

Supporting Information

Formation of DPM Ethers Using O-Diphenylmethyl Trichloroacetimidate Under Thermal Conditions

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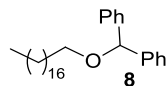
General Information. All anhydrous reactions were run under a positive pressure of argon or nitrogen. All syringes, needles, and reaction flasks required for anhydrous reactions were dried in an oven and cooled under an N₂ atmosphere or in a desiccator. DCM and THF were dried by passage through an alumina column by the method of Grubbs.¹ Triethylamine was distilled from CaH₂. All other reagents and solvents were purchased from commercial sources and used without further purification.

Analysis and Purification. Analytical thin layer chromatography (TLC) was performed on precoated glass backed plates (silica gel 60 F₂₅₄; 0.25 mm thickness). The TLC plates were visualized by UV illumination and by staining. Solvents for chromatography are listed as volume:volume ratios. Flash column chromatography was carried out on silica gel (40-63 μm). Melting points were recorded using an electrothermal melting point apparatus and are uncorrected. Elemental analyses were performed on an elemental analyzer with a thermal conductivity detector and 2 meter GC column maintained at 50 °C.

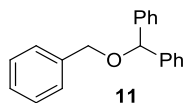
Identity. Proton (¹H NMR) and carbon (¹³C NMR) nuclear magnetic resonance spectra were recorded at 300 or 400 MHz and 75 or 100 MHz respectively. The chemical shifts are given in parts per million (ppm) on the delta (δ) scale. Coupling constants are reported in hertz (Hz). The spectra were recorded in solutions of deuterated chloroform (CDCl₃), with residual chloroform (δ 7.26 ppm for ¹H NMR, δ 77.23 ppm for ¹³C NMR) or tetramethylsilane (δ 0.00 for ¹H NMR, δ 0.00 for ¹³C NMR) as the internal reference. Data are reported as follows: (s = singlet; d = doublet; t = triplet; q = quartet; p = pentet; sep = septet; dd = doublet of doublets; dt = doublet of triplets; td = triplet of doublets; tt = triplet of triplets; qd = quartet of doublets; ddd = doublet of doublet of doublets; br s = broad singlet). Where applicable, the number of protons attached to the corresponding carbon atom was determined by DEPT 135 NMR. Infrared (IR) spectra were obtained as thin films on NaCl plates by dissolving the compound in CH₂Cl₂ followed by evaporation or as KBr pellets.

General Procedure for the Formation of DPM Ethers from Alcohols under Thermal Conditions:

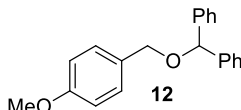
Alcohol was placed in a 25 mL flame dried round bottom flask and dissolved in anhydrous toluene to a concentration of 0.25 M. The trichloroacetimidate (1.2 equiv) was added and the reaction warmed to reflux. After 18 hours, the reaction was cooled to room temperature and concentrated under reduced pressure. The residue was pre-adsorbed on silica gel and purified by silica gel column chromatography. In some cases the residue was dissolved in ethyl acetate, washed with 2M aq. NaOH (3x), dried (Na₂SO₄) and concentrated (this workup removes the trichloroacetamide byproduct and was used in cases where the trichloroacetamide was difficult to separate chromatographically).



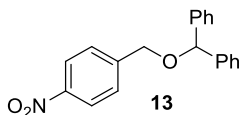
Octadecyloxydiphenylmethane (8). White solid (0.273 g, 85%). mp = 47-48 °C; TLC R_f = 0.80 (10% ethyl acetate/hexanes); IR (thin film from CH₂Cl₂) 3027, 2923, 2852, 1493, 1453, 1097 cm⁻¹; ¹H NMR (300 MHz, CDCl₃) δ 7.21-7.37 (m, 10H), 5.33 (s, 1H), 3.44 (t, J = 6.6 Hz, 2H), 1.60-1.67 (m, 2H), 1.26 (m, 30H), 0.88 (t, J = 6.3 Hz, 3H); ¹³C NMR (75 MHz, CDCl₃) δ 142.9, 128.5, 127.5, 127.2, 83.8, 69.4, 32.2, 30.1, 29.94, 29.91, 29.87, 29.85, 29.7, 29.6, 26.5, 22.9, 14.3 (several signals in the aliphatic region were not resolved). Anal calcd for C₃₁H₄₈O: C, 85.26; H, 11.08. Found: C, 85.18; H, 11.13.



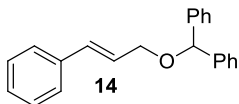
Benzyloxydiphenylmethane (11).² Clear oil (0.238 g, 94%). TLC R_f = 0.92 (25% ethyl acetate/hexanes); ¹H NMR (300 MHz, CDCl₃) δ 7.24-7.42 (m, 15H), 5.46 (s, 1H), 4.56 (s, 2H); ¹³C NMR (75 MHz, CDCl₃) δ 142.4, 138.6, 128.6, 128.6, 127.9, 127.72, 127.65, 127.3, 82.7, 70.7.



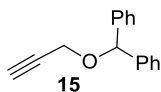
(4-Methoxybenzyloxy)diphenylmethane (12).³ Clear oil (0.314 g, 71%). TLC R_f = 0.50 (10% ethyl acetate/hexanes); ¹H NMR (300 MHz, CDCl₃) δ 7.24-7.41 (m, 12H), 6.91 (d, J = 8.7 Hz, 2H), 5.45 (s, 1H), 4.50 (s, 2H), 3.83 (s, 3H); ¹³C NMR (100 MHz, CDCl₃) δ 159.3, 142.4, 130.6, 129.5, 128.5, 127.6, 127.3, 113.9, 82.2, 70.3, 55.4.



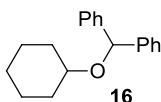
(((4-Nitrobenzyloxy)methylene)dibenzene (13). Off-white solid (0.460 g, 88%). mp = 62-64 °C (DCM); TLC R_f = 0.59 (40% DCM/60% hexanes); IR (thin film from CH₂Cl₂) 3062, 3028, 2922, 2857, 1493, 1347, 1288 cm⁻¹; ¹H NMR (300 MHz, CDCl₃) δ 8.19 (d, J = 8.7 Hz, 2H), 7.52 (d, J = 8.1 Hz, 2H), 7.25-7.40 (m, 10H), 5.46 (s, 1H), 4.62 (s, 2H); ¹³C NMR (75 MHz, CDCl₃) δ 147.4, 146.1, 141.6, 128.6, 127.8, 127.7, 127.0, 123.6, 83.5, 69.5. Anal calcd for C₂₀H₁₇NO₃: C, 77.22; H, 5.37; N, 3.49. Found: C, 77.20; H, 5.31; N, 3.44.



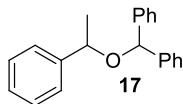
Cinnamyloxydiphenylmethane (14).⁴ White solid (0.395 g, 88%). mp = 55-57 °C; TLC R_f = 0.58 (25% ethyl acetate/hexanes); ^1H NMR (300 MHz, CDCl_3) δ 7.23-7.42 (m, 15H), 6.63 (d, J = 15.9 Hz, 1H), 6.32-6.41 (m, 1H), 5.51 (s, 1H), 4.20 (dd, J = 6.0, 1.5 Hz, 2H); ^{13}C NMR (75 MHz, CDCl_3) δ 142.3, 136.9, 132.3, 128.6, 128.5, 127.7, 127.5, 127.1, 126.6, 126.3, 82.8, 69.4.



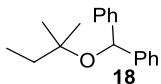
Diphenyl(prop-2-ynyloxy)methane (15).⁵ Yellow oil (0.384 g, 97%). TLC R_f = 0.86 (10% ethyl acetate/hexanes); ^1H NMR (300 MHz, CDCl_3) δ 7.24-7.40 (m, 10H), 5.68 (s, 1H), 4.17 (d, J = 2.4 Hz, 2H), 2.46 (t, J = 2.4 Hz, 1H); ^{13}C NMR (100 MHz, CDCl_3) δ 141.3, 128.6, 127.9, 127.5, 81.8, 79.9, 74.8, 56.0.



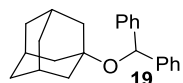
((Cyclohexyloxy)methylene)dibenzene (16).⁶ Clear oil (0.494 g, 93%). TLC R_f = 0.68 (10% ethyl acetate/hexanes); ^1H NMR (300 MHz, CDCl_3) δ 7.24-7.40 (m, 10H), 5.58 (s, 1H), 3.35-3.44 (m, 1H), 1.93 (dd, J = 9.0, 6.0 Hz, 2H), 1.76-1.82 (m, 2H), 1.41-1.58 (m, 3H), 1.26 (q, J = 8.3 Hz, 3H); ^{13}C NMR (75 MHz, CDCl_3) δ 143.3, 128.4, 127.31, 127.26, 80.1, 75.1, 32.5, 26.0, 24.2.



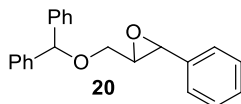
((1-Phenylethoxy)methylene)dibenzene (17).⁷ Clear oil (0.434 g, 92%). TLC R_f = 0.85 (10% acetone/hexanes); ^1H NMR (300 MHz, CDCl_3) δ 7.20-7.41 (m, 15H), 5.31 (s, 1H), 4.51 (q, J = 6.6 Hz, 1H), 1.53 (d, J = 6.3 Hz, 3H); ^{13}C NMR (75 MHz, CDCl_3) δ 143.9, 143.0, 142.2, 128.7, 128.4, 128.3, 127.73, 127.70, 127.67, 127.3, 127.1, 126.7, 80.2, 75.1, 24.5.



((tert-Pentyloxy)methylene)dibenzene (18).⁸ Clear oil (0.489 g, 85%). TLC R_f = 0.92 (10% ethyl acetate/hexanes); ^1H NMR (300 MHz, CDCl_3) δ 7.41 (d, J = 6.9 Hz, 4H), 7.33 (t, J = 7.2 Hz, 4H), 7.20-7.26 (m, 2H), 5.60 (s, 1H), 1.62 (q, J = 7.5 Hz, 2H), 1.17 (s, 6H), 0.91 (t, J = 7.5 Hz, 3H); ^{13}C NMR (100 MHz, CDCl_3) δ 145.6, 128.3, 127.0, 126.9, 76.9, 75.6, 34.8, 26.1, 8.9.

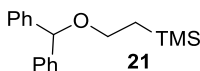


1-(Benzhydryloxy)adamantane (19). Orange solid (0.383 g, 92%). mp = 64-66 °C; TLC R_f = 0.71 (10% ethyl acetate/hexanes); IR (thin film from CH_2Cl_2) 3025, 2905, 2850, 1492, 1451, 1354, 1082 cm^{-1} ; ^1H NMR (300 MHz, CDCl_3) δ 7.20-7.39 (m, 10H), 5.80 (s, 1H), 2.14 (s, 3H), 1.83 (bs, 6H), 1.62 (bs, 6H); ^{13}C NMR (100 MHz, CDCl_3) δ 145.3, 128.2, 127.2, 126.9, 74.4, 73.8, 43.0, 36.6, 30.8. Anal calcd for $\text{C}_{23}\text{H}_{26}\text{O}$: C, 86.75; H, 8.23. Found: C, 86.72; H, 8.18.

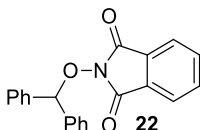


2-((Benzhydryloxy)methyl)-3-phenyloxirane (20).⁹ Clear oil (0.255 g, 65%) TLC R_f = 0.50 (10% ethyl acetate/hexanes); ^1H NMR (300 MHz, CDCl_3) δ 7.25-7.44 (m, 15H), 5.53 (s, 1H), 3.86 (dd, J =

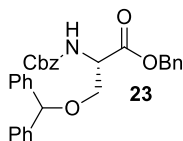
11.5, 3.1 Hz, 1H), 3.80 (d, $J = 2.0$ Hz, 1H) 3.66 (dd, $J = 5.3, 11.5$ Hz, 1H), 3.29-3.32 (m, 1H). ^{13}C NMR (100 MHz, CDCl_3) δ 141.99, 141.94, 137.1, 128.7, 128.6, 128.4, 127.8, 127.77, 127.5, 127.3, 127.2, 125.9, 84.1, 68.9, 61.4, 56.1.



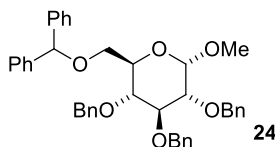
(2-(Benzhydryloxy)ethyl)trimethylsilane (21). Pale yellow oil (0.368 g, 79%). TLC $R_f = 0.56$ (15% $\text{DCM}/5\%$ triethylamine/ 80% hexanes); IR (thin film from CH_2Cl_2) 3087, 3063, 3029, 2953, 2892, 1452, 1317, 1249 cm^{-1} ; ^1H NMR (400 MHz, CDCl_3) δ 7.36 (dd, $J = 6.3, 1.2$ Hz, 4H), 7.30 (t, $J = 6.6$ Hz, 4H), 7.22-7.25 (m, 2H), 5.35 (s, 1H), 3.56 (t, $J = 6.0$ Hz, 2H), 1.03 (t, $J = 6.0$ Hz, 2H), 0.00 (s, 9H); ^{13}C NMR (100 MHz, CDCl_3) δ 144.0, 129.6, 128.5, 128.2, 84.6, 67.6, 19.7, 0.0; Anal calcd for $\text{C}_{18}\text{H}_{24}\text{OSi}$: C, 76.00; H, 8.50; Found: C, 75.77; H, 8.62.



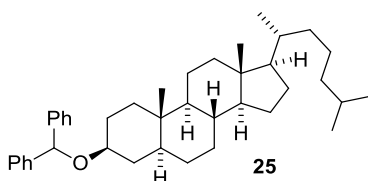
2-(Benzhydryloxy)isoindoline-1,3-dione (22).¹⁰ Yellow solid (0.323 g, 80%). mp = 160-162 $^\circ\text{C}$; TLC $R_f = 0.29$ (10% acetone/hexanes); ^1H NMR (300 MHz, CDCl_3) δ 7.66-7.76 (m, 4H), 7.52-7.56 (m, 4H), 7.29-7.39 (m, 6H), 6.53 (s, 1H); ^{13}C NMR (100 MHz, CDCl_3) δ 163.8, 137.9, 134.4, 128.9, 128.8, 128.5, 128.4, 123.4, 89.7.



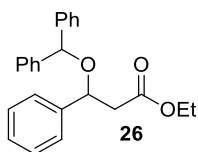
(S)-Benzyl 3-(benzhydryloxy)-2-(((benzyloxy)carbonyl)amino)propanoate (23). Clear oil (0.273 g, 91%). $[\alpha]_D^{21.6} -12.5$ (c 1.26, CHCl_3); TLC $R_f = 0.18$ (10% ethyl acetate/hexanes); IR (thin film from CH_2Cl_2) 3434, 3341, 3062, 3030, 2949, 2876, 1722, 1498, 1339, 1197, 1067 cm^{-1} ; ^1H NMR (400 MHz, CDCl_3) δ 7.07-7.30 (m, 20H), 5.63 (d, $J = 12.0$ Hz, 1H), 5.19 (s, 1H), 5.12 (d, $J = 4.0$ Hz, 2H), 5.04 (s, 2H), 4.49 (dt, $J = 2.8$ Hz, 1H), 3.84 (dd, $J = 9.4, 2.8$ Hz, 1H), 3.60 (dd, $J = 9.4, 3.1$ Hz, 1H); ^{13}C NMR (75 MHz, CDCl_3) δ 170.3, 156.1, 141.6, 141.4, 136.4, 135.4, 128.7, 128.65, 128.6, 128.5, 128.4, 128.3, 128.2, 127.7, 127.0, 126.9, 84.2, 69.0, 67.4, 67.2, 54.8. (note: two signals in the aromatic region were not resolved.) Anal calcd for $\text{C}_{31}\text{H}_{29}\text{NO}_5$: C, 75.13; H, 5.90; N, 2.83. Found: C, 74.94; H, 5.97; N, 3.00. Chiral HPLC analysis: Chiralcel OD (heptane/2-PrOH = 90/10, 1.0 mL/min, 254 nm, 25 $^\circ\text{C}$): $t_{(S \text{ enantiomer})} = 16.7$ min, $t_{(R \text{ enantiomer})} = 23.9$ min.



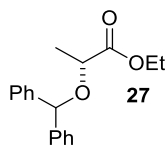
Methyl 2,3,4-Tri-O-benzyl-6-O-diphenylmethyl- α -D-glucopyranoside (24).¹¹ Clear colored oil (0.750 g, 73%). TLC $R_f = 0.43$ (15% ethyl acetate/85% hexanes); ^1H NMR (300 MHz, CDCl_3) δ 7.55-7.18 (m, 25 H), 5.50 (s, 1H), 5.13 (d, $J = 10.8$ Hz, 1H), 4.98 (t, $J = 11.1$ Hz, 2H), 4.93 (d, $J = 12.0$ Hz, 1H), 4.82 (d, $J = 11.7$ Hz, 1H), 4.80 (d, $J = 3.6$ Hz, 1H), 4.68 (d, $J = 11.1$ Hz, 1H), 4.16 (t, $J = 9.3$ Hz, 1H), 3.89-3.99 (m, 1H), 3.77-3.84 (m, 3H), 3.72 (dd, $J = 3.6, 9.6$ Hz, 1H), 3.49 (s, 3H); ^{13}C NMR (75 MHz, CDCl_3) δ 142.2, 142.1, 138.8, 138.3, 138.2, 128.5, 128.4, 128.36, 128.1, 127.9, 127.8, 127.7, 127.5, 127.4, 127.2, 126.9, 98.1, 84.1, 82.3, 80.1, 78.0, 75.9, 75.1, 73.4, 70.3, 67.9, 55.1.



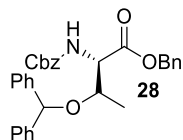
(3S,5S,8R,9S,10S,13R,14S,17R)-3-(Benzhydryloxy)-10,13-dimethyl-17-((R)-6-methylheptan-2-yl)hexadecahydro-1H-cyclopenta[a]phenanthrene (25). White solid (0.374 g, 87%). $[\alpha]_D^{21.6} +12.4$ (*c* 1.04, CHCl₃); mp = 127-129 °C; TLC $R_f = 0.74$ (10% ethyl acetate/hexanes); IR (thin film from CH₂Cl₂) 3027, 2930, 2865, 1493, 1452, 1381, 1062 cm⁻¹; ¹H NMR (300 MHz, CDCl₃) δ 7.16-7.34 (m, 10H), 5.54 (s, 1H), 3.28-3.38 (m, 1H), 0.63-1.92 (m, 46H); ¹³C NMR (75 MHz, CDCl₃) δ 143.3, 128.4, 127.4, 127.3, 80.3, 76.5, 56.7, 56.5, 54.6, 45.0, 42.8, 40.3, 39.7, 37.2, 36.4, 36.0, 35.95, 35.7, 35.3, 32.3, 29.1, 28.7, 28.5, 28.2, 24.4, 24.0, 23.0, 22.8, 21.4, 18.9, 12.5, 12.3. Anal calcd for C₄₀H₅₈O: C, 86.58; H, 10.54. Found: C, 86.59; H, 10.68.



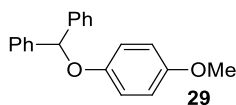
Ethyl 3-(benzhydryloxy)-3-phenylpropanoate (26). White solid (0.178 g, 96%). mp = 73-74 °C; TLC $R_f = 0.53$ (10% ethyl acetate/hexanes); IR (thin film from CH₂Cl₂) 3061, 3028, 2980, 1736, 1493, 1453, 1268, 1172, 1052 cm⁻¹; ¹H NMR (300 MHz, CDCl₃) δ 7.19-7.40 (m, 15H), 5.24 (s, 1H), 4.81 (ddd, *J* = 1.3, 4.9, 9.0 Hz, 1H), 4.00-4.23 (m, 2H), 2.96 (ddd, *J* = 1.4, 9.0, 14.7 Hz, 1H), 2.65 (ddd, *J* = 1.2, 4.9, 14.7 Hz, 1H), 1.21 (td, *J* = 1.1, 7.1 Hz, 3H); ¹³C NMR (100 MHz, CDCl₃) δ 170.8, 142.8, 141.3, 140.7, 128.8, 128.6, 128.3, 128.2, 128.0, 127.9, 127.24, 127.16, 126.7, 80.11, 75.7, 60.6, 44.0, 14.3. Anal calcd for C₂₄H₂₄O₃: C, 79.97; H, 6.71. Found: C, 79.96; H, 6.88.



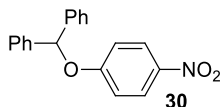
(R)-Ethyl 2-(benzhydryloxy)propanoate (27). Clear oil (0.434 g, 90%). $[\alpha]_D^{21.6} -103.8$ (*c* 1.04, DCM); TLC $R_f = 0.57$ (10% ethyl acetate/hexanes); ¹H NMR (300 MHz, CDCl₃) δ 7.26-7.41 (m, 10H), 5.57 (s, 1H), 4.16-4.28 (m, 2H), 4.08 (q, *J* = 6.0 Hz, 1H), 1.49 (d, *J* = 9.0 Hz, 3H), 1.30 (t, *J* = 9.0 Hz, 3H); ¹³C NMR (100 MHz, CDCl₃) δ 173.6, 142.1, 141.1, 128.7, 128.4, 128.0, 127.7, 127.6, 127.5, 82.8, 72.7, 61.0, 19.0, 14.4. Chiral HPLC analysis: Chiralcel OD (heptane/2-PrOH = 99/1, 1.0 mL/min, 254 nm, 25 °C): $t_{(R \text{ enantiomer})} = 5.3$ min, $t_{(S \text{ enantiomer})} = 5.8$ min.



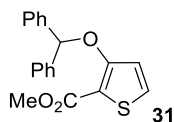
(3S)-Benzyl 3-(benzhydryloxy)-2-(((benzyloxy)carbonyl)amino)butanoate (28). Clear oil (0.249 g, 84%). $[\alpha]_D^{21.6} -27.0$ (*c* 0.94, CH₃Cl); TLC $R_f = 0.25$ (10% ethyl acetate/hexanes); IR (thin film from CH₂Cl₂) 3440, 3062, 3030, 2976, 1724, 1497, 1453, 1319, 1203 cm⁻¹; ¹H NMR (400 MHz, CDCl₃) δ 7.21-7.41 (m, 20H), 5.70 (d, *J* = 12.0 Hz, 1H), 5.39 (s, 1H), 5.20 (d, *J* = 12.0 Hz, 1H), 5.14-5.20 (m, 2H), 4.95 (d, *J* = 12.0 Hz, 1H), 4.44 (dd, *J* = 9.8, 1.9 Hz, 1H), 4.21 (ddd, *J* = 12.5, 6.2, 1.9 Hz, 1H), 1.27 (d, *J* = 4.0 Hz, 3H); ¹³C NMR (75 MHz, CDCl₃) δ 170.8, 157.0, 142.5, 141.5, 136.4, 135.3, 129.2, 128.7, 128.6, 128.5, 128.43, 128.38, 128.3, 128.0, 127.6, 127.5, 126.8, 125.5, 81.2, 72.7, 67.5, 67.4, 59.3, 16.8. Anal calcd for C₃₂H₃₁NO₅: C, 75.42; H, 6.13; N, 2.75. Found: C, 75.16; H, 5.86; N, 2.79.



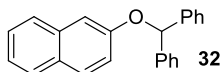
((4-Methoxyphenoxy)methylene)dibenzene (29).¹³ Orange solid (0.424 g, 91%). mp = 84-85 °C; TLC R_f = 0.42 (10% acetone/hexanes); ^1H NMR (300 MHz, CDCl_3) δ 7.26-7.43 (m, 10H), 6.88 (d, J = 9.1 Hz, 2H), 6.75 (d, J = 9.2 Hz, 2H), 6.11 (s, 1H), 3.73 (s, 3H). ^{13}C NMR (100 MHz, CDCl_3) δ 154.2, 152.4, 141.7, 128.7, 127.8, 127.1, 117.4, 114.7, 82.8, 55.7.



((4-Nitrophenoxy)methylene)dibenzene (30).¹⁴ Pale yellow colored solid (0.310 g, 61%). mp = 157-158 °C; TLC R_f = 0.36 (10% ethyl acetate/90% hexanes); ^1H NMR (300 MHz, CDCl_3) δ 8.13 (d, J = 9.0 Hz, 2H), 7.28-7.42 (m, 10H), 7.02 (d, J = 9.3 Hz, 2H), 6.31 (s, 1H); ^{13}C NMR (75 MHz, CDCl_3) δ 162.9, 141.6, 139.8, 128.8, 128.3, 126.7, 125.8, 115.9, 82.5.

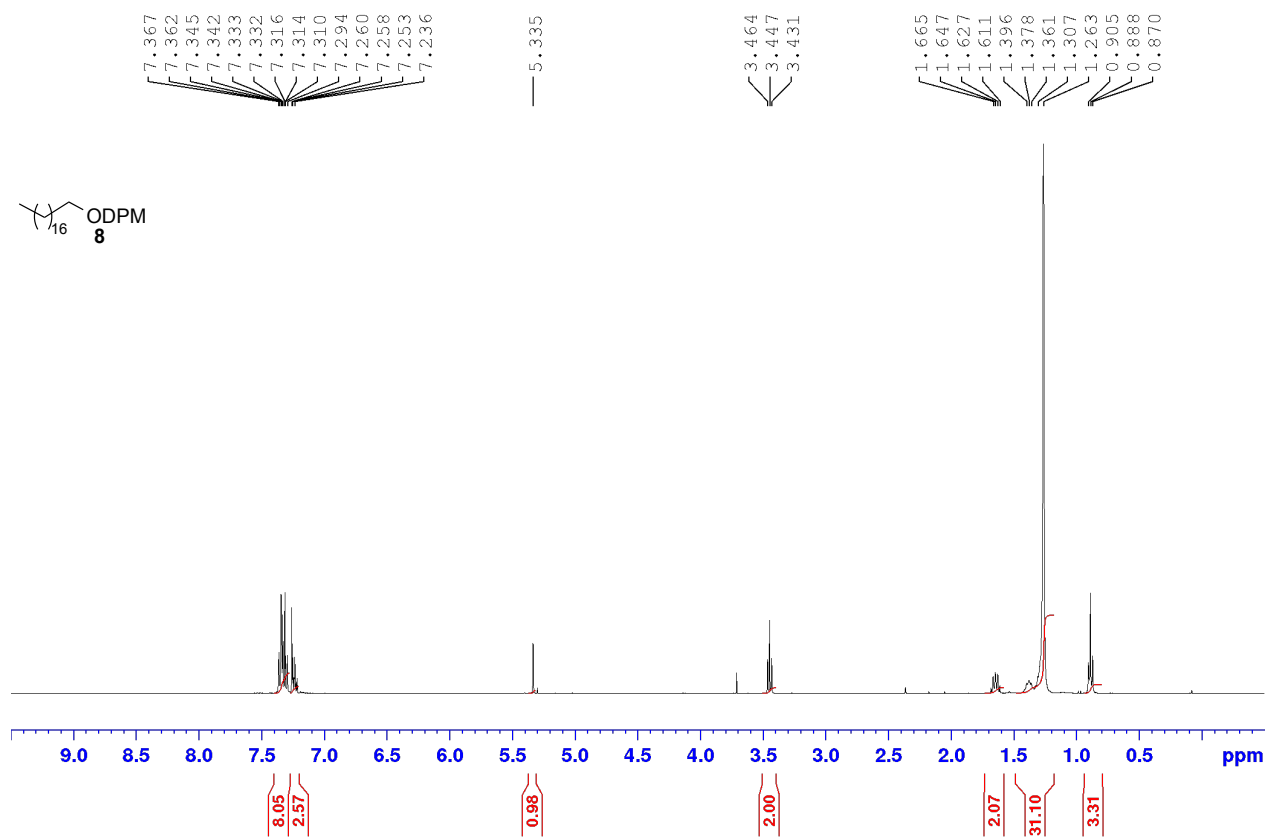


Methyl 3-(benzhydryloxy)thiophene-2-carboxylate (31). White solid, (0.280 g, 53%). mp = 105-106 °C; TLC R_f = 0.3 (10% ethyl acetate/90% hexanes); IR (thin film from CH_2Cl_2) 3061, 3028, 2948, 1711, 1538, 1228, 1062 cm^{-1} ; ^1H NMR (400 MHz, CDCl_3) δ 7.53 (d, J = 7.6 Hz, 4H), 7.35 (t, J = 7.2 Hz, 4H), 7.25-7.28 (m, 3H), 6.74 (d, J = 5.6 Hz, 1H), 6.27 (s, 1H), 3.90 (s, 3H). ^{13}C NMR (100 MHz, CDCl_3) δ 162.4, 160.1, 141.2, 130.4, 128.9, 128.1, 126.7, 118.7, 111.6, 85.0, 51.8. Anal calcd for $\text{C}_{19}\text{H}_{16}\text{O}_3\text{S}$: C, 70.35; H, 4.97; Found: C, 70.26; H, 5.02.

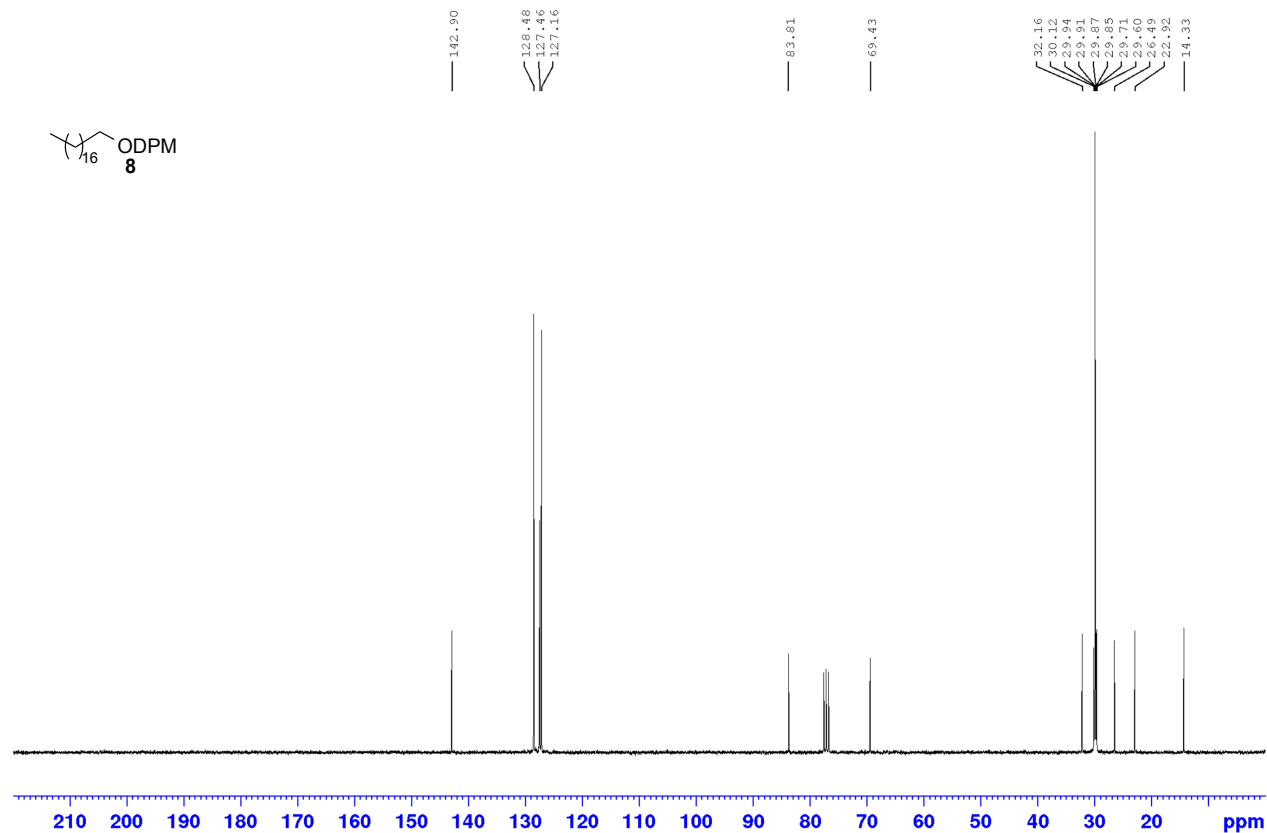


2-(Benzhydryloxy)naphthalene (32).¹⁵ Brown oil (0.317 g, 74%) TLC R_f = 0.32 (10% ethyl acetate/hexanes); ^1H NMR (400 MHz, CDCl_3) δ 8.10 (d, J = 8.6 Hz, 1H), 7.87 (d, J = 8.0 Hz, 1H), 7.82 (d, J = 8.8 Hz, 1H), 7.47-7.51 (m, 1H), 7.33-7.43 (m, 11H), 7.17 (d, J = 8.8 Hz, 1H), 6.53 (s, 1H), 5.35 (s, 1H). ^{13}C NMR (100 MHz, CDCl_3) δ 153.0, 141.8, 133.6, 129.9, 129.8, 129.3, 129.2, 128.9, 127.4, 127.0, 123.4, 123.0, 120.4, 120.0, 48.7.

Octadecyloxydiphenylmethane

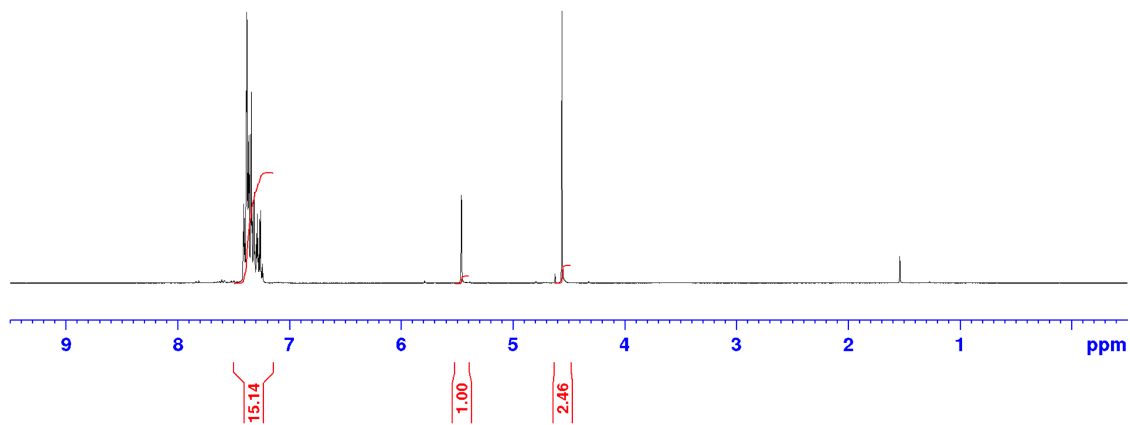
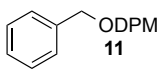


Octadecyloxydiphenylmethane

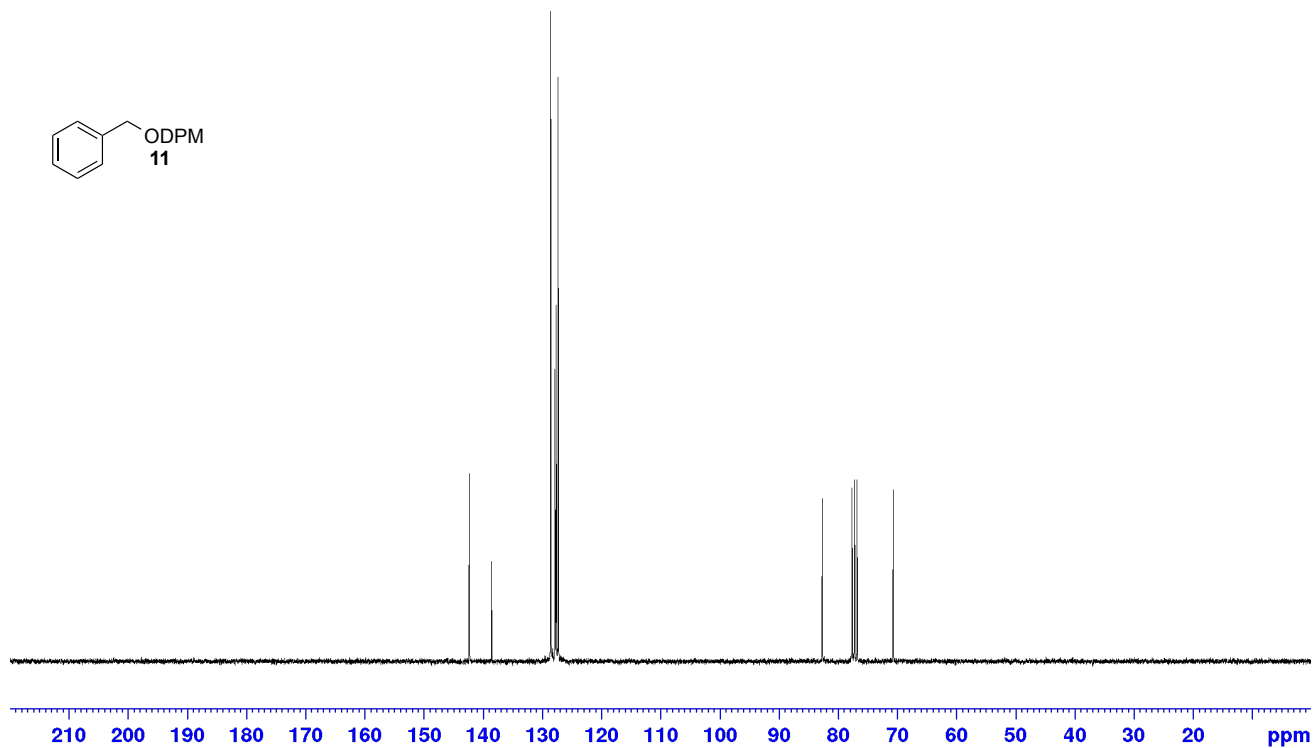
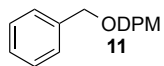


Benzyloxydiphenylmethane

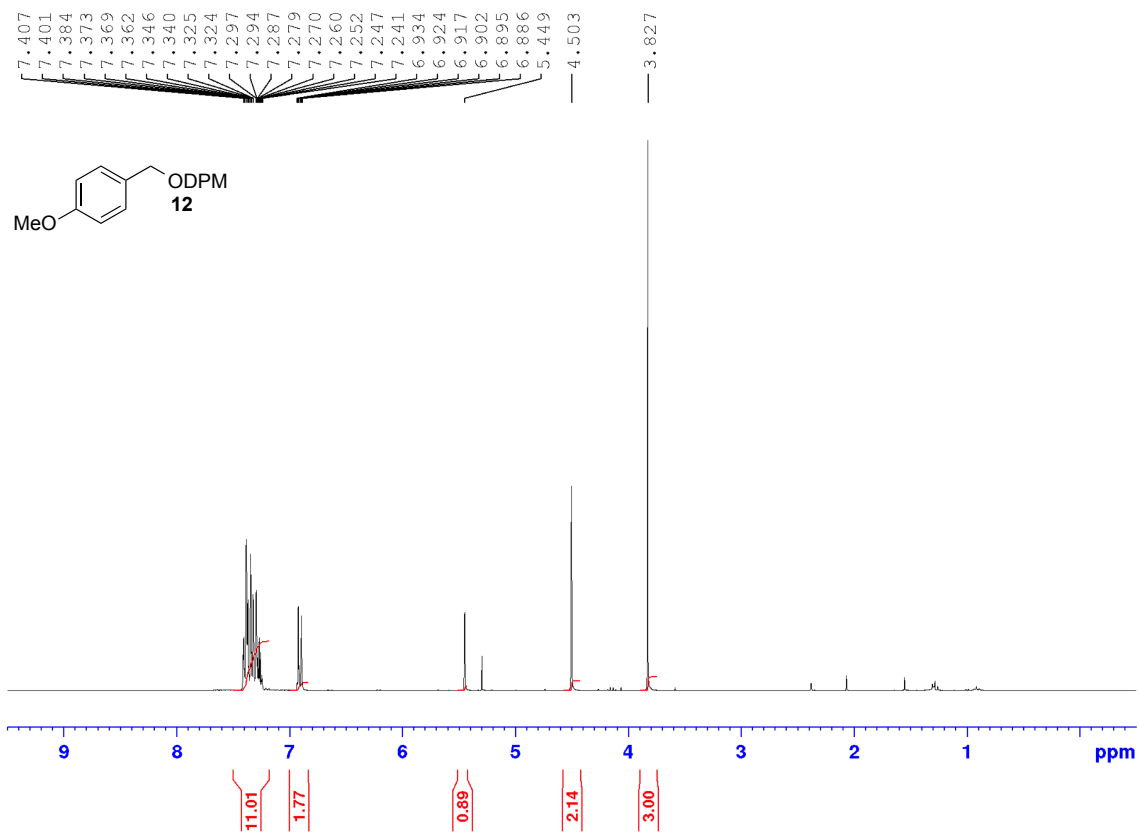
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4.561



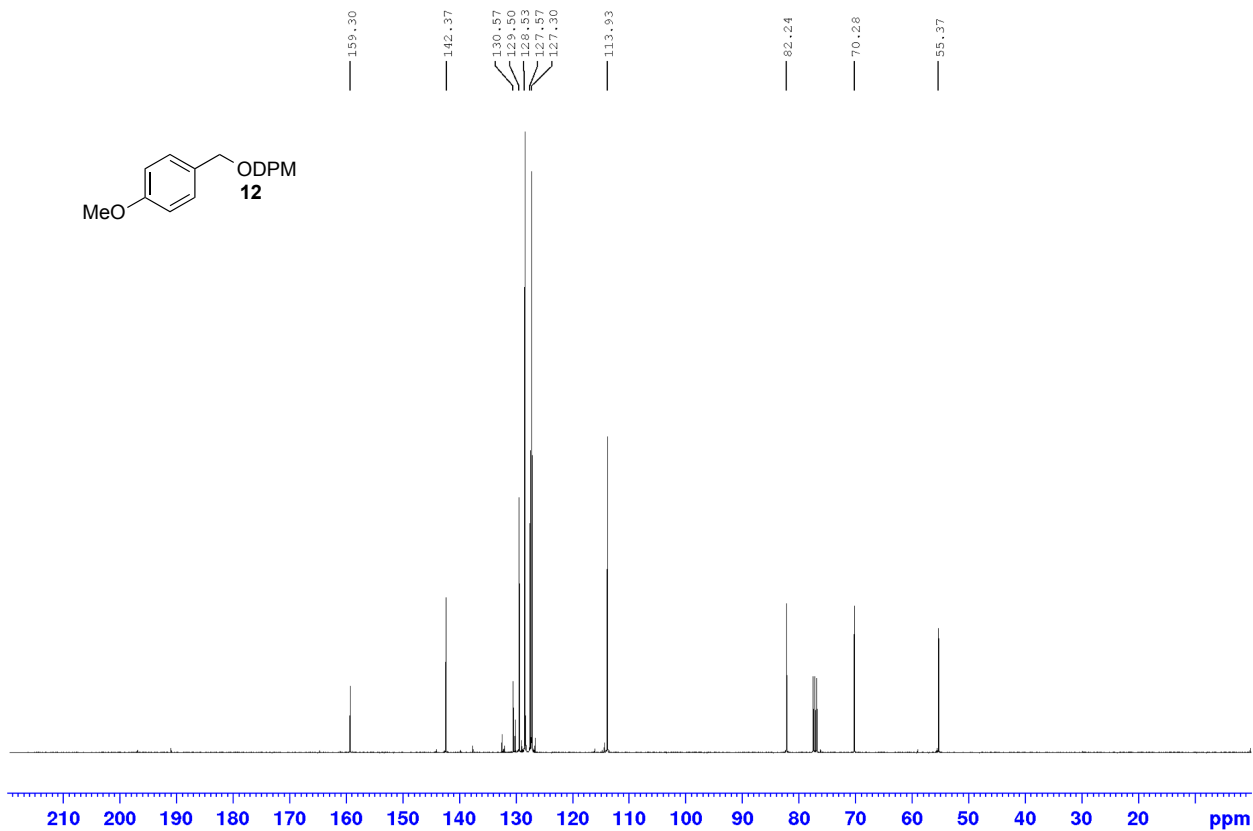
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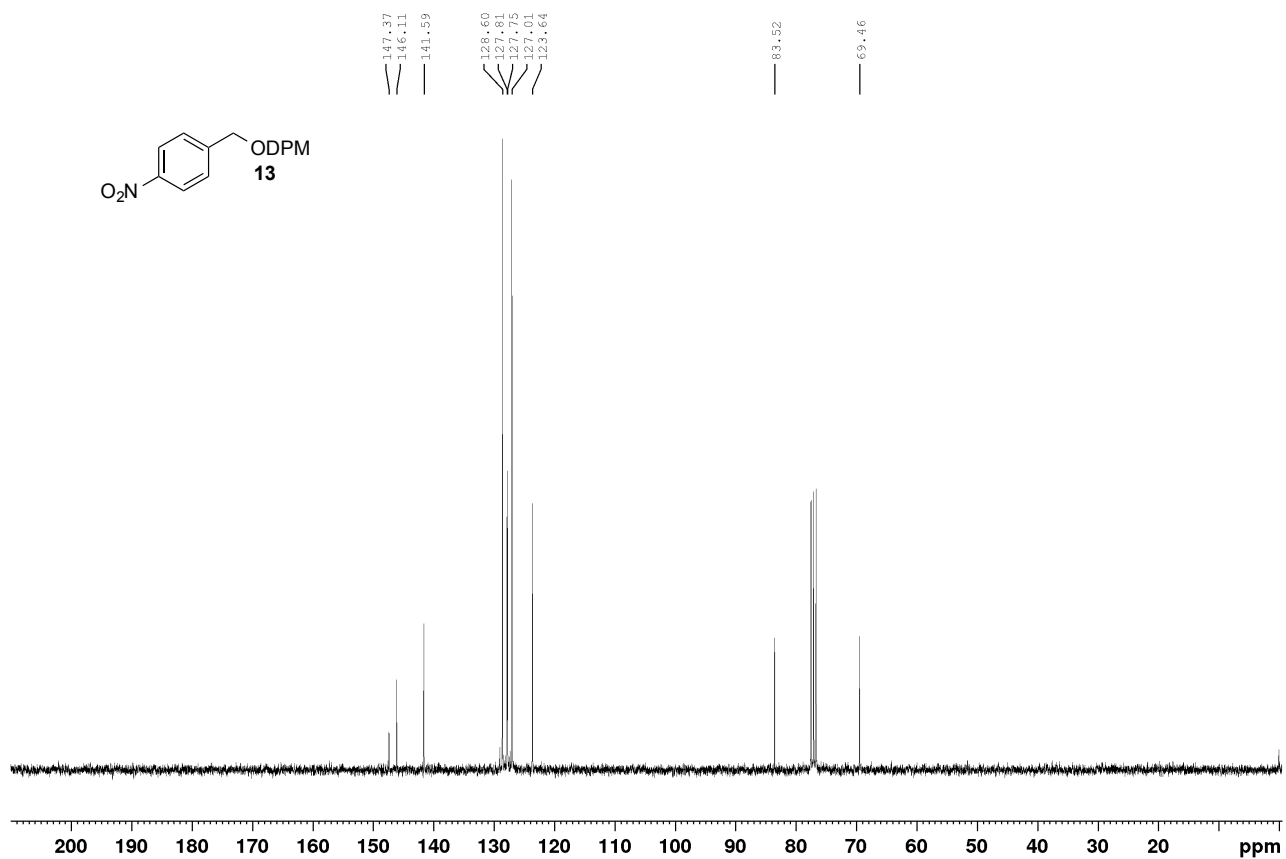
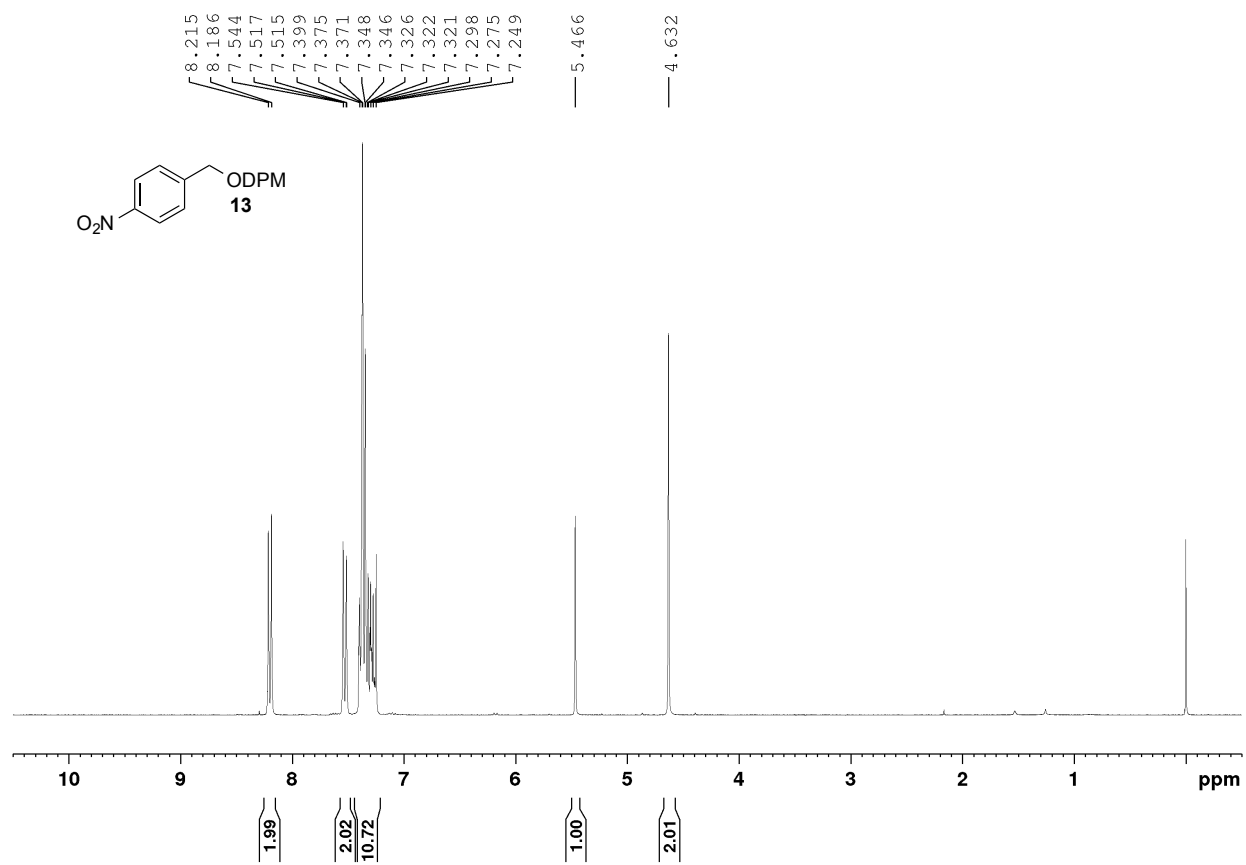


(4-Methoxybenzyloxy) diphenylmethane

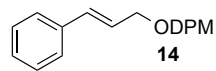
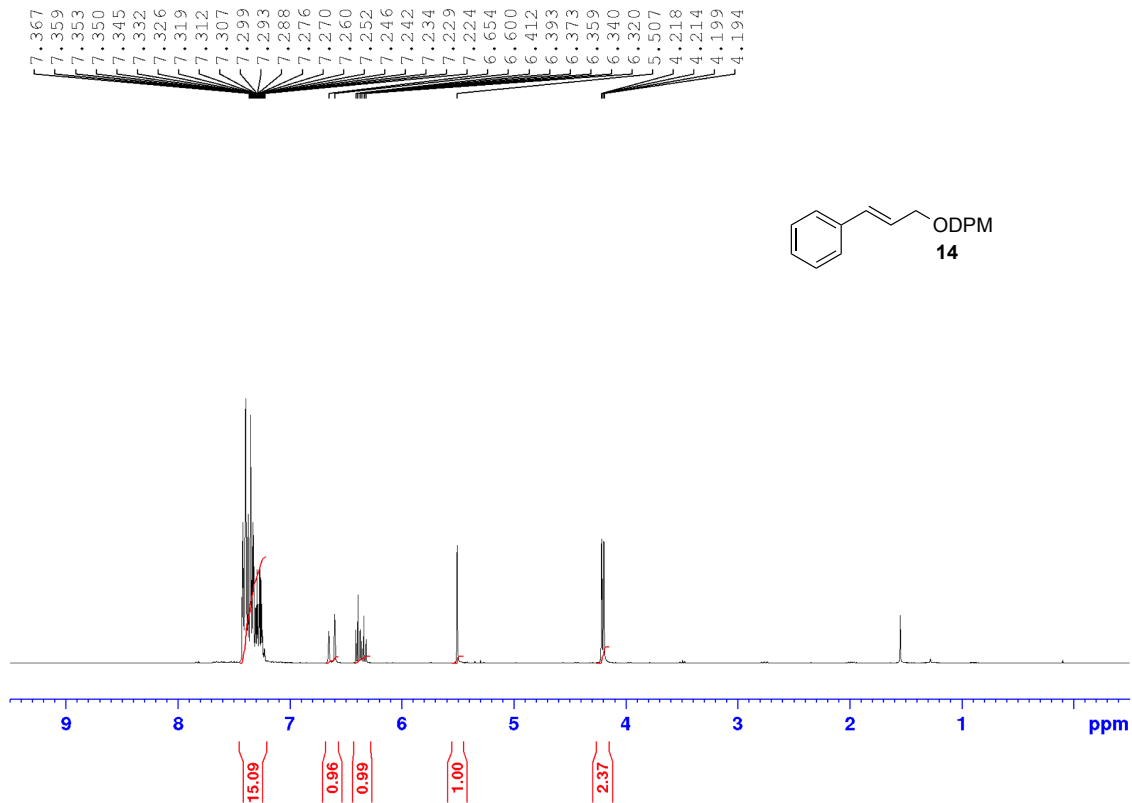


(4-Methoxybenzyloxy) diphenylmethane

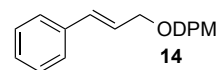
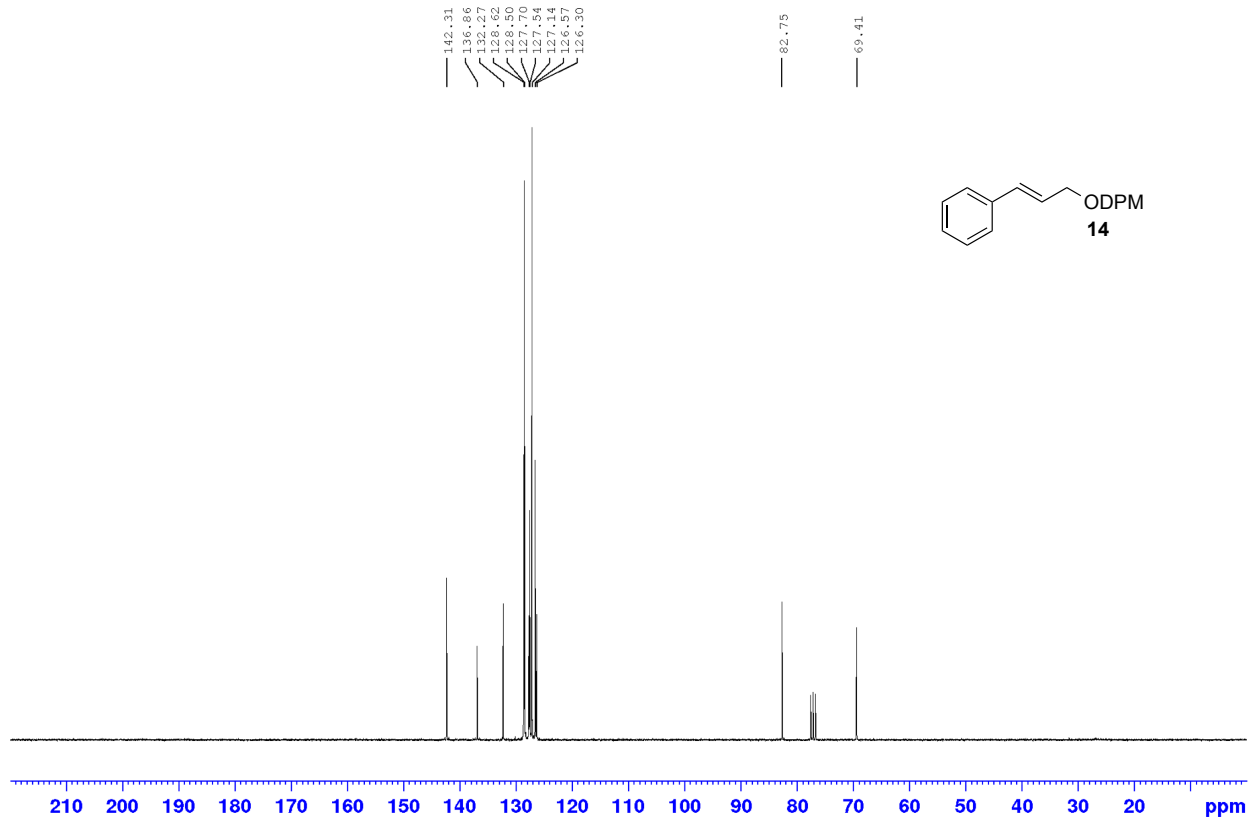




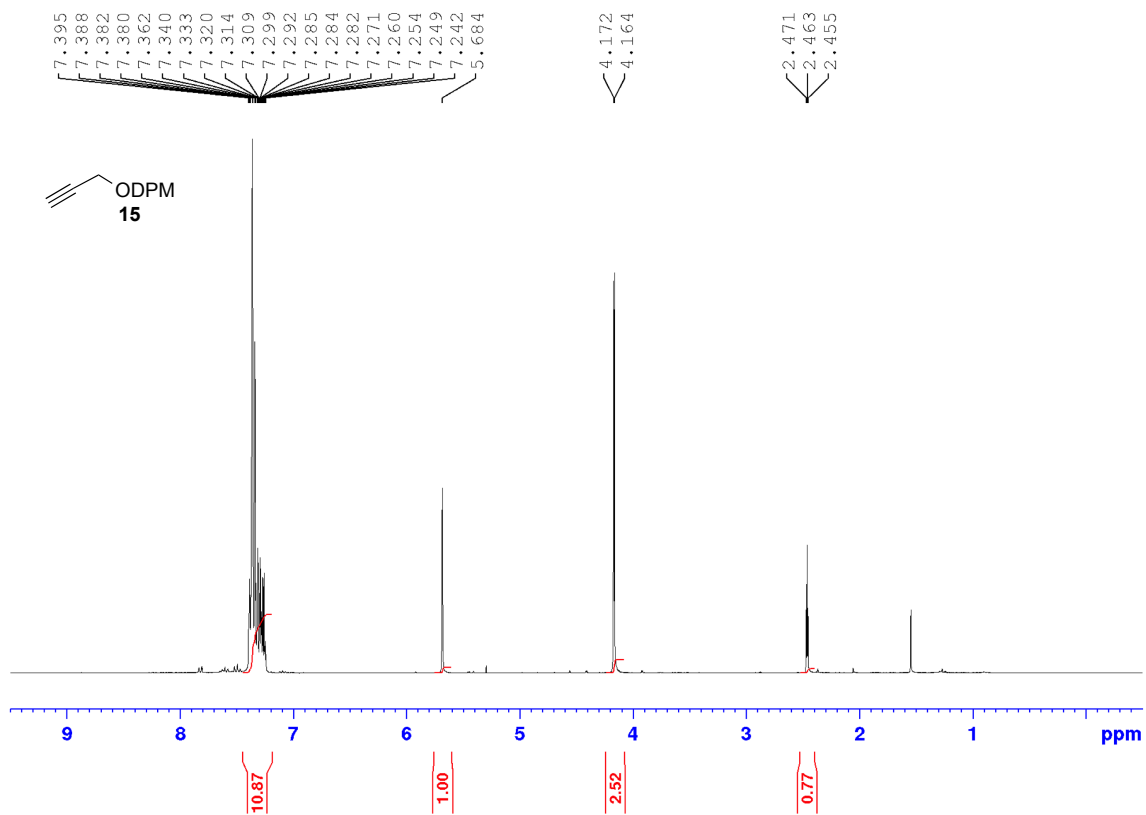
Cinnamyloxydiphenylmethane



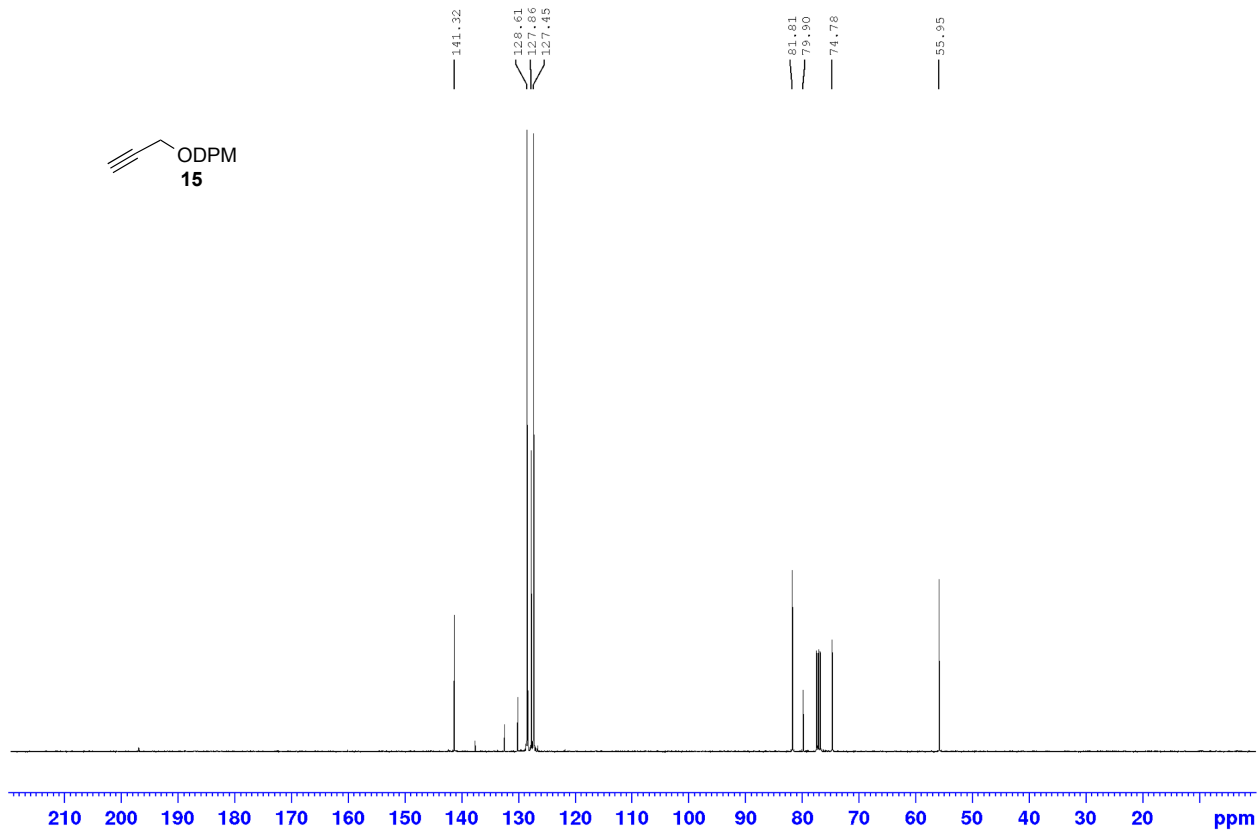
Cinnamyloxydiphenylmethane



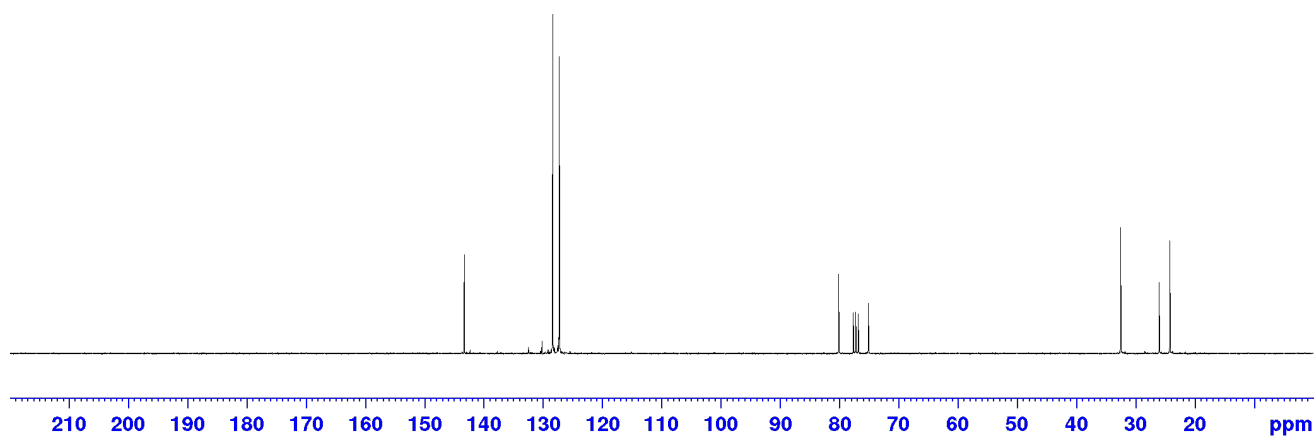
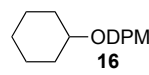
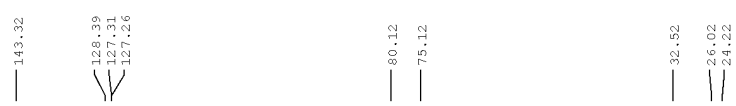
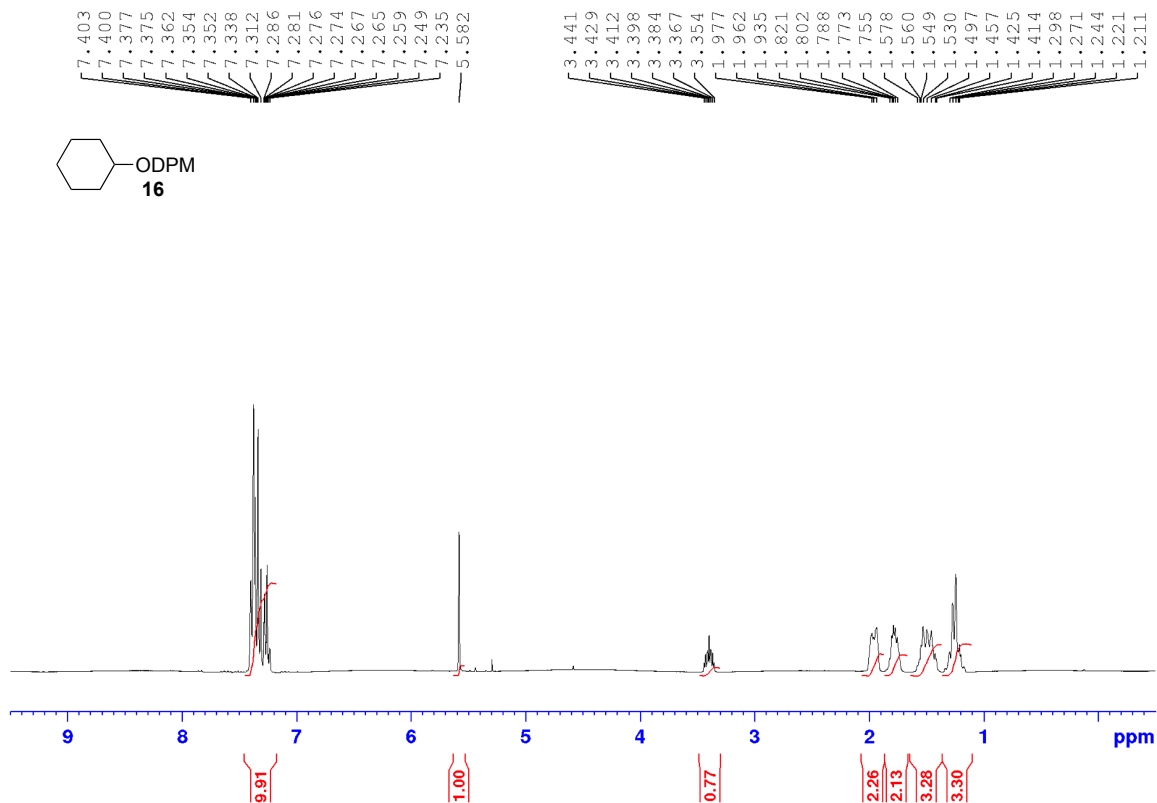
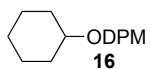
Diphenyl (prop-2-ynyloxy) methane



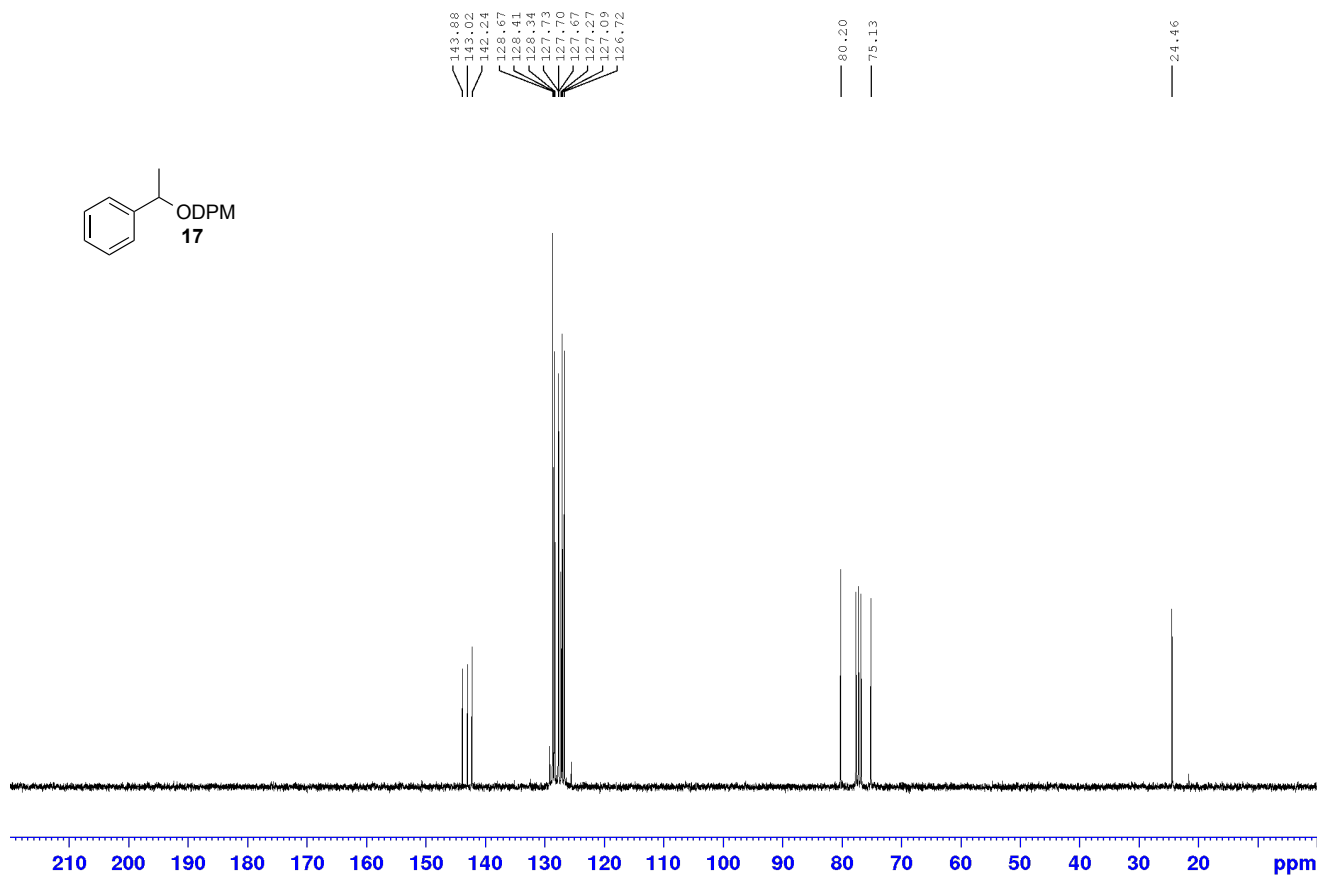
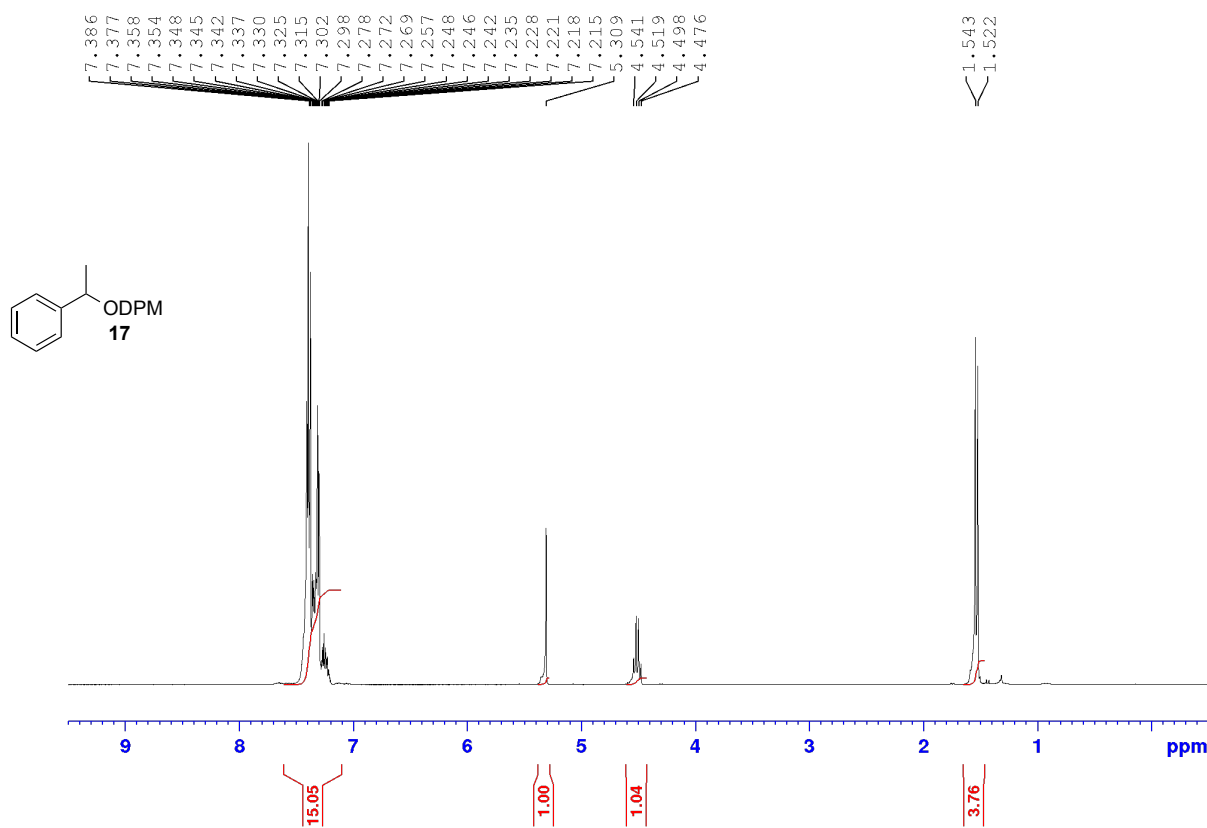
Diphenyl (prop-2-ynyloxy) methane



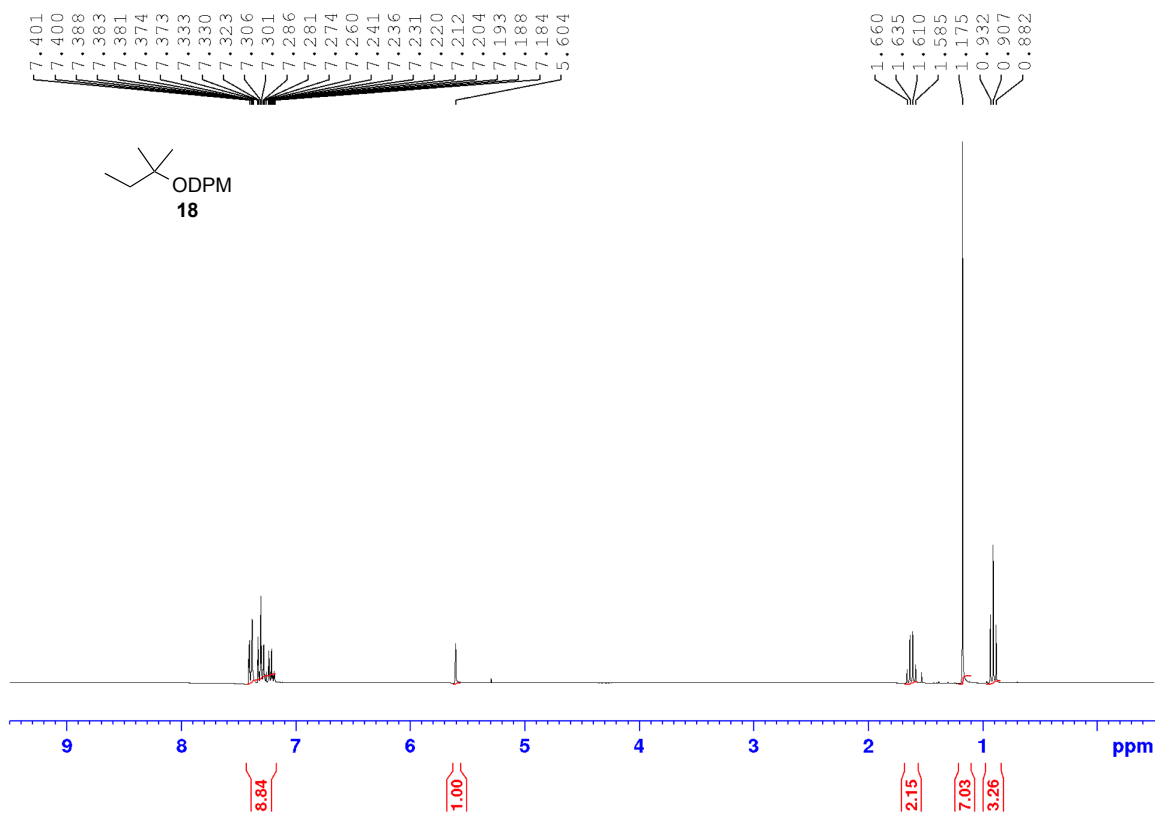
((Cyclohexyloxy)methylene) dibenzene



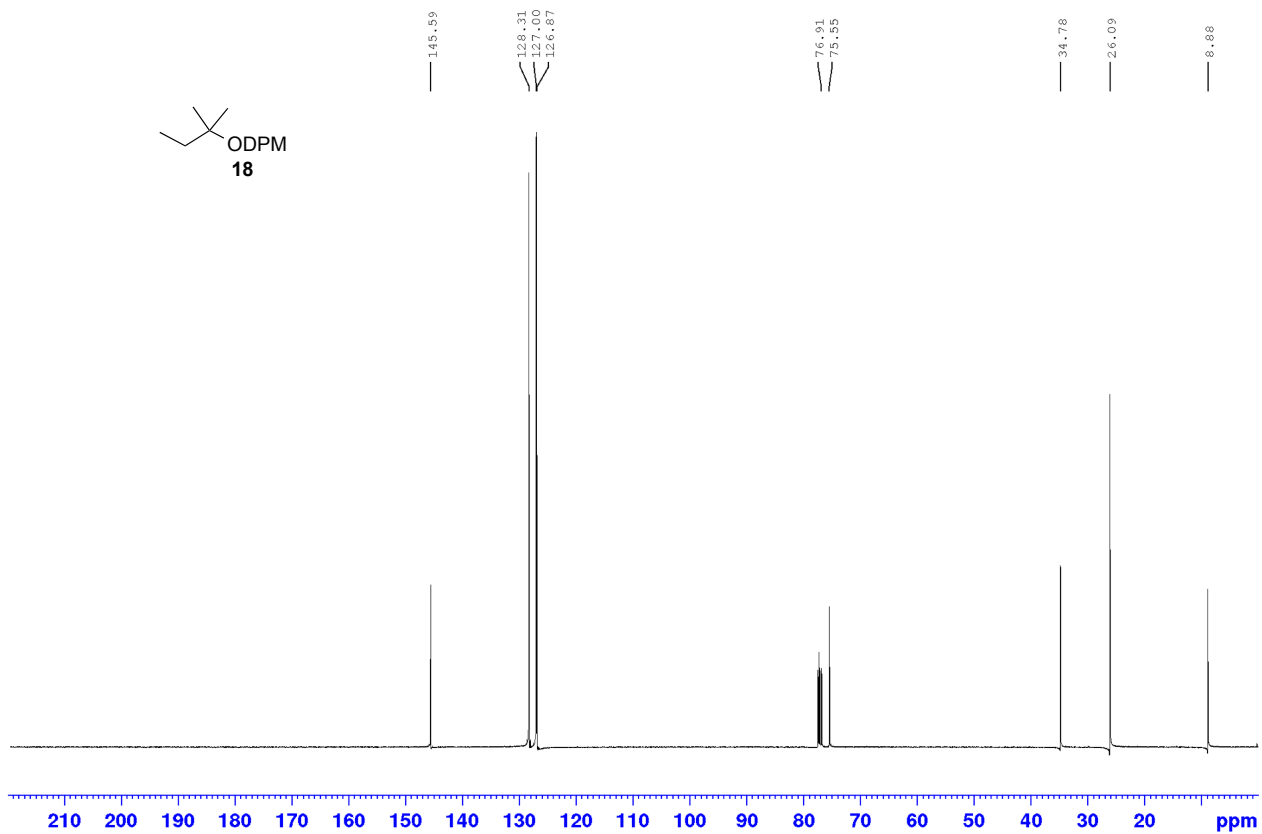
((1-Phenylethoxy)methylene)dibenzene

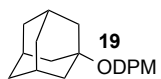


((tert-Pentyloxy)methylene)dibenzene



((tert-Pentyloxy)methylene)dibenzene

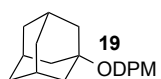
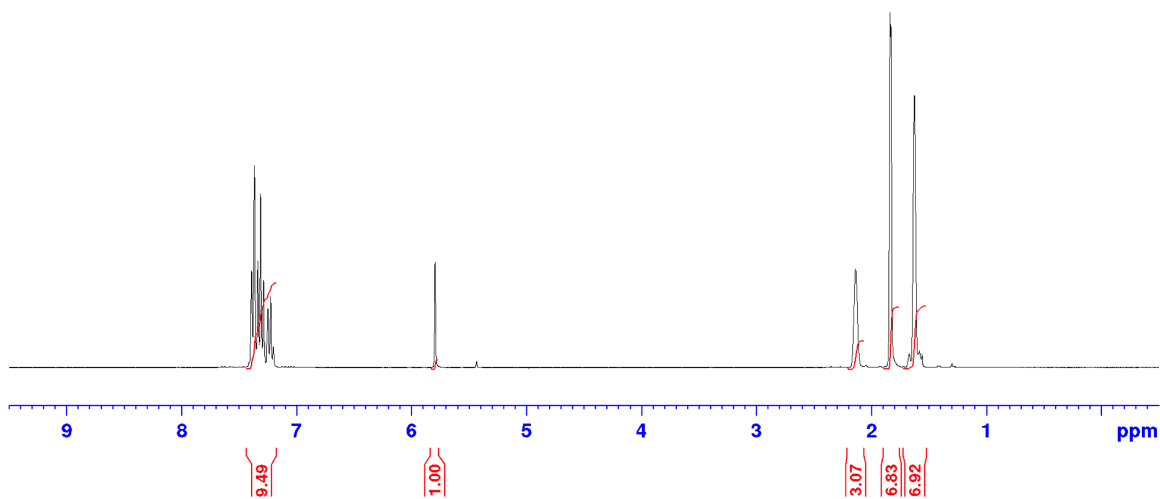




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7.247
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7.204

— 5.795

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1.671
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1.581
1.559



145.30

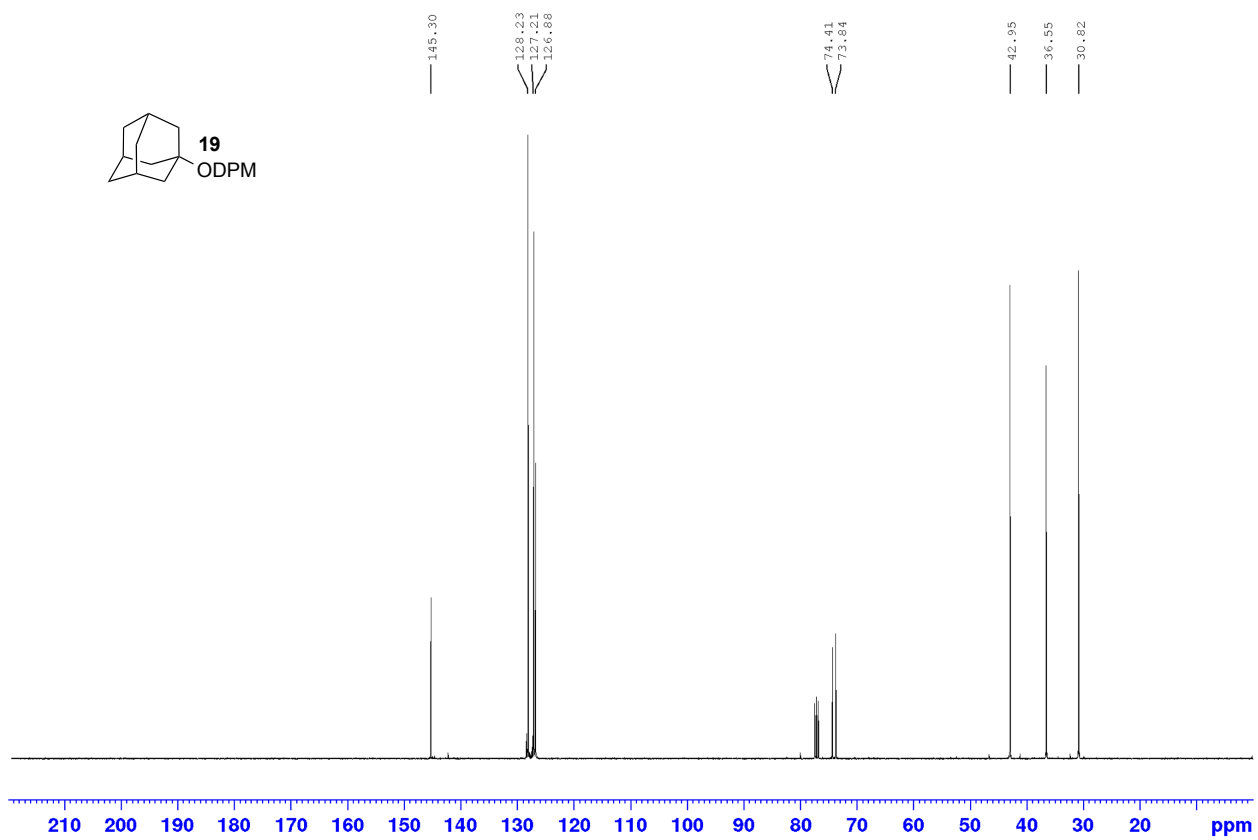
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42.95

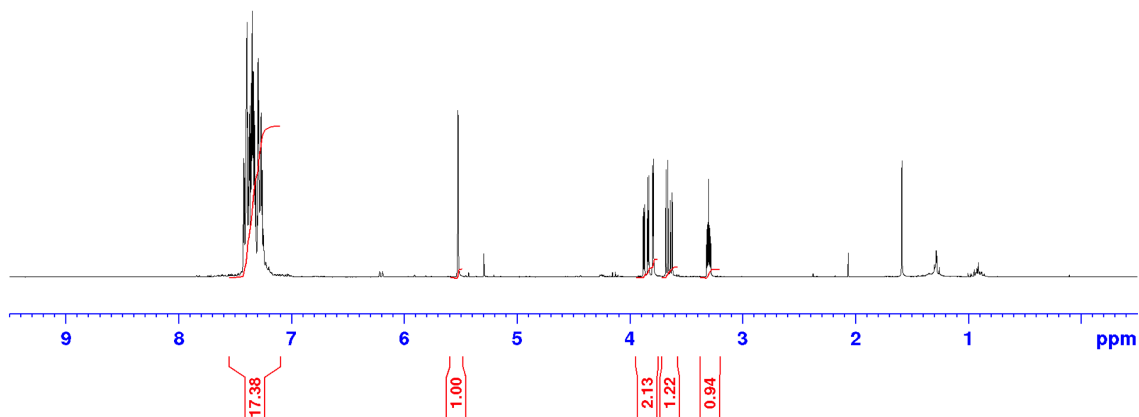
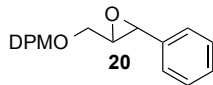
36.55

30.82



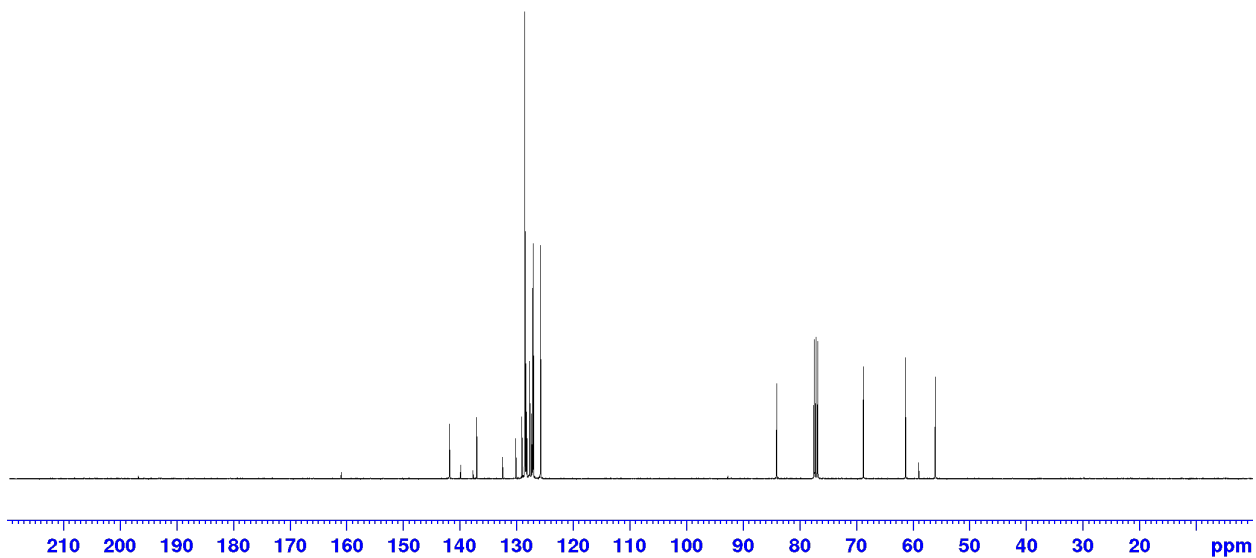
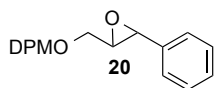
2-((Benzhydryloxy)methyl)-3-phenyloxirane

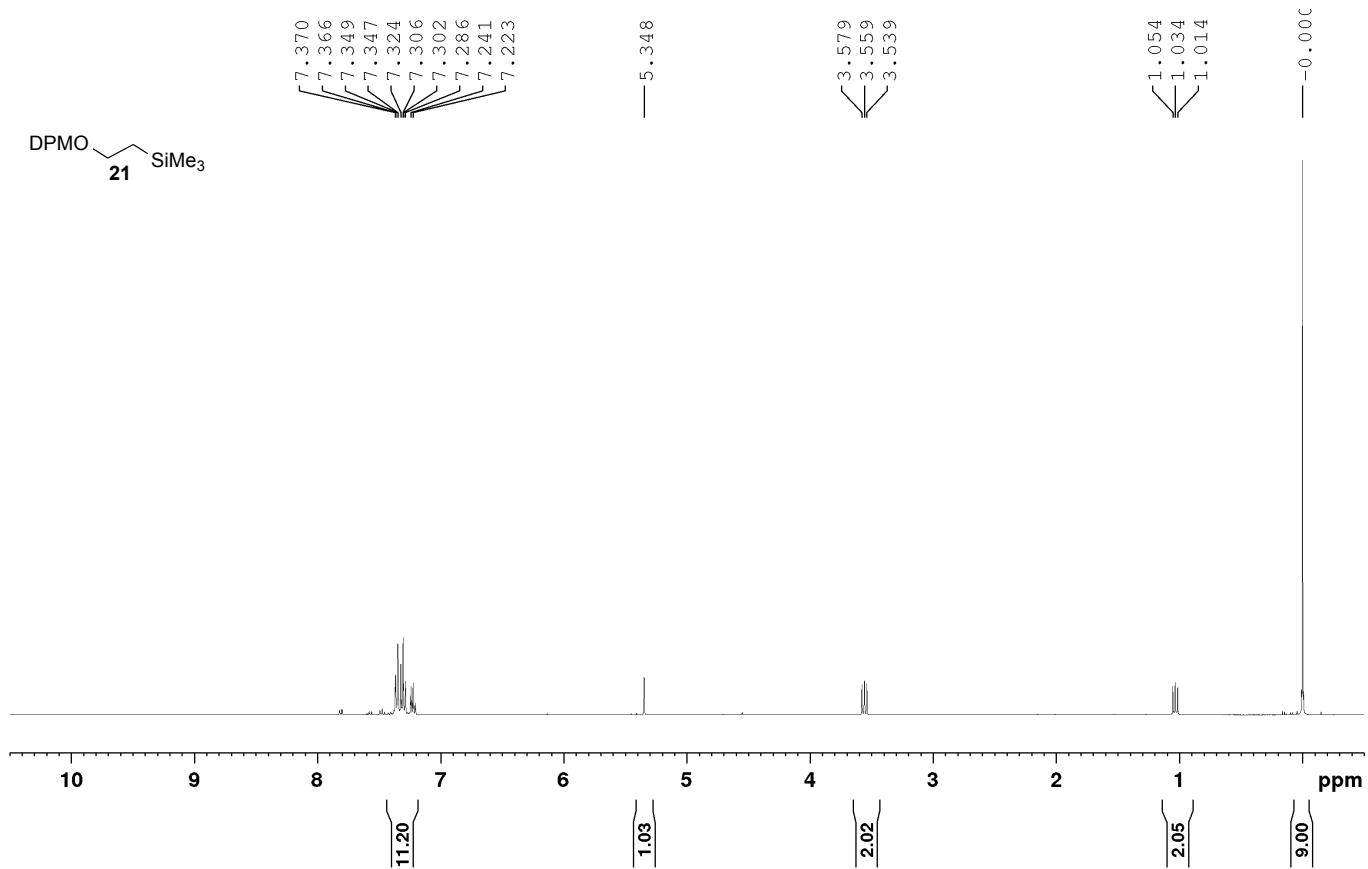
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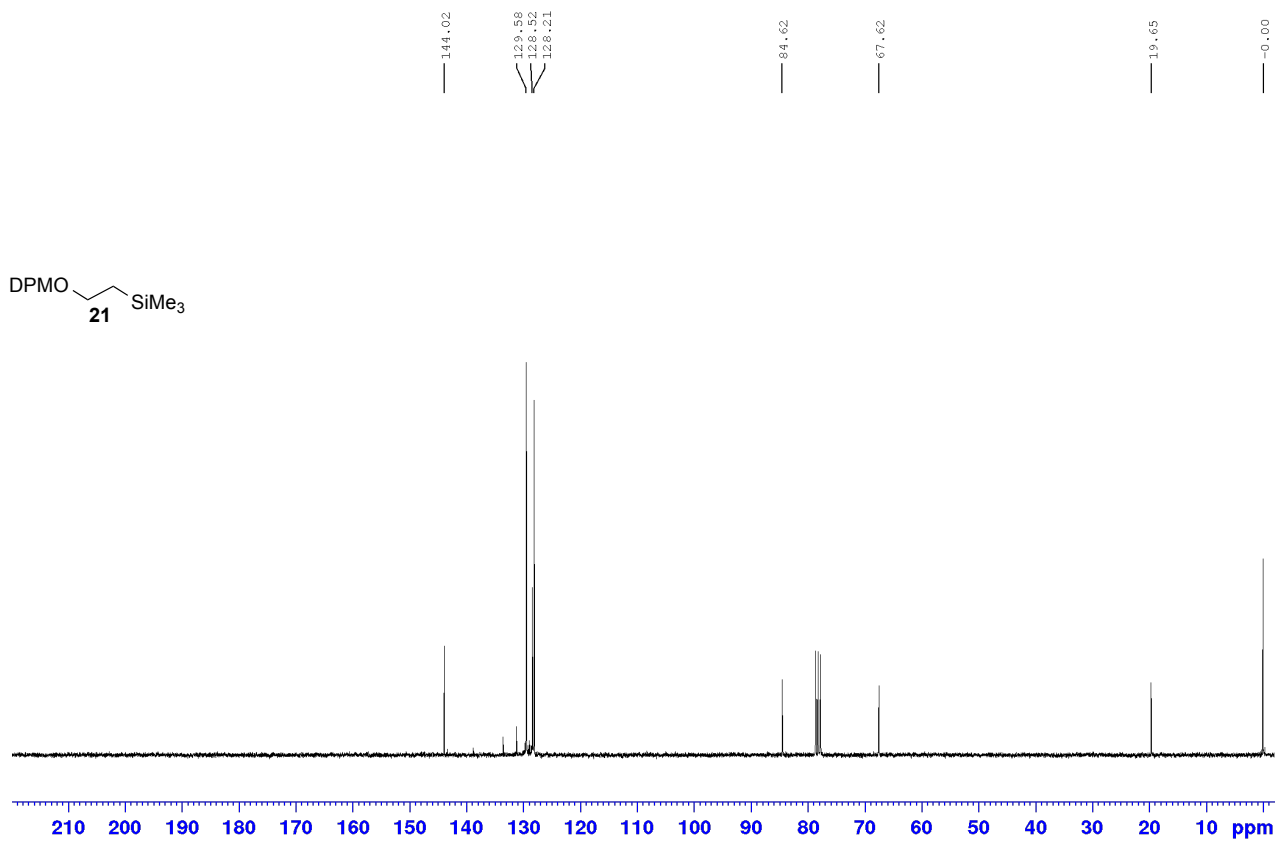
2-((Benzhydryloxy)methyl)-3-phenyloxirane

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56.14

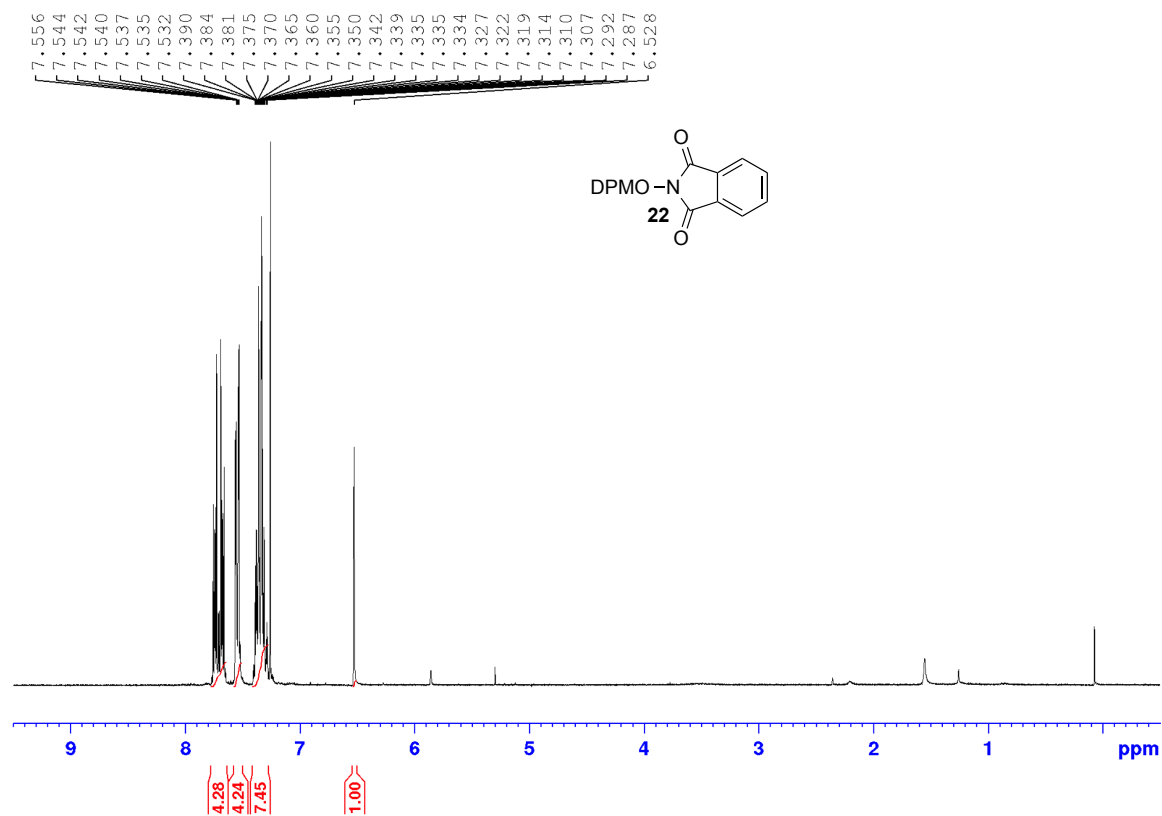




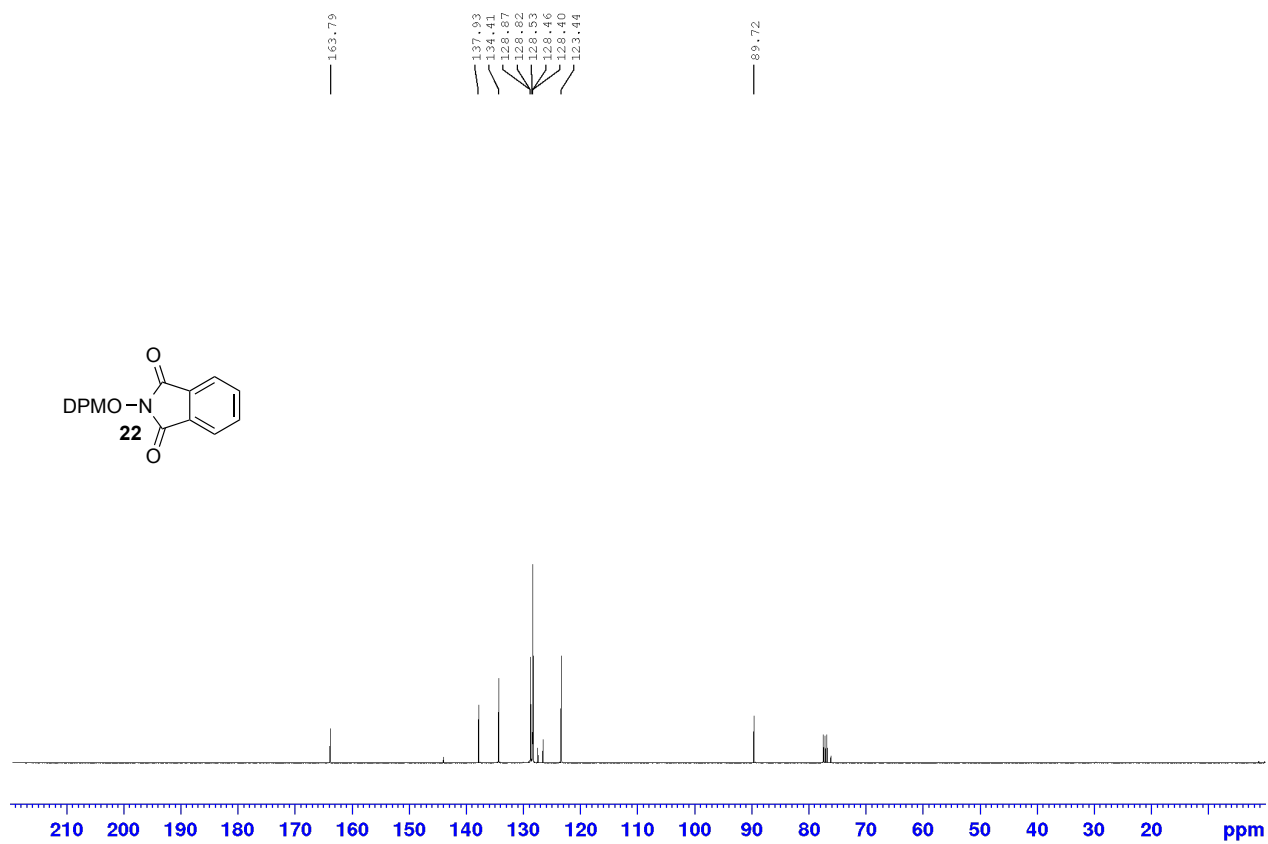
BCD-II-66 C13

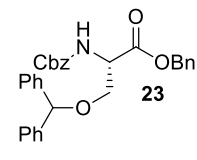
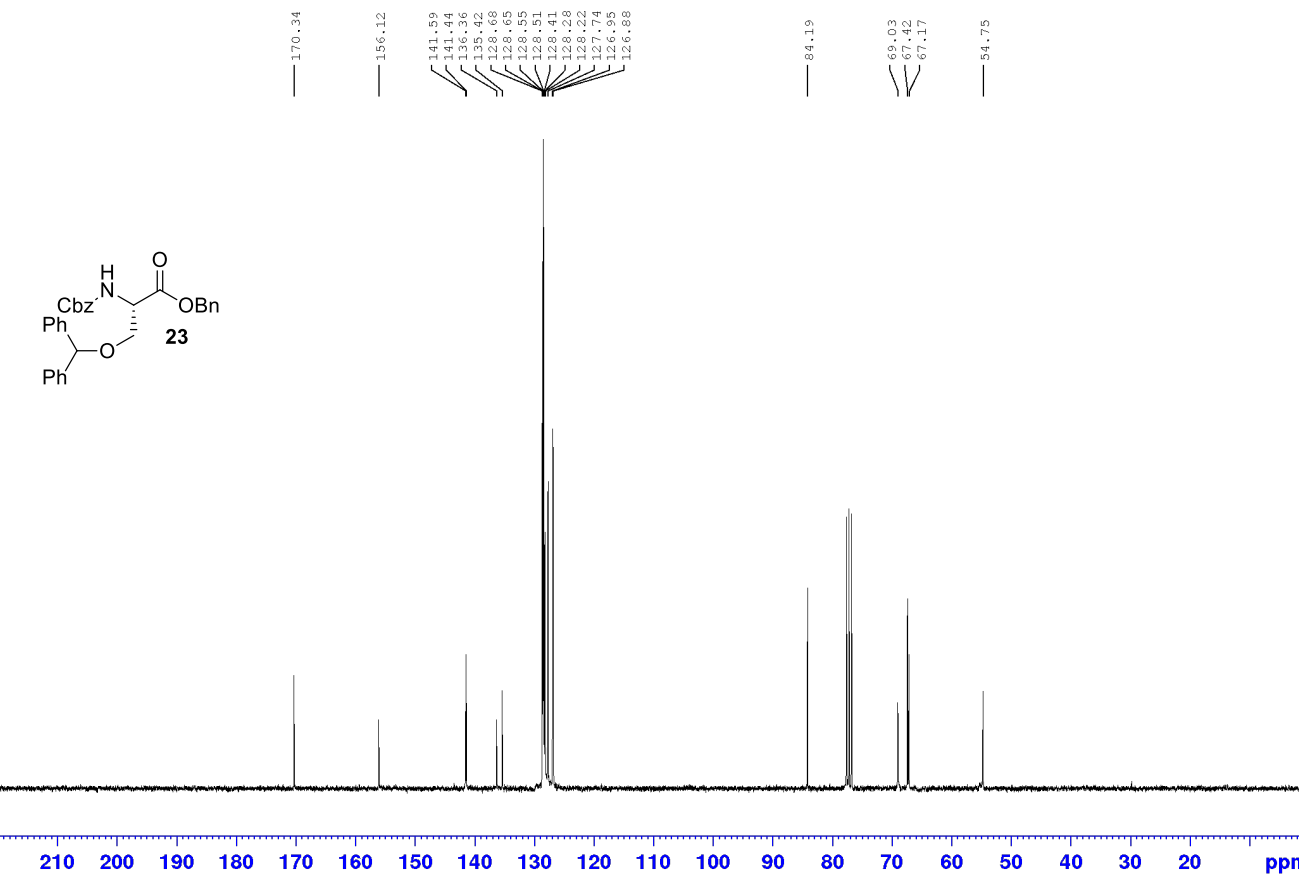
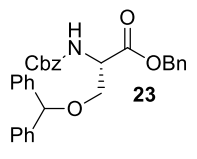
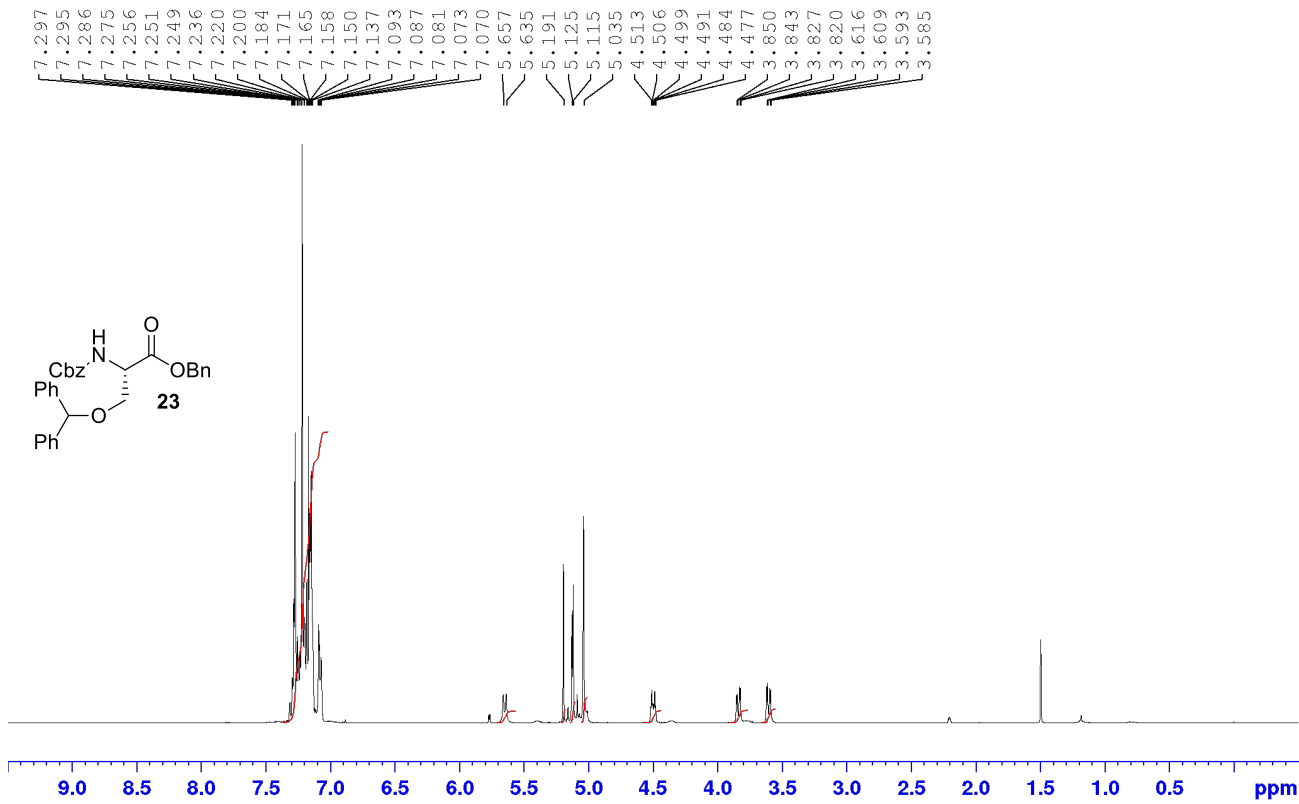


2-(Benzhydryloxy) isoindoline-1,3-dione

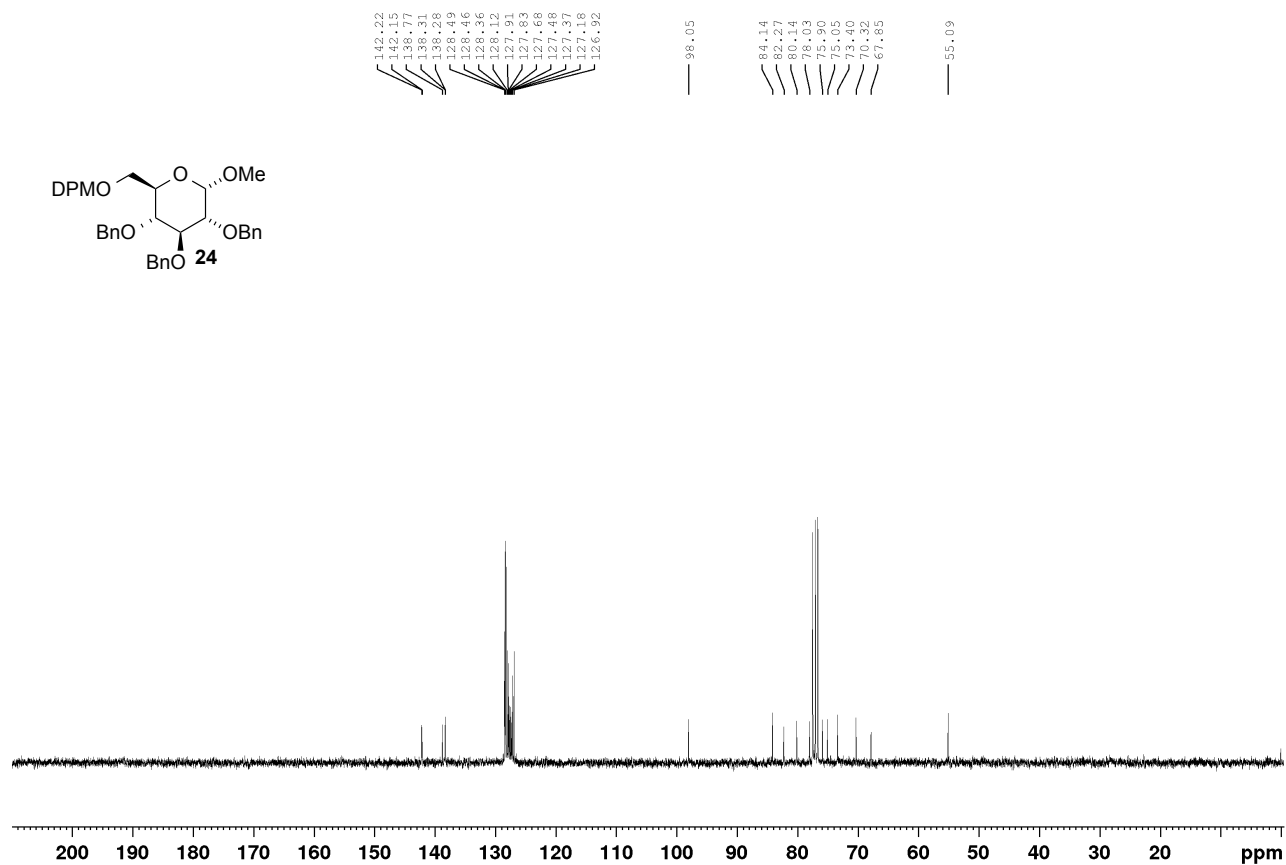
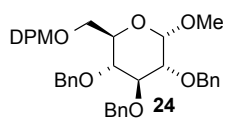
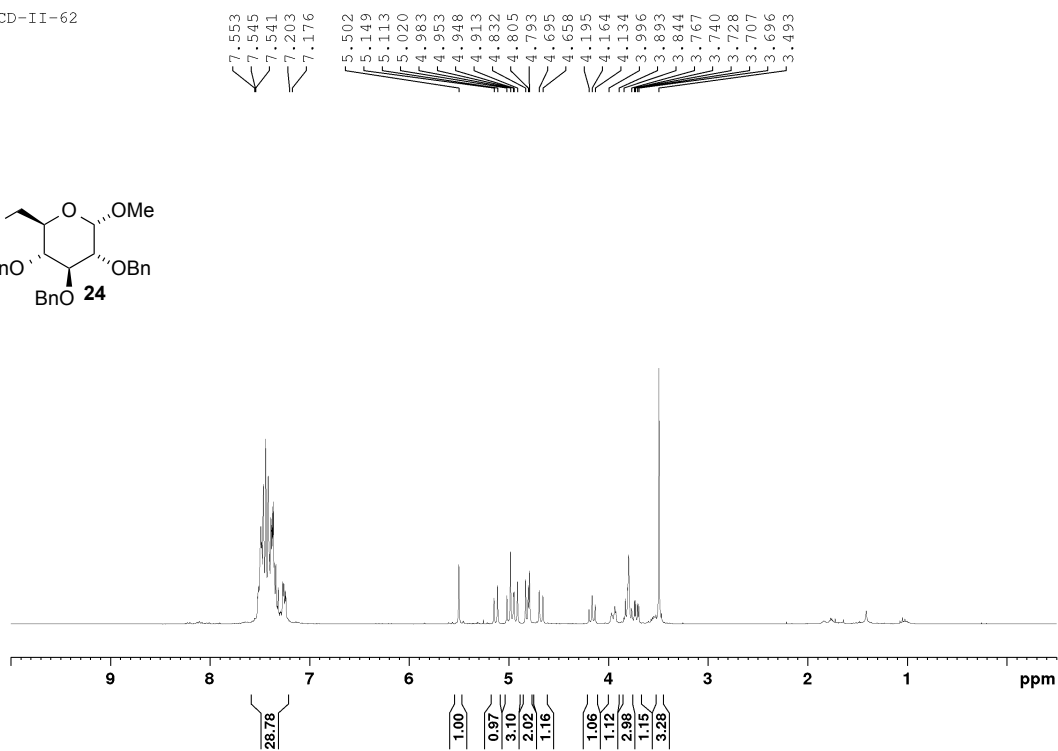
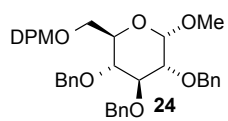


2-(Benzhydryloxy) isoindoline-1,3-dione

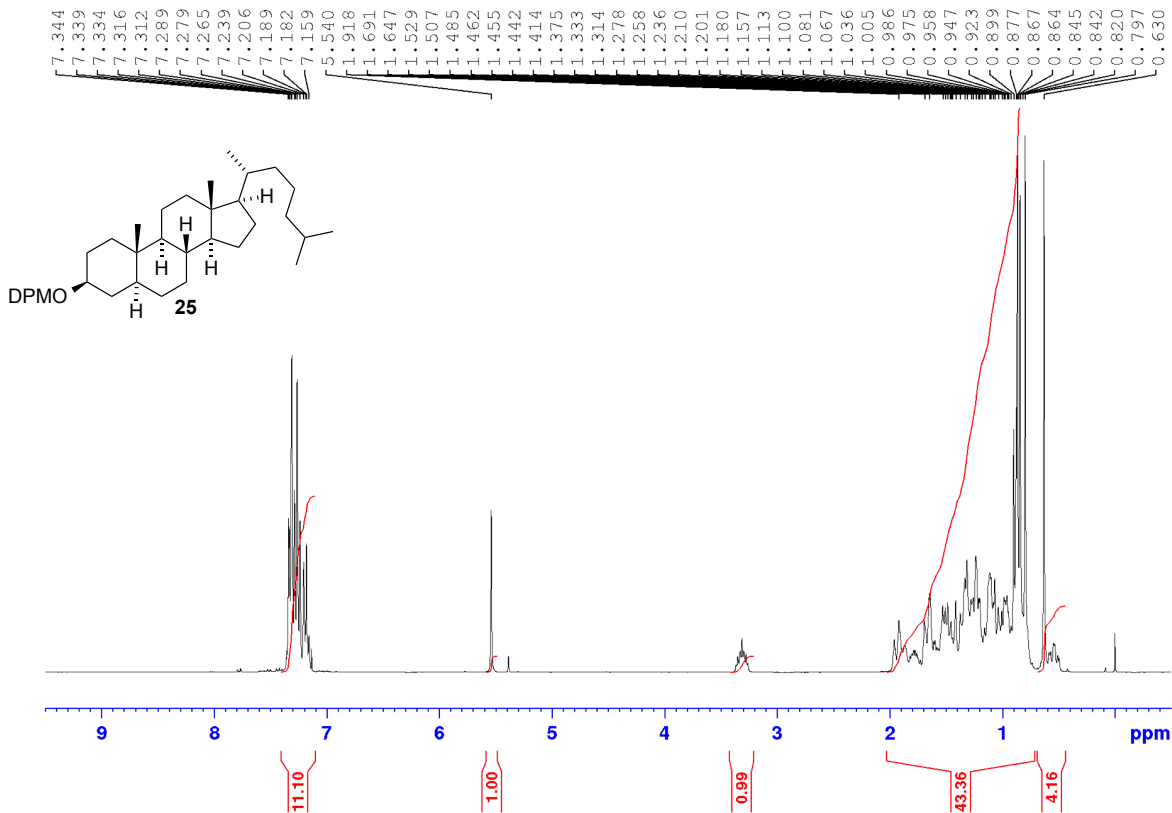




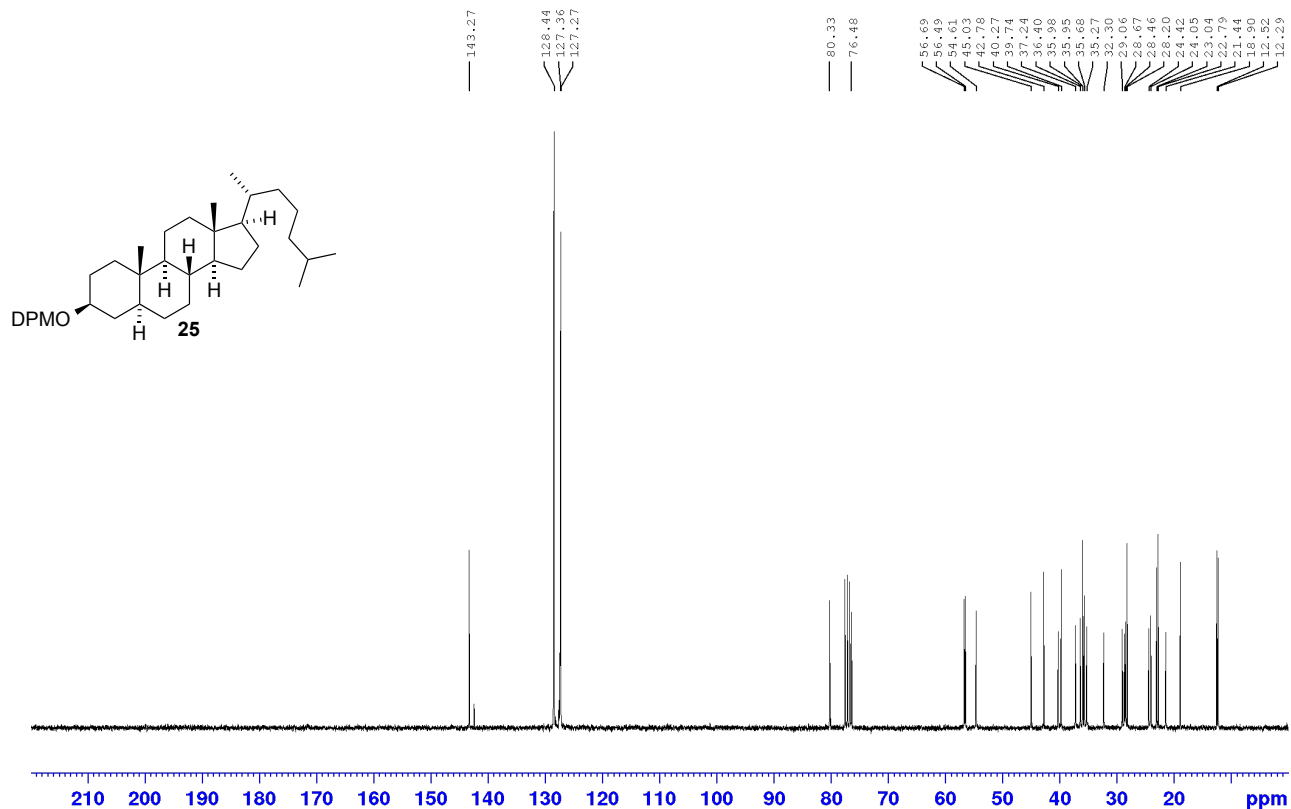
BCD-II-62



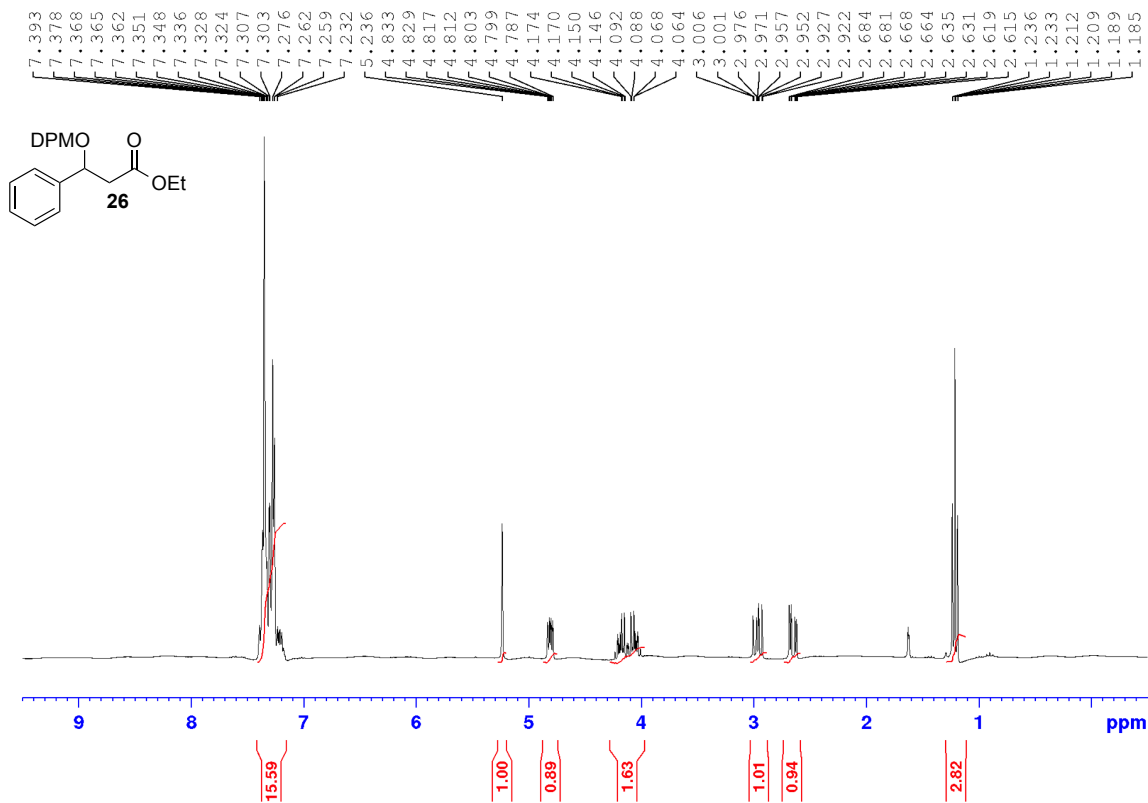
(3S, 5S, 8R, 9S, 10S, 13R, 14S, 17R)-3-(Benzhydryloxy)-10,13-dimethyl-17-
 ((R)-6-methylheptan-2-yl)hexadecahydro-1H-cyclopenta[a]phenanthrene



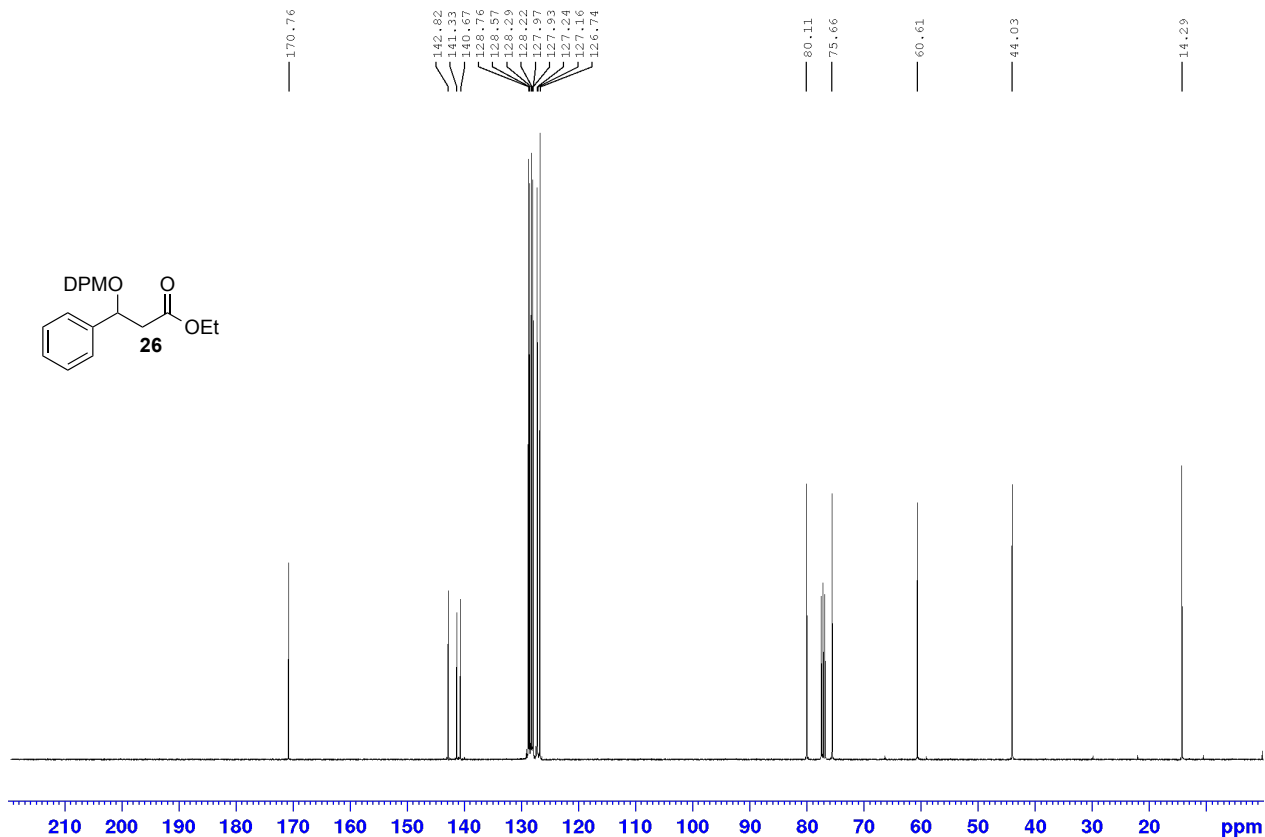
(3S, 5S, 8R, 9S, 10S, 13R, 14S, 17R)-3-(Benzhydryloxy)-10,13-dimethyl-17-
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Ethyl 3-(benzhydryloxy)-3-phenylpropanoate

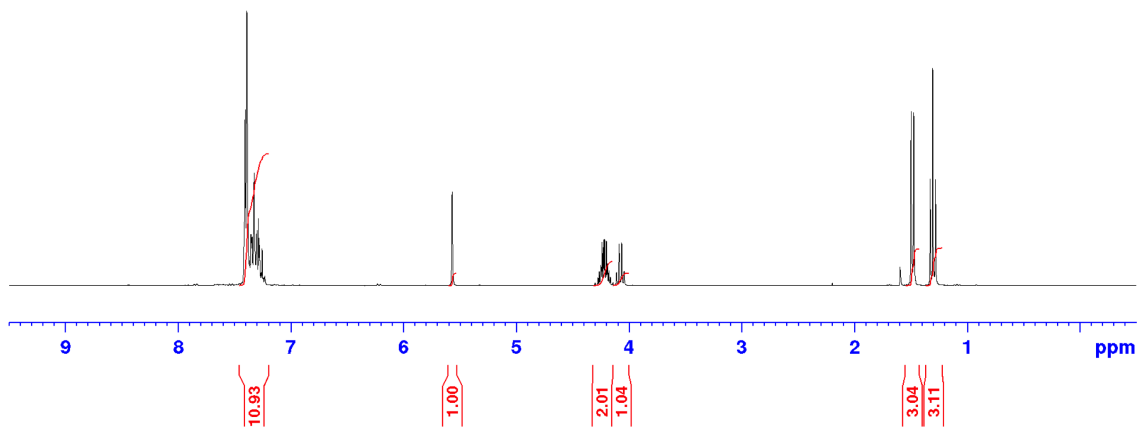
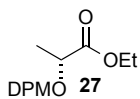


Ethyl 3-(benzhydryloxy)-3-phenylpropanoate



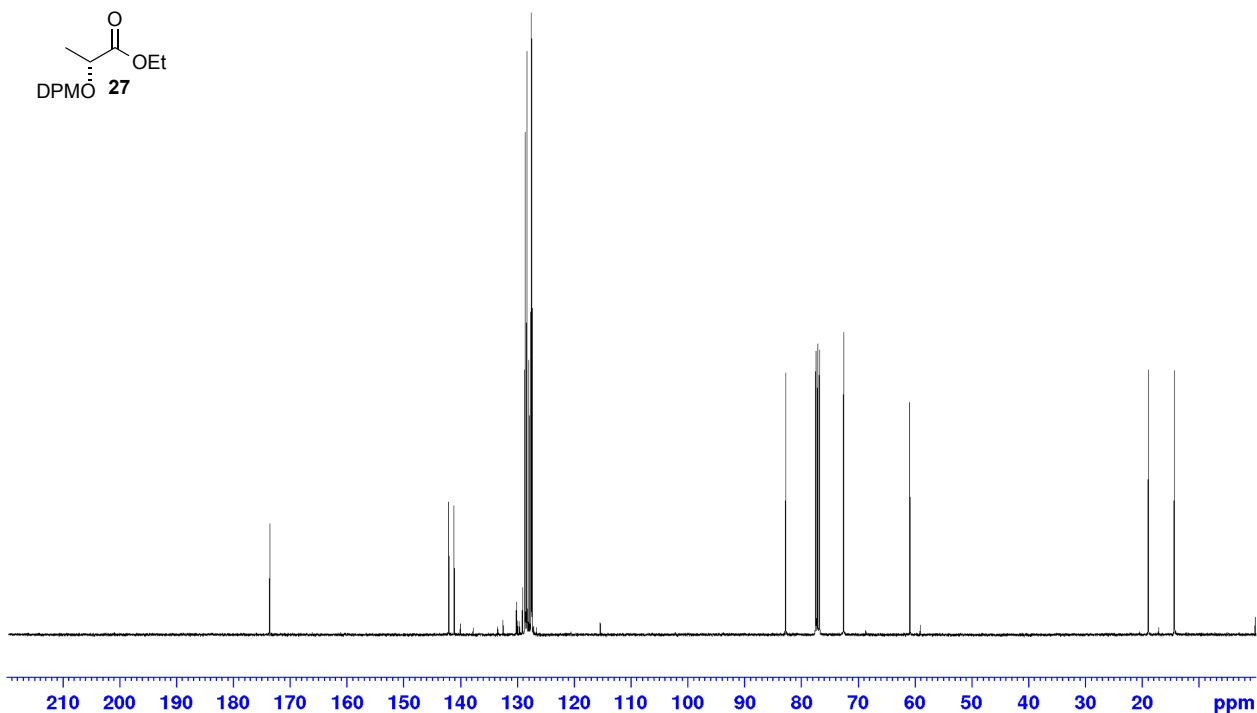
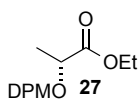
(R)-Ethyl 2-(benzhydryloxy)propanoate

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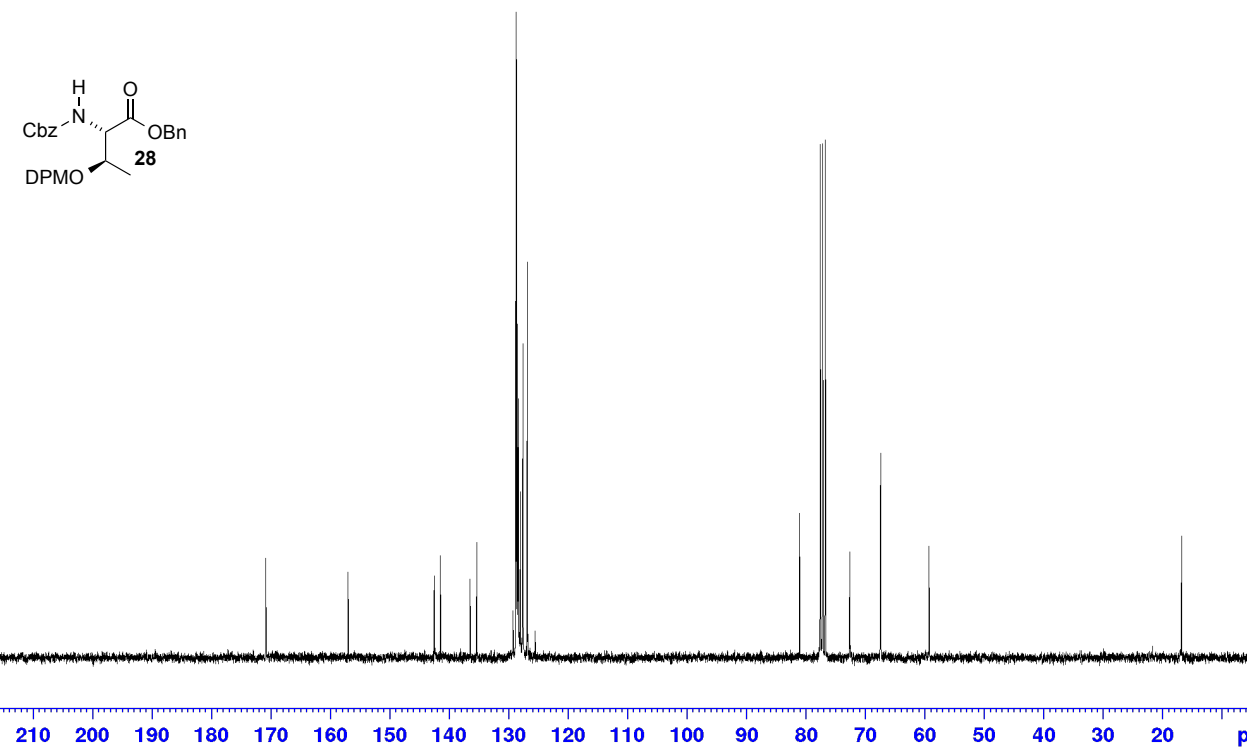
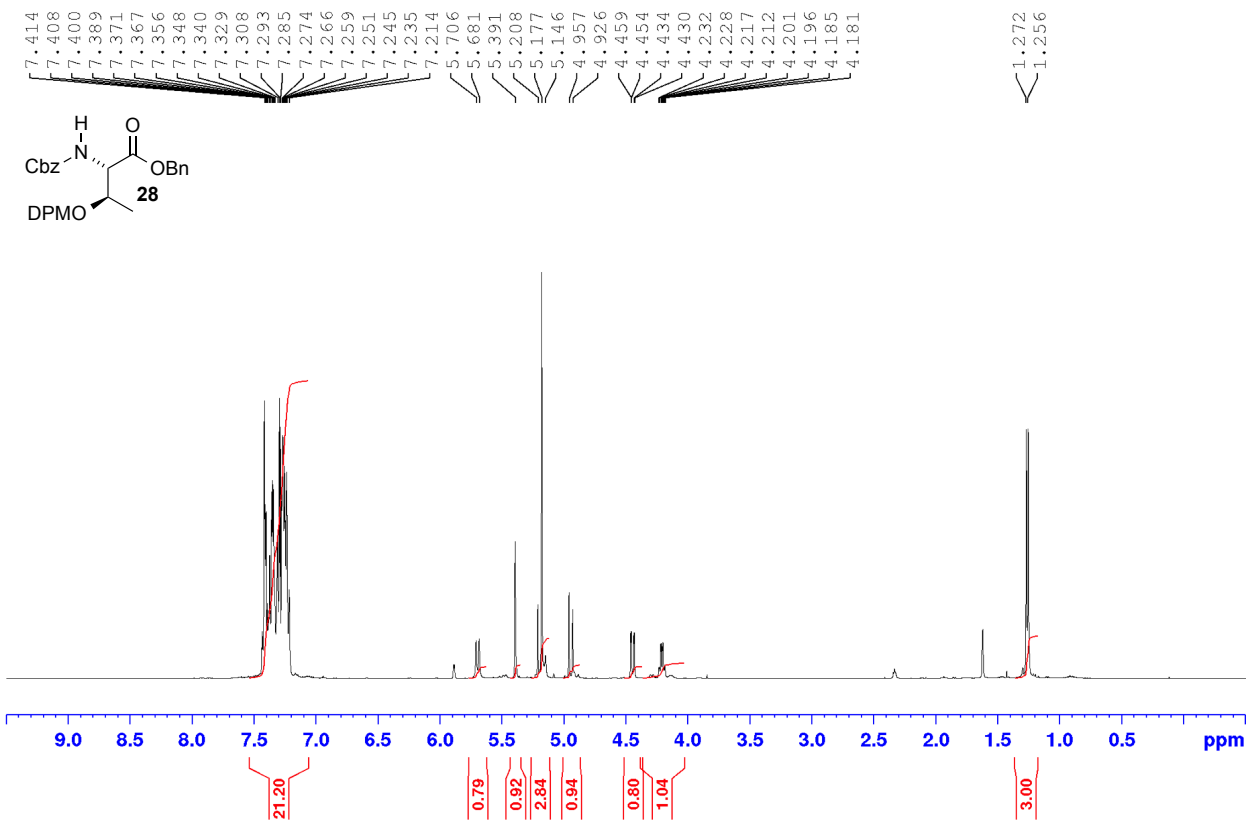


(R)-Ethyl 2-(benzhydryloxy)propanoate

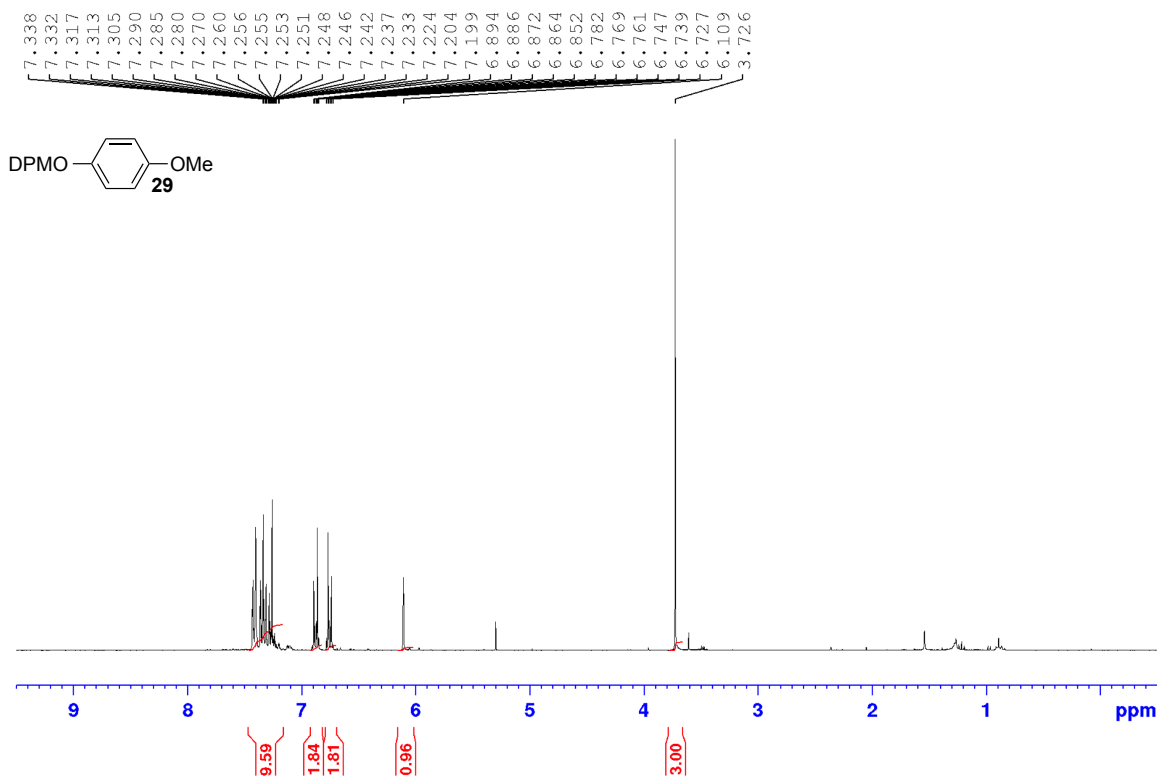
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127.52
82.83
72.66
60.99
19.00
14.40



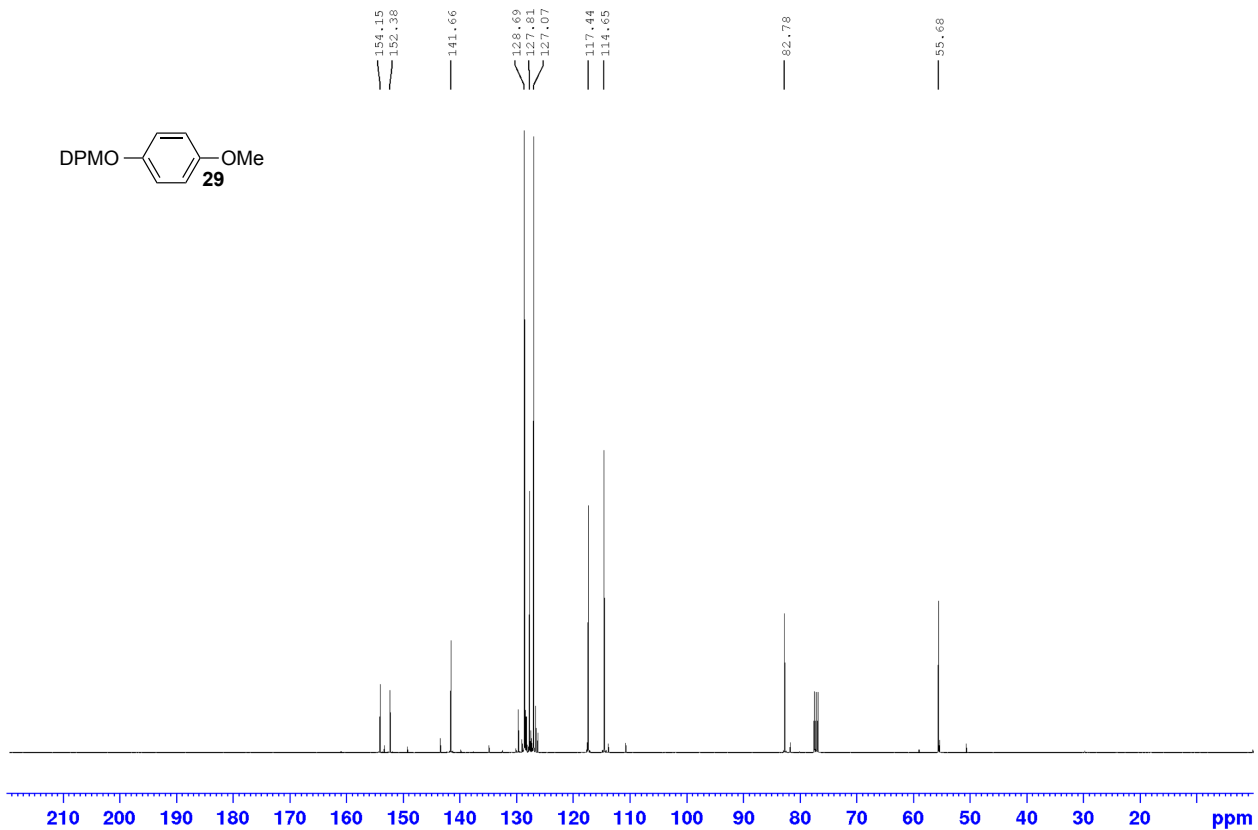
(3S)-Benzyl 3-(benzhydryloxy)-2-((benzyloxy) carbonyl) amino) butanoate

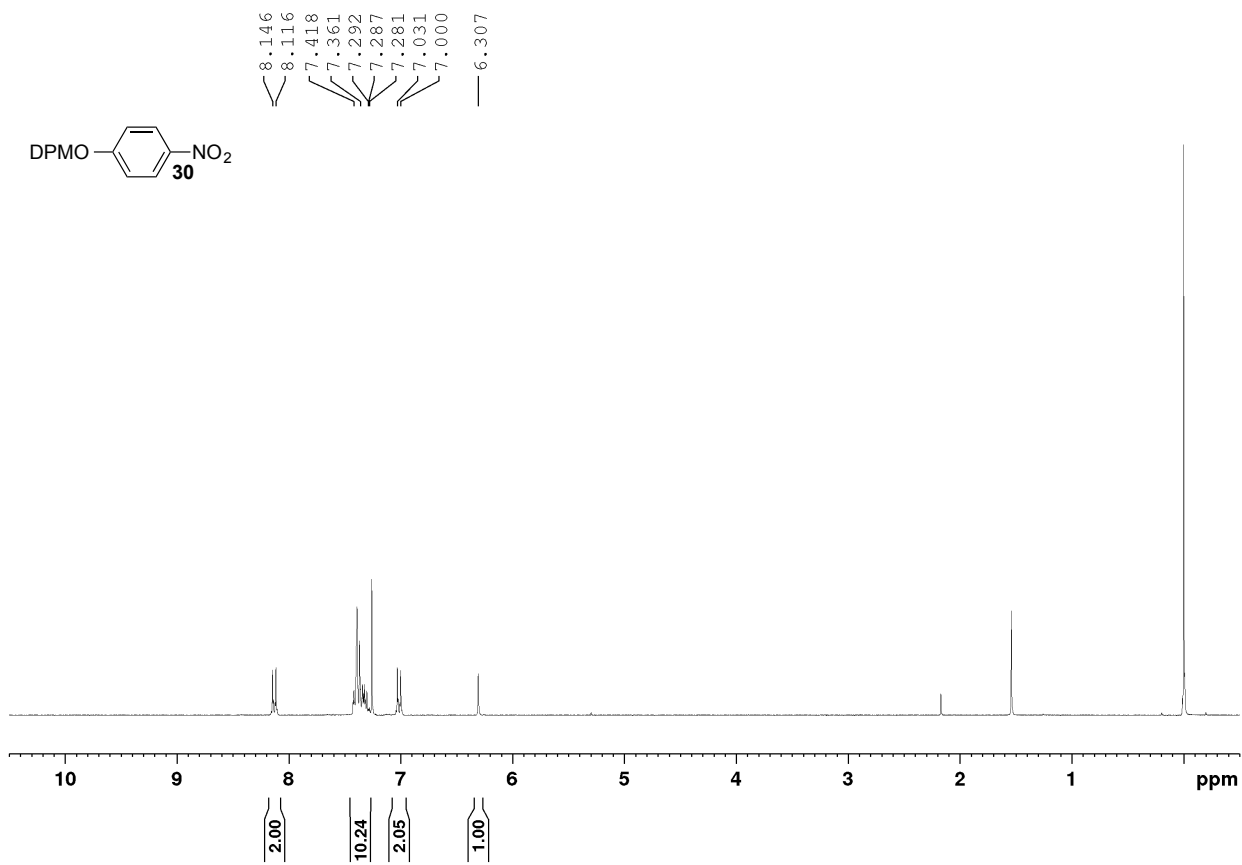


((4-Methoxyphenoxy)methylene)dibenzene

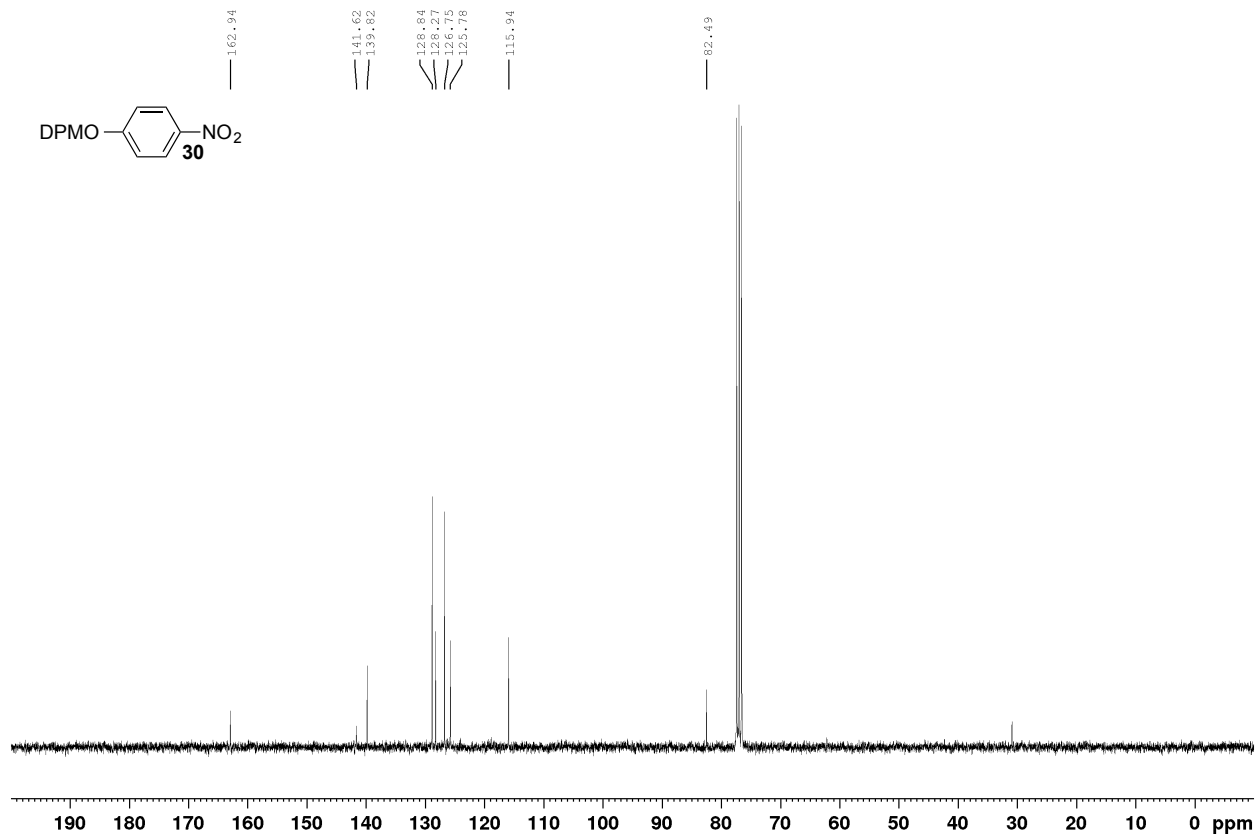


((4-Methoxyphenoxy)methylene)dibenzene

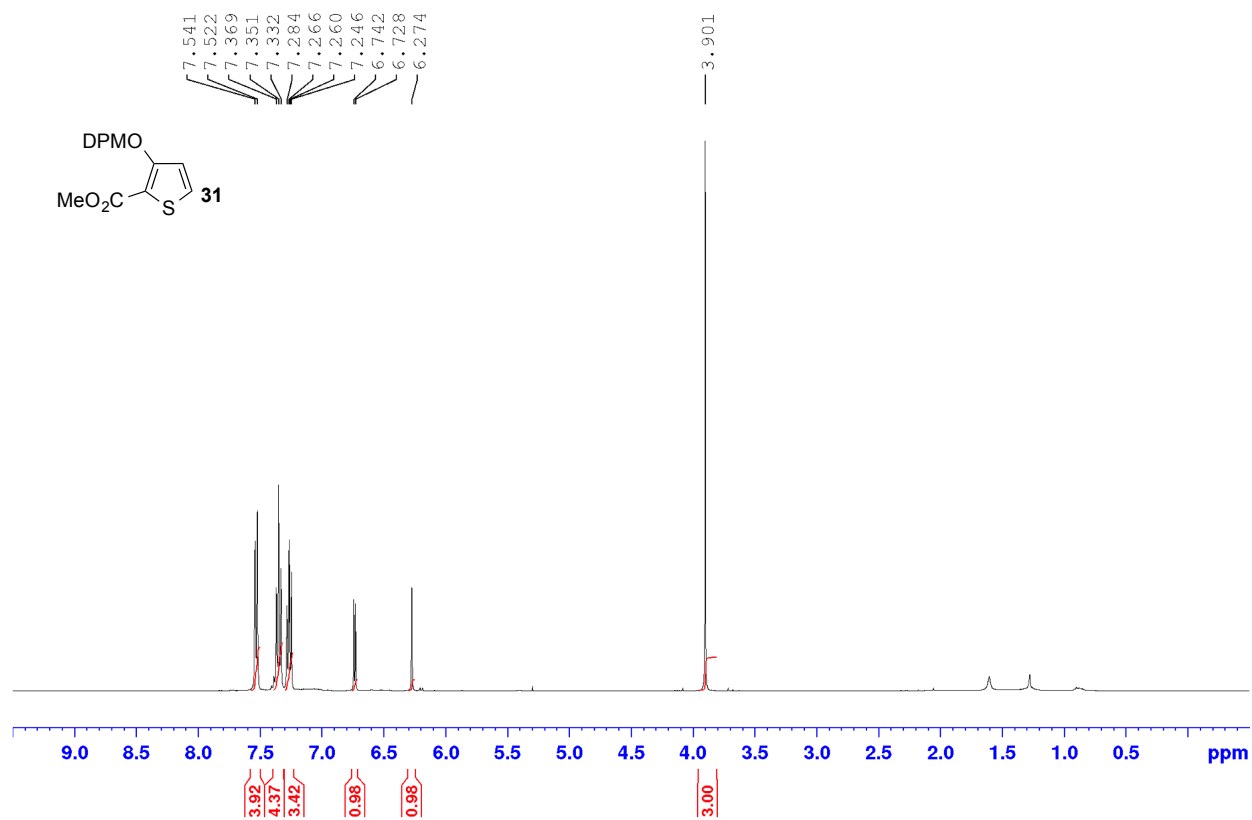




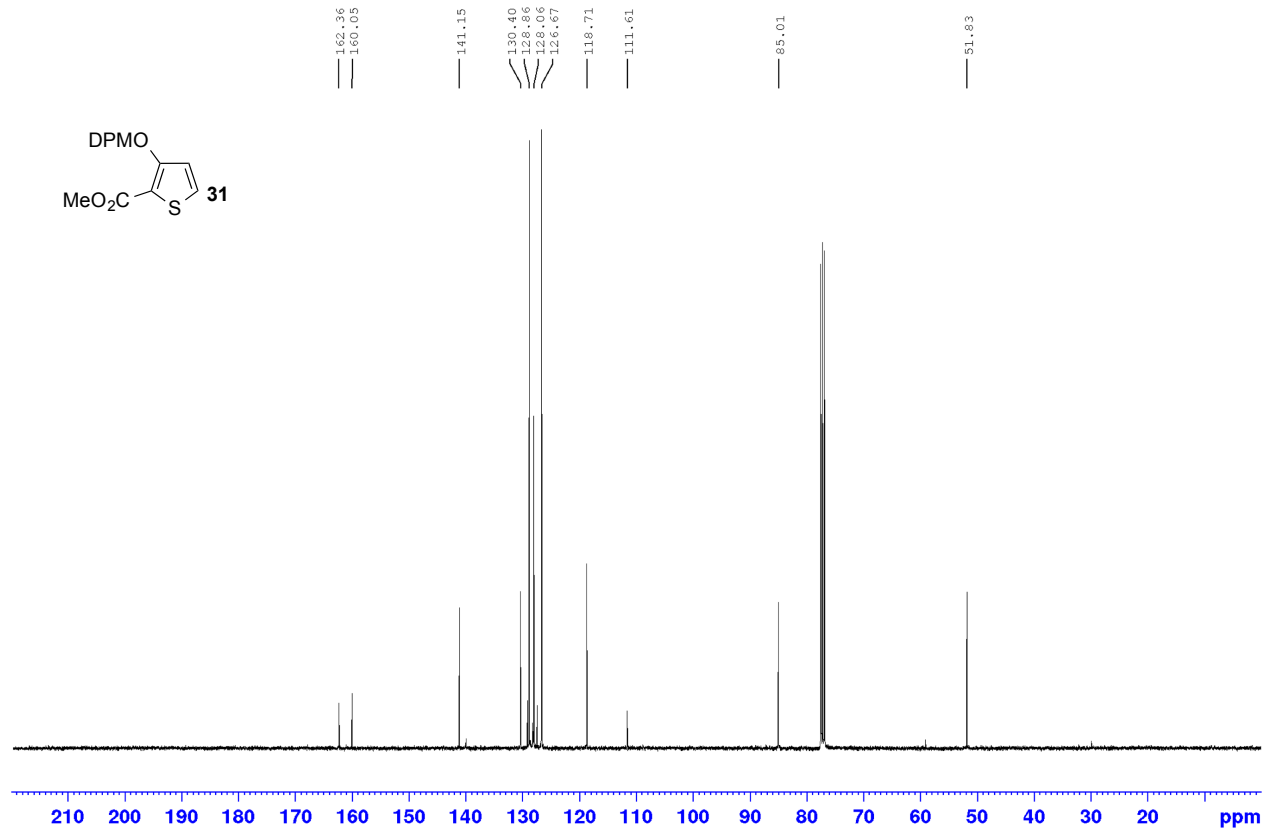
BCD-II-63 C13



Methyl 3-(benzhydryloxy)thiophene-2-carboxylate

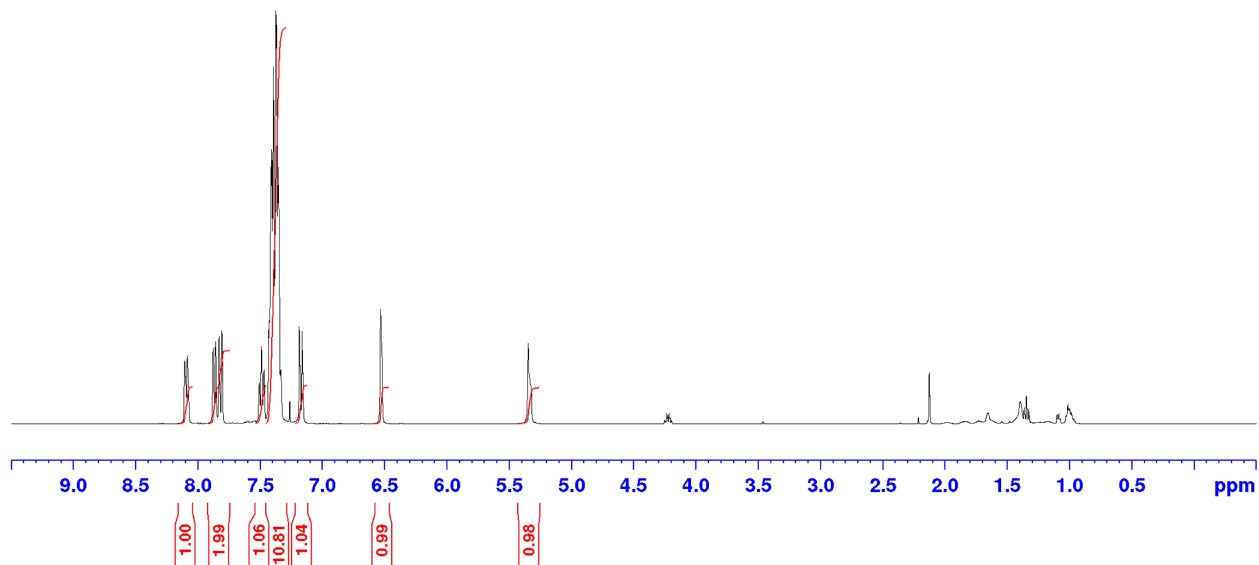
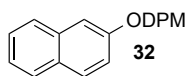


Methyl 3-(benzhydryloxy)thiophene-2-carboxylate



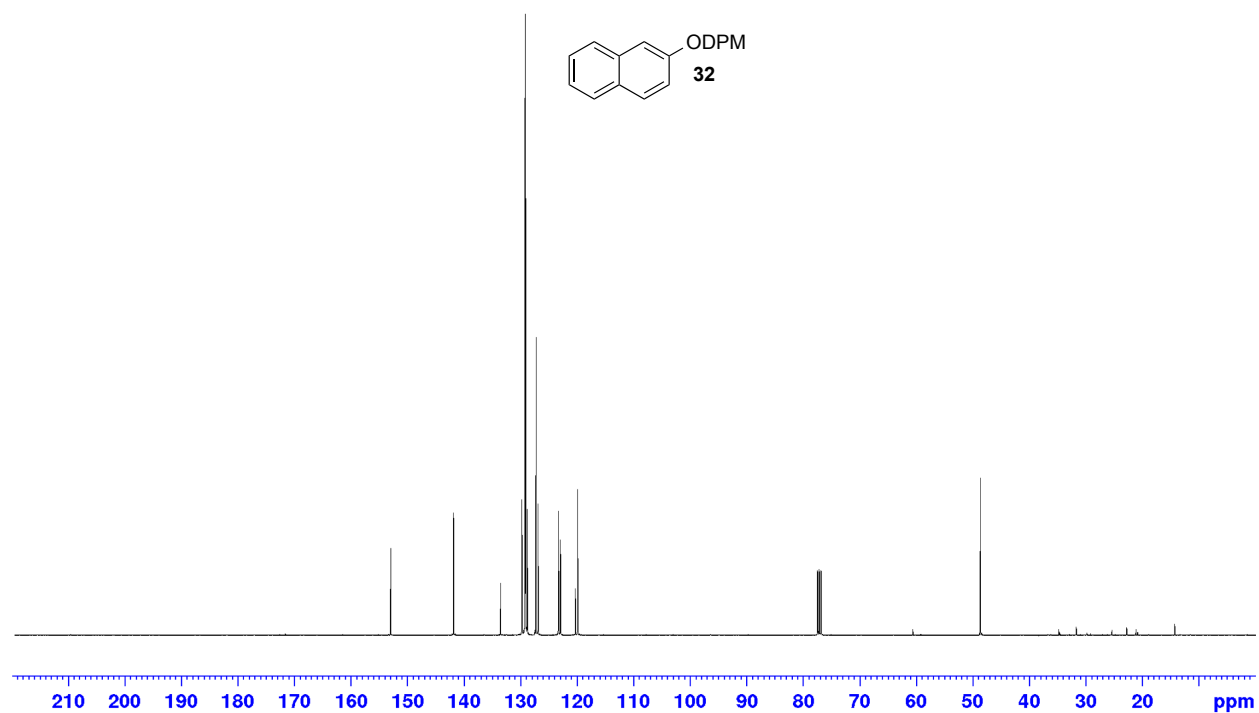
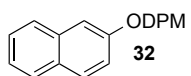
2-(Benzhydryloxy)naphthalene

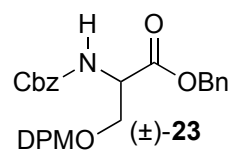
7.880
7.860
7.833
7.811
7.514
7.510
7.493
7.489
7.475
7.472
7.411
7.407
7.405
7.402
7.394
7.368
7.355
7.349
7.184
7.179
7.175
7.162
7.157
7.153
6.530
5.345



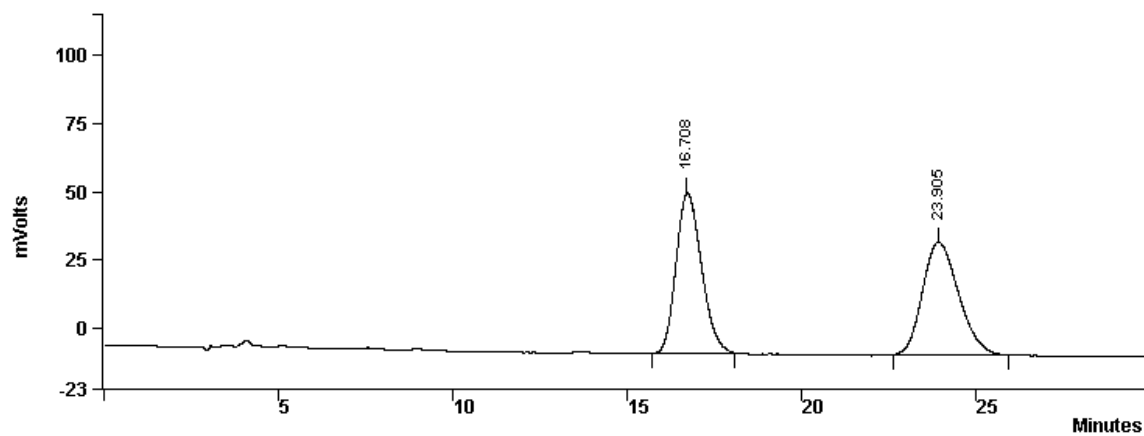
2-(Benzhydryloxy)naphthalene

152.95
141.82
133.61
128.86
128.79
128.73
129.19
128.91
127.35
127.00
123.39
123.03
120.39
119.98
48.73

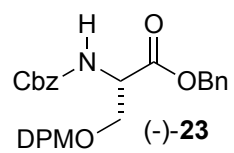




10% 2-Propanol/Hexane
Chiracel OD



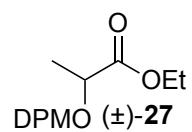
Peak No	Ret. Time (min)	Area (counts)	Sep. Code	Width 1/2 (sec)	Result (Area%)
1	16.708	2992683	BB	49.0	50.1029
2	23.905	2980387	BB	68.2	49.8971
5973070					100.0000



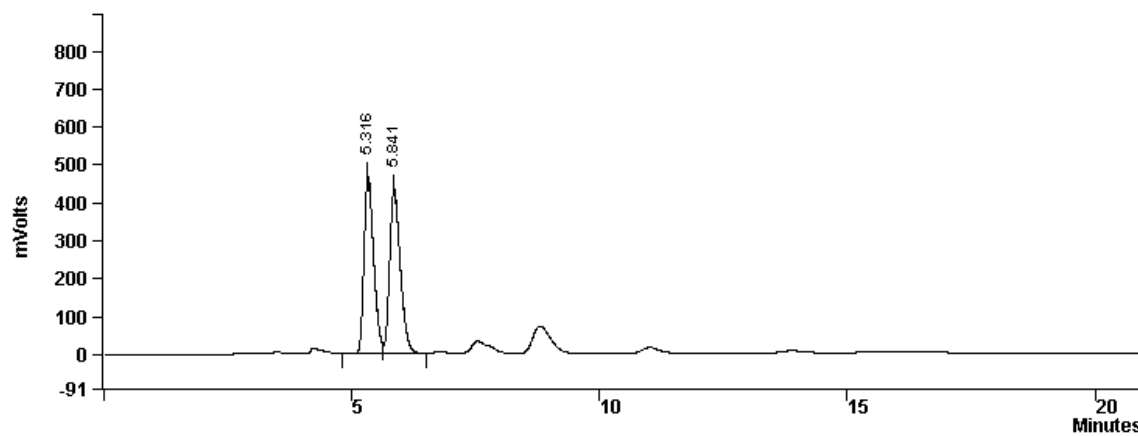
10% 2-Propanol/Hexane
Chiracel OD



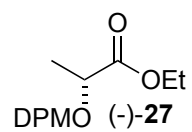
Peak No	Ret. Time (min)	Area (counts)	Sep. Code	Width 1/2 (sec)	Result (Area%)
1	17.715	8584036	BB	54.0	100.0000
		8584036			100.0000



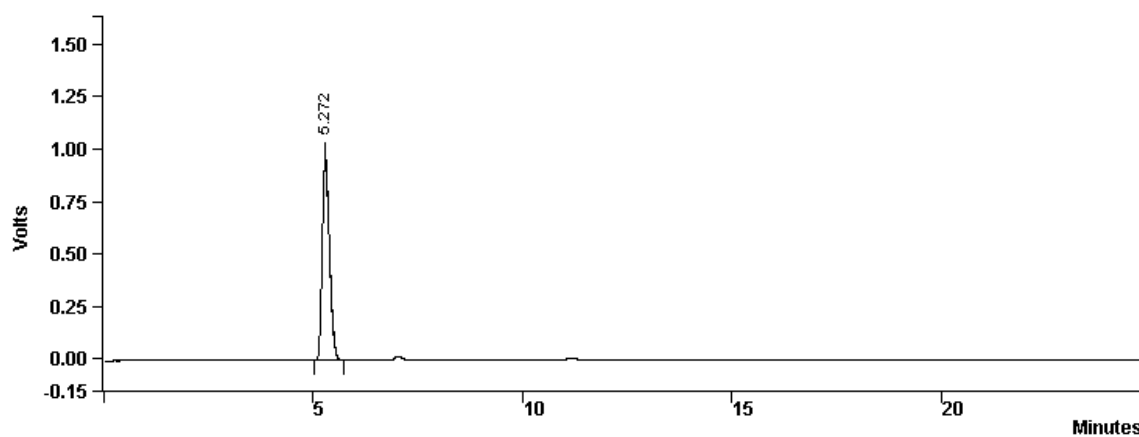
1% 2-Propanol/Hexane
Chiracel OD



Peak No	Ret. Time (min)	Area (counts)	Sep. Code	Width 1/2 (sec)	Result (Area%)
1	5.316	6329418	BV	12.6	49.3661
2	5.841	6491965	VB	13.7	50.6339
		12821383			100.0000



1% 2-Propanol/Hexane
Chiracel OD



Peak No	Ret. Time (min)	Area (counts)	Sep. Code	Width 1/2 (sec)	Result (Area%)
1	5.272	11704315	BB	11.3	100.0000
		11704315			100.0000

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