

## Supporting informations

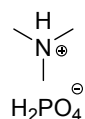
### **Cleaner enzymatic production of biodiesel with easy separation procedures triggered by a biocompatible hydrophilic ionic liquid**

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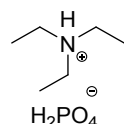
<sup>1</sup> HNMR, <sup>13</sup> CNMR and FT-IR spectra data for the utilized ionic liquid.....	P2-9
Spectrum for the utilized ionic liquids.....	P10-42
Mass-spectrometry data of the biodiesel products.....	P43-48

1. [TMA][H<sub>2</sub>PO<sub>4</sub>]



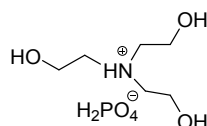
<sup>1</sup>H NMR (400 MHz, D<sub>2</sub>O) δ 2.66 (s, 9H) ppm; <sup>13</sup>C NMR (100 MHz, D<sub>2</sub>O) δ 44.5 ppm.  
IR: ν 2924, 2364, 1642, 1534, 1483, 1228, 1042, 936, 482 cm<sup>-1</sup>.

2. [TEA][H<sub>2</sub>PO<sub>4</sub>]



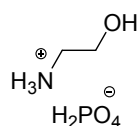
<sup>1</sup>H NMR (400 MHz, D<sub>2</sub>O) δ 2.42 (m, 6H), 0.51 (t, *J* = 6.3 Hz, 9H) ppm; <sup>13</sup>C NMR (100 MHz, D<sub>2</sub>O) δ 45.9, 7.8 ppm.  
IR: ν 3277, 2925, 2364, 1643, 1531, 1453, 1398, 1228, 1043, 945, 877, 837, 501 cm<sup>-1</sup>.

3. [TEOA][H<sub>2</sub>PO<sub>4</sub>]



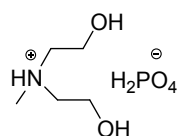
<sup>1</sup>H NMR (400 MHz, D<sub>2</sub>O) δ 3.91 (t, *J* = 4.0 Hz, 6H), 3.44 (t, *J* = 4.0 Hz, 6H) ppm;  
<sup>13</sup>C NMR (100 MHz, D<sub>2</sub>O) δ 55.2, 54.9 ppm.  
IR: ν 3278, 2925, 1631, 1535, 1445, 1378, 1209, 1057, 932, 875, 689, 537, 496 cm<sup>-1</sup>.

4. [EOA][H<sub>2</sub>PO<sub>4</sub>]



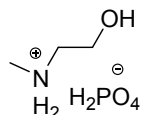
<sup>1</sup>H NMR (400 MHz, D<sub>2</sub>O) δ 3.78 - 3.75 (m, 2H), 3.10 - 3.07 (m, 2H) ppm; <sup>13</sup>C NMR (100 MHz, D<sub>2</sub>O) δ 57.5, 41.2 ppm.  
IR: ν 2749, 2168, 1636, 1501, 1456, 1344, 1205, 1135, 1112, 1075, 1014, 969, 933, 763, 550, 525, 491, 433 cm<sup>-1</sup>.

5. [MDEOA][H<sub>2</sub>PO<sub>4</sub>]



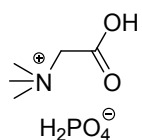
$^1\text{H}$  NMR (400 MHz,  $\text{D}_2\text{O}$ )  $\delta$  3.94 (td,  $J = 5.3, 1.0$  Hz, 4H), 3.37 (s, 4H), 2.96 (d,  $J = 1.1$  Hz, 3H) ppm;  $^{13}\text{C}$  NMR (100 MHz,  $\text{D}_2\text{O}$ )  $\delta$  57.3, 55.1, 40.4 ppm.  
 IR:  $\nu$  2767, 2334, 1643, 1466, 1062, 943, 480  $\text{cm}^{-1}$ .

6. [MEOA][ $\text{H}_2\text{PO}_4$ ]



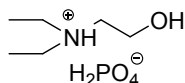
$^1\text{H}$  NMR (400 MHz,  $\text{D}_2\text{O}$ )  $\delta$  3.73 (t,  $J = 4.0$  Hz, 2H), 3.06 (t,  $J = 4.0$  Hz, 2H), 2.64 (s, 3H) ppm;  $^{13}\text{C}$  NMR (100 MHz,  $\text{D}_2\text{O}$ )  $\delta$  56.3, 50.3, 32.5 ppm.  
 IR:  $\nu$  2742, 2353, 1627, 1467, 1027, 930, 490  $\text{cm}^{-1}$ .

7. [Betaine][ $\text{H}_2\text{PO}_4$ ]



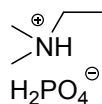
$^1\text{H}$  NMR (400 MHz,  $\text{D}_2\text{O}$ )  $\delta$  4.03 (s, 2H), 3.25 (s, 9H) ppm;  $^{13}\text{C}$  NMR (100 MHz,  $\text{D}_2\text{O}$ )  $\delta$  168.1, 64.8, 53.5 ppm.  
 IR:  $\nu$  2994, 2324, 1661, 1471, 1406, 1233, 956, 928, 894, 715, 436  $\text{cm}^{-1}$ .

8. [DEEOA][ $\text{H}_2\text{PO}_4$ ]



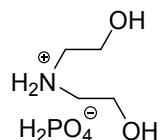
$^1\text{H}$  NMR (400 MHz,  $\text{D}_2\text{O}$ )  $\delta$  3.88 - 3.85 (m, 2H), 3.28 - 3.20 (m, 6H), 1.27 (t,  $J = 4.0$  Hz, 6H) ppm;  $^{13}\text{C}$  NMR (150 MHz,  $\text{D}_2\text{O}$ )  $\delta$  55.2, 53.1, 47.5, 7.9 ppm.  
 IR:  $\nu$  2693, 2345, 1649, 1647, 1234, 1061, 946, 878, 499  $\text{cm}^{-1}$ .

9. [DMEA][ $\text{H}_2\text{PO}_4$ ]



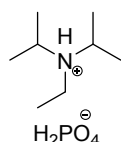
$^1\text{H}$  NMR (400 MHz,  $\text{D}_2\text{O}$ )  $\delta$  3.01 (q,  $J = 7.2$  Hz, 2H), 2.69 (s, 6H), 1.14 (t,  $J = 7.2$  Hz, 3H) ppm;  $^{13}\text{C}$  NMR (100 MHz,  $\text{D}_2\text{O}$ )  $\delta$  52.8, 41.9, 8.9 ppm.  
 IR:  $\nu$  2695, 2343, 1644, 1470, 940, 479  $\text{cm}^{-1}$ .

10. [DEOA][ $\text{H}_2\text{PO}_4$ ]



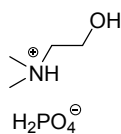
<sup>1</sup>H NMR (400 MHz, D<sub>2</sub>O) δ 3.53 - 3.33 (m, 4H), 2.89 - 2.69 (m, 4H) ppm; <sup>13</sup>C NMR (100 MHz, D<sub>2</sub>O) δ 56.2, 48.5 ppm.  
IR: ν 2810, 2382, 1618, 1438, 1253, 926, 872, 826, 683, 502 cm<sup>-1</sup>.

#### 11. [DIPEA][H<sub>2</sub>PO<sub>4</sub>]



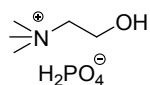
<sup>1</sup>H NMR (400 MHz, D<sub>2</sub>O) δ 3.73 (m, 2H), 3.22 (m, 2H), 1.35 (m, 15H) ppm; <sup>13</sup>C NMR (100 MHz, D<sub>2</sub>O) δ 54.3, 42.5, 17.7, 16.2, 12.1 ppm.  
IR: ν 2705, 2349, 1668, 1471, 1403, 1063, 945, 876, 503 cm<sup>-1</sup>.

#### 12. [DMEOA][H<sub>2</sub>PO<sub>4</sub>]



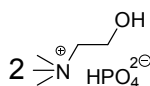
<sup>1</sup>H NMR (400 MHz, D<sub>2</sub>O) δ 3.67 - 3.65 (m, 2H), 3.06 - 3.03 (m, 2H), 2.68 (s, 6H) ppm; <sup>13</sup>C NMR (100 MHz, D<sub>2</sub>O) δ 58.5, 55.1, 42.6 ppm.  
IR: ν 2719, 2361, 1472, 1053, 933, 872, 494 cm<sup>-1</sup>.

#### 13. [Choline][H<sub>2</sub>PO<sub>4</sub>]



<sup>1</sup>H NMR (400 MHz, D<sub>2</sub>O) δ 4.02 - 3.96 (m, 2H), 3.47 - 3.41 (m, 2H), 3.13 (s, 9H) ppm; <sup>13</sup>C NMR (100 MHz, D<sub>2</sub>O) δ 67.3, 55.5, 53.8 ppm.  
IR: ν 3037, 2852, 2338, 1596, 1480, 1239, 1077, 936, 865, 507 cm<sup>-1</sup>.

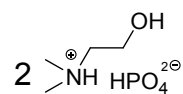
#### 14. [Choline]<sub>2</sub>[HPO<sub>4</sub>]



<sup>1</sup>H NMR (400 MHz, D<sub>2</sub>O) δ 3.92 - 3.88 (m, 4H), 3.39 - 3.36 (m, 4H), 3.05 (s, 18H) ppm; <sup>13</sup>C NMR (100 MHz, D<sub>2</sub>O) δ 67.3, 55.4, 53.8 ppm.

IR:  $\nu$  3030, 1655, 1479, 1373, 1033, 954, 843, 527  $\text{cm}^{-1}$ .

15. [DMEOA]<sub>2</sub>[HPO<sub>4</sub>]

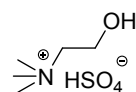


<sup>1</sup>H NMR (400 MHz, D<sub>2</sub>O)  $\delta$  3.79 - 3.77 (m, 4H), 3.18 - 3.16 (m, 4H), 2.80 (s, 12H)

ppm; <sup>13</sup>C NMR (100 MHz, D<sub>2</sub>O)  $\delta$  56.4, 52.9, 40.4 ppm.

IR:  $\nu$  2713, 2345, 1655, 1471, 1053, 934, 872, 490  $\text{cm}^{-1}$ .

16. [Choline][HSO<sub>4</sub>]

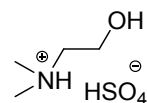


<sup>1</sup>H NMR (400 MHz, D<sub>2</sub>O)  $\delta$  4.00 - 3.96 (m, 2H), 3.45 - 3.43 (m, 2H), 3.12 (s, 9H)

ppm; <sup>13</sup>C NMR (100 MHz, D<sub>2</sub>O)  $\delta$  67.3, 55.6, 53.8 ppm.

IR:  $\nu$  3371, 2893, 1480, 1161, 1083, 1030, 952, 849, 571, 435  $\text{cm}^{-1}$ .

17. [DMEOA][HSO<sub>4</sub>]

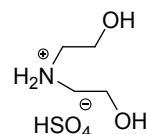


<sup>1</sup>H NMR (400 MHz, D<sub>2</sub>O)  $\delta$  3.71 - 3.68 (m, 2H), 3.10 - 3.07 (m, 2H), 2.72 (s, 6H)

ppm; <sup>13</sup>C NMR (100 MHz, D<sub>2</sub>O)  $\delta$  58.5, 55.1, 42.6 ppm.

IR:  $\nu$  3387, 3059, 1653, 1472, 1151, 1030, 987, 852, 570, 436  $\text{cm}^{-1}$ .

18. [DEOA][HSO<sub>4</sub>]

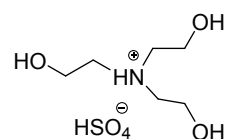


<sup>1</sup>H NMR (400 MHz, D<sub>2</sub>O)  $\delta$  3.69 - 3.64 (m, 4H), 3.04 (s, 4H) ppm; <sup>13</sup>C NMR (100

MHz, D<sub>2</sub>O)  $\delta$  60.2, 49.8 ppm.

IR:  $\nu$  3407, 3051, 2842, 1600, 1448, 1171, 1006, 939, 855, 751, 572  $\text{cm}^{-1}$ .

19. [TEOA][HSO<sub>4</sub>]



$^1\text{H}$  NMR (400 MHz,  $\text{D}_2\text{O}$ )  $\delta$  3.91 (t,  $J = 4.0$  Hz, 6H), 3.44 (t,  $J = 4.0$  Hz, 6H) ppm;

$^{13}\text{C}$  NMR (100 MHz,  $\text{D}_2\text{O}$ )  $\delta$  55.2, 54.9 ppm.

IR:  $\nu$  3387, 2899, 2162, 1707, 1162, 1091, 1025, 862, 755, 569  $\text{cm}^{-1}$ .

#### 20. [DMEA][HSO<sub>4</sub>]

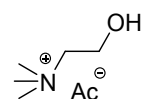


$^1\text{H}$  NMR (400 MHz,  $\text{D}_2\text{O}$ )  $\delta$  2.98 (dt,  $J = 12.3, 4.9$  Hz, 2H), 2.65 - 2.64 (m, 6H), 1.09

(td,  $J = 7.1, 2.4$  Hz, 3H) ppm;  $^{13}\text{C}$  NMR (100 MHz,  $\text{D}_2\text{O}$ )  $\delta$  52.8, 41.9, 8.9 ppm.

IR:  $\nu$  3045, 2772, 1473, 1153, 1022, 926, 846, 870, 436  $\text{cm}^{-1}$ .

#### 21. [Choline][Ac]

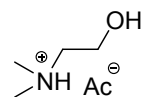


$^1\text{H}$  NMR (600 MHz,  $\text{D}_2\text{O}$ )  $\delta$  4.07 - 4.07 (m, 2H), 3.53 - 3.52 (m, 2H), 3.21 (s, 9H),

1.93 (s, 3H) ppm;  $^{13}\text{C}$  NMR (100 MHz,  $\text{D}_2\text{O}$ )  $\delta$  181.0, 67.4, 55.5, 53.8, 23.3 ppm.

IR:  $\nu$  3144, 1568, 1481, 1384, 1330, 1139, 1089, 1008, 954, 915, 867, 640, 463  $\text{cm}^{-1}$ .

#### 22. [DMEOA][Ac]

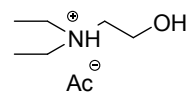


$^1\text{H}$  NMR (400 MHz,  $\text{D}_2\text{O}$ )  $\delta$  3.88 - 3.85 (m, 2H), 3.27 - 3.25 (m, 2H), 2.89 (s, 6H),

1.97 (s, 3H) ppm;  $^{13}\text{C}$  NMR (100 MHz,  $\text{D}_2\text{O}$ )  $\delta$  178.9, 58.6, 55.0, 42.6, 21.8 ppm.

IR:  $\nu$  3268, 3028, 1572, 1474, 1397, 1258, 1080, 1013, 956, 919, 858, 799, 649, 613, 452  $\text{cm}^{-1}$ .

#### 23. [DEEOA][Ac]

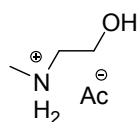


$^1\text{H}$  NMR (400 MHz,  $\text{D}_2\text{O}$ )  $\delta$  3.70 (m, 2H), 3.15 - 3.02 (m, 6H), 1.76 - 1.74 (m, 3H),

1.15 - 1.07 (m, 6H) ppm;  $^{13}\text{C}$  NMR (100 MHz,  $\text{D}_2\text{O}$ )  $\delta$  179.7, 55.1, 53.0, 47.3, 22.8, 7.9 ppm.

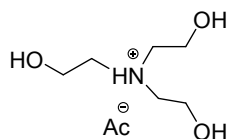
IR:  $\nu$  2979, 2479, 1709, 1570, 1396, 1256, 1131, 1082, 1012, 922, 877, 797, 647, 615, 552, 450  $\text{cm}^{-1}$ .

24. [MEOA][Ac]



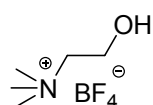
$^1\text{H}$  NMR (400 MHz,  $\text{D}_2\text{O}$ )  $\delta$  3.57 - 3.54 (m, 2H), 2.90 - 2.88 (m, 2H), 2.47 (s, 3H), 1.65 (s, 3H) ppm;  $^{13}\text{C}$  NMR (100 MHz,  $\text{D}_2\text{O}$ )  $\delta$  180.8, 56.2, 50.2, 32.4, 23.1 ppm.  
IR:  $\nu$  2731, 2441, 1556, 1392, 1334, 1149, 1082, 1039, 1012, 918, 648, 616, 533, 470  $\text{cm}^{-1}$ .

25. [TEOA][Ac]



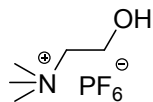
$^1\text{H}$  NMR (400 MHz,  $\text{D}_2\text{O}$ )  $\delta$  3.83 - 3.80 (m, 6H), 3.21 - 3.19 (m, 6H), 1.85 (s, 3H) ppm;  $^{13}\text{C}$  NMR (100 MHz,  $\text{D}_2\text{O}$ )  $\delta$  181.2, 56.1, 55.3, 23.3 ppm.  
IR:  $\nu$  3226, 2871, 1567, 1400, 1154, 1064, 1032, 913, 881, 648, 616  $\text{cm}^{-1}$ .

26. [Choline][BF<sub>4</sub>]



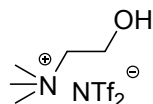
$^1\text{H}$  NMR (400 MHz,  $\text{D}_2\text{O}$ )  $\delta$  4.19 - 4.15 (m, 2H), 3.63 - 3.60 (m, 2H), 3.30 (s, 9H) ppm;  $^{13}\text{C}$  NMR (100 MHz,  $\text{D}_2\text{O}$ )  $\delta$  67.5, 55.7, 53.9 ppm.  
IR:  $\nu$  3545, 3048, 2170, 2040, 1993, 1962, 1588, 1478, 1345, 1287, 1029, 950, 869, 744, 521  $\text{cm}^{-1}$ .

27. [Choline][PF<sub>6</sub>]



$^1\text{H}$  NMR (400 MHz,  $\text{D}_2\text{O}$ )  $\delta$  4.08 - 4.04 (m, 2H), 3.52 - 3.50 (m, 2H), 3.20 (s, 9H) ppm;  $^{13}\text{C}$  NMR (100 MHz,  $\text{D}_2\text{O}$ )  $\delta$  67.4, 55.6, 53.8 ppm.  
IR:  $\nu$  2695, 2345, 2191, 2040, 2004, 1748, 1587, 1477, 1687, 954, 816, 669, 555  $\text{cm}^{-1}$ .

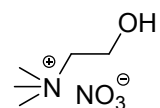
28. [Choline][NTf<sub>2</sub>]



$^1\text{H}$  NMR (400 MHz, DMSO)  $\delta$  4.44 (s, 1H), 2.97 (m, 2H), 2.53 - 2.45 (m, 2H), 2.22 (s, 9H) ppm;  $^{13}\text{C}$  NMR (100 MHz, DMSO)  $\delta$  124.7, 121.5, 118.3, 115.1, 67.6, 55.6, 53.6 ppm.

IR:  $\nu$  3536, 1478, 1346, 1180, 1132, 1052, 953, 865, 790, 763, 740, 654, 613, 570, 513  $\text{cm}^{-1}$ .

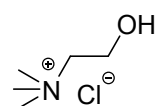
29. [Choline][NO<sub>3</sub>]



$^1\text{H}$  NMR (400 MHz, D<sub>2</sub>O)  $\delta$  4.15 - 4.11 (m, 2H), 3.60 - 3.57 (m, 2H), 3.27 (s, 9H) ppm;  $^{13}\text{C}$  NMR (100 MHz, D<sub>2</sub>O)  $\delta$  67.5, 55.7, 53.9 ppm.

IR:  $\nu$  3370, 3037, 1480, 1320, 1135, 1083, 1042, 1006, 925, 866, 830, 542, 454  $\text{cm}^{-1}$ .

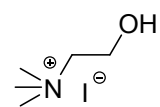
30. [Choline][Cl]



$^1\text{H}$  NMR (400 MHz, D<sub>2</sub>O)  $\delta$  4.12 - 4.08 (m, 2H), 3.58 - 3.56 (m, 2H), 3.25 (s, 9H) ppm;  $^{13}\text{C}$  NMR (100 MHz, D<sub>2</sub>O)  $\delta$  67.4, 55.7, 54.0 ppm.

IR:  $\nu$  3219, 3005, 2843, 1580, 1482, 1460, 1349, 1275, 1141, 1084, 1057, 1012, 959, 893, 865, 635, 529, 466, 449  $\text{cm}^{-1}$ .

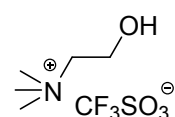
31. [Choline][I]



$^1\text{H}$  NMR (400 MHz, D<sub>2</sub>O)  $\delta$  4.14 - 4.10 (m, 2H), 3.60 - 3.57 (m, 2H), 3.26 (s, 9H) ppm;  $^{13}\text{C}$  NMR (100 MHz, D<sub>2</sub>O)  $\delta$  67.5, 55.7, 54.1 ppm.

IR:  $\nu$  3330, 3025, 3005, 2347, 2043, 1963, 1588, 1478, 1409, 1355, 1130, 1079, 1054, 1010, 955, 945, 895, 860, 668, 528  $\text{cm}^{-1}$ .

32. [Choline][CF<sub>3</sub>SO<sub>3</sub>]

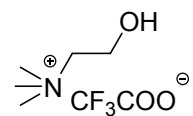


$^1\text{H}$  NMR (400 MHz, D<sub>2</sub>O)  $\delta$  4.13 - 4.10 (m, 2H), 3.58 - 3.55 (m, 2H), 3.26 (s, 9H) ppm;  
 $^{13}\text{C}$  NMR (100 MHz, D<sub>2</sub>O)  $\delta$  124.5, 121.3, 118.2, 115.0, 67.5, 55.6, 53.9 ppm.



IR:  $\nu$  3457, 1479, 1247, 1224, 1152, 1086, 1026, 953, 868, 757, 635, 572, 516  $\text{cm}^{-1}$ .

33. [Choline][CF<sub>3</sub>COO]

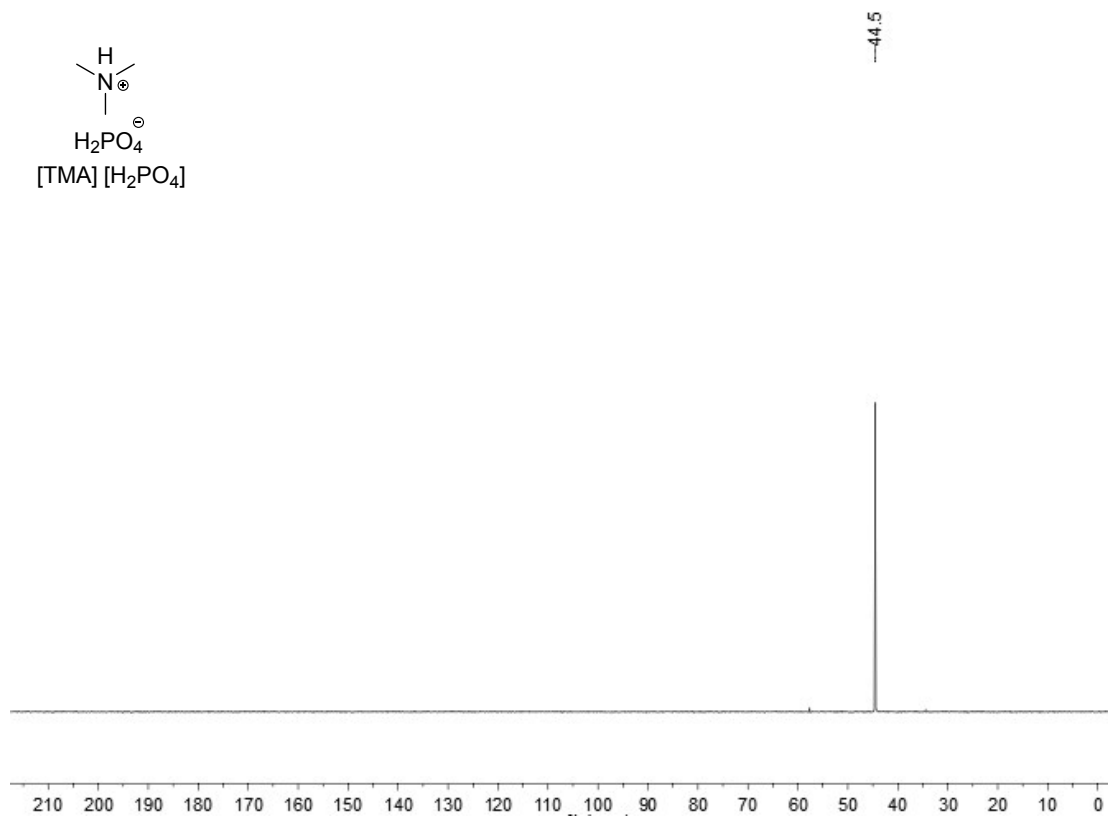
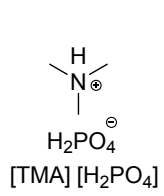
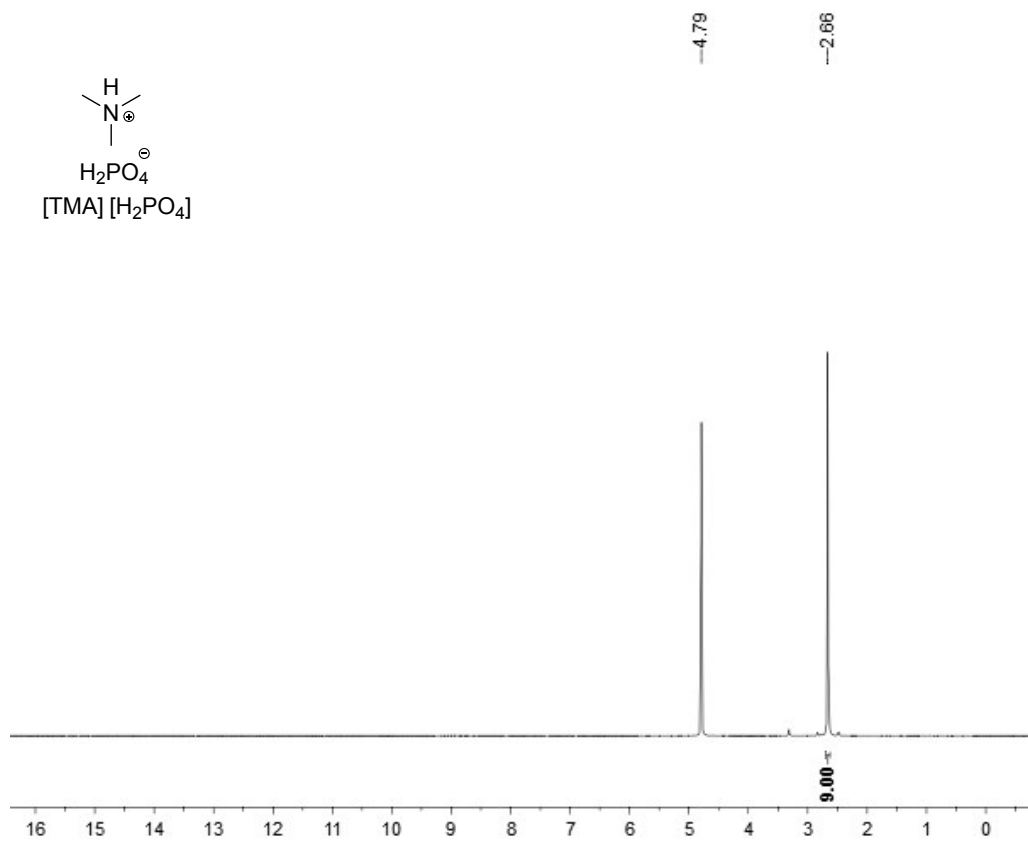
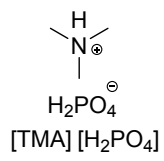


<sup>1</sup>H NMR (400 MHz, D<sub>2</sub>O)  $\delta$  4.08 - 4.04 (m, 2H), 3.53 - 3.50 (m, 2H), 3.21 (s, 9H) ppm;

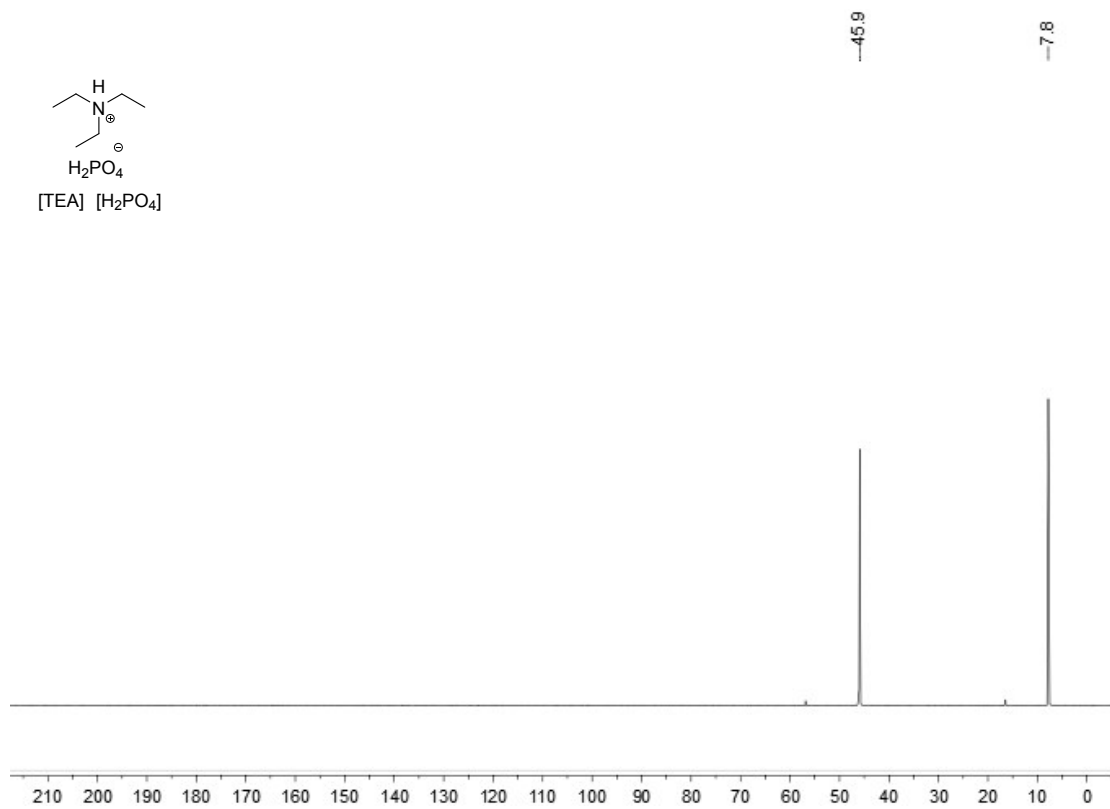
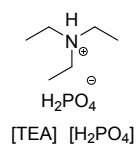
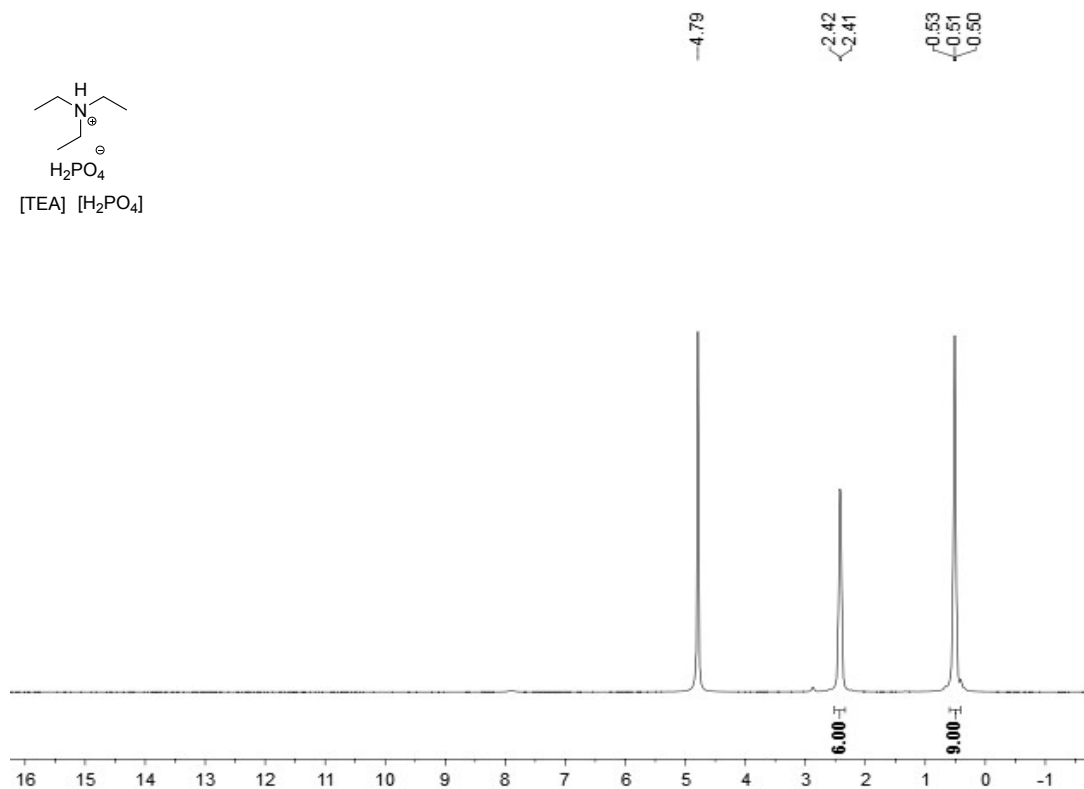
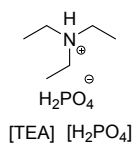
<sup>13</sup>C NMR (100 MHz, D<sub>2</sub>O)  $\delta$  162.9, 162.6, 162.3, 161.9, 120.9, 118.0, 115.0, 112.1, 67.4, 55.6, 53.8 ppm.

IR:  $\nu$  3288, 1674, 1480, 1414, 1197, 1170, 1117, 1088, 1006, 953, 867, 826, 800, 718, 595, 518  $\text{cm}^{-1}$ .

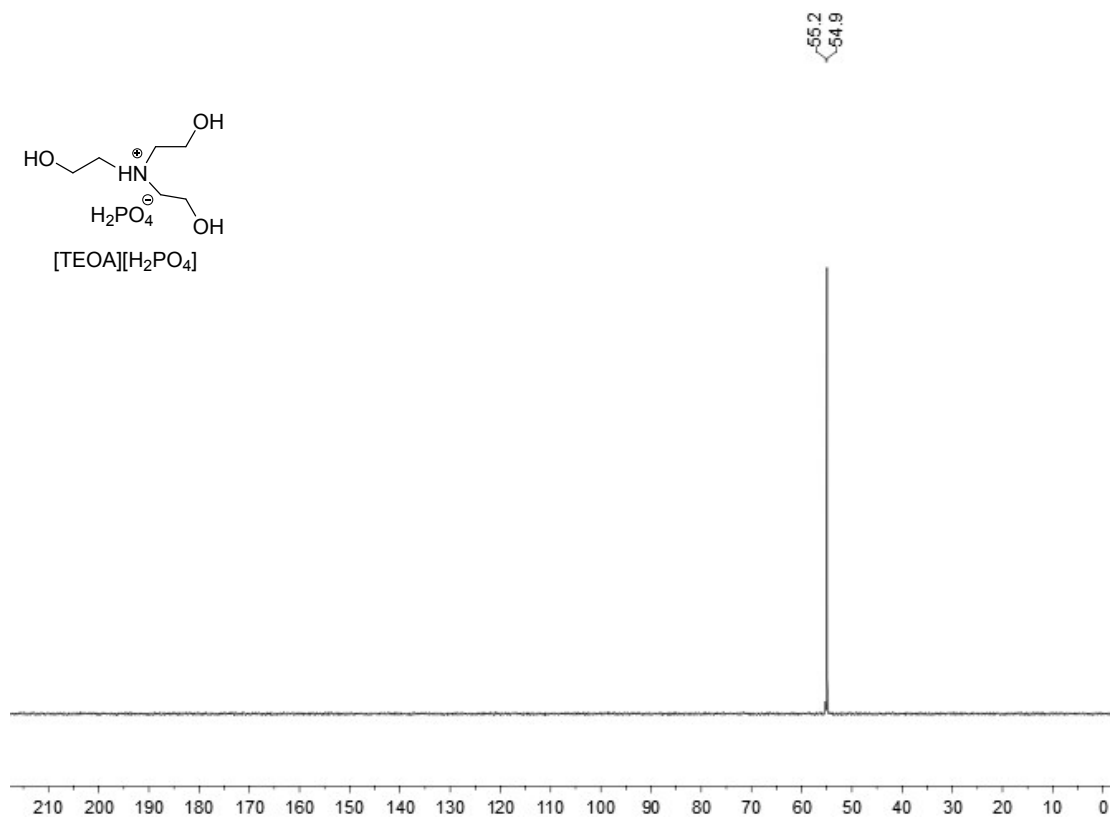
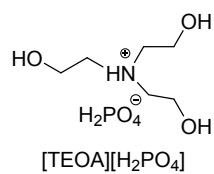
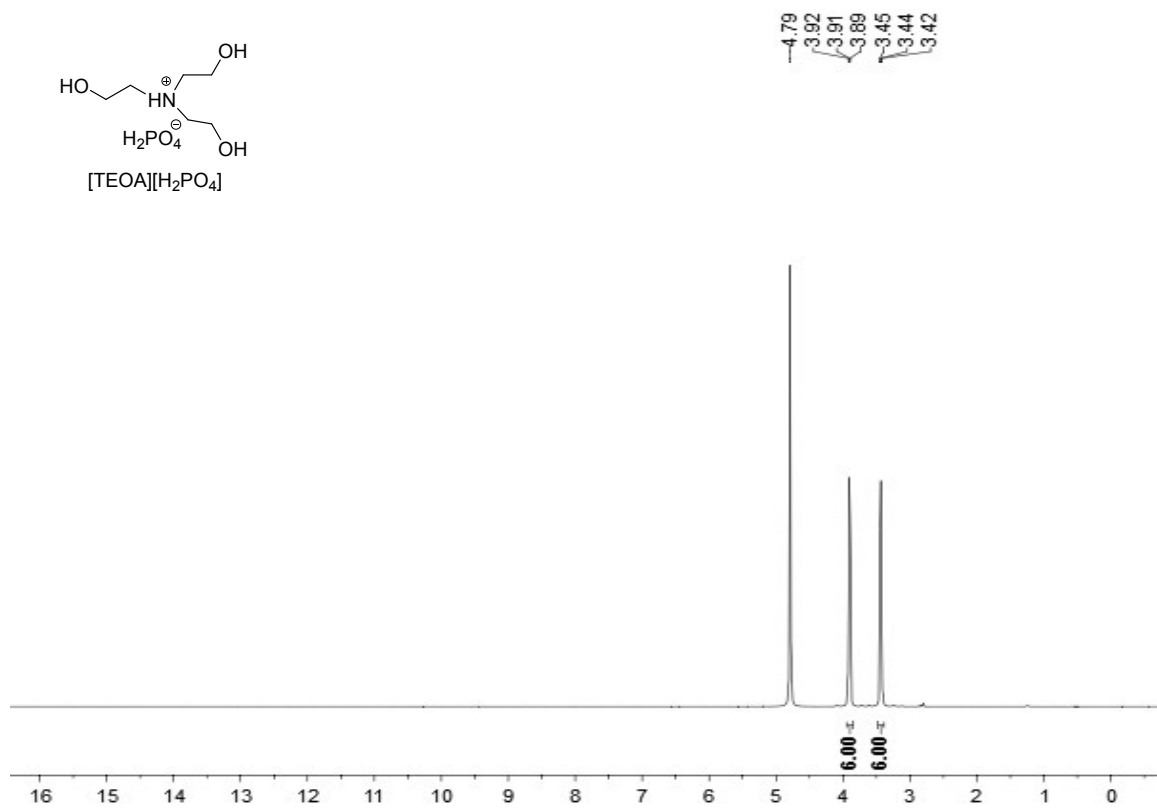
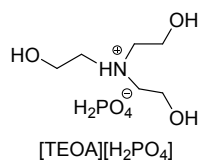
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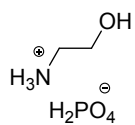
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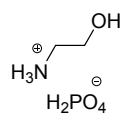
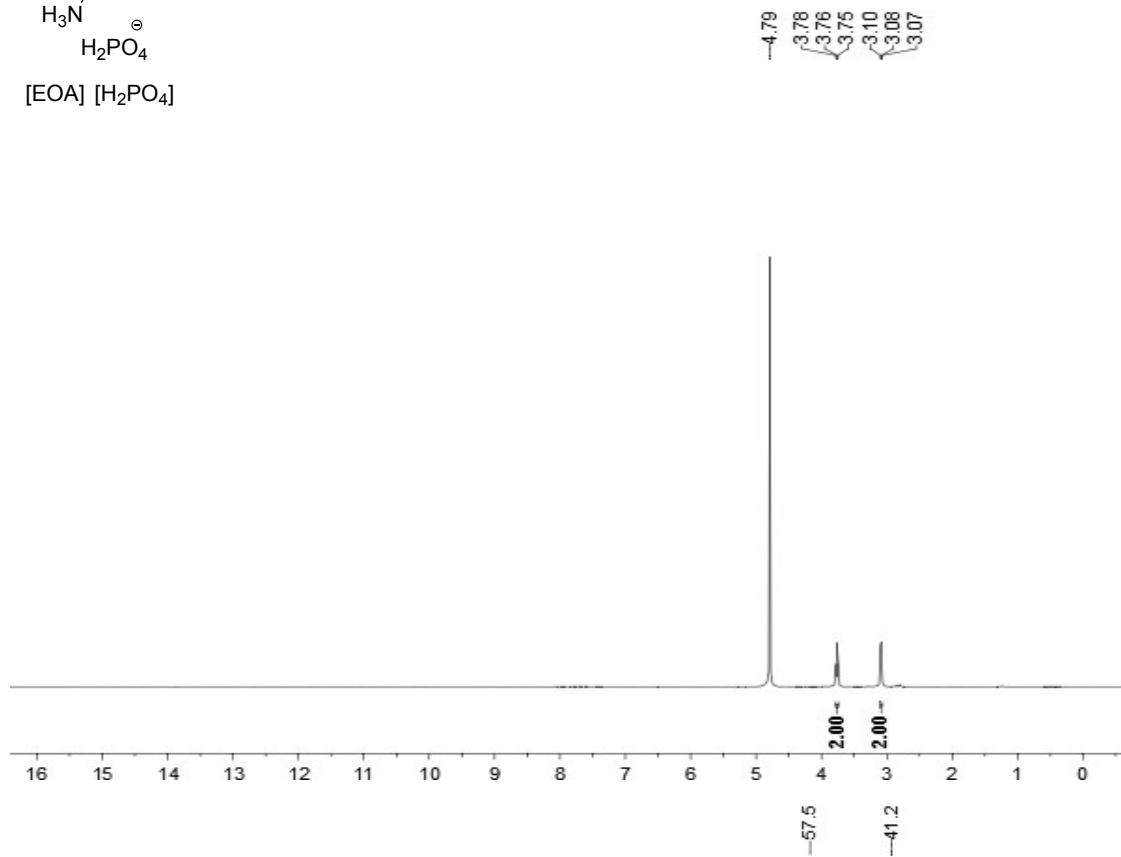
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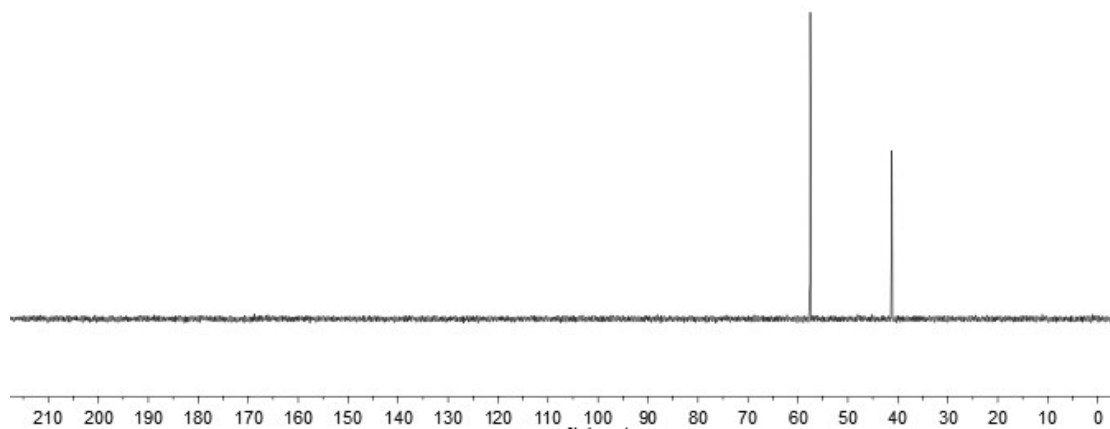
4.



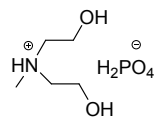
[EOA] [H<sub>2</sub>PO<sub>4</sub>]



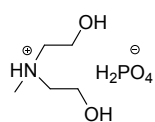
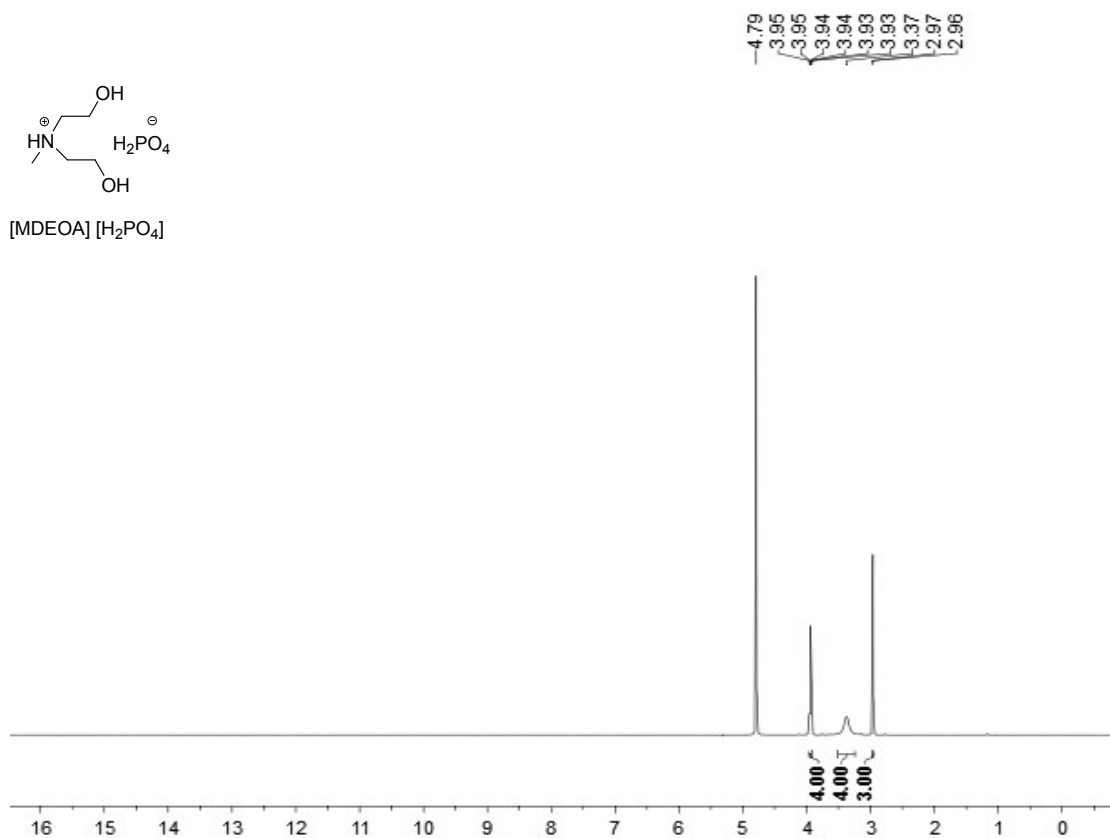
[EOA] [H<sub>2</sub>PO<sub>4</sub>]



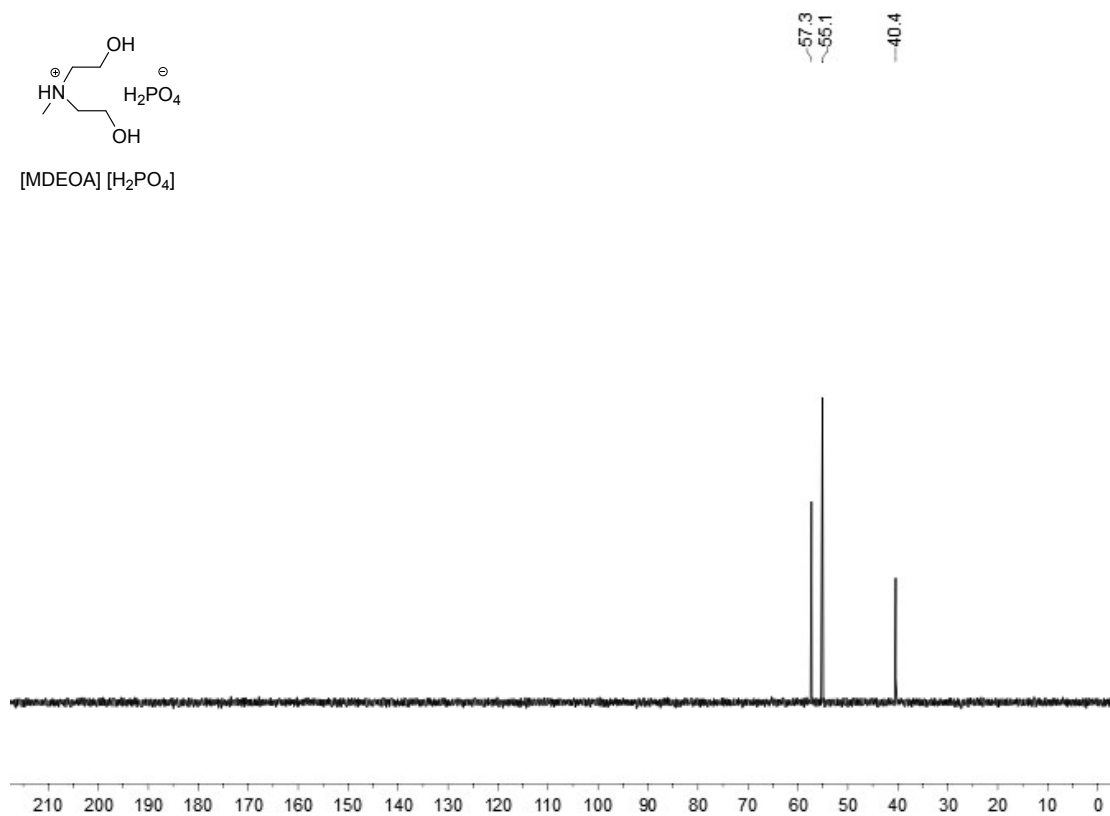
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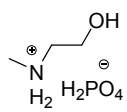
[MDEOA] [H<sub>2</sub>PO<sub>4</sub>]



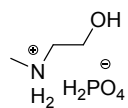
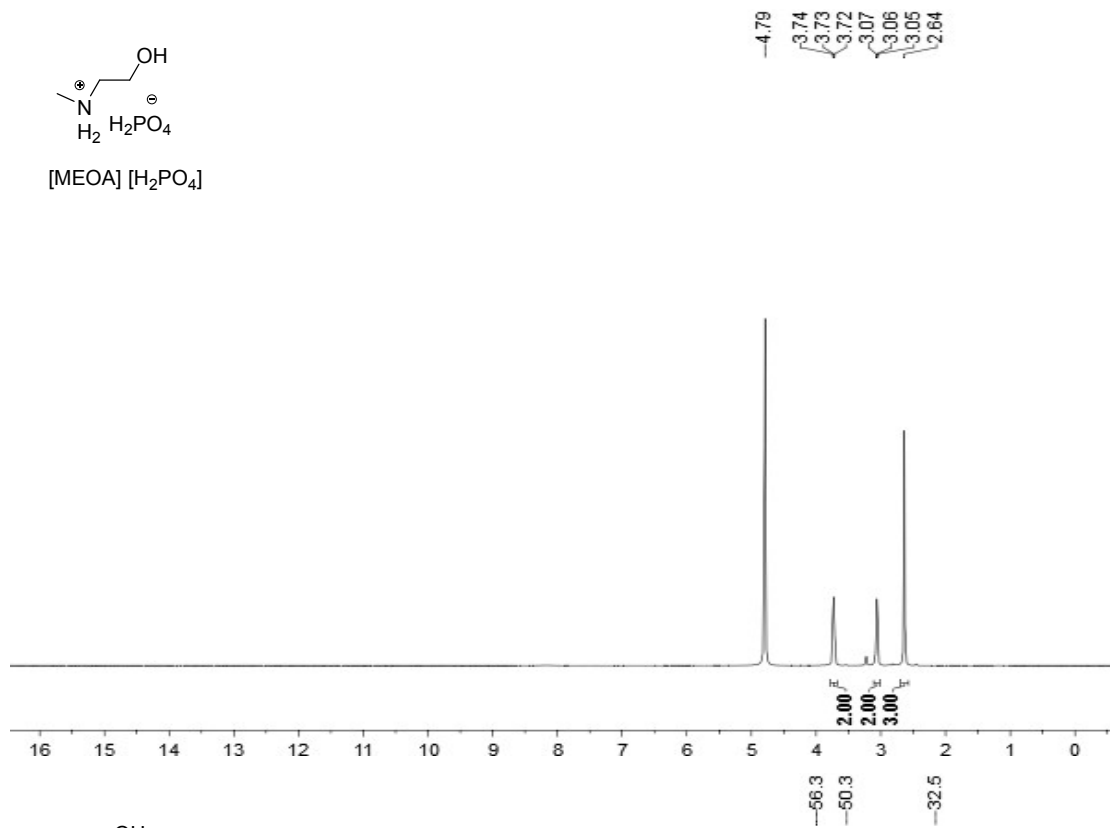
[MDEOA] [H<sub>2</sub>PO<sub>4</sub>]



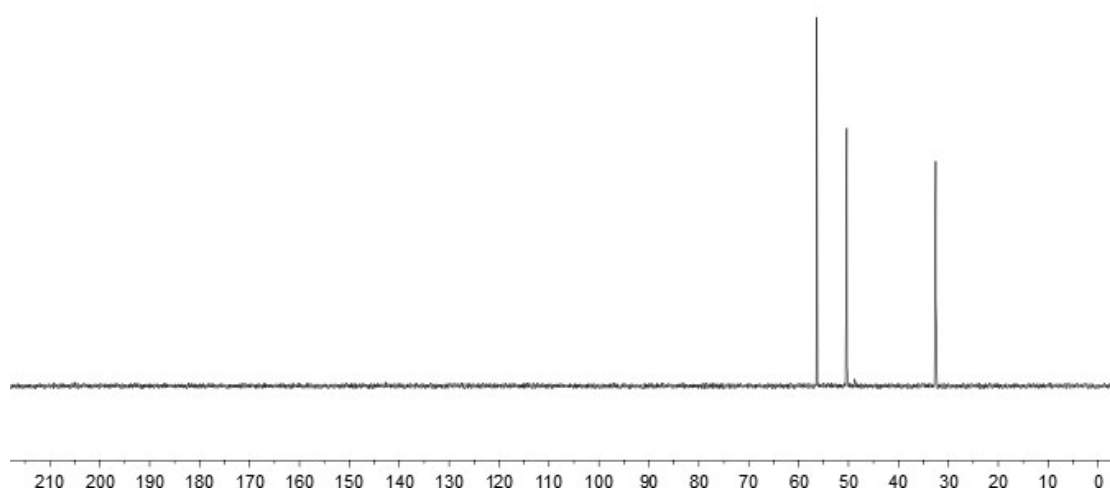
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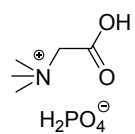
[MEOA] [H<sub>2</sub>PO<sub>4</sub>]



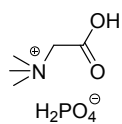
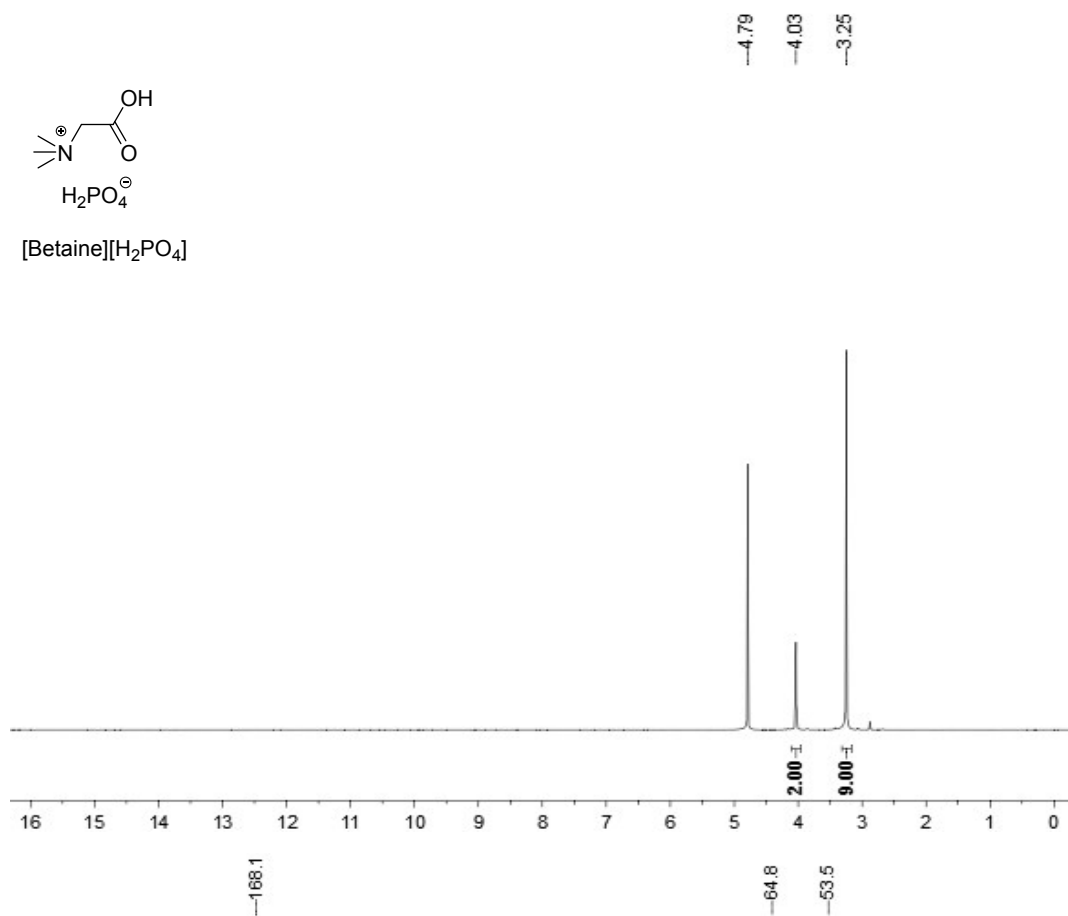
[MEOA] [H<sub>2</sub>PO<sub>4</sub>]



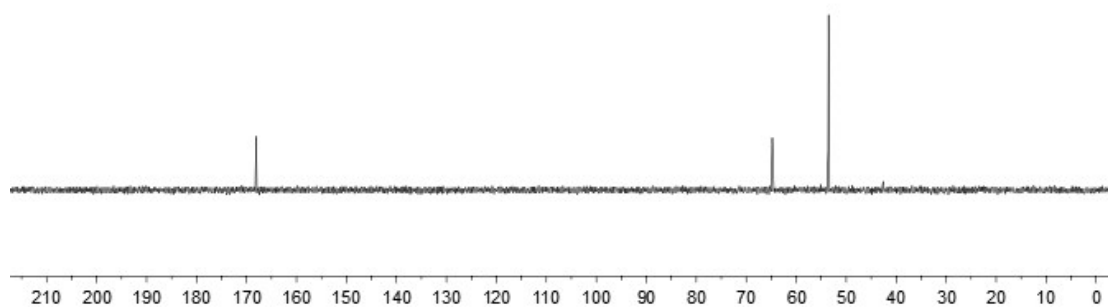
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[Betaine][H<sub>2</sub>PO<sub>4</sub>]

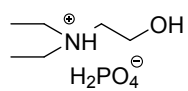


[Betaine][H<sub>2</sub>PO<sub>4</sub>]

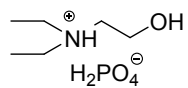
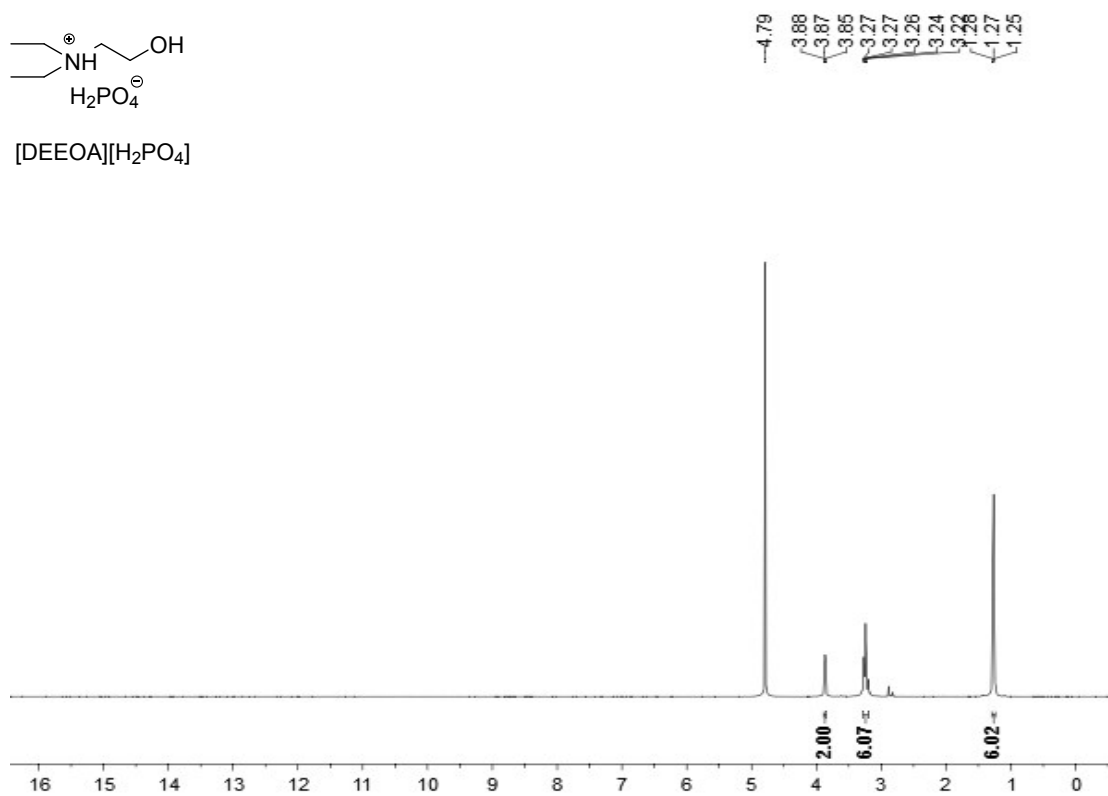




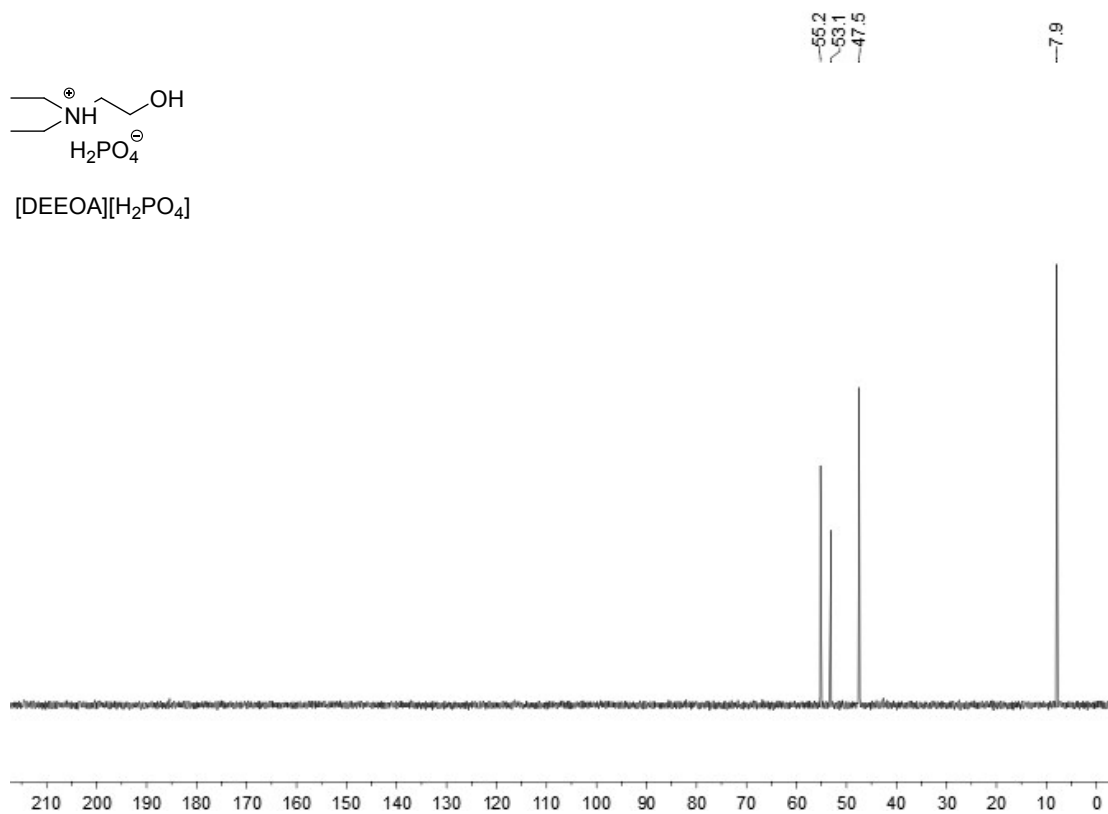
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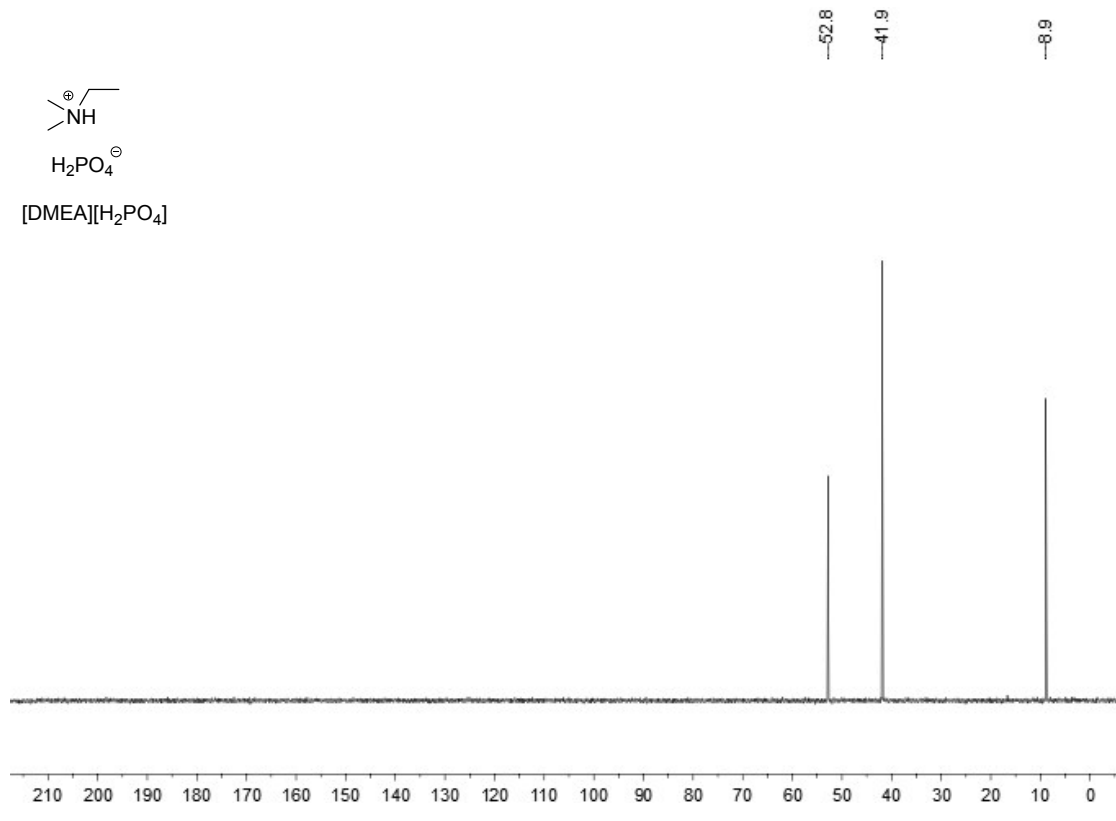
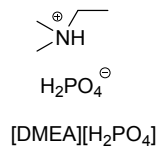
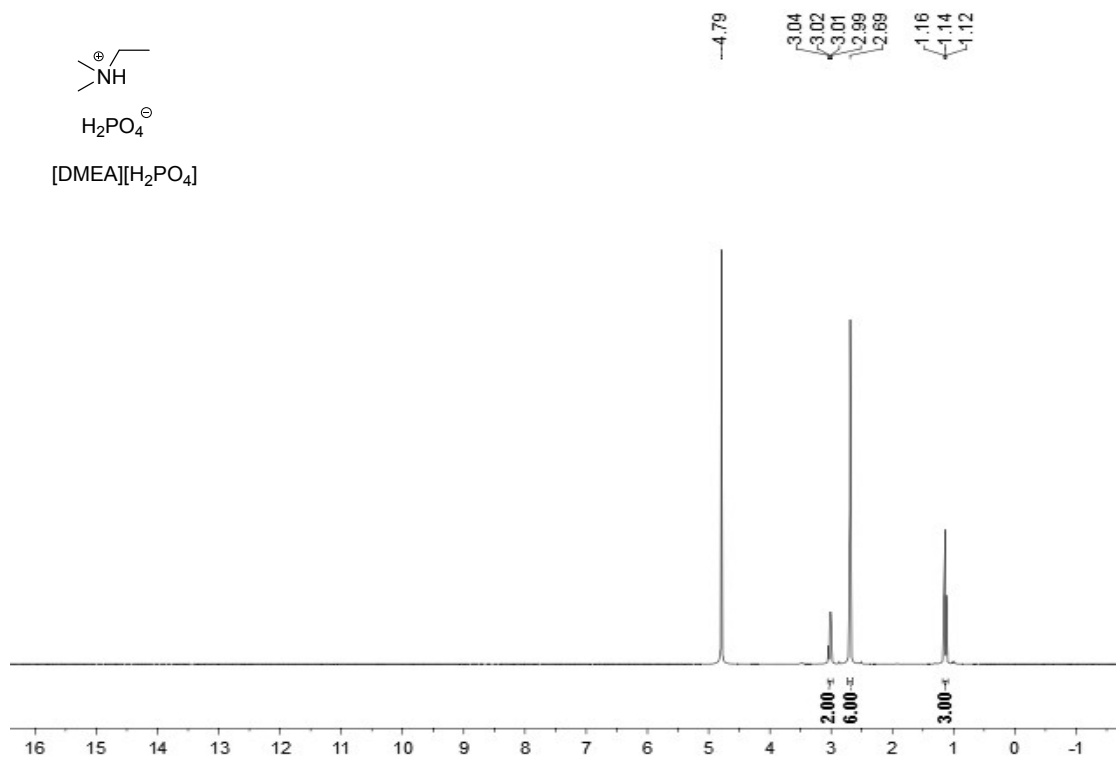
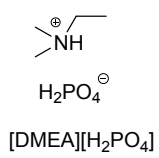
[DEEOA][H<sub>2</sub>PO<sub>4</sub>]



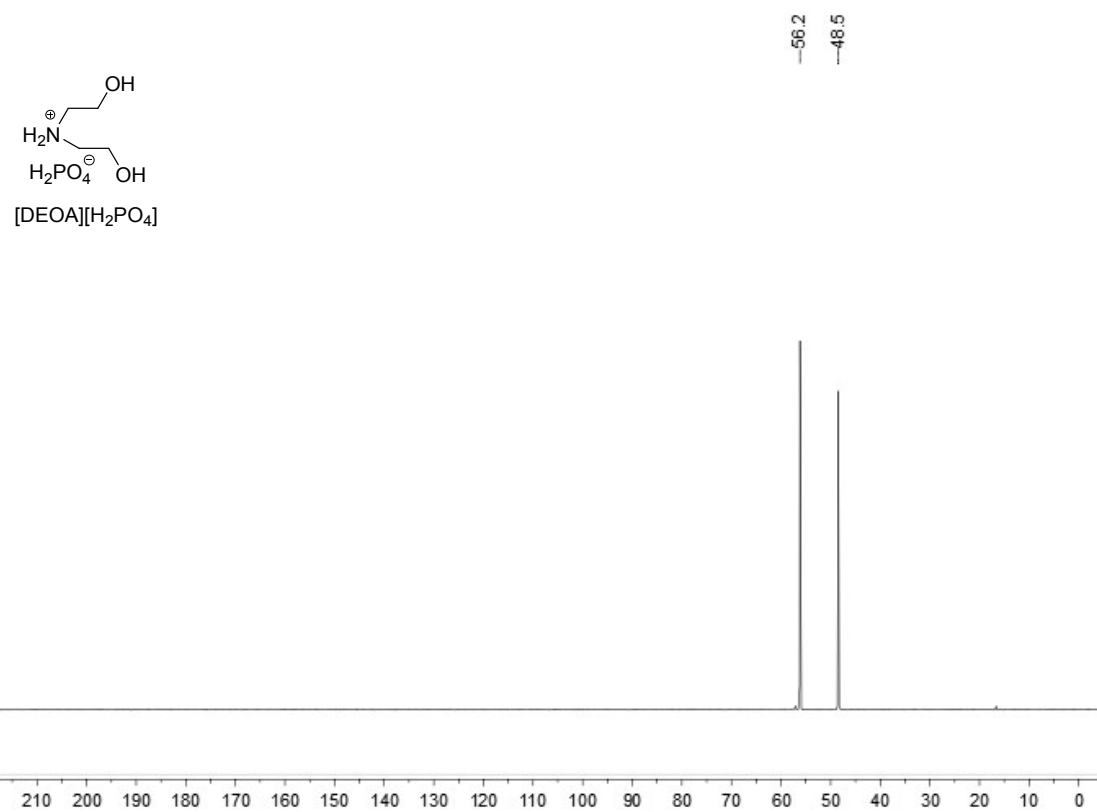
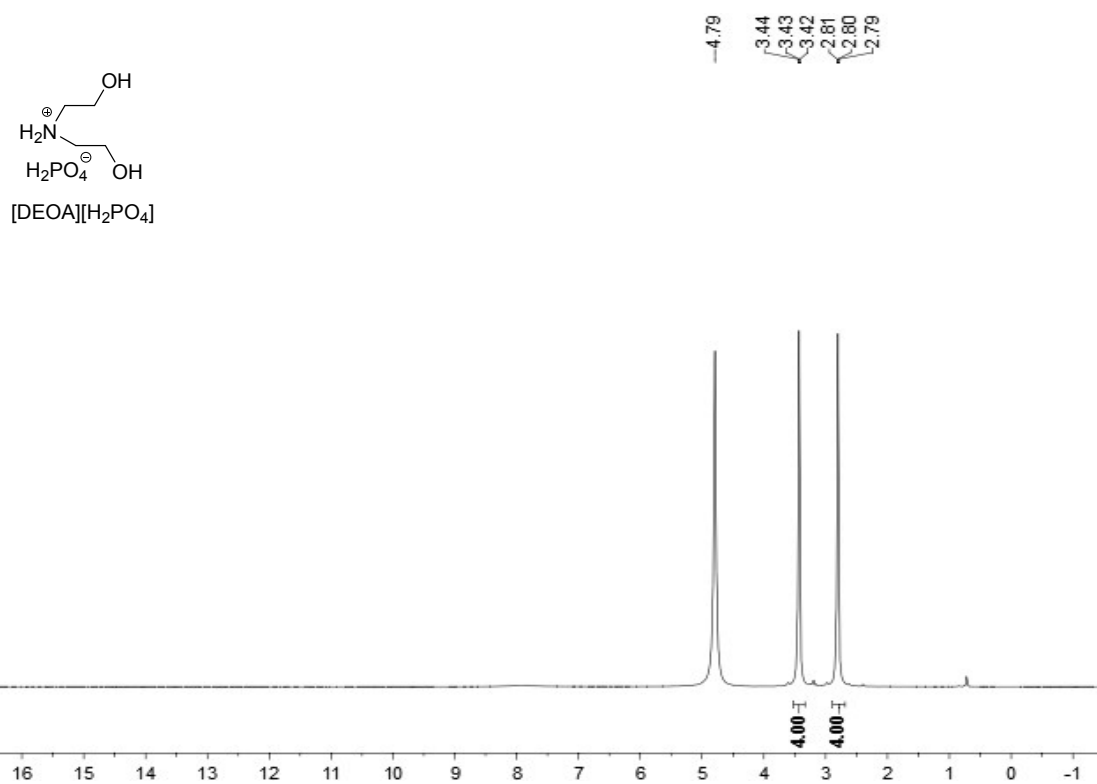
[DEEOA][H<sub>2</sub>PO<sub>4</sub>]



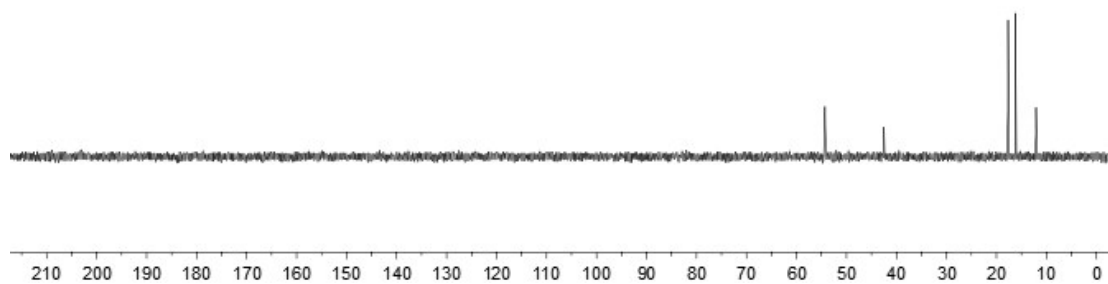
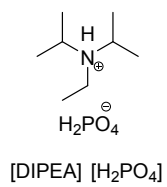
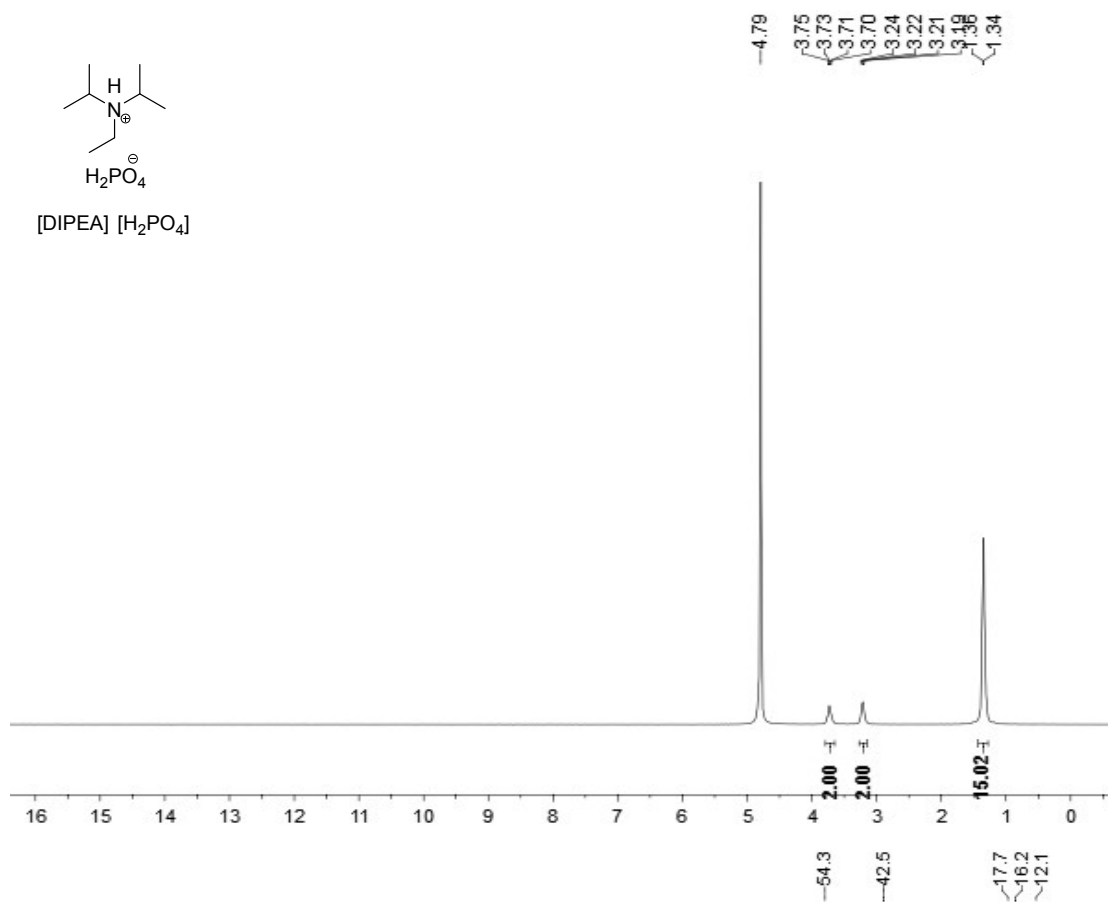
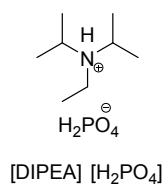
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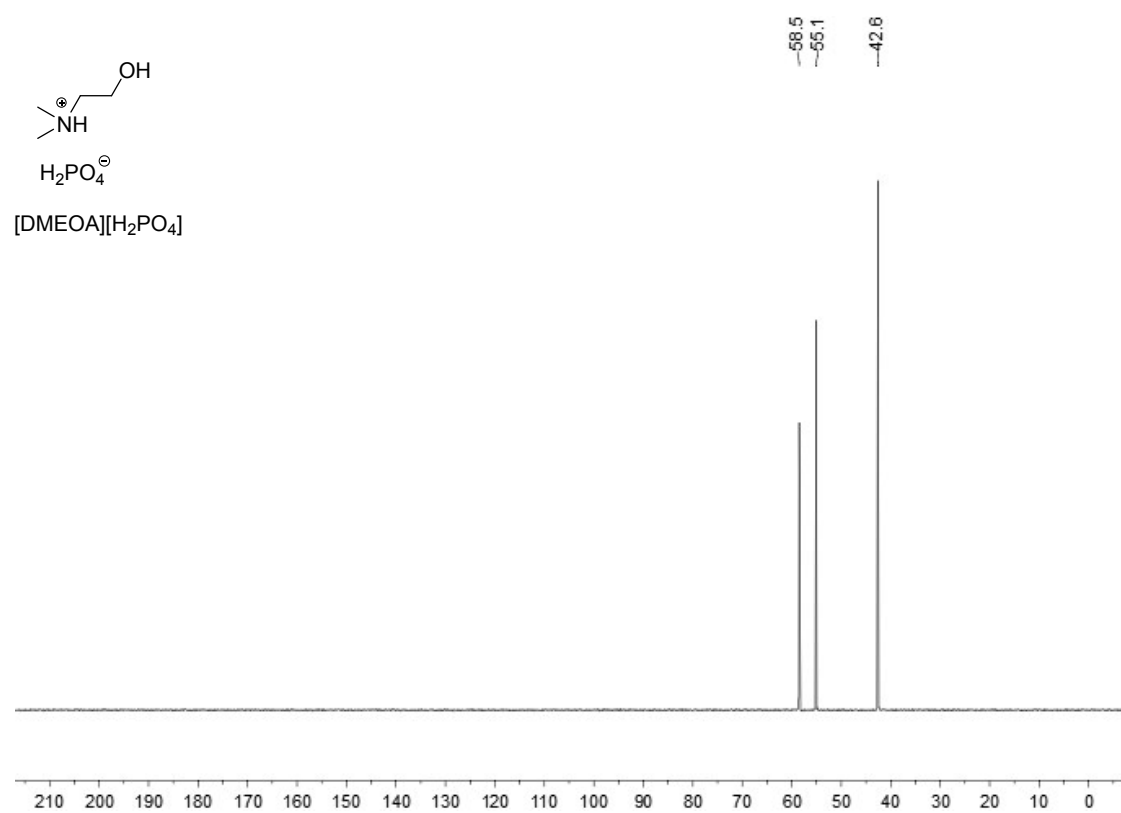
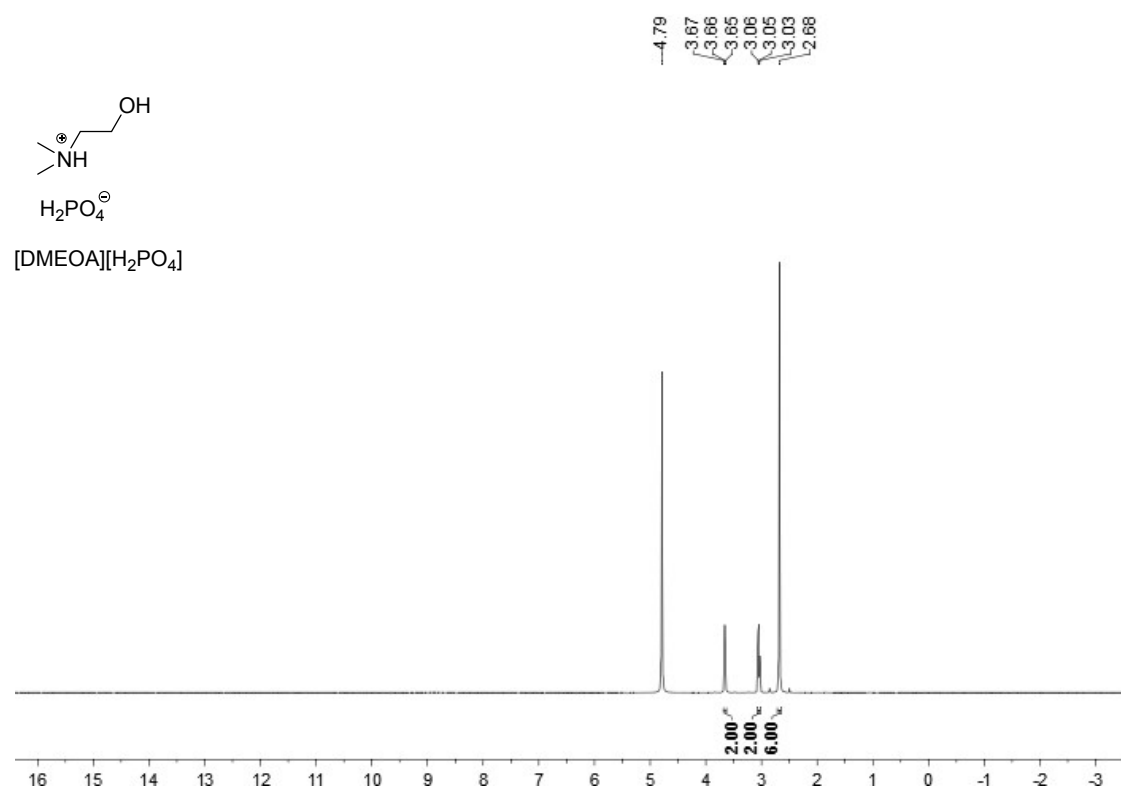
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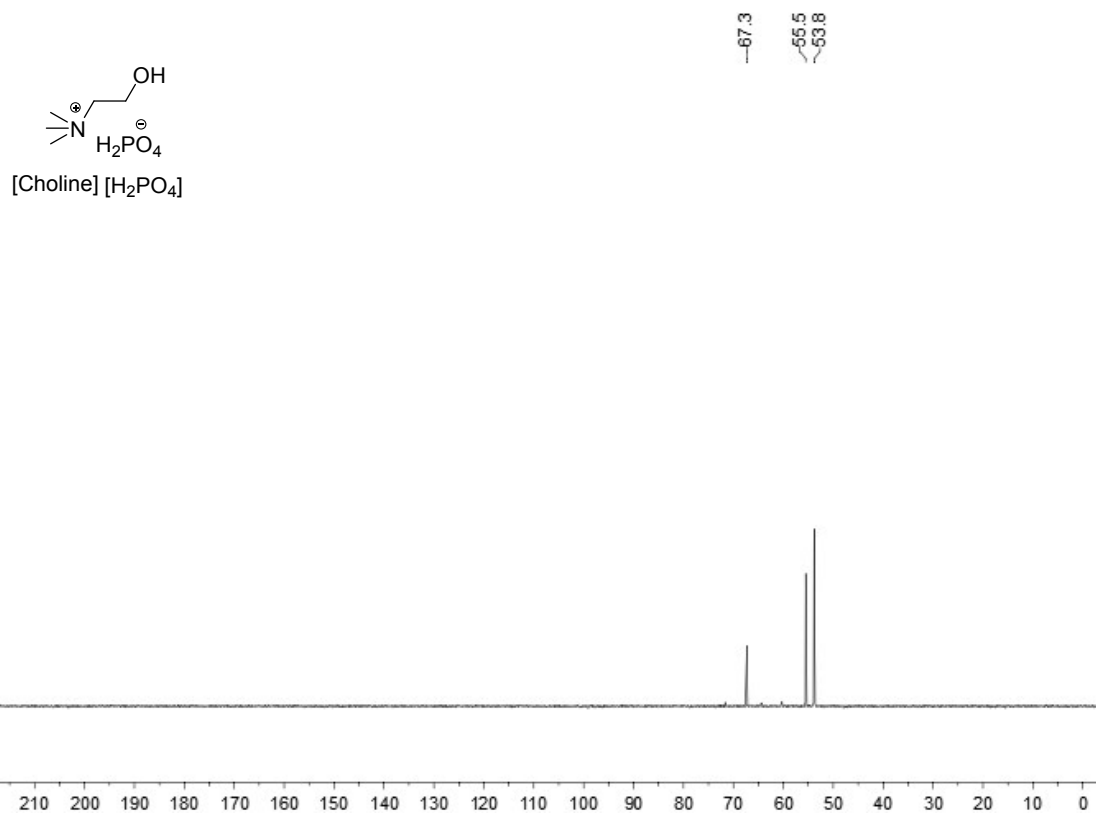
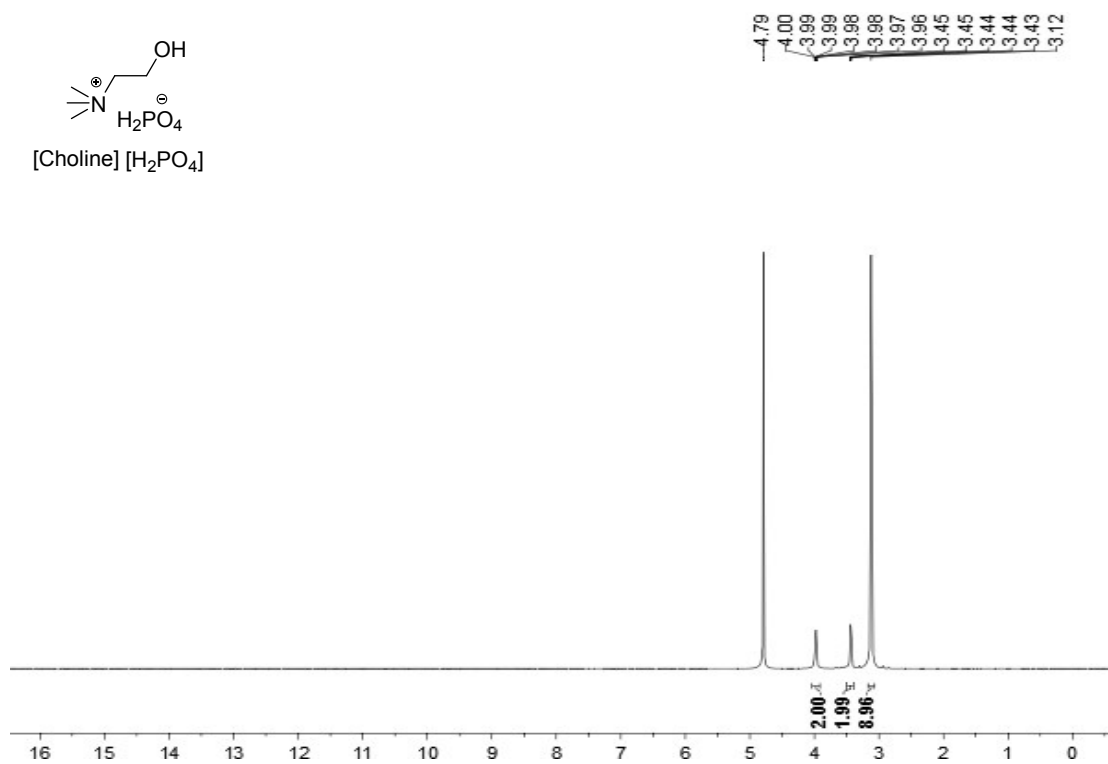
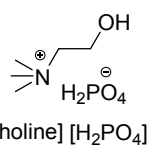
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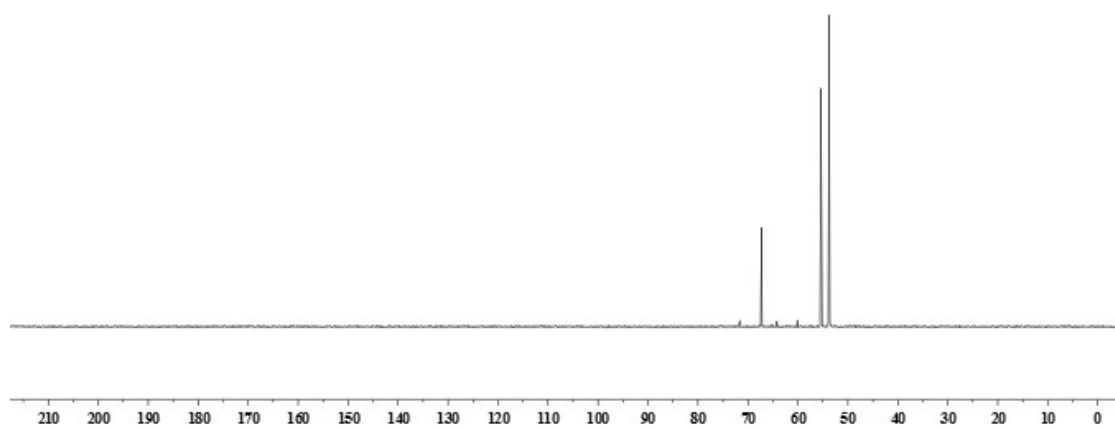
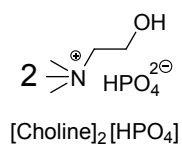
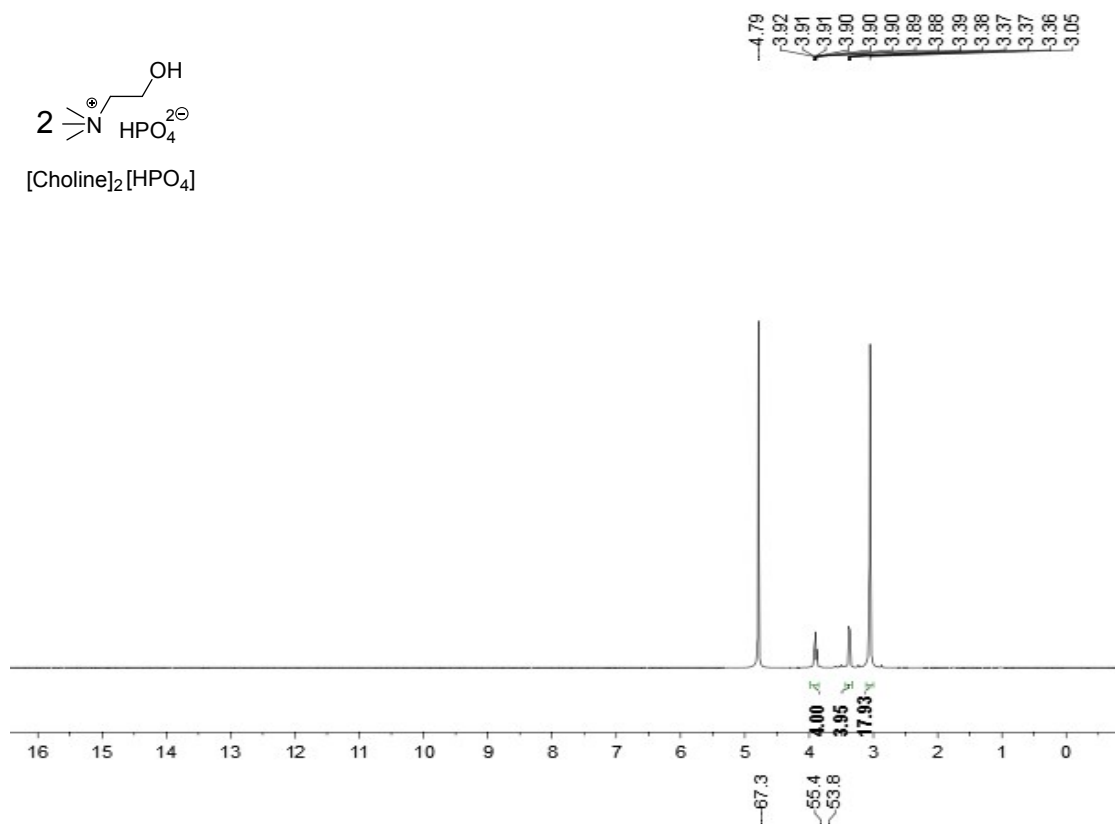
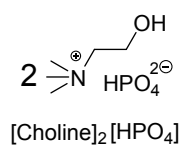
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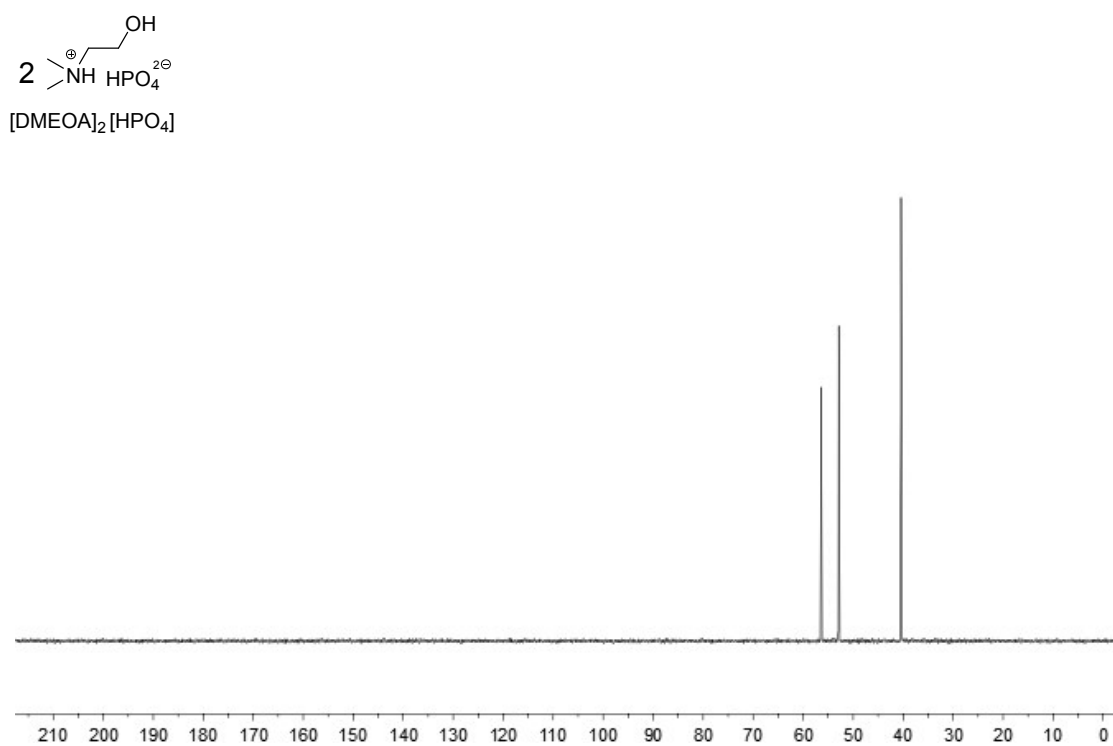
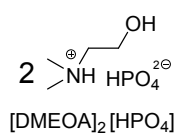
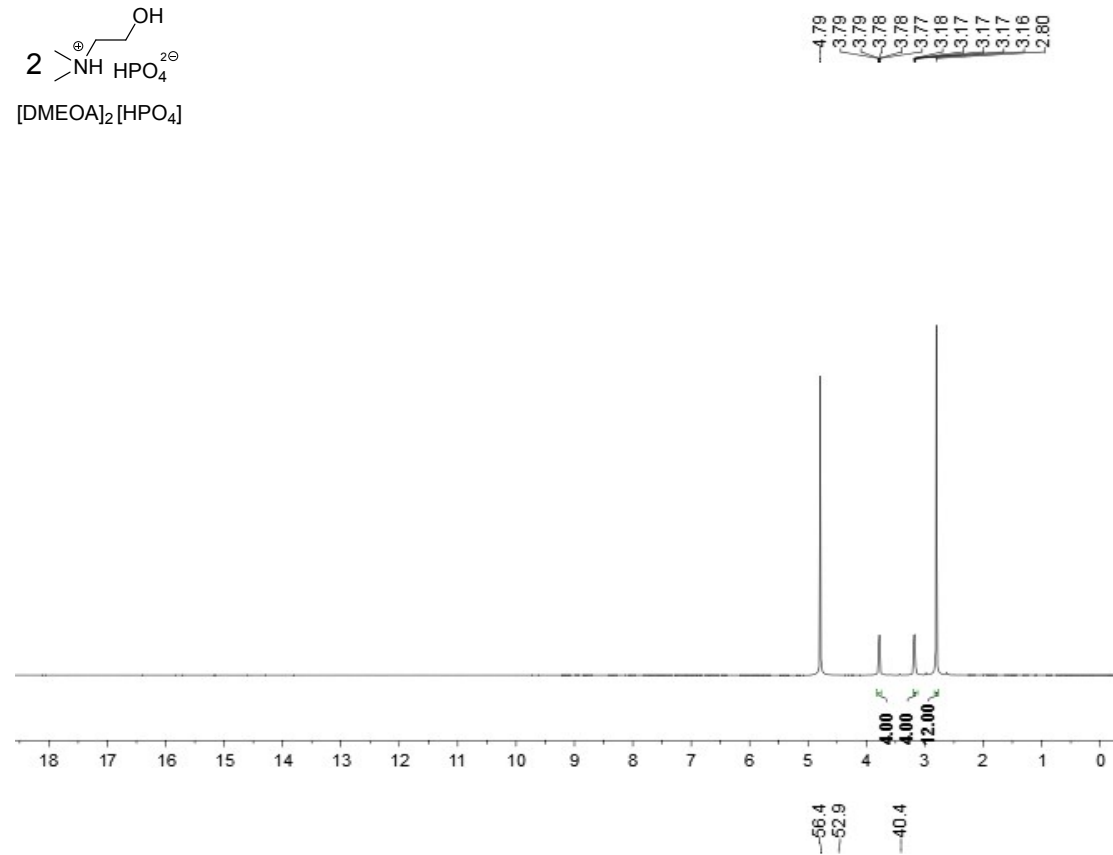
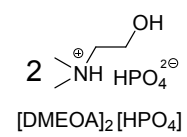
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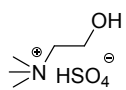


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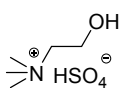
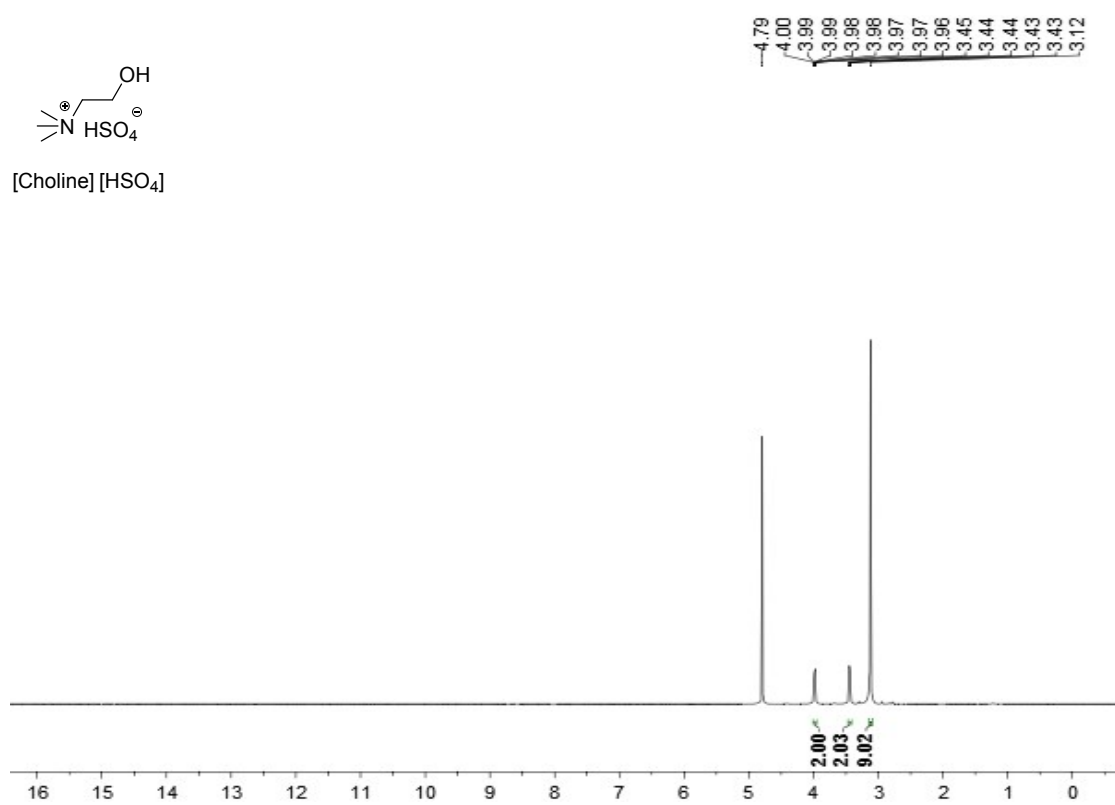




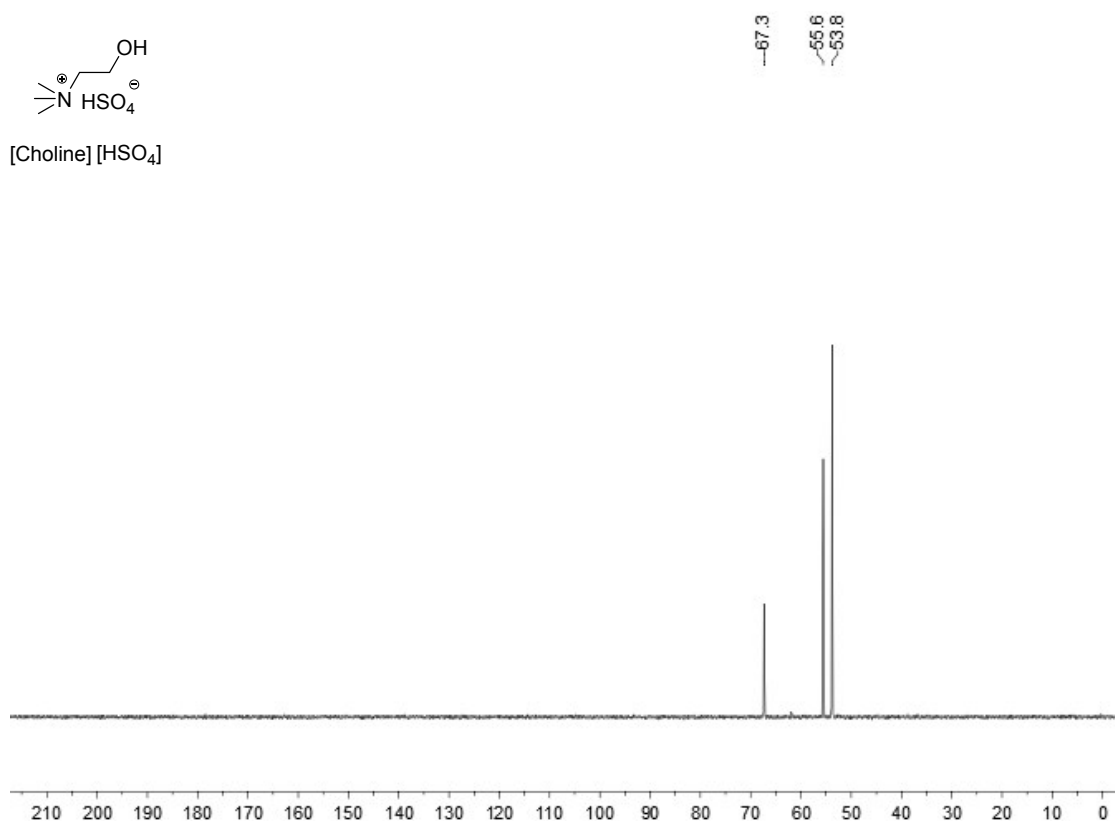
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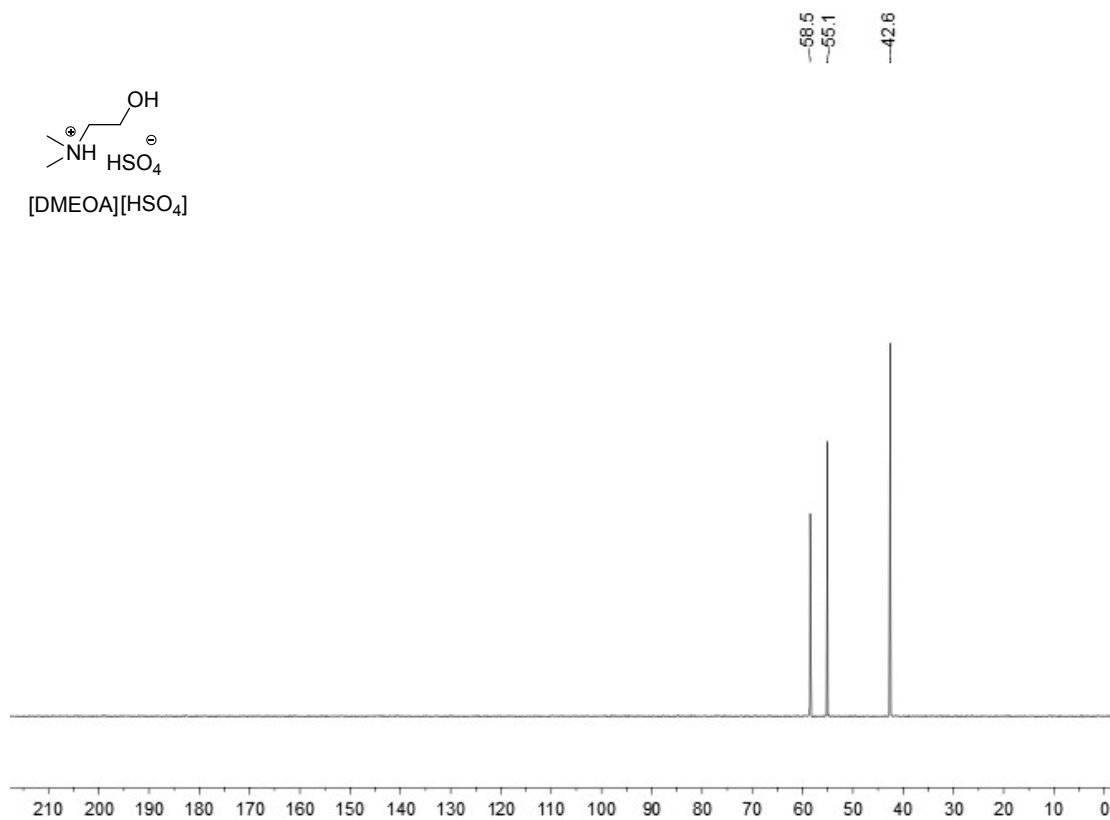
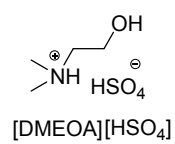
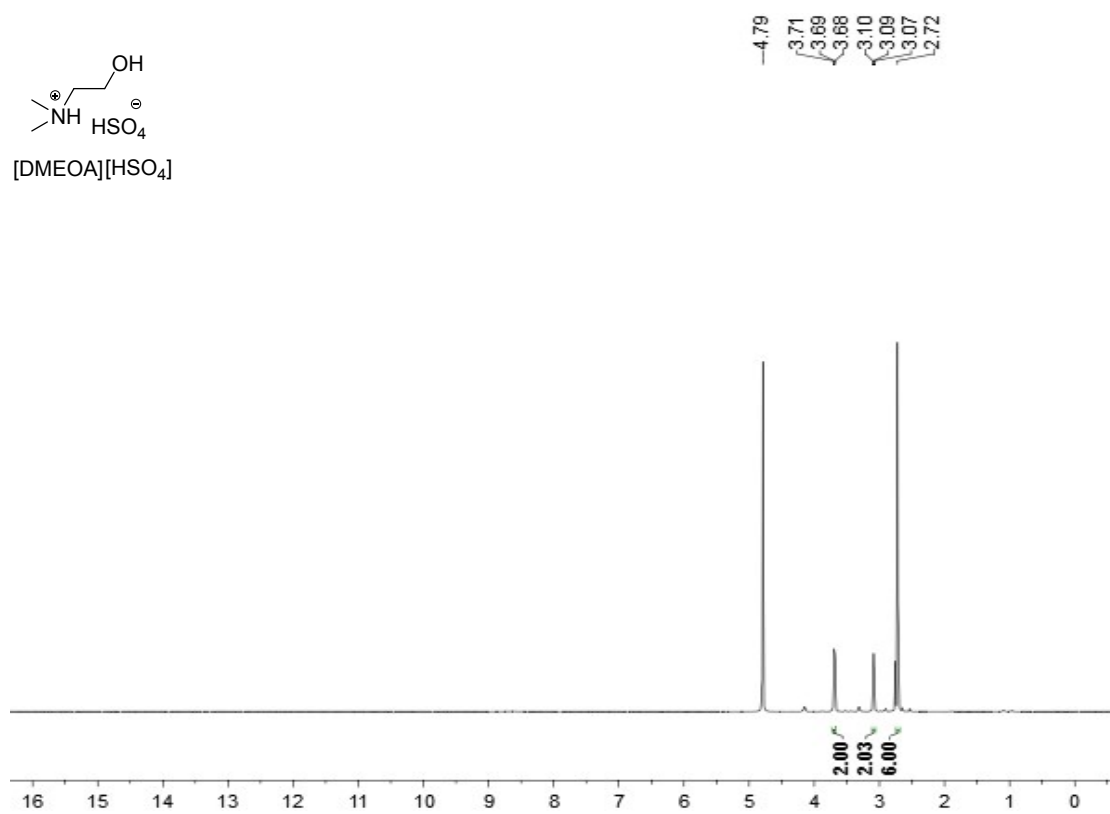
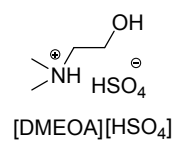
[Choline] [HSO<sub>4</sub>]



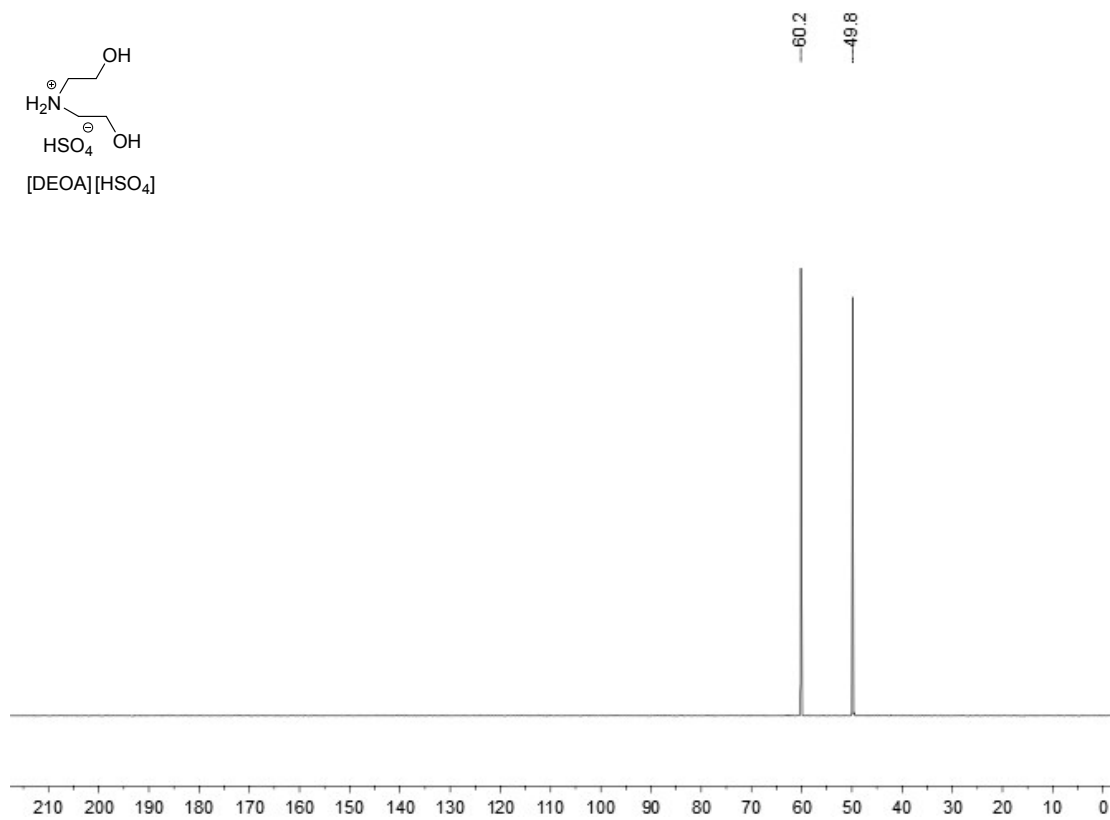
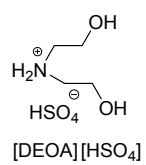
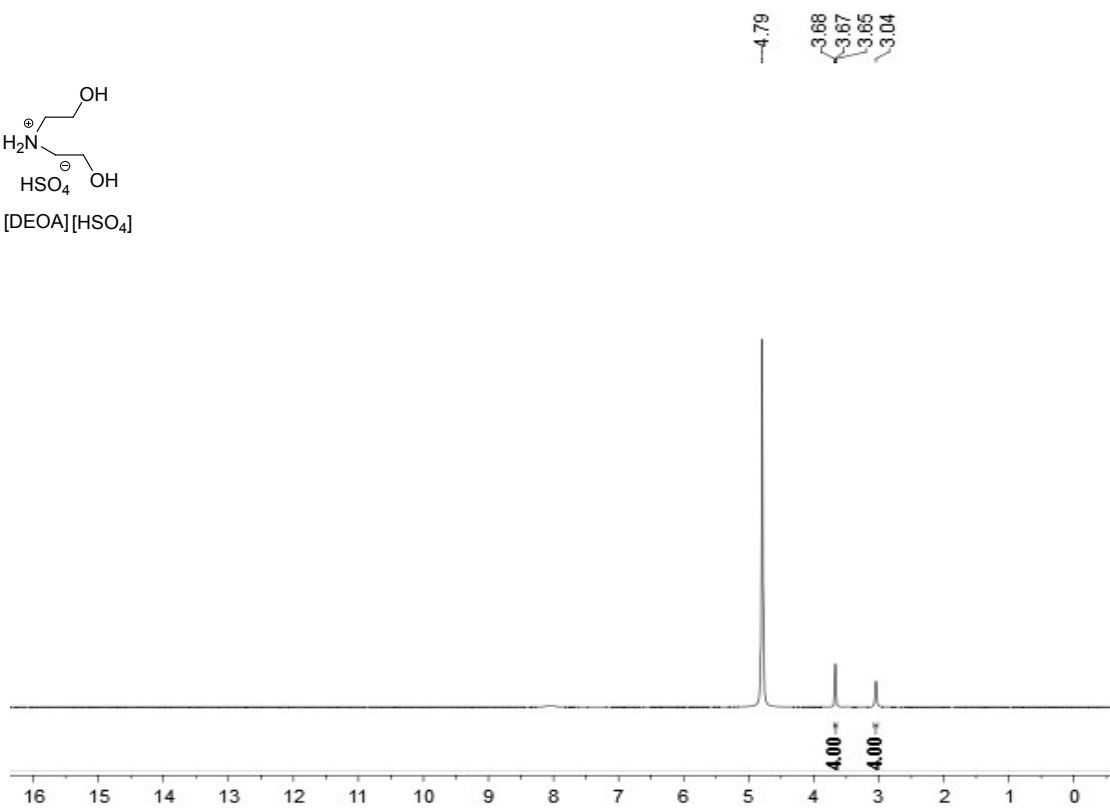
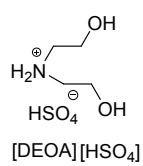
[Choline] [HSO<sub>4</sub>]



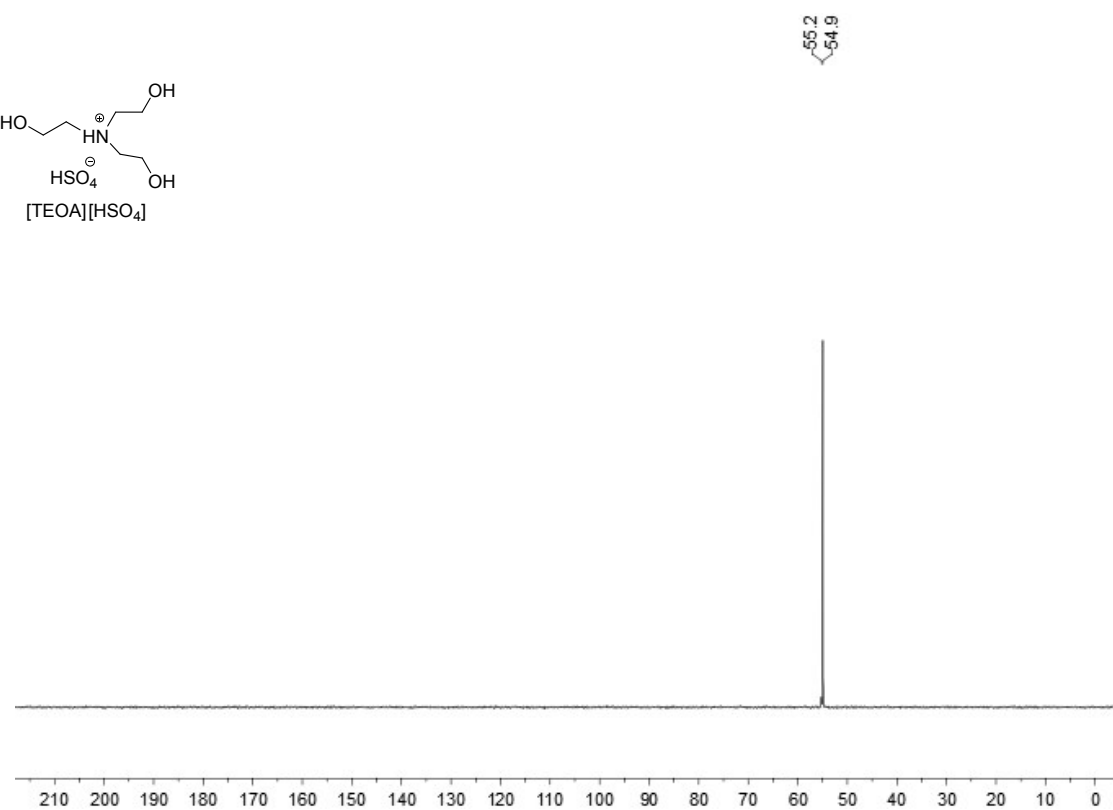
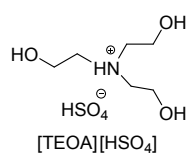
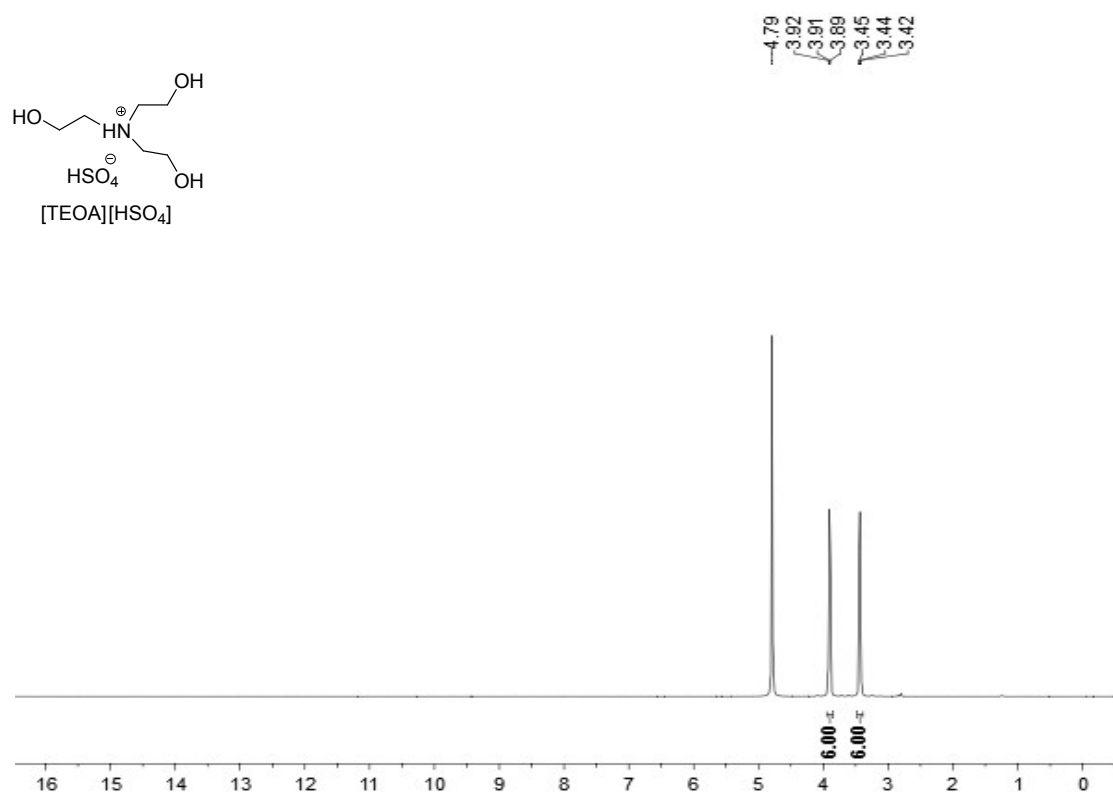
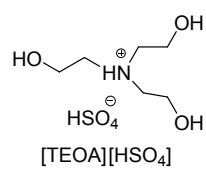
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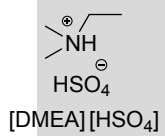
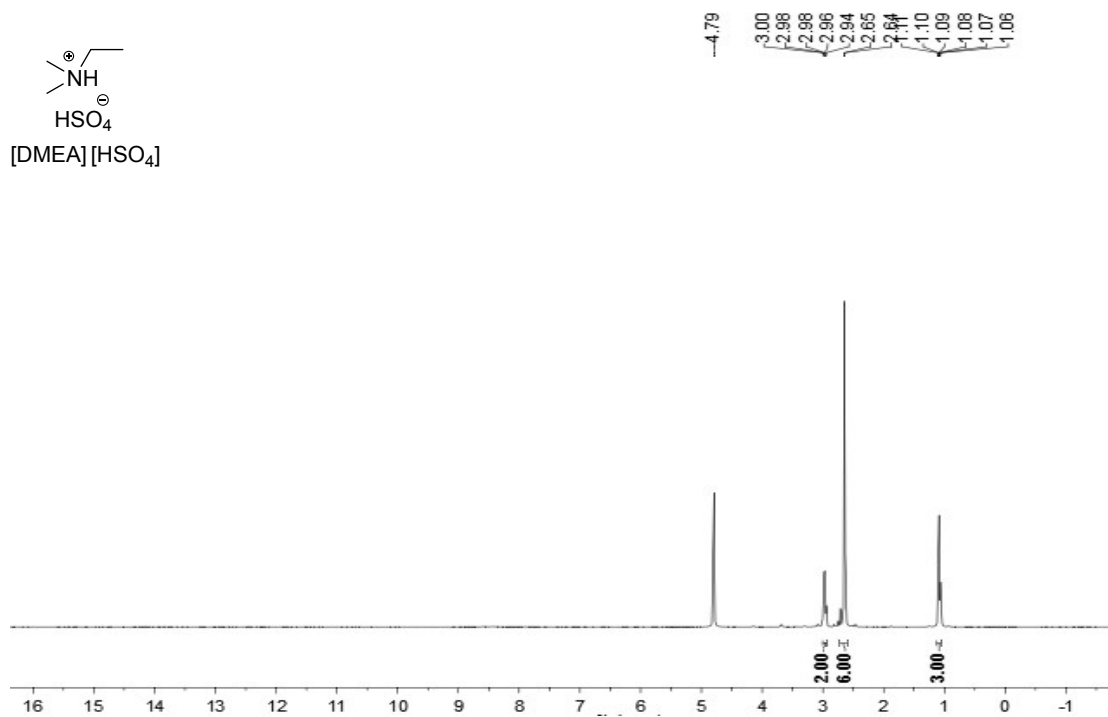
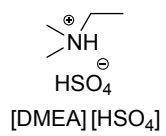
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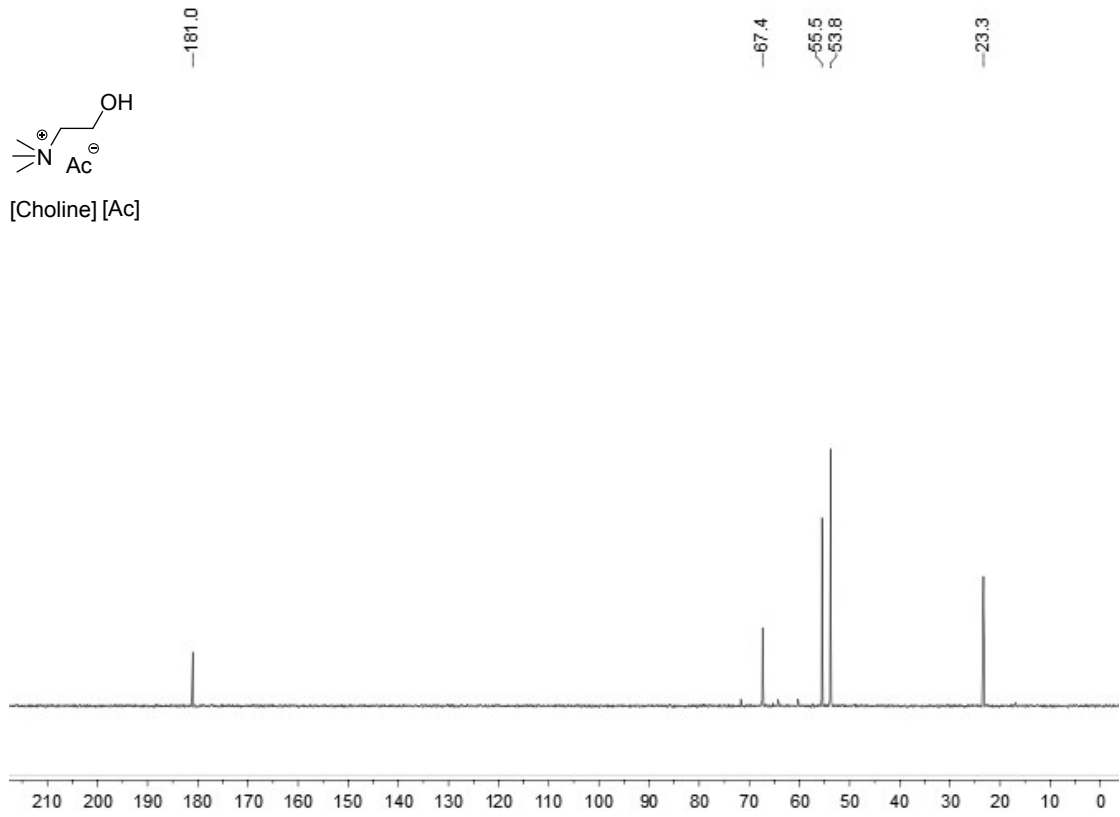
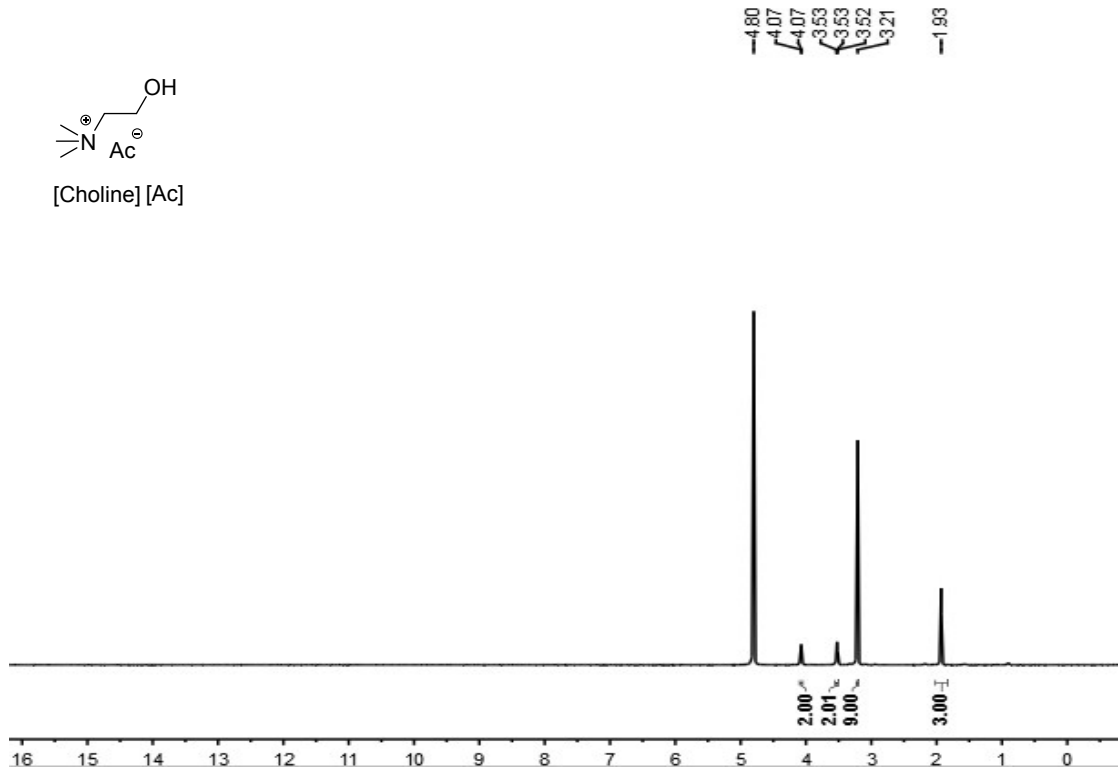
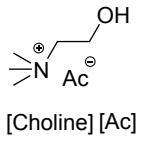
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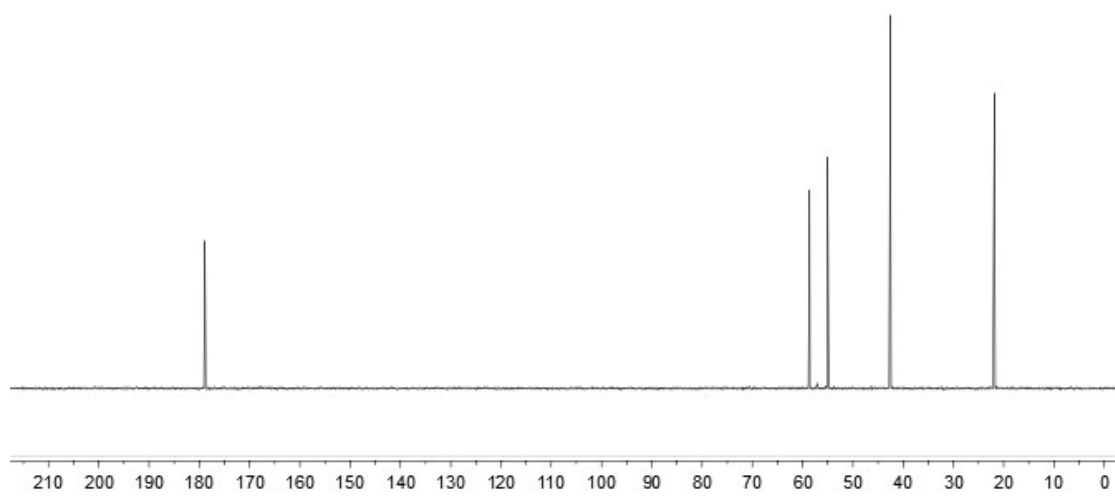
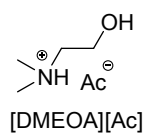
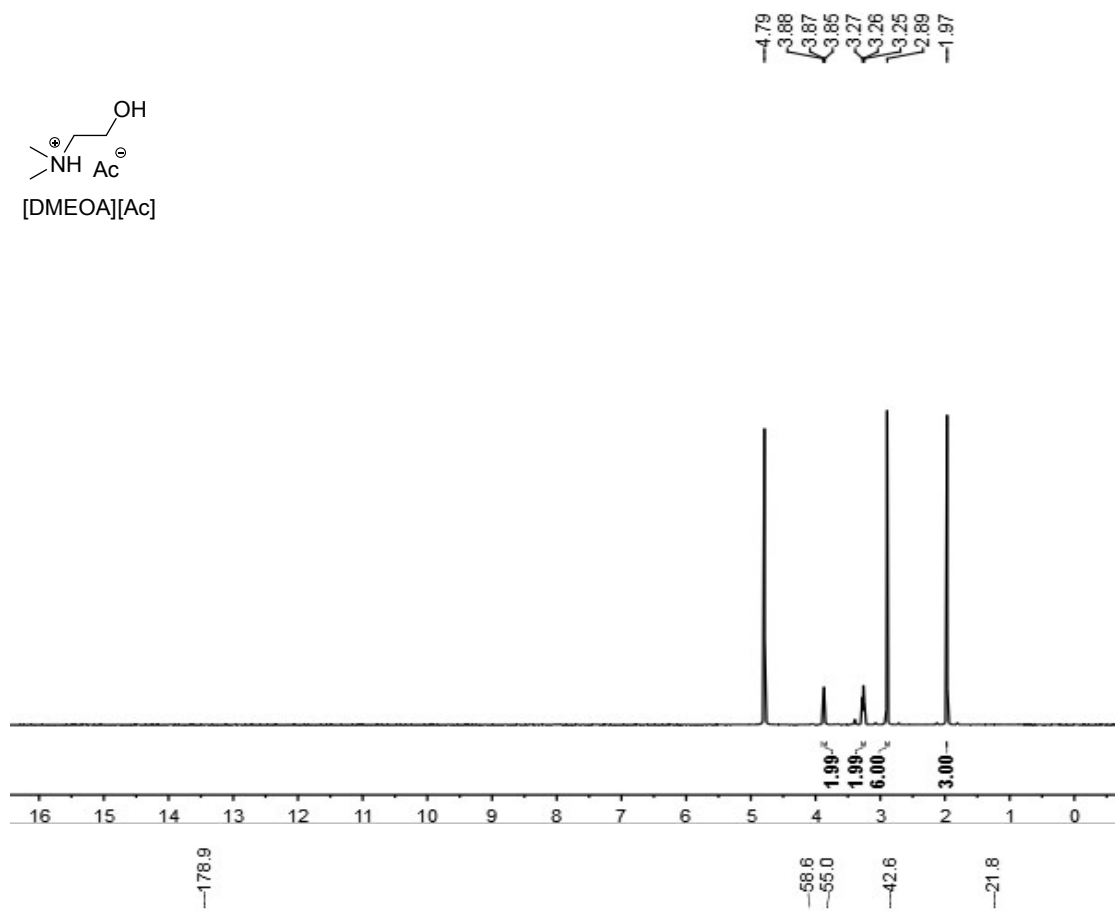
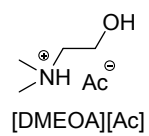
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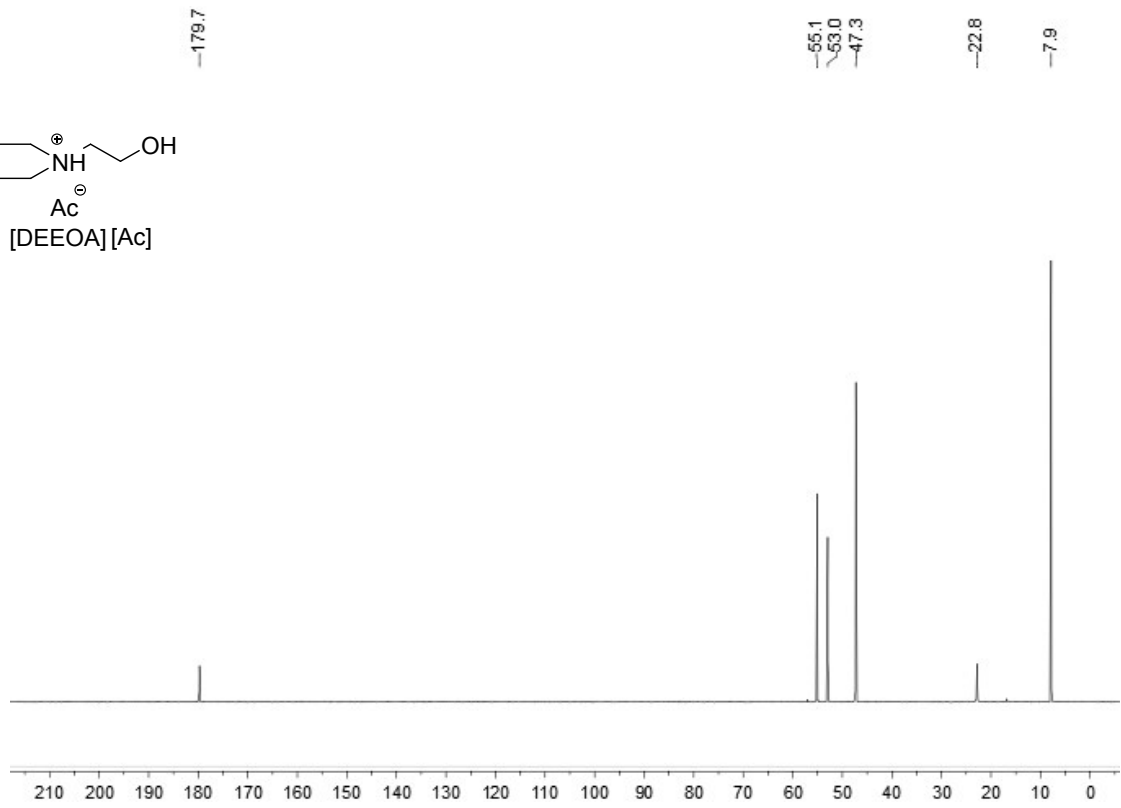
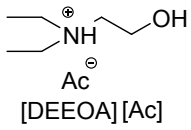
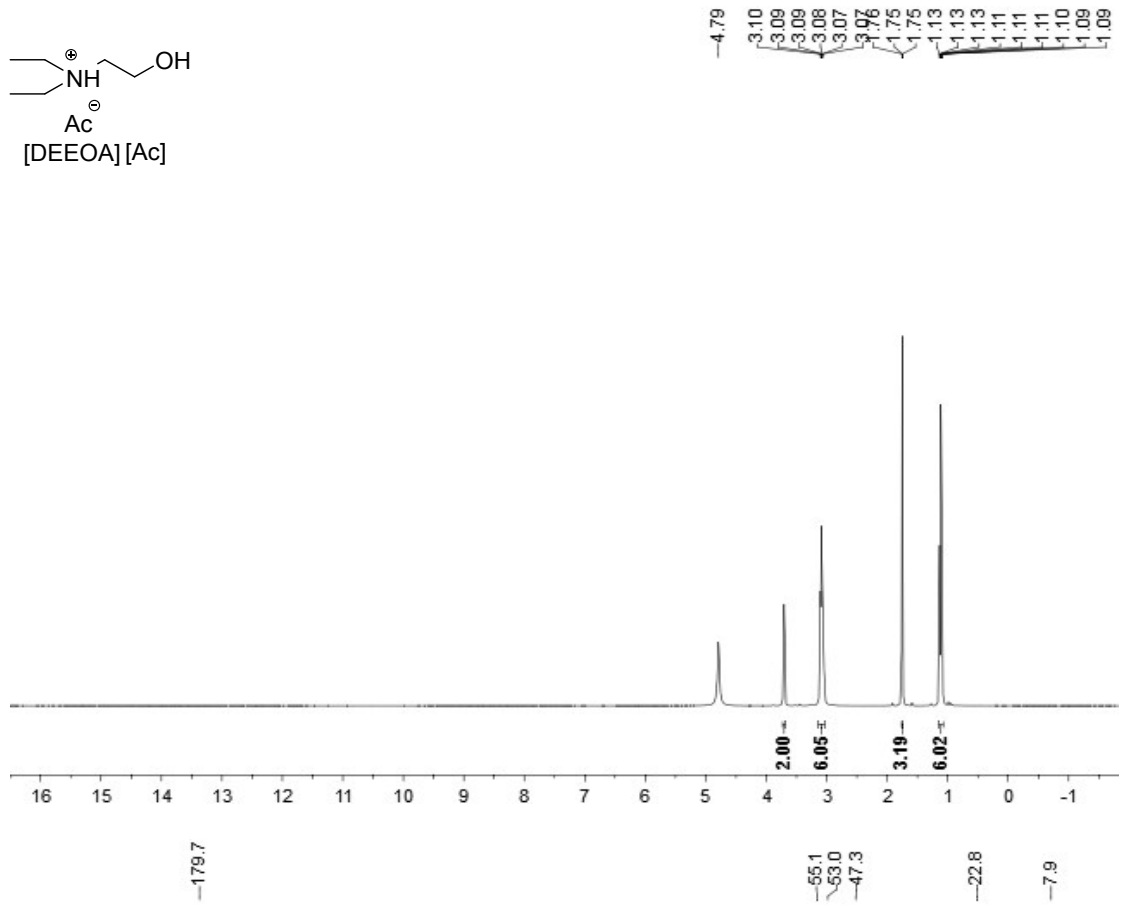
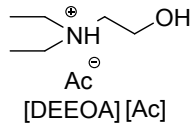
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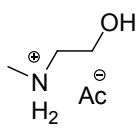


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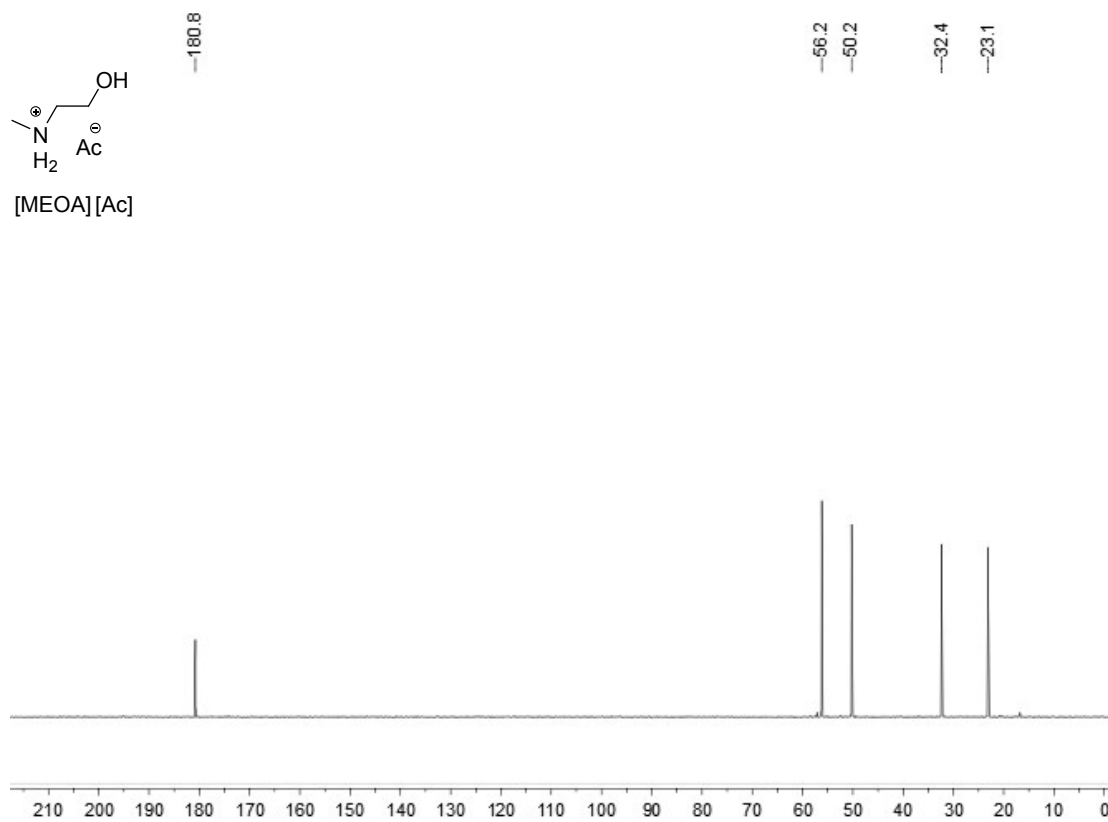
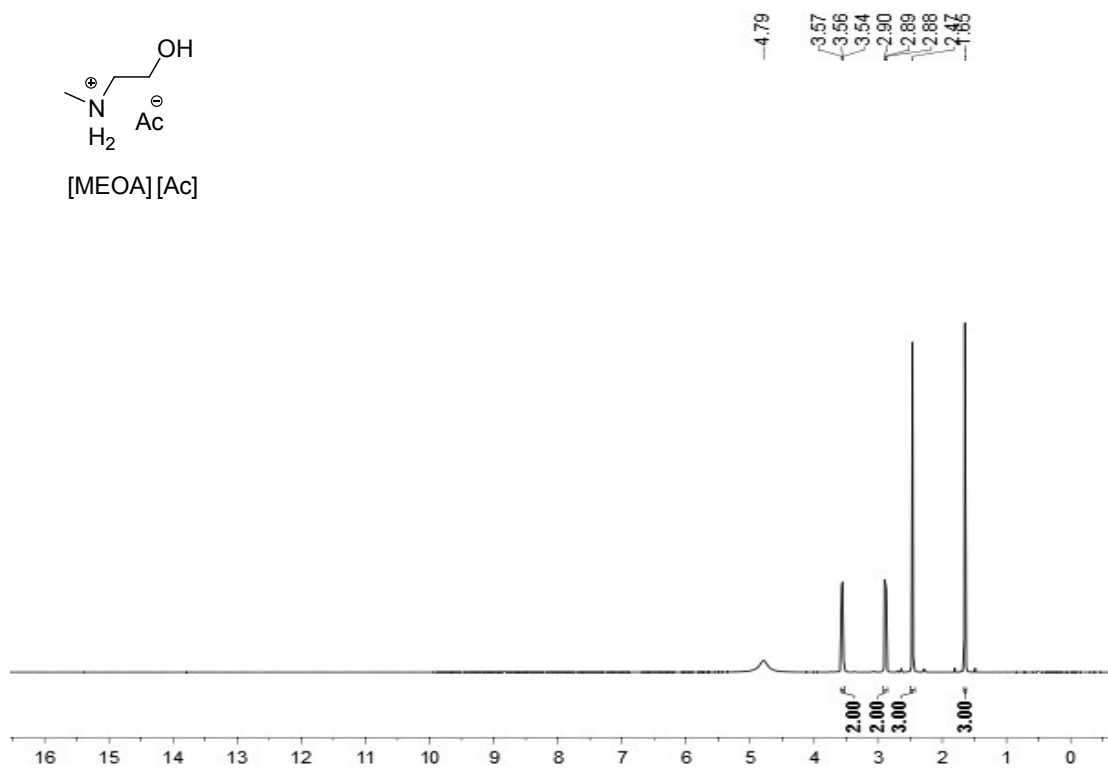




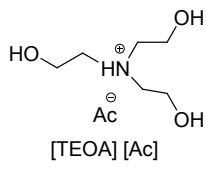
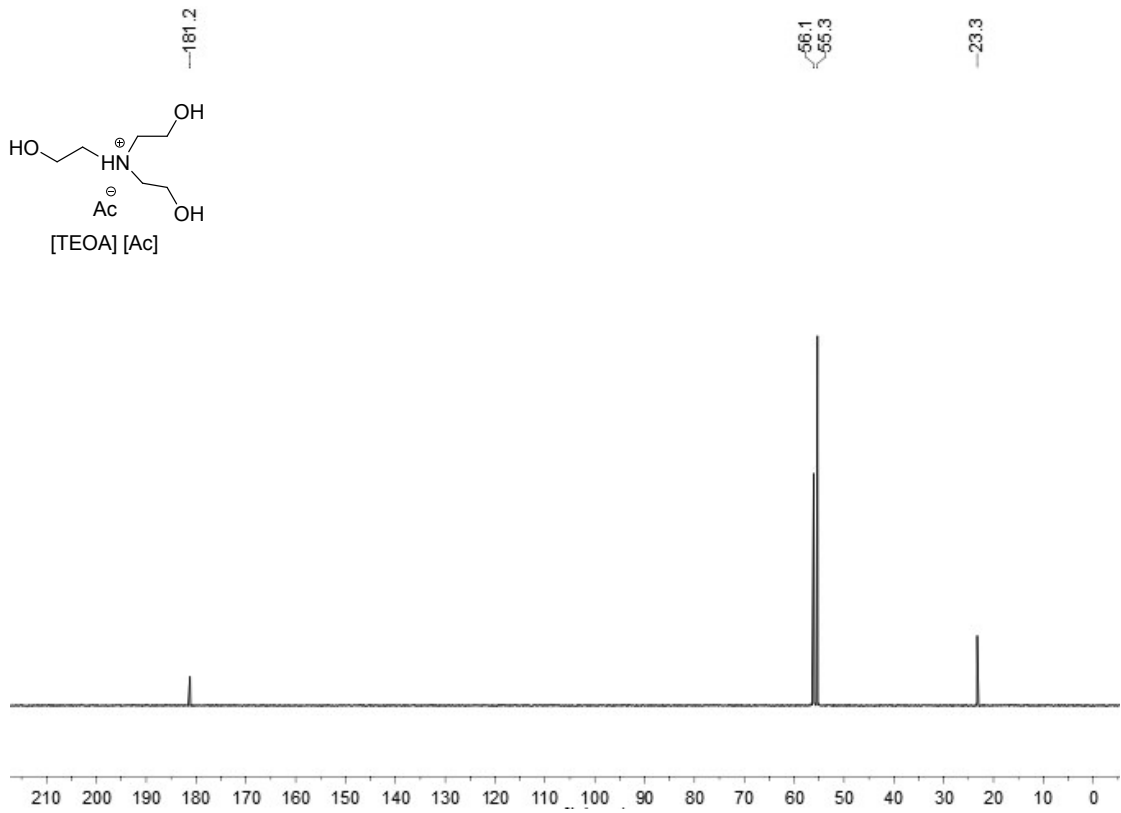
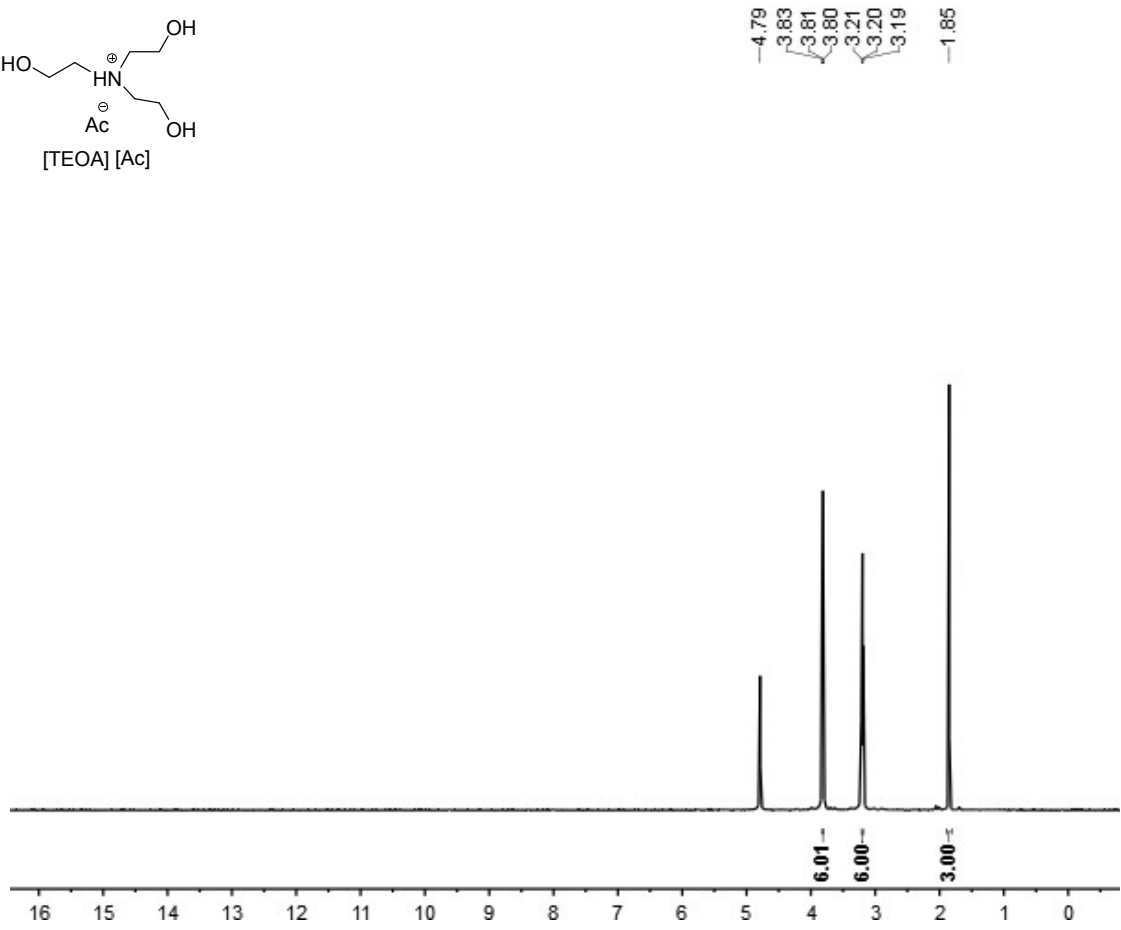
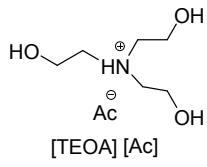
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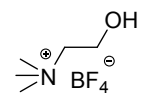
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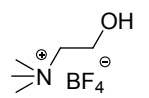
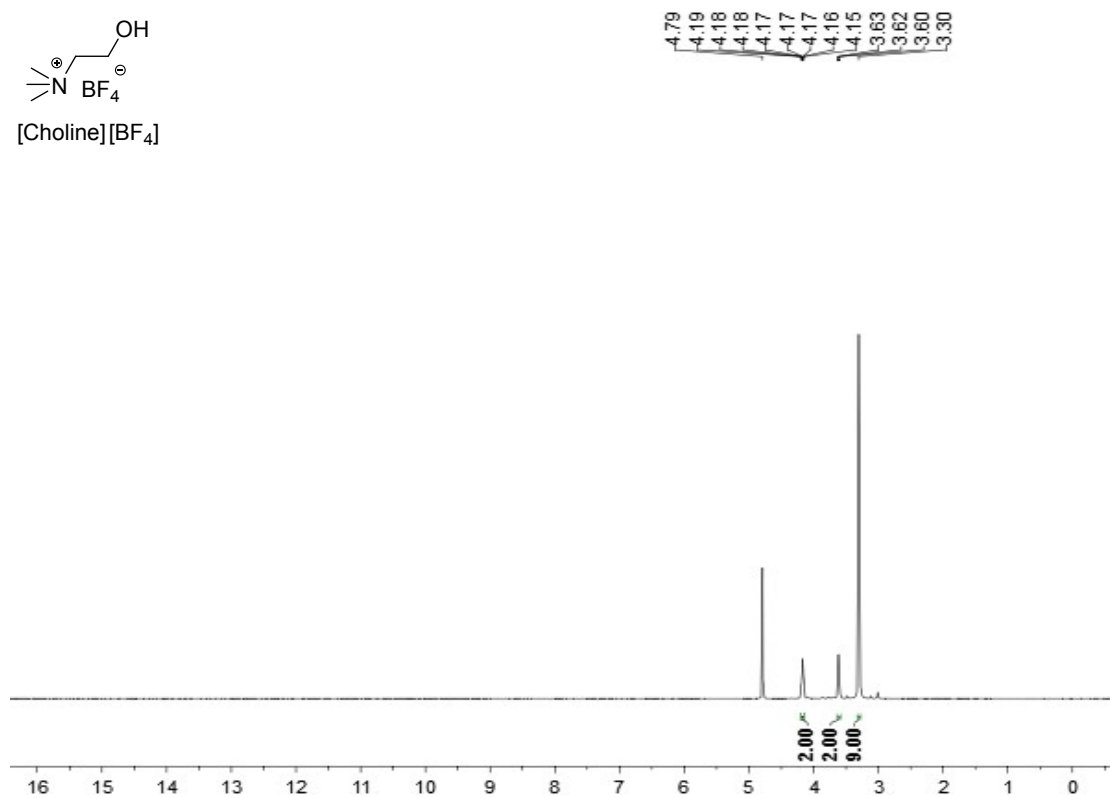
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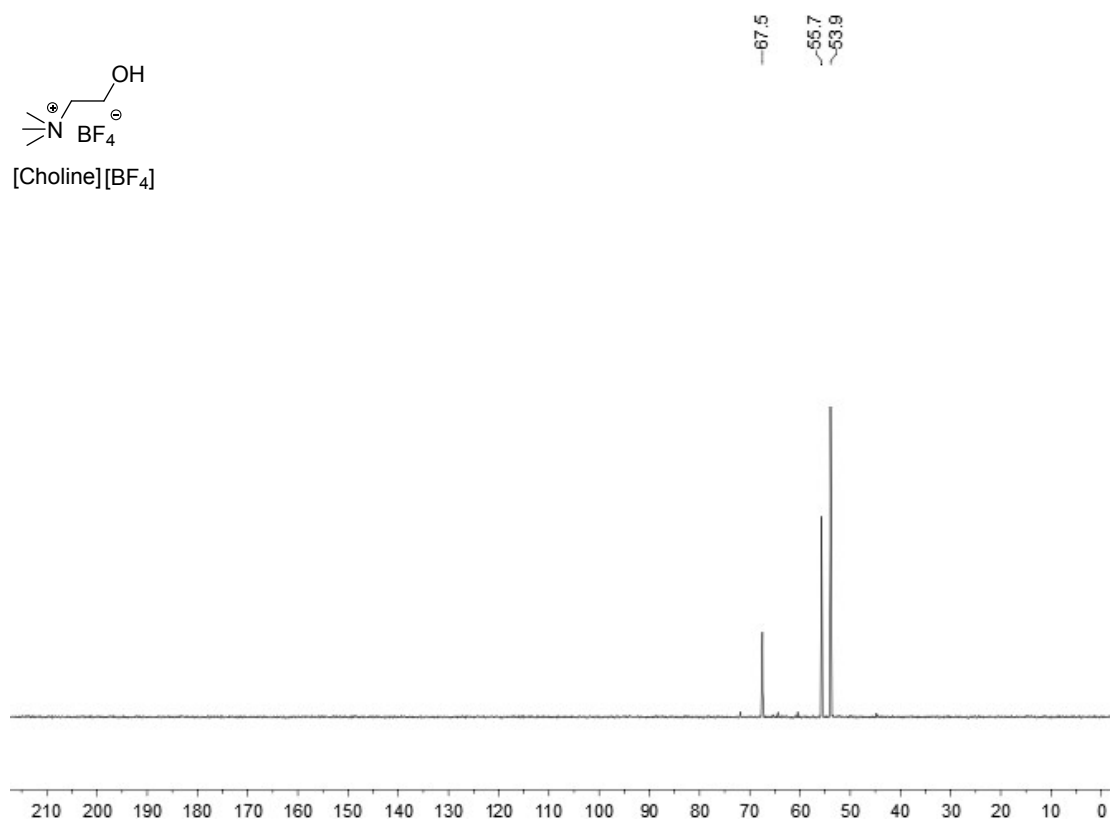
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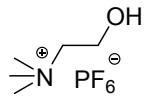
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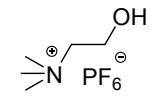
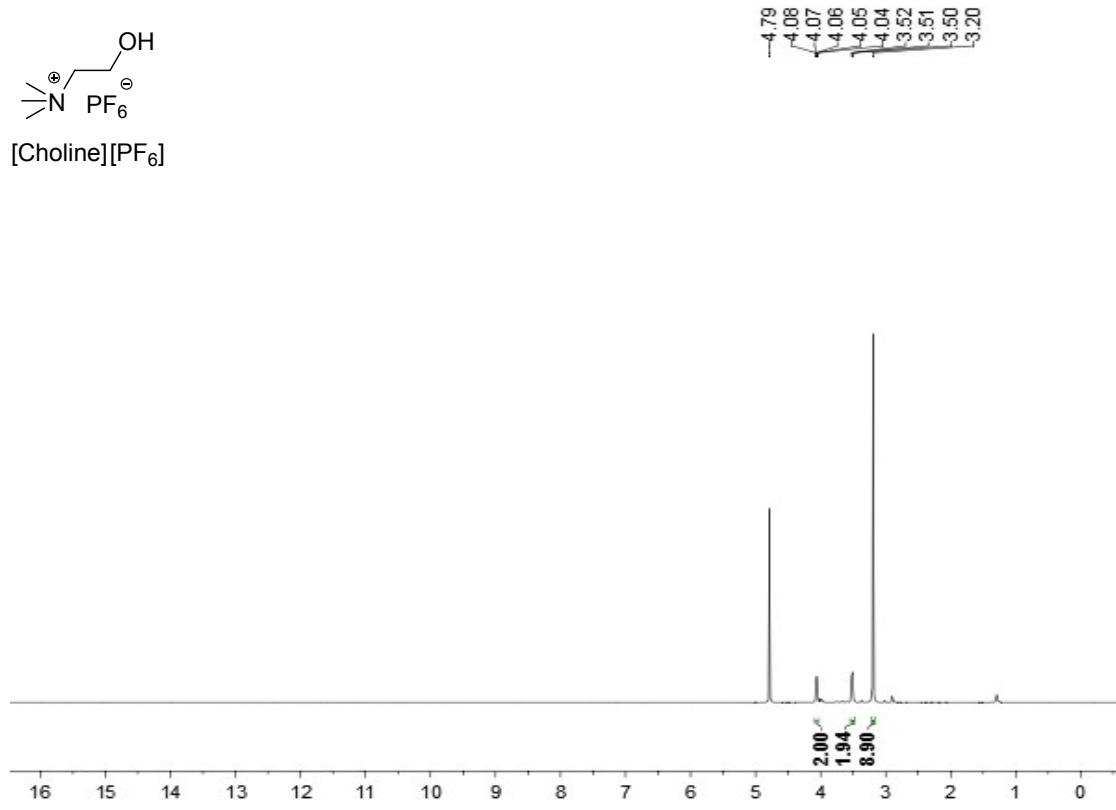
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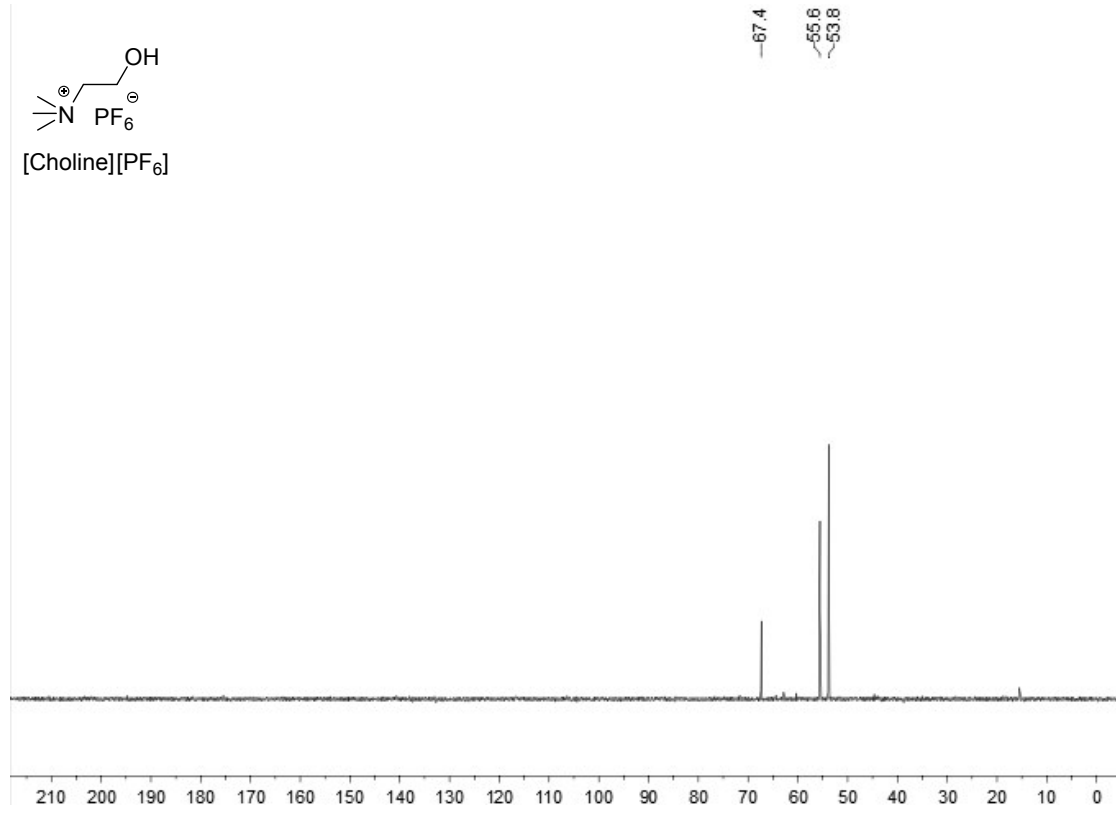
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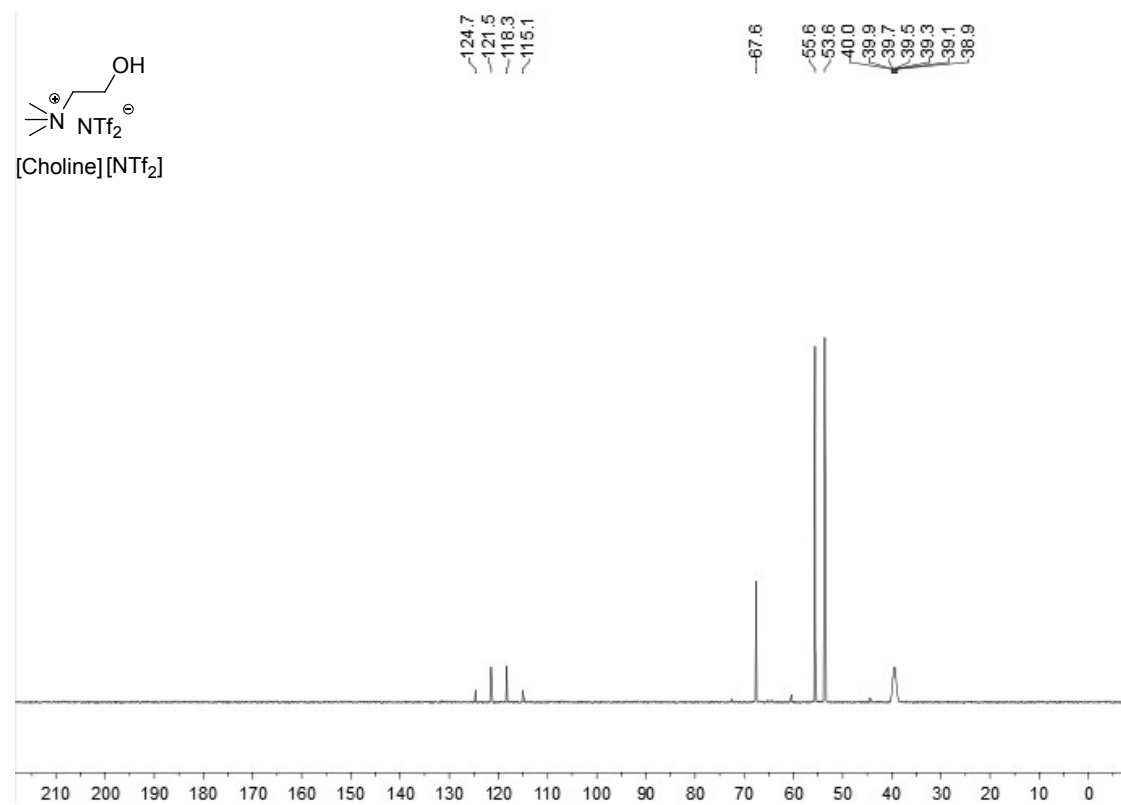
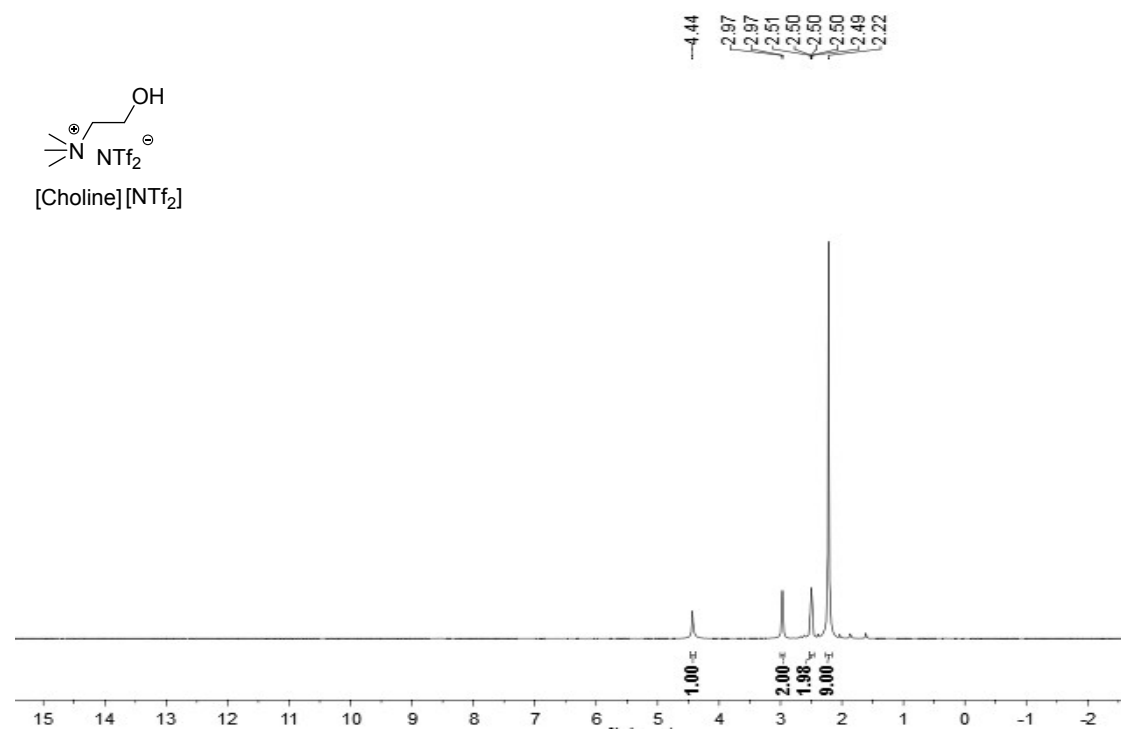
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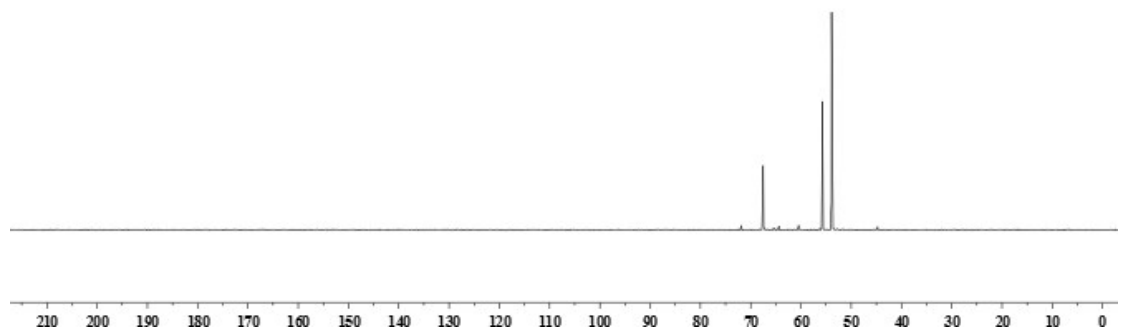
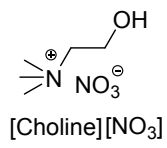
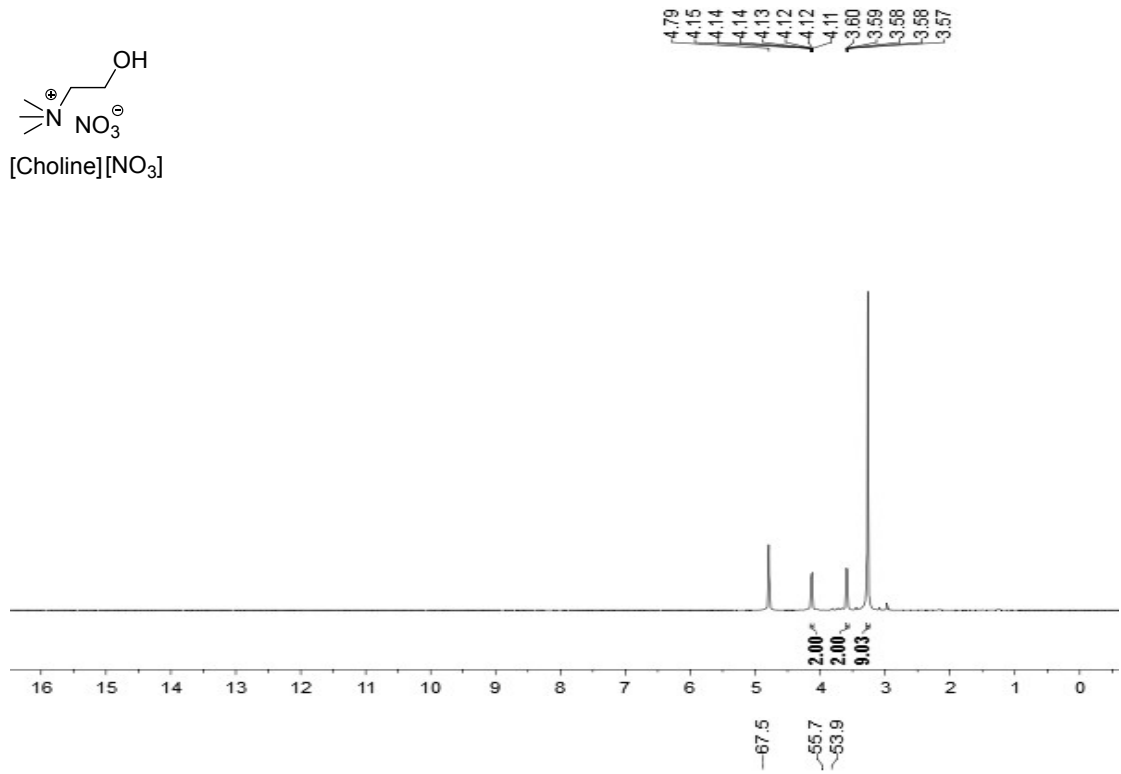
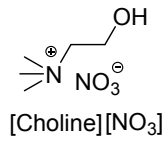
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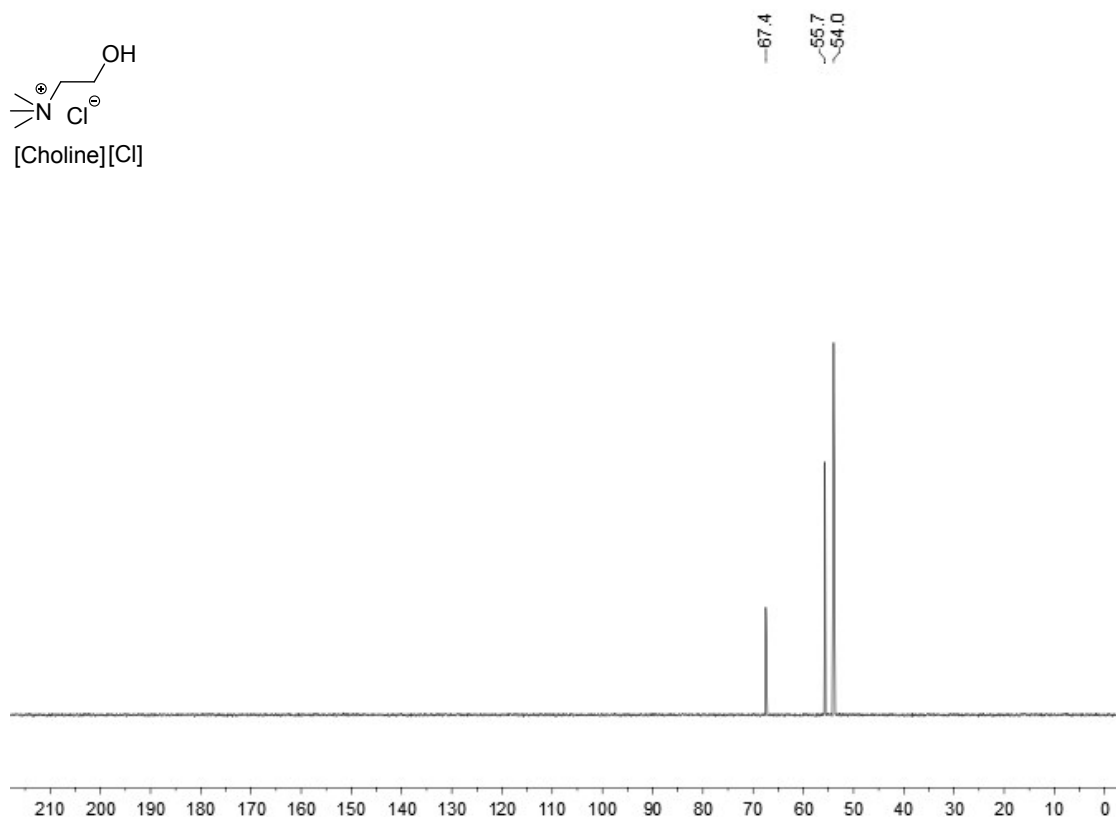
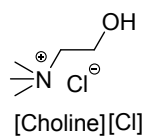
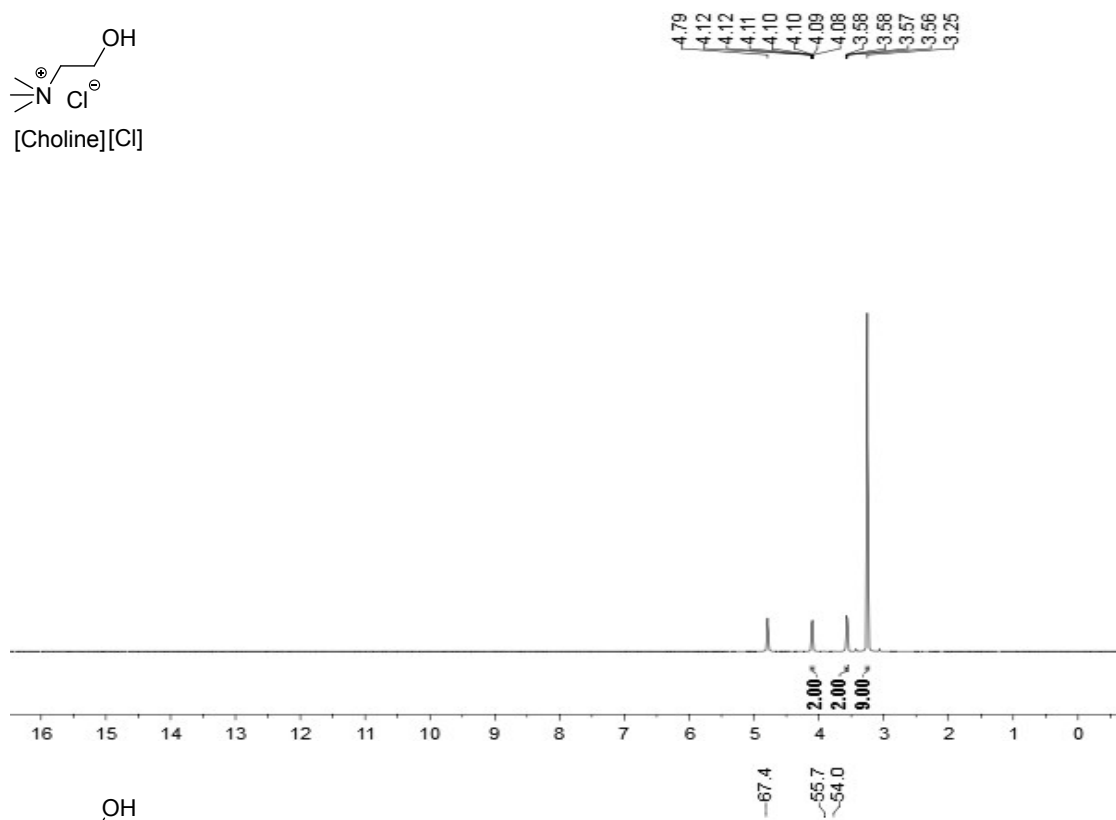
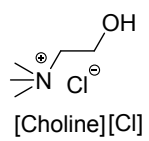
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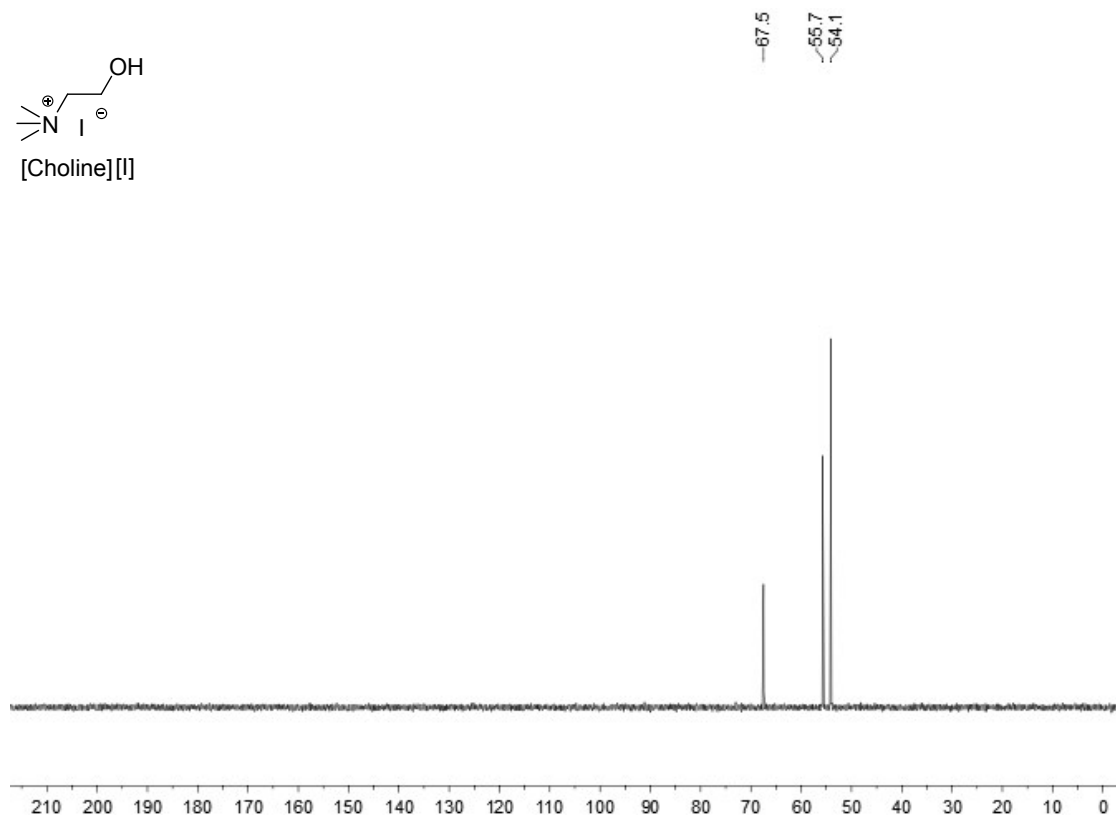
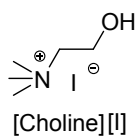
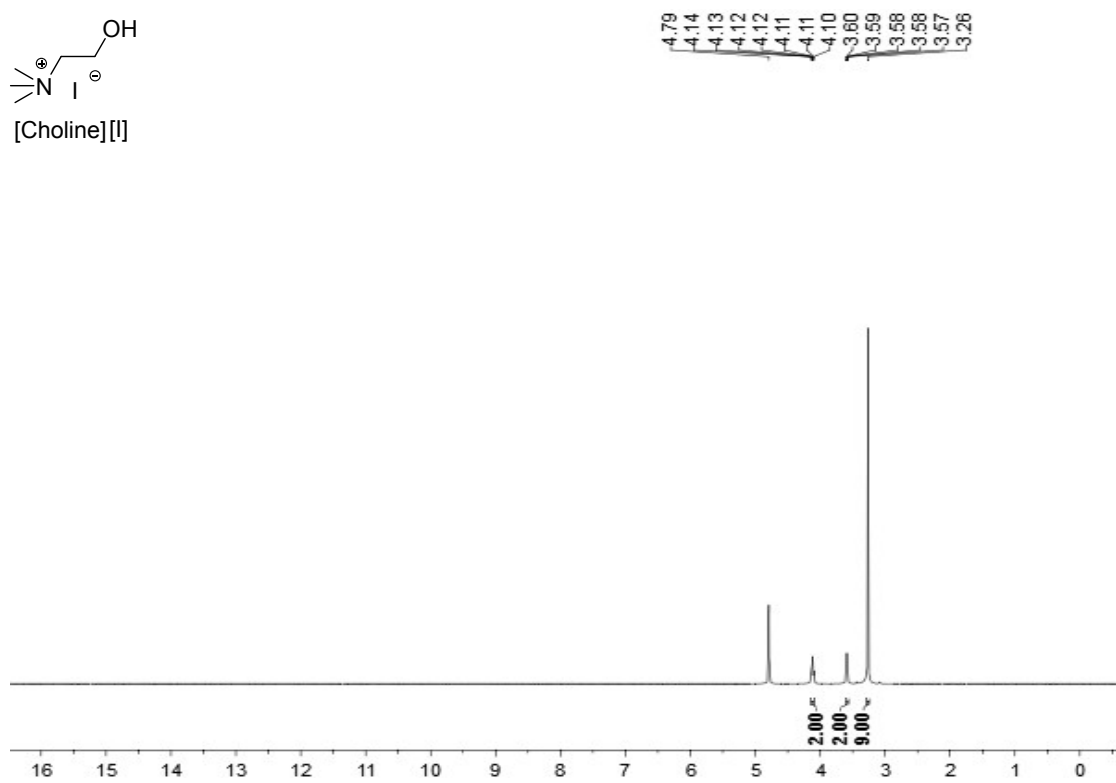
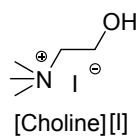
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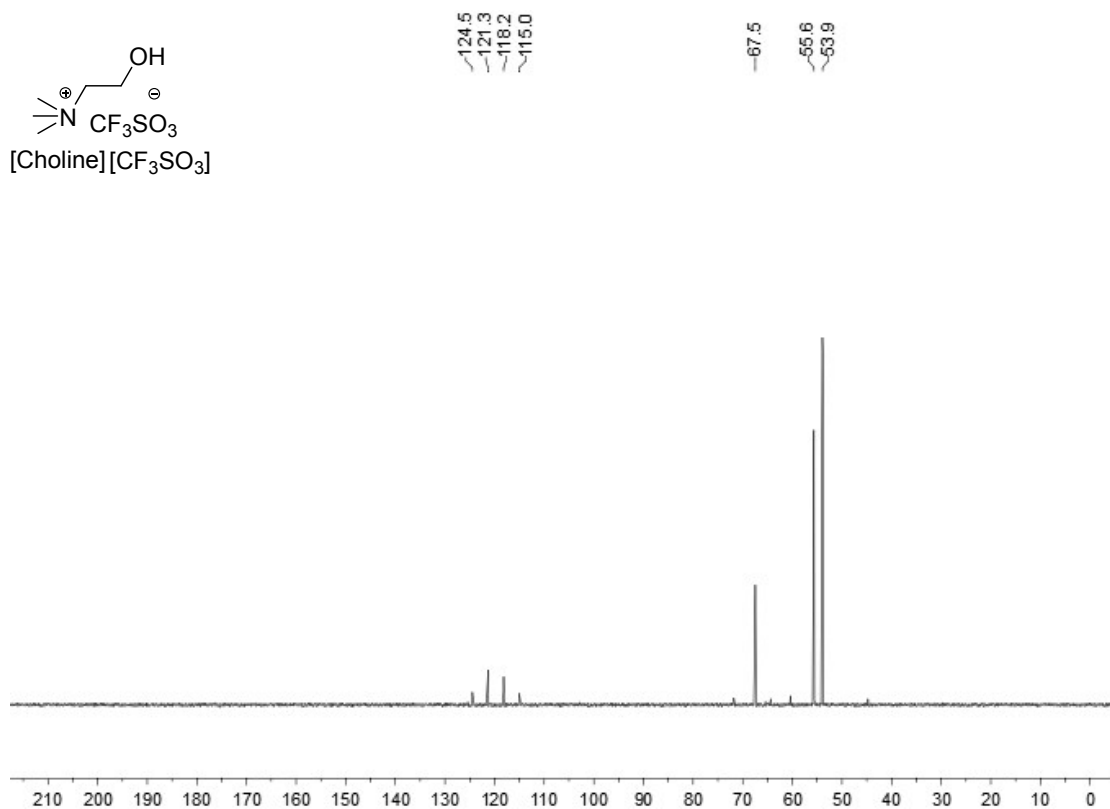
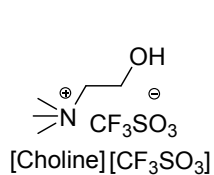
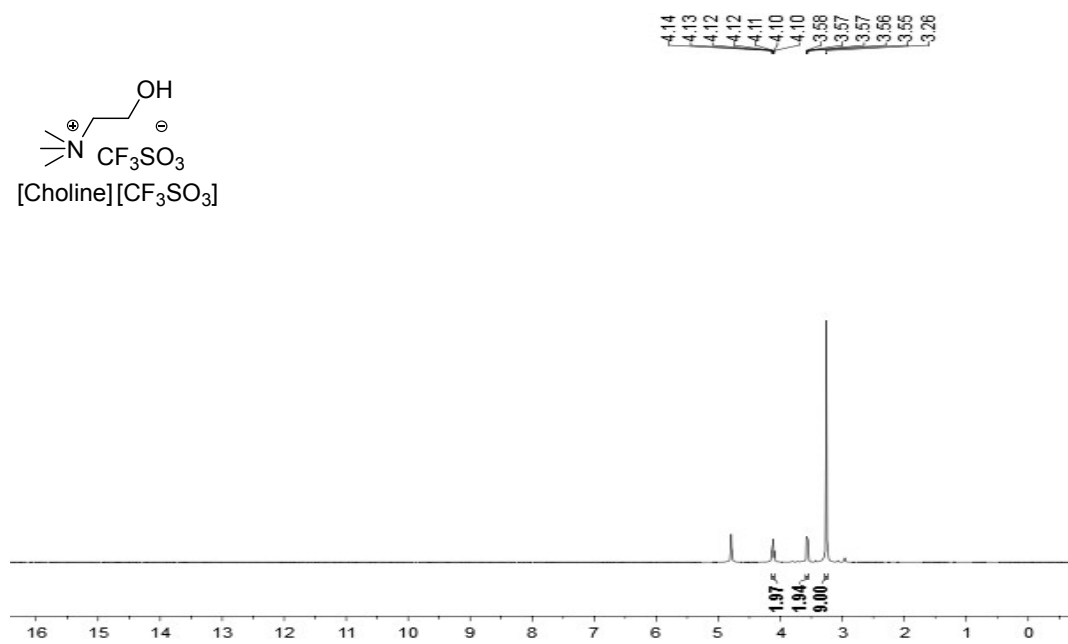
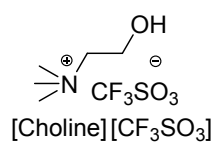


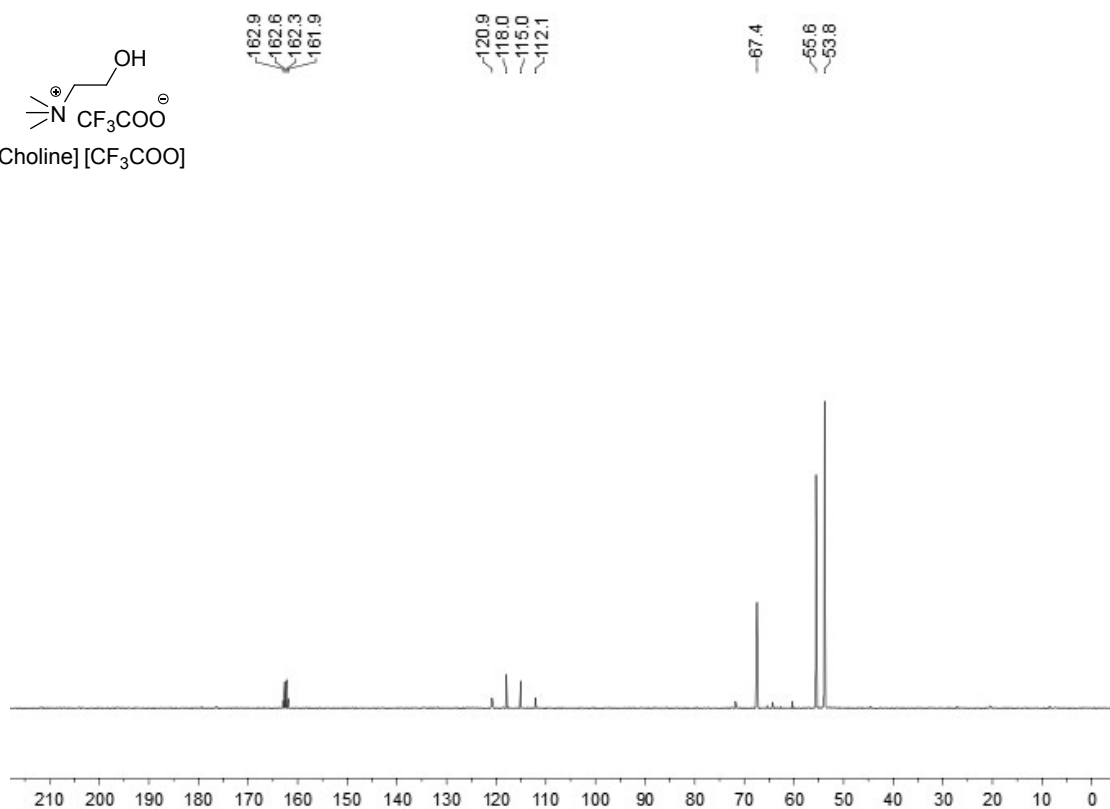
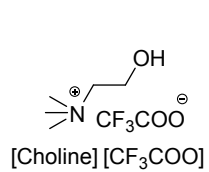
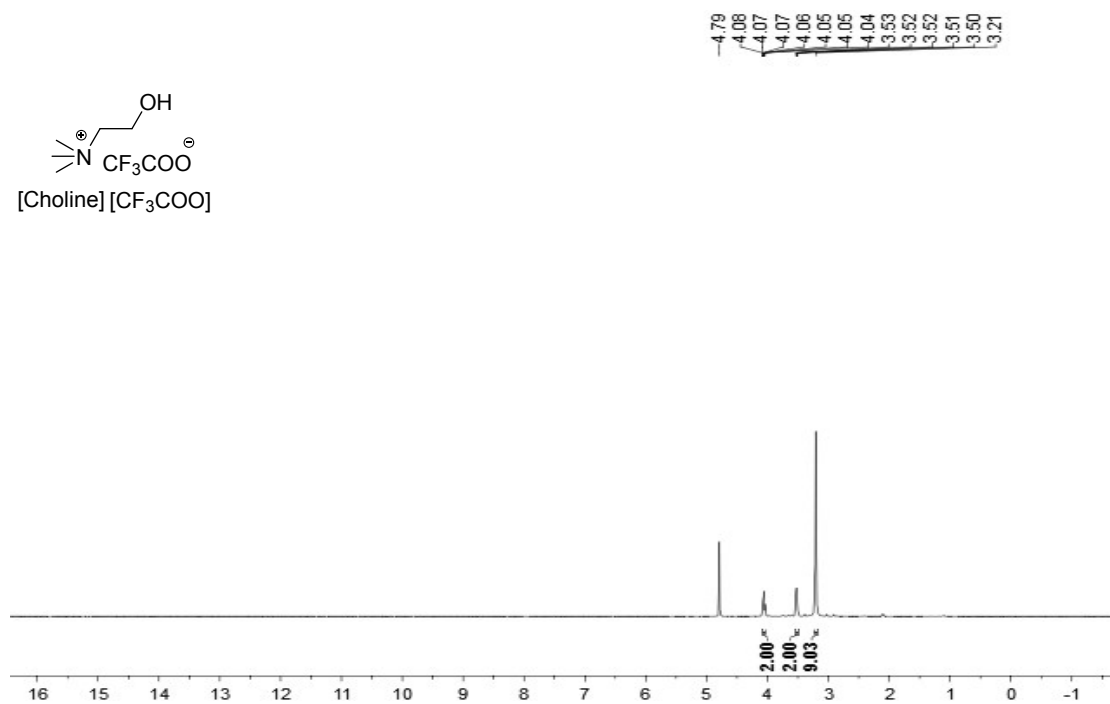
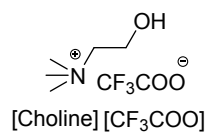
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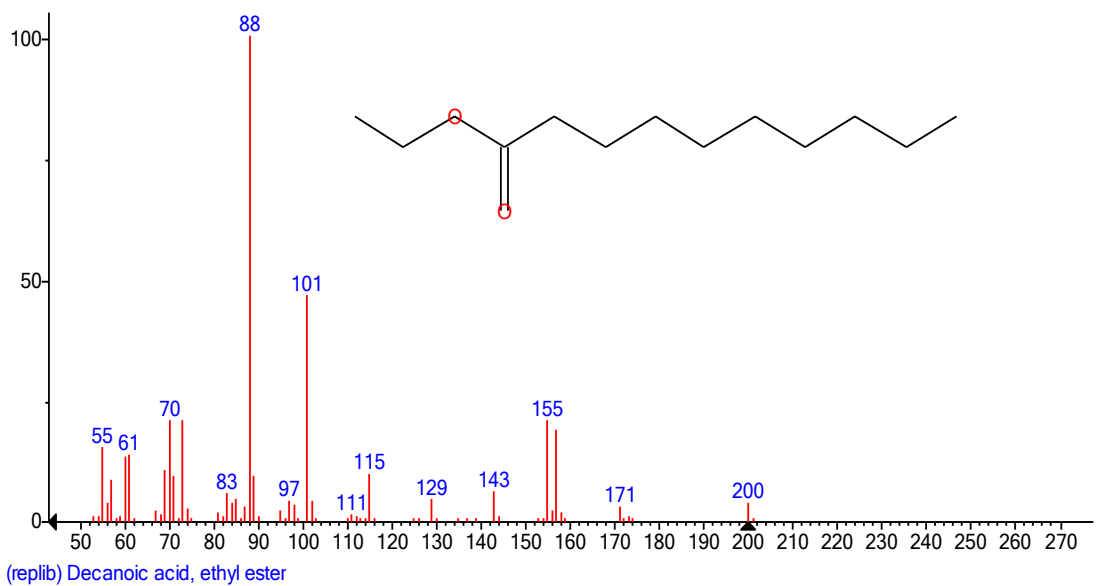




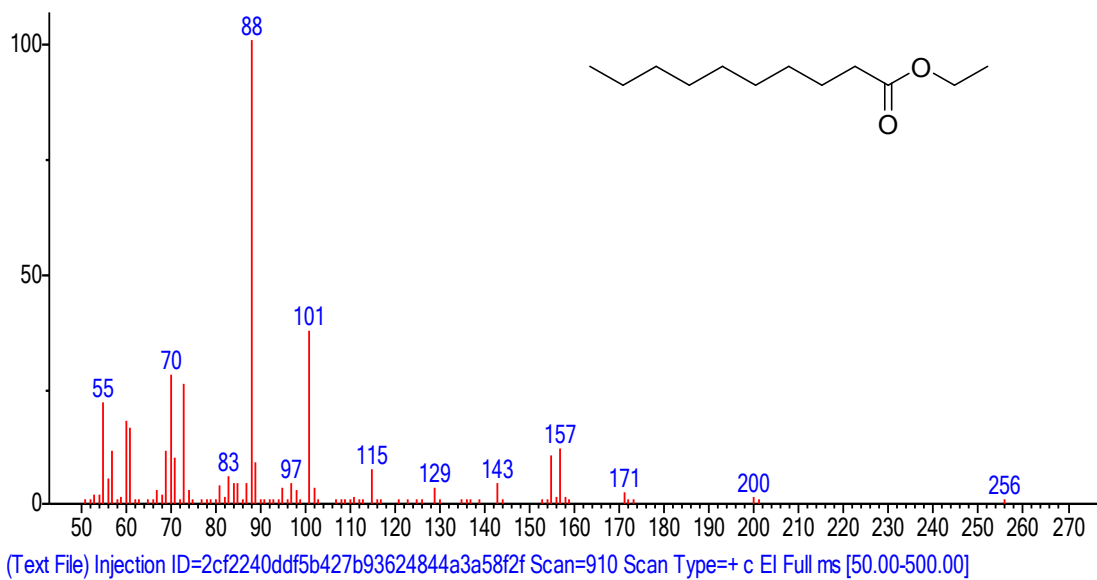


Component 1

The standard mass spectrum

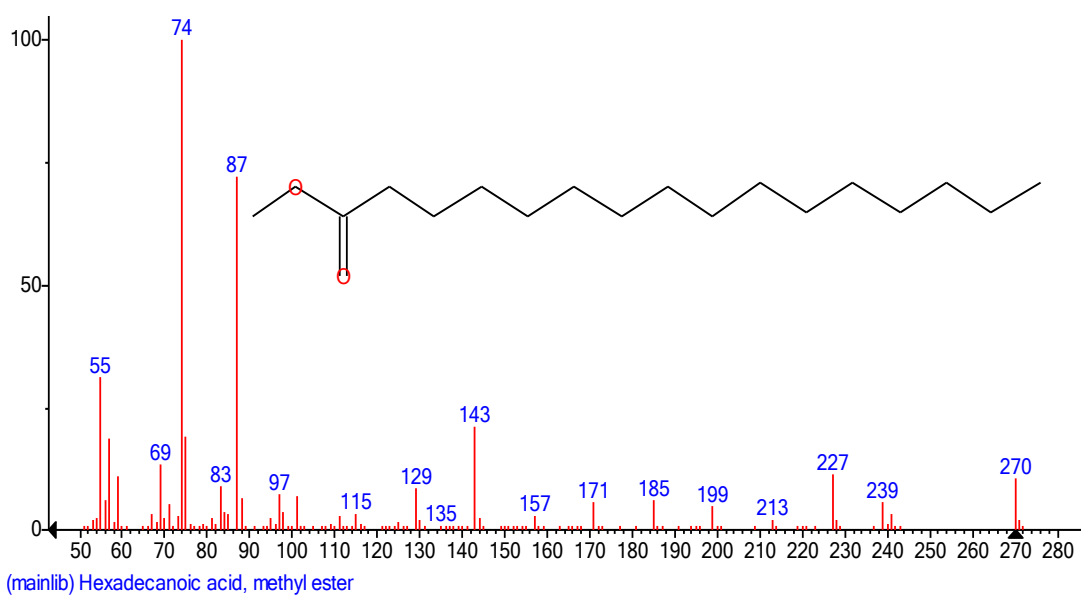


Mass Spectrum of the detected sample

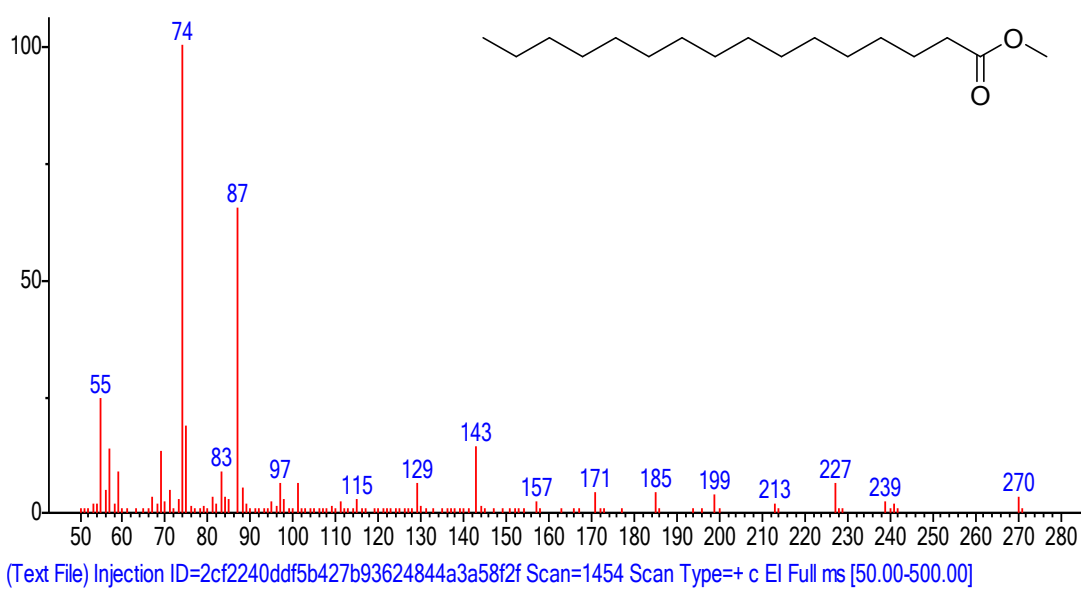


Component 2

The standard mass spectrum

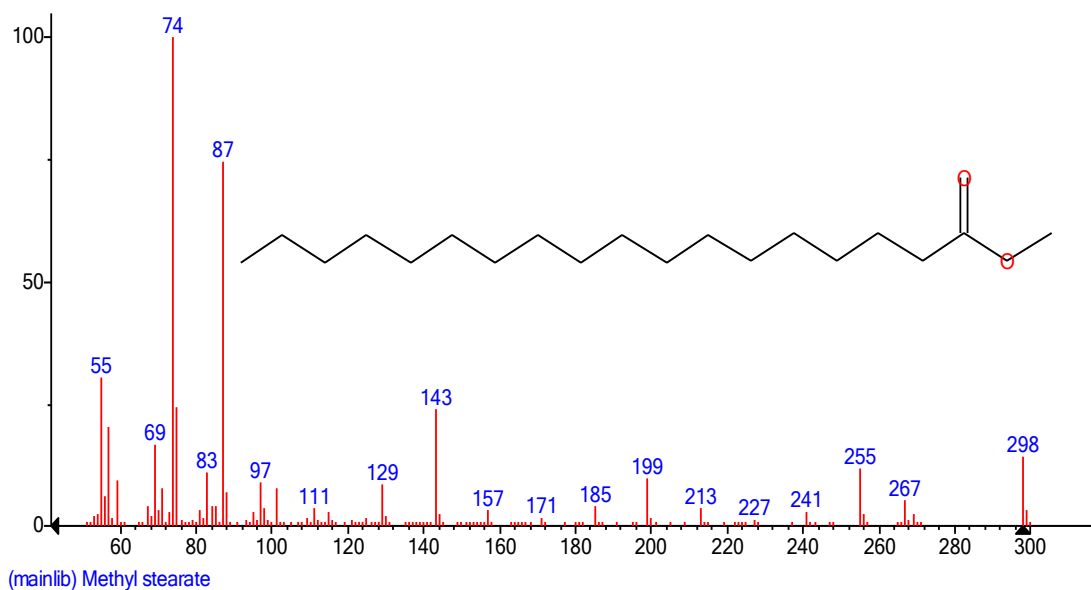


Mass Spectrum of the detected sample

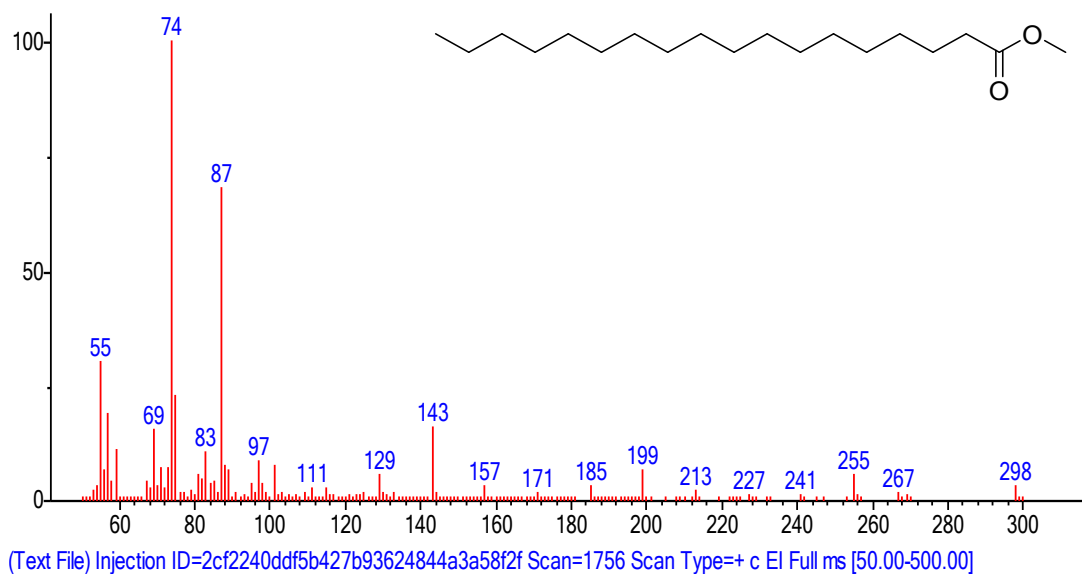


### Component 3

The standard mass spectrum

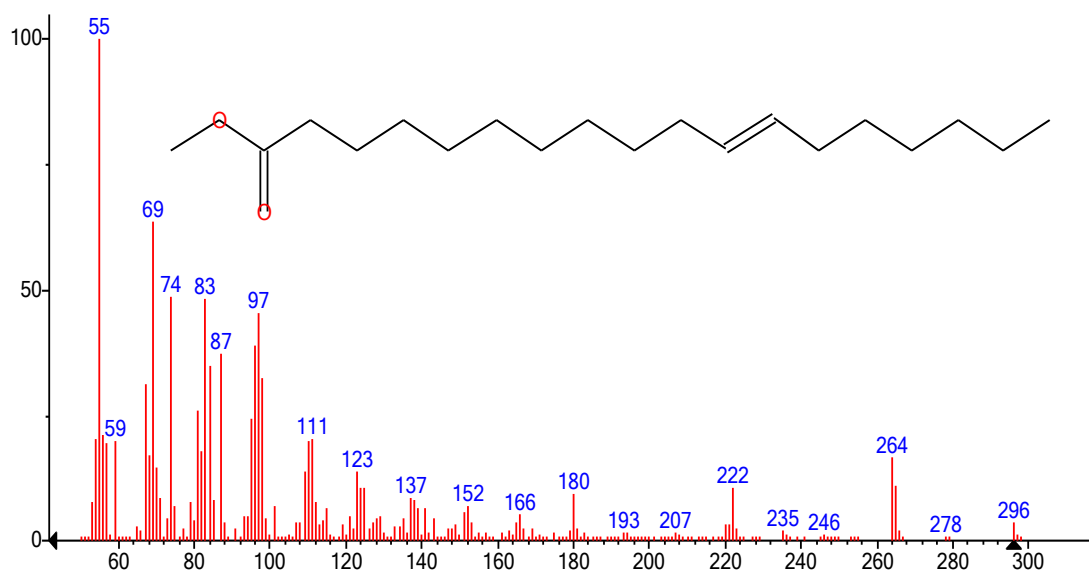


Mass Spectrum of the detected sample



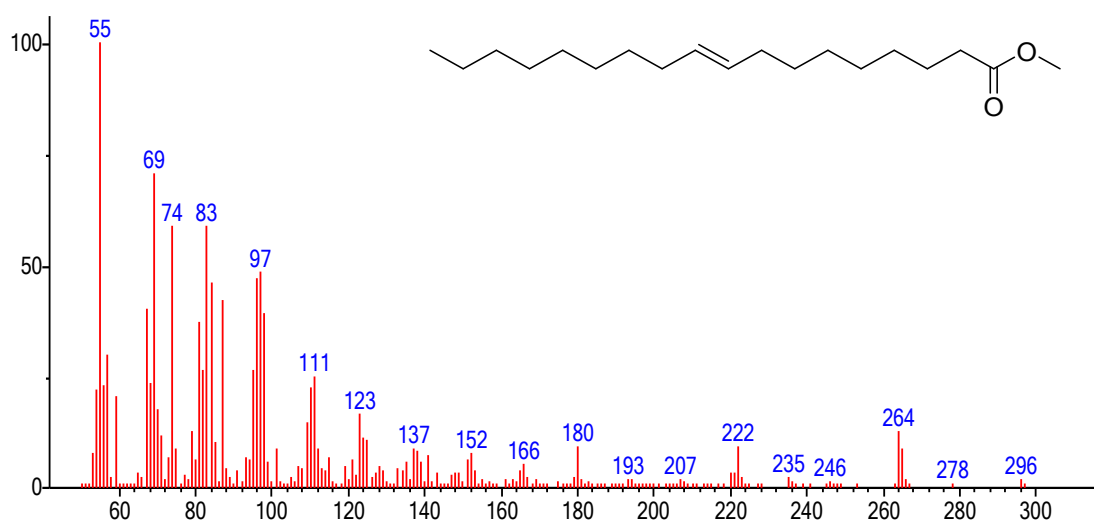
### Component 4

The standard mass spectrum



(replib) 11-Octadecenoic acid, methyl ester

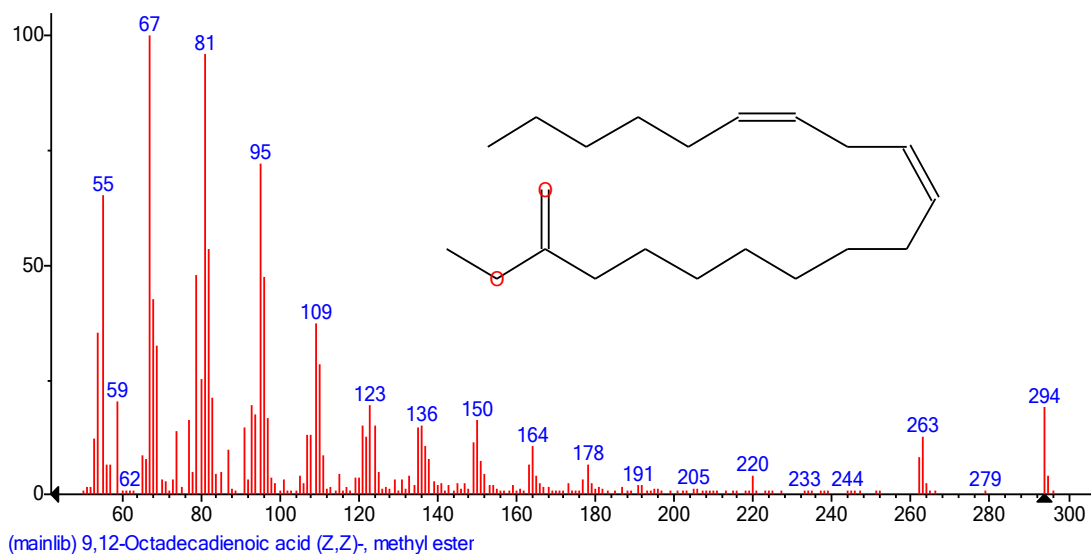
Mass Spectrum of the detected sample



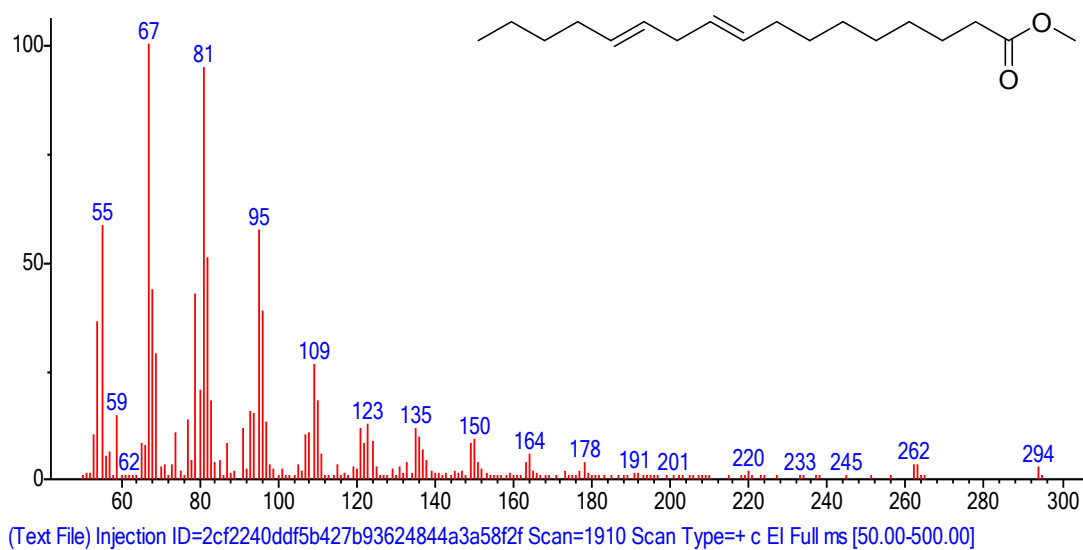
(Text File) Injection ID=2cf2240ddf5b427b93624844a3a58f2f Scan=1803 Scan Type=+ c EI Full ms [50.00-500.00]

Component 5

The standard mass spectrum

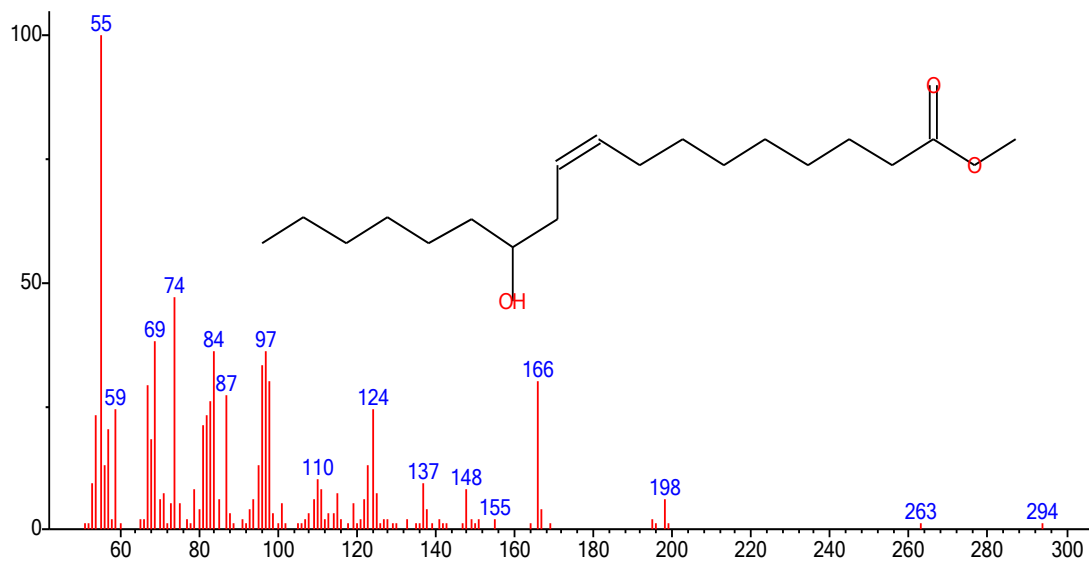


Mass Spectrum of the detected sample



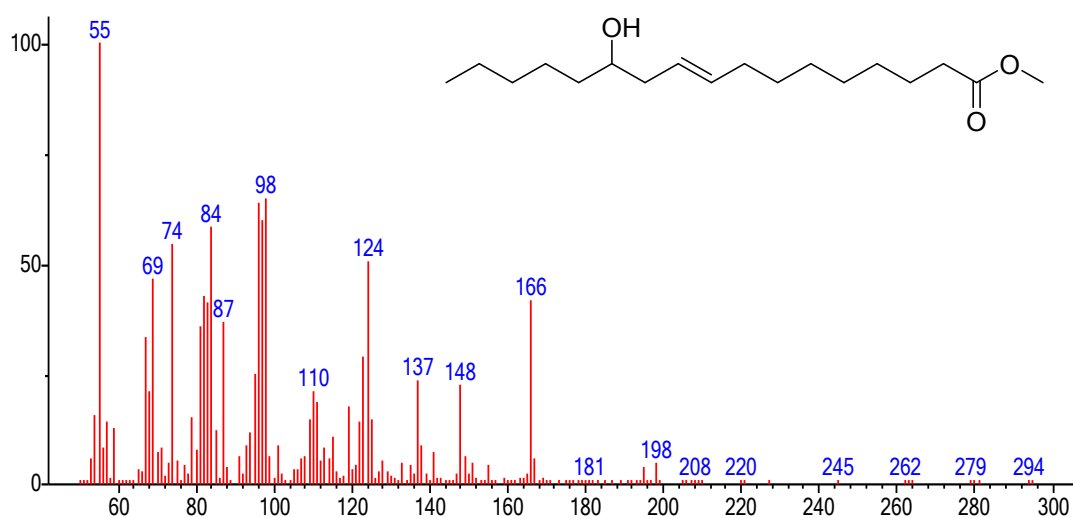
### Component 6

The standard mass spectrum



(mainlib) Methyl 12-hydroxy-9-octadecenoate

Mass Spectrum of the detected sample



(Text File) Injection ID=d2a94e86f8dd46fcb99b465f57b49e0e Scan=3049 Scan Type=+ c EI Full ms [50.00-400.00]