

Advanced
**Synthesis &
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Supporting Information

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Supporting Information

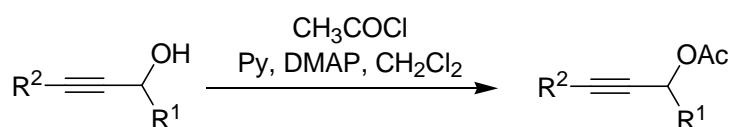
**Gold-Catalyzed Efficient Formation of α , β -
Unsaturated Ketones from Propargylic Acetates**

Meng Yu, Guotao Li, Shaozhong Wang and Liming Zhang*

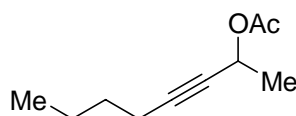
Department of Chemistry, University of Nevada, Reno, Nevada 89557

General. Ethyl acetate (ACS grade), hexanes (ACS grade) and diethyl ether (ACS grade) were purchased from Fisher Scientific and used without further purification. Anhydrous dichloromethane (HPLC grade) was purified by distillation over calcium hydride. Anhydrous tetrahydrofuran in Pure-Pac™ from Aldrich was used directly without further purification. Commercially available reagents were used without further purification. Reactions were monitored by thin layer chromatography(TLC) using whatman precoated silica gel plates. Flash column chromatography was performed over silacyle silica gel (230–400 mesh). ¹H NMR and ¹³C NMR spectra were recorded on a Varian 500 MHz Unity plus spectrometer and a Varian 400 MHz spectrometer using residue solvent peaks as internal standards. Infrared spectra were recorded with a Perkin Elmer FT-IR spectrum 2000 spectrometer and are reported in reciprocal centimeter (cm⁻¹). Mass spectra were recorded with Waters micromass ZQ detector using electron spray method.

General procedure A: Preparation of propargylic acetate

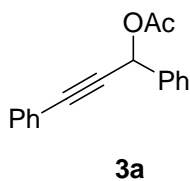


To a solution of propargylic alcohol (2.0 mmol), pyridine (1.65 mL, 20.0 mmol) and catalytic amount of DMAP in anhydrous CH₂Cl₂ (6.0 mL) at 0°C, was slowly added acetyl chloride (0.29 mL, 4.0 mmol). The reaction was stirred at the same temperature for 30 min before being diluted with hexanes (30 mL). The solid precipitates were filtered off and the filtrate obtained was concentrated. The residue was purified through silica gel flash column chromatography (hexanes/ethyl acetate = 20/1) to yield the desired acetate.

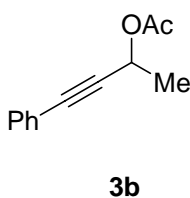


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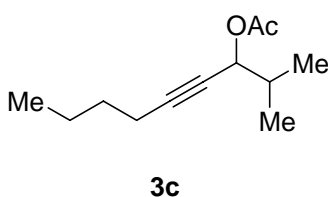
Compound **1** was prepared in 86% yield according to the general procedure A. ¹H NMR (400MHz, CDCl₃) δ 5.44 (qt, 1H, *J* = 6.8, 2.0 Hz), 2.20 (td, 2H, *J* = 7.0, 2.0 Hz), 2.06 (s, 3H), 1.53 - 1.34 (m, 7H), 0.91 (t, 3H, *J* = 7.2 Hz); ¹³C NMR (100 MHz, CDCl₃) δ 170.0, 85.6, 78.6, 60.9, 30.6, 21.9, 21.8, 21.2, 18.4, 13.6; IR (neat): 2989, 2960, 2937, 2874, 2249, 1744, 1467, 1453, 1371; MS (ES⁺) Calculated for [C₁₀H₁₆NaO₂]⁺: 191.1; Found: 191.0.



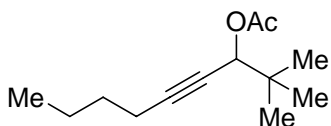
Compound **3a** was prepared in 95% yield according to the general procedure A. ^1H NMR (400 MHz, CDCl_3) δ 7.62–7.58 (m, 2H), 7.50–7.47 (m, 2H), 7.43–7.28 (m, 6H), 6.70 (s, 1H), 2.13 (s, 3H); ^{13}C NMR (100 MHz, CDCl_3) δ 169.8, 137.2, 131.9, 128.9, 128.8, 128.3, 127.8, 122.1, 87.0, 85.6, 66.1, 21.1; IR (neat): 3065, 3035, 2936, 2230, 1742, 1599, 1491, 1370; MS (ES^+) Calculated for $[\text{C}_{17}\text{H}_{14}\text{NaO}_2]^+$: 273.2; Found: 273.1.



Compound **3b** was prepared in 86% yield according to the general procedure A. ^1H NMR (400 MHz, CDCl_3) δ 7.45–7.43 (m, 2H), 7.33–7.27 (m, 3H), 5.67 (q, 1H, $J = 6.6$ Hz), 2.11 (s, 3H), 1.58 (d, 3H, $J = 6.6$ Hz); ^{13}C NMR (100 MHz, CDCl_3) δ 169.9, 131.8, 128.6, 128.2, 122.2, 87.4, 84.5, 60.8, 21.5, 21.1; IR (neat): 3058, 2990, 2939, 2247, 1743, 1599, 1491, 1444, 1372; MS (ES^+) Calculated for $[\text{C}_{12}\text{H}_{12}\text{NaO}_2]^+$: 211.1; Found: 210.9.

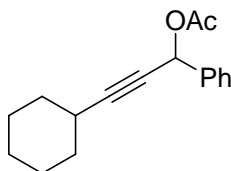


Compound **3c** was prepared in 92% yield according to the general procedure A. ^1H NMR (400 MHz, CDCl_3) δ 5.21 (dt, 1H, $J = 5.6, 2.0$ Hz), 2.22 (td, 2H, $J = 6.8, 2.0$ Hz), 2.08 (s, 3H), 2.00–1.92 (m, 1H), 1.53–1.46 (m, 2H), 1.45–1.36 (m, 2H), 1.00 (d, 3H, $J = 6.8$ Hz), 0.97 (d, 3H, $J = 6.8$ Hz), 0.91 (t, 3H, $J = 7.2$ Hz); ^{13}C NMR (100 MHz, CDCl_3) δ 170.2, 86.7, 76.1, 69.5, 32.5, 30.6, 21.9, 21.1, 18.4, 18.2, 17.5, 13.5; IR (neat): 2964, 2935, 2876, 2234, 1743, 1468, 1371; MS (ES^+) Calculated for $[\text{C}_{12}\text{H}_{20}\text{NaO}_2]^+$: 219.1; Found: 219.0.



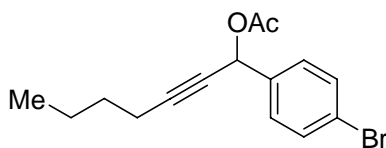
3d

Compound **3d** was prepared in 87% yield according to the general procedure A. ^1H NMR (400 MHz, CDCl_3) δ 5.10–5.09 (t, 1H, $J = 2.0$ Hz), 2.23–2.19 (dt, 2H, $J = 2.0, 6.8$ Hz), 2.09 (s, 3H), 1.51–1.46 (m, 2H), 1.45–1.36 (m, 2H), 0.989 (s, 9H), 0.92–0.89 (t, 3H, $J = 7.2$ Hz); ^{13}C NMR (100 MHz, CDCl_3) δ 170.3, 86.4, 76.3, 72.3, 35.1, 30.6, 25.5, 21.9, 21.0, 18.4, 13.5; IR (neat): 2961, 2936, 2873, 2236, 1744, 1592, 1466, 1370, 1238; MS (ES^+) Calculated for $[\text{C}_{13}\text{H}_{22}\text{NaO}_2]^+$: 233.2; Found: 233.1.



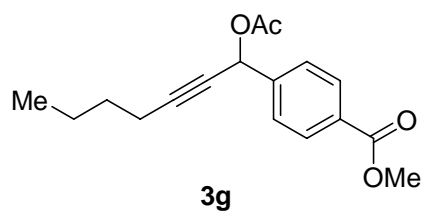
3e

Compound **3e** was prepared in 94% yield according to the general procedure A. ^1H NMR (400 MHz, CDCl_3) δ 7.55–7.51 (m, 2H), 7.39–7.31 (m, 3H), 6.49 (d, 1H, $J = 2.0$ Hz), 2.49–2.44 (m, 1H), 2.09 (s, 3H), 1.82–1.79 (m, 2H), 1.73–1.66 (m, 2H), 1.54–1.43 (m, 3H), 1.36–1.26 (m, 3H); ^{13}C NMR (100 MHz, CDCl_3) δ 169.9, 137.8, 128.7, 128.5, 127.7, 92.3, 76.6, 66.0, 32.37, 32.35, 29.1, 25.8, 24.8, 21.2; IR (neat): 3090, 3066, 3035, 2932, 2855, 2236, 1742, 1604, 1588, 1495, 1450, 1369; MS (ES^+) Calculated for $[\text{C}_{17}\text{H}_{20}\text{NaO}_2]^+$: 279.1; Found: 279.1.

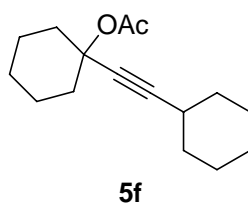


3f

Compound **3f** was prepared in 98% yield according to the general procedure A. ^1H NMR (400 MHz, CDCl_3) δ 7.51–7.48 (m, 2H), 7.41–7.38 (m, 2H), 6.40 (t, 1H, $J = 2.0$ Hz), 2.26 (dt, 2H, $J = 2.0, 7.2$ Hz), 2.09 (s, 3H), 1.56–1.48 (m, 2H), 1.44–1.35 (m, 2H), 0.91 (t, 3H, $J = 7.2$ Hz); ^{13}C NMR (100 MHz, CDCl_3) δ 169.7, 136.8, 131.7, 129.4, 122.8, 88.8, 76.2, 65.4, 30.4, 21.9, 21.1, 18.5, 13.5; IR (neat): 3584, 3363, 2959, 2934, 2873, 2234, 1743, 1592, 1487, 1369, 1225, 1012, 953; MS (ES^+) Calculated for $[\text{C}_{15}\text{H}_{17}\text{BrNaO}_2]^+$: 331.0; Found: 331.0.



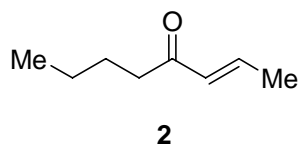
Compound **3g** was prepared in 92% yield according to the general procedure A. ^1H NMR (400 MHz, CDCl_3) δ 8.06–8.03 (m, 2H), 7.59–7.56 (m, 2H), 6.48 (t, 1H, $J = 2.0$ Hz), 3.92 (s, 3H), 2.27 (dt, 2H, $J = 2.0, 7.2$ Hz), 2.11 (s, 3H), 1.57–1.49 (m, 2H), 1.45–1.35 (m, 2H), 0.91 (t, 3H, $J = 7.2$ Hz); ^{13}C NMR (100 MHz, CDCl_3) δ 169.7, 166.6, 142.5, 130.4, 129.9, 127.5, 89.0, 76.1, 65.4, 52.2, 30.4, 21.9, 21.1, 18.5, 13.5; IR (neat): 3584, 3421, 2958, 2935, 2874, 2235, 1739, 1729, 1614, 1436, 1371, 1281, 1225, 1111, 1018, 958; MS (ES^+) Calculated for $[\text{C}_{17}\text{H}_{20}\text{NaO}_4]^+$: 311.1; Found: 311.1.



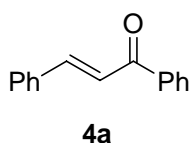
Compound **5f** was prepared in 91% yield according to the general procedure A. ^1H NMR (400 MHz, CDCl_3) δ 2.47–2.43 (m, 1H), 2.13–2.08 (m, 2H), 2.02 (s, 3H), 1.82–1.24 (m, 18H); ^{13}C NMR (100 MHz, CDCl_3) δ 169.2, 91.0, 80.2, 76.2, 37.5, 32.6, 28.9, 26.0, 25.3, 24.6, 22.9, 22.2; IR (neat): 2933, 2857, 2663, 2237, 1746, 1615, 1447, 1367, 1229, 1184, 1022; MS (ES^+) Calculated for $[\text{C}_{16}\text{H}_{24}\text{NaO}_2]^+$: 271.2; Found: 271.1.

General procedure B: Preparation of β -monosubstituted enones

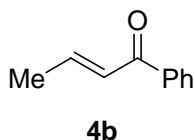
To a solution of propargylic acetate (0.2 mmol) in 2-butanone (4 mL) was added $\text{Au}(\text{PPh}_3)\text{NTf}_2$ (2.7 mg, 0.004 mmol) at room temperature. The reaction was stirred for the indicated time before quenched with NEt_3 . The reaction mixture was concentrated, and the resulting residue was purified through silica gel flash column chromatography (hexanes/ethyl acetate = 20/1) to yield the desired α,β -unsaturated ketones.



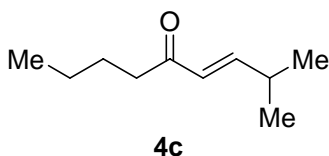
Compound **2** was prepared in 95% yield according to the general procedure B (reaction time: 16 h). ^1H NMR (400 MHz, CDCl_3) δ 6.84 (dq, 1H, $J = 6.8, 16.0$ Hz), 6.12 (dq, 1H, $J = 1.2, 16.0$ Hz), 2.52 (t, 2H, $J = 7.2$ Hz), 1.90 (dd, 3H, $J = 1.2, 6.8$ Hz), 1.59 (p, 2H, $J = 7.2$ Hz), 1.33 (sextet, 2H, $J = 7.2$ Hz), 0.91 (t, 3H, $J = 7.2$ Hz); ^{13}C NMR (100 MHz, CDCl_3) δ 200.8, 142.2, 132.0, 39.8, 26.4, 22.4, 18.2, 13.9; IR (neat): 2959, 2922, 2873, 1729, 1595, 1433, 1317; MS (ES^+) Calculated for $[\text{C}_8\text{H}_{14}\text{NaO}]^+$: 149.1; Found: 149.0.



Compound **4a** was prepared in 82% yield according to the general procedure B (reaction time: 16 h). This is a known compound and its spectra match the reported (Kryshtal, G. V.; Zhdankina, G. M.; Zlotin, S. G.; *Eur. J. Org. Chem.* **2005**, *13*, 2822-2827).

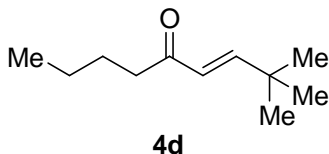


Compound **4b** was prepared in 78% yield according to the general procedure B (reaction time: 24 h). ^1H NMR (400 MHz, CDCl_3) δ 7.94–7.91 (m, 2H), 7.58–7.53 (m, 1H), 7.49–7.44 (m, 2H), 7.07 (dq, 1H, $J = 6.8, 15.2$ Hz), 6.91 (dq, 1H, $J = 1.6, 15.2$ Hz), 2.01 (dd, 3H, $J = 1.6, 7.2$ Hz); ^{13}C NMR (100 MHz, CDCl_3) δ 190.8, 145.0, 137.9, 132.6, 128.5, 127.6, 77.2, 18.6; IR (neat): 3584, 3391, 3056, 2974, 2918, 2851, 1674, 1625, 1598, 1580, 1449, 1298, 1220, 1039, 1024, 966, 918; MS (ES^+) Calculated for $[\text{C}_{10}\text{H}_{10}\text{NaO}]^+$: 169.1; Found: 169.0.

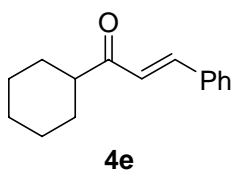


Compound **4c** was prepared in 92% yield according to the general procedure B (reaction time: 16 h). ^1H NMR (400 MHz, CDCl_3) δ 6.80 (dd, 1H, $J = 6.8, 16$ Hz), 6.04 (dd, 1H, $J = 1.6, 16$ Hz), 2.54 (t, 2H, $J = 7.6$ Hz), 2.46 (do, 1H, $J = 1.6, 6.8$ Hz), 1.59 (p, 2H, $J = 7.6$ Hz), 1.34 (sextet, 2H, $J = 7.6$ Hz), 1.07 (d, 6H, $J = 6.8$ Hz), 0.92 (t, 3H, $J = 7.6$ Hz); ^{13}C NMR (100 MHz,

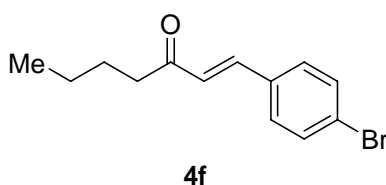
CDCl_3) δ 201.3, 153.2, 127.5, 39.9, 31.1, 26.4, 22.4, 21.3, 13.9; IR (neat): 2959, 2924, 2855, 1731, 1597, 1436, 1316, 1262, 1156, 1121, 1045; MS (ES^+) Calculated for $[\text{C}_{10}\text{H}_{18}\text{NaO}]^+$: 177.1; Found: 177.1.



Compound **4d** was prepared in 90% yield according to the general procedure B (reaction time: 16 h). ^1H NMR (400 MHz, CDCl_3) δ 6.81 (d, 1H, $J = 16.4$ Hz), 6.01 (d, 1H, $J = 16.4$ Hz), 2.55 (t, 2H, $J = 7.6$ Hz), 1.60 (p, 2H, $J = 7.6$ Hz), 1.34 (sextet, 2H, $J = 7.6$ Hz), 1.09 (s, 9H), 0.92 (t, 3H, $J = 7.6$ Hz); ^{13}C NMR (100 MHz, CDCl_3) δ 201.5, 156.8, 125.4, 40.0, 33.7, 28.7, 26.4, 22.4, 13.9; IR (neat): 2961, 2935, 2872, 1743, 1674, 1626, 1464, 1367, 1237, 1072; MS (ES^+) Calculated for $[\text{C}_{11}\text{H}_{20}\text{NaO}]^+$: 191.1; Found: 191.0.

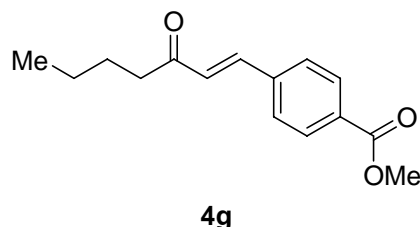


Compound **4e** was isolated as an *E/Z* (8/1) mixture in 88% yield according to the general procedure B (reaction time: 16 h). ^1H NMR (400 MHz, CDCl_3) (major isomer) δ 7.59 (d, 1H, $J = 16$ Hz), 7.57–7.54 (m, 2H), 7.38–7.37 (m, 3H), 6.81 (d, 1H, $J = 16$ Hz), 2.69–2.62 (m, 1H), 1.91–1.19 (m, 10H); ^{13}C NMR (100 MHz, CDCl_3) (major isomer) δ 203.1, 142.2, 134.8, 130.3, 128.9, 128.3, 124.7, 49.4, 28.7, 25.9, 25.8; IR (neat): 3080, 3057, 3026, 2949, 2929, 2915, 2849, 1683, 1613, 1575, 1449, 1370, 1146, 1067, 992; MS (GC–MS) Calculated for $[\text{C}_{15}\text{H}_{19}\text{O}]^+$: 215; Found: 215.



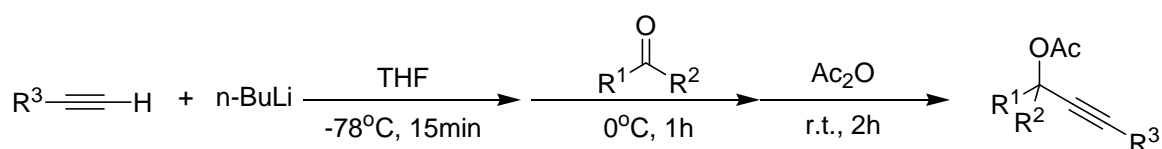
Compound **4f** was prepared in 88% yield according to the general procedure B (reaction time: 12 h). ^1H NMR (400 MHz, CDCl_3) δ 7.54–7.51 (m, 2H), 7.48 (d, 1H, $J = 16$ Hz), 7.42–7.40 (m, 2H), 6.72 (d, 1H, $J = 16$ Hz), 2.65 (t, 2H, $J = 7.6$ Hz), 1.66 (p, 2H, $J = 7.6$ Hz), 1.38 (sextet, 2H, $J = 7.6$ Hz), 0.94 (t, 3H, $J = 7.6$ Hz); ^{13}C NMR (100 MHz, CDCl_3) δ 200.3, 140.8, 133.5,

132.2, 129.6, 126.7, 124.6, 40.9, 26.38, 22.42, 13.9; IR (neat): 3065, 3031, 2951, 2932, 2895, 2870, 2354, 2321, 1687, 1684, 1616, 1487, 1404, 1068, 1057, 988, 810; MS (ES⁺) Calculated for [C₁₃H₁₆BrO]⁺: 267; Found: 267.

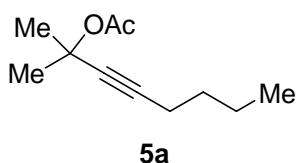


Compound **4g** was prepared in 90% yield according to the general procedure B (reaction time: 12 h). ¹H NMR (400 MHz, CDCl₃) δ 8.07–8.04 (m, 2H), 7.62–7.60 (m, 2H), 7.56 (d, 1H, *J* = 16 Hz), 6.81 54 (d, 1H, *J* = 16 Hz), 3.93 (s, 3H), 2.68 (t, 2H, *J* = 7.6 Hz), 1.67 (p, 2H, *J* = 7.6 Hz), 1.39 (sextet, 2H, *J* = 7.6 Hz), 0.95 (t, 3H, *J* = 7.2 Hz); ¹³C NMR (100 MHz, CDCl₃) δ 200.3, 166.4, 140.7, 138.9, 131.4, 130.1, 128.1, 128.0, 52.3, 41.0, 26.3, 22.4, 13.9; IR (neat): 3016, 2956, 2932, 2868, 2354, 2320, 1722, 1651, 1433, 1412, 1283, 1110, 985, 977, 881; MS (ES⁺) Calculated for [C₁₅H₁₈NaO₃]⁺: 269.1; Found: 269.1.

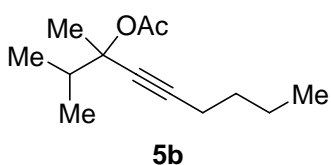
General procedure C: Preparation of propargylic acetates



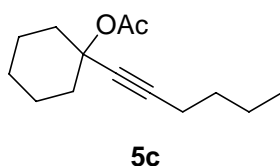
To a solution of alkyne (11 mmol) in anhydrous THF (42 mL) at -78°C under N₂ was added *n*-BuLi (2.5 M solution in hexanes, 4.2 mL, 10.5 mmol). The reaction was stirred at the same temperature for 15 min before addition of ketone/aldehyde (10 mmol). The resulting mixture was allowed to warm to 0 °C gradually and stirred for an additional hour. Upon the addition of acetate anhydrous (2.4 mL, 25 mmol), the reaction mixture was stirred at room temperature for 2 h before quenched with aqueous NaHCO₃. The mixture was extracted with Et₂O (3 x 30 mL). The combined organic phases were washed with water and brine, dried with anhydrous MgSO₄ and filtered. The filtrate was concentrated, and the residue was purified through silica gel flash column chromatography (hexanes/ethyl acetate = 20/1) to yield the desired acetate.



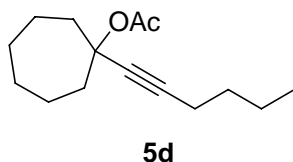
Compound **5a** was prepared in 74% yield according to the general procedure C. ^1H NMR (500MHz, CDCl_3) δ 2.20 (t, 2H, $J = 7.0$), 2.01 (s, 3H), 1.64 (s, 6H), 1.48 (p, 2H, $J = 7.6$ Hz), 1.39 (sextet, 2H, $J = 7.6$ Hz), 0.90 (t, 3H, $J = 7.6$); ^{13}C NMR (125 MHz, CDCl_3) δ 169.4, 84.6, 81.3, 72.6, 30.6, 29.3, 22.1, 21.9, 18.4, 13.6; IR (neat): 2987, 2960, 2936, 2875, 2245, 1747, 1586, 1468, 1434, 1368, 1329, 1266, 1245, 1196, 1016, 953, 822; MS (ES^+) Calculated for $[\text{C}_{11}\text{H}_{18}\text{NaO}_2]^+$: 205.1; Found: 205.1.



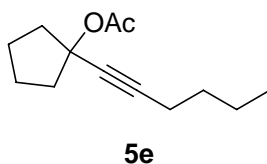
Compound **5b** was prepared in 80% yield according to the general procedure C. ^1H NMR (400 MHz, CDCl_3) δ 2.23 (t, 2H, $J = 7.2$ Hz), 2.16 (heptet, 1H, $J = 6.6$ Hz), 2.01 (s, 3H), 1.61 (s, 3H), 1.53–1.43 (m, 2H), 1.42–1.37 (m, 2H), 1.01 (d, 3H, $J = 6.6$ Hz), 0.97 (d, 3H, $J = 6.6$ Hz), 0.90 (t, 3H, $J = 7.2$ Hz); ^{13}C NMR (100 MHz, CDCl_3) δ 169.4, 86.2, 79.6, 79.2, 37.4, 30.8, 23.5, 22.1, 21.9, 18.4, 17.5, 17.2, 13.6; IR (neat): 2965, 2936, 2876, 2244, 1746, 1559, 1458, 1436, 1371, 1336, 1243, 1129, 1060, 1014, 942; MS (ES^+) Calculated for $[\text{C}_{13}\text{H}_{22}\text{NaO}_2]^+$: 233.2; Found: 233.2.



Compound **5c** was prepared in 84% yield according to the general procedure C. ^1H NMR (400 MHz, CDCl_3) δ 2.254 (t, 2H, $J = 7.2$ Hz), 2.11–2.06 (m, 2H), 2.03 (s, 3H), 1.84–1.77 (m, 2H), 1.63–1.29 (m, 10H), 0.91 (t, 3H, $J = 7.2$ Hz); ^{13}C NMR (100 MHz, CDCl_3) δ 169.3, 86.8, 80.0, 76.1, 37.4, 30.8, 25.3, 22.7, 22.1, 21.9, 18.5, 13.6; IR (neat): 2936, 2861, 2244, 1746, 1600, 1447, 1431, 1367, 1301, 1264, 1230, 1184, 1131, 1034, 1020, 965; MS (ES^+) Calculated for $[\text{C}_{14}\text{H}_{22}\text{NaO}_2]^+$: 245.2; Found: 245.1.



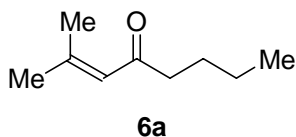
Compound **5d** was prepared in 70% yield according to the general procedure C. ^1H NMR (400 MHz, CDCl_3) δ 2.24–2.17 (m, 4H), 2.06–2.04 (m, 2H), 2.01 (s, 3H), 1.57–1.37 (m, 12H), 0.90 (t, 3H, $J = 7.2$ Hz); ^{13}C NMR (100 MHz, CDCl_3) δ 169.4, 86.0, 81, 2, 79.5, 40.5, 30.7, 28.2, 22.2, 21.9, 18.5, 13.6; IR (neat): 2936, 2861, 2244, 1746, 1600, 1447, 1431, 1367, 1301, 1264, 1230, 1184, 1131, 1034, 1020, 965; MS (ES^+) Calculated for $[\text{C}_{15}\text{H}_{24}\text{NaO}_2]^+$: 257.2; Found: 259.2.



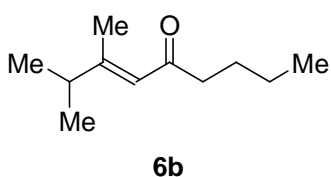
Compound **5e** was prepared in 70% yield according to the general procedure C. ^1H NMR (400 MHz, CDCl_3) δ 2.22–2.15 (m, 4H), 2.12–2.04 (m, 2H), 2.02 (s, 3H), 1.74–1.70 (m, 4H), 1.50–1.44 (m, 2H), 1.43–1.35 (m, 2H), 0.90 (t, 3H, $J = 7.6$ Hz); ^{13}C NMR (100 MHz, CDCl_3) δ 169.7, 85.3, 81.0, 80.5, 40.5, 30.7, 23.2, 21.9, 18.5, 13.6; IR (neat): 2960, 2933, 2875, 2246, 1746, 1593, 1453, 1435, 1367, 1334, 1241, 1124, 1016, 970; MS (ES^+) Calculated for $[\text{C}_{13}\text{H}_{20}\text{NaO}_2]^+$: 231.1; Found: 231.1.

General procedure D: Preparation of β,β -disubstituted ketones

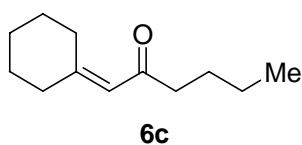
To a solution of propargylic acetate (0.2 mmol) in acetonitrile (4 mL) cooled in ice-water bath was added $\text{Au}(\text{PPh}_3)\text{NTf}_2$ (0.001 mmol, 0.2 mL of 0.05 M solution in acetone). The reaction mixture was stirred at the same temperature for 0.5 h before warming to room temperature. The reaction was quenched with NEt_3 after stirred for the indicated time. The reaction mixture was concentrated. The residue was purified through silica gel flash column chromatography (hexanes/ethyl acetate = 20/1) to yield the desired β,β -disubstituted ketones.



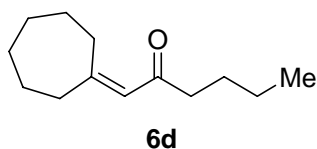
Compound **6a** was prepared in 98% yield according to the general procedure D (reaction time: 16 h). ^1H NMR (400 MHz, CDCl_3) δ 6.08–6.06 (m, 1H), 2.40 (t, 2H, $J = 7.6$ Hz), 2.14 (d, 3H, $J = 0.8$ Hz), 1.88 (d, 3H, $J = 1.2$ Hz), 1.57 (p, 2H, $J = 7.6$ Hz), 1.32 (sextet, 2H, $J = 7.6$ Hz), 0.91 (t, 3H, $J = 7.6$ Hz); ^{13}C NMR (100 MHz, CDCl_3) δ 201.4, 154.6, 123.8, 44.0, 27.6, 26.4, 22.4, 20.6, 13.9; IR (neat): 2955, 2922, 2874, 2349, 2316, 1735, 1594, 1430, 1316, 1154, 1119, 1043, 874; MS (ES^+) Calculated for $[\text{C}_9\text{H}_{17}\text{O}]^+$: 141.1; Found: 141.1.



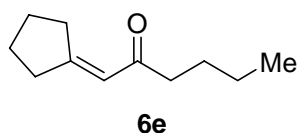
Compound **6b** was isolated as a mixture of geometrical isomers ($E/Z = 4/1$) in 88% yield according to the general procedure D (reaction time: 24h). ^1H NMR (400 MHz, CDCl_3) (major isomer) δ 6.06–6.05 (m, 1H), 2.42 (t, 2H, $J = 7.6$ Hz), 2.33 (heptet, 1H, $J = 6.8$ Hz), 2.09 (d, 3H, $J = 1.2$ Hz), 1.61–1.53 (m, 2H), 1.37–1.25 (m, 2H), 1.06 (d, 6H, $J = 6.7$ Hz), 0.91 (t, 3H, $J = 7.3$ Hz); ^{13}C NMR (100 MHz, CDCl_3) (major isomer) δ 202.0, 163.6, 121.1, 44.2, 38.2, 26.4, 22.4, 20.9, 16.8, 13.9; IR (neat): 3363, 2962, 2933, 2874, 1755, 1688, 1616, 1464, 1381, 1224, 1132, 1058, 925, 852; MS (GC–MS) Calculated for $[\text{C}_{11}\text{H}_{21}\text{O}]^+$: 169; Found: 169.



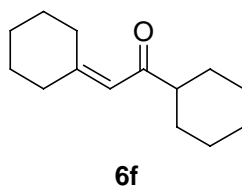
Compound **6c** was prepared in 97% yield according to the general procedure D (reaction time: 16 h). ^1H NMR (400 MHz, CDCl_3) δ 5.97 (t, 1H, $J = 1.2$ Hz), 2.01–2.78 (m, 2H), 2.41 (t, 2H, $J = 7.6$ Hz), 2.18–2.12 (m, 2H), 1.67–1.62 (m, 2H), 1.61–1.53 (m, 6H), 1.37–1.28 (m, 2H), 0.91 (t, 3H, $J = 7.6$ Hz); ^{13}C NMR (100 MHz, CDCl_3) δ 202.1, 161.5, 121.0, 44.2, 38.1, 29.9, 28.8, 27.9, 26.4, 26.3, 22.4, 13.9; IR (neat): 3367, 2932, 2859, 2354, 1685, 1622, 1448, 1137, 1064, 936; MS (ES^+) Calculated for $[\text{C}_{12}\text{H}_{20}\text{NaO}]^+$: 203.1; Found: 203.1.



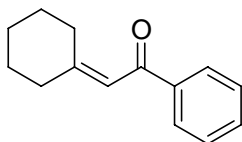
Compound **6d** was prepared in 83% yield according to the general procedure D (reaction time: 16 h). ^1H NMR (400 MHz, CDCl_3) δ 6.06 (t, 1H, $J = 0.9$ Hz), 2.85 (dt, 2H, $J = 0.9, 6.4$ Hz), 2.40 (t, 2H, $J = 7.6$ Hz), 2.33 (dt, 2H, $J = 0.9, 6.4$ Hz), 1.68–1.51 (m, 10H), 1.33 (sextet, 2H, $J = 7.2$ Hz), 0.91 (t, 3H, $J = 7.2$ Hz); ^{13}C NMR (100 MHz, CDCl_3) δ 201.5, 165.6, 123.5, 44.3, 39.4, 33.1, 30.1, 29.4, 28.4, 26.7, 26.7, 22.7, 14.1; IR (neat): 3349, 3015, 2955, 2928, 2856, 1755, 1685, 1608, 1454, 1444, 1385, 1131, 1071, 956; MS (ES^+) Calculated for $[\text{C}_{13}\text{H}_{22}\text{NaO}]^+$: 217.2; Found: 216.9.



Compound **6e** was prepared in 82% yield according to the general procedure D (reaction time: 16 h). ^1H NMR (400 MHz, CDCl_3) δ 6.24 (t, 1H, $J = 1.2$ Hz), 2.76 (t, 2H, $J = 7.3$ Hz), 2.41 (t, 2H, $J = 7.5$ Hz), 1.74 (p, 2H, $J = 7.5$ Hz), 1.64 (p, 2H, $J = 7.5$ Hz), 1.57 (p, 2H, $J = 7.3$ Hz), 1.32 (sextet, 2H, $J = 7.3$ Hz), 0.90 (t, 3H, $J = 7.3$ Hz); ^{13}C NMR (100 MHz, CDCl_3) δ 200.7, 168.0, 119.3, 43.7, 36.2, 33.4, 26.6, 26.4, 25.3, 22.4, 13.9; IR (neat): 3013, 2958, 2935, 2872, 2358, 1689, 1622, 1457, 1373, 1167, 1065, 855; MS (GC–MS) Calculated for $[\text{C}_{11}\text{H}_{19}\text{O}]^+$: 167; Found: 167.



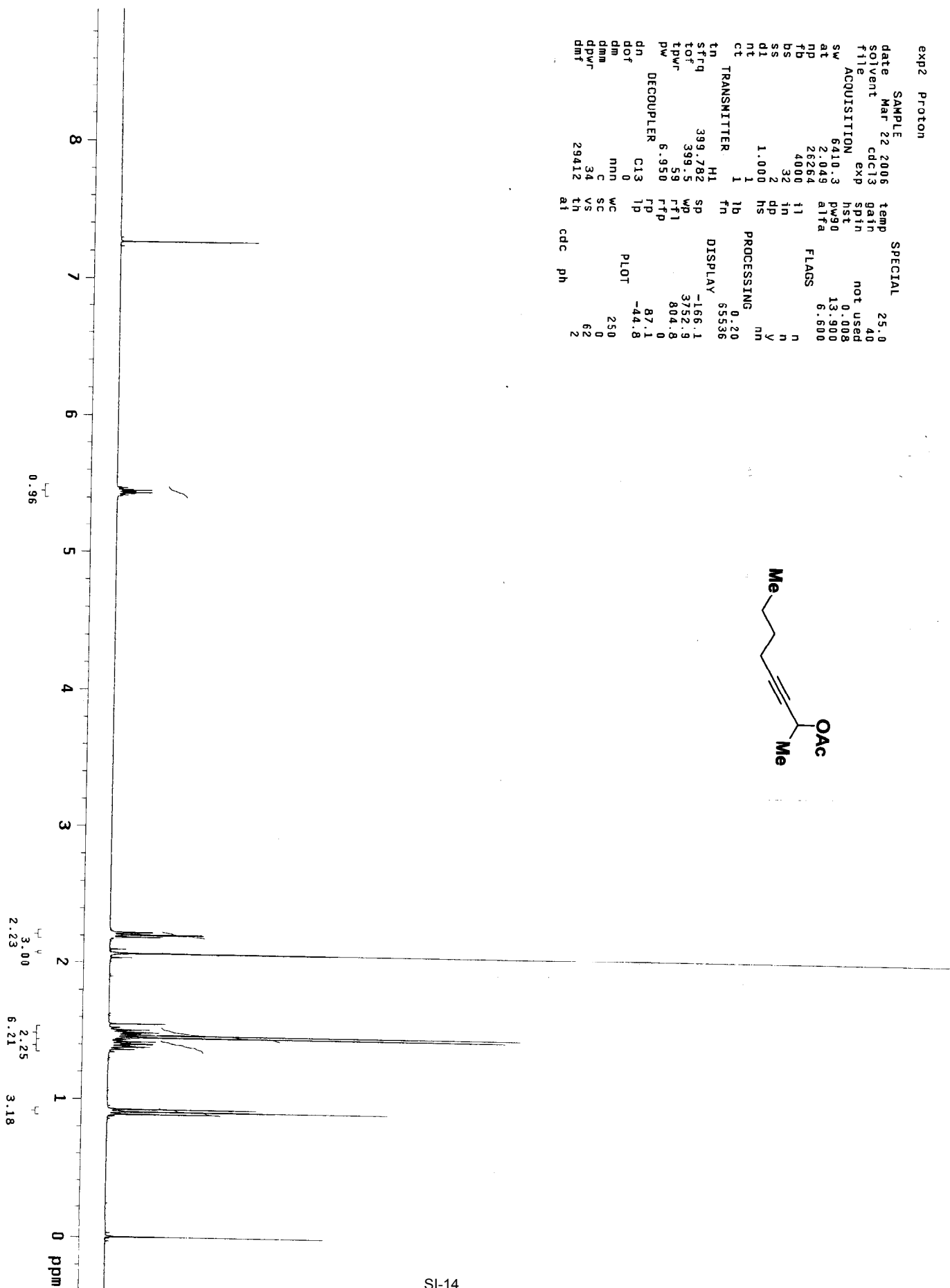
Compound **6f** was prepared in 93% yield according to the general procedure D (reaction time: 20 h). ^1H NMR (400 MHz, CDCl_3) δ 6.01 (d, 1H, $J = 1.0$ Hz), 2.79–2.77 (t, 2H, $J = 4.6$ Hz), 2.34–2.28 (m, 1H), 2.19–2.16 (t, 2H, $J = 6.1$ Hz), 1.85–1.57 (m, 12H), 1.38–1.18 (m, 4H); ^{13}C NMR (100 MHz, CDCl_3) δ 205.3, 162.1, 120.5, 51.9, 38.4, 30.2, 29.1, 28.9, 28.2, 26.5, 26.2, 26.0; IR (neat): 3023, 2929, 2854, 1738, 1683, 1619, 1449, 1146, 1066, 982; MS (GC–MS) Calculated for $[\text{C}_{14}\text{H}_{23}\text{O}]^+$: 207; Found: 207.



Compound showed above was prepared in 22% yield according to the general procedure D (reaction time: 20 h). ^1H NMR (400MHz, CDCl_3) δ 7.96–7.93 (m, 2H), 7.55–7.51 (m, 1H), 7.47–7.43 (m, 2H), 6.60 (t, 1H, $J = 1.1$ Hz), 2.77 (t, 2H, $J = 5.7$ Hz), 2.32 (dt, 2H, $J = 1.0, 6.3$ Hz), 1.76–1.70 (m, 2H), 1.68–1.61 (m, 4H); ^{13}C NMR (125 MHz, CDCl_3) δ 192.4, 162.8, 139.3, 132.3, 128.4, 128.3, 118.7, 38.4, 30.7, 28.9, 28.0, 26.3; IR (neat): 3080, 3060, 3030, 2930, 2854, 1995, 1660, 1609, 1578, 1447, 1391, 1384, 1240, 1219, 1042, 1021, 979, 834; MS (GC–MS) Calculated for $[\text{C}_{14}\text{H}_{16}\text{O}]^+$: 200; Found: 200.

exp2 proton

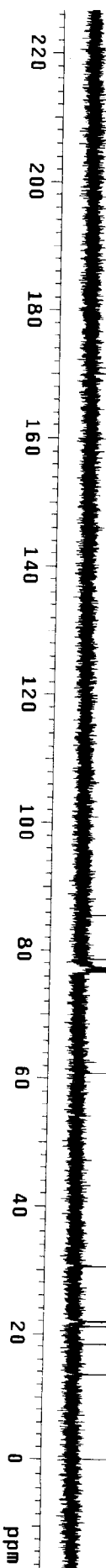
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np 26264
fb 4000
bs 32
ss 2
dl 1.000
nt 1
ct 1
TRANSMITTER 1
fn 1b
tn HI
sfrq 399.782 SP -166.1
tof 399.5 WD 3752.3
tpwr 59 rfi 804.8
pv 6.950 rfp 87.1
DECOUPLER C13 tp -44.8
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dof 0
dm nnn WC PLOT
dmm c SC 250
dpwr 34 VS 0
dmf 29412 th 62
ai cdc ph 2
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exptl Carbon

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001/data/cdc13_02.~          FLAGS

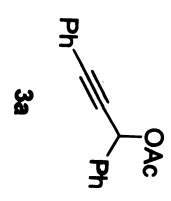
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nt           1024   sp    11    n
ct           1024   wp    11    n
tn           1024   rfp1 11    n
tn          C13     rfp   11    n
strq        100.535 rfp   11    n
tof         1042.6  ip    11    n
tpwr        55     PLOT  -181.9
pw          4.850  wc    11    n
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dn          HI     VS    11    0
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dm         0     at    11    7
dimm       0     cdc   11    n
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STANDARD 1H OBSERVE - profile

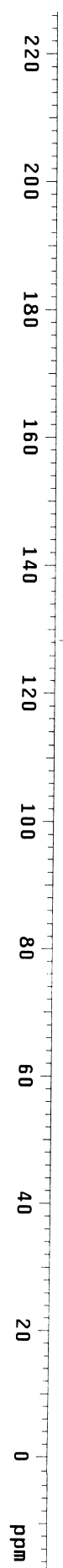
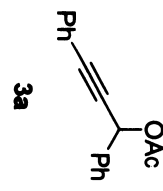
expt Proton

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	at	2.049	dp	y	
	np	26264	hs	nn	
	fb	4000			
	bs	32	lb		
	ss	2	fn		
	di	1.000	sd		
	nt	8	wp		
	ct	8	ft1		
TRANSMITTER	tn	H1	rfp		
	stfq	399.782	rfp		
	tof	399.5	tp		
	tpwr	59			
	pw	6.950	pl		
DECOUPLER	dn	C13	vs		
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expl Carbon

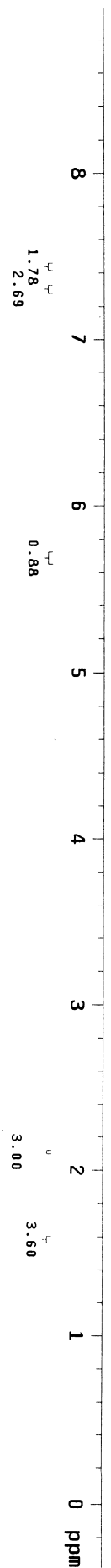
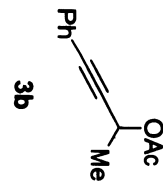
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                   3.02.fid    FLAGS
ACQUISITION      11          n
sw                24509.8    n
at                1.300    dp    y
np                63750    hs    n
fb                17000    PROCESSING 0.50
bs                64      1b    not used
dl                1.000    fn    DISPLAY
nl                1024    sp    -1723.5
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TRANSMITTER      C13        rffl  9464.6
tn                100.535  rfp  7740.4
sfrq              1042.6  rp   150.3
tof               55      1p   -174.6
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pw                DECOUPLER 4.850  wc    250
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STANDARD 1H OBSERVE - profile

exp2 Proton

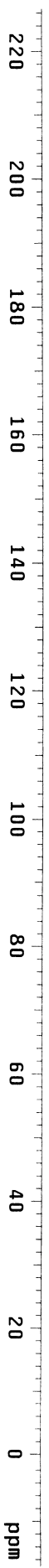
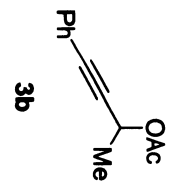
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ACQUISITION	cdcl3_01.ftid	11	11
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ss	2	DISPlay	-169.8
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pw	6.950	TH	2
DECOUPLER	C13	AI	cdc ph
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dmf			



STANDARD 1H OBSERVE - profile

exp2 Carbon

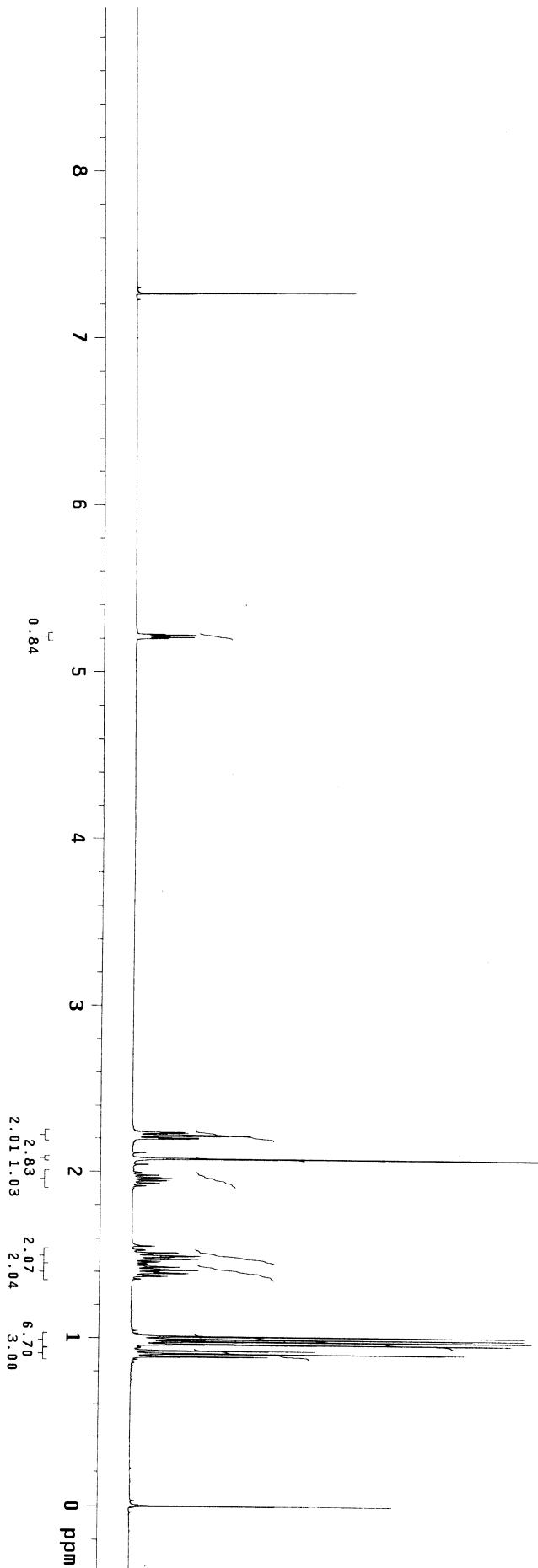
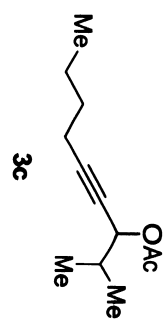
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	/cdcl3_01.fid	FLAGS	
ACQUISITION			
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at	1.300	dp	y
np	63750	hs	nn
fb	17000		
bs	64	1b	PROCESSING
d1	1.000	fn	0.50
nt	1024		not used
ct	236	SP	DISPLAY
tn	TRANSMITTER		
sfreq	C13	WD	-1723.6
tof	100.535	rf1	24509.1
tpwr	1042.6	rfp	9464.7
	55	lp	7740.4
			121.2
			-143.6
pw	4.850		
DECOUPLER		WC	PLOT
dn	H1	SC	250
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STANDARD 1H OBSERVE - profile

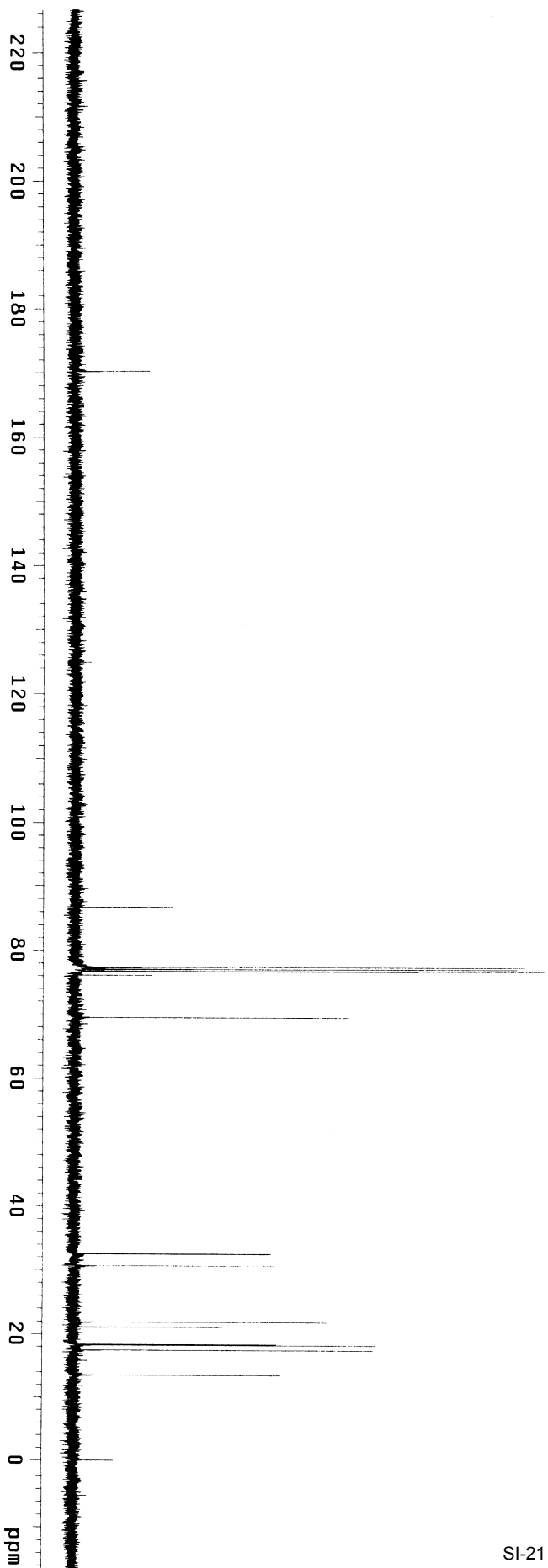
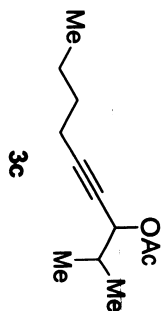
expt Proton

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3_01.fid	11	11	n
ACQUISITION	1n	1n	n
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at	2.049	hs	nn
np	26264	PROCESSING	0.20
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expi Carbon

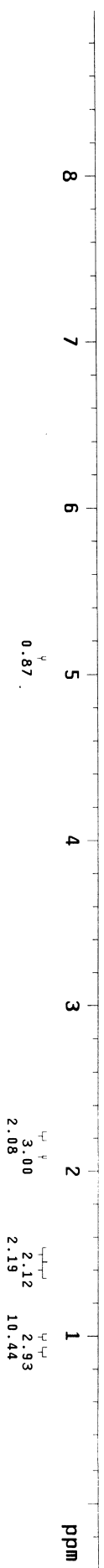
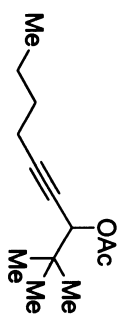
```
SAMPLE          SPECIAL
date    Apr 10 2006    temp    25.0
solvent  Me           cdc13    gain    30
file    /home/wal/kup/~ not used
nmr     /data/Frost~  hst     0.008
/auto_2006.04.10_1~  pw90    9.700
/s_01/data/cdc1~    alfa    10.000
302.fid
ACQUISITION      11          FLAGS
sw      24509.8      in      n
at      1.300       dp      y
np      63750       hs      n
fb      17000       pr      n
bs      1.000       fn      not used
dl      1.000       ft      not used
nt      1024        sp      DISPLAY
ct      448         wp      -1722.9
TRANSMITTER      C13       rfp1    24509.1
tn      100.535     rfp     9464.1
sfrq    1042.6     rfp     7740.4
tof      55        rfp     127.9
tpwr     4.850     lp      -133.3
pw      4.850     PLOT
DECOUPLER        WC       250
dn      H1         SC       0
dof     0         VS       50000
dm      YVV       th
dmm     W         ai
dpwr    W         ai
dmf     W         ai
          9300
```



STANDARD 1H OBSERVE - profile

expi Proton

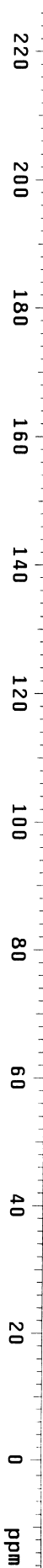
date	May 3 2006	temp	25.0
solvent	cdcl3	gain	not used
file	/home/waljkup/~	spin	not used
nmr	sys/data/Bs11/~	hst	0.008
R10	auto_2006.05.00	pw90	13.900
R10/s	_20050503_00~	alpha	6.800
I/data	/cdcl3_01.f1~	FLAGS	
ACQUISITION			
sw	6410.3	dp	11
at	2.049	hs	nn
np	28264	lb	nn
fb	4000	fn	0.20
bs	32	sp	65536
ss	2	wd	-156.9
d1	1.000	rfl	3753.5
nt	8	rffl	807.3
ct	8	rfp	81.4
TRANSMITTER		lp	-59.4
tn	H1	pl	250
sfreq	399.782	sc	0
tof	399.5	vs	40
lpwr	59	th	2
pw	6.950	ai	cdc
DECOUPLER	C13	ph	
dn	0		
dof	0		
dmm	nnn		
dmm	c		
dpwr	34		
dmf	29412		



expl Carbon

SAMPLE 3 2006 temp 25.0
date May 3 2006 gain 30
solvent cdc13 spin not used
file /home/waikup/~ vnmrsvs/data/Be11/~ hst 0.008
Rto/auto 2006.05.0~ pw90 9.700
3 10/s 20060503.00~ alfa 10.000
1/data/cdc13_02.f1~ FLAGS

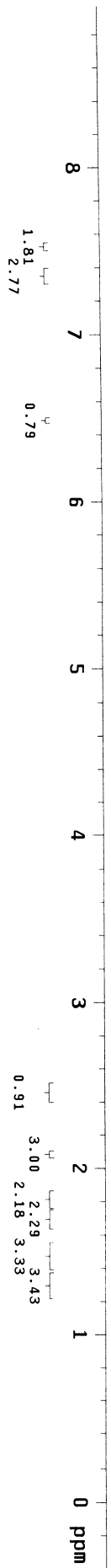
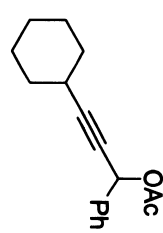
ACQUISITION
sw 24509.8 f1 n
at 1.300 dp y
np 63750 hs nn
fb 17000 lb 0.50 PROCESSING
bs 64 fn not used
di 1.000 DISPLAY not used
nt 1024 sp -1723.4
ct 128 wp 24509.1
tn TRANSMITTER C13 rfp 9454.5
stfq 100.535 rfp 7740.4
tof 1042.6 fp -29.4
tpwr 55 WC PLOT -188.4
pw 4.850 WC 250
DECOUPLER H1 VS 0
dn dof H1 vs 30000
dm dm 0 tn ph
dmm yvy w at cdc
dpwr w 41
dmf 9300



STANDARD 1H OBSERVE - profile

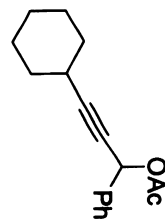
expt Proton

SAMPLE	date	Apr 10 2006	temp	25.0
SOLVENT	cdcl3	gain	not used	
FILE	/home/walkup/~	spin	not used	
VNM	sys/data/Frost~	hst	0.008	
4/s_01	/data/cdcl3~	pw90	13.900	
		alpha	6.600	
ACQUISITION	3-01.fid	11	n	
SW	6410.3	in	n	
AT	2.049	dd	y	
NP	26264	hs	nn	
FB	4000			
BS	32	lb		
SS	2	fn		
DI	1.000	8	SP	DISP
NT	8	WP	-163.5	
CT	8	rfl	3751.5	
TRANSMITTER	H1	rfl	807.7	
STRQ	399.782	fp	69.3	
TOF	399.5	lp	-13.7	
TPWR	39			
PW	6.950	WC	250	
DECOUPLER	C13	VS	0	
DN	0	th	100	
DOF	0	ai	2	
DM	nmn	cdc	ph	
DMM	c			
DPWR	34			
DMT	29412			



exptl Carbon

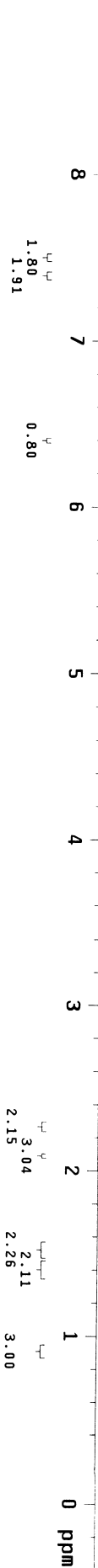
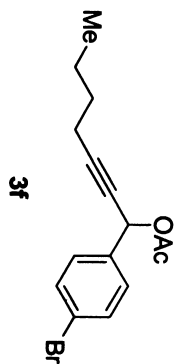
SAMPLE SPECIAL 25.0
date Apr 10 2006 gain 30
solvent cdcl3 temp 30
file /home/walrup/~ not used
vnmrSYS/data/Frost~ hst 0.008
/auto_2006.04.10_1~ pw90 9.700
4/s_01/data/cdcl3~ alfa 10.000
3.02.fid
ACQUISITION
sw 24509.8 tn 11 n
at 1.300 dp hs y
np 63750 hs nn
fb 17000
bs 64 lb not used
di 1.000 fn not used
nt 1024 448
ct TRANSMITTER SP -1722.8
tn C13 WP 24509.1
sfreq 100.535 rffl 9463.9
tof 1042.6 rfp 7740.4
tpwr 55 lp 121.1
pw 4.850 PLOT -133.3
DECOUPLER WC 250
dn H1 SC 0
dof 0 VS 40000
dm YYY th ai cdc ph 68
dmm W
dpwr 41
dmf 9300



STANDARD 1H OBSERVE - profile

expt Proton

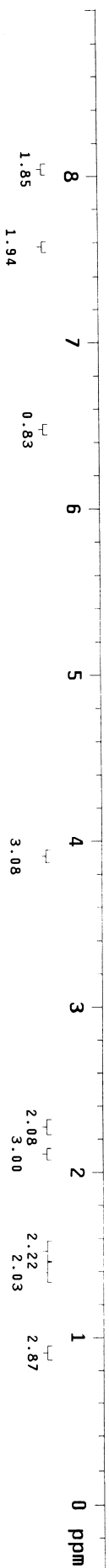
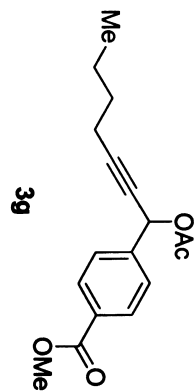
date	May 7 2006	SAMPLE	7 2006	temp	25.0
solvent	cdcl3	cdcl3	gatin	not used	
file	/home/walakup/~	file	not used	not used	
nmrsvs	/data/Frost/~	nmrsvs	0.008	0.008	
Wmg/auto	2006.05~	Wmg/auto	13.900	13.900	
pw	6.950	pw	6.500	6.500	
001/data/cdc13_01~	atfa	001/data/cdc13_01~	atfa	6.500	
ACQUISITION	fid	fid	in	n	
sw	6410.3	dp	in	n	
at	2.049	hs	hs	y	
np	26264	lb	lb	nn	
fb	4000	fn	fn	nn	
bs	32	sp	sp	nn	
ss	2	wd	wd	nn	
d1	1.000	rf1	rf1	nn	
nt	8	rfp	rfp	nn	
ct	8	td	td	nn	
tn	8	th	th	nn	
trns	8	tl	tl	nn	
TRANSMITTER	H1	PL	PL	nn	
strq	399.782	pl	pl	nn	
lof	399.5	pl	pl	nn	
ipwr	59	pl	pl	nn	
pw	6.950	pl	pl	nn	
DECOUPLER	C13	pl	pl	nn	
dn	0	pl	pl	nn	
dof	0	pl	pl	nn	
dm	nmn	pl	pl	nn	
dmm	C	pl	pl	nn	
dpwr	34	pl	pl	nn	
dmf	29412	pl	pl	nn	



STANDARD 1H OBSERVE - profile

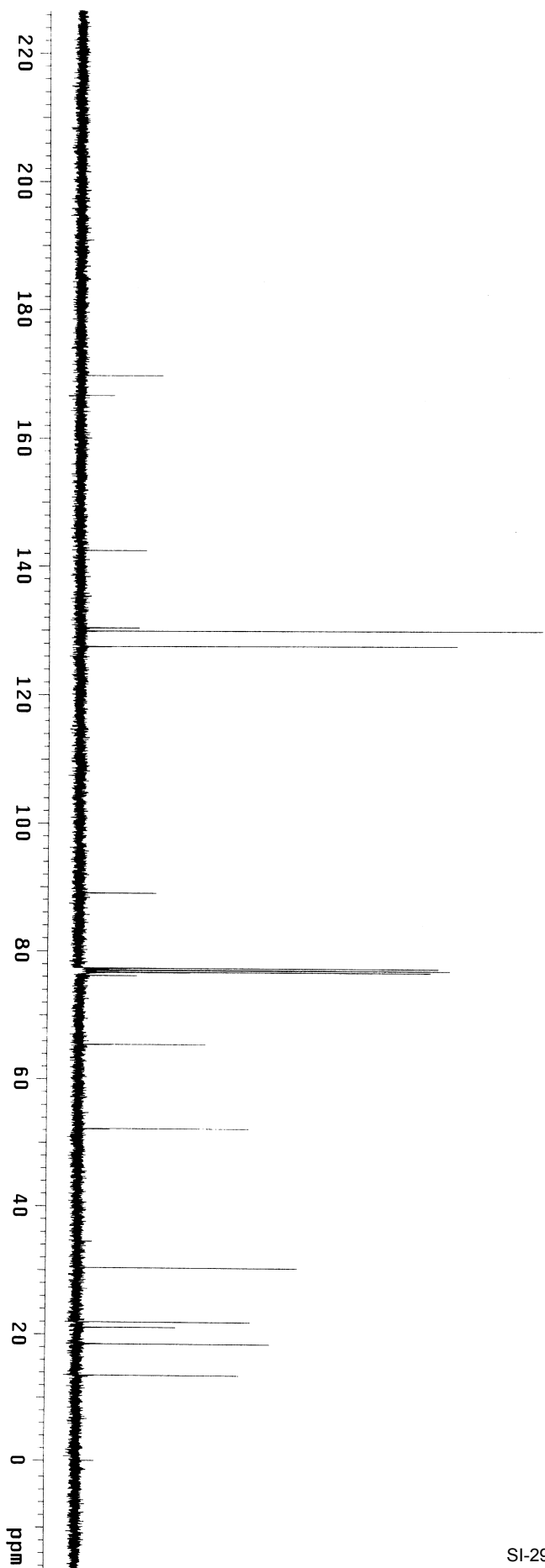
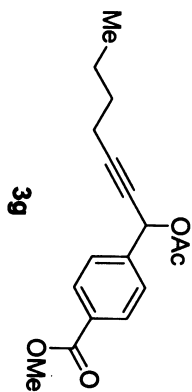
exp1 Proton

SAMPLE	5	2006	temp	25.0
date	May	5	cdcl3	gain
solvent	/home/walakup/~		not used	
file	/home/walakup/~		not used	
nmr/sv	/data/ffros	hst	0.008	
/Harkreader/	auto_2	pw90	13.900	
006.05.05_03/S	200	alfa	6.600	
60505_001/data/cdc	~			
13-01.fid		11	n	
ACQUISITION		in	y	
SW	6410.3	dp	hs	nn
at	2.049	hs	hs	nn
np	26264	1b	1b	0.20
fb	4000	fn	fn	65536
bs	32			
ss	2	DISPLAY		
d1	1.000	sp	-164.5	
nt	8	wp	3766.0	
ct	8	rfl	807.7	
TRANSMITTER		rfl	0	
tn	H1	rp	63.6	
sfreq	399.782	lp	-25.5	
tof	399.5	WC	250	
tpwr	59	SC	0	
pw	6.950	VS	50	
DECOUPLER				
dn	C13	th	2	
dof	0	at	cdc	ph
dm	nmn			
dmm	c			
dpwr	34			
dmf	29412			



exptl Carbon

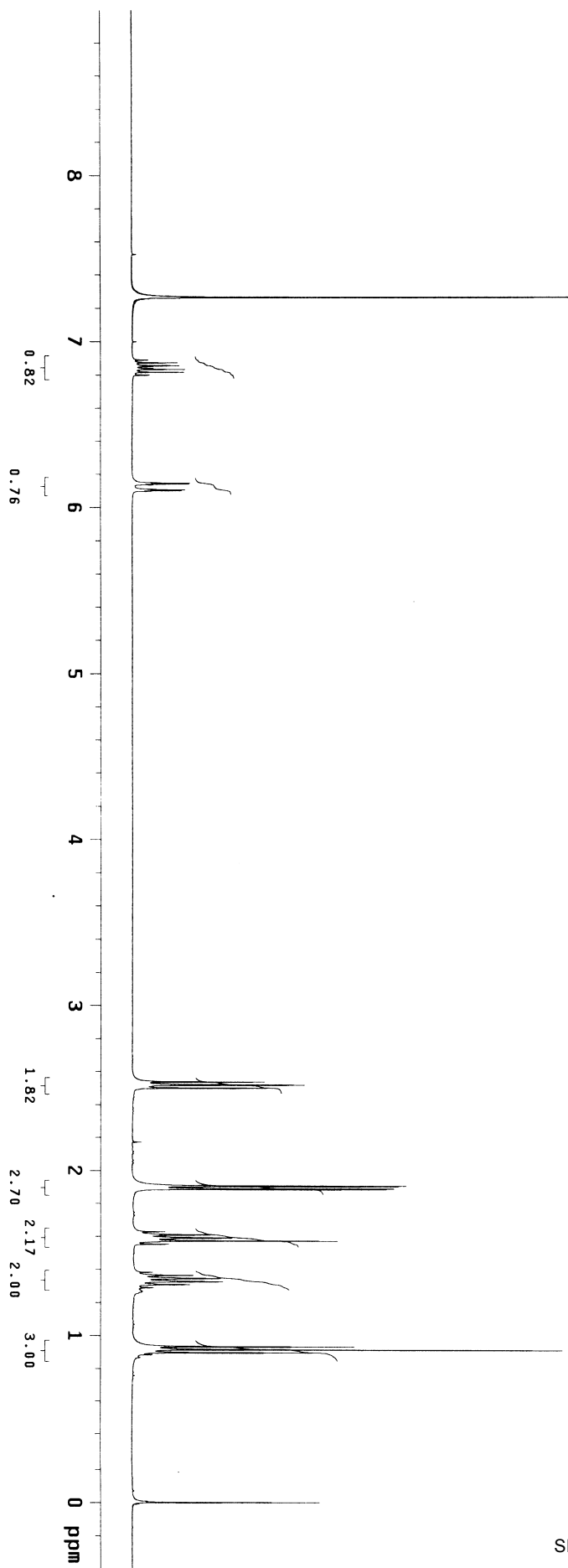
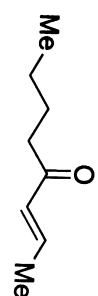
```
SAMPLE 5 2006 temp 25.0
solvent cdc13 gain 30
file /home/walkup/~ not used
vnmrsvs/data/Frost- hst 0.008
/Harkreader/auto 2~ pw90 9.700
006.05.05_03/s_200~ a1fa 10.000
60505_001/data/cdc~
13_02.f1d i1 n
ACQUISITION 13_02.f1d i1 n
sw 24509.8 dp hs y
at 1.300 hs n
np 63750 lb PROCESSING 0.50
fb 17000 fn not used
bs 64 fn not used
dl 1.000 DISPLAY
nt 2000 SP -1722.5
ct TRANSMITTER 64 WP 24509.1
tn C13 rfl 9463.7
stfq 100.535 fp -49.6
tof 1042.6 tp PLOT -133.3
tpwr 55
pw DECOUPLER 4.850 WC 250
dn H1 VS 40000
dof H1 VS 40000
dm 0 tn
dmm yyy at cdc ph 68
dpwr w
dmf 9300
```



STANDARD 1H OBSERVE - profile
 STANDARD 1H OBSERVE - profile
 STANDARD 1H OBSERVE - profile
 STANDARD 1H OBSERVE - profile

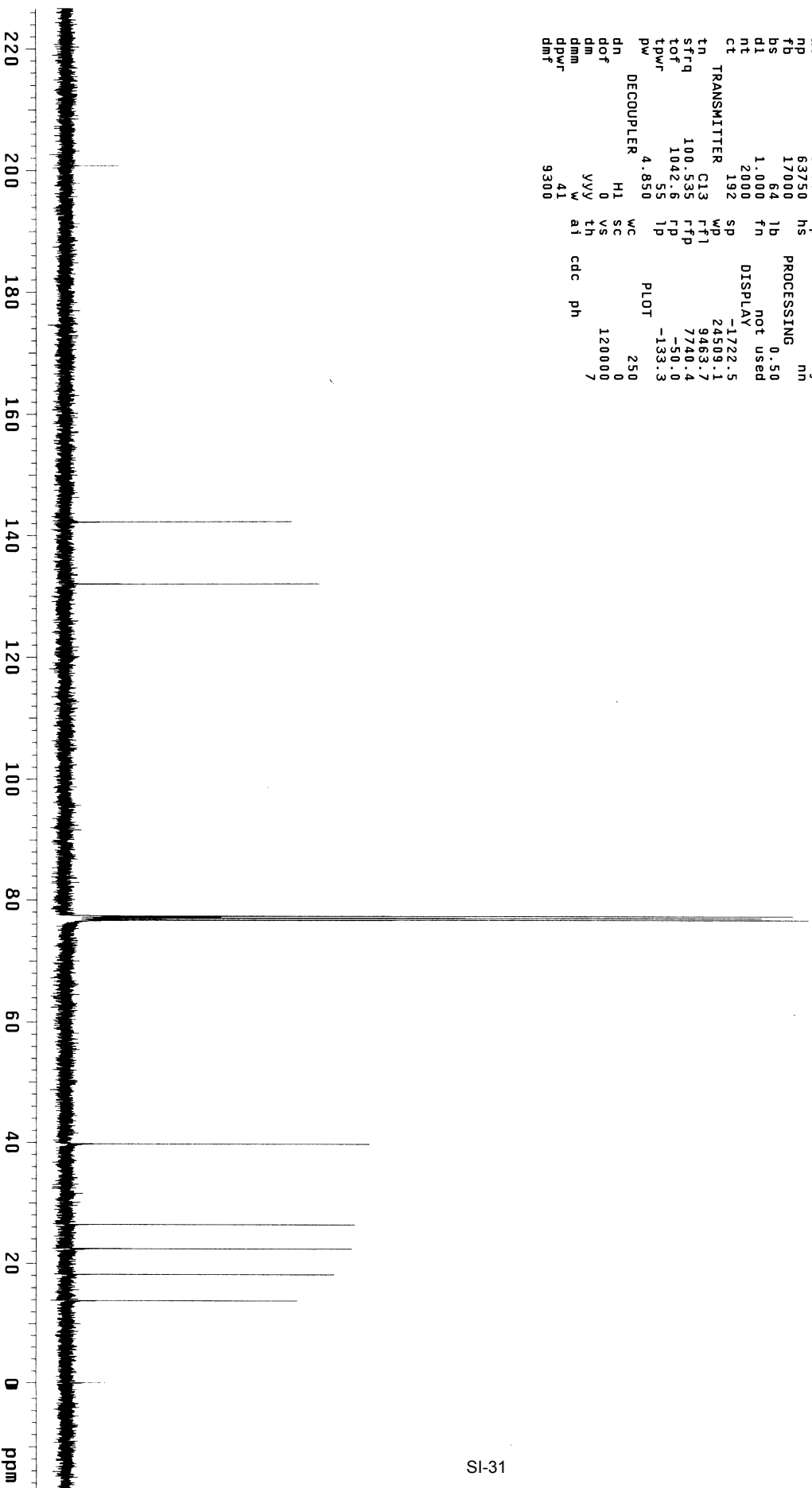
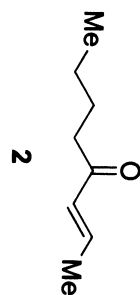
expi Proton

SAMPLE	4	2006	temp	25.0
date	May		gain	not used
solvent	cdcl3		spin	not used
file	/home/wal/kup/~		hst	0.008
nmrfsys	/data/Frost		pw90	13.900
/auto	2006.05.04.1~		atfa	6.500
S/S	20060504_001/d-		flags	
ata	cdcl3_01.fid		acq	
ACQUISITION			sw	6410.3
at	2.049	dp	hs	25264
np	4000	fb	32	2
bs	1.000	d1	8	8
ss		nt	8	8
d1		ct	8	8
nt		tn	H1	FP
ct		sfrq	399.782	1p
tn		tof	399.5	59
sfrq		tpwr	6.950	WC
tof		pw	DECOUPLER	C13
tpwr		dn	0	th
		dm	nnn	at
		dof	0	cdcl3
		dm	0	ph
		dmm	34	
		dpwr	3	
		dmf	29412	



expi Carbon

SAMPLE 4 2006
date May cdc13 temp 25.0
solvent /home/wal/kup/~ gain 30
file /home/wal/kup/~ sp1n not used
vnmrsvs//data/Frost~ hst 0.008
/auto_2006.05.04_1~ pw90 9.700
5/s_20060504_001/d~ alfa 10.000
afa/cdc13_02.fid
ACQUISITION
SW 24509.8 f1 n
at 1.300 dp y
np 63750 hs
fb 17000
bs 64 lb
d1 1.000 fn not used
nt 2000 DISPLAY
ct 192 SP -1722.5
TRANSMITTER C13 wf 24509.1
tn 100.535 rF1 9463.7
strq 1042.6 rfp 7740.4
tof 55 rp -50.0
tpwr 55 lp -133.3
pw 4.850 PLOT
DECOUPLER WC 250
dn H1 SC 0
dof 0 VS 120000
dm YYY th
dmm W at cdc ph
dpwr 41
dmf 9300



STANDARD 1H OBSERVE - profile
 STANDARD 1H OBSERVE - profile
 STANDARD 1H OBSERVE - profile

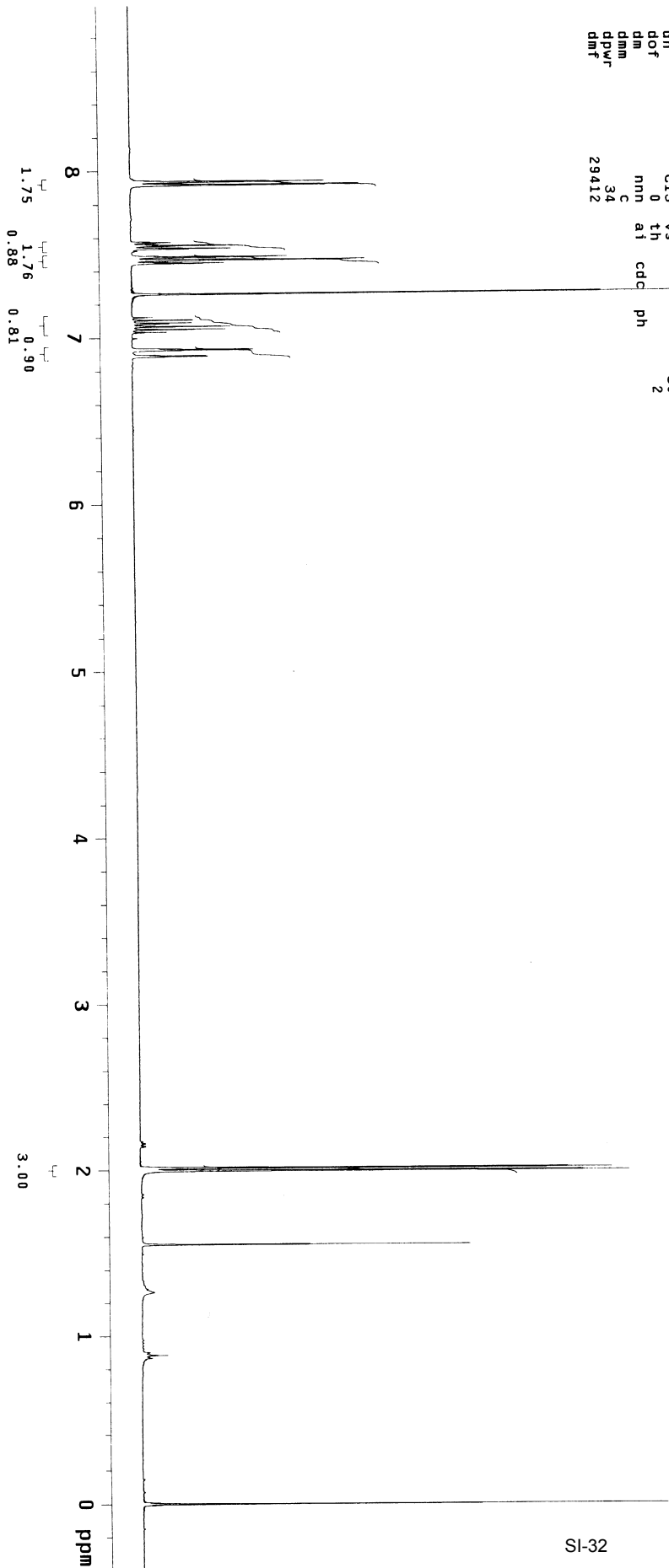
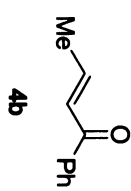
expt1 proton

SAMPLE 4 2006 temp 25.0
 date May cdc13 gain not used
 solvent /home/wal1kup/~ not used
 file /home/wal1kup/~ sptn 0.008
 vnmrsvs/data/Frost~ hst 13.900
 /auto.2006.05.04.1~ pw90 6.600
 5/s.20060504.001/d~ atfa
 ata/cdc13.01.fid

ACQUISITION
 sw 8410.3 f1
 at 2.049 dp y
 np 26264 hs nm
 fb 4000
 bs 32 lb
 ss 2 fn
 di 1.000 sp
 nt 8 wd
 ct 8

TRANSMITTER H1
 tn 399.782 ffp
 stfq 399.5 fp
 tof 59 tp
 tpwr 59
 pw 6.950 wc
 DECOUPLER C13 vs
 dn 0 th
 dof 0 at
 dm nm
 dmm 34
 dpwr 34
 dmf 29412

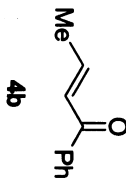
SPECIAL 25.0
 not used
 not used
 0.008
 13.900
 6.600
 n
 n
 y
 nm
 0.20
 65536
 DISPLAY
 -165.7
 3761.1
 809.1
 61.4
 -24.9
 PLOT
 250
 0
 80
 2



STANDARD 1H OBSERVE - profile
STANDARD 1H OBSERVE - profile
STANDARD 1H OBSERVE - profile

expt Carbon

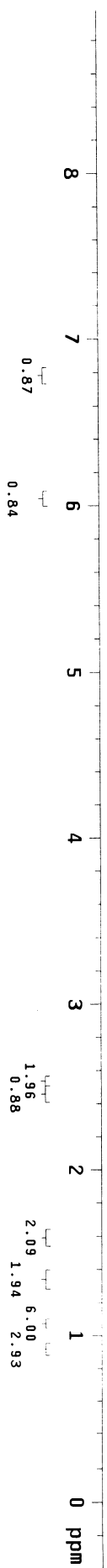
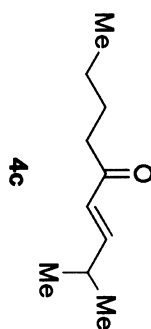
SAMPLE SPECIAL 25.0
date May 4 2006 temp
solvent cdcl3 gain 30
file /home/walkup/~ sp1n not used
vnmrsws/data/Frost~ hst 0.008
/auto_2006.05.04.1~ pw90 9.700
S/S_20060504_001/d- a1fa 10.000
ata/cdcl3_02.f1d
ACQUISITION FLAGS
sw 24509.8 11 n
at 1.300 1n n
np 63750 hs y
fb 17000 PROCESSING nn
bs 64 1b not used
dl 1.000 fn 0.50
nt 2000 DISPLAY not used
ct 64 SP -1723.0
TRANSMITTER WP 24509.1
tn C13 rF1 9464.1
sfreq 100.535 rFP 7740.4
tof 1042.6 rp -41.6
tpwr 55 1p -133.3
pw 4.850 PLOT
DECOUPLER WC 250
dn H1 SC 0
dof 0 VS 100000
dm YYY th 68
dmm w at cdc ph
dpwr 41
dmf 9300



STANDARD 1H OBSERVE - profile

expi Proton

date	SAMPLE	4	2006	temp	25.0
solvent	cdcl3	gain	not used		
file	/home/walkup/~	spin	not used		
nmr/sys	/data/Prost/~	hst	0.008		
/auto	2006.05.04_1~	pw90	13.900		
ata/cdcl3	01.fid	alpha	6.600		
ACQUISITION	11	FLAGS	n		
sw	6410.3	in	n		
at	2.049	dp	y		
np	26264	hs	nn		
fb	4000	PROCESSING			
bs	32	1b	0.20		
ss	2	fn	65538		
d1	1.000	DISPLAY			
nt	8	sp	-167.5		
ct	8	wp	3758.4		
TRANSMITTER	H1	rfl	807.2		
tn	399.782	rd	64.5		
stfq	399.5	lp	-20.2		
tof	39.39	PLOT	250		
tpwr	6.950	WC	0		
pw	6.950	SC	0		
DECOUPLER	C13	VS	78		
dn	0	th	21		
dof	0	at			
dm	nnn	cdc	ph		
dmm	c				
dpwr	34				
dmf	29412				



STANDARD 1H OBSERVE - profile

exp1 Proton

date	May 5 2006	temp	25.0
solvent	cdcl3	gain	not used
file	/home/walrup/~	sp in	not used
nmr/sy/data/frost/~	hst	hst	0.008
/HarKreader/au0_2~	pw90	pw90	13.900
006.05_05_06/s_200~	alpha	alpha	6.600
60505_001/data/cdc~	13.01.fid	11	n
13.01.fid	11	11	n
ACQUISITION	in	in	y
sw	6410.3	dd	nn
at	2.049	hs	nn
np	26264	1b	0.20
fb	4000	fn	65536
bs	32	fn	65536
ss	2	fn	65536
d1	1.000	sp	-164.5
nt	8	wp	3758.7
ct	8	rfl	807.7
ct	8	rfl	0
TRANSMITTER	H1	rfl	69.5
tn	399.782	1p	-37.3
sfrq	399.3	1p	-37.3
tof	59	WC	250
tpwr	6.950	VS	0
PW	6.950	th	40
DECOUPLER	C13	ai	cdc
dn	0	ph	3
dof	0		
d1m	nnn		
dmm	c		
dpwr	34		
dmf	29412		

SPECIAL

25.0
not used
not used
0.008
13.900
6.600

FLAGS

n
n
y
nn

PROCESSING

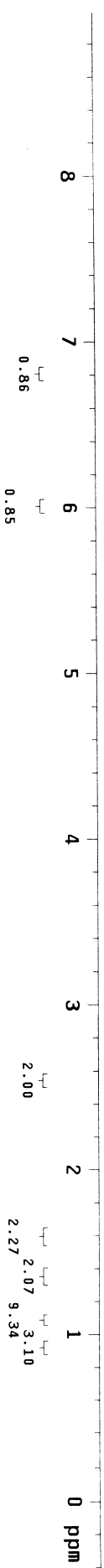
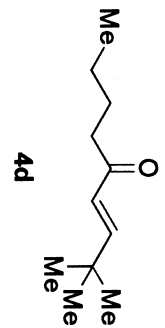
0.20
-164.5
-37.3
65536

DISPLAY

-164.5
3758.7
807.7
0

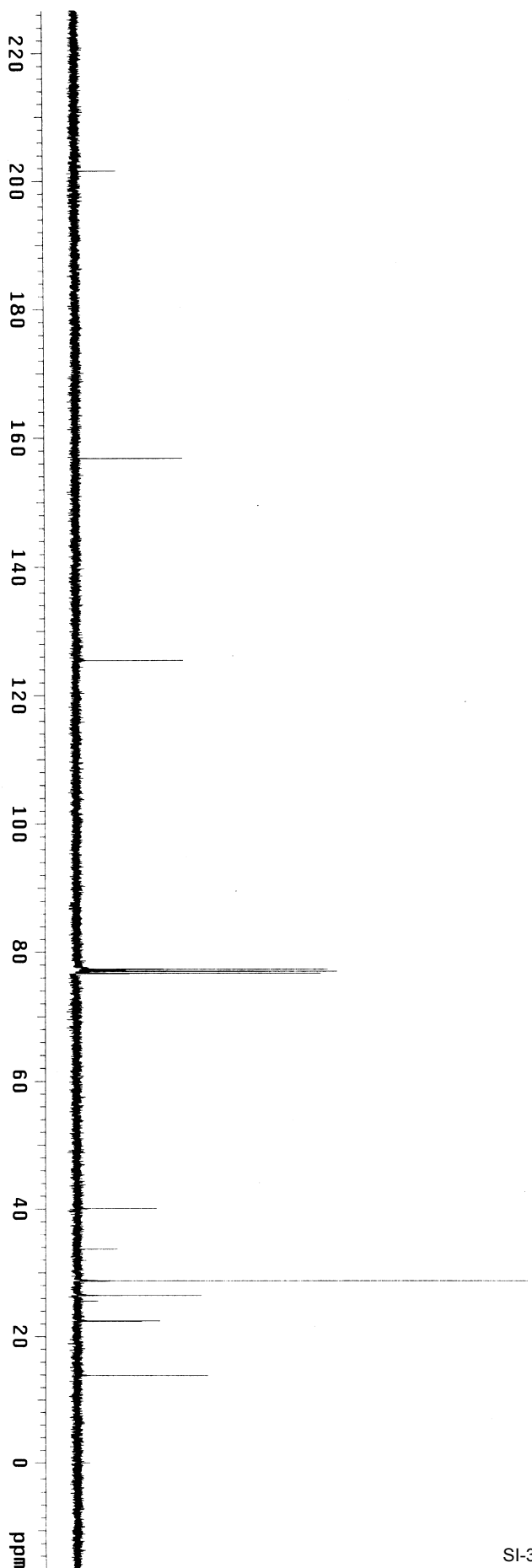
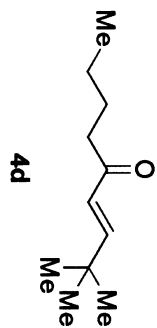
PLOT

250
0
40
3



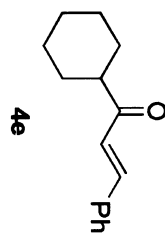
expi Carbon

```
SAMPLE 5 2006 temp 25.0
date May 5 2006 gain 30
solvent cdcl3 gain 30
file /home/waljkup/~ not used
vnmr sys/data/fros4~ hst 0.008
/HmrkReader/autos2~ pw90 9.700
006.05.05_06/s_200~ alfa 10.000
60505_001/data/cdc~
13.02.fid 11
ACQUISITION 11 n
sw 24509.8 dp hs y
at 1.300 hs nn
nd 63750 hs nn
fb 17000 lb not used
bs 84 fn not used
d1 1.000 sp -1723.1
nt 2000 wp 24509.1
ct TRANSMITTER 128 rfp 9464.2
tn C13 rfp 7740.4
sfreq 100.535 rfp -4.1
tof 1042.6 lp -200.6
tpwr 55
pw 4.850 wc 250
DECOUPLER H1 vs 0
dn H1 vs 30000
dof 0 th 68
dm yyy ai cdc ph
dmm w
dpwr 41
dmf 9300
```



expl Proton

SAMPLE 2 2006 temp 25.0
date Oct 2 2006 gain not used
solvent cdcl3 spin not used
title /home/walkup/~ sst not used
data/Zhang/Guotaol-13.900
1/255-1.fid pw90 13.900
ACQUISITION alfa 6.600
SW 6410.3
at 2.049 f1
np 26264 in
fb 4000 dp
bs 32 hs
ss 2
d1 1.000 lb
nt 8 fh
ct 8
TRANSMITTER SP
tn H1 WP -478.3
sfrq 399.782 rfi 4323.9
tof 399.5 rfd 806.2
tpwr 59 fp 119.6
pw 6.950 lp -25.5
DECOUPLER PLOT
dn C13 WC 250
dof 0 SC 0
dm nnn VS 425
dmm C th 425
dpwr 34 ai cdc ph 2
dmf 29412

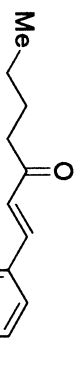


STANDARD 1H OBSERVE - profile

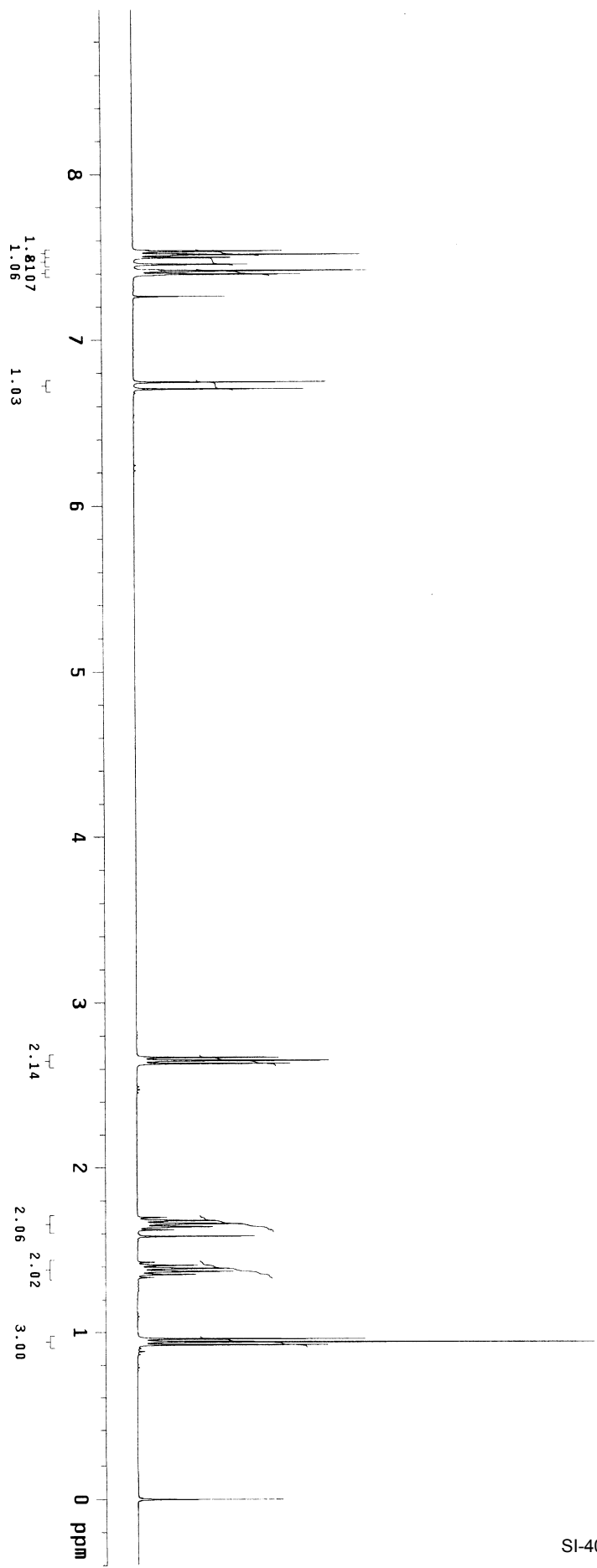
expt proton

SAMPLE	7	2006	temp	25.0
date	May	cdcl3	gain	not used
solvent	/home/walkup/~	nmr	spin	not used
file	/Mong/auto_2006.05~	pw90	hst	0.008
nmr/sys	07_02/s_20060507~	alpha	pw90	13.900
001/data/cdcl3_01~	fid	alpha	pw90	6.600

ACQUISITION	fid	11	11	n
sw	6410.3	dp	in	n
at	2.049	hs	hs	v
np	26264	lb	lb	mn
fb	4000	fn	fn	0.20
bs	32	fn	fn	65536
ss	2	fn	fn	65536
d1	1.000	sp	sp	-162.0
nt	8	wp	wp	3759.3
ct	8	rfl	rfl	808.7
tn	8	rfl	rfl	0
ct	8	rfl	rfl	0
tn	8	rfl	rfl	0
stfq	399.782	tp	tp	66.4
tof	399.5	tp	tp	-28.3
tpwr	59	sc	sc	250
pw	6.950	vs	vs	0
DECOUPLER	C13	th	th	80
dn	0	ai	ai	2
dof	0	ai	ai	2
dm	nmn	cdc	cdc	ph
dmm	c			
dpwr	34			
dmf	29412			

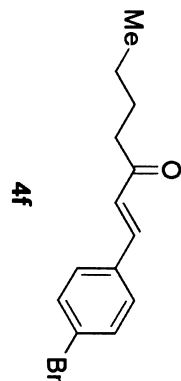


4f



exp43 Carbon

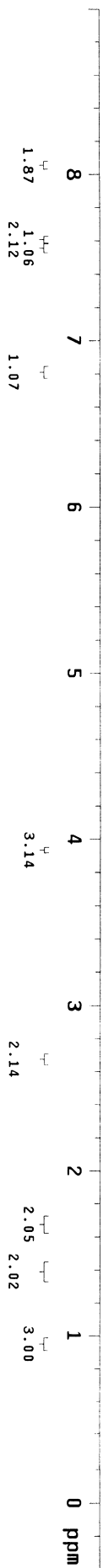
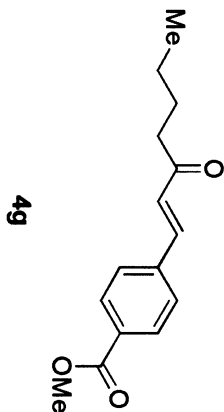
SAMPLE	May 7 2006	temp	25.0
solvent	cdc13	gain	30
file	/home/walkup/~	spin	not used
data/Zhang/Shaozho-	ng/1-c.fid	hsf	0.008
RB/1-c.fid	atfa	pw90	9.700
ACQUISITION	24509.8	atfa	10.000
SW	1.300	FLAGS	
at	63750	11	n
np	17000	1n	n
fb	64	dp	y
bs	1.000	hs	nn
d1	2000	PROCESSING	0.50
nt	2000	1b	not used
ct	2000	fn	not used
TRANSMITTER	C13	SP	DISPLAY
trf	100.535	wp	-1724.1
tof	1042.6	rfl	24509.1
tpwr	55	rffp	9465.2
pw	4.850	rp	7740.4
DECOUPLER	H1	lp	-22.1
dn	0	PLOT	-194.5
dof	0	WC	250
dm	yyy	SC	0
dmm	w	VS	40000
dpwr	41	tn	0
dmf	9300	at	cdc ph



STANDARD 1H OBSERVE - profile

expt Proton

SAMPLE	date	May 7 2006	temp	25.0
SOLVENT	solvent	cdcl3	gain	not used
FILE	file	/home/walrup/~	spin	not used
VNMRSYS	nmrSYS	/data/Frost~	hst	0.008
WONG	/Wong/	auto_2006-05-	pw90	13.900
07_01/5_20060507_~	alpha		alpha	6.600
001/data/cdc13_01.~	fid		FLAGS	
ACQUISITION	fid	11		n
SW	sw	6410.3	in	Y
AT	at	2.049	dp	nn
NP	np	26264	hs	nn
FB	fb	4000	lb	0.20
BS	bs	32	fn	65536
SS	ss	2	DISPLAY	
D1	d1	1.000	sp	-167.8
NT	nt	8	wp	3766.4
CT	ct	8	rfl	807.5
TRANSMITTER	transmitter		rfp	64.4
TN	tn	H1	lp	-25.5
SFRQ	sfrq	399.782	pl	
TOF	tof	399.5	WC	250
TPWR	tpwr	59	SC	0
PW	pw	6.950	VS	36
DECOUPLER	decoupler		ai	cdc
DN	dn	C13	th	ph
DOF	dof	0		
DM	dm	nnn		
DMM	dmm	C		
DDWR	ddwr	34		
DMF	dmf	29412		

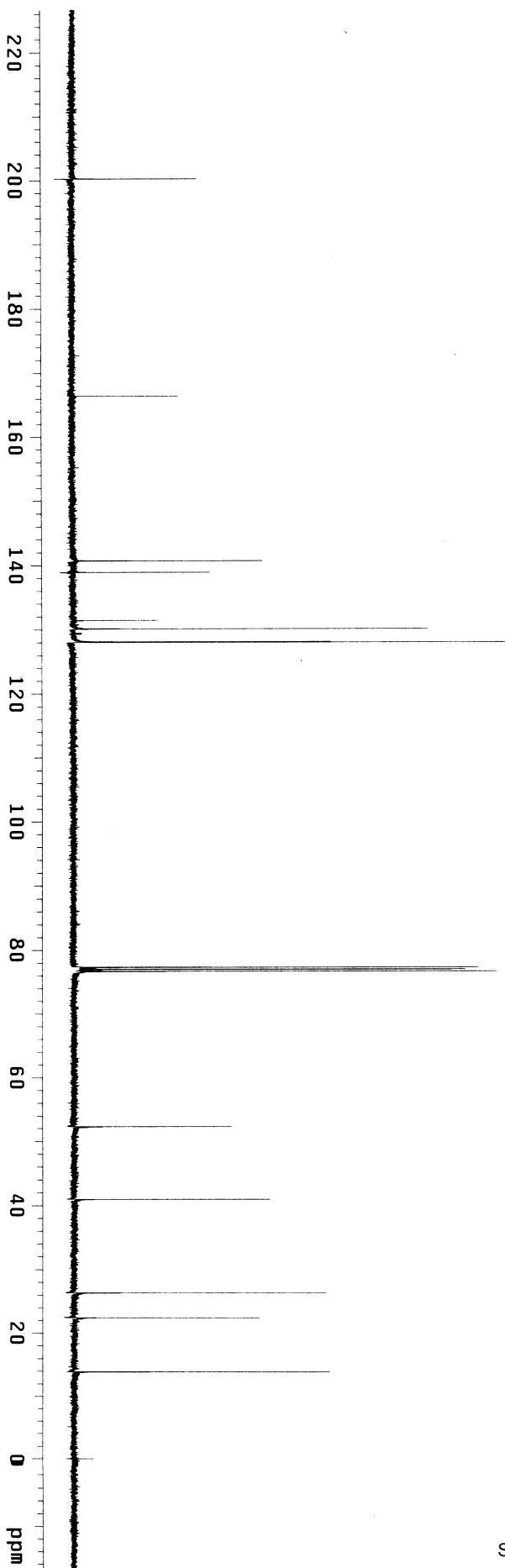
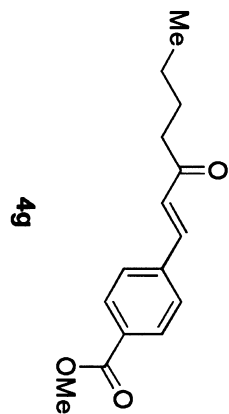


STANDARD 1H OBSERVE - profile
 STANDARD 1H OBSERVE - profile
 STANDARD 1H OBSERVE - profile

exptl Carbon

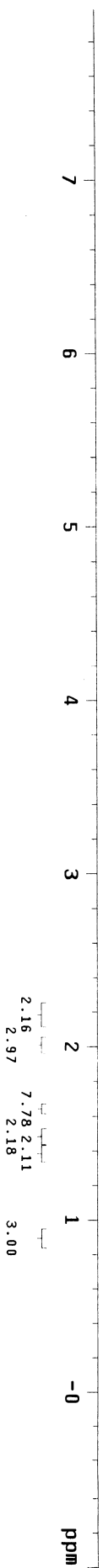
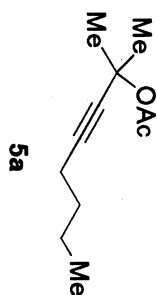
SAMPLE SPECIAL 25.0
 date May 7 2006 temp 30
 solvent cdc13 gain 30
 file /home/walrup/~ not used
 vnmr/sy/data/frost-hst 0.008
 /Wong/auto_2006-05-~ pvs90 9.700
 .07_01/S_20060507_~ alpha 10.000
 001/data/cdc13_02.~

ACQUISITION
 sw 24509.8 f1d f1 n
 at 1.300 in in n
 np 63750 dp dp y
 fd 17000 hs hs nn
 bs 64 lb lb
 d1 1.000 tn tn
 nt 2000 sp sp
 ct 128 wp wp -1723.3
 TRANSMITTER C13 rffl 24509.1
 sfreq 100.535 fp rffl 9464.4
 tof 1042.6 lp rffl -50.7
 tpwr 55 PLOT -133.3
 pw 4.850 WC 250
 DECOUPLER SC 0
 dn H1 VS 0
 dof 0 th vs 50000
 dm yyy ai cdc ph 10
 dmm w
 dpwr 41
 dmf 9300



expl Proton

SAMPLE	date	SPECIAL	6.0
Sep 23 2006	cdcl3	gain	not used
solvent	/home/walkup/~	spin	not used
nmr/sys/data/auto_~	2006.09.23_05/Aug.~	pw90	19.800
01/data/cdcl3_01.f~	alpha	alpha	6.600
id	id	id	id
ACQUISITION	sw	8012.8	in
at	2.049	dp	hs
np	32830	hs	nn
fb	4000	PROCESSING	0.20
bs	32	ld	65536
ss	2	fn	
d1	1.000	DISPLAY	-514.5
nt	8	sp	4506.5
ct	8	wp	1000.9
TRANSMITTER	H1	rfl	0
sfreq	499.809	rfp	12.1
tof	499.7	lp	-41.4
tpwr	54	PLOT	250
pw	9.900	wc	0
DECOUPLER	sc	vs	40
dn	C13	th	2
dof	0	aj	cdc
dmm	nnn	ph	
dmm	c		
dpwr	37		
dmt	12300		

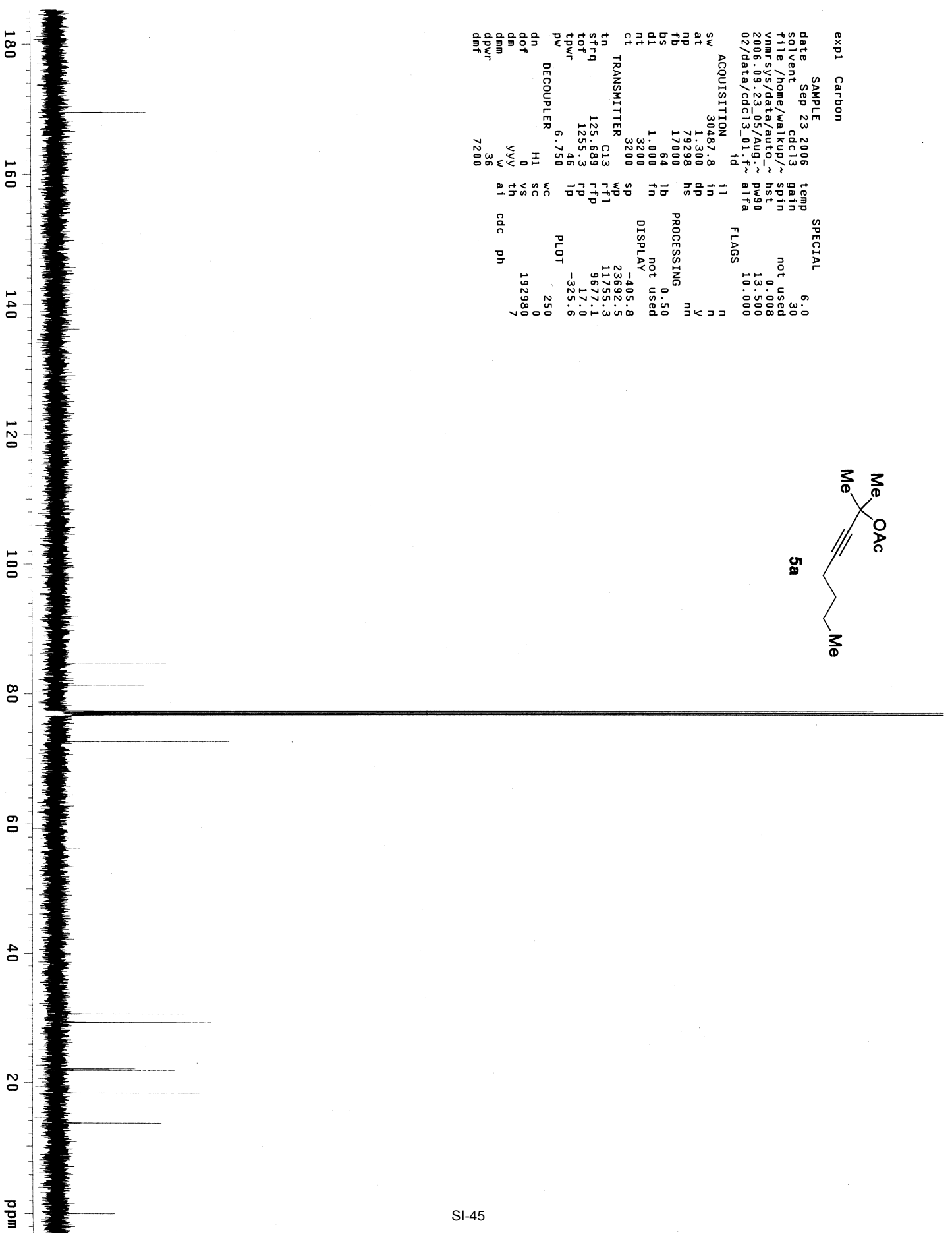
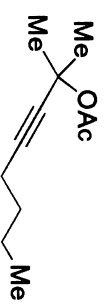


exptl Carbon

SAMPLE SPECIAL
date Sep 23 2006 6.0
solvent cdc13 gain 30
file /home/walkup/~ not used
vnmrSYS/data/autotest hst 0.008
2006.09.23.05/AUG-~ PW90 13.500
02/data/cdc13_01.f~ alfa 10.000

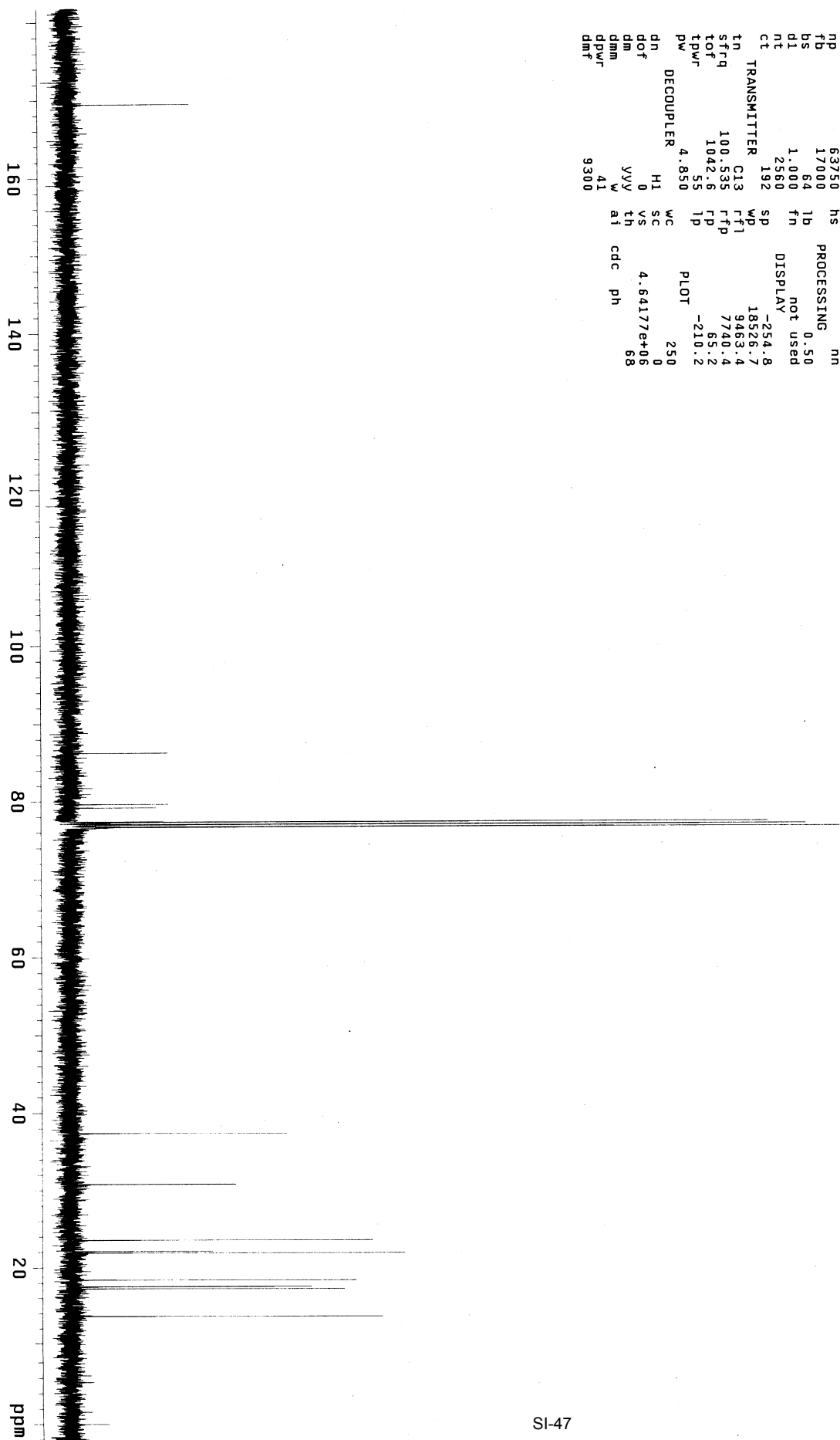
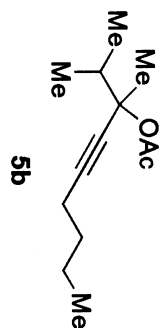
ACQUISITION id f1 FLAGS n
sv 30487.8 in in n
at 1.300 dp dp y
np 79298 hs hs nn
fb 17000
bs 64 lb lb not used
d1 1.000 fn fn not used
nt 3200
ct 3200 DISPLAY -405.8

TRANSMITTER C13 SP WP 23692.5
tn 125.689 rf1 11755.3
strq 1255.3 rfp 9677.1
tof 46 lp 17.0
tpwr 6.750 PLOT -325.6
pw DECOUPLER WC 250
dn dn H1 SC 0
dof 0 VS 192980
dm yyy th ai cdc ph 7
dmm w
dpwr 36
dnt 7200



expt Carbon

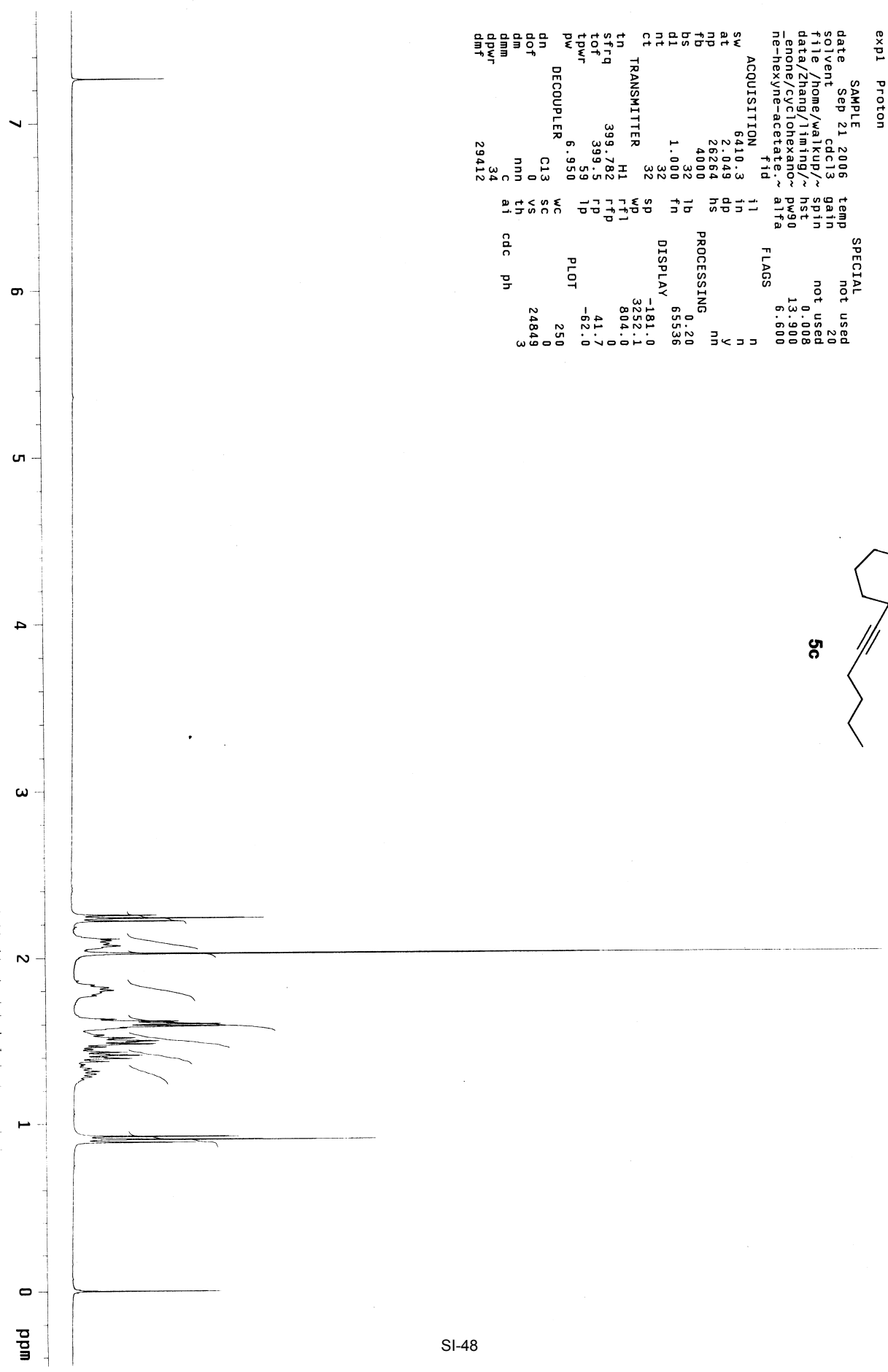
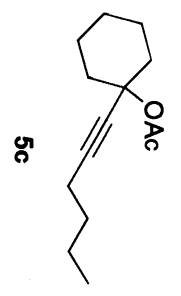
```
SAMPLE Sep 22 2006 temp 25.0
date Sep 22 2006 gain 30
solvent cdcl3 spin not used
file /home/walkup/~ hst 0.008
vnmr-sys/data/auto~ pw90 9.700
2006.09.22.25/s_20~ alfa 10.000
060922_001/data/cd~ alfa 10.000
c13.02.fid FLAGS
ACQUISITION
sw 24509.8 f1 n
at 1.300 dp in
np 63750 hs y
fb 17000 PROCESSING
bs 64 lb 0.50
d1 1.000 fn not used
nt 2560 DISPLAY
ct 192 sp -254.8
TRANSMITTER C13 wd 18526.7
strq 100.535 rfp 9463.4
tof 1042.8 ffp 7740.4
tpwr 55 fp 85.2
pw 4.850 PLOT -210.2
DECOUPLER wc 250
dn H1 sc 0
dof 0 vs 4.6417e+06
dm YVY th 68
dmm W ai cdc ph
opwr W 41
dmf 9300
```



expt1 proton

SAMPLE	date	SPECIAL
date	Sep 21 2006	not used
solvent	cdcl3	gain
file	/home/walkup/~	not used
data	Zhang/1iming/~	spin
name	enone/cyclohexano~	hst
ne-hexyne-acetate~	pw90	13.900
	alfa	6.600
	alfa	6.600

ACQUISITION	fid	11	FLAGS	n
sw	8410.3	in		n
at	2.049	dp		y
np	26264	hs	PROCESSING	nn
fb	4000			
bs	32	lb	0.20	
di	1.000	fn	55536	
nt	32		DISPLAY	
ct	32	sd	-181.0	
tn	TRANSMITTER	wd	3252.1	
stf	H1	rf1	804.0	
strq	399.782	rtp	41.7	
tof	399.5	rtp	-62.0	
tpwr	59	tp		
pw	6.950		PLOT	
DECOUPLER	WC		250	
dn	C13	sc	0	
dof	0	vs	24849	
dm	nmn	th		
dmm	c	at	cdc	ph
dpwr	34			3
dmf	29412			



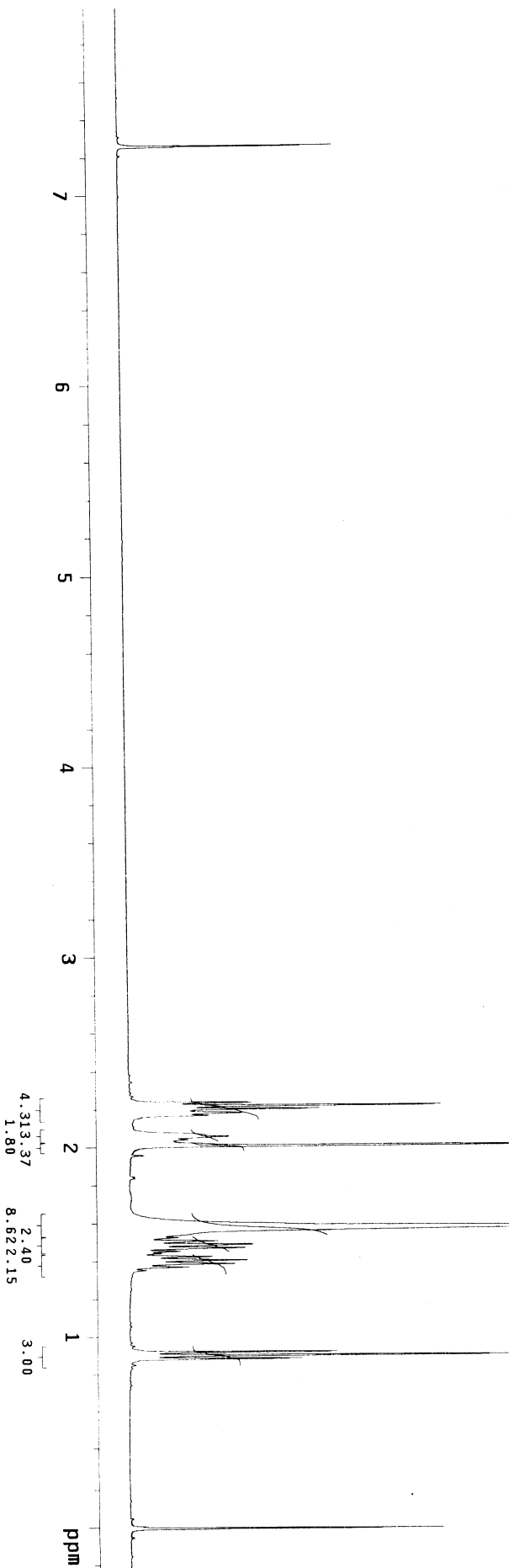
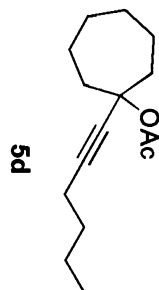
2.00 2.98 4.99 2.18
 2.41 2.27 3.43 1.34
 3.00

STANDARD 1H OBSERVE - profile

exp2 Proton

date	Jun 29 2006	temp	25.0
solvent	cdcl3	gain	not used
file	/home/walkup/~	spin	not used
nmr-sys	/data/autos	hst	0.008
2006-06-29	30/s 20~	pw90	14.000
060629_001	/data/cd~	alfa	6.600
cdcl3_01.fid		alfa	6.600

ACQUISITION		FLAGS	
sw	6410.3	in	n
at	2.049	dp	y
np	26264	hs	nn
fb	4000		
bs	32	tb	0.20
ss	2	fn	65536
di	1.000		
nt	8	sd	-94.0
ct	8	wd	3289.2
		rf1	3707.1
TRANSMITTER	H1	rfp	2902.4
tn	399.782	tp	151.9
stfq	399.5		-29.5
tof	58		
tpwr	7.000	WC	250
pw		SC	0
DECOUPLER	C13	VS	717
dn	0	th	3
dof	0	at	cdc
dm	0		ph
dmm	0		
dpwr	0		
dmf	200		



expt Carbon

SAMPLE Sep 24 2006 temp 6.0
date Sep 24 2006 cdc13 gain 30
solvent /home/walkup/~ spin not used
file /home/walkup/~ hst 0.008
vnmrsvs/data/auto/~ pv90 13.500
2006.09.24/Aug.01/~ data/cdc13_01.fid alfa 10.000

SPECIAL

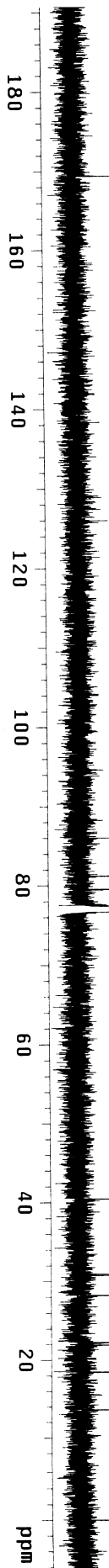
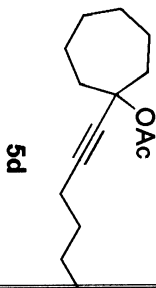
ACQUISITION

FLAGS

PROCESSING

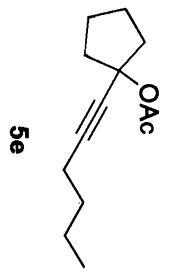
DISPLAY

sw 30487.8 f1 n
al 1300 in n
np 79298 dp y
fb 17000 hs nm
bs 64
d1 1.000 lb 0.50
nt 25600 fn not used
ct 1216
td TRANSMITTER C13 SP -799.0
stf1 125.689 wd 24759.7
tof 1239.3 rfp 11756.8
tpwr 46 rfp 9677.1
pw 6.750 tp -23.2
PLOT -212.8
DECOUPLER H1 WC 250
dn 0 SC 0
dof 0 VS 400000
dm YVY th 15
dmm w ai cdc ph
dpwr 36
dmf 7200



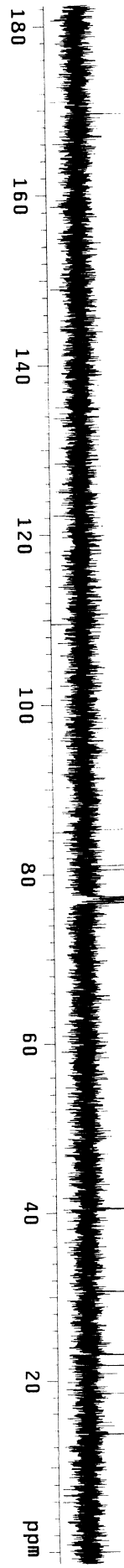
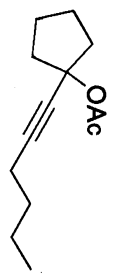
expt1 Proton

date	SEP 21 2006	temp	not used
solvent	cdcl3	gain	not used
file	/home/walkup/~	spin	not used
nmrsvs	/data/auto	hst	0.008
2006-09-21 17/s 20		pw90	13.900
060921_001/data/cd		alfa	6.600
		flags	
ACQUISITION			
sw	8410.3	in	n
at	2.049	dp	y
np	26264	hs	nn
fb	4000		
bs	4	1b	0.20
ss	2	fn	65536
di	1.000	sp	-135.0
nt	32	wd	3248.6
ct	32	fd	803.6
TRANSMITTER			
tn	H1	tfp	0
stfq	399.782	fp	42.8
tof	399.5	lp	-44.2
tpwr	59		
pw	6.950	WC	250
DECOUPLER		SC	0
dn	C13	VS	220
dof	0	th	
dm	nmn	ai	cdc ph
dmm	C		
dpwr	34		
dmf	29412		



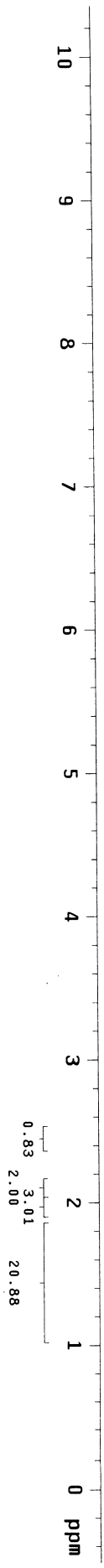
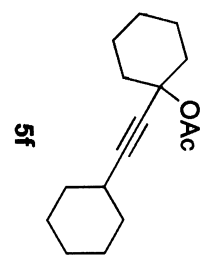
expt1 Carbon

SAMPLE Sep 21 2006 temp not used
date Sep 21 2006 gain 30
solvent cdcl3 spin not used
file /home/waikub/~ hst 0.008
vnmrsvs/data/auto~ pw90 9.700
2006_09_21_17/s_20~ alfa 10.000
060921_001/data/cd~ alfa 10.000
C13_02.fid FLAGS
ACQUISITION
sw 24509.8 11 n
at 1.300 11 n
np 63750 dp hs y
fb 17000 hs nn
bs 64 1b 0.50 PROCESSING
di 1.000 fn not used
nt 2560 DISPLAY
ct TRANSMITTER 448 SP -140.3
tn C13 WP 18478.8
sfreq 100.535 rfp 9468.9
tof 1042.6 rfp 7740.4
tpwr 55 1p -207.0 PLOT
pw 4.850 WC 250
DECOUPLER H1 SC 4.795566e+06
dn H1 VS 0
dof 0 VS 68
dm YYY W al cdc ph
dmm W al
dpwr 41
dmf 9300



expt Proton

date	Sep 30 2006	temp	25.0
solvent	cdcl3	gain	not used
file	/mnt/nmr400/w-	spin	not used
alkup/data/Zhang/G-	hst	hst	0.008
notaoLi/243.fid	pw90	pw90	13.900
ACQUISITION	atfa	atfa	6.600
SW	6410.3	FLAGS	
at	2.049	i1	n
np	26264	in	n
fb	4000	dp	y
bs	32	hs	nn
ss	2	hs	nn
d1	1.000	lb	0.20
nt	8	fn	65536
ct	8	fn	65536
TRANSMITTER	H1	SP	-205.8
tn	WD	WD	4346.2
sfrq	399.782	rft1	805.0
tof	399.5	rftp	0
tpwr	59	fp	96.6
pw	6.950	lp	-16.0
DECOUPLER	C13	WC	250
dp	0	SC	0
dof	nmn	VS	222
dm	c	th	2
dmm	34	at	cdc
dpwr	29412	ph	
dmf			



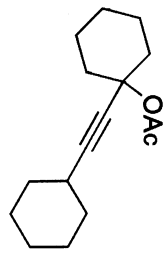
expt Carbon

SAMPLE Sep 30 2006 temp 25.0
date Sep 30 2006 gain 30
solvent cdcl3
file /home/watkup/~
vnmr-sys/data/aut/~
2006.09.30_08/5_20~
060930_004/data/cd~
c13_01.fid

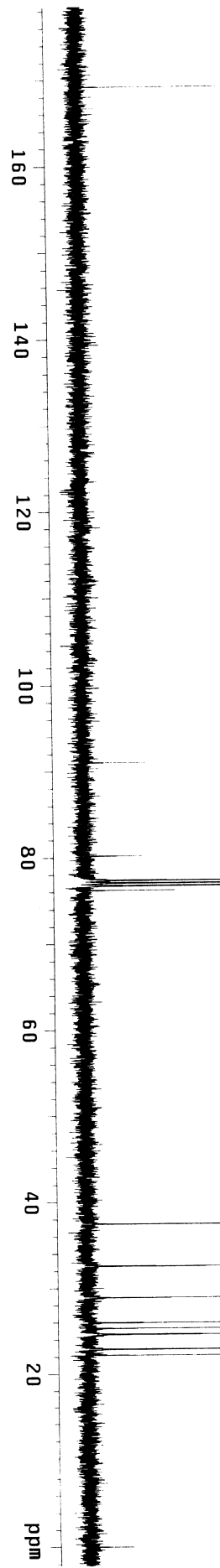
ACQUISITION
sw 24509.8
at 1.300
np 63750
fd 17000
bs 64
d1 1.000
nt 10240
ct 2176

TRANSMITTER
tn C13
sfreq 100.535
tof 1042.6
tpwr 55
pw 4.850

DECOUPLER
dn H1
dof 0
dm YYY
dmm w
dpwr 41
dmf 9300

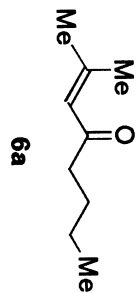


5f



expt Carbon

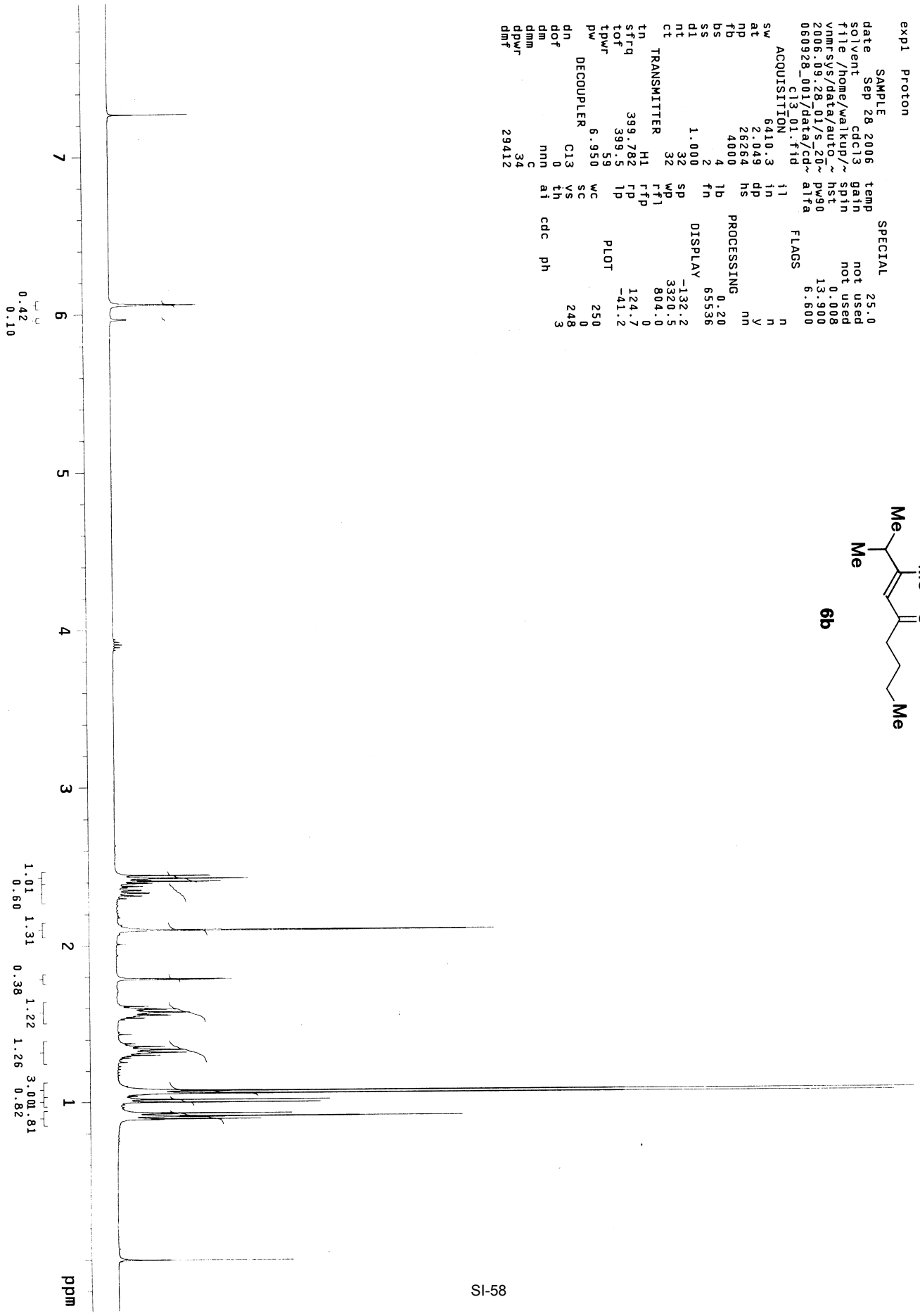
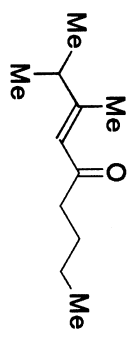
SAMPLE SPECIAL 25.0
date May 10 2006 temp 30
solvent cdcl3 gain 30
file /home/walkup/~ hst not used
vnmrsvs/data/catal~ hst 0.008
ano/sam1n/au0 200~ pw90 9.700
6.05.10 01/s 20060~ alfa 10.000
S10_001/data/cdcl3~
02.f1d 11 n
ACQUISITION 02.f1d 11 n
SW 24509.8 dp hs y
at 1.300 hs y
np 63750 0.50
fb 17000 1b not used
bs 64 fn not used
dl 1.000 SD DISPLAY
nt 2000 WP -1722.2
ct 128 rfp 24509.1
TRANSMITTER C13 rfp 9453.3
tn 100.535 rfp 7740.4
sfrq 1042.6 tp -45.8
tof 55 PLOT -133.3
tpwr 4.850 WC 250
pw DECOUPLER H1 VS 0
dn dof 0 th 50000
dm dm yyy at cdc ph 68
dmm w
dpwr 41
dmf 9300



exp1 Proton

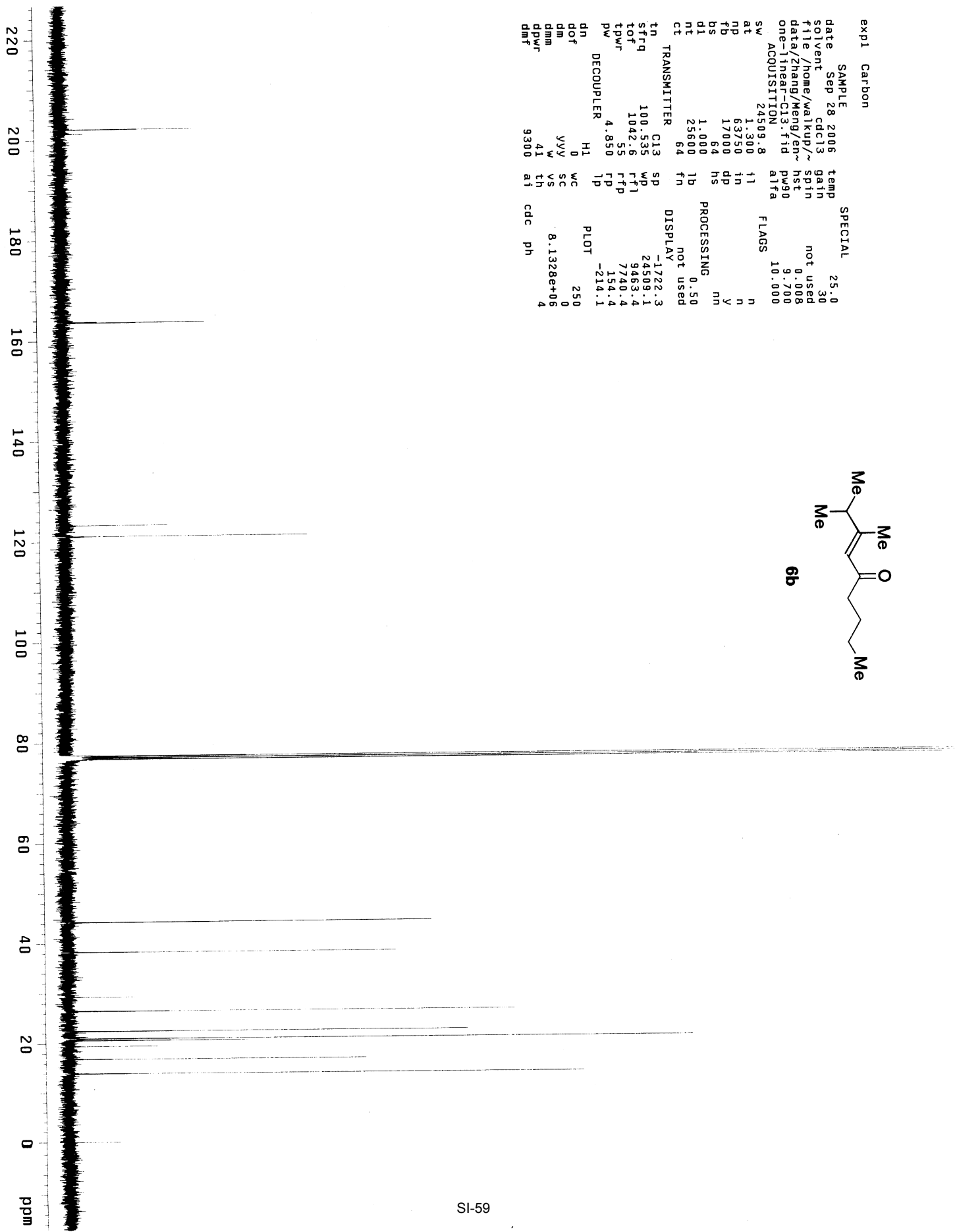
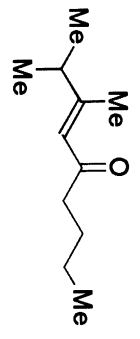
SAMPLE	date	Sep 28 2006	temp	25.0
	solvent	cdcl3	gain	not used
	file	/home/walkup/~	spin	not used
	nmrsvs	/data/auto/~	hst	0.008
		2006-09-28_01/s_20~	pw90	13.900
	060928_0017/data/cd~	atfa	6.600	
		cdcl3_01.fid	flags	n

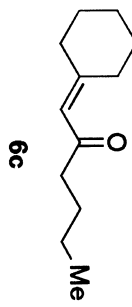
ACQUISITION	sw	6410.3	in	n
	at	2.049	dp	y
	np	26264	hs	nn
	fb	4000		
	bs	4	fb	0.20
	ss	2	fn	65536
	dl	1.000	sd	-132.2
	nt	32	wd	3320.5
	ct	32	wp	804.0
TRANSMITTER	tn	H1	ftf	0
	stfrq	399.782	ftp	124.7
	tof	399.5	tp	-41.2
	tpwr	59		
	pw	6.950	pl	250
DECOUPLER	dn	C13	vs	0
	dof	0	th	248
	dm	nmn	at	cdc
	dmm	c	ph	3
	dpwr	34		
	dmf	29412		



expt Carbon

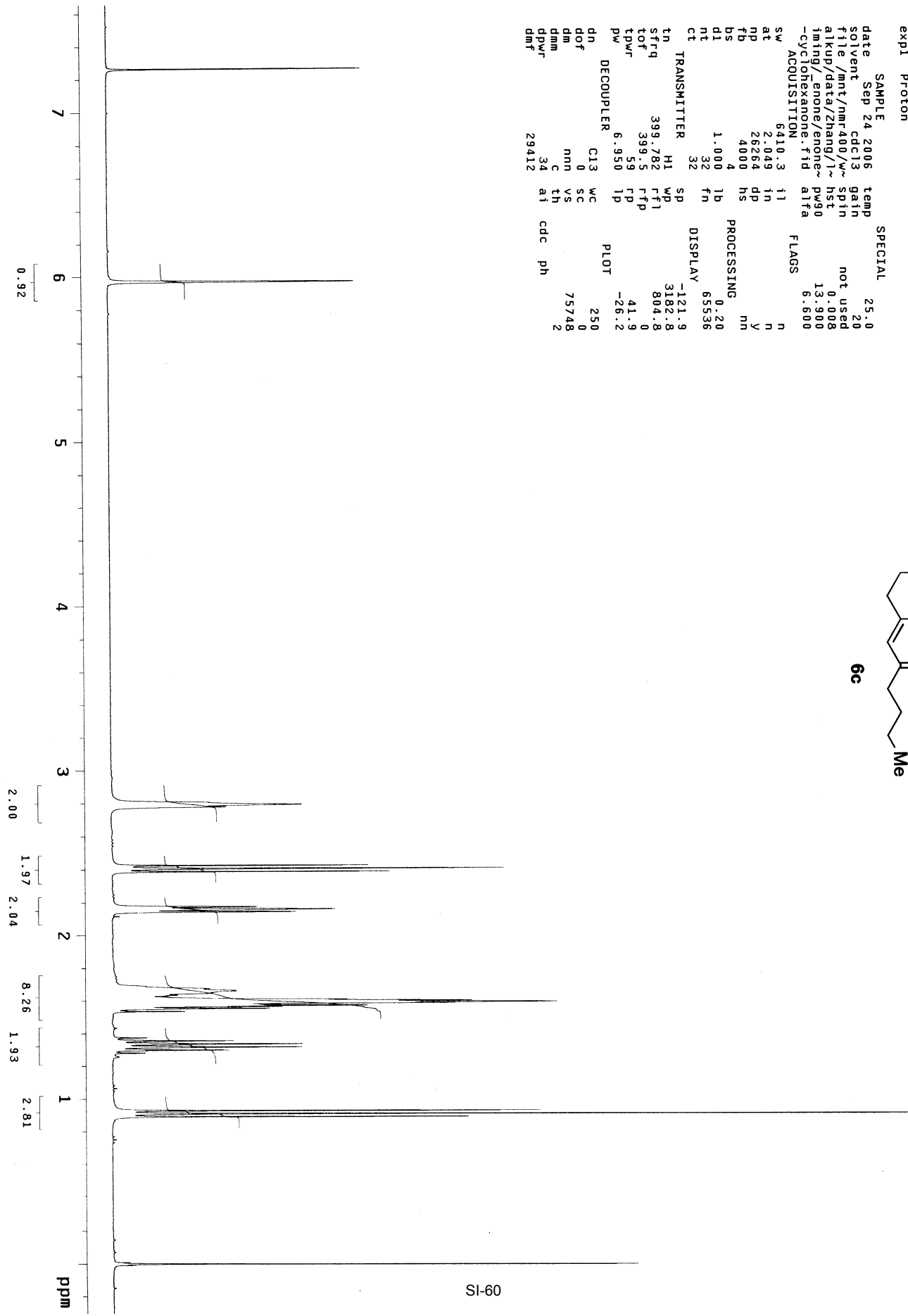
date	Sep 28 2006	temp	25.0
solvent	cdcl3	gain	30
file	/home/walkup/~	spin	not used
data	/Zhang/Meng/en~	hst	0.008
one-linear	-C13.fid	pw90	9.700
ACQUISITION		alfa	10.000
SW	24509.8	FLAGS	
at	1.300	f1	n
np	63750	in	n
fb	17000	dp	y
bs	64	hs	nm
d1	1.000	1b	PROCESSING 0.50
nt	25600	fn	not used
ct	64	fn	not used
TRANSMITTER		DISPLAY	
tn	C13	SP	-1722.3
sfreq	100.535	WD	24509.1
tof	1042.6	rfl	9463.4
tpwr	55	rfp	7740.4
pw	4.850	fp	154.4
DECOUPLER	H1	tp	-214.1
dn	0	PLOT	
dof	0	WC	250
dmm	VVY	sc	0
dmm	w	vs	8.1328e+06
dpwr	41	th	0
dmt	9300	at	cdc ph 4





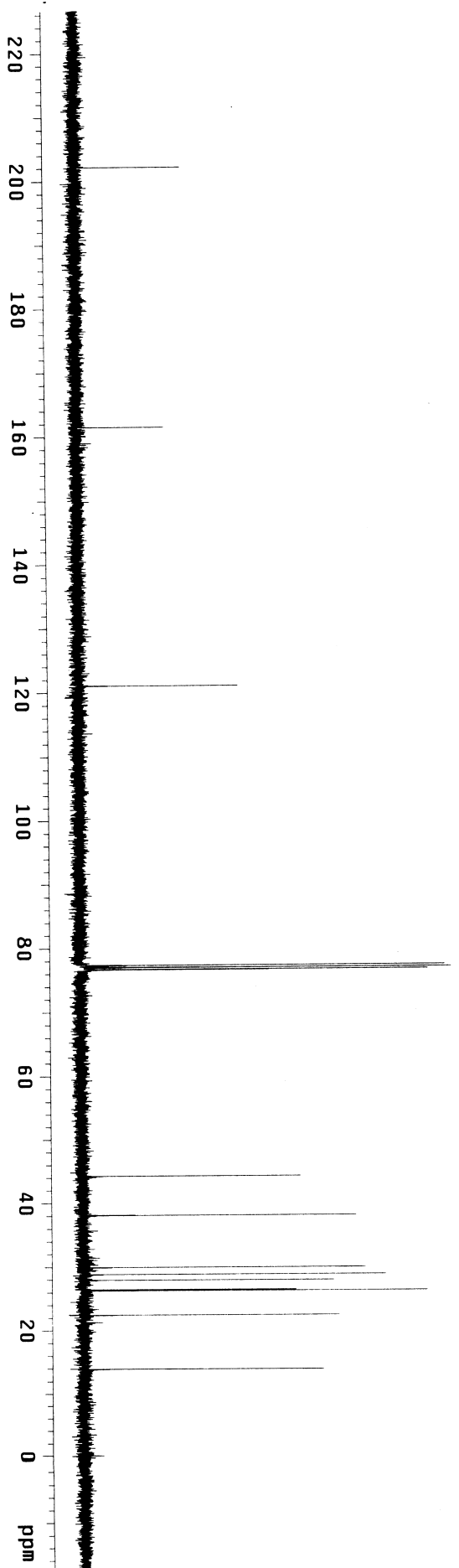
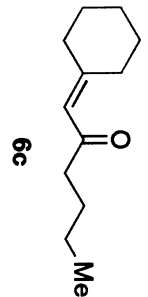
```

expl Proton
SAMPLE Sep 24 2006 SPECIAL 25.0
date Sep 24 2006 temp 25.0
solvent cdc13 gain 20
file /mnt/nmr400/w- not used
alkub/data/zhang/1~ nst 0.008
imng/_enone/enone~ pw90 13.900
-cyclohexanone.fid alfa 6.600
ACQUISITION FLAGS
sw 6410.3 f1 n
at 2.049 in n
np 26264 dp y
fd 4000 hs n
bs 4 fn n
d1 1.000 lb n
nt 32 fn n
ct 32 DISPLAY 65536
TRANSMITTER SP -121.9
fn wp 3182.8
sfrq H1 rfi 804.8
tof 399.782 rfp 0
tpwr 59 tp 41.9
pw 6.950 tp -26.2
DECOUPLER C13 PLOT 250
dn dn wc 0
dof 0 sc 0
dm nn vs 75748
dmm c th 2
dpwr 34 ai cdc ph
dmf 29412
  
```



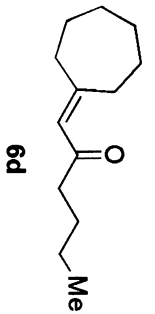
STANDARD 1H OBSERVE - profile
 STANDARD 1H OBSERVE - profile
 exp1 Carbon

SAMPLE May 10 2006 SPECIAL 25.0
 date May 10 2006 temp 25.0
 solvent cdcl3 gain 30
 file /home/walkup/~ hst not used
 vnmrsvs/data/catal~ hst 0.008
 ano/samin/auto 200~ pw90 9.700
 6.05.10.01/s 20050~ alfa 10.000
 510_002/data/cdcl3~
 02.f1d 11 n
 ACQUISITION 02.f1d 11 n
 sw 24509.8 dp hs y
 at 1.300 dp hs n
 np 63750 1b 0.50
 fb 17000 1b not used
 bs 64 fn not used
 di 1.000
 nt 2000 SP -1722.8
 ct 128 wp 24509.1
 TRANSMITTER C13 rfp 7740.4
 tn 100.535 rfp -23.1
 stfq 1042.6 tp -189.4
 tof 55
 tpwr 4.850 PLOT 250
 pw 4.850 wc 0
 DECOUPLER H1 sc 0
 dn H1 vs 40000
 dof 0 th 14
 dm yyy at cdc ph
 dmm w
 dpwr 41
 dmf 9300



STANDARD 1H OBSERVE - profile

expt1 Proton

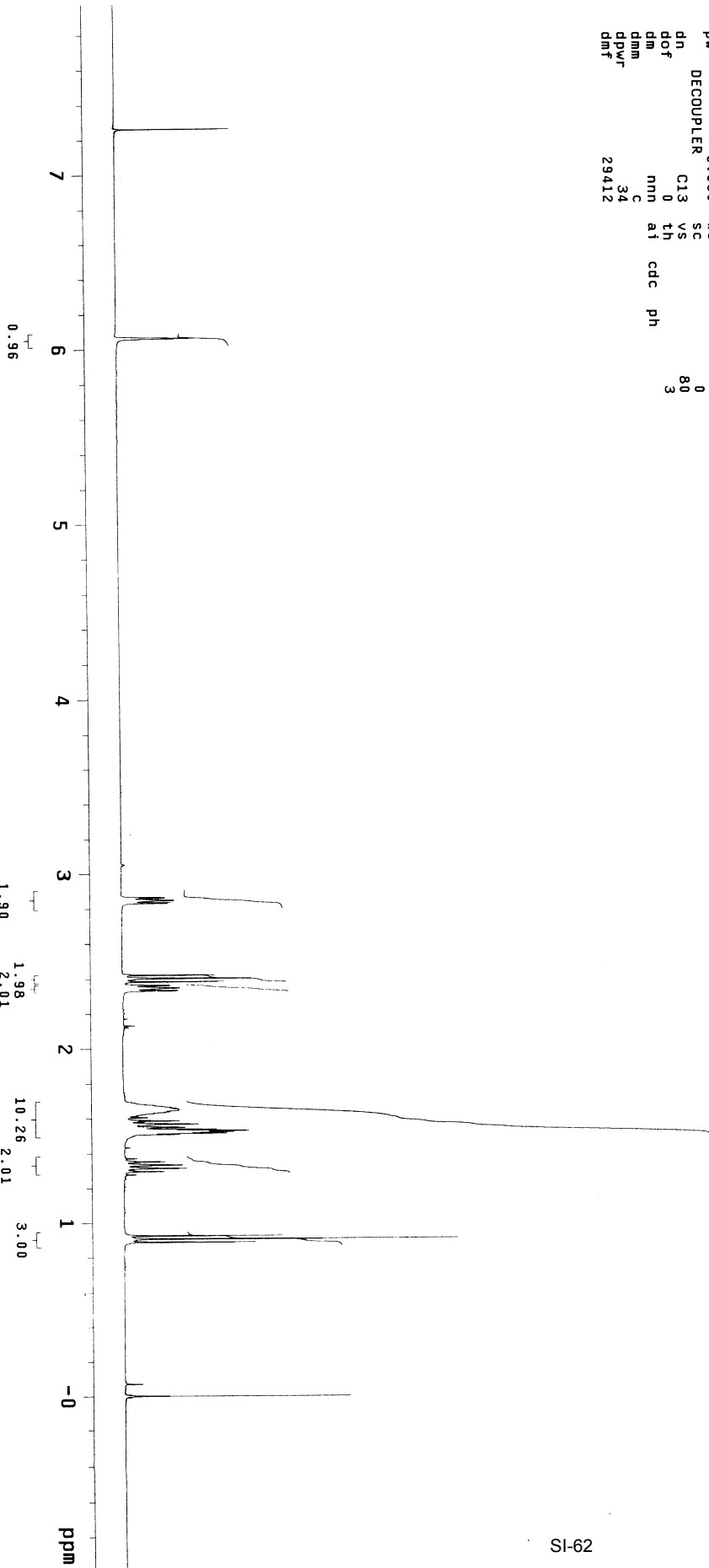


date	JUL 21 2006	temp	25.0
solvent	cdcl3	gain	not used
file	/home/walkup/~	spin	not used
nmr-sys	/data/auto/~	hst	0.008
006-07-21-29/s-20~		pw90	13.900
060721_0017data/cd~		alfa	6.600
cd3 01.fid		FLAGS	

ACQUISITION			
sw	6410.3	in	n
at	2.049	dp	y
np	26264	hs	nm
fb	4000		
bs	32	lb	0.20
ss	2	fn	65536
d1	1.000		
nt	8	sp	-398.3
ct	8	wd	3586.8
		ff1	804.8

tn	H1	rfp	0
strq	399.782	fp	-1.6
tof	399.5	lp	-55.0
tpwr	59		
pw	6.950	vc	250
		sc	0
dn	C13	vs	80
dof	0	th	3
dmm	nm	ai	
dpwr	34	cdc	ph
dmf	29412		

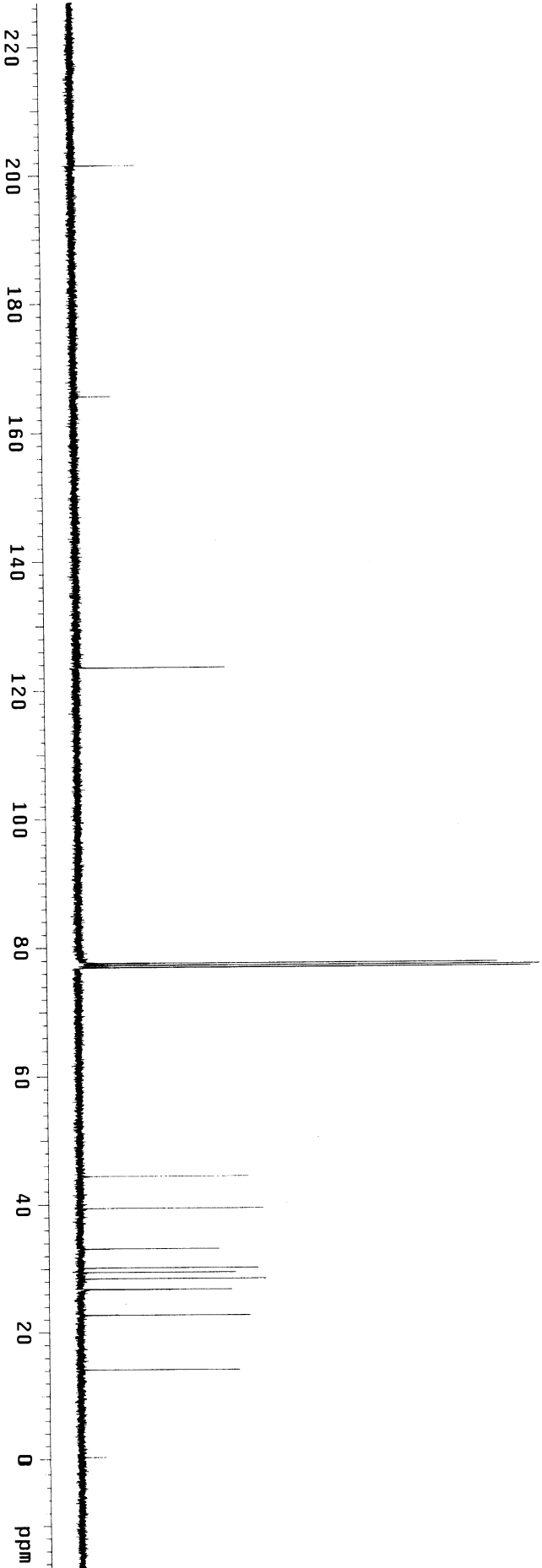
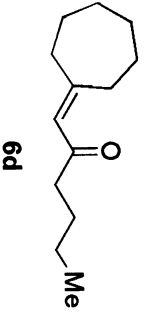
SPECIAL	
25.0	
not used	
not used	
0.008	
13.900	
6.600	



STANDARD 1H OBSERVE - profile

expt Carbon

date	JUL 23 2006	temp	25.0
solvent	cdcl3	gain	30
file	/home/walkup/~	sp1n	not used
nmr-sys	/data/auto~	hst	0.008
2006-07-23 04/5-20~		pw90	9.700
060723_001/data/cd~		alfa	10.000
c13 01.fid		FLAGS	
ACQUISITION			
sw	24509.8	11	n
at	1.300	dp	y
np	63750	hs	nm
fb	17000	PROCESSING	
bs	64	1b	0.50
d1	1.000	fn	not used
nt	50000	DISPLAY	
ct	4352	sp	-1699.1
TRANSMITTER	C13	wp	24509.1
tn	100.535	rfp	1699.8
strq	1042.6	fp	-41.4
tof	55	tp	-133.3
tpwr	4.850	PLOT	
pw	DECOUPLER	wc	250
dn	H1	sc	0
dof	0	vs	2e+06
dm	YVY	th	0
dmm	W	ai	68
dmm	41	cdc	ph
dpwr	9300		
dmf			

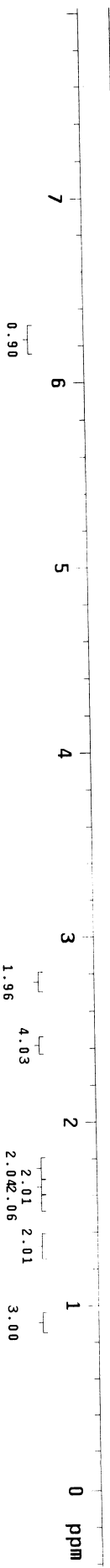
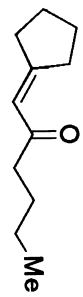


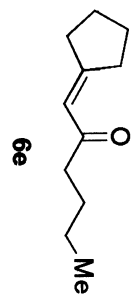
expt1 Proton

date	Sep 24 2006	temp	25.0
solvent	cdcl3	gain	20
file	/home/waikup/~	spin	not used
vnmrsvs	/data/20060924	hst	0.008
2006_09_24/s	20060924_001	pw90	13.900
924_001/data/	cdcl3	alfa	6.600

ACQUISITION	01.fid	FLAGS	n
sw	6410.3	in	n
at	2.049	dp	y
np	26264	hs	nn
fb	4000		
bs	4	lb	0.20
dl	1.000	fn	65536
ml	32		
ct	32	SP	-166.9
		WP	3377.1
tn	H1	rf1	804.2
stfrq	399.782	rfp	40.3
tof	399.5	lfp	-24.9
tpwr	59		
pw	6.950		

DECOUPLER	C13	WC	250
dn	0	SC	0
dof	0	VS	35000
dm	nmn	th	2
dmm	c	at1	cdc ph
dpwr	34		
dmf	29412		





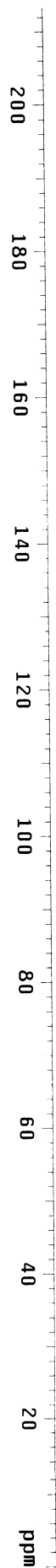
expt Carbon

SAMPLE Sep 23 2006 temp 6.0
 solvent cdc13 gain 30
 file /home/walkup/~ not used
 vnmrsvs/data/autotest hst 0.008
 2006.09.23.07/Aug-2 PW90 13.500
 02/data/cdc13_01.f~ alfa 10.000

ACQUISITION
 id i1
 sw 30487.8 in
 at 1.300 dp
 np 79298 hs
 fb 17000
 bs 64 lb
 dl 1.000 fn
 nt 2560 not used
 ct 2432 DISPLAY

TRANSMITTER C13 SP
 tn wp -123.0
 sfrq 125.689 rfp 26929.4
 tof 1255.3 rfp 11736.7
 tpwr 46 lp 13.5
 pw 6.750 PLOT -307.1

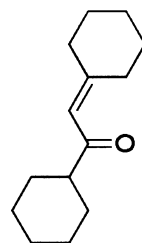
DECOUPLER WC 250
 dn H1 SC 0
 dof 0 VS 80000
 dm YYY th 68
 dhm W at cdc ph
 dpwr 36
 dmf 7200



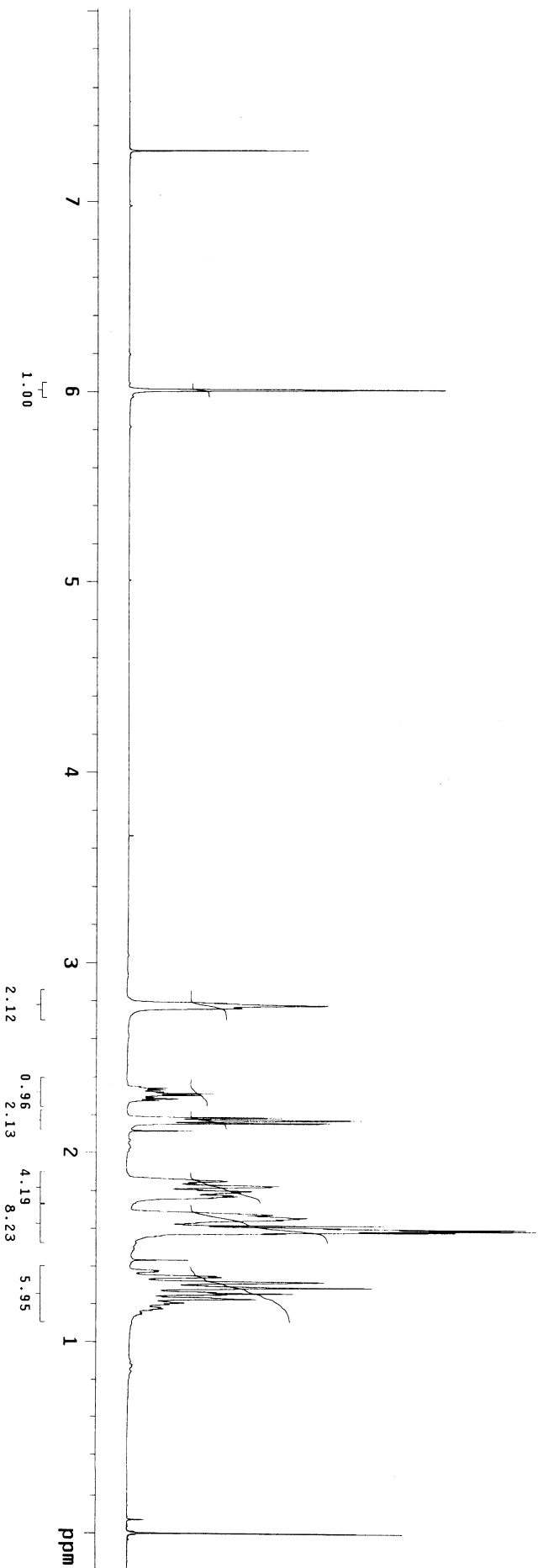
STANDARD 1H OBSERVE - profile
STANDARD 1H OBSERVE - profile

expt Proton

SAMPLE	date	Oct 4 2006	temp	25.0
SOLVENT	solvent	cdc13	gain	60
FILE	file	/mnt/nmr/400/Ww	spin	not used
ALKUP/DATA	alkup/data	Zhang/G~	hst	0.008
NOTAOL/ENONE-DICY	notaol/enone-dicy	~	pw90	13.900
C10HEXY1.FID	c10hexy1.fid	atfa	atfa	6.600
ACQUISITION	ACQUISITION		FLAGS	
SW	6410.3	il	n	
AT	2.049	in	n	
NP	26264	dp	y	
FB	4000	hs	nn	
BS				
DL	1.000	lb	fn	0.10
NT	32	fn		65536
CT	32	fn		
TRANSMITTER	TRANSMITTER		DISPLAY	
HN	H1	sp		-84.9
SFRQ	399.782	rfl		3287.9
TOF	399.5	rflp		803.6
TPWR	59	rp		23.7
PW	6.950	lp		-29.2
DECOUPLER	DECOUPLER		PLOT	
DN	C13	wc		250
DOF	0	sc		0
DM	nmn	vs		400
DMM	C	th		3
DPWR	34	at	cdc	ph
DMF	29412			

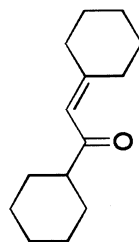


6f



expt Carbon

SAMPLE 2 2006 temp 25.0
date Oct 2 2006 gain 30
solvent cdcl3 sp in not used
file /home/walkup/~ hst 0.008
vnmr-sys/data/auto/~ pw90 9.700
2006-10-02 22/s_20~ alfa 10.000
061002_0027/data/cd~
cdcl3 01.fid
ACQUISITION
sw 24509.8 f1 11 n
at 1.300 dp 11 n
np 63750 hs PROCESSING 0.50
fb 17000 not used
bs 64 lb fn DISPLAY
d1 1.000 not used
nt 10240 SD -1699.1
ct TRANSMITTER C13 WP 24509.1
1699.8
tn 100.535 f1 161.7
strq 1042.6 f1 -205.7
tof 55 1p PLOT 250
pw 4.850
DECOUPLER H1 WC 0
dn 0 VS 3.03139e+06
dof 0 th 68
dm YYY at cdc ph
dmm W
dpwr 41
dmf 9300



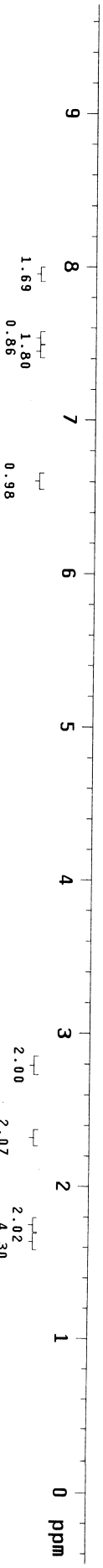
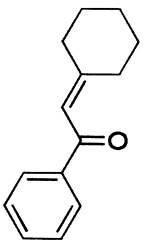
6f



STANDARD 1H OBSERVE - profile
 STANDARD 1H OBSERVE - profile

exp1 Proton

date	Oct 4 2006	temp	25.0
solvent	cdcl3	gain	60
file	/mnt/nmr/400/W~	sp in	not used
alkup/data/Zhang/G~	hst	pw90	13.900
uotaoli/LMIC-enone~	alpha	6.600	
-from-hexanone-phe~			
nylacetivlene.fid	ACQUISITION	11	11
sw	6410.3	in	n
at	2.049	dp	y
np	26264	hs	nh
fb	4000		
bs	4	1b	0.10
d1	1.000	fn	65536
nt	32		
ct	32	SP	-187.6
tn	TRANSMITTER	WD	4070.4
sfreq	H1	rf1	806.0
tof	399.782	rfp	25.0
tpwr	399.5	tp	-331.3
pw	6.950		
DECOUPLER	WC	PL0T	250
dn	C13	SC	0
dof	0	VS	1559
dm	mn	th	2
dmm	C	ai	cdc
dpwr	34	ph	
dmt	29412		



Std proton

exp2 Carbon

SAMPLE	4	2006	temp	25.0
date	Oct		gain	30
solvent	cdcl3		spin	not used
file	exp		hst	0.008
ACQUISITION			pw90	15.300
sw	30487.8		alfa	10.000
at	1.300		FLAGS	
np	79298		fl	n
fb	17000		in	n
bs	64		dp	y
dl	1.000		hs	nm
nt	20480		PROCESSING	
ct	1088		lb	0.50
TRANSMITTER			fn	not used
tn	C13		DISPLAY	-2076.8
sfrq	125.689		sp	30487.3
tof	1255.3		wp	11734.4
tpwr	49		rtf	9677.1
pw	7.650		rtp	-18.5
DECOUPLER	H1		lp	-312.4
dn	0		PLOT	
dof	YVY		WC	250
din	W		SC	0
dmm	39		VS	0
ddwr			th	46778
dmf	12200		at	cdc ph 7

