

## Supporting Information

### **Indium-Catalyzed C(sp<sup>3</sup>)-H Functionalization of 2-Methylazaarenes through Direct Benzylic Addition to Trifluoromethyl Ketones**

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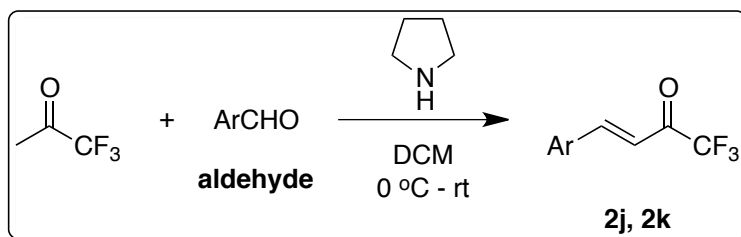
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## 1. General Considerations

All commercially available chemicals were used directly upon purchase from suppliers. Anhydrous solvents were used for all non-aqueous reactions and deionized water was used for aqueous reactions. Analytical thin layer chromatography (TLC) was performed using Merck 60 F254 precoated silica gel plate (0.2 mm thickness). Subsequent to elution, plates were visualized using UV radiation (254 nm) on Spectroline Model ENF-24061/F 254 nm. Flash chromatography was performed using Merck silica gel 60 with AR grade solvents. Columns were packed as a silica gel suspension in hexane prior to elution by the appropriate solvent system (hexane:ethyl acetate). Nuclear magnetic resonance (NMR) spectra were recorded on a Bruker Avance DPX 400 spectrophotometer (chloroform-*d*, methanol-*d* or acetone-*d*<sub>6</sub> as solvent). Chemical shifts for <sup>1</sup>H NMR and <sup>13</sup>C NMR spectra are reported as δ in units of parts per million (ppm) downfield from SiMe<sub>4</sub> and relative to the residual signals of the appropriate solvents. Multiplicities are reported based on apparent multiplicities and given as: s (singlet); d (doublet); t (triplet); q (quartet); dd (doublets of doublet); ddd (doublets of doublets of doublet); dddd (doublets of doublets of doublets of doublet); dt (doublets of triplet); brs (broad); or m (multiplets). Coupling constants (*J* values) are reported in unit of Hertz (Hz). Numbers of protons are reported based on the appropriate integration of the signals. Mass spectroscopy was performed using Agilent 1100 series LC/MSD.

## 2. Experimental Procedures for Synthesis of **2j** and **2k**

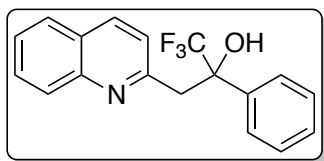


**2j** and **2k** were synthesized according to modified literature procedure:<sup>1</sup> To a 25-mL RBF equipped with a magnetic stir bar and tightly sealed with a rubber septum, 1,1,1-trifluoropropan-2-one (40 mmol, 4.0 equiv.) in DCM (10 mL) was cooled to 0 °C. With continuous stirring, pyrrolidine (10 mmol, 1.0 equiv.) was then added dropwise followed by the appropriate aldehydes (10 mmol, 1.0 equiv.) After 2 h of stirring at 0 °C, the reaction mixture was then allowed to warm up to room temperature at which stirring was continued for another 24 h. The reaction was then quenched with saturated NH<sub>4</sub>Cl solution. The organic layer was then separated, washed with water, dried over Na<sub>2</sub>SO<sub>4</sub> and concentrated under reduced pressure. The residual was then purified by flash chromatography (hexane:ethyl acetate = 100:0, 98:2). The analytically pure enone products as **2j** and **2k** were then obtained after further purification by recrystallization from hexane at 0 °C. **2j** and **2k** are known compounds whose identities were determined by comparisons of the respective <sup>1</sup>H NMR spectra with reported literature.<sup>1-3</sup>

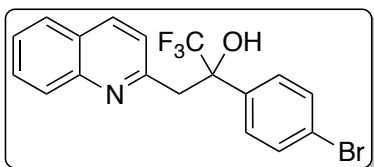
### 3. General Experimental Procedure for In-catalyzed Benzylic C-H Addition

To an 8-mL reaction vial equipped with a magnetic stir bar,  $\text{InCl}_3$  (5.5 mg, 5.0 mol%), 2-methylazaarenes (0.75 mmol, 1.5 equiv.), TFMK (0.5 mmol, 1.0 equiv.) and  $t\text{BuOH}$  (0.5 mL) were sequentially added. The vial was then capped and placed into a pre-heated oil bath at 60 °C with vigorous stirring. After 24 h, the reaction mixture was then allowed to cool to room temperature and passed through a short pad of celite with dichloromethane washing. The crude reaction mixture was then dried over  $\text{Na}_2\text{SO}_4$  and concentrated under reduced pressure. Purification by silica gel chromatography (hexane:ethyl acetate = 100:0, 95:5) then gave the intended addition product.

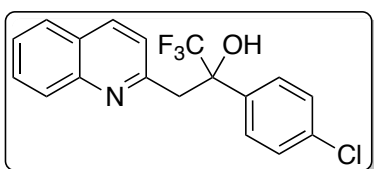
### 4. Characterization Data for Benzylic C-H Addition Products



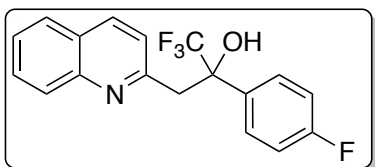
1,1,1-trifluoro-2-phenyl-3-(quinolin-2-yl)propan-2-ol (**3aa**).<sup>4</sup> White solid (99 %, 158.5 mg);  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ):  $\delta$  3.67 (d,  $J = 15.2$  Hz, 1H), 3.78 (d,  $J = 15.2$  Hz, 1H), 7.20 – 7.24 (m, 2H), 7.27 – 7.30 (m, 2H), 7.46 – 7.50 (m, 1H), 7.65 – 7.73 (m, 4H), 7.95 (d,  $J = 8.4$  Hz, 1H), 8.04 (d,  $J = 8.4$  Hz, 1H), 8.50 (s, 1H);  $^{13}\text{C}$  NMR (100 MHz,  $\text{CD}_3\text{OD}$ ):  $\delta$  42.3, 78.7 (q,  $J = 30.0$  Hz), 122.8 (overlapping q signal), 124.2, 125.6 (overlapping q signal), 127.8, 128.2, 128.4, 129.0, 129.1, 129.2, 129.4, 131.2, 138.3, 139.2, 147.8, 159.1; HRMS (ESI) Calcd for  $\text{C}_{18}\text{H}_{15}\text{F}_3\text{NO}$   $[\text{M}+\text{H}]$ : 318.1105 found: 318.1107.



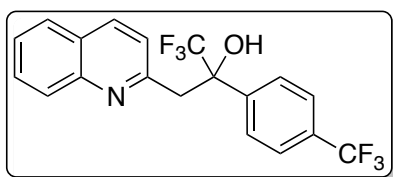
2-(4-bromophenyl)-1,1,1-trifluoro-3-(quinolin-2-yl)propan-2-ol (**3ab**). Off-white solid (99%, 198.0 mg);  $^1\text{H}$  NMR (400 MHz,  $(\text{CD}_3)_2\text{CO}$ ):  $\delta$  3.82 (d,  $J = 15.6$  Hz, 1H), 3.96 (d,  $J = 15.2$  Hz, 1H), 7.46 – 7.50 (m, 2H), 7.54 – 7.58 (m, 2H), 7.70 – 7.78 (m, 3H), 7.89 (d,  $J = 8.0$  Hz, 1H), 7.99 (d,  $J = 8.4$  Hz, 1H), 8.29 (d,  $J = 8.4$  Hz, 1H), 8.36 (s, 1H);  $^{13}\text{C}$  NMR (100 MHz,  $(\text{CD}_3)_2\text{CO}$ ):  $\delta$  40.2, 78.2 (q,  $J = 28.2$  Hz), 123.0, 123.9, 126.2 (q,  $J = 283.2$  Hz), 127.7, 128.0, 128.88, 128.93, 130.2, 131.2, 132.0, 138.7, 139.0, 147.1, 159.1; HRMS (ESI) Calcd for  $\text{C}_{18}\text{H}_{14}\text{BrF}_3\text{NO}$  [ $\text{M}+\text{H}$ ]: 396.0211 found: 396.0208.



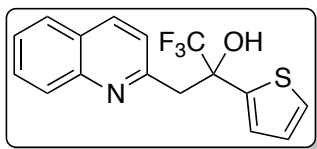
2-(4-chlorophenyl)-1,1,1-trifluoro-3-(quinolin-2-yl)propan-2-ol (**3ac**). White solid (99%, 179.4 mg);  $^1\text{H}$  NMR (400 MHz,  $(\text{CD}_3)_2\text{CO}$ ):  $\delta$  3.82 (d,  $J = 15.2$  Hz, 1H), 3.96 (d,  $J = 15.2$  Hz, 1H), 7.33 (d,  $J = 8.8$  Hz, 2H), 7.53 – 7.57 (m, 2H), 7.73 – 7.79 (m, 3H), 7.88 (d,  $J = 8.0$  Hz, 1H), 7.98 (d,  $J = 8.4$  Hz, 1H), 8.28 (d,  $J = 8.4$  Hz, 1H), 8.37 (s, 1H);  $^{13}\text{C}$  NMR (100 MHz,  $(\text{CD}_3)_2\text{CO}$ ):  $\delta$  40.3, 78.1 (q,  $J = 28.1$  Hz), 122.0 (overlapping q signal), 123.9, 124.8 (overlapping q signal), 127.7, 128.0, 128.87, 128.92, 129.0, 129.9, 130.5 (overlapping q signal), 131.2, 134.8, 138.5, 138.7, 147.1, 159.1; HRMS (ESI) Calcd for  $\text{C}_{18}\text{H}_{14}\text{ClF}_3\text{NO}$  [ $\text{M}+\text{H}$ ]: 352.0716 found: 352.0716.



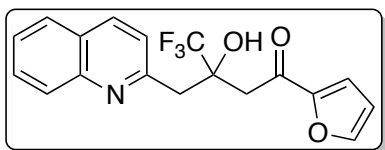
1,1,1-trifluoro-2-(4-fluorophenyl)-3-(quinolin-2-yl)propan-2-ol (**3ad**). White solid (98%, 164.1 mg);  $^1\text{H}$  NMR (400 MHz,  $(\text{CD}_3)_2\text{CO}$ ):  $\delta$  3.82 (d,  $J = 15.2$  Hz, 1H), 3.96 (d,  $J = 15.2$  Hz, 1H), 7.03 – 7.09 (m, 2H), 7.54 – 7.58 (m, 2H), 7.74 – 7.82 (m, 3H), 7.89 (d,  $J = 8.0$  Hz, 1H), 7.99 (d,  $J = 8.4$  Hz, 1H), 8.29 (d,  $J = 8.4$  Hz, 1H), 8.34 (s, 1H);  $^{13}\text{C}$  NMR (100 MHz,  $(\text{CD}_3)_2\text{CO}$ ):  $\delta$  40.4, 78.1 (q,  $J = 28.1$  Hz), 115.6 (d,  $J = 21.5$  Hz), 124.0, 126.4 (q,  $J = 283.1$  Hz), 127.6, 128.0, 128.9, 129.0, 130.2 (d,  $J = 8.3$  Hz), 131.2, 135.7 (d,  $J = 3.1$  Hz), 138.7, 147.2, 159.3, 163.5 (d,  $J = 244.0$  Hz); HRMS (ESI) Calcd for  $\text{C}_{18}\text{H}_{14}\text{F}_4\text{NO}$  [M+H]: 336.1011 found: 336.1013.



1,1,1-trifluoro-3-(quinolin-2-yl)-2-(4-(trifluoromethyl)phenyl)propan-2-ol (**3ae**). Off-white solid (98%, 188.9 mg);  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ):  $\delta$  3.67 (d,  $J = 15.2$  Hz, 1H), 3.82 (d,  $J = 15.6$  Hz, 1H), 7.24 (d,  $J = 8.4$  Hz, 1H), 7.51 – 7.70 (m, 3H), 7.71 – 7.74 (m, 1H), 7.77 (d,  $J = 8.0$  Hz, 1H), 7.83 (d,  $J = 8.0$  Hz, 2H), 7.96 (d,  $J = 8.4$  Hz, 1H), 8.10 (d,  $J = 8.4$  Hz, 1H), 8.73 (s, brs, 1H);  $^{13}\text{C}$  NMR (100 MHz,  $(\text{CD}_3)_2\text{CO}$ ):  $\delta$  40.2, 78.4 (q,  $J = 28.1$  Hz), 123.9, 125.2 (q,  $J = 269.7$  Hz), 125.9 (q,  $J = 3.7$  Hz), 126.2 (q,  $J = 283.3$  Hz), 127.7, 128.0, 128.9, 130.3 (overlapping q signal), 130.6 (overlapping q signal), 131.0 (overlapping q signal), 131.3, 138.8, 144.2, 147.1, 147.2, 158.9, 159.0; HRMS (ESI) Calcd for  $\text{C}_{19}\text{H}_{14}\text{F}_6\text{NO}$  [M+H]: 386.0979 found: 386.0981.

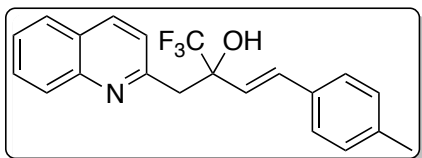


1,1,1-trifluoro-3-(quinolin-2-yl)-2-(thiophen-2-yl)propan-2-ol (**3ah**).<sup>4</sup> White solid (90%, 146.0 mg); <sup>1</sup>H NMR (400 MHz, (CD<sub>3</sub>)<sub>2</sub>CO): δ 3.78 (d, *J* = 15.2 Hz, 1H), 3.89 (d, *J* = 15.2 Hz, 1H), 6.92 (dd, *J*<sub>1</sub> = 4.8 Hz, *J*<sub>2</sub> = 4.0 Hz, 1H), 7.26 (d, *J* = 3.6 Hz, 1H), 7.31 (d, *J* = 4.8 Hz, 1H), 7.53 (d, *J* = 8.4 Hz, 1H), 7.58 (t, *J* = 7.6 Hz, 1H), 7.75 – 7.79 (m, 1H), 7.90 (d, *J* = 8.4 Hz, 1H), 8.02 (d, *J* = 8.4 Hz, 1H), 8.30 (d, *J* = 8.4 Hz, 1H), 8.84 (s, 1H); <sup>13</sup>C NMR (100 MHz, (CD<sub>3</sub>)<sub>2</sub>CO): δ 41.2, 77.8 (q, *J* = 29.5 Hz), 124.0, 125.8 (q, *J* = 282.7 Hz), 126.7, 127.2, 127.7, 127.9, 128.0, 128.90, 128.93, 131.3, 138.7, 144.4, 147.1, 159.2; HRMS (ESI) Calcd for C<sub>16</sub>H<sub>13</sub>F<sub>3</sub>NOS [M+H]: 324.0670, found: 324.0673.

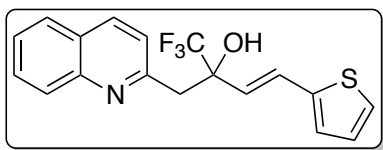


4,4,4-trifluoro-1-(furan-2-yl)-3-hydroxy-3-(quinolin-2-ylmethyl)butan-1-one (**3ai**). Yellow solid (36%, 63.1 mg, 65%, 113.6 mg); <sup>1</sup>H NMR (400 MHz, (CD<sub>3</sub>)<sub>2</sub>CO): δ 3.25 (d, *J* = 14.8 Hz, 1H), 3.39 (d, *J* = 15.2 Hz, 1H), 3.51 (d, *J* = 15.2 Hz, 1H), 3.76 (d, *J* = 15.2 Hz, 1H), 6.68 (dd, *J*<sub>1</sub> = 3.6 Hz, *J*<sub>2</sub> = 2.0 Hz, 1H), 7.39 (d, *J* = 3.6 Hz, 1H), 7.55 – 7.61 (m, 2H), 7.72 – 7.77 (m, 2H), 7.83 (d, *J* = 1.2 Hz, 1H), 7.90 (d, *J* = 8.4 Hz, 1H), 7.95 (d, *J* = 8.4 Hz, 1H), 8.35 (d, *J* = 8.4 Hz, 1H); <sup>13</sup>C NMR (100 MHz, (CD<sub>3</sub>)<sub>2</sub>CO): δ 39.7, 41.5, 76.9 (q, *J* = 27.6 Hz), 113.5, 119.8, 124.2, 127.1 (q, *J* = 284.8 Hz), 127.5, 128.0, 128.8, 129.2, 130.9, 138.3, 147.4, 148.6, 154.1, 159.4, 186.0; HRMS (ESI) Calcd for C<sub>18</sub>H<sub>15</sub>F<sub>3</sub>NO<sub>3</sub> [M+H]: 350.1004 found: 350.1005.

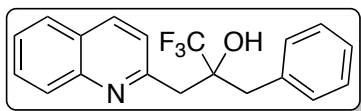




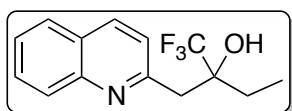
(*E*)-1,1,1-trifluoro-2-(quinolin-2-ylmethyl)-4-(*p*-tolyl)but-3-en-2-ol (**3aj**). Off-white solid (85%, 151.2 mg);  $^1\text{H}$  NMR (400 MHz,  $(\text{CD}_3)_2\text{CO}$ ):  $\delta$  2.25 (s, 3H), 3.50 – 3.59 (m, 2H), 6.39 (d,  $J = 16.0$  Hz, 1H), 6.84 (d,  $J = 16.0$  Hz, 1H), 7.07 (d,  $J = 8.0$  Hz, 2H), 7.24 (d,  $J = 8.0$  Hz, 2H), 7.56 – 7.60 (m, 3H), 7.76 – 7.80 (m, 1H), 7.92 (d,  $J = 8.4$  Hz, 1H), 8.05 (d,  $J = 8.4$  Hz, 1H), 8.32 (d,  $J = 8.4$  Hz, 1H);  $^{13}\text{C}$  NMR (100 MHz,  $(\text{CD}_3)_2\text{CO}$ ):  $\delta$  21.2, 41.1, 77.3 (q,  $J = 27.9$  Hz), 122.4 (overlapping q signal), 124.0, 125.2 (overlapping q signal), 126.0, 127.5, 127.6, 128.1, 128.9, 129.2, 130.1, 130.9 (overlapping q signal), 131.1, 134.0, 134.3, 138.4, 138.7, 147.5, 159.1; HRMS (ESI) Calcd for  $\text{C}_{21}\text{H}_{19}\text{F}_3\text{NO}$   $[\text{M}+\text{H}]$ : 358.1418 found: 358.1418.



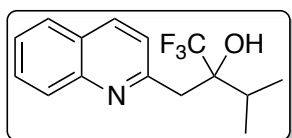
(*E*)-1,1,1-trifluoro-2-(quinolin-2-ylmethyl)-4-(thiophen-2-yl)but-3-en-2-ol (**3ak**). Off-white solid (85%, 148.8 mg);  $^1\text{H}$  NMR (400 MHz,  $(\text{CD}_3)_2\text{CO}$ ):  $\delta$  3.50 – 3.59 (m, 2H), 6.23 (d,  $J = 15.6$  Hz, 1H), 6.91 – 6.93 (m, 1H), 7.00 – 7.06 (m, 2H), 7.29 (d,  $J = 4.8$  Hz, 1H), 7.57 – 7.60 (m, 2H), 7.70 (s, brs, 1H), 7.76 – 7.80 (m, 1H), 7.80 – 7.94 (m, 1H), 8.05 (d,  $J = 8.4$  Hz, 1H), 8.33 (d,  $J = 8.4$  Hz, 1H);  $^{13}\text{C}$  NMR (100 MHz,  $(\text{CD}_3)_2\text{CO}$ ):  $\delta$  40.8, 77.1 (q,  $J = 28.1$  Hz), 123.9, 126.19, 126.22, 126.5 (q,  $J = 283.6$  Hz), 127.53, 127.55, 128.0, 128.1, 128.5, 128.9, 129.2, 131.1, 138.5, 141.8, 147.4, 158.9; HRMS (ESI) Calcd for  $\text{C}_{18}\text{H}_{17}\text{F}_3\text{NOS}$   $[\text{M}+\text{H}]$ : 350.0826 found: 350.0826.



2-benzyl-1,1,1-trifluoro-3-(quinolin-2-yl)propan-2-ol (**3al**).<sup>4</sup> Light yellow solid (73%, 120.4 mg); <sup>1</sup>H NMR (400 MHz, (CD<sub>3</sub>)<sub>2</sub>CO): δ 3.00 (d, *J* = 14.0 Hz, 1H), 3.11 (d, *J* = 15.6 Hz, 1H), 3.22 (d, *J* = 13.6 Hz, 1H), 3.34 (d, *J* = 15.6 Hz, 1H), 7.18 – 7.22 (m, 1H), 7.25 – 7.29 (m, 2H), 7.41 – 7.44 (m, 3H), 7.57 (t, *J* = 7.6 Hz, 1H), 7.73 – 7.77 (m, 1H), 7.91 – 7.98 (m, 3H), 8.28 (d, *J* = 8.4 Hz, 1H); <sup>13</sup>C NMR (100 MHz, (CD<sub>3</sub>)<sub>2</sub>CO): δ 38.7, 41.5, 77.5 (q, *J* = 25.9 Hz), 123.7, 127.4, 127.7, 127.8 (q, *J* = 286.1 Hz), 127.9, 128.81, 128.84, 128.9, 131.0, 132.2, 136.3, 138.5, 147.0, 160.1; HRMS (ESI) Calcd for C<sub>19</sub>H<sub>17</sub>F<sub>3</sub>NO [M+H]: 332.1262 found: 332.1262.

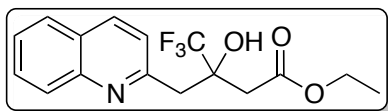


1,1,1-trifluoro-2-(quinolin-2-ylmethyl)butan-2-ol (**3am**).<sup>4</sup> White solid (46%, 61.6 mg); <sup>1</sup>H NMR (400 MHz, (CD<sub>3</sub>)<sub>2</sub>CO): δ 1.04 (t, *J* = 7.6 Hz, 3H), 1.74 – 1.83 (m, 2H), 3.29 – 3.38 (m, 2H), 7.35 (s, 1H), 7.54 (d, *J* = 8.4 Hz, 1H), 7.61 (t, *J* = 7.6 Hz, 1H), 7.77 – 7.81 (m, 1H), 8.00 (dd, *J*<sub>1</sub> = 21.4 Hz, *J*<sub>2</sub> = 8.2 Hz, 2H), 8.36 (d, *J* = 8.4 Hz, 1H); <sup>13</sup>C NMR (100 MHz, (CD<sub>3</sub>)<sub>2</sub>CO): δ 7.8, 28.9, 39.2, 76.9 (q, *J* = 25.8 Hz), 123.9, 127.5, 128.03 (q, *J* = 292.0 Hz), 128.01, 128.9, 129.5, 131.1, 138.4, 147.5, 160.1; HRMS (ESI) Calcd for C<sub>14</sub>H<sub>15</sub>F<sub>3</sub>NO [M+H]: 270.1105 found: 270.1106.

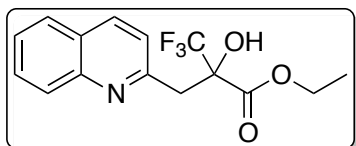


1,1,1-trifluoro-3-methyl-2-(quinolin-2-ylmethyl)butan-2-ol (**3an**). Light yellow solid (34%, 47.5 mg); <sup>1</sup>H NMR (400 MHz, (CD<sub>3</sub>)<sub>2</sub>CO): δ 1.09 – 1.12 (m, 6H), 2.11 – 2.15 (m, 1H), 3.33 (s, 2H), 7.56 (d, *J* = 8.4 Hz, 1H), 7.59 – 7.63 (m, 1H), 7.73 (s, 1H), 7.78

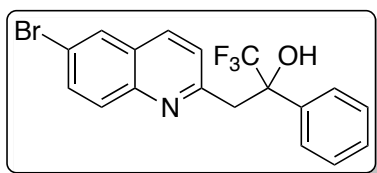
– 7.82 (m, 1H), 7.98 (d,  $J = 8.0$  Hz, 1H), 8.03 (d,  $J = 8.8$  Hz, 1H), 8.38 (d,  $J = 8.4$  Hz, 1H);  $^{13}\text{C}$  NMR (100 MHz,  $(\text{CD}_3)_2\text{CO}$ ):  $\delta$  17.4, 17.9, 34.6, 36.3, 79.1 (q,  $J = 24.9$  Hz), 123.9, 127.5, 128.0, 128.3 (q,  $J = 287.4$  Hz), 128.9, 129.1, 131.2, 138.6, 147.3, 160.5; HRMS (ESI) Calcd for  $\text{C}_{15}\text{H}_{16}\text{F}_3\text{NO}$  [ $\text{M}+\text{H}$ ]: 284.1262 found: 284.1259.



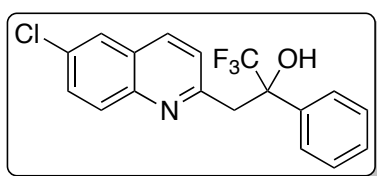
Ethyl 4,4,4-trifluoro-3-hydroxy-3-(quinolin-2-ylmethyl)butanoate (**3ao**).<sup>4</sup> Colourless oil (56%, 91.8 mg);  $^1\text{H}$  NMR (400 MHz,  $(\text{CD}_3)_2\text{CO}$ ):  $\delta$  1.20 (t,  $J = 7.2$  Hz, 3H), 2.80 (s, 2H), 3.47 (d,  $J = 15.2$  Hz, 1H), 3.79 (d,  $J = 15.2$  Hz, 1H), 4.07 (q,  $J = 7.2$  Hz, 2H), 7.56 (d,  $J = 8.4$  Hz, 1H), 7.59 – 7.63 (m, 1H), 7.77 – 7.81 (m, 2H), 7.97 (d,  $J = 8.4$  Hz, 1H), 8.02 (d,  $J = 8.4$  Hz, 1H), 8.37 (d,  $J = 8.4$  Hz, 1H);  $^{13}\text{C}$  NMR (100 MHz,  $(\text{CD}_3)_2\text{CO}$ ):  $\delta$  14.4, 39.1, 39.8, 61.4, 76.0 (q,  $J = 27.8$  Hz), 124.2, 127.0 (q,  $J = 284.8$  Hz), 127.6, 128.1, 128.9, 129.2, 131.0, 138.4, 147.4, 159.4, 170.0; HRMS (ESI) Calcd for  $\text{C}_{16}\text{H}_{16}\text{F}_3\text{NO}_3$  [ $\text{M}+\text{H}$ ]: 328.1160 found: 328.2306



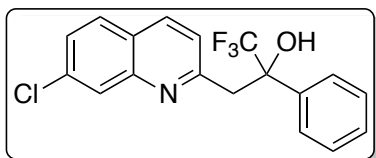
Ethyl 3,3,3-trifluoro-2-hydroxy-2-(quinolin-2-ylmethyl)propanoate (**3ap**).<sup>4</sup> White solid (88%, 137.9 mg);  $^1\text{H}$  NMR (400 MHz,  $(\text{CD}_3)_2\text{CO}$ ):  $\delta$  1.18 (t,  $J = 7.2$  Hz, 3H), 3.54 (d,  $J = 15.2$  Hz, 1H), 3.81 (d,  $J = 14.8$  Hz, 1H), 4.27 (q,  $J = 7.1$  Hz, 2H), 6.38 (s, brs, 1H), 7.51 (d,  $J = 8.4$  Hz, 1H), 7.58 (t,  $J = 7.4$  Hz, 1H), 7.73 – 7.78 (m, 1H), 7.95 (t,  $J = 8.2$  Hz, 2H), 8.30 (d,  $J = 8.8$  Hz, 1H);  $^{13}\text{C}$  NMR (100 MHz,  $(\text{CD}_3)_2\text{CO}$ ):  $\delta$  14.3, 40.2, 63.2, 78.8 (q,  $J = 28.3$  Hz), 125.1 (q,  $J = 283.8$  Hz), 123.7, 127.4, 128.1, 128.8, 129.4, 130.7, 137.8, 147.9, 157.3, 169.3; HRMS (ESI) Calcd for  $\text{C}_{15}\text{H}_{14}\text{F}_3\text{NO}_3$  [ $\text{M}+\text{H}$ ]: 314.1004 found: 314.1440



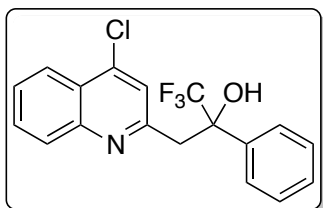
3-(6-bromoquinolin-2-yl)-1,1,1-trifluoro-2-phenylpropan-2-ol (**3ba**). White solid (92%, 182.0 mg);  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ):  $\delta$  3.70 (d,  $J = 15.2$  Hz, 1H), 3.79 (d,  $J = 14.8$  Hz, 1H), 7.24 – 7.28 (m, 2H), 7.31 – 7.35 (m, 2H), 7.69 (d,  $J = 7.6$  Hz, 2H), 7.76 (dd,  $J_1 = 9.0$  Hz,  $J_2 = 2.2$  Hz, 1H), 7.84 (d,  $J = 9.2$  Hz, 1H), 7.91 (d,  $J = 2.0$  Hz, 1H), 7.97 (d,  $J = 8.4$  Hz, 1H), 8.13 (s, 1H);  $^{13}\text{C}$  NMR (100 MHz,  $(\text{CD}_3)_2\text{CO}$ ):  $\delta$  40.8, 78.2 (q,  $J = 29.7$  Hz), 120.7, 124.9, 127.9, 128.5 (q,  $J = 283.3$  Hz), 128.9, 129.0, 129.1, 130.8, 131.0, 134.2, 137.6, 139.3, 145.7, 160.0; HRMS (ESI) Calcd for  $\text{C}_{18}\text{H}_{14}\text{BrF}_3\text{NO}$  [ $\text{M}+\text{H}$ ]: 396.0211 found: 396.0218.



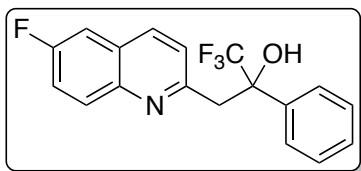
3-(6-chloroquinolin-2-yl)-1,1,1-trifluoro-2-phenylpropan-2-ol (**3ca**). White solid (91%, 159.8 mg);  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ):  $\delta$  3.70 (d,  $J = 15.2$  Hz, 1H), 3.81 (d,  $J = 15.2$  Hz, 1H), 7.25 – 7.28 (m, 2H), 7.31 – 7.35 (m, 2H), 7.62 (dd,  $J_1 = 9.0$  Hz,  $J_2 = 2.2$  Hz, 1H), 7.70 – 7.72 (m, 3H), 7.90 (d,  $J = 9.2$  Hz, 1H), 7.97 (d,  $J = 8.4$  Hz, 1H), 8.16 (s, 1H);  $^{13}\text{C}$  NMR (100 MHz,  $(\text{CD}_3)_2\text{CO}$ ):  $\delta$  40.7, 78.3 (q,  $J = 28.0$ ), 125.0, 126.4 (q,  $J = 283.3$  Hz), 127.4, 127.9, 128.5, 128.9, 129.1, 130.9, 131.6, 132.6, 137.7, 139.3, 145.6, 159.9; HRMS (ESI) Calcd for  $\text{C}_{18}\text{H}_{14}\text{ClF}_3\text{NO}$  [ $\text{M}+\text{H}$ ]: 352.0716 found: 352.0717.



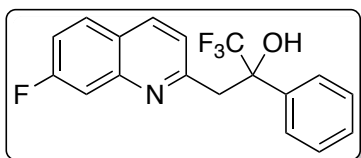
3-(7-chloroquinolin-2-yl)-1,1,1-trifluoro-2-phenylpropan-2-ol (**3da**). White solid (92%, 162.3 mg);  $^1\text{H}$  NMR (400 MHz,  $(\text{CD}_3)_2\text{CO}$ ):  $\delta$  3.82 (d,  $J = 15.2$  Hz, 1H), 3.98 (d,  $J = 15.2$  Hz, 1H), 7.20 – 7.24 (m, 1H), 7.28 – 7.32 (m, 2H), 7.51 (dd,  $J_1 = 8.8$  Hz,  $J_2 = 2.0$  Hz, 1H), 7.55 (d,  $J = 8.4$  Hz, 1H), 7.76 (d,  $J = 7.6$  Hz, 2H), 7.84 – 7.88 (m, 2H), 8.03 (d,  $J = 1.6$  Hz, 1H), 8.25 (d,  $J = 8.4$  Hz, 1H);  $^{13}\text{C}$  NMR (100 MHz,  $(\text{CD}_3)_2\text{CO}$ ):  $\delta$  40.8, 78.3 (q,  $J = 27.9$  Hz), 122.2 (overlapping q signal), 124.4, 125.0 (overlapping q signal), 126.4, 127.9, 128.0, 128.2, 128.9, 129.1, 130.6, 130.7 (overlapping q signal), 136.4, 138.4, 139.3, 147.5, 160.7; HRMS (ESI) Calcd for  $\text{C}_{18}\text{H}_{14}\text{ClF}_3\text{NO}$   $[\text{M}+\text{H}]$ : 352.0716 found: 352.0715.



3-(4-chloroquinolin-2-yl)-1,1,1-trifluoro-2-phenylpropan-2-ol (**3ea**). White solid (98%, 173.1 mg);  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ):  $\delta$  3.63 (d,  $J = 15.2$  Hz, 1H), 3.75 (d,  $J = 15.2$  Hz, 1H), 7.22 – 7.26 (m, 1H), 7.29 – 7.34 (m, 3H), 7.55 – 7.59 (m, 1H), 7.67 – 7.74 (m, 3H), 7.95 (d,  $J = 8.4$  Hz, 1H), 8.12 (d,  $J = 8.4$  Hz, 1H), 8.15 (s, 1H);  $^{13}\text{C}$  NMR (100 MHz,  $(\text{CD}_3)_2\text{CO}$ ):  $\delta$  40.7, 78.3 (q,  $J = 28.0$  Hz), 124.0, 124.6, 125.7, 126.4 (q,  $J = 283.2$  Hz), 128.0, 128.8, 129.0, 129.2, 129.6, 132.2, 139.1, 143.9, 148.1, 159.4; HRMS (ESI) Calcd for  $\text{C}_{18}\text{H}_{14}\text{ClF}_3\text{NO}$   $[\text{M}+\text{H}]$ : 352.0716 found: 352.0716.

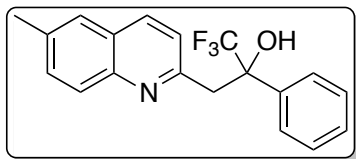


1,1,1-trifluoro-3-(6-fluoroquinolin-2-yl)-2-phenylpropan-2-ol (**3fa**). White solid (75%, 126.2 mg);  $^1\text{H}$  NMR (400 MHz,  $\text{CDCl}_3$ ):  $\delta$  3.66 (d,  $J = 15.2$  Hz, 1H), 3.77 (d,  $J = 15.2$  Hz, 1H), 7.21 – 7.25 (m, 2H), 7.28 – 7.36 (m, 3H), 7.45 (td,  $J_1 = 8.6$  Hz,  $J_2 = 2.7$  Hz, 1H), 7.67 (d,  $J = 7.6$  Hz, 2H), 7.95 (dd,  $J_1 = 9.2$  Hz,  $J_2 = 5.2$  Hz, 1H), 7.99 (d,  $J = 8.4$  Hz, 1H), 8.18 (s, 1H);  $^{13}\text{C}$  NMR (100 MHz,  $(\text{CD}_3)_2\text{CO}$ ):  $\delta$  40.6, 78.3 (q,  $J = 27.6$  Hz), 111.8 (d,  $J = 22.0$  Hz), 121.1 (d,  $J = 25.9$  Hz), 122.2 (overlapping q signal), 124.9, 125.1 (overlapping q signal), 128.0, 128.6 (d,  $J = 10.2$  Hz), 128.9 (d,  $J = 1.1$  Hz), 129.1, 130.7 (overlapping q signal), 131.8 (d,  $J = 9.2$  Hz), 138.0 (d,  $J = 4.0$  Hz), 139.4, 144.4, 158.9, 161.2 (d,  $J = 244.9$  Hz); HRMS (ESI) Calcd for  $\text{C}_{18}\text{H}_{14}\text{F}_4\text{NO}$  [M+H]: 336.1011 found: 336.1011.

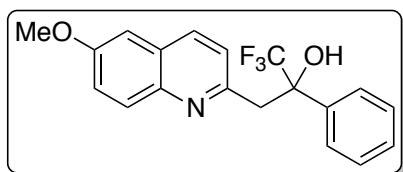


1,1,1-trifluoro-3-(7-fluoroquinolin-2-yl)-2-phenylpropan-2-ol (**3ga**). White solid (94%, 157.7 mg);  $^1\text{H}$  NMR (400 MHz,  $(\text{CD}_3)_2\text{CO}$ ):  $\delta$  3.82 (d,  $J = 15.2$  Hz, 1H), 3.96 (d,  $J = 15.2$  Hz, 1H), 7.20 – 7.24 (m, 1H), 7.28 – 7.32 (m, 2H), 7.39 (td,  $J_1 = 8.8$  Hz,  $J_2 = 2.8$  Hz, 1H), 7.51 (d,  $J = 8.4$  Hz, 1H), 7.69 (dd,  $J_1 = 10.4$  Hz,  $J_2 = 2.4$  Hz, 1H), 7.77 (d,  $J = 8.0$  Hz, 2H), 7.91 – 7.98 (m, 2H), 8.26 (d,  $J = 10.8$  Hz, 1H);  $^{13}\text{C}$  NMR (100 MHz,  $(\text{CD}_3)_2\text{CO}$ ):  $\delta$  40.8, 78.3 (q,  $J = 27.6$  Hz), 112.5 (d,  $J = 20.8$  Hz), 117.8 (d,  $J = 25.3$  Hz), 122.2 (overlapping q signal), 123.5 (d,  $J = 2.2$  Hz), 125.1, 127.8 (overlapping q signal), 128.0, 128.9, 129.1, 130.7 (overlapping q signal), 131.4 (d,  $J =$

10.2 Hz), 138.5, 139.4, 148.1 (d,  $J = 12.8$  Hz), 160.7, 164.3 (d,  $J = 247.5$  Hz); HRMS (ESI) Calcd for  $C_{18}H_{14}F_4NO$  [ $M+H$ ]: 336.1011 found: 336.1013.

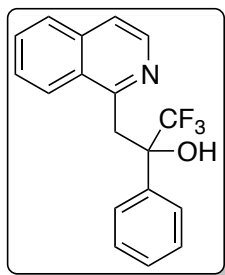


1,1,1-trifluoro-3-(6-methylquinolin-2-yl)-2-phenylpropan-2-ol (**3ha**). White solid (95%, 157.0 mg);  $^1H$  NMR (400 MHz,  $CDCl_3$ ):  $\delta$  2.47 (s, 3H), 3.63 (d,  $J = 15.2$  Hz, 1H), 3.75 (d,  $J = 14.8$  Hz, 1H), 7.16 (d,  $J = 8.4$  Hz, 1H), 7.19 – 7.24 (m, 1H), 7.28 – 7.30 (m, 2H), 7.47 – 7.51 (m, 2H), 7.67 (d,  $J = 7.6$  Hz, 2H), 7.83 (d,  $J = 8.4$  Hz, 1H), 7.93 (d,  $J = 8.4$  Hz, 1H), 8.55 (s, 1H);  $^{13}C$  NMR (100 MHz,  $(CD_3)_2CO$ ):  $\delta$  21.5, 40.4, 78.3 (q,  $J = 27.9$  Hz), 122.3 (overlapping q signal), 124.0, 125.1 (overlapping q signal), 127.5, 128.0, 128.7, 128.9, 129.0, 130.8 (overlapping q signal), 133.3, 137.5, 137.9, 139.6, 145.8, 158.4; HRMS (ESI) Calcd for  $C_{19}H_{17}F_3NO$  [ $M+H$ ]: 332.1262 found: 332.1262.

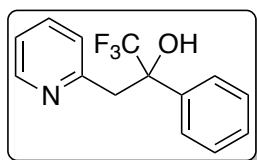


1,1,1-trifluoro-3-(6-methoxyquinolin-2-yl)-2-phenylpropan-2-ol (**3ia**). Yellow solid (58%, 100.8 mg);  $^1H$  NMR (400 MHz,  $CDCl_3$ ):  $\delta$  3.61 (d,  $J = 15.2$  Hz, 1H), 3.73 (d,  $J = 14.8$  Hz, 1H), 3.86 (s, 3H), 7.00 (d,  $J = 2.4$  Hz, 1H), 7.15 (d,  $J = 8.4$  Hz, 1H), 7.22 – 7.34 (m, 4H), 7.67 (d,  $J = 8.0$  Hz, 2H), 7.83 (d,  $J = 9.2$  Hz, 1H), 7.91 (d,  $J = 8.4$  Hz, 1H), 8.50 (s, brs, 1H);  $^{13}C$  NMR (100 MHz,  $(CD_3)_2CO$ ):  $\delta$  40.2, 56.0, 78.3 (q,  $J = 27.8$  Hz), 106.3, 122.3 (overlapping q signal), 123.8, 124.2, 125.1 (overlapping q signal), 128.0, 128.9, 129.0, 129.1, 130.3, 130.8 (overlapping q signal), 137.3, 139.6,

143.2, 156.5, 158.9; HRMS (ESI) Calcd for C<sub>19</sub>H<sub>17</sub>F<sub>3</sub>NO<sub>2</sub> [M+H]: 348.1211 found: 348.1210.

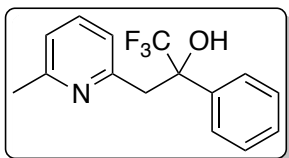


1,1,1-trifluoro-3-(isoquinolin-1-yl)-2-phenylpropan-2-ol (**3ja**).<sup>4</sup> White solid (99%, 156.9 mg); <sup>1</sup>H NMR (400 MHz, (CD<sub>3</sub>)<sub>2</sub>CO): δ 4.00 (d, *J* = 16.0 Hz, 1H), 4.37 (d, *J* = 16.0 Hz, 1H), 7.18 – 7.21 (m, 1H), 7.25 – 7.28 (m, 2H), 7.68 (d, *J* = 5.6 Hz, 1H), 7.74 – 7.81 (m, 4H), 7.92 (d, *J* = 7.6 Hz, 1H), 8.32 (d, *J* = 5.6 Hz, 1H), 8.58 (d, *J* = 8.4 Hz, 1H), 8.80 (s, 1H); <sup>13</sup>C NMR (100 MHz, (CD<sub>3</sub>)<sub>2</sub>CO): δ 35.0, 78.3 (q, *J* = 27.7 Hz), 121.3, 126.1, 126.6 (q, *J* = 283.3 Hz), 127.8, 128.48, 128.52, 128.8, 129.0, 129.1, 131.9, 137.5, 140.1, 140.6, 159.0; HRMS (ESI) Calcd for C<sub>18</sub>H<sub>15</sub>F<sub>3</sub>NO [M+H]: 318.1105 found: 318.1106.



1,1,1-trifluoro-2-phenyl-3-(pyridin-2-yl)propan-2-ol (**3ka**).<sup>4</sup> Light yellow solid (48%, 63.7 mg); <sup>1</sup>H NMR (400 MHz, (CD<sub>3</sub>)<sub>2</sub>CO): δ 3.62 (d, *J* = 14.8 Hz, 1H), 3.71 (d, *J* = 15.2 Hz, 1H), 7.22 – 7.28 (m, 2H), 7.30 – 7.34 (m, 2H), 7.40 (d, *J* = 8.0 Hz, 1H), 7.69 – 7.74 (m, 3H), 8.01 (s, 1H), 8.43 (d, brs, *J* = 4.4 Hz, 1H); <sup>13</sup>C NMR (100 MHz, (CD<sub>3</sub>)<sub>2</sub>CO): δ 40.0, 78.1 (q, *J* = 27.8 Hz), 122.3 (overlapping q signal), 123.3, 125.1 (overlapping q signal), 126.0, 128.0, 128.9, 129.0, 130.8 (overlapping q signal), 138.6, 139.5, 148.8, 158.2; HRMS (ESI) Calcd for C<sub>14</sub>H<sub>13</sub>F<sub>3</sub>NO [M+H]: 268.0949 found: 268.0944.





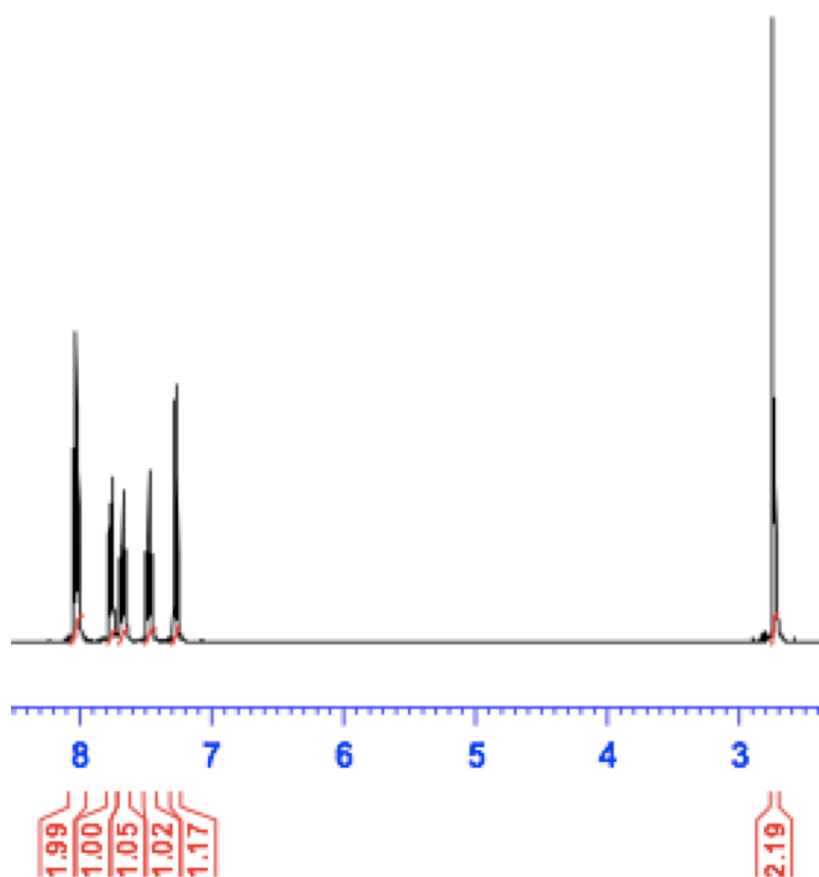
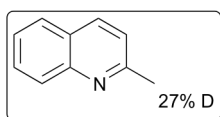
1,1,1-trifluoro-3-(6-methylpyridin-2-yl)-2-phenylpropan-2-ol (**3la**). White solid (75 %, 106 mg);  $^1\text{H}$  NMR (400 MHz,  $(\text{CD}_3)_2\text{CO}$ ):  $\delta$  2.44 (s, 3H), 3.61 (q,  $J = 15.2$  Hz, 2H), 7.09 (d,  $J = 7.6$  Hz, 1H), 7.18 (d,  $J = 8.0$  Hz, 1H), 7.24 – 7.27 (m, 1H), 7.30 – 7.34 (m, 2H), 7.59 (t,  $J = 7.6$  Hz, 1H), 7.71 (d,  $J = 7.6$  Hz, 2H), 8.28 (s, 1H);  $^{13}\text{C}$  NMR (100 MHz,  $(\text{CD}_3)_2\text{CO}$ ):  $\delta$  24.1, 39.9, 78.1 (q,  $J = 27.8$  Hz), 122.3 (overlapping q signal), 122.7, 122.9, 125.1 (overlapping q signal), 128.0, 128.8, 129.0, 130.8 (overlapping q signal), 138.9, 139.7, 157.4, 157.8; HRMS (ESI) Calcd for  $\text{C}_{15}\text{H}_{15}\text{F}_3\text{NO}$  [M+H]: 282.1105 found: 282.1108.

## References

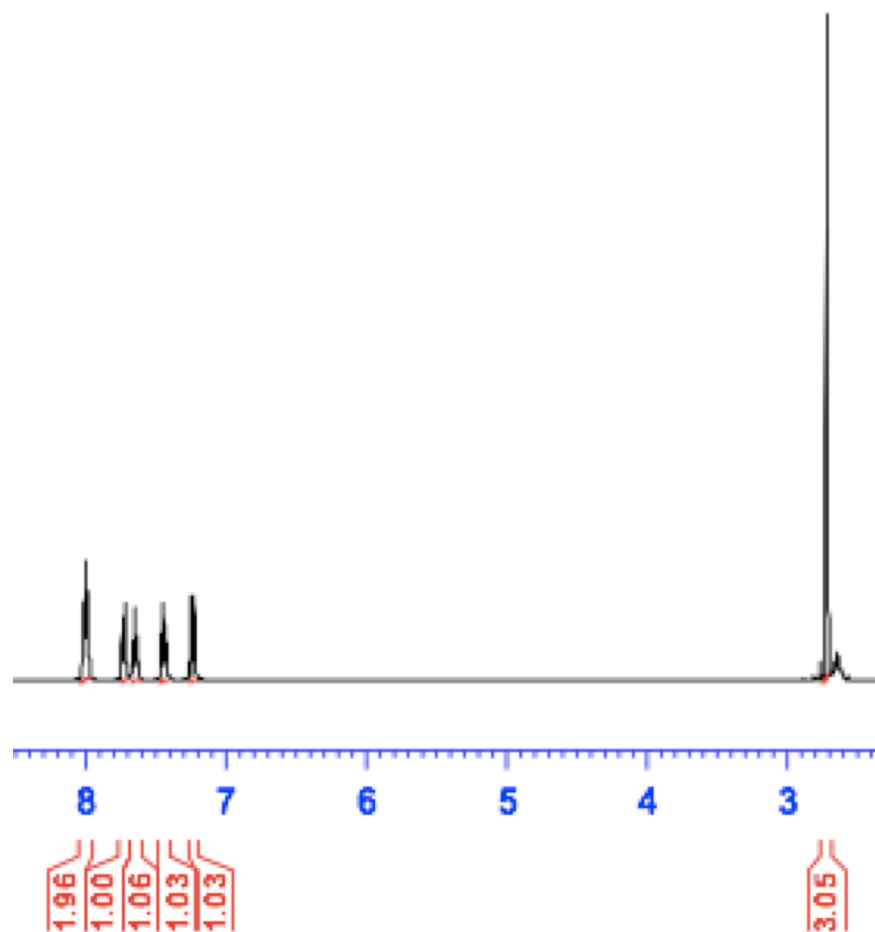
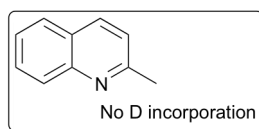
1. C. Zheng, Y. Li, Y. Yang, H. Wang, H. Cui, J. Zhang and G. Zhao, *Adv. Synth. Catal.* 2009, **351**, 1685.
2. P.-P. Yeh, D. S. B. Daniels, D. B. Cordes, A. M. Z. Slawin and A. D. Smith, *Org. Lett.* 2014, **16**, 964.
3. J. Hu, S. Chen, Y. Sun, J. Yang and Y. Rao, *Org. Lett.* 2012, **14**, 5030.
4. V. B. Graves and A. Shaikh, *Tetrahedron Lett.* 2013, **54**, 695.

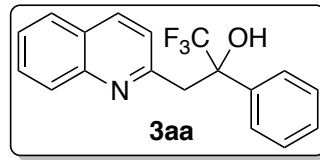
## 5. Deuterium Exchange Experiments

To an 8-mL reaction vial equipped with a magnetic stir bar,  $\text{InCl}_3$  (5.5 mg, 0.025 mmol), 2-methylquinoline (102  $\mu\text{L}$ , 0.75 mmol) and  $\text{D}_2\text{O}$  (0.5 mL) were sequentially added. The vial was then capped and placed into a pre-heated oil bath at 60  $^\circ\text{C}$  with vigorous stirring for 24 h. With glass Pasteur pipettes, an aliquot of the mixture was then drawn and passed through a short pad of silica gel using  $\text{CDCl}_3$ . The resulting clear mixture was then analyzed by  $^1\text{H}$  NMR spectroscopy from which the percentage of deuterium incorporation was determined to be 27%.



Similar procedure was also adopted for the control experiment conducted with omitted  $\text{InCl}_3$  whereby no deuterium incorporation was observed.



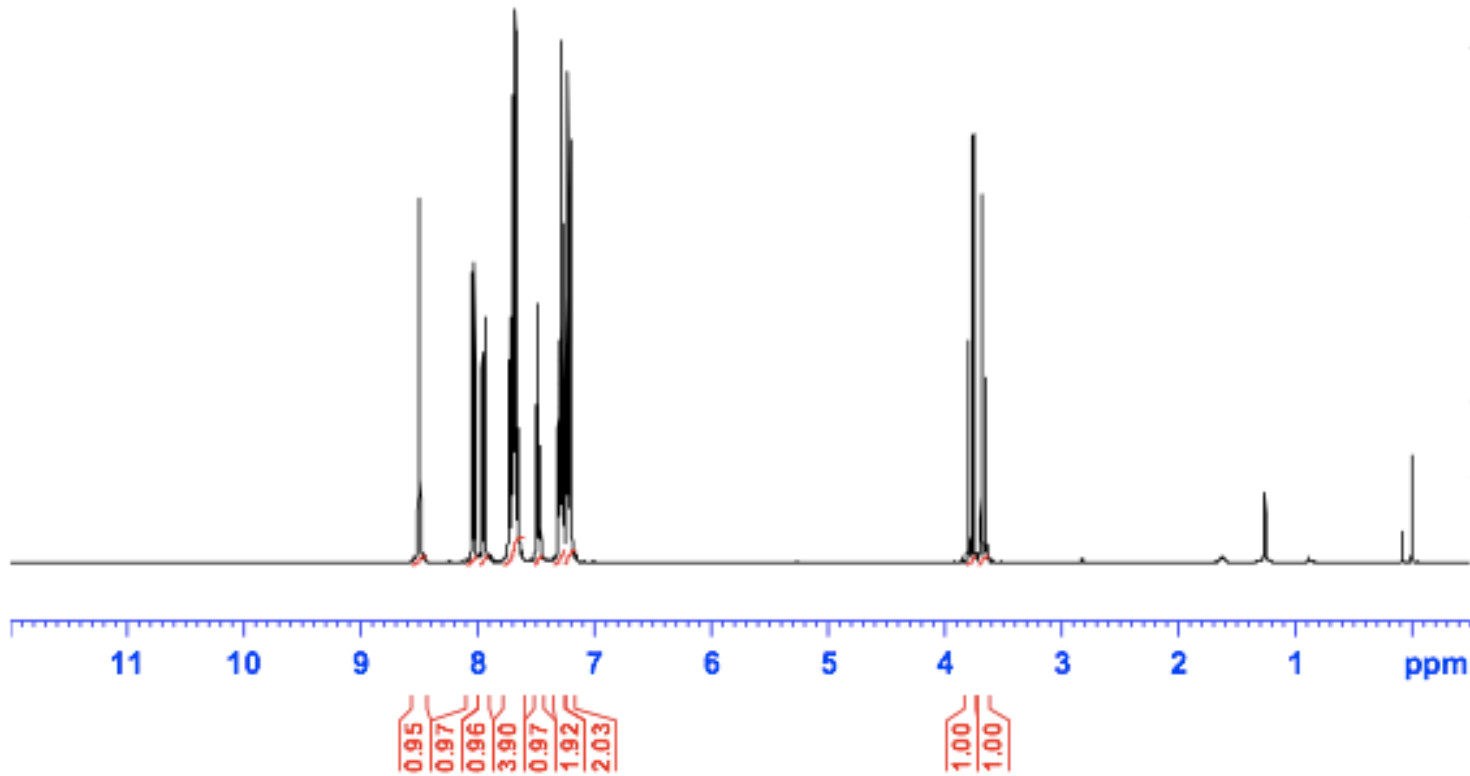


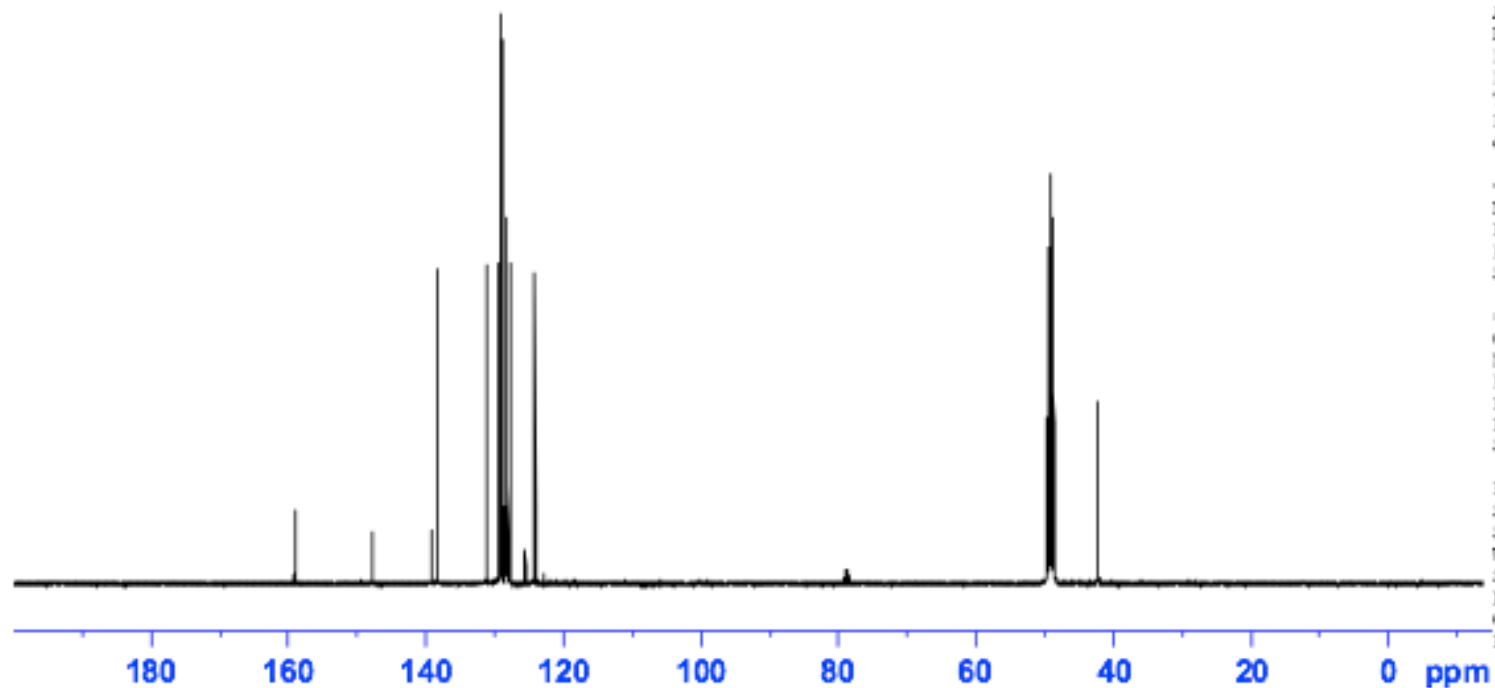
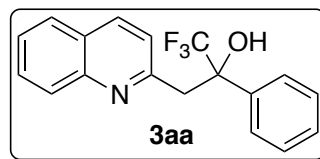
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----- CHANNEL f1 -----  
NUC1 1H  
P1 11.00 usec  
PL1 3.40 dB  
SFO1 400.1324710 MHz

F2 - Processing parameters  
SI 16384  
SF 400.1300179 MHz  
WDW EM  
SSB 0  
LB 0.30 Hz  
GB 0  
PC 1.00





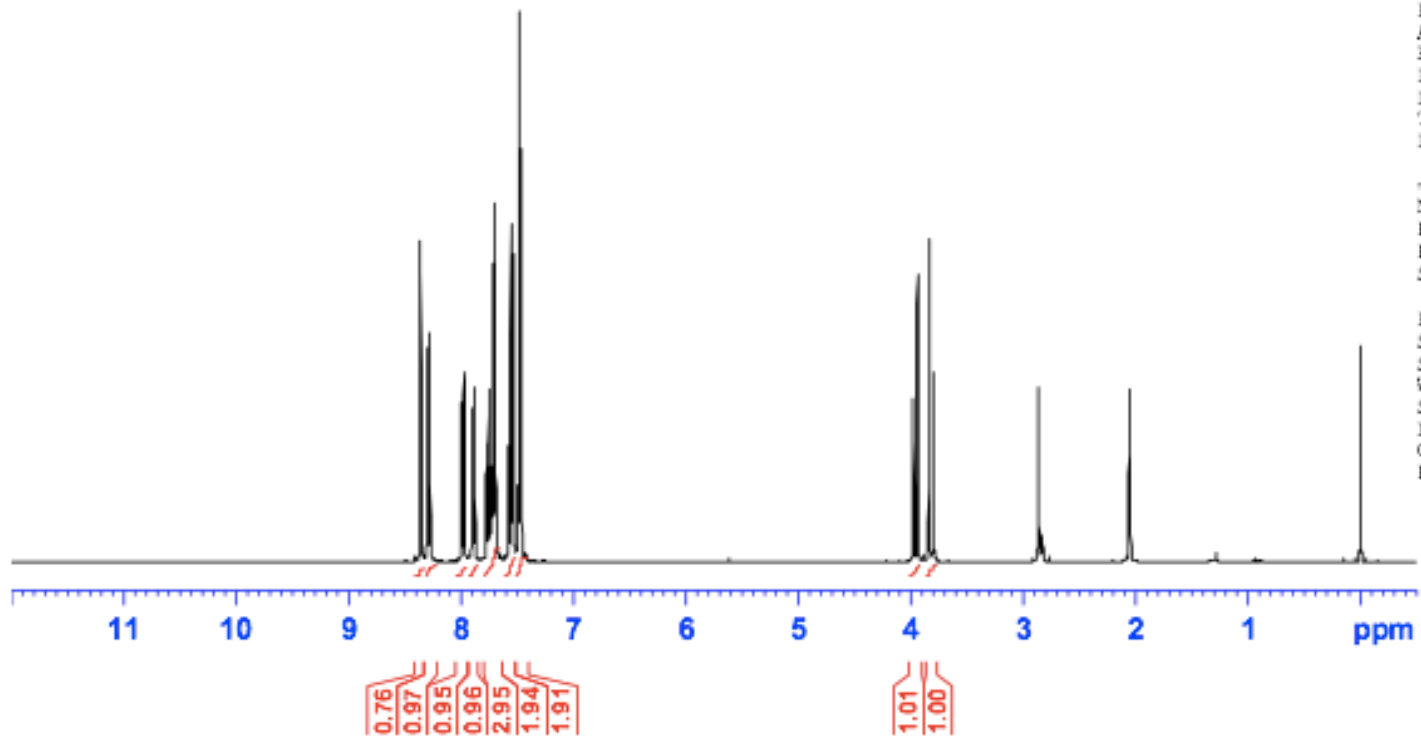
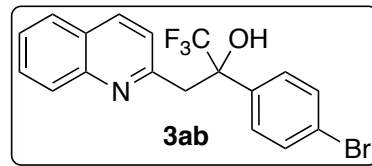
Current Data Parameters  
 NAME Zb6P74 MethanolD4 13C  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140815  
 Time 14.09  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zgpgc  
 TD 32768  
 SOLVENT MeOD  
 NS 505  
 DS 0  
 SWH 25125.629 Hz  
 FIDRES 0.766773 Hz  
 AQ 0.6521332 sec  
 RG 5792.6  
 DW 19.900 usec  
 DE 6.00 usec  
 TE 297.2 K  
 DL 5.00000000 sec  
 d11 0.03000000 sec

----- CHANNEL f1 -----  
 NUC1 13C  
 P1 6.40 usec  
 PL1 0.00 dB  
 SFO1 100.6237959 MHz

----- CHANNEL f2 -----  
 CPDPRG2 waltz16  
 NUC2 1H  
 PCPD2 80.00 usec  
 PL2 3.40 dB  
 PL12 20.63 dB  
 SFO2 400.1316005 MHz

F2 - Processing parameters  
 SI 32768  
 SF 100.6126162 MHz  
 WDW EM  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40



Current Data Parameters  
 NAME ZB6P130 1H (2) acetone-D6  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140903  
 Time\_ 13.23  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zg30  
 TD 32768  
 SOLVENT Acetone  
 NS 8  
 DS 0  
 SWH 8278.146 Hz  
 FIDRES 0.252629 Hz  
 AQ 1.9792372 sec  
 RG 181  
 DW 60.400 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 1.0000000 sec

----- CHANNEL f1 -----  
 NUC1 1H  
 P1 11.00 usec  
 PL1 3.40 dB  
 SFO1 400.1324710 MHz

F2 - Processing parameters  
 SI 16384  
 SF 400.1300066 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00

```

Current Data Parameters
NAME      ZH6P130 13C acetone-D6
EXPNO    1
PROCNO    1

```

```

F2 - Acquisition Parameters
Date_     20140903
Time      11.14
INSTRUM   spect
PROBHD    5 mm BBO BB-1H
PULPROG   zgdc
TD         32768
SOLVENT   Acetone
NS         1034
DS         0
SWH        25125.629 Hz
FIDRES     0.766773 Hz
AQ         0.6521332 sec
RG         8192
DW         19.900 usec
DE         6.00 usec
TE         297.2 K
D1         5.0000000 sec
d11        0.0300000 sec

```

```

----- CHANNEL f1 -----
NUC1       13C
P1         6.40 usec
PL1        0.00 dB
SFO1       100.6237959 MHz

```

```

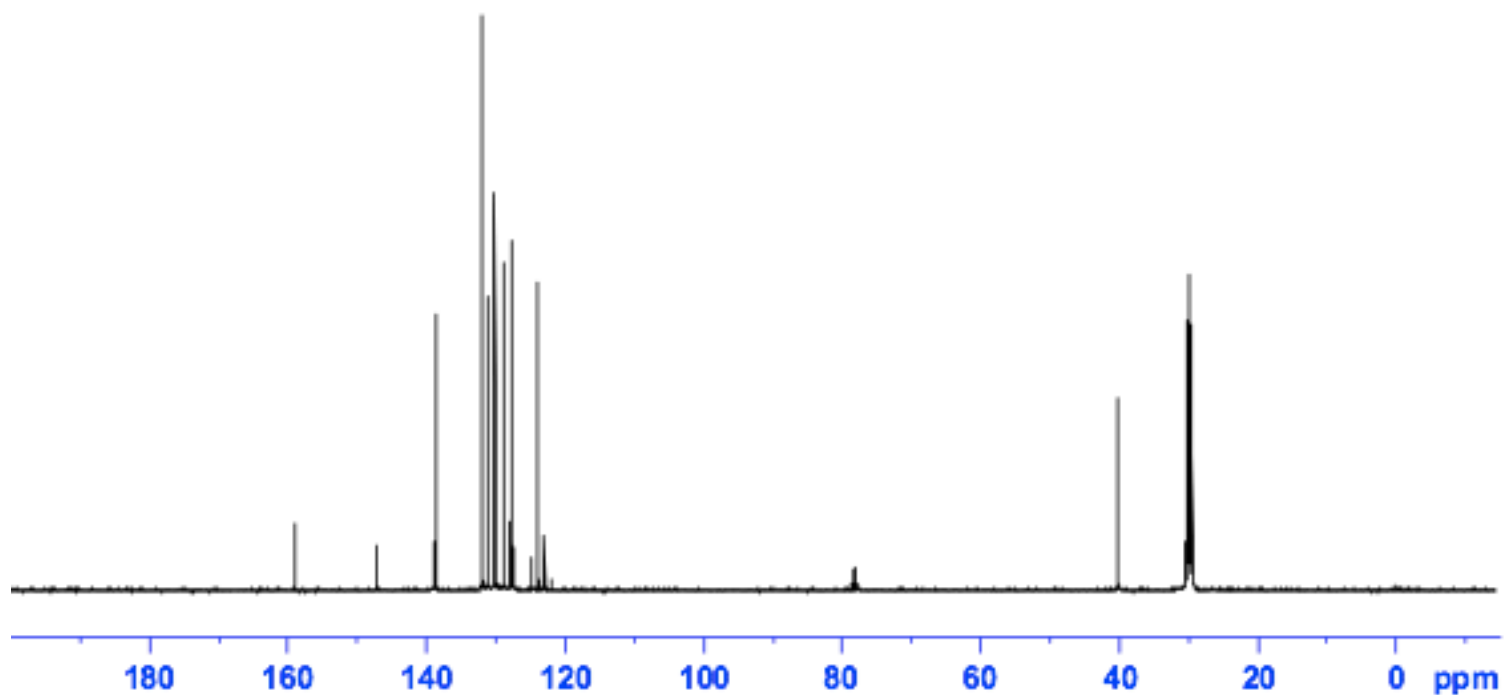
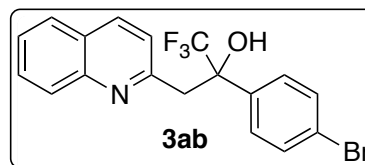
----- CHANNEL f2 -----
CPDPRG2   waltz16
NUC2       1H
PCPD2     80.00 usec
PL2        3.40 dB
PL12       20.63 dB
SFO2       400.1316005 MHz

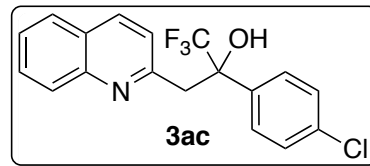
```

```

F2 - Processing parameters
SI         32768
SF         100.6126731 MHz
WDW        EM
SSB        0
LB         1.00 Hz
GB         0
PC         1.40

```



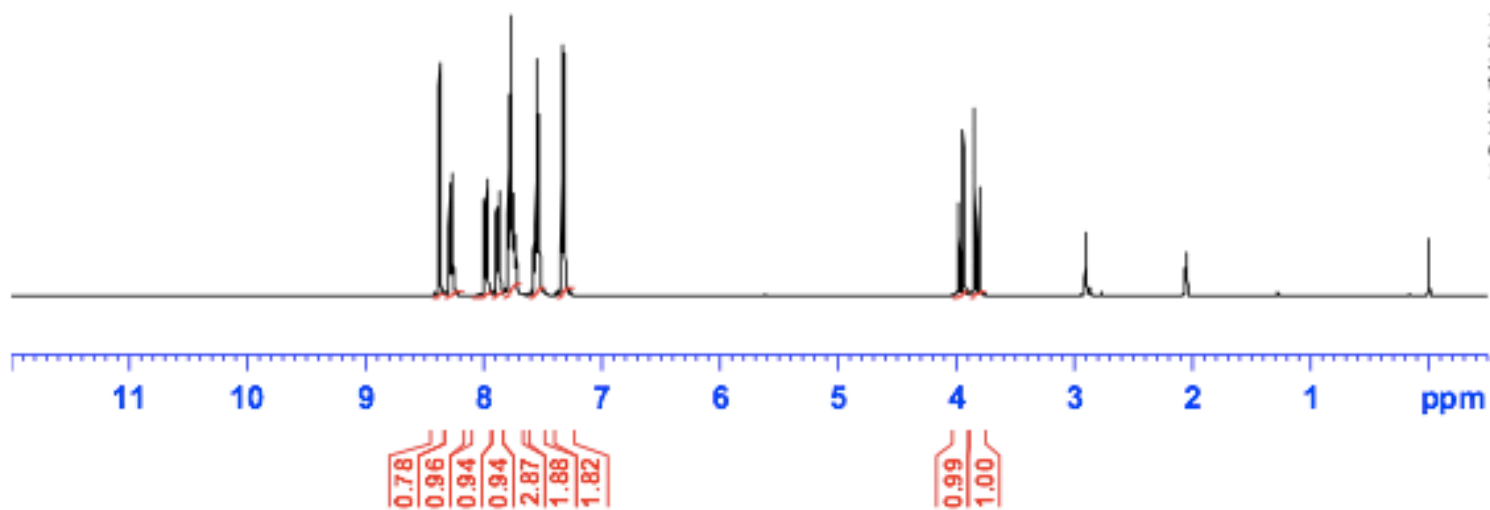


```
Current Data Parameters
NAME      ZB6P129 1H acetone-D6
EXPNO     1
PROCNO    1
```

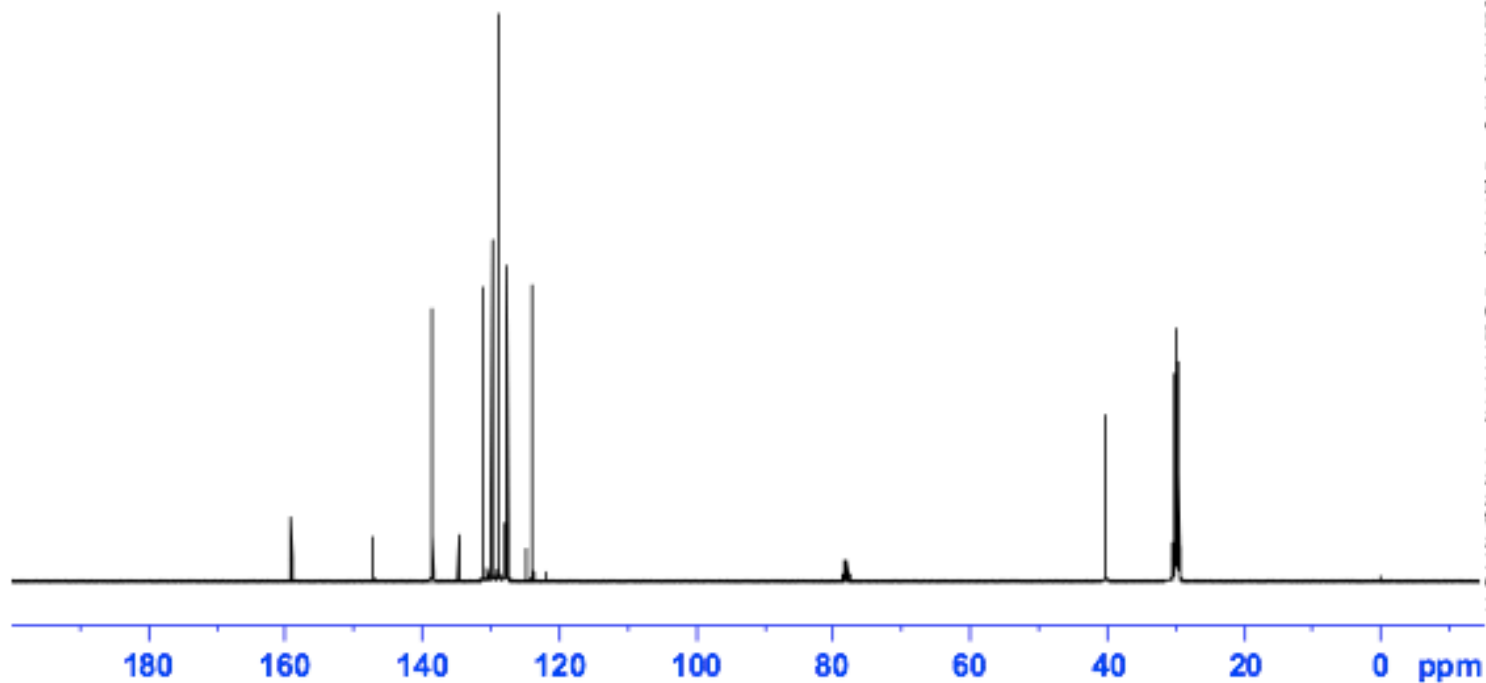
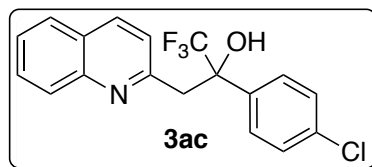
```
F2 - Acquisition Parameters
Date_     20140829
Time      12.34
INSTRUM   spect
PROBHD    5 mm BBO BB-1H
PULPROG   zg30
TD        32768
SOLVENT   Acetone
NS        8
DS        0
SWH       8278.146 Hz
FIDRES    0.252629 Hz
AQ        1.9792372 sec
RG        128
DW        60.400 usec
DE        6.00 usec
TE        297.2 K
D1        1.00000000 sec
```

```
----- CHANNEL f1 -----
NUC1      1H
P1        11.00 usec
PL1       3.40 dB
SFO1      400.1324710 MHz
```

```
F2 - Processing parameters
SI        16384
SF        400.130066 MHz
WDW       EM
SSB       0
LB        0.30 Hz
GB        0
PC        1.00
```







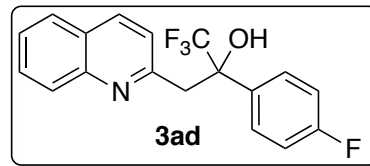
Current Data Parameters  
 NAME ZB6P129 13C acetone-D6  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140829  
 Time\_ 12.40  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zgpg  
 TD 32768  
 SOLVENT Acetone  
 NS 1528  
 DS 0  
 SWH 25125.629 Hz  
 FIDRES 0.766773 Hz  
 AQ 0.6521332 sec  
 RG 3649.1  
 DW 19.900 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 5.0000000 sec  
 d11 0.0300000 sec

----- CHANNEL f1 -----  
 NUC1 13C  
 P1 6.40 usec  
 PL1 0.00 dB  
 SFO1 100.6237959 MHz

----- CHANNEL f2 -----  
 CPDPRG2 waltz16  
 NUC2 1H  
 PCPD2 80.00 usec  
 PL2 3.40 dB  
 PL12 20.63 dB  
 SFO2 400.1316005 MHz

F2 - Processing parameters  
 SI 32768  
 SF 100.6126731 MHz  
 WDW EM  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40

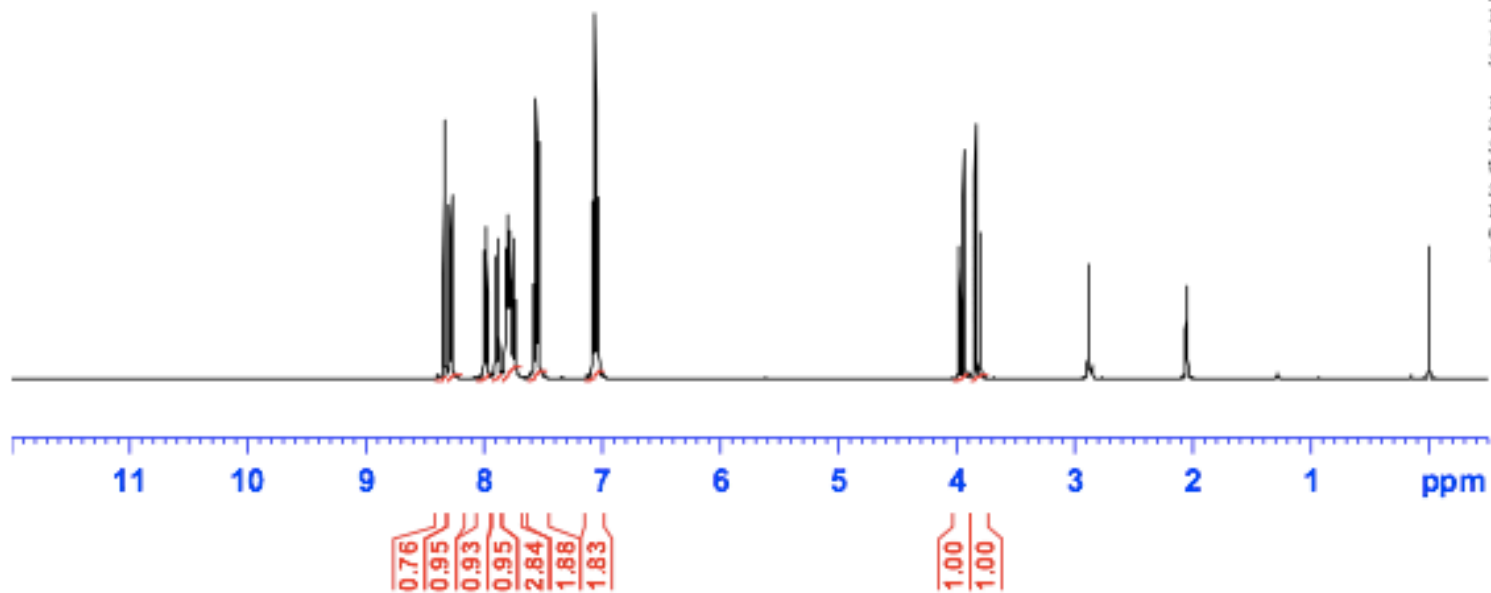


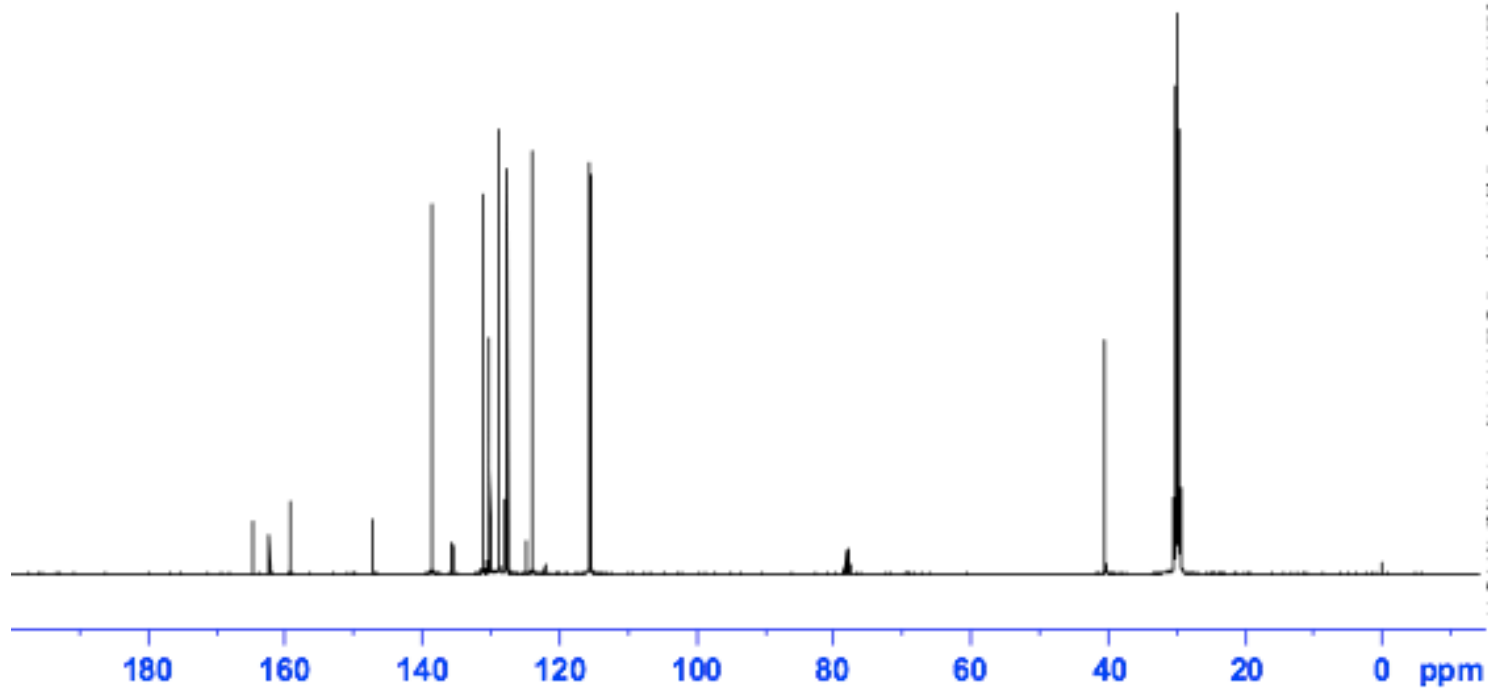
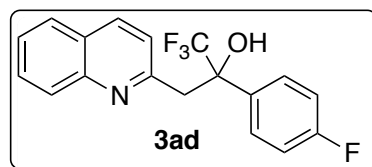
Current Data Parameters  
 NAME ZB6P131 1H acetone-D6  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140903  
 Time\_ 15.42  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zg30  
 TD 32768  
 SOLVENT Acetone  
 NS 8  
 DS 0  
 SWH 8278.146 Hz  
 FIDRES 0.252629 Hz  
 AQ 1.9792372 sec  
 RG 128  
 DW 60.400 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 1.00000000 sec

----- CHANNEL f1 -----  
 NUC1 1H  
 P1 11.00 usec  
 PL1 3.40 dB  
 SFO1 400.1324710 MHz

F2 - Processing parameters  
 SI 16384  
 SF 400.1300066 MHz  
 WDM EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00





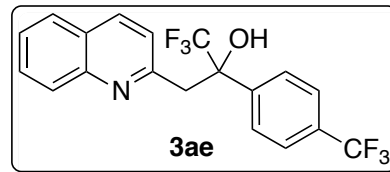
Current Data Parameters  
 NAME ZB6P131 13C acetone-D6  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140903  
 Time\_ 15.51  
 INSTRUM spect  
 PROCMD 5 mm BBO BB-1H  
 PULPROG zgpg  
 TD 32768  
 SOLVENT Acetone  
 NS 10929  
 DS 0  
 SWH 25125.629 Hz  
 FIDRES 0.766773 Hz  
 AQ 0.6521332 sec  
 RG 7296.2  
 DN 19.900 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 5.0000000 sec  
 d11 0.0300000 sec

\*\*\*\*\* CHANNEL f1 \*\*\*\*\*  
 NUC1 13C  
 P1 6.40 usec  
 PL1 0.00 dB  
 SFO1 100.6237959 MHz

\*\*\*\*\* CHANNEL f2 \*\*\*\*\*  
 CPDPRG2 waltz16  
 NUC2 1H  
 PCPD2 80.00 usec  
 PL2 3.40 dB  
 PL12 20.63 dB  
 SFO2 400.1316005 MHz

F2 - Processing parameters  
 SI 32768  
 SF 100.6126708 MHz  
 WDW EM  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40

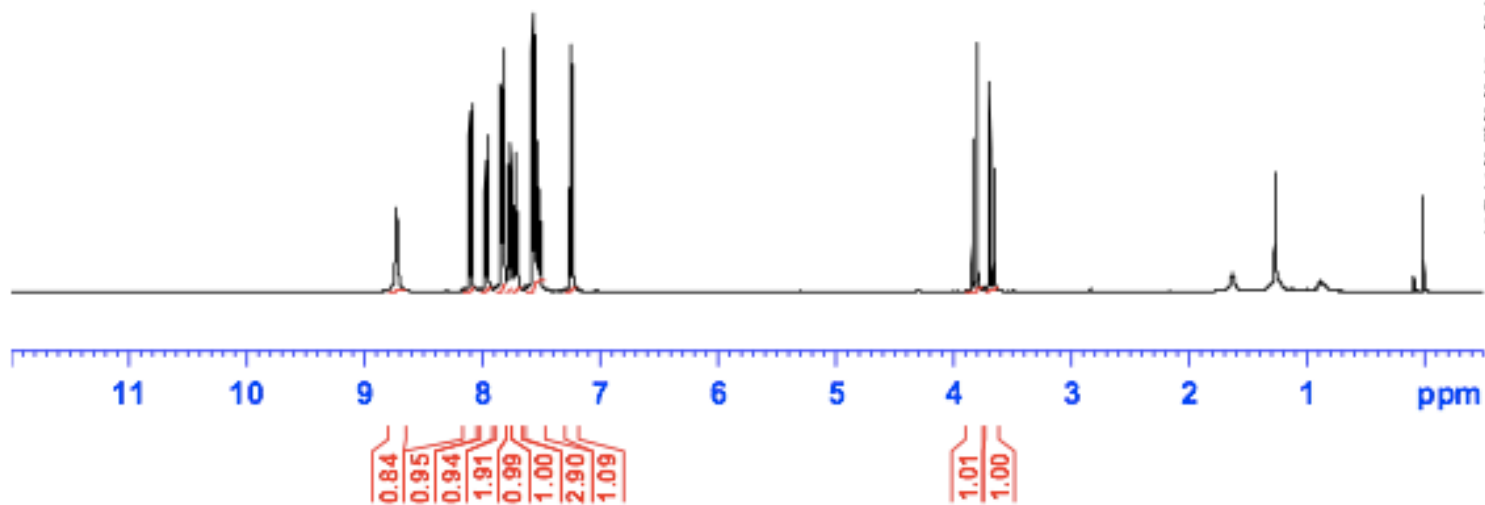


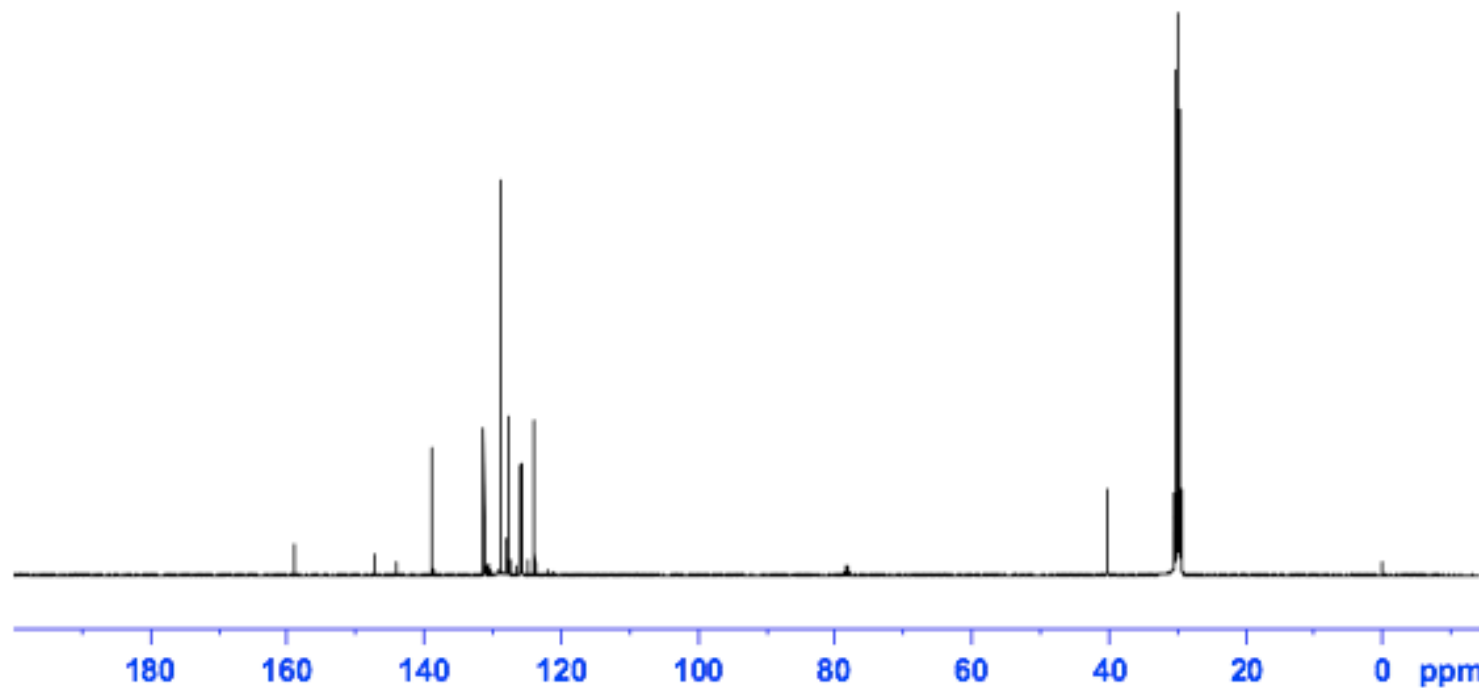
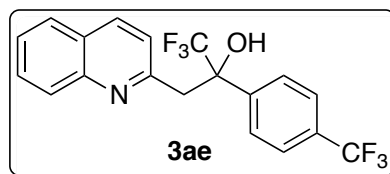
Current Data Parameters  
 NAME 2B6P140 1H CDC13  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20141014  
 Time\_ 13.56  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zg30  
 TD 32768  
 SOLVENT CDC13  
 NS 8  
 DS 0  
 SWH 8278.146 Hz  
 FIDRES 0.252629 Hz  
 AQ 1.9792372 sec  
 RG 161.3  
 DW 60.400 usec  
 DE 6.00 usec  
 TE 296.2 K  
 D1 1.00000000 sec

===== CHANNEL f1 =====  
 NUC1 1H  
 P1 11.00 usec  
 PL1 3.40 dB  
 SFO1 400.1324710 MHz

F2 - Processing parameters  
 SI 16384  
 SF 400.1300091 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00





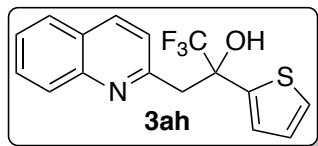
Current Data Parameters  
 NAME 2B6P140 13C  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date 20141013  
 Time 15.56  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zgdc  
 TD 32768  
 SOLVENT Acetone  
 NS 10913  
 DS 0  
 SWH 25125.629 Hz  
 FIDRES 0.766773 Hz  
 AQ 0.6521332 sec  
 RG 1625.5  
 DW 19.900 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 5.00000000 sec  
 d11 0.03000000 sec

----- CHANNEL f1 -----  
 NUC1 13C  
 P1 6.40 usec  
 PL1 0.00 dB  
 SFO1 100.6237959 MHz

----- CHANNEL f2 -----  
 CPDPRG2 waltz16  
 NUC2 1H  
 PCPD2 80.00 usec  
 PL2 3.40 dB  
 PL12 20.63 dB  
 SFO2 400.1316005 MHz

F2 - Processing parameters  
 SI 32768  
 SF 100.6126701 MHz  
 WDW EM  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40

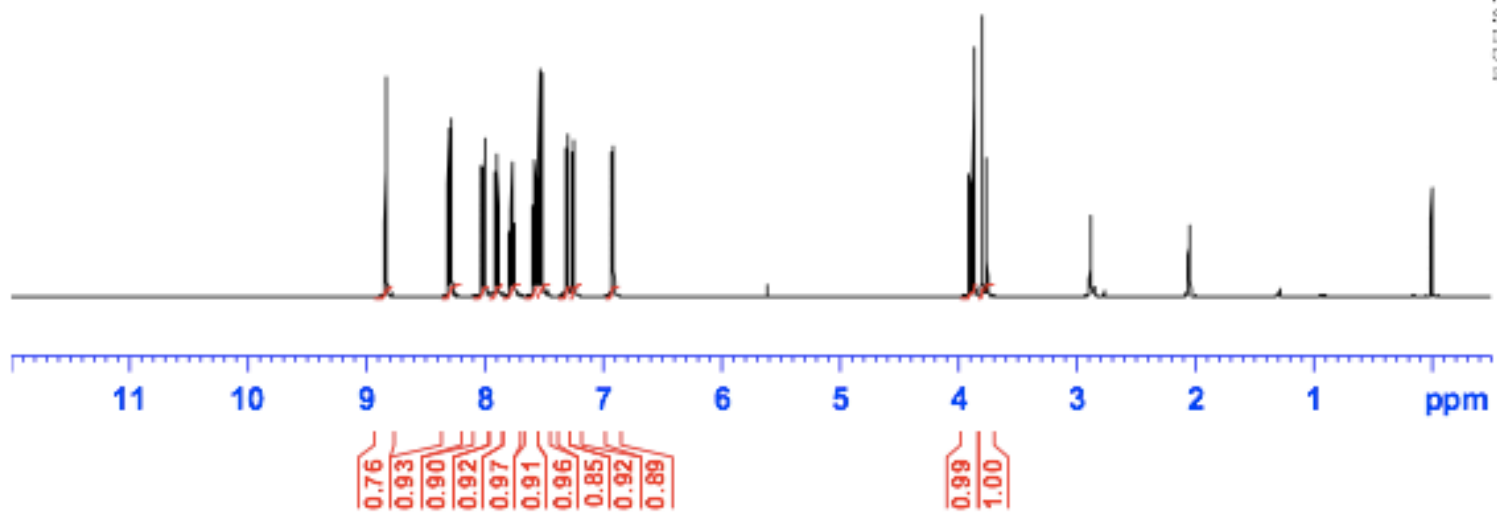


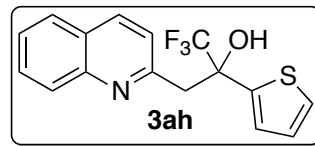
Current Data Parameters  
 NAME 2BEP132 1H (2) acetone-D6  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140829  
 Time 12.26  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zg30  
 TD 32768  
 SOLVENT Acetone  
 NS 8  
 DS 0  
 SWH 8278.146 Hz  
 FIDRES 0.252629 Hz  
 AQ 1.9792372 sec  
 RG 128  
 DW 60.400 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 1.0000000 sec

----- CHANNEL f1 -----  
 NUC1 1H  
 P1 11.00 usec  
 PL1 3.40 dB  
 SFO1 400.1324710 MHz

F2 - Processing parameters  
 SI 16384  
 SF 400.130066 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00





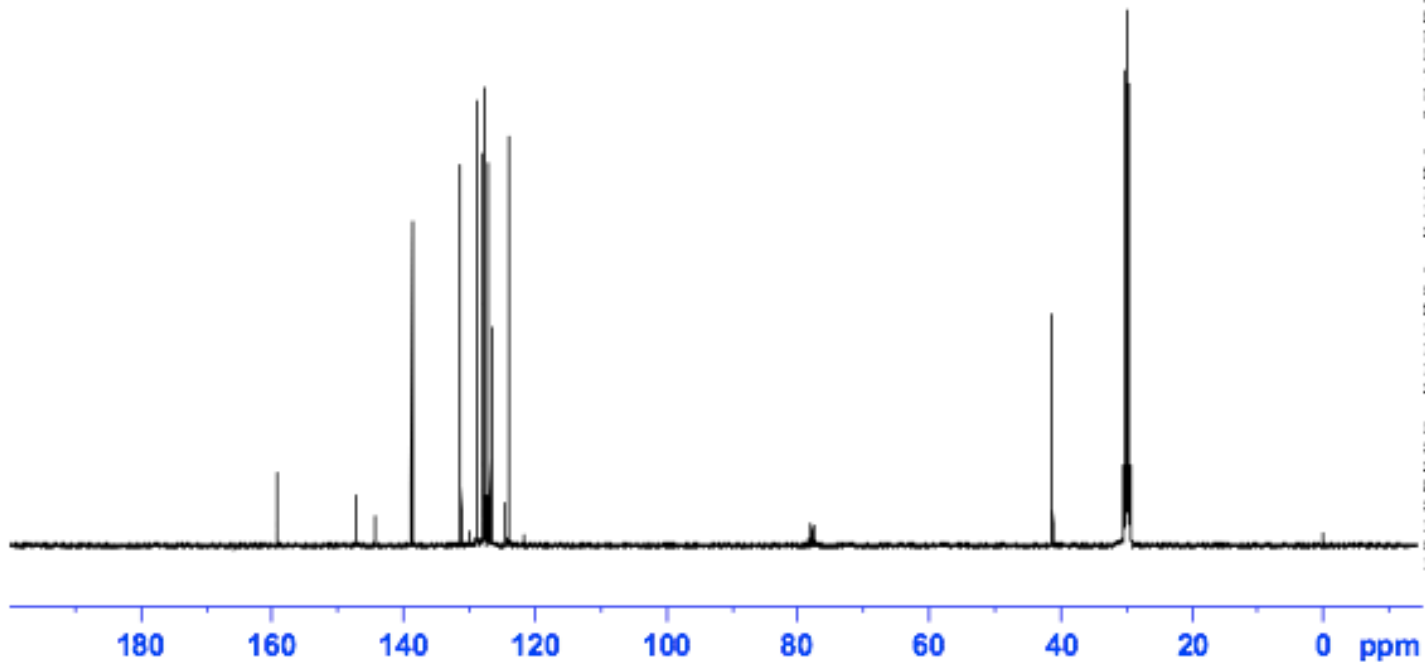
Current Data Parameters  
 NAME ZB6P132 13C 1sept14 acetone-D6  
 EXPNO 1  
 PROCNO 1

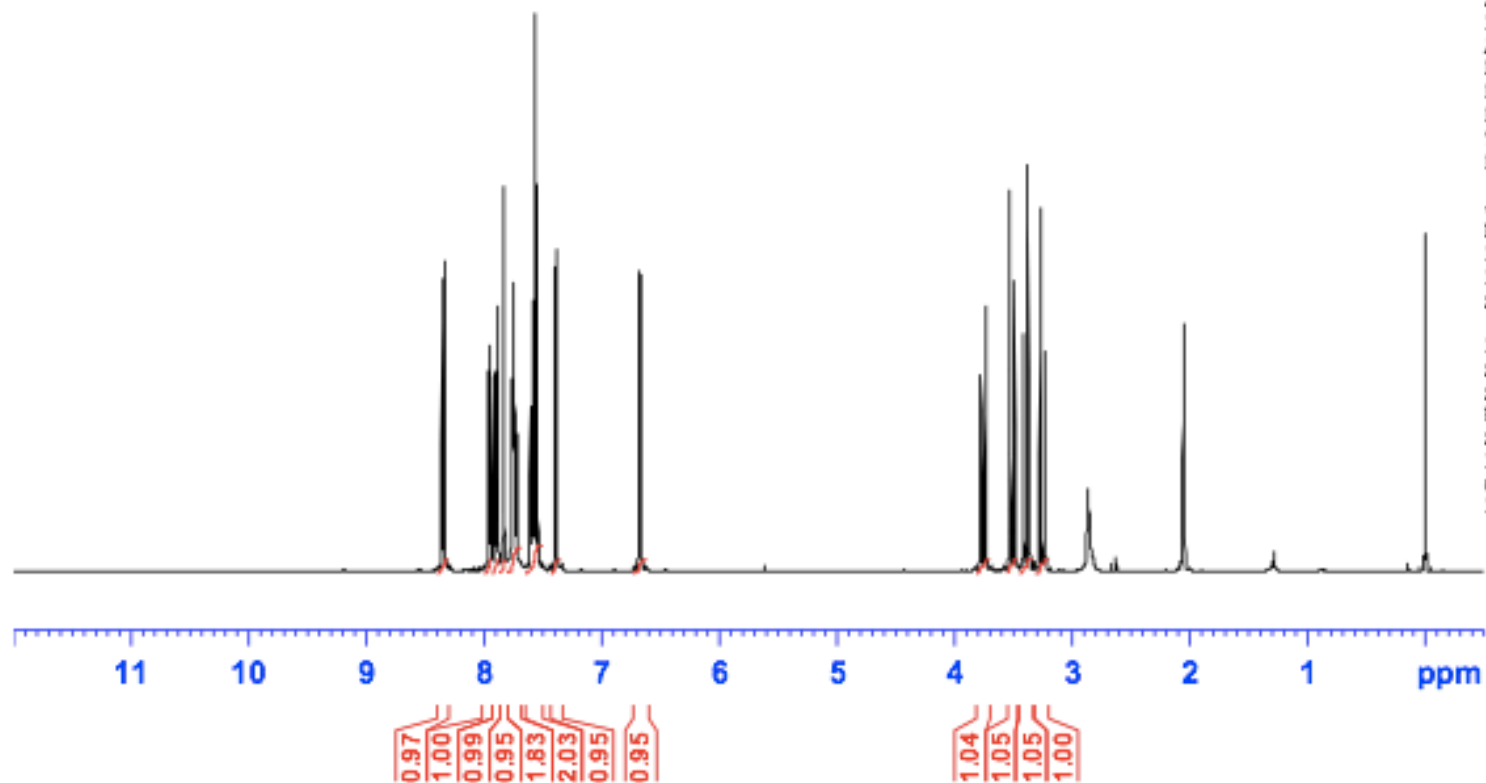
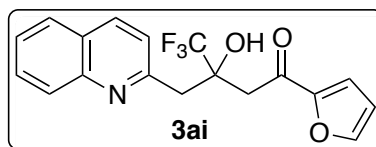
F2 - Acquisition Parameters  
 Date\_ 20140901  
 Time 14.03  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zgdc  
 TD 32768  
 SOLVENT Acetone  
 NS 958  
 DS 0  
 SWH 25125.629 Hz  
 FIDRES 0.766773 Hz  
 AQ 0.6521332 sec  
 RG 8192  
 DW 19.900 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 5.0000000 sec  
 d11 0.0300000 sec

----- CHANNEL f1 -----  
 NUC1 13C  
 P1 6.40 usec  
 PL1 0.00 dB  
 SFO1 100.6237959 MHz

----- CHANNEL f2 -----  
 CPDPRG2 waltz16  
 NUC2 1H  
 PCPD2 80.00 usec  
 PL2 3.40 dB  
 PL12 20.63 dB  
 SFO2 400.1316005 MHz

F2 - Processing parameters  
 SI 32768  
 SF 100.6126724 MHz  
 NDW EM  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40





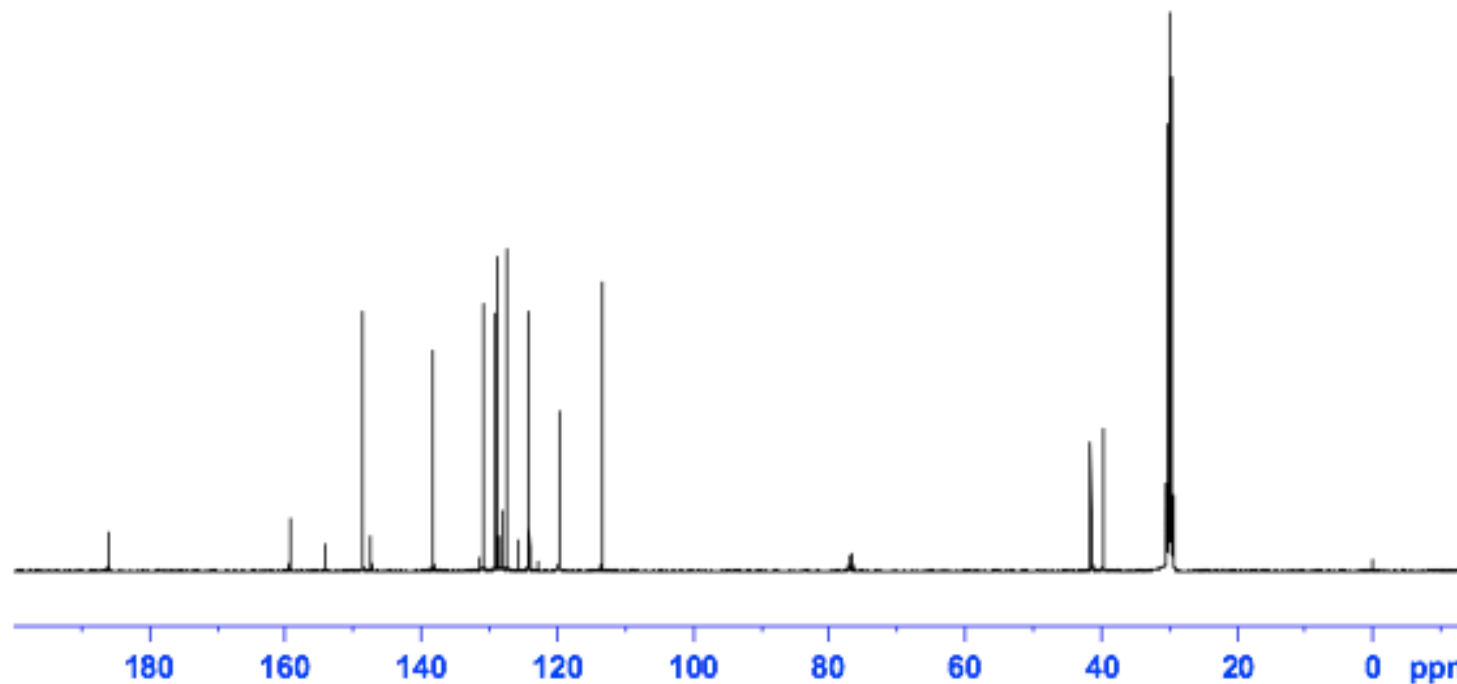
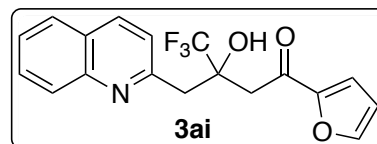
Current Data Parameters  
 NAME ZB7P38 1H 14oct14  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date 20141014  
 Time 14.59  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zg30  
 TD 32768  
 SOLVENT Acetone  
 NS 8  
 DS 0  
 SWH 8278.146 Hz  
 FIDRES 0.252629 Hz  
 AQ 1.9792372 sec  
 RG 143.7  
 DW 60.400 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 1.00000000 sec

----- CHANNEL f1 -----  
 NUC1 1H  
 P1 11.00 usec  
 PL1 3.40 dB  
 SFO1 400.1324710 MHz

F2 - Processing parameters  
 SI 16384  
 SF 400.1300066 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00





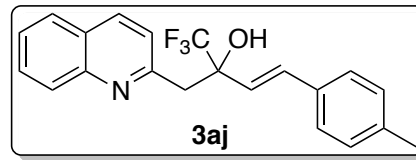
Current Data Parameters  
NAME ZB7P38 13C 14oct14  
EXPNO 1  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 20141014  
Time 15.10  
INSTRUM spect  
PROBHD 5 mm BBO BB-1H  
PULPROG zgpg30  
TD 32768  
SOLVENT Acetone  
NS 11406  
DS 0  
SWH 25125.629 Hz  
FIDRES 0.766773 Hz  
AQ 0.6521332 sec  
RG 1625.5  
DW 19.900 usec  
DE 6.00 usec  
TE 297.2 K  
D1 5.00000000 sec  
d11 0.03000000 sec

===== CHANNEL f1 =====  
NUC1 13C  
P1 6.40 usec  
PL1 0.00 dB  
SFO1 100.6237959 MHz

===== CHANNEL f2 =====  
CPDPRG2 waltz16  
NUC2 1H  
PCPD2 80.00 usec  
PL2 3.40 dB  
PL12 20.63 dB  
SFO2 400.1316005 MHz

F2 - Processing parameters  
SI 32768  
SF 100.6126716 MHz  
WDW EM  
SSB 0  
LB 1.00 Hz  
GB 0  
PC 1.40

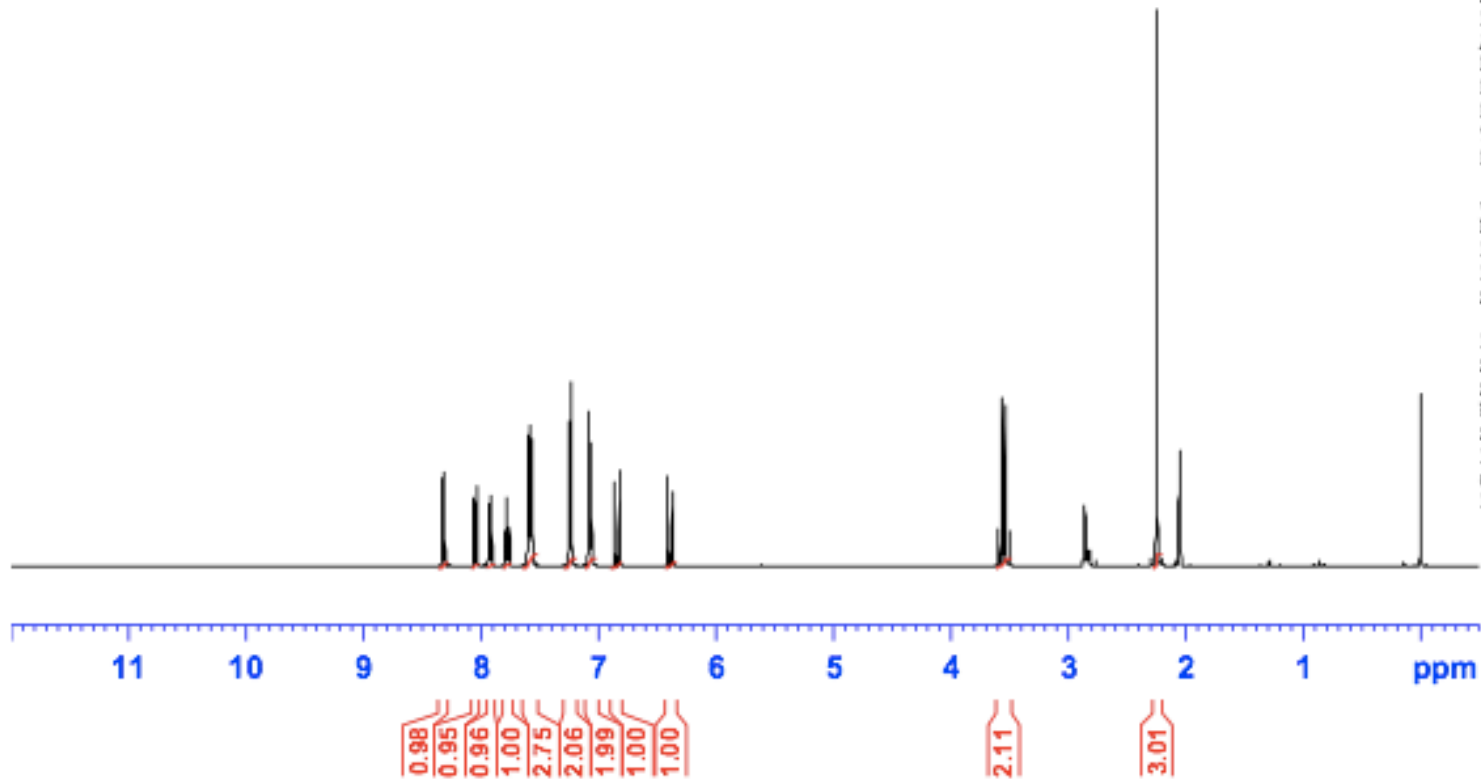


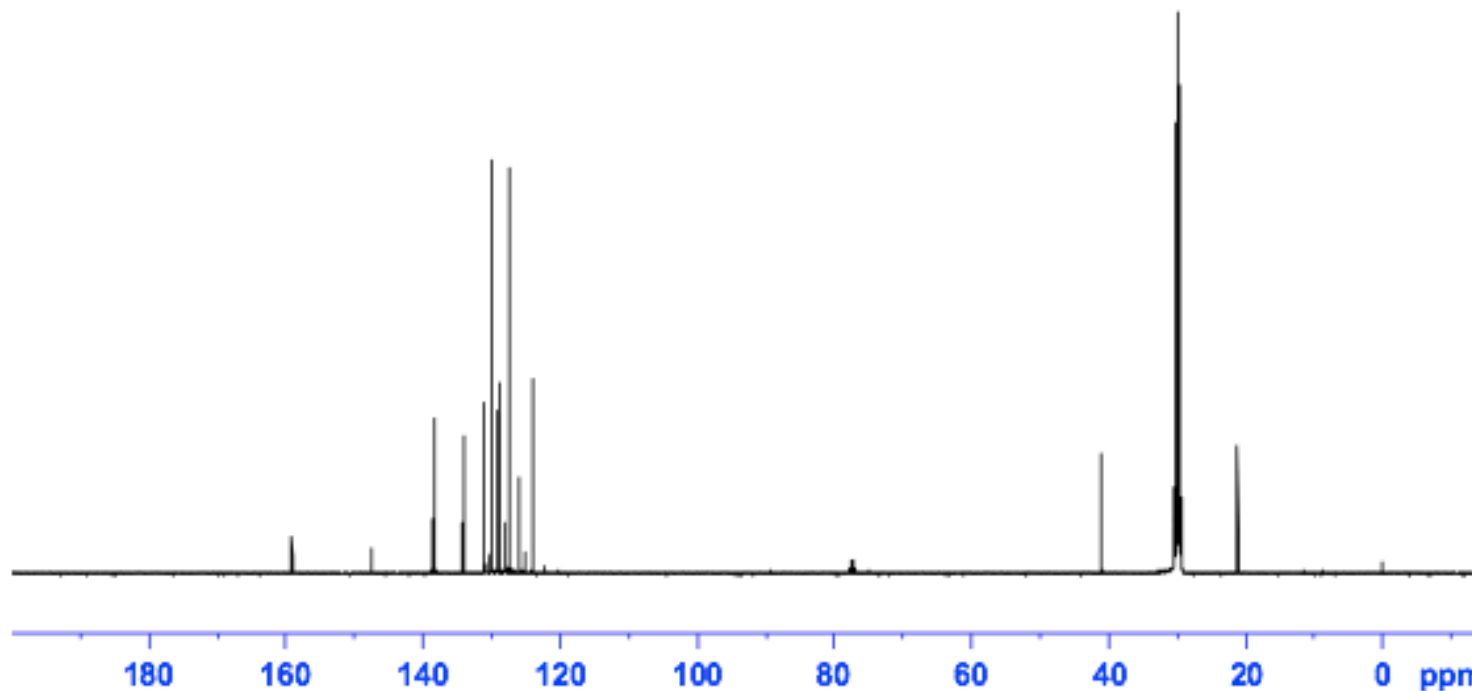
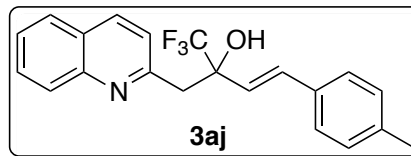
Current Data Parameters  
 NAME ZB7P66 1H  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date 20141010  
 Time 16.02  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zg30  
 TD 32768  
 SOLVENT Acetone  
 NS 8  
 DS 0  
 SWE 8278.146 Hz  
 FIDRES 0.252629 Hz  
 AQ 1.9792372 sec  
 RG 161.3  
 DW 60.400 usec  
 DE 6.00 usec  
 TE 296.2 K  
 D1 1.00000000 sec

----- CHANNEL f1 -----  
 NUC1 1H  
 P1 11.00 usec  
 PL1 3.40 dB  
 SFO1 400.1324710 MHz

F2 - Processing parameters  
 SI 16384  
 SF 400.1300066 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00





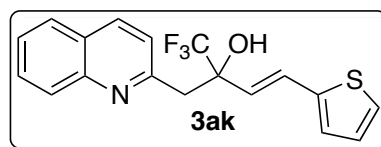
Current Data Parameters  
 NAME ZB7P66 13C  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20141010  
 Time\_ 16.11  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zgdc  
 TD 32768  
 SOLVENT Acetone  
 NS 1652  
 DS 0  
 SWH 25125.629 Hz  
 FIDRES 0.766773 Hz  
 AQ 0.6521332 sec  
 RG 3649.1  
 DW 19.900 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 5.00000000 sec  
 d11 0.03000000 sec

----- CHANNEL f1 -----  
 NUC1 13C  
 P1 6.40 usec  
 PL1 0.00 dB  
 SFO1 100.6237959 MHz

----- CHANNEL f2 -----  
 CPDPRG2 waltz16  
 NUC2 1H  
 PCPD2 80.00 usec  
 PL2 3.40 dB  
 PL12 20.63 dB  
 SFO2 400.1316005 MHz

F2 - Processing parameters  
 SI 32768  
 SF 100.6126708 MHz  
 WDW EM  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40



```

Current Data Parameters
NAME       ZB7P77 1H
EXPNO      1
PROCNO     1
  
```

```

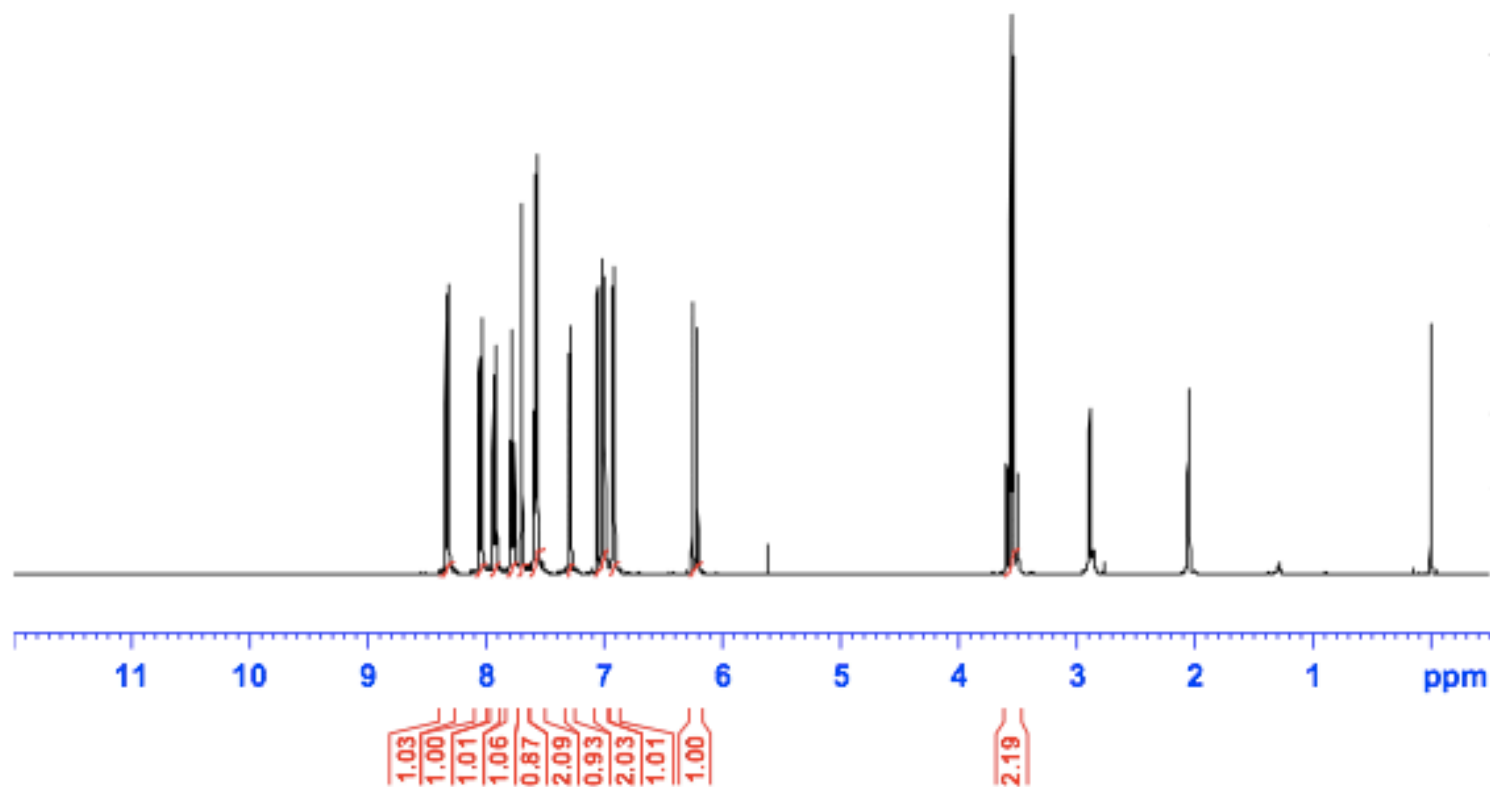
F2 - Acquisition Parameters
Date_      20141016
Time       16.08
INSTRUM    spect
PROBHD     5 mm BBO BB-1H
PULPROG    zg30
TD         32768
SOLVENT    Acetone
NS         8
DS         0
SWH        8278.146 Hz
FIDRES     0.252629 Hz
AQ         1.9792372 sec
RG         143.7
DW         60.400 usec
DE         6.00 usec
TE         297.2 K
D1         1.00000000 sec
  
```

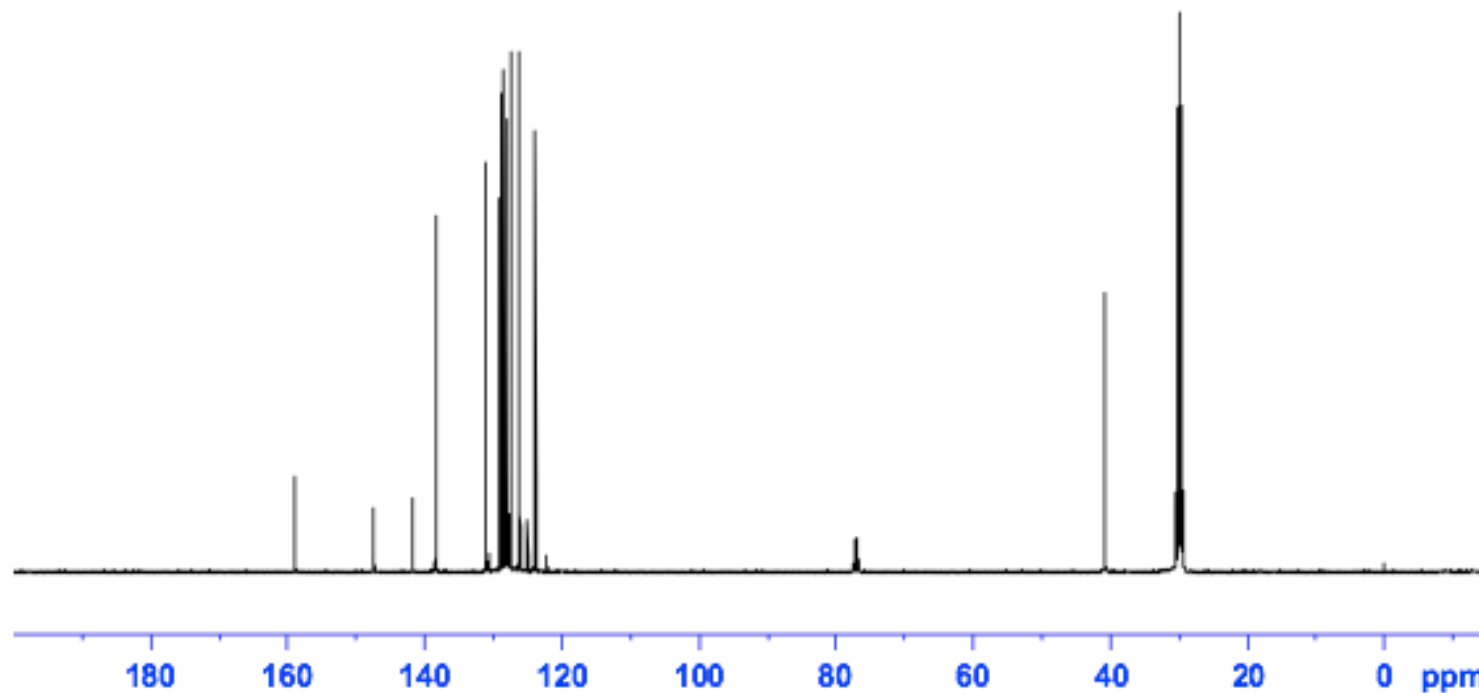
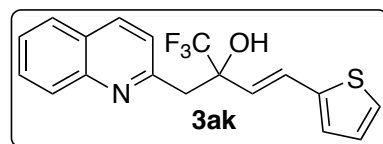
```

===== CHANNEL f1 =====
NUC1       1H
P1         11.00 usec
PL1        3.40 dB
SFO1       400.1324710 MHz
  
```

```

F2 - Processing parameters
SI         16384
SF         400.1300066 MHz
WDW        EM
SSB        0
LB         0.30 Hz
GB         0
PC         1.00
  
```





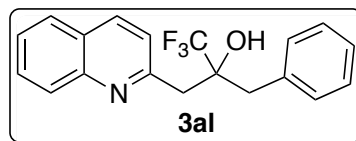
Current Data Parameters  
 NAME 2B7P77 13C 17oct14  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date 20141017  
 Time 12.52  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zgpg  
 TD 32768  
 SOLVENT Acetone  
 NS 1821  
 DS 0  
 SWH 25125.629 Hz  
 FIDRES 0.766773 Hz  
 AQ 0.6521332 sec  
 RG 2580.3  
 DW 19.900 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 5.00000000 sec  
 d11 0.03000000 sec

----- CHANNEL f1 -----  
 NUC1 13C  
 P1 6.40 usec  
 PL1 0.00 dB  
 SFO1 100.6237959 MHz

----- CHANNEL f2 -----  
 CPDPRG2 waltz16  
 NUC2 1H  
 PCPD2 80.00 usec  
 PL2 3.40 dB  
 PL12 20.63 dB  
 SFO2 400.1316005 MHz

F2 - Processing parameters  
 SI 32768  
 SF 100.6126739 MHz  
 WDW EM  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40

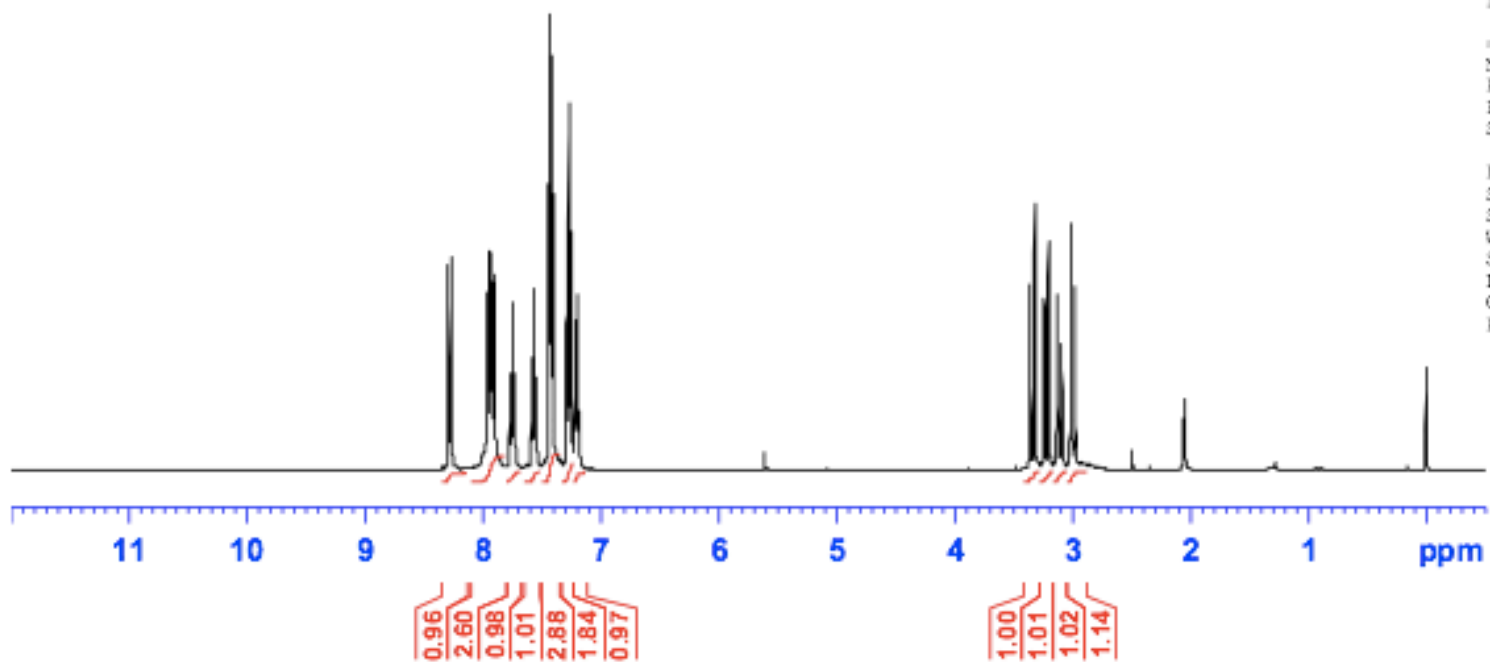


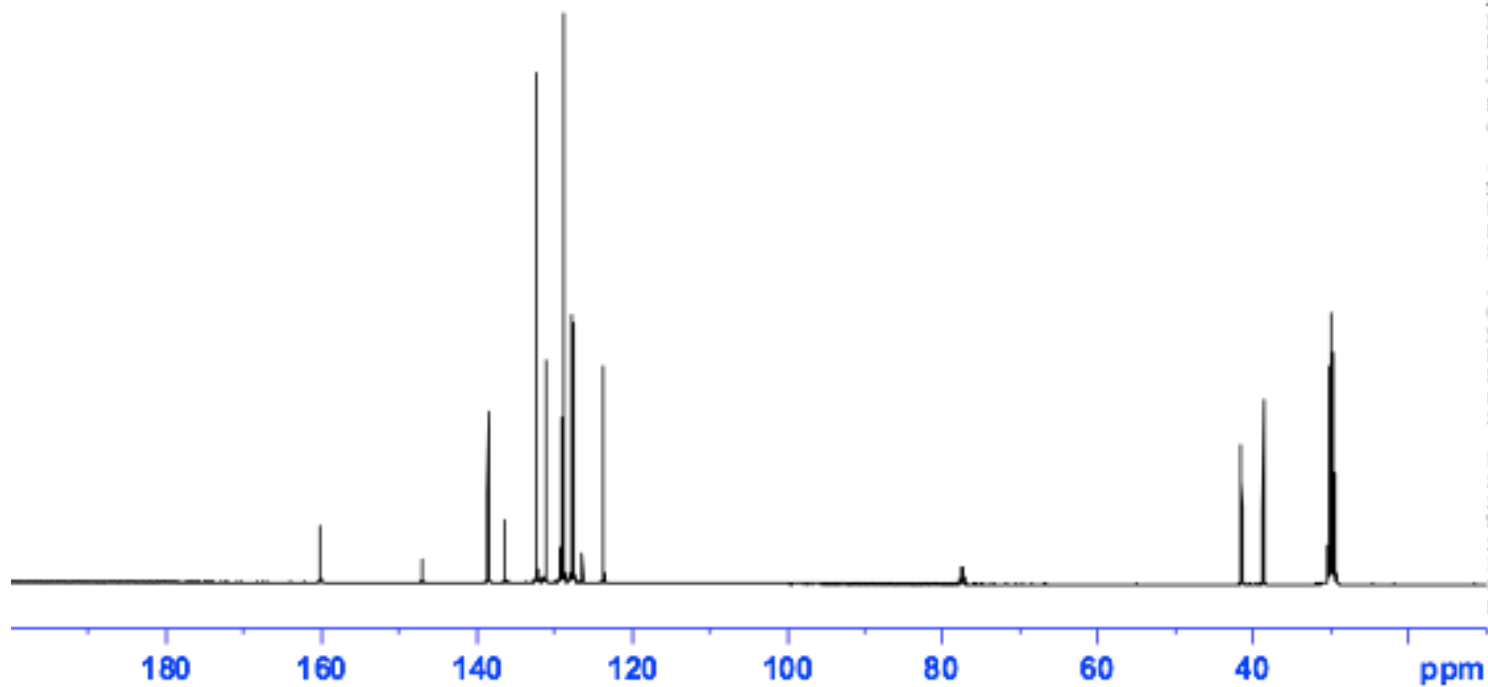
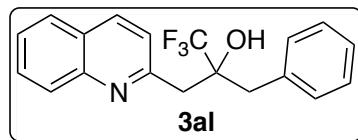
Current Data Parameters  
 NAME ZB6P126 1H acetone-D6  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140627  
 Time 16.12  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zg30  
 TD 32768  
 SOLVENT Acetone  
 NS 8  
 DS 0  
 SWH 8278.146 Hz  
 FIDRES 0.252629 Hz  
 AQ 1.9792372 sec  
 RG 90.5  
 DW 60.400 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 1.00000000 sec

===== CHANNEL f1 =====  
 NUC1 1H  
 P1 11.00 usec  
 PL1 3.40 dB  
 SFO1 400.1324710 MHz

F2 - Processing parameters  
 SI 16384  
 SF 400.1300061 MHz  
 WDM SM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00





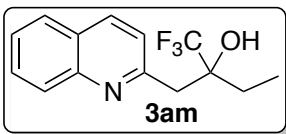
Current Data Parameters  
 NAME ZB6P126 13C acetone-D6  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140827  
 Time\_ 16.21  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zgdc  
 TD 32768  
 SOLVENT Acetone  
 NS 10546  
 DS 0  
 SWH 25125.629 Hz  
 FIDRES 0.766773 Hz  
 AQ 0.6521332 sec  
 RG 5160.6  
 DW 19.900 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 5.0000000 sec  
 d11 0.0300000 sec

----- CHANNEL f1 -----  
 NUC1 13C  
 P1 6.40 usec  
 PL1 0.00 dB  
 SFO1 100.6237959 MHz

----- CHANNEL f2 -----  
 CPDPRG2 waltz16  
 NUC2 1H  
 PCPD2 80.00 usec  
 PL2 3.40 dB  
 PL12 20.63 dB  
 SFO2 400.1316005 MHz

F2 - Processing parameters  
 SI 32768  
 SF 100.6126739 MHz  
 WDW EM  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40

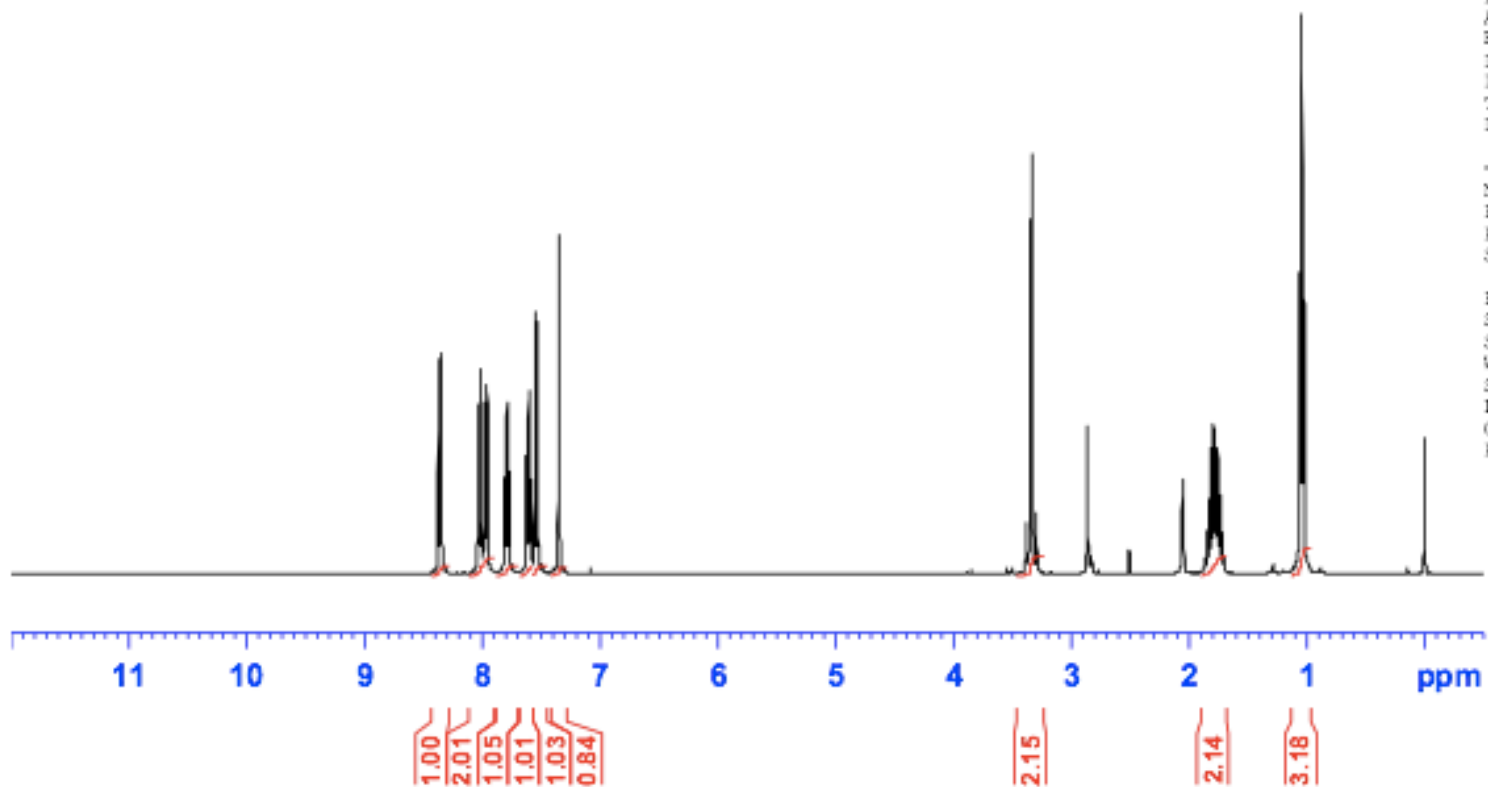


Current Data Parameters  
NAME ZB6P120 1H acetone-D6  
EXPNO 1  
PROCNO 1

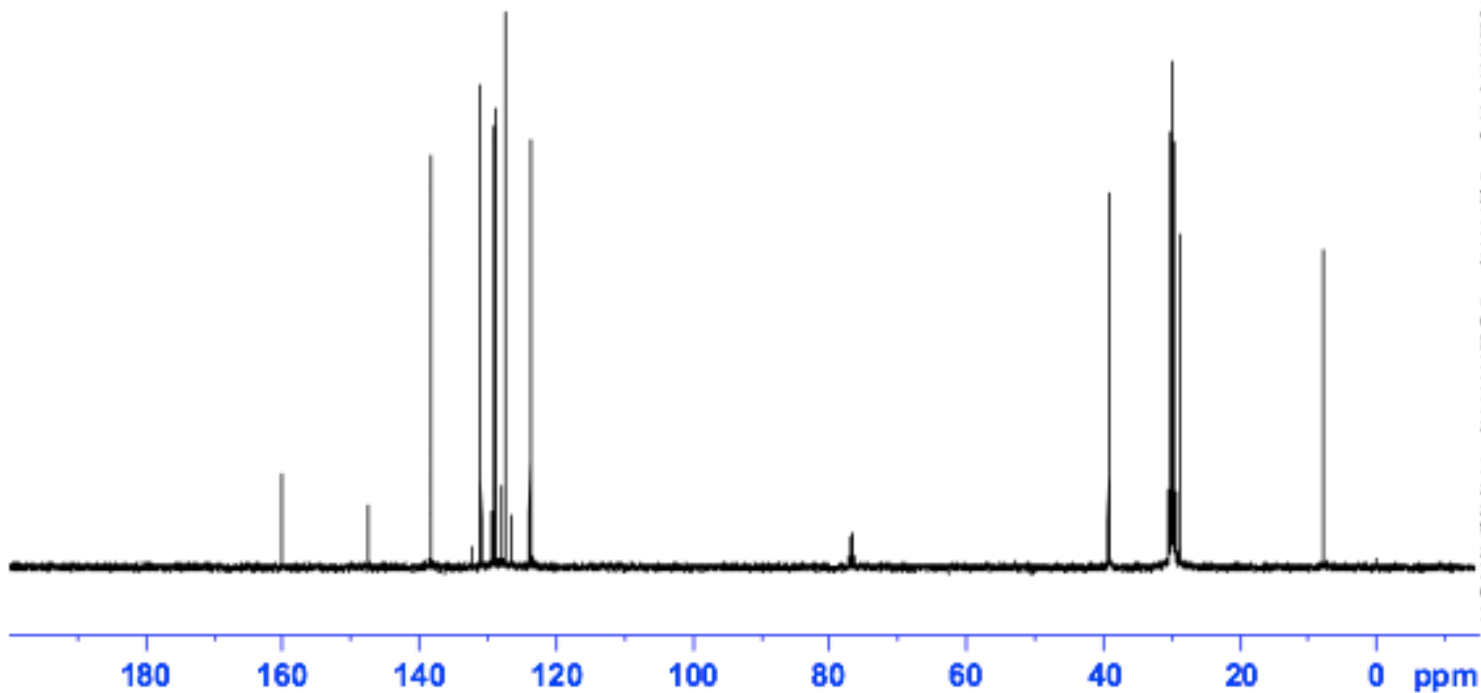
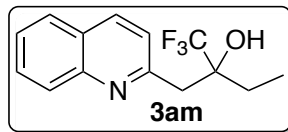
F2 - Acquisition Parameters  
Date\_ 20140829  
Time 16.15  
INSTRUM spect  
PROBHD 5 mm BBO BB-1H  
PULPROG zg30  
TD 32768  
SOLVENT Acetone  
NS 8  
DS 0  
SWH 8278.146 Hz  
FIDRES 0.252629 Hz  
AQ 1.9792372 sec  
RG 128  
DW 60.400 usec  
DE 6.00 usec  
TE 298.2 K  
D1 1.00000000 sec

----- CHANNEL f1 -----  
NUC1 1H  
P1 11.00 usec  
PL1 3.40 dB  
SFO1 400.1324710 MHz

F2 - Processing parameters  
SI 16384  
SF 400.1300066 MHz  
WDW EM  
SSB 0  
LB 0.30 Hz  
GB 0  
PC 1.00







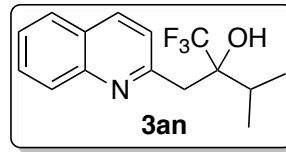
Current Data Parameters  
 NAME ZB6P120 13C acetone-D6  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140829  
 Time\_ 15.23  
 INSTRUM spect  
 PROBNM 5 mm BBO BB-1H  
 PULPROG zgpg  
 TD 32768  
 SOLVENT Acetone  
 NS 435  
 DS 0  
 SWH 25125.629 Hz  
 FIDRES 0.766773 Hz  
 AQ 0.6521332 sec  
 RG 6502  
 DM 19.900 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 5.00000000 sec  
 d11 0.03000000 sec

===== CHANNEL f1 =====  
 NUC1 13C  
 P1 6.40 usec  
 PL1 0.00 dB  
 SFO1 100.6237959 MHz

===== CHANNEL f2 =====  
 PCPRG2 waltz16  
 NUC2 1H  
 PCPD2 80.00 usec  
 PL2 3.40 dB  
 PL12 20.63 dB  
 SFO2 400.1316005 MHz

F2 - Processing parameters  
 SI 32768  
 SF 100.6126708 MHz  
 WDW EM  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 FC 1.40

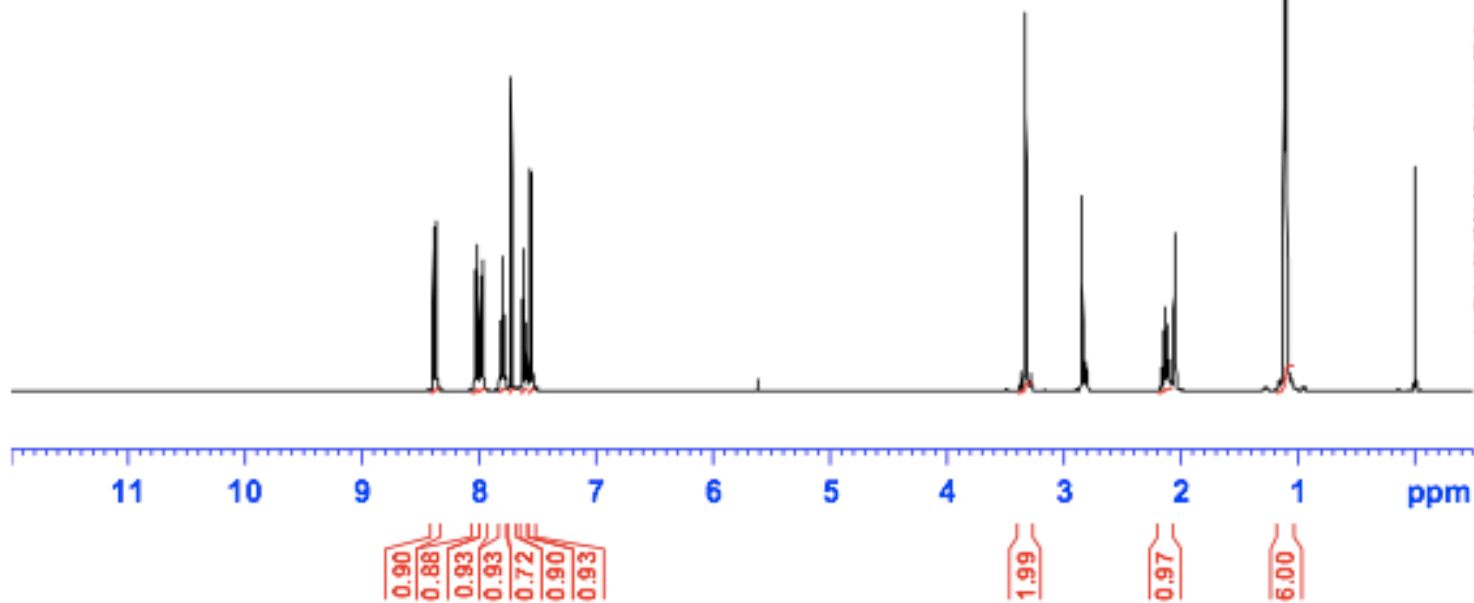


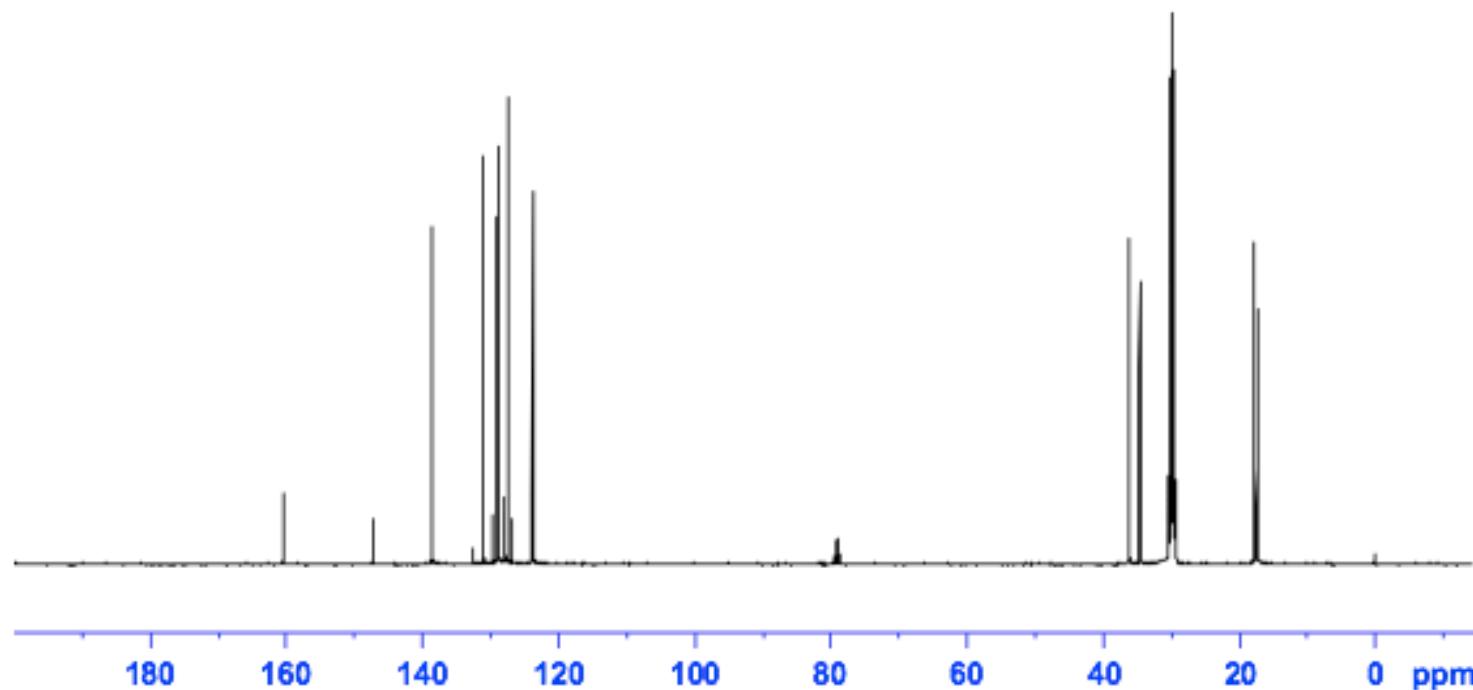
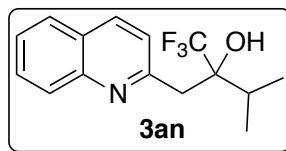
Current Data Parameters  
 NAME ZB7P32 1H  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date 20141007  
 Time 14.58  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zg30  
 TD 32768  
 SOLVENT Acetone  
 NS 8  
 DS 0  
 SWH 8278.146 Hz  
 FIDRES 0.252629 Hz  
 AQ 1.9792372 sec  
 RG 161.3  
 DW 60.400 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 1.00000000 sec

----- CHANNEL f1 -----  
 NUC1 1H  
 P1 11.00 usec  
 PL1 3.40 dB  
 SFO1 400.1324710 MHz

F2 - Processing parameters  
 SI 16384  
 SF 400.1300066 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00





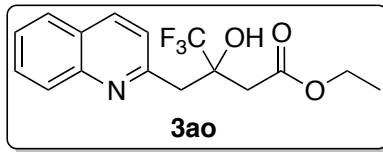
Current Data Parameters  
 NAME ZB7P32 13C Boct14  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20141008  
 Time\_ 14.59  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zgdc  
 TD 32768  
 SOLVENT Acetone  
 NS 11511  
 DS 0  
 SWH 25125.629 Hz  
 FIDRES 0.766773 Hz  
 AQ 0.6521332 sec  
 RG 6502  
 DW 19.900 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 5.00000000 sec  
 d11 0.03000000 sec

===== CHANNEL f1 =====  
 NUC1 13C  
 P1 6.40 usec  
 PL1 0.00 dB  
 SFO1 100.6237959 MHz

===== CHANNEL f2 =====  
 CPDPRG2 waltz16  
 NUC2 1H  
 PCPD2 80.00 usec  
 PL2 3.40 dB  
 PL12 20.63 dB  
 SFO2 400.1316005 MHz

F2 - Processing parameters  
 SI 32768  
 SF 100.6126716 MHz  
 WDW EM  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40

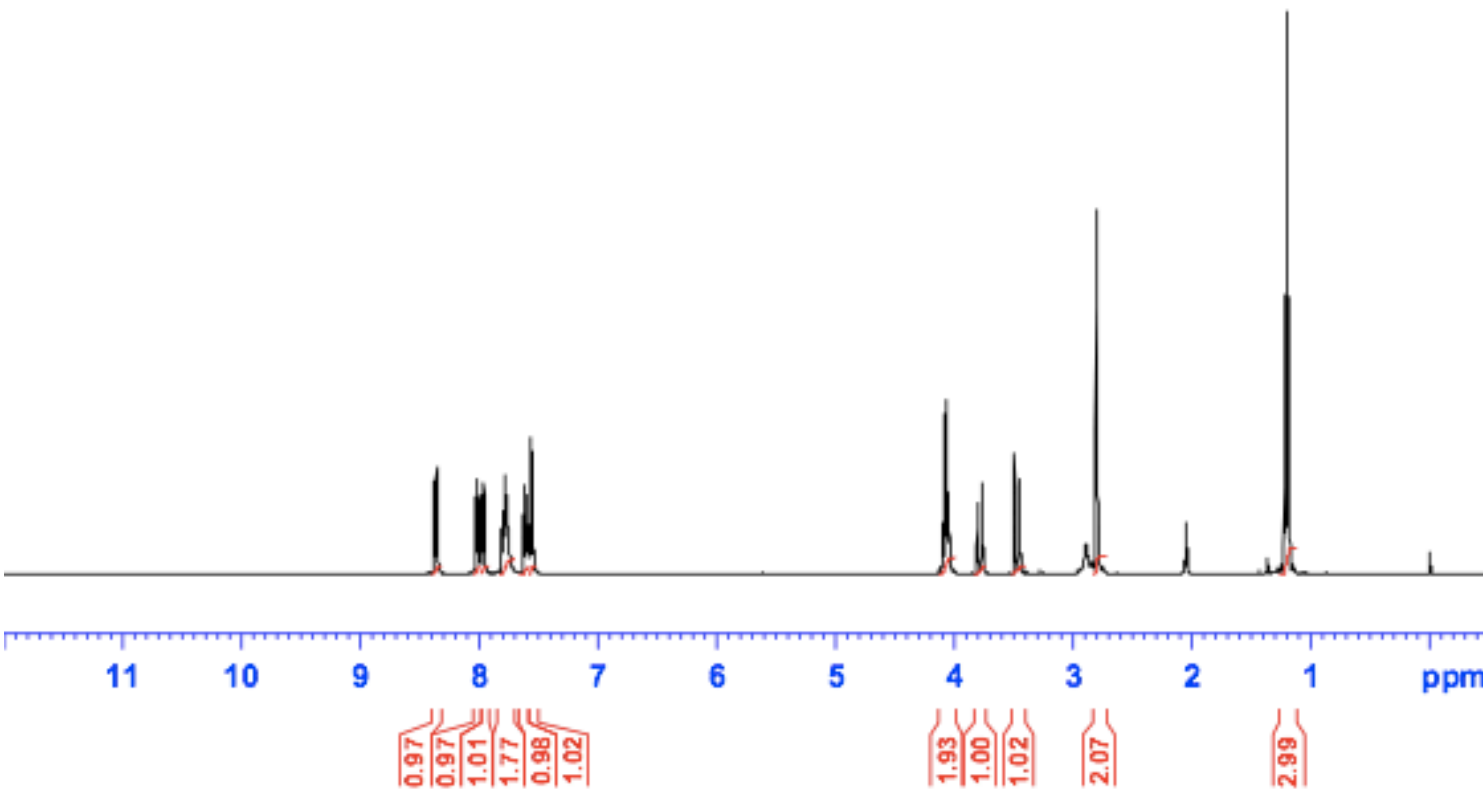


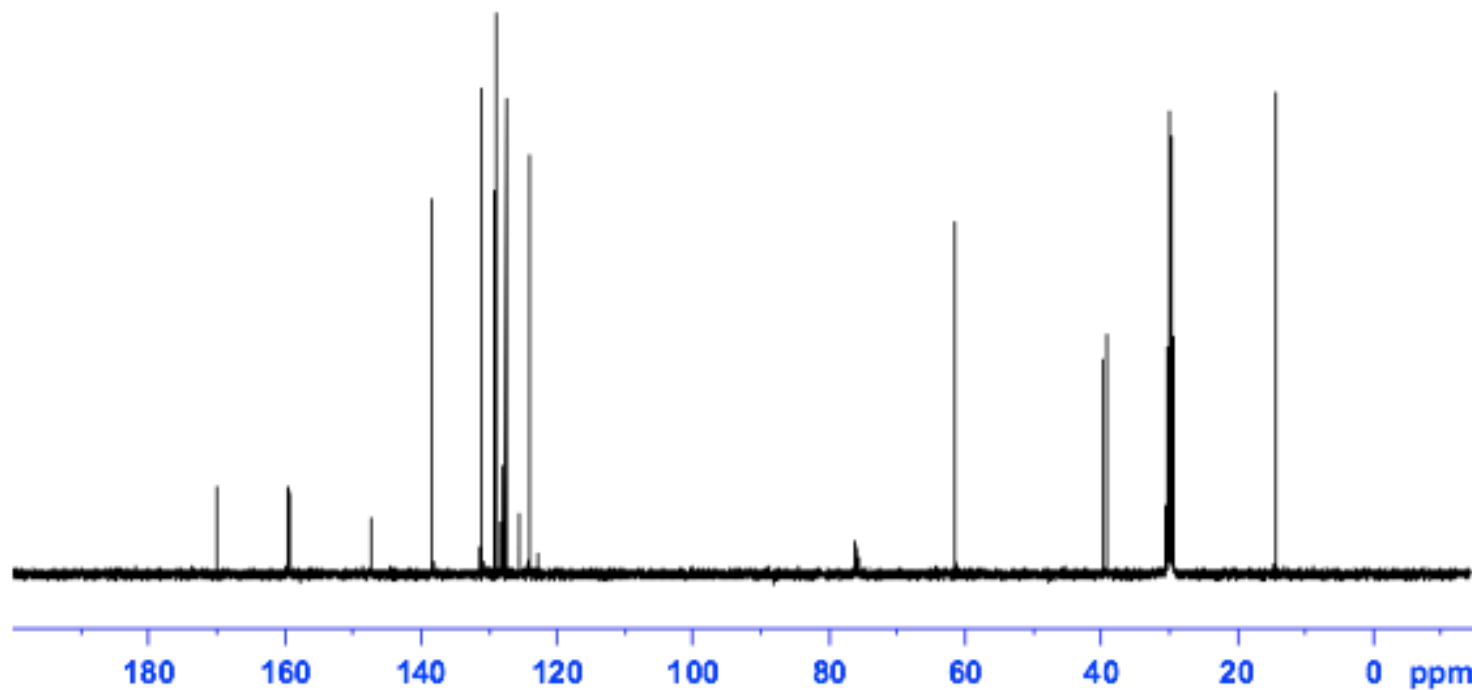
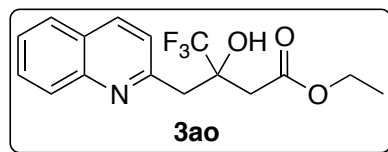
Current Data Parameters  
 NAME 289P19i 1H  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20150228  
 Time 17.30  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zg30  
 TD 32768  
 SOLVENT Acetone  
 NS 8  
 DS 0  
 SWH 8278.146 Hz  
 FIDRES 0.252629 Hz  
 AQ 1.9792372 sec  
 RG 80.6  
 DW 60.400 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 1.00000000 sec

----- CHANNEL f1 -----  
 NUC1 1H  
 P1 11.00 usec  
 PL1 3.40 dB  
 SFO1 400.1324710 MHz

F2 - Processing parameters  
 SI 16384  
 SF 400.130066 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00





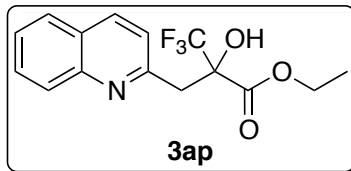
Current Data Parameters  
 NAME ZB9P19i 13C  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20150228  
 Time\_ 17.43  
 INSTRUM spect  
 PROBRD 5 mm BBO BB-1H  
 PULPROG zgdc  
 TD 32768  
 SOLVENT Acetone  
 NS 13711  
 DS 0  
 SWH 25125.629 Hz  
 FIDRES 0.766773 Hz  
 AQ 0.6521332 sec  
 RG 3649.1  
 DW 19.900 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 5.00000000 sec  
 d11 0.03000000 sec

===== CHANNEL f1 =====  
 NUC1 13C  
 P1 6.40 usec  
 PL1 0.00 dB  
 SFO1 100.6237959 MHz

===== CHANNEL f2 =====  
 CPDPRG2 waltz16  
 NUC2 1H  
 PCPD2 80.00 usec  
 PL2 3.40 dB  
 PL12 20.63 dB  
 SFO2 400.1316005 MHz

F2 - Processing parameters  
 SI 32768  
 SF 100.6126731 MHz  
 NDK EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.40

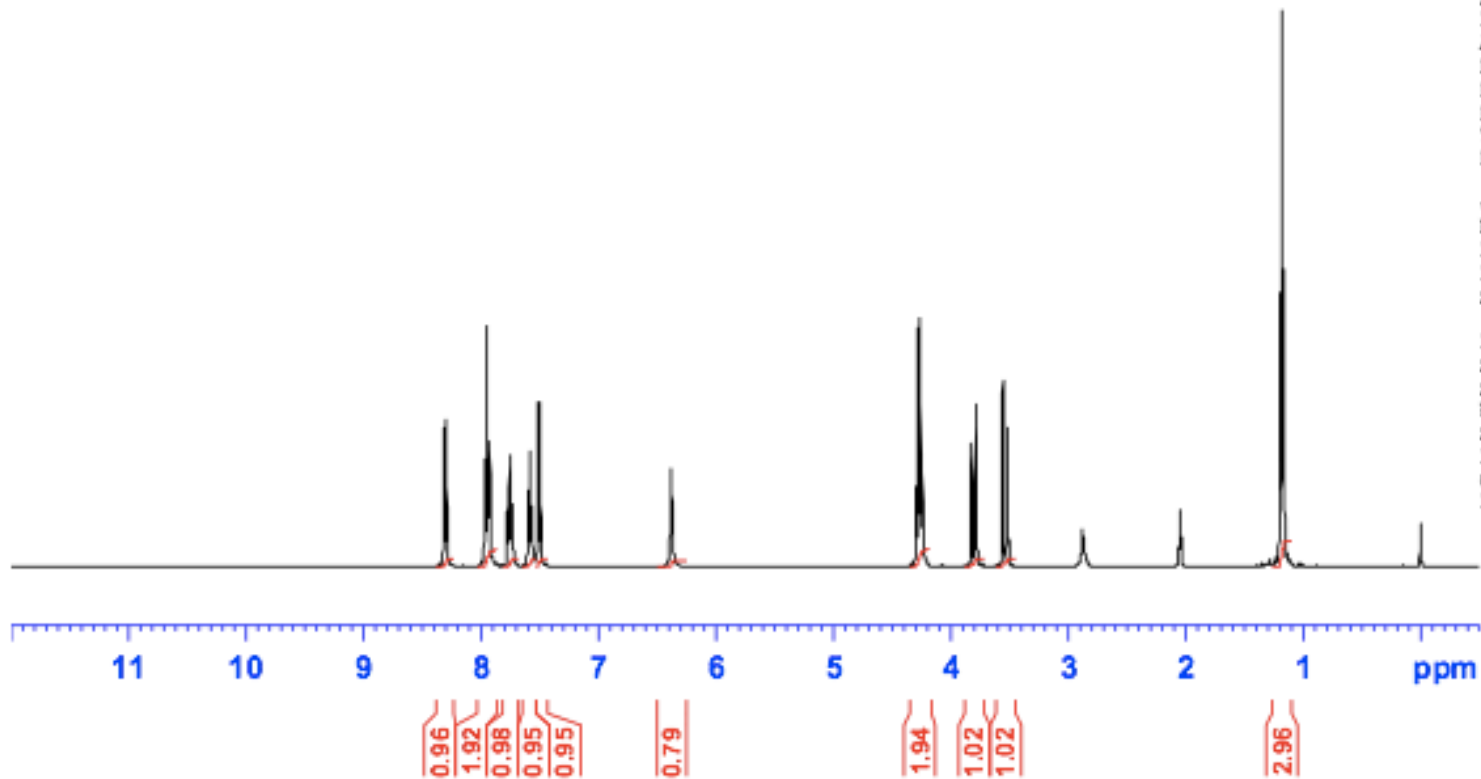


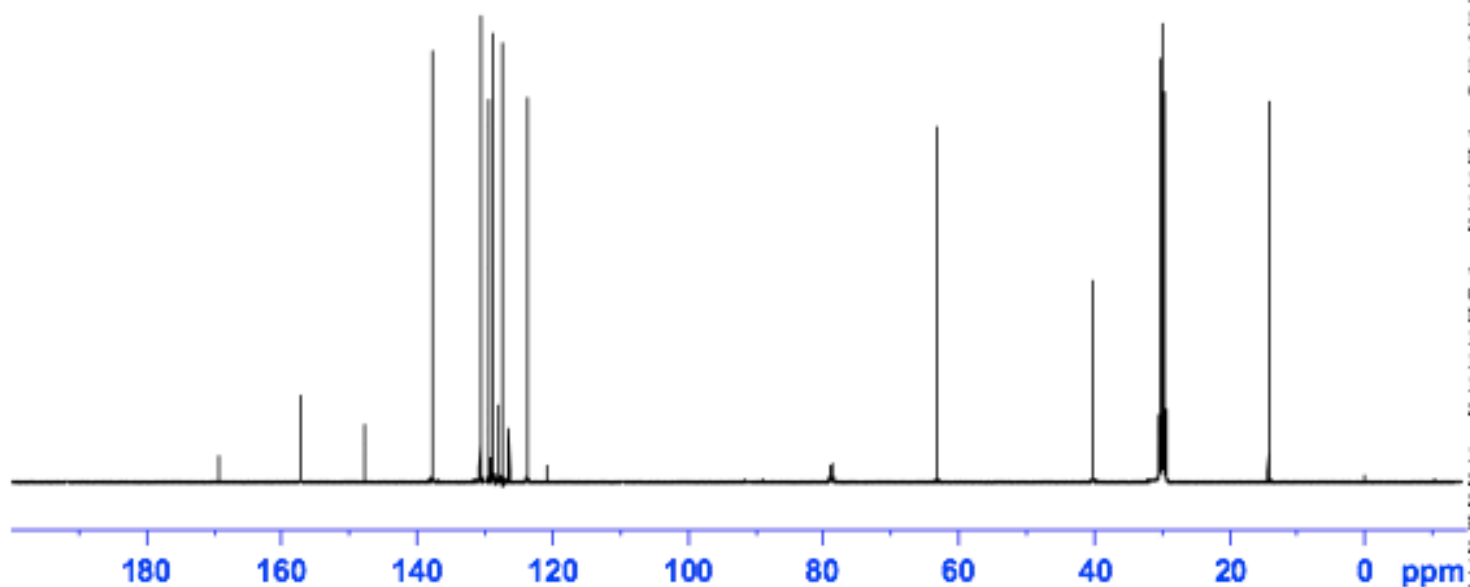
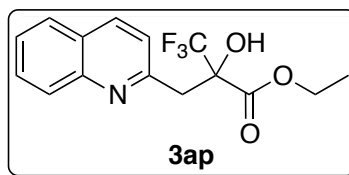
Current Data Parameters  
NAME 2B9P19ii 1H  
EXPNO 1  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 20150228  
Time 11.34  
INSTRUM spect  
PROBHD 5 mm BBO BB-1H  
PULPROG zg30  
TD 32768  
SOLVENT Acetone  
NS 8  
DS 0  
SWE 8278.146 Hz  
FIDRES 0.252629 Hz  
AQ 1.9792372 sec  
RG 90.5  
DW 60.400 usec  
DE 6.00 usec  
TE 297.2 K  
D1 1.00000000 sec

----- CHANNEL f1 -----  
NUC1 1H  
P1 11.00 usec  
PL1 3.40 dB  
SFO1 400.1324710 MHz

F2 - Processing parameters  
SI 16384  
SF 400.1300066 MHz  
WDW EM  
SSB 0  
LB 0.30 Hz  
GB 0  
PC 1.00





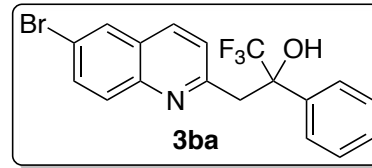
Current Data Parameters  
 NAME ZB9P19ii 13C  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20150228  
 Time\_ 11.58  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zgdc  
 TD 32768  
 SOLVENT Acetone  
 NS 3246  
 DS 0  
 SWH 25125.629 Hz  
 FIDRES 0.766773 Hz  
 AQ 0.6521332 sec  
 RG 8192  
 DW 19.900 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 5.0000000 sec  
 d11 0.0300000 sec

----- CHANNEL f1 -----  
 NUC1 13C  
 P1 6.40 usec  
 PL1 0.00 dB  
 SFO1 100.6237959 MHz

----- CHANNEL f2 -----  
 CPDPRG2 waltz16  
 NUC2 1H  
 PCPD2 80.00 usec  
 PL2 3.40 dB  
 PL12 20.63 dB  
 SFO2 400.1316005 MHz

F2 - Processing parameters  
 SI 32768  
 SF 100.6126724 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.40

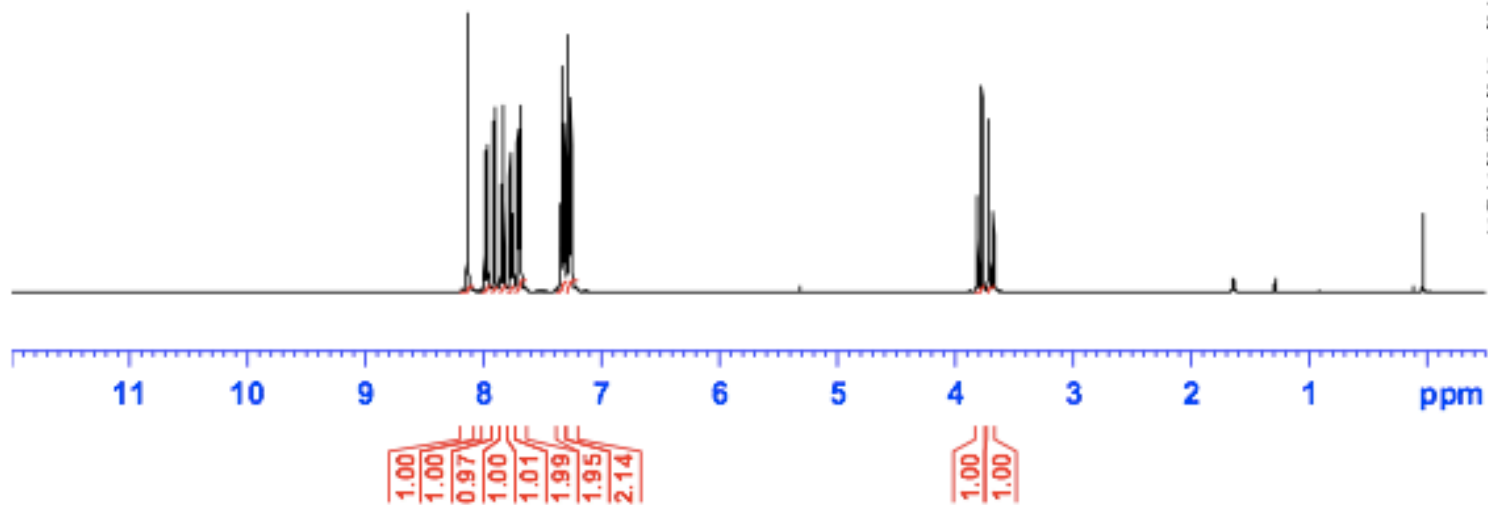


Current Data Parameters  
 NAME 2B6P84  
 EXPNO 1  
 PROCNO 1

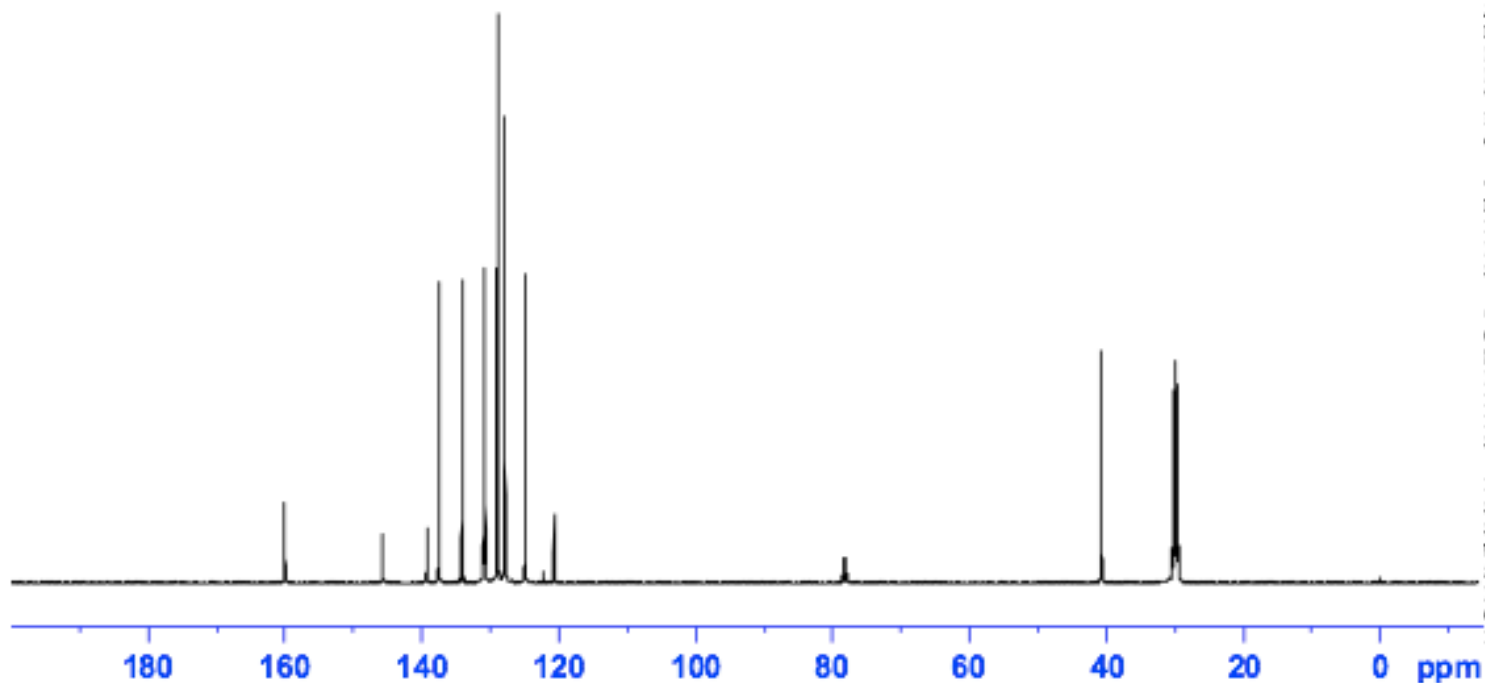
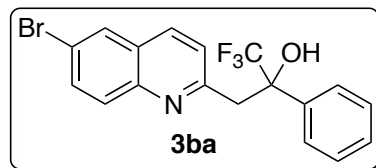
F2 - Acquisition Parameters  
 Date\_ 20140724  
 Time\_ 15.36  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zg30  
 TD 32768  
 SOLVENT CDCl3  
 NS 8  
 DS 0  
 SWH 8278.146 Hz  
 FIDRES 0.252629 Hz  
 AQ 1.9792372 sec  
 RG 181  
 DW 60.400 usec  
 DE 6.00 usec  
 TE 296.2 K  
 D1 1.0000000 sec

===== CHANNEL f1 =====  
 NUC1 1H  
 P1 11.00 usec  
 PL1 3.40 dB  
 SFO1 400.1324710 MHz

F2 - Processing parameters  
 SI 16384  
 SF 400.1300000 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00







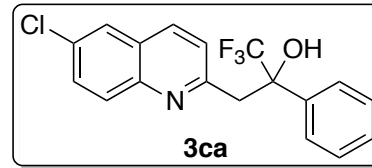
Current Data Parameters  
 NAME ZB6P84 13C acetone-D6  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140821  
 Time 15.21  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zgpg30  
 TD 32768  
 SOLVENT Acetone  
 NS 1808  
 DS 0  
 SWH 25125.629 Hz  
 FIDRES 0.766773 Hz  
 AQ 0.6521332 sec  
 RG 7298.2  
 CW 19.900 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 5.0000000 sec  
 d11 0.0300000 sec

----- CHANNEL f1 -----  
 NUC1 13C  
 P1 6.40 usec  
 PL1 0.00 dB  
 SFO1 100.6237959 MHz

----- CHANNEL f2 -----  
 CPDPRG2 waltz16  
 NUC2 1H  
 PCPD2 80.00 usec  
 PL2 3.40 dB  
 PL12 20.63 dB  
 SFO2 400.1316005 MHz

F2 - Processing parameters  
 SI 32768  
 SF 100.6126770 MHz  
 WDW EM  
 SSB 0  
 LB 2.50 Hz  
 GB 0  
 PC 1.40

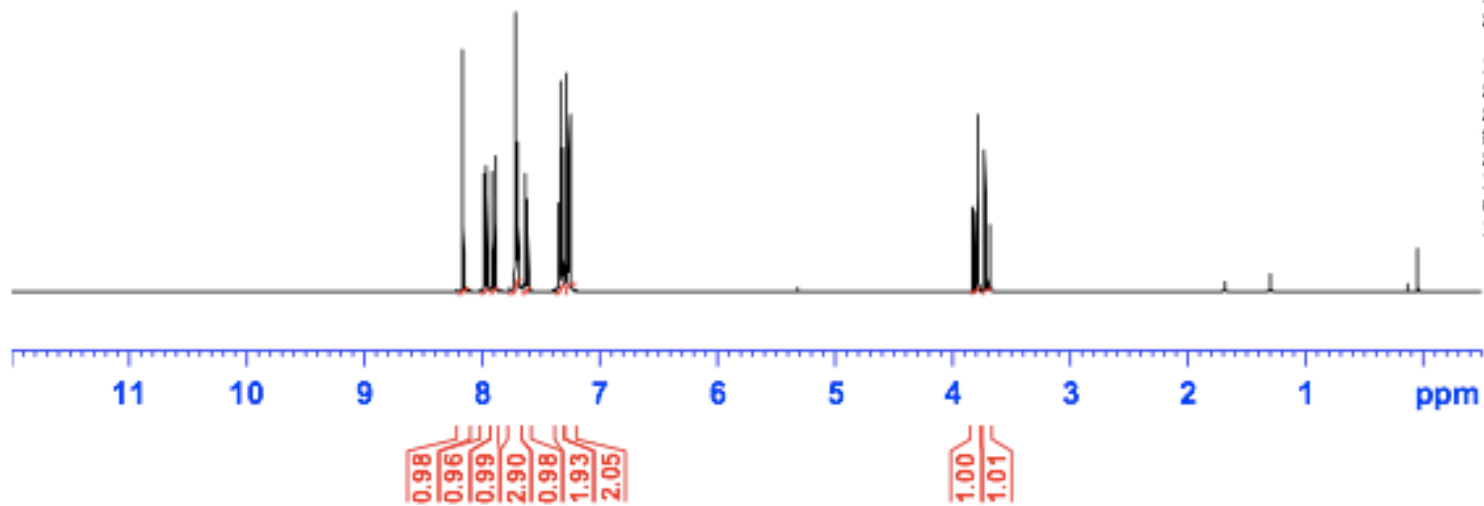


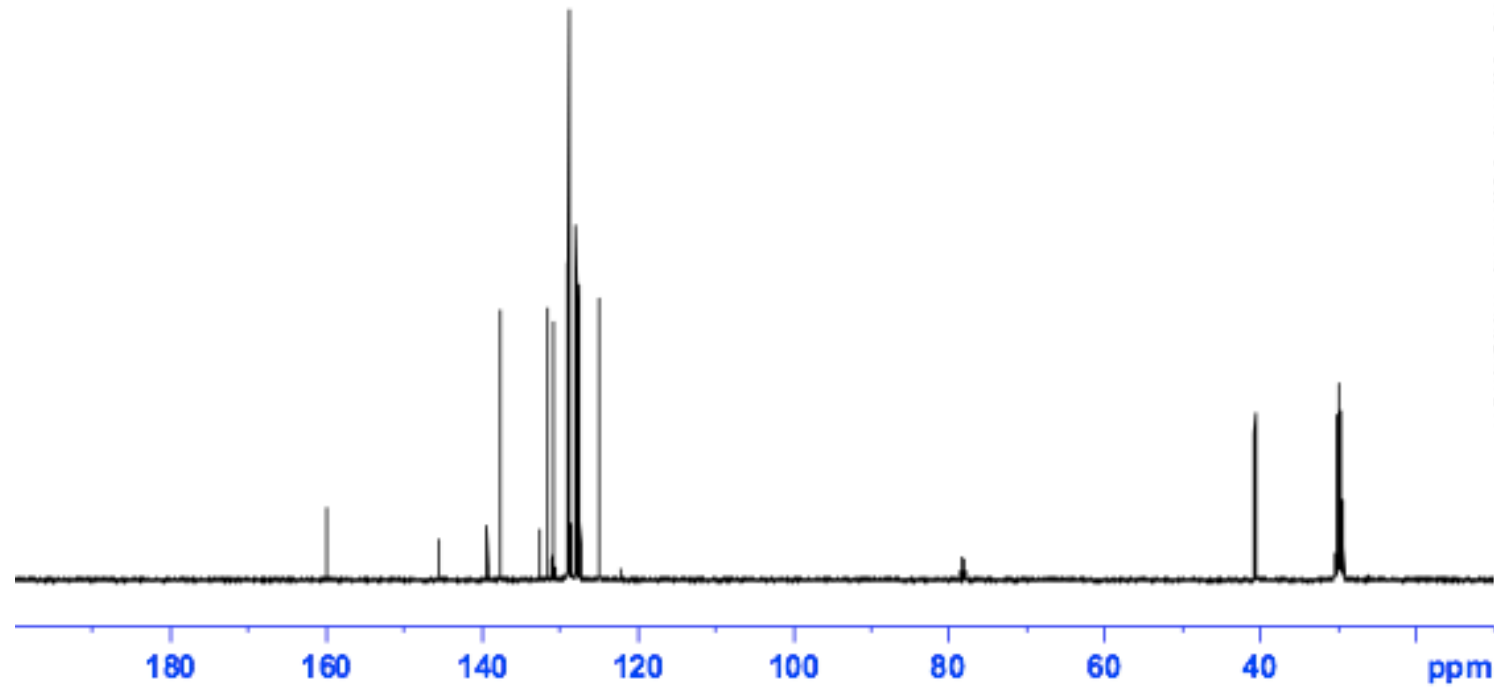
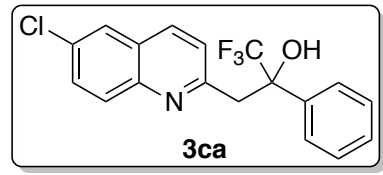
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Current Data Parameters
NAME          ZB6P85
EXPNO         1
PROCNO        1
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```
F2 - Acquisition Parameters
Date_         20140724
Time_         15.30
INSTRUM       spect
PROBHD        5 mm BBO BB-1H
PULPROG       zg30
TD            32768
SOLVENT       CDCl3
NS            8
DS            0
SWE           8278.146 Hz
FIDRES        0.252629 Hz
AQ            1.9792372 sec
RG            128
DW            60.400 usec
DE            6.00 usec
TE            297.2 K
D1            1.00000000 sec
```

```
----- CHANNEL f1 -----
NUC1          1H
P1            11.00 usec
PL1           3.40 dB
SFO1          400.1324710 MHz
```

```
F2 - Processing parameters
SI            16384
SF            400.1300000 MHz
WDW           EM
SSB           0
LB            0.30 Hz
GB            0
PC            1.00
```





```

Current Data Parameters
NAME      2B6P85 13C 22Aug14 acetone-D6
EXPNO    1
PROCNO   1

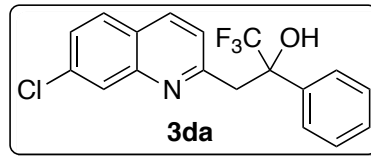
F2 - Acquisition Parameters
Date_    20140822
Time     15.30
INSTRUM  spect
PROBHD   5 mm BBO 5H-1H
PULPROG  zgpg30
TD        32768
SOLVENT  Acetone
NS        128
DS        4
SWH       25125.629 Hz
FIDRES    0.766773 Hz
AQ        0.6521332 sec
RG        5160.6
SM        19.900 usec
SFL       6.00 usec
TE        298.2 K
D1        5.0000000 sec
dL1       0.0300000 sec

===== CHANNEL f1 =====
NUC1      13C
P1        6.40 usec
PL1       0.00 dB
SFO1      100.6237959 MHz

===== CHANNEL f2 =====
CPCPRG2   waltz16
NUC2      1H
PCPD2     80.00 usec
PL2       3.40 dB
PL12      20.63 dB
SFO2      400.1316005 MHz

F2 - Processing parameters
SI        32768
SF        100.6126754 MHz
WDW       EM
SSB       0
LB        1.00 Hz
GB        0
PC        1.40

```

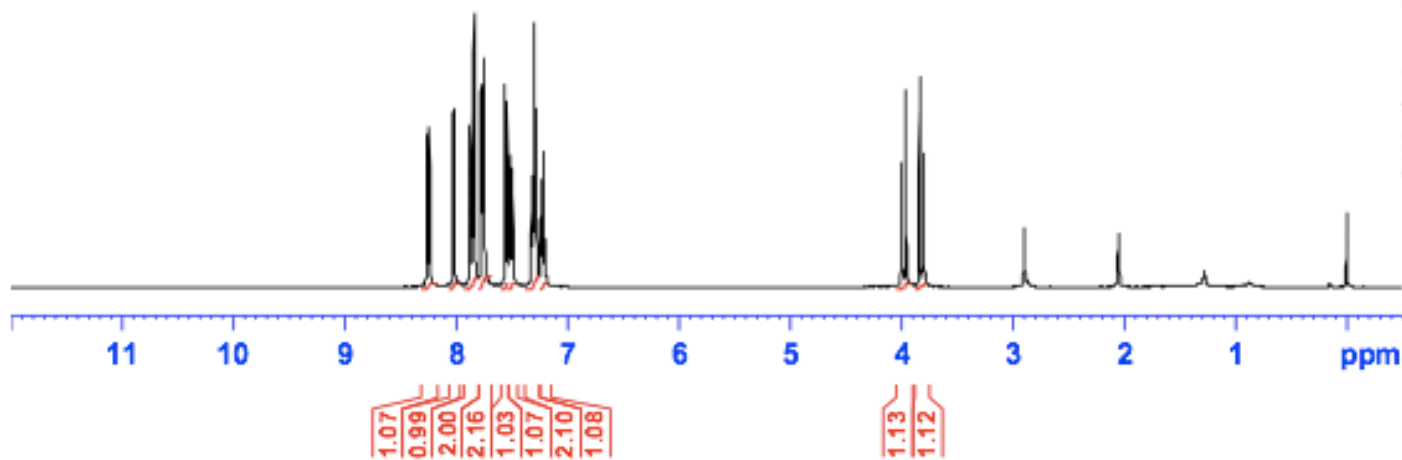


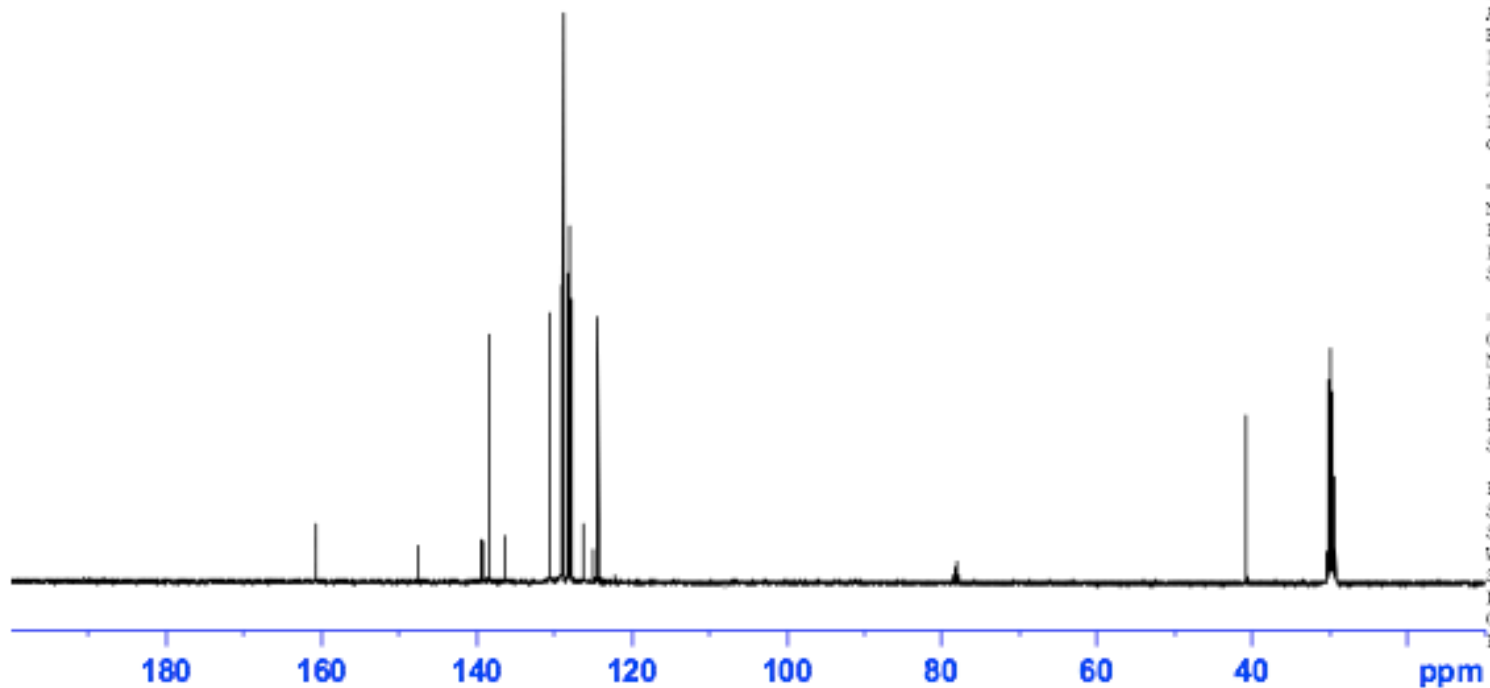
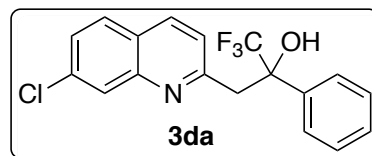
Current Data Parameters  
 NAME ZB6P89 1H 22Aug14 acetone-D6  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date 20140822  
 Time 15.06  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zg30  
 TD 32768  
 SOLVENT Acetone  
 NS 8  
 DS 0  
 SWH 6278.146 Hz  
 FIDRES 0.252629 Hz  
 AQ 1.9792372 sec  
 RG 101.6  
 DW 60.400 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 1.0000000 sec

----- CHANNEL f1 -----  
 NUC1 1H  
 P1 11.00 usec  
 PL1 3.40 dB  
 SF01 400.1324710 MHz

F2 - Processing parameters  
 SI 16384  
 SF 400.130066 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00





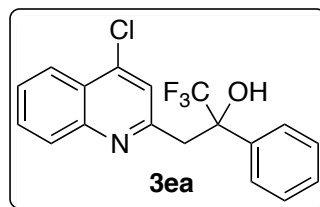
Current Data Parameters  
 NAME ZB6P89 13C acetone-D6  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20160821  
 Time\_ 19.33  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zgpg  
 TD 32768  
 SOLVENT Acetone  
 NS 151  
 DS 0  
 SWH 25125.629 Hz  
 FIDRES 0.766773 Hz  
 AQ 0.6521332 sec  
 RG 5160.6  
 DW 19.900 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 5.0000000 sec  
 d11 0.0300000 sec

----- CHANNEL f1 -----  
 NUC1 13C  
 P1 6.40 usec  
 PL1 0.00 dB  
 SFO1 100.6237959 MHz

----- CHANNEL f2 -----  
 CPCPRG2 waltz16  
 NUC2 1H  
 PCPD2 80.00 usec  
 PL2 3.40 dB  
 PL12 20.63 dB  
 SFO2 400.1316005 MHz

F2 - Processing parameters  
 SI 32768  
 SF 100.6126747 MHz  
 WDM EM  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40

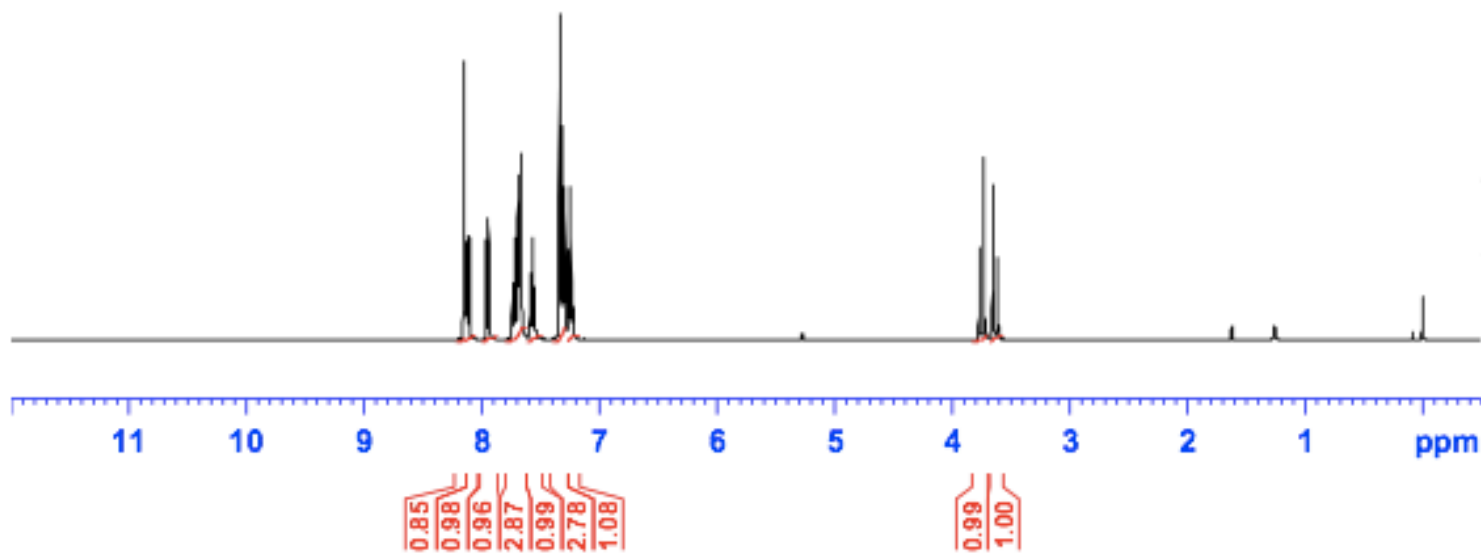


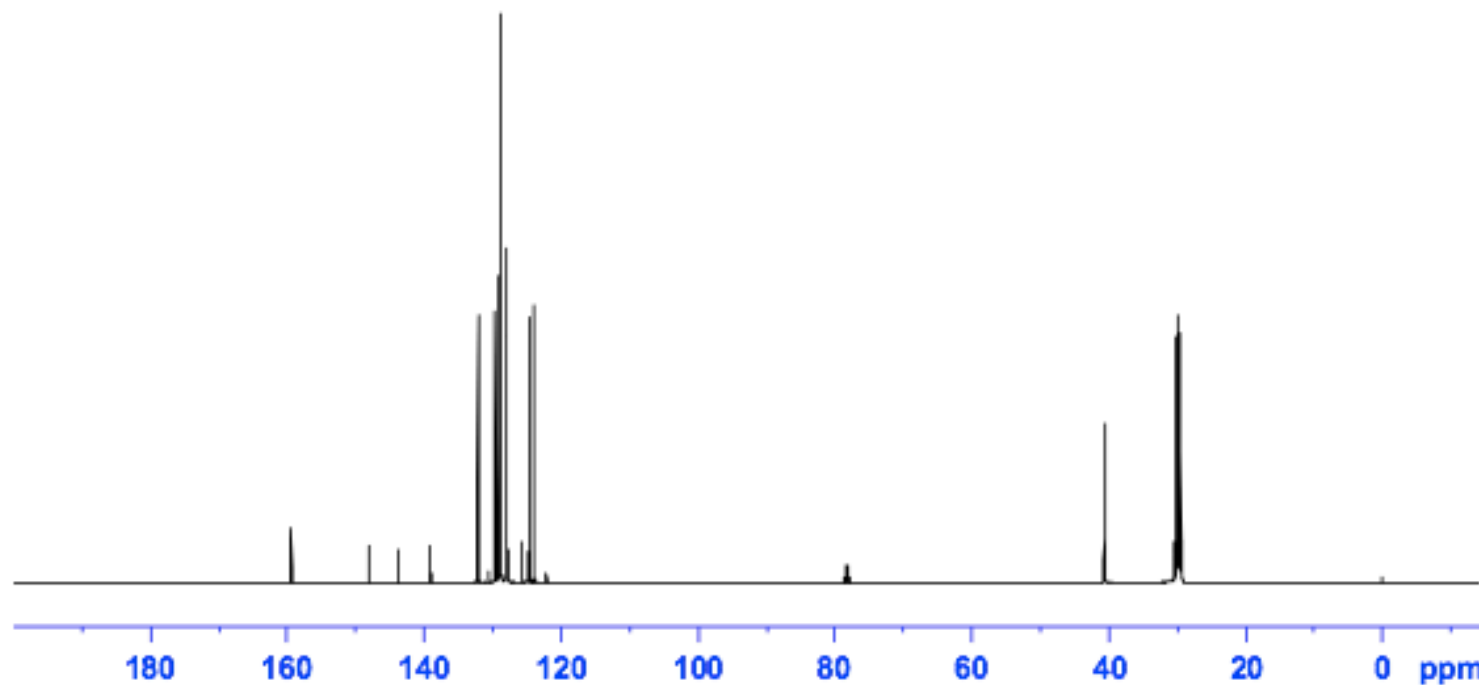
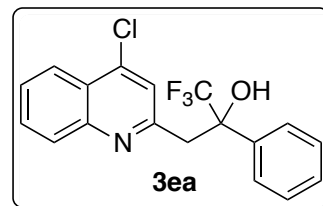
Current Data Parameters  
 NAME ZB6P96 CDC13 1H  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140815  
 Time\_ 15.10  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zg30  
 TD 32768  
 SOLVENT CDC13  
 NS 8  
 DS 0  
 SWH 8278.146 Hz  
 FIDRES 0.252629 Hz  
 AQ 1.9792372 sec  
 RG 128  
 DW 60.400 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 1.00000000 sec

----- CHANNEL f1 -----  
 NUC1 1H  
 P1 11.00 usec  
 PL1 3.40 dB  
 SFO1 400.1324710 MHz

F2 - Processing parameters  
 SI 16384  
 SF 400.1300169 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00





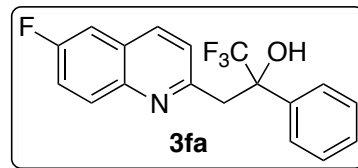
Current Data Parameters  
 NAME ZB6P96r 13C  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date 20140826  
 Time 17.38  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zgdc  
 TD 32768  
 SOLVENT Acetone  
 NS 9767  
 DS 0  
 SWH 25125.629 Hz  
 FIDRES 0.766773 Hz  
 AQ 0.6521332 sec  
 RG 3649.1  
 DW 19.900 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 5.00000000 sec  
 d11 0.03000000 sec

----- CHANNEL f1 -----  
 NUC1 13C  
 P1 6.40 usec  
 PL1 0.00 dB  
 SFO1 100.6237959 MHz

----- CHANNEL f2 -----  
 CPDPRG2 waltz16  
 NUC2 1H  
 PCPD2 80.00 usec  
 PL2 3.40 dB  
 PL12 20.63 dB  
 SFO2 400.1316005 MHz

F2 - Processing parameters  
 S1 32768  
 SF 100.6126731 MHz  
 WDW EM  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40

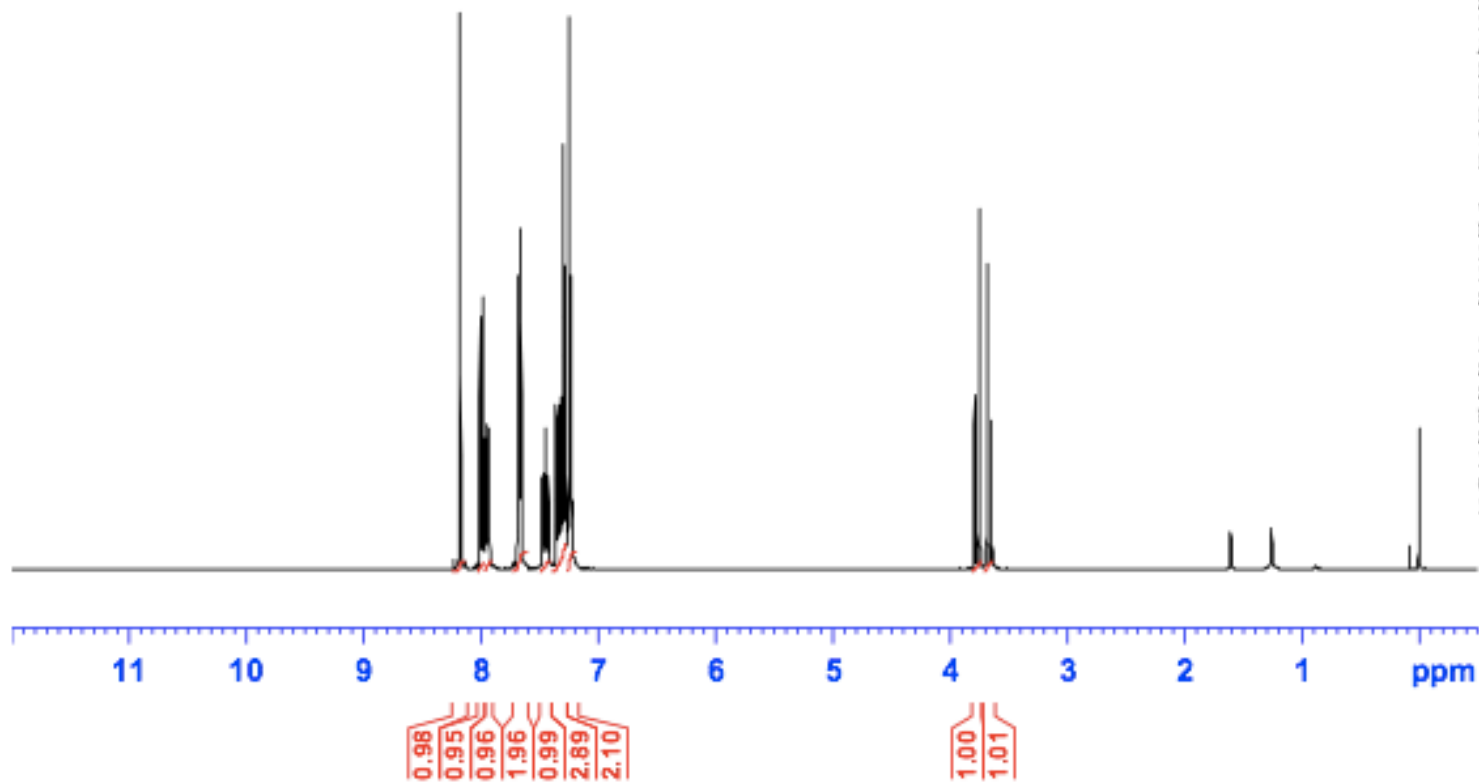


Current Data Parameters  
 NAME 296P91  
 EXPNO 1  
 PROCNO 1

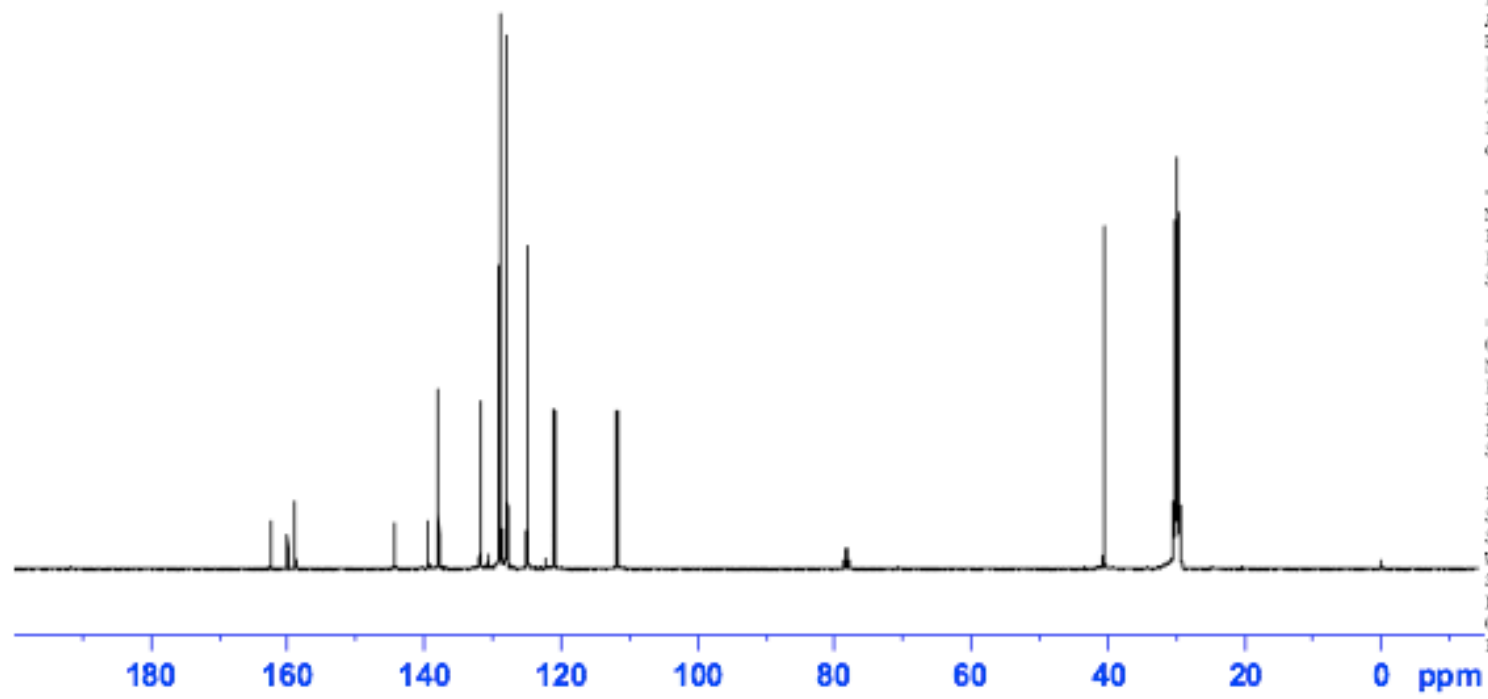
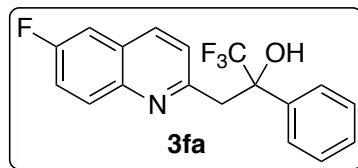
F2 - Acquisition Parameters  
 Date 20140725  
 Time 15.50  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zg30  
 TD 32768  
 SOLVENT CDCl3  
 NS 8  
 DS 0  
 SWH 8278.146 Hz  
 FIDRES 0.252629 Hz  
 AQ 1.9792372 sec  
 RG 181  
 DW 60.400 usec  
 DE 6.00 usec  
 TE 296.2 K  
 D1 1.00000000 sec

===== CHANNEL f1 =====  
 NUC1 1H  
 P1 11.00 usec  
 PL1 3.40 dB  
 SFO1 400.1324710 MHz

F2 - Processing parameters  
 SI 16384  
 SF 400.1300134 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00







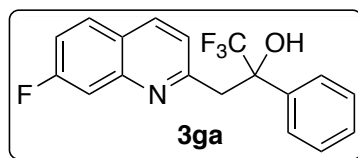
Current Data Parameters  
 NAME ZB6P91 13C acetone-D6  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140820  
 Time\_ 17.29  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zgpg  
 TD 32768  
 SOLVENT Acetone  
 NS 9823  
 DS 0  
 SWH 25125.629 Hz  
 FIDRES 0.766773 Hz  
 AQ 0.6521332 sec  
 RG 5792.6  
 CW 19.900 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 5.00000000 sec  
 d11 0.03000000 sec

----- CHANNEL f1 -----  
 NUC1 13C  
 P1 6.40 usec  
 PL1 0.00 dB  
 SFO1 100.6237959 MHz

----- CHANNEL f2 -----  
 CPCPRG2 waltz16  
 NUC2 1H  
 PCPD2 80.00 usec  
 PL2 3.40 dB  
 PL12 20.63 dB  
 SFO2 400.1316005 MHz

F2 - Processing parameters  
 SI 32768  
 SF 100.6126708 MHz  
 WDW EM  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40

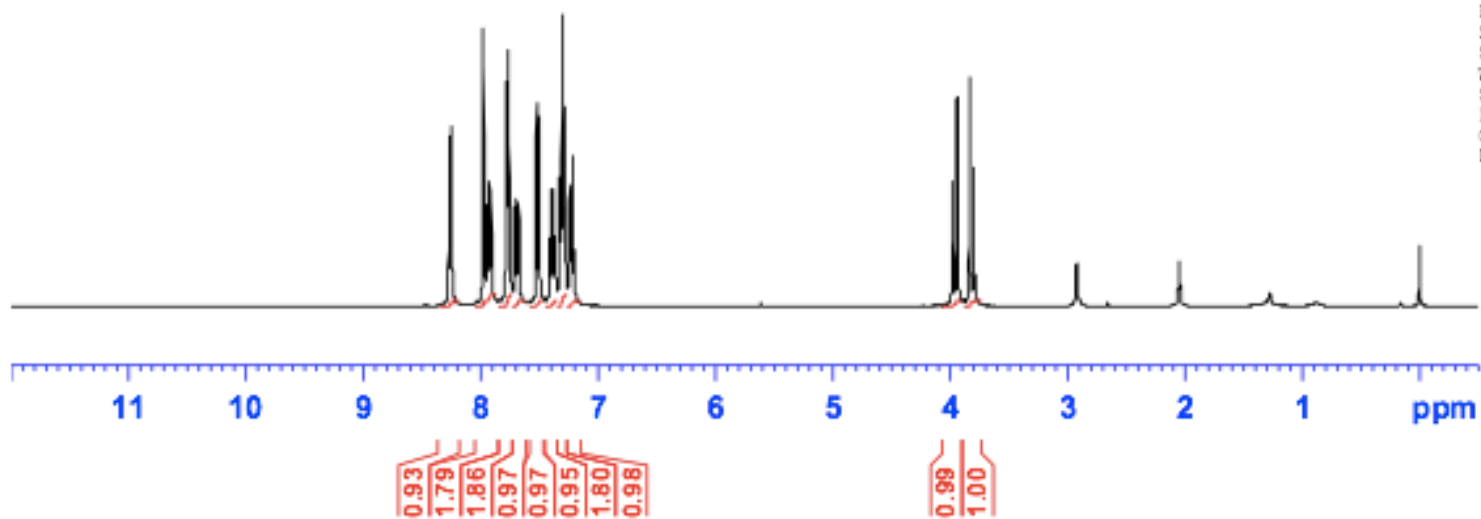


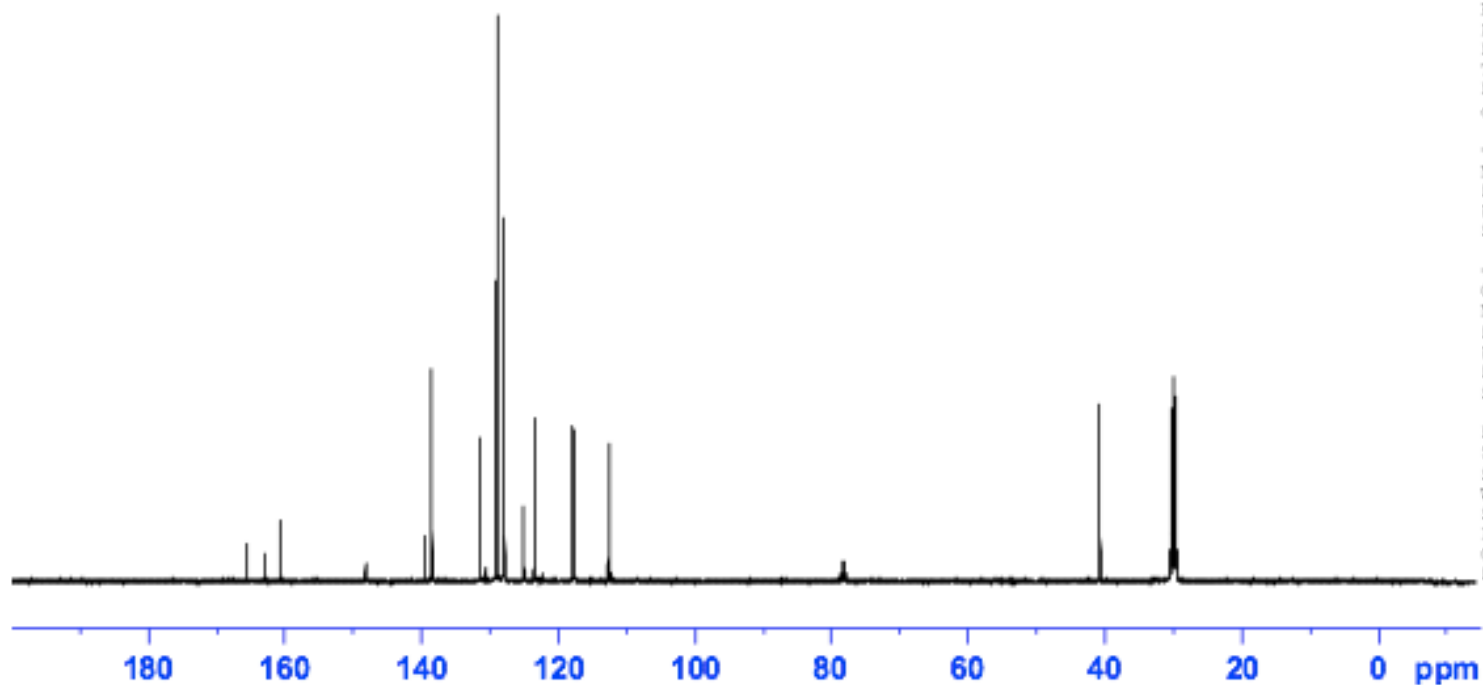
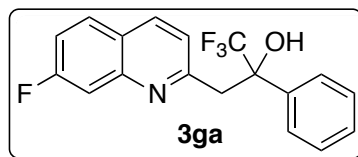
Current Data Parameters  
 NAME 2B6P93r 1H acetone-D6  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140824  
 Time\_ 17.02  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zg30  
 TD 32768  
 SOLVENT Acetone  
 NS 8  
 DS 0  
 SWH 8278.146 Hz  
 FIDRES 0.252629 Hz  
 AQ 1.9792372 sec  
 RG 80.6  
 DW 60.400 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 1.0000000 sec

===== CHANNEL f1 =====  
 NUC1 1H  
 P1 11.00 usec  
 PL1 3.40 dB  
 SFO1 400.1324710 MHz

F2 - Processing parameters  
 SI 16384  
 SF 400.130066 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00





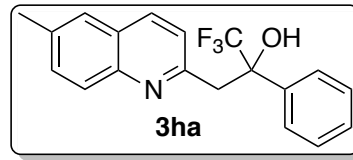
```
Current Data Parameters
NAME      286P93r 13C acetone-D6
EXPNO    1
PROCNO   1
```

```
F2 - Acquisition Parameters
Date_    20140824
Time     17.10
INSTRUM  spect
PROBHD   5 mm BBO BB-1H
PULPROG  zgdc
TD        32768
SOLVENT  Acetone
NS        156
DS        0
SWH       25125.629 Hz
FIDRES    0.766773 Hz
AQ        0.6521332 sec
RG        3649.1
DW        19.900 usec
DE        6.00 usec
TE        297.2 K
D1        5.0000000 sec
d11       0.0300000 sec
```

```
----- CHANNEL f1 -----
NUC1      13C
P1        6.40 usec
PL1       0.00 dB
SFO1      100.6237959 MHz
```

```
----- CHANNEL f2 -----
CPDPRG2  waltz16
NUC2      1H
PCPD2     80.00 usec
PL2       3.40 dB
PL12      20.63 dB
SFO2      400.1316005 MHz
```

```
F2 - Processing parameters
SI        32768
SF        100.6126731 MHz
WDW       EM
SSB       0
LB        1.00 Hz
GB        0
PC        1.40
```

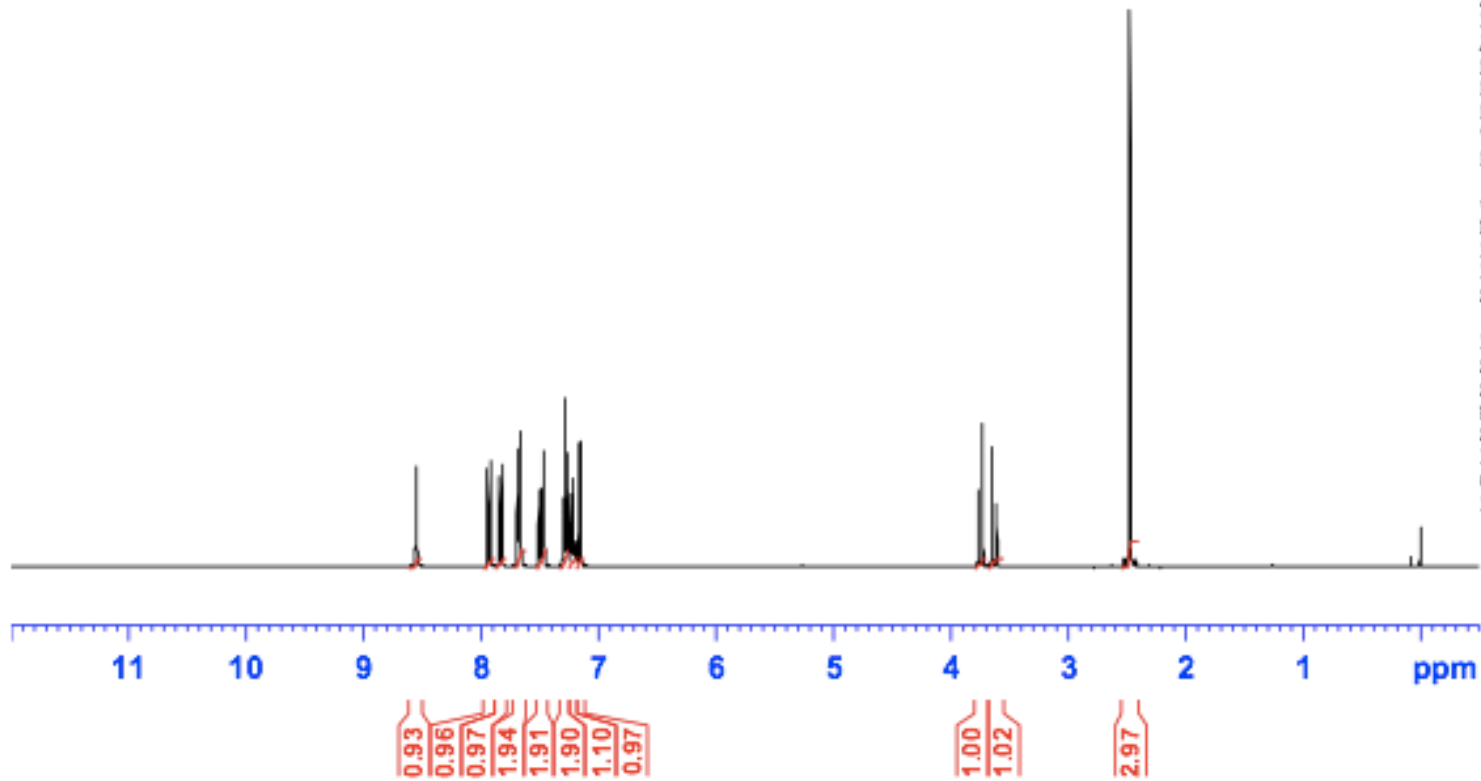


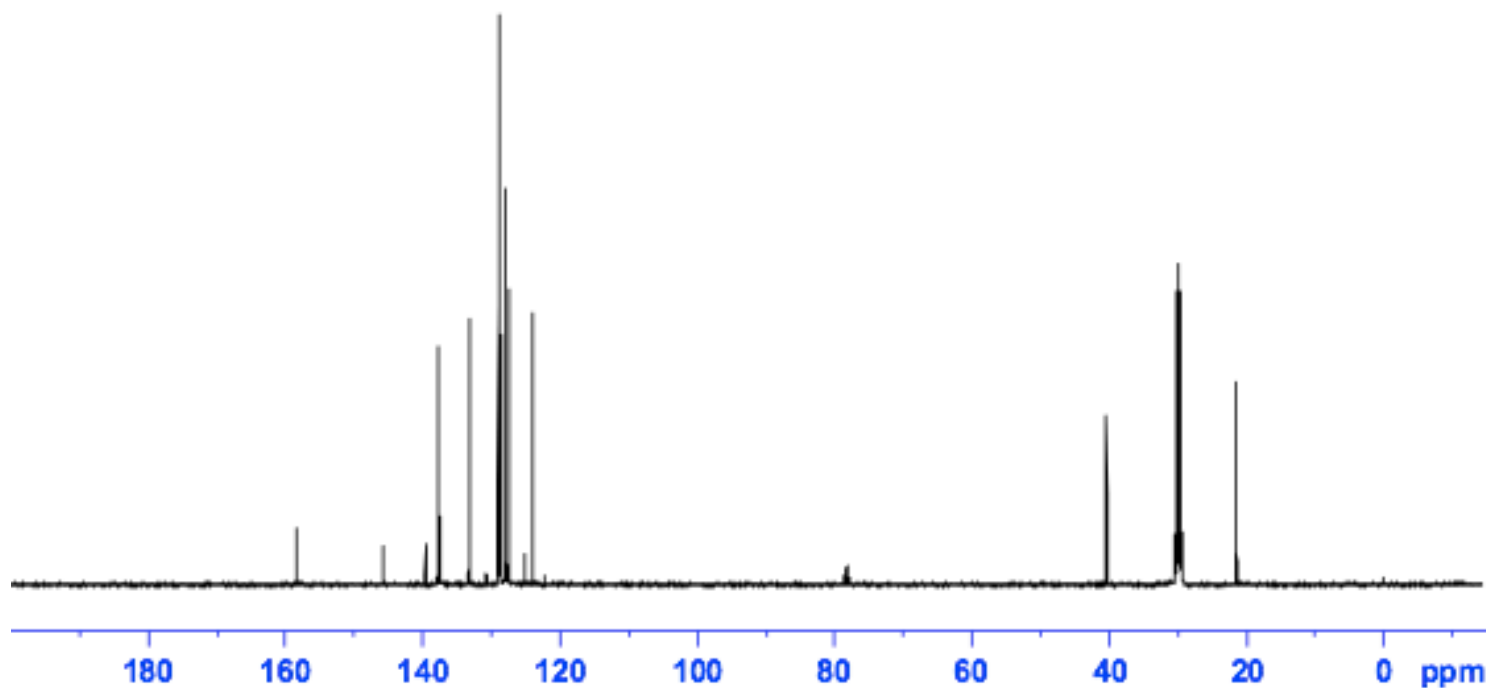
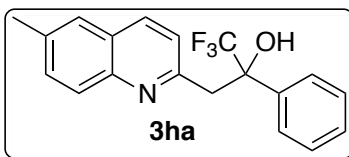
Current Data Parameters  
 NAME 296P76  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date 20140724  
 Time 15.11  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zg30  
 TD 32768  
 SOLVENT CDCl3  
 NS 8  
 DS 0  
 SWE 8278.146 Hz  
 FIDRES 0.252629 Hz  
 AQ 1.9792372 sec  
 RG 114  
 DW 60.400 usec  
 DE 6.00 usec  
 TE 296.2 K  
 D1 1.00000000 sec

===== CHANNEL f1 =====  
 NUC1 1H  
 P1 11.00 usec  
 PL1 3.40 dB  
 SFO1 400.1324710 MHz

F2 - Processing parameters  
 SI 16384  
 SF 400.1300179 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00





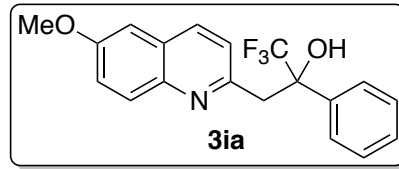
Current Data Parameters  
NAME ZB6P76 13C acetone-D6  
EXPNO 1  
PROCNO 1

F2 - Acquisition Parameters  
Date\_ 20140819  
Time\_ 12.12  
INSTRUM spect  
PROBHD 5 mm BBO BB-1H  
PULPROG zgpgc  
TD 32768  
SOLVENT Acetone  
NS 481  
DS 0  
SWH 25125.629 Hz  
FIDRES 0.766773 Hz  
AQ 0.6521332 sec  
RG 6502  
DW 19.900 usec  
DE 6.00 usec  
TE 296.2 K  
D1 5.0000000 sec  
d11 0.0300000 sec

----- CHANNEL f1 -----  
NUC1 13C  
P1 6.40 usec  
PL1 0.00 dB  
SFO1 100.6237959 MHz

----- CHANNEL f2 -----  
CPCPRG2 waltz16  
NUC2 1H  
PCPD2 80.00 usec  
PL2 3.40 dB  
PL12 20.63 dB  
SFO2 400.1316005 MHz

F2 - Processing parameters  
SI 32768  
SF 100.6126724 MHz  
WDW EM  
SSB 0  
LB 1.00 Hz  
GB 0  
PC 1.40

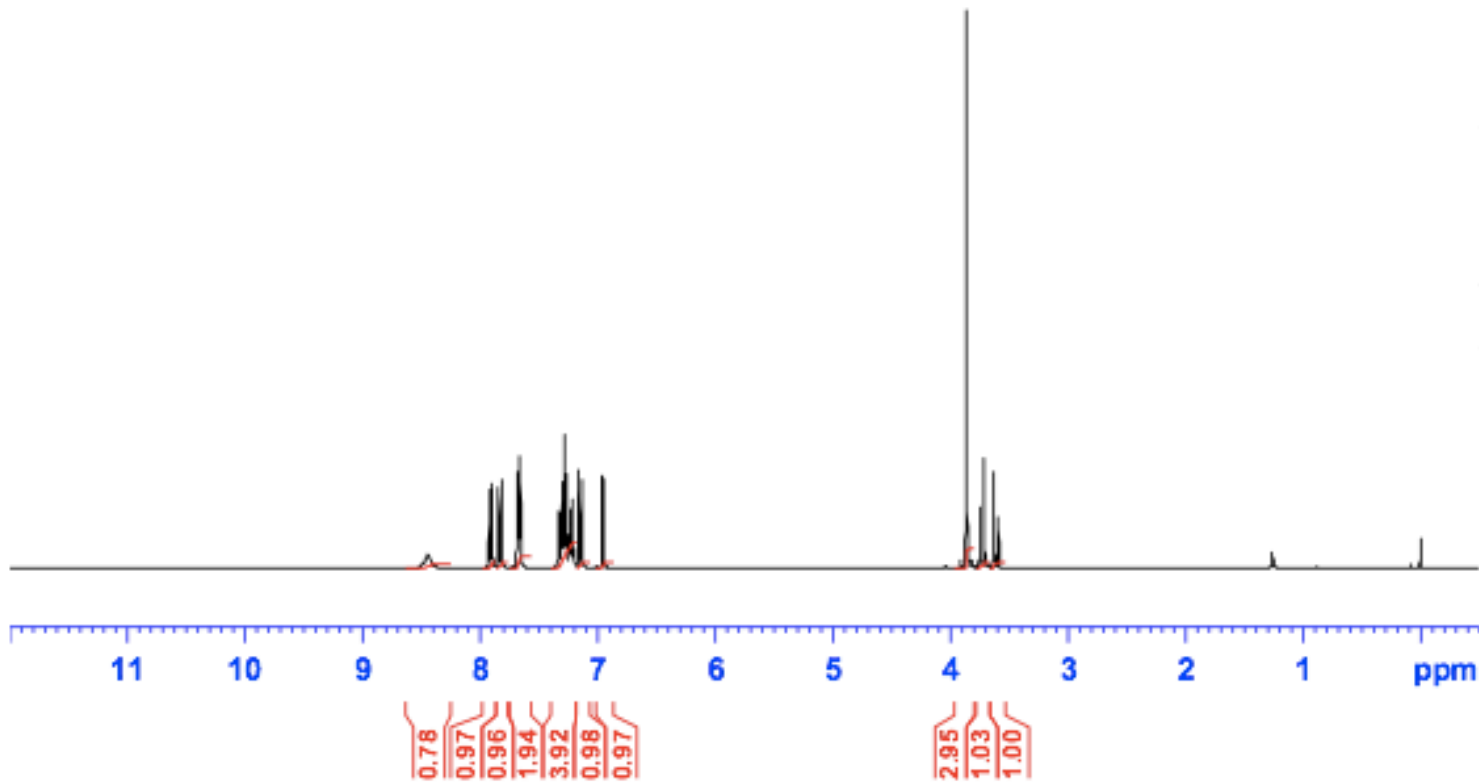


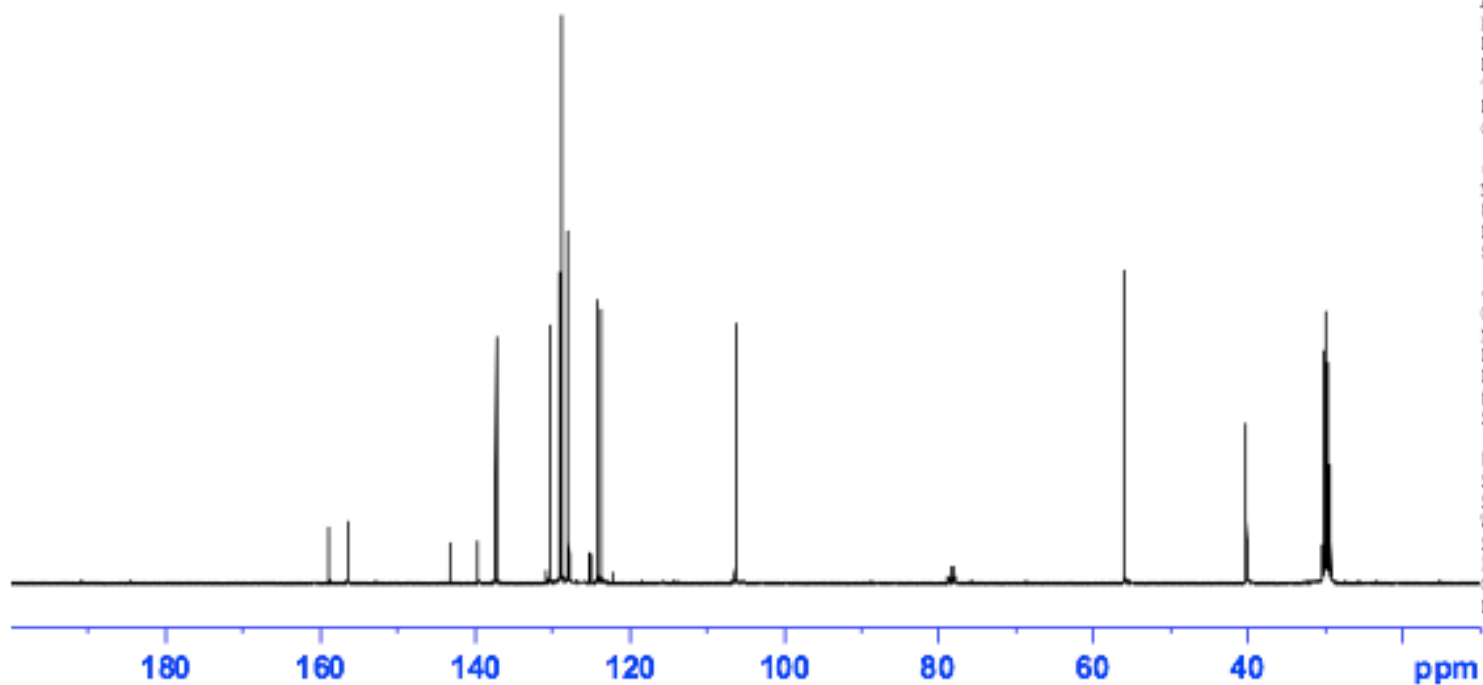
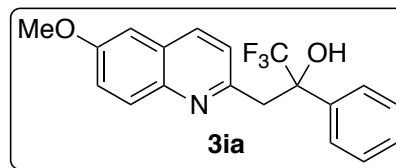
```
Current Data Parameters
NAME      2B6P94r 1H 28aug14 CDCl3
EXPNO     1
PROCNO    1
```

```
F2 - Acquisition Parameters
Date_     20140820
Time      11.29
INSTRUM   spect
PROBHD    5 mm BBO BB-1H
PULPROG   zg30
TD         32768
SOLVENT   CDCl3
NS         8
DS         0
SWH        8278.146 Hz
FIDRES     0.252629 Hz
AQ         1.9792372 sec
RG         114
DW         60.400 usec
DE         6.00 usec
TE         297.2 K
D1         1.00000000 sec
```

```
----- CHANNEL f1 -----
NUC1       1H
P1         11.00 usec
PL1        3.40 dB
SFO1       400.1324710 MHz
```

```
F2 - Processing parameters
SI         16384
SF         400.1300159 MHz
WDW        EM
SSB        0
LB         0.30 Hz
GB         0
PC         1.00
```





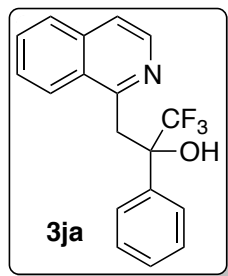
Current Data Parameters  
 NAME 2B6P94r 13C acetone-D6  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140825  
 Time\_ 15.18  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zgdc  
 TD 32768  
 SOLVENT Acetone  
 NS 1003  
 DS 0  
 SWH 25125.629 Hz  
 FIDRES 0.766773 Hz  
 AQ 0.6521332 sec  
 RG 3649.1  
 DW 19.900 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 5.0000000 sec  
 d11 0.0300000 sec

----- CHANNEL f1 -----  
 NUC1 13C  
 P1 6.40 usec  
 PL1 0.00 dB  
 SFO1 100.6237959 MHz

----- CHANNEL f2 -----  
 CPDPRG2 waltz16  
 NUC2 1H  
 PCPD2 80.00 usec  
 PL2 3.40 dB  
 PL12 20.63 dB  
 SFO2 400.1316005 MHz

F2 - Processing parameters  
 SI 32768  
 SF 100.6126731 MHz  
 WDW EM  
 SSB 0  
 LB 1.00 Hz  
 GB 0  
 PC 1.40

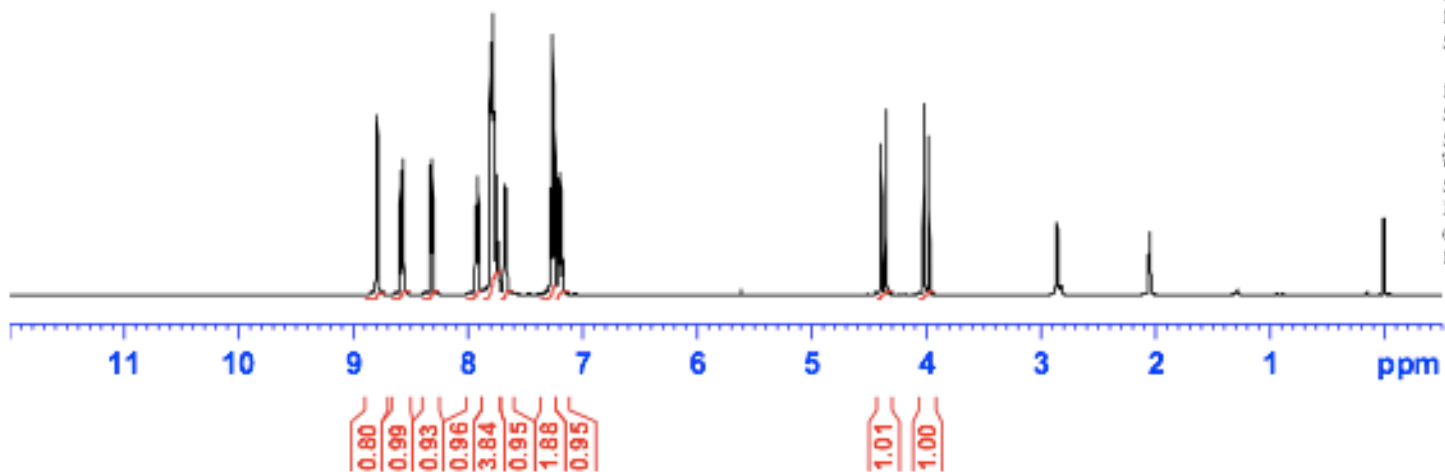


Current Data Parameters  
 NAME 2B6P135 1H acetone-D6  
 EXPNO 1  
 PROCNO 1

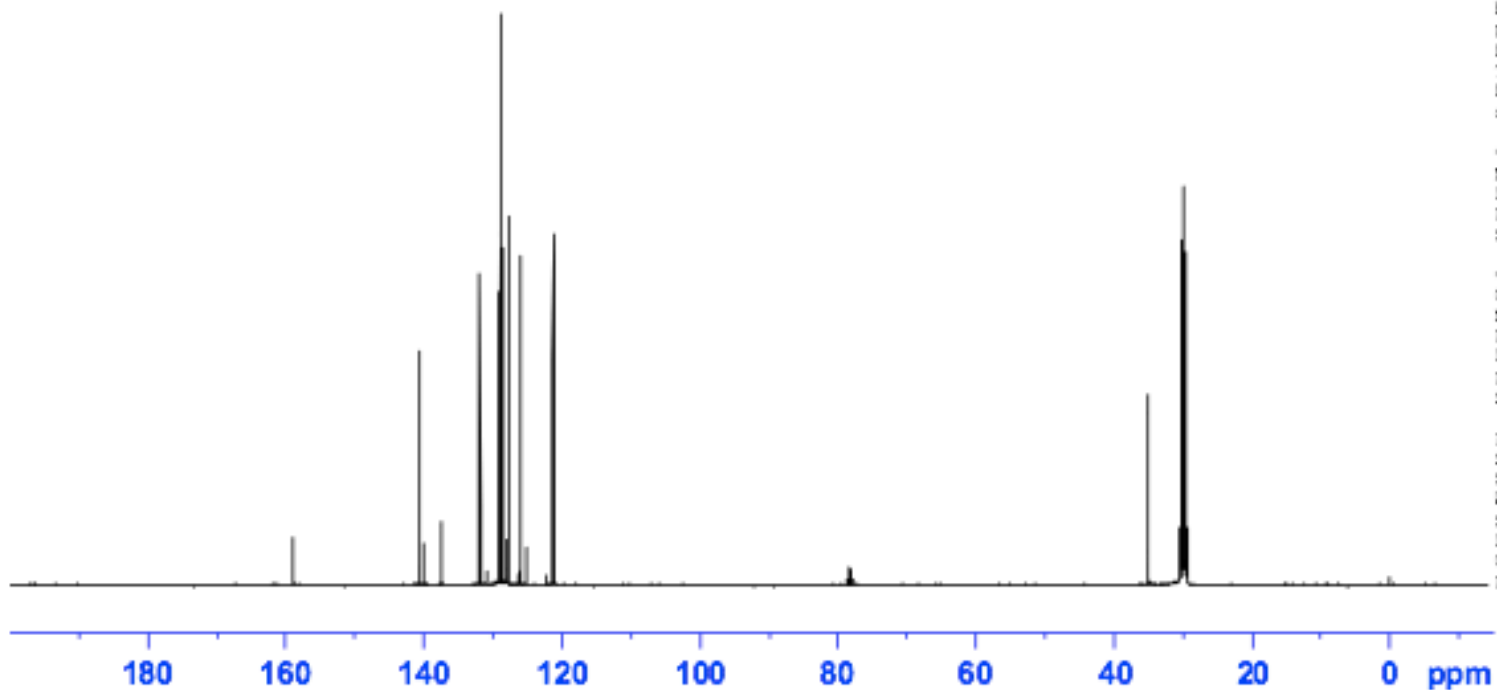
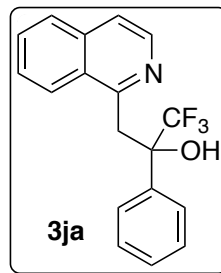
F2 - Acquisition Parameters  
 Date\_ 20140902  
 Time\_ 14.18  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zg30  
 TD 32768  
 SOLVENT Acetone  
 NS 8  
 DS 0  
 SWH 8278.146 Hz  
 FIDRES 0.252629 Hz  
 AQ 1.9792372 sec  
 RG 128  
 DW 60.400 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 1.00000000 sec

----- CHANNEL f1 -----  
 NUC1 1H  
 P1 11.00 usec  
 PL1 3.40 dB  
 SFOL 400.1324710 MHz

F2 - Processing parameters  
 SI 16384  
 SF 400.1300071 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00







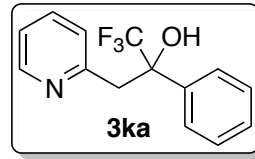
Current Data Parameters  
 NAME 2B6P135 13C acetone-D6  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140902  
 Time 16.02  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zgdc  
 TD 32768  
 SOLVENT Acetone  
 NS 10746  
 DS 0  
 SMH 25125.629 Hz  
 FIDRES 0.766773 Hz  
 AQ 0.6521332 sec  
 RG 3251  
 DM 19.900 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 5.00000000 sec  
 d11 0.03000000 sec

----- CHANNEL f1 -----  
 NUC1 13C  
 P1 6.40 usec  
 PL1 0.00 dB  
 SFO1 100.6237959 MHz

----- CHANNEL f2 -----  
 CPDPRG2 waltz16  
 NUC2 1H  
 PCPD2 00.00 usec  
 PL2 3.40 dB  
 PL12 20.63 dB  
 SFO2 400.1316005 MHz

F2 - Processing parameters  
 SI 32768  
 SF 100.6126724 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.40

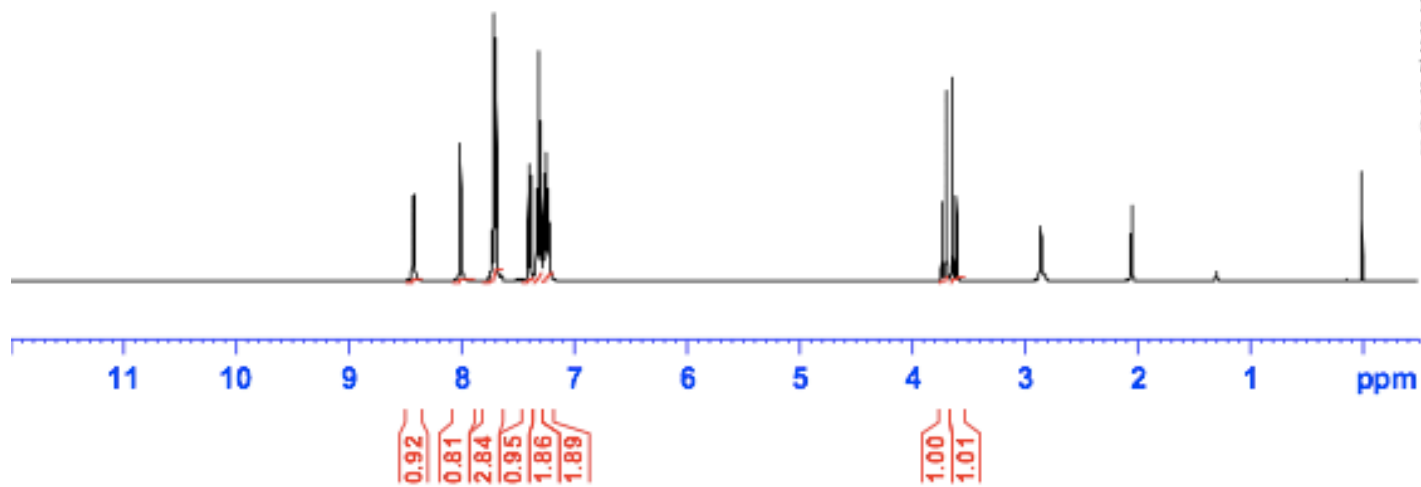


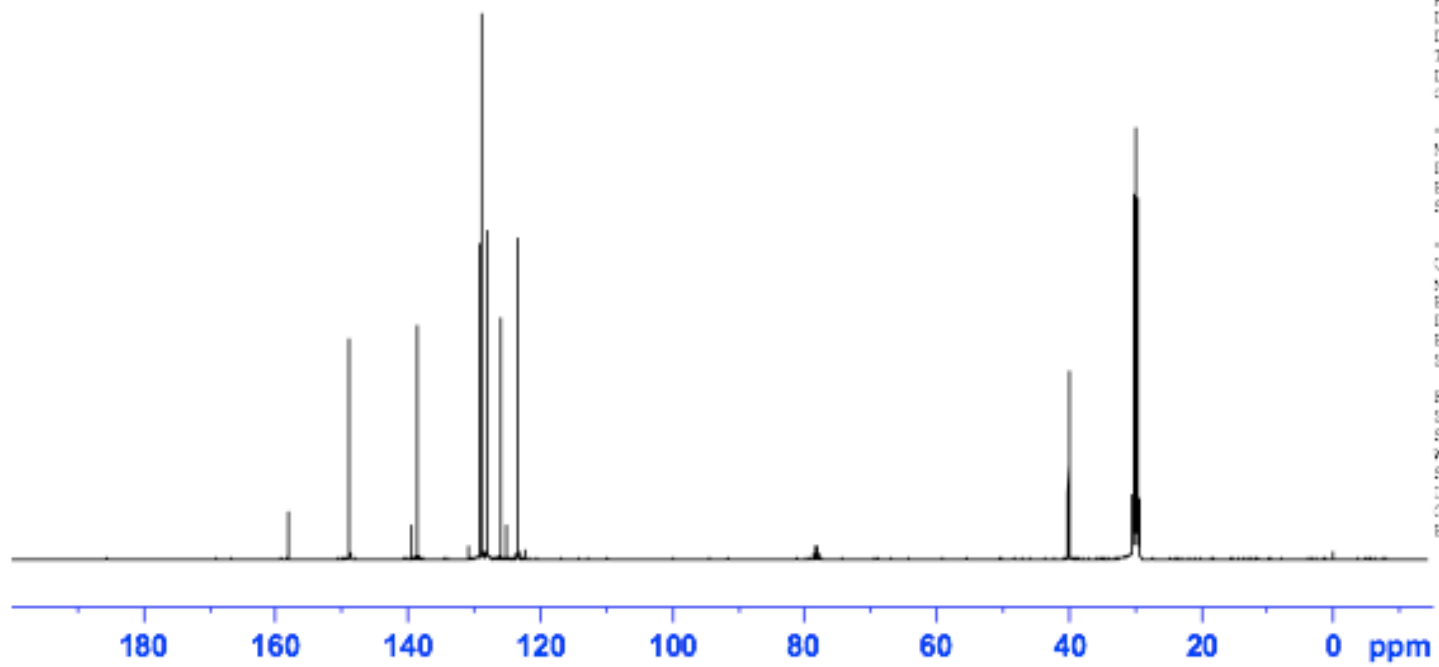
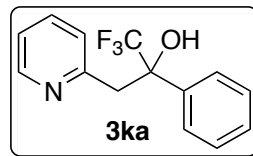
Current Data Parameters  
 NAME ZB6P121 1H 1sept14 acetone-D6  
 EXPNO 1  
 PROCNO 1

F2 - Acquisition Parameters  
 Date\_ 20140901  
 Time\_ 15.55  
 INSTRUM spect  
 PROBHD 5 mm BBO BB-1H  
 PULPROG zg30  
 TD 32768  
 SOLVENT Acetone  
 NS 8  
 DS 0  
 SWH 8278.146 Hz  
 FIDRES 0.252629 Hz  
 AQ 1.9792372 sec  
 RG 90.5  
 DW 60.400 usec  
 DE 6.00 usec  
 TE 297.2 K  
 D1 1.00000000 sec

----- CHANNEL f1 -----  
 NUC1 1H  
 P1 11.00 usec  
 PL1 3.40 dB  
 SFO1 400.1324710 MHz

F2 - Processing parameters  
 SI 16384  
 SF 400.130066 MHz  
 WDW EM  
 SSB 0  
 LB 0.30 Hz  
 GB 0  
 PC 1.00





```

Current Data Parameters
NAME      ZB6P121 13C 1sept14 acetone-D6
EXPRNO    1
PROCNO    1

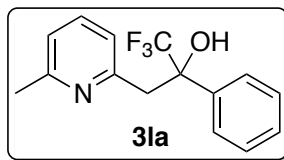
F2 - Acquisition Parameters
Date_     20140901
Time_     16.05
INSTRUM   spect
PROBHD    5 mm BBO BB-1H
PULPROG   zgpg
TD         32768
SOLVENT   Acetone
NS         10694
DS         0
SWH        25125.629 Hz
FIDRES     0.766773 Hz
AQ         0.6521332 sec
RG         4502
DM         19.900 usec
DE         6.00 usec
TE         290.2 K
D1         5.0000000 sec
d11        0.0300000 sec

----- CHANNEL f1 -----
NUC1      13C
P1        6.40 usec
PL1       0.00 dB
SFO1      100.6237959 MHz

----- CHANNEL f2 -----
CPDPRG2   waltz16
NUC2      1H
PCPD2     80.00 usec
PL2       3.40 dB
PL12      20.63 dB
SFO2      400.1316005 MHz

F2 - Processing parameters
SI         32768
SF         100.6126716 MHz
WDW        EM
SSB        0
LB         1.00 Hz
GB         0
PC         1.40

```

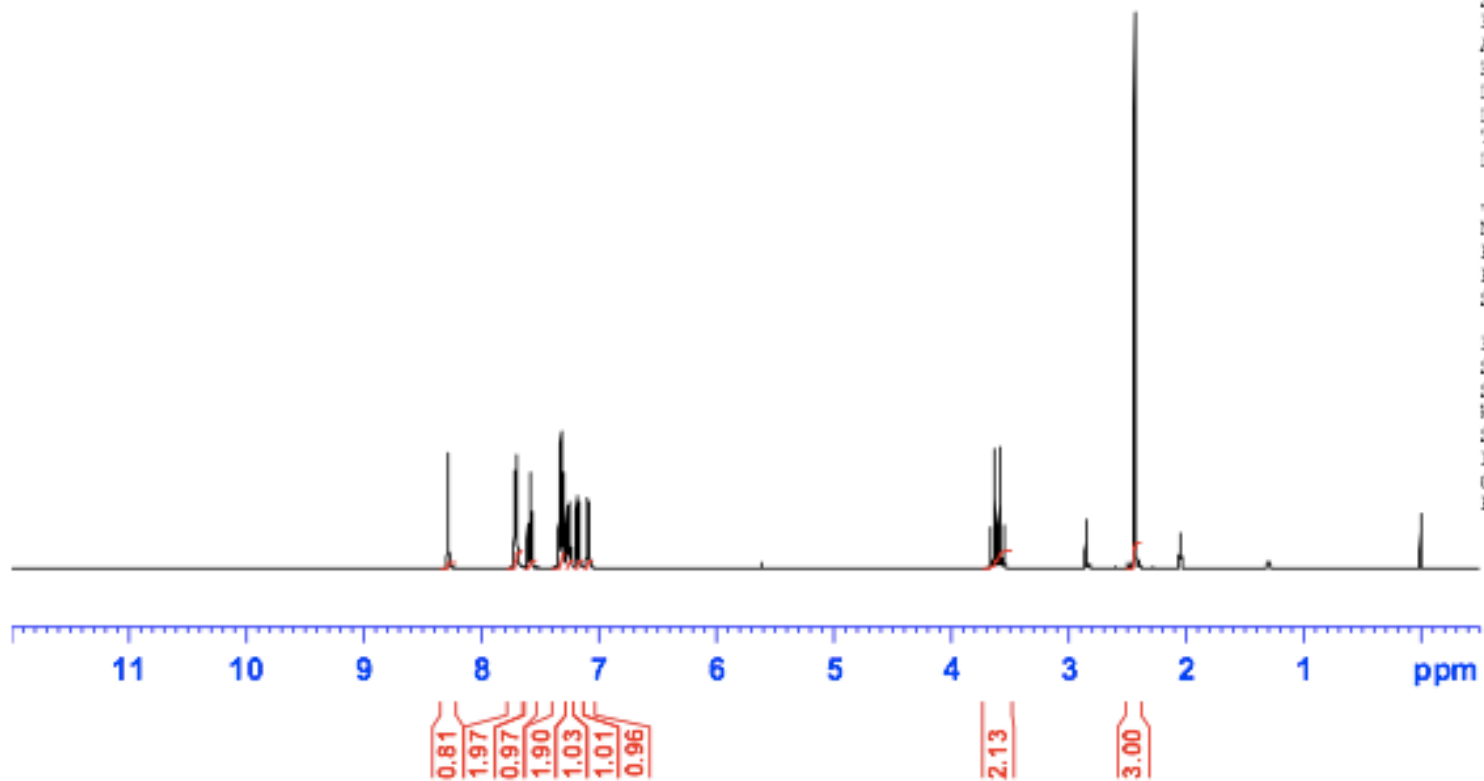


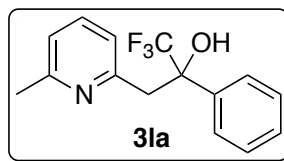
```
Current Data Parameters
NAME       ZB6P112 1H
EXPNO      1
PROCNO     1
```

```
F2 - Acquisition Parameters
Date       20140820
Time       13.15
INSTRUM    spect
PROBHD     5 mm BBO BB-1H
PULPROG    zg30
TD         32768
SOLVENT    Acetone
NS         8
DS         0
SWH        8278.146 Hz
FIDRES     0.252629 Hz
AQ         1.9792372 sec
RG         114
DW         60.400 usec
DE         6.00 usec
TE         297.2 K
D1         1.00000000 sec
```

```
===== CHANNEL f1 =====
NUC1       1H
P1         11.00 usec
PL1        3.40 dB
SFO1       400.1324710 MHz
```

```
F2 - Processing parameters
SI         16384
SF         400.1300066 MHz
WDW        EM
SSB        0
LB         0.30 Hz
GB         0
PC         1.00
```





```
Current Data Parameters
NAME      2B6P112 13C
EXPNO    1
PROCNO   1
```

```
F2 - Acquisition Parameters
Date_    20140820
Time     13.23
INSTRUM  spect
PROBHD   5 mm BBO BB-1H
PULPROG  zgpg30
TD       32768
SOLVENT  Acetone
NS       2503
DS       0
SWH      25125.629 Hz
FIDRES   0.766773 Hz
AQ       0.6521332 sec
RG       7298.2
DW       19.900 usec
DE       6.00 usec
TE       297.2 K
D1       5.00000000 sec
d11      0.03000000 sec
```

```
----- CHANNEL f1 -----
NUC1     13C
P1       6.40 usec
PL1      0.00 dB
SFO1     100.6237959 MHz
```

```
----- CHANNEL f2 -----
CPDPRG2  waltz16
NUC2     1H
PCPD2    80.00 usec
PL2      3.40 dB
PL12     20.63 dB
SFO2     400.1316005 MHz
```

```
F2 - Processing parameters
SI       32768
SP       100.6126716 MHz
WDW      EM
SSB      0
LB       1.00 Hz
GB       0
PC       1.40
```

