Electronic Supplementary Information

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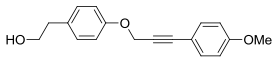
General methods: ^{1}H and ^{13}C NMR spectra were recorded at 400 and 100.6 MHz, respectively. IR spectra were recorded in KBr pellets or neat in NaCl on a FT-IR spectrometer. Only the most significant IR absorptions are given. Melting points were determined on a microscopes apparatus and were uncorrected. All products were further characterized by mass spectra. Unless otherwise stated, all starting materials, catalysts, and solvents were commercially available and were used as purchased. Reaction products were purified by flash chromatography on silica gel by elution with *n*-hexane/EtOAc mixtures.

General Procedure for the Synthesis of *O*-aryl-prop-2-ynyl)phenols (1): Synthesis of -methoxy-O-(3-(4-methoxyphenyl)prop-2-ynyl)phenol (1h). A solution of 4-methoxy-*O*-prop-2-ynylphenol (810.9 mg, 5.0 mmol, 1 equiv.), $PdCl_2(PPh_3)_2$ (70.1 mg, 0.10 mmol, 0.02 equiv.) and CuI (38.1 mg, 0.4 mmol, 0.04 equiv.) in DMF (3 mL) /di-isopropylamine (6 mL) was treated with 4-iodoanisole (1.521 g, 6.5mmol, 1.3 equiv.). The resulting solution was stirred at room temperature for 1 h until determined to be complete by TLC. The crude reaction mixture was poured into NH_4Cl/H_2O and extracted with ether. The combined organic extracts were washed with $NaCl/H_2O$, dried over Na_2SO_4 and finally concentrated under reduced pressure. The product was subjected to flash column chromatography (SiO_2 50 g), eluting with *n*-hexane/ethyl acetate 85:15 v/v to afford the product (1.139 g, 4.25 mmol, 85%) as a yellow solid.

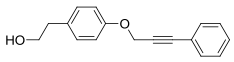
Characterization of 4-(2-hydroxyethyl)-*O*-(3-(4-methoxyphenyl)prop-2-ynyl)phenol (1a):



1a

(0.944 g,67%). Mp: 102-103 °C. Found C, 76.63; H, 6.42. Anal Calcd for $C_{18}H_{18}O_3$, C, 76.57; H, 6.43. IR (KBr): ν_{max}/cm^{-1} 3425, 2939, 2229, 1604, 1581, 1510, 1444, 1242, 1028, 833. δ_H (400 MHz; $CDCl_3$; Me_4Si) 7.40 (d, *J* = 8.4 Hz, 2H), 7.19 (d, *J* = 8.4 Hz, 2H), 7.01 (d, *J* = 8.8 Hz, 2H), 6.85 (d, *J* = 8.8 Hz, 2H), 4.90 (s, 2H), 3.87 (t, *J* = 6.4 Hz, 2H), 3.82 (s, 3H), 2.84 (t, *J* = 6.4 Hz, 2H), 1.61 (bs, 1H). δ_C (100.6 MHz; $CDCl_3$; Me_4Si) 159.9, 156.6, 133.3, 131.2, 130.0, 115.2, 114.4, 113.9, 87.1, 82.7, 63.8, 56.9, 55.3, 38.3. MS (relative intensity): m/z 305 ($[M+23]^+$, 100).

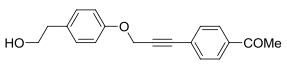
Characterization of 4-(2-hydroxyethyl)-*O*-(3-phenylprop-2-ynyl)phenol (1b):



1b

(0.945 g, 75%). Mp: 70-71 °C. Found C, 80.84; H, 6.40. Anal Calcd for $C_{17}H_{16}O_2$, C, 80.93; H, 6.39. IR (KBr): ν_{max}/cm^{-1} 3338, 2939, 2360, 1610, 1581, 1510, 1444, 1236, 1018, 823. δ_H (400 MHz; $CDCl_3$; Me_4Si) 7.48-7.46 (m, 2H), 7.34-7.33 (m, 3H), 7.20 (d, *J* = 8.8 Hz, 2H), 7.01 (d, *J* = 8.8 Hz, 2H), 4.92 (s, 2H), 3.85 (t, *J* = 6.4 Hz, 2H), 2.85 (t, *J* = 6.4 Hz, 2H), 1.58 (bs, 1H). δ_C (100.6 MHz; $CDCl_3$; Me_4Si) 156.6, 131.8, 131.3, 130.0, 128.7, 128.3, 122.3, 115.2, 87.1, 84.0, 63.8, 56.8, 38.3. MS (relative intensity): m/z 275 ($[M+23]^+$, 100).

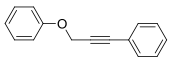
Characterization of 4-(2-hydroxyethyl)-*O*-(3-(4-acetylphenyl)prop-2-ynyl)phenol (1c):



1c

(1.249 g, 85%). Mp: 95-97 °C. Found C, 77.60; H, 6.15. Anal Calcd for $C_{19}H_{18}O_3$, C, 77.53; H, 6.16. IR (KBr): ν_{max}/cm^{-1} 3356, 2927, 2359, 1687, 1601, 1578, 1514, 1454, 1244, 1020, 839. δ_H (400 MHz; $CDCl_3$; Me_4Si) 7.91 (d, *J* = 8.4 Hz, 2H), 7.53 (d, *J* = 8.4 Hz, 2H), 7.20 (d, *J* = 8.4 Hz, 2H), 7.00 (d, *J* = 8.8 Hz, 2H), 4.93 (s, 2H), 3.86 (t, *J* = 6.4 Hz, 2H), 2.85 (t, *J* = 6.4 Hz, 2H), 2.61 (s, 3H), 1.59 (bs, 1H). δ_C (100.6 MHz; $CDCl_3$; Me_4Si) 197.3, 156.4, 136.6, 131.9, 131.6, 130.1, 128.2, 127.1, 115.1, 87.3, 86.3, 63.7, 56.7, 38.3, 26.6. MS (relative intensity): m/z 317 (([M+23]$^+$, 100).

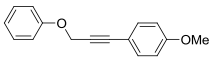
Characterization of *O*-(3-phenylprop-2-ynyl)phenol (1d):



1d

(0.904 g, 87%). Oil. Found C, 86.59; H, 5.79. Anal Calcd for $C_{15}H_{12}O$, C, 86.51; H, 5.81. IR (KBr): ν_{max}/cm^{-1} 2918, 2858, 2359, 1597, 1491, 1456, 1263, 1036, 754, 690. δ_H (400 MHz; $CDCl_3$; Me_4Si) 7.48-7.45 (m, 2H), 7.37-7.32 (m, 5H), 7.08-7.01 (m, 3H), 4.94 (s, 2H). δ_C (100.6 MHz; $CDCl_3$; Me_4Si) 157.8, 131.8, 129.5, 128.7, 128.3, 121.4, 118.5, 111.0, 87.1, 84.1, 56.6. MS (relative intensity): m/z 208 (M^+, 11), 115 (100), 93 (4), 77 (4).

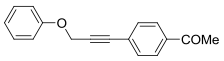
Characterization of *O*-(3-(4-methoxyphenyl)prop-2-ynyl)phenol (1e):



1e

(0.881 g, 74%). Oil. Found C, 80.57; H, 5.94. Anal Calcd for $C_{16}H_{14}O_2$, C, 80.65; H, 5.92. IR (KBr): ν_{max}/cm^{-1} 2908, 2227, 1603, 1512, 1456, 1244, 1030, 831. δ_H (400 MHz; $CDCl_3$; Me_4Si) 7.40-7.32 (m, 4H), 7.08-7.00 (m, 3H), 6.87-6.84 (m, 2H), 4.93 (m, 2H), 3.83 (s, 3H). δ_C (100.6 MHz; $CDCl_3$; Me_4Si) 159.9, 157.9, 133.4, 129.5, 121.4, 115.4, 115.1, 114.4, 114.0, 87.2, 82.7, 56.8, 55.3. MS (relative intensity): m/z 239 (M^{+1}).

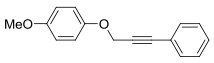
Characterization of *O*-(3-(4-acetylphenyl)prop-2-ynyl)phenol (1f):



1f

(1.062 g, 85%). Mp: 84-85 °C. Found C, 81.64; H, 5.63. Anal Calcd for $C_{17}H_{14}O_2$, C, 81.58; H, 5.64. IR (KBr): ν_{max}/cm^{-1} 2854, 2364, 1684, 1597, 1554, 1487, 1448, 1263, 1034, 852, 841 (cm^{-1}); δ_H (400 MHz; $CDCl_3$; Me_4Si) 7.91 (d, *J* = 8.4 Hz, 2H), 7.54 (d, *J* = 8.4 Hz, 2H), 7.37-7.33 (m, 2H), 7.07-7.02 (m, 3H), 4.96 (s, 2H), 2.61 (s, 3H). δ_C (100.6 MHz; $CDCl_3$; Me_4Si) 197.2, 157.7, 136.6, 131.9, 129.5, 128.2, 127.1, 121.6, 115.0, 87.3, 86.3, 56.5, 26.6. MS (relative intensity): m/z 250 (M^+, 12), 207 (11), 157 (100), 93 (11), 43 (79).

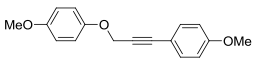
Characterization of 4-methoxy-*O*-(3-phenylprop-2-ynyl)phenol (1g):



1g

(1.011 g, 85%). Mp: 80-82 °C. Found C, 80.71; H, 5.90. Anal Calcd for $C_{16}H_{14}O_2$, C, 80.65; H, 5.92. IR (KBr): ν_{max}/cm^{-1} 2960, 2222, 1510, 1439, 1230, 1034, 824. δ_H (400 MHz; $CDCl_3$; Me_4Si) 7.47-7.32 (m, 5H), 7.01 (d, *J* = 9.2 Hz, 2H), 6.89 (d, *J* = 9.2 Hz, 2H), 4.89 (s, 2H), 3.81 (s, 3H). δ_C (100.6 MHz; $CDCl_3$; Me_4Si) 154.4, 152.0, 131.8, 128.6, 128.3, 122.4, 116.3, 114.6, 87.0, 84.3, 57.5, 55.7. MS (relative intensity): m/z 238 (M^+, 27), 123 (31), 115 (100).

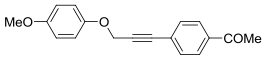
Characterization of 4-methoxy-*O*-(3-(4-methoxyphenyl)prop-2-ynyl)phenol (1h):



1h

(1.072 g, 80%). Mp: 94-95 °C. Found C, 76.17; H, 6.03. Anal Calcd for $C_{17}H_{16}O_3$, C, 76.10; H, 6.01. IR (KBr): ν_{max}/cm^{-1} 2955, 2229, 1604, 1508, 1242, 1032, 847. δ_H (400 MHz; $CDCl_3$; Me_4Si) 7.41 (d, *J* = 8.9 Hz, 2H), 7.01 (d, *J* = 9.1 Hz, 2H), 6.88 (d, *J* = 9.1 Hz, 2H), 6.85 (d, *J* = 8.9 Hz, 2H), 4.87 (s, 2H), 3.82 (s, 3H), 3.81 (s, 3H). δ_C (100.6 MHz; $CDCl_3$; Me_4Si) 159.9, 154.4, 152.0, 133.3, 116.2, 114.6, 114.4, 113.9, 87.0, 82.9, 57.6, 55.7, 55.3. MS (relative intensity): m/z 268 (M^+, 19), 145 (100), 123 (8), 77 (7).

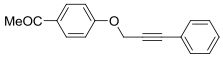
Characterization of 4-methoxy-*O*-(3-(4-acetylphenyl)prop-2-ynyl)phenol (1i):



1i

(1.162 g, 83%). Mp: 92-93 °C. Found C, 77.04; H, 5.76. Anal Calcd for $C_{18}H_{16}O_3$, C, 77.12; H, 5.75. IR (KBr): ν_{max}/cm^{-1} 2835, 2351, 1682, 1601, 1556, 1506, 1444, 1221, 1032, 856, 831. δ_H (400 MHz; $CDCl_3$; Me_4Si) 7.91 (d, *J* = 8.4 Hz, 2H), 7.53 (d, *J* = 8.4 Hz, 2H), 7.00 (d, *J* = 9.1 Hz, 2H), 6.89 (d, *J* = 9.1 Hz, 2H), 4.90 (s, 2H), 3.80 (s, 3H), 2.61 (s, 3H). δ_C (100.6 MHz; $CDCl_3$; Me_4Si) 197.2, 154.6, 151.9, 136.6, 131.9, 128.2, 127.2, 116.3, 114.7, 87.6, 86.2, 57.5, 55.7, 26.6. MS (relative intensity): m/z 280 (M^+, 63), 237 (21), 123 (14), 161 (26), 43 (100).

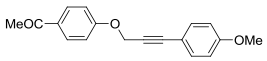
Characterization of 4-acetyl-*O*-3-phenylprop-2-ynyl)phenol (1j):



1j

(1.100 g, 85%). Mp: 88-90 °C. Found C, 81.65; H, 5.63. Anal Calcd for $C_{17}H_{14}O_2$, C, 81.58; H, 5.64. IR (KBr): ν_{max}/cm^{-1} 2918, 2225, 1672, 1595, 1508, 1248, 1014, 837. δ_H (400 MHz; $CDCl_3$; Me_4Si) 7.99 (d, *J* = 8.9 Hz, 2H), 7.45 (dd, J_1 = 8.8 Hz, J_2 = 1.6 Hz, 2H), 7.35-7.32 (m, 3H), 7.10 (d, *J* = 8.9 Hz, 2H), 5.00 (s, 2H), 2.58 (s, 3H). δ_C (100.6 MHz; $CDCl_3$; Me_4Si) 196.7, 161.6, 131.8, 130.9, 130.5, 128.9, 128.4, 122.0, 114.7, 87.8, 83.0, 56.7, 26.4. MS (relative intensity): m/z 251 ([M+ 1]$^+$ 100).

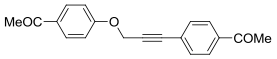
Characterization of 4-acetyl-*O*-(3-(4-methoxyphenyl)prop-2-ynyl)phenol (1k):



1k

(1.064 g, 76%). Mp: 87-88 °C. Found C, 77.19; H, 5.76. Anal Calcd for $C_{18}H_{16}O_3$, C, 77.12; H, 5.75. IR (KBr): ν_{max}/cm^{-1} 2914, 2225, 1680, 1597, 1564, 1508, 1248, 1028, 831. δ_H (400 MHz; $CDCl_3$; Me_4Si) 7.98 (d, *J* = 9.0 Hz, 2H), 7.39 (d, *J* = 8.9 Hz, 2H), 7.08 (d, *J* = 9.0 Hz, 2H), 6.84 ((d, *J* = 8.9 Hz, 2H), 4.98 (s, 2H), 3.82 (3H), 2.58 (s, 3H). δ_C (100.6 MHz; $CDCl_3$; Me_4Si) 196.7, 161.7, 160.1, 133.4, 130.9, 130.5, 114.7, 114.00, 113.99, 87.8, 81.7, 56.9, 55.3, 26.4. MS (relative intensity): m/z 280 (M^+, 11), 145 (100), 77 (6), 43 (27).

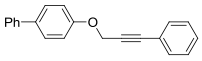
Characterization of 4-acetyl-*O*-(3-(4-acetylphenyl)prop-2-ynyl)phenol (1l):



1l

(1.314 g, 85%). Mp: 92-93 °C. Found C, 78.12; H, 5.51. Anal Calcd for $C_{19}H_{16}O_3$, C, 78.06; H, 5.52. IR (KBr): ν_{max}/cm^{-1} 2916, 2362, 1685, 1668, 1601, 1577, 1508, 1236, 1030, 843, 818. δ_H (400 MHz; $CDCl_3$; Me_4Si) 7.98 (d, *J* = 8.8 Hz, 2H), 7.91 (d, *J* = 8.4 Hz, 2H), 7.52 (d, *J* = 8.4 Hz, 2H), 7.08 (d, *J* = 8.8 Hz, 2H), 5.02 (s, 2H), 2.60 (s, 3H), 2.58 (s, 3H). δ_C (100.6 MHz; $CDCl_3$; Me_4Si) 197.2, 196.7, 161.4, 136.8, 132.0, 131.0, 130.6, 128.2, 126.7, 114.6, 86.9, 86.2, 56.6, 26.6, 26.4. MS (relative intensity): m/z 293 ([M+ 1]$^+$ 100).

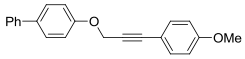
Characterization of 4-phenyl-*O*-(3-phenylprop-2-ynyl)phenol (1m):



1m

(1.150 g, 81%). Mp: 112-113 °C. Found C, 88.77; H, 5.65. Anal Calcd for $C_{21}H_{16}O$, C, 88.70; H, 5.67. IR (KBr): ν_{max}/cm^{-1} 2900, 2360, 1608, 1583, 1522, 1489, 1452, 1248, 1024, 831. δ_H (400 MHz; $CDCl_3$; Me_4Si) 7.62-7.59 (m, 4H), 7.51-7.44 (m, 4H), 7.37-7.34 (m, 4H), 7.16 (d, *J* = 8.8 Hz, 2H), 5.00 (s, 2H). δ_C (100.6 MHz; $CDCl_3$; Me_4Si) 157.4, 140.7, 134.6, 131.9, 128.8, 128.7, 128.3, 128.2, 126.8, 126.7, 122.3, 115.3, 87.3, 83.9, 56.8. MS (relative intensity): m/z 284 (M^+, 35), 207 (72), 115 (100), 77 (17).

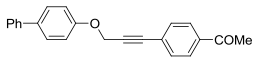
Characterization of 4-phenyl-*O*-(3-(4-methoxyphenyl)prop-2-ynyl)phenol (1n):



1n

(1.224 g, 78%). Mp: 134-135 °C. Found C, 84.12; H, 5.76. Anal Calcd for $C_{22}H_{18}O_2$, C, 84.05; H, 5.75. IR (KBr): ν_{max}/cm^{-1} 2918, 2227, 1605, 1512, 1489, 1244, 1028, 833. δ_H (400 MHz; $CDCl_3$; Me_4Si) 7.60-7.57 (m, 4H), 7.45-7.41 (m, 4H), 7.34 (s, 1H), 7.13 (d, *J* = 8.8 Hz, 2H), 6.86 (d, *J* = 8.8 Hz, 2H), 4.97 (s, 2H), 3.83 (s, 3H). δ_C (100.6 MHz; $CDCl_3$; Me_4Si) 159.9, 157.4, 140.8, 134.5, 133.4, 128.7, 128.2, 126.8, 126.7, 115.3, 114.3, 113.9, 87.3, 82.5, 56.9, 55.3. MS (relative intensity): m/z 315 ([M+ 1]$^+$ 100).

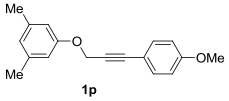
Characterization of 4-phenyl-*O*-(3-(4-acetylphenyl)prop-2-ynyl)phenol (1o):



1o

(1.336 g, 82%). Mp: 141-143 °C. Found C, 84.52; H, 5.54. Anal Calcd for $C_{23}H_{18}O2$, C, 84.64; H, 5.56. IR (KBr): ν_{max}/cm^{-1} 2916, 2362, 1680, 1601, 1520, 1489, 1456, 1246, 1028, 835. δ_H (400 MHz; $CDCl_3$; Me_4Si) 7.92 (d, *J* = 8.4 Hz, 2H), 7.60-7.55 (m, 6H), 7.45 (t, *J* = 7.2 Hz, 2H), 7.34 (t, *J* = 7.2 Hz, 1H), 7.13 (d, *J* = 8.4 Hz, 2H), 5.00 (s, 2H), 2.62 (s, 3H). δ_C (100.6 MHz; $CDCl_3$; Me_4Si) 197.2, 157.3, 140.6, 136.7, 134.7, 132.0, 128.8, 128.3, 128.2, 127.1, 126.9, 126.8, 115.3, 87.2, 86.4, 56.7, 26.6. MS (relative intensity): m/z 327 ([M+ 1]$^+$ 100).

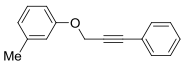
Characterization of 3,5-dimethyl-*O*-(3-(4-methoxyphenyl)prop-2-ynyl)phenol (1p):



1p

(1.130 g, 85%). Mp: 55-56 °C. Found C, 81.24; H, 6.80. Anal Calcd for $C_{18}H_{18}O_2$, C, 81.17; H, 6.81. IR (KBr): ν_{max}/cm^{-1} 2916, 2225, 1597, 1510, 1446, 1246, 1034, 881, 827. δ_H (400 MHz; $CDCl_3$; Me_4Si) 7.42 (d, *J* = 8.8 Hz, 2H), 6.86 (d, *J* = 8.8 Hz, 2H), 6.69-6.68 (m, 3H), 4.89 (s, 2H), 3.83 (s, 3H), 2.33 (s, 6H). δ_C (100.6 MHz; $CDCl_3$; Me_4Si) 159.9, 158.0, 139.2, 133.3, 123.2, 114.6, 113.9, 112.8, 86.9, 82.9, 56.7, 55.3, 21.5. MS (relative intensity): m/z 266 (M^+, 12), 145 (100), 77 (9).

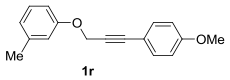
Characterization of 3-methyl-*O*-(3-phenylprop-2-ynyl)phenol (1q):



1q

(1.010 g, 91%). Oil. Found C, 86.53; H, 6.37. Anal Calcd for $C_{16}H_{14}O$, C, 86.45; H, 6.35. IR (KBr): ν_{max}/cm^{-1} 2927, 2360, 1607, 1585, 1489, 1443, 1259, 1041. δ_H (400 MHz; $CDCl_3$; Me_4Si) 7.7.66 (d, J = 7.9 Hz, 2H), 7.38-7.34 (m, 3H), 7.26 (t, *J* = 8.4 Hz, 1H), 6.92-6.87 (m, 3H), 4.95 (s, 2H), 2.41 (s, 3H). δ_C (100.6 MHz; $CDCl_3$; Me_4Si) 157.9, 139.6, 137.5, 131.9, 129.2, 128.7, 128.3, 122.3, 115.9, 111.8, 87.1, 84.2, 56.6, 21.6. MS (relative intensity): m/z 222 (M^+, 13), 115 (100), 89 (9), 77 (21).

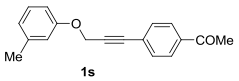
Characterization of 3-methyl-*O*-(3-(4-methoxyphenyl)prop-2-ynyl)phenol (1r):



1r

(1.159 g, 92%). Oil. Found C, 80.85; H, 6.37. Anal Calcd for $C_{17}H_{16}O2$, C, 80.93; H, 6.39. IR (KBr): ν_{max}/cm^{-1} 2916, 2360, 1606, 1585, 1510, 1458, 1250, 1036, 833. δ_H (400 MHz; $CDCl_3$; Me_4Si) 7.40 (d, *J* = 8.8 Hz, 2H), 7.24-7.20 (m, 1H), 6.87-6.83 (m, 5H), 4.90 (s, 2H), 3.83 (s, 3H), 2.37 (s, 3H). δ_C (100.6 MHz; $CDCl_3$; Me_4Si) 159.9, 157.9, 139.5, 133.3, 129.2, 122.2, 115.9, 114.5, 113.9, 111.8, 87.0, 82.7, 56.7, 55.3, 21.5. MS (relative intensity): m/z 252 (M^+, 6), 145 (100), 77 (14).

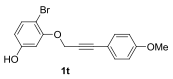
Characterization of 3-methyl-*O*-(3-(4-acetylphenyl)prop-2-ynyl)phenol (1s):



1s

(1.082 g, 82%). Mp: 76-79 °C. Found C, 81.84; H, 6.11. Anal Calcd for $C_{18}H_{16}O_2$, C, 81.79; H, 6.10. IR (KBr): ν_{max}/cm^{-1} 2925, 2335, 1674, 1599, 1493, 1259, 1028, 845, 825. δ_H (400 MHz; $CDCl_3$; Me_4Si) 7.92 (d, *J* = 8.4 Hz, 2H), 7.54 (d, *J* = 8.4 Hz, 2H), 7.23 (td, J_1 = 7.3 Hz, J_2 = 2.1 Hz, 1H), 6.87-6.85 (m, 3H), 4.94 (s, 2H), 2.61 (s, 3H), 2.38 (s, 3H). δ_C (100.6 MHz; $CDCl_3$; Me_4Si) 197.2, 157.8, 139.6, 136.6, 131.9, 129.2, 128.2, 127.2, 122.5, 115.9, 111.7, 87.4, 86.2, 56.5, 26.6, 21.5. MS (relative intensity): m/z 264 (M^+, 35), 157 (100), 77 (37), 43 (68).

Characterization of 4-bromo-3-(3-(4-methoxyphenyl)prop-2-ynyloxy)phenol (1t):

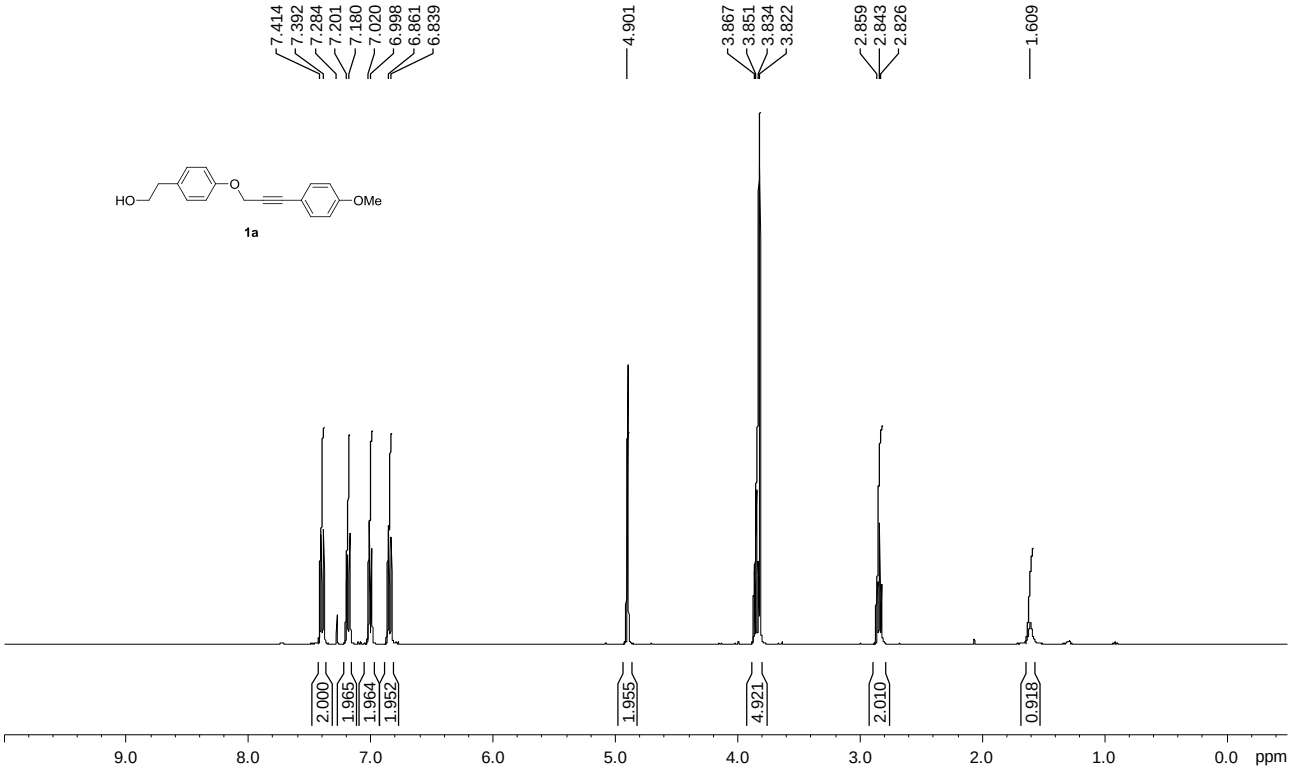


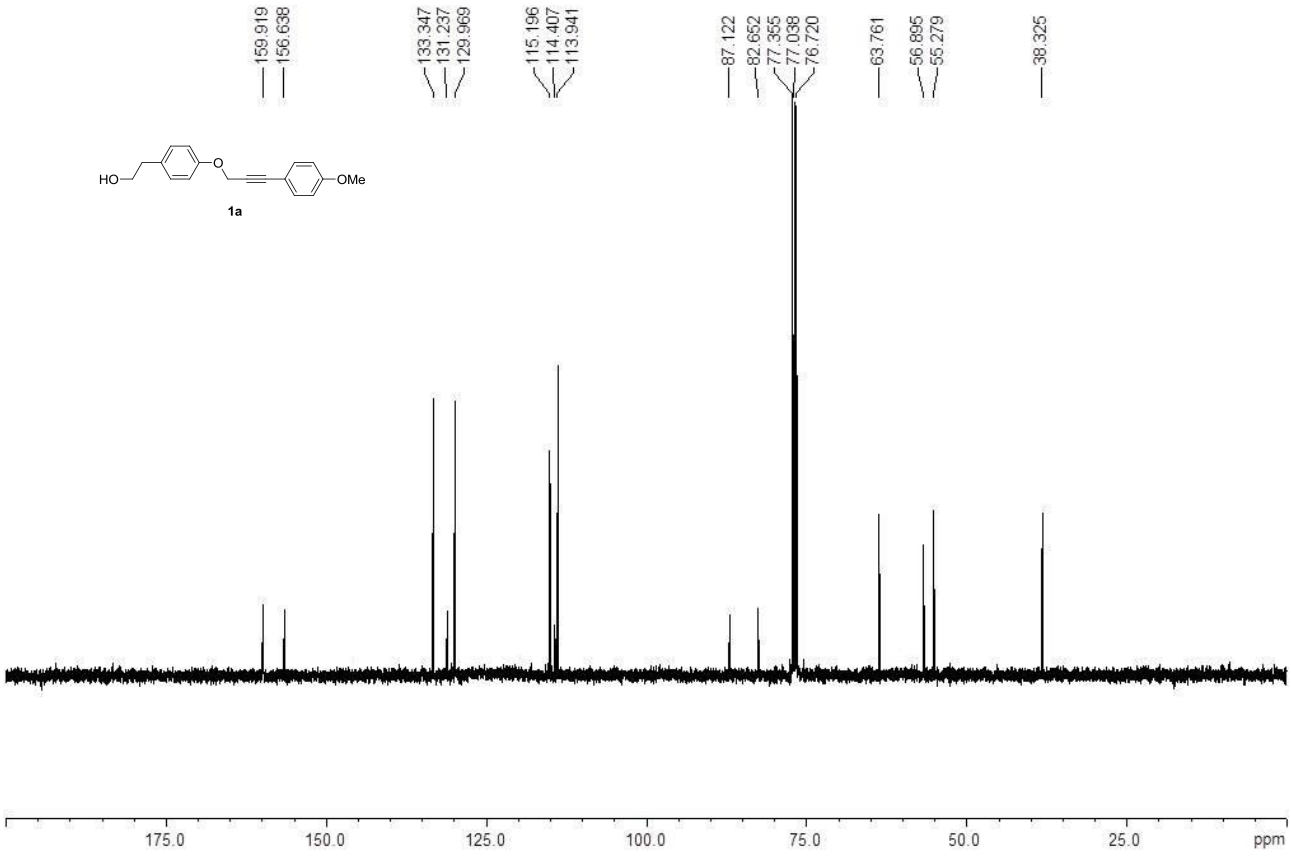
1t

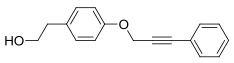
(1.49 g, 63%). Mp 124-125 °C. Found C, 57.73; H, 3.92, Br, 23.92. Anal Calcd for $C_{16}H_{13}BrO_3$, C, 57.68; H, 3.93, Br, 23.98. IR (KBr): ν_{max}/cm^{-1} 3431, 2925, 2360, 1604, 1587, 1510, 1454, 1244, 1024, 831, 532. δ_H (400 MHz; $CDCl_3$; Me_4Si) 7.44-7.35 (m, 3H), 6.85 (d, *J* = 8.8 Hz, 2H), 6.73 (d, *J* = 2.6 Hz, 1H), 6.40 (dd, J_1 = 8.6 Hz, J_2 = 2.6 Hz, 1H), 5.03 (s, 1H), 4.97 (s, 2H), 3.83 (s, 3H). δ_C (100.6 MHz; $CDCl_3$; Me_4Si) 160.0, 155.9, 155.2, 133.5, 133.4, 114.2, 114.0, 109.6, 103.1, 102.8, 88.0, 81.8, 58.0, 55.3. MS (relative intensity): m/z 334 ($[M+2]^+$, 97), 332 (M^+, 100).

Table of Spectra:

^{1}H NMR and ^{13}C NMR spectra of compound **(1a)**
^{1}H NMR and ^{13}C NMR spectra of compound **(1b)**
^{1}H NMR and ^{13}C NMR spectra of compound **(1c)**
^{1}H NMR and ^{13}C NMR spectra of compound **(1d)**
^{1}H NMR and ^{13}C NMR spectra of compound **(1e)**
^{1}H NMR and ^{13}C NMR spectra of compound **(1f)**
^{1}H NMR and ^{13}C NMR spectra of compound **(1g)**
^{1}H NMR and ^{13}C NMR spectra of compound **(1h)**
^{1}H NMR and ^{13}C NMR spectra of compound **(1i)**
^{1}H NMR and ^{13}C NMR spectra of compound **(1j)**
^{1}H NMR and ^{13}C NMR spectra of compound **(1k)**
^{1}H NMR and ^{13}C NMR spectra of compound **(1l)**
^{1}H NMR and ^{13}C NMR spectra of compound **(1m)**
^{1}H NMR and ^{13}C NMR spectra of compound **(1n)**
^{1}H NMR and ^{13}C NMR spectra of compound **(1o)**
^{1}H NMR and ^{13}C NMR spectra of compound **(1p)**
^{1}H NMR and ^{13}C NMR spectra of compound **(1q)**
^{1}H NMR and ^{13}C NMR spectra of compound **(1r)**
^{1}H NMR and ^{13}C NMR spectra of compound **(1s)**
^{1}H NMR and ^{13}C NMR spectra of compound **(1t)**
^{1}H NMR and ^{13}C NMR spectra of compound **(2a)**
^{1}H NMR and ^{13}C NMR spectra of compound **(2b)**
^{1}H NMR and ^{13}C NMR spectra of compound **(2c)**
^{1}H NMR and ^{13}C NMR spectra of compound **(2d)**
^{1}H NMR and ^{13}C NMR spectra of compound **(2e)**
^{1}H NMR and ^{13}C NMR spectra of compound **(2f)**
^{1}H NMR and ^{13}C NMR spectra of compound **(2g)**
^{1}H NMR and ^{13}C NMR spectra of compound **(2h)**
^{1}H NMR and ^{13}C NMR spectra of compound **(2i)**
^{1}H NMR and ^{13}C NMR spectra of compound **(2j)**
^{1}H NMR and ^{13}C NMR spectra of compound **(2k)**
^{1}H NMR and ^{13}C NMR spectra of compound **(2l)**
^{1}H NMR and ^{13}C NMR spectra of compound **(2m)**
^{1}H NMR and ^{13}C NMR spectra of compound **(2n)**
^{1}H NMR and ^{13}C NMR spectra of compound **(2o)**
^{1}H NMR and ^{13}C NMR spectra of compound **(2p)**
^{1}H NMR and ^{13}C NMR spectra of compound **(2q)**
^{1}H NMR and ^{13}C NMR spectra of compound **(2r)**
^{1}H NMR and ^{13}C NMR spectra of compound **(2s)**
^{1}H NMR and ^{13}C NMR spectra of compound **(2t)**
^{1}H NMR and ^{13}C NMR spectra of compound **(2u)**







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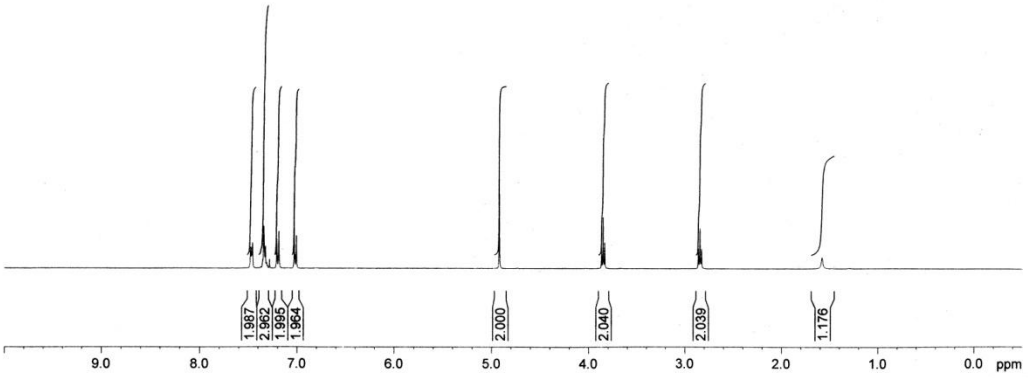

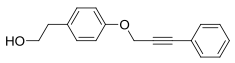

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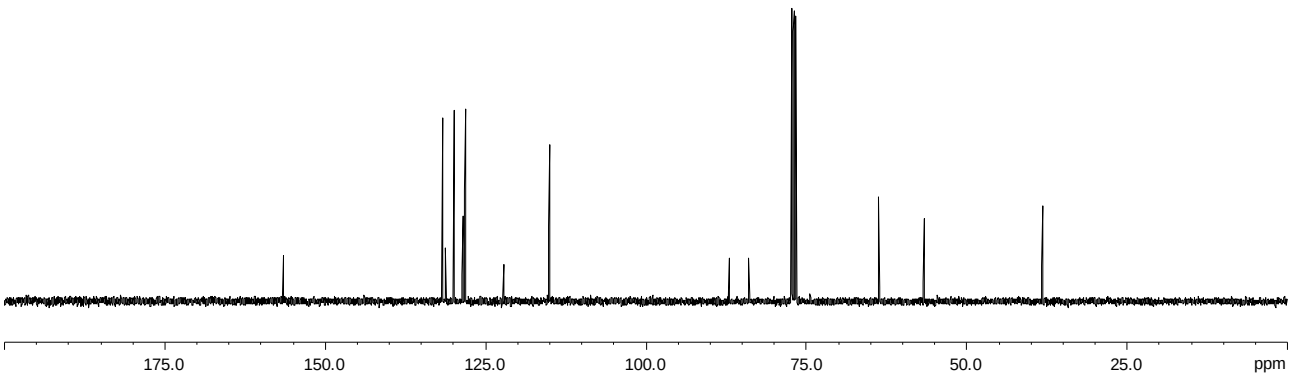

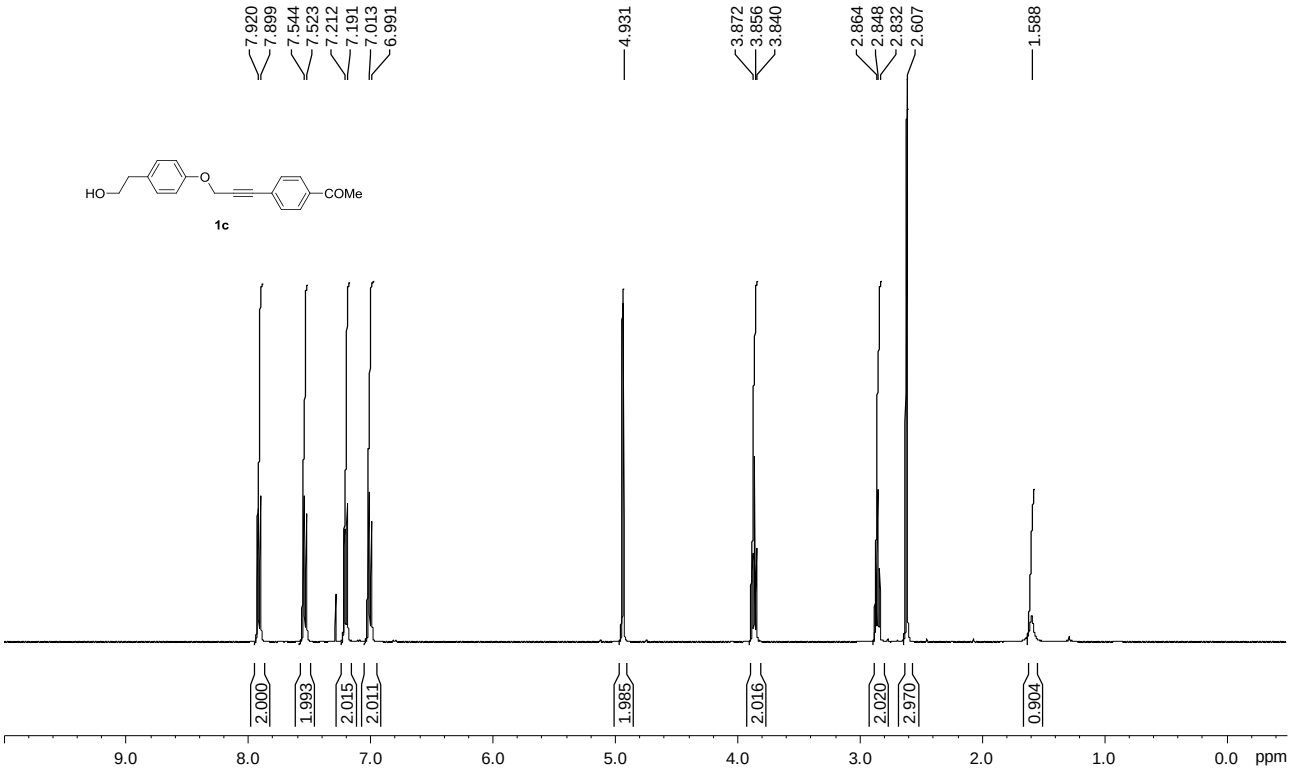

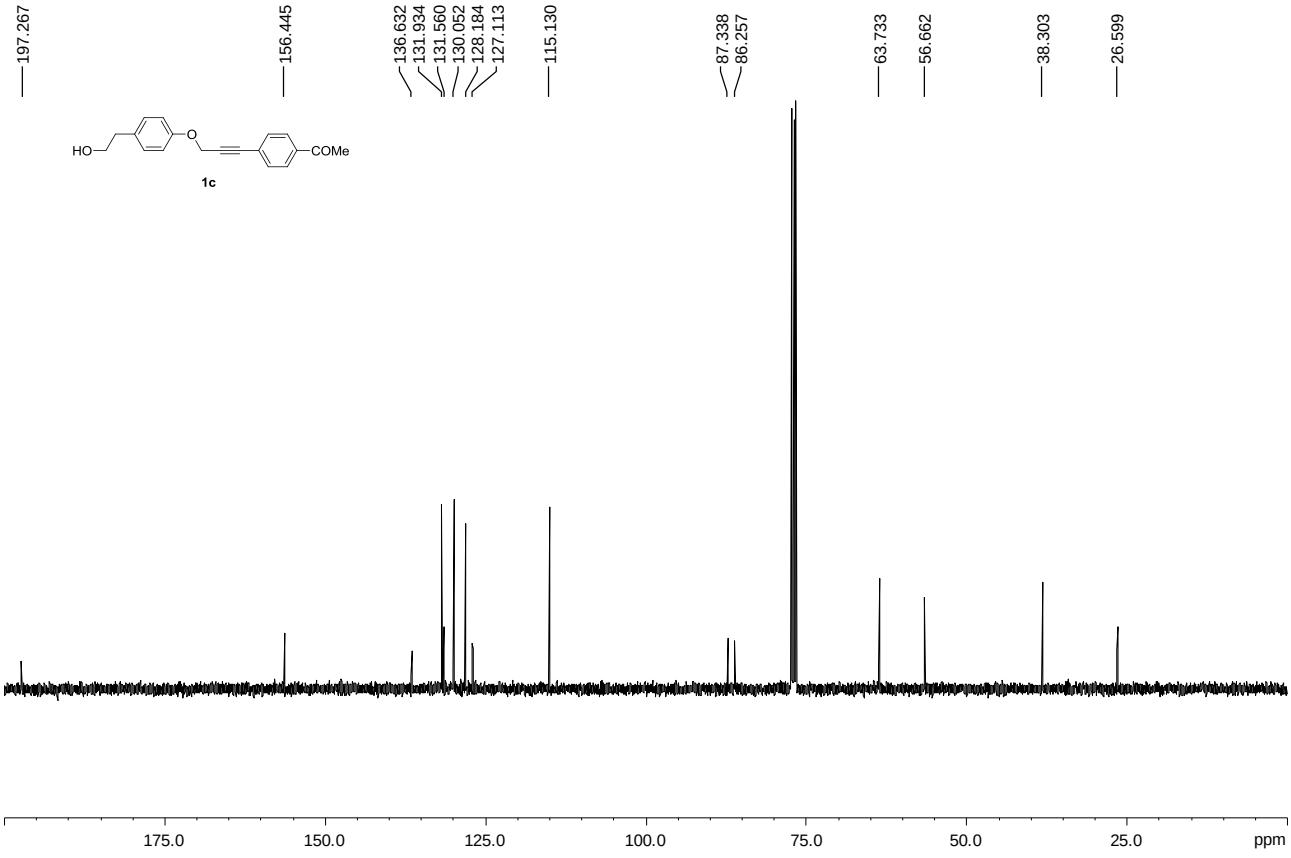

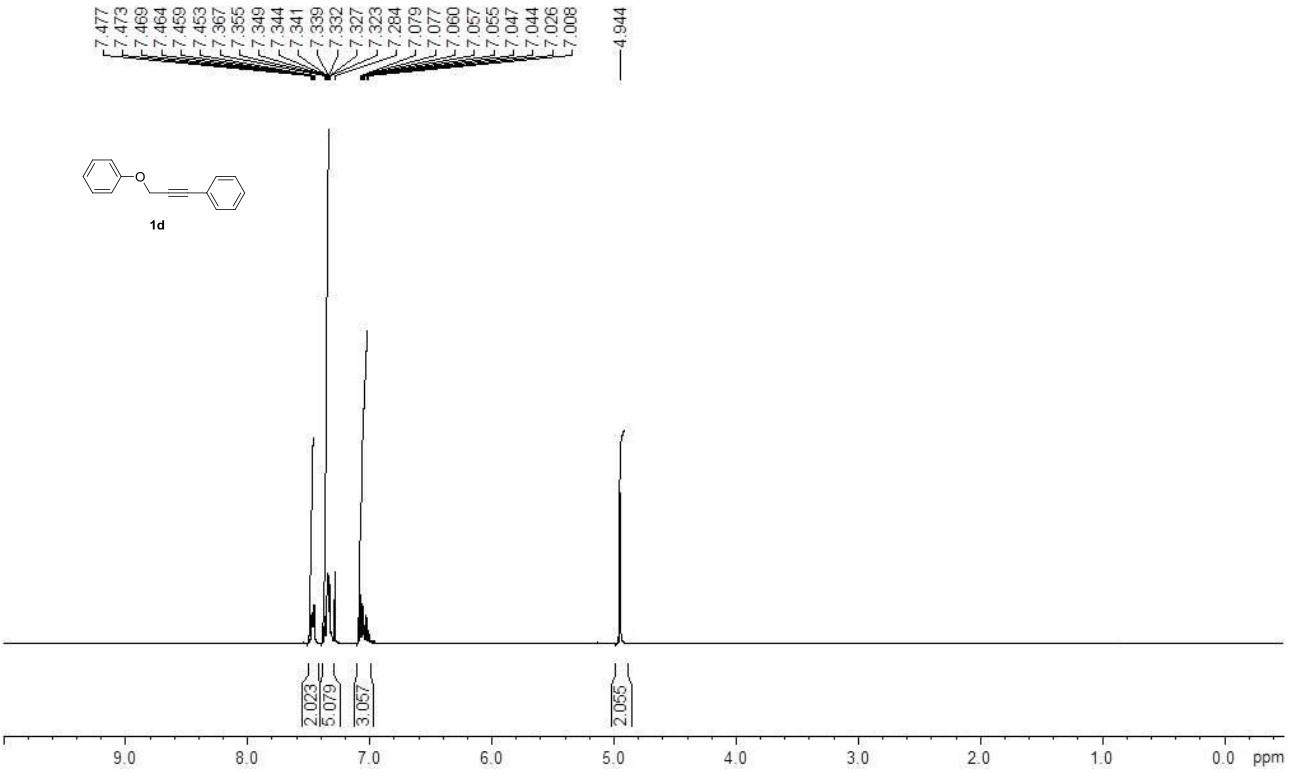

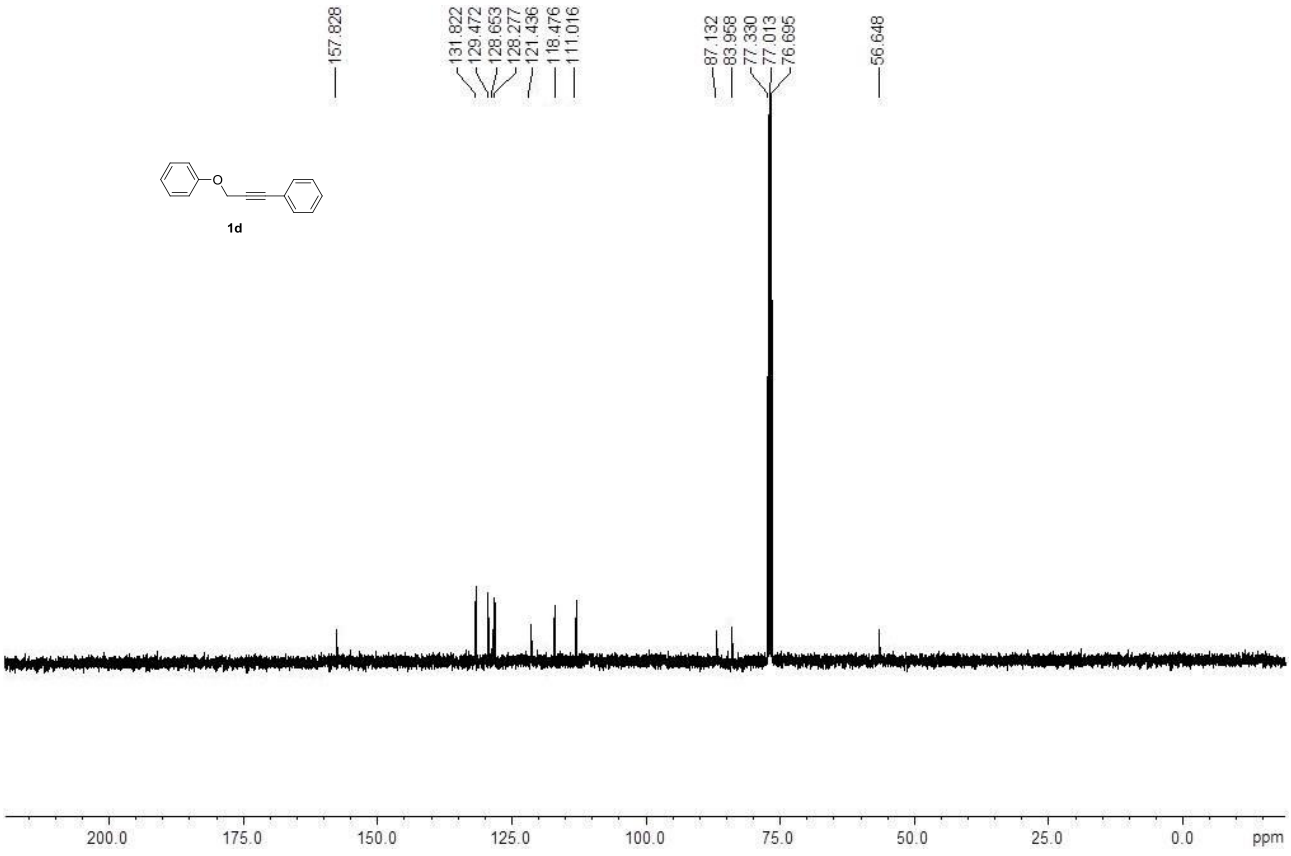

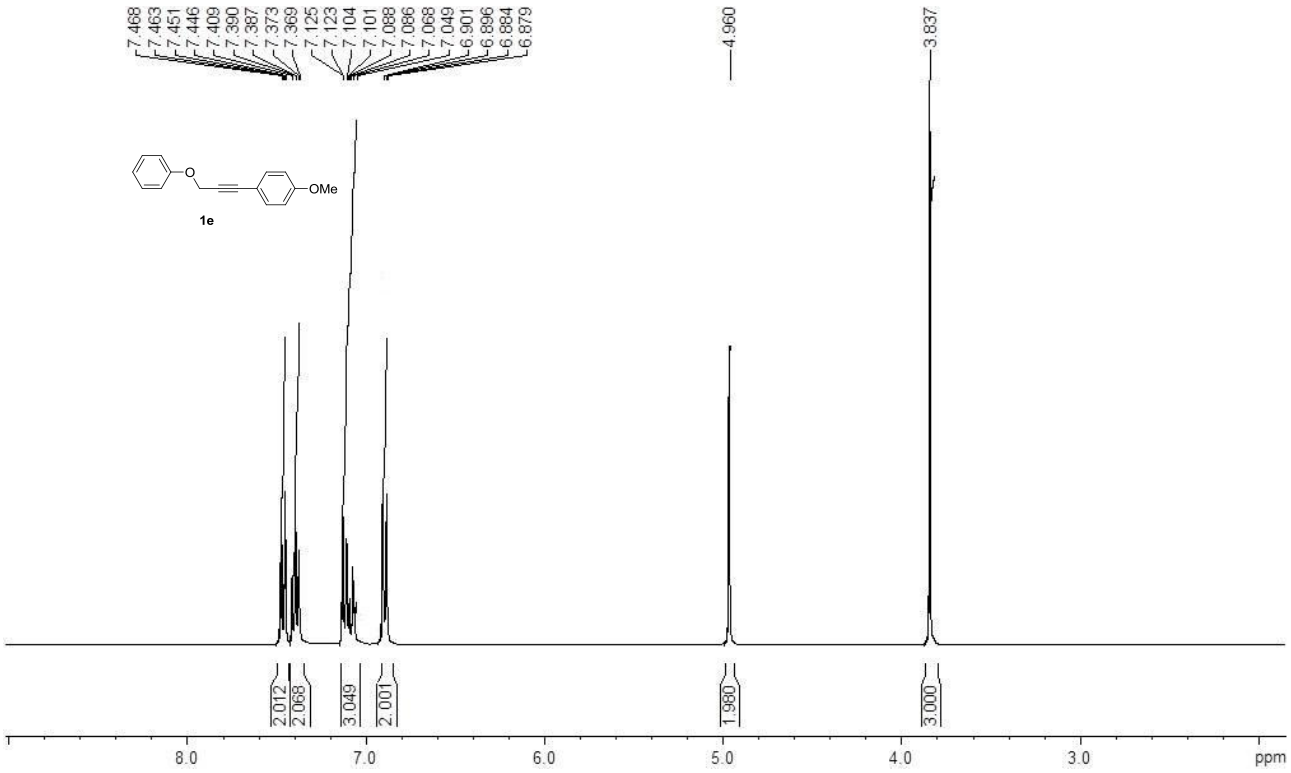

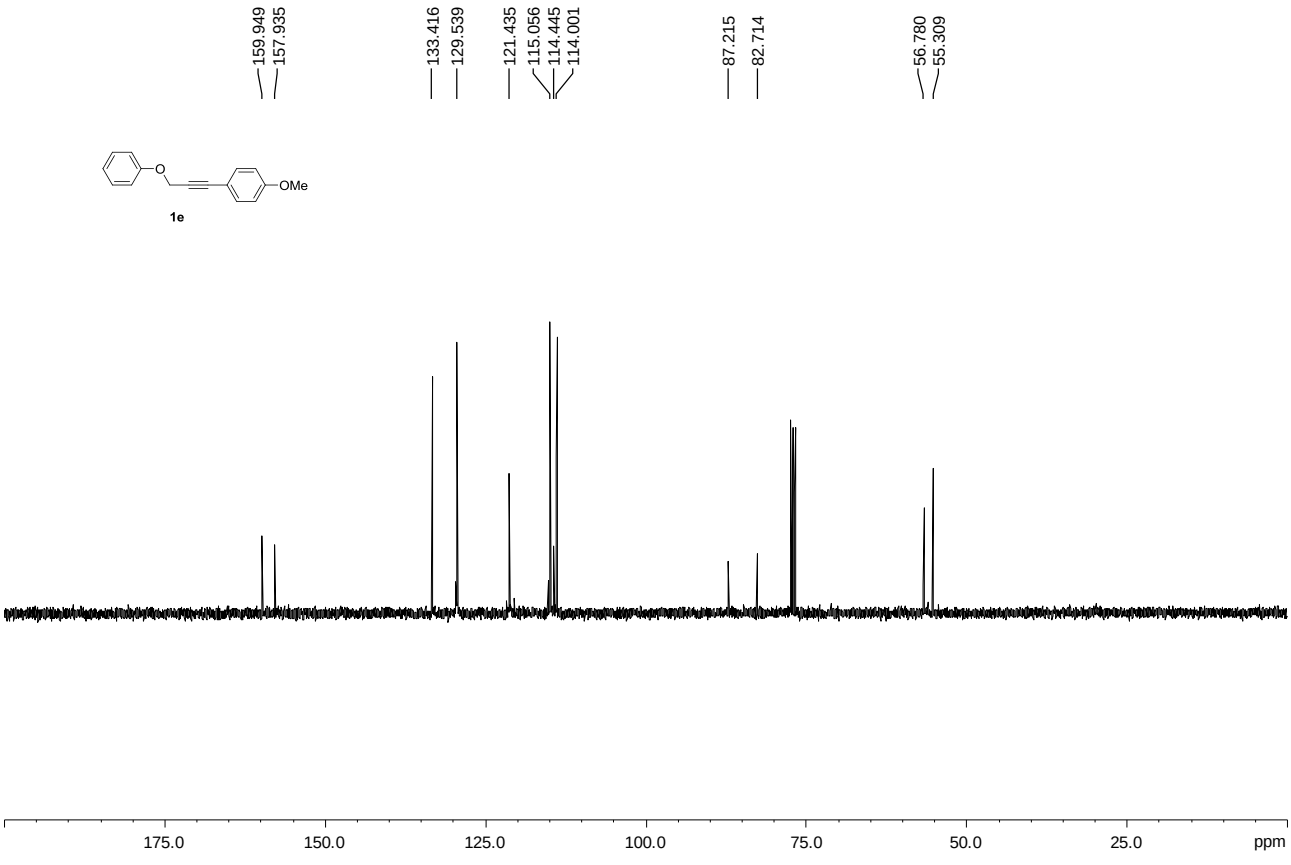

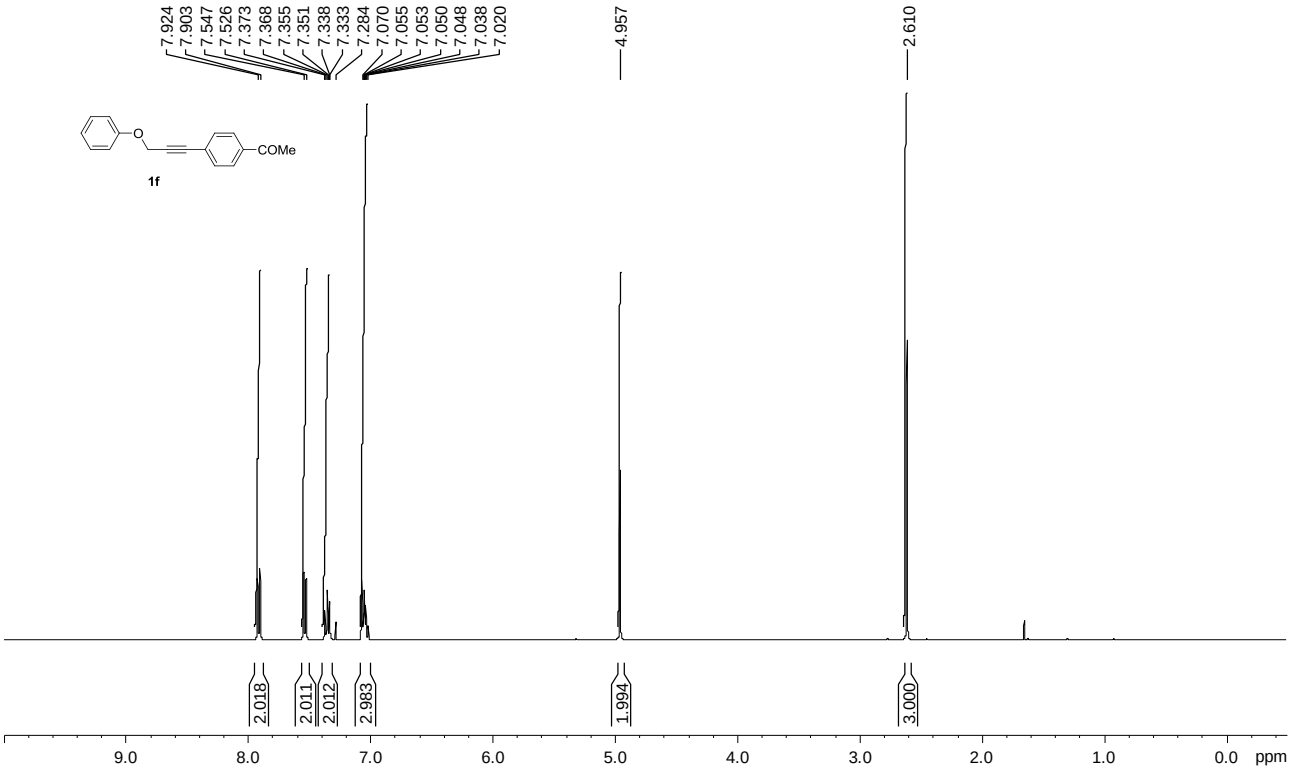

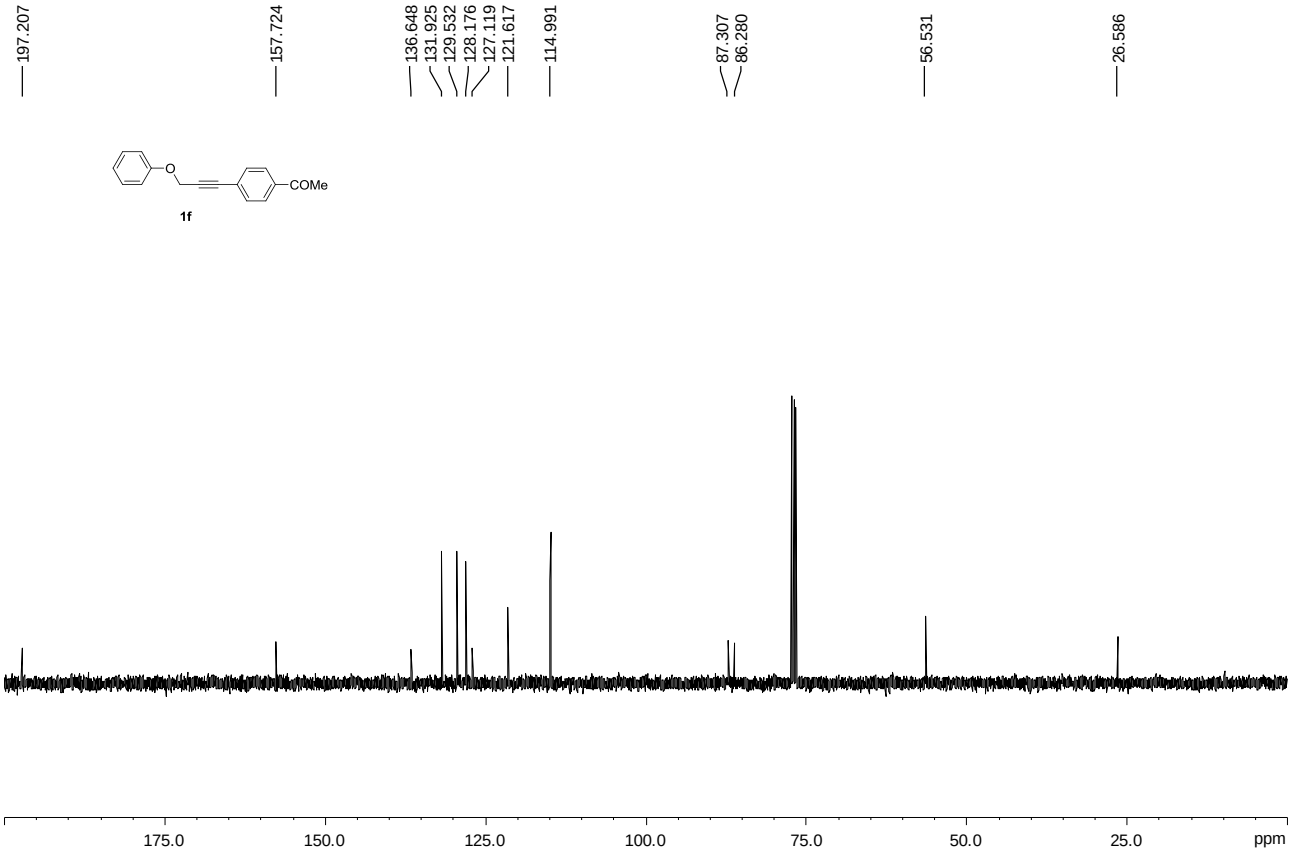

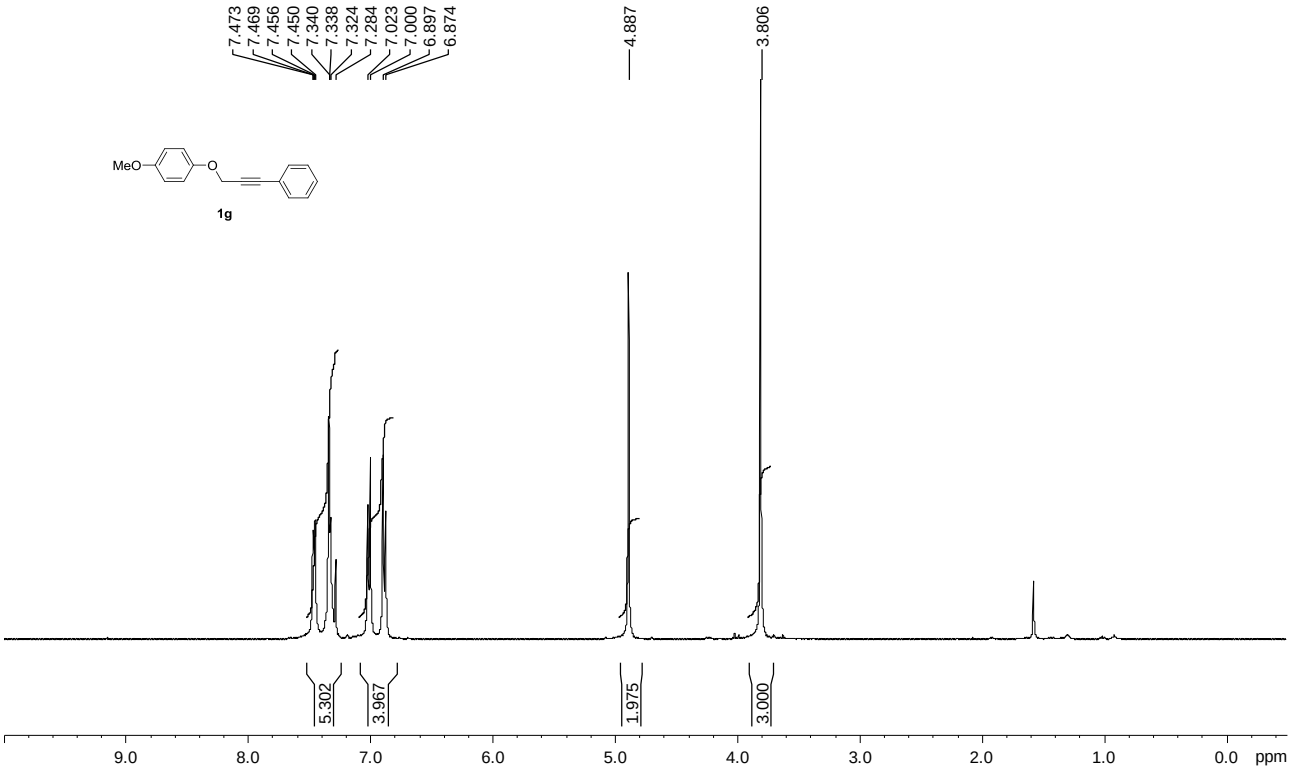

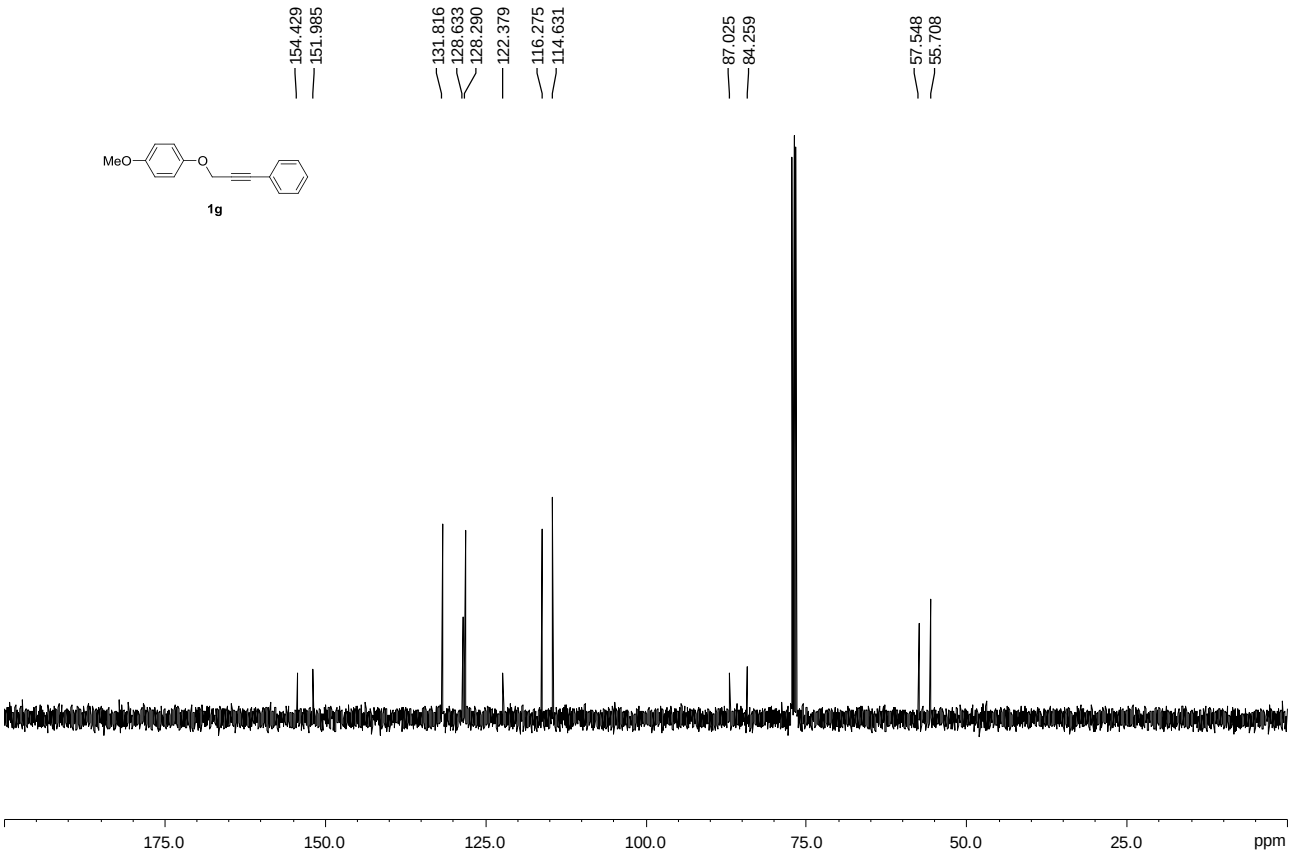

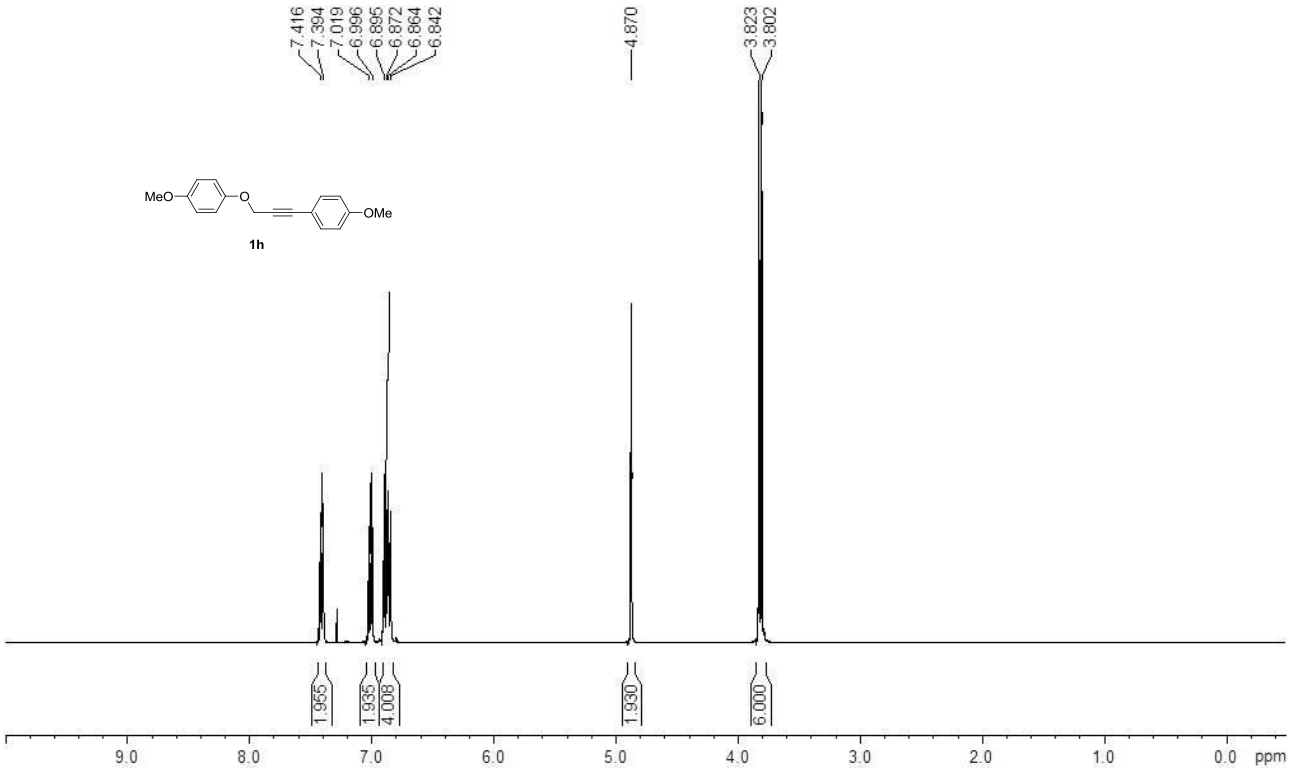

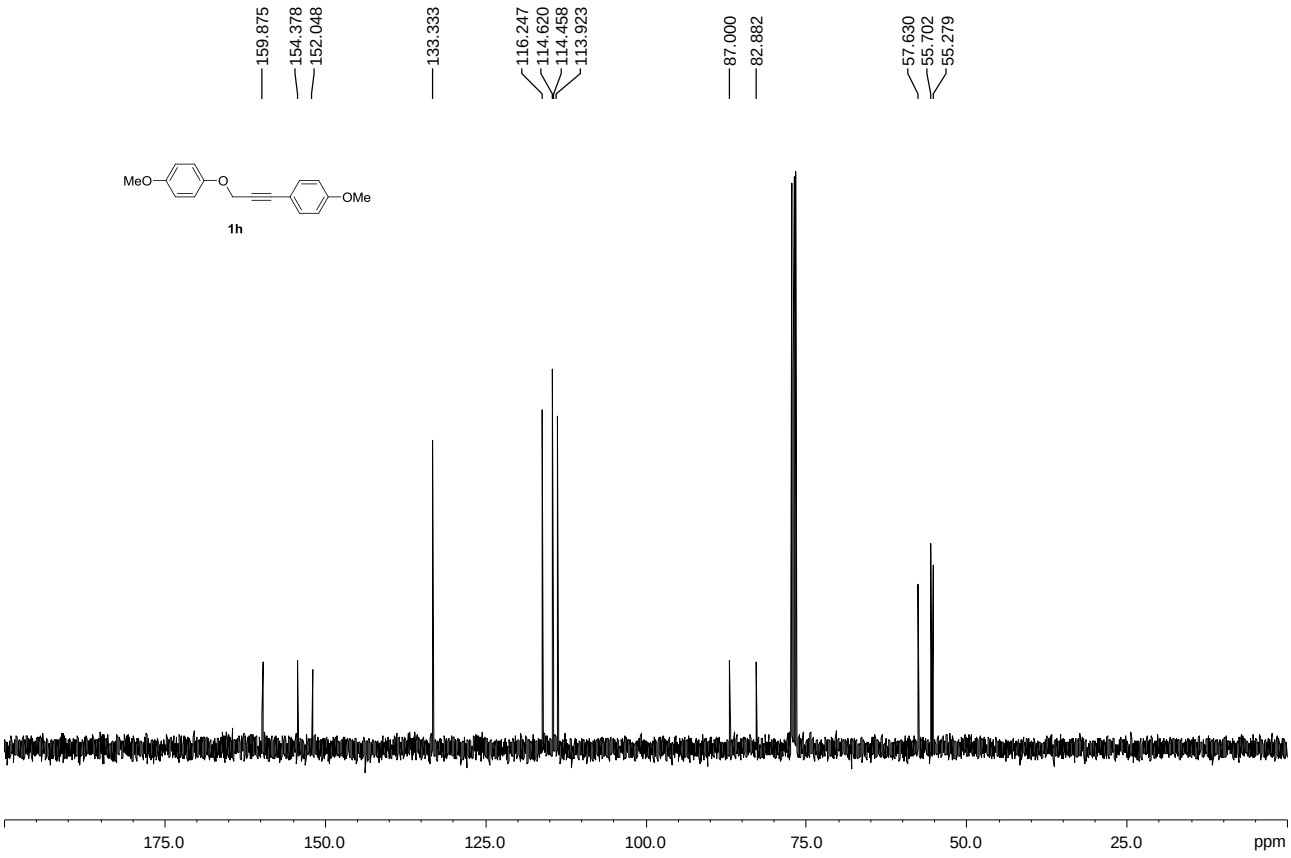

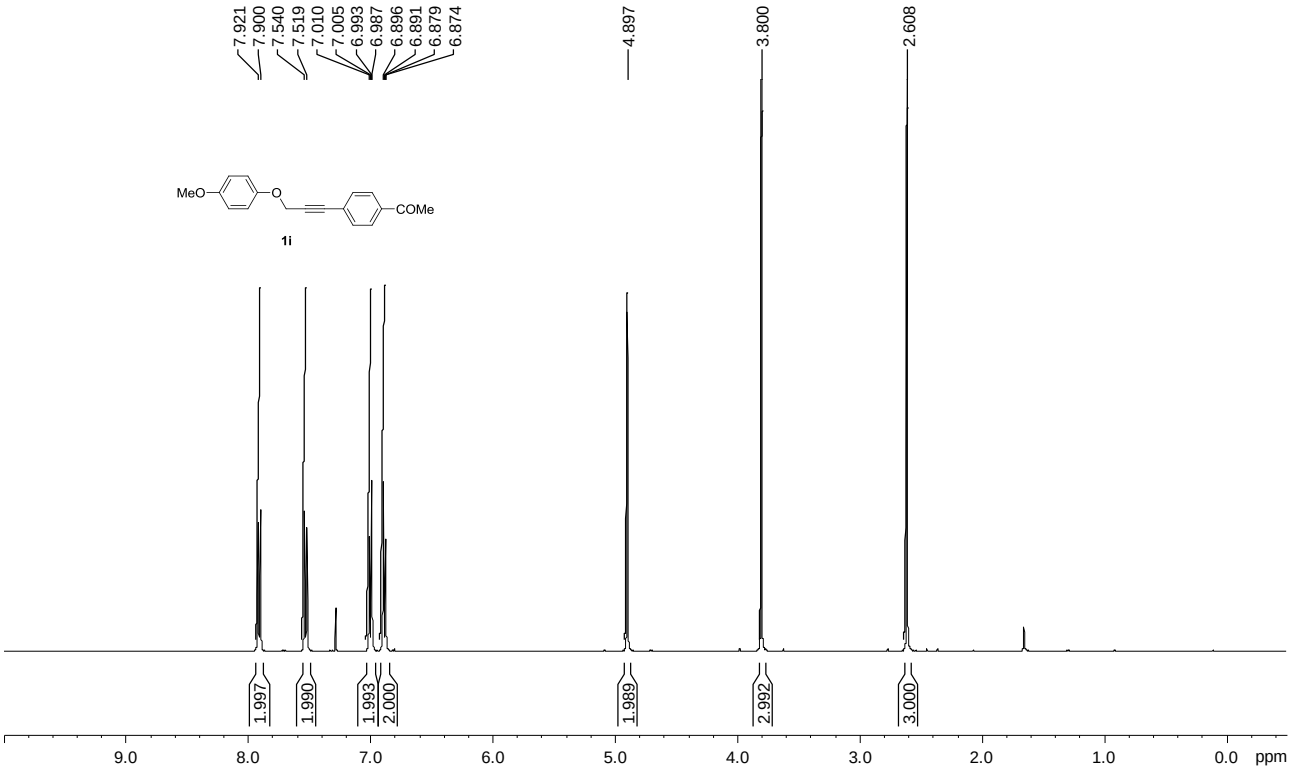

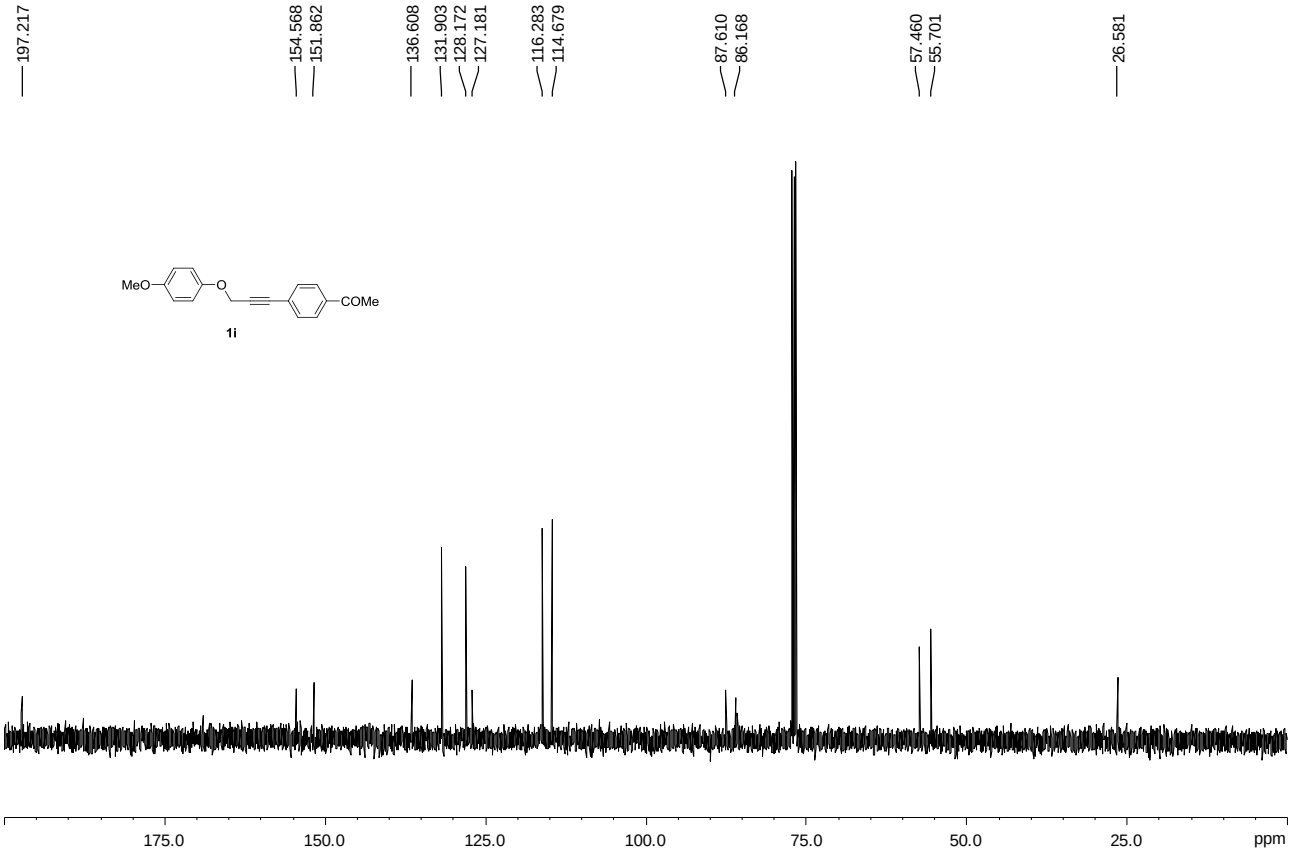

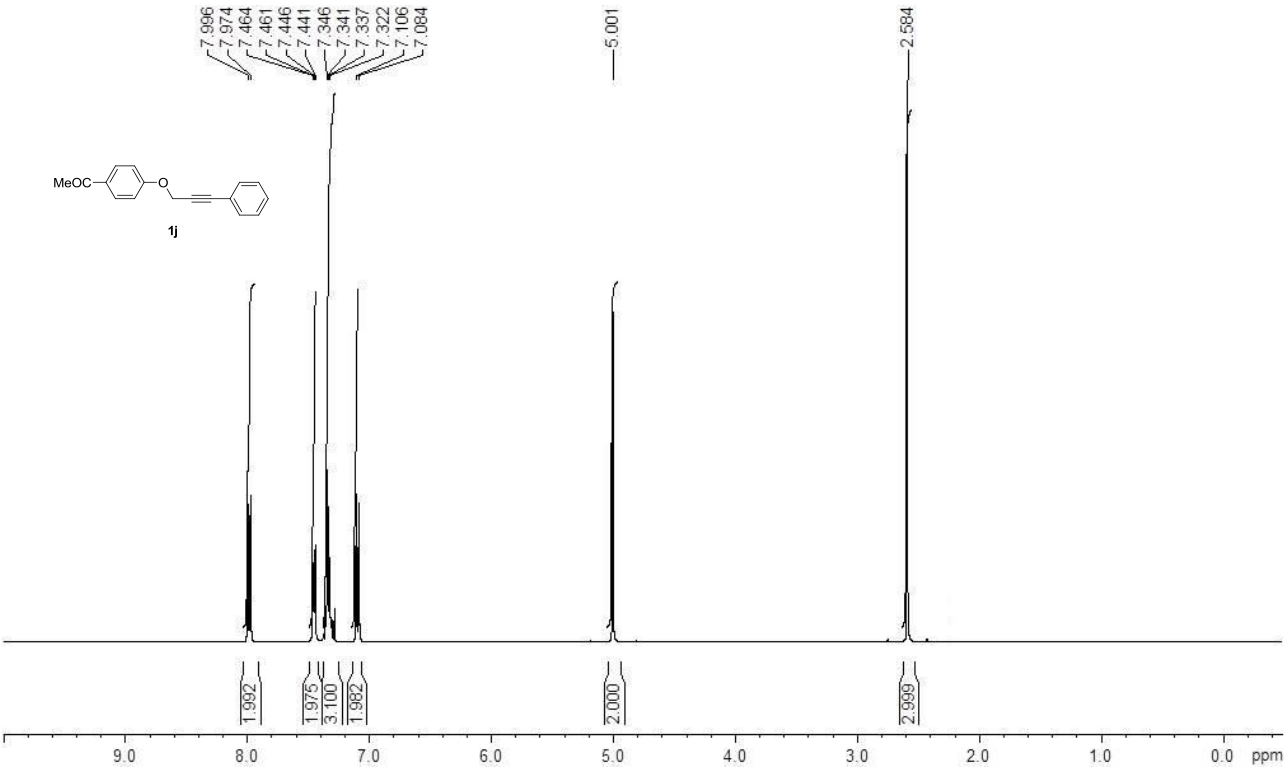

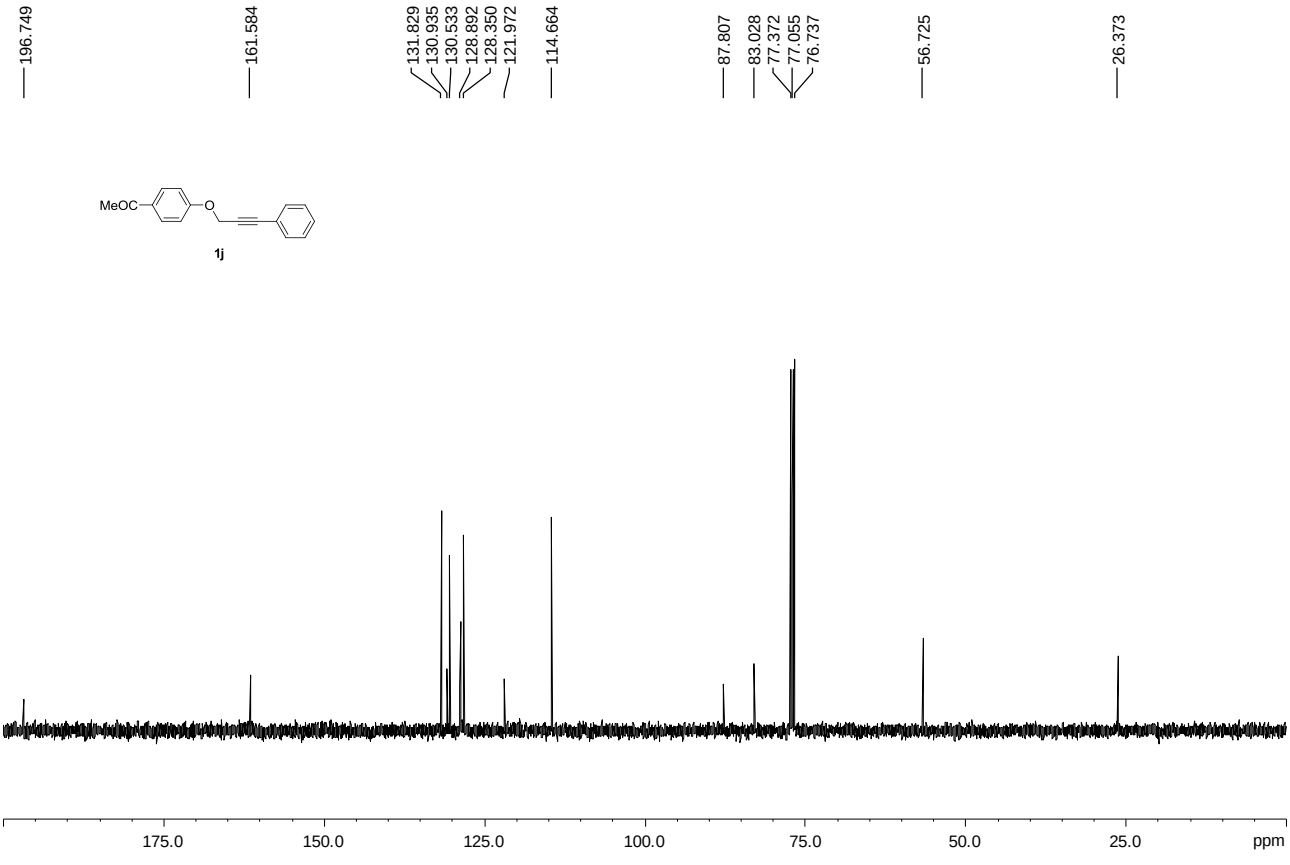

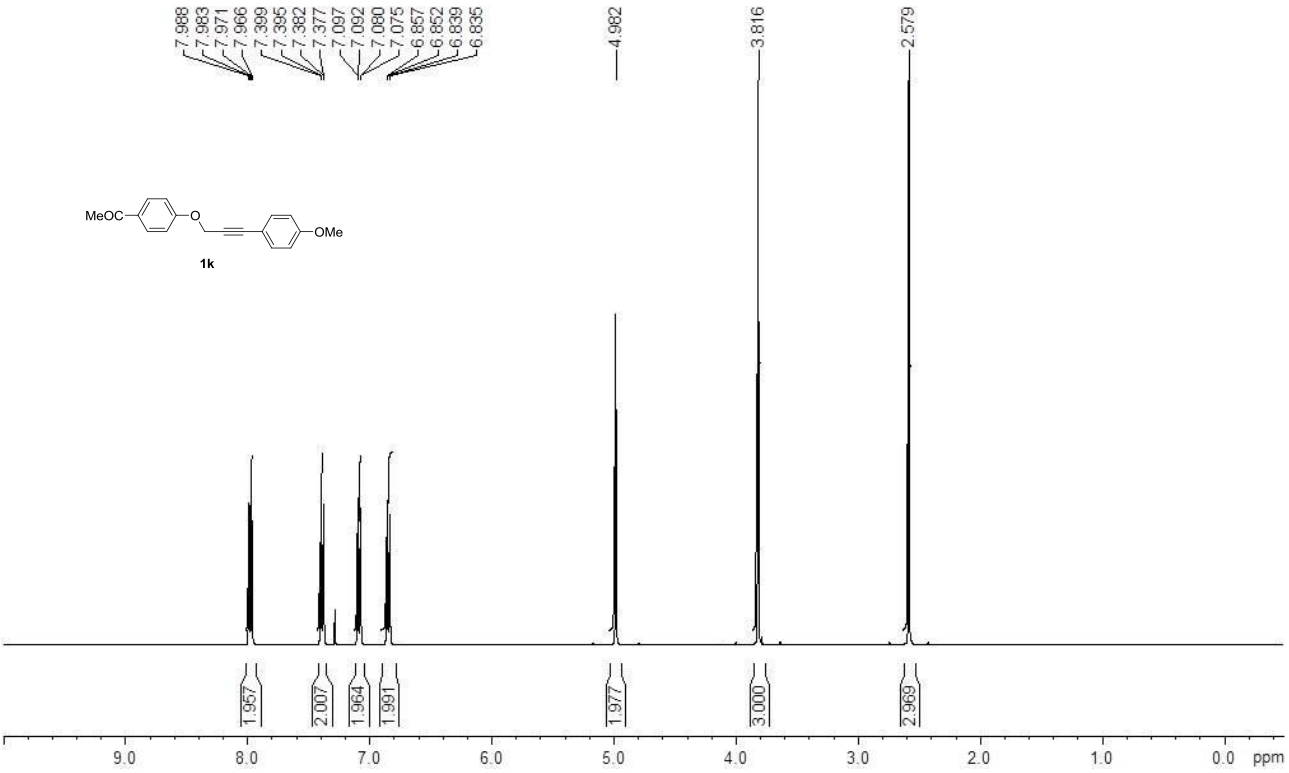

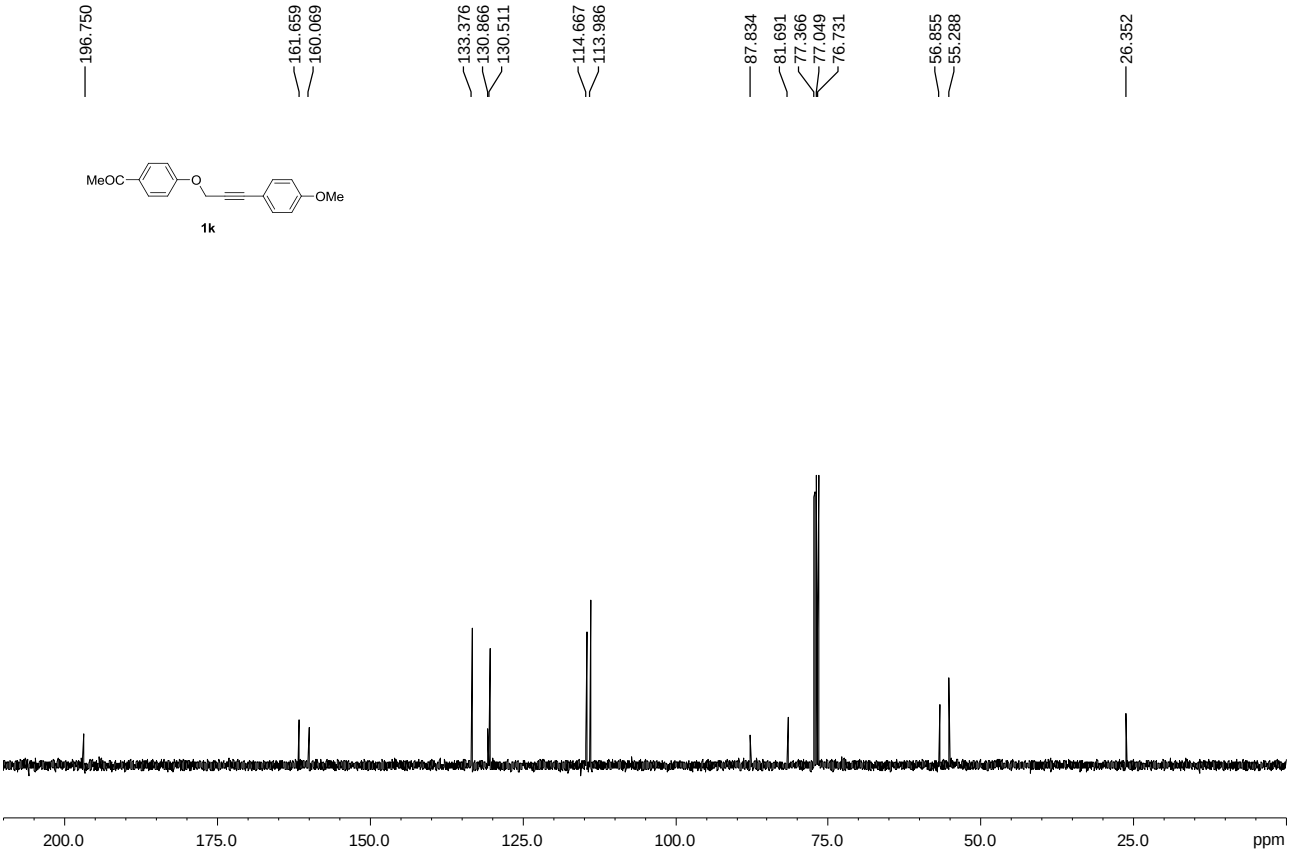

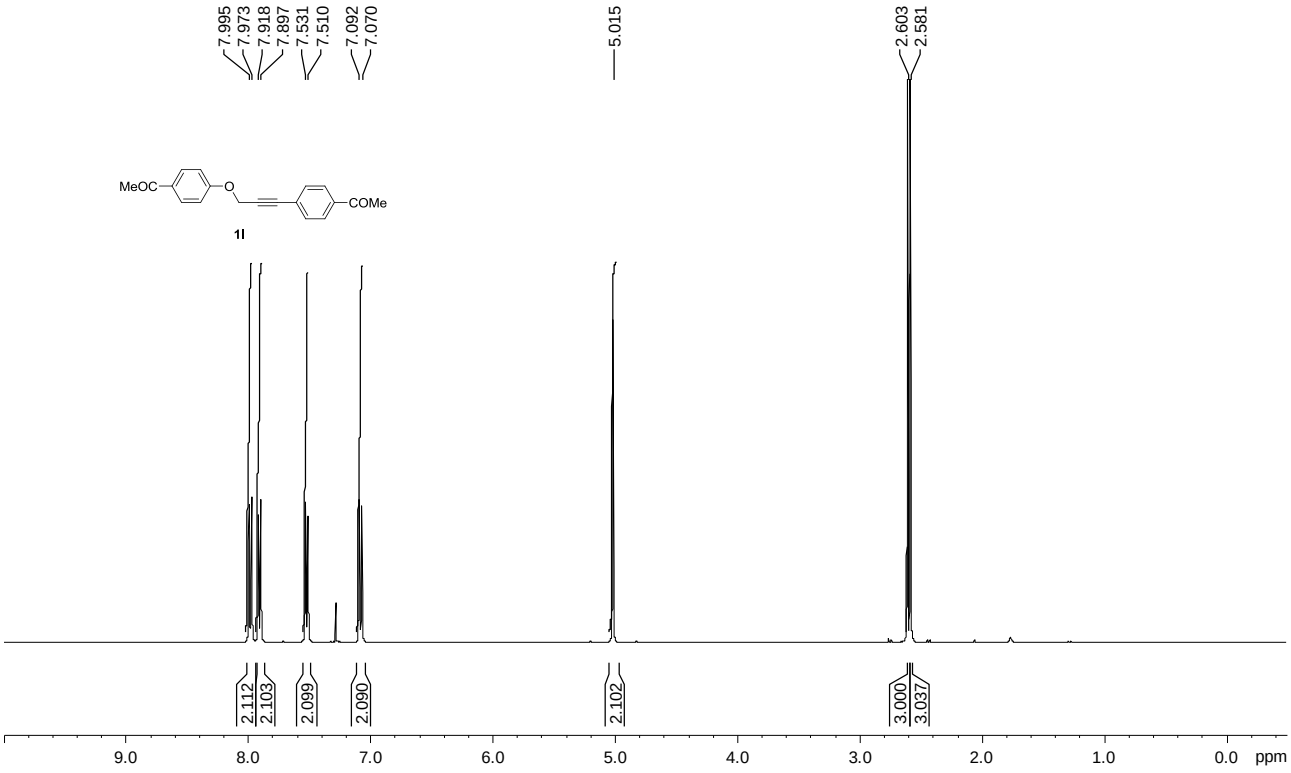

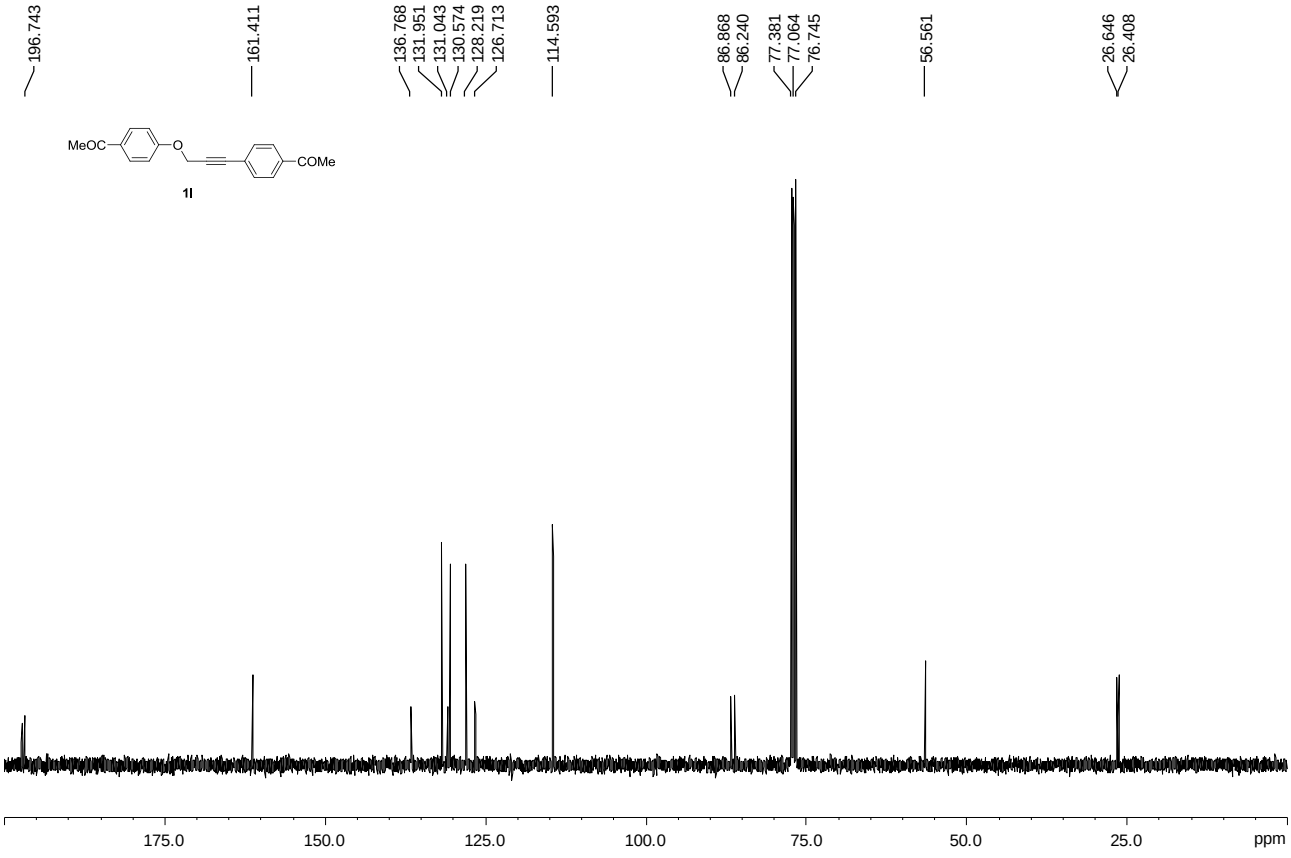

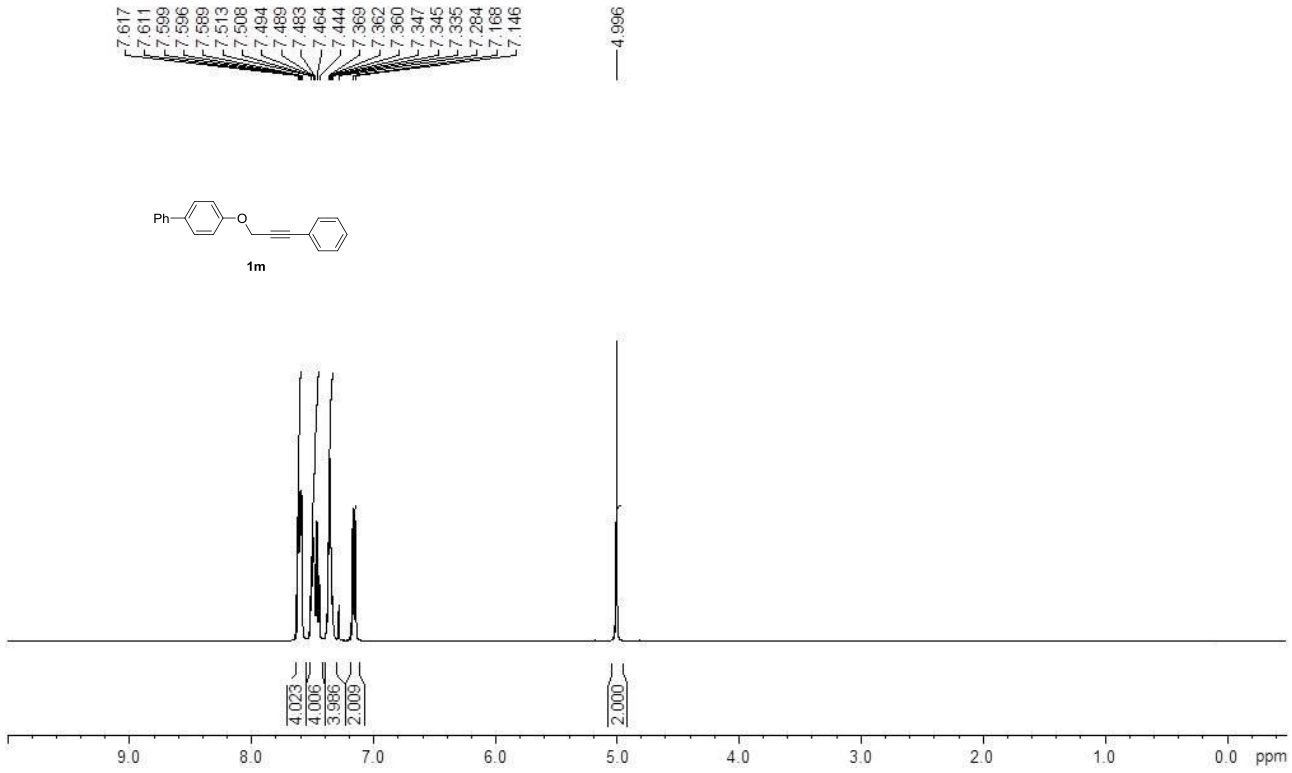

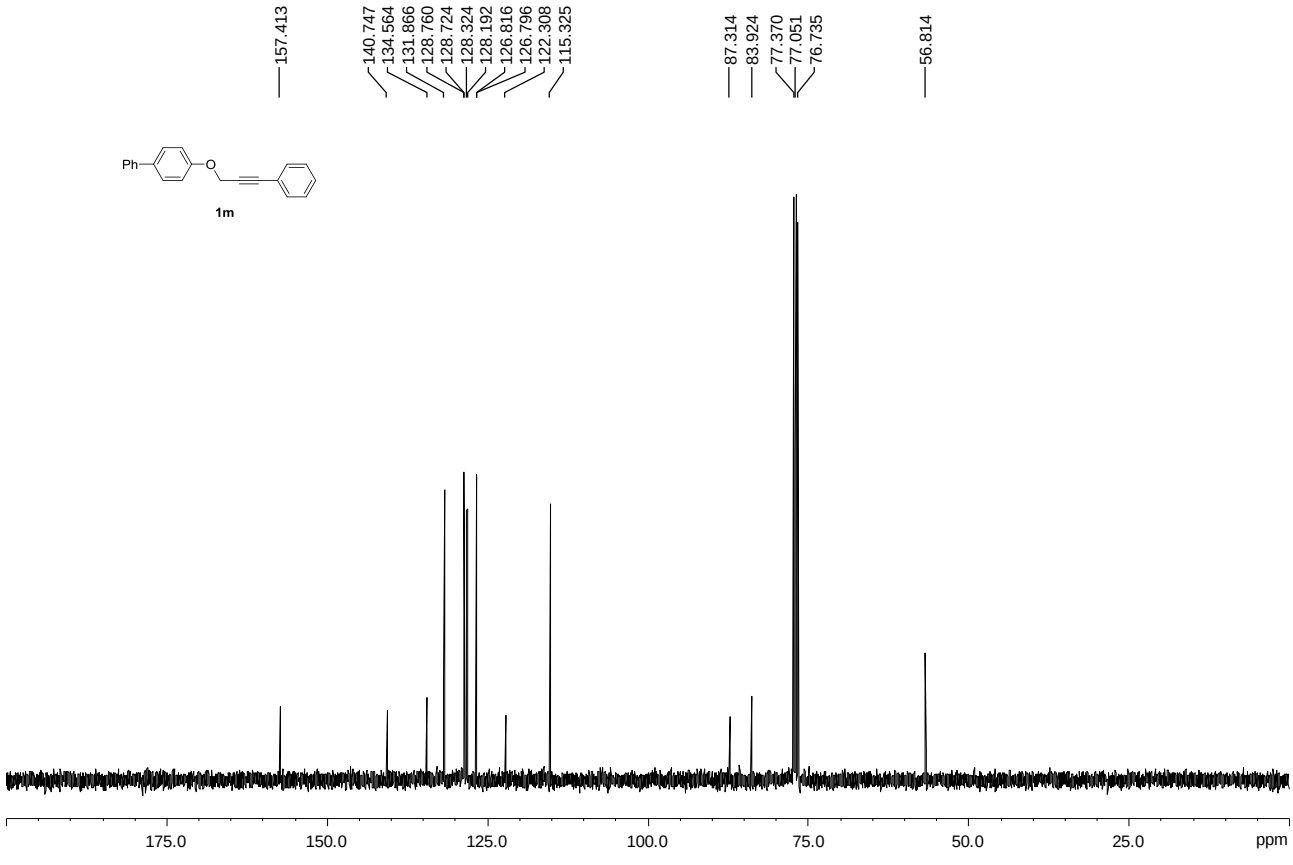

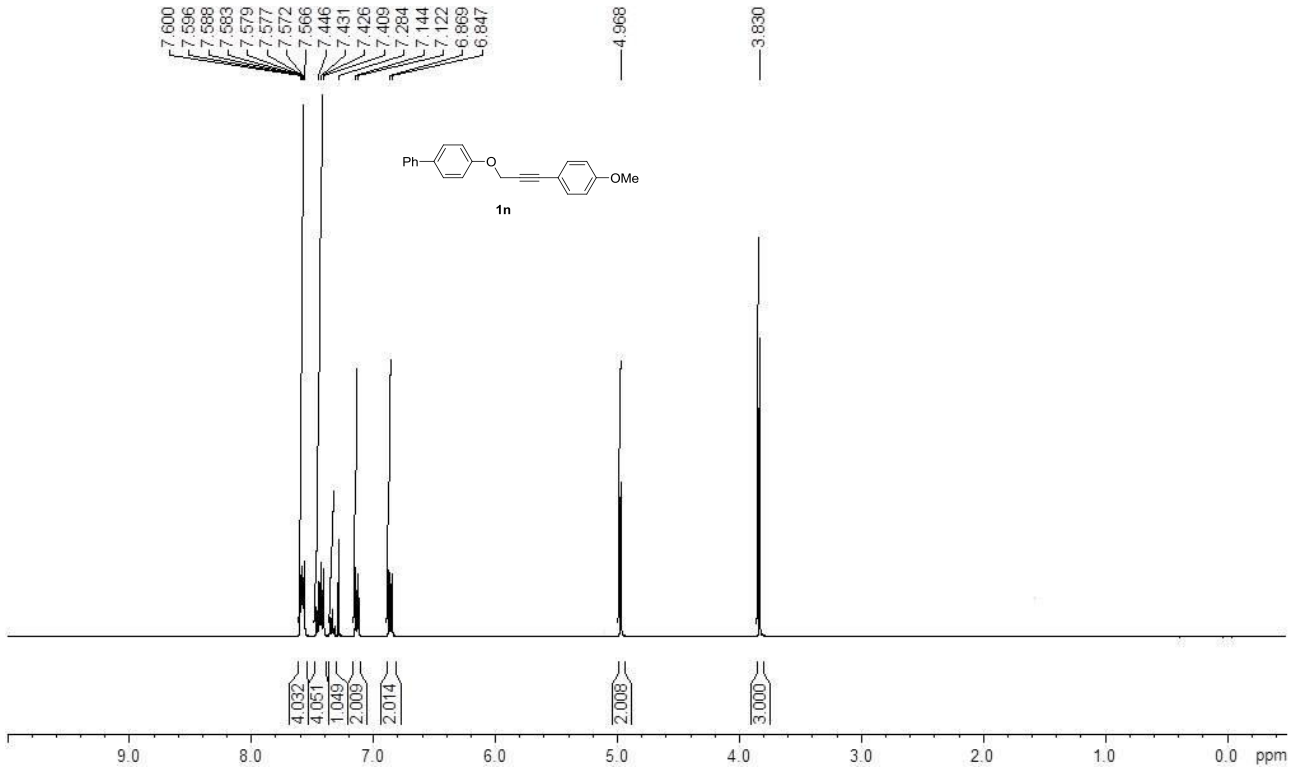

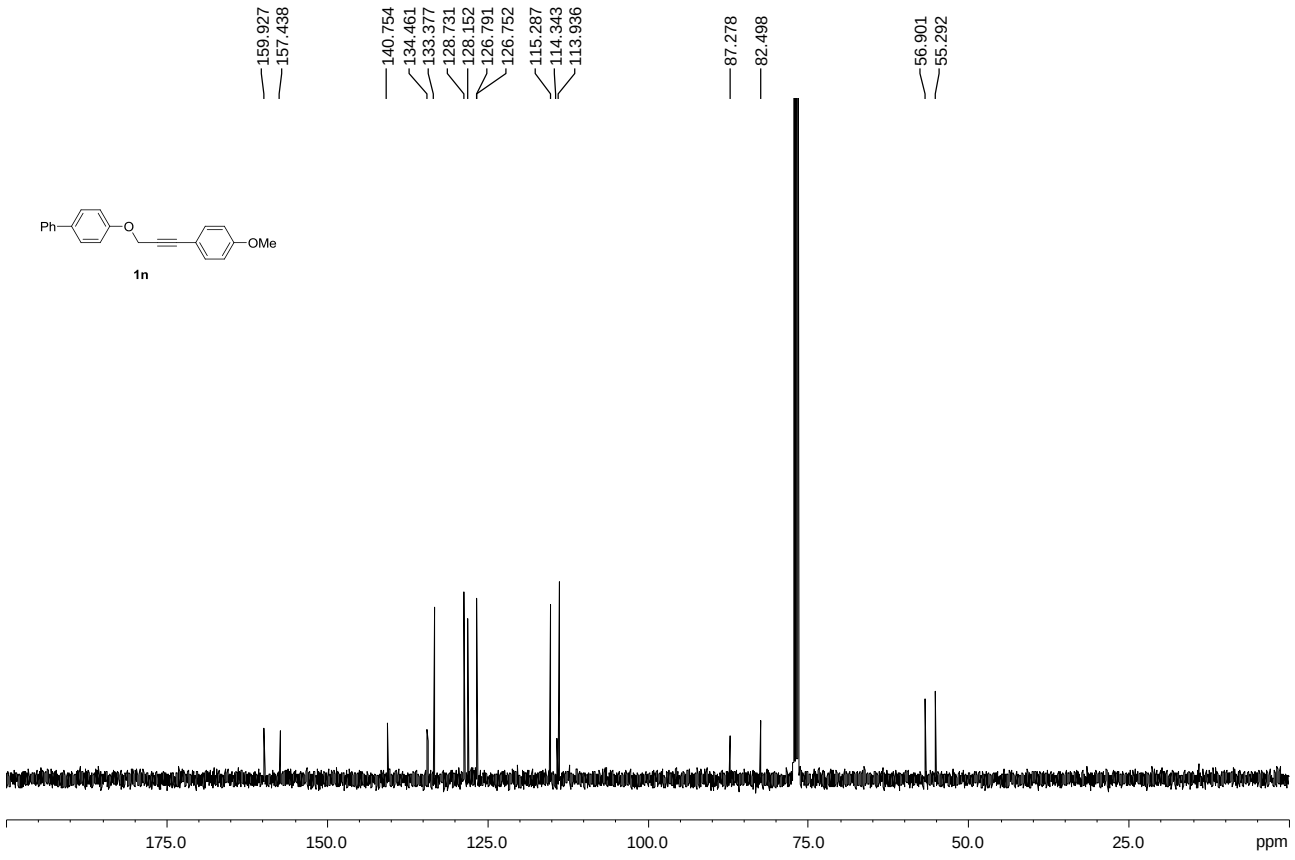

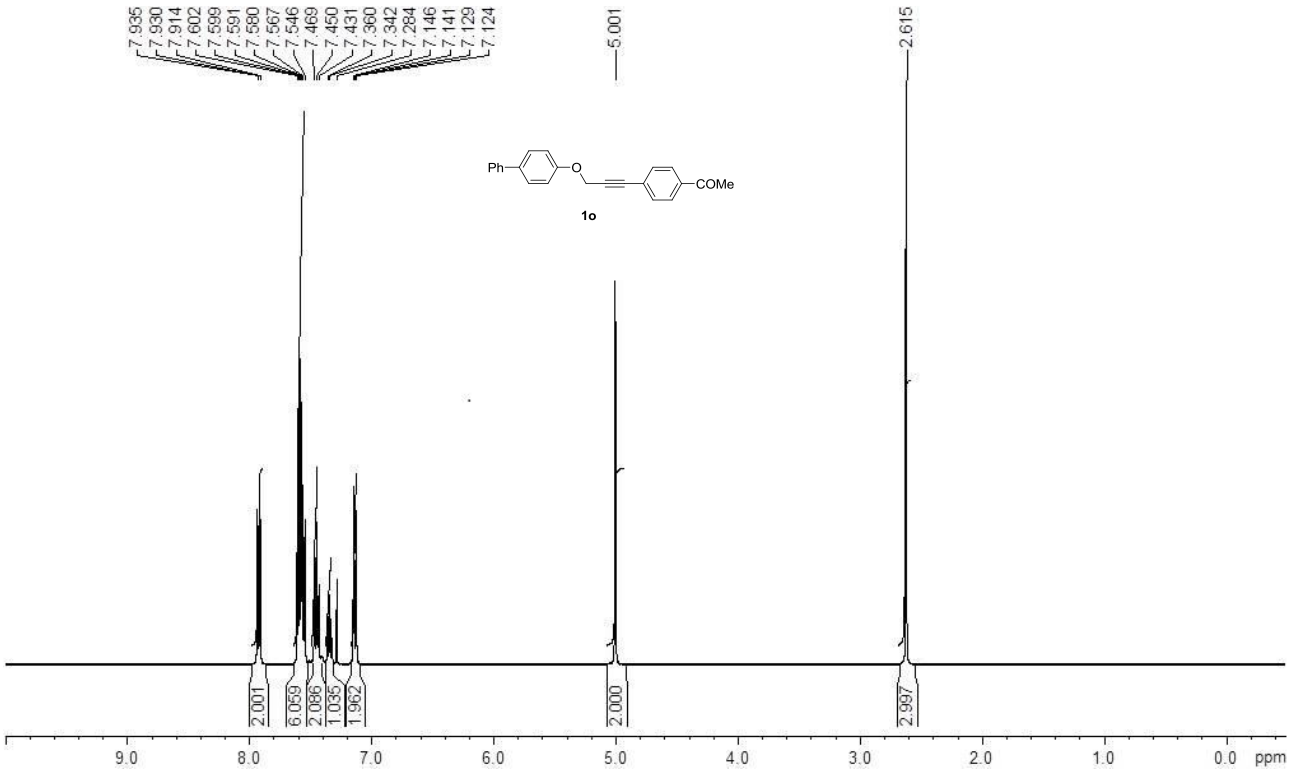

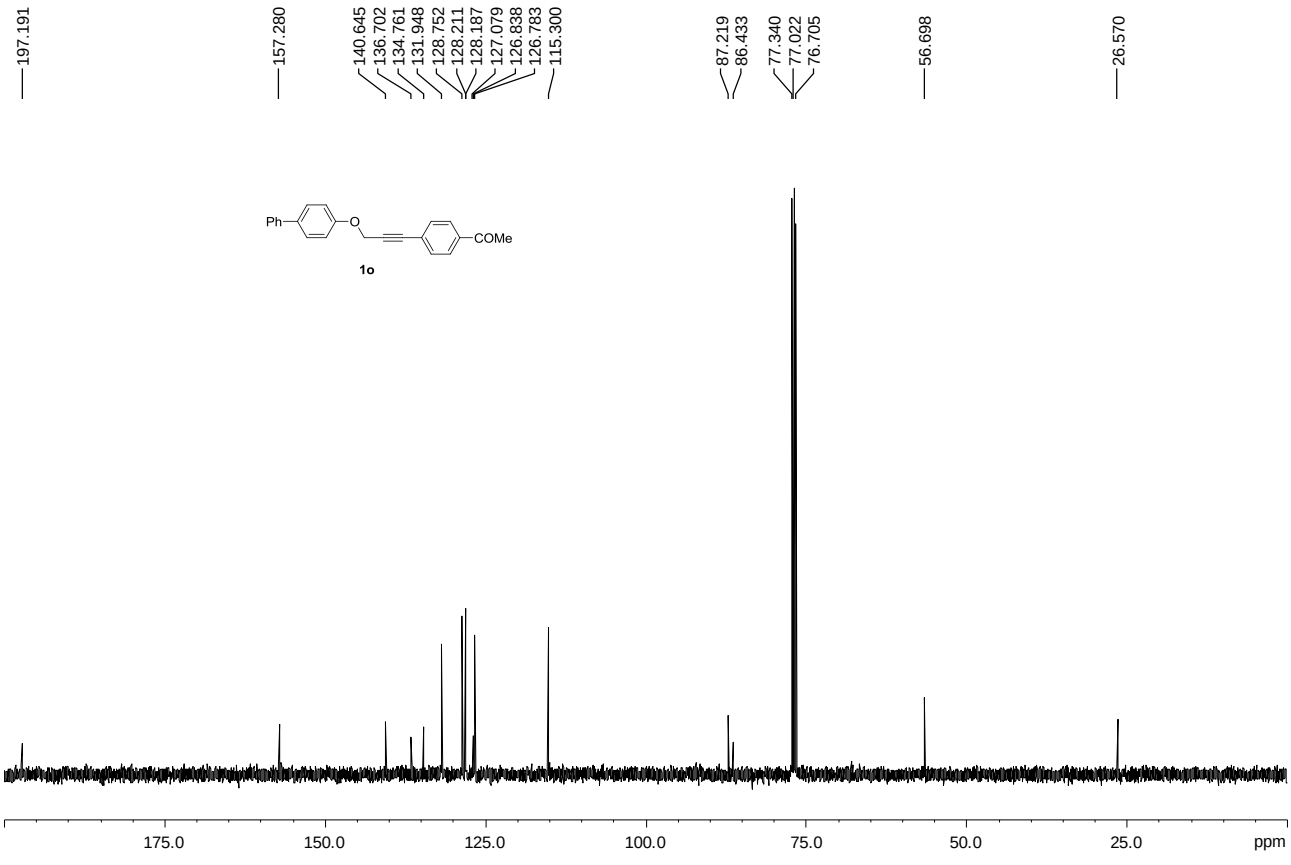

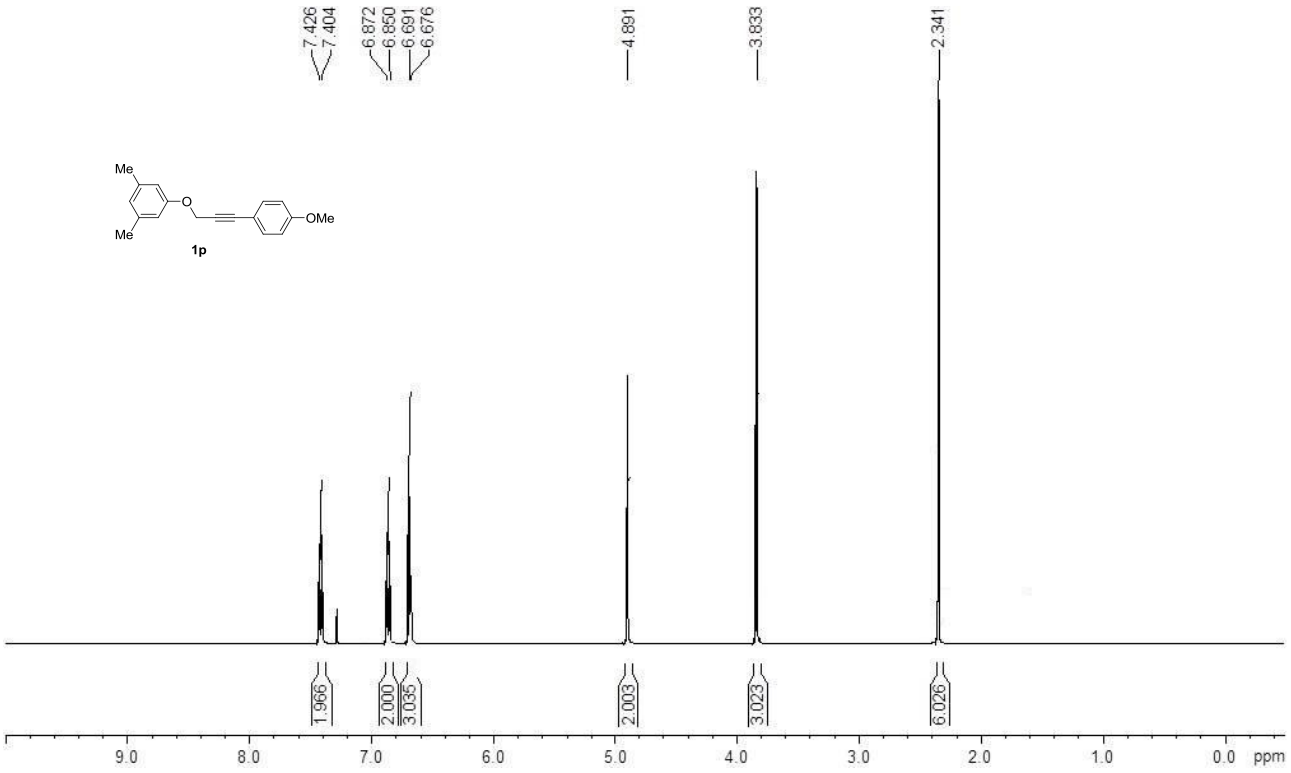

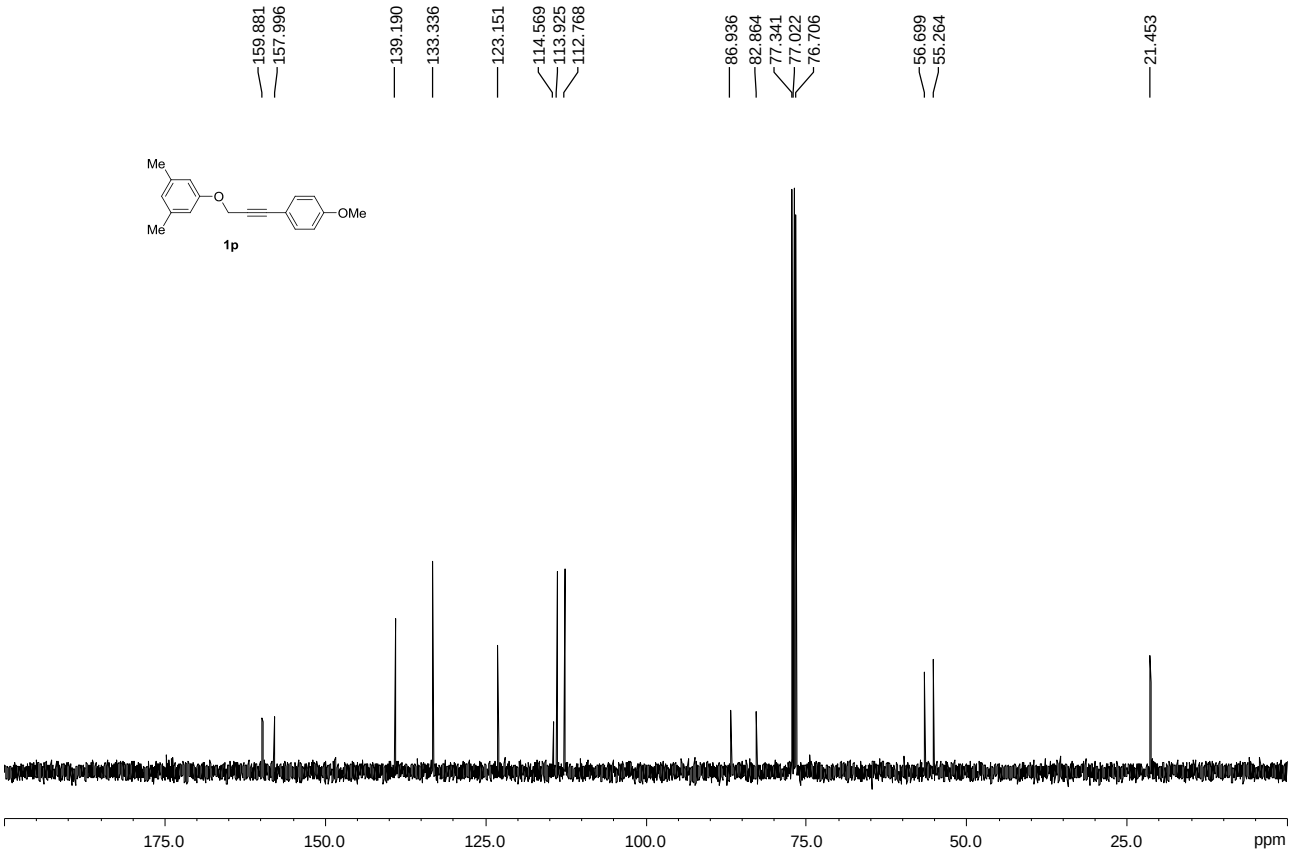

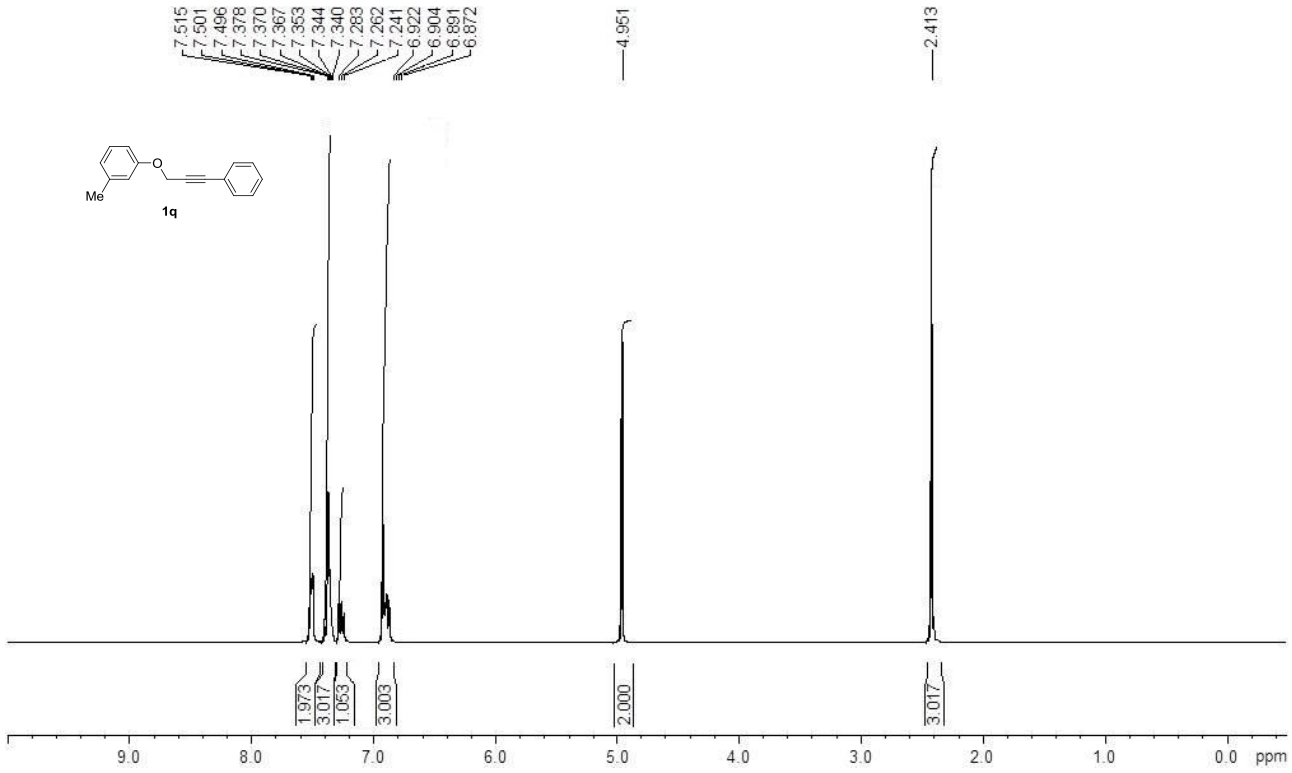

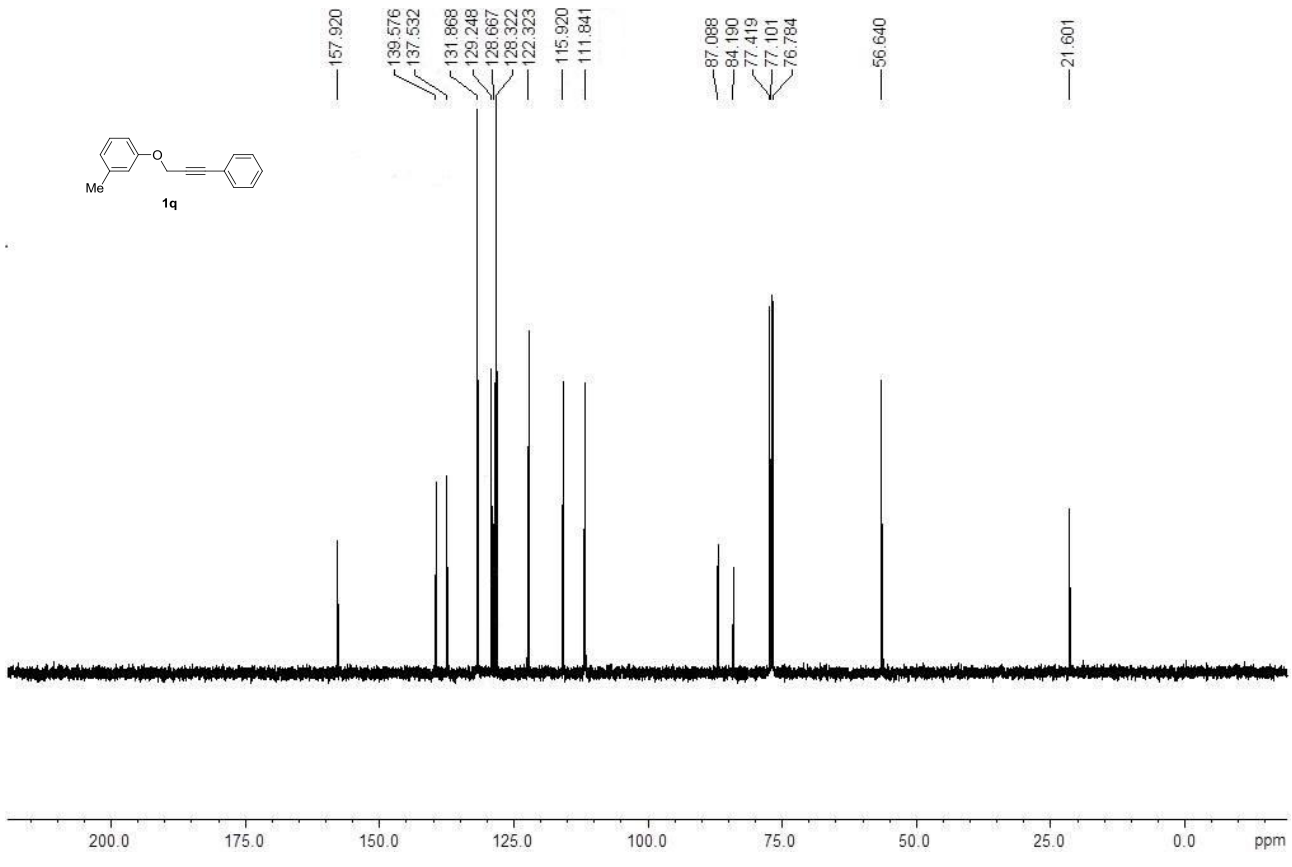

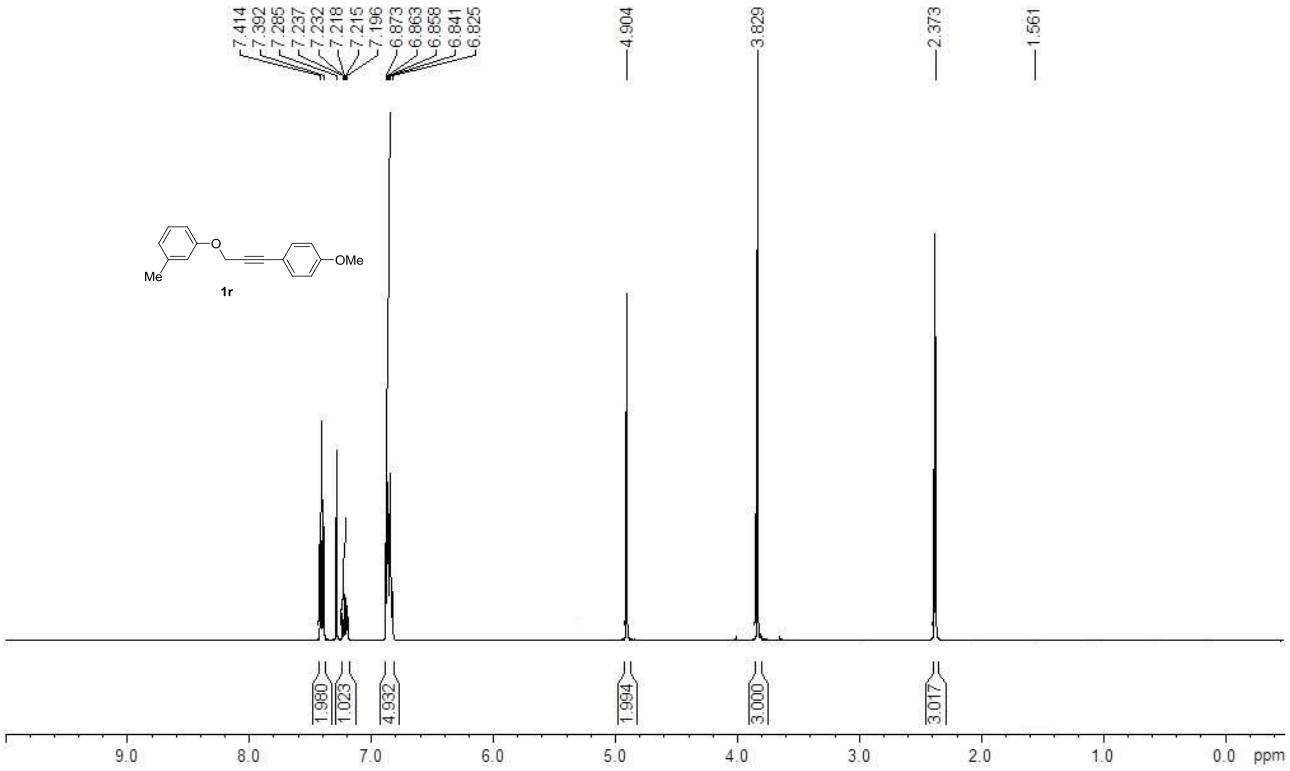

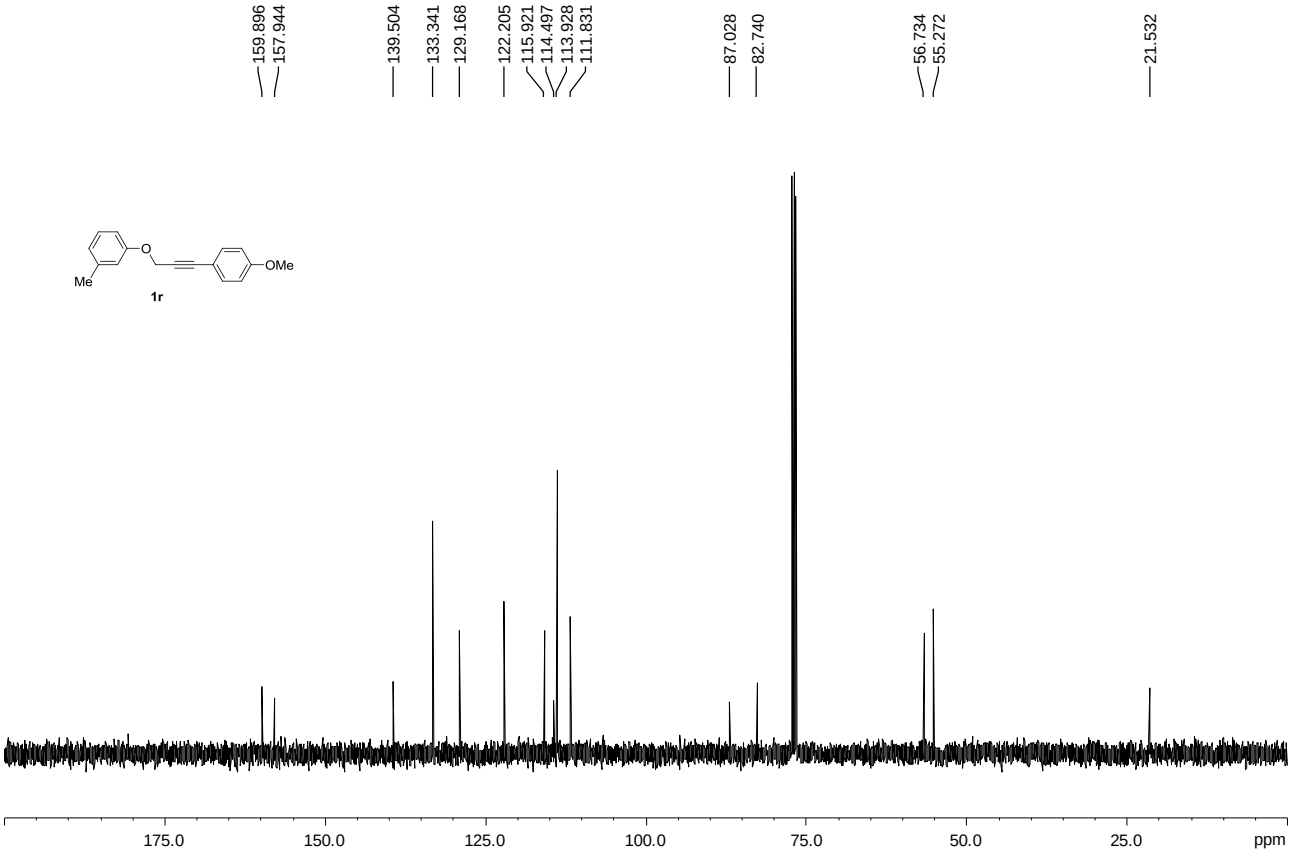

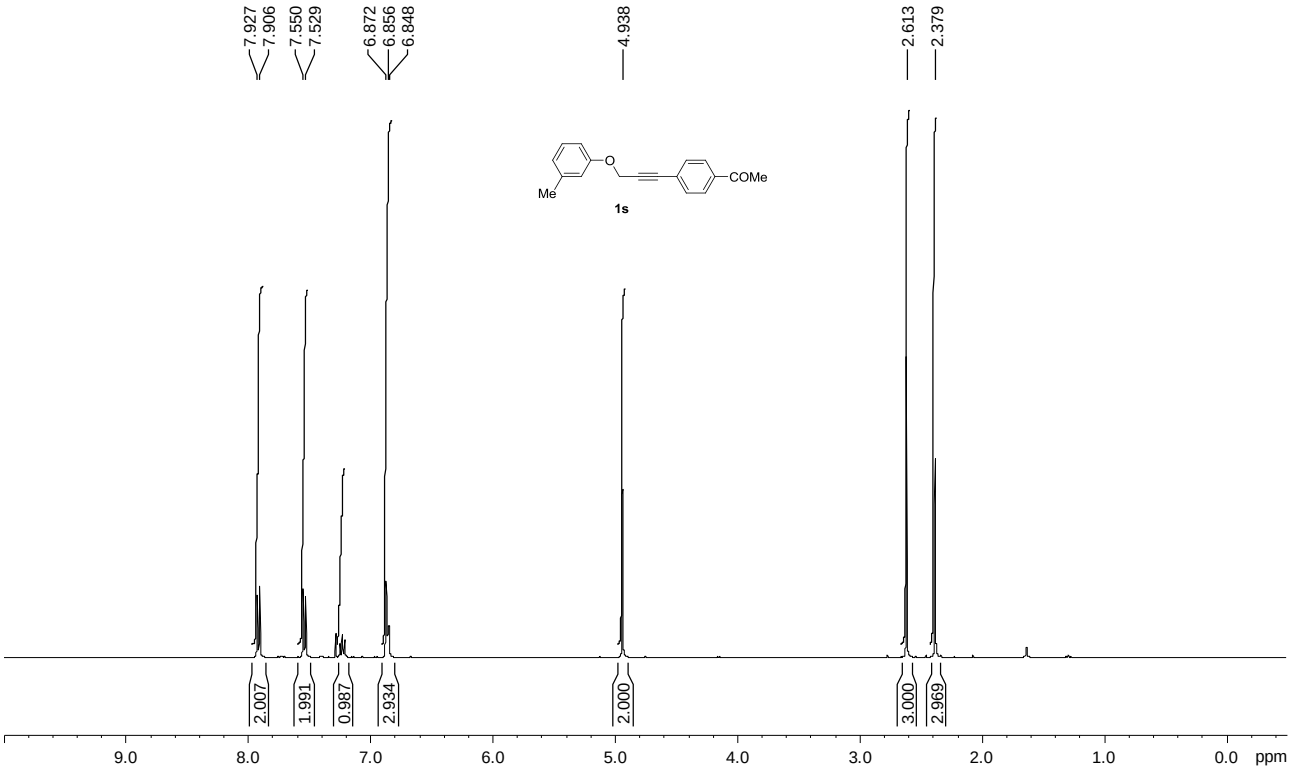

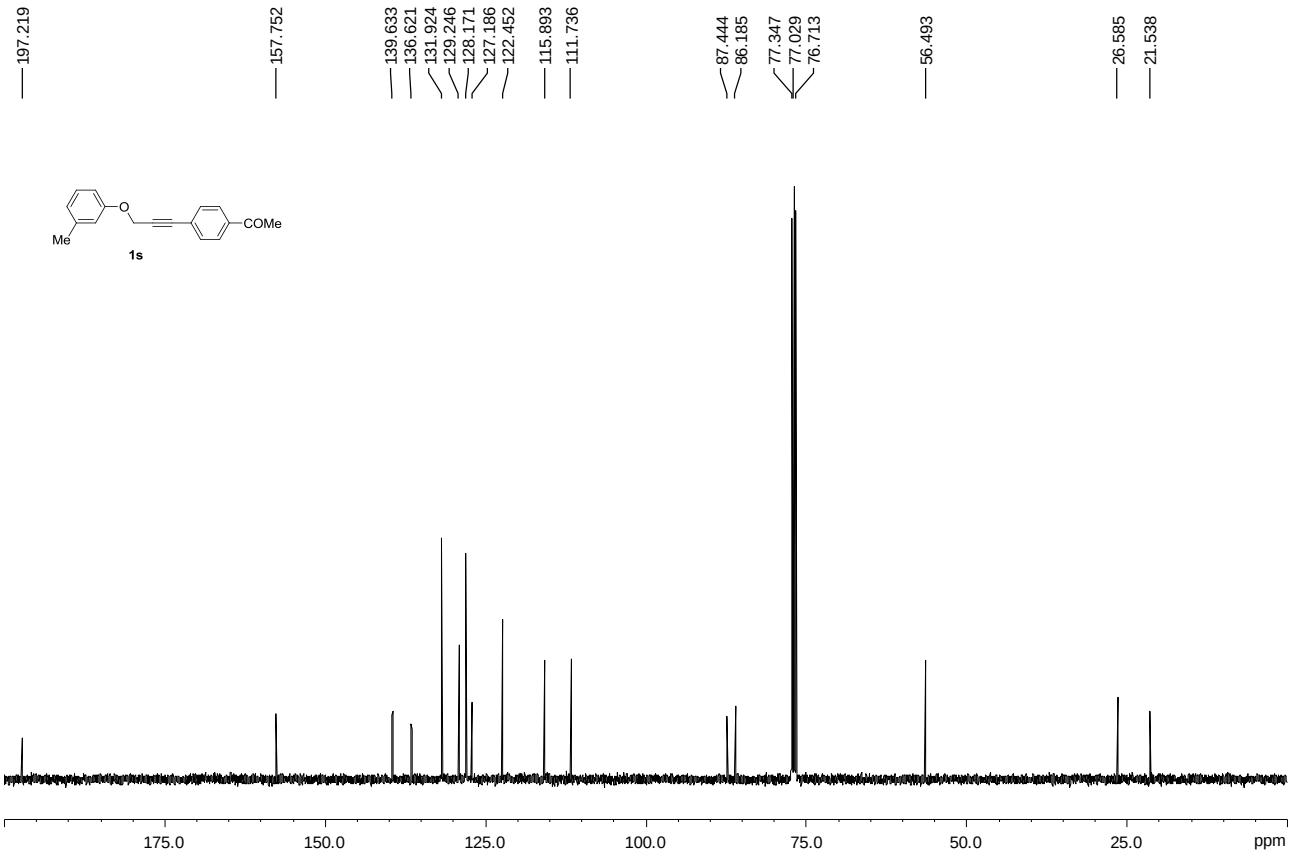

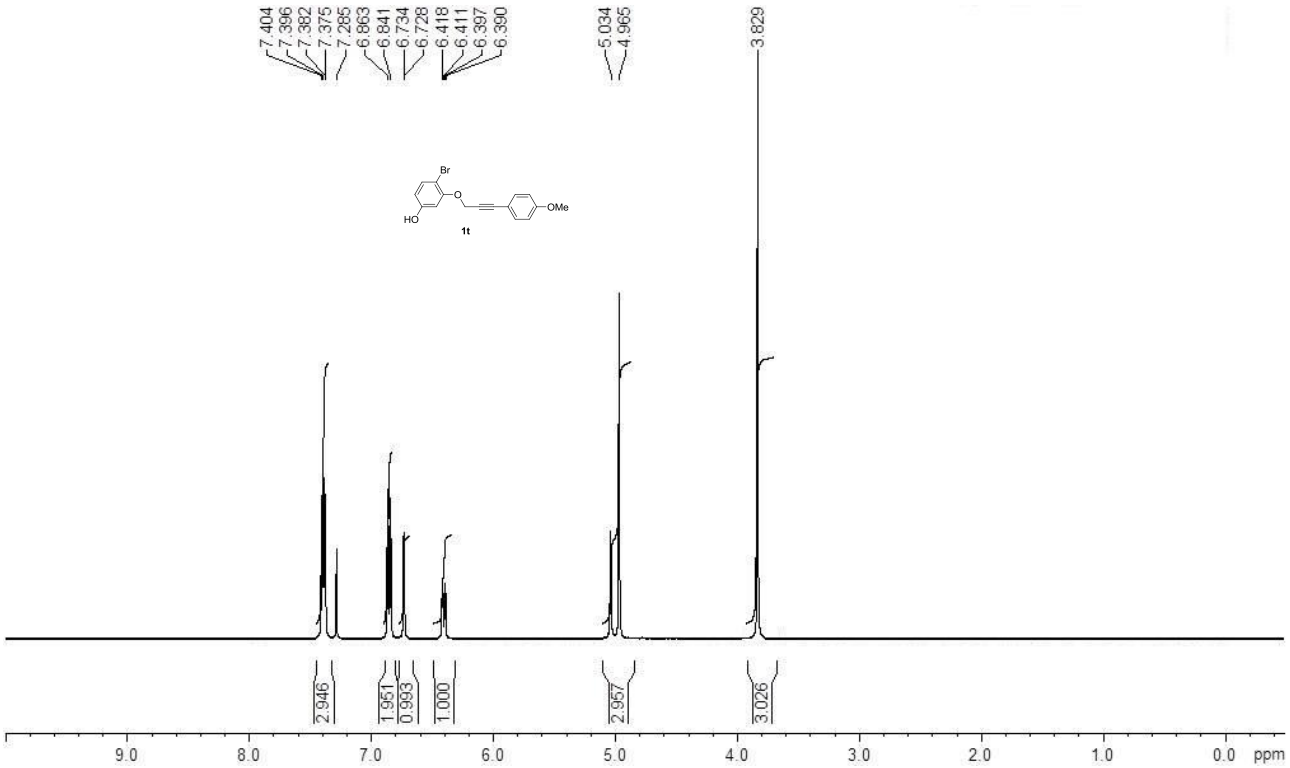

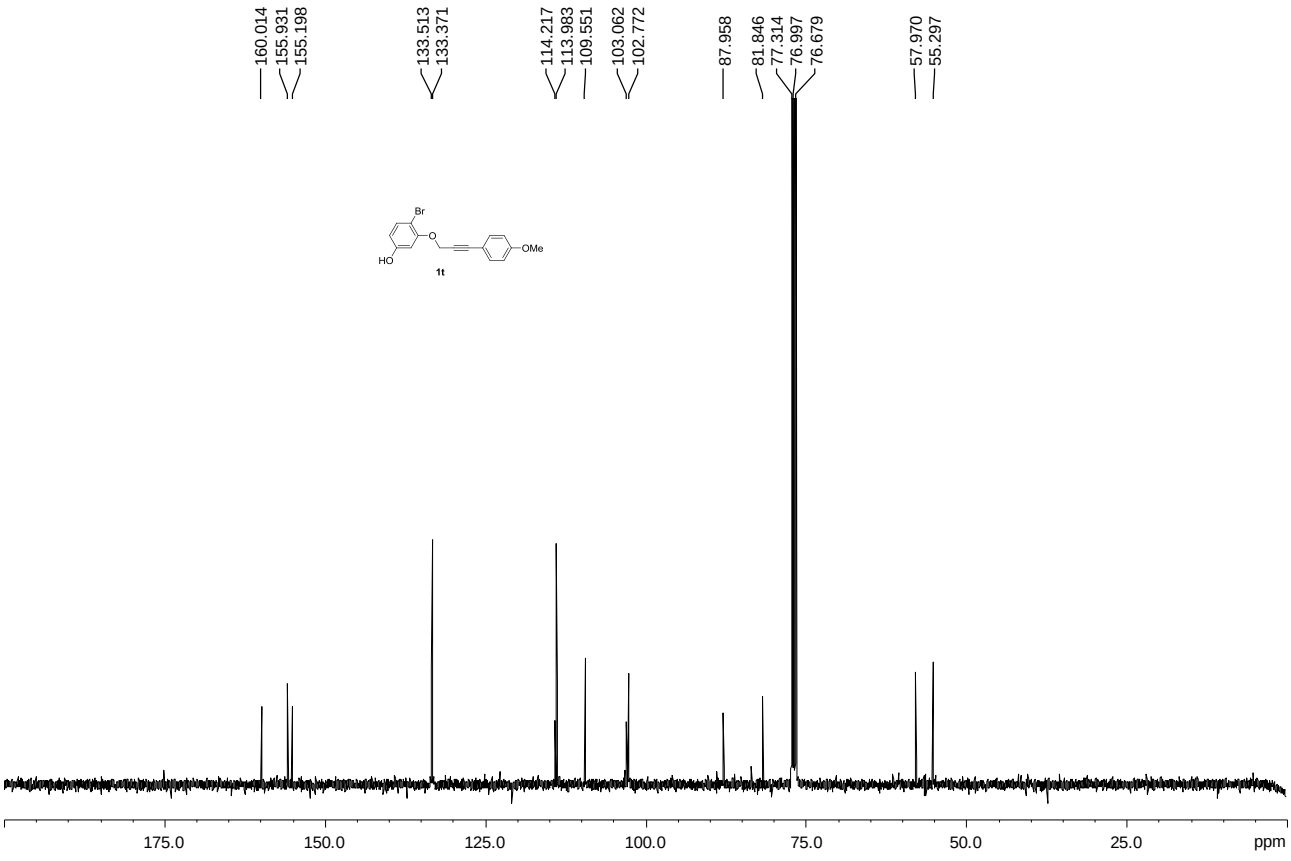

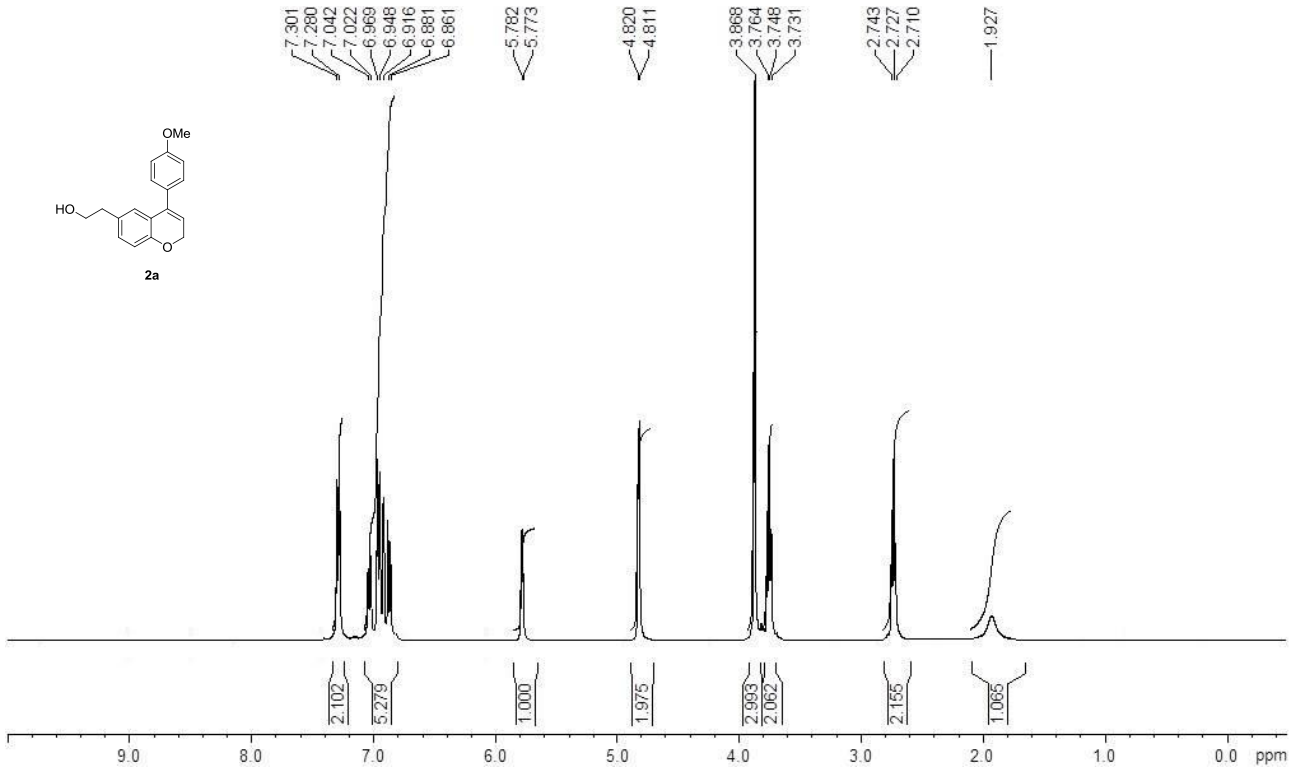

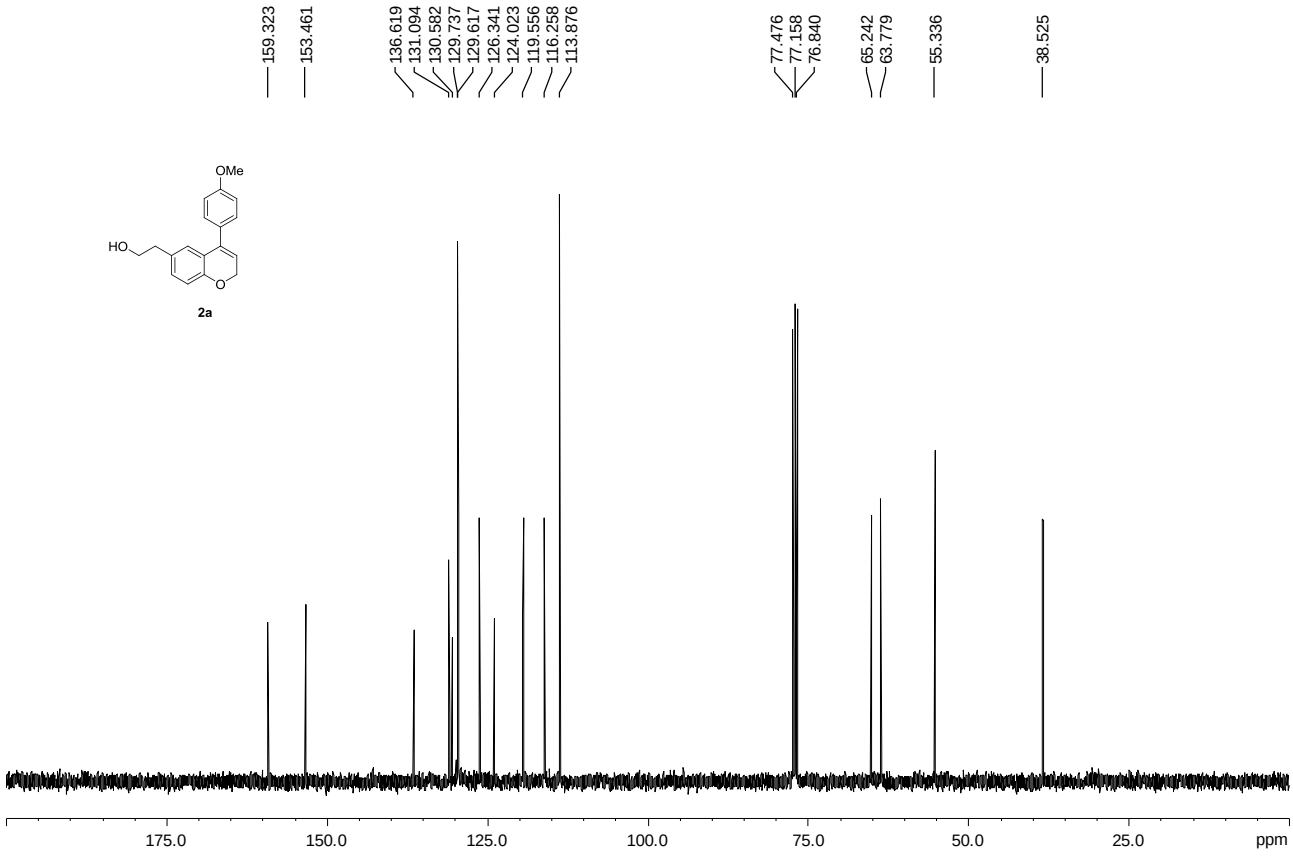

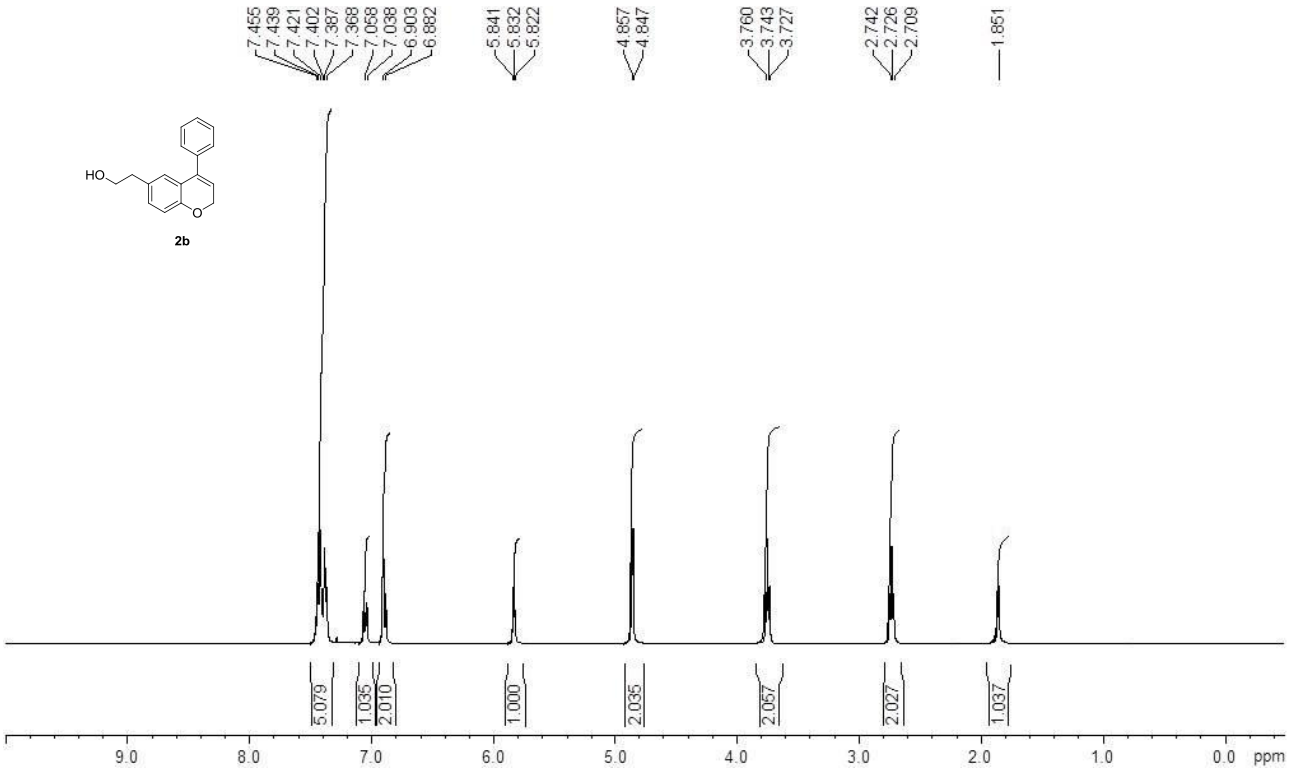

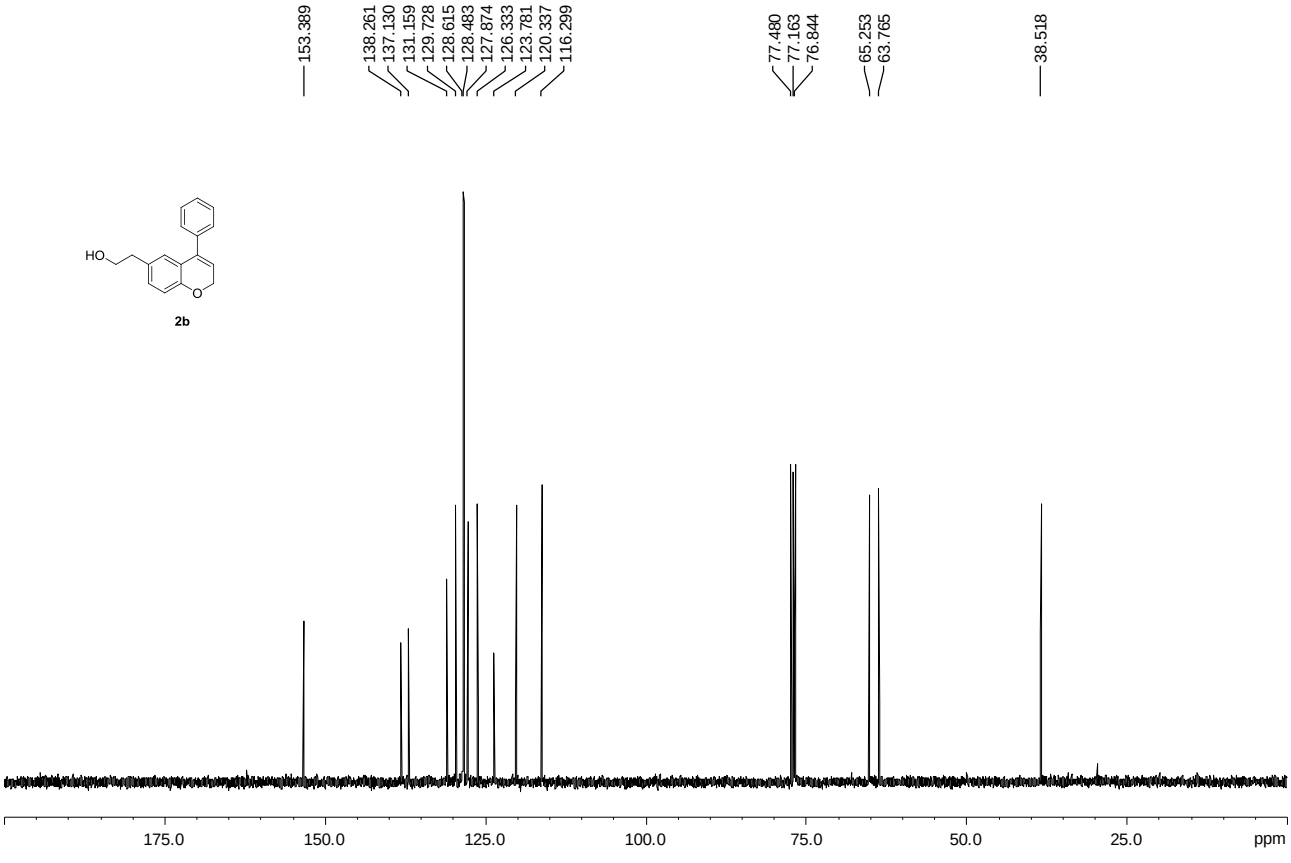

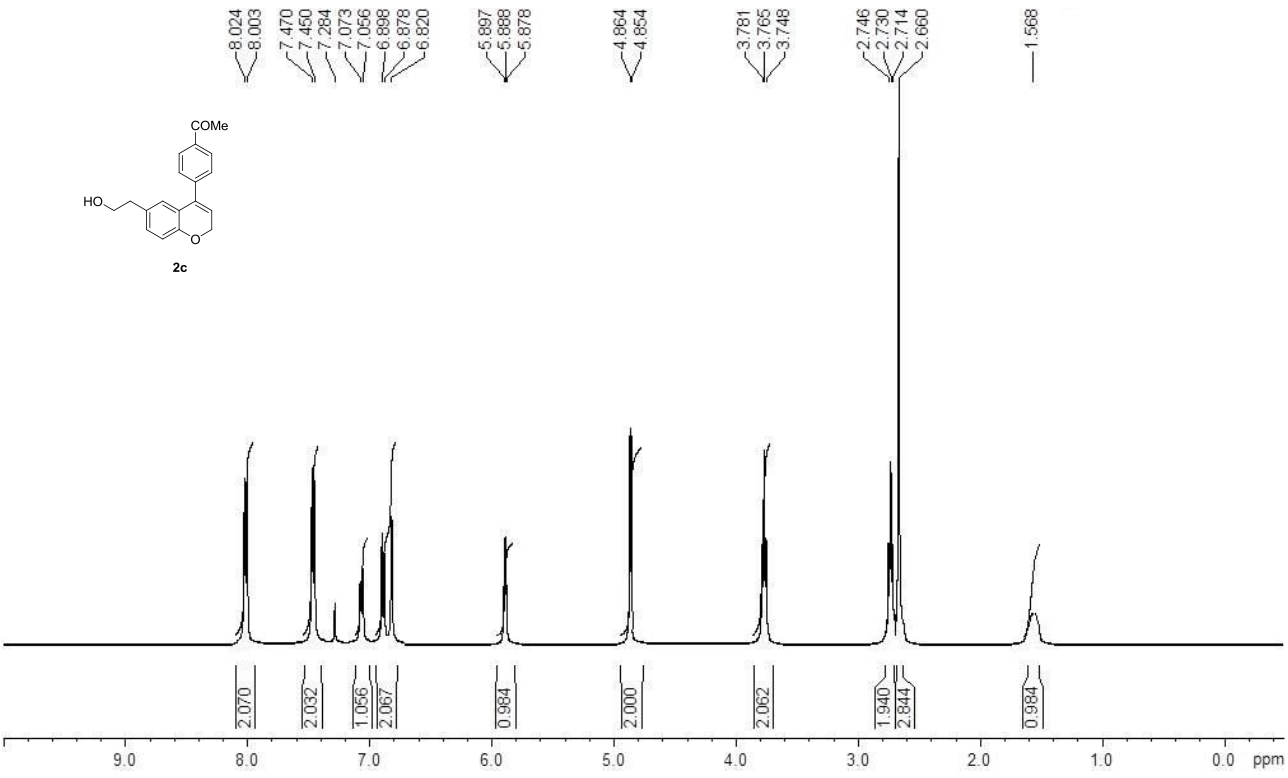

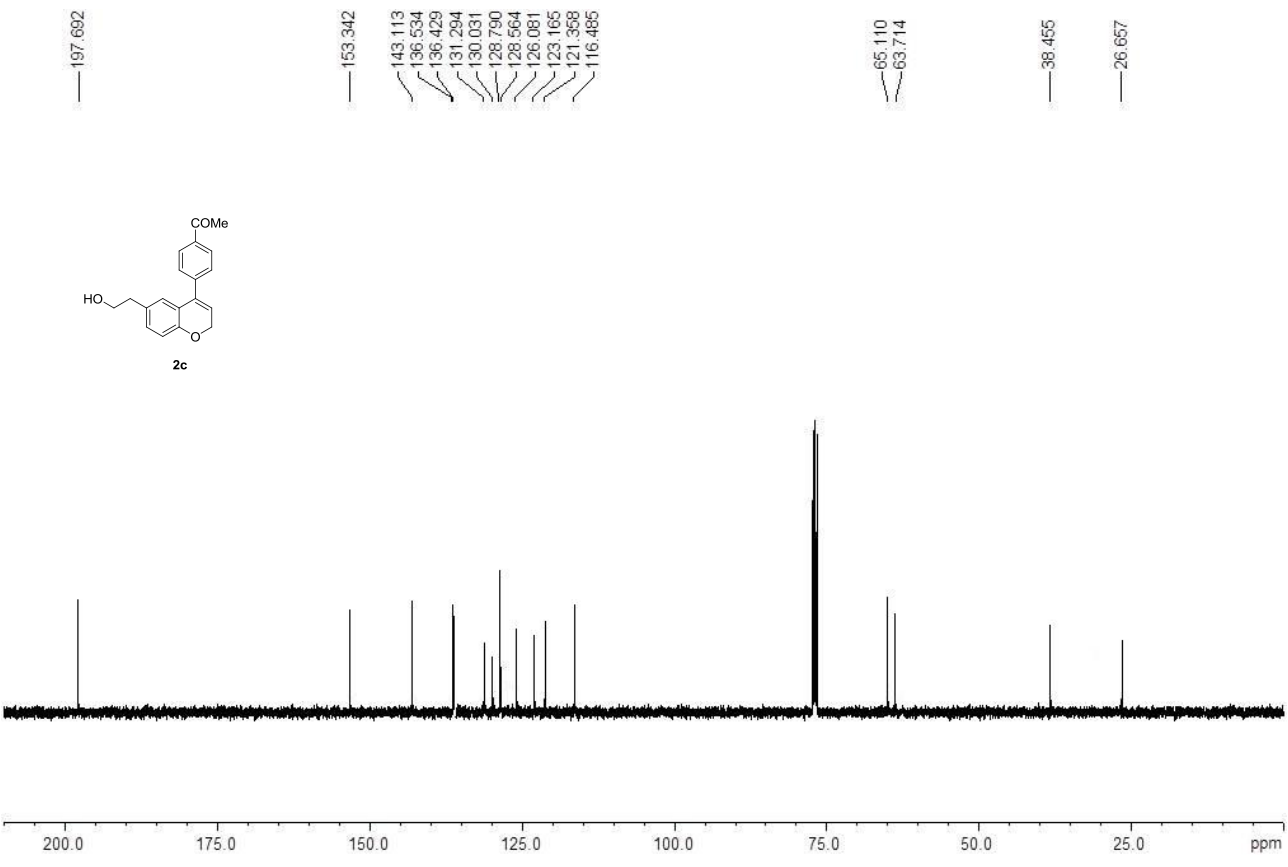

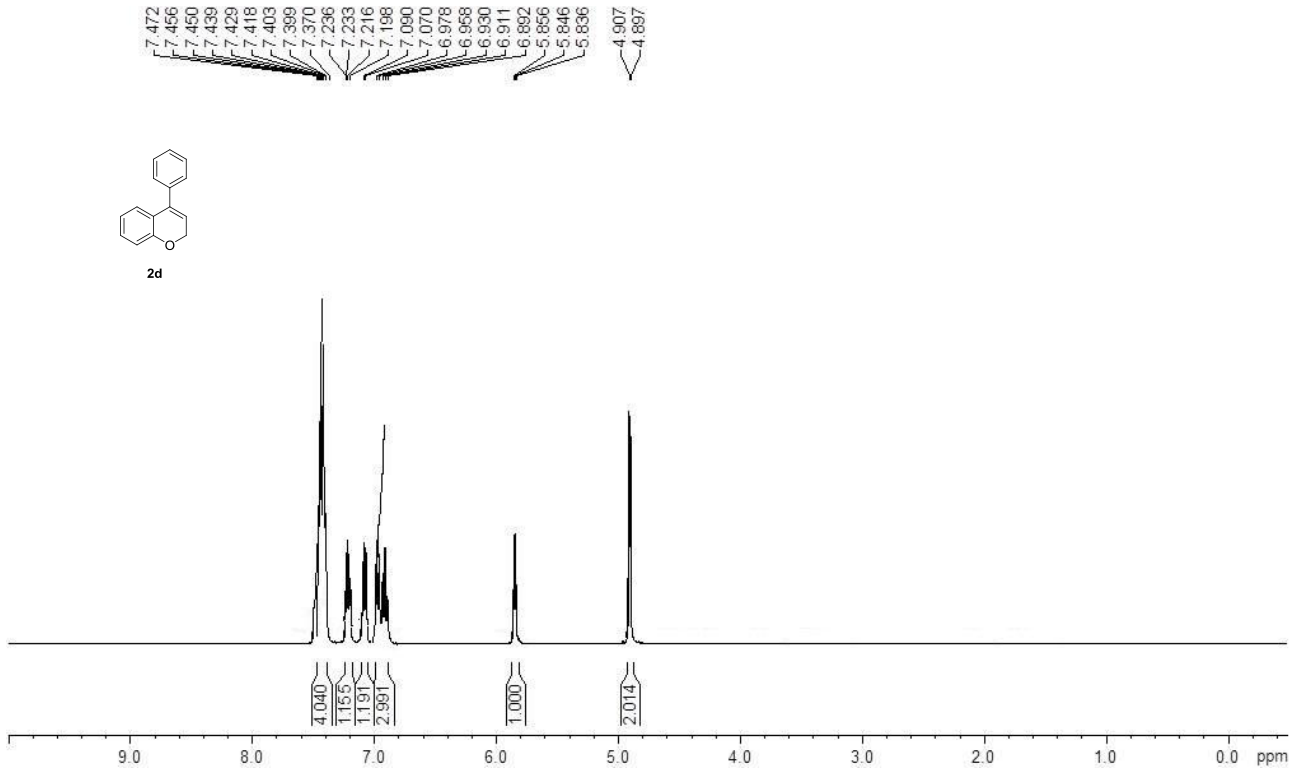

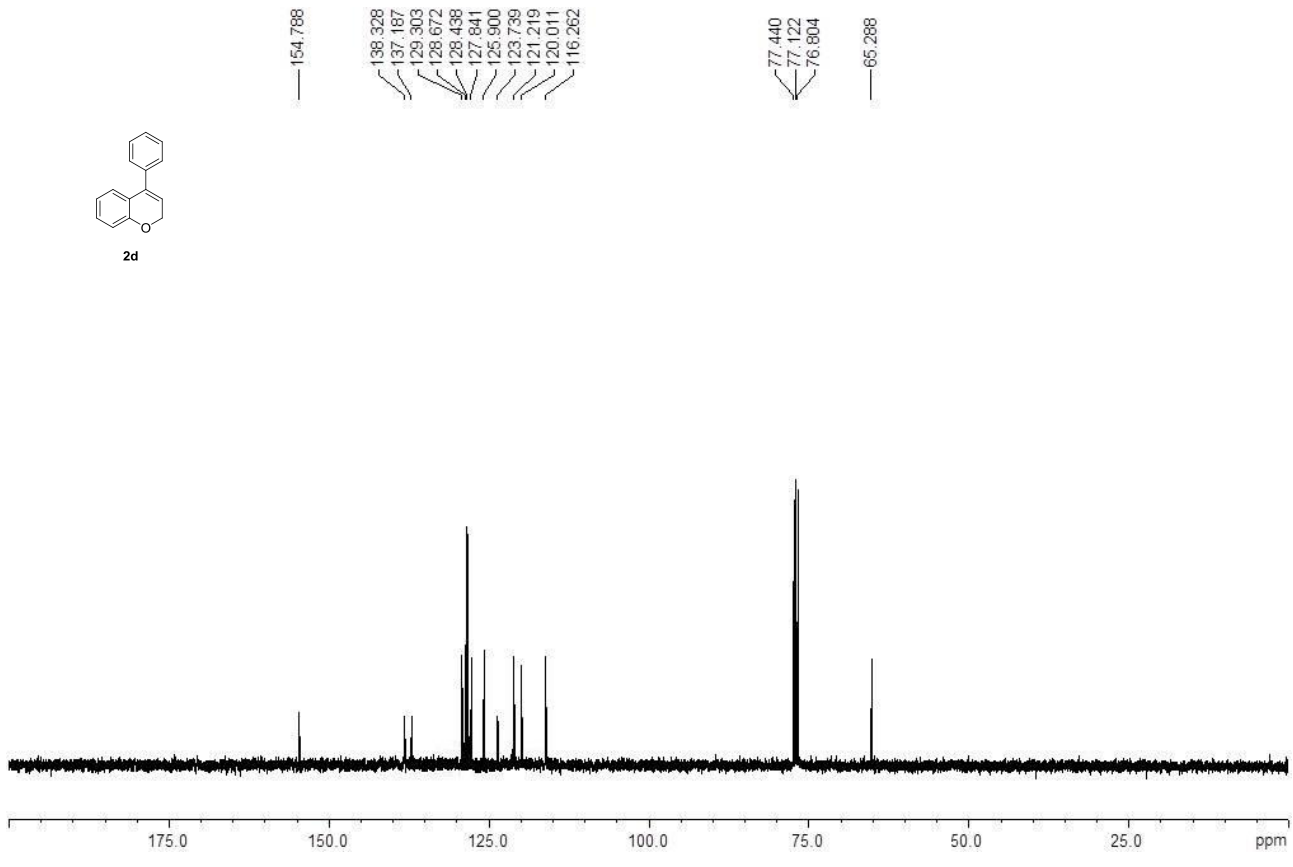

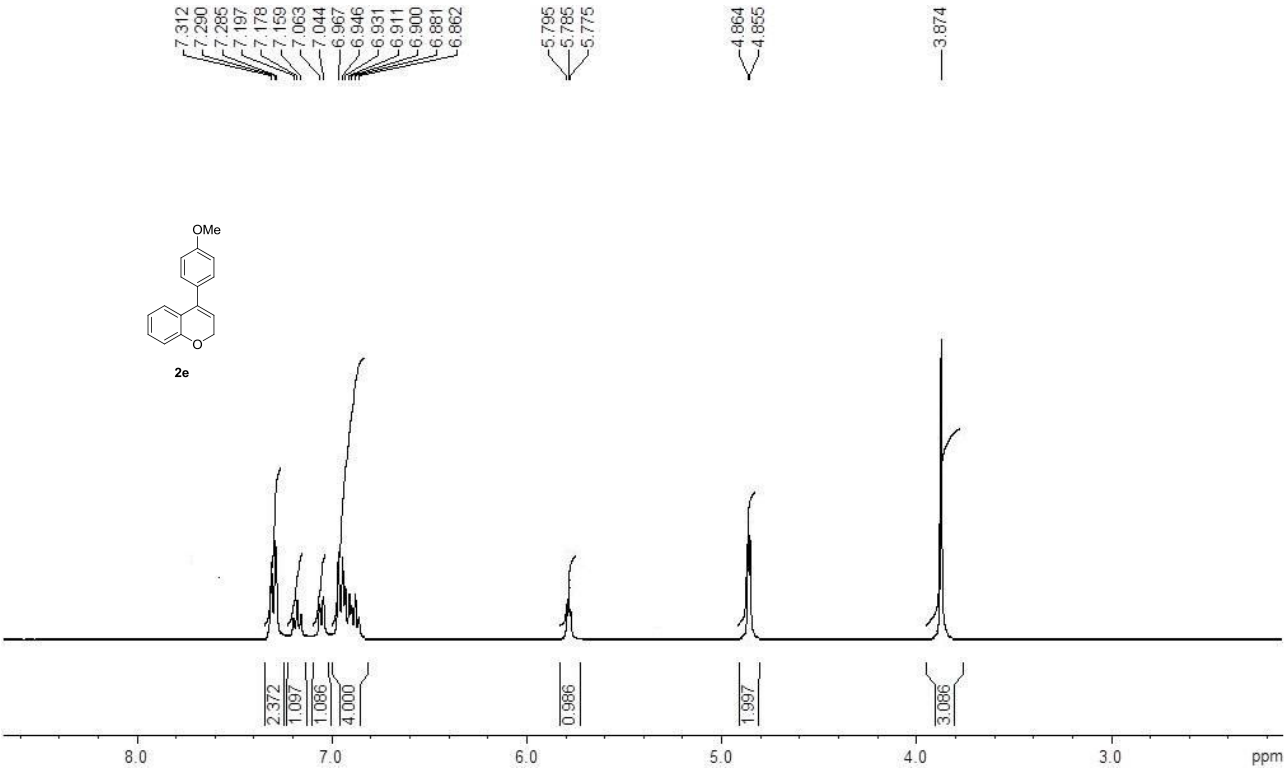

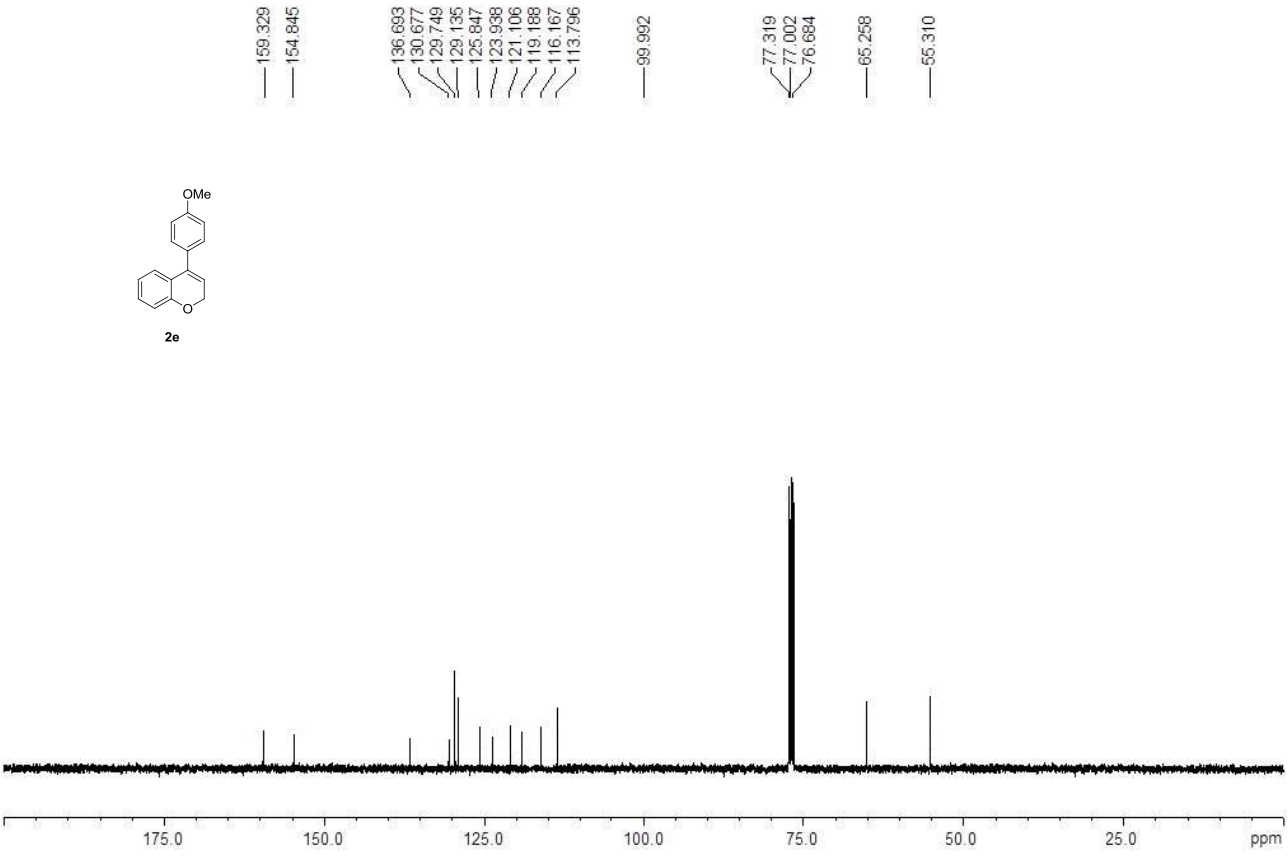

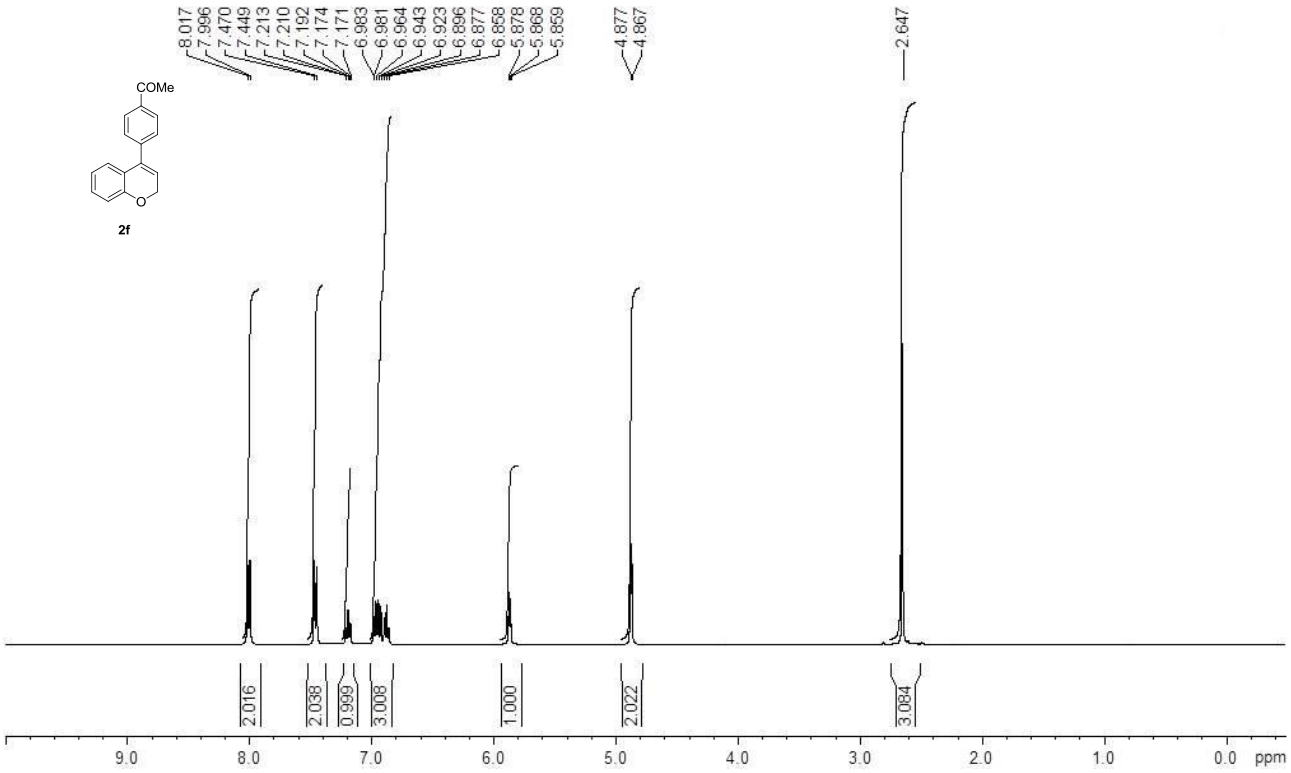

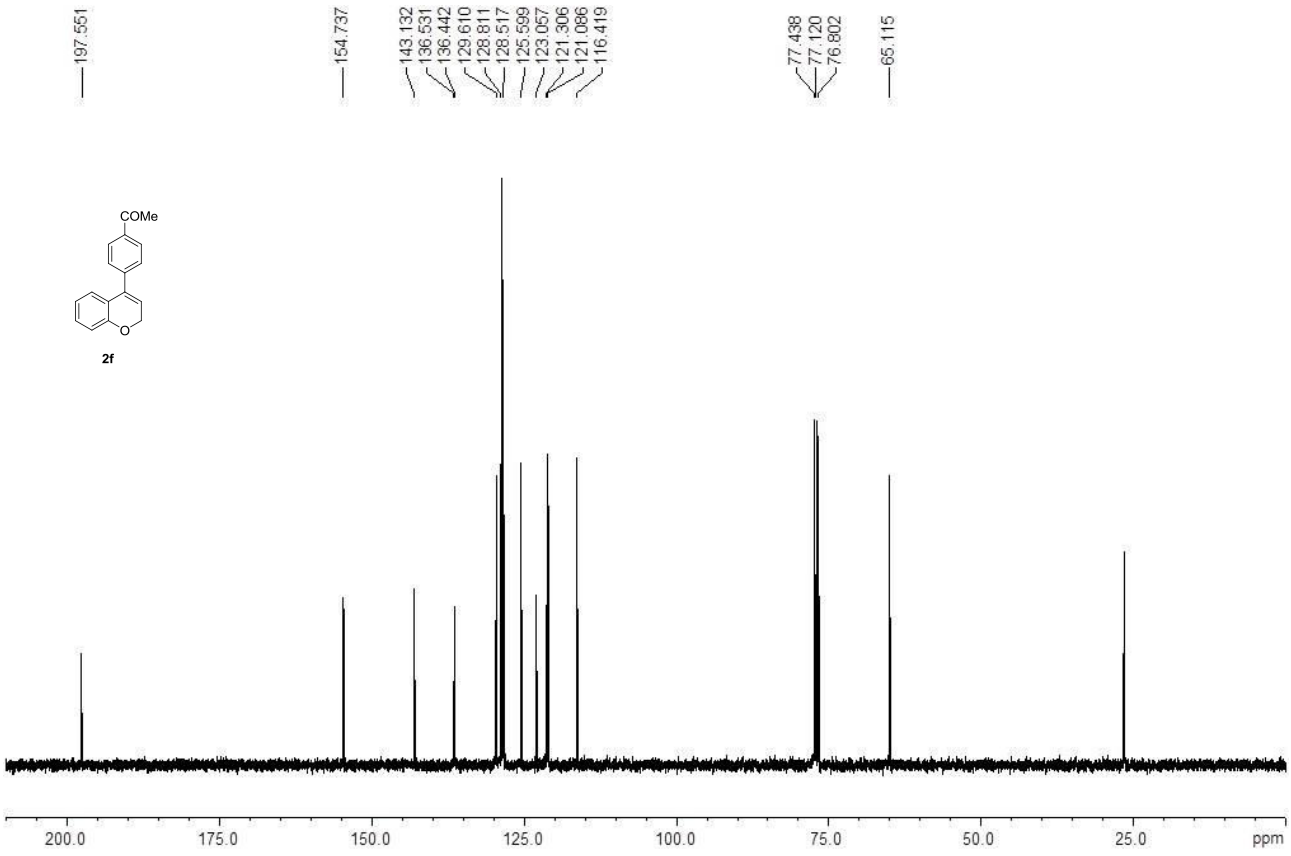

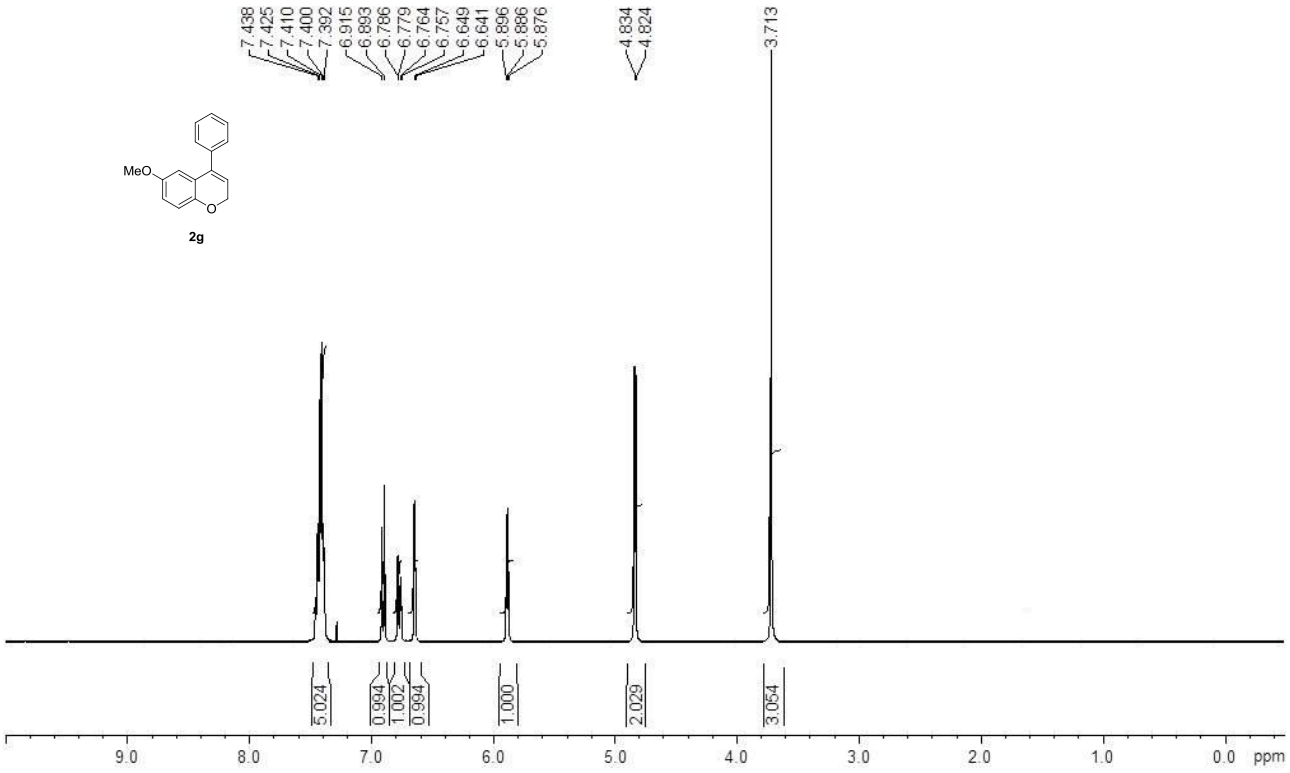

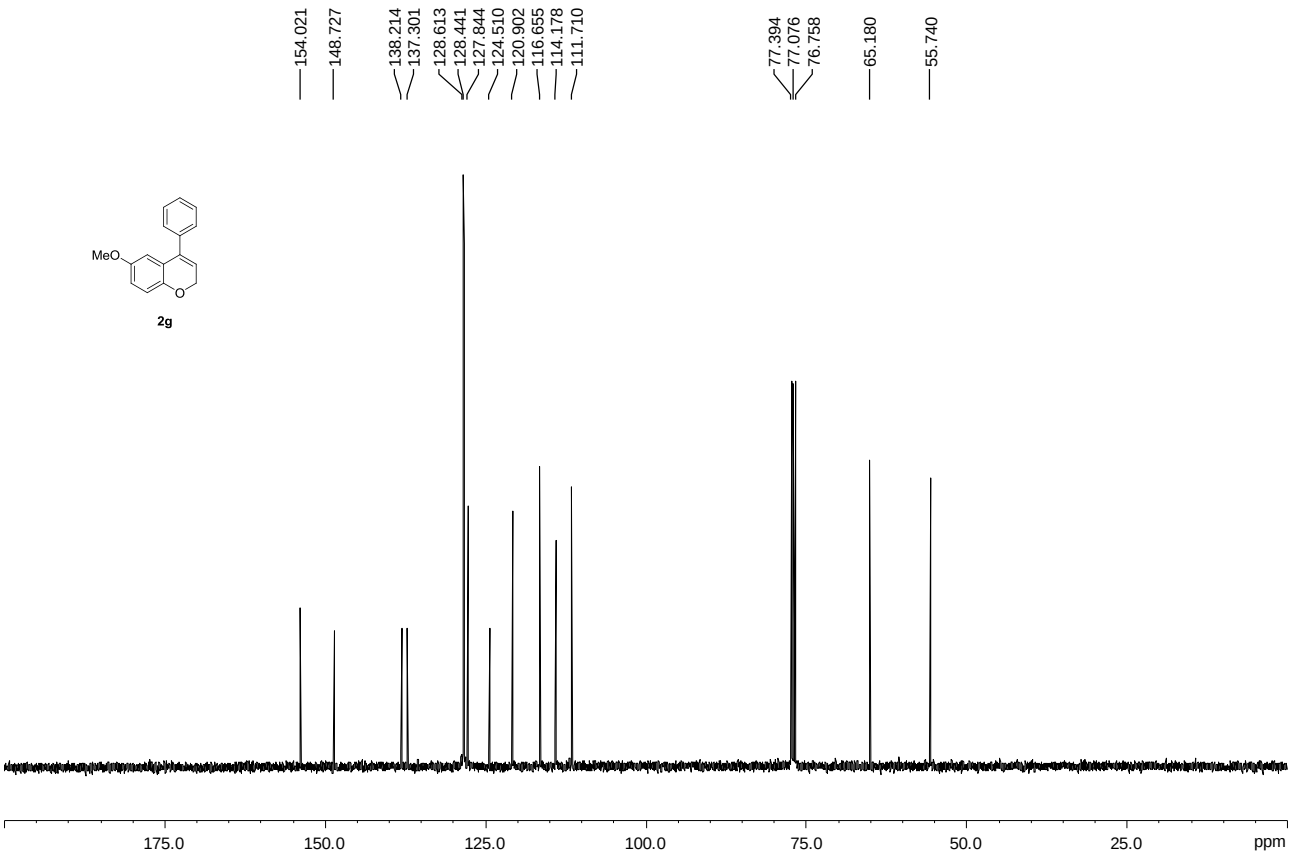

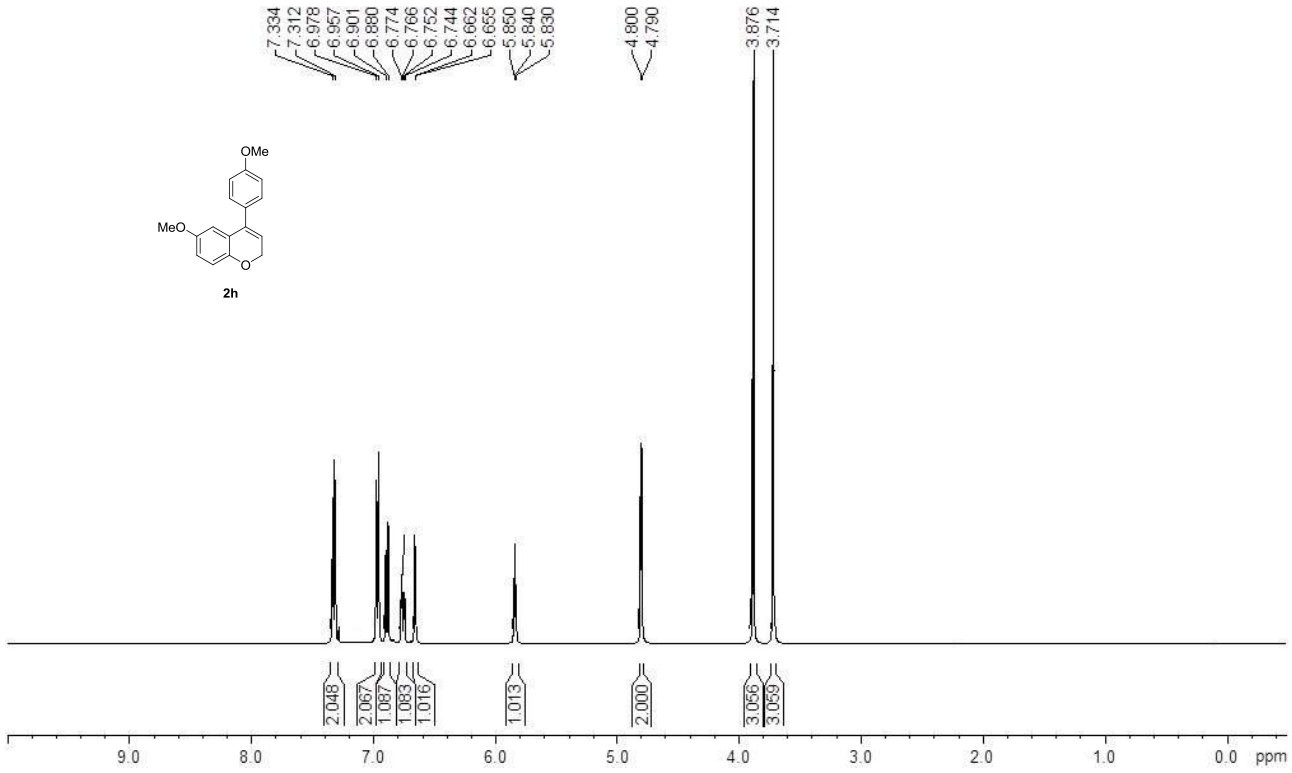

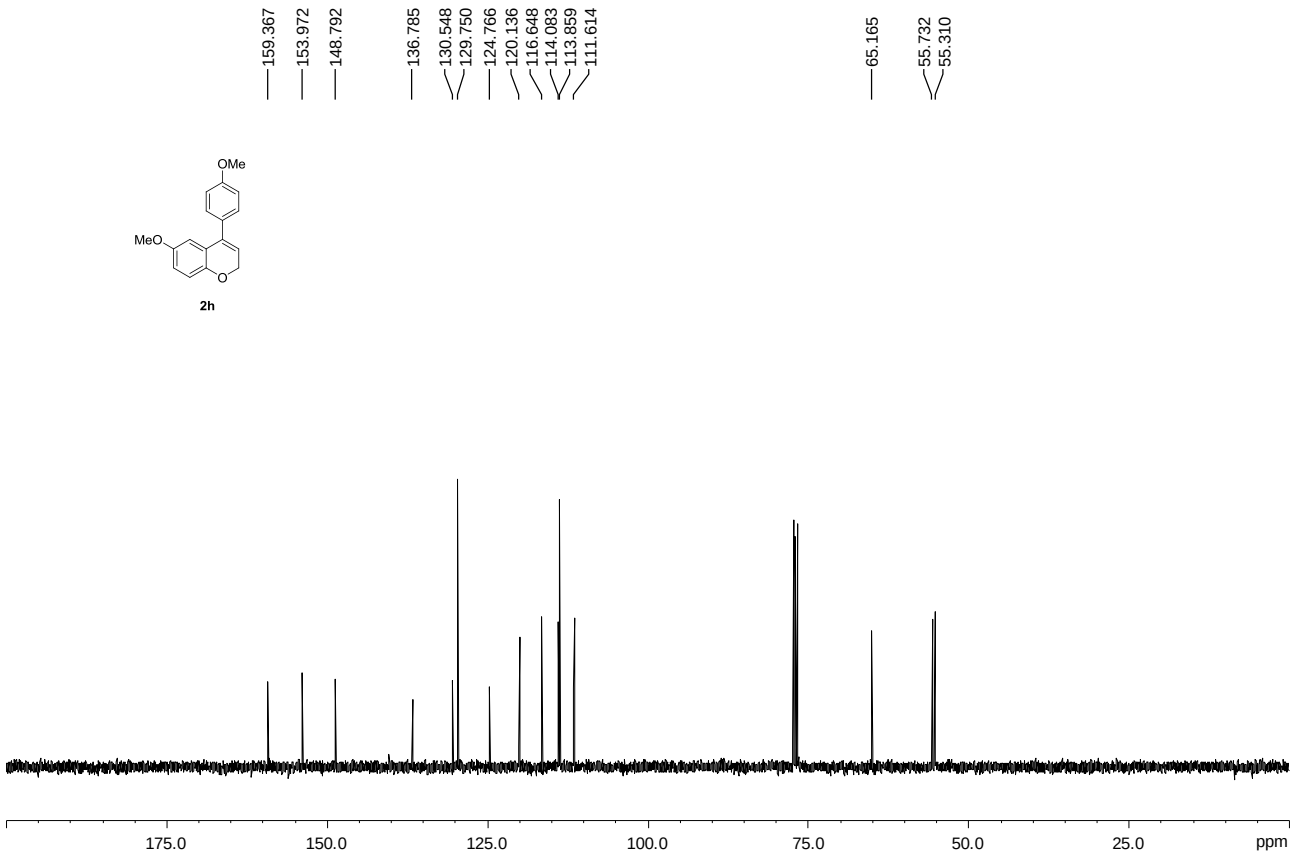

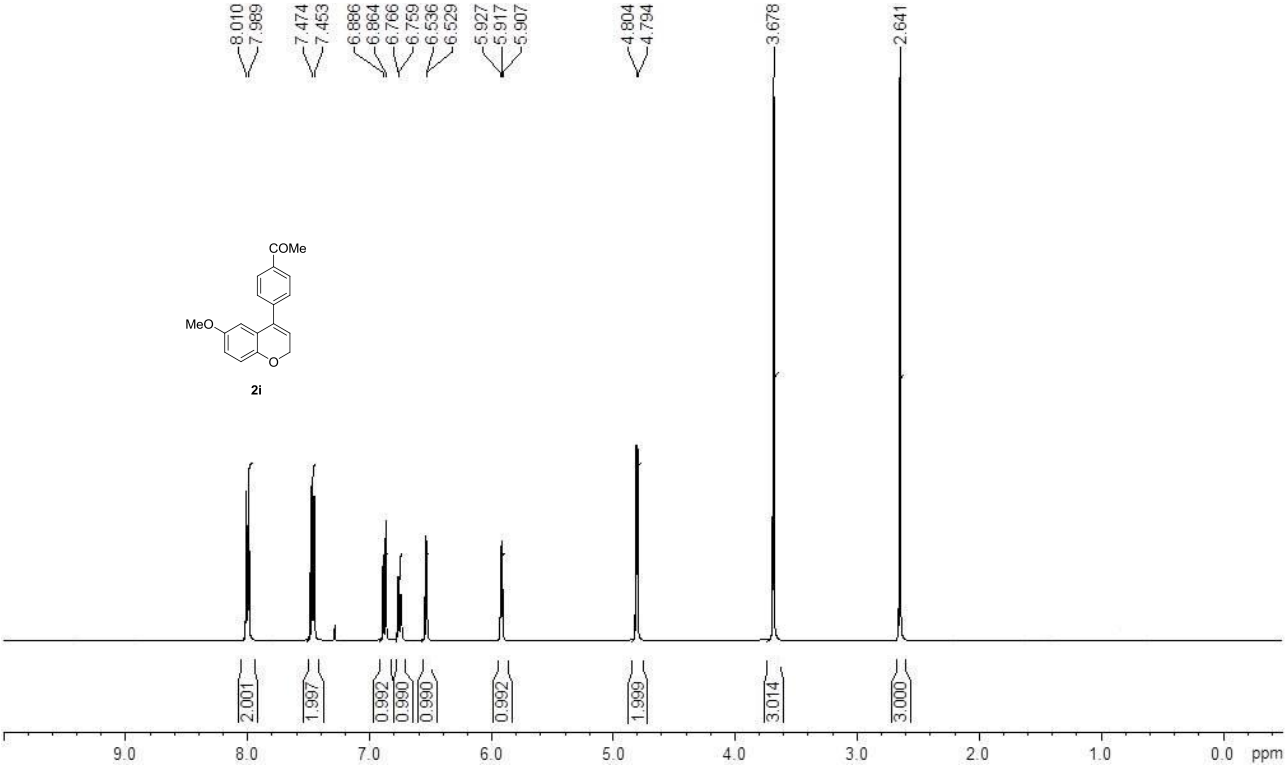

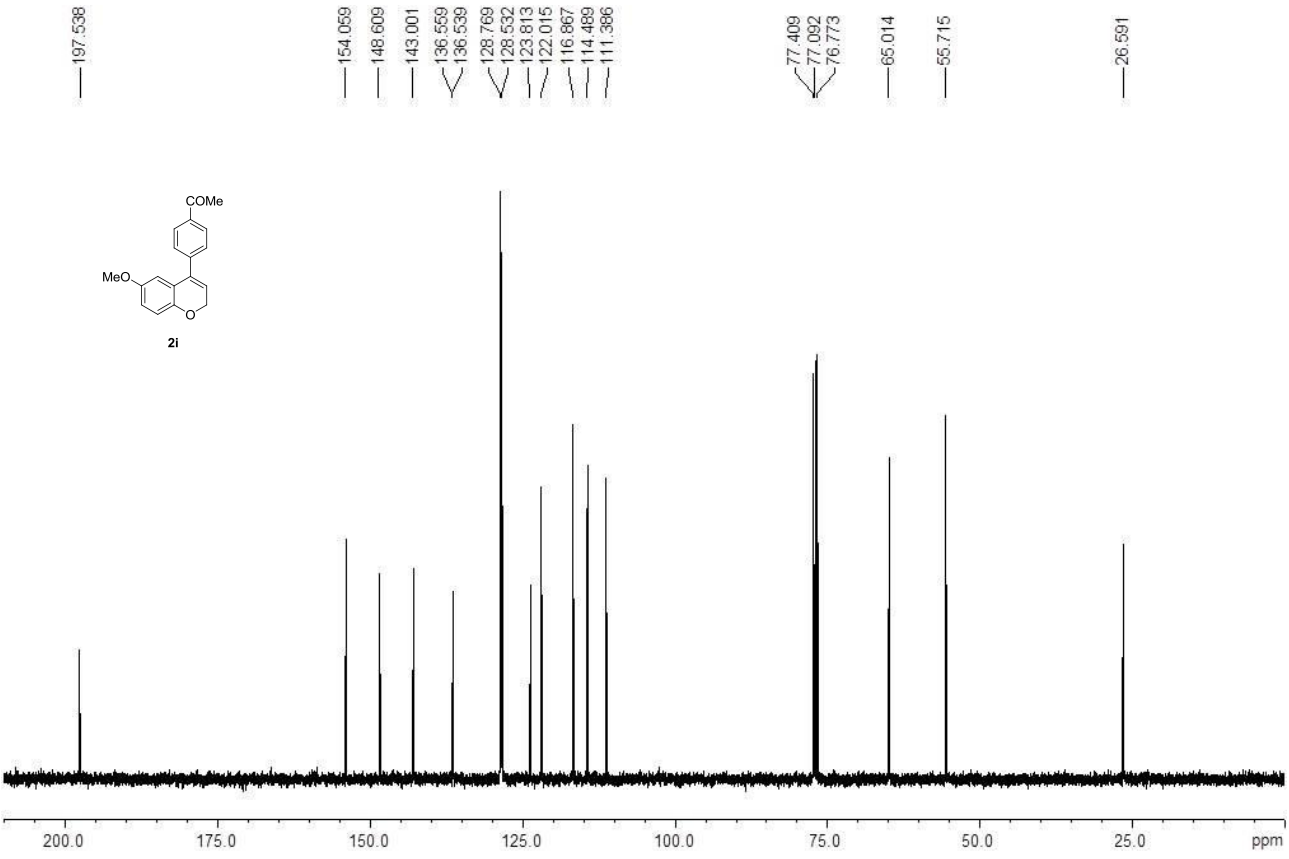

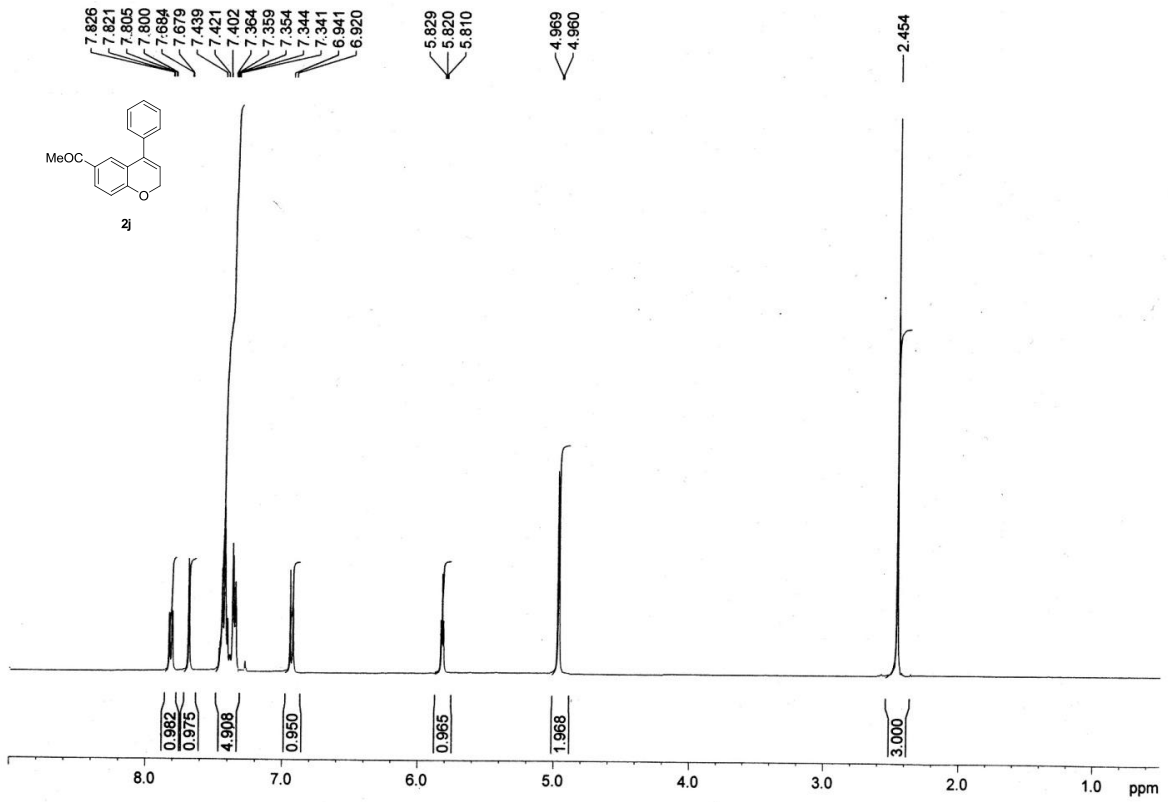

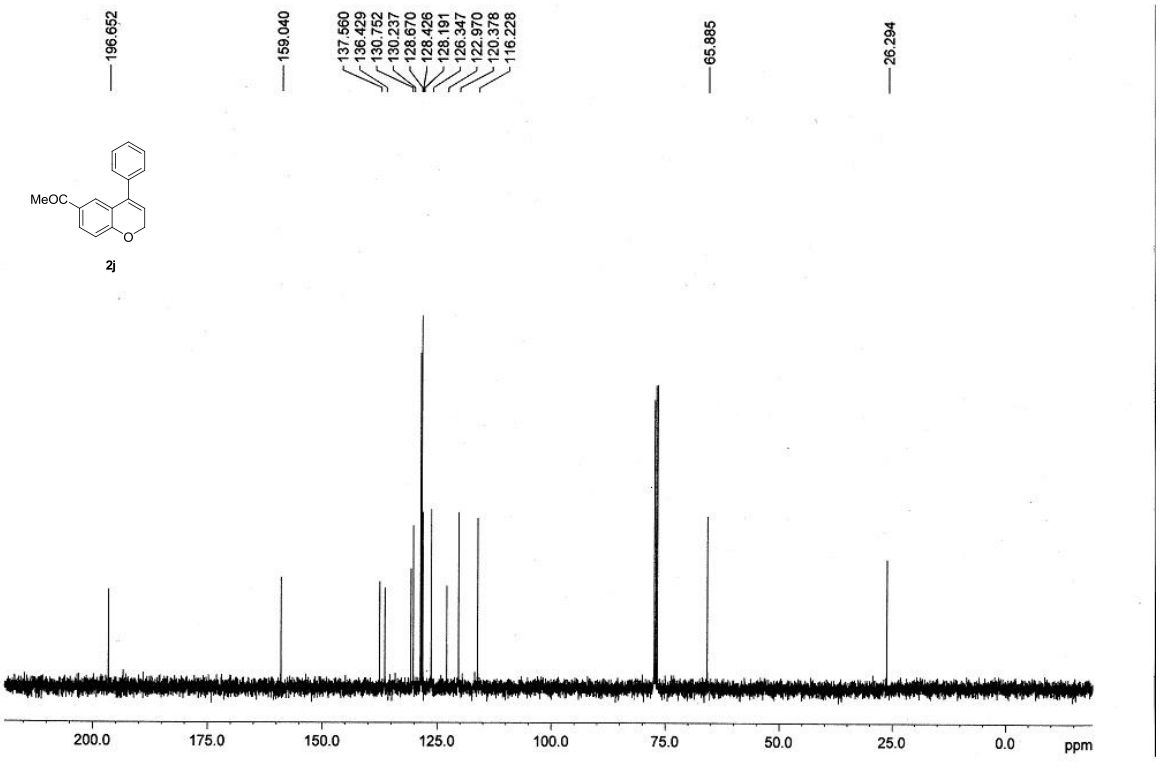

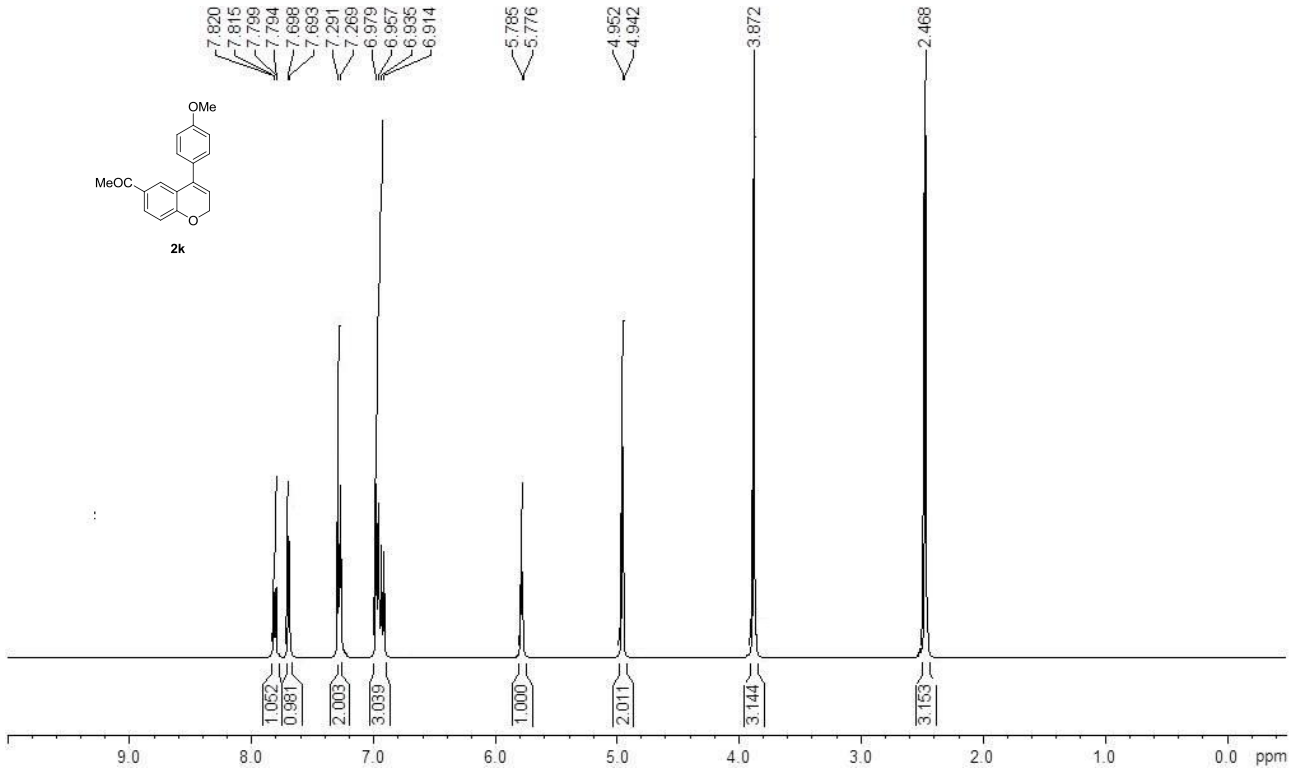

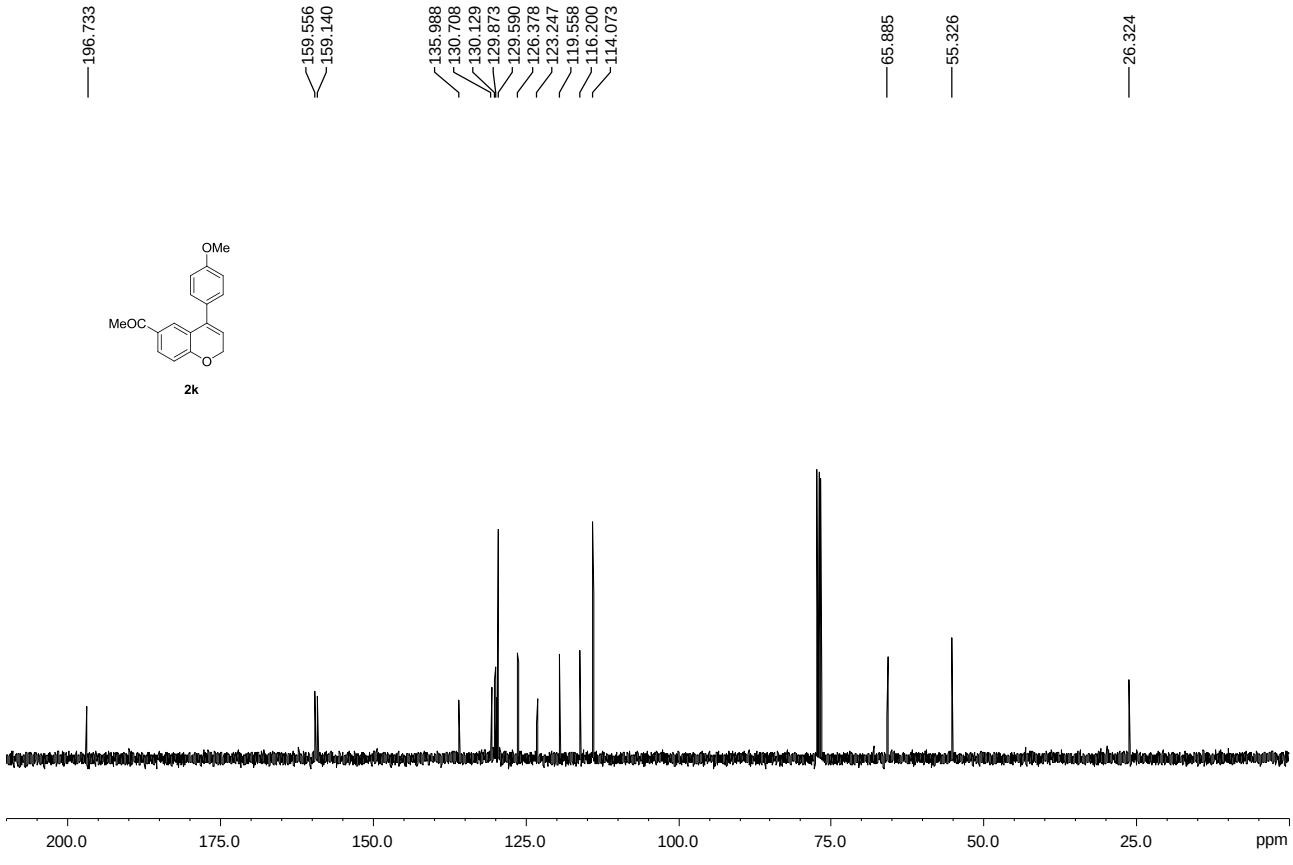

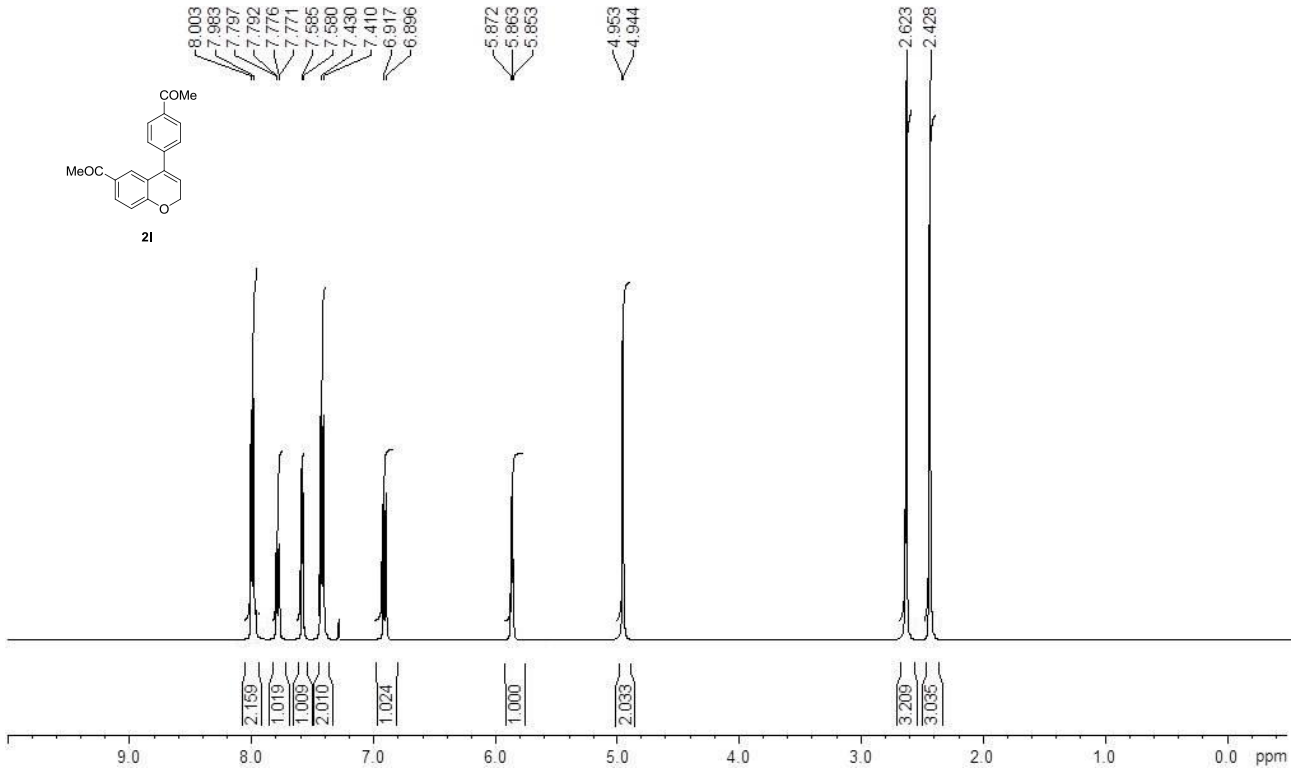

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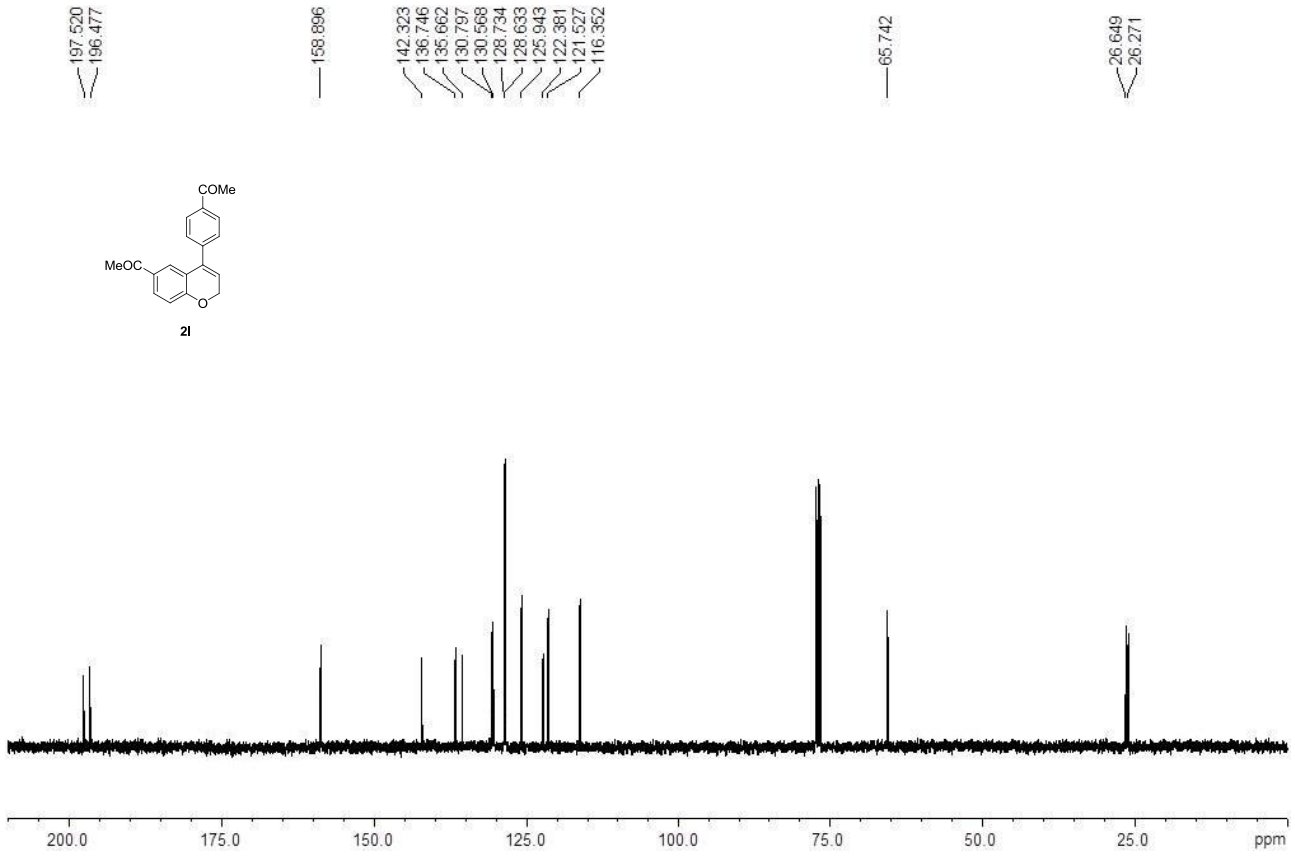

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