

**B(C₆F₅)₃-Catalyzed Highly Stereoselective Hydrogenation of Unfunctionalized
Tetrasubstituted Olefins**

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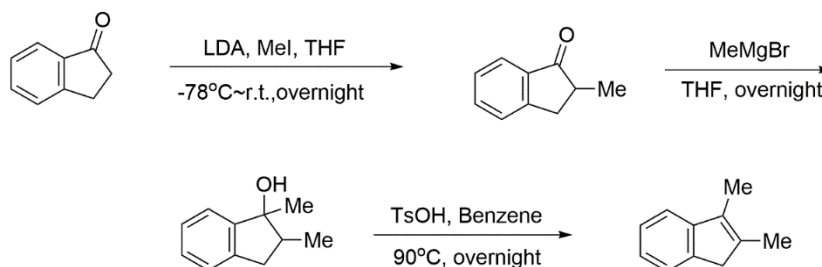
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Supporting Information

General consideration: All air-sensitive compounds were handled under an atmosphere of argon or in a nitrogen-filled glovebox. ^1H NMR and ^{13}C NMR spectra were recorded on Bruker AV 500 at ambient temperature with CDCl_3 as solvent and TMS as internal standard. Chemical shifts (δ) were given in ppm, referenced to the residual proton resonance of TMS (0), to the carbon resonance of the CDCl_3 (77.23). Coupling constants (J) were given in Hertz (Hz). IR spectrums were recorded on Perkin-Elmer-983 spectrometer. Column chromatography was performed on silica gel (200-300 mesh). All solvents were purified by conventional methods, distilled before use. Commercially available reagents were used without further purification.

Representative procedure for preparation of unfunctionalized tetrasubstituted olefins (1a):



To a stirred solution of LDA (40 mL, 1.0 eq, 1.0 M in THF) at -78°C in a nitrogen atmosphere, 1-indanone solution (40 mL, 1.0 M in THF) was slowly added. After stirred at -78°C for 2 h, methyl iodide (5.68 g, 1.0 eq) was then added and this solution was stirred overnight at room temperature. A solution of saturated NH_4Cl (50 mL) was added and the mixture was extracted with ethyl acetate (3×50 mL). The combined organic layers washed with brine (200 mL) and dried over anhydrous MgSO_4 and the solvent was evaporated under reduced pressure. The residue was

purified by flash column chromatography on silica gel (petroleum ether/ethyl acetate = 100/1, v/v) to give 2-methyl-1*H*-indanone (1.85 g, 32% yield).

Mahapatra, T.; Jana, N.; Nanda, S. *Tetrahedron Lett.* **2008**, *19*, 1224-1232.

Magnesium methyl bromide (15 mL, 1.5 eq, 1.0 M in THF) was slowly added to a stirred solution of 2-methyl-1-indanone (20 mL, 3.0 M in THF) at room temperature in a nitrogen atmosphere. This mixture was stirred at room temperature overnight. A solution of saturated NH₄Cl (50 mL) was slowly added and the mixture was extracted with ether (3 × 50 mL). The combined organic layers were washed with brine (150 mL) and dried over anhydrous MgSO₄ and the solvent was evaporated under reduced pressure. The crude product (0.9500 g, 86% yield) can be used directly for the next step.

Kloetzel, M. C. *J. Am. Chem. Soc.* **1940**, *62*, 1708-1713.

The crude product was dissolved in benzene (25 mL), *p*-toluene sulfonic acid (0.0100 g) was added and the mixture was refluxed overnight. The mixture was cooled to room temperature and benzene was evaporated under reduced pressure. The residue was purified by flash column chromatography on silica gel (petroleum ether) to give the desired product 2,3-dimethyl-1*H*-indene (0.7800 g, 92% yield).

Troutman, M. V.; Appella, D. H.; Buchwald, S. L. *J. Am. Chem. Soc.* **1999**, *121*, 4916-4917.

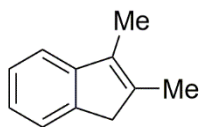
Representative procedure for hydrogenation of unfunctionalized tetrasubstituted olefins 4a:

To a stainless-steel autoclave, was added 2,3-dimethyl-1*H*-indene (**1a**) (0.0721 g, 0.5 mmol), B(C₆F₅)₃ (**2a**) (0.0256 g, 0.05 mmol), *N*-methyldiphenylamine (**3m**) (0.0092 g, 0.05 mmol), and dry DCM (0.5 mL) in a nitrogen atmosphere glovebox. After being sealed, the autoclave was purged three times with H₂ and the final pressure of hydrogen was adjusted to 40 bar. The reaction mixture was stirred at 120 °C for 24 h. After cooling to ambient temperature, the solvent was removed under reduced pressure. The crude residue was purified by column chromatography on silica gel (petroleum ether) to give 1,2-dimethyl-2,3-dihydro-1*H*-indene (**4a**) as light yellow oil (0.0710 g, 97% yield, *cis/trans* = 96/4).

Representative procedure for hydrogenation of unfunctionalized tetrasubstituted olefins (Scheme 4):

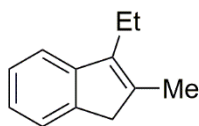
To a stainless-steel autoclave, was added 2,3-dimethyl-1*H*-indene (**1a**) (0.1442 g, 1.0 mmol), B(C₆F₅)₃ (0.0512 g, 0.1 mmol), *N*-methyldiphenylamine (0.0183 g, 0.1 mmol), and dry DCM (1.0 mL) in a nitrogen atmosphere glovebox. After being sealed, the autoclave was purged three times with H₂ and the final pressure of hydrogen was adjusted to 40 bar. The reaction mixture was stirred at 120 °C for 24 h. After cooling to ambient temperature, the solvent was removed under reduced pressure. The crude residue was purified by column chromatography on silica gel using petroleum ether as the eluent to give 1,2-dimethyl-2,3-dihydro-1*H*-indene (**4a**) as light yellow oil (0.1402 g, 96% yield, *cis/trans* = 96/4).

Characterization of substrates



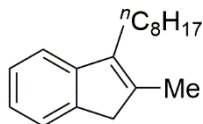
2,3-Dimethyl-1H-indene (1a): light yellow oil (petroleum ether); ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.35 (d, $J = 7.5$ Hz, 1H), 7.28-7.23 (m, 1H), 7.21 (d, $J = 7.5$ Hz, 1H), 7.14-7.08 (m, 1H), 3.26 (s, 2H), 2.06 (s, 3H), 2.03 (s, 3H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 147.8, 142.5, 138.2, 132.7, 126.3, 123.8, 123.2, 118.1, 42.7, 14.1, 10.3.

Troutman, M. V.; Appella, D. H.; Buchwald, S. L. *J. Am. Chem. Soc.* **1999**, *121*, 4916-4917.

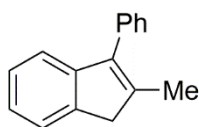


3-Ethyl-2-methyl-1H-indene (1b): yellow oil (petroleum ether); ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.37 (d, $J = 7.5$ Hz, 1H), 7.27-7.23 (m, 2H), 7.13-7.07 (m, 1H), 3.26 (s, 2H), 2.53 (q, $J = 7.5$ Hz, 2H), 2.06 (s, 3H), 1.14 (t, $J = 7.5$ Hz, 3H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 146.7, 142.9, 138.9, 137.7, 126.2, 123.6, 123.4, 118.3, 42.7, 18.6, 14.0, 13.6.

Troutman, M. V.; Appella, D. H.; Buchwald, S. L. *J. Am. Chem. Soc.* **1999**, *121*, 4916-4917.

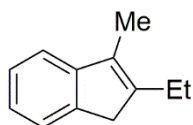


2-Methyl-3-octyl-1H-indene (1c): yellow oil (petroleum ether), IR (film): 2926, 2854, 1464 cm^{-1} ; ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.36 (d, $J = 7.5$ Hz, 1H), 7.28-7.22 (m, 2H), 7.14-7.06 (m, 1H), 3.26 (s, 2H), 2.50 (t, $J = 7.5$ Hz, 2H), 2.05 (s, 3H), 1.58-1.50 (m, 2H), 1.39-1.21 (m, 10H), 0.88 (t, $J = 7.0$ Hz, 3H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 147.1, 142.9, 138.3, 137.5, 126.1, 123.6, 123.3, 118.4, 42.7, 32.1, 30.0, 29.8, 29.6, 28.9, 25.5, 22.9, 14.3, 14.2; HRMS (EI) calcd. for $\text{C}_{18}\text{H}_{26}$ $[\text{M}]^+$: 242.2035, Found: 242.2032.



2-Methyl-3-phenyl-1H-indene (1d): light yellow oil (petroleum ether/DCM = 20/1); ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.48-7.38 (m, 5H), 7.37-7.32 (m, 1H), 7.24-7.20 (m, 2H), 7.18-7.11 (m, 1H), 3.44 (s, 2H), 2.13 (s, 3H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 146.6, 142.6, 140.8, 138.8, 135.7, 129.3, 128.6, 127.2, 126.4, 124.2, 123.6, 119.5, 43.3, 15.0.

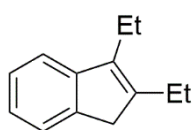
Troutman, M. V.; Appella, D. H.; Buchwald, S. L. *J. Am. Chem. Soc.* **1999**, *121*, 4916-4917.



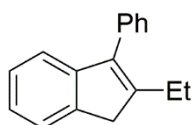
2-Ethyl-3-methyl-1H-indene (1e): yellow oil (petroleum ether); ^1H NMR (500 MHz,

CDCl₃, ppm): δ 7.38 (d, J = 7.5 Hz, 1H), 7.30-7.21 (m, 2H), 7.14-7.07 (m, 1H), 3.29 (s, 2H), 2.48 (q, J = 7.5 Hz, 2H), 2.04 (s, 3H), 1.14 (t, J = 7.5 Hz, 3H); ¹³C NMR (500 MHz, CDCl₃, ppm): δ 147.8, 144.4, 142.6, 131.9, 126.3, 123.8, 123.3, 118.3, 39.9, 21.8, 14.4, 10.3.

Biosca, M.; Salomó, E.; Cruz-Sánchez, P.; Riera, A.; Verdaguer, X.; Pàmies, O.; Diéguez, M. *Org. Lett.* **2019**, *21*, 807–811.

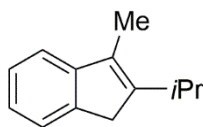


2,3-Diethyl-1H-indene (1f): light yellow oil (petroleum ether), IR (film): 2931, 2874, 1462 cm⁻¹; ¹H NMR (500 MHz, CDCl₃, ppm): δ 7.39 (d, J = 7.5 Hz, 1H), 7.29-7.23 (m, 2H), 7.15-7.08 (m, 1H), 3.29 (s, 2H), 2.53 (q, J = 7.5 Hz, 2H), 2.48 (q, J = 7.5 Hz, 2H), 1.15 (t, J = 7.5 Hz, 3H), 1.14 (t, J = 7.5 Hz, 3H); ¹³C NMR (500 MHz, CDCl₃, ppm): δ 146.7, 144.0, 143.0, 138.2, 126.2, 123.7, 123.6, 118.5, 39.9, 21.7, 18.5, 14.8, 14.0; HRMS (EI) calcd. for C₁₃H₁₆ [M]⁺: 172.1252, Found: 172.1253.

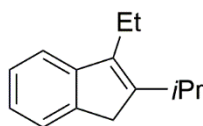


2-Ethyl-3-phenyl-1H-indene (1g): light yellow oil (petroleum ether/DCM = 20/1), IR (film): 2965, 2876, 1461cm⁻¹; ¹H NMR (500 MHz, CDCl₃, ppm): δ 7.49-7.42 (m, 3H), 7.41-7.33 (m, 3H), 7.26-7.13 (m, 3H), 3.48 (s, 2H), 2.53 (q, J = 7.5 Hz, 2H), 1.17 (t, J = 7.5 Hz, 3H); ¹³C NMR (500 MHz, CDCl₃, ppm): δ 146.9, 146.6, 142.6, 138.3, 135.8, 129.3, 128.6, 127.2, 126.4, 124.2, 123.7, 119.7, 40.3, 22.3, 14.9; HRMS

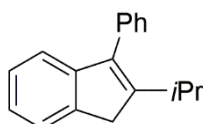
(EI) calcd. for C₁₇H₁₆ [M]⁺: 220.1252, Found: 220.1255.



2-Isopropyl-3-methyl-1H-indene (1h): light yellow oil (petroleum ether), IR (film): 2960, 2927, 2869, 1467 cm⁻¹; ¹H NMR (500 MHz, CDCl₃, ppm): δ 7.38 (d, *J* = 7.5 Hz, 1H), 7.29-7.19 (m, 2H), 7.15-7.09 (m, 1H), 3.27 (d, *J* = 1.0 Hz, 2H), 3.10-3.01 (m, 1H), 2.04 (t, *J* = 2.0 Hz, 3H), 1.15 (s, 3H), 1.14 (s, 3H); ¹³C NMR (500 MHz, CDCl₃, ppm): δ 148.6, 147.7, 142.4, 131.0, 126.3, 123.8, 123.4, 118.3, 36.2, 27.5, 22.9, 10.2; HRMS (EI) calcd. for C₁₃H₁₆ [M]⁺: 172.1252, Found: 172.1251.

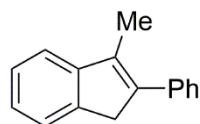


3-Ethyl-2-isopropyl-1H-indene (1i): colorless oil (petroleum ether), IR (film): 2962, 2929, 2872, 1465 cm⁻¹; ¹H NMR (500 MHz, CDCl₃, ppm): δ 7.40 (d, *J* = 7.5 Hz, 1H), 7.30-7.24 (m, 2H), 7.15-7.09 (m, 1H), 3.28 (s, 2H), 3.11-3.01 (m, 1H), 2.55 (q, *J* = 7.5 Hz, 2H), 1.19-1.13 (m, 9H); ¹³C NMR (500 MHz, CDCl₃, ppm): δ 148.3, 146.7, 142.8, 137.3, 126.2, 123.7, 123.6, 118.5, 36.1, 27.4, 23.3, 18.5, 14.1; HRMS (EI) calcd. for C₁₄H₁₈ [M]⁺: 186.1409, Found: 186.1411.



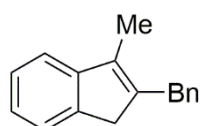
2-Isopropyl-3-phenyl-1H-indene (1j): colorless oil (petroleum ether/DCM = 20/1), IR (film): 2959, 1465 cm⁻¹; ¹H NMR (500 MHz, CDCl₃, ppm): δ 7.48-7.43 (m, 3H),

7.39-7.33 (m, 3H), 7.24-7.20 (m, 1H), 7.19-7.13 (m, 2H), 3.47 (s, 2H), 3.10-3.01 (m, 1H), 1.18 (s, 3H), 1.16 (s, 3H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 151.3, 146.7, 142.4, 137.4, 135.9, 129.4, 128.6, 127.2, 126.4, 124.2, 123.8, 119.7, 36.2, 27.7, 23.5; HRMS (EI) calcd. for $\text{C}_{18}\text{H}_{18}$ $[\text{M}]^+$: 234.1409, Found: 234.1412.



3-Methyl-2-phenyl-1H-indene (1k): white solid (petroleum ether); ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.51-7.45 (m, 3H), 7.44-7.37 (m, 3H), 7.36-7.32 (m, 1H), 7.31-7.26 (m, 1H), 7.24-7.20 (m, 1H), 3.74 (d, $J = 2.0$ Hz, 2H), 2.31 (t, $J = 2.0$ Hz, 3H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 147.7, 142.6, 140.5, 137.8, 134.9, 128.6, 128.5, 126.9, 126.6, 125.0, 123.6, 119.3, 41.2, 12.2.

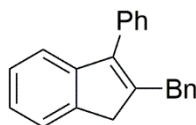
Troutman, M. V.; Appella, D. H.; Buchwald, S. L. *J. Am. Chem. Soc.* **1999**, *121*, 4916-4917.



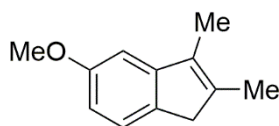
2-Benzyl-3-methyl-1H-indene (1l): colorless oil (petroleum ether); ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.32 (d, $J = 7.0$ Hz, 1H), 7.30-7.24 (m, 4H), 7.21-7.16 (m, 3H), 7.15-7.10 (m, 1H), 3.80 (s, 2H), 3.20 (s, 2H), 2.17 (s, 3H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 142.9, 141.0, 140.9, 133.9, 128.8, 128.7, 126.3, 126.2, 124.2, 123.4, 118.7, 40.6, 35.0, 10.7.

Ganellin, C. R.; Loynes, J. M.; Ridley, H. F.; Spickett, R. G. W. *J. Med. Chem.* **1967**,

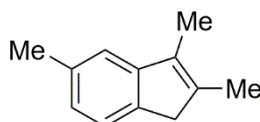
10, 826-833.



2-Benzyl-3-phenyl-1H-indene (1m): white solid (petroleum ether/DCM = 20/1), m.p. 94-97 °C, IR (film): 3025, 2896, 1601, 1492, 1460 cm^{-1} ; ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.52-7.44 (m, 4H), 7.42-7.36 (m, 2H), 7.30-7.22 (m, 4H), 7.22-7.13 (m, 4H), 3.85 (s, 2H), 3.38 (s, 2H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 146.3, 143.1, 143.0, 140.9, 140.3, 135.4, 129.3, 128.9, 128.8, 128.7, 127.5, 126.4, 126.3, 124.6, 123.8, 120.1, 40.8, 35.4; HRMS (EI) calcd. for $\text{C}_{22}\text{H}_{18}$ $[\text{M}]^+$: 282.1409, Found: 282.1404.

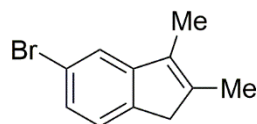


5-Methoxy-2,3-dimethyl-1H-indene (1n): yellow solid (petroleum ether/DCM = 20/1), m.p. 45-47 °C, IR (film): 2910, 1619, 1583, 1474 cm^{-1} ; ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.23 (d, J = 8.0 Hz, 1H), 6.80-6.74 (m, 1H), 6.69-6.63 (m, 1H), 3.84 (s, 3H), 3.20 (s, 2H), 2.05 (s, 3H), 2.00 (s, 3H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 159.1, 149.3, 139.9, 134.6, 132.6, 123.5, 109.1, 104.4, 55.7, 41.9, 14.3, 10.4; HRMS (EI) calcd. for $\text{C}_{12}\text{H}_{14}\text{O}$ $[\text{M}]^+$: 174.1045, Found: 174.1043.

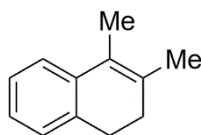


2,3,5-Trimethyl-1H-indene (1o): light yellow oil (petroleum ether), IR (film): 2925, 2880, 1482, 1471 cm^{-1} ; ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.23 (d, J = 7.5 Hz, 1H),

7.02 (s, 1H), 6.92 (d, $J = 7.5$ Hz, 1H), 3.21 (s, 2H), 2.39 (s, 3H), 2.04 (s, 3H), 2.01 (s, 3H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 147.8, 139.4, 138.3, 135.6, 132.3, 124.3, 122.7, 118.8, 42.1, 21.6, 14.0, 10.1; HRMS (EI) calcd. for $\text{C}_{12}\text{H}_{14}$ $[\text{M}]^+$: 158.1096, Found: 158.1093.

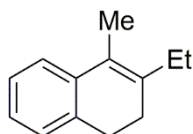


5-Bromo-2,3-dimethyl-1H-indene (1p): light yellow oil (petroleum ether), IR (film): 2910, 2853, 1597, 1453, 1394 cm^{-1} ; ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.33-7.29 (m, 1H), 7.24-7.17 (m, 2H), 3.20 (s, 2H), 2.06 (s, 3H), 1.99 (s, 3H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 150.0, 141.2, 140.3, 132.2, 126.4, 124.5, 121.4, 120.4, 42.3, 14.2, 10.3; HRMS (EI) calcd. for $\text{C}_{11}\text{H}_{11}^{79}\text{Br}$ $[\text{M}]^+$, $\text{C}_{11}\text{H}_{11}^{81}\text{Br}$ $[\text{M}]^+$: 222.0044, 224.0024, Found: 222.0042, 224.0024.



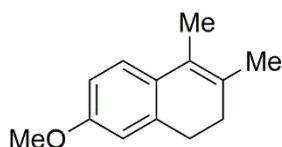
3,4-Dimethyl-1,2-dihydronaphthalene (1q): colorless oil (petroleum ether); ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.23 (d, $J = 8.0$ Hz, 1H), 7.20-7.15 (m, 1H), 7.12-7.05 (m, 2H), 2.73 (t, $J = 8.0$ Hz, 2H), 2.22 (t, $J = 8.0$ Hz, 2H), 2.02 (s, 3H), 1.91 (s, 3H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 137.4, 135.6, 132.5, 127.2, 126.5, 125.7, 125.2, 122.6, 30.8, 28.7, 20.6, 14.4.

Troutman, M. V.; Appella, D. H.; Buchwald, S. L. *J. Am. Chem. Soc.* **1999**, *121*, 4916-4917.

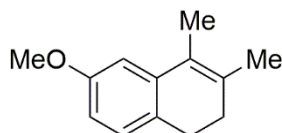


3-Ethyl-4-methyl-1,2-dihydronaphthalene (1r): colorless oil (petroleum ether); ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.24 (d, $J = 7.0$ Hz, 1H), 7.21-7.16 (m, 1H), 7.12-7.05 (m, 2H), 2.72 (t, $J = 7.5$ Hz, 2H), 2.27 (q, $J = 7.5$ Hz, 2H), 2.23 (t, $J = 7.5$ Hz, 2H), 2.03 (s, 3H), 1.06 (t, $J = 7.5$ Hz, 3H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 138.6, 137.6, 135.8, 127.1, 126.5, 125.7, 124.6, 122.8, 29.0, 28.4, 27.6, 13.9, 13.1.

Christol, H. *Bulletin de la Societe Chimique de France* **1960**, 1696-1699.



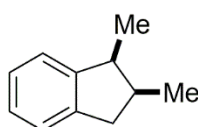
7-Methoxy-3,4-dimethyl-1,2-dihydronaphthalene (1s): light yellow oil (petroleum ether/DCM = 20/1), IR (film): 2919, 2830, 1607, 1498, 1252 cm^{-1} ; ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.14 (d, $J = 8.5$ Hz, 1H), 6.74-6.69 (m, 1H), 6.69-6.66 (m, 1H), 3.79 (s, 3H), 2.70 (t, $J = 8.0$ Hz, 2H), 2.20 (t, $J = 8.0$ Hz, 2H), 1.99 (s, 3H), 1.89 (s, 3H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 157.8, 137.3, 130.6, 129.9, 124.7, 123.7, 113.5, 110.9, 55.5, 30.7, 29.1, 20.4, 14.4; HRMS (EI) calcd. for $\text{C}_{13}\text{H}_{16}\text{O}$ $[\text{M}]^+$: 188.1201, Found: 188.1202.



6-Methoxy-3,4-dimethyl-1,2-dihydronaphthalene (1t): light yellow oil (petroleum ether/DCM = 20/1), IR (film): 2924, 2830, 1612, 1492, 1216 cm^{-1} ; ^1H NMR (500

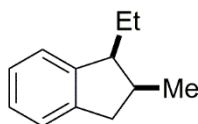
MHz, CDCl₃, ppm): δ 7.00 (d, J = 8.0 Hz, 1H), 6.84-6.79 (m, 1H), 6.67-6.60 (m, 1H), 3.80 (s, 3H), 2.66 (t, J = 7.5 Hz, 2H), 2.20 (t, J = 7.5 Hz, 2H), 2.00 (s, 3H), 1.91 (s, 3H); ¹³C NMR (500 MHz, CDCl₃, ppm): δ 158.5, 138.6, 133.3, 127.9, 127.6, 125.1, 109.9, 109.6, 55.5, 31.2, 27.7, 20.7, 14.4; HRMS (EI) calcd. for C₁₃H₁₆O [M]⁺: 188.1201, Found: 188.1202.

Characterization of products



1,2-Dimethyl-2,3-dihydro-1H-indene (4a): 0.0710 g, 97% yield, *cis:trans* = 96:4, light yellow oil (petroleum ether); ¹H NMR (500 MHz, CDCl₃, ppm): δ 7.21-7.10 (m, 4H), 3.19-3.10 (m, 1H), 3.01-2.92 (m, 1H), 2.62-2.52 (m, 2H), 1.12 (d, J = 7.0 Hz, 3H), 0.96 (d, J = 6.5 Hz, 3H); ¹³C NMR (500 MHz, CDCl₃, ppm): δ 149.0, 143.1, 126.3, 126.2, 124.7, 123.8, 42.6, 39.6, 38.0, 15.4, 14.8.

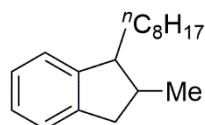
Troutman, M. V.; Appella, D. H.; Buchwald, S. L. *J. Am. Chem. Soc.* **1999**, *121*, 4916-4917.



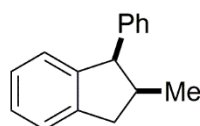
1-Ethyl-2-methyl-2,3-dihydro-1H-indene (4b): 0.0706 g, 87%, *cis:trans* = 90:10, light yellow oil (petroleum ether); ¹H NMR (500 MHz, CDCl₃, ppm): δ 7.21-7.10 (m, 4H), 2.97-2.86 (m, 2H), 2.66-2.51 (m, 2H), 1.68-1.54 (m, 2H), 1.01 (t, J = 7.0 Hz, 3H), 0.94 (d, J = 6.5 Hz, 3H); ¹³C NMR (500 MHz, CDCl₃, ppm): δ 147.3, 143.7,

126.3, 125.9, 124.8, 124.4, 49.9, 39.9, 37.5, 21.5, 14.9, 12.5.

Troutman, M. V.; Appella, D. H.; Buchwald, S. L. *J. Am. Chem. Soc.* **1999**, *121*, 4916-4917.



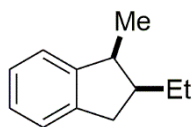
2-Methyl-1-octyl-2,3-dihydro-1H-indene (4c): 0.1025 g, 84% yield, *cis:trans* = 86:14, light yellow oil (petroleum ether), IR (film): 2924, 2855, 1457, 1375 cm^{-1} ; ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.21-7.09 (m, 4H), 3.02-2.89 (m, 2H), 2.63-2.50 (m, 2H), 1.62-1.45 (m, 2H), 1.44-1.37 (m, 2H), 1.36-1.23 (m, 10H), 0.93 (d, J = 7.0 Hz, 3H), 0.89 (t, J = 7.0 Hz, 3H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 147.5, 143.6, 126.2, 125.9, 124.8, 124.3, 48.1, 39.9, 37.7, 32.1, 30.3, 29.9, 29.6, 28.6, 28.0, 22.9, 15.1, 14.3; HRMS (EI) calcd. for $\text{C}_{18}\text{H}_{28}$ $[\text{M}]^+$: 244.2191, Found: 244.2188.



2-Methyl-1-phenyl-2,3-dihydro-1H-indene (4d): 0.0902 g, 87% yield, *cis:trans* > 99:1, colorless oil (petroleum ether/DCM = 20/1); ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.31-7.09 (m, 7H), 6.98 (d, J = 7.0 Hz, 2H), 4.38 (d, J = 7.5 Hz, 1H), 3.06 (dd, J = 15.5 Hz, 7.5 Hz, 1H), 2.88-2.78 (m, 1H), 2.68 (dd, J = 15.5, 7.5 Hz, 1H), 0.71 (d, J = 7.0 Hz, 3H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 146.4, 144.3, 141.8, 129.4, 128.2, 126.9, 126.7, 126.4, 125.7, 124.8, 55.5, 39.9, 39.7, 17.0.

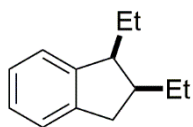
Troutman, M. V.; Appella, D. H.; Buchwald, S. L. *J. Am. Chem. Soc.* **1999**, *121*,

4916-4917.

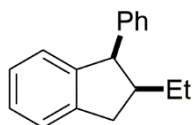


2-Ethyl-1-methyl-2,3-dihydro-1H-indene (4e): 0.0835 g, 96% yield, *cis:trans* = 96:4, light yellow oil (petroleum ether); ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.21-7.08 (m, 4H), 3.24-3.13 (m, 1H) 2.90 (dd, J = 15.0, 7.5 Hz, 1H), 2.61 (dd, J = 15.5, 9.0 Hz, 1H), 2.37-2.27 (m, 1H), 1.59-1.50 (m, 1H), 1.43-1.33 (m, 1H), 1.05 (d, J = 7.0 Hz, 3H), 0.98 (t, J = 7.5 Hz, 3H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 150.0, 142.9, 126.3, 126.2, 124.6, 123.8, 45.8, 41.8, 36.6, 23.1, 15.5, 13.1.

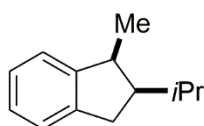
Biosca, M.; Salomó, E.; Cruz-Sánchez, P.; Riera, A.; Verdaguer, X.; Pàmies, O.; Diéguez, M. *Org. Lett.* **2019**, *21*, 807–811.



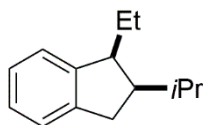
1,2-Diethyl-2,3-dihydro-1H-indene (4f): 0.0785 g, 90% yield, *cis:trans* = 90:10, light yellow oil (petroleum ether), IR (film): 2927, 2858, 1459, 1377 cm^{-1} ; ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.22-7.16 (m, 2H), 7.16-7.08 (m, 2H), 2.95-2.82 (m, 2H), 2.62 (dd, J = 15.0, 8.0 Hz, 1H), 2.40-2.29 (m, 1H), 1.66-1.53 (m, 2H), 1.43-1.31 (m, 2H), 1.00-0.92 (m, 6H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 148.0, 143.6, 126.3, 125.7, 124.9, 124.7, 48.9, 46.3, 36.9, 22.6, 21.5, 13.2, 12.3; HRMS (EI) calcd. for $\text{C}_{13}\text{H}_{18}$ $[\text{M}]^+$: 174.1409, Found: 174.1411.



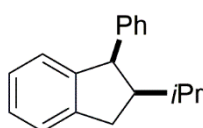
2-Ethyl-1-phenyl-2,3-dihydro-1H-indene (4g): 0.0643 g, 58% yield, *cis:trans* > 99:1, light yellow oil (petroleum ether/DCM = 20/1); IR (film): 2958, 2930, 1600, 1453 cm^{-1} ; ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.29 (d, J = 7.5 Hz, 1H), 7.26-7.07 (m, 6H), 6.93 (d, J = 7.0 Hz, 2H), 4.37 (d, J = 8.5 Hz, 1H), 3.04 (dd, J = 15.5, 7.5 Hz, 1H), 2.75 (dd, J = 15.5, 9.5 Hz, 1H), 2.66-2.57 (m, 1H), 1.25-1.16 (m, 1H), 0.96-0.88 (m, 1H), 0.86 (t, J = 7.0 Hz, 3H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 147.3, 143.9, 142.4, 129.3, 128.2, 126.9, 126.8, 126.3, 125.5, 124.7, 54.9, 47.3, 37.4, 24.7, 13.1; HRMS (EI) calcd. for $\text{C}_{17}\text{H}_{18}$ $[\text{M}]^+$: 222.1409, Found: 222.1406.



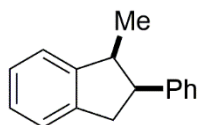
2-Isopropyl-1-methyl-2,3-dihydro-1H-indene (4h): 0.0823 g, 94% yield, *cis:trans* > 99:1, light yellow oil (petroleum ether); IR (film): 2957, 2934, 2869, 1459 cm^{-1} ; ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.21-7.15 (m, 2H), 7.15-7.09 (m, 2H), 3.22-3.13 (m, 1H), 2.85 (dd, J = 15.0 Hz, 7.5 Hz, 1H), 2.62 (dd, J = 15.0, 11.5 Hz, 1H), 2.05-1.95 (m, 1H), 1.79-1.70 (m, 1H), 1.01 (t, J = 6.5 Hz, 6H), 0.97 (d, J = 6.5 Hz, 3H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 150.7, 142.8, 126.3, 126.2, 124.6, 123.8, 52.3, 41.0, 35.3, 28.8, 22.1, 22.0, 15.7; HRMS (EI) calcd. for $\text{C}_{13}\text{H}_{18}$ $[\text{M}]^+$: 174.1409, Found: 174.1411.



1-Ethyl-2-isopropyl-2,3-dihydro-1H-indene (4i): 0.0779 g, 83% yield, *cis:trans* > 99:1, light yellow oil (petroleum ether); IR (film): 2956, 1477, 1458 cm^{-1} ; ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.24-7.17 (m, 2H), 7.17-7.07 (m, 2H), 2.92-2.85 (m, 1H), 2.82 (dd, J = 15.0, 7.5 Hz, 1H), 2.62 (dd, J = 15.0, 11.5 Hz, 1H), 2.06-1.97 (m, 1H), 1.85-1.77 (m, 1H), 1.72-1.63 (m, 1H), 1.21-1.13 (m, 1H), 1.00 (d, J = 6.5 Hz, 3H), 0.96 (d, J = 6.5 Hz, 3H), 0.90 (t, J = 7.5 Hz, 3H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 148.2, 143.4, 126.0, 125.2, 125.1, 124.4, 53.2, 47.7, 35.6, 28.2, 21.9, 21.7, 20.8, 11.9; HRMS (EI) calcd. for $\text{C}_{14}\text{H}_{20}$ $[\text{M}]^+$: 188.1565, Found: 188.1566.

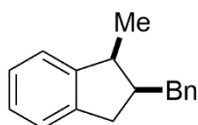


2-Isopropyl-1-phenyl-2,3-dihydro-1H-indene (4j): 0.1031 g, 88% yield, *cis:trans* > 99:1, white solid (petroleum ether/DCM = 20/1), m.p. 66-69 $^{\circ}\text{C}$, IR (film): 2955, 2867, 1492, 1452 cm^{-1} ; ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.29 (d, J = 7.5 Hz, 1H), 7.23-7.12 (m, 4H), 7.12-7.08 (m, 1H), 7.05 (d, J = 7.5 Hz, 1H), 6.99 (d, J = 7.0 Hz, 2H), 4.33 (d, J = 8.0 Hz, 1H), 3.05-2.89 (m, 2H), 2.43-2.33 (m, 1H), 1.36-1.25 (m, 1H), 0.90 (d, 3H), 0.89 (d, 3H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 148.7, 143.3, 142.9, 129.3, 128.2, 126.9, 126.8, 126.2, 125.3, 124.7, 54.0, 53.9, 36.9, 29.0, 22.1, 22.0; HRMS (EI) calcd. for $\text{C}_{18}\text{H}_{20}$ $[\text{M}]^+$: 236.1565, Found: 236.1566.

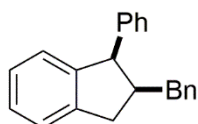


1-Methyl-2-phenyl-2,3-dihydro-1H-indene (4k): 0.0634 g, 61% yield, *cis:trans* > 99:1, light yellow oil (petroleum ether); ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.31-7.24 (m, 3H), 7.23-7.18 (m, 4H), 7.16 (d, J = 7.5 Hz, 2H), 3.76 (q, J = 8.0 Hz, 1H), 3.54-3.46 (m, 1H), 3.31-3.18 (m, 2H), 0.85 (d, J = 7.0 Hz, 3H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 148.6, 142.8, 142.6, 128.4, 128.3, 126.7, 126.6, 126.4, 124.5, 123.9, 49.6, 44.0, 36.6, 16.3.

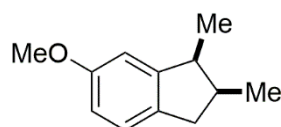
Troutman, M. V.; Appella, D. H.; Buchwald, S. L. *J. Am. Chem. Soc.* **1999**, *121*, 4916-4917.



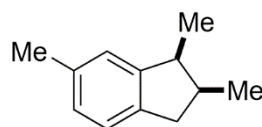
2-Benzyl-1-methyl-2,3-dihydro-1H-indene (4l): 0.0984 g, 90% yield, *cis:trans* = 95:5, colorless oil (petroleum ether), IR (film): 3023, 2958, 2931, 1453 cm^{-1} ; ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.31-7.27 (m, 2H), 7.25-7.10 (m, 7H), 3.30-3.20 (m, 1H), 2.88 (dd, J = 13.5, 5.5 Hz, 1H), 2.83-2.73 (m, 2H), 2.72-2.64 (m, 1H), 2.55 (dd, J = 13.5, 9.5 Hz, 1H), 1.18 (d, J = 7.5 Hz, 3H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 149.3, 142.5, 141.8, 129.0, 128.5, 126.5, 126.4, 126.0, 124.7, 123.7, 45.2, 42.1, 36.5, 36.3, 15.5. HRMS (EI) calcd. for $\text{C}_{17}\text{H}_{18}$ $[\text{M}]^+$: 222.1409, Found: 222.1406.



2-Benzyl-1-phenyl-2,3-dihydro-1*H*-indene (4m): 0.1278 g, 90% yield, *cis:trans* > 99:1, white solid (petroleum ether/DCM = 20/1), m.p. 89-92 °C, IR (film): 2932, 2842, 1601, 1452 cm⁻¹; ¹H NMR (500 MHz, CDCl₃, ppm): δ 7.29-7.10 (m, 10H), 7.05 (d, *J* = 7.0 Hz, 2H), 6.98 (d, *J* = 7.5 Hz, 2H), 4.47 (d, *J* = 8.0 Hz, 1H), 3.11-3.01 (m, 1H), 2.89-2.76 (m, 2H), 2.52 (dd, *J* = 14.0, 5.0 Hz, 1H), 2.10 (dd, *J* = 13.5, 10.5 Hz, 1H); ¹³C NMR (500 MHz, CDCl₃, ppm): δ 146.7, 143.6, 141.7, 141.6, 129.4, 129.0, 128.4, 128.3, 127.0, 126.9, 126.6, 125.9, 125.5, 124.8, 55.0, 46.6, 37.9, 37.2; HRMS (EI) calcd. for C₂₂H₂₀ [M]⁺: 284.1565, Found: 284.1562.

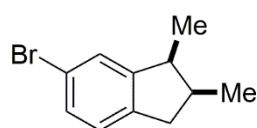


6-Methoxy-1,2-dimethyl-2,3-dihydro-1*H*-indene (4n): 0.0800 g, 90% yield, *cis:trans* = 97:3, light yellow oil (petroleum ether/DCM = 20/1), IR (film): 2958, 1610, 1491, 1462 cm⁻¹; ¹H NMR (500 MHz, CDCl₃, ppm): δ 7.07 (d, *J* = 8.0 Hz, 1H), 6.77-6.70 (m, 1H), 6.70-6.64 (m, 1H), 3.79 (s, 3H), 3.17-3.06 (m, 1H), 2.89 (dd, *J* = 14.5, 7.0 Hz, 1H), 2.61-2.52 (m, 1H), 2.47 (dd, *J* = 14.5, 6.5 Hz, 1H), 1.11 (d, *J* = 7.5 Hz, 3H), 0.96 (d, *J* = 7.0 Hz, 3H); ¹³C NMR (500 MHz, CDCl₃, ppm): δ 158.9, 150.6, 135.1, 125.1, 111.7, 109.7, 55.6, 42.9, 38.7, 38.6, 15.4, 14.8; HRMS (EI) calcd. for C₁₂H₁₆O [M]⁺: 176.1201, Found: 176.1200.

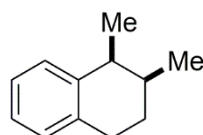


1,2,6-Trimethyl-2,3-dihydro-1*H*-indene (4o): 0.0797 g, 98% yield, *cis:trans* = 96:4,

light yellow oil (petroleum ether), IR (film): 2959, 2928, 1610, 1491 cm^{-1} ; ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.07 (d, J = 8.0 Hz, 1H), 6.98 (s, 1H), 6.94 (d, J = 7.5 Hz, 1H), 3.14-3.06 (m, 1H), 2.91 (dd, J = 14.5, 6.5 Hz, 1H), 2.58-2.47 (m, 2H), 2.33 (s, 3H), 1.11 (d, J = 7.0 Hz, 3H), 0.96 (d, J = 7.0 Hz, 3H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 149.2, 140.1, 135.8, 127.0, 124.5, 124.4, 42.5, 39.2, 38.2, 21.6, 15.4, 14.8; HRMS (EI) calcd. for $\text{C}_{12}\text{H}_{16}$ $[\text{M}]^+$: 160.1252, Found: 160.1253.



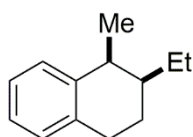
6-Bromo-1,2-dimethyl-2,3-dihydro-1H-indene (4p): 0.0657 g, 58% yield, *cis:trans* = 90:10, light yellow oil (petroleum ether), IR (film): 2960, 2930, 1472 cm^{-1} ; ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.27 (s, 1H), 7.25-7.22 (m, 1H), 7.04 (d, J = 8.0 Hz, 1H), 3.17-3.10 (m, 1H), 2.90 (dd, J = 15.0, 7.0 Hz, 1H), 2.61-2.51 (m, 1H), 2.48 (dd, J = 15.0, 6.0 Hz, 1H), 1.11 (d, J = 7.5 Hz, 3H), 0.94 (d, J = 7.0 Hz, 3H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 151.4, 142.1, 129.2, 127.0, 126.2, 120.0, 42.7, 39.1, 38.3, 15.2, 14.6; HRMS (EI) calcd. for $\text{C}_{11}\text{H}_{13}^{79}\text{Br}$ $[\text{M}]^+$, $\text{C}_{11}\text{H}_{13}^{81}\text{Br}$ $[\text{M}]^+$: 224.0201, 226.0180, Found: 224.0196, 226.0184.



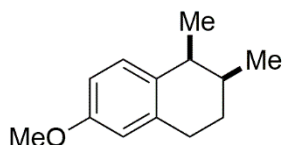
1,2-Dimethyl-1,2,3,4-tetrahydronaphthalene (4q): 0.0657 g, 81% yield, *cis:trans* = 75:25, colorless oil (petroleum ether); ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.21 (d, J = 7.5 Hz, 0.31H), 7.17-7.03 (m, 3.66H), 2.87-2.78 (m, 2.24H), 2.75 (t, J = 6.5 Hz,

0.52H), 2.54-2.46 (m, 0.26H), 2.02-1.94 (m, 0.80H), 1.93-1.86 (m, 0.30H), 1.67-1.61 (m, 1.53H), 1.61-1.57 (m, 0.23H), 1.49-1.43 (m, 0.29H), 1.30 (d, $J = 7.0$ Hz, 0.75H), 1.11 (d, $J = 7.5$ Hz, 2.25H), 1.06 (d, $J = 7.0$ Hz, 0.77H), 1.00 (d, $J = 7.0$ Hz, 2.22H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 143.5, 141.8, 136.8, 136.2, 129.2, 129.1, 129.0, 128.7, 125.9, 125.6, 125.6, 125.4, 40.2, 37.9, 35.8, 32.3, 29.3, 29.0, 28.3, 26.0, 22.2, 20.6, 18.7, 17.6.

Troutman, M. V.; Appella, D. H.; Buchwald, S. L. *J. Am. Chem. Soc.* **1999**, *121*, 4916-4917.

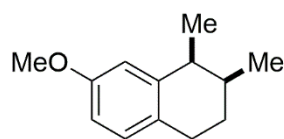


2-Ethyl-1-methyl-1,2,3,4-tetrahydronaphthalene (4r): 0.0748 g, 86% yield, *cis:trans* = 91:9, colorless oil (petroleum ether), IR (film): 2960, 2925, 2872, 1462 cm^{-1} ; ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.19-7.08 (m, 4H), 3.01-2.92 (m, 1H), 2.92-2.80 (m, 2H), 1.78-1.59 (m, 3H), 1.52-1.32 (m, 2H), 1.13 (d, $J = 7.5$ Hz, 3H), 1.03 (t, $J = 7.5$ Hz, 3H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 143.8, 136.4, 129.4, 129.1, 125.7, 125.6, 39.6, 36.2, 29.7, 26.1, 23.6, 17.6, 12.1; HRMS (EI) calcd. for $\text{C}_{13}\text{H}_{18}$ $[\text{M}]^+$: 174.1409, Found: 174.1408.



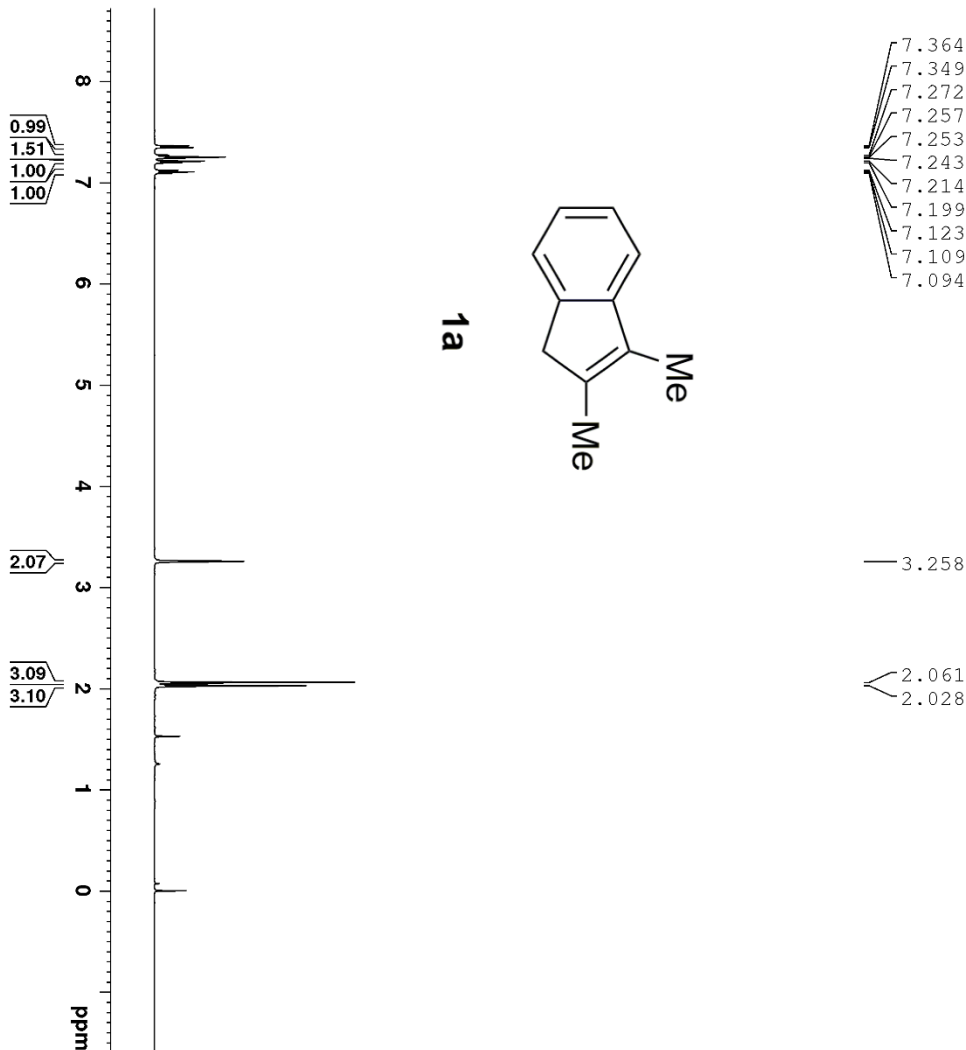
6-Methoxy-1,2-dimethyl-1,2,3,4-tetrahydronaphthalene (4s): 0.0869 g, 90% yield, *cis:trans* = 90:10, light yellow oil (petroleum ether/DCM = 20/1), IR (film): 2958,

2923, 1609, 1500 cm^{-1} ; ^1H NMR (500 MHz, CDCl_3 , ppm): δ 7.04 (d, J = 8.5 Hz, 1H), 6.74-6.67 (m, 1H), 6.64-6.57 (m, 1H), 3.77 (s, 3H), 2.82-2.75 (m, 3H), 2.01-1.91 (m, 1H), 1.67-1.58 (m, 2H), 1.08 (d, J = 7.5 Hz, 3H), 0.98 (d, J = 7.0 Hz, 3H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 157.5, 137.3, 135.8, 130.0, 113.4, 112.1, 55.4, 37.1, 32.6, 29.6, 26.0, 18.6, 17.7; HRMS (EI) calcd. for $\text{C}_{13}\text{H}_{18}\text{O}$ $[\text{M}]^+$: 190.1358, Found: 190.1355.



7-Methoxy-1,2-dimethyl-1,2,3,4-tetrahydronaphthalene (4t): 0.0847 g, 88% yield, *cis:trans* = 94:6, light yellow oil (petroleum ether/DCM = 20/1), IR (film): 2957, 2834, 1611, 1502, 1463 cm^{-1} ; ^1H NMR (500 MHz, CDCl_3 , ppm): δ 6.98 (d, J = 8.5 Hz, 1H), 6.71-6.65 (m, 2H), 3.78 (s, 3H), 2.83-2.67 (m, 3H), 2.02-1.91 (m, 1H), 1.66-1.59 (m, 2H), 1.12 (d, J = 7.0 Hz, 3H), 0.98 (d, J = 6.5 Hz, 3H); ^{13}C NMR (500 MHz, CDCl_3 , ppm): δ 157.6, 144.7, 129.9, 128.3, 114.0, 111.8, 55.5, 38.2, 32.3, 28.4, 26.3, 18.5, 17.5; HRMS (EI) calcd. for $\text{C}_{13}\text{H}_{18}\text{O}$ $[\text{M}]^+$: 190.1358, Found: 190.1361.

Copies of NMR spectra



Current Data Parameters
NAME cy 300 2019
EXPNO 41
PROCNO 1

F2 - Acquisition Parameters
Date_ 20190403
Time 8.33
INSTRUM spect
PROBHD 5 mm CPBBO BB
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.15288 Hz
AQ 3.2767999 sec
RG 62.06
DW 30.000 usec
DE 5.50 usec
TE 298.1 K
TD0 1.00000000 sec
D1 1
SF01 500.130085 MHz
NUC1 1H
P1 11.50 usec
PWL 20.0000000 W

F2 - Processing parameters
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SF 500.1300155 MHz
WDW EM
SSS 0
LB 0.30 Hz
GB 0
PC 1.00



Current Data Parameters
NAME ay 500 2019
EXPNO 42
PROCNO 1

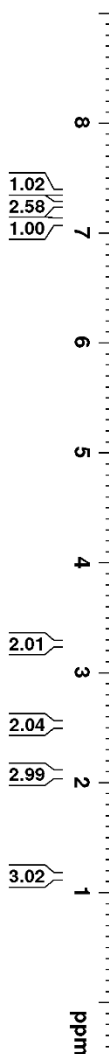
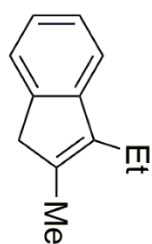
F2 - Acquisition Parameters
Date_ 20.90405
Time 9.28
INSTRUM spect
PROBHD 5 mm CPDPR 1B
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 1024
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 298.1 K
D1 2.0000000 sec
d11 0.0300000 sec
DELTA 1.8999998 sec
TD0 1
SF01 125.770637 MHz
NUC1 13C
PI 9.80 usec
P1M1 57.0000000 W
SF02 500.132005 MHz
NUC2 1H
CPDPRG12 waltz16
PCPD2 80.00 usec
F1M2 20.0000000 W
F1M12 0.3577800 W
F1M13 0.2269800 W

F2 - Processing parameters
SI 32768
SF 125.757632 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

7.373
7.358
7.254
7.245
7.116
7.107
7.099
7.092
7.084

3.258
2.550
2.535
2.519
2.504
2.060

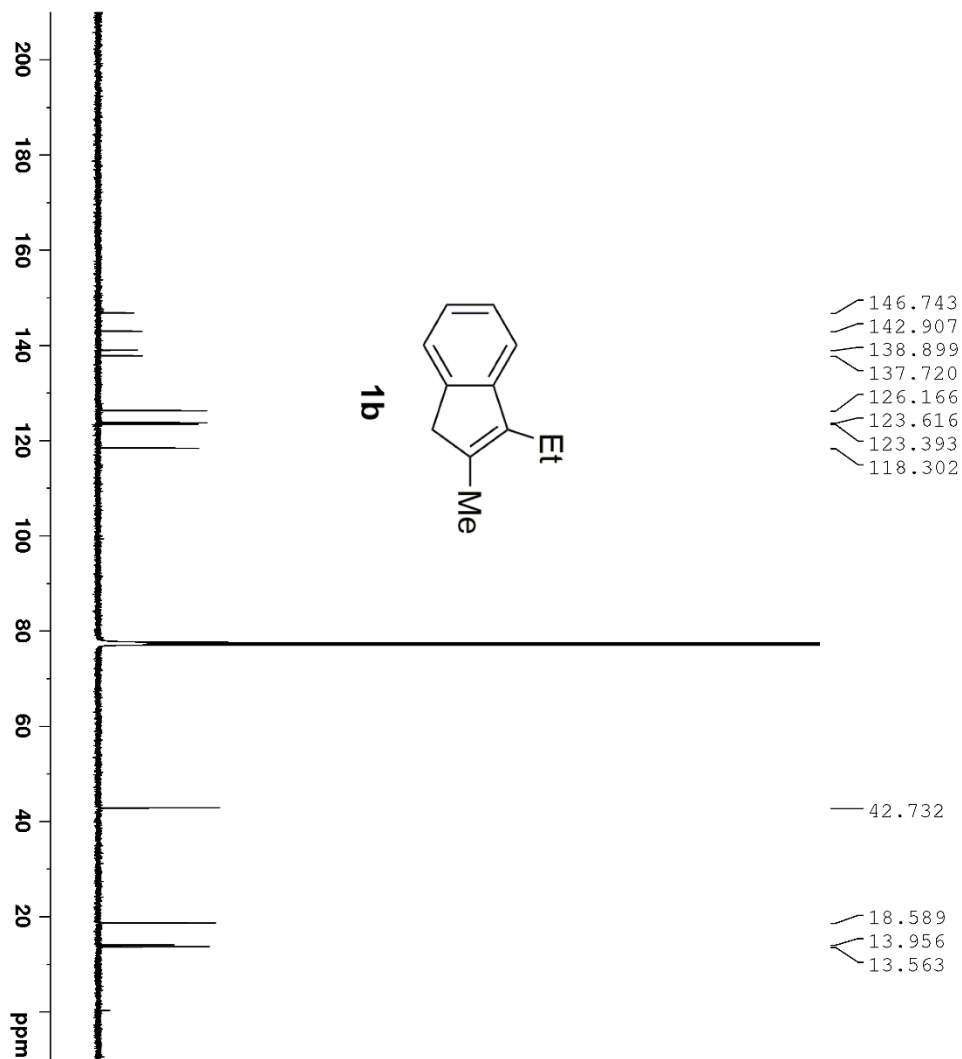
1.158
1.143
1.127



Current Data Parameters
NAME ay 500 2019
EXPNO 31
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.90412
Time 0.56
INSTRUM spect
PROBHD 5 mm CPD300-BB
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 49.27
DW 30.000 usec
DE 6.50 usec
TE 298.2 K
D1 1.00000000 sec
TD0 1
SF01 500.130885 MHz
NUC1 1H
P1 11.50 usec
P1M1 20.0000000 W

F2 - Processing parameters
SI 65536
SF 500.130145 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
EC -1.00



Current Data Parameters

NAME	ay 500 2019
EXPNO	32
PROCNO	1

F2 - Acquisition Parameters

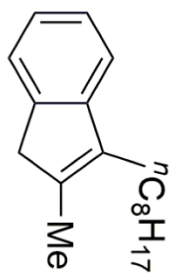
Date_	20.90412
Time	1.24
INSTRUM	spect
PROBHD	5 mm CPDABO BB
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	512
DS	4
SWH	29761.904 Hz
FIDRES	0.454131 Hz
AQ	1.1010048 sec
RG	192.89
DW	16.800 usec
DE	18.00 usec
TE	298.1 K
D1	2.00000000 sec
d11	0.03000000 sec
DELTA	1.89999998 sec
TD0	1
SFO1	125.7703637 MHz
NUC1	13C
PI	9.80 usec
PLM1	57.0000000 W
SFO2	500.1320005 MHz
NUC2	1H
CPDPRG2	waltz16
PCPD2	80.00 usec
PLM2	20.00000000 W
PLM12	0.35778001 W
PLM13	0.22698000 W

F2 - Processing parameters

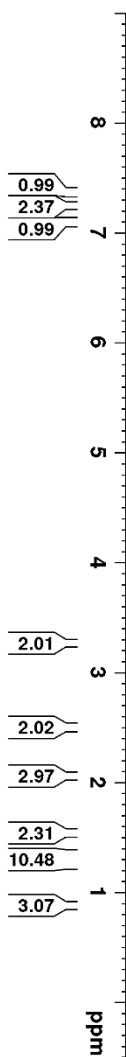
SI	32768
SF	125.757632 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	-1.40

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7.242
7.239
7.233
7.224
7.110
7.104
7.099
7.095
7.089
7.085
7.079

3.260
2.510
2.495
2.479
2.054
1.569
1.555
1.540
1.526
1.510
1.363
1.347
1.331
1.318
1.307
1.294
1.278
1.269
1.264
1.260
0.889



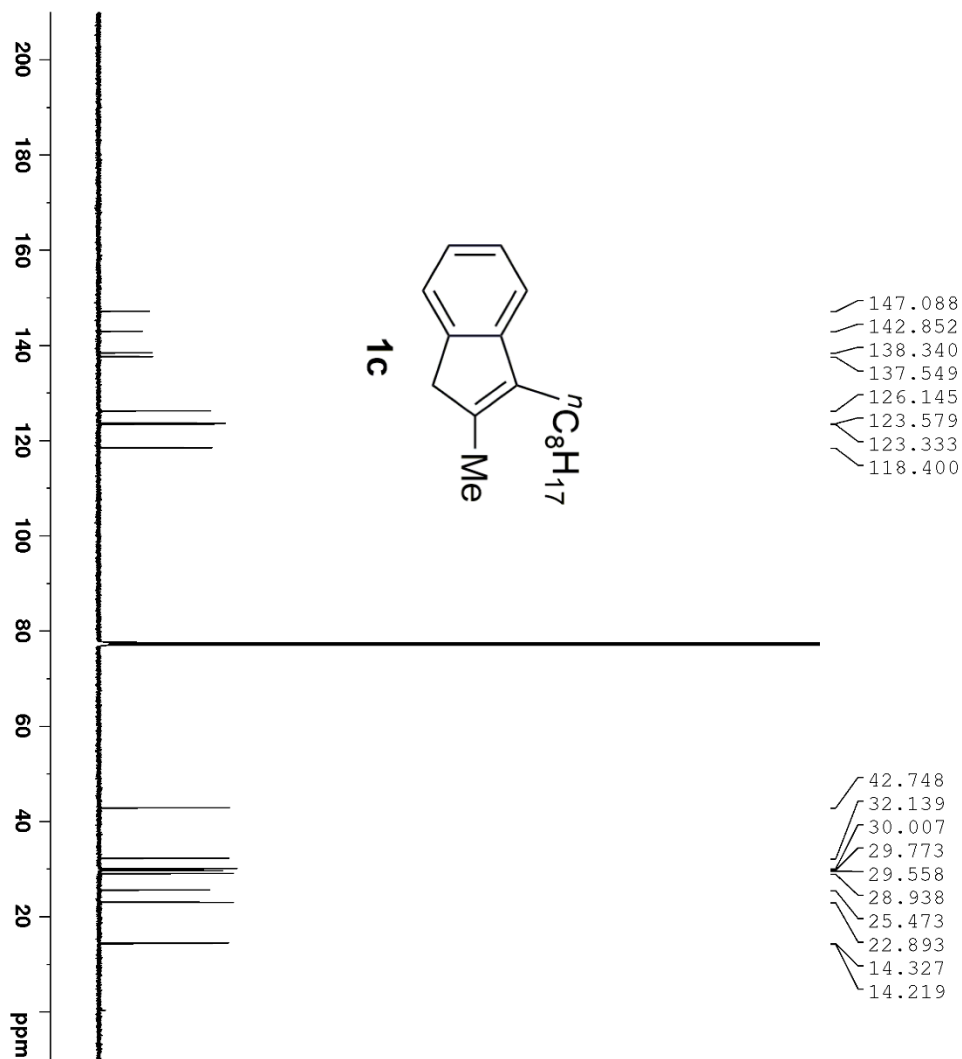
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Current Data Parameters
NAME ay 500 2019
EXPNO 33
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.90412
Time 1.27
INSTRUM spect
PROBHD 5 mm CPD300-BB
PULPROG zg30
TD 65536
SOLVENT CDCl₃
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 55.37
DW 30.000 usec
DE 6.50 usec
TE 298.2 K
D1 1.0000000 sec
TD0 1
SF01 500.130085 MHz
NUC1 ¹H
P1 11.50 usec
P1M1 20.0000000 W

F2 - Processing parameters
SI 65536
SF 500.130163 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
EC -1.00



Current Data Parameters

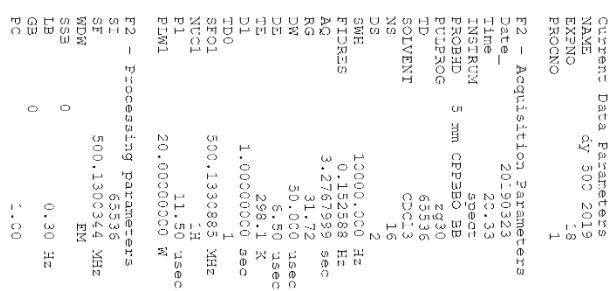
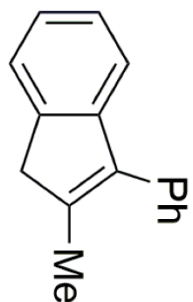
NAME: dy 500 2019
EXPNO: 34
PROCNO: 1

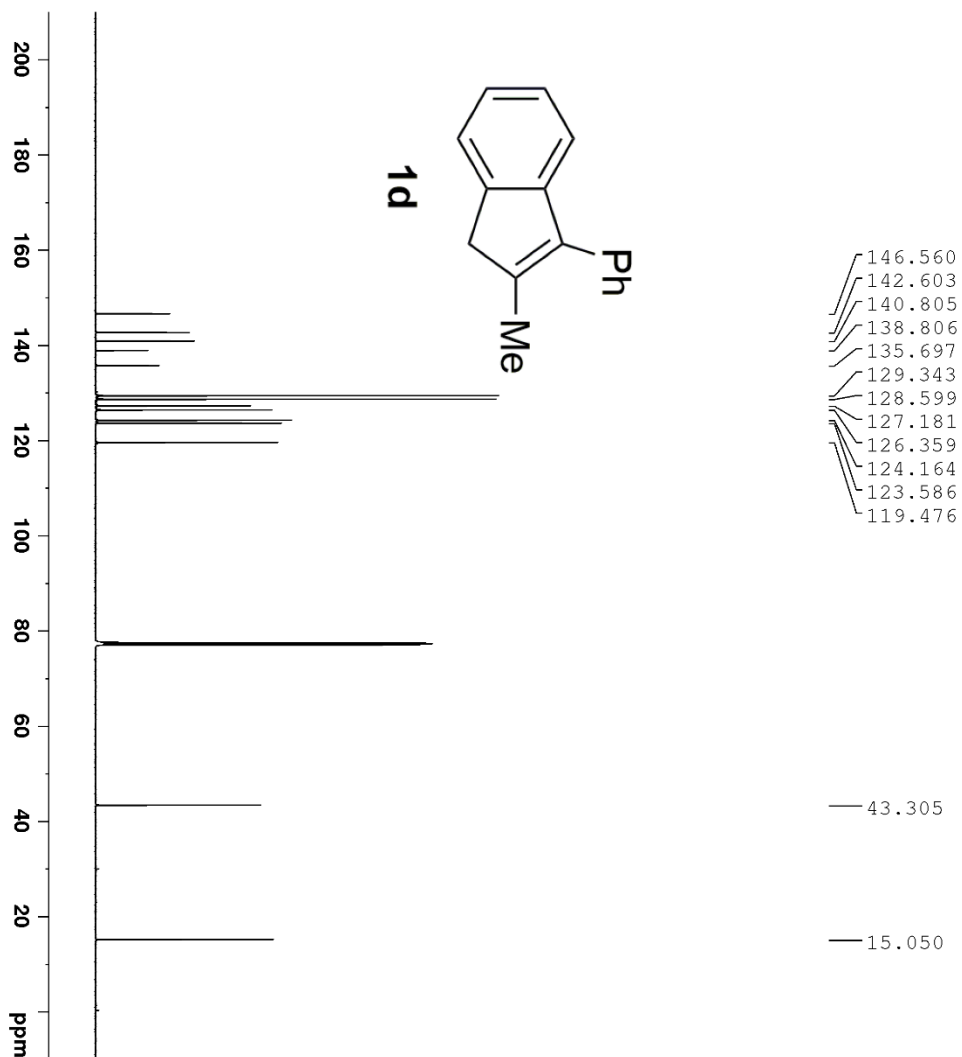
F2 - Acquisition Parameters

Date_: 20.90412
Time: 1.38
INSTRUM: spect
PROBHD: 5 mm CPD300-BB
PULPROG: zgpg30
TD: 65536
SOLVENT: CDCl3
NS: 200
DS: 4
SWH: 29761.904 Hz
FIDRES: 0.454131 Hz
AQ: 1.1010048 sec
RG: 192.89
DW: 16.800 usec
DE: 18.00 usec
TE: 298.2 K
D1: 2.00000000 sec
d11: 0.03000000 sec
DELTA: 1.89999998 sec
TDO: 1
SF01: 125.770637 MHz
NUC1: 13C
P1: 9.80 usec
PLM1: 57.0000000 W
SFO2: 500.132005 MHz
NUC2: 1H
CPDPRG2: waltz16
PCPD2: 80.00 usec
PLM2: 20.00000000 W
PLM12: 0.35778001 W
PLM13: 0.22698000 W

F2 - Processing parameters

SI: 32768
SF: 125.757632 MHz
WDW: EM
SSB: 0
LB: 1.00 Hz
GB: 0
PC: 1.40

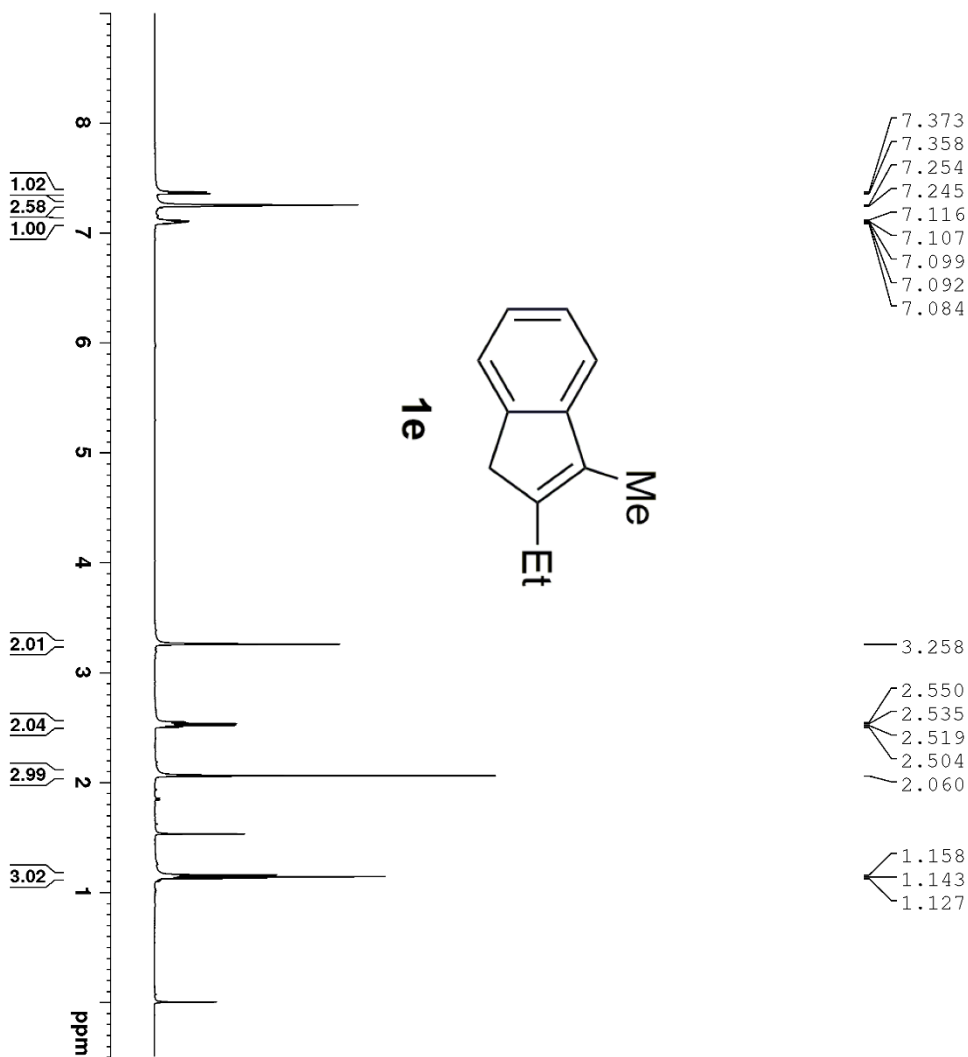




Current Data Parameters
NAME ay 300 2019
EXPNO 19
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.90323
Time 2.128
INSTRUM spect
PROBHD 5 mm CPD300 BB
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 1024
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 298.2 K
D1 2.0000000 sec
d11 0.0300000 sec
DELTA 1.8999998 sec
TD0 1
SF01 125.770637 MHz
NUC1 13C
P1 9.80 usec
PL1 57.0000000 W
SFO2 500.132005 MHz
NUC2 1H
CPDPRG12 waltz16
PCPD2 80.00 usec
PLM2 20.0000000 W
PLM12 0.3577800 W
PLM13 0.2269800 W

F2 - Processing parameters
SI 32768
SF 125.757686 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

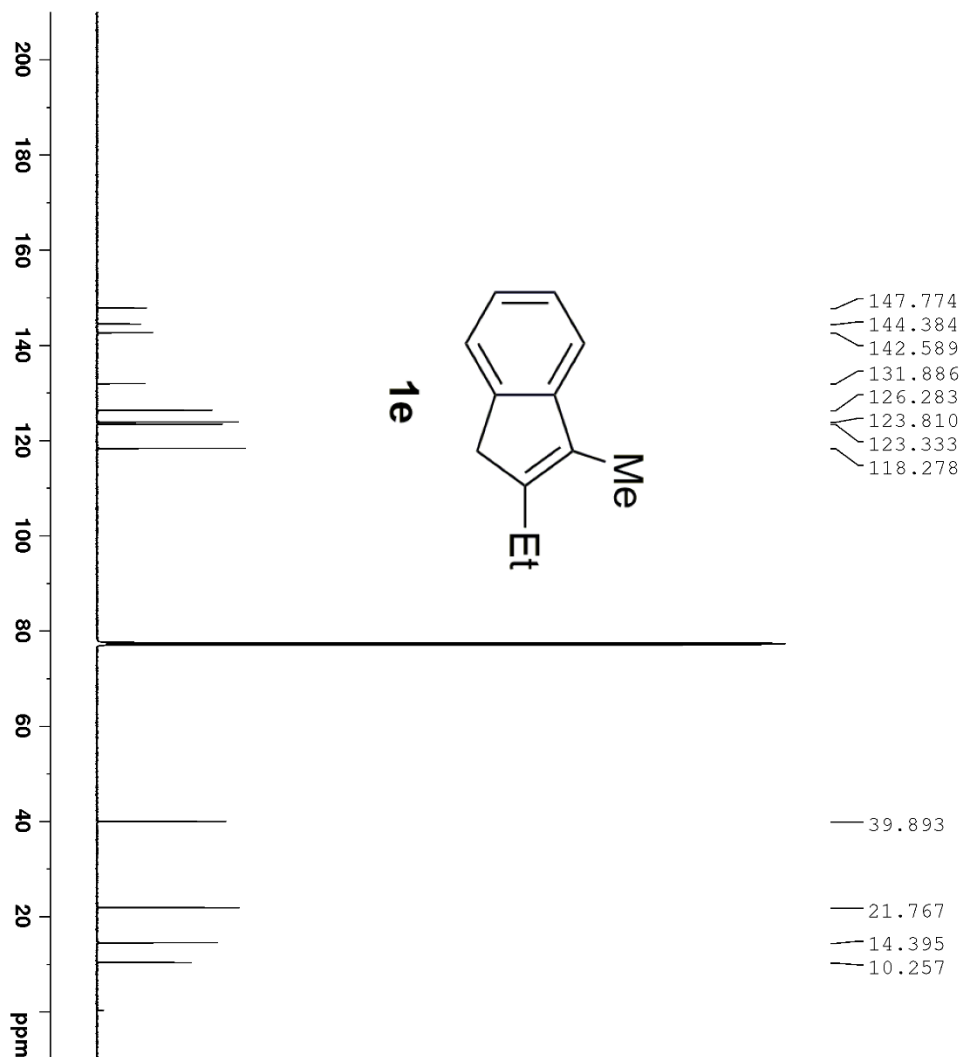


```

Current Data Parameters
NAME      ay 500 2019
EXPNO     31
PROCNO    1

F2 - Acquisition Parameters
Date_     20.90412
Time      0.56
INSTRUM   spect
PROBHD    5 mm CPDPRB0 1B
PULPROG   zg30
TD         65536
SOLVENT   CDCl3
NS         16
DS         2
SWH        10000.000 Hz
FIDRES     0.152588 Hz
AQ         3.2767999 sec
RG         49.27
DE         30.000 usec
TE         298.2 K
D1         1.00000000 sec
TD0         1
SFO1       500.130885 MHz
NUC1       13C
P1         11.50 usec
P1M1       20.00000000 W

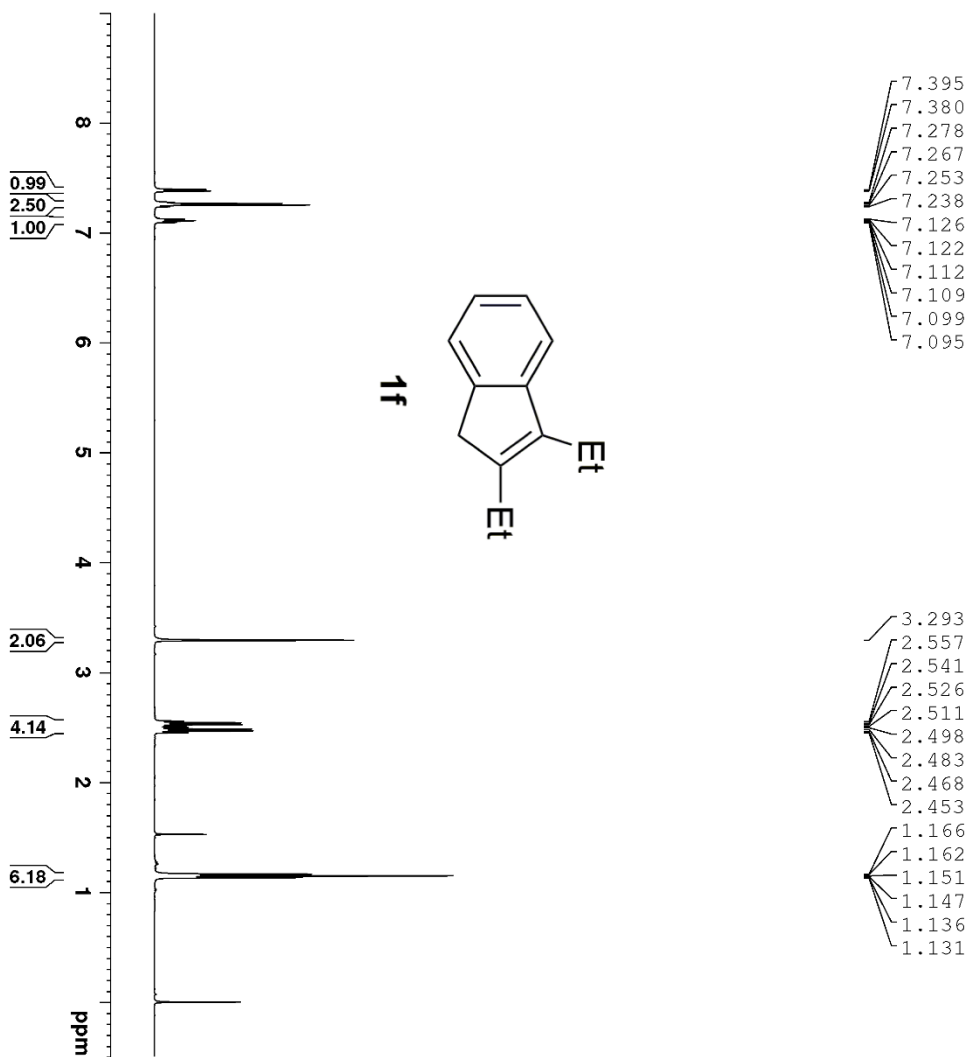
F2 - Processing parameters
SI         65536
SF         500.130145 MHz
WDW        EM
SSB         0
LB         0.30 Hz
GB         0
PC         -.00
  
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Current Data Parameters
NAME ay 300 2019
EXPNO 5
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.90124
Time 20.05
INSTRUM spect
PROBHD 5 mm CPD300-BB
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 1024
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 298.2 K
D1 2.00000000 sec
d11 0.03000000 sec
DELTA 1.89999998 sec
TD0 1
SF01 125.770637 MHz
NUC1 13C
P1 9.80 usec
PL1 57.0000000 W
SFO2 500.132005 MHz
NUC2 1H
CPDPRG2 waltz16
PCPD2 80.00 usec
PLM2 20.00000000 W
PLM12 0.35778001 W
PLM13 0.22698000 W

F2 - Processing parameters
SI 32768
SF 125.757641 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40



Current Data Parameters

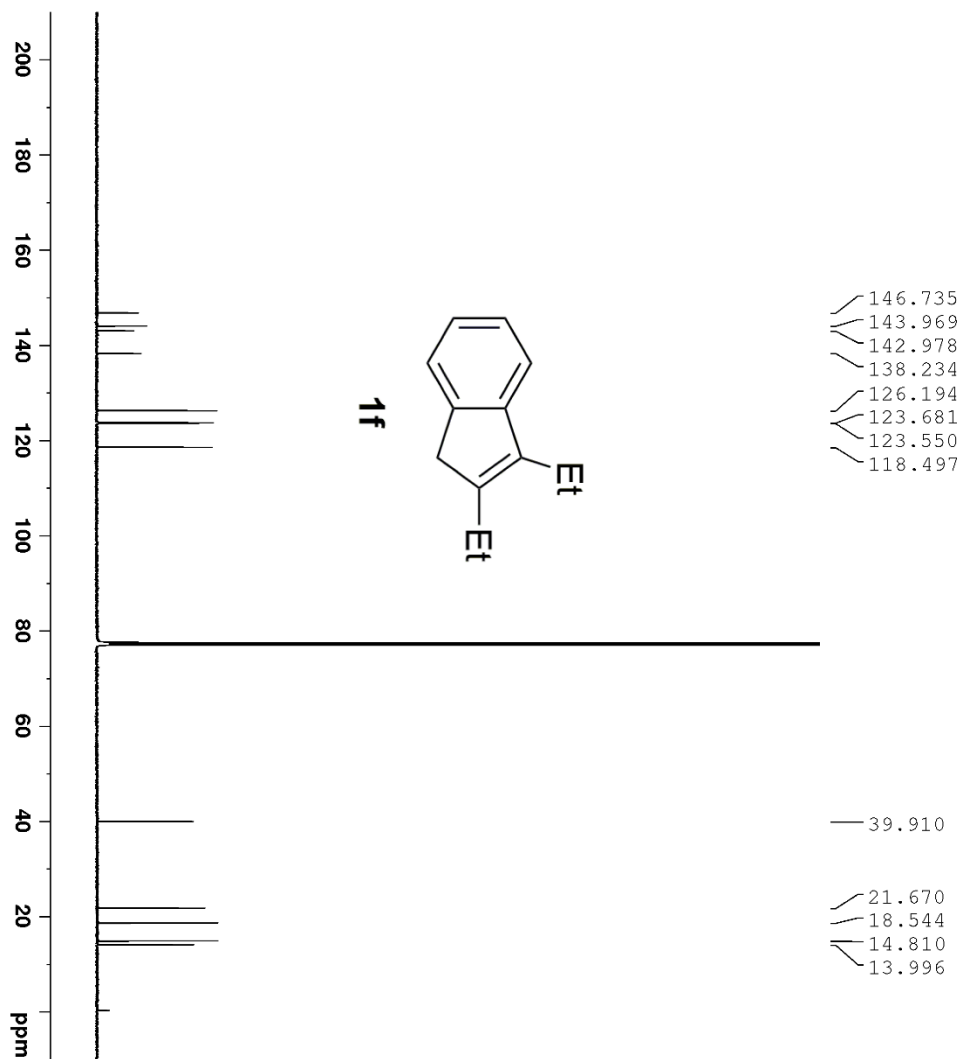
NAME: ay 500 2019
EXPNO: 30
PROCNO: 1

F2 - Acquisition Parameters

Date_: 20.90330
Time: 23.37
INSTRUM: spect
PROBHD: 5 mm CPD300 2B
PULPROG: zg30
TD: 65536
SOLVENT: CDCl₃
NS: 16
DS: 2
SWH: 10000.000 Hz
FIDRES: 0.152588 Hz
AQ: 3.2767999 sec
RG: 62.06
DW: 30.000 usec
DE: 6.50 usec
TE: 298.1 K
D1: 1.00000000 sec
TD0: 1
SF01: 500.130885 MHz
NUC1: ¹H
P1: 11.50 usec
P1M1: 20.0000000 W

F2 - Processing parameters

SI: 65536
SF: 500.130158 MHz
WDW: EM
SSB: 0
LB: 0.30 Hz
GB: 0
PC: 1.00



Current Data Parameters

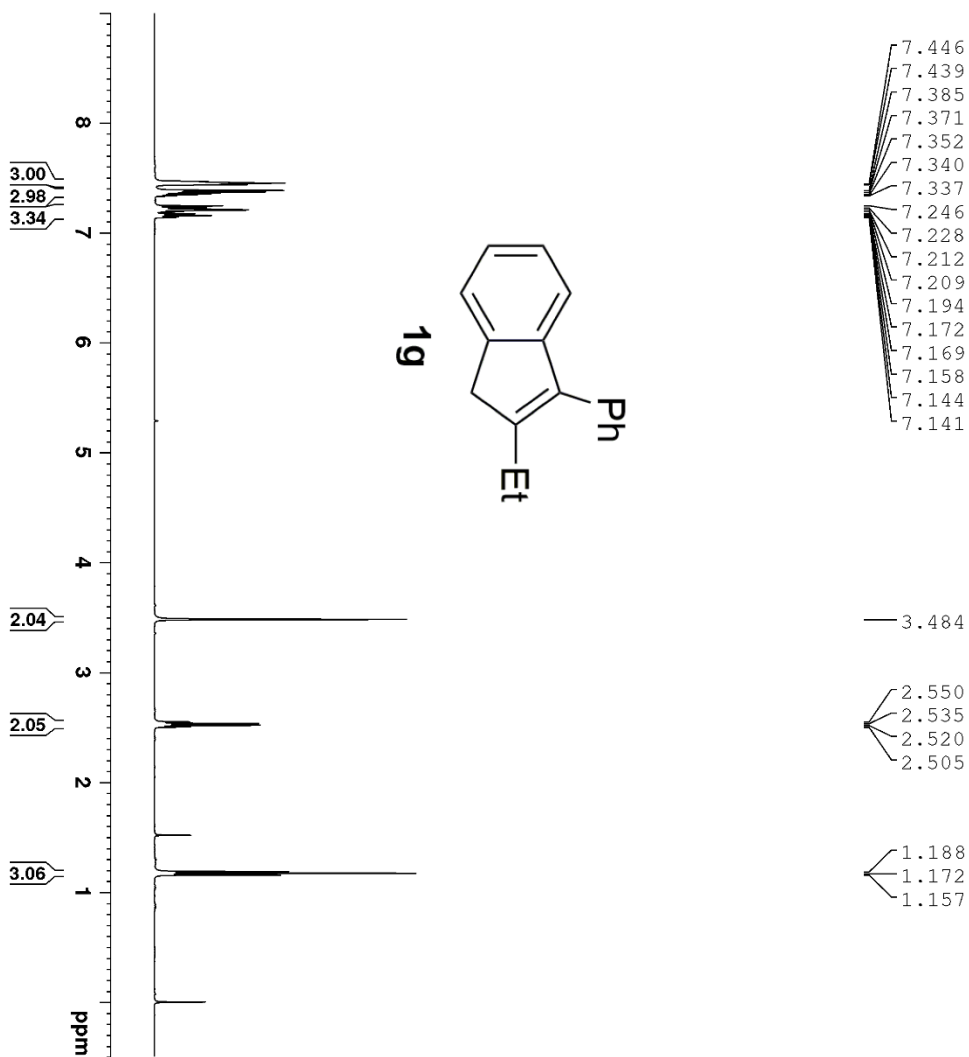
NAME	ay 500 2019
EXPNO	31
PROCNO	1

F2 - Acquisition Parameters

Date_	20.90331
Time	0.32
INSTRUM	spect
PROBHD	5 mm CPD300 BB
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	1024
DS	4
SWH	29761.904 Hz
FIDRES	0.454131 Hz
AQ	1.1010048 sec
RG	192.89
DW	16.800 usec
DE	18.00 usec
TE	298.2 K
D1	2.00000000 sec
d11	0.03000000 sec
DELTA	1.89999998 sec
TD0	1
SFO1	125.7703637 MHz
NUC1	13C
PI	9.80 usec
PLM1	57.0000000 W
SFO2	500.1320005 MHz
NUC2	1H
CPDPRG2	waltz16
PCPD2	80.00 usec
PLM2	20.00000000 W
PLM12	0.35778001 W
PLM13	0.22698000 W

F2 - Processing parameters

SI	32768
SF	125.757632 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	1.40



Current Data Parameters

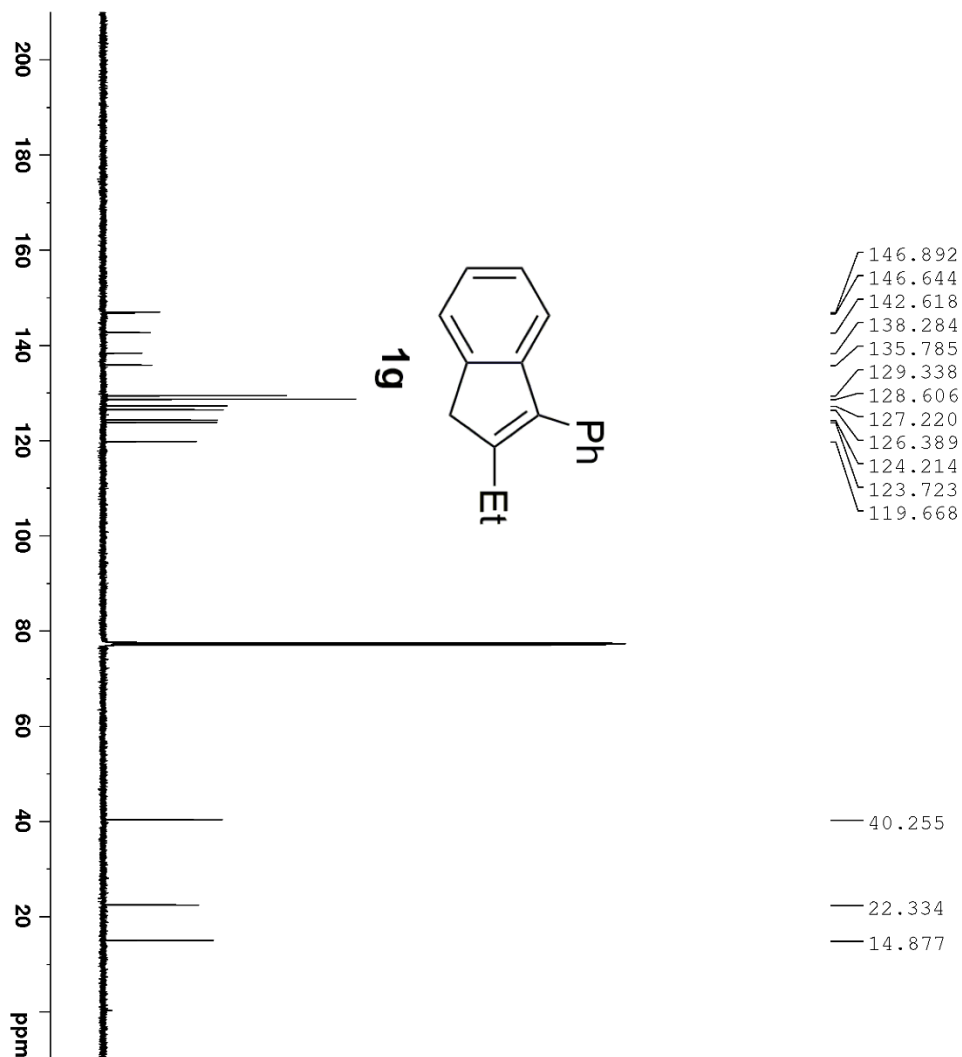
NAME ay 500 2019
EXPNO 36
PROCNO 1

F2 - Acquisition Parameters

Date_ 20.90403
Time 5.46
INSTRUM spect
PROBHD 5 mm CPBBO BB
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 31.72
DW 30.000 usec
DE 6.50 usec
TE 298.2 K
D1 1.00000000 sec
TD0 1
SF01 500.130885 MHz
NUC1 ¹H
P1 11.50 usec
P1M1 20.0000000 W

F2 - Processing parameters

SI 65536
SF 500.130184 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
EC -1.00



Current Data Parameters

NAME	dy 500 2019
EXPNO	37
PROCNO	1

F2 - Acquisition Parameters

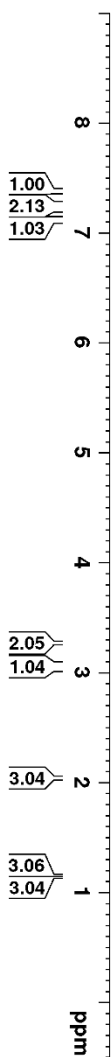
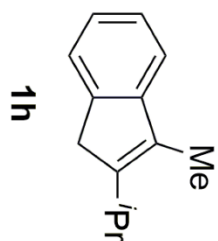
Date_	20.0403
Time	20.01
INSTRUM	spect
PROBHD	5 mm CPDPR 1B
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	52
DS	4
SWH	29761.904 Hz
FIDRES	0.454131 Hz
AQ	1.1010048 sec
RG	192.89
DW	16.800 usec
DE	18.00 usec
TE	298.2 K
D1	2.00000000 sec
d11	0.03000000 sec
DELTA	1.89999998 sec
TD0	1
SFO1	125.7703637 MHz
NUC1	13C
PI	9.80 usec
PLM1	57.0000000 W
SFO2	500.1320005 MHz
NUC2	1H
CPDPRG2	waltz16
PCPD2	80.00 usec
PLM2	20.00000000 W
PLM12	0.35778001 W
PLM13	0.22698000 W

F2 - Processing parameters

SI	32768
SF	125.757641 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	-1.40

7.388
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7.248
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7.222
7.131
7.128
7.116
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7.102
7.099

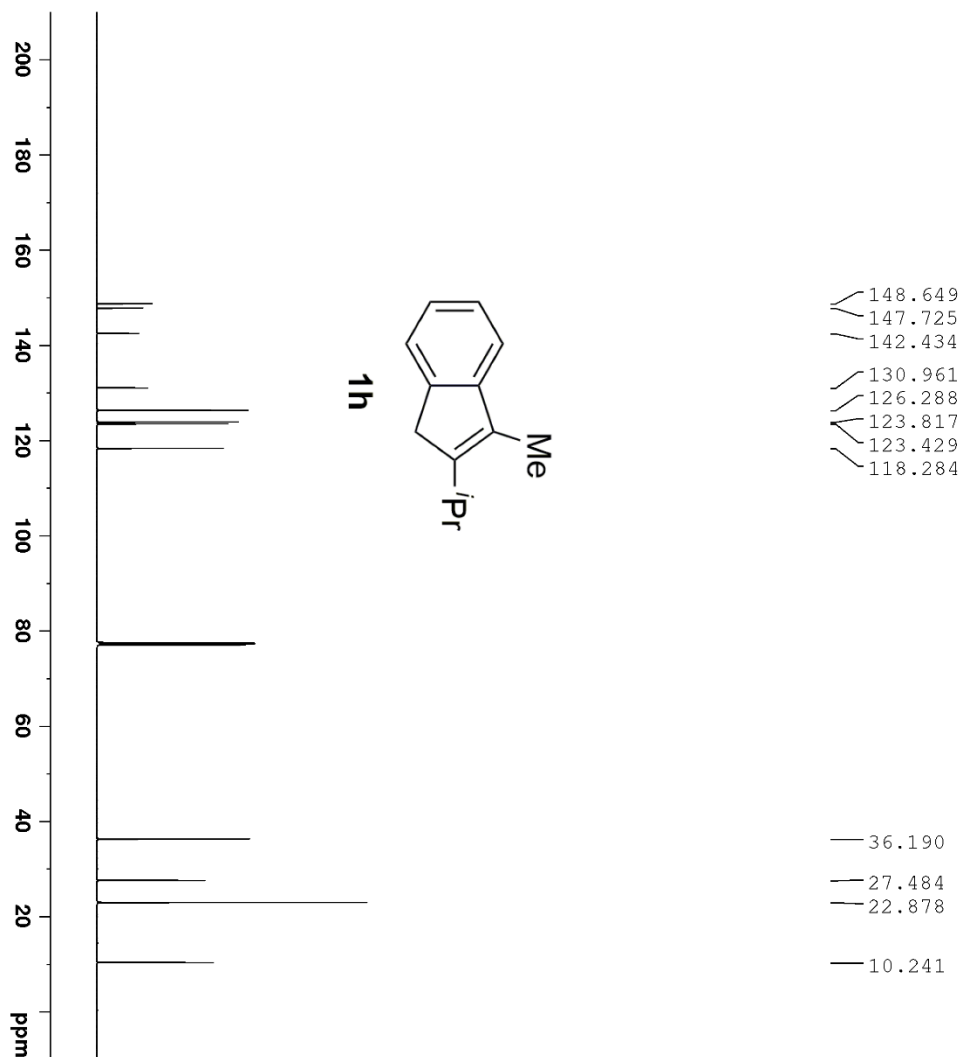
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2.042
2.039
1.154
1.140



Current Data Parameters
NAME ay 500 2019
EXPNO 47
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.90411
Time 22.25
INSTRUM spect
PROBHD 5 mm CPD300-BB
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.276799 sec
RG 31.72
DW 50.000 usec
DE 6.50 usec
TE 298.1 K
D1 1.0000000 sec
TD0 1
SF01 500.130885 MHz
NUC1 1H
P1 11.50 usec
P1M1 20.0000000 W

F2 - Processing parameters
SI 65536
SF 500.130885 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
EC -1.00



Current Data Parameters

NAME	ay 500 2019
EXPNO	43
PROCNO	1

F2 - Acquisition Parameters

Date_	20.09411
Time	22.32
INSTRUM	spect
PROBHD	5 mm CPDPR 1B
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	512
DS	4
SWH	29761.904 Hz
FIDRES	0.454131 Hz
AQ	1.1010048 sec
RG	192.89
DW	16.800 usec
DE	18.00 usec
TE	298.2 K
D1	2.00000000 sec
d11	0.03000000 sec
DELTA	1.89999998 sec
TD0	1
SFO1	125.7703637 MHz
NUC1	13C
PI	9.80 usec
PLM1	57.0000000 W
SFO2	500.1320005 MHz
NUC2	1H
CPDPRG2	waltz16
PCPD2	80.00 usec
PLM2	20.00000000 W
PLM12	0.35778001 W
PLM13	0.22698000 W

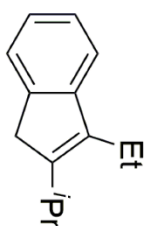
F2 - Processing parameters

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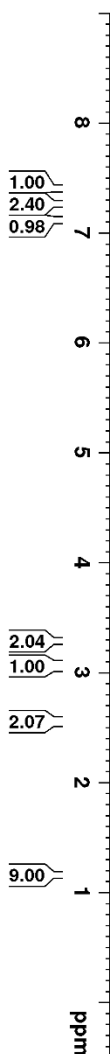
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7.098

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3.045
2.571
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2.540
2.525

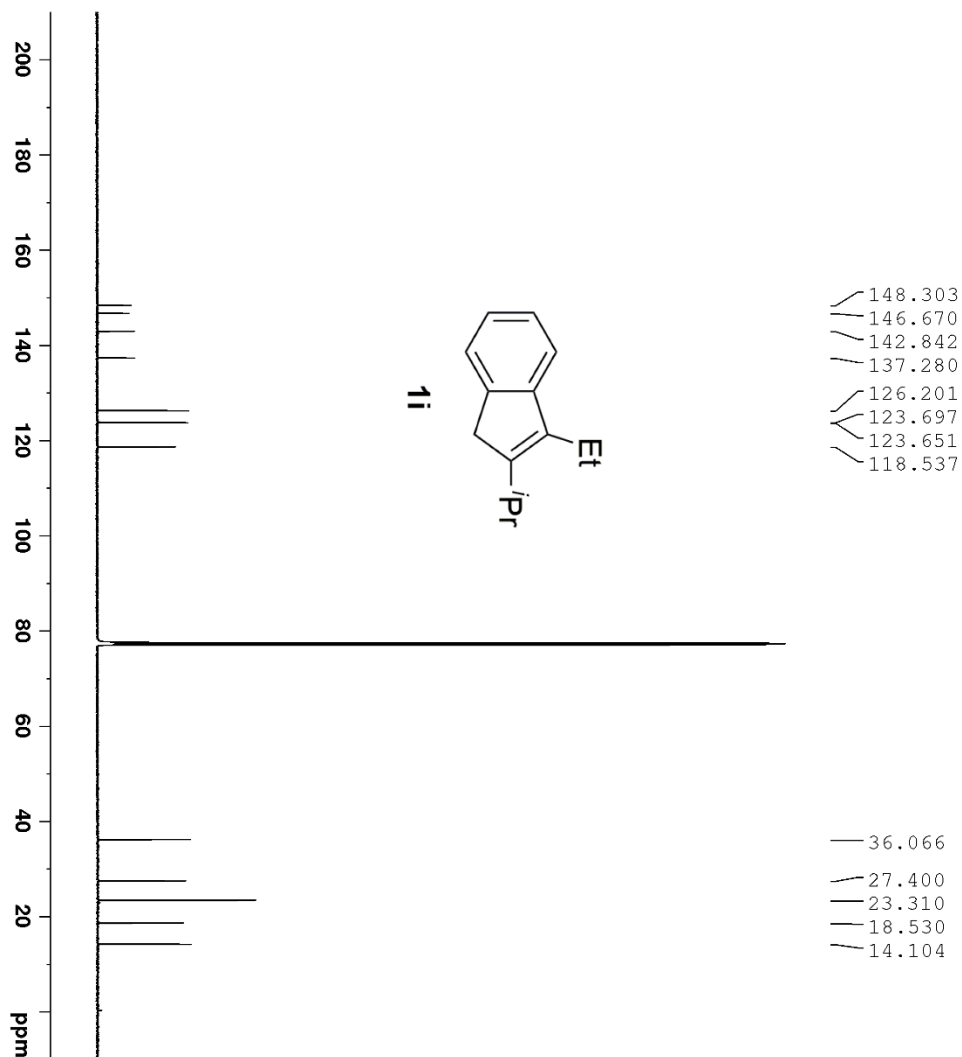
1.167
1.141



11



Current Data Parameters
NAME ay 500 2019
EXPNO 38
PROCNO 1
F2 - Acquisition Parameters
Date_ 20.90416
Time 3.12
INSTRUM spect
PROBHD 5 mm CPD300-BB
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.276799 sec
RG 55.37
DW 30.000 usec
DE 6.50 usec
TE 298.1 K
D1 1.0000000 sec
TD0 1
SF01 500.130885 MHz
NUC1 1H
P1 11.50 usec
P1M1 20.0000000 W
F2 - Processing parameters
SI 65536
SF 500.130157 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
EC -1.00



Current Data Parameters

NAME ay 300 2019

EXPNO 39

PROCNO 1

F2 - Acquisition Parameters

Date_ 20.90416

Time 4.06

INSTRUM spect

PROBHD 5 mm CPD300 BB

PULPROG zgpg30

TD 65536

SOLVENT CDCl₃

NS 1024

DS 4

SWH 29761.904 Hz

FIDRES 0.454131 Hz

AQ 1.1010048 sec

RG 192.89

DW 16.800 usec

DE 18.00 usec

TE 298.2 K

D1 2.00000000 sec

d11 0.03000000 sec

DELTA 1.89999998 sec

TD0 1

SFO1 125.7703637 MHz

NUC1 13C

PI 9.80 usec

PL1 57.0000000 W

SFO2 500.1320005 MHz

NUC2 1H

CPDPRG2 waltz16

PCPD2 80.00 usec

PLM2 20.00000000 W

PLM12 0.35778001 W

PLM13 0.22698000 W

F2 - Processing parameters

SI 32768

SF 125.757632 MHz

WDW EM

SSB 0

LB 1.00 Hz

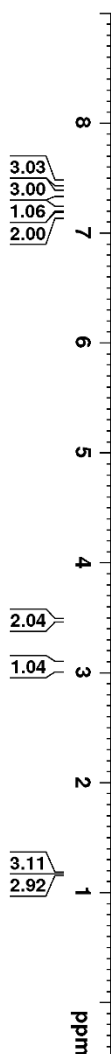
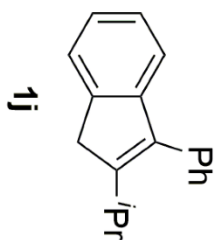
GB 0

PC 1.40

7.470
7.455
7.440
7.371
7.357
7.345
7.342
7.251
7.237
7.223
7.208
7.171
7.163
7.160
7.145

3.473
3.092
3.079
3.065
3.051
3.037
3.024
3.010

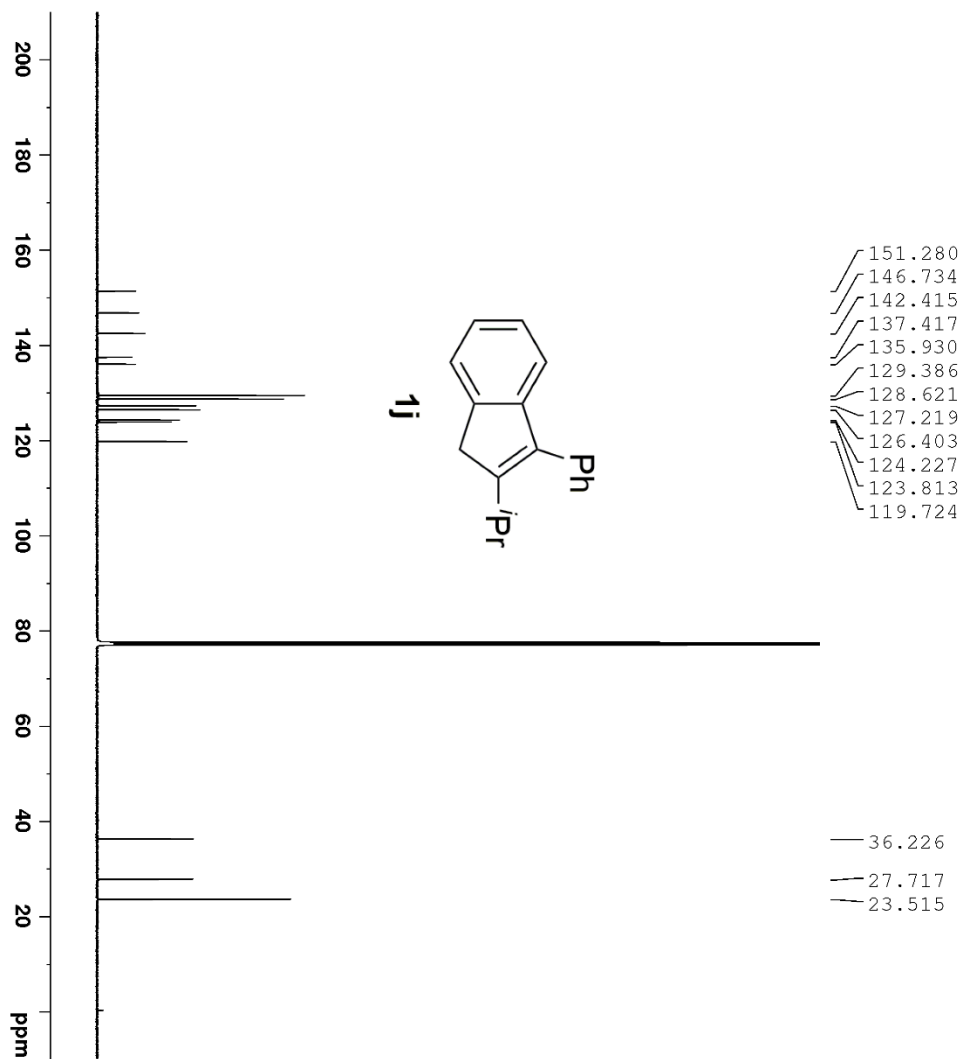
1.176
1.162



Current Data Parameters
NAME ay 500 2019
EXPNO 60
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.90416
Time 4.10
INSTRUM spect
PROBHD 5 mm CPD300-BB
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 62.06
DW 30.000 usec
DE 6.50 usec
TE 298.1 K
D1 1.00000000 sec
TD0 1
SF01 500.130885 MHz
Nuc1 1H
P1 11.50 usec
P1M1 20.0000000 W

F2 - Processing parameters
SI 65536
SF 500.130165 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
EC -1.00



Current Data Parameters

NAME	dy 500 2019
EXPNO	61
PROCNO	1

F2 - Acquisition Parameters

Date_	20.90416
Time	5.04
INSTRUM	spect
PROBHD	5 mm CPDPR 1B
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	1024
DS	4
SWH	29761.904 Hz
FIDRES	0.454131 Hz
AQ	1.1010048 sec
RG	192.89
DW	16.800 usec
DE	18.00 usec
TE	298.2 K
D1	2.00000000 sec
d11	0.03000000 sec
DELTA	1.89999998 sec
TD0	1
SFO1	125.7703637 MHz
NUC1	13C
PI	9.80 usec
PL1	57.0000000 W
SFO2	500.1320005 MHz
NUC2	1H
CPDPRG2	waltz16
PCPD2	80.00 usec
PLM12	20.00000000 W
PLM12	0.35778001 W
PLM13	0.22698000 W

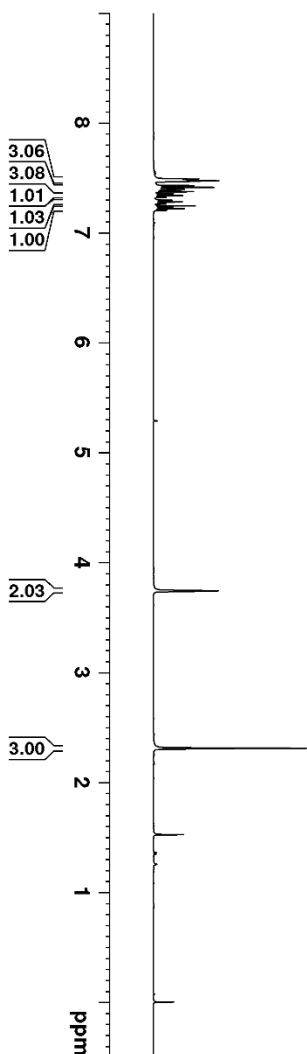
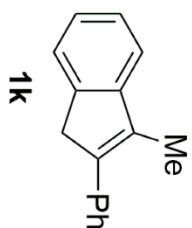
F2 - Processing parameters

SI	32768
SF	125.757632 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	1.40

7.474
7.469
7.430
7.415
7.399
7.391
7.376
7.355
7.340
7.326
7.297
7.283
7.268
7.235
7.233
7.220
7.218
7.206
7.204

3.744
3.741

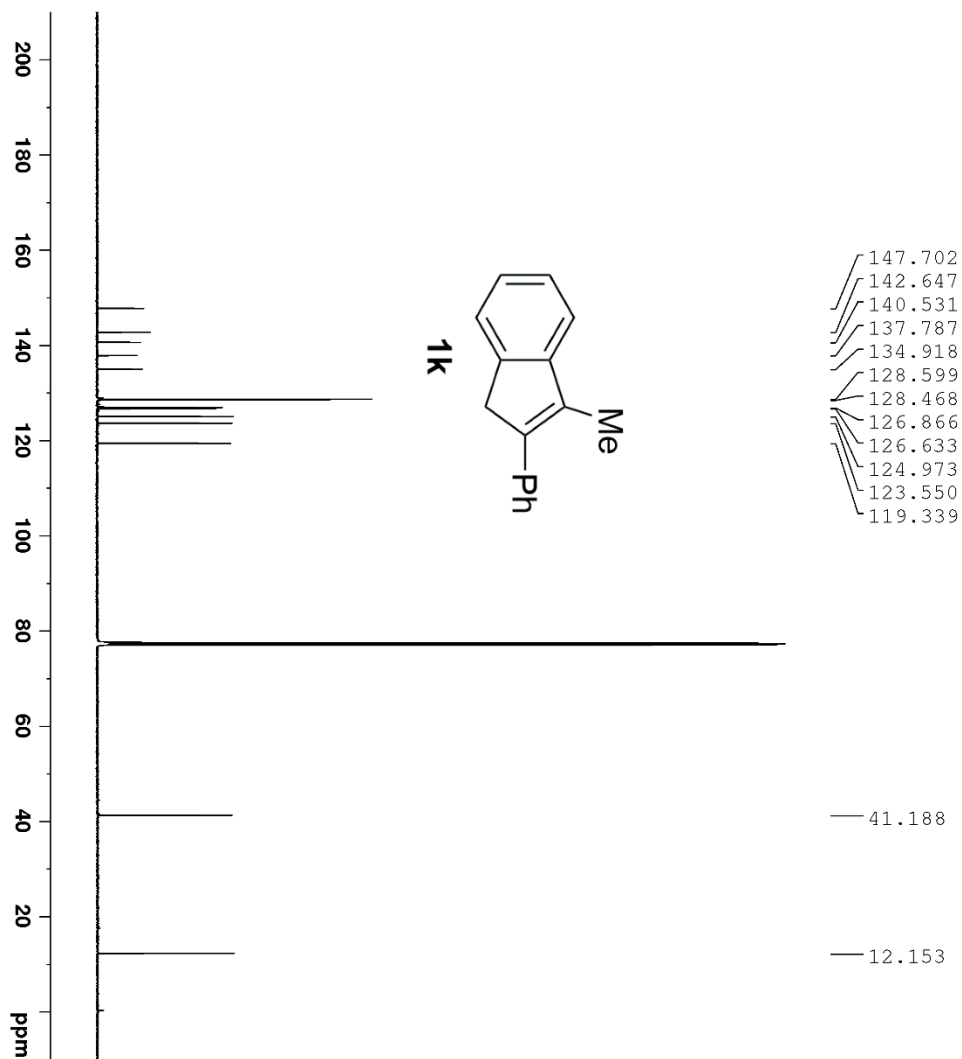
2.314
2.310
2.306



Current Data Parameters
NAME ay 500 2019
EXPNO 67
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.90421
Time 6.09
INSTRUM spect
PROBHD 5 mm CPD300-BB
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 31.72
DW 30.000 usec
DE 6.50 usec
TE 298.2 K
D1 1.00000000 sec
TD0 1
SF01 500.130885 MHz
NUC1 1H
P1 11.50 usec
P1M1 20.0000000 W

F2 - Processing parameters
SI 65536
SF 500.130189 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
EC -1.00



Current Data Parameters

NAME	ay 500 2019
EXPNO	68
PROCNO	1

F2 - Acquisition Parameters

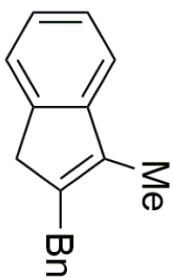
Date_	20.90421
Time	7.04
INSTRUM	spect
PROBHD	5 mm CPDPR 1B
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	1024
DS	4
SWH	29761.904 Hz
FIDRES	0.454131 Hz
AQ	1.1010048 sec
RG	192.89
DW	16.800 usec
DE	18.00 usec
TE	298.1 K
D1	2.0000000 sec
d11	0.0300000 sec
DELTA	1.8999998 sec
TD0	1
SFO1	125.7703637 MHz
NUC1	13C
PI	9.80 usec
PLM1	57.0000000 W
SFO2	500.1320005 MHz
NUC2	1H
CPDPRG2	waltz16
PCPD2	80.00 usec
PLM2	20.0000000 W
PLM12	0.35778001 W
PLM13	0.22698000 W

F2 - Processing parameters

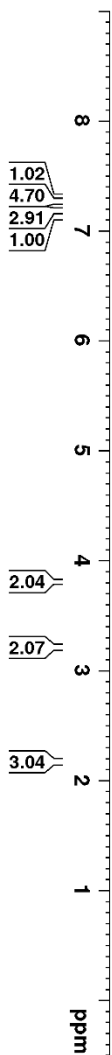
SI	32768
SF	125.757641 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	1.40

7.312
7.284
7.278
7.273
7.267
7.251
7.189
7.179
7.174
7.137
7.130
7.126
7.122
7.120
7.116
7.111
7.105

3.808
3.208
2.168



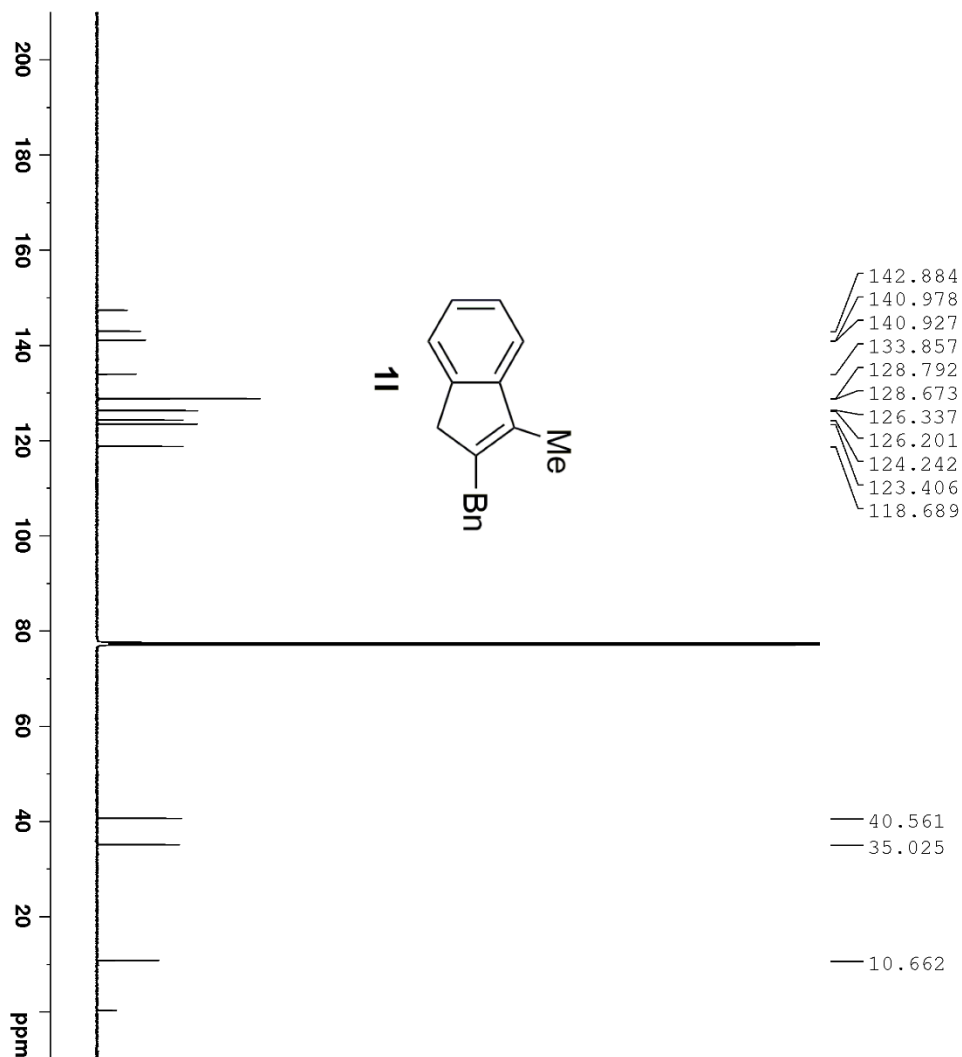
11



Current Data Parameters
NAME ay 500 2019
EXPNO 99
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.90502
Time 2.09
INSTRUM spect
PROBHD 5 mm CPD300 2B
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 62.06
DW 30.000 usec
DE 6.50 usec
TE 298.1 K
D1 1.00000000 sec
TD0 1
SF01 500.130885 MHz
NUC1 1H
P1 11.50 usec
P1M1 20.0000000 W

F2 - Processing parameters
SI 65536
SF 500.130166 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
EC -1.00



Current Data Parameters

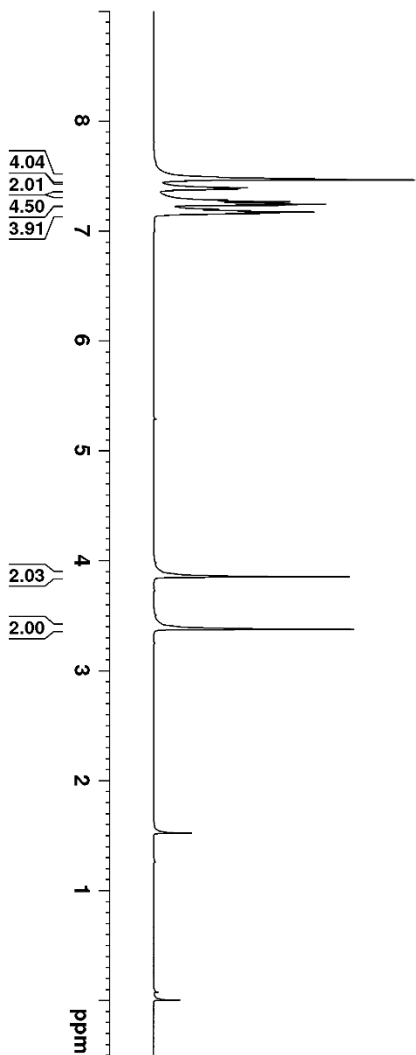
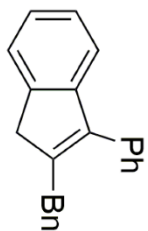
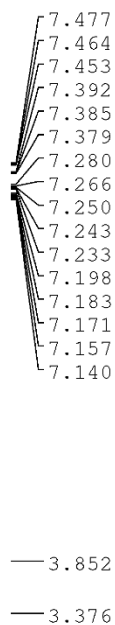
NAME	ay 500 2019
EXPNO	100
PROCNO	1

F2 - Acquisition Parameters

Date_	20.090502
Time	3.03
INSTRUM	spect
PROBHD	5 mm CPDPR 1B
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	1024
DS	4
SWH	29761.904 Hz
FIDRES	0.454131 Hz
AQ	1.1010048 sec
RG	192.89
DW	16.800 usec
DE	18.00 usec
TE	298.2 K
D1	2.00000000 sec
d11	0.03000000 sec
DELTA	1.89999998 sec
TD0	1
SFO1	125.7703637 MHz
NUC1	13C
PI	9.80 usec
PLM1	57.0000000 W
SFO2	500.1320005 MHz
NUC2	1H
CPDPRG2	waltz16
PCPD2	80.00 usec
PLM2	20.00000000 W
PLM12	0.35778001 W
PLM13	0.22698000 W

F2 - Processing parameters

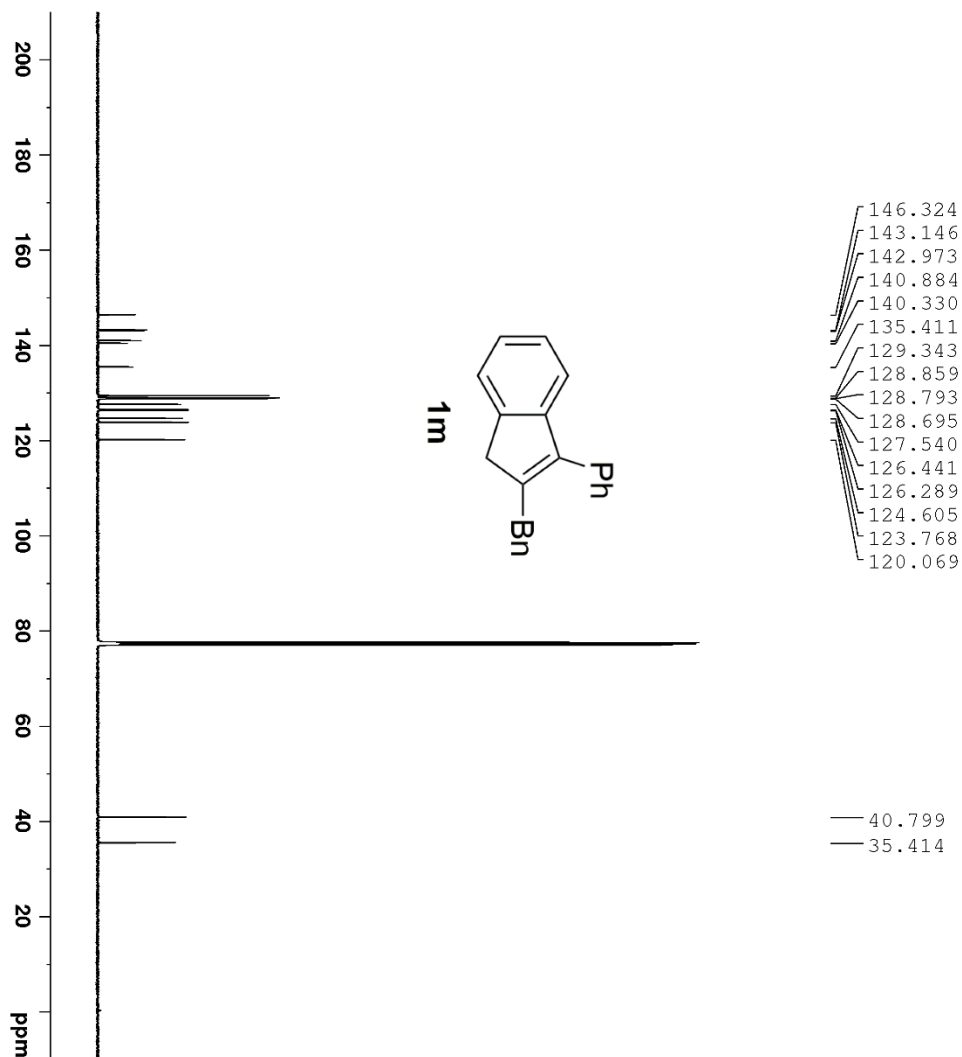
SI	32768
SF	125.757632 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	1.40



Current Data Parameters
NAME ay 500 2019
EXPNO 65
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.90418
Time 23.26
INSTRUM spect
PROBHD 5 mm CPD300-BB
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.276799 sec
RG 55.37
DW 50.000 usec
DE 6.50 usec
TE 298.2 K
D1 1.0000000 sec
TD0 1
SF01 500.130885 MHz
NUC1 1H
P1 11.50 usec
P1M1 20.0000000 W

F2 - Processing parameters
SI 65536
SF 500.130185 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
EC -0.00



Current Data Parameters

NAME ay 500 2019

EXPNO 65

PROCNO 1

F2 - Acquisition Parameters

Date_ 20.90419

Time 0.21

INSTRUM spect

PROBHD 5 mm CPDPR 1B

PULPROG zgpg30

TD 65536

SOLVENT CDCl3

NS 1024

DS 4

SWH 29761.904 Hz

FIDRES 0.454131 Hz

AQ 1.1010048 sec

RG 192.89

DW 16.800 usec

DE 18.00 usec

TE 298.1 K

D1 2.0000000 sec

d11 0.0300000 sec

DELTA 1.8999998 sec

TD0 1

SFO1 125.7703637 MHz

NUC1 13C

PI 9.80 usec

PL1 57.0000000 W

SFO2 500.1320005 MHz

NUC2 1H

CPDPRG2 waltz16

PCPD2 80.00 usec

PLM2 20.0000000 W

PLM12 0.3577800 W

PLM13 0.2269800 W

F2 - Processing parameters

SI 32768

SF 125.7577650 MHz

WDW EM

SSB 0

LB 1.00 Hz

GB 0

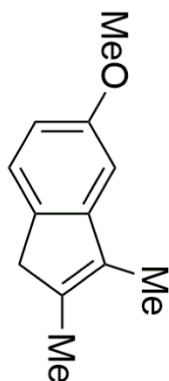
PC 1.40

7.237
7.221
6.772
6.768
6.670
6.665
6.654
6.649

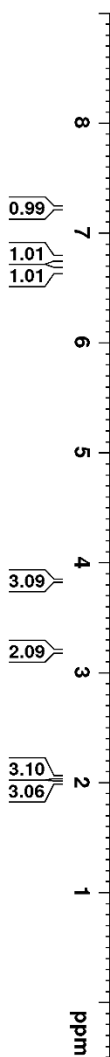
3.836

3.196

2.049
2.001



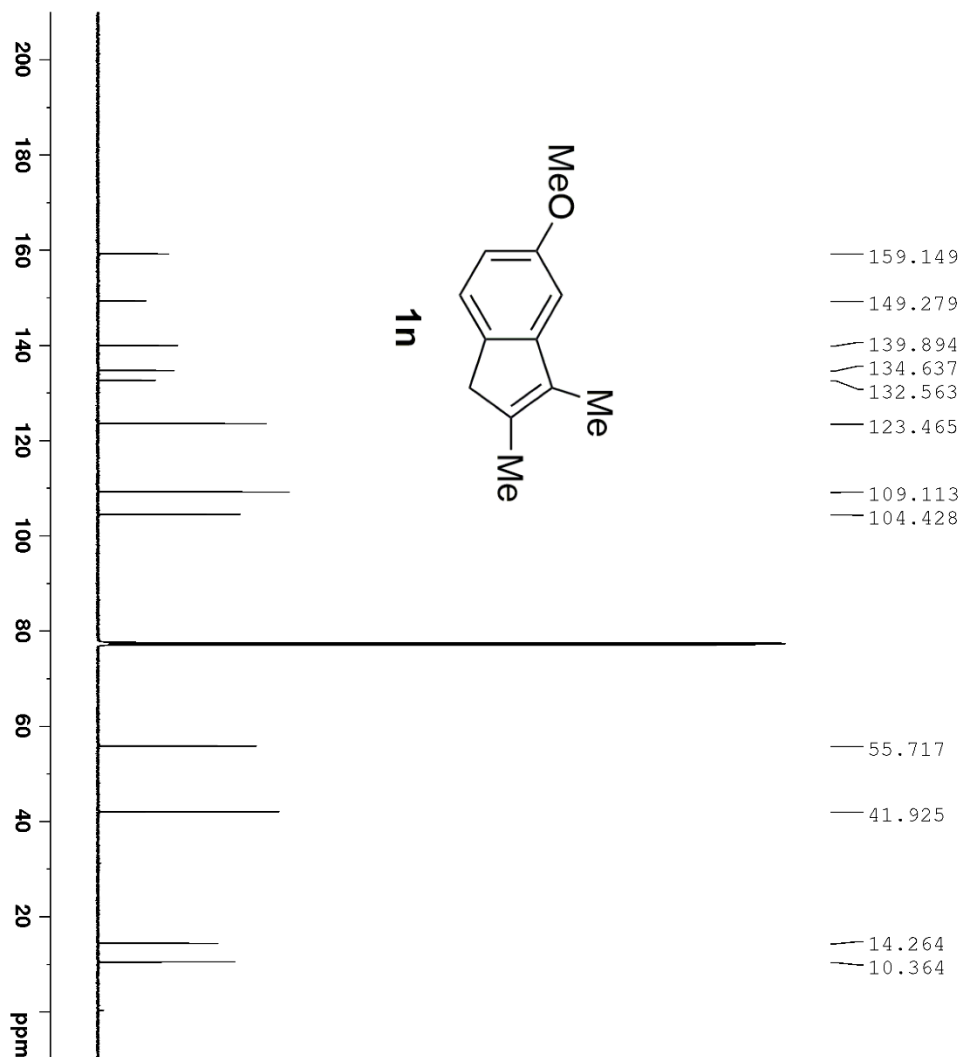
1n



Current Data Parameters
NAME ay 500 2019
EXPNO 73
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.90423
Time 3.22
INSTRUM spect
PROBHD 5 mm CPD300-BB
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 49.27
DW 30.000 usec
DE 6.50 usec
TE 298.1 K
D1 1.00000000 sec
TD0 1
SF01 500.130885 MHz
NUC1 1H
P1 11.50 usec
P1M1 20.0000000 W

F2 - Processing parameters
SI 65536
SF 500.130167 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
EC -1.00



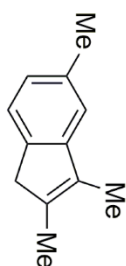
Current Data Parameters
 NAME ay 500 2019
 EXPNO 74
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20.90423
 Time 3.30
 INSTRUM spect
 PROBHD 5 mm CPD300-BB
 PULPROG zgpg30
 TD 65536
 SOLVENT CDC13
 NS 512
 DS 4
 SWH 29761.904 Hz
 FIDRES 0.454131 Hz
 AQ 1.1010048 sec
 RG 192.89
 DW 16.800 usec
 DE 18.00 usec
 TE 298.1 K
 D1 2.00000000 sec
 d11 0.03000000 sec
 DELTA 1.89999998 sec
 TDO 1
 SFO1 125.7703637 MHz
 NUC1 13C
 P1 9.80 usec
 P1M1 57.0000000 W
 SFO2 500.132005 MHz
 NUC2 1H
 CPDPRG2 waltz16
 PCPD2 80.00 usec
 FLM2 20.0000000 W
 FLM12 0.35778001 W
 FLM13 0.22698000 W

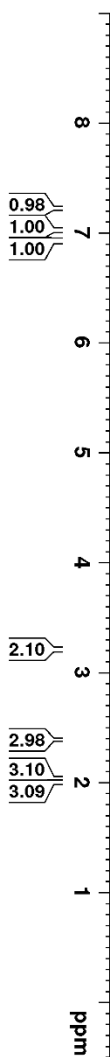
F2 - Processing parameters
 SI 32768
 SF 125.757641 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

7.238
7.223
7.021
6.931
6.916

3.211
2.391
2.045
2.005



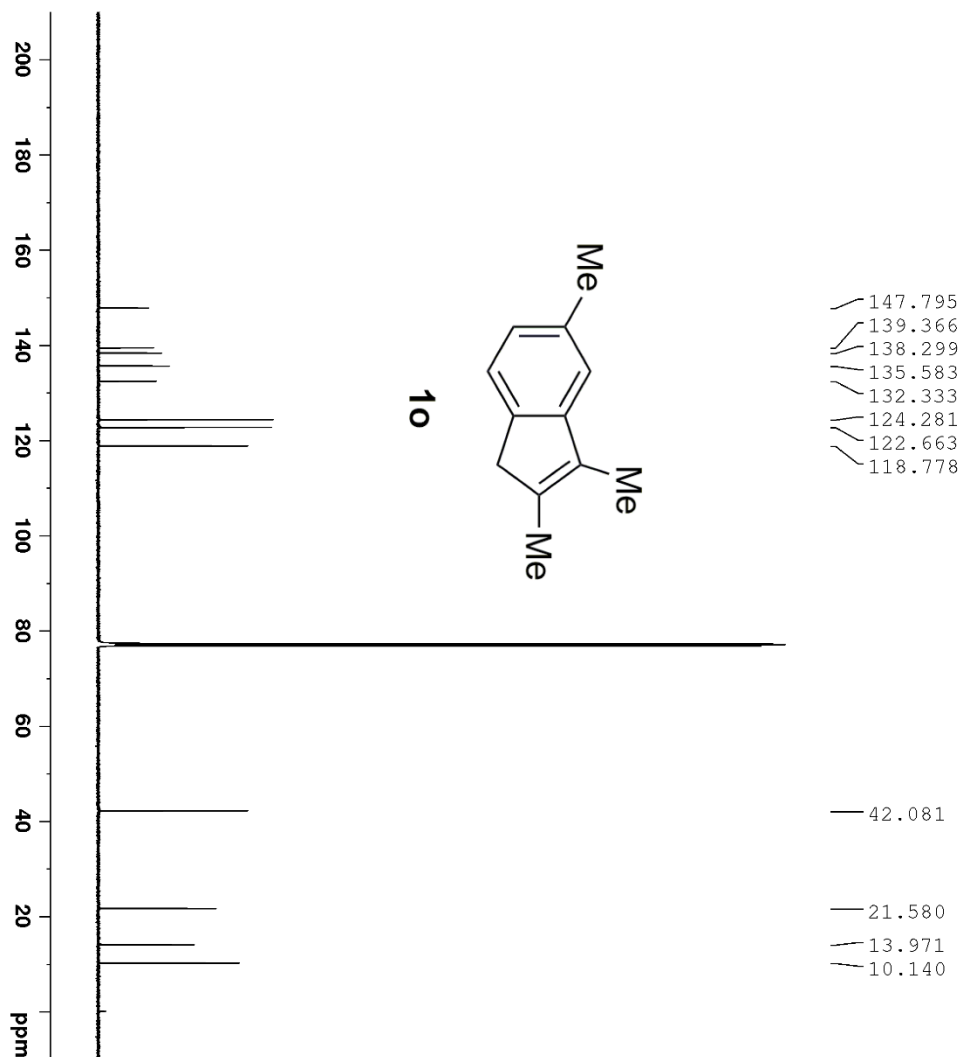
10



Current Data Parameters
NAME ay 500 2019
EXPNO 81
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.90424
Time 13.20
INSTRUM spect
PROBHD 5 mm CPDPRB
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 49.27
DW 30.000 usec
DE 6.50 usec
TE 298.1 K
D1 1.00000000 sec
TD0 1
SF01 500.130885 MHz
NUC1 1H
P1 11.50 usec
P1M1 20.0000000 W

F2 - Processing parameters
SI 65536
SF 500.130189 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
EC -1.00



Current Data Parameters

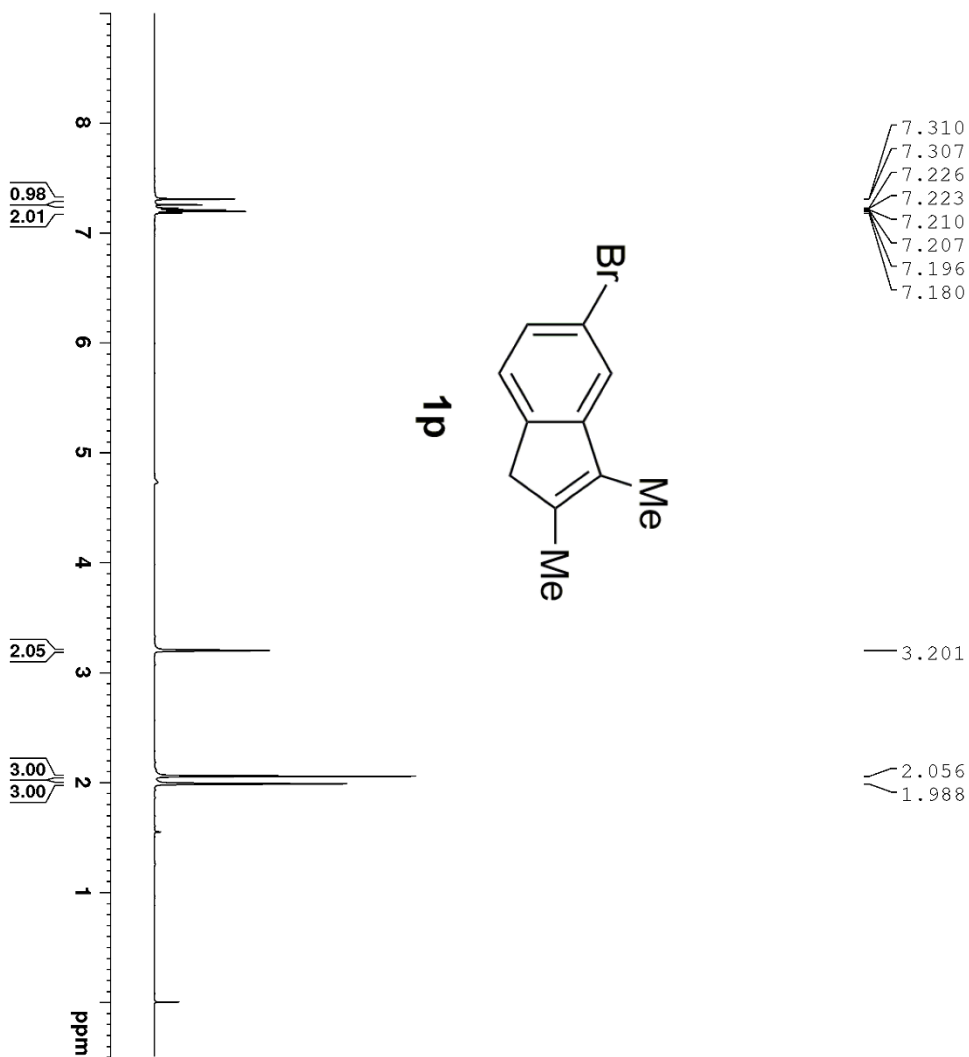
NAME	ay 500 2019
EXPNO	32
PROCNO	1

F2 - Acquisition Parameters

Date_	20.90424
Time	13.47
INSTRUM	spect
PROBHD	5 mm CPD300 BB
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	500
DS	4
SWH	29761.904 Hz
FIDRES	0.454131 Hz
AQ	1.1010048 sec
RG	192.89
DW	16.800 usec
DE	18.00 usec
TE	298.1 K
D1	2.00000000 sec
d11	0.03000000 sec
DELTA	1.89999998 sec
TD0	1
SFO1	125.7703637 MHz
NUC1	13C
PI	9.80 usec
PLM1	57.0000000 W
SFO2	500.1320005 MHz
NUC2	1H
CPDPRG2	waltz16
PCPD2	80.00 usec
PLM2	20.00000000 W
PLM12	0.35778001 W
PLM13	0.22698000 W

F2 - Processing parameters

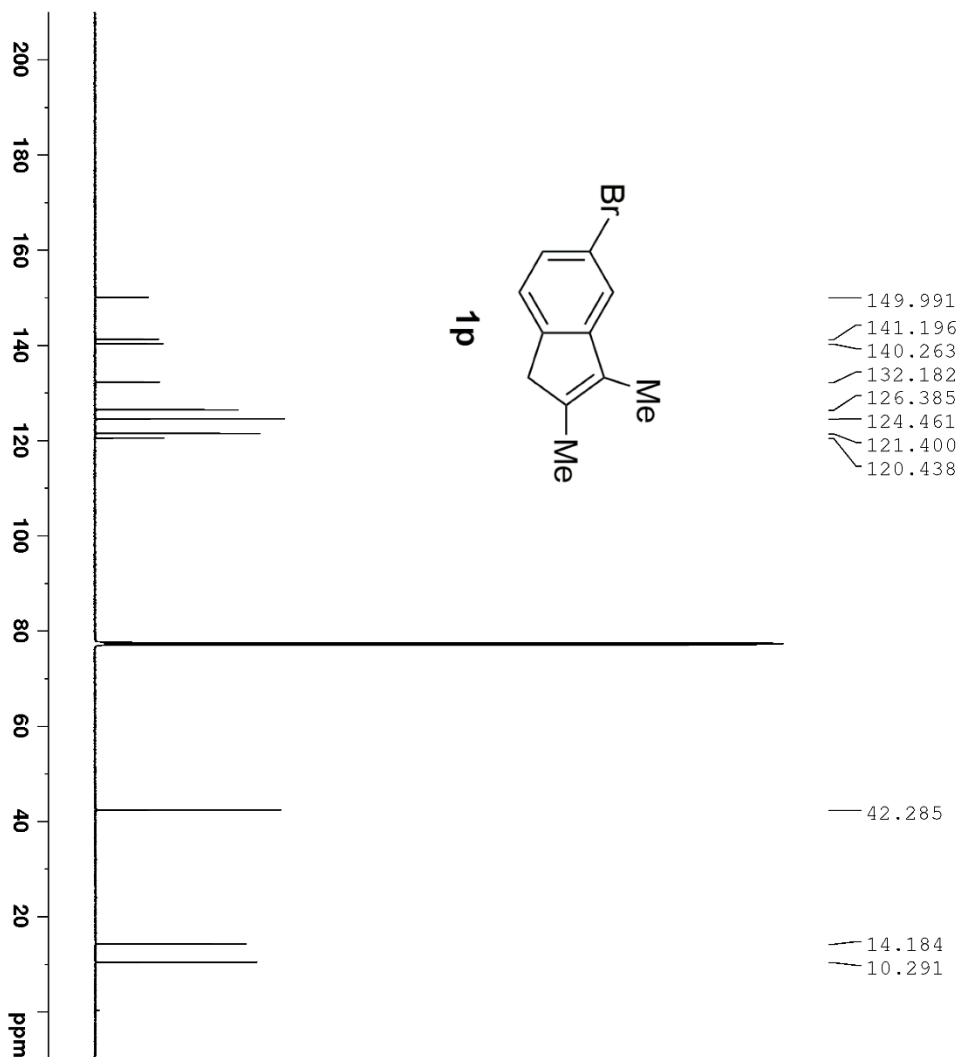
SI	32768
SF	125.757885 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	-1.40



Current Data Parameters
NAME ay 500 2019
EXPNO 9
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.90311
Time 11.04
INSTRUM spect
PROBHD 5 mm CPDPR 1B
PULPROG zg30
TD 65536
SOLVENT CDCl₃
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 31.72
DW 30.000 usec
DE 6.50 usec
TE 298.2 K
D1 1.00000000 sec
TD0 1
SF01 500.130885 MHz
NUC1 ¹H
P1 11.50 usec
P1M1 20.0000000 W

F2 - Processing parameters
SI 65536
SF 500.130142 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
EC -1.00



Current Data Parameters

NAME	ay 500 2019
EXPNO	10
PROCNO	1

F2 - Acquisition Parameters

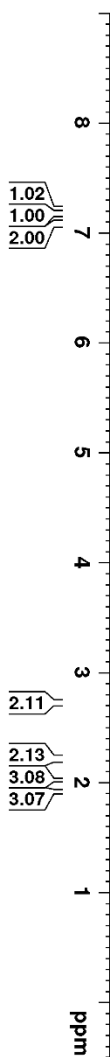
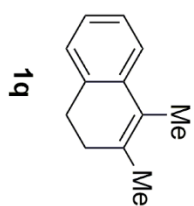
Date_	20.09.11
Time	11.39
INSTRUM	spect
PROBHD	5 mm CPDPR 1B
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	1024
DS	4
SWH	29761.904 Hz
FIDRES	0.454131 Hz
AQ	1.1010048 sec
RG	192.89
DW	16.800 usec
DE	18.00 usec
TE	298.1 K
D1	2.00000000 sec
d11	0.03000000 sec
DELTA	1.89999998 sec
TD0	1
SFO1	125.770637 MHz
NUC1	13C
PI	9.80 usec
PLM1	57.0000000 W
SFO2	500.132005 MHz
NUC2	1H
CPDPRG2	waltz16
PCPD2	80.00 usec
PLM2	20.00000000 W
PLM12	0.35778001 W
PLM13	0.22698000 W

F2 - Processing parameters

SI	32768
SF	125.757640 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	1.40

7.233
7.217
7.197
7.192
7.186
7.180
7.170
7.087
7.076
7.073

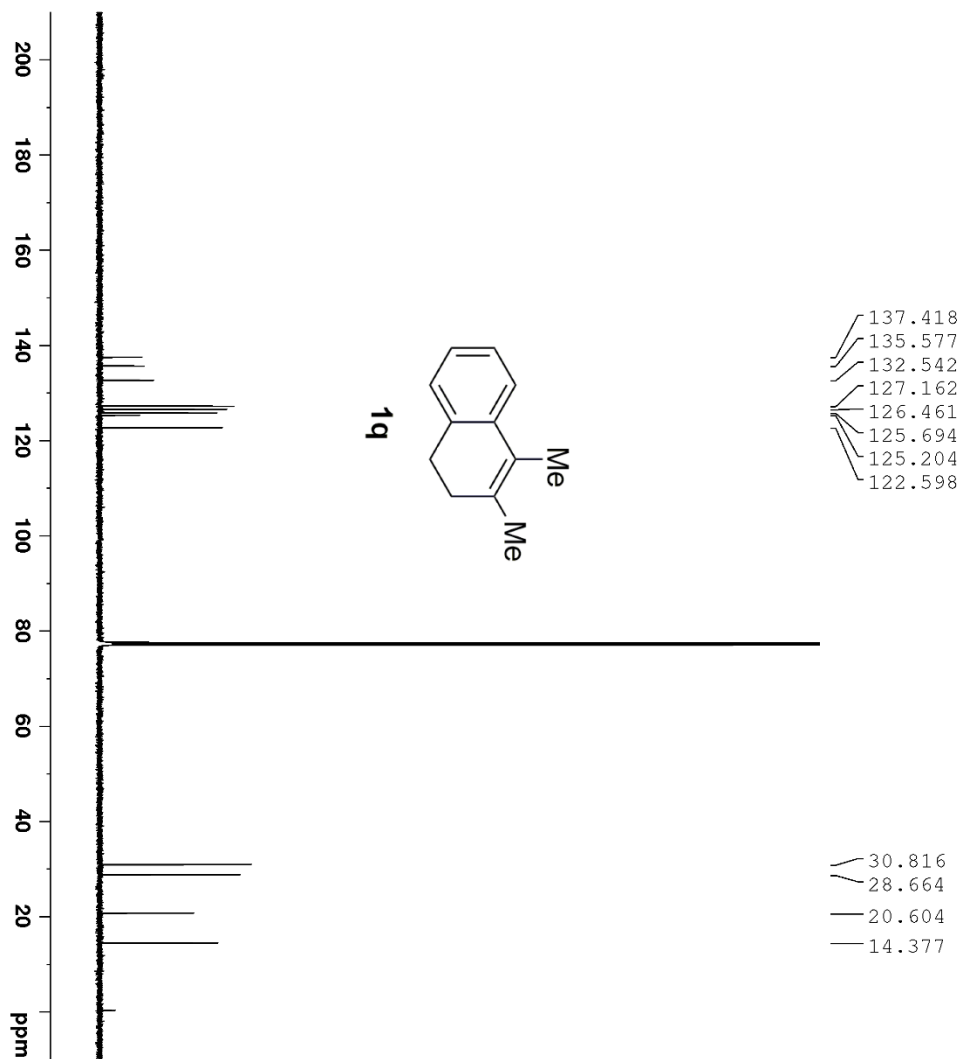
2.740
2.725
2.709
2.233
2.217
2.201
2.021
1.913



Current Data Parameters
NAME ay 500 2019
EXPNO 117
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.90507
Time 17.39
INSTRUM spect
PROBHD 5 mm CPBBO BB
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 49.27
DW 30.000 usec
DE 6.50 usec
TE 298.2 K
D1 1.00000000 sec
TD0 1
SF01 500.130885 MHz
NUC1 1H
P1 11.50 usec
PMT1 20.0000000 W

F2 - Processing parameters
SI 65536
SF 500.130164 MHz
WDW EM
SSB 0
LB 0
GB 0
EC -1.00

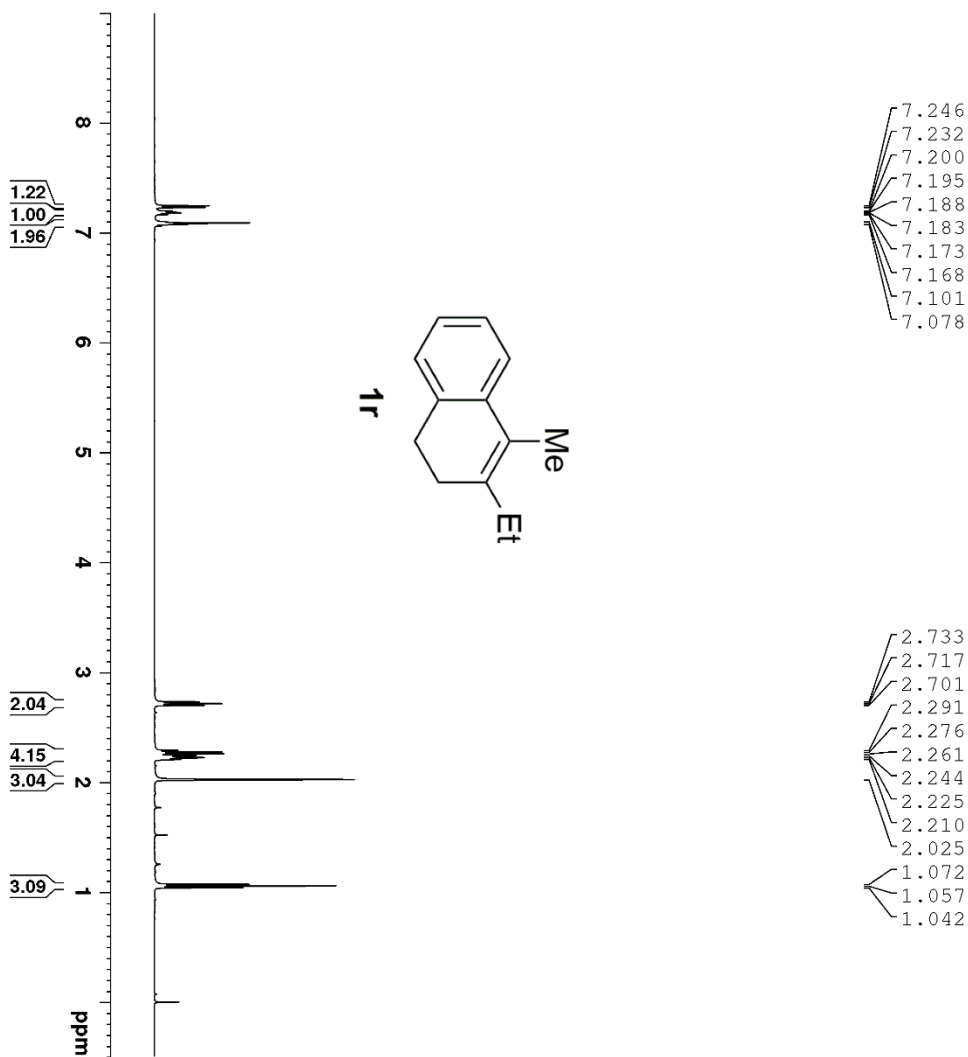


```

Current Data Parameters
NAME      dy 500 2019
EXPNO     118
PROCNO    1

F2 - Acquisition Parameters
Date_     20.90507
Time      18.06
INSTRUM   spect
PROBHD    5 mm CPDPRB
PULPROG   zgpg30
TD        65536
SOLVENT   CDCl3
NS        128
DS        4
SWH        29761.904 Hz
FIDRES    0.454131 Hz
AQ         1.1010048 sec
RG         192.89
DE         16.800 usec
TE         18.00 usec
D1         298.2 K
d11        0.0000000 sec
DELTA     1.89999998 sec
TD0        1
SF01       125.7703637 MHz
NUC1       13C
PI         9.80 usec
P1M1       57.0000000 W
SF02       500.1320005 MHz
NUC2       1H
CPDPRG2   waltz16
PCPD2      80.00 usec
F2M2       20.0000000 W
F2M12      0.35778001 W
F2M13      0.2269800 W

F2 - Processing parameters
SI         32768
SF         125.757632 MHz
WDW        EM
SSB        0
LB         1.00 Hz
GB         0
PC         1.40
  
```



Current Data Parameters

NAME ay 500 2019

EXPNO 28

PROCNO 1

F2 - Acquisition Parameters

Date_ 20.90330

Time 22.39

INSTRUM spect

PROBHD 5 mm CPBBO BB

PULPROG zg30

TD 65536

SOLVENT CDCl3

NS 16

DS 2

SWH 10000.000 Hz

FIDRES 0.152588 Hz

AQ 3.2767999 sec

RG 31.72

DW 50.000 usec

DE 6.50 usec

TE 298.1 K

D1 1.00000000 sec

TD0 1

SFO1 500.130885 MHz

NUC1 ¹H

PI 11.50 usec

PMW 20.0000000 W

F2 - Processing parameters

SI 65536

SF 500.130184 MHz

WDW EM

SSB 0

LB 0.30 Hz

GB 0

EC -1.00



Current Data Parameters

NAME	ay 500 2019
EXPNO	29
PROCNO	1

F2 - Acquisition Parameters

Date_	20.09.30
Time	23.34
INSTRUM	spect
PROBHD	5 mm CPDPRB
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	1024
DS	4
SWH	29761.904 Hz
FIDRES	0.454131 Hz
AQ	1.1010048 sec
RG	192.89
DW	16.800 usec
DE	18.00 usec
TE	298.2 K
D1	2.00000000 sec
d11	0.03000000 sec
DELTA	1.89999998 sec
TD0	1
SFO1	125.7703637 MHz
NUC1	13C
PI	9.80 usec
PLM1	57.0000000 W
SFO2	500.1320005 MHz
NUC2	1H
CPDPRG2	waltz16
PCPD2	80.00 usec
PLM2	20.00000000 W
PLM12	0.35778001 W
PLM13	0.22698000 W

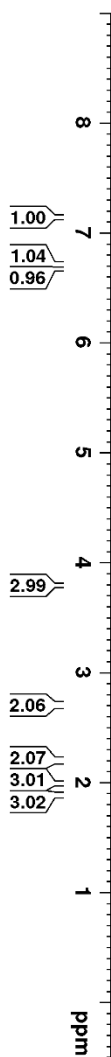
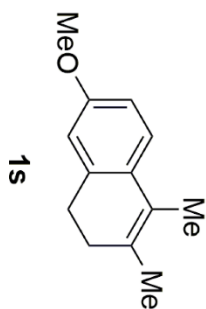
F2 - Processing parameters

SI	32768
SF	125.757641 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	-1.40

7.152
7.135
6.724
6.719
6.707
6.702
6.676

3.794

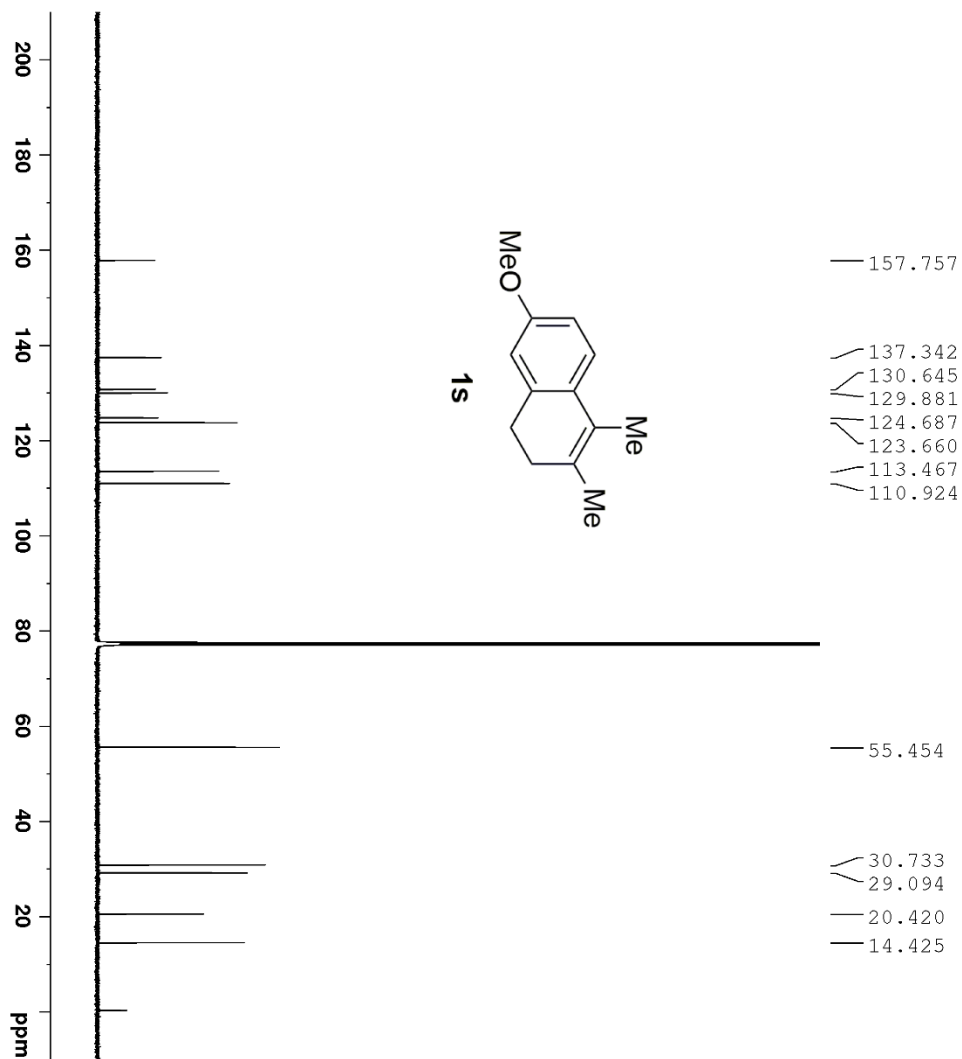
2.720
2.704
2.689
2.214
2.198
2.183
1.995
1.889



Current Data Parameters
NAME ay 500 2019
EXPNO 85
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.90426
Time 23.53
INSTRUM spect
PROBHD 5 mm CPDPR 1B
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.276799 sec
RG 55.37
DW 30.000 usec
DE 6.50 usec
TE 298.2 K
D1 1.0000000 sec
TD0 1
SF01 500.130885 MHz
NUC1 1H
P1 11.50 usec
P1M1 20.0000000 W

F2 - Processing parameters
SI 65536
SF 500.130141 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
EC -1.00



Current Data Parameters
NAME ay 500 2019
EXPNO 36
PROCNO 1

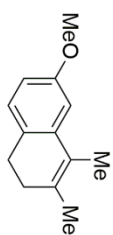
F2 - Acquisition Parameters
Date_ 20.90427
Time 0.47
INSTRUM spect
PROBHD 5 mm CPDABO BB
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 1024
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 298.2 K
D1 2.0000000 sec
d11 0.0300000 sec
DELTA 1.8999998 sec
TD0 1
SF01 125.7703637 MHz
NUC1 13C
PI 9.80 usec
P1M1 57.0000000 W
SF02 500.1320005 MHz
NUC2 1H
CPDPRG12 waltz16
PCPD2 80.00 usec
F2M2 20.0000000 W
F2M12 0.35778001 W
F2M13 0.22698000 W

F2 - Processing parameters
SI 32768
SF 125.757628 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

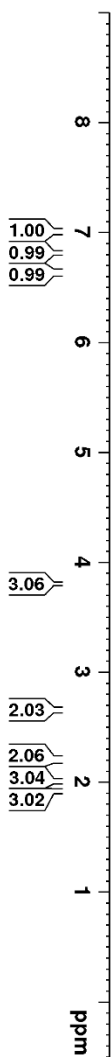
7.012
6.996
6.811
6.640
6.636
6.624
6.620

3.801

2.672
2.657
2.641
2.215
2.200
2.185
2.005
1.911



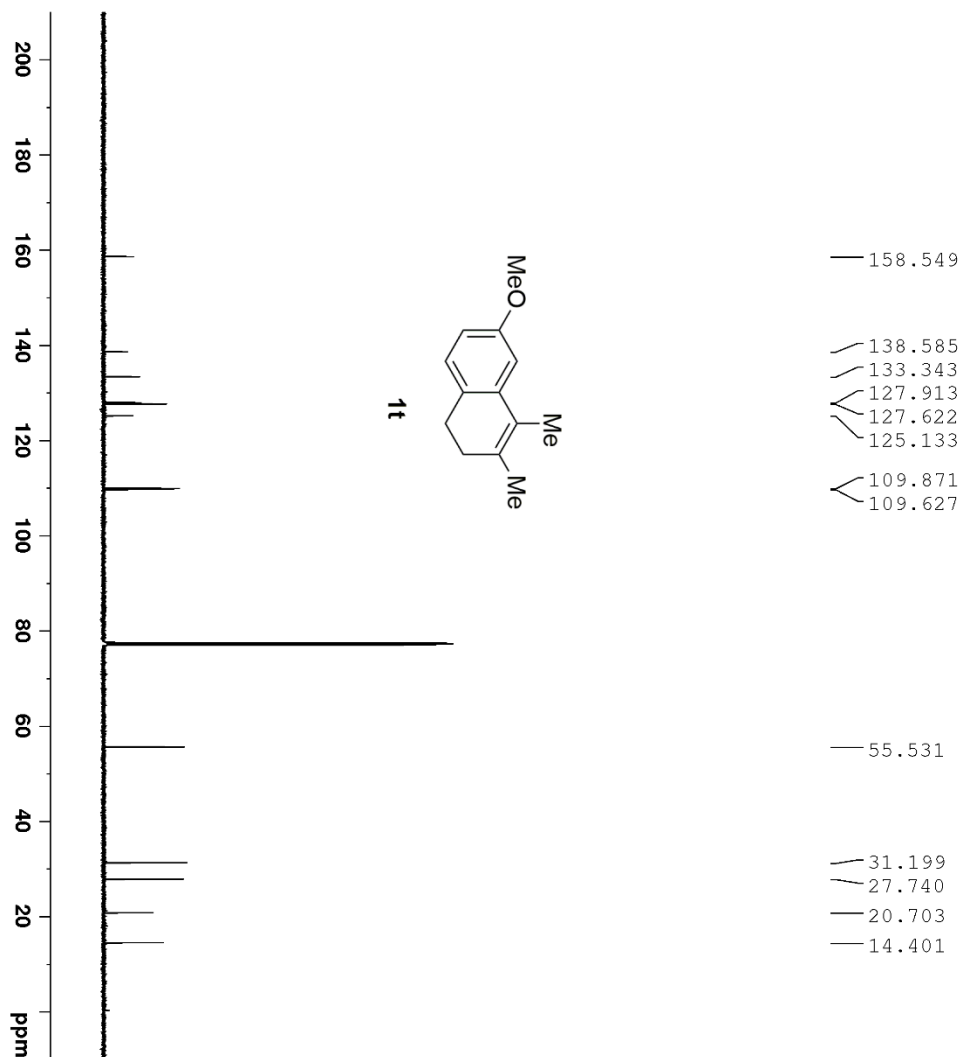
1t



Current Data Parameters
NAME ay 500 2019
EXPNO 106
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.90502
Time 19.20
INSTRUM spect
PROBHD 5 mm CPD300 BB
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 62.06
DW 30.000 usec
DE 6.50 usec
TE 298.1 K
D1 1.00000000 sec
TD0 1
SF01 500.130885 MHz
NUC1 1H
P1 11.50 usec
P1M1 20.0000000 W

F2 - Processing parameters
SI 65536
SF 500.130161 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
EC -1.00



Current Data Parameters
NAME ay 500 2019
EXPNO 108
PROCNO 1

F2 - Acquisition Parameters

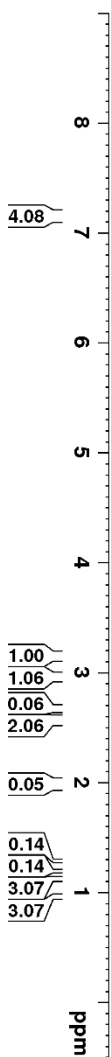
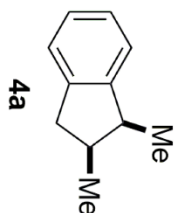
Date_ 20.09.03
Time 13.54
INSTRUM spect
PROBHD 5 mm CPDPR 1B
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 36
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 298.1 K
D1 2.0000000 sec
d11 0.0300000 sec
DELTA 1.8999998 sec
TDO 1
SF01 125.7703637 MHz
NUC1 13C
PI 9.80 usec
P1M1 57.0000000 W
SF02 500.132005 MHz
NUC2 1H
CPDPRG12 waltz16
PCPD2 80.00 usec
FHM2 20.0000000 W
FHM12 0.3577800 W
FHM13 0.2269800 W

F2 - Processing parameters

SI 32768
SF 125.757641 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

7.188
7.173
7.159
7.148
7.134
7.130
7.120
7.116
7.107

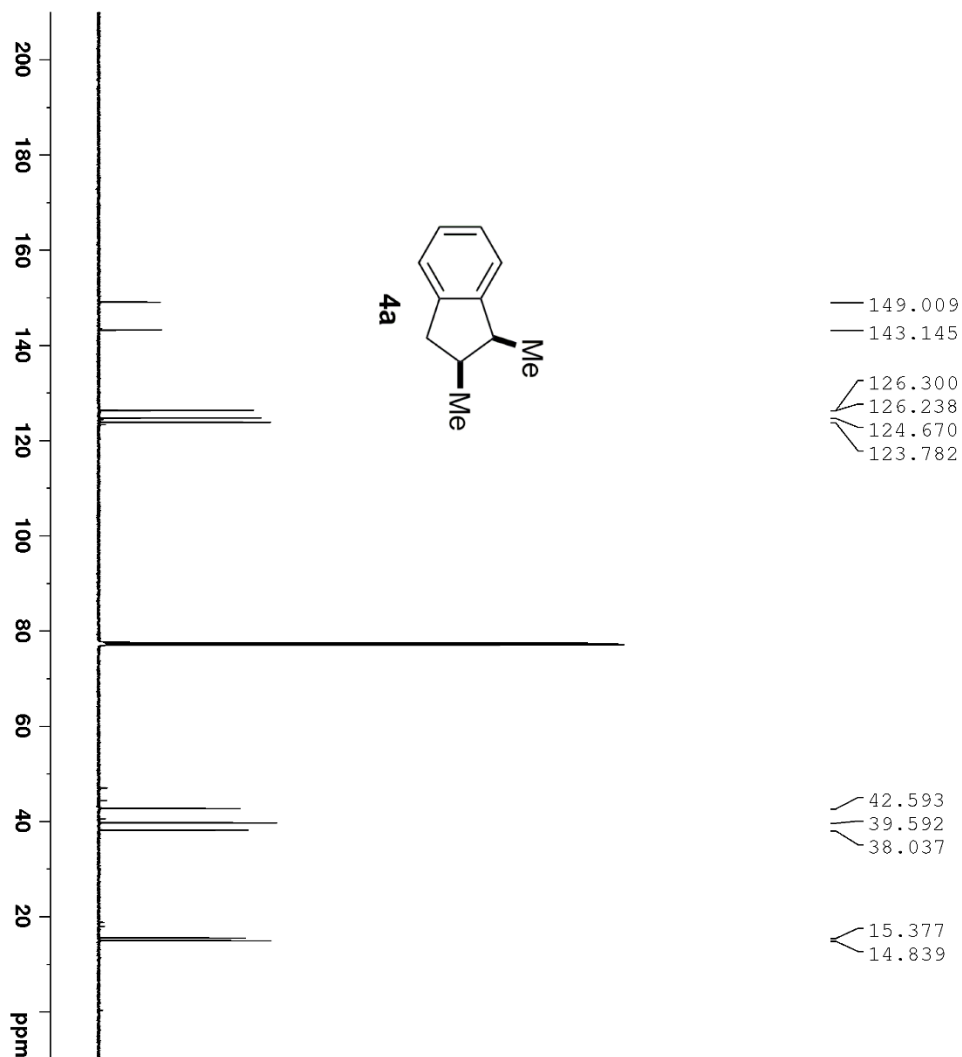
3.174
3.160
3.146
3.132
3.117
2.988
2.980
2.970
2.954
2.943
2.935
2.590
2.577
2.567
2.563
2.558
2.550
2.544
2.540
2.531
2.527
1.294
1.281
1.198
1.185
1.130
1.116



Current Data Parameters
NAME ay 500 2019
EXPNO 45
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.90411
Time 22.07
INSTRUM spect
PROBHD 5 mm CPDPR 1B
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 31.72
DW 30.000 usec
DE 6.50 usec
TE 298.2 K
D1 1.00000000 sec
TD0 1
SF01 500.130885 MHz
NUC1 1H
P1 11.50 usec
P1M1 20.0000000 W

F2 - Processing parameters
SI 65536
SF 500.1300207 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
EC -1.00



Current Data Parameters

NAME	ay 500 2019
EXPNO	46
PROCNO	1

F2 - Acquisition Parameters

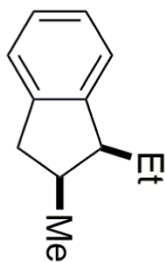
Date_	20.09411
Time	22.22
INSTRUM	spect
PROBHD	5 mm CPD300-BB
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	256
DS	4
SWH	29761.904 Hz
FIDRES	0.454131 Hz
AQ	1.1010048 sec
RG	192.89
DW	16.800 usec
DE	18.00 usec
TE	298.2 K
D1	2.00000000 sec
d11	0.03000000 sec
DELTA	1.89999998 sec
TD0	1
SFO1	125.7703637 MHz
NUC1	13C
PI	9.80 usec
PLM1	57.0000000 W
SFO2	500.1320005 MHz
NUC2	1H
CPDPRG2	waltz16
PCPD2	80.00 usec
PLM2	20.00000000 W
PLM12	0.35778001 W
PLM13	0.22698000 W

F2 - Processing parameters

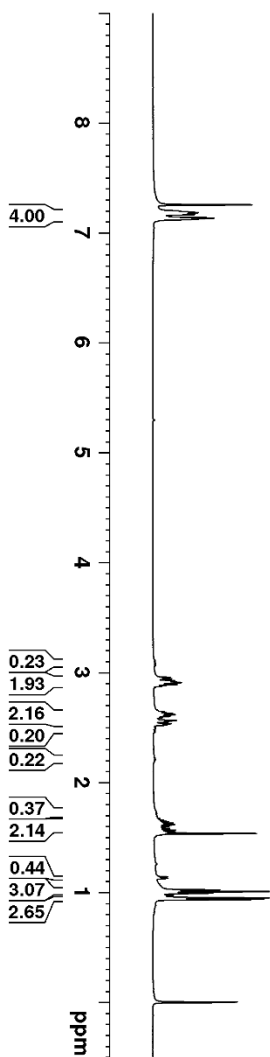
SI	32768
SF	125.757641 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	-1.40

7.185
7.168
7.135
7.130
7.126
7.121

2.955
2.942
2.924
2.907
2.890
2.875
2.642
2.629
2.615
2.603
2.590
2.563
2.552
2.533
2.522
1.658
1.644
1.629
1.616
1.602
1.581
1.566
1.551
1.141
1.127
1.022



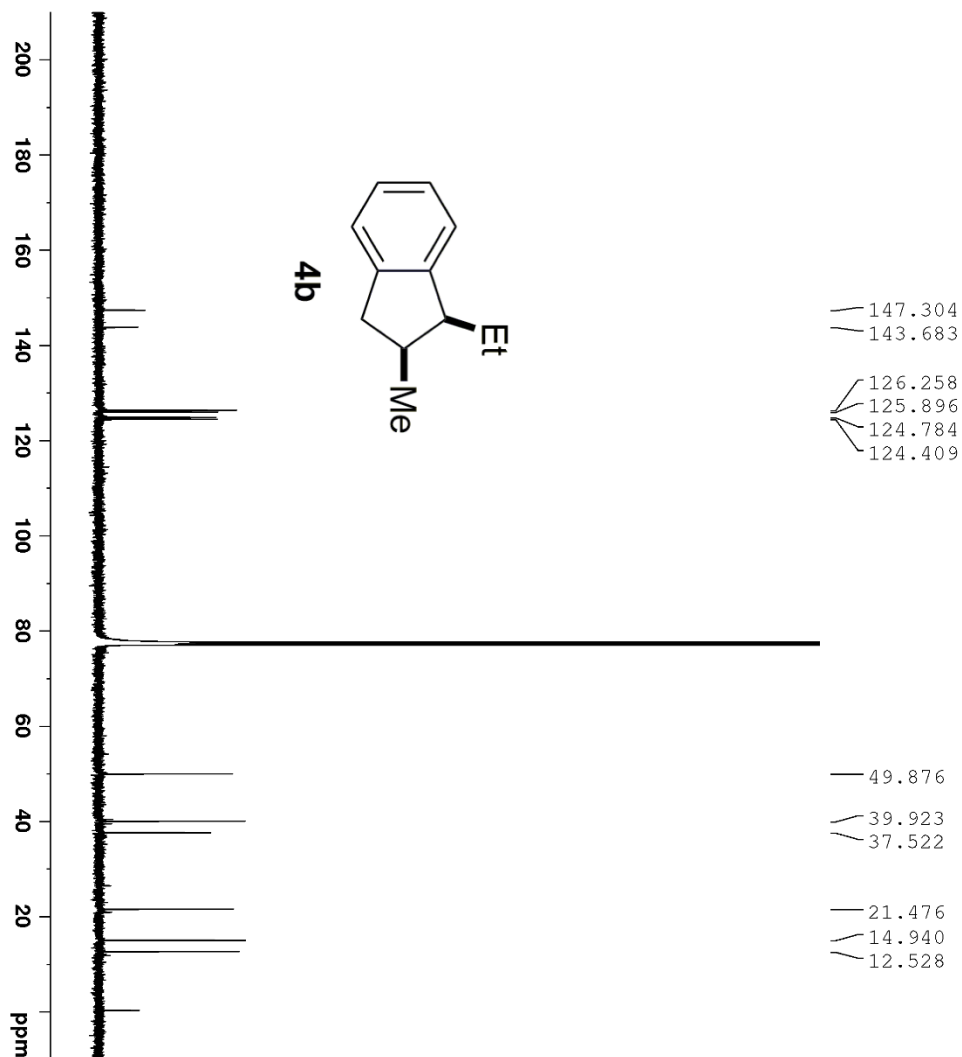
4b



Current Data Parameters
NAME ay 500 2019
EXPNO 87
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.90428
Time 8.12
INSTRUM spect
PROBHD 5 mm CPDPR 2B
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 62.06
DW 30.000 usec
DE 6.50 usec
TE 298.1 K
D1 1.0000000 sec
TD0 1
SF01 500.130885 MHz
NUC1 1H
P1 11.50 usec
P1M1 20.0000000 W

F2 - Processing parameters
SI 65536
SF 500.130149 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
EC -1.00



Current Data Parameters

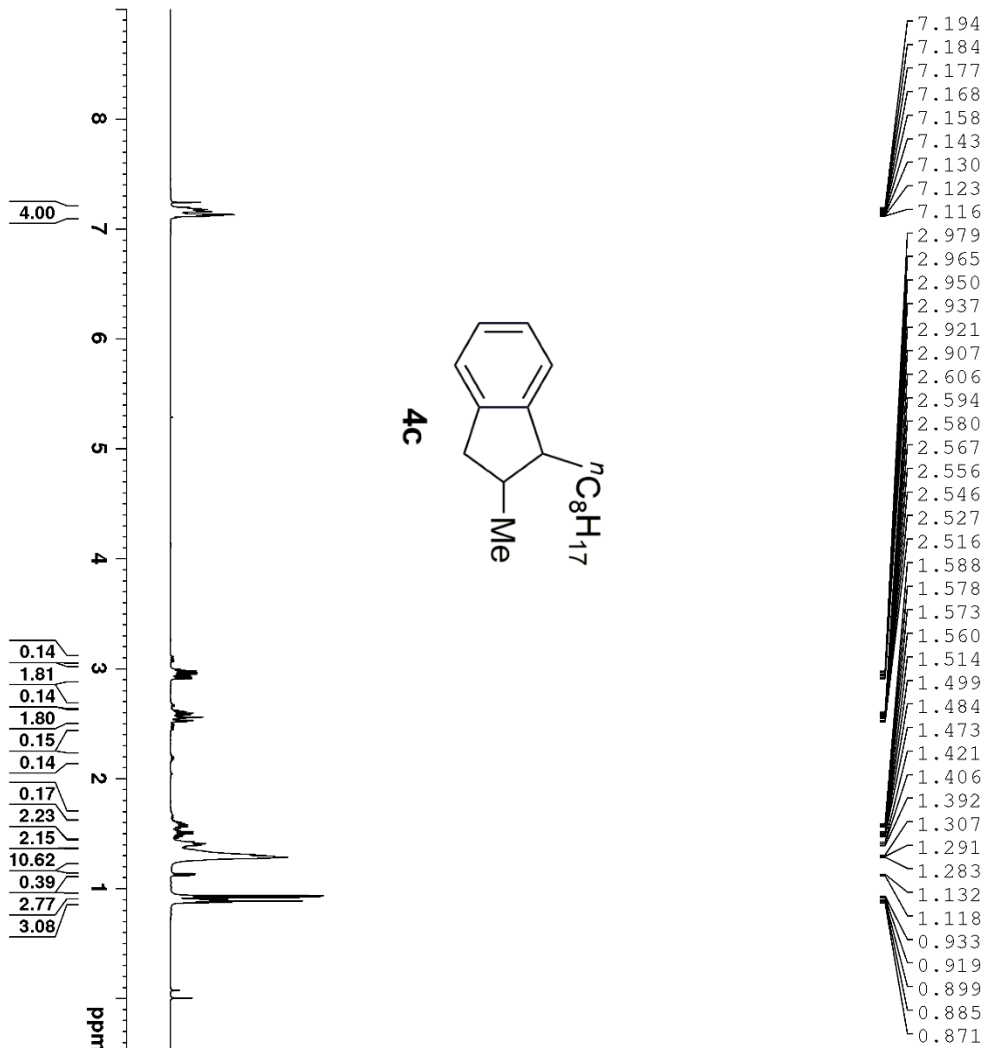
NAME	ay 500 2019
EXPNO	89
PROCNO	1

F2 - Acquisition Parameters

Date_	20.90428
Time	16.51
INSTRUM	spect
PROBHD	5 mm CPD300 BB
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	500
DS	4
SWH	29761.904 Hz
FIDRES	0.454131 Hz
AQ	1.1010048 sec
RG	192.89
DW	16.800 usec
DE	18.00 usec
TE	298.1 K
D1	2.00000000 sec
d11	0.03000000 sec
DELTA	1.89999998 sec
TD0	1
SFO1	125.770637 MHz
NUC1	13C
PI	9.80 usec
PLM1	57.0000000 W
SFO2	500.132005 MHz
NUC2	1H
CPDPRG2	waltz16
PCPD2	80.00 usec
PLM2	20.00000000 W
PLM12	0.35778001 W
PLM13	0.22688000 W

F2 - Processing parameters

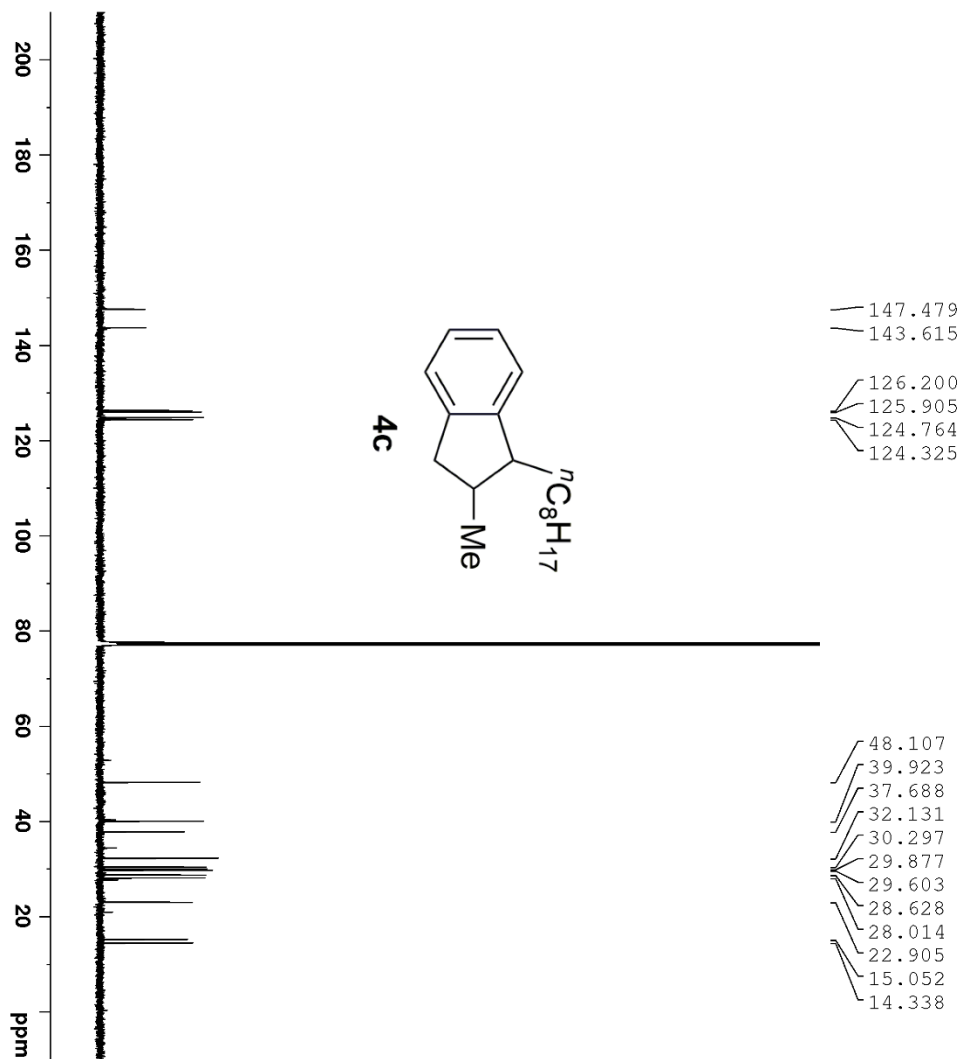
SI	32768
SF	125.757623 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	-1.40



Current Data Parameters
 NAME ay 500 2019
 EXPNO 92
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20.90501
 Time 0.11
 INSTRUM spect
 PROBD 5 mm CPD300-BB
 PULPROG zg30
 TD 65536
 SOLVENT CDCl₃
 NS 16
 DS 2
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2767999 sec
 RG 31.72
 DW 30.000 usec
 DE 6.50 usec
 TE 298.2 K
 D1 1.0000000 sec
 TD0 1
 SFO1 500.130885 MHz
 NUC1 ¹H
 P1 11.50 usec
 P1M1 20.0000000 W

F2 - Processing parameters
 SI 65536
 SF 500.130216 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 EC -1.00



Current Data Parameters

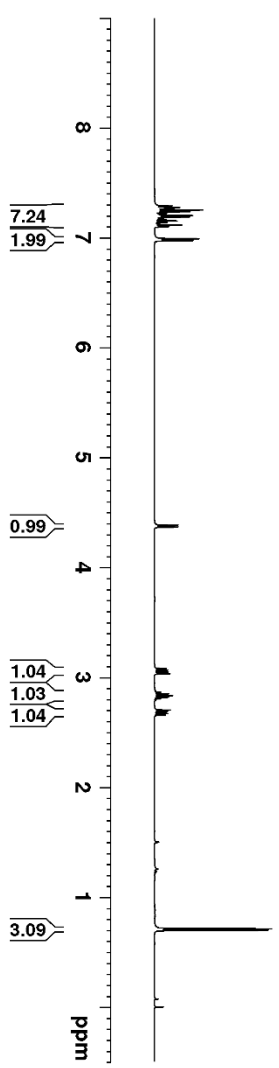
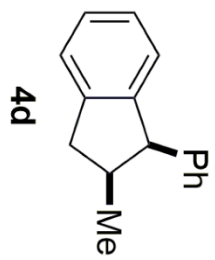
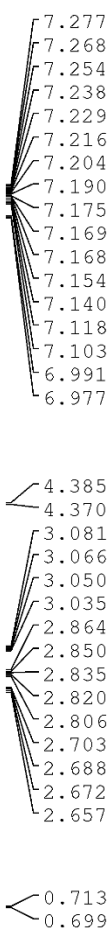
NAME	ay 500 2019
EXPNO	64
PROCNO	1

F2 - Acquisition Parameters

Date_	20.90418
Time	6.13
INSTRUM	spect
PROBHD	5 mm CPBBO BB
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	128
DS	4
SWH	29761.904 Hz
FIDRES	0.454131 Hz
AQ	1.1010048 sec
RG	192.89
DW	16.800 usec
DE	18.00 usec
TE	298.2 K
D1	2.00000000 sec
d11	0.03000000 sec
DELTA	1.89999998 sec
TD0	1
SFO1	125.7703637 MHz
NUC1	13C
PI	9.80 usec
PLM1	57.0000000 W
SFO2	500.1320005 MHz
NUC2	1H
CPDPRG2	waltz16
PCPD2	80.00 usec
PLM2	20.00000000 W
PLM12	0.35778001 W
PLM13	0.22698000 W

F2 - Processing parameters

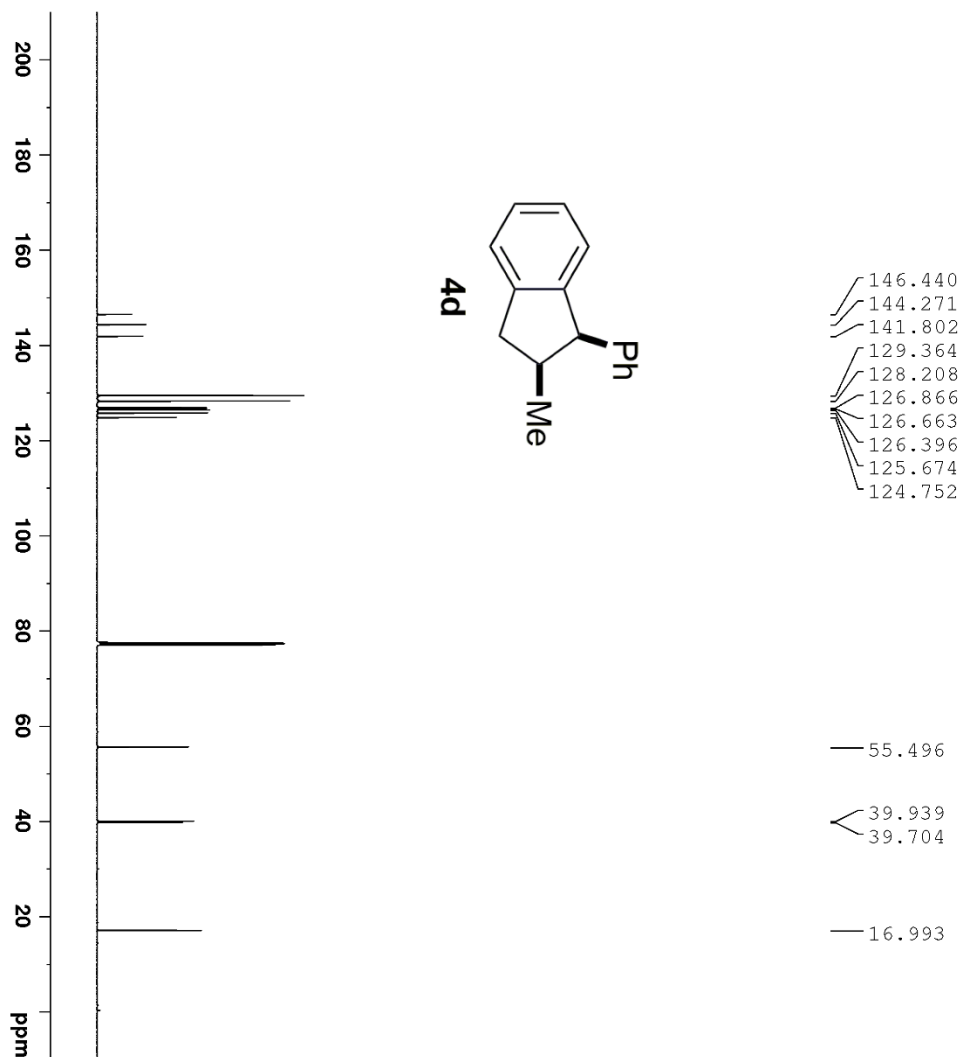
SI	32768
SF	125.757632 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	-1.40



Current Data Parameters
NAME ay 500 2019
EXPNO 12
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.90320
Time 9.21
INSTRUM spect
PROBHD 5 mm CPD300 BB
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 31.72
DW 30.000 usec
DE 6.50 usec
TE 298.1 K
D1 1.00000000 sec
TD0 1
SF01 500.130885 MHz
NUC1 1H
P1 11.50 usec
P1M1 20.0000000 W

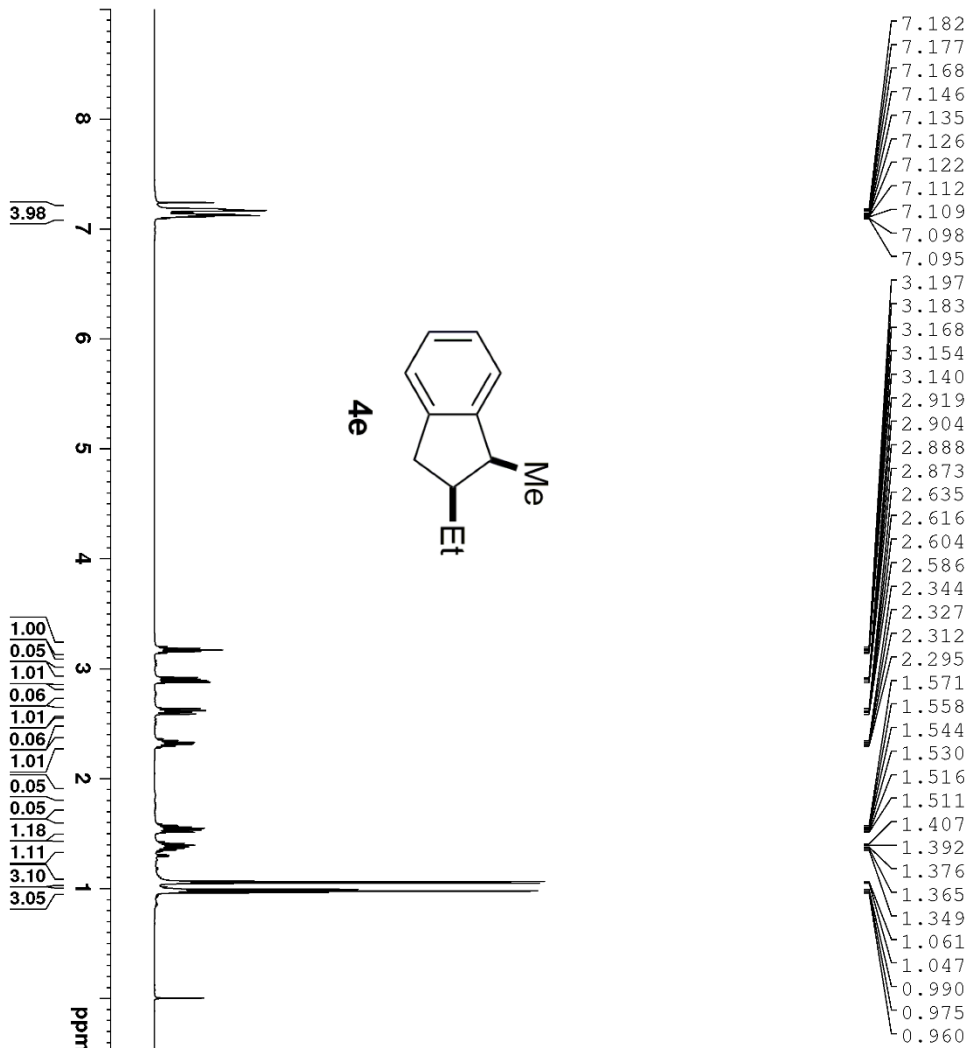
F2 - Processing parameters
SI 65536
SF 500.130274 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
EC -1.00



Current Data Parameters
NAME ay 500 2019
EXPNO 13
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.09.20
Time 10.15
INSTRUM spect
PROBHD 5 mm CPDPR 1B
PULPROG zgpg30
TD 65536
SOLVENT CDC13
NS 1024
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 298.2 K
D1 2.00000000 sec
d11 0.03000000 sec
DELTA 1.89999998 sec
TD0 1
SF01 125.770637 MHz
NUC1 13C
P1 9.80 usec
PLM1 57.0000000 W
SFO2 500.132005 MHz
NUC2 1H
CPDPRG12 waltz16
PCPD2 80.00 usec
PLM2 20.00000000 W
PLM12 0.35778001 W
PLM13 0.22698000 W

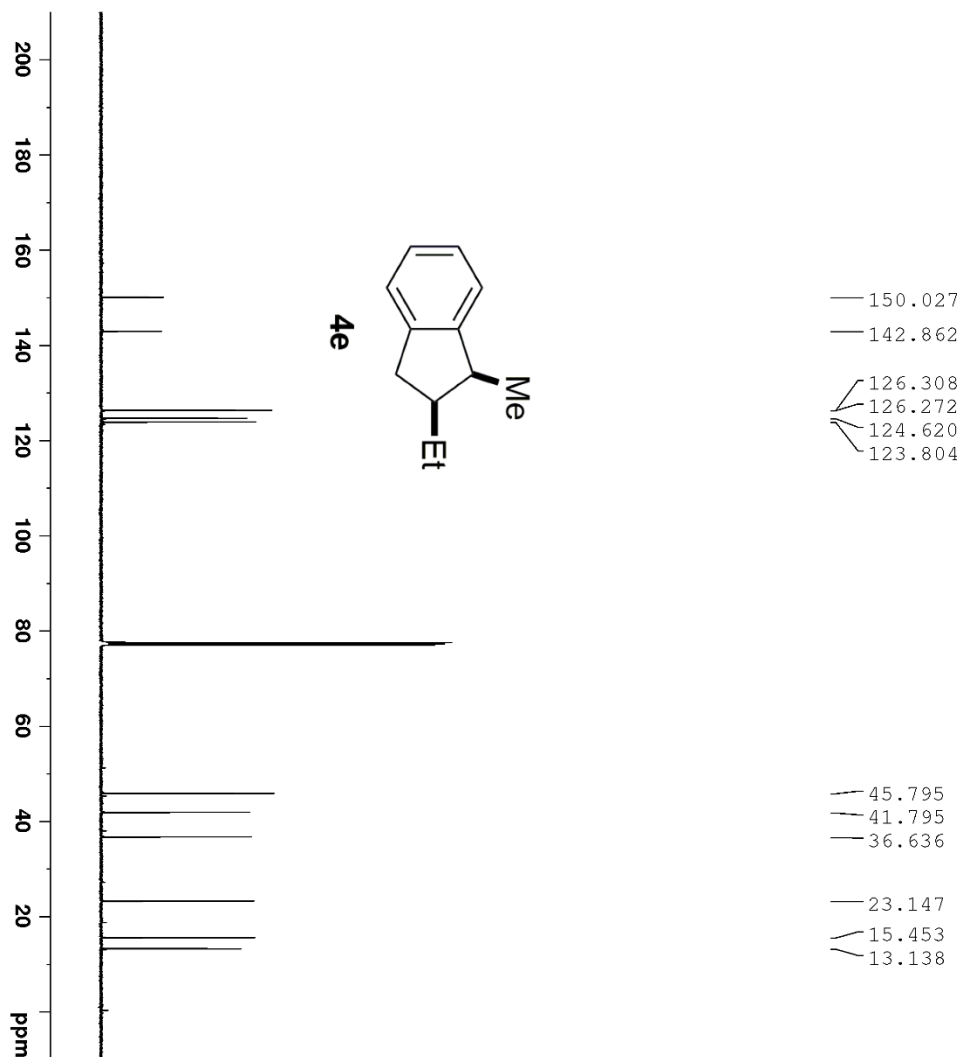
F2 - Processing parameters
SI 32768
SF 125.757668 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40



Current Data Parameters
 NAME ay 500 2019
 EXPNO 115
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20.90507
 Time 17.48
 INSTRUM spect
 PROBD 5 mm CPD300-BB
 PULPROG zg30
 TD 65536
 SOLVENT CDCl3
 NS 16
 DS 2
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2767999 sec
 RG 31.72
 DW 50.000 usec
 DE 6.50 usec
 TE 298.2 K
 D1 1.00000000 sec
 TD0 1
 SF01 500.130885 MHz
 NUC1 1H
 P1 11.50 usec
 P1M1 20.0000000 W

F2 - Processing parameters
 SI 65536
 SF 500.130827 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 EC -1.00

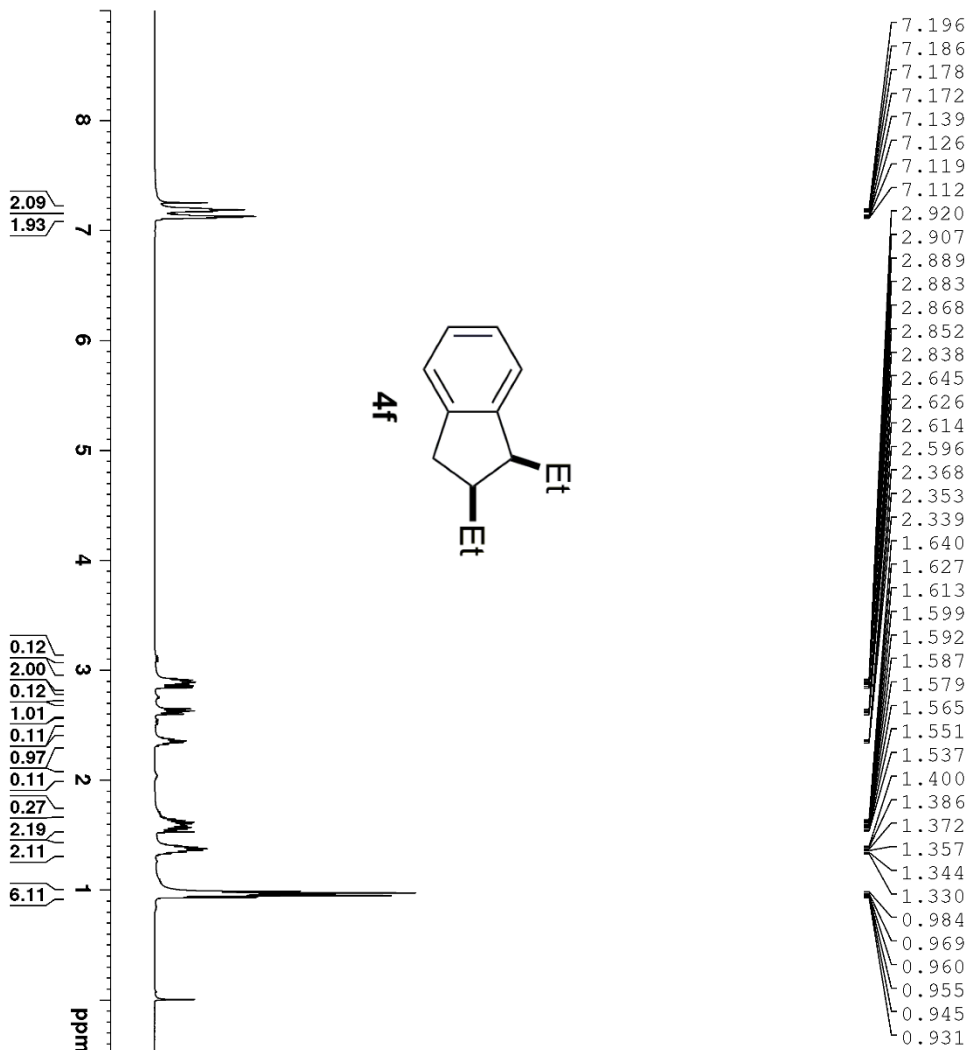


```

Current Data Parameters
NAME      dy 500 2019
EXPNO     116
PROCNO    1

F2 - Acquisition Parameters
Date_     20.90507
Time      17.35
INSTRUM   spect
PROBHD    5 mm CPDPR 1B
PULPROG   zgpg30
TD        65536
SOLVENT   CDCl3
NS         128
DS         4
SWH        29761.904 Hz
FIDRES     0.454131 Hz
AQ         1.1010048 sec
RG         192.89
DW         16.800 usec
DE         18.00 usec
TE         298.1 K
D1         2.00000000 sec
d11        0.03000000 sec
DELTA     1.89999998 sec
TD0        1
SF01       125.7703637 MHz
NUC1       13C
PI         9.80 usec
PLM1       57.0000000 W
SF02       500.1320005 MHz
NUC2       1H
CPDPRG2   waltz16
PCPD2      80.00 usec
PLM2       20.00000000 W
PLM12      0.35778001 W
PLM13      0.22698000 W

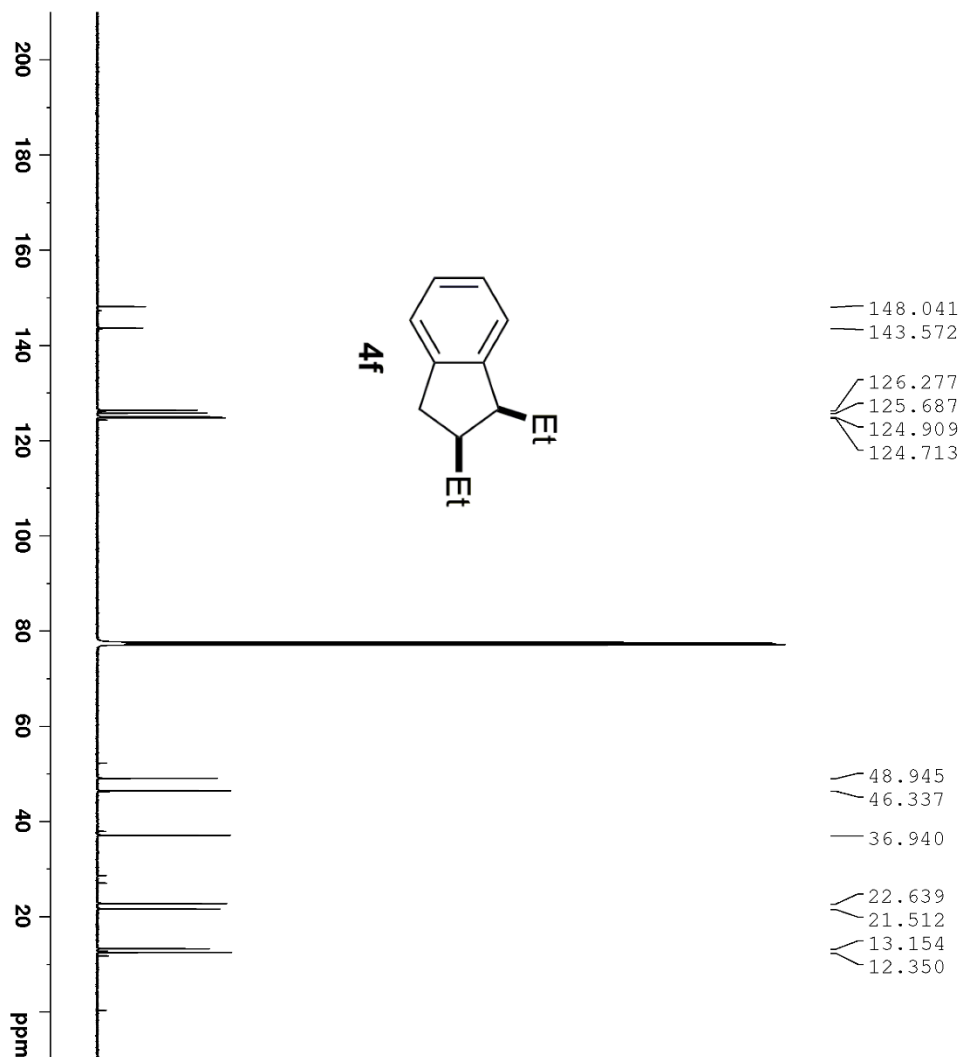
F2 - Processing parameters
SI         32768
SF         125.757650 MHz
WDW        EM
SSB        0
LB         1.00 Hz
GB         0
PC         1.40
  
```



Current Data Parameters
 NAME ay 500 2019
 EXPNO 32
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20.90403
 Time 3.30
 INSTRUM spect
 PROBD 5 mm CPD300-BB
 PULPROG zg30
 TD 65536
 SOLVENT CDCl3
 NS 16
 DS 2
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2767999 sec
 RG 31.72
 DW 30.000 usec
 DE 6.50 usec
 TE 298.1 K
 D1 1.00000000 sec
 TD0 1
 SF01 500.1300173 MHz
 NUC1 ¹H
 P1 11.50 usec
 P1M1 20.0000000 W

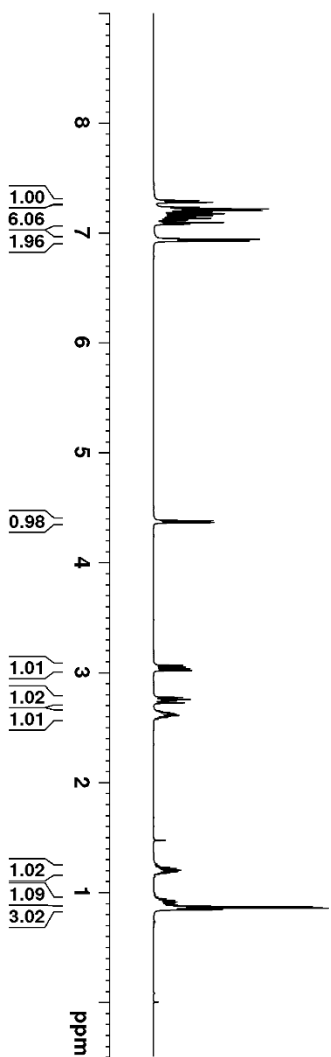
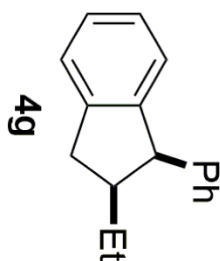
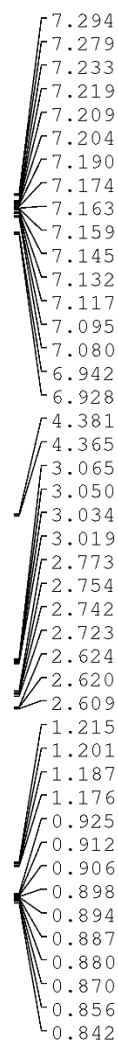
F2 - Processing parameters
 SI 65536
 SF 500.1300173 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 EC -1.00



Current Data Parameters
NAME ay 500 2019
EXPNO 33
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.90403
Time 4.45
INSTRUM spect
PROBHD 5 mm CPBBO BB
PULPROG zgpg30
TD 65536
SOLVENT CDC13
NS 1024
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 298.1 K
D1 2.00000000 sec
d11 0.03000000 sec
DELTA 1.89999998 sec
TDO 1
SF01 125.7703637 MHz
NUC1 13C
P1 9.80 usec
PL1 57.0000000 W
SF02 500.132005 MHz
NUC2 1H
CPDPRG2 waltz16
PCPD2 80.00 usec
FHM2 20.0000000 W
FHM12 0.35778001 W
FHM13 0.22698000 W

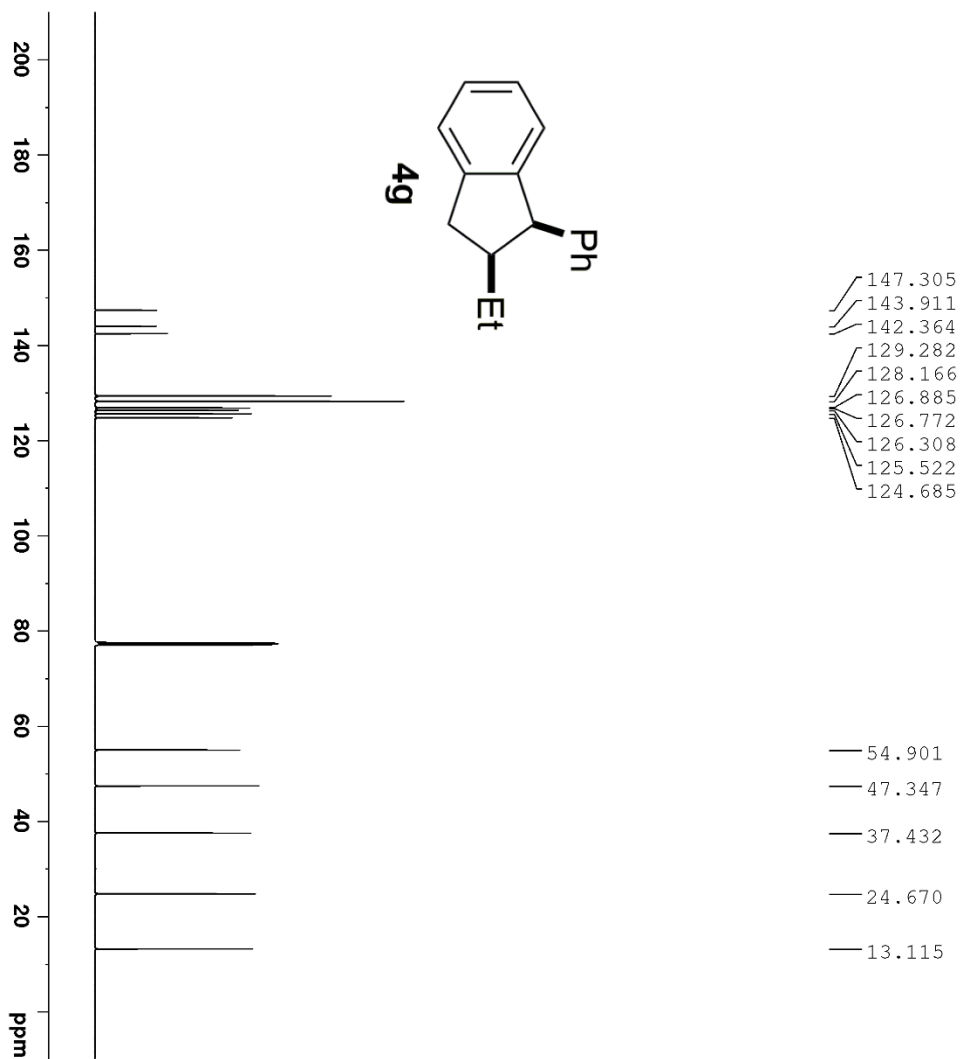
F2 - Processing parameters
SI 32768
SF 125.757632 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40



Current Data Parameters
 NAME ay 500 2019
 EXPNO 49
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20.9041
 Time 22.36
 INSTRUM spect
 PROBD 5 mm CPD300-BB
 PULPROG zg30
 TD 65536
 SOLVENT CDCl3
 NS 16
 DS 2
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2767999 sec
 RG 31.72
 DW 50.000 usec
 DE 6.50 usec
 TE 298.1 K
 D1 1.00000000 sec
 TD0 1
 SF01 500.130885 MHz
 NUC1 1H
 P1 11.50 usec
 P1M1 20.0000000 W

F2 - Processing parameters
 SI 65536
 SF 500.130873 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 EC -1.00



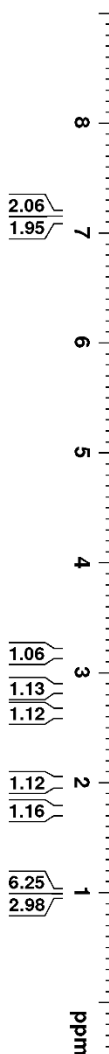
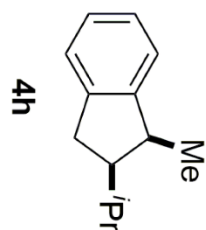
Current Data Parameters
NAME ay 500 2019
EXPNO 30
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.09.11
Time 23.50
INSTRUM spect
PROBHD 5 mm CPDPR 1B
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 1024
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 298.2 K
D1 2.0000000 sec
d11 0.0300000 sec
DELTA 1.8999998 sec
TD0 1
SF01 125.7703637 MHz
NUC1 13C
P1 9.80 usec
PL1 57.0000000 W
SF02 500.132005 MHz
NUC2 1H
CPDPRG12 waltz16
PCPD2 80.00 usec
PLM2 20.0000000 W
PLM12 0.3577800 W
PLM13 0.2269800 W

F2 - Processing parameters
SI 32768
SF 125.757696 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

7.182
7.169
7.123
7.116
7.109

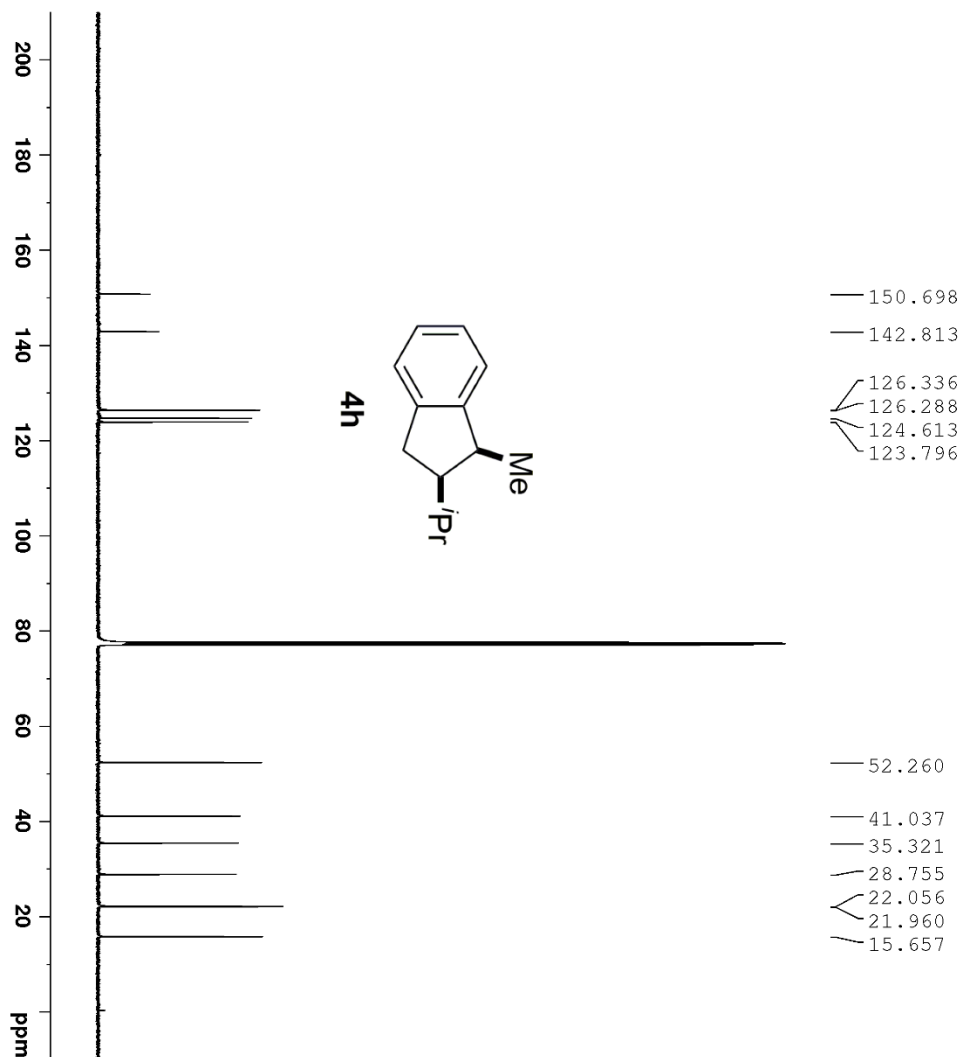
3.196
3.182
3.168
3.154
3.140
2.872
2.857
2.841
2.827
2.650
2.627
2.597
2.033
2.019
2.012
1.997
1.989
1.983
1.976
1.961
1.774
1.761
1.748
1.738
1.727
1.715
1.702



Current Data Parameters
NAME ay 500 2019
EXPNO 77
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.90424
Time 12.20
INSTRUM spect
PROBHD 5 mm CPD300-BB
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 31.72
DW 30.000 usec
DE 6.50 usec
TE 298.2 K
D1 1.00000000 sec
TD0 1
SF01 500.130885 MHz
NUC1 1H
P1 11.50 usec
P1M1 20.0000000 W

F2 - Processing parameters
SI 65536
SF 500.130184 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
EC -1.00



Current Data Parameters

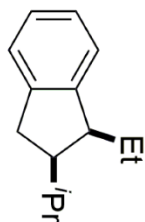
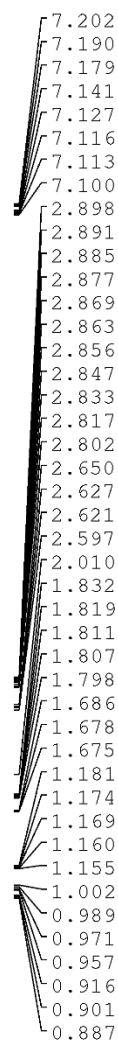
NAME	4h	EXPNO	78	PROCNO	1
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F2 - Acquisition Parameters

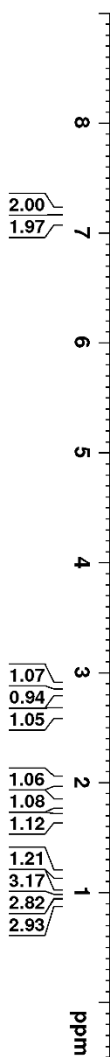
Date_	20190424	Time	12.47
INSTRUM	5 mm CPDPRB	PROBHD	5 mm CPDPRB
PULPROG	zgpg30	TD	65536
SOLVENT	CDCl3	NS	500
DS	4	SWH	29761.904 Hz
FIDRES	0.454131 Hz	RG	1.1010048 sec
RG	192.89	DW	16.800 usec
DE	18.00 usec	TE	298.1 K
D1	2.00000000 sec	d11	0.03000000 sec
DELTA	1.89999998 sec	TD0	1
SFO1	125.7703637 MHz	NUC1	13C
PI	9.80 usec	PL1	57.0000000 W
SFO2	500.1320005 MHz	NUC2	1H
CPDPRG2	waltz16	PCPD2	80.00 usec
PLM2	20.00000000 W	PLM12	0.35778001 W
PLM13	0.22698000 W		

F2 - Processing parameters

SI	32768	WDW	EM
SSB	0	LB	1.00 Hz
GB	0	PC	-1.40



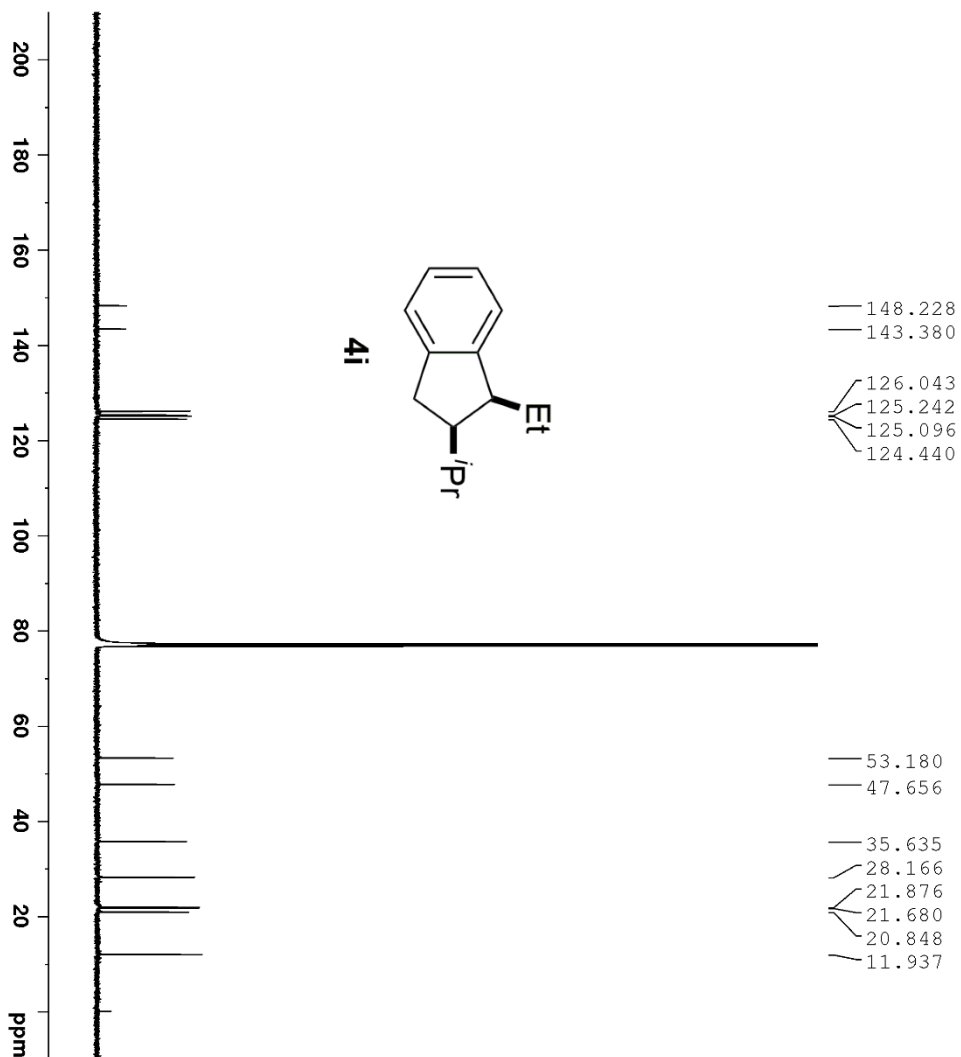
4i



Current Data Parameters
 NAME ay 500 2019
 EXPNO 79
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20.90424
 Time 12.30
 INSTRUM spect
 PROBD 5 mm CPD300-BB
 PULPROG zg30
 TD 65536
 SOLVENT CDCl3
 NS 16
 DS 2
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.276799 sec
 RG 55.37
 DW 30.000 usec
 DE 6.50 usec
 TE 298.2 K
 D1 1.0000000 sec
 TD0 1
 SFO1 500.130885 MHz
 NUC1 ¹H
 P1 11.50 usec
 P1M1 20.0000000 W

F2 - Processing parameters
 SI 65536
 SF 500.130144 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 EC -1.00

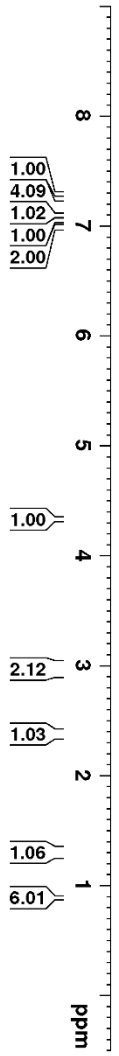
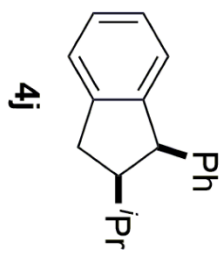


Current Data Parameters
NAME dy 500 2019
EXPNO 80
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.0424
Time 13.17
INSTRUM spect
PROBHD 5 mm CPDPR 2B
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 500
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DM 16.800 usec
DE 18.00 usec
TE 298.2 K
D1 2.00000000 sec
d11 0.03000000 sec
DELTA 1.89999998 sec
TD0 1
SF01 125.7703637 MHz
NUC1 13C
PI 9.80 usec
PLM1 57.0000000 W
SFO2 500.132005 MHz
NUC2 1H
CPDPRG2 waltz16
PCPD2 80.00 usec
PLM2 20.0000000 W
PLM12 0.35778001 W
PLM13 0.22688000 W

F2 - Processing parameters
SI 32768
SF 125.7577950 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

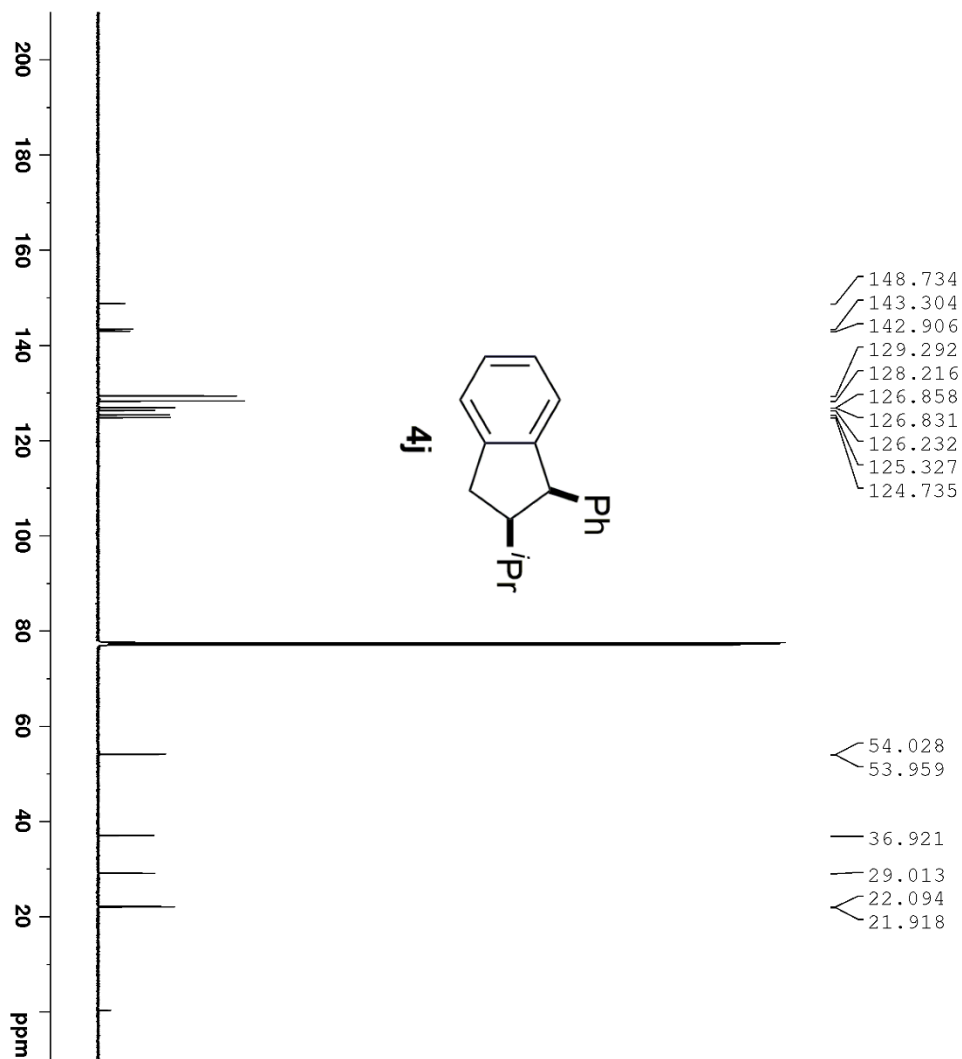
7.298
7.283
7.217
7.203
7.187
7.169
7.168
7.154
7.140
7.125
7.112
7.097
7.082
7.059
7.044
6.998
6.984
4.340
4.325
3.033
3.017
3.002
2.986
2.959
2.936
2.928
2.905
2.400
2.395
2.384
2.378
2.373
2.362
2.357
1.328
1.315
1.307
1.302
1.294
1.281
0.899
0.895
0.885
0.883



Current Data Parameters
NAME ay 500 2019
EXPNO 103
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.90502
Time 18.45
INSTRUM spect
PROBHD 5 mm CPBBO BB
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 62.06
DW 30.000 usec
DE 6.50 usec
TE 298.1 K
D1 1.00000000 sec
TD0 1
SF01 500.130885 MHz
NUC01 1H
P1 11.50 usec
P1M1 20.00000000 W

F2 - Processing parameters
SI 65536
SF 500.130152 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
EC -1.00



Current Data Parameters

NAME	ay 500 2019
EXPNO	104
PROCNO	1

F2 - Acquisition Parameters

Date_	20.09.02
Time	19.12
INSTRUM	spect
PROBHD	5 mm CPDPR 1B
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	500
DS	4
SWH	29761.904 Hz
FIDRES	0.454131 Hz
AQ	1.1010048 sec
RG	192.89
DW	16.800 usec
DE	18.00 usec
TE	298.1 K
D1	2.00000000 sec
d11	0.03000000 sec
DELTA	1.89999998 sec
TD0	1
SFO1	125.770637 MHz
NUC1	13C
PI	9.80 usec
PLM1	57.0000000 W
SFO2	500.132005 MHz
NUC2	1H
CPDPRG2	waltz16
PCPD2	80.00 usec
PLM2	20.00000000 W
PLM12	0.35778001 W
PLM13	0.22698000 W

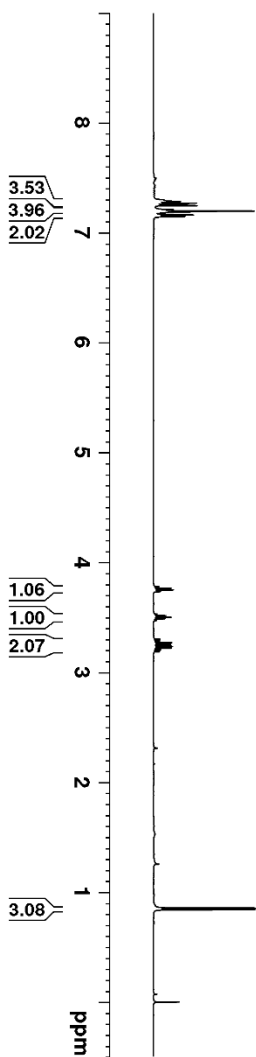
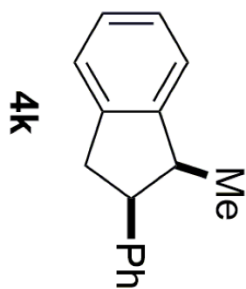
F2 - Processing parameters

SI	32768
SF	125.757632 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	-1.40

7.285
7.270
7.255
7.248
7.212
7.210
7.200
7.194
7.163
7.148

3.782
3.766
3.751
3.735
3.531
3.517
3.502
3.487
3.473
3.302
3.286
3.271
3.255
3.237
3.222
3.206
3.191

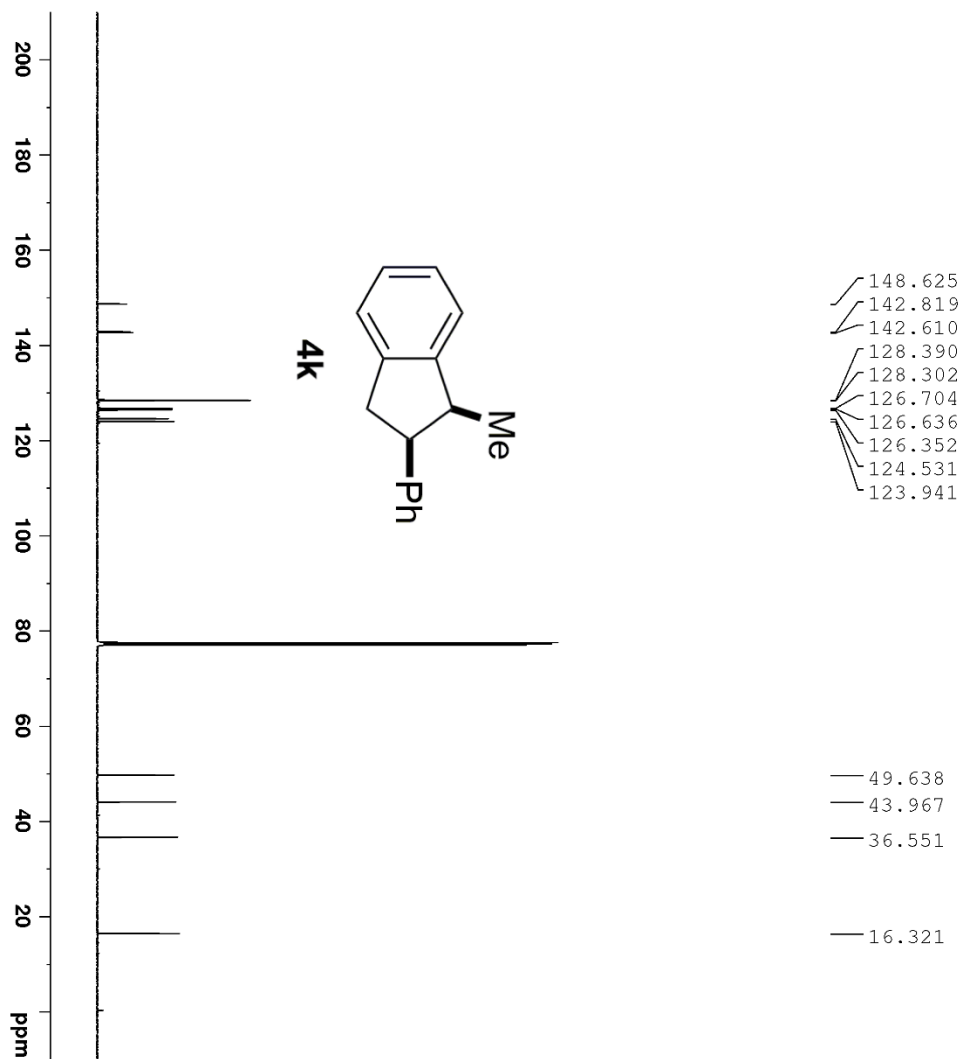
0.857
0.842



Current Data Parameters
NAME ay 500 2019
EXPNO 101
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.90502
Time 17.48
INSTRUM spect
PROBHD 5 mm CPBBO BB
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 31.72
DW 30.000 usec
DE 6.50 usec
TE 298.1 K
D1 1.00000000 sec
TD0 1
SF01 500.130885 MHz
NUC1 1H
P1 11.50 usec
P1M1 20.0000000 W

F2 - Processing parameters
SI 65536
SF 500.1300179 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
EC -1.00



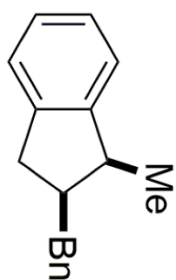
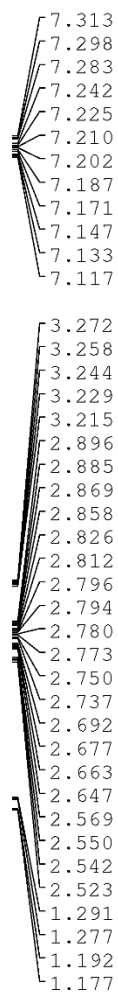
Current Data Parameters
NAME ay 500 2019
EXPNO 102
PROCNO 1

F2 - Acquisition Parameters

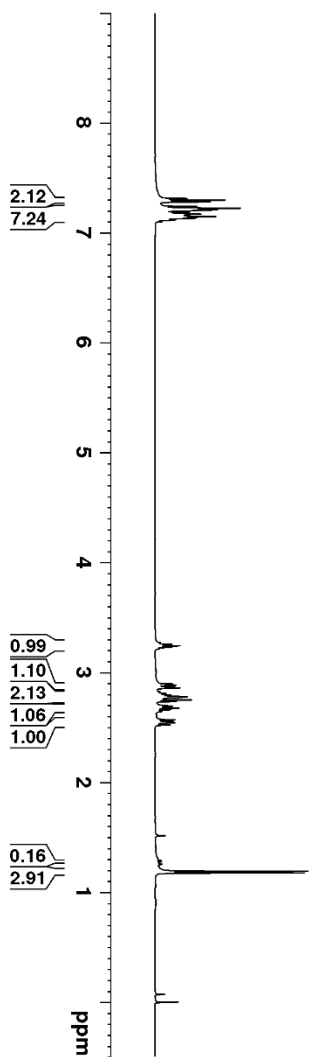
Date_ 20.90502
Time 18.42
INSTRUM spect
PROBHD 5 mm CPDPR 2B
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 1024
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 298.1 K
D1 2.0000000 sec
d11 0.0300000 sec
DELTA 1.8999998 sec
TDO 1
SF01 125.7703637 MHz
NUC1 13C
P1 9.80 usec
PL1 57.0000000 W
SF02 500.1320005 MHz
NUC2 1H
CPDPRG2 waltz16
PCPD2 80.00 usec
FHM2 20.0000000 W
FHM12 0.35778001 W
FHM13 0.2268800 W

F2 - Processing parameters

SI 32768
SF 125.757641 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40



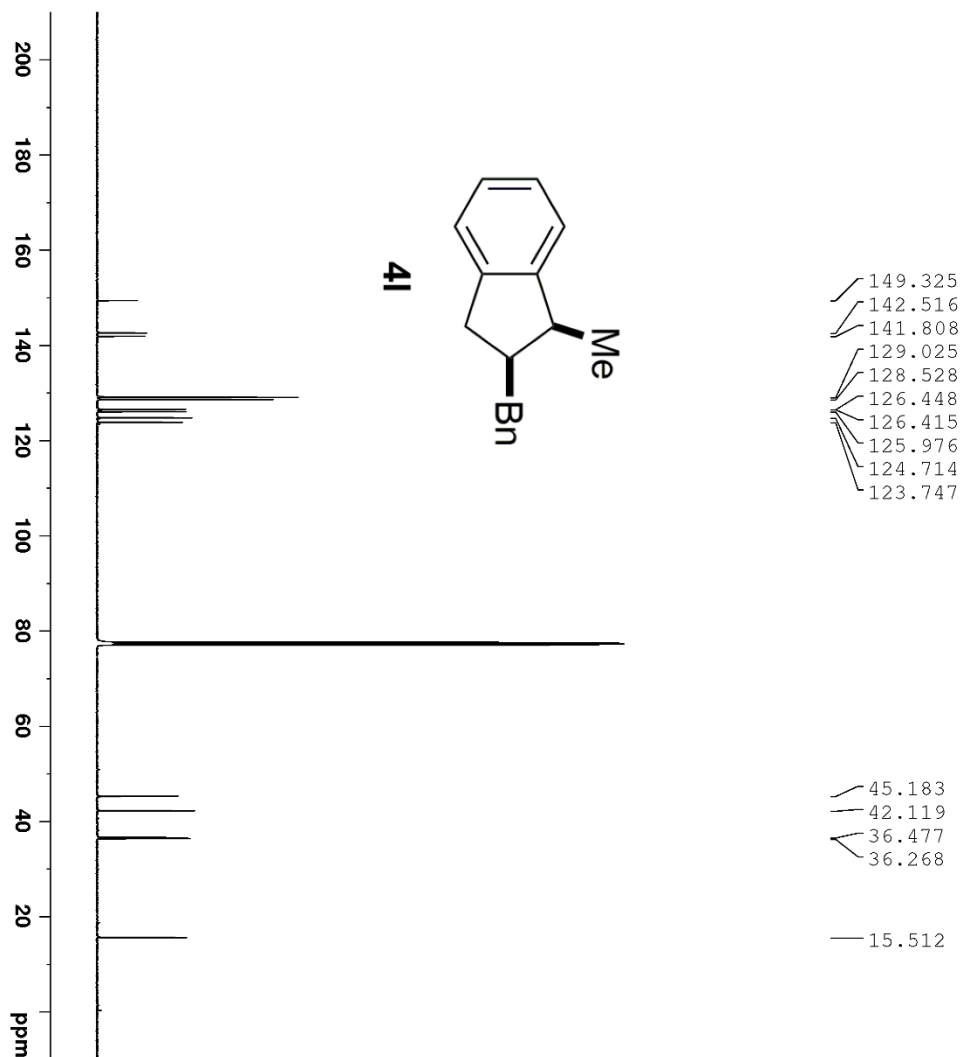
41



Current Data Parameters
NAME ay 500 2019
EXPNO 22
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.90324
Time 6.56
INSTRUM spect
PROBHD 5 mm CPD300-BB
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 49.27
DE 30.000 usec
TE 298.1 K
D1 1.00000000 sec
TD0 1
SF01 500.130885 MHz
NUC1 1H
P1 11.50 usec
P1M1 20.0000000 W

F2 - Processing parameters
SI 65536
SF 500.130814 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
EC -1.00



Current Data Parameters

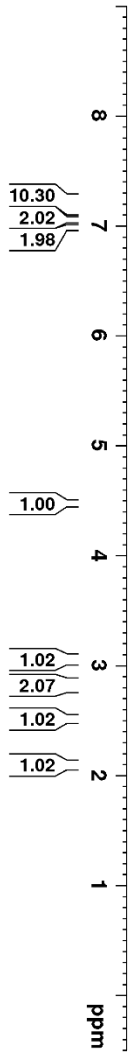
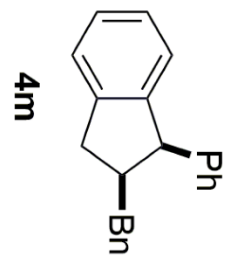
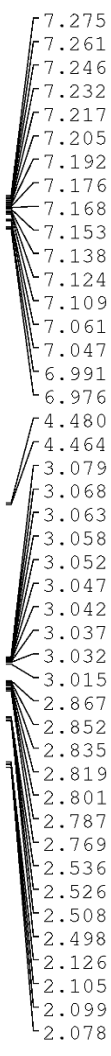
NAME	ay 500 2019
EXPNO	23
PROCNO	1

F2 - Acquisition Parameters

Date_	20.90324
Time	7.50
INSTRUM	spect
PROBHD	5 mm CPD300 BB
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	1024
DS	4
SWH	29761.904 Hz
FIDRES	0.454131 Hz
AQ	1.1010048 sec
RG	192.89
DW	16.800 usec
DE	18.00 usec
TE	298.1 K
D1	2.00000000 sec
d11	0.03000000 sec
DELTA	1.89999998 sec
TD0	1
SFO1	125.7703637 MHz
NUC1	13C
PI	9.80 usec
PLM1	57.0000000 W
SFO2	500.1320005 MHz
NUC2	1H
CPDPRG2	waltz16
PCPD2	80.00 usec
PLM2	20.00000000 W
PLM12	0.35778001 W
PLM13	0.22698000 W

F2 - Processing parameters

SI	32768
SF	125.7577650 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	1.40



Current Data Parameters

NAME ay 500 2019

EXPNO 83

PROCNO 1

F2 - Acquisition Parameters

Date_ 20.90426

Time 0.59

INSTRUM spect

PROBHD 5 mm CPDPRB0 2B

PULPROG zg30

TD 65536

SOLVENT CDCl3

NS 16

DS 2

SWH 10000.000 Hz

FIDRES 0.152588 Hz

AQ 3.2767999 sec

RG 31.72

DW 50.000 usec

DE 6.50 usec

TE 298.1 K

D1 1.00000000 sec

TD0 1

SFO1 500.130885 MHz

NUC1 ¹H

PI 11.50 usec

P1M1 20.00000000 W

F2 - Processing parameters

SI 65536

SF 500.130844 MHz

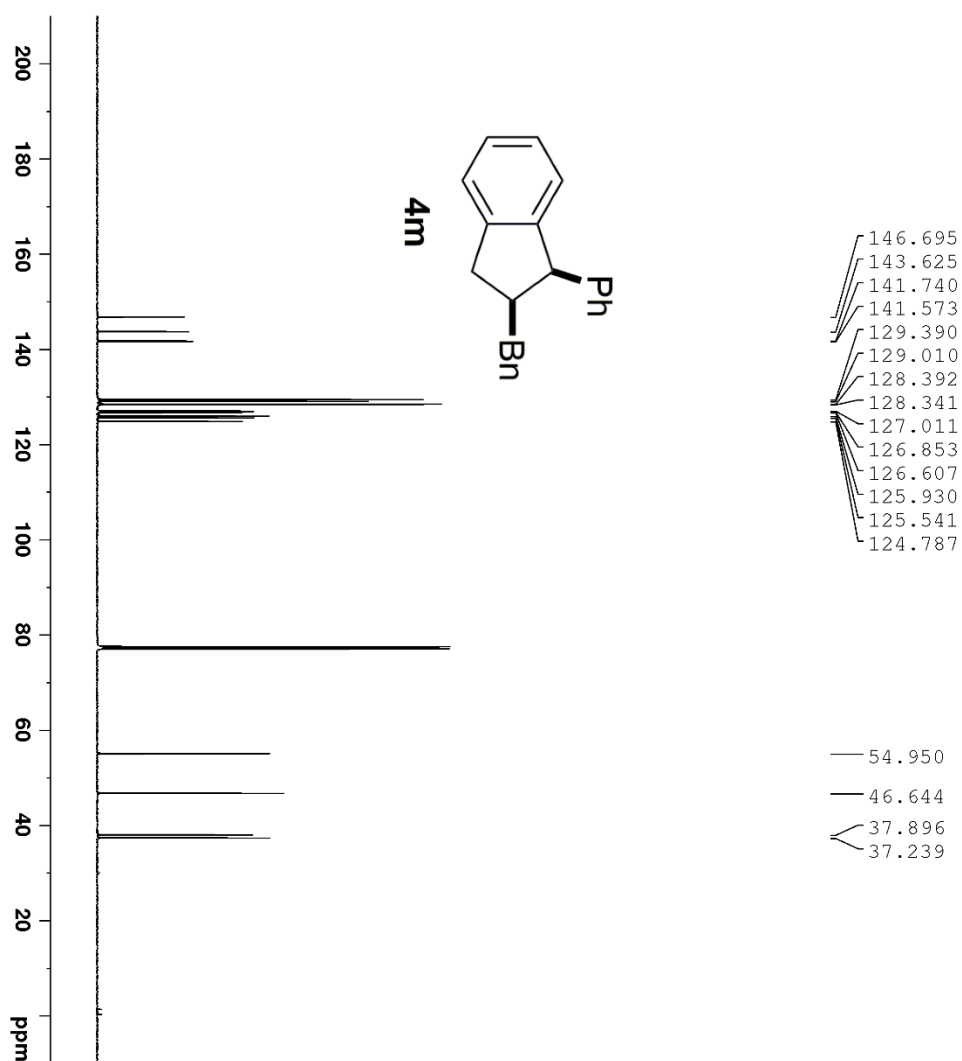
WDW EM

SSB 0

LB 0.30 Hz

GB 0

EC -1.00



Current Data Parameters

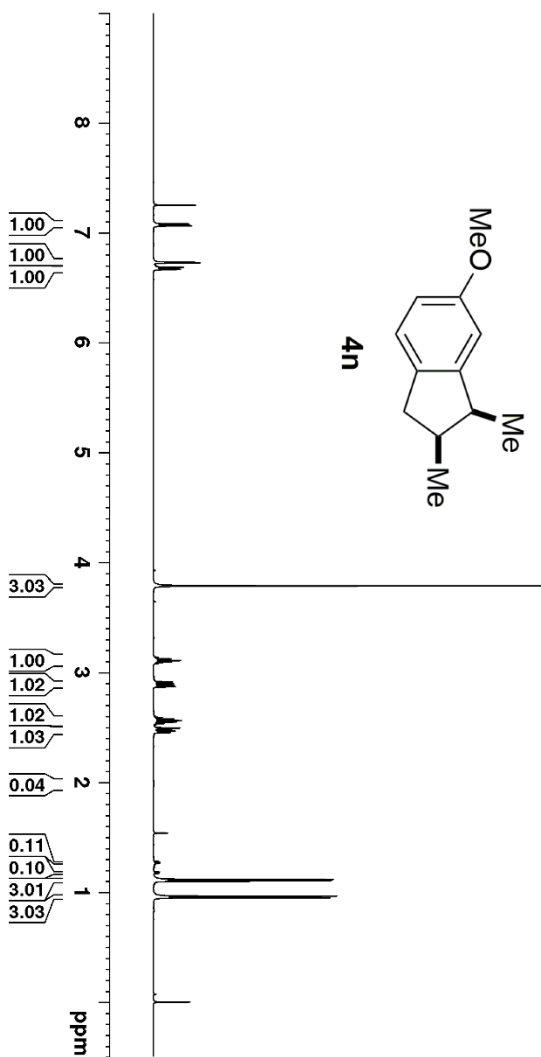
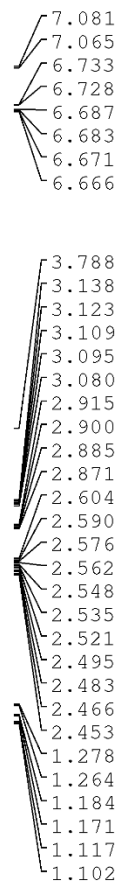
NAME	ay 500 2019
EXPNO	84
PROCNO	1

F2 - Acquisition Parameters

Date_	20.90426
Time	1.53
INSTRUM	spect
PROBHD	5 mm CPDPRB
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	1024
DS	4
SWH	29761.904 Hz
FIDRES	0.454131 Hz
AQ	1.1010048 sec
RG	192.89
DW	16.800 usec
DE	18.00 usec
TE	298.2 K
D1	2.00000000 sec
d11	0.03000000 sec
DELTA	1.89999998 sec
TD0	1
SFO1	125.7703637 MHz
NUC1	13C
PI	9.80 usec
PLM1	57.0000000 W
SFO2	500.1320005 MHz
NUC2	1H
CPDPRG2	waltz16
PCPD2	80.00 usec
PLM2	20.00000000 W
PLM12	0.35778001 W
PLM13	0.22698000 W

F2 - Processing parameters

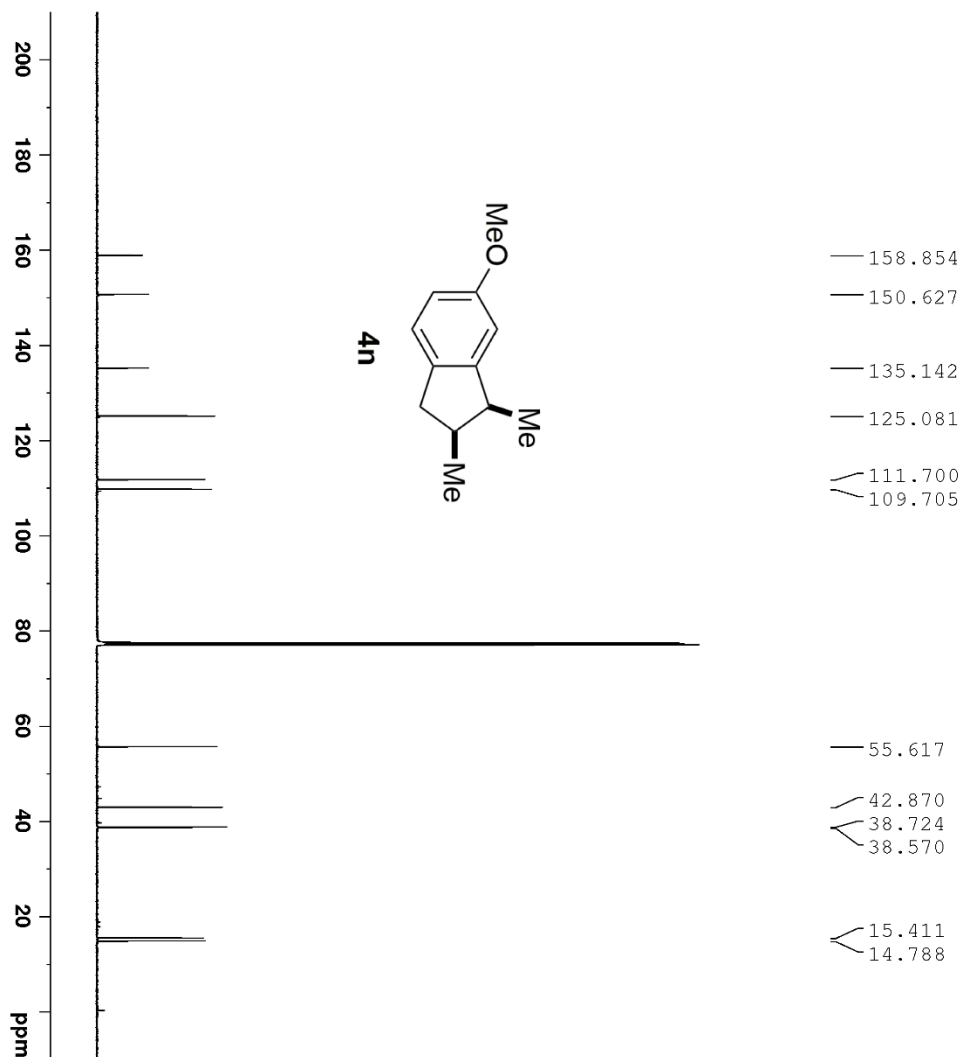
SI	32768
SF	125.757691 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	1.40



Current Data Parameters
 NAME ay 500 2019
 EXPNO 20
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20.90323
 Time 2.31
 INSTRUM spect
 PROBD 5 mm CPD300-BB
 PULPROG zg30
 TD 65536
 SOLVENT CDCl₃
 NS 16
 DS 2
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2767999 sec
 RG 55.37
 DW 30.000 usec
 DE 6.50 usec
 TE 298.2 K
 D1 1.00000000 sec
 TD0 1
 SFO1 500.130885 MHz
 NUC1 ¹H
 P1 11.50 usec
 P1M1 20.0000000 W

F2 - Processing parameters
 SI 65536
 SF 500.130160 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 EC -1.00



Current Data Parameters
 NAME ay 500 2019
 EXPNO 21
 PROCNO 1

F2 - Acquisition Parameters

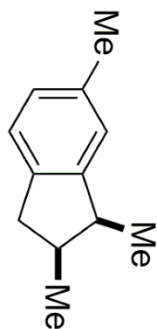
Date_ 20.90323
 Time 22.25
 INSTRUM spect
 PROBD 5 mm CPD300 BB
 PULPROG zgpg30
 TD 65536
 SOLVENT CDCl3
 NS 1024
 DS 4
 SWH 29761.904 Hz
 FIDRES 0.454131 Hz
 AQ 1.1010048 sec
 RG 192.89
 DW 16.800 usec
 DE 18.00 usec
 TE 298.2 K
 D1 2.00000000 sec
 d11 0.03000000 sec
 DELTA 1.89999998 sec
 TDO 1
 SF01 125.7703637 MHz
 NUC1 13C
 P1 9.80 usec
 PL1 57.0000000 W
 SFO2 500.132005 MHz
 NUC2 1H
 CPDPRG2 waltz16
 PCPD2 80.00 usec
 FLM2 20.0000000 W
 FLM12 0.35778001 W
 FLM13 0.22698000 W

F2 - Processing parameters

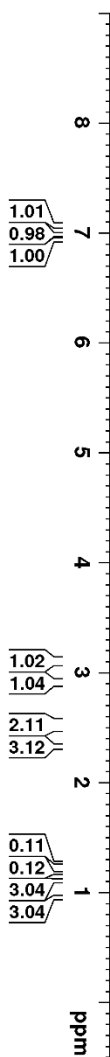
SI 32768
 SF 125.757632 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

7.074
7.059
6.982
6.946
6.931

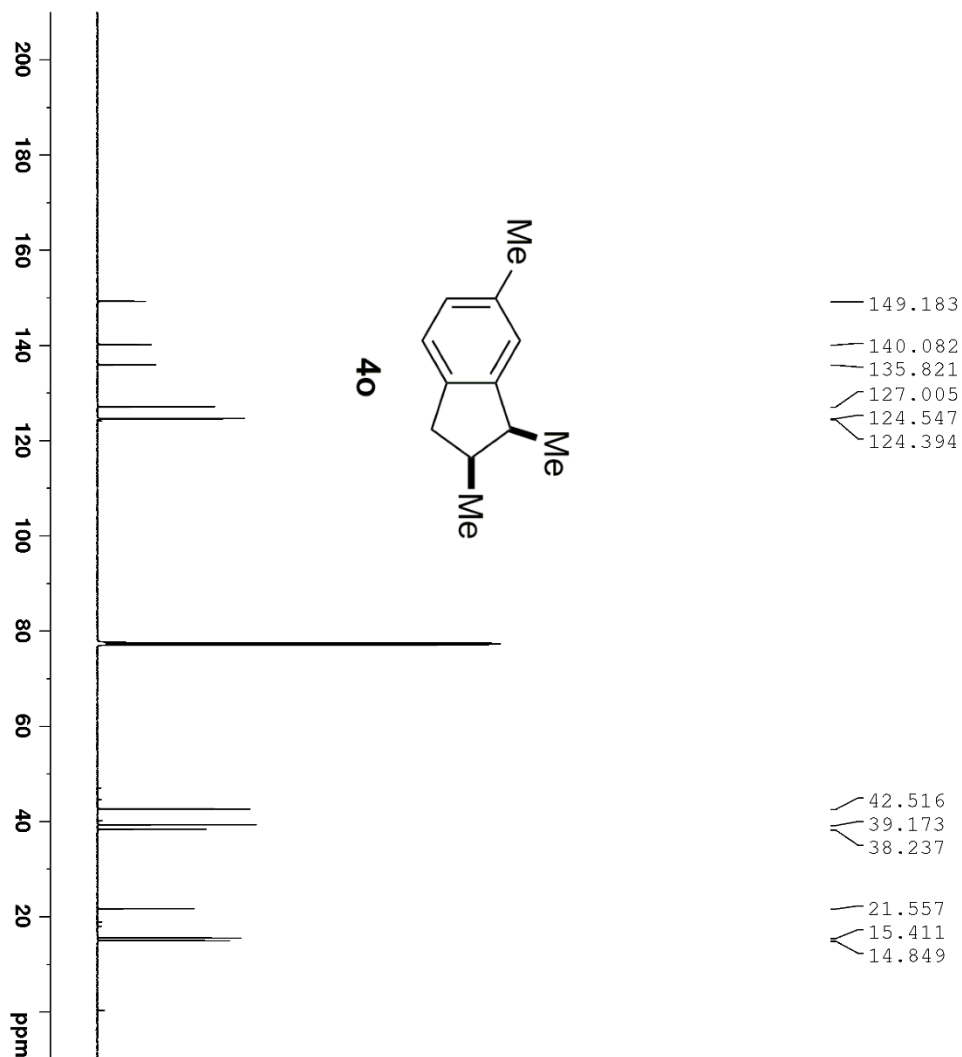
3.131
3.116
3.102
3.088
3.073
2.934
2.921
2.905
2.892
2.575
2.561
2.547
2.534
2.520
2.507
2.490
2.477
2.326
1.278
1.264
1.185
1.172
1.115
1.100
0.963



40



Current Data Parameters
NAME ay 500 2019
EXPNO 93
PROCNO 1
F2 - Acquisition Parameters
Date_ 20.09.01
Time 23.16
INSTRUM spect
PROBHD 5 mm CPBBO BB
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 31.72
DW 30.000 usec
DE 6.50 usec
TE 298.2 K
D1 1.00000000 sec
TD0 1
SF01 500.130885 MHz
NUC1 1H
P1 11.50 usec
P1M1 20.00000000 W
F2 - Processing parameters
SI 65536
SF 500.1300209 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
EC -1.00



Current Data Parameters

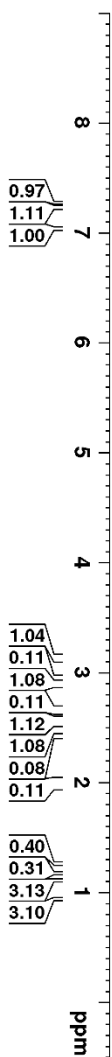
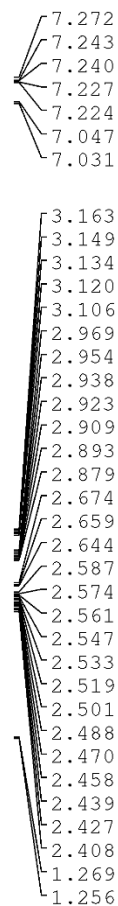
NAME	ay 500 2019
EXPNO	94
PROCNO	1

F2 - Acquisition Parameters

Date_	20.90502
Time	0.10
INSTRUM	spect
PROBHD	5 mm CPD300 BB
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	1024
DS	4
SWH	29761.904 Hz
FIDRES	0.454131 Hz
AQ	1.1010048 sec
RG	192.89
DW	16.800 usec
DE	18.00 usec
TE	298.2 K
D1	2.00000000 sec
d11	0.03000000 sec
DELTA	1.89999998 sec
TD0	1
SFO1	125.7703637 MHz
NUC1	13C
PI	9.80 usec
PLM1	57.0000000 W
SFO2	500.1320005 MHz
NUC2	1H
CPDPRG2	waltz16
PCPD2	80.00 usec
PLM2	20.00000000 W
PLM12	0.35778001 W
PLM13	0.22688000 W

F2 - Processing parameters

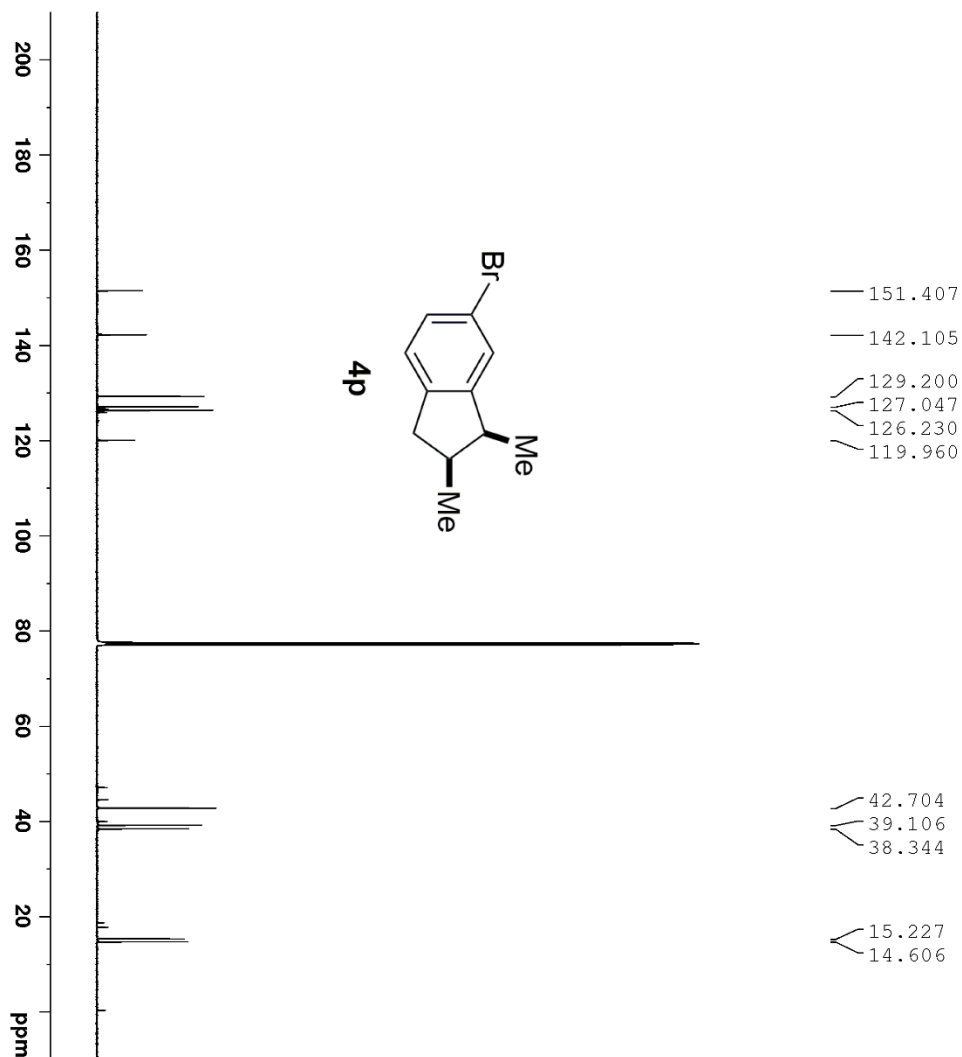
SI	32768
SF	125.757641 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	1.40



Current Data Parameters
NAME ay 500 2019
EXPNO 109
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.90505
Time 7.16
INSTRUM spect
PROBHD 5 mm CPBBO BB
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 62.06
DW 30.000 usec
DE 6.50 usec
TE 298.2 K
D1 1.00000000 sec
TD0 1
SF01 500.130885 MHz
NUC1 1H
P1 11.50 usec
P1M1 20.0000000 W

F2 - Processing parameters
SI 65536
SF 500.130142 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
EC -1.00



Current Data Parameters

NAME	4p	EXPNO	110
PROCNO	1		

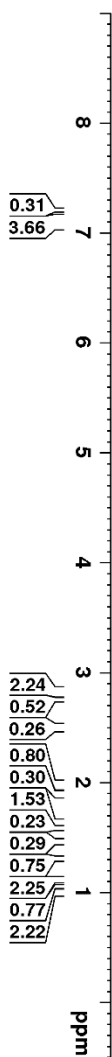
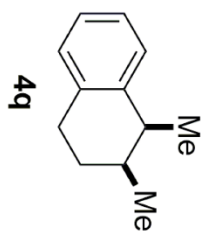
F2 - Acquisition Parameters

Date_	20.09.05
Time	8.10
INSTRUM	spect
PROBHD	5 mm CPDABO BB
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	1024
DS	4
SWH	29761.904 Hz
FIDRES	0.454131 Hz
AQ	1.1010048 sec
RG	192.89
DW	16.800 usec
DE	18.00 usec
TE	298.2 K
D1	2.00000000 sec
d11	0.03000000 sec
DELTA	1.89999998 sec
TD0	1
SFO1	125.7703637 MHz
NUC1	13C
PI	9.80 usec
PLM1	57.0000000 W
SFO2	500.1320005 MHz
NUC2	1H
CPDPRG2	waltz16
PCPD2	80.00 usec
PLM2	20.00000000 W
PLM12	0.35778001 W
PLM13	0.22698000 W

F2 - Processing parameters

SI	32768
SF	125.757632 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	1.40

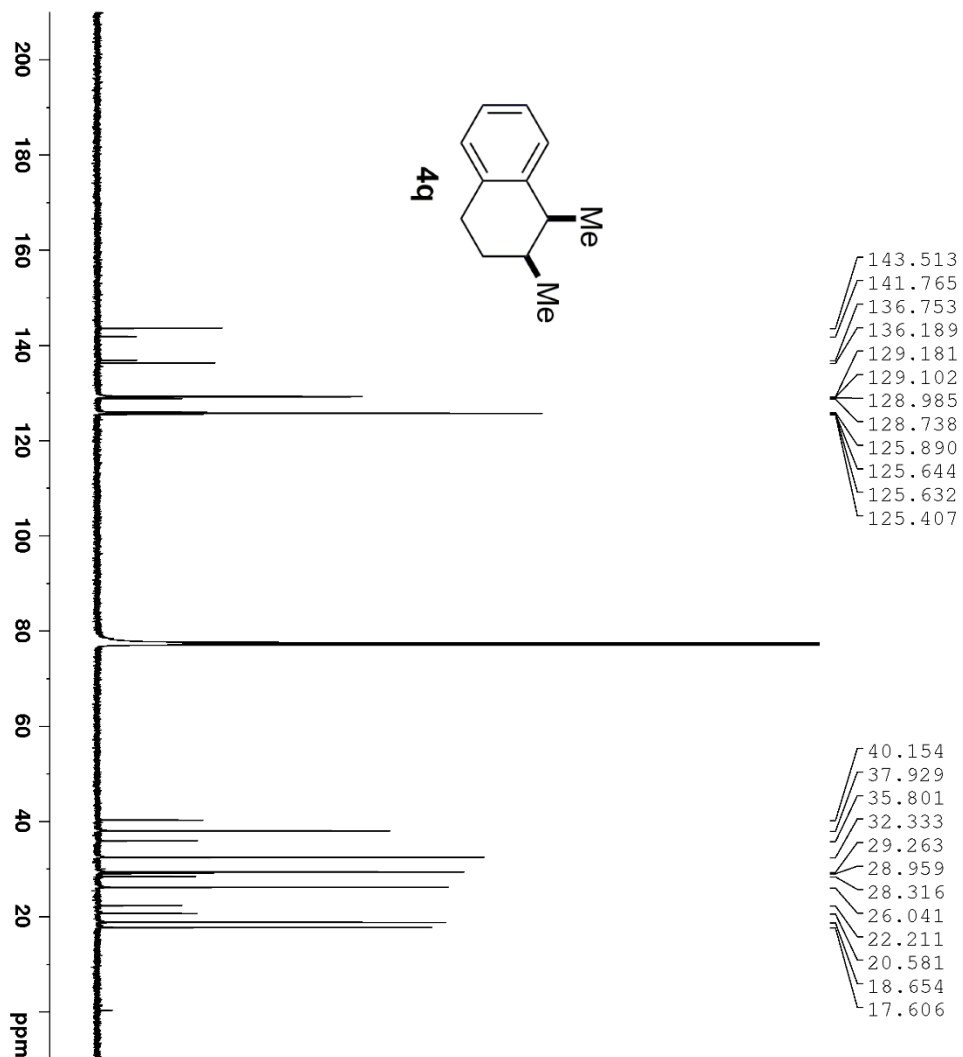
7.214
7.199
7.129
7.116
7.109
7.105
7.098
7.090
7.083
7.079
7.067
7.054
2.855
2.841
2.830
2.824
2.818
2.813
2.803
2.788
2.767
2.754
2.741
2.496
2.004
1.990
1.980
1.976
1.966
1.963
1.953
1.659
1.643
1.631
1.620
1.614
1.311
1.297
1.122
1.107
1.062
1.048
1.002
0.988



Current Data Parameters
NAME ay 500 2019
EXPNO 43
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.90405
Time 9.31
INSTRUM spect
PROBHD 5 mm CPBBO BB
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 62.06
DW 30.000 usec
DE 6.50 usec
TE 298.2 K
D1 1.00000000 sec
TD0 1
SF01 500.130885 MHz
NUC1 1H
P1 11.50 usec
P1M1 20.0000000 W

F2 - Processing parameters
SI 65536
SF 500.130178 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
EC -1.00



Current Data Parameters

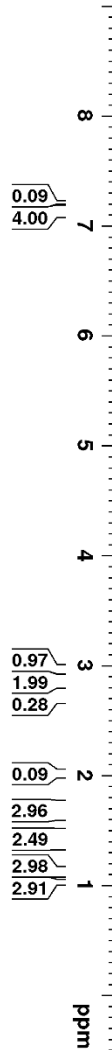
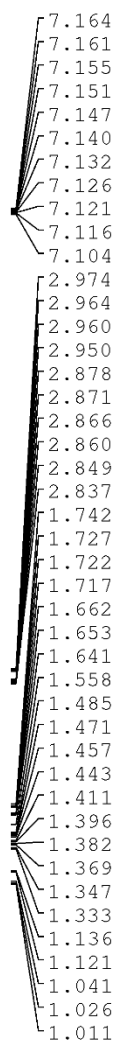
NAME	ay 500 2019
EXPNO	44
PROCNO	1

F2 - Acquisition Parameters

Date_	20.90405
Time	10.25
INSTRUM	spect
PROBHD	5 mm CPDPR 1B
PULPROG	zgpg30
TD	65536
SOLVENT	CDCl3
NS	1024
DS	4
SWH	29761.904 Hz
FIDRES	0.454131 Hz
AQ	1.1010048 sec
RG	192.89
DW	16.800 usec
DE	18.00 usec
TE	298.2 K
D1	2.00000000 sec
d11	0.03000000 sec
DELTA	1.89999998 sec
TD0	1
SFO1	125.7703637 MHz
NUC1	13C
PI	9.80 usec
PLM1	57.0000000 W
SFO2	500.1320005 MHz
NUC2	1H
CPDPRG2	waltz16
PCPD2	80.00 usec
PLM2	20.00000000 W
PLM12	0.35778001 W
PLM13	0.22698000 W

F2 - Processing parameters

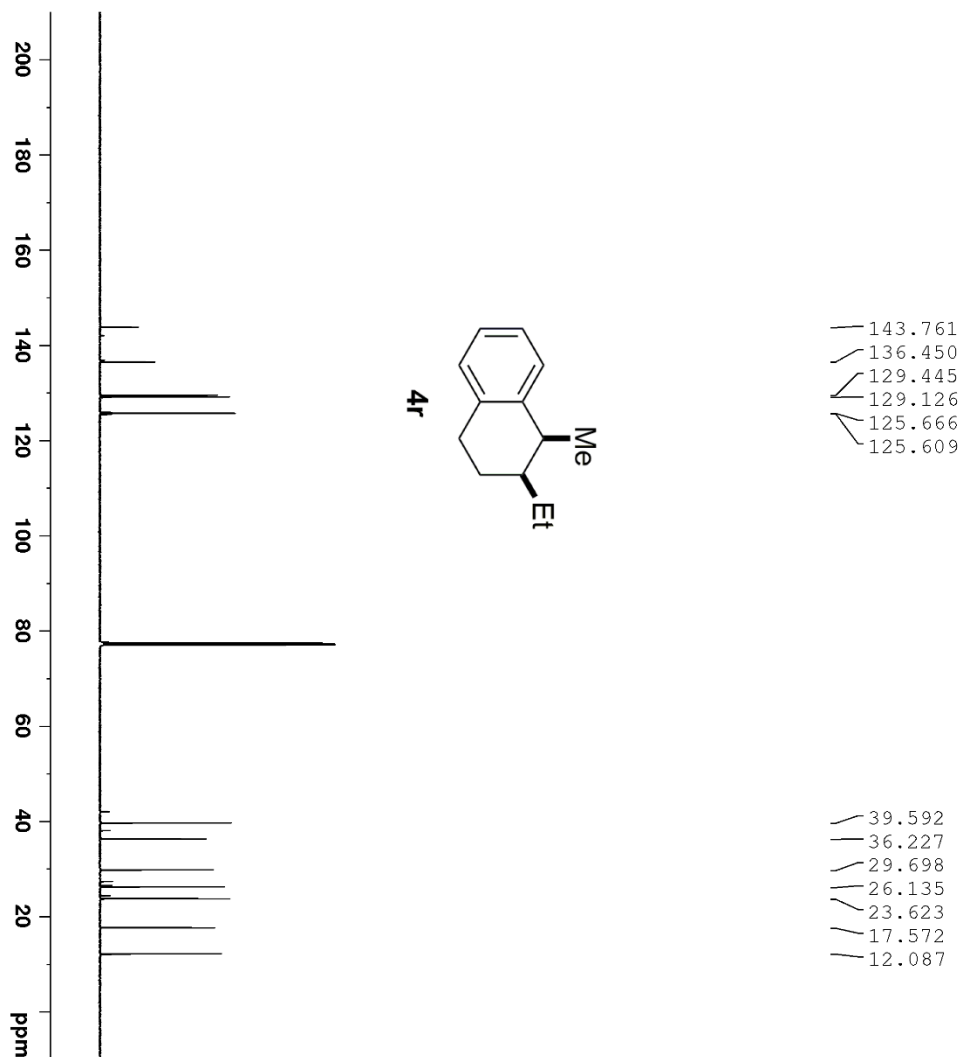
SI	32768
SF	125.757641 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	-1.40



Current Data Parameters
 NAME ay 500 2019
 EXPNO 38
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20.90403
 Time 19.39
 INSTRUM spect
 PROBD 5 mm CPD300 BB
 PULPROG zg30
 TD 65536
 SOLVENT CDCl3
 NS 16
 DS 2
 SWH 10000.000 Hz
 FIDRES 0.152588 Hz
 AQ 3.2767999 sec
 RG 31.72
 DW 30.000 usec
 DE 6.50 usec
 TE 298.1 K
 D1 1.00000000 sec
 TD0 1
 SFO1 500.130885 MHz
 NUC1 1H
 P1 11.50 usec
 P1M1 20.00000000 W

F2 - Processing parameters
 SI 65536
 SF 500.130000 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 EC -1.00



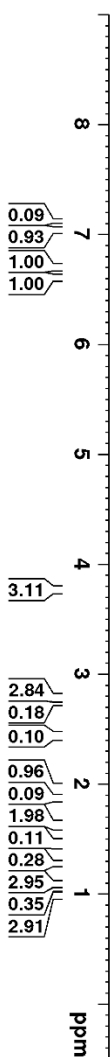
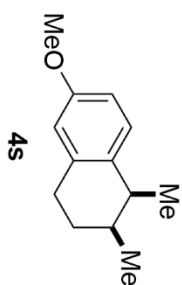
Current Data Parameters
 NAME ay 500 2019
 EXPNO 39
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20.90403
 Time 19.46
 INSTRUM spect
 PROBHD 5 mm CPDPR 2B
 PULPROG zgpg30
 TD 65536
 SOLVENT CDCl3
 NS 128
 DS 4
 SWH 29761.904 Hz
 FIDRES 0.454131 Hz
 AQ 1.1010048 sec
 RG 192.89
 DW 16.800 usec
 DE 18.00 usec
 TE 298.2 K
 D1 2.00000000 sec
 d11 0.03000000 sec
 DELTA 1.89999998 sec
 TDO 1
 SF01 125.7703637 MHz
 NUC1 13C
 P1 9.80 usec
 PL1 57.0000000 W
 SFO2 500.1320005 MHz
 NUC2 1H
 CPDPRG2 waltz16
 PCPD2 80.00 usec
 PLM2 20.00000000 W
 PLM12 0.35778001 W
 PLM13 0.22688000 W

F2 - Processing parameters
 SI 32768
 SF 125.757659 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC -1.40

7.130
7.113
7.046
7.029
6.724
6.719
6.710
6.704
6.693
6.688
6.603
6.598

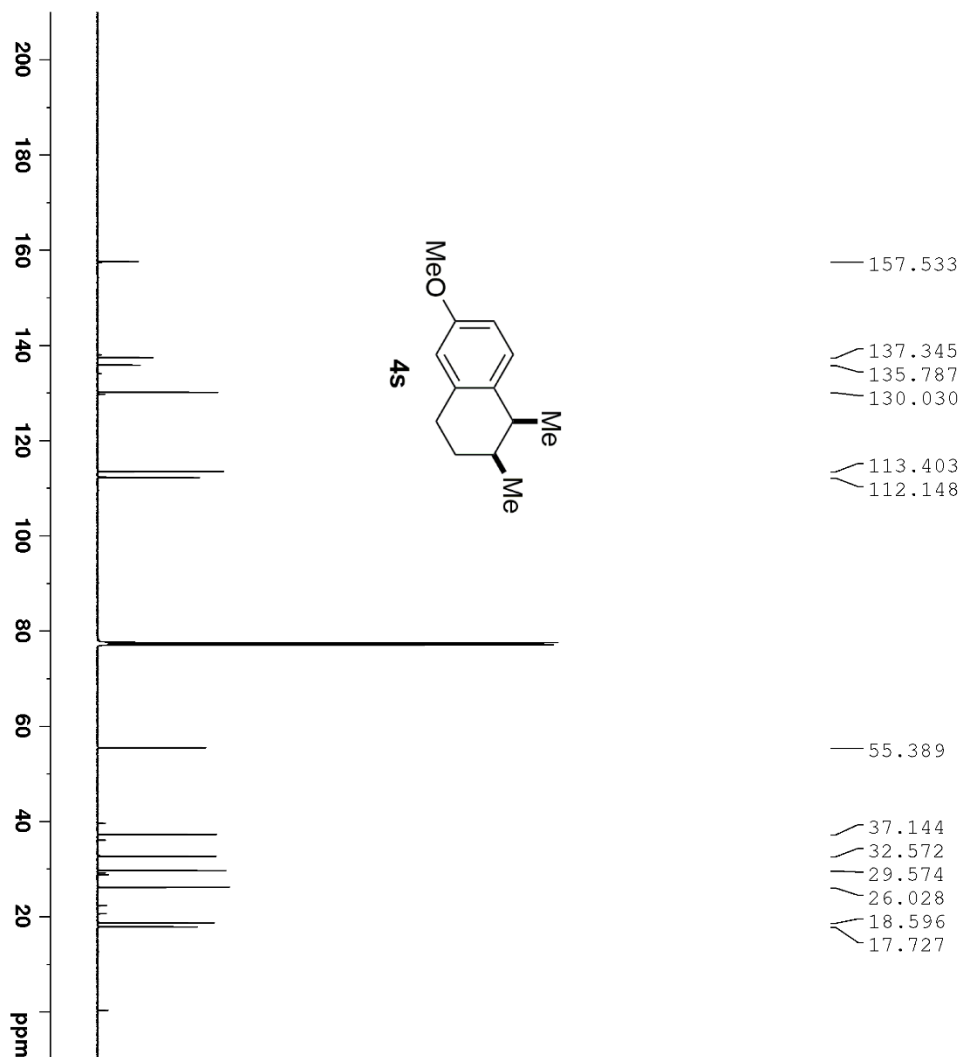
3.765
2.804
2.793
2.780
2.772
2.765
2.752
1.978
1.968
1.965
1.955
1.951
1.941
1.937
1.927
1.639
1.636
1.624
1.611
1.599
1.595
1.539
1.280
1.266
1.089



Current Data Parameters
NAME ay 500 2019
EXPNO 97
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.90502
Time 1.11
INSTRUM spect
PROBHD 5 mm CPD300-BB
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 55.37
DW 30.000 usec
DE 6.50 usec
TE 298.1 K
D1 1.00000000 sec
TD0 1
SF01 500.130885 MHz
NUC1 1H
P1 11.50 usec
P1M1 20.0000000 W

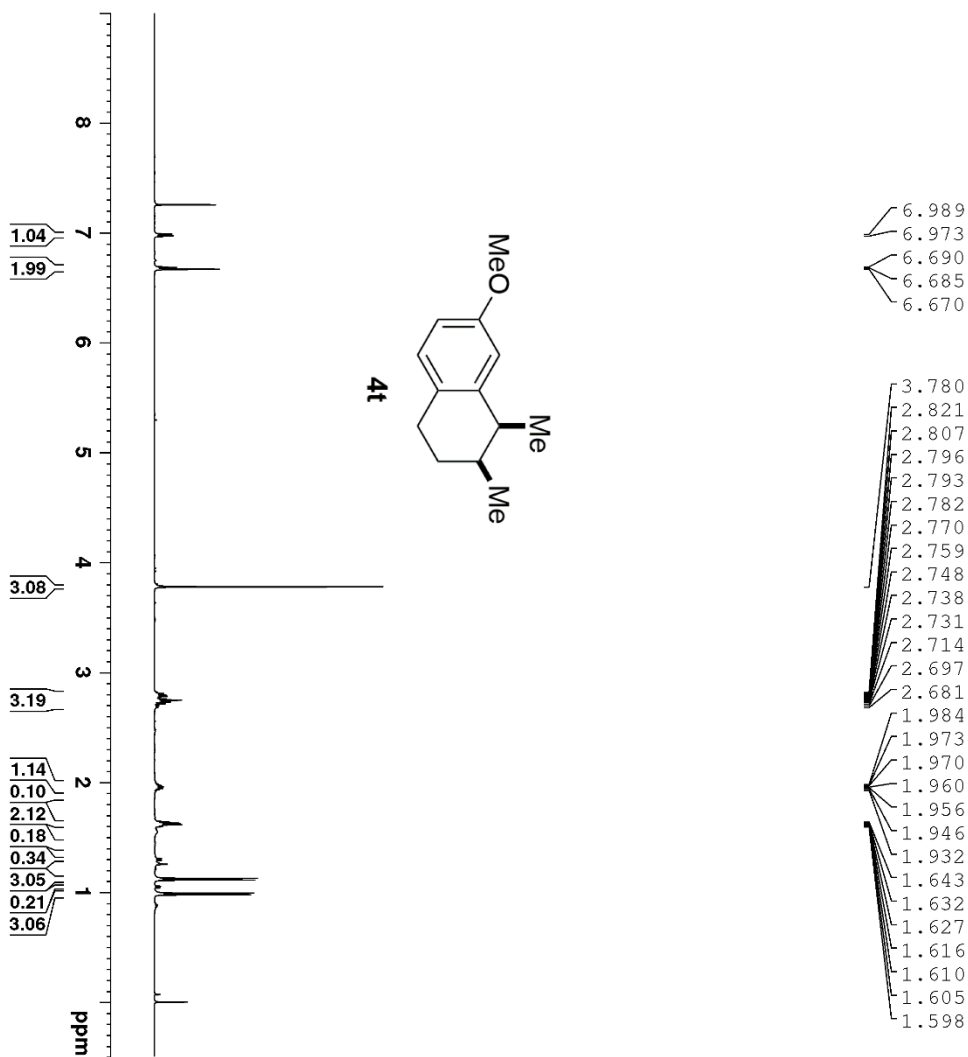
F2 - Processing parameters
SI 65536
SF 500.130169 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
EC -1.00



Current Data Parameters
NAME ay 500 2019
EXPNO 98
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.09.02
Time 2.05
INSTRUM spect
PROBHD 5 mm CPDPR 1B
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 1024
DS 4
SWH 29761.904 Hz
FIDRES 0.454131 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 298.2 K
D1 2.0000000 sec
d11 0.0300000 sec
DELTA 1.8999998 sec
TD0 1
SF01 125.7703637 MHz
NUC1 13C
P1 9.80 usec
PL1 57.0000000 W
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG12 waltz16
PCPD2 80.00 usec
PLM2 20.0000000 W
PLM12 0.35778001 W
PLM13 0.22698000 W

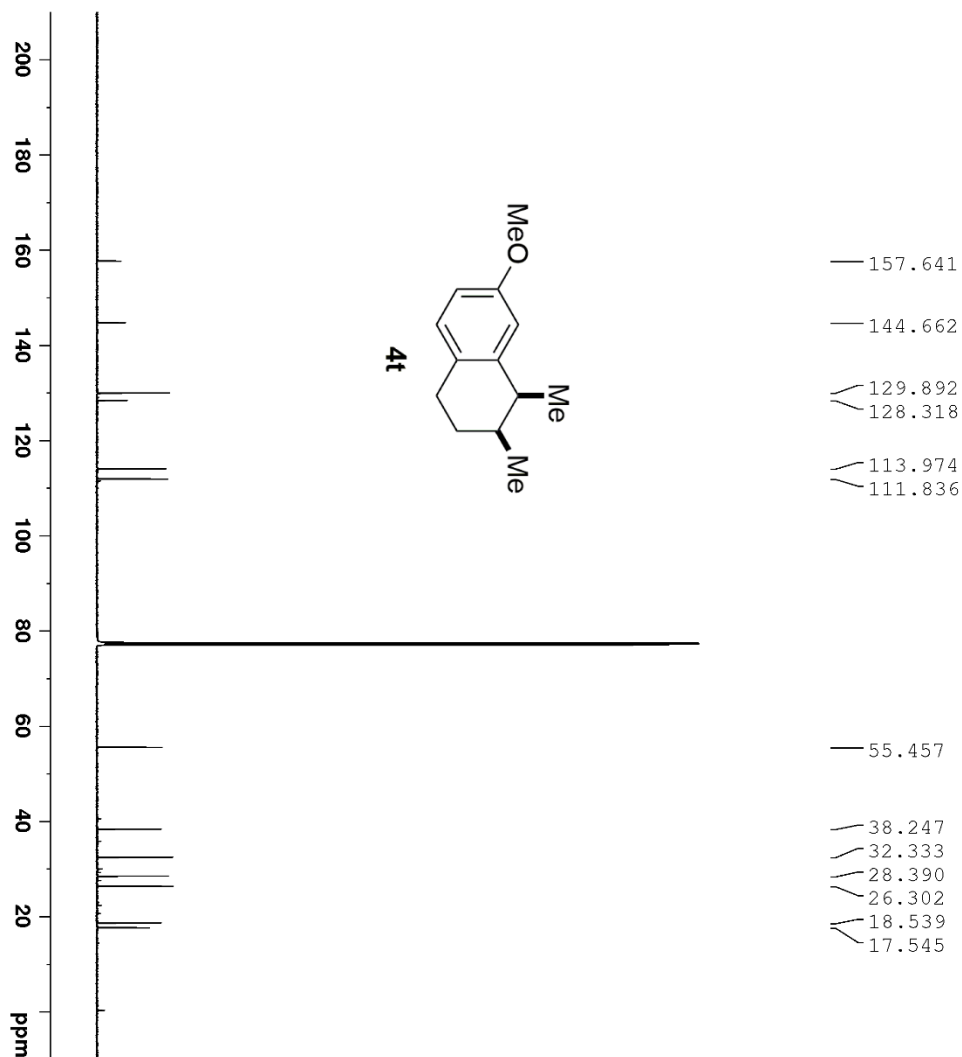
F2 - Processing parameters
SI 32768
SF 125.757631 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40



Current Data Parameters
NAME ay 500 2019
EXPNO 112
PROCNO 1

F2 - Acquisition Parameters
Date_ 20.90506
Time 1.17
INSTRUM spect
PROBHD 5 mm CPD300-BB
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 31.72
DW 30.000 usec
DE 6.50 usec
TE 298.1 K
D1 1.00000000 sec
TD0 1
SF01 500.130885 MHz
NUC1 ¹H
P1 11.50 usec
P1M1 20.0000000 W

F2 - Processing parameters
SI 65536
SF 500.130141 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
EC -1.00



Current Data Parameters
NAME cy 500 2019
EXPNO 113
PROCNO 1

F2 - Acquisition Parameters
Date_ 20190306
Time 2.11
INSTRUM spect
PROBHD 5 mm CPDPRC BB
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 1024
DS 4
SWH 29761.904 Hz
FIDRES 0.45431 Hz
AQ 1.1010048 sec
RG 192.89
DW 16.800 usec
DE 18.00 usec
TE 298.2 K
D1 2.00000000 sec
d11 0.03000000 sec
DELTA 1.89999998 sec
TDO 1
SF01 125.7703637 MHz
NUC1 13C
P1 9.80 usec
PLM1 57.0000000 W
SF02 500.1320005 MHz
NUC2 1H
CPDPRG2 waltz16
PCPD2 80.00 usec
PLM2 20.0000000 W
PLM12 0.3578001 W
PLM13 0.2268000 W

F2 - Processing parameters
SI 32768
SE 125.7577632 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40