

Supporting Information

Gold-catalyzed Carboalkoxylations of 2-Ethynylbenzyl Ethers to Form 1- and 3-Substituted 2-Methoxy-1-*H*-indenes: Brønsted Acid Versus Gold Catalysis

Chun-Hao Chen,^a Chiou-Dong Wang,^a Yi-Feng Hsieh and Rai-Shung Liu^{a,*}

Department of Chemistry, National Tsing-Hua University, Hsinchu, Taiwan,
ROC

E-mail: rsliu@mx.nthu.edu.tw

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(I) Representative Synthetic Procedures:

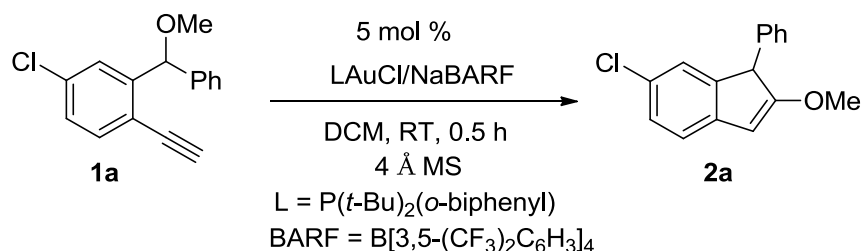
(a) General procedure:

Unless otherwise noted, all the reactions for the preparation of the substrates were performed in oven-dried glassware under nitrogen atmosphere with freshly distilled solvents. The catalytic reactions were performed under Nitrogen atmosphere. DCE, DCM and CH₃CN were distilled from CaH₂ under nitrogen. THF were distilled from Na metal under nitrogen. All other commercial reagents were used without further purification, unless otherwise indicated. ¹H NMR and ¹³C NMR spectra were recorded on a Varian 400 MHz, Bruker 400 and 600 MHz Spectrometers using chloroform-*d* (CDCl₃) and CD₂Cl₂ as the internal standards. All 2-ethynylbenzyl ethers were prepared from the reported procedure in the literature^[S1]

S1. C.-D. Wang, Y.-F. Hsieh, R.-S. Liu, *Adv. Synth. Catal.* **2014**, *356*, 144-152.

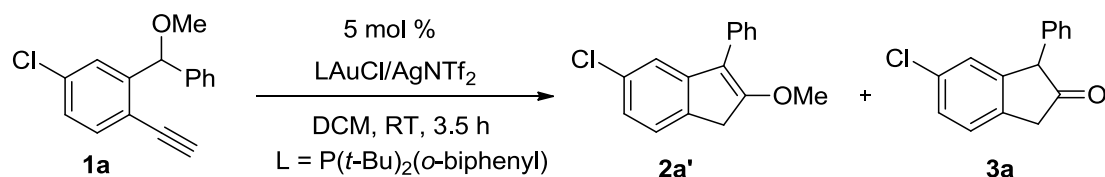
(II) Standard procedures for catalytic operations:

(a) Typical procedure for the synthesis of 1-phenyl-2-methoxyindene (2a)



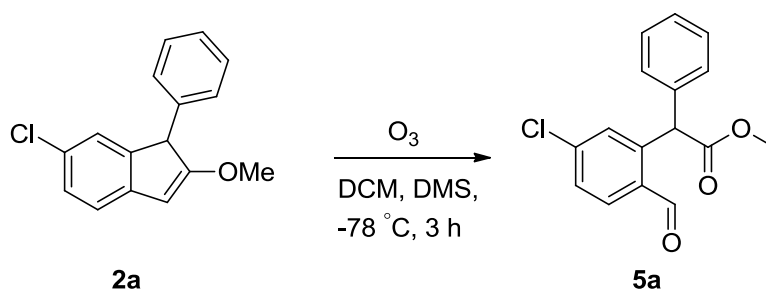
After adding 4 Å molecular sieves (60 mg), a dichloromethane (1.0 mL) solution of AuCl(*t*-Bu)₂P(*o*-biphenyl) (6.2 mg, 5 mol %) and NaBARF (10.3 mg, 5 mol %) was stirred at rt for 10 min, and to this solution was slowly added a dichloromethane (1.3 mL) solution of 4-chloro-1-ethynyl-2-(methoxy(phenyl)methyl)benzene (**1a**) (60 mg, 0.2 mmol) at rt. The solution was stirred for 0.5 h before it was filtered over a Celite bed. The solvent was evaporated under reduced pressure, and the residue was purified on a flash silica gel column to give compound **2a** (54 mg, 90% yield) as yellow oil.

(b) Typical procedure for the synthesis of 3-phenyl-2-methoxyindene (2a')



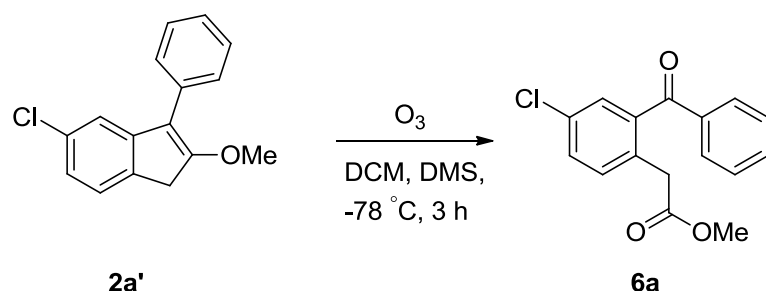
A dichloromethane (1.0 mL) solution of AuCl(*t*-Bu)₂P(*o*-biphenyl) (6.2 mg, 5 mol%) and AgNTf₂ (4.4 mg, 5 mol %) was stirred at rt for 10 min, and to this solution was slowly added a dichloromethane (1.3 mL) solution of 4-chloro-1-ethynyl-2-(methoxy(phenyl)methyl)benzene (**1a**) (60 mg, 0.2 mmol) at rt. The solution was stirred for 3.5 h before it was filtered over a Celite bed. The solvent was evaporated under reduced pressure, and the residue was purified on a flash silica gel column to give compound **2a'** (42.6 mg, 0.17 mmol, 71% yield) as yellow oil and **3a** (14.2 mg, 0.06 mmol, 25%) as yellow oil.

(c) Typical procedure for the ozonolysis of 1-phenyl-2-methoxyindene (5a**)**



A dichloromethane (2.3 ml) solution of compound **2a** (60 mg, 0.2 mmol) was cooled to -78 °C, and to this solution was introduced with a stream of O₃/O₂ (~ 1 mmol/min of O₃) for one min. The solution was stirred at rt for 1 h. The resulting mixture was allowed to reach -78 °C and carefully quenched by addition of DMS (21.8 mg, 0.4 mmol). After 1 h, the solvent was evaporated under reduced pressure, and the residue was purified on a flash silica gel column to give compound **5a** (54.7 mg, 0.19 mmol, 81% yield) as yellow oil.

(d) Typical procedure for the ozonolysis of 3-phenyl-2-methoxyindene (6a**)**

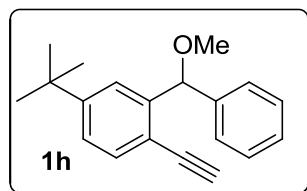


A dichloromethane (2.3 ml) solution of compound **2a'** (60 mg, 0.2 mmol) was cooled to -78 °C, and to this solution was introduced with a stream of O₃/O₂ (~ 1 mmol/min of O₃) for one min. The solution was stirred at rt for 1 h. The resulting mixture was allowed to reach -78 °C and carefully quenched by addition of DMS (21.8 mg, 0.4 mmol). After 1 h, the solvent was evaporated under reduced pressure,

and the residue was purified on a flash silica gel column to give compound **6a** (52.6 mg, 0.18 mmol, 78% yield) as yellow oil.

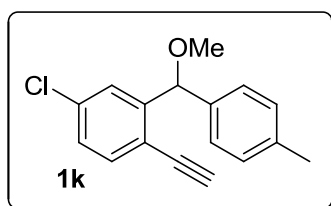
(III) Spectral Data:

Spectral data for 4-(*tert*-butyl)-1-ethynyl-2-(methoxy(phenyl)methyl)benzene (**1h**)



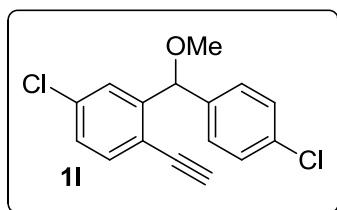
^1H NMR (600 MHz, CDCl_3): δ 7.69 (d, $J = 1.8$ Hz, 1H), 7.51~7.55 (m, 3H), 7.38~7.40 (m, 2H), 7.30~7.33 (m, 2H), 5.92 (s, 1H), 3.49 (s, 3H), 3.36 (s, 1H), 1.38 (s, 9H); ^{13}C NMR (150 MHz, CDCl_3): δ 152.5, 143.9, 141.5, 132.5, 128.1, 127.3, 126.9, 124.2, 122.9, 118.0, 82.4, 82.1, 81.4, 56.9, 34.8, 31.1. HRMS(EI) calcd. for $\text{C}_{20}\text{H}_{22}\text{O}$: 278.1671, found 278.1667.

Spectral data for 4-chloro-1-ethynyl-2-(methoxy(*p*-tolyl)methyl)benzene (**1k**)



^1H NMR (600 MHz, CDCl_3): δ 7.65 (d, $J = 1.8$ Hz, 1H), 7.44 (d, $J = 8.4$ Hz, 1H), 7.39 (d, $J = 7.8$ Hz, 2H), 7.22 (dd, $J = 8.4, 1.8$ Hz, 1H), 7.19 (d, $J = 7.8$ Hz, 2H), 5.80 (s, 1H), 3.44 (s, 3H), 3.43 (s, 1H), 2.37 (s, 3H); ^{13}C NMR (150 MHz, CDCl_3): δ 146.7, 137.6, 137.3, 135.4, 133.9, 129.0, 127.4, 126.8, 126.3, 119.1, 83.1, 81.7, 80.9, 56.9, 21.0. HRMS(EI) calcd. for $\text{C}_{17}\text{H}_{15}\text{ClO}$: 270.0811, found 270.0818 .

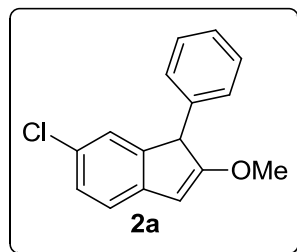
Spectral data for 4-chloro-2-((4-chlorophenyl)(methoxy)methyl)-1-ethynylbenzene (**1l**)



^1H NMR (500 MHz, CDCl_3): δ 7.60 (d, $J = 2.0$ Hz, 1H), 7.46 (d, $J = 8.0$ Hz, 1H), 7.43 (d, $J = 8.5$ Hz, 2H), 7.35 (d, $J = 8.5$ Hz, 2H), 7.25 (dd, $J = 8.0, 2.0$ Hz, 1H), 5.81 (s,

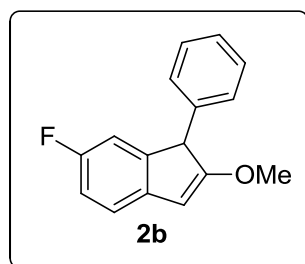
1H), 3.46 (s, 1H), 3.44 (s, 3H); ¹³C NMR (125 MHz, CDCl₃): δ 146.0, 139.2, 135.5, 134.0, 133.4, 128.4, 128.2, 127.7, 126.2, 119.1, 83.4, 81.0, 80.8, 56.9. HRMS(EI) calcd. for C₁₆H₁₂Cl₂O: 290.0265, found 290.0280.

Spectral data for 6-chloro-2-methoxy-1-phenyl-1H-indene (2a)



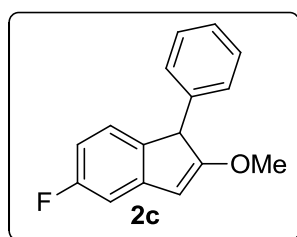
¹H NMR (600 MHz, CDCl₃): δ 7.27~7.30 (m, 2H), 7.23~7.26 (m, 1H), 7.05~7.14 (m, 4H), 6.98 (br, 1H), 5.69 (s, 1H), 4.45 (s, 1H), 3.75 (s, 3H); ¹³C NMR (150 MHz, CDCl₃): δ 170.1, 143.4, 142.3, 137.7, 128.8, 128.5, 128.1, 127.3, 127.2, 124.0, 119.8, 98.4, 57.7, 54.7. HRMS(EI) calcd. for C₁₆H₁₃ClO: 256.0655, found 256.0654.

Spectral data for 6-fluoro-2-methoxy-1-phenyl-1H-indene (2b)



¹H NMR (600 MHz, CDCl₃): δ 7.28~7.31 (m, 2H), 7.26 (d, *J* = 7.2 Hz, 1H), 7.11 (d, *J* = 7.2 Hz, 2H), 7.06 (dd, *J* = 7.8, 4.8 Hz, 1H), 6.85~6.89 (m, 1H), 6.76 (d, *J* = 8.4 Hz, 1H), 5.69 (s, 1H), 4.46 (s, 1H), 3.75 (s, 3H); ¹³C NMR (150 MHz, CDCl₃): δ 169.4, 160.2 (d, *J* = 240.0 Hz), 143.5 (d, *J* = 7.5 Hz), 139.4, 138.0, 128.8, 128.1, 127.3, 119.3 (d, *J* = 9.0 Hz), 113.5 (d, *J* = 21.0 Hz), 111.5 (d, *J* = 24.0 Hz), 98.2, 57.6, 54.9. HRMS(EI) calcd. for C₁₆H₁₃FO: 240.0950, found 240.0945.

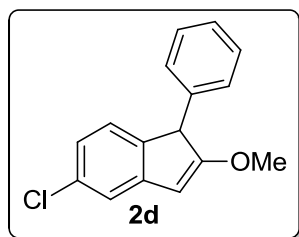
Spectral data for 5-fluoro-2-methoxy-1-phenyl-1H-indene (2c)



¹H NMR (600 MHz, CDCl₃): δ 7.26~7.29 (m, 2H), 7.21~7.24 (m, 1H), 7.08~7.09 (m,

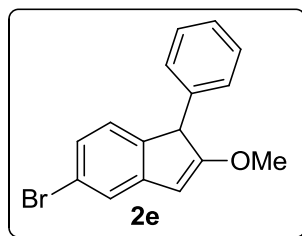
2H), 6.92 (dd, $J = 8.4, 5.4$ Hz, 1H), 6.85 (dd, $J = 9.0, 2.4$ Hz, 1H), 6.60~6.64 (m, 1H), 5.68 (s, 1H), 4.42 (s, 1H), 3.75 (s, 3H); ^{13}C NMR (150 MHz, CDCl_3): δ 171.5, 162.8 (d, $J = 241.5$ Hz), 145.8 (d, $J = 9.0$ Hz), 138.3, 137.0, 128.7, 128.1, 127.2, 124.3 (d, $J = 9.0$ Hz), 109.1 (d, $J = 22.5$ Hz), 106.5 (d, $J = 22.5$ Hz), 98.6, 57.7, 54.1. HRMS(EI) calcd. for $\text{C}_{16}\text{H}_{13}\text{FO}$: 240.0950, found 240.0944.

Spectral data for 5-chloro-2-methoxy-1-phenyl-1H-indene (2d)



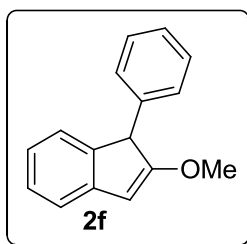
^1H NMR (600 MHz, CDCl_3): δ 7.26~7.29 (m, 2H), 7.22~7.25 (m, 1H), 7.12 (br, 1H), 7.07~7.08 (m, 2H), 6.91 (d, $J = 1.2$ Hz, 2H), 5.67 (s, 1H), 4.43 (s, 1H), 3.75 (s, 3H); ^{13}C NMR (150 MHz, CDCl_3): δ 171.2, 145.7, 139.9, 138.0, 132.9, 128.8, 128.1, 127.2, 124.4, 122.8, 119.2, 98.3, 57.7, 54.3. HRMS(EI) calcd. for $\text{C}_{16}\text{H}_{13}\text{ClO}$: 256.0655, found 256.0656.

Spectral data for 5-bromo-2-methoxy-1-phenyl-1H-indene (2e)



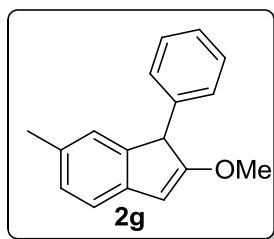
^1H NMR (600 MHz, CDCl_3): δ 7.21~7.29 (m, 4H), 7.06~7.08 (m, 3H), 6.86 (d, $J = 7.8$ Hz, 1H), 5.66 (s, 1H), 4.40 (s, 1H), 3.75 (s, 3H); ^{13}C NMR (150 MHz, CDCl_3): δ 171.1, 146.0, 140.5, 137.8, 128.8, 128.1, 127.3, 125.7, 124.9, 122.1, 121.1, 98.2, 57.7, 54.4. HRMS(EI) calcd. for $\text{C}_{16}\text{H}_{13}\text{BrO}$: 300.0150, found 300.0155.

Spectral data for 2-methoxy-1-phenyl-1H-indene (2f)



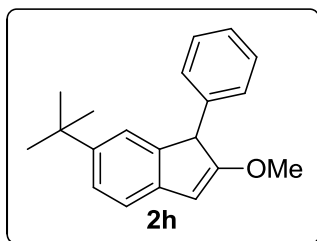
^1H NMR (600 MHz, CDCl_3): δ 7.25~7.27 (m, 2H), 7.19~7.22 (m, 1H), 7.15 (br, 2H), 7.09~7.11 (m, 2H), 7.01 (d, $J = 7.2$ Hz, 1H), 6.93~6.96 (m, 1H), 5.71 (s, 1H), 4.46 (s, 1H), 3.74 (s, 3H); ^{13}C NMR (150 MHz, CDCl_3): δ 169.9, 143.8, 141.8, 138.6, 128.7, 128.2, 127.1, 127.0, 123.5, 123.0, 119.0, 99.0, 57.6, 54.7. HRMS(EI) calcd. for $\text{C}_{16}\text{H}_{14}\text{O}$: 222.1045, found 222.1044.

Spectral data for 2-methoxy-6-methyl-1-phenyl-1H-indene (2g)



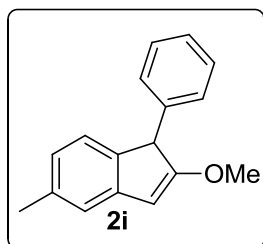
^1H NMR (600 MHz, CDCl_3): δ 7.26~7.29 (m, 2H), 7.21~7.24 (m, 1H), 7.10~7.12 (m, 2H), 7.05 (d, $J = 7.2$ Hz, 1H), 6.98 (dt, $J = 7.2, 0.6$ Hz, 1H), 6.85 (s, 1H), 5.70 (s, 1H), 4.44 (s, 1H), 3.74 (s, 3H); ^{13}C NMR (150 MHz, CDCl_3): δ 169.2, 142.1, 140.9, 138.9, 132.5, 128.7, 128.2, 127.6, 127.0, 124.4, 118.7, 98.8, 57.5, 54.7, 21.3. HRMS(ESI) calcd. for $\text{C}_{17}\text{H}_{17}\text{O}^+$ ($\text{M}+\text{H}$) $^+$ 237.1274, found 237.1277.

Spectral data for 6-(tert-butyl)-2-methoxy-1-phenyl-1H-indene (2h)



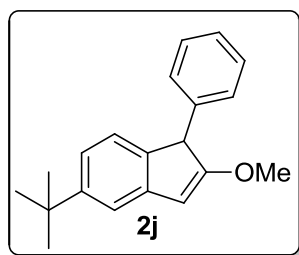
^1H NMR (600 MHz, CDCl_3): δ 7.27~7.29 (m, 2H), 7.20~7.24 (m, 2H), 7.13 (dd, $J = 7.8, 1.2$ Hz, 2H), 7.09 (dd, $J = 7.8, 0.6$ Hz, 1H), 7.07 (d, $J = 1.2$ Hz, 1H), 5.68 (s, 1H), 4.46 (s, 1H), 3.73 (s, 3H), 1.23 (s, 9H); ^{13}C NMR (150 MHz, CDCl_3): δ 169.5, 146.1, 141.5, 141.1, 138.9, 128.6, 128.3, 126.9, 123.8, 120.8, 118.4, 98.5, 57.5, 54.9, 34.5, 31.6. HRMS(EI) calcd. for $\text{C}_{20}\text{H}_{22}\text{O}$: 278.1671, found 278.1671.

Spectral data for 2-methoxy-5-methyl-1-phenyl-1H-indene (2i)



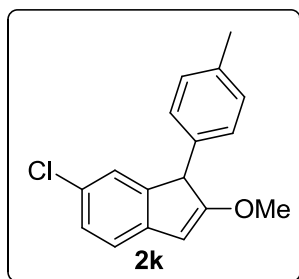
^1H NMR (600 MHz, CDCl_3): δ 7.27~7.30 (m, 2H), 7.22~7.25 (m, 1H), 7.12~7.13 (m, 1H), 7.01 (s, 1H), 6.92 (d, $J = 7.8$ Hz, 1H), 6.79 (dd, $J = 7.8, 1.2$ Hz, 1H), 5.70 (s, 1H), 4.46 (s, 1H), 3.76 (s, 3H), 2.34 (s, 3H); ^{13}C NMR (150 MHz, CDCl_3): δ 170.1, 143.9, 138.9 (C \times 2), 136.7, 128.6, 128.1, 126.9, 123.6, 123.2, 119.9, 98.9, 57.5, 54.4, 21.6. HRMS(EI) calcd. for $\text{C}_{17}\text{H}_{16}\text{O}$: 236.1201, found 236.1200.

Spectral data for 5-(*tert*-butyl)-2-methoxy-1-phenyl-1*H*-indene (2j)



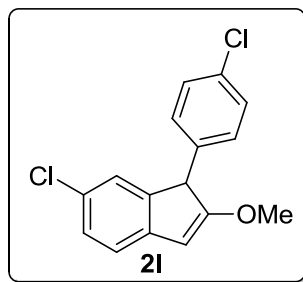
^1H NMR (600 MHz, CDCl_3): δ 7.26~7.28 (m, 2H), 7.20~7.23 (m, 2H), 7.12~7.13 (m, 2H), 6.94~6.99 (m, 2H), 5.72 (s, 1H), 4.44 (s, 1H), 3.75 (s, 3H), 1.31 (s, 9H); ^{13}C NMR (150 MHz, CDCl_3): δ 169.9, 150.2, 143.5, 138.9, 138.8, 128.6, 128.2, 126.9, 122.9, 119.9, 116.3, 99.2, 57.5, 54.4, 34.7, 31.6. HRMS(EI) calcd. for $\text{C}_{20}\text{H}_{22}\text{O}$: 278.1671, found 278.1673.

Spectral data for 6-chloro-2-methoxy-1-(*p*-tolyl)-1*H*-indene (2k)



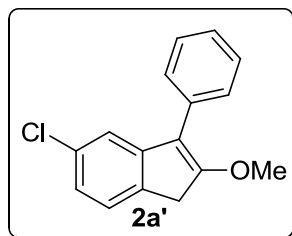
^1H NMR (600 MHz, CDCl_3): δ 7.14 (dd, $J = 8.4, 1.8$ Hz, 1H), 7.12 (d, $J = 7.8$ Hz, 2H), 7.07 (d, $J = 8.4$ Hz, 1H), 6.99~7.00 (m, 3H), 5.69 (s, 1H), 4.43 (s, 1H), 3.76 (s, 3H), 2.33 (s, 3H); ^{13}C NMR (150 MHz, CDCl_3): δ 170.2, 143.6, 142.2, 136.9, 134.6, 129.5, 128.4, 128.0, 127.1, 123.9, 119.8, 98.2, 57.2, 54.4, 21.1. HRMS(EI) calcd. for $\text{C}_{17}\text{H}_{15}\text{ClO}$: 270.0811, found 270.0816.

Spectral data for 6-chloro-1-(4-chlorophenyl)-2-methoxy-1*H*-indene (2l)



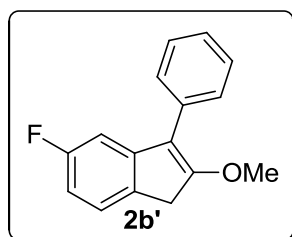
^1H NMR (500 MHz, CDCl_3): δ 7.25 (d, $J = 8.5$ Hz, 2H), 7.14 (dd, $J = 8.5, 1.5$ Hz, 1H), 7.05 (d, $J = 8.5$ Hz, 1H), 7.01 (d, $J = 8.5$ Hz, 2H), 6.95 (br, 1H), 5.68 (s, 1H), 4.41 (s, 1H), 3.74 (s, 3H); ^{13}C NMR (125 MHz, CDCl_3): δ 169.6, 142.9, 142.2, 136.3, 133.1, 129.5, 129.0, 128.6, 127.4, 123.9, 120.0, 98.5, 57.7, 54.0. HRMS(EI) calcd. for $\text{C}_{16}\text{H}_{12}\text{Cl}_2\text{O}$: 290.0265, found 290.0273.

Spectral data for 5-chloro-2-methoxy-3-phenyl-1H-indene (2a')



^1H NMR (600 MHz, CDCl_3): δ 7.51~7.53 (m, 2H), 7.41~7.44 (m, 2H), 7.28~7.31 (m, 1H), 7.22~7.25 (m, 2H), 7.03 (dd, $J = 7.8, 1.8$ Hz, 1H), 3.82 (s, 3H), 3.55 (s, 2H); ^{13}C NMR (150 MHz, CDCl_3): δ 161.7, 147.1, 133.6, 133.1, 132.8, 128.7, 128.4, 126.9, 124.2, 122.5, 118.5, 116.4, 57.9, 34.8. HRMS(EI) calcd. for $\text{C}_{16}\text{H}_{13}\text{ClO}$: 256.0655, found 256.0648.

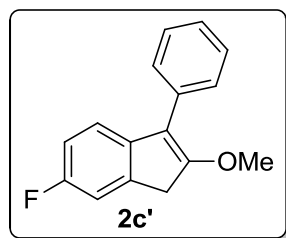
Spectral data for 5-fluoro-2-methoxy-3-phenyl-1H-indene (2b')



^1H NMR (600 MHz, CDCl_3): δ 7.52~7.54 (m, 2H), 7.41~7.43 (m, 2H), 7.23~7.30 (m, 2H), 7.00 (dd, $J = 9.6, 2.4$ Hz, 1H), 6.72~6.76 (m, 1H), 3.83 (s, 3H), 3.55 (s, 2H); ^{13}C NMR (150 MHz, CDCl_3): δ 162.8 (d, $J = 240.0$ Hz), 162.1, 147.3 (d, $J = 9.0$ Hz), 133.3, 130.6, 128.6, 128.4, 126.8, 124.1 (d, $J = 9.0$ Hz), 116.7, 109.0 (d, $J = 22.5$ Hz), 105.9 (d, $J = 24.0$ Hz), 57.8, 34.6. HRMS(EI) calcd. for $\text{C}_{16}\text{H}_{13}\text{FO}$: 240.0950, found

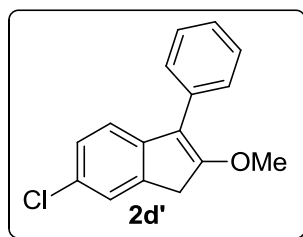
240.0955.

Spectral data for 6-fluoro-2-methoxy-3-phenyl-1*H*-indene (2c')



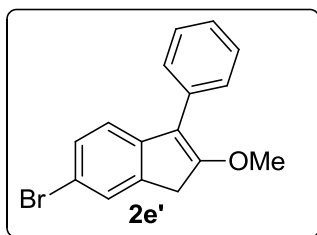
^1H NMR (600 MHz, CDCl_3): δ 7.54 (dt, $J = 7.8, 1.8$ Hz, 2H), 7.40~7.42 (m, 2H), 7.26~7.29 (m, 1H), 7.20 (dd, $J = 8.4, 4.8$ Hz, 1H), 7.07 (dt, $J = 8.4, 1.2$ Hz, 1H), 6.91 (td, $J = 9.0, 2.4$ Hz, 1H), 3.81 (s, 3H), 3.57 (s, 2H); ^{13}C NMR (150 MHz, CDCl_3): δ 160.1 (d, $J = 238.5$ Hz), 159.5, 140.9, 137.2 (d, $J = 7.5$ Hz), 133.6, 128.7, 128.3, 126.7, 118.8 (d, $J = 7.5$ Hz), 116.4, 113.1 (d, $J = 21.0$ Hz), 111.3 (d, $J = 24.0$ Hz), 57.9, 35.2. HRMS(EI) calcd. for $\text{C}_{16}\text{H}_{13}\text{FO}$: 240.0950, found 240.0953.

Spectral data for 6-chloro-2-methoxy-3-phenyl-1*H*-indene (2d')



^1H NMR (600 MHz, CDCl_3): δ 7.52~7.54 (m, 2H), 7.42 (tt, $J = 7.8, 1.2$ Hz, 2H), 7.31 (br, 1H), 7.27~7.30 (m, 1H), 7.17~7.22 (m, 2H), 3.82 (s, 3H), 3.57 (s, 2H); ^{13}C NMR (150 MHz, CDCl_3): δ 160.4, 143.7, 137.1, 133.3, 128.7, 128.4, 128.2, 126.8, 126.7, 123.7, 119.1, 116.4, 57.9, 35.0. HRMS(EI) calcd. for $\text{C}_{16}\text{H}_{13}\text{ClO}$: 256.0655, found 256.0652.

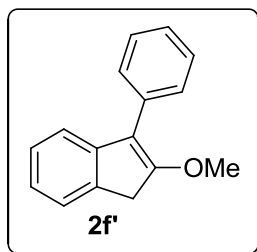
Spectral data for 6-bromo-2-methoxy-3-phenyl-1*H*-indene (2e')



^1H NMR (600 MHz, CDCl_3): δ 7.52~7.53 (m, 2H), 7.45 (d, $J = 0.6$ Hz, 1H), 7.41 (td, $J = 7.8, 1.8$ Hz, 2H), 7.33 (dd, $J = 7.8, 1.8$ Hz, 1H), 7.28 (tt, $J = 7.2, 1.2$ Hz, 1H), 7.16

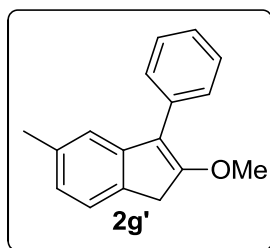
(d, $J = 8.4$ Hz, 1H), 3.82 (s, 3H), 3.56 (s, 2H); ^{13}C NMR (150 MHz, CDCl_3): δ 160.4, 144.2, 137.4, 133.3, 129.6, 128.7, 128.4, 126.8, 126.5, 119.6, 116.4, 116.0, 57.9, 34.9. HRMS(EI) calcd. for $\text{C}_{16}\text{H}_{13}\text{BrO}$: 300.0150, found 300.0143.

Spectral data for 2-methoxy-3-phenyl-1H-indene (2f')



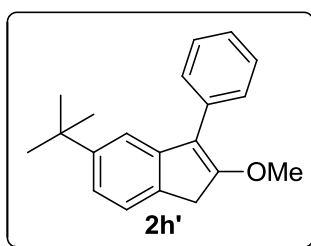
^1H NMR (600 MHz, CDCl_3): δ 7.57 (dd, $J = 7.2, 1.2$ Hz, 2H), 7.41 (t, $J = 7.8$ Hz, 2H), 7.35 (dd, $J = 7.2, 0.6$ Hz, 1H), 7.32 (d, $J = 7.8$ Hz, 1H), 7.28 (td, $J = 7.2, 1.2$ Hz, 1H), 7.22 (t, $J = 7.8$ Hz, 1H), 7.08 (td, $J = 7.8, 1.2$ Hz, 1H), 3.83 (s, 3H), 3.59 (s, 2H); ^{13}C NMR (150 MHz, CDCl_3): δ 160.4, 145.2, 135.5, 133.8, 128.8, 128.3, 126.7, 126.6, 123.4, 122.7, 118.4, 116.9, 57.8, 35.1. HRMS(EI) calcd. for $\text{C}_{16}\text{H}_{14}\text{O}$: 222.1045, found 222.1047.

Spectral data for 2-methoxy-5-methyl-3-phenyl-1H-indene (2g')



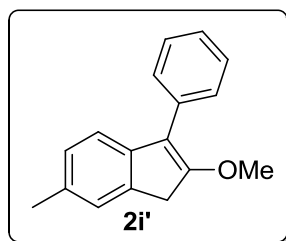
^1H NMR (600 MHz, CDCl_3): δ 7.56 (dd, $J = 7.8, 1.2$ Hz, 2H), 7.41~7.43 (m, 2H), 7.28 (td, $J = 7.2, 1.2$ Hz, 1H), 7.23 (d, $J = 7.2$ Hz, 1H), 7.12 (s, 1H), 6.89 (d, $J = 7.2$ Hz, 1H), 3.81 (s, 3H), 3.55 (s, 2H), 2.33 (s, 3H); ^{13}C NMR (150 MHz, CDCl_3): δ 160.7, 145.3, 136.3, 133.9, 132.5, 128.9, 128.3, 126.5, 123.4, 123.1, 119.2, 116.9, 57.8, 34.8, 21.7. HRMS(EI) calcd. for $\text{C}_{17}\text{H}_{17}\text{O}$: 236.1201, found 236.1205.

Spectral data for 5-(tert-butyl)-2-methoxy-3-phenyl-1H-indene (2h')



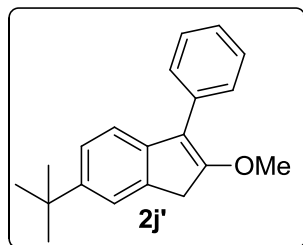
^1H NMR (600 MHz, CDCl_3): δ 7.57 (dd, $J = 7.8, 1.2$ Hz, 2H), 7.42~7.45 (m, 2H), 7.37 (d, $J = 1.8$ Hz, 1H), 7.27~7.30 (m, 2H), 7.13 (dd, $J = 7.8, 1.8$ Hz, 1H), 3.81 (s, 3H), 3.55 (s, 2H), 1.30 (s, 9H); ^{13}C NMR (150 MHz, CDCl_3): δ 160.6., 149.9, 144.9, 133.9, 132.7, 128.8, 128.3, 126.5, 122.9, 119.7, 117.2, 115.5, 57.7, 34.8, 34.6, 31.6. HRMS(EI) calcd. for $\text{C}_{20}\text{H}_{22}\text{O}$: 278.1671, found 278.1669.

Spectral data for 2-methoxy-6-methyl-3-phenyl-1*H*-indene (2i')



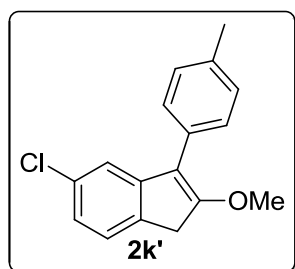
^1H NMR (600 MHz, CDCl_3): δ 7.57 (dd, $J = 8.4, 1.2$ Hz, 2H), 7.39~7.42 (m, 2H), 7.25~7.28 (m, 1H), 7.21 (d, $J = 7.2$ Hz, 1H), 7.18 (br, 1H), 7.03 (d, $J = 7.8$ Hz, 1H), 3.81 (s, 3H), 3.55 (s, 2H), 2.35 (s, 3H); ^{13}C NMR (150 MHz, CDCl_3): δ 159.5, 142.2, 135.7, 133.9, 132.2, 128.7, 128.2, 127.1, 126.4, 124.3, 118.0, 116.7, 57.7, 34.9, 21.2. HRMS(EI) calcd. for $\text{C}_{17}\text{H}_{16}\text{O}$: 236.1201, found 236.1199.

Spectral data for 6-(*tert*-butyl)-2-methoxy-3-phenyl-1*H*-indene (2j')



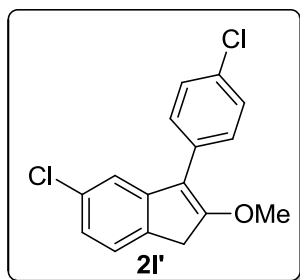
^1H NMR (600 MHz, CDCl_3): δ 7.56~7.58 (m, 2H), 7.39~7.42 (m, 3H), 7.25~7.28 (m, 3H), 3.81 (s, 3H), 3.58 (s, 2H), 1.33 (s, 9H); ^{13}C NMR (150 MHz, CDCl_3): δ 159.9, 145.9, 142.5, 135.5, 134.0, 128.7, 128.2, 126.5, 123.4, 120.7, 117.9, 116.8, 57.8, 35.2, 34.5, 31.6. HRMS(EI) calcd. for $\text{C}_{20}\text{H}_{22}\text{O}$: 278.1671, found 278.1664.

Spectral data for 5-chloro-2-methoxy-3-(*p*-tolyl)-1*H*-indene (2k')



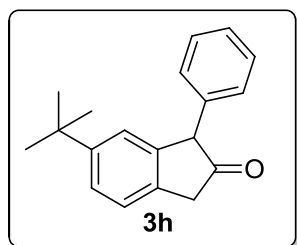
^1H NMR (500 MHz, CDCl_3): δ 7.41 (d, $J = 8.0$ Hz, 2H), 7.21~7.24 (m, 4H), 7.01 (dd, $J = 7.8, 1.9$ Hz, 1H), 3.81 (s, 3H), 3.52 (s, 2H), 2.37 (s, 3H); ^{13}C NMR (125 MHz, CDCl_3): δ 161.4, 147.3, 136.6, 133.6, 132.8, 130.1, 129.1, 128.6, 124.2, 122.4, 118.5, 116.3, 57.8, 34.7, 21.3. HRMS(EI) calcd. for $\text{C}_{17}\text{H}_{15}\text{ClO}$: 270.0811, found 270.0822.

Spectral data for 5-chloro-3-(4-chlorophenyl)-2-methoxy-1H-indene (2l')



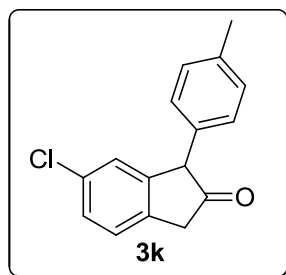
^1H NMR (600 MHz, CDCl_3): δ 7.47 (d, $J = 8.4$ Hz, 2H), 7.39 (d, $J = 8.4$ Hz, 2H), 7.23 (d, $J = 7.8$ Hz, 1H), 7.22 (d, $J = 1.8$ Hz, 1H), 7.04 (dd, $J = 7.8, 1.8$ Hz, 1H), 3.84 (s, 3H), 3.55 (s, 2H); ^{13}C NMR (150 MHz, CDCl_3): δ 162.1, 146.6, 133.4, 132.9, 132.4, 131.6, 130.0, 128.6, 124.4, 122.7, 118.4, 115.3, 57.9, 34.7. HRMS(EI) calcd. for $\text{C}_{16}\text{H}_{12}\text{Cl}_2\text{O}$: 290.0265, found 290.0260.

Spectral data for 6-(tert-butyl)-1-phenyl-1H-inden-2(3H)-one (3h)



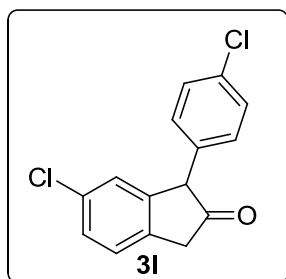
^1H NMR (600 MHz, CDCl_3): δ 7.38 (dd, $J = 7.8, 1.8$ Hz, 1H), 7.30~7.33 (m, 3H), 7.25~7.27 (m, 1H), 7.21 (br, 1H), 7.11 (dd, $J = 7.8, 1.2$ Hz, 2H), 4.65 (s, 1H), 3.61 (s, 2H), 1.28 (s, 9H); ^{13}C NMR (150 MHz, CDCl_3): δ 214.2, 151.2, 140.8, 138.2, 134.3, 128.7, 128.4, 127.2, 125.2, 124.4, 122.8, 60.0, 42.6, 34.8, 31.4. HRMS(EI) calcd. for $\text{C}_{19}\text{H}_{20}\text{O}$: 264.1514, found 264.1508.

Spectral data for 6-chloro-1-(p-tolyl)-1H-inden-2(3H)-one (3k)



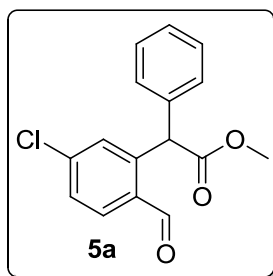
^1H NMR (600 MHz, CDCl_3): δ 7.29~7.30 (m, 2H), 7.15~7.16 (m, 1H), 7.13 (d, J = 7.8 Hz, 2H), 6.96 (d, J = 7.8 Hz, 2H), 4.60 (s, 1H), 3.60 (s, 2H), 2.31 (s, 3H); ^{13}C NMR (150 MHz, CDCl_3): δ 213.0, 143.4, 137.4, 135.5, 134.4, 133.6, 129.6, 128.3 (CH \times 2), 126.1 (CH \times 2), 59.5, 42.4, 21.1. HRMS(EI) calcd. for $\text{C}_{16}\text{H}_{13}\text{ClO}$: 256.0655, found 256.0648.

Spectral data for 6-chloro-1-(4-chlorophenyl)-1H-inden-2(3H)-one (3l)



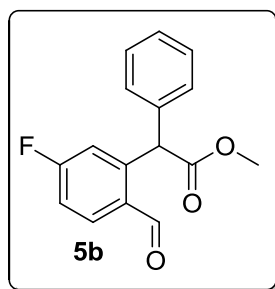
^1H NMR (500 MHz, CDCl_3): δ 7.31 (br, 2H), 7.29 (d, J = 8.5 Hz, 2H), 7.14 (br, 1H), 7.01 (d, J = 8.5 Hz, 2H), 4.61 (s, 1H), 3.61 (s, 2H); ^{13}C NMR (125 MHz, CDCl_3): δ 212.2, 142.4, 135.7, 135.5, 133.7, 133.6, 129.7, 129.1, 128.6, 126.2, 126.1, 59.0, 42.4. HRMS(EI) calcd. for $\text{C}_{15}\text{H}_{10}\text{Cl}_2\text{O}$: 276.0109, found 276.0099.

Spectral data for methyl 2-(5-chloro-2-formylphenyl)-2-phenylacetate (5a)



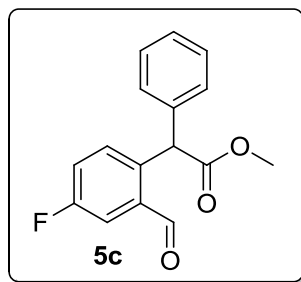
^1H NMR (600 MHz, CDCl_3): δ 10.05 (s, 1H), 7.75 (d, J = 8.4 Hz, 1H), 7.44 (dd, J = 7.8, 1.8 Hz, 1H), 7.35~7.38 (m, 2H), 7.30~7.33 (m, 1H), 7.23~7.24 (m, 2H), 7.15 (d, J = 1.8 Hz, 1H), 6.00 (s, 1H), 3.73 (s, 3H); ^{13}C NMR (150 MHz, CDCl_3): δ 192.0, 172.3, 141.9, 140.5, 136.8, 136.2, 132.1, 130.8, 129.1, 129.0, 128.0, 127.8, 52.5 (CH $_3$ \times 1, CH \times 1). HRMS(ESI) calcd. for $\text{C}_{16}\text{H}_{13}\text{ClNaO}_3^+$ (M+Na) $^+$ 311.0445, found 311.0446.

Spectral data for methyl 2-(5-fluoro-2-formylphenyl)-2-phenylacetate (5b)



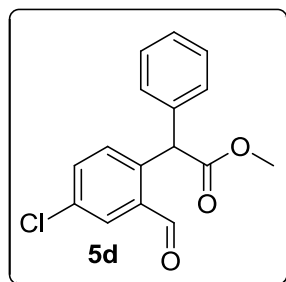
^1H NMR (600 MHz, CDCl_3): δ 10.04 (s, 1H), 7.83 (dd, $J = 8.4, 6.0$ Hz, 1H), 7.30~7.38 (m, 3H), 7.24~7.25 (m, 2H), 7.11~7.15 (m, 1H), 6.87 (dd, $J = 10.2, 2.4$ Hz, 1H), 6.03 (s, 1H), 3.73 (s, 3H); ^{13}C NMR (150 MHz, CDCl_3): δ 191.7, 172.3, 165.7 (d, $J = 256.5$ Hz), 143.6 (d, $J = 9.0$ Hz), 137.8 (d, $J = 10.5$ Hz), 136.8, 130.4, 129.0 (CH \times 2), 127.8, 118.2 (d, $J = 24.0$ Hz), 114.7 (d, $J = 21.0$ Hz), 52.7, 52.5. HRMS(ESI) calcd. for $\text{C}_{16}\text{H}_{13}\text{FNaO}_3^+$ ($\text{M}+\text{Na}$) $^+$ 295.0741, found 295.0742.

Spectral data for methyl 2-(4-fluoro-2-formylphenyl)-2-phenylacetate (5c)



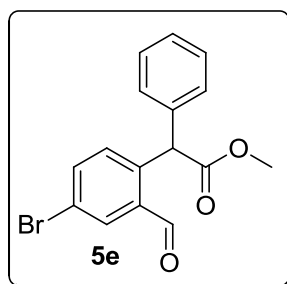
^1H NMR (600 MHz, CDCl_3): δ 10.07 (s, 1H), 7.52 (dt, $J = 9.0, 1.8$ Hz, 1H), 7.34~7.36 (m, 2H), 7.28~7.31 (m, 1H), 7.21~7.23 (m, 2H), 7.19 (dd, $J = 6.6, 1.8$ Hz, 2H), 5.95 (s, 1H), 3.73 (s, 3H); ^{13}C NMR (150 MHz, CDCl_3): δ 191.6, 172.7, 161.9 (d, $J = 247.5$ Hz), 137.4, 135.9 (d, $J = 3.0$ Hz), 135.3 (d, $J = 6.0$ Hz), 132.5 (d, $J = 7.5$ Hz), 128.9 (CH \times 2), 127.7, 120.6 (d, $J = 21.0$ Hz), 120.4 (d, $J = 22.5$ Hz), 52.5, 52.2. HRMS(ESI) calcd. for $\text{C}_{16}\text{H}_{13}\text{FNaO}_3^+$ ($\text{M}+\text{Na}$) $^+$ 295.0741, found 295.0745.

Spectral data for methyl 2-(4-chloro-2-formylphenyl)-2-phenylacetate (5d)



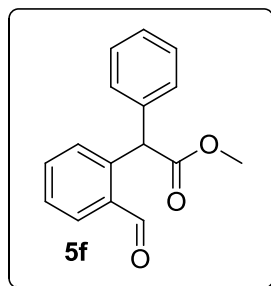
^1H NMR (600 MHz, CDCl_3): δ 10.05 (s, 1H), 7.78 (d, $J = 1.8$ Hz, 1H), 7.45 (dd, $J = 8.4, 2.4$ Hz, 1H), 7.34~7.36 (m, 2H), 7.29~7.31 (m, 1H), 7.21~7.22 (m, 2H), 7.13 (d, $J = 8.4$ Hz, 1H), 5.95 (s, 1H), 3.73 (s, 3H); ^{13}C NMR (150 MHz, CDCl_3): δ 191.8, 172.5, 138.4, 137.1, 135.0, 134.2, 134.0, 133.6, 132.0, 129.0, 128.9, 127.7, 52.5, 52.3. HRMS(ESI) calcd. for $\text{C}_{16}\text{H}_{13}\text{ClNaO}_3^+$ ($\text{M}+\text{Na}$) $^+$ 311.0445, found 311.0445.

Spectral data for methyl 2-(4-bromo-2-formylphenyl)-2-phenylacetate (5e)



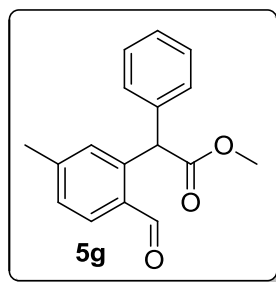
^1H NMR (600 MHz, CDCl_3): δ 10.04 (s, 1H), 7.93 (d, $J = 2.4$ Hz, 1H), 7.60 (dd, $J = 8.4, 2.4$ Hz, 1H), 7.34~7.36 (m, 2H), 7.29~7.31 (m, 1H), 7.20~7.22 (m, 2H), 7.06 (d, $J = 7.8$ Hz, 1H), 5.94 (s, 1H), 3.73 (s, 3H); ^{13}C NMR (150 MHz, CDCl_3): δ 191.7, 172.4, 138.9, 137.2, 137.1, 136.6, 135.2, 132.3, 129.0 (CH \times 2), 127.7, 121.8, 52.5, 52.4. HRMS(ESI) calcd. for $\text{C}_{16}\text{H}_{13}\text{BrNaO}_3^+$ ($\text{M}+\text{Na}$) $^+$ 354.9940, found 354.9944.

Spectral data for methyl 2-(2-formylphenyl)-2-phenylacetate (5f)



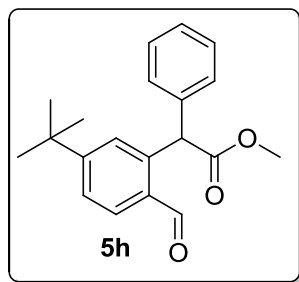
^1H NMR (600 MHz, CDCl_3): δ 10.09 (s, 1H), 7.80 (dd, $J = 7.2, 1.8$ Hz, 1H), 7.44~7.50 (m, 2H), 7.31~7.34 (m, 2H), 7.27 (tt, $J = 7.2, 1.2$ Hz, 1H), 7.22~7.24 (m, 2H), 7.18 (d, $J = 7.2$ Hz, 1H), 6.04 (s, 1H), 3.71 (s, 3H); ^{13}C NMR (150 MHz, CDCl_3): δ 193.3, 172.9, 140.0, 137.6, 135.1, 133.8, 133.7, 130.4, 129.1, 128.8, 127.7, 127.5, 52.7, 52.4. HRMS(ESI) calcd. for $\text{C}_{16}\text{H}_{14}\text{NaO}_3^+$ ($\text{M}+\text{Na}$) $^+$ 277.0835, found 277.0839.

Spectral data for methyl 2-(2-formyl-5-methylphenyl)-2-phenylacetate (5g)



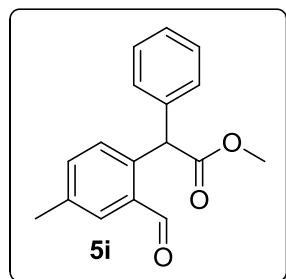
^1H NMR (600 MHz, CDCl_3): δ 10.04 (s, 1H), 7.69 (d, $J = 7.8$ Hz, 1H), 7.34 (t, $J = 7.8$ Hz, 2H), 7.24~7.29 (m, 4H), 7.00 (s, 1H), 6.07 (s, 1H), 3.73 (s, 3H), 2.33 (s, 3H); ^{13}C NMR (150 MHz, CDCl_3): δ 192.9, 173.0, 144.9, 139.9, 137.6, 135.5, 131.4, 131.1, 129.1, 128.7, 128.4, 127.4, 52.5, 52.3, 22.0. HRMS(ESI) calcd. for $\text{C}_{17}\text{H}_{16}\text{NaO}_3^+$ ($\text{M}+\text{Na}$) $^+$ 291.0992, found 291.0991.

Spectral data for methyl 2-(5-(*tert*-butyl)-2-formylphenyl)-2-phenylacetate (5h)



^1H NMR (600 MHz, CDCl_3): δ 10.04 (s, 1H), 7.73 (d, $J = 7.8$ Hz, 1H), 7.46 (dd, $J = 7.8, 1.8$ Hz, 1H), 7.33~7.35 (m, 2H), 7.25~7.29 (m, 3H), 7.23 (d, $J = 1.8$ Hz, 1H), 6.05 (s, 1H), 3.73 (s, 3H), 1.22 (s, 9H); ^{13}C NMR (150 MHz, CDCl_3): δ 192.9, 173.0, 157.6, 139.6, 137.8, 135.3, 131.3, 129.1, 128.7, 127.8, 127.4, 124.5, 52.9, 52.3, 35.3, 30.9. HRMS(ESI) calcd. for $\text{C}_{20}\text{H}_{22}\text{NaO}_3^+$ ($\text{M}+\text{Na}$) $^+$ 333.1461, found 333.1465.

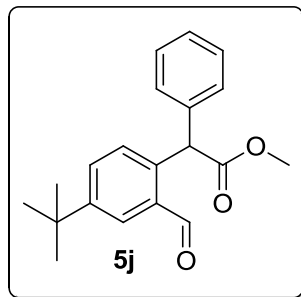
Spectral data for methyl 2-(2-formyl-4-methylphenyl)-2-phenylacetate (5i)



^1H NMR (600 MHz, CDCl_3): δ 10.06 (s, 1H), 7.61 (br, 1H), 7.26~7.34 (m, 4H), 7.24 (d, $J = 7.2$ Hz, 2H), 7.08 (d, $J = 7.8$ Hz, 1H), 6.01 (s, 1H), 3.72 (s, 3H), 2.40 (s, 3H); ^{13}C NMR (150 MHz, CDCl_3): δ 193.5, 173.0, 137.8, 137.6, 137.1, 135.7, 134.5, 133.5,

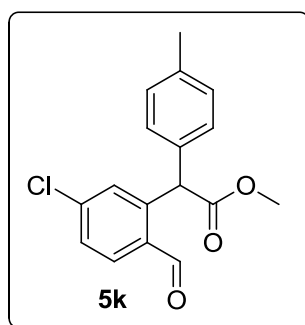
130.3, 129.0, 128.8, 127.4, 52.4, 52.3, 20.7. HRMS(ESI) calcd. for $C_{17}H_{16}NaO_3^+$ ($M+Na$)⁺ 291.0992, found 291.0993.

Spectral data for methyl 2-(4-(*tert*-butyl)-2-formylphenyl)-2-phenylacetate (5j)



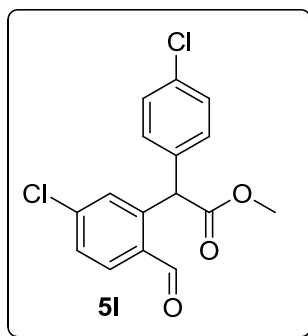
¹H NMR (600 MHz, CDCl₃): δ 10.10 (s, 1H), 7.81 (d, *J* = 2.4 Hz, 1H), 7.51 (dd, *J* = 7.8, 2.4 Hz, 1H), 7.33~7.35 (m, 2H), 7.27~7.30 (m, 1H), 7.24~7.26 (m, 2H), 7.09 (d, *J* = 8.4 Hz, 1H), 6.00 (s, 1H), 3.73 (s, 3H), 1.32 (s, 9H); ¹³C NMR (150 MHz, CDCl₃): δ 193.8, 173.1, 150.8, 137.8, 137.1, 133.3, 132.3, 130.9, 130.2, 129.1, 128.8, 127.4, 52.4, 52.3, 34.5, 31.1. HRMS(ESI) calcd. for $C_{20}H_{22}NaO_3^+$ ($M+Na$)⁺ 333.1461, found 333.1463.

Spectral data for methyl 2-(5-chloro-2-formylphenyl)-2-(*p*-tolyl)acetate (5k)



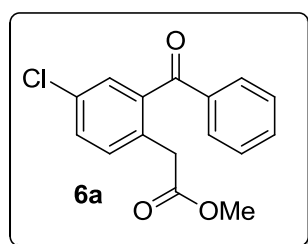
¹H NMR (600 MHz, CDCl₃): δ 10.05 (s, 1H), 7.74 (d, *J* = 8.4 Hz, 1H), 7.43 (dd, *J* = 8.4, 1.8 Hz, 1H), 7.16~7.18 (m, 3H), 7.12 (d, *J* = 7.8 Hz, 2H), 5.94 (s, 1H), 3.72 (s, 3H), 2.34 (s, 3H); ¹³C NMR (150 MHz, CDCl₃): δ 192.0, 172.5, 142.1, 140.5, 137.6, 136.0, 133.7, 132.1, 130.7, 129.8, 128.9, 127.9, 52.5, 52.2, 21.1. HRMS(ESI) calcd. for $C_{17}H_{16}ClO_3^+$ ($M+H$)⁺ 303.0782, found 303.0783.

Spectral data for methyl 2-(5-chloro-2-formylphenyl)-2-(4-chlorophenyl)acetate (5l)



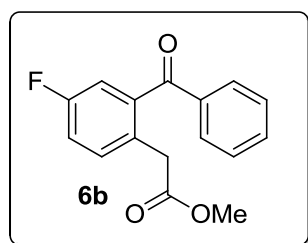
^1H NMR (600 MHz, CDCl_3): δ 10.02 (s, 1H), 7.74 (d, $J = 7.8$ Hz, 1H), 7.47 (dd, $J = 7.8, 1.8$ Hz, 1H), 7.33 (d, $J = 8.4$ Hz, 2H), 7.18 (d, $J = 8.4$ Hz, 2H), 7.17 (d, $J = 1.8$ Hz, 1H), 6.02 (s, 1H), 3.73 (s, 3H); ^{13}C NMR (150 MHz, CDCl_3): δ 192.0, 172.0, 141.3, 140.6, 136.6, 135.3, 133.9, 132.0, 130.6, 130.4, 129.2, 128.2, 52.6, 51.7. HRMS(ESI) calcd. for $\text{C}_{16}\text{H}_{13}\text{Cl}_2\text{O}_3^+$ ($\text{M}+\text{H}$) $^+$ 323.0236, found 323.0235.

Spectral data for methyl 2-(2-(benzoyl)-4-chlorophenyl)acetate (6a)



^1H NMR (600 MHz, CDCl_3): δ 7.79 (dd, $J = 8.4, 1.8$ Hz, 2H), 7.58~7.61 (m, 1H), 7.45~7.48 (m, 2H), 7.43 (dd, $J = 8.4, 2.4$ Hz, 1H), 7.35 (d, $J = 2.4$ Hz, 1H), 7.29 (d, $J = 8.4$ Hz, 1H), 3.82 (s, 2H), 3.53 (s, 3H); ^{13}C NMR (150 MHz, CDCl_3): δ 196.5, 171.2, 139.9, 137.0, 133.4, 133.1, 132.7, 132.2, 130.8, 130.3, 129.6, 128.5, 52.0, 38.0. HRMS(ESI) calcd. for $\text{C}_{16}\text{H}_{14}\text{ClO}_3^+$ ($\text{M}+\text{H}$) $^+$ 289.0626, found 289.0627.

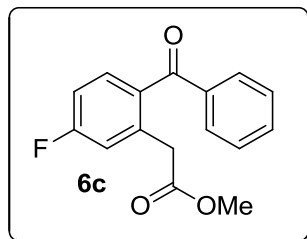
Spectral data for methyl 2-(2-(benzoyl)-4-fluorophenyl)acetate (6b)



^1H NMR (600 MHz, CDCl_3): δ 7.78~7.80 (m, 2H), 7.57~7.60 (m, 1H), 7.45~7.47 (m, 2H), 7.32 (dd, $J = 8.4, 5.4$ Hz, 1H), 7.16 (td, $J = 8.4, 3.0$ Hz, 1H), 7.08 (dd, $J = 8.4, 3.0$ Hz, 1H), 3.82 (s, 2H), 3.53 (s, 3H); ^{13}C NMR (150 MHz, CDCl_3): δ 196.6, 171.4, 160.9 (d, $J = 247.5$ Hz), 140.0 (d, $J = 6.0$ Hz), 137.0, 133.4 (d, $J = 7.5$ Hz), 133.3,

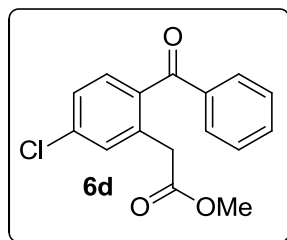
130.3, 129.6, 128.5, 117.7 (d, $J = 21.0$ Hz), 116.8 (d, $J = 24.0$ Hz), 51.9, 37.8.
HRMS(ESI) calcd. for $C_{16}H_{13}FNaO_3^+$ ($M+Na$) $^+$ 295.0741, found, 295.0740.

Spectral data for methyl 2-(2-benzoyl-5-fluorophenyl)acetate (6c)



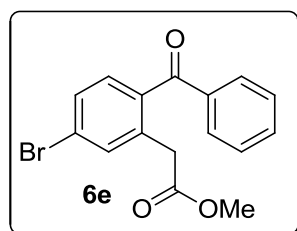
1H NMR (600 MHz, $CDCl_3$): δ 7.75~7.77 (m, 2H), 7.56~7.59 (m, 1H), 7.45 (t, $J = 7.8$ Hz, 2H), 7.40 (dd, $J = 8.4, 6.0$ Hz, 1H), 7.07 (dd, $J = 9.0, 3.0$ Hz, 1H), 7.01 (td, $J = 8.4, 3.0$ Hz, 1H), 3.89 (s, 2H), 3.57 (s, 3H); ^{13}C NMR (150 MHz, $CDCl_3$): δ 196.9, 171.1, 163.7 (d, $J = 252.0$ Hz), 137.8, 137.4 (d, $J = 7.5$ Hz), 134.3, 133.0, 132.6 (d, $J = 9.0$ Hz), 130.2, 128.4, 119.0 (d, $J = 22.5$ Hz), 113.4 (d, $J = 21.0$ Hz), 52.0, 38.7.
HRMS(ESI) calcd. for $C_{16}H_{13}FNaO_3^+$ ($M+Na$) $^+$ 295.0741, found 295.0743.

Spectral data for methyl 2-(2-benzoyl-5-chlorophenyl)acetate (6d)



1H NMR (600 MHz, $CDCl_3$): δ 7.76~7.77 (m, 2H), 7.56~7.59 (m, 1H), 7.44~7.46(m, 2H), 7.29~7.35 (m, 3H), 3.86 (s, 2H), 3.56 (s, 3H); ^{13}C NMR (150 MHz, $CDCl_3$): δ 197.0, 171.0, 137.5, 136.9, 136.6, 136.1, 133.1, 131.9, 131.4, 130.3, 128.4, 126.7, 52.0, 38.4. HRMS(ESI) calcd. for $C_{16}H_{13}ClNaO_3^+$ ($M+Na$) $^+$ 311.0445, found 311.0448.

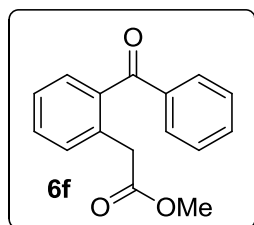
Spectral data for methyl 2-(2-benzoyl-5-bromophenyl)acetate (6e)



1H NMR (600 MHz, $CDCl_3$): δ 7.76 (dd, $J = 8.4, 1.2$ Hz, 2H), 7.56~7.59 (m, 1H),

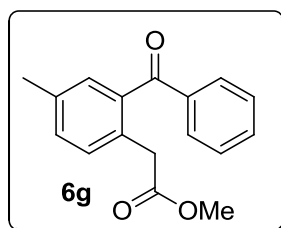
7.51 (d, $J = 1.8$ Hz, 1H), 7.44~7.47 (m, 3H), 7.26 (d, $J = 8.4$ Hz, 1H), 3.85 (s, 2H), 3.55 (s, 3H); ^{13}C NMR (150 MHz, CDCl_3): δ 197.1, 171.0, 137.4, 137.1, 136.1, 134.8, 133.2, 131.5, 130.3, 129.7, 128.4, 125.3, 52.0, 38.3. HRMS(ESI) calcd. for $\text{C}_{16}\text{H}_{13}\text{BrNaO}_3^+$ ($\text{M}+\text{Na}$) $^+$ 354.9940, found 354.9940.

Spectral data for methyl 2-(2-benzoylphenyl)acetate (6f)



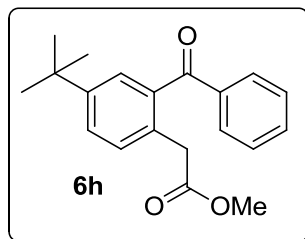
^1H NMR (600 MHz, CDCl_3): δ 7.78~7.80 (m, 2H), 7.55~7.58 (m, 1H), 7.43~7.47 (m, 3H), 7.31~7.39 (m, 3H), 3.88 (s, 2H), 3.54 (s, 3H); ^{13}C NMR (150 MHz, CDCl_3): δ 198.0, 171.6, 138.3, 137.8, 133.9, 132.9, 131.8, 130.9, 130.3, 130.0, 128.3, 126.5, 51.9, 38.7. HRMS(ESI) calcd. for $\text{C}_{16}\text{H}_{14}\text{NaO}_3^+$ ($\text{M}+\text{Na}$) $^+$ 277.0835, found, 277.0841.

Spectral data for methyl 2-(2-benzoyl-4-methylphenyl)acetate (6g)



^1H NMR (600 MHz, CDCl_3): δ 7.79 (dd, $J = 8.4, 1.2$ Hz, 2H), 7.55~7.58 (m, 1H), 7.43~7.46 (m, 2H), 7.22~7.27 (m, 2H), 7.18 (s, 1H), 3.81 (s, 2H), 3.53 (s, 3H), 2.33 (s, 3H); ^{13}C NMR (150 MHz, CDCl_3): δ 198.2, 171.8, 138.2, 137.9, 136.4, 132.9, 131.6 (CH \times 2), 130.8, 130.5, 130.3, 128.3, 51.8, 38.3, 21.0. HRMS(ESI) calcd. for $\text{C}_{17}\text{H}_{17}\text{O}_3^+$ ($\text{M}+\text{H}$) $^+$ 269.1172, found 269.1175.

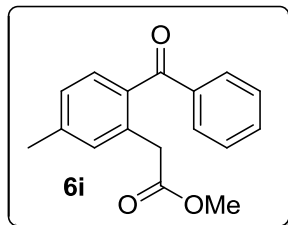
Spectral data for methyl 2-(2-benzoyl-4-(tert-butyl)phenyl)acetate (6h)



^1H NMR (600 MHz, CDCl_3): δ 7.79~7.81 (m, 2H), 7.56~7.58 (m, 1H), 7.43~7.48 (m,

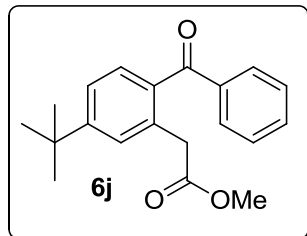
3H), 7.38 (d, $J = 2.4$ Hz, 1H), 7.27 (d, $J = 7.8$ Hz, 1H); ^{13}C NMR (150 MHz, CDCl_3): δ 198.4, 171.9, 149.5, 137.8 (C \times 2), 132.9, 131.4, 130.8, 130.4, 128.3, 127.8, 127.2, 51.8, 38.2, 34.5, 31.1. HRMS(ESI) calcd. for $\text{C}_{20}\text{H}_{22}\text{NaO}_3^+$ ($\text{M}+\text{Na}$) $^+$ 333.1461, found 333.1463.

Spectral data for methyl 2-(2-benzoyl-5-methylphenyl)acetate (6i)



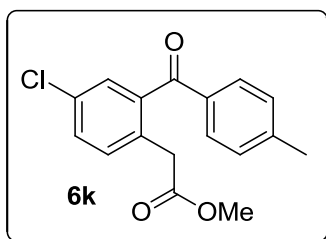
^1H NMR (500 MHz, CDCl_3): δ 7.77 (d, $J = 7.0$ Hz, 2H), 7.55 (t, $J = 7.5$ Hz, 1H), 7.41~7.45 (m, 2H), 7.29 (d, $J = 8.0$ Hz, 1H), 7.15 (s, 1H), 7.11 (d, $J = 8.0$ Hz, 1H), 3.86 (s, 2H), 3.55 (s, 3H), 2.39 (s, 3H); ^{13}C NMR (125 MHz, CDCl_3): δ 198.0, 171.9, 141.5, 138.2, 135.3, 134.2, 132.7 (CH \times 2), 130.7, 130.3, 128.2, 127.1, 51.9, 38.8, 21.4. HRMS(ESI) calcd. for $\text{C}_{17}\text{H}_{16}\text{NaO}_3^+$ ($\text{M}+\text{Na}$) $^+$ 291.0992, found 291.0990.

Spectral data for methyl 2-(2-benzoyl-5-(*tert*-butyl)phenyl)acetate (6j)



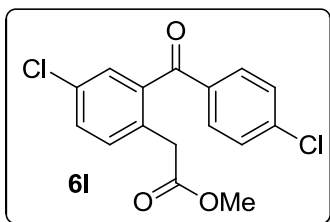
^1H NMR (600 MHz, CDCl_3): δ 7.79 (dd, $J = 8.4, 1.2$ Hz, 2H), 7.54~7.57 (m, 1H), 7.42~7.45 (m, 2H), 7.30~7.34 (m, 3H), 3.92 (s, 2H), 3.55 (s, 3H), 1.34 (s, 9H); ^{13}C NMR (150 MHz, CDCl_3): δ 198.0, 171.9, 154.4, 138.2, 135.3, 133.9, 132.6, 130.5, 130.3, 129.1, 128.2, 123.4, 51.8, 39.1, 34.9, 31.1. HRMS(ESI) calcd. for $\text{C}_{20}\text{H}_{23}\text{O}_3^+$ ($\text{M}+\text{H}$) $^+$ 311.1642, found 311.1644.

Spectral data for methyl 2-(4-chloro-2-(4-methylbenzoyl)phenyl)acetate (6k)



^1H NMR (500 MHz, CDCl_3): δ 7.69 (d, $J = 8.5$ Hz, 2H), 7.42 (dd, $J = 8.0, 2.0$ Hz, 1H), 7.34 (d, $J = 2.0$ Hz, 1H), 7.25~7.29 (m, 3H), 3.79 (s, 2H), 3.53 (s, 3H), 2.42 (s, 3H); ^{13}C NMR (125 MHz, CDCl_3): δ 196.2, 171.2, 144.4, 140.1, 134.3, 132.9, 132.6, 132.0, 130.5 (CH \times 2), 129.4, 129.2, 51.9, 37.9, 21.7. HRMS(ESI) calcd. for $\text{C}_{17}\text{H}_{16}\text{ClO}_3^+$ (M+H) $^+$ 303.0782, found 303.0784 .

Spectral data for methyl 2-(4-chloro-2-(4-chlorobenzoyl)phenyl)acetate (6l)



^1H NMR (500 MHz, CDCl_3): δ 7.74 (d, $J = 8.5$ Hz, 2H), 7.43~7.45 (m, 3H), 7.31 (d, $J = 2.0$ Hz, 1H), 7.28 (d, $J = 8.5$ Hz, 1H), 3.83 (s, 2H), 3.54 (s, 3H); ^{13}C NMR (125 MHz, CDCl_3): δ 195.3, 171.1, 139.9, 139.4, 135.3, 133.1, 132.7, 132.2, 131.6, 130.9, 129.4, 128.8, 52.0, 37.9. HRMS(ESI) calcd. for $\text{C}_{16}\text{H}_{13}\text{Cl}_2\text{O}_3^+$ (M+H) $^+$ 323.0236, found 323.0237.

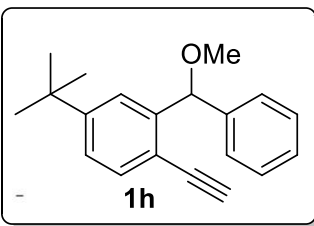
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 PROCNO 1

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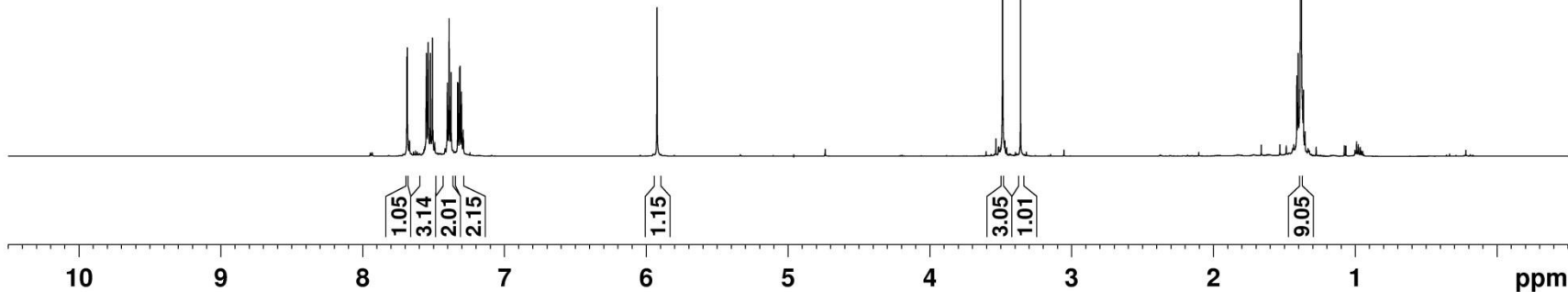
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5.924

3.486
 3.360

1.382



Current Data Parameters
NAME 2013-12-10
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PROCNO 1

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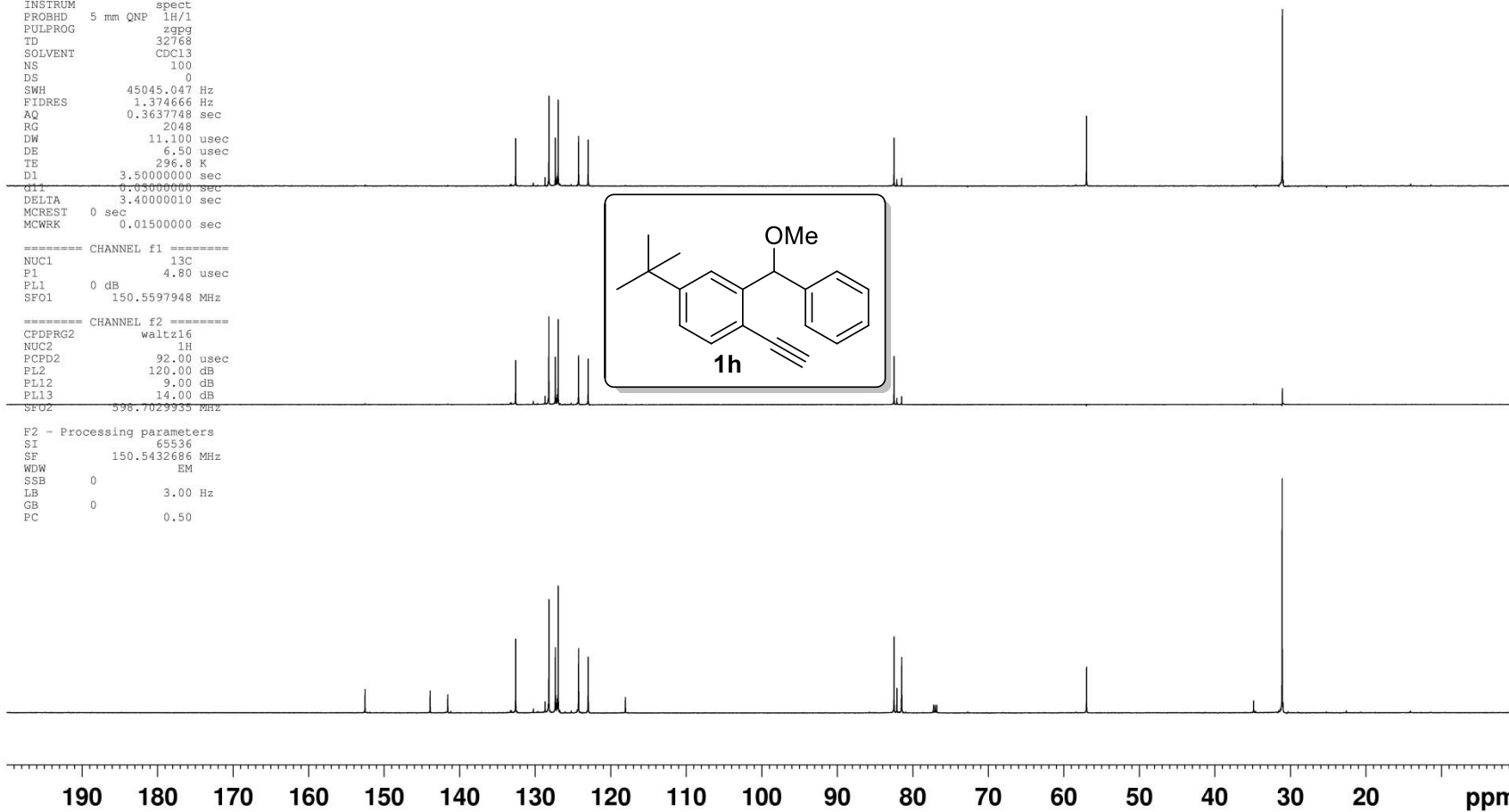
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===== CHANNEL f2 =====
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PL2 120.00 dB
PL12 9.00 dB
PL13 14.00 dB
SFO2 598.7029935 MHz

F2 - Processing parameters
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Current Data Parameters
NAME 2014-04-21
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PROCNO 1

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SFO1 598.7035922 MHz

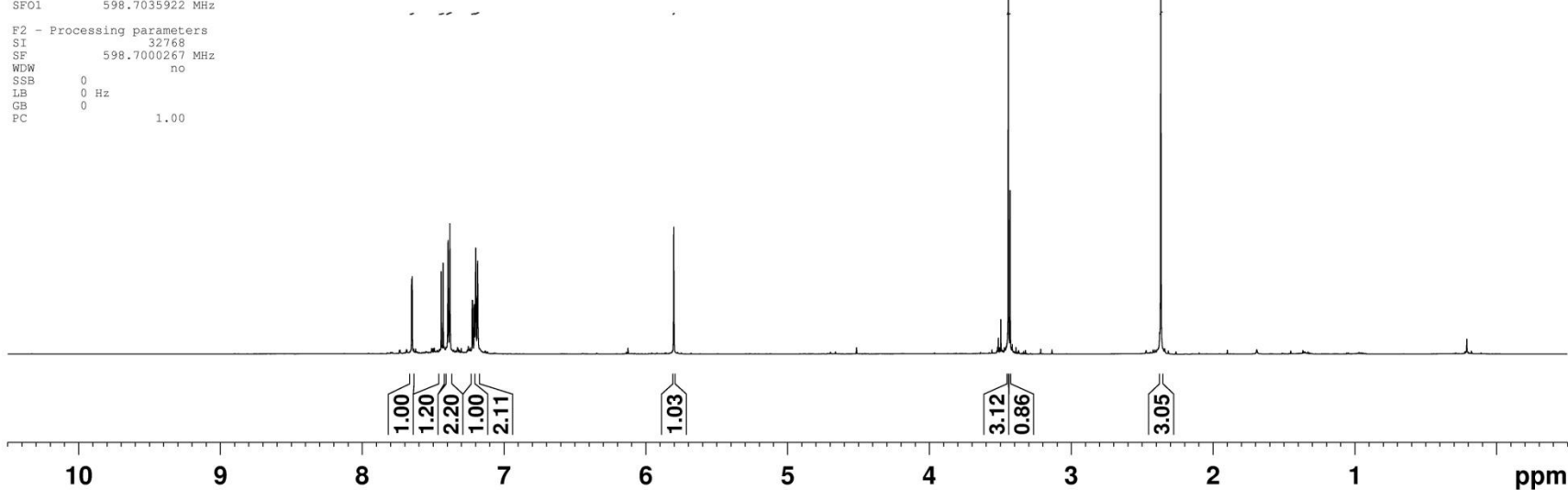
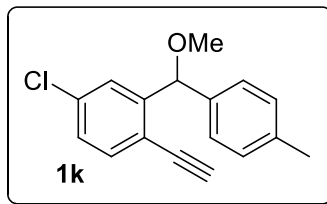
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Current Data Parameters
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EXPNO 2
PROCNO 1

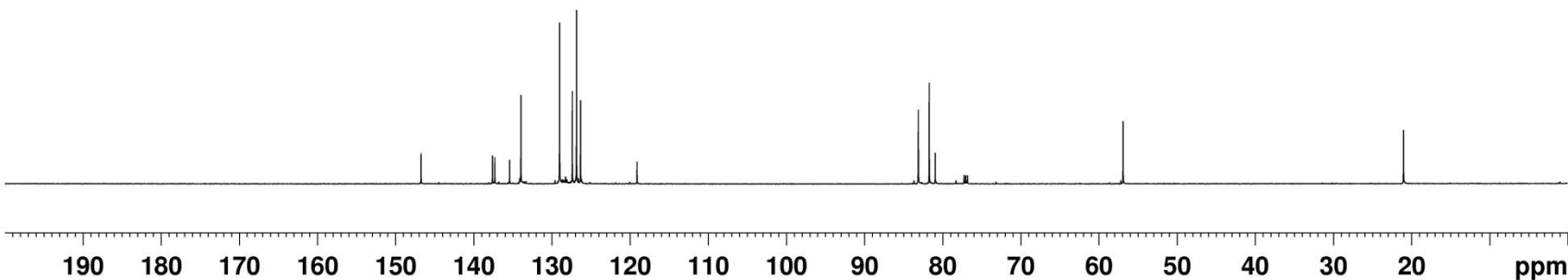
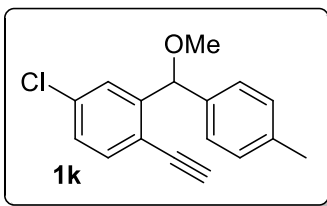
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TE 298.0 K
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===== CHANNEL f2 =====
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21.01

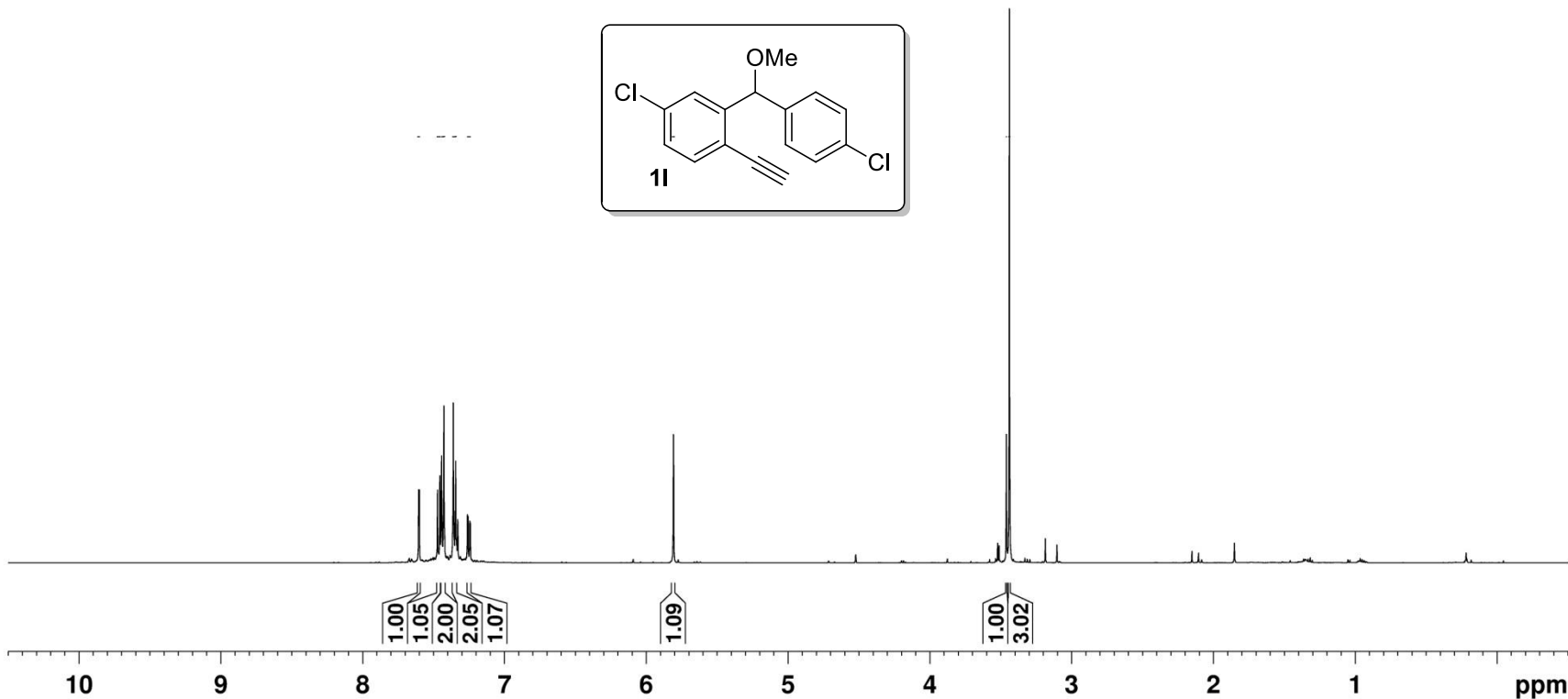
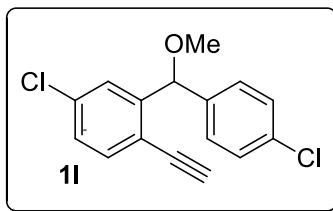


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PROCNO 1
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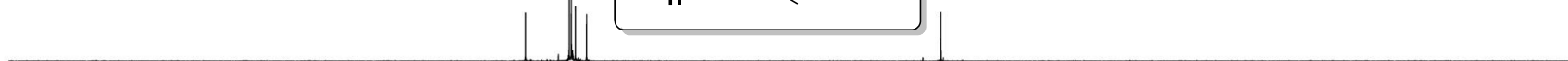
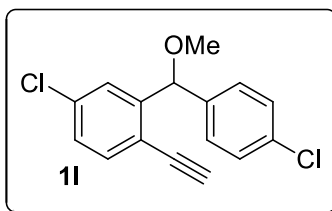
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PROCNO 1

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76.74

56.94



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Current Data Parameters
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EXPNO     1
PROCNO    1

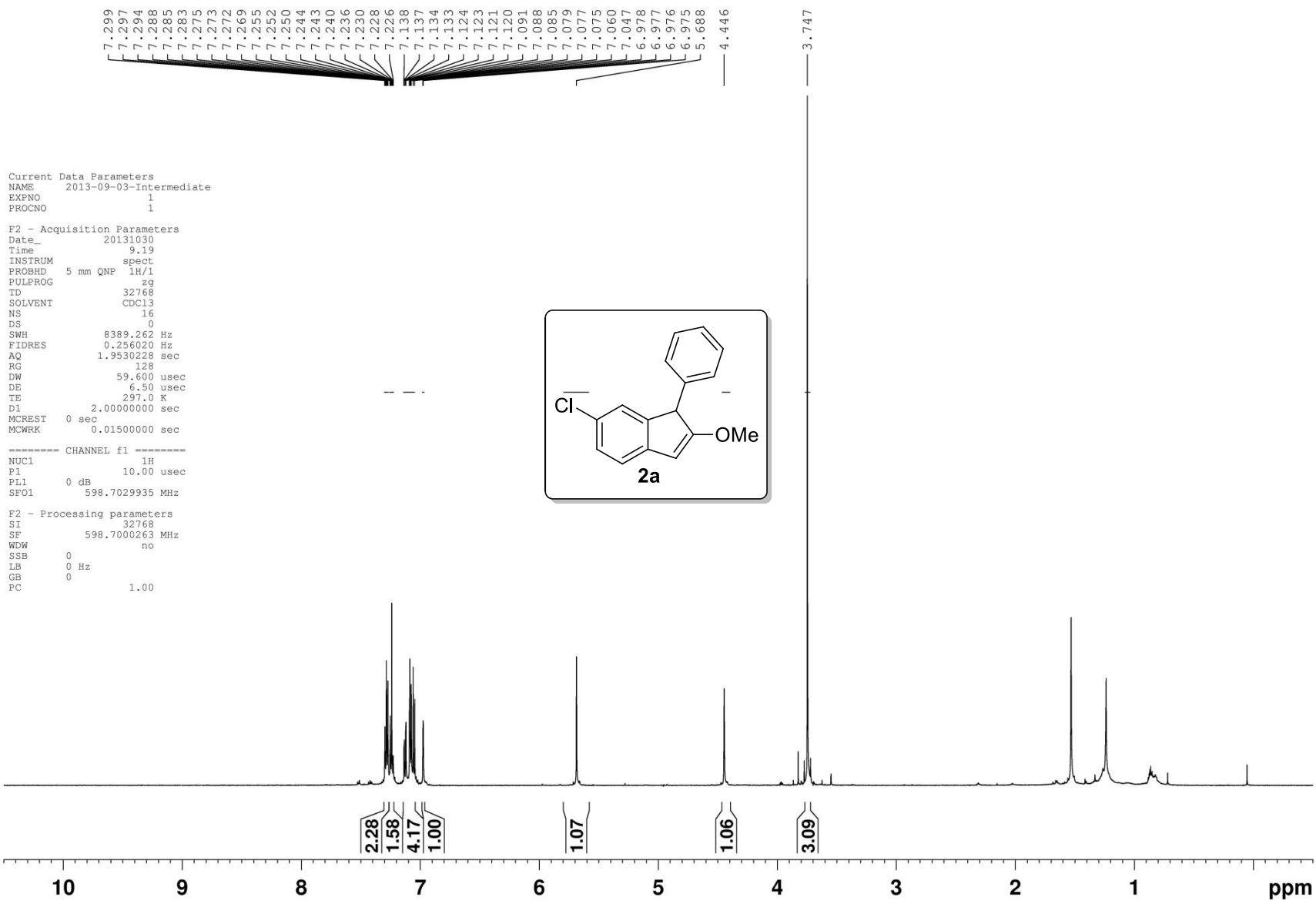
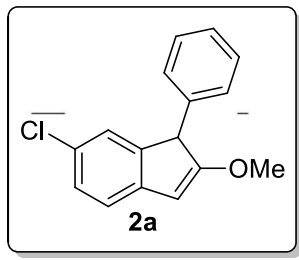
F2 - Acquisition Parameters
Date_     20131030
Time      9.19
INSTRUM   spect
PROBHD    5 mm QNP 1H/1
PULPROG   zg
TD         32768
SOLVENT   CDCl3
NS         16
DS         0
SWH       8389.262 Hz
FIDRES    0.256020 Hz
AQ         1.9530228 sec
RG         128
DW         59.600 usec
DE         6.50 usec
TE         297.0 K
D1         2.0000000 sec
MCREST    0 sec
MCWRK     0.0150000 sec

----- CHANNEL f1 -----
NUC1      1H
P1        10.00 usec
PL1       0 dB
SFO1     598.7029935 MHz

F2 - Processing parameters
SI         32768
SF         598.7000263 MHz
WDW        no
SSB        0
LB         0 Hz
GB         0
PC         1.00

```

7.299
7.297
7.294
7.288
7.285
7.283
7.275
7.272
7.269
7.255
7.252
7.250
7.244
7.243
7.240
7.236
7.230
7.228
7.226
7.138
7.137
7.134
7.133
7.124
7.123
7.121
7.120
7.091
7.088
7.085
7.079
7.077
7.075
7.060
7.047
6.978
6.977
6.976
6.975
5.688
4.446



170.06

143.39

142.27

137.74

128.81

128.49

128.12

127.31

127.16

123.97

119.82

98.39

77.21

77.00

76.79

57.66

54.74

Current Data Parameters
NAME 2013-09-03-Intermediate
EXPNO 2
PROCNO 1

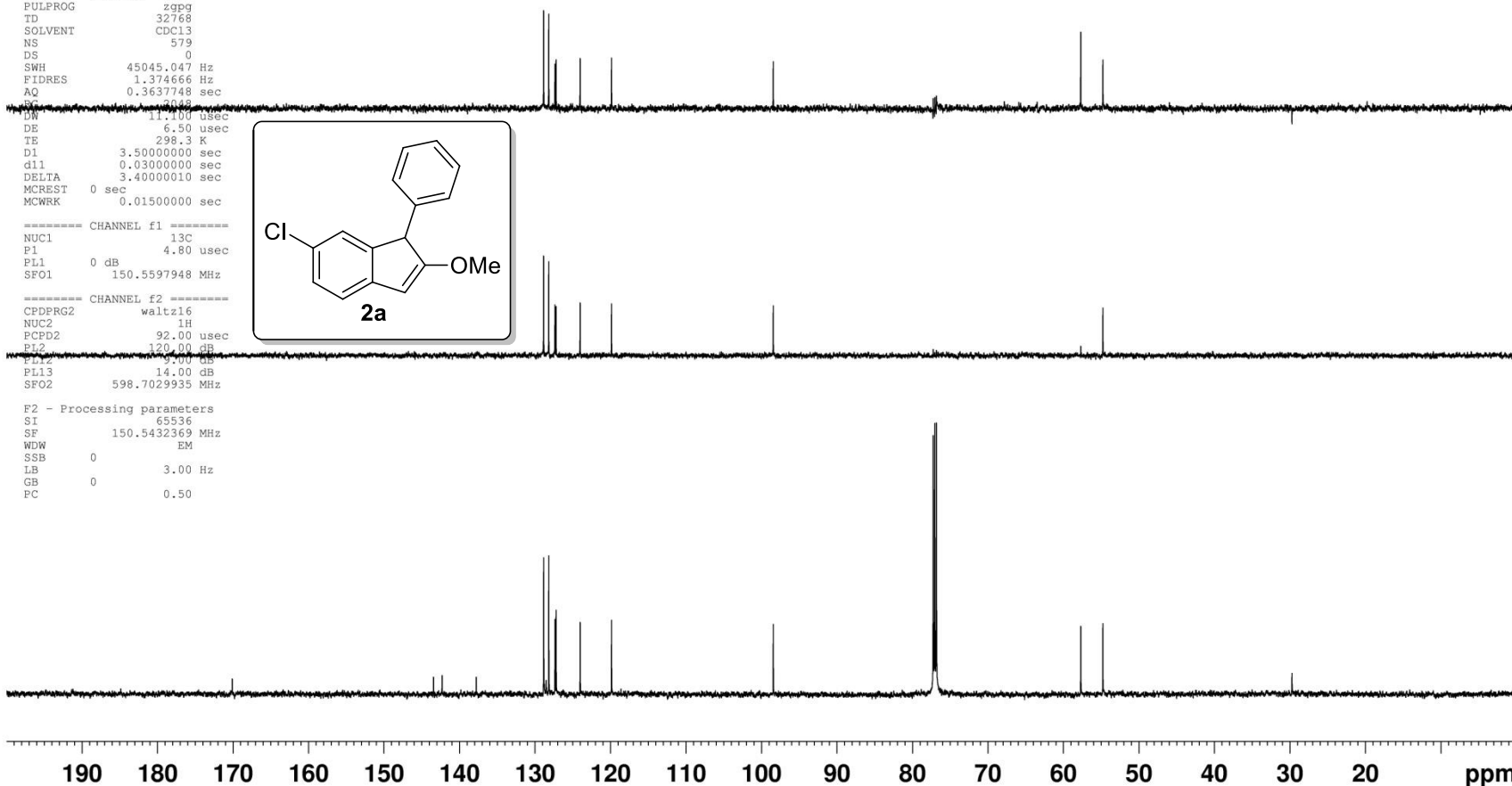
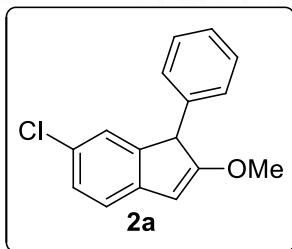
F2 - Acquisition Parameters
Date_ 20131030
Time 9.45
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg
TD 32768
SOLVENT CDCl3
NS 579
DS 0
SWH 45045.047 Hz
FIDRES 1.374666 Hz
AQ 0.3637748 sec

DW 11.100 usec
DE 6.50 usec
TE 298.3 K
D1 3.50000000 sec
d11 0.03000000 sec
DELTA 3.40000010 sec
MCREST 0 sec
MCWRK 0.01500000 sec

===== CHANNEL f1 =====
NUC1 13C
P1 4.80 usec
PL1 0 dB
SFO1 150.5597948 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 92.00 usec
PL2 120.00 dB
PL12 19.00 dB
PL13 14.00 dB
SFO2 598.7029935 MHz

F2 - Processing parameters
SI 65536
SF 150.5432369 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 0.50



Current Data Parameters
 NAME 2013-11-25-P
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131126
 Time 6.29
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zg
 TD 41106
 SOLVENT CDCl3
 NS 16
 DS 0
 SWH 7183.908 Hz
 FIDRES 0.174765 Hz
 AQ 2.8610277 sec
 RG 128
 DW 69.600 usec
 DE 6.50 usec
 TE 295.9 K
 D1 2.0000000 sec
 MCRCST 0 sec
 MCWRK 0.0150000 sec

===== CHANNEL f1 =====
 NUC1 1H
 P1 8.90 usec
 PL1 3.00 dB
 SFO1 598.7029935 MHz

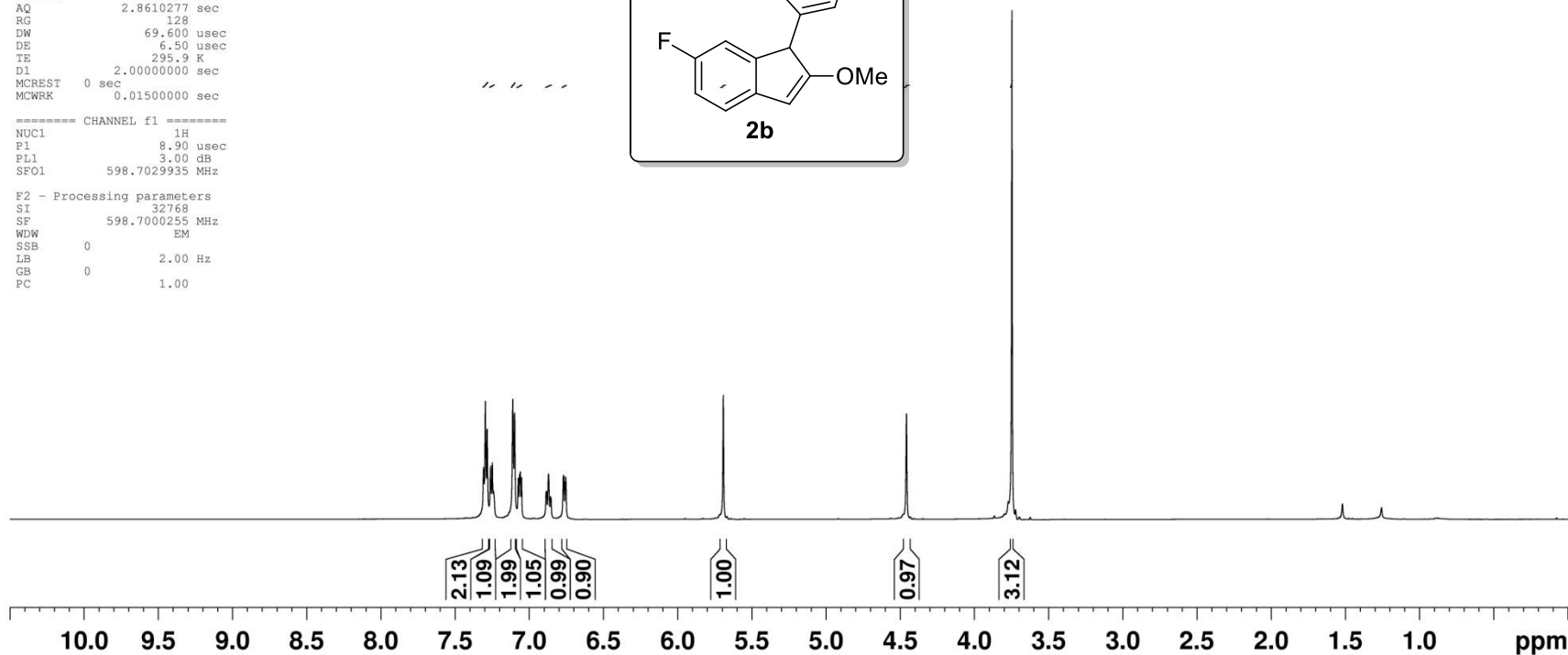
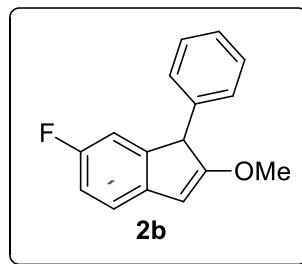
F2 - Processing parameters
 SI 32768
 SF 598.7000255 MHz
 WDW EM
 SSB 0
 LB 2.00 Hz
 GB 0
 PC 1.00

7.308
 7.296
 7.284
 7.261
 7.249
 7.241
 7.111
 7.109
 7.074
 7.066
 7.061
 7.053
 6.887
 6.883
 6.870
 6.857
 6.854
 6.770
 6.756

5.692

4.458

3.747



— 169.36
 — 160.98
 — 159.38
 — 143.55
 — 143.50
 — 139.42
 — 138.00
 — 128.77
 — 128.10
 — 127.25
 — 119.36
 — 119.30
 — 113.58
 — 113.44
 — 111.62
 — 111.46
 — 98.20
 — 77.21
 — 77.00
 — 76.79
 — 57.55
 — 54.88

Current Data Parameters
 NAME 2013-11-25-P
 EXPNO 2
 PROCNO 1

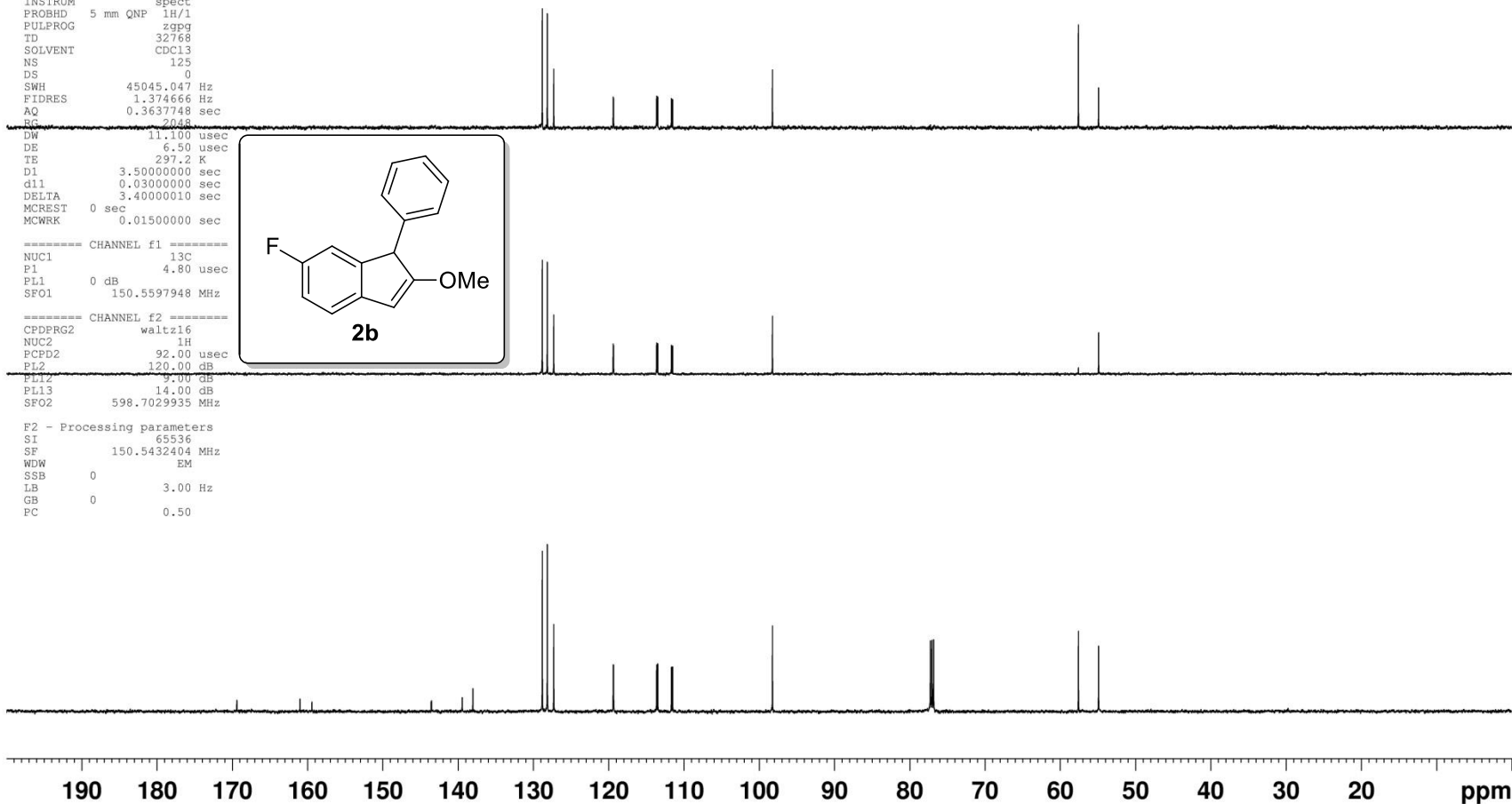
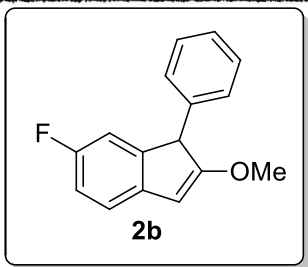
F2 - Acquisition Parameters
 Date_ 20131126
 Time 6.34
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zgpg
 TD 32768
 SOLVENT CDCl3
 NS 125
 DS 0
 SWH 45045.047 Hz
 FIDRES 1.374666 Hz
 AQ 0.3637748 sec
 RG 72048

DW 11.100 usec
 DE 6.50 usec
 TE 297.2 K
 D1 3.50000000 sec
 d11 0.03000000 sec
 DELTA 3.40000010 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

===== CHANNEL f1 =====
 NUC1 13C
 P1 4.80 usec
 PL1 0 dB
 SFO1 150.5597948 MHz

===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 92.00 usec
 PL2 120.00 dB
 PL12 9.00 dB
 PL13 14.00 dB
 SFO2 598.7029935 MHz

F2 - Processing parameters
 SI 65536
 SF 150.5432404 MHz
 WDW EM
 SSB 0
 LB 3.00 Hz
 GB 0
 PC 0.50



```

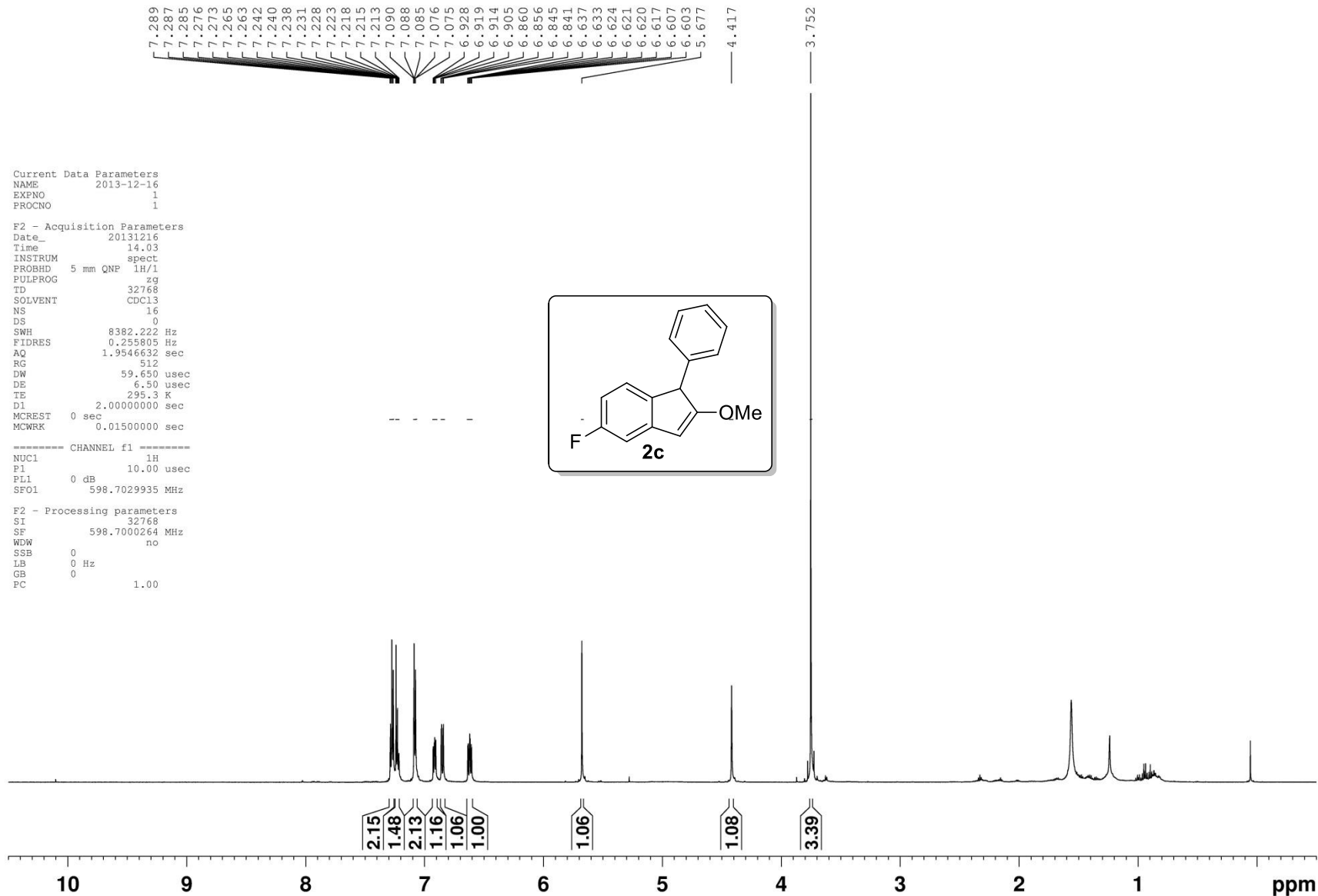
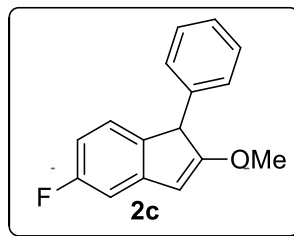
Current Data Parameters
NAME      2013-12-16
EXPNO    1
PROCNO   1

F2 - Acquisition Parameters
Date_    20131216
Time     14.03
INSTRUM  spect
PROBHD   5 mm QNP 1H/1
PULPROG  zg
TD        32768
SOLVENT  CDCl3
NS        16
DS        0
SWH      8382.222 Hz
FIDRES   0.255805 Hz
AQ        1.9546632 sec
RG        512
DW        59.650 usec
DE        6.50 usec
TE        295.3 K
D1        2.0000000 sec
MCREST    0 sec
MCWRK    0.01500000 sec

----- CHANNEL f1 -----
NUC1      1H
P1        10.00 usec
PL1       0 dB
SFO1     598.7029935 MHz

F2 - Processing parameters
SI        32768
SF        598.7000264 MHz
WDW       no
SSB       0
LB        0 Hz
GB        0
PC        1.00

```



Current Data Parameters
NAME 2013-12-16
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131216
Time 14.05
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg
TD 32768
SOLVENT CDC13
NS 5120
DS 0
SWH 45045.047 Hz
FIDRES 1.374666 Hz
AQ 0.3637748 sec
RG 2048

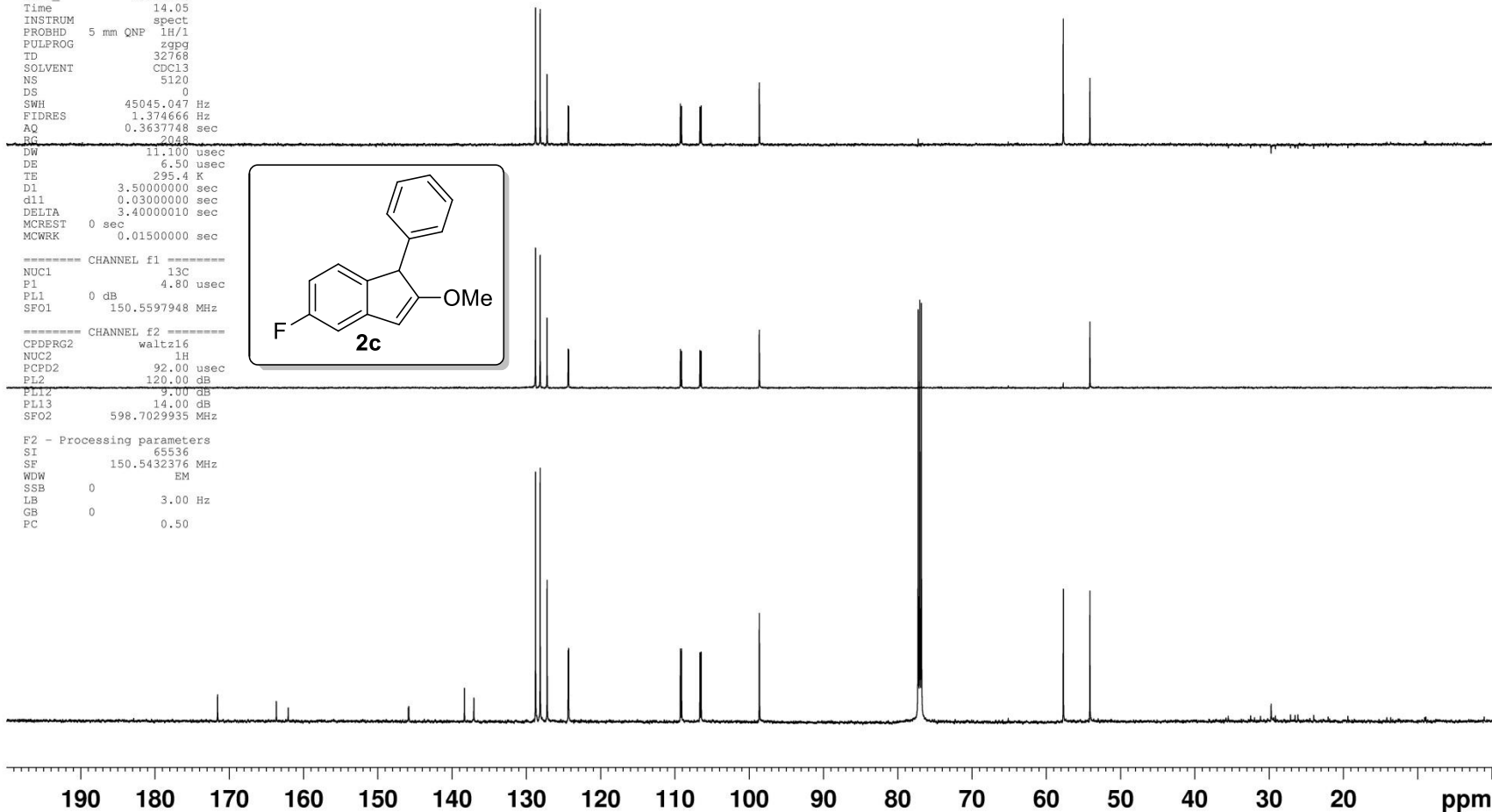
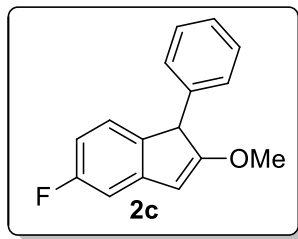
DW 11.100 usec
DE 6.50 usec
TE 295.4 K
D1 3.50000000 sec
d11 0.03000000 sec
DELTA 3.40000010 sec
MCREST 0 sec
MCWRK 0.01500000 sec

===== CHANNEL f1 =====
NUC1 13C
P1 4.80 usec
PL1 0 dB
SFO1 150.5597948 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 92.00 usec
PL2 120.00 dB
PL12 9.00 dB
PL13 14.00 dB
SFO2 598.7029935 MHz

F2 - Processing parameters
SI 65536
SF 150.5432376 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 0.50

171.53
163.62
162.01
145.84
145.78
138.29
137.03
128.72
128.10
127.16
124.33
124.27
109.21
109.06
106.58
106.43
98.58
77.21
77.00
76.79
57.67
54.09



```

Current Data Parameters
NAME      2013-12-20
EXPNO    1
PROCNO   1

F2 - Acquisition Parameters
Date_    20131219
Time     8.21
INSTRUM  spect
PROBHD   5 mm QNP 1H/1
PULPROG  zg
TD        32768
SOLVENT  CDCl3
NS        16
DS        0
SWH      8382.222 Hz
FIDRES   0.255805 Hz
AQ        1.9546632 sec
RG        512
DW        59.650 usec
DE        6.50 usec
TE        292.8 K
D1        2.0000000 sec
MCREST    0 sec
MCWRK    0.0150000 sec

===== CHANNEL f1 =====
NUC1      1H
P1        10.00 usec
PL1       0 dB
SFO1     598.7029935 MHz

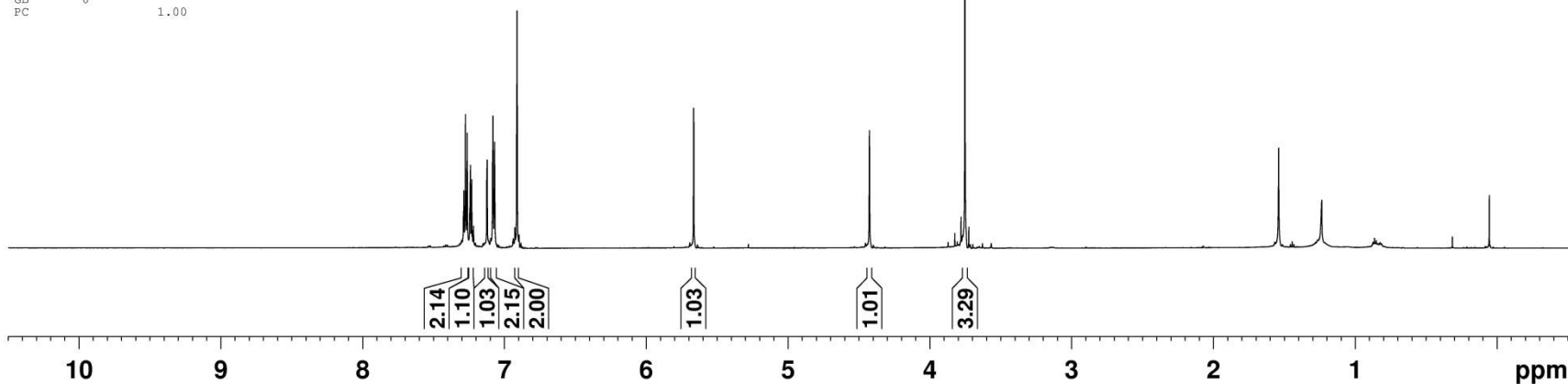
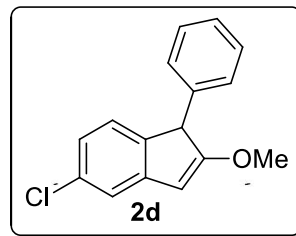
F2 - Processing parameters
SI        32768
SF        598.7000264 MHz
WDW       no
SSB       0
LB        0 Hz
GB        0
PC        1.00

```

7.289
7.287
7.284
7.275
7.272
7.265
7.263
7.245
7.243
7.240
7.239
7.237
7.236
7.234
7.231
7.226
7.221
7.218
7.216
7.124
7.123
7.122
7.121
7.084
7.081
7.078
7.069
6.913
6.911
5.666

4.426

3.752



— 171.17

— 145.65

— 139.93

— 137.95

— 132.94

— 128.75

— 128.10

— 127.23

— 124.43

— 122.77

— 119.24

— 98.32

— 77.21

— 77.00

— 76.78

— 57.71

— 54.28

Current Data Parameters
NAME 2013-12-20
EXPNO 2
PROCNO 1

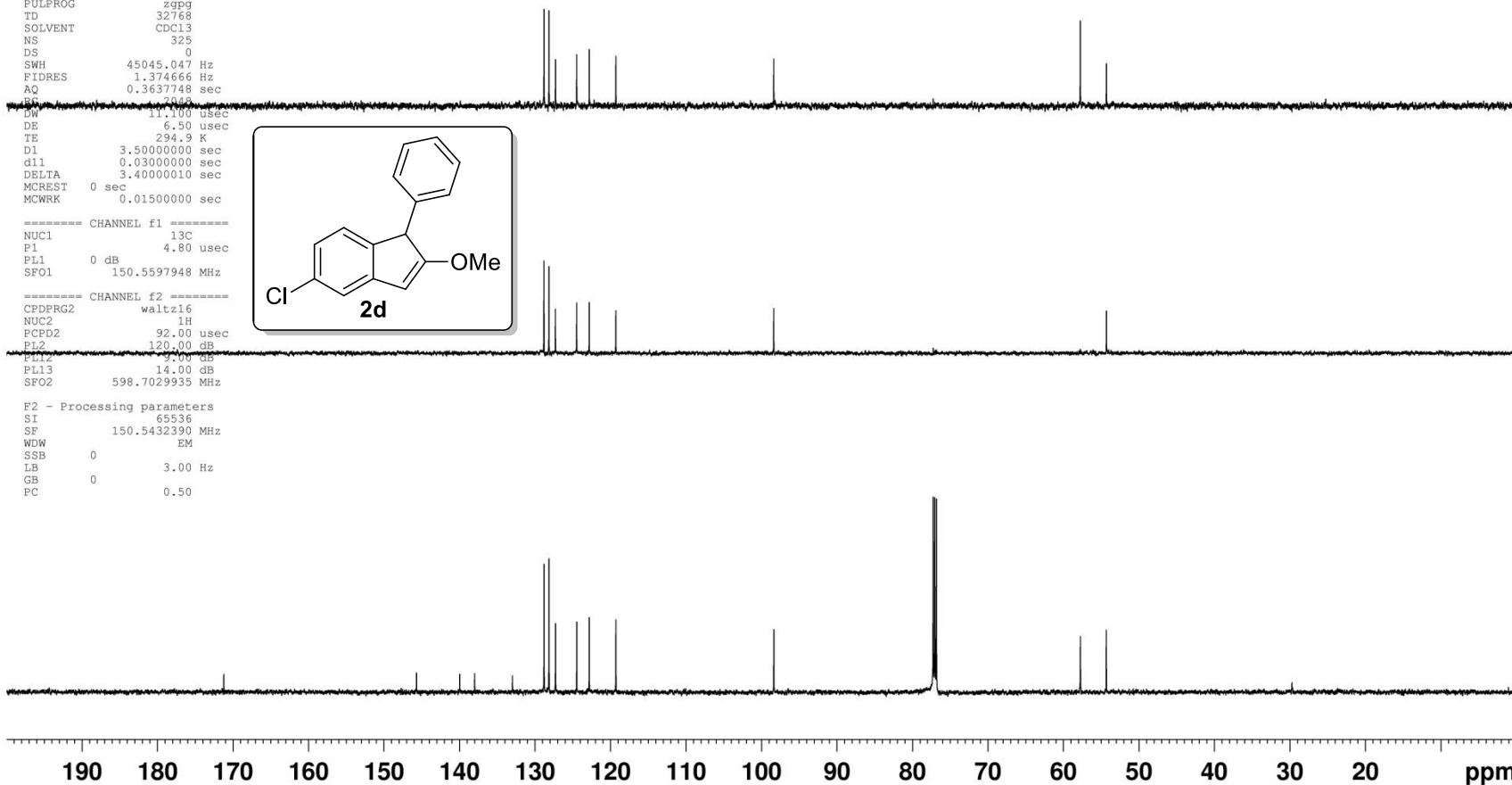
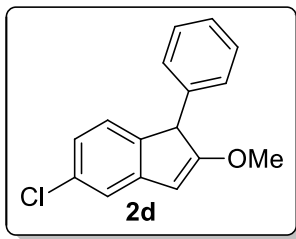
F2 - Acquisition Parameters
Date_ 20131219
Time 8.28
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg
TD 32768
SOLVENT CDCl3
NS 325
DS 0
SWH 45045.047 Hz
FIDRES 1.374666 Hz
AQ 0.3637748 sec

DE 11.100 usec
TE 294.9 K
D1 3.50000000 sec
d11 0.03000000 sec
DELTA 3.40000010 sec
MCREST 0 sec
MCWRK 0.01500000 sec

===== CHANNEL f1 =====
NUC1 13C
P1 4.80 usec
PL1 0 dB
SFO1 150.5597948 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 92.00 usec
PL2 120.00 dB
PL12 9.00 dB
PL13 14.00 dB
SFO2 598.7029935 MHz

F2 - Processing parameters
SI 65536
SF 150.5432390 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 0.50



Current Data Parameters
 NAME 2013-12-24
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131223
 Time 13.48
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zg
 TD 32768
 SOLVENT CDCl3
 NS 16
 DS 0
 SWH 8382.222 Hz
 FIDRES 0.255805 Hz
 AQ 1.9546632 sec
 RG 128
 DW 59.650 usec
 DE 6.50 usec
 TE 290.1 K
 D1 2.0000000 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

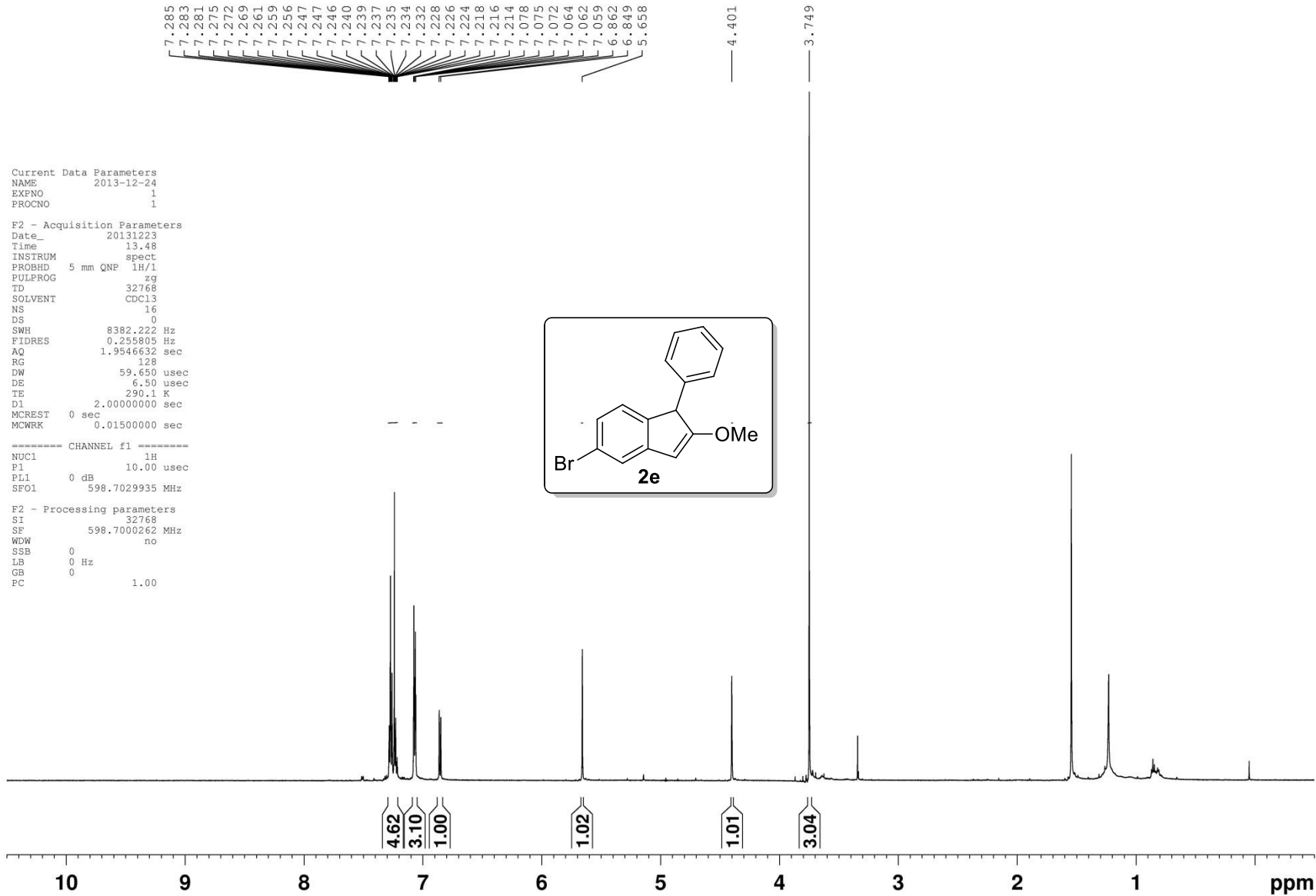
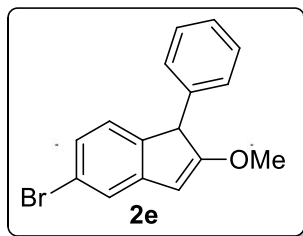
----- CHANNEL f1 -----
 NUC1 1H
 P1 10.00 usec
 PL1 0 dB
 SFO1 598.7029935 MHz

F2 - Processing parameters
 SI 32768
 SF 598.7000262 MHz
 WDW no
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00

7.285
7.283
7.281
7.275
7.272
7.269
7.261
7.259
7.256
7.247
7.246
7.240
7.239
7.237
7.235
7.234
7.232
7.228
7.226
7.224
7.218
7.216
7.214
7.078
7.075
7.072
7.064
7.062
7.059
6.862
6.849
5.658

4.401

3.749



Current Data Parameters
NAME 2013-12-24
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131223
Time 13.49
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg
TD 32768
SOLVENT CDC13
NS 5120
DS 0
SWH 45045.047 Hz
FIDRES 1.374666 Hz
AQ 0.3637748 sec
RG 2048
DW 11.100 usec
DE 6.50 usec
TE 291.0 K
D1 3.50000000 sec
d11 0.03000000 sec
DELTA 3.40000010 sec
MCREST 0 sec
MCWRK 0.01500000 sec

===== CHANNEL f1 =====
NUC1 13C
P1 4.80 usec
PL1 0 dB
SFO1 150.5597948 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 92.00 usec
PL2 120.00 dB
PL12 9.00 dB
PL13 14.00 dB
SFO2 598.7029935 MHz

F2 - Processing parameters
SI 65536
SF 150.5432376 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 0.50

171.06

146.03

140.45

137.83

128.76

128.11

127.26

125.67

124.89

122.10

121.10

98.21

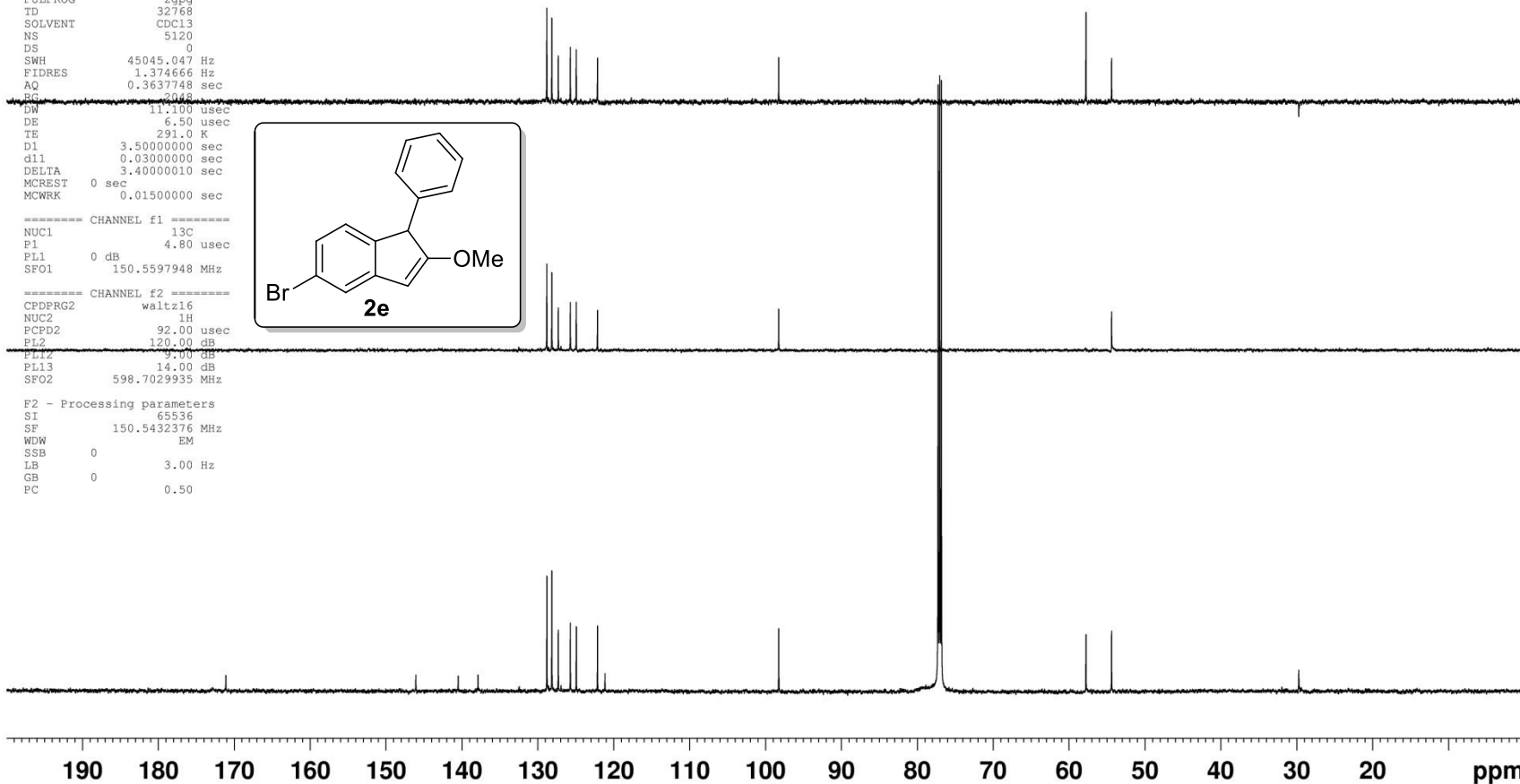
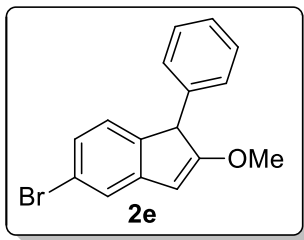
77.21

77.00

76.79

57.73

54.35



Current Data Parameters
 NAME 2013-12-01
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131202
 Time 13.50
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zg
 TD 32768
 SOLVENT CDCl3
 NS 16
 DS 0
 SWH 8389.262 Hz
 FIDRES 0.256020 Hz
 AQ 1.9530228 sec
 RG 256
 DW 59.600 usec
 DE 6.50 usec
 TE 296.5 K
 D1 2.0000000 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

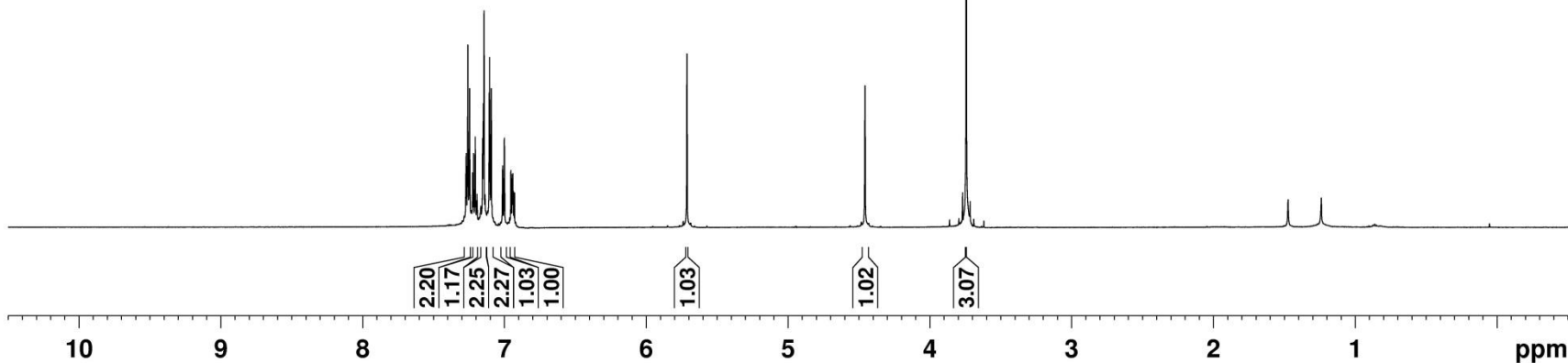
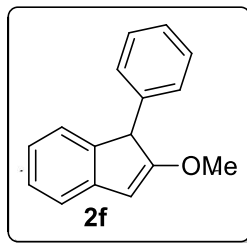
----- CHANNEL f1 -----
 NUC1 1H
 P1 10.00 usec
 PL1 0 dB
 SFO1 598.7029935 MHz

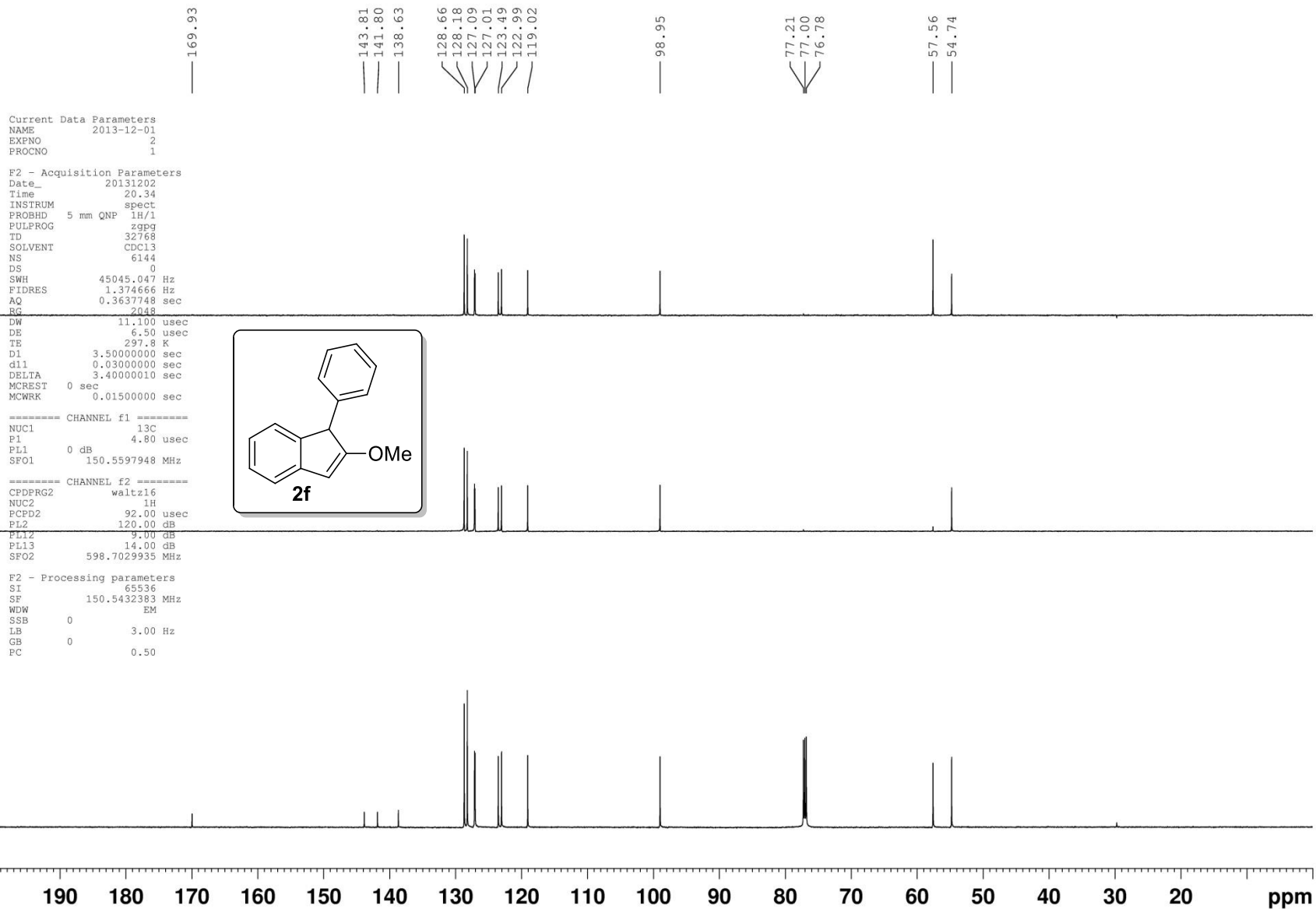
F2 - Processing parameters
 SI 32768
 SF 598.7000350 MHz
 WDW no
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00

7.272
7.270
7.258
7.256
7.248
7.246
7.224
7.220
7.218
7.216
7.209
7.206
7.202
7.195
7.193
7.154
7.153
7.149
7.145
7.107
7.105
7.102
7.093
7.013
7.001
6.955
6.950
6.945
6.943
6.941
6.938
6.933
6.928
5.713

4.457

3.742





```

Current Data Parameters
NAME      2013-12-01
EXPNO    2
PROCNO   1

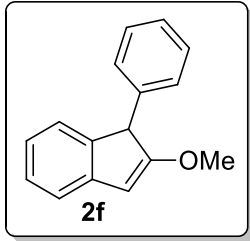
F2 - Acquisition Parameters
Date_    20131202
Time     20.34
INSTRUM  spect
PROBHD   5 mm QNP 1H/1
PULPROG  zgpg
TD       32768
SOLVENT  CDCl3
NS       6144
DS       0
SWH      45045.047 Hz
FIDRES   1.374666 Hz
AQ       0.3637748 sec
RG       2048
DW       11.100 usec
DE       6.50 usec
TE       297.8 K
D1       3.5000000 sec
d11      0.03000000 sec
DELTA    3.40000010 sec
MCREST   0 sec
MCWRK    0.01500000 sec

===== CHANNEL f1 =====
NUC1      13C
P1        4.80 usec
PL1       0 dB
SFO1      150.5597948 MHz

===== CHANNEL f2 =====
CPDPRG2   waltz16
NUC2      1H
PCPD2     92.00 usec
PL2       120.00 dB
PL12      9.00 dB
PL13      14.00 dB
SFO2      598.7029935 MHz

F2 - Processing parameters
SI        65536
SF        150.5432383 MHz
WDW       EM
SSB       0
LB        3.00 Hz
GB        0
FC        0.50

```



190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 ppm

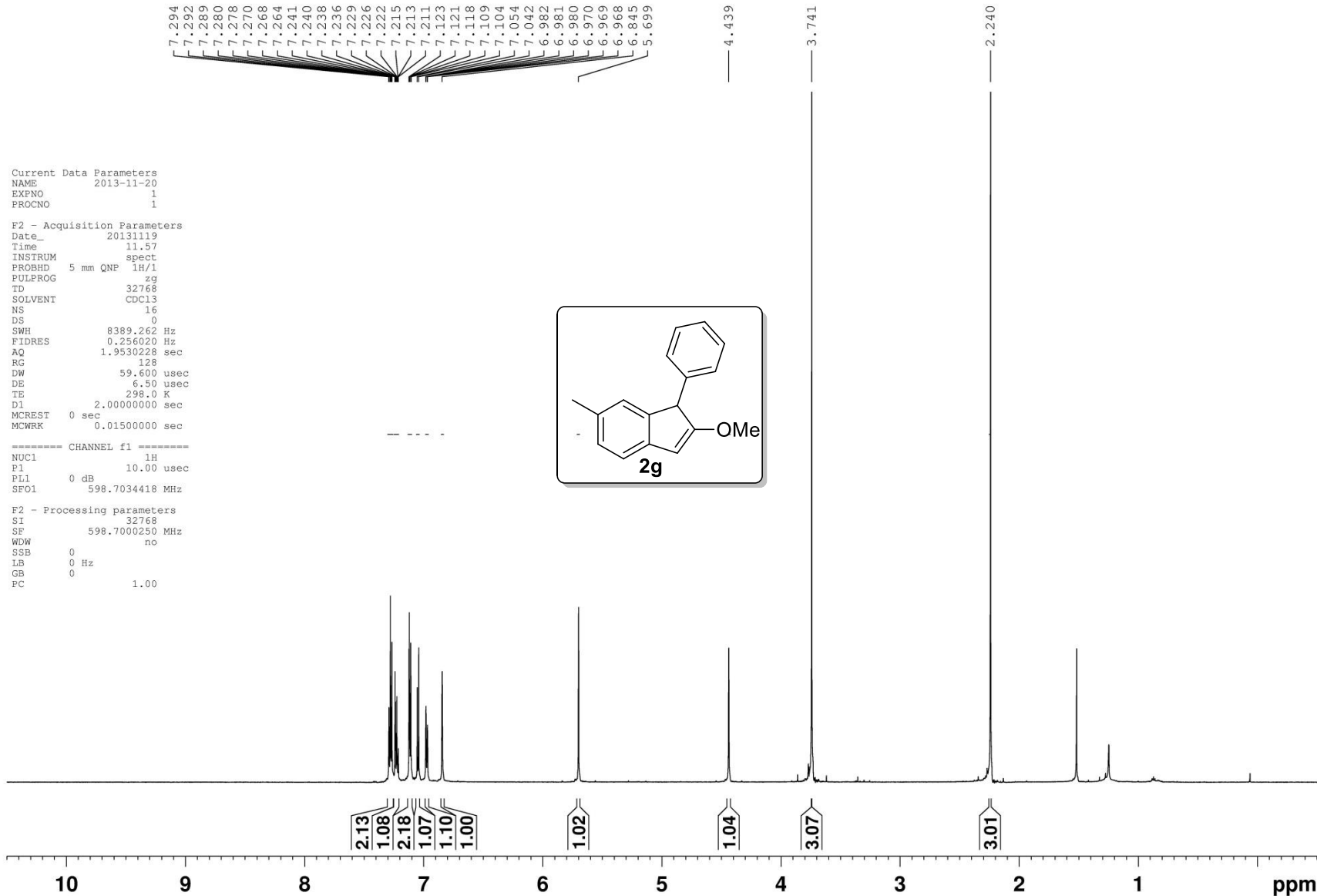
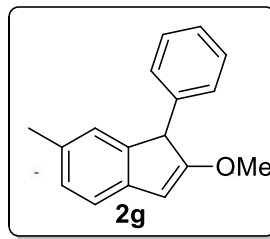
Current Data Parameters
 NAME 2013-11-20
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131119
 Time 11.57
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zg
 TD 32768
 SOLVENT CDCl3
 NS 16
 DS 0
 SWH 8389.262 Hz
 FIDRES 0.256020 Hz
 AQ 1.9530228 sec
 RG 128
 DW 59.600 usec
 DE 6.50 usec
 TE 298.0 K
 D1 2.0000000 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 10.00 usec
 PL1 0 dB
 SFO1 598.7034418 MHz

F2 - Processing parameters
 SI 32768
 SF 598.7000250 MHz
 WDW no
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00

7.294
 7.292
 7.289
 7.280
 7.278
 7.270
 7.268
 7.264
 7.241
 7.240
 7.238
 7.236
 7.229
 7.226
 7.222
 7.215
 7.213
 7.211
 7.123
 7.121
 7.118
 7.109
 7.104
 7.054
 7.042
 6.982
 6.981
 6.980
 6.970
 6.969
 6.968
 6.845
 5.699



Current Data Parameters
NAME 2013-11-20
EXPNO 2
PROCNO 1

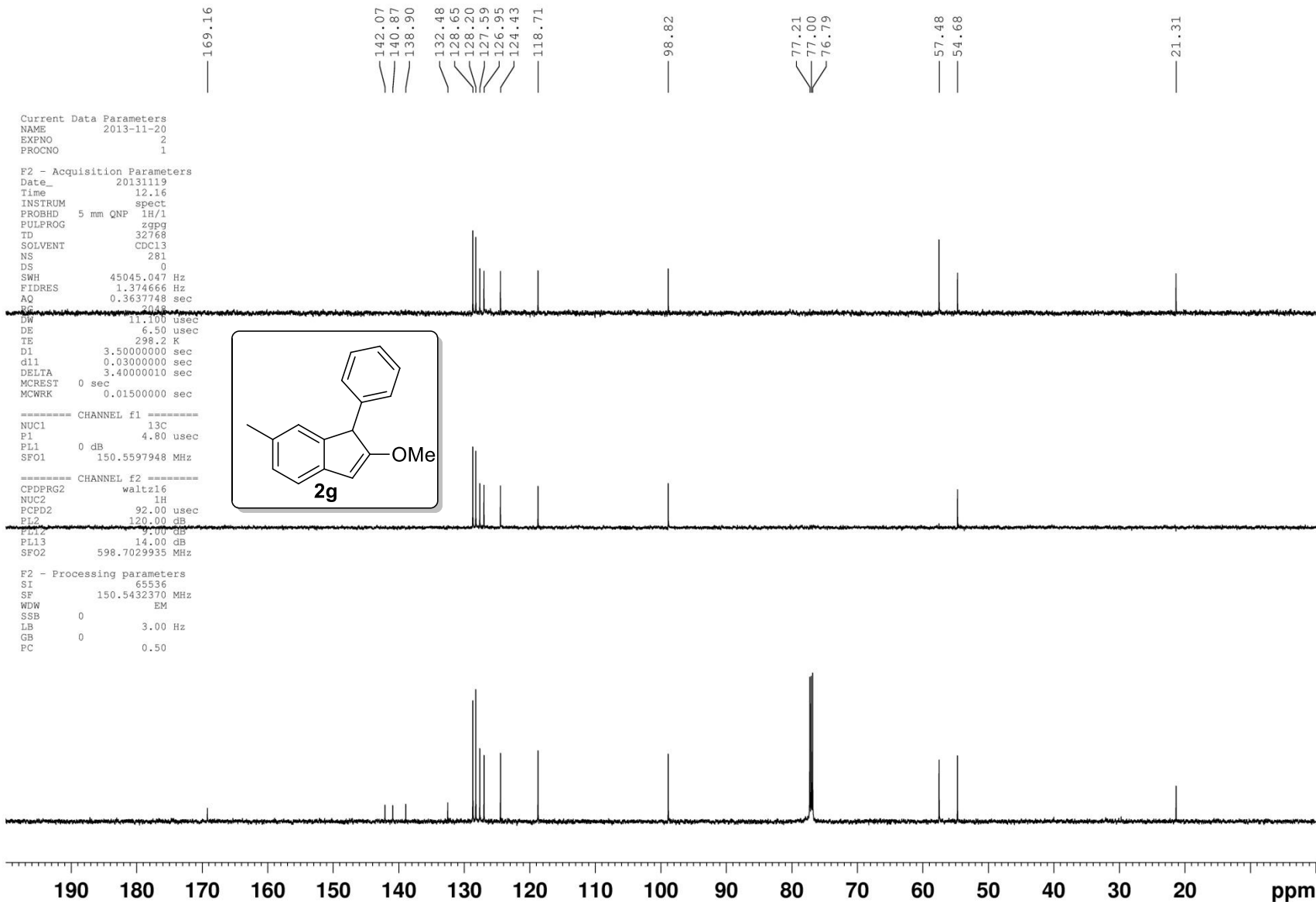
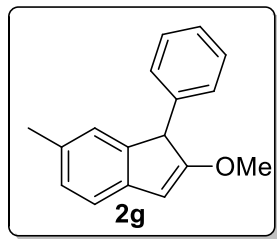
F2 - Acquisition Parameters
Date_ 20131119
Time 12.16
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg
TD 32768
SOLVENT CDCl3
NS 281
DS 0
SWH 45045.047 Hz
FIDRES 1.374666 Hz
AQ 0.3637748 sec

DE 11.100 usec
TE 298.2 K
D1 3.50000000 sec
d11 0.03000000 sec
DELTA 3.40000010 sec
MCREST 0 sec
MCWRK 0.01500000 sec

===== CHANNEL f1 =====
NUC1 13C
P1 4.80 usec
PL1 0 dB
SFO1 150.5597948 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 92.00 usec
PL2 120.00 dB
PL12 9.00 dB
PL13 14.00 dB
SFO2 598.7029935 MHz

F2 - Processing parameters
SI 65536
SF 150.5432370 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 0.50



```

Current Data Parameters
NAME      2013-12-11
EXPNO    1
PROCNO   1

F2 - Acquisition Parameters
Date_    20131211
Time     12.08
INSTRUM  spect
PROBHD   5 mm QNP 1H/1
PULPROG  zg
TD        32768
SOLVENT  CDCl3
NS        16
DS         0
SWH      8382.222 Hz
FIDRES   0.255805 Hz
AQ       1.9546632 sec
RG        512
DW       59.650 usec
DE       6.50 usec
TE       295.7 K
D1       2.0000000 sec
MCREST   0 sec
MCWRK    0.0150000 sec

----- CHANNEL f1 -----
NUC1      1H
P1        10.00 usec
PL1       0 dB
SFO1     598.7029935 MHz

F2 - Processing parameters
SI        32768
SF       598.7000257 MHz
WDW       no
SSB       0
LB        0 Hz
GB        0
PC        1.00

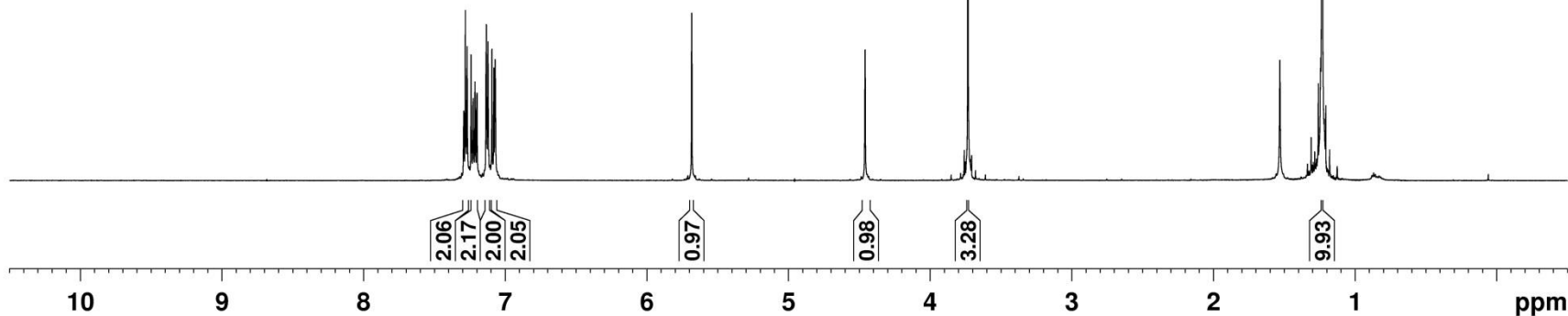
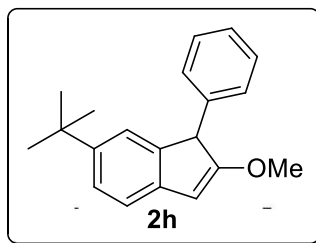
```

7.294
7.292
7.289
7.280
7.278
7.268
7.241
7.238
7.236
7.229
7.226
7.222
7.214
7.213
7.211
7.201
7.200
7.198
7.197
7.134
7.132
7.121
7.119
7.093
7.080
7.079
7.071
7.069
5.682

4.458

3.732

1.231



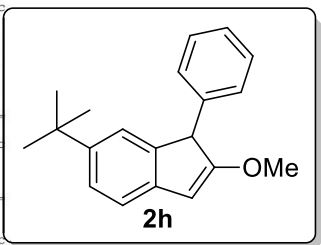
— 169.50
 — 146.11
 — 141.54
 — 141.08
 — 138.93
 — 128.59
 — 128.32
 — 126.89
 — 123.80
 — 120.78
 — 118.38
 — 98.47
 — 77.21
 — 77.00
 — 76.79
 — 57.49
 — 54.85
 — 34.53
 — 31.58

Current Data Parameters
 NAME 2013-12-11
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131211
 Time 12.25
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zgpg
 TD 32768
 SOLVENT CDCl3
 NS 300
 DS 0
 SWH 45045.047 Hz
 FIDRES 1.374666 Hz
 AQ 0.3637748 sec

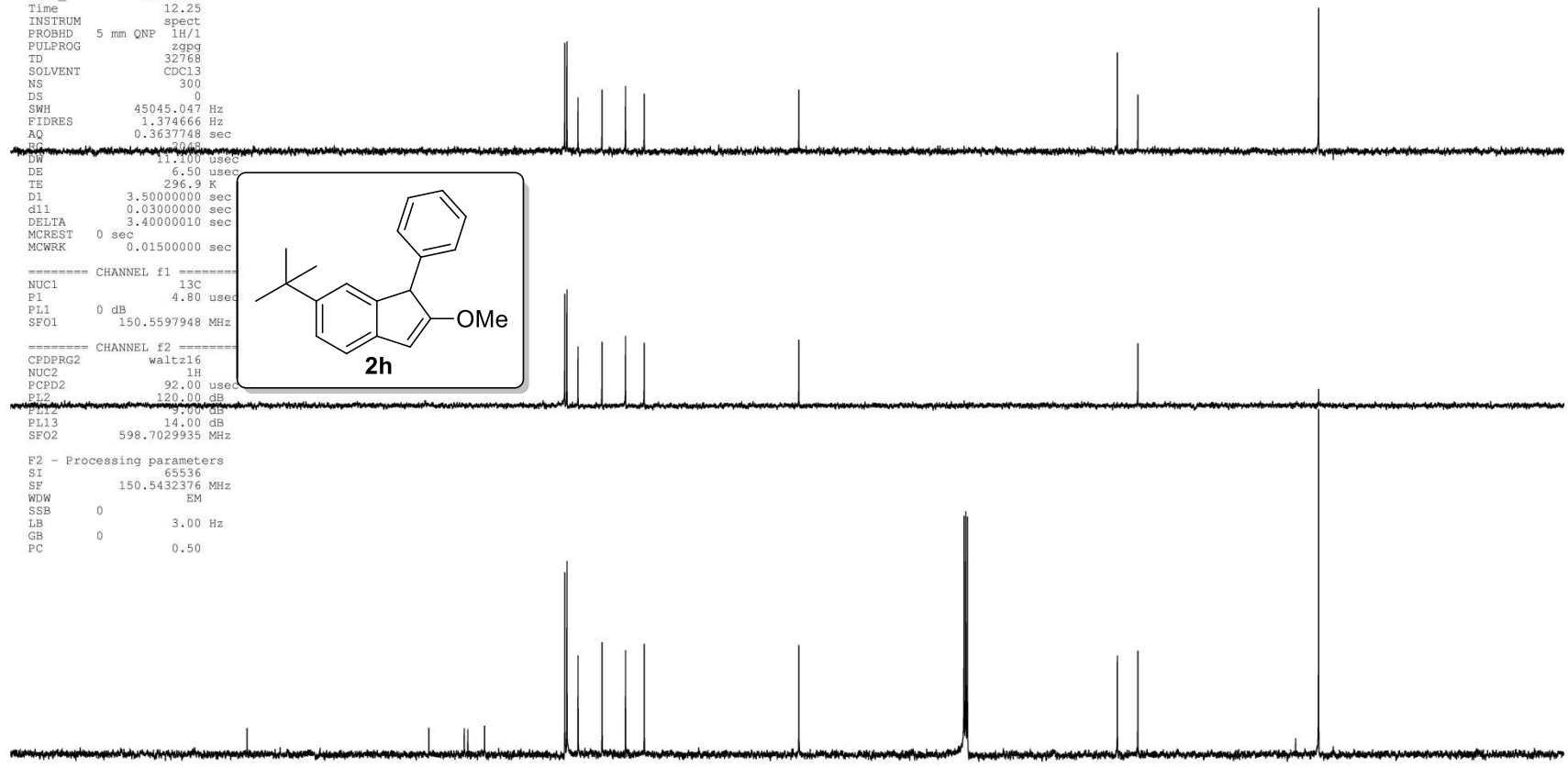
DE 11.100 usec
 TE 296.9 K
 D1 3.50000000 sec
 d11 0.03000000 sec
 DELTA 3.40000010 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

===== CHANNEL f1 =====
 NUC1 13C
 P1 4.80 usec
 PL1 0 dB
 SFO1 150.5597948 MHz



===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 92.00 usec
 PL2 120.00 dB
 PL12 9.00 dB
 PL13 14.00 dB
 SFO2 598.7029935 MHz

F2 - Processing parameters
 SI 65536
 SF 150.5432376 MHz
 WDW EM
 SSB 0
 LB 3.00 Hz
 GB 0
 PC 0.50



190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 ppm

```

Current Data Parameters
NAME      2014-03-25
EXPNO    1
PROCNO   1

F2 - Acquisition Parameters
Date_    20140321
Time     10.31
INSTRUM  spect
PROBHD   5 mm QNP 1H/1
PULPROG  zg
TD        32768
SOLVENT  CDCl3
NS        16
DS        0
SWH      9578.544 Hz
FIDRES   0.292314 Hz
AQ        1.7105396 sec
RG         128
DW        52.200 usec
DE         6.50 usec
TE        293.4 K
D1        2.0000000 sec
MCREST    0 sec
MCRWRK   0.0150000 sec

===== CHANNEL f1 =====
NUC1      1H
P1        10.00 usec
PL1       3.00 dB
SFO1     598.7029935 MHz

F2 - Processing parameters
SI        32768
SF        598.7000250 MHz
WDW       no
SSB       0
LB        0 Hz
GB        0
PC        1.00

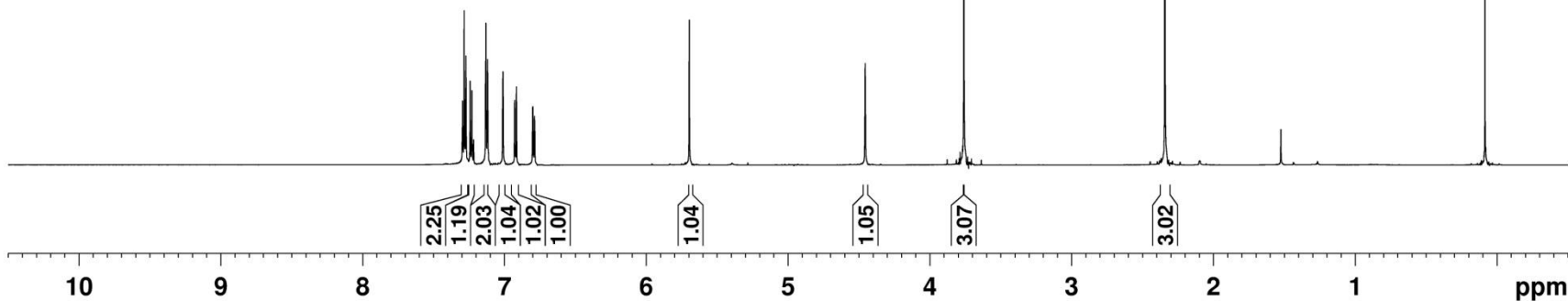
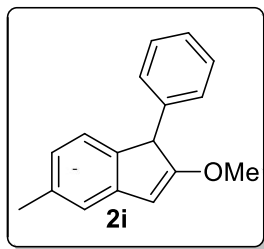
```

7.298
7.296
7.293
7.287
7.284
7.282
7.274
7.271
7.245
7.242
7.240
7.234
7.230
7.226
7.220
7.218
7.216
7.133
7.131
7.128
7.119
7.118
7.101
6.928
6.915
6.801
6.800
6.789
6.787
5.1697

4.456

3.760

2.342



Current Data Parameters
NAME 2014-03-25
EXPNO 2
PROCNO 1

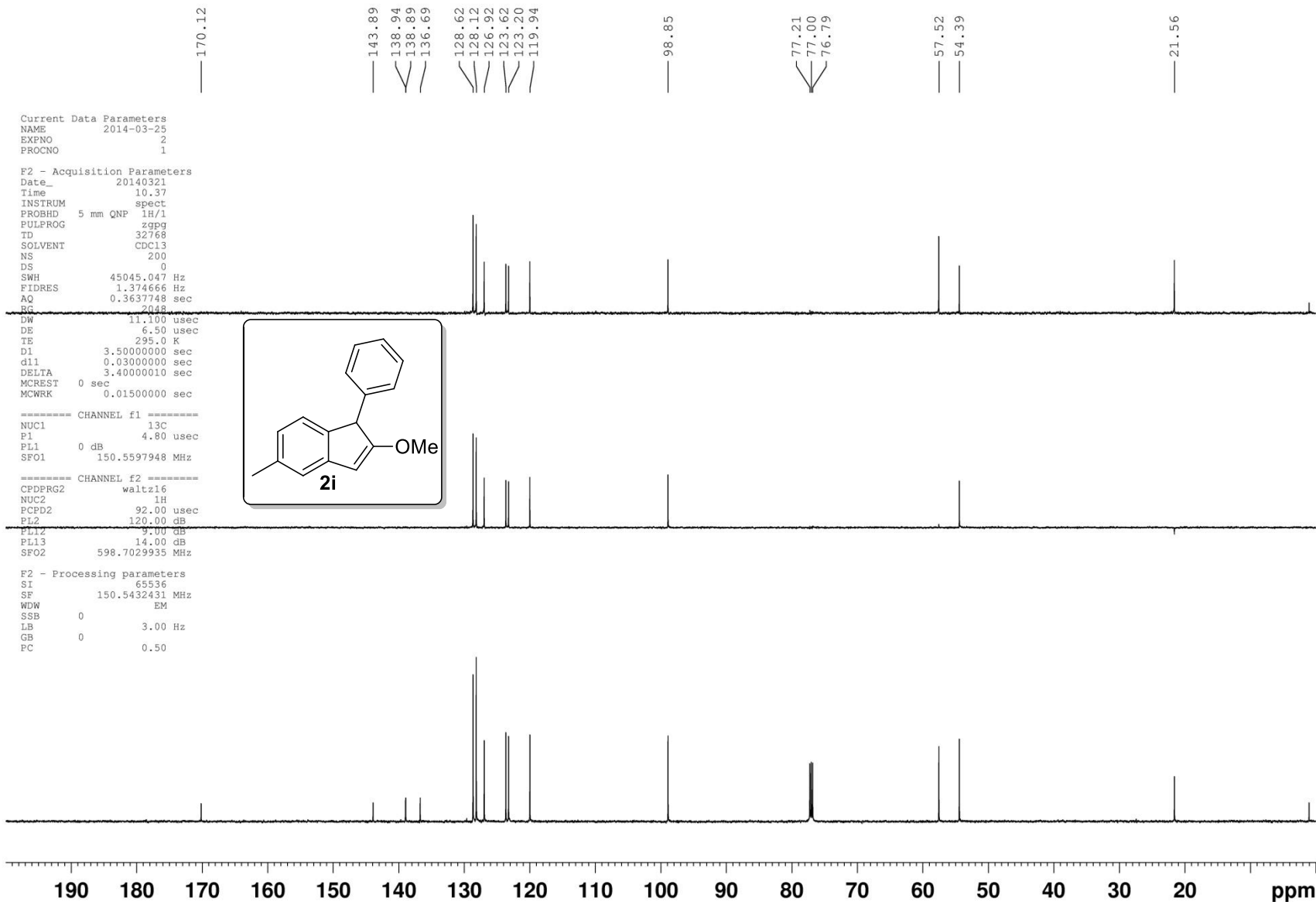
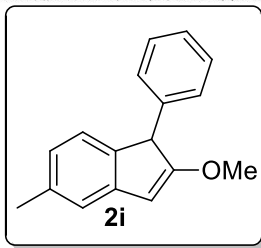
F2 - Acquisition Parameters
Date_ 20140321
Time 10.37
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg
TD 32768
SOLVENT CDCl3
NS 200
DS 0
SWH 45045.047 Hz
FIDRES 1.374666 Hz
AQ 0.3637748 sec
RG 2048

DW 11.100 usec
DE 6.50 usec
TE 295.0 K
D1 3.50000000 sec
d11 0.03000000 sec
DELTA 3.40000010 sec
MCREST 0 sec
MCWRK 0.01500000 sec

===== CHANNEL f1 =====
NUC1 13C
P1 4.80 usec
PL1 0 dB
SFO1 150.5597948 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 92.00 usec
PL2 120.00 dB
PL12 9.00 dB
PL13 14.00 dB
SFO2 598.7029935 MHz

F2 - Processing parameters
SI 65536
SF 150.5432431 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 0.50



```

Current Data Parameters
NAME      2013-12-28
EXPNO    1
PROCNO   1

F2 - Acquisition Parameters
Date_    20131225
Time     12.30
INSTRUM  spect
PROBHD   5 mm QNP 1H/1
PULPROG  zg
TD        32768
SOLVENT  CDCl3
NS        16
DS        0
SWH      8382.229 Hz
FIDRES   0.255805 Hz
AQ        1.9546613 sec
RG         128
DW        59.650 usec
DE         6.50 usec
TE        294.2 K
D1         2.0000000 sec
MCREST    0 sec
MCWRK     0.01500000 sec

----- CHANNEL f1 -----
NUC1      1H
P1        10.00 usec
PL1       0 dB
SFO1     598.7029935 MHz

F2 - Processing parameters
SI        32768
SF        598.7000264 MHz
WDW       no
SSB       0
LB        0 Hz
GB        0
PC        1.00

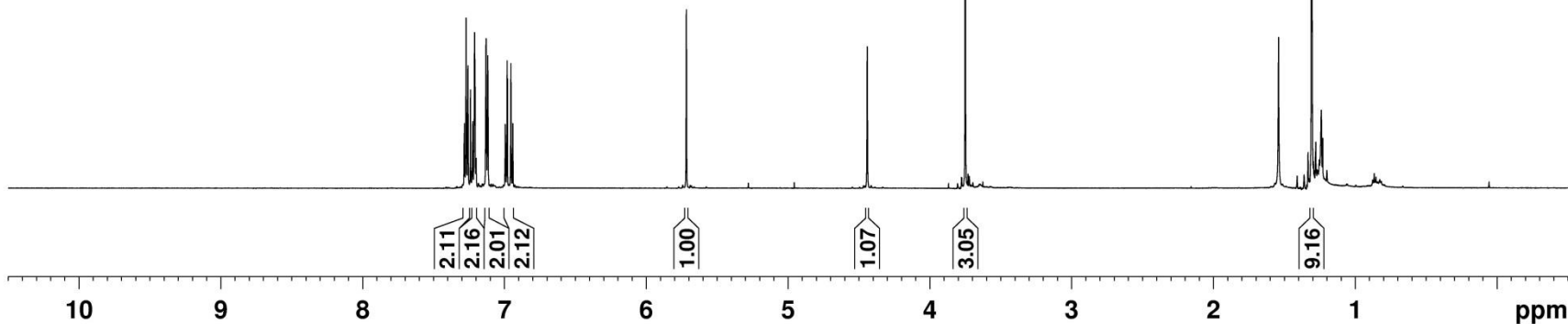
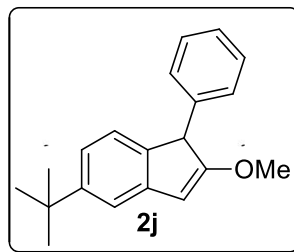
```

7.283
7.282
7.279
7.270
7.259
7.257
7.240
7.237
7.226
7.224
7.222
7.210
7.207
7.202
7.200
7.198
7.131
7.129
7.125
7.117
6.994
6.991
6.981
6.978
6.954
6.941
5.717

4.441

3.749

1.306



— 169.86
 — 150.19
 — 143.50
 — 138.87
 — 138.83
 — 128.61
 — 128.18
 — 126.92
 — 122.88
 — 119.93
 — 116.33
 — 99.22
 — 77.21
 — 77.00
 — 76.79
 — 57.53
 — 54.39
 — 34.67
 — 31.58

Current Data Parameters
 NAME 2013-12-28
 EXPNO 2
 PROCNO 1

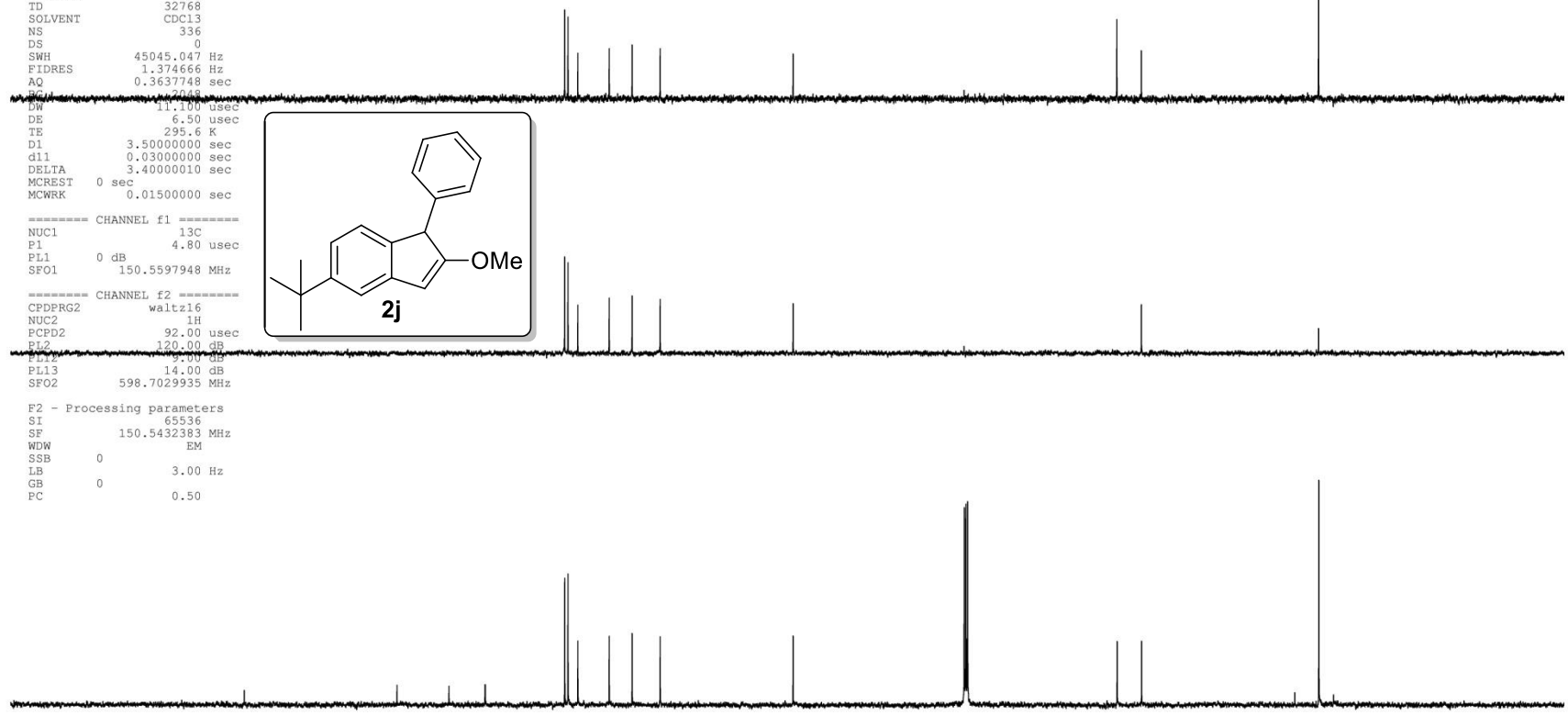
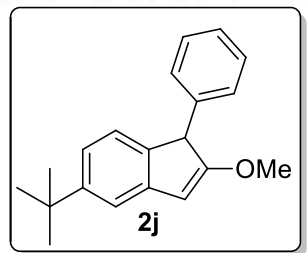
F2 - Acquisition Parameters
 Date_ 20131225
 Time 12.35
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zgpg
 TD 32768
 SOLVENT CDCl3
 NS 336
 DS 0
 SWH 45045.047 Hz
 FIDRES 1.374666 Hz
 AQ 0.3637748 sec

DW 11.100 usec
 DE 6.50 usec
 TE 295.6 K
 D1 3.50000000 sec
 d11 0.03000000 sec
 DELTA 3.40000010 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

===== CHANNEL f1 =====
 NUC1 13C
 P1 4.80 usec
 PL1 0 dB
 SFO1 150.5597948 MHz

===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 92.00 usec
 PL2 120.00 dB
 PL12 19.00 dB
 PL13 14.00 dB
 SFO2 598.7029935 MHz

F2 - Processing parameters
 SI 65536
 SF 150.5432383 MHz
 WDW EM
 SSB 0
 LB 3.00 Hz
 GB 0
 PC 0.50



190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 ppm

Current Data Parameters
NAME 2014-04-23
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20140422
Time 12.31
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zg
TD 32768
SOLVENT CDCl3
NS 16
DS 0
SWH 9578.544 Hz
FIDRES 0.292314 Hz
AQ 1.7105396 sec
RG 32
DW 52.200 usec
DE 6.50 usec
TE 293.5 K
D1 2.0000000 sec
MCREST 0 sec
MCWRK 0.01500000 sec

----- CHANNEL f1 -----
NUC1 1H
P1 10.00 usec
PL1 3.00 dB
SFO1 598.7035922 Mhz

F2 - Processing parameters
SI 32768
SF 598.7000260 Mhz
WDW no
SSB 0
LB 0 Hz
GB 0
PC 1.00

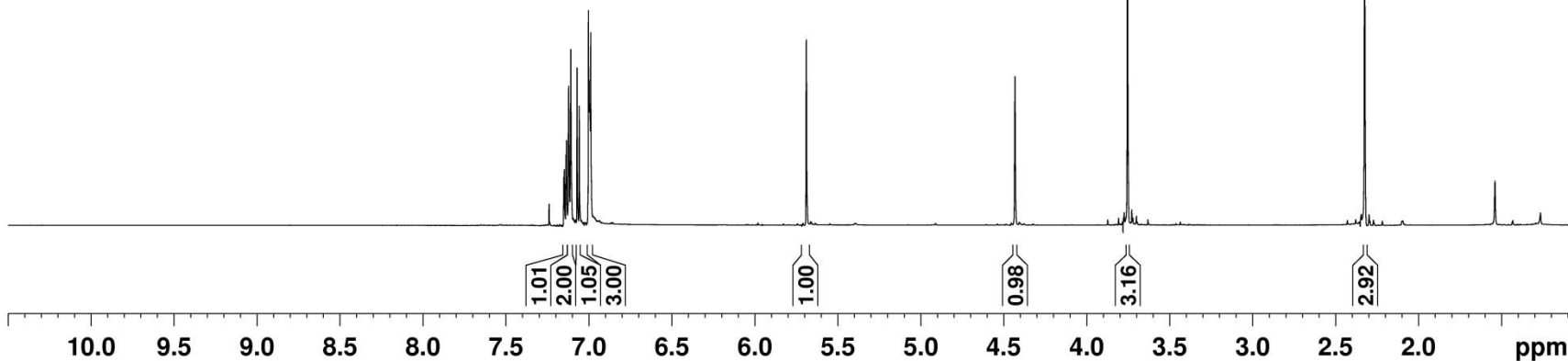
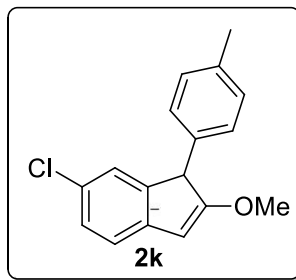
7.240
7.152
7.148
7.138
7.135
7.122
7.109
7.072
7.058
7.003
6.999
6.989

5.689

4.433

3.755

2.325



Current Data Parameters
NAME Hao-ph-Me-I-1
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20140421
Time 21.32
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg
TD 32768
SOLVENT CDC13
NS 100
DS 0
SWH 45045.047 Hz
FIDRES 1.374666 Hz
AQ 0.3637748 sec
RG 2048

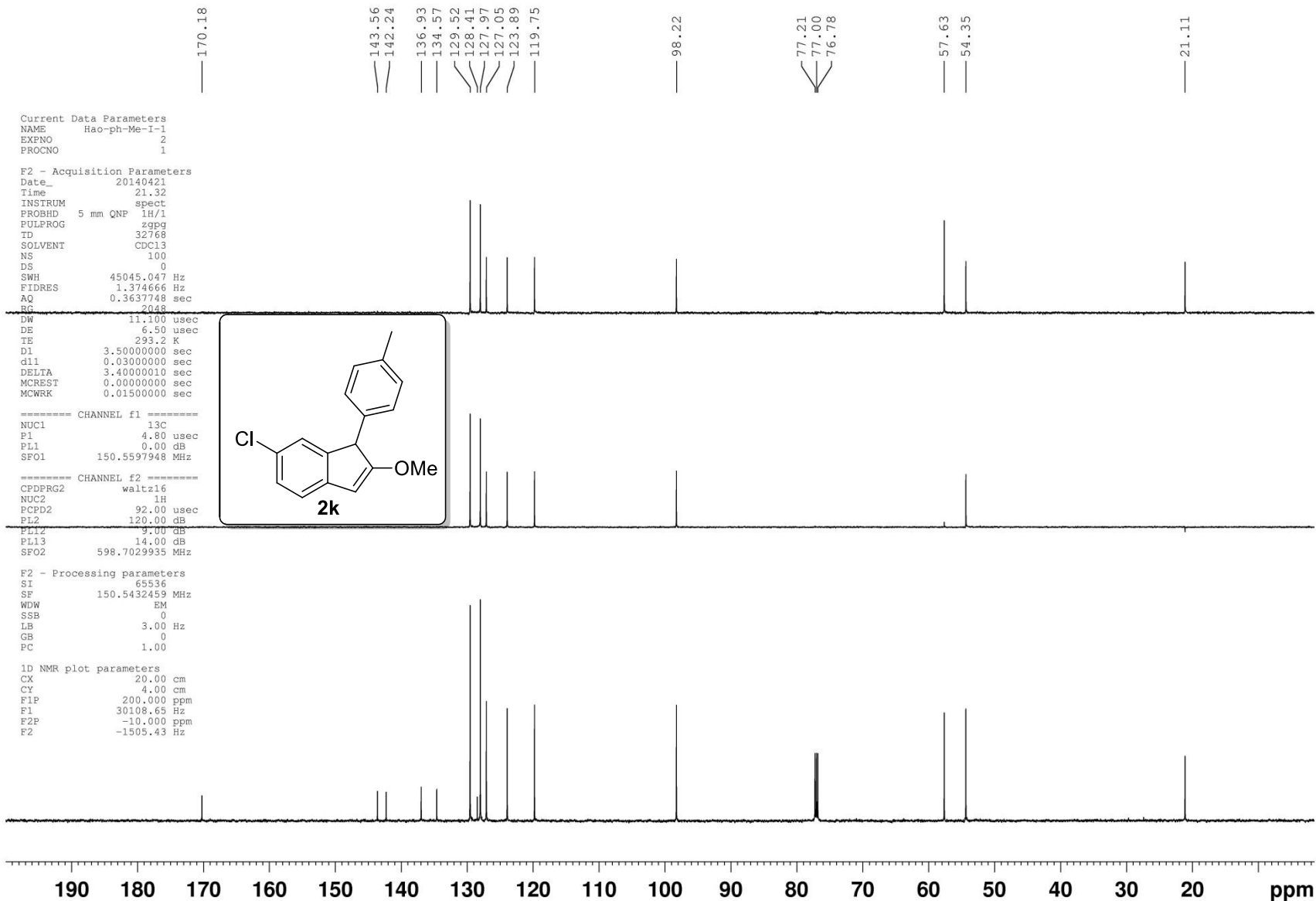
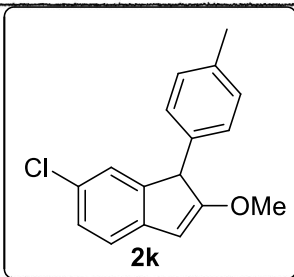
DW 11.100 usec
DE 6.50 usec
TE 293.2 K
D1 3.50000000 sec
d11 0.03000000 sec
DELTA 3.40000010 sec
MCREST 0.00000000 sec
MCWRK 0.01500000 sec

===== CHANNEL f1 =====
NUC1 13C
P1 4.80 usec
PL1 0.00 dB
SFO1 150.5597948 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 92.00 usec
PL2 120.00 dB
PL12 9.00 dB
PL13 14.00 dB
SFO2 598.7029935 MHz

F2 - Processing parameters
SI 65536
SF 150.5432459 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 1.00

1D NMR plot parameters
CX 20.00 cm
CY 4.00 cm
F1P 200.000 ppm
F1 30108.65 Hz
F2P -10.000 ppm
F2 -1505.43 Hz



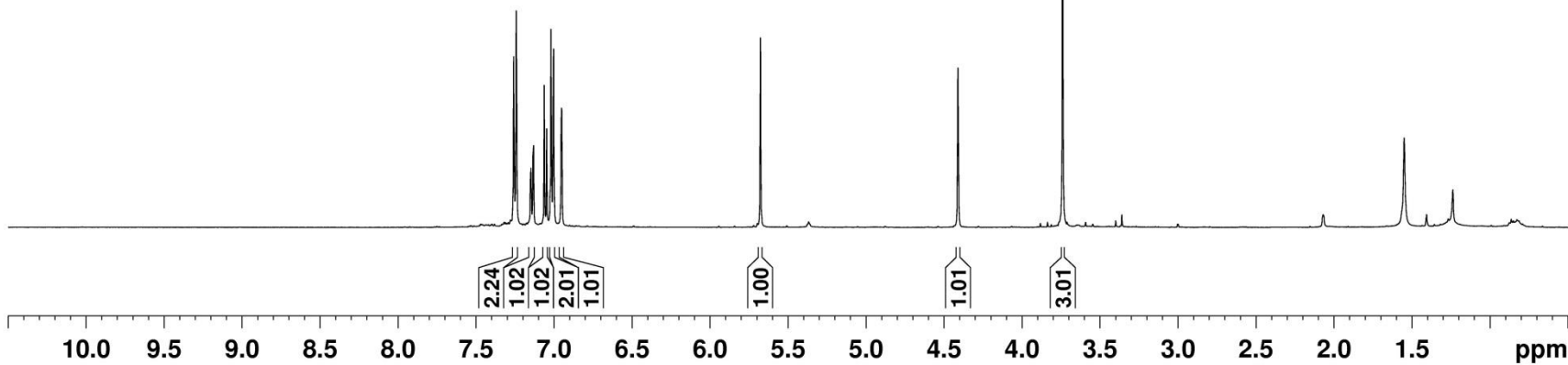
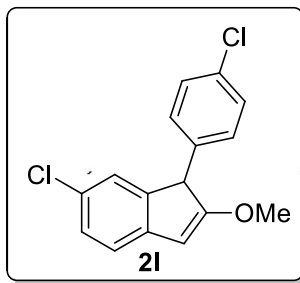
Current Data Parameters
NAME 0424.fid
EXPNO 1
PROCNO 1
F2 - Processing parameters
SI 16384
SF 499.8069107 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

7.257
7.240
7.149
7.146
7.132
7.129
7.061
7.045
7.018
7.001
6.950

5.675

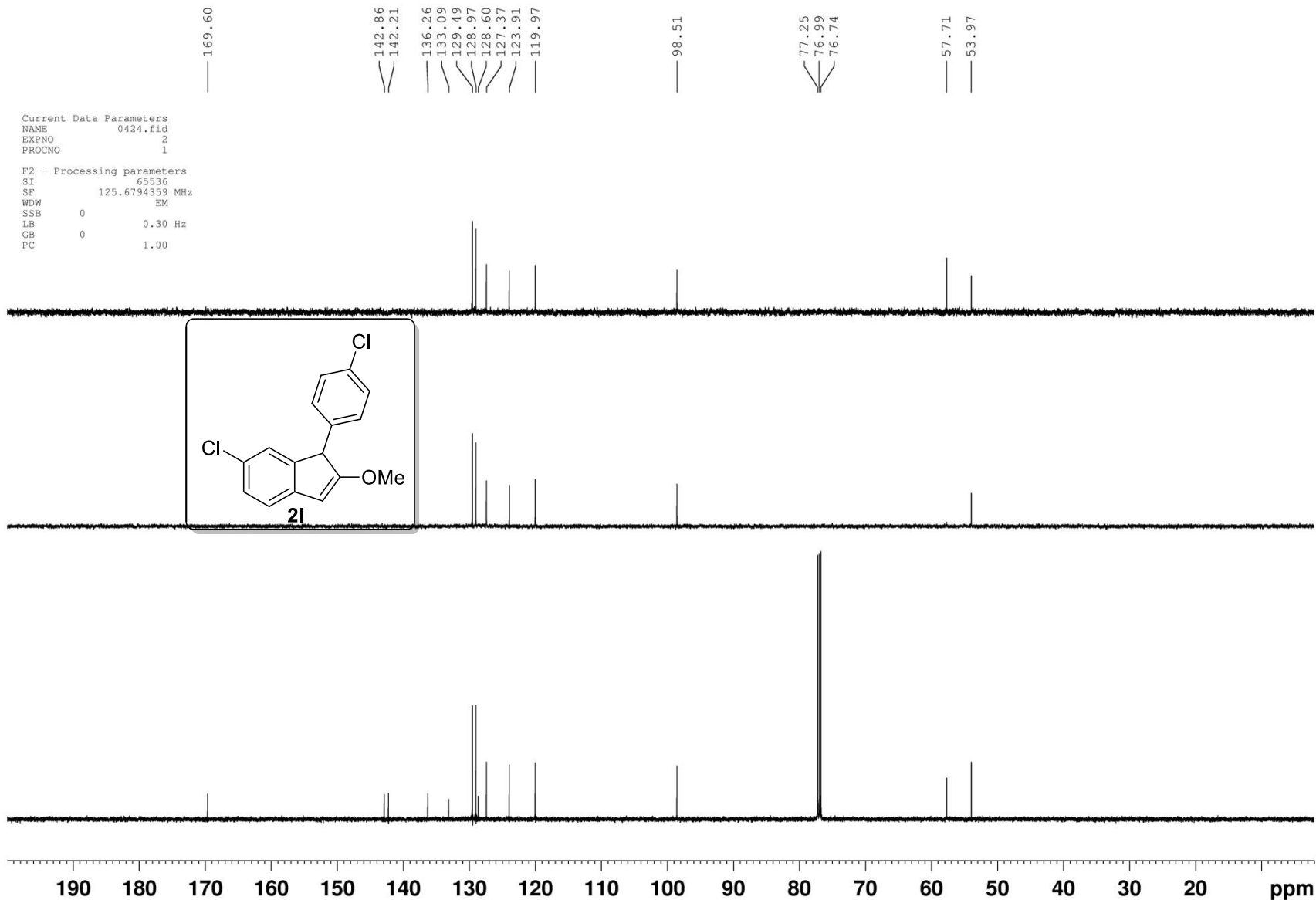
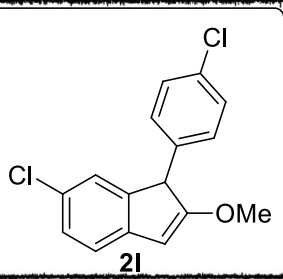
4.408

3.738



Current Data Parameters
NAME 0424.fid
EXPNO 2
PROCNO 1

F2 - Processing parameters
SI 65536
SF 125.6794359 MHz
WDW EM
SSB 0
LB 0 0.30 Hz
GB 0
PC 1.00

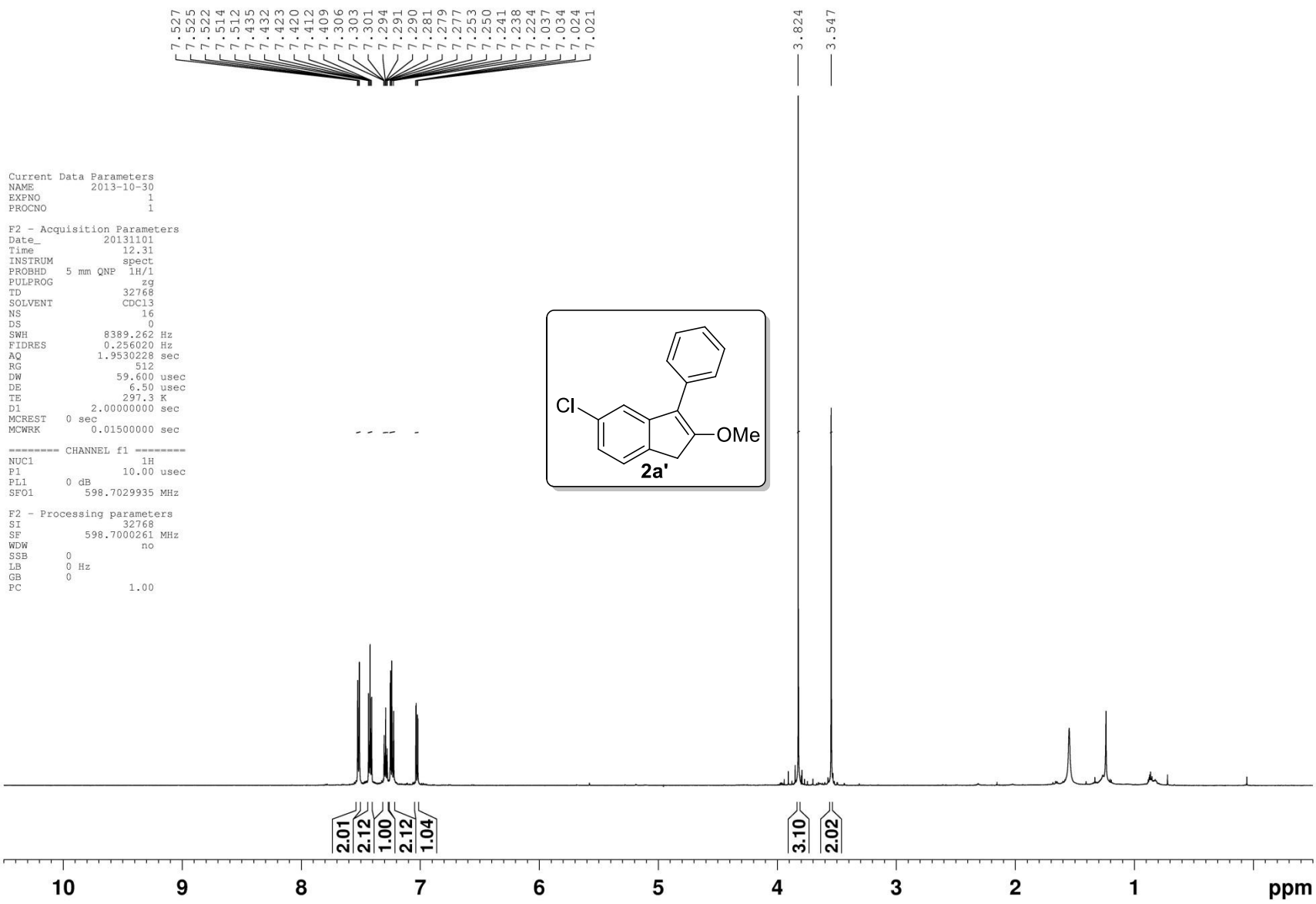
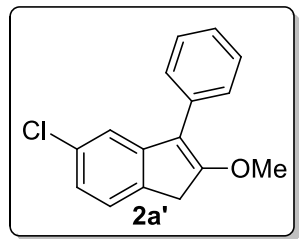


Current Data Parameters
 NAME 2013-10-30
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131101
 Time 12.31
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zg
 TD 32768
 SOLVENT CDCl3
 NS 16
 DS 0
 SWH 8389.262 Hz
 FIDRES 0.256020 Hz
 AQ 1.9530228 sec
 RG 512
 DW 59.600 usec
 DE 6.50 usec
 TE 297.3 K
 D1 2.0000000 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 10.00 usec
 PL1 0 dB
 SFO1 598.7029935 MHz

F2 - Processing parameters
 SI 32768
 SF 598.7000261 MHz
 WDW no
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00



Current Data Parameters
NAME Hao-131101
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131031
Time 20.34
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg
TD 32768
SOLVENT CDC13
NS 649
DS 0
SWH 45045.047 Hz
FIDRES 1.374666 Hz
AQ 0.3637748 sec
RG 11.100 usec
DE 6.50 usec
TE 297.9 K
D1 3.5000000 sec
d11 0.0300000 sec
DELTA 3.4000010 sec
MCREST 0.0000000 sec
MCWRK 0.0150000 sec

===== CHANNEL f1 =====
NUC1 13C
P1 4.80 usec
PL1 0.00 dB
SFO1 150.5597948 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 92.00 usec
PL2 120.00 dB
PL12 9.00 dB
PL13 14.00 dB
SFO2 598.7029935 MHz

F2 - Processing parameters
SI 65536
SF 150.5432369 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 0.50

1D NMR plot parameters
CX 20.00 cm
CY 4.00 cm
F1P 135.000 ppm
F1 20323.34 Hz
F2P 115.000 ppm
F2 17312.47 Hz

161.65

147.11

133.55

133.13

132.81

128.71

128.42

126.88

124.23

122.47

118.54

116.43

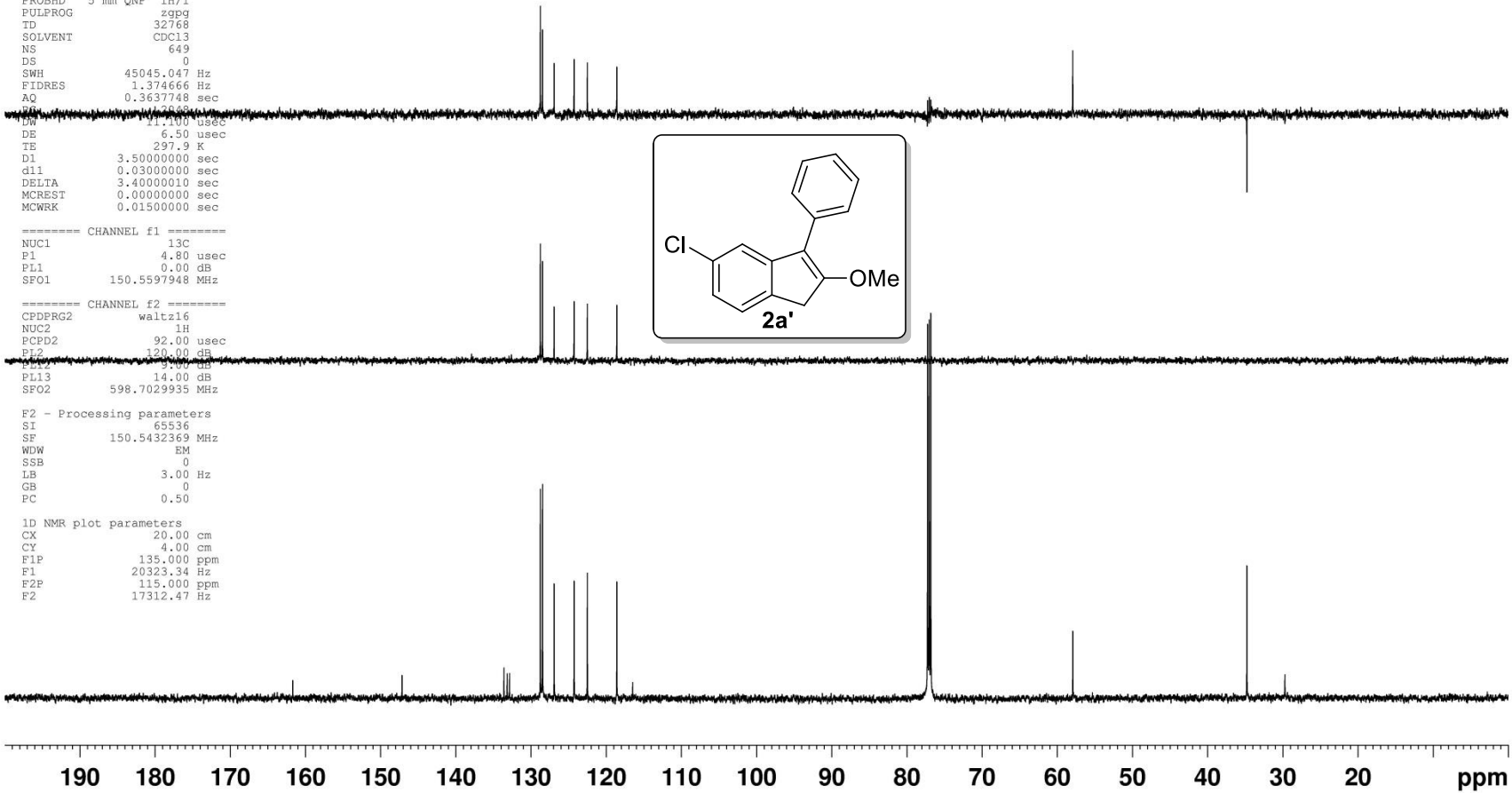
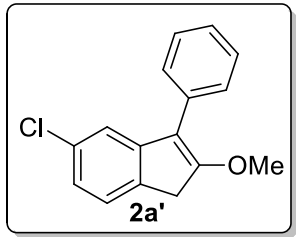
77.21

77.00

76.79

57.89

34.75

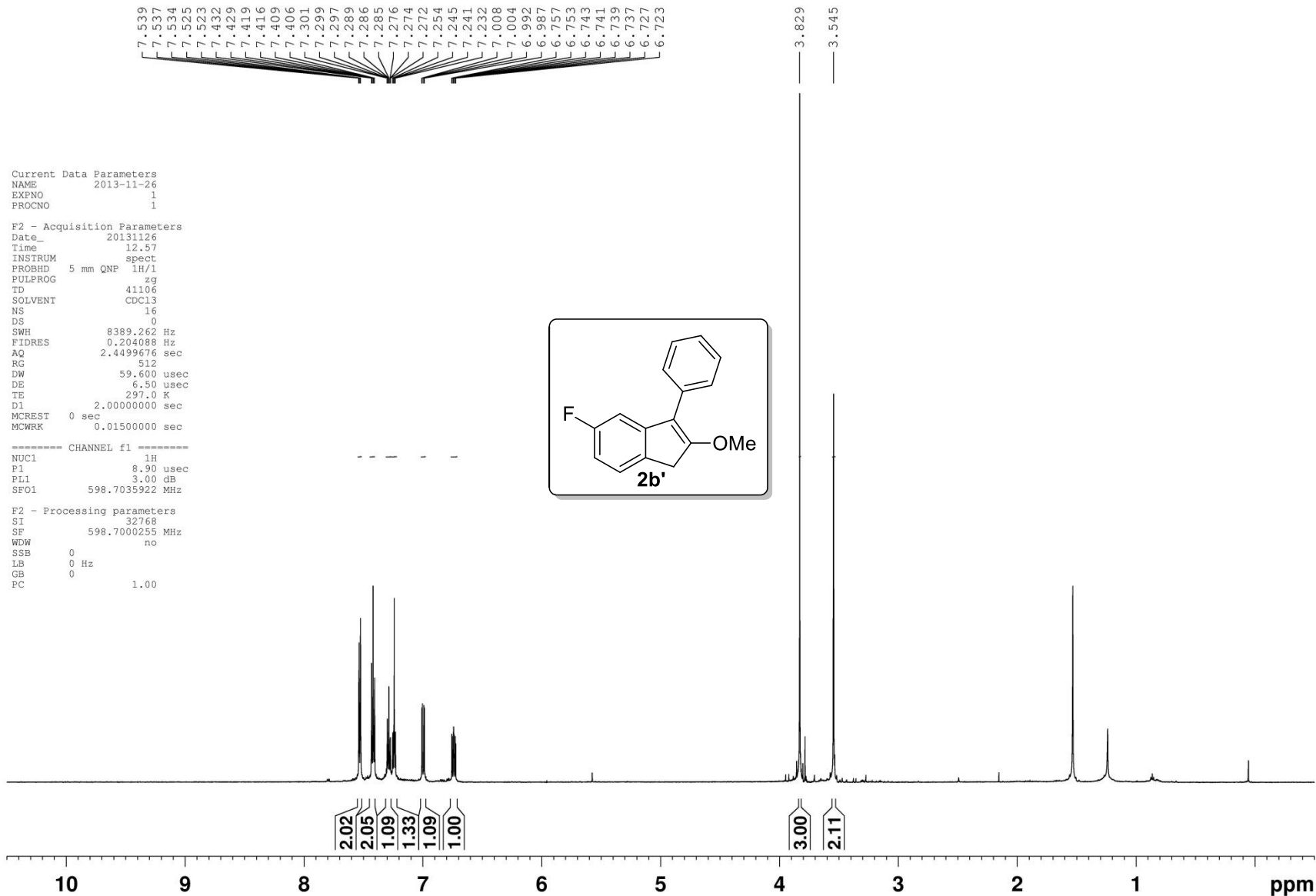
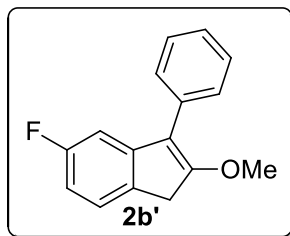


Current Data Parameters
 NAME 2013-11-26
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131126
 Time 12.57
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zg
 TD 41106
 SOLVENT CDC13
 NS 16
 DS 0
 SWH 8389.262 Hz
 FIDRES 0.204088 Hz
 AQ 2.4499676 sec
 RG 512
 DW 59.600 usec
 DE 6.50 usec
 TE 297.0 K
 D1 2.0000000 sec
 MCREST 0 sec
 MCWRK 0.0150000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 8.90 usec
 PL1 3.00 dB
 SFO1 598.7035922 Mhz

F2 - Processing parameters
 SI 32768
 SF 598.7000255 Mhz
 WDW no
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00



163.56
162.10
161.96

147.34
147.28

133.27
130.57
128.63
128.40
126.82
124.09
124.03

116.67

109.04
108.89
105.94
105.78

77.21
77.00
76.79

57.82

34.55

Current Data Parameters
NAME 2013-11-26
EXPNO 2
PROCNO 1

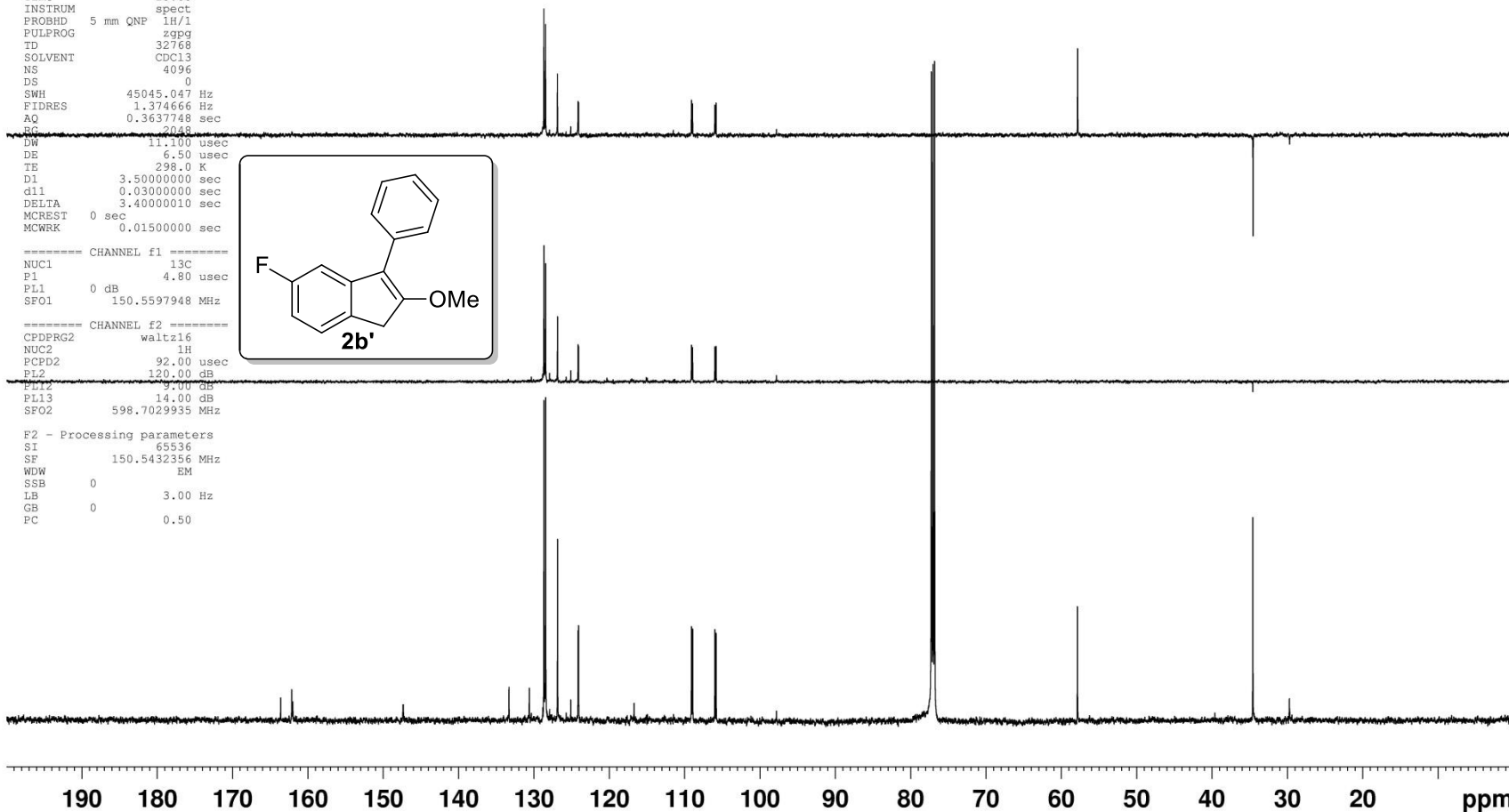
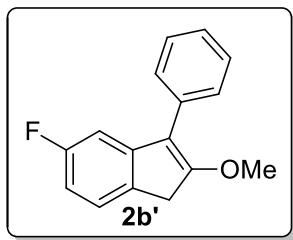
F2 - Acquisition Parameters

Date_ 20131126
Time 13.03
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg
TD 32768
SOLVENT CDCl3
NS 4096
DS 0
SWH 45045.047 Hz
FIDRES 1.374666 Hz
AQ 0.3637748 sec
RG 2048
DW 11.100 usec
DE 6.50 usec
TE 298.0 K
D1 3.5000000 sec
d11 0.0300000 sec
DELTA 3.4000010 sec
MCREST 0 sec
MCWRK 0.0150000 sec

----- CHANNEL f1 -----
NUC1 13C
P1 4.80 usec
PL1 0 dB
SFO1 150.5597948 MHz

----- CHANNEL f2 -----
CPDPRG2 waltz16
NUC2 1H
PCPD2 92.00 usec
PL2 120.00 dB
PL12 9.00 dB
PL13 14.00 dB
SFO2 598.7029935 MHz

F2 - Processing parameters
SI 65536
SF 150.5432356 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 0.50



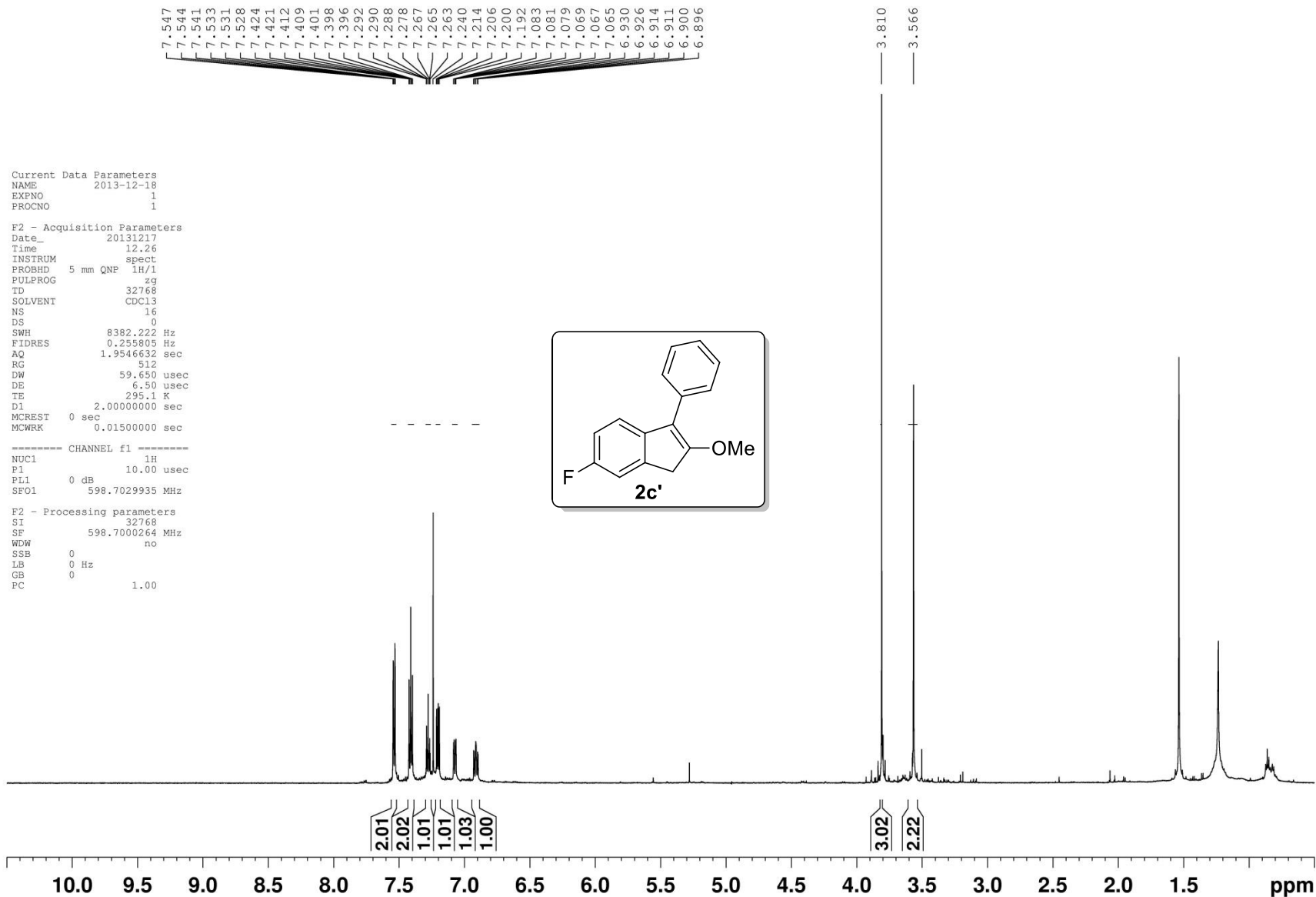
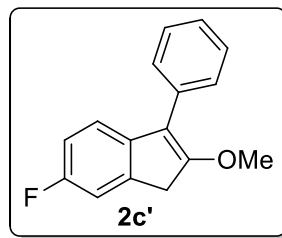
Current Data Parameters
 NAME 2013-12-18
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131217
 Time 12.26
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zg
 TD 32768
 SOLVENT CDC13
 NS 16
 DS 0
 SWH 8382.222 Hz
 FIDRES 0.255805 Hz
 AQ 1.9546632 sec
 RG 512
 DW 59.650 usec
 DE 6.50 usec
 TE 295.1 K
 D1 2.0000000 sec
 MCREST 0 sec
 MCWRK 0.0150000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 10.00 usec
 PL1 0 dB
 SFO1 598.7029935 MHz

F2 - Processing parameters
 SI 32768
 SF 598.7000264 MHz
 WDW no
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00

7.547
 7.544
 7.541
 7.533
 7.531
 7.528
 7.424
 7.421
 7.412
 7.409
 7.401
 7.398
 7.396
 7.292
 7.290
 7.288
 7.278
 7.267
 7.265
 7.263
 7.240
 7.214
 7.206
 7.200
 7.192
 7.083
 7.081
 7.079
 7.069
 7.067
 7.065
 6.930
 6.926
 6.914
 6.911
 6.900
 6.896



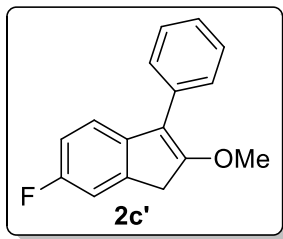
Current Data Parameters
NAME 2013-12-18
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131217
Time 20.00
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg
TD 32768
SOLVENT CDCl3
NS 6144
DS 0
SWH 45045.047 Hz
FIDRES 1.374666 Hz
AQ 0.3637748 sec
RG 17248
DW 11.100 usec
DE 6.50 usec
TE 297.8 K
D1 3.50000000 sec
d11 0.03000000 sec
DELTA 3.40000010 sec
MCREST 0 sec
MCWRK 0.01500000 sec

----- CHANNEL f1 -----
NUC1 13C
P1 4.80 usec
PL1 0 dB
SFO1 150.5597948 MHz

----- CHANNEL f2 -----
CPDPRG2 waltz16
NUC2 1H
PCPD2 92.00 usec
PL2 120.00 dB
PL12 9.00 dB
PL13 14.00 dB
SFO2 598.7029935 MHz

F2 - Processing parameters
SI 65536
SF 150.5432363 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 0.50



160.87
159.47
159.28

140.91
137.22
137.17
133.58

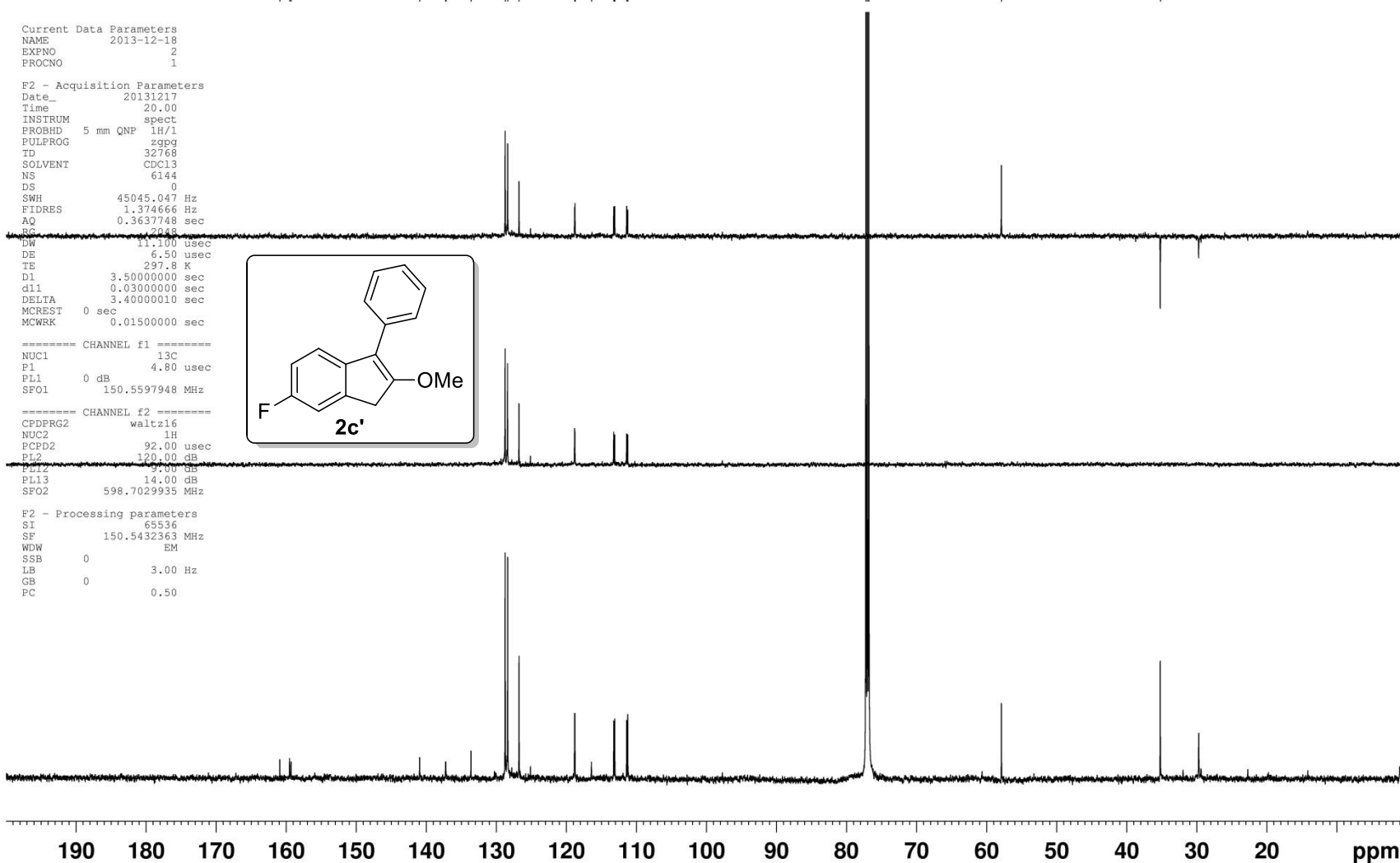
128.71
128.34
126.72

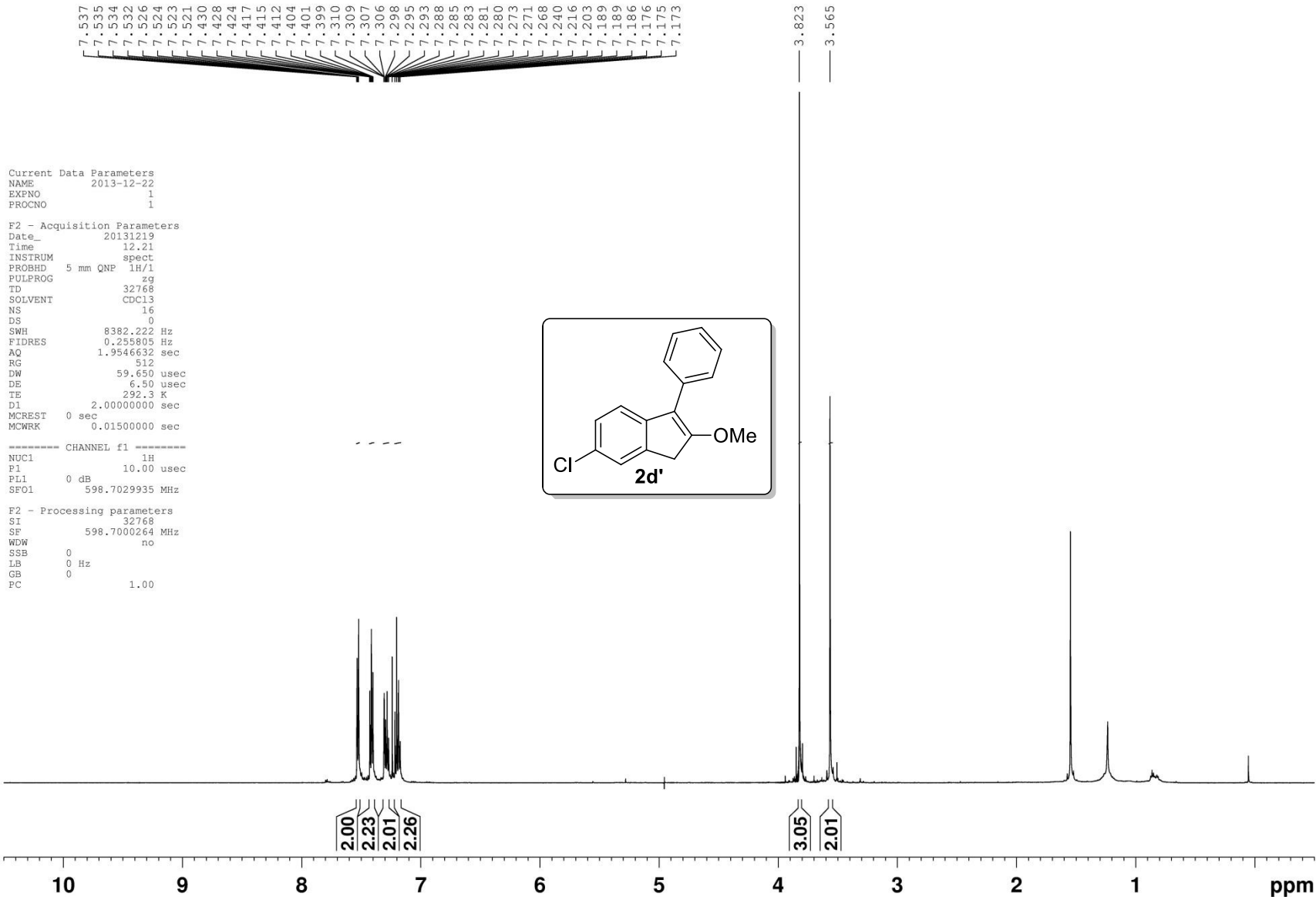
118.79
118.74
116.39
113.20
113.06
111.36
111.20

77.21
77.00
76.79

57.85

35.18





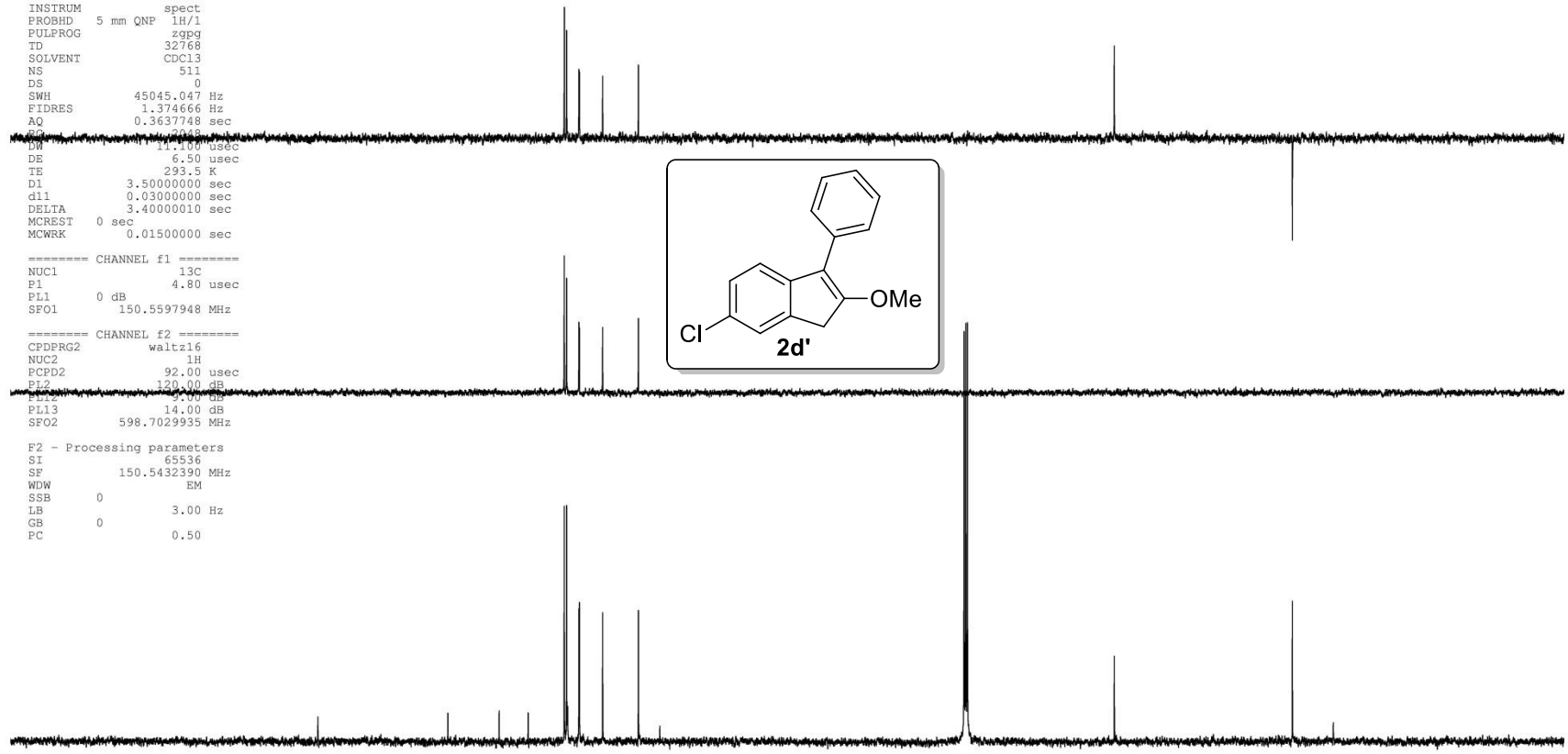
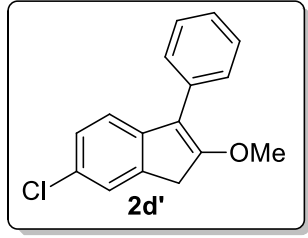
Current Data Parameters
NAME 2013-12-22
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131219
Time 12.26
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg
TD 32768
SOLVENT CDCl3
NS 511
DS 0
SWH 45045.047 Hz
FIDRES 1.374666 Hz
AQ 0.3637748 sec
DM 11.100 usec
DE 6.50 usec
TE 293.5 K
D1 3.50000000 sec
d11 0.03000000 sec
DELTA 3.40000010 sec
MCREST 0 sec
MCWRK 0.01500000 sec

===== CHANNEL f1 =====
NUC1 13C
P1 4.80 usec
PL1 0 dB
SFO1 150.5597948 MHz
===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 92.00 usec
PL2 120.00 dB
PL12 9.00 dB
PL13 14.00 dB
SFO2 598.7029935 MHz

F2 - Processing parameters
SI 65536
SF 150.5432390 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 0.50

160.37
143.66
137.05
133.32
128.67
128.36
128.23
126.78
123.73
119.13
116.36
77.21
77.00
76.79
57.87
34.96



190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 ppm

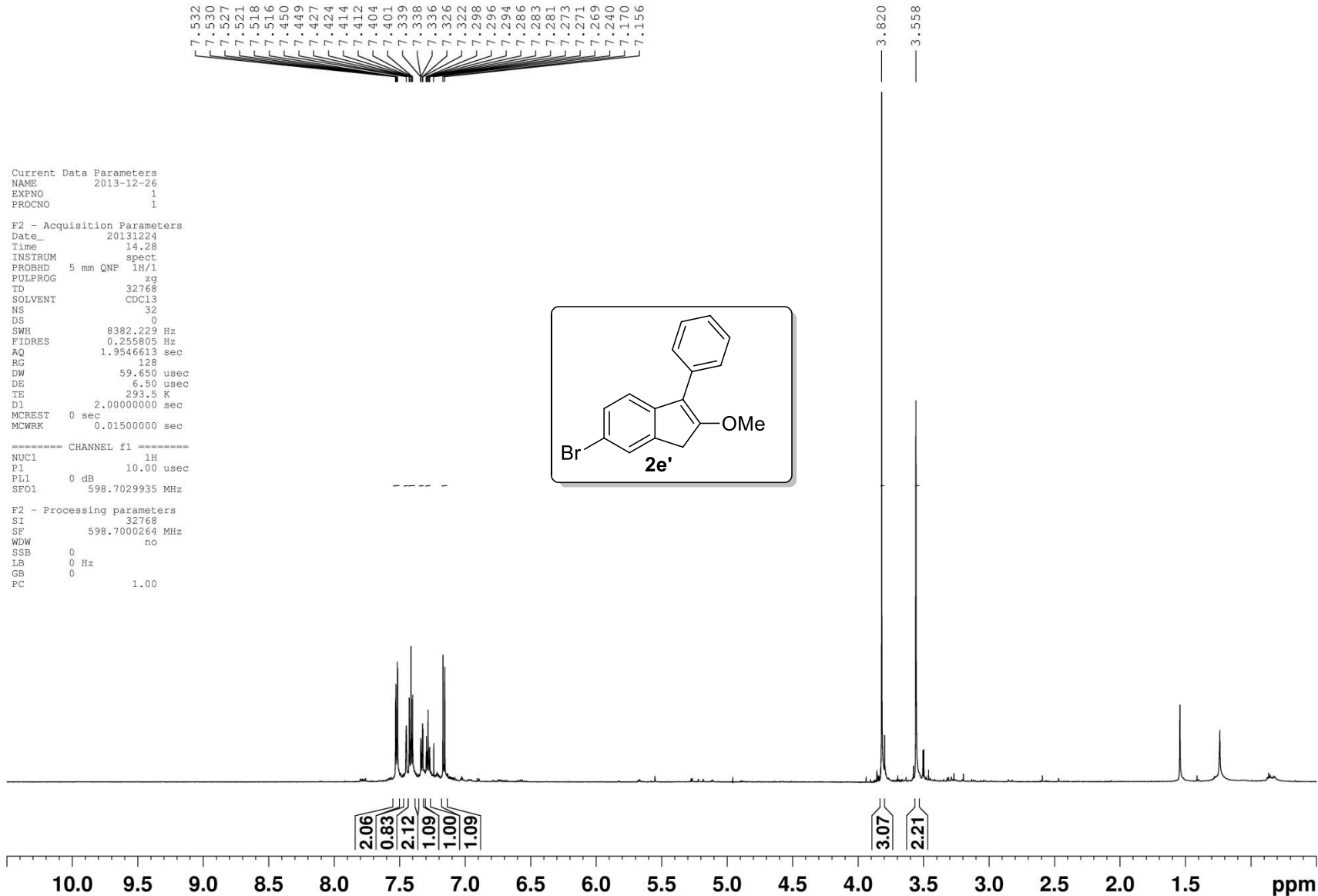
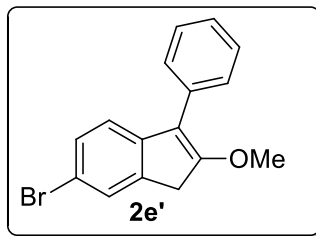
Current Data Parameters
 NAME 2013-12-26
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131224
 Time 14.28
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zg
 TD 32768
 SOLVENT CDCl3
 NS 32
 DS 0
 SWH 8382.229 Hz
 FIDRES 0.255805 Hz
 AQ 1.9546613 sec
 RG 128
 DW 59.650 usec
 DE 6.50 usec
 TE 293.5 K
 D1 2.0000000 sec
 MCREST 0 sec
 MCWRK 0.0150000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 10.00 usec
 PL1 0 dB
 SFO1 598.7029935 MHz

F2 - Processing parameters
 SI 32768
 SF 598.7000264 MHz
 WDW no
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00

7.532
7.530
7.527
7.521
7.518
7.516
7.450
7.449
7.427
7.424
7.414
7.412
7.404
7.401
7.339
7.338
7.336
7.326
7.322
7.298
7.296
7.294
7.286
7.283
7.281
7.273
7.271
7.269
7.240
7.170
7.156



Current Data Parameters
NAME 2013-12-26
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131224
Time 14.50
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg
TD 32768
SOLVENT CDCl3
NS 328
DS 0
SWH 45045.047 Hz
FIDRES 1.374666 Hz
AQ 0.3637748 sec

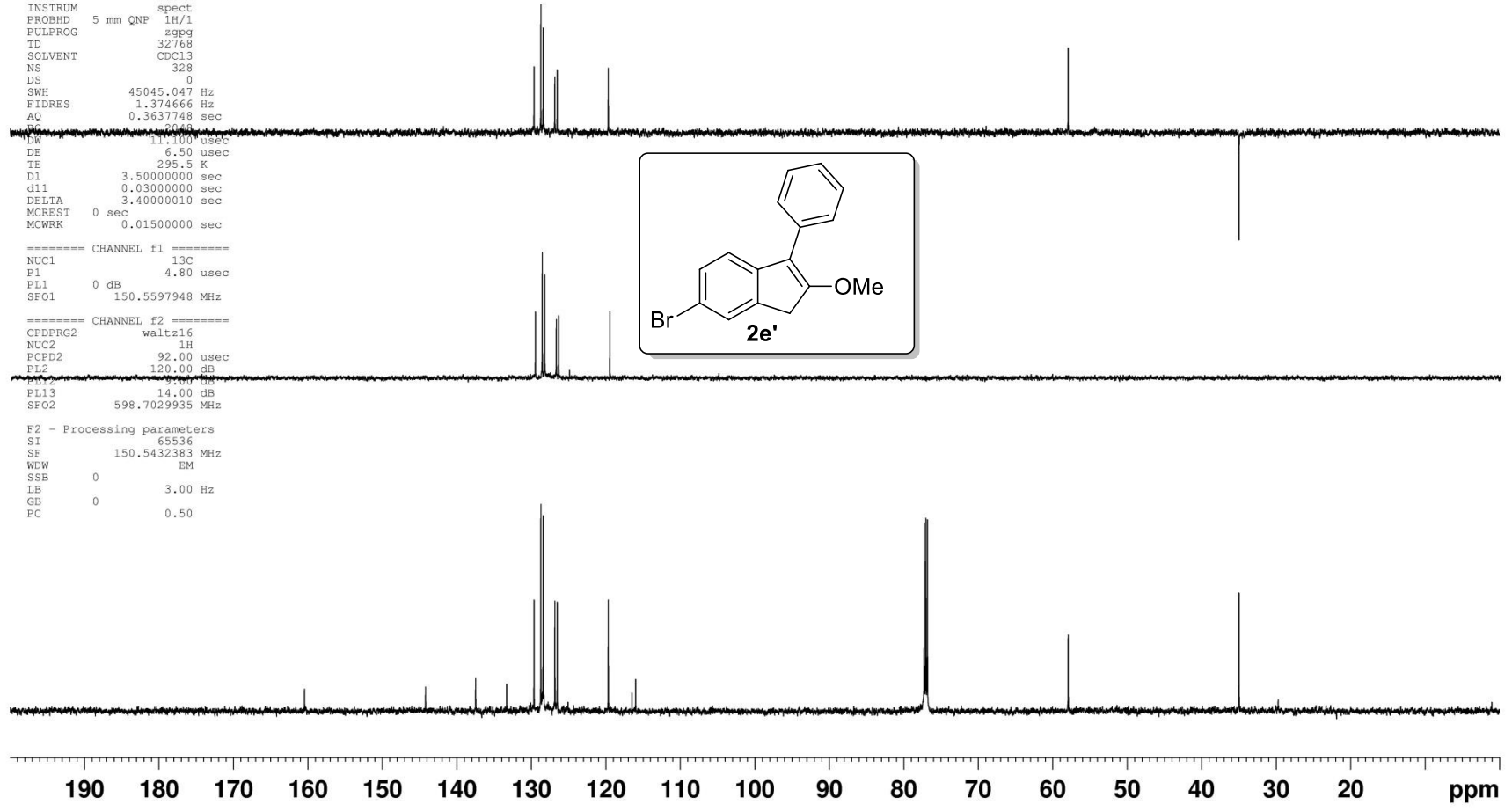
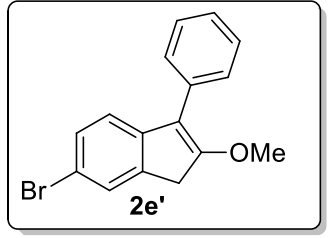
DW 11.100 usec
DE 6.50 usec
TE 295.5 K
D1 3.50000000 sec
d11 0.03000000 sec
DELTA 3.40000010 sec
MCREST 0 sec
MCWRK 0.01500000 sec

==== CHANNEL f1 =====
NUC1 13C
P1 4.80 usec
PL1 0 dB
SFO1 150.5597948 MHz

==== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 92.00 usec
PL2 120.00 dB
PL12 9.00 dB
PL13 14.00 dB
SFO2 598.7029935 MHz

F2 - Processing parameters
SI 65536
SF 150.5432383 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 0.50

— 160.41
— 144.15
— 137.43
— 133.27
— 129.60
— 128.68
— 128.36
— 126.80
— 126.50
— 119.62
— 116.44
— 115.96
— 77.21
— 77.00
— 76.78
— 57.88
— 34.94



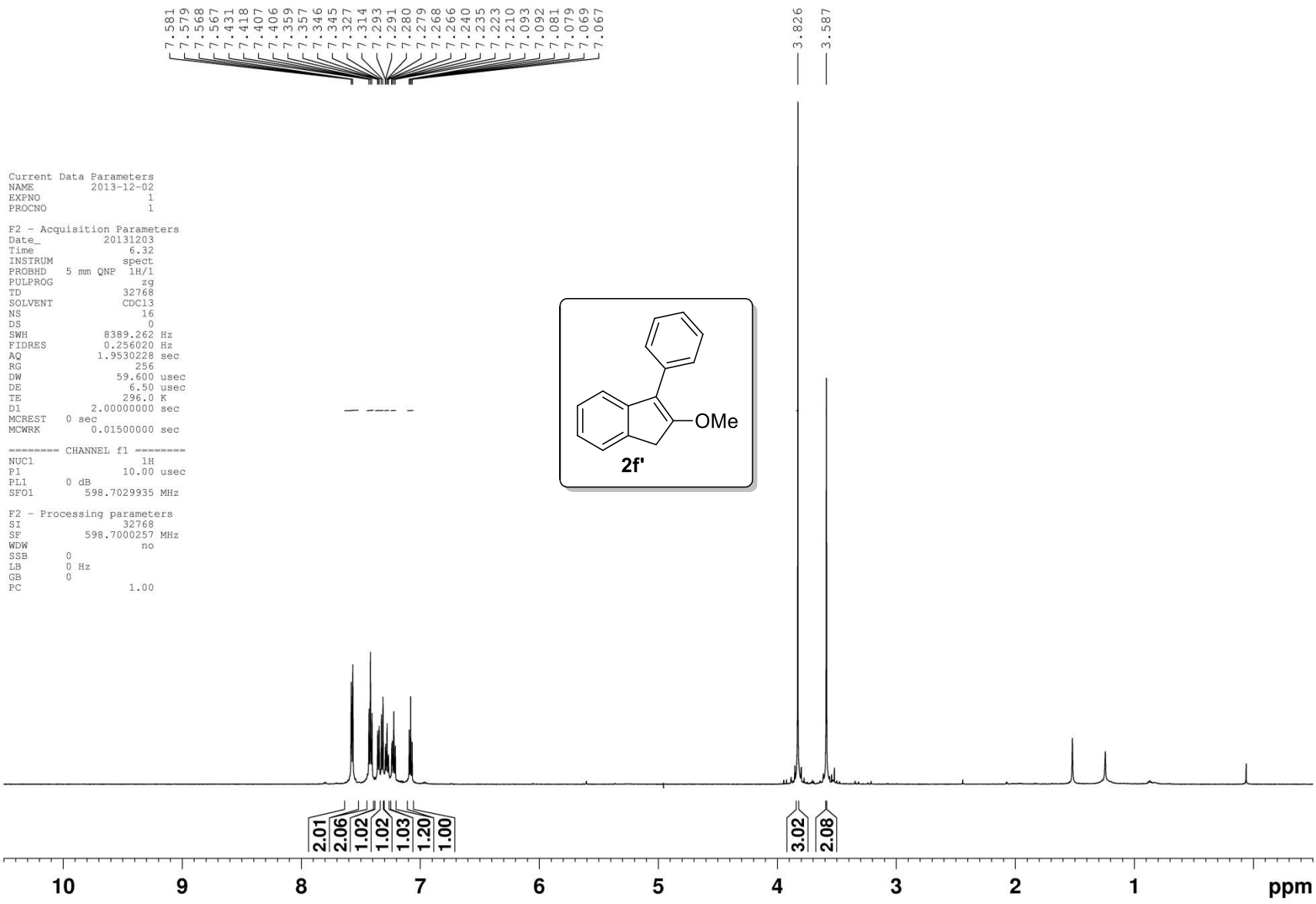
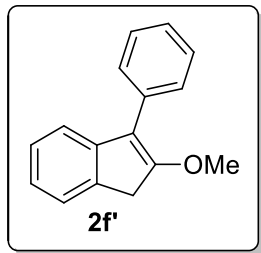
Current Data Parameters
 NAME 2013-12-02
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131203
 Time 6.32
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zg
 TD 32768
 SOLVENT CDCl3
 NS 16
 DS 0
 SWH 8389.262 Hz
 FIDRES 0.256020 Hz
 AQ 1.9530228 sec
 RG 256
 DW 59.600 usec
 DE 6.50 usec
 TE 296.0 K
 D1 2.0000000 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 10.00 usec
 PL1 0 dB
 SFO1 598.7029935 MHz

F2 - Processing parameters
 SI 32768
 SF 598.7000257 MHz
 WDW no
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00

7.581
7.579
7.568
7.567
7.431
7.418
7.407
7.406
7.359
7.357
7.346
7.345
7.327
7.314
7.293
7.291
7.280
7.279
7.268
7.266
7.240
7.235
7.223
7.210
7.093
7.092
7.081
7.079
7.069
7.067



Current Data Parameters
NAME 2013-12-02
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters

Date_ 20131203
Time 6.37
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg
TD 32768
SOLVENT CDCl3
NS 362
DS 0
SWH 45045.047 Hz
FIDRES 1.374666 Hz
AQ 0.3637748 sec
DM 11.100 usec
DE 6.50 usec
TE 297.0 K
D1 3.50000000 sec
d11 0.03000000 sec
DELTA 3.40000010 sec
MCREST 0 sec
MCWRK 0.01500000 sec

===== CHANNEL f1 =====
NUC1 13C
P1 4.80 usec
PL1 0 dB
SFO1 150.5597948 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 92.00 usec
PL2 120.00 dB
PL11 120.00 dB
PL13 14.00 dB
SFO2 598.7029935 MHz

F2 - Processing parameters
SI 65536
SF 150.5432383 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 0.50

— 160.42

— 145.17

— 135.53

— 133.76

— 128.79

— 128.27

— 126.66

— 126.57

— 123.36

— 122.69

— 118.35

— 116.89

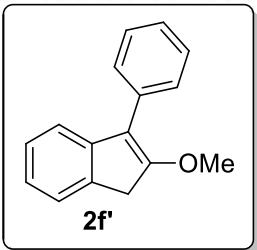
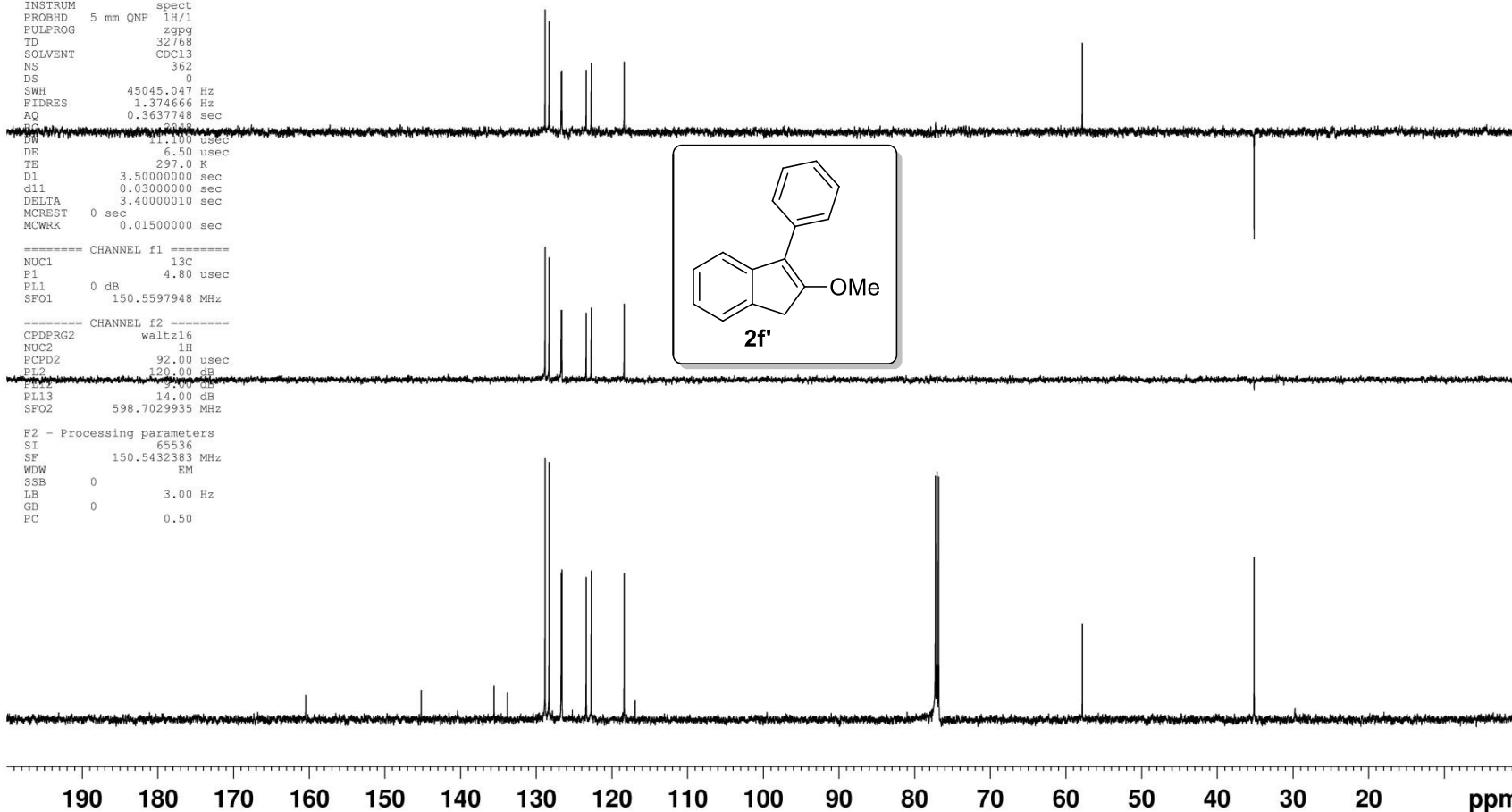
— 77.21

— 76.99

— 76.78

— 57.79

— 35.10



```

Current Data Parameters
NAME      2013-11-22
EXPNO    1
PROCNO   1

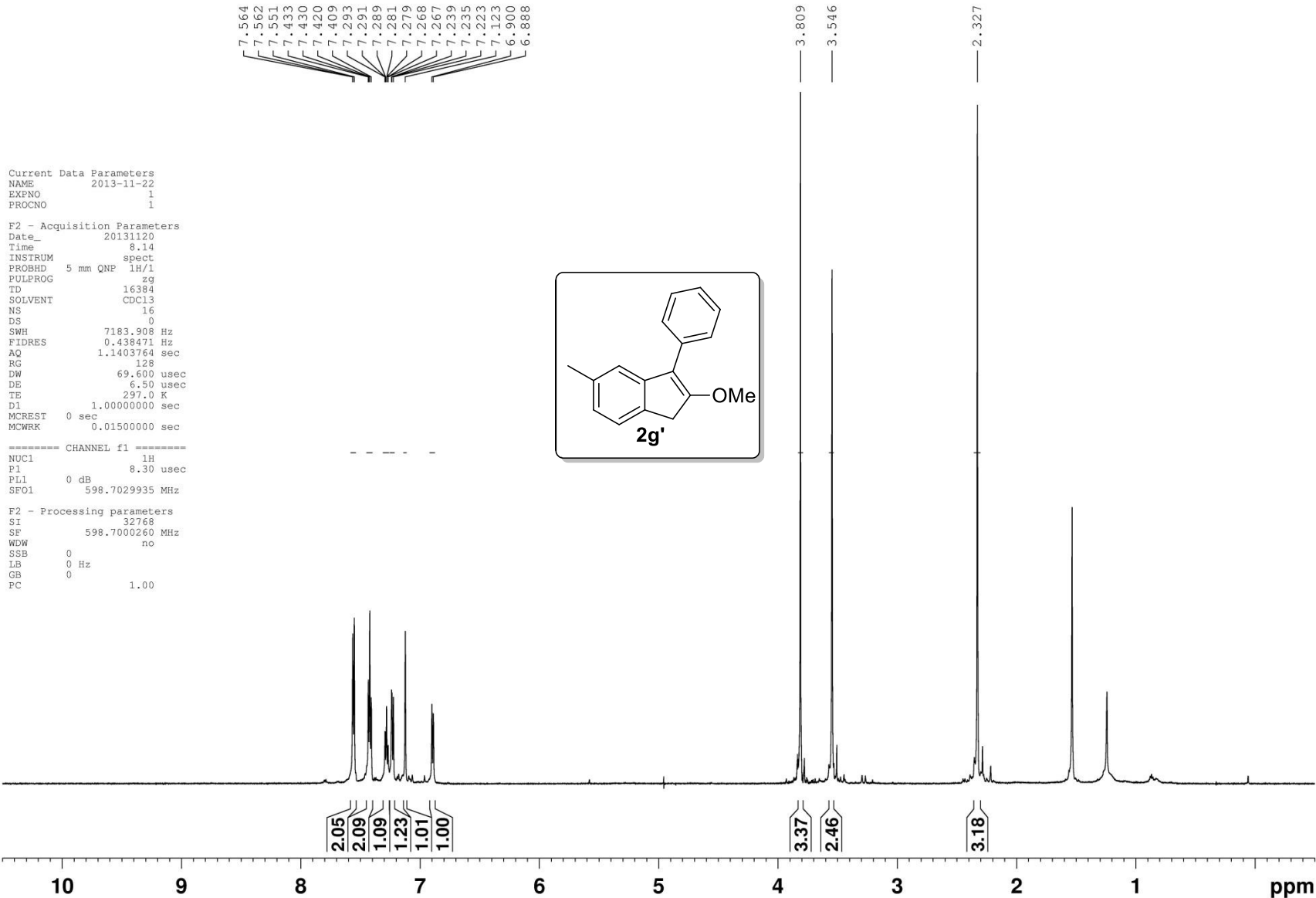
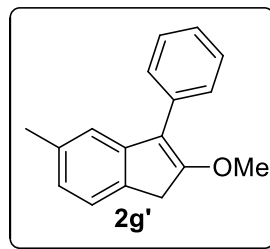
F2 - Acquisition Parameters
Date_    20131120
Time     8.14
INSTRUM  spect
PROBHD   5 mm QNP 1H/1
PULPROG  zg
TD       16384
SOLVENT  CDCl3
NS       16
DS       0
SWH      7183.908 Hz
FIDRES   0.438471 Hz
AQ       1.1403764 sec
RG       128
DW       69.600 usec
DE       6.50 usec
TE       297.0 K
D1       1.0000000 sec
MCREST   0 sec
MCWRK    0.0150000 sec

----- CHANNEL f1 -----
NUC1     1H
P1       8.30 usec
PL1     0 dB
SFO1    598.7029935 MHz

F2 - Processing parameters
SI       32768
SF       598.7000260 MHz
WDW      no
SSB      0
LB       0 Hz
GB       0
PC       1.00

```

7.564
7.562
7.551
7.433
7.430
7.420
7.409
7.293
7.291
7.289
7.281
7.279
7.268
7.267
7.239
7.235
7.223
7.123
6.900
6.888



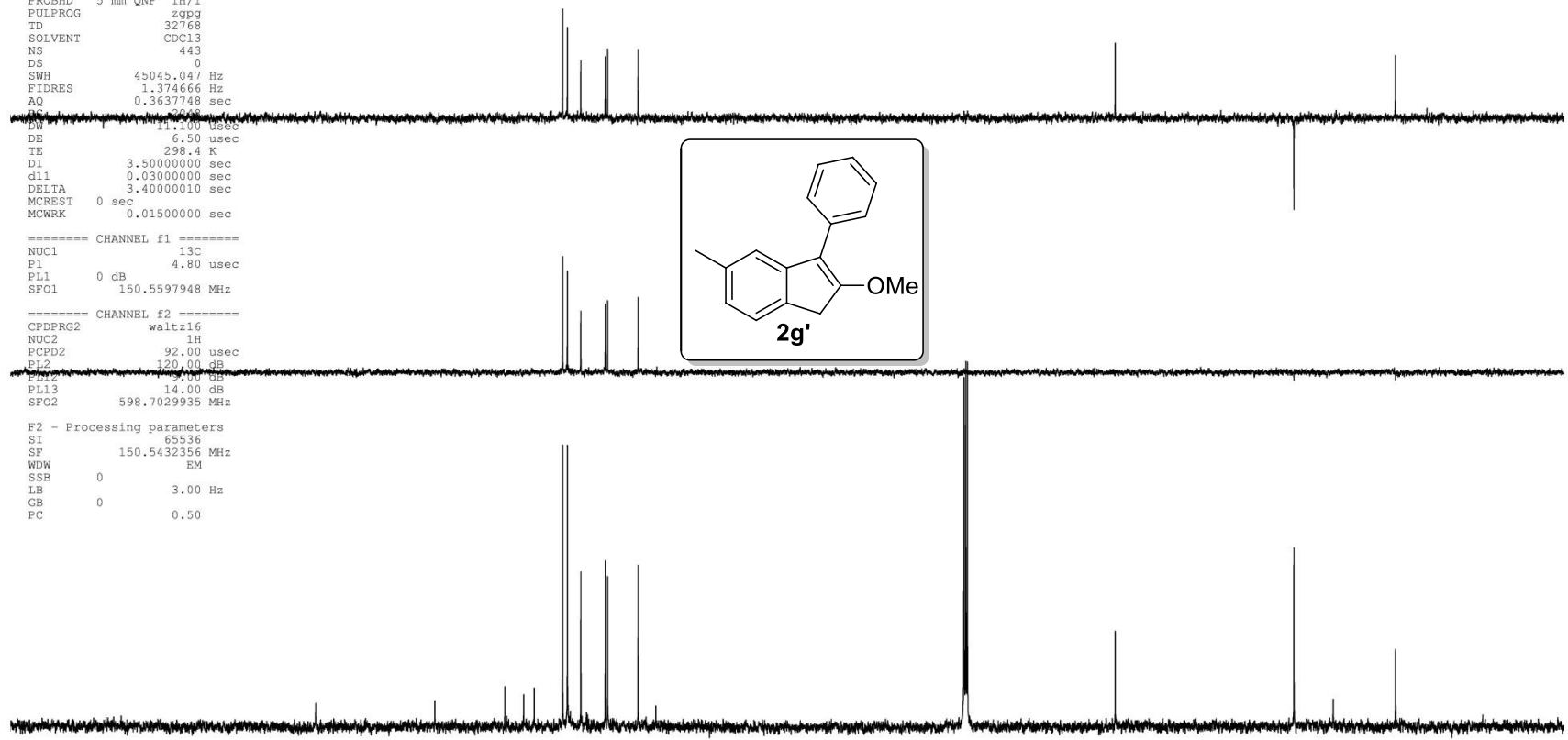
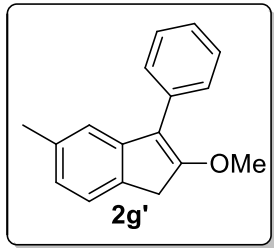
Current Data Parameters
NAME 2013-11-22
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131120
Time 8.19
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg
TD 32768
SOLVENT CDCl3
NS 443
DS 0
SWH 45045.047 Hz
FIDRES 1.374666 Hz
AQ 0.3637748 sec
DM 11.100 USEC
DE 6.50 usec
TE 298.4 K
D1 3.50000000 sec
d11 0.03000000 sec
DELTA 3.40000010 sec
MCREST 0 sec
MCWRK 0.01500000 sec

===== CHANNEL f1 =====
NUC1 13C
P1 4.80 usec
PL1 0 dB
SFO1 150.5597948 MHz
===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 92.00 usec
PL2 120.00 dB
PL12 19.00 dB
PL13 14.00 dB
SFO2 598.7029935 MHz

F2 - Processing parameters
SI 65536
SF 150.5432356 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 0.50

160.66
145.32
136.31
133.89
132.54
128.86
128.27
126.54
123.40
123.09
119.17
116.89
77.21
77.00
76.79
57.76
34.77
21.68



190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 ppm

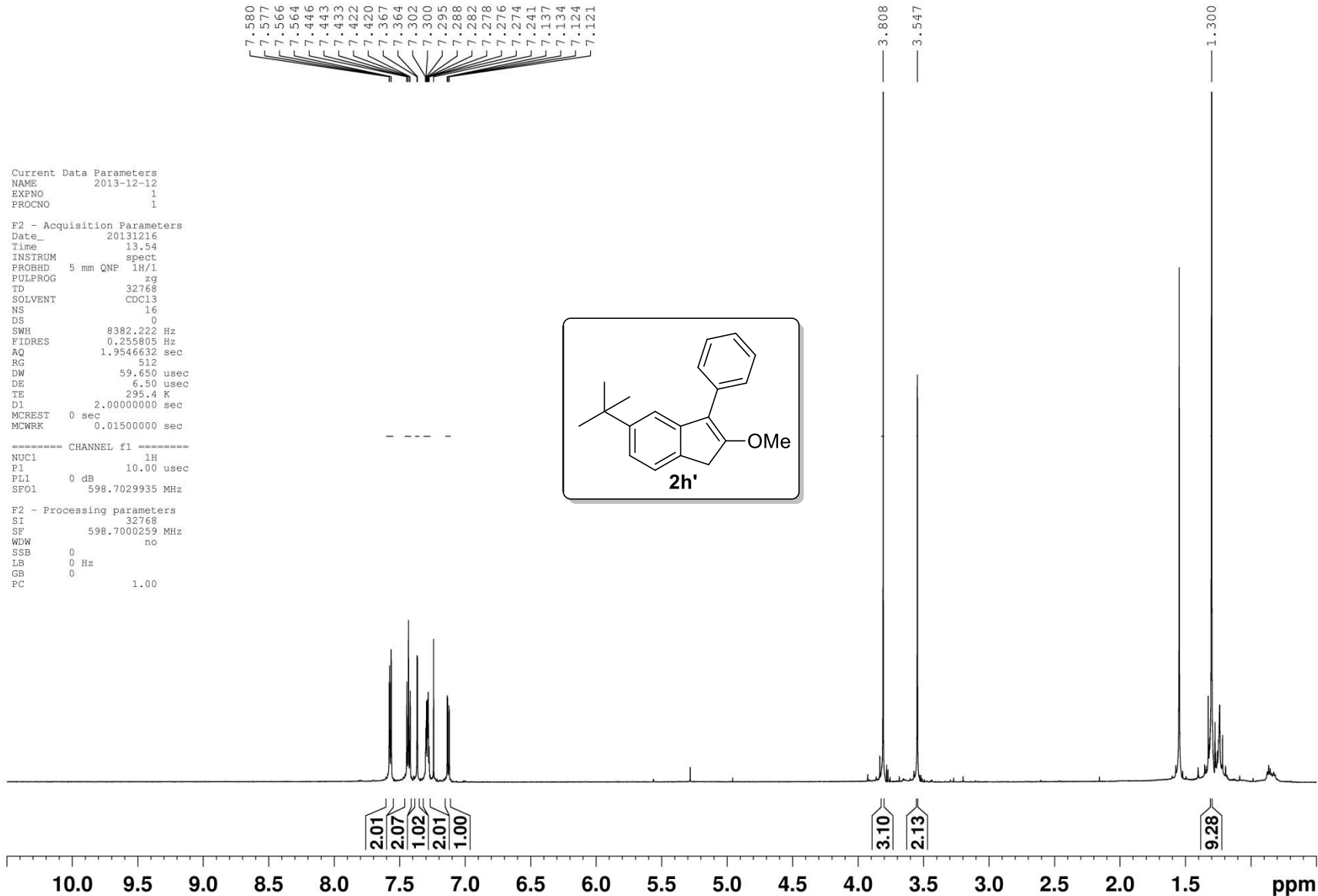
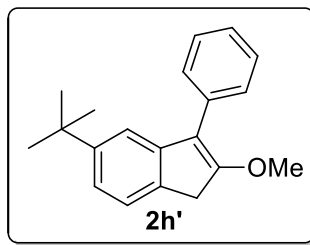
Current Data Parameters
 NAME 2013-12-12
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131216
 Time 13.54
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zg
 TD 32768
 SOLVENT CDCl3
 NS 16
 DS 0
 SWH 8382.222 Hz
 FIDRES 0.255805 Hz
 AQ 1.9546632 sec
 RG 512
 DW 59.650 usec
 DE 6.50 usec
 TE 295.4 K
 D1 2.0000000 sec
 MCREST 0 sec
 MCWRK 0.0150000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 10.00 usec
 PL1 0 dB
 SFO1 598.702935 MHz

F2 - Processing parameters
 SI 32768
 SF 598.7000259 MHz
 WDW no
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00

7.580
7.577
7.566
7.564
7.446
7.443
7.433
7.422
7.420
7.367
7.364
7.302
7.300
7.295
7.288
7.282
7.278
7.276
7.274
7.241
7.137
7.134
7.124
7.121



Current Data Parameters
NAME 2013-12-12
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131216
Time 12.51
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg
TD 32768
SOLVENT CDCl3
NS 615
DS 0
SWH 45045.047 Hz
FIDRES 1.374666 Hz
AQ 0.3637748 sec

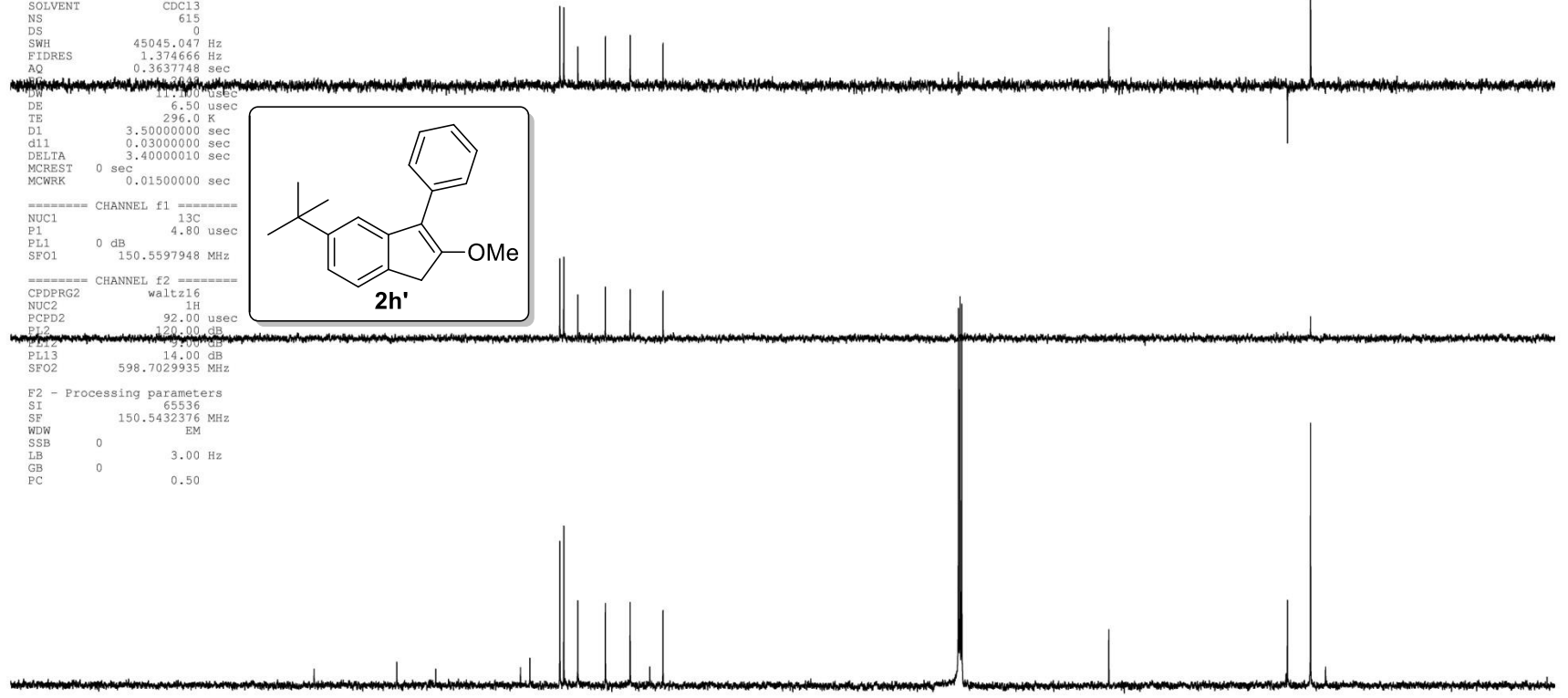
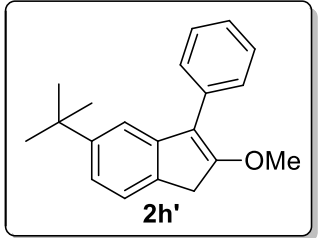
DE 11.100 usec
TE 296.0 K
D1 3.50000000 sec
d11 0.03000000 sec
DELTA 3.40000010 sec
MCREST 0 sec
MCWRK 0.01500000 sec

===== CHANNEL f1 =====
NUC1 13C
P1 4.80 usec
PL1 0 dB
SFO1 150.5597948 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 92.00 usec
PL2 120.00 dB
PL3 14.00 dB
SFO2 598.7029935 MHz

F2 - Processing parameters
SI 65536
SF 150.5432376 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 0.50

160.63
149.92
144.89
133.90
132.70
128.82
128.31
126.49
122.93
119.71
117.16
115.47
77.21
77.00
76.79
57.74
34.80
34.63
31.62



190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 ppm

```

Current Data Parameters
NAME      Hao-4-Me-I-2
EXPNO    1
PROCNO   1

F2 - Acquisition Parameters
Date_    20140327
Time     20.54
INSTRUM  spect
PROBHD   5 mm QNP 1H/1
PULPROG  zg
TD       32768
SOLVENT  CDCl3
NS       32
DS       0
SWH      9578.544 Hz
FIDRES   0.292314 Hz
AQ       1.7105396 sec
RG       256
DW       52.200 usec
DE       6.50 usec
TE       295.3 K
D1       2.0000000 sec
MCREST   0.0000000 sec
MCWRK    0.0150000 sec

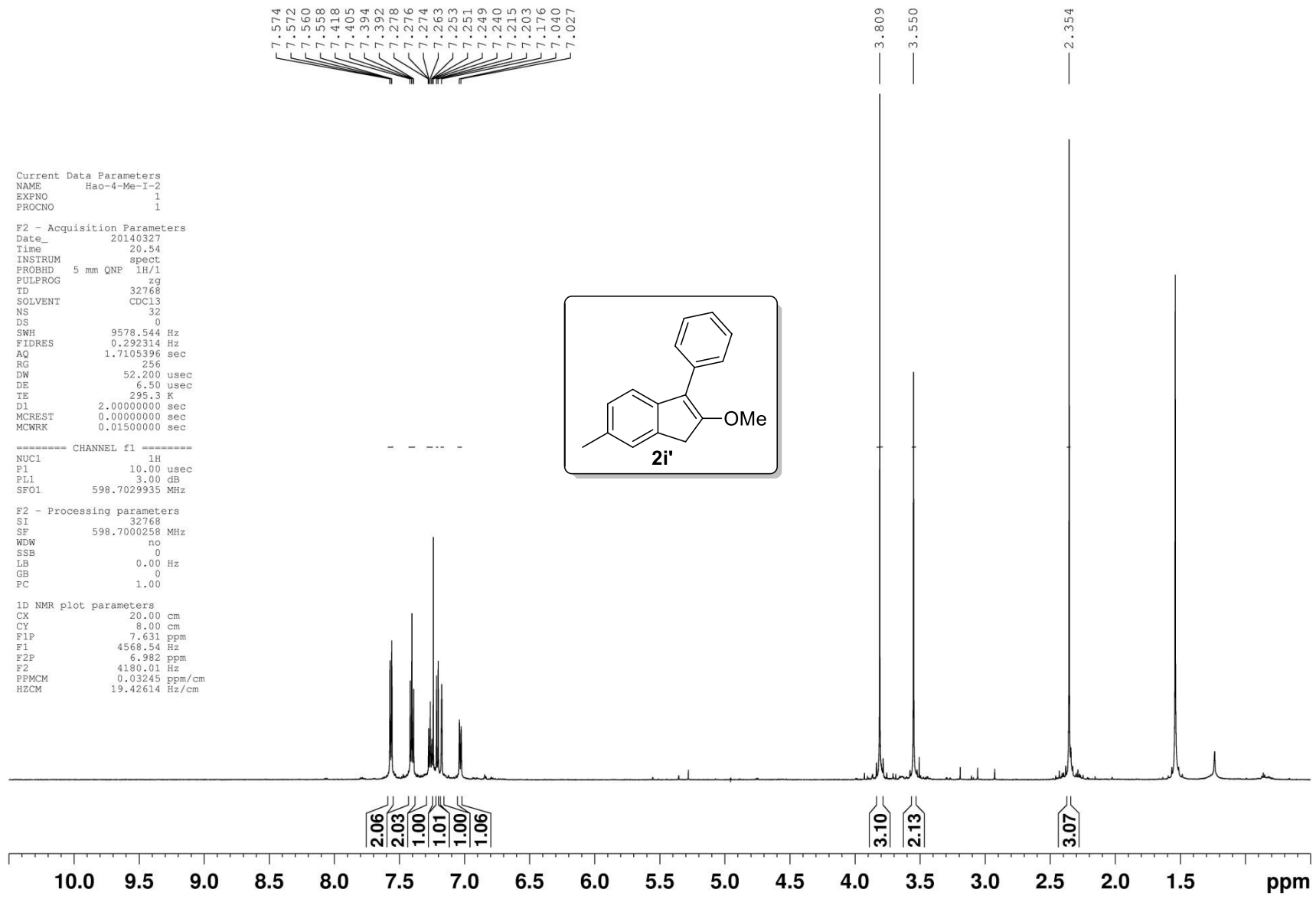
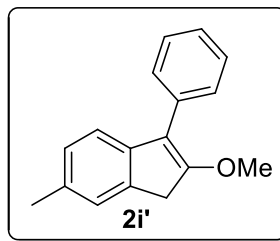
----- CHANNEL f1 -----
NUC1     1H
P1       10.00 usec
PL1      3.00 dB
SFO1     598.7029935 Mhz

F2 - Processing parameters
SI       32768
SF       598.7000258 Mhz
WDW      no
SSB      0
LB       0.00 Hz
GB       0
PC       1.00

1D NMR plot parameters
CX       20.00 cm
CY       8.00 cm
FLP      7.631 ppm
F1       4568.54 Hz
F2P      6.982 ppm
F2       4180.01 Hz
PFMCM    0.03245 ppm/cm
HZCM     19.42614 Hz/cm

```

7.574
7.572
7.560
7.558
7.418
7.405
7.394
7.392
7.278
7.276
7.274
7.263
7.253
7.251
7.249
7.240
7.215
7.203
7.176
7.1040
7.1027



Current Data Parameters
NAME 2014-03-26
EXPNO 2
PROCNO 1

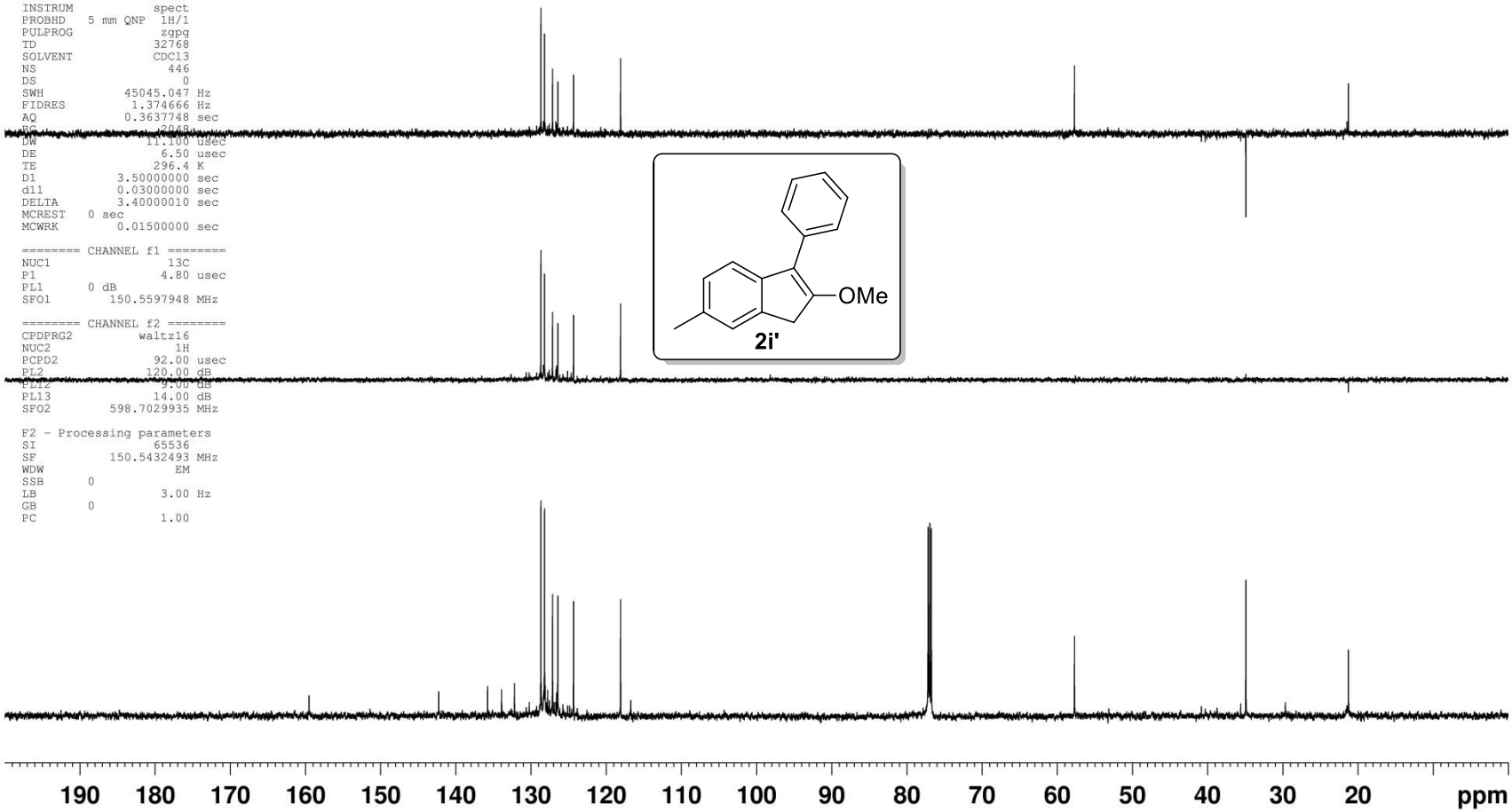
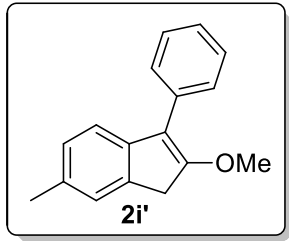
F2 - Acquisition Parameters
Date_ 20140326
Time 10.46
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg
TD 32768
SOLVENT CDCl3
NS 446
DS 0
SWH 45045.047 Hz
FIDRES 1.374666 Hz
AQ 0.3637748 sec
RG 270.00
DWTW 11.100 usec
DE 6.50 usec
TE 296.4 K
D1 3.50000000 sec
d11 0.03000000 sec
DELTA 3.40000010 sec
MCREST 0 sec
MCWRK 0.01500000 sec

===== CHANNEL f1 =====
NUC1 13C
P1 4.80 usec
PL1 0 dB
SFO1 150.5597948 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 92.00 usec
PL2 120.00 dB
PL12 9.00 dB
PL13 14.00 dB
SFO2 598.7029935 MHz

F2 - Processing parameters
SI 65536
SF 150.5432493 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 1.00

159.49
142.23
135.72
133.87
132.16
128.65
128.17
127.09
126.40
124.30
118.04
116.69
77.14
76.93
76.72
57.67
34.88
21.23



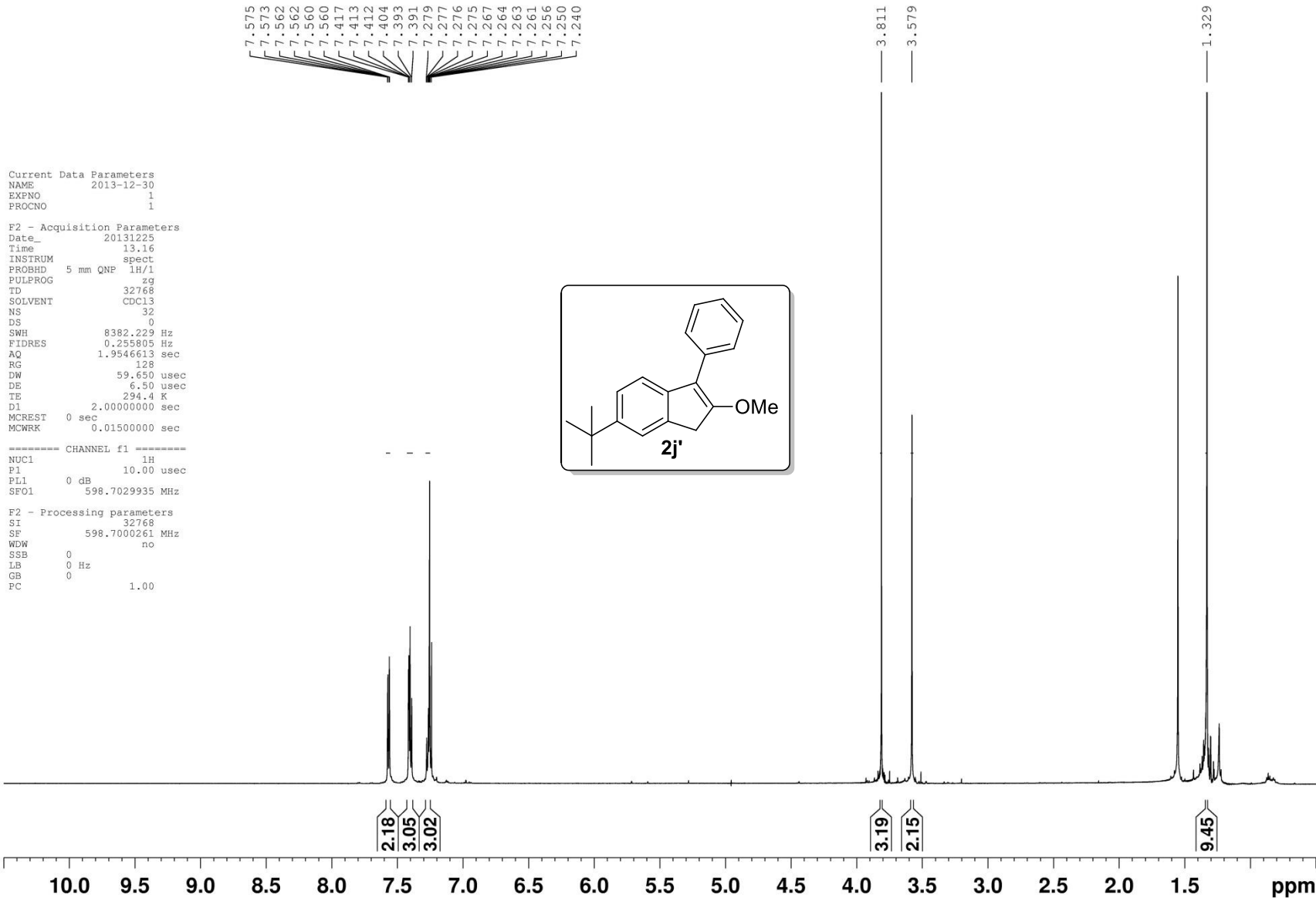
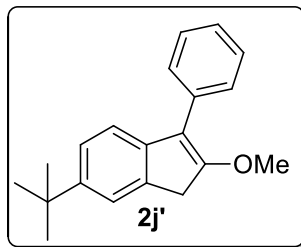
Current Data Parameters
 NAME 2013-12-30
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131225
 Time 13.16
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zg
 TD 32768
 SOLVENT CDCl3
 NS 32
 DS 0
 SWH 8382.229 Hz
 FIDRES 0.255805 Hz
 AQ 1.9546613 sec
 RG 128
 DW 59.650 usec
 DE 6.50 usec
 TE 294.4 K
 D1 2.0000000 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 10.00 usec
 PL1 0 dB
 SFO1 598.7029935 MHz

F2 - Processing parameters
 SI 32768
 SF 598.7000261 MHz
 WDW no
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00

7.575
7.573
7.562
7.562
7.560
7.560
7.417
7.413
7.412
7.404
7.393
7.391
7.279
7.277
7.276
7.275
7.267
7.264
7.263
7.261
7.256
7.250
7.240



Current Data Parameters
NAME 2013-12-30
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters

Date_ 20131225
Time 13.20
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg
TD 32768
SOLVENT CDC13
NS 5120
DS 0
SWH 45045.047 Hz
FIDRES 1.374666 Hz
AQ 0.3637748 sec
RG 2048
DW 11.100 usec
DE 6.50 usec
TE 295.1 K
D1 3.50000000 sec
d11 0.03000000 sec
DELTA 3.40000010 sec
MCREST 0 sec
MCWRK 0.01500000 sec

===== CHANNEL f1 =====
NUC1 13C
P1 4.80 usec
PL1 0 dB
SFO1 150.5597948 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 92.00 usec
PL2 120.00 dB
PL12 9.00 dB
PL13 14.00 dB
SFO2 598.7029935 MHz

F2 - Processing parameters
SI 65536
SF 150.5432376 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 0.50

— 159.93

— 145.88

— 142.45

— 135.46

— 133.97

— 128.72

— 128.23

— 126.46

— 123.41

— 120.68

— 117.87

— 116.75

— 77.21

— 77.00

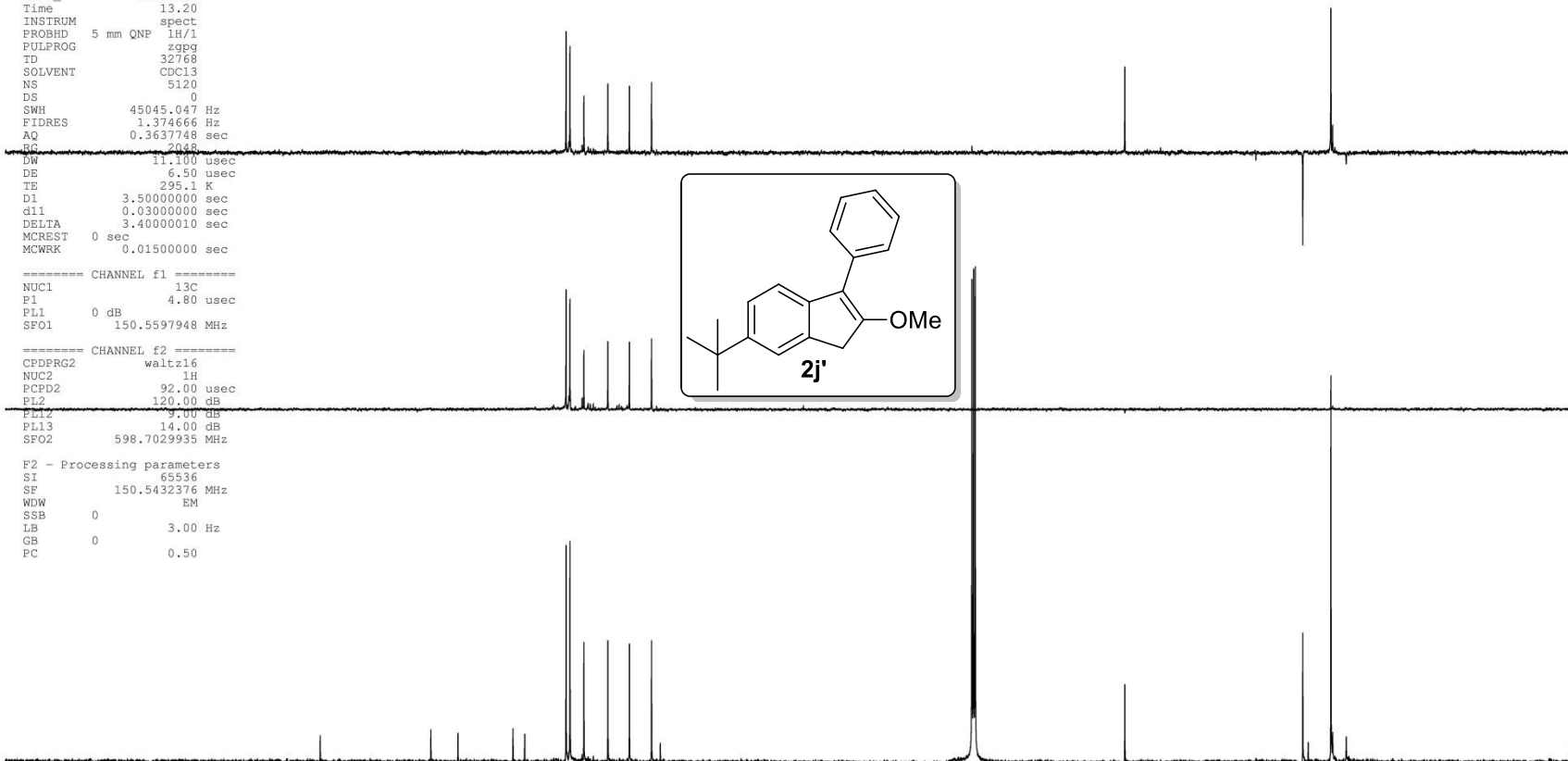
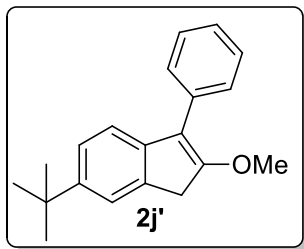
— 76.78

— 57.79

— 35.20

— 34.52

— 31.64



190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 ppm

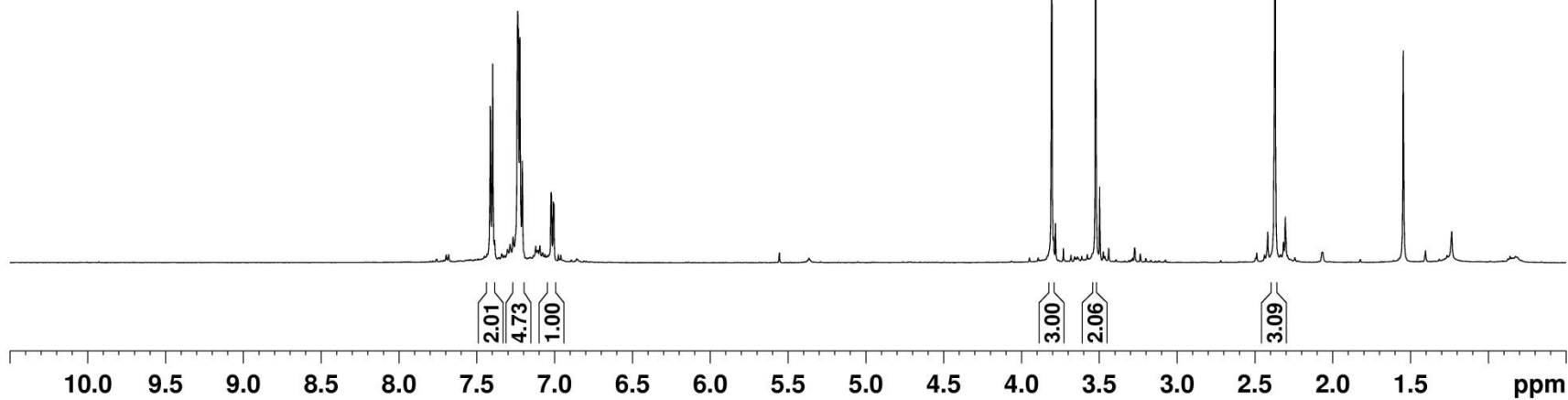
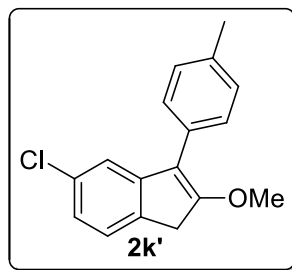
Current Data Parameters
NAME 0425.fid
EXPNO 1
PROCNO 1
F2 - Processing parameters
SI 16384
SF 499.8069129 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

7.414
7.398
7.237
7.233
7.223
7.207
7.024
7.020
7.008
7.004

3.806

3.523

2.371



Current Data Parameters
NAME 0425.fid
EXPNO 2
PROCNO 1

F2 - Processing parameters
SI 65536
SF 125.6794359 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

— 161.36

— 147.25

— 136.56

— 133.58

— 132.75

— 130.07

— 129.12

— 128.55

— 124.18

— 122.35

— 118.51

— 116.32

— 77.25

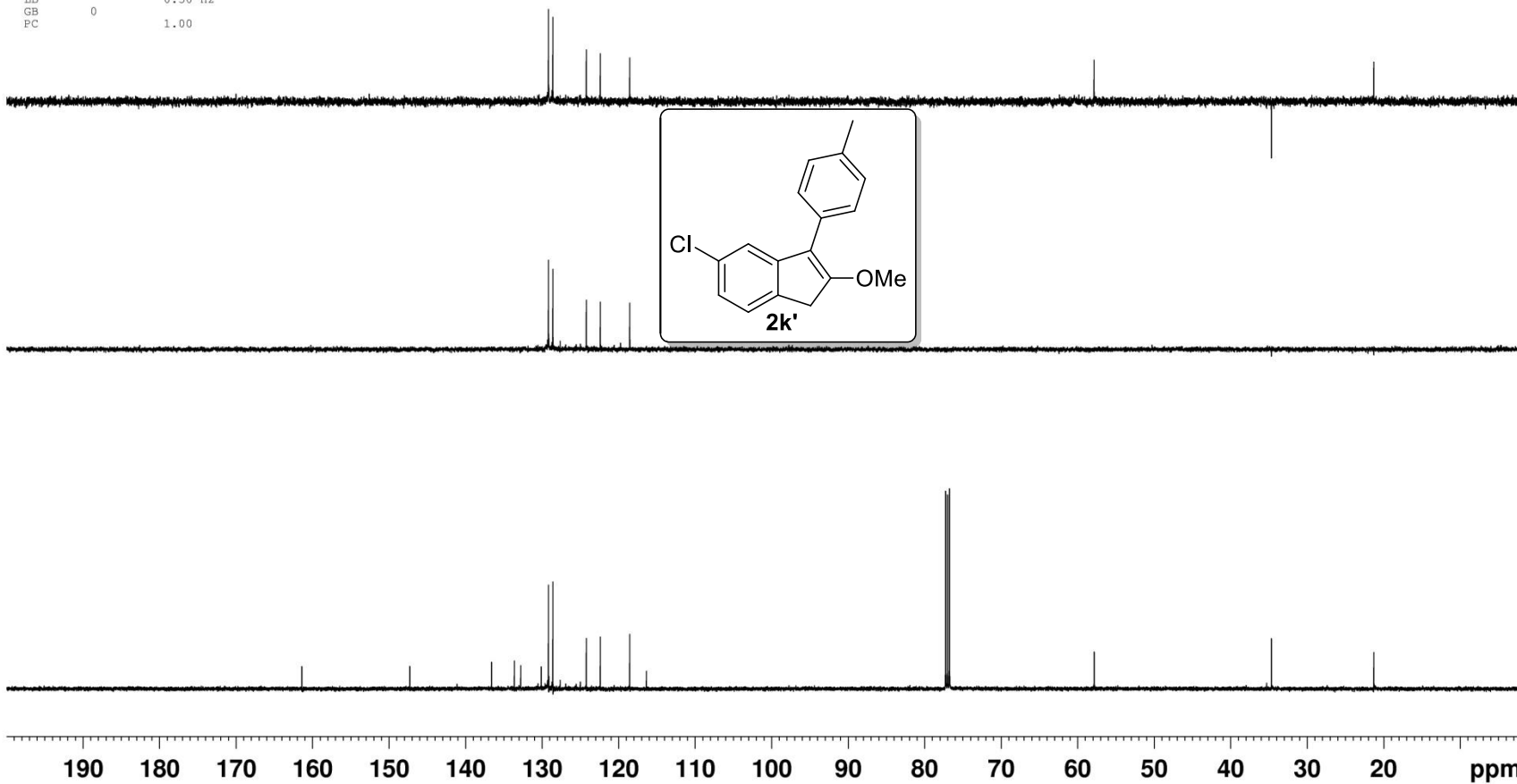
— 76.99

— 76.74

— 57.84

— 34.67

— 21.29



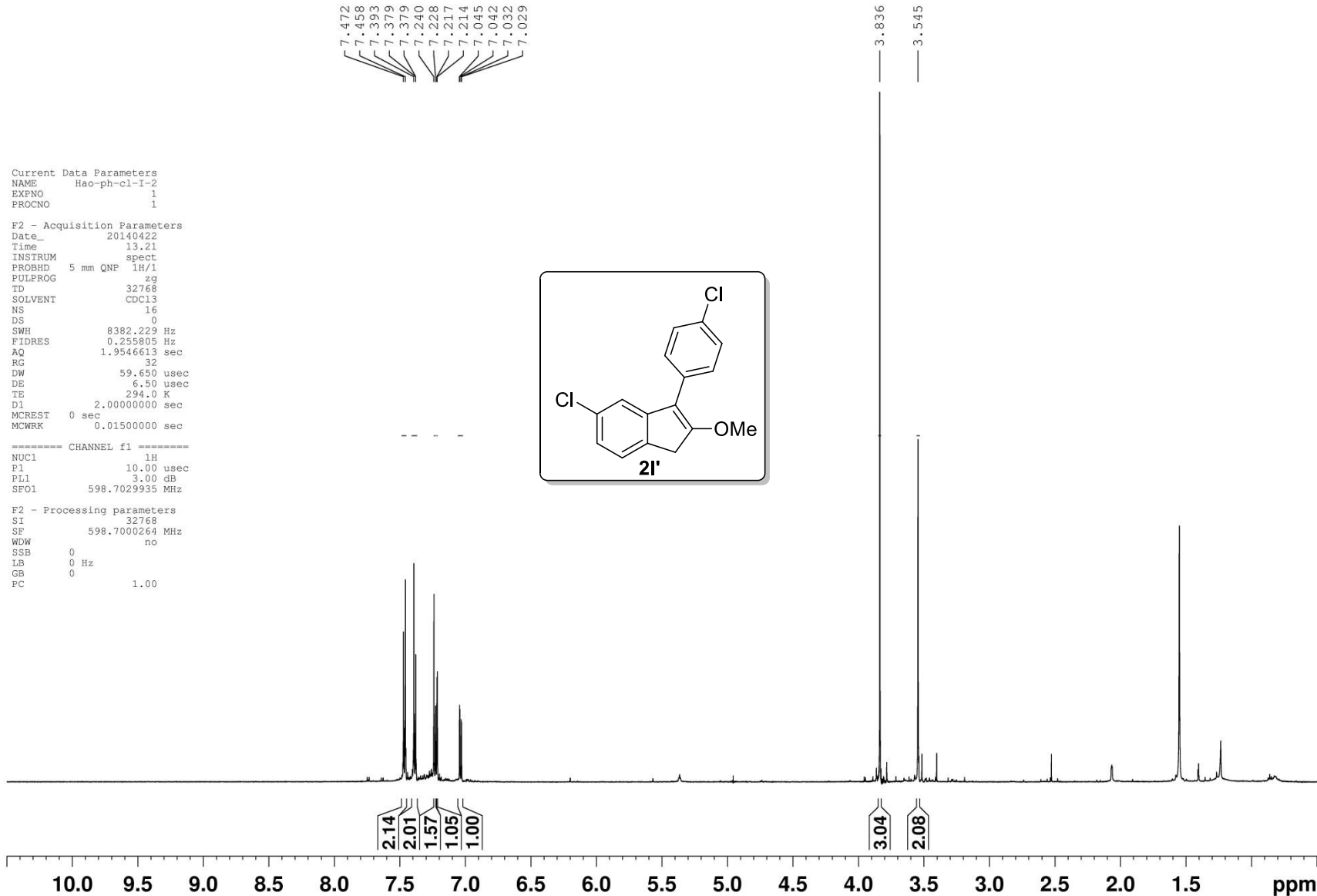
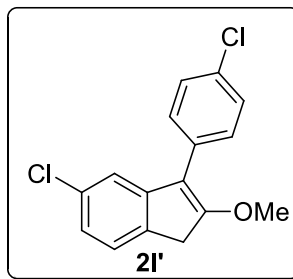
Current Data Parameters
 NAME Hao-ph-cl-I-2
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140422
 Time 13.21
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zg
 TD 32768
 SOLVENT CDCl3
 NS 16
 DS 0
 SWH 8382.229 Hz
 FIDRES 0.255805 Hz
 AQ 1.9546613 sec
 RG 32
 DW 59.650 usec
 DE 6.50 usec
 TE 294.0 K
 D1 2.0000000 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 10.00 usec
 PL1 3.00 dB
 SFO1 598.7029935 Mhz

F2 - Processing parameters
 SI 32768
 SF 598.7000264 Mhz
 WDW no
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00

7.472
 7.458
 7.393
 7.379
 7.379
 7.240
 7.228
 7.217
 7.214
 7.045
 7.042
 7.032
 7.029



— 162.08

— 146.56

133.44

132.91

132.44

131.55

129.95

128.63

124.35

122.67

118.36

115.30

77.21

77.00

76.79

— 57.88

— 34.66

Current Data Parameters
NAME Hao-ph-cl-I-2
EXPNO 12
PROCNO 1

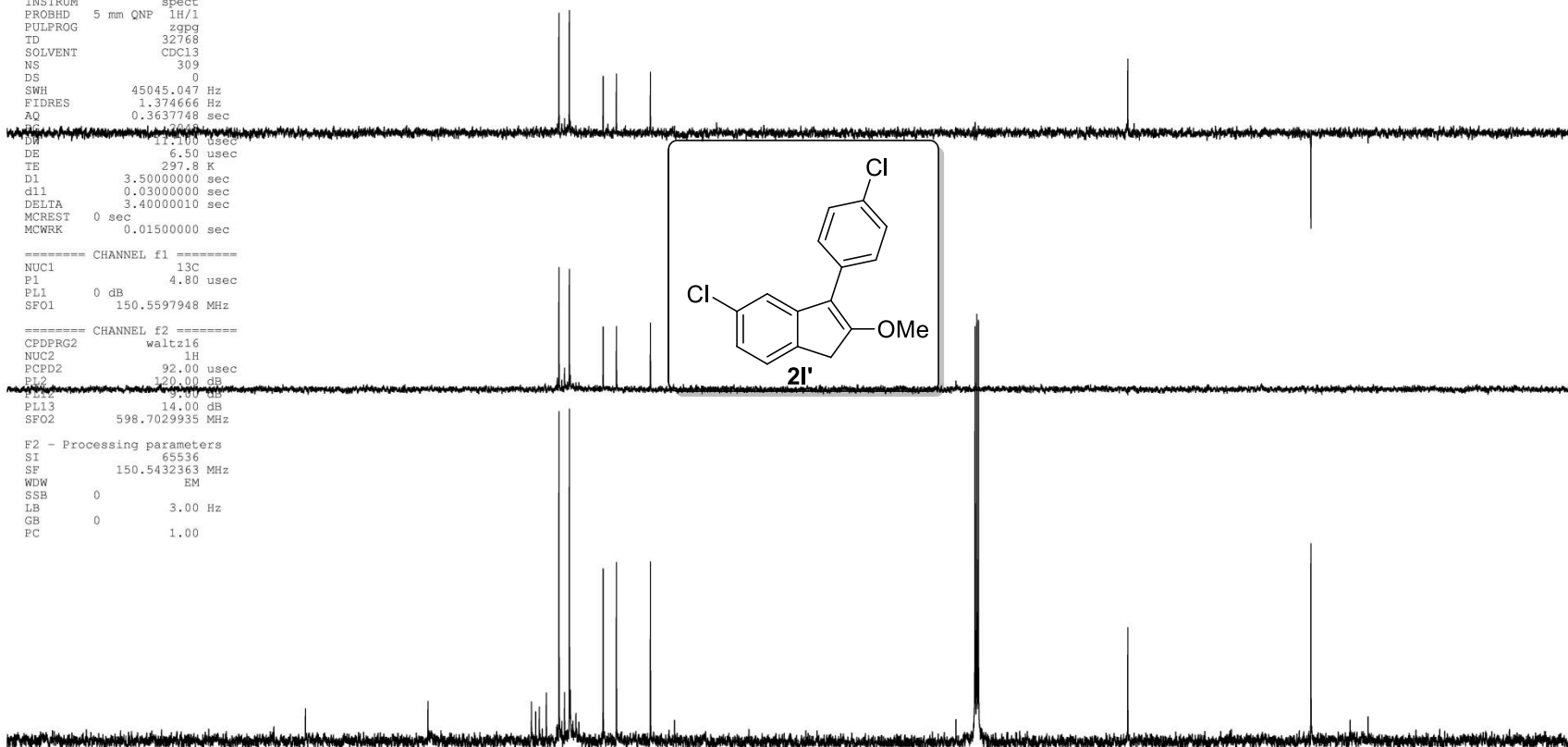
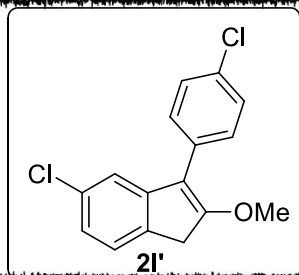
F2 - Acquisition Parameters
Date_ 20140423
Time 12.24
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg
TD 32768
SOLVENT CDCl3
NS 309
DS 0
SWH 45045.047 Hz
FIDRES 1.374666 Hz
AQ 0.3637748 sec

DM 11.100 usec
DE 6.50 usec
TE 297.8 K
D1 3.50000000 sec
d11 0.03000000 sec
DELTA 3.40000010 sec
MCREST 0 sec
MCWRK 0.01500000 sec

===== CHANNEL f1 =====
NUC1 13C
P1 4.80 usec
PL1 0 dB
SFO1 150.5597948 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 92.00 usec
PL2 120.00 dB
PL3 19.00 dB
PL13 14.00 dB
SFO2 598.7029935 MHz

F2 - Processing parameters
SI 65536
SF 150.5432363 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 1.00



190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 ppm

Current Data Parameters
 NAME 2013-12-12-P
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131213
 Time 11.17
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zg
 TD 32768
 SOLVENT CDCl3
 NS 16
 DS 0
 SWH 8382.222 Hz
 FIDRES 0.255805 Hz
 AQ 1.9546632 sec
 RG 512
 DW 59.650 usec
 DE 6.50 usec
 TE 296.1 K
 D1 2.0000000 sec
 MCREST 0 sec
 MCWRK 0.0150000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 10.00 usec
 PL1 0 dB
 SFO1 598.7029935 MHz

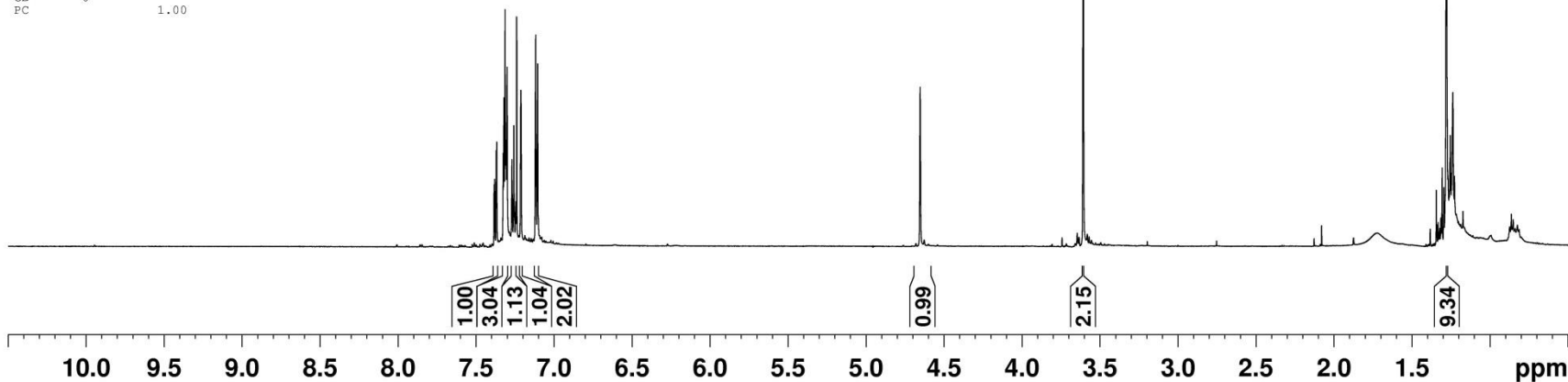
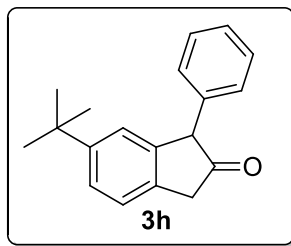
F2 - Processing parameters
 SI 32768
 SF 598.7000264 MHz
 WDW no
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00

7.384
 7.381
 7.371
 7.368
 7.326
 7.321
 7.314
 7.308
 7.304
 7.301
 7.270
 7.261
 7.258
 7.255
 7.246
 7.240
 7.213
 7.120
 7.118
 7.106
 7.105

4.653

3.607

1.280



— 214.23

— 151.20

— 140.83

— 138.20

— 134.34

— 128.74

— 128.43

— 127.24

— 125.17

— 124.37

— 122.83

77.21

77.00

76.79

— 59.99

— 42.60

— 34.81

— 31.42

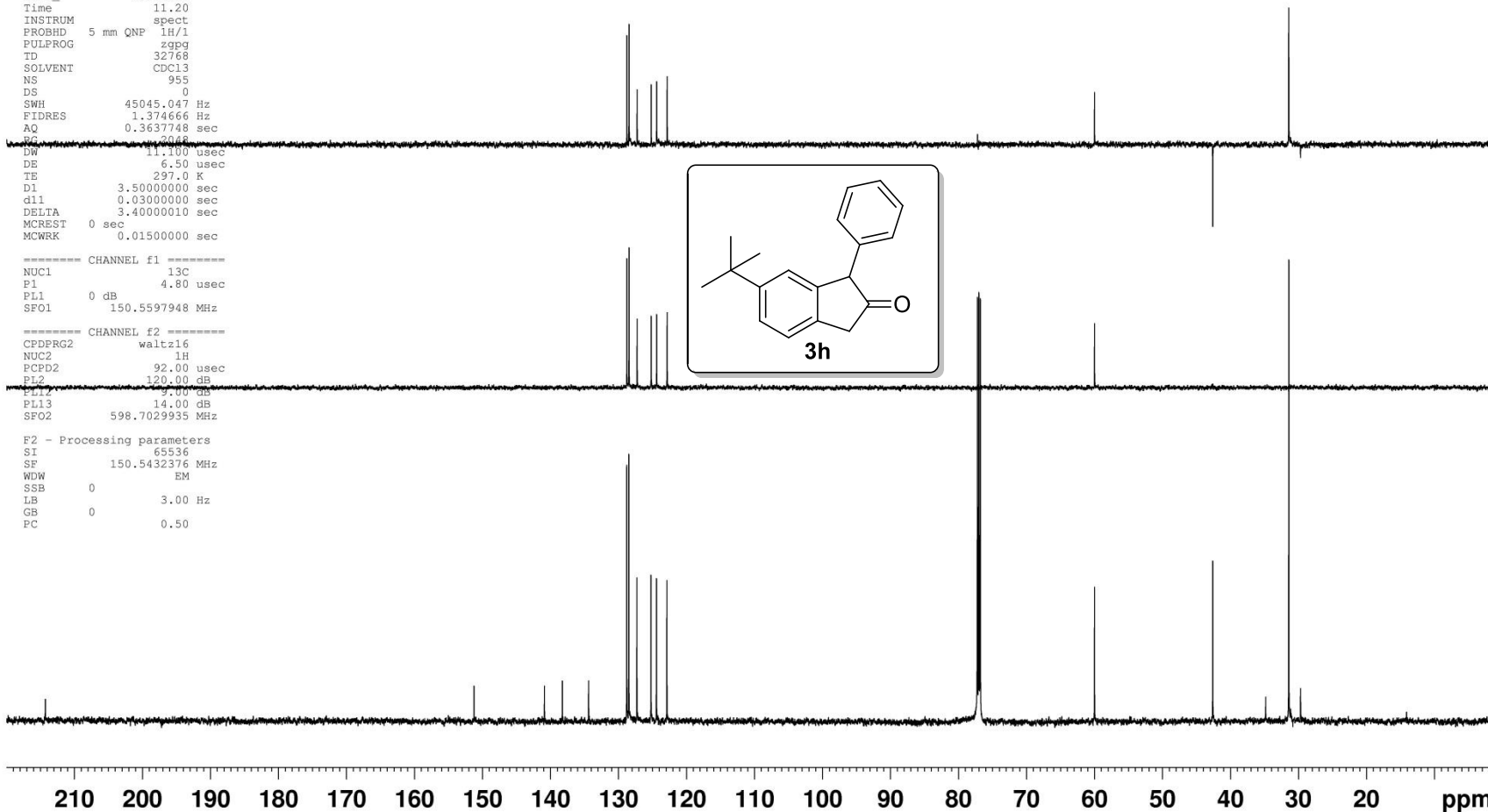
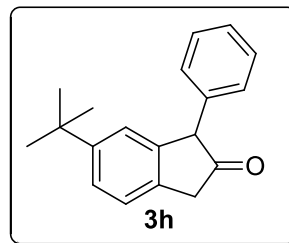
Current Data Parameters
NAME 2013-12-12-P
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131213
Time 11.20
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg
TD 32768
SOLVENT CDCl3
NS 955
DS 0
SWH 45045.047 Hz
FIDRES 1.374666 Hz
AQ 0.3637748 sec
RG 2000
DW 11.100 usec
DE 6.50 usec
TE 297.0 K
D1 3.50000000 sec
d11 0.03000000 sec
DELTA 3.40000010 sec
MCREST 0 sec
MCWRK 0.01500000 sec

==== CHANNEL f1 =====
NUC1 13C
P1 4.80 usec
PL1 0 dB
SFO1 150.5597948 MHz

==== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 92.00 usec
PL2 120.00 dB
PL12 9.00 dB
PL13 14.00 dB
SFO2 598.7029935 MHz

F2 - Processing parameters
SI 65536
SF 150.5432376 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 0.50



Current Data Parameters
 NAME 2014-04-25-P
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140423
 Time 7.46
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zg
 TD 32768
 SOLVENT CDCl3
 NS 16
 DS 0
 SWH 8389.262 Hz
 FIDRES 0.256020 Hz
 AQ 1.9530228 sec
 RG 128
 DW 59.600 usec
 DE 6.50 usec
 TE 299.2 K
 D1 2.0000000 sec
 MCREST 0 sec
 MCWRK 0.0150000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 10.00 usec
 PL1 3.00 dB
 SFO1 598.7029935 Mhz

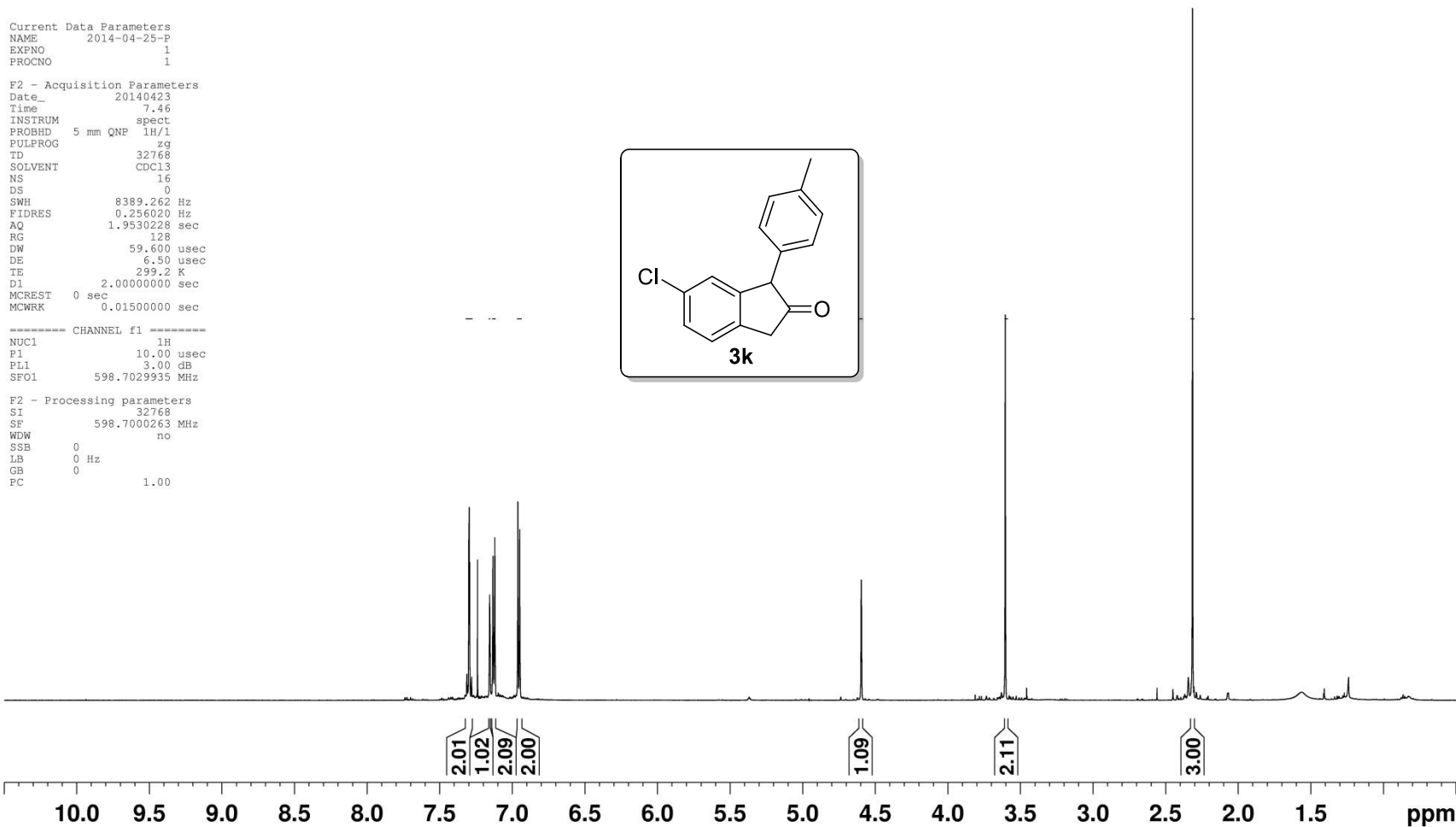
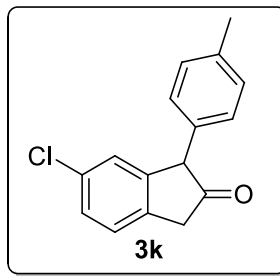
F2 - Processing parameters
 SI 32768
 SF 598.7000263 Mhz
 WDW no
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00

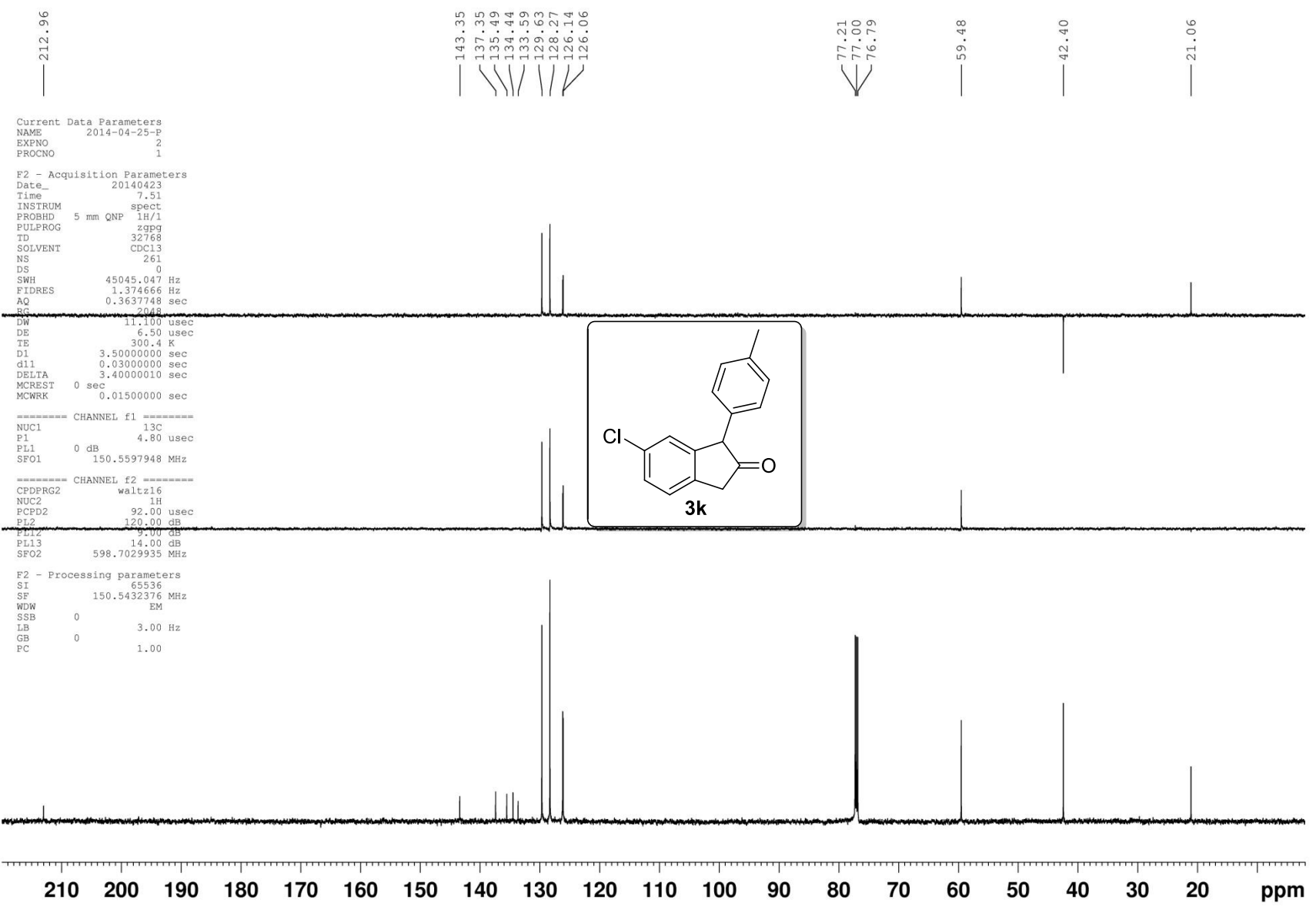
7.300
 7.299
 7.297
 7.296
 7.294
 7.293
 7.240
 7.157
 7.156
 7.155
 7.153
 7.134
 7.121
 6.962
 6.949

4.596

3.604

2.314





Current Data Parameters
 NAME 2014-04-25-P
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140423
 Time 7.51
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zgpg
 TD 32768
 SOLVENT CDCl3
 NS 261
 DS 0
 SWH 45045.047 Hz
 FIDRES 1.374666 Hz
 AQ 0.3637748 sec
 RG 2048
 DW 11.100 usec
 DE 6.50 usec
 TE 300.4 K
 D1 3.50000000 sec
 d11 0.03000000 sec
 DELTA 3.40000010 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

===== CHANNEL f1 =====
 NUC1 13C
 P1 4.80 usec
 PL1 0 dB
 SFO1 150.5597948 MHz

===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 92.00 usec
 PL2 120.00 dB
 PL12 9.00 dB
 PL13 14.00 dB
 SFO2 598.7029935 MHz

F2 - Processing parameters
 SI 65536
 SF 150.5432376 MHz
 WDW EM
 SSB 0
 LB 3.00 Hz
 GB 0
 PC 1.00

212.96

143.35
 137.35
 135.49
 134.44
 133.59
 129.63
 128.27
 126.14
 126.06

77.21
 77.00
 76.79

59.48

42.40

21.06

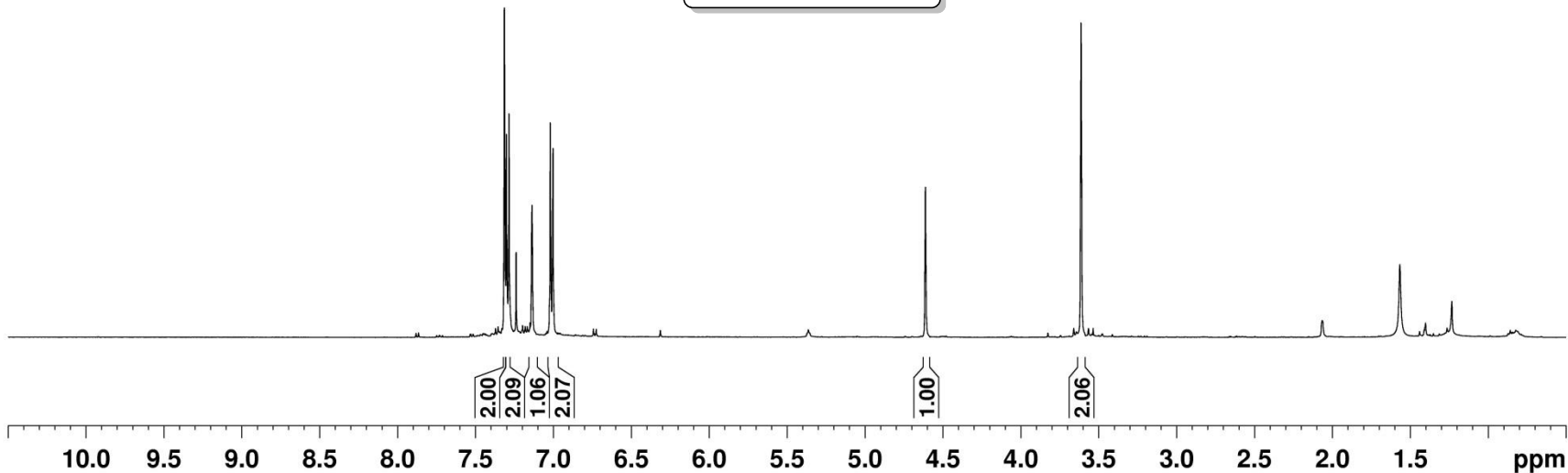
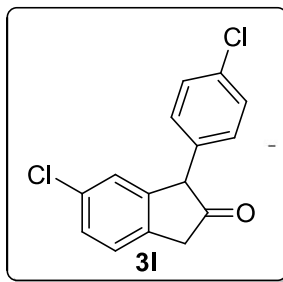
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 ppm

Current Data Parameters
NAME 0426.fid
EXPNO 1
PROCNO 1
F2 - Processing parameters
SI 16384
SF 499.8069099 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

7.314
7.301
7.284
7.239
7.137
7.019
7.003

4.612

3.613



— 212.19

142.44
135.68
135.46
133.73
133.63
129.72
129.08
128.60
126.21
126.06

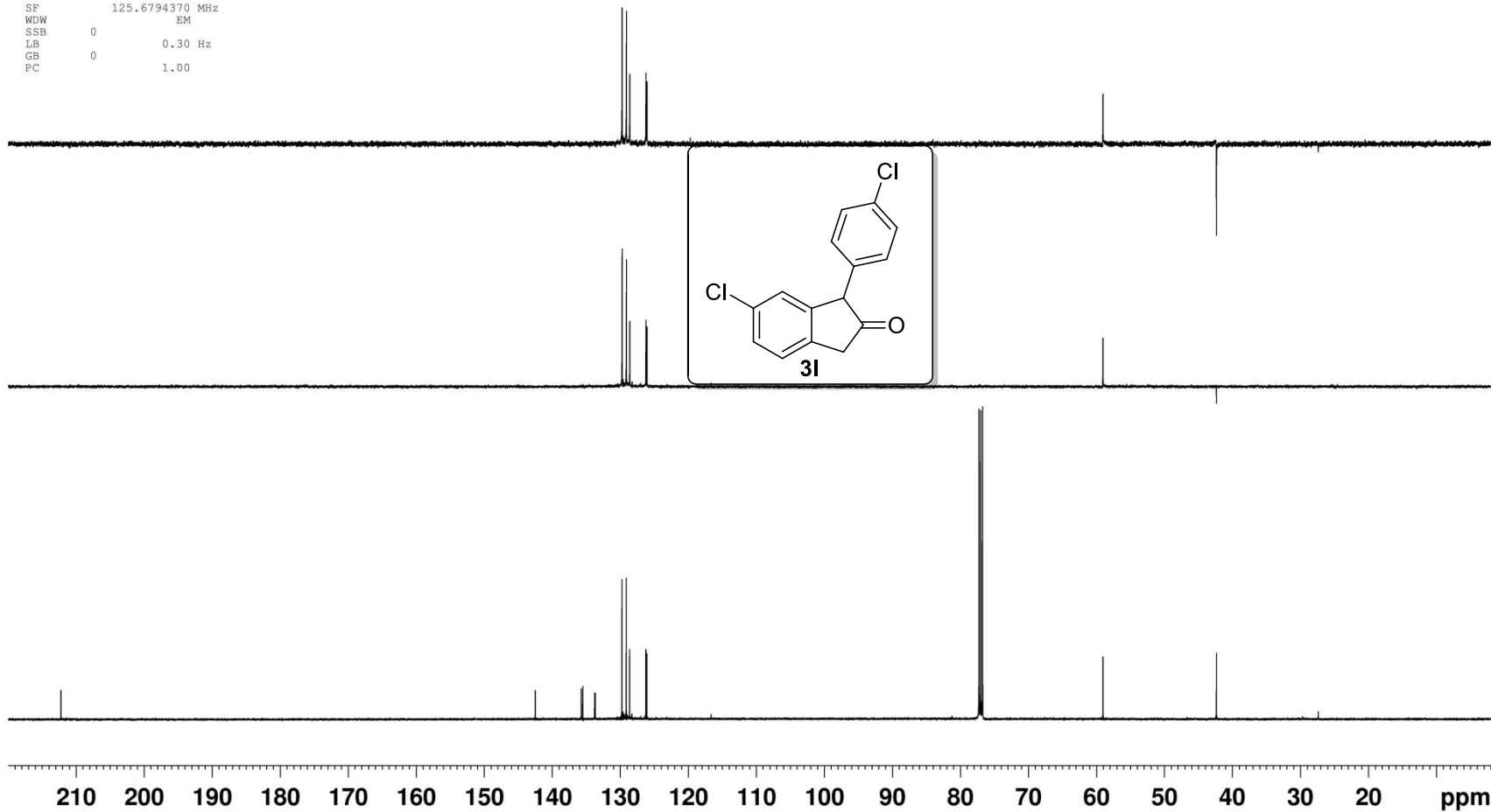
77.24
76.98
76.73

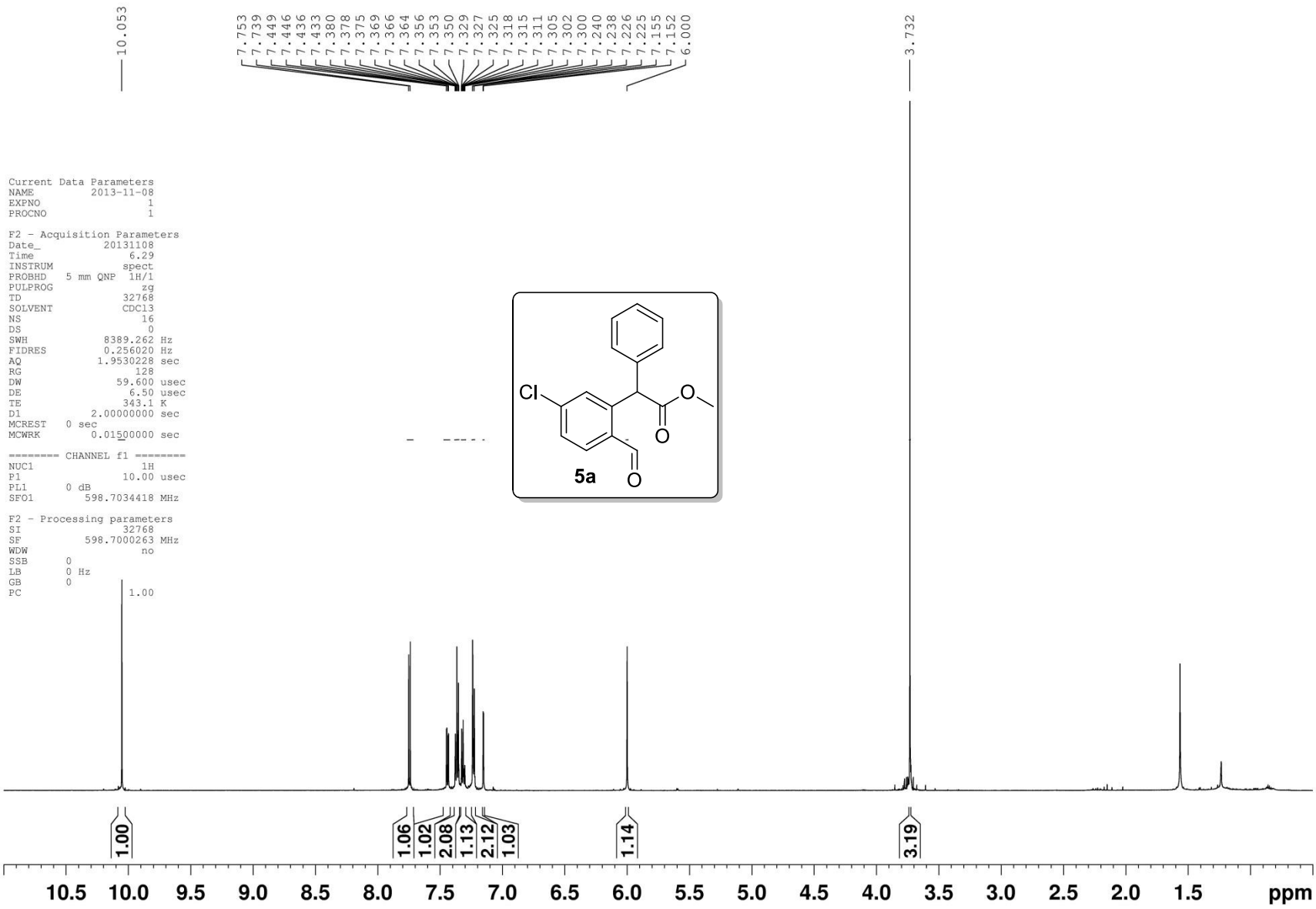
— 59.03

— 42.35

Current Data Parameters
NAME 0426.fid
EXPNO 2
PROCNO 1

F2 - Processing parameters
SI 65536
SF 125.6794370 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00





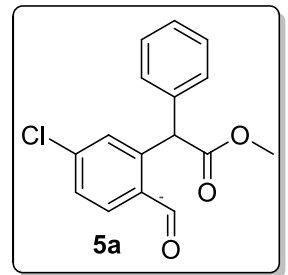
Current Data Parameters
 NAME 2013-11-08
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131108
 Time 6.29
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zg
 TD 32768
 SOLVENT CDCl3
 NS 16
 DS 0
 SWH 8389.262 Hz
 FIDRES 0.256020 Hz
 AQ 1.9530228 sec
 RG 128
 DW 59.600 usec
 DE 6.50 usec
 TE 343.1 K
 D1 2.0000000 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 10.00 usec
 PL1 0 dB
 SFO1 598.7034418 MHz

F2 - Processing parameters
 SI 32768
 SF 598.7000263 MHz
 WDW no
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00

7.753
7.739
7.449
7.446
7.436
7.433
7.380
7.378
7.375
7.369
7.366
7.364
7.356
7.353
7.350
7.329
7.327
7.325
7.318
7.315
7.311
7.305
7.302
7.300
7.240
7.238
7.226
7.225
7.155
7.152
6.000



1.00

1.06
1.02
2.08
1.13
2.12
1.03

1.14

3.19

10.5 10.0 9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 ppm

192.00

172.34

141.87
140.50
136.76
136.16
132.12
130.80
129.05
129.01
128.03
127.84

77.21
77.00
76.79

52.53
52.51

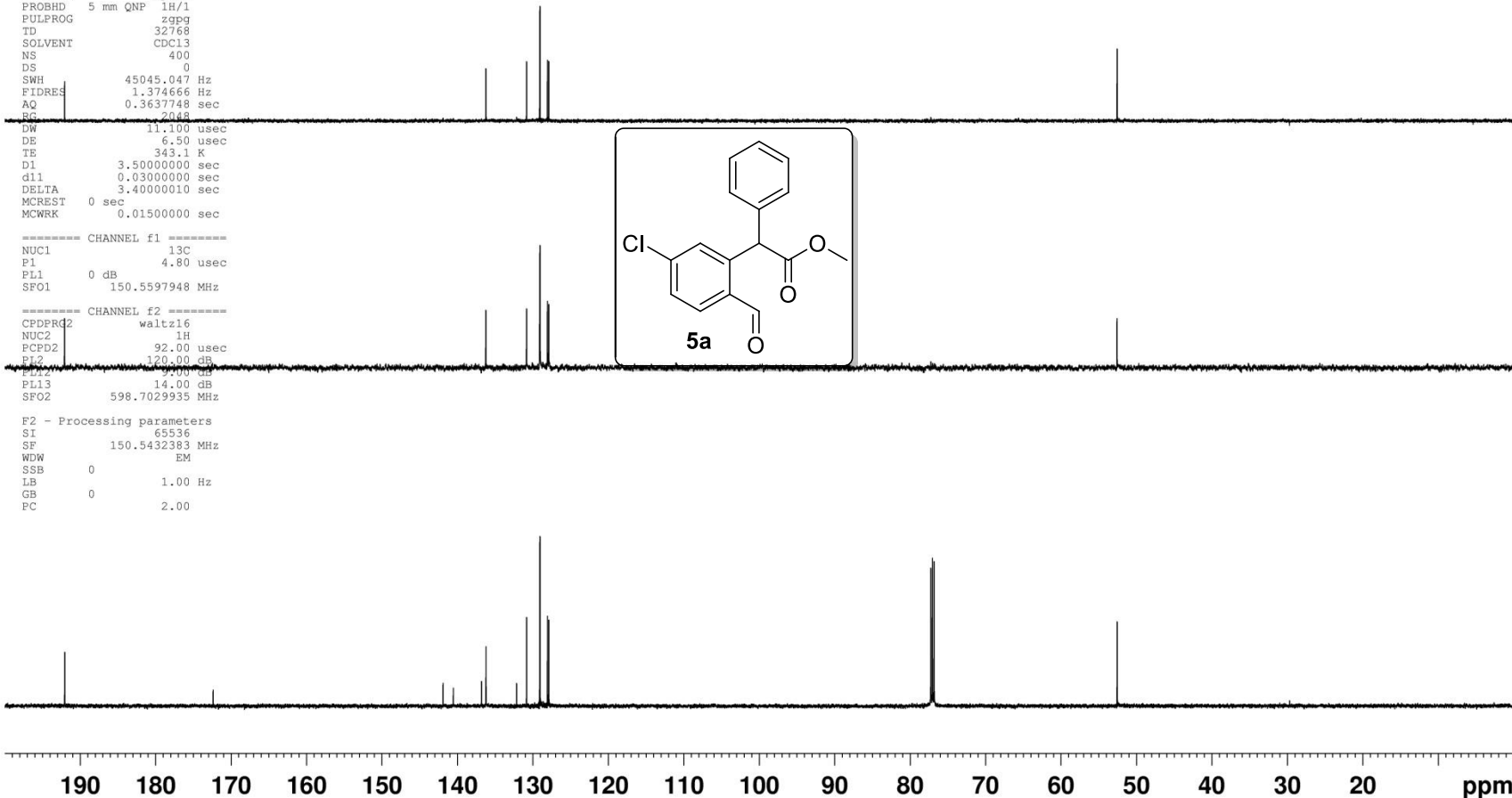
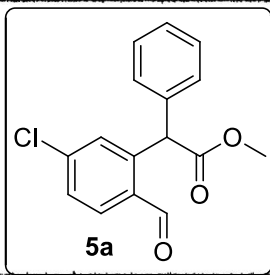
Current Data Parameters
NAME 2013-11-08
EXPNO 2
PROCNO 1

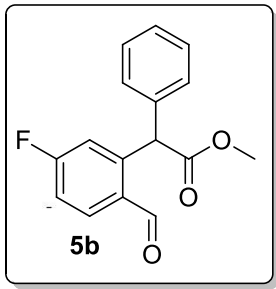
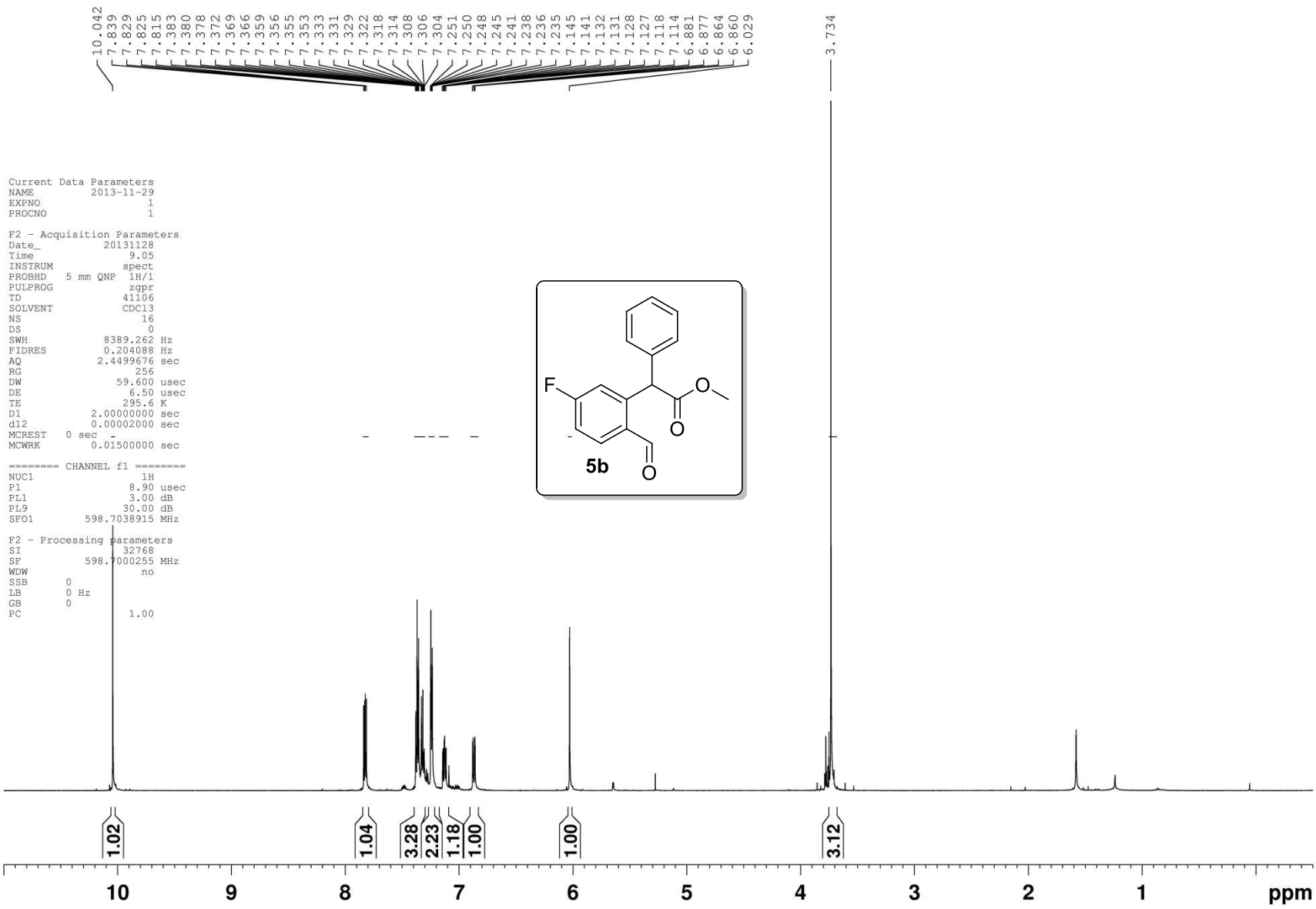
F2 - Acquisition Parameters
Date_ 20131108
Time 6.29
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg
TD 32768
SOLVENT CDCl3
NS 400
DS 0
SWH 45045.047 Hz
FIDRES 1.374666 Hz
AQ 0.3637748 sec
RG 2048
DW 11.100 usec
DE 6.50 usec
TE 343.1 K
D1 3.50000000 sec
d11 0.03000000 sec
DELTA 3.40000010 sec
MCREST 0 sec
MCWRK 0.01500000 sec

----- CHANNEL f1 -----
NUC1 13C
P1 4.80 usec
PL1 0 dB
SFO1 150.5597948 MHz

----- CHANNEL f2 -----
CPDPRG2 waltz16
NUC2 1H
PCPD2 92.00 usec
P2 120.00 dB
PL2 9.00 dB
PL3 14.00 dB
SFO2 598.7029935 MHz

F2 - Processing parameters
SI 65536
SF 150.5432383 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 2.00





Current Data Parameters
 NAME 2013-11-29
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131128
 Time 9.22
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zgpg
 TD 32768
 SOLVENT CDCl3
 NS 300
 DS 0
 SWH 45045.047 Hz
 FIDRES 1.374666 Hz
 AQ 0.3637748 sec
 RG 7048
 DW 11.100 usec
 DE 6.50 usec
 TE 296.9 K
 D1 3.50000000 sec
 d11 0.03000000 sec
 DELTA 3.40000010 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

----- CHANNEL f1 -----
 NUC1 13C
 P1 4.80 usec
 PL1 0 dB
 SFO1 150.5597948 MHz

----- CHANNEL f2 -----
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 92.00 usec
 PL2 120.00 dB
 PL12 9.00 dB
 PL13 14.00 dB
 SFO2 598.7029935 MHz

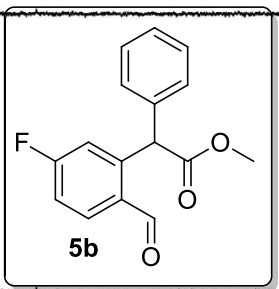
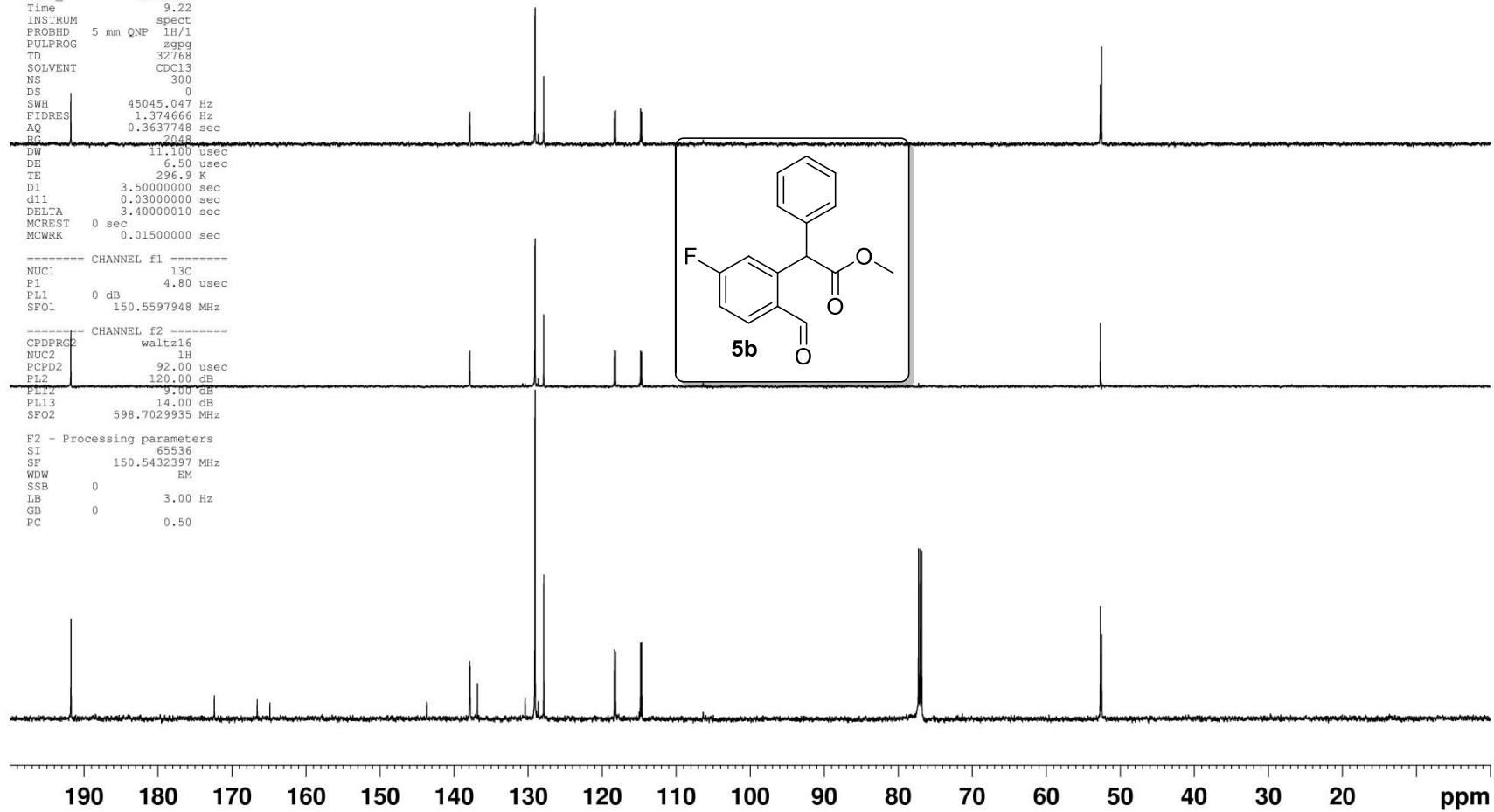
F2 - Processing parameters
 SI 65536
 SF 150.5432397 MHz
 WDW EM
 SSB 0
 LB 3.00 Hz
 GB 0
 PC 0.50

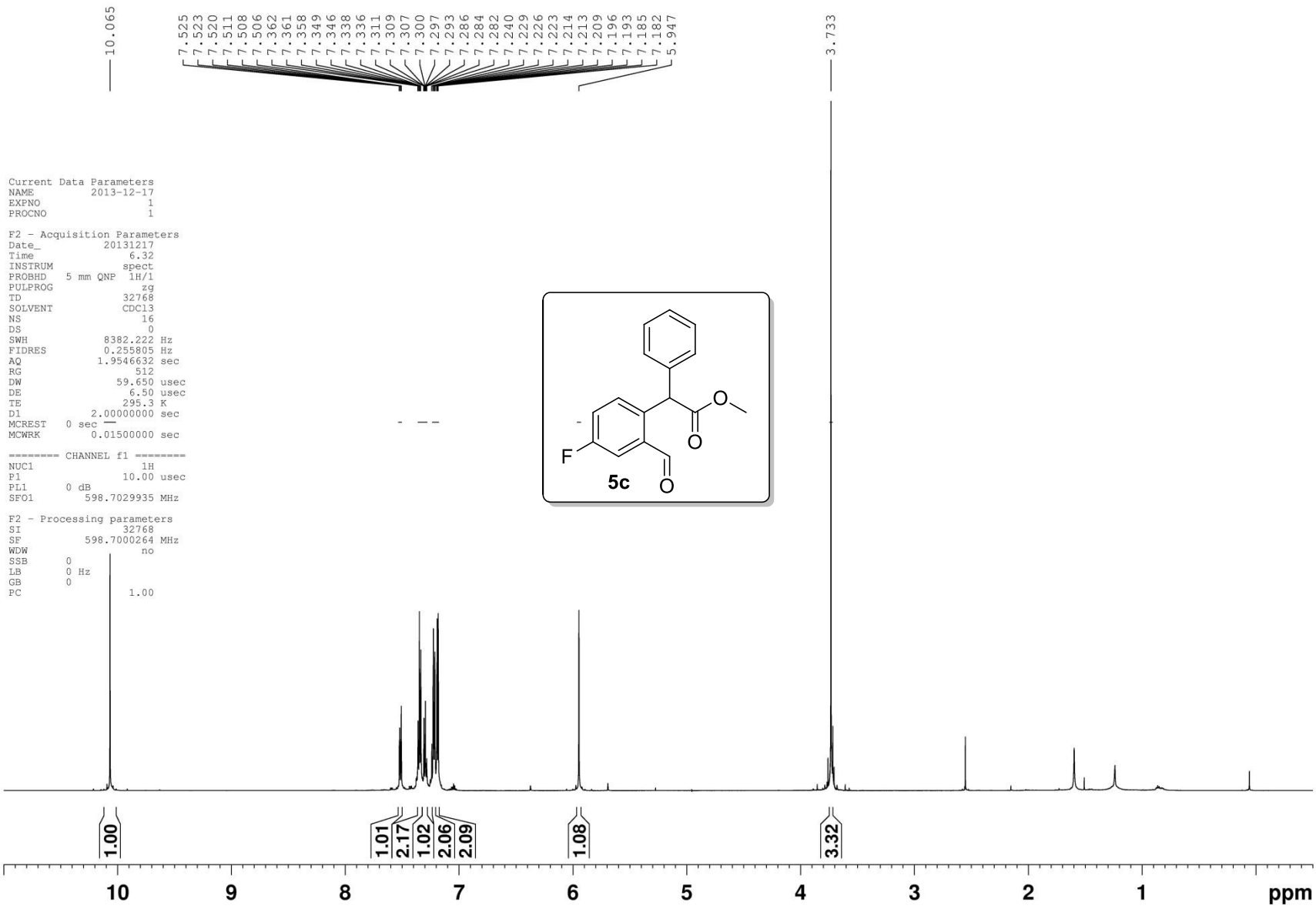
143.67
 143.61
 137.86
 137.79
 136.80
 130.35
 129.04
 129.02
 127.84

118.30
 118.14
 114.76
 114.62

77.21
 77.00
 76.79

52.65
 52.47





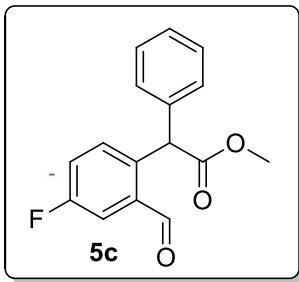
10.065
 7.525
 7.523
 7.520
 7.511
 7.508
 7.506
 7.362
 7.361
 7.358
 7.349
 7.346
 7.338
 7.336
 7.311
 7.309
 7.307
 7.300
 7.297
 7.293
 7.286
 7.284
 7.282
 7.240
 7.229
 7.226
 7.223
 7.214
 7.213
 7.209
 7.196
 7.193
 7.185
 7.182
 5.947
 3.733

Current Data Parameters
 NAME 2013-12-17
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131217
 Time 6.32
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zg
 TD 32768
 SOLVENT CDC13
 NS 16
 DS 0
 SWH 8382.222 Hz
 FIDRES 0.255805 Hz
 AQ 1.9546632 sec
 RG 512
 DW 59.650 usec
 DE 6.50 usec
 TE 295.3 K
 D1 2.0000000 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 10.00 usec
 PL1 0 dB
 SFO1 598.7029935 MHz

F2 - Processing parameters
 SI 32768
 SF 598.7000264 MHz
 WDW no
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00



1.00
 1.01
 2.17
 1.02
 2.06
 2.09
 1.08
 3.32

10 9 8 7 6 5 4 3 2 1 ppm

191.56

172.67

162.71
161.06

137.41
135.88
135.86
135.36
135.32
132.51
132.46
128.94
128.89
127.65
120.68
120.54
120.52
120.37

77.21
77.00
76.79

52.46
52.19

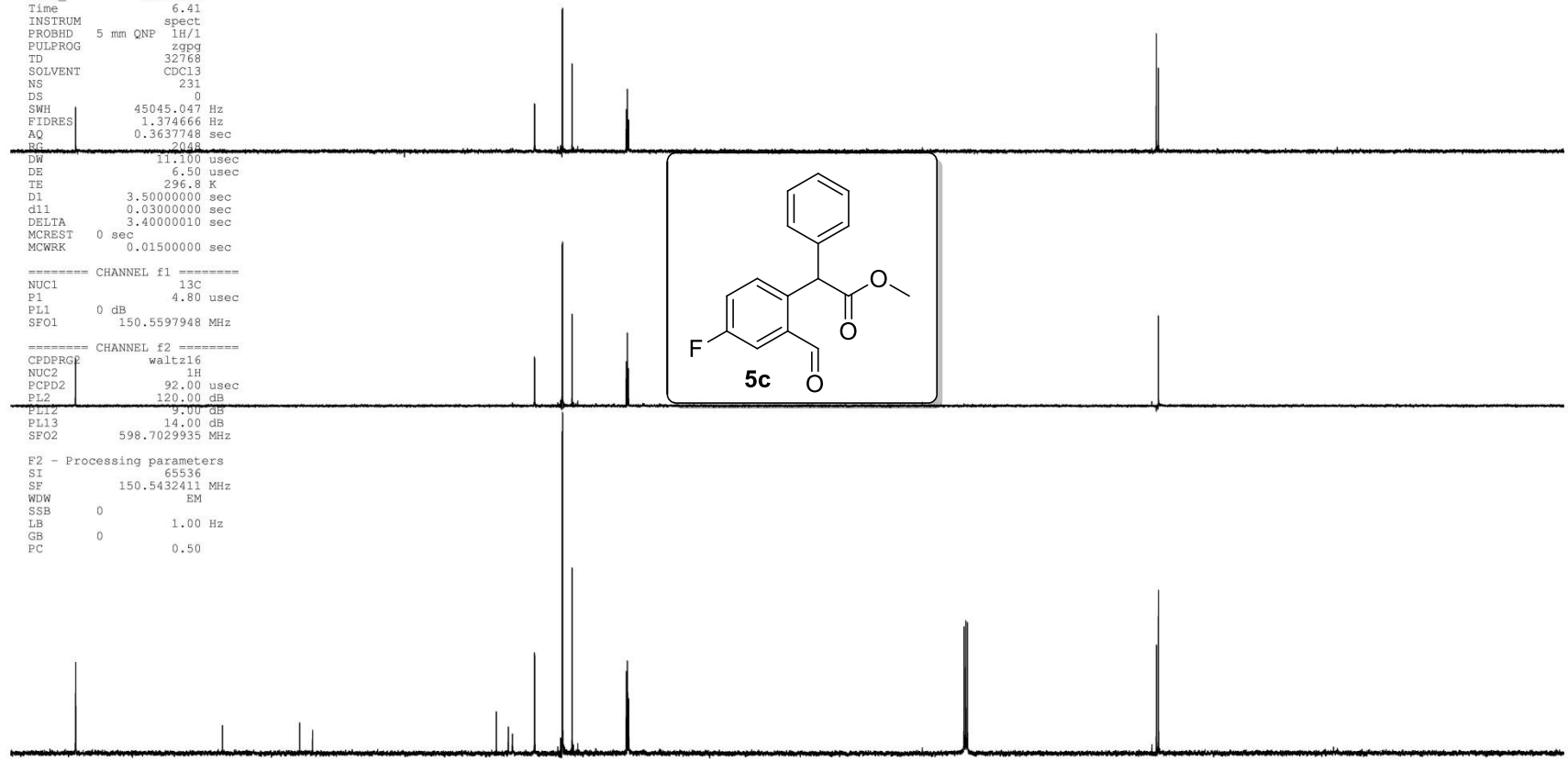
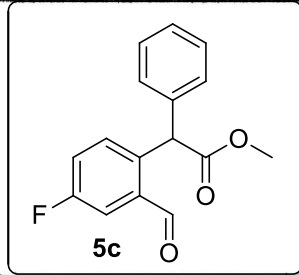
Current Data Parameters
NAME 2013-12-17
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131217
Time 6.41
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg
TD 32768
SOLVENT CDCl3
NS 231
DS 0
SWH 45045.047 Hz
FIDRES 1.374666 Hz
AQ 0.3637748 sec
RG 7048
DW 11.100 usec
DE 6.50 usec
TE 296.8 K
D1 3.50000000 sec
d11 0.03000000 sec
DELTA 3.40000010 sec
MCREST 0 sec
MCWRK 0.01500000 sec

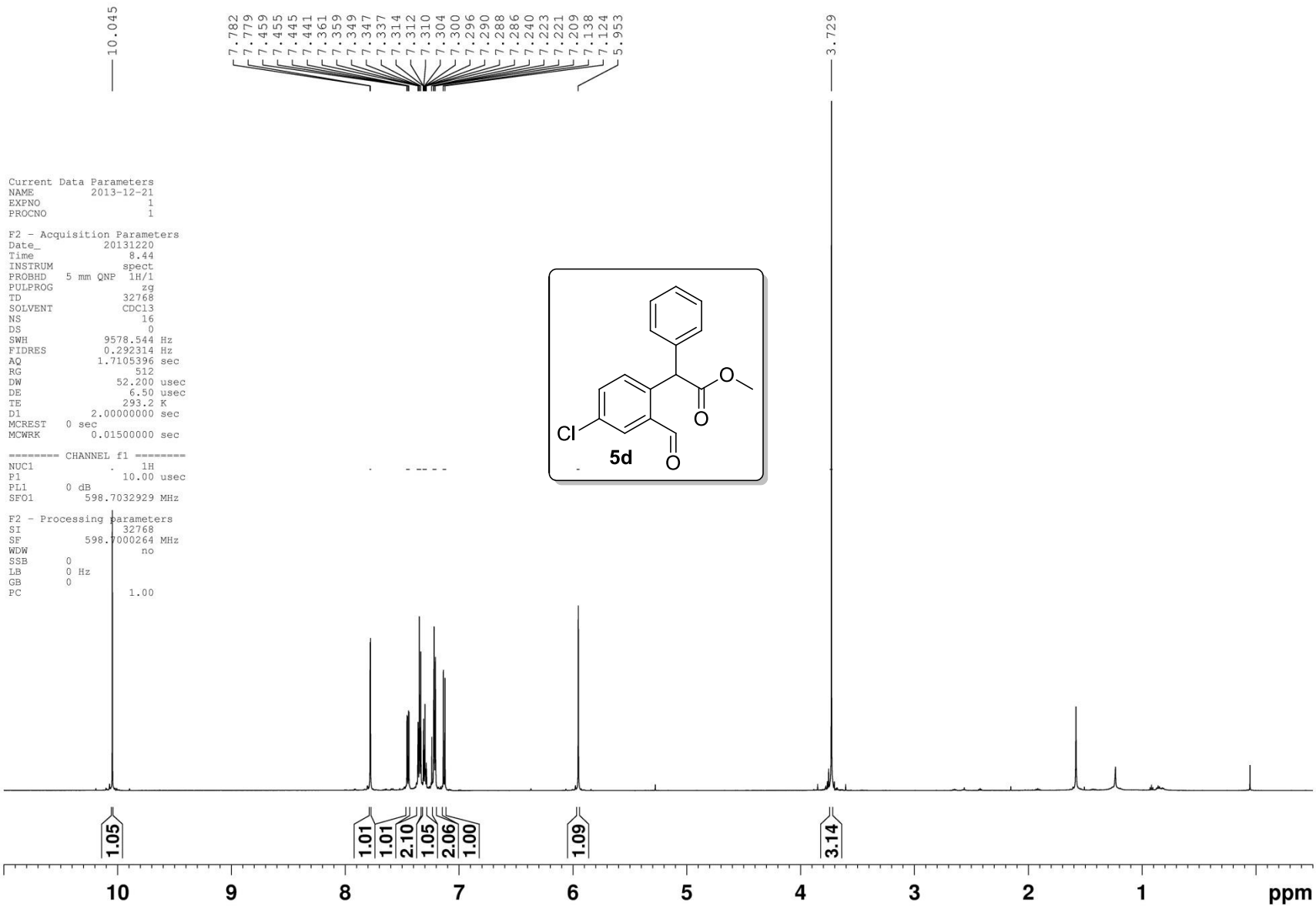
==== CHANNEL f1 =====
NUC1 13C
P1 4.80 usec
PL1 0 dB
SFO1 150.5597948 MHz

==== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 92.00 usec
PL2 120.00 dB
PL12 9.00 dB
PL13 14.00 dB
SFO2 598.7029935 MHz

F2 - Processing parameters
SI 65536
SF 150.5432411 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 0.50



190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 ppm



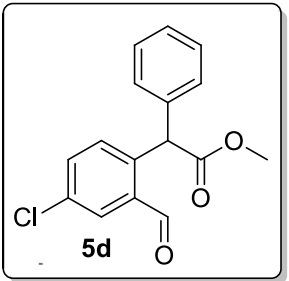
Current Data Parameters
 NAME 2013-12-21
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131220
 Time 8.44
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zg
 TD 32768
 SOLVENT CDCl3
 NS 16
 DS 0
 SWH 9578.544 Hz
 FIDRES 0.292314 Hz
 AQ 1.7105396 sec
 RG 512
 DW 52.200 usec
 DE 6.50 usec
 TE 293.2 K
 D1 2.0000000 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 10.00 usec
 PL1 0 dB
 SFO1 598.7032929 MHz

F2 - Processing Parameters
 SI 32768
 SF 598.7000264 MHz
 WDW no
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00

7.782
 7.779
 7.459
 7.455
 7.445
 7.441
 7.361
 7.359
 7.349
 7.347
 7.337
 7.314
 7.312
 7.310
 7.304
 7.300
 7.296
 7.290
 7.288
 7.286
 7.240
 7.223
 7.221
 7.209
 7.138
 7.124
 5.953



191.79

172.50

138.39
137.13
134.95
134.22
133.99
133.61
132.02
128.97
128.93
127.71

77.21
77.00
76.78

52.50
52.30

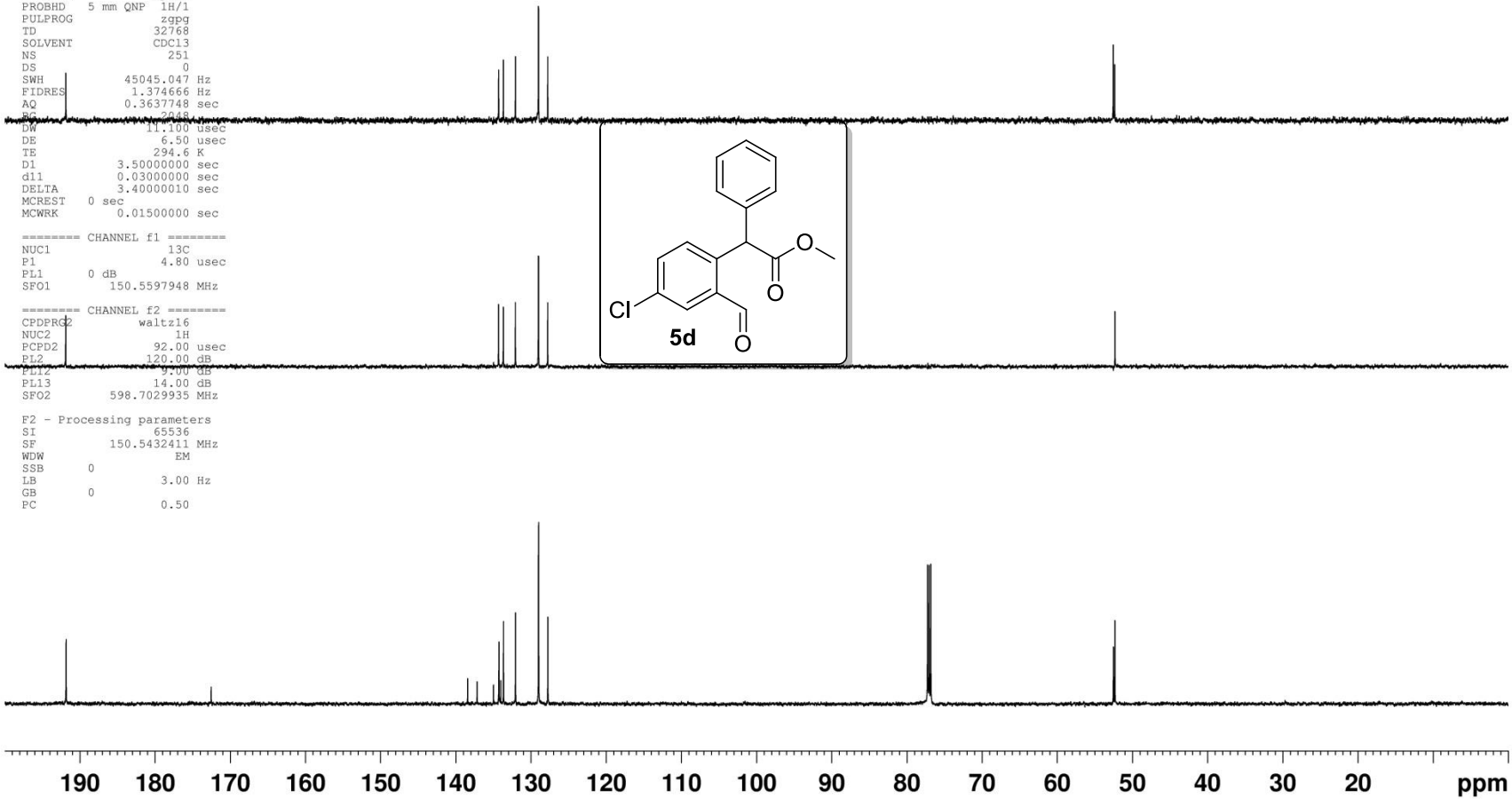
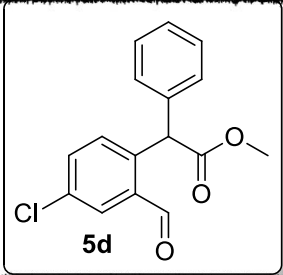
Current Data Parameters
NAME 2013-12-21
EXPNO 2
PROCNO 1

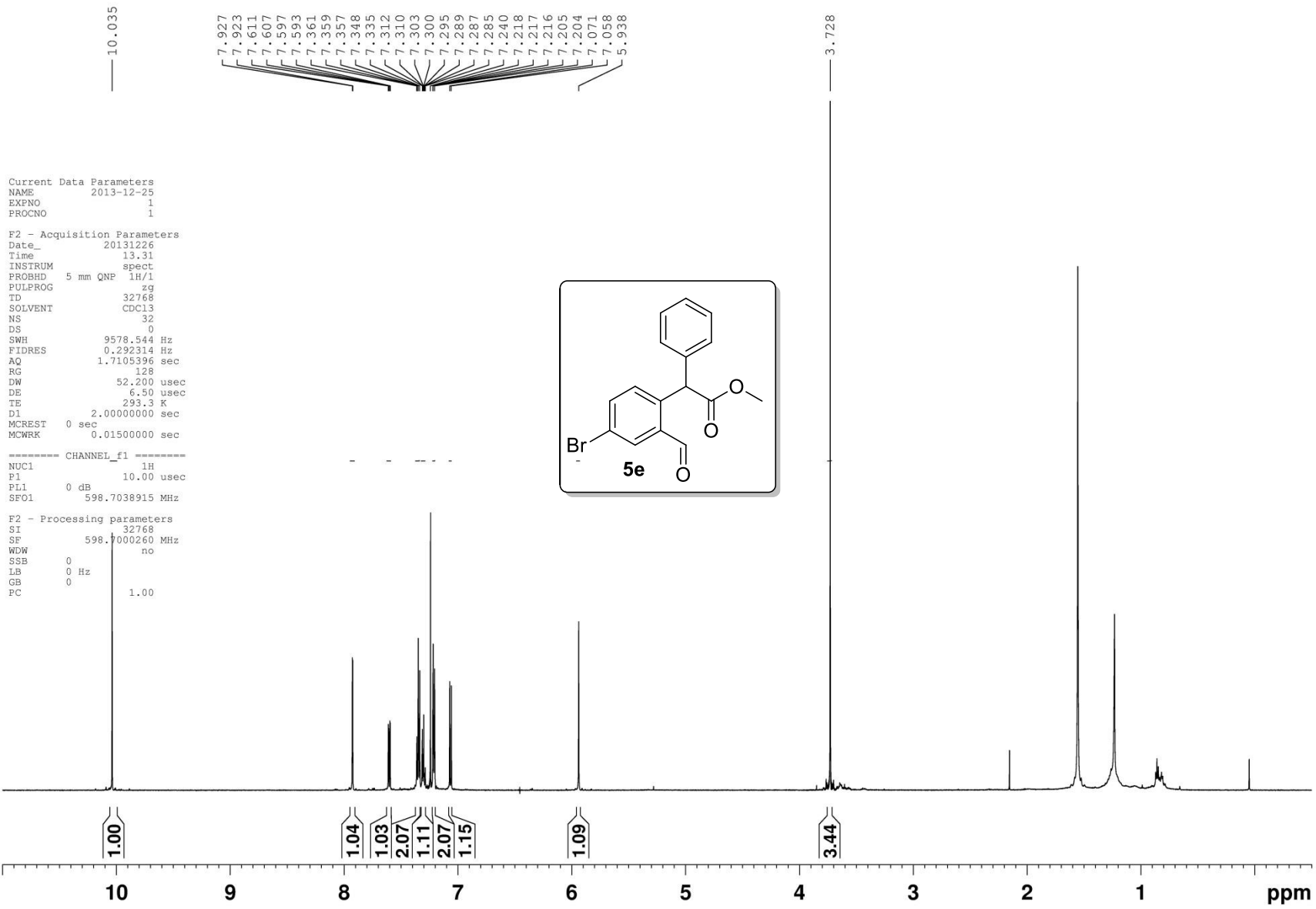
F2 - Acquisition Parameters
Date_ 20131220
Time 9.01
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg
TD 32768
SOLVENT CDCl3
NS 251
DS 0
SWH 45045.047 Hz
FIDRES 1.374666 Hz
AQ 0.3637748 sec
RG 256
DW 11.100 usec
DE 6.50 usec
TE 294.6 K
D1 3.50000000 sec
d11 0.03000000 sec
DELTA 3.40000010 sec
MCREST 0 sec
MCWRK 0.01500000 sec

==== CHANNEL f1 =====
NUC1 13C
P1 4.80 usec
PL1 0 dB
SFO1 150.5597948 MHz

==== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 92.00 usec
PL2 120.00 dB
PL12 9.00 dB
PL13 14.00 dB
SFO2 598.7029935 MHz

F2 - Processing parameters
SI 65536
SF 150.5432411 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 0.50





```

Current Data Parameters
NAME      2013-12-25
EXPNO    1
PROCNO   1

F2 - Acquisition Parameters
Date_    20131226
Time     13.31
INSTRUM  spect
PROBHD   5 mm QNP 1H/1
PULPROG  zg
TD        32768
SOLVENT  CDC13
NS        32
DS        0
SWH      9578.544 Hz
FIDRES   0.292314 Hz
AQ        1.7105396 sec
RG        128
DW        52.200 usec
DE        6.50 usec
TE        293.3 K
D1        2.0000000 sec
MCREST   0 sec
MCWRK    0.01500000 sec

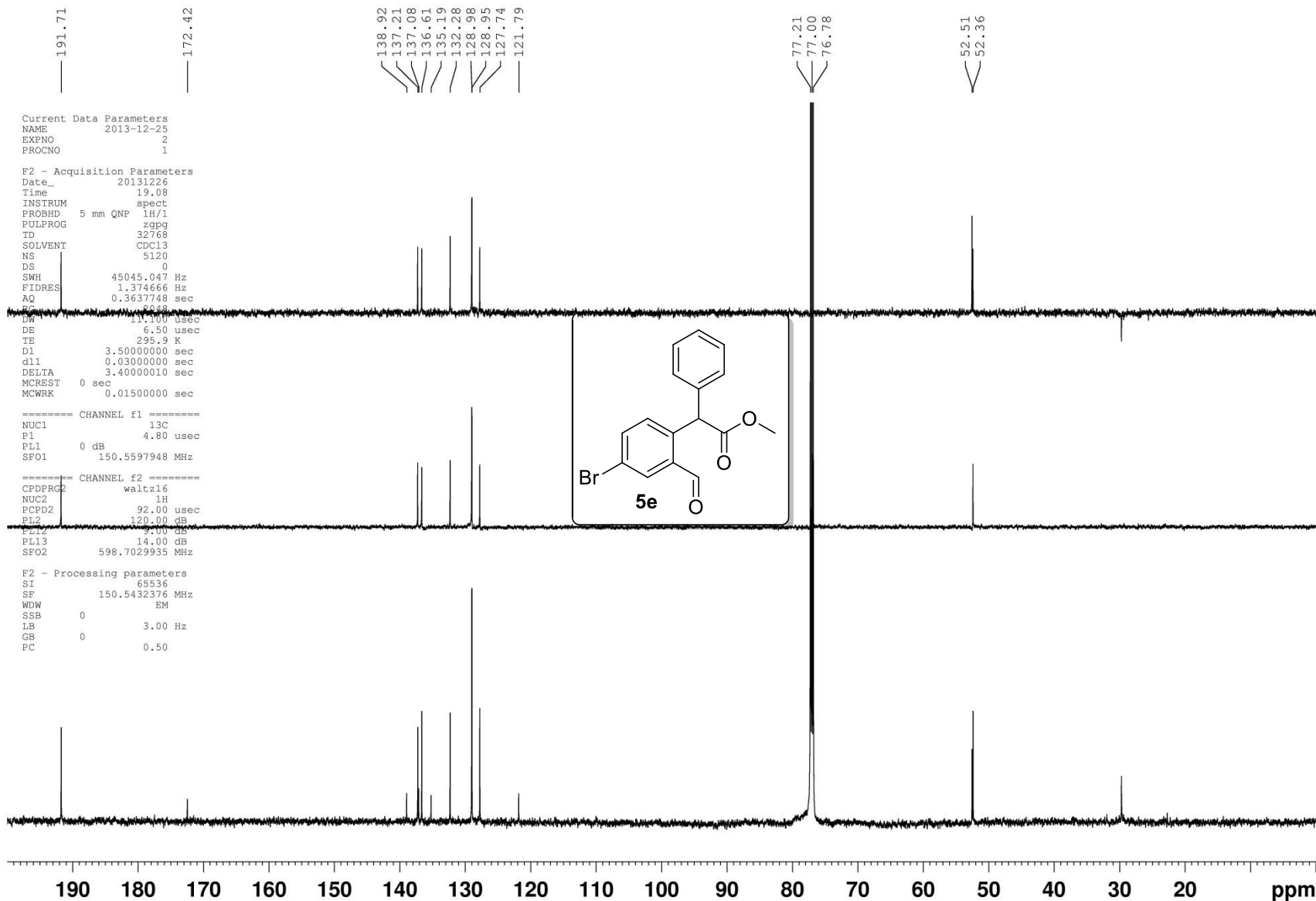
----- CHANNEL f1 -----
NUC1     1H
P1       10.00 usec
PL1      0 dB
SFO1     598.7038915 MHz

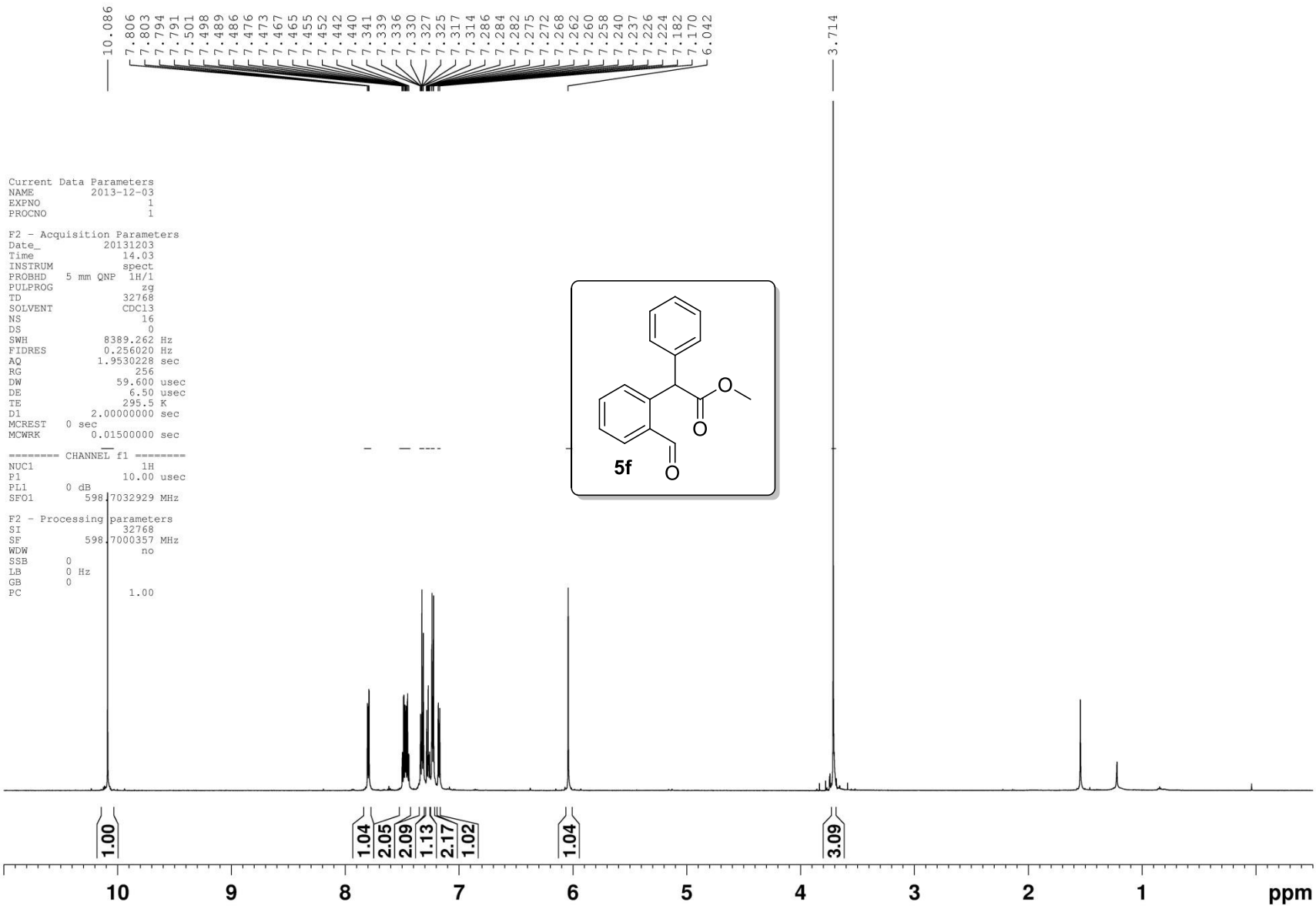
F2 - Processing parameters
SI        32768
SF        598.7000260 MHz
WDW       no
SSB       0
LB        0 Hz
GB        0
PC        1.00
  
```

10.035
 7.927
 7.923
 7.611
 7.607
 7.597
 7.593
 7.361
 7.359
 7.357
 7.348
 7.335
 7.312
 7.310
 7.303
 7.300
 7.295
 7.289
 7.287
 7.285
 7.240
 7.218
 7.217
 7.216
 7.205
 7.204
 7.071
 7.058
 5.938
 3.728

1.00
 1.04
 1.03
 2.07
 1.11
 2.07
 1.15
 1.09
 3.44

10 9 8 7 6 5 4 3 2 1 ppm





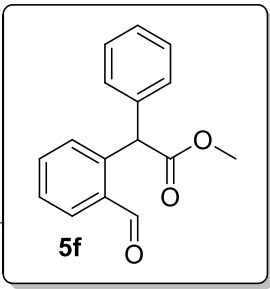
```

Current Data Parameters
NAME      2013-12-03
EXPNO    1
PROCNO    1

F2 - Acquisition Parameters
Date_     20131203
Time     14.03
INSTRUM  spect
PROBHD   5 mm QNP 1H/1
PULPROG  zg
TD        32768
SOLVENT  CDC13
NS        16
DS        0
SWH      8389.262 Hz
FIDRES   0.256020 Hz
AQ       1.9530228 sec
RG        256
DW       59.600 usec
DE       6.50 usec
TE       295.5 K
D1       2.0000000 sec
MCREST   0 sec
MCWRK    0.01500000 sec

----- CHANNEL f1 -----
NUC1      1H
P1       10.00 usec
PL1      0 dB
SFO1     598.7032929 MHz

F2 - Processing parameters
SI        32768
SF       598.7000357 MHz
WDW      no
SSB      0
LB       0 Hz
GB       0
PC       1.00
  
```



Current Data Parameters
 NAME 2013-12-03
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131203
 Time 14.06
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zgpg
 TD 32768
 SOLVENT CDCl3
 NS 5120
 DS 0
 SWH 45045.047 Hz
 FIDRES 1.374666 Hz
 AQ 0.3637748 sec
 RG 2048
 DW 11.100 usec
 DE 6.50 usec
 TE 296.9 K
 D1 3.50000000 sec
 d11 0.03000000 sec
 DELTA 3.40000010 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

----- CHANNEL f1 -----
 NUC1 13C
 P1 4.80 usec
 PL1 0 dB
 SFO1 150.5597948 MHz

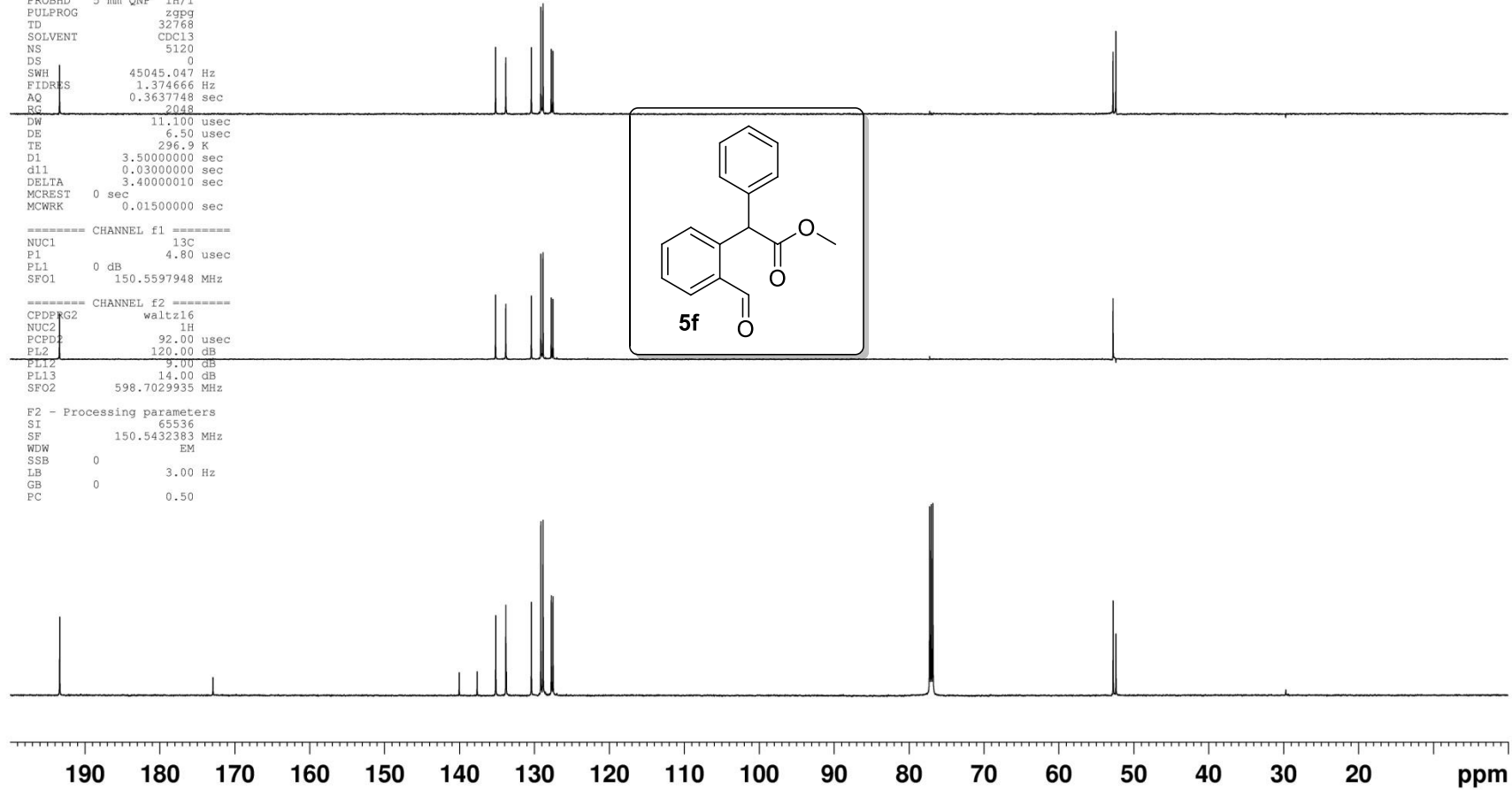
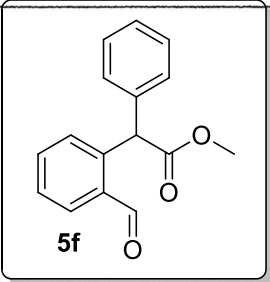
----- CHANNEL f2 -----
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 92.00 usec
 PL2 120.00 dB
 PL12 9.00 dB
 PL13 14.00 dB
 SFO2 598.7029935 MHz

F2 - Processing parameters
 SI 65536
 SF 150.5432383 MHz
 WDW EM
 SSB 0
 LB 3.00 Hz
 GB 0
 PC 0.50

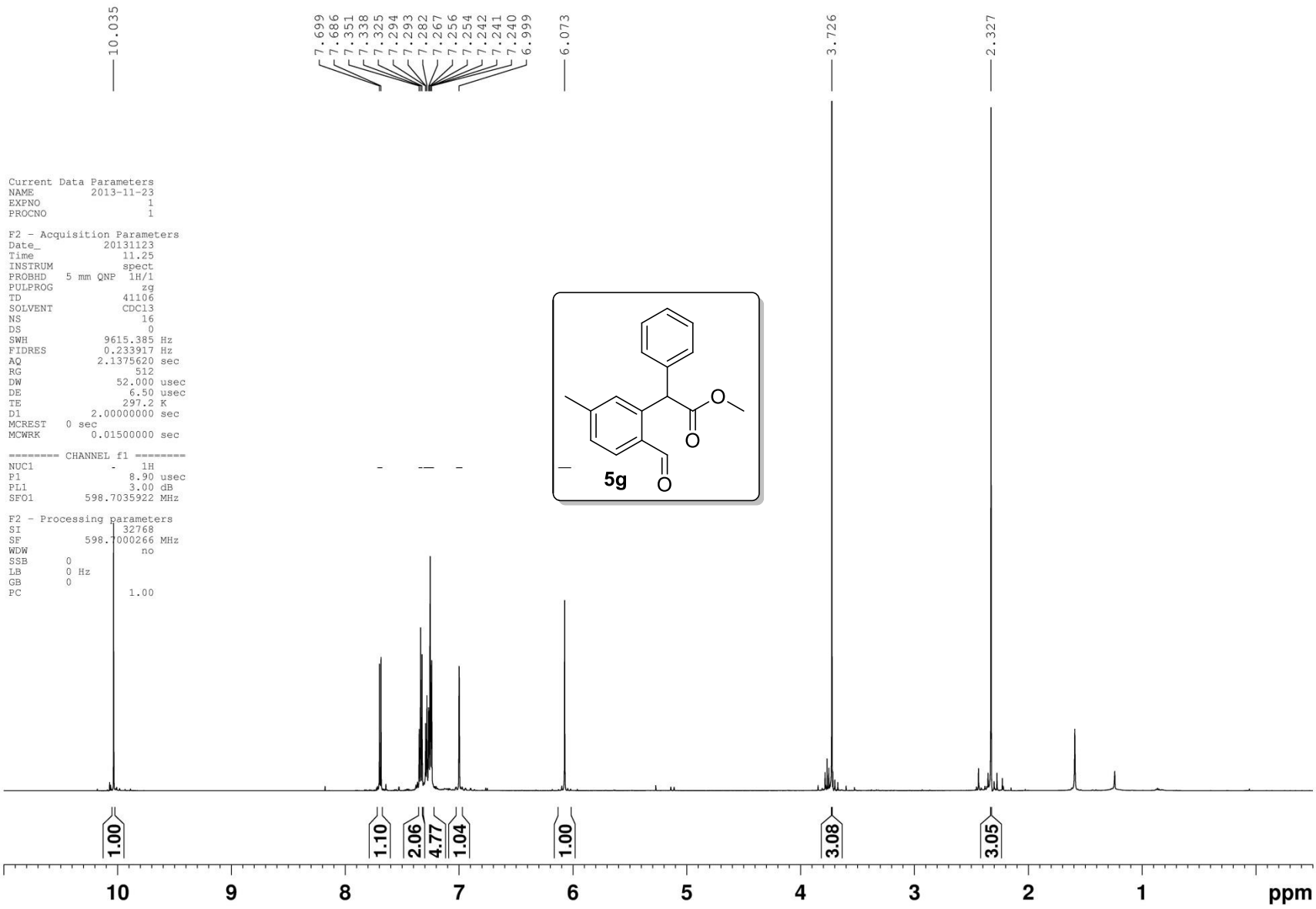
140.00
 137.61
 135.12
 133.77
 133.70
 130.37
 129.10
 128.80
 127.71
 127.48

77.21
 77.00
 76.78

52.72
 52.35



190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 ppm



```

Current Data Parameters
NAME      2013-11-23
EXPNO    1
PROCNO    1

F2 - Acquisition Parameters
Date_     20131123
Time      11.25
INSTRUM   spect
PROBHD    5 mm QNP 1H/1
PULPROG   zg
TD         41106
SOLVENT   CDC13
NS         16
DS         0
SWH        9615.385 Hz
FIDRES     0.233917 Hz
AQ         2.1375620 sec
RG         512
DW         52.000 usec
DE         6.50 usec
TE         297.2 K
D1         2.0000000 sec
MCREST    0 sec
MCWRK     0.01500000 sec

----- CHANNEL f1 -----
NUC1      1H
P1        8.90 usec
PL1       3.00 dB
SFO1      598.7035922 Mhz

F2 - Processing parameters
SI        32768
SF        598.7000266 Mhz
WDW       no
SSB       0
LB        0 Hz
GB        0
PC        1.00

```


Current Data Parameters
 NAME 2013-11-23
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131123
 Time 11.26
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zgpg
 TD 32768
 SOLVENT CDCl3
 NS 200
 DS 0
 SWH 45045.047 Hz
 FIDRES 1.374666 Hz
 AQ 0.3637748 sec
 RG 5048
 DW 11.100 usec
 DE 6.50 usec
 TE 297.2 K
 D1 3.50000000 sec
 d11 0.03000000 sec
 DELTA 3.40000010 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

==== CHANNEL f1 =====
 NUC1 13C
 P1 4.80 usec
 PL1 0 dB
 SFO1 150.5597948 MHz

==== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPDZ 92.00 usec
 PL2 120.00 dB
 PLT2 9.00 dB
 PL13 14.00 dB
 SFO2 598.7029935 MHz

F2 - Processing parameters
 SI 65536
 SF 150.5432421 MHz
 WDW EM
 SSB 0
 LB 3.00 Hz
 GB 0
 PC 0.50

192.91

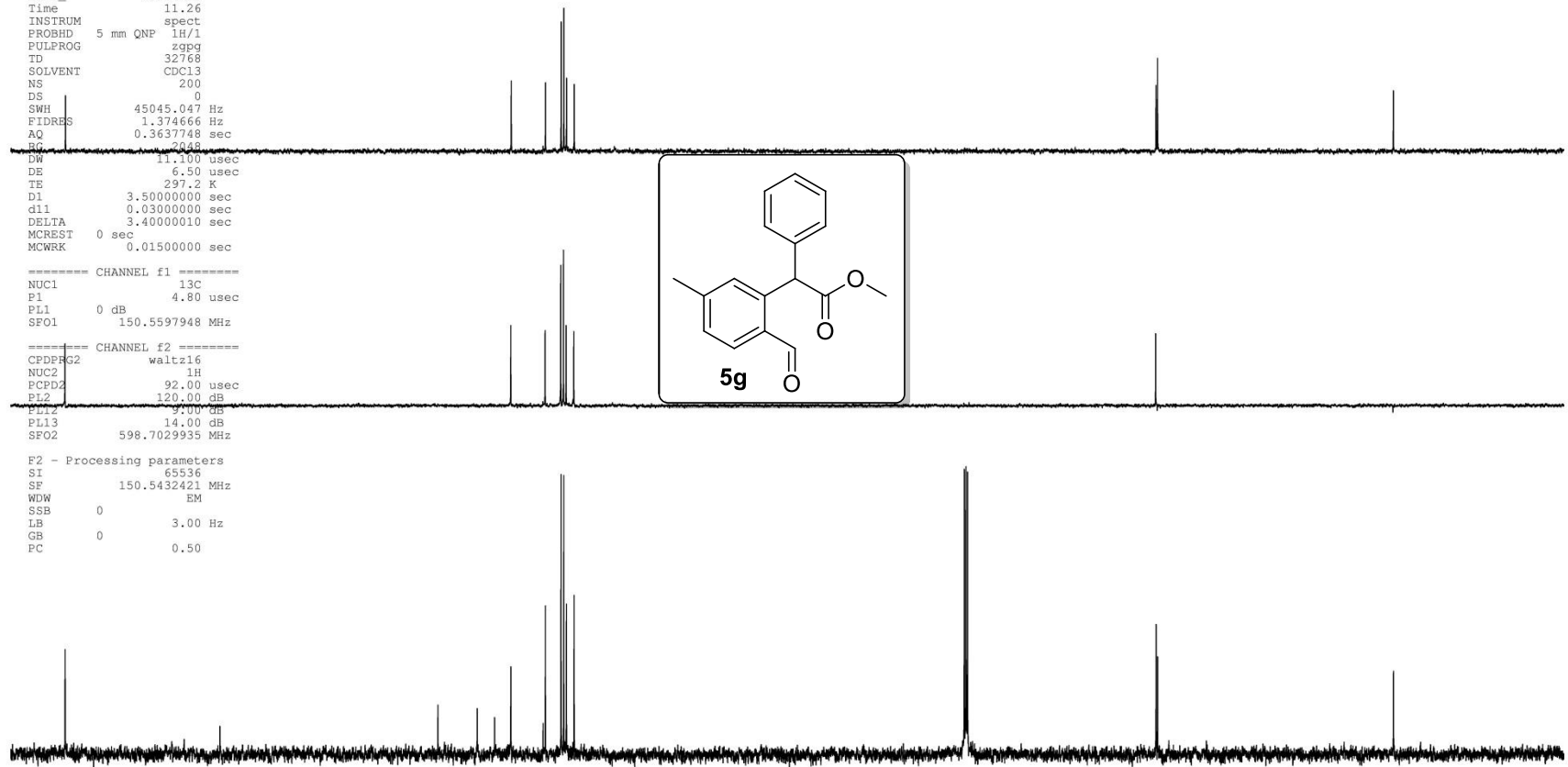
172.99

144.93
 139.88
 137.64
 135.54
 131.39
 131.09
 129.09
 128.74
 128.38
 127.41

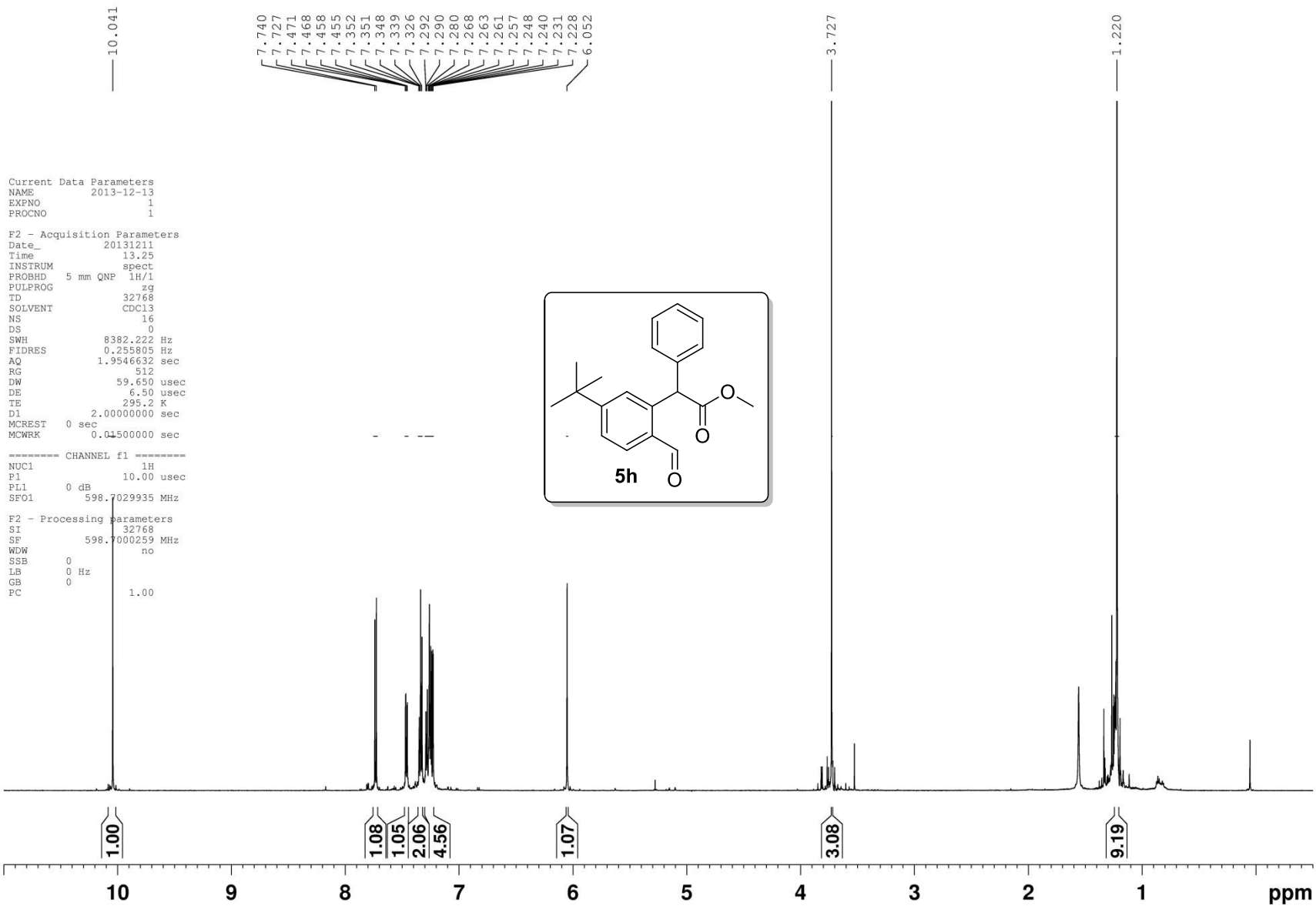
77.21
 77.00
 76.79

52.53
 52.32

21.97



190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 ppm

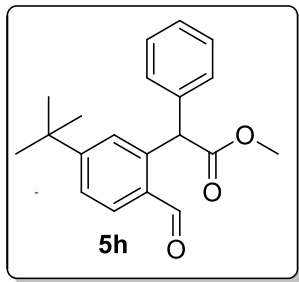


Current Data Parameters
 NAME 2013-12-13
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131211
 Time 13.25
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zg
 TD 32768
 SOLVENT CDC13
 NS 16
 DS 0
 SWH 8382.222 Hz
 FIDRES 0.255805 Hz
 AQ 1.9546632 sec
 RG 512
 DW 59.650 usec
 DE 6.50 usec
 TE 295.2 K
 D1 2.0000000 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 10.00 usec
 PL1 0 dB
 SFO1 598.7029935 MHz

F2 - Processing Parameters
 SI 32768
 SF 598.7000259 MHz
 WDW no
 SSB no
 LB 0 Hz
 GB 0
 PC 1.00



— 192.92

— 173.04

— 157.58

139.59
137.75
135.28
131.34
129.08
128.69
127.78
127.42
124.51

77.21
77.00
76.78

52.88
52.29

35.30
30.85

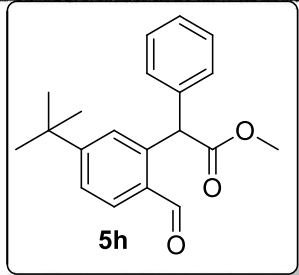
Current Data Parameters
NAME 2013-12-13
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131211
Time 13.41
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg
TD 32768
SOLVENT CDCl3
NS 5120
DS 0
SWH 45045.047 Hz
FIDRES 1.374666 Hz
AQ 0.3637748 sec
RG 2048
DW 11.100 usec
DE 6.50 usec
TE 296.8 K
D1 3.50000000 sec
d11 0.03000000 sec
DELTA 3.40000010 sec
MCREST 0 sec
MCWRK 0.01500000 sec

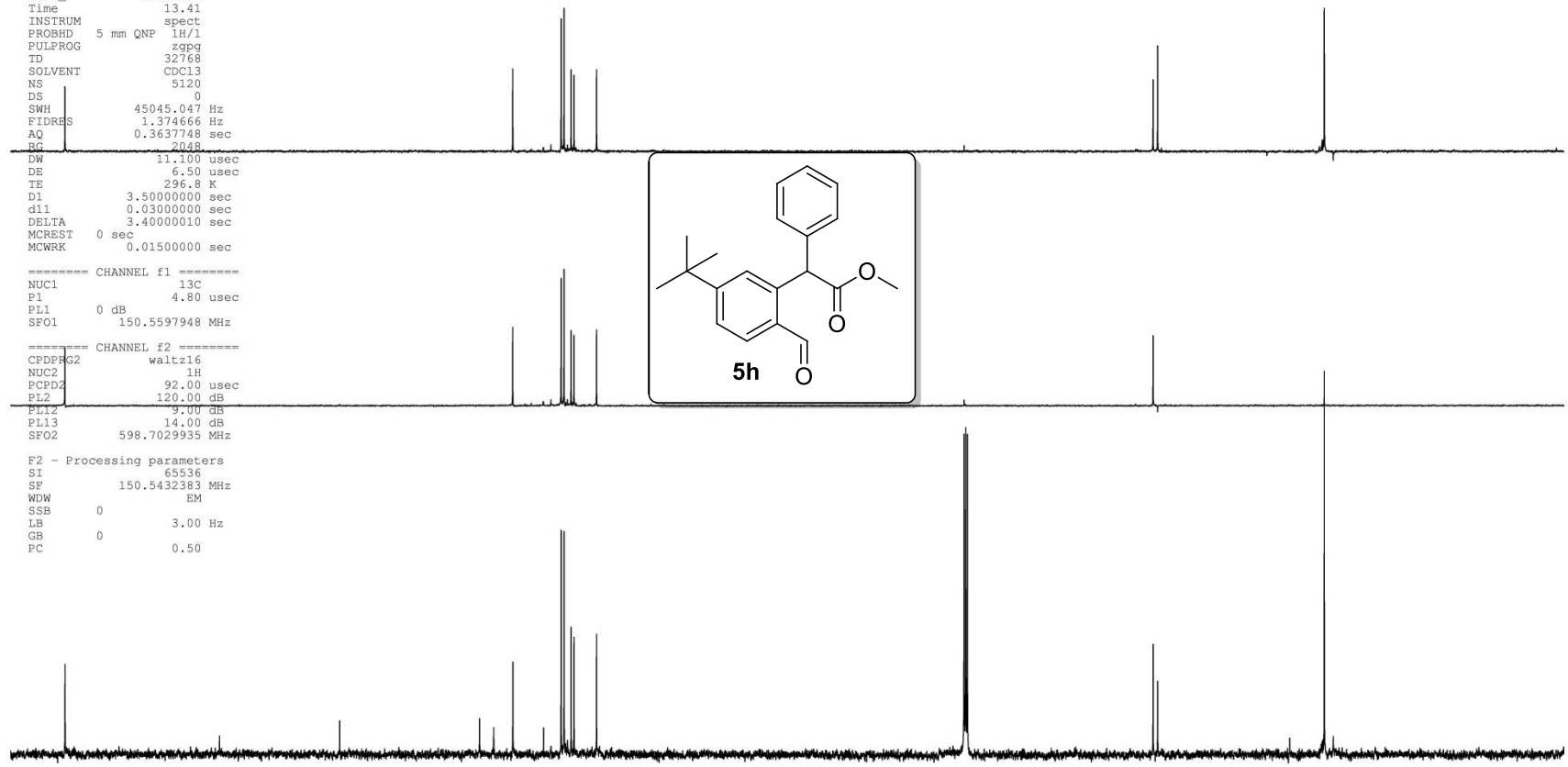
----- CHANNEL f1 -----
NUC1 13C
P1 4.80 usec
PL1 0 dB
SFO1 150.5597948 MHz

----- CHANNEL f2 -----
CPDPRG2 waltz16
NUC2 1H
PCPDZ 92.00 usec
PL2 120.00 dB
PL12 9.00 dB
PL13 14.00 dB
SFO2 598.7029935 MHz

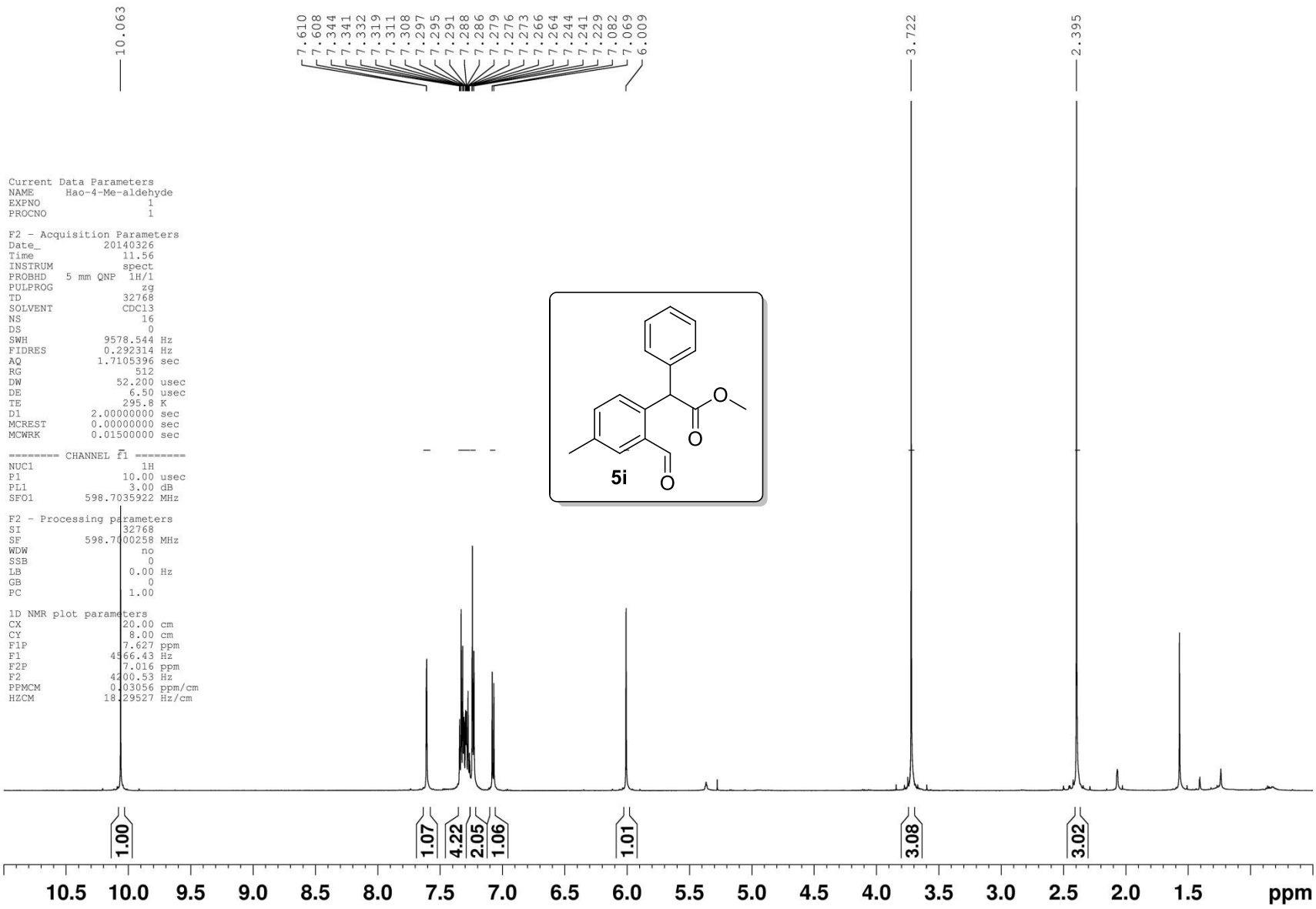
F2 - Processing parameters
SI 65536
SF 150.5432383 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 0.50



5h



190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 ppm



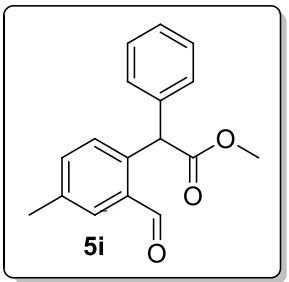
Current Data Parameters
 NAME Hao-4-Me-aldehyde
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140326
 Time 11.56
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zg
 TD 32768
 SOLVENT CDC13
 NS 16
 DS 0
 SWH 9578.544 Hz
 FIDRES 0.292314 Hz
 AQ 1.7105396 sec
 RG 512
 DW 52.200 usec
 DE 6.50 usec
 TE 295.8 K
 D1 2.0000000 sec
 MCREST 0.0000000 sec
 MCWRK 0.0150000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 10.00 usec
 PL1 3.00 dB
 SFO1 598.7035922 Mhz

F2 - Processing parameters
 SI 32768
 SF 598.7000258 Mhz
 WDW no
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 1.00

1D NMR plot parameters
 CX 20.00 cm
 CY 8.00 cm
 FLP 7.627 ppm
 F1 4566.43 Hz
 F2P 7.016 ppm
 F2 4400.53 Hz
 PPMCM 0.03056 ppm/cm
 HZCM 1829527 Hz/cm



Current Data Parameters
 NAME 2014-04-01
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140327
 Time 4.29
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zgpg
 TD 32768
 SOLVENT CDCl3
 NS 500
 DS 0
 SWH 45045.047 Hz
 FIDRES 1.374666 Hz
 AQ 0.3637748 sec
 RG 2048
 DW 11.100 usec
 DE 6.50 usec
 TE 297.3 K
 D1 3.50000000 sec
 d11 0.03000000 sec
 DELTA 3.40000010 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

==== CHANNEL f1 =====
 NUC1 13C
 P1 4.80 usec
 PL1 0 dB
 SFO1 150.5597948 MHz

==== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 92.00 usec
 PL2 120.00 dB
 PL12 9.00 dB
 PL13 14.00 dB
 SFO2 598.7029935 MHz

F2 - Processing parameters
 SI 65536
 SF 150.5432390 MHz
 WDW EM
 SSB 0
 LB 3.00 Hz
 GB 0
 PC 1.00

193.46

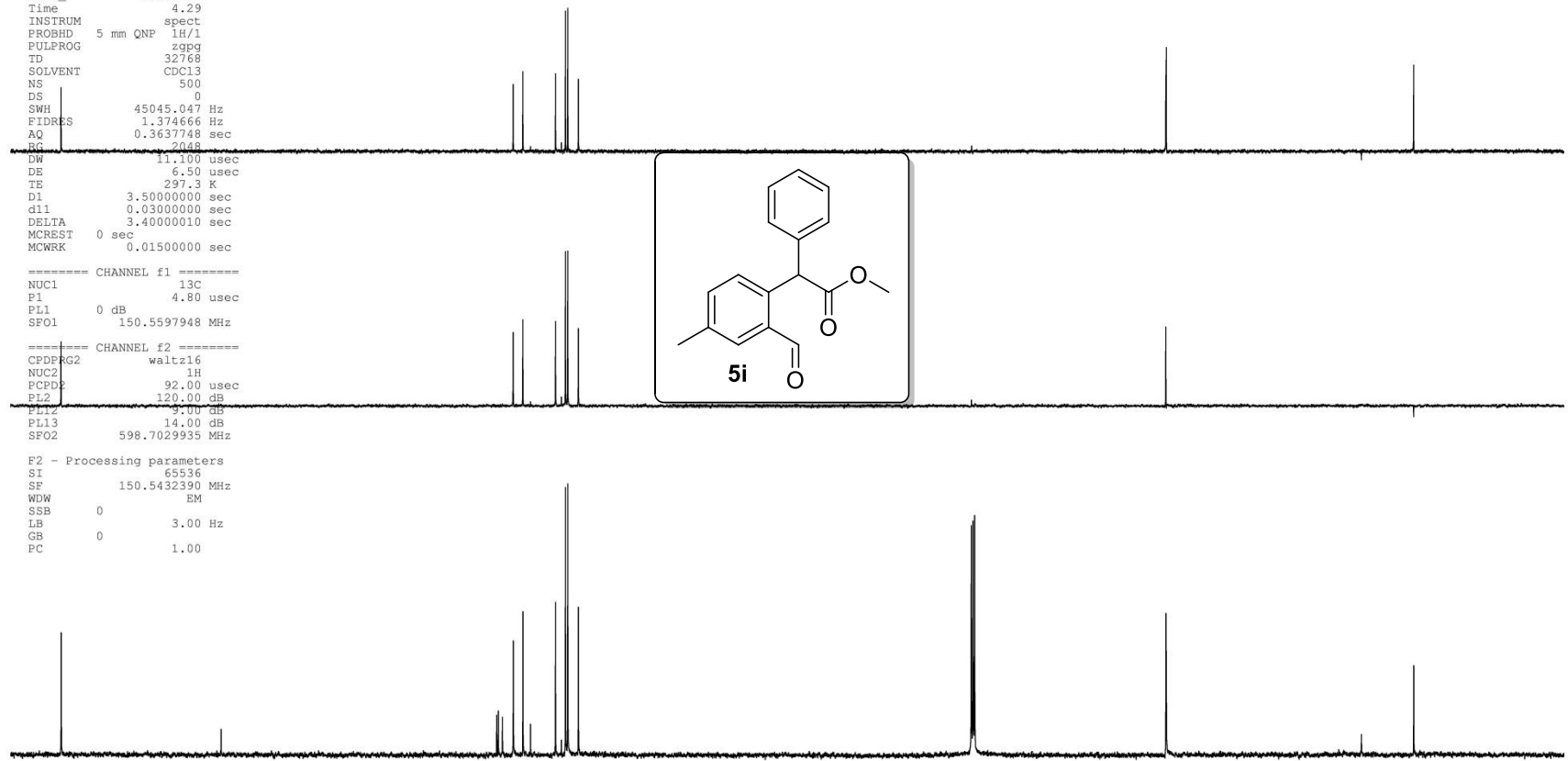
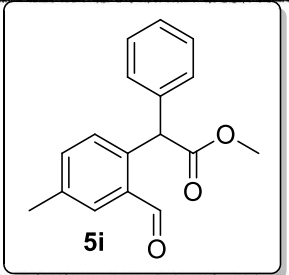
173.04

137.83
 137.64
 137.10
 135.71
 134.49
 133.52
 130.33
 129.04
 128.75
 127.39

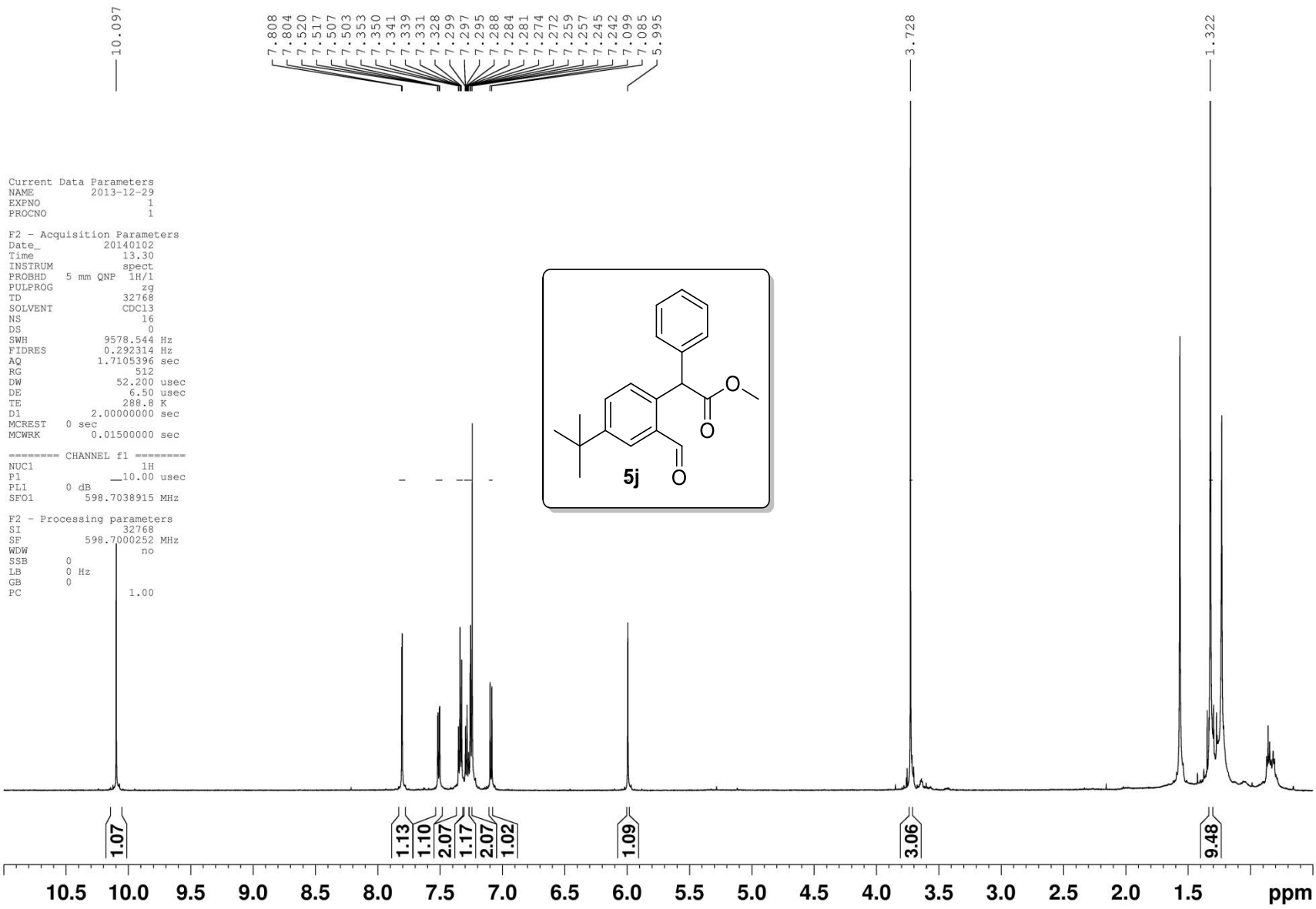
77.21
 77.00
 76.79

52.38
 52.32

20.73



190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 ppm



```

Current Data Parameters
NAME      2013-12-29
EXPNO    1
PROCNO   1

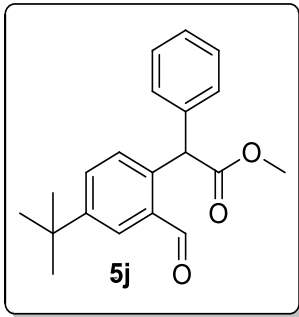
F2 - Acquisition Parameters
Date_    20140102
Time     13.30
INSTRUM  spect
PROBHD   5 mm QNP 1H/1
PULPROG  zg
TD        32768
SOLVENT  CDCl3
NS        16
DS        0
SWH      9578.544 Hz
FIDRES   0.292314 Hz
AQ        1.7105396 sec
RG        512
DW        52.200 usec
DE        6.50 usec
TE        288.8 K
D1        2.0000000 sec
MCREST    0 sec
MCWRK    0.01500000 sec

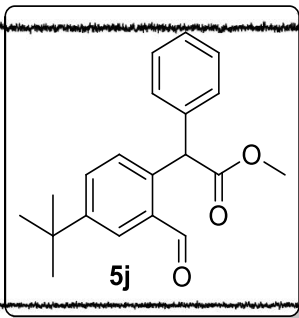
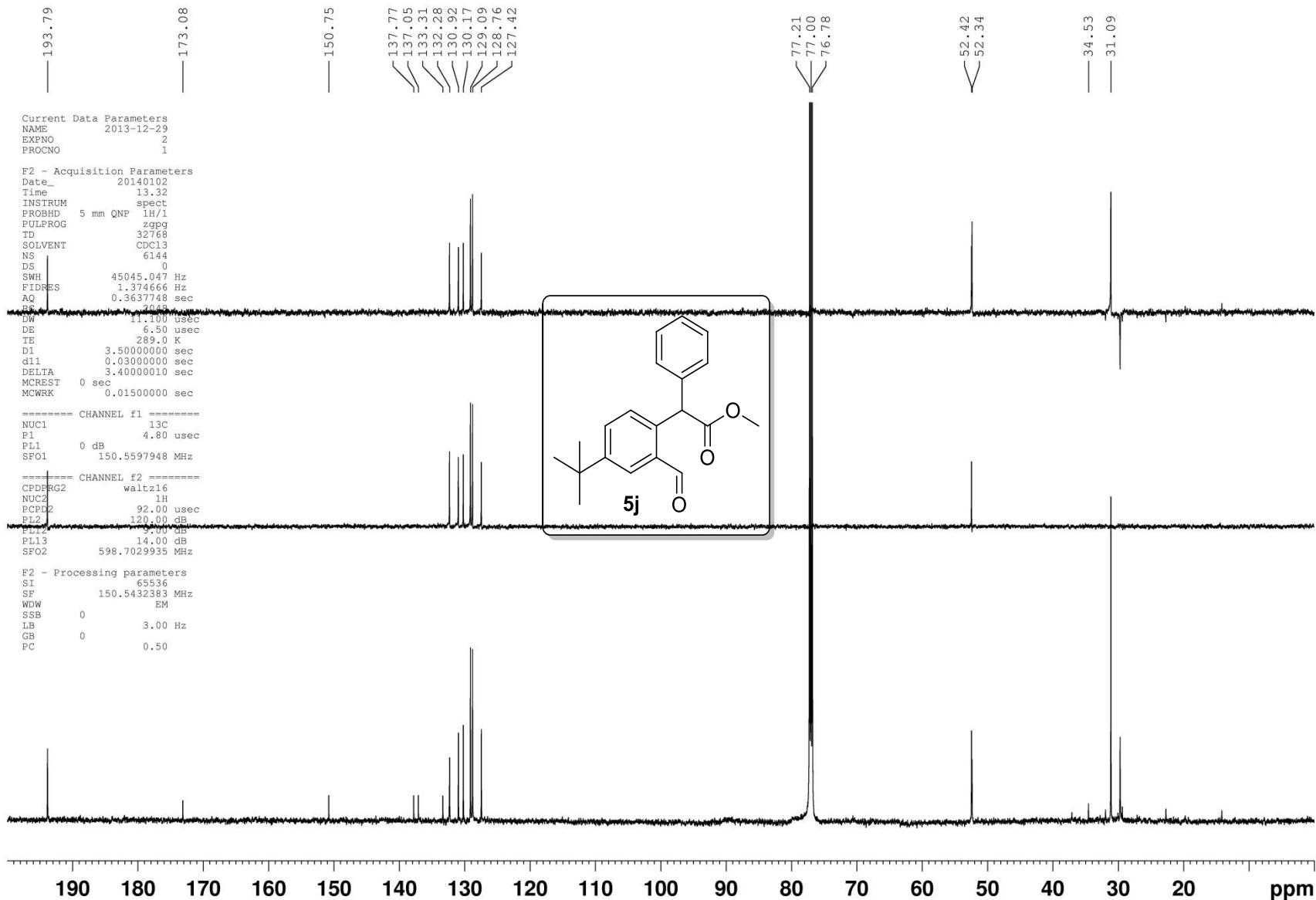
----- CHANNEL f1 -----
NUC1      1H
P1        10.00 usec
PL1       0 dB
SFO1      598.7038915 MHz

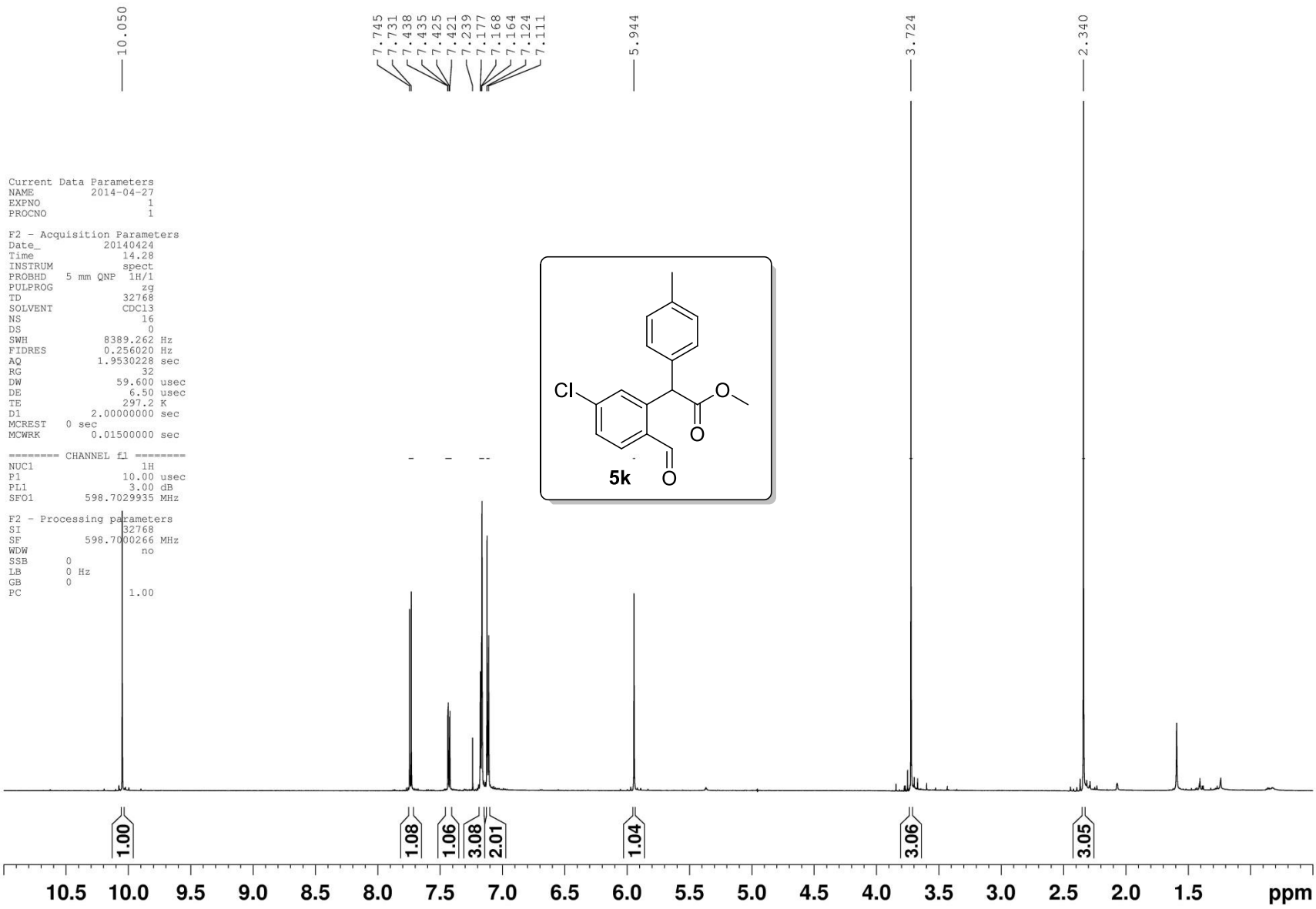
F2 - Processing parameters
SI        32768
SF        598.7000252 MHz
WDW       no
SSB       0
LB        0 Hz
GB        0
PC        1.00

```

7.808
 7.804
 7.520
 7.517
 7.507
 7.503
 7.353
 7.350
 7.341
 7.339
 7.331
 7.328
 7.299
 7.297
 7.295
 7.288
 7.284
 7.281
 7.274
 7.272
 7.259
 7.257
 7.245
 7.242
 7.099
 7.085
 5.995







```

Current Data Parameters
NAME      2014-04-27
EXPNO    1
PROCNO   1

F2 - Acquisition Parameters
Date_    20140424
Time     14.28
INSTRUM  spect
PROBHD   5 mm QNP 1H/1
PULPROG  zg
TD        32768
SOLVENT  CDCl3
NS        16
DS        0
SWH      8389.262 Hz
FIDRES   0.256020 Hz
AQ        1.9530228 sec
RG         32
DW        59.600 usec
DE         6.50 usec
TE        297.2 K
D1        2.0000000 sec
MCREST   0 sec
MCWRK    0.01500000 sec

----- CHANNEL f1 -----
NUC1      1H
P1        10.00 usec
PL1       3.00 dB
SFO1      598.7029935 MHz

F2 - Processing parameters
SI        32768
SF        598.700266 MHz
WDW       no
SSB       0
LB        0 Hz
GB         0
PC        1.00
  
```

10.050

7.745
7.731
7.438
7.435
7.425
7.421
7.239
7.177
7.168
7.164
7.124
7.111

5.944

3.724

2.340

1.00

1.08

1.06

3.08

2.01

1.04

3.06

3.05

10.5 10.0 9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 ppm

Current Data Parameters
 NAME Hao-ph-Me-aldehyde
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140424
 Time 5.03
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zgpg
 TD 32768
 SOLVENT CDC13
 NS 5120
 DS 0
 SWH 45045.047 Hz
 FIDRES 1.374666 Hz
 AQ 0.3637748 sec
 RG 2048
 DW 11.100 usec
 DE 6.50 usec
 TE 299.4 K
 D1 3.50000000 sec
 d11 0.03000000 sec
 DELTA 3.40000010 sec
 MCREST 0.00000000 sec
 MCWRK 0.01500000 sec

==== CHANNEL f1 =====
 NUC1 13C
 P1 4.80 usec
 PL1 0.00 dB
 SFO1 150.5597948 MHz

==== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 92.00 usec
 PL2 120.00 dB
 PL12 9.00 dB
 PL13 14.00 dB
 SFO2 598.7029935 MHz

F2 - Processing parameters
 SI 65536
 SF 150.5432404 MHz
 WDW EM
 SSB 0
 LB 3.00 Hz
 GB 0
 PC 1.00

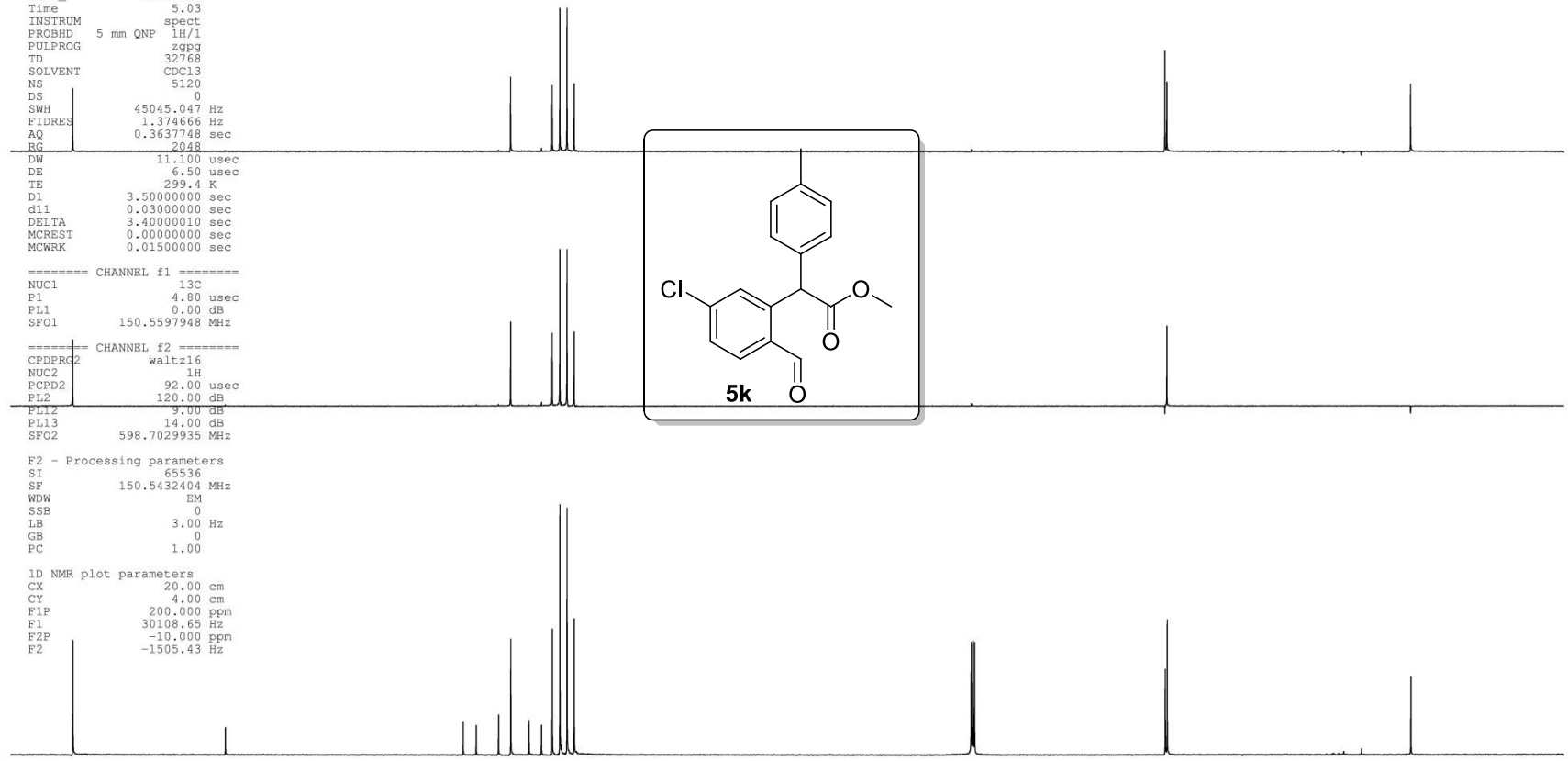
1D NMR plot parameters
 CX 20.00 cm
 CY 4.00 cm
 F1P 200.000 ppm
 F1 30108.65 Hz
 F2P -10.000 ppm
 F2 -1505.43 Hz

142.12
 140.45
 137.60
 136.04
 133.70
 132.11
 130.73
 129.76
 128.85
 127.94

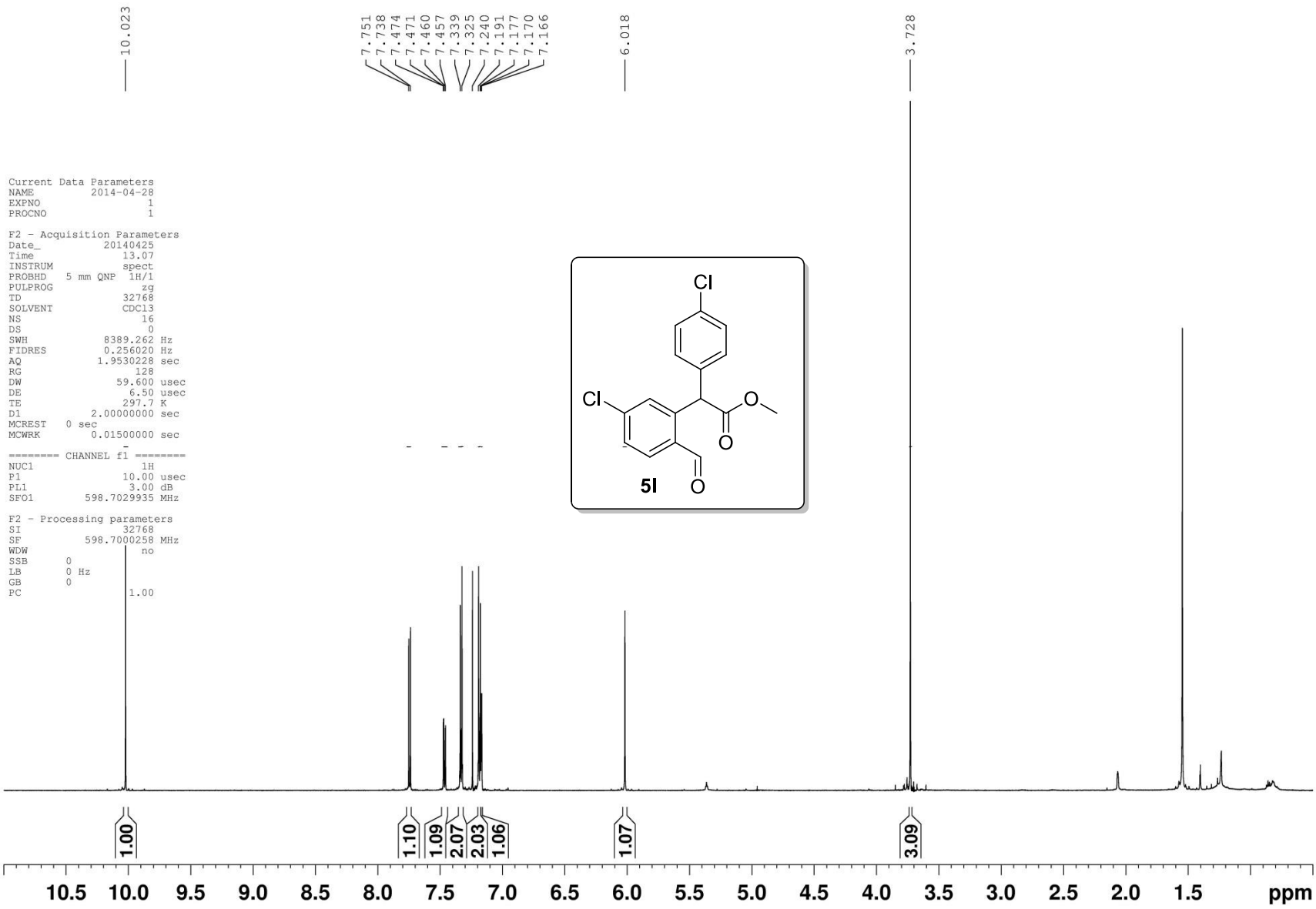
77.21
 77.00
 76.79

52.45
 52.21

21.08



190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 ppm

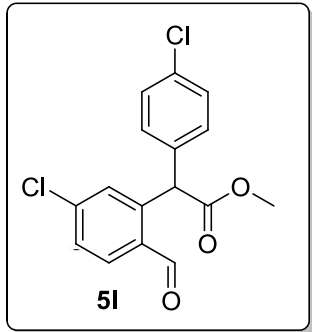


Current Data Parameters
 NAME 2014-04-28
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140425
 Time 13.07
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zg
 TD 32768
 SOLVENT CDCl3
 NS 16
 DS 0
 SWH 8389.262 Hz
 FIDRES 0.256020 Hz
 AQ 1.9530228 sec
 RG 128
 DW 59.600 usec
 DE 6.50 usec
 TE 297.7 K
 D1 2.0000000 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 10.00 usec
 PL1 3.00 dB
 SFO1 598.7029935 Mhz

F2 - Processing parameters
 SI 32768
 SF 598.7000258 Mhz
 WDW no
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00



192.02
172.01

Current Data Parameters
NAME 2014-04-28
EXPNO 2
PROCNO 1

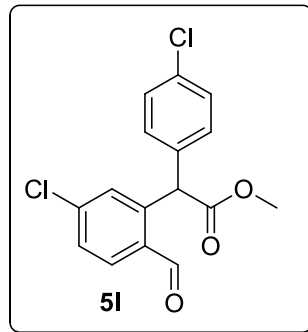
F2 - Acquisition Parameters
Date_ 20140425
Time 13.10
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg
TD 32768
SOLVENT CDC13
NS 5120
DS 0
SWH 45045.047 Hz
FIDRES 1.374666 Hz
AQ 0.3637748 sec
RG 2048
DW 11.100 usec
DE 6.50 usec
TE 298.5 K
D1 3.50000000 sec
d11 0.03000000 sec
DELTA 3.40000010 sec
MCREST 0 sec
MCWRK 0.01500000 sec

==== CHANNEL f1 =====
NUC1 13C
P1 4.80 usec
PL1 0 dB
SFO1 150.5597948 MHz

==== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 92.00 usec
PL2 120.00 dB
PL12 9.00 dB
PL13 14.00 dB
SFO2 598.7029935 MHz

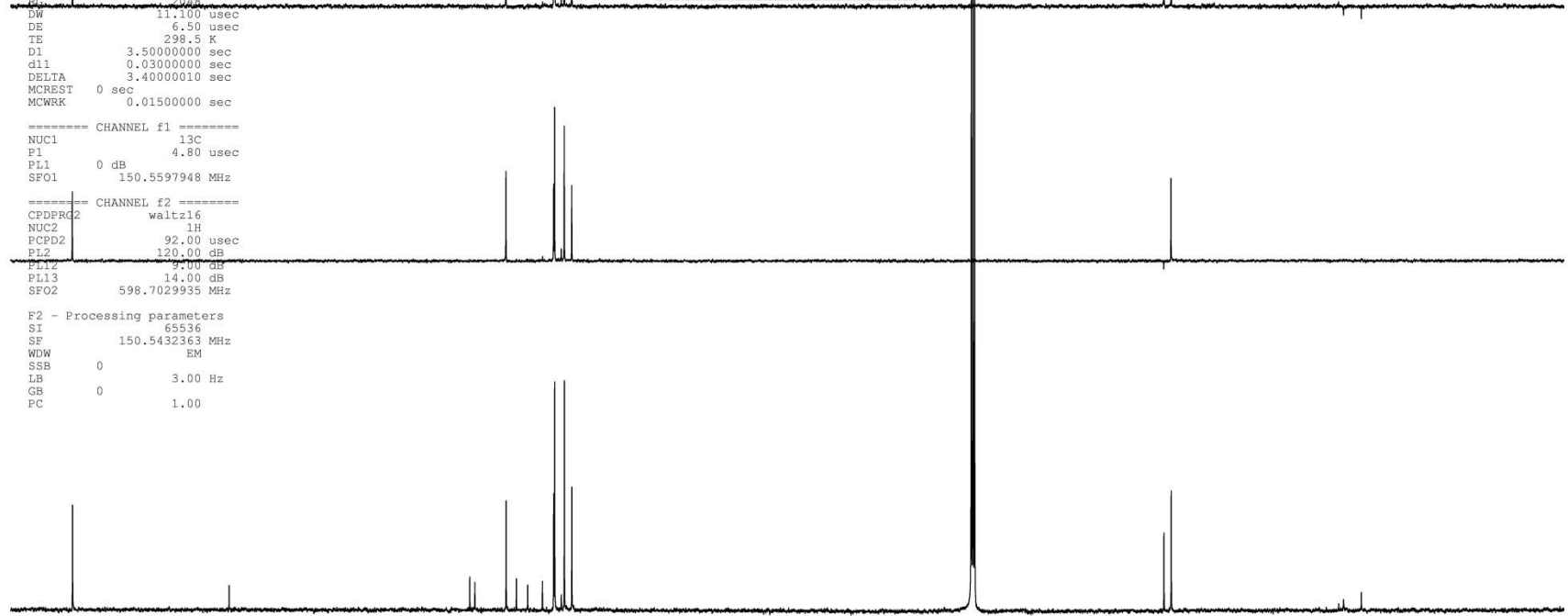
F2 - Processing parameters
SI 65536
SF 150.5432363 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 1.00

141.27
140.62
136.63
135.32
133.86
131.99
130.56
130.44
129.19
128.23



77.21
77.00
76.78

52.62
51.69



190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 ppm

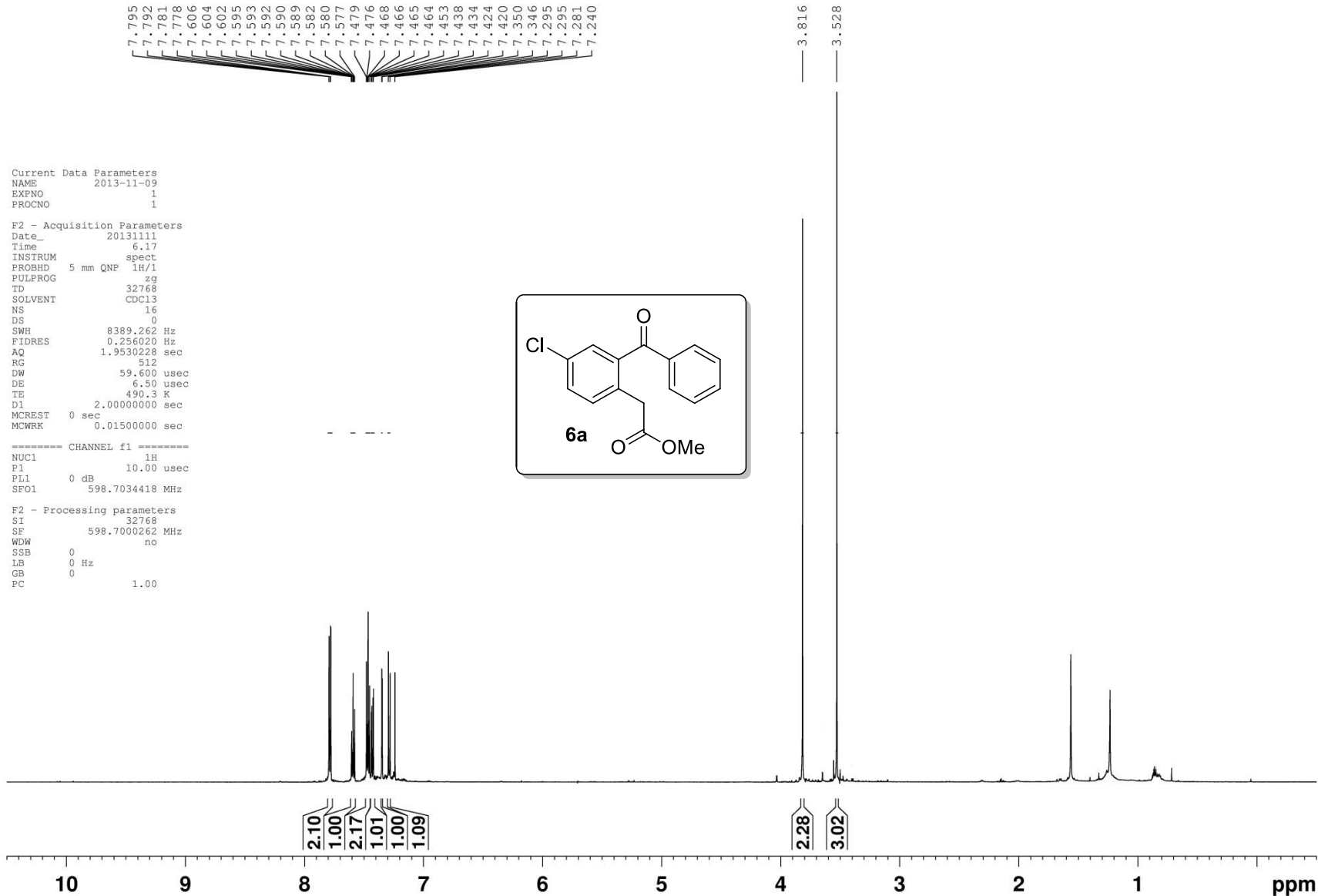
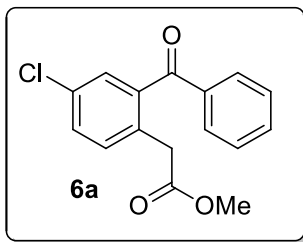
Current Data Parameters
 NAME 2013-11-09
 EXPNO 1
 PROCNO 1

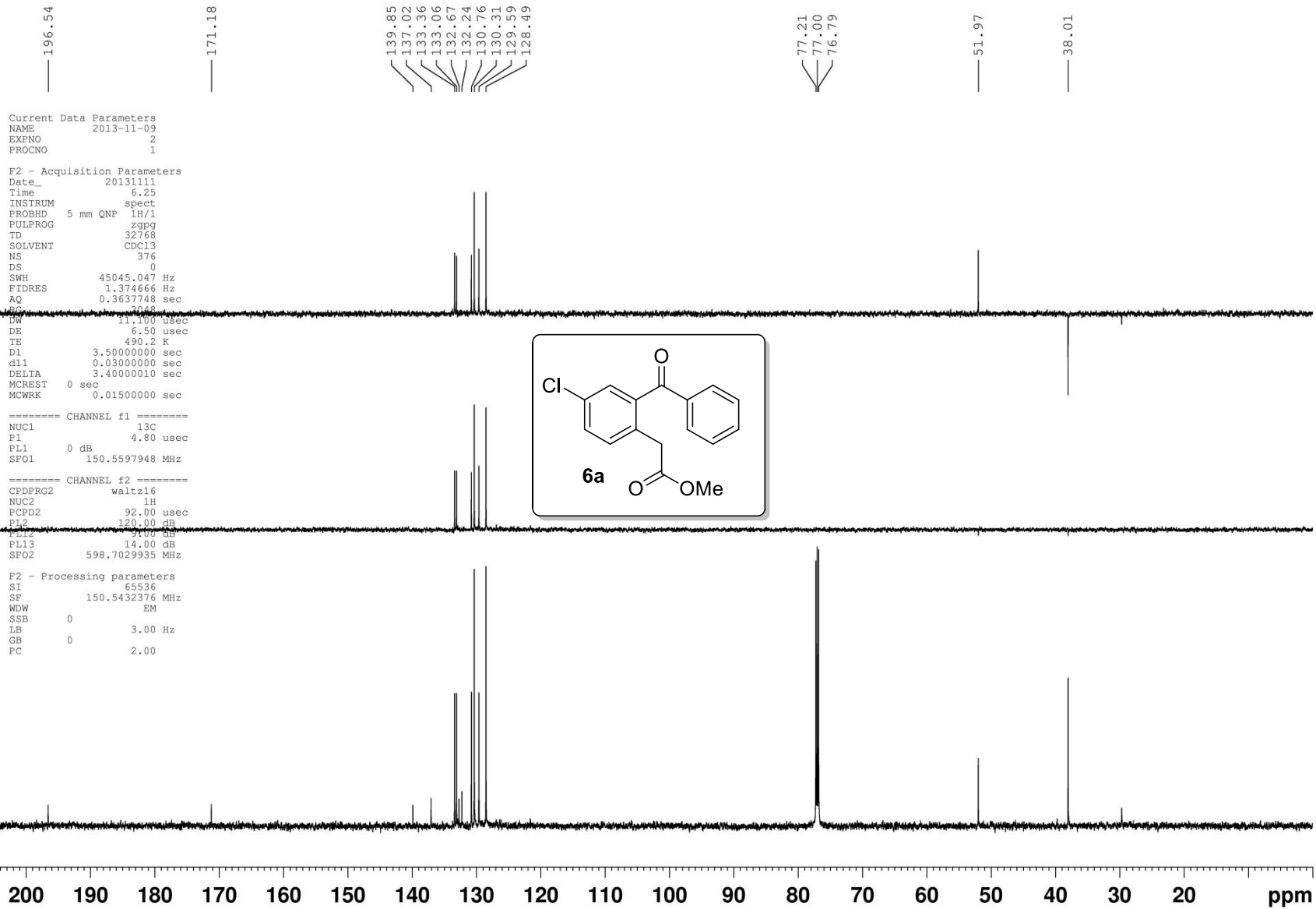
F2 - Acquisition Parameters
 Date_ 20131111
 Time 6.17
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zg
 TD 32768
 SOLVENT CDCl3
 NS 16
 DS 0
 SWH 8389.262 Hz
 FIDRES 0.256020 Hz
 AQ 1.9530228 sec
 RG 512
 DW 59.600 usec
 DE 6.50 usec
 TE 490.3 K
 D1 2.0000000 sec
 MCREST 0 sec
 MCWRK 0.0150000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 10.00 usec
 PL1 0 dB
 SFO1 598.7034418 MHz

F2 - Processing parameters
 SI 32768
 SF 598.7000262 MHz
 WDW no
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00

7.795
7.792
7.781
7.778
7.766
7.604
7.602
7.595
7.593
7.592
7.590
7.589
7.582
7.580
7.577
7.479
7.476
7.468
7.466
7.465
7.464
7.453
7.438
7.434
7.424
7.420
7.420
7.350
7.346
7.295
7.295
7.281
7.240





Current Data Parameters
 NAME 2013-11-09
 EXPNO 2
 PROCNO 1

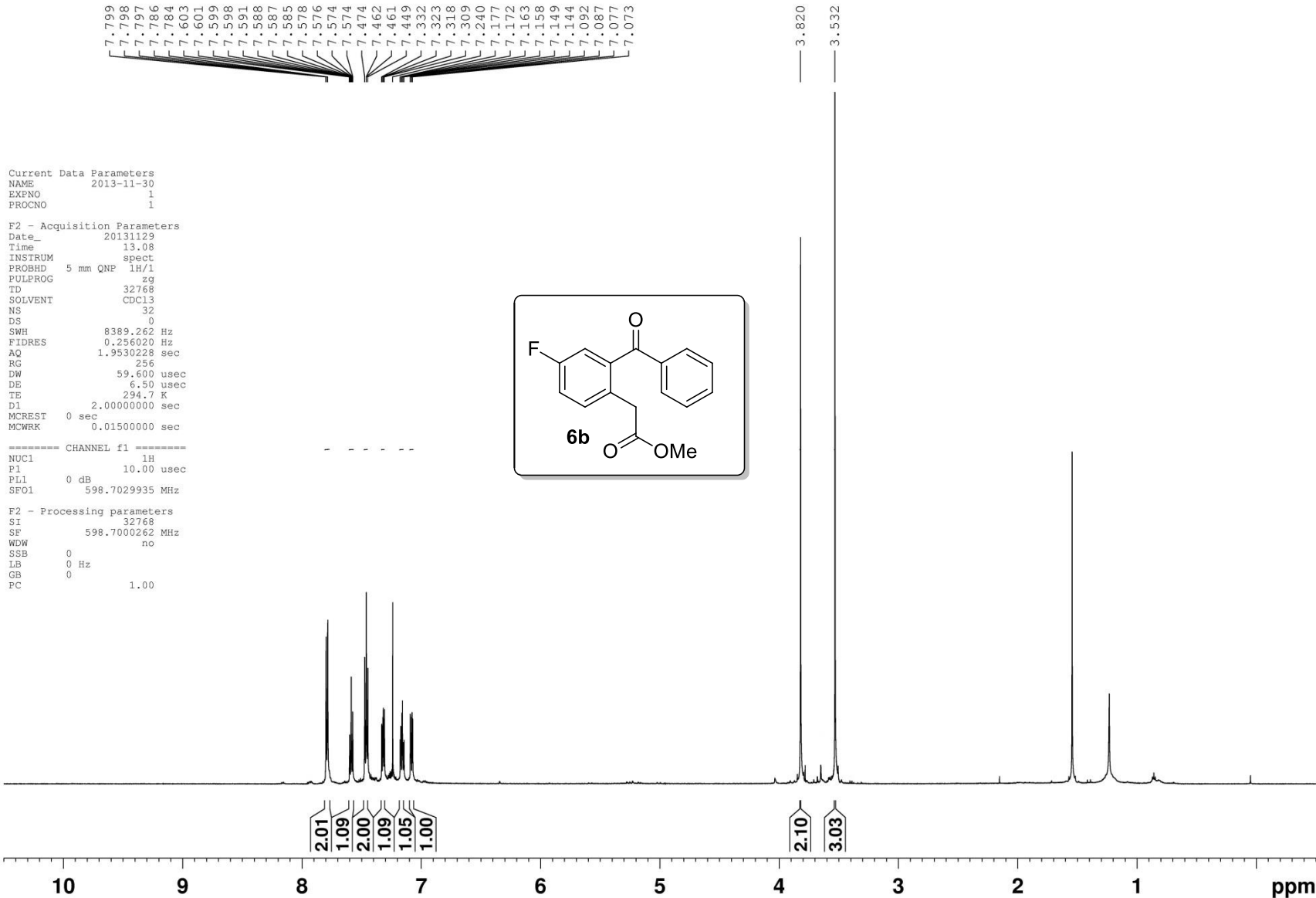
F2 - Acquisition Parameters
 Date_ 20131111
 Time 6.25
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zgpg
 TD 32768
 SOLVENT CDCl3
 NS 376
 DS 0
 SWH 45045.047 Hz
 FIDRES 1.374666 Hz
 AQ 0.3637748 sec

DE 11.100 usec
 TE 490.2 K
 D1 3.50000000 sec
 d11 0.03000000 sec
 DELTA 3.40000010 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

==== CHANNEL f1 =====
 NUC1 13C
 P1 4.80 usec
 PL1 0 dB
 SFO1 150.5597948 MHz

==== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 92.00 usec
 PL2 120.00 dB
 PL12 9.00 dB
 PL13 14.00 dB
 SFO2 598.7029935 MHz

F2 - Processing parameters
 SI 65536
 SF 150.5432376 MHz
 WDW EM
 SSB 0
 LB 3.00 Hz
 GB 0
 PC 2.00



— 196.60

— 171.44

— 161.76
— 160.11

— 139.98
— 139.94
— 137.03
— 133.42
— 133.37
— 133.32
— 130.30
— 129.55
— 128.45
— 117.73
— 117.59
— 116.91
— 116.75

— 77.21
— 77.00
— 76.78

— 51.93

— 37.84

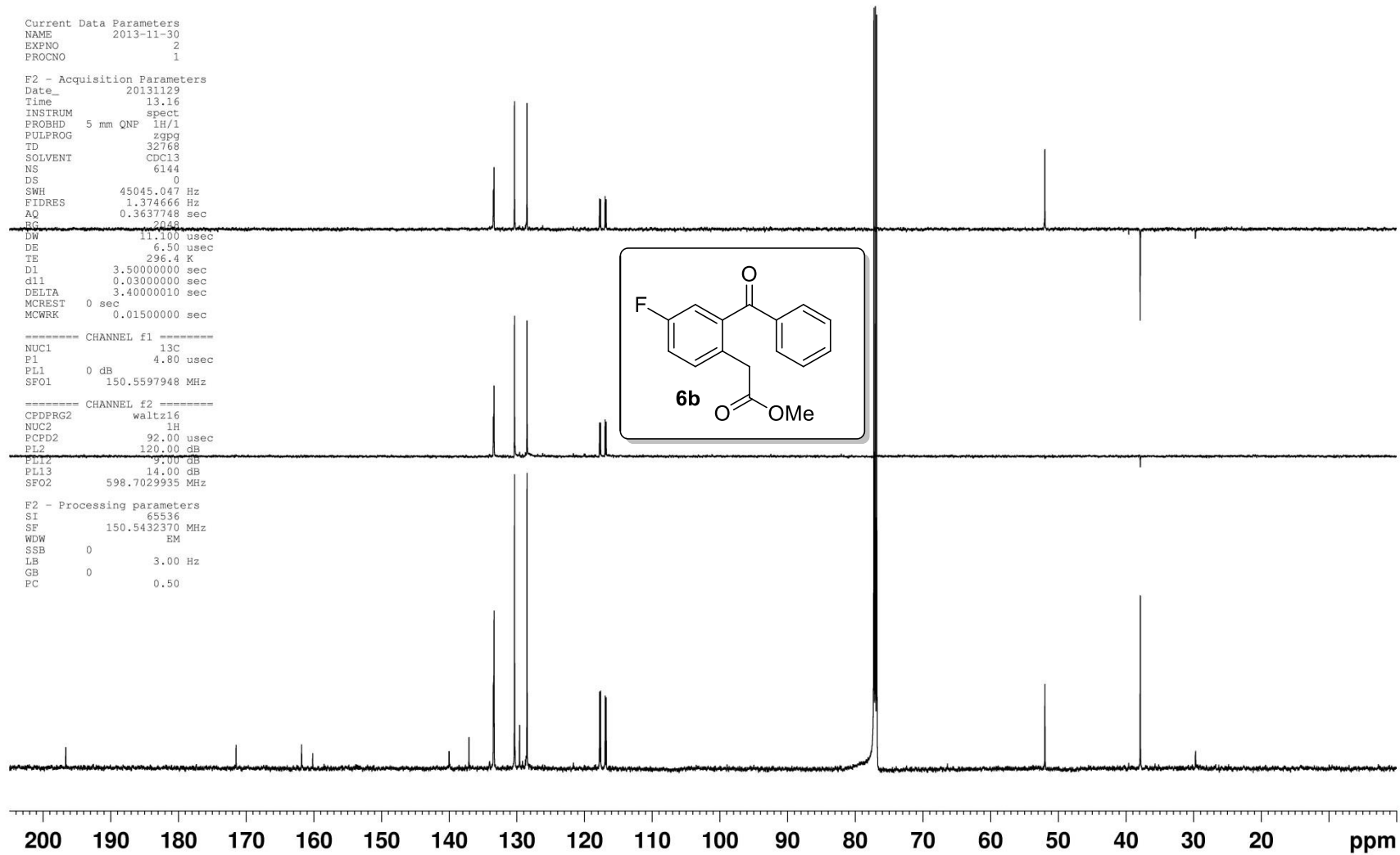
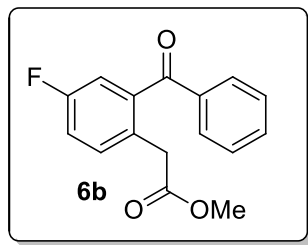
Current Data Parameters
NAME 2013-11-30
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131129
Time 13.16
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg
TD 32768
SOLVENT CDCl3
NS 6144
DS 0
SWH 45045.047 Hz
FIDRES 1.374666 Hz
AQ 0.3637748 sec
RG 72048
DW 11.100 usec
DE 6.50 usec
TE 296.4 K
D1 3.50000000 sec
d11 0.03000000 sec
DELTA 3.40000010 sec
MCREST 0 sec
MCWRK 0.01500000 sec

==== CHANNEL f1 =====
NUC1 13C
P1 4.80 usec
PL1 0 dB
SFO1 150.5597948 MHz

==== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 92.00 usec
PL2 120.00 dB
PL12 9.00 dB
PL13 14.00 dB
SFO2 598.7029935 MHz

F2 - Processing parameters
SI 65536
SF 150.5432370 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 0.50



200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 ppm

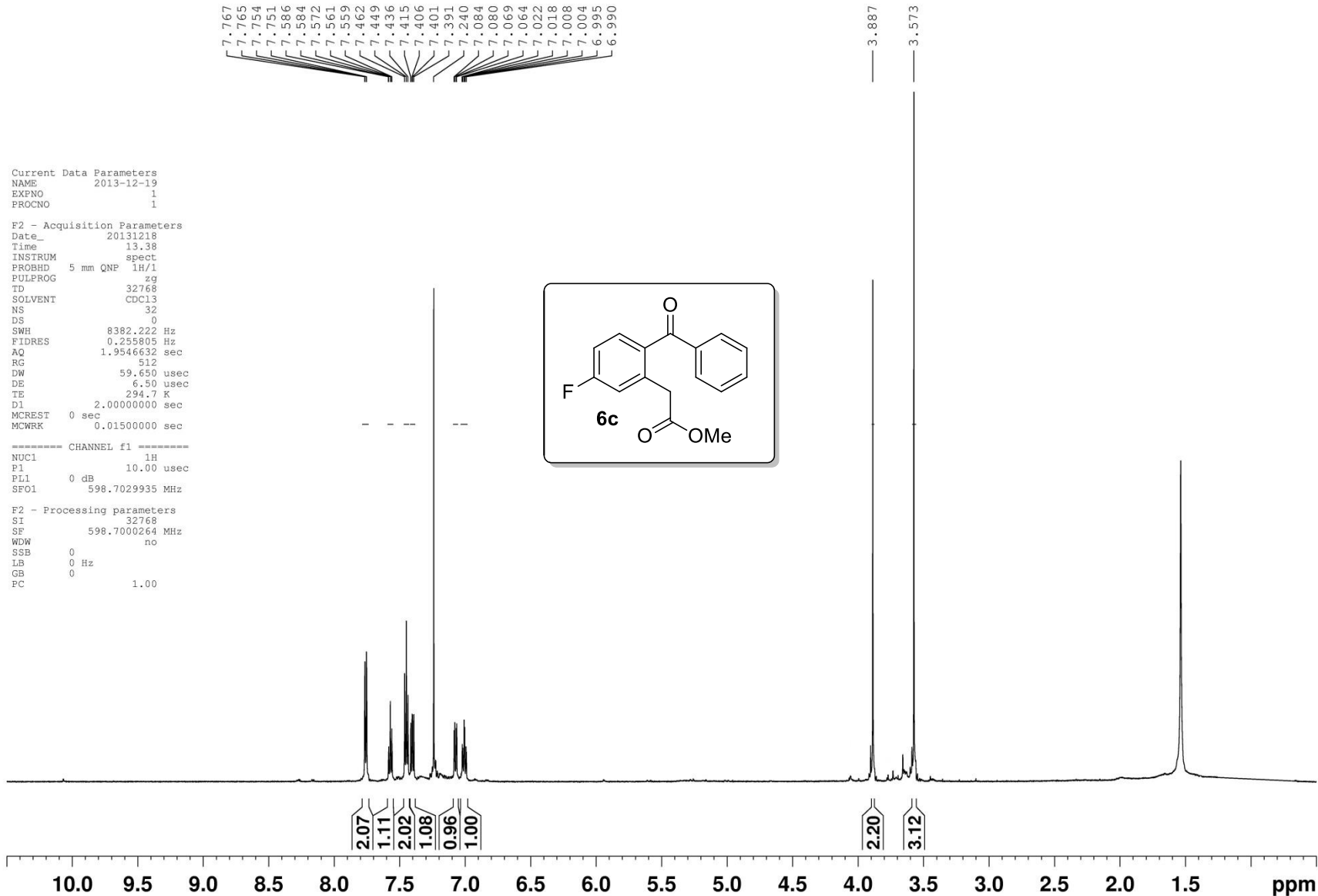
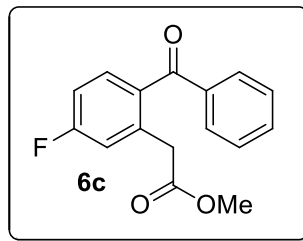
Current Data Parameters
 NAME 2013-12-19
 EXPNO 1
 PROCNO 1

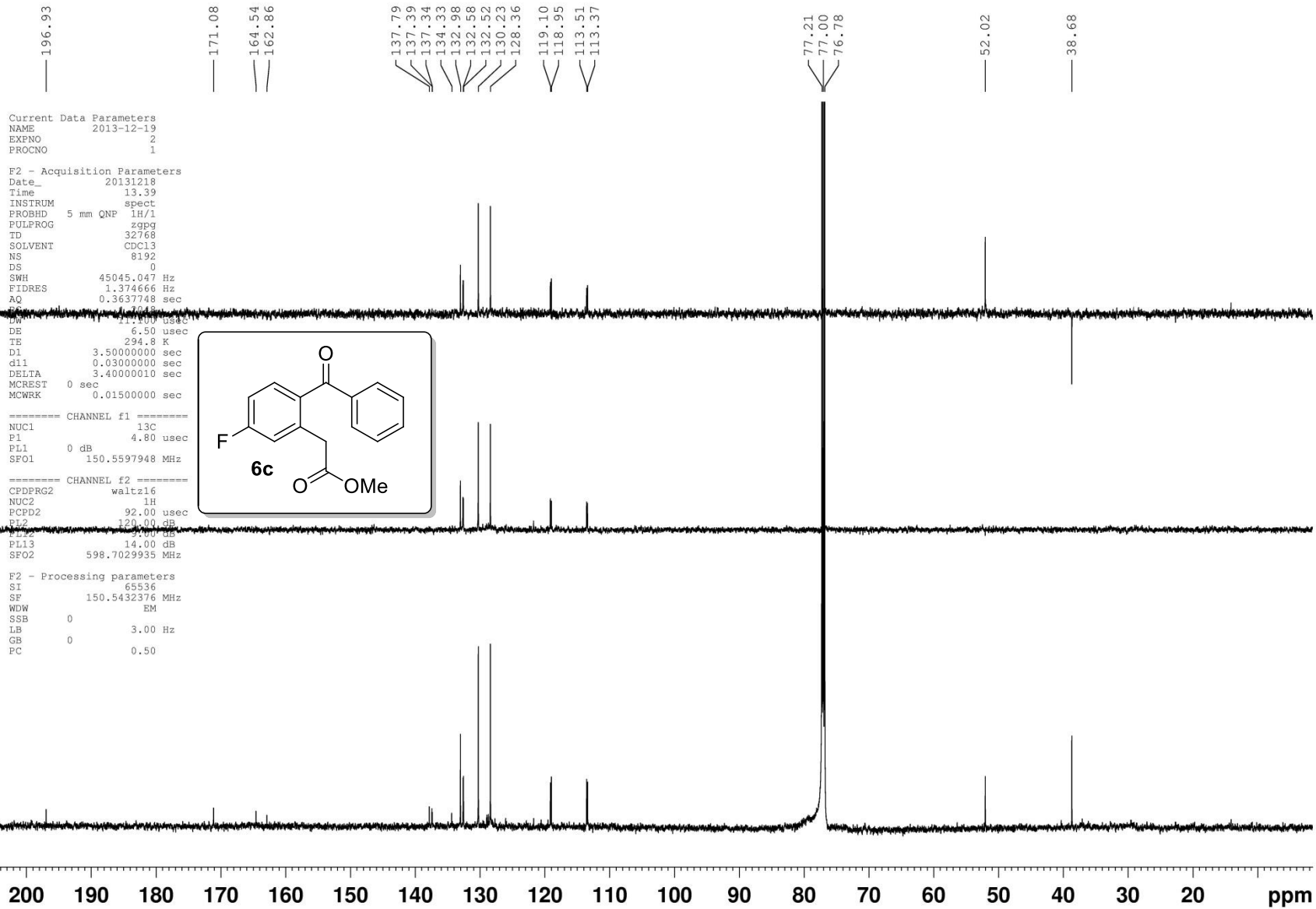
F2 - Acquisition Parameters
 Date_ 20131218
 Time 13.38
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zg
 TD 32768
 SOLVENT CDCl3
 NS 32
 DS 0
 SWH 8382.222 Hz
 FIDRES 0.255805 Hz
 AQ 1.9546632 sec
 RG 512
 DW 59.650 usec
 DE 6.50 usec
 TE 294.7 K
 D1 2.0000000 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 10.00 usec
 PL1 0 dB
 SFO1 598.7029935 MHz

F2 - Processing parameters
 SI 32768
 SF 598.7000264 MHz
 WDW no
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00

7.767
 7.765
 7.754
 7.751
 7.586
 7.584
 7.572
 7.561
 7.559
 7.462
 7.449
 7.436
 7.415
 7.406
 7.401
 7.391
 7.240
 7.084
 7.080
 7.069
 7.064
 7.022
 7.018
 7.008
 7.004
 6.995
 6.990





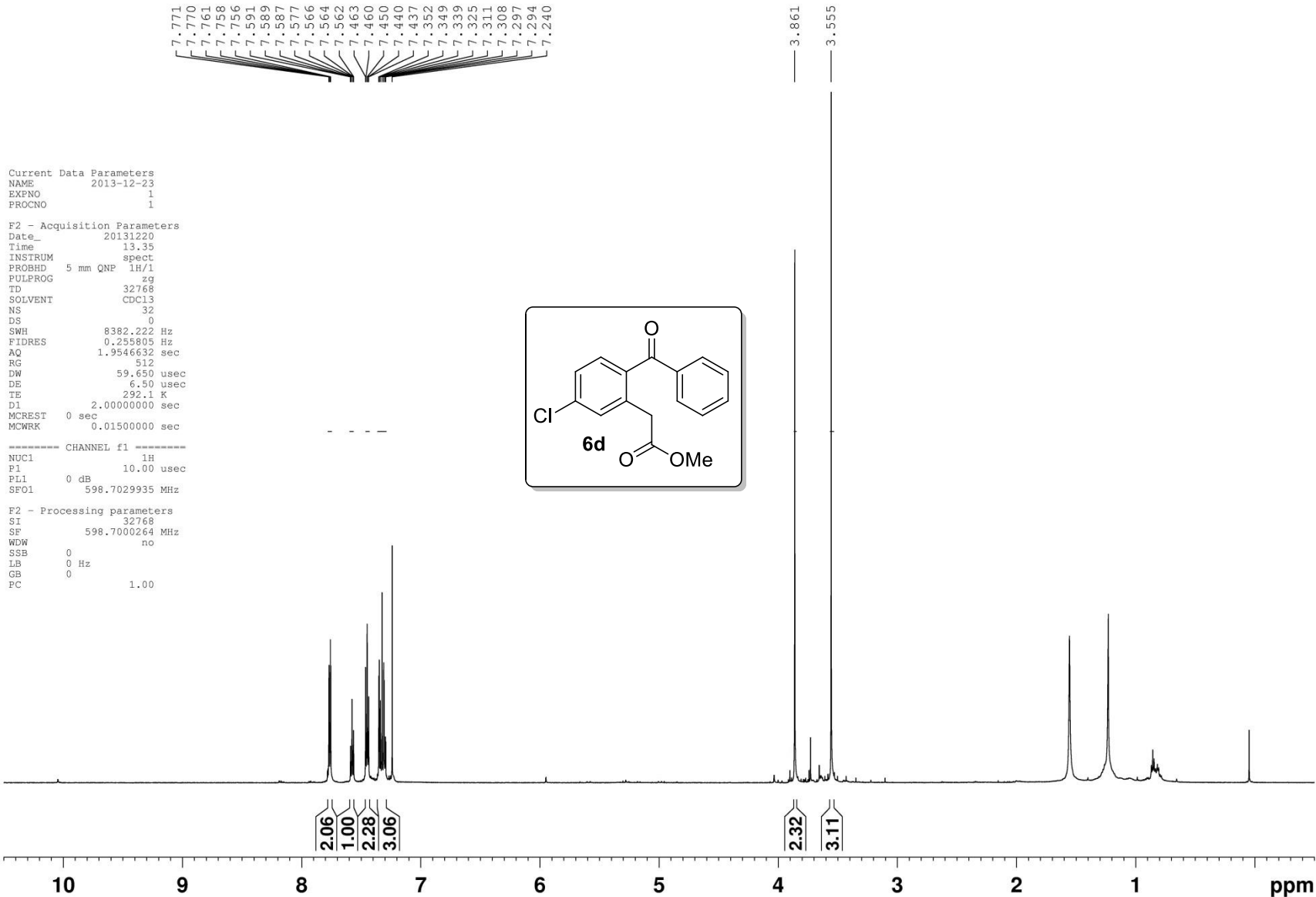
Current Data Parameters
 NAME 2013-12-19
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131218
 Time 13.39
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zgpg
 TD 32768
 SOLVENT CDCl3
 NS 8192
 DS 0
 SWH 45045.047 Hz
 FIDRES 1.374666 Hz
 AQ 0.3637748 sec
 DM 11.100 usec
 DE 6.50 usec
 TE 294.8 K
 D1 3.50000000 sec
 d11 0.03000000 sec
 DELTA 3.40000010 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

----- CHANNEL f1 -----
 NUC1 13C
 P1 4.80 usec
 PL1 0 dB
 SFO1 150.5597948 MHz

----- CHANNEL f2 -----
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 92.00 usec
 PL2 120.00 dB
 PL3 14.00 dB
 SFO2 598.7029935 MHz

F2 - Processing parameters
 SI 65536
 SF 150.5432376 MHz
 WDW EM
 SSB 0
 LB 3.00 Hz
 GB 0
 PC 0.50



— 197.01

— 171.04

137.48
136.86
136.56
136.06
133.14
131.91
131.41
130.26
128.39
126.73

77.21
77.00
76.79

— 52.04

— 38.43

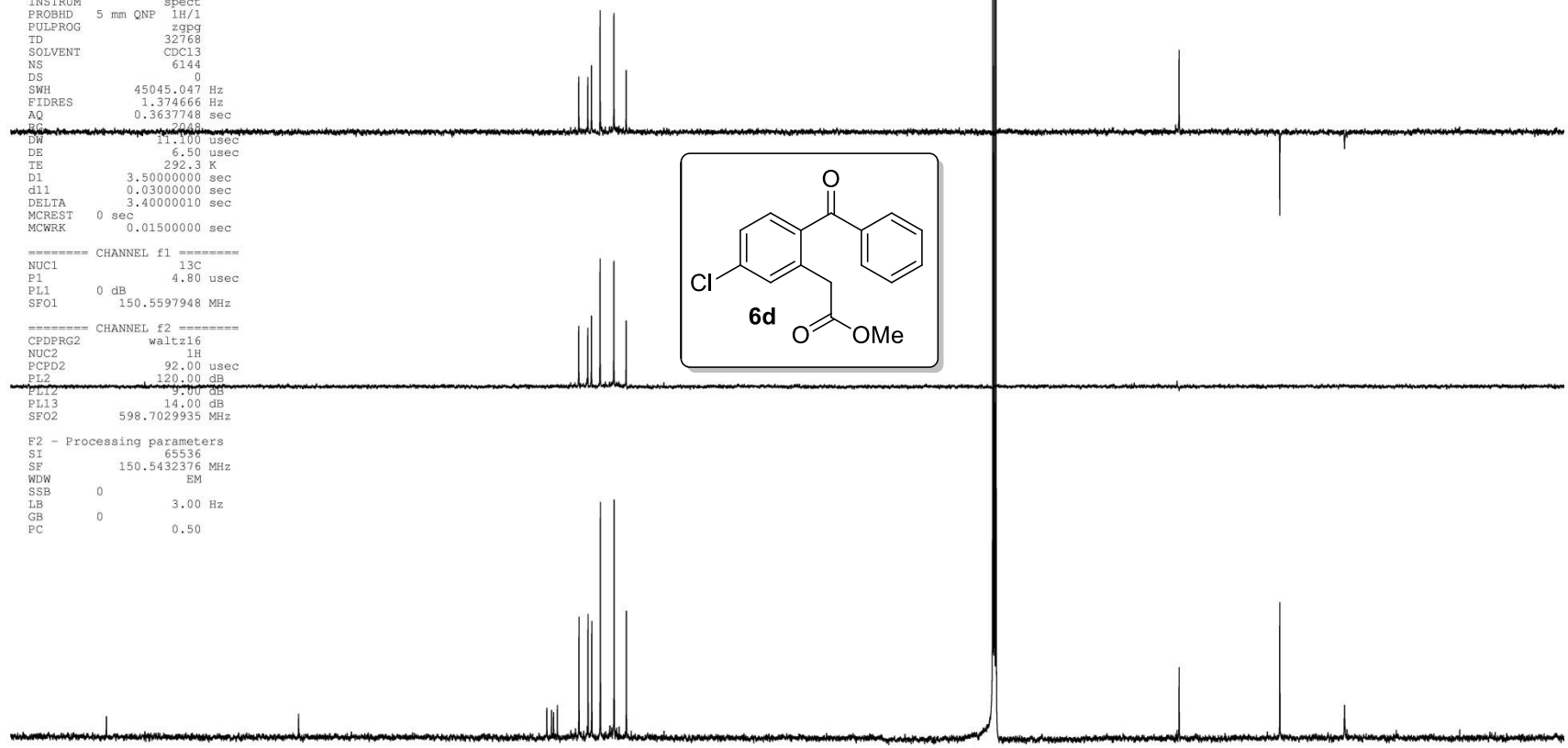
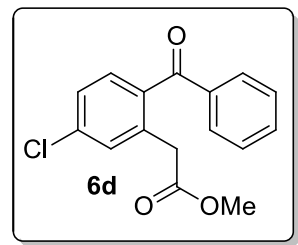
Current Data Parameters
NAME 2013-12-23
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20131220
Time 13.37
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zgpg
TD 32768
SOLVENT CDCl3
NS 6144
DS 0
SWH 45045.047 Hz
FIDRES 1.374666 Hz
AQ 0.3637748 sec
RG 2048
DW 11.100 usec
DE 6.50 usec
TE 292.3 K
D1 3.50000000 sec
d11 0.03000000 sec
DELTA 3.40000010 sec
MCREST 0 sec
MCWRK 0.01500000 sec

==== CHANNEL f1 =====
NUC1 13C
P1 4.80 usec
PL1 0 dB
SFO1 150.5597948 MHz

==== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 92.00 usec
PL2 120.00 dB
PL12 9.00 dB
PL13 14.00 dB
SFO2 598.7029935 MHz

F2 - Processing parameters
SI 65536
SF 150.5432376 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 0.50



200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 ppm

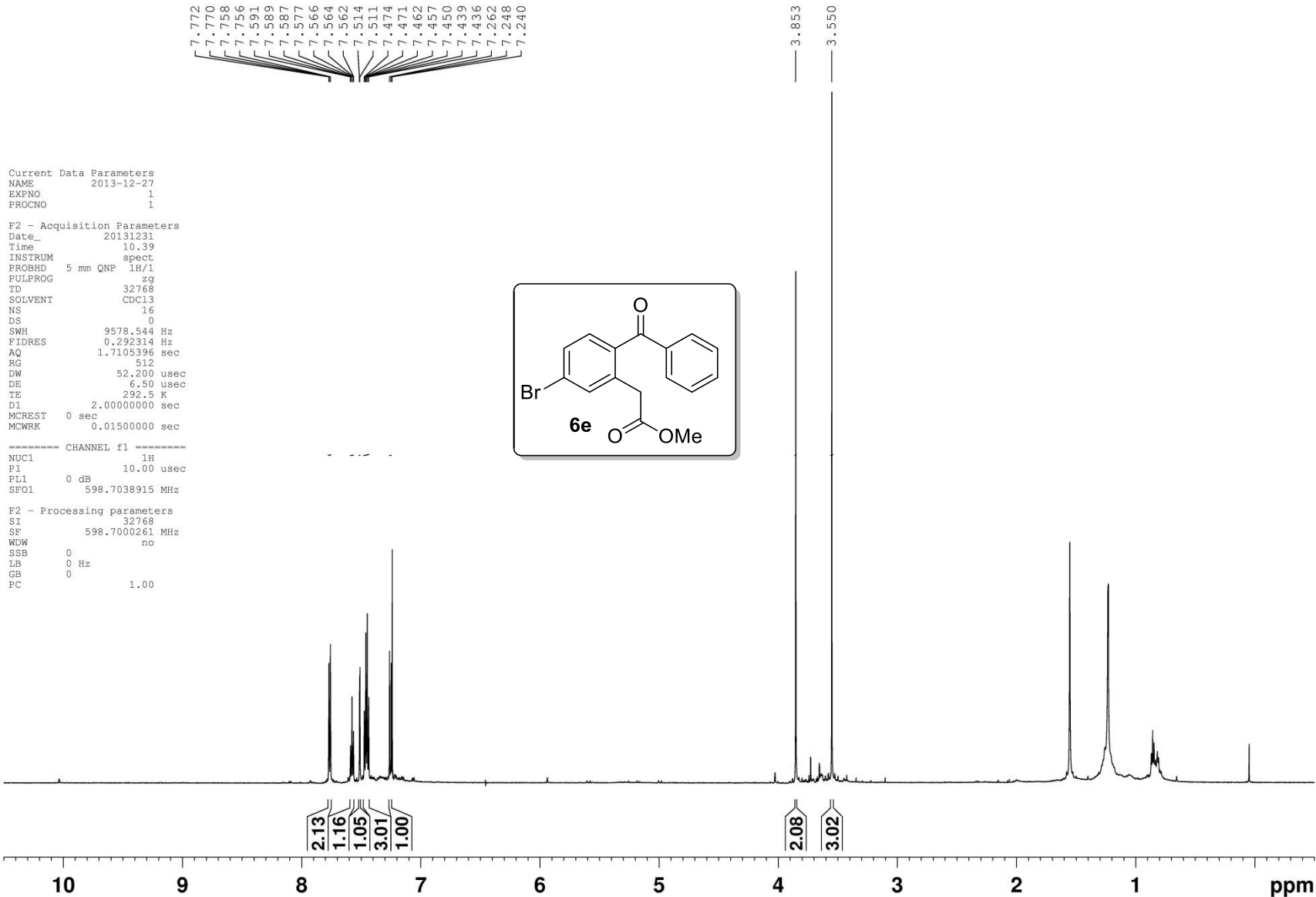
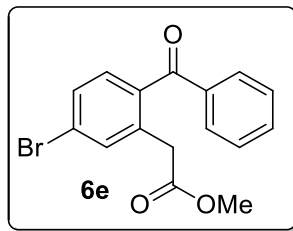
Current Data Parameters
NAME 2013-12-27
EXPNO 1
PROCNO 1

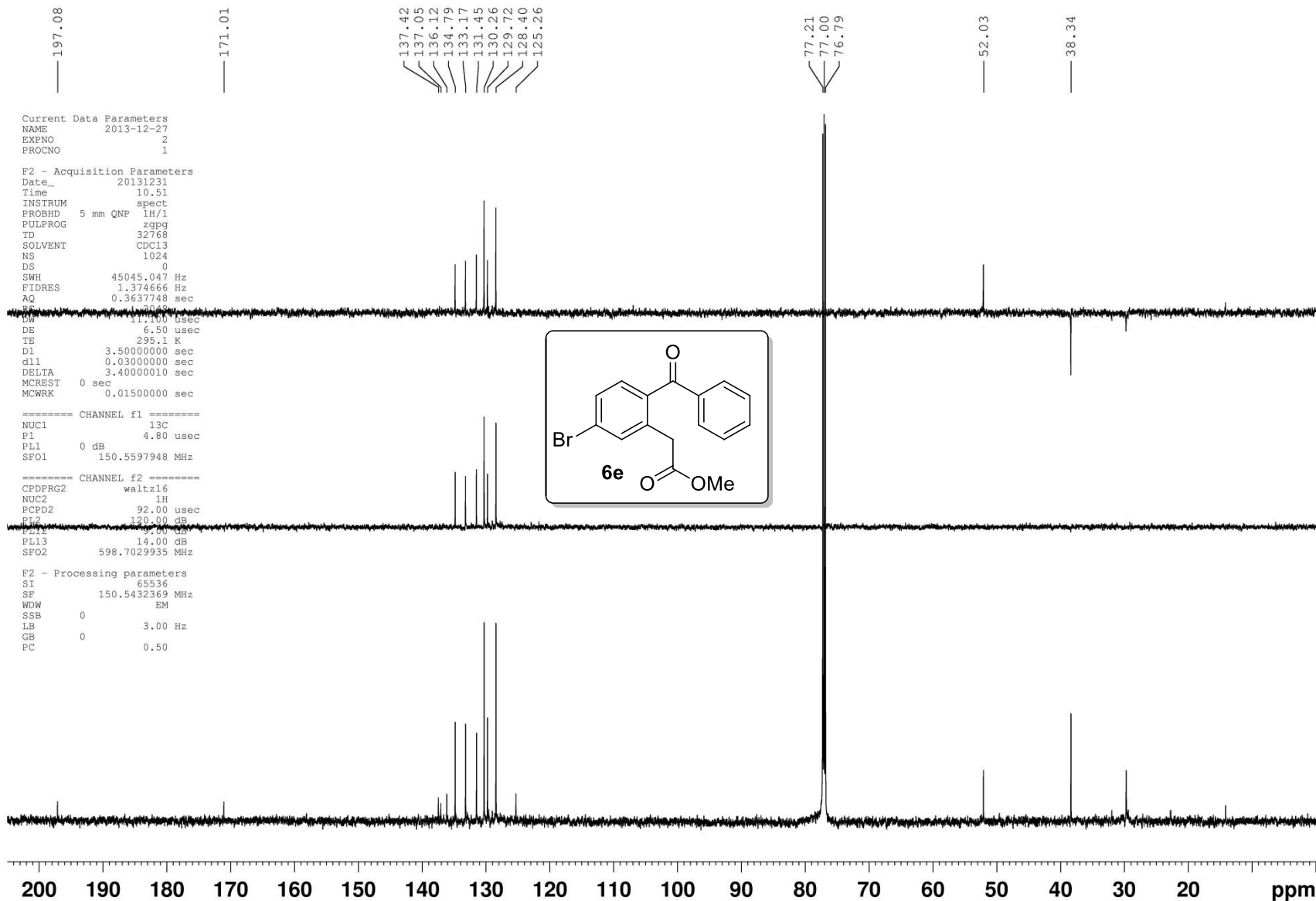
F2 - Acquisition Parameters
Date_ 20131231
Time 10.39
INSTRUM spect
PROBHD 5 mm QNP 1H/1
PULPROG zg
TD 32768
SOLVENT CDC13
NS 16
DS 0
SWH 9578.544 Hz
FIDRES 0.292314 Hz
AQ 1.7105396 sec
RG 512
DW 52.200 usec
DE 6.50 usec
TE 292.5 K
D1 2.0000000 sec
MCRCST 0 sec
MCWRK 0.01500000 sec

----- CHANNEL f1 -----
NUC1 1H
P1 10.00 usec
PL1 0 dB
SFO1 598.7038915 MHz

F2 - Processing parameters
SI 32768
SF 598.7000261 MHz
WDW no
SSB 0
LB 0 Hz
GB 0
PC 1.00

7.772
7.770
7.758
7.756
7.591
7.589
7.587
7.577
7.566
7.564
7.562
7.514
7.511
7.474
7.471
7.462
7.457
7.450
7.439
7.436
7.262
7.248
7.240





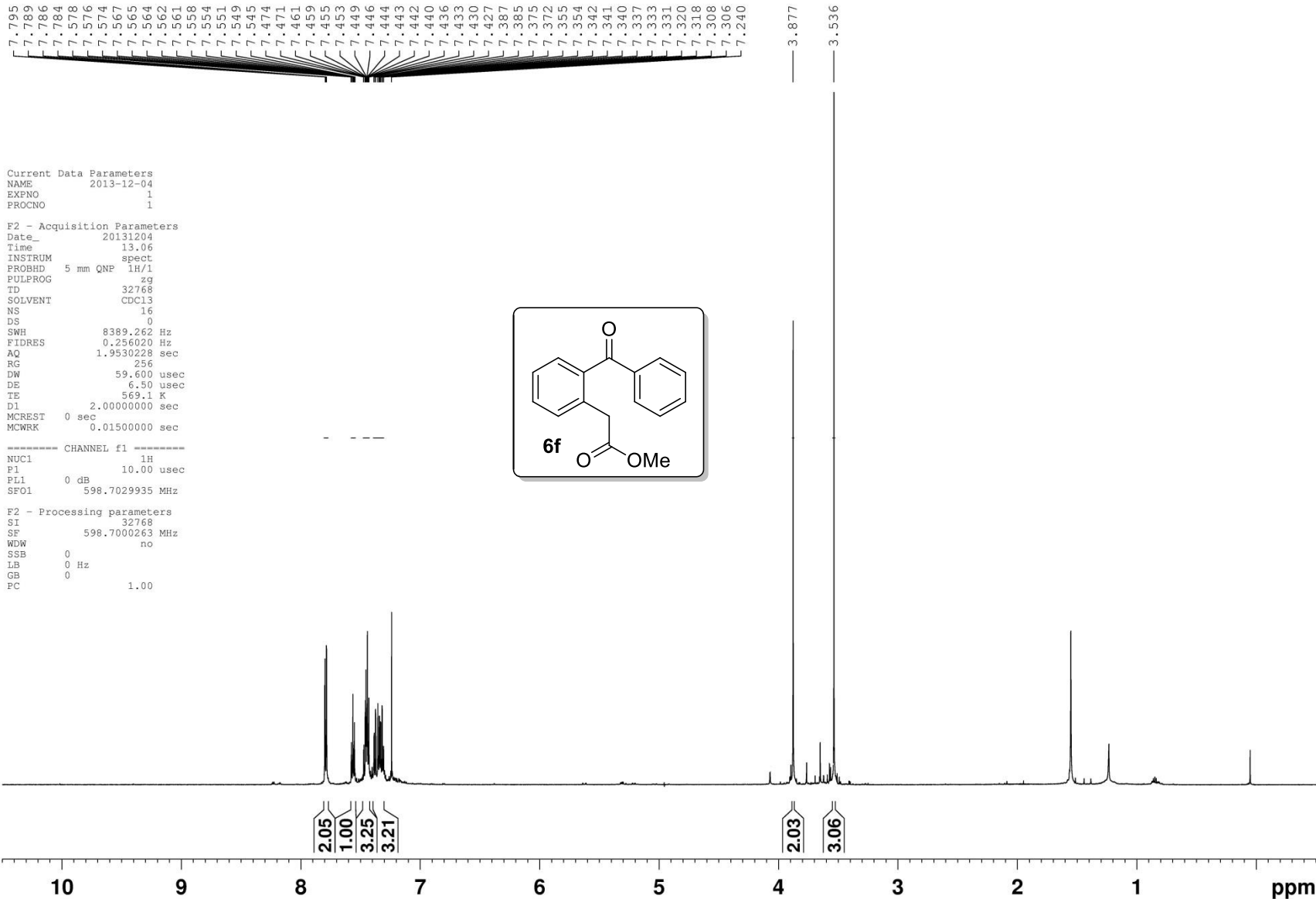
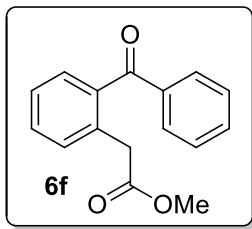
7.795
7.789
7.786
7.784
7.578
7.576
7.574
7.567
7.565
7.564
7.562
7.561
7.558
7.554
7.551
7.549
7.545
7.474
7.471
7.461
7.459
7.455
7.453
7.449
7.446
7.444
7.443
7.442
7.440
7.436
7.433
7.430
7.427
7.387
7.385
7.375
7.372
7.355
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7.333
7.331
7.320
7.318
7.308
7.306
7.240

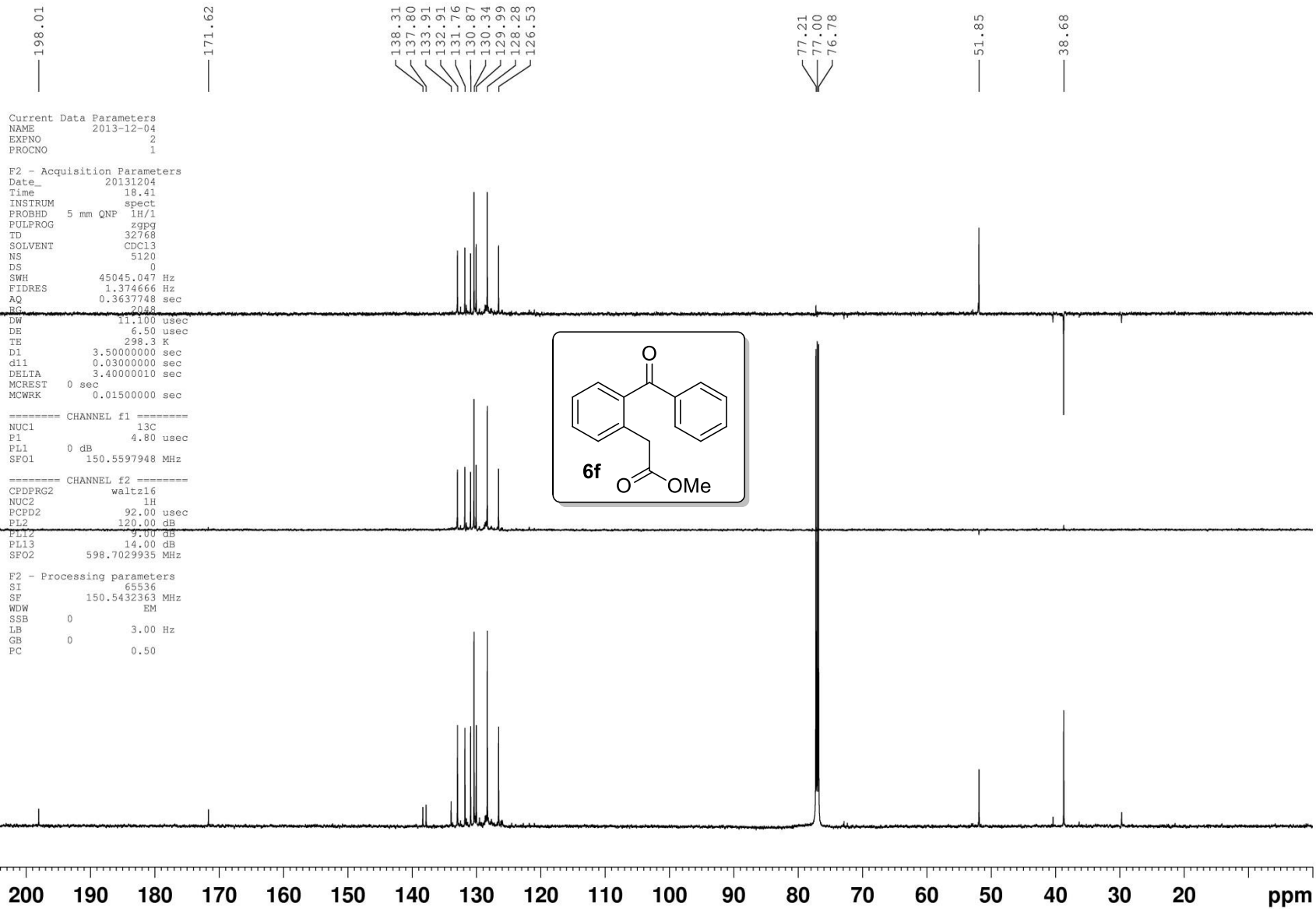
Current Data Parameters
 NAME 2013-12-04
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131204
 Time 13.06
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zg
 TD 32768
 SOLVENT CDC13
 NS 16
 DS 0
 SWH 8389.262 Hz
 FIDRES 0.256020 Hz
 AQ 1.9530228 sec
 RG 256
 DW 59.600 usec
 DE 6.50 usec
 TE 569.1 K
 D1 2.0000000 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 10.00 usec
 PL1 0 dB
 SFO1 598.7029935 MHz

F2 - Processing parameters
 SI 32768
 SF 598.7000263 MHz
 WDW no
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00





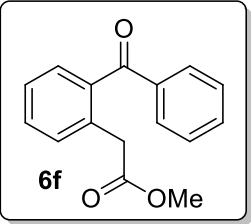
Current Data Parameters
 NAME 2013-12-04
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131204
 Time 18.41
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zgpg
 TD 32768
 SOLVENT CDCl3
 NS 5120
 DS 0
 SWH 45045.047 Hz
 FIDRES 1.374666 Hz
 AQ 0.3637748 sec
 RG 7048
 DW 11.100 usec
 DE 6.50 usec
 TE 298.3 K
 D1 3.50000000 sec
 d11 0.03000000 sec
 DELTA 3.40000010 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

==== CHANNEL f1 =====
 NUC1 13C
 P1 4.80 usec
 PL1 0 dB
 SFO1 150.5597948 MHz

==== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 92.00 usec
 PL2 120.00 dB
 PL12 9.00 dB
 PL13 14.00 dB
 SFO2 598.7029935 MHz

F2 - Processing parameters
 SI 65536
 SF 150.5432363 MHz
 WDW EM
 SSB 0
 LB 3.00 Hz
 GB 0
 PC 0.50



138.31
 137.80
 133.91
 132.91
 131.76
 130.87
 130.34
 129.99
 128.28
 126.53

77.21
 77.00
 76.78

51.85

38.68

200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 ppm

```

Current Data Parameters
NAME      2013-11-24-1
EXPNO    1
PROCNO   1

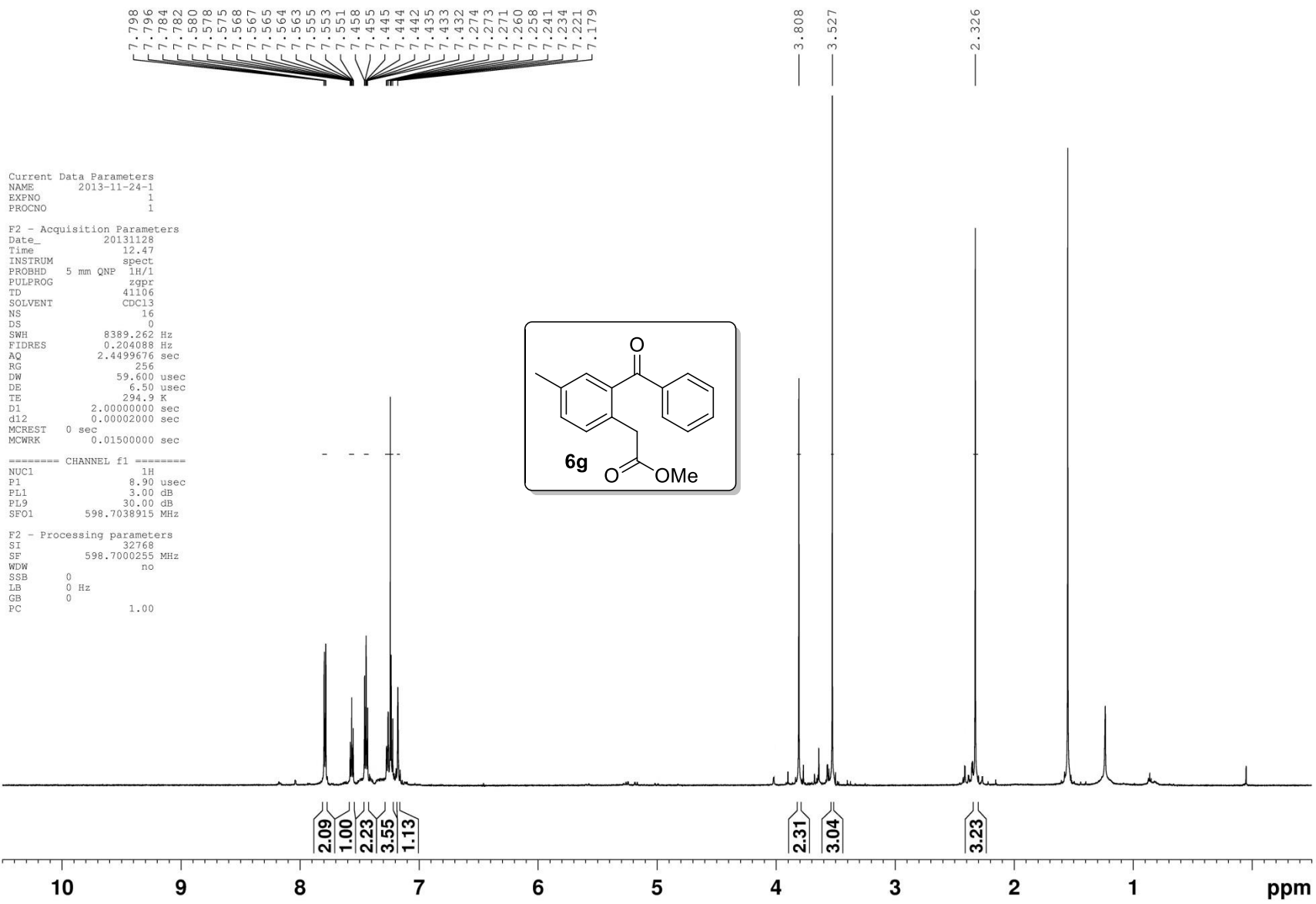
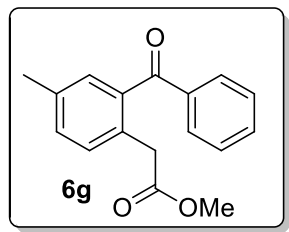
F2 - Acquisition Parameters
Date_    20131128
Time     12.47
INSTRUM  spect
PROBHD   5 mm QNP 1H/1
PULPROG  zgpr
TD       41106
SOLVENT  CDCl3
NS       16
DS       0
SWH      8389.262 Hz
FIDRES   0.204088 Hz
AQ       2.4499676 sec
RG       256
DW       59.600 usec
DE       6.50 usec
TE       294.9 K
D1       2.00000000 sec
d12      0.00002000 sec
MCREST   0 sec
MCWRK    0.01500000 sec

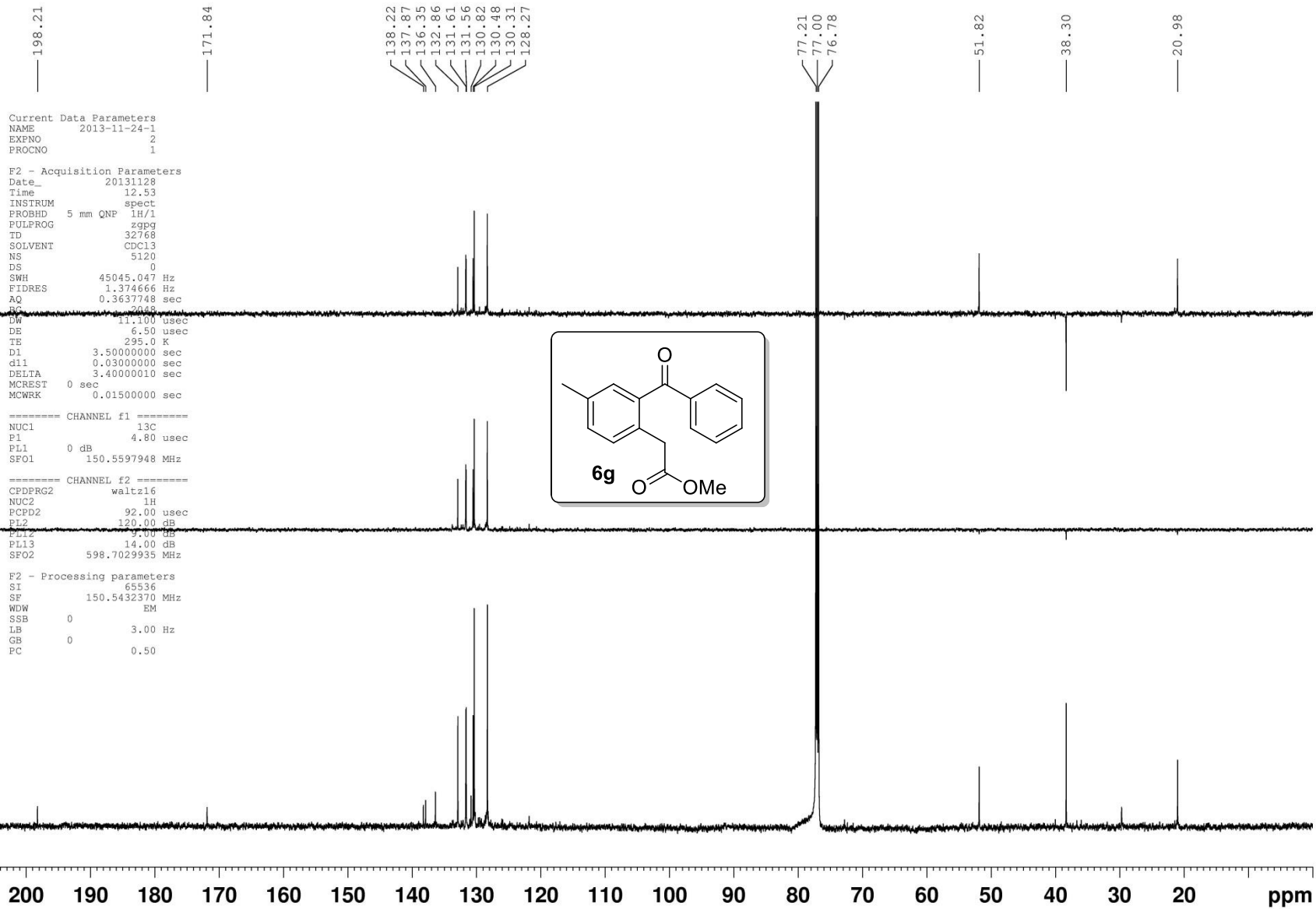
===== CHANNEL f1 =====
NUC1     1H
P1       8.90 usec
PL1     3.00 dB
PL9     30.00 dB
SFO1    598.7038915 MHz

F2 - Processing parameters
SI       32768
SF       598.7000255 MHz
WDW      no
SSB      0
LB       0 Hz
GB       0
PC       1.00

```

7.798
7.796
7.784
7.782
7.580
7.578
7.575
7.568
7.567
7.565
7.564
7.563
7.555
7.553
7.551
7.458
7.455
7.445
7.444
7.442
7.435
7.433
7.432
7.274
7.273
7.271
7.260
7.258
7.241
7.234
7.221
7.179





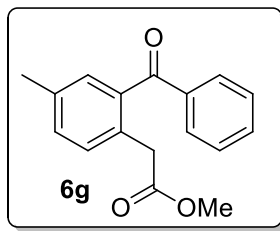
Current Data Parameters
 NAME 2013-11-24-1
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20131128
 Time 12.53
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zgpg
 TD 32768
 SOLVENT CDCl3
 NS 5120
 DS 0
 SWH 45045.047 Hz
 FIDRES 1.374666 Hz
 AQ 0.3637748 sec
 DE 11.100 usec
 TE 295.0 K
 D1 3.50000000 sec
 d11 0.03000000 sec
 DELTA 3.40000010 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

==== CHANNEL f1 =====
 NUC1 13C
 P1 4.80 usec
 PL1 0 dB
 SFO1 150.5597948 MHz

==== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 92.00 usec
 PL2 120.00 dB
 PL12 9.00 dB
 PL13 14.00 dB
 SFO2 598.7029935 MHz

F2 - Processing parameters
 SI 65536
 SF 150.5432370 MHz
 WDW EM
 SSB 0
 LB 3.00 Hz
 GB 0
 PC 0.50



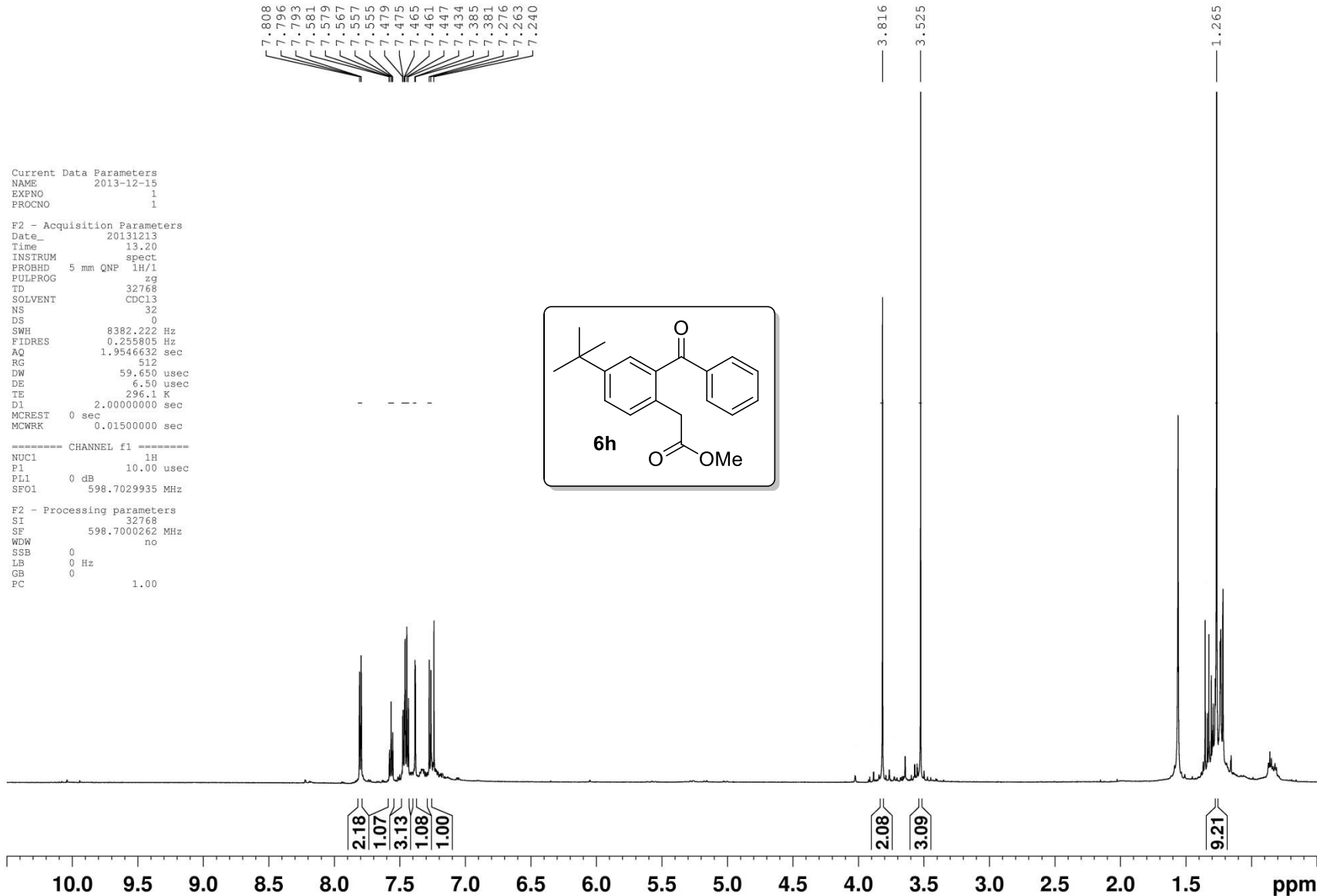
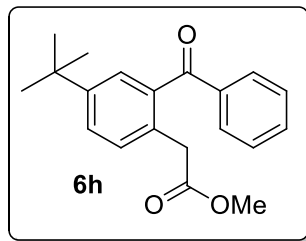
Current Data Parameters
 NAME 2013-12-15
 EXPNO 1
 PROCNO 1

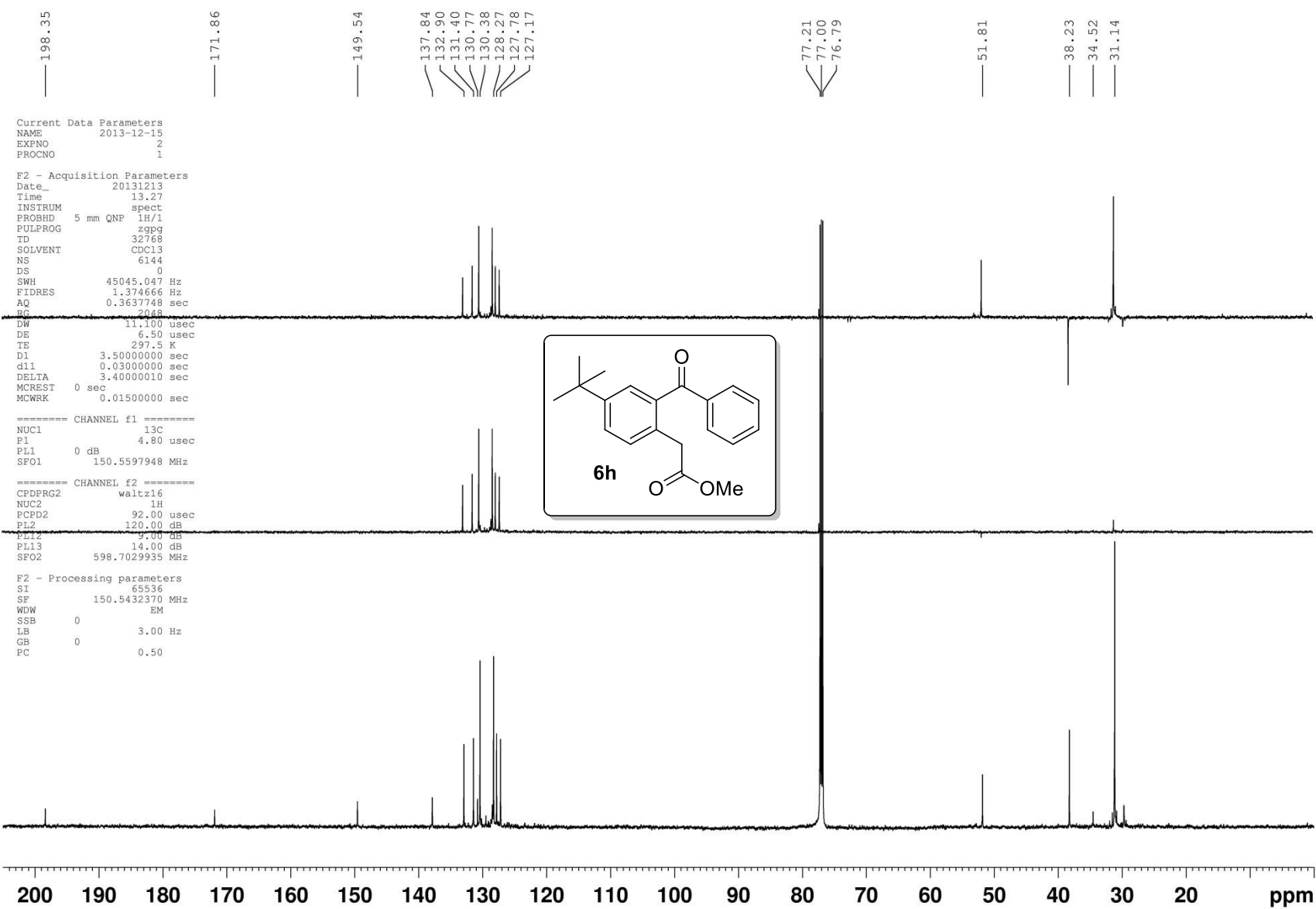
F2 - Acquisition Parameters
 Date_ 20131213
 Time 13.20
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zg
 TD 32768
 SOLVENT CDCl3
 NS 32
 DS 0
 SWH 8382.222 Hz
 FIDRES 0.255805 Hz
 AQ 1.9546632 sec
 RG 512
 DW 59.650 usec
 DE 6.50 usec
 TE 296.1 K
 D1 2.0000000 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 10.00 usec
 PL1 0 dB
 SFO1 598.7029935 MHz

F2 - Processing parameters
 SI 32768
 SF 598.7000262 MHz
 WDW no
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00

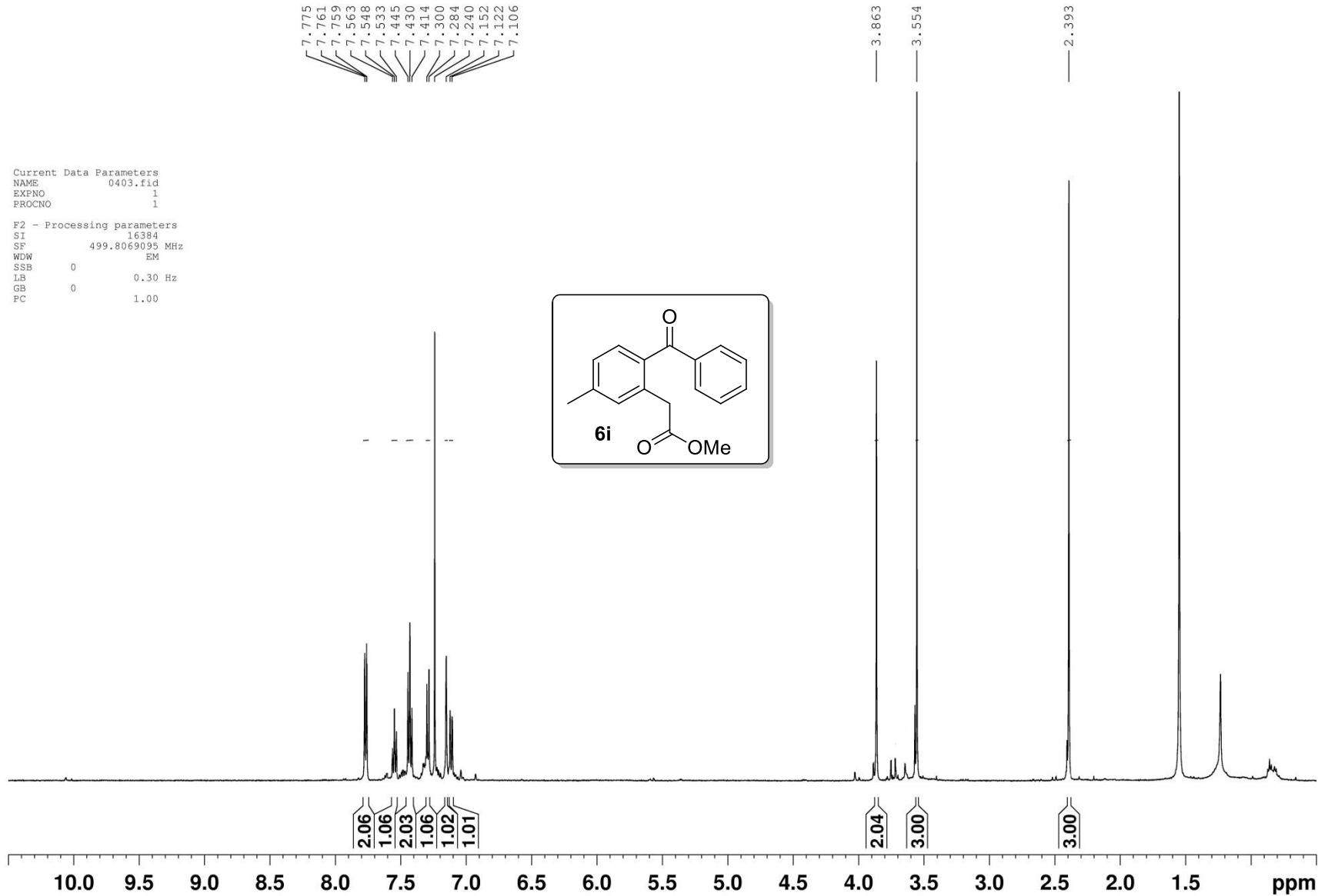
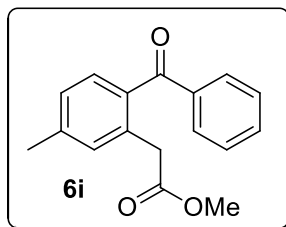
7.808
7.796
7.793
7.581
7.579
7.567
7.557
7.555
7.479
7.475
7.465
7.461
7.447
7.434
7.385
7.381
7.276
7.263
7.240

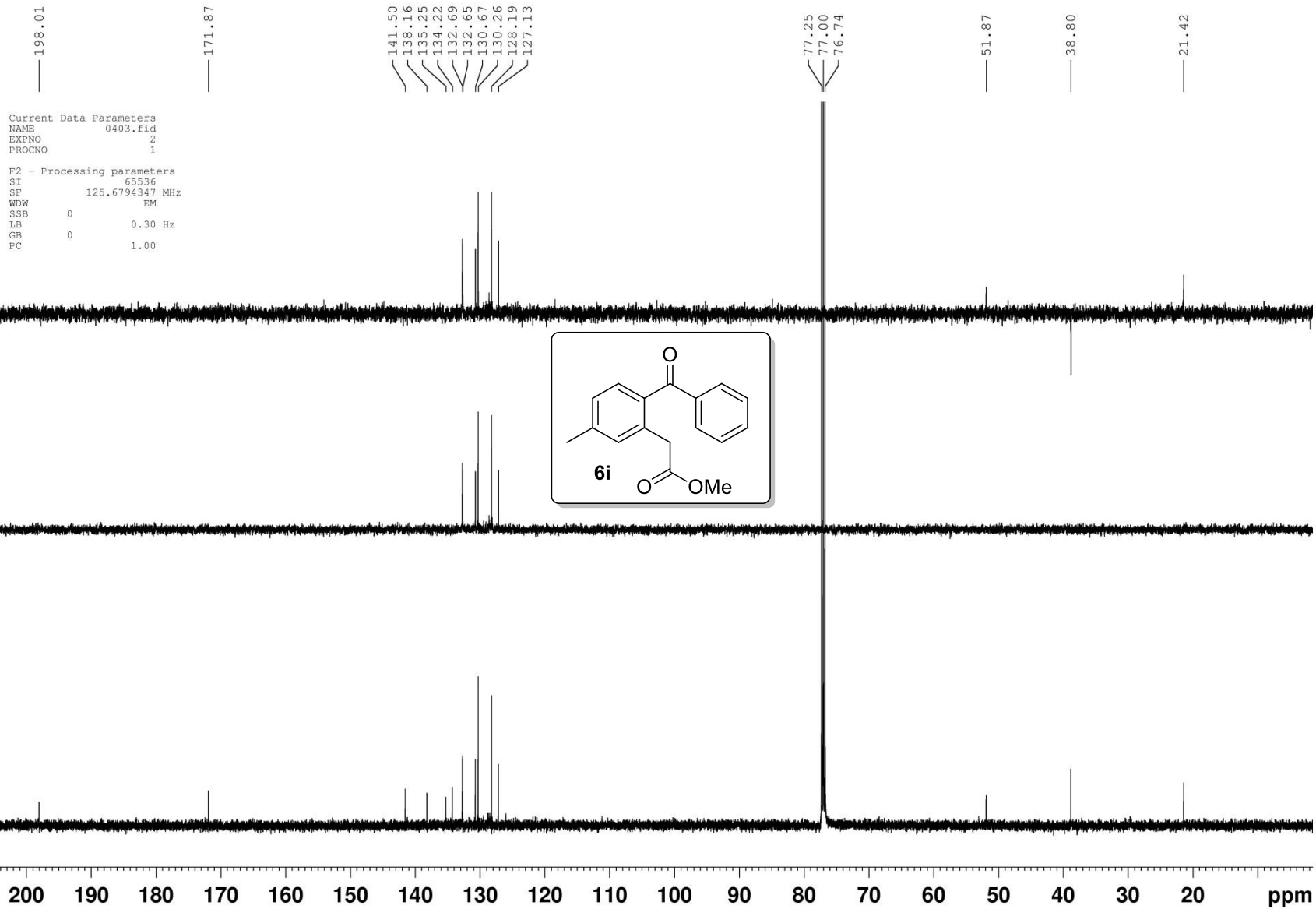




Current Data Parameters
NAME 0403.fid
EXPNO 1
PROCNO 1
F2 - Processing parameters
SI 16384
SF 499.8069095 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

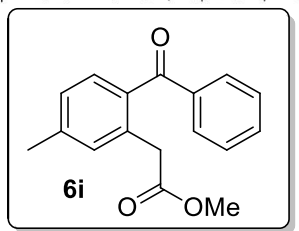
7.775
7.761
7.759
7.563
7.548
7.533
7.445
7.430
7.414
7.300
7.284
7.240
7.152
7.122
7.106





Current Data Parameters
NAME 0403.fid
EXPNO 2
PROCNO 1

F2 - Processing parameters
SI 65536
SF 125.6794347 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00



Current Data Parameters
 NAME 2013-12-31-1
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140106
 Time 13.25
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zg
 TD 32768
 SOLVENT CDCl3
 NS 32
 DS 0
 SWH 8389.262 Hz
 FIDRES 0.256020 Hz
 AQ 1.9530228 sec
 RG 512
 DW 59.600 usec
 DE 6.50 usec
 TE 292.6 K
 D1 2.0000000 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 10.00 usec
 PL1 0 dB
 SFO1 598.7029935 MHz

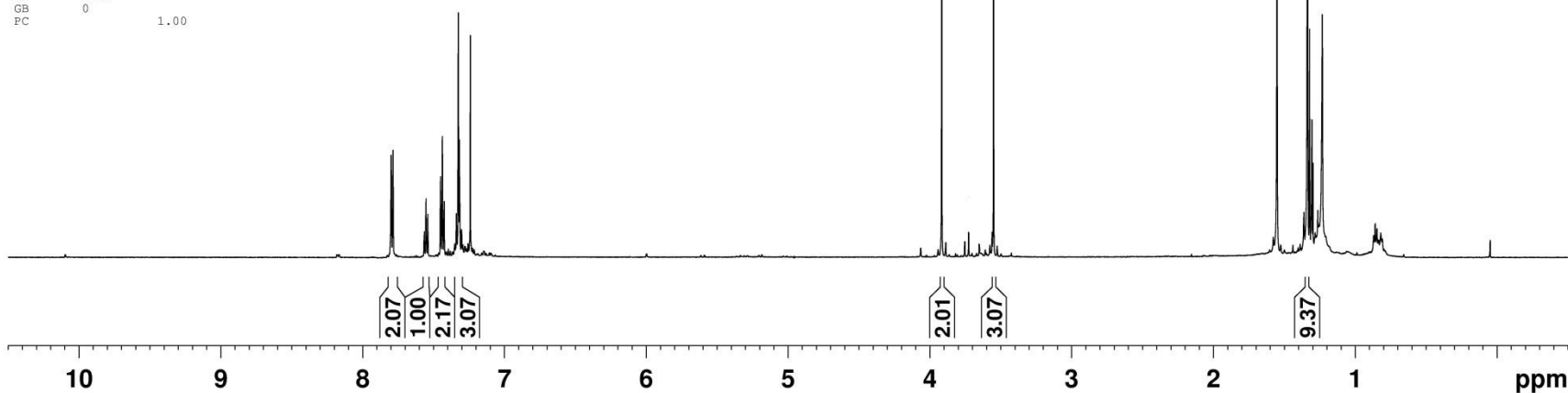
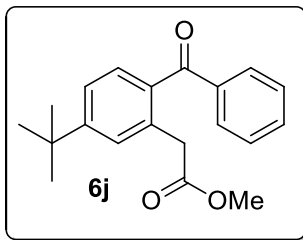
F2 - Processing parameters
 SI 32768
 SF 598.7000257 MHz
 WDW no
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.00

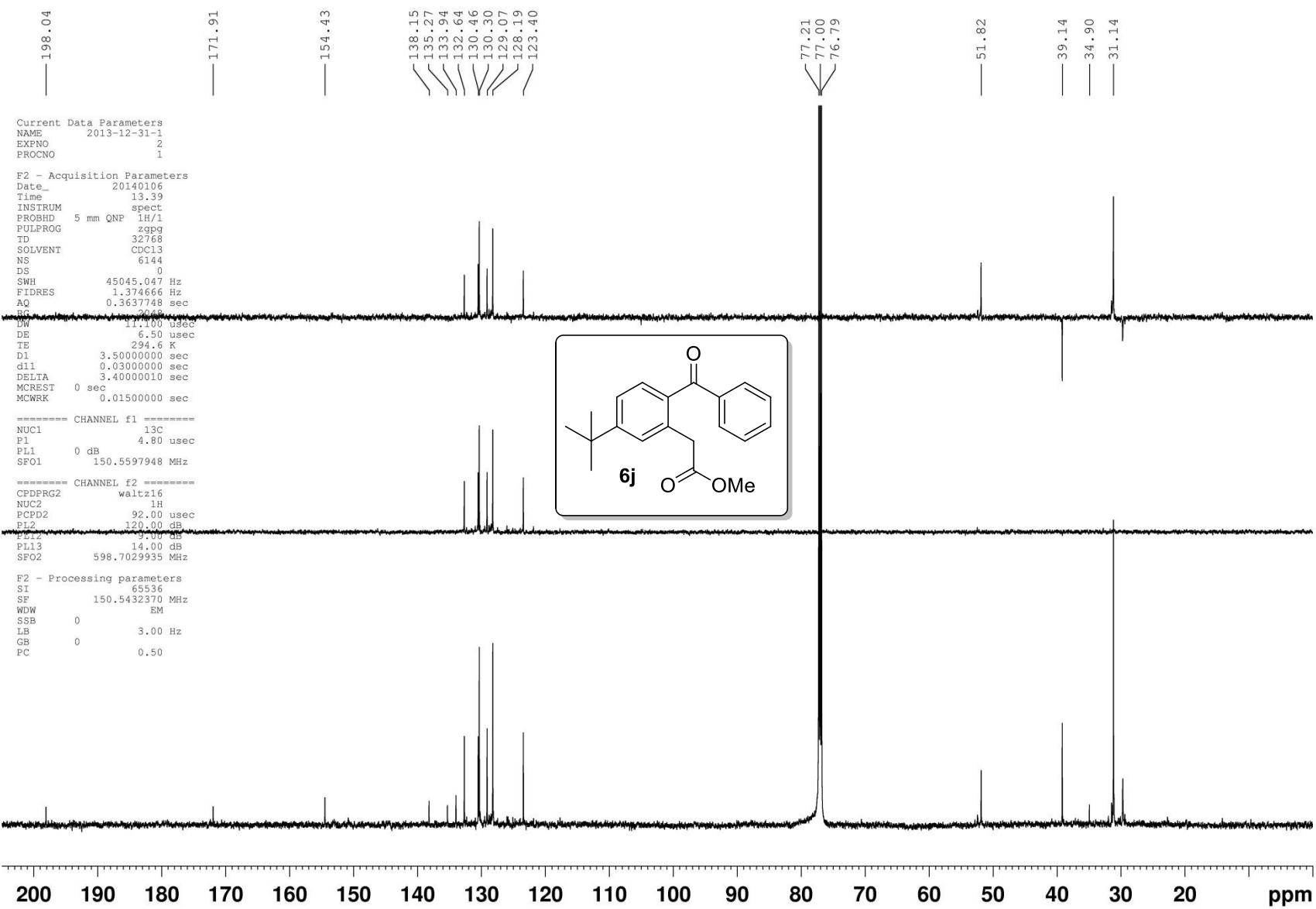
7.800
7.798
7.786
7.784
7.567
7.565
7.563
7.553
7.542
7.540
7.538
7.450
7.438
7.425
7.424
7.339
7.326
7.325
7.317
7.314
7.304
7.240

3.916

3.549

1.335





Current Data Parameters
 NAME 2013-12-31-1
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20140106
 Time 13.39
 INSTRUM spect
 PROBHD 5 mm QNP 1H/1
 PULPROG zgpg
 TD 32768
 SOLVENT CDCl3
 NS 6144
 DS 0
 SWH 45045.047 Hz
 FIDRES 1.374666 Hz
 AQ 0.3637748 sec

DE 11.100 usec
 TE 294.6 K
 D1 3.50000000 sec
 d11 0.03000000 sec
 DELTA 3.40000010 sec
 MCREST 0 sec
 MCWRK 0.01500000 sec

==== CHANNEL f1 =====
 NUC1 13C
 P1 4.80 usec
 PL1 0 dB
 SFO1 150.5597948 MHz

==== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 92.00 usec
 PL2 120.00 dB
 PL12 9.00 dB
 PL13 14.00 dB
 SFO2 598.7029935 MHz

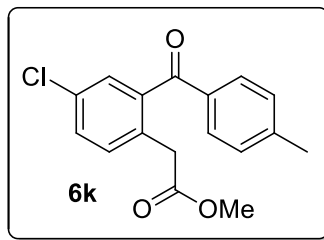
F2 - Processing parameters
 SI 65536
 SF 150.5432370 MHz
 WDW EM
 SSB 0
 LB 3.00 Hz
 GB 0
 PC 0.50

198.04
 171.91
 154.43
 138.15
 135.27
 133.94
 132.64
 130.46
 130.30
 129.07
 128.19
 123.40
 77.21
 77.00
 76.79
 51.82
 39.14
 34.90
 31.14

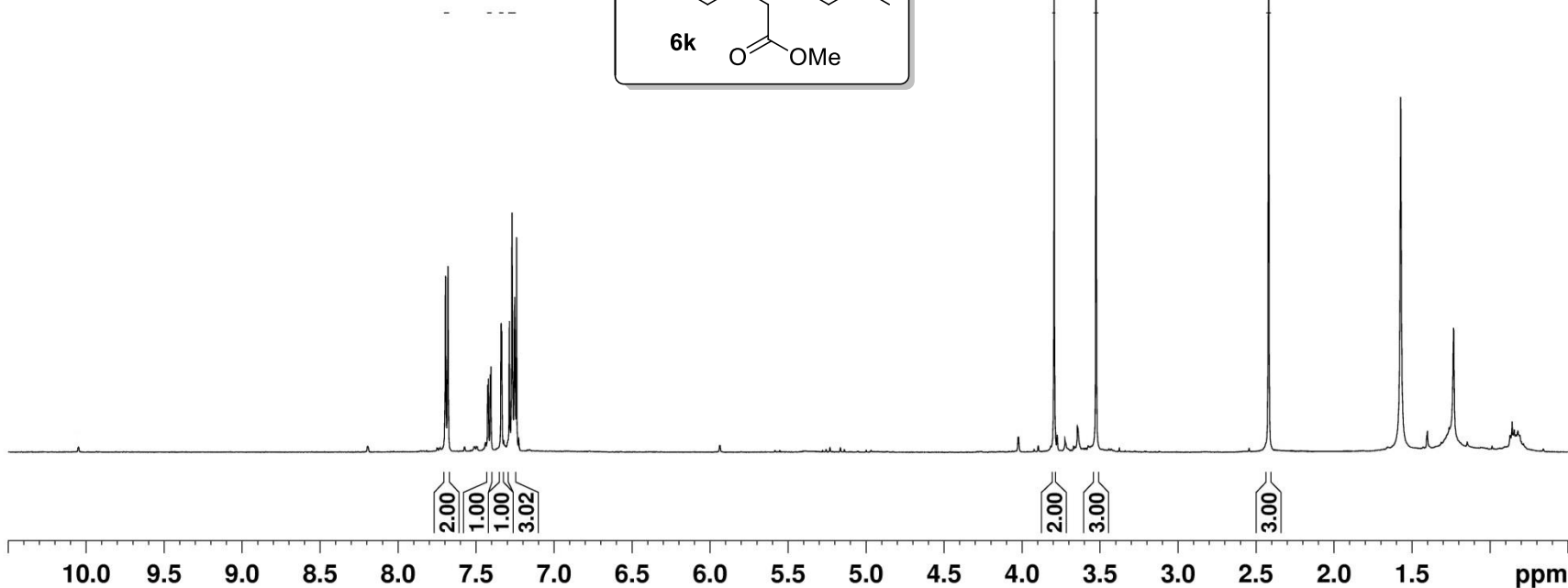
200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 ppm

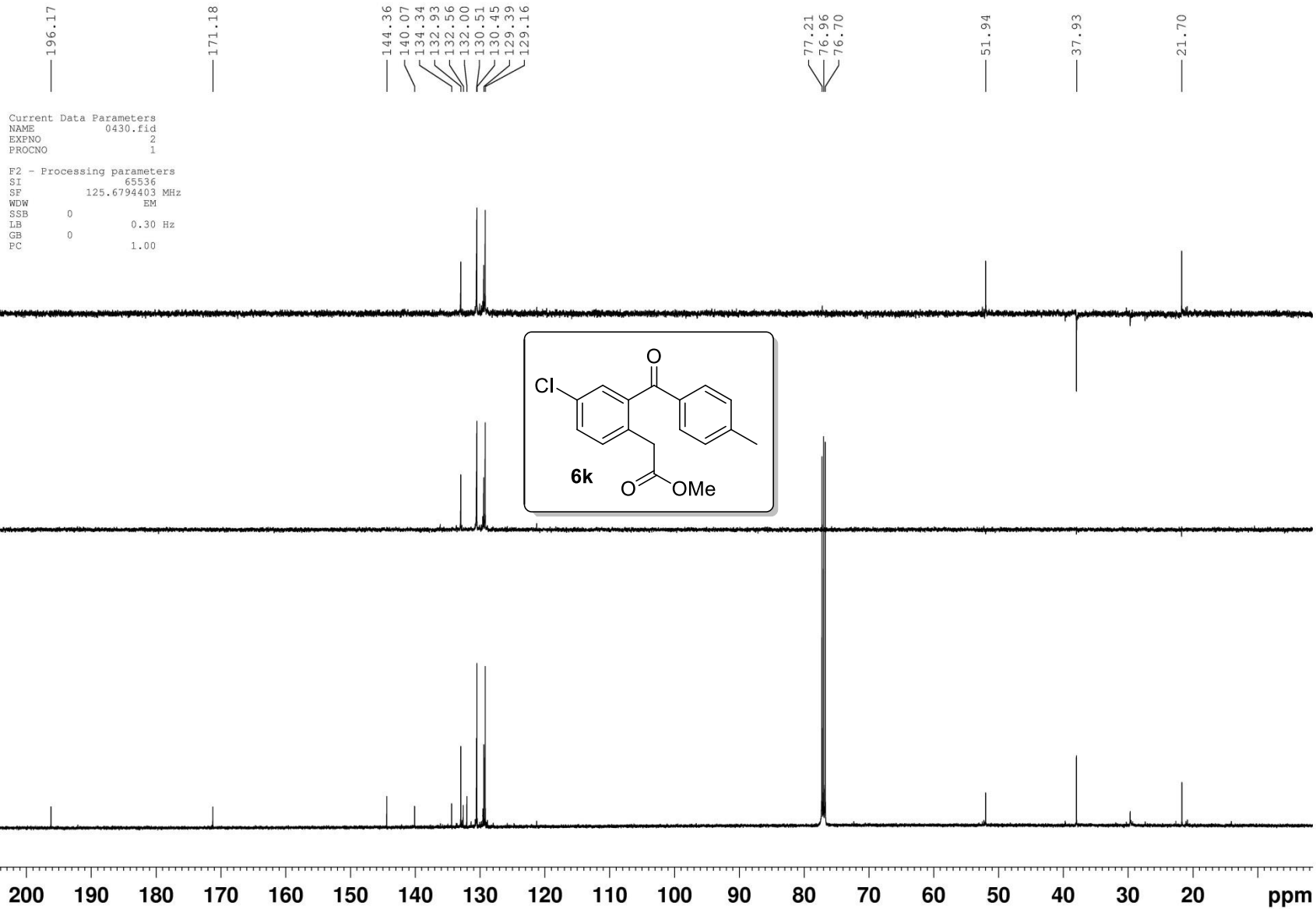
Current Data Parameters
NAME 0430.fid
EXPNO 1
PROCNO 1
F2 - Processing parameters
SI 16384
SF 499.8069093 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

7.696
7.679
7.425
7.421
7.409
7.404
7.339
7.335
7.286
7.269
7.252
7.240



3.793
3.525
2.419





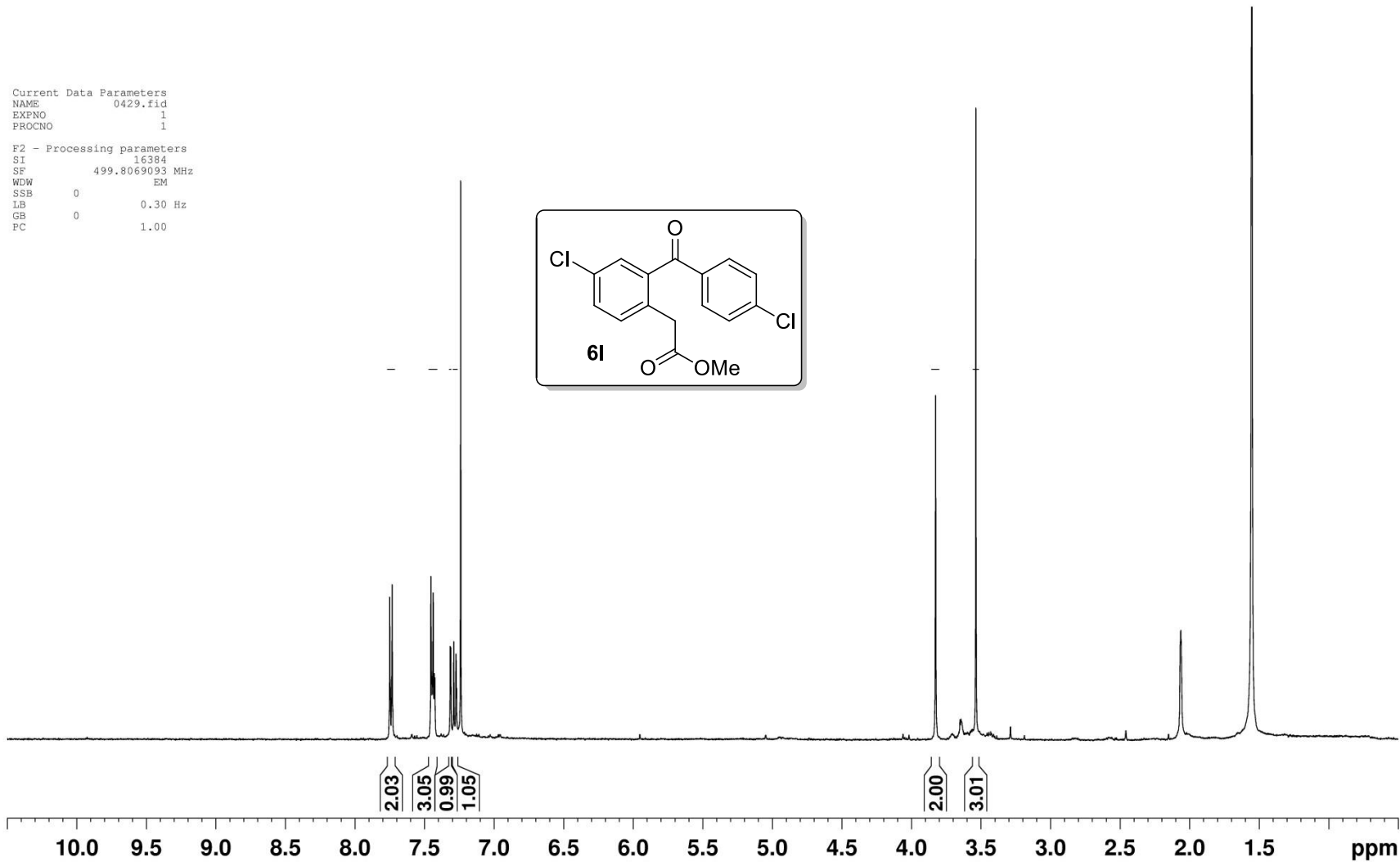
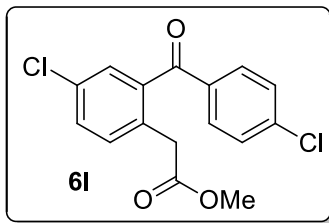
Current Data Parameters
 NAME 0430.fid
 EXPNO 2
 PROCNO 1

F2 - Processing parameters
 SI 65536
 SF 125.6794403 MHz
 WDW EM
 SSB 0
 LB 0 0.30 Hz
 GB 0
 PC 1.00

Current Data Parameters
NAME 0429.fid
EXPNO 1
PROCNO 1
F2 - Processing parameters
SI 16384
SF 499.8069093 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

7.749
7.732
7.454
7.446
7.441
7.437
7.429
7.425
7.315
7.311
7.290
7.273
7.240

3.826
3.536



— 195.32

— 171.13

139.89
139.36
135.27
133.13
132.72
132.23
131.64
130.93
129.40
128.81

77.20
76.95
76.69

— 52.01

— 37.85

Current Data Parameters
NAME 0429.fid
EXPNO 2
PROCNO 1

F2 - Processing parameters
SI 65536
SF 125.6794403 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

