

## *Supporting Information*

### **Multicomponent reactions of chalcones, malononitrile in DMF leading to $\gamma$ -ketoamides**

Enxiang Wei,<sup>a</sup> Bing Liu,<sup>a</sup> Shaoxia Lin,<sup>a</sup> and Fushun Liang<sup>\*,a,b</sup>

<sup>a</sup> *Department of Chemistry, Northeast Normal University, Changchun 130024, China.*

<sup>b</sup> *Key Laboratory for UV-Emitting Materials and Technology of Ministry of Education, Northeast Normal University, Changchun 130024, China*

E-mail address: [liangfs112@nenu.edu.cn](mailto:liangfs112@nenu.edu.cn)

**General methods**

**Analytical data for compounds 3**

**Copies of <sup>1</sup>H and <sup>13</sup>C NMR spectra for compounds 3**

## General methods

All reagents were purchased from commercial sources and used without treatment, unless otherwise indicated. The products were purified by column chromatography over silica gel.  $^1\text{H}$  NMR and  $^{13}\text{C}$  NMR spectra were recorded at 25 °C on a Varian 500 MHz and 125 MHz, respectively, and TMS as internal standard. High resolution mass spectra (HRMS) were recorded on Bruker microToF by using ESI method. Data for  $^1\text{H}$  NMR are reported as follows: chemical shift (ppm), and multiplicity (s = singlet, d = doublet, t = triplet, m = multiplet), coupling constants (Hz) and integration; Data for  $^{13}\text{C}$  NMR are reported as ppm. Melting points were measured on an X<sub>4</sub>-type micro-melting point apparatus and were uncorrected.

## Analytical data for compounds 3

***N,N*-dimethyl-4-oxo-2,4-diphenylbutanamide (3a)**. Pale yellow oil.  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ):  $\delta$  = 2.96 (s, 3H), 3.03 (d,  $J$  = 3.5 Hz, 3H), 3.07 (d,  $J$  = 3.0 Hz, 1H), 4.10-4.16 (m, 1H), 4.53-4.56 (m, 1H), 7.27-7.29 (m, 1H), 7.32-7.35 (m, 4H), 7.43 (t,  $J$  = 7.5 Hz, 2H), 7.53 (t,  $J$  = 7.5 Hz, 1H), 7.97 (d,  $J$  = 7.5 Hz, 2H);  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ , 125 MHz):  $\delta$  = 36.0, 37.2, 44.2, 44.4, 127.2, 127.8, 128.2, 128.5, 129.0, 133.1, 136.5, 139.3, 172.2, 198.7; HRMS (ESI-TOF): calcd for  $\text{C}_{18}\text{H}_{19}\text{NO}_2$  282.1494 ( $\text{M}+\text{H}^+$ ), found 282.1487.

***N,N*-dimethyl-4-oxo-2-phenyl-4-(*p*-tolyl)butanamide (3b)**. White solid. m.p. 112-114 °C.  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ):  $\delta$  = 2.37 (s, 3H), 2.95 (s, 3H), 3.01-3.02 (m, 3H), 3.05 (d,  $J$  = 3.5 Hz, 1H), 4.07-4.13 (m, 1H), 4.52-4.55 (m, 1H), 7.21 (d,  $J$  = 8.0 Hz, 2H), 7.24 (t,  $J$  = 3.0 Hz, 1H), 7.31-7.36 (m, 4H), 7.87 (d,  $J$  = 8.0 Hz, 2H);  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ , 125 MHz):  $\delta$  = 21.5, 35.9, 37.0, 44.0, 44.2, 127.0, 127.7, 128.1, 128.8, 129.0, 134.0, 139.3, 143.7, 172.1, 198.2; HRMS (ESI-TOF): calcd for  $\text{C}_{19}\text{H}_{21}\text{NO}_2$  296.1651 ( $\text{M}+\text{H}^+$ ), found 296.1646.

**4-(4-methoxyphenyl)-*N,N*-dimethyl-4-oxo-2-phenylbutanamide (3c)**. White solid. m.p. 93-95 °C.  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ):  $\delta$  = 2.95 (s, 3H), 2.99 (d,  $J$  = 3.5 Hz, 1H), 3.03 (s, 3H), 3.83 (s, 3H), 4.05-4.11 (m, 1H), 4.52-4.55 (m, 1H), 6.89 (d,  $J$  = 8.5 Hz, 2H), 7.27 (s, 1H), 7.32-7.37 (m, 4H), 7.95 (d,  $J$  = 8.5 Hz, 2H);  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ , 125 MHz):  $\delta$  = 35.9, 37.1, 44.0, 44.1, 55.3, 113.5, 127.0, 127.8, 128.9, 129.6, 130.3, 139.4, 163.4, 172.2, 197.1; HRMS (ESI-TOF): calcd for  $\text{C}_{19}\text{H}_{21}\text{NO}_3$  312.1600 ( $\text{M}+\text{H}^+$ ), found 312.1609.

**4-(4-chlorophenyl)-*N,N*-dimethyl-4-oxo-2-phenylbutanamide (3d)**. White solid. m.p. 91-93 °C.  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ):  $\delta$  = 2.95 (s, 3H), 2.98 (t,  $J$  = 15 Hz, 1H), 3.01 (s, 3H), 4.06-4.11 (m, 1H), 4.51-4.54 (m, 1H), 7.28 (t,  $J$  = 4.0 Hz, 1H), 7.34 (d,  $J$  = 4.5 Hz, 4H), 7.40 (d,  $J$  = 1.5 Hz, 2H), 7.91 (d,  $J$  = 8.5 Hz, 2H);  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ , 125 MHz):  $\delta$  = 36.0, 37.1, 44.3, 44.4, 127.2, 127.7, 128.7, 129.0, 129.6, 134.9, 139.1, 139.4, 172.0, 197.5; HRMS (ESI-TOF): calcd for  $\text{C}_{18}\text{H}_{18}\text{ClNO}_2$  316.1104 ( $\text{M}+\text{H}^+$ ), found 316.1113.

***N,N*-dimethyl-4-(naphthalen-2-yl)-4-oxo-2-phenylbutanamide (3e)**. Pale yellow solid. m.p. 115-117 °C.  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ):  $\delta$  = 2.97 (s, 3H), 3.04 (s, 3H), 3.17-3.21 (m, 1H), 4.24-4.30 (m, 1H), 4.59-4.62 (m, 1H), 7.25-7.29 (m, 1H), 7.34-7.41 (m, 4H), 7.49-7.53 (m, 1H), 7.55-7.58 (m, 1H), 7.83-7.85 (m, 2H), 7.90 (d,  $J$  = 7.5 Hz, 1H), 8.01-8.03 (m, 1H), 8.51 (s, 1H);  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ , 125 MHz):  $\delta$  = 36.0, 37.2, 44.2, 44.5, 123.8, 126.6, 127.1, 127.6, 127.8, 128.2, 128.3, 129.0, 129.5, 130.0, 132.4, 133.9, 135.5, 139.3, 172.2, 198.6; HRMS (ESI-TOF): calcd for  $\text{C}_{19}\text{H}_{21}\text{NO}_3$  312.1600 ( $\text{M}+\text{H}^+$ ), found 312.1609.

**4-(furan-2-yl)-*N,N*-dimethyl-4-oxo-2-phenylbutanamide (3f)**. White solid. m.p. 93-95 °C.  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ):  $\delta$  = 2.91-2.95 (m, 1H), 2.96 (s, 3H), 2.99 (s, 3H), 3.90-3.96 (m, 1H), 4.51-4.54 (m, 1H), 6.49-6.50 (m, 1H), 7.19 (d,  $J$  = 3.5 Hz, 1H), 7.26 (d,  $J$  = 8.5 Hz, 1H), 7.33 (d,  $J$  = 4.5 Hz, 4H), 7.55 (d,  $J$  = 1.5 Hz, 1H);  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ , 125 MHz):  $\delta$  = 35.9, 37.1, 43.8, 43.9, 112.1, 117.4, 127.1, 127.8, 128.9, 139.1, 146.3, 152.3, 171.9, 187.5; HRMS (ESI-TOF): calcd for  $\text{C}_{16}\text{H}_{17}\text{NO}_3$  272.1287 ( $\text{M}+\text{H}^+$ ), found 272.1279.

***N,N*-dimethyl-4-oxo-2-phenyl-4-(thiophen-2-yl)butanamide (3g)**. Pale yellow solid. m.p. 100-102 °C.  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ):  $\delta$  = 2.95 (s, 3H), 3.00 (s, 3H), 3.01-3.05 (m, 1H), 4.00-4.05 (m, 1H), 4.52-4.55 (m, 1H), 7.07-7.09 (m, 1H),

7.26-7.28 (m, 1H), 7.32-7.36 (m, 4H), 7.59-7.60 (m, 1H), 7.74 (t,  $J = 2.0$  Hz, 1H);  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ , 125 MHz):  $\delta = 35.9$ , 37.1, 44.0, 44.8, 127.1, 127.8, 128.0, 128.9, 132.1, 133.5, 139.0, 143.7, 171.9, 191.4; HRMS (ESI-TOF): calcd for  $\text{C}_{16}\text{H}_{17}\text{NO}_2\text{S}$  288.1058 ( $\text{M}+\text{H}^+$ ), found 288.1051.

**2-(4-methoxyphenyl)-*N,N*-dimethyl-4-oxo-4-phenylbutanamide (3i).** White solid. m.p. 79-81 °C.  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ):  $\delta = 2.95$  (s, 3H), 3.01-3.05 (m, 4H), 3.78 (s, 3H), 4.06-4.12 (m, 1H), 4.08-4.51 (m, 1H), 6.87 (d,  $J = 8.5$  Hz, 2H), 7.27 (d,  $J = 8.5$  Hz, 2H), 7.41 (t,  $J = 7.5$  Hz, 2H), 7.51 (d,  $J = 7.5$  Hz, 1H), 7.96 (t,  $J = 3.5$  Hz, 2H);  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ , 125 MHz):  $\delta = 35.8$ , 37.0, 43.1, 43.4, 55.1, 114.2, 128.0, 128.3, 128.7, 131.1, 132.9, 136.5, 158.5, 172.4, 198.7; HRMS (ESI-TOF): calcd for  $\text{C}_{19}\text{H}_{21}\text{NO}_3$  312.1600 ( $\text{M}+\text{H}^+$ ), found 312.1607.

**2-(2-methoxyphenyl)-*N,N*-dimethyl-4-oxo-4-phenylbutanamide (3j).** White solid. m.p. 109-111 °C.  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ):  $\delta = 2.93$ -2.96 (m, 6H), 2.98 (d,  $J = 3.0$  Hz, 1H), 3.84 (s, 3H), 3.96-4.02 (m, 1H), 4.97-5.00 (m, 1H), 6.89-6.96 (m, 2H), 7.24-7.30 (m, 2H), 7.41 (t,  $J = 7.5$  Hz, 2H), 7.51 (d,  $J = 7.5$  Hz, 1H), 7.98 (d,  $J = 7.5$  Hz, 2H);  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ , 125 MHz):  $\delta = 35.8$ , 36.6, 36.8, 42.7, 55.3, 110.3, 121.0, 127.3, 128.1, 128.2, 128.3, 132.8, 136.7, 155.8, 172.8, 199.0; HRMS (ESI-TOF): calcd for  $\text{C}_{19}\text{H}_{21}\text{NO}_3$  312.1600 ( $\text{M}+\text{H}^+$ ), found 312.1612.

**2-(4-(dimethylamino)phenyl)-*N,N*-dimethyl-4-oxo-4-phenylbutanamide (3k).** White solid. m.p. 149-151 °C.  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ):  $\delta = 2.94$  (d,  $J = 4.0$  Hz, 8H), 2.99 (d,  $J = 3.5$  Hz, 1H), 3.03 (d,  $J = 3.5$  Hz, 4H), 4.07-4.12 (m, 1H), 4.43-4.46 (m, 1H), 6.70 (d,  $J = 8.5$  Hz, 2H), 7.21 (d,  $J = 8.5$  Hz, 2H), 7.42 (t,  $J = 7.5$  Hz, 2H), 7.51 (d,  $J = 7.5$  Hz, 1H), 7.97 (d,  $J = 7.5$  Hz, 2H);  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ , 125 MHz):  $\delta = 30.9$ , 35.9, 37.2, 40.5, 43.2, 44.6, 112.9, 126.8, 128.1, 128.4, 128.5, 132.9, 136.7, 149.6, 172.8, 199.1; HRMS (ESI-TOF): calcd for  $\text{C}_{20}\text{H}_{24}\text{N}_2\text{O}_2$  325.1916 ( $\text{M}+\text{H}^+$ ), found 325.1907.

**2-(benzo[*d*][1,3]dioxol-5-yl)-*N,N*-dimethyl-4-oxo-4-phenylbutanamide (3l).** Pale yellow solid. m.p. 82-84 °C.  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ):  $\delta = 2.95$  (s, 3H), 3.01 (d,  $J = 4.0$  Hz, 1H), 3.05 (s, 3H), 4.04-4.10 (m, 1H), 4.44-4.47 (m, 1H), 5.95 (d,  $J = 1.5$  Hz, 2H), 6.75-6.81 (m, 2H), 6.87 (s, 1H), 7.41-7.48 (m, 2H), 7.53 (t,  $J = 7.5$  Hz, 1H), 7.97 (d,  $J = 7.0$  Hz, 2H);  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ , 125 MHz):  $\delta = 29.7$ , 36.1, 37.2, 43.7, 44.5, 101.1, 108.1, 108.6, 121.0, 128.1, 128.5, 132.9, 133.1, 136.5, 146.6, 148.1, 172.3, 198.8; HRMS (ESI-TOF): calcd for  $\text{C}_{19}\text{H}_{19}\text{NO}_4$  326.1392 ( $\text{M}+\text{H}^+$ ), found 326.1386.

**2-(4-fluorophenyl)-*N,N*-dimethyl-4-oxo-4-phenylbutanamide (3m).** Pale yellow oil.  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ):  $\delta = 2.96$  (s, 3H), 3.05 (d,  $J = 14.5$  Hz, 3H), 3.07 (d,  $J = 3.5$  Hz, 1H), 4.06-4.12 (m, 1H), 4.53-4.56 (m, 1H), 7.02 (t,  $J = 9.0$  Hz, 2H), 7.32-7.35 (m, 2H), 7.43 (t,  $J = 7.5$  Hz, 2H), 7.54 (t,  $J = 7.5$  Hz, 1H), 7.97 (d,  $J = 8.0$  Hz, 2H);  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ , 125 MHz):  $\delta = 36.0$ , 37.1, 43.2, 44.4, 115.7, 115.9, 128.1, 128.5, 129.3, 129.4, 133.1, 134.9, 135.0, 136.4, 160.9, 162.8, 172.1, 198.5; HRMS (ESI-TOF): calcd for  $\text{C}_{18}\text{H}_{18}\text{FNO}_2$  300.1392 ( $\text{M}+\text{H}^+$ ), found 300.1400.

**2-(4-chlorophenyl)-*N,N*-dimethyl-4-oxo-4-phenylbutanamide (3n).** Pale yellow oil.  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ):  $\delta = 2.96$  (s, 3H), 3.03 (s, 3H), 3.07 (d,  $J = 4.0$  Hz, 1H), 4.06-4.11 (m, 1H), 4.52-4.55 (m, 1H), 7.31 (s, 4H), 7.43 (t,  $J = 7.5$  Hz, 2H), 7.54 (t,  $J = 7.5$  Hz, 1H), 7.96 (t,  $J = 4.0$  Hz, 2H);  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ , 125 MHz):  $\delta = 36.0$ , 37.2, 43.4, 44.3, 128.1, 128.5, 129.1, 129.2, 133.0, 133.2, 136.4, 137.7, 171.8, 198.4; HRMS (ESI-TOF): calcd for  $\text{C}_{18}\text{H}_{18}\text{ClNO}_2$  316.1104 ( $\text{M}+\text{H}^+$ ), found 316.1112.

**2-(2-chlorophenyl)-*N,N*-dimethyl-4-oxo-4-phenylbutanamide (3o).** Pale yellow oil.  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ):  $\delta = 2.95$  (s, 3H), 2.97 (d,  $J = 5.0$  Hz, 3H), 3.00 (d,  $J = 2.5$  Hz, 1H), 3.98-4.03 (m, 1H), 4.99-5.01 (m, 1H), 7.22-7.25 (m, 2H), 7.40-7.44 (m, 4H), 7.52 (d,  $J = 7.5$  Hz, 1H), 7.99 (t,  $J = 4.0$  Hz, 2H);  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ , 125 MHz):  $\delta = 35.9$ , 36.8, 40.7, 42.4, 127.5, 128.1, 128.4, 128.5, 128.7, 129.7, 132.9, 133.0, 136.4, 136.8, 171.7, 198.1; HRMS (ESI-TOF): calcd for  $\text{C}_{18}\text{H}_{18}\text{ClNO}_2$  316.1104 ( $\text{M}+\text{H}^+$ ), found 316.1109.

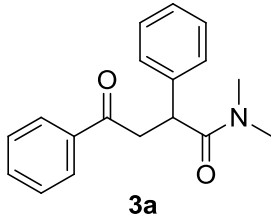
**2-(4-bromophenyl)-*N,N*-dimethyl-4-oxo-4-phenylbutanamide (3p).** White solid. m.p. 107-109 °C. <sup>1</sup>H NMR (500 MHz, CDCl<sub>3</sub>): δ = 2.89 (d, *J* = 11.5 Hz, 3H), 2.95 (s, 3H), 2.99 (d, *J* = 4.0 Hz, 1H), 3.98-4.03 (m, 1H), 4.42-4.45 (m, 1H), 7.18 (t, *J* = 7.5 Hz, 2H), 7.32-7.40 (m, 4H), 7.46 (t, *J* = 7.5 Hz, 1H), 7.88 (d, *J* = 8.0 Hz, 2H); <sup>13</sup>C NMR (CDCl<sub>3</sub>, 125 MHz): δ = 36.1, 37.2, 43.5, 44.2, 121.1, 128.1, 128.5, 129.6, 132.1, 133.2, 136.4, 138.3, 171.8, 198.4; HRMS (ESI-TOF): calcd for C<sub>18</sub>H<sub>18</sub>BrNO<sub>2</sub> 360.0599 (M+H<sup>+</sup>), found 360.0591.

***N,N*-dimethyl-2-(3-nitrophenyl)-4-oxo-4-phenylbutanamide (3q).** Pale yellow solid. m.p. 125-127 °C. <sup>1</sup>H NMR (500 MHz, CDCl<sub>3</sub>): δ = 2.98 (s, 3H), 3.10 (s, 3H), 3.13-3.18 (m, 1H), 4.12-4.17 (m, 1H), 4.69-4.71 (m, 1H), 7.45 (t, *J* = 7.5 Hz, 2H), 7.52-7.56 (m, 2H), 7.76 (d, *J* = 8.0 Hz, 1H), 7.97 (d, *J* = 7.5 Hz, 2H), 8.14-8.16 (m, 1H), 8.26 (s, 1H); <sup>13</sup>C NMR (CDCl<sub>3</sub>, 125 MHz): δ = 36.2, 37.3, 43.4, 44.2, 122.4, 123.0, 128.1, 128.6, 130.0, 133.4, 134.1, 136.2, 141.4, 148.6, 171.2, 197.8; HRMS (ESI-TOF): calcd for C<sub>18</sub>H<sub>18</sub>N<sub>2</sub>O<sub>4</sub> 327.1345 (M+H<sup>+</sup>), found 327.1339.

***N,N*-dimethyl-2-(naphthalen-1-yl)-4-oxo-4-phenylbutanamide (3r).** White solid. m.p. 129-131 °C. <sup>1</sup>H NMR (500 MHz, CDCl<sub>3</sub>): δ = 2.79 (s, 3H), 3.01 (s, 3H), 3.04 (d, *J* = 3.5 Hz, 1H), 4.20-4.26 (m, 1H), 5.33-5.36 (m, 1H), 7.39 (t, *J* = 7.5 Hz, 2H), 7.41-7.46 (m, 2H), 7.48-7.51 (t, *J* = 6.0 Hz, 2H), 7.52-7.55 (m, 1H), 7.78-7.80 (m, 1H), 7.90 (d, *J* = 7.5 Hz, 1H), 7.98 (d, *J* = 7.0 Hz, 2H), 8.13 (d, *J* = 8.5 Hz, 1H); <sup>13</sup>C NMR (CDCl<sub>3</sub>, 125 MHz): δ = 35.9, 37.0, 40.1, 43.1, 122.1, 124.8, 125.7, 125.8, 126.7, 127.8, 128.1, 128.3, 129.2, 130.3, 133.0, 134.0, 135.2, 136.4, 172.4, 198.8; HRMS (ESI-TOF): calcd for C<sub>22</sub>H<sub>21</sub>NO<sub>2</sub> 332.1651 (M+H<sup>+</sup>), found 332.1646.

**2-(furan-2-yl)-*N,N*-dimethyl-4-oxo-4-phenylbutanamide (3s).** Pale yellow solid. m.p. 96-98 °C. <sup>1</sup>H NMR (500 MHz, CDCl<sub>3</sub>): δ = 2.99 (s, 3H), 3.18 (s, 3H), 3.22-3.27 (m, 1H), 4.11-4.16 (m, 1H), 4.70-4.73 (m, 1H), 6.18 (d, *J* = 3.0 Hz, 1H), 6.33 (t, *J* = 3.0 Hz, 1H), 7.35 (d, *J* = 0.5 Hz, 1H), 7.45 (t, *J* = 7.5 Hz, 2H), 7.55 (t, *J* = 7.5 Hz, 1H), 7.99 (d, *J* = 8.0 Hz, 2H); <sup>13</sup>C NMR (CDCl<sub>3</sub>, 125 MHz): δ = 36.1, 37.4, 37.5, 40.9, 106.4, 110.5, 128.1, 128.5, 133.2, 136.3, 141.9, 152.3, 170.2, 198.2; HRMS (ESI-TOF): calcd for C<sub>16</sub>H<sub>17</sub>NO<sub>3</sub> 272.1287 (M+H<sup>+</sup>), found 272.1276.

***N,N*-dimethyl-4-oxo-4-phenyl-2-(thiophen-2-yl)butanamide (3t).** Pale yellow solid. m.p. 108-110 °C. <sup>1</sup>H NMR (500 MHz, CDCl<sub>3</sub>): δ = 2.98 (s, 3H), 3.16 (s, 3H), 3.19-3.23 (m, 1H), 4.14-4.20 (m, 1H), 4.84-4.87 (m, 1H), 6.95-6.98 (m, 2H), 7.20 (d, *J* = 5.0 Hz, 1H), 7.42-7.48 (m, 2H), 7.53-7.57 (m, 1H), 7.97 (d, *J* = 8.5 Hz, 2H); <sup>13</sup>C NMR (CDCl<sub>3</sub>, 125 MHz): δ = 36.1, 37.4, 38.7, 44.9, 124.6, 125.1, 126.9, 128.1, 128.5, 133.2, 136.3, 141.5, 171.6, 198.2; HRMS (ESI-TOF): calcd for C<sub>16</sub>H<sub>17</sub>NO<sub>2</sub>S 288.1058 (M+H<sup>+</sup>), found 288.1051.



STANDARD PROTON PARAMETERS

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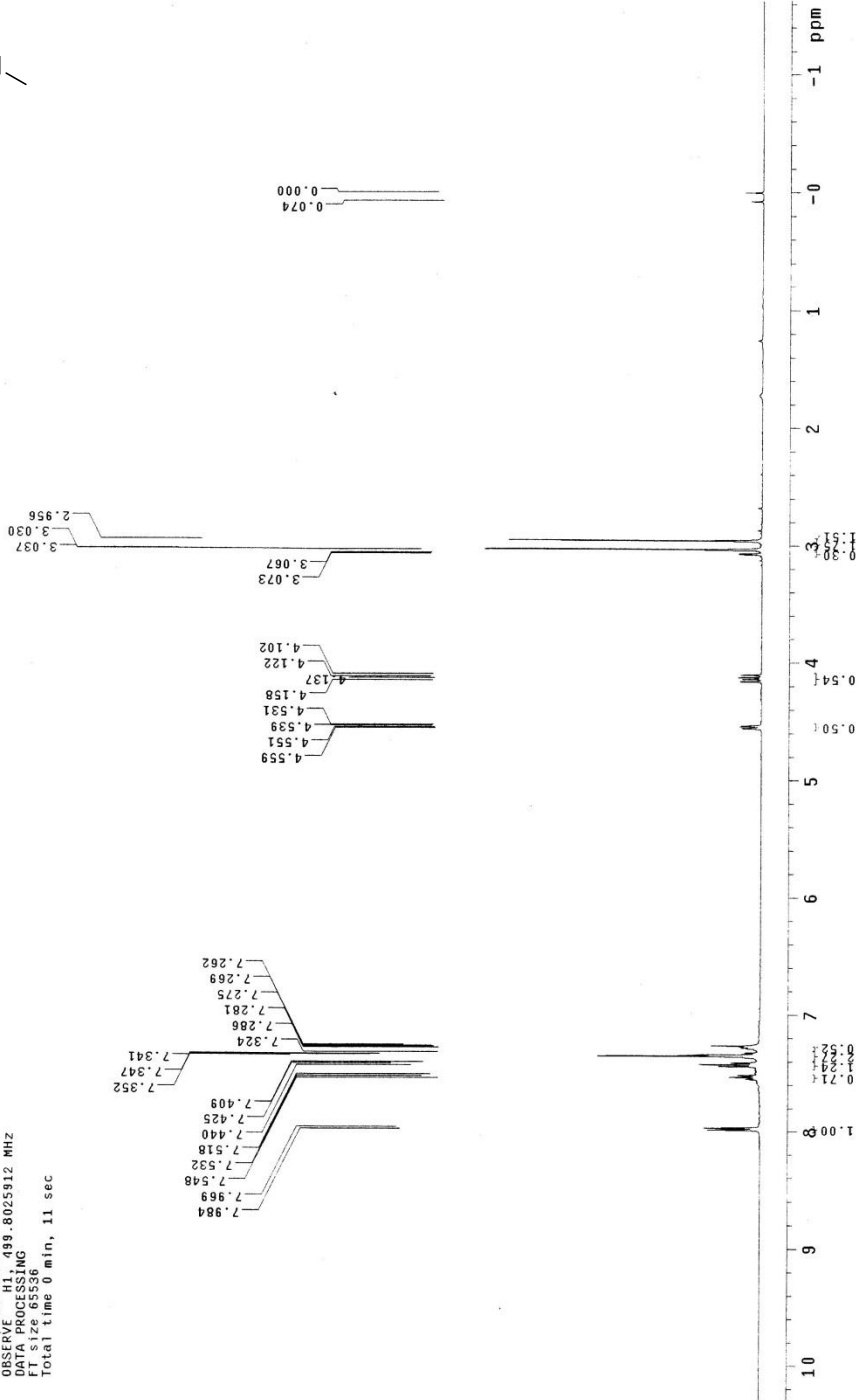
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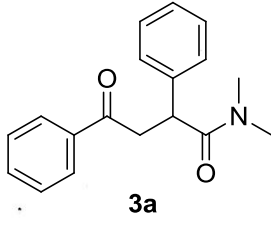
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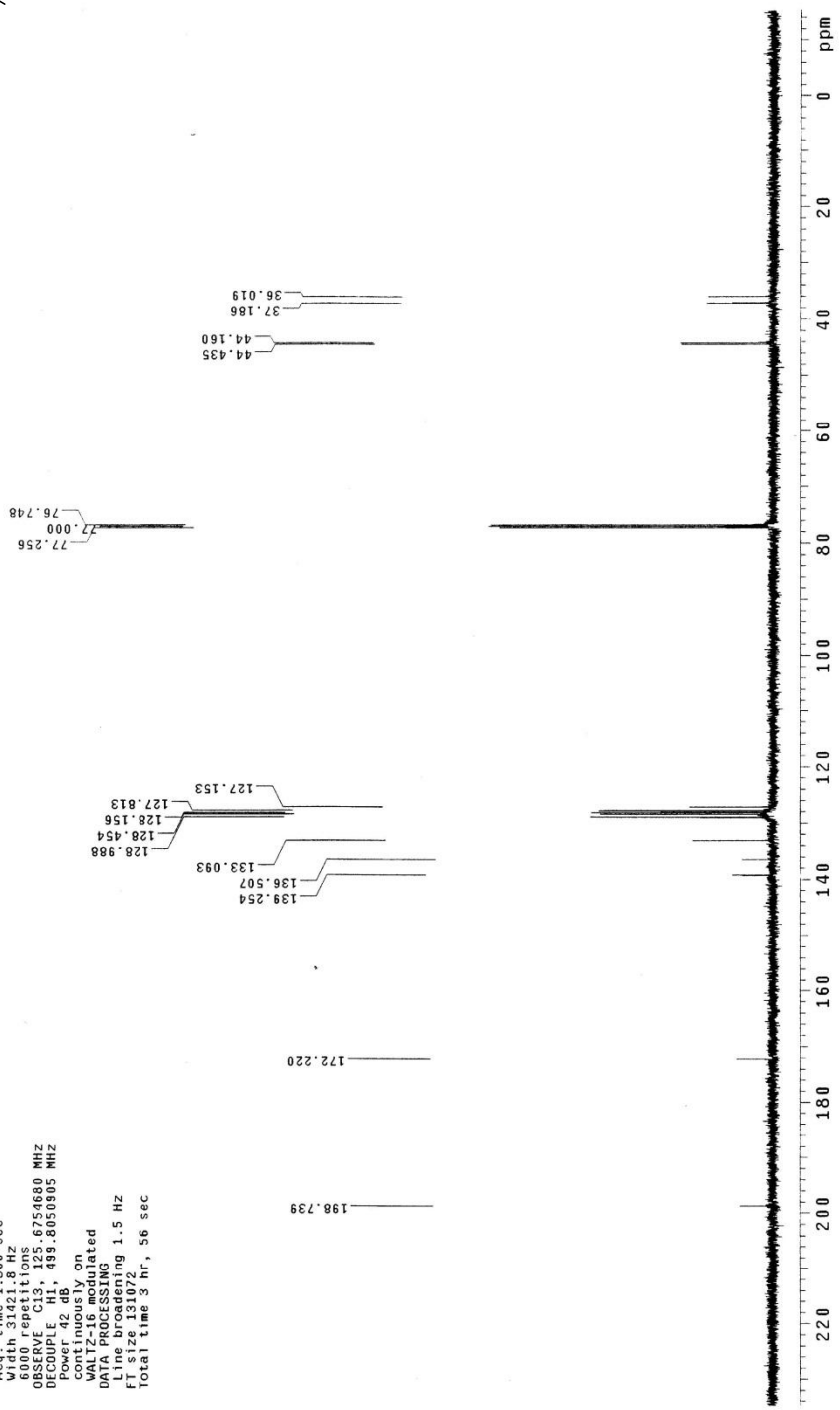
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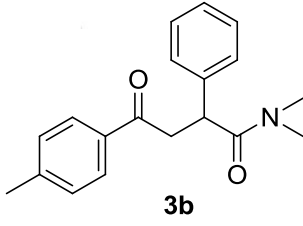
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STANDARD CARBON PARAMETERS  
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 Ambient temperature  
 User: 1-14-87  
 File: d2570  
 INOVA-500 "NENU500"  
 Relax delay 0.500 sec  
 Pulse 05  
 Acq time 1.300 sec  
 Width 31421.8 Hz  
 6000 repetitions  
 OBSERVE C13, 125.6754680 MHz  
 DECOUPLE H1, 499.8050305 MHz  
 continuously on  
 WALTZ-16 modulated  
 DATA PROCESSING  
 Line broadening 1.5 Hz  
 FI size 131072  
 Total time 3 hr, 56 sec





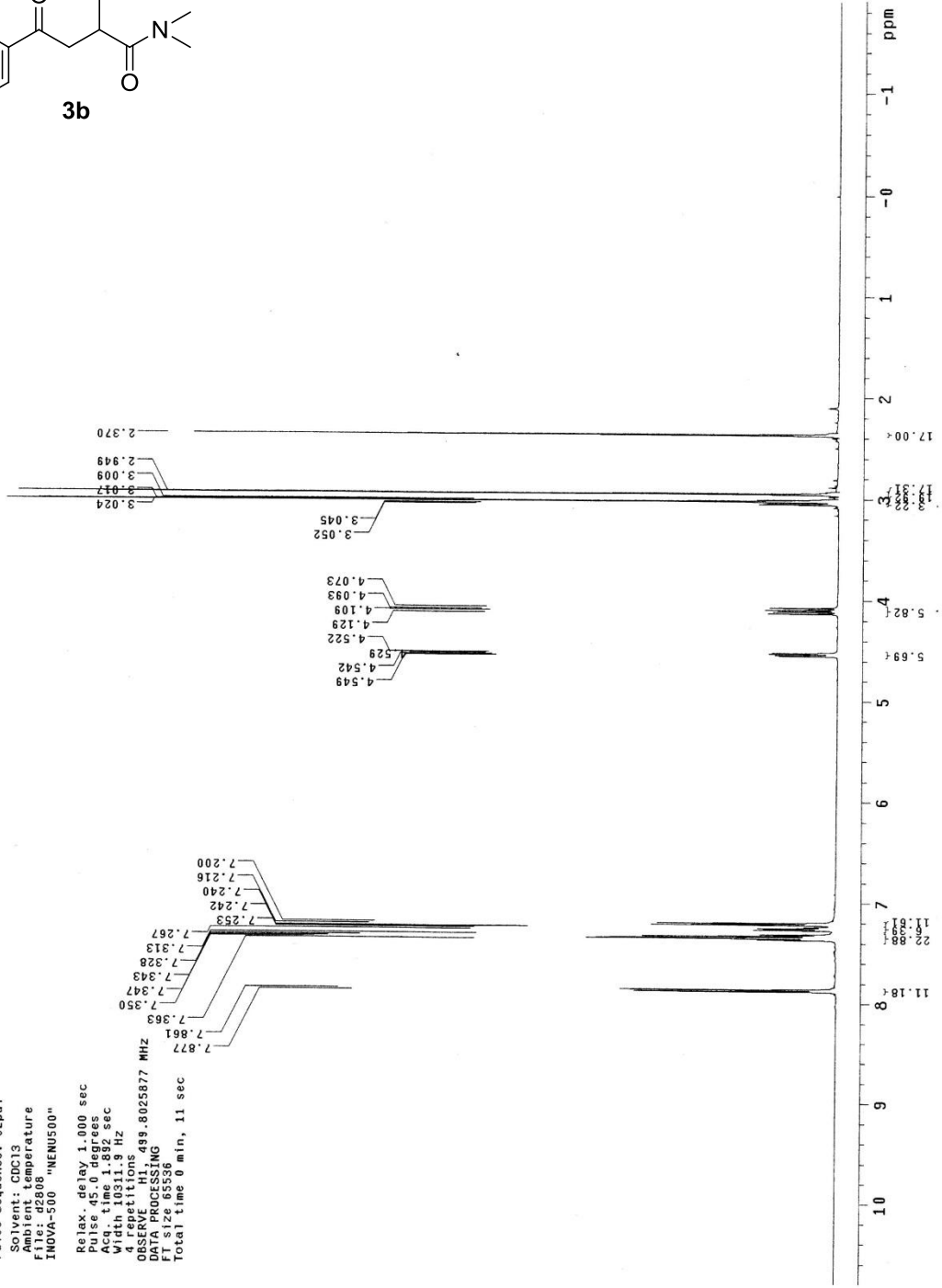
STANDARD PROTON PARAMETERS

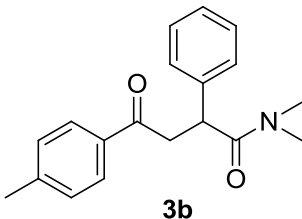
Archive directory: /export/home/ouyy/vnmrSYS/data  
 Sample directory:

Pulse Sequence: s2pul  
 Solvent: CDCl3  
 Ambient temperature  
 File: q2808  
 INOVA-500 "MENU500"

Relax. delay 1.000 sec  
 Pulse 45.0 degrees  
 Acq. time 1.000 sec  
 Width 10311.9 Hz  
 4 repetitions

OBSERVE H1, 499.8025877 MHZ  
 DATA PROCESSING  
 FT size 65536  
 Total time 0 min, 11 sec





STANDARD CARBON PARAMETERS

Archive directory: /export/home/ouyy/vnmrsvs/data

Sample directory:

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

User: 1-14-87

File: d2809

INOVA-500 "MENU500"

Relax. delay 0.500 sec

Pulse 45.0 degrees

Prch 1.000 sec

Width 31421.8 Hz

6000 repetitions

OBSERVE C13, 125.6754814 MHZ

DECOUPLE H1, 499.8050905 MHZ

Power 42 dB

Gate delay on

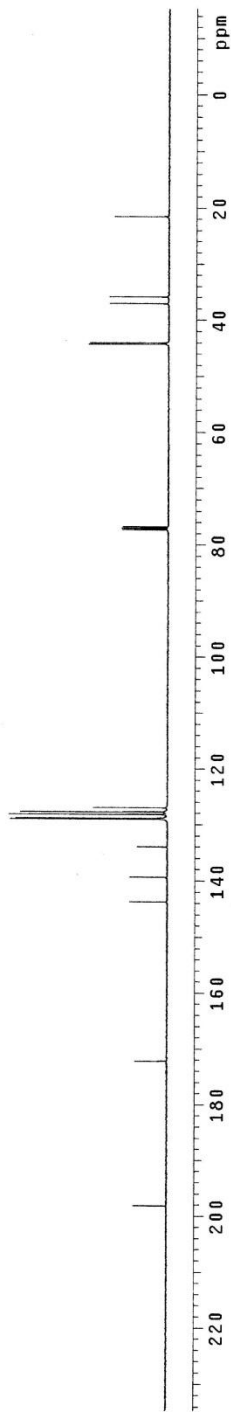
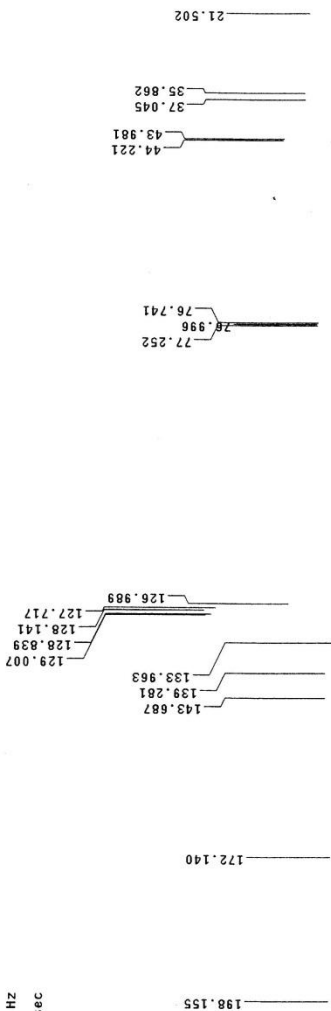
WALTZ-16 modulated

DATA PROCESSING

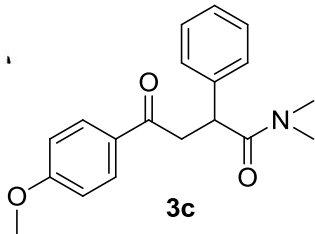
Line broadening 1.5 Hz

FT size 131072

Total time 3 hr, 56 sec







STANDARD PROTON PARAMETERS

Archive directory: /export/home/ouyy/vmrsys/data

Sample directory:

Pulse Sequence: s2pu1

Solvent: CDC13

Acq. temperature

File: d2859

INOVA-500 "NENU500"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.852 sec

Width 9744.2 Hz

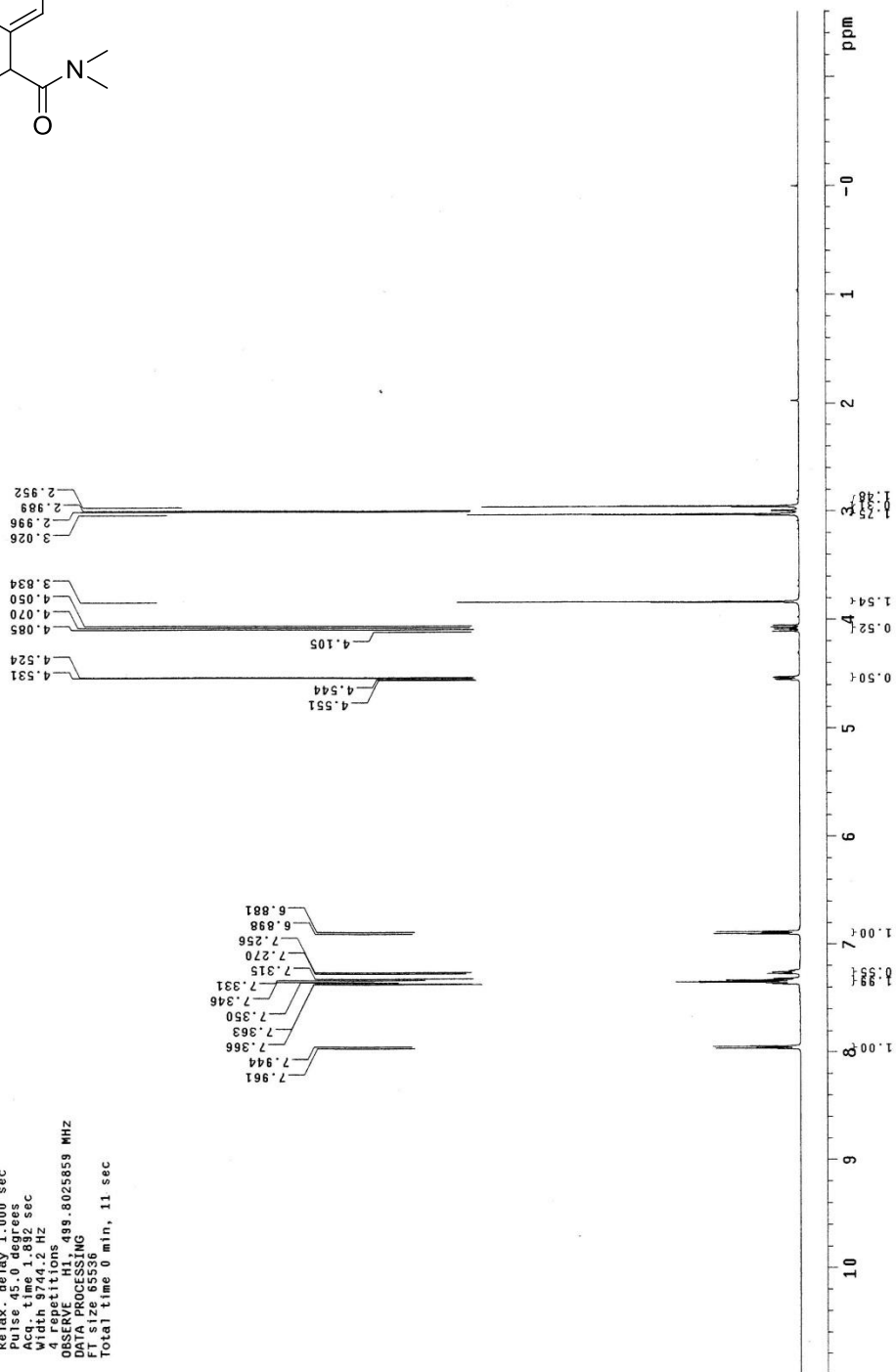
Observer Homs

OSERVE F10ms 499.8025859 MHZ

DATA PROCESSING

FT size 65536

Total time 0 min, 11 sec

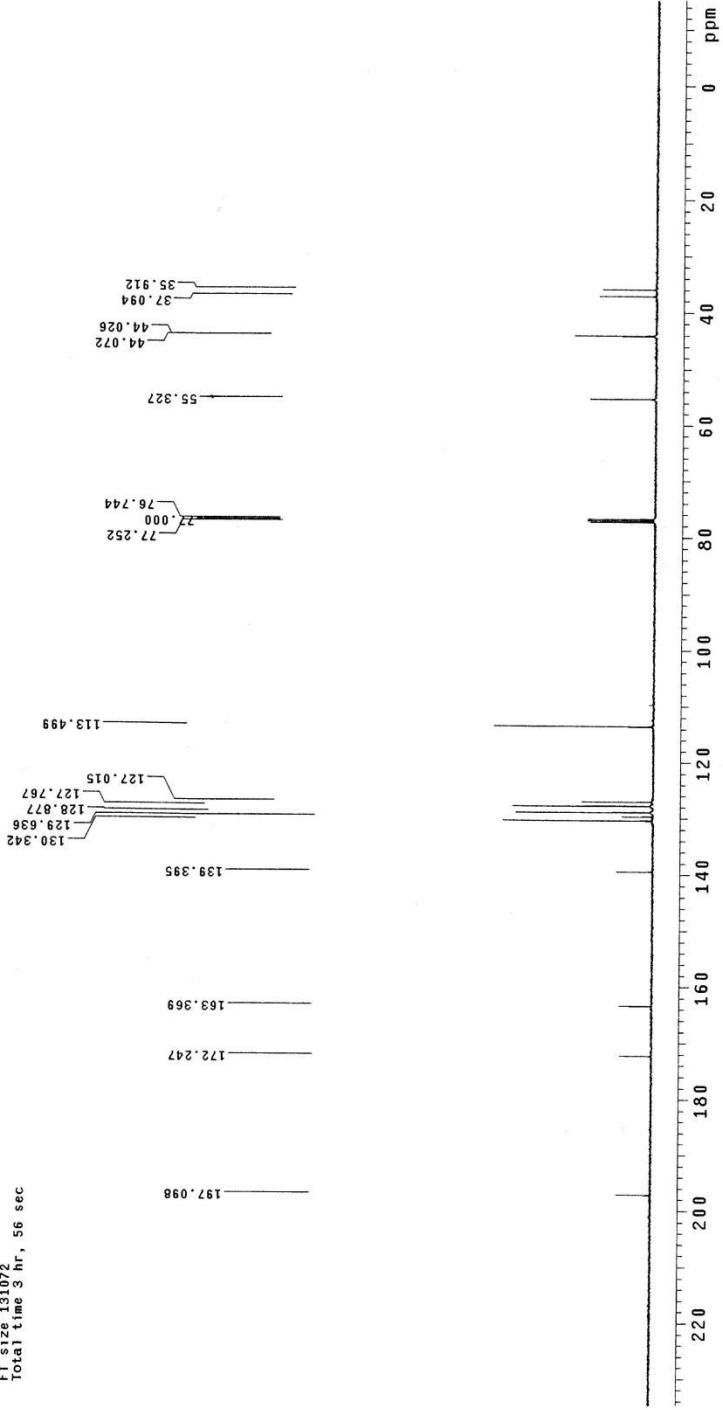
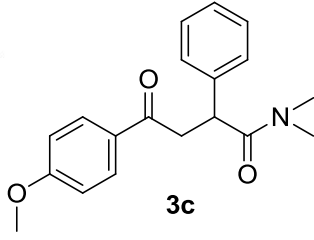


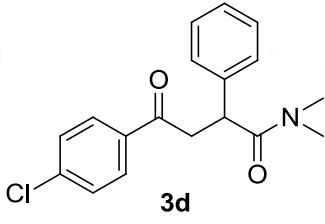
STANDARD CARBON PARAMETERS

Archive directory: /export/home/ouxy/vnmr/sys/data  
Sample directory:

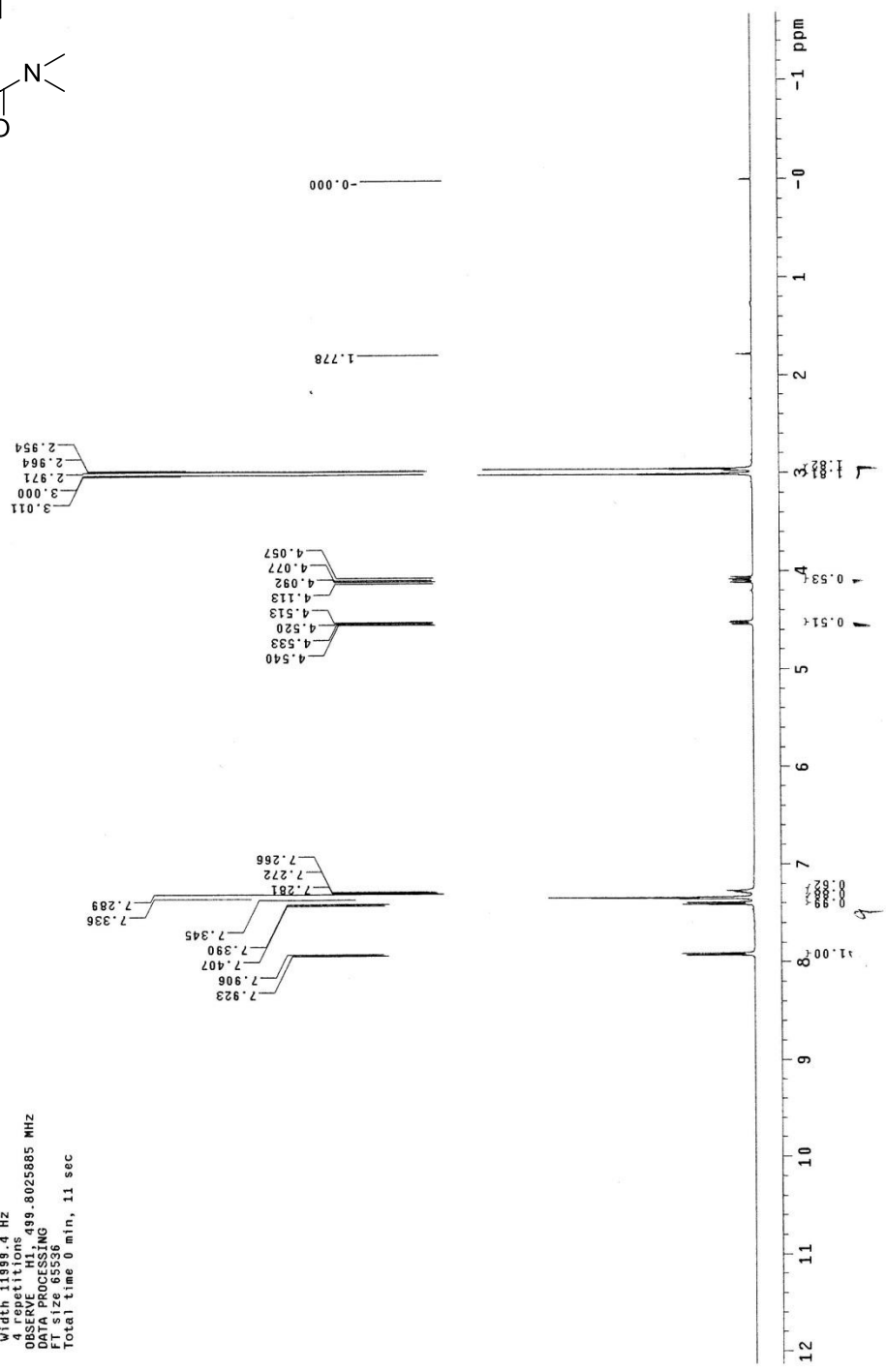
Pulse Sequence: s2pu1  
Solvent: cdcl3  
Ambient temperature  
User: l-14-87  
INVA-500 "NENU500"

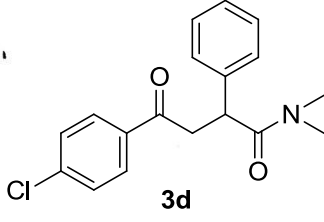
Relax. delay 0.500 sec  
Pulse 45.0 degrees  
Acq. time 1.300 sec  
Width 31421.8 Hz  
8000 repetitions  
OBSERVE C13, 125.875742 MHz  
DECPROG zgpg30, 499.8058905 MHz  
Power 42 dB, continuously on  
WALTZ-16 modulated  
DATA PROCESSING  
Line broadening 1.5 Hz  
F2 124.131727  
Total time 3 hr, 56 sec





STANDARD PROTON PARAMETERS  
 Archive directory: /export/home/ouyy/vnmrsys/data  
 Sample directory:  
 Pulse Sequence: s2pul  
 Solvent: CDCl3  
 Acquisition temperature  
 File: d2836  
 INOVA-500 "NENU500"  
 Relax. delay 1.000 sec  
 Pulse 45.0 degrees  
 Acq. time 1.852 sec  
 Width 11999.4 Hz  
 Spectrometer 499.8025885 MHZ  
 OBSERVE H1  
 DATA PROCESSING  
 FT size 65536  
 Total time 0 min, 11 sec

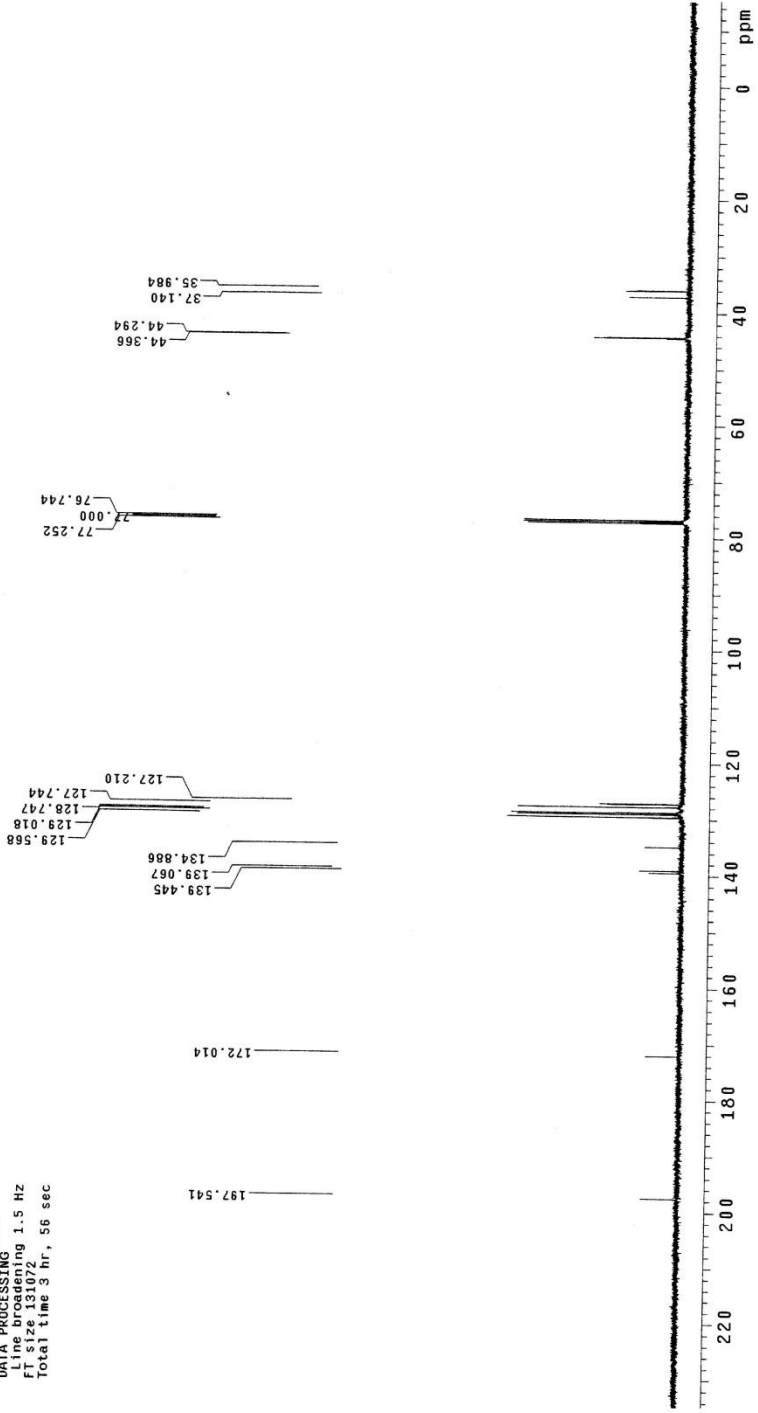


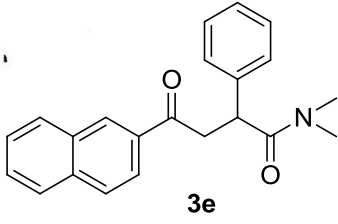


STANDARD CARBON PARAMETERS  
 Archive directory: /export/home/ouyy/vnmrsys/data  
 Sample directory:

Pulse Sequence: s2pul  
 Solvent: cdcl3  
 Sample Temperature  
 User: l1-1-87  
 File: 42839  
 INOVA-500 "NENU500"

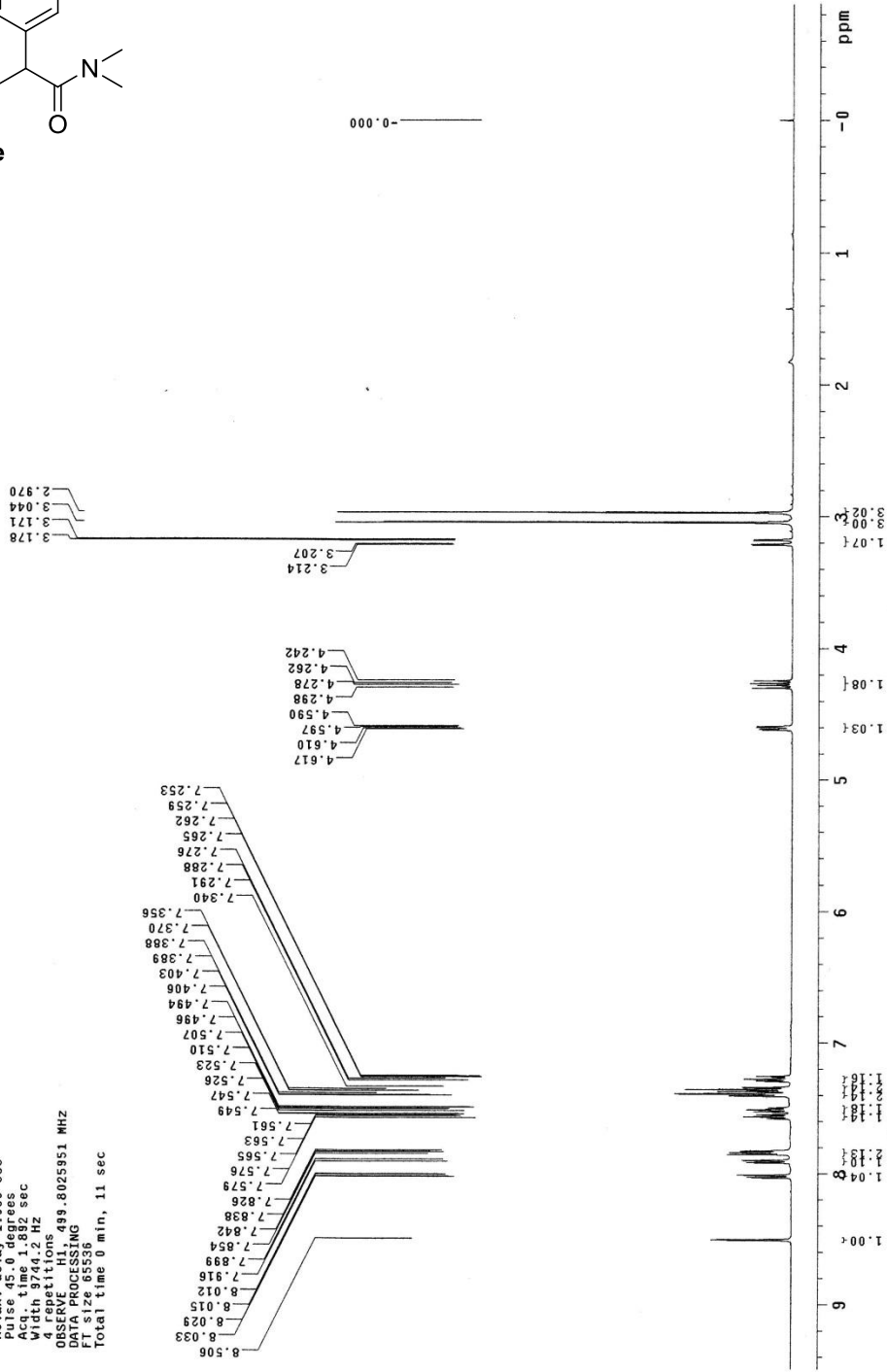
Relax. delay 0.500 sec  
 Pulse 45.0 degrees  
 Acq. time 1.300 sec  
 T1 3121.8 Hz  
 T2 64.000 Hz  
 OBSERVE C13 125.6754690 MHz  
 DECOUPLE H1 499.8050905 MHz  
 Power 42 dB  
 Continuously on  
 0.100 sec  
 0.100 sec  
 0.100 sec  
 Line broadening 1.5 Hz  
 FT size 131072  
 Total time 3 hr, 56 sec

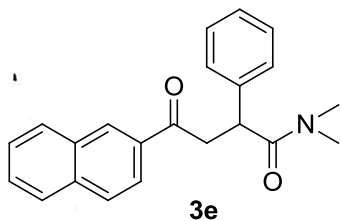




STANDARD PROTON PARAMETERS  
 Archive directory: /export/home/ouyy/vnmrSYS/data  
 Sample directory:

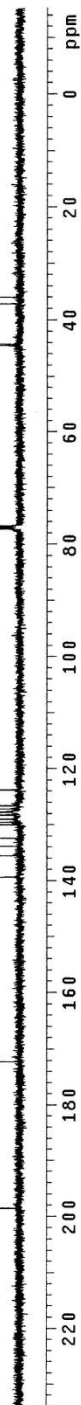
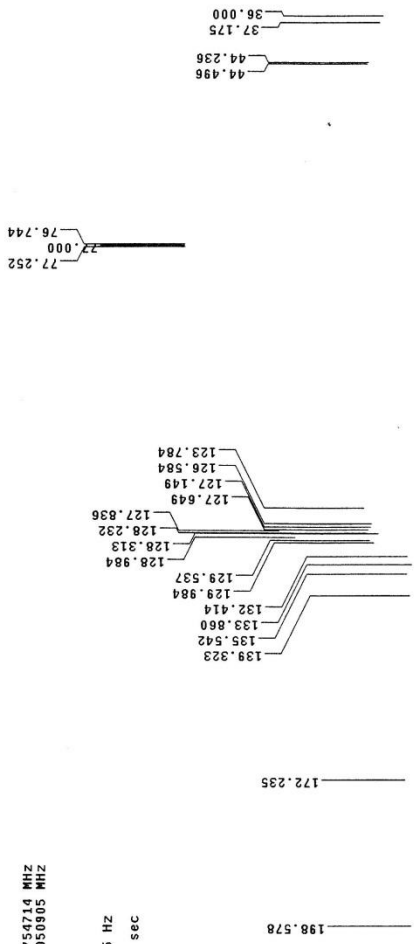
Pulse Sequence: szpul  
 Solvent: CDCl3  
 Ambient temperature  
 File: 02321  
 INOVA-500 "MENU500"  
 Relax delay 1.000 sec  
 Pulse program: zgpg30  
 Acq time 1.892 sec  
 Width 9744.2 Hz  
 4 repetitions  
 OBSERVE H1, 499.8025951 MHz  
 F1 PROCESSED  
 F2  
 Total time 0 min, 11 sec

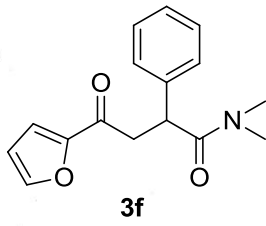




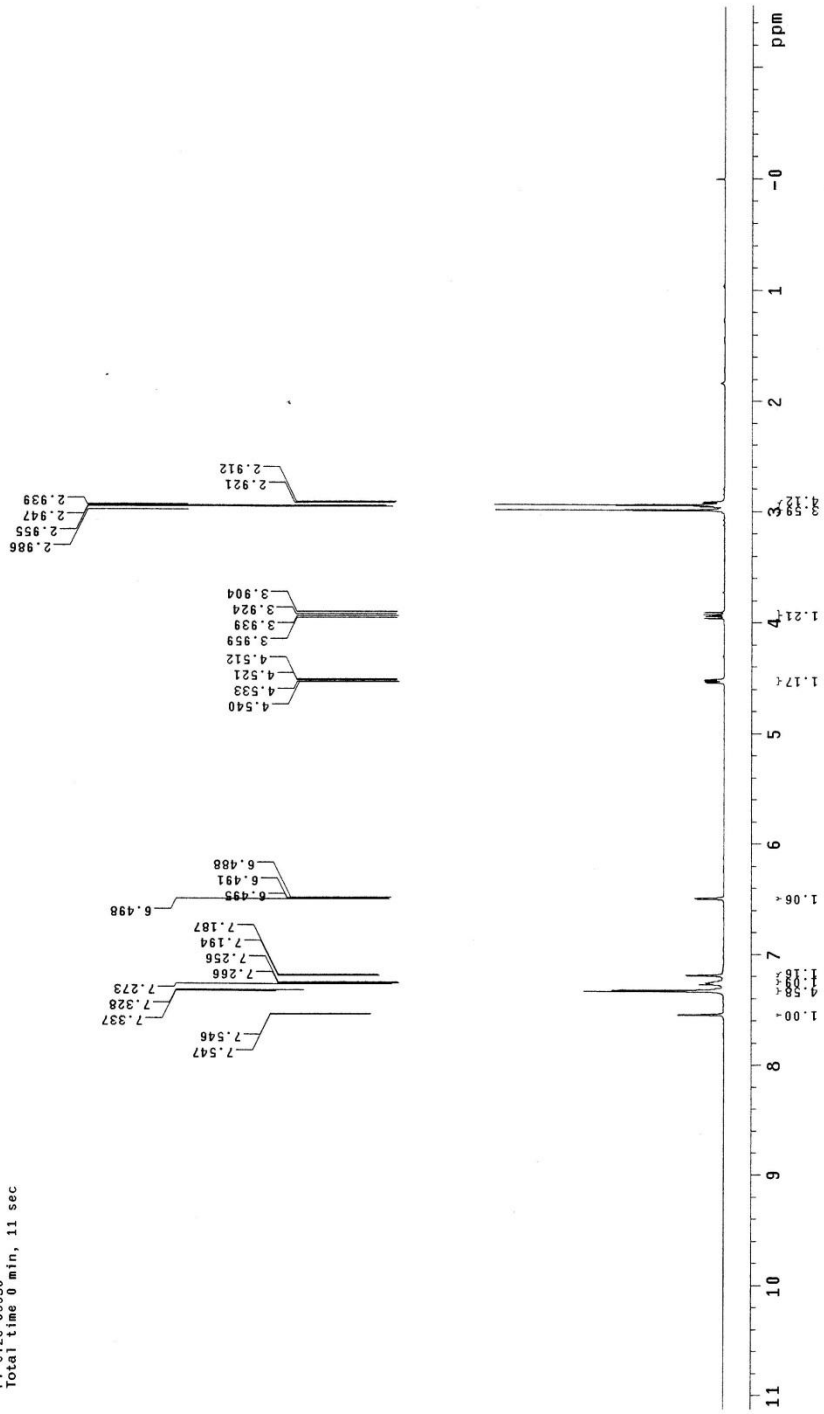
**STANDARD CARBON PARAMETERS**

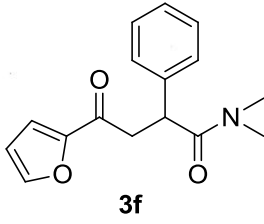
Archive directory: /export/home/ouyy/vnmrSYS/data  
 Sample directory:  
 Pulse Sequence: s2pul  
 Solvent: cdcl3  
 Ambient temperature  
 User: j1-14-87  
 F1: 50.0  
 INOVA-500 "MNU500"  
 Relax delay 0.500 sec  
 Pulse 45.0 degrees  
 Acq. time 1.300 sec  
 Width 31421.8 Hz  
 128 repetitions  
 Cycle time 1.300 sec  
 DECOUPLE C13, 425.6752714 MHz  
 DECOUPLE H1, 499.8050905 MHz  
 Power 42 dB, continuously on  
 WALTZ-16 modulated  
 DATA PROCESSING  
 Line broadening 1.5 Hz  
 F2: 125.7617272 MHz  
 Total time 3 hr, 56 sec





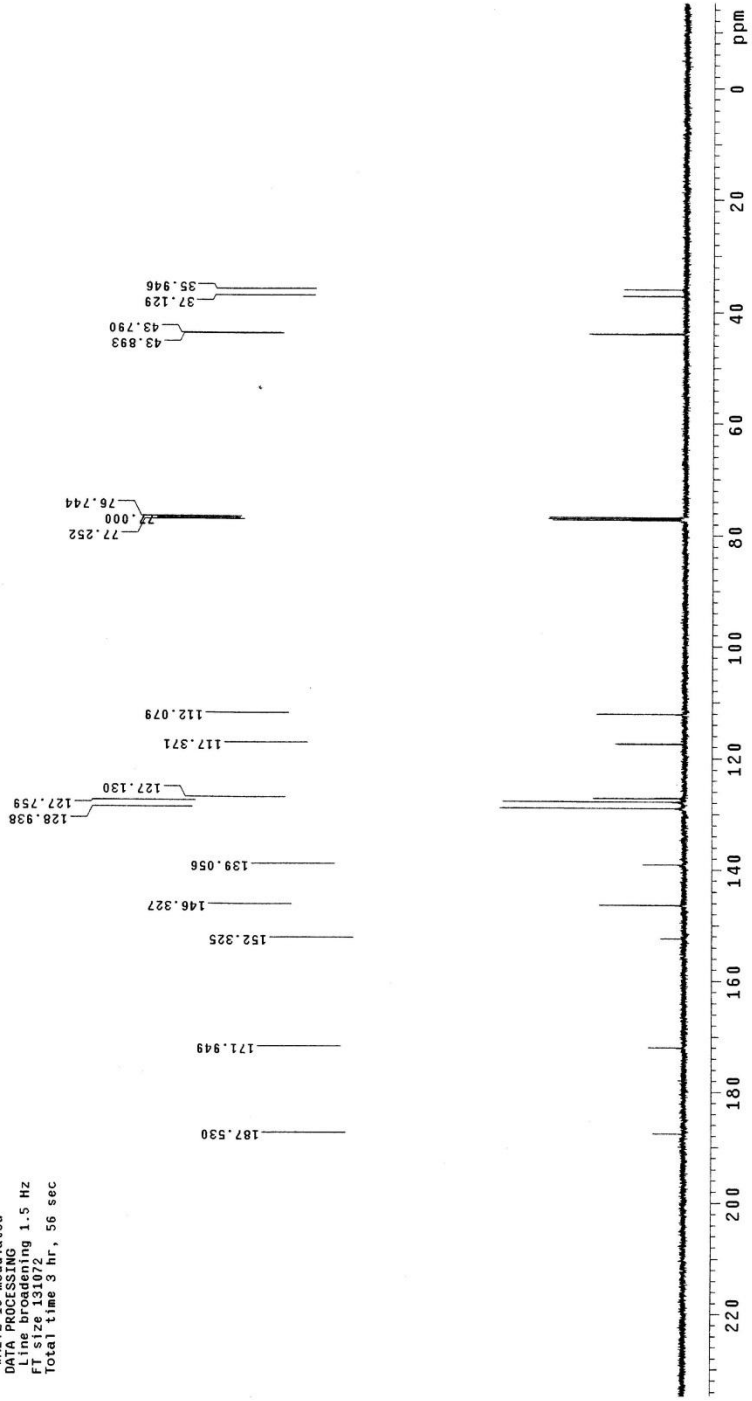
STANDARD PROTON PARAMETERS  
 Archive directory: /export/home/ouyy/vnmrsws/data  
 Sample directory:  
 Pulse Sequence: s2pul  
 Solvent: CDCl3  
 Ambient temperature  
 F1: 52658  
 INOVA-500 "MNU500"  
 Relax delay 1.000 sec  
 Pulse 45.0 degrees  
 Acq. time 1.892 sec  
 Width 9744.2 Hz  
 4 repetitions  
 OBSERVED F1 499.8025850 MHz  
 OBSERVED F2 125.7613110 MHz  
 FT size 65536  
 Total time 0 min, 11 sec



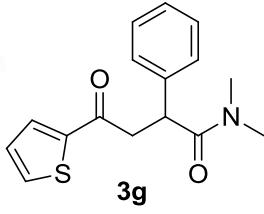


**STANDARD CARBON PARAMETERS**

Archive directory: /export/home/ouyy/vnmrSYS/data  
 Sample directory:  
 Pulse Sequence: s2pul  
 Solvent: cdCl3  
 Ambient temperature  
 User: 1-14-87  
 File: 82867  
 INOVA-500 "MNU500"  
 Relax delay 0.500 sec  
 Pulse 45 degrees  
 Decoupling on  
 Acq. time 1.300 sec  
 Width 31421.8 Hz  
 64 Repetitions  
 OBSERVE C13, 125.6754684 MHZ  
 PULSE P1, 493.8050305 MHZ  
 Power 42 dB,  
 continuously on  
 WALTZ-16 modulated  
 DATA PROCESSING  
 Line broadening 1.5 Hz  
 File size 131072  
 Total time 3 hr, 56 sec





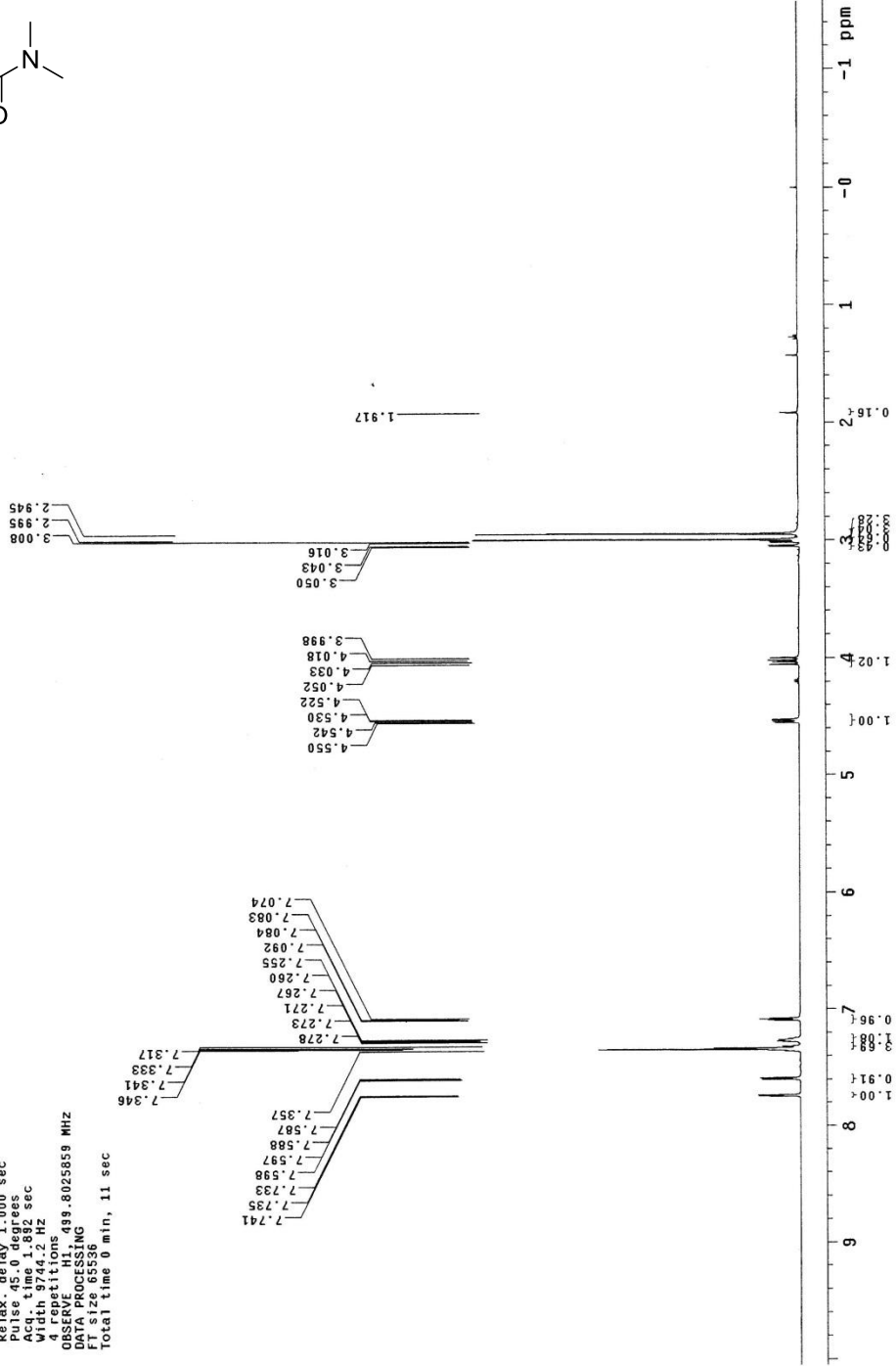


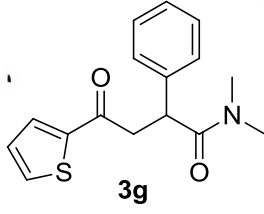
STANDARD PROTON PARAMETERS

Archive directory: /export/home/ruoyi/vnmrsys/data  
 Sample directory:

Pulse Sequence: s2pul  
 Solvent: CDCl3  
 Ambient temperature  
 File: d2844  
 INOVA-500 "MENU500"

Relax. delay 1.000 sec  
 Pulse 15.0 degrees  
 Width 9744.2 Hz  
 4 repetitions  
 OBSERVE H1, 499.8025859 MHz  
 DATA PROCESSING  
 File size 65536  
 Total time 0 min, 11 sec



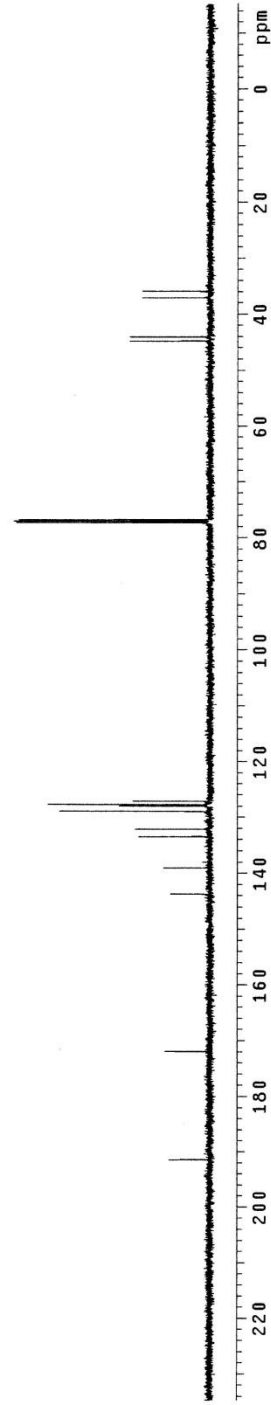
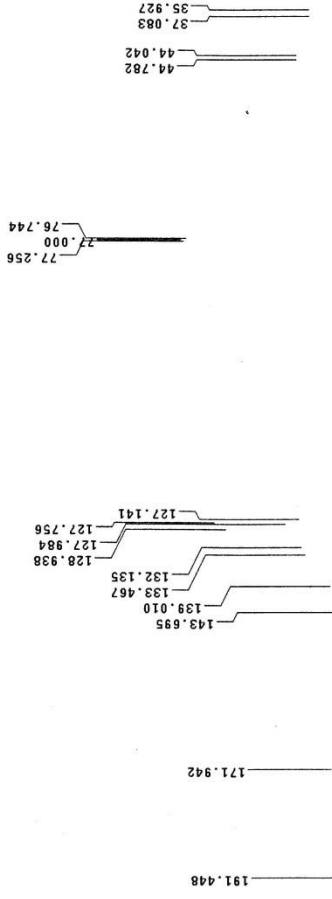


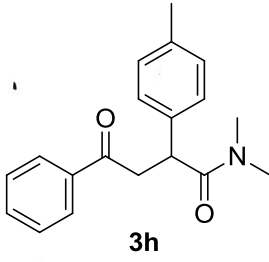
**STANDARD CARBON PARAMETERS**

Archive directory: /export/home/ouyy/vnmrSYS/data  
 Sample directory:

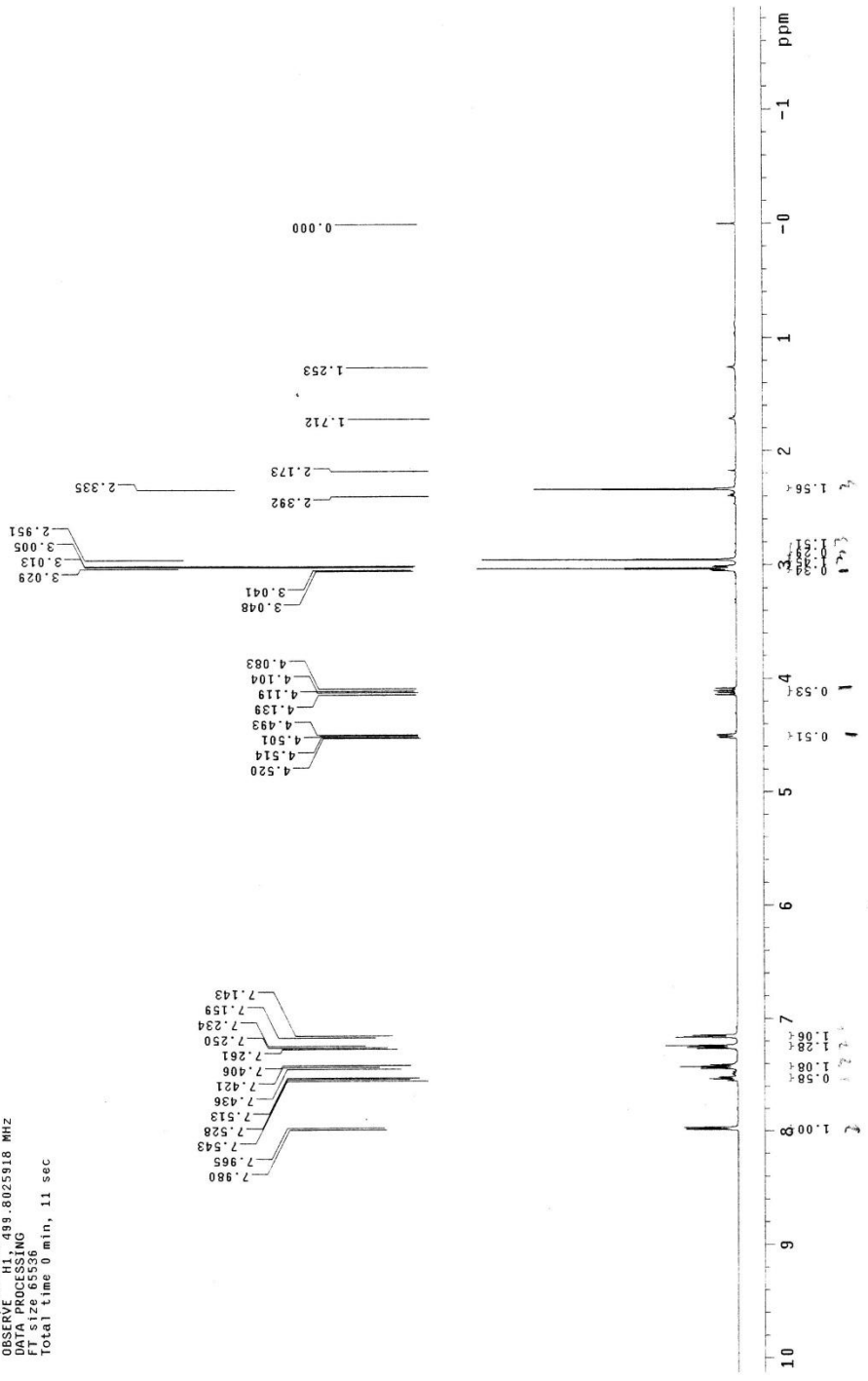
Pulse Sequence: szpul  
 Solvent: cdcl3  
 Ambient temperature  
 User: j-14-87  
 File: 8645  
 INOVA-500 "MNU500"

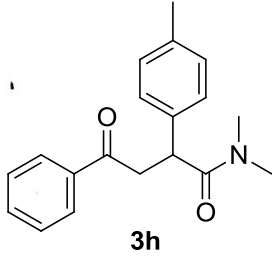
Relax delay 0.500 sec  
 Pulse 45.0 degrees  
 Acq. time 1.300 sec  
 Width 31421.8 Hz  
 6000 Repetitions  
 OBSERVE C13, 125.675428 MHz  
 DECOUPLE H1, 499.8650305 MHz  
 Power 42 dB,  
 continuously on  
 WALTZ-16 modulated  
 DATA PROCESSING  
 Line broadening 1.5 Hz  
 File: 86457  
 Total time 3 hr, 56 sec





STANDARD PROTON PARAMETERS  
 Archive directory: /export/home/rouy/vnmr/sys/data  
 Sample directory:  
 Pulse Sequence: s2pul  
 Solvent: CDCl3  
 Ambient temperature  
 File: d2577  
 INOVA-500 "MNU500"  
 Relax. delay 1.000 sec  
 Pulse 0.000 sec  
 Acq. time 1.880 sec  
 Width 10032.6 Hz  
 4 repetitions  
 OBSERVE H1, 499.8025918 MHz  
 DATA PROCESSING  
 File size 65356  
 Total time 0 min, 11 sec



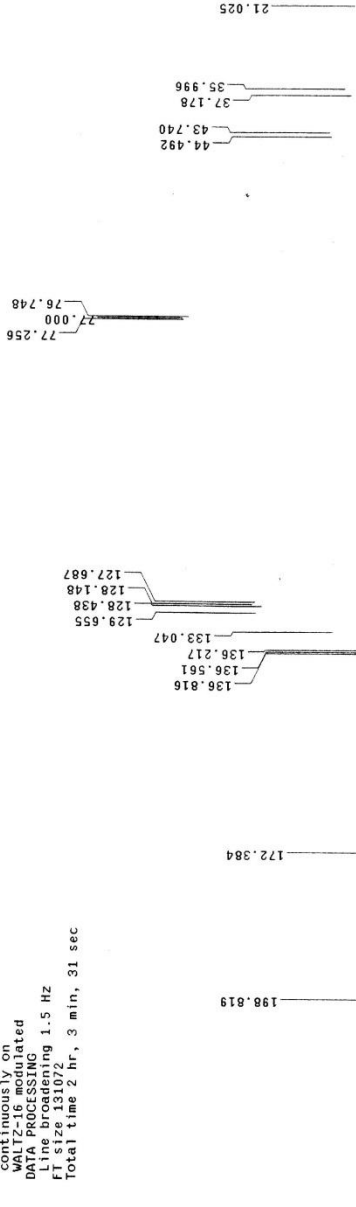


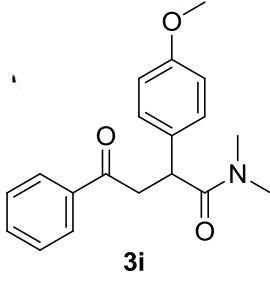
STANDARD CARBON PARAMETERS

Archive directory: /export/home/ouyy/vnmrSYS/data  
 Sample directory:

Pulse Sequence: s2pul  
 Solvent: cdcl3  
 Ambient temperature  
 User: 1-14-87  
 File: d2582  
 INOVA-500 "MNU500"

Relax. delay 0.500 sec  
 Acq. delay 1.000 sec  
 Acq. time 1.300 sec  
 Width 31421.8 Hz  
 64 repetitions  
 OBSERVE C13, 125.6754675 MHz  
 DECOUPLE H1, 499.8050905 MHz  
 Coupling constant  
 continuously on  
 WALTZ-16 modulated  
 DATA PROCESSING  
 Line broadening 1.5 Hz  
 FT size 131072  
 Total time 2 hr, 3 min, 31 sec





STANDARD PROTON PARAMETERS

Archive directory: /export/home/ouyy/vnmrSYS/data  
 Sample directory:

Pulse Sequence: s2pu1

Solvent: CDCl3

Ambient temperature

File: d2751

INOVA-500 "NENUS00"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 11.53 sec

Waltz 1031.8 Hz

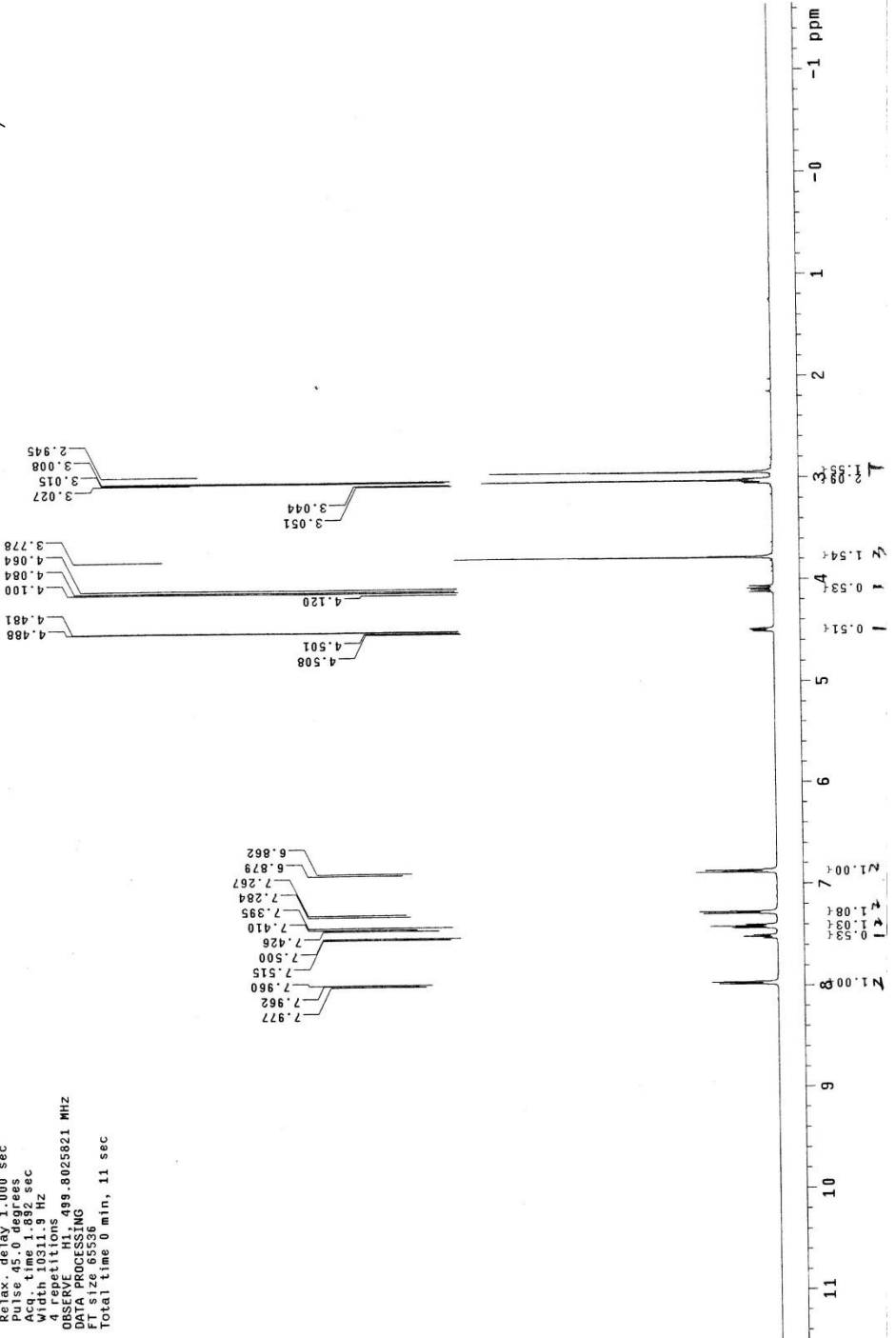
4 repetitions

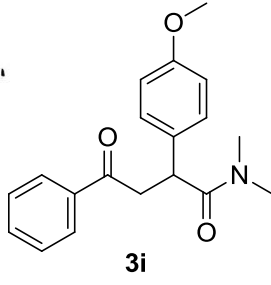
OBSERVE H1, 499.8025821 MHz

DATA PROCESSING

FT size 65536

Total time 0 min, 11 sec



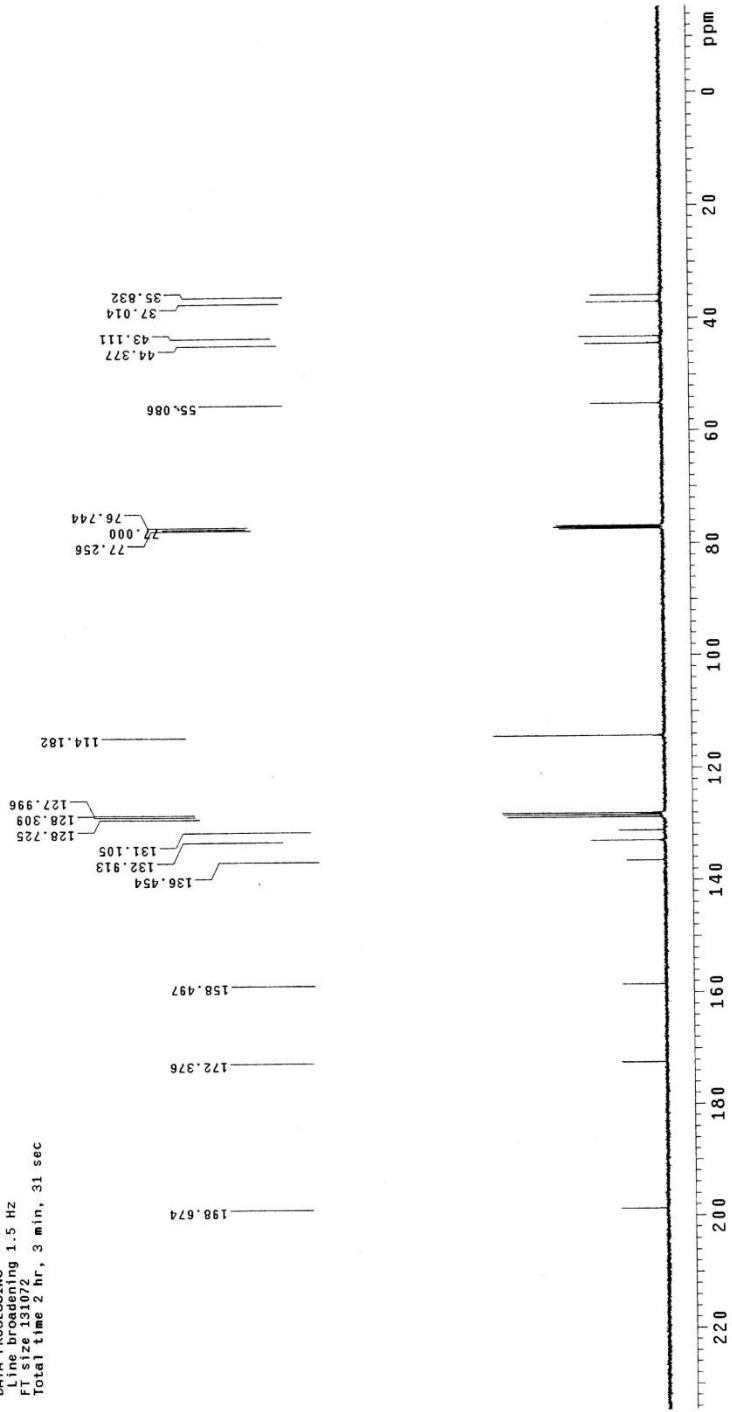


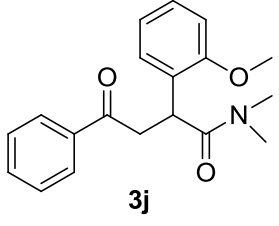
STANDARD CARBON PARAMETERS

Archive directory: /export/home/ouyy/vnmrSYS/data  
 Sample directory:

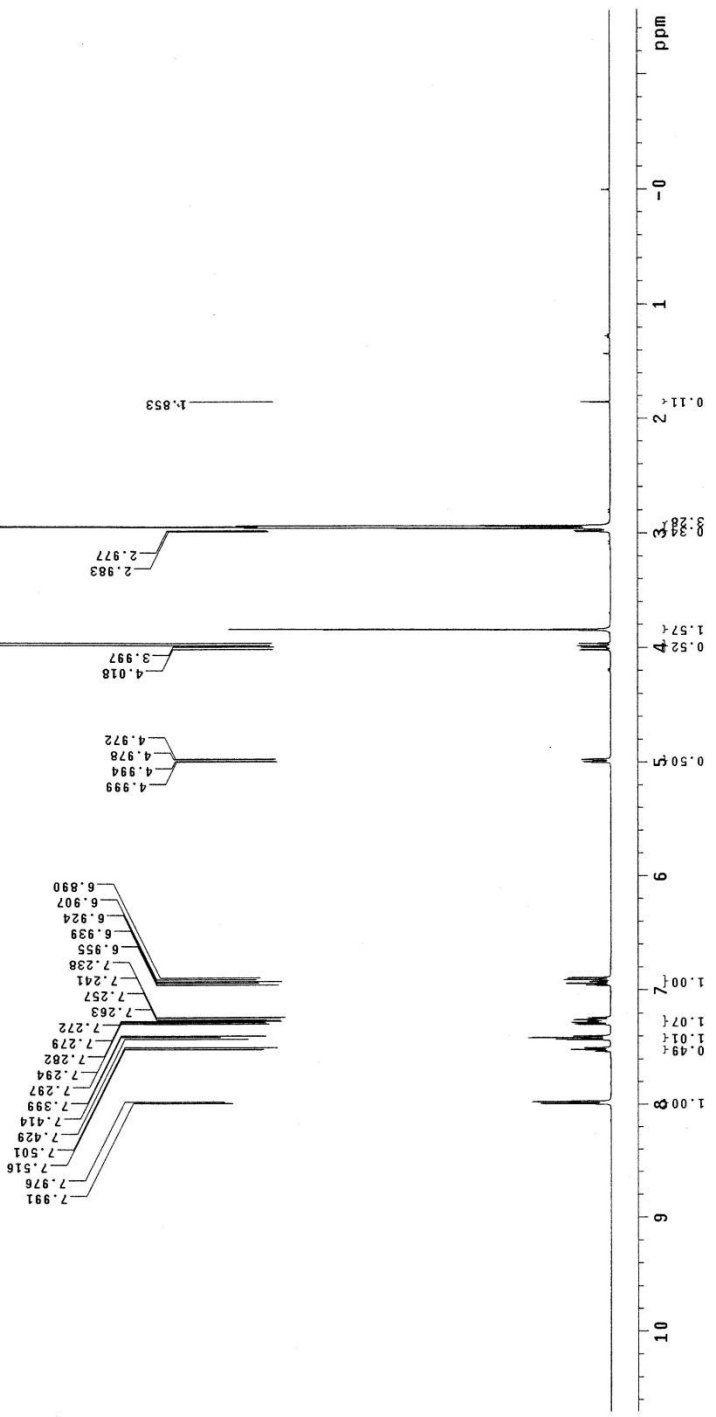
Pulse Sequence: s2pul  
 Solvent: cdcl3  
 Solvent temperature  
 User: 1-14-87  
 File: d2752  
 INOVA-500 "MENU500"

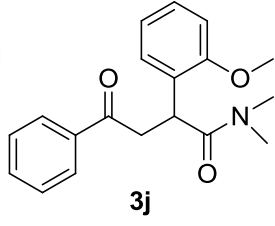
Relax. delay 0.500 sec  
 Pulse 45.0 degrees  
 Acq. time 3.00 sec  
 Aq. 31421.8 Hz  
 64 repetitions  
 OBSERVE C13, 125.6754824 MHZ  
 DECOUPLE H1, 499.8050905 MHZ  
 Power 42 dB  
 continuously on  
 continuously gated  
 DATA PROCESSING  
 Line broadening 1.5 Hz  
 FT size 131072  
 Total time 2 hr, 3 min, 31 sec





STANDARD PROTON PARAMETERS  
 Archive directory: /export/home/ouvy/vnmrsys/data  
 Sample directory:  
 Pulse Sequence: s2pu1  
 Solvent: CDCl3  
 Ambient temperature  
 F1: 500.13642  
 INOVA-500 "MNU500"  
 Relax. delay 1.000 sec  
 Pulse 45.0 degrees  
 Acq. time 1.852 sec  
 Width 9744.2 Hz  
 4 repetitions  
 OBSERVED IN 499.3025895 MHZ  
 DATA PROCESSING  
 FT size 65536  
 Total time 0 min, 11 sec





STANDARD CARBON PARAMETERS

Archive directory: /export/home/ouyy/vnmr/ysys/data  
 Sample directory:

Pulse Sequence: s2pu1

Solvent: cdcl3

Ambient temperature

User: 1-14-87

File: d62843" "NENU500"

INOVA-500

Relax. delay: 0.500 sec

Pulse: 45.0 degrees

Acq. time: 1.300 sec

Width: 31421.8 Hz

64 repetitions

OBSERVE C13, 125.8754704 MHZ

PROBE zgpg30, 433.6050905 MHZ

Power: 42 dB

continuously on

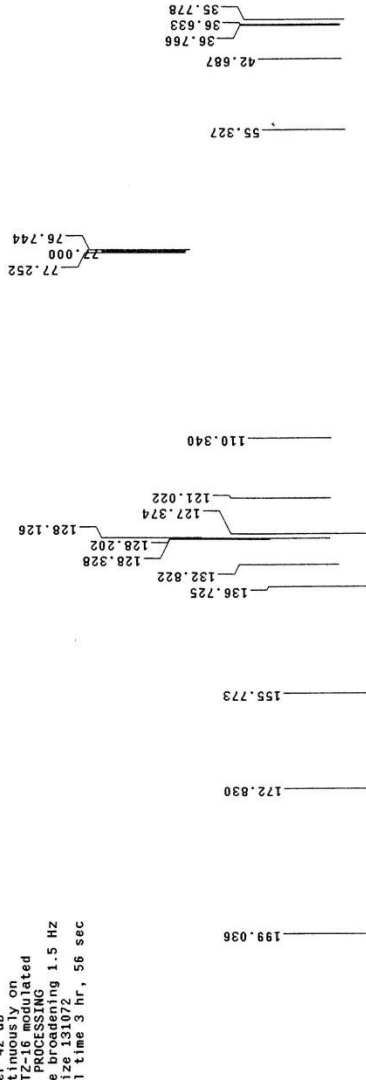
WALTZ-16 modulated

DATA PROCESSING

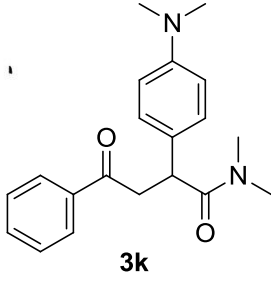
Line broadening 1.5 Hz

T1 size: 131.72

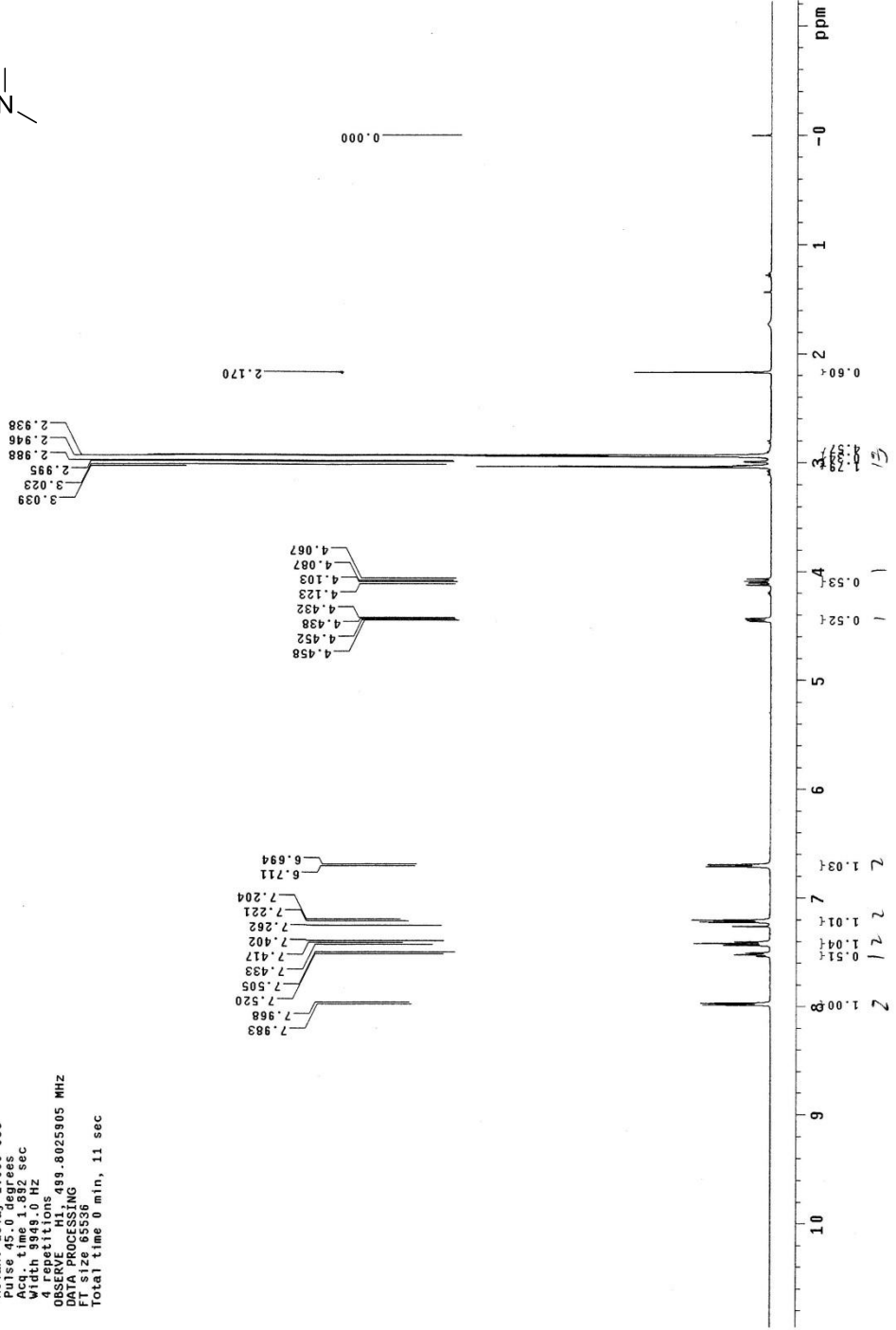
Total time 3 hr, 56 sec

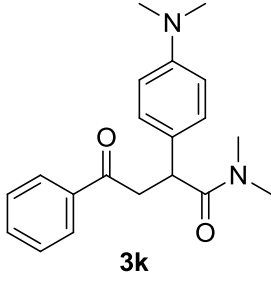




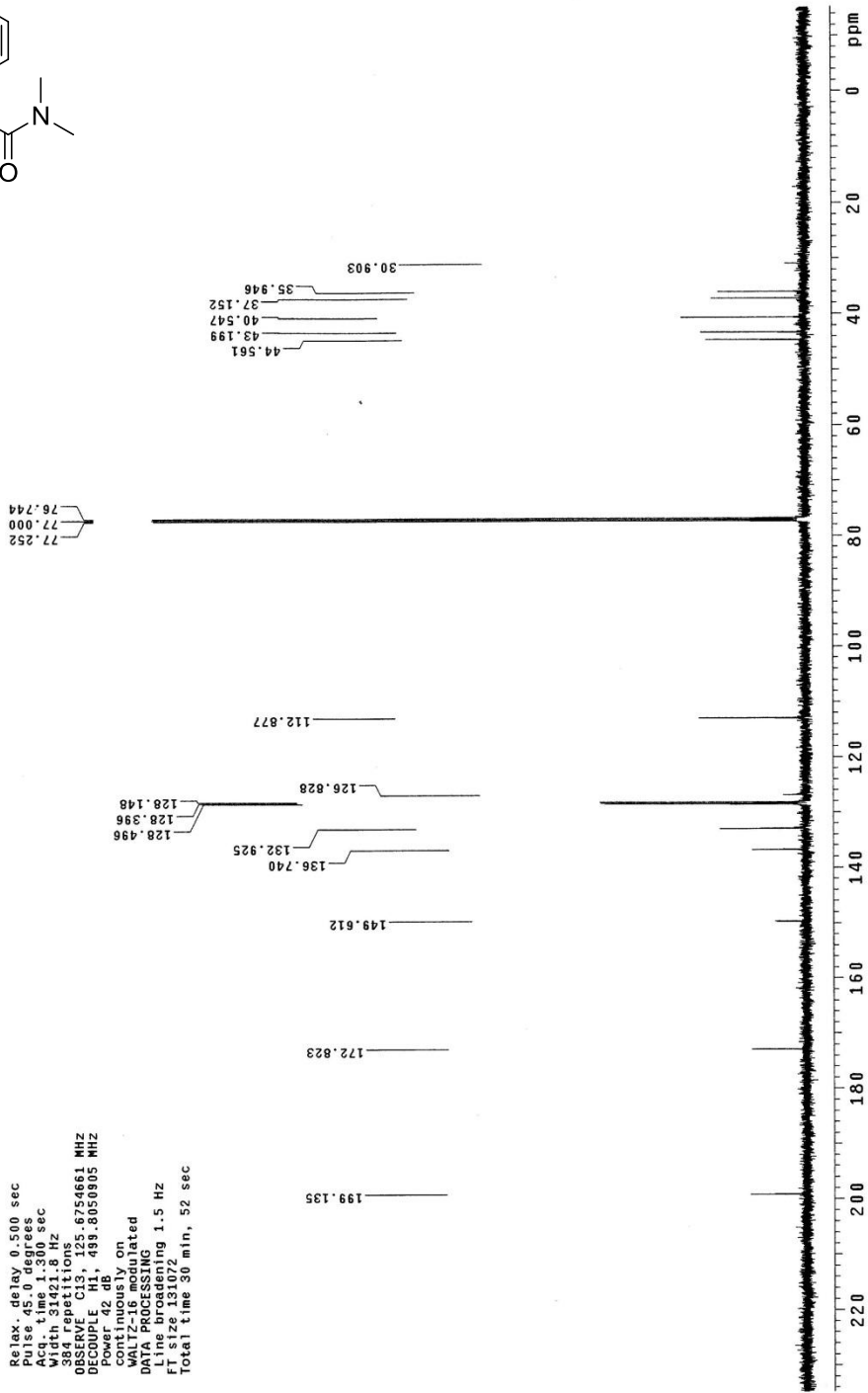


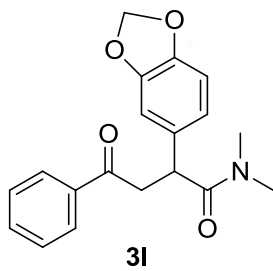
STANDARD PROTON PARAMETERS  
 Archive directory: /export/home/ouuy/vnmr/sy/data  
 Sample directory:  
 Pulse Sequence: s2p1  
 Solvent: CDCl3  
 Ambient temperature  
 File: d2850  
 INOVA-500 "MENU500"  
 Relax delay 1.000 sec  
 Acq time 1.000 sec  
 Width 9949.0 Hz  
 Width 9949.0 Hz  
 4 repetitions  
 OBSERVE H1, 499.8025905 MHz  
 DATA PROCESSING  
 File: d2850  
 Total time 0 min, 11 sec





STANDARD CARBON PARAMETERS  
 Archive directory: /export/home/ouyy/vnmrSYS/data  
 Sample directory:  
 Pulse Sequence: s2pul  
 Solvent: cdc13  
 Ambient temperature  
 User: 1-14-87  
 File: 62851  
 INOVA-500 "MNU500"  
 Relax. delay 0.500 sec  
 Pulse 48 degrees  
 Acq. time 1.300 sec  
 Width 31421.8 Hz  
 384 repetitions  
 OBSERVE C13, 125.6754661 MHz  
 DECOUPLE H1, 499.8058905 MHz  
 Post-42  
 continuously on  
 WALTZ-16 modulated  
 DATA PROCESSING  
 Line broadening 1.5 Hz  
 FT size 131072  
 Total time 30 min, 52 sec





STANDARD PROTON PARAMETERS

Archive directory: /export/home/ouyy/vnmrsys/data  
 Sample directory:

Pulse Sequence: szpul

Solvent: CDCl<sub>3</sub>

Ambient temperature

File: d2614

INDVA-500 "NENU500"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.892 sec

Width 8 Hz

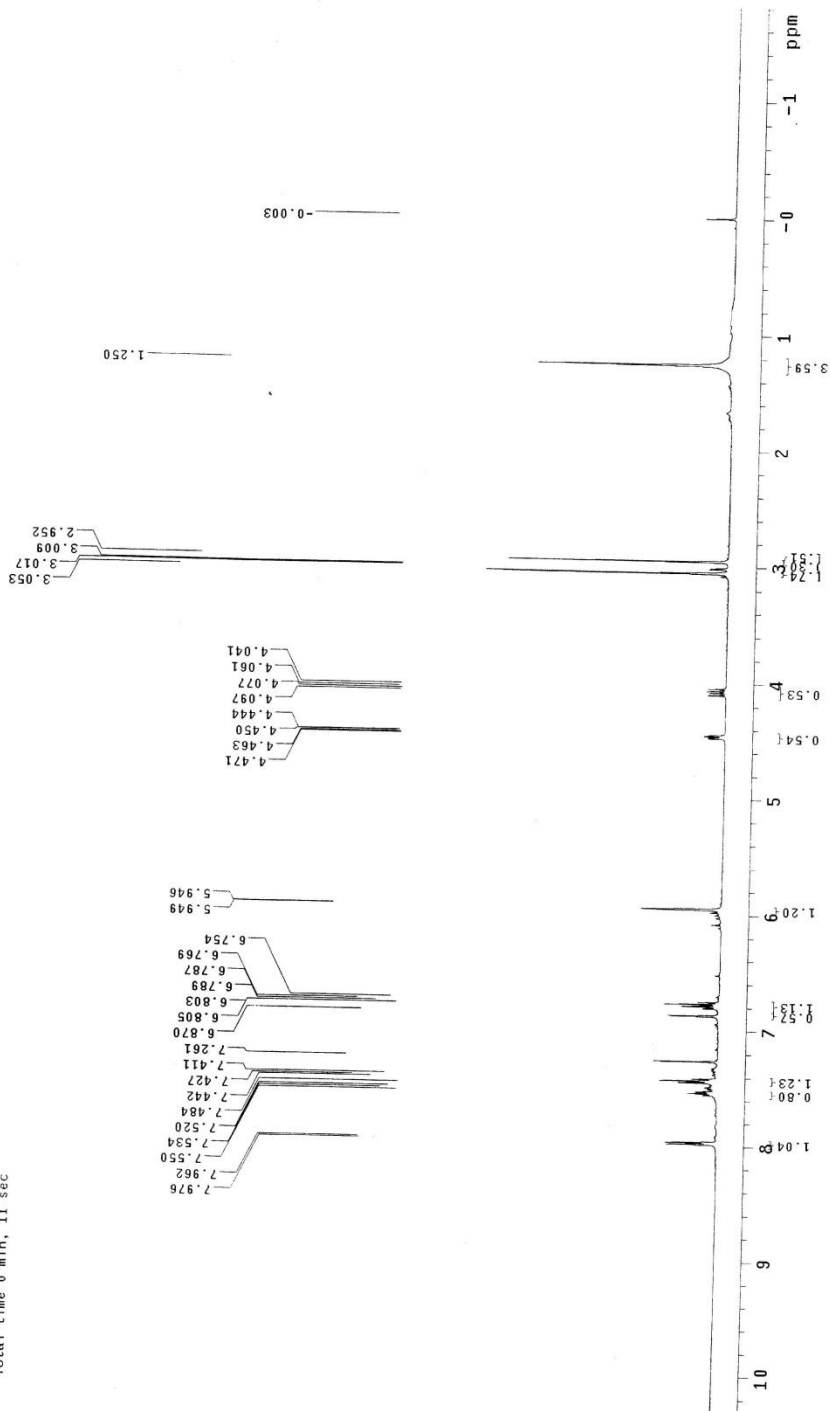
4 repetitions

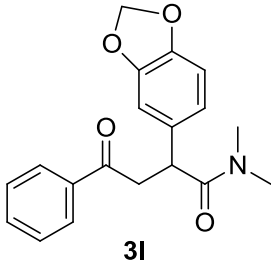
OBSERVE H1, 499.8025917 MHZ

DATA PROCESSING

FI size 65536

Total time 0 min, 11 sec

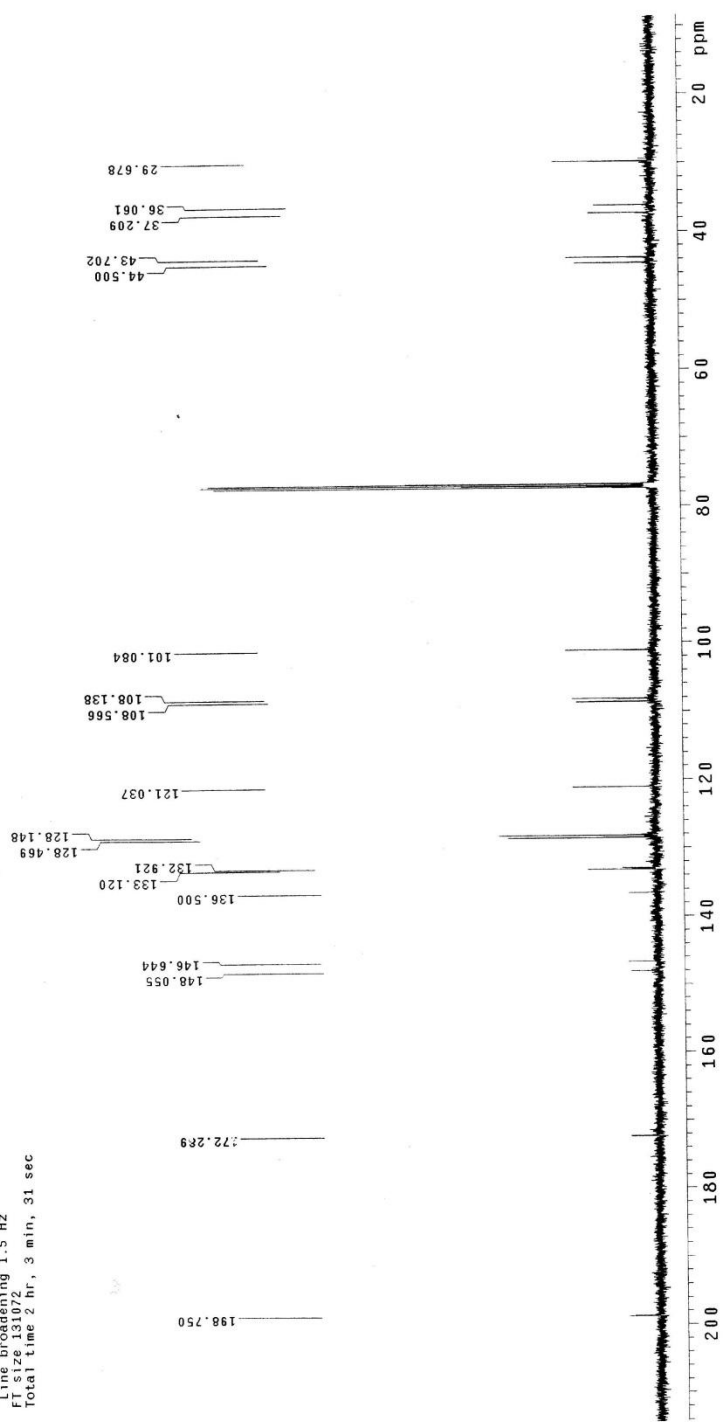


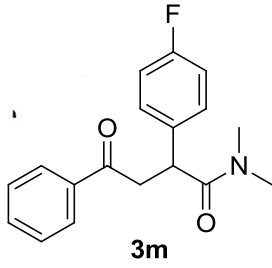


STANDARD CARBON PARAMETERS  
 Archive directory: /export/home/ouyy/vnmr/sys/data  
 Sample directory:

Pulse Sequence: s2pu1  
 Solvent: cdcl3  
 Ambient temperature  
 User: j-14-87  
 MAG: 4017  
 INOVA-500 "NMRUS00"  
 Relax. delay: 0.500 sec  
 Pulse: 45.0 degrees  
 Acq. time: 1.300 :30  
 Width: 31421.8 Hz  
 132 repetitions  
 132.286 MHz  
 DECOUPLE CH1: 433.8050805 MHz  
 Power: 42 dB  
 continuously on  
 WALTZ-16 modulated  
 DATA PROCESSING  
 Line broadening: 1.5 Hz  
 FT: 2.00000000  
 Total time: 2 hr, 3 min, 31 sec

77.256  
 77.000  
 76.744





STANDARD PROTON PARAMETERS

Archive directory: /export/home/ouyy/vnmrsws/data

Sample directory:

Pulse Sequence: s2pul1

Solvent: CDCl3

Ambient temperature

File: d2910

INOVA-500 "HENU500"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.882 sec

Frequency 500.136 MHz

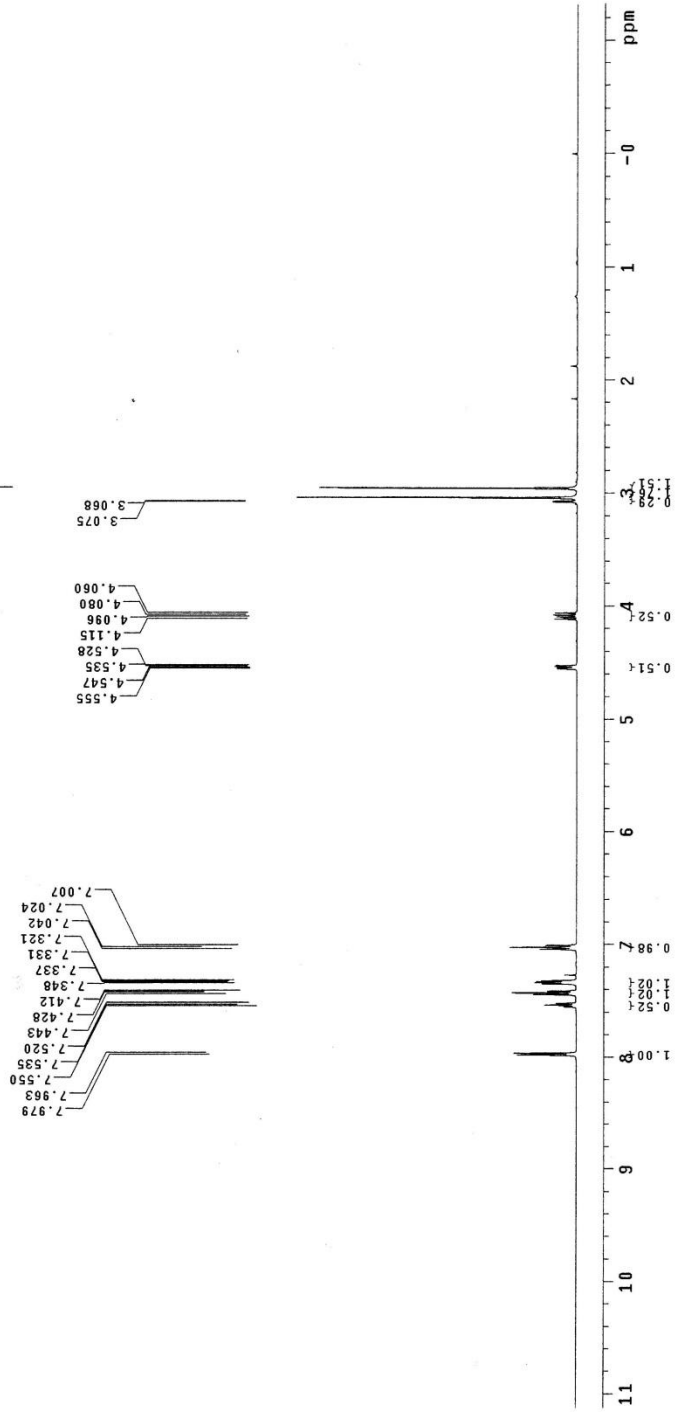
4 repetitions

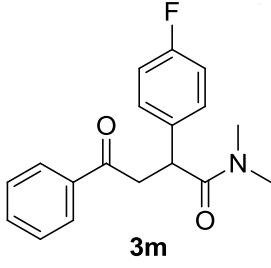
OBSERVE H1 499.8025856 MHZ

DATA PROCESSING

FT size 65536

Total time 0 min, 11 sec





**STANDARD CARBON PARAMETERS**

Archive directory: /export/home/ouyy/vnmr/ys/data

Sample directory:

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

User: 1-14-87

File: d2811

INOVA-500 "MNU500"

Relax. delay 0.500 sec

Acq. time 1.800 sec

Width 3141.8 Hz

128 repetitions

OBSERVE C13, 125.6754699 MHz

DECOUPLE H1, 499.8050905 MHz

Controlling by

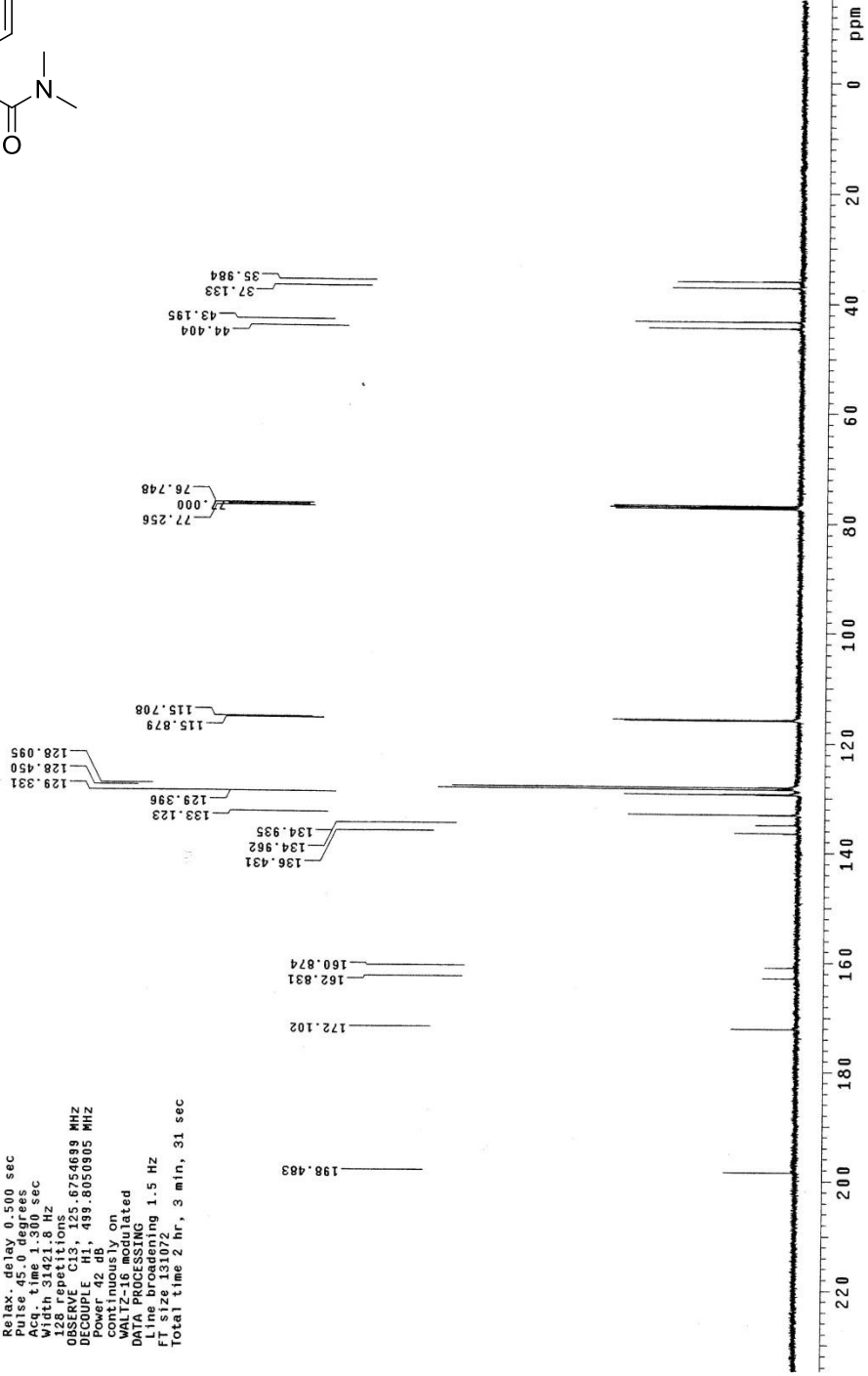
WALTZ-16 modulated

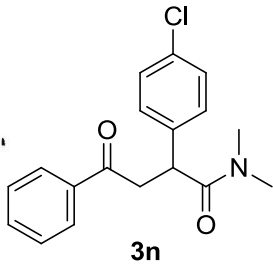
DATA PROCESSING

Line broadening 1.5 Hz

FT size 131072

Total time 2 hr, 3 min, 31 sec





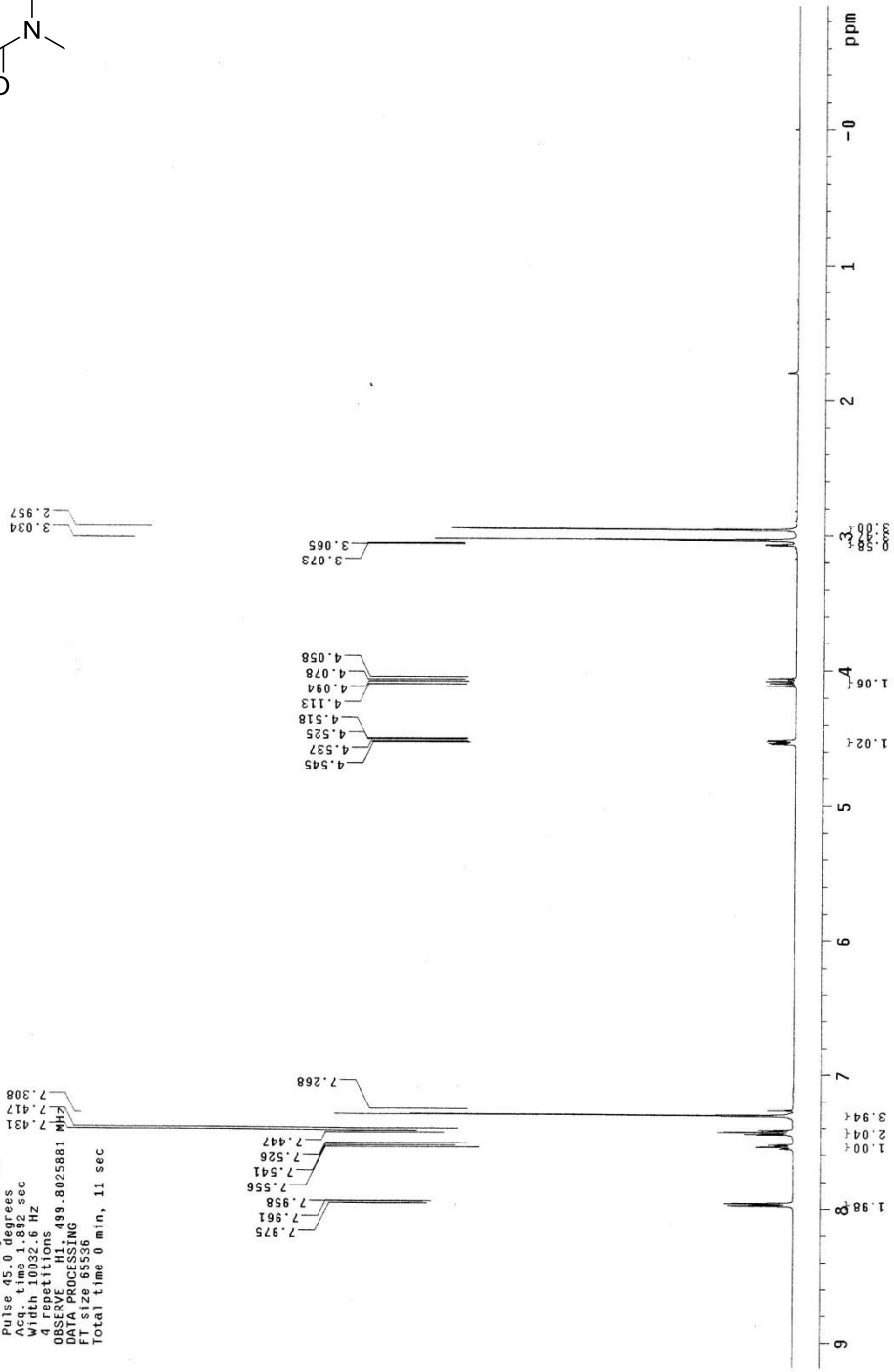
STANDARD PROTON PARAMETERS

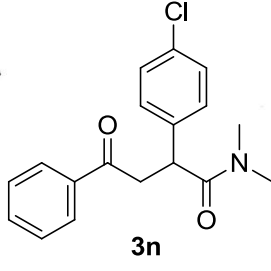
Archive directory: /export/home/ouvy/vnmr/sys/data

Sample directory:

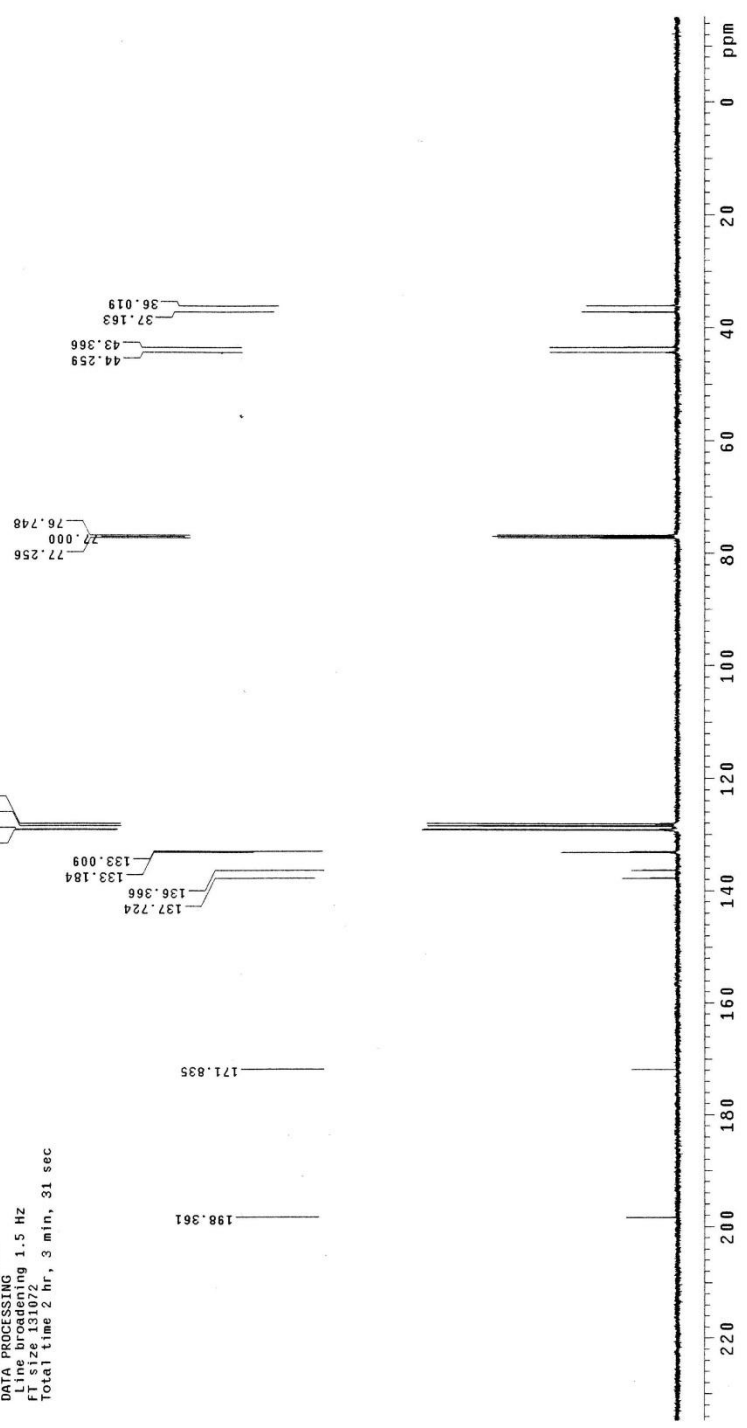
Pulse Sequence: s2pul  
 Solvent: CDCl3  
 Ambient temperature  
 Frequency: 500.135  
 INOVA-500 "HENU500"

Relax. delay 1.000 sec  
 Pulse: 45.0 degrees  
 Acq. time 1.882 sec  
 Width 10032.6 Hz  
 OBSERVATIONS 499.8025881 MHz  
 DATA PROCESSING  
 FT size 65536  
 Total time 0 min, 11 sec

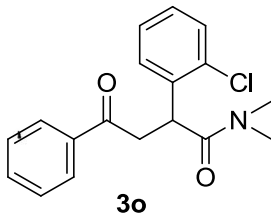




STANDARD CARBON PARAMETERS  
 Archive directory: /export/home/ouyy/vnmrSYS/data  
 Sample directory:  
 Pulse Sequence: s2pu1  
 Solvent: cdcl3  
 Ambient temperature  
 User: 1-14-87  
 File: 825114  
 INOVA-500 "NMRUS00"  
 Relax. delay 0.500 sec  
 Pulse 45.0 degrees  
 Acq. time 1.300 sec  
 Width 31421.8 Hz  
 128 repetitions  
 OBSERVE C13, 125.8754684 MHz  
 DECOUPLE H1, 499.8050905 MHz  
 Power 42 dB, continuously on  
 WALTZ-16 modulated  
 DATA PROCESSING  
 Line broadening 1.5 Hz  
 File 83872  
 Total time 2 hr, 3 min, 31 sec







**STANDARD PROTON PARAMETERS**

Archive directory: /export/home/ouvy/vnmr/sy/data

Sample directory:

Pulse Sequence: s2pul

Solvent: CDCl3

Ambient temperature

INNOVA-500 "NENU500"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.882 sec

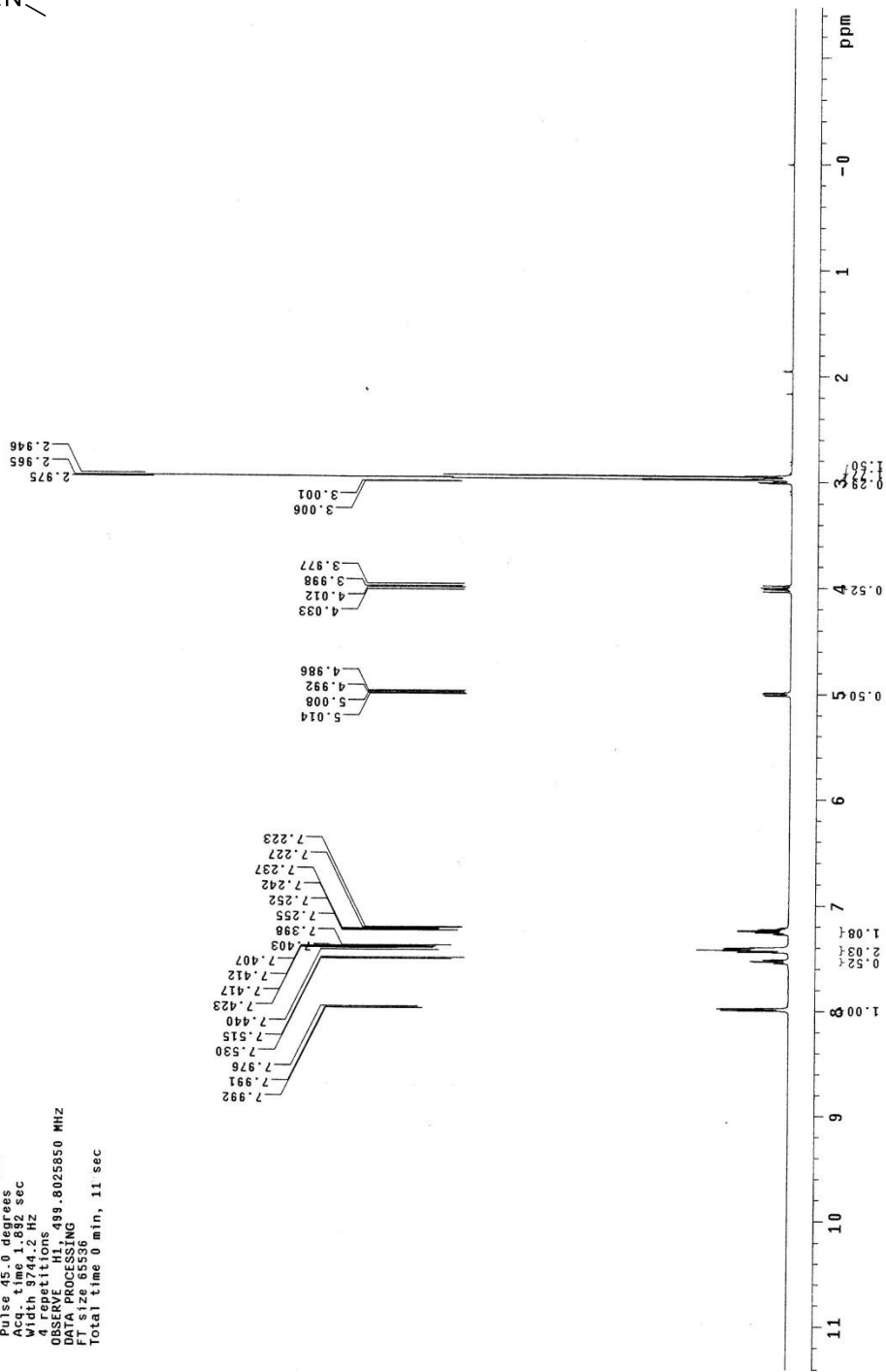
Width 9744.2 Hz

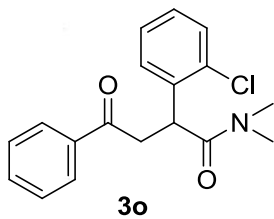
Observations 499.8025850 MHz

DATA PROCESSING

FT size 65536

Total time 0 min, 11 sec





STANDARD CARBON PARAMETERS

Archive directory: /export/home/ouyy/vnmr/ys/data

Sample directory:

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

User: 1-14-87

File: d2913

INDVA-500 "MNU500"

Relax. delay 0.500 sec

Pulse 45.0 degrees

Acq. time 1.80 sec

Width 31921.8 Hz

4086 repetitions

OBSERVE C13, 125.6754742 MHZ

DECOUPLE H1, 499.8050905 MHZ

Power 42.00 dB

Modulation on

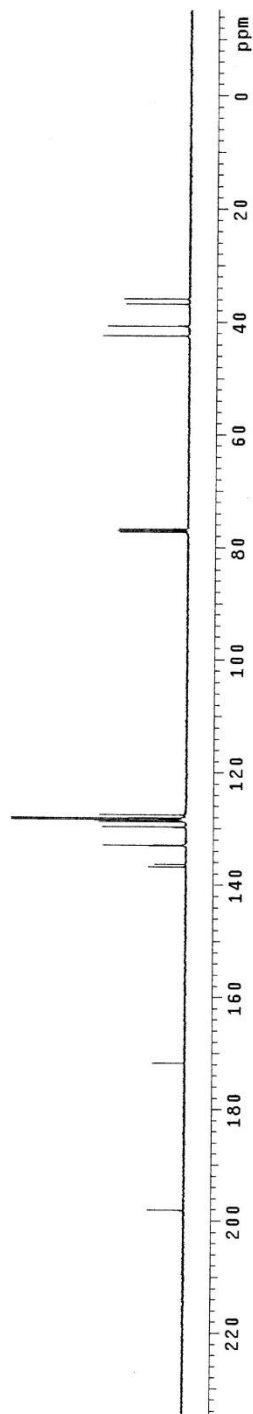
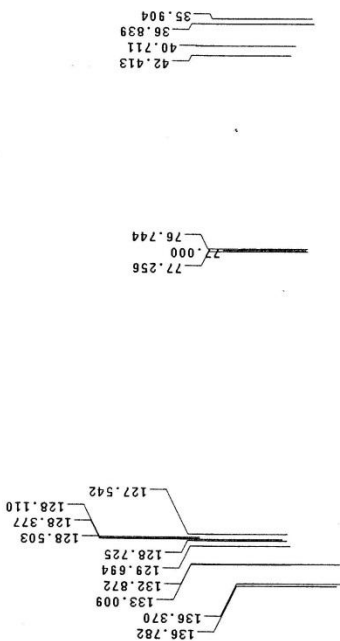
WALTZ-16 modulated

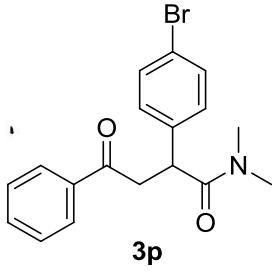
DATA PROCESSING

Line broadening 1.5 Hz

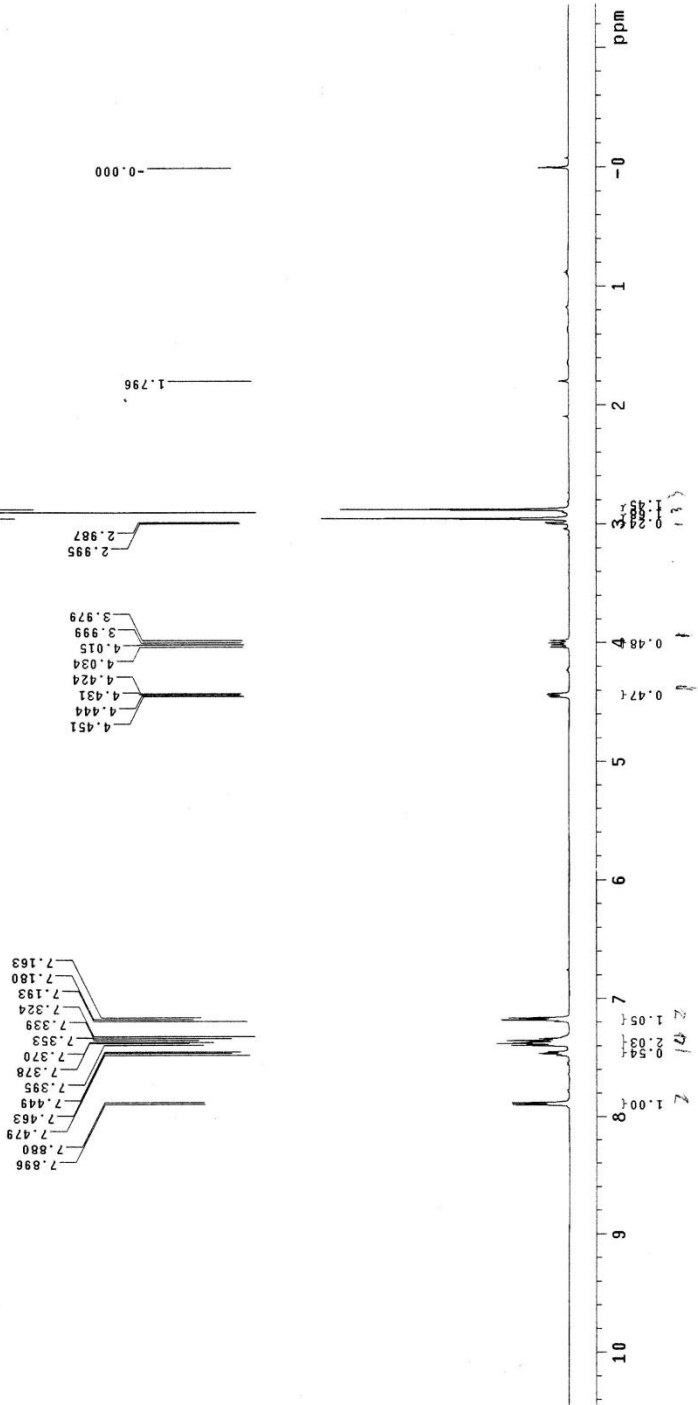
FT size 131072

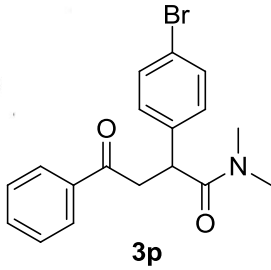
Total time 2 hr, 3 min, 31 sec





STANDARD PROTON PARAMETERS  
 Archive directory: /export/home/ouyy/vnmrSYS/data  
 Sample directory:  
 Pulse Sequence: s2pul  
 Solvent: CDCl3  
 Sample temperature  
 File: d2495  
 INOVA-500 "NENU500"  
 Relax. delay 1.000 sec  
 Pulse 45.0 degrees  
 Acq. time 1.862 sec  
 Width 9605.0 Hz  
 OBSERVE F1 499.8026269 MHZ  
 DATA PROCESSING  
 FT size 65536  
 Total time 0 min, 11 sec





**STANDARD CARBON PARAMETERS**

Archive directory: /export/home/ouyy/vnmrSYS/data  
 Sample directory:  
 Pulse Sequence: s2pul  
 Solvent: cdcl3  
 Ambient temperature  
 User: d2768  
 File: d2768  
 INOVA-500 "MNU500"  
 Relax. delay 0.500 sec  
 Pulse 45.0 degrees  
 Acq. time 1.300 sec  
 Width 31421.8 Hz  
 OBSERVE CHANNELS 5, 675.661 MHz  
 DECOUPLE H1, 499.8050905 MHz  
 Power 42 dB,  
 continuously on  
 WALTZ-16 modulated  
 DATA PROCESSING  
 F1 size 131072  
 Total time 2 hr, 3 min, 31 sec

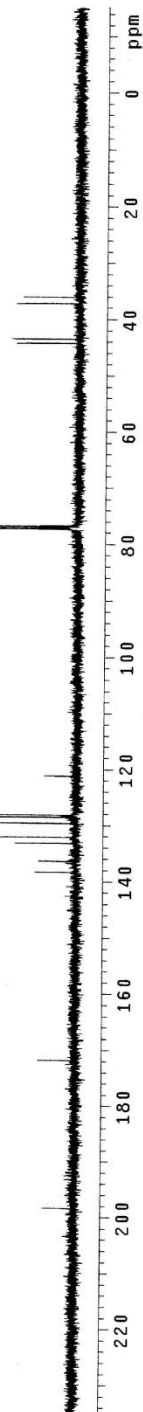
77.252  
77.000  
76.244

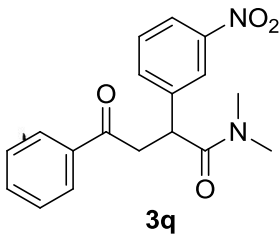
44.232  
43.466  
37.197  
36.057

138.281  
136.385  
133.215  
132.093  
129.598  
128.507  
128.137  
121.125

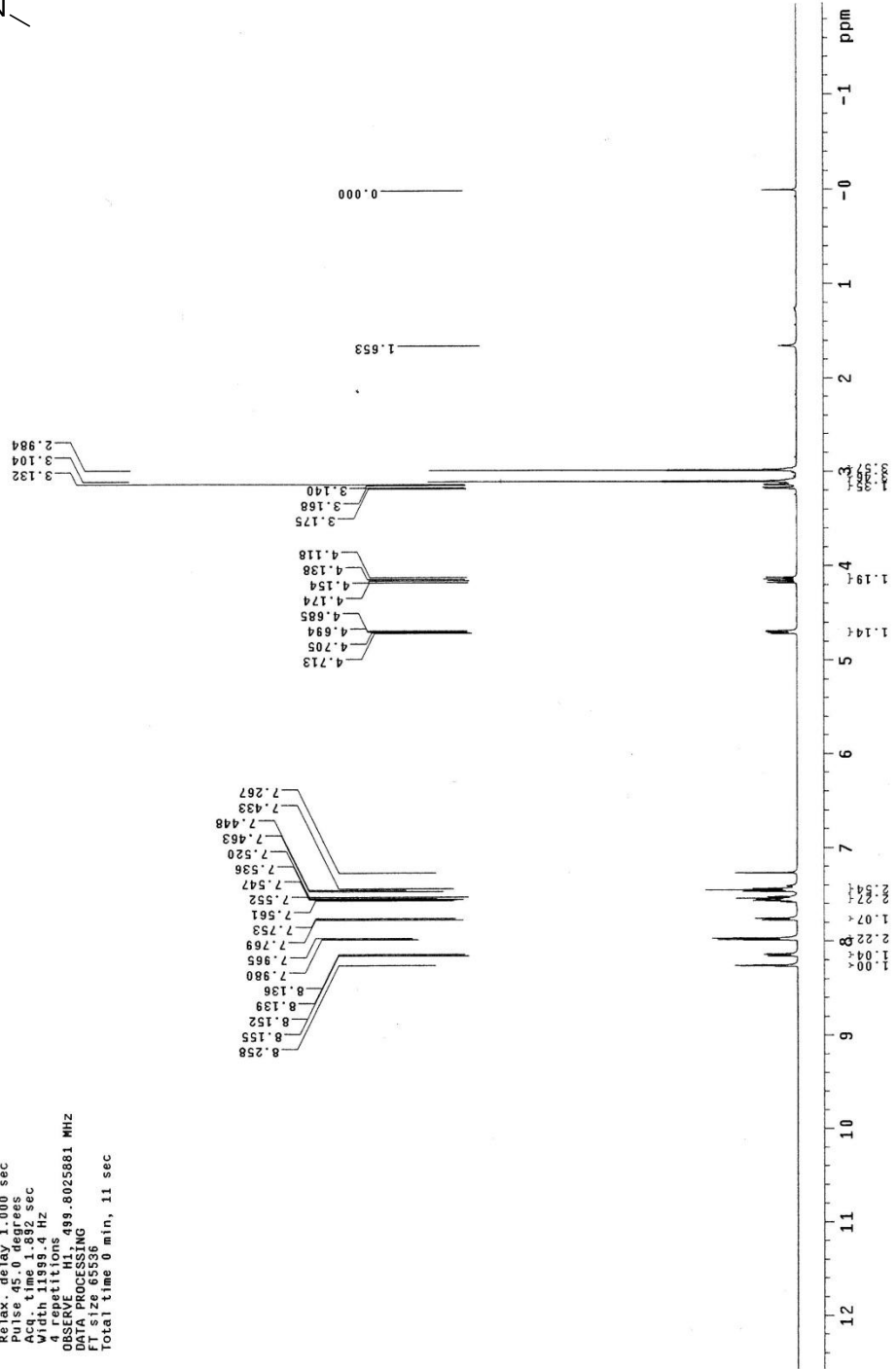
171.789

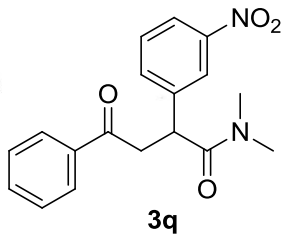
198.357





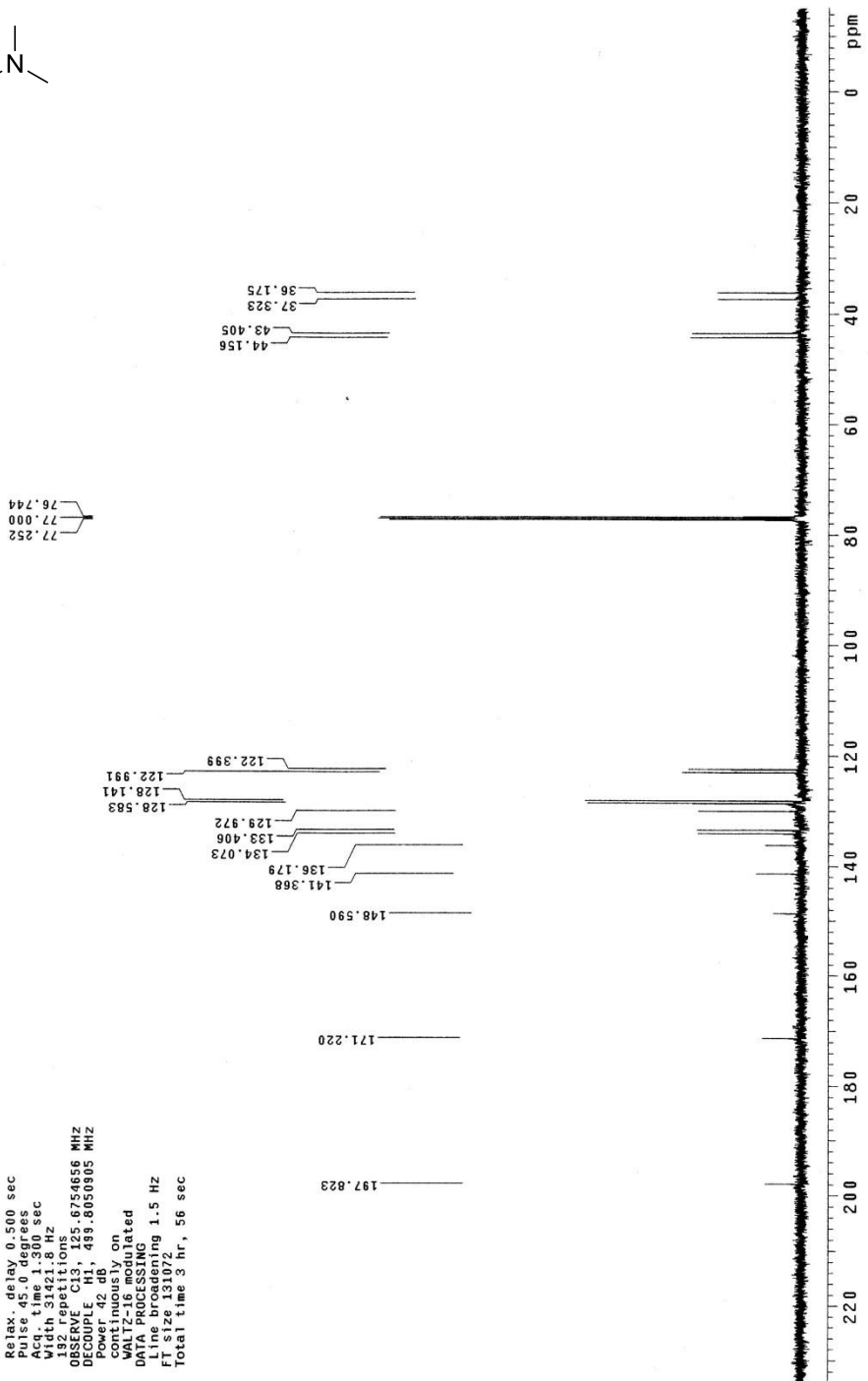
STANDARD PROTON PARAMETERS  
 Archive directory: /export/home/ouyy/vnmrSYS/data  
 Sample directory:  
 Pulse Sequence: s2pul  
 Solvent: CDCl3  
 Ambient temperature  
 File: d2832  
 INOVA-500 "MENV500"  
 Relax. delay 1.000 sec  
 Pulse width 0.0880 sec  
 Acquisition time 0.0880 sec  
 Width 11995.4 Hz  
 4 repetitions  
 OBSERVE H1, 499.8025861 MHz  
 DATA PROCESSING  
 File size 65536  
 Total time 0 min, 11 sec

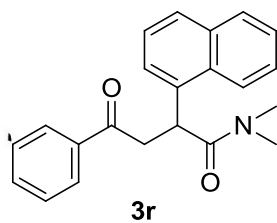




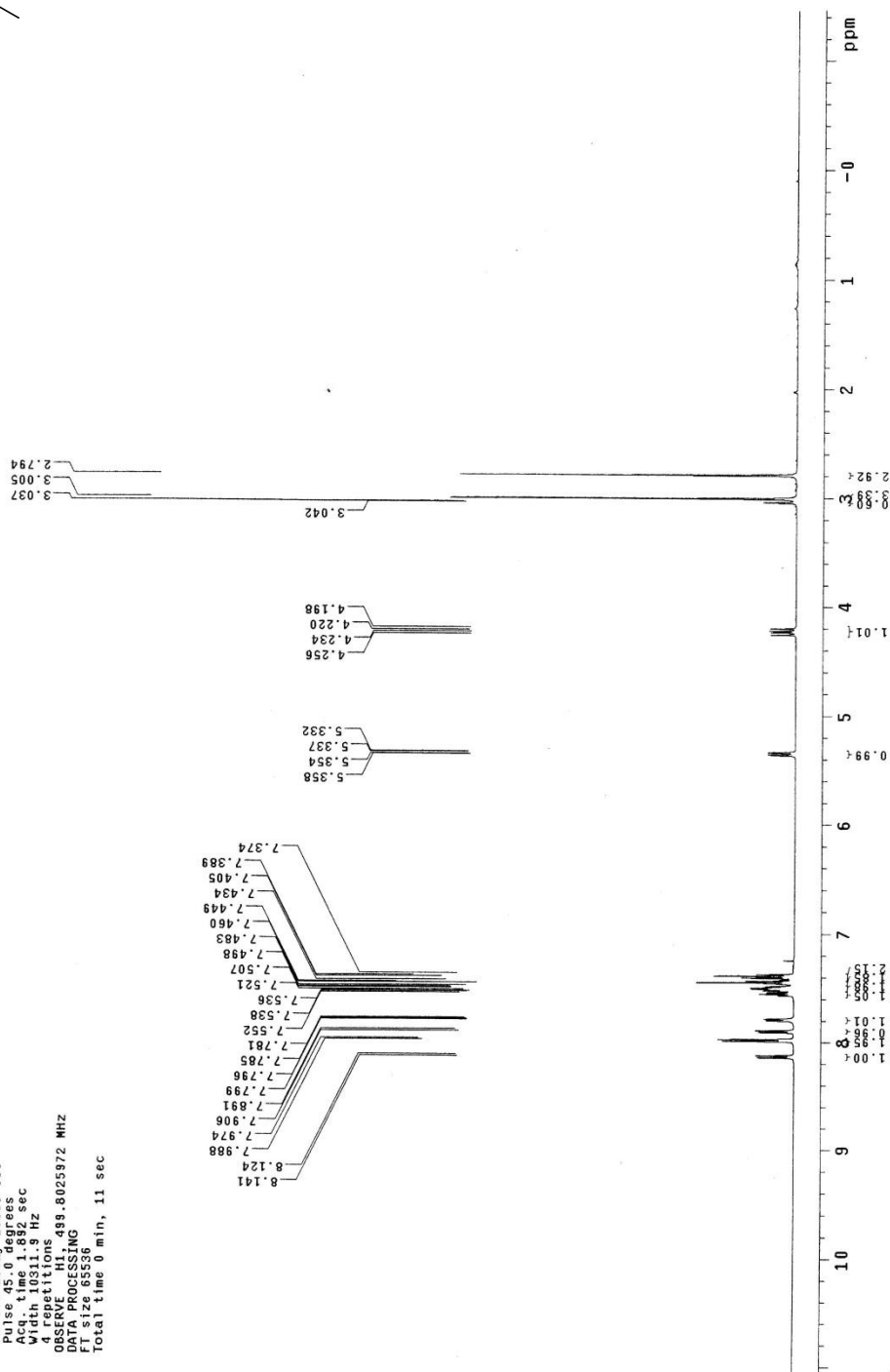
STANDARD CARBON PARAMETERS  
 Archive directory: /export/home/ouxy/vnmr5s/data  
 Sample directory:

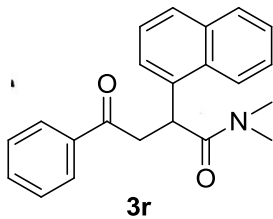
Pulse Sequence: s2pul  
 Solvent: cdcl3  
 Temperature: 300  
 User: 1-1487  
 File: d2833  
 INOVA-500 "MENU500"  
 Relax. delay 0.500 sec  
 Pulse 45.0 degrees  
 Acq. time 1.300 sec  
 132.524116 Hz  
 132.524116 Hz  
 OBSERVE C13, 125.6754656 MHz  
 DECOUPLE H1, 499.8050805 MHz  
 Power 42 dB  
 continuously on  
 continuously on  
 continuously on  
 DATA PROCESSING  
 Line broadening 1.5 Hz  
 FT size 131072  
 Total time 3 hr, 56 sec



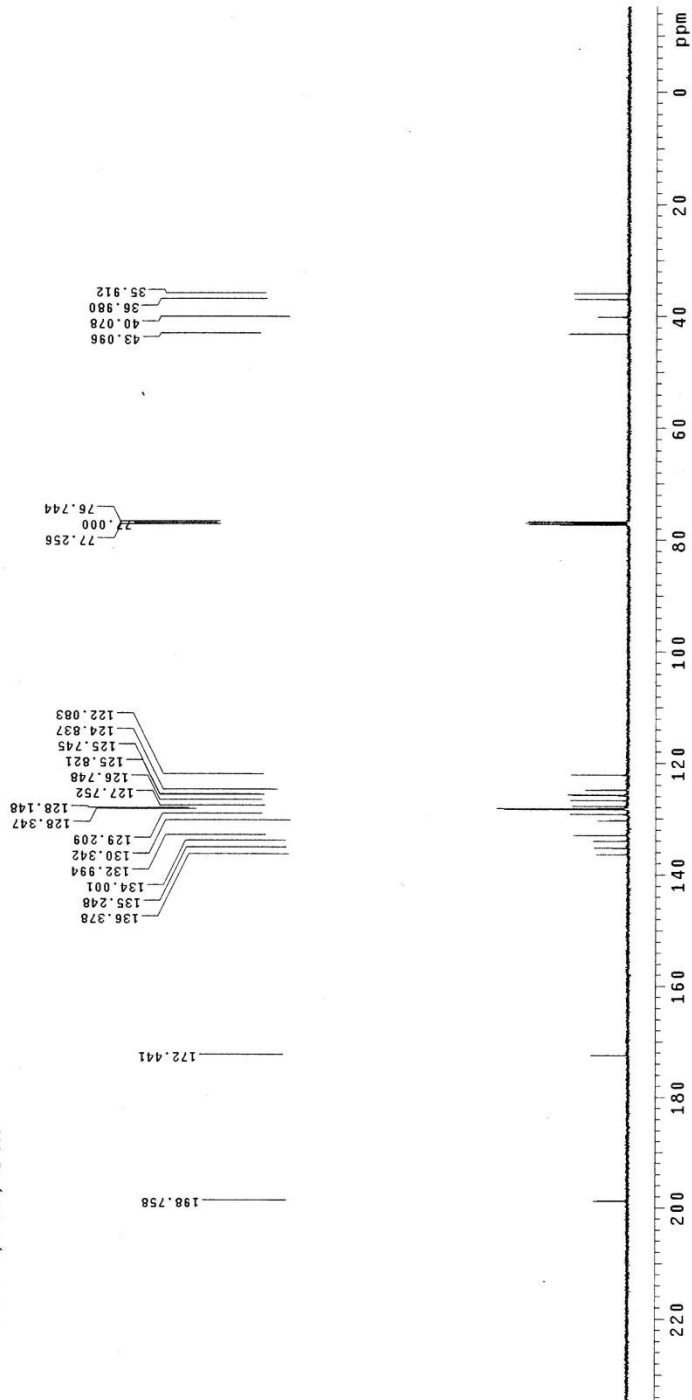


STANDARD PROTON PARAMETERS  
 Archive directory: /export/home/ouvy/vnmr/sys/data  
 Sample directory:  
 Pulse Sequence: s2pul  
 Solvent: CDCl3  
 Ambient temperature  
 File: d2778  
 INOVA-500 "MENU500"  
 Relax. delay 1.000 sec  
 Pulse 45.0 degrees  
 Acq. time 1.882 sec  
 F1 ch 10311.9 Hz  
 4  
 OBSERVE H1 499.8025972 MHZ  
 DATA PROCESSING  
 FT size 65536  
 Total time 0 min, 11 sec

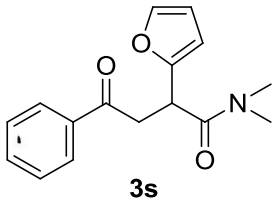




STANDARD CARBON PARAMETERS  
 Archive directory: /export/home/ouyy/vnmrSYS/data  
 Sample directory:  
 Pulse Sequence: s2pul  
 Solvent: cdc13  
 Ambient temperature  
 User: 07-14-87  
 File: 07179  
 INOVA-500 "NENU500"  
 Relax delay 0.500 sec  
 Pulse 45.0 degrees  
 Acq. time 1.300 sec  
 Width 31421.8 Hz  
 64 repetitions  
 OBSERVE C13, 125.6754810 MHz  
 DECOUPLE H1, 499.8050905 MHz  
 Power 42 dB,  
 continuously on  
 WALTZ-16 modulated  
 DATA PROCESSING  
 Line broadening 1.5 Hz  
 Frequency 127.752 MHz  
 Total time 2 hr, 3 min, 31 sec







STANDARD PROTON PARAMETERS

Archive directory: /export/home/ouvy/vnmrSYS/data

Sample directory:

Pulse Sequence: s2pul

Solvent: CDCl3

Ambient temperature

File: d2786

INOVA-500 "NENU500"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.882 sec

Frequency 101.3 MHz

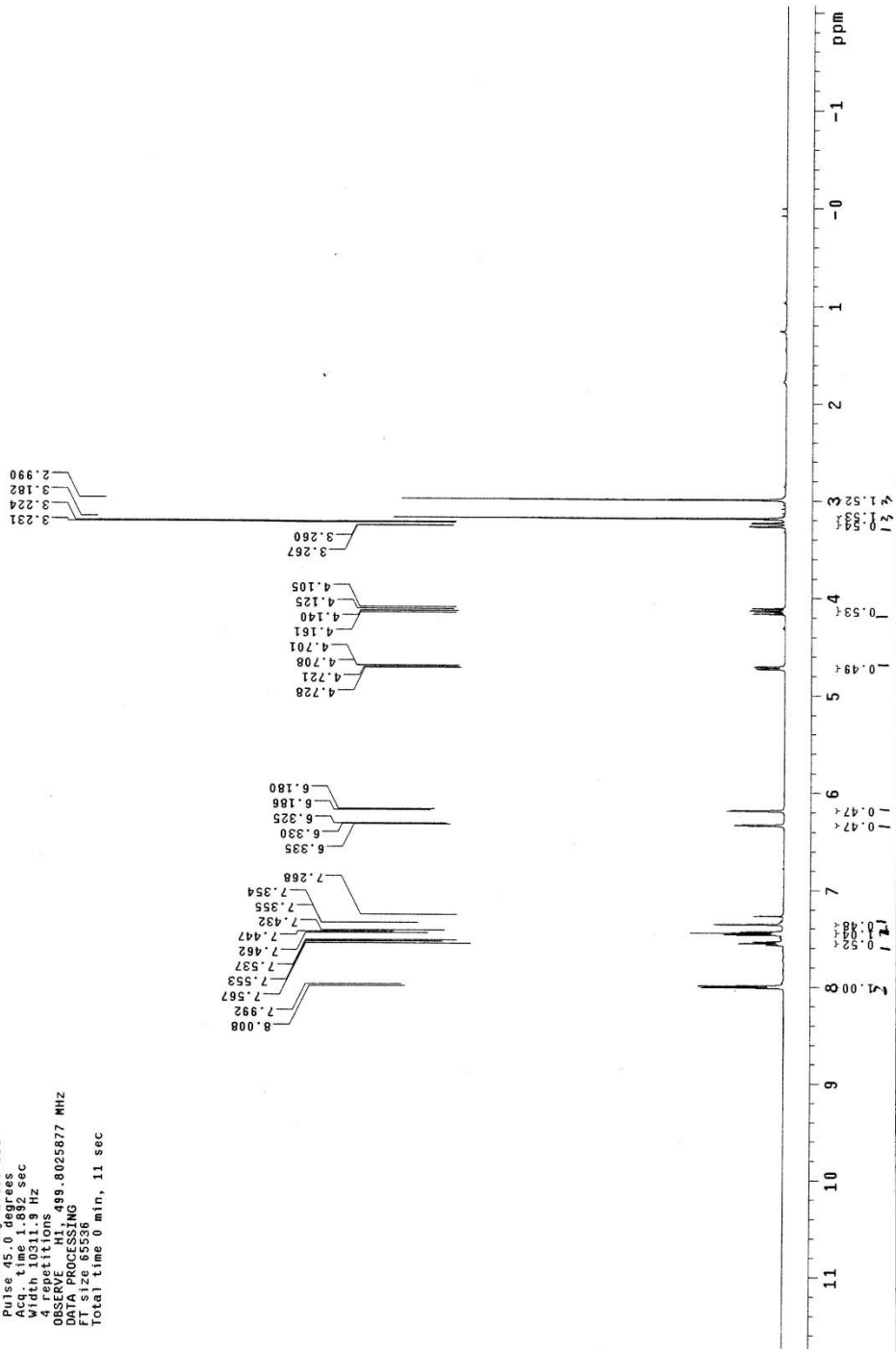
4

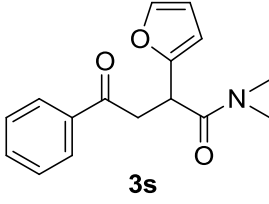
OBSERVE H1 499.8025877 MHZ

DATA PROCESSING

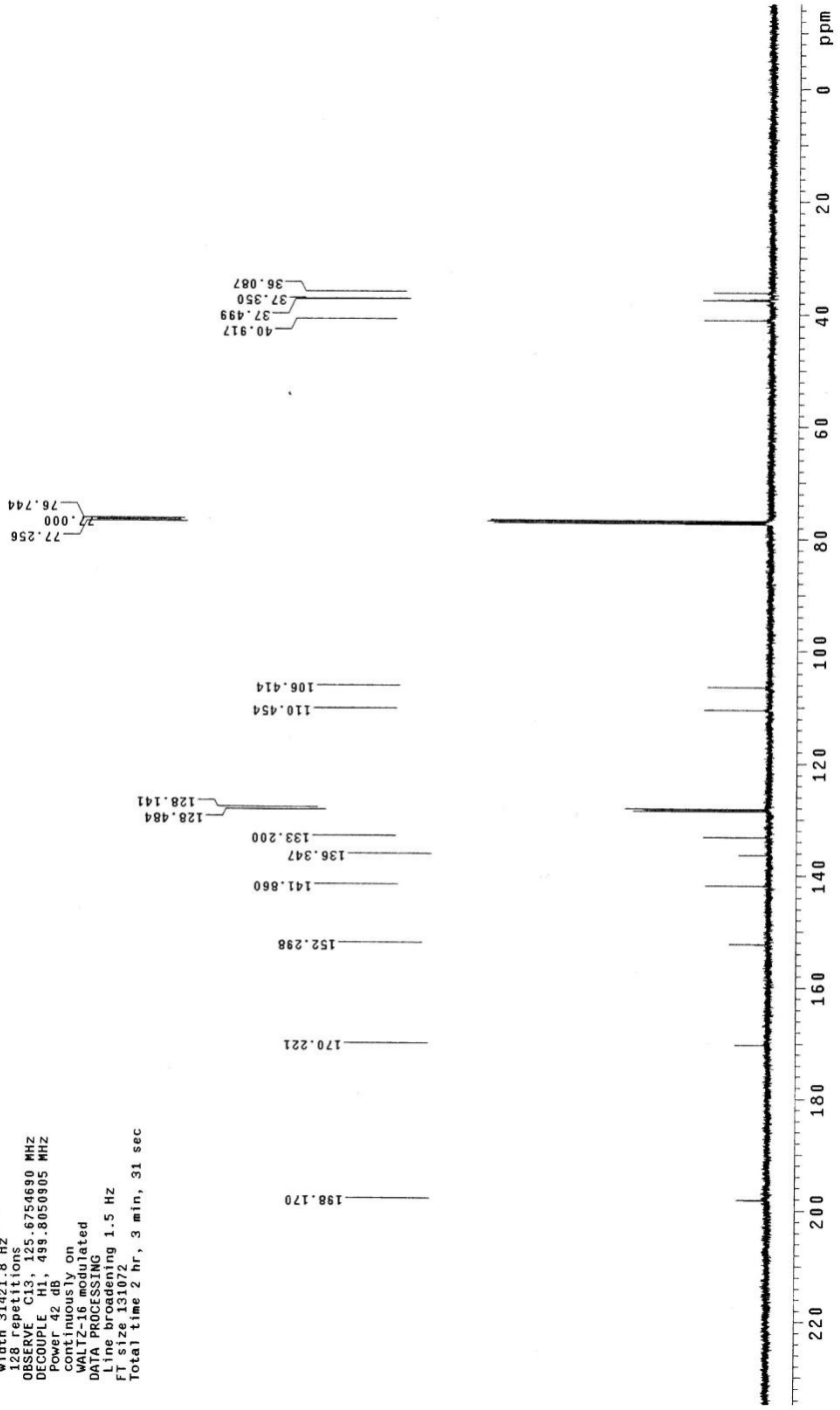
FT size 65536

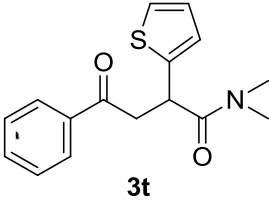
Total time 0 min, 11 sec



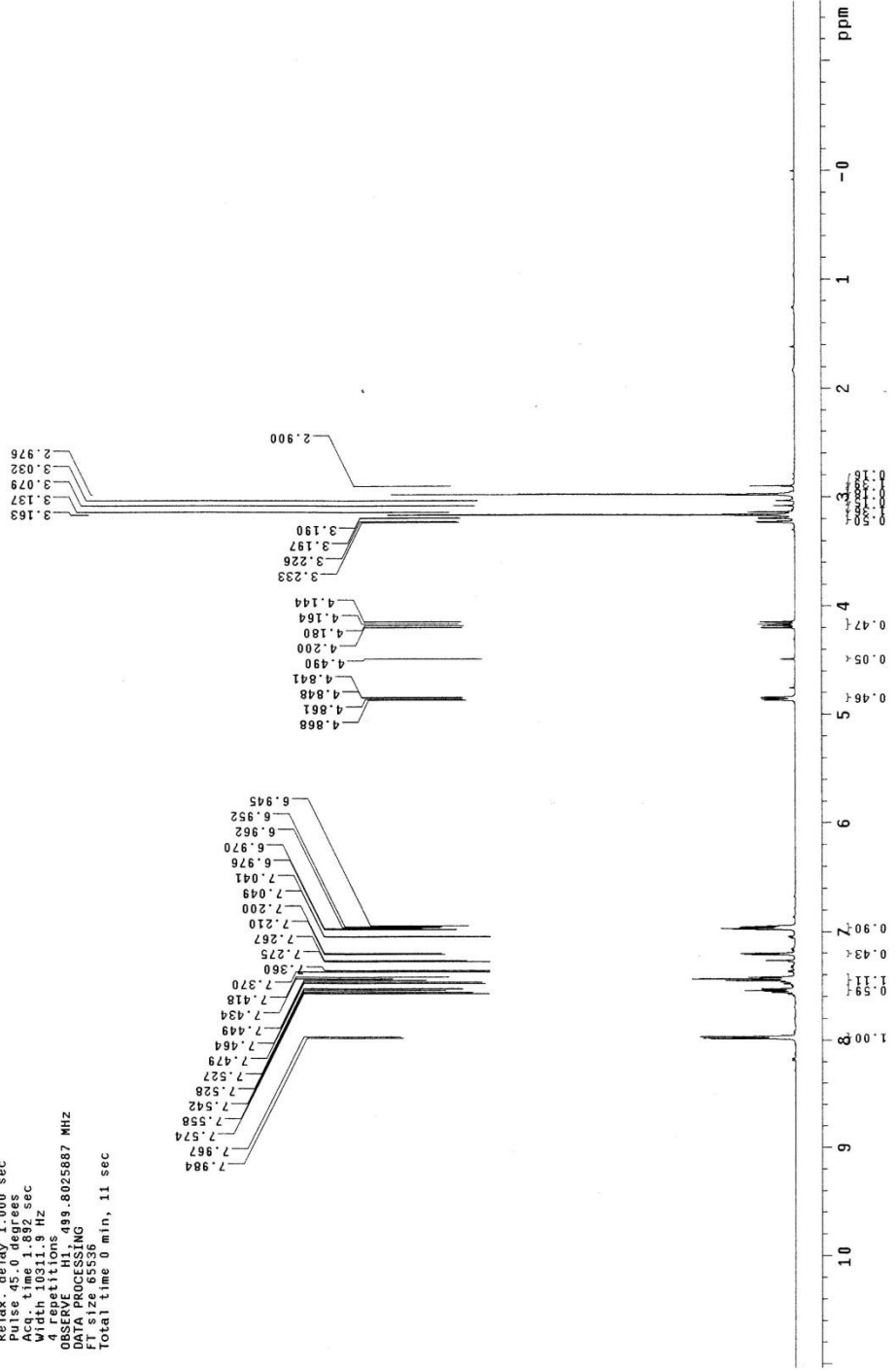


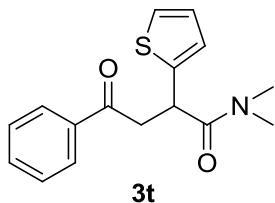
STANDARD CARBON PARAMETERS  
 Archive directory: /export/home/ouyy/vnmrSYS/data  
 Sample directory:  
 Pulse Sequence: 52pul  
 Solvent: cdCl3  
 Temperature  
 User: 1-14-87  
 File: d2781  
 INOVA-500 "MENU500"  
 Relax. delay 0.500 sec  
 Pulse 45.0 degrees  
 Acq. time 1.300 sec  
 128 Repetitions  
 OBSERVE C13, 125.6754690 MHZ  
 DECOUPLE H1, 499.8050805 MHZ  
 Power 42 db  
 Continuously on  
 Continuously gated  
 DATA PROCESSING  
 Line broadening 1.5 HZ  
 FT size 131072  
 Total time 2 hr, 3 min, 31 sec





STANDARD PROTON PARAMETERS  
 Archive directory: /export/home/ouyy/vnmrSYS/data  
 Sample directory:  
 Pulse Sequence: s2pul  
 Solvent: CDCl3  
 Sample temperature  
 File: d276  
 INOVA-500 "HENU500"  
 Relax. delay 1.000 sec  
 Pulse 45.0 degrees  
 Acq. time 1.882 sec  
 Width 10311.9 Hz  
 Observed F1  
 OBSERVE F1: 499.8025887 MHz  
 DATA PROCESSING  
 FT size 65536  
 Total time 0 min, 11 sec





STANDARD CARBON PARAMETERS  
 Archive directory: /export/home/ouyy/vnmrsys/data  
 Sample directory:

Pulse Sequence: s2pul  
 Solvent: cdcl3  
 Ambient temperature  
 User: j-19-87  
 File: d78  
 INOVA-500 "NMRUS00"  
 Relax. delay 0.500 sec  
 Pulse 45.0 degrees  
 Acq. time 1.300 sec  
 Width 31421.8 Hz  
 4096 repetitions  
 DECOUPLE H3 455.8754714 MHZ  
 DECOUPLE H1 455.8650905 MHZ  
 Power 42 dB  
 continuously on  
 WALTZ-16 modulated  
 DATA PROCESSING  
 Line processing 1.5 Hz  
 File processing 1.5 Hz  
 Total time 2 hr, 3 min, 31 sec

