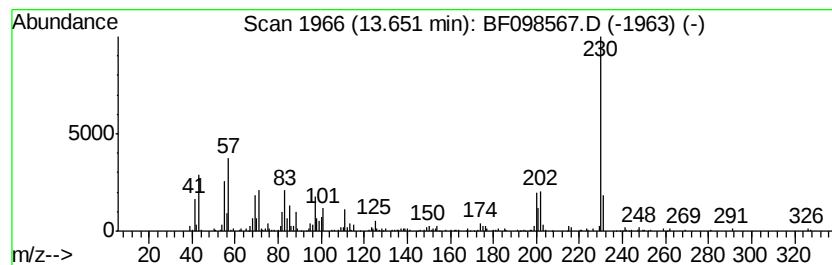
Instrument :  
BNA\_F  
ClientSampled :  
RL-4-0-12.25

Quant Method : Z:\HPCHEM1\BNA\_F\METHODS\8270-BF091117.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 16 11H-Benzo[a]fluoren-11-one Concentration Rank 16

| R.T.    | EstConc | Area                       | Relative to ISTD |         | R.T.        |      |
|---------|---------|----------------------------|------------------|---------|-------------|------|
| 13.65   | 2.56 ng | 286557                     | Chrysene-d12     |         | 13.80       |      |
| Hit# of | 5       | Tentative ID               | MW               | MolForm | CAS#        | Qual |
| 1       |         | 11H-Benzo[a]fluoren-11-one | 230              | C17H10O | 000479-79-8 | 91   |
| 2       |         | 1-Pyrenecarboxaldehyde     | 230              | C17H10O | 003029-19-4 | 59   |
| 3       |         | 7H-Benz[de]anthracen-7-one | 230              | C17H10O | 000082-05-3 | 58   |
| 4       |         | Pyrene, 1,3-dimethyl-      | 230              | C18H14  | 064401-21-4 | 43   |
| 5       |         | p-Terphenyl                | 230              | C18H14  | 000092-94-4 | 38   |



Data Path : Z:\HPCHEM1\BNA\_F\DATA\BF091517\  
Data File : BF098567.D  
Acq On : 15 Sep 2017 14:10  
Operator : SJ/JU  
Sample : I5188-05  
Misc :  
ALS Vial : 11 Sample Multiplier: 1

Instrument :  
BNA\_F  
ClientSampled :  
RL-4-0-12.25

Quant Method : Z:\HPCHEM1\BNA\_F\METHODS\8270-BF091117.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

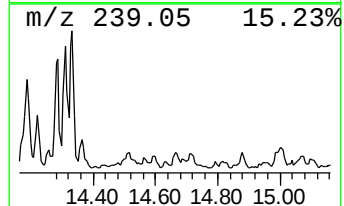
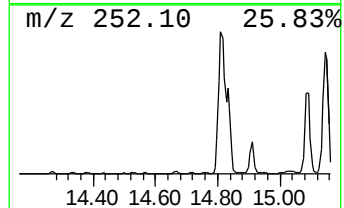
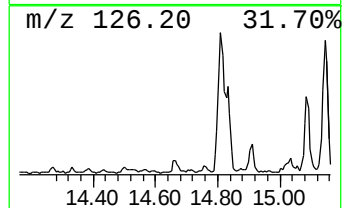
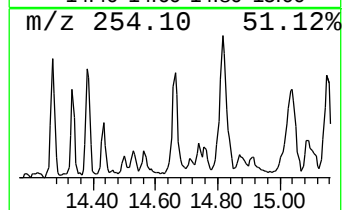
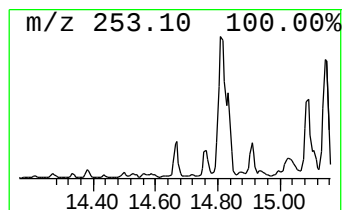
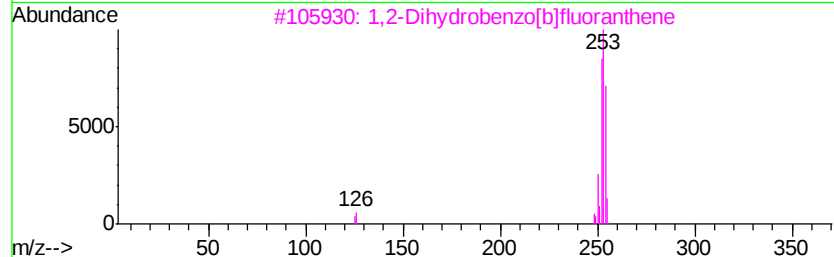
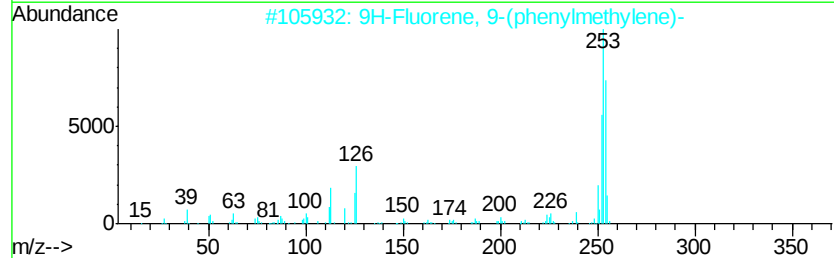
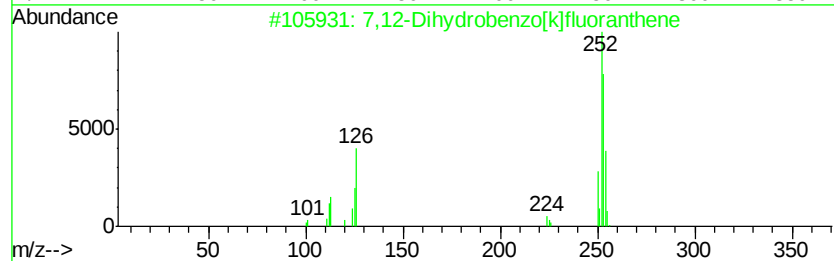
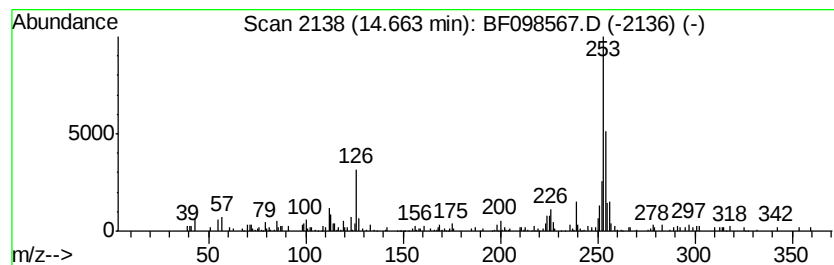
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 17 7,12-Dihydrobenzo[k]fluoran... Concentration Rank 14

| R.T.  | EstConc | Area   | Relative to ISTD | R.T.  |
|-------|---------|--------|------------------|-------|
| 14.66 | 2.74 ng | 106306 | Perylene-d12     | 15.20 |

| Hit# | of | Tentative ID                      | MW  | MolForm | CAS#         | Qual |
|------|----|-----------------------------------|-----|---------|--------------|------|
| 1    | 5  | 7,12-Dihydrobenzo[k]fluoranthene  | 254 | C20H14  | 1000080-17-7 | 76   |
| 2    |    | 9H-Fluorene, 9-(phenylmethylene)- | 254 | C20H14  | 001836-87-9  | 64   |
| 3    |    | 1,2-Dihydrobenzo[b]fluoranthene   | 254 | C20H14  | 100516-13-0  | 59   |
| 4    |    | Benz(a)anthracene-7-carbonitrile  | 253 | C19H11N | 007476-08-6  | 50   |
| 5    |    | 4,6'-Biazuleny1                   | 254 | C20H14  | 094154-49-1  | 49   |



Data Path : Z:\HPCHEM1\BNA\_F\DATA\BF091517\  
Data File : BF098567.D  
Acq On : 15 Sep 2017 14:10  
Operator : SJ/JU  
Sample : I5188-05  
Misc :  
ALS Vial : 11 Sample Multiplier: 1

Instrument :  
BNA\_F  
ClientSampled :  
RL-4-0-12.25

Quant Method : Z:\HPCHEM1\BNA\_F\METHODS\8270-BF091117.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

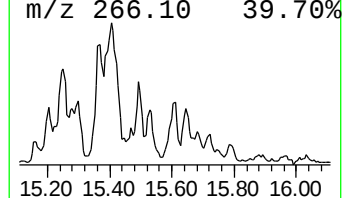
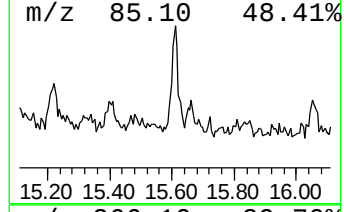
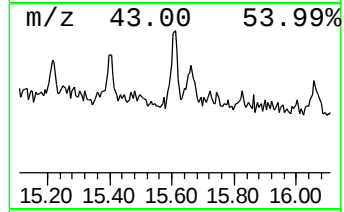
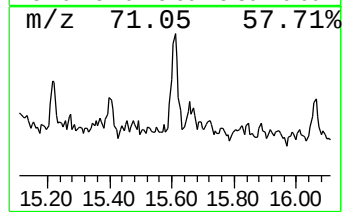
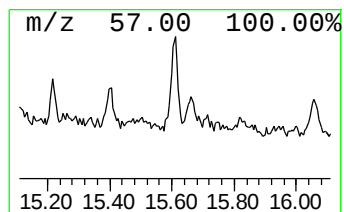
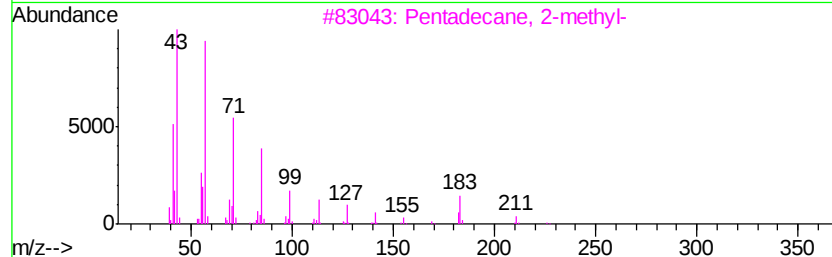
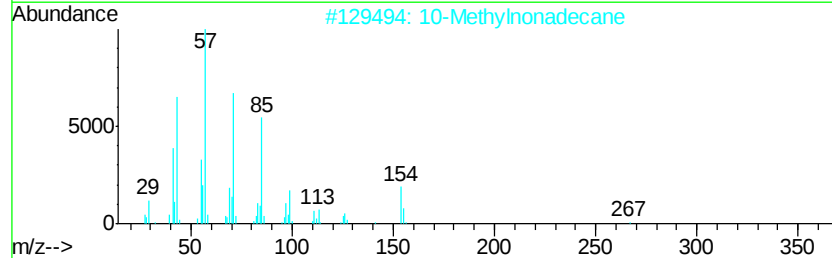
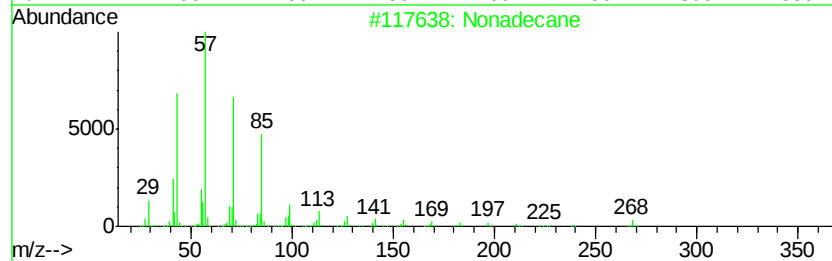
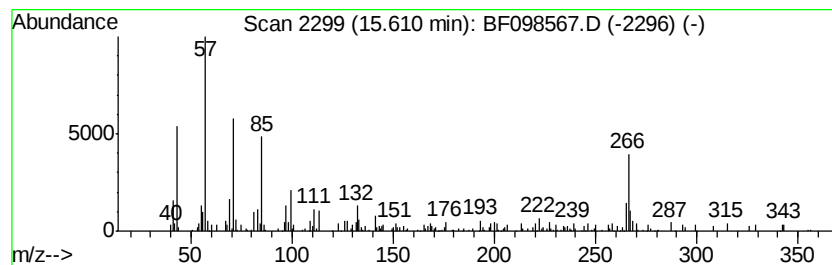
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 20 Nonadecane Concentration Rank 19

| R.T.  | EstConc | Area  | Relative to ISTD | R.T.  |
|-------|---------|-------|------------------|-------|
| 15.61 | 2.36 ng | 91446 | Perylene-d12     | 15.20 |

| Hit# | of | Tentative ID           | MW  | MolForm | CAS#        | Qual |
|------|----|------------------------|-----|---------|-------------|------|
| 1    | 5  | Nonadecane             | 268 | C19H40  | 000629-92-5 | 50   |
| 2    |    | 10-Methylnonadecane    | 282 | C20H42  | 056862-62-5 | 46   |
| 3    |    | Pentadecane, 2-methyl- | 226 | C16H34  | 001560-93-6 | 43   |
| 4    |    | Octacosane             | 394 | C28H58  | 000630-02-4 | 43   |
| 5    |    | Tetracosane            | 338 | C24H50  | 000646-31-1 | 38   |



Data Path : Z:\HPCHEM1\BNA\_F\DATA\BF091517\  
 Data File : BF098567.D  
 Acq On : 15 Sep 2017 14:10  
 Operator : SJ/JU  
 Sample : I5188-05  
 Misc :  
 ALS Vial : 11 Sample Multiplier: 1

Instrument :  
 BNA\_F  
 ClientSampleId :  
 RL-4-0-12.25

Quant Method : Z:\HPCHEM1\BNA\_F\METHODS\8270-BF091117.M  
 Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L  
 TIC Integration Parameters: LSCINT.P

| TIC Top Hit name     | RT    | EstConc | Units | Response | --Internal Standard-- |       |         |      |
|----------------------|-------|---------|-------|----------|-----------------------|-------|---------|------|
|                      |       |         |       |          | #                     | RT    | Resp    | Conc |
| 2-Pentanone, 4-hy... | 4.82  | 13.1    | ng    | 527351   | 1                     | 6.65  | 804494  | 20.0 |
| unknown6.42          | 6.42  | 70.4    | ng    | 2832160  | 1                     | 6.65  | 804494  | 20.0 |
| Tridecane            | 10.59 | 2.8     | ng    | 140421   | 4                     | 11.16 | 1003490 | 20.0 |
| Dibenzothiophene     | 11.06 | 2.8     | ng    | 139656   | 4                     | 11.16 | 1003490 | 20.0 |
| Phenanthrene, 2-m... | 11.66 | 4.0     | ng    | 201392   | 4                     | 11.16 | 1003490 | 20.0 |
| 4H-Cyclopenta[def... | 11.77 | 8.8     | ng    | 440173   | 4                     | 11.16 | 1003490 | 20.0 |
| Naphthalene, 2-ph... | 11.96 | 3.1     | ng    | 156560   | 4                     | 11.16 | 1003490 | 20.0 |
| Cyclopenta(def)ph... | 12.30 | 2.2     | ng    | 111148   | 4                     | 11.16 | 1003490 | 20.0 |
| 11H-Benzo[b]fluorene | 12.93 | 3.1     | ng    | 351336   | 5                     | 13.80 | 2238240 | 20.0 |
| Fluoranthene, 2-m... | 13.00 | 2.5     | ng    | 273684   | 5                     | 13.80 | 2238240 | 20.0 |
| 11H-Benzo[a]fluor... | 13.65 | 2.6     | ng    | 286557   | 5                     | 13.80 | 2238240 | 20.0 |
| 7,12-Dihydrobenzo... | 14.66 | 2.7     | ng    | 106306   | 6                     | 15.20 | 776481  | 20.0 |
| Nonadecane           | 15.61 | 2.4     | ng    | 91446    | 6                     | 15.20 | 776481  | 20.0 |