

Supporting Information

Traceless Directing Group for Stereospecific Nickel-Catalyzed Alkyl-Alkyl Cross-Coupling Reactions

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I. General Procedures

All reactions were carried out under an atmosphere of N₂, or Ar when noted. All glassware was oven- or flame-dried prior to use. Tetrahydrofuran (THF), diethyl ether (Et₂O), dichloromethane (CH₂Cl₂), and toluene (PhMe) were degassed with Ar and then passed through two 4 x 36 inch columns of anhydrous neutral A-2 alumina (8 x 14 mesh; LaRoche Chemicals; activated under a flow of argon at 350 °C for 12 h) to remove H₂O. All other solvents utilized were purchased “anhydrous” commercially, or purified as described. Molarities of Grignard reagents were determined by titration with iodine.¹ ¹H NMR spectra were recorded on Bruker DRX-400 (400 MHz ¹H, 100 MHz ¹³C, 376.5 MHz ¹⁹F), GN-500 (500 MHz ¹H, 125.7 MHz ¹³C), or CRYO-500 (500 MHz ¹H, 125.7 MHz ¹³C) spectrometers. Proton chemical shifts are reported in ppm (δ) relative to internal tetramethylsilane (TMS, δ 0.00). Data are reported as follows: chemical shift (multiplicity [singlet (s), broad singlet (br s), doublet (d), doublet of doublets (dd), triplet (t), doublet of triplets (dt), doublet of doublet of triplets (ddt), triplet of triplets (tt), quartet (q), multiplet (m)], coupling constants [Hz], integration). Carbon chemical shifts are reported in ppm (δ) relative to TMS with the respective solvent resonance as the internal standard (CDCl₃, δ 77.16 ppm). Unless otherwise indicated, NMR data were collected at 25 °C. Infrared spectra were obtained on a Mattson Instruments *Galaxy 5000* spectrometer. Analytical thin-layer chromatography (TLC) was performed using Silica Gel 60 F₂₅₄ precoated plates (0.25 mm thickness). Visualization was accomplished by irradiation with a UV lamp and/or staining with KMnO₄, ceric ammonium molybdate (CAM), or *p*-anisaldehyde (PAA) solutions. Flash chromatography was performed using Silica Gel 60 (170–400 mesh) from Fisher Scientific. Melting points (m.p.) were obtained using a Mel-Temp melting point apparatus and are uncorrected. Optical rotations were measured with a Jasco P-1010 digital polarimeter. SFC

determinations of enantiopurity were performed on a Berger Analytical instrument using a Daicel™ chiralpak® column (OD-H, OJ-H, or AD-H; 110 bar, 50 °C). GC determinations of enantiopurity were performed on an Agilent Technologies instrument using a Cyclodex-B column. High resolution mass spectrometry was performed by the University of California, Irvine Mass Spectrometry Center.

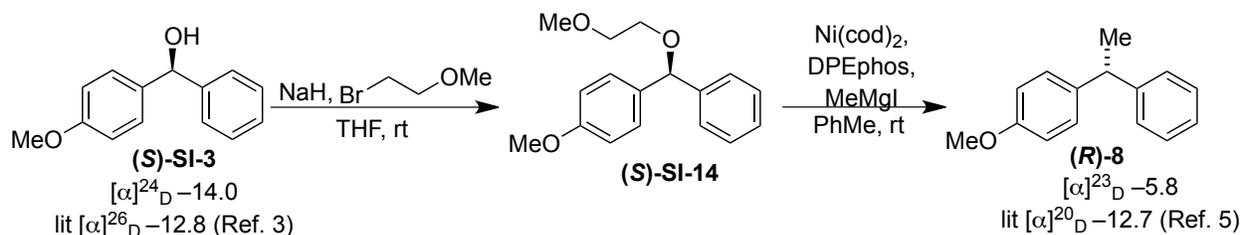
Grignard reagents were freshly prepared from the halide precursor. *N,N*-((1*S*,2*S*)-cyclohexane-1,2-diyl)bis(trifluoromethanesulfonamide) was prepared according to the procedure described by Kuppens et al.² Ti(IV)isopropoxide was freshly distilled prior to use. Ni(cod)₂ was purchased from Strem, stored in a glovebox freezer (-20 °C) under an atmosphere of N₂, and used as received. 1,1'-Bis(diphenylphosphino)ferrocene (dppf) and (Oxydi-2,1-phenylene)bis(diphenylphosphine) (DPEphos) were purchased from Strem, stored in a glovebox, and used as received. All other chemicals were purchased commercially and used as received.

II. Preparation of methylmagnesium iodide

Under an argon atmosphere, dry Et₂O (10 mL) was added to magnesium turnings (1.1 g, 45 mmol) in a 3-neck flask equipped with a reflux condenser and Schlenk filtration apparatus. Freshly distilled iodomethane (1.9 mL, 31 mmol) was then added slowly (over 30 minutes), so as to maintain a gentle reflux. The mixture was stirred for 2 hours at room temperature then passed through a fritted Schlenk filter into a Schlenk flask under an argon atmosphere. The Schlenk flask was sealed and removed from the rest of the apparatus.

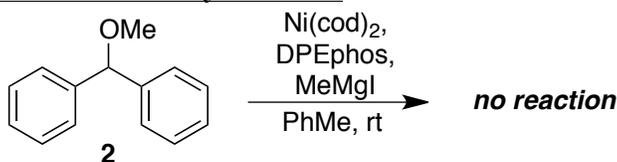
The resulting Grignard reagent was typically between 2.5 and 3.0 M as titrated using Knochel's method,¹ and could be stored (sealed, under argon) for at least 4 weeks without detrimental effects. *For satisfactory yields, the Grignard reagent must be prepared from the alkyl iodide in diethyl ether at a concentration of at least 2.0 M.*

III. Demonstration of cross-coupling stereochemistry



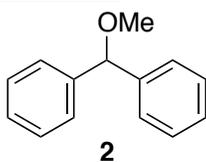
Enantioenriched alcohol **(S)-SI-3** was prepared by asymmetric arylation using methyl (*S*)-(-)-1-tritylaziridine-2-carboxylate (*vide infra*) and the stereochemistry was verified by comparison of the optical rotation to the literature value.^{3,4} Conversion to ether **(S)-SI-14**, followed by stereospecific cross-coupling produced **(R)-8**, the stereochemistry of which was determined by comparison of the optical rotation to the literature value.^{5a} This product corresponds to net inversion in the cross-coupling reaction.

IV. Demonstration of unreactive benzylic ethers

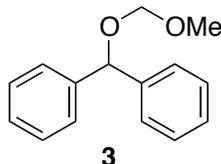


The simple benzylic ether **2** above is unreactive under our standard coupling conditions (no products detected by ^1H NMR, with less than 5% conversion based on internal standard, PhSiMe_3).⁶

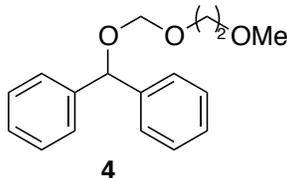
V. Synthesis and characterization of substrates



Diphenylmethyl methyl ether (2). To a suspension of NaH (0.144 g, 6.00 mmol) in DMF (2 mL) was added a solution of diphenylmethanol (0.368 g, 2.00 mmol) in DMF (2 mL). The mixture was stirred for 1 h before addition of iodomethane (0.250 mL, 4.00 mmol). The reaction was allowed to stir overnight. Excess NaH was quenched with saturated aqueous ammonium chloride (5 mL), and the product was extracted with EtOAc (3 x 10 mL). The combined organics were washed with brine (5 mL), dried over MgSO_4 and concentrated in vacuo. Purification using flash chromatography (10% EtOAc/hexane) afforded **2** as a clear, colorless oil (0.134 g, 34%). Analytical data is consistent with literature values.⁷

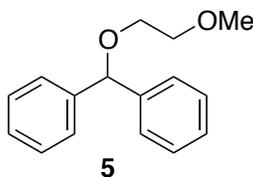


Diphenylmethyl methoxymethyl ether (3). To a suspension of NaH (0.036 g, 1.5 mmol) in DMF (0.5 mL) was added a solution of diphenylmethanol (0.092 g, 0.50 mmol) in DMF (1 mL). The mixture was stirred for 1 h before addition of methyl chloromethyl ether (0.08 mL, 1.0 mmol). The reaction was allowed to stir overnight. Excess NaH was quenched with saturated aqueous ammonium chloride (2 mL), and the product was extracted with EtOAc (3 x 5 mL). The combined organics were washed with brine (2 mL), dried over MgSO_4 and concentrated in vacuo. Purification using flash chromatography (10% EtOAc/hexane) afforded **3** as a clear, colorless oil (0.096 g, 84%). Analytical data is consistent with literature values.⁸

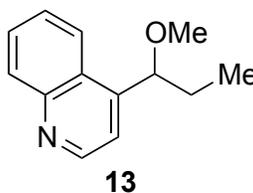


Diphenylmethyl methoxyethoxymethyl ether (4). To a suspension of NaH (0.036 g, 1.5 mmol) in DMF (0.5 mL) was added a solution of diphenylmethanol (0.092 g, 0.50 mmol) in DMF (1 mL). The mixture was stirred for 1 h before addition of 2-methoxyethoxymethyl chloride (0.125 mL, 1.00 mmol). The reaction was allowed to stir overnight. Excess NaH was quenched with saturated aqueous ammonium chloride (5 mL), and the product was extracted with EtOAc (3 x 5

mL). The combined organics were washed with brine (5 mL), dried over MgSO₄ and concentrated in vacuo. Purification using flash chromatography (10% EtOAc/hexane) afforded **4** as a clear, colorless oil (0.065 g, 48%): **TLC** R_f = 0.17 (9:1 hexane/Et₂O); **¹H NMR** (500 MHz, CDCl₃) δ 7.36 (d, J = 7.7 Hz, 4H), 7.31 (t, J = 7.6 Hz, 4H), 7.24 (d, J = 7.6 Hz, 2H), 5.78 (s, 1H), 4.79 (s, 2H), 3.73 (t, J = 3.9 Hz, 2H), 3.50 (t, J = 4.4 Hz, 2H), 3.35 (s, 3H); **¹³C NMR** (125 MHz, CDCl₃) δ 141.9, 128.5, 127.6, 127.3, 93.3, 79.1, 71.8, 67.2, 59.1. **IR** (thin film) 3064, 3031, 2891, 1495, 1105 cm⁻¹. **HRMS** (TOF MS ES+) m/z calcd for C₁₇H₂₀O₃ (M + Na)⁺ 295.1310, found 295.1302;



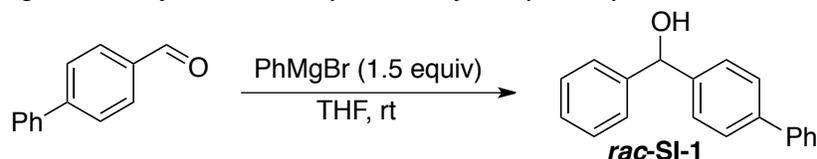
Diphenylmethyl (2-methoxyethyl) ether (5). To a suspension of NaH (0.144 g, 6.00 mmol) in DMF (2 mL) was added a solution of diphenylmethanol (0.368 g, 2.00 mmol) in DMF (2 mL). The mixture was stirred for 1 h before addition of 2-bromoethyl methyl ether (0.186 mL, 2.0 mmol). After allowing the reaction to stir for 1 h, another equivalent of 2-bromoethyl methyl ether was added. The reaction was allowed to stir for 2 h. Excess NaH was quenched with saturated aqueous ammonium chloride (5 mL), and the product was extracted with EtOAc (3 x 10 mL). The combined organics were washed with brine (5 mL), dried over MgSO₄ and concentrated in vacuo. Purification using flash chromatography (10% EtOAc/hexane) afforded **5** as a clear, colorless oil (0.189 g, 39%): **TLC** R_f = 0.06 (9:1 hexane/Et₂O); **¹H NMR** (500 MHz, CDCl₃) δ 7.36 (d, J = 7.7 Hz, 4H), 7.29 (t, J = 7.3 Hz, 4H), 7.22 (d, J = 7.2 Hz, 2H), 5.40 (s, 1H), 3.60 (br s, 4H), 3.37 (s, 3H); **¹³C NMR** (125 MHz, CDCl₃) δ 142.3, 128.4, 127.5, 127.1, 84.1, 72.2, 68.4, 59.2. **HRMS** (TOF MS ES+) m/z calcd for C₁₆H₁₈O₂ (M + Na)⁺ 265.1205, found 265.1203; **IR** (thin film) 3062, 2875, 1493, 1452, 1095 cm⁻¹.



4-(1-methoxypropyl)quinoline (13). To a suspension of NaH (0.042 g, 1.76 mmol) in THF (6 mL) was added a solution of *rac*-SI-8 (0.300 g, 1.60 mmol) in THF (3 mL). The mixture was stirred for 1 h before addition of iodomethane (0.120 mL, 1.92 mmol). The reaction was allowed to stir overnight. Excess NaH was quenched with saturated aqueous ammonium chloride (5 mL), and the product was extracted with CH₂Cl₂ (3 x 10 mL). The combined organics were washed with brine (5 mL), dried over MgSO₄ and concentrated in vacuo. Purification using flash chromatography (15% EtOAc/hexane) afforded the title compound as a pale yellow oil (0.128 g, 40%): **TLC** R_f = 0.3 (30% EtOAc in hexanes); **¹H NMR** (400 MHz, CDCl₃) δ 8.92 (d, J = 4.0 Hz, 1H), 8.16 (d, J = 9.2 Hz, 1H), 8.11 (d, J = 8.4 Hz, 1H), 7.71 (t, J = 7.2 Hz, 1H), 7.55 (t, J = 7.6 Hz, 1H), 7.45 (d, J = 4.4 Hz, 1H), 4.81 (t, J = 6.2 Hz, 1H), 3.31 (s, 3H), 1.86–1.95 (m, 2H), 0.98 (ap t, J = 7.4 Hz, 3H); **¹³C NMR** (100 MHz, CDCl₃) δ 150.3, 148.6, 147.9, 130.5, 129.1, 126.51, 126.46, 123.3, 118.5, 81.9, 57.4, 30.3, 10.4; **IR** (thin film) 2968, 2931, 2877, 1591,

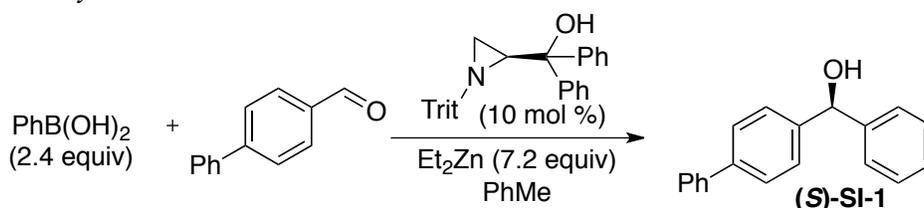
1508, 1107 cm^{-1} ; **HRMS** (TOF MS ES+) m/z calcd for $\text{C}_{13}\text{H}_{15}\text{NO}$ ($\text{M} + \text{H}$)⁺ 202.1232, found 202.1224.

A. Representative procedure for racemic synthesis of diarylmethyl alcohols.



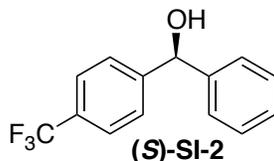
To a solution of biphenyl-4-carboxaldehyde (1.04 g, 5.68 mmol), in THF (10 mL) was added phenylmagnesium bromide (12 mL, 8.5 mmol, 0.71 M in THF). After stirring at room temperature for 4 hours, saturated ammonium chloride (10 mL) was added and the reaction was extracted with EtOAc (3 x 5 mL). The combined organics were washed with brine (3 x 5 mL), dried over MgSO_4 , and concentrated in vacuo to afford *rac*-SI-1 as a white solid (1.23 g, 55%). Analytical data is consistent with literature values (*vide infra*).⁹

B. Representative procedure for enantioselective synthesis of diarylmethyl alcohols by asymmetric arylation.



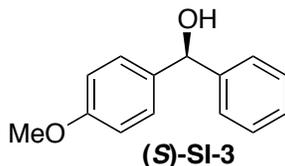
Enantioenriched alcohols were prepared according to a modified procedure by Braga and co-workers.¹⁰

(S)-(4-Biphenyl)phenylmethanol. To a solution of phenylboronic acid (0.585 g, 4.80 mmol) in toluene (10 mL) was added diethylzinc (14 mL, 14 mmol, 1.0 M in toluene), and the solution was allowed to stir at 60 °C for 12 h. Upon cooling to room temperature, (S)-(1-tritylaziridin-2-yl)diphenylmethanol (0.094 g, 0.20 mmol) was added as a solution in toluene (5 mL) and the reaction mixture was allowed to stir for 10 minutes before the addition of a solution of biphenyl-4-carboxaldehyde (0.366 g, 2.00 mmol) in toluene (5 mL). After stirring 12 h at room temperature, 1N hydrochloric acid (10 mL) was added and the product was extracted with EtOAc (3 x 10 mL). The combined organics were washed with brine (10 mL), dried over MgSO_4 , and concentrated in vacuo. The product was purified by flash chromatography (10% EtOAc/benzene) to afford the title compound as a white solid (0.418 g, 80%). The product was then recrystallized from hexanes to yield higher enantiopurity (92% ee). Analytical data is consistent with literature values:⁹ **TLC** R_f = 0.5 (7:1 benzene:EtOAc); **¹H NMR** (400 MHz, CDCl_3) δ 7.54 (t, J = 6.9 Hz, 4H), 7.40 (t, J = 8.1 Hz, 6H), 7.32 (q, J = 7.6 Hz, 3H), 7.26 (t, J = 7.2 Hz, 1 H), 5.82 (s, 1H), 2.42 (s, 1H); **¹³C NMR** (125 MHz, CDCl_3) δ 143.8, 142.9, 140.9, 140.6, 128.9, 128.7, 127.8, 127.41, 127.35, 127.2, 127.1, 126.7, 76.1; $[\alpha]_D^{25} +18.3$ (c 0.95, CHCl_3), **SFC** analysis (AD-H, 15% IPA, 3 mL/min, 215 nm) indicated 92% ee: t_R (major) = 17.7 minutes, t_R (minor) = 19.2 minutes.



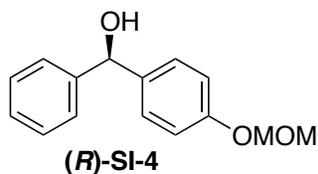
(S)-(4-Trifluoromethylphenyl)phenylmethanol. Using the representative procedure A outlined above the following amounts of reagents were used: 4-(trifluoromethyl)benzaldehyde (0.522 g, 3.00 mmol), phenylmagnesium bromide (8.30 mL, 4.50 mmol, 0.540 M in THF), THF (10 mL). The crude product was used in the next reaction without further purification.

Using the representative procedure B outlined above the following amounts of reagents were used: 4-(Trifluormethyl)benzaldehyde (0.348 g, 2.00 mmol), phenylboronic acid (0.585 g, 4.80 mmol), diethylzinc (14 mL, 14 mmol, 1.0 M in toluene), (S)-(1-tritylaziridin-2-yl)diphenylmethanol (0.094 g, 0.20 mmol). The crude reaction mixture was purified by flash chromatography (10% EtOAc/benzene) to afford the title compound as a white solid (0.456 g, 90%). The product was then recrystallized from hexanes to yield higher enantiopurity (>99% ee). Analytical data is consistent with literature values^{4a,11}: **TLC** R_f = 0.1 (9:1 hexane/EtOAc); **¹H NMR** (500 MHz, CDCl₃) δ 7.59 (d, J = 7.8 Hz, 2H), 7.51 (d, J = 7.8 Hz, 2H), 7.35 (d, J = 3.9 Hz, 4H), 7.30 (m, 1H), 5.89 (s, 1H), 2.30 (s, 1H); **¹³C NMR** (125 MHz, CDCl₃) δ 147.6, 143.3, 129.8 (q, J = 31.9 Hz, 1C), 128.9, 128.3, 126.80, 126.77, 125.6 (q, J = 3.5 Hz, 1C), 124.3 (q, J = 271.9 Hz, 1C), 75.9; $[\alpha]_D^{23}$ +34.2 (c 1.05, CHCl₃); literature: $[\alpha]_D^{25}$ +34.3 (c 0.25, CHCl₃, 92% ee) **SFC** analysis (OJ-H, 5% IPA, 3 mL/min, 215 nm) indicated >99% ee: t_R (minor) = 5.0 minutes, t_R (major) = 6.2 minutes.



(S)-(4-Methoxyphenyl)phenylmethanol. Using the representative procedure A outlined above the following amounts of reagents were used: *p*-anisaldehyde (0.408 g, 3.00 mmol), phenylmagnesium bromide (8.3 mL, 4.5 mmol, 0.54 M in THF), THF (10 mL). The crude product was used in the next reaction without further purification.

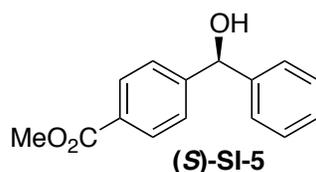
Using the representative procedure B outlined above the following amounts of reagents were used: *p*-Anisaldehyde (0.272 g, 2.00 mmol), phenylboronic acid (0.585 g, 4.80 mmol), diethylzinc (14 mL, 14 mmol, 1.0 M in toluene), (S)-(1-tritylaziridin-2-yl)diphenylmethanol (0.094g, 0.20 mmol). The crude reaction mixture was purified by flash chromatography (10% EtOAc/benzene) to afford the title compound as a colorless oil (0.424 g, 99%). Analytical data is consistent with literature values:⁴ **TLC** R_f = 0.1 (9:1 hexane/EtOAc); **¹H NMR** (500 MHz, CDCl₃) δ 7.9 (q, J = 7.4 Hz, 4H), 7.26 (d, J = 8.8 Hz, 3H), 6.86 (d, J = 8.7 Hz, 2H), 5.80 (s, 1H), 3.79 (s, 3H), 2.18 (s, 1H); **¹³C NMR** (125 MHz, CDCl₃) δ 159.3, 144.2, 136.4, 128.7, 128.1, 127.6, 126.6, 114.1, 76.0, 55.5; $[\alpha]_D^{24}$ -14.0 (c 0.95, CHCl₃); literature:³ $[\alpha]_D^{26}$ -12.8 (c 0.81, CHCl₃, 92% ee) **SFC** analysis (OJ-H, 15% IPA, 2.5 mL/min, 215 nm) indicated 86% ee: t_R (major) = 6.6 minutes, t_R (minor) = 7.1 minutes.



(R)-(4-Methoxymethylphenyl)phenylmethanol. Racemic synthesis: *N,N*-Diisopropylethylamine was added to a round bottom flask containing 4-hydroxybenzaldehyde (3.00 g, 24.6 mmol) in DCM (10 mL) and the mixture was cooled to 0° C. The mixture was stirred for 10 min. before methyl chloromethyl ether (1.9 mL, 25.0 mmol) was added by syringe over 1 h. The reaction was allowed to stir for 30 min. at 0° C, then 3 h at room temperature. The reaction was quenched with saturated aqueous NaCl and the product was extracted with DCM (3 x 20 mL). The combined organics were washed with brine (20 mL), dried over MgSO₄ and concentrated in vacuo. To a crude solution of MOM protected 4-hydroxy-benzaldehyde (3.71 g, 22.3 mmol), in THF (50 mL) was added phenylmagnesium bromide (78 mL, 50 mmol, 0.64 M in THF). After stirring at room temperature for 4 hours, saturated ammonium chloride (50 mL) was added and the reaction was extracted with EtOAc (3 x 10 mL). The combined organics were washed with brine (3 x 10 mL), dried over MgSO₄, and concentrated in vacuo. Purification using flash chromatography (25% EtOAc/hexane) afforded *rac*-SI-4 as a clear, colorless oil (3.80 g, 70%).

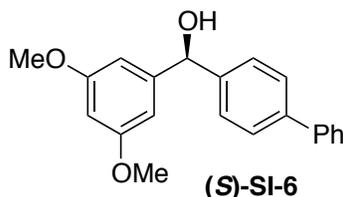
Using the representative procedure B outlined above the following amounts of reagents were used: benzaldehyde (0.212 g, 2.0 mmol), 4-(methoxymethoxy)phenylboronic acid (0.874 g, 4.8 mmol), diethylzinc (1.74 mL, 14.4 mmol, 1.0 M in toluene), (*S*)-(1-tritylaziridin-2-yl)diphenylmethanol (0.094 g, 0.2 mmol). The crude reaction mixture was purified by flash chromatography (5% EtOAc/benzene) to afford the title compound as a clear oil (0.461 g, 94%).

TLC R_f = 0.3 (3:7 EtOAc/hexane); **¹H NMR** (400 MHz, CDCl₃) δ 7.38 (d, J = 5.8 Hz, 2H), 7.34 (t, J = 7.8 Hz, 2H), 7.29 (d, J = 8.7 Hz, 2H), 7.26 (s, 1H), 7.00 (d, J = 8.7 Hz, 2H), 5.81 (s, 1H), 5.15 (s, 2H), 3.47 (s, 3H), 2.20 (s, 1H); **¹³C NMR** (125 MHz, CDCl₃) δ 156.9, 144.1, 137.6, 128.7, 128.1, 127.7, 126.6, 116.4, 94.6, 76.0, 56.2; **IR** (thin film) 3417, 2954, 1587, 1510, 1007; **HRMS** (TOF MS ES⁺) m/z calcd for C₁₅H₁₆O₃ (M + Na)⁺ 267.0997, found 267.0991; **[α]_D²³** +8.9 (c 0.6, CHCl₃); **SFC** analysis (AD-H, 15% MeOH, 2.5 mL/min, 215 nm) indicated 92%: t_R (major) = 5.9 minutes, t_R (minor) = 6.9 minutes.



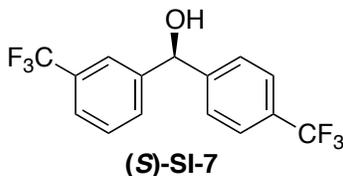
(S)-(4-Methylesterphenyl)phenylmethanol. Racemic synthesis: To a solution of 4-carboxybenzaldehyde (0.751 g, 10.0 mmol), in THF (10 mL) was added phenylmagnesium bromide (23 mL, 15 mmol, 0.65 M in THF). After stirring at room temperature for 4 hours, saturated ammonium chloride (10 mL) was added, followed by the addition of 1M HCl until aqueous layer is pH 3. The reaction was extracted with EtOAc (3 x 10 mL), and the combined organics were washed with brine (5 x 10 mL), dried over MgSO₄, and concentrated in vacuo. The crude reaction mixture was dissolved in acetone. Potassium carbonate (2.76 g, 20.0 mmol) was added, followed by iodomethane (1.56 g, 11.0 mmol), and the reaction mixture was heated to reflux and stirred for 2 h. The volatiles were removed, water was added, and the product was extracted with Et₂O (3 x 10 mL). The combined organics were washed with brine (3 x 10 mL), dried over MgSO₄, and concentrated in vacuo.

Using the representative procedure B outlined above the following amounts of reagents were used: Methyl 4-formylbenzoate (0.328 g, 2.00 mmol), phenylboronic acid (0.585 g, 4.80 mmol), diethylzinc (14 mL, 14 mmol, 1.0 M in toluene), (*S*)-(1-tritylaziridin-2-yl)diphenylmethanol (0.094g, 0.20 mmol). The crude reaction mixture was purified by flash chromatography (10% EtOAc/benzene) to afford the title compound as a white solid (0.383 g, 79%). **TLC** R_f = 0.4 (9:1 benzene:EtOAc); **m.p.** 56–59 °C; **$^1\text{H NMR}$** (500 MHz, CDCl_3) δ 7.99 (d, J = 8.2 Hz, 2H), 7.46 (d, J = 8.2 Hz, 2H), 7.34–7.33 (m, 4H), 7.29–7.26 (m, 1H), 5.86 (s, 1H), 3.89 (s, 3H), 2.48 (s, 1H); **$^{13}\text{C NMR}$** (125 MHz, CDCl_3) δ 167.1, 148.8, 143.4, 129.9, 129.3, 128.8, 128.1, 126.8, 126.4, 76.0, 52.2; **IR** (thin film) 3435, 1703, 1612, 1436, 1282 cm^{-1} ; **HRMS** (TOF MS ES+) m/z calcd for $\text{C}_{15}\text{H}_{14}\text{O}_3$ ($\text{M} + \text{Na}$) $^+$ 265.0841, found 265.0850; **$[\alpha]_D^{23}$** +32.0 (c 1.00, CHCl_3); **SFC** analysis (AD-H, 20.0% MeOH, 3.0 mL/min, 215 nm) indicated 92% ee: t_R (minor) = 7.0 minutes, t_R (major) = 7.6 minutes.



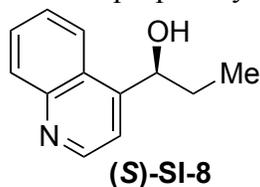
(S)-(3,5-Dimethoxyphenyl)biphenylmethanol. Using the representative procedure A outlined above the following amounts of reagents were used: 3,5-dimethoxybenzaldehyde (0.750 g, 4.54 mmol), biphenylmagnesium bromide (17.7 mL, 11.4 mmol, 0.64 M in THF), THF (15 mL). The crude product was used in the next reaction without further purification.

Using the representative procedure B outlined above the following amounts of reagents were used: 3,5-Dimethoxybenzaldehyde (0.332 g, 2.00 mmol), 4-biphenylboronic acid (0.950 g, 4.80 mmol), diethylzinc (14 mL, 14 mmol, 1.0 M in toluene), (*S*)-(1-tritylaziridin-2-yl)diphenylmethanol (0.094g, 0.20 mmol). The crude reaction mixture was purified by flash chromatography (20% EtOAc/hexane) to afford the title compound as a white solid (0.300 g, 47%); **m.p.** 125–127 °C; **$^1\text{H NMR}$** (400 MHz, CDCl_3) δ 7.57 (dd, J = 3.7, 7.3 Hz, 4H), 7.46 (d, J = 8.7 Hz, 2H), 7.42 (d, J = 7.6 Hz, 2H), 7.34 (t, J = 7.2 Hz, 1H), 6.59 (d, J = 2.0 Hz, 2H), 6.38 (s, 1H), 5.82 (s, 1H), 3.79 (s, 6H), 2.28 (s, 1H); **$^{13}\text{C NMR}$** (125 MHz, CDCl_3) δ 161.1, 146.4, 142.7, 141.0, 140.8, 129.0, 127.51, 127.49, 127.3, 127.2, 104.7, 99.6, 76.3, 55.6; **IR** (thin film) 3425, 1599, 1462, 1155 cm^{-1} ; **HRMS** (TOF MS ES+) m/z calcd for $\text{C}_{21}\text{H}_{20}\text{O}_3$ ($\text{M} + \text{Na}$) $^+$ 343.1310, found 343.1311; **$[\alpha]_D^{25}$** +9.6 (c 0.75, CHCl_3). **SFC** analysis (OD-H, 20.0% IPA, 2.5 mL/min, 215 nm) indicated 88% ee: t_R (major) = 13.2 minutes, t_R (minor) = 15.4 minutes.



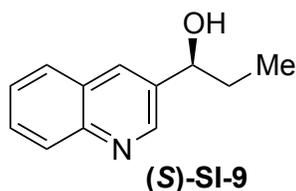
(S)-(3-Trifluoromethylphenyl)-4-trifluoromethylphenylmethanol. Using the representative procedure A outlined above the following amounts of reagents were used: 3-(trifluoromethyl)benzaldehyde (0.100 g, 0.440 mmol), 4-trifluoromethylphenylmagnesium bromide (1.26 mL, 0.88 mmol, 0.70 M in THF), THF (5.0 mL). The crude reaction mixture was used in the next reaction without further purification due to the propensity of the product to oxidize to the ketone.

Using the representative procedure B outlined above the following amounts of reagents were used: 3-(Trifluoromethyl)benzaldehyde (0.348 g, 2.00 mmol), 4-(trifluoromethyl)phenylboronic acid (0.911 g, 4.80 mmol), diethylzinc (14 mL, 14 mmol, 1.0 M in toluene), (*S*)-(1-tritylaziridin-2-yl)diphenylmethanol (0.094g, 0.20 mmol). The crude reaction mixture was used in the next reaction without further purification due to the propensity of the product to oxidize to the ketone.



(S)-1-(quinolin-4-yl)propan-1-ol ((S)-SI-8). Racemic Synthesis: To a cooled ($-30\text{ }^{\circ}\text{C}$) solution of ethylmagnesium bromide (5.9 mL, 10 mmol, 1.7 M in Et_2O) was slowly added 4-quinolinecarboxaldehyde (0.786 g, 5.00 mmol) in THF (3 mL). After the addition was completed the reaction mixture was allowed to warm to room temperature and further stirred for 2 h. Upon consumption of starting material as judged by TLC the reaction mixture was poured on ice and diluted with Et_2O (10 mL). The layers were separated and the aqueous layer was further extracted with CH_2Cl_2 (2 x 30 mL). The combined organics were washed with brine (10 mL), dried over MgSO_4 , and concentrated in vacuo. The product was purified by flash chromatography (20–60% EtOAc /hexanes) to afford the *rac*-SI-8 as a yellow oil (0.802 g, 85%).

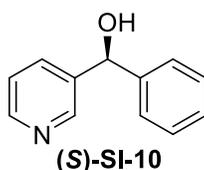
Asymmetric Synthesis: Prepared according to a modified procedure by Lutz et al.¹² To a cooled ($-20\text{ }^{\circ}\text{C}$) solution of titanium (IV) isopropoxide (1.52 mL, 5.00 mmol) and *N,N*-((1*S*,2*S*)-cyclohexane-1,2-diyl)bis(trifluoromethanesulfonamide) (0.152 g, 0.40 mmol) in Et_2O (4 mL) was slowly added a solution of diethylzinc (1.02 mL, 10.0 mmol) in Et_2O (2 mL). The solution was stirred for 30 min and 4-quinolinecarboxaldehyde (0.786 g, 5.00 mmol) was added and the reaction mixture was allowed to stir at $-20\text{ }^{\circ}\text{C}$ for 16 h. The reaction was diluted with Et_2O (5 mL) and quenched MeOH (2 mL) and the reaction mixture was filtered through a Celite plug and concentrated in vacuo. The concentrate was purified by flash chromatography (20–60% EtOAc /hexanes) to afford the title compound as a yellow oil (0.534 g, 57%). Spectral data were consistent with reported values:¹² **TLC** R_f = 0.6 (100% EtOAc); **$^1\text{H NMR}$** (400 MHz, CDCl_3) δ 8.70 (d, J = 4.4 Hz, 1H), 8.05 (d, J = 8.8 Hz, 1H), 7.98 (d, J = 8.4 Hz, 1H), 7.64 (ap t, J = 7.6 Hz, 1H), 7.51 (m, 2H), 5.39 (dd, J = 7.2 Hz, J = 4.4 Hz, 1H), 3.94 (s, 1H), 1.95–2.01 (m, 1H), 1.81–1.88 (m, 1H), 1.03 (t, J = 7.4 Hz, 3H); **$^{13}\text{C NMR}$** (100 MHz, CDCl_3) δ 150.9, 150.2, 148.0, 130.0, 129.1, 126.5, 125.7, 123.2, 117.7, 71.1, 31.4, 10.4; **SFC** analysis (AD-H, 10% IPA, 3.0 mL/min, 212 nm) indicated 72% ee: t_R (major) = 12.2 minutes, t_R (minor) = 14.4 minutes.



(S)-1-(quinolin-3-yl)propan-1-ol ((S)-SI-9). Racemic Synthesis: To a cooled ($-30\text{ }^{\circ}\text{C}$) solution of ethylmagnesium bromide (6.0 mL, 6.0 mmol, 1.0 M in Et_2O) was slowly added 3-quinolinecarboxaldehyde (0.471 g, 3.00 mmol) in THF (2 mL). After the addition was completed the reaction mixture was allowed to warm to room temperature and further stirred for 2 h. Upon consumption of starting material as judged by TLC the reaction mixture was poured on ice and diluted with Et_2O (10 mL). The layers were separated and the aqueous layer was further extracted

with CH₂Cl₂ (2 x 30 mL). The combined organics were washed with brine (10 mL), dried over MgSO₄, and concentrated in vacuo. The product was purified by flash chromatography (20–100% EtOAc/hexanes) to afford **rac-SI-9** as a yellow oil (0.331 g, 59%).

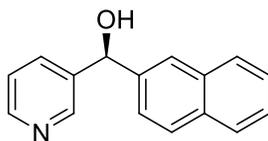
Asymmetric Synthesis: Prepared according to a modified procedure by Lutz et al.¹² To a cooled (–20 °C) solution of titanium (IV) isopropoxide (1.52 mL, 5.00 mmol) and *N,N*-((1*S*,2*S*)-cyclohexane-1,2-diyl)bis(trifluoromethanesulfonamide) (0.152 g, 0.40 mmol) in Et₂O (4 mL) was slowly added a solution of diethylzinc (1.02 mL, 10.0 mmol) in Et₂O (2 mL). The solution was stirred for 30 min and 4-quinolinecarboxaldehyde (0.786 g, 5.00 mmol) was added and the reaction mixture was allowed to stir at –20 °C for 16 h. The reaction was diluted with Et₂O (5 mL) and quenched MeOH (2 mL) and the reaction mixture was filtered through a Celite plug and concentrated in vacuo. The concentrate was purified by flash chromatography (20–60% EtOAc/hexanes) to afford the title compound as a yellow oil (0.534 g, 57%): **TLC** *R_f* = 0.6 (100% EtOAc); **¹H NMR** (400 MHz, CDCl₃) δ 8.65 (d, *J* = 2.0 Hz, 1H), 8.01 (s, 1H), 7.96 (d, *J* = 8.4 Hz, 1H), 7.65 (d, *J* = 8.0 Hz, 1H), 7.56 (dt, *J* = 7.6 Hz, *J* = 1.2 Hz, 1H), 7.43 (ap t, *J* = 7.6 Hz, 1H), 5.33 (br s, 1H), 4.73 (t, *J* = 6.6 Hz, 1H), 1.72–1.88 (m, 2H), 0.89 (t, *J* = 7.2 Hz, 3H); **¹³C NMR** (100 MHz, CDCl₃) δ 149.4, 147.0, 137.9, 132.9, 129.1, 128.4, 127.8, 127.7, 126.6, 73.1, 31.9, 10.0; **IR** (thin film) 3385, 2954, 2845, 1639, 1016 cm⁻¹; **HRMS** (TOF MS ES+) *m/z* calcd for C₁₂H₁₃NO (M + H)⁺ 188.1075, found 188.1073; **[α]_D²⁴** –39.9 (c 1.12, CHCl₃); **SFC** analysis (AD-H, 7% MeOH, 3.0 mL/min, 206 nm) indicated 70% ee: *t_R* (major) = 10.4 minutes, *t_R* (minor) = 11.1 minutes.



(S)-phenyl(pyridin-3-yl)methanol ((S)-SI-10). Using the representative procedure A outlined above the following amounts of reagents were used: 3-pyridinecarboxaldehyde (0.47 mL, 5.0 mmol), phenylmagnesium bromide (18 mL, 10 mmol, 0.56 M in THF), THF (3 mL). The crude product was used in the next reaction without further purification.

Asymmetric Synthesis: To a solution of phenylboronic acid (0.585 g, 4.80 mmol) in toluene (10 mL) was added diethylzinc (14 mL, 14 mmol, 1.0 M in toluene), and the solution was allowed to stir at 60 °C for 12 h. Upon cooling to room temperature, (*S*)-(1-tritylaziridin-2-yl)diphenylmethanol (0.094g, 0.20 mmol) was added as a solution in toluene (5 mL) and the reaction mixture was allowed to stir for 10 minutes before the addition of 3-pyridinecarboxaldehyde (0.188 mL, 2.00 mmol). After stirring for 12 h at room temperature, saturated aqueous NaHCO₃ was added dropwise (5 mL) followed by 1 N NaOH (1 mL) and CH₂Cl₂ (10 mL). The solution was filtered through a Celite plug, rinsed with CH₂Cl₂ (20 mL). The layers were separated and the aqueous layer was further extracted with CH₂Cl₂ (2 x 30 mL). The combined organics were washed with brine (10 mL), dried over MgSO₄, and concentrated in vacuo. The product was purified by flash chromatography (20–50 % EtOAc/benzene) to afford the title compound as a white solid (0.150 g, 40%). The product was then recrystallized from EtOAc/hexanes to yield higher enantiopurity. Spectral data were consistent with reported values:¹³ **TLC** *R_f* = 0.5 (100% EtOAc); **¹H NMR** (400 MHz, CDCl₃) δ 8.36 (s, 1H), 8.21 (d, *J* = 4.8 Hz, 1H), 7.66 (d, *J* = 7.6 Hz, 1H), 7.24–7.34 (m, 5H), 7.15 (dd, *J* = 7.8 Hz, *J* = 5.0 Hz, 1H), 5.75 (s, 1H), 5.56 (s, 1H); **¹³C NMR** (100 MHz, CDCl₃) δ 147.9, 147.8, 143.5, 140.2, 134.7, 128.7, 127.8, 126.6, 123.6, 73.6; **[α]_D²⁴** +20.5 (c 1.02, CHCl₃), literature **[α]_D²³** +12.0 (c 1.6,

CHCl_3 , 83% ee);¹³ SFC analysis (AD-H, 10% MeOH, 3.0 mL/min, 206 nm) indicated 86% ee: t_R (major) = 7.1 minutes, t_R (minor) = 8.7 minutes.

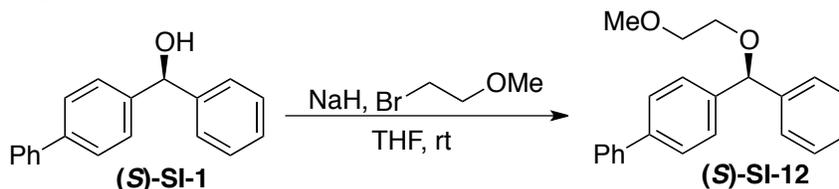


(S)-SI-11

(S)-naphthalen-2-yl(pyridin-3-yl)methanol ((S)-SI-11). Racemic synthesis: Using the representative procedure A outlined above the following amounts of reagents were used: 3-pyridinecarboxaldehyde (0.750 mL, 8.00 mmol), naphthalen-2-ylmagnesium bromide (7.0 mL, 10 mmol, 1.4 M in THF), THF (6.0 mL). The crude product was recrystallized in EtOAc to afford *rac*-SI-11 as a pale yellow solid (1.5 g, 6.3 mmol, 79%).

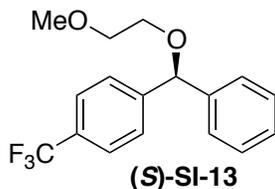
Asymmetric Synthesis: To a solution of naphthalene-2-boronic acid (0.826 g, 4.80 mmol) in toluene (10 mL) was added diethylzinc (14 mL, 14 mmol, 1.0 M in toluene), and the solution was allowed to stir at 60 °C for 12 h. Upon cooling to room temperature, (S)-(1-tritylaziridin-2-yl)diphenylmethanol (0.094 g, 0.20 mmol) was added as a solution in toluene (5 mL) and the reaction mixture was allowed to stir for 10 minutes before the addition of 3-pyridinecarboxaldehyde (0.188 mL, 2.00 mmol). After stirring for 12 h at room temperature, saturated aqueous NaHCO_3 was added dropwise (5 mL) followed by 1 N NaOH (1 mL) and CH_2Cl_2 (10 mL). The solution was filtered through a Celite plug, rinsed with CH_2Cl_2 (20 mL). The layers were separated and the aqueous layer was further extracted with CH_2Cl_2 (2 x 30 mL). The combined organics were washed with brine (10 mL), dried over MgSO_4 , and concentrated in vacuo. The product was purified by flash chromatography (20–50 % EtOAc/benzene) to afford the title compound as a white solid (0.315 g, 67%). The product was then recrystallized from EtOAc to yield higher enantiopurity. TLC R_f = 0.5 (100% EtOAc); m.p. 139–141 °C, literature 135–136 °C;¹⁴ $^1\text{H NMR}$ (500 MHz, CDCl_3) δ 8.60 (s, 1H), 8.44 (d, J = 5.0 Hz, 1H), 7.86 (s, 1H), 7.80 (m, 3H), 7.71 (d, J = 8.0 Hz, 1H), 7.47–7.51 (m, 2H), 7.39 (d, J = 8.5 Hz, 1H), 7.22 (dd, J = 8.0 Hz, J = 5.0 Hz, 1H), 6.00 (s, 1H), 3.43 (br s, 1H); $^{13}\text{C NMR}$ (125 MHz, CDCl_3) δ 148.8, 148.4, 140.5, 139.4, 134.5, 133.3, 133.1, 128.8, 128.2, 127.9, 126.6, 126.4, 125.4, 124.6, 123.6, 74.3; IR (thin film) 3151, 3057, 2848, 1595, 1425, 1037 cm^{-1} ; HRMS (TOF MS ES+) m/z calcd for $\text{C}_{16}\text{H}_{13}\text{NO}$ ($M + \text{H}$)⁺ 236.1075, found 236.1073; $[\alpha]_D^{23}$ +23.2 (c 0.48, CHCl_3); SFC analysis (AD-H, 15% MeOH, 3.0 mL/min, 222 nm) indicated 92% ee: t_R (major) = 9.1 minutes, t_R (minor) = 10.7 minutes.

C. Representative procedure for diarylmethyl ethyl methylether synthesis.

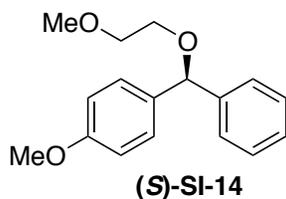


Ether (S)-SI-12. To a suspension of NaH (0.061 g, 2.5 mmol) in DMF (1 mL) was added a solution of (S)-SI-1 (0.220 g, 0.500 mmol) in DMF (2 mL). The mixture was stirred for 1 h before addition of 1 equivalent of 2-bromoethyl methyl ether (0.080 mL, 0.85 mmol). After stirring for 2 h, a second equivalent of 2-bromoethyl methyl ether was added, and the reaction was allowed to stir for 2 h. Excess NaH was quenched with saturated aqueous ammonium

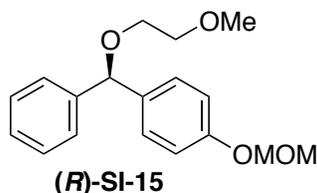
chloride (3 mL), and the product was extracted with EtOAc (3 x 5 mL). The combined organics were washed with brine (5 mL), dried over MgSO₄ and concentrated in vacuo. Purification using flash chromatography (10% EtOAc/hexane) afforded (**S**)-**SI-12** as a clear, colorless oil (0.224 g, 83%): **TLC** R_f = 0.1 (9:1 hexane/EtOAc); **¹H NMR** (500 MHz, CDCl₃) δ 7.54 (t, J = 8.2 Hz, 4H), 7.41 (dd, J = 8.1, 13.0 Hz, 6H), 7.33 (t, J = 7.1 Hz, 3H), 7.25 (d, J = 7.3 Hz, 1H), 5.46 (s, 1H), 3.64 (br d, J = 7.3, 4H), 3.39 (s, 3H); **¹³C NMR** (125 MHz, CDCl₃) δ 142.2, 141.4, 141.0, 140.5, 128.9, 128.6, 127.62, 127.58, 127.33, 127.27, 127.20, 127.17, 83.9, 72.2, 68.5, 59.2; **IR** (thin film) 3028, 2875, 1487, 1450, 1092 cm⁻¹; **HRMS** (TOF MS ES+) m/z calcd for C₂₂H₂₂O₂ (M + Na)⁺ 341.1518, found 341.1513; $[\alpha]_D^{23}$ -4.76 (c 0.95, CHCl₃); **SFC analysis** (OD-H, 15% IPA, 3 mL/min, 215 nm) indicated 87% ee: t_R (major) = 4.5 minutes, t_R (minor) = 5.3 minutes.



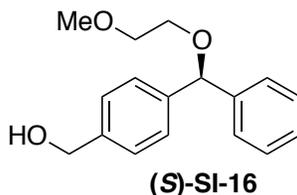
Ether (S)-SI-13. Prepared according to the representative procedure C outlined above using the following amounts of reagents: NaH (0.020 g, 0.83 mmol), (**S**)-**SI-2** (0.190 g, 0.75 mmol), 2-bromoethyl methyl ether (0.141 mL, 1.50 mmol), and DMF (10 mL). The crude reaction mixture was purified by flash chromatography (5% EtOAc/hexane) to afford (**S**)-**SI-13** as clear, colorless oil (0.075 g, 32% (70% brsm)): **TLC** R_f = 0.08 (95:5 hexane/EtOAc); **¹H NMR** (500 MHz, CDCl₃) δ 7.56 (d, J = 8.3, 2H), 7.49 (d, J = 8.3, 2H), 7.35–7.30 (m, 4H), 7.27–7.24 (m, 1H), 5.45 (s, 1H), 3.63–3.51 (m, 4H), 3.37 (s, 1H); **¹³C NMR** (125 MHz, CDCl₃) δ 146.5, 141.4, 129.6 (q, J = 32.4, 1C), 128.7, 128.0, 127.24, 127.19, 125.4 (q, J = 3.7 Hz, 1C), 124.3 (q, J = 271.9 Hz, 1C), 83.5, 72.1, 68.6, 59.2; **IR** (thin film) 2877, 1620, 1454, 1334, 1126 cm⁻¹; **HRMS** (TOF MS ES+) m/z calcd for C₁₇H₁₇F₃O₂ (M + Na)⁺ 333.1078, found 333.1083; $[\alpha]_D^{24}$ +28.7 (c 1.1, CHCl₃); **SFC analysis** (AD-H, 3.0% IPA, 2.5 mL/min, 215 nm) indicated 92% ee: t_R (minor) = 3.0 minutes, t_R (major) = 3.9 minutes.



Ether (S)-SI-14. Prepared according to the representative procedure C outlined above using the following amounts of reagents: NaH (0.130 g, 5.40 mmol), (**S**)-**SI-3** (0.386 g, 1.80 mmol), 2-bromoethyl methyl ether (0.338 mL, 3.60 mmol), and DMF (10 mL). The crude reaction mixture was purified by flash chromatography (10% EtOAc/hexane) to afford (**S**)-**SI-14** as clear, colorless oil (0.363 g, 74%): **TLC** R_f = 0.3 (9:1 hexane/Et₂O); **¹H NMR** (500 MHz, CDCl₃) δ 7.35–7.20 (m, 7H), 6.85–6.82 (m, 2H), 5.37 (s, 1H), 3.75 (s, 3H), 3.59 (s, 4H), 3.37 (s, 3H); **¹³C NMR** (125 MHz, CDCl₃) δ 159.0, 142.5, 134.4, 128.5, 128.4, 127.4, 127.0, 113.8, 83.6, 72.2, 68.3, 59.2, 55.3; **IR** (thin film) 3030, 2906, 1612, 1511, 1093 cm⁻¹; **HRMS** (TOF MS ES+) m/z calcd for C₁₇H₂₀O₃ (M + Na)⁺ 295.1310, found 295.1315; $[\alpha]_D^{24}$ -21.3 (c 1.0, CHCl₃); **SFC analysis** (AD-H, 7.0% IPA, 2.5 mL/min, 215 nm) indicated 88% ee: t_R (minor) = 5.9 minutes, t_R (major) = 8.7 minutes.

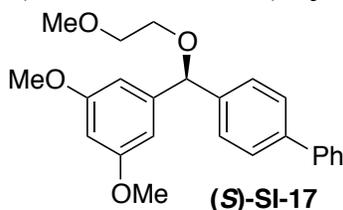


Ether (R)-SI-15. Prepared according to the representative procedure C outlined above using the following amounts of reagents: NaH (0.058 g, 2.40 mmol), **(R)-SI-4** (0.196 g, 0.80 mmol), 2-bromoethyl methyl ether (0.150 mL, 1.60 mmol), and DMF (10 mL). The crude reaction mixture was purified by flash chromatography (40% EtOAc/hexane) to afford **(R)-SI-15** as clear, colorless oil (0.199 g, 82%): $^1\text{H NMR}$ (500 MHz, CDCl_3) δ 7.36–7.22 (m, 7H), 6.98 (d, $J = 8.5$, 2H), 5.37 (s, 1H), 5.14 (s, 2H), 3.60 (s, 4H), 3.46 (s, 3H), 3.39 (s, 3H); $^{13}\text{C NMR}$ (125 MHz, CDCl_3) δ 156.8, 142.5, 135.8, 128.6, 128.5, 127.6, 127.1, 116.3, 94.6, 83.8, 72.3, 68.5, 59.3, 56.2; **IR** (thin film) 2893, 1510, 1151, 1080, 1003 cm^{-1} ; **HRMS** (TOF MS ES+) m/z calcd for $\text{C}_{18}\text{H}_{22}\text{O}_4$ ($\text{M} + \text{Na}$) $^+$ 325.1416, found 325.1421; $[\alpha]_D^{25}$ 10.1 (c 1.0, CHCl_3); **SFC analysis** (AD-H, 7.0% IPA, 2.5 mL/min, 215 nm) indicated 93% ee: t_R (major) = 5.1 minutes, t_R (minor) = 9.1 minutes.

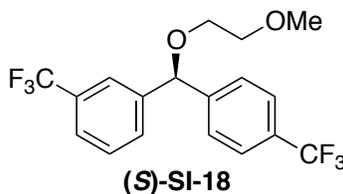


Ether (S)-SI-16. To a stirring mixture of **(S)-SI-5** (0.350 g, 1.40 mmol) in THF (10 mL) was added LiAlH_4 (0.90 mL, 2.2 mmol, 2.4M in THF). The reaction was allowed to stir before the Fieser and Fieser work-up was used to quench the reaction.¹⁵ The organics were extracted with EtOAc (3 x 20 mL). The combined organics were washed with brine (20 mL), dried over MgSO_4 and concentrated in vacuo. The crude reaction mixture (0.252 g) was then dissolved in THF (10 mL) and *N*-methyl imidazole (0.145 g, 1.77 mmol), iodine (0.600 g, 2.36 mmol), and *tert*-butyldimethylsilyl chloride (0.196 g, 1.30 mmol) were added and the reaction mixture was allowed to stir for 45 min. The volatiles were removed and the remaining reaction mixture was washed with $\text{Na}_2\text{S}_2\text{O}_3$, then extracted with EtOAc (3 x 20 mL). The crude reaction mixture was concentrated in vacuo, then dissolved in DMF (10 mL). The mixture was added to a round bottom flask containing NaH (0.085 g, 3.5 mmol). After allowing the mixture to stir for 30 min., 1 equivalent of 2-bromoethyl methyl ether (0.111 mL, 1.18 mmol) was added. After stirring for 2 h, a second equivalent of 2-bromoethyl methyl ether was added, and the reaction was allowed to stir for 2 h. Excess NaH was quenched with saturated aqueous ammonium chloride (10 mL), and the product was extracted with EtOAc (3 x 20 mL). The combined organics were washed with brine (20 mL), dried over MgSO_4 and concentrated in vacuo. The crude reaction mixture was dissolved in DMF (10 mL) and tetra-butylammonium fluoride (TBAF) (0.900 mL, 0.900 mmol) was added and the reaction was stirred overnight. The reaction was quenched with ammonium chloride (10 mL) and extracted with EtOAc (3 x 20 mL). The combined organics were washed with brine (20 mL), dried over MgSO_4 and concentrated in vacuo. The crude reaction mixture was purified by flash chromatography (30% EtOAc/hexane) to afford **(S)-SI-16** as clear, colorless oil (0.111 g, 29%): **TLC** $R_f = 0.3$ (3:2 hexane/Et₂O); $^1\text{H NMR}$ (500 MHz, CDCl_3) δ 7.35 (d, $J = 7.6$, 4H), 7.30 (d, $J = 7.2$, 4H), 7.25–7.23 (m, 1H), 5.41 (s, 1H), 4.63 (s, 2H), 3.61 (s, H), 3.38 (s, 1H), 1.78 (br s, 1H); $^{13}\text{C NMR}$ (125 MHz, CDCl_3) δ 142.2, 141.8,

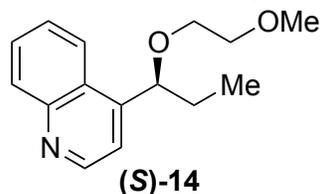
140.2, 128.5, 127.6, 127.4, 127.2, 127.1, 83.9, 72.2, 68.5, 65.2, 59.22; **IR** (thin film) 3600, 2926, 2877, 1090, 908 cm^{-1} ; **HRMS** (TOF MS ES+) m/z calcd for $\text{C}_{17}\text{H}_{20}\text{O}_3$ ($\text{M} + \text{Na}$)⁺ 295.1310, found 295.1310; $[\alpha]_D^{23}$ -1.8 (c 0.75, CHCl_3); **SFC analysis** (AD-H, 15.0% IPA, 3.0 mL/min, 215 nm) indicated 91% ee: t_R (minor) = 5.8 minutes, t_R (major) = 6.5 minutes.



Ether (S)-SI-17. Prepared according to the representative procedure C outlined above using the following amounts of reagents: NaH (0.144 g, 6.00 mmol), **(S)-SI-6** (0.641 g, 2.00 mmol), 2-bromoethyl methyl ether (0.374 mL, 2.00 mmol), and DMF (10 mL). The crude reaction mixture was purified by flash chromatography (20% EtOAc/hexane) to afford **(S)-SI-17** as clear, colorless oil (0.130 g, 37%): **¹H NMR** (500 MHz, CDCl_3) δ 7.54 (dd, $J = 11.9, 7.6$, 4H), 7.41 (dd, $J = 10.6, 7.3$, 4H), 7.32 (t, $J = 7.3$, 1H), 6.58 (d, $J = 2.5$, 2H), 6.36 (t, $J = 1.8$, 1H), 5.38 (s, 1H), 3.77 (s, 6H), 3.69–3.65 (m, 2H), 3.64–3.62 (m, 2H), 3.40 (s, 3H); **¹³C NMR** (125 MHz, CDCl_3) δ 161.1, 144.64, 141.2, 141.1, 140.6, 128.9, 127.6, 127.41, 127.35, 127.3, 105.3, 99.5, 84.0, 72.3, 68.7, 59.3, 55.5; **IR** (thin film) 2931, 2873, 1597, 1460, 1203 cm^{-1} ; **HRMS** (TOF MS ES+) m/z calcd for $\text{C}_{24}\text{H}_{26}\text{O}_4$ ($\text{M} + \text{Na}$)⁺ 401.1729, found 401.1728; $[\alpha]_D^{23}$ $+5.04$ (c 1.25, CHCl_3); **SFC analysis** (AD-H, 15.0% IPA, 2.5 mL/min, 215 nm) indicated 85% ee: t_R (major) = 8.0 minutes, t_R (minor) = 9.3 minutes.

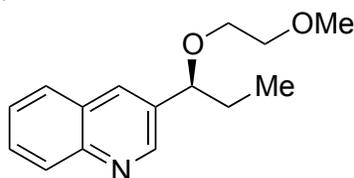


Ether (S)-SI-18. Prepared according to the representative procedure C outlined above using the following amounts of reagents: NaH (0.042 g, 1.7 mmol), **(S)-SI-7** (0.372 g, 1.16 mmol), 2-bromoethyl methyl ether (0.218 mL, 2.32 mmol), and DMF (10 mL). The crude reaction mixture was purified by flash chromatography (75% hexane, 24% DCM, 1% MeOH) to afford **(S)-SI-18** as clear, colorless oil (0.260 g, 59%): **¹H NMR** (400 MHz, CDCl_3) δ 7.65 (s, 1H), 7.60 (d, $J = 8.2$, 2H), 7.54–7.45 (m, 5H), 5.52 (s, 1H), 3.64–3.61 (m, 4H), 3.39 (s, 1H); **¹³C NMR** (125 MHz, CDCl_3) δ 145.6, 142.7, 131.2 (q, $J = 32.4$ Hz, 1C), 130.5, 130.2 (q, $J = 32.4$ Hz, 1C), 129.3, 127.5, 125.8 (q, $J = 3.7$ Hz, 1C), 124.9 (q, $J = 3.7$ Hz, 1C), 123.9 (q, $J = 3.7$ Hz, 1C), 83.0, 72.2, 68.9, 59.3; **IR** (thin film) 2931, 2875, 1327, 1124 cm^{-1} ; **HRMS** (TOF MS ES+) m/z calcd for $\text{C}_{18}\text{H}_{16}\text{F}_6\text{O}_2$ (M)⁺ 378.1054, found 378.1051; **GC analysis** (GTA, 83.9 mL/min, 200 °C) indicated 96% ee: t_R (minor) = 20.9 minutes, t_R (major) = 25.1 minutes.



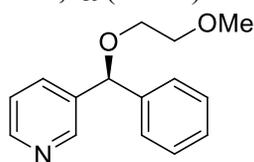
(S)-4-(1-(2-methoxyethoxy)propyl)quinoline ((S)-14). Prepared according to the representative procedure C outlined above using the following amounts of reagents: NaH (0.088 g, 3.67 mmol),

(S)-SI-8 (0.275 g, 1.47 mmol), 2-bromoethyl methyl ether (0.54 mL, 5.9 mmol), and DMF (5 mL). The crude reaction mixture was purified by flash chromatography (30% EtOAc/hexane) to afford the title compound as yellow oil (0.227 g, 63%): **TLC** R_f = 0.2 (30% EtOAc in hexanes); **$^1\text{H NMR}$** (500 MHz, CDCl_3) δ 8.91 (d, J = 4.0 Hz, 1H), 8.14 (d, J = 8.5 Hz, 1H), 8.11 (d, J = 8.5 Hz, 1H), 7.72 (t, J = 7.5 Hz, 1H), 7.56 (t, J = 7.5 Hz, 1H), 7.50 (d, J = 4.0 Hz, 1H), 4.96 (t, J = 6.3 Hz, 1H), 3.52–3.56 (m, 4H), 3.37 (s, 3H), 1.90–1.96 (m, 2H), 1.00 (t, J = 7.5 Hz, 3H); **$^{13}\text{C NMR}$** (125 MHz, CDCl_3) δ 150.5, 148.6, 148.2, 130.5, 129.1, 126.49, 126.47, 123.4, 118.6, 80.7, 72.2, 68.9, 59.2, 30.5, 10.6; **IR** (thin film) 2968, 2929, 2877, 1591, 1508, 1462, 1113 cm^{-1} ; **HRMS** (TOF MS ES+) m/z calcd for $\text{C}_{15}\text{H}_{19}\text{NO}_2$ ($\text{M} + \text{Na}$) $^+$ 268.1313, found 268.1315; $[\alpha]_D^{25}$ +80.9 (c 1.06, CHCl_3); **SFC** analysis (AD-H, 10% IPA, 3.0 mL/min, 210 nm) indicated 82% ee: t_R (major) = 5.2 minutes, t_R (minor) = 5.8 minutes.



(S)-SI-19

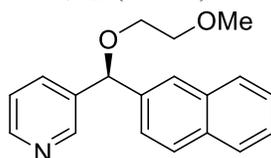
(S)-3-(1-(2-methoxyethoxy)propyl)quinoline ((S)-SI-19). Prepared according to the representative procedure C outlined above using the following amounts of reagents: NaH (0.085 g, 3.54 mmol), **(S)-SI-9** (0.331 g, 1.77 mmol), 2-bromoethyl methyl ether (0.49 mL, 5.3 mmol), and DMF (5 mL). The crude reaction mixture was purified by flash chromatography (30% EtOAc/hexane) to afford the title compound as a yellow oil (0.215 g, 50%): **TLC** R_f = 0.3 (30% EtOAc in hexanes); **$^1\text{H NMR}$** (400 MHz, CDCl_3) δ 8.89 (d, J = 2.0 Hz, 1H), 8.11 (d, J = 8.4 Hz, 1H), 8.07 (d, J = 2.0 Hz, 1H), 7.83 (d, J = 8.0 Hz, 1H), 7.70 (m, 1H), 7.55 (m, 1H), 4.41 (t, J = 6.6 Hz, 1H), 3.52–3.55 (m, 4H), 3.37 (s, 3H), 1.96–2.03 (m, 1H), 1.76–1.87 (m, 1H), 0.94 (t, J = 7.4 Hz, 3H); **$^{13}\text{C NMR}$** (100 MHz, CDCl_3) δ 150.2, 148.0, 135.2, 133.8, 129.4, 129.3, 128.0, 127.9, 126.9, 82.4, 72.1, 68.5, 59.1, 31.0, 10.2; **IR** (thin film) 2966, 2927, 2875, 1572, 1497, 1462, 1105 cm^{-1} ; **HRMS** (TOF MS ES+) m/z calcd for $\text{C}_{15}\text{H}_{19}\text{NO}_2$ ($\text{M} + \text{H}$) $^+$ 246.1494, found 246.1493; $[\alpha]_D^{23}$ -55.4 (c 1.03, CHCl_3); **SFC** analysis (OD-H, 3% IPA, 3.0 mL/min, 208 nm) indicated 71% ee: t_R (major) = 8.5 minutes, t_R (minor) = 9.2 minutes.



(S)-SI-20

(S)-3-((2-methoxyethoxy)(phenyl)methyl)pyridine ((S)-SI-20). Prepared according to the representative procedure C outlined above using the following amounts of reagents: NaH (0.240 g, 10.0 mmol), **(S)-SI-10** (0.926.1 g, 5.00 mmol), 2-bromoethyl methyl ether (1.37 mL, 15.0 mmol), and DMF (15 mL). The crude reaction mixture was purified by flash chromatography (30% EtOAc/hexane) to afford the title compound as a yellow oil (0.640 g, 52%): **TLC** R_f = 0.2 (30% EtOAc in hexanes); **$^1\text{H NMR}$** (400 MHz, CDCl_3) δ 8.61 (d, J = 1.6 Hz, 1H), 8.48 (dd, J = 4.6 Hz, J = 1.4 Hz, 1H), 7.66 (dt, J = 7.8 Hz, J = 1.7 Hz, 1H), 7.20–7.36 (m, 6H), 5.46 (s, 1H), 3.59–3.65 (m, 4H), 3.37 (s, 3H); **$^{13}\text{C NMR}$** (100 MHz, CDCl_3) δ 148.8, 148.7, 141.0, 137.8, 134.5, 128.6, 127.9, 127.0, 123.4, 81.9, 72.0, 68.5, 59.1; **IR** (thin film) 3031, 2932, 2875, 1583, 1450, 1097 cm^{-1} ; **HRMS** (TOF MS ES+) m/z calcd for $\text{C}_{15}\text{H}_{19}\text{NO}_2$ ($\text{M} + \text{Na}$) $^+$ 266.1157, found

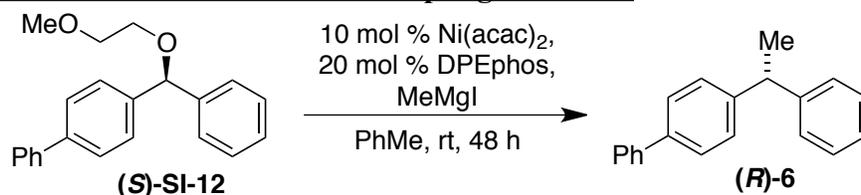
266.1157; $[\alpha]_D^{23} +16.5$ (c 1.06, CHCl₃); SFC analysis (AD-H, 7% IPA, 4.0 mL/min, 206 nm) indicated 88% ee: t_R (major) = 5.5 minutes, t_R (minor) = 6.2 minutes.



(S)-SI-21

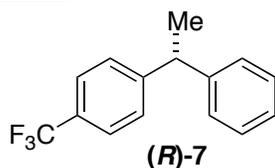
(S)- 3-((2-methoxyethoxy)(naphthalen-2-yl)methyl)pyridine ((S)-SI-21). Prepared according to the representative procedure C outlined above using the following amounts of reagents: NaH (0.454 g, 18.9 mmol), **(S)-SI-11** (1.43 g, 6.10 mmol), 2-bromoethyl methyl ether (1.22 mL, 13.4 mmol), and DMF (30 mL). The crude reaction mixture was purified by flash chromatography (30% EtOAc/hexane) to afford the title compound as a tan solid (1.65 g, 93%): TLC R_f = 0.1 (30% EtOAc in hexanes); m.p. 51–53 °C; $^1\text{H NMR}$ (400 MHz, CDCl₃) δ 8.67 (d, J = 2.4 Hz, 1H), 8.50 (dd, J = 4.4 Hz, J = 1.6 Hz, 1H), 7.83 (ap t, J = 9.0 Hz, 4H), 7.71 (m, 1H), 7.46 (m, 3H), 7.24 (m, 1H), 5.62 (s, 1H), 3.62–3.70 (m, 4H), 3.40 (s, 3H); $^{13}\text{C NMR}$ (125 MHz, CDCl₃) δ 149.0, 148.9, 138.5, 137.8, 134.7, 133.3, 133.2, 128.8, 128.1, 127.9, 126.5, 126.33, 126.27, 124.9, 123.5, 82.1, 72.2, 68.7, 59.3; IR (thin film) 2926, 2879, 1635, 1088 cm⁻¹; HRMS (TOF MS ES+) m/z calcd for C₁₅H₁₉NO₂ (M + Na)⁺ 316.1313, found 316.1304; $[\alpha]_D^{23} +11.3$ (c 0.73, CHCl₃); SFC analysis (AD-H, 8% IPA, 4.0 mL/min, 224 nm) indicated 96% ee: t_R (major) = 14.7 minutes, t_R (minor) = 22.0 minutes.

VI. Representative Procedure for Cross-Coupling Reactions

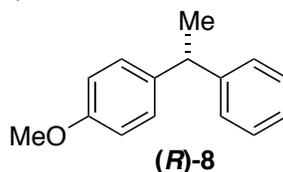


(R)-Diarylethane ((R)-6). To a flame dried vial in a glovebox was added nickel(II) acetylacetonate (5.1 mg, 0.020 mmol) and DPEphos (21.5 mg, 0.040 mmol). The vial was removed from the glove box and toluene (2 mL) was added. After stirring for 5 minutes, **(S)-SI-12** (0.064 g, 0.20 mmol) was added, followed by dropwise addition of methylmagnesium iodide (0.18 mL, 0.40 mmol, 2.2 M in Et₂O). The reaction was stirred for 48 hours before quenching with isopropanol (2 mL) and running through a silica gel plug (100% Et₂O). The combined organics were concentrated in vacuo, internal standard (PhTMS, 0.20 mmol) was added and $^1\text{H NMR}$ yield was collected. The product was purified by flash chromatography (10% benzene/pentane) to afford **6** as a clear, colorless oil (0.035 mg, 67%). Analytical data is consistent with literature values:⁵ TLC R_f = 0.4 (9:1 pentane:benzene); $^1\text{H NMR}$ (500 MHz, CDCl₃) δ 7.55 (d, J = 7.2, 2H), 7.50 (d, J = 8.1, 2H), 7.40 (t, J = 7.7, 2H), 7.31–7.24 (m, 7H), 7.20–7.17 (m, 1H), 4.18 (q, J = 6.7, 1H), 1.67 (d, J = 7.2, 3H); $^{13}\text{C NMR}$ (125 MHz, CDCl₃) δ 146.4, 145.6, 141.1, 139.1, 128.8, 128.6, 128.2, 127.8, 127.24, 127.18, 127.15, 126.2, 44.6, 22.0; $[\alpha]_D^{23} -11.4$ (c 1.50, CHCl₃); SFC analysis (OD-H, 5% IPA, 3.0 mL/min, 215 nm) indicated 85% ee: t_R (minor) = 9.0 minutes, t_R (major) = 10.6 minutes.

VII. Characterization Data for Products



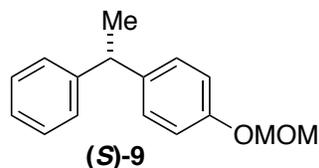
(R)-Diarylethane ((R)-7). Prepared according to the representative procedure outlined above using the following amounts of reagents: nickel(II) acetylacetonate (5.1 mg, 0.020 mmol), DPEphos (21.5 mg, 0.0400 mmol), **(S)-SI-13** (0.062 g, 0.20 mmol), methylmagnesium iodide (0.17 mL, 0.40 mmol, 2.8 M in Et₂O), and toluene (2 ml). The product was purified by flash chromatography (5% benzene/pentane) to afford **7** as a clear, colorless oil (0.026g, 52%). Analytical data is consistent with literature values:¹⁶ **TLC** R_f = 0.4 (95:5 pentane:benzene); **¹H NMR** (500 MHz, CDCl₃) δ 7.53 (d, J = 8.3, 2H), 7.31 (dd, J = 8.6, 15.4, 4H), 7.21 (d, J = 7.8, 3H), 4.20 (q, J = 7.2, 1H), 1.65 (d, J = 7.2, 3H); **¹³C NMR** (125 MHz, CDCl₃) δ 150.6, 145.4, 128.7, 128.5 (q, J = 32.4 Hz, 1C), 128.1, 127.7, 126.6, 125.5 (q, J = 3.7 Hz, 1C), 44.8, 21.8; $[\alpha]_D^{24}$ -1.0 (c 1.0, CHCl₃), **SFC** analysis (OJ-H, 2% IPA, 2.5 mL/min, 215 nm) indicated 91% ee: t_R (minor) = 2.6 minutes, t_R (major) = 2.8 minutes.



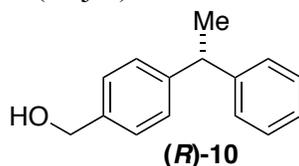
(R)-Diarylethane ((R)-8). Prepared according to the representative procedure outlined above using the following amounts of reagents: bis(cyclooctadiene)nickel(0) (2.8 mg, 0.010 mmol), DPEphos (11 mg, 0.020 mmol), **(S)-SI-14** (0.054 g, 0.20 mmol), methylmagnesium iodide (0.14 mL, 0.40 mmol, 2.9 M in Et₂O), and toluene (2 ml).¹⁷ The product was purified by flash chromatography (10% Et₂O/hexane) to afford **8** as a clear, colorless oil (0.035 mg, 67%). Analytical data is consistent with literature values:⁵ **TLC** R_f = 0.6 (9:1 hexane:Et₂O); **¹H NMR** (500 MHz, CDCl₃) δ 7.27 (t, J = 7.4 Hz, 2H), 7.21–7.16 (m, 3H), 7.13 (d, J = 8.6 Hz, 2H), 6.82 (d, J = 8.8 Hz, 2H), 4.10 (q, J = 7.1 Hz, 1H), 3.77 (s, 3H), 1.61 (d, J = 7.3 Hz, 3H); **¹³C NMR** (125 MHz, CDCl₃) δ 157.9, 146.0, 138.7, 128.6, 128.5, 127.7, 126.1, 113.8, 55.4, 44.1, 22.2; $[\alpha]_D^{24}$ -5.8 (c 1.0, CHCl₃), literature:^{5b} $[\alpha]_D^{26}$ -12.7 (c 0.65, CHCl₃, 94% ee) **SFC** analysis (OJ-H, 7% IPA, 2.5 mL/min, 215 nm) indicated 74% ee: t_R (minor) = 6.6 minutes, t_R (major) = 8.1 minutes. Results reported in the paper are a result of averaging the four runs shown below.

| entry | yield (%) ^a | dimer (%) ^b | ether ee (%) ^c | product ee (%) ^c | es (%) ^d |
|-------|------------------------|------------------------|---------------------------|-----------------------------|---------------------|
| 1 | 71 | 25 | 64 | 64 | 100 |
| 2 | 43 | 34 | 90 | 73 | 81 |
| 3 | 50 | 16 | 88 | 74 | 84 |
| 4 | 62 | 21 | 90 | 78 | 87 |

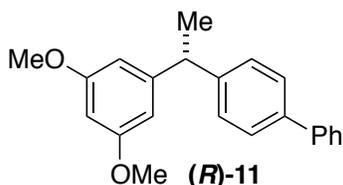
^aIsolated yield after silica gel chromatography. ^bProton NMR yield relative to an internal standard (PhTMS). ^cDetermined by chiral SFC chromatography. ^d100 x ee_{product}/ee_{starting material}



(S)-Diarylethane ((S)-9). Prepared according to the representative procedure outlined above using the following amounts of reagents: nickel(II) acetylacetonate (5.1 mg, 0.020 mmol), DPEphos (21.5 mg, 0.0400 mmol), **(R)-SI-15** (0.060 g, 0.20 mmol), methylmagnesium iodide (0.27 mL, 0.60 mmol, 2.2 M in Et₂O), and toluene (2 ml). The product was purified by flash chromatography (20% Et₂O/hexane) to afford **9** as a clear, colorless oil (0.043 g, 89%): **TLC** *R_f* = 0.6 (4:1 hexane:Et₂O); **¹H NMR** (500 MHz, CDCl₃) δ 7.27 (t, *J* = 7.3 Hz, 2H), 7.20 (d, *J* = 7.2 Hz, 2H), 7.17 (d, *J* = 7.0 Hz, 1H), 7.13 (d, *J* = 8.5 Hz, 2H), 6.95 (d, *J* = 8.7 Hz, 2H), 5.13 (s, 2H), 4.10 (q, *J* = 7.1 Hz, 1H), 3.46 (s, 3H), 1.61 (d, *J* = 7.2 Hz, 3H); **¹³C NMR** (125 MHz, CDCl₃) δ 155.6, 146.7, 140.0, 128.7, 128.5, 127.7, 126.1, 116.3, 94.7, 56.1, 44.1, 22.1; **IR** (thin film) 3026, 2964, 1610, 1510, 1234 cm⁻¹; **HRMS** (TOF MS ES⁺) *m/z* calcd for C₁₆H₁₈O₂ (M+NH₄)⁺ 260.1650, found 260.1643; **[α]_D²³** 7.3 (*c* 1.0, CHCl₃); **SFC** analysis (AD-H, 1% IPA, 2.5 mL/min, 215 nm) indicated 90% ee: *t_R* (major) = 5.4 minutes, *t_R* (minor) = 5.9 minutes.

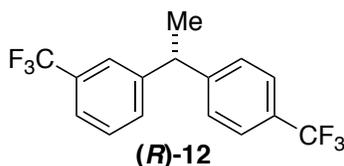


(R)-Diarylethane ((R)-10). Prepared according to the representative procedure outlined above using the following amounts of reagents: nickel(II) acetylacetonate (7.7 mg, 0.030 mmol), DPEphos (32 mg, 0.060 mmol), **(S)-SI-16** (0.054 g, 0.20 mmol), methylmagnesium iodide (0.25 mL, 0.6 mmol, 2.4 M in Et₂O), and toluene (2 ml). The product was purified by flash chromatography (40% Et₂O/hexane) to afford **10** as a clear, colorless oil (0.027g, 77%): **TLC** *R_f* = 0.2 (3:2 hexane:Et₂O); **¹H NMR** (500 MHz, CDCl₃) δ 7.27 (t, *J* = 7.8 Hz, 4H), 7.20 (d, *J* = 7.7 Hz, 4H), 7.17 (t, *J* = 7.3 Hz, 1H), 4.61 (d, *J* = 3.9 Hz, 2H), 4.14 (q, *J* = 7.2 Hz, 1H), 1.79 (br s, 1H), 1.63 (d, *J* = 7.3 Hz, 3H); **¹³C NMR** (125 MHz, CDCl₃) δ 146.3, 146.1, 138.7, 128.5, 127.9, 127.7, 127.3, 126.2, 65.3, 44.6, 22.0; **IR** (thin film) 3421, 3020, 1512, 1215, 758 cm⁻¹; **GCMS** (TOF MS Cl⁺) *m/z* calcd for C₁₅H₁₆O (M + NH₄)⁺ 230.1545, found 230.1542; **[α]_D²³** -3.6 (*c* 1.05, CHCl₃); **SFC** analysis (AD-H, 10% MeOH, 3.0 mL/min, 215 nm) indicated 80% ee: *t_R* (minor) = 4.6 minutes, *t_R* (major) = 5.1 minutes.

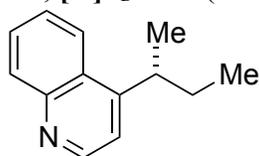


(R)-Diarylethane ((R)-11). Prepared according to the representative procedure outlined above using the following amounts of reagents: nickel(II) acetylacetonate (5.1 mg, 0.020 mmol), DPEphos (21.5 mg, 0.0400 mmol), **(S)-SI-17** (0.076 g, 0.20 mmol), methylmagnesium iodide (0.18 mL, 0.40 mmol, 2.2 M in Et₂O), and toluene (2 ml). The product was purified by flash chromatography (20% DCM/pentane) to afford **11** as a clear, colorless oil (0.056g, 88%): **TLC** *R_f* = 0.1 (4:1 pentane:DCM); **¹H NMR** (500 MHz, CDCl₃) δ 7.56 (d, *J* = 7.7 Hz, 2H), 7.50 (d, *J*

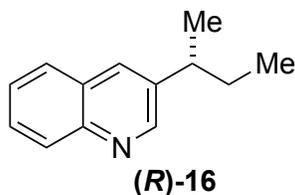
= 7.1 Hz, 2H), 7.40 (t, $J = 7.2$ Hz, 2H), 7.29 (d, $J = 7.7$ Hz, 3H), 6.42 (s, 2H), 6.31 (s, 1H), 4.11 (q, $J = 6.4$ Hz, 1H), 3.75 (s, 6H), 1.64 (d, $J = 7.2$ Hz, 3H); ^{13}C NMR (125 MHz, CDCl_3) δ 160.9, 148.9, 145.3, 141.1, 139.1, 128.8, 128.1, 127.24, 127.18, 127.1, 106.2, 97.8, 55.4, 44.8, 21.9; IR (thin film) 3020, 1597, 1461, 1215, 1157 cm^{-1} ; HRMS (TOF MS ES+) m/z calcd for $\text{C}_{22}\text{H}_{22}\text{O}_2$ ($\text{M}+\text{H}$) $^+$ 319.1698, found 319.1691; $[\alpha]_D^{24} +11.4$ (c 1.90, CHCl_3); SFC analysis (OD-H, 15% MeOH, 2.5 mL/min, 215 nm) indicated 80% ee: t_R (major) = 5.0 minutes, t_R (minor) = 5.7 minutes.



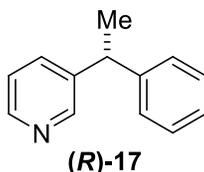
(R)-Diarylethane ((R)-12). Prepared according to the representative procedure outlined above using the following amounts of reagents: nickel(II) acetylacetonate (5.1 mg, 0.020 mmol), DPEphos (21.5 mg, 0.0400 mmol), **(S)-SI-18** (0.076 g, 0.20 mmol), methylmagnesium iodide (0.18 mL, 0.40 mmol, 2.2 M in Et_2O), and toluene (2 mL). The product was purified by flash chromatography (5% benzene/hexane) to afford **12** as a clear, colorless oil (0.032g, 50%): TLC $R_f = 0.4$ (4:1 hexane:benzene); ^1H NMR (500 MHz, CDCl_3) δ 7.55 (d, $J = 8.1$ Hz, 2H), 7.48 (s, 2H), 7.42 (t, $J = 7.7$, 1H), 7.36 (d, $J = 8.1$ Hz, 1H), 7.31 (d, $J = 7.9$, 2H), 4.26 (q, $J = 6.7$ Hz, 1H), 1.68 (d, $J = 7.3$ Hz, 3H); ^{13}C NMR (125 MHz, CDCl_3) δ 149.5, 146.3, 131.2, 131.0 (q, $J = 31.9$ Hz, 1C), 129.2, 128.9 (q, $J = 32.4$ Hz, 1C), 128.1, 125.7 (q, $J = 3.7$ Hz, 2C), 124.35 (q, $J = 3.7$ Hz, 1C), 124.33 (q, $J = 271.9$ Hz, 1C), 124.28 (q, $J = 272.4$ Hz, 1C), 123.5 (q, $J = 3.7$ Hz, 1C), 44.7, 21.7; IR (thin film) 3020, 1327, 1215, 758 cm^{-1} ; HRMS (TOF MS ES+) m/z calcd for $\text{C}_{16}\text{H}_{12}\text{F}_6$ (M) $^+$ 318.0843, found 318.0852; $[\alpha]_D^{24} -0.7$ (c 1.15, CHCl_3).



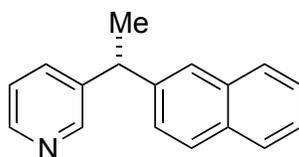
(R)-4-sec-butylquinoline ((R)-15). To a flame dried vial in a glovebox was added $\text{Ni}(\text{cod})_2$ (5.5 mg, 0.020 mmol), dppf (22.2 mg, 0.040 mmol) and toluene (1 mL). The vial was removed from the glove box and cooled to 5 $^\circ\text{C}$. A solution of **(S)-14** (0.20 mmol in 0.6 mL toluene) was prepared and cooled to 5 $^\circ\text{C}$. The vial containing the Ni source and catalyst was charged with **(S)-14** (0.02 mmol, 0.6 mL) followed by methylmagnesium iodide (0.18 mL, 0.40 mmol, 2.2 M in Et_2O). The reaction was stirred at 5 $^\circ\text{C}$ for a total of 48 hours before quenching with EtOAc (2 mL) and running through a silica gel plug (100% EtOAc). The combined organics were concentrated in vacuo, internal standard (PhTMS, 0.20 mmol) was added and ^1H NMR yield was collected. The product was purified by flash chromatography (0.5% Et_3N , 15% EtOAc/hexanes) to afford **(R)-15** as a clear, colorless oil (0.019 g, 50%): TLC $R_f = 0.4$ (30% EtOAc in hexanes); ^1H NMR (400 MHz, CDCl_3) δ 8.86 (d, $J = 4.4$ Hz, 1H), 8.12 (ap t, $J = 7.4$ Hz, 2H), 7.70 (ap t, $J = 7.6$ Hz, 1H), 7.56 (t, $J = 7.6$ Hz, 1H), 7.27 (d, $J = 4.4$ Hz, 1H), 3.52 (m, 1H), 1.70–1.88 (m, 2H), 1.38 (d, $J = 7.2$ Hz, 3H), 0.93 (ap t, $J = 7.4$ Hz, 3H); ^{13}C NMR (125 MHz, CDCl_3) δ 153.8, 150.5, 148.6, 130.5, 129.0, 127.5, 126.3, 123.2, 117.8, 35.2, 30.2, 20.8, 12.2; IR (thin film) 3064, 2964, 2873, 1589, 1508, 1461 cm^{-1} ; HRMS (TOF MS ES+) m/z calcd for $\text{C}_{15}\text{H}_{19}\text{NO}_2$ ($\text{M} + \text{H}$) $^+$ 186.1283, found 186.1284; $[\alpha]_D^{23} +4.5$ (c 0.98, CHCl_3); SFC analysis (AD-H, 7% IPA, 3.0 mL/min, 214 nm) indicated 82% ee: t_R (major) = 8.1 minutes, t_R (minor) = 9.9 minutes.



(R)-3-sec-butylquinoline ((R)-16). To a flame dried vial in a glovebox was added nickel(II) acetylacetonate (5.1 mg, 0.020 mmol), DPEphos (21.5 mg, 0.040 mmol) and toluene (1 mL). The vial was removed from the glove box and cooled to 0 °C. A solution of **(S)-SI-19** (0.20 mmol in 0.6 mL toluene) was prepared and cooled to 0 °C. The vial containing the Ni source and catalyst was charged with **(S)-SI-19** (0.067 mmol, 0.2 mL) followed by methylmagnesium iodide (0.18 mL, 0.40 mmol, 2.2 M in Et₂O). The remaining solution of **(S)-SI-19** was added in two equal portions (0.067 mmol, 0.2 mL) at the 12 and 24 hour marks. The reaction was stirred at 0 °C for a total of 48 hours before quenching with EtOAc (2 mL) and running through a silica gel plug (100% EtOAc). The combined organics were concentrated in vacuo, internal standard (PhTMS, 0.20 mmol) was added and ¹H NMR yield was collected. The product was purified by flash chromatography (0.5% Et₃N, 15% EtOAc/hexanes) to afford **(R)-16** as a clear, colorless oil (0.028 g, 75%). Analytical data is consistent with literature values:¹⁸ **TLC R_f** = 0.5 (30% EtOAc in hexanes); **¹H NMR** (500 MHz, CDCl₃) δ 8.79 (s, 1H), 8.09 (d, *J* = 8.5 Hz, 1H), 7.88 (s, 1H), 7.77 (d, *J* = 5.5 Hz, 1H), 7.64 (ap t, *J* = 7.8 Hz, 1H), 7.50 (ap t, *J* = 7.5 Hz, 1H), 2.81 (m, 1H), 1.69–1.74 (m, 2H), 1.35 (d, *J* = 7.5 Hz, 3H), 1.00 (ap t, *J* = 7.5 Hz, 3H); **¹³C NMR** (125 MHz, CDCl₃) δ 151.5, 147.1, 140.0, 132.8, 129.2, 128.6, 128.3, 127.5, 126.5, 39.3, 31.0, 21.6, 12.2; **[α]_D²³** –11.3 (c 0.68, CHCl₃).

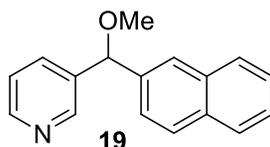


(R)-3-(1-phenylethyl)pyridine ((R)-17). To a flame dried vial in a glovebox was added nickel(II) acetylacetonate (5.1 mg, 0.020 mmol), DPEphos (21.5 mg, 0.040 mmol) and toluene (1 mL). The vial was removed from the glove box and cooled to 0 °C. A solution of **(S)-SI-20** (0.20 mmol in 0.6 mL toluene) was prepared and cooled to 0 °C. The vial containing the Ni source and catalyst was charged with **(S)-SI-20** (0.067 mmol, 0.2 mL) followed by methylmagnesium iodide (0.18 mL, 0.40 mmol, 2.2 M in Et₂O). The remaining solution of **(S)-SI-20** was added in two equal portions (0.067 mmol, 0.2 mL) at the 12 and 24 hour marks. The reaction was stirred at 0 °C for a total of 48 hours before quenching with EtOAc (2 mL) and running through a silica gel plug (100% EtOAc). The combined organics were concentrated in vacuo, internal standard (PhTMS, 0.20 mmol) was added and ¹H NMR yield was collected. The product was purified by flash chromatography (0.5% Et₃N, 15% EtOAc/hexanes) to afford **(R)-17** as a clear, colorless oil (0.036 g, 99%). Analytical data is consistent with literature values:¹⁹ **TLC R_f** = 0.4 (30% EtOAc in hexanes); **¹H NMR** (400 MHz, CDCl₃) δ 8.53 (d, *J* = 1.6 Hz, 1H), 8.43 (dd, *J* = 4.4 Hz, *J* = 1.2 Hz, 1H), 7.47 (m, 1H), 7.25–7.31 (m, 2H), 7.15–7.21 (m, 4H), 4.16 (m 1H), 1.65 (d, *J* = 7.2 Hz, 3H); **¹³C NMR** (100 MHz, CDCl₃) δ 149.4, 147.6, 145.1, 141.6, 135.0, 128.7, 127.6, 126.5, 123.4, 42.5, 21.6; **[α]_D²³** +3.5 (c 1.03, CHCl₃); **SFC** analysis (AD-H, 7% IPA, 4.0 mL/min, 206 nm) indicated 88% ee: *t_R* (major) = 4.3 minutes, *t_R* (minor) = 4.8 minutes.



(R)-18

(R)-3-(1-(naphthalen-2-yl)ethyl)pyridine ((R)-18). To a flame dried vial in a glovebox was added nickel(II) acetylacetonate (5.1 mg, 0.020 mmol), DPEphos (21.5 mg, 0.040 mmol) and toluene (1 mL). The vial was removed from the glove box and cooled to 0 °C. A solution of **(S)-SI-21** (0.20 mmol in 0.6 mL toluene) was prepared and cooled to 0 °C. The vial containing the Ni source and catalyst was charged with **(S)-SI-21** (0.067 mmol, 0.2 mL) followed by methylmagnesium iodide (0.18 mL, 0.40 mmol, 2.2 M in Et₂O). The remaining solution of **(S)-SI-21** was added in two equal portions (0.067 mmol, 0.2 mL) at the 12 and 24 hour marks. The reaction was stirred at 0 °C for a total of 48 hours before quenching with EtOAc (2 mL) and running through a silica gel plug (100% EtOAc). The combined organics were concentrated in vacuo, internal standard (PhTMS, 0.20 mmol) was added and ¹H NMR yield was collected. The product was purified by flash chromatography (0.5% Et₃N, 15% EtOAc/hexanes) to afford **(R)-18** as a clear, colorless oil (0.046 g, 98%): **TLC** R_f = 0.3 (30% EtOAc in hexanes); **¹H NMR** (400 MHz, CDCl₃) δ 8.58 (d, *J* = 2.0 Hz, 1H), 8.45 (dd, *J* = 4.8 Hz, *J* = 1.6 Hz, 1H), 7.78 (m, 3H), 7.68 (s, 1H), 7.49 (m, 3H), 7.27 (dd, *J* = 4.8 Hz, *J* = 1.6 Hz, 1H), 7.19 (ddd, *J* = 8.0 Hz, *J* = 4.8 Hz, *J* = 0.8 Hz, 1H), 4.33 (q, *J* = 7.2 Hz, 1H), 1.75 (d, *J* = 8.8 Hz, 3H); **¹³C NMR** (100 MHz, CDCl₃) δ 149.7, 147.9, 142.6, 141.7, 135.3, 133.7, 132.4, 128.5, 128.0, 127.8, 126.7, 126.4, 125.9, 125.7, 123.6, 42.8, 21.7; **IR** (thin film) 3053, 2967, 1601, 1421, 1024 cm⁻¹; **HRMS** (TOF MS ES+) *m/z* calcd for C₁₅H₁₉NO₂ (M + H)⁺ 234.1283, found 234.1276; [α]_D²³ +32.7 (c 1.03, CHCl₃); **SFC** analysis (AD-H, 8% IPA, 4.0 mL/min, X nm) indicated 88% ee: t_R (minor) = 11.5 minutes, t_R (major) = 13.1 minutes.

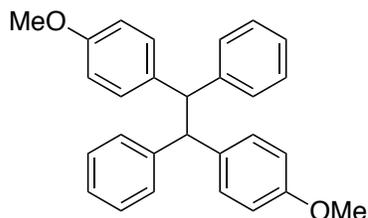


19

3-(methoxy(naphthalen-2-yl)methyl)pyridine (19). To a suspension of NaH (0.171 g, 7.13 mmol) in THF (12 mL) was added a solution of *rac*-SI-11 (0.932 g, 3.96 mmol) in THF (3 mL). The mixture was stirred for 1 h before addition of iodomethane (0.316 mL, 5.06 mmol). The reaction was allowed to stir overnight. Excess NaH was quenched with saturated aqueous ammonium chloride (5 mL), and the product was extracted with EtOAc (3 x 10 mL). The combined organics were washed with brine (5 mL), dried over MgSO₄ and concentrated in vacuo. Purification using flash chromatography (10–40% EtOAc/hexane) afforded the title compound as a yellow oil (0.727 g, 74%): **TLC** R_f = 0.1 (30% EtOAc in hexanes); **¹H NMR** (400 MHz, CDCl₃) δ 8.67 (d, *J* = 2.0 Hz, 1H), 8.51 (dd, *J* = 4.8 Hz, *J* = 1.2 Hz, 1H), 7.83 (ap t, *J* = 7.6 Hz, 4H), 7.68 (ap d, *J* = 8.0 Hz, 1H), 7.49 (m, 2H), 7.40 (dd, *J* = 8.6 Hz, *J* = 1.2 Hz, 1H), 7.24 (m, 1H), 5.44 (s, 1H), 3.44 (s, 3H); **¹³C NMR** (125 MHz, CDCl₃) δ 149.1, 148.8, 138.4, 137.7, 134.6, 133.3, 133.2, 128.8, 128.1, 127.9, 126.5, 126.3, 126.2, 124.7, 123.6, 83.4, 57.3; **IR** (thin film) 3055, 1933, 2923, 1423, 1092, 818 cm⁻¹; **HRMS** (TOF MS ES+) *m/z* calcd for C₁₅H₁₉NO₂ (M + H)⁺ 250.1232, found 250.1238.

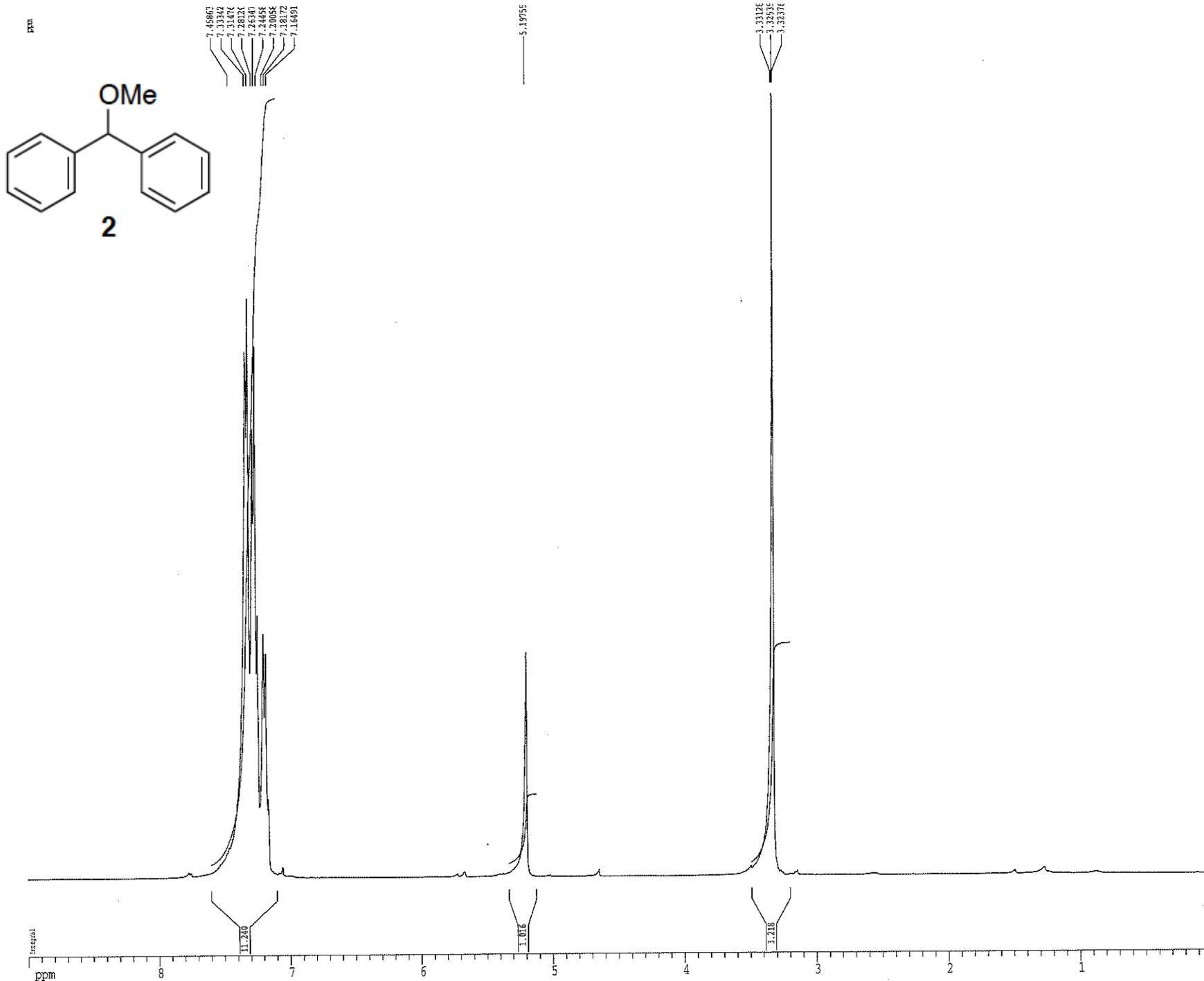
VIII. References and Notes

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1H spectrum



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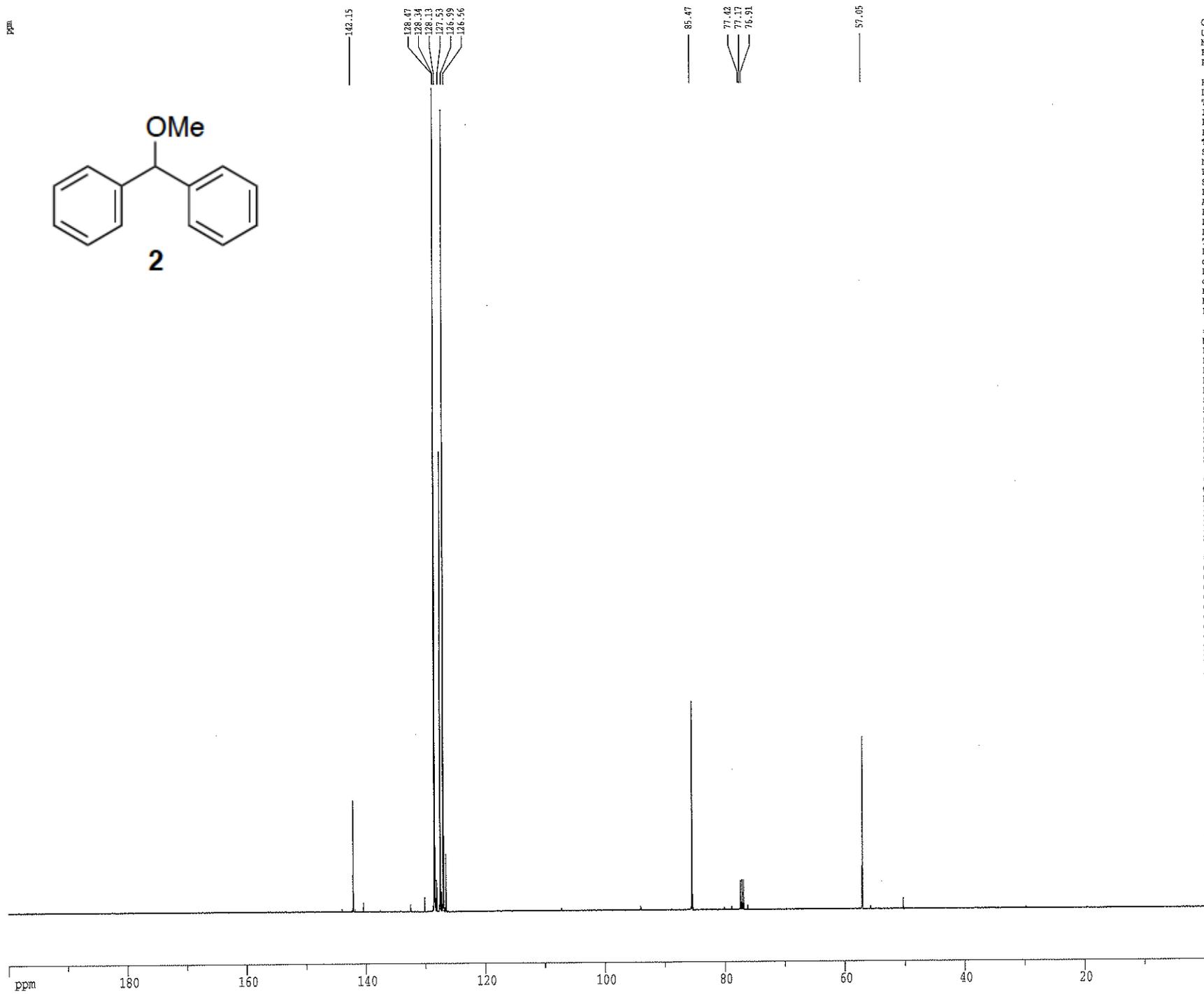
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F2 - Processing parameters
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 LB 0.30 Hz
 GB 0
 PC 2.00

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 F2P 0.000 ppm
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Z-restored spin-echo 13C spectrum with 1H decoupling



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FIDRES     0.462388 Hz
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TE          298.0 K
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d11         0.03000000 sec
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d17         0.00019600 sec
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F2          31.00 usec

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PL1         -1.00 dB
SFO1       125.7942548 MHz
SF1         3.20 dB
SF2         3.20 dB
SFOA01     Crp60,0.5,20.1
SFOA02     Crp60comp.4
SFOFF1     0.00 Hz
SFOFF2     0.00 Hz

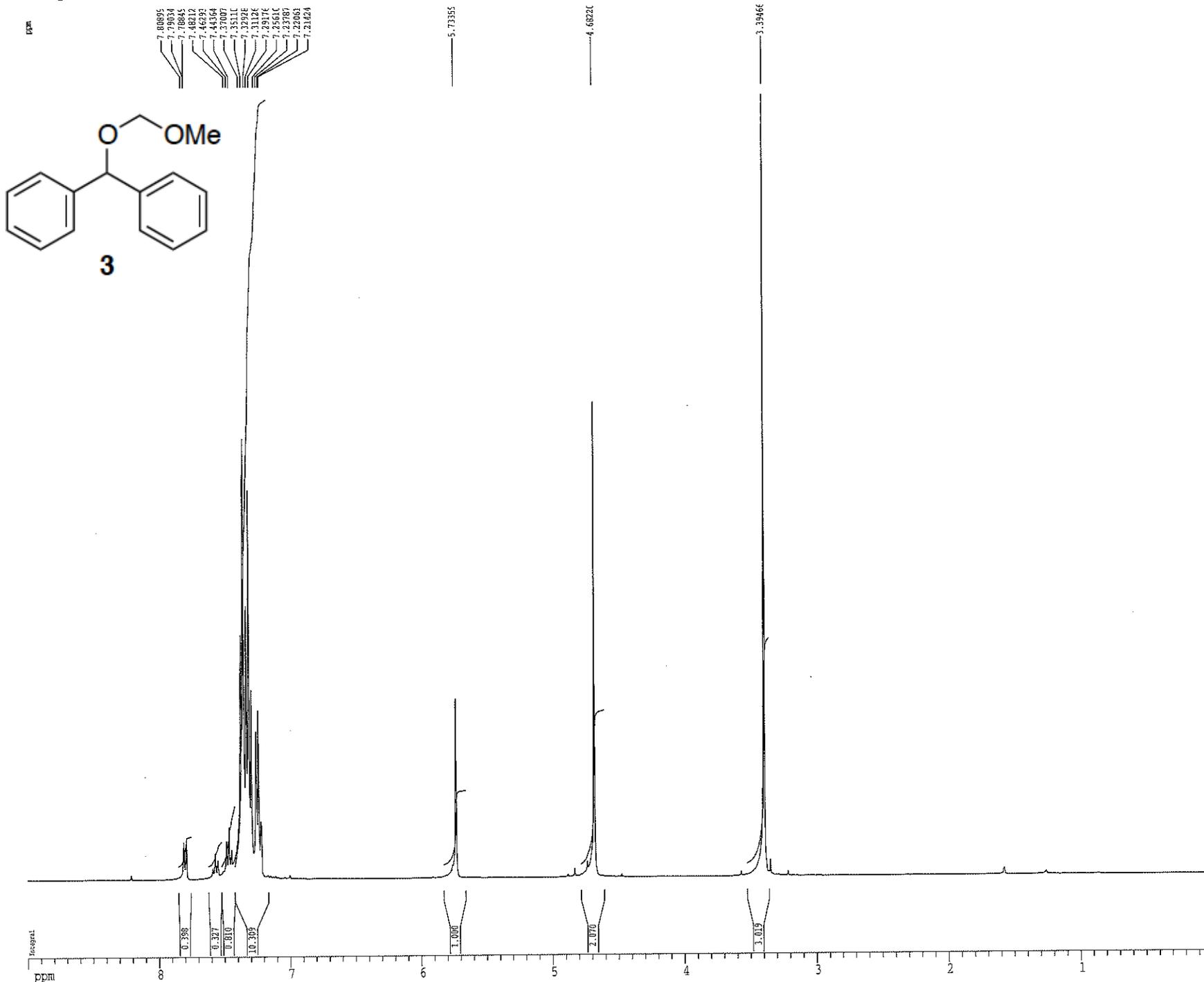
===== CHANNEL f2 =====
CPDPRG2    waltz16
NUC2       1H
PCPD2      100.00 usec
PL2         1.60 dB
PL12        24.60 dB
SFO2       500.2225011 MHz

===== GRADIENT CHANNEL =====
GPRAM1     SINE.100
GPRAM2     SINE.100
GPX1        0.00 %
GPX2        0.00 %
GPY1        0.00 %
GPY2        0.00 %
GPZ1        30.00 %
GPZ2        50.00 %
p15         500.00 usec
p16         1000.00 usec

F2 - Processing parameters
SI         65536
SF         125.7804325 MHz
MAGN       EM
SSB         0
LB          1.00 Hz
GB          0
PC          2.00

1D NMR plot parameters
CX         22.80 cm
CY         15.65 cm
FIP        200.000 ppm
F1         25156.09 Hz
F2P         0.000 ppm
F2          0.00 Hz
PPMFM      8.77133 ppm/cm
RGCM       1103.33716 Hz/cm
    
```

1H spectrum



Current Data Parameters
 USER greene
 NAME mag-2-042c
 EXPNO 3
 PROCNO 1

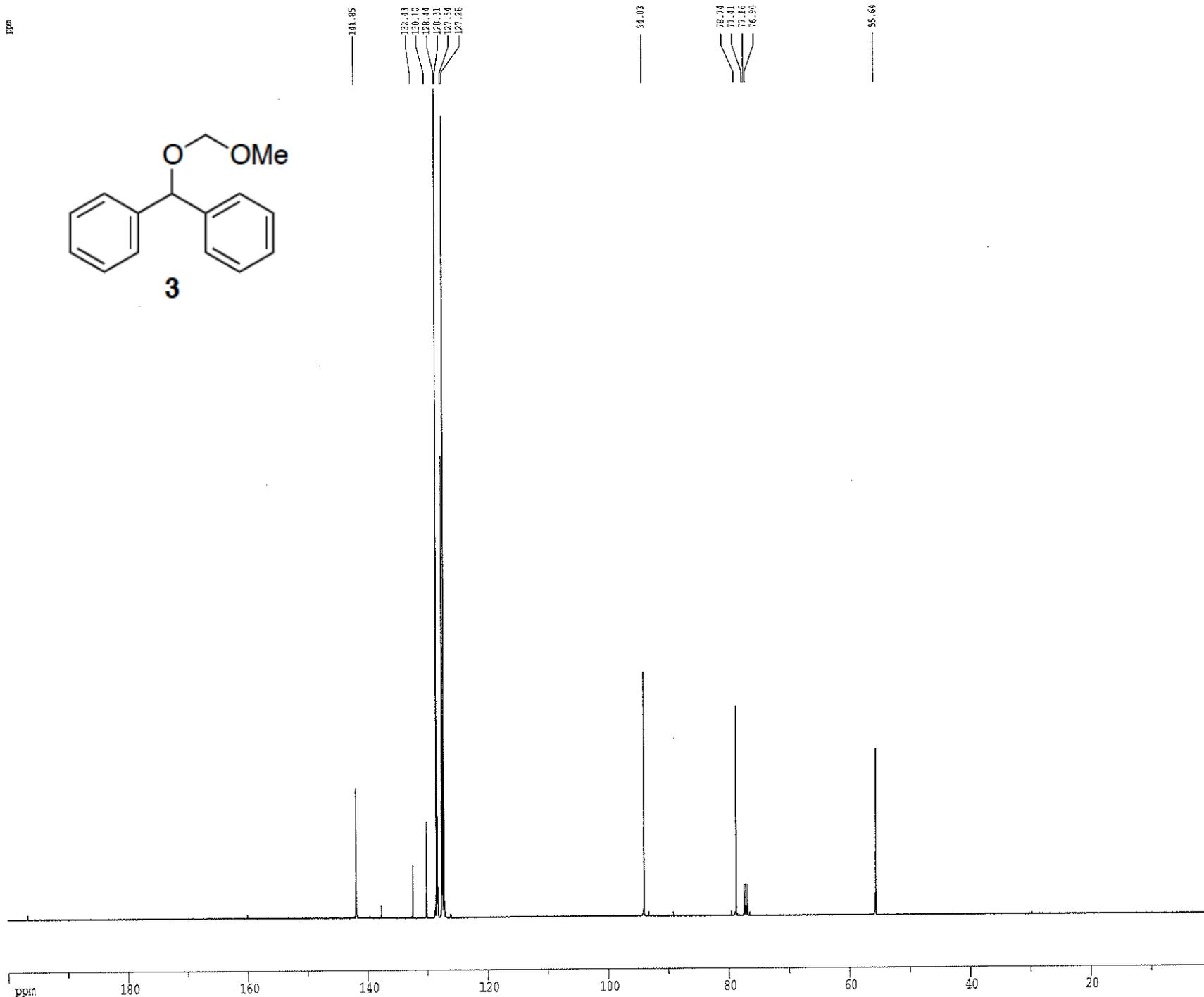
F2 - Acquisition Parameters
 Date_ 20111129
 Time 10.31
 INSTRUM Grx400
 PROBEID 5 mm QNP H/P/P
 PULPROG zgpg
 TD 65536
 SOLVENT CDCl3
 NS 8
 DS 2
 SWH 6410.256 Hz
 FIDRES 0.097813 Hz
 AQ 5.1118579 sec
 RG 64
 DN 78.000 usec
 DE 4.50 usec
 TE 298.0 K
 DA 0.1000000 sec
 MCASST 0.0000000 sec
 MCNRR 0.01500000 sec

===== CHANNEL f1 =====
 NUC1 1H
 P1 12.00 usec
 PL1 -0.60 dB
 SFO1 400.1328009 MHz

F2 - Processing parameters
 SI 65536
 SF 400.1300399 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 2.00

1D NMR plot parameters
 CX 22.80 cm
 CY 15.00 cm
 FIP 9.000 ppm
 F1 3601.17 Hz
 F2 0.000 ppm
 F3 0.00 Hz
 FPMCM 0.39474 ppm/cm
 BPCM 157.94608 Hz/cm

Z-restored spin-echo 13C spectrum with 1H decoupling



```

Current Data Parameters
USER: greena
NAME: mag-2-042p
EXPNO: 2
PROCNO: 1

F2 - Acquisition Parameters
Date_: 20111221
Time: 7.52
INSTRUM: cryo500
PROBHD: 5 mm CPXI 1H-
PULPROG: SpinEcho310gpr.prd
TD: 65536
SOLVENT: CDCl3
NS: 273
DS: 16
SWH: 30302.031 Hz
FIDRES: 0.462388 Hz
AQ: 1.0813940 sec
RG: 7298.2
IM: 16.500 usec
DE: 6.00 usec
TE: 298.0 K
D1: 0.25000000 sec
d11: 0.03000000 sec
D16: 0.00020000 sec
d17: 0.00016000 sec
MCHEST: 0.00000000 sec
MCHMK: 0.01500000 sec
F2: 31.00 usec

===== CHANNEL f1 =====
NUC1: 13C
P1: 15.50 usec
P11: 500.00 usec
P12: 2000.00 usec
PL0: 120.00 dB
PL1: -1.00 dB
SFO1: 125.7942348 MHz
SP1: 3.20 dB
SP2: 3.20 dB
SFO2: Crp60,0.5,20.1
SPNAM2: Crp60comp.4
SFOFF1: 0.00 Hz
SFOFF2: 0.00 Hz

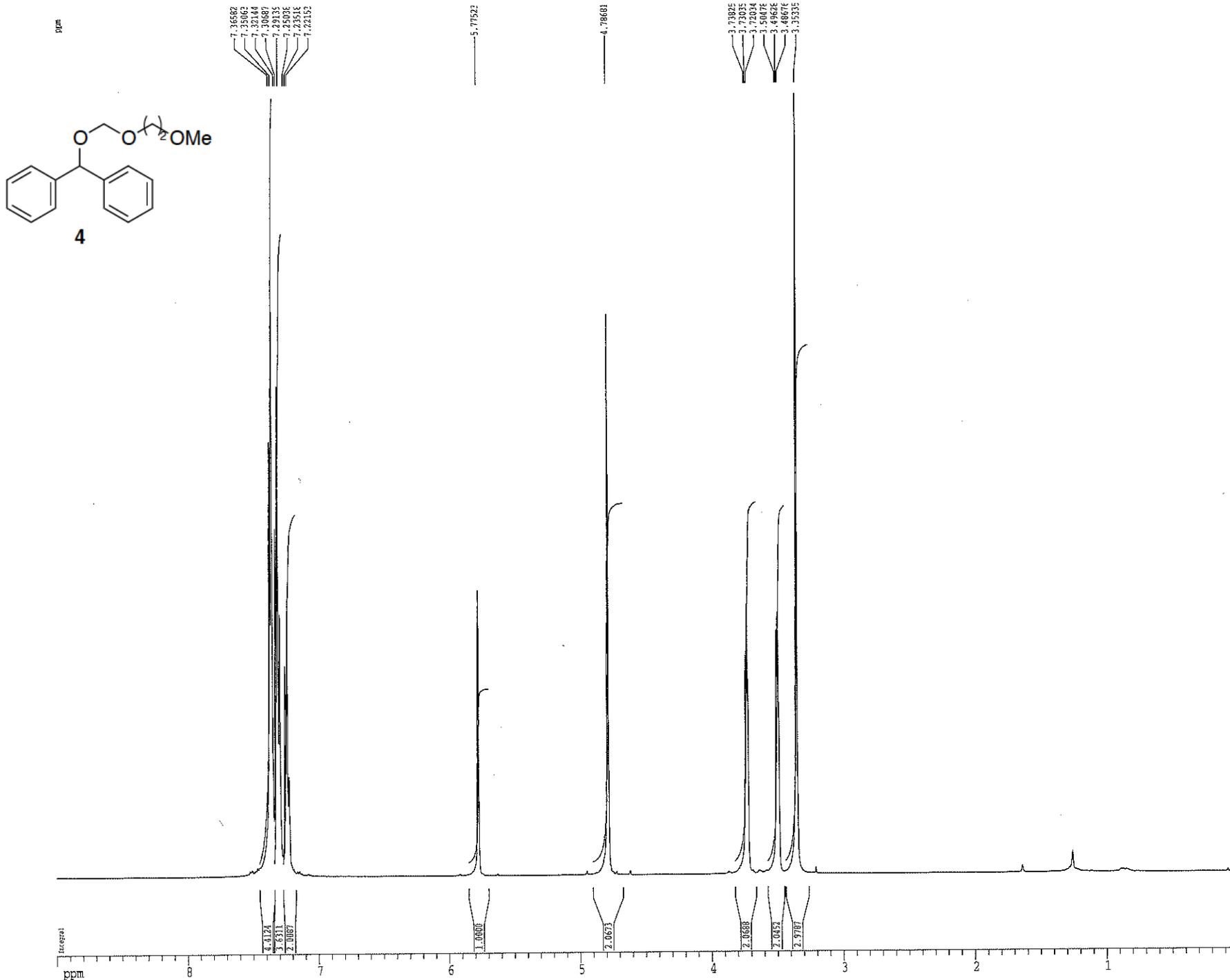
===== CHANNEL f2 =====
CRYPRG2: waltr16
NUC2: 1H
PCPD2: 100.00 usec
PL2: 1.60 dB
PL12: 24.60 dB
SFO2: 500.2225011 MHz

===== GRADIENT CHANNEL =====
GPRAM1: SINE.100
GPRAM2: SINE.100
GFX1: 0.00 %
GFX2: 0.00 %
GPY1: 0.00 %
GPY2: 0.00 %
GPZ1: 30.00 %
GPZ2: 50.00 %
p15: 500.00 usec
p16: 1000.00 usec

F2 - Processing parameters
SI: 65536
SF: 125.7804344 MHz
WDW: EM
SSB: 0
LB: 1.00 Hz
GB: 0
PC: 2.00

1D NMR plot parameters
CK: 22.80 cm
CY: 15.65 cm
F1P: 200.000 ppm
F1: 25156.09 Hz
F2P: 0.000 ppm
F2: 0.00 Hz
PPHMH: 8.77193 ppm/cm
HSCW: 1103.33716 Hz/cm
    
```

1H spectrum



Current Data Parameters
 USER greene
 NAME mag-2-043p
 EXPNO 1
 PROCNO 1

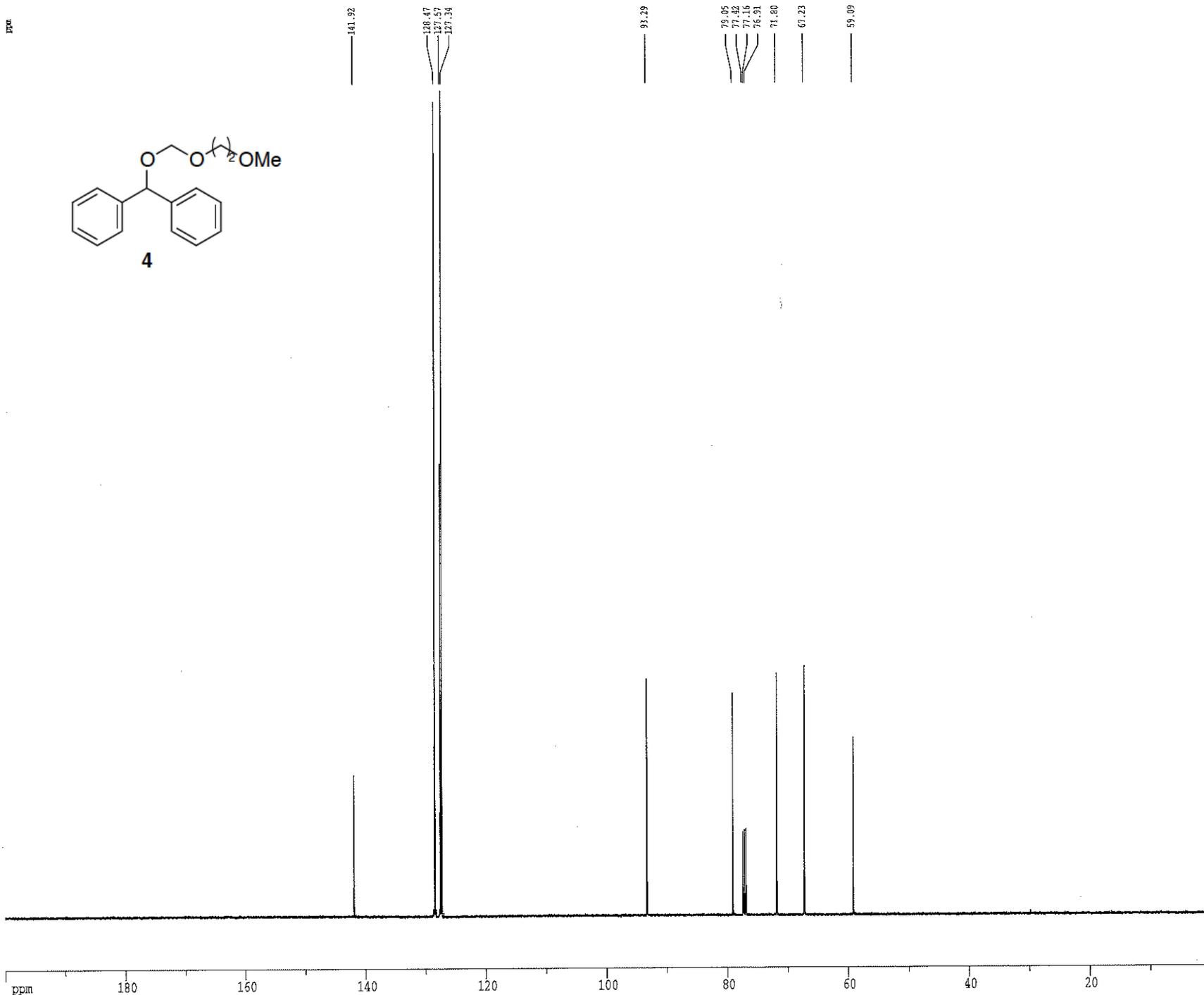
F2 - Acquisition Parameters
 Date_ 20111222
 Time 11.05
 INSTRUM cryo500
 PROBEHD 5 mm CPTCI 1H-
 PULPROG zg30
 TD 31728
 SOLVENT CDCl3
 NS 8
 DS 2
 SWH 8012.820 Hz
 FIDRES 0.098043 Hz
 AQ 5.0998774 sec
 RG 3.2
 EN 62.400 usec
 DE 6.00 usec
 FE 298.0 K
 DL 0.10000000 sec
 MCREST 0.00000000 sec
 MCNRR 0.01500000 sec

==== CHANNEL f1 =====
 NUC1 1H
 P1 7.50 usec
 PL1 1.60 dB
 SFO1 500.2235015 MHz

F2 - Processing parameters
 SI 65536
 SF 500.2200442 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 4.00

1D NMR plot parameters
 CX 22.80 cm
 CY 15.00 cm
 F1P 9.000 ppm
 F1 4501.98 Hz
 F2P 0.000 ppm
 F2 0.00 Hz
 PPMCM 0.39474 ppm/cm
 HZCM 197.45528 Hz/cm

Z-restored spin-echo 13C spectrum with 1H decoupling



Current Data Parameters
 USR greene
 NAME mag-2-043p
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20111222
 Time 11.09
 INSTRUM cryo500
 PROBHD 5 mm CPTCI 1H-
 PULPROG SpinEcho30gp.prd
 TD 65536
 SOLVENT CTC11
 NS 204
 DS 16
 SWH 30303.031 Hz
 FIDRES 0.462388 Hz
 AQ 1.081394 sec
 RG 7298.2
 DW 16.500 usec
 DE 6.00 usec
 EB 298.0 X
 D1 0.25000000 sec
 d11 0.03000000 sec
 D16 0.00020000 sec
 d17 0.00019600 sec
 MCHBET 0.00000000 sec
 MCHRGK 0.01500000 sec
 F2 31.00 usec

===== CHANNEL f1 =====
 NUC1 13C
 P1 15.50 usec
 P11 500.00 usec
 P12 2000.00 usec
 PL0 120.00 dB
 PL1 -1.00 dB
 SFO1 125.7942548 MHz
 SF1 3.20 dB
 SF2 3.20 dB
 SGAM1 Crp60.0.5.20.1
 SPAM2 Crp60comp.4
 SPOFF1 0.00 Hz
 SPOFF2 0.00 Hz

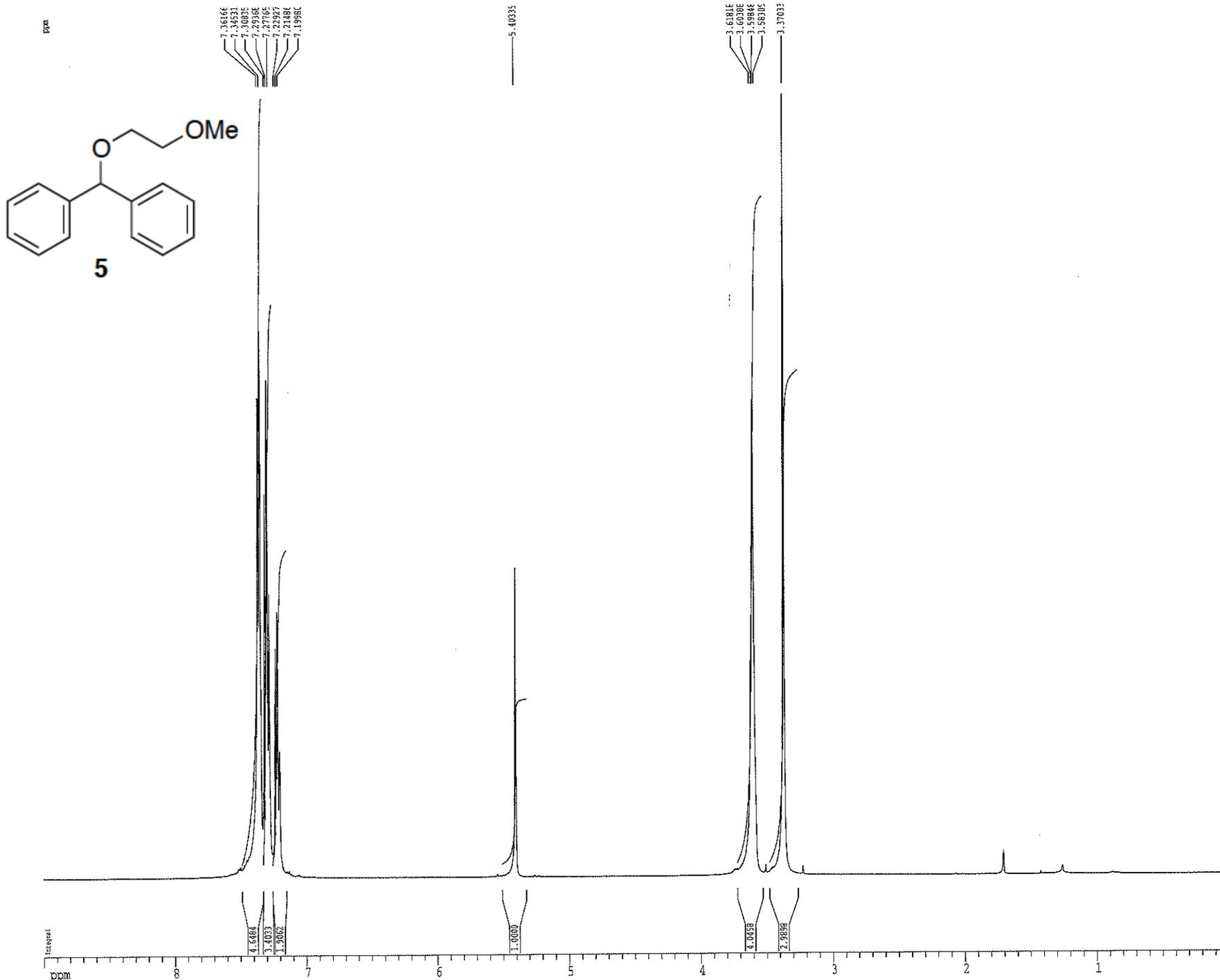
===== CHANNEL f2 =====
 NUC2 1H
 P11 100.00 usec
 PL2 1.60 dB
 PL12 24.60 dB
 SFO2 500.2225011 MHz

===== GRADIENT CHANNEL =====
 GPMAM1 SINE.100
 GPMAM2 SINE.100
 GPX1 0.00 %
 GPX2 0.00 %
 GPY1 0.00 %
 GPY2 0.00 %
 GPZ1 30.00 %
 GPZ2 50.00 %
 p15 500.00 usec
 p16 1000.00 usec

F2 - Processing parameters
 SI 65536
 SF 125.7804168 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 2.00

1D NMR plot parameters
 CX 22.80 cm
 CY 15.65 cm
 F1P 200.000 ppm
 F1 25156.08 Hz
 F2P 0.000 ppm
 F2 0.00 Hz
 PPMCM 8.77193 ppm/cm
 HZCM 1103.33704 Hz/cm

1H spectrum



```

Current Data Parameters
USER      greene
NAME      mag-2-045p
EXPNO     1
PROCNO    1

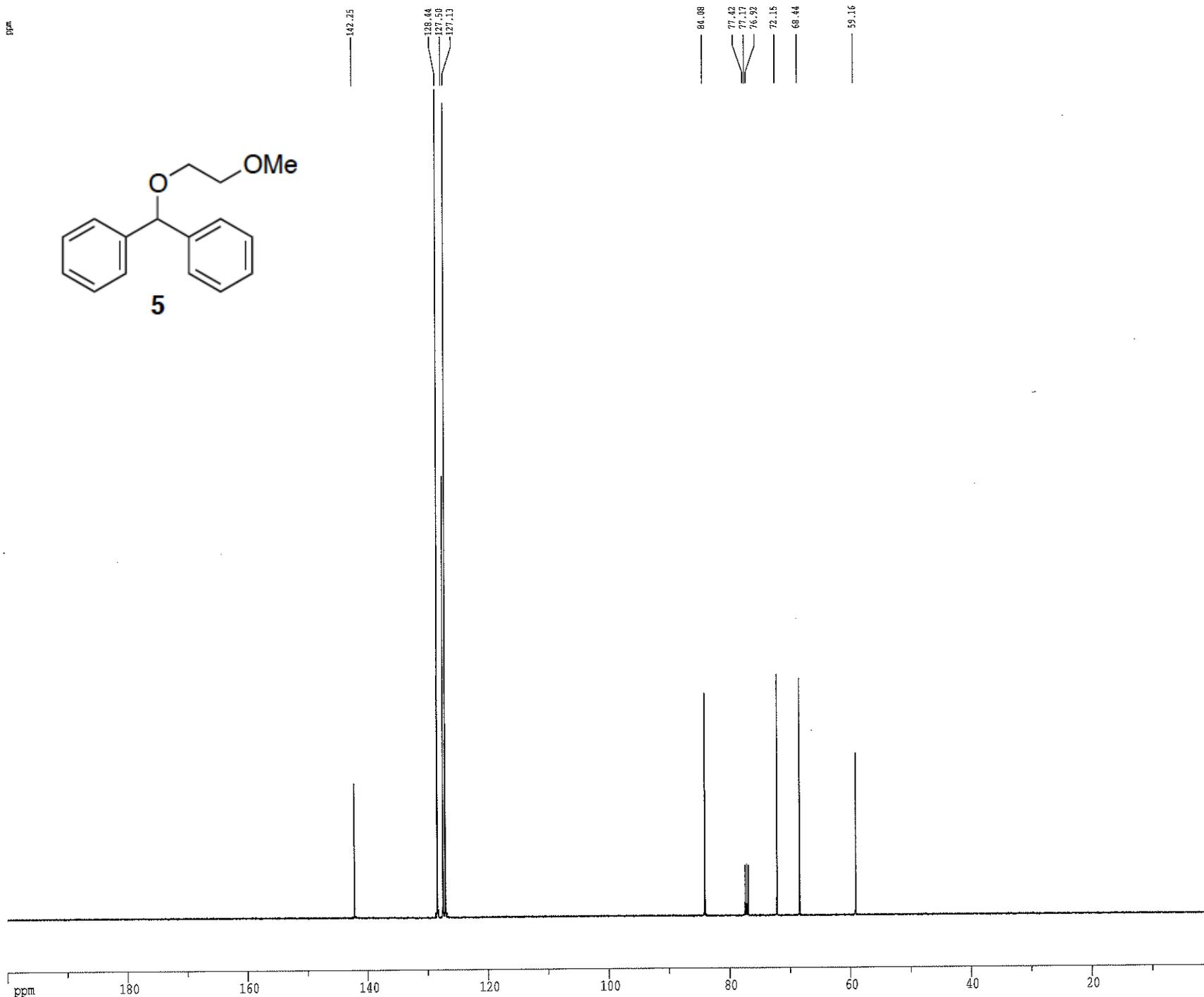
F1 - Acquisition Parameters
Date_     2011221
Time      8.08
INSTRUM   cryo500
PROBHD    5 mm CPTCI 1H-
PULPROG   zg30
TD         81728
SOLVENT   CDCl3
NS         8
DS         2
SWH        8012.820 Hz
FIDRES     0.098043 Hz
AQ         5.0998774 sec
RG         3.2
DM         62.400 usec
DE         6.00 usec
TE         298.0 K
D1         0.10000000 sec
MCREST    0.00000000 sec
MCARR     0.01500000 sec

===== CHANNEL f1 =====
NUC1       1H
P1         7.50 usec
PL1        1.60 dB
SFO1       500.2235015 MHz

F2 - Processing parameters
SF         65536
SF         500.2200621 MHz
WDW        no
SSB        0
LB         0.00 Hz
GB         0
PC         4.00

1D NMR plot parameters
CX         22.80 cm
CY         15.00 cm
FLP        9.000 ppm
F1         4501.98 Hz
F2P        0.000 ppm
F2         0.00 Hz
PPMCM      0.39474 ppm/cm
HZCM       197.45529 Hz/cm
    
```

Z-restored spin-echo 13C spectrum with 1H decoupling



```

Current Data Parameters
USER      greene
NAME      mag-2-045p
EXPNO     2
PROCNO    1

F2 - Acquisition Parameters
Date_     20111221
Time      8.14
INSTRUM   cryo500
PROBHD    5 mm CPXI 1H-
PULPROG   SpinEcho1Dopp.prd
TD         65536
SOLVENT   CDCl3
NS         186
DS         16
SWH        30303.031 Hz
FIDRES     0.462388 Hz
AQ         1.0813940 sec
RG         6502
DM         16.500 usec
DE         6.00 usec
TE         298.0 K
D1         0.25000000 sec
d11        0.03000000 sec
D16        0.00020000 sec
d17        0.00019600 sec
MCREST     0.00000000 sec
MCWRRK     0.01500000 sec
F2         31.00 usec

===== CHANNEL f1 =====
NUC1       13C
P1         15.50 usec
P11        500.00 usec
P12        2000.00 usec
PL0        120.00 dB
PL1        -1.00 dB
SFO1       125.7942548 MHz
SF1        3.20 dB
SF2        3.20 dB
SFOAM1     Crp60.0.5.20.1
SFOAM2     Crp60comp.4
SPOFF1     0.00 Hz
SPOFF2     0.00 Hz

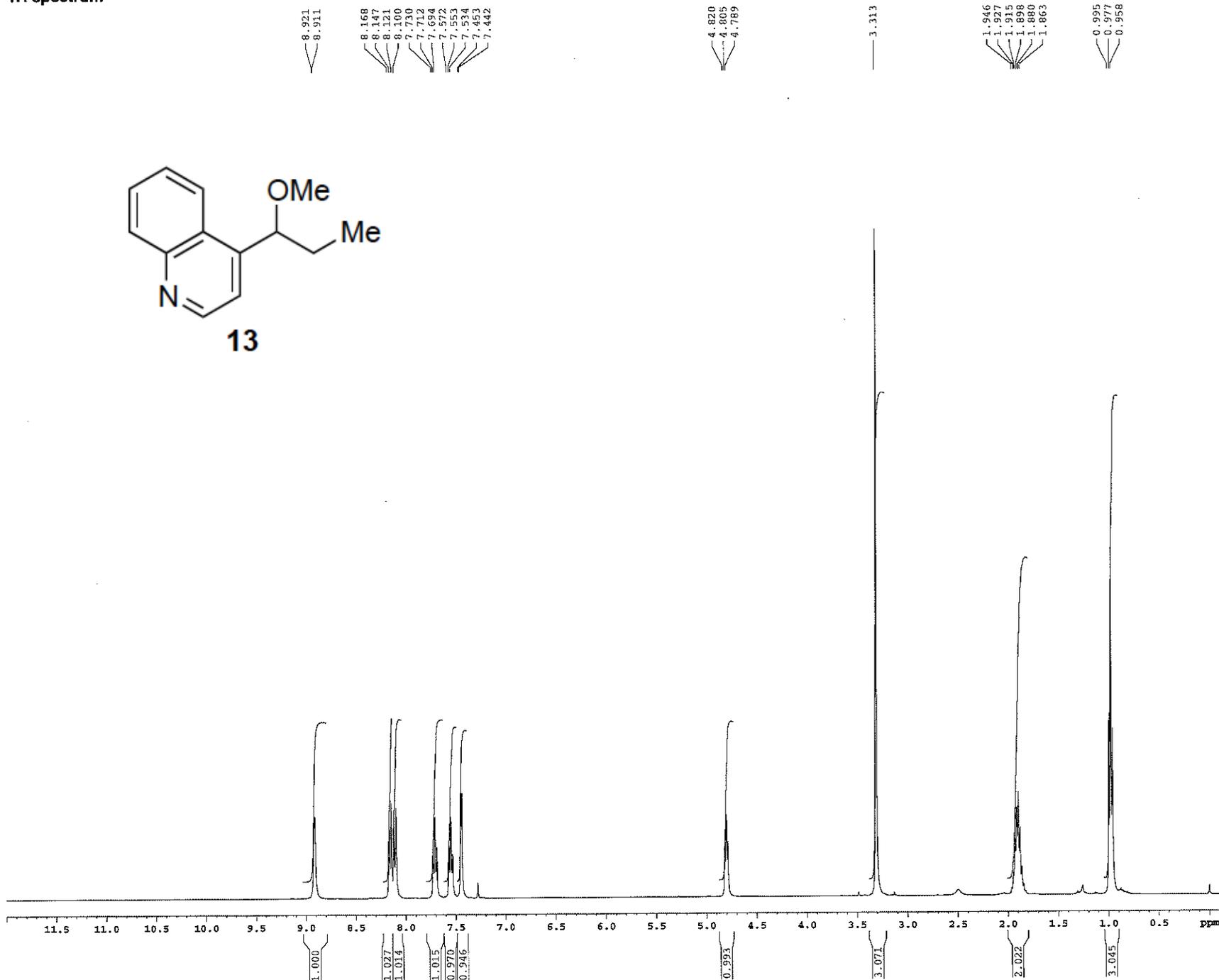
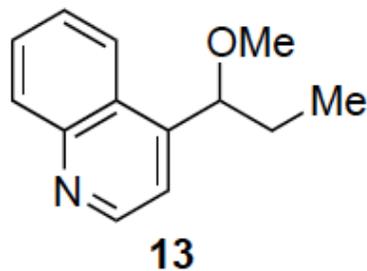
===== CHANNEL f2 =====
CPDPRG2    waltz16
NUC2       1H
PCPD2      100.00 usec
PL2        1.60 dB
PL12       24.60 dB
SFO2       500.2225011 MHz

===== GRADIENT CHANNEL =====
GPRM1      SINE.100
GPRM2      SINE.100
GPX1       0.00 %
GPX2       0.00 %
GPY1       0.00 %
GPY2       0.00 %
GPZ1       30.00 %
GPZ2       50.00 %
p15        500.00 usec
p16        1000.00 usec

F2 - Processing parameters
SI         65536
SF         125.7804224 MHz
WDW        EM
SSB        0
LB         1.00 Hz
GB         0
PC         2.00

1D NMR plot parameters
CX         22.80 cm
CY         15.65 cm
FIP        200.000 ppm
PL         25156.09 Hz
F2P        0.000 ppm
F2         8.90 Hz
PFMCM      8.77193 ppm/cm
H2CM       1103.33718 Hz/cm
    
```

1H spectrum



```

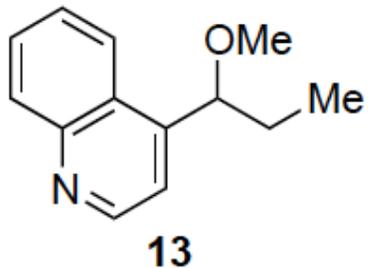
Current Data Parameters
USER      yonova
NAME      imy3 - 089
EXPMO     2
PROCNO    1

F2 - Acquisition Parameters
Date_     20110330
Time      16.34
INSTRUM   drx400
PROBHD    5 mm QNP H/P/P
PULPROG   zg30
TD         65536
SOLVENT   CDCl3
MS         8
DS         2
SWH        6410.256 Hz
FIDRES     0.097813 Hz
AQ         5.1118579 sec
RG         71.8
SM         78.000 usec
DS         4.50 usec
TE         298.0 K
D1         0.10000000 sec
MCREST     0.00000000 sec
MCWRK     0.01500000 sec

***** CHANNEL f1 *****
NUC1       1H
P1         12.00 usec
PL1        0.70 dB
SFO1       400.1328009 MHz

F2 - Processing parameters
SI         65536
SF         400.1300123 MHz
WDW        EM
SSB        0
LB         0.30 Hz
GB         0
PC         2.00
    
```

¹³C spectrum with ¹H decoupling



150.246
148.599
147.857

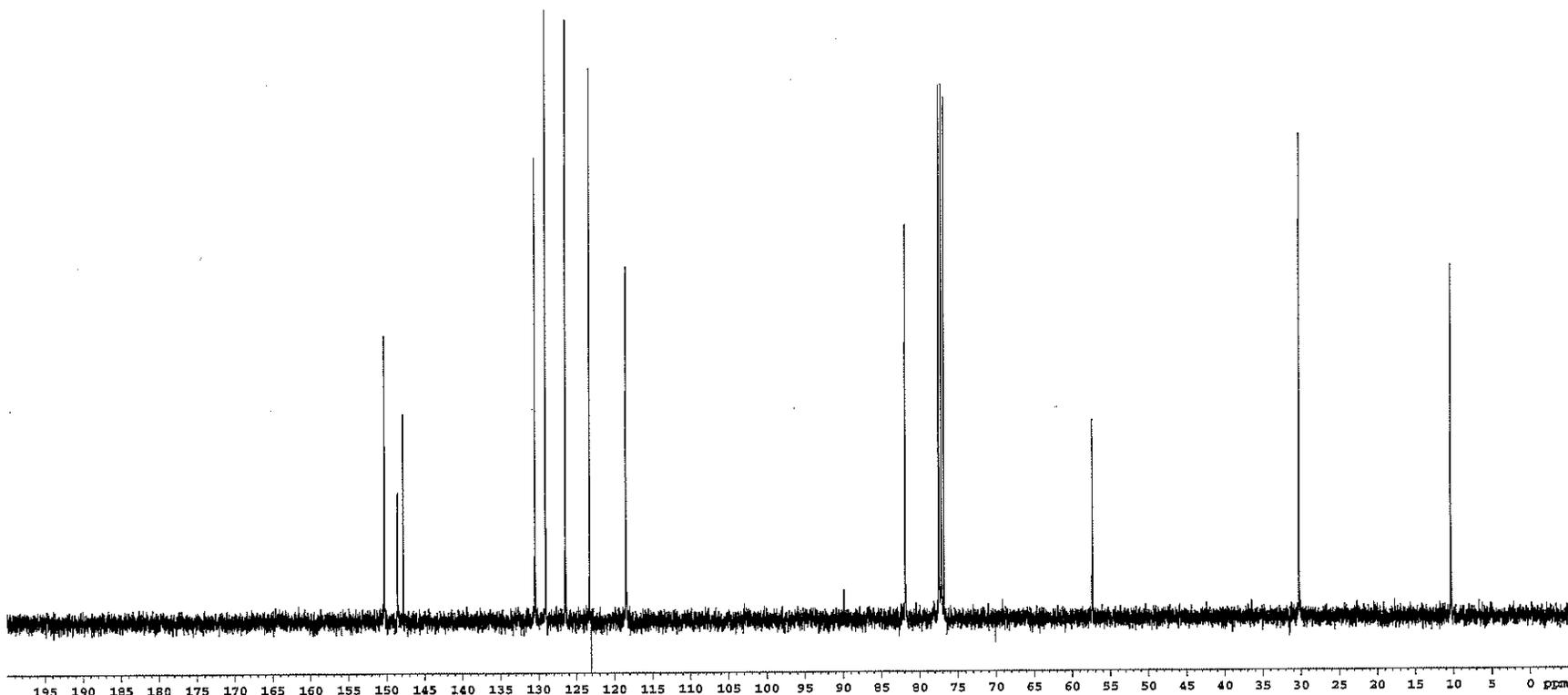
130.494
129.090
126.514
126.456
123.315
118.519

81.902
77.475
77.157
76.839

57.389

30.256

10.386



```

Current Data Parameters
USER      yonova
NAME      lmy3 - 089
EXPRO    3
PROCNO    1

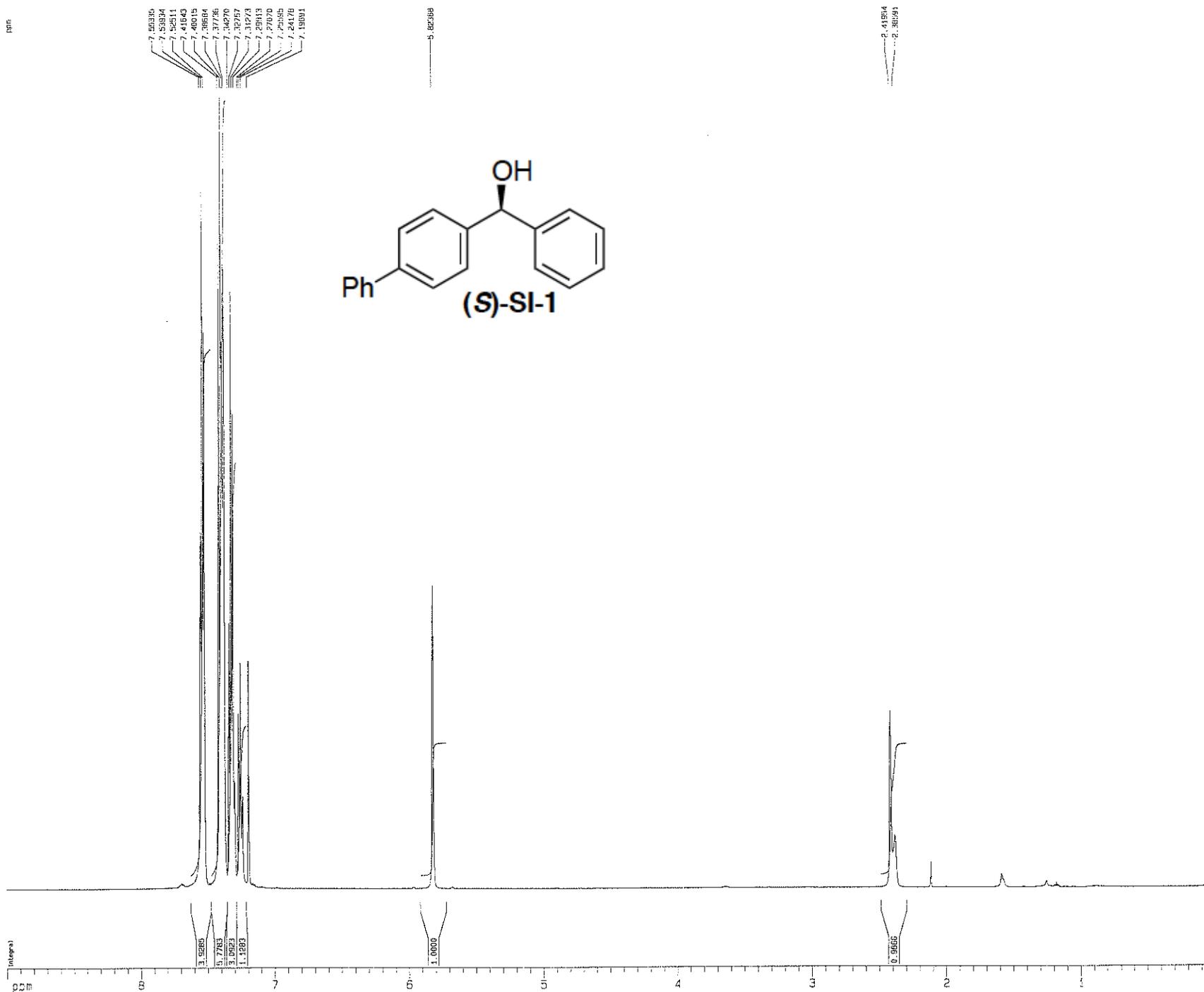
F2 - Acquisition Parameters
Date_     20110330
Time      16.39
INSTRUM   drx400
PROBHD    5 mm QNP H/P/P
PULPROG   zgpg30
TD         65536
SOLVENT   CDCl3
NS         148
DS         4
SWH        24154.590 Hz
FIDRES     0.386570 Hz
AQ         1.3566452 sec
RG         9195.2
EW         20.700 usec
DE         20.39 usec
TE         298.0 K
D1         0.10000000 sec
d11        0.03000000 sec
MCREST    0.00000000 sec
MCWRRX    0.01500000 sec

===== CHANNEL f1 =====
NUC1      13C
P1        10.50 usec
PL1       0.00 dB
SFO1      100.6237964 MHz

===== CHANNEL f2 =====
CPDPRG2   mlev16
NUC2      1H
PCPD2     80.00 usec
PL2       0.00 dB
PL12      17.40 dB
SFO2      400.1328009 MHz

F2 - Processing parameters
SI         65536
SF         100.6127639 MHz
WDW        MM
SSB        0
LB         1.00 Hz
GB         0
PC         1.00
    
```

1:1 spectrum



Current Data Parameters
USER greens
NAME mag-1-255
EXPNO 1
PROCNO 1

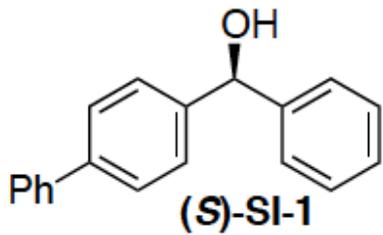
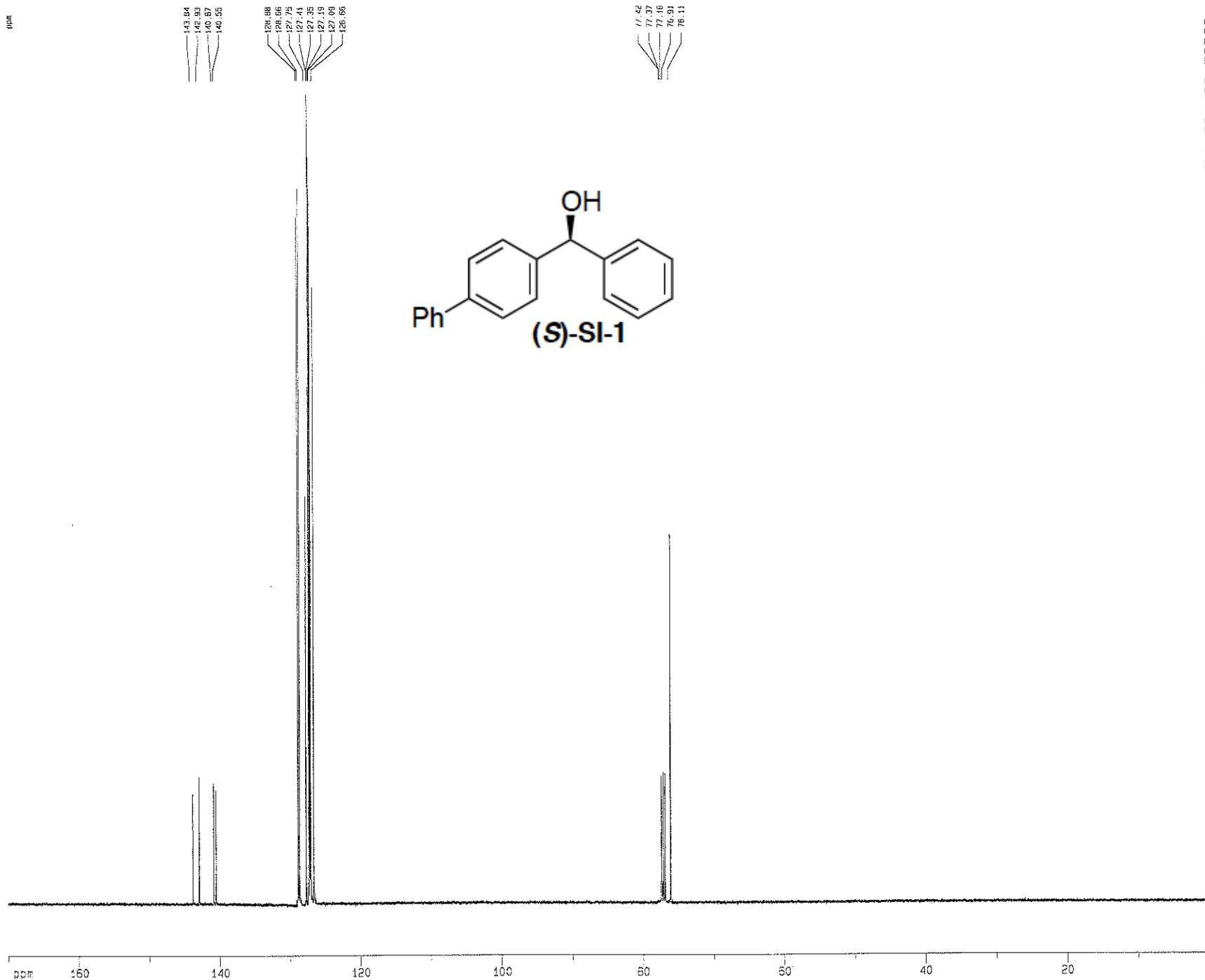
F2 - Acquisition Parameters
Date_ 20111104
Time 10.34
INSTRUM cryo500
PROBHD 5 mm CPTCI 1H-
PULPROG zg30
TD 51728
SOLVENT CDCl3
NS 2
DS 2
SWH 8012.820 Hz
FIDRES 0.098043 Hz
AQ 5.0999398 sec
RG 5.7
DW 58.400 usec
DE 6.00 usec
TE 298.0 K
D1 0.1000000 sec
MCREST 0.0000000 sec
MCWRR 0.01500000 sec

===== CHANNEL f1 =====
NUC1 1H
P1 7.50 usec
PL1 1.60 dB
SFO1 500.2236015 MHz

F2 - Processing parameters
SI 85536
SF 500.2200638 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 4.00

1D NMR plot parameters
CX 22.80 cm
CY 15.00 cm
F1P 9.000 ppm
F1 4501.98 Hz
F2P 0.000 ppm
F2 0.00 Hz
PPMCH 0.39474 ppm/cm
HZCM 197.45528 Hz/cm

Z-restored spin-echo 13C spectrum with 1H decoupling



```

Current Date Parameters
USER          greene
NAME          mag-1-285p
EXPNO        2
PROCNO       3

F2 - Acquisition Parameters
Date_        2011104
Time         10:35
INSTRUM      cryo550
PROBHD       5 mm CPIC 1H-
PULPROG      SpinEchoq30qz.crd
TD           65535
SOLVENT      CDCl3
NS           208
DS           15
SWH          20303.831 Hz
FIDRES       0.465388 Hz
AQ           1.0614108 sec
RG           3251
AQ           16.500 usec
DE           5.00 usec
TE           298.15 K
D1           0.25000000 sec
d11          0.03000000 sec
d16          0.00200000 sec
d17          0.00195000 sec
MCREST       0.00000000 sec
MCMK        0.01500000 sec
P2           31.00 usec

===== CHANNEL f1 =====
NUC1         13C
P1           15.50 usec
P11          500.00 usec
P12          2000.00 usec
PL0          120.00 dB
PL1          -1.00 dB
SFO1         125.7542548 MHz
SP1          3.20 dB
SP2          3.20 dB
SFO1         125.7542548 MHz
SFO2         125.7542548 MHz
SFO3         125.7542548 MHz
SFO4         125.7542548 MHz
SFO5         125.7542548 MHz
SFO6         125.7542548 MHz
SFO7         125.7542548 MHz
SFO8         125.7542548 MHz
SFO9         125.7542548 MHz
SFO10        125.7542548 MHz
SFO11        125.7542548 MHz
SFO12        125.7542548 MHz
SFO13        125.7542548 MHz
SFO14        125.7542548 MHz
SFO15        125.7542548 MHz
SFO16        125.7542548 MHz
SFO17        125.7542548 MHz
SFO18        125.7542548 MHz
SFO19        125.7542548 MHz
SFO20        125.7542548 MHz
SFO21        125.7542548 MHz
SFO22        125.7542548 MHz
SFO23        125.7542548 MHz
SFO24        125.7542548 MHz
SFO25        125.7542548 MHz
SFO26        125.7542548 MHz
SFO27        125.7542548 MHz
SFO28        125.7542548 MHz
SFO29        125.7542548 MHz
SFO30        125.7542548 MHz
SFO31        125.7542548 MHz
SFO32        125.7542548 MHz
SFO33        125.7542548 MHz
SFO34        125.7542548 MHz
SFO35        125.7542548 MHz
SFO36        125.7542548 MHz
SFO37        125.7542548 MHz
SFO38        125.7542548 MHz
SFO39        125.7542548 MHz
SFO40        125.7542548 MHz
SFO41        125.7542548 MHz
SFO42        125.7542548 MHz
SFO43        125.7542548 MHz
SFO44        125.7542548 MHz
SFO45        125.7542548 MHz
SFO46        125.7542548 MHz
SFO47        125.7542548 MHz
SFO48        125.7542548 MHz
SFO49        125.7542548 MHz
SFO50        125.7542548 MHz
SFO51        125.7542548 MHz
SFO52        125.7542548 MHz
SFO53        125.7542548 MHz
SFO54        125.7542548 MHz
SFO55        125.7542548 MHz
SFO56        125.7542548 MHz
SFO57        125.7542548 MHz
SFO58        125.7542548 MHz
SFO59        125.7542548 MHz
SFO60        125.7542548 MHz
SFO61        125.7542548 MHz
SFO62        125.7542548 MHz
SFO63        125.7542548 MHz
SFO64        125.7542548 MHz
SFO65        125.7542548 MHz
SFO66        125.7542548 MHz
SFO67        125.7542548 MHz
SFO68        125.7542548 MHz
SFO69        125.7542548 MHz
SFO70        125.7542548 MHz
SFO71        125.7542548 MHz
SFO72        125.7542548 MHz
SFO73        125.7542548 MHz
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SFO75        125.7542548 MHz
SFO76        125.7542548 MHz
SFO77        125.7542548 MHz
SFO78        125.7542548 MHz
SFO79        125.7542548 MHz
SFO80        125.7542548 MHz
SFO81        125.7542548 MHz
SFO82        125.7542548 MHz
SFO83        125.7542548 MHz
SFO84        125.7542548 MHz
SFO85        125.7542548 MHz
SFO86        125.7542548 MHz
SFO87        125.7542548 MHz
SFO88        125.7542548 MHz
SFO89        125.7542548 MHz
SFO90        125.7542548 MHz
SFO91        125.7542548 MHz
SFO92        125.7542548 MHz
SFO93        125.7542548 MHz
SFO94        125.7542548 MHz
SFO95        125.7542548 MHz
SFO96        125.7542548 MHz
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SFO98        125.7542548 MHz
SFO99        125.7542548 MHz
SFO100       125.7542548 MHz

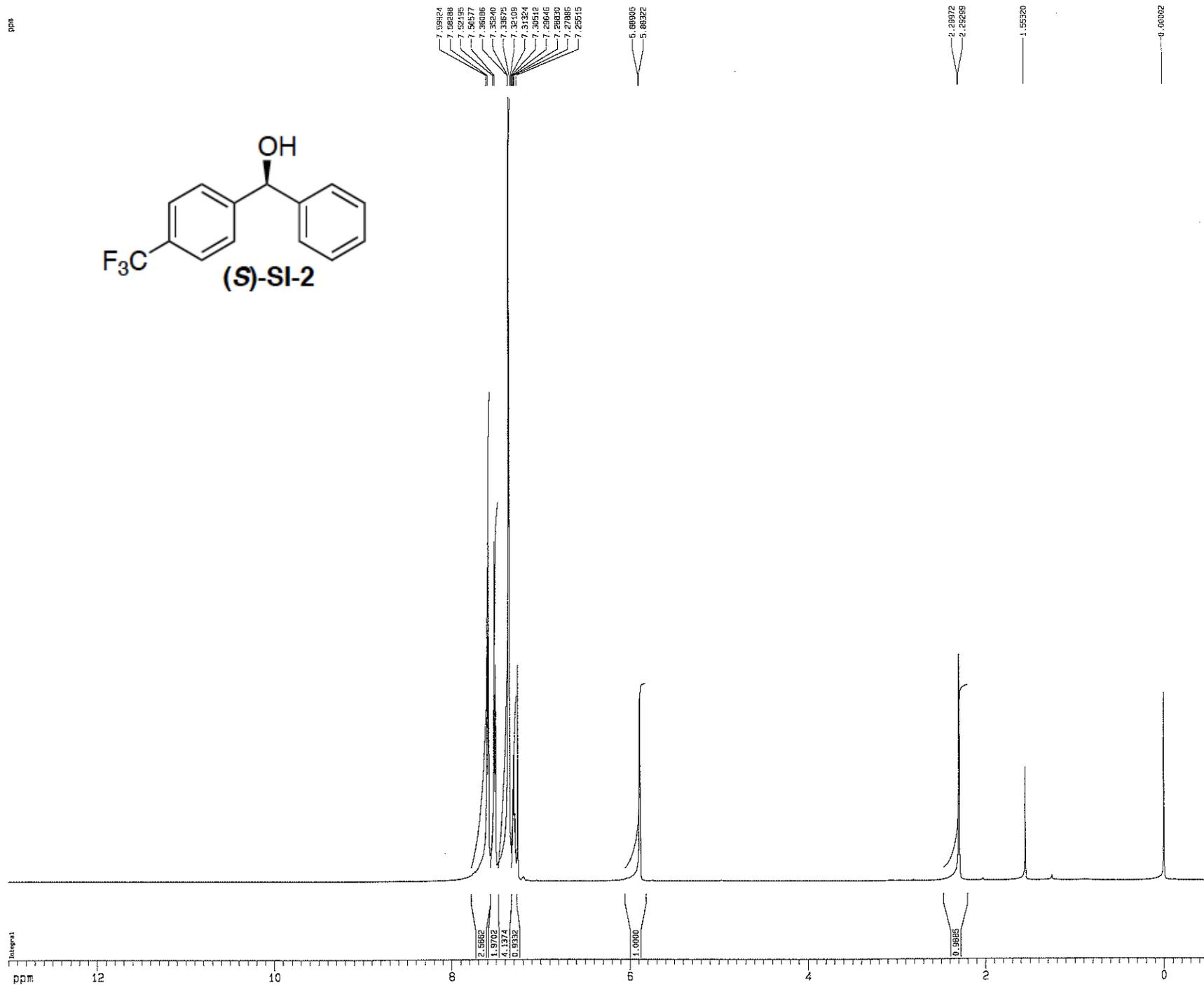
===== CHANNEL f2 =====
CPDPRG2      waltz16
NUC2         1H
PCPD2        100.00 usec
PL2          1.50 dB
PL12         24.50 dB
SFO2         500.225011 MHz

===== GRADIENT CHANNEL =====
GPNAM1       SINE.100
GPNAM2       SINE.100
GPK1         0.00 X
GPK2         0.00 X
GPY1         0.00 X
GPY2         0.00 X
GPZ1         30.00 X
GPZ2         50.00 X
p15          500.00 usec
p16          1000.00 usec

F2 - Processing parameters
SI           65535
SF           125.7504201 MHz
WDW          EM
SSB          0
LB           1.00 Hz
GB           0
PC           2.00

1D NMR plot parameters
CX           22.80 cm
CY           15.65 cm
F1P         170.000 ppm
F1          21382.67 Hz
F2P         0.000 ppm
F2          0.00 Hz
PPMCH       7.45614 ppm/cm
HZCM        937.63649 Hz/cm
    
```

1H spectrum



```

Current Data Parameters
USER          Willie
NAME         f1w1v-MAG-pCF3-arylation
EXPNO        1
PROCNO       1

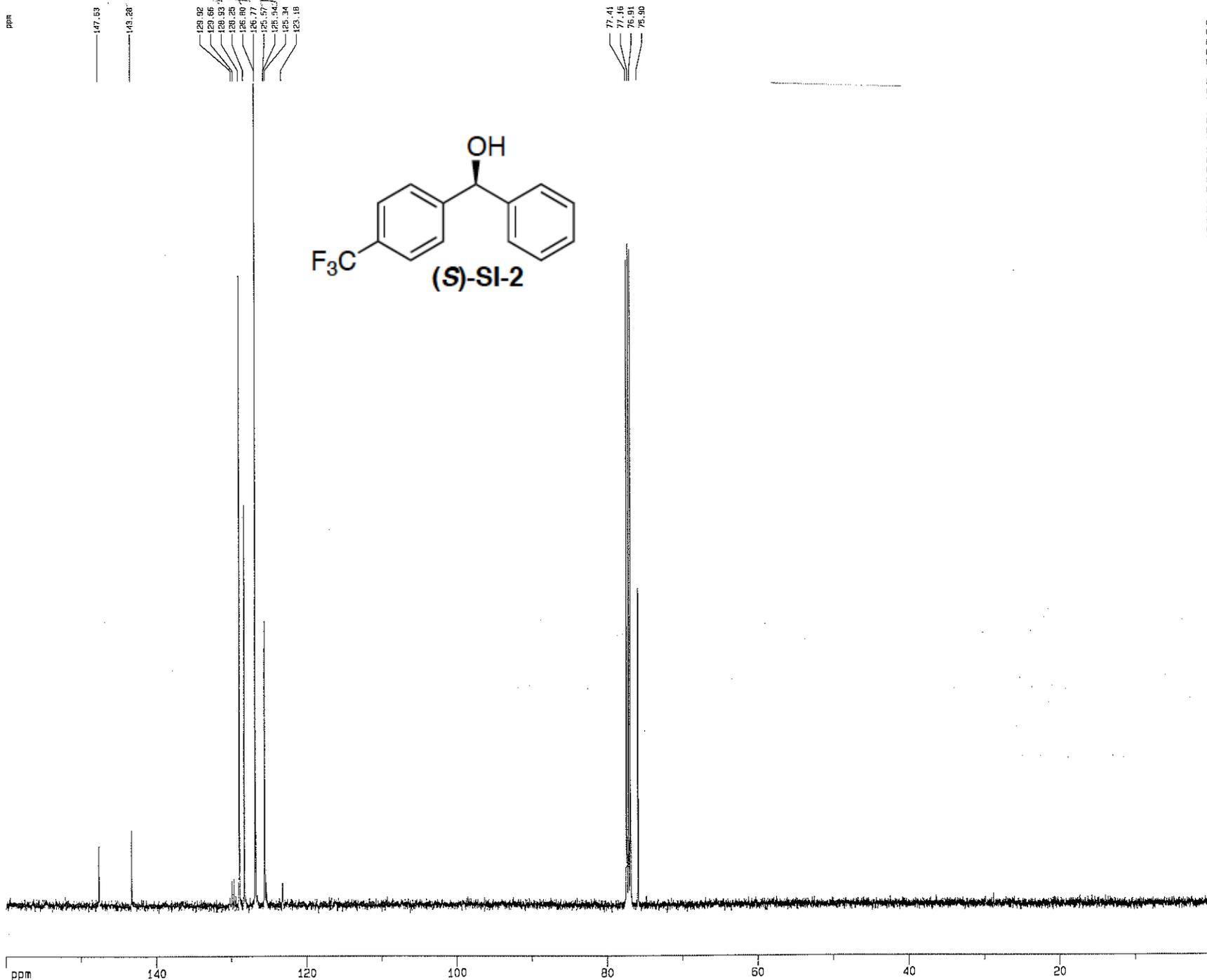
F2 - Acquisition Parameters
Date_        2011025
Time         14.45
INSTRUM      cryo500
PROBHD       5 mm CPTCI 1H-
PULPROG      zg30
TD           61728
SOLVENT      DMS-D6
NS           10
DS           2
SFO          802.620 MHz
FIDRES       0.098043 Hz
AQ           5.0959388 sec
RG           7.1
DM           68.400 usec
DE           6.00 usec
TE           296.0 K
D1           0.10000000 sec
MCHREST      0.00000000 sec
MCHWK        0.01500000 sec

===== CHANNEL f1 =====
NUC1          1H
P1            7.50 usec
PL1           1.50 dB
SFO1         500.2238015 MHz

F2 - Processing parameters
SI            65536
SF            500.2200343 MHz
WDW           EM
SSB           0
LB            0.30 Hz
GB            0
PC            4.00

1D NMR slit parameters
CX            32.80 cm
CY            16.00 cm
F1P           13.000 ppm
F1            6502.88 Hz
F2P           -0.500 ppm
F2            -250.11 Hz
FPMCH         0.08211 ppm/cm
HZCM          296.15290 Hz/cm
    
```

Z-restored spin-echo 13C spectrum with 1H decoupling



```

Current Data Parameters
USER          greene
NAME          mag-2-0170
EXPNO        1
PROCNO       1

F2 - Acquisition Parameters
Date_        20111003
Time         10.36
INSTRUM      crys500
PROBHD       5 mm CPTCI 1H-
PULPROG      SpinEcho90pp.prd
TD           65536
SOLVENT      CDCl3
NS           1024
DS           16
SWH          30303.031 Hz
FIDRES       0.462385 Hz
AQ           1.081405 sec
RG           3251
DW           16.500 usec
DE           8.00 usec
TE           298.0 K
D1           0.25000000 sec
d11          0.83000000 sec
D16          0.40020000 sec
d17          0.00015600 sec
WALTZ16      0.00000000 sec
WALTZ16      0.01500000 sec
PC           31.00 usec

===== CHANNEL f1 =====
NUC1          13C
P1           15.50 usec
PL1          500.00 usec
PCPD2        2000.00 usec
PL2          120.00 dB
PL1          -1.00 dB
SFO1         125.7642548 MHz
SP1          3.20 dB
SP2          3.20 dB
SFO2         CrpE0, 0.5, 20.1
SPNAM1       CrpE0, 0.5, 20.1
SPNAM2       CrpE0comp.4
SFOFF1       0.00 Hz
SFOFF2       0.00 Hz

===== CHANNEL f2 =====
CPDPRG2      waltz16
NUC2          1H
PCPD2        100.00 usec
PL2          1.50 dB
PL12         24.50 dB
SFO2         500.2225011 MHz

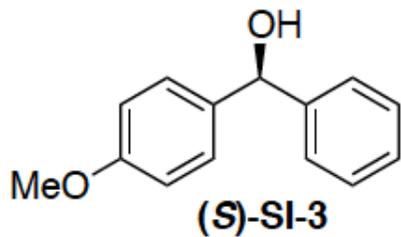
===== GRADIENT CHANNEL =====
SFOFF1       SINE.100
SFOFF2       SINE.100
GPX1         0.00 X
GPX2         0.00 X
GPY1         0.00 X
GPY2         0.00 X
GZ1         35.00 X
GZ2         50.00 X
p15          500.00 usec
p16          1000.00 usec

F2 - Processing parameters
SI           65536
SF           125.7604990 MHz
WDW          EM
SSB          0
LB           1.00 Hz
GB           0
PC           2.00

ID NMR plot parameters
CX           22.80 cm
CY           15.65 cm
F1P         150.000 ppm
F1          20124.87 Hz
F2P         0.000 ppm
F2          0.00 Hz
FPMCM       7.01754 ppm/cm
HZCM        882.86955 Hz/cm
    
```

1H spectrum

ppm



7.3789
7.36545
7.3468
7.3332
7.3166
7.2905
7.2733
7.2532
7.2425
6.8719
6.8545

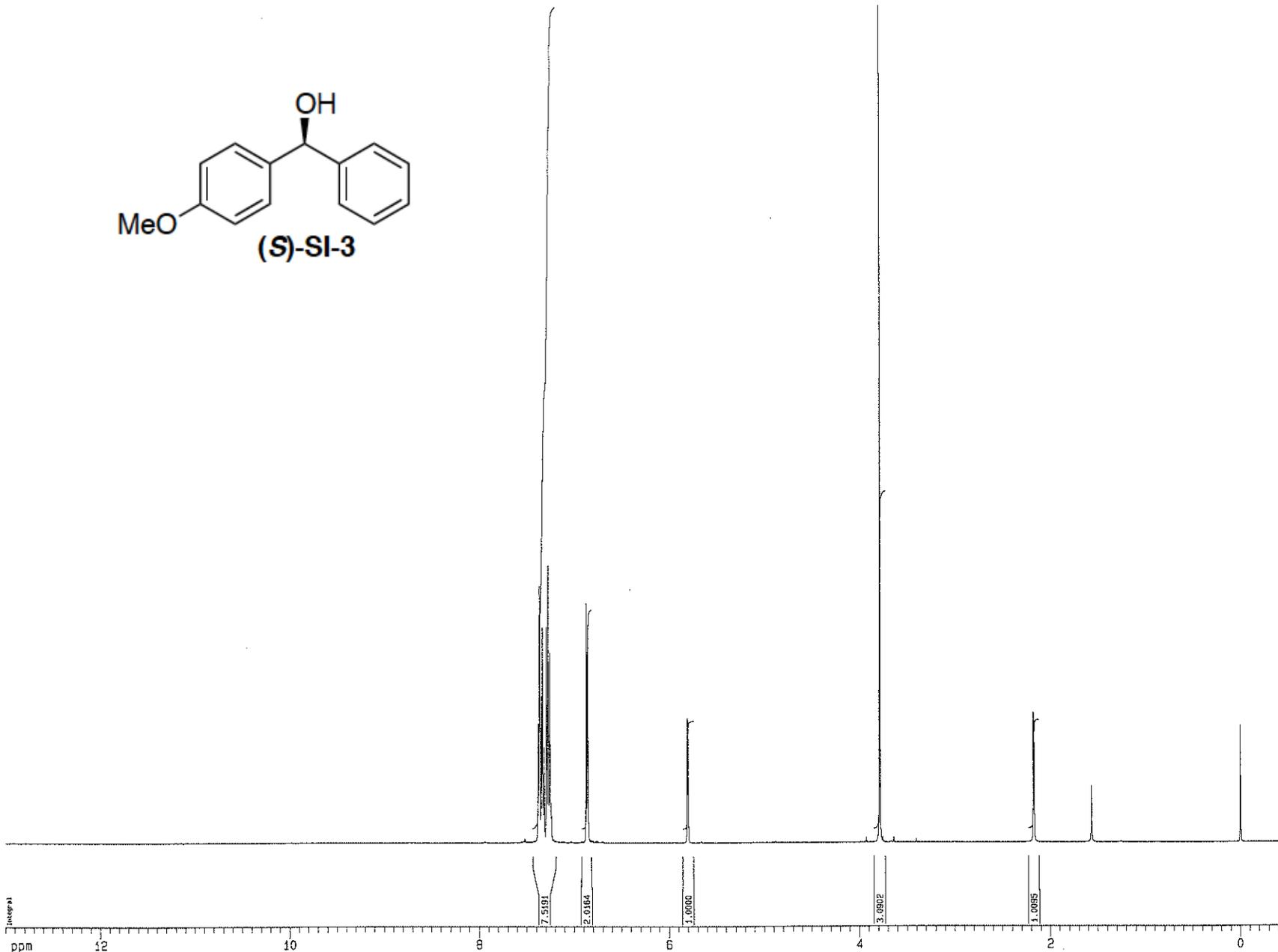
5.0004
5.0038

3.7608

2.1772
2.1707

1.6653

-0.0001



Current Data Parameters
 USER willia
 NAME f1w-iv-NAG-pMeO-arylation
 EXPRNO 1
 PROCNO 1

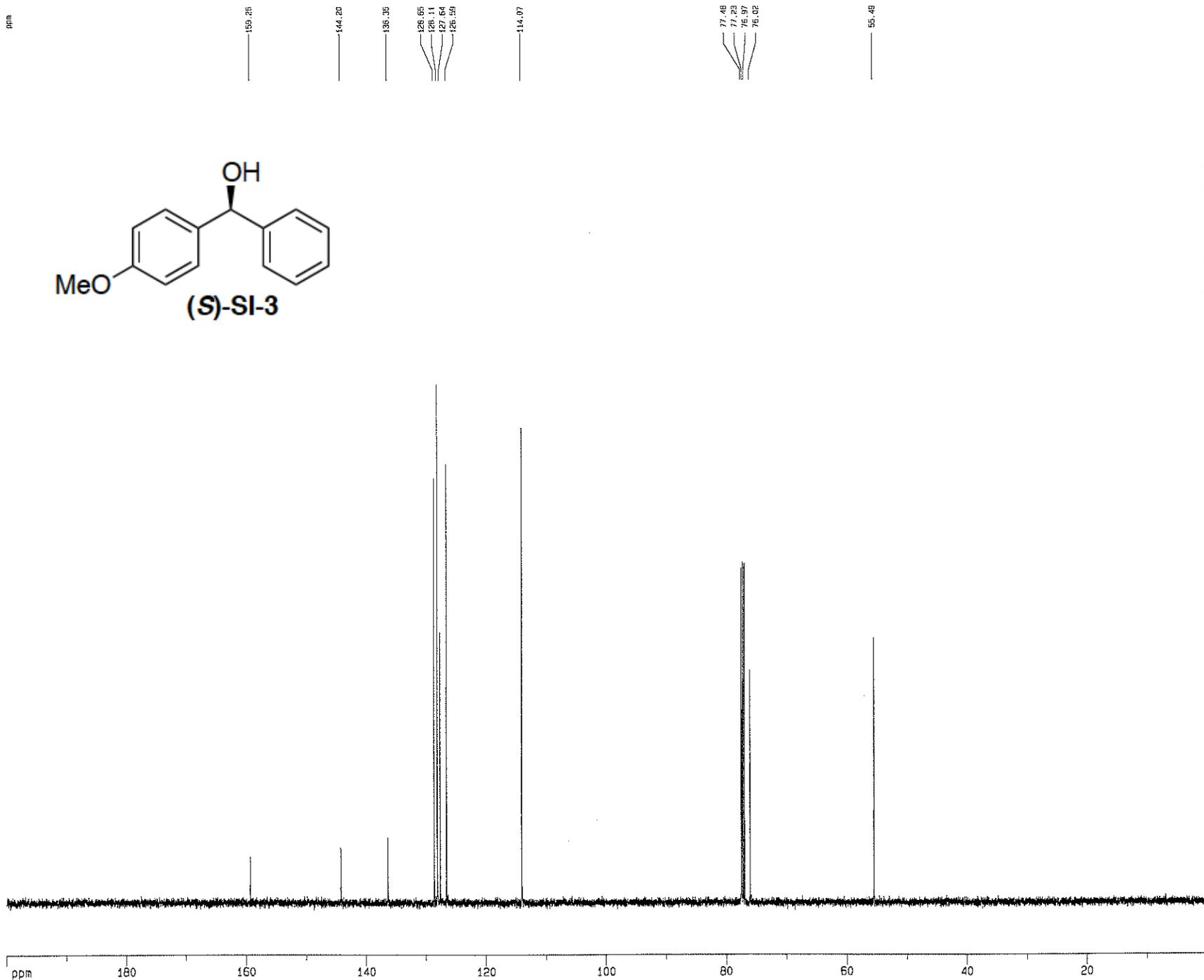
F2 - Acquisition Parameters
 Date_ 2011025
 Time 14.32
 INSTRUM cryo500
 PROBRD 5 mm QNP1H 5H-
 PULPROG zg30
 TD 61725
 SOLVENT CDCl3
 NS 5
 DS 2
 SWH 8512.500 Hz
 FIDRES 0.038045 Hz
 AQ 5.8993396 sec
 RG 5.3
 DM 62.400 usec
 DE 0.00 usec
 TE 293.0 K
 D1 0.1000000 sec
 MCREST 0.0000000 sec
 MCWCK 0.0100000 sec

***** CHANNEL f1 *****
 NUC1 1H
 P1 7.50 usec
 PL1 1.50 dB
 SFO1 500.2625015 MHz

F2 - Processing parameters
 SI 65636
 SF 500.2600358 MHz
 WM 5K
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 4.00

1D NMR plot parameters
 CX 24.80 cm
 CY 35.00 cm
 F1P 13.000 ppm
 F1 8502.06 Hz
 F2P -0.300 ppm
 F2 -850.11 Hz
 PWDW 0.38211 um/cn
 HZCK 295.10626 Hz/cm

Z-restored spin-echo 13C spectrum with 1H decoupling



```

Current Data Parameters
USER          null
NAME         f1w-lv-MAG-pMeO-arylation
EXPNO        2
PROCNO       1

F2 - Acquisition Parameters
Date_        20111026
Time         14.13
INSTRUM      cryo500
PROBHD       5 mm CP13C 1H-
PULPROG      SpinEcho30ppm.prd
TD           65536
SOLVENT      CDCl3
NS           252
DS           32
SFO1         30303.031 Hz
FIDRES       0.463398 Hz
AQ           1.0814105 sec
RG           3251
DM           15.500 usec
DE           5.00 usec
TE           298.0 K
D1           0.25000000 sec
d11          0.03000000 sec
D16          0.00200000 sec
d17          0.00150000 sec
MCREST       0.00000000 sec
MORPH        0.01000000 sec
P2           31.00 usec

----- CHANNEL f1 -----
NUC1          13C
P1            15.00 usec
P11           500.00 usec
P12           2000.00 usec
PL1           120.00 dB
PL12          -1.00 dB
SFO1         125.7942548 MHz
SP1           3.20 dB
SP2           3.20 dB
SFO2         Cyp60.015.20.1
SPNAM1       Cyp60comp.4
SPOFF1        0.00 Hz
SPOFF2        0.00 Hz

----- CHANNEL f2 -----
CPDPRG2      waltz16
NUC2          1H
PCPD2        100.00 usec
PL12         1.50 dB
PL12         24.60 dB
SFO2         500.225011 MHz

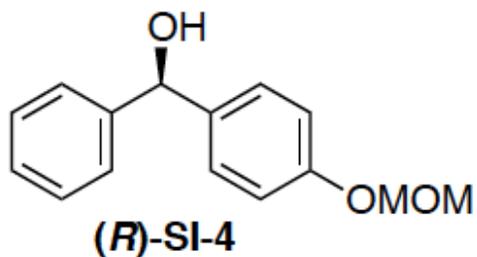
----- GRADIENT CHANNEL -----
SPNAM1       SINE.100
SPNAM2       SINE.100
SPX1         0.00 X
SPX2         0.00 X
SPY1         0.00 X
SPY2         0.00 X
SPZ1         30.00 X
SPZ2         50.00 X
p15          500.00 usec
p16          1000.00 usec

F2 - Processing parameters
SI           65536
SF           125.7804015 MHz
XDM          EM
SS          0
LB           1.00 Hz
GB           0
PC           2.00

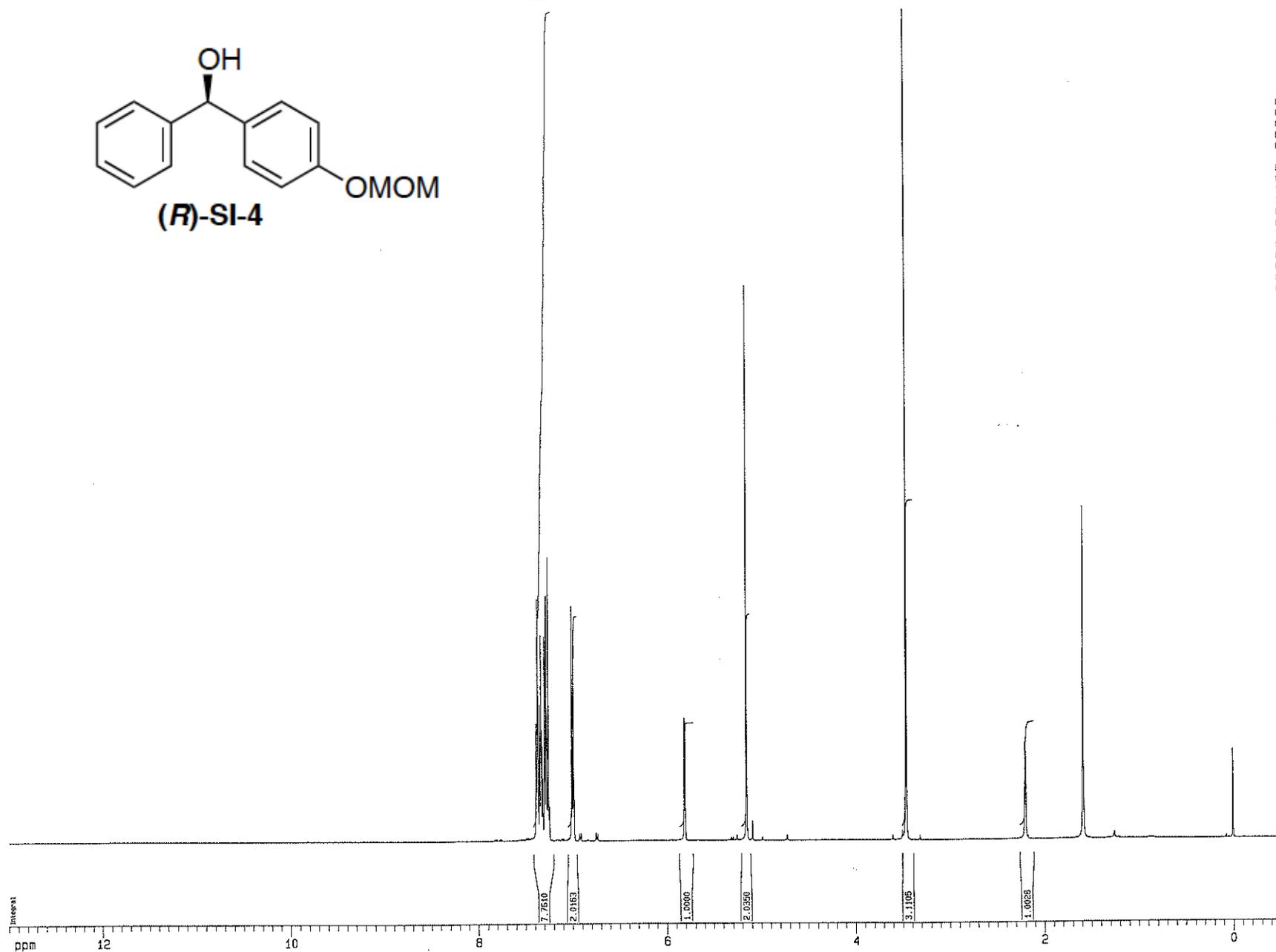
1D NMR slit parameters
CX           22.60 cm
CY           10.00 cm
F1P          200.000 ppm
F1           25115.00 Hz
F2P          0.000 ppm
F2           0.00 Hz
P1MCH        2.77393 ppm/cm
H2CK         1105.30961 Hz/cm
    
```

1H spectrum

ppm



7.38447
7.38979
7.39377
7.39812
7.39982
7.40694
7.42982
7.43812
7.44524
7.46271
6.99089
5.92209
5.15422
3.47463
3.46113
2.20196
2.19637
1.98607
0.00003



Current Date Parameters
USER willis
NAME fjw-iv-171-char
EXPNO 1
PROCNO 1

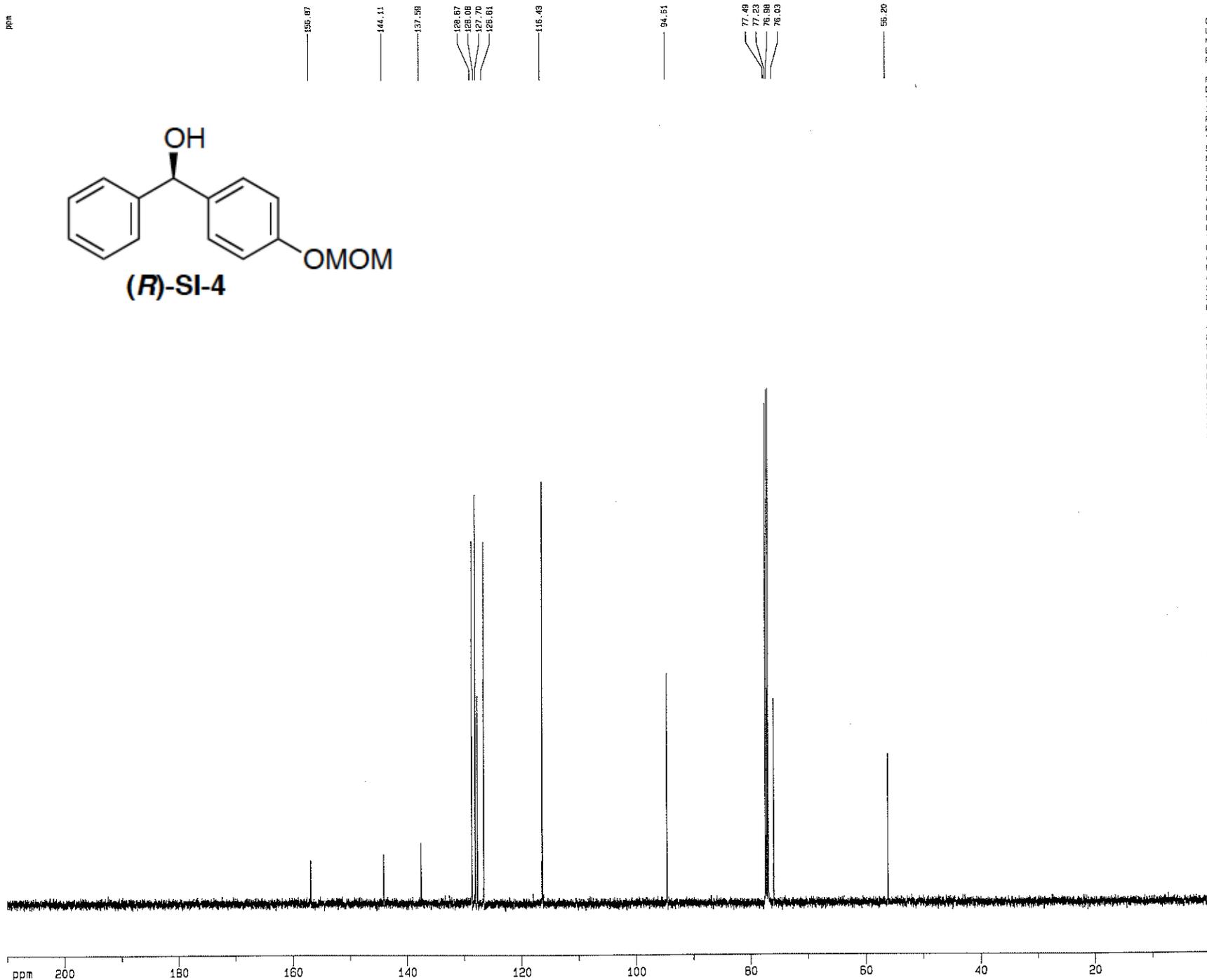
F2 - Acquisition Parameters
Date_ 20111003
Time 16.34
INSTRUM cryo500
PROBHD 5 mm CPTCL 1H-
PULPROG zg30
TD 61728
SOLVENT CDCl3
NS 8
DS 2
SWH 8012.820 Hz
FIDRES 0.088043 Hz
AQ 5.0999388 sec
RG 5.7
DW 62.400 usec
DE 6.00 usec
TE 298.0 K
D1 0.1000000 sec
MCREST 0.0000000 sec
MCWRK 0.01500000 sec

===== CHANNEL f1 =====
NUC1 1H
P1 7.50 usec
PL1 1.60 dB
SFO1 500.2235015 MHz

F2 - Processing parameters
SI 65536
SF 500.2200319 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 4.00

1D NMR plot parameters
CX 22.80 cm
CY 15.00 cm
F1P 13.600 ppm
F1 6502.85 Hz
F2P -0.500 ppm
F2 -250.11 Hz
PPMCH 0.59211 ppm/cm
HZCM 296.18292 Hz/cm

Z-restored spin-echo 13C spectrum with 1H decoupling



```

Current Data Parameters
USER      willie
NAME      fjm-iv-171-cha
EXPNO     2
PROCNO    1

F2 - Acquisition Parameters
Date_     2011093
Time      16.37
INSTRUM   cryo500
PROBHD    5 mm CPTCI 1H-
PULPROG   SpinEchopp30pp.prd
TD         65536
SOLVENT   CDCl3
NS         361
DS         15
SWH        30303.031 Hz
FIDRES     0.462388 Hz
AQ         1.0814105 sec
RG         2886.3
Dw         16.500 usec
DE         8.00 usec
TE         298.0 K
O1         0.25000000 sec
d11        0.02000000 sec
D16        0.00020000 sec
d17        0.00039500 sec
MCREST     0.00000000 sec
MCKR      0.01500000 sec
P2         31.00 usec

===== CHANNEL f1 =====
NUC1       13C
P1         15.50 usec
P11        500.00 usec
P12        2000.00 usec
PL0        120.00 dB
PL1        -1.00 dB
SF01       125.7842548 MHz
SP1        3.20 dB
SP2        3.20 dB
SFOFF1     Crp60.0.0.20.1
SFOFF2     Crp60cmpp.4
SFOFF3     0.00 Hz
SFOFF4     0.00 Hz

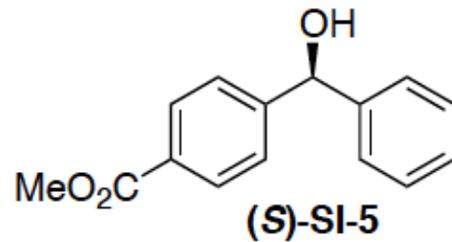
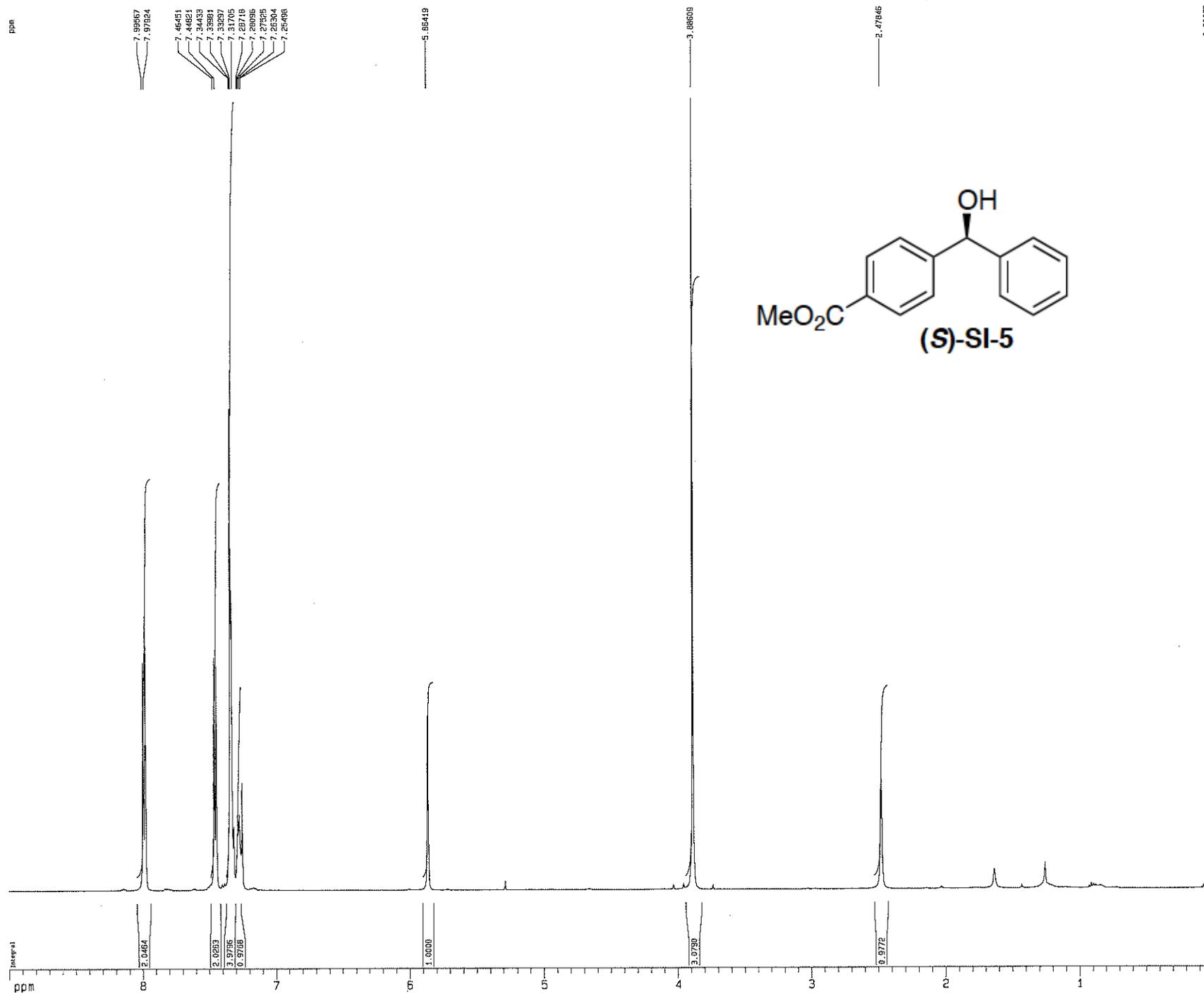
===== CHANNEL f2 =====
CPDPRG2    waitz16
NUC2       1H
PCPD2      100.00 usec
PL2        1.60 dB
PL12       24.50 dB
SF02       500.2225011 MHz

===== GRADIENT CHANNEL =====
GPNAM1     SINE.100
GPNAM2     SINE.100
GPX1       0.00 X
GPX2       0.00 X
GPY1       0.00 X
GPY2       0.00 X
GPZ1       30.00 X
GPZ2       50.00 X
p15        500.00 usec
p16        1000.00 usec

F2 - Processing parameters
SI         65536
SF         125.7803997 MHz
WDW        EM
SSB        0
LB         1.00 Hz
GB         0
PC         2.00

1D NMR plot parameters
CX         22.80 cm
CY         10.00 cm
F1P        210.000 ppm
F1         26413.88 Hz
F2P        0.000 ppm
F2         0.00 Hz
PPMCM      9.21953 ppm/cm
HZCM       1190.50366 Hz/cm
    
```

1H spectrum



Current Data Parameters
 USER greene
 NAME mag-1-289
 EXPNO 4
 PROCNO 1

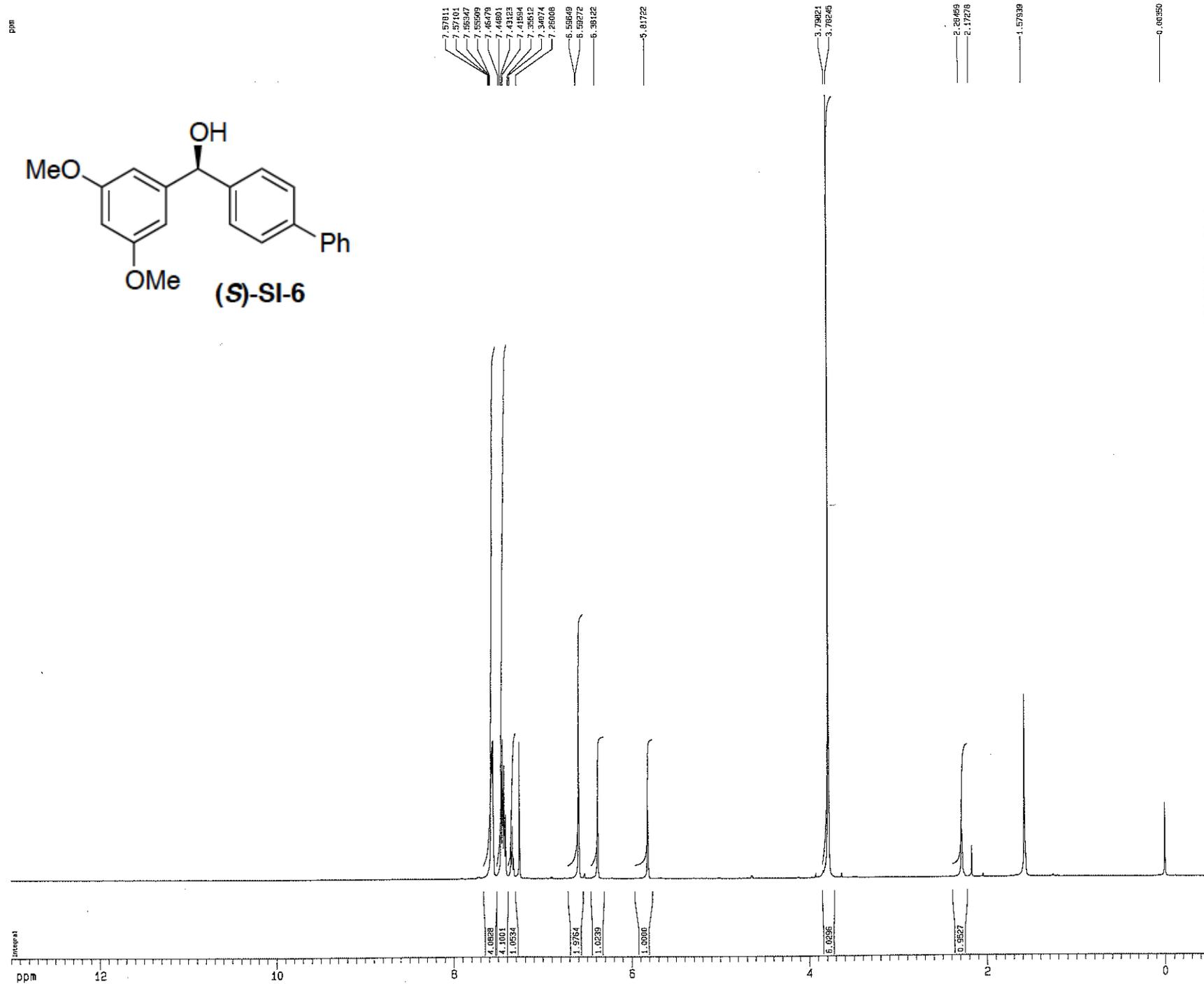
F2 - Acquisition Parameters
 Date_ 20111018
 Time 17.00
 INSTRUM cryo500
 PROBHD 5 mm CPTCI 1H-
 PULPROG zg30
 TD 81728
 SOLVENT CDCl3
 NS 8
 DS 2
 SWH 8012.820 Hz
 FIDRES 0.058043 Hz
 AQ 5.0998774 sec
 RG 6.3
 DW 62.400 usec
 DE 6.00 usec
 TE 298.0 K
 D1 0.10000000 sec
 MCREST 0.00000000 sec
 MCHRX 0.01500000 sec

===== CHANNEL f1 =====
 NUC1 1H
 P1 7.50 usec
 PL1 1.50 dB
 SFO1 500.225015 MHz

F2 - Processing parameters
 SI 65536
 SF 500.2200348 MHz
 WDN EM
 SSB 0
 LB 0.30 Hz
 EB 0
 PC 4.00

1D NMR plot parameters
 CX 22.80 cm
 CY 15.00 cm
 F1P 9.000 ppm
 F1 4501.98 Hz
 F2P 0.000 ppm
 F2 0.00 Hz
 PPKCM 0.38474 ppm/cm
 HZCM 197.45528 Hz/cm

1H spectrum



```

Current Data Parameters
USER: willie
NAME: file-iv-173-3_060-pfr-04-char
EXPNO: 1
PROCNO: 1

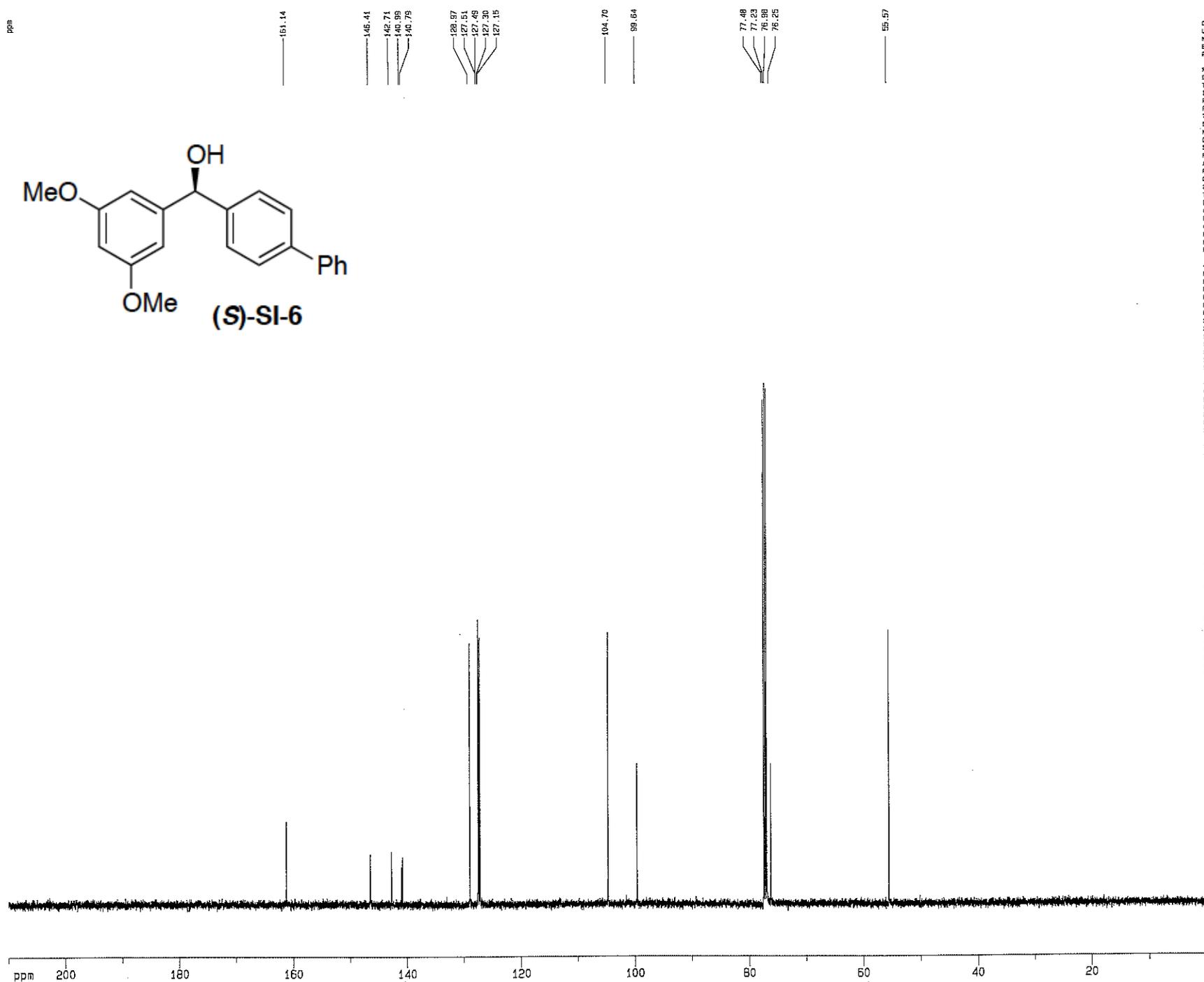
F2 - Acquisition Parameters
Date_: 2011003
Time: 16.03
INSTRUM: cp1300
PROBHD: 5 mm CPTCI 1H-
PULPROG: zg30
TD: 65536
SOLVENT: CDCl3
NS: 12
DS: 2
SWH: 8012.000 Hz
FIDRES: 0.098043 Hz
AQ: 5.9989988 sec
RG: 6.3
DE: 62.400 usec
TE: 300.2 K
D1: 0.10000000 sec
NOREST: 0.00000000 sec
NORMK: 0.01500000 sec

***** CHANNEL f1 *****
NUC1: 1H
P1: 7.80 usec
PL1: 1.80 dB
RF01: 500.025015 MHz

F2 - Processing parameters
SI: 85836
SF: 500.0200000 MHz
WDW: EM
SSB: 0
LB: 0.00 Hz
GB: 0
PC: 4.00

ID NMR plot parameters
CX: 22.00 cm
CY: 15.00 cm
FSP: 13.000 ppm
FI: 6500.00 Hz
FOP: -0.500 ppm
FR: -280.11 Hz
PPHCK: 0.00011 ppm/cx
HCK: 586.15030 Hz/cx
    
```

Z-restored spin-echo 13C spectrum with 1H decoupling



```

Current Data Parameters
USER          w11119
NAME         f1w-1v-179-3_8640-pH-01-char
EXPNO        2
PROCNO       1

F2 - Acquisition Parameters
Date_        2011003
Time         10.56
INSTRUM      crys500
PROBHD       5 mm CPDQZ 1H-
PULPROG      zgpg30pp
TD           65536
SOLVENT      CDCl3
NS           399
DS           16
SFO          300.135141 Hz
FIDRES       0.46288 Hz
AQ           1.091415 sec
RG           728.2
DE           15.500 usec
TE           299.0 K
D1           0.25000000 sec
d11          0.03000000 sec
D16         0.00020000 sec
s17         0.00010000 sec
NOFEST       0.00000000 sec
NOVM        0.01600000 sec
P2           31.00 usec

===== CHANNEL f1 =====
NUC1         13C
P1           15.50 usec
P11          500.00 usec
P12          2000.00 usec
PL1          130.00 dB
PL2          -1.00 dB
SFO1         125.7642548 MHz
SP1          3.20 dB
SP2          3.20 dB
SFOA1        Cyp80.0.5.20.1
SFOA2        Cyp800comp.4
SFOFF1       0.00 Hz
SFOFF2       0.00 Hz

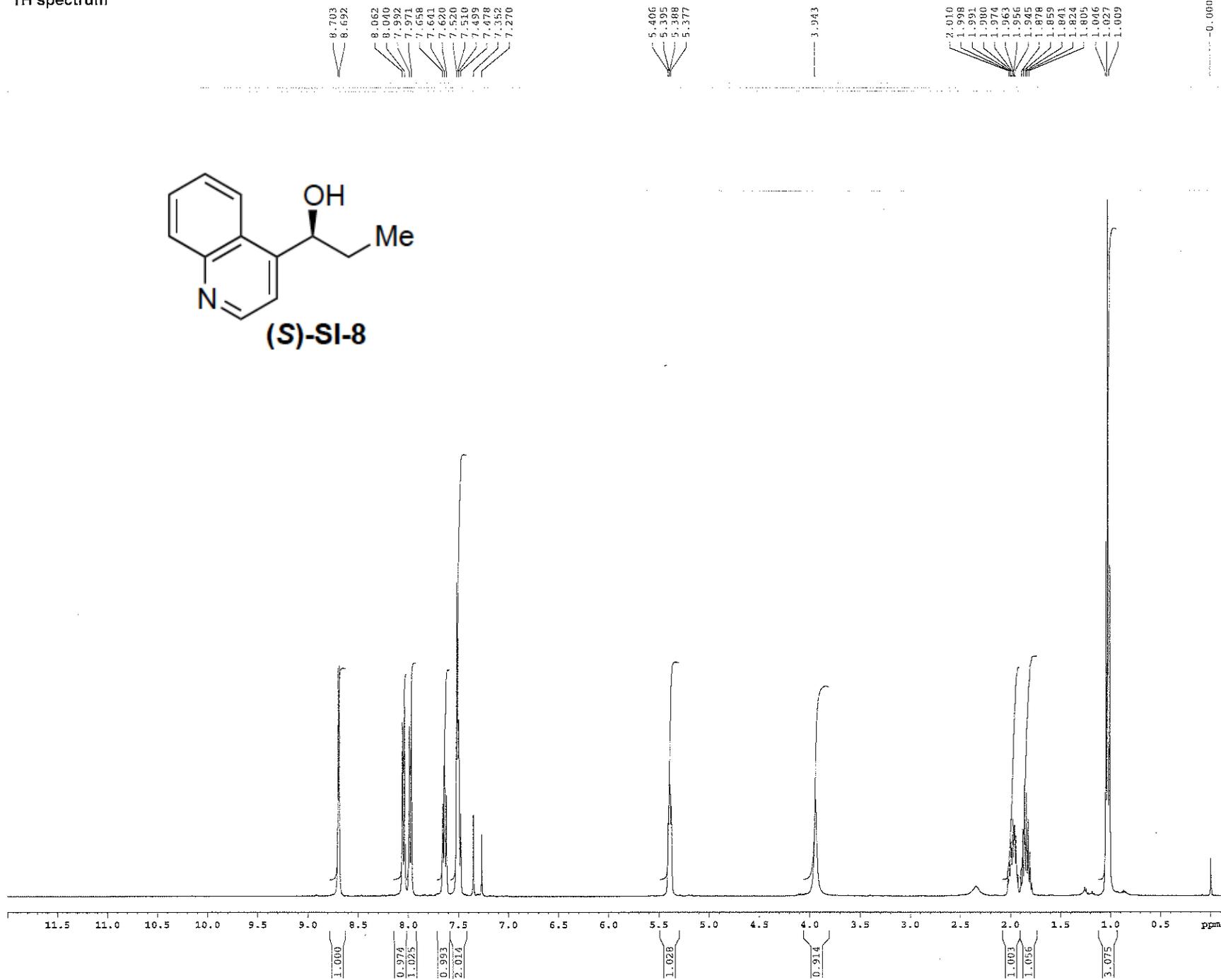
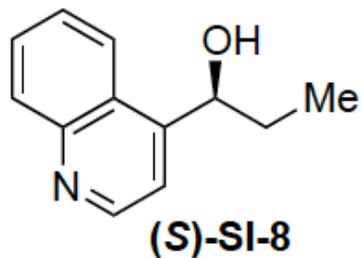
===== CHANNEL f2 =====
CPDPRG2     w111216
NUC2         1H
P2           100.00 usec
PL2          1.50 dB
PL12         24.00 dB
SFO2         500.228911 MHz

===== GRADIENT CHANNEL =====
SFOA1        SINE.100
SFOA2        SINE.100
SFOA3        0.00 X
SFOA4        0.00 X
SFOA5        0.00 X
SFOA6        0.00 X
SFOA7        30.00 X
SFOA8        30.00 X
p15         500.00 usec
p16         1000.00 usec

F2 - Processing parameters
SI           65536
SF           125.7604002 MHz
WDW          EM
SSB          0
LB           1.00 Hz
GB           0
PC           2.00

1D NMR plot parameters
CX           22.50 cm
CY           10.00 cm
F1P         210.000 ppm
F1          25413.89 Hz
F2          0.00 ppm
F2          0.00 Hz
P1WDW       S.21953 ppm/cm
HZCW        1153.50355 Hz/cm
    
```

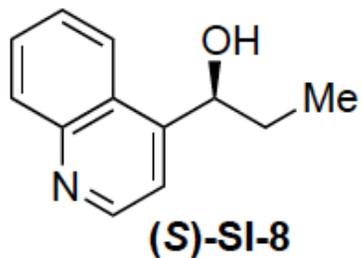
1H spectrum



```

Current Data Parameters
USER          yongya
NAME          1my2 - 272
EXPNO        12
PROCNO       1
-----
F2 - Acquisition Parameters
Date_        20111231
Time         3.33
INSTRUM      crys400
PROBHD       5 mm QNP 1H/1
PULPROG      zgpg30
TD           65536
SOLVENT      CDCl3
NS           8
DS           2
SWH          6410.256 Hz
FIDRES       0.097813 Hz
AQ           5.1119579 sec
RG           324
AQ           78.000 usec
DS           4.50 usec
TE           299.0 K
D1           0.10000000 sec
H1RES1       0.00000000 sec
H1RES2       0.01500000 sec
-----
===== CHANNEL f1 =====
NUC1          1H
P1           12.00 usec
PL1          -0.50 dB
SFO1         400.1329009 MHz
-----
F2 - Processing parameters
SI           65536
SF           400.1302180 MHz
WDW          EM
SSB          0
LB           0.30 Hz
GB           0
PC           1.00
    
```

13C spectrum with 1H decoupling



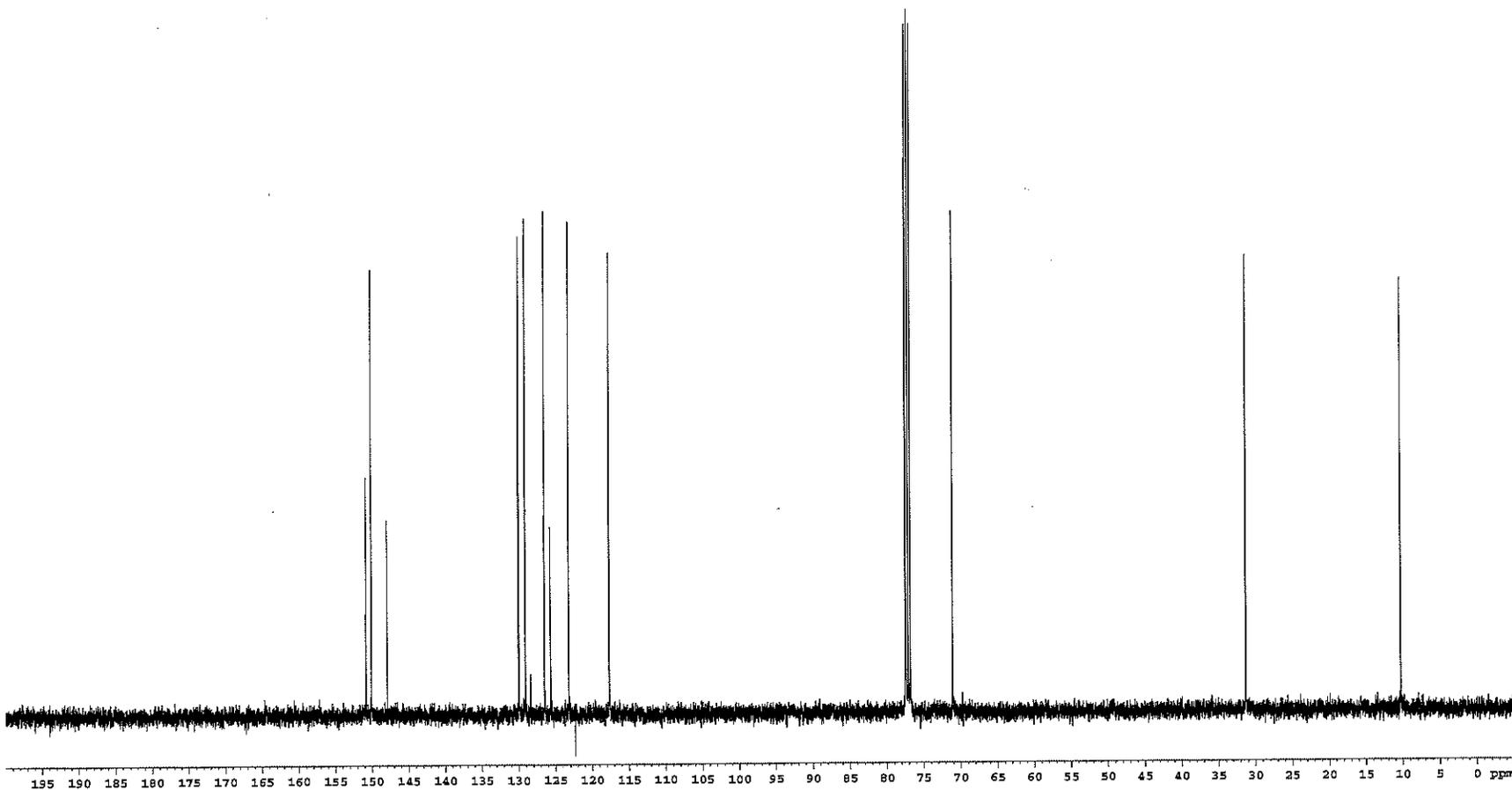
150.875
150.153
147.997

130.016
129.131
126.500
125.725
123.210
117.704

77.478
77.160
76.843
71.141

31.362

10.363



Current Data Parameters
USER yonova
NAME imy3 - 272
EXPRG 13
PROCNO 1

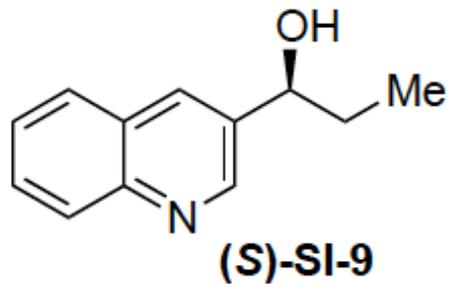
F2 - Acquisition Parameters
Date_ 20111121
Time 2.40
INSTRUM dirx400
PROBHD 5 mm QNP H/P/P
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 218
DS 4
SWH 24154.590 Hz
FIDRES 0.368570 Hz
AQ 1.3566452 sec
RG 14596.5
SM 20.700 usec
DE 20.39 usec
TE 298.0 K
D1 0.10000000 sec
d11 0.03000000 sec
MCREST 0.00000000 sec
MCMRX 0.01500000 sec

==== CHANNEL f1 =====
NUC1 13C
P1 11.00 usec
PL1 0.00 dB
SFO1 100.6237964 MHz

==== CHANNEL f2 =====
CPDPRG2 mlev16
NUC2 1H
PCPD2 80.00 usec
PL2 0.00 dB
PL12 16.20 dB
SFO2 400.1328009 MHz

F2 - Processing parameters
SI 65536
SF 100.6127621 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00

1H spectrum

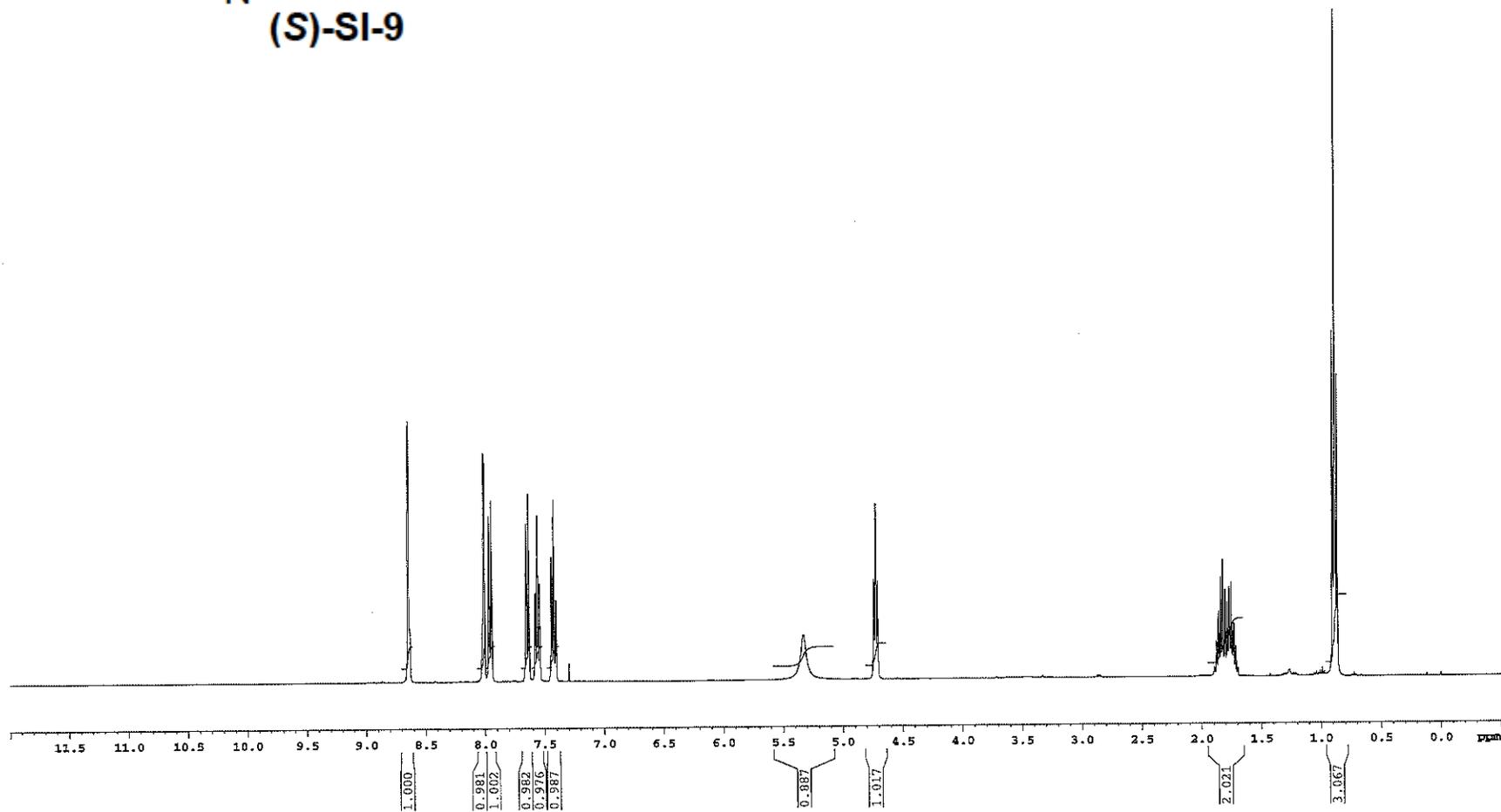


8.652
8.647
8.012
7.970
7.949
7.656
7.636
7.583
7.580
7.562
7.545
7.542
7.446
7.426
7.408

4.743
4.727
4.710

1.841
1.823
1.805
1.785
1.769
1.751

0.903
0.884
0.866



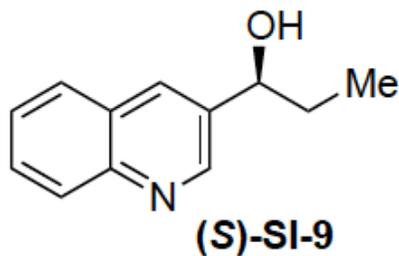
Current Data Parameters
 USER yonova
 NAME imy3 - 274
 EXNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20111213
 Time 18.03
 INSTRUM drx400
 PROBHD 5 mm QNP H/F/PS
 PULPROG zg30
 TD 65536
 SOLVENT CDCl3
 NS 8
 DS 2
 SWH 6410.256 Hz
 FIDRES 0.097813 Hz
 AQ 5.1118579 sec
 PG 32
 DW 78.000 usec
 DE 4.50 usec
 TE 303.1 K
 DL 0.1000000 sec
 MCREST 0.0000000 sec
 MCWRR 0.0150000 sec

***** CHANNEL f1 *****
 NUC1 1H
 P1 12.00 usec
 PL1 -0.60 dB
 SFO1 400.1328009 MHz

F2 - Processing parameters
 SI 65536
 SF 400.1300056 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 2.00

13C spectrum with 1H decoupling

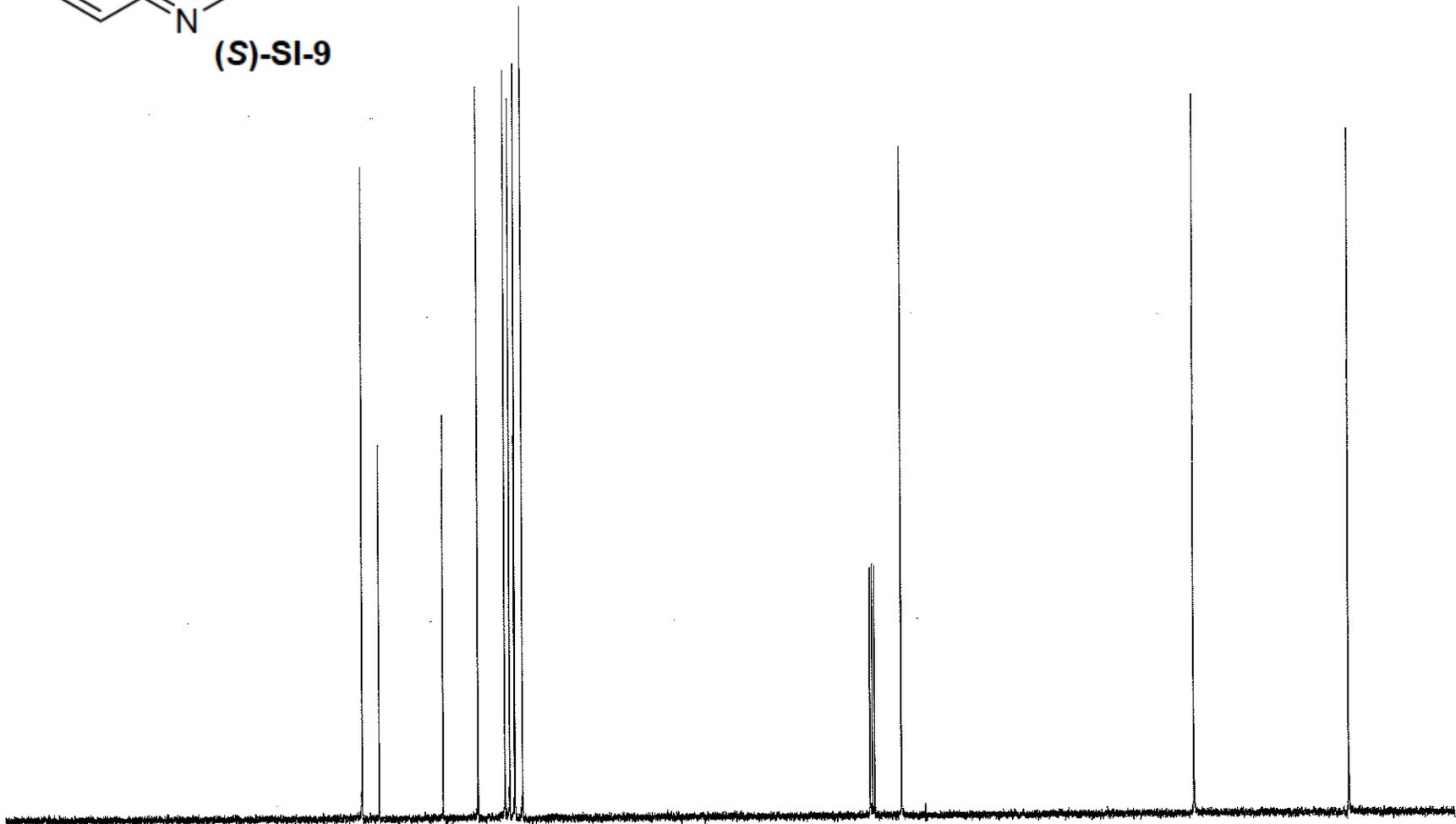


149.371
146.973
137.884
132.947
129.114
128.448
127.808
127.720
126.562

77.478
77.159
76.841
73.119

31.851

9.960



```

Current Data Parameters
USER          yonova
NAME          imy3 - 274
EXPNO        3
PROCNO       1

F2 - Acquisition Parameters
Date_        20111212
Time         18.03
INSTRUM      drx400
PROBHD       5 mm QNP H/P/P
PULPROG      zgpg30
TD           65536
SOLVENT      CDCl3
NS           184
DS           4
SWE          24154.590 Hz
FIDRES       0.368570 Hz
AQ           1.3566452 sec
RG           13008
DW           20.700 usec
DE           20.39 usec
TE           303.0 K
DL           0.1000000 sec
d11          0.0300000 sec
MCREST       0.0000000 sec
MCWRK        0.01500000 sec

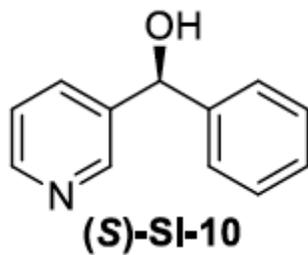
===== CHANNEL f1 =====
NUC1          13C
P1           11.00 usec
PL1          0.00 dB
SFO1         100.6237964 MHz

===== CHANNEL f2 =====
CPDPRG2      mlev16
NUC2          1H
PCPDZ        80.00 usec
PL2          0.00 dB
PL12         16.20 dB
SFG2         400.1328009 MHz

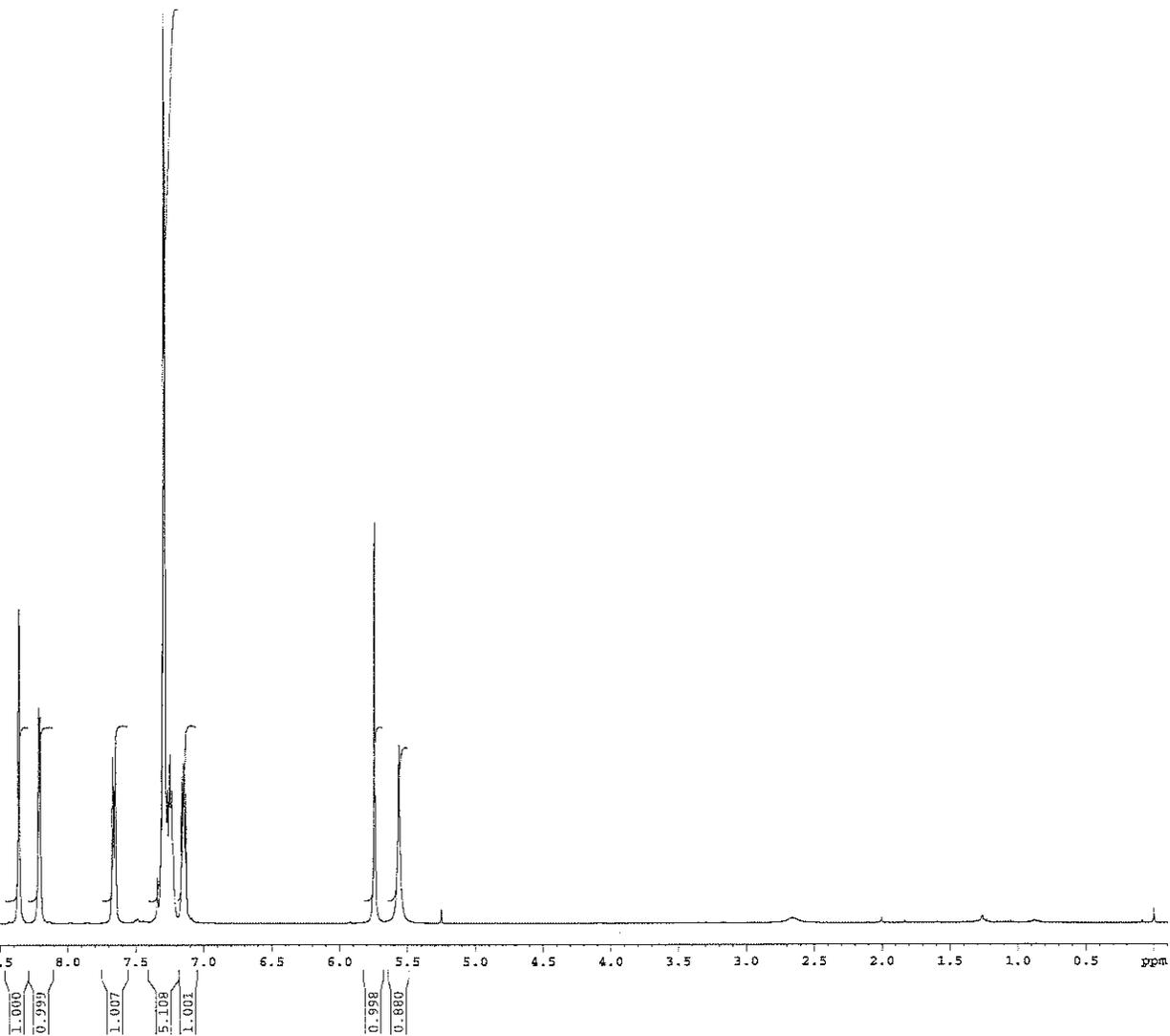
F2 - Processing parameters
SI           65536
SF           100.6127735 MHz
WDW          EM
SSB          0
LB           1.00 Hz
GB           0
PC           1.00
    
```

195 190 185 180 175 170 165 160 155 150 145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 ppm

1H spectrum



8.362
8.216
8.204
7.670
7.651
7.342
7.302
7.289
7.269
7.257
7.250
7.242
7.232
7.161
7.151
7.144
7.131
5.745
5.563



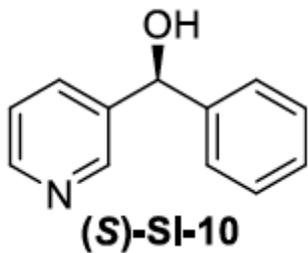
Current Data Parameters
USER ysnova
NAME imy1 - 252
EXPMO 11
PROCNO 1

F2 - Acquisition Parameters
Date_ 2011121
Time 2.23
INSTRUM drs400
PROBHD 5 mm QNP H/F/P
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 8
DS 2
SWH 640.256 Hz
FIDRES 0.097813 Hz
AQ 5.118579 sec
RG 64
SD 79.000 usec
DE 4.50 usec
TE 298.0 K
D1 0.10000000 sec
WREST 0.00000000 sec
HOURK 0.01500000 sec

***** CHANNEL f1 *****
NUC1 1H
P1 13.00 usec
PL1 -0.50 dB
SFO1 400.1328000 MHz

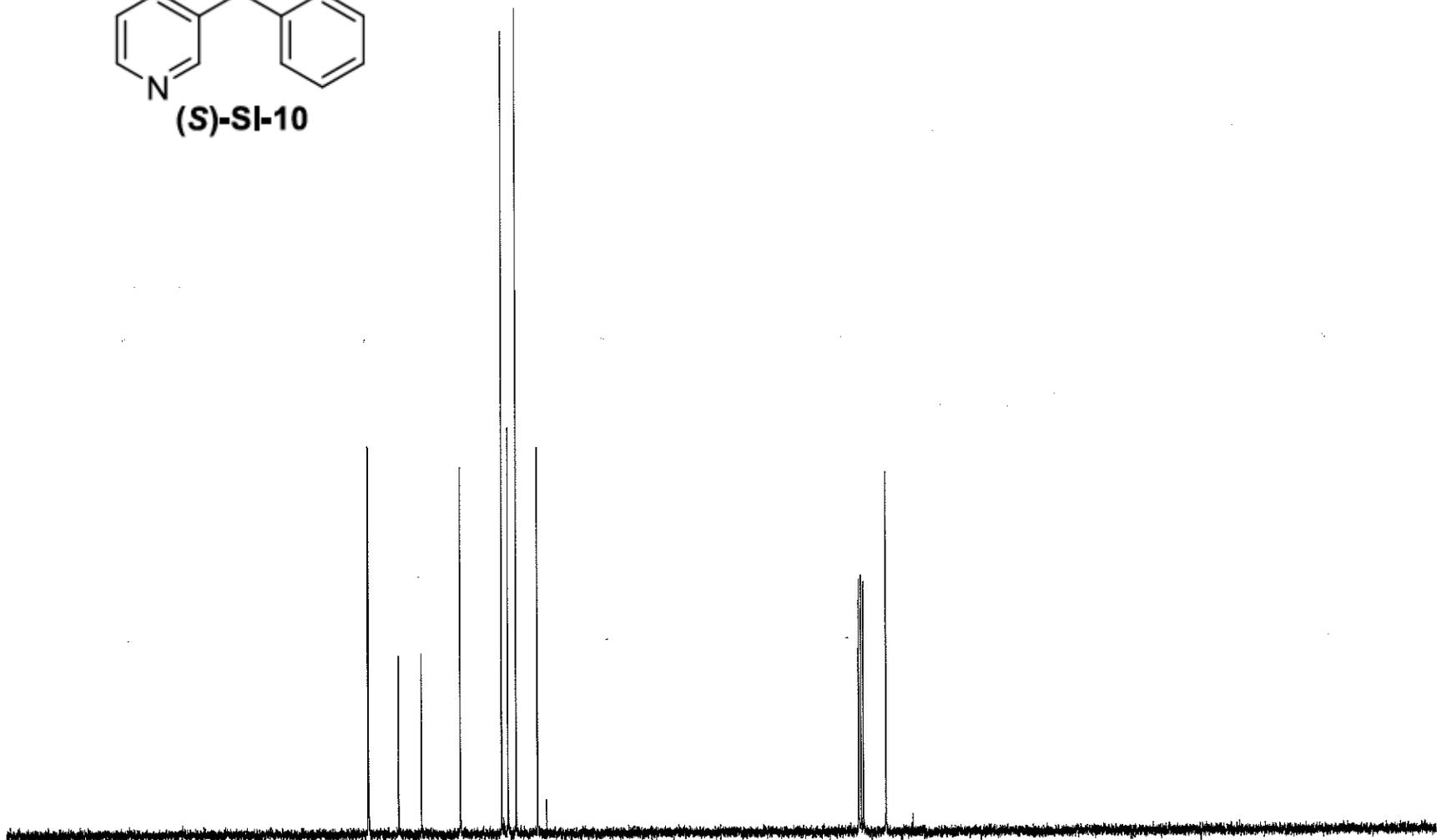
F2 - Processing parameters
SI 65536
SF 400.1300251 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

13C spectrum with 1H decoupling



147.916
147.819
143.525
140.232
134.650
128.656
127.770
126.621
123.561

77.476
77.158
76.840
73.630



```

Current Data Parameters
USER      yonova
NAME      imy3 - 252
EXPNO     12
PROCNO    1

F2 - Acquisition Parameters
Date_     20111121
Time      2.28
INSTRUM   drx400
PROBHD    5 mm QNP H/F/P
PULPROG   zgpg30
TD         65536
SOLVENT   CDCl3
NS         63
DS         4
SWH        24154.590 Hz
FIDRES     0.368570 Hz
AQ         1.3566452 sec
RG         9195.2
DW         20.700 usec
DE         20.39 usec
TE         298.0 K
D1         0.10000000 sec
d11        0.03000000 sec
MCREST    0.00000000 sec
MCWRK     0.01500000 sec

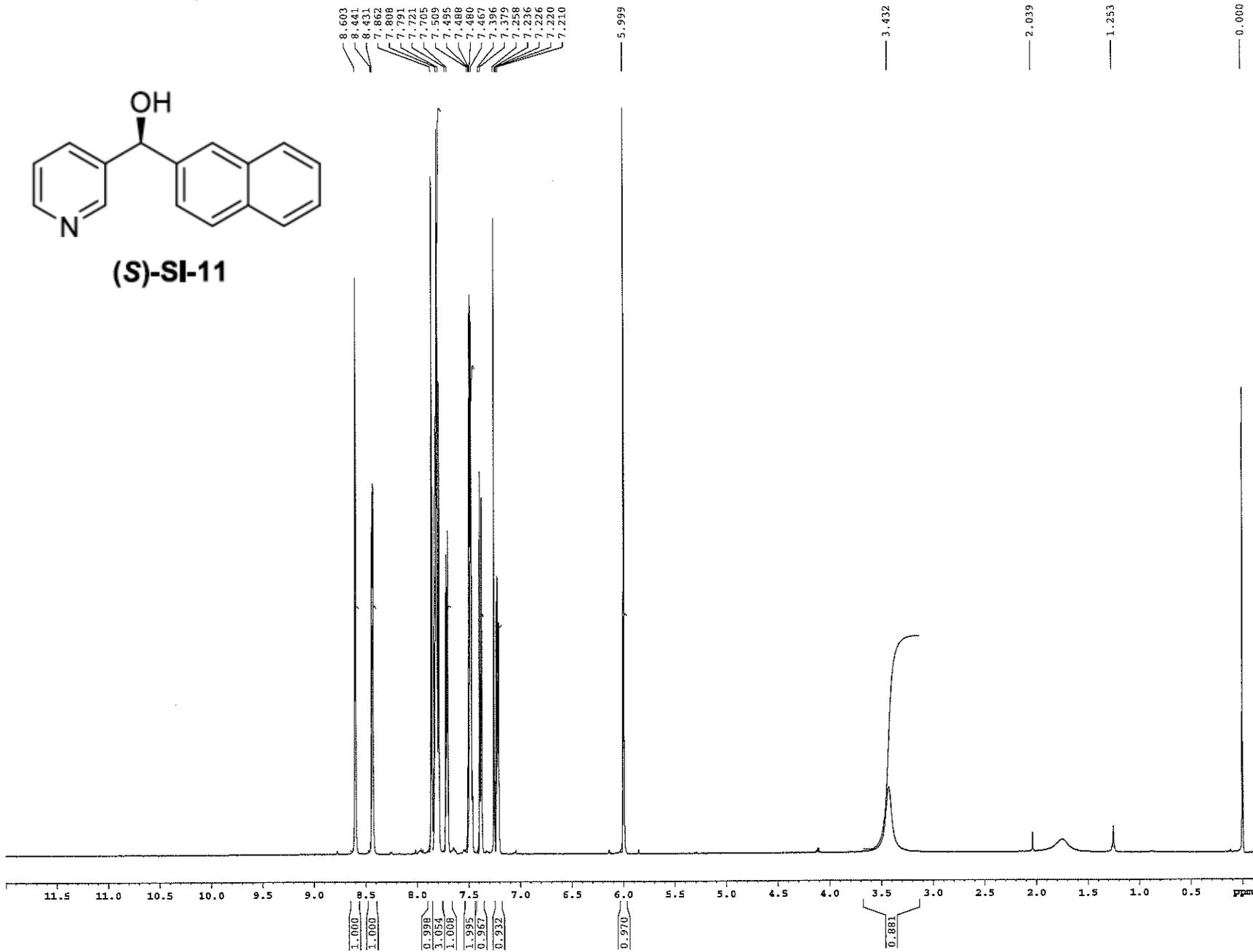
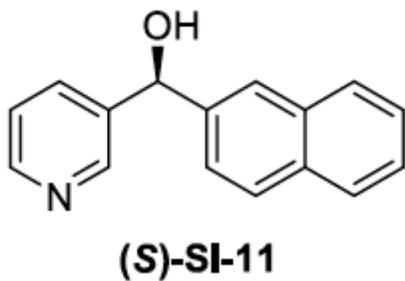
===== CHANNEL f1 =====
NUC1      13C
P1        11.00 usec
PL1       0.00 dB
SFO1      100.6237964 MHz

===== CHANNEL f2 =====
CPDPRG2   mlev16
NUC2       1H
PCPD2     80.00 usec
PL2        0.00 dB
PL12       16.20 dB
SFO2      400.1328009 MHz

F2 - Processing parameters
SI         65536
SF         100.6127694 MHz
WDW        EM
SSB        0
LB         1.00 Hz
GB         0
PC         1.00
    
```

195 190 185 180 175 170 165 160 155 150 145 140 135 130 125 120 115 110 105 100 95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 ppm

1H spectrum



```

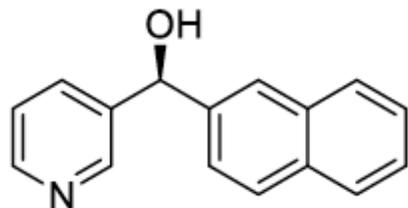
Current Data Parameters
USER          yonova
NAME          imy3 - XX
EXPNO        1
PROCNO       1

F2 - Acquisition Parameters
Date_        20111123
Time         16.55
INSTRUM      cryo500
PROBHD       5 mm CPTCI 1H-
PULPROG      zg30
TD           81728
SOLVENT      CDCl3
NS           8
DS           2
SWH          8012.820 Hz
FIDRES       0.098043 Hz
AQ           5.0999398 sec
RG           9
DE           62.400 usec
TE           298.0 K
D1           0.10000000 sec
MCREST       0.00000000 sec
MCWRRK       0.01500000 sec

===== CHANNEL f1 =====
NUC1         1H
P1           7.50 usec
PL1          1.60 dB
SFO1         500.2235015 MHz

F2 - Processing parameters
SI           65536
SF           500.2200331 MHz
WDW          EM
SSB          0
LB           0.30 Hz
GB           0
PC           2.00
    
```

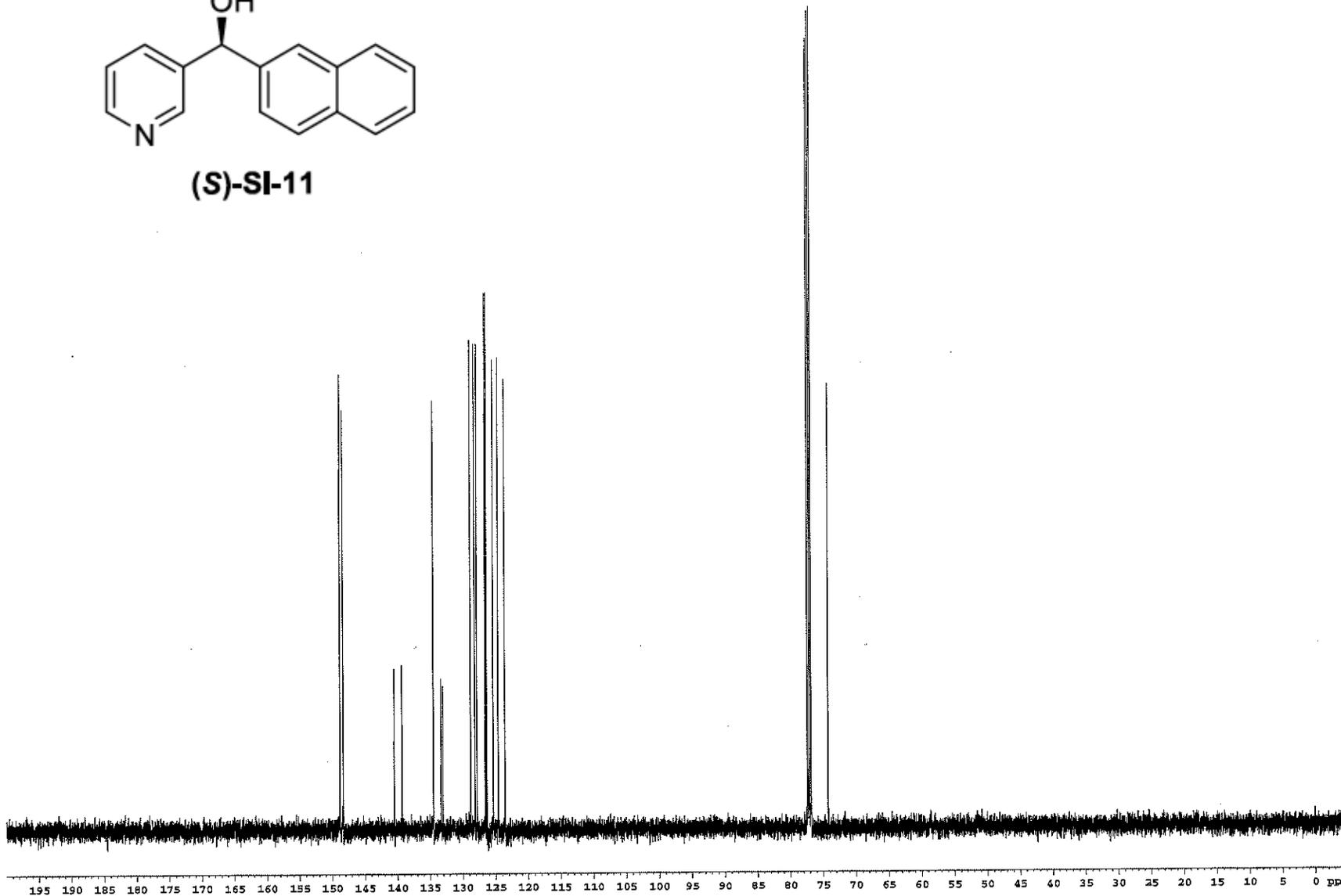
Z-restored spin-echo 13C spectrum with 1H decoupling



(S)-SI-11

148.838
148.367
140.511
139.351
134.531
133.338
133.118
128.824
128.187
127.857
126.557
126.391
125.368
124.595
123.626

77.412
77.158
76.904
74.284



```

Current Data Parameters
USER          yonova
NAME          lny3 - XX
EXNO          2
PROCNO       1

F2 - Acquisition Parameters
Date_         2011123
Time          17.01
INSTRUM      cryo500
PROBHD       5 mm CPTCI 1H-
PULPROG      SpinEcho3Dgprd
TD           65536
SOLVENT      CDCl3
NS           252
DS           16
SWH          30303.031 Hz
FIDRES       0.462388 Hz
AQ           1.0813940 sec
RG           7298.2
DM           16.500 usec
DE           6.00 usec
TE           298.0 K
DL           0.2500000 sec
d11          0.0300000 sec
D16          0.0002000 sec
d17          0.00019600 sec
RCREST       0.0000000 sec
MCRRK        0.0150000 sec
F2

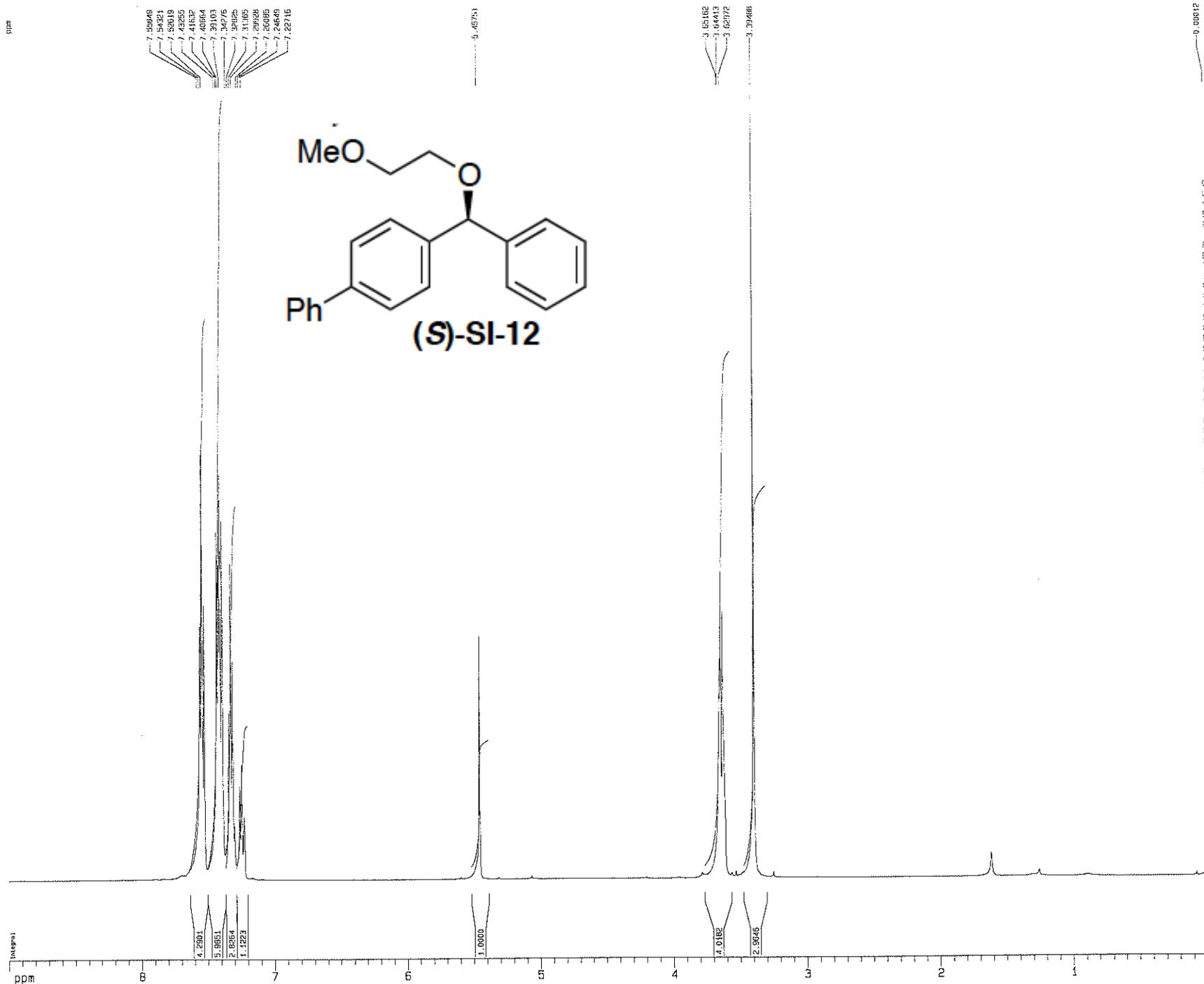
===== CHANNEL f1 =====
NUC1          13c
P1            15.50 usec
PL1           500.00 usec
PL2           2000.00 usec
PL0           120.00 dB
PL1           -1.00 dB
SFO1         125.7942548 MHz
SF1           3.20 dB
SF2           3.20 dB
SPNAM1       Crp60.0.5.20.1
SPNAM2       Crp60comp.4
SPOFF1        0.00 Hz
SPOFF2        0.00 Hz

===== CHANNEL f2 =====
CPDPRG2      waltz16
NUC2          1H
PCPD2        100.00 usec
PL2           1.60 dB
PL12         24.60 dB
SFO2         500.2225011 MHz

===== GRADIENT CHANNEL =====
GPRAM1       SINE.100
GPRAM2       SINE.100
GPX1         0.00 %
GPX2         0.00 %
GPY1         0.00 %
GPY2         0.00 %
GPI1         30.00 %
CPZ2         50.00 %
p15          500.00 usec
p16          1000.00 usec

F2 - Processing parameters
SI           65536
SF           125.7804103 MHz
WDW          EM
SSB          0
LB           1.00 Hz
GB           0
PC           2.00
    
```

¹H spectrum



Current Date Parameters
 USER greese
 NAME nag-1-14E1
 EXPNO 1
 PROCNO 1

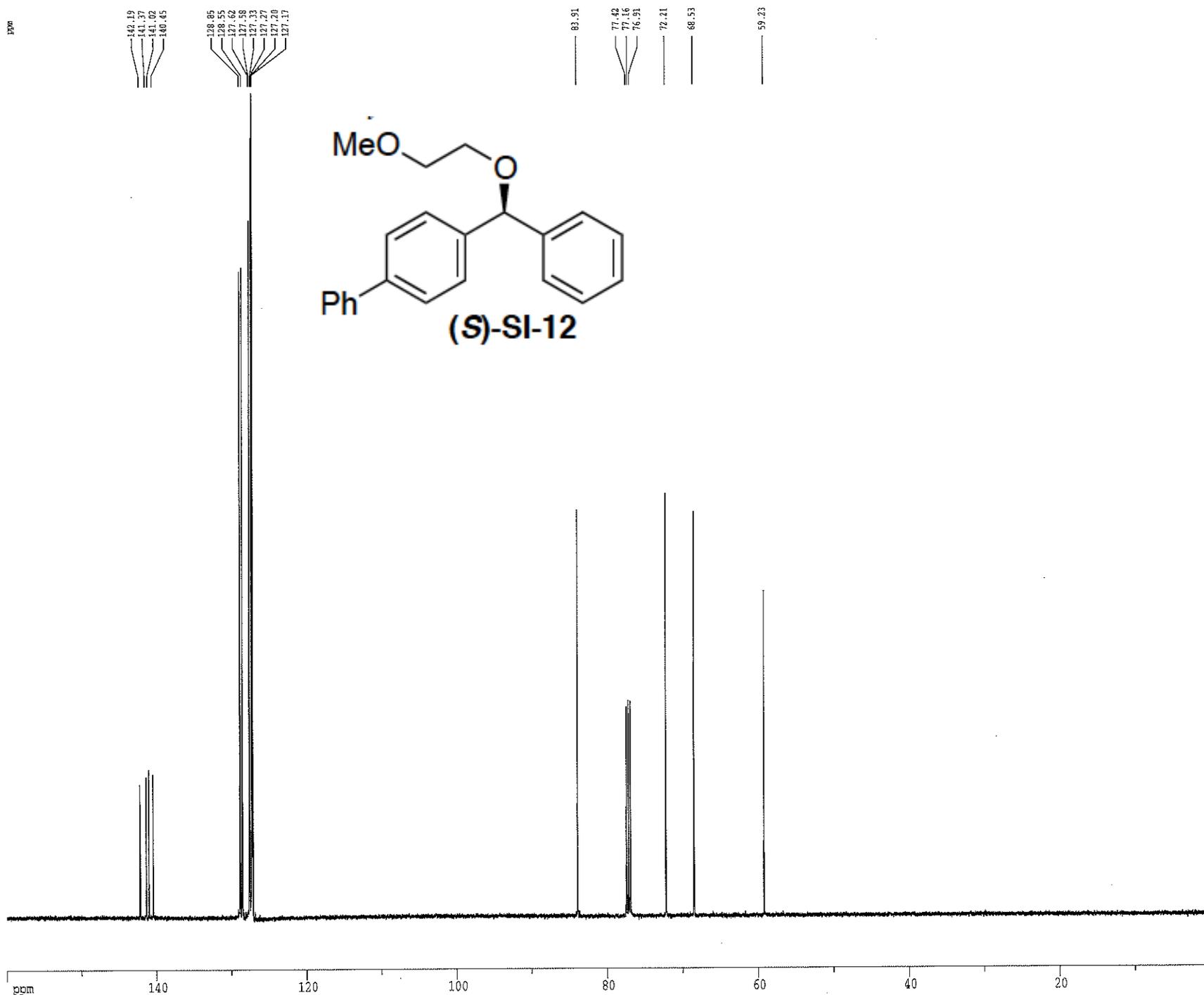
F2 - Acquisition Parameters
 Date_ 20110525
 Time 15.08
 INSTRUM cryo500
 PROBP1 5 cm CPIC1 14-
 PULPROG zg30
 TD 67268
 SFO 500.136453
 SOLVENT CDCl3
 NS 8
 DS 2
 SWH 5012.620 Hz
 FIDRES 0.098043 Hz
 AQ 5.0955328 sec
 RG 4
 DA 62.400 usec
 DE 5.00 usec
 FE 298.0 K
 D1 0.10000000 sec
 MEREFT 0.00000000 sec
 MCRPK 0.01500000 sec

***** CHANNEL f1 *****
 NUC1 1H
 P1 7.50 usec
 PL1 1.60 dB
 SFO1 500.2239015 MHz

F2 - Processing parameters
 SI 65535
 SF 500.2200475 MHz
 WHW SW
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 4.00

1D NMR plot parameters
 CX 22.80 cm
 CY 15.00 cm
 FIP 9.000 Dppm
 F1 4501.58 Hz
 F2 0.000 Dppm
 F2 0.00 Hz
 PRFCH 0.36474 Dppm/cm
 HZCM 197.45529 Hz/cm

Z-restored spin-echo 13C spectrum with 1H decoupling



Current Data Parameters
 USER greene
 NAME mag-1-145c
 EXPNO 19
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20110918
 Time 11.17
 INSTRUM cryo500
 PROBHD 5 mm CPTCI 1H-
 PULPROG SpinEcho30pp.prd
 TD 65536
 SOLVENT CDCl3
 NS 350
 DS 16
 SWH 30303.031 Hz
 FIDRES 0.462388 Hz
 AQ 1.0813940 sec
 RG 2896.3
 DW 16.500 usec
 DE 6.00 usec
 TE 298.0 K
 D1 0.25000000 sec
 d11 0.03000000 sec
 D16 0.00200000 sec
 d17 0.00019600 sec
 MCRESP 0.00000000 sec
 MCHWK 0.01500000 sec
 P2 31.00 usec

===== CHANNEL f1 =====
 RUC1 13C
 P1 15.50 usec
 P11 500.00 usec
 P12 2000.00 usec
 PL0 120.00 dB
 PL1 -1.00 dB
 SFO1 125.7942548 MHz
 SP1 3.20 dB
 SP2 3.20 dB
 SFRM1 Crp60,0,5,20,1
 SFRM2 Crp60comp,4
 SFOFF1 0.00 Hz
 SFOFF2 0.00 Hz

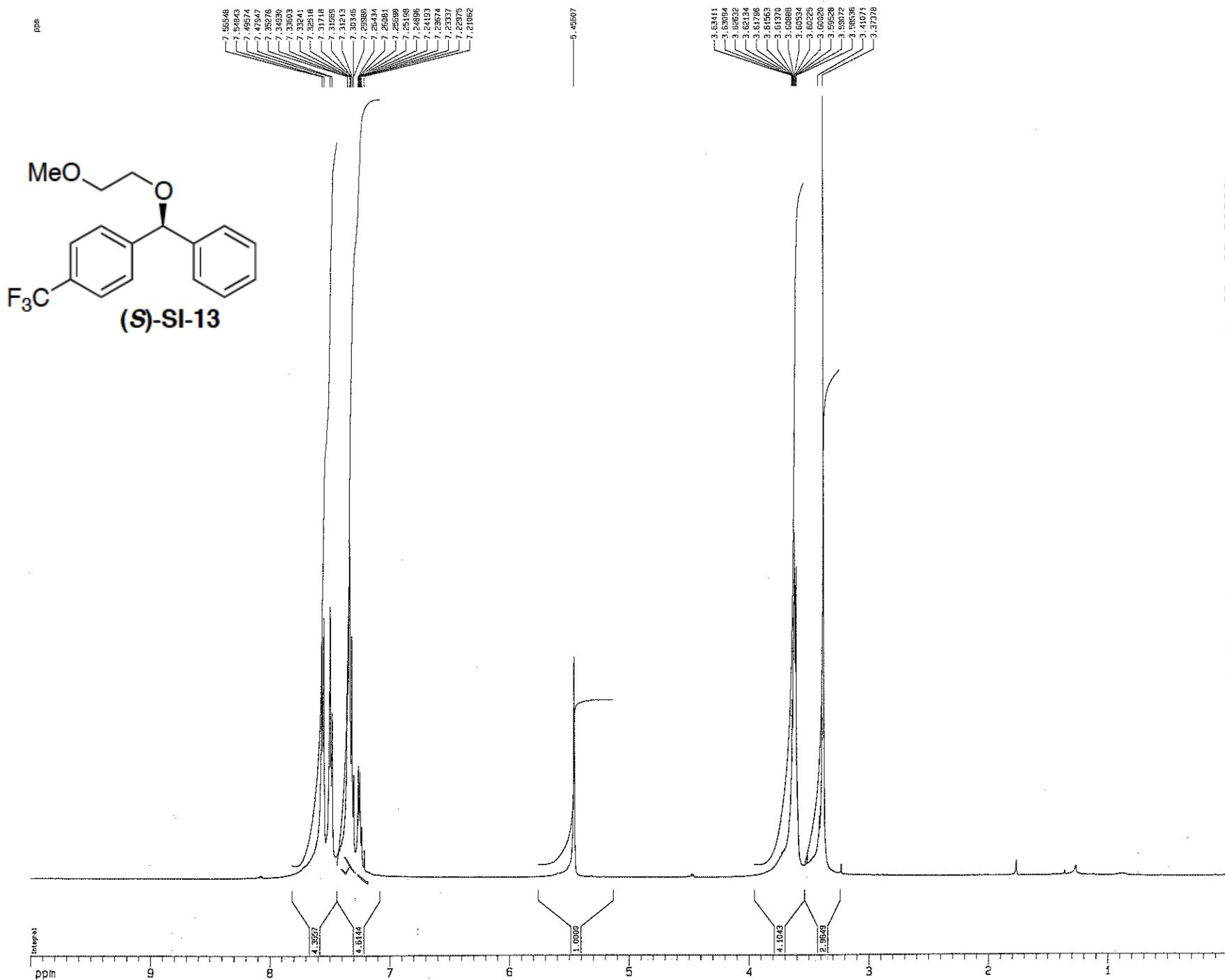
===== CHANNEL f2 =====
 CUPPRG2 waltz16
 RUC2 1H
 PCPD2 100.00 usec
 PL2 1.60 dB
 PL12 24.60 dB
 SFO2 500.2225011 MHz

===== GRADIENT CHANNEL =====
 GPHAM1 SINE.100
 GPHAM2 SINE.100
 GPK1 0.00 %
 GPK2 0.00 %
 GPF1 0.00 %
 GPF2 0.00 %
 GPE1 30.00 %
 GPE2 50.00 %
 p15 500.00 usec
 p16 1000.00 usec

F2 - Processing parameters
 SI 65536
 SF 125.7804159 MHz
 MN EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 2.00

1D F2G plot parameters
 CX 22.80 cm
 CY 15.55 cm
 P1P 160.000 ppm
 P1 20124.87 Hz
 F2P 0.000 ppm
 F2 0.00 Hz
 PPMCM 7.01754 ppm/cm
 HZCM 882.66962 Hz/cm

1H spectrum



Current Date Parameters
 USER greene
 NAME mag-1-189c
 EXPNO 1
 PROCNO 1

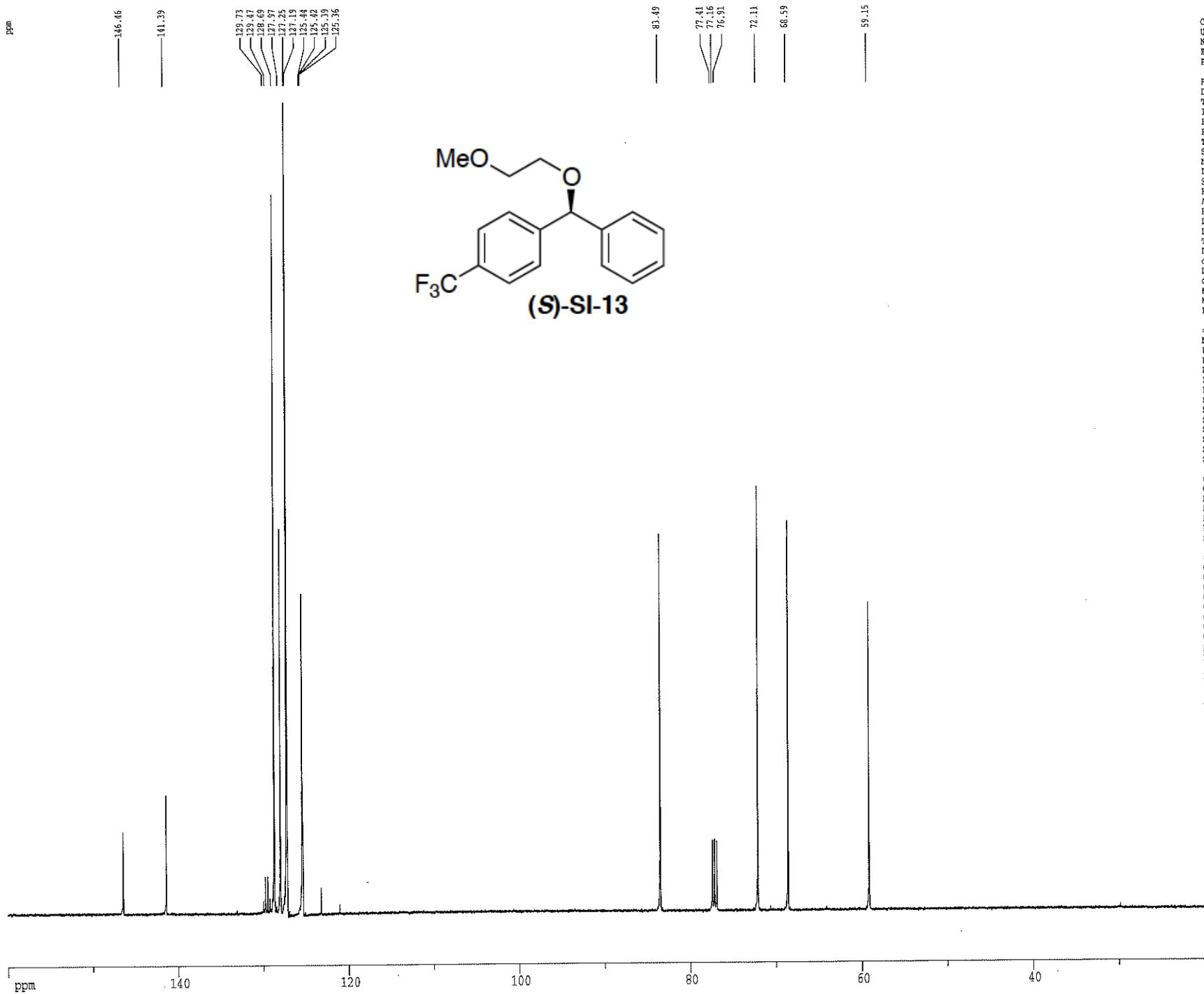
F2 - Acquisition Parameters
 Date_ 20110524
 Time 15.14
 INSTRUM cryo500
 PROBHD 5 mm CPTCI 1H-
 PULPROG zg30
 TO 81728
 SOLVENT CDCl3
 NS 8
 DS 2
 SWH 6012.820 Hz
 FIDRES 0.098043 Hz
 AQ 5.0999388 sec
 RS 3.2
 DW 62.400 usec
 DE 6.00 usec
 TE 298.0 K
 D1 0.1000000 sec
 MCHRES 0.0000000 sec
 MDWRK 0.0120000 sec

===== CHANNEL f1 =====
 NUC1 1H
 P1 7.50 usec
 PL1 1.50 dB
 SFO1 500.225015 MHz

F2 - Processing parameters
 SI 65536
 SF 500.2200562 MHz
 WDW no
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 4.00

1D NMR plot parameters
 CX 22.80 cm
 CY 15.00 cm
 F1P 10.000 ppm
 F1 5002.20 Hz
 F2P 0.000 ppm
 F2 0.00 Hz
 PPMCM 0.43860 ppm/cm
 HZCM 219.39478 Hz/cm

Z-restored spin-echo 13C spectrum with 1H decoupling



```

Current Data Parameters
USER          greene
NAME         mag-1-189c
EXPNO       2
PROCNO      1

F2 - Acquisition Parameters
Date_       20110524
Time        15.20
INSTRUM     cryo500
PROBHD      5 mm CPACT 1H-
PULPROG     SpinEcho300pp.prd
TD          65536
SOLVENT     CDCl3
NS          270
DS          16
SFO         30303.031 Hz
FIDRES      0.462388 Hz
AQ          1.0813940 sec
RG          3251
EN         16.500 usec
DE         6.00 usec
TE         298.0 K
DL         0.25000000 sec
dL1        0.03000000 sec
D16        0.00020000 sec
d17        0.00019600 sec
MCREST     0.00000000 sec
MCWRR      0.01500000 sec
P2         31.00 usec

===== CHANNEL f1 =====
NUC1        13C
P1          15.50 usec
P11         500.00 usec
P12         2000.00 usec
PL0         120.00 dB
PL1         -1.00 dB
SFO1        125.7942548 MHz
SF1         3.20 dB
SP2         3.20 dB
SFO1M1      Crp60,0,5,20.1
SFO1M2      Crp60comp,4
SFOFF1      0.00 Hz
SFOFF2      0.00 Hz

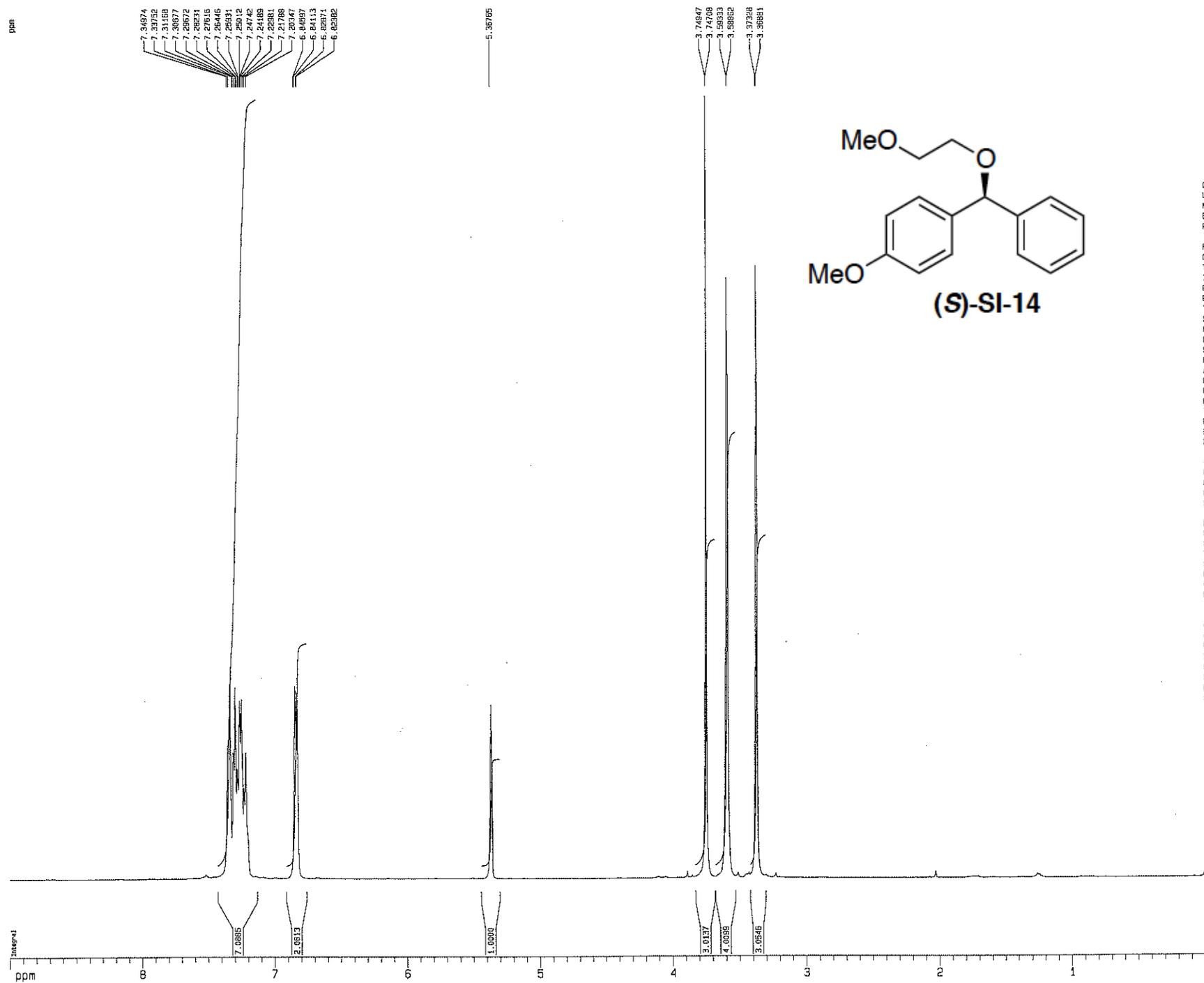
===== CHANNEL f2 =====
CF2PRG2     waltz16
NUC2        1H
PCPD2       100.00 usec
PL2         1.60 dB
PL12        24.60 dB
SFO2        500.2225011 MHz

===== GRADIENT CHANNEL =====
GPRM1       SINE,100
GPRM2       SINE,100
GPR1        0.00 %
GPR2        0.00 %
GPR1        0.00 %
GPR2        0.00 %
GPR1        30.00 %
GPR2        50.00 %
p15         500.00 usec
p16         1000.00 usec

F2 - Processing parameters
SI          65536
SF          125.7804190 MHz
WDW         EM
SSB         0
LB          1.00 Hz
GB          0
PC          2.00

1D NMR plot parameters
CX          22.80 cm
CY          15.65 cm
F1P         160.000 ppm
F1          20124.87 Hz
F2P         20.000 ppm
F2          2515.61 Hz
PPMCMX     6.14033 ppm/cm
HDCM       772.33594 Hz/cm
    
```

1H spectrum



Current Data Parameters
 USER greens
 NAME mag-2-027p
 EXPNO 1
 PROCNO 1

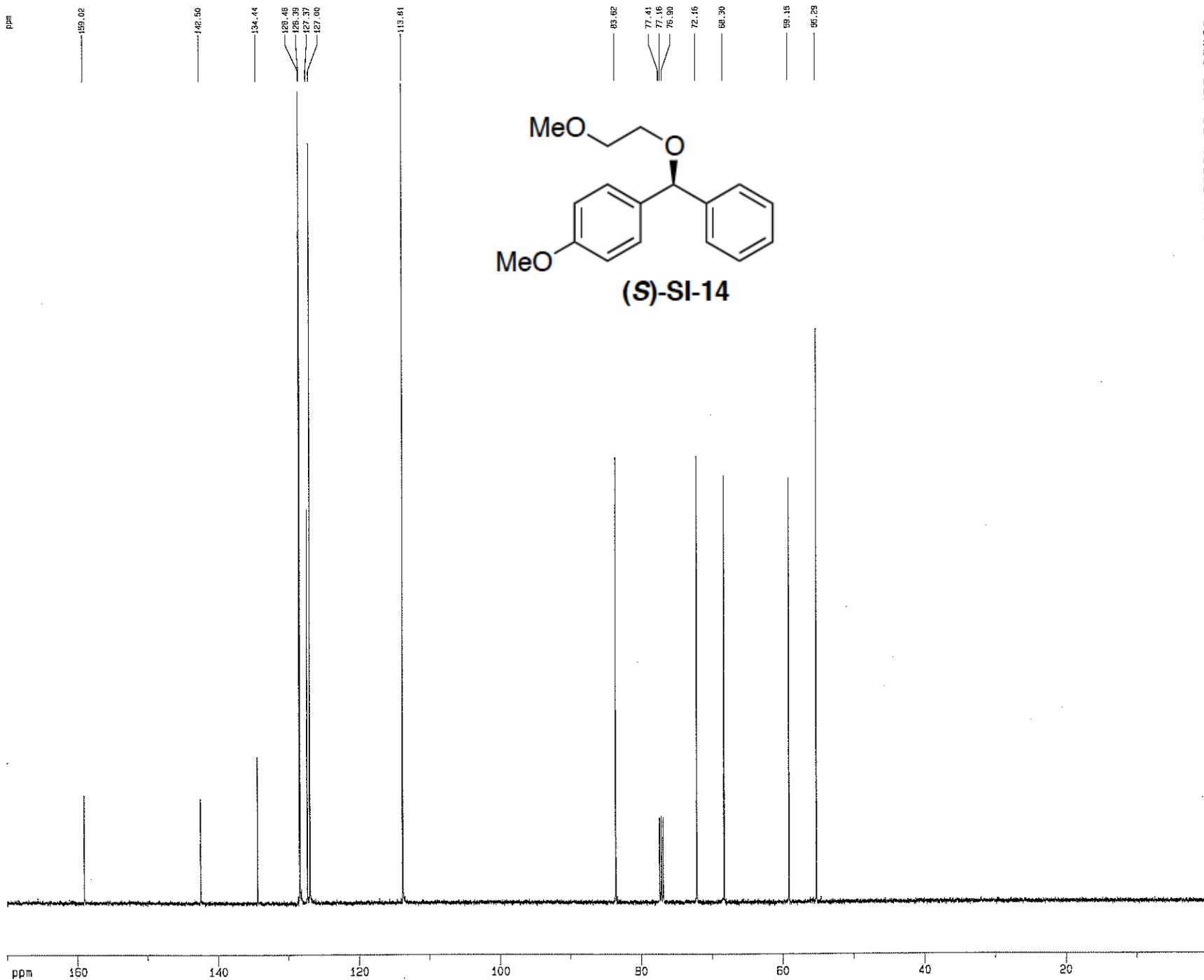
F2 - Acquisition Parameters
 Date_ 20111103
 Time 11.01
 INSTRUM cryo500
 PROBHD 5 mm CPTCI 1H-
 PULPRDG zg30
 TD 81728
 SOLVENT CDCl3
 NS 2
 DS 2
 SFO1 8012.820 Hz
 FIDRES 0.098043 Hz
 AQ 5.0989308 sec
 RG 5.7
 DW 62.400 usec
 DE 6.00 usec
 TE 298.0 K
 D1 0.1000000 sec
 MCREST 0.0000000 sec
 MCWRK 0.0150000 sec

===== CHANNEL f1 =====
 NUC1 1H
 P1 7.50 usec
 PL1 1.60 dB
 SFO1 500.2235015 MHz

F2 - Processing parameters
 SI 65536
 SF 500.2200522 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 4.00

1D NMR plot parameters
 CX 22.80 cm
 CY 15.00 cm
 F1P 9.000 ppm
 F1 4501.88 Hz
 F2P 0.000 ppm
 F2 0.00 Hz
 PPMCM 0.38474 ppm/cm
 HZCM 197.45529 Hz/cm

Z-restored spin-echo 13C spectrum with 1H decoupling



```

Current Data Parameters
USER          greene
NAME         mag-2-027b
EXPNO        2
PROCNO       1

F2 - Acquisition Parameters
Date_        20111103
Time         11.03
INSTRUM      cryo500
PROBHD       5 mm CPTCI 1H-
PULPROG      SpinEchopg30gp.prd
TO           65536
SOLVENT      CDCl3
NS           82
DS           16
SWH          30303.031 Hz
FIDRES       0.462368 Hz
AQ           1.0814105 sec
RG           2298.8
DK           15.500 usec
DE           5.00 usec
TE           298.0 K
D1           0.25000000 sec
d11          0.03000000 sec
D16         0.00020000 sec
d17         0.00019800 sec
MCREST      0.00000000 sec
MCMRK       0.01500000 sec
P2          31.00 usec

===== CHANNEL f1 =====
NUC1         13C
P1           15.50 usec
P11          500.00 usec
P12          2000.00 usec
PL0          +20.00 dB
PL1          -1.00 dB
SFO1         125.7842548 MHz
SP1          3.20 dB
SP2          3.20 dB
SFO1         Crp80, 0.5, 20.1
SPNAM1      Crp80, 0.5, 20.1
SPNAM2      Crp60comp, 4
SFOFF1      0.00 Hz
SFOFF2      0.00 Hz

===== CHANNEL f2 =====
CPDPRG2     waitz15
NUC2         1H
PCPD2       100.00 usec
PL2         1.60 dB
PL12        24.60 dB
SFO2        500.2825011 MHz

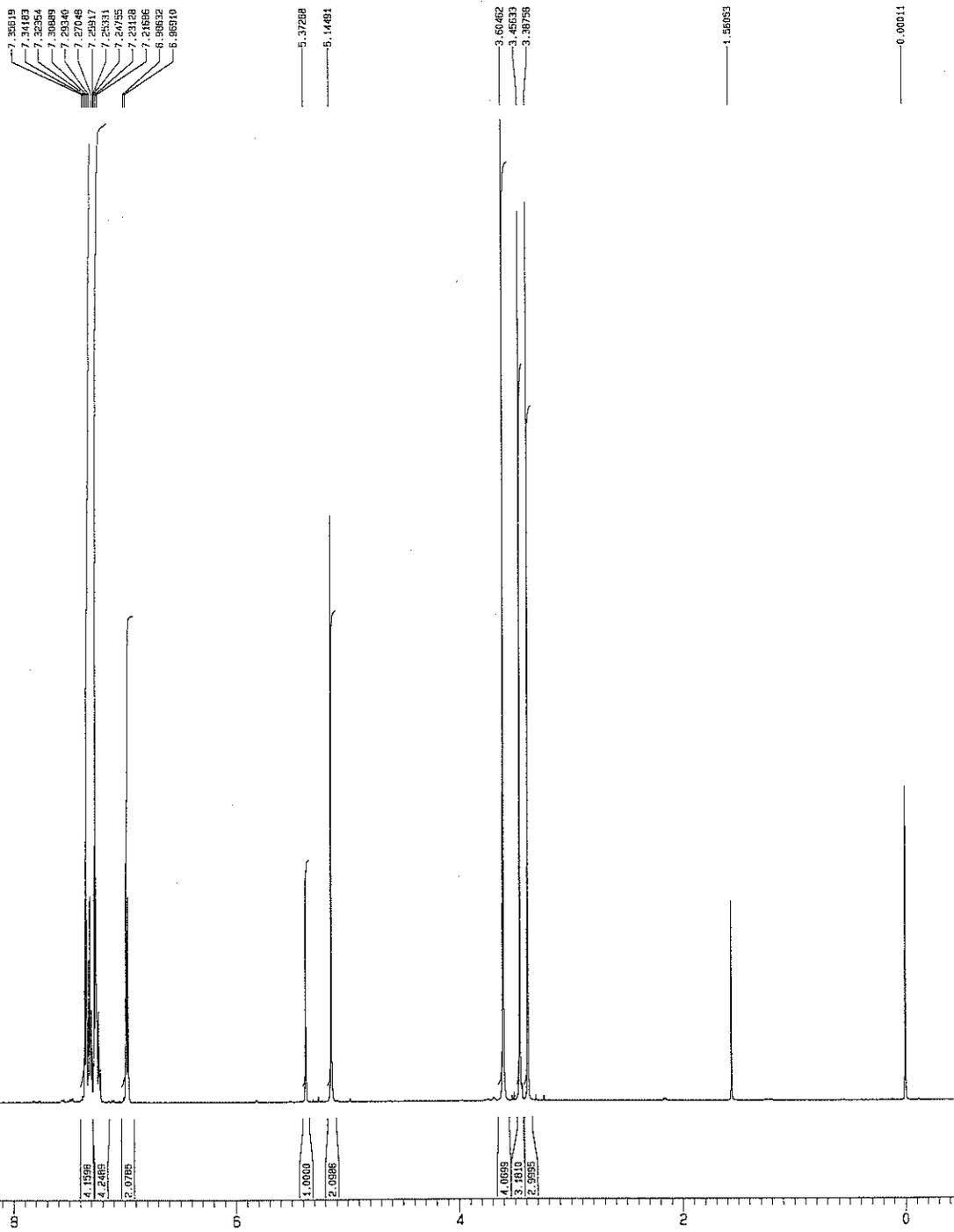
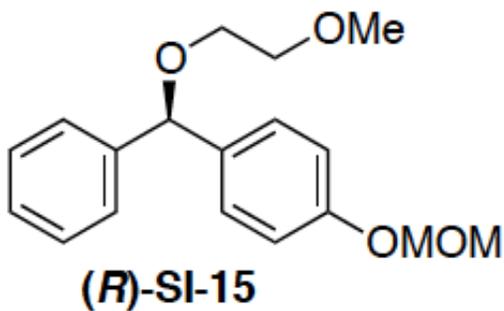
===== GRADIENT CHANNEL =====
GPNAM1      SINE,100
GPNAM2      SINE,100
GPX1        0.00 X
GPX2        0.00 X
GPI1        0.00 X
GPI2        0.00 X
GPZ1        30.00 X
GPZ2        50.00 X
p15         500.00 usec
p16         1000.00 usec

F2 - Processing parameters
SI          65536
SF          125.7804214 MHz
WDW         EM
SSB         0
LB          1.00 Hz
GB          0
PC          2.60

1D NMR plot parameters
CX          22.80 cm
CY          15.65 cm
F1P         170.000 ppm
F1          21382.67 Hz
F2P         0.000 ppm
F2          0.00 Hz
PRMCM       7.45814 ppm/cm
HZCM        837.83649 Hz/cm
    
```

1H spectrum

ppm



```

Current Data Parameters
USER          willis
NAME          fjk-iv-153-NM-5M-char
EXPNO        1
PROCNO       1

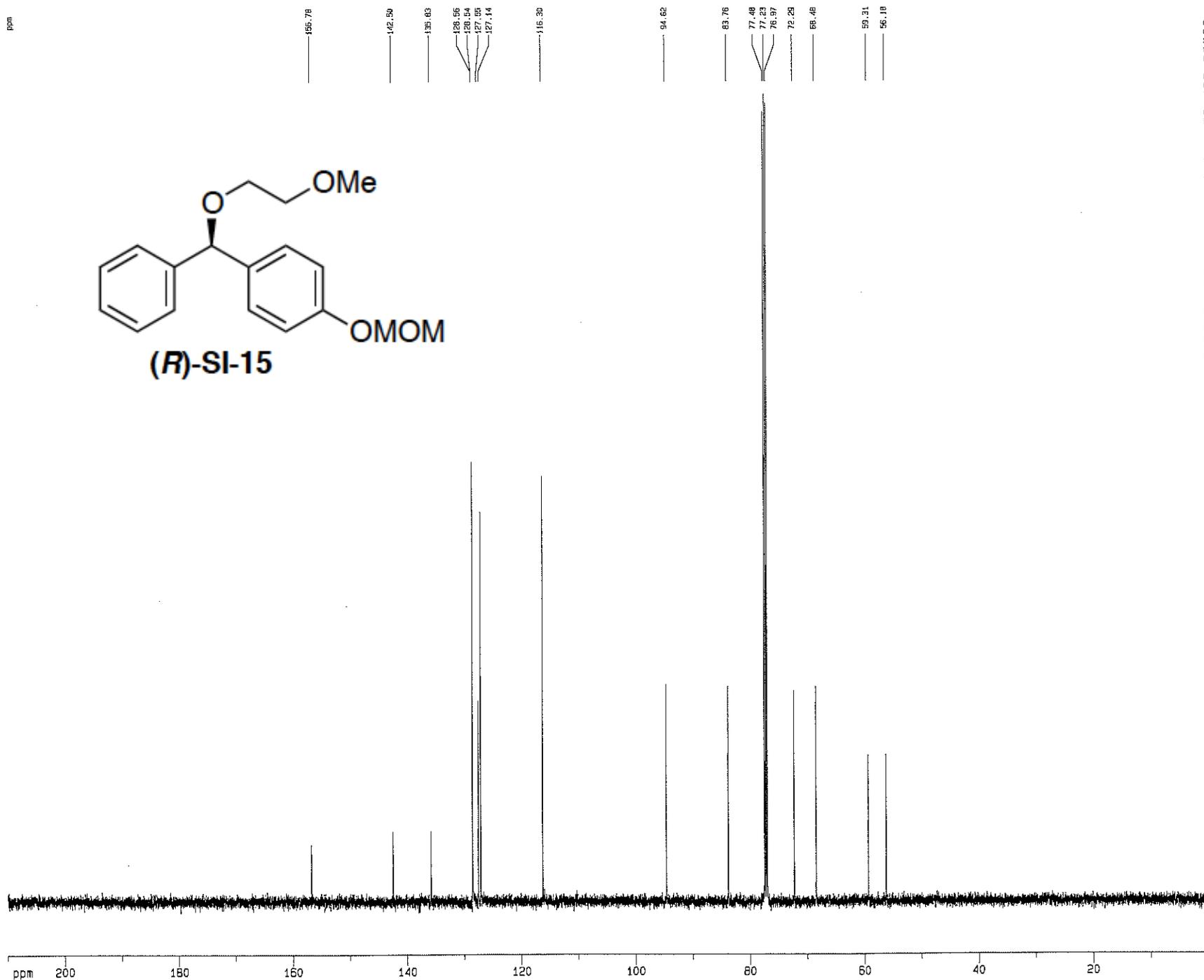
F2 - Acquisition Parameters
Date_        20110931
Time         14.22
INSTRUM      cryo500
PROBHD       5 mm CPXI 1H-
PULPROG      zg30
TD           81728
SOLVENT      CDCl3
NS           7
DS           2
SWH          8012.820 Hz
FIDRES       0.088045 Hz
AQ           5.098396 sec
RG           7.1
DN           62.400 usec
DE           5.00 usec
TE           298.0 K
D1           0.10000000 sec
MCREST       0.00000000 sec
MCWRK        0.01500000 sec

----- CHANNEL f1 -----
NUC1         1H
P1           7.50 usec
PL1          1.80 dB
SFO1         500.2235015 MHz

F2 - Processing parameters
SI           65536
SF           500.2290319 MHz
WDW          EM
SSB          0
LB           0.30 Hz
GB           0
PC           4.00

1D NMR plot parameters
CX           22.80 cm
CY           15.00 cm
FSF         15.000 ppm
F1           8502.85 Hz
F2P          -0.500 ppm
F2           -250.11 Hz
PMMCH        0.58211 ppm/cm
H2CCH        296.18282 Hz/cm
    
```

Z-restored spin-echo 13C spectrum with 1H decoupling



```

Current Data Parameters
USER          w111a
NAME          fjm-iv-153-HOM-OM-char
EXPNO        2
PROCNO       1

F2 - Acquisition Parameters
Date_        20110821
Time         14.53
INSTRUM      cryo500
PROBHD       5 mm CPTCI 1H-
PULPROG      SpinEchoq30pp.prd
TD           65536
SOLVENT      CDCl3
NS           424
DS           16
SWH          30303.031 Hz
FIDRES       0.462988 Hz
AQ           1.091495 sec
RG           3856.3
DK           16.500 usec
DE           6.00 usec
TE           298.0 K
O1           0.2600000 sec
d11          0.0300000 sec
O16          0.0020000 sec
d17          0.0001800 sec
MCREST       0.0000000 sec
MCWPK        0.0150000 sec
P2           31.00 usec

----- CHANNEL f1 -----
NUC1          13C
P1           15.50 usec
P11          500.00 usec
P12          2000.00 usec
PL0          120.00 dB
PL1          -1.00 dB
SFO1         125.7902548 MHz
SF1          3.50 dB
SF2          3.50 dB
SNAME1       Crp50, 0.5, 20.1
SNAME2       Crp50comp, 4
SPOFF1       0.00 Hz
SPOFF2       0.00 Hz

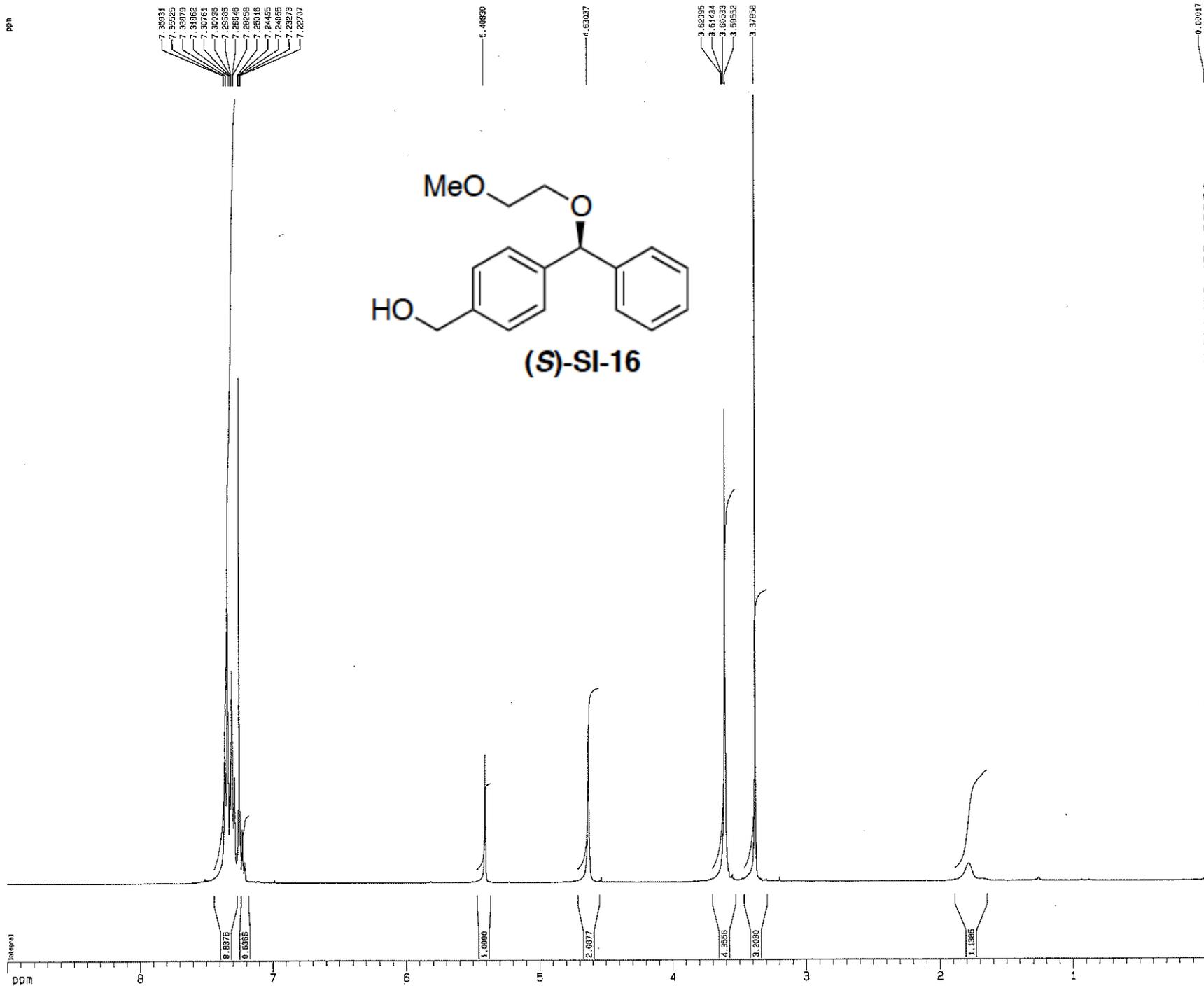
----- CHANNEL f2 -----
CPDPRG2      waltz16
NUC2          1H
PCPD2        100.00 usec
PL2          1.50 dB
PL12         24.50 dB
SFO2         500.2285011 MHz

----- GRADIENT CHANNEL -----
SNAME1       SINE.100
SNAME2       SINE.100
GPX1         0.00 %
GPX2         0.00 %
GPY1         0.00 %
GPY2         0.00 %
GPZ1         30.00 %
GPZ2         50.00 %
p15          500.00 usec
p16          1000.00 usec

F2 - Processing parameters
SI           65536
SF           125.7902548 MHz
WDW          EM
SSB          0
LB           1.00 Hz
GB           0
PC           2.00

1D NMR plot parameters
CX           22.80 cm
CY           15.85 cm
F1P         210.000 ppm
F1          25413.88 Hz
F2P         0.000 ppm
F2          0.00 Hz
PPMCM       0.21053 ppm/cm
HZCX        1158.50366 Hz/cm
    
```

1H spectrum



Current Data Parameters
 USER greens
 NAME mag-2-087c
 EXPNO 40
 PROCNO 1

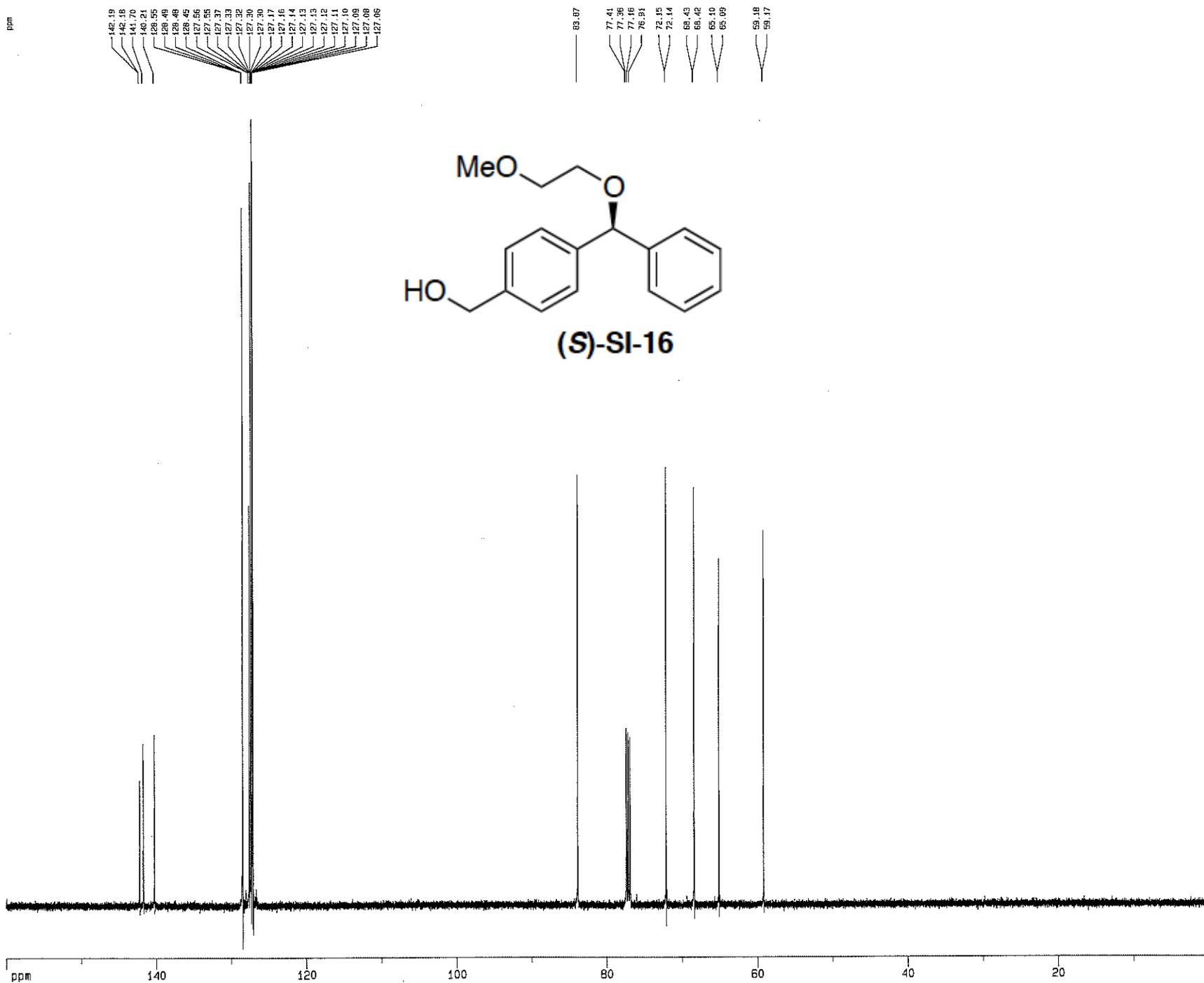
F2 - Acquisition Parameters
 Date_ 20120226
 Time 13.40
 INSTRUM drx400
 PROBHD 5 mm QNP H/F/P
 PULPROG zg30
 TD 65536
 SOLVENT CDC13
 NS 8
 DS 2
 SWH 5410.256 Hz
 FIDRES 0.097813 Hz
 AQ 5.1118579 sec
 RG 128
 DW 79,000 usec
 DE 4.50 usec
 TE 298.0 K
 D1 0.1000000 sec
 MCREST 0.0000000 sec
 MCWVK 0.01500000 sec

===== CHANNEL f1 =====
 NUC1 1H
 P1 12.00 usec
 PL1 -0.50 dB
 SFO1 400.1328009 MHz

F2 - Processing parameters
 SI 65536
 SF 400.1300254 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 2.00

1D NMR plot parameters
 CX 22.80 cm
 CY 15.00 cm
 F1P 9,000 ppm
 F1 3601.17 Hz
 F2P 0,000 ppm
 F2 0.00 Hz
 PRMCM 0.39474 ppm/cm
 HZCM 157.94508 Hz/cm

Z-restored spin-echo ¹³C spectrum with ¹H decoupling



```

Current Data Parameters
USER      greene
NAME      mag-2-087c
EXPNO     38
PROCNO    1

F2 - Acquisition Parameters
Date_     20120228
Time      14.12
INSTRUM   crys500
PROBHD    5 mm CPTCI 1H-
PULPROG   SpinEcho30pp.prd
TD         65536
SOLVENT   CDCl3
NS         375
DS         35
SWH        39303.031 Hz
FIDRES     0.462388 Hz
AQ         1.0814105 sec
RG         2288.0
OW         16.500 usec
OE         5.00 usec
TE         298.0 K
D1         0.25000000 sec
d11        0.03000000 sec
D16        0.00000000 sec
d17        0.00019600 sec
NCREST     0.00000000 sec
MCWFK      0.01500000 sec
P2         31.00 usec

===== CHANNEL f1 =====
NUC1       13C
P1         15.50 usec
PL1        500.00 usec
P12        2000.00 usec
PL0        120.00 dB
PL1        -1.00 dB
SFO1       125.7842548 MHz
SP1        3.20 dB
SP2        3.20 dB
SFOFF1     Cnp80, 0.5, 20.1
SFOFF2     Cnp80comp A
SPOFF1     0.00 Hz
SPOFF2     0.00 Hz

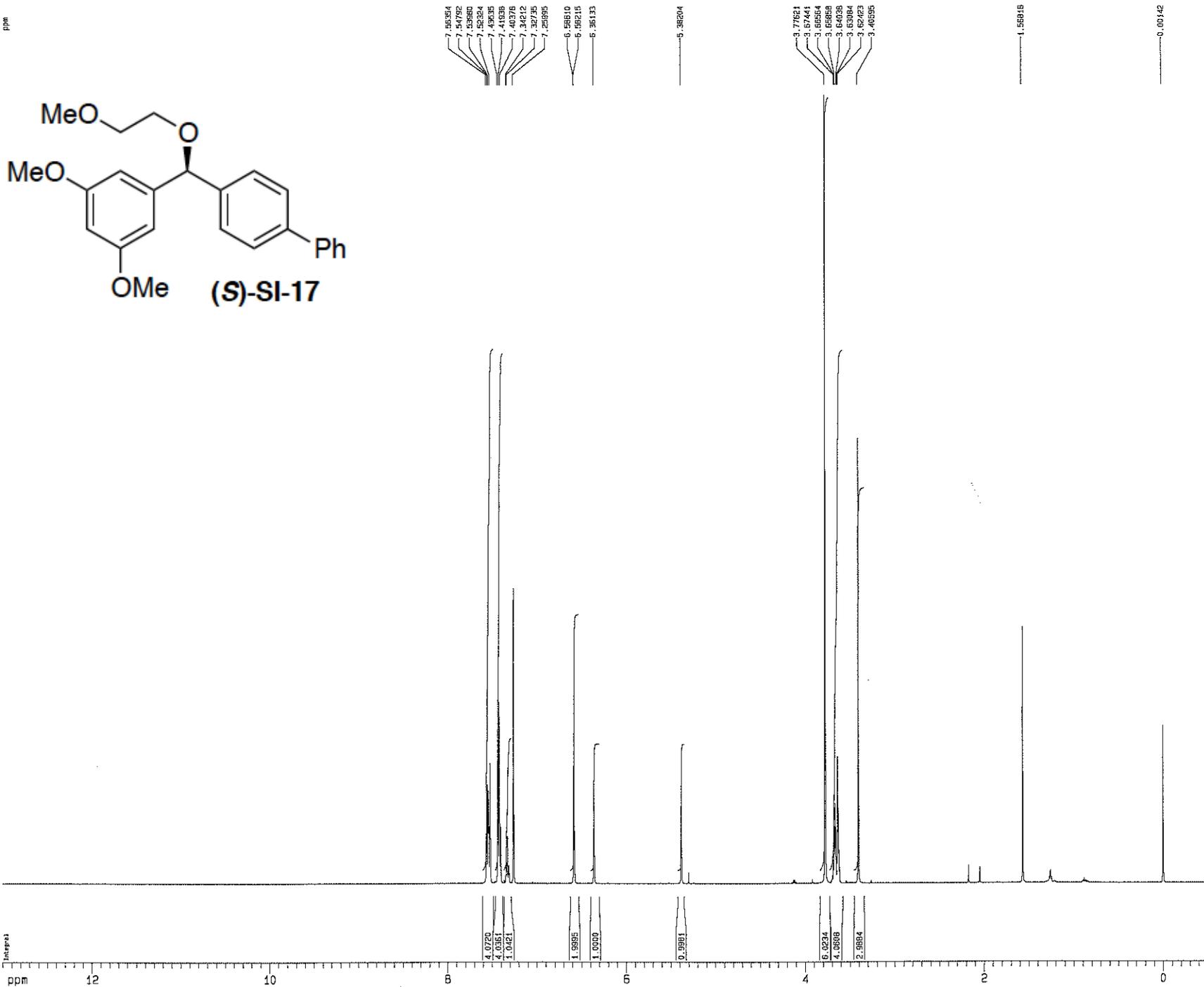
===== CHANNEL f2 =====
CPOPRG2    waltz16
NUC2       1H
PCPD2      100.00 usec
PL2        1.50 dB
PL12       24.50 dB
SFO2       500.2225011 MHz

===== GRADIENT CHANNEL =====
GPNAM1     SINE.100
GPNAM2     SINE.100
GPR1       0.00 %
GPR2       0.00 %
GPR1       0.00 %
GPR2       0.00 %
GPR1       0.00 %
GPR2       0.00 %
GPR1       30.00 %
GPR2       50.00 %
p15        500.00 usec
p16        1000.00 usec

F2 - Processing parameters
SI         65536
SF         125.7804154 MHz
WDW        ru
SSB        0
LB         0.00 Hz
GB         0
PC         2.00

ID NMR plot parameters
CX         22.80 cm
CY         15.00 cm
F1P        160.000 ppm
F1         20124.87 Hz
F2P        0.000 ppm
F2         0.00 Hz
PPMCM      7.01754 ppm/cm
HZCM       882.88962 Hz/cm
    
```

1H spectrum



```

Correct Data Parameters
USER          wllisa
NAME          3jw-1v-179-3_9ed3-pH-ether-Char
EXPNO        1
PROCNO       1

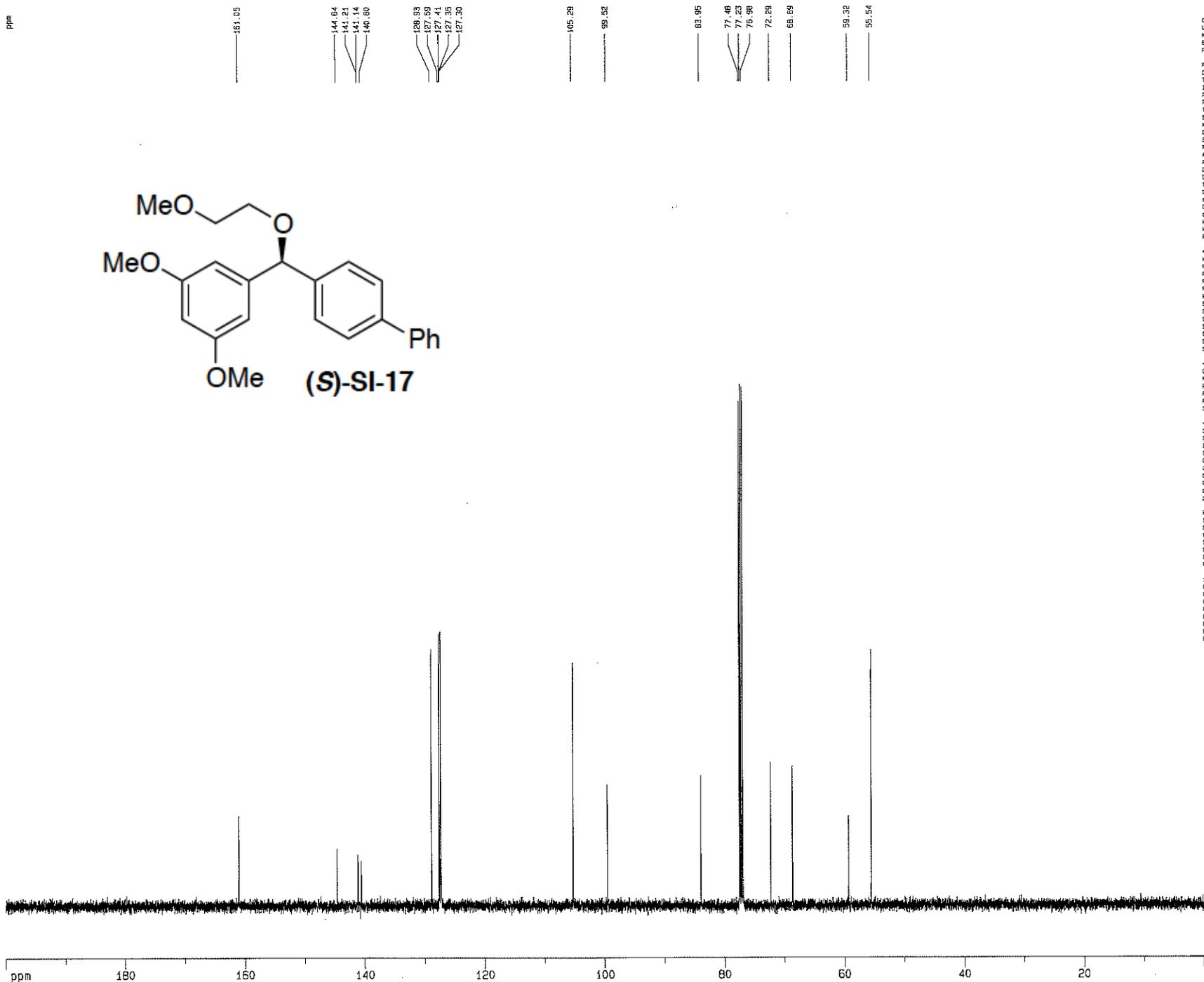
F2 - Acquisition Parameters
Date_        2011019
Time         14.18
INSTRUM      crys050
PROBHD       5 mm CP1CI 1H-
PULPROG      zgpg30
TD           65536
SOLVENT      CDCl3
NS           6
DS           2
SWH          3012.820 Hz
FIDRES       0.086043 Hz
AQ           5.058328 sec
RG           10.1
CW           62.400 usec
ZS           5.30 usec
TE           298.0 K
DQ           0.1000000 sec
RGST         0.0000000 sec
RGMR         0.01500000 sec

***** CHANNEL f1 *****
NUC1          13C
P1            7.50 usec
PL1           1.50 dB
SFO1         500.225015 MHz

F2 - Processing parameters
SI            65536
SF           500.225015 MHz
WDW           EM
SSB           0
LB            3.30 Hz
GB            0
PC            4.00

ID NMR plot parameters
CX           20.80 cm
CY           10.00 cm
FIDP         13.000 ppm
F1           6500.00 Hz
F2           -0.500 ppm
F3           -200.11 Hz
PCHW         0.50011 ppm/cm
HZDM         296.10292 Hz/cm
    
```

Z-restored spin-echo 13C spectrum with 1H decoupling



```

Current: Data Parameters
USER      w1111
NAME      (S)-iv-17-3,5MeO-pPh-ether-char
EXPNO     2
PROCNO    1
PRGNO     1

F2 - Acquisition Parameters
Date_     20110119
Time      14.20
INSTRUM   crys400
PROBHD    5 mm CPDPC-1H-
PULPROG   zgpg30
TD         65536
SOLVENT   CDCl3
NS        278
DS        16
SWH        33303.831 Hz
FIDRES     0.465388 Hz
AQ         1.0815640 sec
RG         6782.6
DM         16.530 usec
DE         6.00 usec
TE         298.0 K
D1         0.25000000 sec
d11        0.33000000 sec
D15        0.30000000 sec
c17        0.00018000 sec
HDCREST    0.30000000 sec
HDCNR      0.01500000 sec
P2         31.00 usec

***** CHANNEL f1 *****
NUC1       13C
P1         13.50 usec
P11        900.00 usec
P12        2000.00 usec
PLD        180.00 dB
PL1        -1.00 dB
PL2        -1.00 dB
SFO1      125.784500 MHz
SF         125.784500 MHz
SFO2       3.20 MHz
SFO3       3.20 MHz
SFO4       0.00 MHz
SFO5       0.00 MHz
SFO6       0.00 MHz
SFO7       0.00 MHz
SFO8       0.00 MHz
SFO9       0.00 MHz
SFO10      0.00 MHz
SFO11      0.00 MHz
SFO12      0.00 MHz
SFO13      0.00 MHz
SFO14      0.00 MHz
SFO15      0.00 MHz
SFO16      0.00 MHz
SFO17      0.00 MHz
SFO18      0.00 MHz
SFO19      0.00 MHz
SFO20      0.00 MHz
SFO21      0.00 MHz
SFO22      0.00 MHz
SFO23      0.00 MHz
SFO24      0.00 MHz
SFO25      0.00 MHz
SFO26      0.00 MHz
SFO27      0.00 MHz
SFO28      0.00 MHz
SFO29      0.00 MHz
SFO30      0.00 MHz
SFO31      0.00 MHz
SFO32      0.00 MHz
SFO33      0.00 MHz
SFO34      0.00 MHz
SFO35      0.00 MHz
SFO36      0.00 MHz
SFO37      0.00 MHz
SFO38      0.00 MHz
SFO39      0.00 MHz
SFO40      0.00 MHz
SFO41      0.00 MHz
SFO42      0.00 MHz
SFO43      0.00 MHz
SFO44      0.00 MHz
SFO45      0.00 MHz
SFO46      0.00 MHz
SFO47      0.00 MHz
SFO48      0.00 MHz
SFO49      0.00 MHz
SFO50      0.00 MHz
SFO51      0.00 MHz
SFO52      0.00 MHz
SFO53      0.00 MHz
SFO54      0.00 MHz
SFO55      0.00 MHz
SFO56      0.00 MHz
SFO57      0.00 MHz
SFO58      0.00 MHz
SFO59      0.00 MHz
SFO60      0.00 MHz
SFO61      0.00 MHz
SFO62      0.00 MHz
SFO63      0.00 MHz
SFO64      0.00 MHz
SFO65      0.00 MHz
SFO66      0.00 MHz
SFO67      0.00 MHz
SFO68      0.00 MHz
SFO69      0.00 MHz
SFO70      0.00 MHz
SFO71      0.00 MHz
SFO72      0.00 MHz
SFO73      0.00 MHz
SFO74      0.00 MHz
SFO75      0.00 MHz
SFO76      0.00 MHz
SFO77      0.00 MHz
SFO78      0.00 MHz
SFO79      0.00 MHz
SFO80      0.00 MHz
SFO81      0.00 MHz
SFO82      0.00 MHz
SFO83      0.00 MHz
SFO84      0.00 MHz
SFO85      0.00 MHz
SFO86      0.00 MHz
SFO87      0.00 MHz
SFO88      0.00 MHz
SFO89      0.00 MHz
SFO90      0.00 MHz
SFO91      0.00 MHz
SFO92      0.00 MHz
SFO93      0.00 MHz
SFO94      0.00 MHz
SFO95      0.00 MHz
SFO96      0.00 MHz
SFO97      0.00 MHz
SFO98      0.00 MHz
SFO99      0.00 MHz
SFO100     0.00 MHz

***** CHANNEL f2 *****
CPDPRG2    waltz16
NUC2       1H
PCPD2     100.00 usec
PL2       1.80 dB
PL12      24.80 dB
SFO2     500.136451 MHz

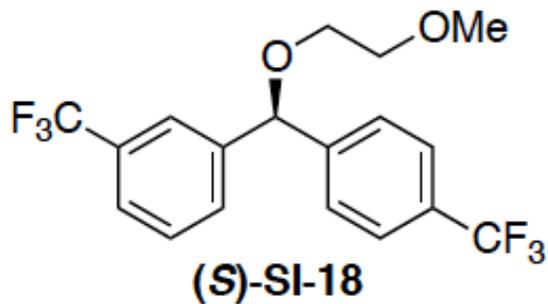
***** GRADIENT CHANNEL *****
SFOA0      0.00 MHz
SFOA1      0.00 MHz
SFOA2      0.00 MHz
SFOA3      0.00 MHz
SFOA4      0.00 MHz
SFOA5      0.00 MHz
SFOA6      0.00 MHz
SFOA7      0.00 MHz
SFOA8      0.00 MHz
SFOA9      0.00 MHz
SFOA10     0.00 MHz
SFOA11     0.00 MHz
SFOA12     0.00 MHz
SFOA13     0.00 MHz
SFOA14     0.00 MHz
SFOA15     0.00 MHz
SFOA16     0.00 MHz
SFOA17     0.00 MHz
SFOA18     0.00 MHz
SFOA19     0.00 MHz
SFOA20     0.00 MHz
SFOA21     0.00 MHz
SFOA22     0.00 MHz
SFOA23     0.00 MHz
SFOA24     0.00 MHz
SFOA25     0.00 MHz
SFOA26     0.00 MHz
SFOA27     0.00 MHz
SFOA28     0.00 MHz
SFOA29     0.00 MHz
SFOA30     0.00 MHz
SFOA31     0.00 MHz
SFOA32     0.00 MHz
SFOA33     0.00 MHz
SFOA34     0.00 MHz
SFOA35     0.00 MHz
SFOA36     0.00 MHz
SFOA37     0.00 MHz
SFOA38     0.00 MHz
SFOA39     0.00 MHz
SFOA40     0.00 MHz
SFOA41     0.00 MHz
SFOA42     0.00 MHz
SFOA43     0.00 MHz
SFOA44     0.00 MHz
SFOA45     0.00 MHz
SFOA46     0.00 MHz
SFOA47     0.00 MHz
SFOA48     0.00 MHz
SFOA49     0.00 MHz
SFOA50     0.00 MHz
SFOA51     0.00 MHz
SFOA52     0.00 MHz
SFOA53     0.00 MHz
SFOA54     0.00 MHz
SFOA55     0.00 MHz
SFOA56     0.00 MHz
SFOA57     0.00 MHz
SFOA58     0.00 MHz
SFOA59     0.00 MHz
SFOA60     0.00 MHz
SFOA61     0.00 MHz
SFOA62     0.00 MHz
SFOA63     0.00 MHz
SFOA64     0.00 MHz
SFOA65     0.00 MHz
SFOA66     0.00 MHz
SFOA67     0.00 MHz
SFOA68     0.00 MHz
SFOA69     0.00 MHz
SFOA70     0.00 MHz
SFOA71     0.00 MHz
SFOA72     0.00 MHz
SFOA73     0.00 MHz
SFOA74     0.00 MHz
SFOA75     0.00 MHz
SFOA76     0.00 MHz
SFOA77     0.00 MHz
SFOA78     0.00 MHz
SFOA79     0.00 MHz
SFOA80     0.00 MHz
SFOA81     0.00 MHz
SFOA82     0.00 MHz
SFOA83     0.00 MHz
SFOA84     0.00 MHz
SFOA85     0.00 MHz
SFOA86     0.00 MHz
SFOA87     0.00 MHz
SFOA88     0.00 MHz
SFOA89     0.00 MHz
SFOA90     0.00 MHz
SFOA91     0.00 MHz
SFOA92     0.00 MHz
SFOA93     0.00 MHz
SFOA94     0.00 MHz
SFOA95     0.00 MHz
SFOA96     0.00 MHz
SFOA97     0.00 MHz
SFOA98     0.00 MHz
SFOA99     0.00 MHz
SFOA100    0.00 MHz

F2 - Processing parameters
SI         65536
SF         125.784500 MHz
MCH        0
SSB        0
LB         1.00 Hz
GB         0
PC         2.00

F2 NMR plot parameters
CX         22.80 cm
CY         15.00 cm
F1P        200.000 MHz
F1         25156.08 Hz
F2P        0.000 MHz
F2         0.00 Hz
PPOW0      8.77193 ppm/cm
HZN        1103.33893 Hz/cm
    
```

1H spectrum

ppm



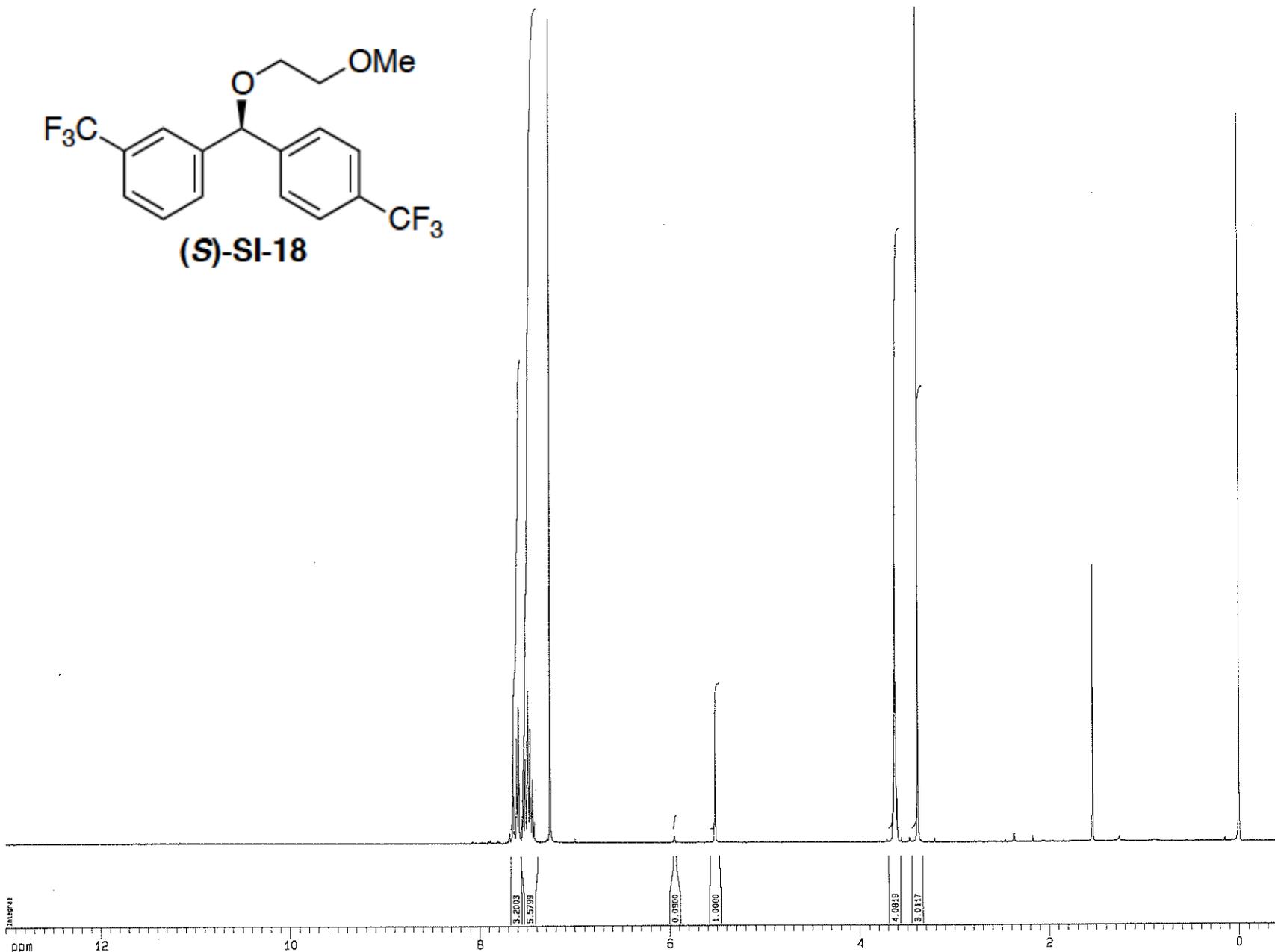
7.64855
7.60981
7.58825
7.54295
7.51943
7.49124
7.46945
7.44630
7.38015

5.55034

3.64551
3.63362
3.63235
3.62810
3.62350
3.61980
3.61298
3.60588
3.38732

1.53810

0.00000
0.00003



```

Current Data Parameters
Date_ 021109
JSEN 11112
NAME 11-11-100-3073-ACF3-alkyl-1-eth-1a15-07
EXPNO 1
PROCNO 1

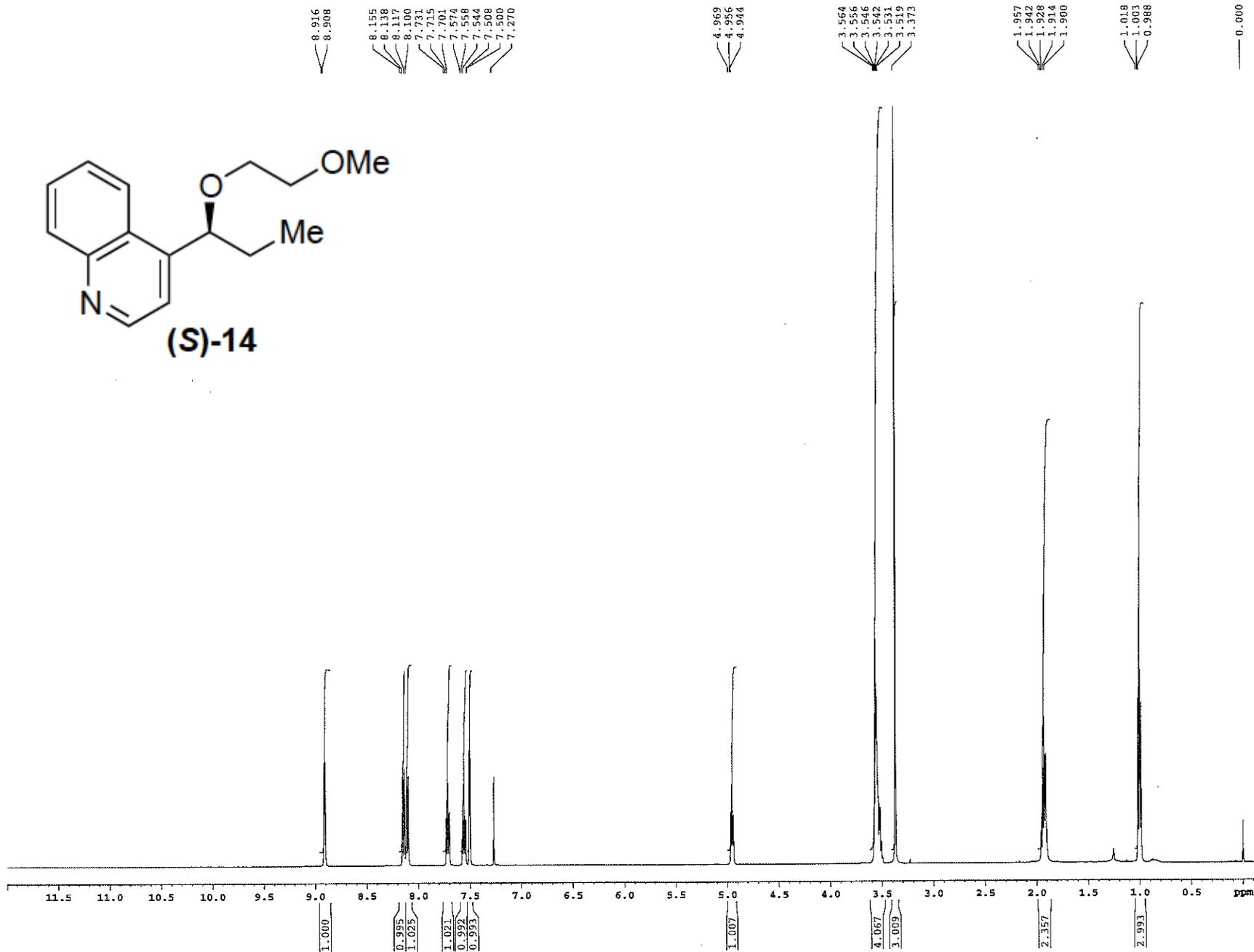
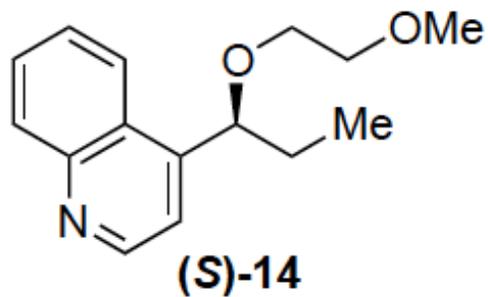
F2 - Acquisition Parameters
Date_ 021109
Time 11.49
INSTRUM spect
PULPROG zgpg30
PCPDPRG 2
SOLVENT CDCl3
NS 10
DS 2
SWH 6410.855 Hz
FIDRES 0.29761 Hz
AQ 5.1118575 sec
RG 310.5
ZG 75.000 sec
BE 4.50 usec
TE 298.1 K
D1 0.3000000 sec
ACQRES 0.0000000 sec
MARKS 0.1150000 sec

----- CHANNEL f1 -----
NUC1 1H
P1 10.00 usec
PL1 -0.00 dB
SFO1 400.1426005 MHz

F2 - Processing parameters
SI 65536
SF 400.1426005 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 2.00

ID list parameters
CX 22.85 cm
CY 19.80 cm
FID 15.200 sec
F1 5001.69 Hz
F2 -71.500 MHz
F3 -200.67 Hz
PPH2 0.50211 ppm/cm
HSCX 206.9081 Hz/cm
    
```


1H spectrum



```

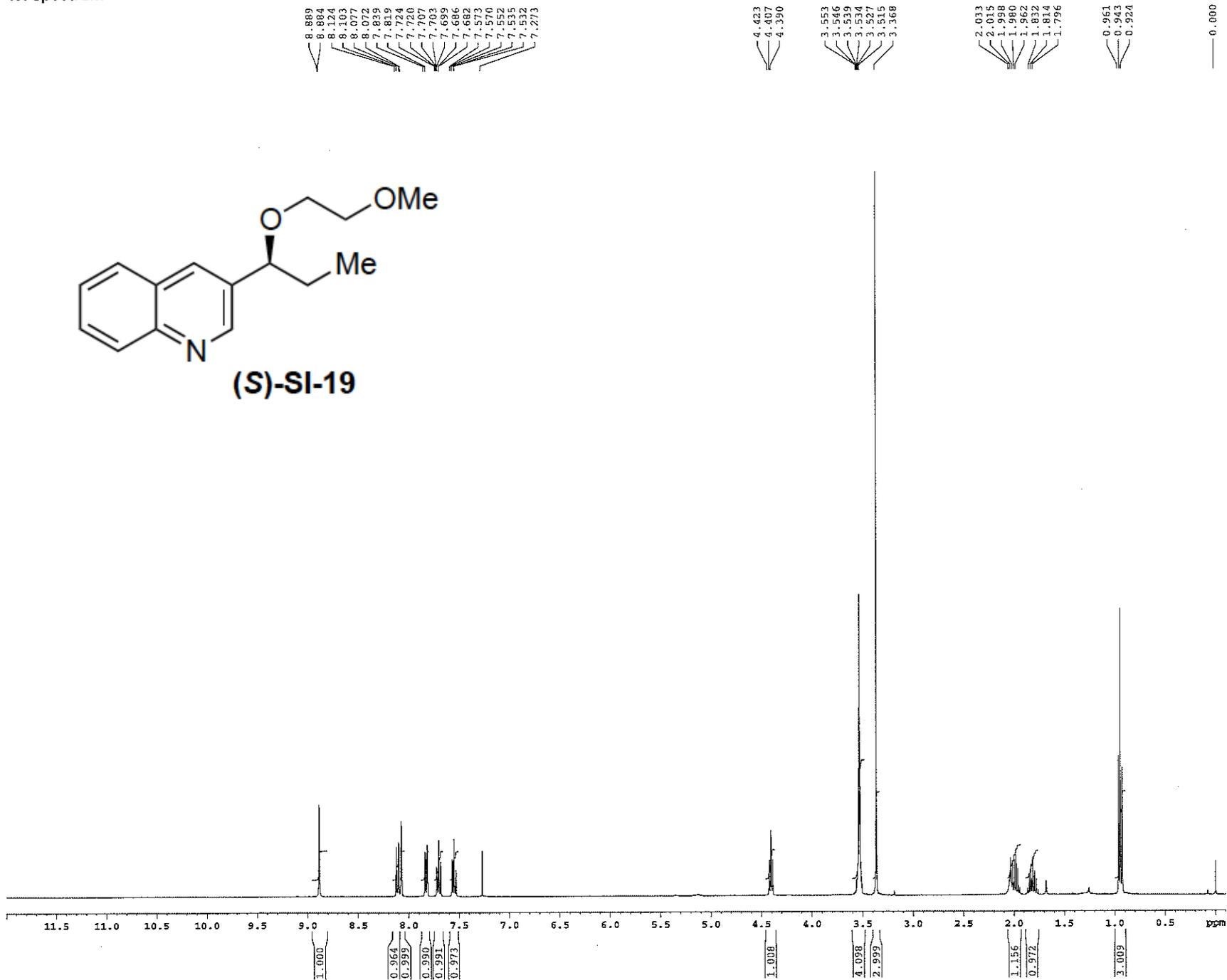
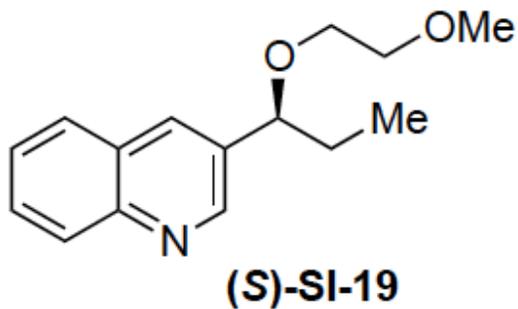
Current Data Parameters
USER      yonova
NAME      imy3 - 215
EXPNO     11
PROCNO    1

F2 - Acquisition Parameters
Date_     20111123
Time      17.19
INSTRUM   cryo500
PROBHD    5 mm CPTCI 1H-
PULPROG   zg30
TD         81728
SOLVENT   CDCl3
NS         8
DS         2
SWH        8012.820 Hz
FIDRES     0.098043 Hz
AQ         5.0999398 sec
RG         7.1
LW         52.400 usec
DE         6.00 usec
TE         298.0 K
DI         0.10000000 sec
MCREST    0.00000000 sec
MCWRRK    0.01500000 sec

===== CHANNEL f1 =====
NUC1       1H
P1         7.50 usec
PL1        1.60 dB
SFO1       500.2235015 MHz

F2 - Processing parameters
SI         65536
SF         500.2200271 MHz
WDW        Em
SSB        0
LB         0.30 Hz
GB         0
PC         4.00
    
```


1H spectrum



```

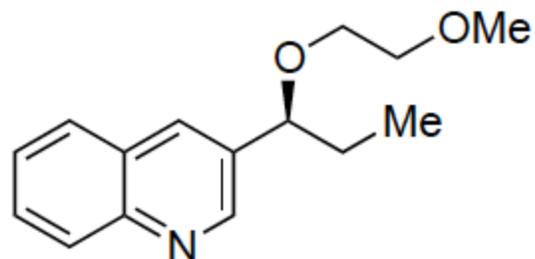
Current Data Parameters
USER ymoue
NAME imy5 - 283
EXPNO 4
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120225
Time 21.23
INSTRUM drx400
PROBHD 5 mm QNP H/E/P
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 8
DS 2
SWH 6410.256 Hz
FIDRES 0.097833 Hz
AQ 3.1118579 sec
RG 114
DW 78.000 usec
DE 4.50 usec
TE 299.0 K
D1 0.10000000 sec
MCREST 0.00000000 sec
MCWRK 0.01500000 sec

===== CHANNEL f1 =====
NUC1 1H
P1 12.00 usec
PL1 -0.60 dB
SFO1 400.1328009 MHz

F2 - Processing parameters
SI 65536
SP 400.1300163 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 2.00
    
```

13C spectrum with 1H decoupling



(S)-SI-19

150.177
148.003
135.226
133.798
129.365
129.346
127.969
127.879
126.860

82.423
77.479
77.162
76.844
72.138
68.526

59.140

31.041

10.219

```

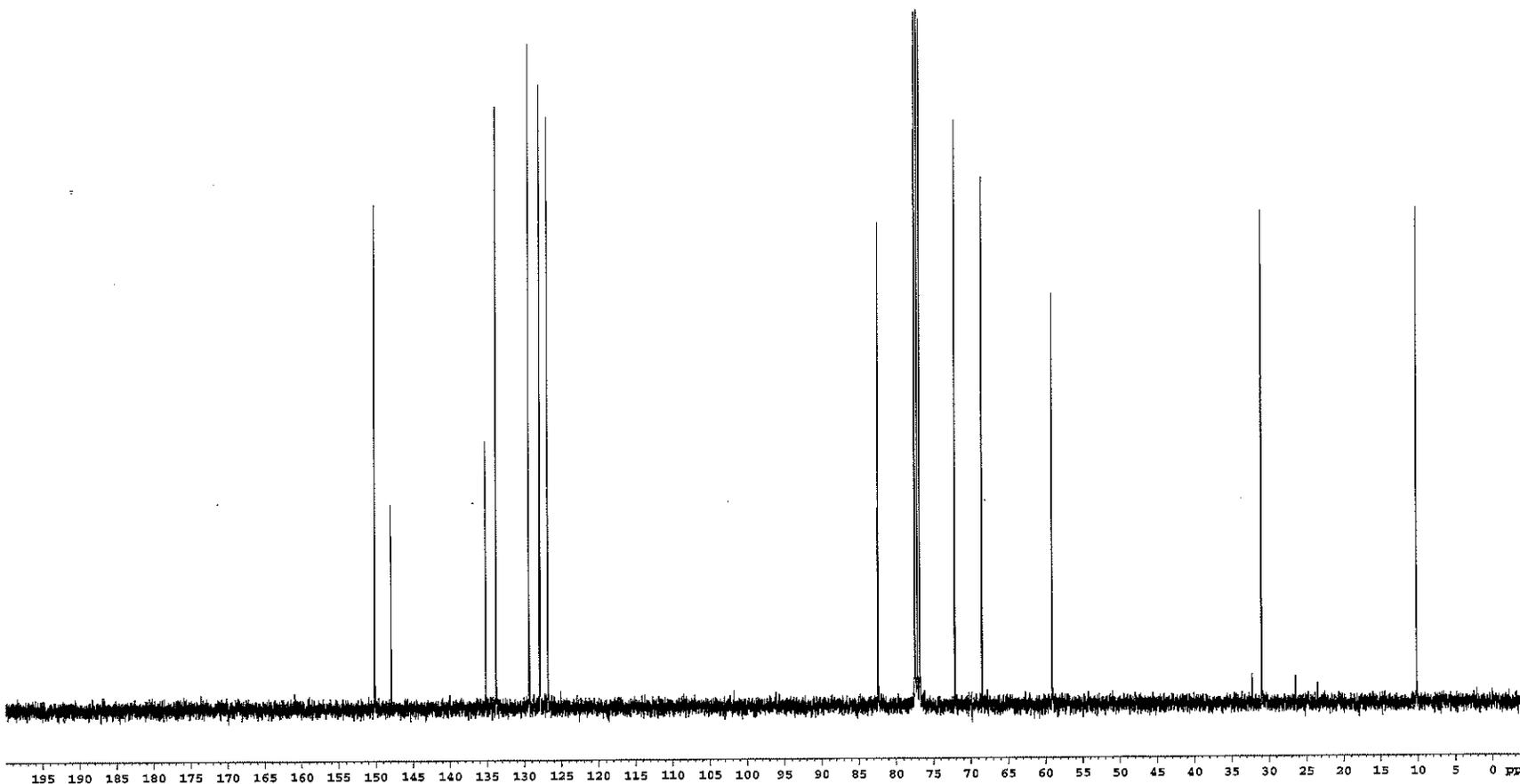
Current Data Parameters
USER          yonova
NAME          imy3 - 283
EXPNO        1
PROCNO       1

F2 - Acquisition Parameters
Date_        20120225
Time         21.34
INSTRUM      drx400
PROBHD       5 mm QNP H/F/P
PULPROG      zgpg30
TD           65536
SOLVENT      CDCl3
NS           571
DS           4
SWH          24154.590 Hz
FIDRES       0.368570 Hz
AQ           1.2566452 sec
RG           14594.5
DE           20.700 usec
TE           298.2 K
D1           0.1000000 sec
d11          0.0300000 sec
ICREST       0.0000000 sec
MCWRR        0.01500000 sec

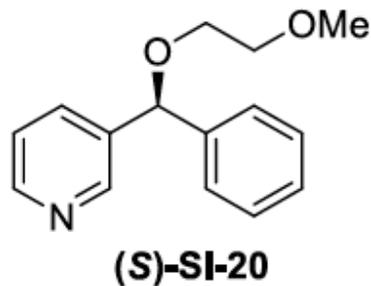
===== CHANNEL f1 =====
NUC1          13C
P1            11.00 usec
PL1           0.00 dB
SFO1          100.6237364 MHz

===== CHANNEL f2 =====
CPDPRG2      mlev16
NUC2          1H
PCPD2        80.00 usec
PL2           0.00 dB
PL12          16.20 dB
SFO2          400.1328009 MHz

F2 - Processing parameters
SI            65536
SF            100.6127510 MHz
WDW           EM
SSB           0
LB            1.00 Hz
GB            0
PC            1.00
    
```

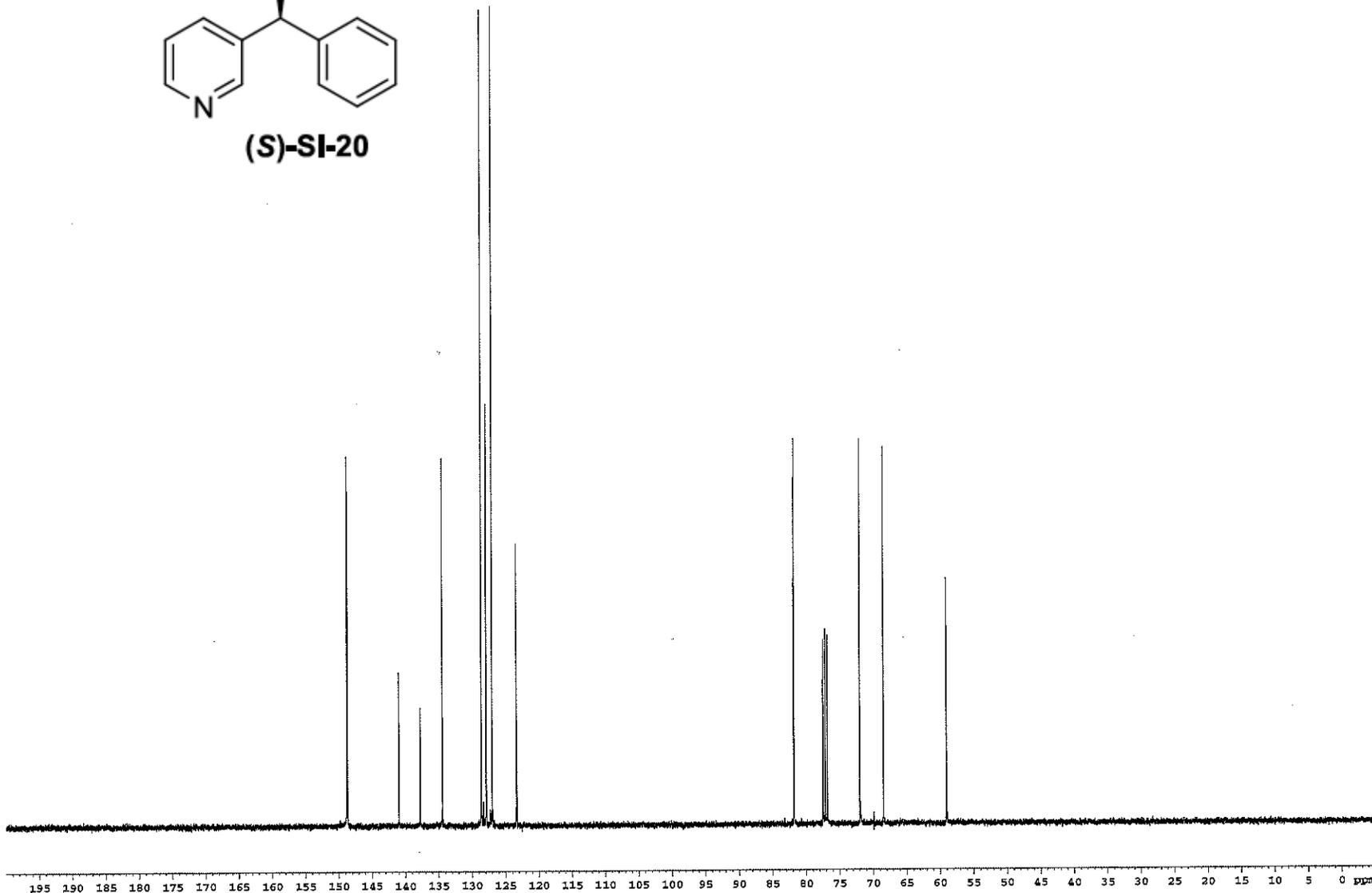


13C spectrum with 1H decoupling



148.812
148.739
141.003
137.804
134.481
128.639
127.911
127.035
123.377

81.857
77.478
77.159
76.841
72.000
68.493
59.087



```

Current Data Parameters
USER      yonova
NAME      imy3 - 245
EXPNO     2
PROCNO    1

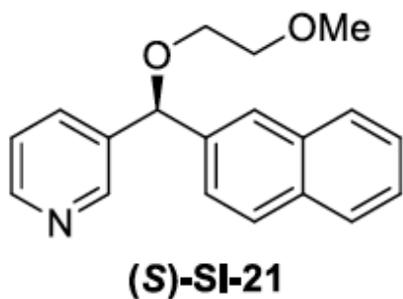
F2 - Acquisition Parameters
Date_     20111110
Time      21.12
INSTRUM   drx400
PROBHD    5 mm QNP H/P/P
PULPROG   zgpg30
TD         65536
SOLVENT   CDCl3
NS         270
DS         4
SWH        24254.590 Hz
FIDRES     0.368570 Hz
AQ         1.3566452 sec
RG         9195.2
DW         20.700 usec
DE         20.39 usec
TE         298.0 K
RL         0.10000000 sec
d11        0.03000000 sec
MCREST     0.00000000 sec
MCWRK     0.01500000 sec

===== CHANNEL f1 =====
NUC1       13C
Z1         11.00 usec
PLL        0.00 dB
SFO1       100.6237964 MHz

===== CHANNEL f2 =====
CPDPRG2   mlev16
NUC2       1H
PCPD2     80.00 usec
PL2        0.00 dB
PL12       16.20 dB
SFO2       400.1328009 MHz

F2 - Processing parameters
SI         65536
SF         100.6127720 MHz
WDW        EM
SSB        0
LB         1.00 Hz
GB         0
PC         1.00
    
```

1H spectrum



8.675
8.669
8.506
8.502
8.495
8.481
7.849
7.804
7.714
7.710
7.706
7.695
7.690
7.686
7.496
7.490
7.481
7.477
7.467
7.438
7.434
7.416
7.412
7.259
7.250
7.238
7.218

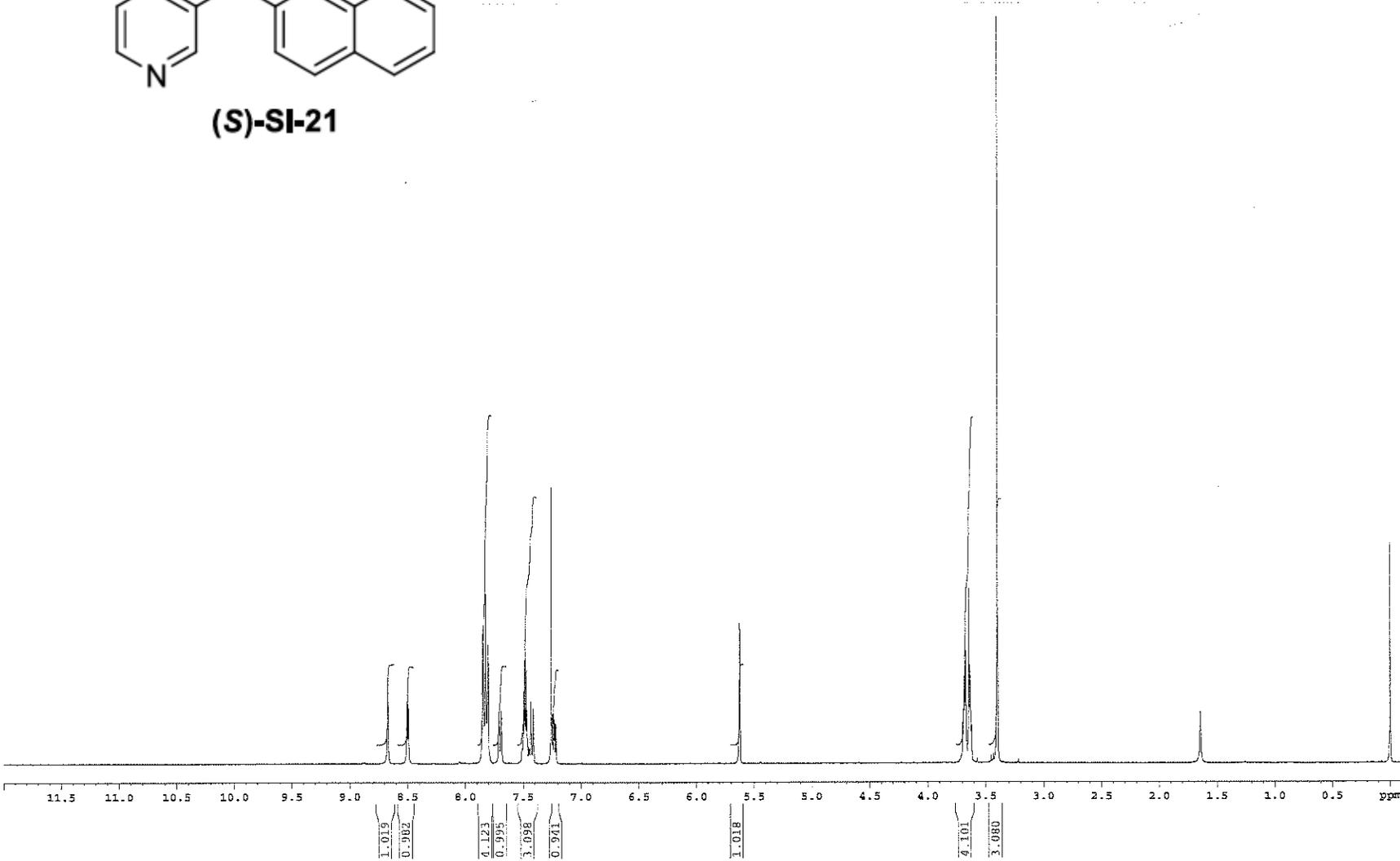
5.627

3.700
3.693
3.688
3.680
3.674
3.646
3.641
3.636
3.625
3.622
3.400

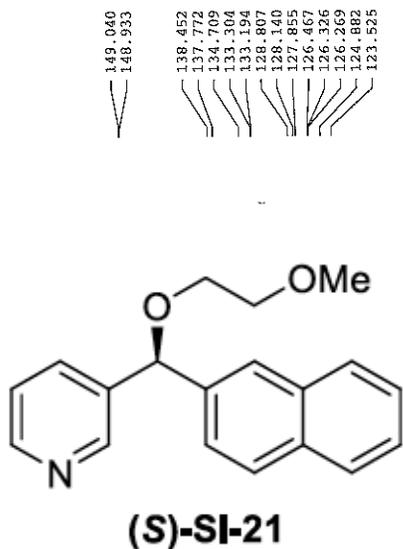
1.644

Current Data Parameters
 USER ymcms
 NAME ityl - X
 EXPMO 1
 PROCNO 1
 F2 - Acquisition Parameters
 Date_ 2011122
 Time 15.55
 INSTRM 300400
 PROBRD 5 mm QNP H/P/P
 PULPROG zg30
 DO 85534
 SOLVENT cdcl3
 NS 8
 DS 2
 SWS 6410.156 Hz
 FIDRES 0.09781 Hz
 AQ 5.1118579 sec
 RG 456.1
 EM 78.000 usec
 ES 4.50 usec
 TS 299.0 K
 DI 0.1000000 sec
 INCREM 0.0000000 sec
 VOPR 0.01500000 sec

===== CHANNEL f1 =====
 NUCL 1H
 P1 12.00 usec
 FL1 -0.60 dB
 SF01 400.1226009 MHz
 F2 - Processing parameters
 SI 65536
 SF 400.1200221 MHz
 NMR EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 2.00

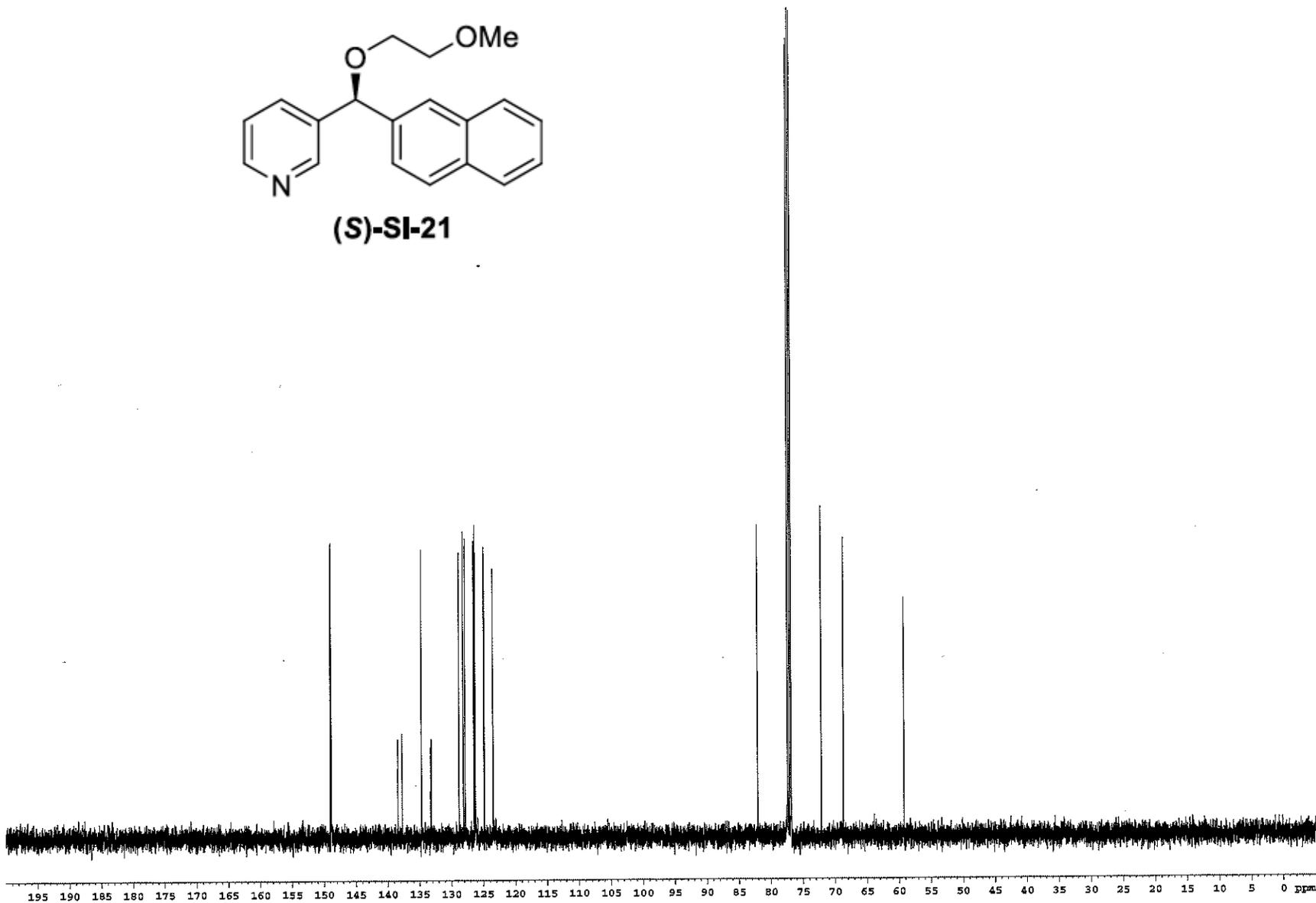


Z-restored spin-echo 13C spectrum with 1H decoupling



149.040
 148.933
 138.452
 137.772
 134.709
 133.304
 133.194
 128.807
 128.140
 127.855
 126.467
 126.326
 126.269
 124.882
 123.525

82.124
 77.414
 77.160
 76.906
 72.173
 68.685
 59.280



Current Data Parameters
 USER yonova
 NAME imy3 - X
 EXPNO 6
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20111123
 Time 17.09
 INSTRUM cryo500
 PROBRD 5 mm CPTCI 1H-
 PULPROG Spinschop300p-prd
 TD 65536
 SOLVENT CDCl3
 NS 189
 DS 16
 SWH 30303.031 Hz
 FIDRES 0.462388 Hz
 AQ 1.0813940 sec
 RG 7298.2
 DW 16.500 usec
 DE 6.00 usec
 TE 298.0 K
 D1 0.25000000 sec
 d11 0.03000000 sec
 D16 0.00020000 sec
 d17 0.00019600 sec
 MCRST 0.00000000 sec
 MEXR 0.01500000 sec
 F2 31.00 usec

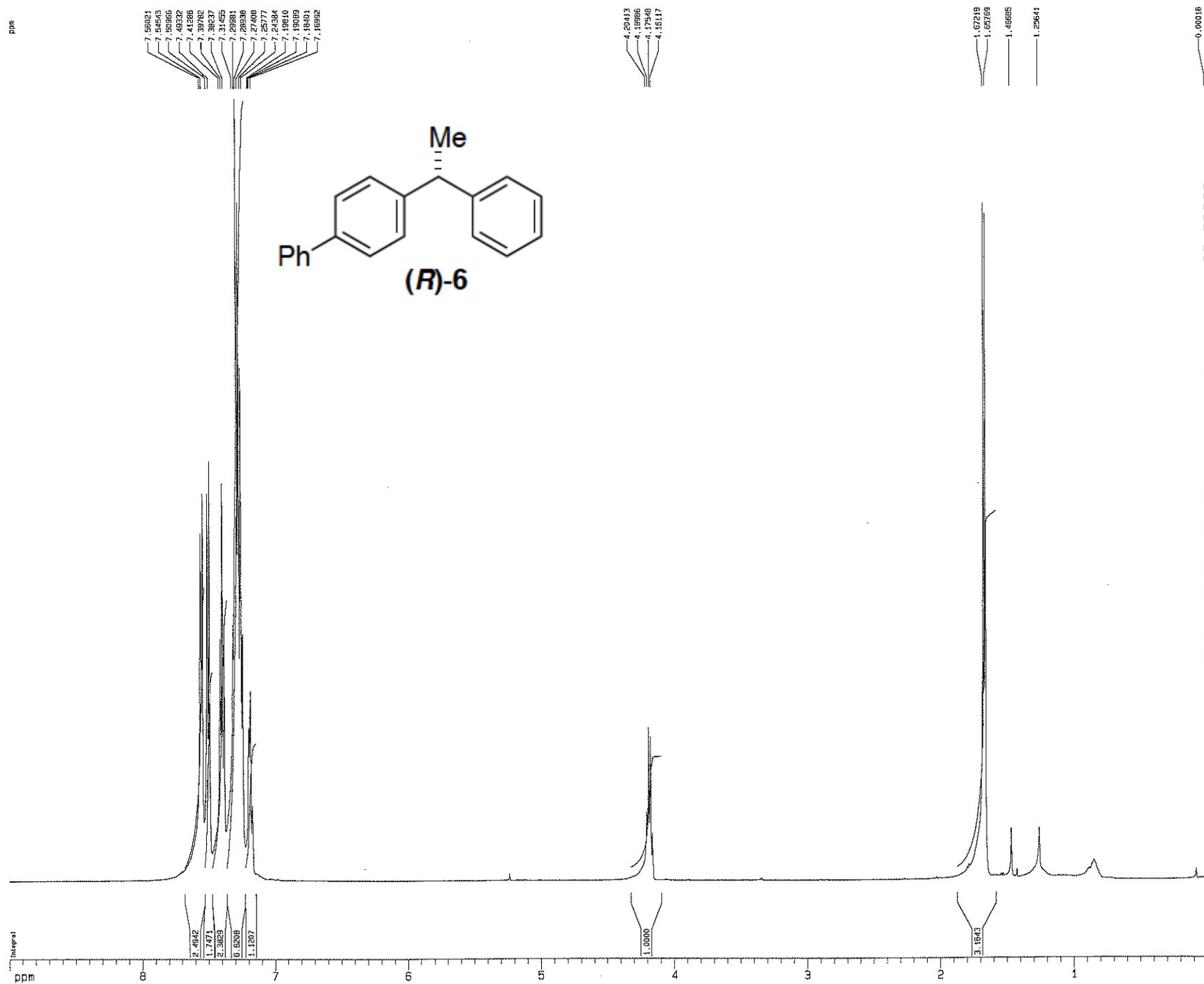
===== CHANNEL f1 =====
 NUC1 13C
 P1 15.50 usec
 PL1 500.00 usec
 PL2 2000.00 usec
 PLO 120.00 dB
 PL1 -1.00 dB
 SFO1 125.7942548 MHz
 Sp1 3.20 dB
 Sp2 3.20 dB
 SPNAM1 Crp60.0.5.20.1
 SPNAM2 Crp60comp.4
 SPOFF1 0.00 Hz
 SPOFF2 0.00 Hz

===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 P1 100.00 usec
 PL2 1.60 dB
 PL1 24.60 dB
 SFO2 500.2225011 MHz

===== GRADIENT CHANNEL =====
 GPNAM1 SINE.100
 GPNAM2 SINE.100
 GPX1 0.00 %
 GPX2 0.00 %
 GPY1 0.00 %
 GPY2 0.00 %
 GPF1 30.00 %
 GPZ2 50.00 %
 p15 500.00 usec
 p16 1000.00 usec

F2 - Processing parameters
 SI 65536
 SF 125.7804094 MHz
 NQW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 FC 2.00

1H spectrum



Current Data Parameters
 USER: greene
 NAME: mag-2-011c
 EXPNO: 3
 PROCNO: 1

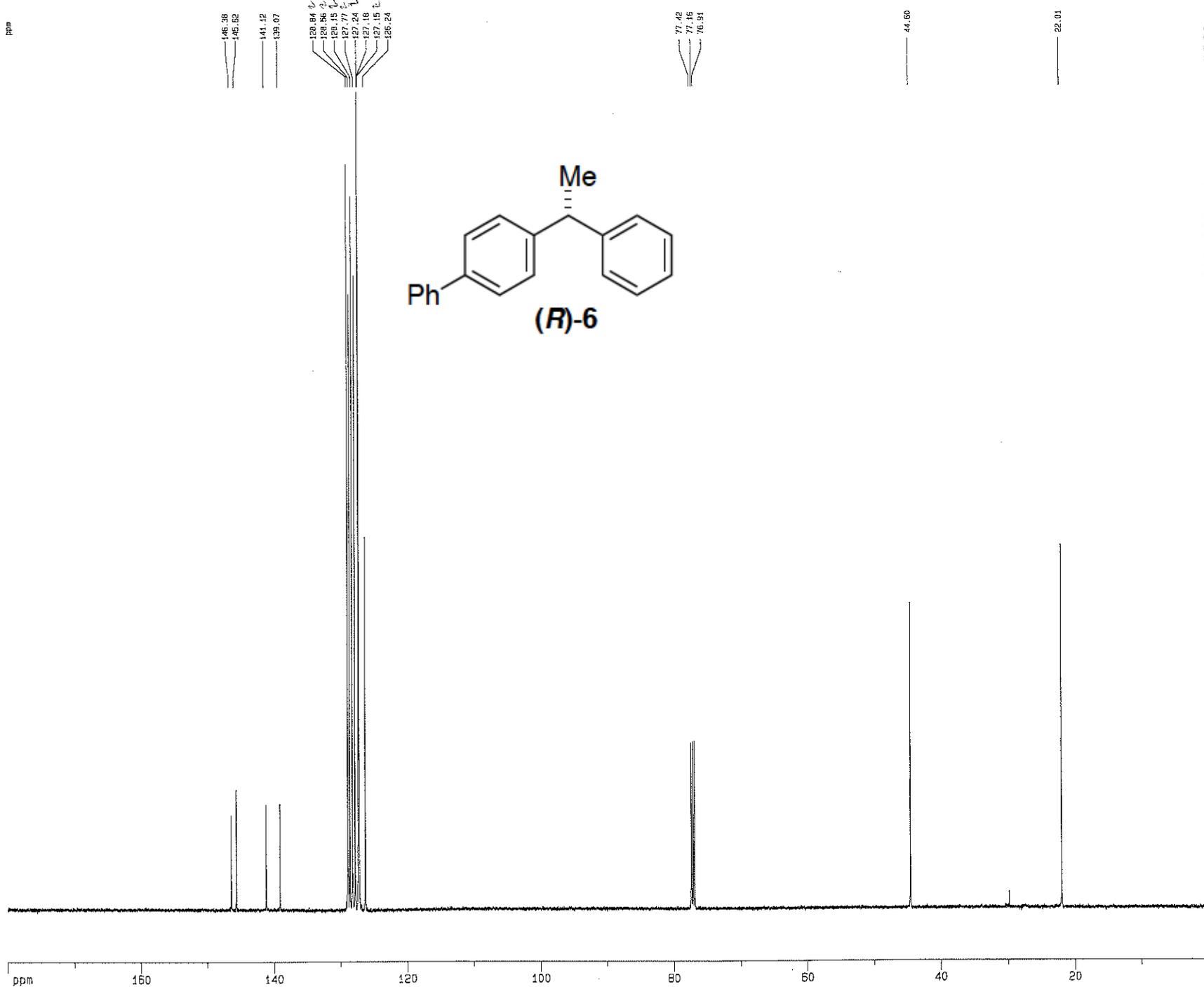
F2 - Acquisition Parameters
 Date_: 20111018
 Time: 17.57
 INSTRUM: cryo500
 PROBHD: 5 mm CPTCI 1H-
 PULPROG: zg30
 TD: 81728
 SOLVENT: CDCl3
 NS: 8
 DS: 2
 SWH: 8012.250 Hz
 FIDRES: 0.098043 Hz
 AQ: 5.0999388 sec
 RG: 10.1
 DM: 62.400 usec
 DE: 6.00 usec
 TE: 298.0 K
 D1: 0.1000000 sec
 MCREST: 0.0000000 sec
 MCWRK: 0.0150000 sec

===== CHANNEL f1 =====
 NUC1: 1H
 P1: 7.50 usec
 PL1: 1.60 dB
 SFO1: 500.2235015 MHz

F2 - Processing parameters
 SI: 65536
 SF: 500.2200664 MHz
 WDW: EM
 SSB: 0
 LB: 0.30 Hz
 GB: 0
 PC: 4.00

ID NMR plot parameters
 CX: 22.80 cm
 CY: 15.00 cm
 F1P: 9.000 ppm
 F1: 4501.86 Hz
 F2P: 0.000 ppm
 F2: 0.00 Hz
 PPMCM: 0.39474 ppm/cm
 HZCM: 197.43528 Hz/cm

Z-restored spin-echo ¹³C spectrum with ¹H decoupling



```

Current Data Parameters
USER          greene
NAME          mag-2-015c
EXPNO        2
PROCNO       1

F2 - Acquisition Parameters
Date_        20111018
Time         17.47
INSTRUM      crys500
PROBHD       5 mm CPTCI 4H-
PULPROG      SpinEchoq30q3p.drd
TD           65536
SOLVENT      CDCl3
NS           497
DS           16
SWH          30363.031 Hz
FIDRES       0.462366 Hz
AQ           1.0814105 sec
RG           4096
DW           16.500 usec
DE           5.00 usec
TE           298.0 K
O1           0.25000000 sec
d11          0.03000000 sec
d16          0.00020000 sec
s17          0.00018500 sec
WDRST        0.00000000 sec
WDRK         0.01500000 sec
P2           31.00 usec

===== CHANNEL f1 =====
NUC1         13C
P1           15.50 usec
P11          500.00 usec
P12          2000.00 usec
PL0          120.00 dB
PL1          -1.00 dB
SFO1         125.7642548 MHz
SP1          3.20 dB
SP2          3.20 dB
SFOFF1       0.00 Hz
SFOFF2       0.00 Hz

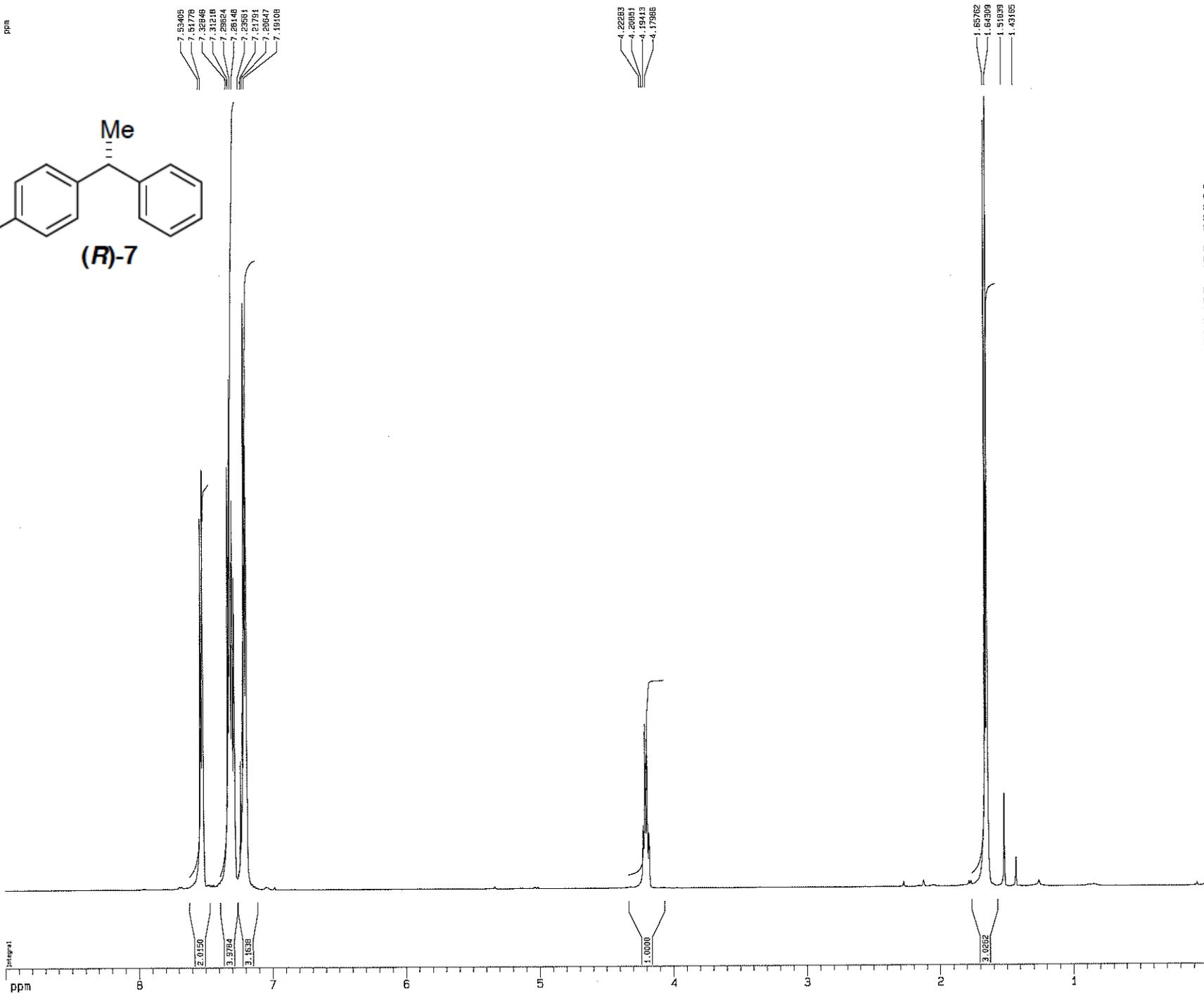
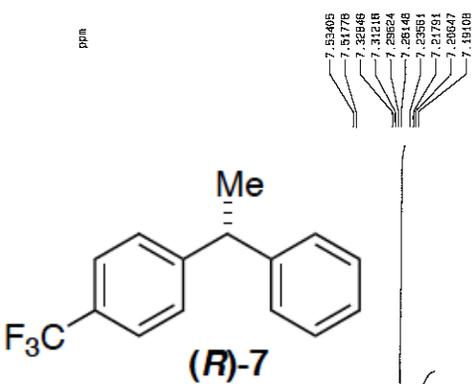
===== CHANNEL f2 =====
CPDPRG2      waltz16
NUC2         1H
PCPD2        100.00 usec
PL2          1.50 dB
PL12         24.00 dB
SFO2         500.225011 MHz

===== GRADIENT CHANNEL =====
GPNAM1       SINE.100
GPNAM2       SINE.100
BFX1         0.00 %
BFX2         0.00 %
BPH1         0.00 %
BPH2         0.00 %
BPZ1         30.00 %
BPZ2         50.00 %
p15          500.00 usec
p16          1000.00 usec

F2 - Processing parameters
SI           65536
SF           125.7604173 MHz
WDW          EM
SSB          0
LB           1.00 Hz
GB           0
PC           2.00

1D NMR plot parameters
CX           22.80 cm
CY           15.55 cm
F1P         180.000 ppm
F1          22840.47 Hz
F2P         0.000 ppm
F2          0.00 Hz
PPMCM       7.69474 ppm/cm
HZCM        993.09386 Hz/cm
    
```

1H spectrum



Current Data Parameters
 USER green
 NAME mag-2-036p
 EXPNO 1
 PROCNO 1

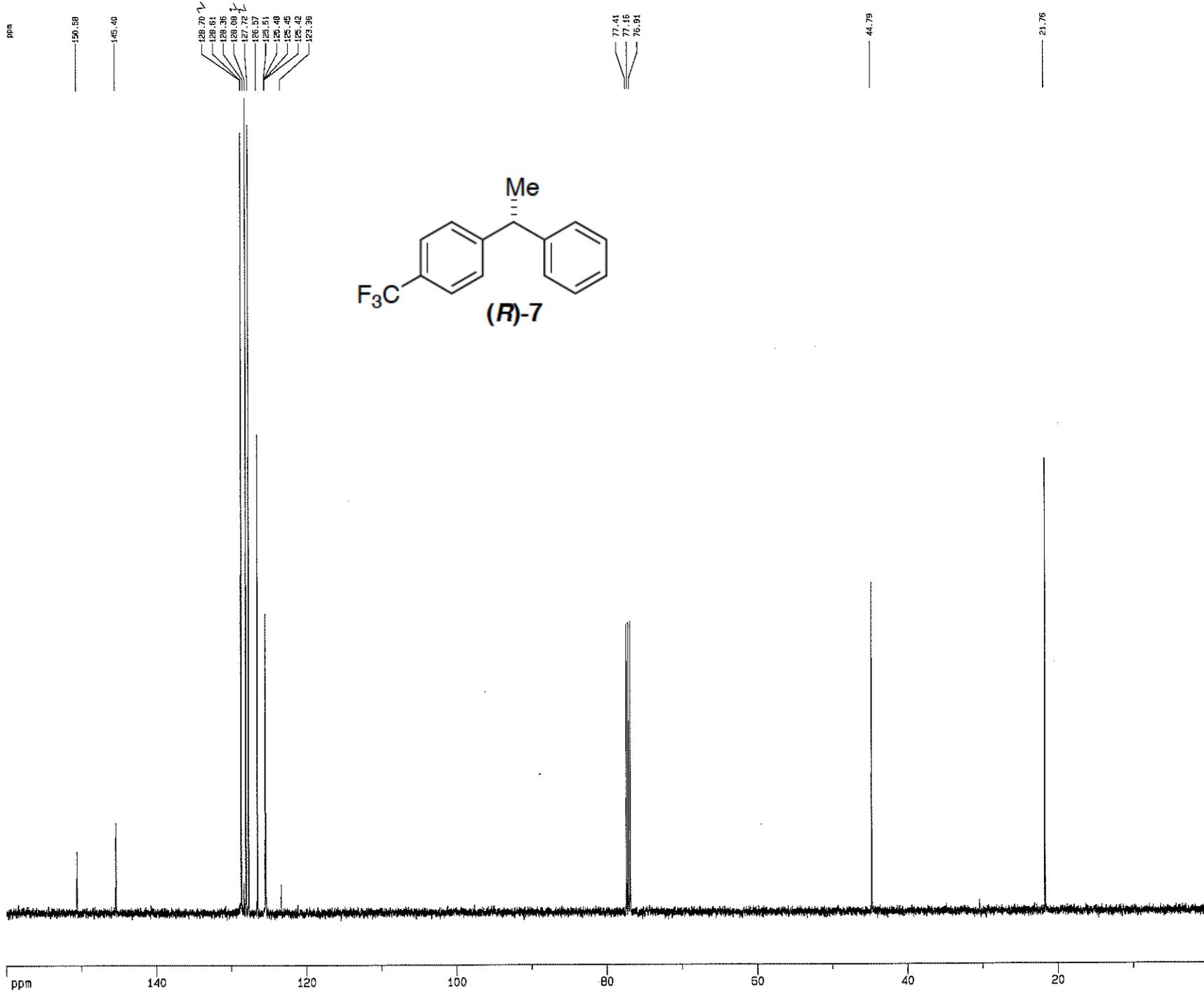
F2 - Acquisition Parameters
 Date_ 20111115
 Time 14.03
 INSTRUM cryo500
 PROBHD 5 mm CPTCI 1H-
 PULPROG zg30
 TD 81728
 SOLVENT CDCl3
 NS 8
 DS 2
 SWH 8012.820 Hz
 FIDRES 0.098043 Hz
 AQ 5.0898774 sec
 RG 18
 DW 52.400 usec
 DE 6.00 usec
 TE 298.0 K
 O1 0.10000000 sec
 MCREST 0.00000000 sec
 MCWRR 0.01500000 sec

===== CHANNEL f1 =====
 NUC1 1H
 P1 7.50 usec
 PL1 1.60 dB
 SFO1 500.2235015 MHz

F2 - Processing parameters
 SI 65536
 SF 500.2200441 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 4.00

1D NMR plot parameters
 CX 22.80 cm
 CY 15.00 cm
 F1P 9.000 ppm
 F1 4501.96 Hz
 F2P 0.000 ppm
 F2 0.00 Hz
 PPMCM 0.39474 ppm/cm
 HZCX 197.45528 Hz/cm

Z-restored spin-echo 13C spectrum with 1H decoupling



```

Current Data Parameters
USER          greene
NAME          mag-2-038p
EXPNO        2
PROCNO       1

F2 - Acquisition Parameters
Date_        2011115
Time         14.00
INSTRUM      cryo500
PROBHD       5 mm QNP1H-
PULPROG      SpinEchoq30pp.prd
TD           85536
SOLVENT      CDCl3
NS           204
DS           16
SWH          30303.031 Hz
FIDRES       0.462368 Hz
AQ           1.0814105 sec
RG           7288.2
DM           18.500 usec
DE           6.00 usec
TE           298.0 K
D1           0.25000000 sec
d11          0.03000000 sec
D16          0.00000000 sec
d17          0.00019800 sec
WCREST       0.00000000 sec
WCMRST       0.01500000 sec
P2           31.00 usec

===== CHANNEL f1 =====
NUC1          13C
P1           15.50 usec
PL1          500.00 usec
PL2          2000.00 usec
PL0          120.00 dB
PL1         -1.00 dB
SF01         125.7942548 MHz
SP1          3.20 dB
SP2          3.20 dB
SFOFF1       Crp80, 0.5, 20.1
SFOFF2       Crp50comp, 4
SPOFF1       0.00 Hz
SPOFF2       0.00 Hz

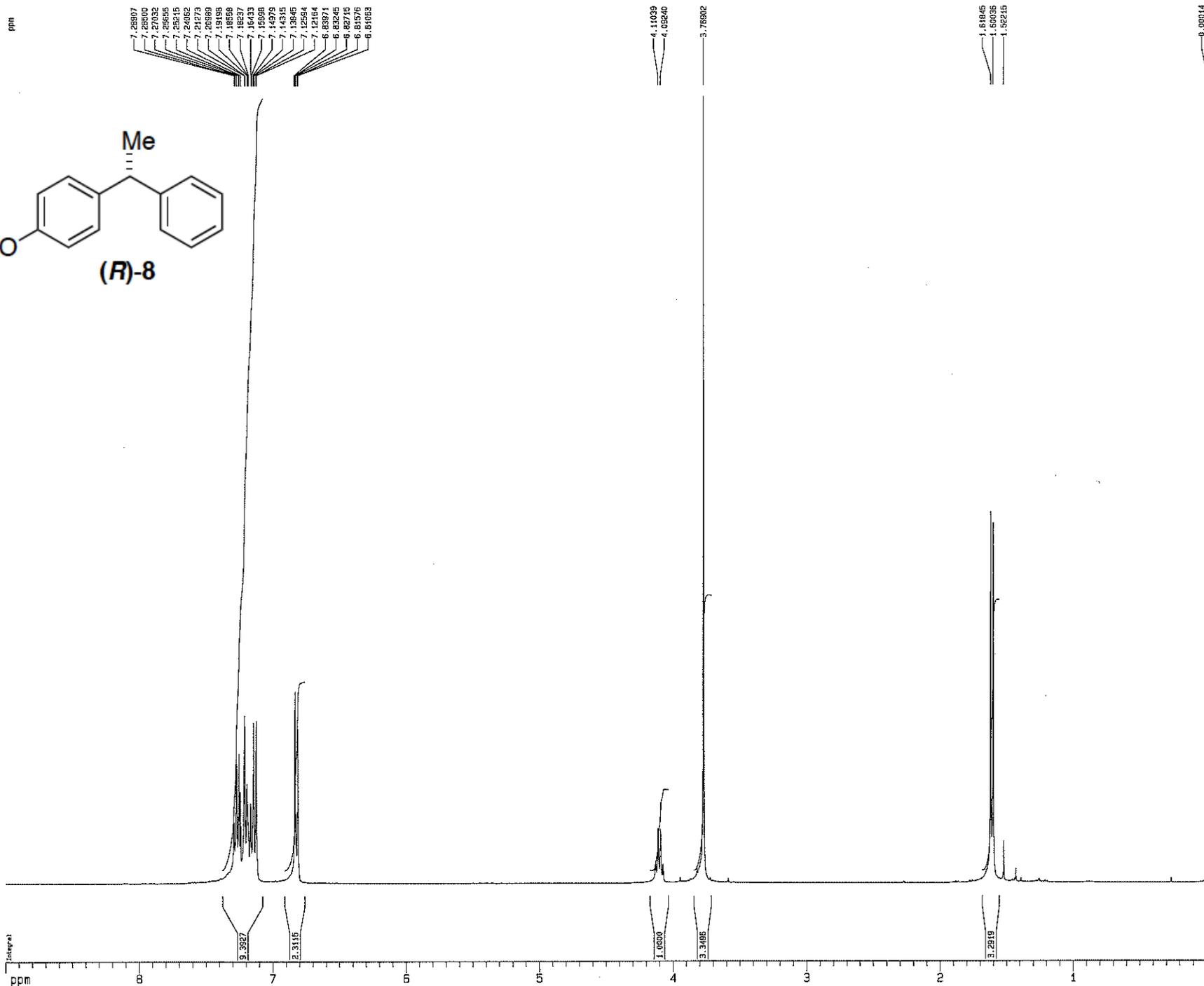
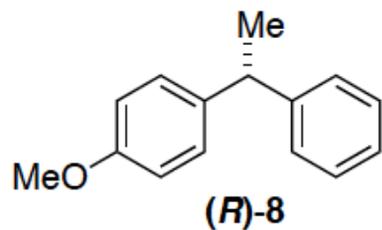
===== CHANNEL f2 =====
CPDPRG2      waltz16
NUC2          1H
PCPD2        100.00 usec
PL2          1.50 dB
PL12         24.50 dB
SF02         500.2225011 MHz

===== GRADIENT CHANNEL =====
GPNAM1       SINE.100
GPNAM2       SINE.100
GPX1         0.00 %
GPX2         0.00 %
GPH1         0.00 %
GPH2         0.00 %
GPT1         30.00 %
GPT2         50.00 %
p15          500.00 usec
p16          1000.00 usec

F2 - Processing parameters
SI           55536
SF           125.7804099 MHz
WDW          EM
SSB          0
LB           1.00 Hz
GB           0
PC           2.00

1D NMR plot parameters
CX           22.80 cm
CY           15.55 cm
F1P          160.000 ppm
F1           20124.87 Hz
F2P          0.000 ppm
F2           0.00 Hz
PPMCM        7.01754 ppm/cm
HZCM         882.66956 Hz/cm
    
```

1H spectrum



```

Current Data Parameters
USER      greene
NAME      mag-2-064c
EXPNO     3
PROCNO    1

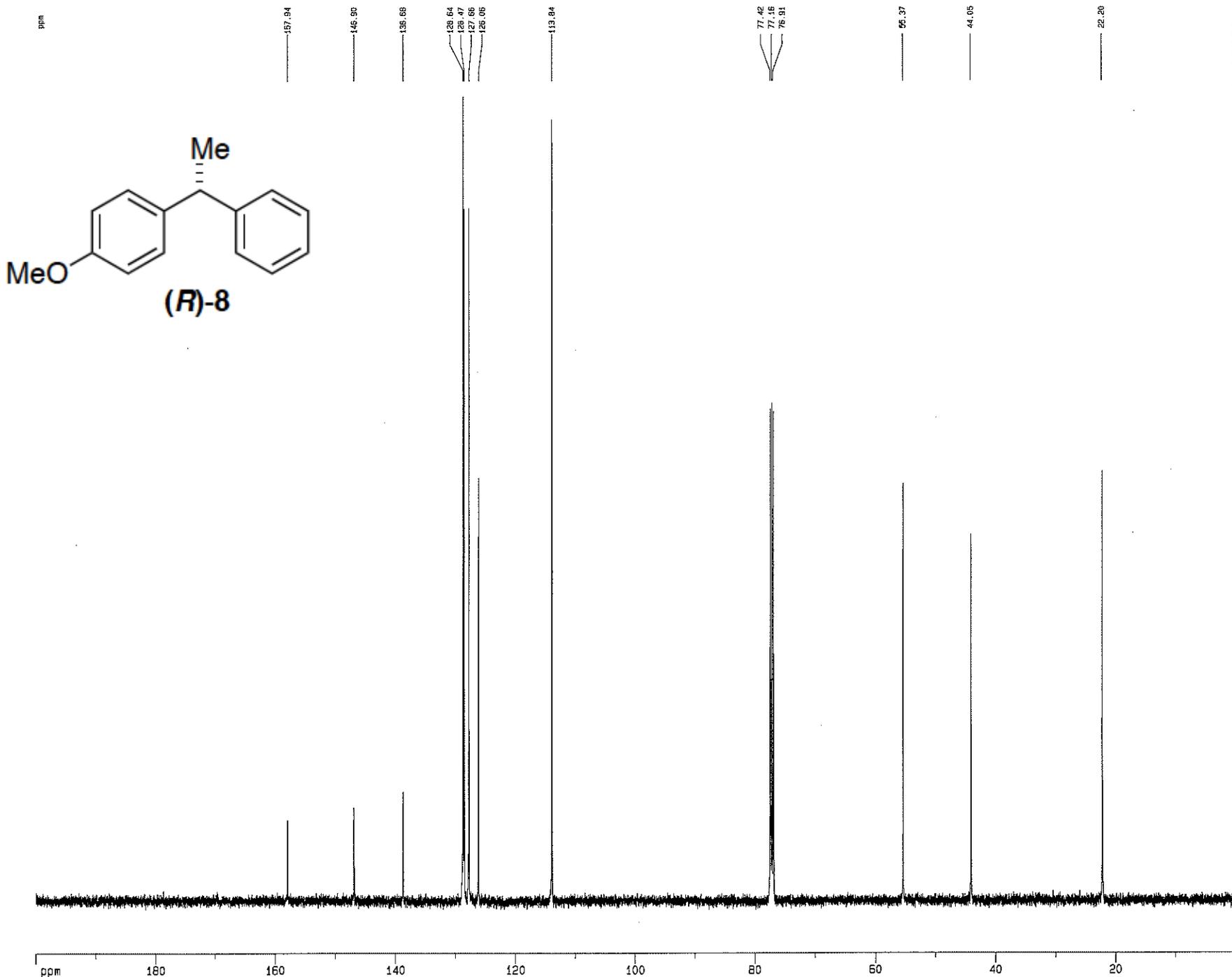
F2 - Acquisition Parameters
Date_     20111217
Time      14.55
INSTRUM   drx400
PROBHD    5 mm QNP H/F/P
PULPROG   zg30
TD         65536
SOLVENT   CDCl3
NS         8
DS         2
SWH        6410.256 Hz
FIDRES     0.097813 Hz
AQ         5.1118579 sec
RG         203.2
DM         78.000 usec
DC         4.50 usec
TE         298.0 K
D1         0.1000000 sec
MCREST    0.0000000 sec
MCMRK     0.0150000 sec

===== CHANNEL f1 =====
NUC1       1H
P1         12.00 usec
PL1        -0.60 dB
SFO1       400.1326009 MHz

F2 - Processing parameters
SI         65536
SF         400.1300291 MHz
WDW        EK
SSB        0
LB         0.30 Hz
GB         0
PC         2.00

1D NMR plot parameters
CX         22.80 cm
CY         15.00 cm
F1         9.000 ppm
F4         3601.17 Hz
F2P        0.000 ppm
F2         0.00 Hz
PPMCM      0.39474 ppm/cm
HZCM       157.94608 Hz/cm
    
```

Z-restored spin-echo 13C spectrum with 1H decoupling



```

Current Data Parameters
USER      greene
NAME      meg-2-054p
EXPNO     1
PROCNO    1

F2 - Acquisition Parameters
Date_     20111219
Time      10.27
INSTRUM   crys500
PROBHD    5 mm DPTCI 1H-
PULPROG   SpinEchoq30pp.prd
TD         65536
SOLVENT   CDCl3
NS         794
DS         16
SWH        30303.031 Hz
FIDRES     0.462388 Hz
AQ          1.0814105 sec
RG          4096
DM          16.500 usec
DE          6.00 usec
TE          298.0 K
D1          0.25000000 sec
d11        0.03000000 sec
D15        0.00000000 sec
d17        0.00019800 sec
MCOREST    0.00000000 sec
MCWRK      0.01500000 sec
P2          31.00 usec

===== CHANNEL f1 =====
NUC1       13C
P1         15.50 usec
PL1        500.00 usec
P12        2000.00 usec
PL2        120.00 dB
PL11       -1.00 dB
SFO1       125.7542548 MHz
SF1        3.20 dB
SF2        3.20 dB
SFO1        Crp60.0.5.20.1
SFO1        Crp60comp.4
SFO1        0.00 Hz
SFO1        0.00 Hz

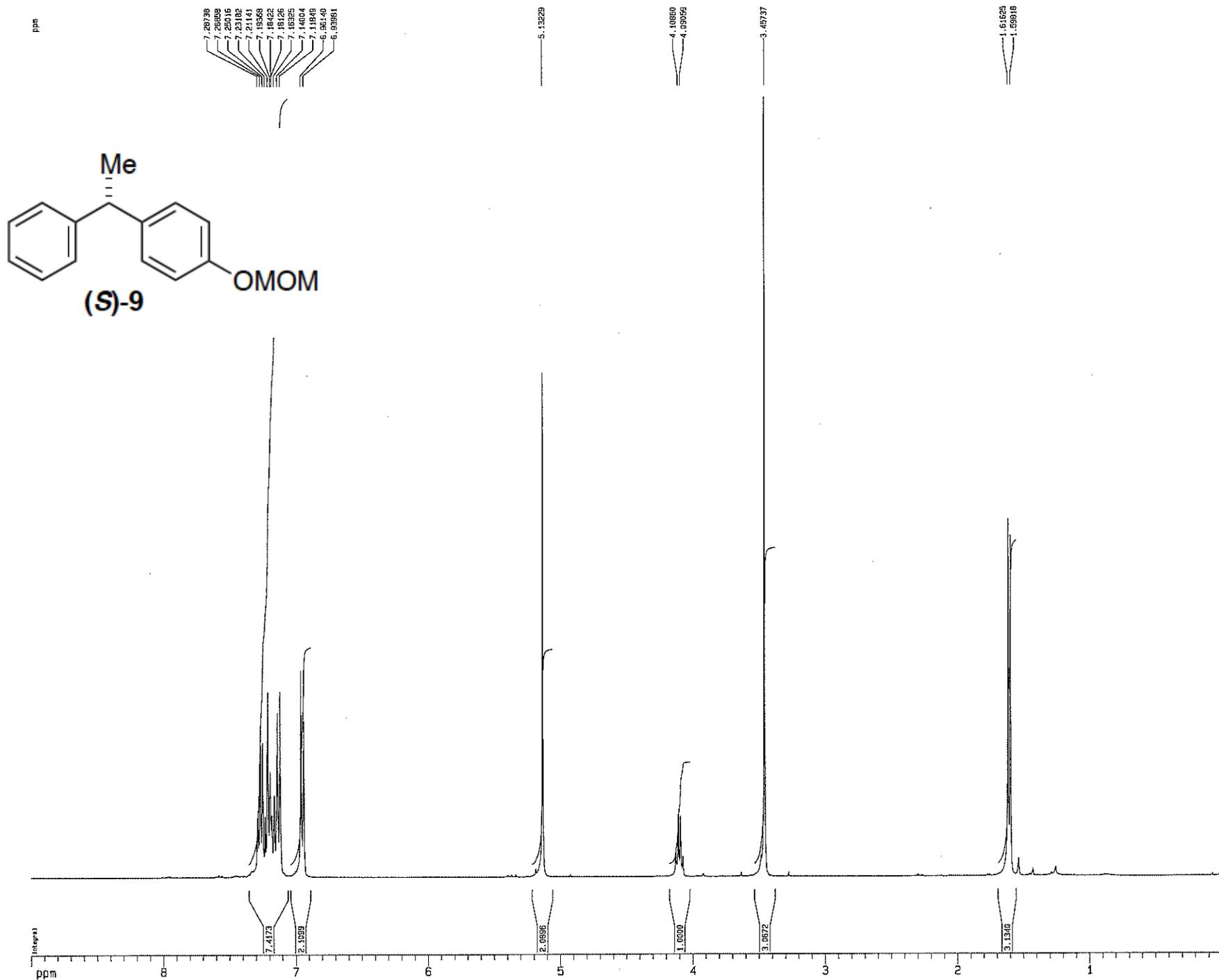
===== CHANNEL f2 =====
CPDPRG2    Waltz16
NUC2       1H
PCPD2      100.00 usec
PL2        1.50 dB
PL12       24.50 dB
SFO2       500.2225011 MHz

===== GRADIENT CHANNEL =====
GPNAM1     SINE.100
GPNAM2     SINE.100
GPX1       0.00 %
GPX2       0.00 %
GPY1       0.00 %
GPY2       0.00 %
GPZ1       30.00 %
GPZ2       50.00 %
p15        500.00 usec
p16        1000.00 usec

F2 - Processing parameters
SI         65536
SF         125.7604099 MHz
WDW        EM
SSB        0
LB         1.00 Hz
GB         0
PC         2.00

1D NMR plot parameters
CX         22.80 cm
CY         15.55 cm
F1P        200.000 ppm
F1         25156.08 Hz
F2P        0.000 ppm
F2         0.00 Hz
PRMCM      8.77193 ppe/cm
HZCM       1103.39881 Hz/cm
    
```

1H spectrum



Current Data Parameters
 USER greene
 NAME mag-2-023c
 EXPNO 4
 PROCNO 1

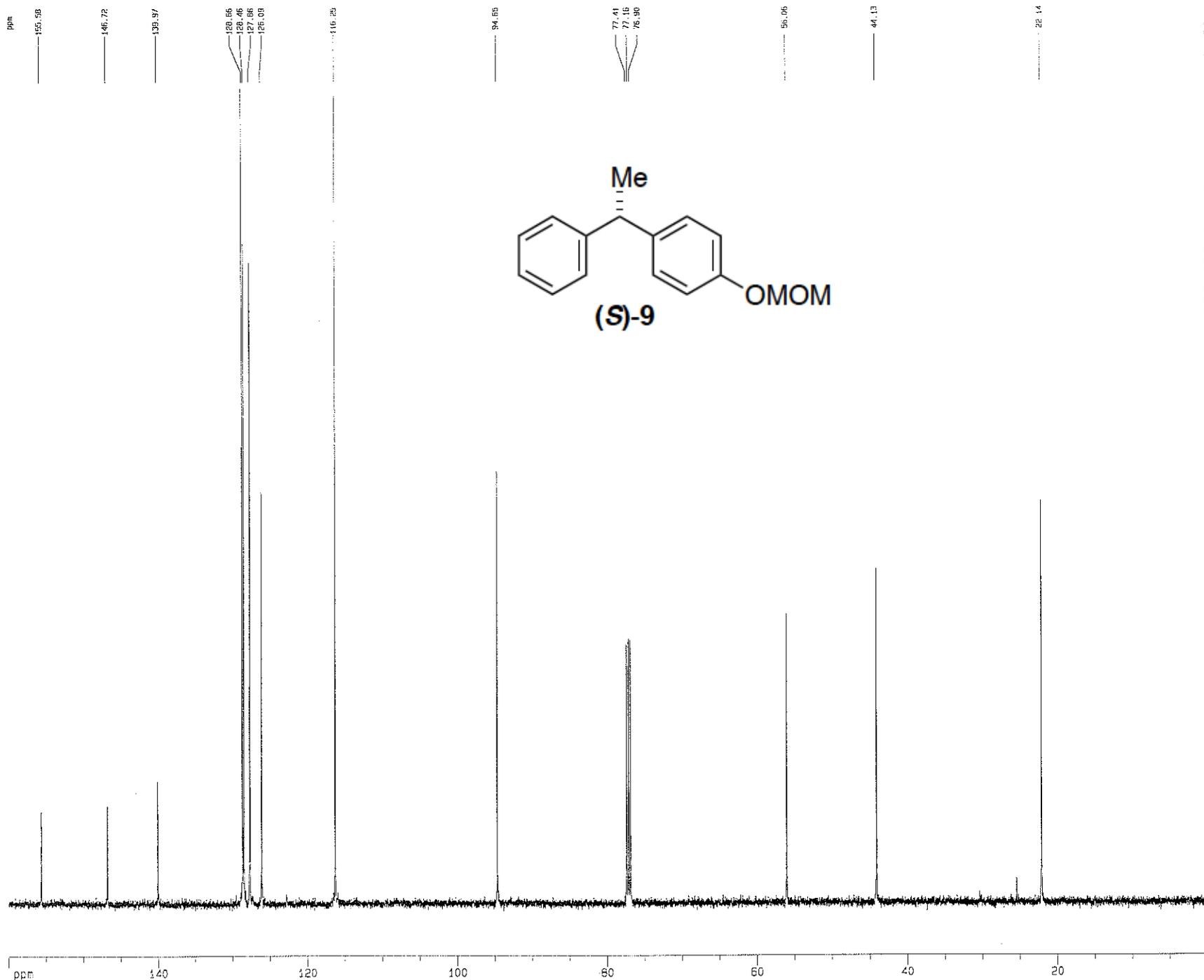
F2 - Acquisition Parameters
 Date_ 20111220
 Time 11.35
 INSTRUM drx400
 PROBHD 5 mm QNP H/F/P
 PULPRG z030
 TD 65536
 SOLVENT CDCl3
 NS 8
 DS 2
 SWH 6410.256 Hz
 FIDRES 0.097813 Hz
 AQ 5.1118579 sec
 RG 114
 DM 76.000 usec
 DE 4.50 usec
 TE 298.0 K
 D1 0.1000000 sec
 MCREST 0.0000000 sec
 MCWPK 0.0150000 sec

===== CHANNEL f1 =====
 NUC1 1H
 P1 12.00 usec
 PL1 -0.60 dB
 SFO1 400.1328009 MHz

F2 - Processing parameters
 SI 65536
 SF 400.1300329 MHz
 WDW EK
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 2.00

1D NMR plot parameters
 CX 22.80 cm
 CY 19.00 cm
 F1 9.000 ppm
 F1 3601.17 Hz
 F2 0.000 ppm
 F2 0.00 Hz
 FFCM 0.39474 ppm/cm
 HZCX 157.84606 Hz/cm

Z-restored spin-echo 13C spectrum with 1H decoupling



```

Current Data Parameters
USER          gpar78
NAME         tag-2-25b
EXPNO        2
PROCNO       1

F2 - Acquisition Parameters
Date_        2011104
Time         10 46
INSTRUM      crys500
PROBHD       5 mm CPDQ 14
PULPROG      SpHsEcho300g.znd
TD           55036
SOLVENT      CDCl3
NS           259
DS           16
SWH          30303.031 Hz
FIDRES       0.469368 Hz
AQ           1.3814105 sec
RG           13004
Dw           15.500 usec
DE           5.00 usec
TE           296.2 K
D1           0.25000000 sec
d11          0.35000000 sec
d16          0.30000000 sec
d17          0.00185000 sec
MCREST       0.00000000 sec
MCMRK        0.01850000 sec
P2           31.00 usec

===== CHANNEL f1 =====
NUC1          13C
P1            15.50 usec
PL1           500.00 usec
PL2           2000.00 usec
PL0           120.00 dB
PL1           -1.00 dB
SFO1          125.7942546 MHz
SP1           3.20 dB
SP2           3.20 dB
SPNAM1       Crp30, 3.5, 20.1
SPNAM2       Crp50comp.4
SFOFF1        0.00 Hz
SFOFF2        0.00 Hz

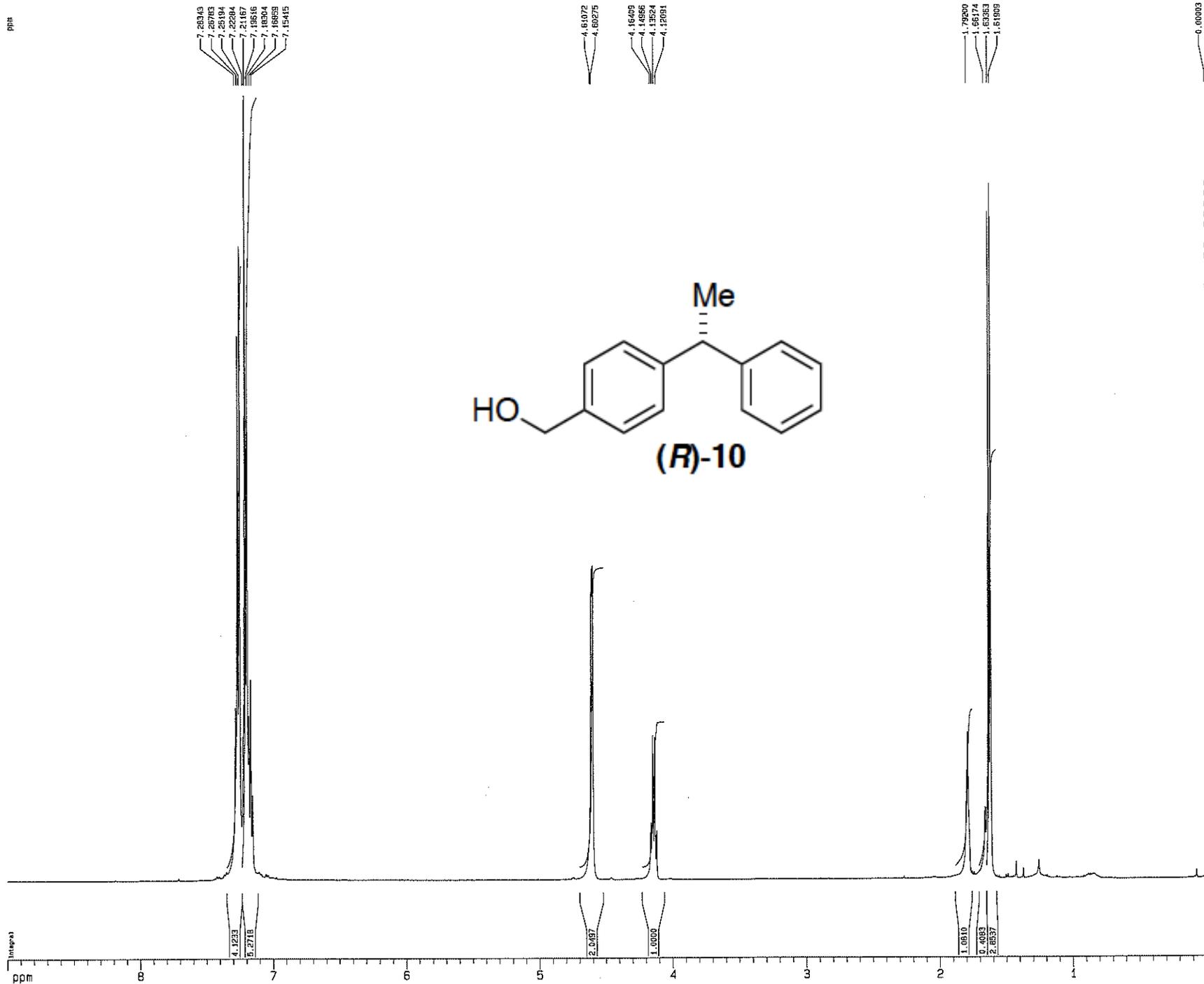
===== CHANNEL f2 =====
CPDPRG2      waltz15
NUC2          1H
PCPD2        100.00 usec
PL2          1.50 dB
PL12         24.00 dB
SFO2         500.225011 MHz

===== GRADIENT CHANNEL =====
GPNAM1       SINE.100
GPNAM2       SINE.100
GPK1         0.00 X
GPK2         0.00 X
GPKY1        0.00 X
GPKY2        0.00 X
GPD1         30.00 X
GPD2         50.00 X
p15          500.00 usec
p16          1000.00 usec

F2 - Processing parameters
SI           65536
SF           125.7804140 MHz
WDM         64
SSB          0
LB           1.00 Hz
GB           0
PC           2.00

1D NMR plot parameters
CX           22.80 cm
CY           15.55 cm
F1P         160.000 ppm
F1          20124.87 Hz
F2P         0.000 ppm
F2          0.00 Hz
SFOHCM      7.01754 ppm/cm
HZCM        862.66955 Hz/cm
    
```

1H spectrum



Current Data Parameters
 USER greene
 NAME mag-2-036p
 EXPNO 1
 PROCNO 1

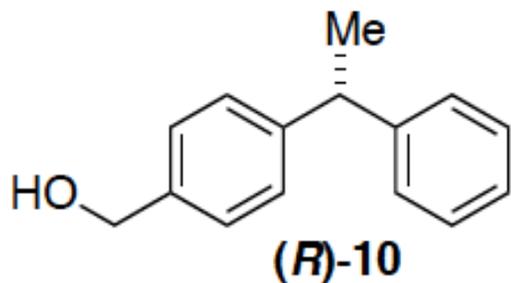
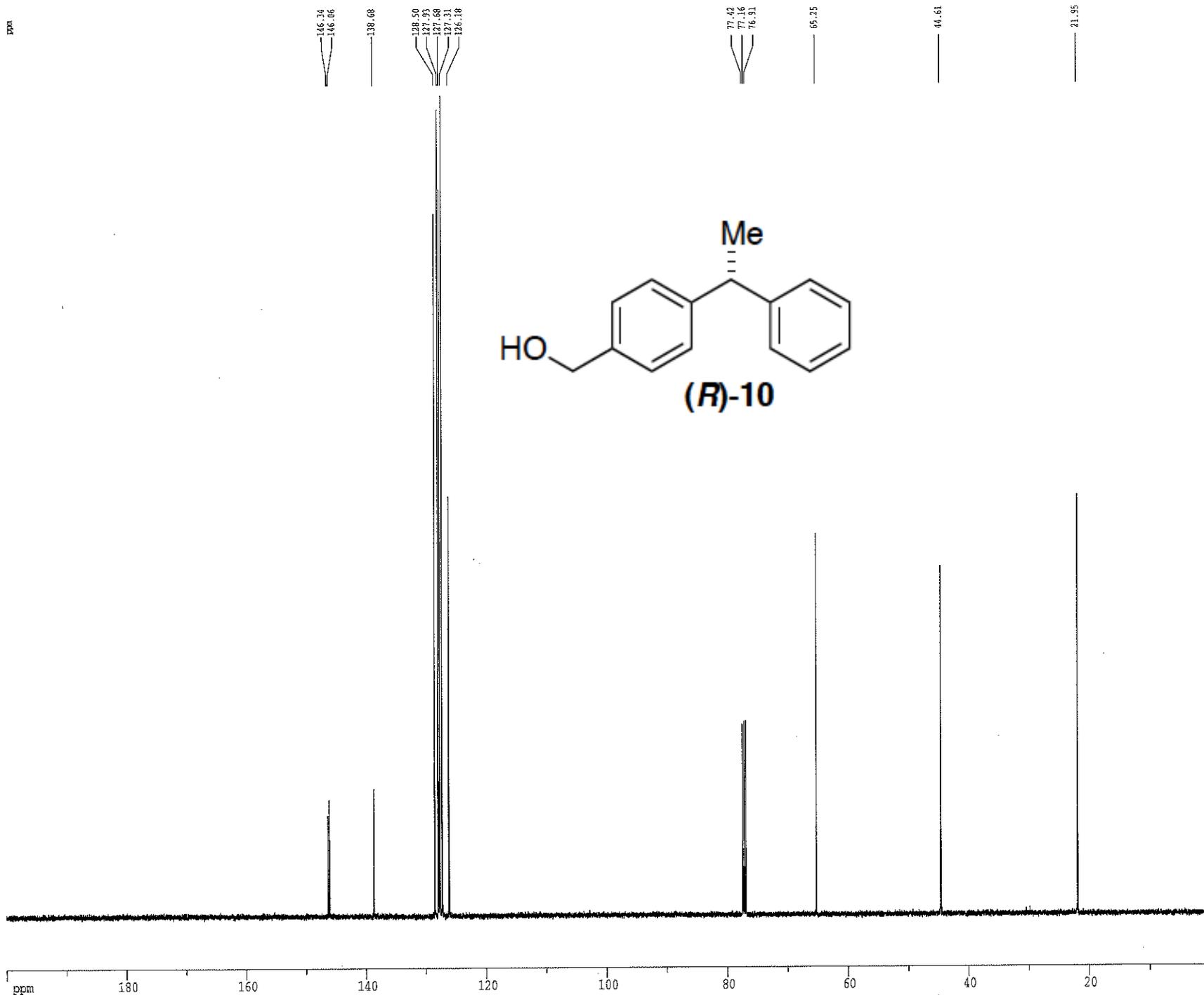
F2 - Acquisition Parameters
 Date_ 20111115
 Time 13.49
 INSTRUM cryo500
 PROBPID 5 mm CPTCL 1H-
 PULPROG zg30
 TD 81728
 SOLVENT CDCl3
 NS 8
 DS 2
 SMH 8012.820 Hz
 FIDRES 0.088043 Hz
 AQ 5.0999398 sec
 RG 4.5
 DW 62.400 usec
 DE 6.00 usec
 TE 298.0 K
 D1 0.1000000 sec
 MCREST 0.0000000 sec
 MCHWK 0.0150000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 7.50 usec
 PL1 1.60 dB
 SFO1 500.2235015 MHz

F2 - Processing parameters
 SI 65336
 SF 500.2200593 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 6
 PC 4.00

1D NMR plot parameters
 CX 22.80 cm
 CY 15.00 cm
 F1P 9.000 ppm
 F1 4501.88 Hz
 F2P 0.000 ppm
 F2 0.00 Hz
 PPNCH 0.39474 ppm/cm
 HZCM 197.45529 Hz/cm

Z-restored spin-echo 13C spectrum with 1H decoupling



```

Current Data Parameters
USER      greens
NAME      mag-2-036p
EXPNO     2
PROCNO    1

F2 - Acquisition Parameters
Date_     20111115
Time      13.54
INSTRUM   cryo500
PROBHD    5 mm CPTCI 1H-
PULPROG   SpinEcho30Comp-prd
TD         65536
SOLVENT    CDCl3
NS         204
DS         16
SWH        30301.033 Hz
FIDRES     0.462388 Hz
AQ         1.0813940 sec
RG         10321.3
EM         16.500 usec
DE         5.00 usec
TE         298.0 K
D1         0.25000000 sec
d11        0.03000000 sec
D16        0.00020000 sec
d17        0.00019600 sec
MCREST     0.00000000 sec
MCWRR      0.01500000 sec
F2         31.00 usec

===== CHANNEL f1 =====
NUC1       13C
P1         15.50 usec
P11        500.00 usec
P12        2000.00 usec
PL0        120.00 dB
PL1        -1.00 dB
SFO1       125.7942548 MHz
SF1        3.20 dB
SF2        3.20 dB
SFOA01     Crp60.0.5.20.1
SFOA02     Crp60comp.4
SFOFF1     0.00 Hz
SFOFF2     0.00 Hz

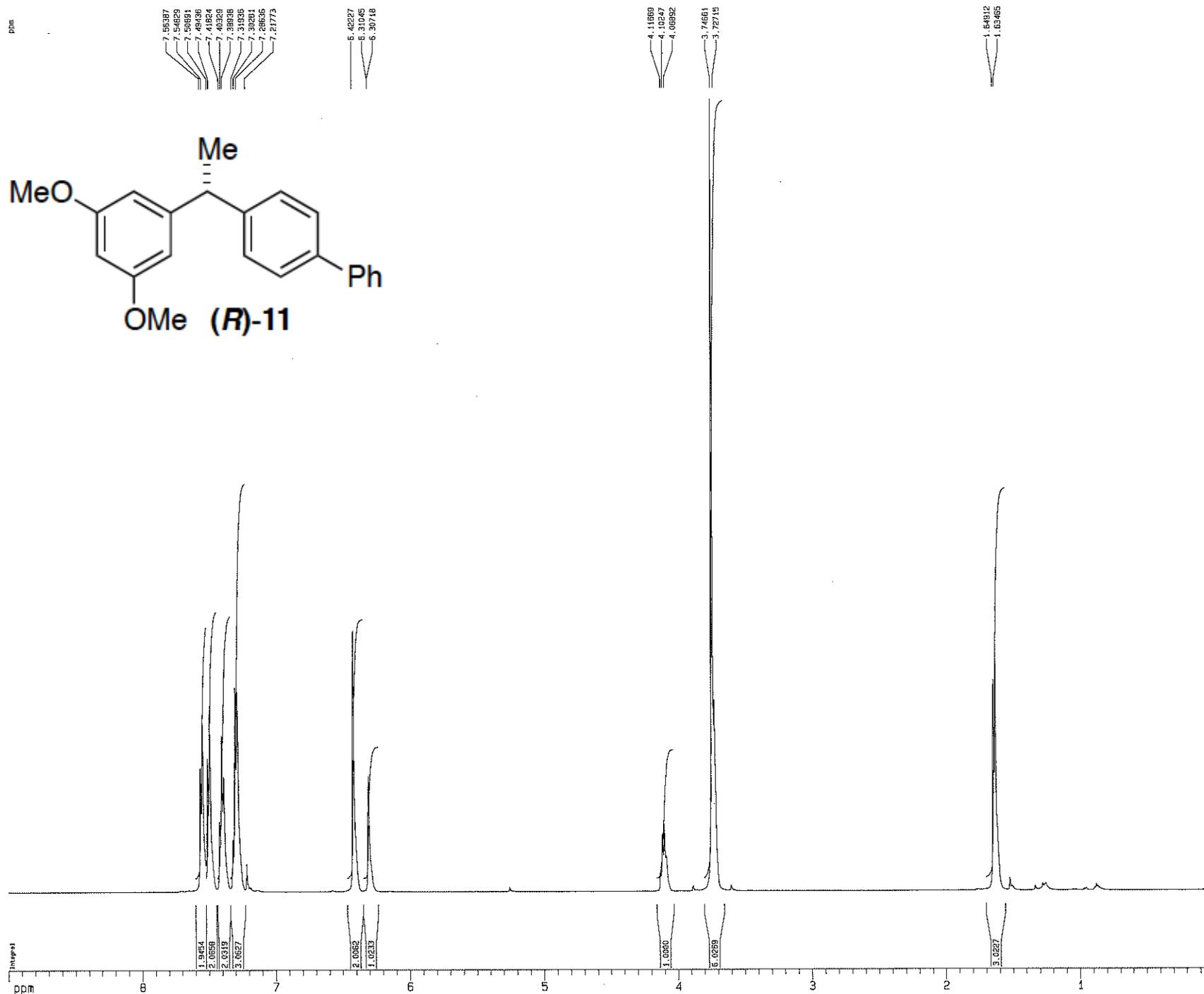
===== CHANNEL f2 =====
CYLPRG2    waltz16
NUC2       1H
PCPD2      100.00 usec
PL2        1.60 dB
PL12       24.60 dB
SFO2       500.2225011 MHz

===== GRADIENT CHANNEL =====
GPM01      SINE.100
GPM02      SINE.100
GPA1       0.00 %
GPA2       0.00 %
GPA3       0.00 %
GPA4       0.00 %
GPA5       30.00 %
GPA6       50.00 %
p15        580.00 usec
p16        1000.00 usec

F2 - Processing parameters
SI         65536
SF         125.7804164 MHz
WDW        EM
SSB        0
LB         1.00 Hz
GB         0
PC         2.00

1D NMR plot parameters
CX         22.80 cm
CY         15.65 cm
F1P        200.000 ppm
F1         25156.08 Hz
F2P        0.000 ppm
F2         0.00 Hz
PPMCH      8.77193 ppm/cm
HZCN       1103.33704 Hz/cm
    
```

1H spectrum



Current Data Parameters

USER greene
 NAME mag-2-012c
 EXPNO 4
 PROCNO 1

F2 - Acquisition Parameters

Date_ 20111018
 Time 16.55
 INSTRUM cryo500
 PROBHD 5 mm CPTCI 1H-
 PULPROG zg30
 TD 81728
 SOLVENT CDCl3
 NS 8
 DS 2
 SWH 8012.820 Hz
 FIDRES 0.098043 Hz
 AQ 5.0998774 sec
 RG 7.1
 ON 62.400 usec
 DE 6.00 usec
 TE 298.0 K
 D1 0.10000000 sec
 MCREST 0.00000000 sec
 MCWRR 0.01500000 sec

===== CHANNEL f1 =====

NUC1 1H
 P1 7.50 usec
 PL1 1.00 dB
 SFO1 500.2235015 MHz

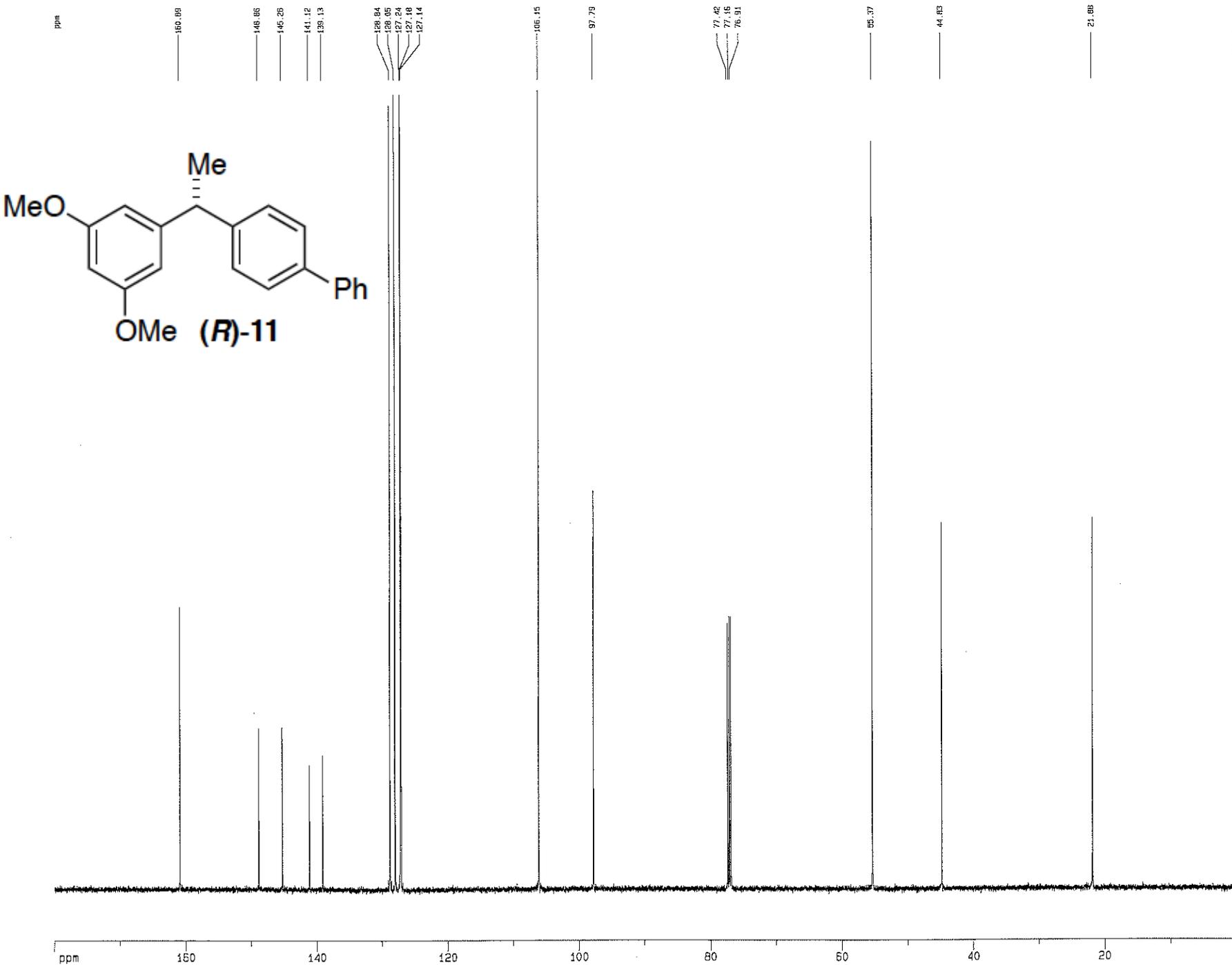
F2 - Processing parameters

SI 65536
 SF 500.2200545 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 4.00

1D NMR plot parameters

CX 22.80 cm
 CY 15.00 cm
 F1 9.000 ppm
 F1 4501.88 Hz
 F2 0.000 ppm
 F2 0.00 Hz
 PPMCM 0.39474 ppm/cm
 HZCM 197.45529 Hz/cm

Z-restored spin-echo 13C spectrum with 1H decoupling



```

Current Data Parameters
USER      greene
NAME      mag-2-012c
EXPNO     3
PROCNO    1

F2 - Acquisition Parameters
Date_     20111019
Time      15.48
INSTRUM   cryo500
PROBHD    5 mm CPY13 1H-
PULPROG   SpinEchopg30tp.prd
TD         65536
SOLVENT    CDCl3
NS         255
DS         15
SWH        30303.031 Hz
FIDRES     0.462388 Hz
AQ         1.0844105 sec
RG         3549.1
AQ         15.500 usec
DE         6.00 usec
TE         295.0 K
D1         0.25000000 sec
d11        0.03000000 sec
D16        0.00200000 sec
G17        0.00195000 sec
MORREST    0.00000000 sec
MORMR      0.01500000 sec
P2         31.00 usec

***** CHANNEL f1 *****
NUC1       13C
P1         15.50 usec
P11        500.00 usec
P12        2000.00 usec
PL0        120.00 dB
PL1        -1.00 dB
SFO1       125.7842548 MHz
SP1        3.20 dB
SP2        3.20 dB
SPNAM1     Crp60.0.5.20.1
SPNAM2     Crp60comp.4
SPOFF1     0.00 Hz
SPOFF2     0.00 Hz

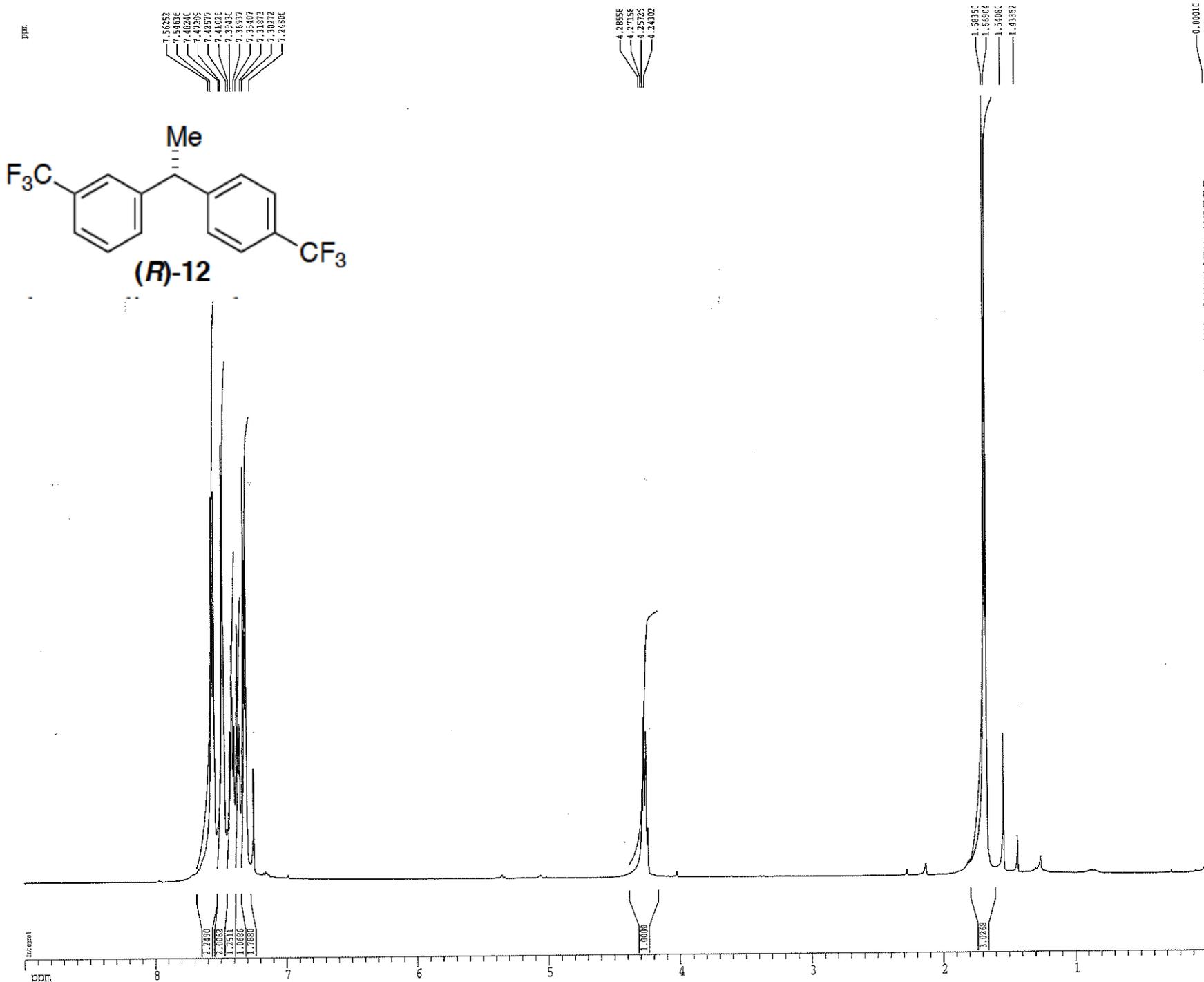
***** CHANNEL f2 *****
CPDPRG2    ve1t215
NUC2       1H
PCPD2      100.00 usec
PL2        1.50 dB
PL12       24.50 dB
SFO2       500.2225011 MHz

***** GRADIENT CHANNEL *****
GPNAM1     SINE.100
GPNAM2     SINE.100
GPX1       0.00 %
GPX2       0.00 %
GPY1       0.00 %
GPY2       0.00 %
GPE1       30.00 %
GPTZ       50.00 %
p15        500.00 usec
p16        1000.00 usec

F2 - Processing parameters
SI         65536
SF         125.7804150 MHz
WDW        EM
SSB        0
LB         1.00 Hz
GB         0
PC         2.00

1D NMR plot parameters
CX         22.80 cm
CY         15.65 cm
F1P        180.000 ppm
F1         22640.47 Hz
F2P        0.000 ppm
F2         0.00 Hz
PPMCM      7.89474 ppm/cm
HZCM       993.00336 Hz/cm
    
```

1H spectrum



Current Data Parameters
 USER greene
 NAME mag-2-24p
 EXPNO 1
 PROCNO 1

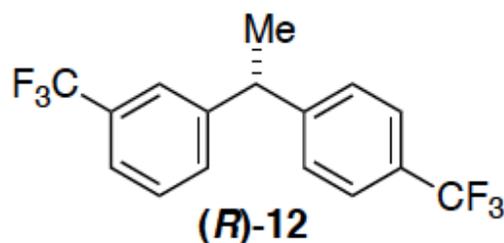
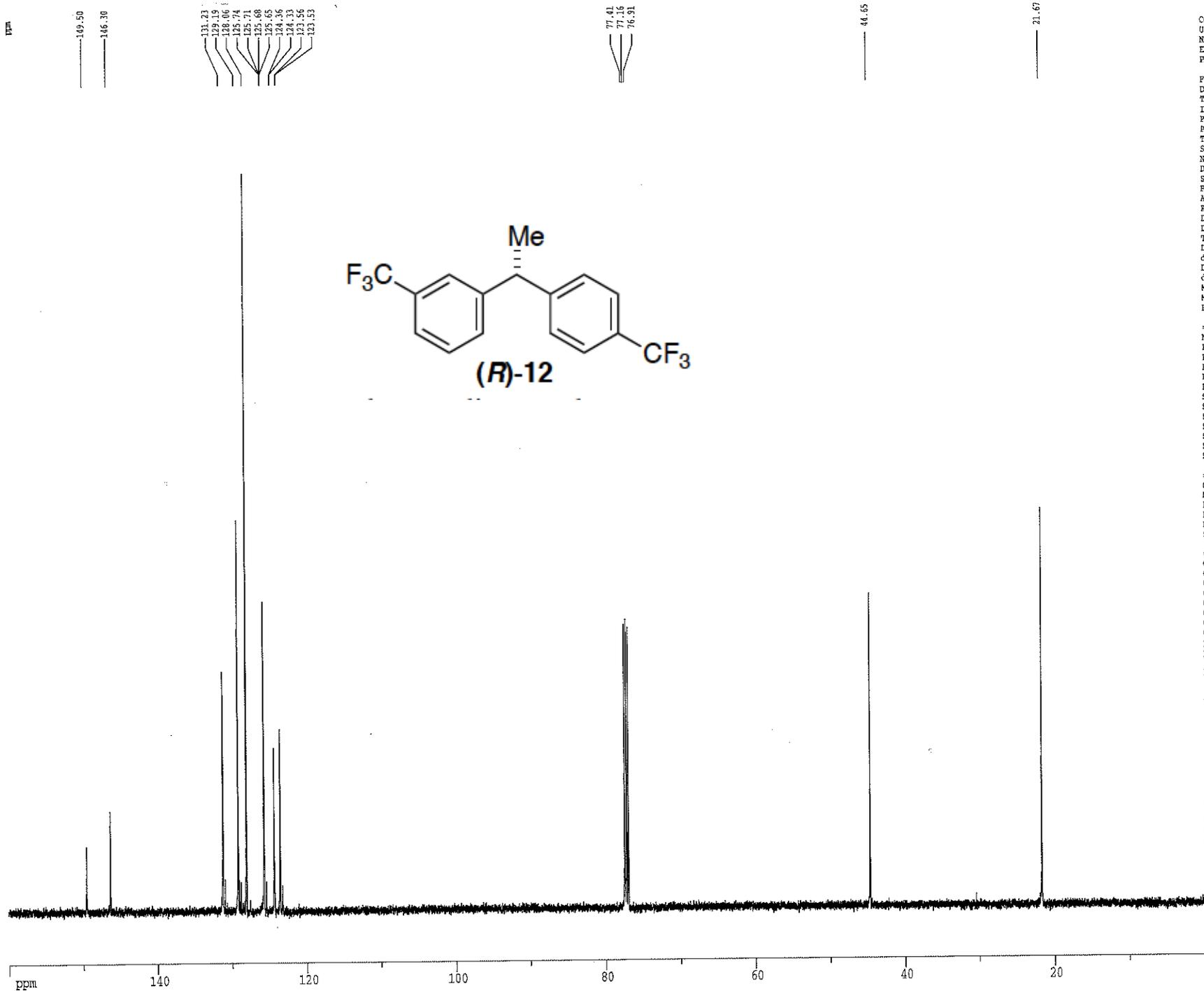
F2 - Acquisition Parameters
 Date_ 20111104
 Time 10.53
 INSTRUM cryo500
 PROBEHD 5 mm CPTCI 1H-
 PULPROG zgpg
 TD 81728
 SOLVENT CDCl3
 NS 8
 DS 2
 SWH 8012.820 Hz
 FIDRES 0.098043 Hz
 AQ 5.0998774 sec
 RG 10.1
 DM 62.400 usec
 DE 6.00 usec
 TE 298.0 K
 DI 0.10000000 sec
 MCREST 0.00000000 sec
 MCMFA 0.01500000 sec

***** CHANNEL f1 *****
 NUC1 1H
 P1 7.50 usec
 PL1 1.60 dB
 SFO1 500.225015 MHz

F2 - Processing parameters
 SI 65536
 SF 500.2200377 MHz
 WN EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 4.00

1D NMR plot parameters
 CX 22.80 cm
 CY 15.00 cm
 FLP 9.000 ppm
 F1 4501.98 Hz
 F2P 0.800 ppm
 F2 0.00 Hz
 PPMCM 0.39474 ppm/cm
 HZCM 197.45528 Hz/cm

Z-restored spin-echo ¹³C spectrum with ¹H decoupling



```

Current Data Parameters
USER      greene
NAME      mag-2-24p
EXPNO     2
PROCNO    1

F2 - Acquisition Parameters
Date_     20111104
Time      10.57
INSTRUM   cryo500
PROBHD    5 mm CPYCI 1H-
PULPROG   SpinEcho310pp.prd
TD         65536
SOLVENT   CDCl3
NS         252
DS         16
SWH        30303.031 Hz
FIDRES     0.462388 Hz
AQ         1.0813940 sec
RG         6502
Dw         16.500 usec
DE         6.00 usec
TE         298.0 K
DL         0.25000000 sec
d11        0.03000000 sec
d16        0.00020000 sec
d17        0.00019600 sec
MCOREST    0.00000000 sec
MCMRK      0.01500000 sec
P2         31.00 usec

===== CHANNEL f1 =====
NUC1       13C
P1         15.50 usec
P11        500.00 usec
P12        2000.00 usec
PL0        120.00 dB
PL1        -1.00 dB
SFO1       125.7942348 MHz
SF1        3.20 dB
SF2        3.20 dB
SYNRM1     Crp60,0.5,20.1
SPNAM2     Crp60comp.4
SPOFF1     0.00 Hz
SPOFF2     0.00 Hz

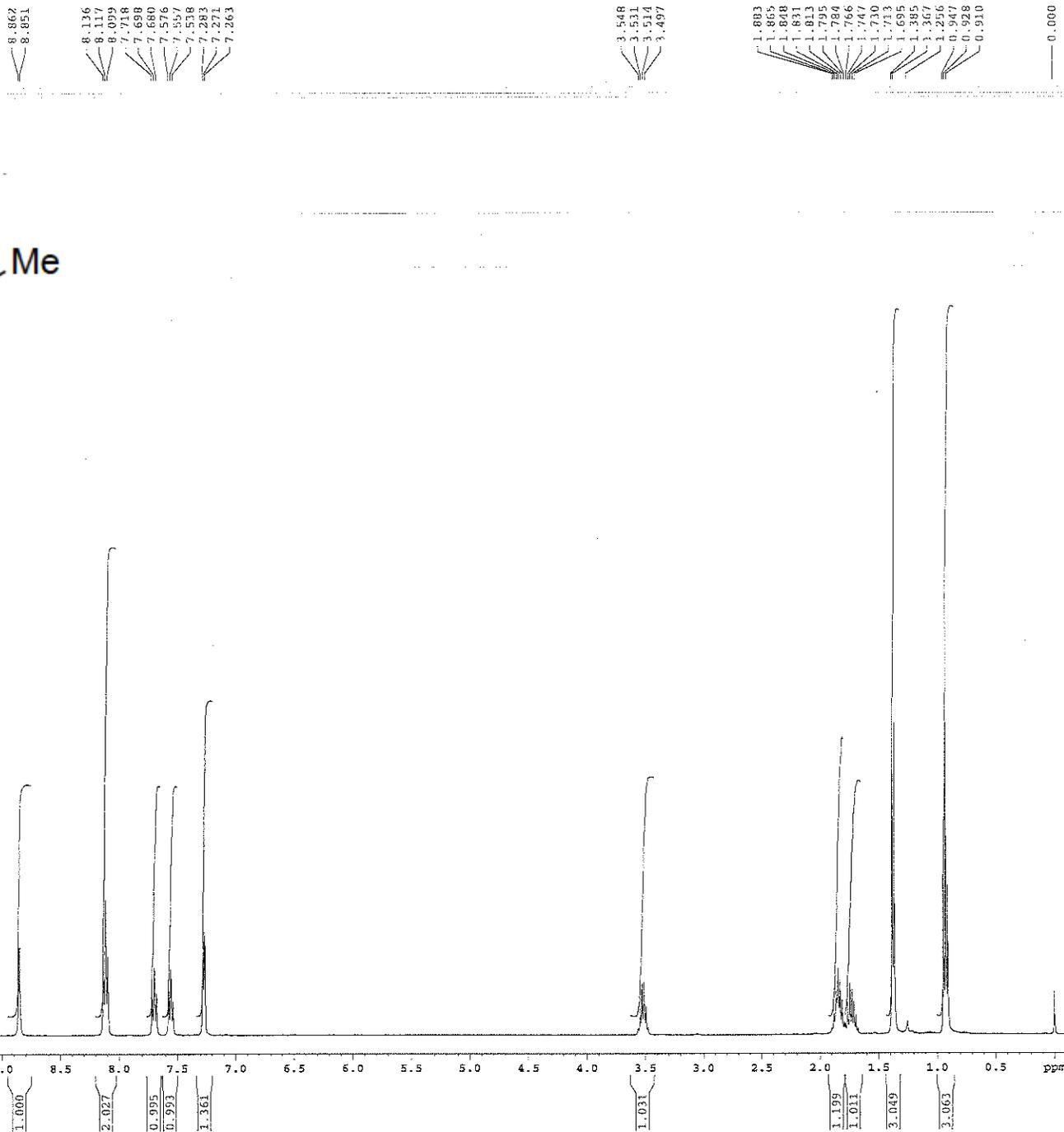
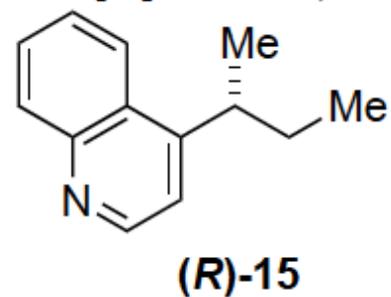
===== CHANNEL f2 =====
NUC2       1H
P12        100.00 usec
PL2        1.60 dB
PL12       24.60 dB
SFO2       500.2225011 MHz

===== GRADIENT CHANNEL =====
GPNAM1     SINE.100
GPNAM2     SINE.100
GPA1       0.00 %
GPA2       0.00 %
GPA3       0.00 %
GPA4       0.00 %
GPA5       0.00 %
GPA6       0.00 %
GPA7       0.00 %
GPA8       0.00 %
GPA9       0.00 %
GPA10      0.00 %
GPA11      0.00 %
GPA12      0.00 %
GPA13      0.00 %
GPA14      0.00 %
GPA15      0.00 %
GPA16      0.00 %
p15        500.00 usec
p16        1000.00 usec

F2 - Processing parameters
SI         65536
SF         125.7804076 MHz
MSW        EM
SSB        0
LB         1.00 Hz
GB         0
PC         2.00

1D NMR plot parameters
CX         22.80 cm
CY         14.04 cm
P1P        160.000 ppm
P1         20124.87 Hz
P2P        0.000 ppm
P2         0.00 Hz
PPMCM      7.01754 ppm/cm
HZCM       882.66956 Hz/cm
    
```

1H spectrum



```

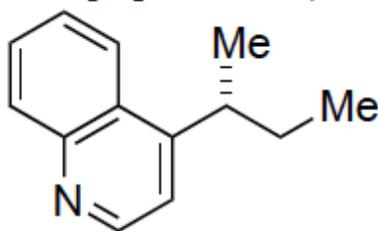
Current Data Parameters
=====
USER      yonova
NAME      imy3 - 133
EXPNO     33
PROCNO    1

P2 - Acquisition Parameters
=====
Date_     20111122
Time      13.71
INSTRUM   spect
PROBHD    5 mm QNP H/P
PULPROG   zg30
TD        65536
SOLVENT   CDCl3
NS         5
DS         2
SWH        6410.256 Hz
FIDRES     0.057613 Hz
AQ         5.1118579 sec
RG         287.4
IN         78.020 usec
DE         4.50 usec
TE         298.0 K
D1         0.10000000 sec
MCRST     2.00000000 sec
MCRSA     0.01500000 sec

===== CHANNEL f1 =====
NUC1       1H
P1         12.00 usec
PL1        -2.50 dB
SFO1      400.1325009 MHz

P2 - Processing parameters
=====
SI         65536
SP         400.1302039 MHz
SFO2       400.1302039 MHz
WDW        EM
SSB        0
LB         0.35 Hz
GB         0
PC         3.00
    
```

Z-restored spin-echo 13C spectrum with 1H decoupling



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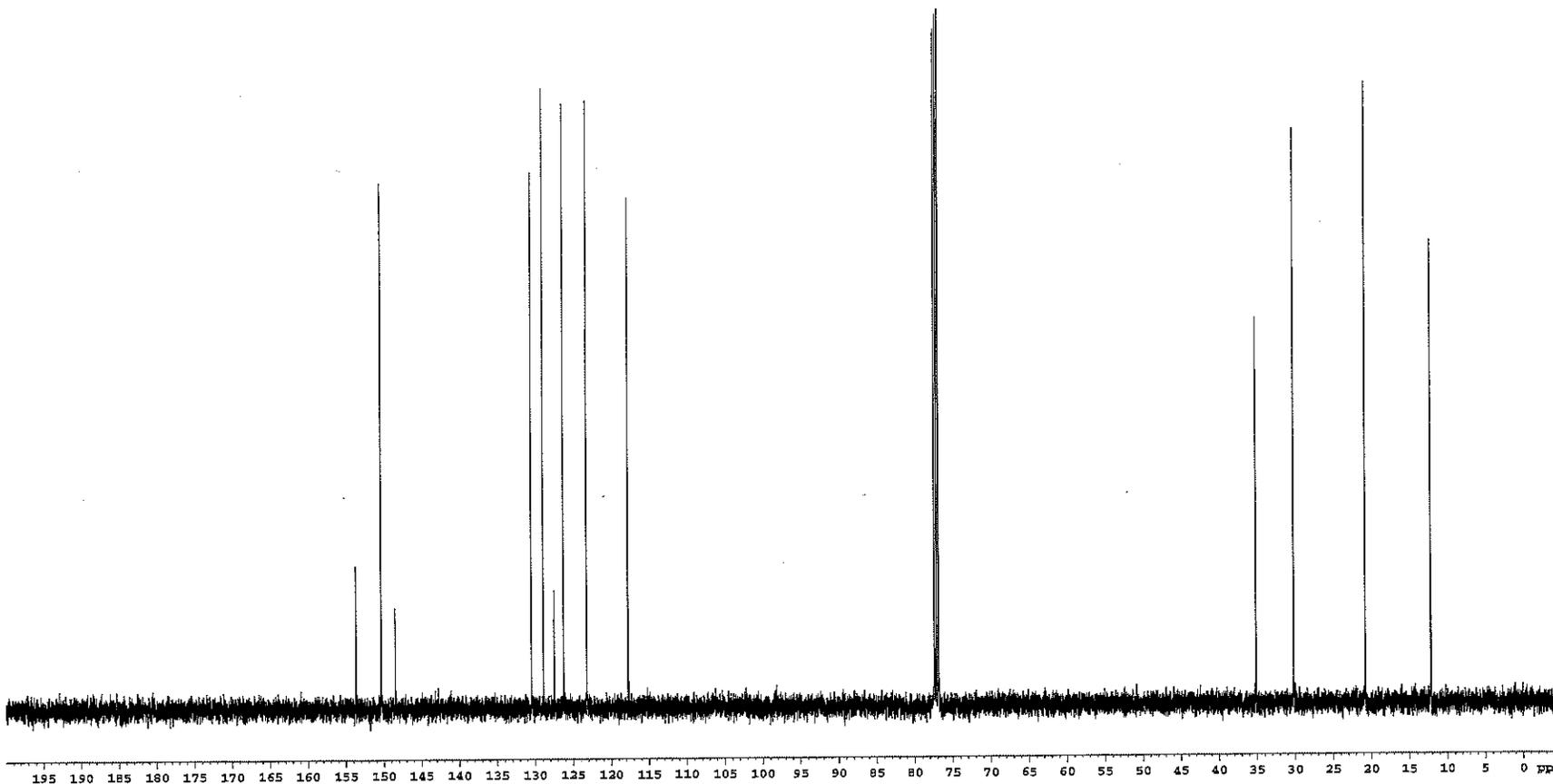
153.752
150.451
146.571

130.519
128.958
127.518
126.288
123.319

117.754

77.416
77.162
76.908

35.166
30.219
20.823
12.208



```

Current Data Parameters
USER yonova
NAME imy3 - 133
EXNO 69
PROCNO 1

F2 - Acquisition Parameters
Date_ 2011123
Time 16.43
INSTRUM cryo500
PROBHD 5 mm CPTCI 1H-
PULPROG SpinEcho30sp.prd
TD 65536
SOLVENT CDCl3
NS 157
DS 16
SWH 30303.134 Hz
FIDRES 0.462388 Hz
AQ 1.0813940 sec
RG 7298.2
LW 16.500 usec
DE 6.00 usec
TE 298.0 K
d1 0.2500000 sec
d11 0.0300000 sec
d16 0.0020000 sec
d17 0.00019600 sec
MCREST 0.0000000 sec
MCWRR 0.0150000 sec
P2

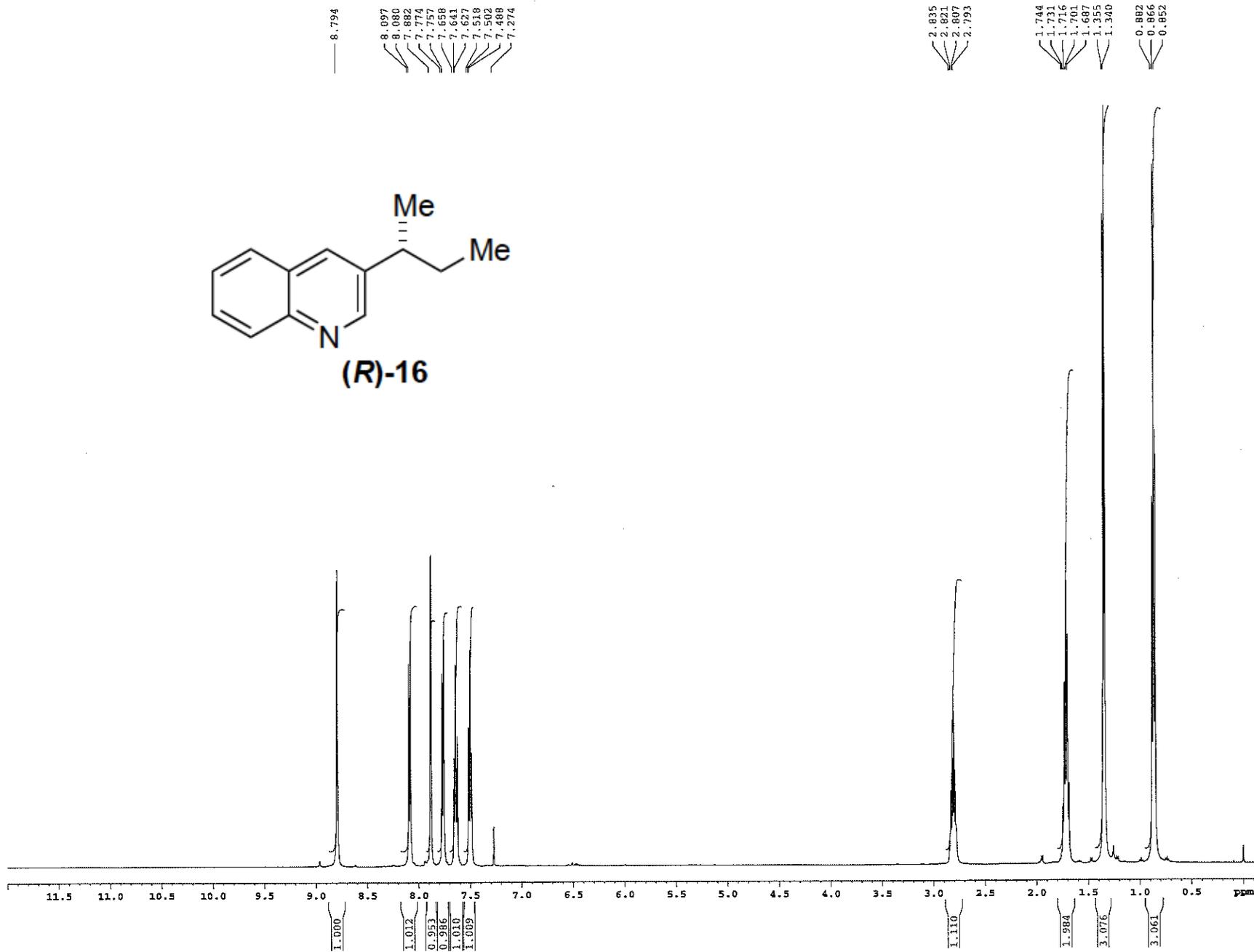
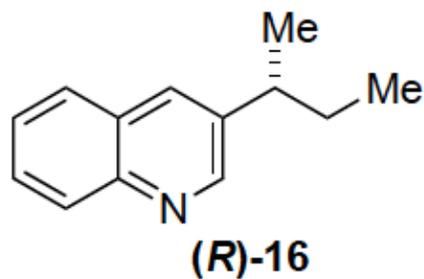
===== CHANNEL f1 =====
NUC1 13c
P1 15.50 usec
P11 500.00 usec
P12 2000.00 usec
PL0 120.00 dB
PL1 -1.00 dB
SFO1 125.7942548 MHz
SP1 3.20 dB
SP2 3.20 dB
SFO2 500.1325011 MHz
SPNAM1 Crp60.0.5.20.1
SPNAM2 Crp60comp.4
SPOFF1 0.00 Hz
SPOFF2 0.00 Hz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 100.00 usec
PL2 1.60 dB
PL12 24.60 dB
SFO2 500.2225011 MHz

===== GRADIENT CHANNEL =====
GPNAM1 SINE.100
GPNAM2 SINE.100
GPI1 0.00 %
GPI2 0.00 %
GPI3 0.00 %
GPI4 0.00 %
GPI5 0.00 %
GPI6 0.00 %
GPI7 0.00 %
GPI8 0.00 %
GPI9 0.00 %
GPI10 0.00 %
GPI11 0.00 %
GPI12 0.00 %
GPI13 0.00 %
GPI14 0.00 %
GPI15 0.00 %
GPI16 0.00 %
GPI17 0.00 %
GPI18 0.00 %
GPI19 0.00 %
GPI20 0.00 %
GPI21 0.00 %
GPI22 0.00 %
GPI23 0.00 %
GPI24 0.00 %
GPI25 0.00 %
GPI26 0.00 %
GPI27 0.00 %
GPI28 0.00 %
GPI29 0.00 %
GPI30 0.00 %
GPI31 0.00 %
GPI32 0.00 %
GPI33 0.00 %
GPI34 0.00 %
GPI35 0.00 %
GPI36 0.00 %
GPI37 0.00 %
GPI38 0.00 %
GPI39 0.00 %
GPI40 0.00 %
GPI41 0.00 %
GPI42 0.00 %
GPI43 0.00 %
GPI44 0.00 %
GPI45 0.00 %
GPI46 0.00 %
GPI47 0.00 %
GPI48 0.00 %
GPI49 0.00 %
GPI50 0.00 %
GPI51 0.00 %
GPI52 0.00 %
GPI53 0.00 %
GPI54 0.00 %
GPI55 0.00 %
GPI56 0.00 %
GPI57 0.00 %
GPI58 0.00 %
GPI59 0.00 %
GPI60 0.00 %
GPI61 0.00 %
GPI62 0.00 %
GPI63 0.00 %
GPI64 0.00 %
GPI65 0.00 %
GPI66 0.00 %
GPI67 0.00 %
GPI68 0.00 %
GPI69 0.00 %
GPI70 0.00 %
GPI71 0.00 %
GPI72 0.00 %
GPI73 0.00 %
GPI74 0.00 %
GPI75 0.00 %
GPI76 0.00 %
GPI77 0.00 %
GPI78 0.00 %
GPI79 0.00 %
GPI80 0.00 %
GPI81 0.00 %
GPI82 0.00 %
GPI83 0.00 %
GPI84 0.00 %
GPI85 0.00 %
GPI86 0.00 %
GPI87 0.00 %
GPI88 0.00 %
GPI89 0.00 %
GPI90 0.00 %
GPI91 0.00 %
GPI92 0.00 %
GPI93 0.00 %
GPI94 0.00 %
GPI95 0.00 %
GPI96 0.00 %
GPI97 0.00 %
GPI98 0.00 %
GPI99 0.00 %
GPI100 0.00 %

F2 - Processing parameters
SI 65536
SF 125.7804099 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 2.00
    
```

1H spectrum



8.794
8.097
8.080
7.882
7.774
7.757
7.658
7.641
7.627
7.519
7.502
7.488
7.274

2.835
2.821
2.807
2.793

1.744
1.731
1.716
1.701
1.687
1.355
1.340

0.882
0.866
0.852

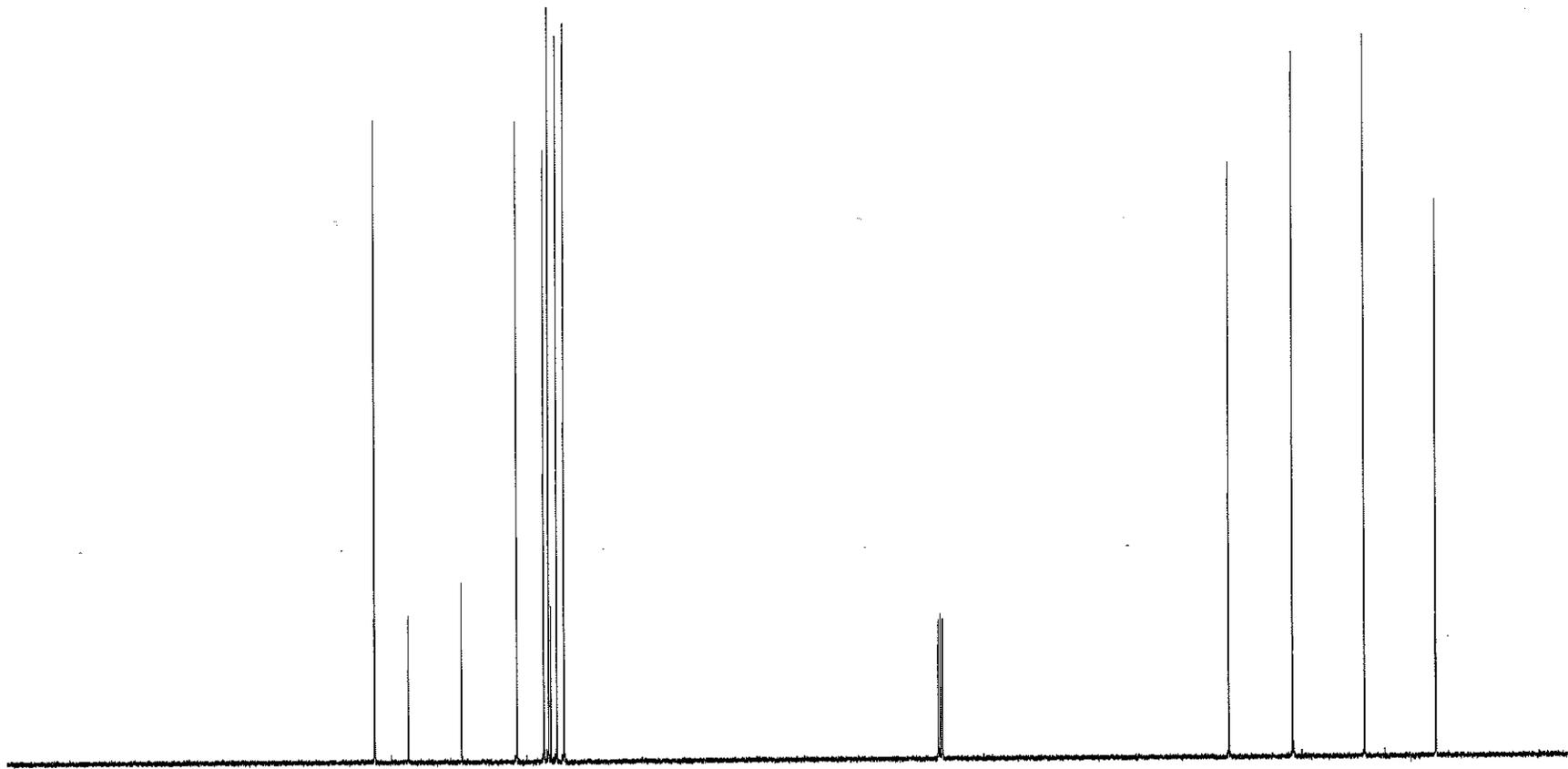
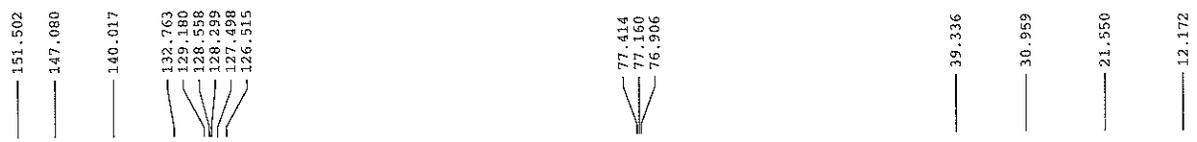
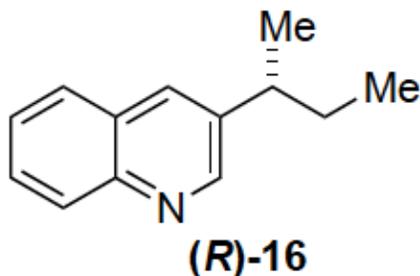
Current Data Parameters
 USER ycnova
 NAME imy3 - 212-4
 EXPNO 33
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 2011123
 Time 17.31
 INSTRUM cryo500
 PROBRD 5 mm CPTCI 1H-
 PULPROG zg30
 TD 32738
 SOLVENT CDCl3
 NS 8
 DS 2
 SFO 8012.820 Hz
 FIDRES 0.098043 Hz
 AQ 5.099398 sec
 RG 5.7
 LW 62.400 usec
 DE 6.00 usec
 TE 298.0 K
 DI 0.1000000 sec
 MCREST 0.0000000 sec
 MCWRK 0.01500000 sec

***** CHANNEL f1 *****
 NUC1 1H
 P1 7.50 usec
 PL1 1.60 dB
 SF01 500.2235015 MHz

F2 - Processing parameters
 SI 65536
 SF 500.2200254 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 2.00

Z-restored spin-echo 13C spectrum with 1H decoupling



```

Current Data Parameters
USER          yonova
NAME          Inv3 - 212-4
EXPNO        1
PROCNO       1

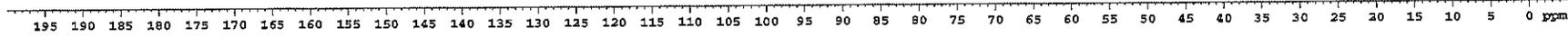
F2 - Acquisition Parameters
Date_        2011123
Time         17.35
INSTRUM      cryo500
PROBHD       5 mm CPTCI 1H-
PULPROG      Spinschopg30pp.prd
TD           65536
SOLVENT      CDCl3
NS           163
DS           16
SWH          30303.031 Hz
FIDRES       0.462388 Hz
AQ           1.0813940 sec
RG           4597.0
DW           15.500 usec
DE           6.00 usec
TE           298.0 K
DL           0.25000000 sec
d11          0.00000000 sec
D16          0.00020000 sec
d17          0.00019600 sec
MCHEST       0.00000000 sec
MCHRR       0.01500000 sec
F2

===== CHANNEL f1 =====
NUC1         13C
P1           15.50 usec
PL1          500.00 usec
PL2          2000.00 usec
PL0          120.00 dB
PL1          +1.00 dB
SF01         125.7942548 MHz
SP1          3.20 dB
SP2          3.20 dB
SFO1         Crp60.0.5.20.1
SFO2         Crp60comp.4
SPOFF1       0.00 Hz
SPOFF2       0.00 Hz

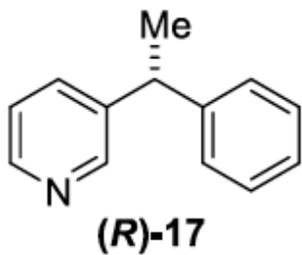
===== CHANNEL f2 =====
CPDPRG2      waltz16
NUC2         1H
PCPD2        100.00 usec
PL2          1.60 dB
PL12         24.60 dB
SFO2         500.2225011 MHz

===== GRADIENT CHANNEL =====
GPNAM1       SINE.100
GPNAM2       SINE.100
GFX1         0.00 %
GFX2         0.00 %
GPY1         0.00 %
GPY2         0.00 %
GFA1         30.00 %
GFZ2         50.00 %
p15          500.00 usec
p16          1000.00 usec

F2 - Processing parameters
SI           65536
SF           125.7804187 MHz
WDW          EM
SSB          0
LB           1.00 Hz
GB           0
PC           2.00
    
```



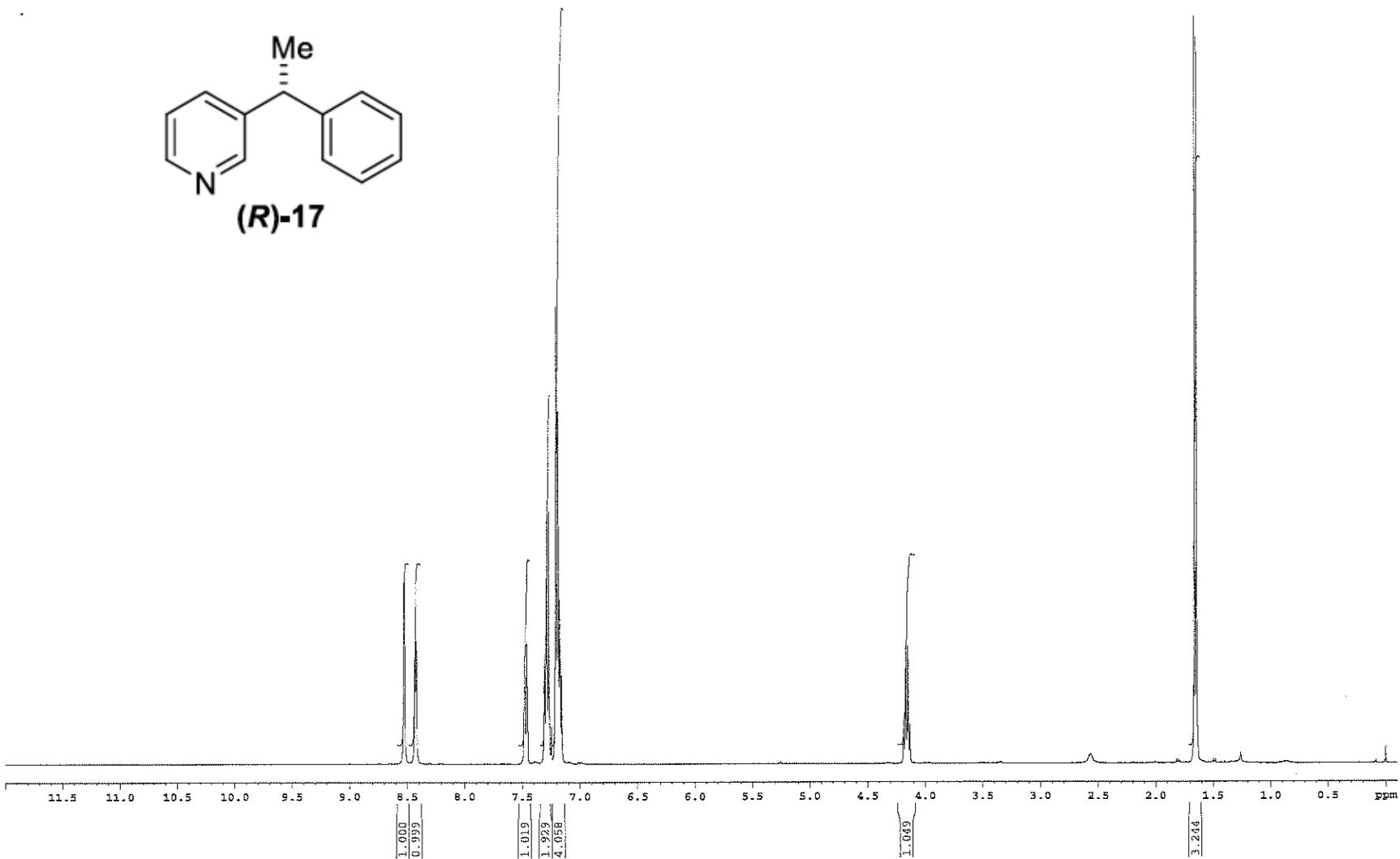
1H spectrum



8.528
8.524
8.435
8.432
8.424
8.421
7.481
7.466
7.461
7.309
7.290
7.289
7.280
7.272
7.250
7.212
7.194
7.191
7.177
7.170
7.158

4.188
4.170
4.152
4.134

1.660
1.642



```

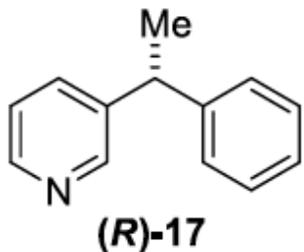
Current Data Parameters
USER          ysmova
NAME          amy1 - 27C
EXPNO        8
PROCNO       1

F2 - Acquisition Parameters
Date_        2011119
Time         3.57
INSTRUM      drz400
PROBHD       5 mm QNP H/F/P
PULPROG      zg30
TD           65536
SOLVENT      CDCl3
NS           6
DS           2
SFO          641.0256 Hz
FWDRES       0.097813 Hz
AQ           5.1118579 sec
RG           64
DE           75.000 usec
TE           298.0 K
D1           0.10000000 sec
MCREST       0.00000000 sec
MCWBK        0.01500000 sec

***** CHANNEL f1 *****
NUC1          13
P1           12.00 usec
PL1          -0.60 dB
SFO1         400.1328009 MHz

F2 - Processing parameters
SI           65536
SF           400.1300257 MHz
WDW          EM
SSB          0
LB           0.10 Hz
GB           0
PC           2.00
    
```

13C spectrum with 1H decoupling

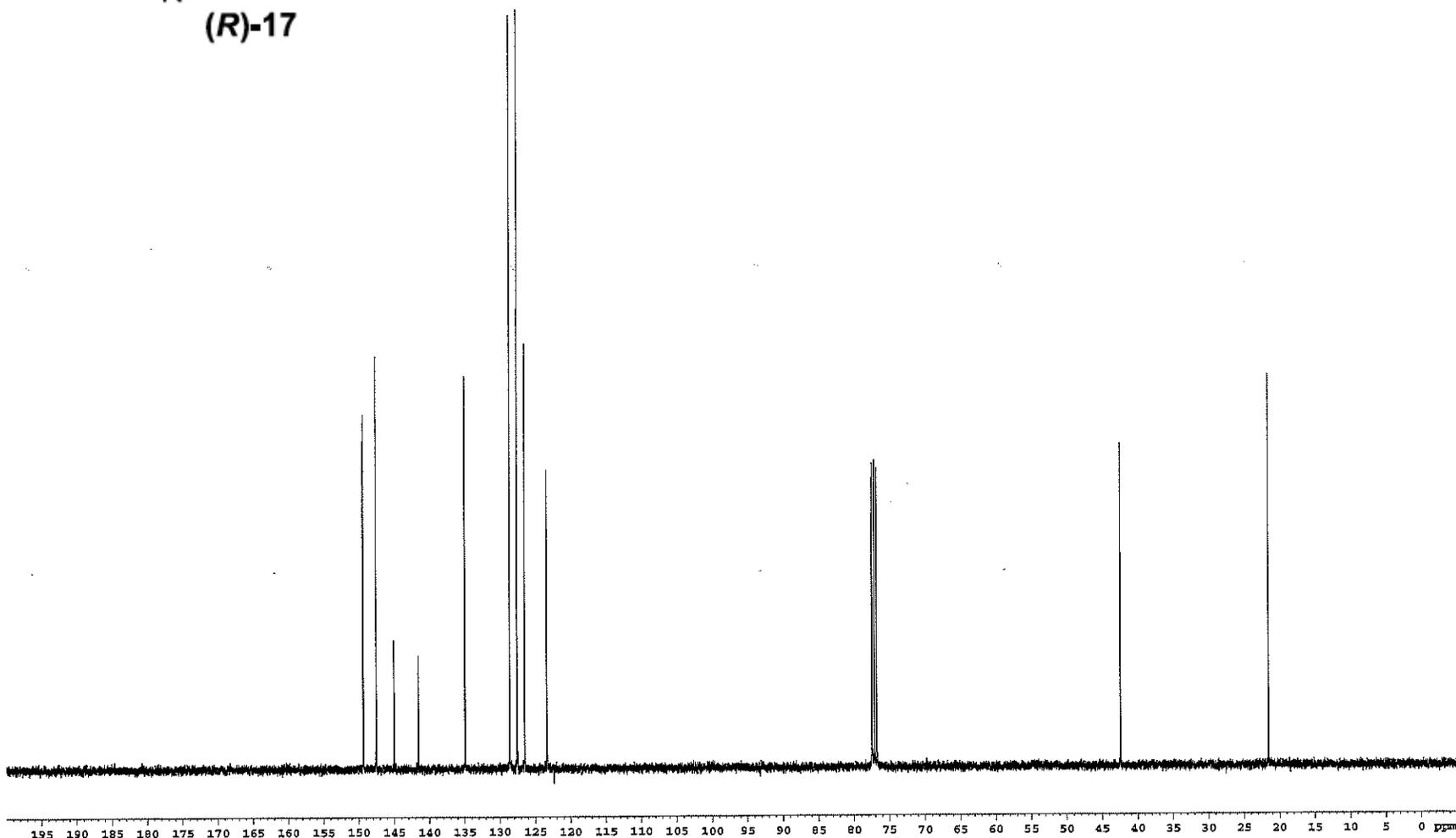


149.433
147.615
145.060
141.621
134.977
128.552
127.588
126.516
123.400

77.479
77.161
76.843

42.492

21.611



```

Current Data Parameters
USER yonova
NAME lmy3 - 270
EXFNO 9
PROCNO 1

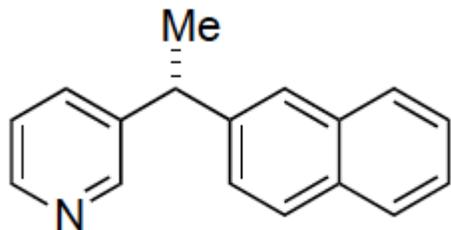
F2 - Acquisition Parameters
Date_ 20111119
Time 4.08
INSTRUM dxr400
PROBHD 5 mm QNP H/F/P
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 159
DS 4
SWH 24154.590 Hz
FIDRES 0.368570 Hz
AQ 1.3566452 sec
RG 4597.6
DM 20.700 usec
DE 20.39 usec
TE 298.0 K
D1 0.1000000 sec
d11 0.0300000 sec
MCREST 0.0000000 sec
MCWPRK 0.0150000 sec

===== CHANNEL f1 =====
NUC1 13C
P1 11.00 usec
PL1 0.00 dB
SFO1 100.627964 MHz

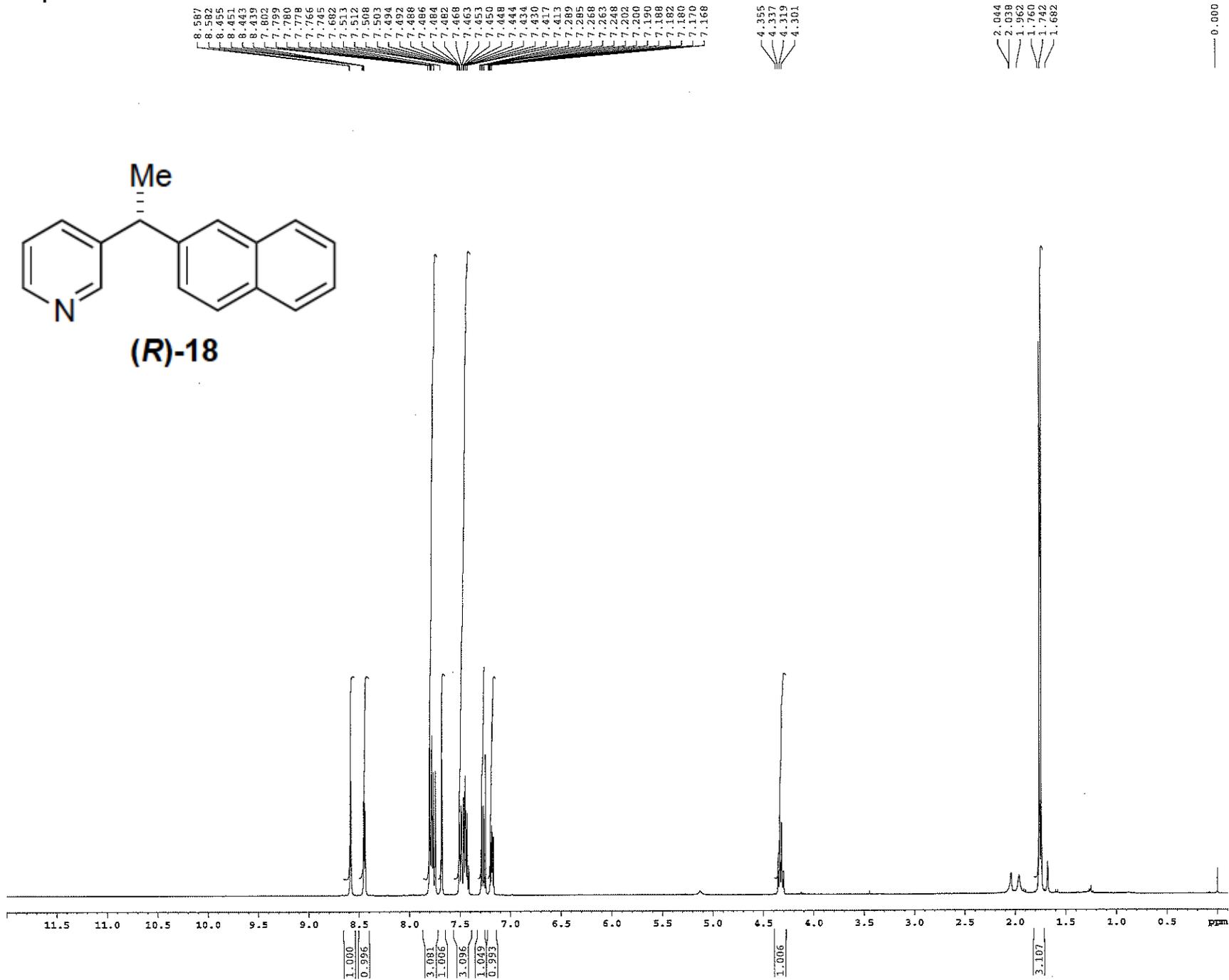
===== CHANNEL f2 =====
CPDPRG2 mlev16
NUC2 1H
PCPD2 80.00 usec
PL2 0.00 dB
PL12 15.20 dB
SFO2 400.1326009 MHz

F2 - Processing parameters
SI 65536
SF 100.6127680 MHz
MHZ MHz
SSB 0
LB 1.00 Hz
GB 0
PC 1.00
    
```

1H spectrum



(R)-18



```

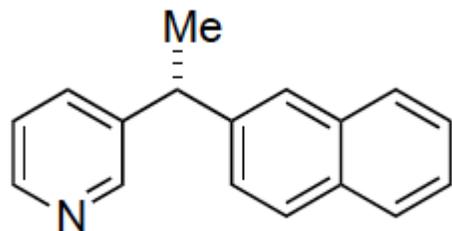
Current Data Parameters
USER yonova
NAME imy4 - 027
EXPNO 7
PROCNO 1

F2 - Acquisition Parameters
Date_ 20120313
Time 23.26
INSTRUM 4rx400
PROBHD 5 mm QNP H/F/P
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 4
DS 2
SWH 6410.256 Hz
FIDRES 0.097813 Hz
AQ 5.1118579 sec
RG 143.7
IN 78.000 usec
DE 4.50 usec
TE 298.1 K
D1 0.10000000 sec
XOREST 0.00000000 sec
MCNRK 0.01500000 sec

***** CHANNEL f1 *****
NUC1 1H
P1 12.00 usec
PL1 -0.60 dB
SFO1 400.1328009 MHz

F2 - Processing parameters
SI 65536
SF 400.1300264 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 2.00
    
```

¹³C spectrum with ¹H decoupling



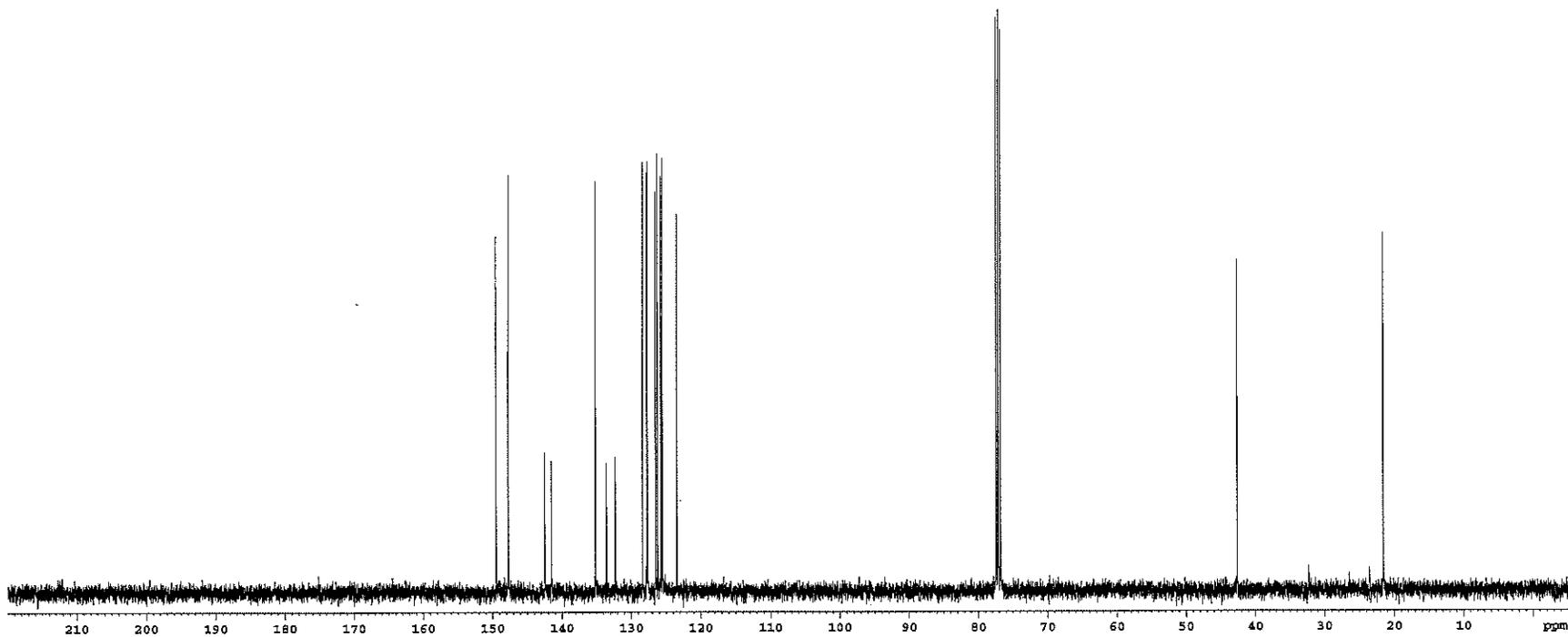
(R)-18

149.664
147.897
142.631
141.667
135.339
131.720
132.447
128.525
127.958
127.837
126.677
126.415
125.903
125.723
123.629

77.595
77.277
76.960

42.759

21.721



```

Current Data Parameters
USER          ycnova
NAME          imy4 - 027
EXPNO        5
PROCNO       1

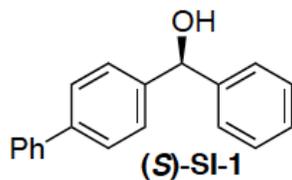
F2 - Acquisition Parameters
Date_        20120313
Time         22.37
INSTRUM      dx400
PROBHD       5 mm QNP H/F/P
PULPROG      zgpg30
TD           65536
SOLVENT      CDCl3
NS           396
DS           4
SWH          24154.590 Hz
FIDRES       0.368570 Hz
AQ           1.3566452 sec
RG           3195.2
DM           20.700 usec
DE           20.39 usec
TE           298.0 K
D1           0.10000000 sec
d11          0.03000000 sec
MCREST       0.00000000 sec
MCWRK        0.01500000 sec

===== CHANNEL f1 =====
NUC1          13C
P1           11.00 usec
PL1           0.00 dB
SFO1         100.6237964 MHz

===== CHANNEL f2 =====
CPDPRG2      mlev16
NUC2          1H
PCPD2        80.00 usec
PL2           0.00 dB
PL12         15.20 dB
SFO2         400.1328009 MHz

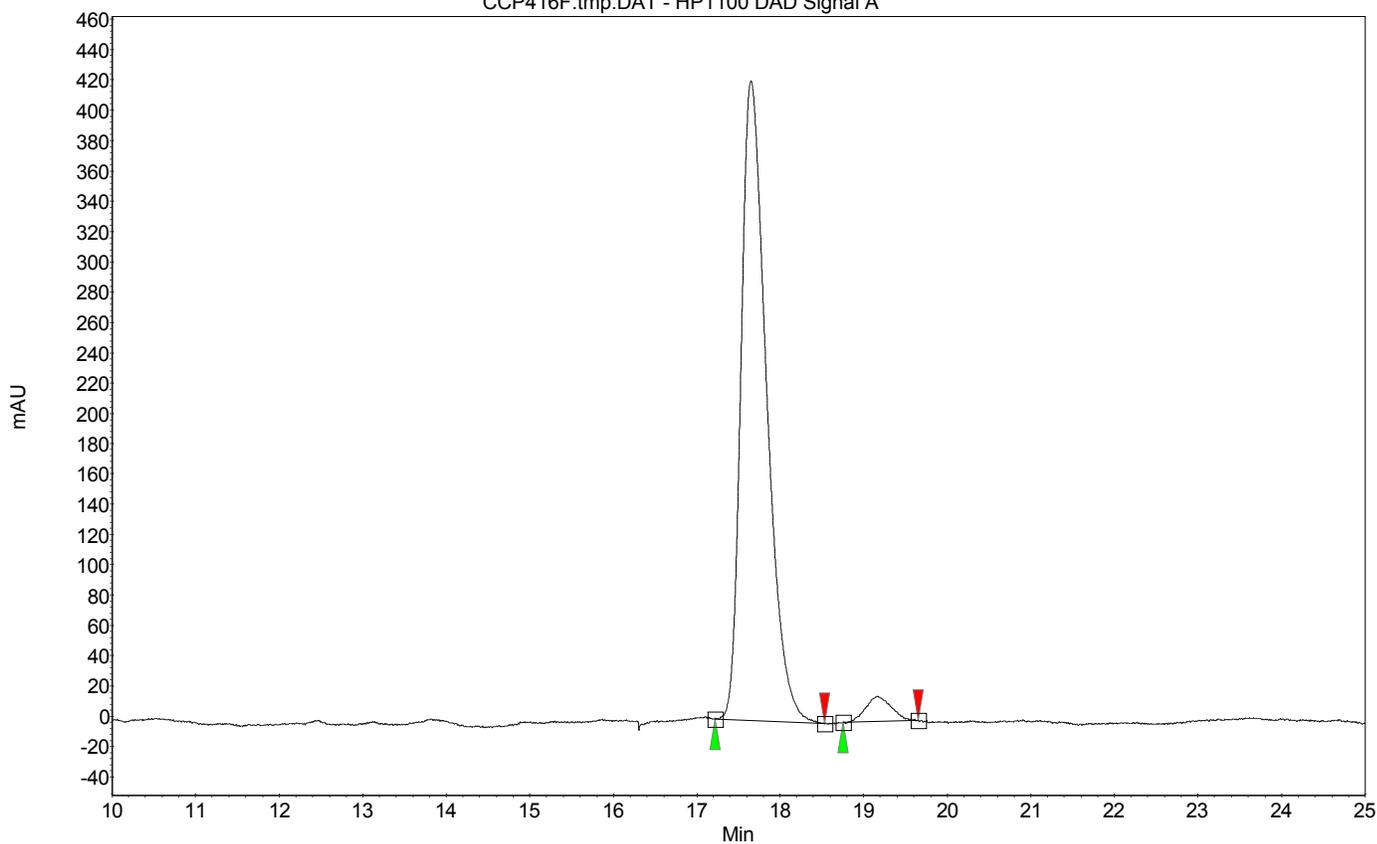
F2 - Processing parameters
SI           65536
SF           100.6127500 MHz
WDW          EM
SSB           0
LB           1.00 Hz
GB           0
PC           2.00
    
```

Method Name:mag-paraphenyOH
 Run Name:mag-1-28517



Date:1/28/2012
 Time:2:05:03 PM

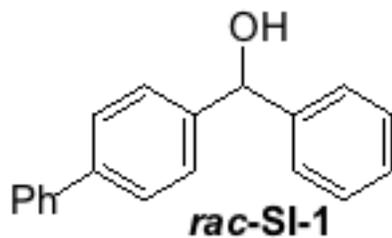
CCP416F.tmp.DAT - HP1100 DAD Signal A



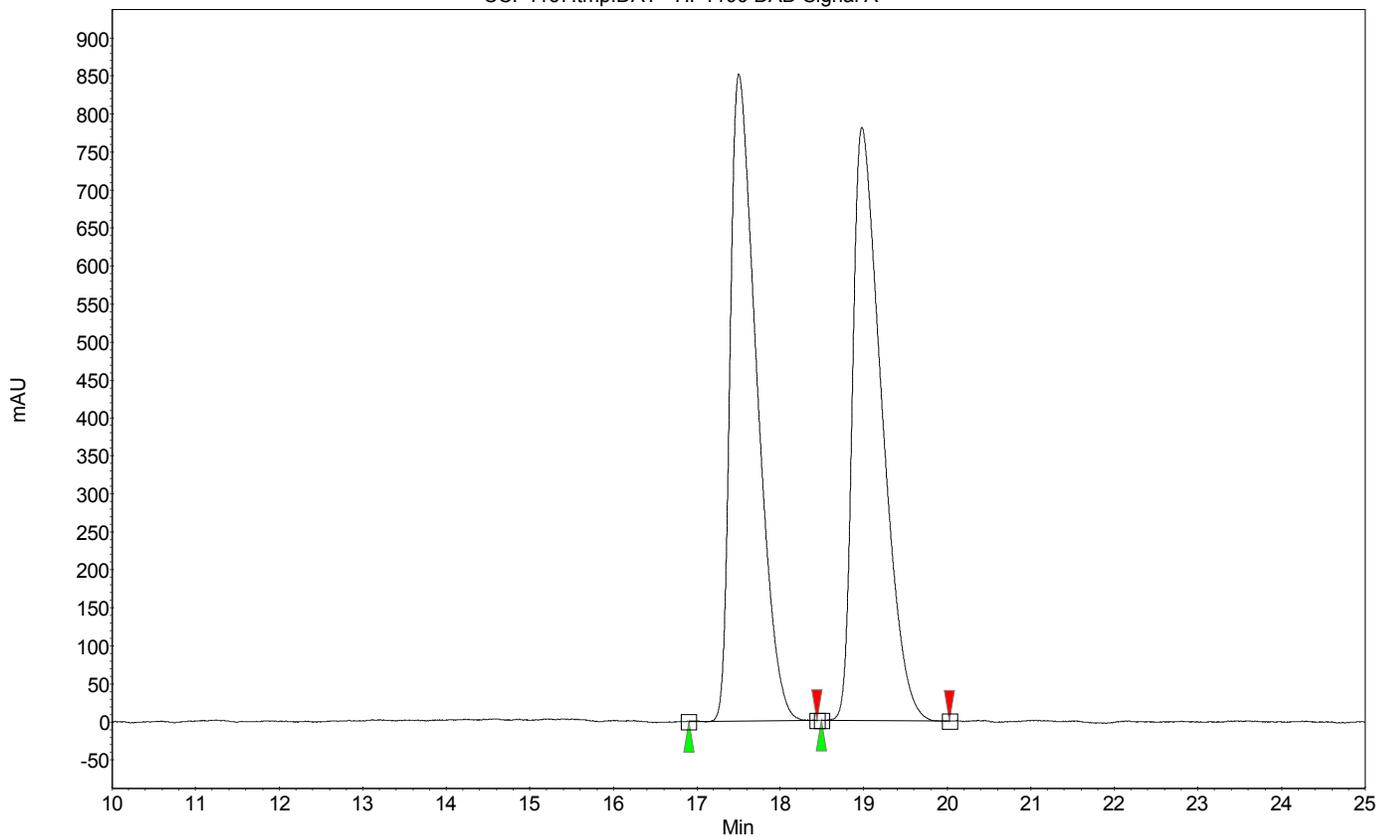
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|--------|----------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μV] | [μV.Min] | [%] |
| 1 | UNKNOWN | 17.22 | 17.65 | 18.54 | 0.00 | 96.23 | 422.0 | 149.0 | 96.225 |
| 2 | UNKNOWN | 18.76 | 19.17 | 19.65 | 0.00 | 3.77 | 16.7 | 5.8 | 3.775 |
| Total | | | | | | 100.00 | 438.7 | 154.8 | 100.000 |

Method Name:mag-paraphenyOH
Run Name:mag-1-2799

Date:1/28/2012
Time:1:23:16 PM

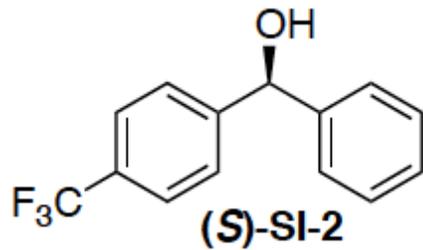


CCP4167.tmp.DAT - HP1100 DAD Signal A



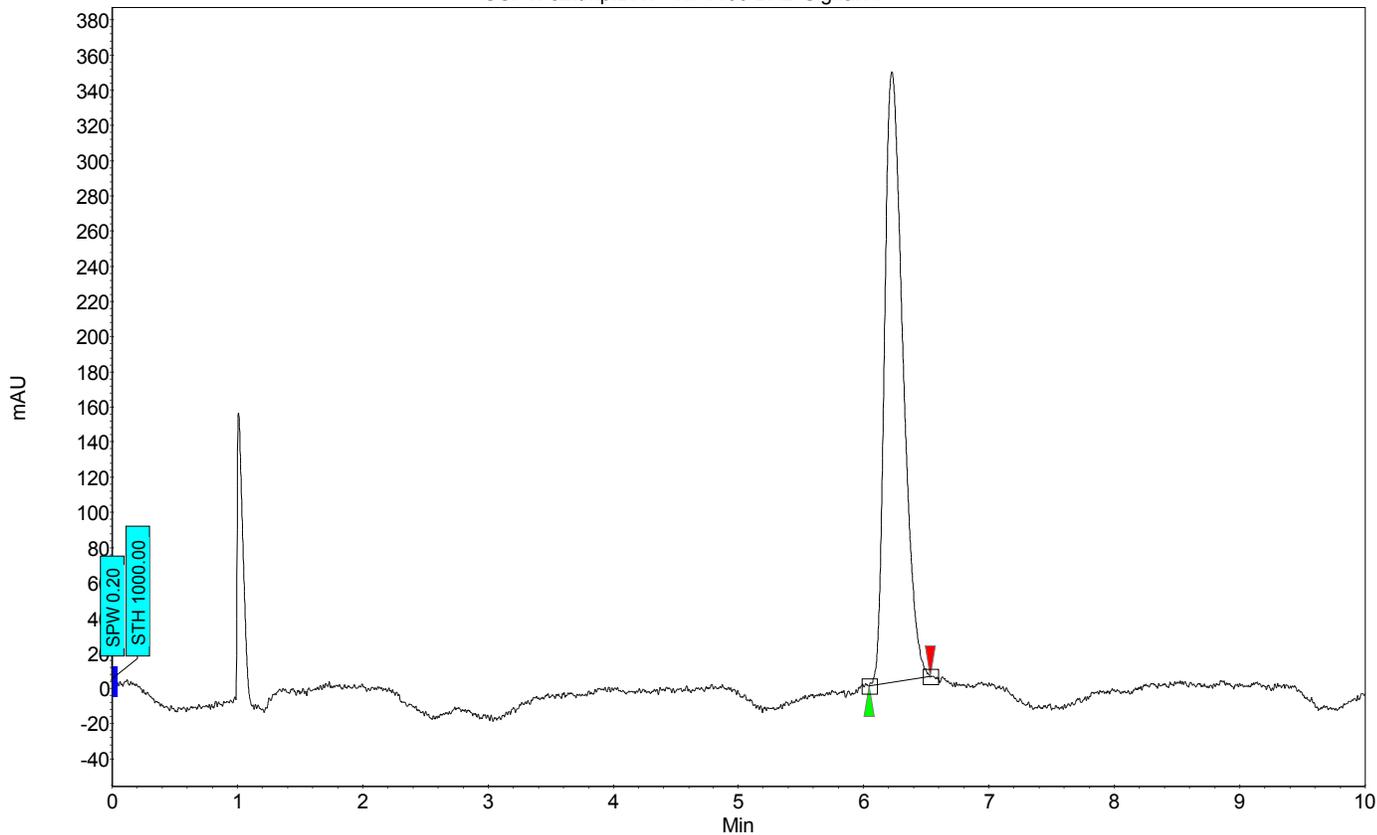
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 16.90 | 17.51 | 18.44 | 0.00 | 49.77 | 851.2 | 312.3 | 49.769 |
| 2 | UNKNOWN | 18.50 | 18.98 | 20.02 | 0.00 | 50.23 | 780.6 | 315.2 | 50.231 |
| Total | | | | | | 100.00 | 1631.8 | 627.5 | 100.000 |

Method Name:mag-diaryICF3OH
Run Name:mag-2-116x1



Date:3/14/2012
Time:2:13:06 PM

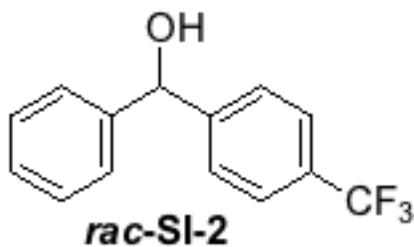
CCP1F82.tmp.DAT - HP1100 DAD Signal A



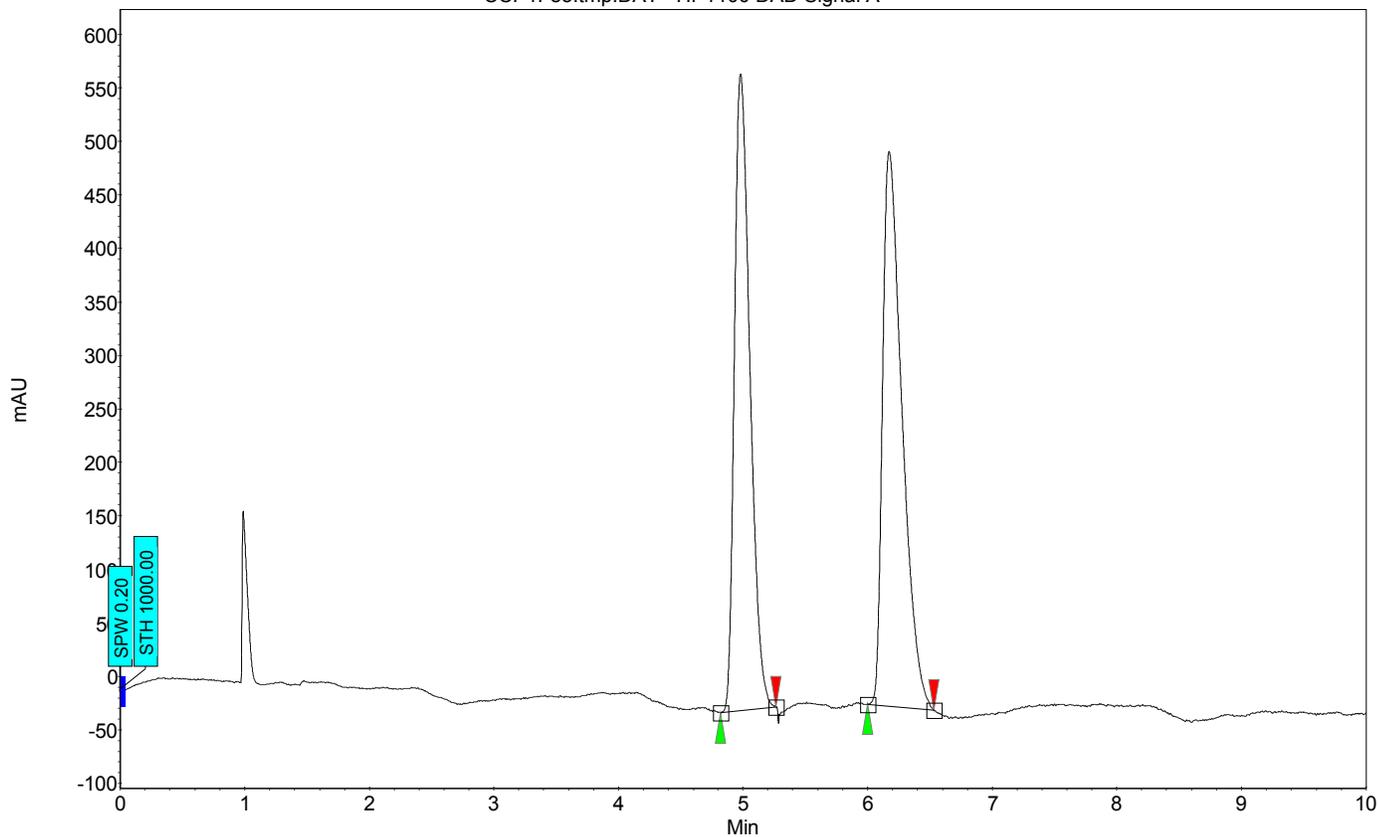
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 6.04 | 6.23 | 6.53 | 0.00 | 100.00 | 346.9 | 59.0 | 100.000 |
| Total | | | | | | 100.00 | 346.9 | 59.0 | 100.000 |

Method Name:mag-diarylCF3OH
 Run Name:mag-2-0881

Date:3/14/2012
 Time:2:14:52 PM

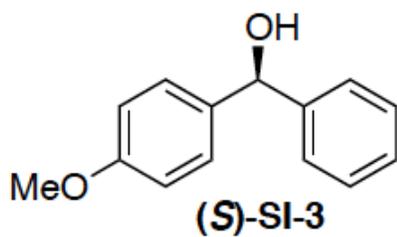


CCP1F83.tmp.DAT - HP1100 DAD Signal A



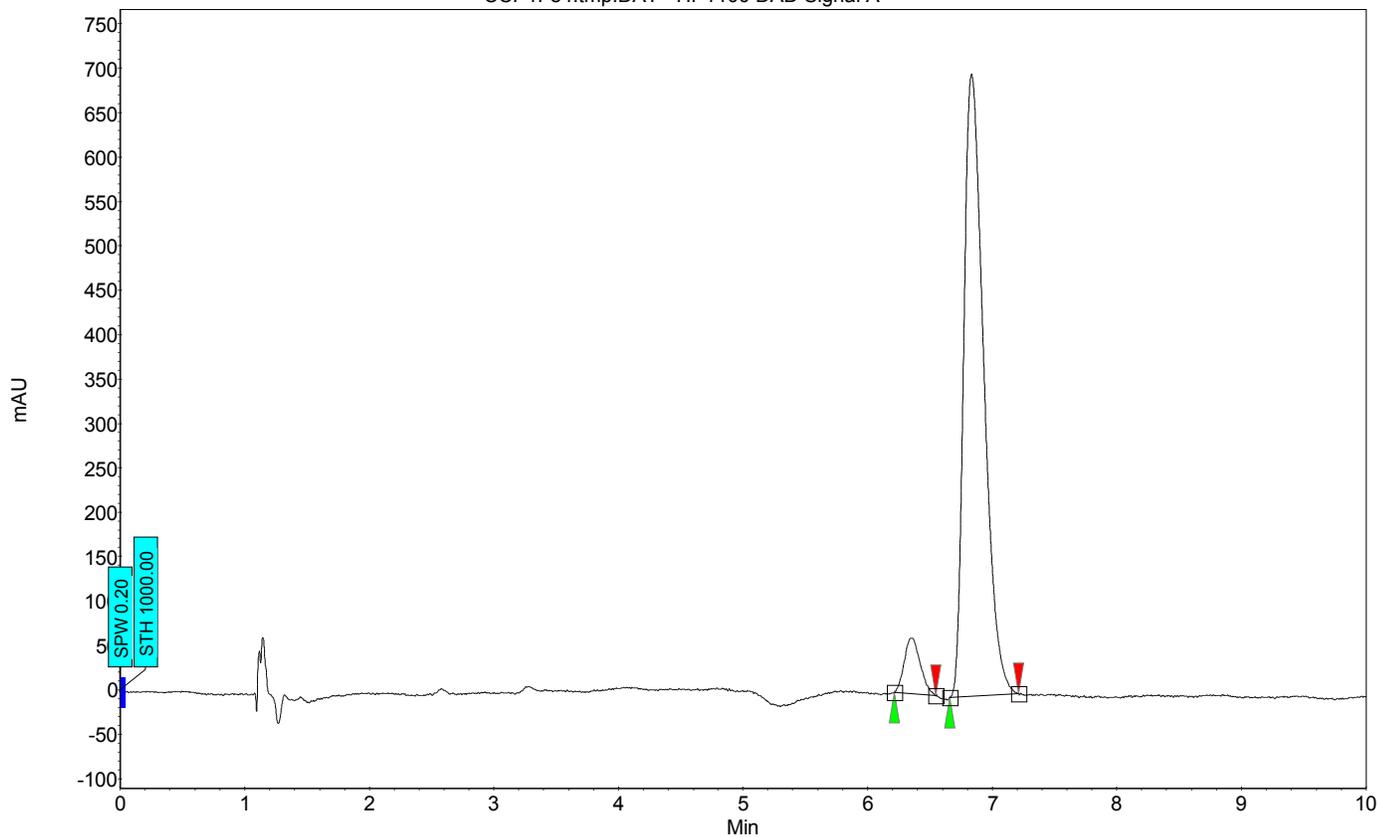
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 4.82 | 4.98 | 5.27 | 0.00 | 47.66 | 594.9 | 85.8 | 47.661 |
| 2 | UNKNOWN | 6.00 | 6.17 | 6.53 | 0.00 | 52.34 | 518.6 | 94.2 | 52.339 |
| Total | | | | | | 100.00 | 1113.5 | 180.0 | 100.000 |

Method Name:mag-diarylOMeOH
Run Name:mag-2-1171



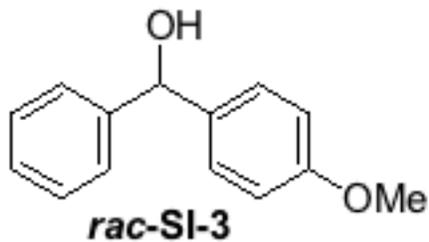
Date:3/14/2012
Time:2:19:11 PM

CCP1F84.tmp.DAT - HP1100 DAD Signal A



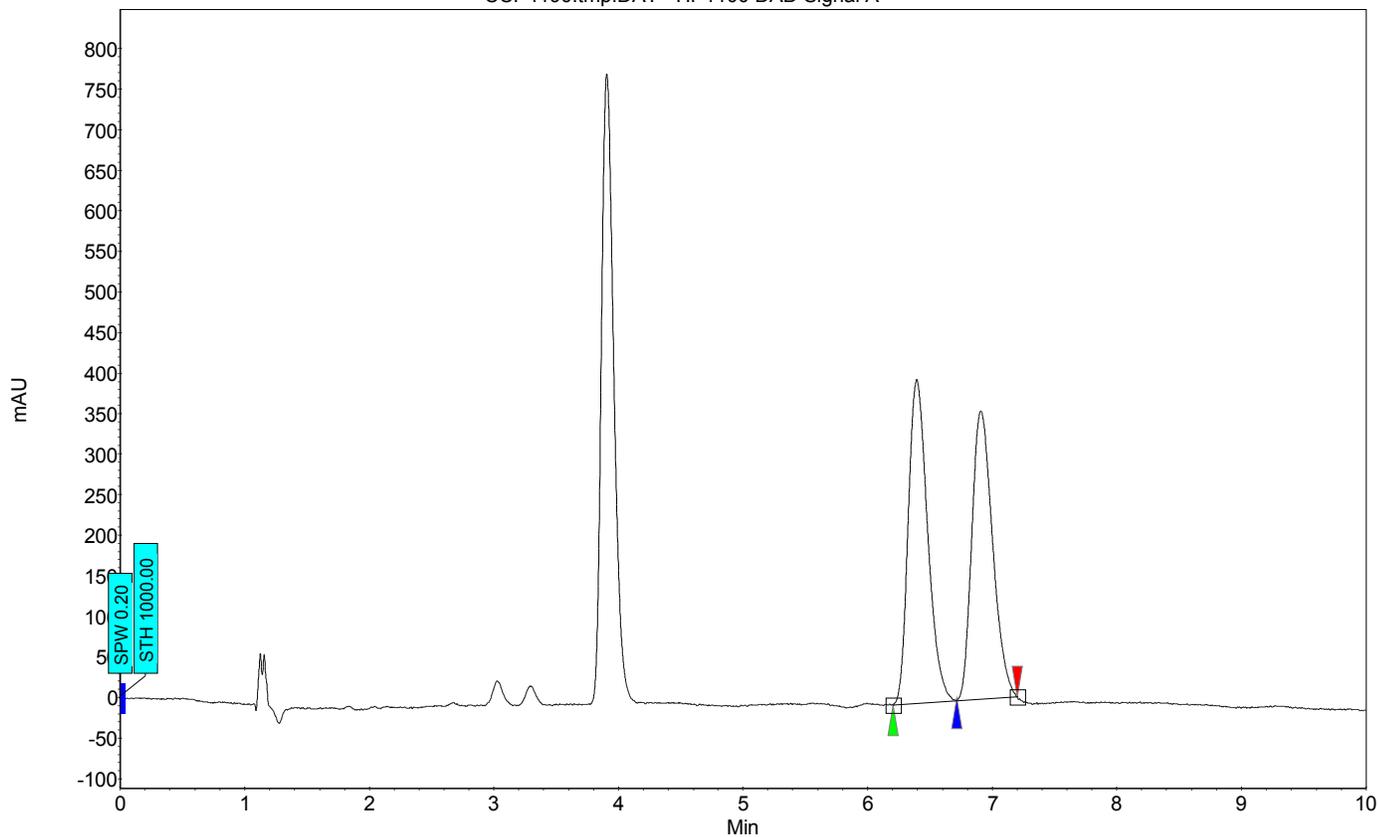
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 6.21 | 6.36 | 6.54 | 0.00 | 6.69 | 62.4 | 9.3 | 6.695 |
| 2 | UNKNOWN | 6.66 | 6.84 | 7.21 | 0.00 | 93.31 | 700.7 | 129.4 | 93.305 |
| Total | | | | | | 100.00 | 763.2 | 138.6 | 100.000 |

Method Name:FJW-MAG-2-16-pMeO-OH
Run Name:mag-1-1527



Date:1/30/2012
Time:11:16:58 AM

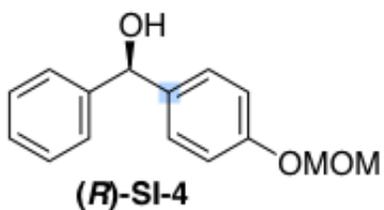
CCP4190.tmp.DAT - HP1100 DAD Signal A



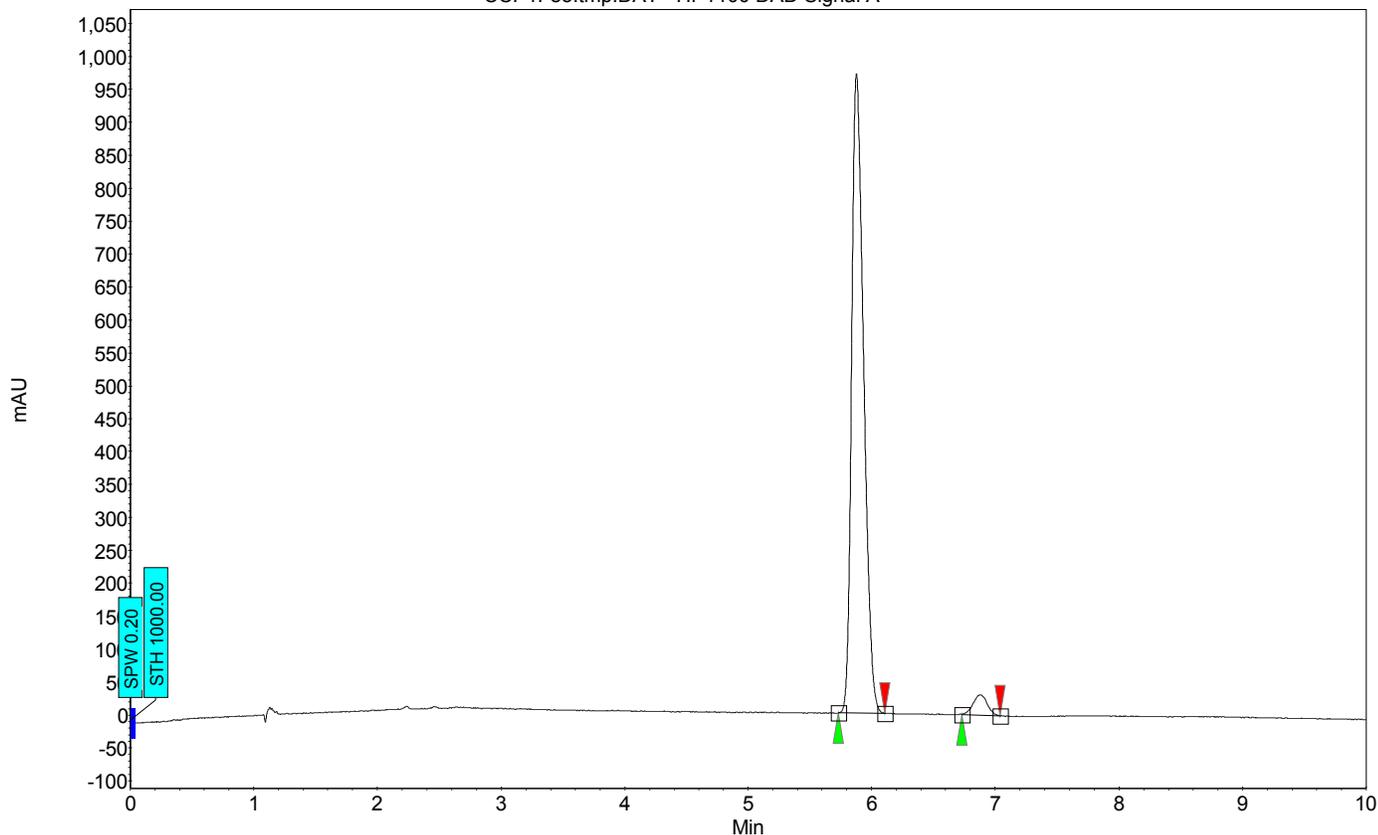
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 6.21 | 6.40 | 6.72 | 0.00 | 51.13 | 399.7 | 71.7 | 51.126 |
| 2 | UNKNOWN | 6.72 | 6.91 | 7.20 | 0.00 | 48.87 | 355.4 | 68.6 | 48.874 |
| Total | | | | | | 100.00 | 755.1 | 140.3 | 100.000 |

Method Name:mag-paraOMOMOH
 Run Name:mag-2-1081

Date:3/14/2012
 Time:2:22:35 PM

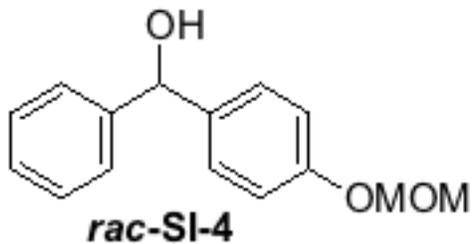


CCP1F85.tmp.DAT - HP1100 DAD Signal A



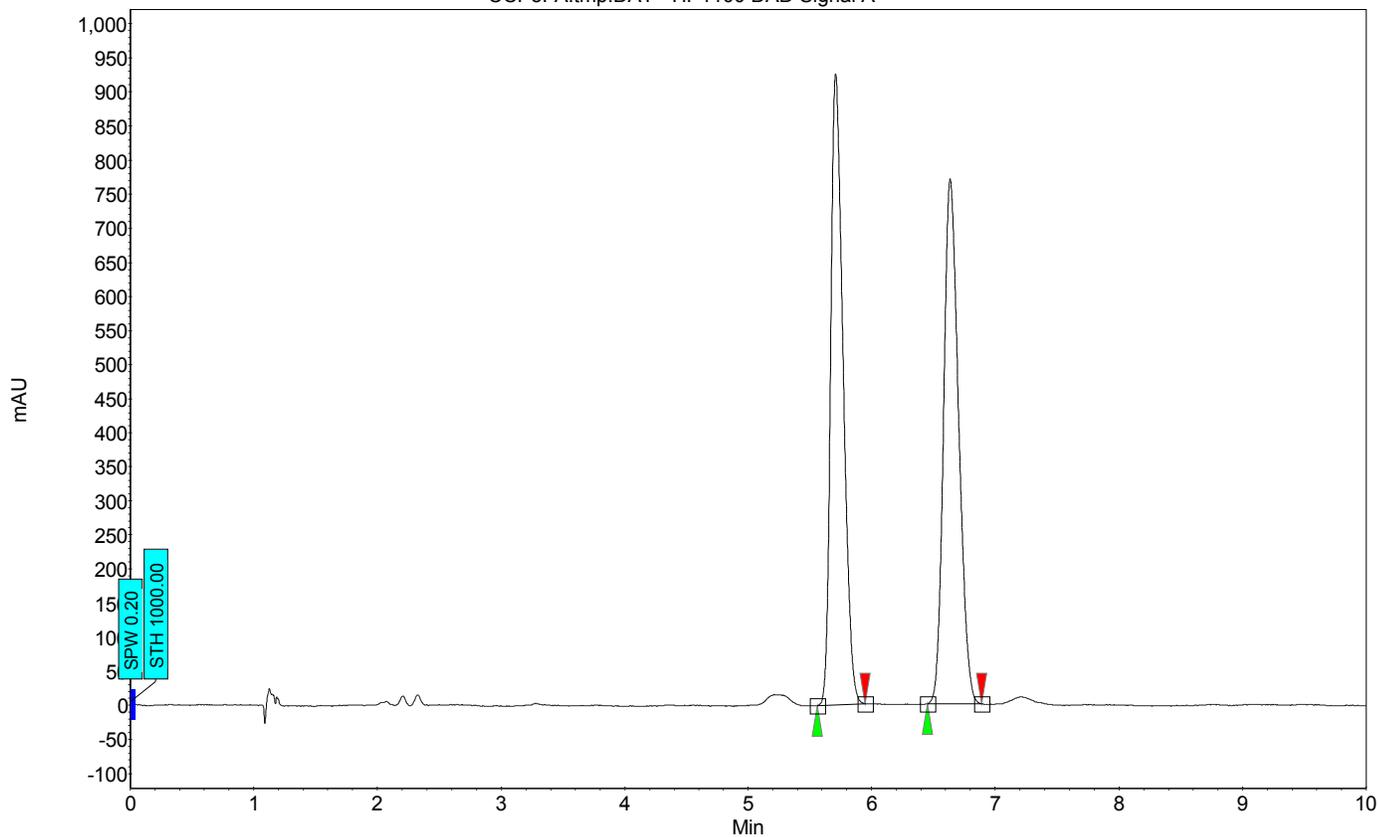
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 5.73 | 5.88 | 6.11 | 0.00 | 96.39 | 970.7 | 109.2 | 96.392 |
| 2 | UNKNOWN | 6.73 | 6.88 | 7.04 | 0.00 | 3.61 | 31.1 | 4.1 | 3.608 |
| Total | | | | | | 100.00 | 1001.9 | 113.3 | 100.000 |

Method Name:mag-paraOMOMOH
Run Name:mag-2-0891



Date:2/3/2012
Time:10:05:07 AM

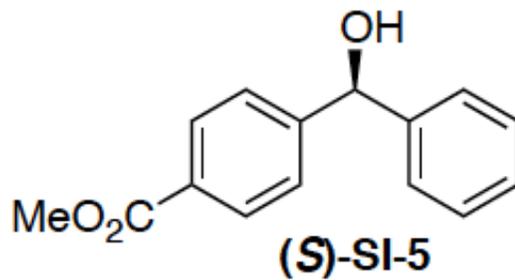
CCP5FA.tmp.DAT - HP1100 DAD Signal A



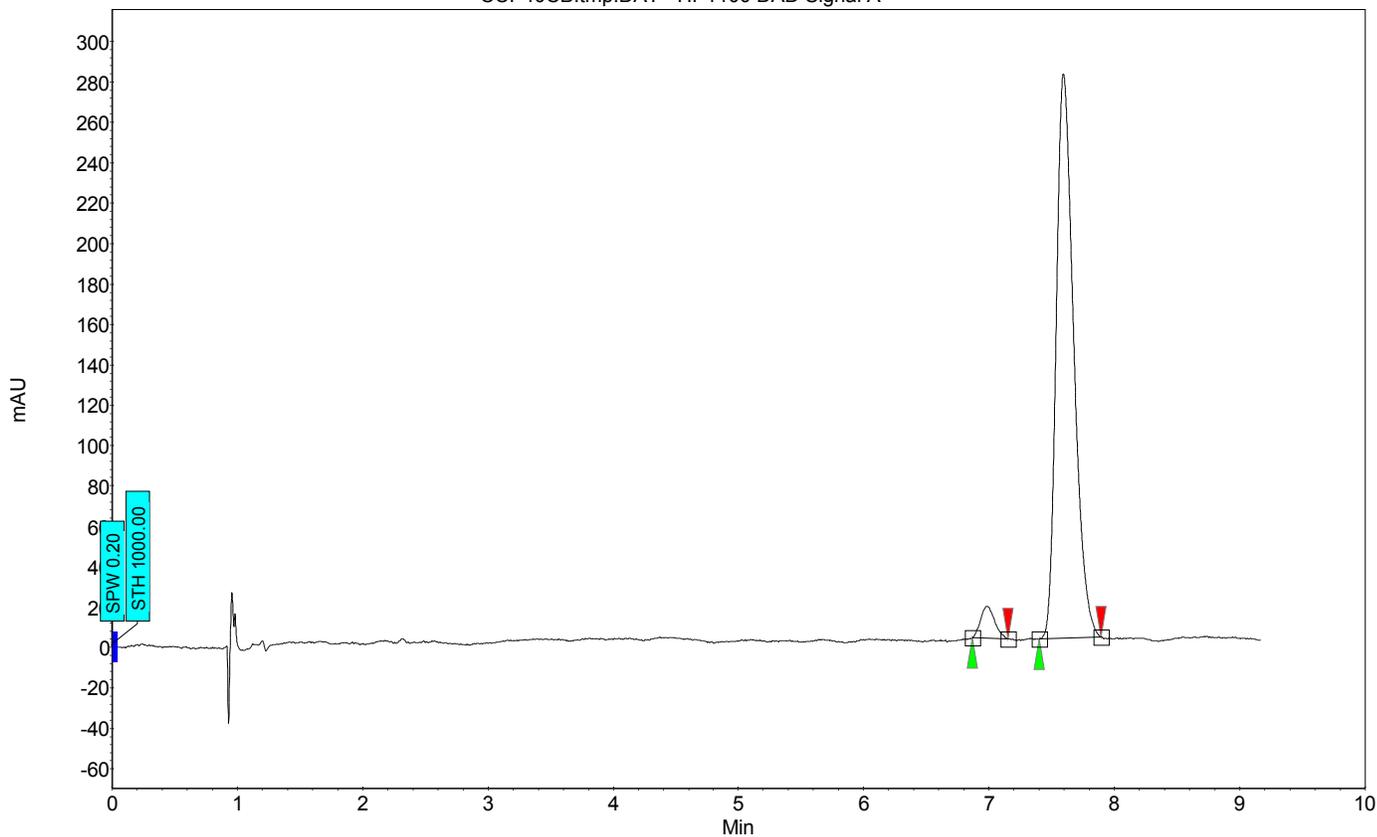
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 5.56 | 5.71 | 5.95 | 0.00 | 49.74 | 925.8 | 107.4 | 49.743 |
| 2 | UNKNOWN | 6.45 | 6.64 | 6.89 | 0.00 | 50.26 | 770.7 | 108.6 | 50.257 |
| Total | | | | | | 100.00 | 1696.4 | 216.0 | 100.000 |

Method Name:mag-paraCO2MeOH
Run Name:mag-2-0182

Date:1/26/2012
Time:3:46:43 PM

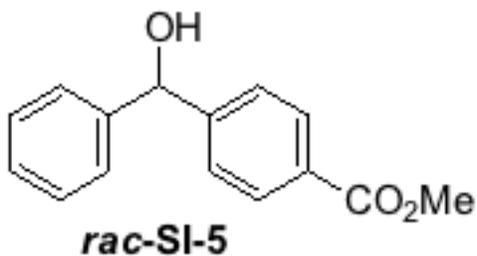


CCP40CB.tmp.DAT - HP1100 DAD Signal A



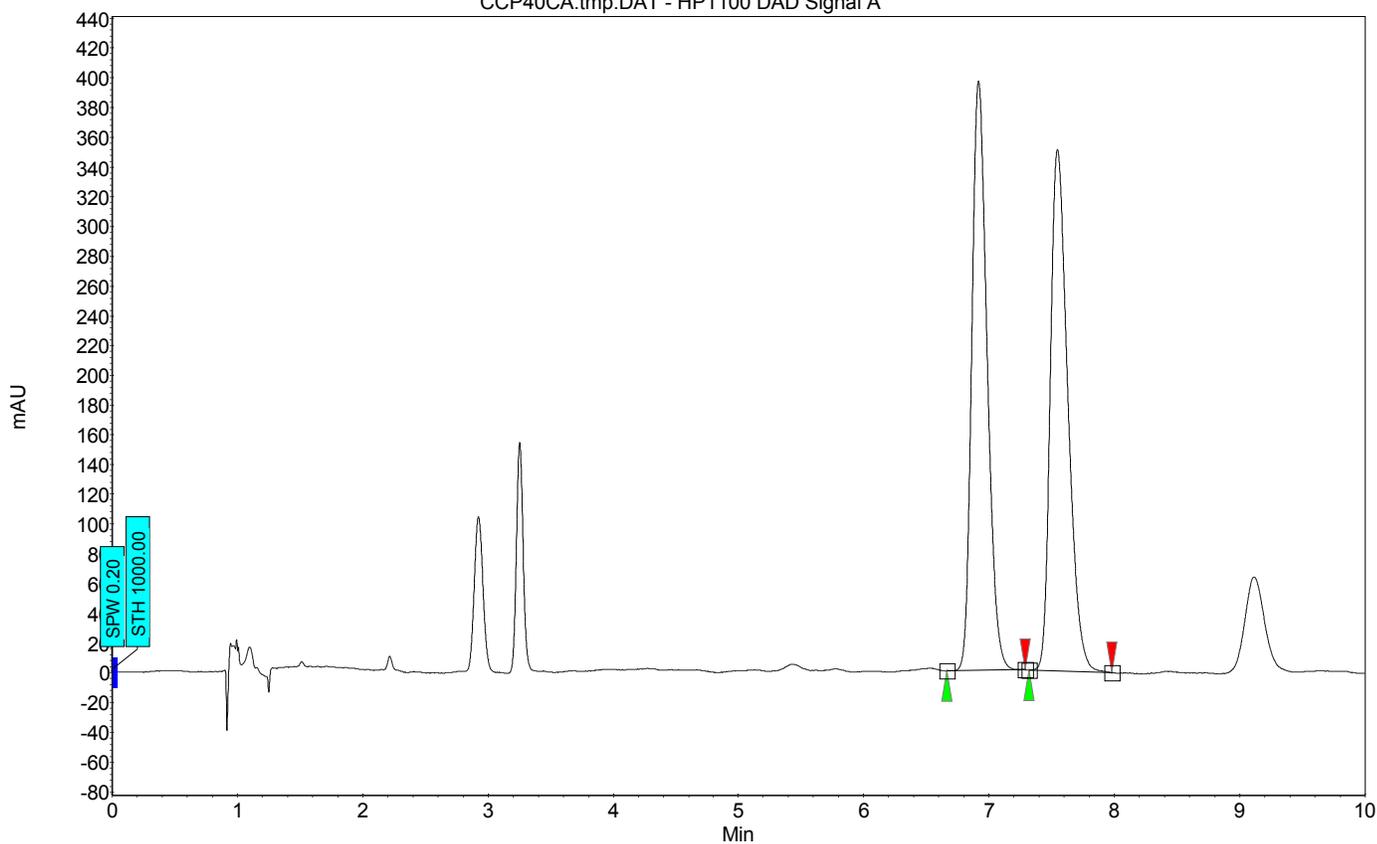
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 2 | UNKNOWN | 6.87 | 6.99 | 7.15 | 0.00 | 4.28 | 15.6 | 2.0 | 4.279 |
| 1 | UNKNOWN | 7.40 | 7.59 | 7.89 | 0.00 | 95.72 | 279.4 | 45.0 | 95.721 |
| Total | | | | | | 100.00 | 295.0 | 47.0 | 100.000 |

Method Name:mag-paraphenyOH
Run Name:mag-1-2801



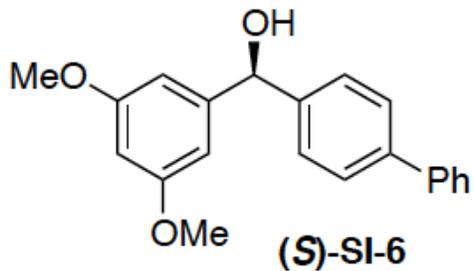
Date:1/26/2012
Time:3:45:15 PM

CCP40CA.tmp.DAT - HP1100 DAD Signal A



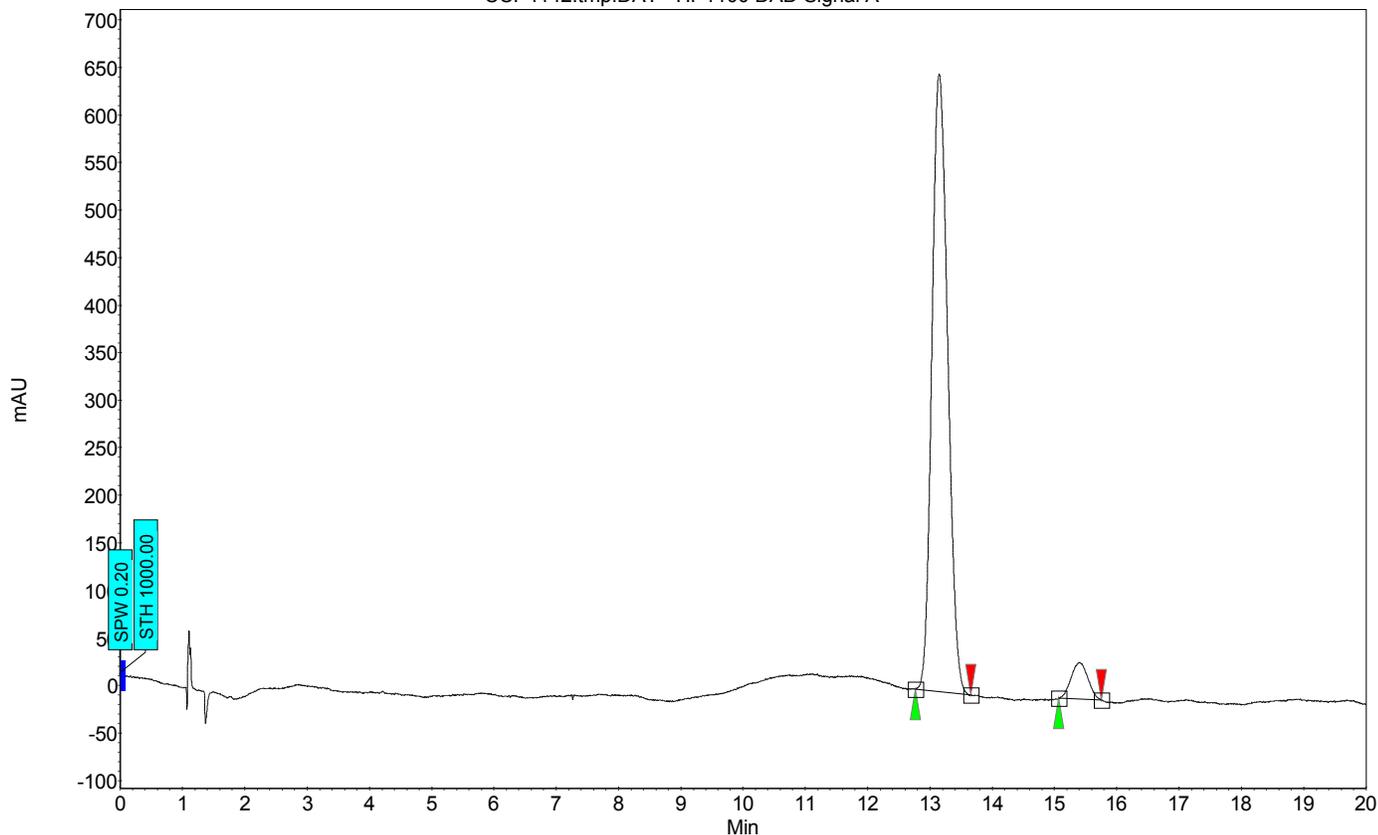
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 6.66 | 6.92 | 7.29 | 0.00 | 49.90 | 396.3 | 56.2 | 49.905 |
| 2 | UNKNOWN | 7.32 | 7.55 | 7.98 | 0.00 | 50.10 | 350.6 | 56.4 | 50.095 |
| Total | | | | | | 100.00 | 746.9 | 112.7 | 100.000 |

Method Name:mag-3,5OMeOH
Run Name:mag-2-0692



Date:1/27/2012
Time:5:36:12 PM

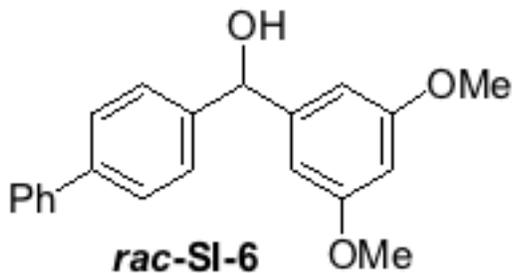
CCP4142.tmp.DAT - HP1100 DAD Signal A



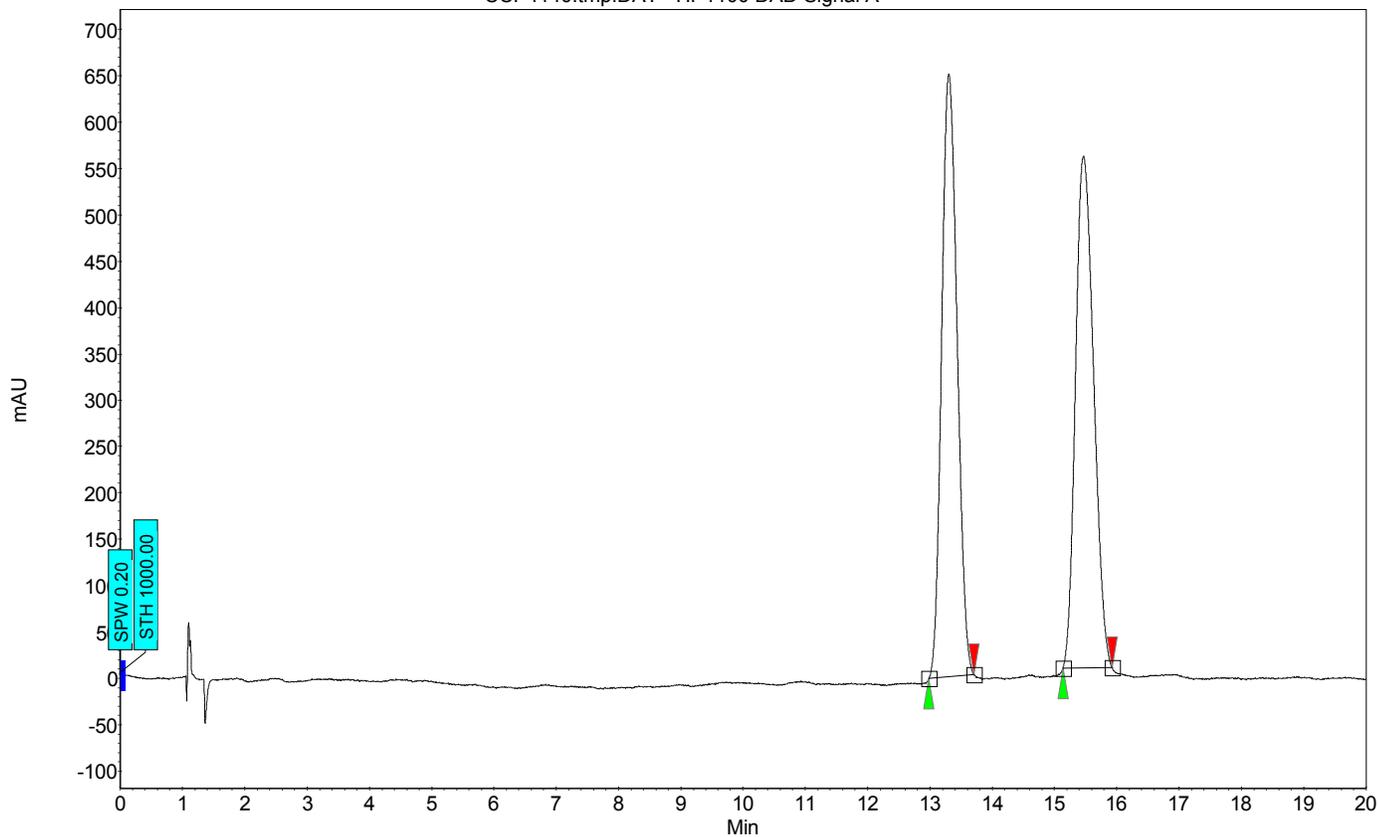
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|--------|----------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μV] | [μV.Min] | [%] |
| 2 | UNKNOWN | 12.77 | 13.15 | 13.65 | 0.00 | 94.16 | 649.6 | 190.7 | 94.160 |
| 1 | UNKNOWN | 15.07 | 15.41 | 15.75 | 0.00 | 5.84 | 38.2 | 11.8 | 5.840 |
| Total | | | | | | 100.00 | 687.8 | 202.6 | 100.000 |

Method Name:mag-3,5OMeOH
Run Name:mag-2-0791

Date:1/27/2012
Time:5:35:07 PM

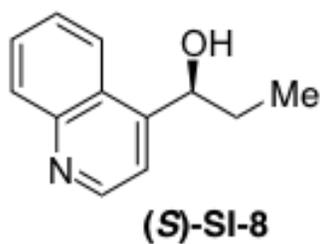


CCP4140.tmp.DAT - HP1100 DAD Signal A



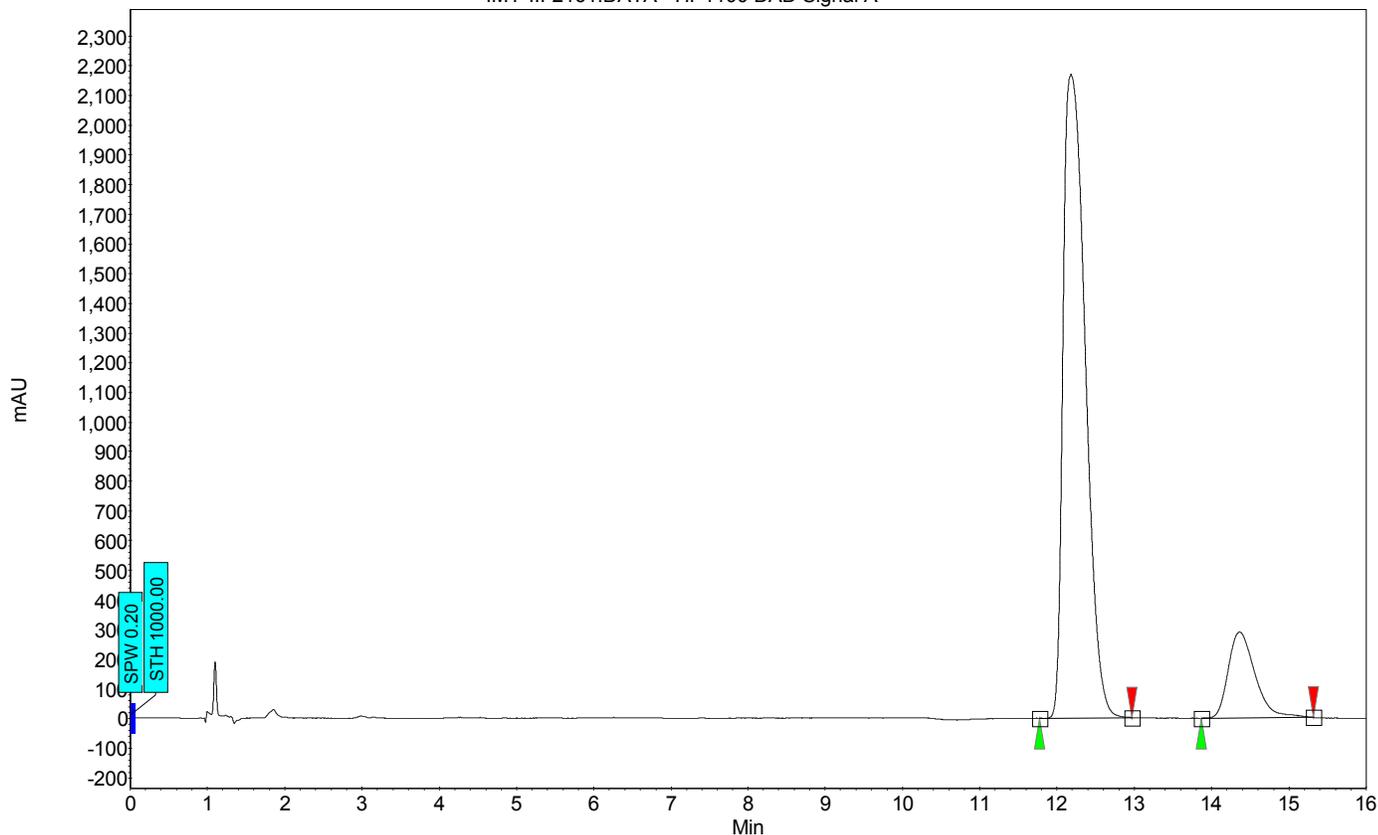
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 12.99 | 13.30 | 13.71 | 0.00 | 50.09 | 650.4 | 187.0 | 50.095 |
| 2 | UNKNOWN | 15.13 | 15.47 | 15.92 | 0.00 | 49.91 | 552.6 | 186.3 | 49.905 |
| Total | | | | | | 100.00 | 1203.1 | 373.3 | 100.000 |

Method Name:IMY-quinolinealcohol
Run Name:IMY-III-2161



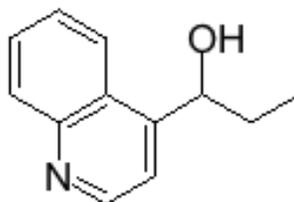
Date:3/14/2012
Time:1:10:07 PM

IMY-III-2161.DATA - HP1100 DAD Signal A



| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 11.77 | 12.18 | 12.97 | 0.00 | 86.13 | 2170.1 | 720.9 | 86.126 |
| 2 | UNKNOWN | 13.86 | 14.36 | 15.32 | 0.00 | 13.87 | 289.8 | 116.1 | 13.874 |
| Total | | | | | | 100.00 | 2459.9 | 837.0 | 100.000 |

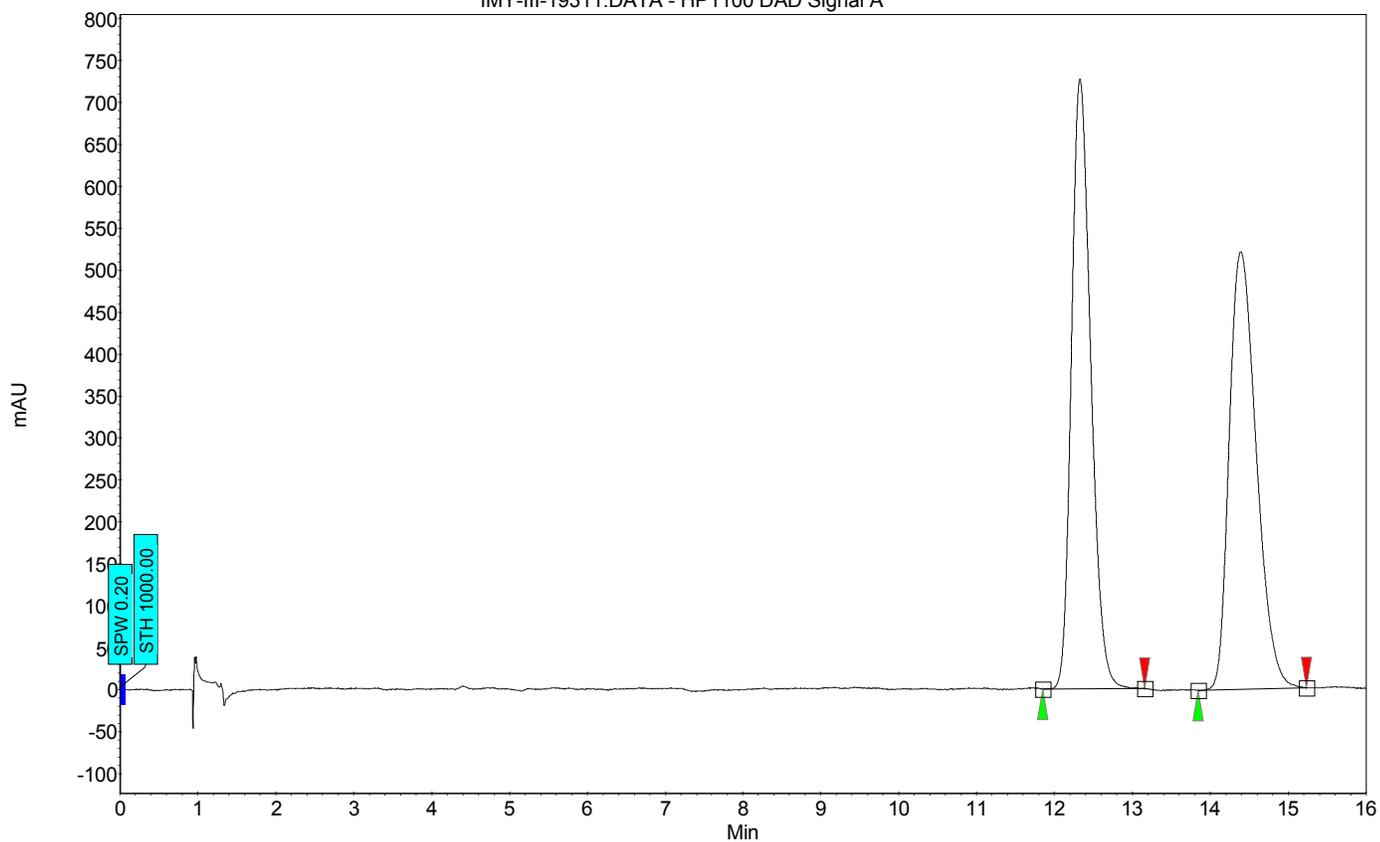
Method Name:IMY-quinolinealcohol
Run Name:IMY-III-19311



Date:3/14/2012
Time:1:08:47 PM

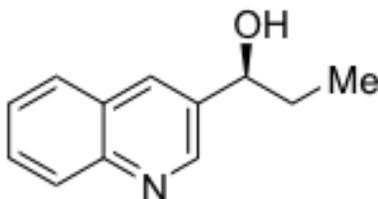
rac-SI-8

IMY-III-19311.DATA - HP1100 DAD Signal A



| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|-------------------|----------------------------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μV] | [$\mu\text{V}\cdot\text{Min}$] | [%] |
| 1 | UNKNOWN | 11.85 | 12.33 | 13.16 | 0.00 | 49.87 | 726.5 | 208.7 | 49.870 |
| 2 | UNKNOWN | 13.84 | 14.39 | 15.23 | 0.00 | 50.13 | 521.8 | 209.8 | 50.130 |
| Total | | | | | | 100.00 | 1248.4 | 418.5 | 100.000 |

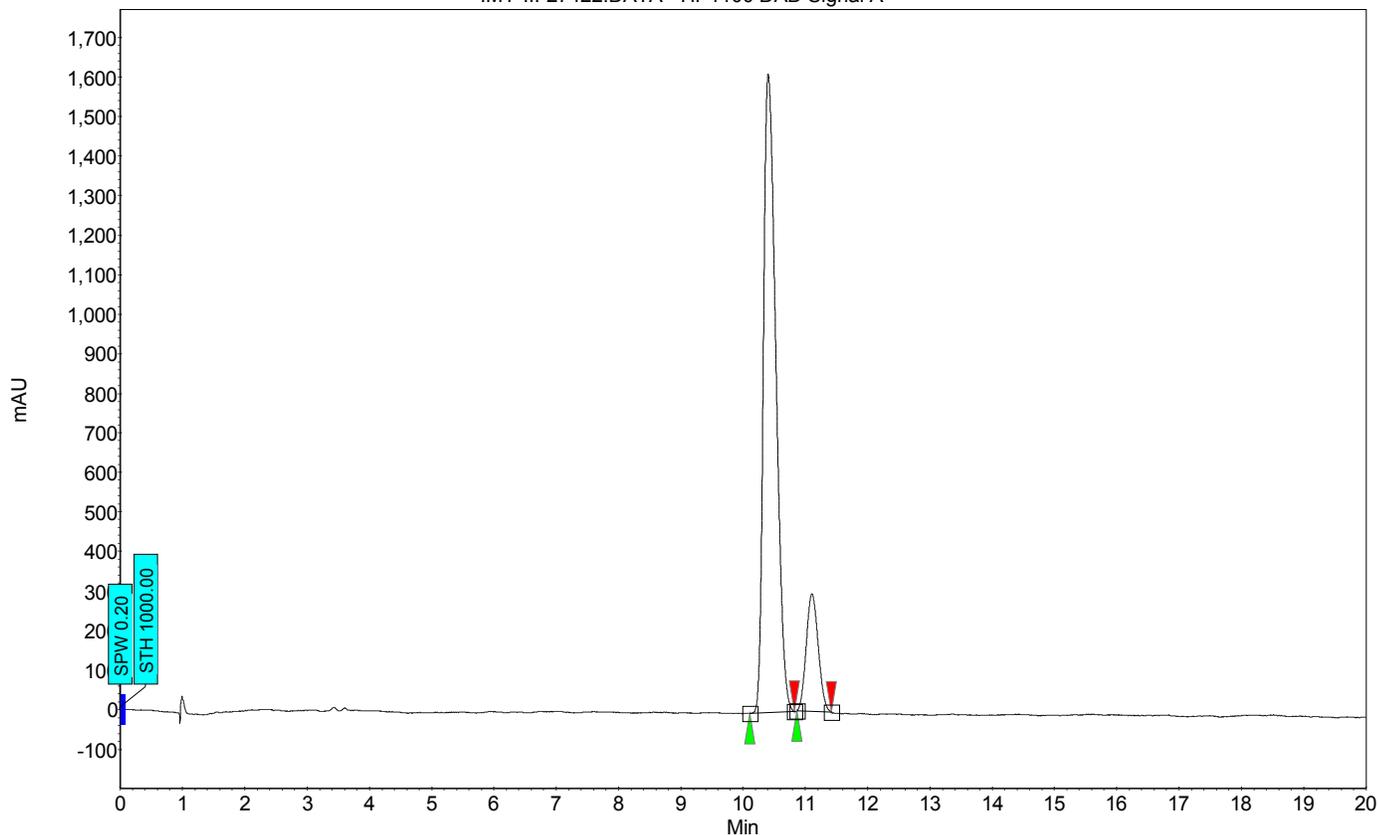
Method Name:IMY-3quinolinealcohol
Run Name:IMY-III-27422



Date:3/14/2012
Time:1:12:16 PM

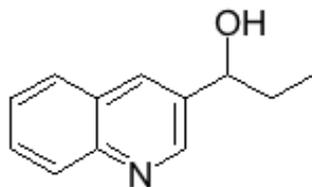
(S)-SI-9

IMY-III-27422.DATA - HP1100 DAD Signal A



| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 2 | UNKNOWN | 10.11 | 10.41 | 10.83 | 0.00 | 84.89 | 1615.2 | 372.3 | 84.894 |
| 1 | UNKNOWN | 10.87 | 11.11 | 11.42 | 0.00 | 15.11 | 297.5 | 66.2 | 15.106 |
| Total | | | | | | 100.00 | 1912.7 | 438.6 | 100.000 |

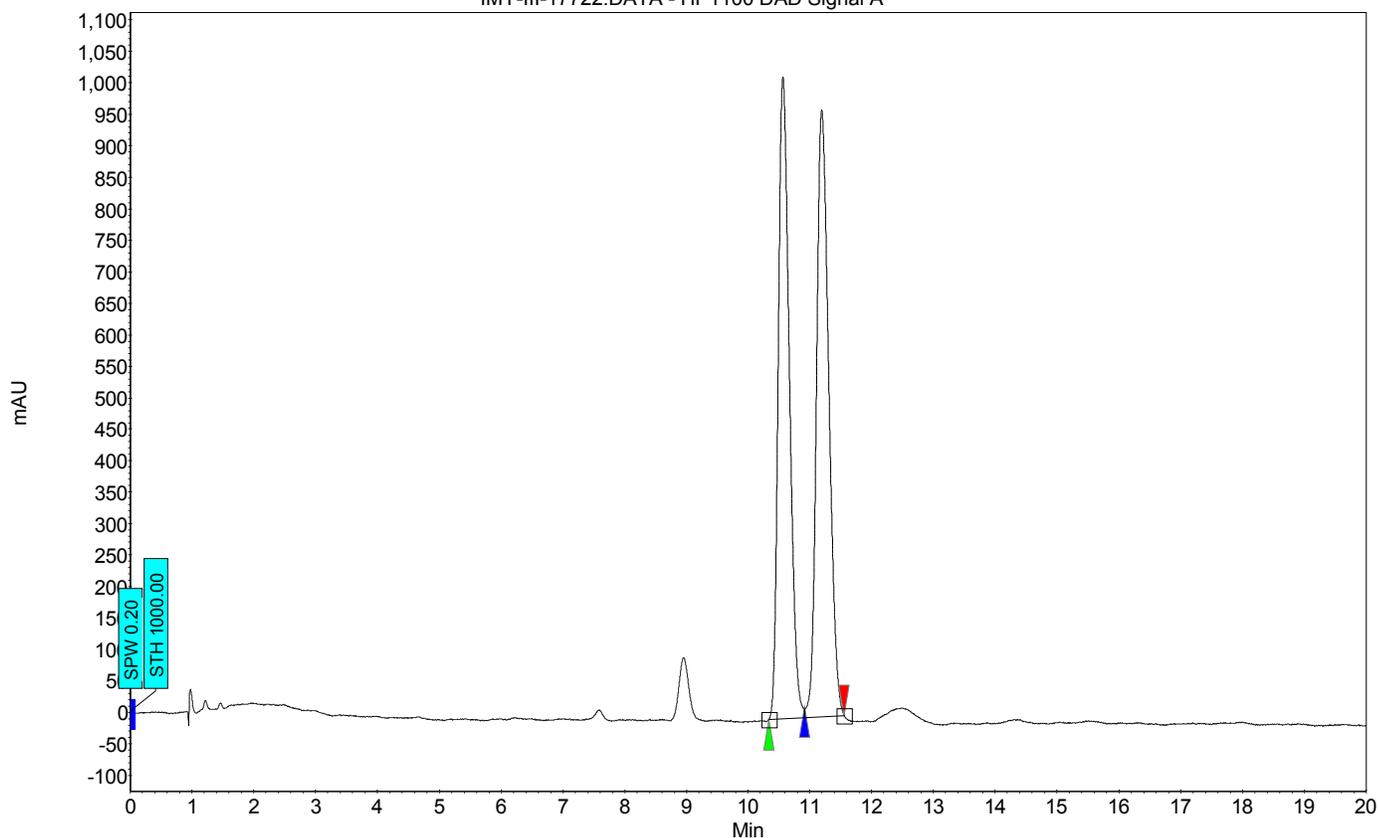
Method Name:IMY-3quinolinealcohol
Run Name:IMY-III-17722



Date:3/14/2012
Time:1:11:35 PM

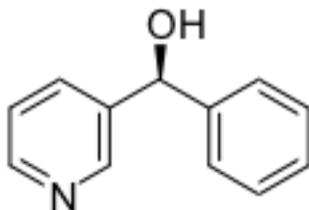
rac-SI-9

IMY-III-17722.DATA - HP1100 DAD Signal A



| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 10.34 | 10.57 | 10.91 | 0.00 | 48.86 | 1020.1 | 212.7 | 48.856 |
| 2 | UNKNOWN | 10.91 | 11.20 | 11.56 | 0.00 | 51.14 | 964.7 | 222.6 | 51.144 |
| Total | | | | | | 100.00 | 1984.8 | 435.3 | 100.000 |

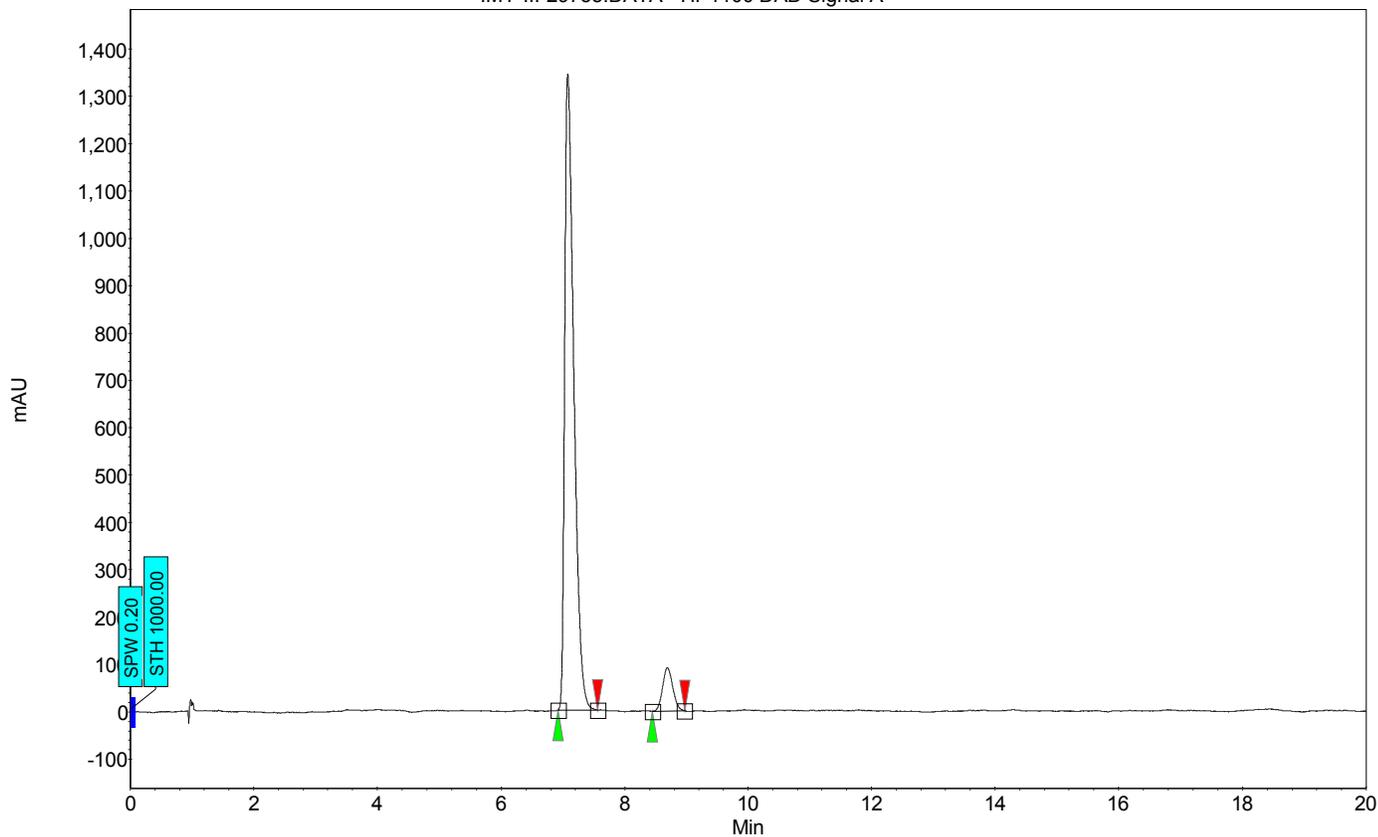
Method Name:IMY-PyrPhAlc
Run Name:IMY-III-29755



(S)-SI-10

Date:3/14/2012
Time:1:14:00 PM

IMY-III-29755.DATA - HP1100 DAD Signal A



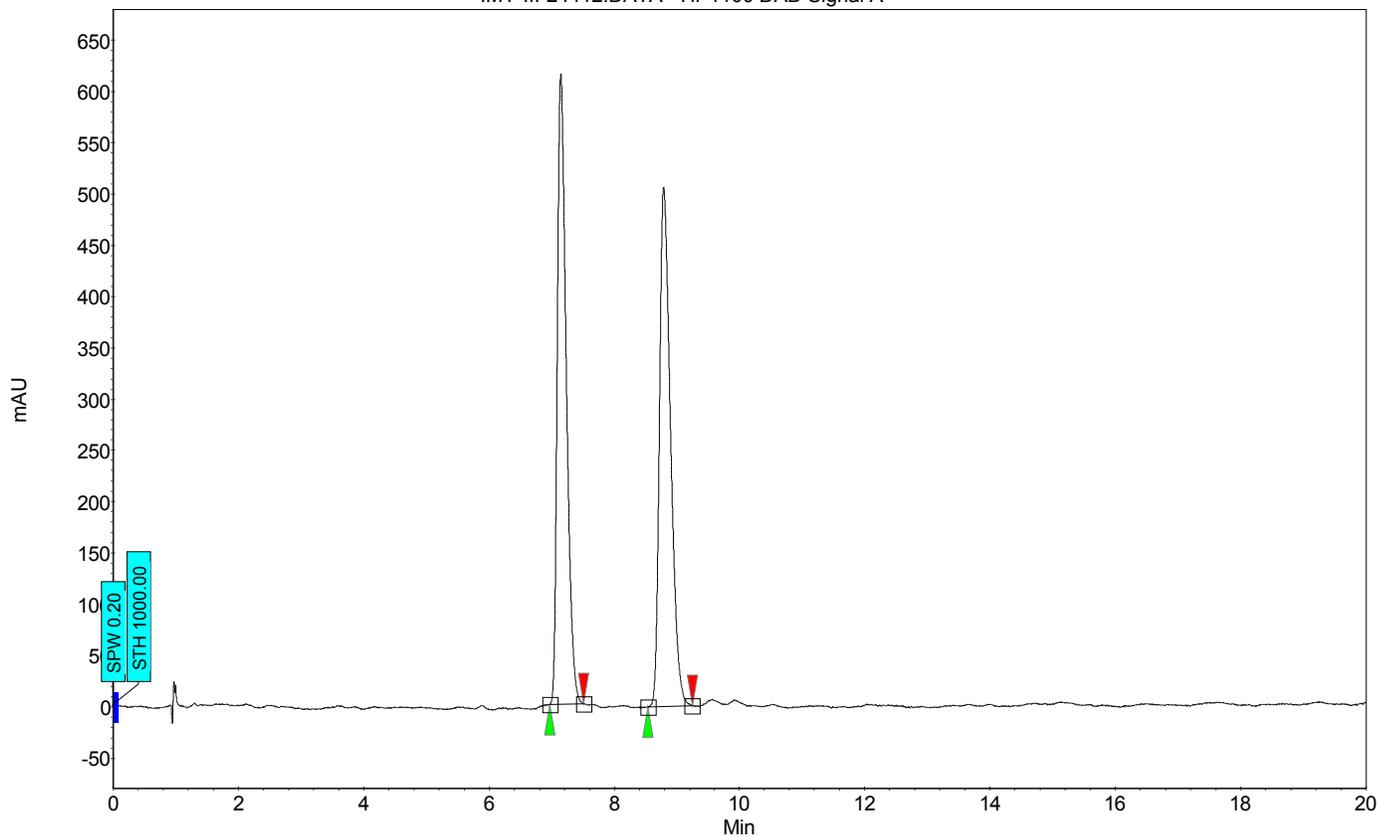
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 6.92 | 7.08 | 7.56 | 0.00 | 92.94 | 1343.7 | 230.1 | 92.936 |
| 2 | UNKNOWN | 8.45 | 8.69 | 8.98 | 0.00 | 7.06 | 92.1 | 17.5 | 7.064 |
| Total | | | | | | 100.00 | 1435.8 | 247.6 | 100.000 |

Method Name:IMY-PyrPhAlc
Run Name:IMY-III-24412



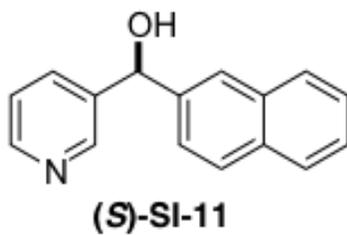
Date:3/14/2012
Time:1:13:33 PM

IMY-III-24412.DATA - HP1100 DAD Signal A



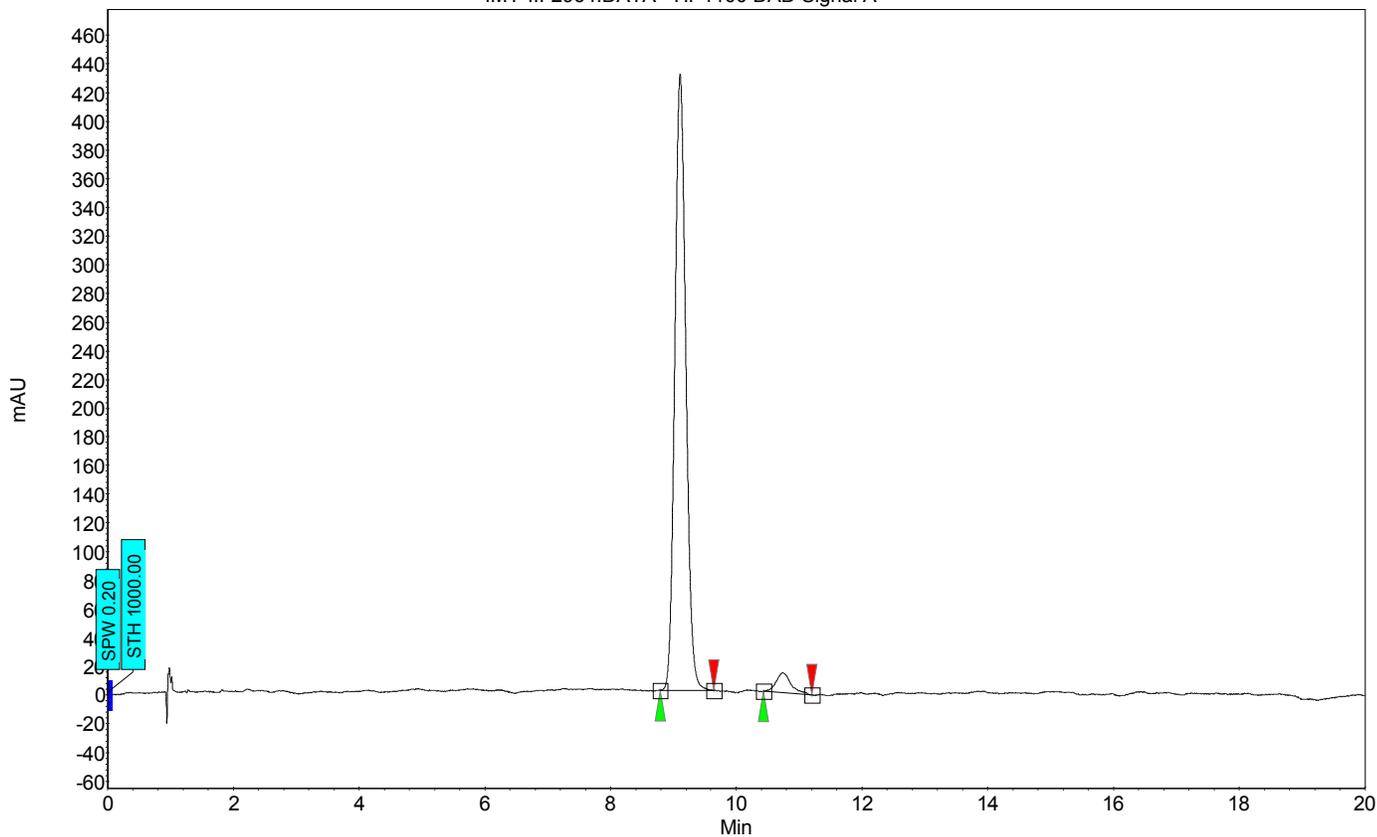
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|--------|----------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μV] | [μV.Min] | [%] |
| 2 | UNKNOWN | 6.97 | 7.14 | 7.50 | 0.00 | 49.66 | 614.4 | 102.0 | 49.665 |
| 1 | UNKNOWN | 8.54 | 8.79 | 9.25 | 0.00 | 50.34 | 506.1 | 103.4 | 50.335 |
| Total | | | | | | 100.00 | 1120.4 | 205.4 | 100.000 |

Method Name:IMY-PyrNapAlc
 Run Name:IMY-III-2964



Date:3/14/2012
 Time:1:15:35 PM

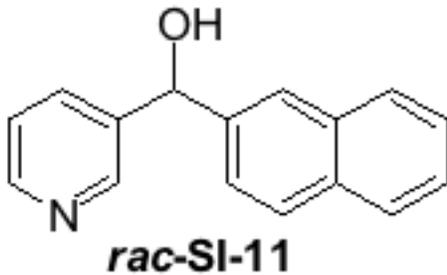
IMY-III-2964.DATA - HP1100 DAD Signal A



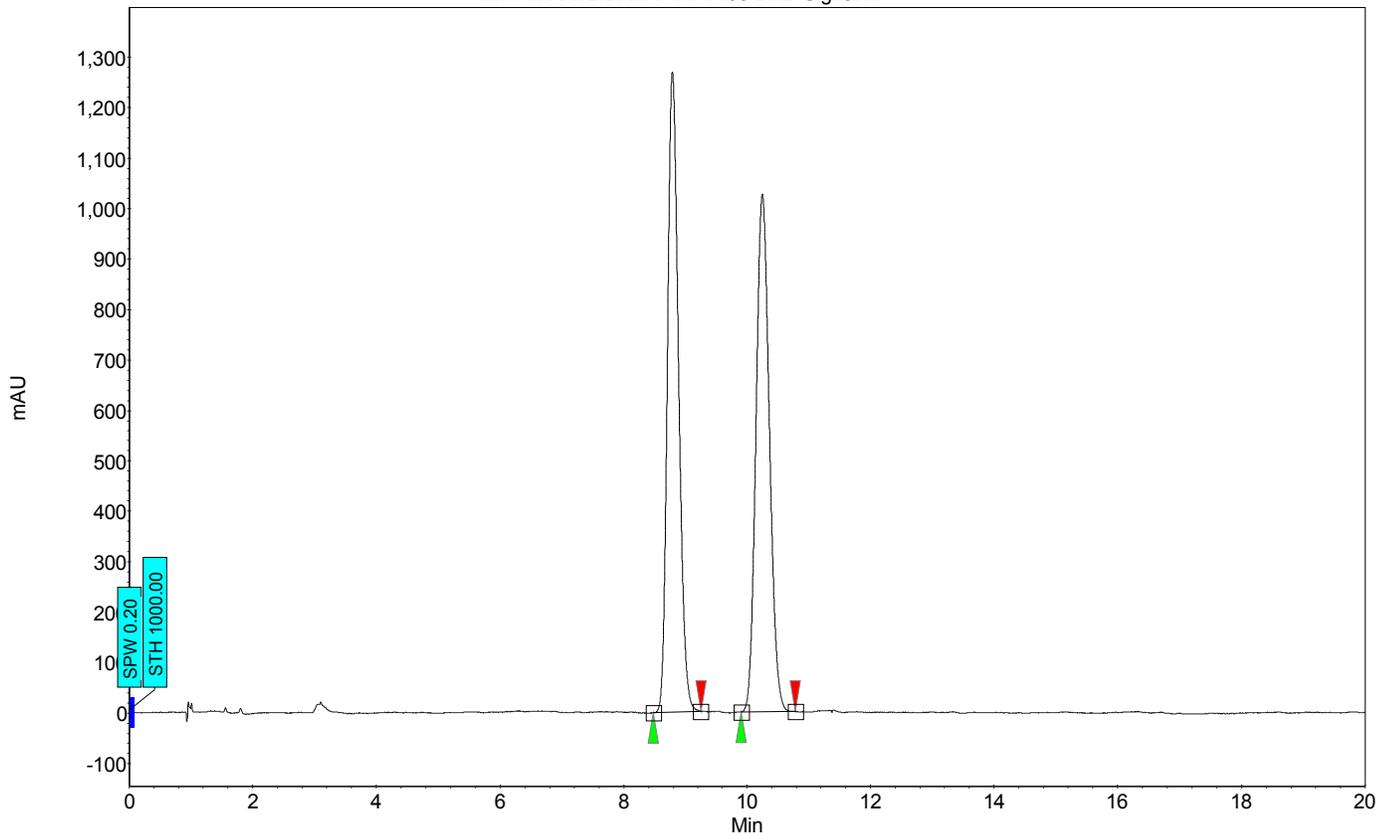
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 8.78 | 9.10 | 9.65 | 0.00 | 95.82 | 429.9 | 87.5 | 95.818 |
| 2 | UNKNOWN | 10.44 | 10.74 | 11.20 | 0.00 | 4.18 | 13.8 | 3.8 | 4.182 |
| Total | | | | | | 100.00 | 443.7 | 91.3 | 100.000 |

Method Name:IMY-PyrNapAlc
 Run Name:IMY-III-XX12

Date:3/14/2012
 Time:1:14:57 PM



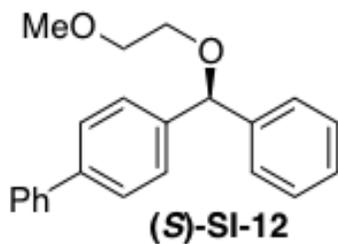
IMY-III-XX12.DATA - HP1100 DAD Signal A



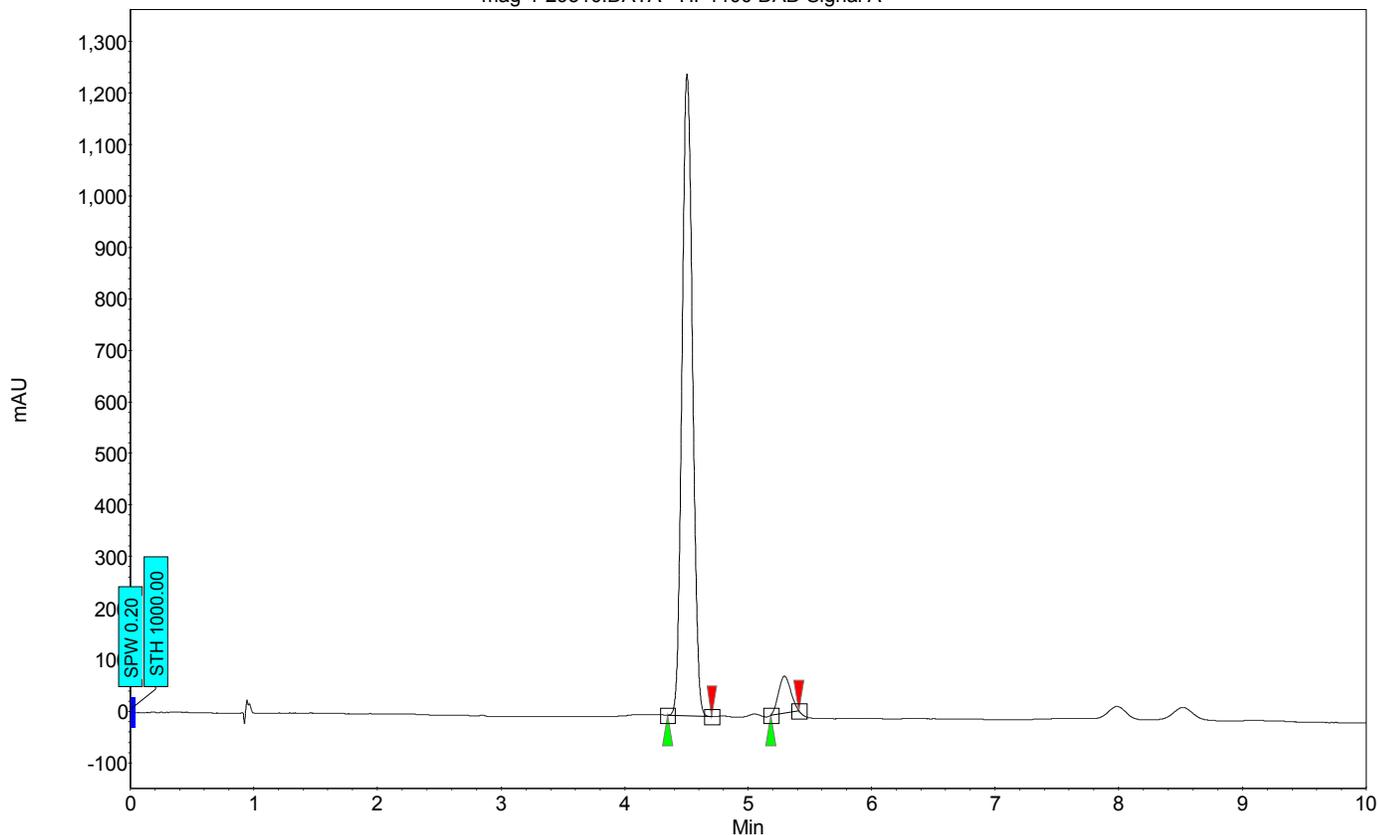
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 8.48 | 8.79 | 9.25 | 0.00 | 50.63 | 1269.3 | 264.2 | 50.628 |
| 2 | UNKNOWN | 9.90 | 10.25 | 10.78 | 0.00 | 49.37 | 1026.3 | 257.7 | 49.372 |
| Total | | | | | | 100.00 | 2295.6 | 521.9 | 100.000 |

Method Name:mag-paraphenyIOR
Run Name:mag-1-29310

Date:3/14/2012
Time:2:57:34 PM



mag-1-29310.DATA - HP1100 DAD Signal A



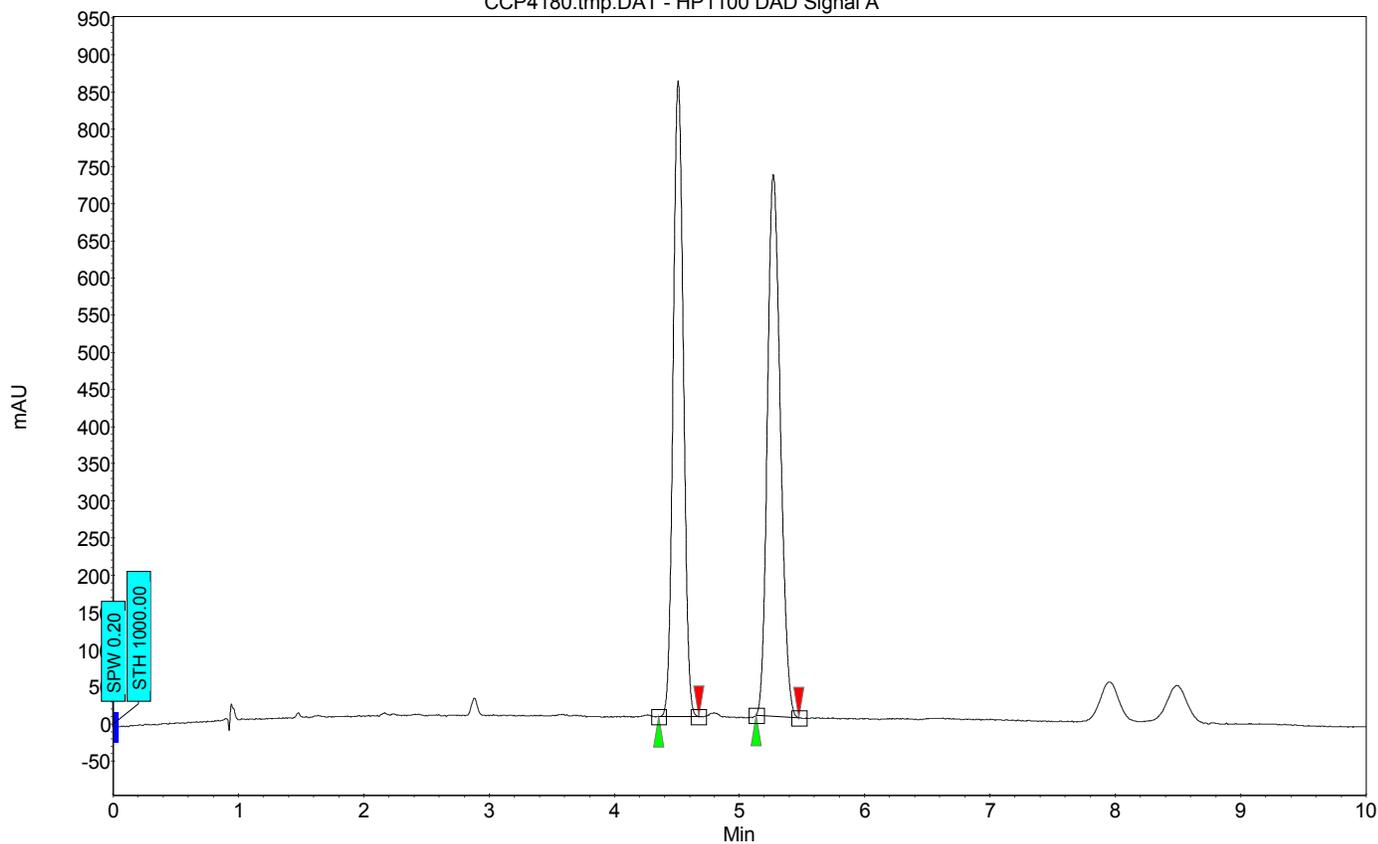
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 4.35 | 4.50 | 4.71 | 0.00 | 93.83 | 1245.5 | 122.9 | 93.832 |
| 2 | UNKNOWN | 5.19 | 5.29 | 5.41 | 0.00 | 6.17 | 71.6 | 8.1 | 6.168 |
| Total | | | | | | 100.00 | 1317.1 | 131.0 | 100.000 |

Method Name:mag-paraphenyIOR
Run Name:mag-1-14211

Date:1/30/2012
Time:9:45:35 AM



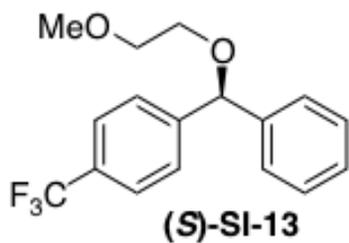
CCP4180.tmp.DAT - HP1100 DAD Signal A



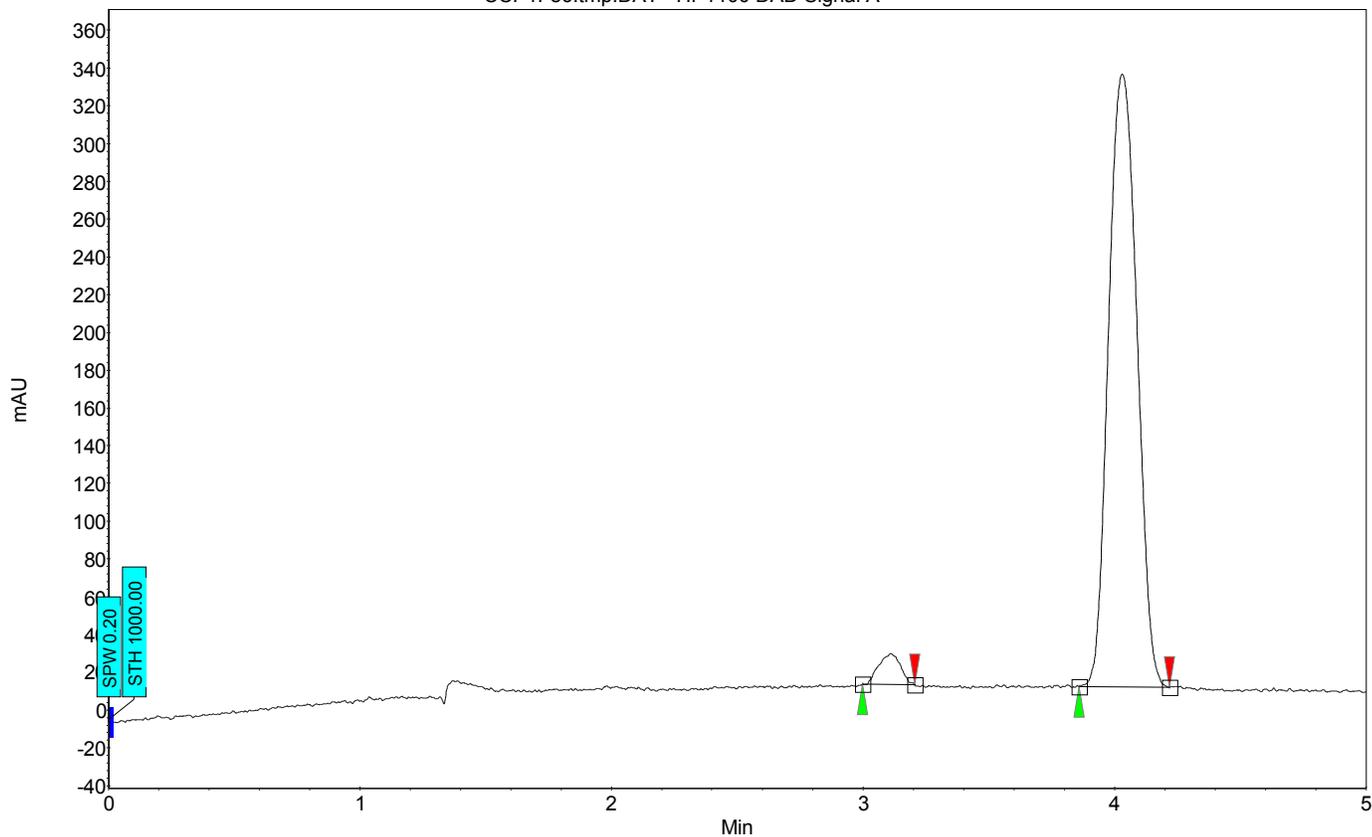
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 4.35 | 4.51 | 4.67 | 0.00 | 48.00 | 855.0 | 80.7 | 47.997 |
| 2 | UNKNOWN | 5.13 | 5.27 | 5.47 | 0.00 | 52.00 | 729.4 | 87.4 | 52.003 |
| Total | | | | | | 100.00 | 1584.5 | 168.0 | 100.000 |

Method Name:mag-diaryICF3OR
Run Name:mag-2-1181

Date:3/14/2012
Time:2:29:58 PM



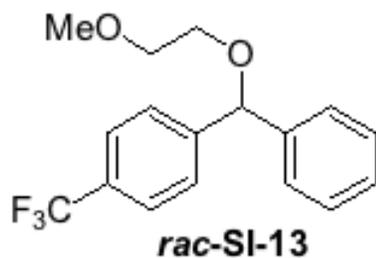
CCP1F86.tmp.DAT - HP1100 DAD Signal A



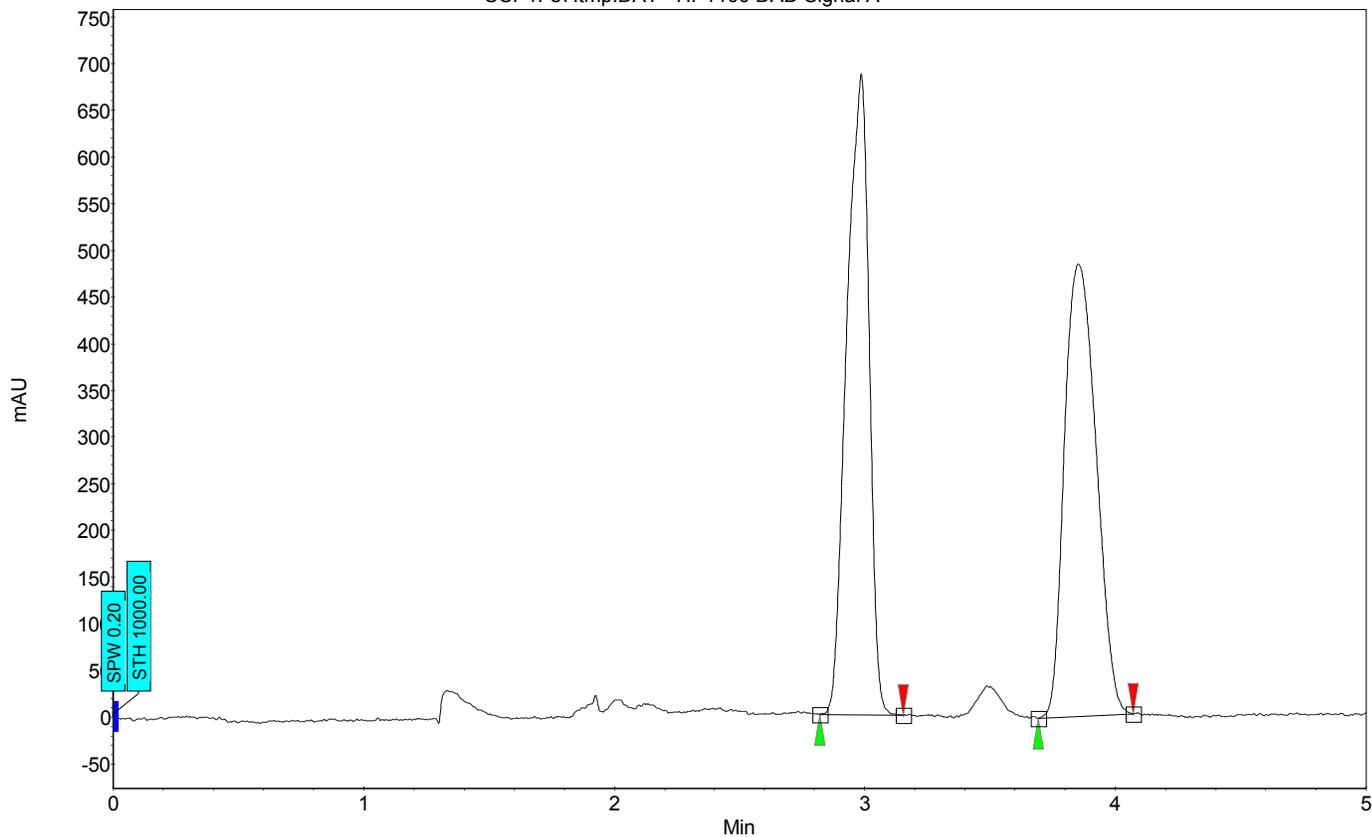
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 2 | UNKNOWN | 3.00 | 3.11 | 3.21 | 0.00 | 3.68 | 16.4 | 1.6 | 3.678 |
| 1 | UNKNOWN | 3.86 | 4.03 | 4.22 | 0.00 | 96.32 | 324.6 | 42.5 | 96.322 |
| Total | | | | | | 100.00 | 341.0 | 44.1 | 100.000 |

Method Name:mag-diaryICF3OR
Run Name:mag-2-0925

Date:3/14/2012
Time:2:32:03 PM



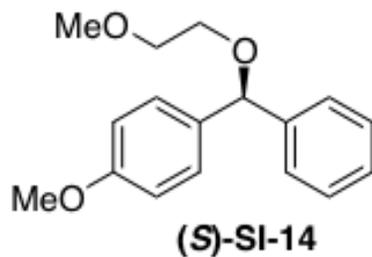
CCP1F87.tmp.DAT - HP1100 DAD Signal A



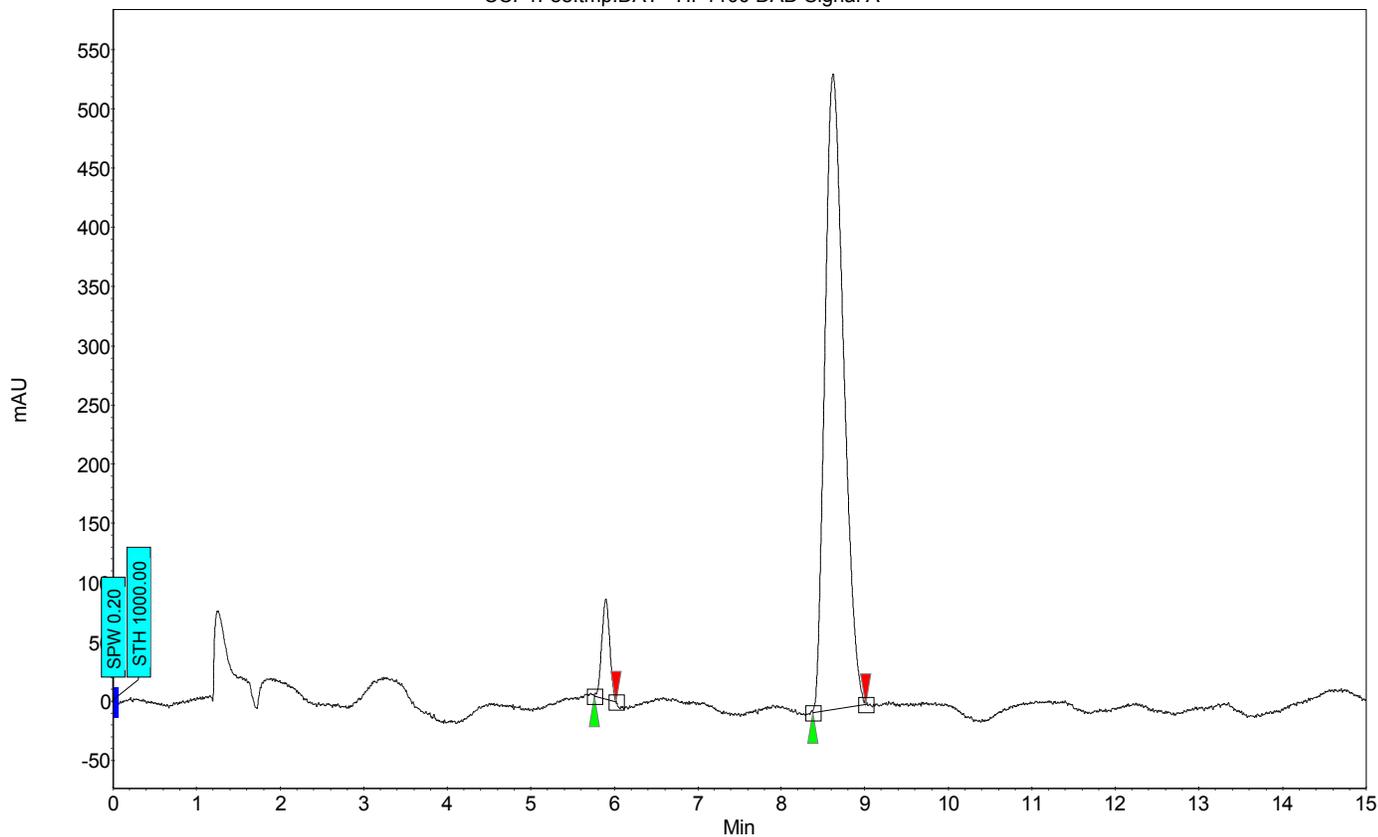
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|--------|----------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μV] | [μV.Min] | [%] |
| 1 | UNKNOWN | 2.82 | 2.99 | 3.16 | 0.00 | 50.00 | 686.4 | 71.0 | 50.002 |
| 2 | UNKNOWN | 3.69 | 3.85 | 4.07 | 0.00 | 50.00 | 485.0 | 71.0 | 49.998 |
| Total | | | | | | 100.00 | 1171.5 | 142.1 | 100.000 |

Method Name:mag-diarylOMeOR
Run Name:mag-2-1191

Date:3/14/2012
Time:2:38:14 PM



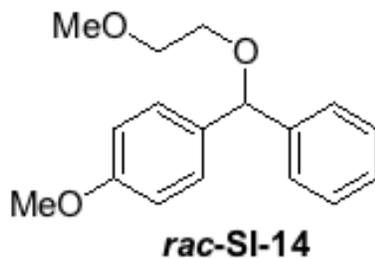
CCP1F88.tmp.DAT - HP1100 DAD Signal A



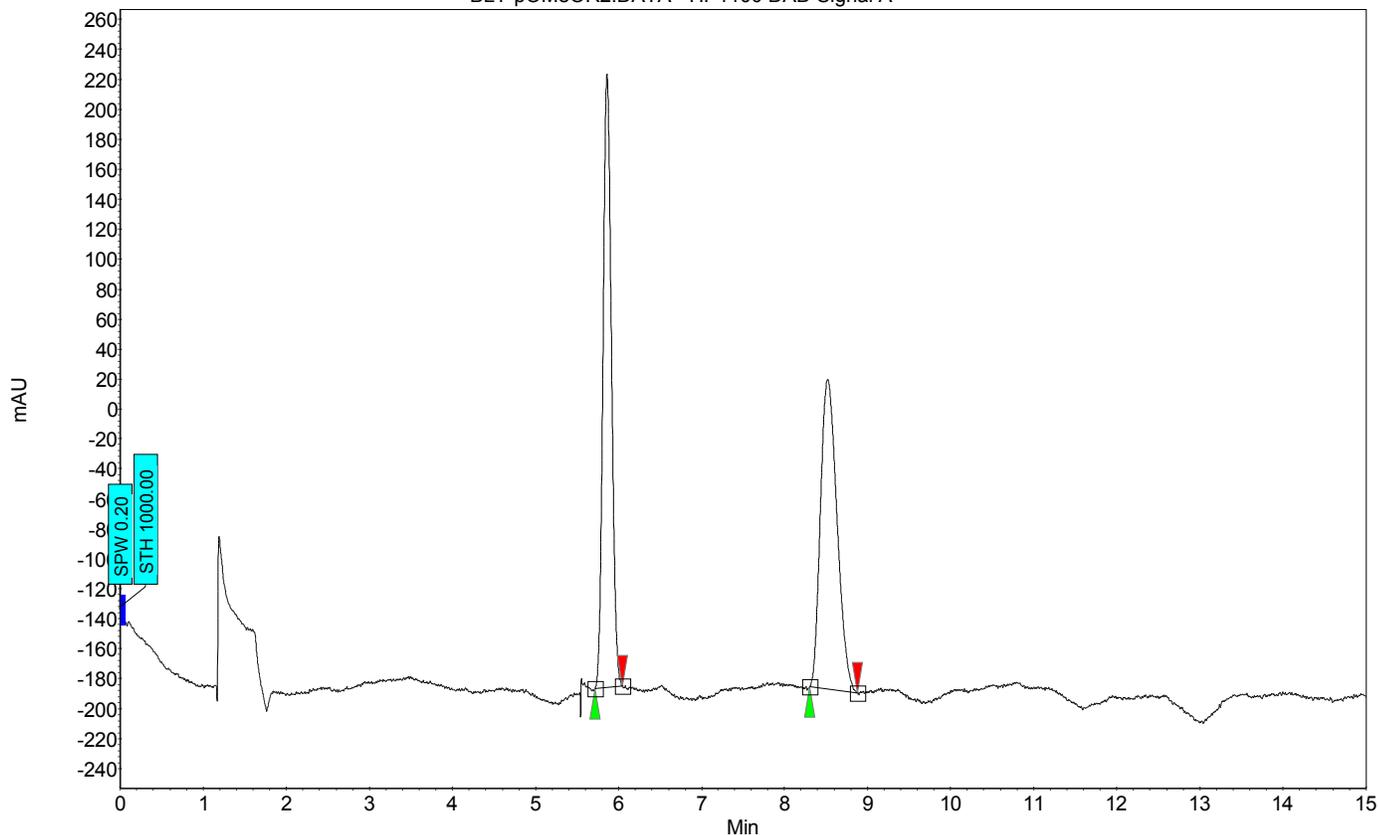
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 2 | UNKNOWN | 5.76 | 5.90 | 6.02 | 0.00 | 6.22 | 84.5 | 9.3 | 6.216 |
| 1 | UNKNOWN | 8.38 | 8.62 | 9.02 | 0.00 | 93.78 | 536.0 | 139.7 | 93.784 |
| Total | | | | | | 100.00 | 620.5 | 148.9 | 100.000 |

Method Name:mag-diarylOMeOR
Run Name:BLT-pOMeOR2

Date:1/27/2012
Time:3:26:56 PM



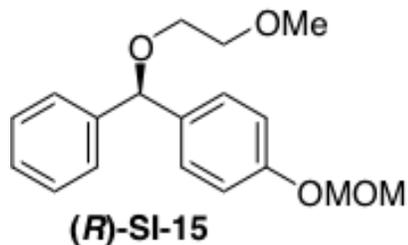
BLT-pOMeOR2.DATA - HP1100 DAD Signal A



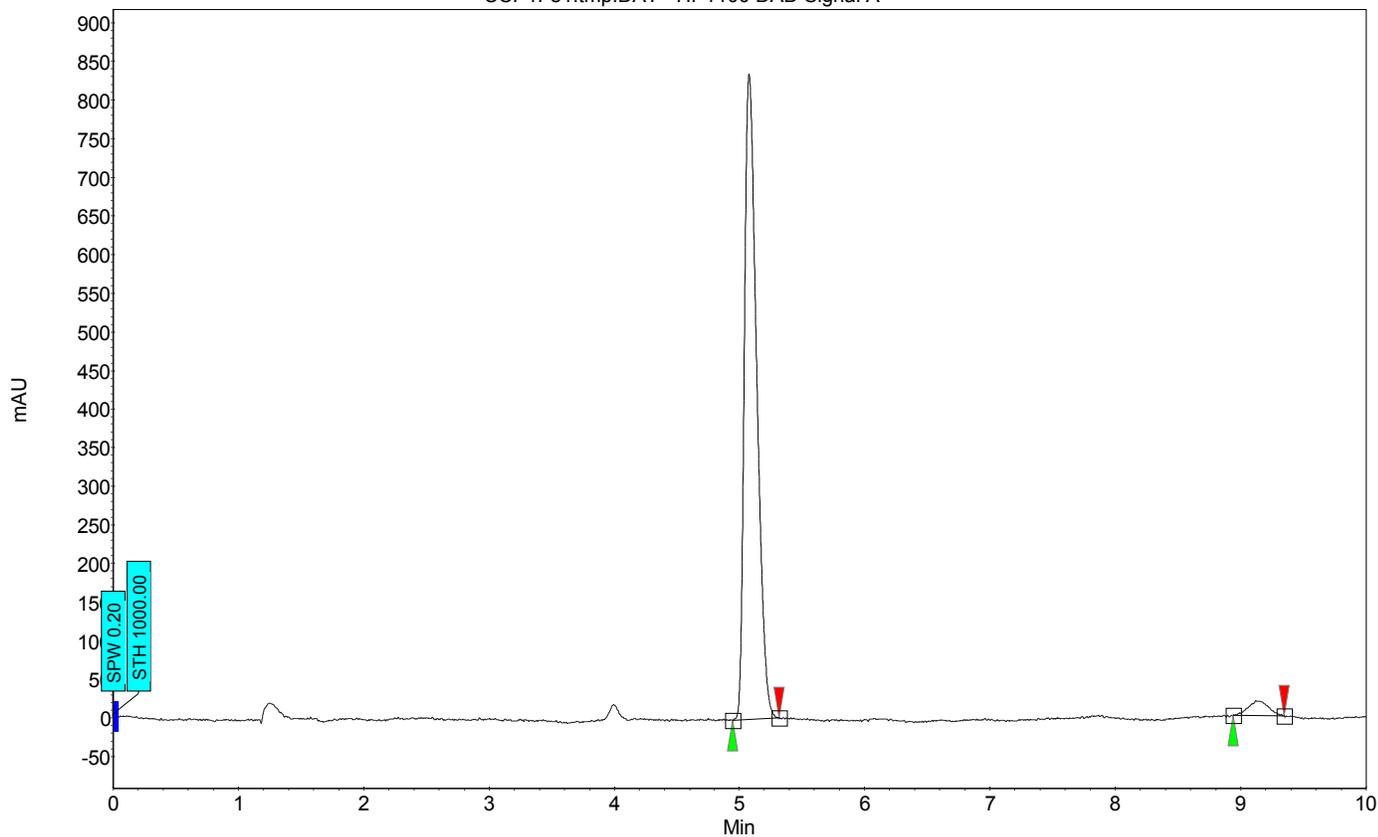
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|--------|----------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μV] | [μV.Min] | [%] |
| 1 | UNKNOWN | 5.72 | 5.86 | 6.04 | 0.00 | 50.18 | 409.4 | 48.0 | 50.183 |
| 2 | UNKNOWN | 8.31 | 8.53 | 8.88 | 0.00 | 49.82 | 206.8 | 47.6 | 49.817 |
| Total | | | | | | 100.00 | 616.2 | 95.6 | 100.000 |

Method Name:mag-diaryIMOMOR
Run Name:mag-2-1111

Date:3/14/2012
Time:2:11:10 PM



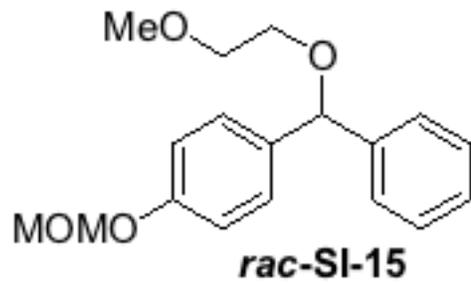
CCP1F81.tmp.DAT - HP1100 DAD Signal A



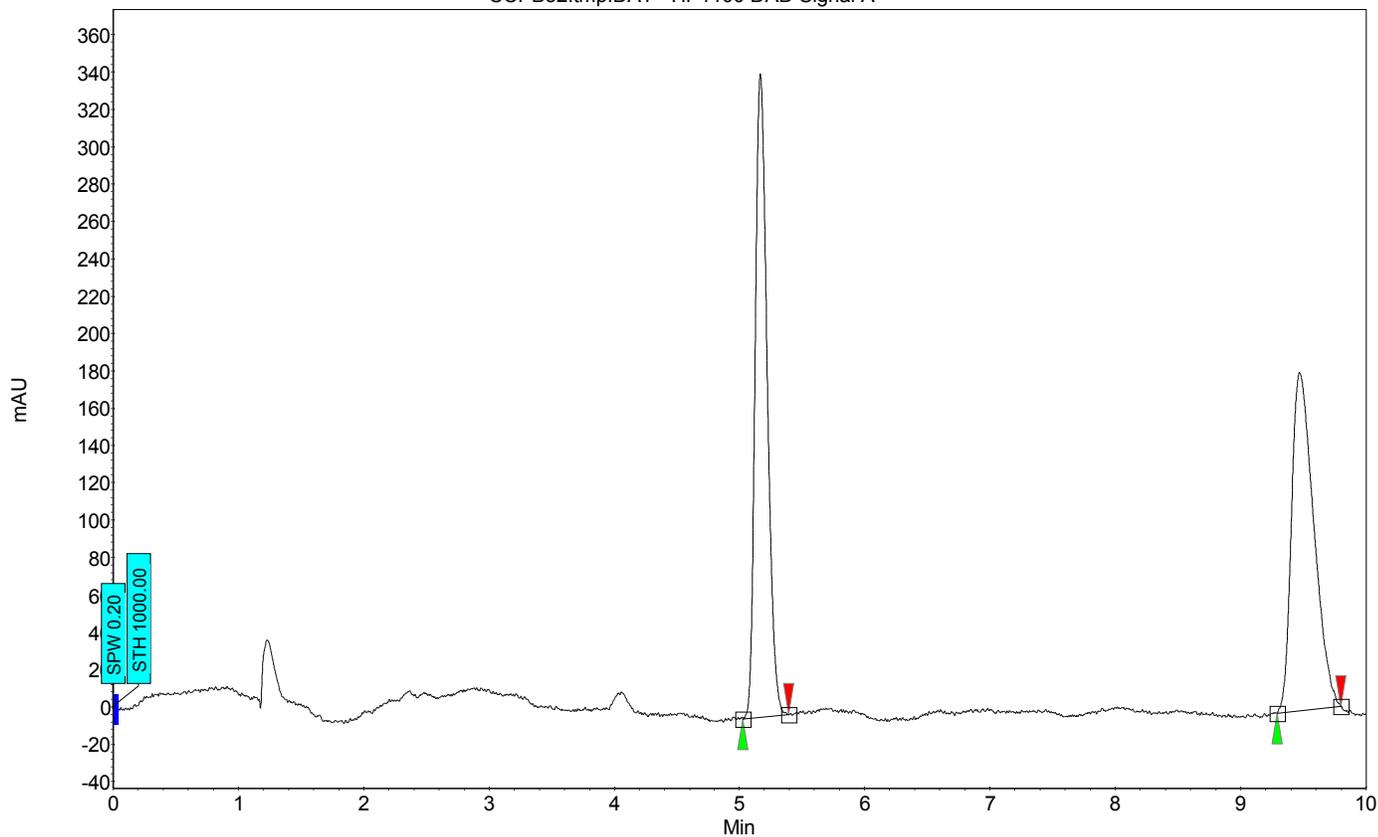
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|-------------------|----------------------------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μV] | [$\mu\text{V}\cdot\text{Min}$] | [%] |
| 1 | UNKNOWN | 4.95 | 5.08 | 5.32 | 0.00 | 96.31 | 835.4 | 95.0 | 96.310 |
| 2 | UNKNOWN | 8.94 | 9.12 | 9.34 | 0.00 | 3.69 | 19.4 | 3.6 | 3.690 |
| Total | | | | | | 100.00 | 854.8 | 98.7 | 100.000 |

Method Name:mag-diaryMOMOR
Run Name:mag-2-0934

Date:2/8/2012
Time:2:04:02 PM



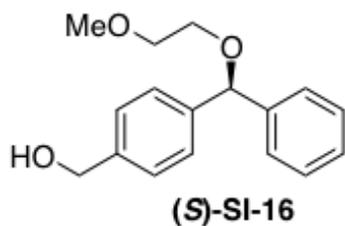
CCPB32.tmp.DAT - HP1100 DAD Signal A



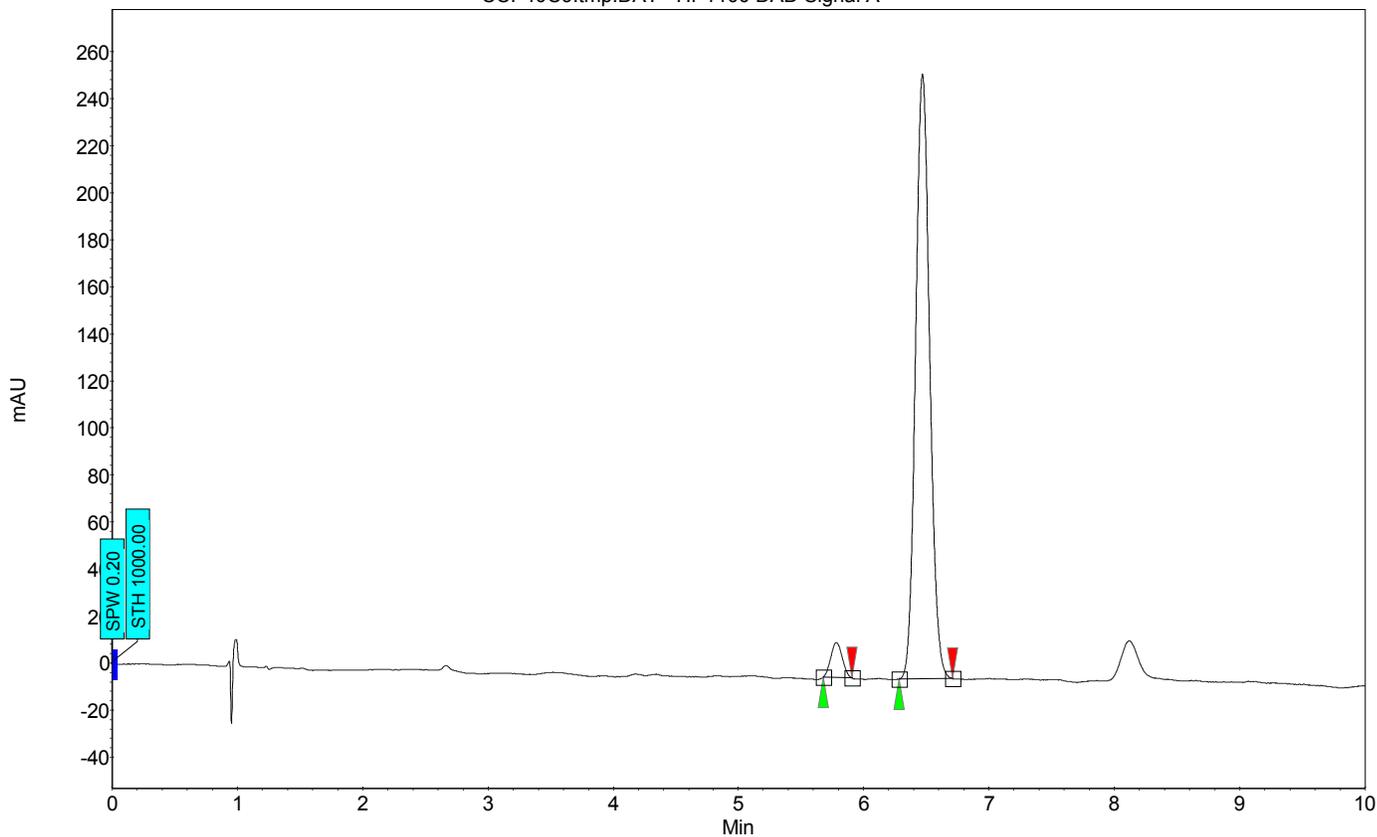
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|--------|----------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μV] | [μV.Min] | [%] |
| 1 | UNKNOWN | 5.03 | 5.17 | 5.40 | 0.00 | 50.63 | 344.4 | 38.2 | 50.629 |
| 2 | UNKNOWN | 9.29 | 9.46 | 9.79 | 0.00 | 49.37 | 181.3 | 37.2 | 49.371 |
| Total | | | | | | 100.00 | 525.7 | 75.4 | 100.000 |

Method Name:mag-diarylCH2OHOR
Run Name:mag-2-0221

Date:1/26/2012
Time:3:43:41 PM



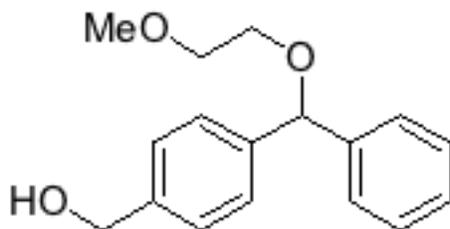
CCP40C9.tmp.DAT - HP1100 DAD Signal A



| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 5.68 | 5.78 | 5.91 | 0.00 | 4.45 | 14.8 | 1.6 | 4.455 |
| 2 | UNKNOWN | 6.28 | 6.47 | 6.71 | 0.00 | 95.55 | 257.2 | 33.5 | 95.545 |
| Total | | | | | | 100.00 | 272.0 | 35.1 | 100.000 |

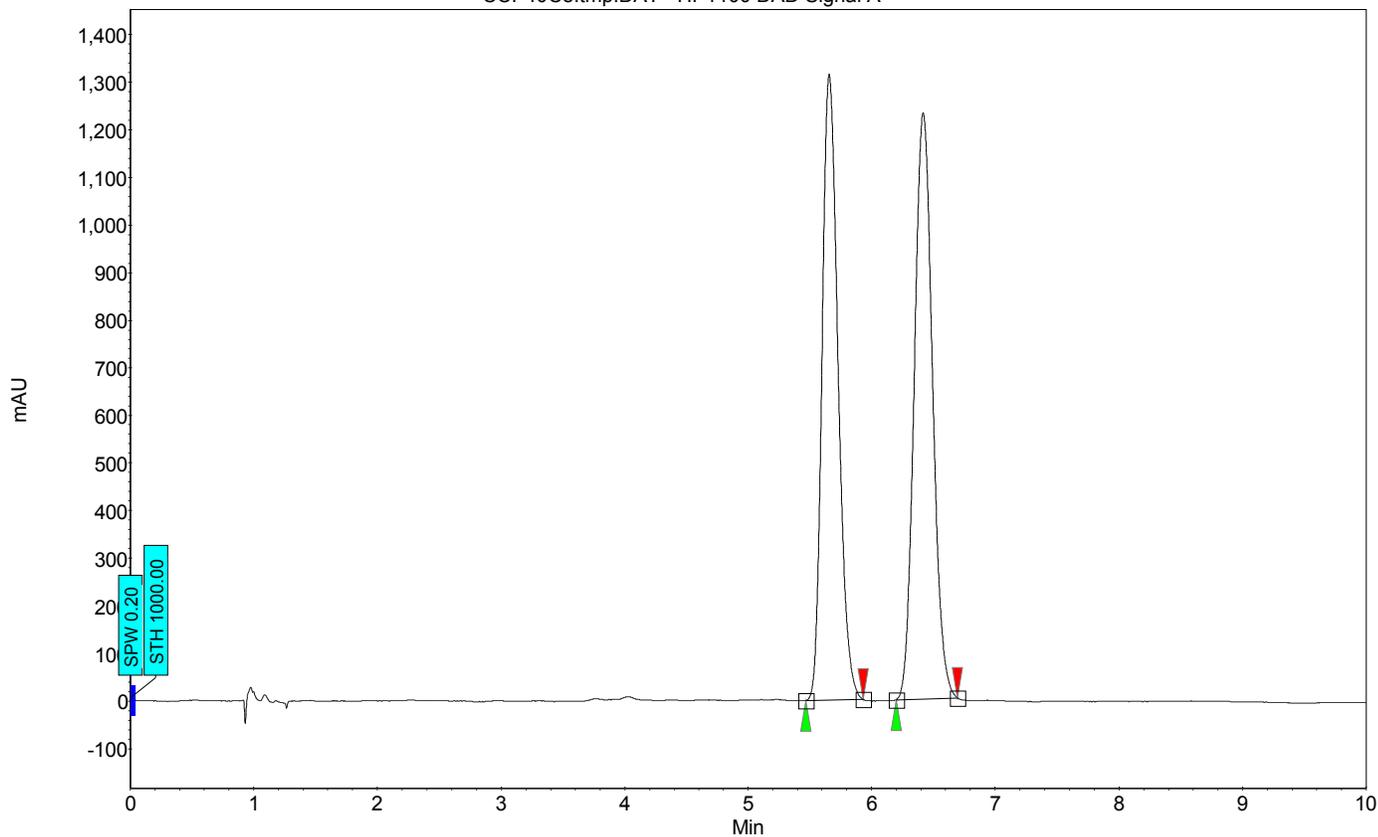
Method Name:mag-diary|CH2OHOR
Run Name:mag-1-2961

Date:1/26/2012
Time:3:42:34 PM



rac-SI-16

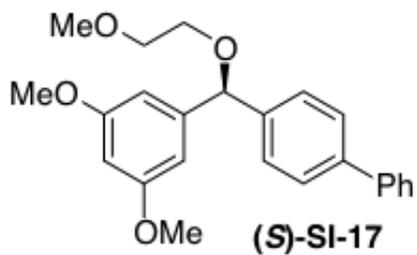
CCP40C8.tmp.DAT - HP1100 DAD Signal A



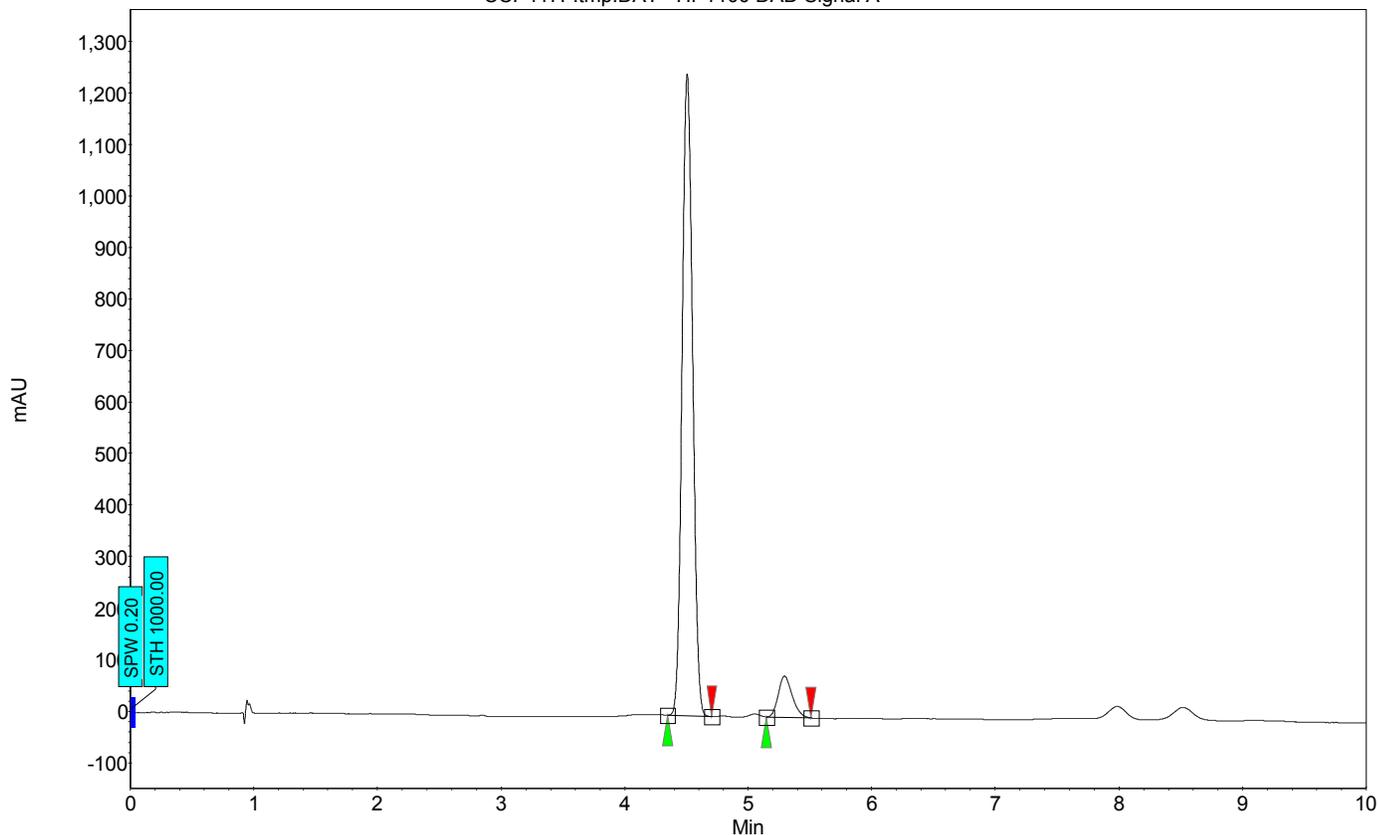
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 5.47 | 5.66 | 5.93 | 0.00 | 48.35 | 1314.9 | 197.0 | 48.349 |
| 2 | UNKNOWN | 6.20 | 6.42 | 6.69 | 0.00 | 51.65 | 1230.9 | 210.4 | 51.651 |
| Total | | | | | | 100.00 | 2545.8 | 407.4 | 100.000 |

Method Name:mag-paraphenyIOR
 Run Name:mag-1-29310

Date:1/30/2012
 Time:9:43:28 AM



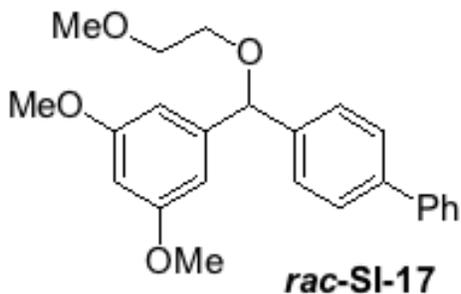
CCP417F.tmp.DAT - HP1100 DAD Signal A



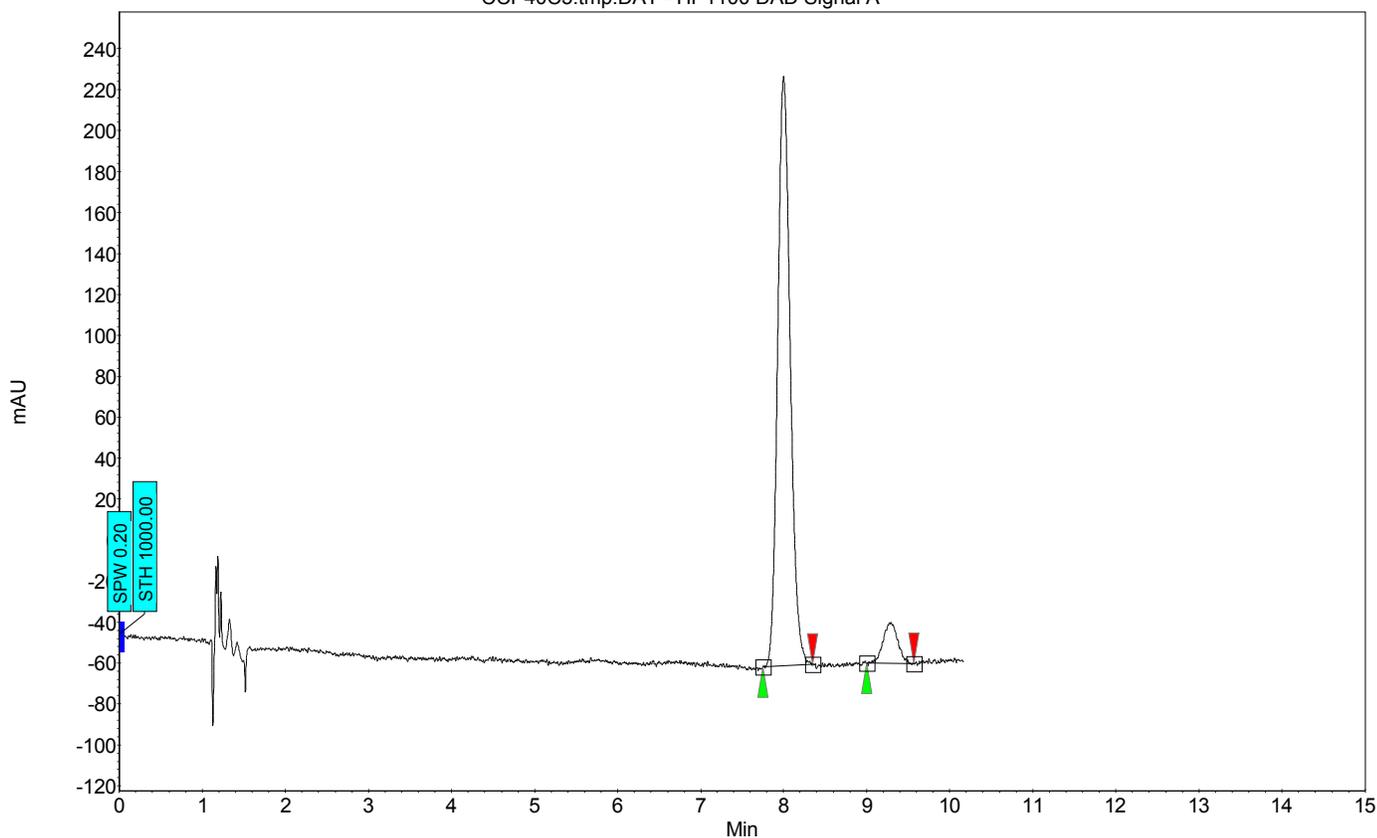
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 4.35 | 4.50 | 4.71 | 0.00 | 92.16 | 1245.5 | 122.9 | 92.158 |
| 2 | UNKNOWN | 5.15 | 5.30 | 5.51 | 0.00 | 7.84 | 79.9 | 10.5 | 7.842 |
| Total | | | | | | 100.00 | 1325.4 | 133.4 | 100.000 |

Method Name:FJW-allylpropiophenone-col2
 Run Name:FJW-iv-176-35MeO-pPh-PEG-ε

Date:1/26/2012
 Time:3:31:01 PM

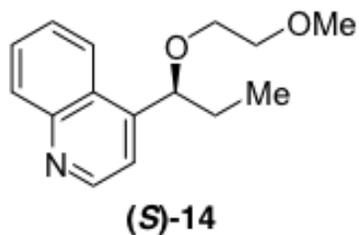


CCP40C5.tmp.DAT - HP1100 DAD Signal A



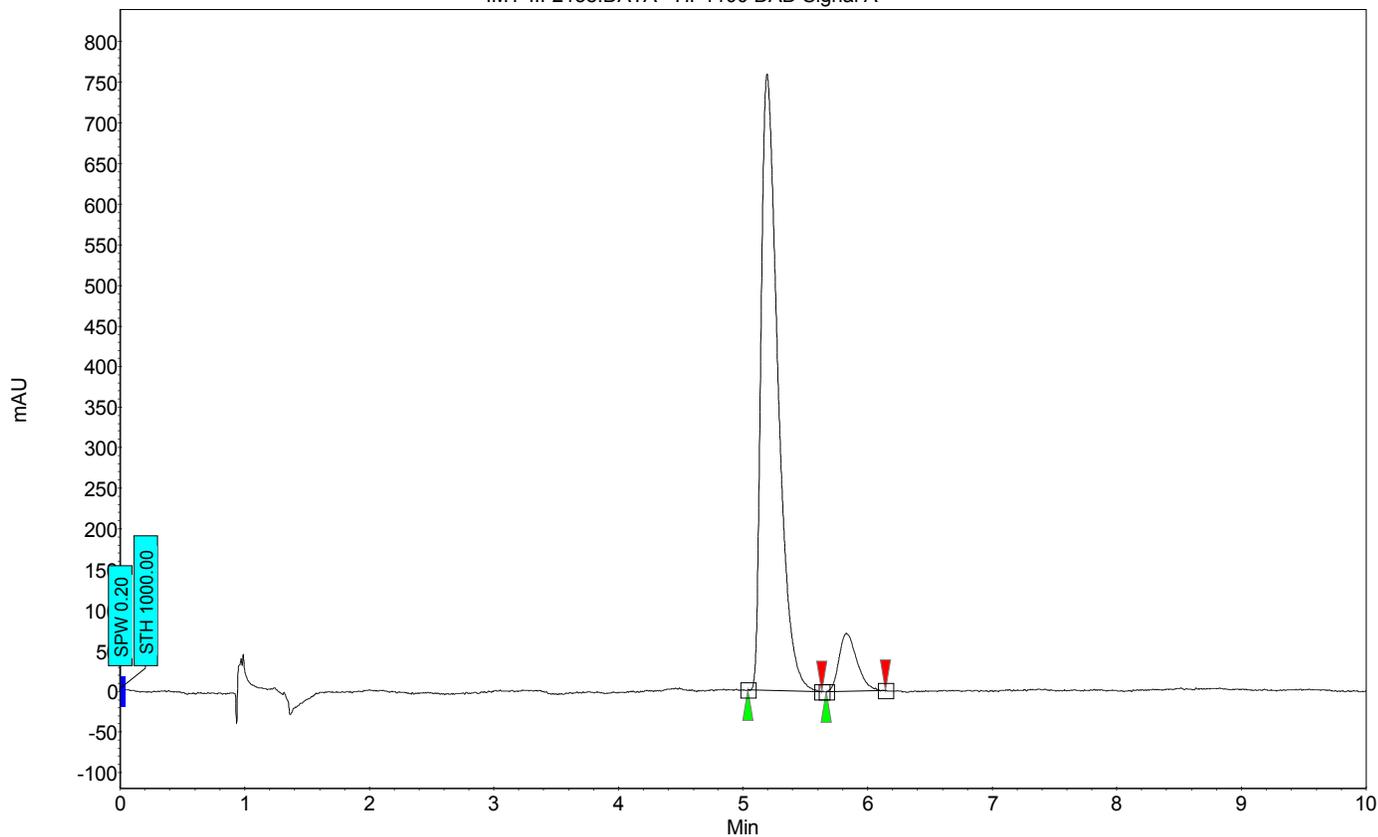
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|--------|----------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μV] | [μV.Min] | [%] |
| 1 | UNKNOWN | 7.75 | 8.00 | 8.35 | 0.00 | 92.57 | 287.6 | 50.2 | 92.568 |
| 2 | UNKNOWN | 9.00 | 9.29 | 9.57 | 0.00 | 7.43 | 19.9 | 4.0 | 7.432 |
| Total | | | | | | 100.00 | 307.5 | 54.2 | 100.000 |

Method Name:IMY-4-QuinEtEther
Run Name:IMY-III-2158



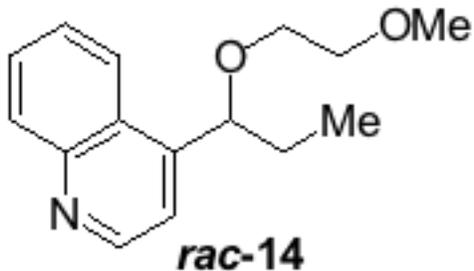
Date:3/14/2012
Time:1:36:42 PM

IMY-III-2158.DATA - HP1100 DAD Signal A



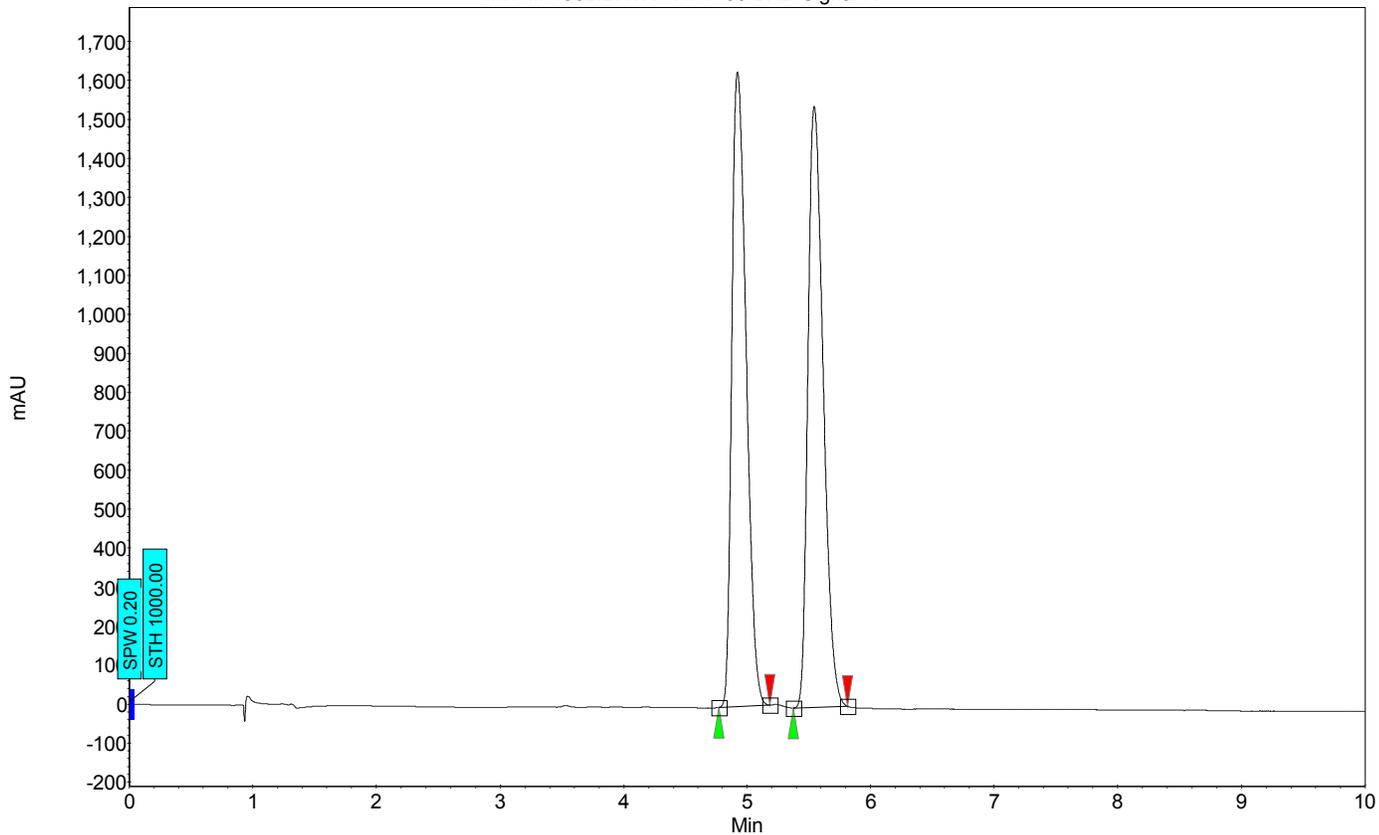
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|--------|----------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μV] | [μV.Min] | [%] |
| 1 | UNKNOWN | 5.04 | 5.20 | 5.63 | 0.00 | 90.97 | 758.6 | 118.8 | 90.966 |
| 2 | UNKNOWN | 5.67 | 5.83 | 6.14 | 0.00 | 9.03 | 71.5 | 11.8 | 9.034 |
| Total | | | | | | 100.00 | 830.1 | 130.6 | 100.000 |

Method Name:IMY-4-QuinEtEther
 Run Name:IMY-III-1962



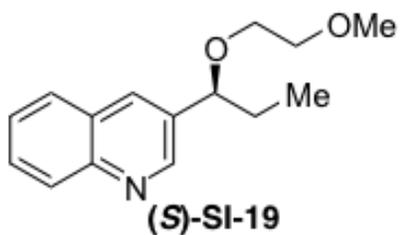
Date:3/14/2012
 Time:1:37:24 PM

IMY-III-1962.DATA - HP1100 DAD Signal A



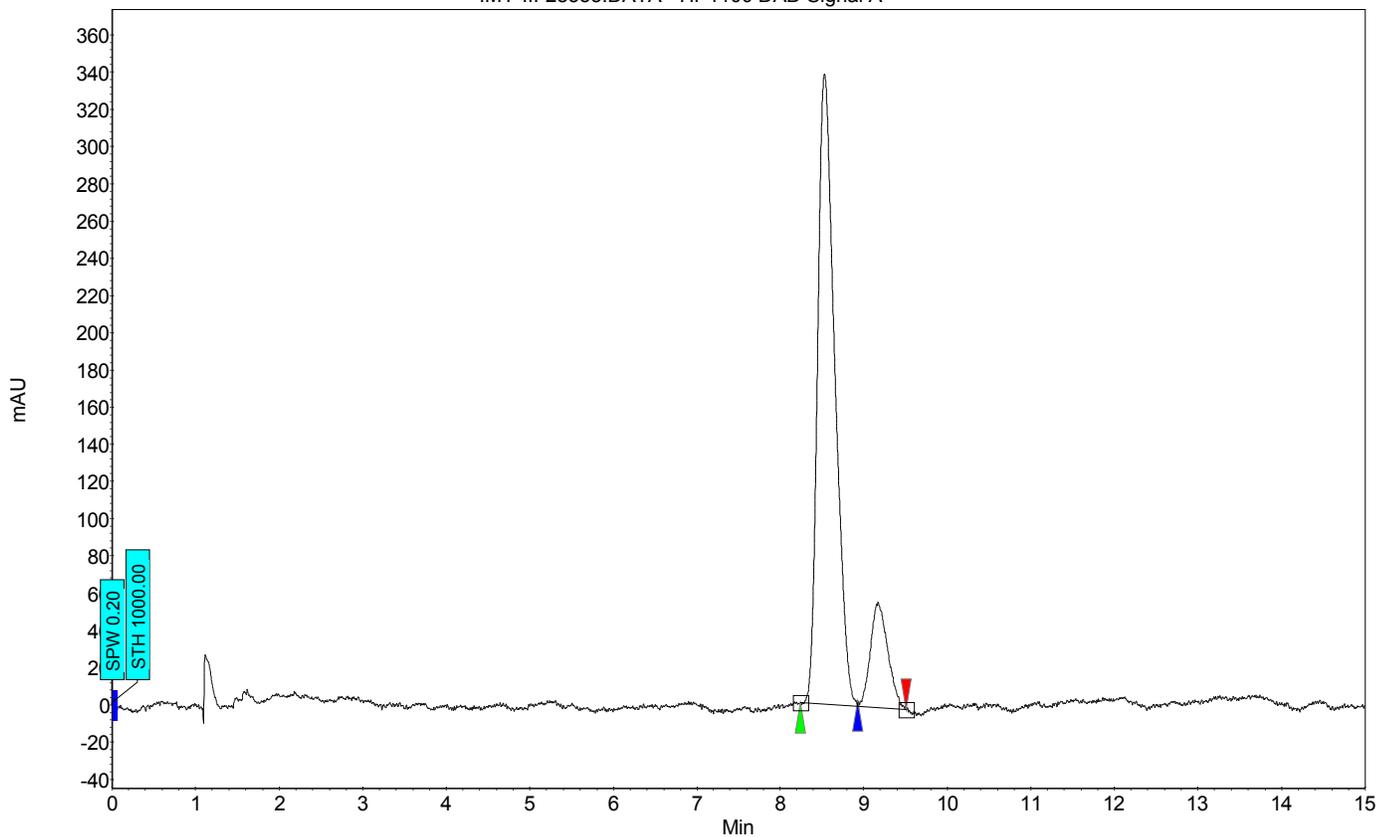
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 4.77 | 4.93 | 5.19 | 0.00 | 49.81 | 1627.7 | 219.2 | 49.812 |
| 2 | UNKNOWN | 5.38 | 5.54 | 5.81 | 0.00 | 50.19 | 1541.1 | 220.9 | 50.188 |
| Total | | | | | | 100.00 | 3168.8 | 440.1 | 100.000 |

Method Name:IMY-quinolineether
Run Name:IMY-III-28333



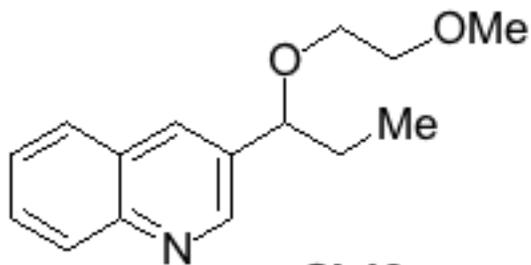
Date:3/14/2012
Time:1:38:08 PM

IMY-III-28333.DATA - HP1100 DAD Signal A



| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 8.24 | 8.53 | 8.93 | 0.00 | 85.46 | 338.8 | 80.5 | 85.461 |
| 2 | UNKNOWN | 8.93 | 9.17 | 9.51 | 0.00 | 14.54 | 56.8 | 13.7 | 14.539 |
| Total | | | | | | 100.00 | 395.6 | 94.1 | 100.000 |

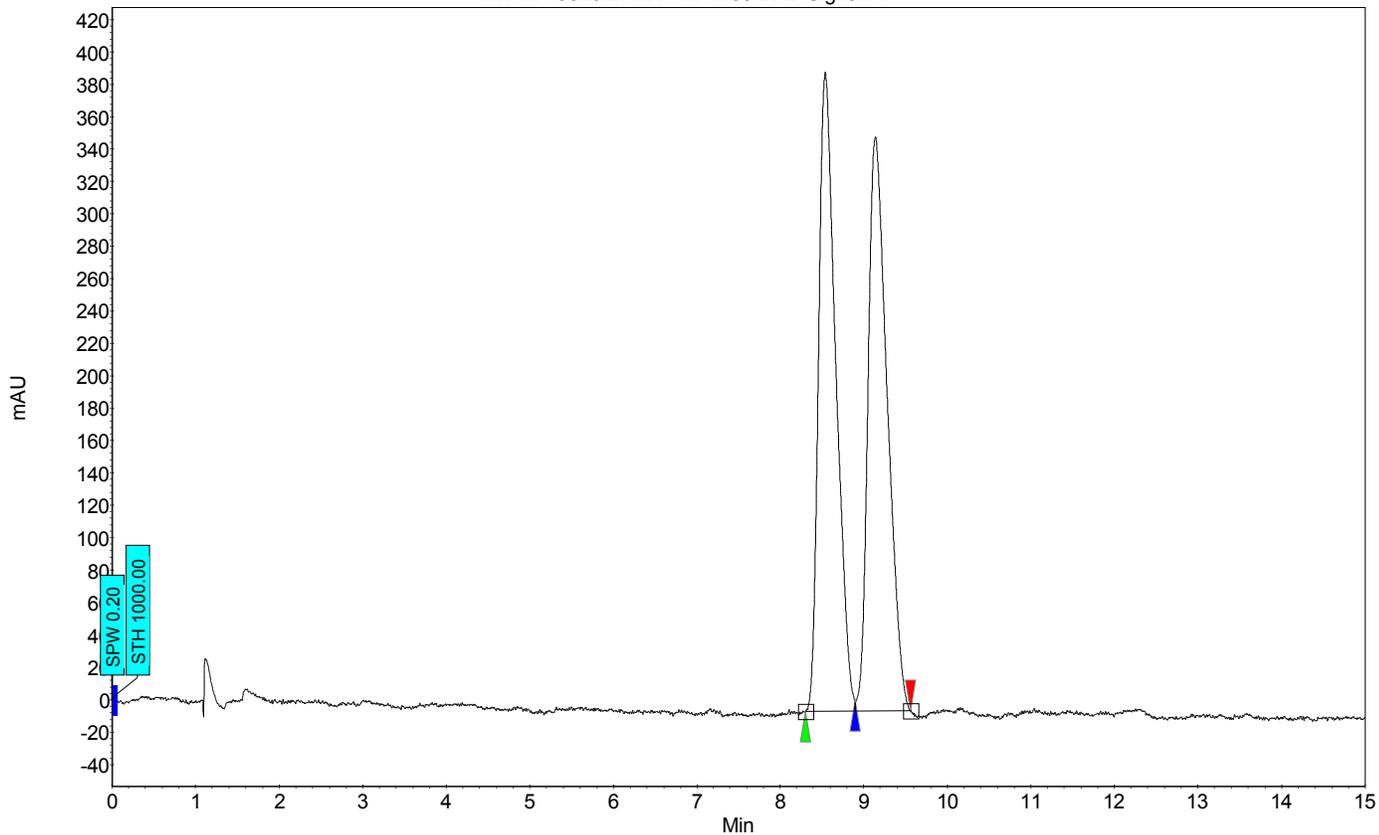
Method Name:IMY-quinolineether
Run Name:IMY-III-19526



rac-SI-19

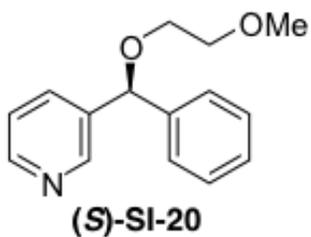
Date:3/14/2012
Time:1:39:48 PM

IMY-III-19526.DATA - HP1100 DAD Signal A



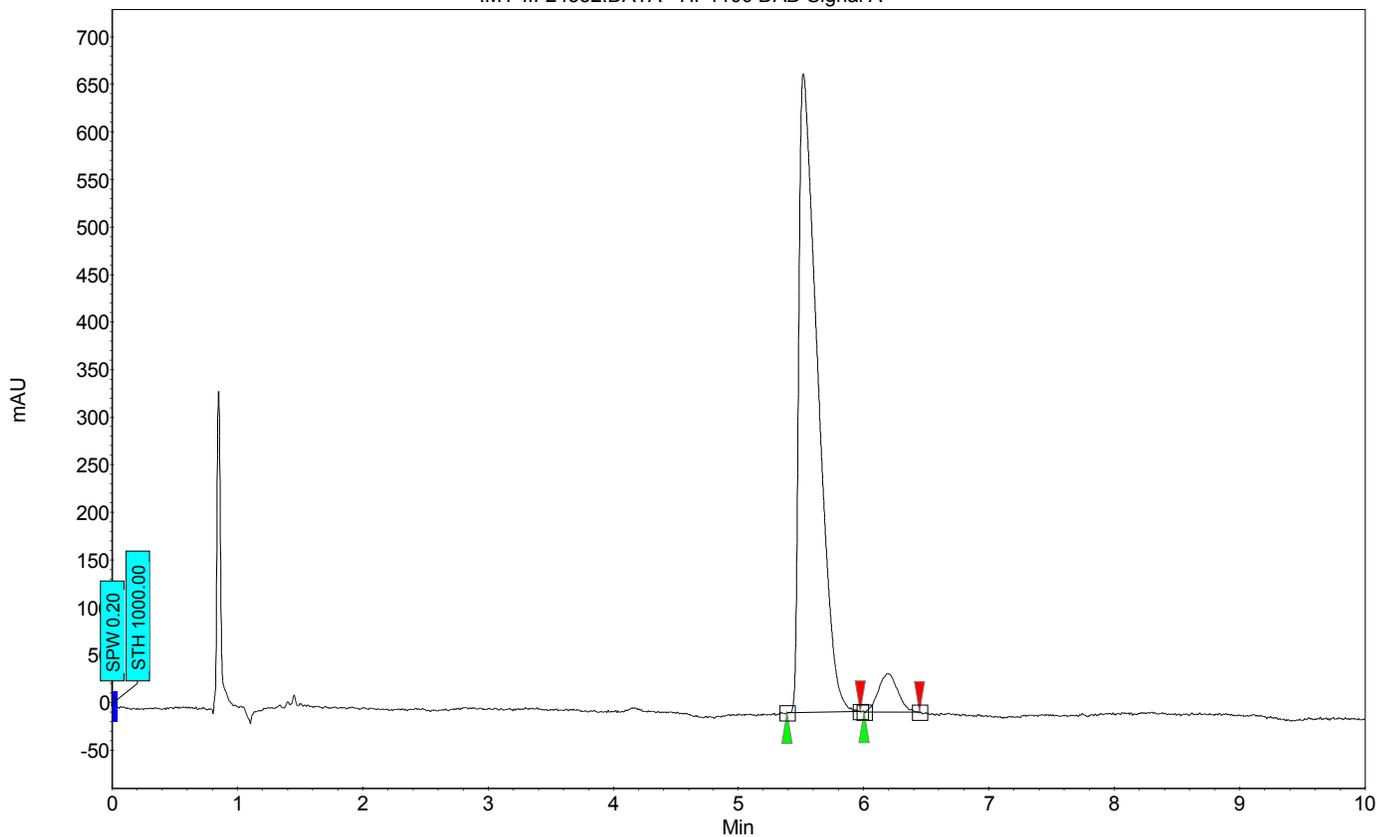
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 8.31 | 8.54 | 8.90 | 0.00 | 50.08 | 394.7 | 94.5 | 50.080 |
| 2 | UNKNOWN | 8.90 | 9.14 | 9.56 | 0.00 | 49.92 | 354.4 | 94.2 | 49.920 |
| Total | | | | | | 100.00 | 749.0 | 188.8 | 100.000 |

Method Name:IMY-PyrPhEther
 Run Name:IMY-III-24552



Date:3/14/2012
 Time:1:40:34 PM

IMY-III-24552.DATA - HP1100 DAD Signal A



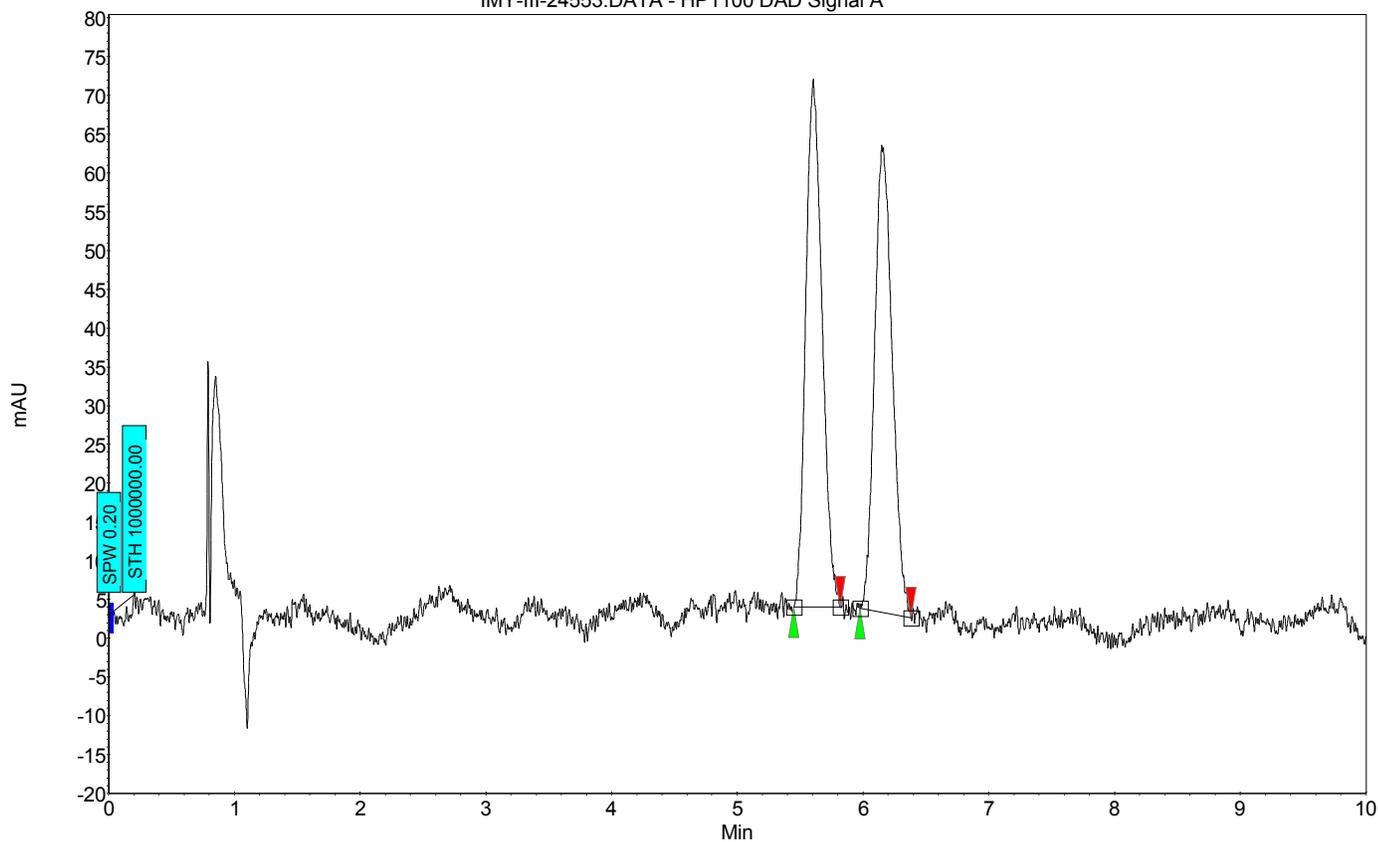
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 5.39 | 5.52 | 5.97 | 0.00 | 94.10 | 671.5 | 116.2 | 94.103 |
| 2 | UNKNOWN | 6.00 | 6.20 | 6.44 | 0.00 | 5.90 | 40.8 | 7.3 | 5.897 |
| Total | | | | | | 100.00 | 712.4 | 123.5 | 100.000 |

Method Name:IMY-PyrPhEther
Run Name:IMY-III-24553

Date:3/14/2012
Time:1:41:06 PM

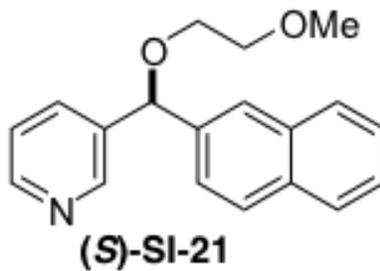


IMY-III-24553.DATA - HP1100 DAD Signal A



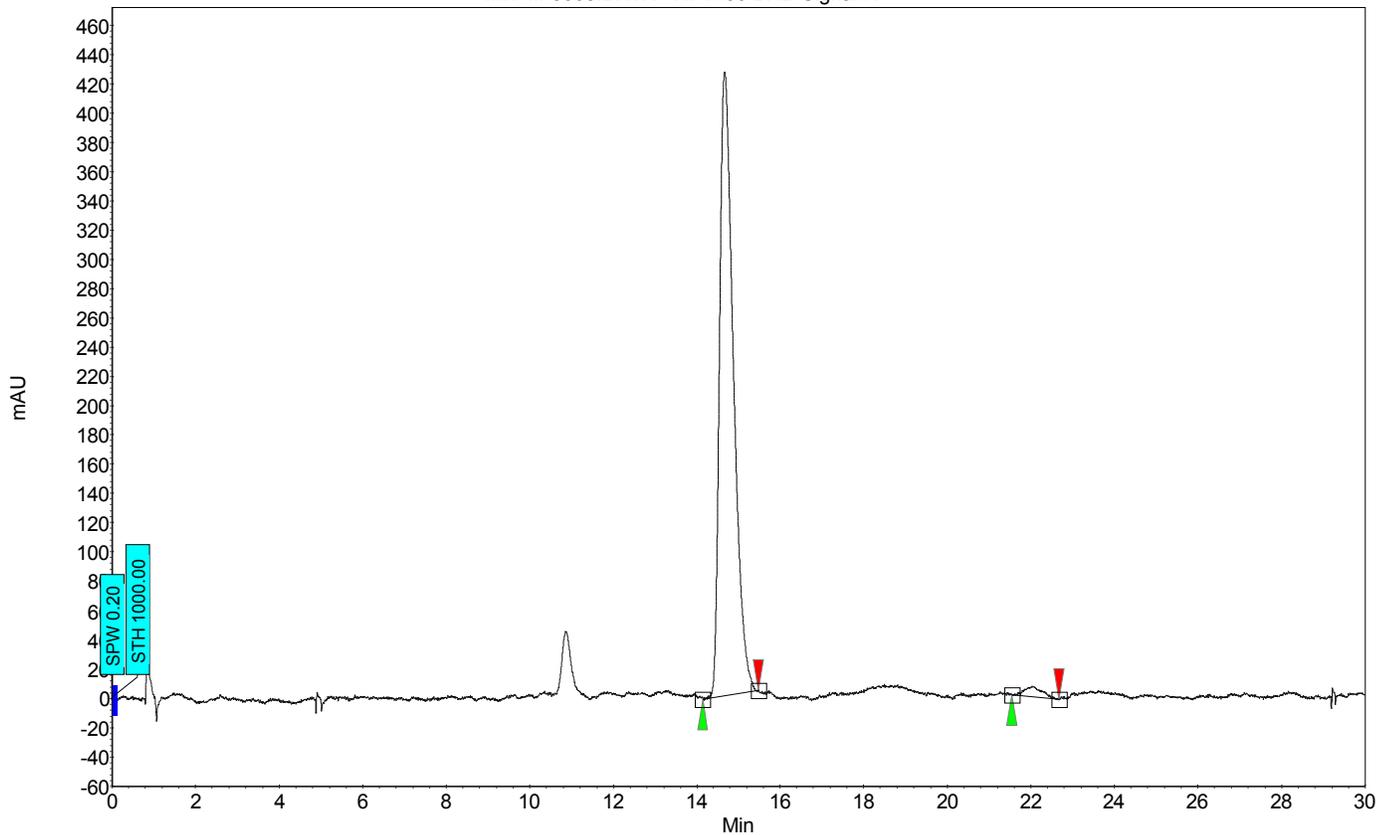
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 2 | UNKNOWN | 5.45 | 5.61 | 5.82 | 0.00 | 50.95 | 68.1 | 10.2 | 50.947 |
| 1 | UNKNOWN | 5.97 | 6.15 | 6.38 | 0.00 | 49.05 | 60.3 | 9.8 | 49.053 |
| Total | | | | | | 100.00 | 128.4 | 20.0 | 100.000 |

Method Name:IMY-PyrNapEther
Run Name:IMY-III-3003



Date:3/14/2012
Time:1:42:15 PM

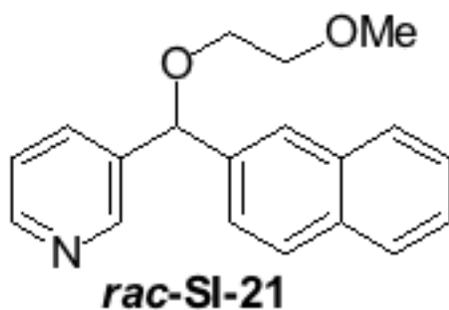
IMY-III-3003.DATA - HP1100 DAD Signal A



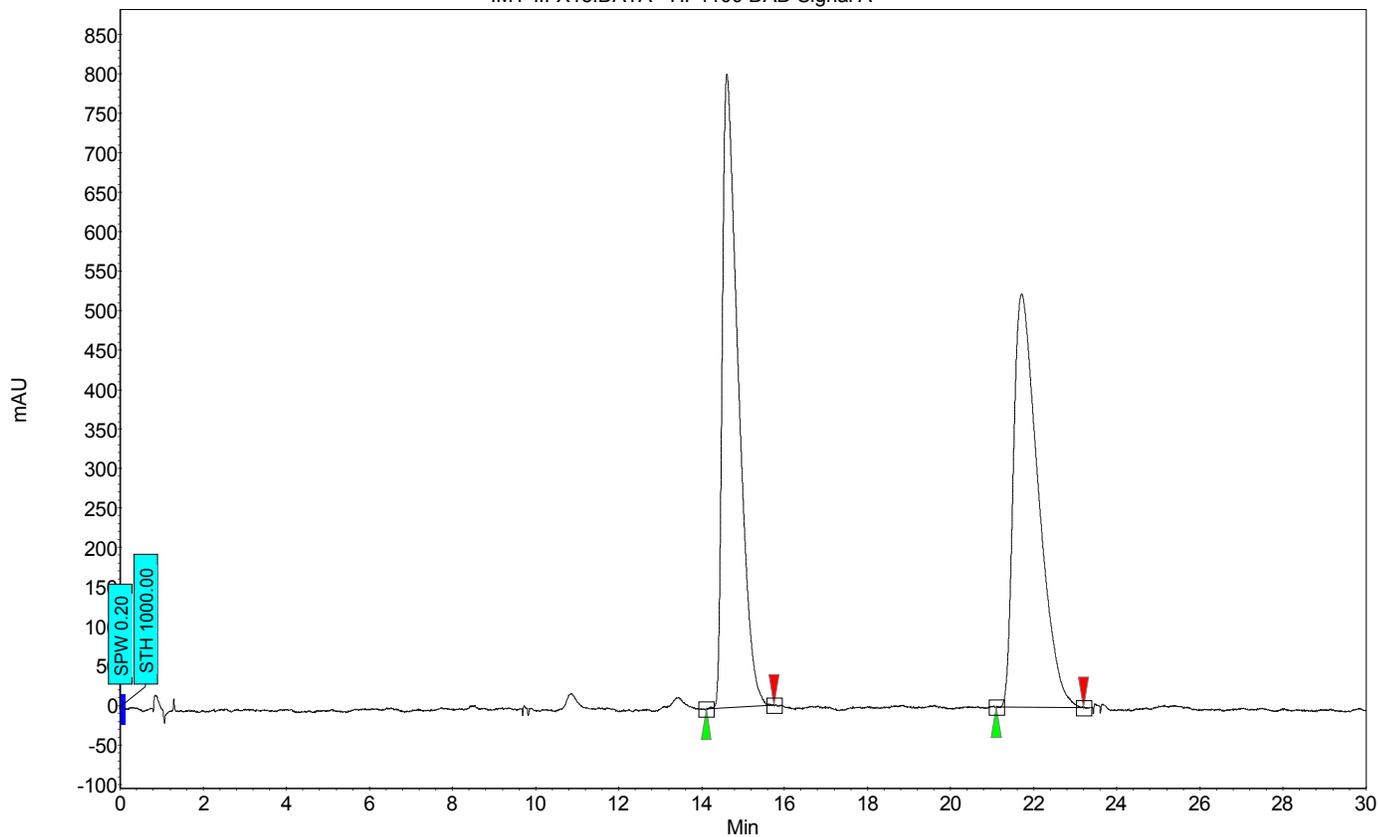
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|--------|----------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μV] | [μV.Min] | [%] |
| 1 | UNKNOWN | 14.14 | 14.67 | 15.48 | 0.00 | 97.89 | 426.4 | 163.7 | 97.893 |
| 2 | UNKNOWN | 21.55 | 22.03 | 22.68 | 0.00 | 2.11 | 7.4 | 3.5 | 2.107 |
| Total | | | | | | 100.00 | 433.8 | 167.2 | 100.000 |

Method Name:IMY-PyrNapEther
 Run Name:IMY-III-X13

Date:3/14/2012
 Time:1:43:00 PM

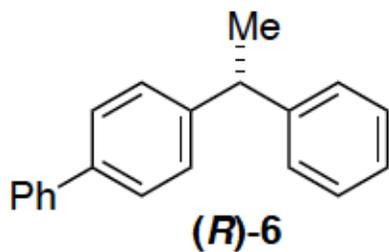


IMY-III-X13.DATA - HP1100 DAD Signal A



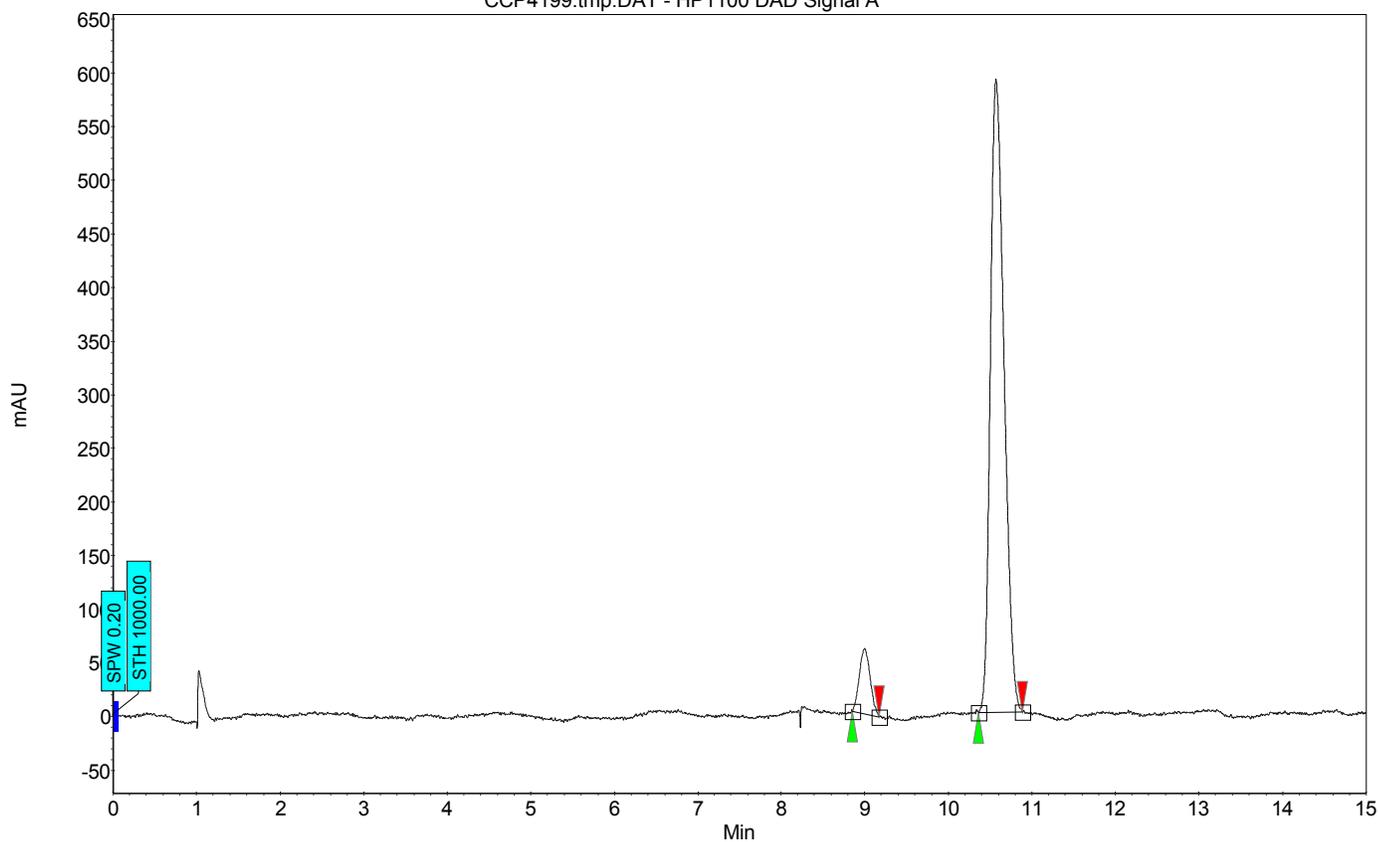
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 14.12 | 14.62 | 15.76 | 0.00 | 49.69 | 802.9 | 356.4 | 49.689 |
| 2 | UNKNOWN | 21.09 | 21.72 | 23.19 | 0.00 | 50.31 | 523.9 | 360.9 | 50.311 |
| Total | | | | | | 100.00 | 1326.7 | 717.3 | 100.000 |

Method Name:mag-phenylparaphenylMe
Run Name:mag-2-0112



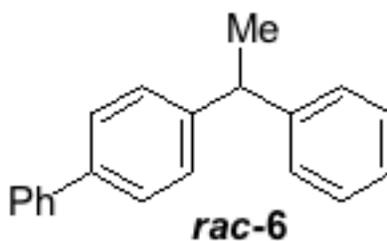
Date:1/30/2012
Time:12:30:10 PM

CCP4199.tmp.DAT - HP1100 DAD Signal A



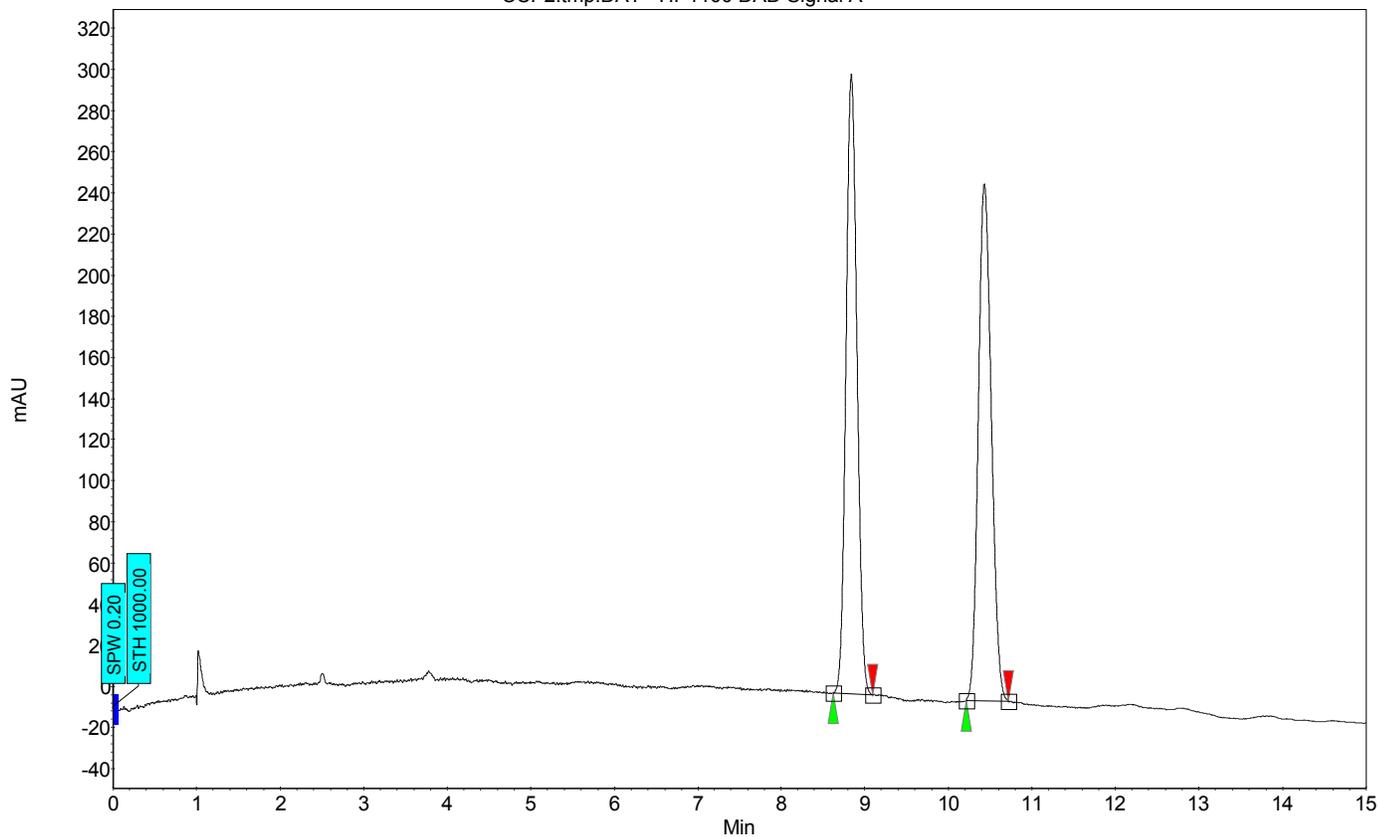
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 8.85 | 9.00 | 9.18 | 0.00 | 7.54 | 61.1 | 9.1 | 7.540 |
| 2 | UNKNOWN | 10.36 | 10.57 | 10.89 | 0.00 | 92.46 | 590.4 | 111.9 | 92.460 |
| Total | | | | | | 100.00 | 651.5 | 121.0 | 100.000 |

Method Name:mag-phenylparaphenylMe
 Run Name:mag-1-1434



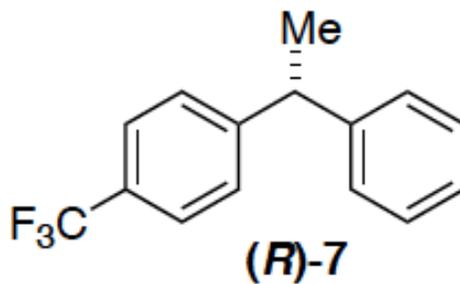
Date:2/1/2012
 Time:12:49:43 PM

CCP2.tmp.DAT - HP1100 DAD Signal A



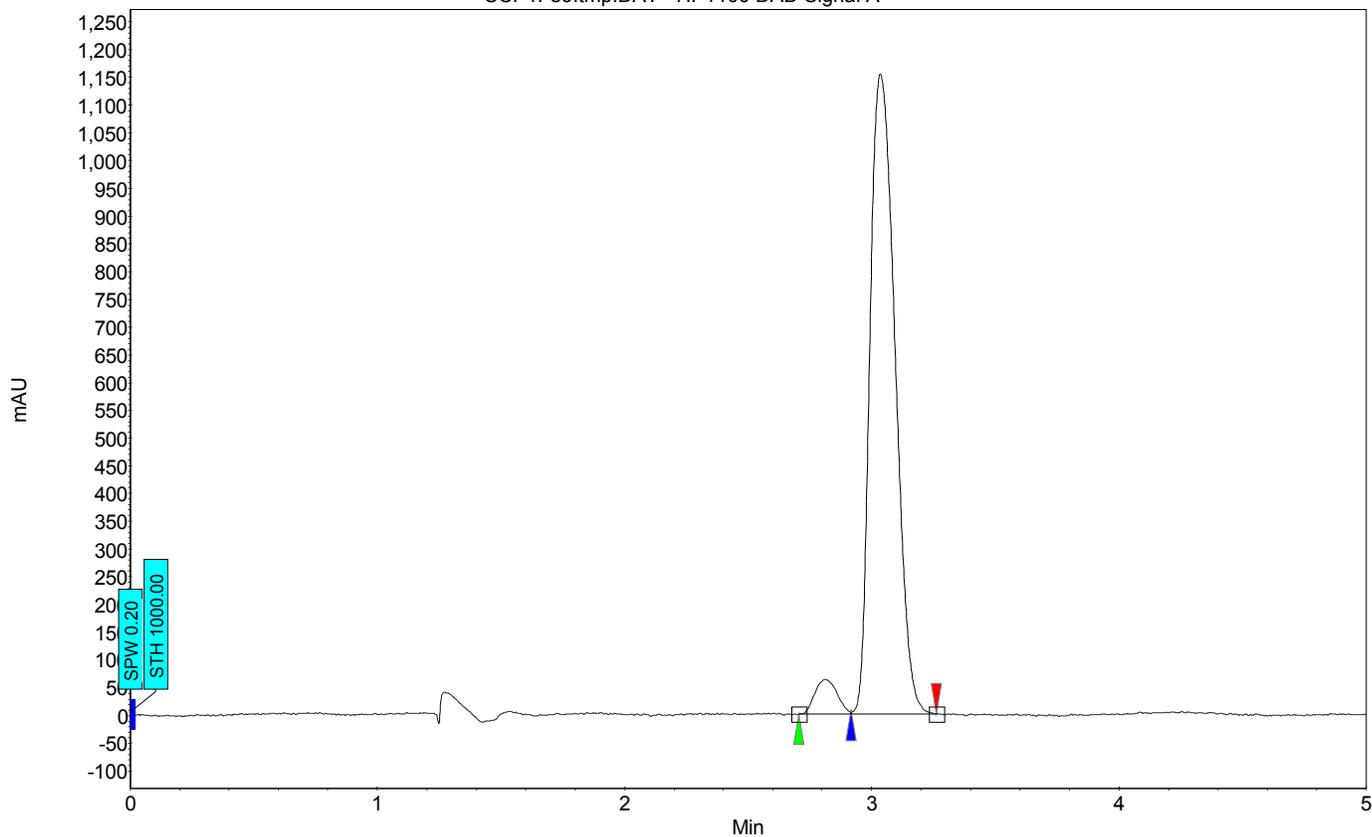
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 8.63 | 8.84 | 9.09 | 0.00 | 50.28 | 301.4 | 45.8 | 50.283 |
| 2 | UNKNOWN | 10.21 | 10.43 | 10.72 | 0.00 | 49.72 | 251.4 | 45.3 | 49.717 |
| Total | | | | | | 100.00 | 552.8 | 91.2 | 100.000 |

Method Name:mag-diaryICF3Me
Run Name:mag-2-1201



Date:3/14/2012
Time:3:06:48 PM

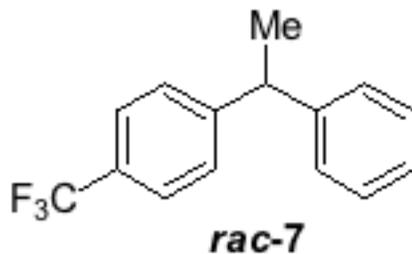
CCP1F89.tmp.DAT - HP1100 DAD Signal A



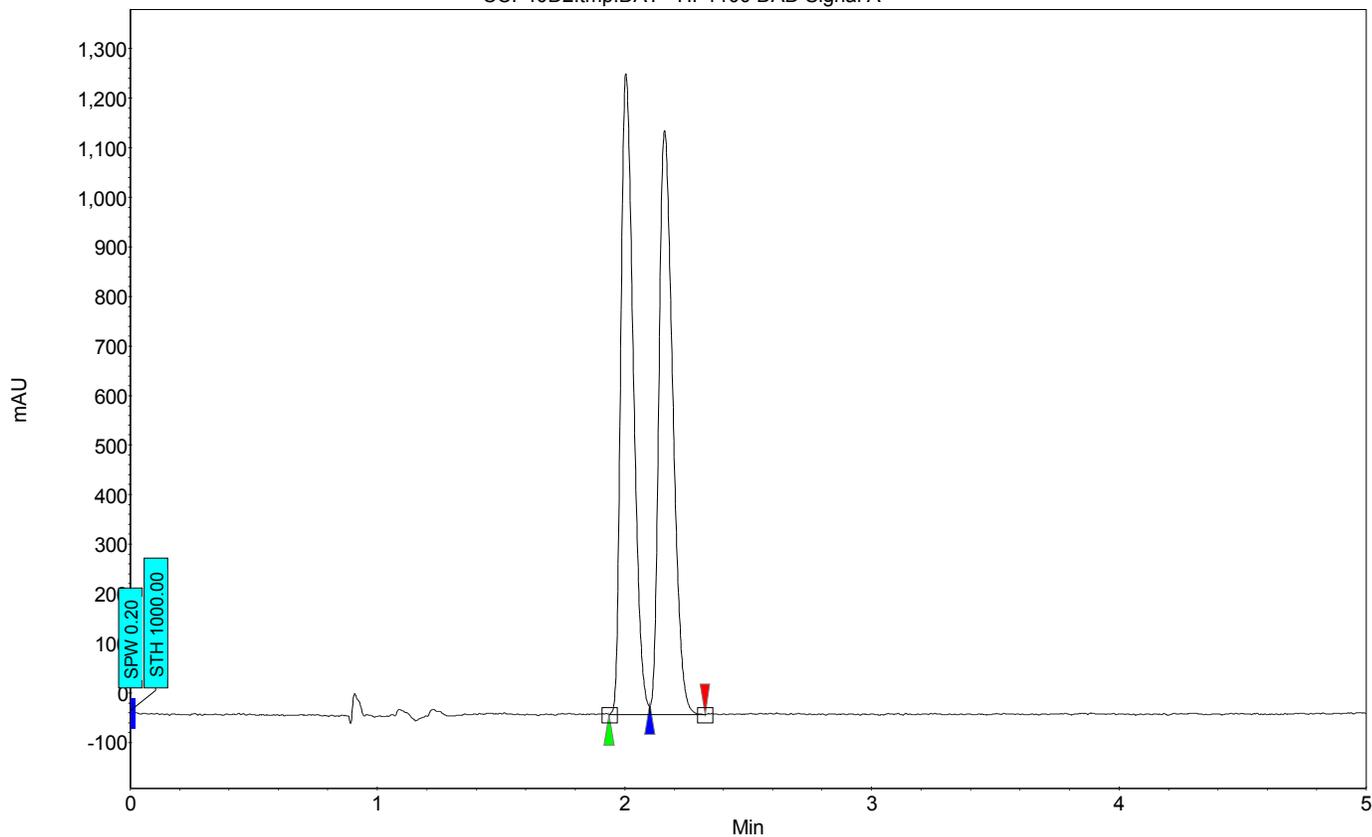
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 2.71 | 2.81 | 2.92 | 0.00 | 4.61 | 62.3 | 6.5 | 4.613 |
| 2 | UNKNOWN | 2.92 | 3.04 | 3.26 | 0.00 | 95.39 | 1152.9 | 134.9 | 95.387 |
| Total | | | | | | 100.00 | 1215.3 | 141.4 | 100.000 |

Method Name:mag-diaryICF3Me
Run Name:mag-1-1633

Date:1/26/2012
Time:3:56:28 PM

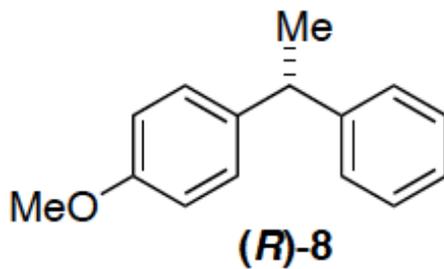


CCP40D2.tmp.DAT - HP1100 DAD Signal A



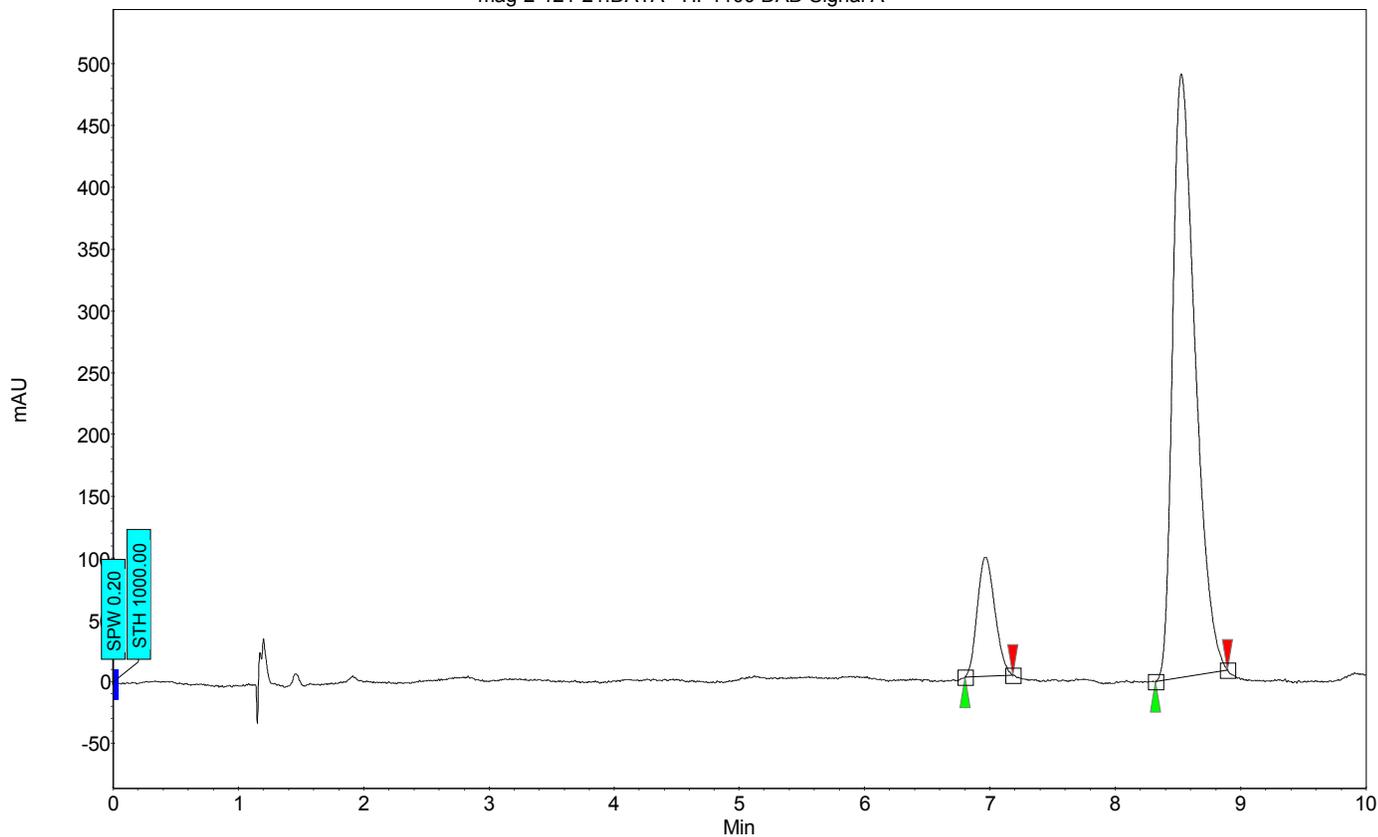
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 1.94 | 2.01 | 2.10 | 0.00 | 49.83 | 1292.0 | 76.1 | 49.834 |
| 2 | UNKNOWN | 2.10 | 2.16 | 2.33 | 0.00 | 50.17 | 1177.4 | 76.6 | 50.166 |
| Total | | | | | | 100.00 | 2469.4 | 152.7 | 100.000 |

Method Name:mag-diarylOMeMe
Run Name:mag-2-121-21



Date:3/14/2012
Time:12:55:17 PM

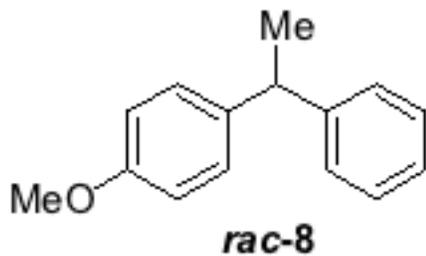
mag-2-121-21.DATA - HP1100 DAD Signal A



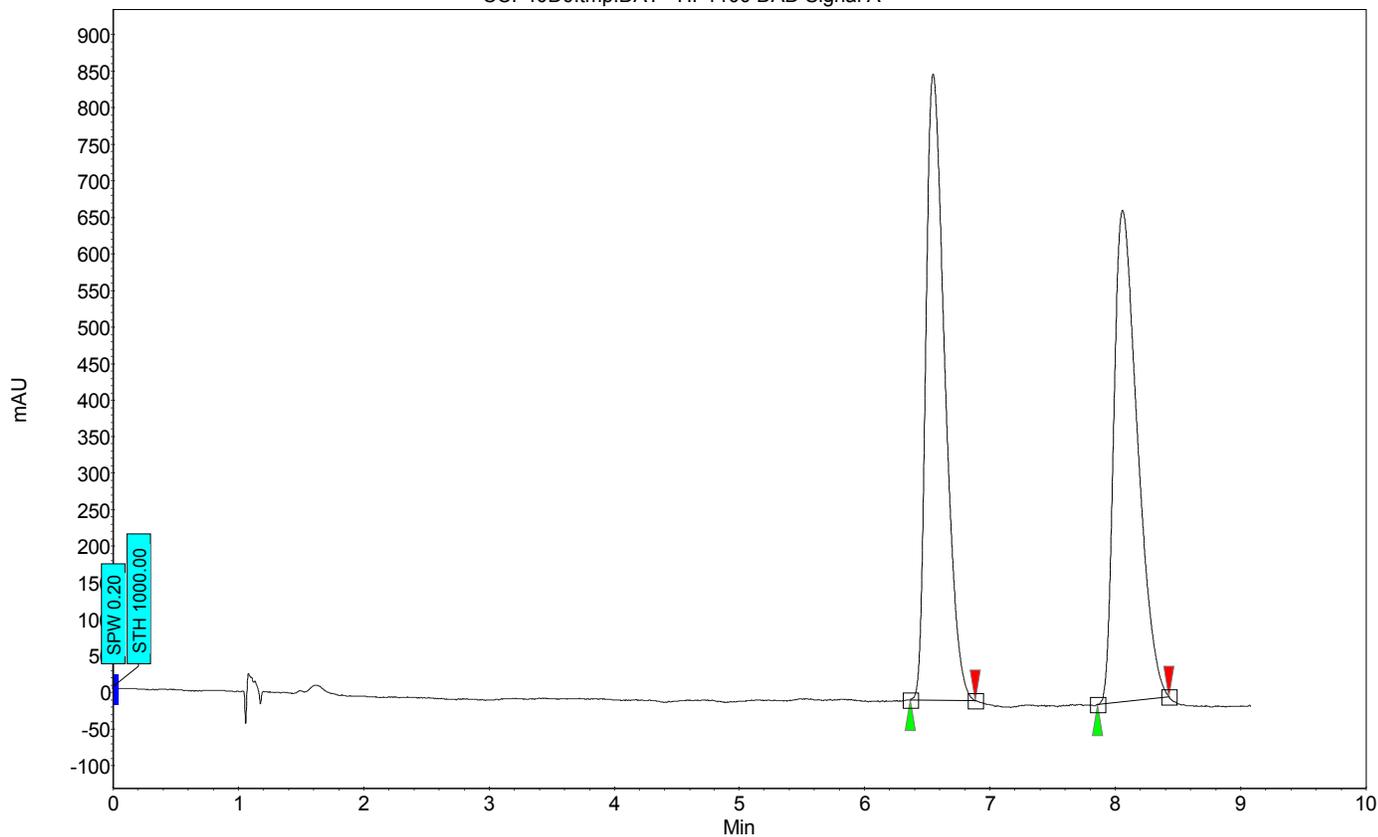
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|--------|----------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μV] | [μV.Min] | [%] |
| 1 | UNKNOWN | 6.80 | 6.96 | 7.19 | 0.00 | 13.32 | 96.3 | 15.7 | 13.317 |
| 2 | UNKNOWN | 8.32 | 8.53 | 8.89 | 0.00 | 86.68 | 488.4 | 102.3 | 86.683 |
| Total | | | | | | 100.00 | 584.7 | 118.0 | 100.000 |

Method Name:mag-diarylOMeMe
Run Name:mag-1-1642

Date:1/26/2012
Time:3:53:52 PM



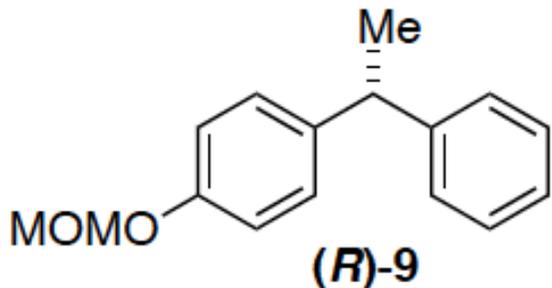
CCP40D0.tmp.DAT - HP1100 DAD Signal A



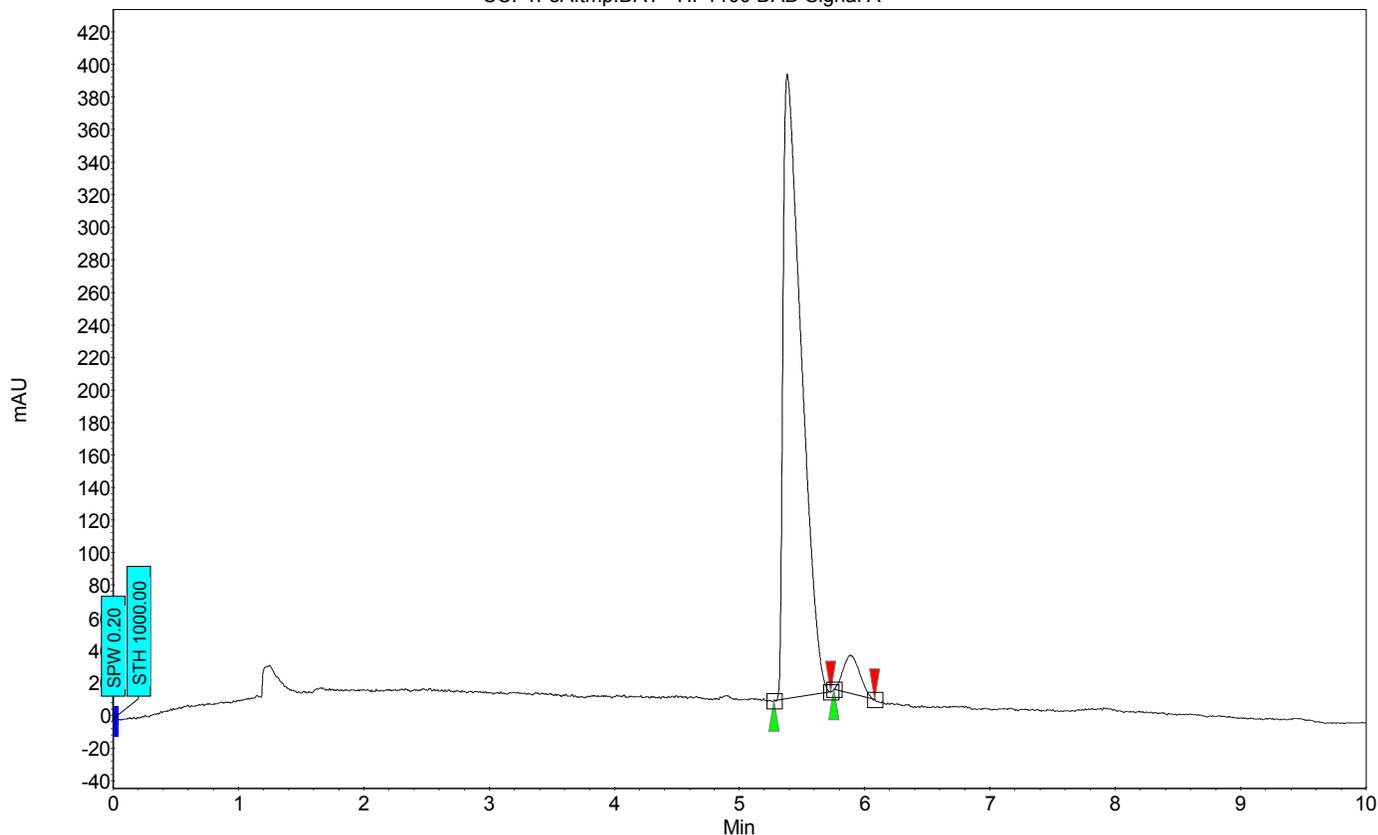
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|--------|----------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μV] | [μV.Min] | [%] |
| 1 | UNKNOWN | 6.36 | 6.55 | 6.88 | 0.00 | 50.63 | 856.6 | 149.9 | 50.630 |
| 2 | UNKNOWN | 7.86 | 8.06 | 8.43 | 0.00 | 49.37 | 672.9 | 146.2 | 49.370 |
| Total | | | | | | 100.00 | 1529.5 | 296.1 | 100.000 |

Method Name:mag-paraOMOMMe
 Run Name:mag-2-1131

Date:3/14/2012
 Time:3:09:10 PM



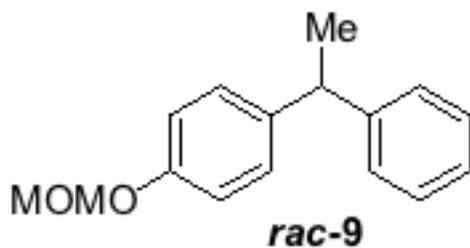
CCP1F8A.tmp.DAT - HP1100 DAD Signal A



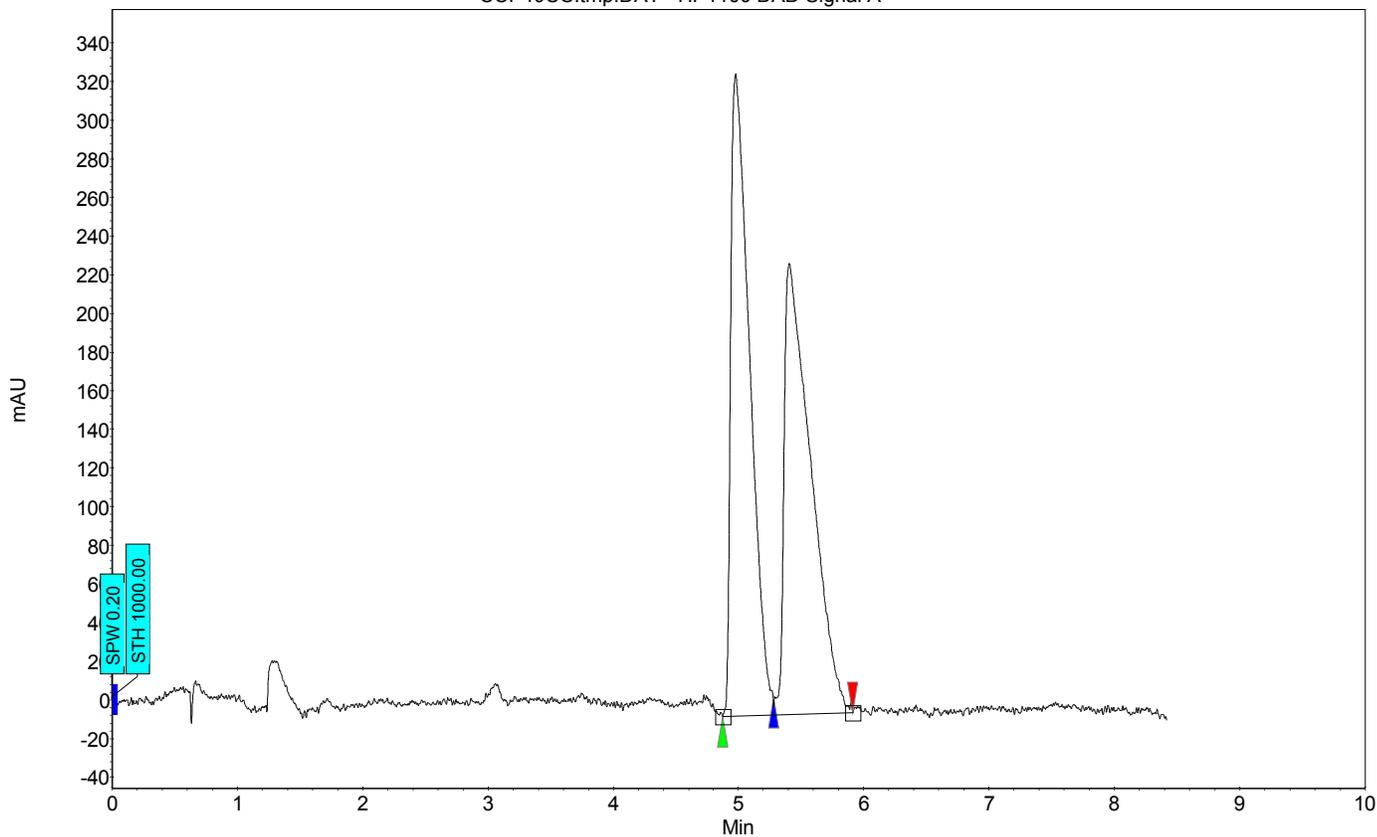
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 5.28 | 5.38 | 5.73 | 0.00 | 94.72 | 383.7 | 64.9 | 94.718 |
| 2 | UNKNOWN | 5.75 | 5.89 | 6.08 | 0.00 | 5.28 | 23.6 | 3.6 | 5.282 |
| Total | | | | | | 100.00 | 407.3 | 68.5 | 100.000 |

Method Name:mag-paraOMOMMe
Run Name:mag-1-26914

Date:1/26/2012
Time:3:47:54 PM



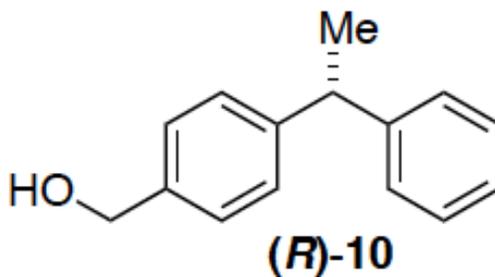
CCP40CC.tmp.DAT - HP1100 DAD Signal A



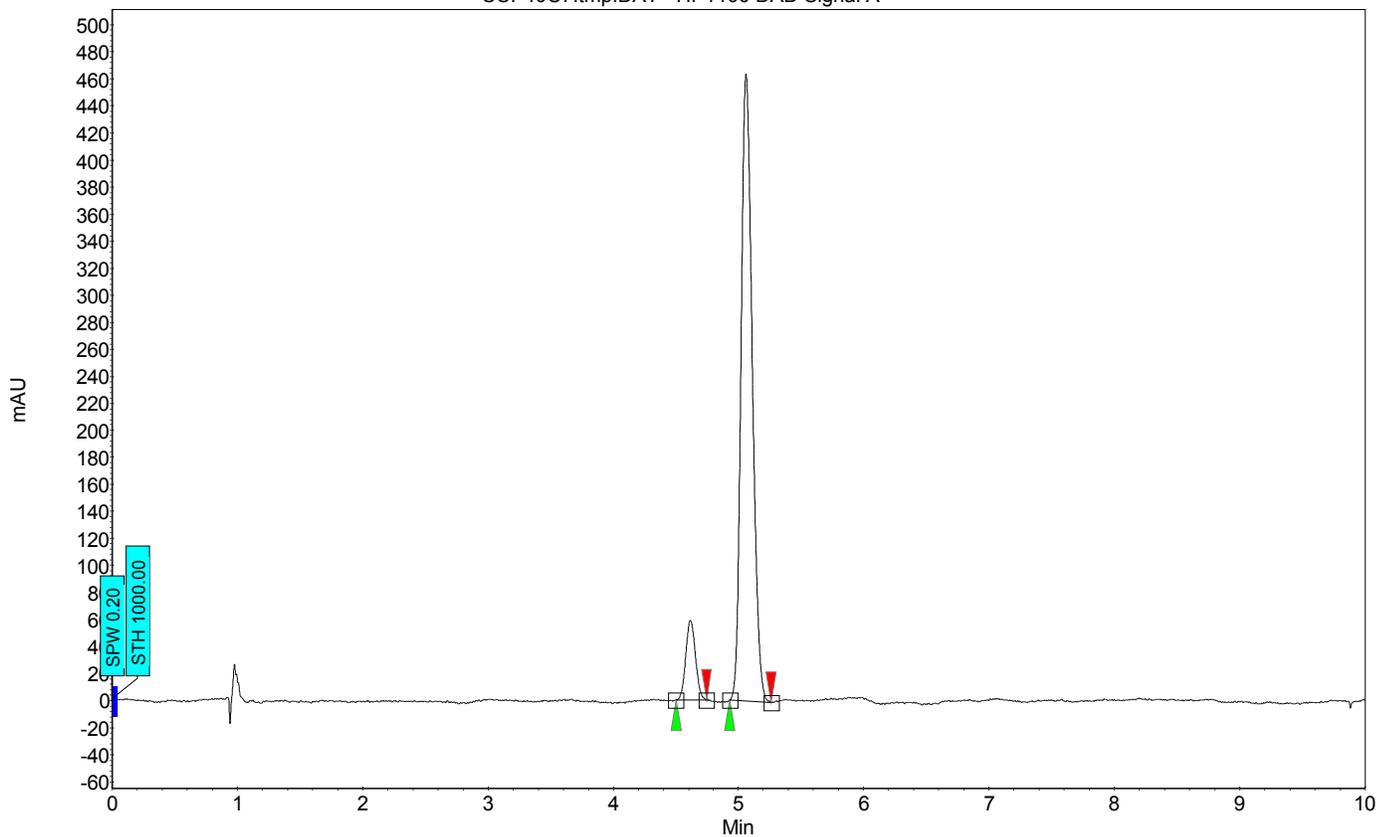
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 4.88 | 4.98 | 5.28 | 0.00 | 50.23 | 332.4 | 58.2 | 50.229 |
| 2 | UNKNOWN | 5.28 | 5.41 | 5.91 | 0.00 | 49.77 | 233.7 | 57.6 | 49.771 |
| Total | | | | | | 100.00 | 566.0 | 115.8 | 100.000 |

Method Name:mag-diary|CH2OHMe
 Run Name:mag-2-0361

Date:1/26/2012
 Time:3:38:56 PM



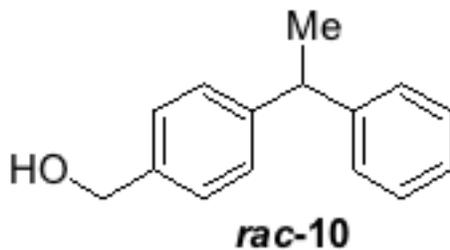
CCP40C7.tmp.DAT - HP1100 DAD Signal A



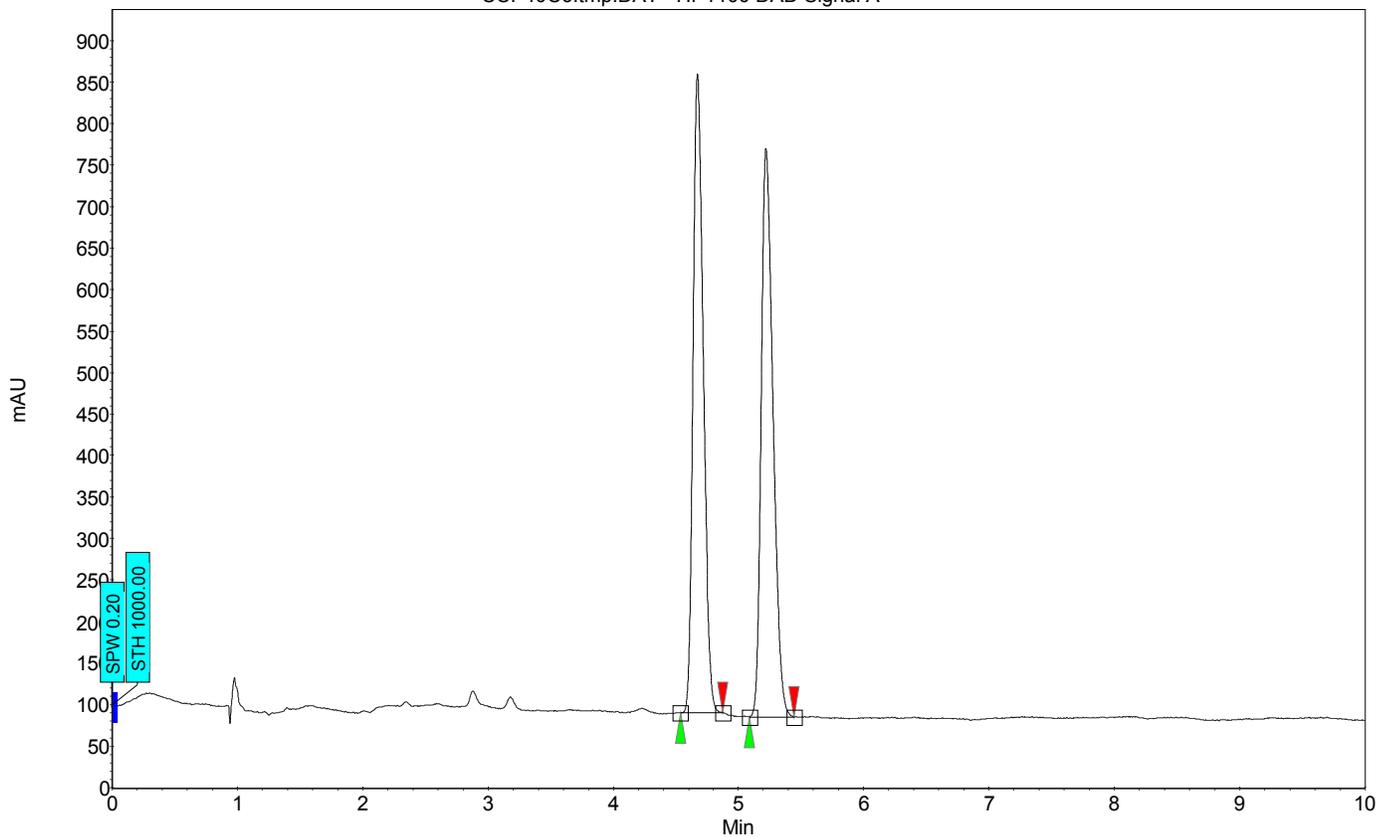
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 4.50 | 4.61 | 4.74 | 0.00 | 9.92 | 59.0 | 5.3 | 9.918 |
| 2 | UNKNOWN | 4.93 | 5.06 | 5.26 | 0.00 | 90.08 | 464.0 | 47.9 | 90.082 |
| Total | | | | | | 100.00 | 523.1 | 53.2 | 100.000 |

Method Name:mag-diarylCH2OHMe
Run Name:mag-1-2825

Date:1/26/2012
Time:3:37:21 PM



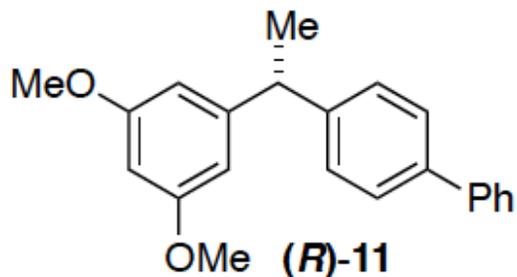
CCP40C6.tmp.DAT - HP1100 DAD Signal A



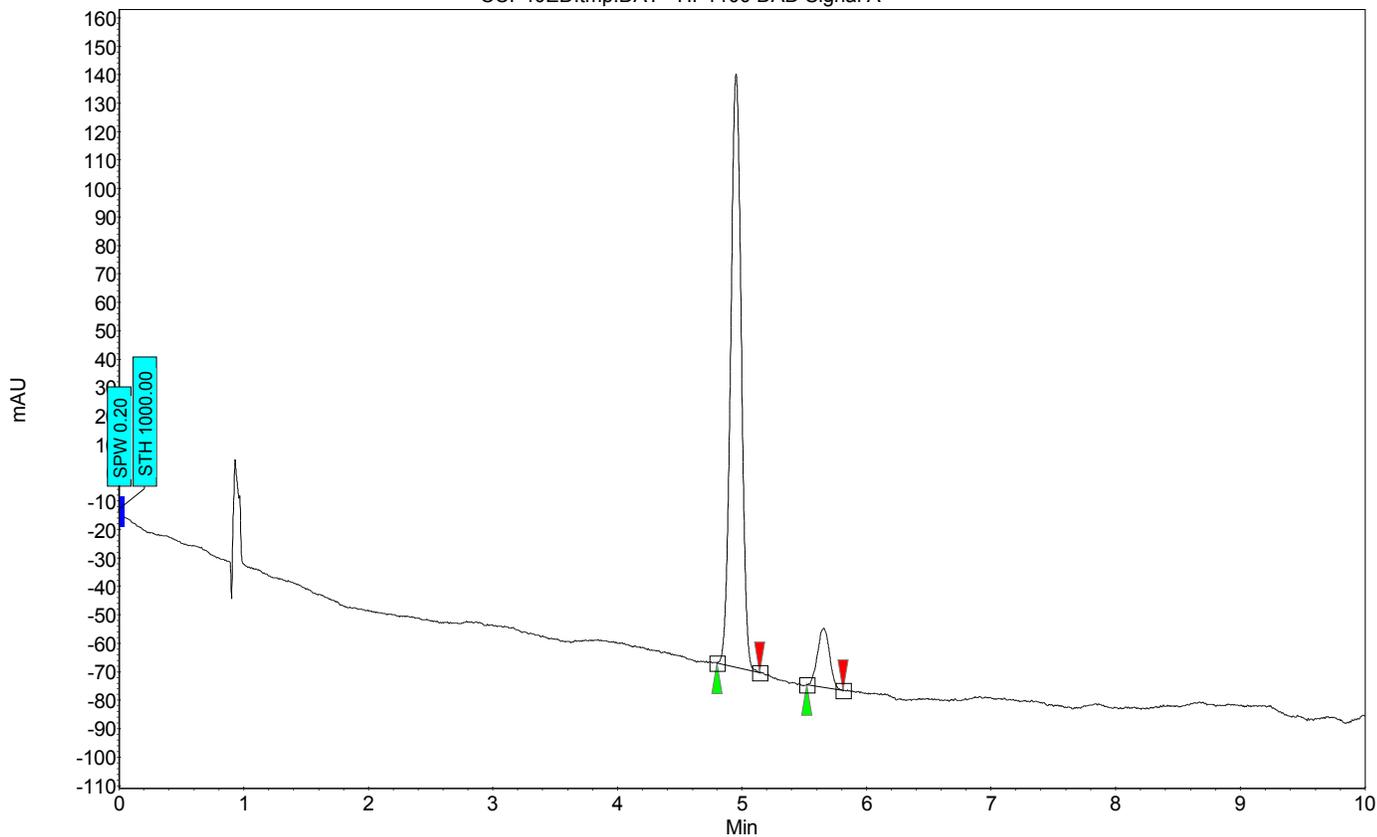
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 4.53 | 4.67 | 4.88 | 0.00 | 49.78 | 769.4 | 74.2 | 49.778 |
| 2 | UNKNOWN | 5.09 | 5.22 | 5.44 | 0.00 | 50.22 | 685.0 | 74.8 | 50.222 |
| Total | | | | | | 100.00 | 1454.4 | 149.0 | 100.000 |

Method Name:mag-3,5-OMeMe
 Run Name:mag-2-0122

Date:1/27/2012
 Time:10:53:23 AM



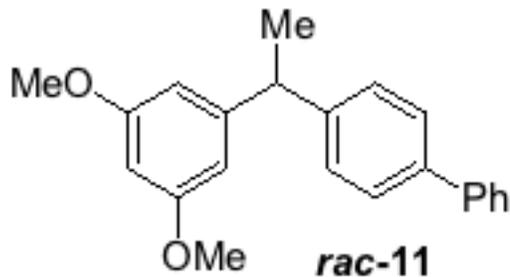
CCP40ED.tmp.DAT - HP1100 DAD Signal A



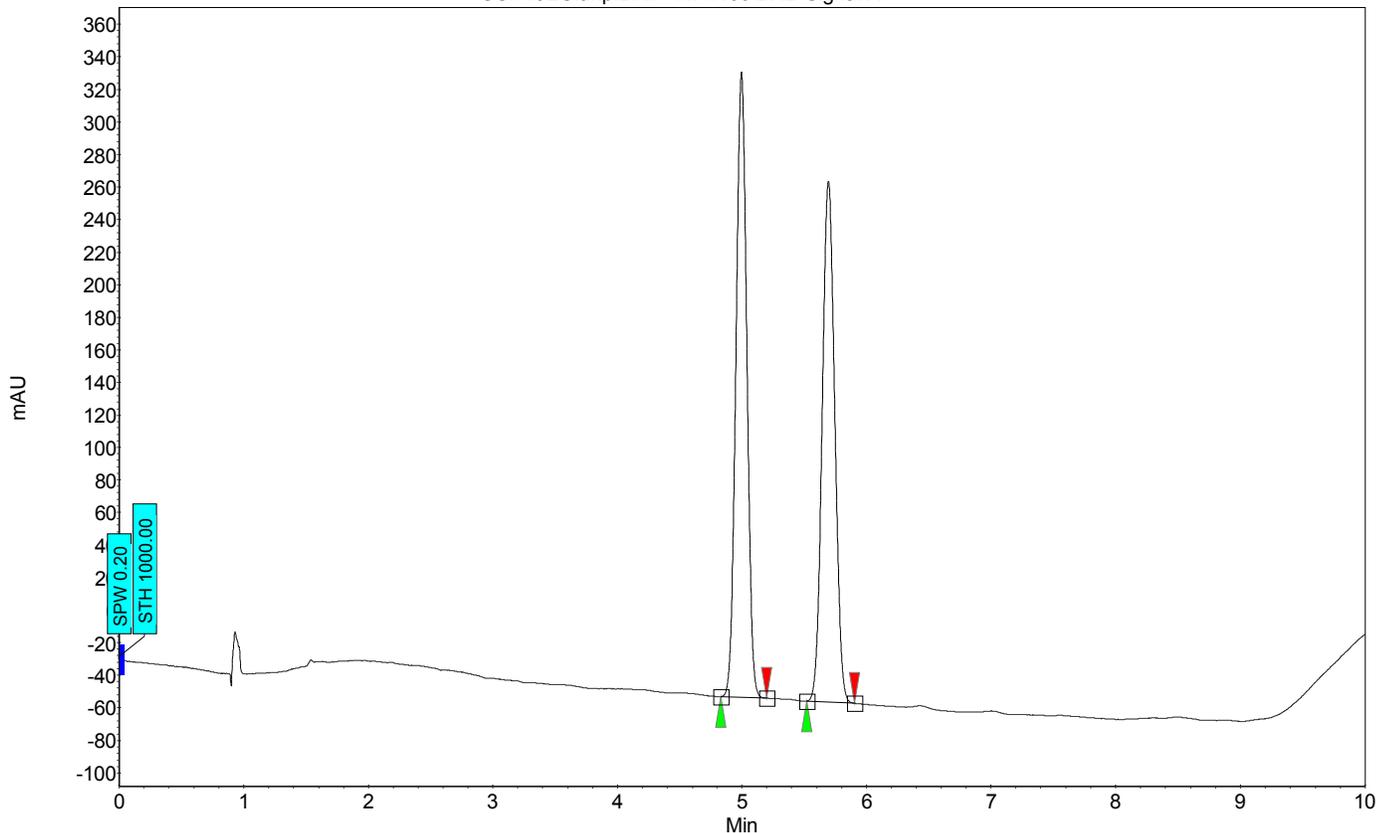
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|--------|----------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μV] | [μV.Min] | [%] |
| 1 | UNKNOWN | 4.80 | 4.96 | 5.14 | 0.00 | 89.81 | 208.8 | 20.6 | 89.814 |
| 2 | UNKNOWN | 5.52 | 5.66 | 5.82 | 0.00 | 10.19 | 20.9 | 2.3 | 10.186 |
| Total | | | | | | 100.00 | 229.6 | 23.0 | 100.000 |

Method Name:mag-3,5-OMeMe
 Run Name:mag-1-2055

Date:1/27/2012
 Time:10:49:16 AM

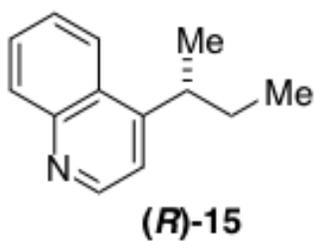


CCP40EC.tmp.DAT - HP1100 DAD Signal A

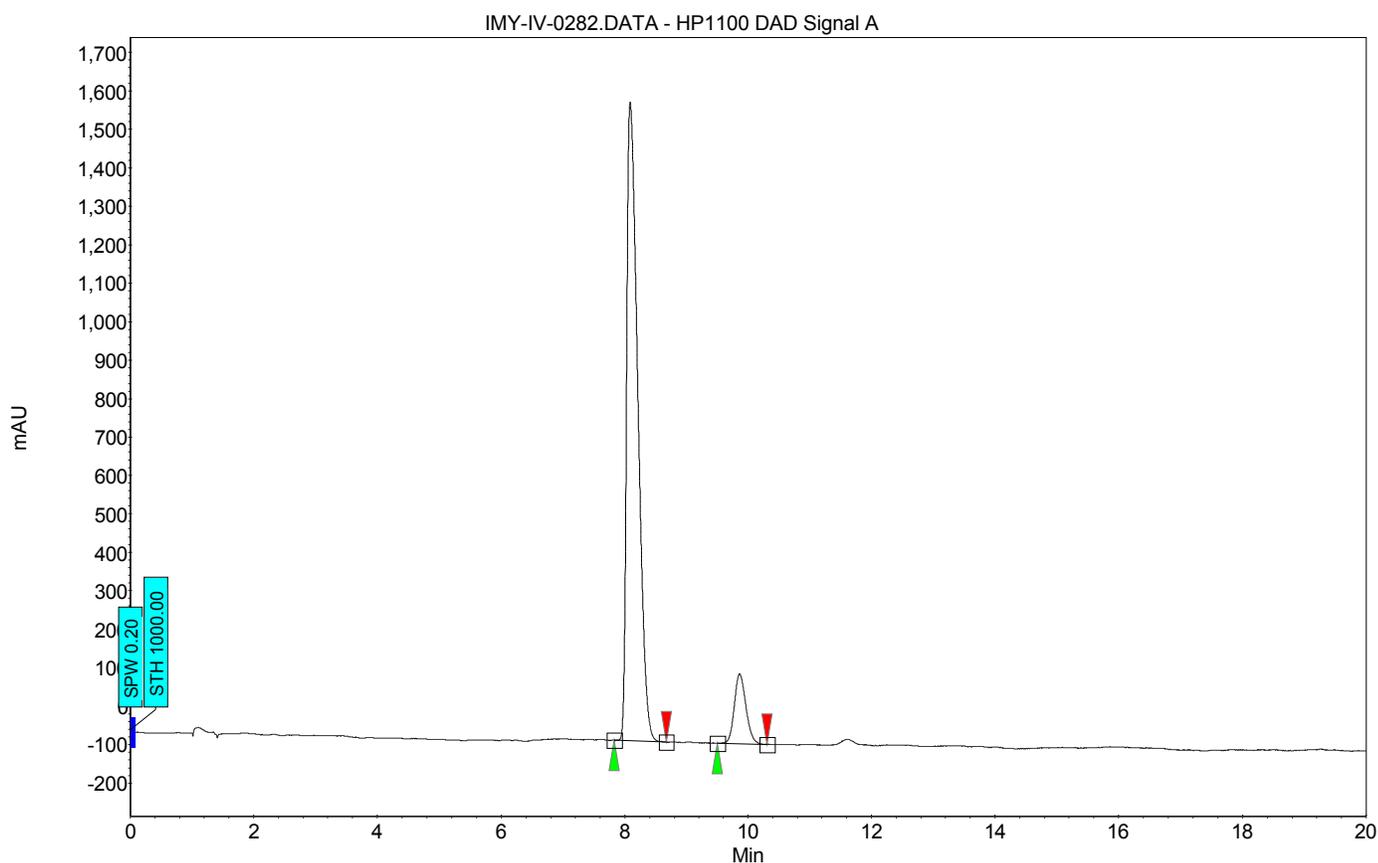


| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 4.83 | 5.00 | 5.20 | 0.00 | 51.02 | 384.3 | 38.9 | 51.022 |
| 2 | UNKNOWN | 5.52 | 5.70 | 5.91 | 0.00 | 48.98 | 320.2 | 37.3 | 48.978 |
| Total | | | | | | 100.00 | 704.5 | 76.3 | 100.000 |

Method Name:IMY-4quinolineDP
Run Name:IMY-IV-0282

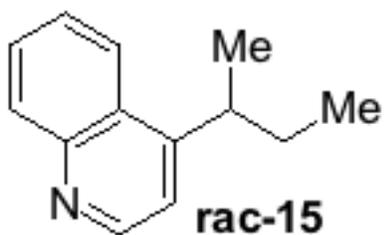


Date:3/14/2012
Time:1:52:12 PM



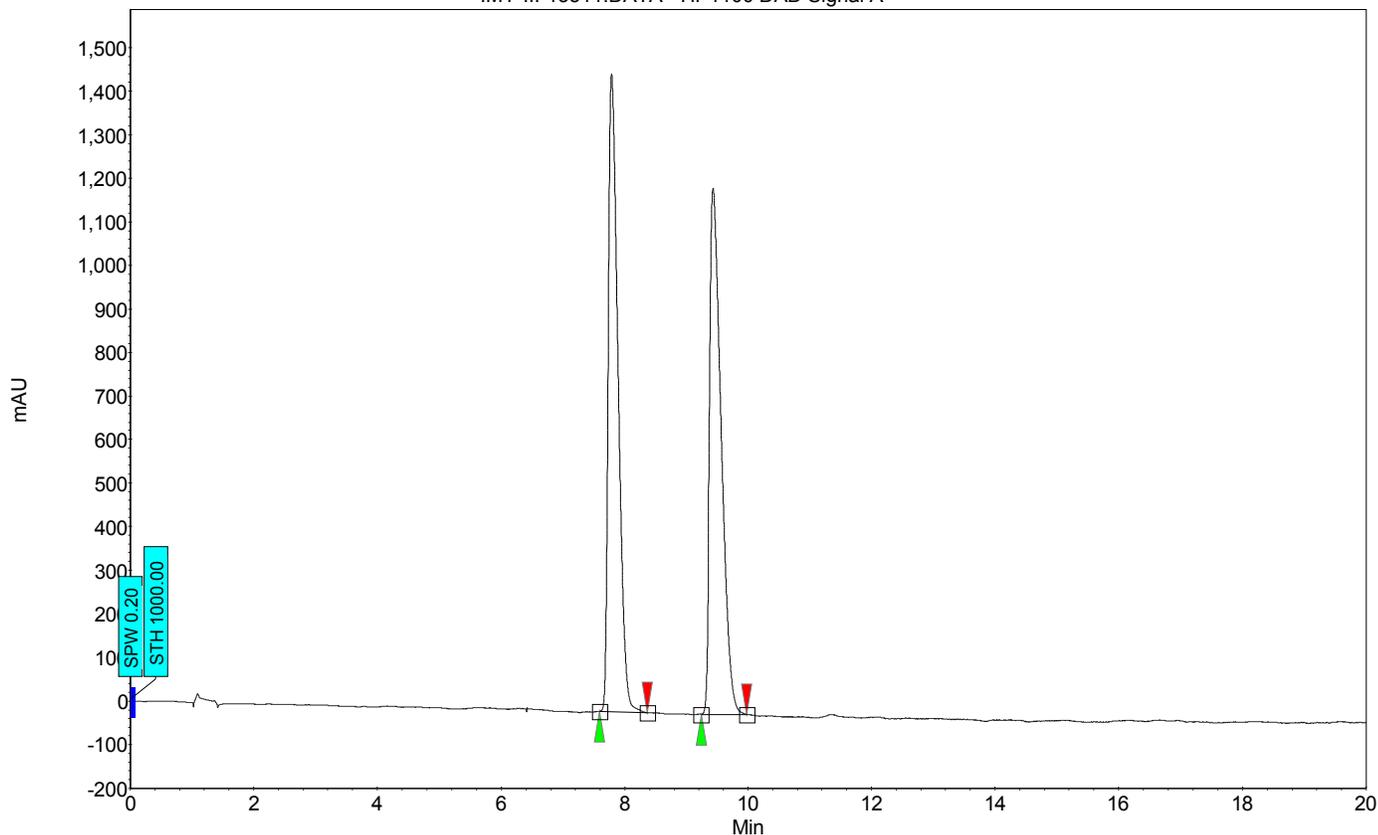
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|--------|----------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μV] | [μV.Min] | [%] |
| 2 | UNKNOWN | 7.83 | 8.09 | 8.68 | 0.00 | 89.74 | 1660.5 | 345.3 | 89.743 |
| 1 | UNKNOWN | 9.50 | 9.86 | 10.31 | 0.00 | 10.26 | 180.8 | 39.5 | 10.257 |
| Total | | | | | | 100.00 | 1841.3 | 384.8 | 100.000 |

Method Name:IMY-4quinolineDP
Run Name:IMY-III-13311



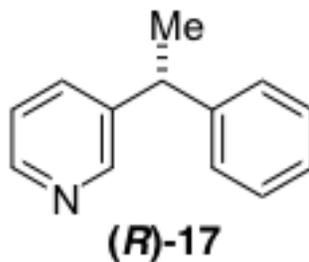
Date:3/14/2012
Time:1:52:59 PM

IMY-III-13311.DATA - HP1100 DAD Signal A



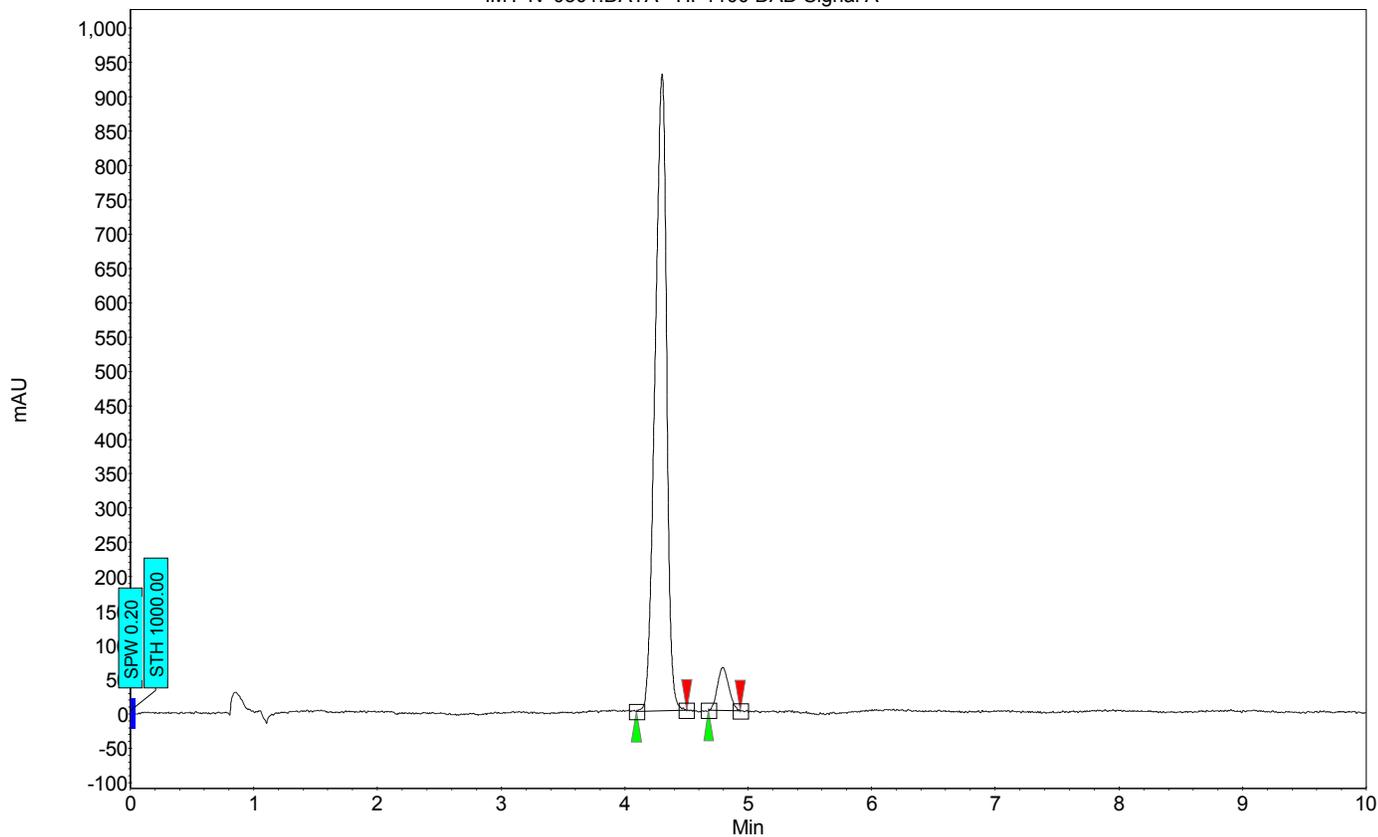
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 7.59 | 7.79 | 8.36 | 0.00 | 50.16 | 1463.7 | 268.7 | 50.159 |
| 2 | UNKNOWN | 9.24 | 9.44 | 9.98 | 0.00 | 49.84 | 1207.9 | 267.0 | 49.841 |
| Total | | | | | | 100.00 | 2671.6 | 535.7 | 100.000 |

Method Name:IMY-PyrPhEther
Run Name:IMY-IV-0301



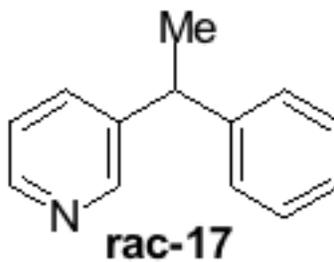
Date:3/14/2012
Time:1:53:47 PM

IMY-IV-0301.DATA - HP1100 DAD Signal A

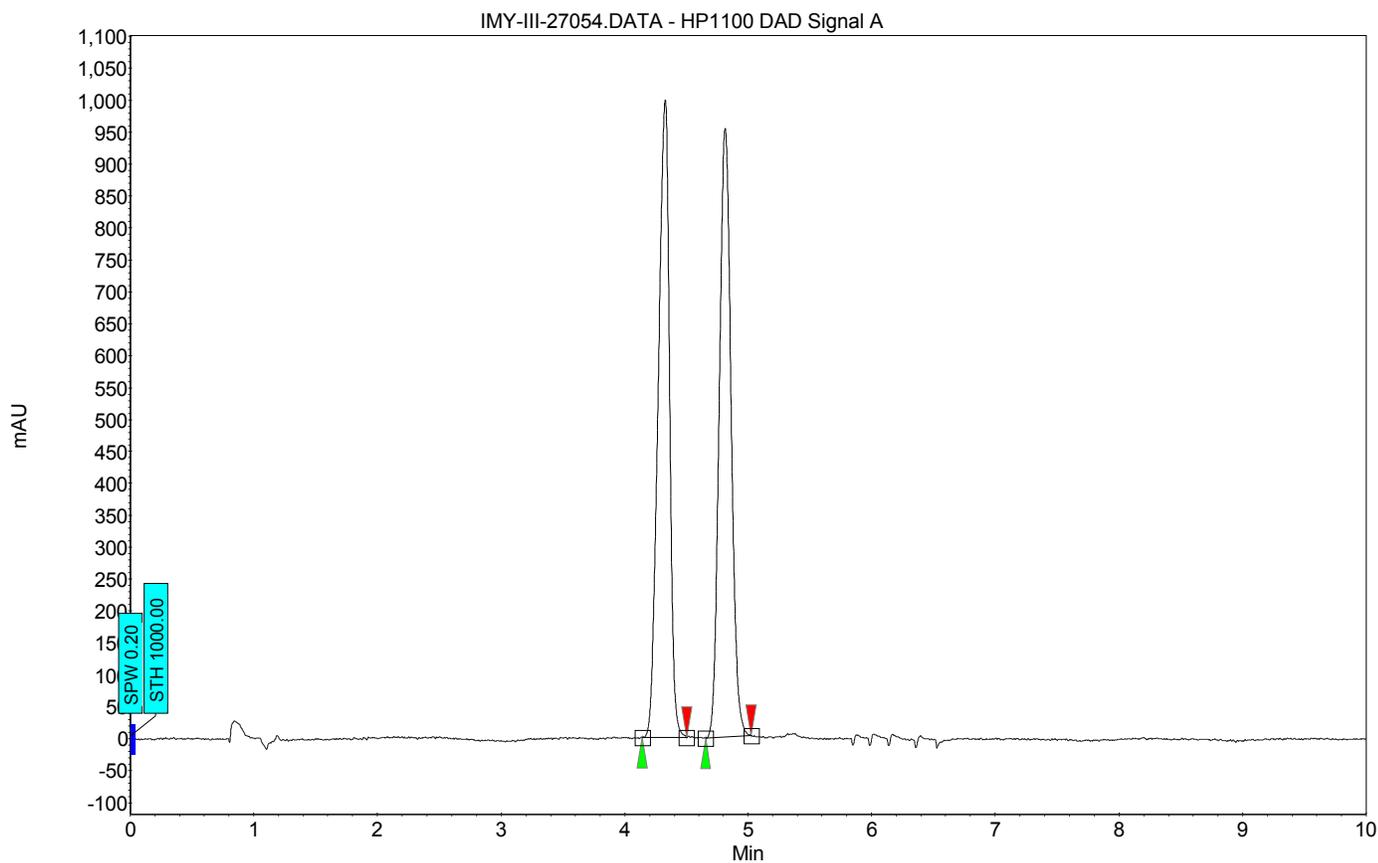


| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|-------------------|------------------------------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μV] | [$\mu\text{V} \cdot \text{Min}$] | [%] |
| 2 | UNKNOWN | 4.09 | 4.30 | 4.50 | 0.00 | 93.75 | 928.3 | 100.4 | 93.752 |
| 1 | UNKNOWN | 4.68 | 4.79 | 4.94 | 0.00 | 6.25 | 62.4 | 6.7 | 6.248 |
| Total | | | | | | 100.00 | 990.7 | 107.1 | 100.000 |

Method Name:IMY-PyrPhEther
Run Name:IMY-III-27054

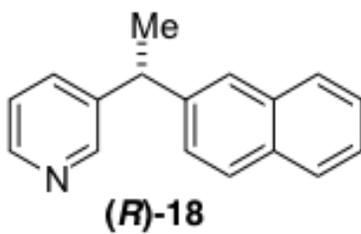


Date:3/14/2012
Time:1:54:30 PM



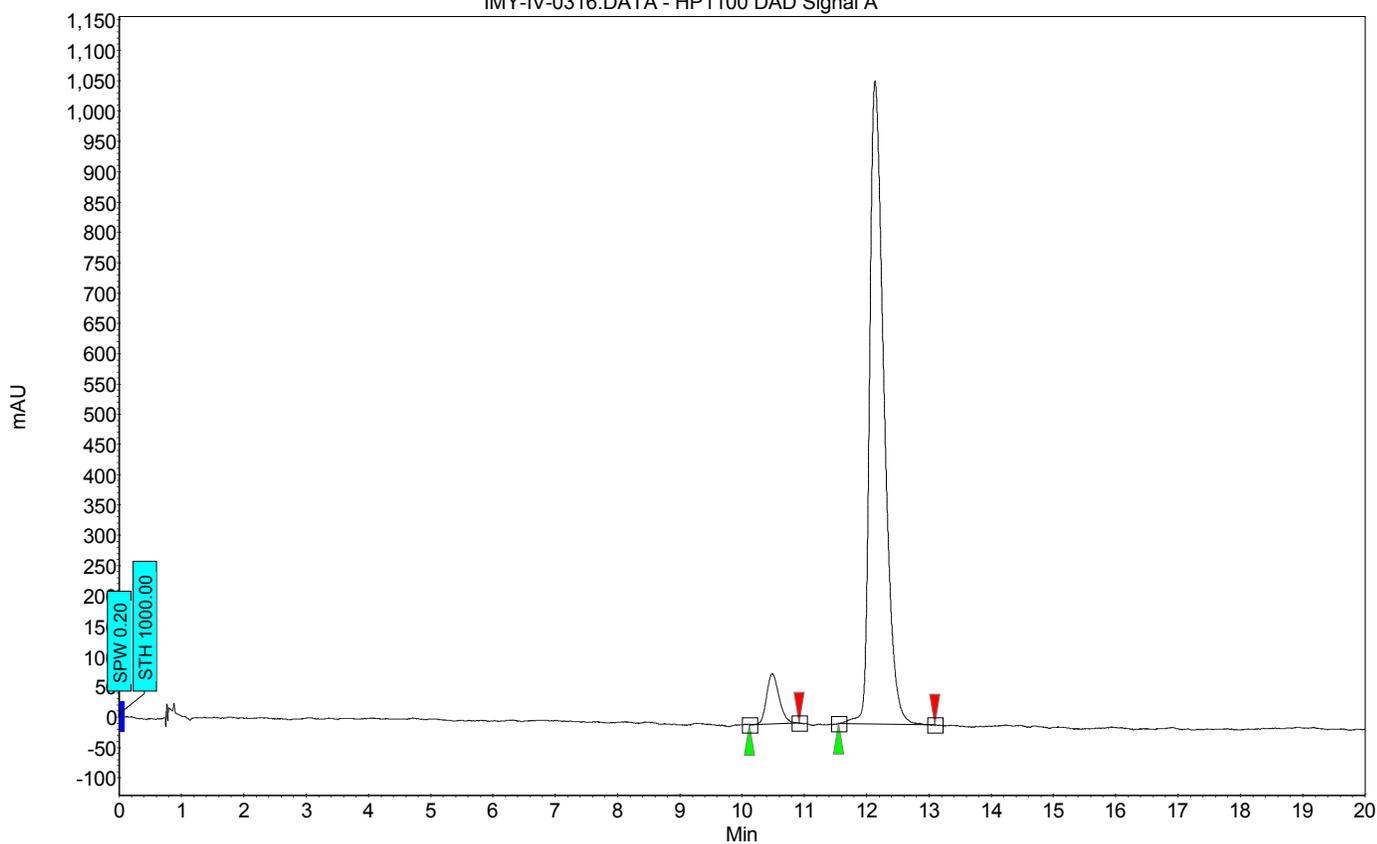
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 4.14 | 4.33 | 4.50 | 0.00 | 50.01 | 998.2 | 106.0 | 50.007 |
| 2 | UNKNOWN | 4.66 | 4.82 | 5.03 | 0.00 | 49.99 | 953.1 | 105.9 | 49.993 |
| Total | | | | | | 100.00 | 1951.3 | 211.9 | 100.000 |

Method Name:IMY-PyrNapEther
 Run Name:IMY-IV-0316



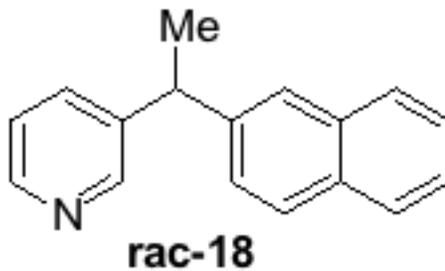
Date:3/14/2012
 Time:1:55:45 PM

IMY-IV-0316.DATA - HP1100 DAD Signal A



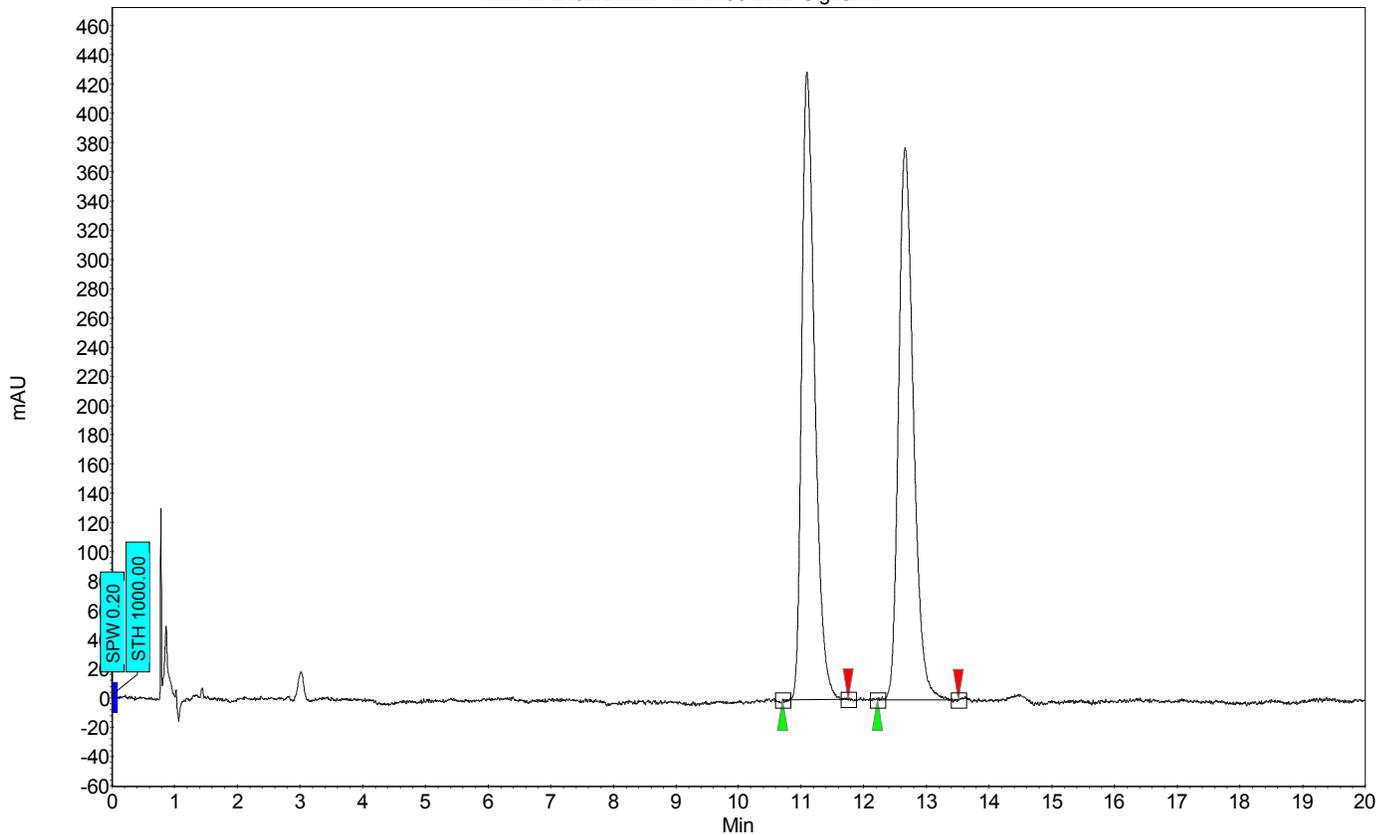
| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|------------|----------------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μ V] | [μ V.Min] | [%] |
| 1 | UNKNOWN | 10.13 | 10.49 | 10.92 | 0.00 | 6.35 | 83.2 | 19.2 | 6.351 |
| 2 | UNKNOWN | 11.55 | 12.14 | 13.10 | 0.00 | 93.65 | 1061.0 | 283.1 | 93.649 |
| Total | | | | | | 100.00 | 1144.1 | 302.3 | 100.000 |

Method Name:IMY-PyrNapEther
Run Name:IMY-III-2402



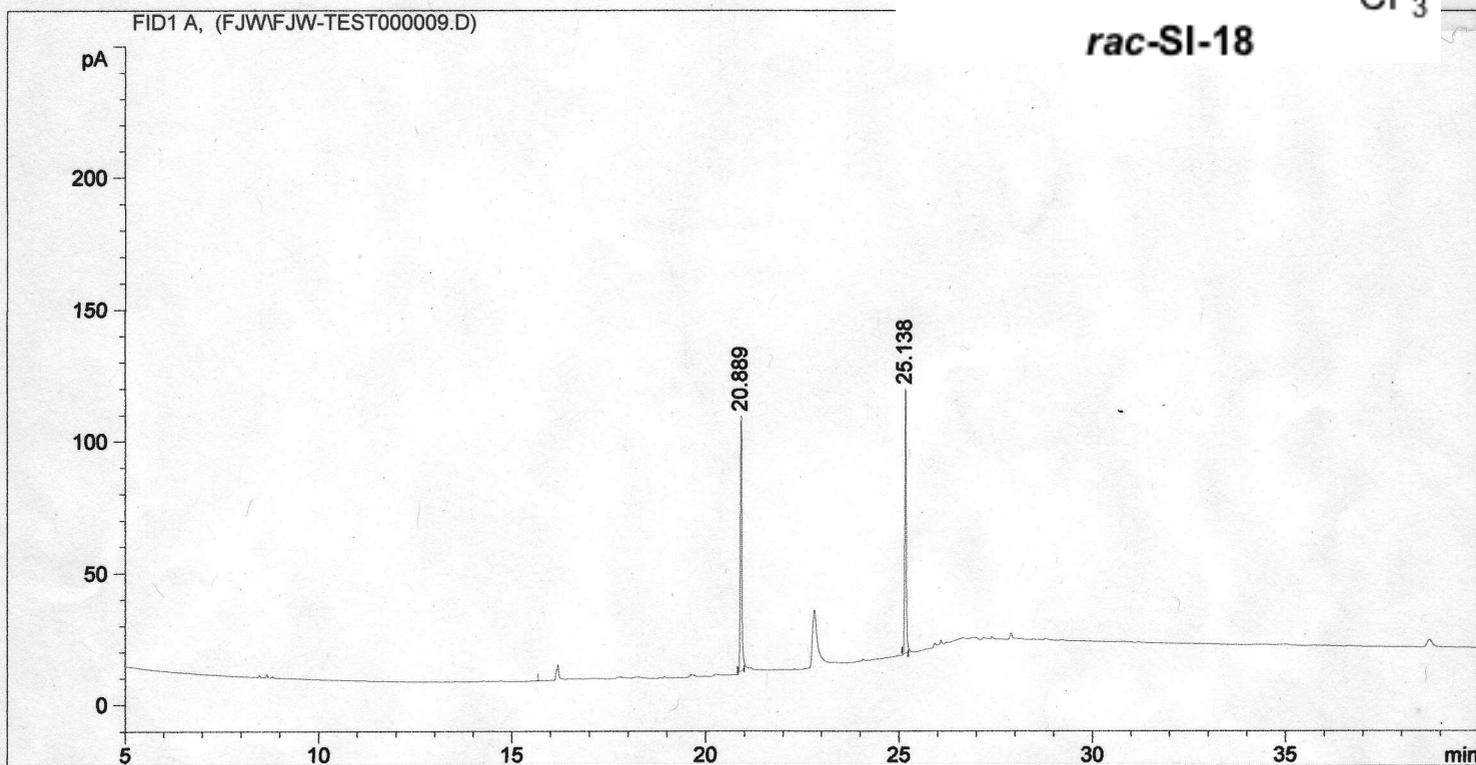
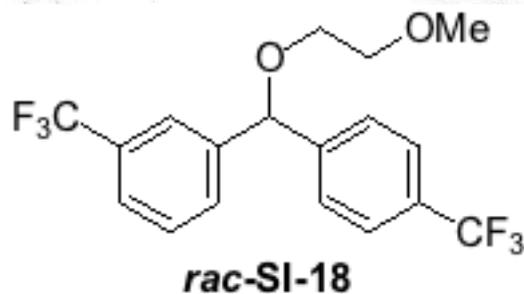
Date:3/14/2012
Time:1:56:17 PM

IMY-III-2402.DATA - HP1100 DAD Signal A



| Index | Name | Start | Time | End | RT Offset | Quantity | Height | Area | Area |
|-------|---------|-------|-------|-------|-----------|----------|--------|----------|---------|
| | | [Min] | [Min] | [Min] | [Min] | [% Area] | [μV] | [μV.Min] | [%] |
| 1 | UNKNOWN | 10.71 | 11.10 | 11.75 | 0.00 | 49.84 | 429.4 | 102.8 | 49.844 |
| 2 | UNKNOWN | 12.22 | 12.66 | 13.51 | 0.00 | 50.16 | 377.9 | 103.4 | 50.156 |
| Total | | | | | | 100.00 | 807.3 | 206.2 | 100.000 |

=====
Acq. Operator : IMY
Acq. Instrument : Instrument 1
Injection Date : 10/25/2011 7:02:28 PM
Acq. Method : C:\CHEM32\1\METHODS\IMY-FRONT.M
Last changed : 10/25/2011 6:51:33 PM by IMY
Analysis Method : C:\CHEM32\1\METHODS\IMY-FRONT.M
Last changed : 10/25/2011 8:05:36 PM by IMY
(modified after loading)
Sample Info :
Location : -
Inj : 1
Inj Volume : Manually



=====
Area Percent Report
=====

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

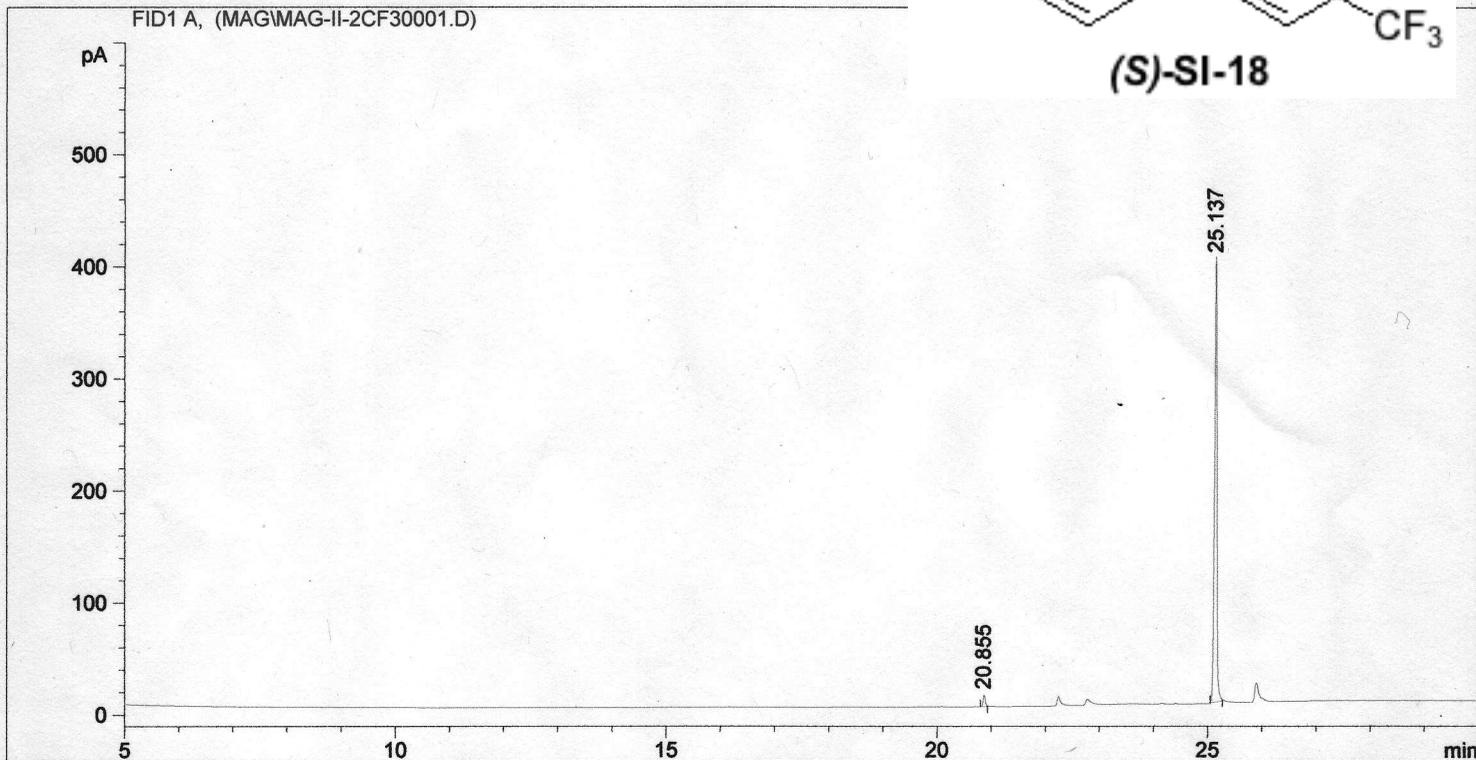
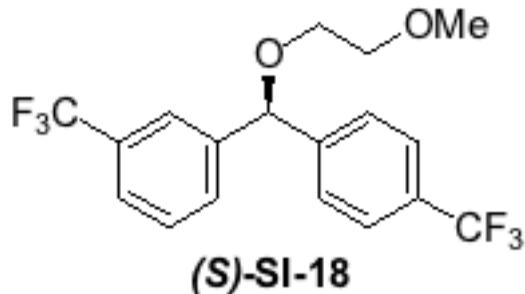
Signal 1: FID1 A,

| Peak # | RetTime [min] | Type | Width [min] | Area [pA*s] | Height [pA] | Area % |
|--------|---------------|------|-------------|-------------|-------------|----------|
| 1 | 20.889 | BB | 0.0434 | 267.71252 | 96.52744 | 51.19715 |
| 2 | 25.138 | BB | 0.0379 | 255.19260 | 99.73992 | 48.80285 |

Totals : 522.90512 196.26736

=====
*** End of Report ***

=====
Acq. Operator : WJC
Acq. Instrument : Instrument 1
Injection Date : 10/27/2011 12:22:40 PM
Location : -
Inj : 1
Inj Volume : Manually
Acq. Method : C:\CHEM32\1\METHODS\IMY-FRONT.M
Last changed : 10/25/2011 8:31:05 PM by IMY
Analysis Method : C:\CHEM32\1\METHODS\IMY-FRONT.M
Last changed : 10/27/2011 3:53:42 PM by WJC
(modified after loading)
Sample Info :



=====
Area Percent Report
=====

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

| Peak # | RetTime [min] | Type | Width [min] | Area [pA*s] | Height [pA] | Area % |
|--------|---------------|------|-------------|-------------|-------------|----------|
| 1 | 20.855 | BB | 0.0432 | 27.70557 | 10.03049 | 2.16499 |
| 2 | 25.137 | BB | 0.0459 | 1252.00159 | 396.04816 | 97.83501 |

Totals : 1279.70716 406.07865

=====
*** End of Report ***