Supporting information

Table of Contents

1. General remarks……..……...…….……...……S2

2. Synthesis of ionic liquid.…….……....……S2

3. The reaction of indole and cycloalkanone……...…….…….S2

4. Synthesis of 6a……..…….…….……..……..S3

5. Control experiments for understanding the mechanism,……...…….S3

6. Synthesis of 10a…….……...…...…….S3

7. Synthesis of 4af……...……..…S4

8. Spectroscopic data of ionic liquid and organic products…….…….…..S4

9. Copy of ^{1}H and ^{13}C NMR Spectra…….…….....…….…..……S10

10. References……..……...……...…..……S49

1. General remarks:

Indole, 3,3,5-trimethylcyclohexanone, 4-methylcyclohexanone, 4-(tert-butyl)cyclohexanone, 4-phenylcyclohexanone, ethyl 4-oxocyclohexanecarboxylate, cyclopentanone, cycloheptanone, cyclooctanone, adamantan-2-one, 1-methyl-1H-indole, 5-bromo-1H-indole, 5-methoxy-1H-indole, 6-methyl-1H-indole, 6-fluoro-1H-indole, 7-ethyl-1H-indole, 5-methoxy-7-methyl-1H-indole, methyl 1H-indole-5-carboxylate, 6-methyl-1H-indole, 1-methyl-2-phenyl-1H-indole, 1H-indole-5-carboxylic acid, 1H-indole-6-carboxylic acid. N-buthylamine, divinyl sulfone, trifluoromethanesulfonic acid, 1,3-propane sultone, deuterium oxide, acetone were purchased from Energy Chemical Company., $Sc(OTf)_3$, $Fe(OTf)_3$ were purchased from Adamas Reagent Ltd. Acetone-d_6, DMSO-d_6, and chloroform-*d* were purchased from Alfa Aesar Chemical Company. *p*-Toluenesulfonic acid, ethyl acetate, 1,2-dichloroethane, DCE, sodium chloride, acetone, methanol and ethanol were all purchased from Sinopharm Chemical Reagents Limited Company (SCRC). ^{1}H NMR and ^{13}C NMR spectra were recorded on a Bruker AV-400. Chemical shifts are expressed in ppm relative to Me_4Si in $CDCl_3$. HRMS was recorded on a Bruker micrOTOF-Q II instrument. IR spectra were recorded on a FT-IR Bruker (VERTEX 70) using liquid film technology.

2. Synthesis of Brønsted acid ILs 1a and 1b

Brønsted acid IL **1a** was synthesized according to our previous report.[1] In 250 ml of round bottomed flask equipped with mechanical stirring, divinyl sulfone (11.8 g, 0.10 mol) was mixed with *n*-butylamine (7.3 g, 0.10 mol) in methanol (150 ml). The mixture was then stirred at 60 ^{o}C for 5 hours. Methanol was removed by a rotary evaporator under vacuum, and 4-*n*-butylthiomorpholine 1,1-dioxide was obtained as a color-less oil quantitatively. The obtained 4-*n*-butylthiomorpholine 1,1-dioxide was then mixed with 1,3-propane sultone (13.4 g, 0.11 mol) in acetonitrile (150 ml). The solution was refluxed for 5 hours. Then, the generated white solid was filtrated, and washed with acetone (10 ml × 3). After 6 hours of drying at 60 ^{o}C under vacuum (20 mmHg), 4-*n*-butyl-4-(3-sulfopropyl) thiomorpholinium 1,1-dioxide inner salt was obtained as a white powder (23.1 g, 74 %). In a 100 ml of round bottomed flask, 4-*n*-butyl-4-(3-sulfopropyl)thiomorpholinium 1,1-dioxide inner salt (15.6 g, 50 mmol) was mixed with trifluoromethanesulfonic acid (7.5 g, 50 mmol). Then, the mixture was stirred at 80 ^{o}C for 8 hours. In order to facilitate the stirring, water (1.0 ml) was added into the system. The formed liquid was washed with ethyl acetate (15 ml × 3) and diethyl ether (15 ml × 3). After that, it was dried at 80 ^{o}C under vacuum (10 mmHg) for 4 hours. Finally, IL **1a** was obtained as viscous brown oil (22.2 g, 96 %). Ionic liquid **1b** was synthesized according to a literature method.[2]

3. A typical procedure for the reaction of indole and cycloalkanone

All reactions were performed in a 10 mL of V-type flask equipped with triangle magnetic stirring. In a typical reaction, ionic liquid **1a** (46.4 mg, 0.1 mmol) was mixed with indole **2a** (117.1 mg, 1.0 mmol) and cyclohexanone **3a** (117.7 mg, 1.2 mmol) under air. The mixture was stirred for 1 hour at 100 ^{o}C. After reaction, the mixture was cooled to room temperature and then extracted with ethyl acetate (1.5 ml × 3). The organic phase was combined together, and then subjected to isolation with preparative TLC. A mixed solution of ethyl acetate and petro ether as eluting solvent (the ratio of ethyl acetate/petroether is $1/15_{v/v}$) was used as eluting solvent. The desired product **4a** was obtained in 92 %

of yield, 183.2 mg. The reaction of using other indoles and cycloalkanones were all performed according to an analogous procedure. The recovered ionic liquid was treated at 100 ^{o}C under vacuum (10 mmHg) for 30 minutes, and then reused in the next run.

4. Synthesis of 6a

Ionic liquid **1a** (46.4 mg, 0.1 mmol) was mixed together with indole **2a** (234.2 mg, 2.0 mmol) and cyclohex-2-enone **5a** (96.1 mg, 1.0 mmol). The mixture was stirred for 1 hour at 100 ^{o}C. After reaction, the mixture was cooled to room temperature and then extracted with ethyl acetate (1.5 ml × 3). The organic phase was combined together, and then subjected to isolation with preparative TLC. A mixed solution of ethyl acetate and petro ether as eluting solvent (the ratio of ethyl acetate/petroether is $1/15_{v/v}$) was used as eluting solvent. The desired product **6a** was obtained in 85 % of yield, 267.2 mg.

5. Control experiments for understanding the mechanism

Compound **8a** was synthesized according to a reported method.[3] The reaction of **8a** with water was performed in a 10 mL of V-type flask equipped with triangle magnetic stirring. **1a** (46.4 mg, 0.1 mmol) was mixed with **8a** (472.1 mg, 1.0 mmol) and water (18.1 mg, 1.0 mmol). The mixture was stirred at 100 ^{o}C for 1 hour. After reaction, the mixture was cooled to room temperature and then extracted with ethyl acetate (1.5 ml × 3). The organic phase was combined together, and then subjected to isolation with preparative TLC. A mixed solution of ethyl acetate and petro ether as eluting solvent (the ratio of ethyl acetate/petroether is $1/15_{v/v}$) was used as eluting solvent. Two products were finally obtained. The first one is **4c** that was obtained in 88 % yield, 244.6 mg. The second one is **2b** that was obtained in 91 % yield, 178.4 mg. The reaction without addition of water was also performed in an analogous procedure. The reaction of **2b** and **3a** was performed at 60 ^{o}C in the presence of 3 mol % of ionic liquid **1a**. The procedure is quite similar to that of synthesizing **4a**. After 15 minutes of reaction, a compound **9a** was obtained in 96 % yield (265.1 mg) by preparative TLC isolation using a mixture of ethyl acetate and petroether as an eluting solvent (E/P = $1/15_{v/v}$). The reaction of **9a** and water catalyzed by ionic liquid **1a** was performed at 100 ^{o}C. After one hour of reaction, compound **4c** was obtained in 93 % yield (258.5 mg) by preparative TLC isolation using a mixture of ethyl acetate and petroether as an eluting solvent (E/P = $1/15_{v/v}$). When D_2O was used instead of H_2O, compound **4c-D** was obtained in 89 % yield (248.4 mg).

6. Synthesis of 10a

In a 10 mL of V-type flask equipped with triangle magnetic stirring, **1a** (46.4 mg, 0.1 mmol) was mixed with 1H-indole-5-carboxylic acid **2c** (161.1 mg, 1.0 mmol), and cyclohexanone **3a** (117.7 mg, 1.2 mmol). The mixture was stirred for 1 hour at 100 ^{o}C. After reaction, the mixture was cooled to room temperature and then extracted with ethyl acetate (1.5 ml × 3). The organic phase was combined together, and then subjected to isolation with preparative TLC. A mixed solution of ethyl acetate and petro ether as eluting solvent (the ratio of ethyl acetate/petroether is $1/6_{v/v}$) was used as eluting solvent. The desired product **10a** was obtained in 46 % yield, 119.2 mg.

7. Synthesis of 4af

In a 10 mL of V-type flask equipped with triangle magnetic stirring, **1a** (46.4 mg, 0.1 mmol) was mixed with 1H-indole-6-carboxylic acid **2d** (161.1 mg, 1.0 mmol), cyclohexanone **3a** (117.7 mg, 1.2 mmol) and methanol (64.0 mg, 2.0 mmol). The mixture was stirred for 1 hour at 100 °C. After reaction, the mixture was cooled to room temperature and the extracted with ethyl acetate (1.5 ml × 3). The organic phase was combined together, and then subjected to isolation with preparative TLC. A mixed solution of ethyl acetate and petro ether as eluting solvent (the ratio of ethyl acetate/petroether is $1/15_{v/v}$) was used as eluting solvent. The desired product **4af** was obtained in 86 % of yield, 221.2 mg.

8. Spectroscopic data of ionic liquid and organic products

4-*n*-Butyl-4-(3-sulfopropyl)thiomorpholinium 1,1-dioxide trifluoromethanesulfonate (**1a**):[1] Yellow viscous liquid; ^{1}H NMR (400 MHz, D_2O, 25 °C): δ = 3.82-3.79 (m, 4H), 3.49 (s, 4H), 3.46-3.41 (m, 2H), 3.28 (t, *J* = 8.0 Hz, 2H), 2.75 (t, *J* = 4.0 Hz, 2H), 1.99-1.91 (m, 2H), 1.50 (q, *J* = 8.0 Hz, 2H), 1.17 (sextet, *J* = 8.0 Hz, 2H), 0.71 ppm (t, *J* = 8.0 Hz, 3H); ^{13}C NMR (100MHz, D_2O, 25 °C): δ = 123.6, 120.5, 61.4, 59.9, 59.1, 49.3, 47.5, 25.5, 21.3, 19.9, 15.1 ppm.

3-Cyclohexyl-1H-indole (**4a**):[4] Yellow viscous liquid; ^{1}H NMR (400 MHz, 25 °C, TMS, $CDCl_3$): δ = 7.75 (s, 1H), 7.66 (d, *J* = 4.0 Hz, 1H), 7.29 (d, *J* = 8.0 Hz, 1H), 7.19-7.14 (m, 1H), 7.09 (t, *J* = 8.0 Hz, 1H), 6.87 (s, 1H), 2.82 (s, 1H), 2.10 (d, *J* = 8.0 Hz, 2H), 1.84-1.76 (m, 3H), 1.48-1.43 (m, 4H), 1.32-1.27 ppm (m,1H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 °C): δ = 136.4, 126.8, 123.2, 121.8, 119.5, 119.4, 119.0, 111.2, 35.5, 34.1, 27.0, 26.6 ppm.

3-Cyclohexyl-5-methoxy-1H-indole (**4b**): Yellow viscous liquid; ^{1}H NMR (400 MHz, 25 °C, TMS, $CDCl_3$): δ = 7.77 (s, 1H), 7.22-7.19 (m, 1H), 7.08 (s, 1H), 6.89 (s, 1H), 6.85-6.82 (m, 1H), 3.87 (d, *J* = 4.0 Hz, 3H), 2.77-7.75 (m, 1H), 2.10-2.08 (m, 2H), 1.83-1.76 (m, 3H), 1.48-1.41 (m, 4H), 1.32-1.23 ppm (m, 1H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 °C): δ = 153.7, 131.7, 127.2, 122.9, 120.4, 111.8, 101.5, 56.1, 35.4, 34.0, 27.0, 26.6 ppm. IR (cm^{-1}): 3416, 2925, 2850, 1582, 1483, 1448, 1282, 1243, 1211, 1170, 1097, 1057. HRMS-ESI (m/z) calcd for $C_{15}H_{20}NO$, $[M + H]^+$ 230.1545, found 230.1542.

5-Bromo-3-cyclohexyl-1H-indole (**4c**):[2] Yellow viscous liquid; ^{1}H NMR (400 MHz, 25 °C, TMS, $CDCl_3$): δ = 7.97 (s, 1H), 7.76 (d, *J* = 1.6 Hz, 1H), 7.27-7.21 (m, 1H), 7.18-7.16 (m, 1H), 6.90 (d, *J* = 2.0 Hz, 1H), 2.77-2.72 (m, 1H), 2.05 (d, *J* = 7.2 Hz, 3H), 1.85-1.75 (m, 3H), 1.50-1.36 ppm (m, 4H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 °C): δ = 135.0, 128.6, 124.5, 122.9, 121.9, 120.8, 112.6, 112.2, 35.3, 34.0, 26.9, 26.5 ppm.

3-Cyclohexyl-6-methyl-1H-indole (**4d**): Yellow viscous liquid; ^{1}H NMR (400 MHz, 25 °C, TMS, $CDCl_3$): δ = 7.67 (d, *J* = 8.0 Hz, 1H), 7.52 (d, *J* = 8.0 Hz, 1H), 7.06 (d, *J* = 0.4 Hz, 1H), 6.92 (dd, J_a = 0.9 Hz, J_b = 8.1 Hz, 1H), 6.79 (d, *J* = 1.8 Hz, 1H), 2.81-2.76 (m, 1H), 2.44 (s, 3H), 2.09-2.07 (m, 2H), 1.82-1.78 (m, 4H), 1.47-1.25 ppm (m,4H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 °C): δ = 136.9, 131.5, 124.7, 123.0, 120.7, 119.0, 118.8, 111.2, 35.6, 34.1, 27.0, 26.6, 21.7 ppm. IR (cm^{-1}): 3412, 2924, 2852, 1704, 1621, 1452, 1402, 1337, 1222, 1156, 1094, 1036, 986. HRMS-ESI (m/z) calcd for $C_{15}H_{20}N$, $[M + H]^+$ 214.1596, found 214.1591.

3-Cyclohexyl-6-fluoro-1H-indole (**4e**): Yellow solid, mp. = 94 - 96 °C; ^{1}H NMR (400 MHz, 25 °C, TMS, $CDCl_3$): δ = 7.84 (s, 1H), 7.55 (dd, J_a = 4.0, Hz, J_b = 8.0 Hz, 1H), 7.01 (d, *J* = 8.0 Hz, 1H), 6.90-6.84 (m, 2H), 2.79-2.77 (m, 1H), 2.09-2.07 (m, 2H), 1.85-1.76 (m, 3H), 1.44-1.41 (m, 4H), 1.32-1.26 ppm (m, 1H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 °C): δ = 161.1, 158.7, 136.2, 123.4, 123.3, 120.0, 119.9, 119.6, 119.6, 107.8, 107.6, 97.5, 97.2, 35.4, 34.0, 26.9, 26.5 ppm. IR (cm^{-1}): 3425, 2926, 2852, 1703, 1624, 1592, 1552, 1496, 1454, 1342, 1305, 1248, 1217, 1137. HRMS-ESI (m/z) calcd for $C_{14}H_{17}FN$, $[M + H]^+$ 218.1345, found 218.1338.

3-Cyclohexyl-7-ethyl-1H-indole (**4f**): Yellow viscous liquid; ^{1}H NMR (400 MHz, 25 ^{o}C, TMS, $CDCl_3$): δ = 7.90 (s, 1H), 7.61 (d, *J* = 8.0 Hz, 1H), 7.15 (d, *J* = 8.0Hz, 1H), 7.10 (d, *J* = 8.0Hz, 1H), 6.97 (d, *J* = 4.0 Hz, 1H), 2.90 (q, *J* = 8.0Hz, 3H), 2.19 (d, *J* = 4.0 Hz, 1H), 1.94-1.92 (m, 2H), 1.88-1.84 (m, 1H), 1.55 (t, *J* = 8.0Hz, 4H), 1.43 ppm (t, *J* = 8.0Hz, 4H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 ^{o}C): δ = 135.3, 126.6, 126.5, 123.7, 120.3, 119.3, 117.2, 35.6, 34.1, 27.0, 26.6, 24.1, 13.9 ppm. IR (cm^{-1}): 3424, 2925, 2851, 1699, 1611, 1442, 1373, 1349, 1321, 1222, 1168, 1118, 1074. HRMS-ESI (m/z) calcd for $C_{16}H_{22}N$, $[M + H]^+$ 228.1752, found 228.1751.

3-Cyclohexyl-5-methoxy-7-methyl-1H-indole (**4g**): Yellow viscous liquid; ^{1}H NMR (400 MHz, 25 ^{o}C, TMS, $CDCl_3$): δ = 7.77 (s, 1H), 6.93 (d, *J* = 4.0 Hz, 1H), 6.88 (d, *J* = 4Hz, 1H), 6.67 (d, *J* = 0.4Hz, 1H), 3.86 (s, 3H), 2.79-2.74 (m, 1H), 2.40 (s, 3H), 2.10 (d, *J* = 12.0 Hz, 2H), 1.84-1.76 (m, 4H), 1.49-1.41 ppm (m, 2H). ^{13}C NMR (100 MHz, $CDCl_3$, 25 ^{o}C): δ = 153.9, 131.3, 126.5, 123.4, 121.4, 120.0, 112.6, 98.9, 56.1, 35.5, 34.0, 27.0, 26.6, 16.7 ppm. IR (cm^{-1}): 3421, 2925, 2851, 1700, 1599, 1486, 1446, 1376, 1322, 1238, 1204, 1167, 1135. 1053. HRMS-ESI (m/z) calcd for $C_{16}H_{22}NO$, $[M + H]^+$ 244.3520, found 244.3512.

Methyl 3-cyclohexyl-1H-indole-5-carboxylate (**4h**): White solid, mp. = 132-133 ^{o}C; ^{1}H NMR (400 MHz, 25 ^{o}C, TMS, $CDCl_3$): δ = 8.42-8.39 (m, 2H), 7.87 (dd, J_a = 4.0 Hz, J_b = 12.0 Hz, 1H), 7.32 (d, *J* = 12.0 Hz, 1H), 6.97 (d, *J* = 2.0 Hz, 1H), 3.94 (s, 3H), 2.89-2.83 (m, 1H), 2.09 (d, *J* = 8.0 Hz, 2H), 1.85-1.75 (m, 4H), 1.51-1.38 ppm (m, 4H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 ^{o}C): δ = 168.6, 139.1, 126.5, 124.7, 123.1, 122.4, 120.9, 120.8, 110.8, 51.9, 35.2, 34.1, 26.9, 26.4 ppm. IR (cm^{-1}): 3346, 2925, 2851, 1692, 1617, 1580, 1439, 1356, 1317, 1293, 1262, 1216, 1191, 1107. HRMS-ESI (m/z) calcd for $C_{16}H_{20}NO_2$, $[M + H]^+$ 258.1494, found 258.1485.

3-(4-Methylcyclohexyl)-1H-indole (**4i**):[5] Yellow viscous liquid; ^{1}H NMR (400 MHz, 25 ^{o}C, TMS, $CDCl_3$): δ = 7.93 (s, 1H), 7.70 (d, *J* = 8.0 Hz, 1H), 7.38 (t, *J* = 8.0 Hz, 1H), 7.21 (t, *J* = 8.0 Hz, 1H), 7.13 (t, *J* = 8.0 Hz, 1H), 6.97 (d, J = 4.0 Hz, 1H), 2.81 (tt, J_a = 4.0 Hz, J_b = 12.0 Hz, 1H), 2.16 (d, *J* = 12.0 Hz, 2H), 1.86 (d, *J* = 12.0 Hz, 2H), 1.56-1.49 (m, 3H), 1.25-1.18 (m, 2H), 1.00 ppm (d, *J* = 8.0 Hz, 3H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 ^{o}C): δ = 136.4, 126.9, 122.9, 121.8, 118.9, 111.1, 35.7, 35.1, 33.9, 32.8, 31.9, 31.0, 28.8, 22.7 ppm.

1-Methyl-3-(4-Methylcyclohexyl)-1H-indole (**4j**): Yellow viscous liquid; ^{1}H NMR (400 MHz, 25 ^{o}C, TMS, $CDCl_3$): δ = 7.62 (d, *J* = 8.0 Hz, 1H), 7.24 (d, *J* = 8.0 Hz, 1H), 7.20-7.15 (m, 1H), 7.08-7.04 (m, 1H), 6.75 (s, 1H), 3.67 (s, 3H), 2.76 (td, J_a = 4.0 Hz, J_b = 12.0 Hz, 1H), 2.09 (d, *J* = 12.0 Hz, 2H), 1.81 (d, *J* = 12.0 Hz, 2H), 1.48 (dd, J_a = 12.0 Hz, J_b = 24.0 Hz, 3H), 1.14 (dd, J_a = 12.0 Hz, J_b = 24.0 Hz, 2H), 0.95 ppm (dd, J_a = 4.0 Hz, J_b = 8.0 Hz, 3H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 ^{o}C): δ = 137.2, 127.3, 124.4, 121.5, 121.5, 119.5, 118.5, 109.3, 35.9, 35.2, 34.3, 32.9, 32.6, 23.0 ppm. IR (cm^{-1}): 2918, 2849, 1614, 1473, 1450, 1374, 1346, 1326, 1249, 1226, 1157, 1081, 1013. HRMS-ESI (m/z) calcd for $C_{16}H_{22}N$, $[M + H]^+$ 228.1752, found 228.1747.

3-(4-(Tert-butyl)cyclohexyl)-1H-indole (**4k**): Yellow solid, mp. = 95-97 ^{o}C; ^{1}H NMR (400 MHz, 25 ^{o}C, TMS, $CDCl_3$): δ = 7.89 (s, 1H), 7.66 (d, *J* = 8.0 Hz, 1H), 7.35 (d, *J* = 8.0 Hz, 1H), 7.17 (t, *J* = 8.0 Hz, 1H), 7.09 (t, *J* = 8.0 Hz, 1H), 6.94 (d, *J* = 2.0 Hz, 1H), 2.80-2.73 (m, 1H), 1.48 (dd, J_a = 4.0 Hz, J_b = 12.0 Hz, 2H), 1.26-1.05 (m, 7H), 0.09 ppm (s, 9H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 ^{o}C): δ = 136.5, 126.9, 123.0, 121.8, 119.4, 119.3, 118.9, 111.1, 48.1, 35.5, 34.4, 32.5, 27.8, 27.7 ppm. IR (cm^{-1}): 3422, 2926, 2854, 1714, 1664, 1617, 1456, 1420, 1364, 1338, 1223, 1183, 1152, 1095, 1012. HRMS-ESI (m/z) calcd for $C_{18}H_{26}N$, $[M + H]^+$ 256.2065, found 256.2053.

3-(4-(Tert-butyl)cyclohexyl)-1-methyl-1H-indole (**4l**): White solid, mp. = 68 - 70 ^{o}C; ^{1}H NMR (400 MHz, 25 ^{o}C, TMS, $CDCl_3$): δ = 7.64 (d, *J* = 8.0 Hz, 1H), 7.26 (d, *J* = 8.0 Hz, 1H), 7.21-7.17 (m, 1H), 7.07 (t, *J* = 8.0 Hz, 1H), 6.77 (s, 1H), 3.70 (s, 3H), 2.75 (o, *J* = 4.0 Hz, 1H), 2.18 (s, 1H), 1.90 (d, *J* = 12.0 Hz, 2H), 1.51-1.39 (m, 2H), 1.26-1.10 (m, 4H), 0.90 ppm (s, 9H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 ^{o}C): δ = 137.1, 127.3, 124.3, 121.5, 121.4, 119.5, 118.4, 109.2, 48.2, 35.5, 34.6, 32.6, 27.8, 27.7 ppm.

IR (cm^{-1}): 2935, 2855, 1614, 1550, 1473, 1448, 1367, 1326, 1247, 1228, 1204, 1156, 1130. HRMS-ESI (m/z) calcd for $C_{19}H_{28}N$, $[M + H]^+$ 270.2222, found 270.2210.

3-(4-Phenylcyclohexyl)-1H-indole (**4m**): White solid, mp. = 97 - 99 °C; ^1H NMR (400 MHz, 25 °C, TMS, $CDCl_3$): δ = 7.92 (s, 1H), 7.77 (d, *J* = 8.0 Hz, 1H), 7.42-7.35 (m, 5H), 7.35-7.25 (m, 2H), 7.19 (t, *J* = 4.0 Hz, 1H), 7.03 (s, 1H), 3.00(t, *J* = 8.0 Hz, 1H), 2.71 (d, *J* = 12.0 Hz, 2H), 2.12 (d, J = 12.0 Hz, 2H), 1.84-1.69 ppm (sextet, *J* = 12.0 Hz, 4H). ^{13}C NMR (100 MHz, $CDCl_3$, 25 °C): δ = 147.8, 136.5, 128.5, 127.0, 126.9, 126.0, 122.6, 121.5, 119.5, 119.4, 119.1, 111.2, 44.5, 35.1, 34.7, 34.2 ppm. IR (cm^{-1}): 3421, 2922, 2851, 1600, 1549, 1452, 1419, 1373, 1337, 1218, 1188, 1095, 1010. HRMS-ESI (m/z) calcd for $C_{20}H_{22}N$, $[M + H]^+$ 276.1752, found 276.1746.

1-Methyl-3-(4-phenylcyclohexyl)-1H-indole (**4n**): White solid, mp. = 72-74 °C; ^1H NMR (400 MHz, 25 °C, TMS, $CDCl_3$): δ = 7.67-7.65 (m, 1H), 7.29-7.17 (m, 7H), 7.10-7.06 (m, 1H), 6.77 (s, 1H), 3.65 (s, 3H), 2.90 (s, 1H), 2.60 (s, 1H), 2.23 (d, *J* = 8.0 Hz, 2H), 2.00 (s, 2H), 14.69-1.61 ppm (m, 4H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 °C): δ = 147.9, 137.4, 128.6, 127.4, 127.2, 126.2, 124.6, 121.7, 121.3, 119.7, 118.7, 109.5, 44.7, 35.3, 34.9, 34.6, 32.8 ppm. IR (cm^{-1}): 2923, 2852, 1472, 1448, 1374, 1326, 1227, 1156, 1131, 1065, 1014, 979. HRMS-ESI (m/z) calcd for $C_{21}H_{24}N$, $[M + H]^+$ 290.1909, found 290.1904.

5-Methoxy-3-(4-methylcyclohexyl)-1H-indole (**4o**): Yellow viscous liquid; ^1H NMR (400 MHz, 25 °C, TMS, $CDCl_3$): δ = 7.88 (s, 1H), 7.25-7.20 (m, 1H), 7.07 (d, *J* = 2.4 Hz, 1H), 6.91 (d, *J* = 4.0 Hz, 1H), 6.84 (dd, J_a = 4.0 Hz, J_b = 8.0 Hz, 1H), 3.87 (s, 3H), 2.93 (dd, J_a = 8.0 Hz, J_b = 12.0 Hz, 0.34H), 2.75-2.68 (m, 0.83H), 2.10 (d, *J* = 12.0 Hz, 2H), 1.84-1.80 (m, 4H), 1.47 (dd, J_a = 4.0 Hz, J_b = 12.0 Hz, 2H), 1.15 (dd, J_a = 4.0 Hz, J_b = 12.0 Hz, 1H), 0.96 ppm (d, *J* = 4.0 Hz, 3H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 °C): δ = 153.6, 131.7, 127.2, 122.6, 120.3, 111.8, 101.5, 56.1, 35.7, 35.1, 33.8, 32.8, 31.9, 28.7, 22.9 ppm. IR (cm^{-1}): 3414, 2921, 2852, 1624, 1582, 1485, 1454, 1374, 1344, 1282, 1210, 1173, 1135, 1031. HRMS-ESI (m/z) calcd for $C_{16}H_{22}NO$, $[M + H]^+$ 244.1707, found 244.1703.

5-Methoxy-1-methyl-3-(4-phenylcyclohexyl)-1H-indole (**4p**): White solid, mp. = 90-91 °C; ^1H NMR (400 MHz, 25 °C, TMS, $CDCl_3$): δ = 7.85 (s, 1H), 7.34-7.29 (m, 4H), 7.24-7.19 (m, 2H), 7.12 (d, *J* = 4.0 Hz, 1H), 6.95 (d, *J* = 4.0 Hz, 1H), 6.87-6.84 (m, 1H), 3.88 (s, 3H), 2.91-2.84 (m, 1H), 2.63 (o, *J* = 4.0 Hz, 1H), 2.26 (d, *J* = 12.0 Hz, 2H), 2.06-2.03 (m, 2H), 1.77-1.59 ppm (m, 4H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 °C): δ = 153.7, 147.7, 131.7, 128.4, 127.2, 126.9, 126.0, 122.3, 120.4, 111.9, 101.5, 56.2, 44.5, 35.0, 34.7, 34.1 ppm. IR (cm^{-1}): 3423, 2923, 2852, 1582, 1484, 1449, 1283, 1211, 1171, 1058, 1029, 1100, 1029. HRMS-ESI (m/z) calcd for $C_{21}H_{24}NO$, $[M + H]^+$ 306.1858, found 306.1859.

Ethyl 4-(1-methyl-1H-indol-3-yl)cyclohexanecarboxylate (**4q**): Yellow viscous liquid; ^1H NMR (400 MHz, 25 °C, TMS, $CDCl_3$): δ = 7.61(d, *J* = 8.0 Hz, 1H), 7.27 (d, *J* = 8.0 Hz, 1H), 7.23-7.18 (m, 1H), 7.08 (t, *J* = 8.0 Hz, 1H), 6.80 (d, *J* = 16.0 Hz, 1H), 4.17-4.12 (m, 2H), 3.72 (d, *J* = 4.0 Hz, 3H), 2.86-2.80 (m, 1H), 2.39-2.33 (m, 1H), 2.20-2.17 (m, 2H), 2.13-2.07 (m, 2H), 1.73-1.61 (m, 2H), 1.52 (td, J_a = 4.0 Hz, J_b = 12.0 Hz, 2H), 1.29-1.25 ppm (m, 3H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 °C): δ = 176.2, 137.1, 127.0, 124.9, 124.4, 121.5, 121.4, 120.6, 119.3, 118.5, 118.4, 109.3, 109.2, 60.2, 43.5, 34.7, 33.1, 32.6, 30.3, 29.5, 27.3, 14.3 ppm. IR (cm^{-1}): 2932, 2858, 1729, 1471, 1450, 1374, 1325, 1295, 1244, 1226, 1178, 1139, 1099. HRMS-ESI (m/z) calcd for $C_{18}H_{24}NO_2$, $[M + H]^+$ 286.1807, found 286.1800.

3-Cyclopentyl-1-methyl-2-phenyl-1H-indole (**4r**): White solid, mp. = 55–56 °C; ^1H NMR (400 MHz, 25 °C, TMS, $CDCl_3$): δ = 7.72 (d, *J* = 8.0 Hz, 1H), 7.47-7.44 (m, 2H), 7.40 (t, *J* = 4.0 Hz, 1H), 7.37 (d, *J* = 4.0 Hz, 2H), 7.32 (d, *J* = 8.0 Hz, 1H), 7.22 (t, *J* = 4.0 Hz, 1H), 7.11-7.08 (m, 1H), 3.51 (s, 3H), 3.11-3.05 (m, 1H), 2.07-2.01 (m, 2H), 1.89-1.85 (m, 4H), 1.64-1.62 ppm (m, 2H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 °C): δ = 137.7, 137.7, 132.6, 131.0, 128.4, 128.0, 126.0, 121.5, 120.3, 118.8, 116.5, 109.7, 37.6, 33.4, 30.8, 26.6 ppm. IR (cm^{-1}): 3053, 2949, 2867, 1713, 1605, 1467, 1401, 1366, 1339, 1248, 1219, 1149, 1168. HRMS-ESI (m/z) calcd for $C_{20}H_{22}N$, $[M + H]^+$ 276.1752, found 276.1750.

3-Cyclopentyl-1H-indole (**4s**):[1] Yellow viscous liquid; ^{1}H NMR (400 MHz, 25 ^{o}C, TMS, $CDCl_3$): δ = 7.70 (d, *J* = 8.0 Hz, 1H), 7.65 (d, *J* = 8.0 Hz, 1H), 7.27 (d, *J* = 8.0 Hz, 1H), 7.18-7.14 (m, 1H), 7.11-7.07 (m, 1H), 3.25 (d, *J* = 8.0 Hz, 1H), 2.15-2.13 (m, 3H), 1.79 (t, *J* = 4.0 Hz, 2H), 1.72-1.68 (m, 5H), 1.24 ppm (t, *J* = 8.0 Hz, 1H). ^{13}C NMR (100 MHz, $CDCl_3$, 25 ^{o}C): δ =136.7, 127.4, 121.9, 121.3, 119.7, 119.7, 119.0, 111.2, 37.1, 33.3, 25.3 ppm.

3-Cycloheptyl-1H-indole (**4t**): Yellow viscous liquid; ^{1}H NMR (400 MHz, 25 ^{o}C, TMS, $CDCl_3$): δ = 7.84 (s, 1H), 7.70 (d, *J* = 8.0 Hz, 1H), 7.38 (t, *J* = 8.0 Hz, 1H), 7.26 (t, *J* = 8.0 Hz, 1H), 7.17 (t, *J* = 8.0 Hz, 1H), 6.97 (d, J = 4.0 Hz, 1H), 3.15-3.08 (m, 1H), 2.20-2.15 (m, 2H), 1.88-1.79 (m, 6H), 1.76-1.68 ppm (m, 4H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 ^{o}C): δ = 136.5, 126.7, 124.4, 121.8, 119.4, 119.0, 111.1, 37.3, 35.7, 28.4, 27.0 ppm. IR (cm^{-1}): 3417, 2922, 2853, 1705, 1616, 1457, 1419, 1339, 1285, 1225, 1150, 1122, 1095. 1012. HRMS-ESI (m/z) calcd for $C_{15}H_{20}N$, $[M + H]^+$ 214.1596, found 214.1591.

3-Cycloheptyl-1-methyl-1H-indole (**4u**): Yellow viscous liquid; ^{1}H NMR (400 MHz, 25 ^{o}C, TMS, $CDCl_3$): δ = 7.60 (d, *J* = 8.0 Hz, 1H), 7.20 (q, J_a = 8.0 Hz, J_b = 16.0 Hz, 2H), 7.08-7.05 (m, 1H), 6.76 (s, 1H), 3.66 (s, 3H), 3.05-3.00 (m, 1H), 2.11-2.08 (m, 2H), 1.79-1.67 (m, 6H), 1.60 ppm (t, *J* = 4.0 Hz, 4H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 ^{o}C): δ = 137.3, 127.2, 124.5, 123.1, 121.6, 119.6, 118.5, 109.3, 37.5, 36.1, 32.6, 28.6, 27.2 ppm. IR (cm-1): 2923, 2853, 1613, 1467, 1423, 1374, 1326, 1234, 1153, 1130, 1061, 1014. HRMS-ESI (m/z) calcd for $C_{16}H_{22}NO$, $[M + H]^+$ 228.1752, found 228.1745.

5-Bromo-3-cycloheptyl-1H-indole (**4v**): Yellow viscous liquid; ^{1}H NMR (400 MHz, 25 ^{o}C, TMS, $CDCl_3$): δ = 7.91 (s, 1H), 7.73 (d, *J* = 4.0 Hz, 1H), 7.25-7.22 (m, 1H), 7.18 (d, *J* = 8.0 Hz, 1H), 6.93 (d, *J* = 2.0 Hz, 1H), 2.99-2.92 (m, 1H), 1.80-1.56 ppm (m, 12H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 ^{o}C): δ = 135.0, 128.5, 124.6, 124.2, 121.9, 120.7, 112.5, 112.2, 37.2, 35.7, 28.2, 27.0 ppm. IR (cm^{-1}): 3431, 2923, 2854, 1688, 1565, 1458, 1417, 1338, 1318, 1221, 1097, 1047. HRMS-ESI (m/z) calcd for $C_{15}H_{19}BrNO$, $[M + H]^+$ 292.0701, found 292.0694.

3-Cycloheptyl-5-methoxy-1H-indole (**4w**): Yellow viscous liquid; ^{1}H NMR (400 MHz, 25 ^{o}C, TMS, $CDCl_3$): δ = 7.93 (s, 1H), 7.22 (d, *J* = 12.0 Hz, 1H), 7.05 (d, *J* = 2.4 Hz, 1H), 6.93 (d, *J* = 4.0 Hz, 1H), 6.84 (dd, J_a = 4.0 Hz, J_b = 8.0 Hz, 1H), 3.87 (s, 3H), 2.99 (h, *J* = 4.0 Hz, 1H), 1.73-1.60 ppm (m, 12H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 ^{o}C): δ = 153.6, 131.7, 127.1, 124.0, 120.4, 111.8, 111.6, 101.5, 56.1, 43.9, 37.2, 35.6, 28.4, 27.0, 24.4 ppm. IR (cm^{-1}): 3416, 2924, 2854, 1692, 1624, 1582, 1483, 1456, 1348, 1284, 1266, 1212, 1167, 1058, 1029. HRMS-ESI (m/z) calcd for $C_{16}H_{22}NO$, $[M + H]^+$ 244.1701, found 244.1702.

3-Cycloheptyl-6-methyl-1H-indole (**4x**): Yellow solid, mp. = 62-63 ^{o}C. ^{1}H NMR (400 MHz, 25 ^{o}C, TMS, $CDCl_3$): δ = 7.75 (s, 1H), 7.55 (d, *J* = 8.0 Hz, 1H), 7.16 (s, 1H), 6.90 (d, *J* = 0.4Hz, 1H), 6.88 (dd, J_a = 0.9 Hz, J_b = 8.1 Hz, 1H), 3.09-3.03 (m, 1H), 2.50 (s, 3H), 2.17-2.12 (m, 2H), 1.85-1.72 (m, 8H), 1.67-1.65 ppm (m,4H). ^{13}C NMR (100 MHz, $CDCl_3$, 25 ^{o}C): δ = 136.9, 131.6, 124.6, 124.2, 120.7, 119.1, 118.7, 111.1, 43.9, 37.4, 35.7, 30.5, 28.4, 27.0, 24.4, 21.7 ppm. IR (cm^{-1}): 3412, 2922, 2853, 1691, 1625, 1547, 1456, 1400, 1338, 1225, 1154, 1094, 1067, 1033. HRMS-ESI (m/z) calcd for $C_{16}H_{22}N$, $[M + H]^+$ 228.1752, found 228.1747.

3-Cyclooctyl-1H-indole (**4y**): Yellow viscous liquid; ^{1}H NMR (400 MHz, 25 ^{o}C, TMS, $CDCl_3$): δ = 7.86 (s, 1H), 7.62 (d, *J* = 8.0 Hz, 1H), 7.34 (d, *J* = 8.0 Hz, 1H), 7.17 (t, *J* = 8.0 Hz, 1H), 7.10 (td, J_a = 4.0 Hz, J_b = 8.0 Hz, 1H), 6.96 (d, *J* = 4.0 Hz, 1H), 3.18-3.11 (m, 1H), 2.05-1.98 (m. 2H), 1.87-1.84 (m, 2H), 1.78-1.74 (m, 2H), 1.70-1.62 ppm (m, 8H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 ^{o}C): δ = 136.5, 126.7, 124.4, 121.8, 119.6, 119.3, 118.9, 111.1, 100.0, 35.1, 32.8, 27.3, 26.3, 25.8 ppm. IR (cm^{-1}): 3418, 2921, 2851, 1711, 1664, 1617, 1457, 1418, 1339, 1221, 1095, 1013. HRMS-ESI (m/z) calcd for $C_{16}H_{22}N$, $[M + H]^+$ 228.1752, found 228.1745.

3-Cyclooctyl-1-methyl-1H-indole (**4z**): Yellow viscous liquid; ^{1}H NMR (400 MHz, 25 ^{o}C, TMS, $CDCl_3$): δ = 7.60 (d, *J* = 8.0 Hz, 1H), 7.25 (d, *J* = 8.0 Hz, 1H), 7.21-7.17 (m, 1H), 7.07 (td, J_a = 0.8 Hz, J_b = 8.0 Hz, 1H), 6.78 (s, 1H), 3.69 (s, 3H), 3.16-3.10 (m, 1H), 2.02-1.97 (m, 2H), 1.87-1.73 (m, 4H), 1.69-1.61 ppm (m, 8H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 ^{o}C): δ =137.2, 127.1, 124.7, 123.0, 121.4, 119.5, 118.4, 109.2, 35.1, 33.1, 32.6, 27.5, 26.4, 25.9 ppm. IR (cm^{-1}): 2919, 2871, 1721, 1674, 1647,

1437, 1428, 1341, 1231, 1098, 1015. HRMS-ESI (m/z) calcd for $C_{17}H_{24}N$, $[M + H]^+$ 242.1909, found 242.1905.

3-(3,3,5-Trimethylcyclohexyl)-1H-indole (**4aa**): Yellow solid, mp. = 110-112 °C; ^{1}H NMR (400 MHz, 25 °C, TMS, $CDCl_3$): δ = 7.83 (s, 1H), 7.64 (d, *J* = 8.0 Hz, 1H), 7.29 (d, *J* = 8.0 Hz, 1H), 7.19-7.14 (m, 1H), 7.09 (t, *J* = 8.0 Hz, 1H), 6.87 (d, *J* = 4.0 Hz, 1H), 3.08 (tt, J_a = 4.0 Hz, J_b = 12.0 Hz, 1H), 2.06 (dt, J_a = 4.0 Hz, J_b = 12.0 Hz, 1H), 1.85-1.75 (m, 2H), 1.45 (dt, J_a = 4.0 Hz, J_b = 12.0 Hz,1H), 1.26 (t, *J* = 12.0 Hz, 2H), 1.06 (s, 3H), 0.96 (s, 3H), 0.92 ppm (d, *J* = 4.0 Hz, 3H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 °C): δ = 136.5, 126.9, 122.7, 121.8, 119.5, 119.3, 119.0, 111.3, 48.5, 46.7, 42.6, 33.5, 31.8, 31.0, 28.8, 25.5, 23.0 ppm. IR (cm^{-1}): 3419, 2949, 2868, 2839, 1704, 1457, 1421, 1363, 1338, 1262, 1225, 1149, 1095, 1011. HRMS-ESI (m/z) calcd for $C_{17}H_{24}N$, $[M + H]^+$ 242.1909, found 242.1901.

1-Methyl-3-(3,3,5-trimethylcyclohexyl)-1H-indole (**4ab**): Yellow viscous liquid; ^{1}H NMR (400 MHz, 25 °C, TMS, $CDCl_3$): δ = 7.65-7.62 (m, 1H), 7.26 (d, *J* = 8.0 Hz, 1H), 7.21-7.17 (m, 1H), 7.08 (t, *J* = 8.0 Hz, 1H), 6.79 (d, *J* = 8.0 Hz, 1H), 3.71 (d, *J* = 4.0 Hz, 3H), 3.32-3.27 (m, 0.45 H), 3.11-3.04 (m, 0.55H), 1.86-1.58 (m, 3H), 1.46-1.41 (m, 1H), 1.29-1.19 (m, 1H), 1.13 (d, *J* = 8.0 Hz, 1H), 1.06 (d, *J* = 4.0 Hz, 3H), 0.97-0.81 ppm (m, 6H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 °C): δ = 137.2, 137.1, 127.5, 127.2, 124.8, 124.3, 121.4, 121.4, 121.2, 119.6, 119.3, 118.4, 118.4, 109.3, 109.2, 48.5, 46.9, 46.2, 45.4, 42.8, 39.1, 33.5, 32.6, 32.6, 32.0, 31.8, 31.5, 31.0, 30.9, 30.6, 28.8, 27.6, 27.2, 25.5, 22.9, 22.1 ppm. IR (cm^{-1}): 2948, 2841, 1614, 1547, 1550, 1468, 1425, 1377, 1325, 1234, 1208, 1156, 1128, 1014. HRMS-ESI (m/z) calcd for $C_{18}H_{26}N$, $[M + H]^+$ 256.2065, found 256.2053.

5-Methoxy-3-(3,3,5-trimethylcyclohexyl)-1H-indole (**4ac**): Yellow viscous liquid; ^{1}H NMR (400 MHz, 25 °C, TMS, $CDCl_3$): δ = 7.80 (s, 1H), 7.23-7.20 (m, 1H), 7.10-7.08 (m, 1H), 6.92-6.89 (m, 1H), 6.85 (dd, J_a = 4.0 Hz, J_b = 8.0 Hz, 1H), 3.87 (s, 3H), 3.25 (h, *J* = 4.0 Hz, 0.65H), 3.06-2.99 (m, 0.35H), 1.87-1.60 (m, 4H), 1.46-1.41 (m, 1H), 1.29-1.25 (d, *J* = 16.0 Hz, 1H), 1.20 (dd, J_a = 8.0 Hz, J_b = 12.0 Hz, 1H), 1.12 (d, *J* = 8.0 Hz, 2H), 1.06 (d, *J* = 12.0 Hz, 3H), 0.96 (s, 1H), 0.92 (d, *J* = 8.0 Hz, 1H), 0.80 ppm (s, 2H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 °C): δ = 153.6, 153.6, 131.8, 127.5, 122.5, 122.2, 120.8, 120.4, 111.8, 111.8, 111.6, 111.5, 101.9, 101.7, 56.2, 56.1, 48.5, 46.5, 46.3, 44.8, 42.5, 38.8, 33.5, 31.8, 31.5, 31.5, 31.0, 30.9, 30.8, 28.7, 27.7, 27.0, 25.5, 22.9, 22.2 ppm. IR (cm^{-1}): 3419, 2948, 2839, 1582, 1482, 1457, 1364, 1289, 1263, 1211, 1169, 1096, 1046. HRMS-ESI (m/z) calcd for $C_{18}H_{26}NO$, $[M + H]^+$ 272.2014, found 272.2018.

3-((2R)-Adamantan-2-yl)-6-methyl-1H-indole (**4ad**): White solid, mp. = 87 – 89 °C; ^{1}H NMR (400 MHz, 25 °C, TMS, $CDCl_3$): δ = 7.77 (s, 1H), 7.49 (d, *J* = 8.0 Hz, 1H), 7.11 (s, 1H), 7.00 (s, 1H), 6.91 (d, *J* = 8.0 Hz, 1H), 3.33 (s, 1H), 2.44 (s, 3H), 2.34 (s, 2H), 2.06-1.95 ppm (m, 12H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 °C): δ = 136.7, 131.5, 125.4, 120.7, 120.6, 120.1, 119.4, 111.0, 47.0, 42.5, 39.5, 39.3, 38.3, 32.7, 32.3, 28.4, 28.2, 27.5, 21.7 ppm. IR (cm^{-1}): 3412, 2904, 2851, 1716, 1623, 1452, 1396, 1340, 1312, 1226, 1156, 1116, 1096, 1062. HRMS-ESI (m/z) calcd for $C_{19}H_{24}NO$, $[M + H]^+$ 282.1858, found 282.1856.

3-((2R)-Adamantan-2-yl)-5-methoxy-1H-indole (**4ae**): White solid, mp. = 125- 127 °C; ^{1}H NMR (400 MHz, 25 °C, TMS, $CDCl_3$): δ = 7.89 (s, 1H), 7.25-7.22 (m, 1H), 7.11 (s, 1H), 7.05 (d, *J* = 4.0 Hz, 1H), 6.85 (dd, J_a = 4.0 Hz, J_b = 8.0 Hz,1H), 3.86 (s, 3H), 3.30 (s,1H), 2.33 (s, 2H), 2.09-1.97 ppm (m, 12H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 °C): δ = 153.6, 131.5, 127.9, 122.2, 120.0, 111.6, 111.5, 102.2, 56.2, 47.0, 42.5, 39.5, 39.3, 38.2, 36.3, 32.7, 32.2, 28.3, 28.1, 27.5 ppm. IR (cm^{-1}): 3415, 2903, 2850, 1716, 1704, 1676, 1624, 1582, 1482, 1450, 1349, 1314, 1287, 1209, 1034. HRMS-ESI (m/z) calcd for $C_{19}H_{24}N$, $[M + H]^+$ 266.1909, found 266.1902.

Methyl 3-cyclohexyl-1H-indole-6-carboxylate (**4af**):[6] White solid, mp. = 128-130 °C; ^{1}H NMR (400 MHz, 25 °C, TMS, $CDCl_3$): δ = 8.44 (s, 1H), 8.11 (d, *J* = 0.8 Hz, 1H), 7.78 (dd, J_a = 1.6 Hz, J_b = 8.4 Hz, 1H), 7.66 (d, *J* = 8.0 Hz, 1H), 7.08 (d, *J* = 4.0 Hz, 1H), 3.92 (s, 3H), 2.86-2.80 (m, 1H), 2.09-2.06 (m, 2H), 1.85-1.75 (m, 4H), 1.47-1.42 ppm (m, 4H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 °C): δ = 168.4, 135.7, 130.4, 123.6, 123.3, 123.1, 120.0, 118.9, 113.6, 51.9, 35.3, 34.0, 26.9, 26.4 ppm.

5-bromo-3-(1-deuteriumcyclohexyl)-1H-indole (**4c-D**): Yellow viscous liquid; ^{1}H NMR (400 MHz, $CDCl_3$): δ = 8.53 (s, 1H), 8.16 (s, 1H), 7.97 (dd, J_a = 4.0 Hz, J_b = 8.0 Hz, 1H), 7.37 (d, J = 8.0 Hz, 1H), 7.02 (d, J = 4.0 Hz, 1H), 2.92-2.87 (m, 1H), 2.13-2.11 (m, 2H), 1.87-1.78 (m, 3H), 1.51-1.44 (m. 4H), 1.35-1.24 ppm (m, 2H); ^{13}C NMR (100 MHz, $CDCl_3$): δ = 173.3, 139.5, 126.6, 125.0, 123.8, 123.4, 120.8, 120.1, 110.8, 35.2, 34.1, 26.9, 26.4 ppm. IR (cm^{-1}): 3421, 2930, 2858, 1698, 1631, 1620, 1563, 1522, 1454, 1333, 1280, 1237, 1175, 1106, 1012. HRMS-ESI (m/z) calcd for $C_{14}H_{16}DBrN$, $[M + H]^+$ 279.0606, found 279. 0603.

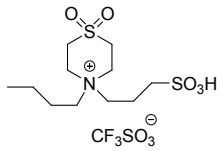
1,3-Di(1H-indol-3-yl)cyclohexane (**6a**): Yellow viscous liquid; ^{1}H NMR (400 MHz, $CDCl_3$): δ = 7.75 (s, 2H), 7.59 (d, J = 8.0 Hz, 2H), 7.27 (d, J = 8.0 Hz, 2H), 7.15 (t, J = 8.0 Hz, 2H), 7.06 (t, J = 8.0 Hz, 2H), 6.99 (s, 2H), 3.38 (t, J = 4.0 Hz, 2H), 2.32-2.29 (m, 2H), 2.03-1.98 (m, 2H), 1.93-1.88 (m, 2H), 1.77-1.73 ppm (m, 2H); ^{13}C NMR (100 MHz, $CDCl_3$): δ = 136.5, 127.2, 121.9, 121.5, 120.7, 119.6, 119.1, 111.3, 37.8, 32.3, 30.9, 22.8 ppm. IR (cm^{-1}): 3414, 3054, 2926, 2854, 1618, 1548, 1485, 1455, 1418, 1337, 1293, 1228, 1097, 1040, 1013. HRMS-ESI (m/z) calcd for $C_{22}H_{23}N_2$, $[M + H]^+$ 315.1861, found 315.1850.

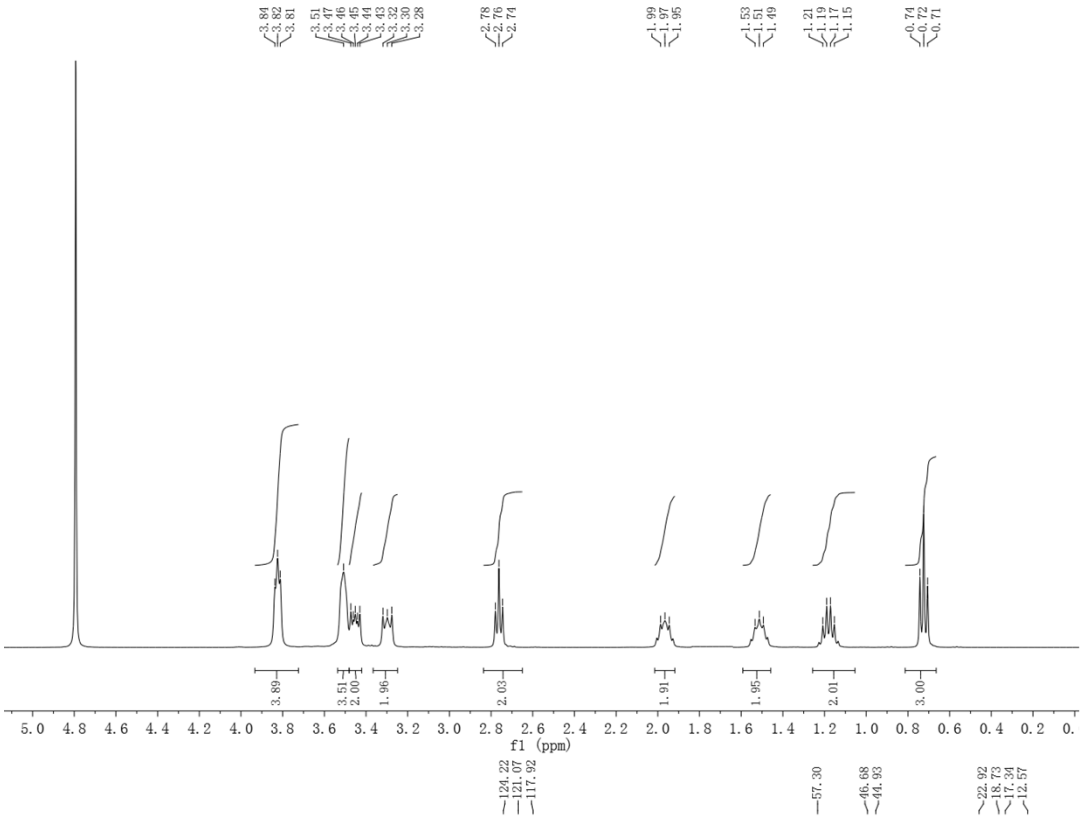
3,3'-(Cyclohexane-1,1-diyl)bis(5-bromo-1H-indole) (**8a**):[7] Brown oil, ^{1}H NMR (400 MHz, 25 ^{o}C, TMS, $CDCl_3$): δ = 8.00 (s, 2H), 7.55(s, 2H), 7.15-7.13 (m, 6H), 2.43 (t, J = 4.0 Hz, 4H), 1.62-1.55 ppm (m, 6H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 ^{o}C): δ 135.7, 127.9, 124.2, 123.6, 123.0, 112.6, 112.0, 39.1, 36.9, 26.7, 22.8 ppm.

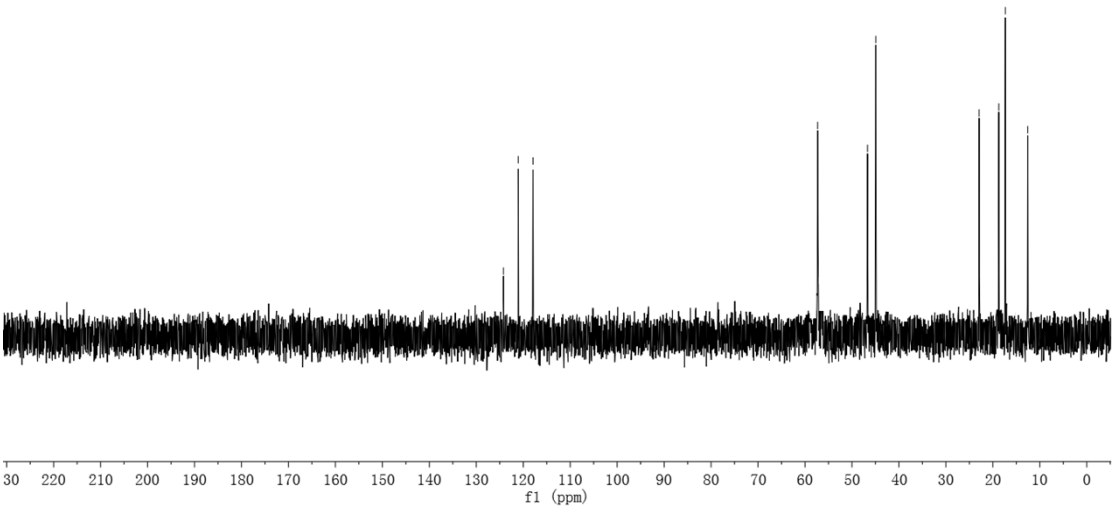
5-Bromo-3-(cyclohex-1-en-1-yl)-1H-indole (**9a**):[7] Yellow viscous liquid; ^{1}H NMR (400 MHz, 25 ^{o}C, TMS, $CDCl_3$): δ = 8.08 (s, 1H), 8.02 (d, J = 4.0 Hz, 1H), 7.26 (dd, J_a = 4.0 Hz, J_b = 8.0 Hz, 1H), 7.20-7.18 (m, 1H), 7.11 (d, J = 4.0 Hz, 1H), 6.20-6.18 (m, 1H), 2.40-2.39 (m, 2H), 2.27-2.24 (m, 2H), 1.81-1.77 (m, 2H), 1.73-1.68 ppm (m, 2H); ^{13}C NMR (100 MHz, $CDCl_3$, 25 ^{o}C): δ = 135.3, 130.7, 127.1, 124.9, 123.4, 123.2, 121.8, 113.2, 112.6, 28.6, 25.7, 23.1 ppm .

3-Cyclohexyl-1H-indole-5-carboperoxoic acid (**10a**): White solid, mp. = 145-147 ^{o}C; ^{1}H NMR (400 MHz, $CDCl_3$) δ = 8.53 (s, 1H), 8.16 (s, 1H), 7.97 (dd, J_a = 4.0 Hz, J_b = 8.0 Hz, 1H), 7.37 (d, J = 8.0 Hz, 1H), 7.02 (d, J = 4.0 Hz, 1H), 2.92-2.87 (m, 1H), 2.13-2.11 (m, 2H), 1.87-1.78 (m, 3H), 1.51-1.44 (m. 4H), 1.35-1.24 ppm (m, 2H); ^{13}C NMR (100 MHz, $CDCl_3$) δ = 173.3, 139.5, 126.6, 125.0, 123.8, 123.4, 120.8, 120.1, 110.8, 35.2, 34.1, 26.9, 26.4 ppm. IR (cm^{-1}): 3440, 2925, 2853, 2538, 1674, 1612, 1432, 1262, 908. HRMS-ESI (m/z) calcd for $C_{17}H_{24}N$, $[M + H]^+$ 242.1909, found 242.1901. HRMS-ESI (m/z) calcd for $C_{15}H_{18}NO_3$, $[M + H]^+$ 260.1287, found 260.1279.

9. Copy of ^{1}H and ^{13}C NMR Spectra







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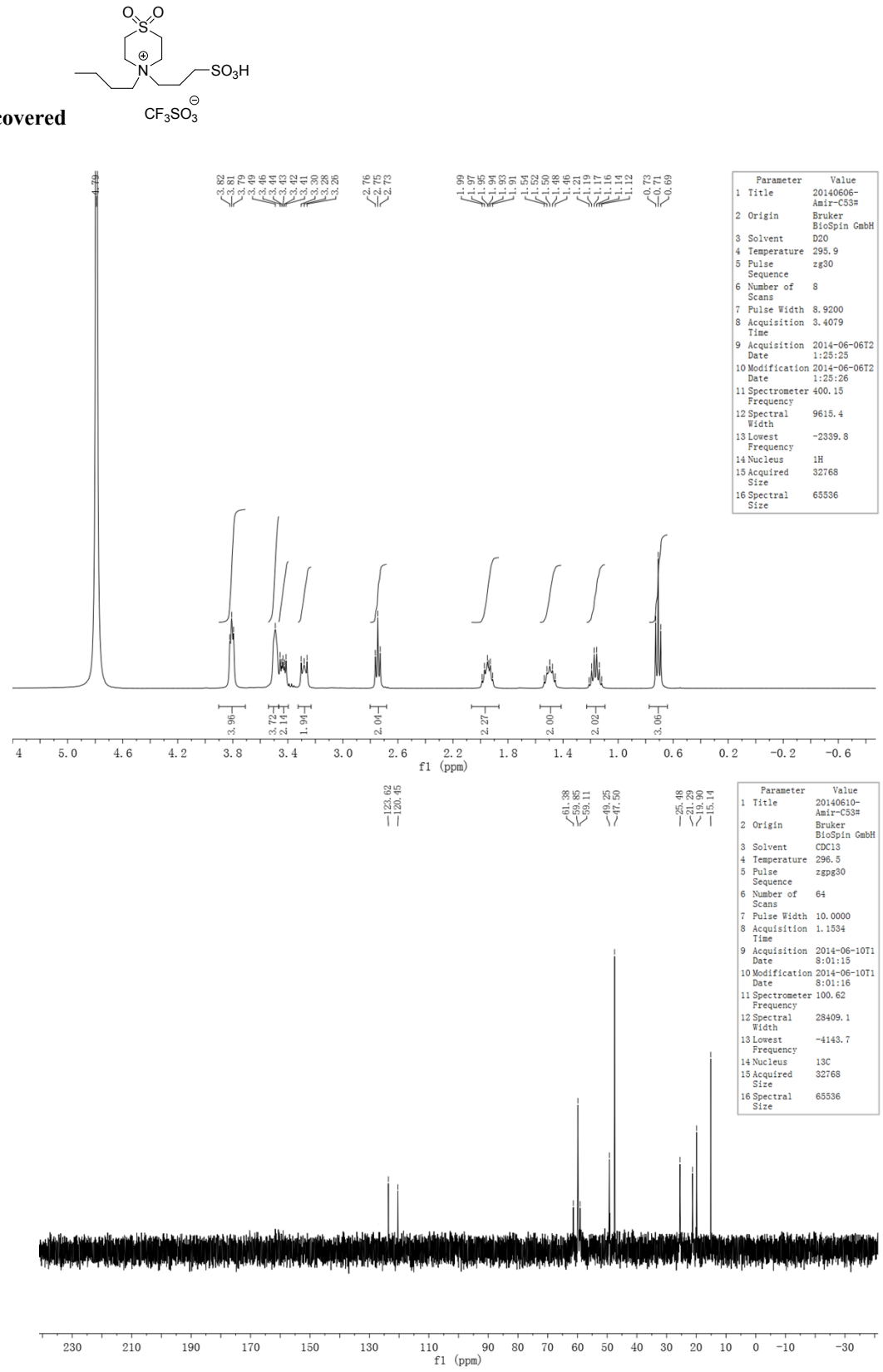
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4 Temperature 296.5
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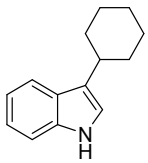

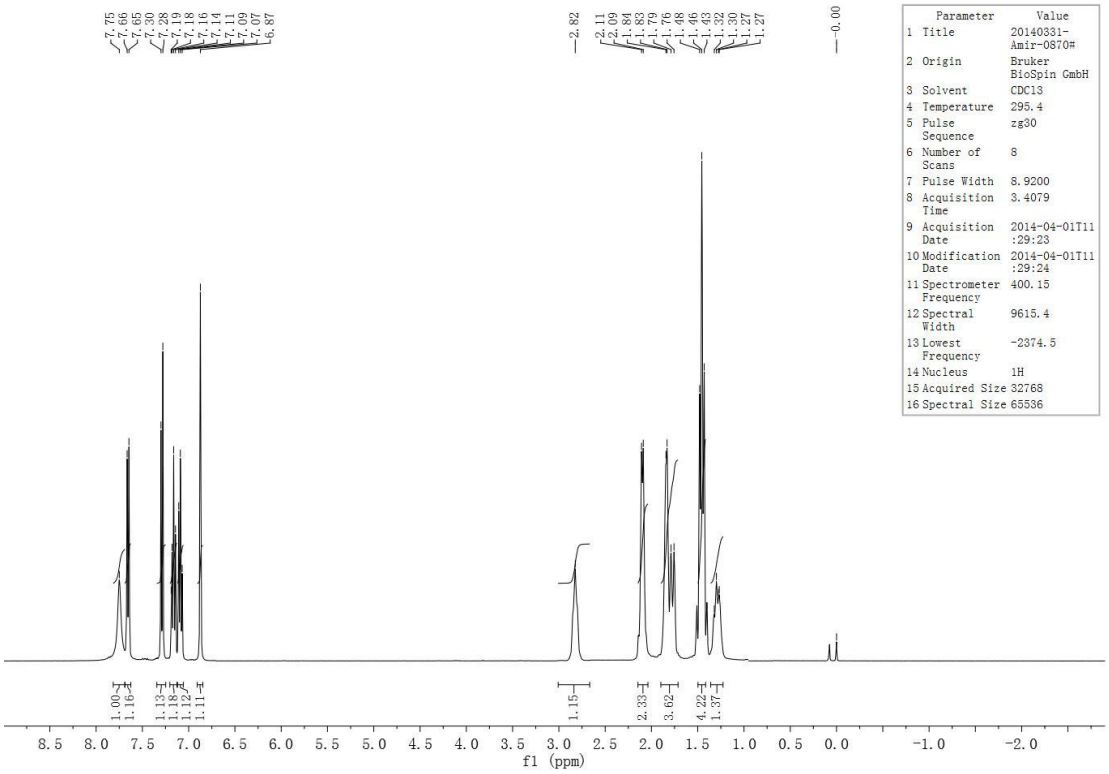

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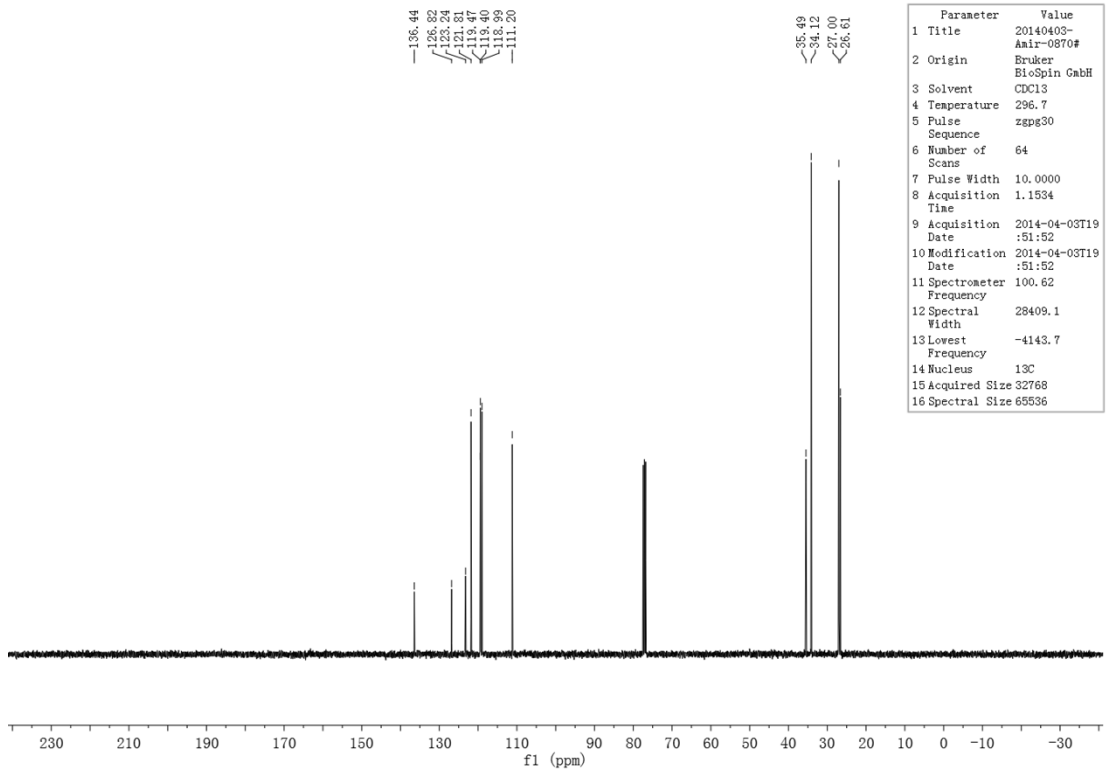

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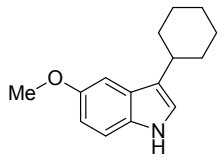
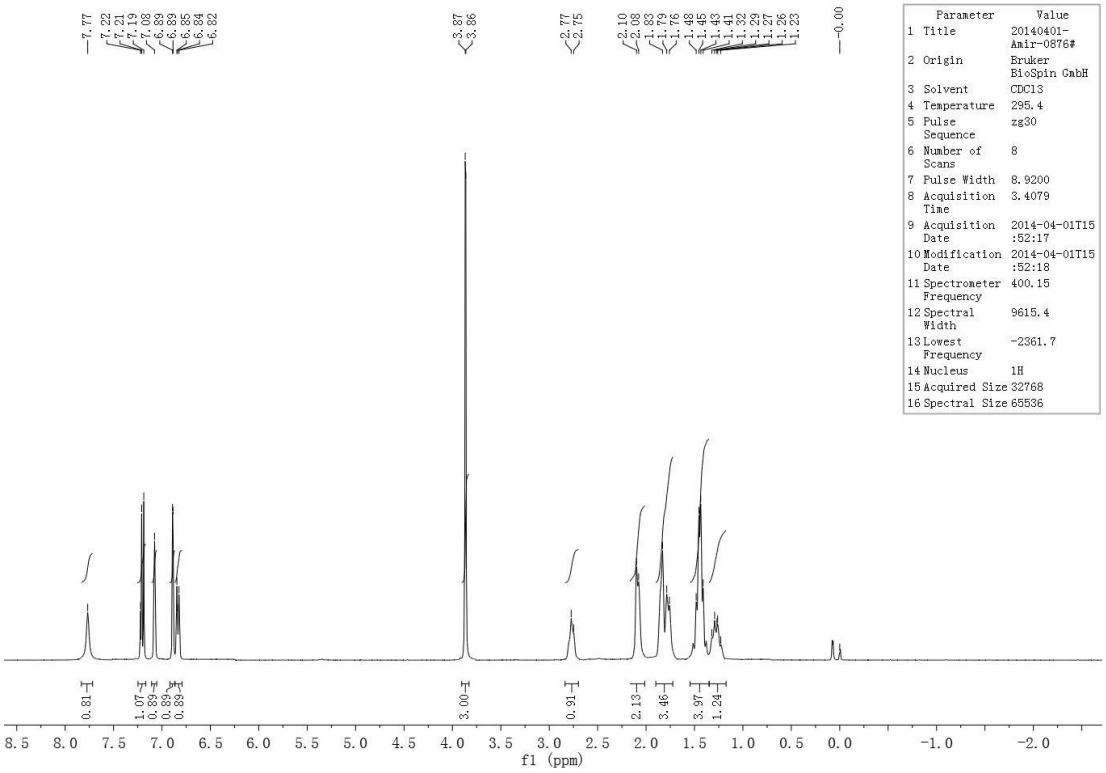
15	Acquired Size	32768
16	Spectral Size	65536





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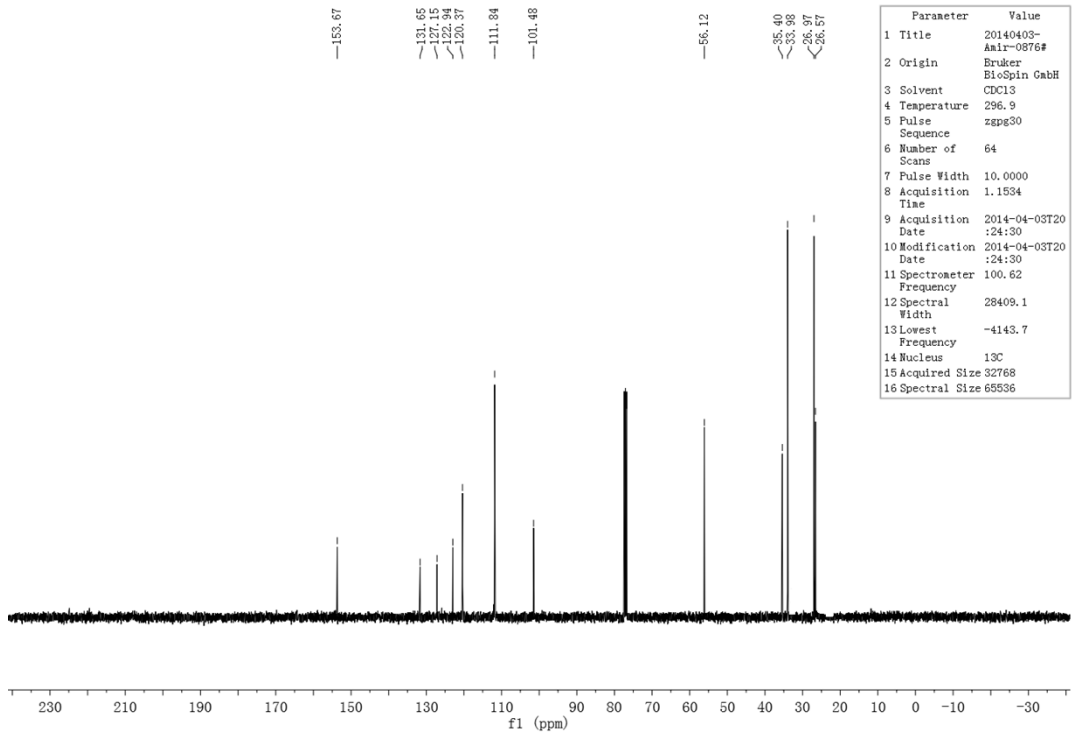

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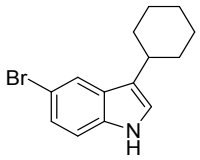

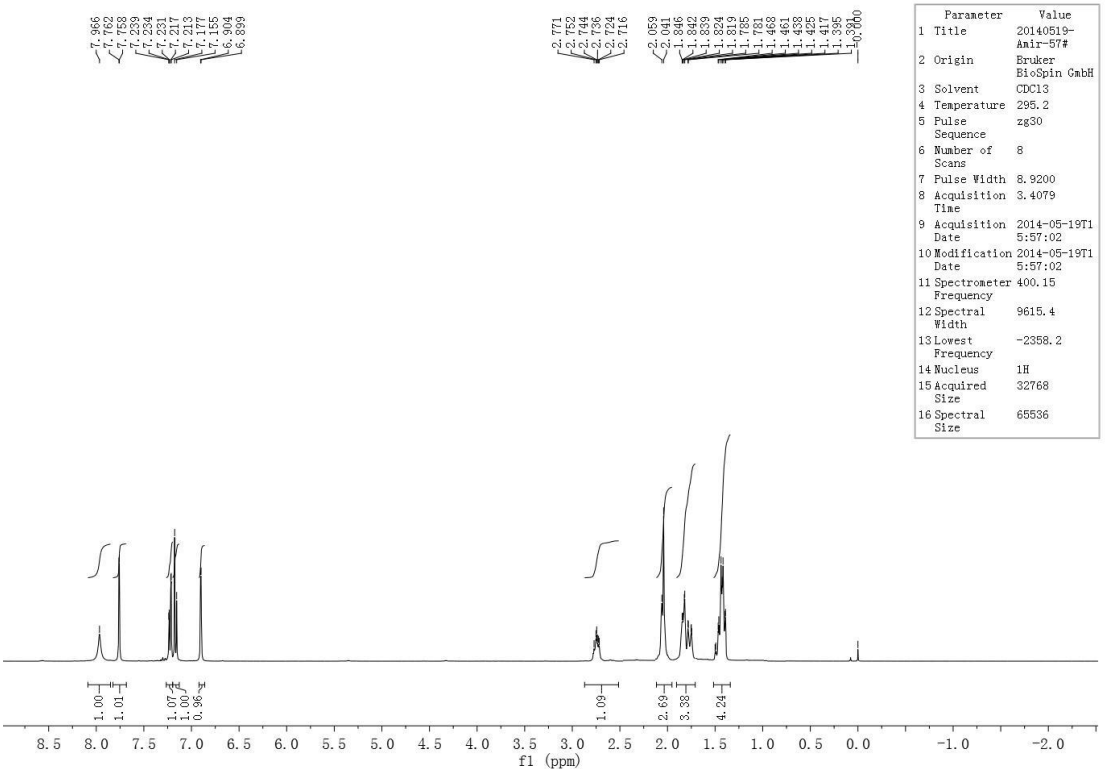

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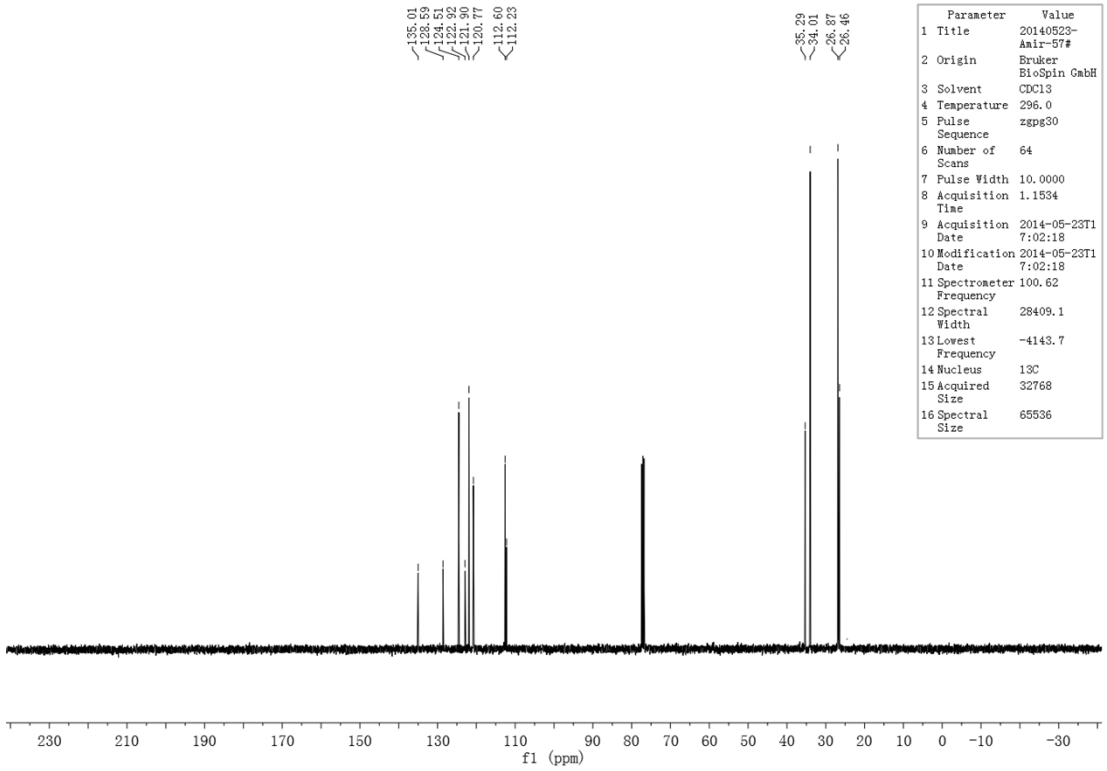

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15	Acquired Size	32768
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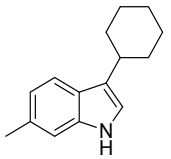

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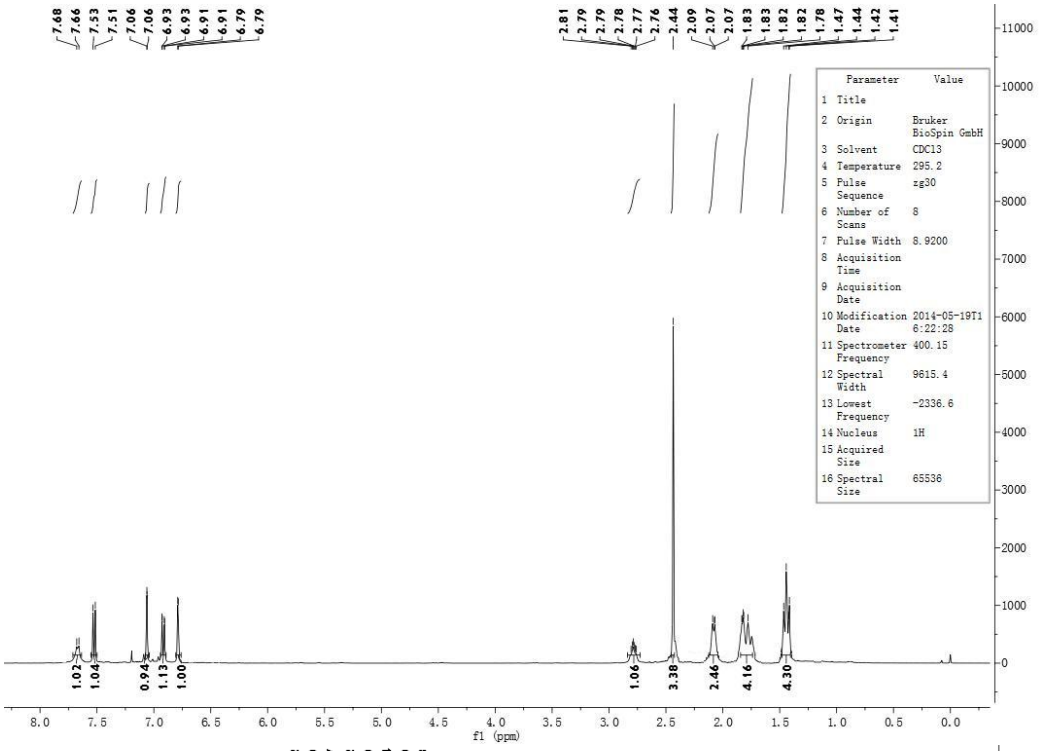
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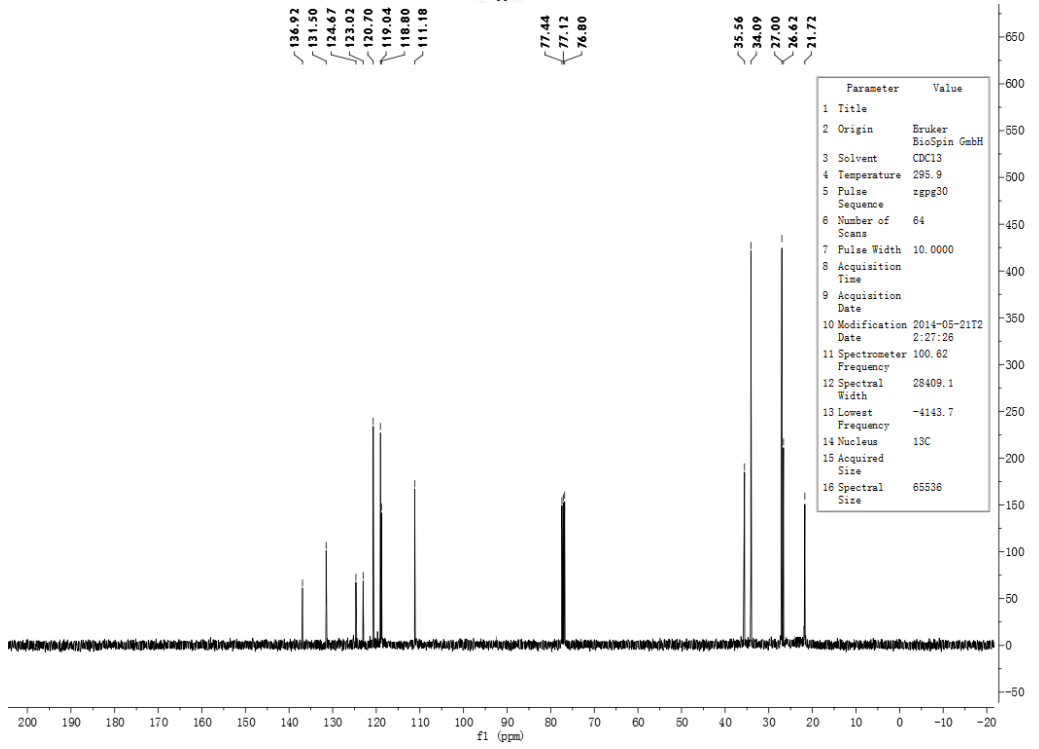
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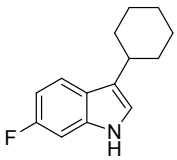

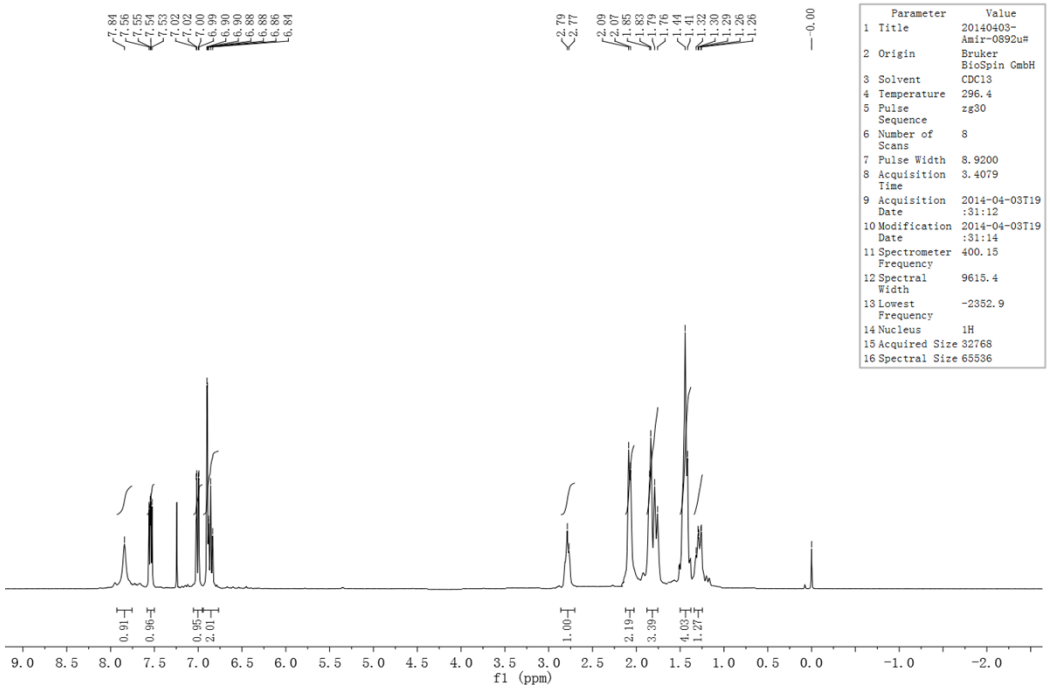

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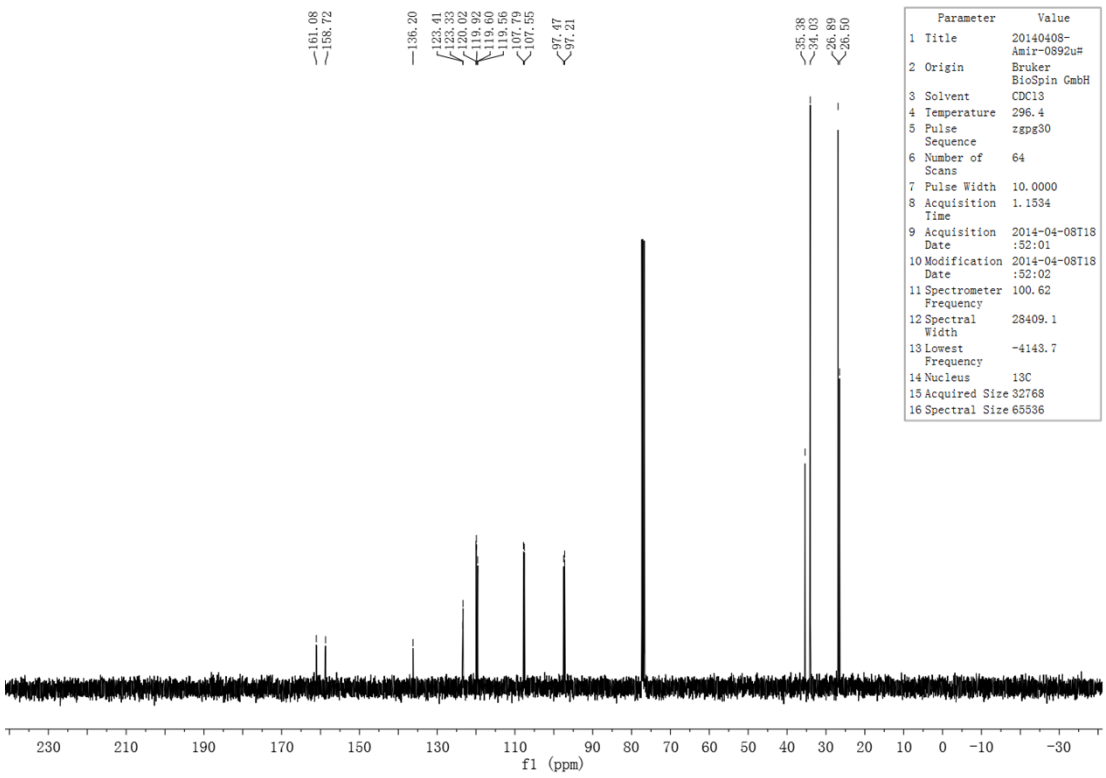

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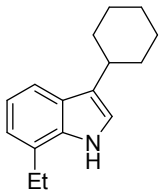
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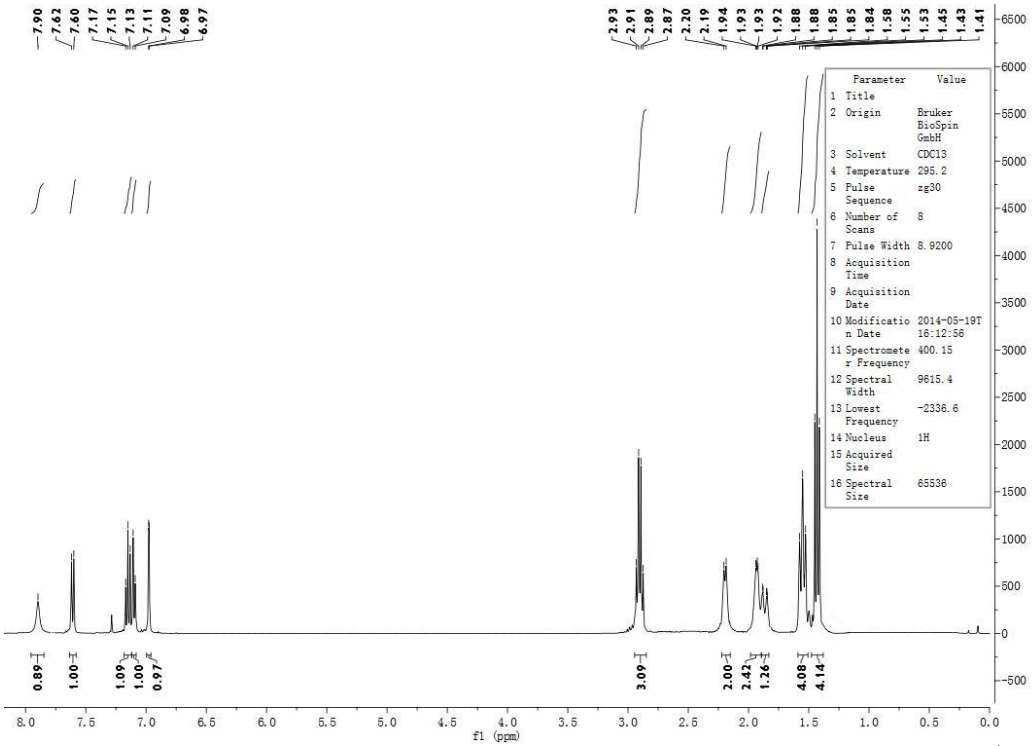
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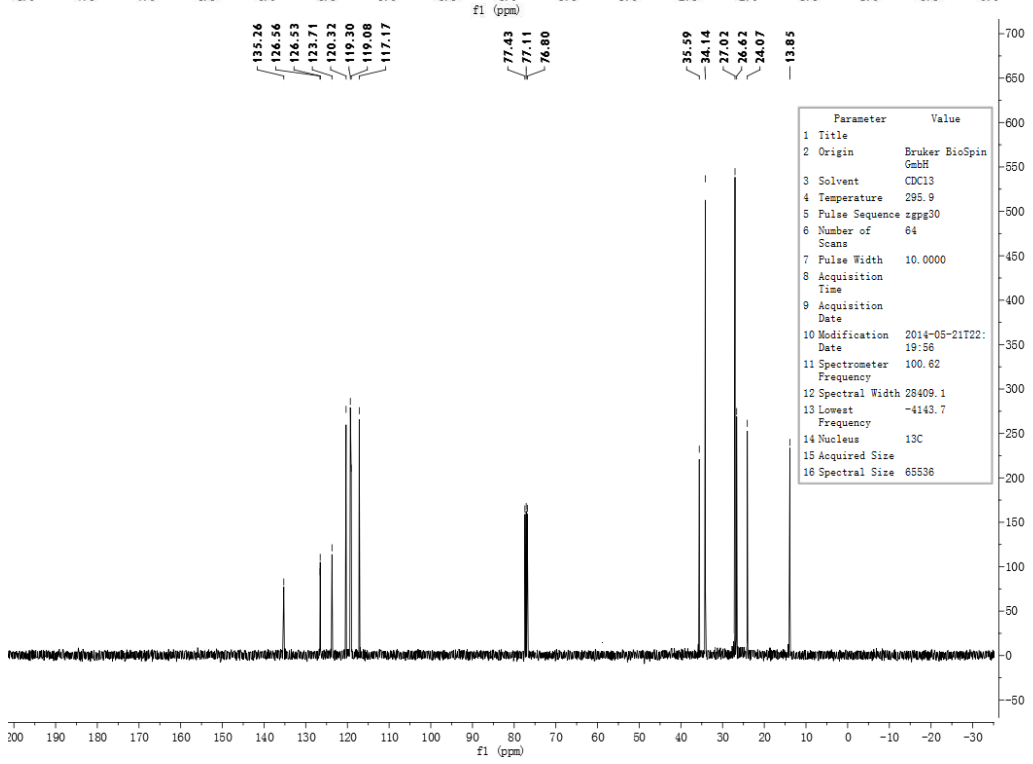
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8 Acquisition Time
9 Acquisition Date
10 Modification Date 2014-05-21T22:19:56
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13 Lowest Frequency -4143.7
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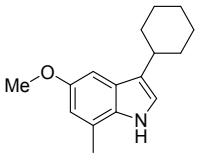
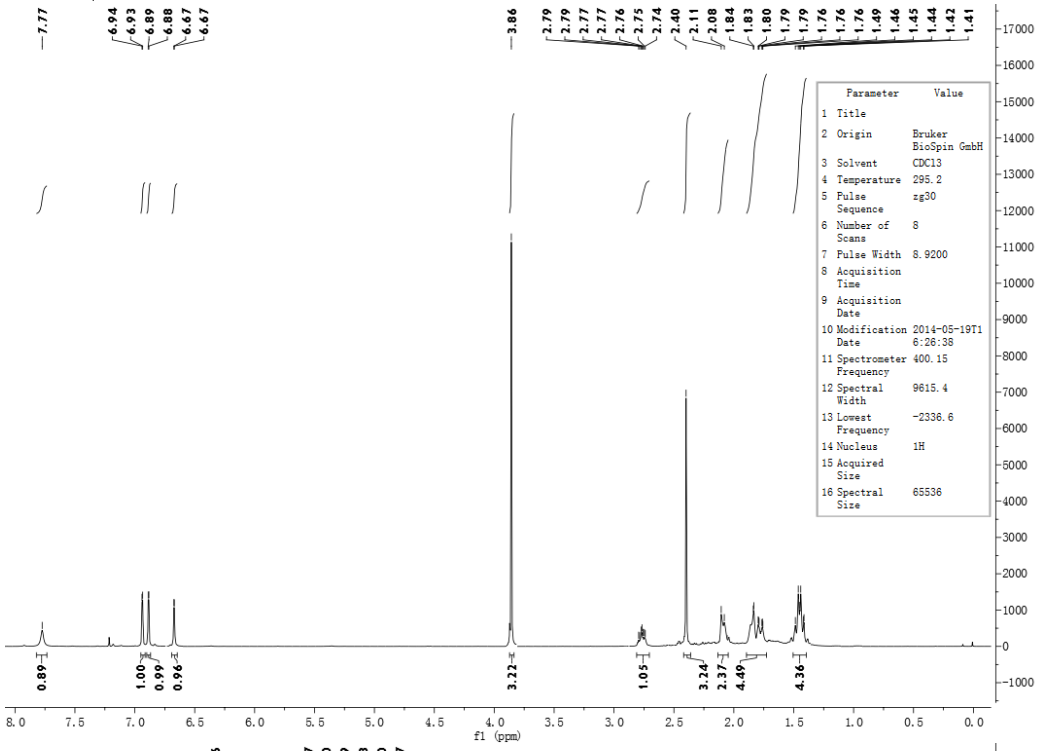
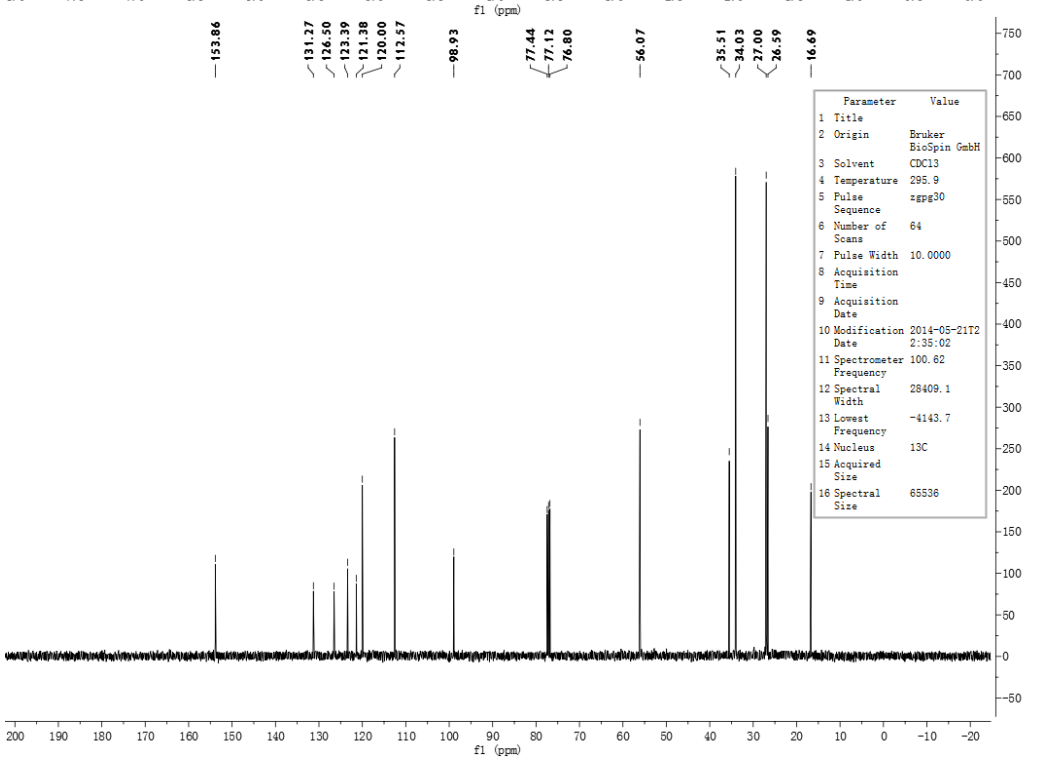
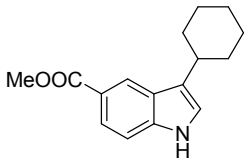
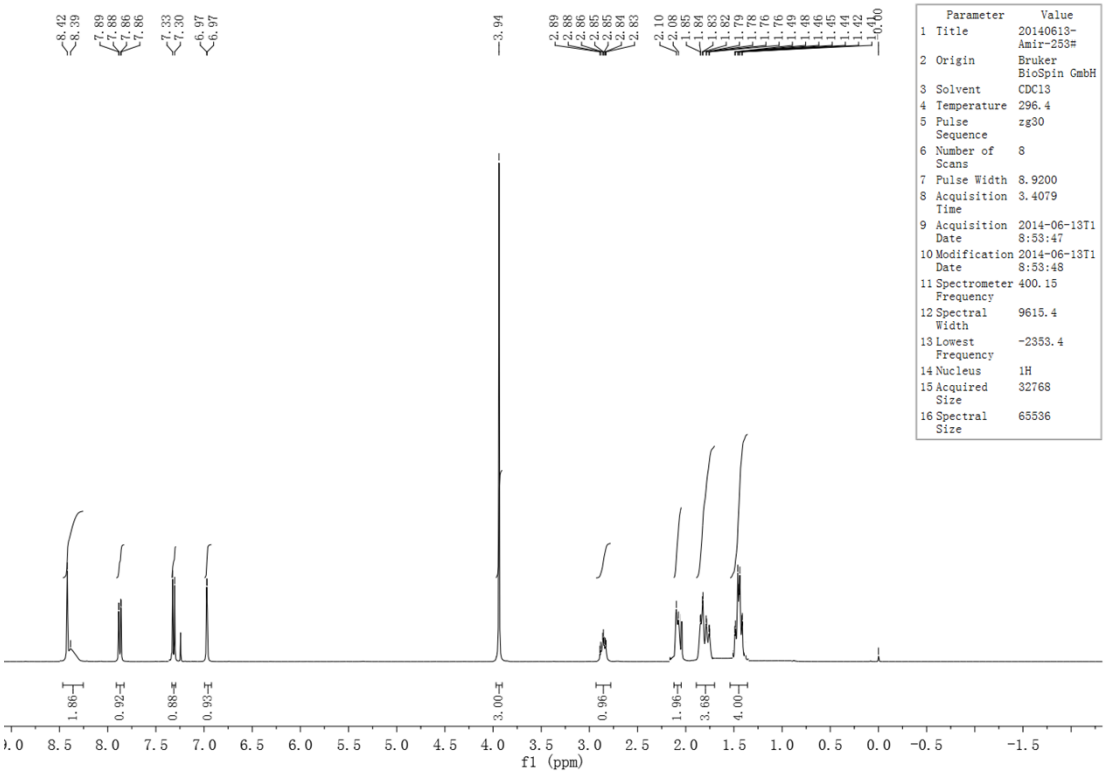
16 Spectral Size 65536
f1 (ppm)


Me
O
N
H

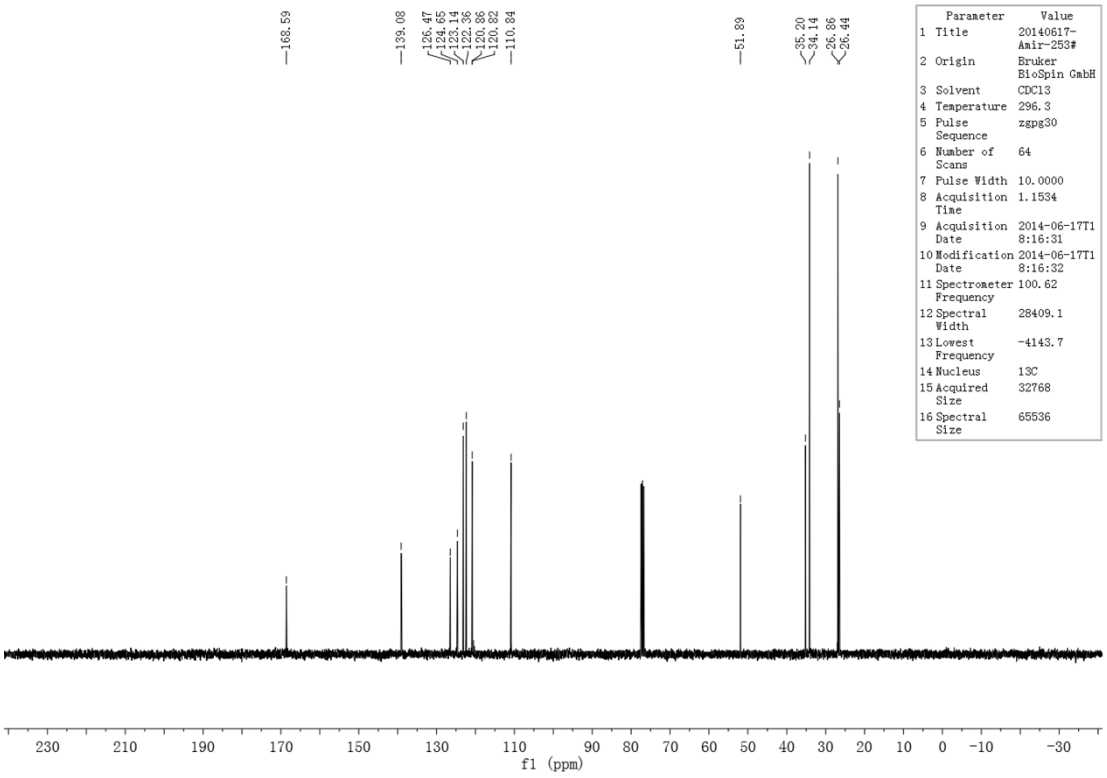

7.77
6.94
6.93
6.89
6.88
6.67
6.67
3.86
2.79
2.79
2.77
2.77
2.76
2.75
2.74
2.40
2.11
2.08
1.84
1.83
1.80
1.79
1.79
1.76
1.76
1.76
1.49
1.46
1.45
1.44
1.42
1.41
0.89
1.00
0.99
0.96
3.22
1.05
3.24
2.37
4.49
4.36
f1 (ppm)
Parameter Value
1 Title
2 Origin Bruker BioSpin GmbH
3 Solvent CDCl3
4 Temperature 295.2
5 Pulse Sequence zg30
6 Number of Scans 8
7 Pulse Width 8.9200
8 Acquisition Time
9 Acquisition Date
10 Modification Date 2014-05-19T16:26:38
11 Spectrometer Frequency 400.15
12 Spectral Width 9615.4
13 Lowest Frequency -2336.6
14 Nucleus 1H
15 Acquired Size
16 Spectral Size 65536


153.86
131.27
126.50
123.39
121.38
120.00
112.57
98.93
77.44
77.12
76.80
56.07
35.51
34.03
27.00
26.59
16.69
f1 (ppm)
Parameter Value
1 Title
2 Origin Bruker BioSpin GmbH
3 Solvent CDCl3
4 Temperature 295.9
5 Pulse Sequence zgpg30
6 Number of Scans 64
7 Pulse Width 10.0000
8 Acquisition Time
9 Acquisition Date
10 Modification Date 2014-05-21T2 2:35:02
11 Spectrometer Frequency 100.62
12 Spectral Width 28409.1
13 Lowest Frequency -4143.7
14 Nucleus 13C
15 Acquired Size
16 Spectral Size 65536

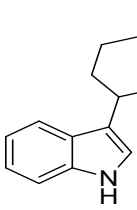


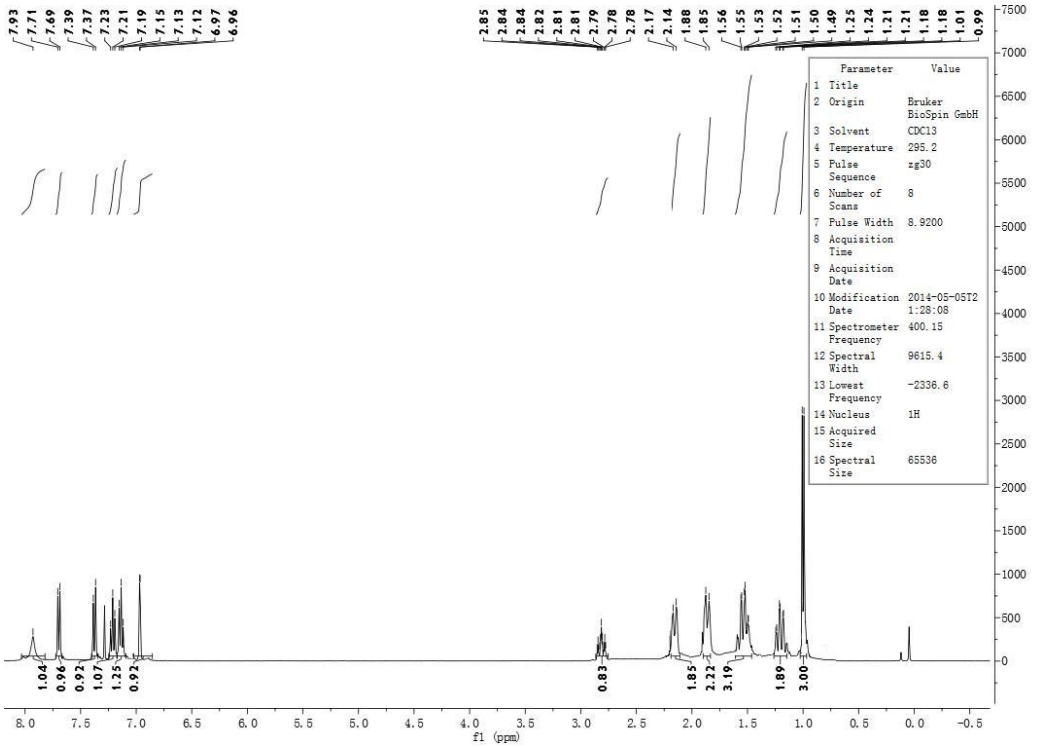


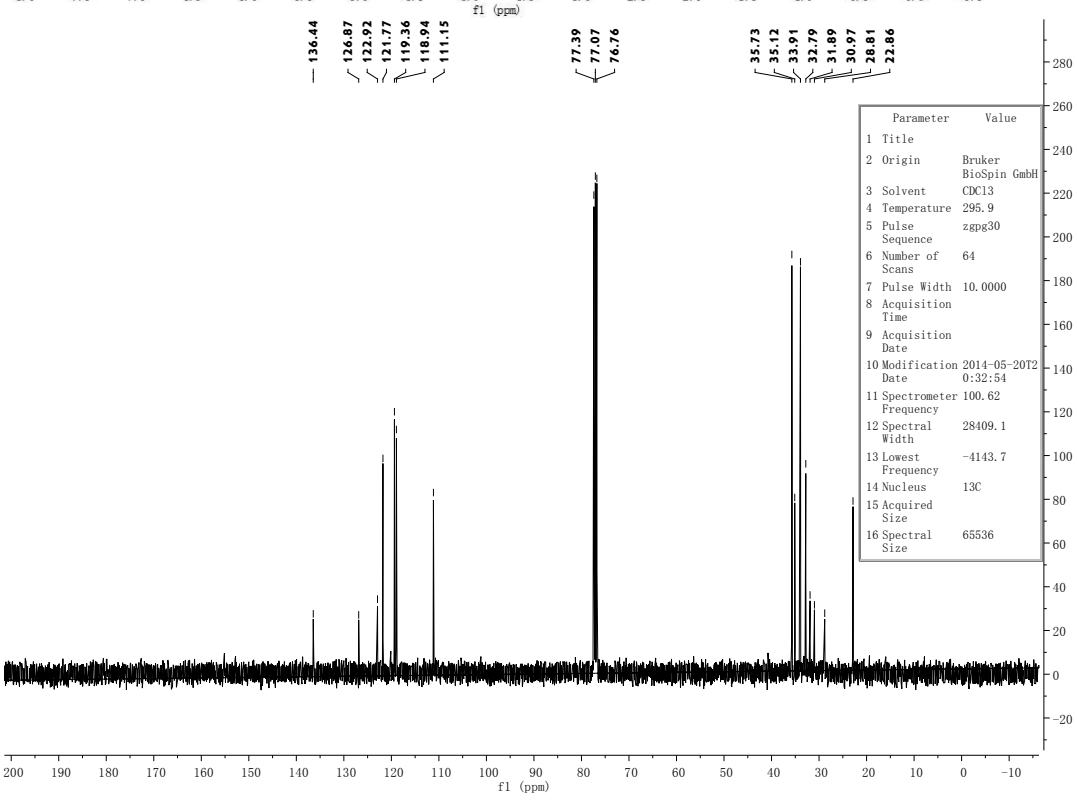
	Parameter	Value
1	Title	20140613-Amir-253#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	296.4
5	Pulse Sequence	zg30
6	Number of Scans	8
7	Pulse Width	8.9200
8	Acquisition Time	3.4079
9	Acquisition Date	2014-06-13T18:53:47
10	Modification Date	2014-06-13T18:53:48
11	Spectrometer Frequency	400.15
12	Spectral Width	9615.4
13	Lowest Frequency	-2353.4
14	Nucleus	1H
15	Acquired Size	32768
16	Spectral Size	65536

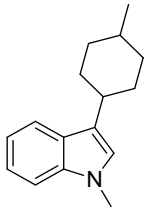


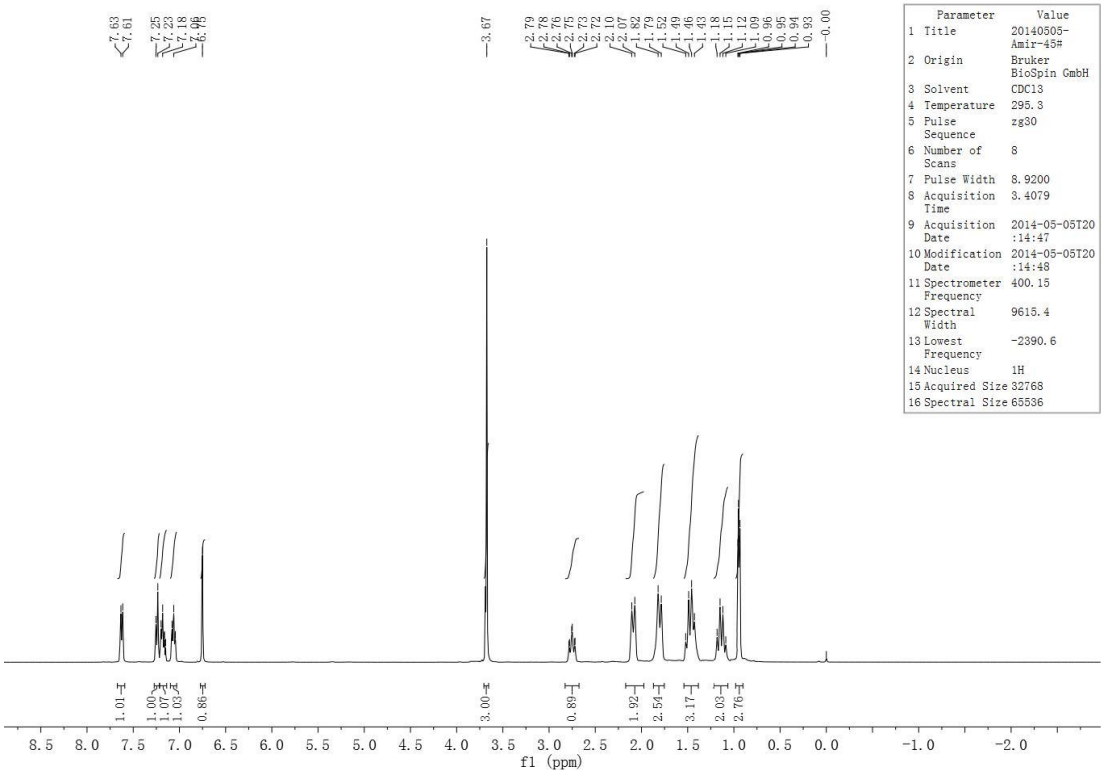
	Parameter	Value
1	Title	20140617-Amir-253#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	296.3
5	Pulse Sequence	zgpg30
6	Number of Scans	64
7	Pulse Width	10.0000
8	Acquisition Time	1.1534
9	Acquisition Date	2014-06-17T18:16:31
10	Modification Date	2014-06-17T18:16:32
11	Spectrometer Frequency	100.62
12	Spectral Width	28409.1
13	Lowest Frequency	-4143.7
14	Nucleus	13C
15	Acquired Size	32768
16	Spectral Size	65536



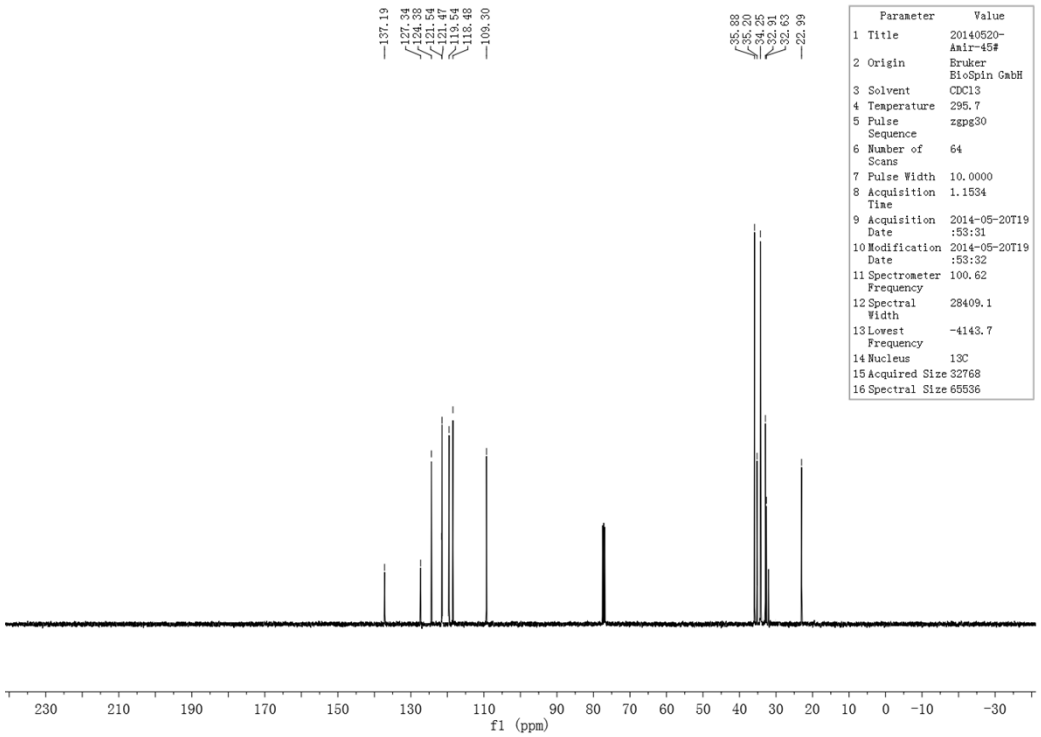

7.93 7.71 7.69 7.39 7.37 7.23 7.21 7.19 7.15 7.13 7.12 6.97 6.96
2.85 2.84 2.84 2.82 2.81 2.81 2.79 2.78 2.78 2.17 2.14 1.88 1.85 1.56 1.55 1.53 1.52 1.51 1.50 1.49 1.25 1.24 1.21 1.21 1.18 1.01 0.99
Parameter Value
1 Title
2 Origin Bruker BioSpin GmbH
3 Solvent CDC13
4 Temperature 295.2
5 Pulse Sequence zg30
6 Number of Scans 8
7 Pulse Width 8.9200
8 Acquisition Time
9 Acquisition Date
10 Modification Date 2014-05-05T21:28:08
11 Spectrometer Frequency 400.15
12 Spectral Width 9615.4
13 Lowest Frequency -2336.6
14 Nucleus 1H
15 Acquired Size
16 Spectral Size 65536
1.04 0.96 0.92 1.07 1.25 0.92 0.83 1.85 2.22 3.19 1.89 3.00
f1 (ppm)


136.44 126.87 122.92 121.77 119.36 118.94 111.15 77.39 77.07 76.76 35.73 35.12 33.91 32.79 31.89 30.97 28.81 22.86
Parameter Value
1 Title
2 Origin Bruker BioSpin GmbH
3 Solvent CDC13
4 Temperature 295.9
5 Pulse Sequence zgpg30
6 Number of Scans 64
7 Pulse Width 10.0000
8 Acquisition Time
9 Acquisition Date
10 Modification Date 2014-05-20T20:32:54
11 Spectrometer Frequency 100.62
12 Spectral Width 28409.1
13 Lowest Frequency -4143.7
14 Nucleus 13C
15 Acquired Size
16 Spectral Size 65536
f1 (ppm)

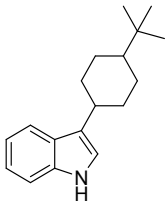


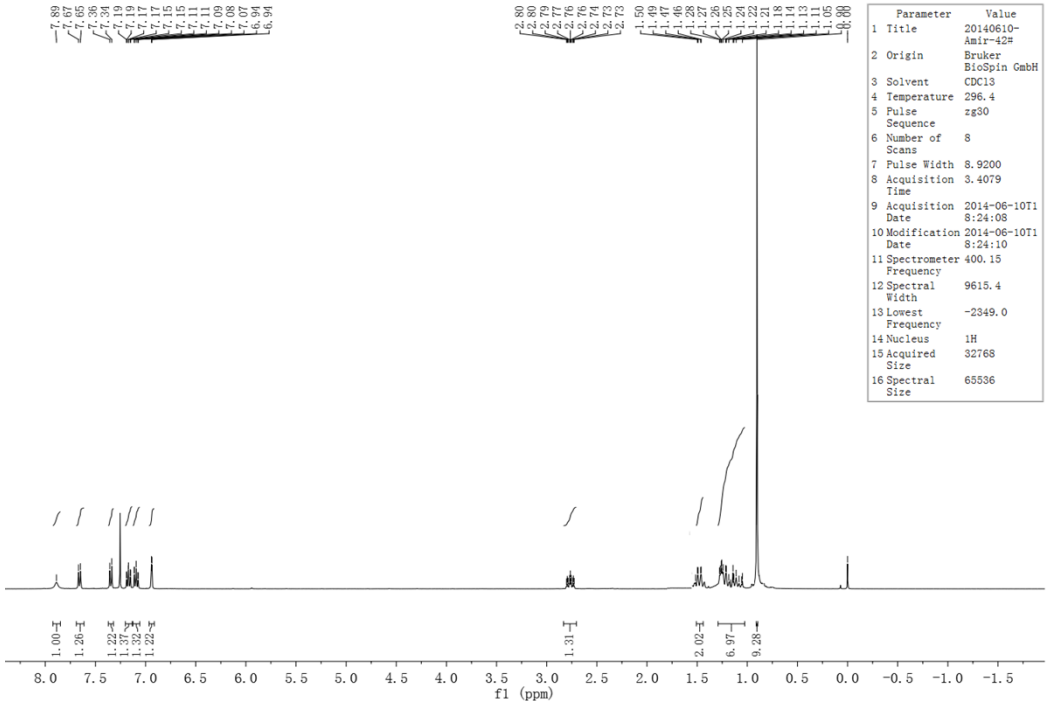


	Parameter	Value
1	Title	20140505-Amir-45#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	295.3
5	Pulse Sequence	zg30
6	Number of Scans	8
7	Pulse Width	8.9200
8	Acquisition Time	3.4079
9	Acquisition Date	2014-05-05T20:14:47
10	Modification Date	2014-05-05T20:14:48
11	Spectrometer Frequency	400.15
12	Spectral Width	9615.4
13	Lowest Frequency	-2390.6
14	Nucleus	1H
15	Acquired Size	32768
16	Spectral Size	65536

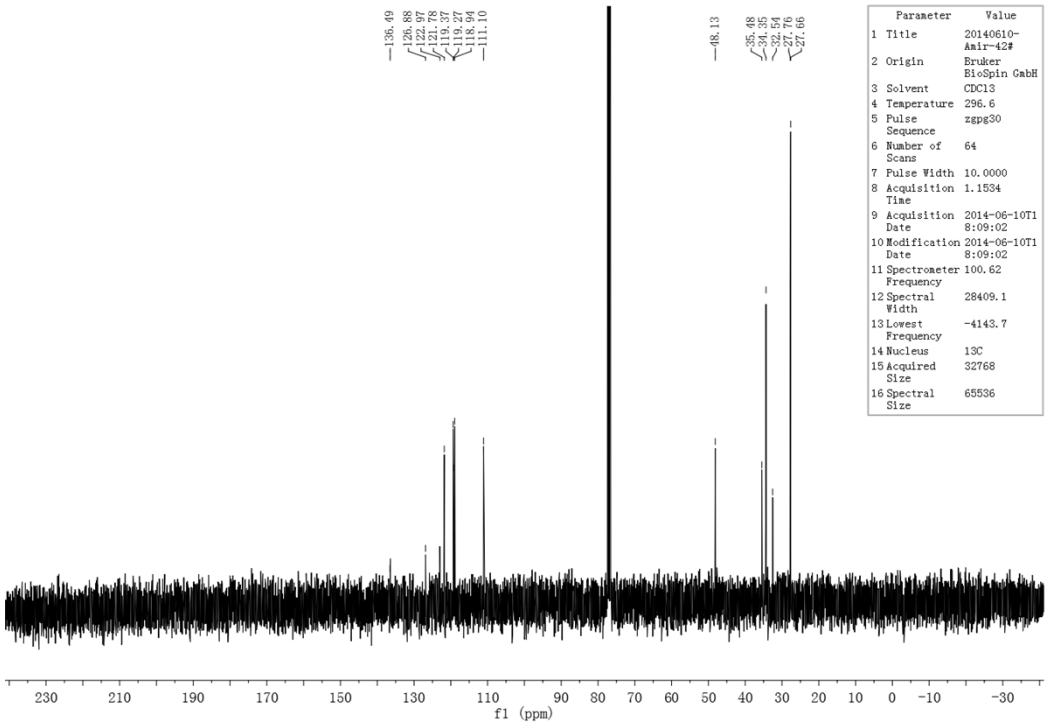


	Parameter	Value
1	Title	20140520-Amir-45#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	295.7
5	Pulse Sequence	zgpg30
6	Number of Scans	64
7	Pulse Width	10.0000
8	Acquisition Time	1.1534
9	Acquisition Date	2014-05-20T19:53:31
10	Modification Date	2014-05-20T19:53:32
11	Spectrometer Frequency	100.62
12	Spectral Width	28409.1
13	Lowest Frequency	-4143.7
14	Nucleus	13C
15	Acquired Size	32768
16	Spectral Size	65536

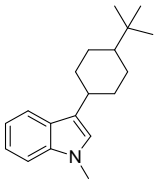


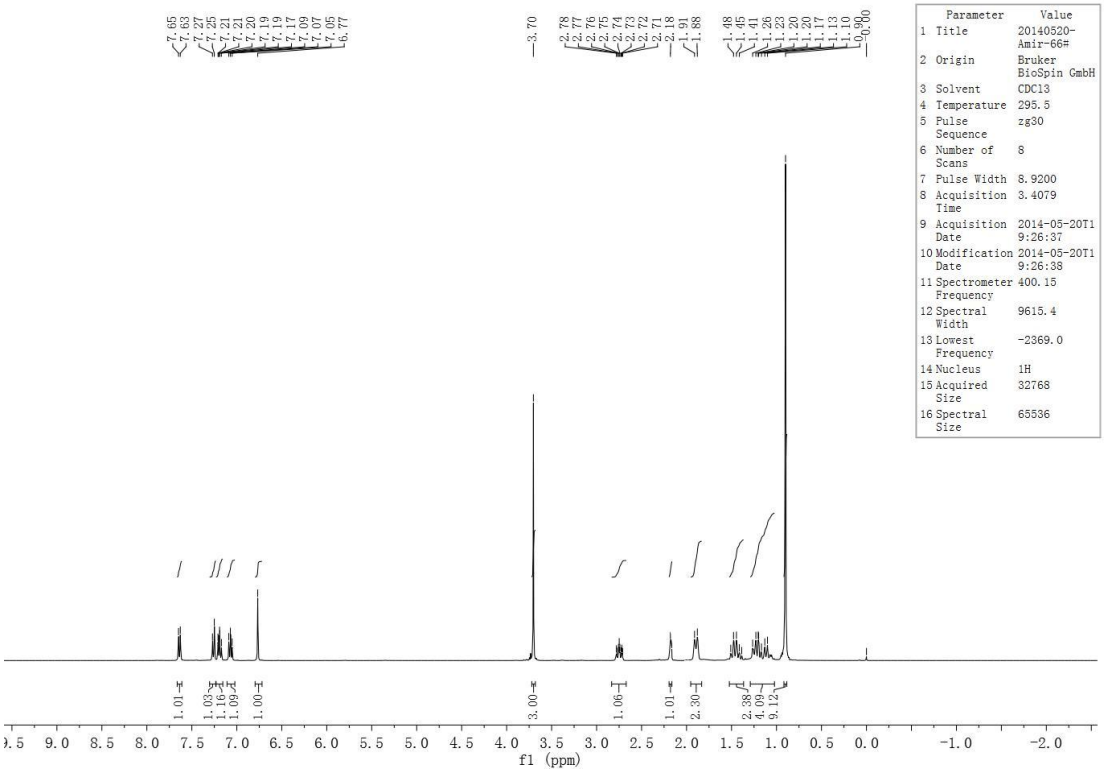


	Parameter	Value
1	Title	20140610-Amir-42#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	296.4
5	Pulse Sequence	zg30
6	Number of Scans	8
7	Pulse Width	8.9200
8	Acquisition Time	3.4079
9	Acquisition Date	2014-06-10T18:24:08
10	Modification Date	2014-06-10T18:24:10
11	Spectrometer Frequency	400.15
12	Spectral Width	9615.4
13	Lowest Frequency	-2349.0
14	Nucleus	1H
15	Acquired Size	32768
16	Spectral Size	65536

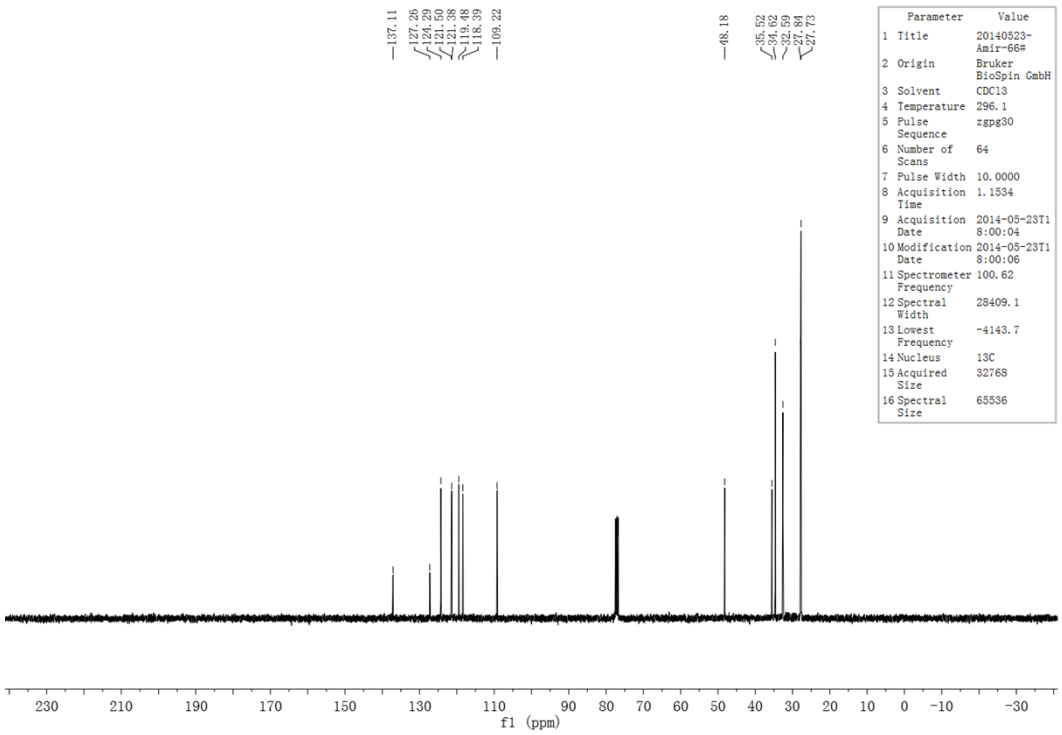


	Parameter	Value
1	Title	20140610-Amir-42#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	296.6
5	Pulse Sequence	zgpg30
6	Number of Scans	64
7	Pulse Width	10.0000
8	Acquisition Time	1.1534
9	Acquisition Date	2014-06-10T18:09:02
10	Modification Date	2014-06-10T18:09:02
11	Spectrometer Frequency	100.62
12	Spectral Width	28409.1
13	Lowest Frequency	-4143.7
14	Nucleus	13C
15	Acquired Size	32768
16	Spectral Size	65536

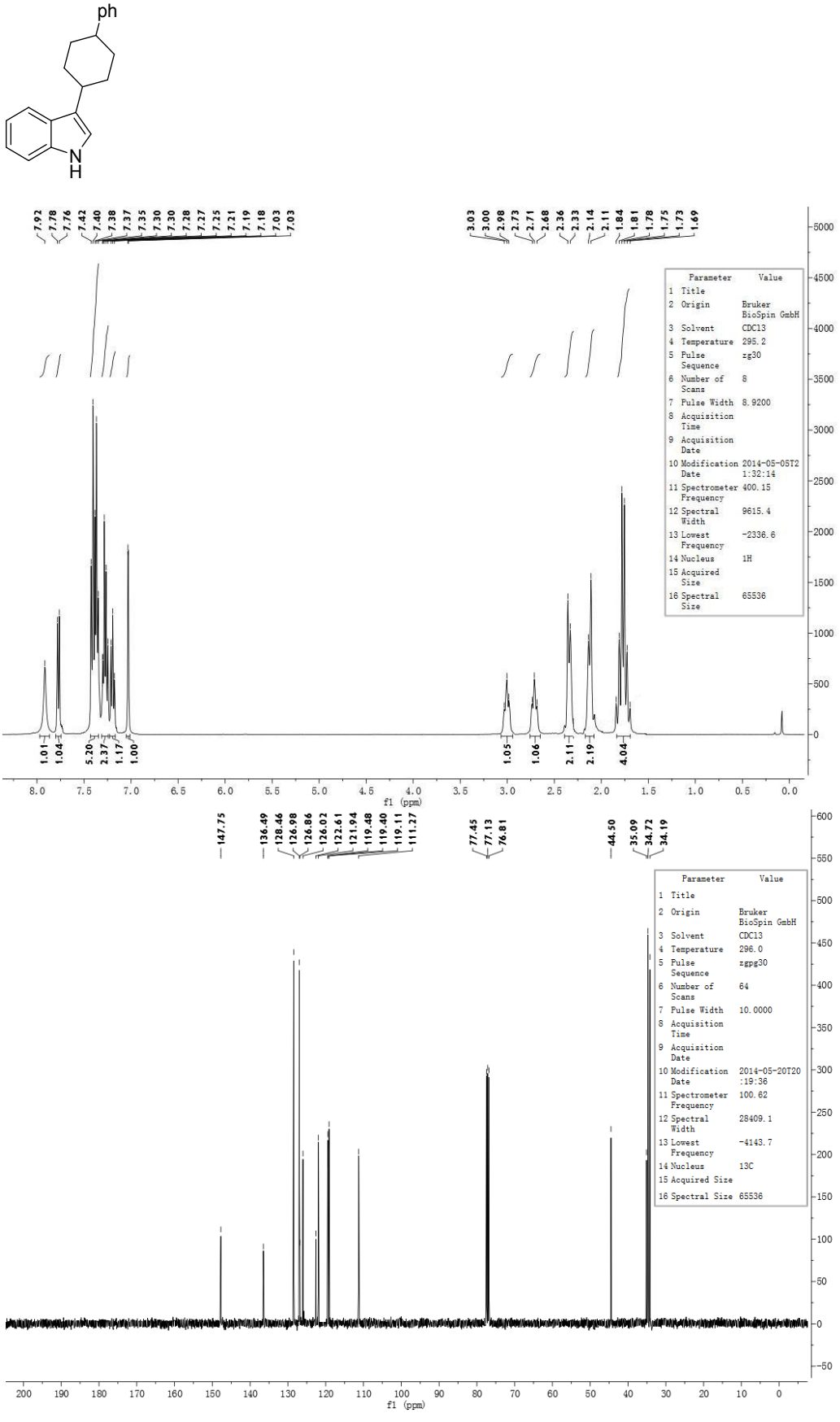


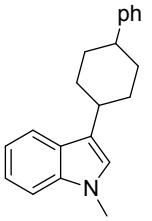


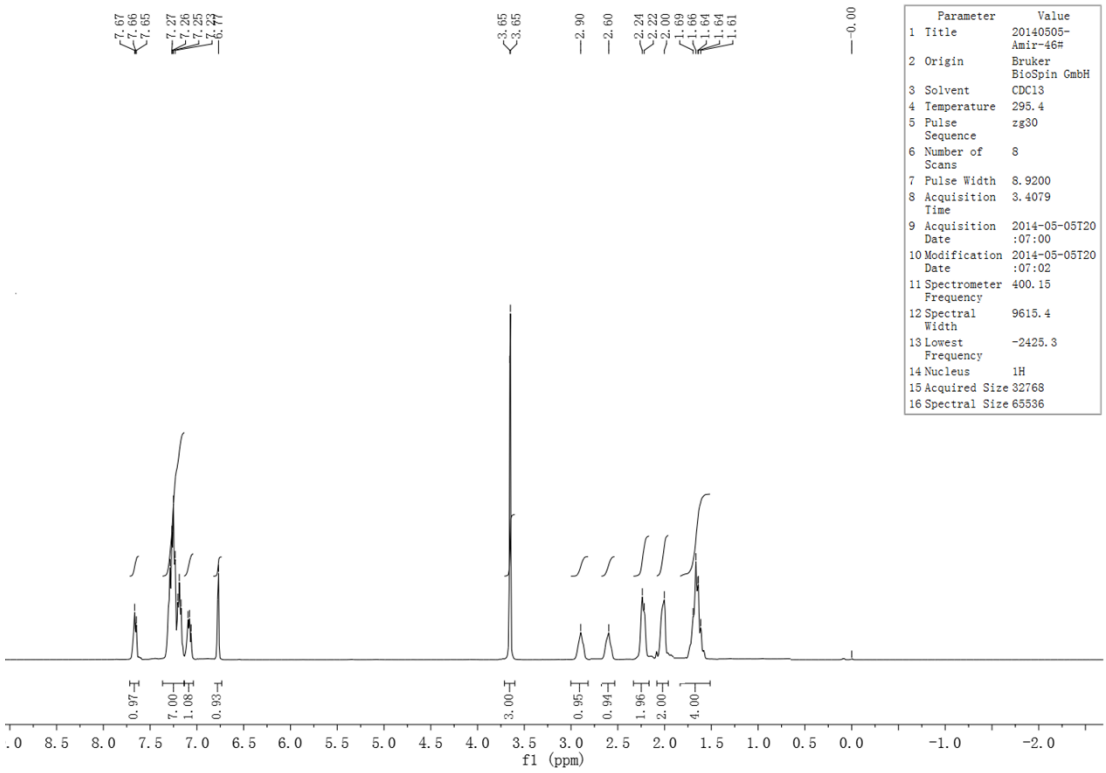
	Parameter	Value
1	Title	20140520-Amir-66#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDC13
4	Temperature	295.5
5	Pulse Sequence	zg30
6	Number of Scans	8
7	Pulse Width	8.9200
8	Acquisition Time	3.4079
9	Acquisition Date	2014-05-20T19:26:37
10	Modification Date	2014-05-20T19:26:38
11	Spectrometer Frequency	400.15
12	Spectral Width	9615.4
13	Lowest Frequency	-2369.0
14	Nucleus	1H
15	Acquired Size	32768
16	Spectral Size	65536



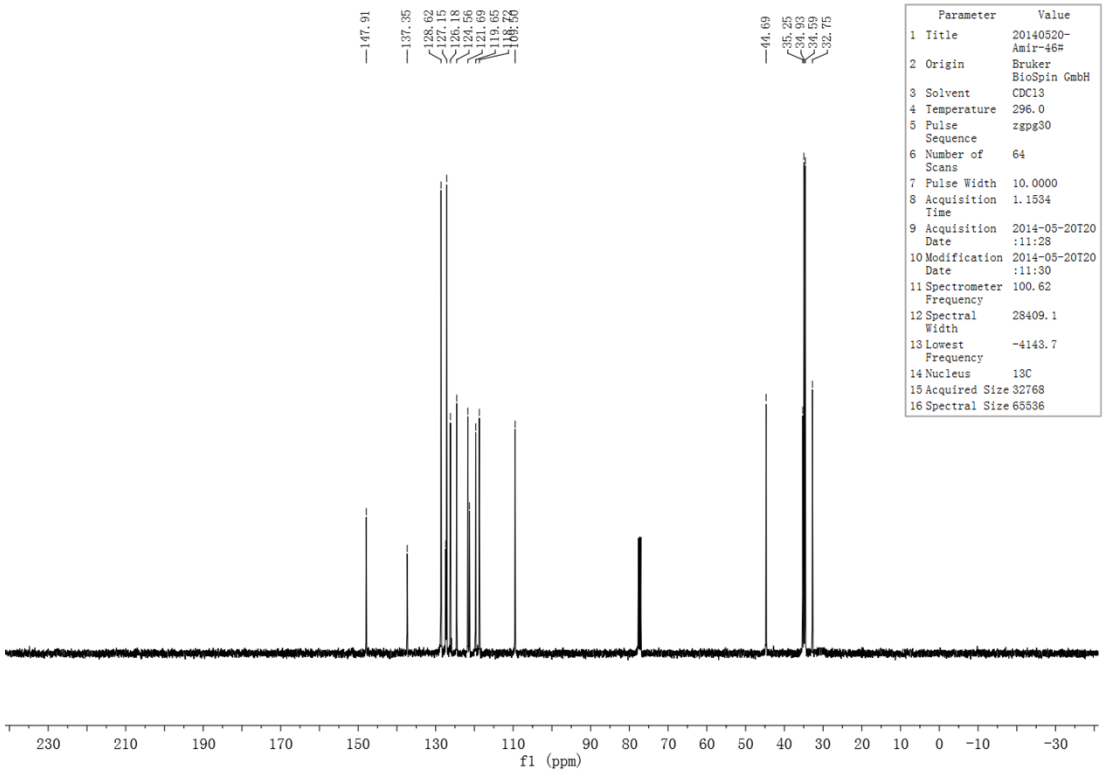
	Parameter	Value
1	Title	20140523-Amir-66#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDC13
4	Temperature	296.1
5	Pulse Sequence	zgpg30
6	Number of Scans	64
7	Pulse Width	10.0000
8	Acquisition Time	1.1534
9	Acquisition Date	2014-05-23T18:00:04
10	Modification Date	2014-05-23T18:00:06
11	Spectrometer Frequency	100.62
12	Spectral Width	28409.1
13	Lowest Frequency	-4143.7
14	Nucleus	13C
15	Acquired Size	32768
16	Spectral Size	65536


ph
N
H
7.92 7.78 7.76 7.42 7.40 7.38 7.37 7.35 7.30 7.30 7.28 7.27 7.25 7.21 7.19 7.18 7.03 7.03
3.03 3.00 2.98 2.73 2.71 2.68 2.36 2.33 2.14 2.11 1.84 1.81 1.78 1.75 1.73 1.69
Parameter Value
1 Title
2 Origin Bruker BioSpin GmbH
3 Solvent CDCl3
4 Temperature 295.2
5 Pulse Sequence zg30
6 Number of Scans 8
7 Pulse Width 8.9200
8 Acquisition Time
9 Acquisition Date
10 Modification Date 2014-05-05T21:32:14
11 Spectrometer Frequency 400.15
12 Spectral Width 9615.4
13 Lowest Frequency -2336.6
14 Nucleus 1H
15 Acquired Size
16 Spectral Size 65536
1.01 1.04 5.20 2.37 1.17 1.00 1.05 1.06 2.11 2.19 4.04
f1 (ppm)
147.75 136.49 128.46 126.98 126.86 126.02 122.61 121.94 119.48 119.40 119.11 111.27 77.45 77.13 76.81 44.50 35.09 34.72 34.19
Parameter Value
1 Title
2 Origin Bruker BioSpin GmbH
3 Solvent CDCl3
4 Temperature 296.0
5 Pulse Sequence zgpg30
6 Number of Scans 64
7 Pulse Width 10.0000
8 Acquisition Time
9 Acquisition Date
10 Modification Date 2014-05-20T20:19:36
11 Spectrometer Frequency 100.62
12 Spectral Width 28409.1
13 Lowest Frequency -4143.7
14 Nucleus 13C
15 Acquired Size
16 Spectral Size 65536
f1 (ppm)

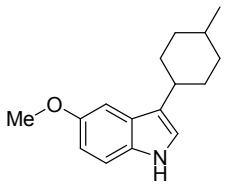


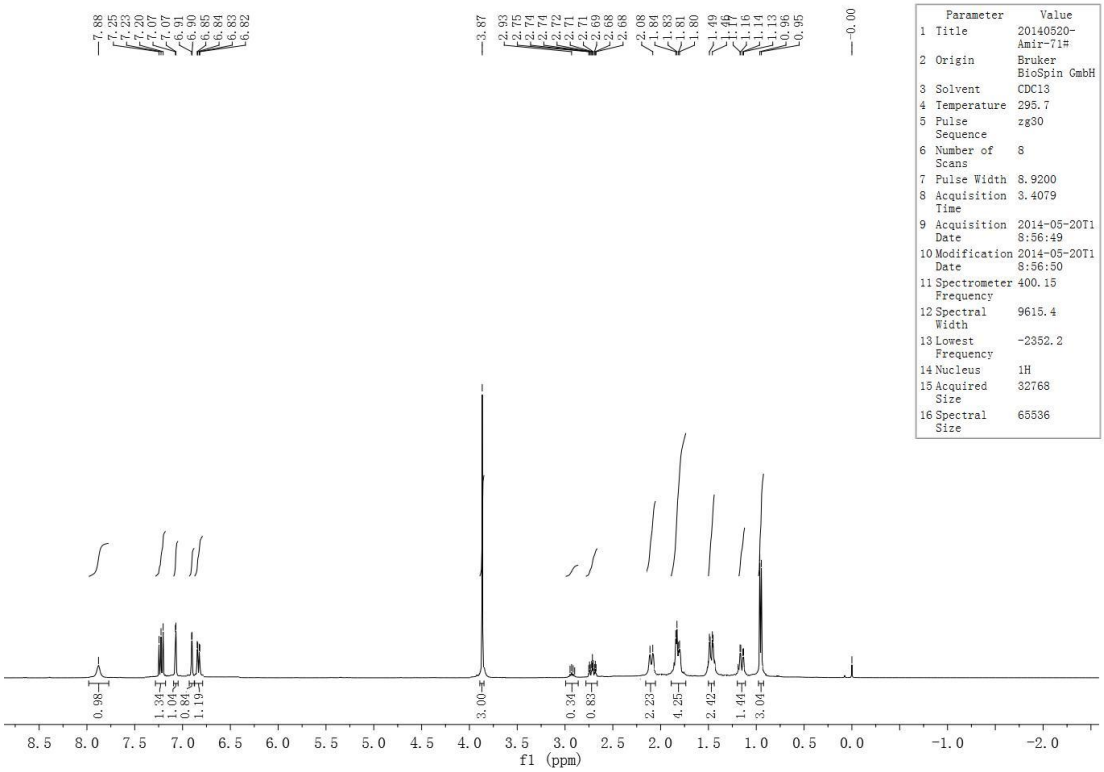


	Parameter	Value
1	Title	20140505-Amir-46#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	295.4
5	Pulse Sequence	zg30
6	Number of Scans	8
7	Pulse Width	8.9200
8	Acquisition Time	3.4079
9	Acquisition Date	2014-05-05T20:07:00
10	Modification Date	2014-05-05T20:07:02
11	Spectrometer Frequency	400.15
12	Spectral Width	9615.4
13	Lowest Frequency	-2425.3
14	Nucleus	1H
15	Acquired Size	32768
16	Spectral Size	65536

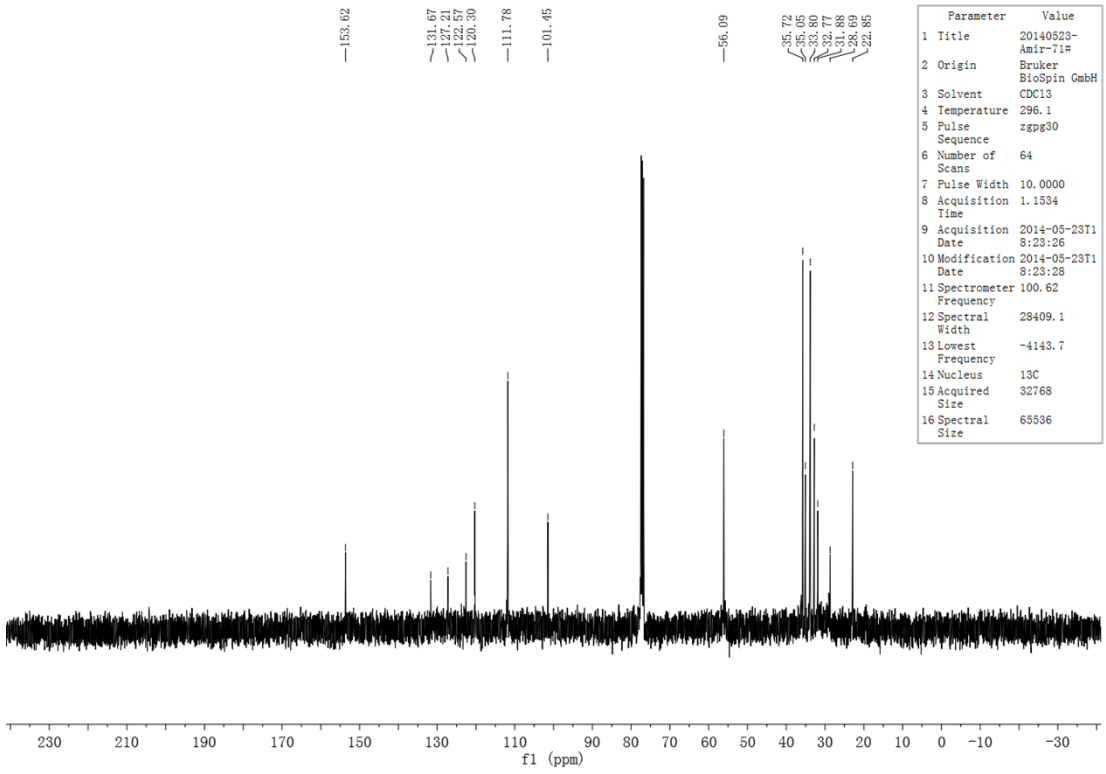


	Parameter	Value
1	Title	20140520-Amir-46#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	296.0
5	Pulse Sequence	zgpg30
6	Number of Scans	64
7	Pulse Width	10.0000
8	Acquisition Time	1.1534
9	Acquisition Date	2014-05-20T20:11:28
10	Modification Date	2014-05-20T20:11:30
11	Spectrometer Frequency	100.62
12	Spectral Width	28409.1
13	Lowest Frequency	-4143.7
14	Nucleus	13C
15	Acquired Size	32768
16	Spectral Size	65536

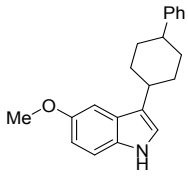


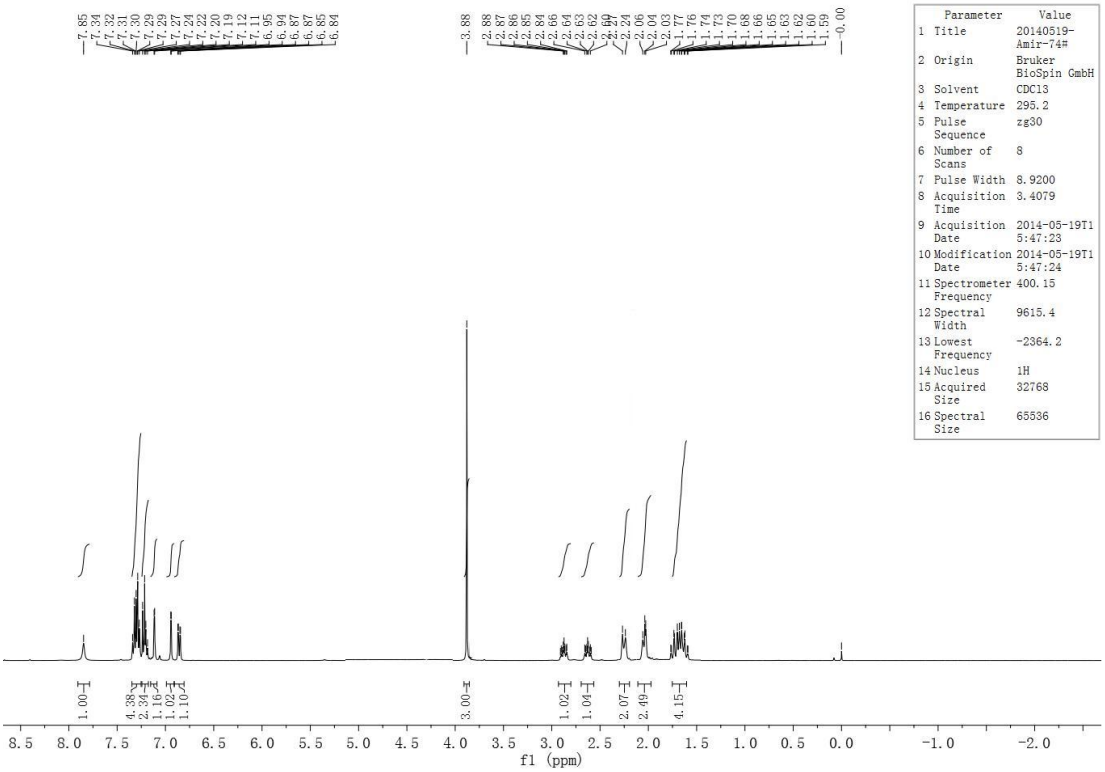


	Parameter	Value
1	Title	20140520-Amir-71#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDC13
4	Temperature	295.7
5	Pulse Sequence	zg30
6	Number of Scans	8
7	Pulse Width	8.9200
8	Acquisition Time	3.4079
9	Acquisition Date	2014-05-20T18:56:49
10	Modification Date	2014-05-20T18:56:50
11	Spectrometer Frequency	400.15
12	Spectral Width	9615.4
13	Lowest Frequency	-2352.2
14	Nucleus	1H
15	Acquired Size	32768
16	Spectral Size	65536

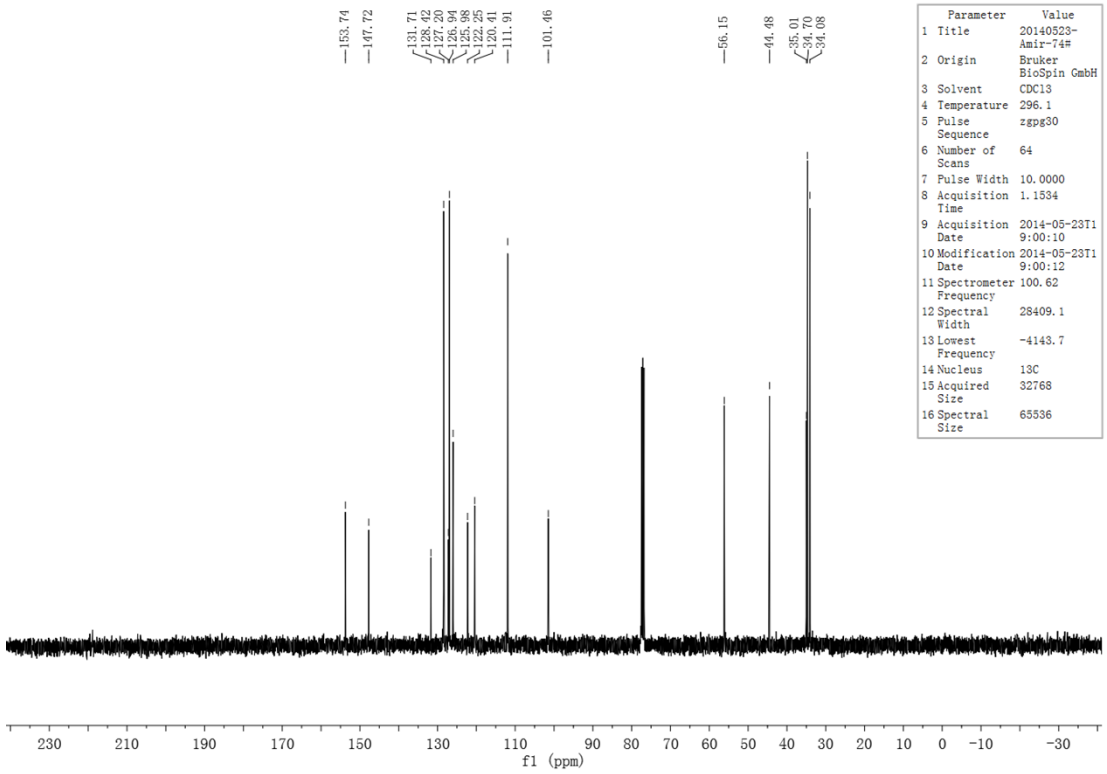


	Parameter	Value
1	Title	20140523-Amir-71#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDC13
4	Temperature	296.1
5	Pulse Sequence	zgpg30
6	Number of Scans	64
7	Pulse Width	10.0000
8	Acquisition Time	1.1534
9	Acquisition Date	2014-05-23T18:23:26
10	Modification Date	2014-05-23T18:23:28
11	Spectrometer Frequency	100.62
12	Spectral Width	28409.1
13	Lowest Frequency	-4143.7
14	Nucleus	13C
15	Acquired Size	32768
16	Spectral Size	65536

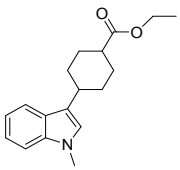


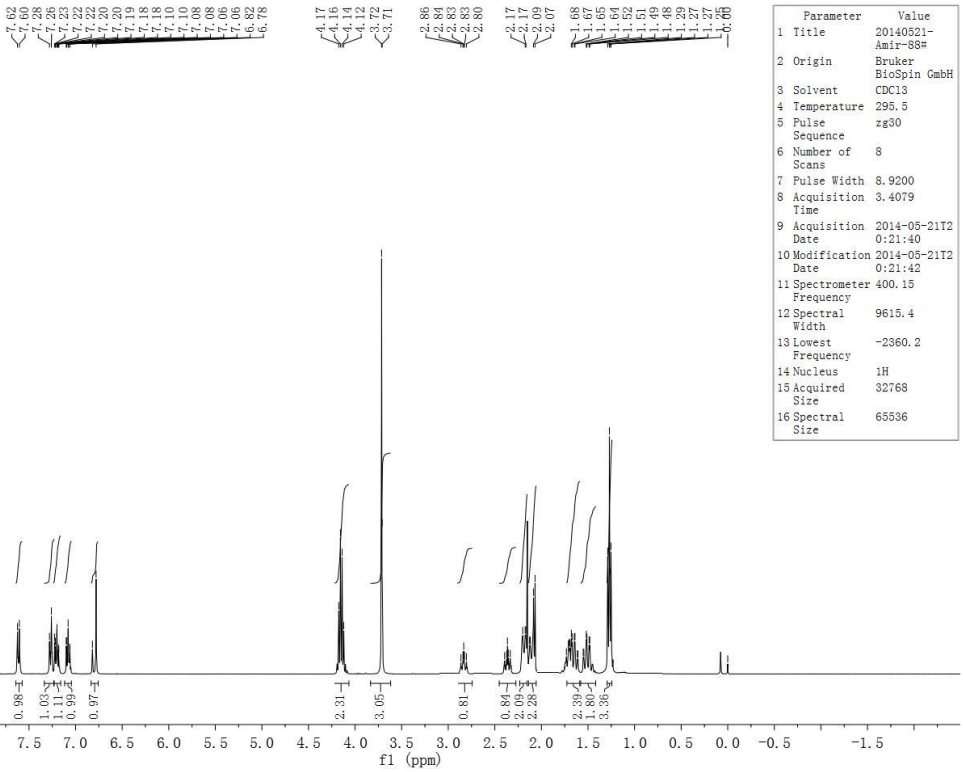


	Parameter	Value
1	Title	20140519-Amir-74#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	295.2
5	Pulse Sequence	zg30
6	Number of Scans	8
7	Pulse Width	8.9200
8	Acquisition Time	3.4079
9	Acquisition Date	2014-05-19T15:47:23
10	Modification Date	2014-05-19T15:47:24
11	Spectrometer Frequency	400.15
12	Spectral Width	9615.4
13	Lowest Frequency	-2364.2
14	Nucleus	1H
15	Acquired Size	32768
16	Spectral Size	65536

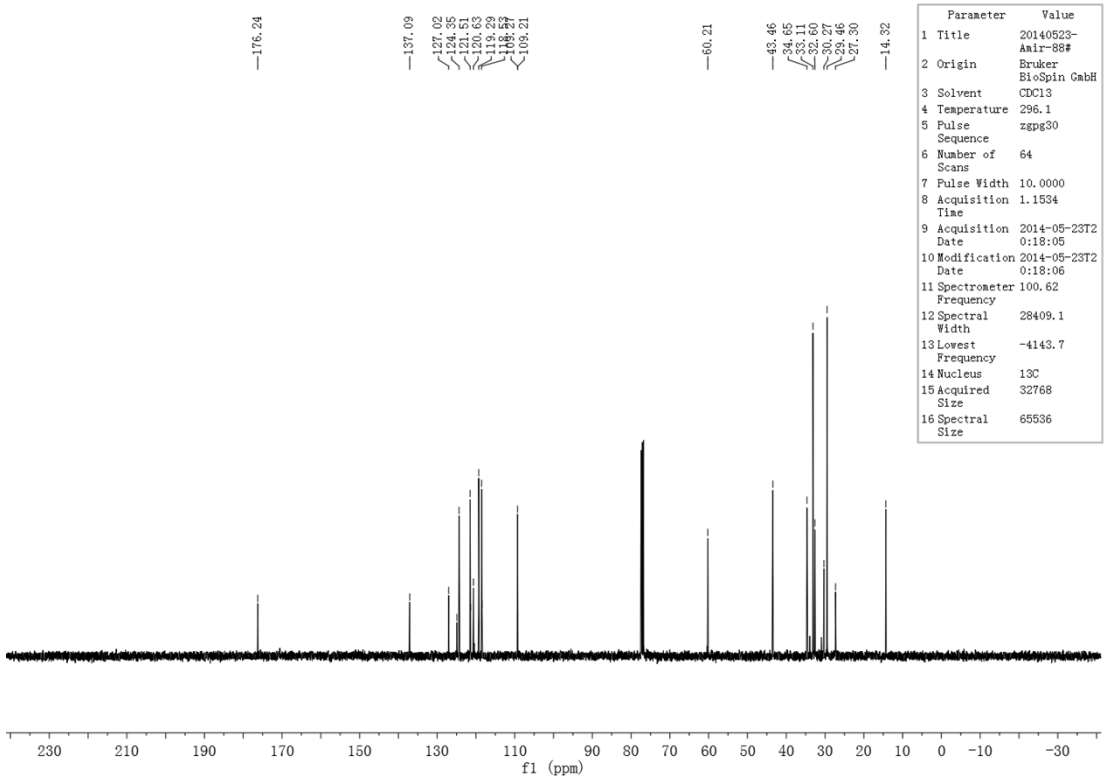


	Parameter	Value
1	Title	20140523-Amir-74#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	296.1
5	Pulse Sequence	zgpg30
6	Number of Scans	64
7	Pulse Width	10.0000
8	Acquisition Time	1.1534
9	Acquisition Date	2014-05-23T19:00:10
10	Modification Date	2014-05-23T19:00:12
11	Spectrometer Frequency	100.62
12	Spectral Width	28409.1
13	Lowest Frequency	-4143.7
14	Nucleus	13C
15	Acquired Size	32768
16	Spectral Size	65536

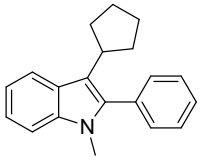


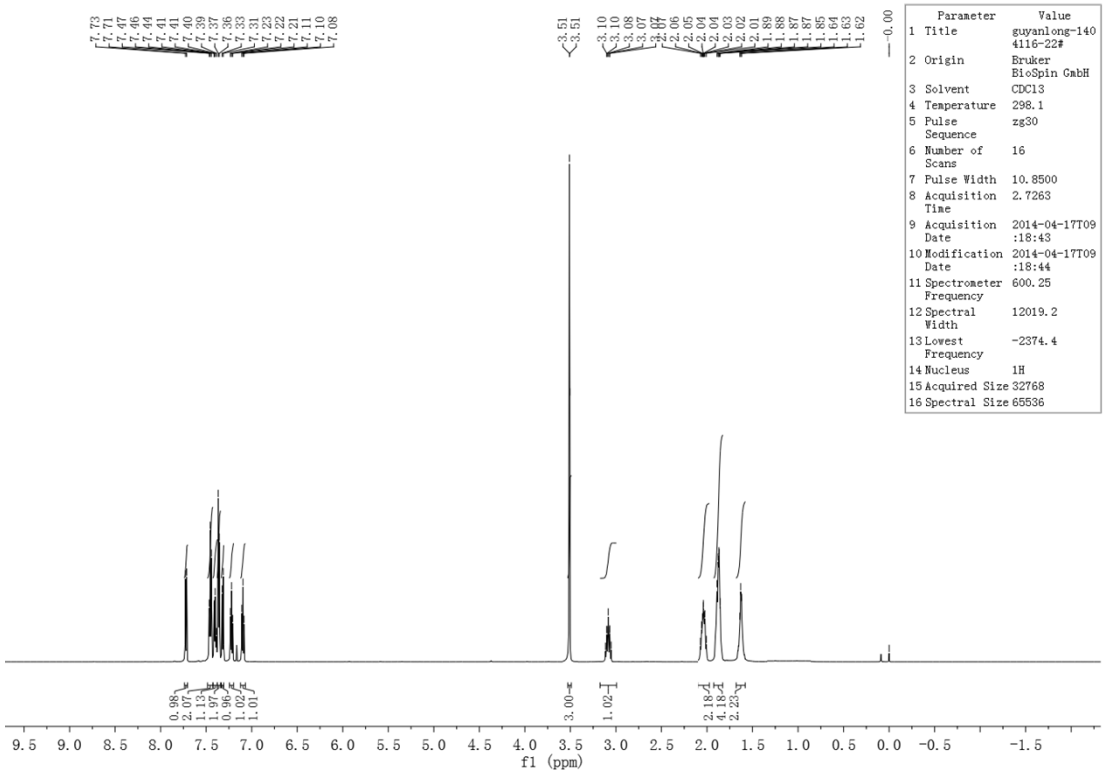


	Parameter	Value
1	Title	20140521-Amir-88#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	295.5
5	Pulse Sequence	zg30
6	Number of Scans	8
7	Pulse Width	8.9200
8	Acquisition Time	3.4079
9	Acquisition Date	2014-05-21T20:21:40
10	Modification Date	2014-05-21T20:21:42
11	Spectrometer Frequency	400.15
12	Spectral Width	9615.4
13	Lowest Frequency	-2360.2
14	Nucleus	1H
15	Acquired Size	32768
16	Spectral Size	65536

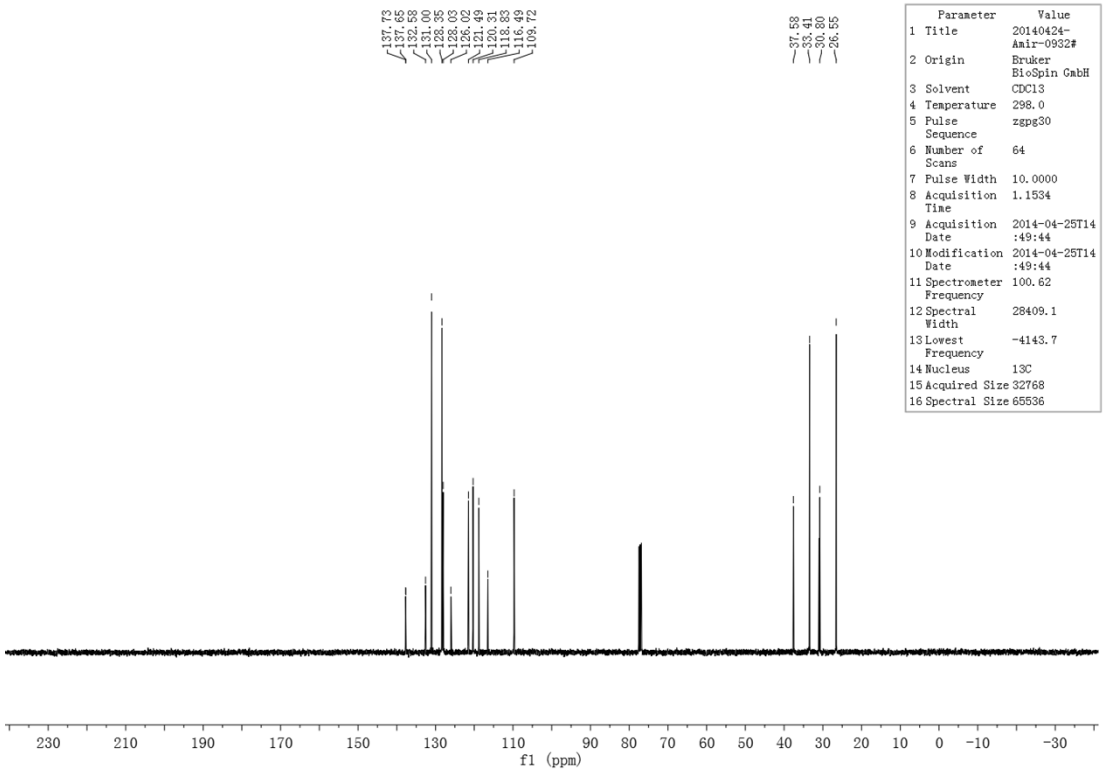


	Parameter	Value
1	Title	20140523-Amir-88#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	296.1
5	Pulse Sequence	zgpg30
6	Number of Scans	64
7	Pulse Width	10.0000
8	Acquisition Time	1.1534
9	Acquisition Date	2014-05-23T20:18:05
10	Modification Date	2014-05-23T20:18:06
11	Spectrometer Frequency	100.62
12	Spectral Width	28409.1
13	Lowest Frequency	-4143.7
14	Nucleus	13C
15	Acquired Size	32768
16	Spectral Size	65536

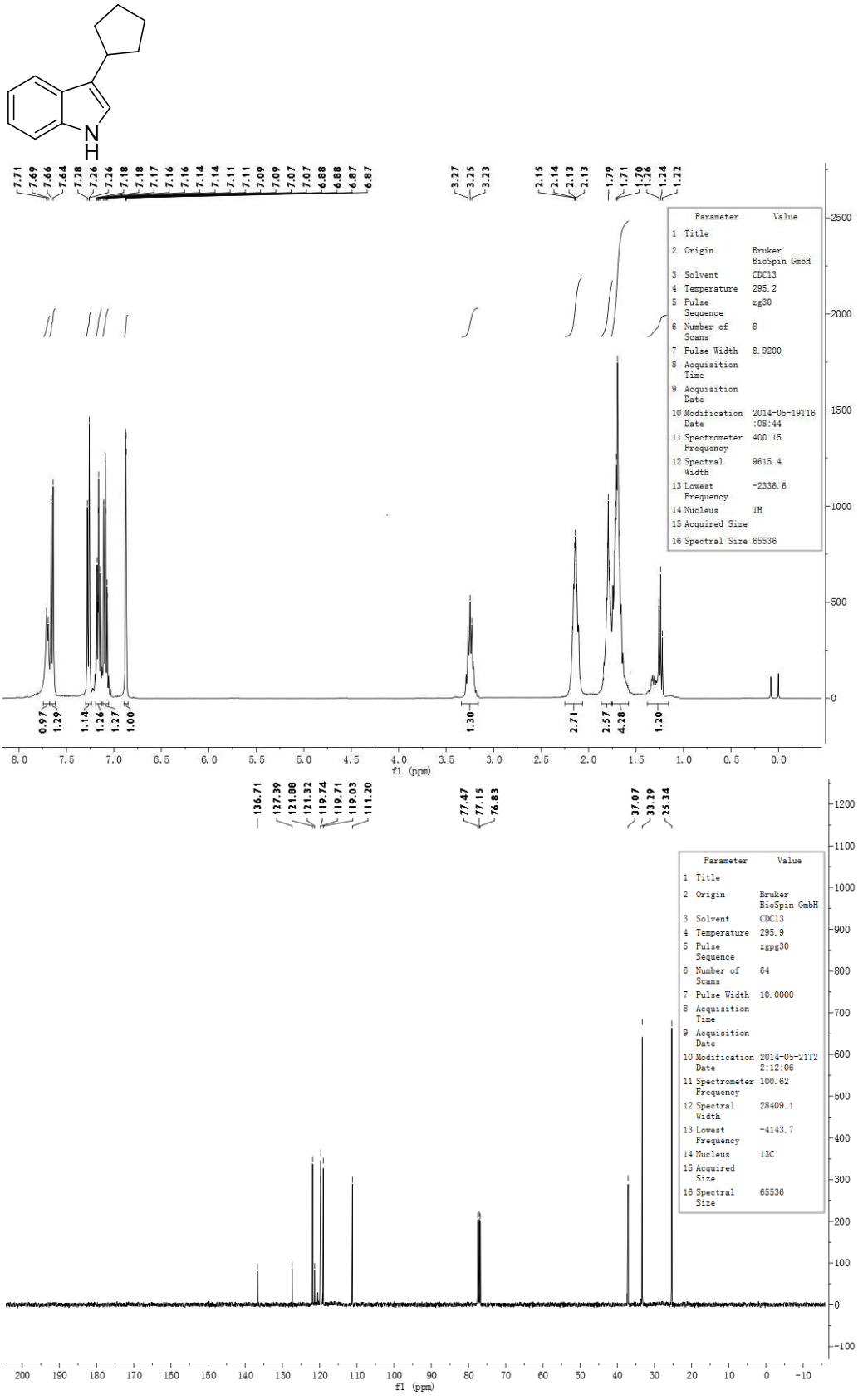


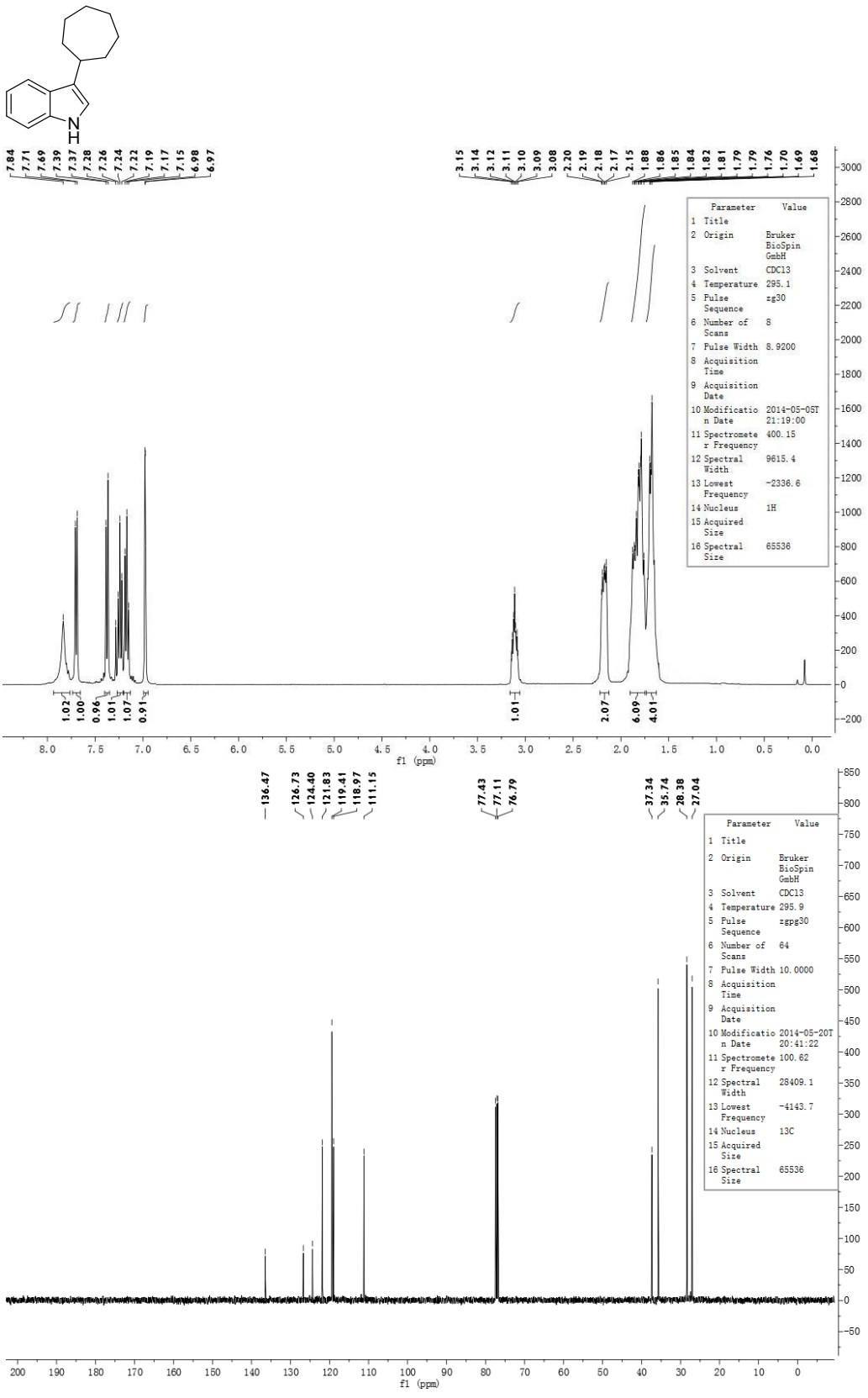


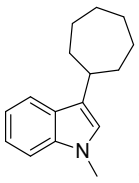
	Parameter	Value
1	Title	guyanlong-1404116-22#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	298.1
5	Pulse Sequence	zg30
6	Number of Scans	16
7	Pulse Width	10.8500
8	Acquisition Time	2.7263
9	Acquisition Date	2014-04-17T09:18:43
10	Modification Date	2014-04-17T09:18:44
11	Spectrometer Frequency	600.25
12	Spectral Width	12019.2
13	Lowest Frequency	-2374.4
14	Nucleus	1H
15	Acquired Size	32768
16	Spectral Size	65536



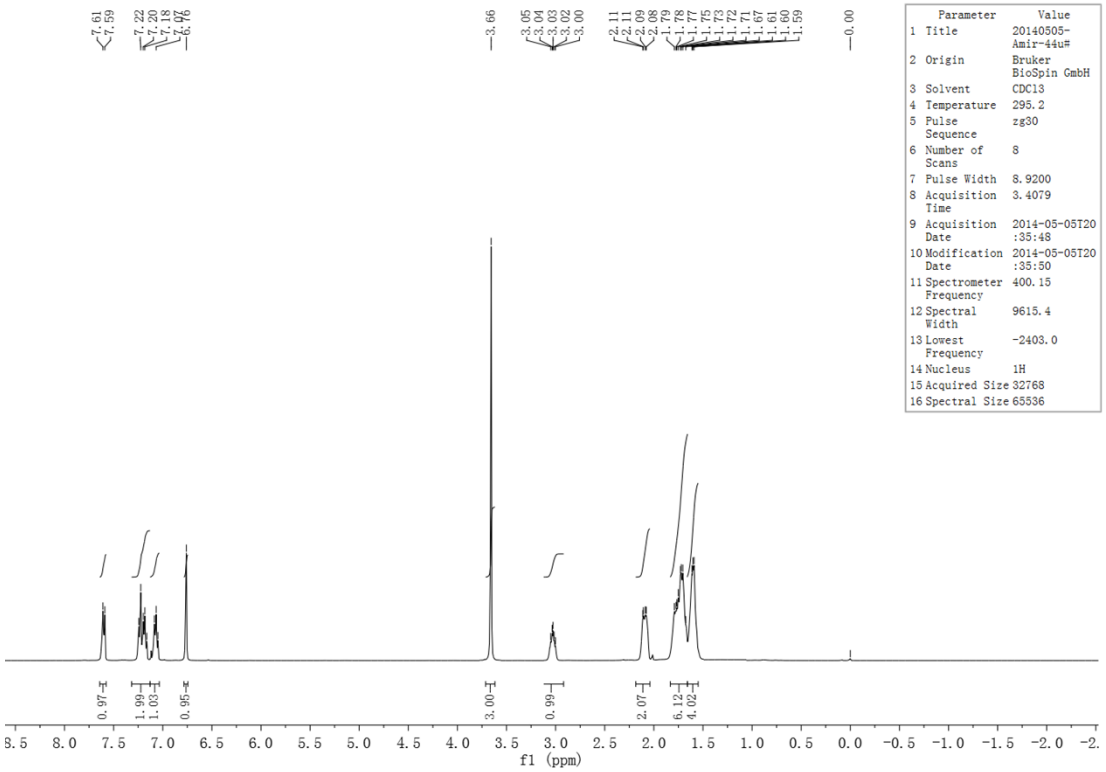
	Parameter	Value
1	Title	20140424-Amir-0932#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	298.0
5	Pulse Sequence	zgpg30
6	Number of Scans	64
7	Pulse Width	10.0000
8	Acquisition Time	1.1534
9	Acquisition Date	2014-04-25T14:49:44
10	Modification Date	2014-04-25T14:49:44
11	Spectrometer Frequency	100.62
12	Spectral Width	28409.1
13	Lowest Frequency	-4143.7
14	Nucleus	13C
15	Acquired Size	32768
16	Spectral Size	65536


7.71 7.69 7.66 7.64 7.28 7.26 7.26 7.18 7.18 7.17 7.16 7.16 7.14 7.14 7.11 7.11 7.09 7.09 7.07 7.07 6.88 6.88 6.87 6.87
3.27 3.25 3.23
2.15 2.14 2.13 2.13
1.79 1.71 1.70 1.26 1.24 1.22
Parameter Value
1 Title
2 Origin Bruker BioSpin GmbH
3 Solvent CDCl3
4 Temperature 295.2
5 Pulse Sequence zg30
6 Number of Scans 8
7 Pulse Width 8.9200
8 Acquisition Time
9 Acquisition Date
10 Modification Date 2014-05-19T16:08:44
11 Spectrometer Frequency 400.15
12 Spectral Width 9615.4
13 Lowest Frequency -2336.6
14 Nucleus 1H
15 Acquired Size
16 Spectral Size 65536
0.97 1.29 1.14 1.26 1.27 1.00 1.30 2.71 2.57 4.28 1.20
f1 (ppm)
136.71 127.39 121.88 121.32 119.74 119.71 119.03 111.20
77.47 77.15 76.83
37.07 33.29 25.34
Parameter Value
1 Title
2 Origin Bruker BioSpin GmbH
3 Solvent CDCl3
4 Temperature 295.9
5 Pulse Sequence zgpg30
6 Number of Scans 64
7 Pulse Width 10.0000
8 Acquisition Time
9 Acquisition Date
10 Modification Date 2014-05-21T2 2:12:06
11 Spectrometer Frequency 100.62
12 Spectral Width 28409.1
13 Lowest Frequency -4143.7
14 Nucleus 13C
15 Acquired Size
16 Spectral Size 65536
f1 (ppm)

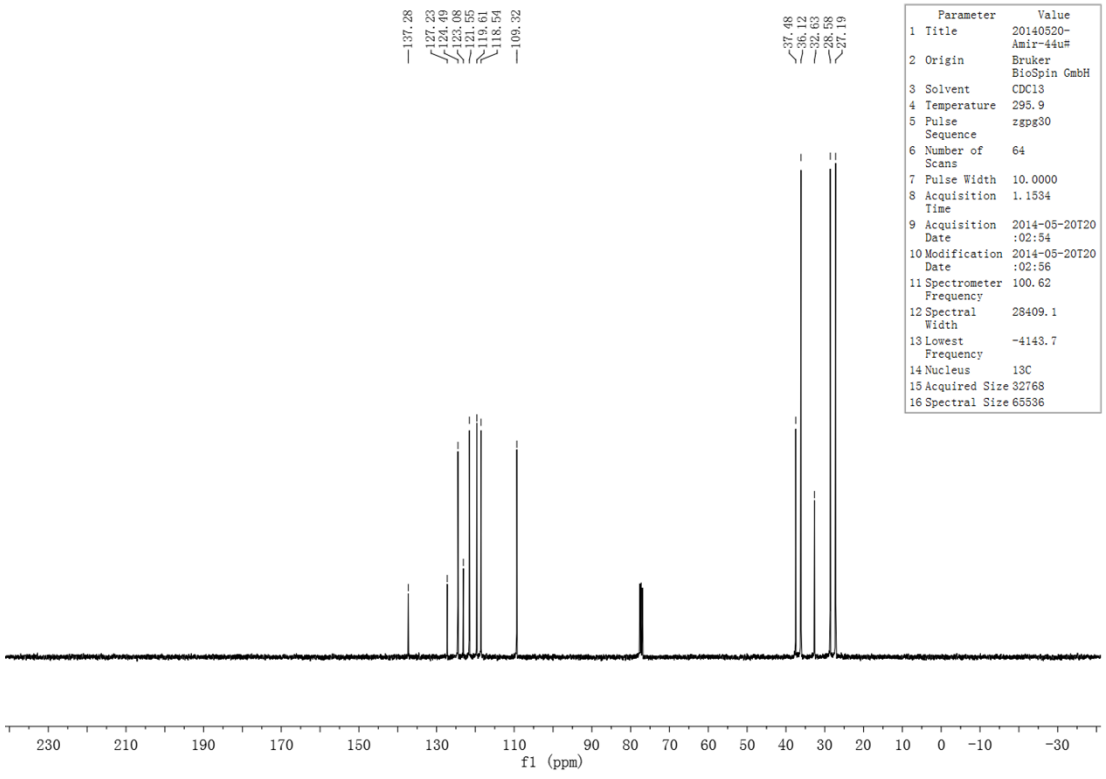

7.84 7.71 7.69 7.39 7.37 7.28 7.26 7.24 7.22 7.19 7.17 7.15 6.98 6.97
3.15 3.14 3.12 3.11 3.10 3.09 3.08 2.20 2.19 2.18 2.17 2.15 1.88 1.86 1.85 1.84 1.82 1.81 1.79 1.79 1.76 1.70 1.69 1.68
Parameter Value
1 Title
2 Origin Bruker BioSpin GmbH
3 Solvent CDCl3
4 Temperature 295.1
5 Pulse Sequence zg30
6 Number of Scans 8
7 Pulse Width 8.9200
8 Acquisition Time
9 Acquisition Date
10 Modification Date 2014-05-05T 21:19:00
11 Spectrometer Frequency 400.15
12 Spectral Width 9615.4
13 Lowest Frequency -2336.6
14 Nucleus 1H
15 Acquired Size
16 Spectral Size 65536
1.02 1.00 0.96 1.01 1.07 0.91 1.01 2.07 6.09 4.01
f1 (ppm)
136.47 126.73 124.40 121.83 119.41 118.97 111.15 77.43 77.11 76.79 37.34 35.74 28.38 27.04
Parameter Value
1 Title
2 Origin Bruker BioSpin GmbH
3 Solvent CDCl3
4 Temperature 295.9
5 Pulse Sequence zgpg30
6 Number of Scans 64
7 Pulse Width 10.0000
8 Acquisition Time
9 Acquisition Date
10 Modification Date 2014-05-20T 20:41:22
11 Spectrometer Frequency 100.62
12 Spectral Width 28409.1
13 Lowest Frequency -4143.7
14 Nucleus 13C
15 Acquired Size
16 Spectral Size 65536
f1 (ppm)



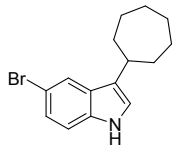
44U

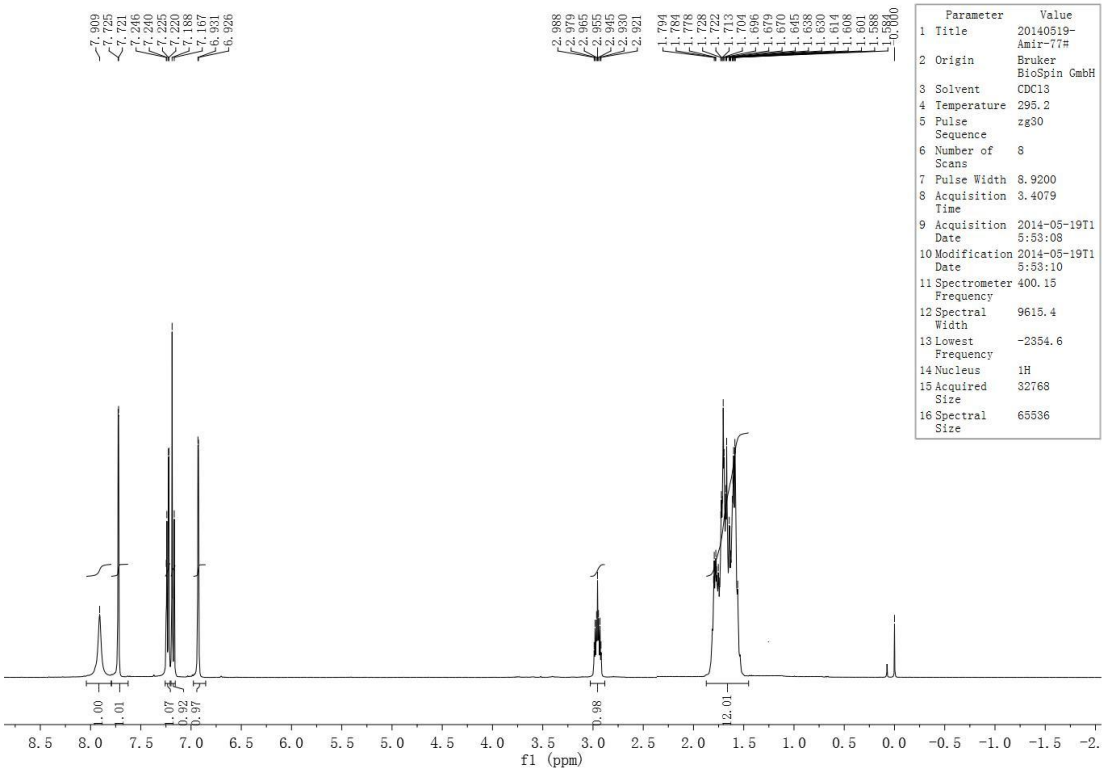


	Parameter	Value
1	Title	20140505-Amir-44u#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	295.2
5	Pulse Sequence	zg30
6	Number of Scans	8
7	Pulse Width	8.9200
8	Acquisition Time	3.4079
9	Acquisition Date	2014-05-05T20:35:48
10	Modification Date	2014-05-05T20:35:50
11	Spectrometer Frequency	400.15
12	Spectral Width	9615.4
13	Lowest Frequency	-2403.0
14	Nucleus	1H
15	Acquired Size	32768
16	Spectral Size	65536

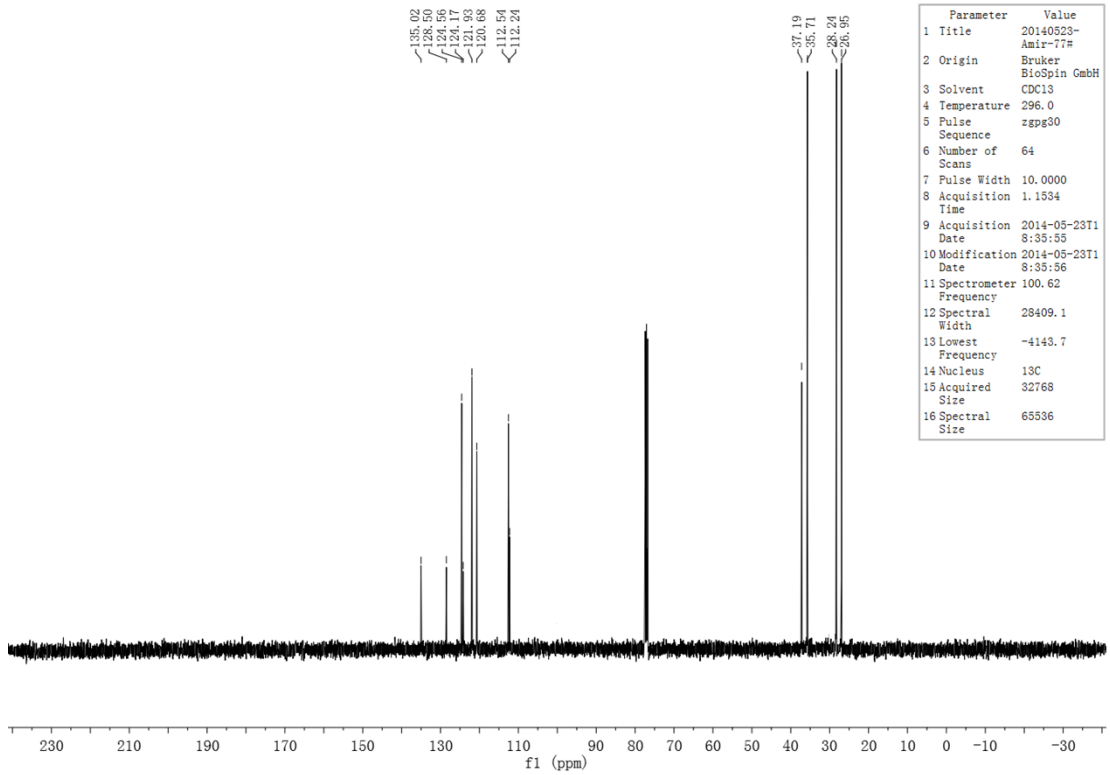


	Parameter	Value
1	Title	20140520-Amir-44u#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	295.9
5	Pulse Sequence	zgpg30
6	Number of Scans	64
7	Pulse Width	10.0000
8	Acquisition Time	1.1534
9	Acquisition Date	2014-05-20T20:02:54
10	Modification Date	2014-05-20T20:02:56
11	Spectrometer Frequency	100.62
12	Spectral Width	28409.1
13	Lowest Frequency	-4143.7
14	Nucleus	13C
15	Acquired Size	32768
16	Spectral Size	65536

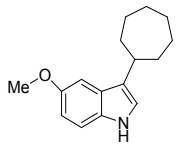


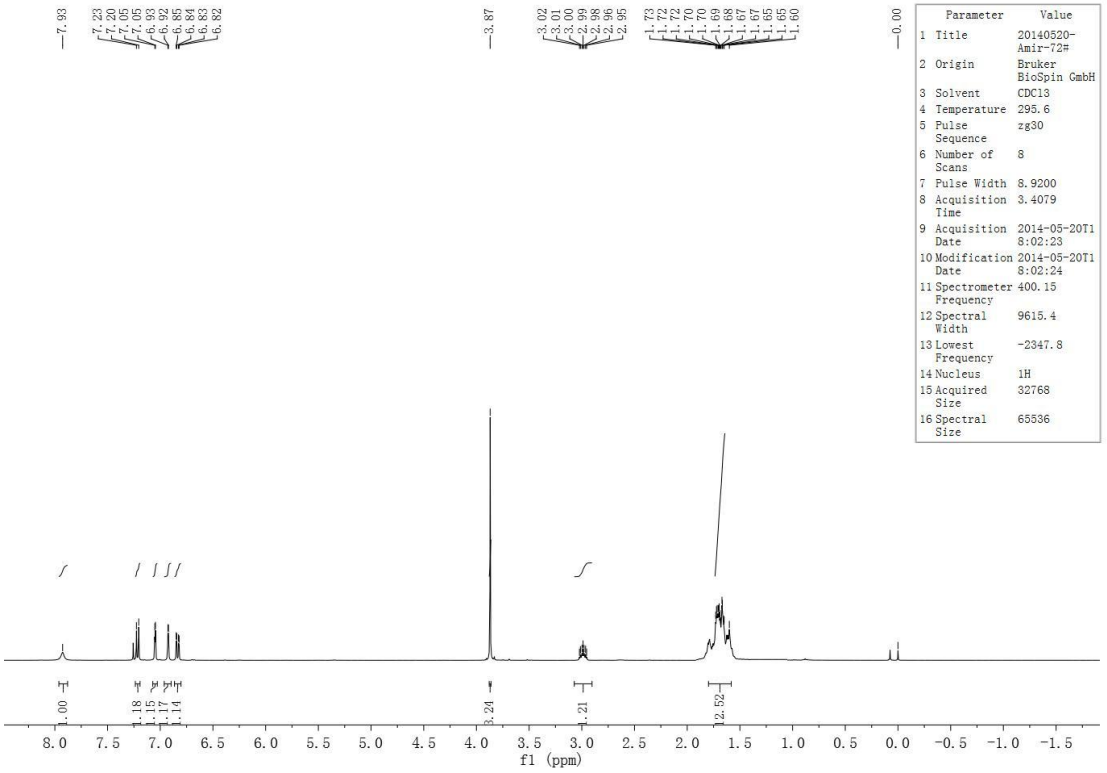


	Parameter	Value
1	Title	20140519-Amir-77#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	295.2
5	Pulse Sequence	zg30
6	Number of Scans	8
7	Pulse Width	8.9200
8	Acquisition Time	3.4079
9	Acquisition Date	2014-05-19T15:53:08
10	Modification Date	2014-05-19T15:53:10
11	Spectrometer Frequency	400.15
12	Spectral Width	9615.4
13	Lowest Frequency	-2354.6
14	Nucleus	1H
15	Acquired Size	32768
16	Spectral Size	65536

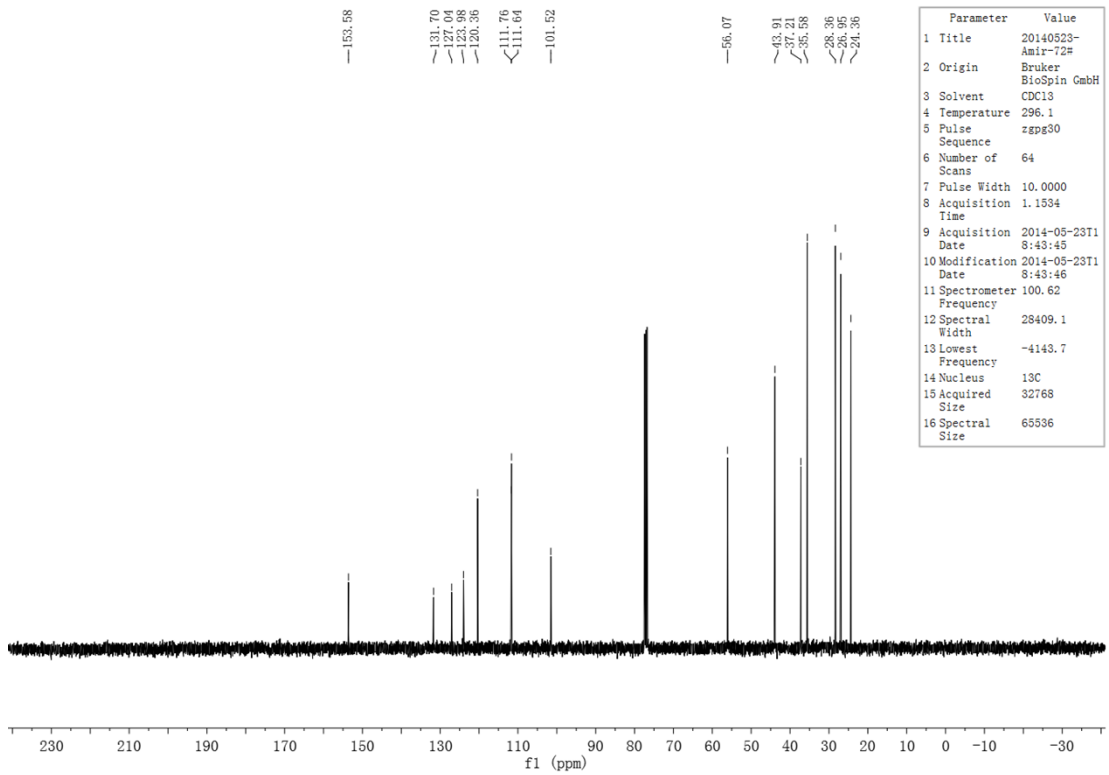


	Parameter	Value
1	Title	20140523-Amir-77#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	296.0
5	Pulse Sequence	zgpg30
6	Number of Scans	64
7	Pulse Width	10.0000
8	Acquisition Time	1.1534
9	Acquisition Date	2014-05-23T18:35:55
10	Modification Date	2014-05-23T18:35:56
11	Spectrometer Frequency	100.62
12	Spectral Width	28409.1
13	Lowest Frequency	-4143.7
14	Nucleus	13C
15	Acquired Size	32768
16	Spectral Size	65536

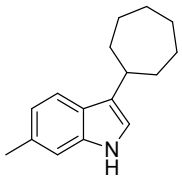


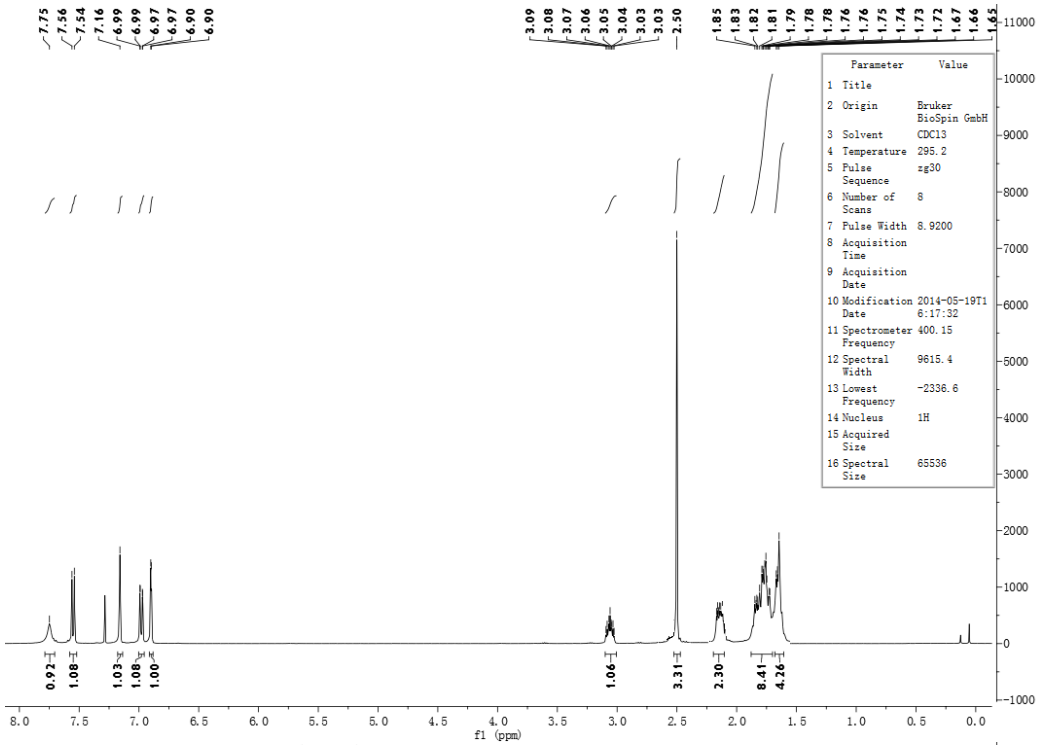


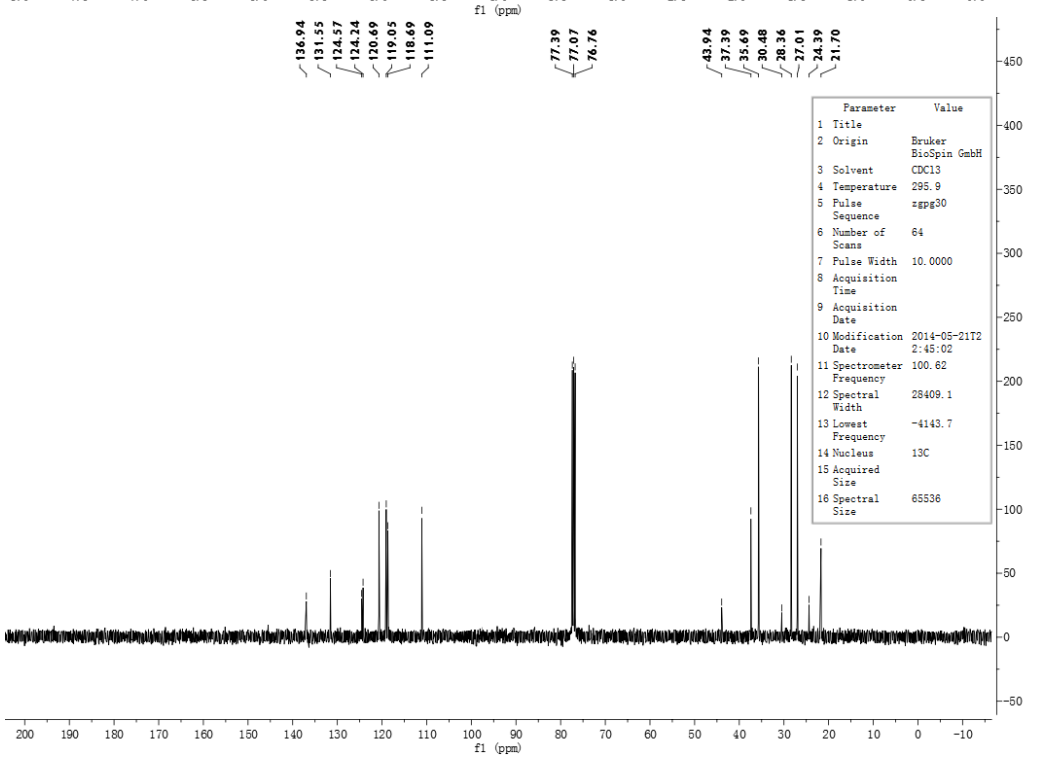
	Parameter	Value
1	Title	20140520-Amir-72#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	295.6
5	Pulse Sequence	zg30
6	Number of Scans	8
7	Pulse Width	8.9200
8	Acquisition Time	3.4079
9	Acquisition Date	2014-05-20T18:02:23
10	Modification Date	2014-05-20T18:02:24
11	Spectrometer Frequency	400.15
12	Spectral Width	9615.4
13	Lowest Frequency	-2347.8
14	Nucleus	1H
15	Acquired Size	32768
16	Spectral Size	65536

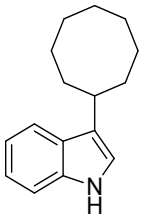


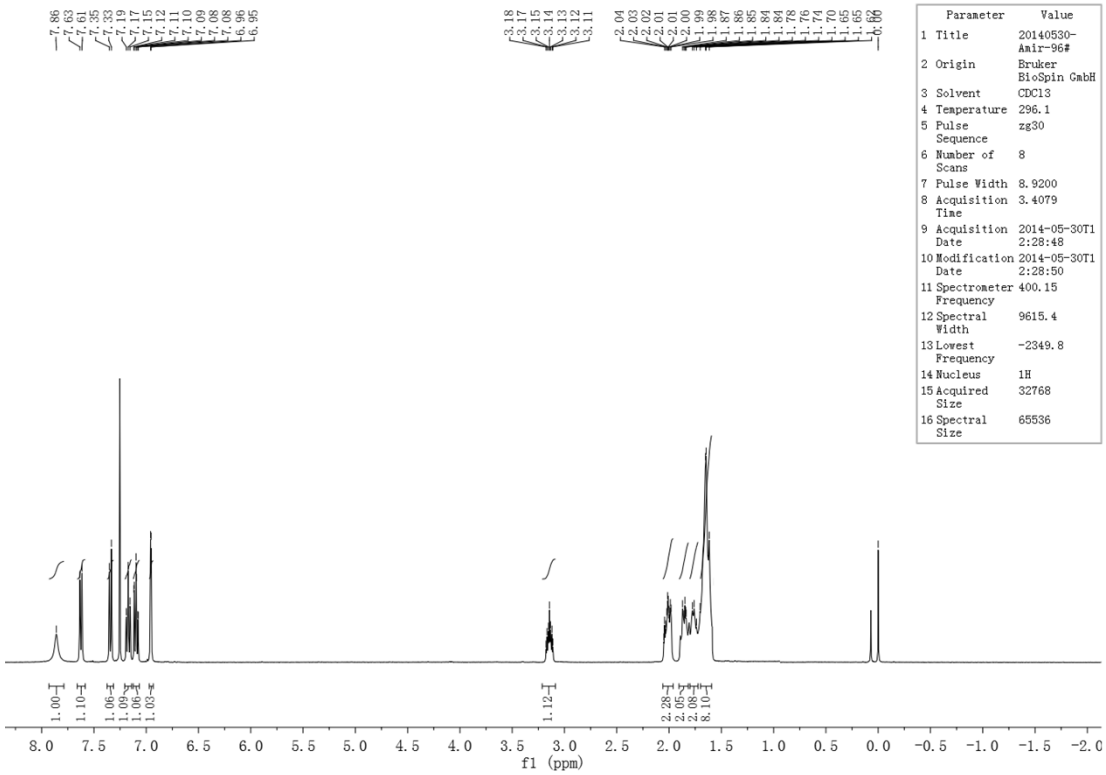
	Parameter	Value
1	Title	20140523-Amir-72#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	296.1
5	Pulse Sequence	zgpg30
6	Number of Scans	64
7	Pulse Width	10.0000
8	Acquisition Time	1.1534
9	Acquisition Date	2014-05-23T18:43:45
10	Modification Date	2014-05-23T18:43:46
11	Spectrometer Frequency	100.62
12	Spectral Width	28409.1
13	Lowest Frequency	-4143.7
14	Nucleus	13C
15	Acquired Size	32768
16	Spectral Size	65536



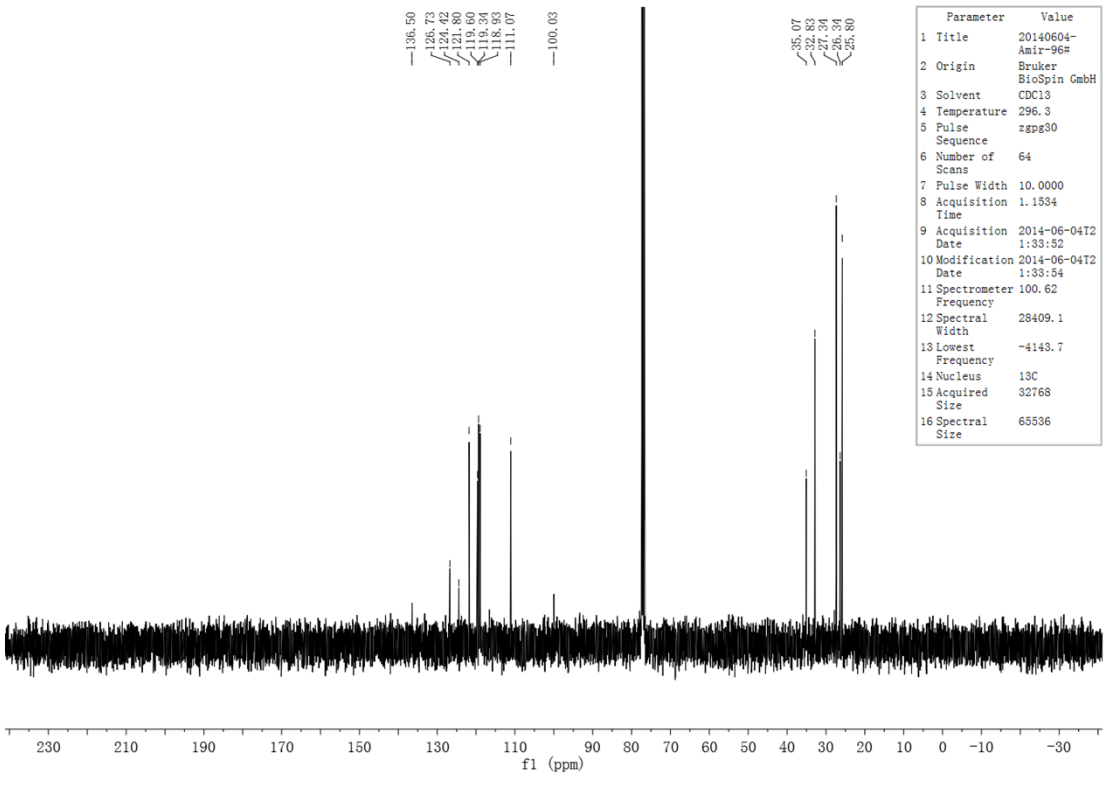

7.75
7.56
7.54
7.16
6.99
6.99
6.97
6.97
6.90
6.90
3.09
3.08
3.07
3.06
3.05
3.04
3.03
3.03
2.50
1.85
1.83
1.82
1.81
1.79
1.78
1.78
1.76
1.76
1.75
1.74
1.73
1.72
1.67
1.66
1.65
Parameter Value
1 Title
2 Origin Bruker BioSpin GmbH
3 Solvent CDCl3
4 Temperature 295.2
5 Pulse Sequence zg30
6 Number of Scans 8
7 Pulse Width 8.9200
8 Acquisition Time
9 Acquisition Date
10 Modification Date 2014-05-19T16:17:32
11 Spectrometer Frequency 400.15
12 Spectral Width 9615.4
13 Lowest Frequency -2336.6
14 Nucleus 1H
15 Acquired Size
16 Spectral Size 65536
0.92
1.08
1.03
1.08
1.00
1.06
3.31
2.30
8.41
4.26
f1 (ppm)


136.94
131.55
124.57
124.24
120.69
119.05
118.69
111.09
77.39
77.07
76.76
43.94
37.39
35.69
30.48
28.36
27.01
24.39
21.70
Parameter Value
1 Title
2 Origin Bruker BioSpin GmbH
3 Solvent CDCl3
4 Temperature 295.9
5 Pulse Sequence zgpg30
6 Number of Scans 64
7 Pulse Width 10.0000
8 Acquisition Time
9 Acquisition Date
10 Modification Date 2014-05-21T12:45:02
11 Spectrometer Frequency 100.62
12 Spectral Width 28409.1
13 Lowest Frequency -4143.7
14 Nucleus 13C
15 Acquired Size
16 Spectral Size 65536
f1 (ppm)

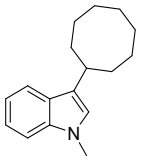


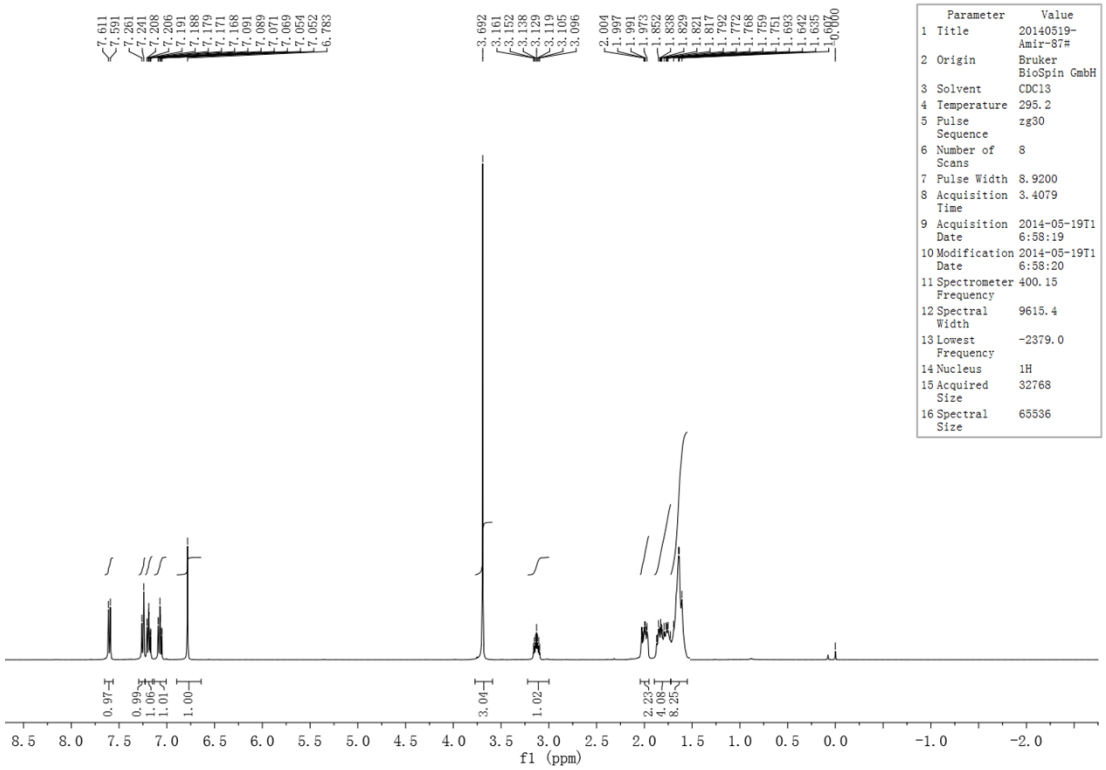


	Parameter	Value
1	Title	20140530-Amir-96#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	296.1
5	Pulse Sequence	zg30
6	Number of Scans	8
7	Pulse Width	8.9200
8	Acquisition Time	3.4079
9	Acquisition Date	2014-05-30T12:28:48
10	Modification Date	2014-05-30T12:28:50
11	Spectrometer Frequency	400.15
12	Spectral Width	9615.4
13	Lowest Frequency	-2349.8
14	Nucleus	1H
15	Acquired Size	32768
16	Spectral Size	65536

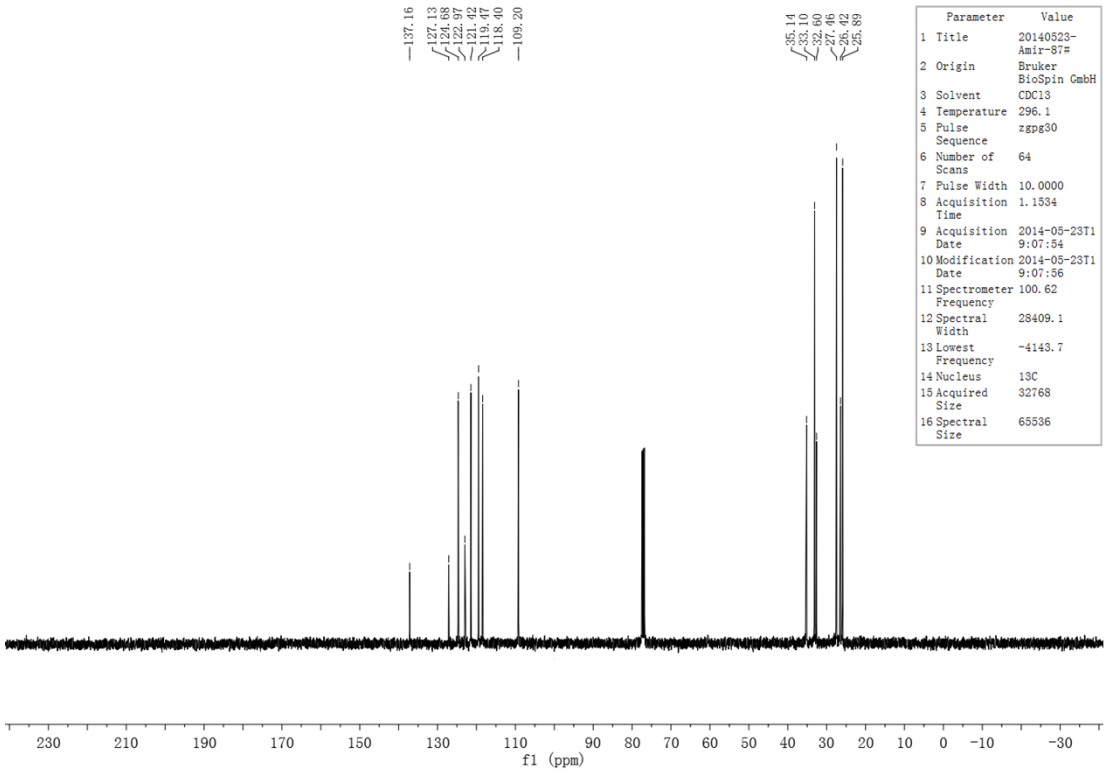


	Parameter	Value
1	Title	20140604-Amir-96#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	296.3
5	Pulse Sequence	zgpg30
6	Number of Scans	64
7	Pulse Width	10.0000
8	Acquisition Time	1.1534
9	Acquisition Date	2014-06-04T21:33:52
10	Modification Date	2014-06-04T21:33:54
11	Spectrometer Frequency	100.62
12	Spectral Width	28409.1
13	Lowest Frequency	-4143.7
14	Nucleus	13C
15	Acquired Size	32768
16	Spectral Size	65536

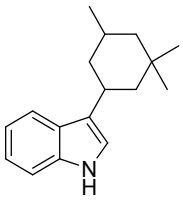


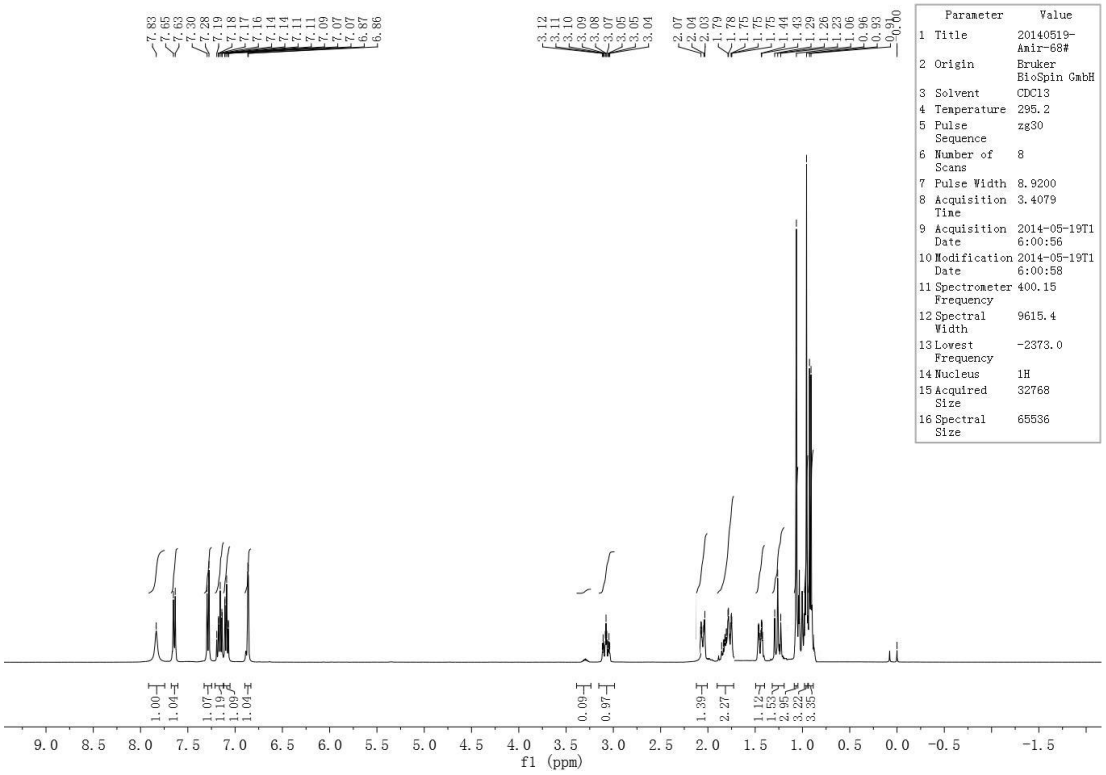


	Parameter	Value
1	Title	20140519-Amir-87#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	295.2
5	Pulse Sequence	zg30
6	Number of Scans	8
7	Pulse Width	8.9200
8	Acquisition Time	3.4079
9	Acquisition Date	2014-05-19T16:58:19
10	Modification Date	2014-05-19T16:58:20
11	Spectrometer Frequency	400.15
12	Spectral Width	9615.4
13	Lowest Frequency	-2379.0
14	Nucleus	1H
15	Acquired Size	32768
16	Spectral Size	65536

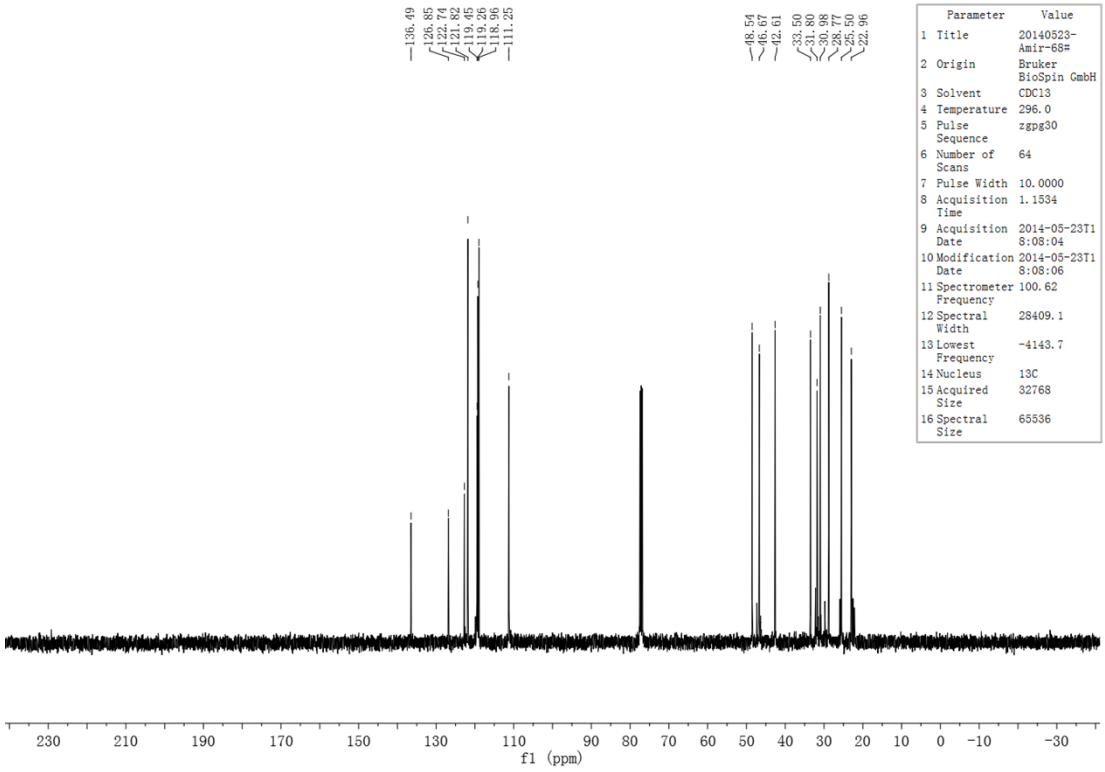


	Parameter	Value
1	Title	20140523-Amir-87#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	296.1
5	Pulse Sequence	zgpg30
6	Number of Scans	64
7	Pulse Width	10.0000
8	Acquisition Time	1.1534
9	Acquisition Date	2014-05-23T19:07:54
10	Modification Date	2014-05-23T19:07:56
11	Spectrometer Frequency	100.62
12	Spectral Width	28409.1
13	Lowest Frequency	-4143.7
14	Nucleus	13C
15	Acquired Size	32768
16	Spectral Size	65536

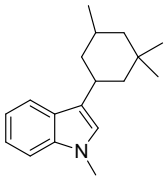


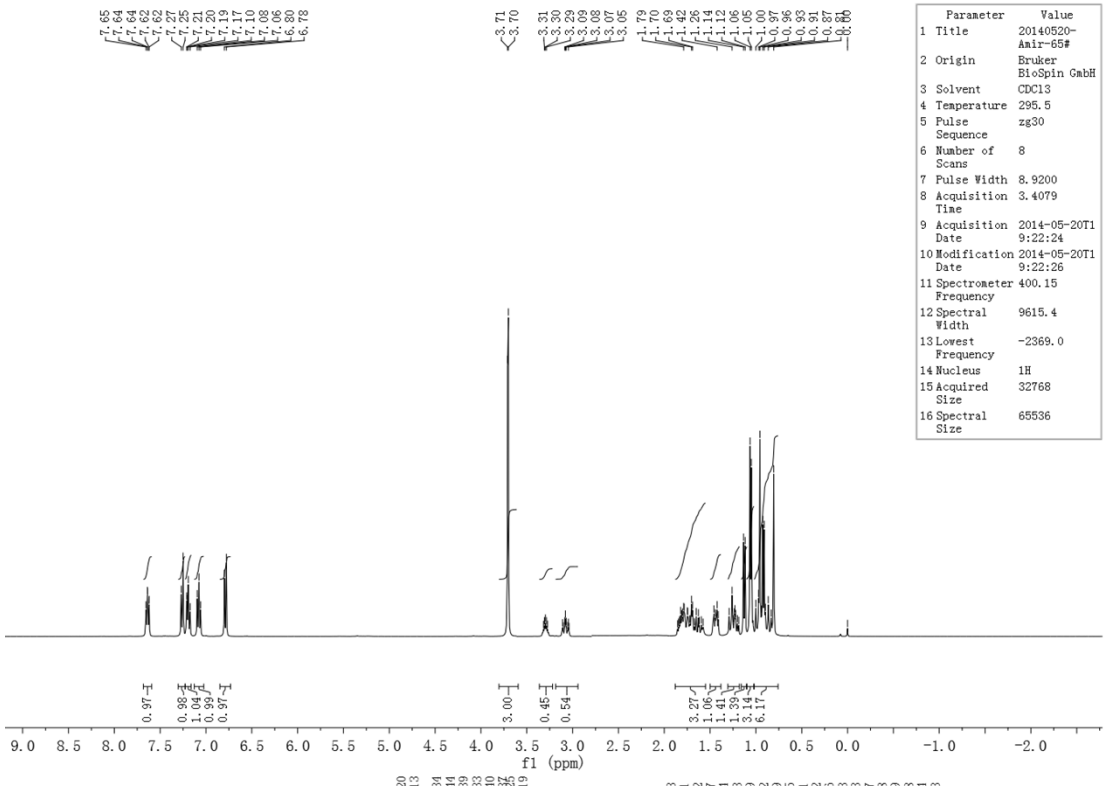


	Parameter	Value
1	Title	20140519-Amir-68#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	295.2
5	Pulse Sequence	zg30
6	Number of Scans	8
7	Pulse Width	8.9200
8	Acquisition Time	3.4079
9	Acquisition Date	2014-05-19T16:00:56
10	Modification Date	2014-05-19T16:00:58
11	Spectrometer Frequency	400.15
12	Spectral Width	9615.4
13	Lowest Frequency	-2373.0
14	Nucleus	1H
15	Acquired Size	32768
16	Spectral Size	65536

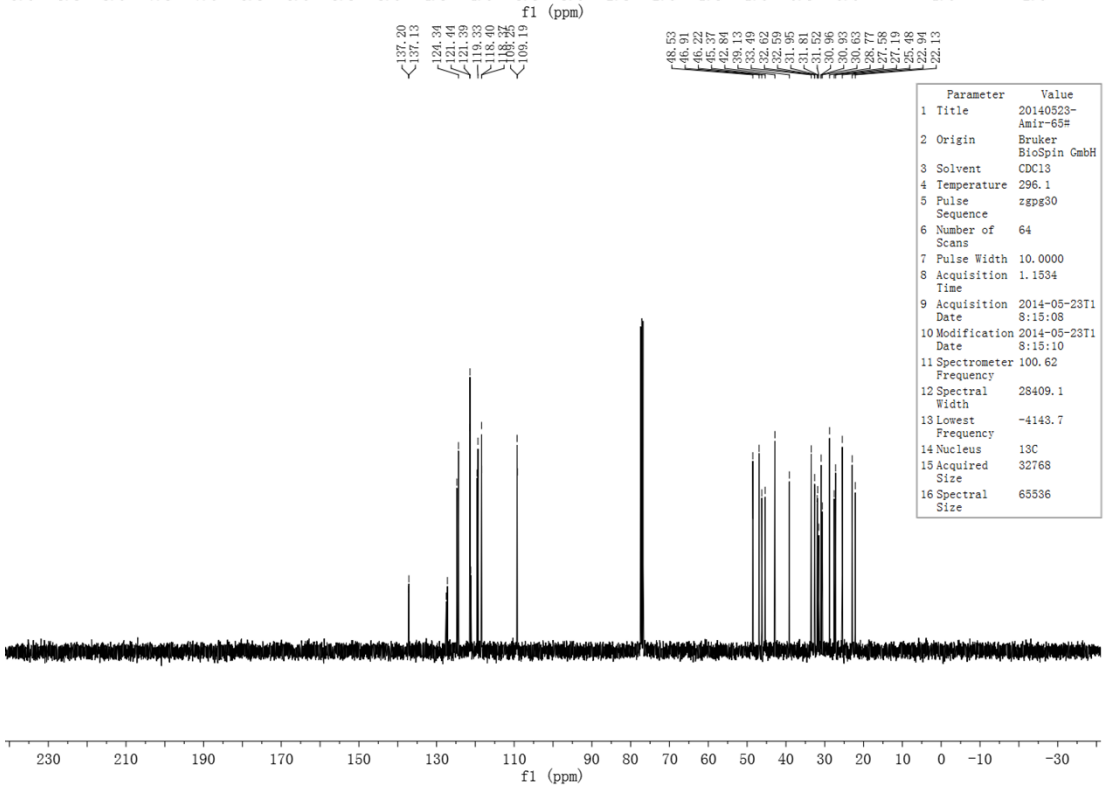


	Parameter	Value
1	Title	20140523-Amir-68#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	296.0
5	Pulse Sequence	zgpg30
6	Number of Scans	64
7	Pulse Width	10.0000
8	Acquisition Time	1.1534
9	Acquisition Date	2014-05-23T18:08:04
10	Modification Date	2014-05-23T18:08:06
11	Spectrometer Frequency	100.62
12	Spectral Width	28409.1
13	Lowest Frequency	-4143.7
14	Nucleus	13C
15	Acquired Size	32768
16	Spectral Size	65536

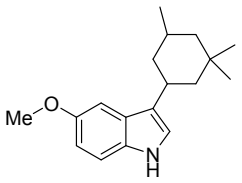


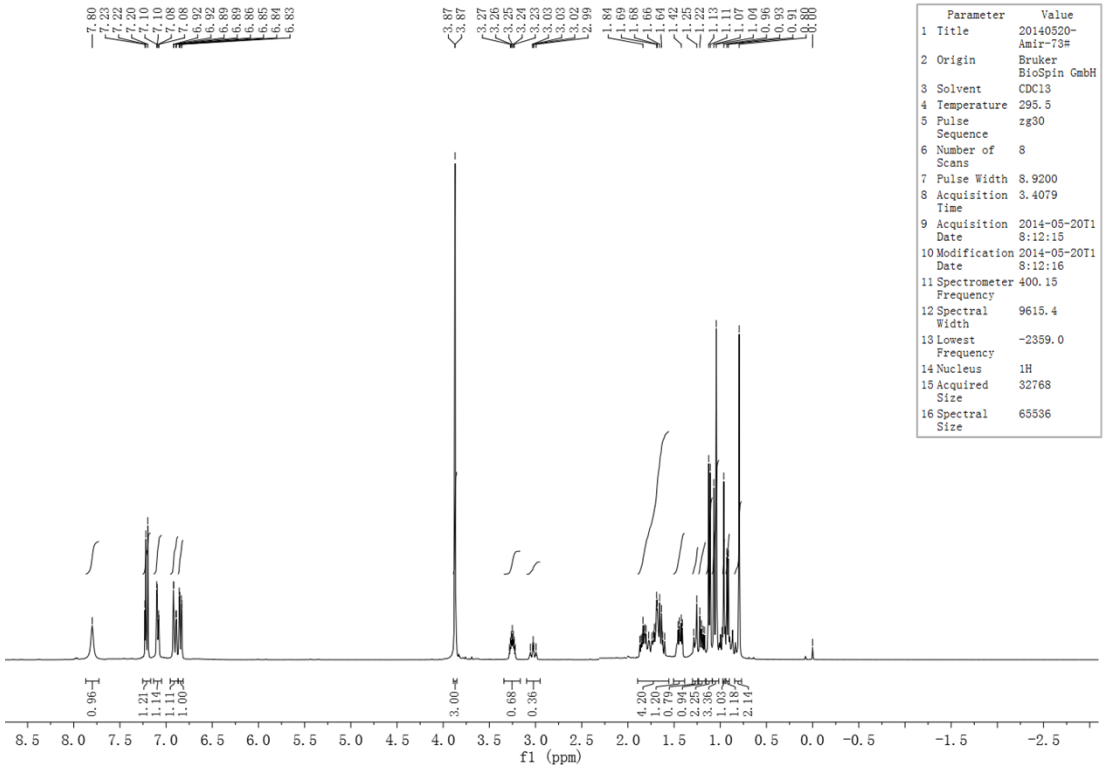


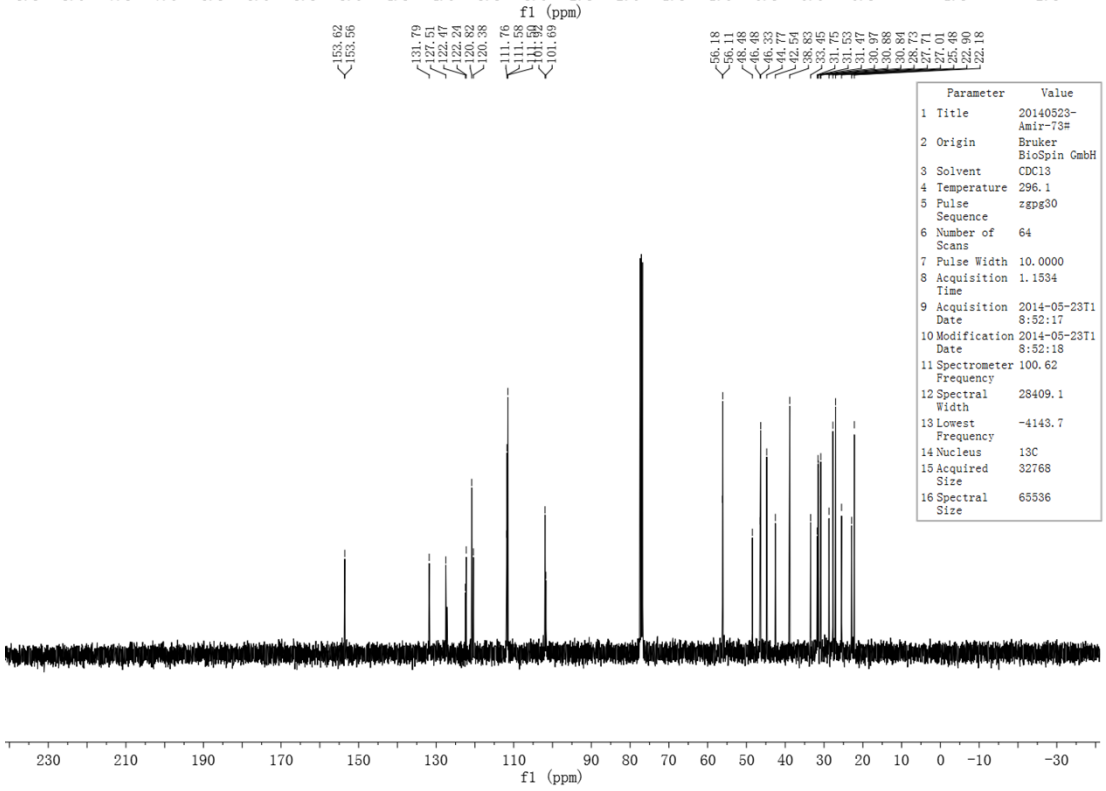
	Parameter	Value
1	Title	20140520-Amir-65#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	295.5
5	Pulse Sequence	zg30
6	Number of Scans	8
7	Pulse Width	8.9200
8	Acquisition Time	3.4079
9	Acquisition Date	2014-05-20T19:22:24
10	Modification Date	2014-05-20T19:22:26
11	Spectrometer Frequency	400.15
12	Spectral Width	9615.4
13	Lowest Frequency	-2369.0
14	Nucleus	1H
15	Acquired Size	32768
16	Spectral Size	65536

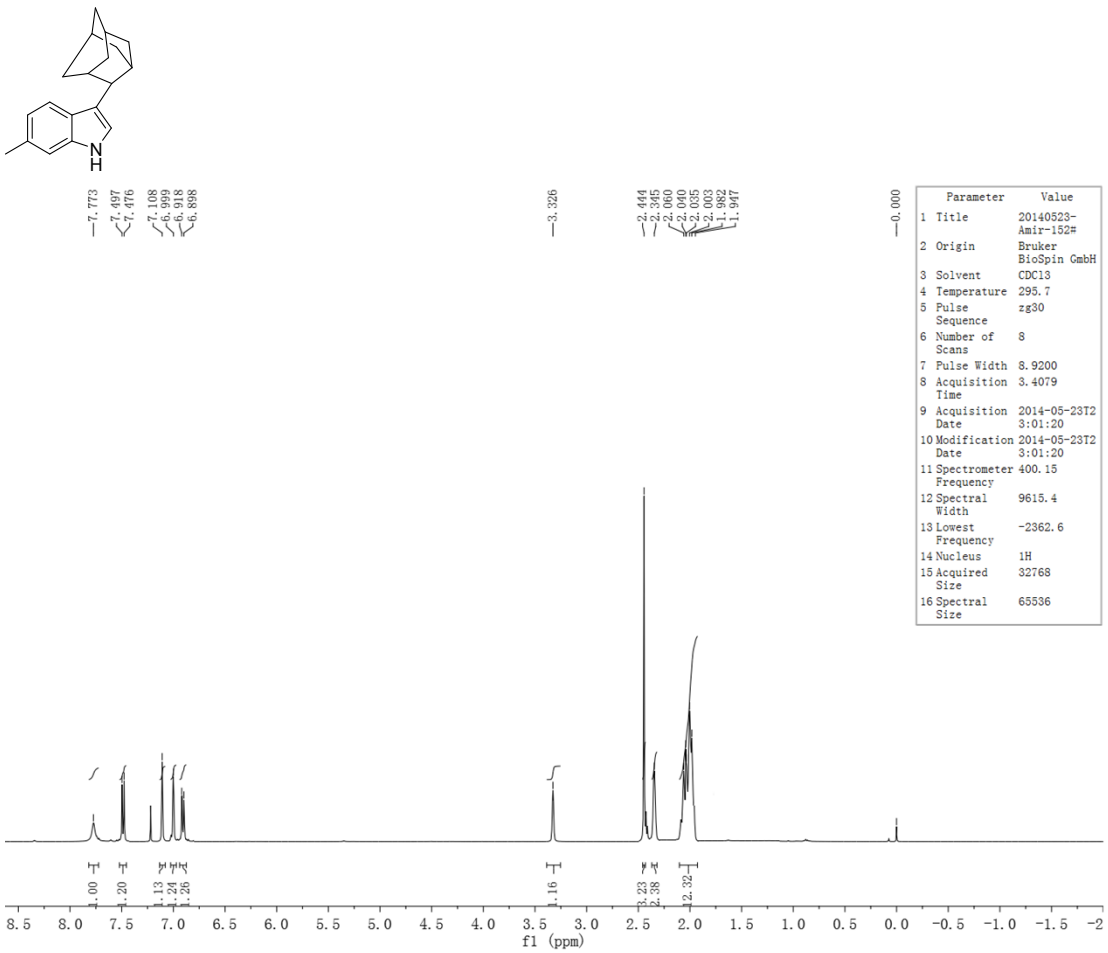


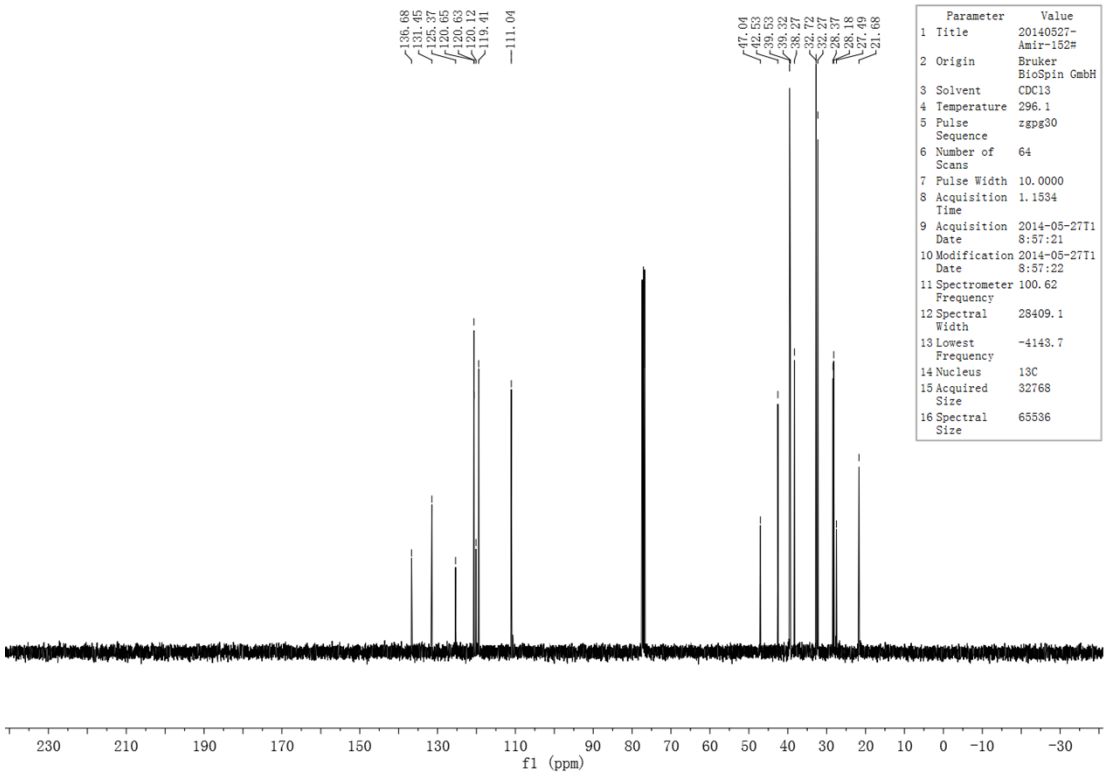
	Parameter	Value
1	Title	20140523-Amir-65#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	296.1
5	Pulse Sequence	zgpg30
6	Number of Scans	64
7	Pulse Width	10.0000
8	Acquisition Time	1.1534
9	Acquisition Date	2014-05-23T18:15:08
10	Modification Date	2014-05-23T18:15:10
11	Spectrometer Frequency	100.62
12	Spectral Width	28409.1
13	Lowest Frequency	-4143.7
14	Nucleus	13C
15	Acquired Size	32768
16	Spectral Size	65536

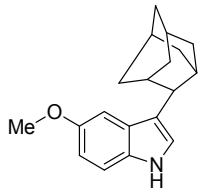

Me
O
N
H

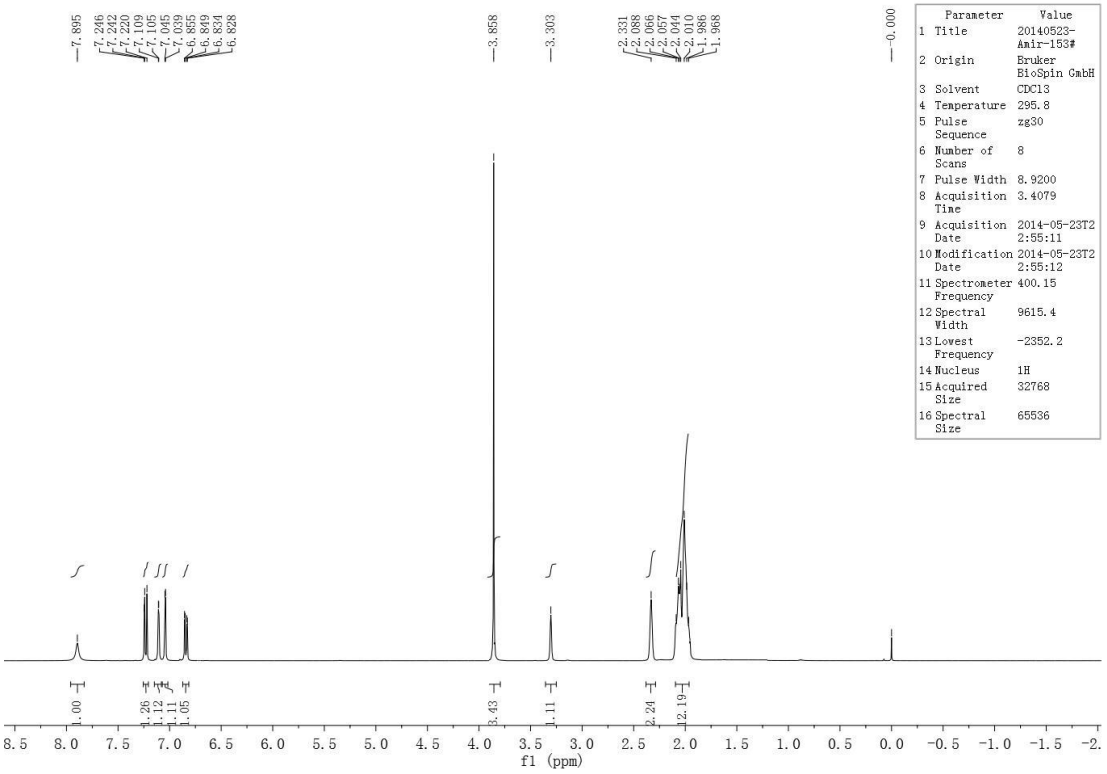

7.80
7.23
7.22
7.20
7.10
7.08
6.92
6.89
6.88
6.85
6.84
6.83
3.87
3.27
3.26
3.25
3.24
3.23
3.03
3.02
2.99
1.84
1.69
1.68
1.66
1.64
1.42
1.25
1.22
1.13
1.11
1.07
1.04
0.96
0.93
0.91
0.88
0.80
0.96
1.21
1.14
1.11
1.00
3.00
0.68
0.36
4.20
1.20
0.79
0.94
2.25
3.36
1.03
1.18
2.14
f1 (ppm)
Parameter Value
1 Title 20140520-Amir-73#
2 Origin Bruker BioSpin GmbH
3 Solvent CDCl3
4 Temperature 295.5
5 Pulse Sequence zg30
6 Number of Scans 8
7 Pulse Width 8.9200
8 Acquisition Time 3.4079
9 Acquisition Date 2014-05-20T18:12:15
10 Modification Date 2014-05-20T18:12:16
11 Spectrometer Frequency 400.15
12 Spectral Width 9615.4
13 Lowest Frequency -2359.0
14 Nucleus 1H
15 Acquired Size 32768
16 Spectral Size 65536


153.62
153.56
131.79
127.51
122.47
122.24
120.82
120.38
111.76
111.58
101.69
56.18
56.11
48.48
46.33
44.77
42.54
38.83
33.45
31.75
31.53
31.47
30.97
30.88
30.84
28.73
27.71
27.01
25.48
22.90
22.18
f1 (ppm)
Parameter Value
1 Title 20140523-Amir-73#
2 Origin Bruker BioSpin GmbH
3 Solvent CDCl3
4 Temperature 296.1
5 Pulse Sequence zgpg30
6 Number of Scans 64
7 Pulse Width 10.0000
8 Acquisition Time 1.1534
9 Acquisition Date 2014-05-23T18:52:17
10 Modification Date 2014-05-23T18:52:18
11 Spectrometer Frequency 100.62
12 Spectral Width 28409.1
13 Lowest Frequency -4143.7
14 Nucleus 13C
15 Acquired Size 32768
16 Spectral Size 65536

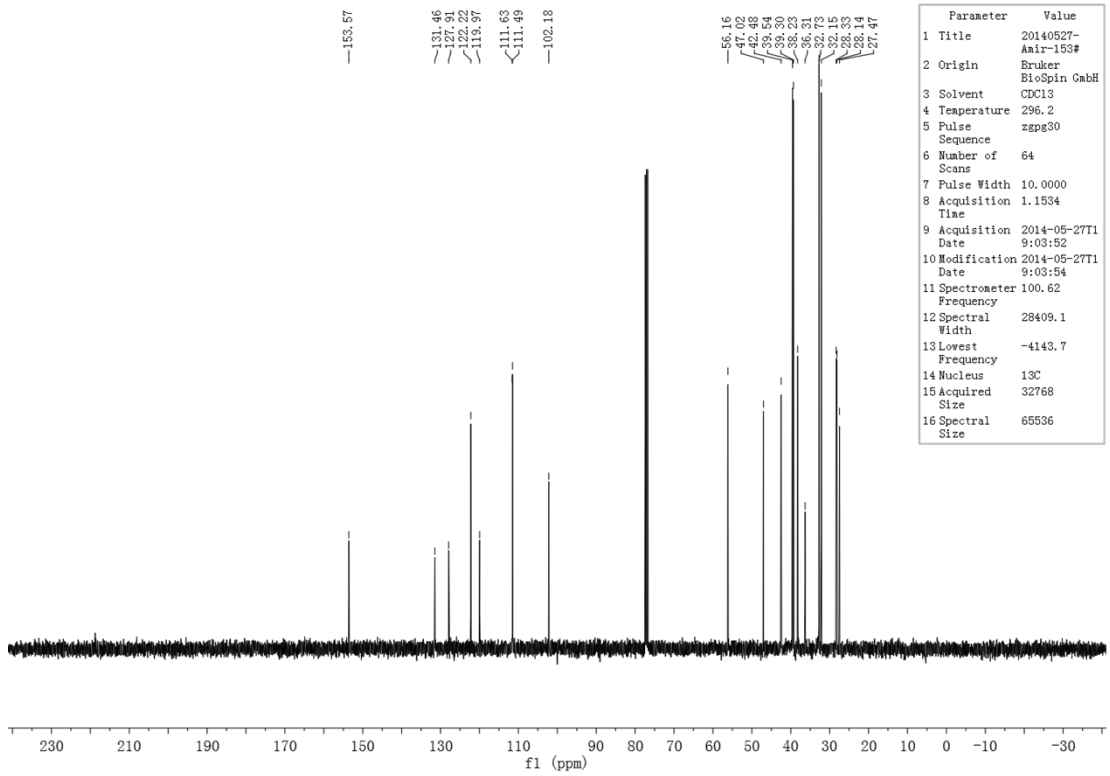

7.773
7.497
7.476
7.108
6.999
6.918
6.898
3.326
2.444
2.345
2.060
2.040
2.035
2.003
1.982
1.947
0.000
1.00
1.20
1.13
1.24
1.26
1.16
3.23
2.38
12.32
f1 (ppm)
Parameter Value
1 Title 20140523-Amir-152#
2 Origin Bruker BioSpin GmbH
3 Solvent CDCl3
4 Temperature 295.7
5 Pulse Sequence zg30
6 Number of Scans 8
7 Pulse Width 8.9200
8 Acquisition Time 3.4079
9 Acquisition Date 2014-05-23T23:01:20
10 Modification Date 2014-05-23T23:01:20
11 Spectrometer Frequency 400.15
12 Spectral Width 9615.4
13 Lowest Frequency -2362.6
14 Nucleus 1H
15 Acquired Size 32768
16 Spectral Size 65536


136.68
131.45
125.37
120.65
120.63
120.12
119.41
111.04
47.04
42.53
39.53
39.32
39.27
32.72
32.27
28.37
28.18
27.49
21.68
f1 (ppm)
Parameter Value
1 Title 20140527-Amir-152#
2 Origin Bruker BioSpin GmbH
3 Solvent CDCl3
4 Temperature 296.1
5 Pulse Sequence zgpg30
6 Number of Scans 64
7 Pulse Width 10.0000
8 Acquisition Time 1.1534
9 Acquisition Date 2014-05-27T18:57:21
10 Modification Date 2014-05-27T18:57:22
11 Spectrometer Frequency 100.62
12 Spectral Width 28409.1
13 Lowest Frequency -4143.7
14 Nucleus 13C
15 Acquired Size 32768
16 Spectral Size 65536

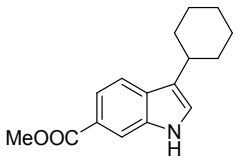


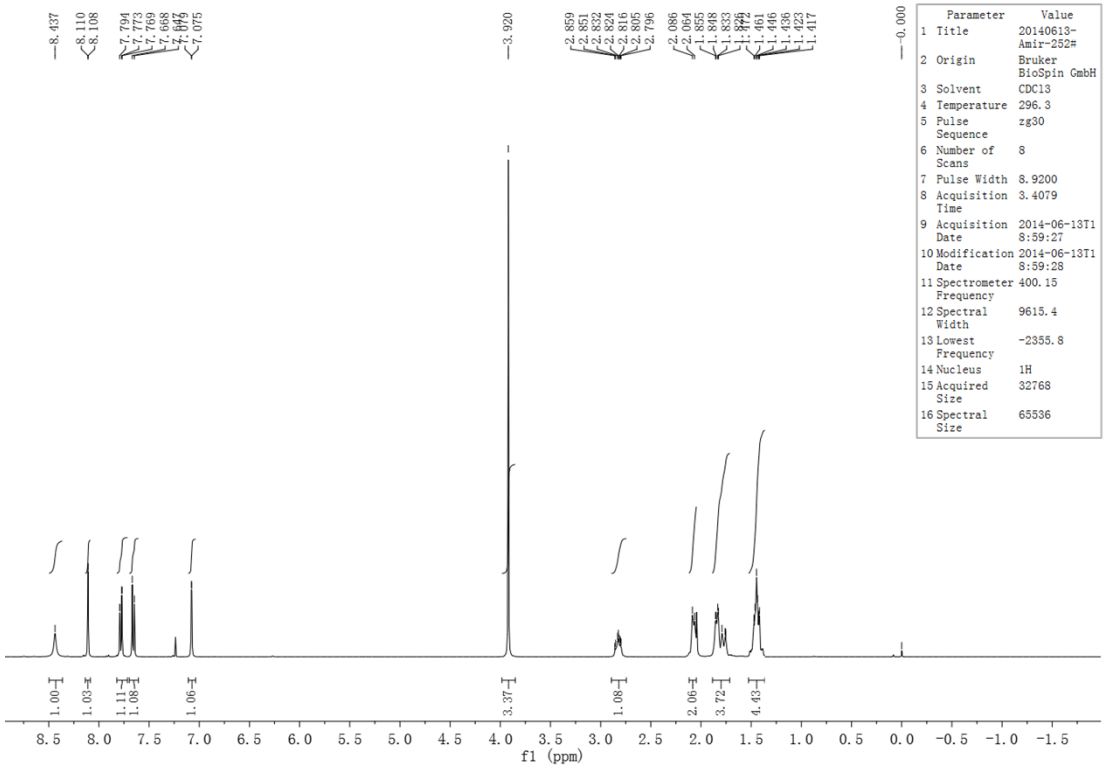


Parameter	Value
1 Title	20140523-Amir-153#
2 Origin	Bruker BioSpin GmbH
3 Solvent	CDCl3
4 Temperature	295.8
5 Pulse Sequence	zg30
6 Number of Scans	8
7 Pulse Width	8.9200
8 Acquisition Time	3.4079
9 Acquisition Date	2014-05-23T2 2:55:11
10 Modification Date	2014-05-23T2 2:55:12
11 Spectrometer Frequency	400.15
12 Spectral Width	9615.4
13 Lowest Frequency	-2352.2
14 Nucleus	1H
15 Acquired Size	32768
16 Spectral Size	65536

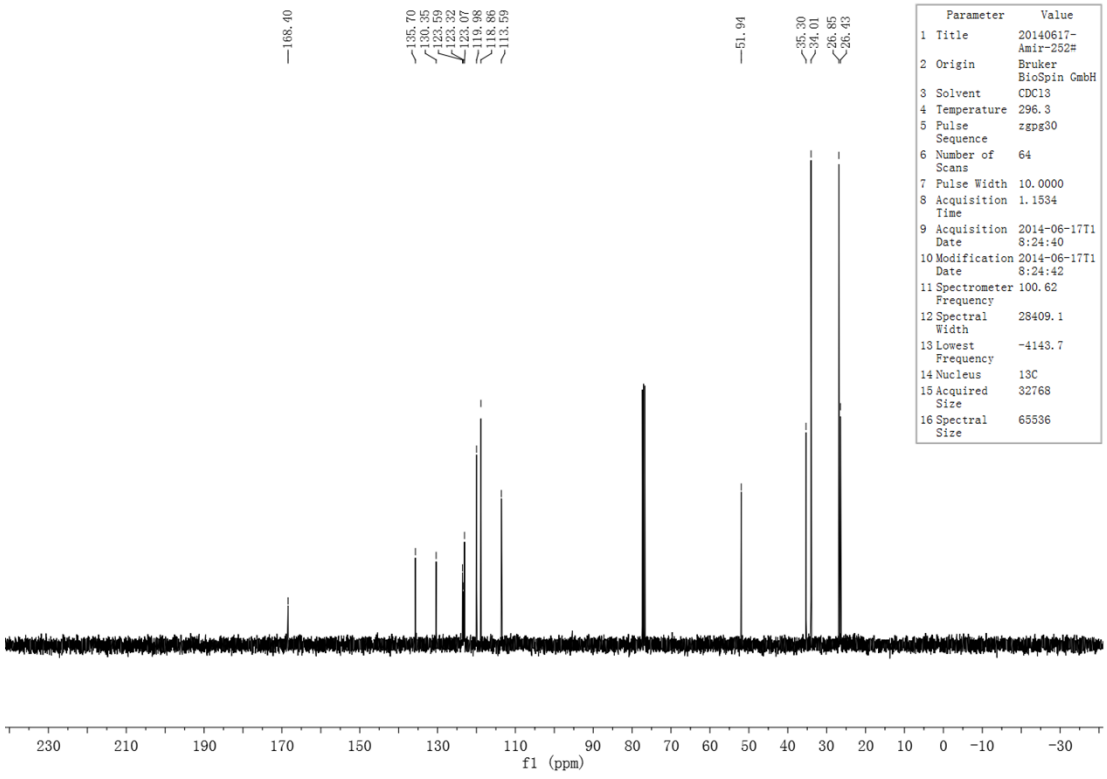


Parameter	Value
1 Title	20140527-Amir-153#
2 Origin	Bruker BioSpin GmbH
3 Solvent	CDCl3
4 Temperature	296.2
5 Pulse Sequence	zgpg30
6 Number of Scans	64
7 Pulse Width	10.0000
8 Acquisition Time	1.1534
9 Acquisition Date	2014-05-27T1 9:03:52
10 Modification Date	2014-05-27T1 9:03:54
11 Spectrometer Frequency	100.62
12 Spectral Width	28409.1
13 Lowest Frequency	-4143.7
14 Nucleus	13C
15 Acquired Size	32768
16 Spectral Size	65536

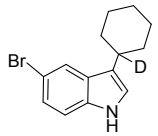


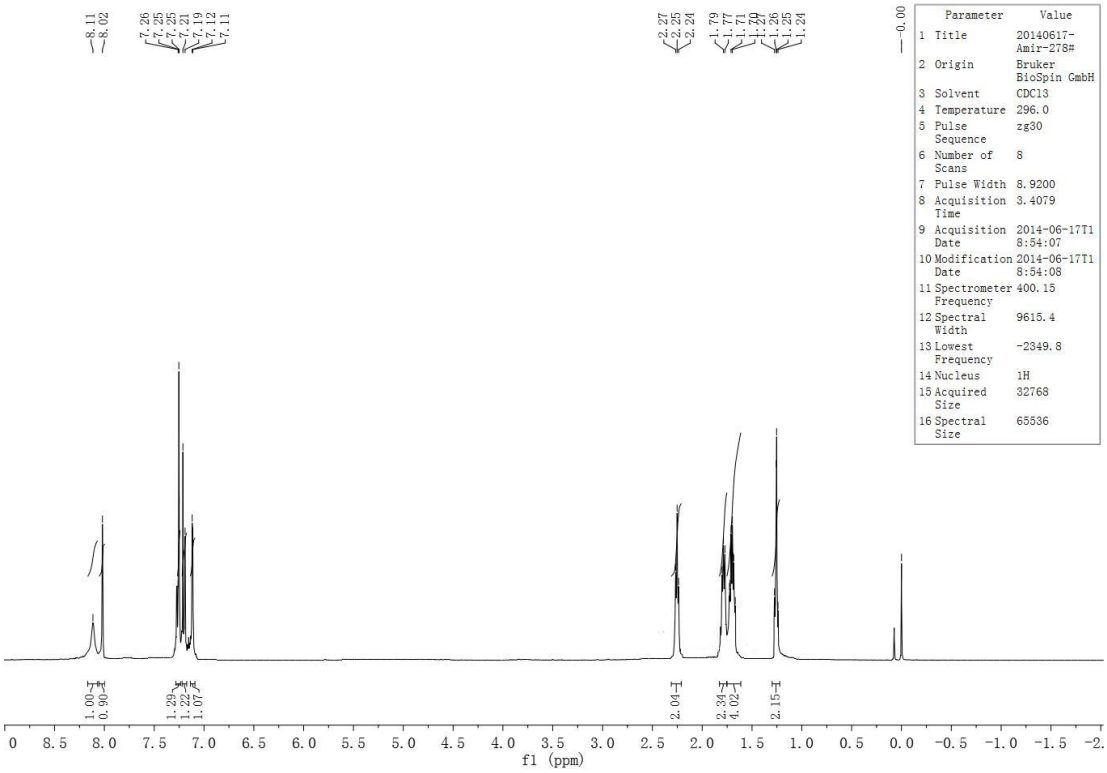


	Parameter	Value
1	Title	20140613-Amir-252#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	296.3
5	Pulse Sequence	zg30
6	Number of Scans	8
7	Pulse Width	8.9200
8	Acquisition Time	3.4079
9	Acquisition Date	2014-06-13T18:59:27
10	Modification Date	2014-06-13T18:59:28
11	Spectrometer Frequency	400.15
12	Spectral Width	9615.4
13	Lowest Frequency	-2355.8
14	Nucleus	1H
15	Acquired Size	32768
16	Spectral Size	65536

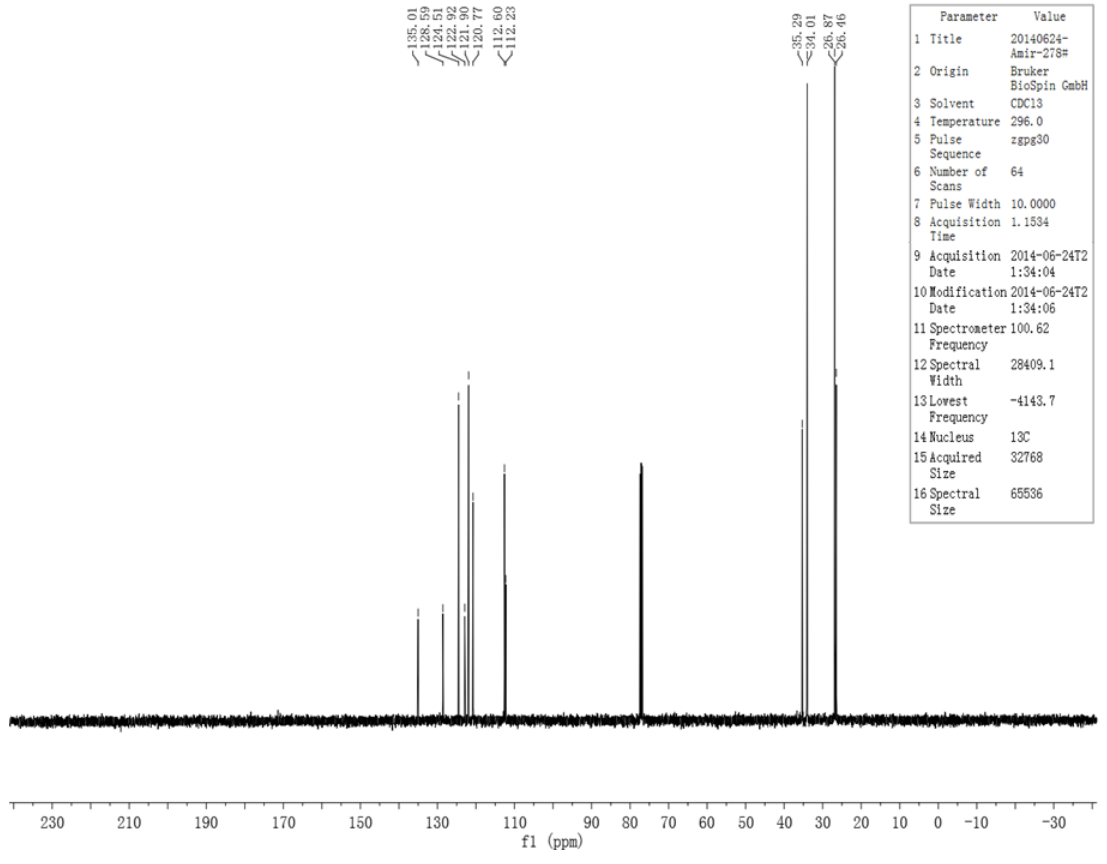


	Parameter	Value
1	Title	20140617-Amir-252#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	296.3
5	Pulse Sequence	zgpg30
6	Number of Scans	64
7	Pulse Width	10.0000
8	Acquisition Time	1.1534
9	Acquisition Date	2014-06-17T18:24:40
10	Modification Date	2014-06-17T18:24:42
11	Spectrometer Frequency	100.62
12	Spectral Width	28409.1
13	Lowest Frequency	-4143.7
14	Nucleus	13C
15	Acquired Size	32768
16	Spectral Size	65536

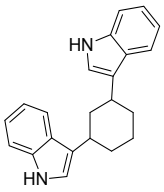


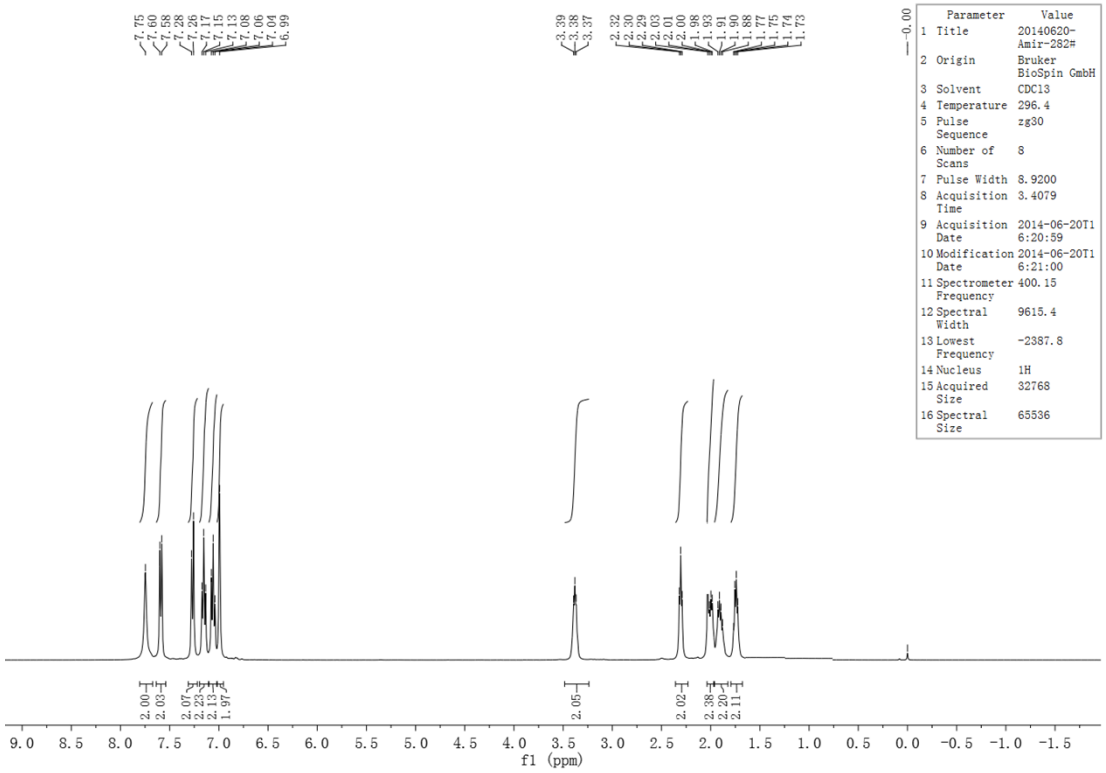


	Parameter	Value
1	Title	20140617-Amir-278#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	296.0
5	Pulse Sequence	zg30
6	Number of Scans	8
7	Pulse Width	8.9200
8	Acquisition Time	3.4079
9	Acquisition Date	2014-06-17T18:54:07
10	Modification Date	2014-06-17T18:54:08
11	Spectrometer Frequency	400.15
12	Spectral Width	9615.4
13	Lowest Frequency	-2349.8
14	Nucleus	1H
15	Acquired Size	32768
16	Spectral Size	65536

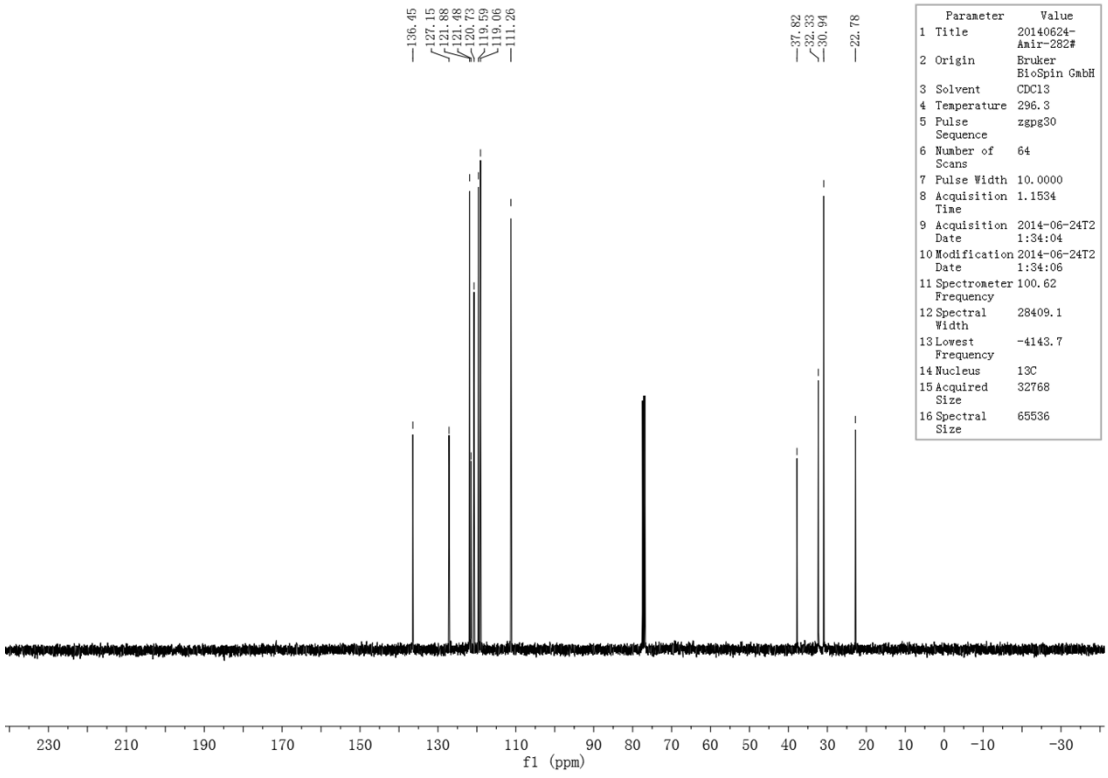


	Parameter	Value
1	Title	20140624-Amir-278#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	296.0
5	Pulse Sequence	zgpg30
6	Number of Scans	64
7	Pulse Width	10.0000
8	Acquisition Time	1.1534
9	Acquisition Date	2014-06-24T21:34:04
10	Modification Date	2014-06-24T21:34:06
11	Spectrometer Frequency	100.62
12	Spectral Width	28409.1
13	Lowest Frequency	-4143.7
14	Nucleus	13C
15	Acquired Size	32768
16	Spectral Size	65536

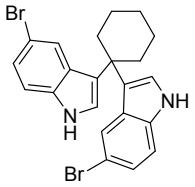


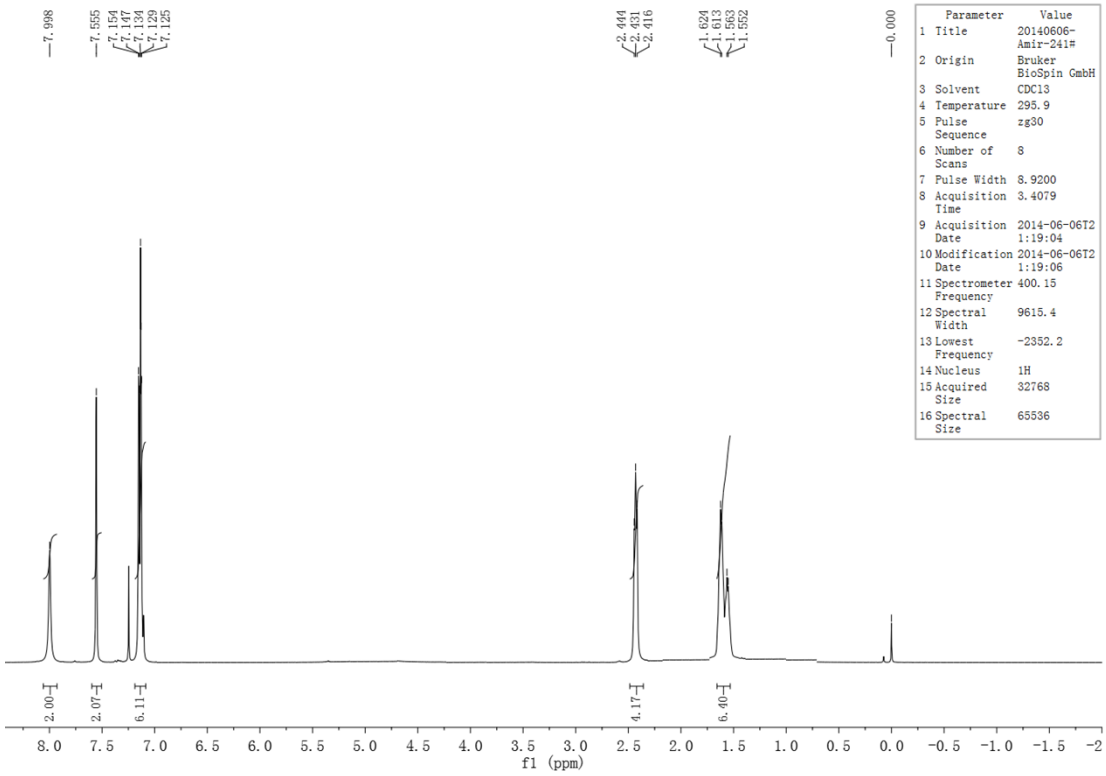


	Parameter	Value
1	Title	20140620-Amir-282#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	296.4
5	Pulse Sequence	zg30
6	Number of Scans	8
7	Pulse Width	8.9200
8	Acquisition Time	3.4079
9	Acquisition Date	2014-06-20T16:20:59
10	Modification Date	2014-06-20T16:21:00
11	Spectrometer Frequency	400.15
12	Spectral Width	9615.4
13	Lowest Frequency	-2387.8
14	Nucleus	1H
15	Acquired Size	32768
16	Spectral Size	65536

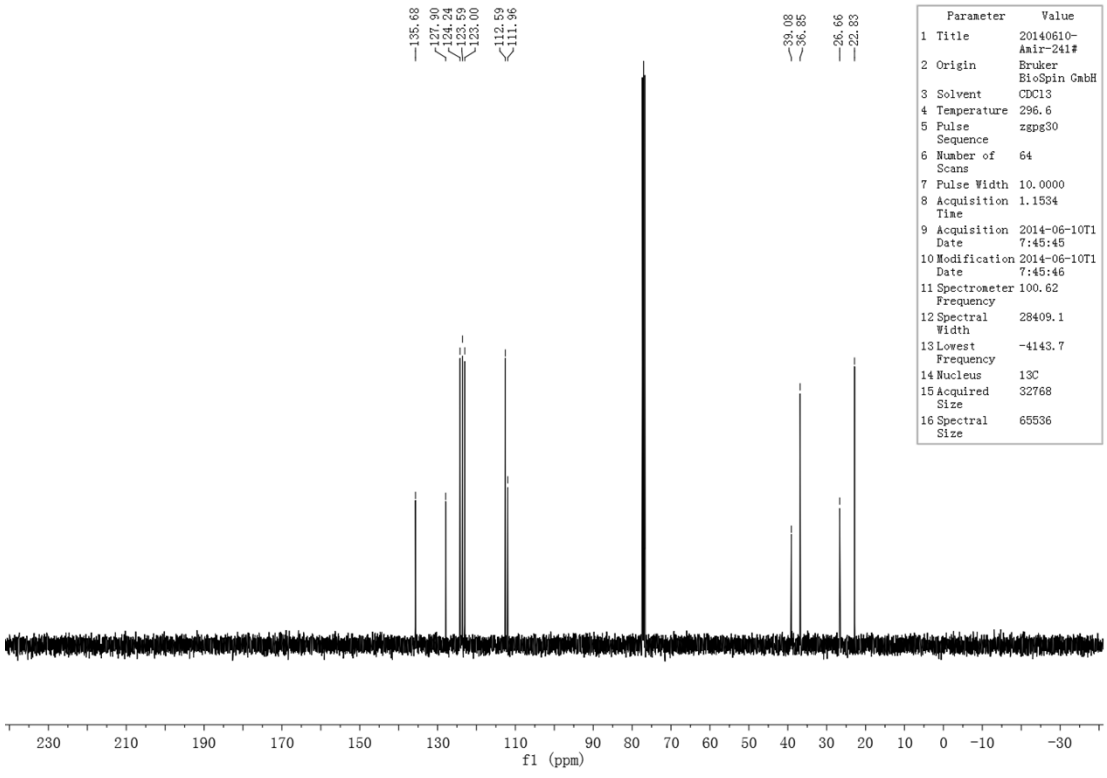


	Parameter	Value
1	Title	20140624-Amir-282#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	296.3
5	Pulse Sequence	zgpg30
6	Number of Scans	64
7	Pulse Width	10.0000
8	Acquisition Time	1.1534
9	Acquisition Date	2014-06-24T21:34:04
10	Modification Date	2014-06-24T21:34:06
11	Spectrometer Frequency	100.62
12	Spectral Width	28409.1
13	Lowest Frequency	-4143.7
14	Nucleus	13C
15	Acquired Size	32768
16	Spectral Size	65536

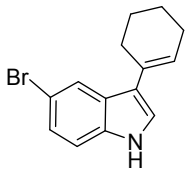


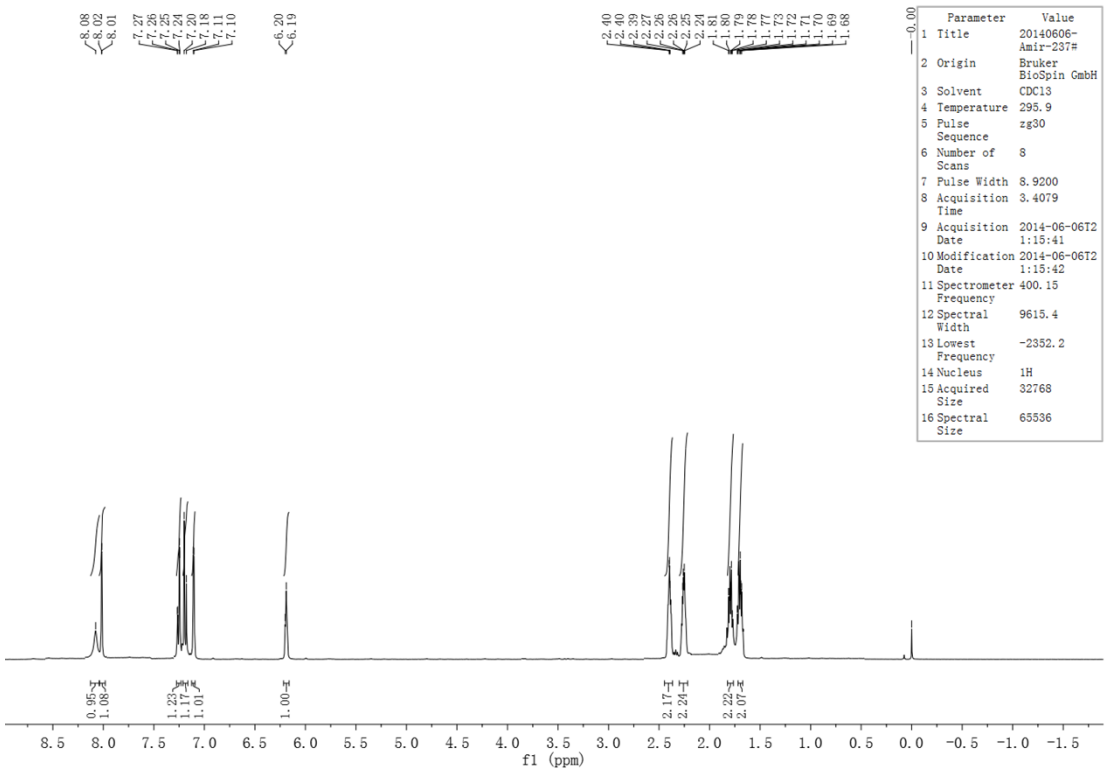


	Parameter	Value
1	Title	20140606-Amir-241#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	295.9
5	Pulse Sequence	zg30
6	Number of Scans	8
7	Pulse Width	8.9200
8	Acquisition Time	3.4079
9	Acquisition Date	2014-06-06T21:19:04
10	Modification Date	2014-06-06T21:19:06
11	Spectrometer Frequency	400.15
12	Spectral Width	9615.4
13	Lowest Frequency	-2352.2
14	Nucleus	1H
15	Acquired Size	32768
16	Spectral Size	65536

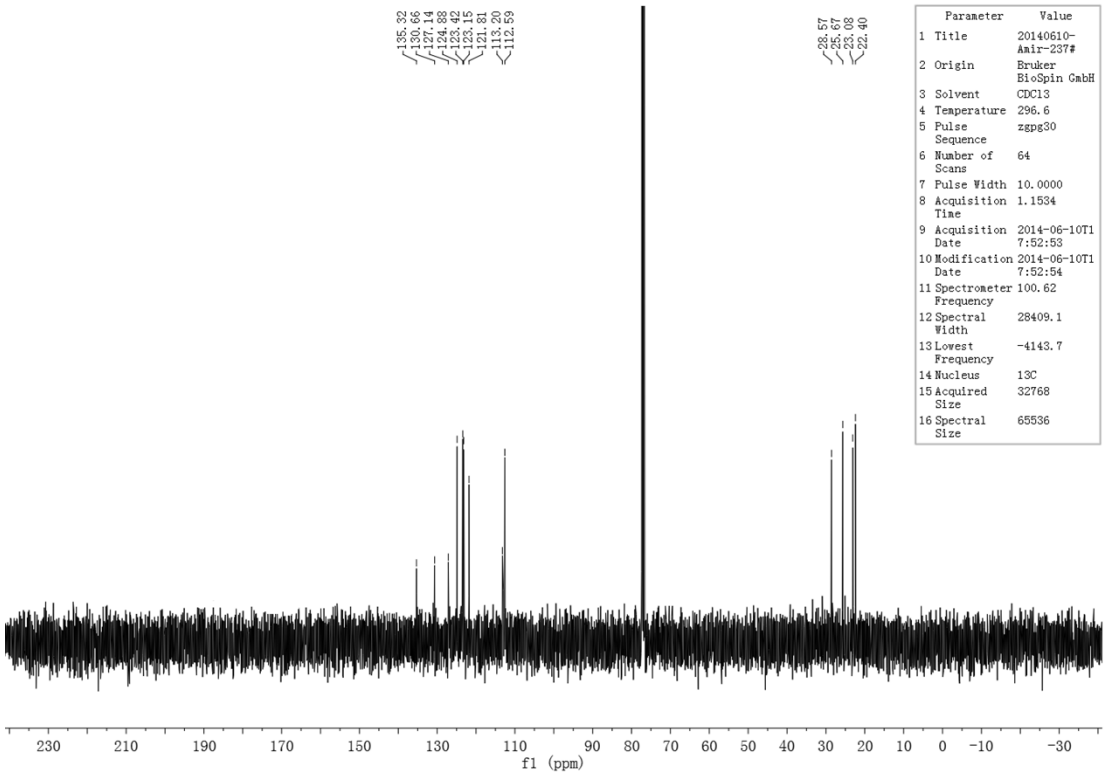


	Parameter	Value
1	Title	20140610-Amir-241#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	296.6
5	Pulse Sequence	zgpg30
6	Number of Scans	64
7	Pulse Width	10.0000
8	Acquisition Time	1.1534
9	Acquisition Date	2014-06-10T17:45:45
10	Modification Date	2014-06-10T17:45:46
11	Spectrometer Frequency	100.62
12	Spectral Width	28409.1
13	Lowest Frequency	-4143.7
14	Nucleus	13C
15	Acquired Size	32768
16	Spectral Size	65536

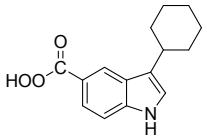


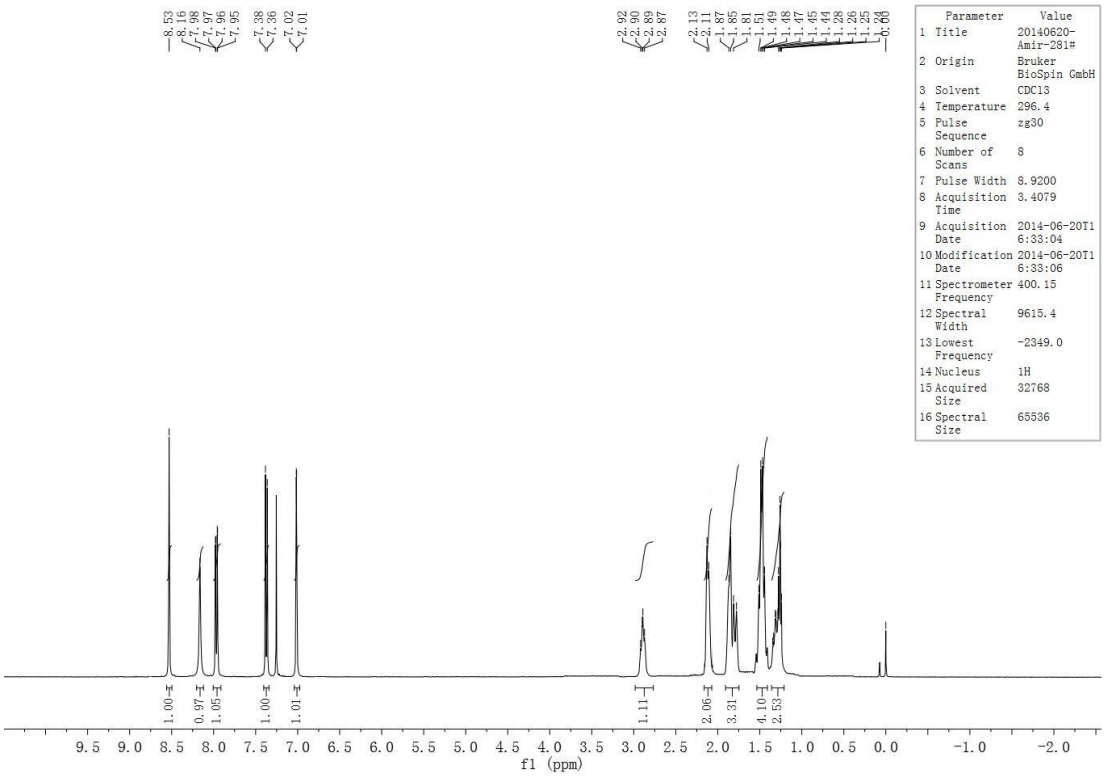


	Parameter	Value
1	Title	20140606-Amir-237#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	295.9
5	Pulse Sequence	zg30
6	Number of Scans	8
7	Pulse Width	8.9200
8	Acquisition Time	3.4079
9	Acquisition Date	2014-06-06T21:15:41
10	Modification Date	2014-06-06T21:15:42
11	Spectrometer Frequency	400.15
12	Spectral Width	9615.4
13	Lowest Frequency	-2352.2
14	Nucleus	1H
15	Acquired Size	32768
16	Spectral Size	65536

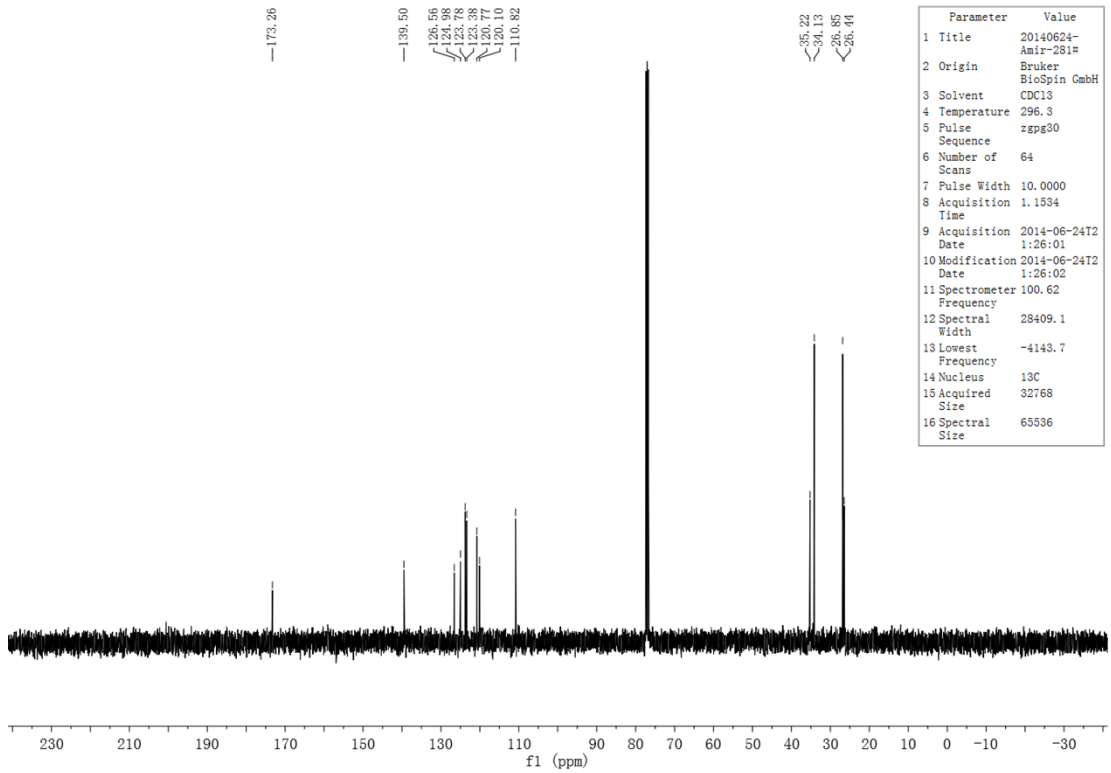


	Parameter	Value
1	Title	20140610-Amir-237#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	296.6
5	Pulse Sequence	zgpg30
6	Number of Scans	64
7	Pulse Width	10.0000
8	Acquisition Time	1.1534
9	Acquisition Date	2014-06-10T17:52:53
10	Modification Date	2014-06-10T17:52:54
11	Spectrometer Frequency	100.62
12	Spectral Width	28409.1
13	Lowest Frequency	-4143.7
14	Nucleus	13C
15	Acquired Size	32768
16	Spectral Size	65536



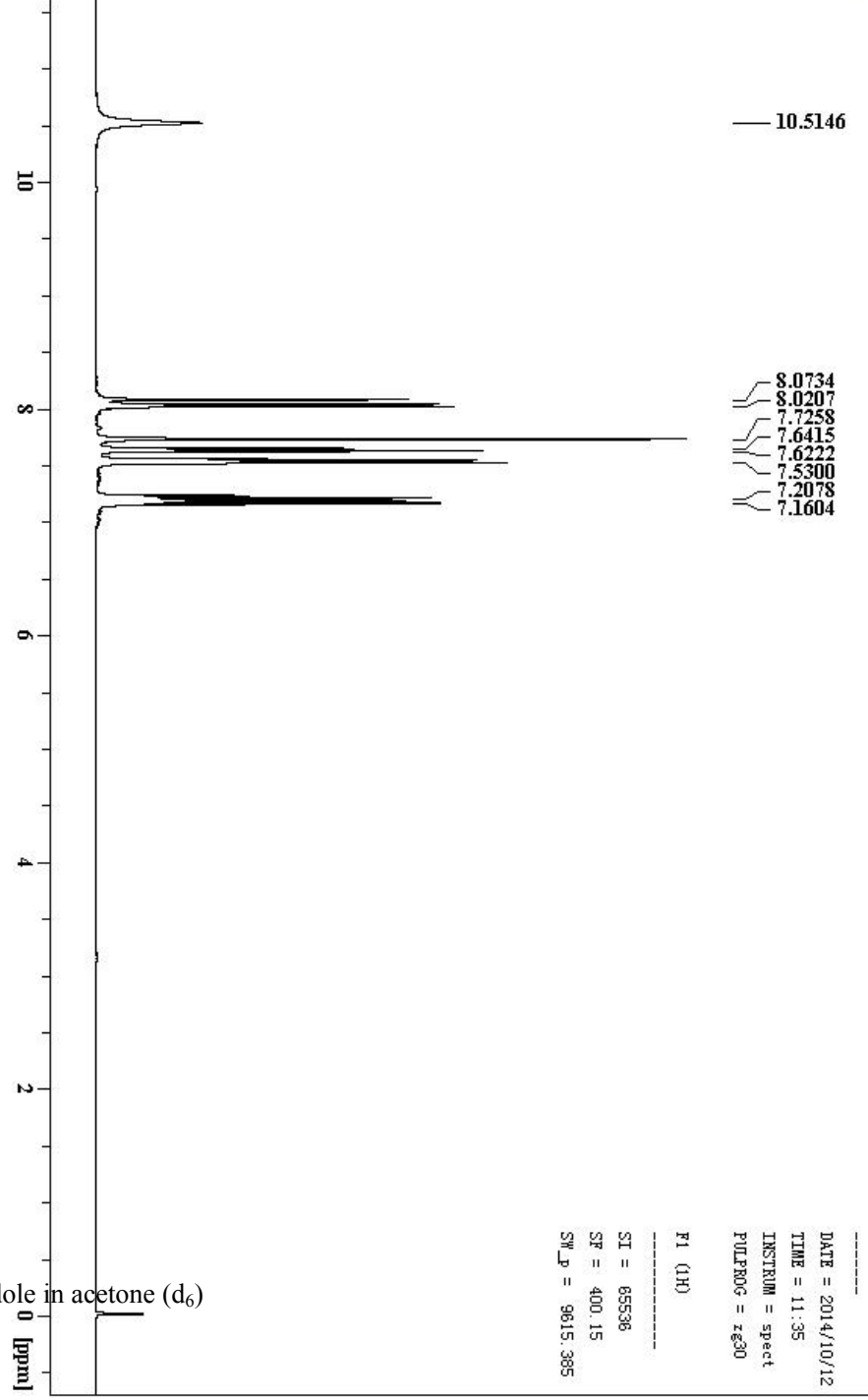


	Parameter	Value
1	Title	20140620-Amir-281#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	296.4
5	Pulse Sequence	zg30
6	Number of Scans	8
7	Pulse Width	8.9200
8	Acquisition Time	3.4079
9	Acquisition Date	2014-06-20T16:33:04
10	Modification Date	2014-06-20T16:33:06
11	Spectrometer Frequency	400.15
12	Spectral Width	9615.4
13	Lowest Frequency	-2349.0
14	Nucleus	1H
15	Acquired Size	32768
16	Spectral Size	65536

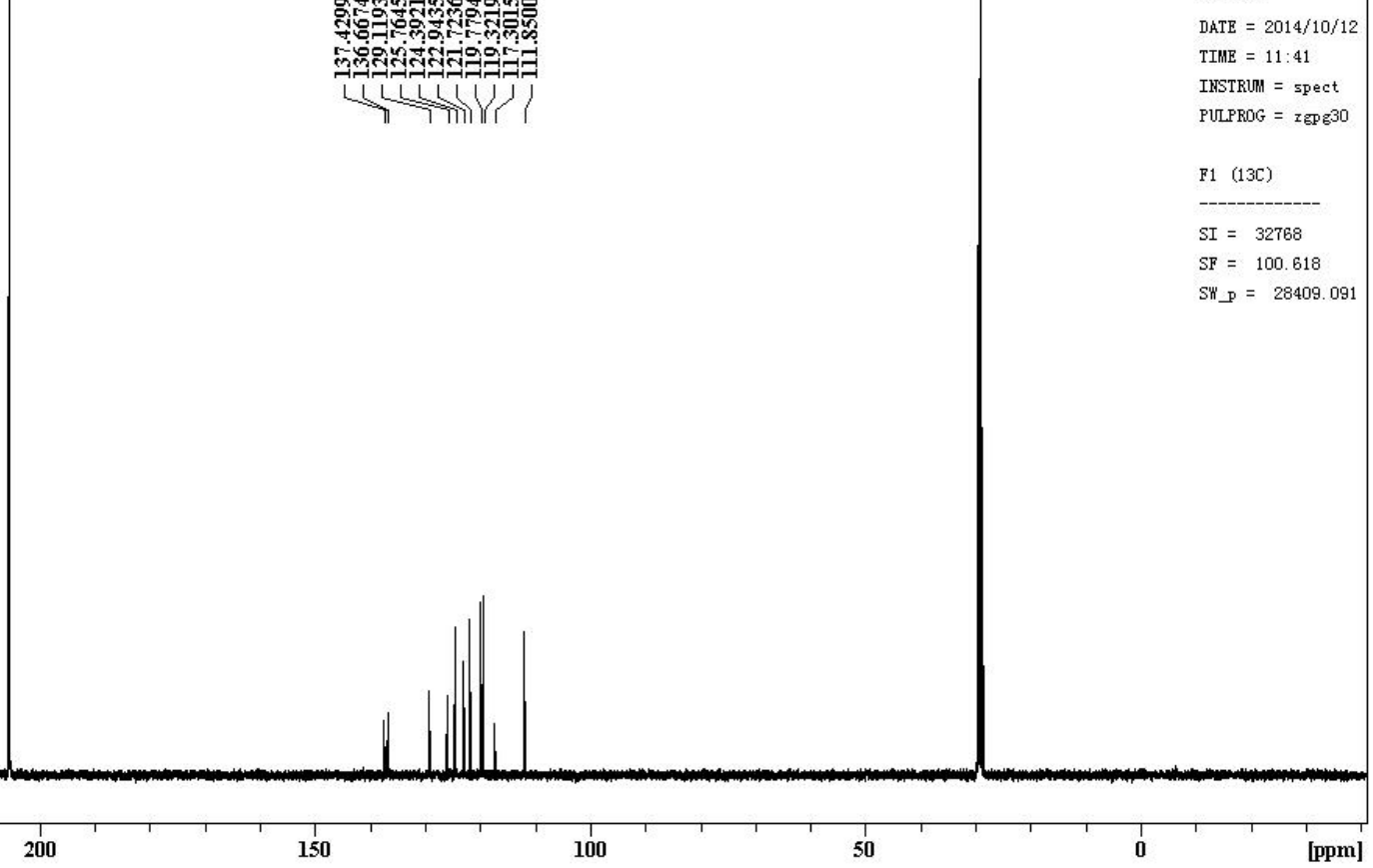


	Parameter	Value
1	Title	20140624-Amir-281#
2	Origin	Bruker BioSpin GmbH
3	Solvent	CDCl3
4	Temperature	296.3
5	Pulse Sequence	zgpg30
6	Number of Scans	64
7	Pulse Width	10.0000
8	Acquisition Time	1.1534
9	Acquisition Date	2014-06-24T21:26:01
10	Modification Date	2014-06-24T21:26:02
11	Spectrometer Frequency	100.62
12	Spectral Width	28409.1
13	Lowest Frequency	-4143.7
14	Nucleus	13C
15	Acquired Size	32768
16	Spectral Size	65536

The [1]HNMR chart of the oligome



The [13]CNMR chart of the oligomer of indole in acetone (d_6)


137.4299
136.6674
129.1193
125.7645
124.3921
122.9435
121.7236
119.7794
119.3219
117.3015
111.8500
DATE = 2014/10/12
TIME = 11:41
INSTRUM = spect
PULPROG = zgpg30
F1 (13C)
SI = 32768
SF = 100.618
SW_p = 28409.091
200
150
100
50
0
[ppm]

10. References

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