Supporting Information

A direct approach for the expedient synthesis of unsymmetrical ethers by employing bromodimethylsulfonium bromide (BDMS) mediated C-S bond cleavage of naphthalene-2-ol sulfides

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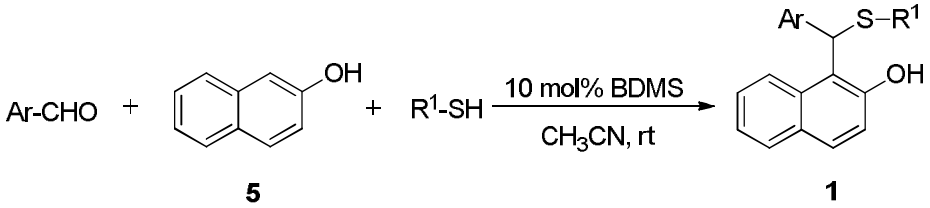
I. General Information:

Melting points were determined on a melting point apparatus and are uncorrected. IR spectra were recorded on IR spectrophotometer. ^{1}H and ^{13}C NMR spectra were recorded on NMR spectrometer TMS as internal reference; chemical shifts (δ scale) are reported in parts per million (ppm). ^{1}H NMR Spectra are reported in the order: multiplicity, coupling constant (*J* value) in hertz (Hz) and number of protons; signals were characterized as s (singlet), d (doublet), t (triplet), q (quartet), sext (sextet), m (multiplet), and dd (doublet of doublet) and bs (broad singlet). Elemental analyses were carried out using CHNS/O analyzer. The X-ray crystallographic data were collected using a single XRD diffractometer.

Table SI-1. Synthesis of 1-[(alky/arylthio)(phenyl)methyl]naphthalene-2-ol (**1a-i**)[a]



5 **1**

Entry	Ar	R^1	Product	Time/h	%Yield[b]
1	C_6H_5	4-Me-C_6H_4	**1a**	6	78
2	4-NO_2-C_6H_4	4-Me-C_6H_4	**1b**	6	80
3	4-F-C_6H_4	4-Me-C_6H_4	**1c**	6	78
4	3-Br-C_6H_4	4-Me-C_6H_4	**1d**	6	71[c]
5	2-Naphthyl	4-Me-C_6H_4	**1e**	6	76[c]
6	4-Cl-C_6H_4	4-Me-C_6H_4	**1f**	5	74
7	4-Me-C_6H_4	4-Cl-C_6H_4	**1g**	6	72
8	C_6H_5	C_2H_5	**1h**	6	74[c]
9	4-NO_2-C_6H_4	C_3H_7	**1i**	6	80[c]

[a]The reactions were carried out in 2 mmol scale. [b]Isolated yield. [c]Reference No. 8a.

II. General procedure for the preparation of 1-[aryl(alkyl/arylthio)methyl)-naphthalene-2-ol deri vatives (1)

Bromodimethylsulfonium bromide BDMS (0.2 mmol) was added to a mixture of aromatic aldehyde (2.0 mmol) and 2-naphthol (2.0 mmol) in 5 mL of acetonitrile and the reaction mixture was kept for stirring at room temperature. Then, the corresponding thiol (2.0 mmol) was added into it and the progress of the reaction was monitored by TLC. After completion of the reaction, reaction mixture was evaporated in rotary evaporator and DCM (20 mL) was added into it and the organic layer was washed with 20 mL of water. The water layer was further extracted using DCM (2 x 10 mL). The combined organic layer was dried over anhydrous sodium sulfate and it was concentrated in a rotary evaporator. The crude mixture was purified through silica gel column chromatography and the desired products (**1**) were obtained by eluting with ethyl acetate and hexane (1:99) mixture.

The sulfides **1d**, **1e**, **1h** and **1i** were prepared by following reported procedure[8a] and spectroscopic data are available there.

Note: Ethanethiol and propanethiol were handled in a well-ventilated fume hood using airtight syring to avoide nuisance odour.

*1-(Phenyl(p-tolylthio)methyl)naphthalen-2-ol (**1a**)*

Gummy liquid (0.555 g, 78%); R_f (2% ethyl acetate/hexane) 0.40; ^{1}H NMR (400 MHz, $CDCl_3$): δ 8.36 (s, 1H), 7.65 (d, J = 8.8 Hz, 1H), 7.52-7.49 (m, 2H), 7.37 (d, J = 7.6 Hz, 2H), 7.18-7.00 (m, 8H), 6.71 (d, J = 8.0 Hz, 2H), 6.45 (s, 1H), 1.94 (s, 3H) ppm; ^{13}C NMR (100 MHz, $CDCl_3$): δ 154.3, 138.5, 138.1, 133.0, 131.6, 130.3, 130.1, 129.9 (2C), 129.4, 129.0 (3C), 129.5 (3C), 127.8, 126.9, 123.2, 122.2, 120.0, 115.2, 51.4, 21.1 ppm; IR (KBr) ν_{max} 3434 (-OH) cm^{-1}; Anal. Calcd for $C_{24}H_{20}OS$ (356.48): C, 80.86; H, 5.65. Found: C, 80.98; H, 5.74.

*1-((4-Nitrophenyl)(p-tolylthio)methyl)naphthalen-2-ol (**1b**)*

Gummy liquid (0.642 g, 80%); R_f (2% ethyl acetate/hexane) 0.18; ^{1}H NMR (400 MHz, $CDCl_3$): δ 8.07 (d, J = 9.2 Hz, 2H), 8.06-7.66 (m, 5H), 7.40-7.26 (m, 4H), 7.20 (d , J = 8.8 Hz, 1H), 6.99 (d, J = 8.0 Hz, 2H), 6.66 (s, 1H), 2.21 (s, 3H) ppm; ^{13}C NMR (150 MHz, $CDCl_3$): δ 153.3, 147.2, 147.1, 138.5, 132.5, 131.9 (2C), 130.8, 130.1 (2C), 129.7, 129.4 (2C), 129.2 (2C), 127.2, 123.9 (2C), 123.6, 122.5, 119.3, 115.7, 50.4, 21.2 ppm; IR (KBr) ν_{max} 3433 (-OH), 1588 (NO_2), 1322 (NO_2) cm^{-1}; Anal. Calcd for $C_{24}H_{19}NO_3S$ (401.47): C, 71.80; H, 4.77. Found: C, 71.94; H, 4.84.

*1-((4-Fluorophenyl)(p-tolylthio)methyl)naphthalen-2-ol (**1c**)*

Gummy liquid (0.583 g, 78%); R_f (2% ethyl acetate/hexane) 0.42; ^{1}H NMR (400 MHz, $CDCl_3$): δ 8.41 (s, 1H), 7.73 (d, J = 8.8 Hz, 1H), 7.68-7.66 (m, 2H), 7.46-7.42 (m, 2H), 7.33-7.20 (m, 4H), 7.14 (d , J = 8.8 Hz, 1H), 6.96-6.87 (m, 4H), 6.52 (s, 1H), 2.12 (s, 3H) ppm; ^{13}C NMR (150 MHz, $CDCl_3$): δ 163.2, 161.5, 154.4, 138.5, 134.2, 133.0, 131.9 (3C), 130.5, 130.4, 130.3, 130.1 (2C), 129.5, 129.1, 127.1, 123.4, 122.0, 120.2, 116.0, 115.8, 50.9, 21.3 ppm; IR (KBr) ν_{max} 3430 (-OH) cm^{-1}; Anal. Calcd for $C_{24}H_{19}FOS$ (374.48): C, 76.98; H, 5.11. Found: C, 77.16; H, 5.18.

*1-((4-Chlorophenyl)(p-tolylthio)methyl)naphthalen-2-ol (**1f**)*

Gummy liquid (0.577 g, 74%); R_f (2% ethyl acetate/hexane) 0.50; ^{1}H NMR (400 MHz, $CDCl_3$): δ 8.06 (s, 1H), 7.46 (d, J = 8.8 Hz, 3H), 7.16 (d, J = 8.4 Hz, 2H), 7.09 (t, J = 8.4 Hz, 2H), 7.03-6.99 (m, 5H), 6.90 (d , J = 8.8 Hz, 1H), 6.68 (d , J = 8.0 Hz, 1H), 6.24 (s, 1H), 1.94 (s, 3H) ppm; ^{13}C NMR (100 MHz, $CDCl_3$): δ 154.0, 138.2, 137.3, 133.6, 132.8, 131.7 (2C), 130.5, 130.0 (2C), 129.9 (2C), 129.5,

129.0 (3C), 127.0, 123.6, 123.4, 122.2, 119.8, 115.2, 50.6, 21.1 ppm; IR (KBr) ν_{max} 3436 (-OH), 1622, 1467, 1226 (C-O) cm^{-1}; Anal. Calcd for $C_{24}H_{19}ClOS$ (390.93): C, 73.74; H, 4.90. Found: C, 73.92; H, 4.96.

*1-(((4-Chlorophenyl)thio)(p-tolyl)methyl)naphthalen-2-ol (**1g**)*

Gummy liquid (0.562 g, 72%); R_f (2% ethyl acetate/hexane) 0.54; ^{1}H NMR (400 MHz, $CDCl_3$): δ 8.01 (s, 1H), 7.81 (d, J = 8.4 Hz, 1H), 7.73 (t, J = 8.8 Hz, 2H), 7.41-7.33 (m, 4H), 7.31-7.25 (m, 3H), 7.12 (t, J = 7.2 Hz, 2H), 7.08 (d , J = 6.8 Hz, 2H), 6.59 (s, 1H), 2.31 (s, 3H) ppm; ^{13}C NMR (100 MHz, $CDCl_3$): δ 153.8, 137.7, 135.0, 133.7, 132.8, 132.7, 132.3 (2C), 130.5, 129.7 (2C), 129.5, 129.2 (2C), 129.0 (2C), 128.3 (2C), 127.1, 123.4, 122.3, 119.6, 50.4, 21.2 ppm; IR (KBr) ν_{max} 3302 (-OH), 1622, 1467, 1226 (C-O) cm^{-1}; Anal. Calcd for $C_{24}H_{19}ClOS$ (390.93): C, 73.74; H, 4.90. Found: C, 73.86; H, 4.98.

*1-(Ethoxy (phenyl) methyl) naphthalen-2-ol (**3a**)*

Gummy liquid (0.261 g, 94%); R_f (2% ethyl acetate/hexane) 0.50; ^{1}H NMR (400 MHz, $CDCl_3$): δ 9.38 (s, 1H), 7.80-7.75 (m, 2H), 7.73 (d, J = 8.8 Hz, 1H), 7.42-7.39 (m, 3H), 7.33-7.25 (m, 4H), 7.20 (d, J = 8.8 Hz, 1H), 6.34 (s, 1H), 3.80-3.73 (m, 2H), 1.36 (t, J = 7.2 Hz, 3H) ppm; ^{13}C NMR (100 MHz, $CDCl_3$): δ 154.6, 139.9, 132.4, 130.3, 129.0 (2C), 128.8 (2C), 128.5, 127.8 (2C), 127.0, 123.2, 121.5, 119.9, 114.9, 81.7, 66.3, 15.4 ppm; IR (KBr) ν_{max} 3302 (-OH), 1622, 1467, 1226 (C-O) cm^{-1}; Anal. Calcd for $C_{19}H_{18}O_2$ (278.35): C, 81.99; H, 6.52. Found: C, 82.14; H, 6.60.

*1-(Methoxy (phenyl) methyl) naphthalen-2-ol (**3b**)*

White solid (0.237 g, 90%); R_f (2% ethyl acetate/hexane) 0.65; mp 74-75°C; ^{1}H NMR (400 MHz, $CDCl_3$): δ 9.12 (s, 1 H), 7.78-7.73 (m, 2H), 7.71 (d, J = 8.4 Hz, 1H), 7.40-7.36 (m, 3H), 7.31-7.23 (m, 4H), 7.18 (d, J = 8.4 Hz, 1H), 6.20 (s, 1H), 3.55 (s, 3H) ppm; ^{13}C NMR (100 MHz, $CDCl_3$): δ 154.3, 139.5, 132.4, 130.4, 129.0 (2C), 128.8 (2C), 128.5, 127.8 (2C), 127.0, 123.2, 121.4, 119.8, 114.4, 83.7, 57.9 ppm; IR (KBr) ν_{max} 3302(-OH), 1621, 1467, 1226 (C-O) cm^{-1}; Anal. Calcd for $C_{18}H_{16}O_2$ (264.32): C, 81.79; H, 6.10. Found: C, 81.94; H, 6.01; MS (ESI) calcd for $C_{18}H_{15}O_2$ (M - H^+) 263.1150, found 263.0648.

*1-(Phenyl (propoxy) methyl) naphthalen-2-ol (**3c**)*

White solid (0.268 g, 92%); mp 72-73 °C; R_f (2% ethyl acetate/hexane) 0.54; ^{1}H NMR (400 MHz, $CDCl_3$): δ 9.32 (s, 1H), 7.78-7.70 (m, 3H), 7.41-7.36 (m, 3H), 7.30-7.22 (m, 4H), 7.18 (d, J = 8.8 Hz, 1 H), 6.31 (s, 1H), 3.70-3.57 (m, 2H), 1.78-1.68 (m, 2H), 0.97 (t, J = 7.6 Hz, 3H) ppm; ^{13}C NMR (100

MHz, $CDCl_3$): δ 154.5, 139.9, 132.4, 130.2, 129.0, 128.9, 128.7 (2C), 128.4, 127.7 (2C), 126.9, 123.1, 121.5, 119.9, 115.0, 81.8, 72.4, 23.0, 10.8 ppm; IR (KBr) ν_{max} 3302 (-OH), 1601, 1467, 1226 (C-O) cm^{-1}; Anal. Calcd for $C_{20}H_{20}O_2$ (292.368): C, 82.16; H, 6.89. Found: C, 82.02; H, 6.96; MS (ESI) calcd for $C_{20}H_{19}O_2$ ($M - H^+$) 291.1385, found 291.1381.

*1-(Isopropoxy(phenyl)methyl)naphthalen-2-ol (**3d**)*

Light yellow solid (0.239 g, 82%); mp 43-45°C; R_f (2% ethyl acetate/hexane) 0.55; ^1H NMR ($CDCl_3$, 400 MHz) δ 9.52 (s, 1H), 7.86-7.81 (m, 3H), 7.51-7.45 (m, 3H), 7.40-7.31 (m, 4H), 7.28 (d, J = 8.8 Hz, 1H), 6.55 (s, 1H), 4.04-3.98 (m, 1H), 1.42 (d, J = 6.0 Hz, 3H), 1.36 (d, J = 6.4 Hz, 3 H) ppm; ^{13}C NMR ($CDCl_3$, 100 MHz) δ 154.9, 140.3, 132.4, 130.2, 129.0, 128.8, 128.7 (2C), 128.2, 127.7 (2C), 127.0, 123.1, 121.3, 120.0, 115.5, 78.2, 71.7, 22.6, 22.0 ppm; IR (KBr) ν_{max} 3267, 1622, 1467, 1227 cm^{-1}; Anal. Calcd for $C_{20}H_{20}O_2$ (292.37): C, 82.16; H, 6.89. Found: C, 81.94; H, 6.98.

*1-(Butoxy(phenyl)methyl)naphthalen-2-ol (**3e**)*

Gummy liquid (0.269 g, 88%); R_f (2% ethyl acetate/hexane) 0.60; ^1H NMR (400 MHz, $CDCl_3$) δ 9.31 (s, 1H), 7.77 (d, J = 8.4 Hz, 2H), 7.72 (d, J = 8.8 Hz, 1H), 7.41-7.37 (m, 3H), 7.31-7.25 (m, 4H), 7.17 (d, J = 8.8 Hz, 1H), 6.31 (s, 1H), 3.74-3.62 (m, 2H), 1.70 (q, J = 6.8 Hz, 2H), 1.43 (sex, J = 7.2 Hz, 2H), 0.93 (t, J = 8.0 Hz, 3H) ppm; ^{13}C NMR (100 MHz, $CDCl_3$) δ 154.5, 139.9, 132.5, 130.3, 129.0 (2C), 128.8 (2C), 128.4, 127.8 (2C), 127.0, 123.2, 121.5, 120.0, 115.0, 81.9, 70.6, 31.9, 19.6, 14.0 ppm; IR (KBr) ν_{max} 3302, 1622, 1463, 1226 (C-O) cm^{-1}; Anal. Calcd for $C_{21}H_{22}O_2$ (306.40): C, 82.32; H, 7.24. Found: C, 82.48; H, 7.34.

*1-((Benzyloxy)(phenyl)methyl)naphthalen-2-ol (**3f**)*

grey solid (0.285 g, 84%); mp 104-106 °C; R_f (2% ethyl acetate/hexane) 0.44; ^1H NMR ($CDCl_3$, 400 MHz) δ 9.02 (s, 1H), 7.72-7.69 (m, 2H), 7.57 (d, J = 8.8 Hz, 1H), 7.30-7.12 (m, 13H), 6.35 (s, 1H), 4.69 (d, J = 11.6 Hz, 1H), 4.55 (d, J = 11.6 Hz, 1H) ppm; ^{13}C NMR ($CDCl_3$, 150 MHz) δ 154.6, 139.5, 136.7, 132.6, 130.5, 129.1, 129.0, 128.9 (2C), 128.8 (3C), 128.7, 128.6, 128.5, 127.8 (2C), 127.1, 123.3, 121.4, 119.9, 114.5, 80.0, 71.9 ppm; IR (KBr) ν_{max} 3320, 1618, 1466, 1226 cm^{-1}; Anal. Calcd for $C_{24}H_{20}O_2$ (340.41): C, 84.68; H, 5.92 Found: C, 84.80; H, 6.01.

*1-((Allyloxy)(phenyl)methyl)naphthalen-2-ol (**3g**)*

white solid (0.238 g, 82%); mp 60-62 °C; R_f (2% ethyl acetate/hexane) 0.44; ^1H NMR ($CDCl_3$, 400 MHz) δ 9.14 (s, 1H), 7.77-7.30 (m, 2H), 7.70 (d, J = 8.4 Hz, 1H), 7.40-7.36 (m, 3H), 7.30-7.23 (m, 4H),

7.18 (d, J = 8.8 Hz, 1H), 6.40 (s, 1H), 6.05-5.94 (m, 1H), 5.34-5.24 (m, 2H), 4.26-4.20 (m, 1H), 4.16-4.10 (m, 1H) ppm; ^{13}C NMR ($CDCl_3$, 100 MHz) δ 154.5, 139.6, 133.4, 132.4, 130.4, 129.0, 128.9, 128.7 (2C), 128.4, 127.8 (2C), 127.0, 123.1, 121.4, 119.9, 118.9, 114.6, 80.3, 70.8 ppm; IR (KBr) ν_{max} 3312, 1621, 1600, 1467, 1225 cm^{-1}; Anal. Calcd for $C_{20}H_{18}O_2$ (290.36): C, 82.73; H, 6.25. Found: C, 82.88; H, 6.34; MS (ESI) calcd for $C_{20}H_{17}O_2$ (M - H$^+$) 289.1229, found 289.0776.

*1-(Phenyl(prop-2-yn-1-yloxy)methyl)naphthalen-2-ol (**3h**)*

reddish liquid (0.230 g, 80%); R_f (2% ethyl acetate/hexane) 0.35; ^{1}H NMR ($CDCl_3$, 400 MHz) δ 8.59 (s, 1H), 7.80-7.74 (m, 3H), 7.44-7.39 (m, 3H), 7.34-7.27 (m, 4H), 7.19 (d, J = 8.8 Hz, 1H), 6.70 (s, 1H), 4.39 (dd, J = 2.4, 15.6 Hz, 1H), 4.29 (dd, J = 2.4, 18.0 Hz, 1H), 2.57 (t, J = 2.4 Hz, 1H) ppm; ^{13}C NMR ($CDCl_3$, 100 MHz) δ 154.5, 138.8, 132.6, 130.7, 129.0 (2C), 128.8 (2C), 128.7, 128.1 (2C), 127.1, 123.3, 121.5, 119.8, 113.7, 79.4, 78.6, 76.3, 56.8 ppm; IR (KBr) ν_{max} 3350, 3290, 2118, 1622, 1468, 1224 cm^{-1}; Anal. Calcd for $C_{20}H_{16}O_2$ (288.34): C, 83.31; H, 5.59. Found: C, 83.46; H, 5.68.

*1-((Pent-4-en-1-yloxy)(phenyl)methyl)naphthalen-2-ol (**3i**)*

Off white (0.267 g, 84%) 58-60°C; R_f (2% ethyl acetate/hexane) 0.48; ^{1}H NMR ($CDCl_3$, 400 MHz) δ 9.24 (s, 1H), 7.74-7.68 (m, 3H), 7.38-7.33 (m, 3H), 7.27-7.16 (m, 5H), 6.28 (s, 1H), 5.81-5.70 (m, 1H), 5.03-5.01 (m, 1H), 4.98-4.93 (m, 1H), 3.70-3.58 (m, 2H), 2.16-2.11 (m, 2H), 1.82-1.72 (m, 2H) ppm; ^{13}C NMR ($CDCl_3$, 100 MHz) δ 154.4, 139.8, 137.8, 132.4, 130.3, 129.0, 128.9, 128.7 (2C), 128.4, 127.7 (2C), 127.0, 123.1, 121.4, 119.9, 115.5, 114.9, 81.8, 70.0, 30.4, 28.9 ppm; IR (KBr) ν_{max} 3299, 1622, 1600, 1467, 1226 cm^{-1}; Anal. Calcd for $C_{22}H_{22}O_2$ (318.41): C, 82.99; H, 6.96. Found: C, 83.16; H, 7.04; MS (ESI) calcd for $C_{22}H_{21}O_2$ (M - H$^+$) 317.1542, found 317.1018.

*1-(Phenyl(4-phenylbutoxy)methyl)naphthalen-2-ol (**3j**)*

yellowish liquid (0.336 g, 88 %); R_f (2% ethyl acetate/hexane) 0.43; ^{1}H NMR ($CDCl_3$, 400 MHz) δ 9.24 (s, 1H), 7.74 (t, J = 8.4 Hz, 2H), 7.69 (d, J = 8.8 Hz, 1H), 7.40-7.34 (m, 3H), 7.30-7.23 (m, 5H), 7.21-7.12 (m, 5H), 6.28 (s, 1H), 3.72-3.61 (m, 2H), 2.60 (t, J = 7.2 Hz, 2H), 1.74-1.69 (m, 4H) ppm; ^{13}C NMR ($CDCl_3$, 150 MHz) δ 154.4, 142.2, 139.8, 132.4, 130.3, 129.0, 128.9, 128.8 (2C), 128.6 (2C), 128.5 (2C), 128.4, 127.8 (2C), 127.0, 126.0, 123.2, 121.4, 119.9, 114.9, 81.8, 70.5, 35.7, 29.3, 28.0 ppm; IR (KBr) ν_{max} 3285, 1621, 1600, 1467, 1226 cm^{-1}; Anal. Calcd for $C_{27}H_{26}O_2$ (382.49): C, 84.78; H, 6.85. Found: C, 84.90; H, 6.93; MS (ESI) calcd for $C_{27}H_{25}O_2$ (M - H$^+$) 381.1855, found 381.1700.

*1-((2-Hydroxyethoxy)(phenyl)methyl)naphthalen-2-ol (**3k**)*

gummy liquid (0.238 g, 81%); R_f (10% ethyl acetate/hexane) 0.13; ^{1}H NMR ($CDCl_3$, 400 MHz) δ 8.97 (s, 1H), 7.78-7.73 (m, 2H), 7.70 (d, J = 8.4 Hz, 1H), 7.41-7.36 (m, 3H), 7.31-7.25 (m, 4H), 7. 17 (d, J = 8.8 Hz, 1H), 6.38 (s, 1H), 3.83-3.74 (m, 4H), 2.16 (bs, 1H) ppm; ^{13}C NMR ($CDCl_3$, 100 MHz) δ 154.3, 139.5, 132.4, 130.6, 129.1 (2C), 129.0 (2C), 128.7, 127.9 (2C), 127.1, 123.4, 121.5, 119.9, 114.5, 82.3, 71.9, 62.0 ppm; IR (KBr) ν_{max} 3317, 1621, 1600, 1467, 1224 cm^{-1}; Anal. Calcd for $C_{19}H_{18}O_3$ (294.34): C, 77.53; H, 6.16. Found: C, 77.71; H, 6.22.

*1-((2-Acetoxyethoxy)(phenyl)methyl)naphthalen-2-yl acetate (**3k′**)*

The compound **3k** (0.5 mmol) was added to a mixture of 1 mL of acetic anhydride and 1 mL of pyridine and kept for stirring overnight at room temperature. After completion of reaction, pyridine and unreacted acetic anhydride were removed by co-evaporation using toluene (1 x 2 mL) in a rotary evaporator. The resulting crude residue was purified through silica gel column to obtain pure product **3k′** in 94% yield as a gummy liquid. The product was obtained 0.138 g after purification and it was eluted with ethyl acetate and hexane (1:3).

R_f : 0.5 (2% ethyl acetate/hexane); ^{1}H NMR ($CDCl_3$, 400 MHz) δ 8.15 (d, J = 8.4 Hz, 1H), 7. 77 (d, J = 9.2 Hz, 1H), 7.74 (d, J = 8.0 Hz, 1H), 7.34-7.23 (m, 4H), 7.20-7.09 (m, 4H), 6.16 (s, 1H), 4.20-4.10 (m, 2H), 3.62-3.57 (m, 1H), 3.50-3.44 (m, 1H), 2.25 (s, 3H), 1.88 (s, 3H) ppm; ^{13}C NMR ($CDCl_3$, 100 MHz) δ 171.2, 170.0, 148.1, 141.7, 132.8, 132.1, 130.5, 128.7, 128.3 (2C), 127.1, 126.5 (2C), 126.4, 126.0 (2C), 125.7, 121.6, 76.3, 67.2, 63.6, 21.1, 21.0 ppm; IR (KBr) ν_{max} 3058, 3022, 2928, 1766, 1730 cm^{-1}; Anal. Calcd for $C_{23}H_{22}O_5$ (378.42): C, 73.01; H, 5.86. Found: C, 73.17; H, 5.94.

*1-(((8-Hydroxyoctyl)oxy)(phenyl)methyl)naphthalen-2-ol (**3l**)*

gummy liquid (0.309 g, 82%); R_f (10% ethyl acetate/hexane) 0.26; ^{1}H NMR ($CDCl_3$, 400 MHz) δ 9.24 (s, 1H), 7.67 (d, J = 8.4 Hz, 2H), 7.63 (d, J = 7.6 Hz, 1H), 7.31-7.28 (m, 3H), 7.22-7.13 (m, 4H), 7.09 (d, J = 8.8 Hz, 1H), 6.21 (s, 1H), 3.59-3.49 (m, 5H), 1.63-1.57 (m, 2H), 1.46-1.42 (m, 2H), 1.35-1.21 (m, 8H) ppm; ^{13}C NMR ($CDCl_3$, 100 MHz) δ 154.3, 139.9, 132.3, 130.2, 128.9, 128.9, 128.7 (2C), 128.3, 127.7 (2C), 126.9, 123.1, 121.5, 119.8, 115.0, 81.7, 70.7, 62.9, 32.8, 29.7, 29.3 (2C), 26.1, 25.7 ppm; IR (KBr) ν_{max} 3303, 1622, 1601, 1463, 1226 cm^{-1}; Anal. Calcd for $C_{25}H_{30}O_3$ (378.50): C, 79.33; H, 7.99. Found: C, 79.48; H, 8.06.

*1-(Methoxy(4-nitrophenyl)methyl)naphthalen-2-ol (**3m**)*

yellow solid (0.290 g, 94%); mp 101-103°C; R_f (2% ethyl acetate/hexane) 0.24; ^{1}H NMR ($CDCl_3$, 400 MHz) δ 8.62 (s, 1H), 8.11 (d, J = 8.8 Hz, 2H), 7.80 (d, J = 7.2 Hz, 1H), 7.79 (d, J = 8.8 Hz, 1H), 7.74 (d, J = 8.8 Hz, 1H), 7.52 (d, J = 9.2 Hz, 2H), 7.46 (td, J = 8.4, 1.2 Hz, 1H), 7.34 (t, J = 8.0 Hz, 1H), 7.17 (d, J = 8.8 Hz, 1H), 6.32 (s, 1H), 3.60 (s, 3H) ppm; ^{13}C NMR ($CDCl_3$, 100 MHz) δ 154.4, 147.8, 147.0, 132.5, 131.1, 129.3, 129.1, 128.2 (2C), 127.5, 123.9 (2C), 123.58, 121.1, 119.8, 113.6, 81.4, 58.2 ppm; IR (KBr) ν_{max} 3327, 1599, 1520, 1467, 1320, 1224 cm^{-1}; Anal. Calcd for $C_{18}H_{15}NO_4$ (309.32): C, 69.89; H, 4.89; N, 4.53. Found: C, 70.07; H, 4.96; N, 4.64.

*1-(Butoxy(4-nitrophenyl)methyl)naphthalen-2-ol (**3n**)*

semi solid (0.308 g, 88%); R_f (2% ethyl acetate/hexane) 0.26; ^{1}H NMR ($CDCl_3$, 400 MHz) δ 8.82 (s, 1H), 8.11 (d, J = 9.2 Hz, 2H), 7.81-7.76 (m, 2H), 7.74 (d, J = 8.8 Hz, 1H), 7.52 (d, J = 8.8 Hz, 2H), 7.45 (td, J = 7.2, 1.2 Hz, 1H), 7.33 (t, J = 8.0 Hz, 1H), 7.16 (d, J = 8.8 Hz, 1H), 6.40 (s, 1H), 3.78-3.66 (m, 2H), 1.75-1.65 (m, 2H), 1.47-1.39 (m, 2H), 0.93 (t, J = 7.6 Hz, 3H) ppm; ^{13}C NMR ($CDCl_3$, 100 MHz) δ 154.6, 147.8, 147.3, 132.4, 131.0, 129.3, 129.1, 128.2 (2C), 127.5, 123.9 (2C), 123.5, 121.3, 119.9, 114.2, 79.8, 70.9, 31.8, 19.5, 14.0 ppm; IR (KBr) ν_{max} 3313, 1623, 1520, 1467, 1347, 1225 cm^{-1}; Anal. Calcd for $C_{21}H_{21}NO_4$ (351.40): C, 71.78; H, 6.02; N, 3.99. Found: C, 71.92; H, 5.92, N, 4.07.

*1-(Ethoxy(4-fluorophenyl)methyl)naphthalen-2-ol (**3o**)*

gummy liquid (0.278 g, 94%); R_f (2% ethyl acetate/hexane) 0.53; ^{1}H NMR ($CDCl_3$, 400 MHz) δ 9.26 (s, 1H), 7.74-7.70 (m, 2H), 7.65 (d, J = 8.8 Hz, 1H), 7.38-7.24 (m, 4H), 7.18 (d, J = 8.8 Hz, 1H), 6.92 (t, J = 8.8 Hz, 2H), 6.26 (s, 1H), 3.71-3.65 (m, 2H), 1.29 (t, J = 7.2 Hz, 3H) ppm; ^{13}C NMR ($CDCl_3$, 100 MHz) δ 154.5, 135.7, 132.3, 130.4, 129.6 (2C), 129.0 (2C), 128.9, 127.0, 123.2, 121.3, 119.8, 115.6, 115.4, 114.6, 80.8, 66.2, 15.3 ppm; IR (KBr) ν_{max} 3297, 1622, 1601, 1508, 1463, 1226 cm^{-1}; Anal. Calcd for $C_{19}H_{17}FO_2$ (296.34): C, 77.01; H, 5.78. Found: C, 77.12; H, 5.84.

*1-((3-Bromophenyl)(methoxy)methyl)naphthalen-2-ol (**3p**)*

white solid (0.223 g, 92%); mp 90-92°C; R_f (2% ethyl acetate/hexane) 0.45; ^{1}H NMR ($CDCl_3$, 400 MHz) δ 8.89 (s, 1H), 7.76-7.71 (m, 2H), 7.66 (d, J = 8.4 Hz, 1H), 7.60-7.50 (m, 1H), 7.41-7.33 (m, 2H), 7.30-7.26 (m, 1H), 7.21-7.14 (m, 2H), 7.08-7.03 (m, 1H), 6.14 (s, 1H), 3.49 (s, 3H) ppm; ^{13}C NMR ($CDCl_3$, 150 MHz) δ 154.4, 141.9, 132.4, 131.6, 130.7, 130.4, 129.1, 129.0, 127.2, 126.3, 123.4, 122.9, 121.2, 119.9 (2C), 113.7, 82.6, 58.1 ppm; IR (KBr) ν_{max} 3318, 1622, 1599, 1468, 1224 cm^{-1}; Anal. Calcd for

$C_{18}H_{15}BrO_2$ (343.21): C, 62.99; H, 4.41. Found: C, 63.14; H, 4.34; MS (ESI) calcd for $C_{18}H_{14}BrO_2$ (M - H^+) 341.0177, found 341.0165.

*1-(Methoxy(naphthalen-2-yl)methyl)naphthalen-2-ol (**3q**)*

White solid (0.276 g, 88%); mp 98-100℃; R_f (2% ethyl acetate/hexane) 0.40; ^{1}H NMR ($CDCl_3$, 400 MHz) δ 9.20 (s, 1H), 7.79-7.73 (m, 8H), 7.56 (dd, J = 8.8, 1.6 Hz, 1H), 7.44-7.36 (m, 2H), 7.28 (t, J = 8.0 Hz, 1H), 7.22 (d, J = 9.2 Hz, 1H), 6.36 (s, 1H), 3.60 (s, 3H) ppm; ^{13}C NMR ($CDCl_3$, 100 MHz) δ 154.5, 136.8, 133.3, 130.5 (2C), 129.0, 128.8, 128.5, 127.8 (2C), 127.0, 126.9, 126.5, 126.4, 125.7, 123.2, 121.5, 120.0, 114.3, 102.0, 84.0, 58.1 ppm; IR (KBr) ν_{max} 3300, 1622, 1599, 1466, 1225 cm^{-1}; Anal. Calcd for $C_{22}H_{18}O_2$ (314.38): C, 84.05; H, 5.77. Found: C, 84.22; H, 5.90.

*1-(Ethoxy(p-tolyl)methyl)naphthalen-2-ol (**8**)*

yellow liquid (0.262 g, 90%); R_f (2% ethyl acetate/hexane) 0.50; ^{1}H NMR ($CDCl_3$, 400 MHz) δ 9.41 (s, 1 H), 7.76-7.71 (m, 2H), 7.69 (d, J = 8.4 Hz, 1H), 7.36 (td, J = 6.8, 1.6 Hz, 1H), 7.28-7.25 (m, 3H), 7.17 (d, J = 8.8 Hz, 1H), 7.09 (d, J = 8.0 Hz , 2H), 6.27 (s, 1H), 3.73-3.71 (m, 2H), 2.27 (s, 3H), 1.32 (t, J = 7.2 Hz, 3H) ppm; ^{13}C NMR ($CDCl_3$, 100 MHz) δ 154.4, 138.1, 136.9, 132.3, 130.1, 129.4 (3C), 128.9, 127.7 (2C), 126.8, 123.0, 121.4, 119.8, 115.0, 81.6, 65.9, 21.1, 15.2 ppm; IR (KBr) ν_{max} 3287, 1622, 1600, 1467, 1226 cm^{-1}; Anal. Calcd for $C_{20}H_{20}O_2$ (292.37): C, 82.16; H, 6.89. Found: C, 82.34; H, 6.80.

*Bis(4-methylphenyl)disulfide (**6a**)*[23]

solid; mp 44-45 °C (lit. m.p 43-46°C); R_f (2% ethyl acetate/hexane) 0.80; ^{1}H NMR (400 MHz, $CDCl_3$): δ 7.39 (d, J = 8.0 Hz, 4H), 7.11 (d, J = 8 Hz, 4H), 2.32 (s, 6H) ppm; ^{13}C NMR (100 MHz, $CDCl_3$): δ 137.6 (2C), 134.1 (2C), 130.0 (4C), 128.7 (4C), 21.3 (2C) ppm.

*1-(Hydroxy(phenyl)methyl)naphthalen-2-ol (**7a**)*

white solid (0.210 g, 84%); mp 99-101℃; R_f (10% ethyl acetate/hexane) 0.36; ^{1}H NMR ($CDCl_3$, 400 MHz) δ 9.37 (s, 1H), 7.71 (d, J = 8.0 Hz, 1H), 7.67 (d, J = 8.8 Hz, 1H), 7.55 (d, J = 8.4 Hz, 1H), 7.34-7.18 (m, 7H), 7.71 (d, J = 8.4 Hz, 1H), 6.62 (s, 1H), 3.56 (s, 1H) ppm; ^{13}C NMR ($CDCl_3$, 150 MHz) δ 154.7, 141.5, 131.7, 130.4, 129.1 (2C), 129.0, 128.9, 128.7, 127.4 (2C), 127.0, 123.2, 121.6, 120.2, 115.9, 74.9 ppm; IR (KBr) ν_{max} 3373, 1623, 1600, 1467, 1226 cm^{-1}; Anal. Calcd for $C_{17}H_{14}O_2$ (250.29): C, 81.58; H, 5.64. Found: C, 81.35; H, 5.70; MS (ESI) calcd for $C_{17}H_{13}O_2$ (M - H^+) 249.0916, found 249.0799.

*1-(Hydroxy(4-nitrophenyl)methyl)naphthalen-2-ol (**7b**)*

reddish solid (0.260 g, 88%); mp 130-132°C; R_f (10% ethyl acetate/hexane) 0.15; ^{1}H NMR ($CDCl_3$, 400 MHz) δ 8.54 (s, 1H), 8.10 (d, J = 8.8 Hz, 2H), 7.79 (d, J = 8.0 Hz, 1H), 7.75 (d, J = 8.8 Hz, 1H), 7.68 (d, J = 8.8 Hz, 1H), 7.53 (d, J = 8.8 Hz, 2H), 7.45-7.41 (m, 1H), 7.36-7.31 (m, 1H), 7.13 (d, J = 8.8 Hz, 1H), 6.83 (s, 1H), 3.81 (s, 1H) ppm; ^{13}C NMR (DMSO-d_6, 100 MHz) δ 153.2, 152.1, 146.2, 131.6, 129.4, 128.5, 128.2, 126.8 (2C), 126.0, 123.2, 122.8 (3C), 122.4, 118.6, 68.4 ppm; IR (KBr) ν_{max} 3424, 1625, 1514, 1345 cm^{-1}; Anal. Calcd for $C_{17}H_{13}NO_4$ (295.29): C, 69.15; H, 4.44; N, 4.74. Found: C, 69.37; H, 4.52; N, 4.86.

*1-((4-Fluorophenyl)(hydroxy)methyl)naphthalen-2-ol (**7c**)*

white solid (0.230 g, 86%); mp 101-102 °C; R_f (10% ethyl acetate/hexane) 0.31; ^{1}H NMR ($CDCl_3$, 400 MHz) δ 9.19 (s, 1H), 7.77-7.72 (m, 2H), 7.58 (d, J = 8.8 Hz, 1H), 7.39-7.34 (m, 3H), 7.31-7.25 (m, 1H), 7.15 (d, J = 8.8 Hz , 1H), 6.98 (t, J = 8.4 Hz, 2H), 6.72 (s, 1H), 3.27 (s, 1H) ppm; ^{1}H NMR (D_2O, 400 MHz) δ 7.76 (d, J = 8.8 Hz, 1H), 7.73 (d, J = 9.2 Hz, 1H), 7.59 (d, J = 8.4 Hz, 1H), 7.39-7.25 (m, 4H), 7.15 (d, J = 8.8 Hz, 1H), 6.97 (t, J = 8.4 Hz, 2H), 6.71 (s, 1 H) ppm; ^{13}C NMR ($CDCl_3$, 100 MHz) δ 154.5, 137.3, 131.6, 131.5, 129.2 (2C), 129.2, 129.0, 129.0, 127.1, 123.4, 121.5, 120.0, 116.2, 116.0, 115.8, 73.8 ppm; IR (KBr) ν_{max} 3372, 1622, 1467, 1226 cm^{-1}; Anal. Calcd for $C_{17}H_{13}FO_2$ (268.28): C, 76.11; H, 4.88. Found: C, 75.92; H, 4.96; MS (ESI) calcd for $C_{17}H_{12}FO_2$ (M - H^+) 267.0821, found 267.0577.

*1-((4-Chlorophenyl)(hydroxy)methyl)naphthalen-2-ol (**7d**)*

white solid (0.238 g, 84%); mp 111-113 °C; R_f (10% ethyl acetate/hexane) 0.34; ^{1}H NMR ($CDCl_3$, 400 MHz) δ 7.77 (d, J = 8.0 Hz, 1H), 7.75 (d, J = 8.8 Hz, 1H), 7.62 (d, J = 8.4 Hz, 1H), 7.41-7.25 (m, 6H), 7.17 (d, J = 8.8 Hz , 1H), 6.77 (s, 1H) ppm; ^{13}C NMR ($CDCl_3$, 100 MHz) δ 154.6, 140.0, 134.4, 131.6, 130.6, 129.2 (2C), 129.1 (2C), 128.8 (2C), 127.2, 123.4, 121.5, 120.1, 116.0, 73.6 ppm; IR (KBr) ν_{max} 3378, 1622, 1467, 1226 cm^{-1}; Anal. Calcd for $C_{17}H_{13}ClO_2$ (284.74): C, 71.71; H, 4.60. Found: C, 71.48; H, 4.70.

*1-(Hydroxy(p-tolyl)methyl)naphthalen-2-ol (**9**)*

white solid (0.216 g, 82%); mp 120-121°C; R_f (10% ethyl acetate/hexane) 0.35; ^{1}H NMR ($CDCl_3$, 400 MHz) δ 9.40 (s, 1H), 7.74 (t, J = 9.2 Hz, 2H), 7.61 (d, J = 8.4 Hz, 1H), 7.34-7.24 (m, 4H), 7.17 (d, J = 8.8 Hz, 1H), 7.12 (d, J = 7.6 Hz , 2H), 6.73 (s, 1H), 3.14 (s, 1H), 2.30 (s, 3H) ppm; ^{13}C NMR ($CDCl_3$, 100 MHz) δ 154.8, 138.7, 138.6, 131.7, 130.3, 129.8 (3C), 128.9, 127.4 (2C), 126.9, 123.2, 121.7,

120.2, 115.9, 75.0, 21.3 ppm; IR (KBr) ν_{max} 3413, 1624, 1467, 1225 cm^{-1}; Anal. Calcd for $C_{18}H_{16}O_2$ (264.32): C, 81.79; H, 6.10. Found: C, 82.02; H, 6.16; MS (ESI) calcd for $C_{18}H_{15}O_2$ ($M - H^+$) 263.1072, found 263.1006.

*1-(ethoxymethyl)naphthalen-2-ol (**18**)*

Semi solid (0.170 g, 89%); R_f (10% ethyl acetate/hexane) 0.30; ^1H NMR ($CDCl_3$, 400 MHz) δ 8.75 (s, 1H), 7.68 (d, J = 8.4 Hz, 2H), 7.58 (dd, J = 8.4, 2.4 Hz, 1H), 7.34 (td, J = 7.2, 1.2 Hz, 1H), 7.21 (t, J = 7.2 Hz, 1H), 7.02 (d, J = 9.0 Hz, 1H), 5.12 (s, 2H), 3.62 (q, J = 7.2 Hz, 2H), 1.24 (t, J = 7.2 Hz, 3H) ppm; ^{13}C NMR ($CDCl_3$, 100 MHz) δ 154.7, 131.8, 129.7, 128.9, 128.8, 126.7, 123.1, 121.1, 119.4, 112.1, 69.1, 67.1, 15.1 ppm; IR (KBr) ν_{max} 3311, 1624, 1468, 1227 cm^{-1}; Anal. Calcd for $C_{13}H_{14}O_2$ (202.25): C, 77.20; H, 6.98; Found: C, 77.34; H, 7.06.

Crystallographic Description:

The X-ray crystal structures were determined with diffractometer. Complete crystallographic data of **3p** and **7a (**CCDC no. is 913509 and 913508) for the structural analysis have been deposited with the Cambridge Crystallographic Data Centre, Copies of this information may be obtained free of charge from the Director, Cambridge Crystallographic Data Centre, 12 Union Road, Cambridge CB2 1EZ, UK, (fax: +44-1223-336033, e-mail: deposit@ccdc.cam.ac.uk or via: www.ccdc.cam.ac.uk).The crystal structures of **3p** and **7a** were obtained by single crystal X-ray diffraction technique. The Single crystals of **3p** was obtained by slow evaporation of dichloromethane and chloroform (1:3) solution of compound. Single crystals of **7a** was obtained by slow evaporation of dichloromethane and hexane (1:3) solution of compound. The selected crystallographic data of **3p** and **7a** are given in Table S1**.** The crystals of all compounds were mounted on glass fiber. All geometric and intensity data for the crystals were collected at room temperature using a diffractometer equipped with a fine focus 1.75 kW sealed tube Mo Kα (λ = 0.71073 Å) X-ray source, with increasing ω (width of 0.3° per frame) at a scan speed of 3 s/frame.

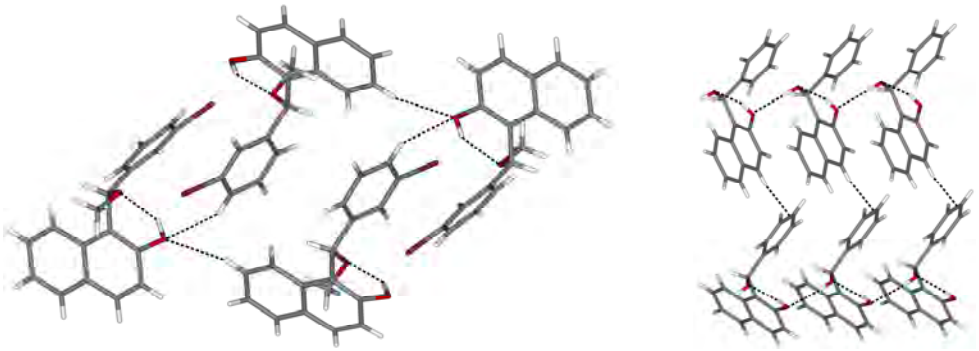


Figure SI-1. Schematic representation of **3p** self-assembled through weak C-H···O hydrogen bonding interactions viewed along *b*-axis (Left). Hydrogen-bonded 1D chain structure of **7a** forms 2D supramolecular assembly via C-H···π interaction viewed along *b*-axis (Right).

Table SI-2. Crystallographic data and refinement parameters[a]

Compounds	**3p**	**7a**
Empirical formula	C_{18} H_{14} Br O_2	C_{17} H_{14} O_2
M	342.20	250.28
Wavelength Å	0.71073	0.71073
Crystal system	Monoclinic	Monoclinic
Space group	*P2(1)/n*	*P2(1)/c*
a, Å	13.1085(6)	4.7273(6)
b, Å	7.3865(4)	13.5885(16)
c, Å	16.4008(7)	20.003(3)
α	90.00°	90.00°
β	107.548(3)°	96.613(7)°
γ	90.00°	90.00°
V/ $Å^3$	1514.12(13)	1276.4(3)
Z	4	4
ρ/g cm^{-3}	1.501	1.302
μ/mm^{-1}	2.716	0.084
Reflns collected	16477	14730
Indep reflns	2659	2208
GOF	0.949	0.969
Final R indices [$I>2\sigma(I)$]	$R1$=0.0447 $wR2$ = 0.0864	$R1$ = 0.0434 $wR2$ =0.1036
R indices (all data)	$R1$=0.1202 $wR2$=0.1092	$R1$ = 0.0779 $wR2$=0.1216

[a]Refinement methods: full-matrix least-square on F^2.

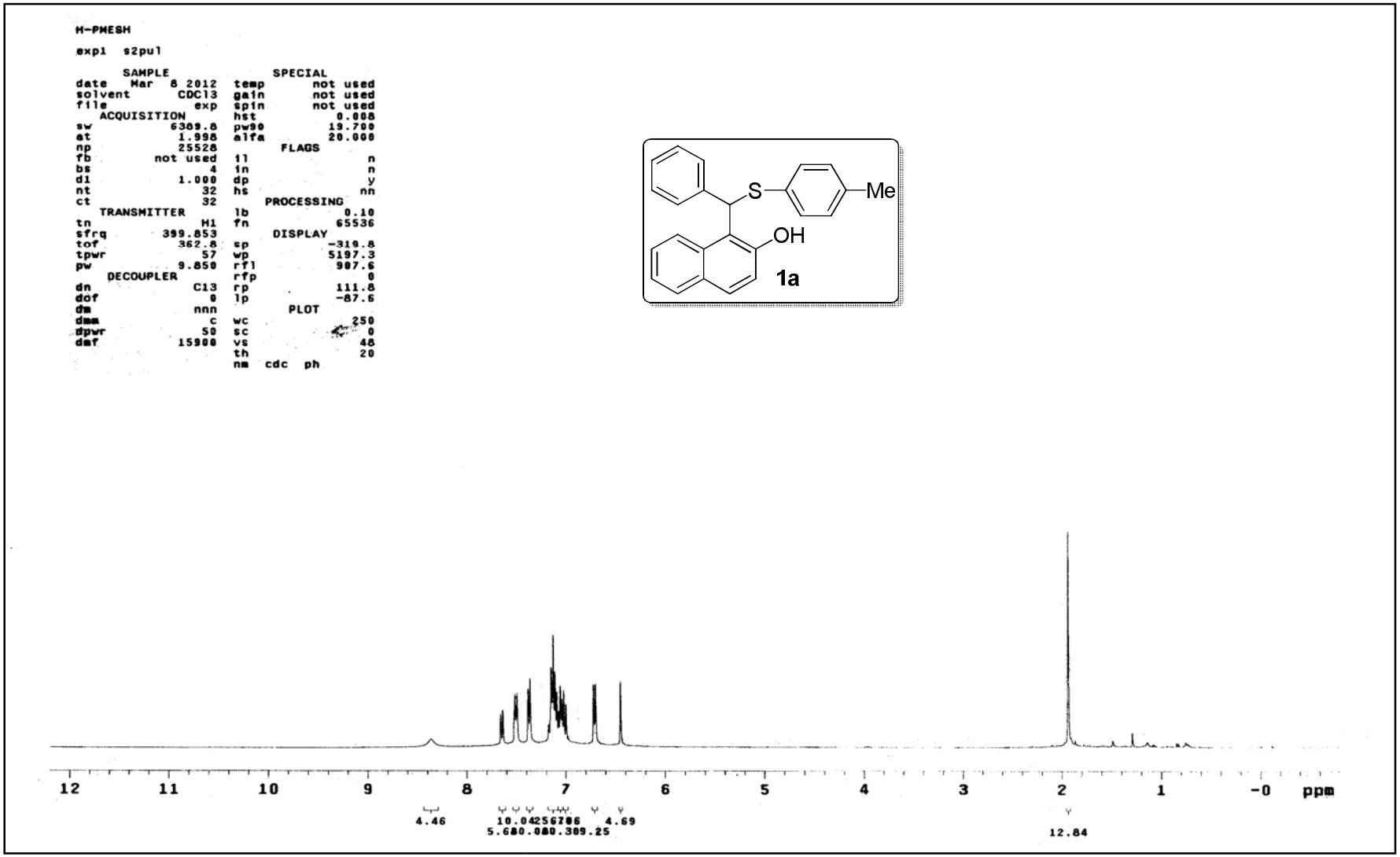
Table SI-3. Selected bond distances (Å) of compounds **3p** and **7a**

3p							
O1-C1	1.366(5)	C1-C2	1.392(5)	C2-C3	1.334(6)	C3-C4	1.425(6)
C5-C4	1.389(6)	C5-C6	1.358(8)	C6-C7	1.407(7)	C1-C10	1.388(5)
C7-C8	1.370(5)	C11-O2	1.428(4)	C9-C8	1.425(5)	C10-C9	1.420(5)
C9-C4	1.417(5)	C10-C11	1.523(5)	C12-C17	1.390(5)	C12-C13	1.378(5)
C11-C12	1.525(5)	C13-C14	1.389(5)	C14-C15	1.386(5)	C15-C16	1.350(6)
C16-C17	1.390(5)	Br1-C16	1.897(4)				
7a							
C9-O1	1.381(2)	C1- C2	1.374(3)	C1-C6	1.382(2)	C1-C7	1.518(2)
C2-C3	1.387(3)	C3- C4	1.355(3)	C4- C5	1.377(3)	C5-C6	1.379(3)
C7-O2	1.436(2)	C7-C8	1.520(2)	C8-C9	1.384(2)	C9-C10	1.399(3)
C8-C17	1.428(2)	C10-C11	1.349(3)	C11-C12	1.411(2)	C12-C13	1.416(3)
C13-C14	1.355(3)	C14-C15	1.397(3)	C15-C16	1.360(2)	C16-C17	1.425(2)
C17-C12	1.426(2)						

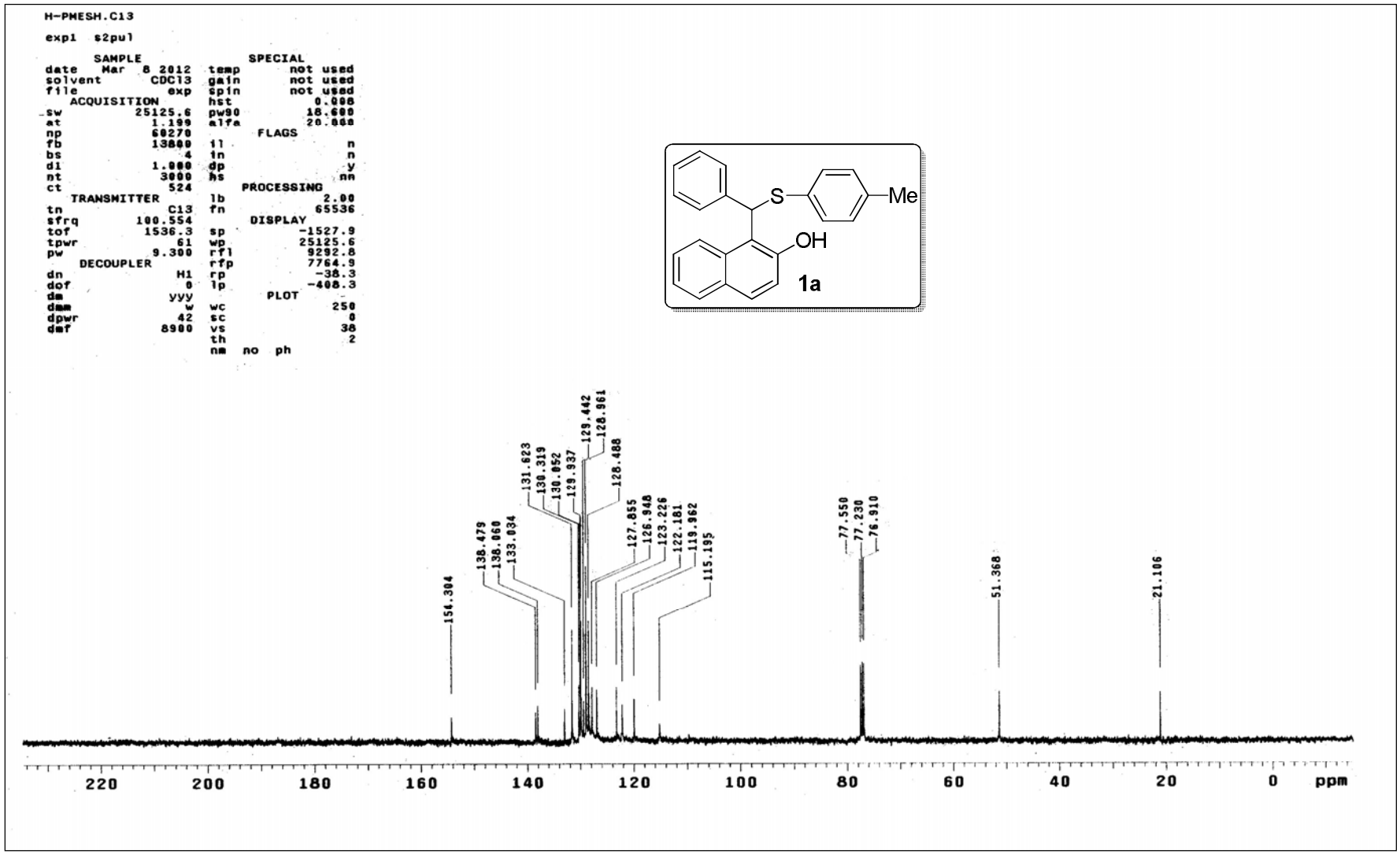
Table SI-4. H-bond interactions in **7a** and **3p**

D-H···A	*d*(D-H)(Å)	*d*(H···A)(Å)	*d*(D···A)(Å)	<DHA(□)
7a				
O1-H1...O2	0.82	1.91	2.6235(18)	145
O2-H2 ...O1	0.82	2.08	2.8841(18)	167
C2-H2A...O2	0.93	2.37	2.727(2)	103
3p				
O1-H1...O2	0.82	1.96	2.669(4)	144
C17-H17 ...O2	0.93	2.34	2.694(4)	102

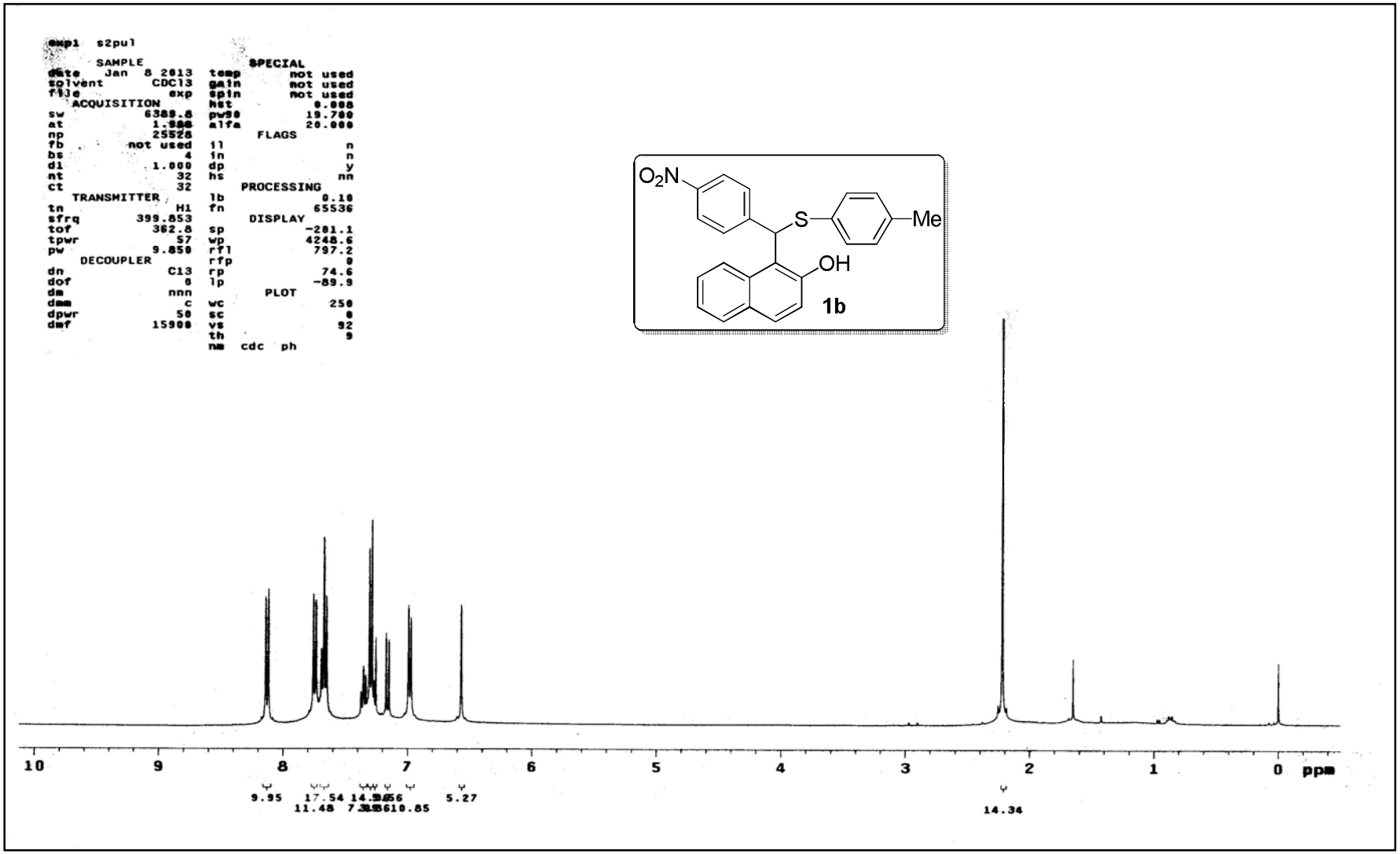
^{1}H NMR spectra of 1a



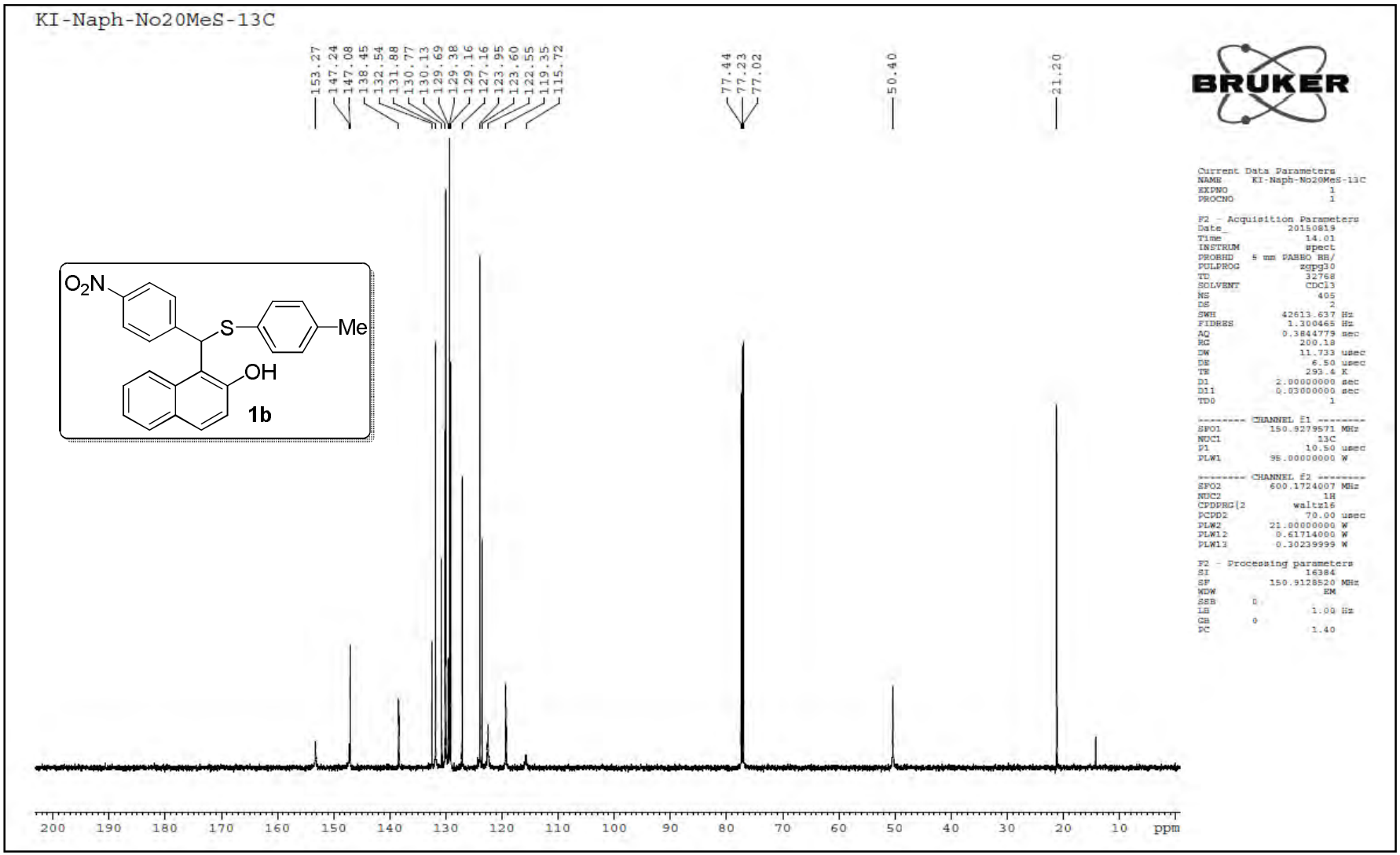
^{13}C NMR spectra of 1a



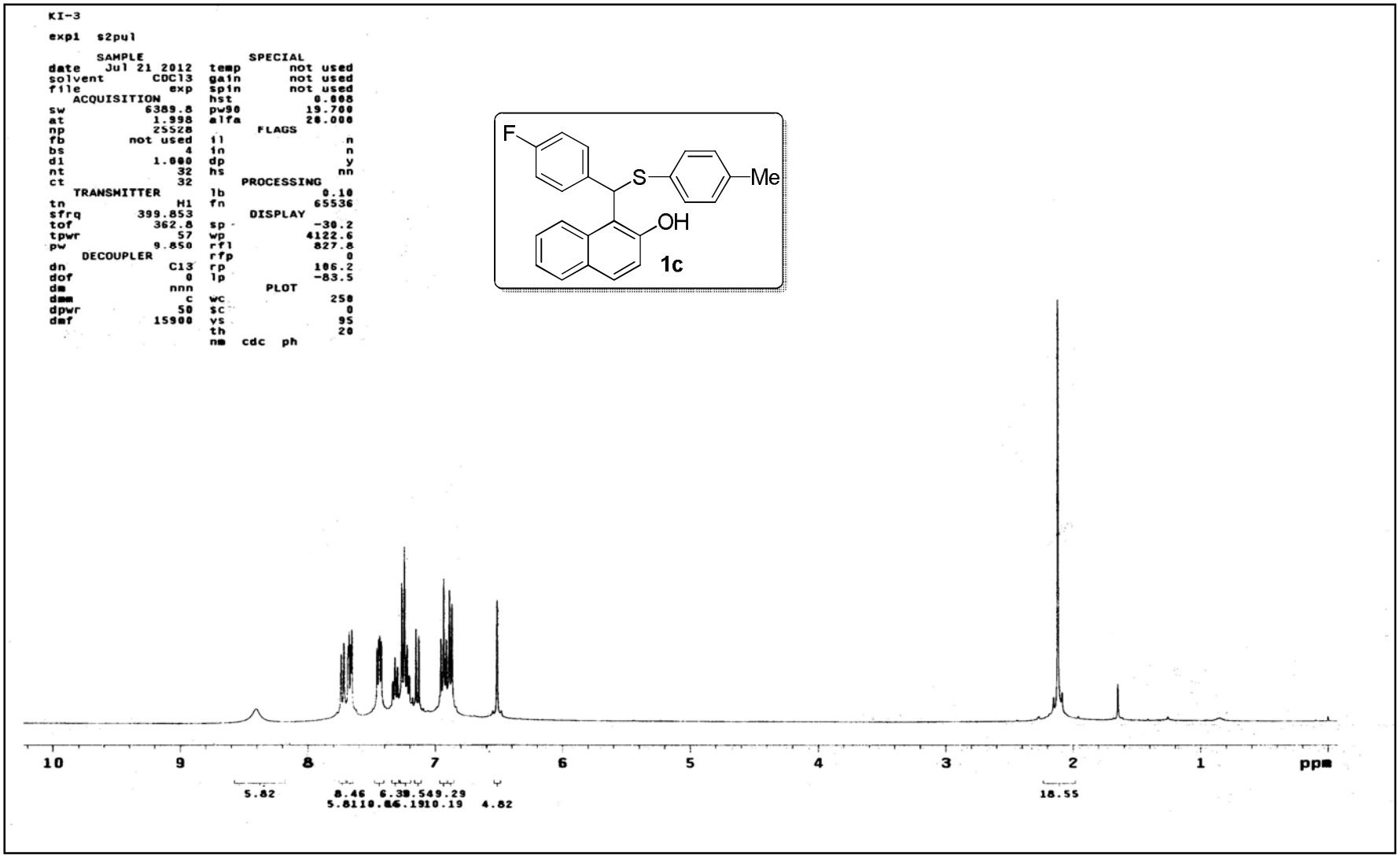
^{1}H NMR spectra of 1b



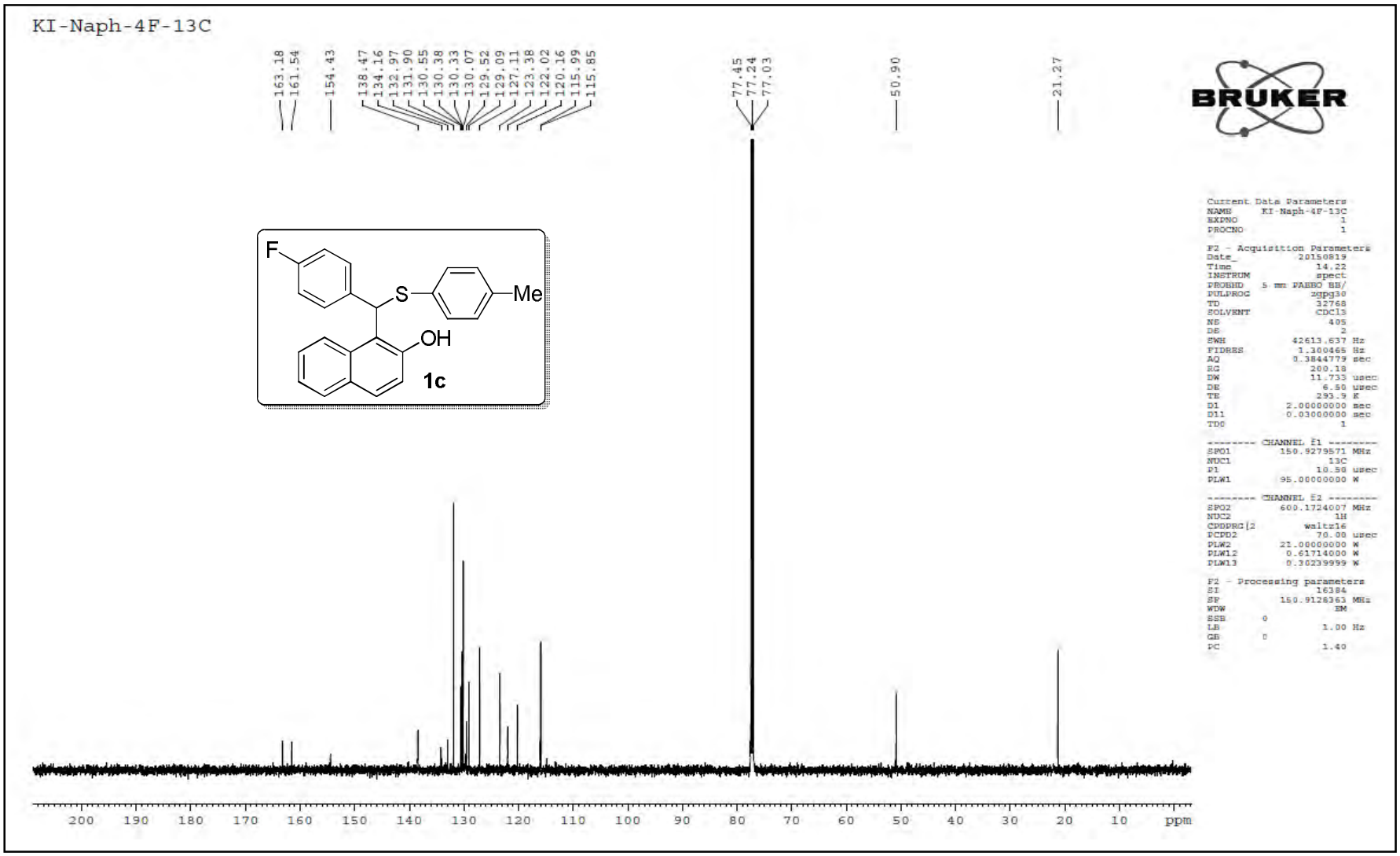
^{13}C NMR spectra of 1b



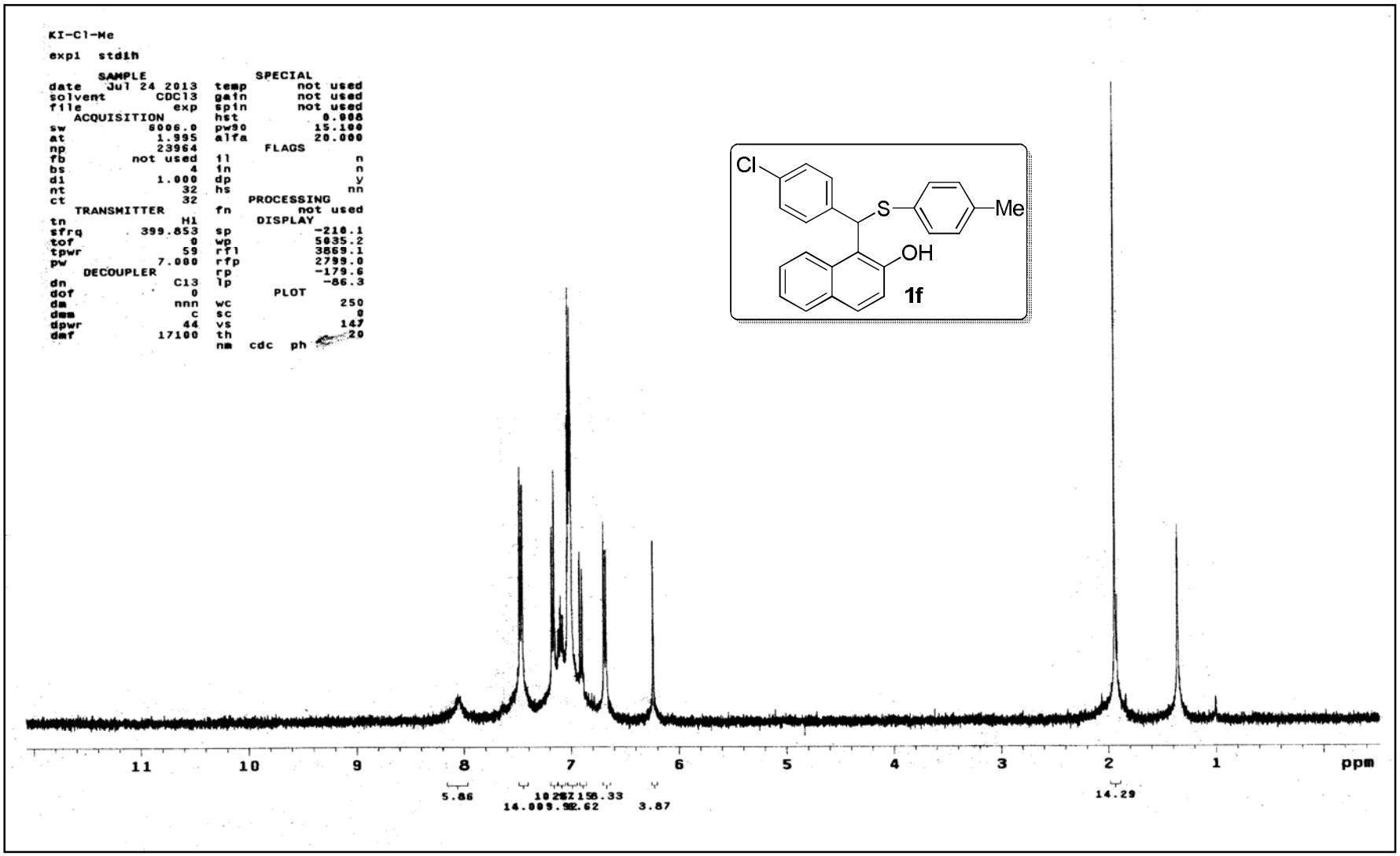
^{1}H NMR spectra of 1c



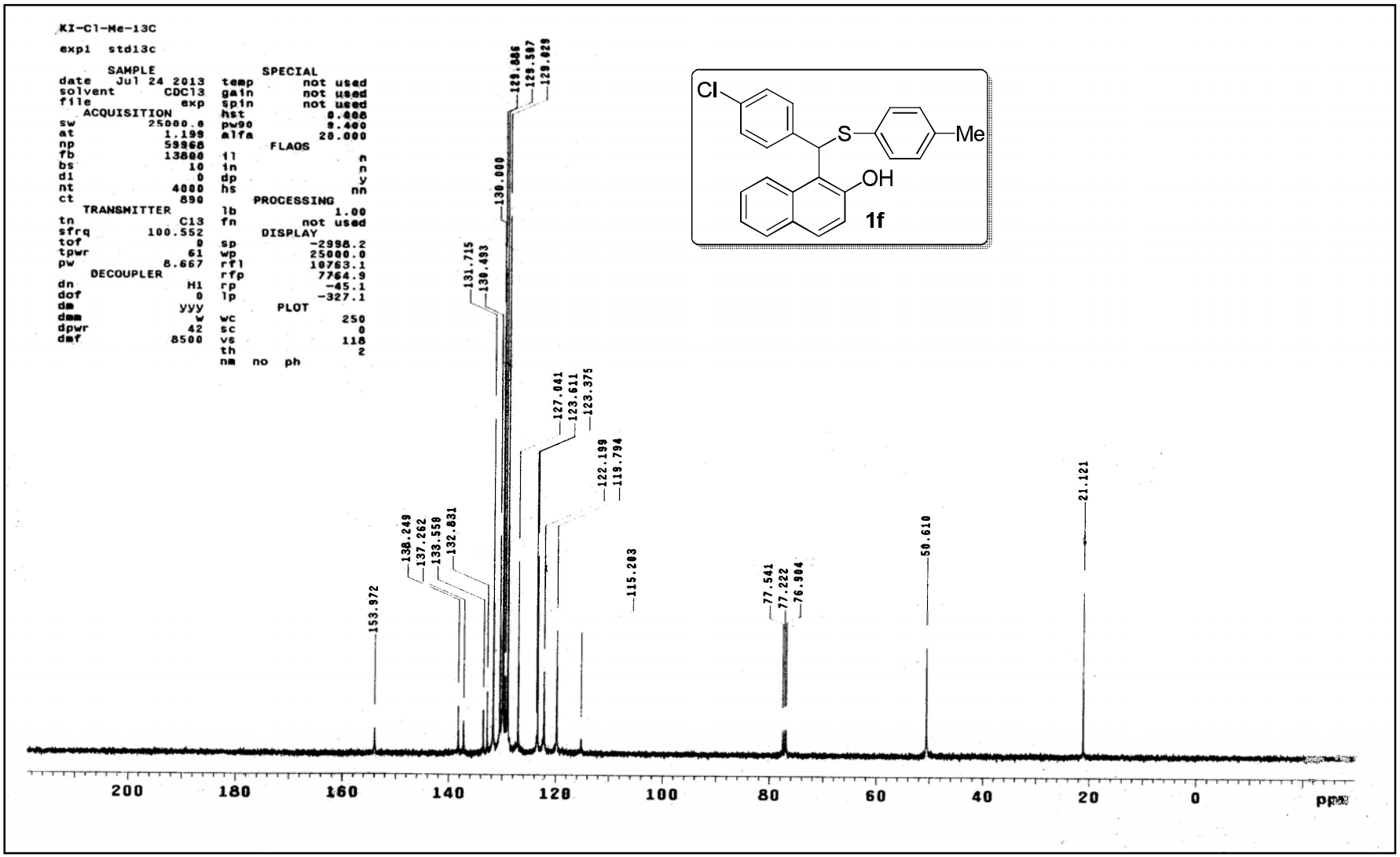
^{13}C NMR spectra of 1c



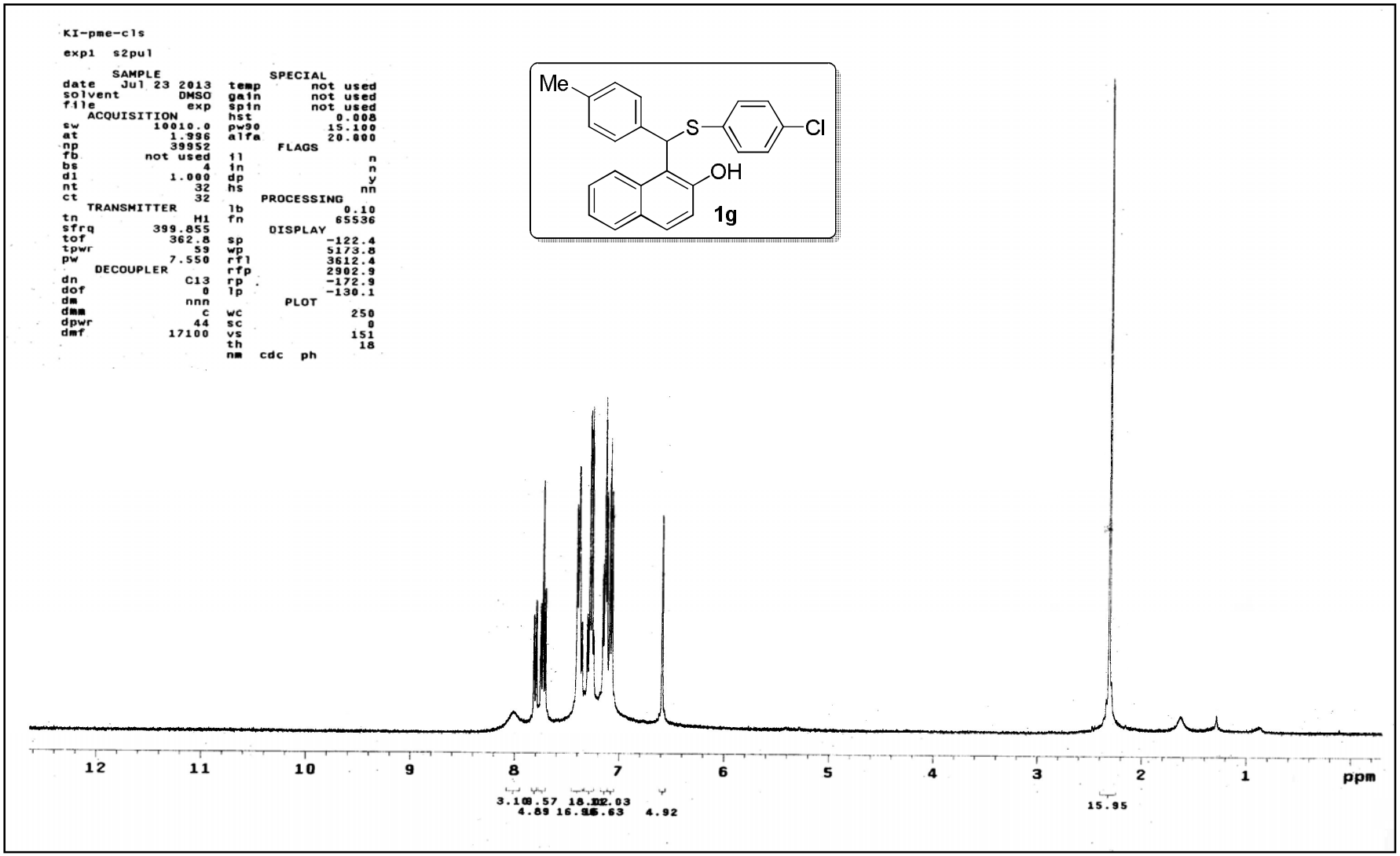
^{1}H NMR spectra of 1f



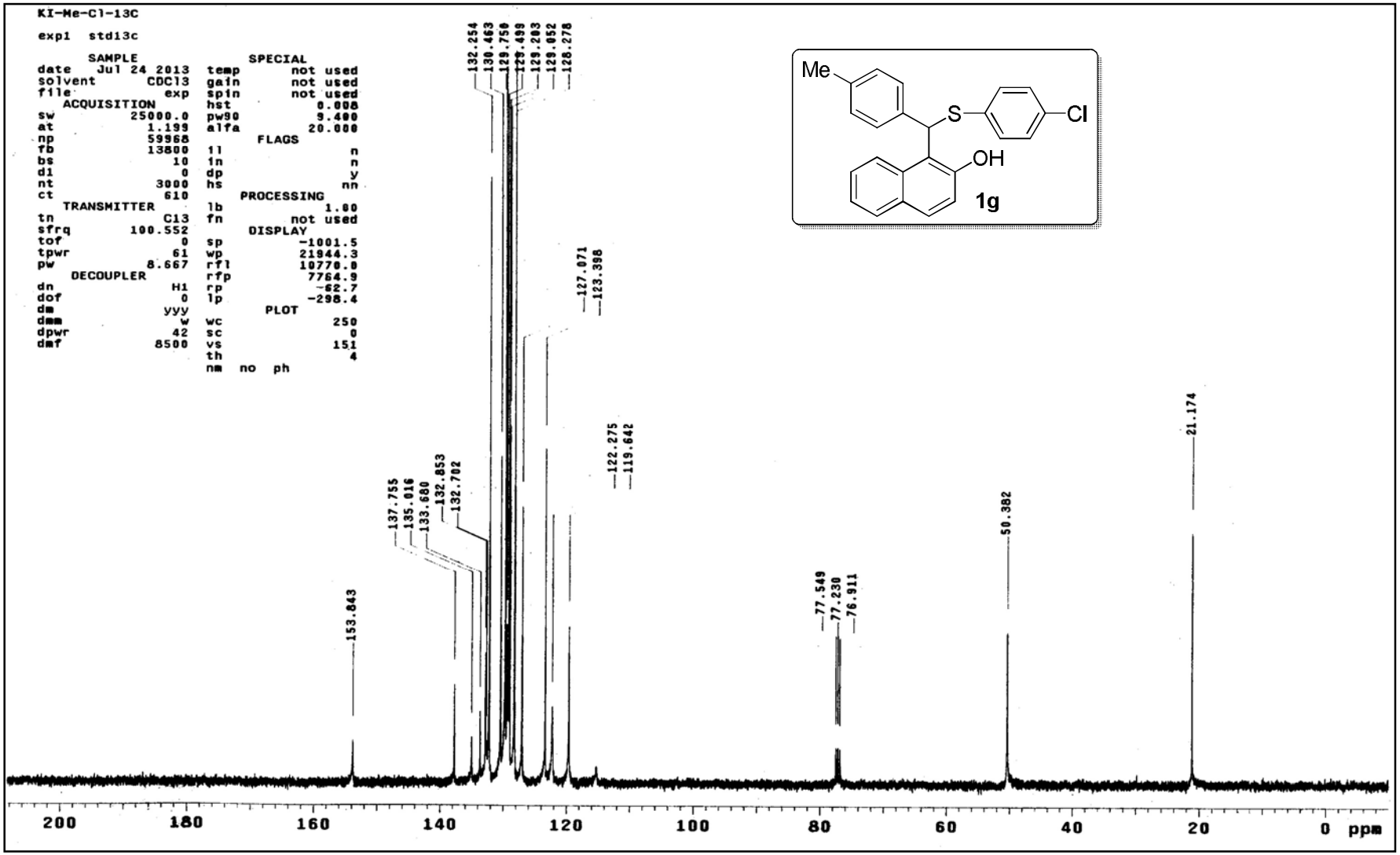
^{13}C NMR spectra of 1f



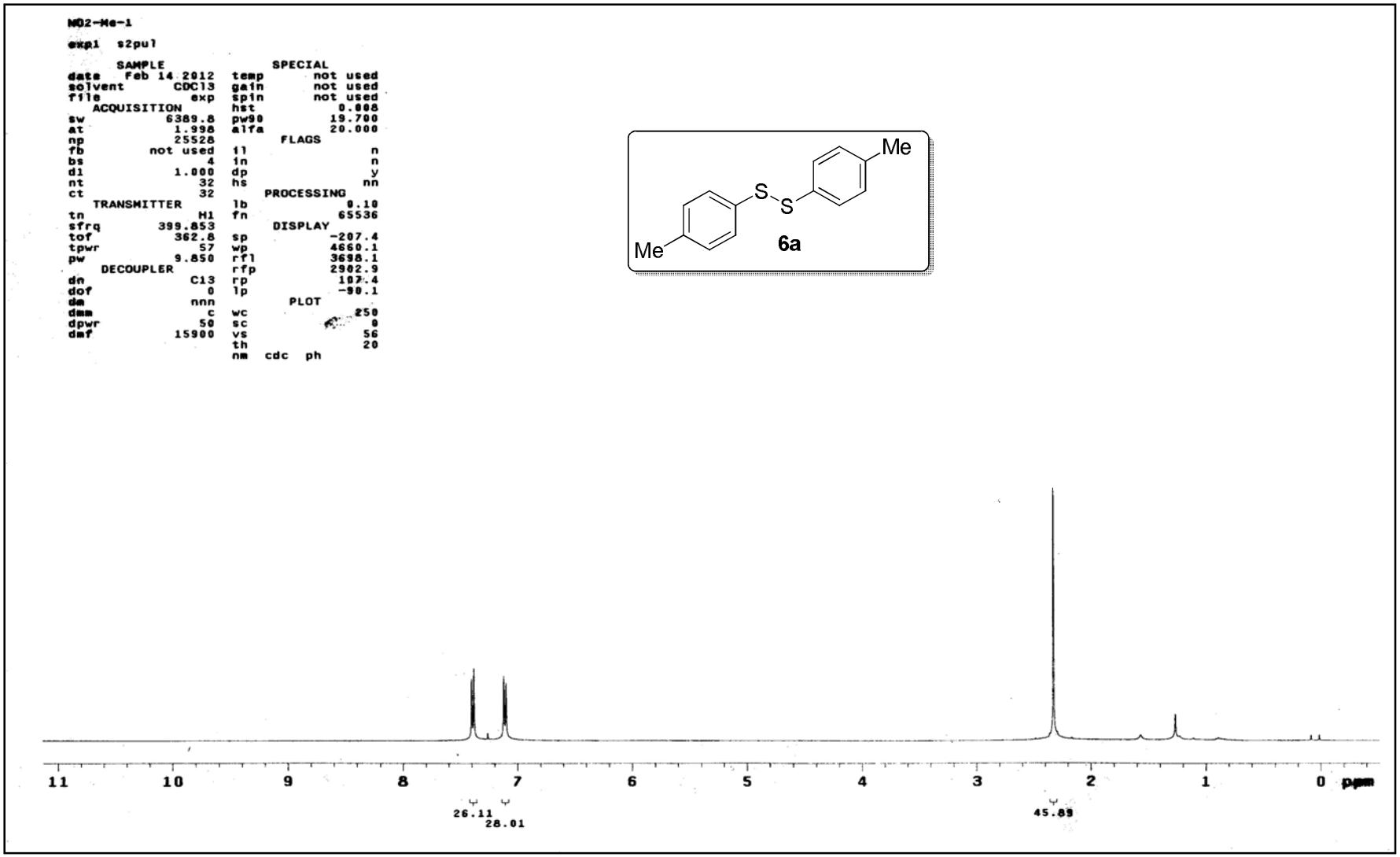
^{1}H NMR spectra of 1g



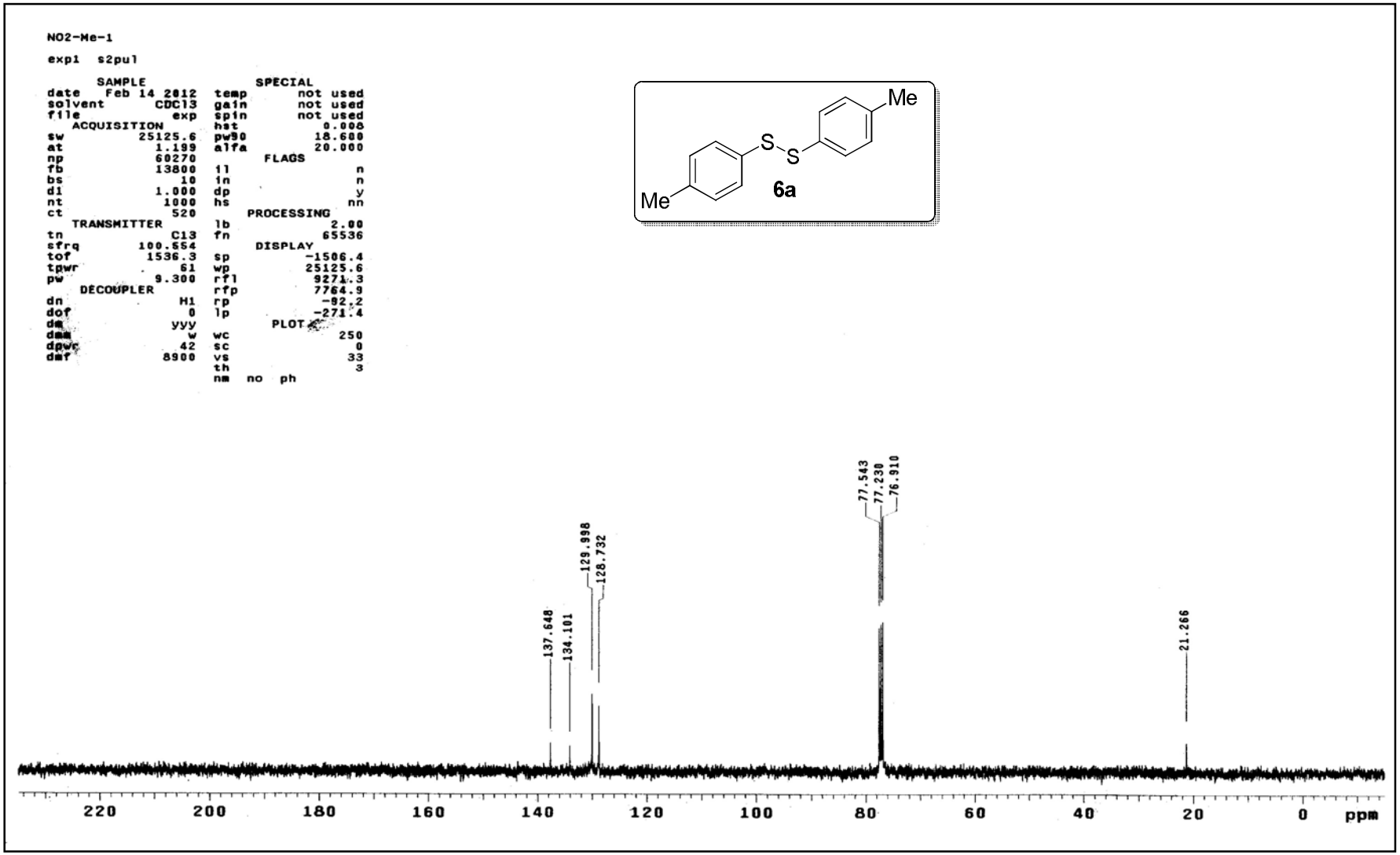
^{13}C NMR spectra of 1g



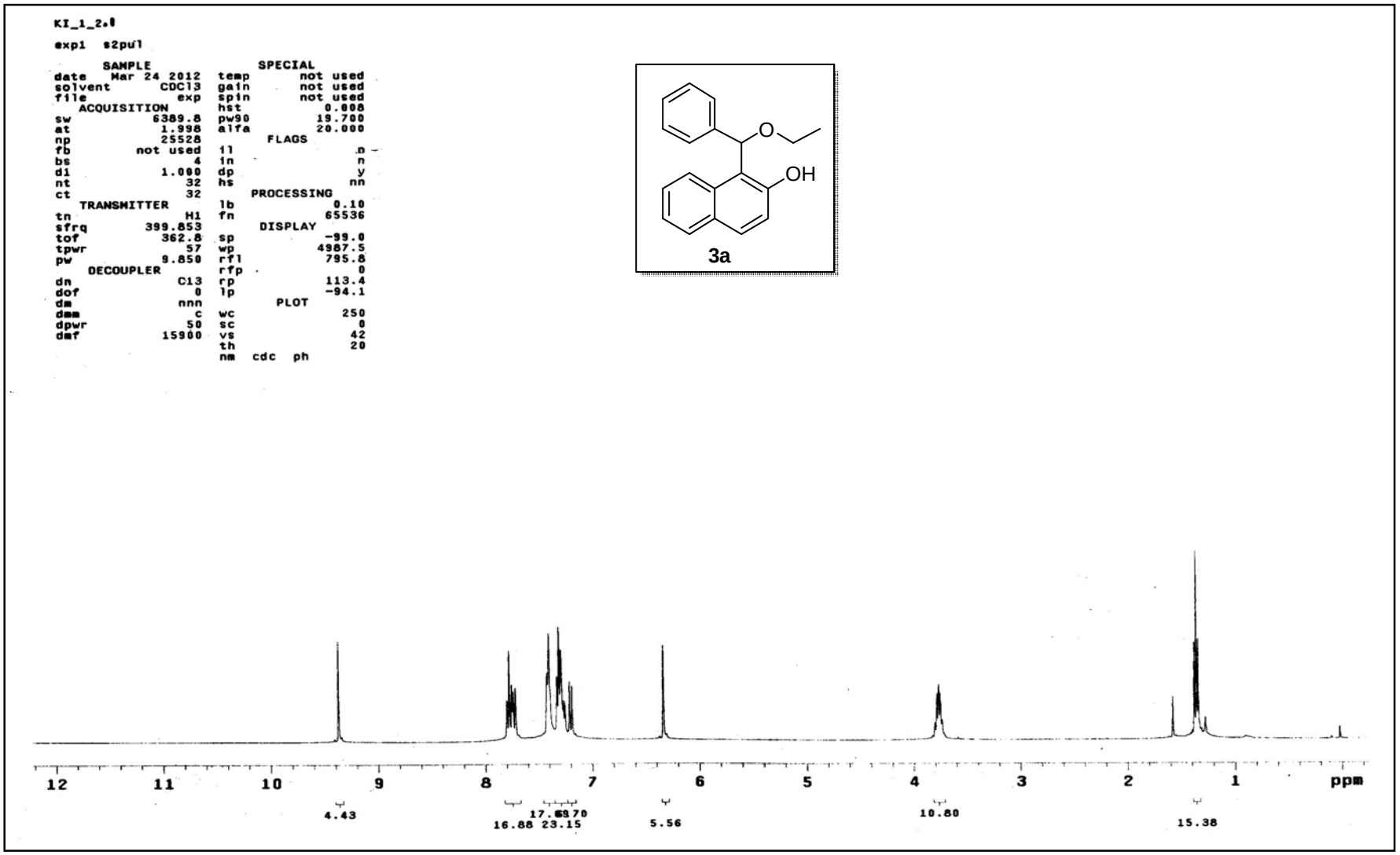
^{1}H NMR spectra of 1,2-di-*p*-tolyldisulfane (6a)



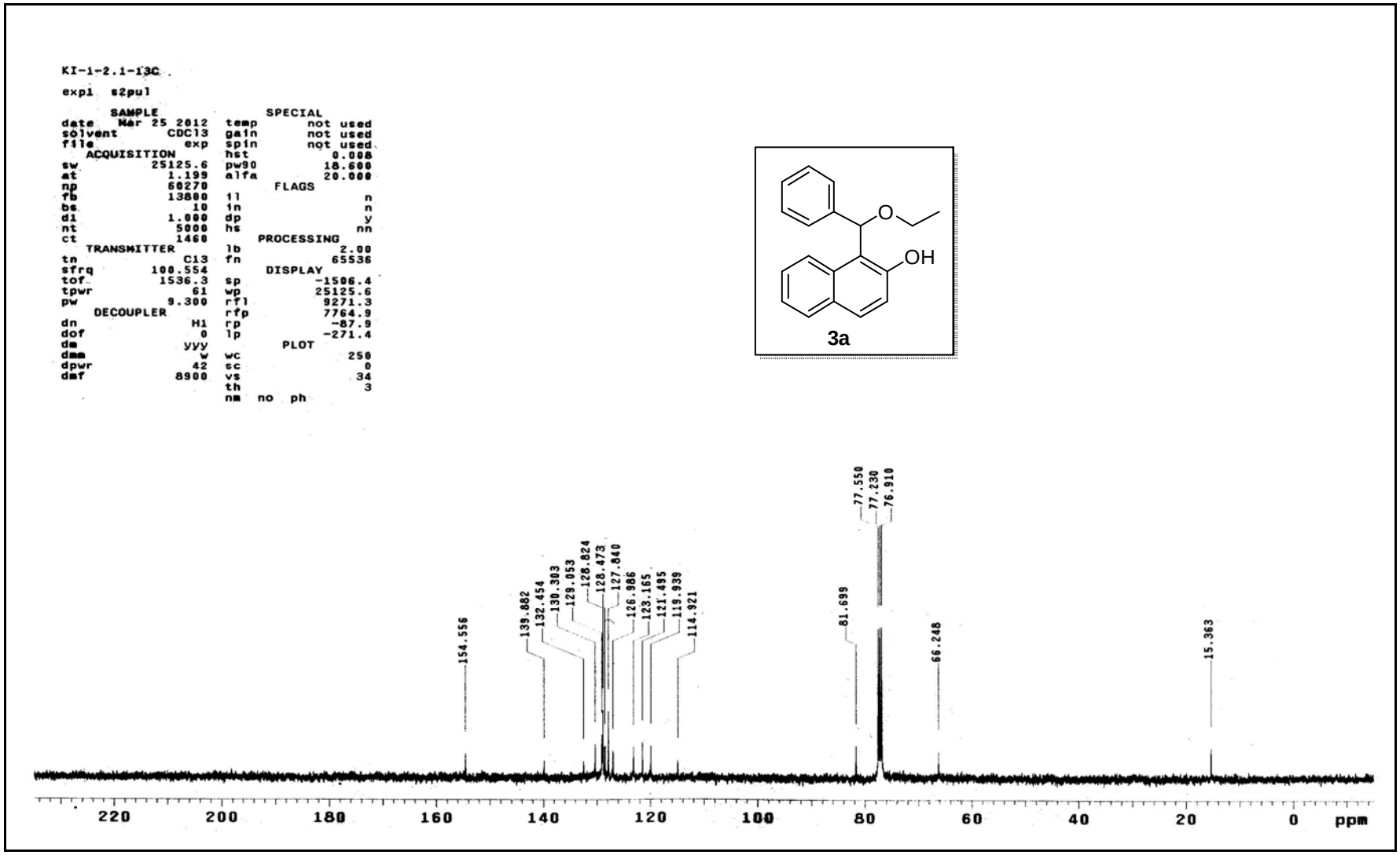
^{13}C NMR spectra of 1,2-di-*p*-tolyldisulfane (6a)



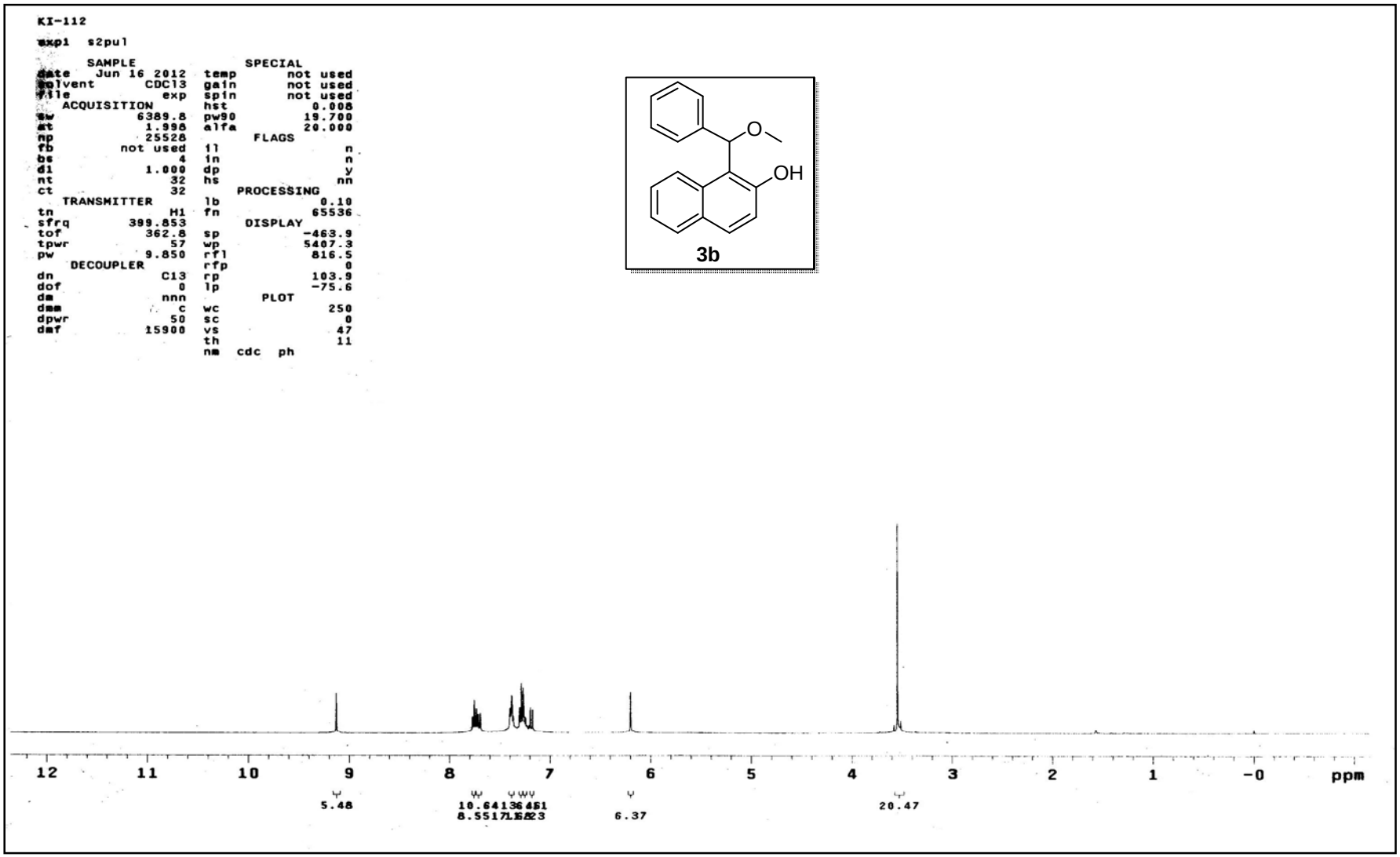
^{1}H NMR spectra of 3a



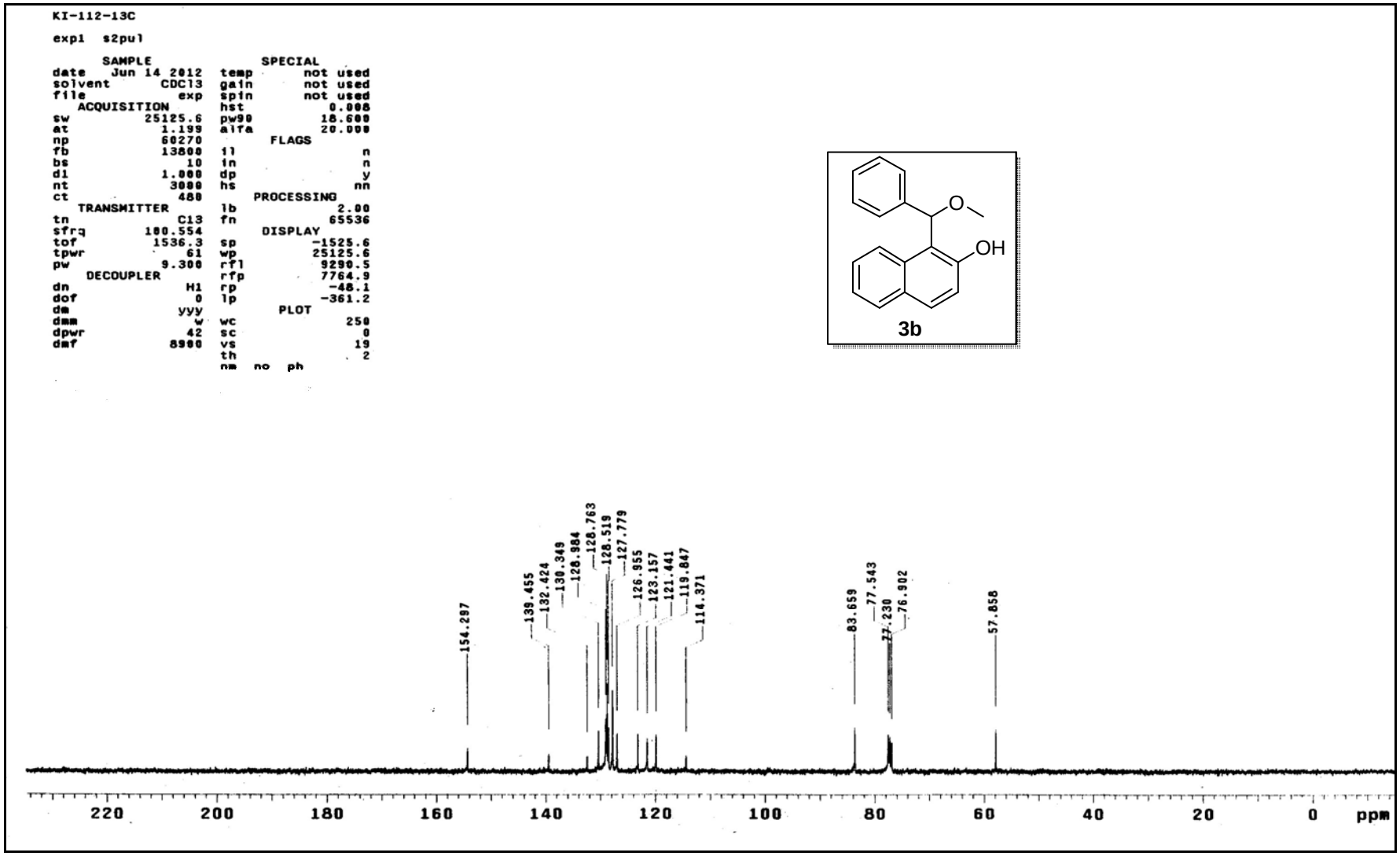
^{13}C NMR spectra of 3a



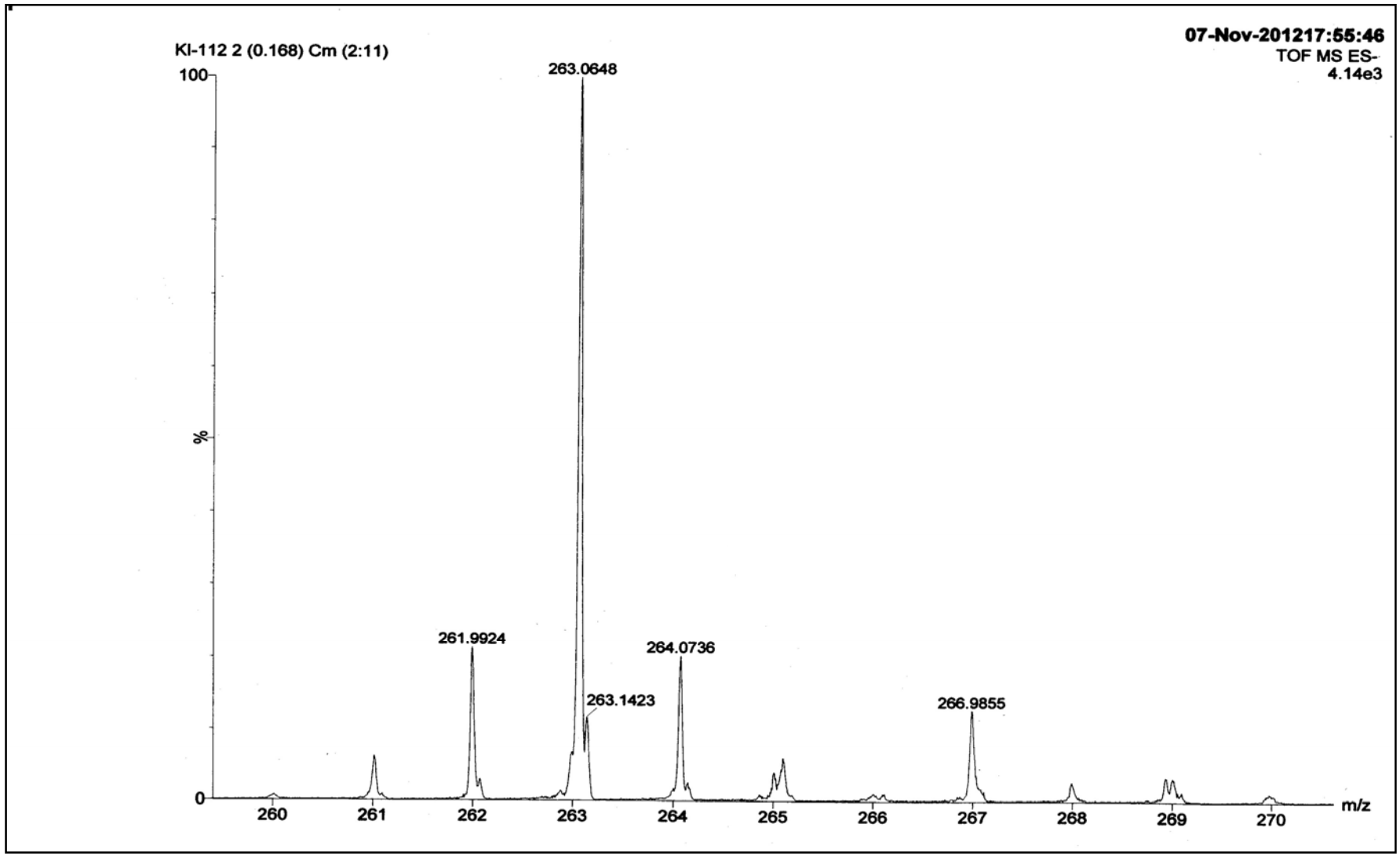
^{1}H NMR spectra of 3b



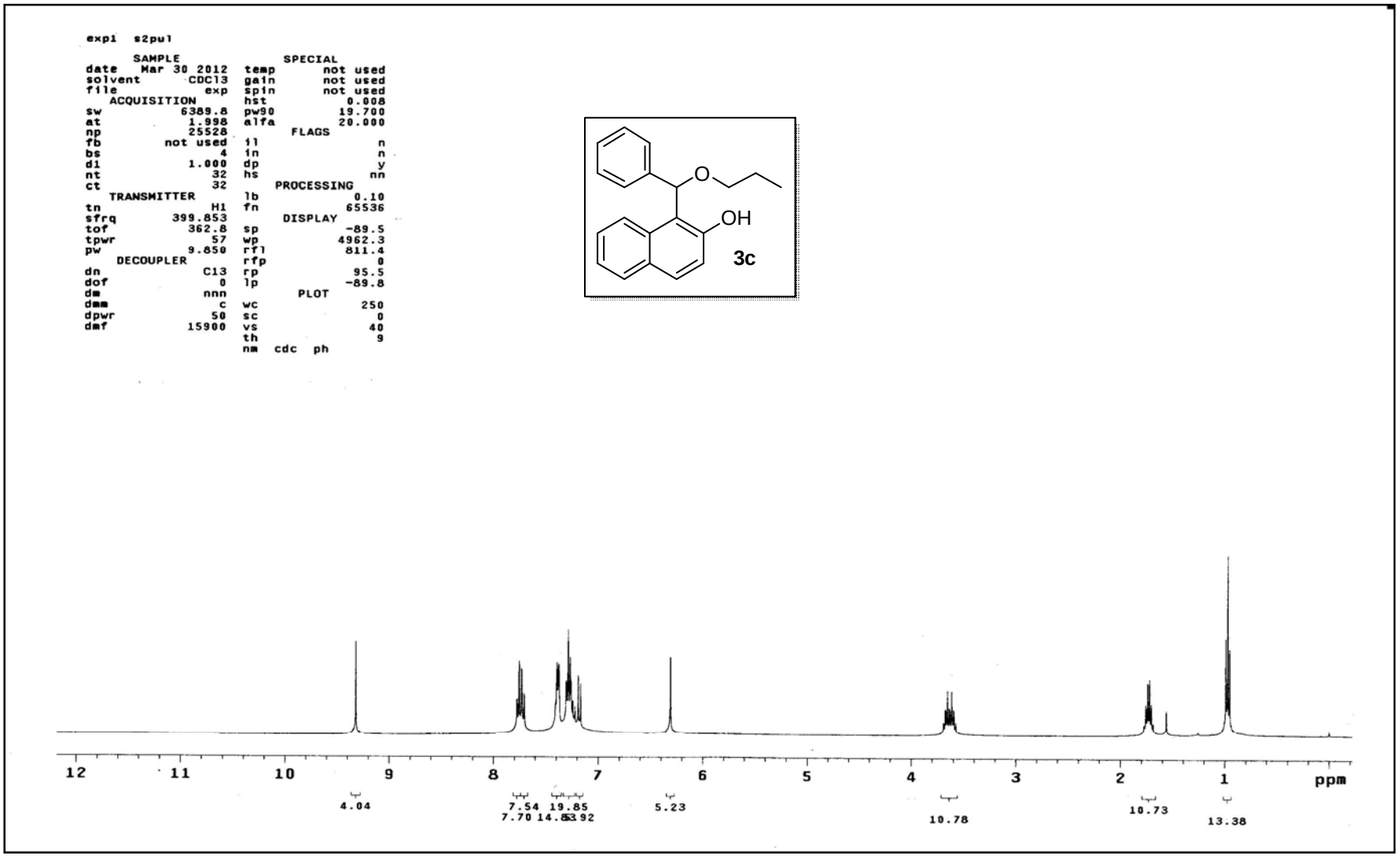
^{13}C NMR Spectra of 3b



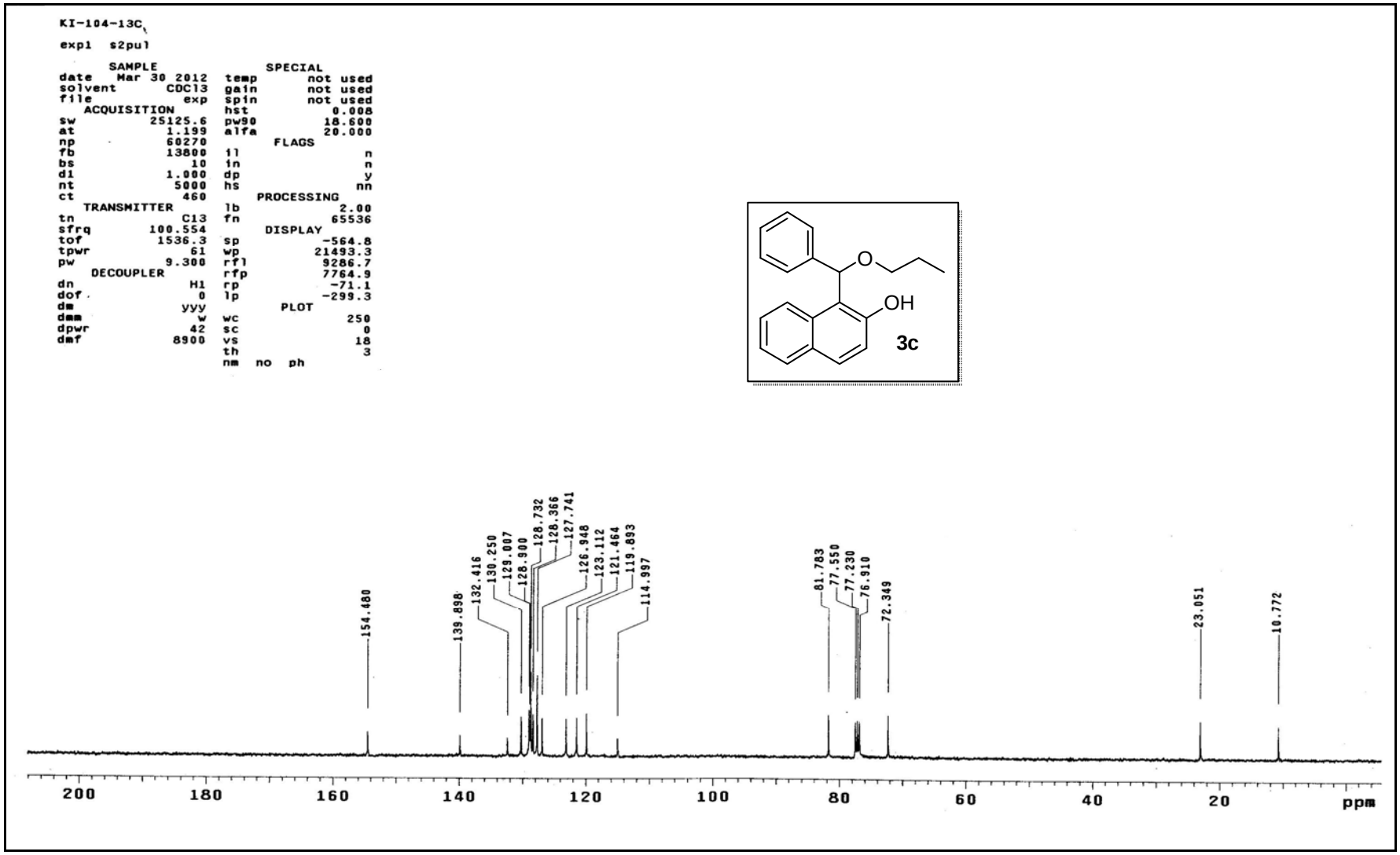
MS spectra of 3b



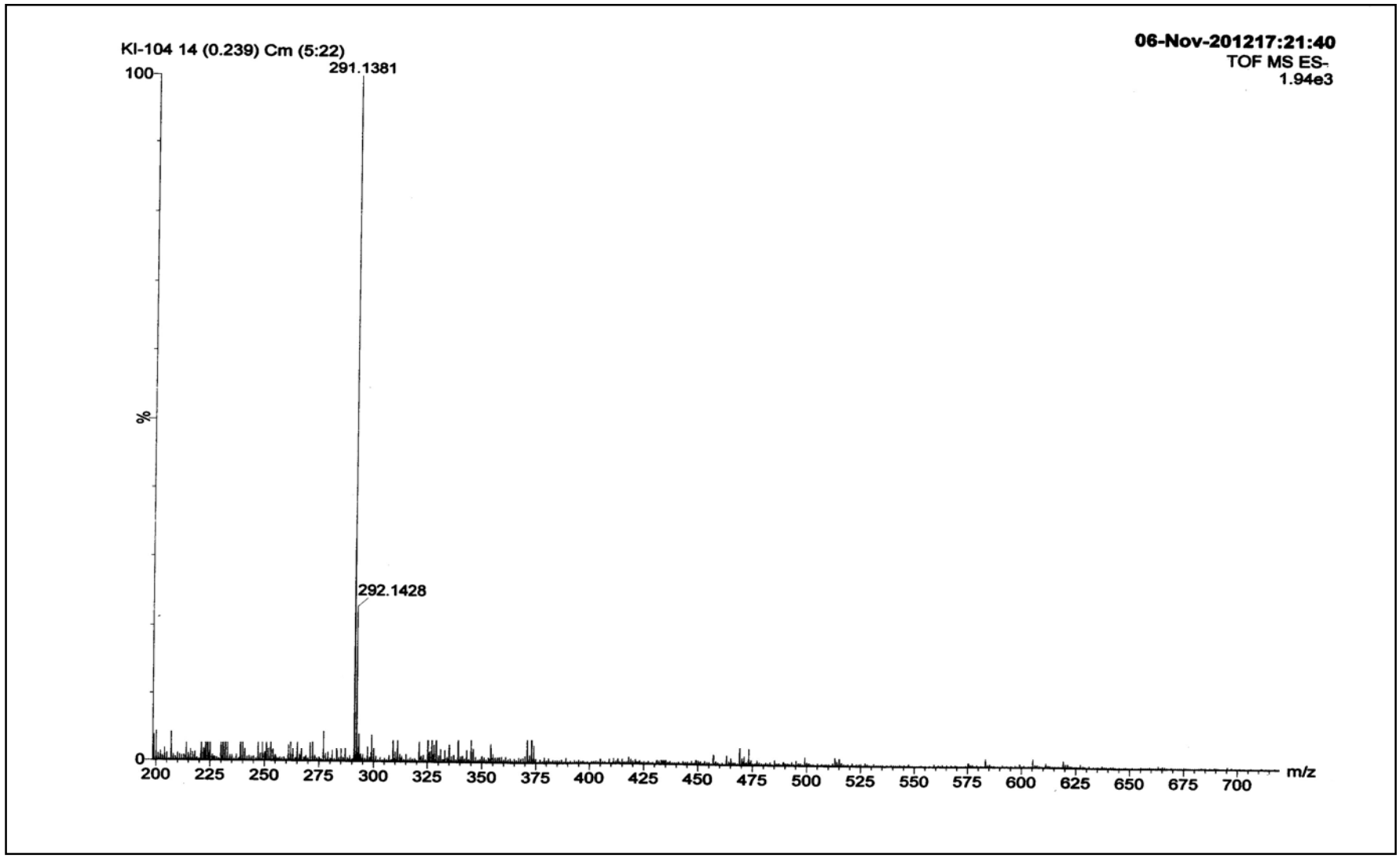
^{1} H NMR spectra of 3c



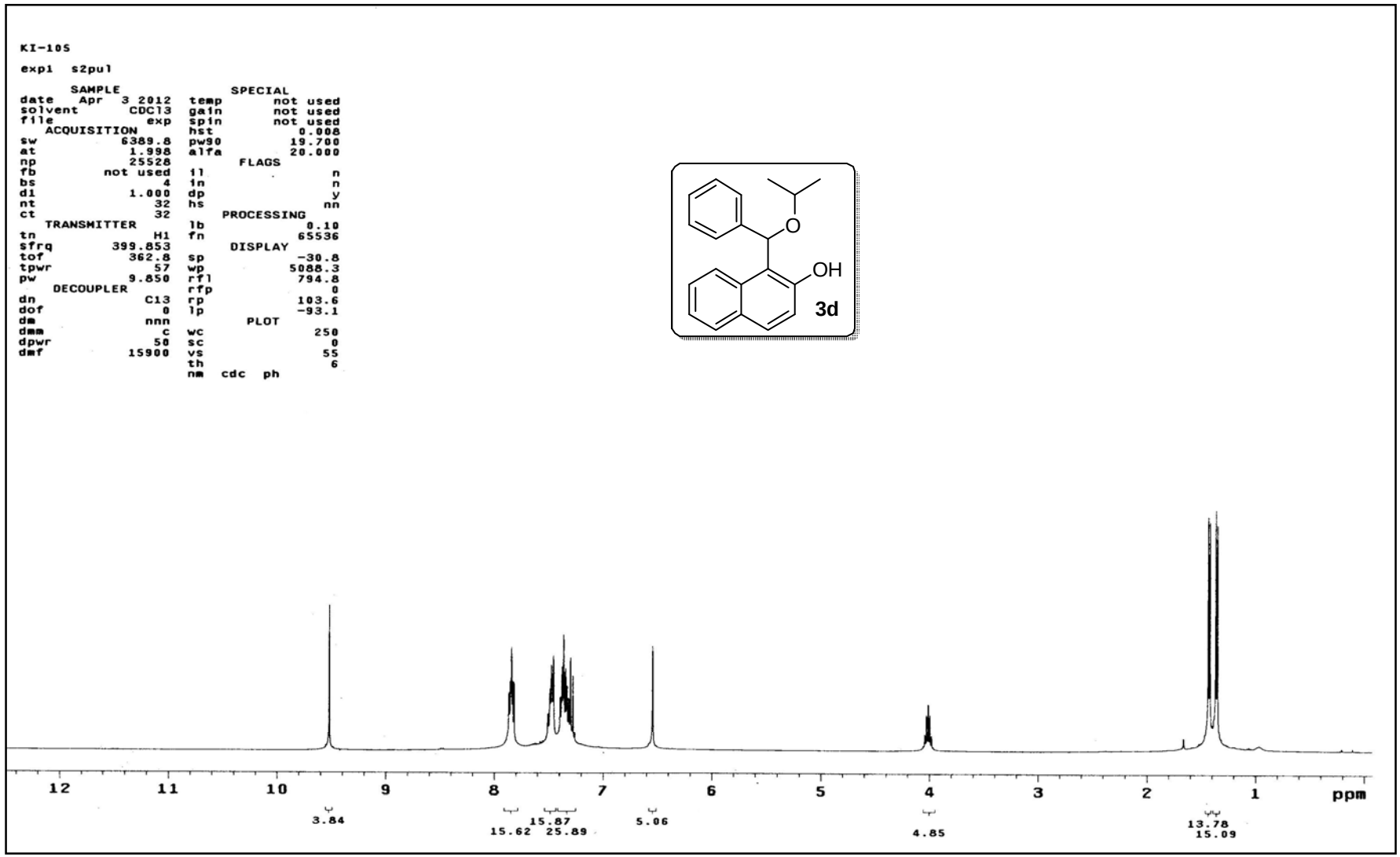
^{13}C NMR Spectra of 3c



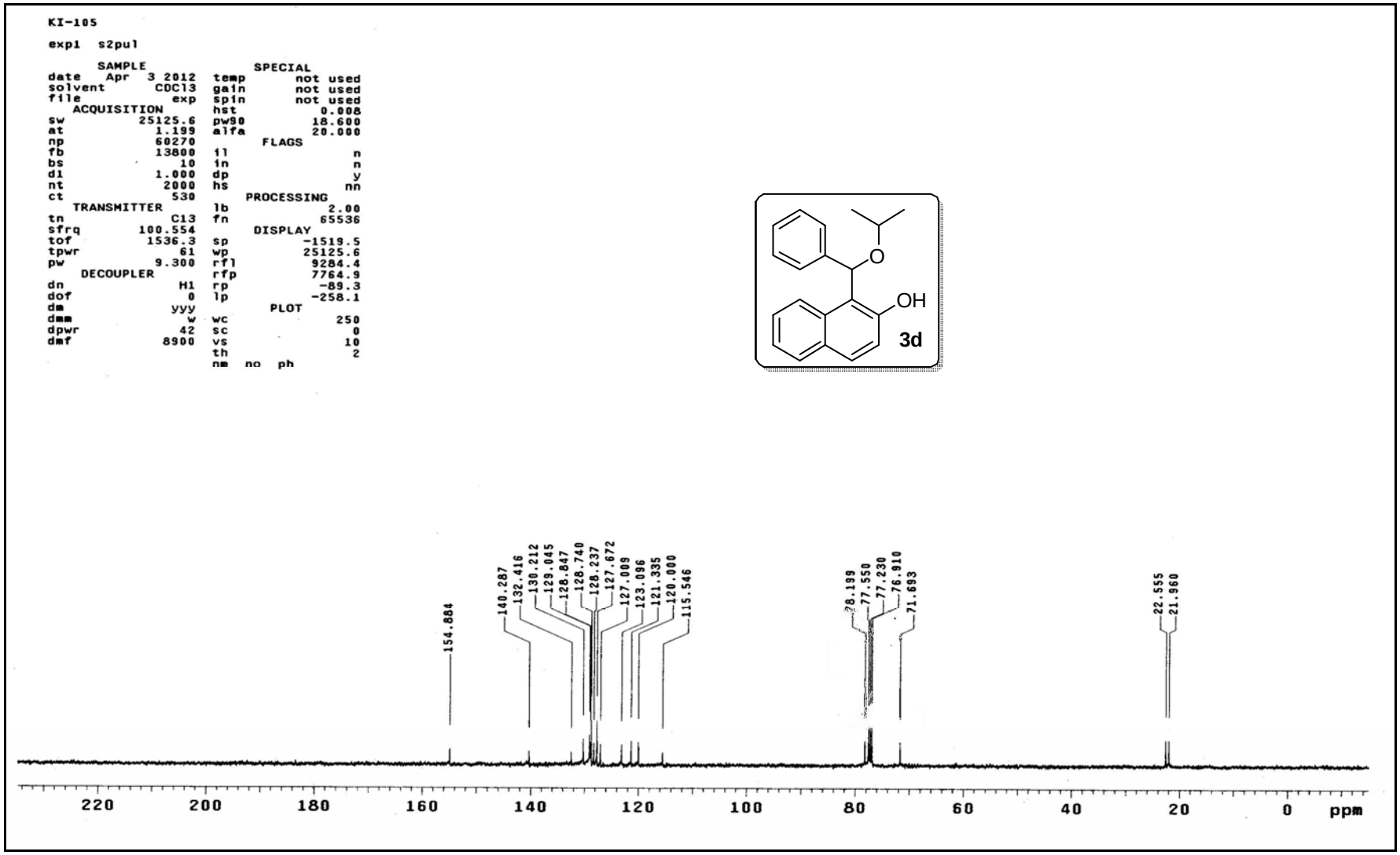
MS spectra of 3c



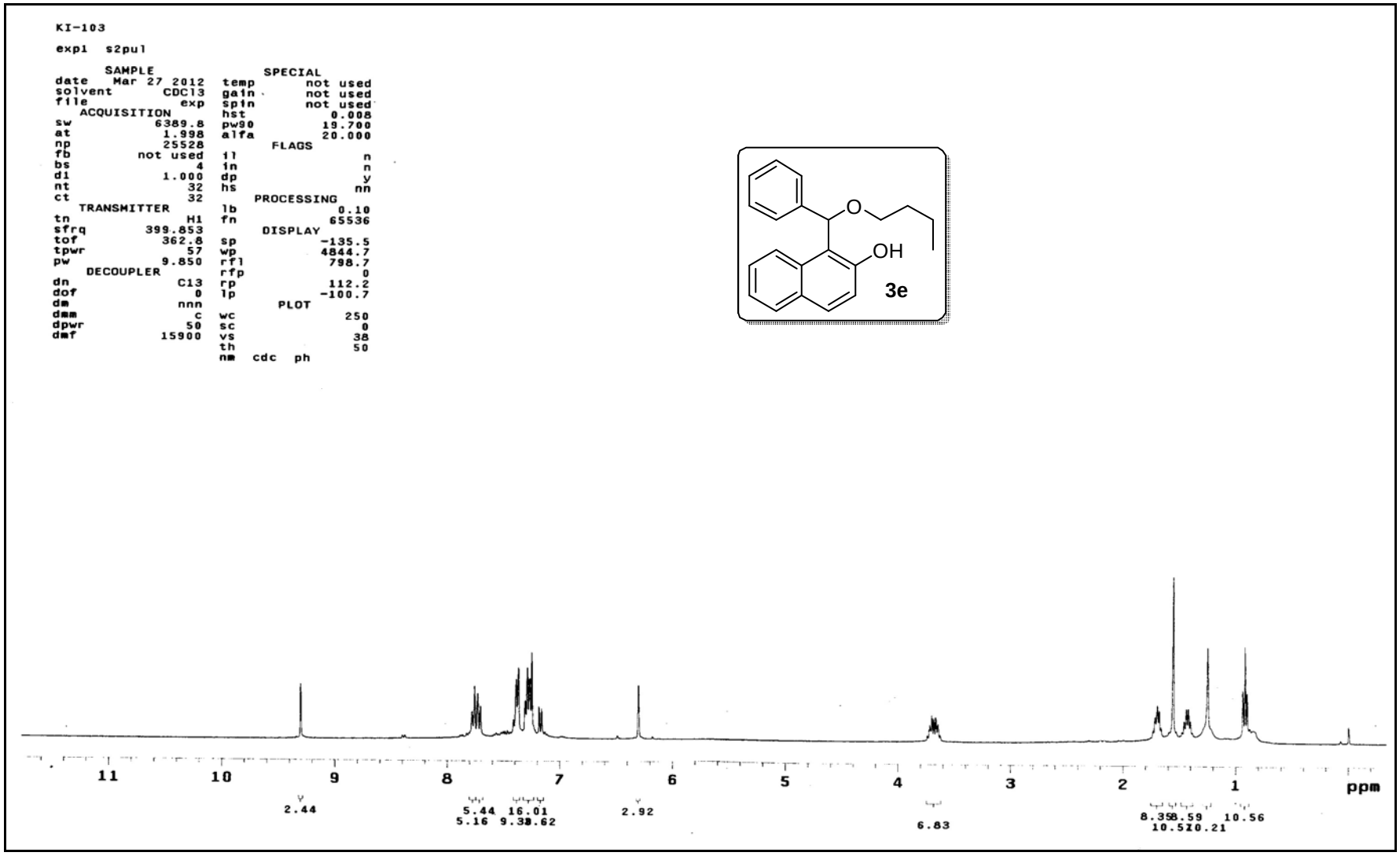
^{1}H NMR spectra of 3d



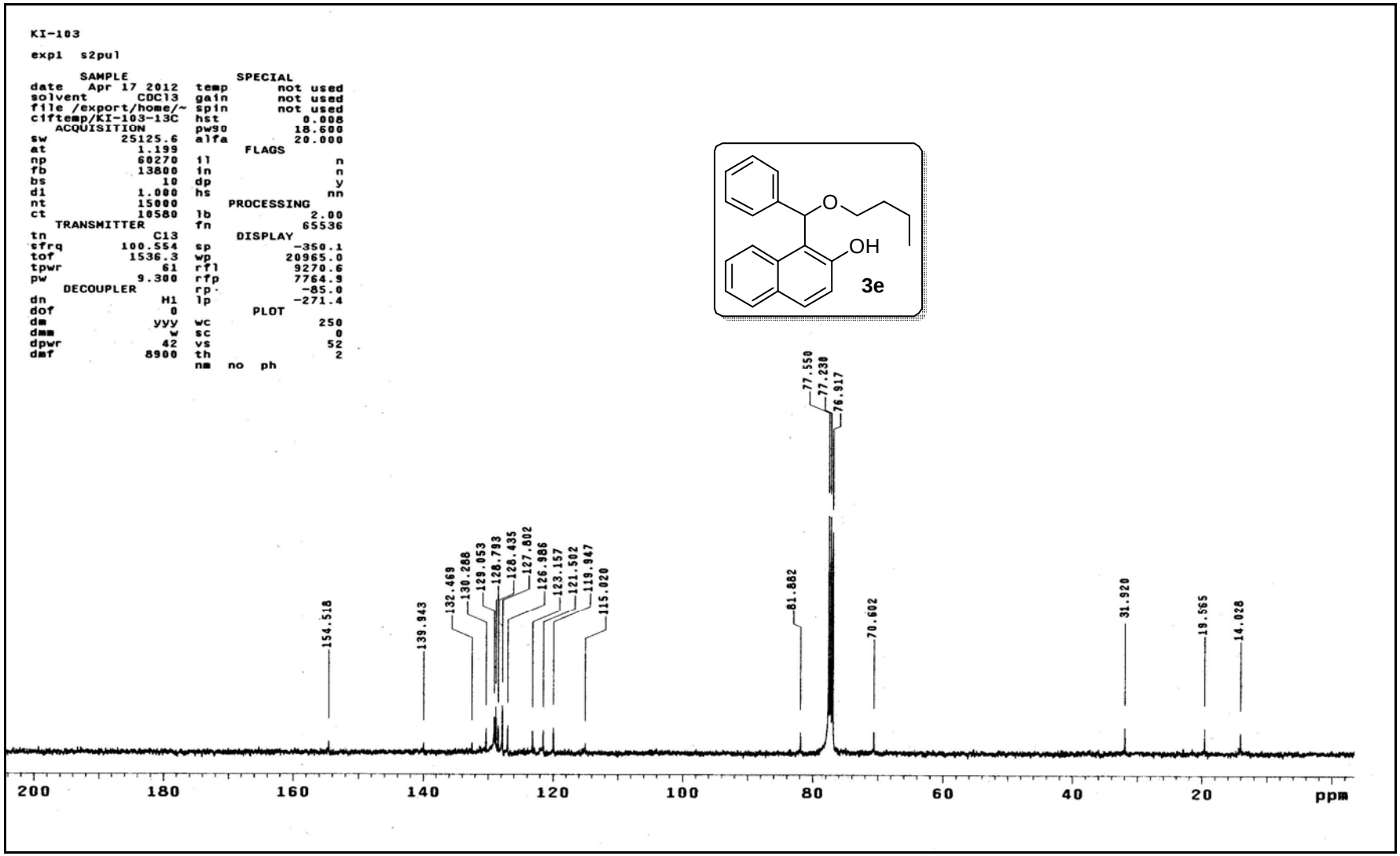
^{13}C NMR Spectra of 3d



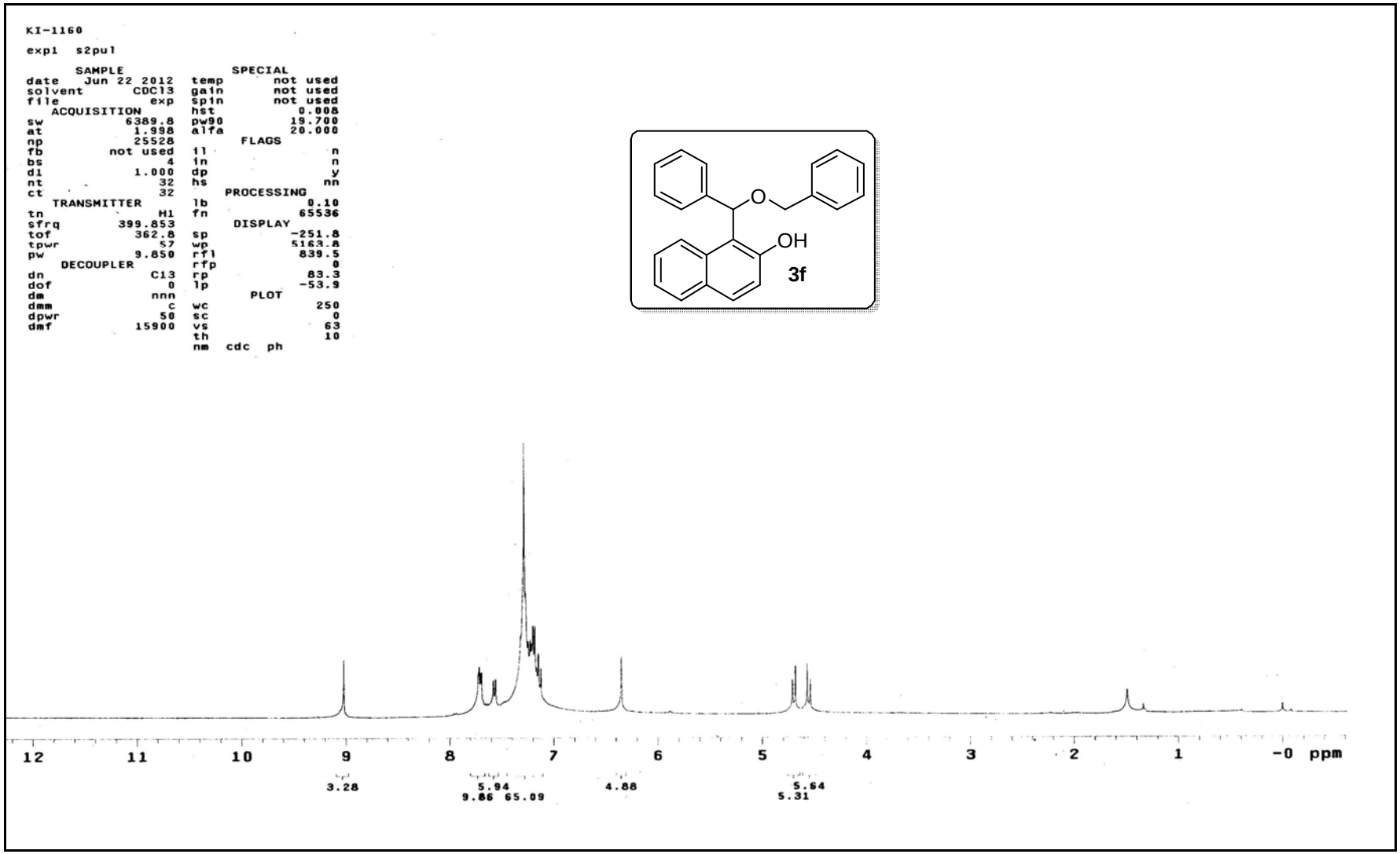
^{1}H NMR spectra of 3e



^{13}C NMR Spectra of 3e



^{1}H NMR spectra of 3f



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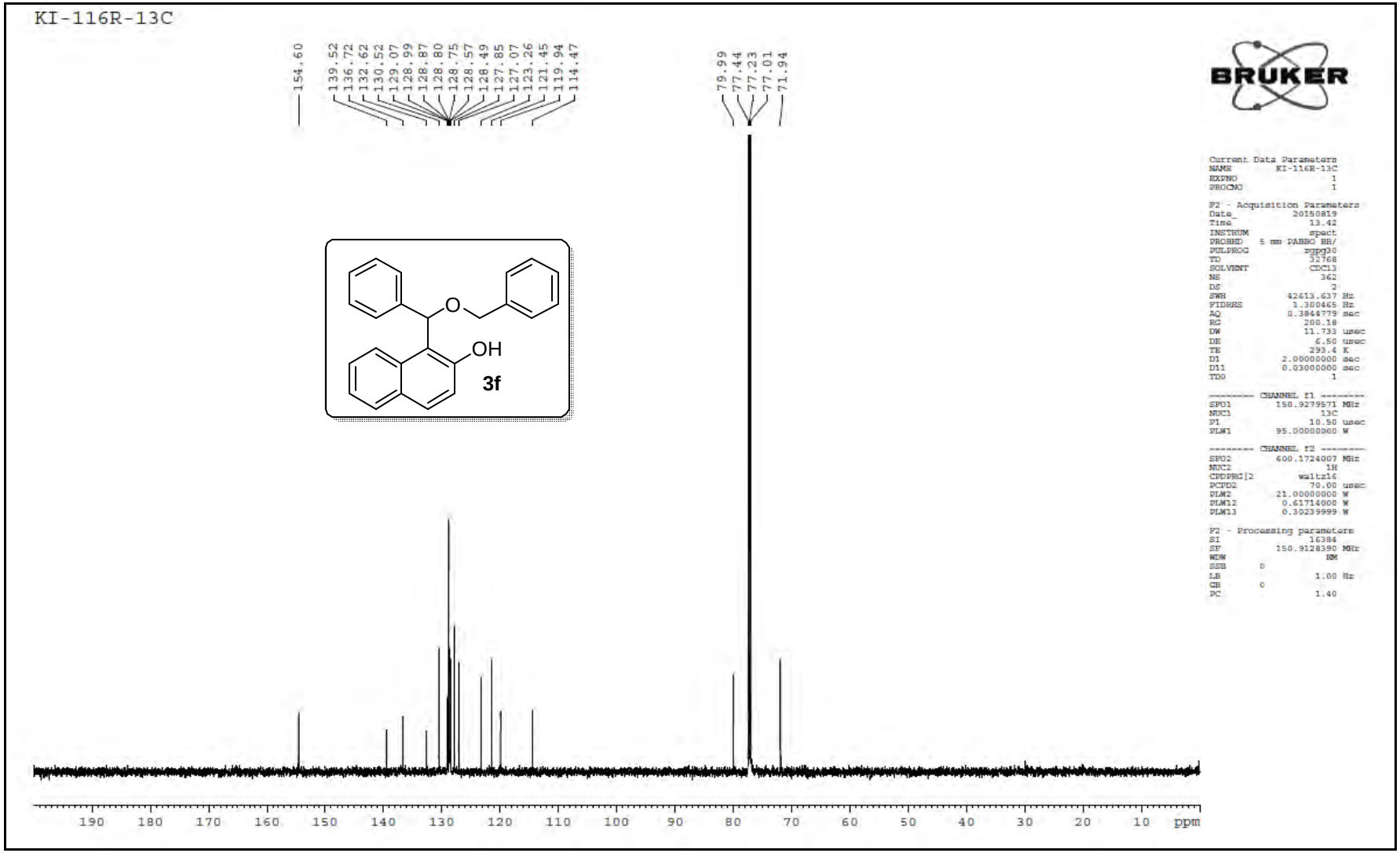
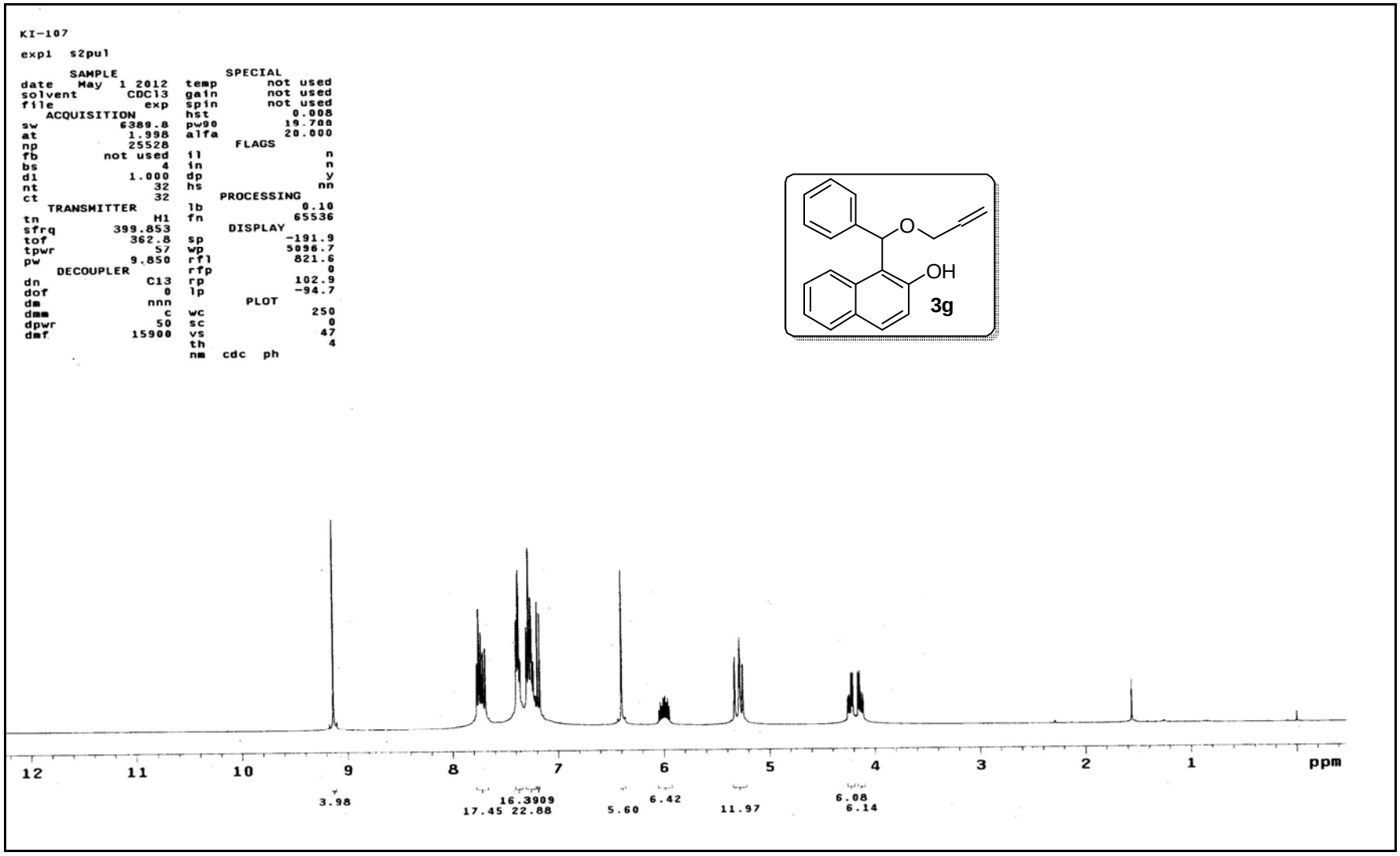
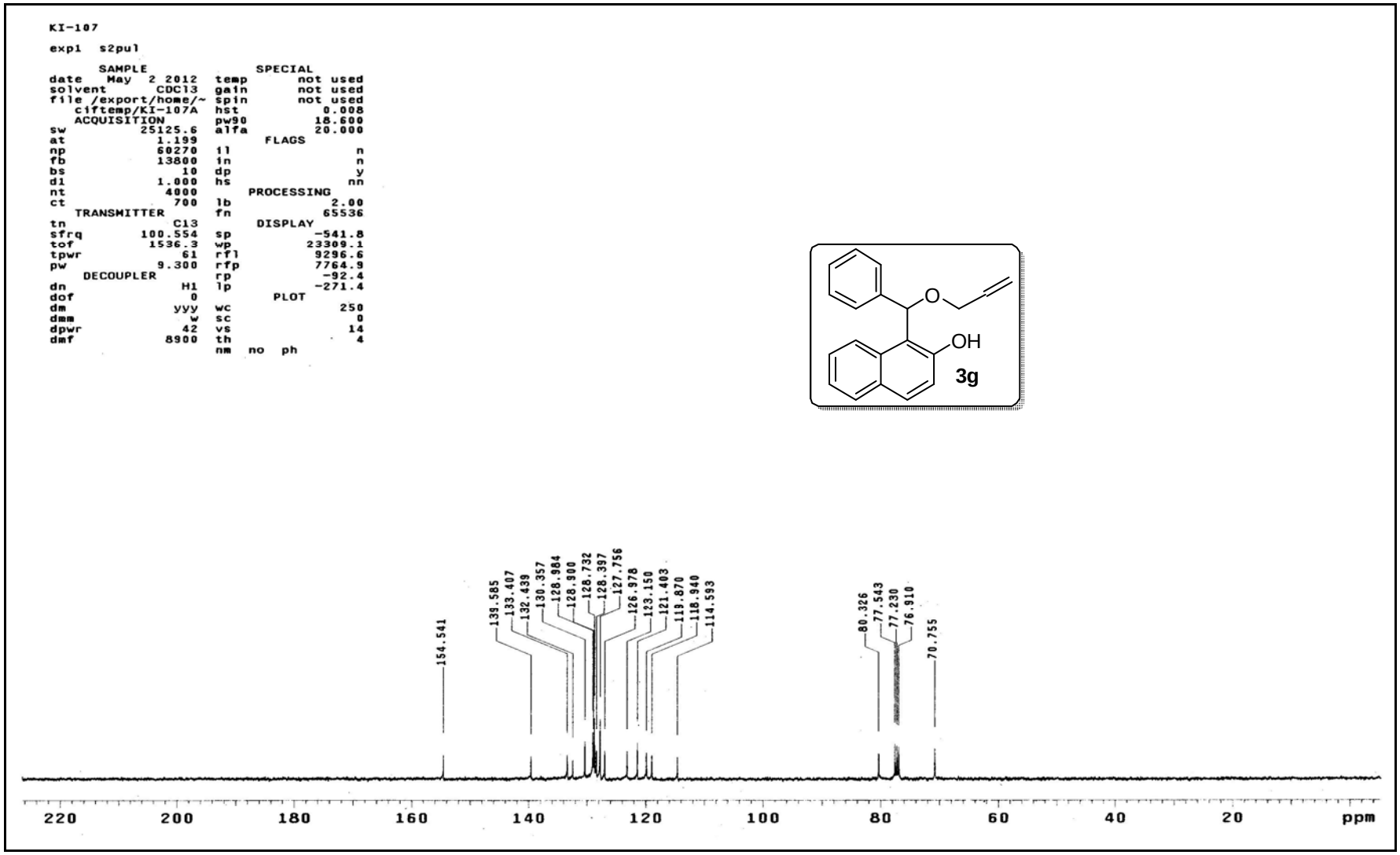


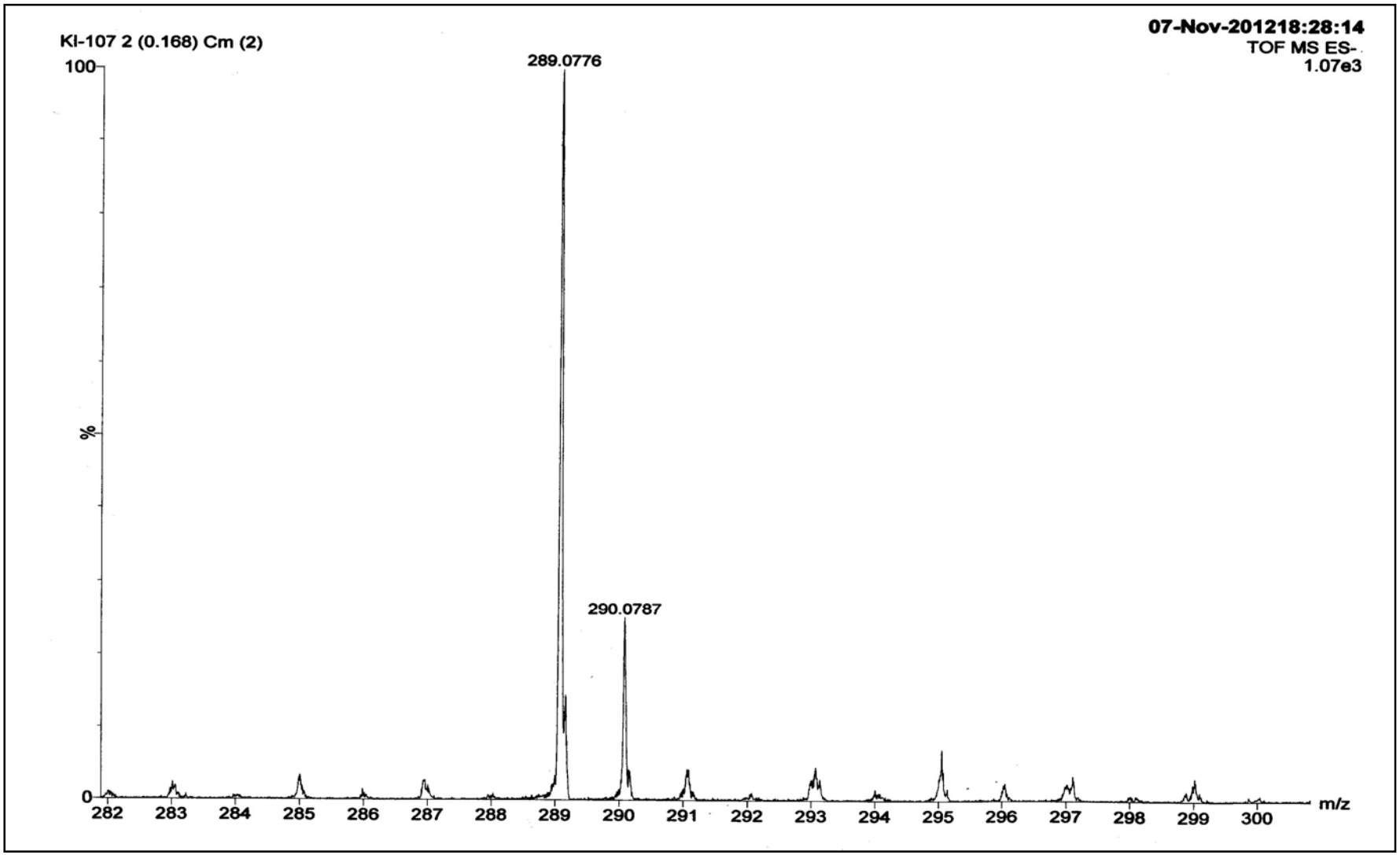
^{1}H NMR spectra of 3g



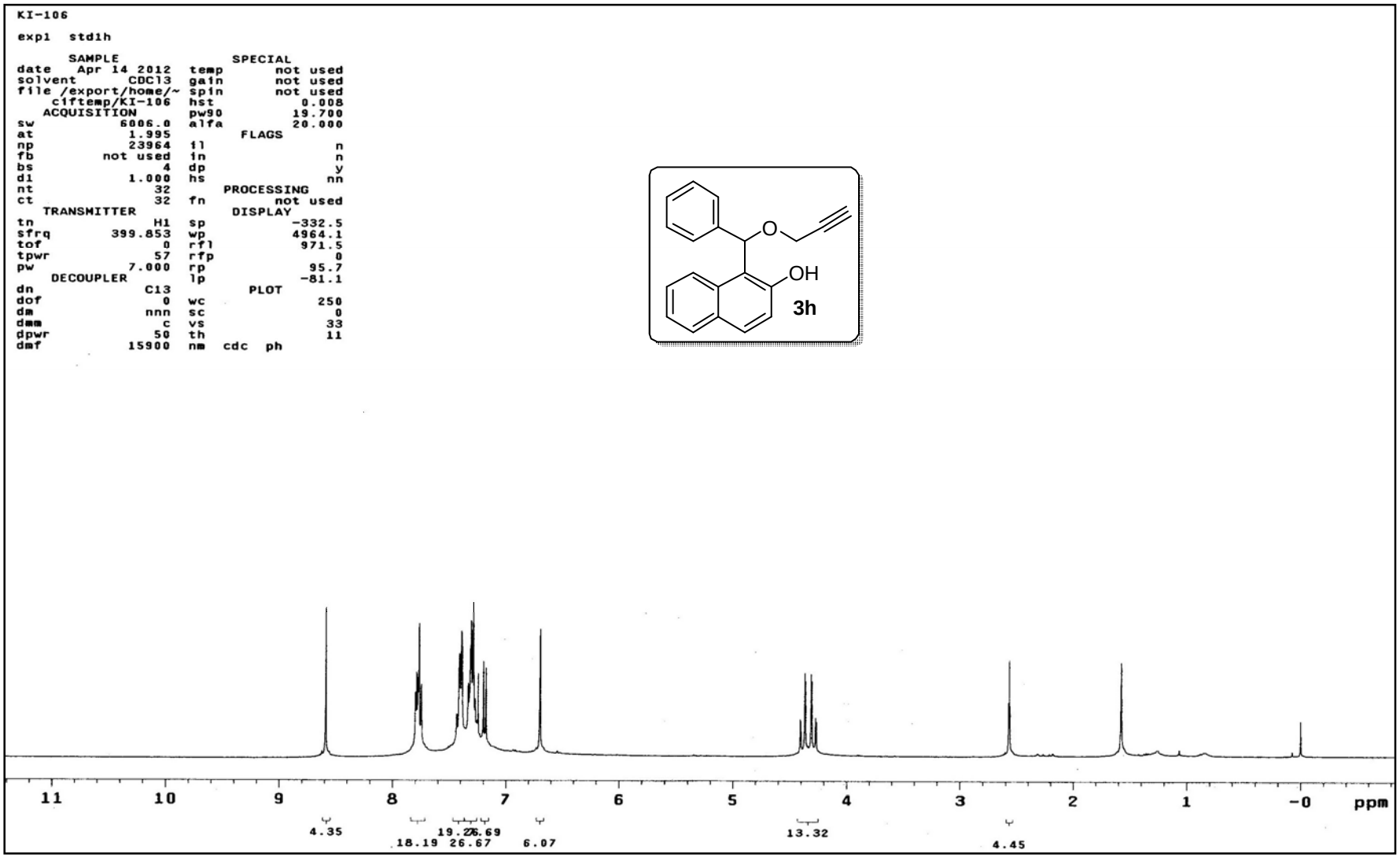
^{13}C NMR Spectra of 3g



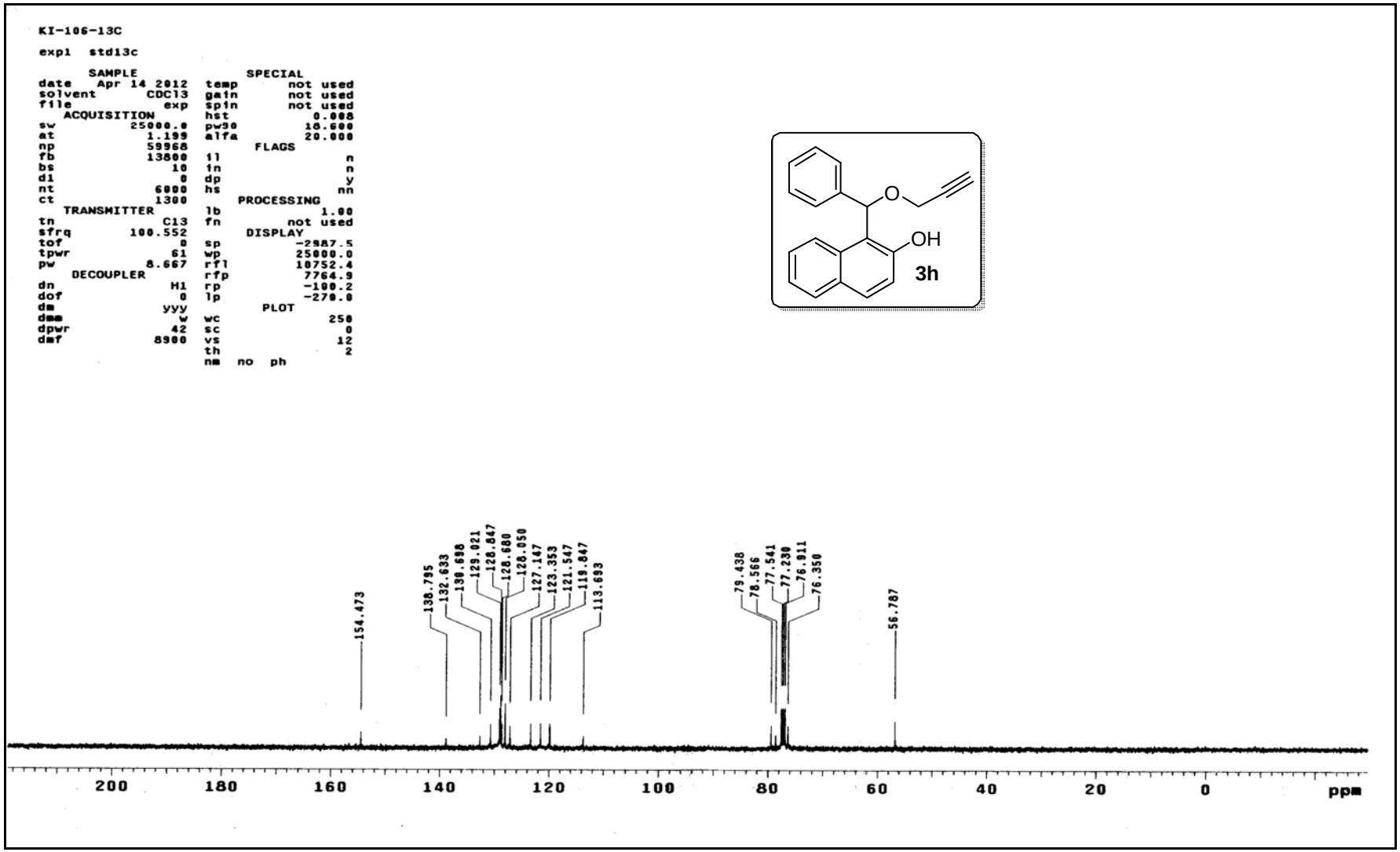
MS spectra of 3g



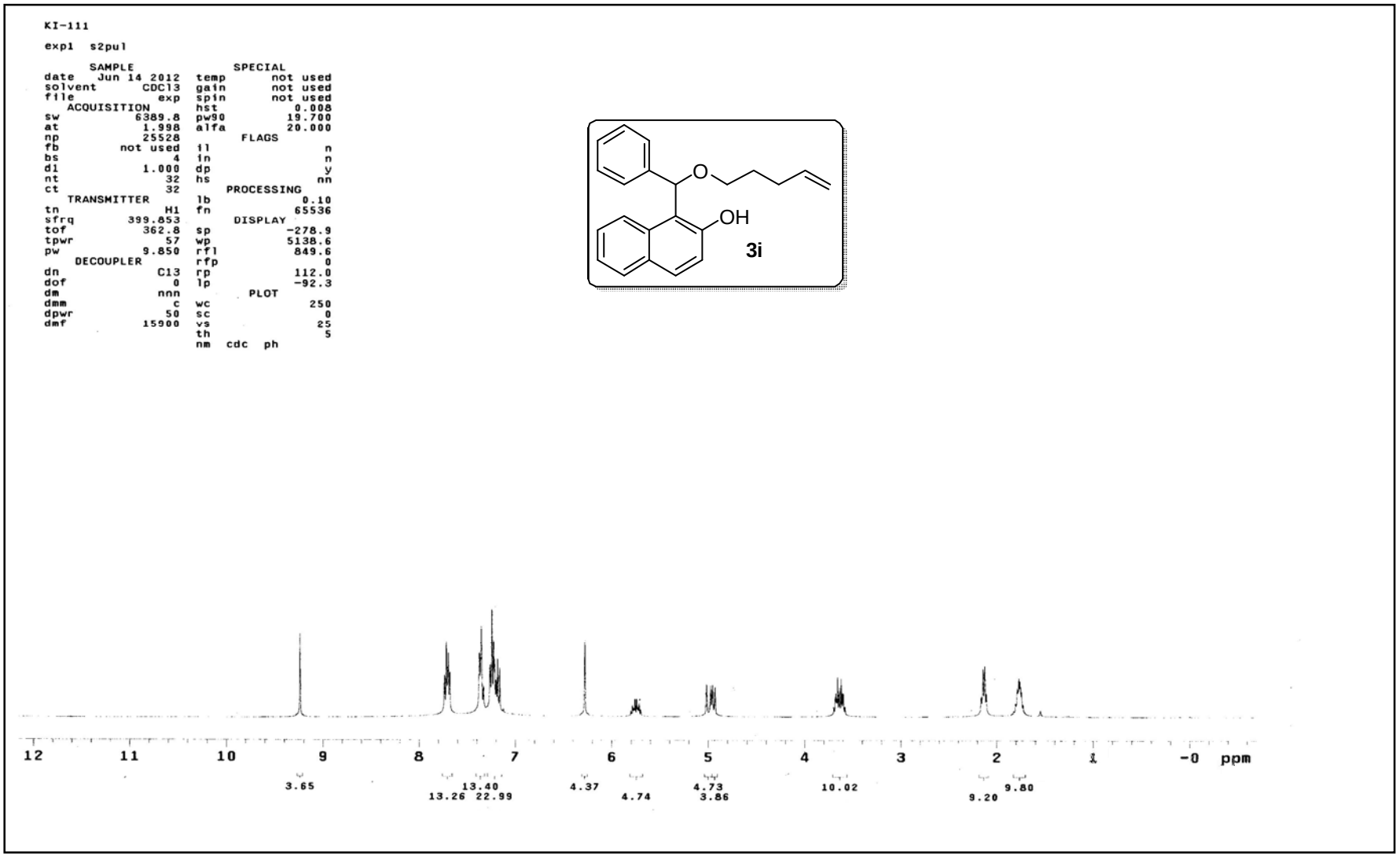
^{1}H NMR spectra of 3h



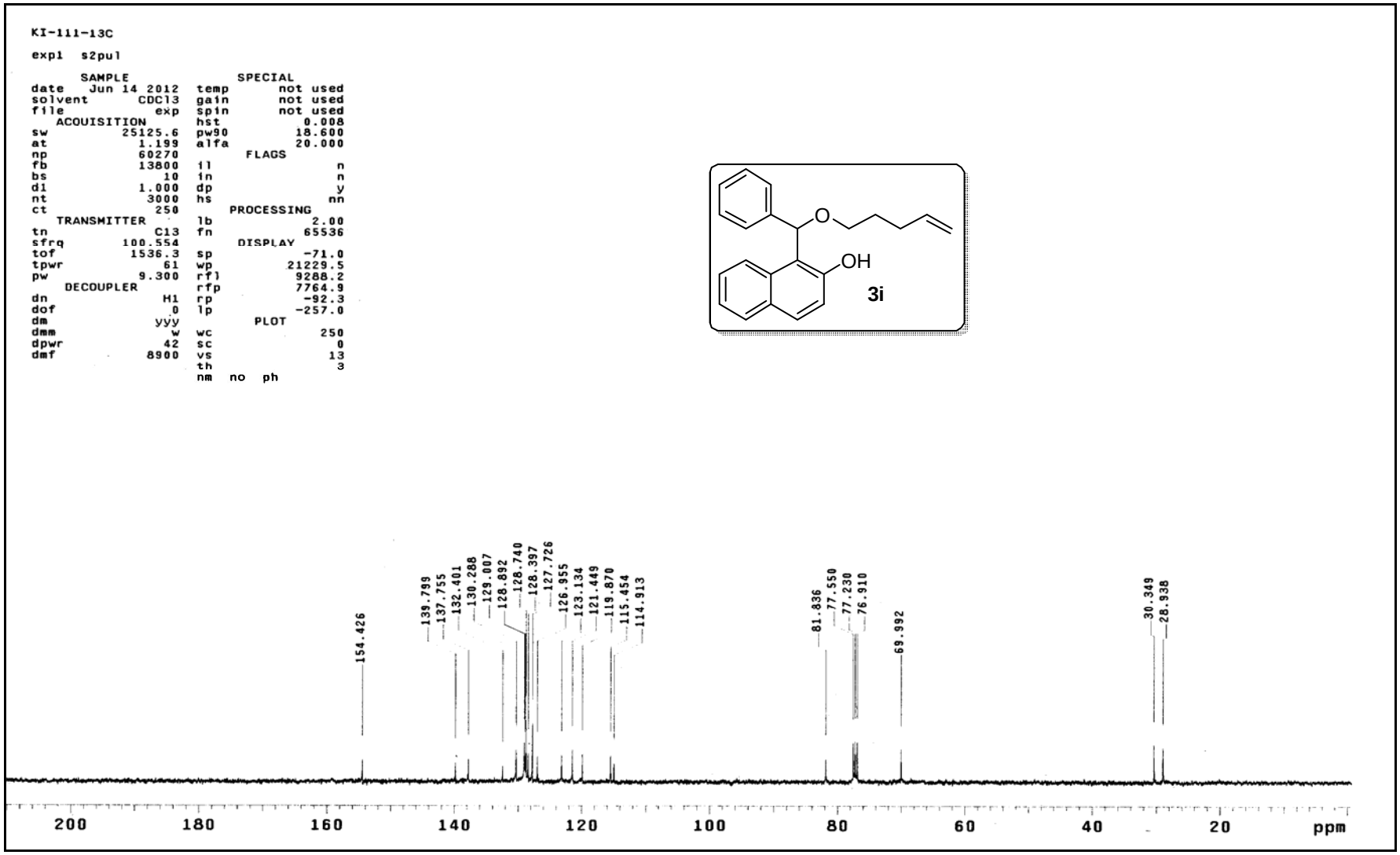
^{13}C NMR Spectra of 3h



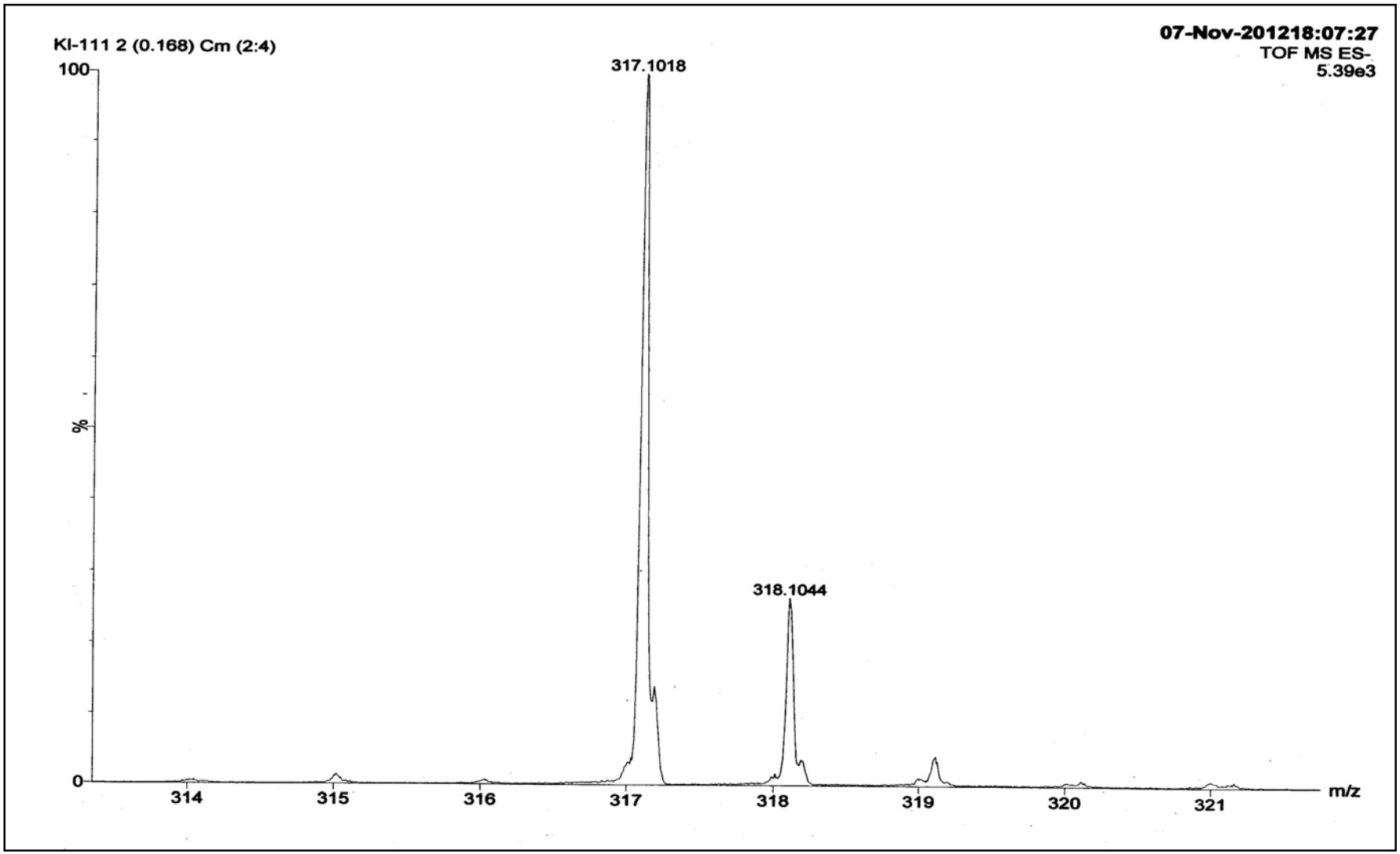
^{1}H NMR spectra of 3i



^{13}C NMR Spectra of 3i



MS Spectra of 3i

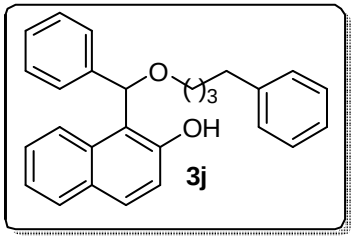


^{1}H NMR spectra of 3j

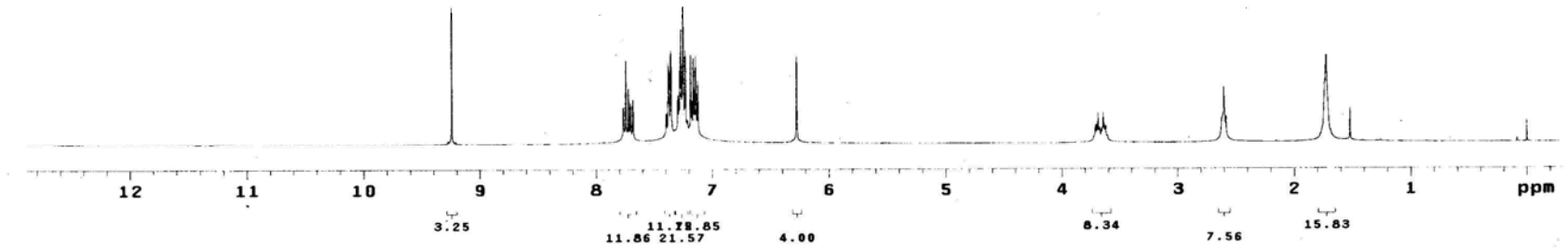
KI-110

expl s2pul

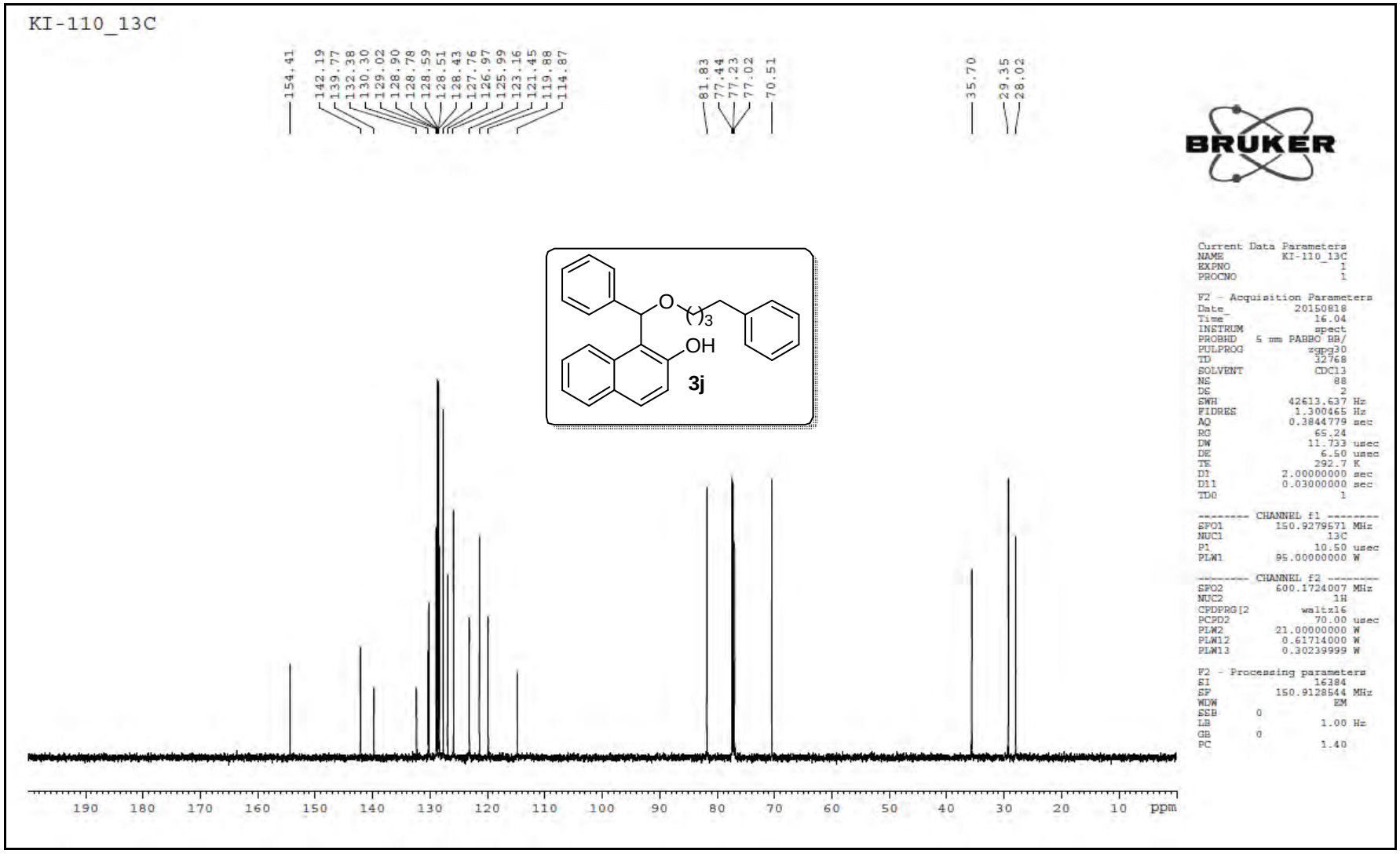
SAMPLE		SPECIAL	
date	Jun 12 2012	temp	not used
solvent	CDCl3	gain	not used
file	exp	spin	not used
ACQUISITION		hst	0.008
sw	6389.8	pw90	19.700
at	1.998	alfa	20.000
np	25528	FLAGS	
fb	not used	il	n
bs	4	in	n
dl	1.000	dp	y
nt	32	hs	nn
ct	32	PROCESSING	
TRANSMITTER		lb	0.10
tn	H1	fn	65536
sfrq	399.853	DISPLAY	
tof	362.8	sp	-118.8
tpwr	57	wp	5273.0
pw	9.850	rfl	823.9
DECOUPLER		rfp	0
dn	C13	rp	108.8
dof	0	lp	-91.2
dm	nnn	PLOT	
dmm	c	wc	250
dpwr	50	sc	0
dmf	15900	vs	27
		th	20
		nm	cdc ph



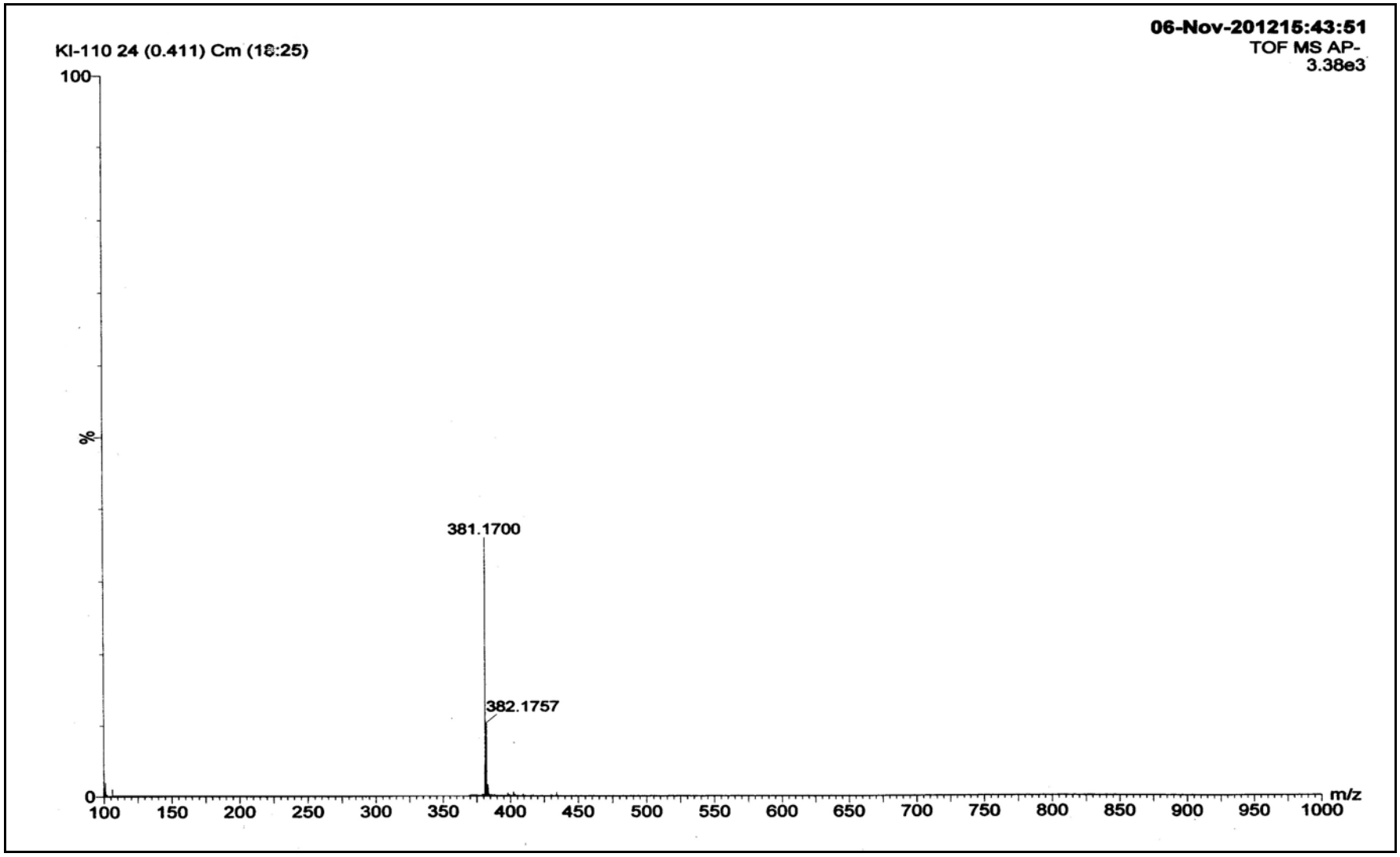
3j



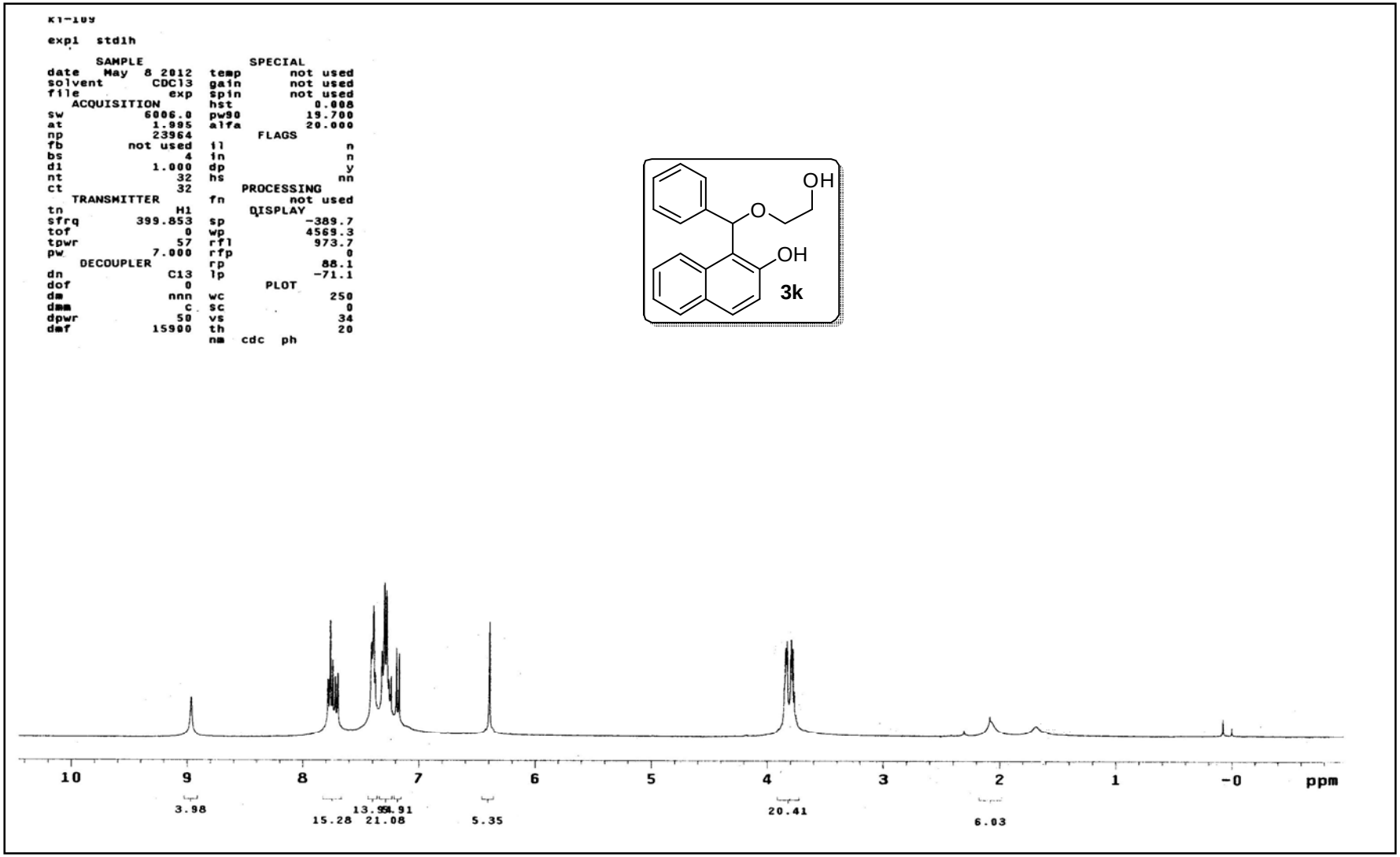
^{13}C NMR Spectra of 3j



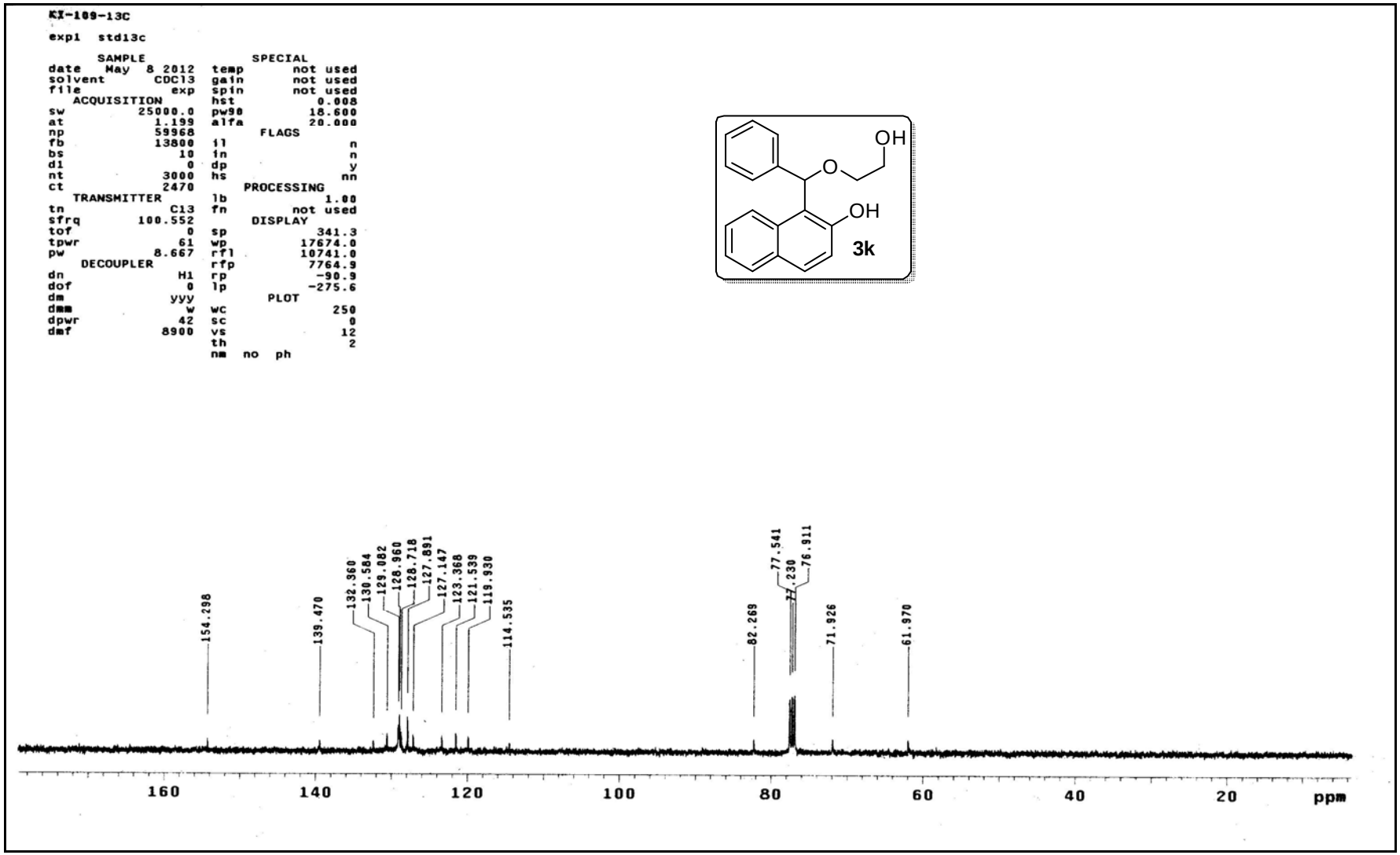
MS Spectra of 3j



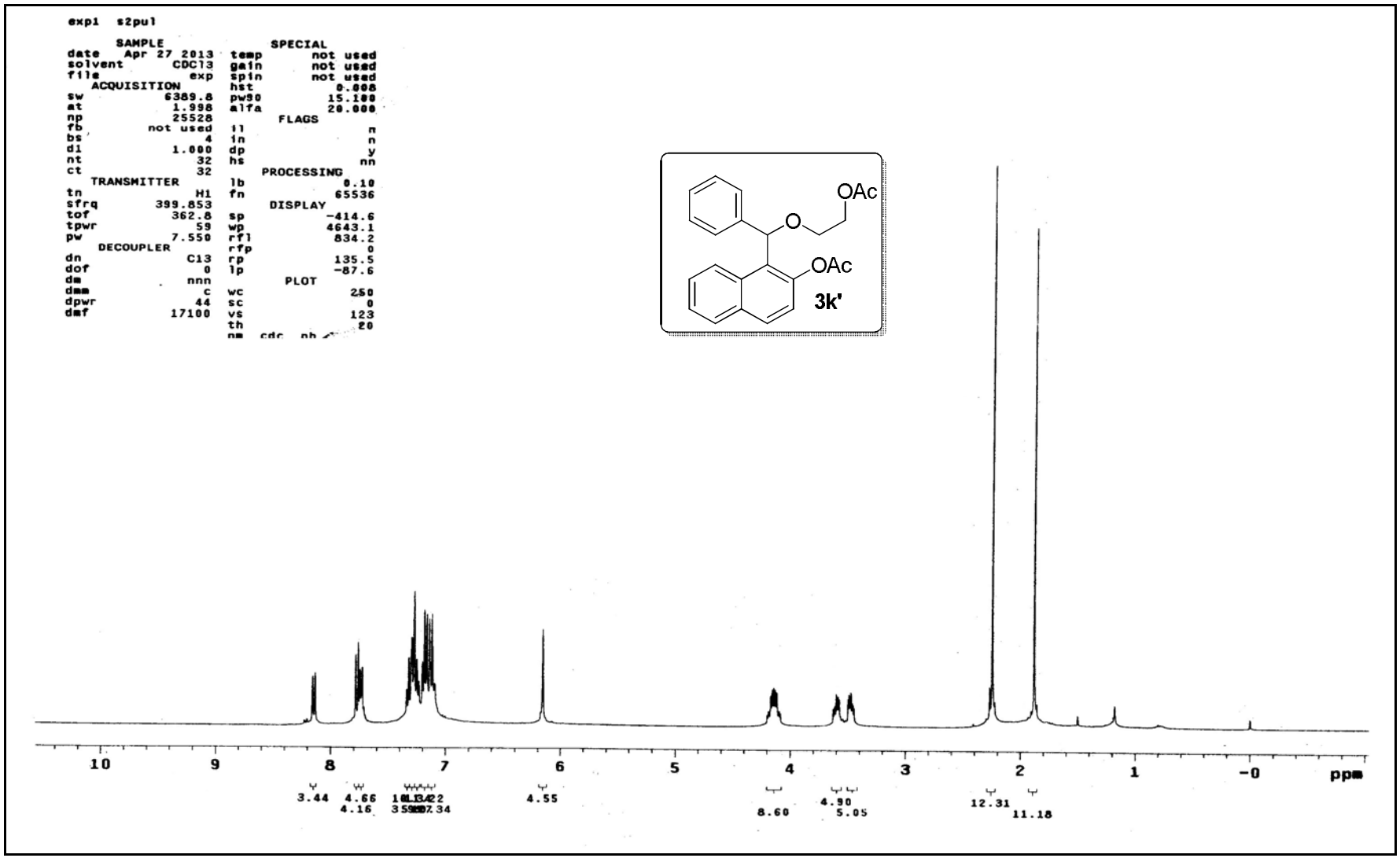
^{1}H NMR spectra of 3k



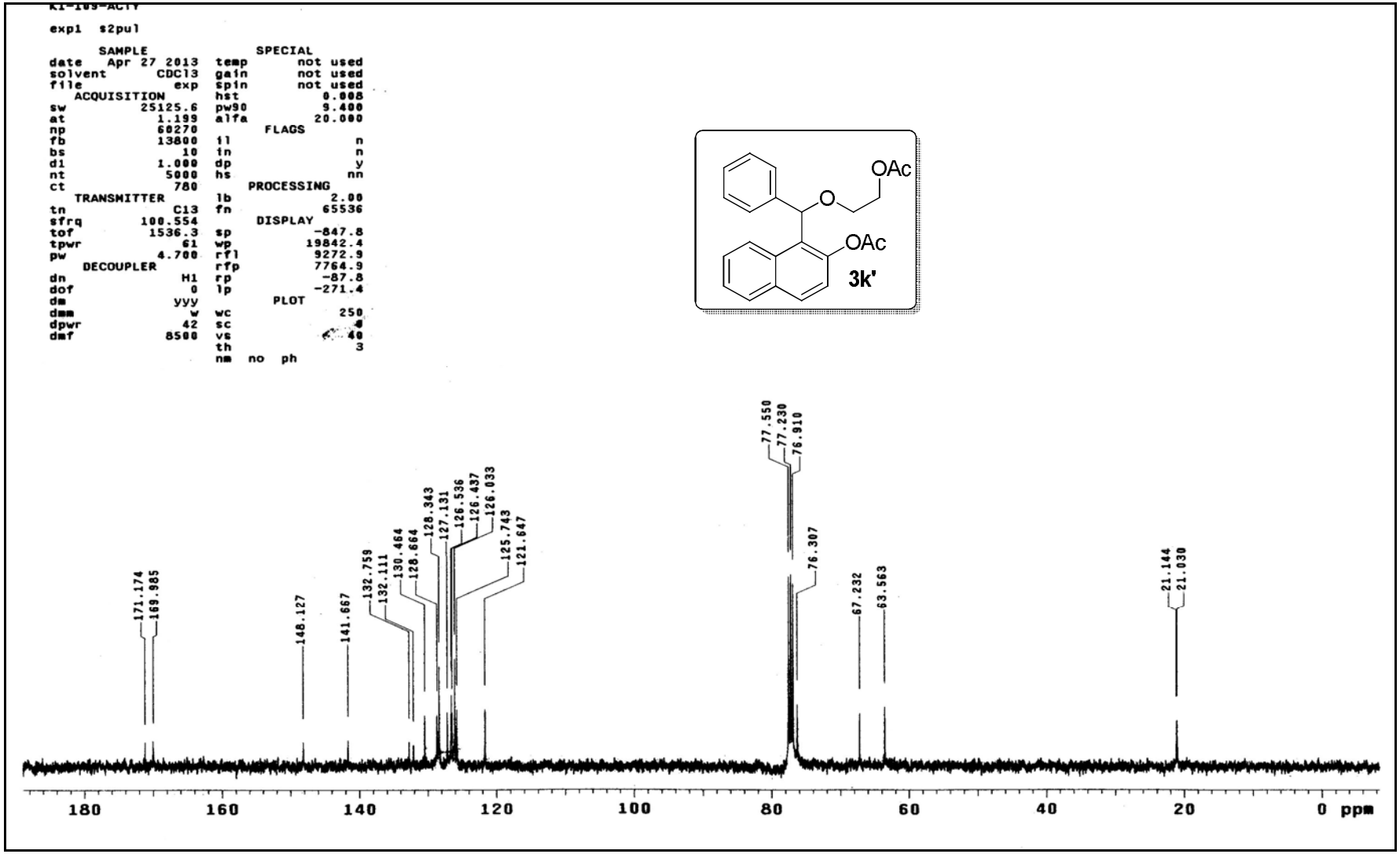
^{13}C NMR Spectra of 3k



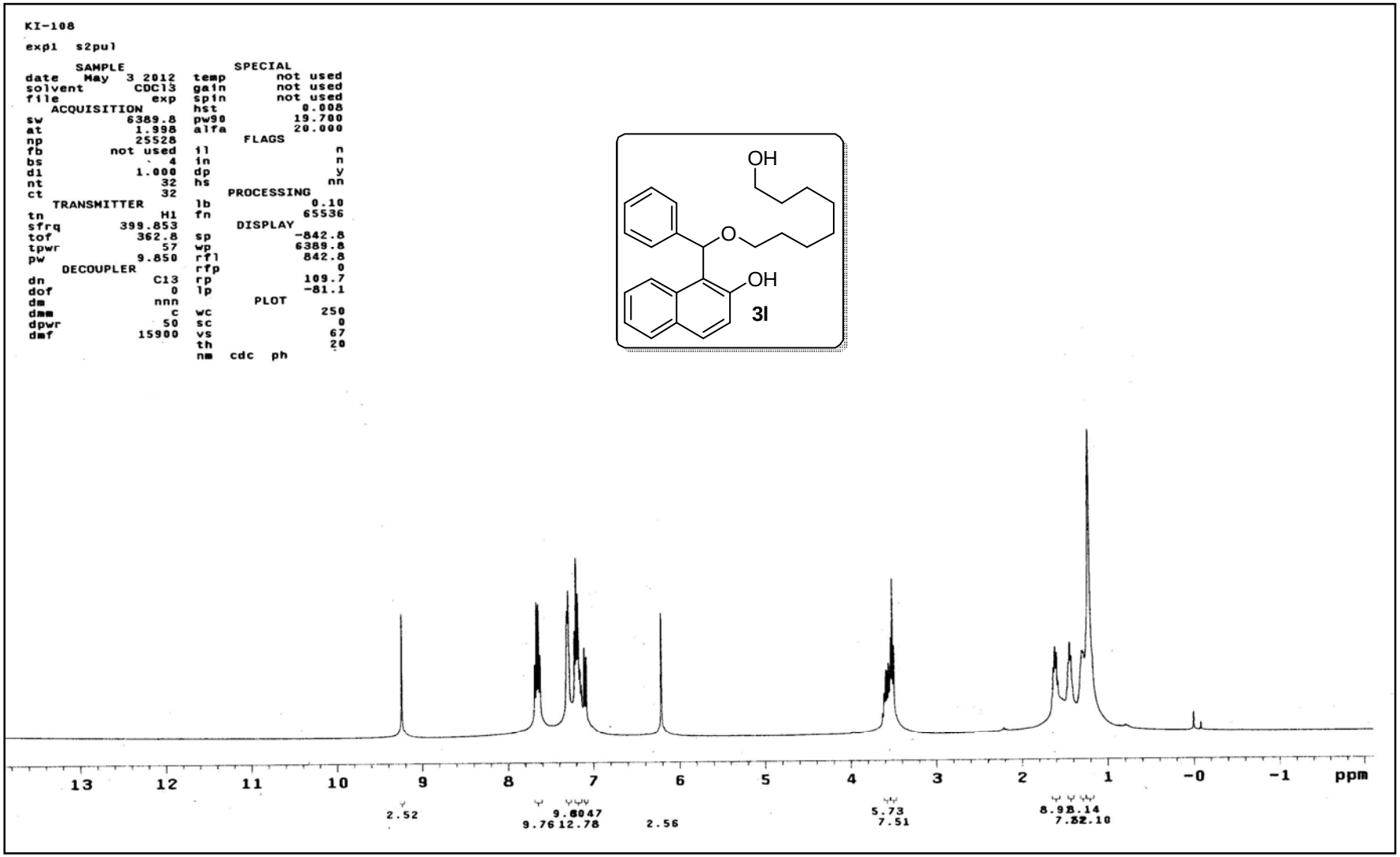
^{1}H NMR spectra of 1-((2-acetoxyethoxy)(phenyl)methyl)naphthalen-2-yl acetate (3k′)



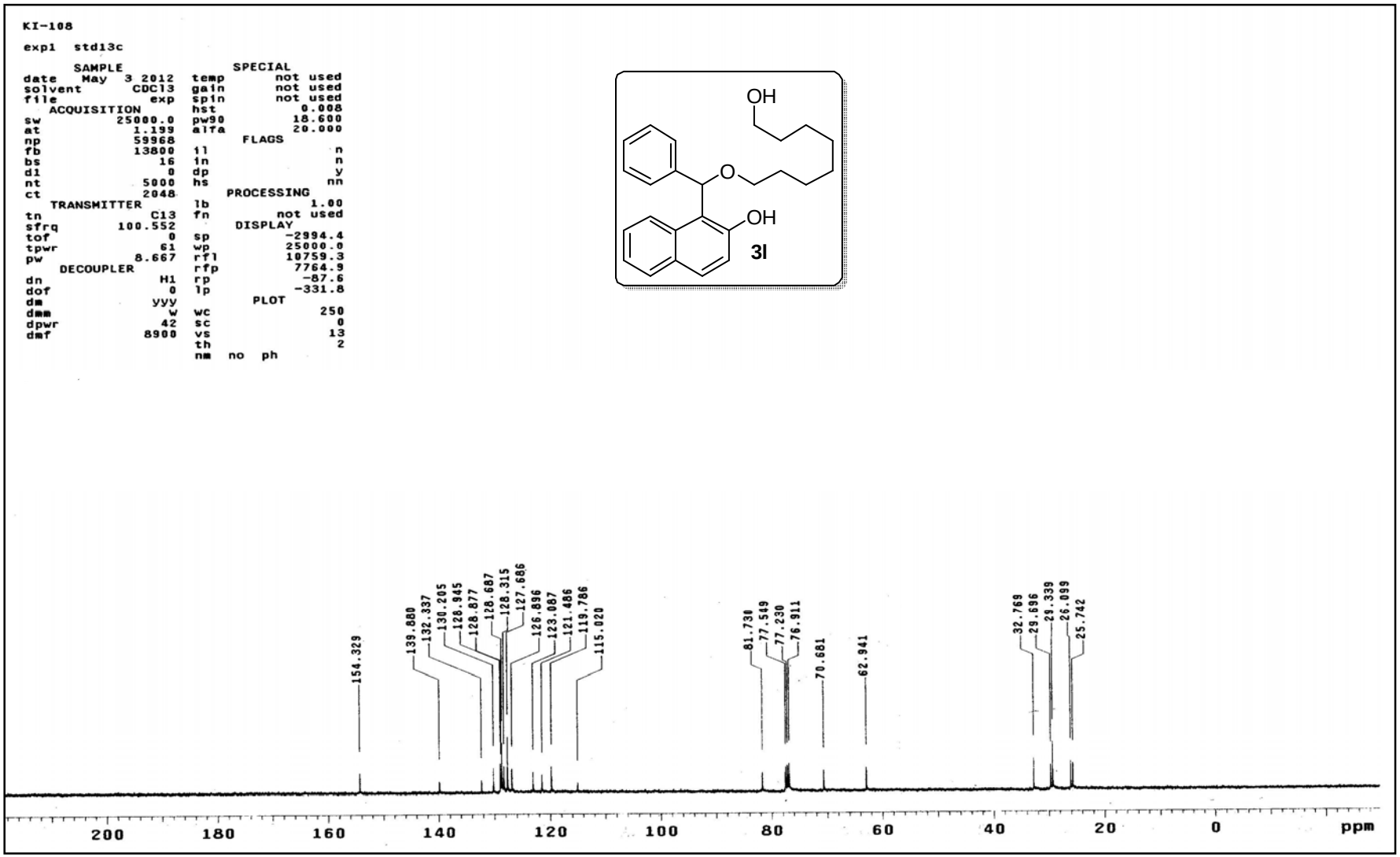
^{13}C NMR spectra of 1-((2-acetoxyethoxy)(phenyl)methyl)naphthalen-2-yl acetate (3k′)



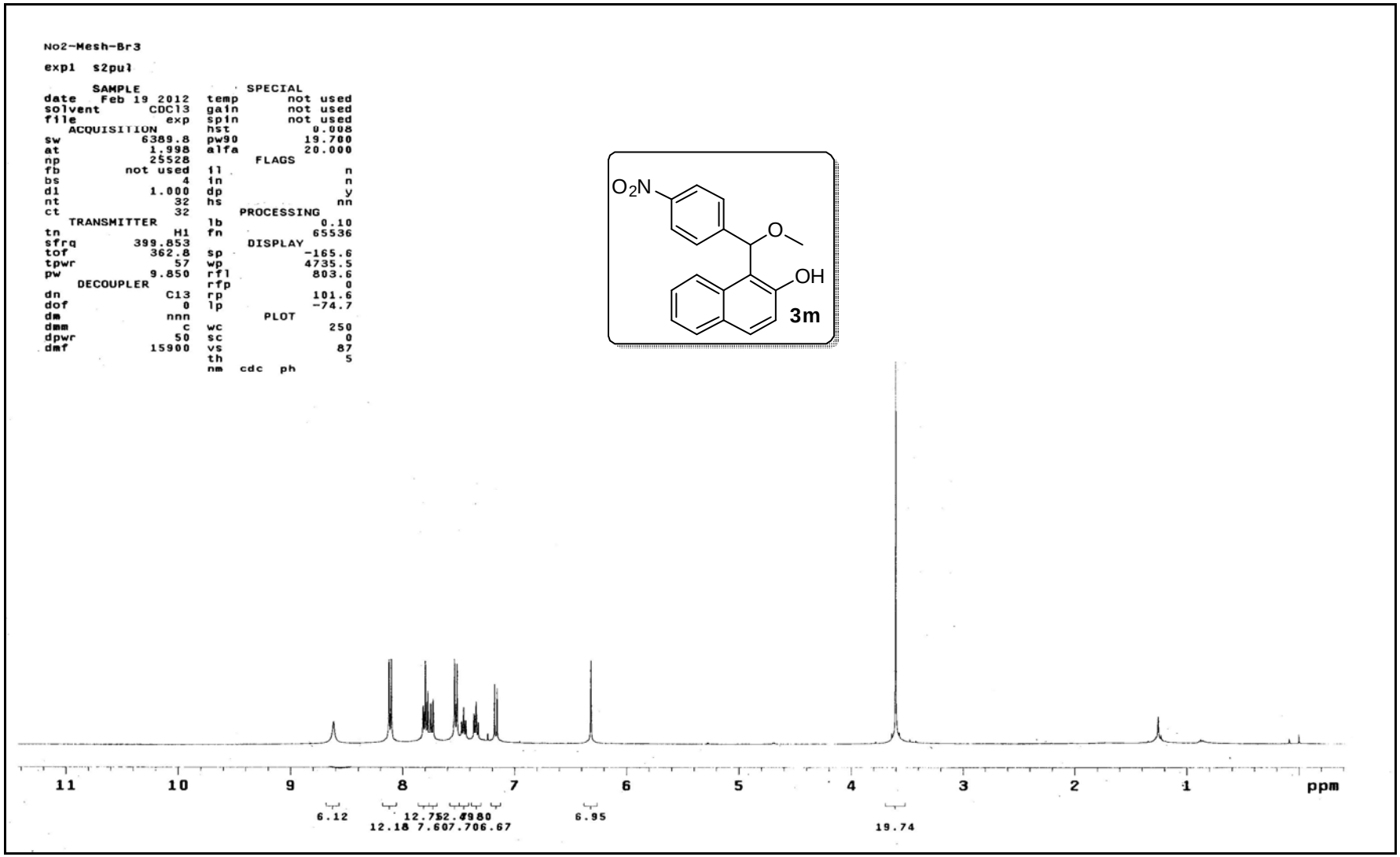
^{1}H NMR spectra of 3l



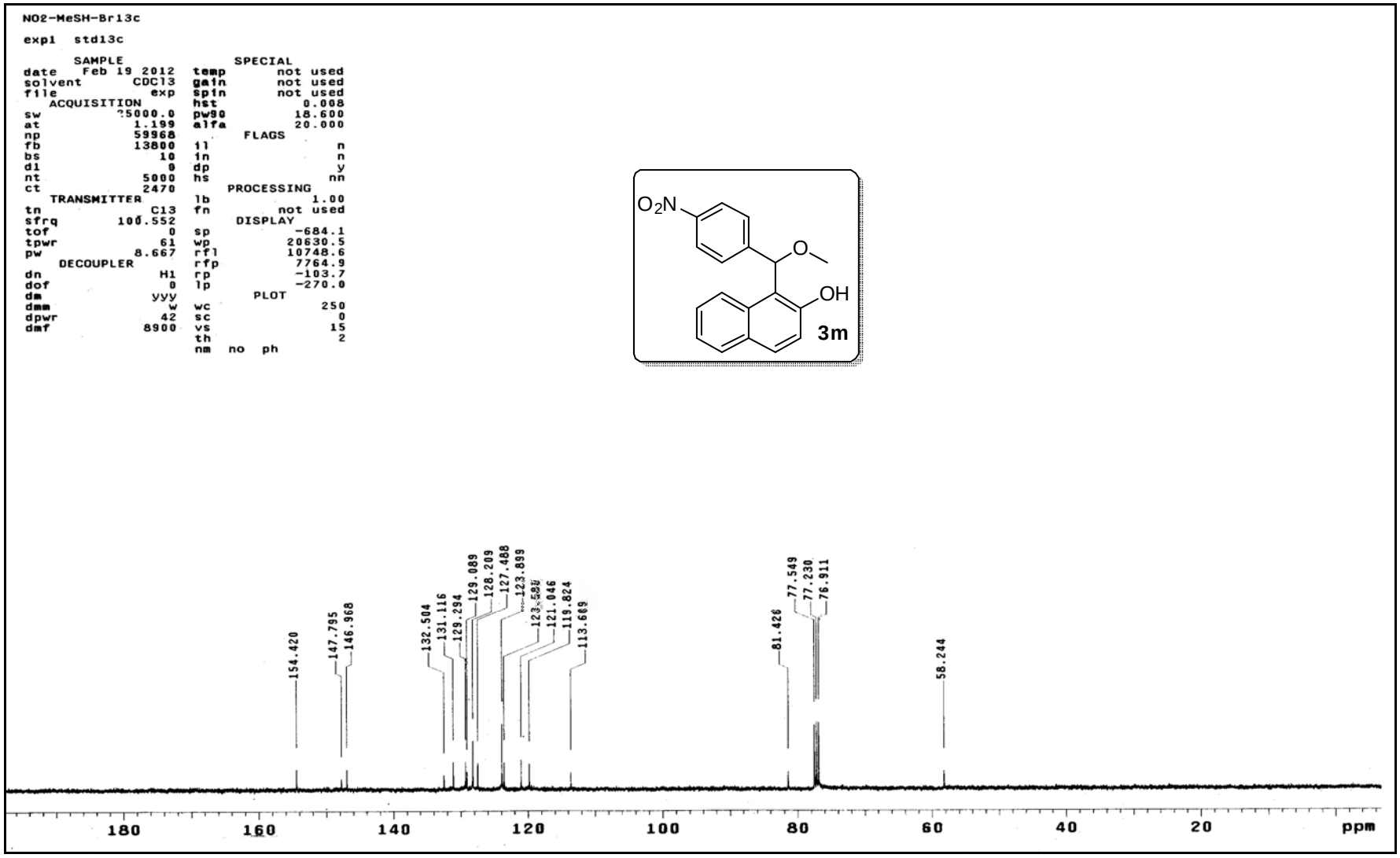
^{13}C NMR Spectra of 3l



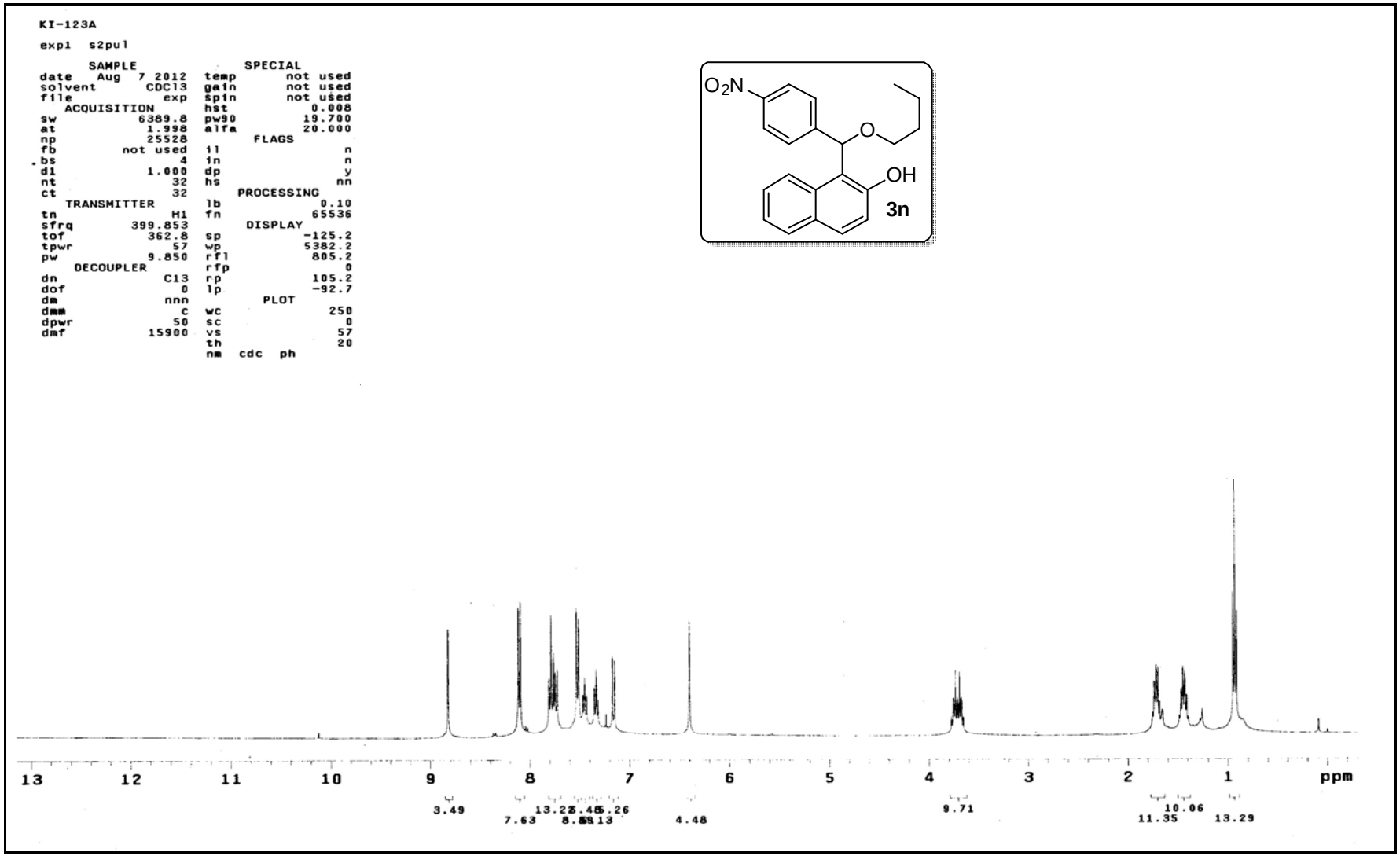
^{1}H NMR spectra of 3m



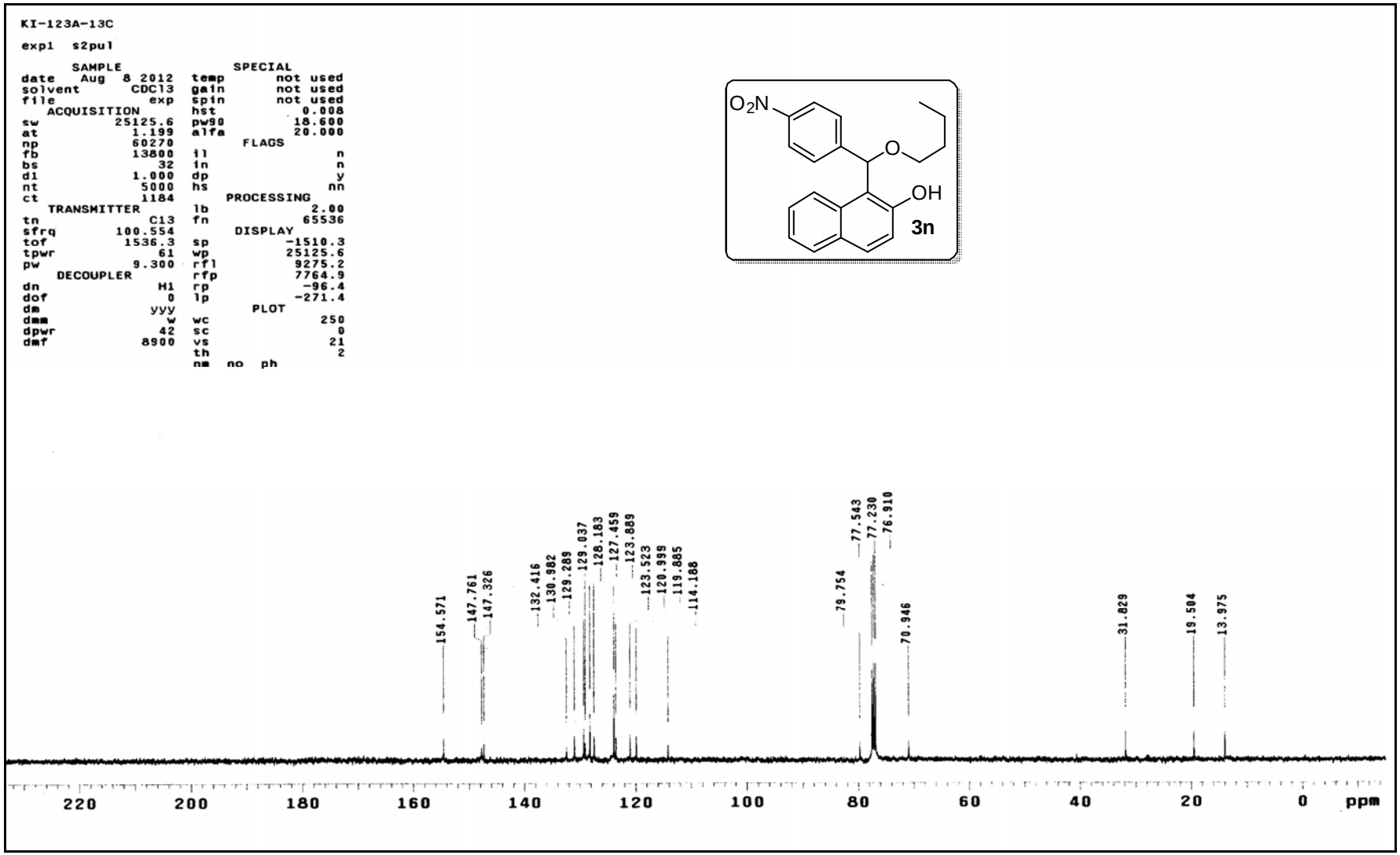
^{13}C NMR spectra of 3m



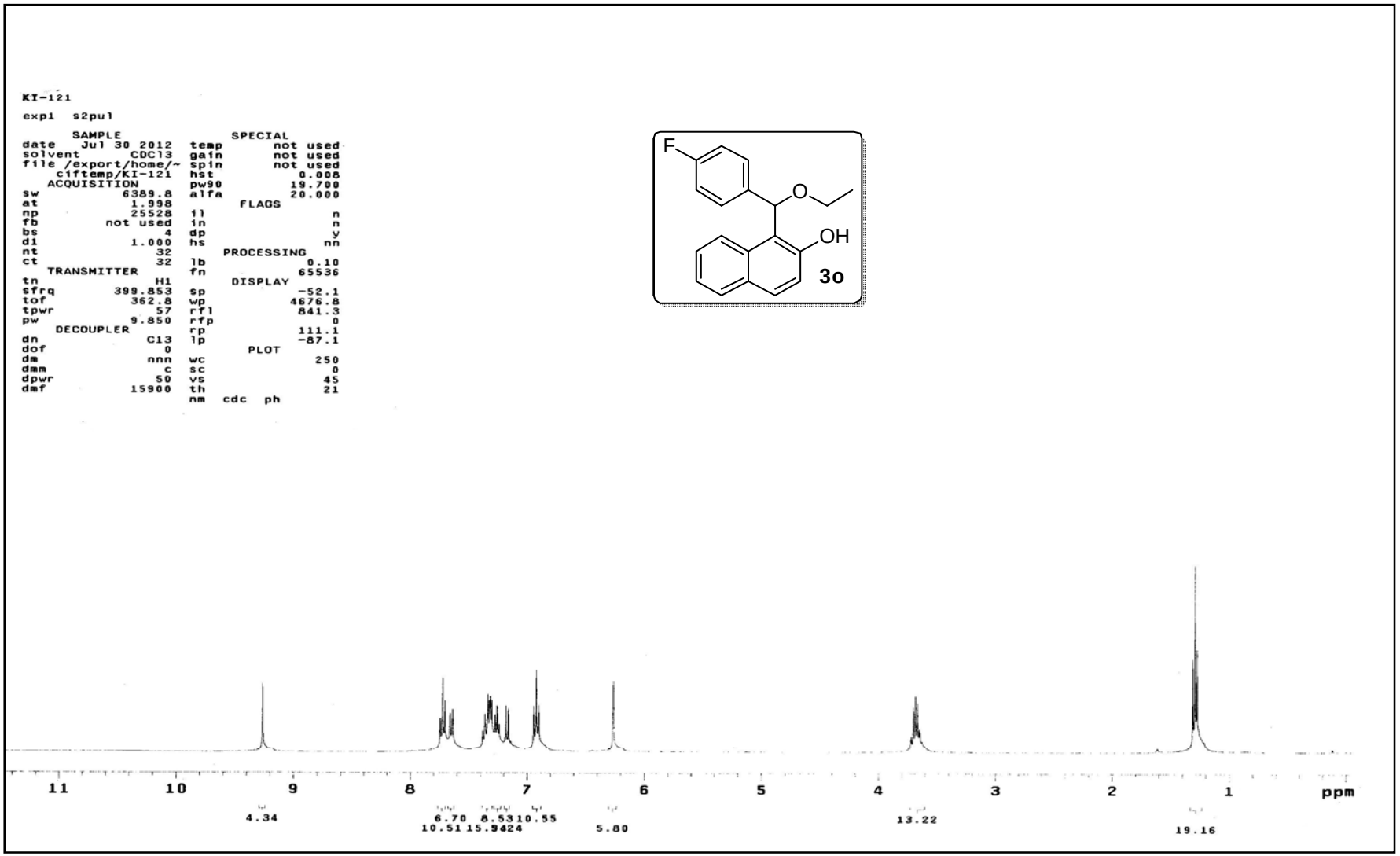
^{1}H NMR spectra of 3n



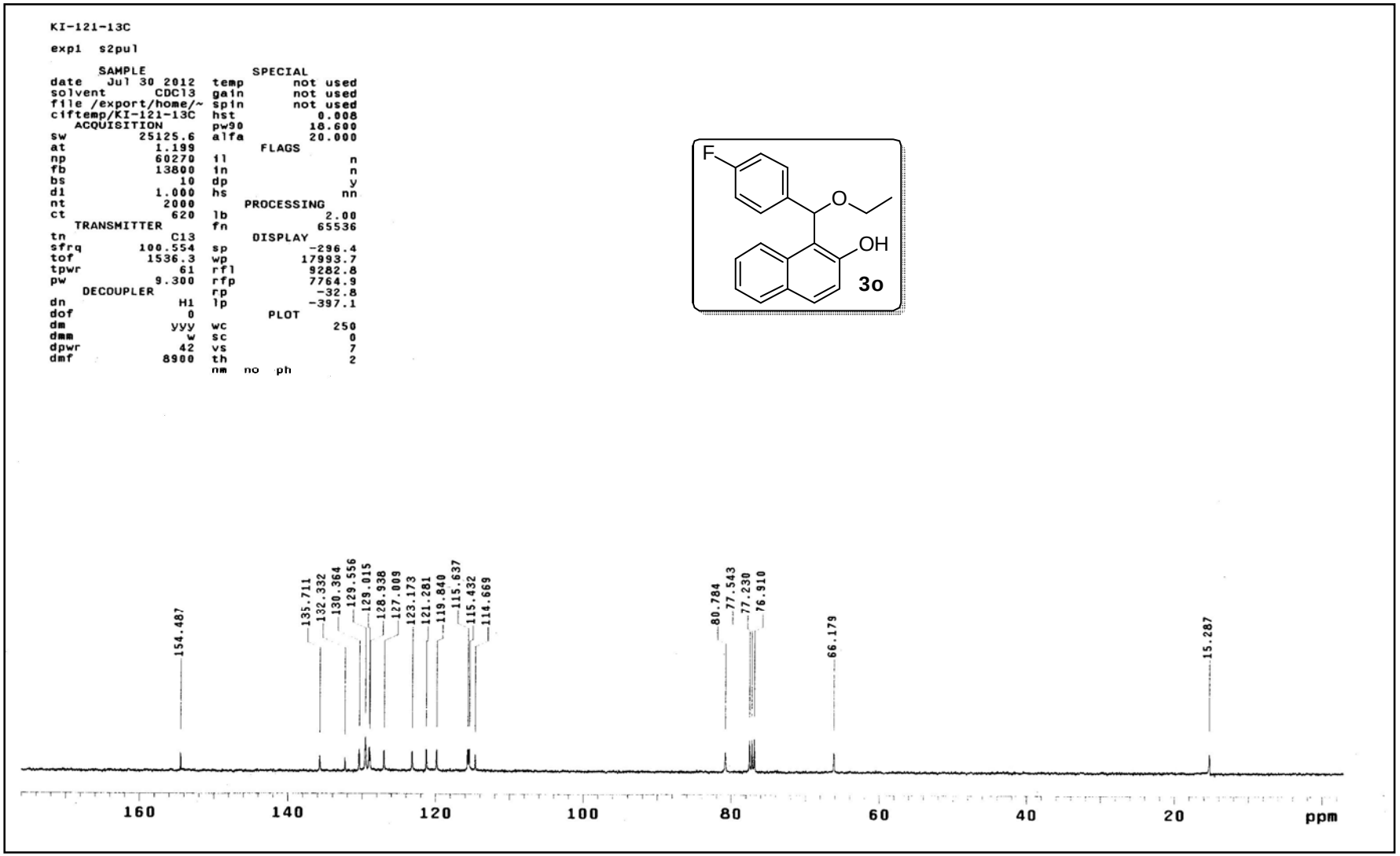
^{13}C NMR spectra of 3n



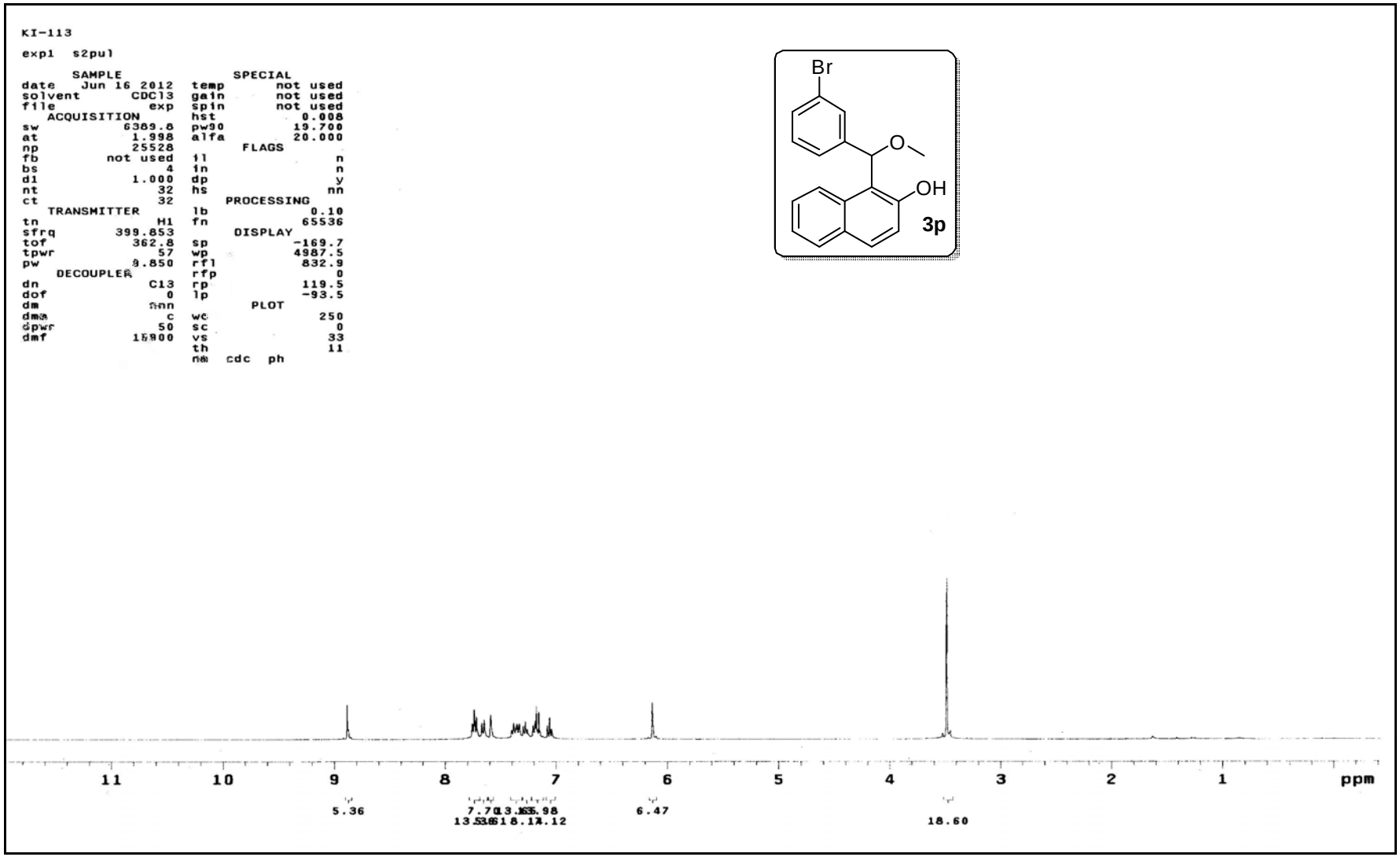
^{1}H NMR spectra of 3o



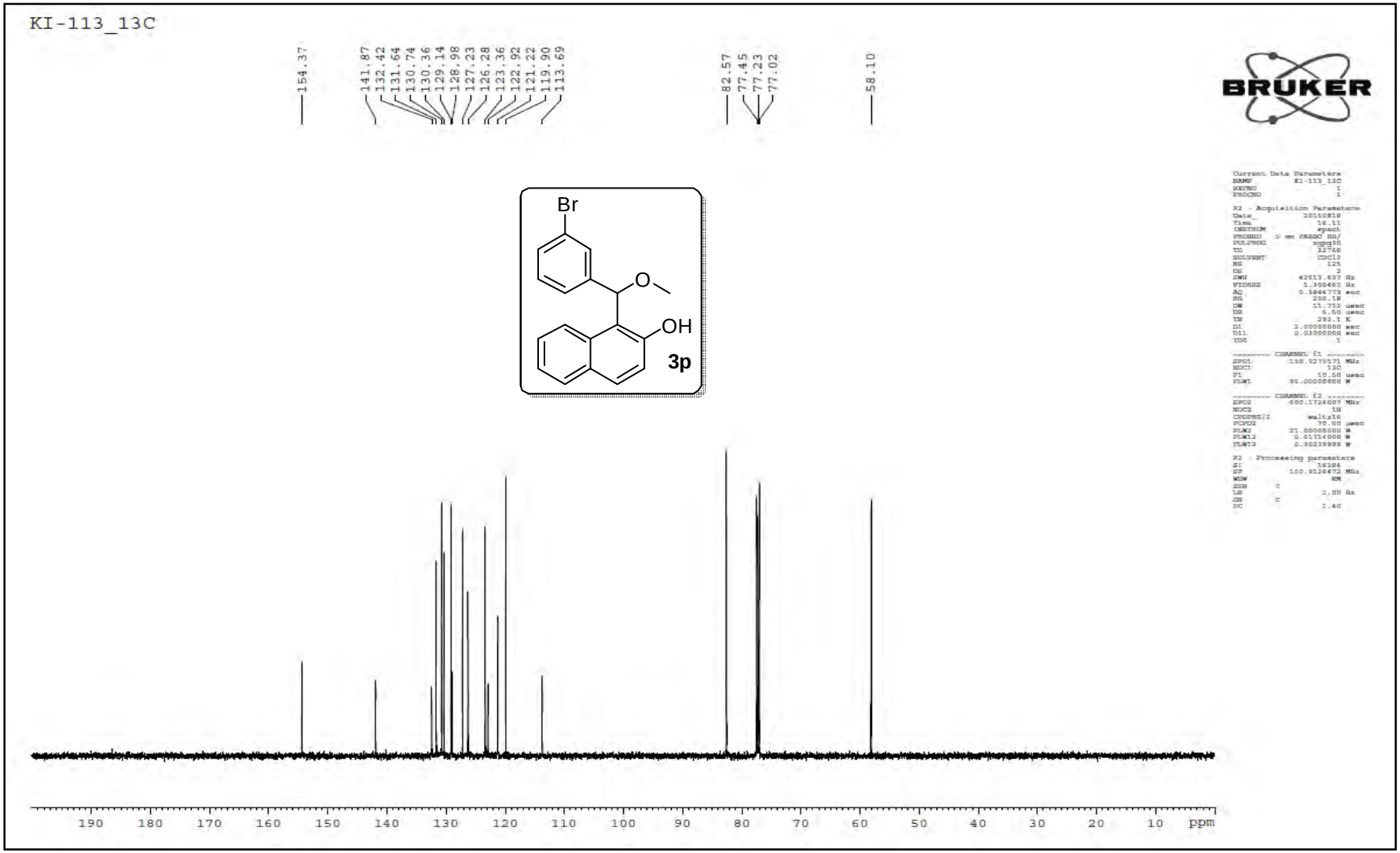
^{13}C NMR spectra of 3o



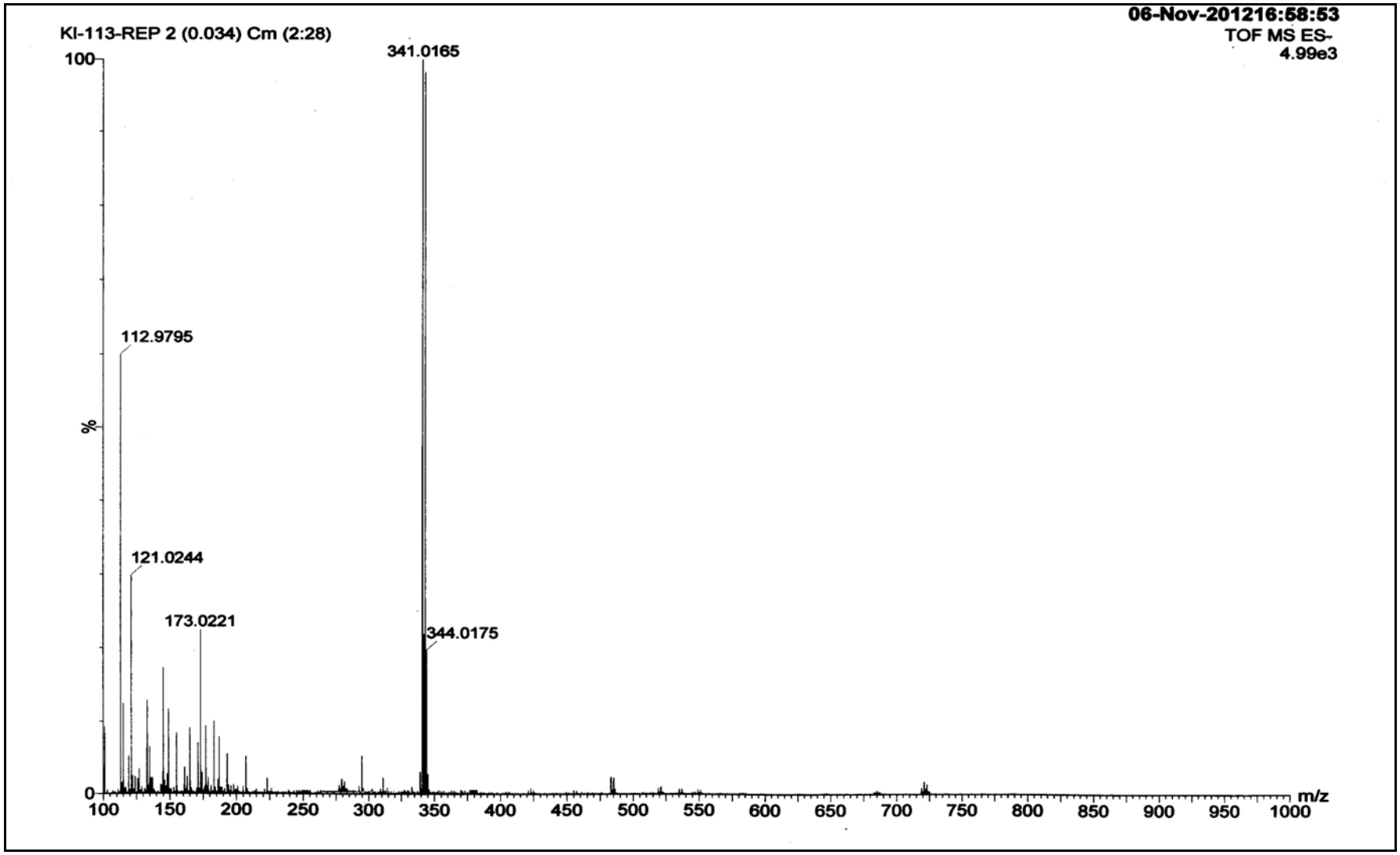
^{1}H NMR spectra of 3p



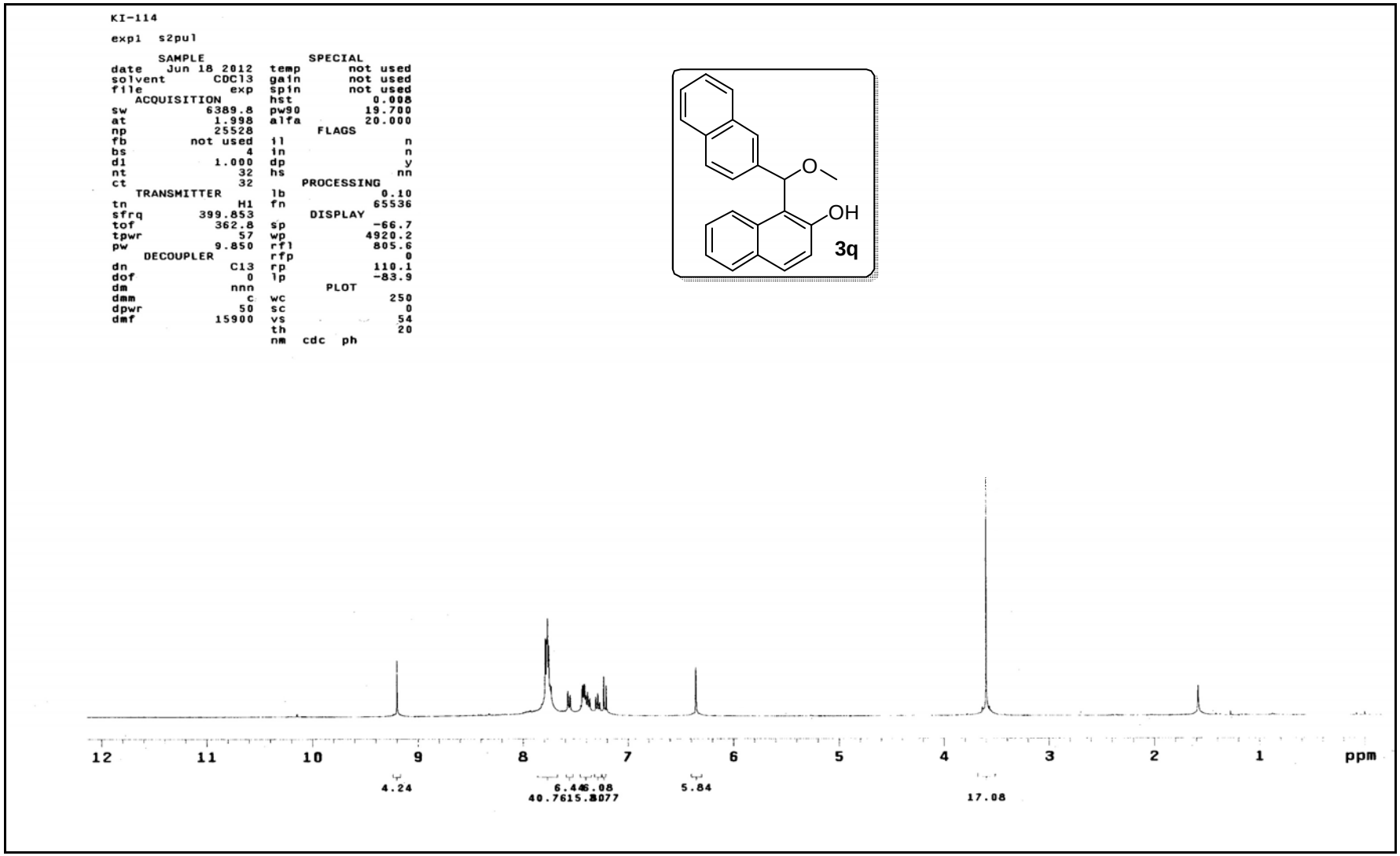
^{13}C NMR spectra of 3p



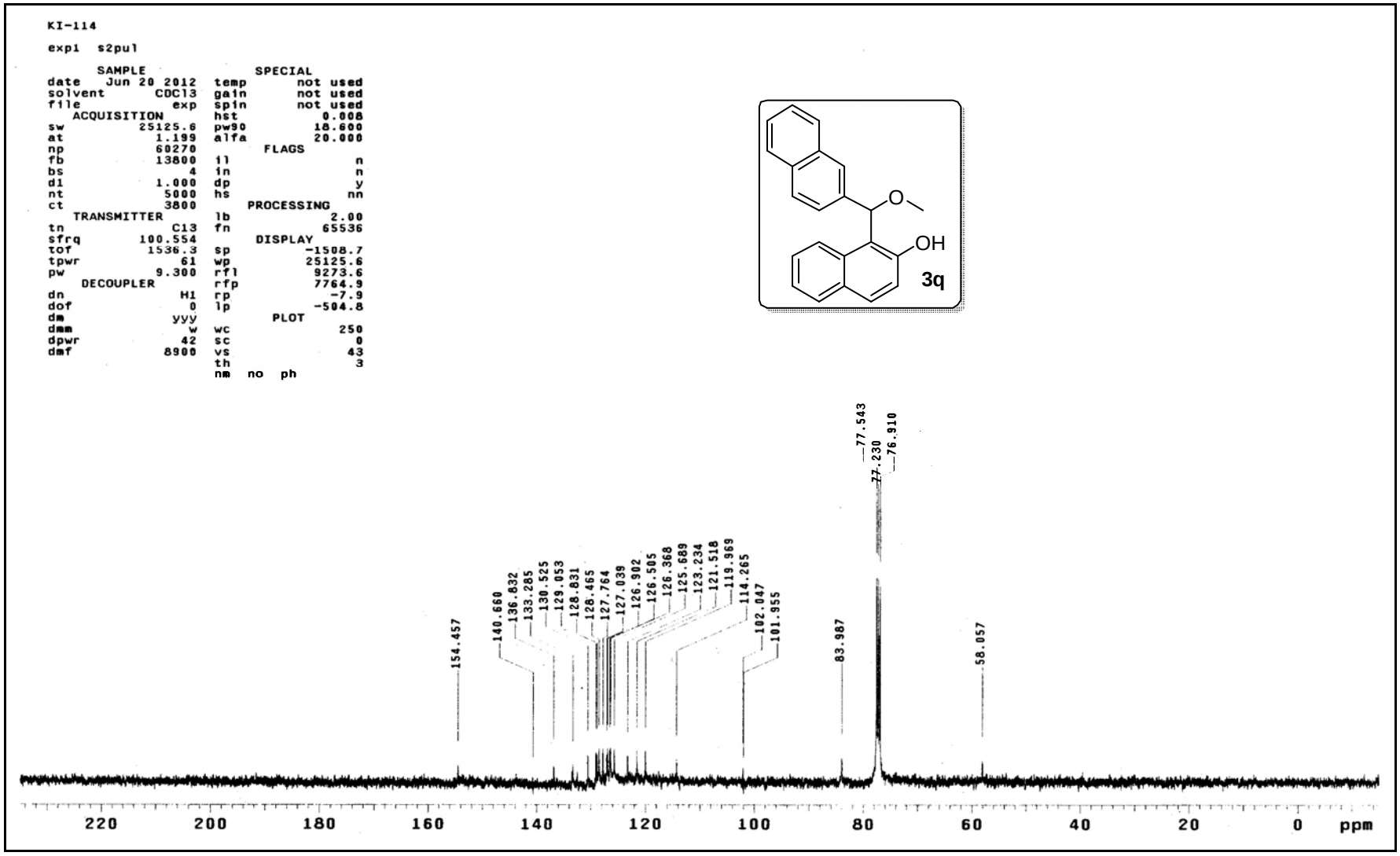
MS Spectra of 3p



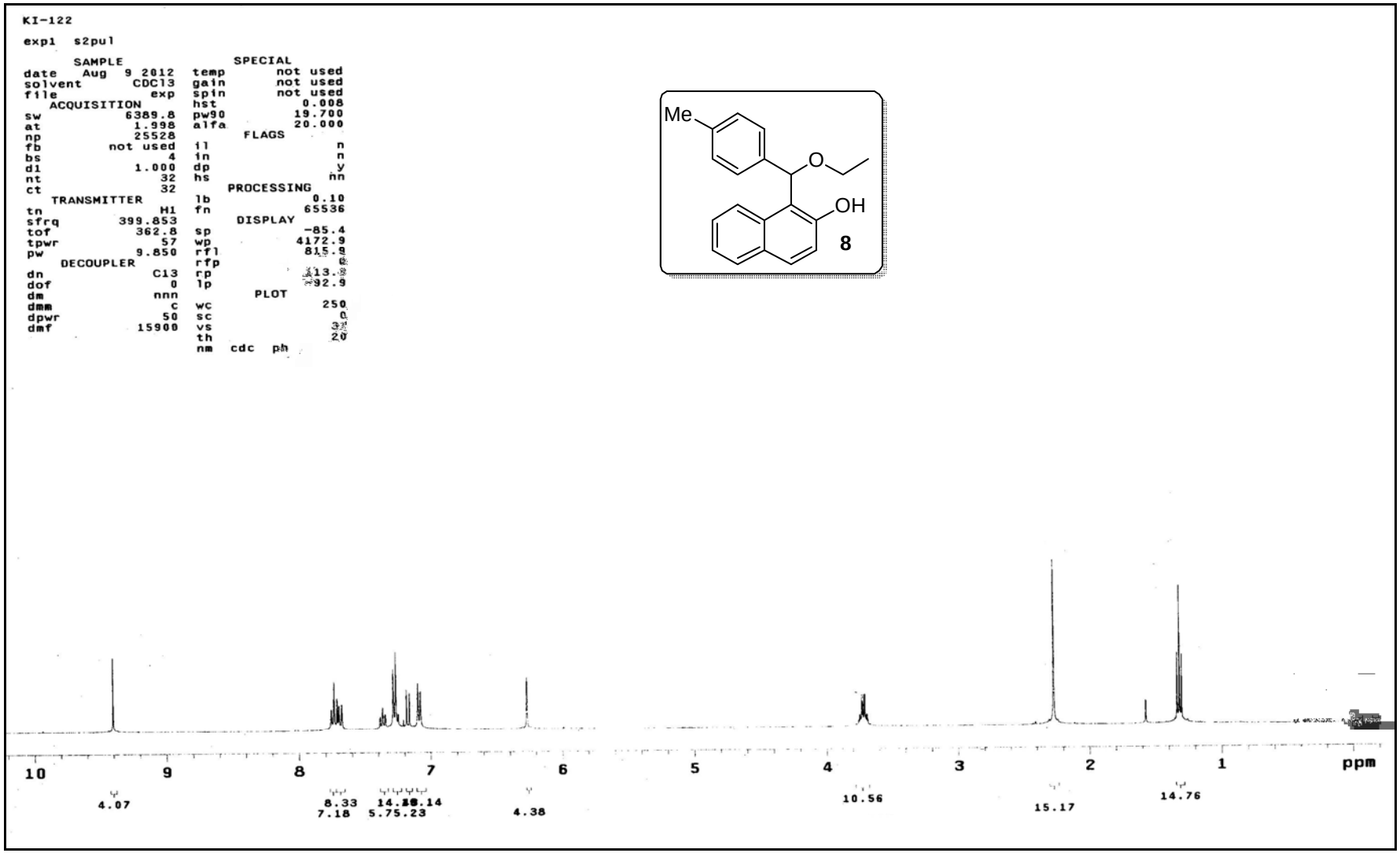
^{1}H NMR spectra of 3q



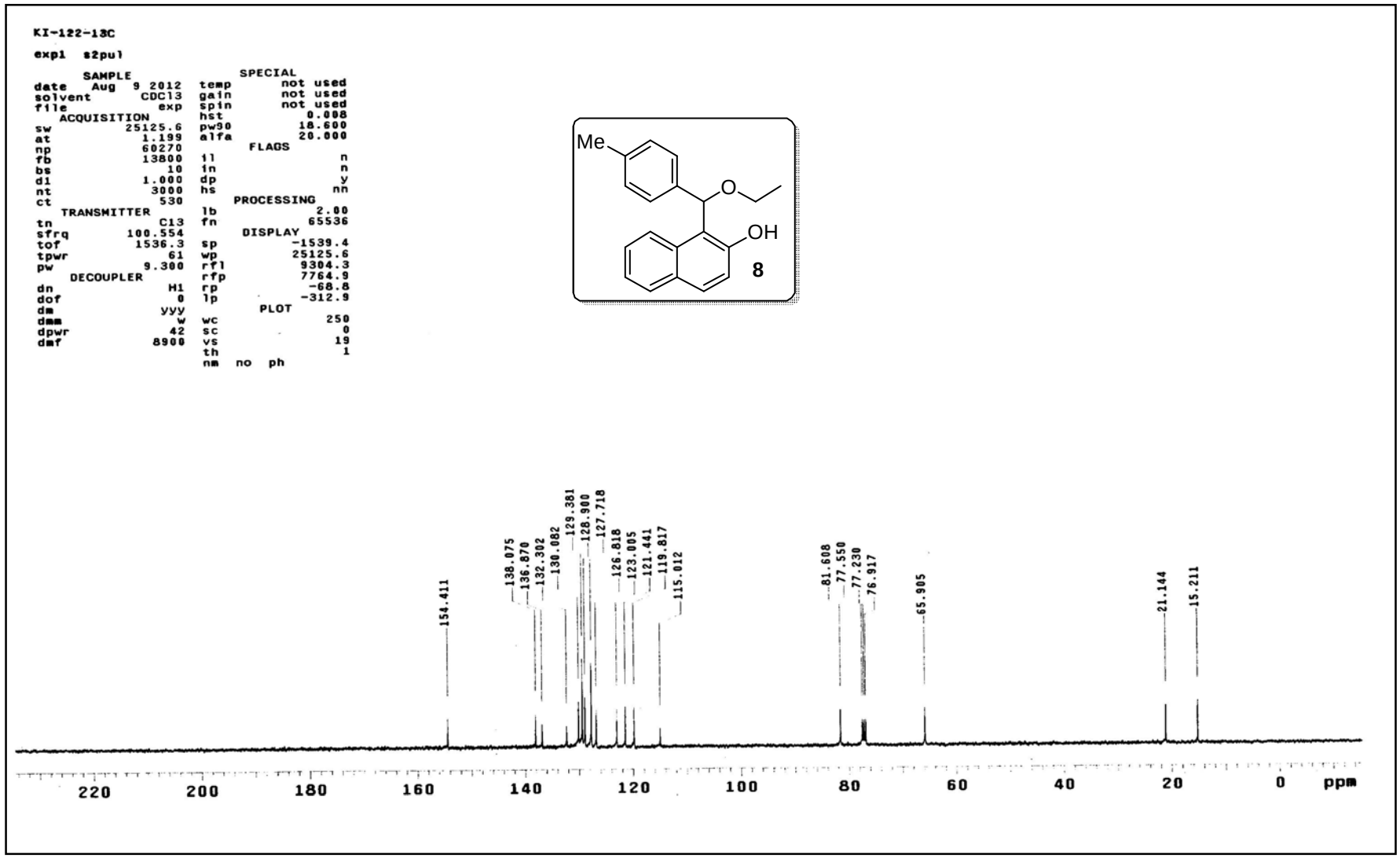
^{13}C NMR spectra of 3q



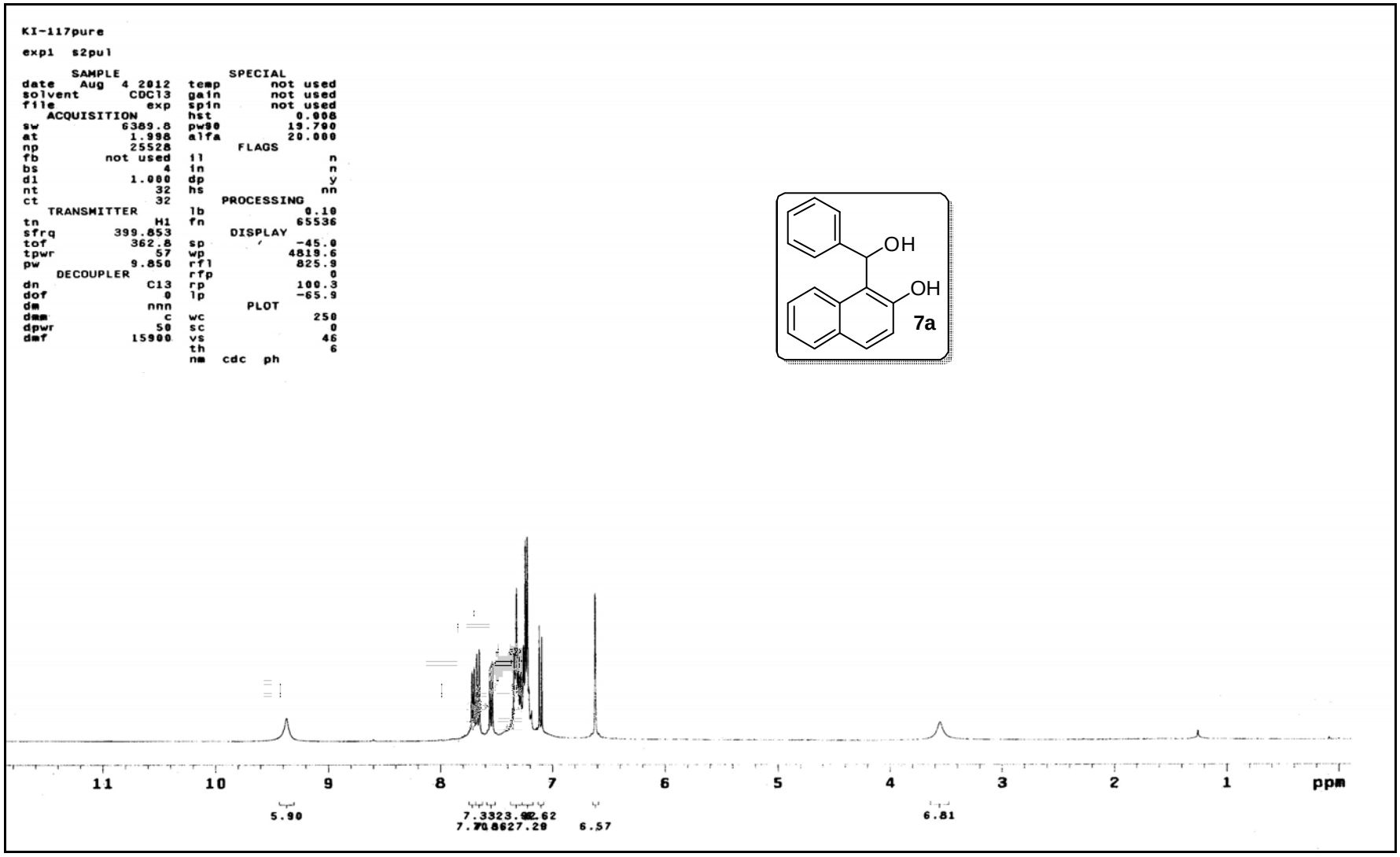
^{1}H NMR spectra of 8



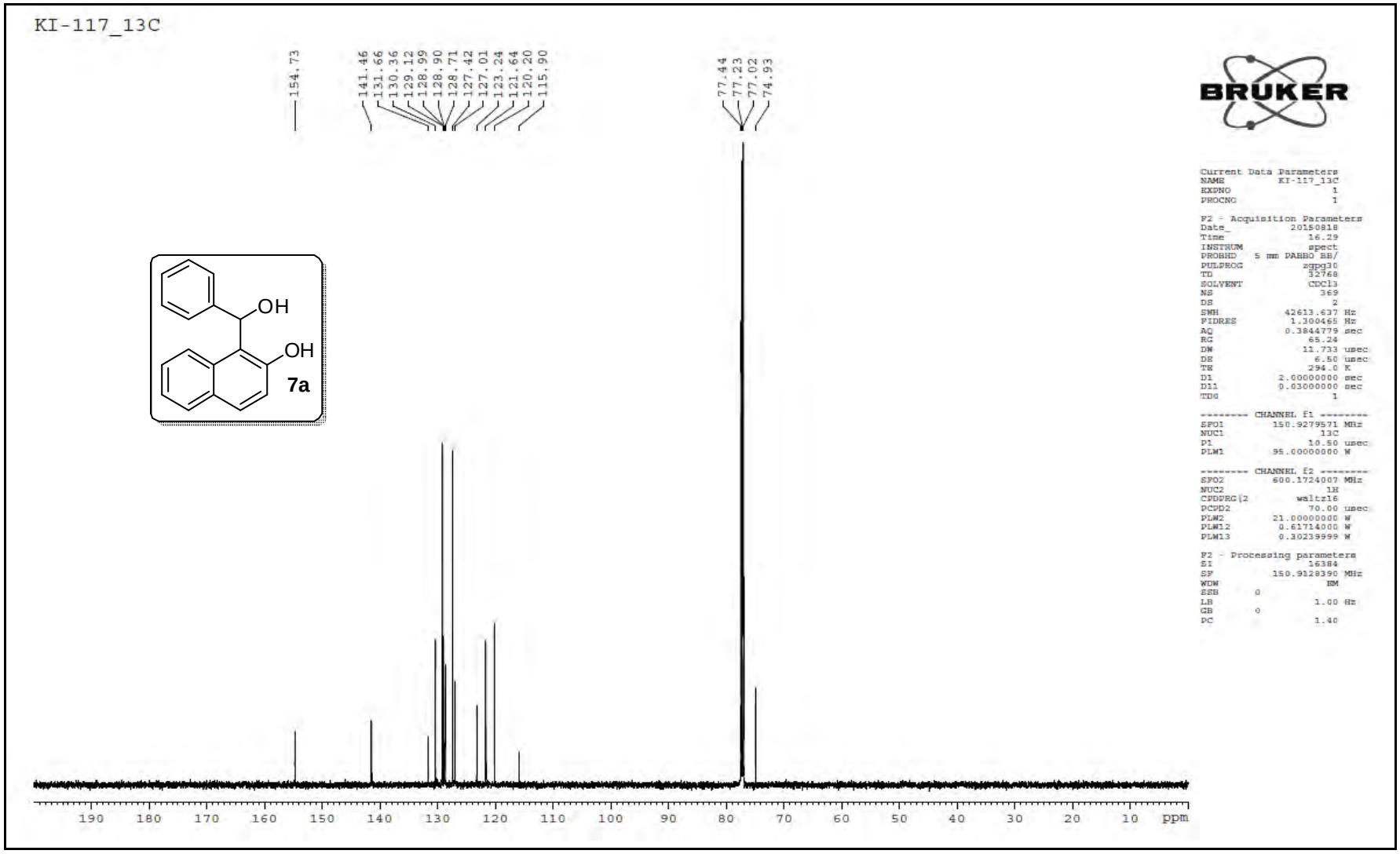
^{13}C NMR Spectra of 8



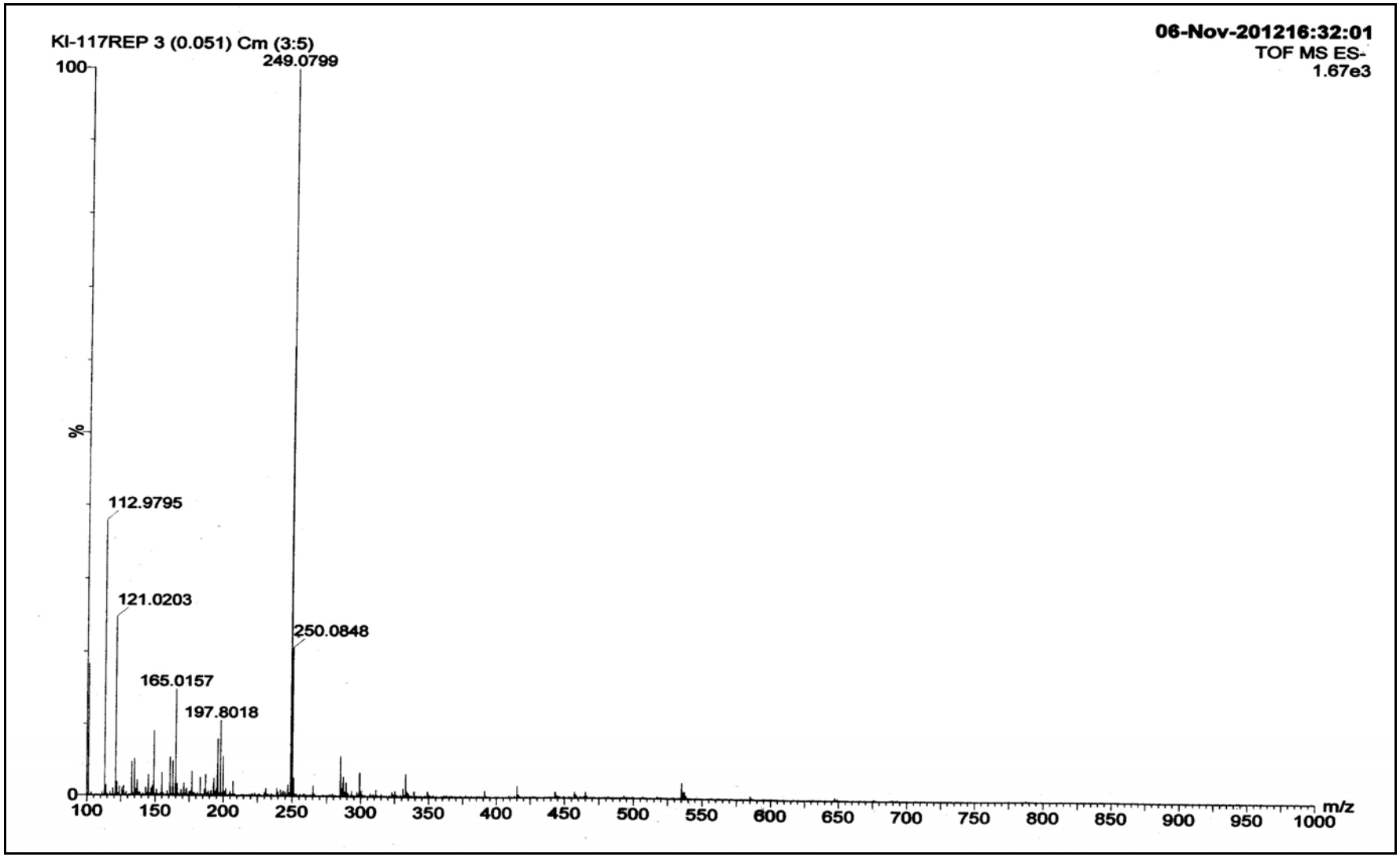
^{1}H NMR spectra of 7a



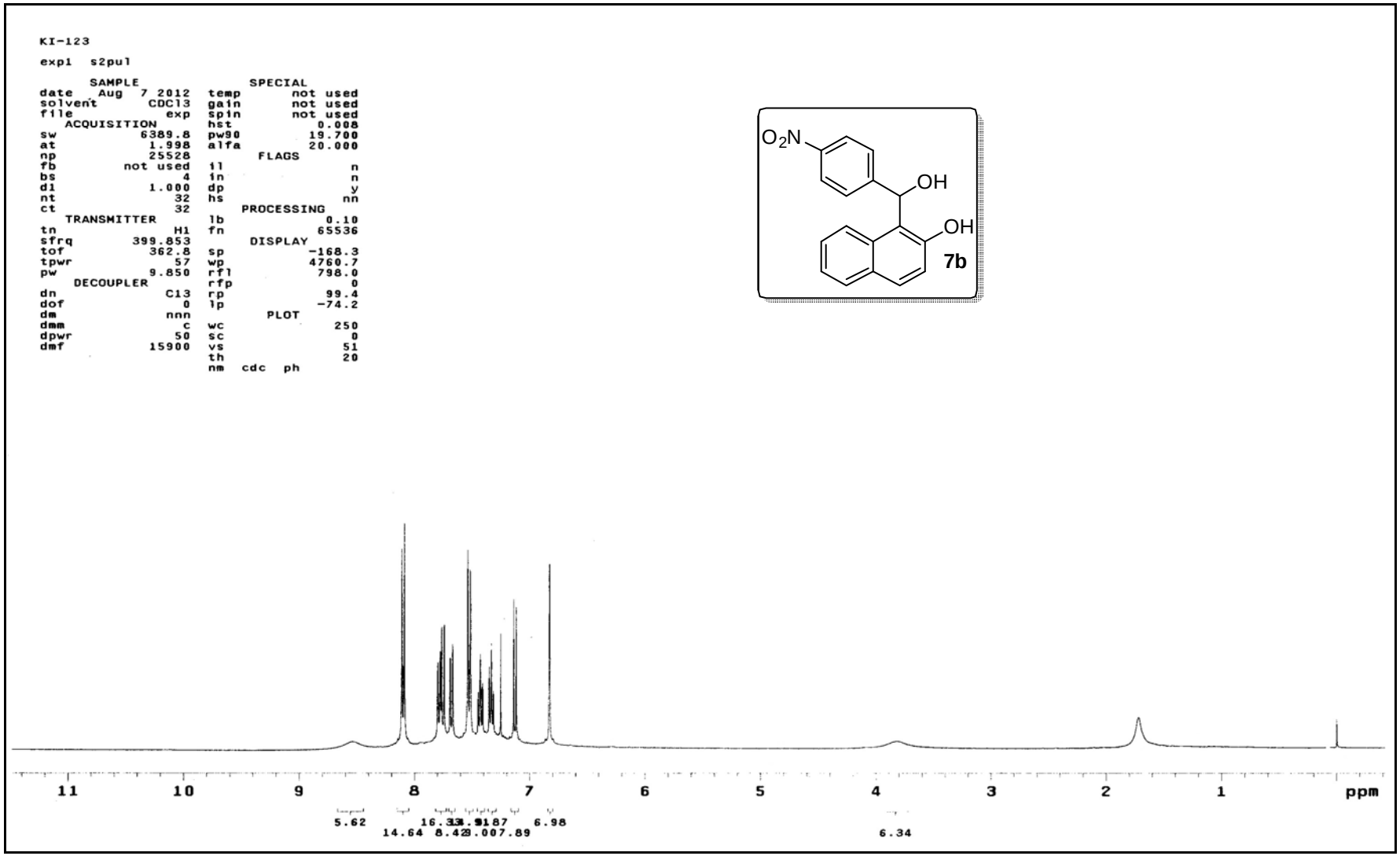
^{13}C NMR spectra of 7a



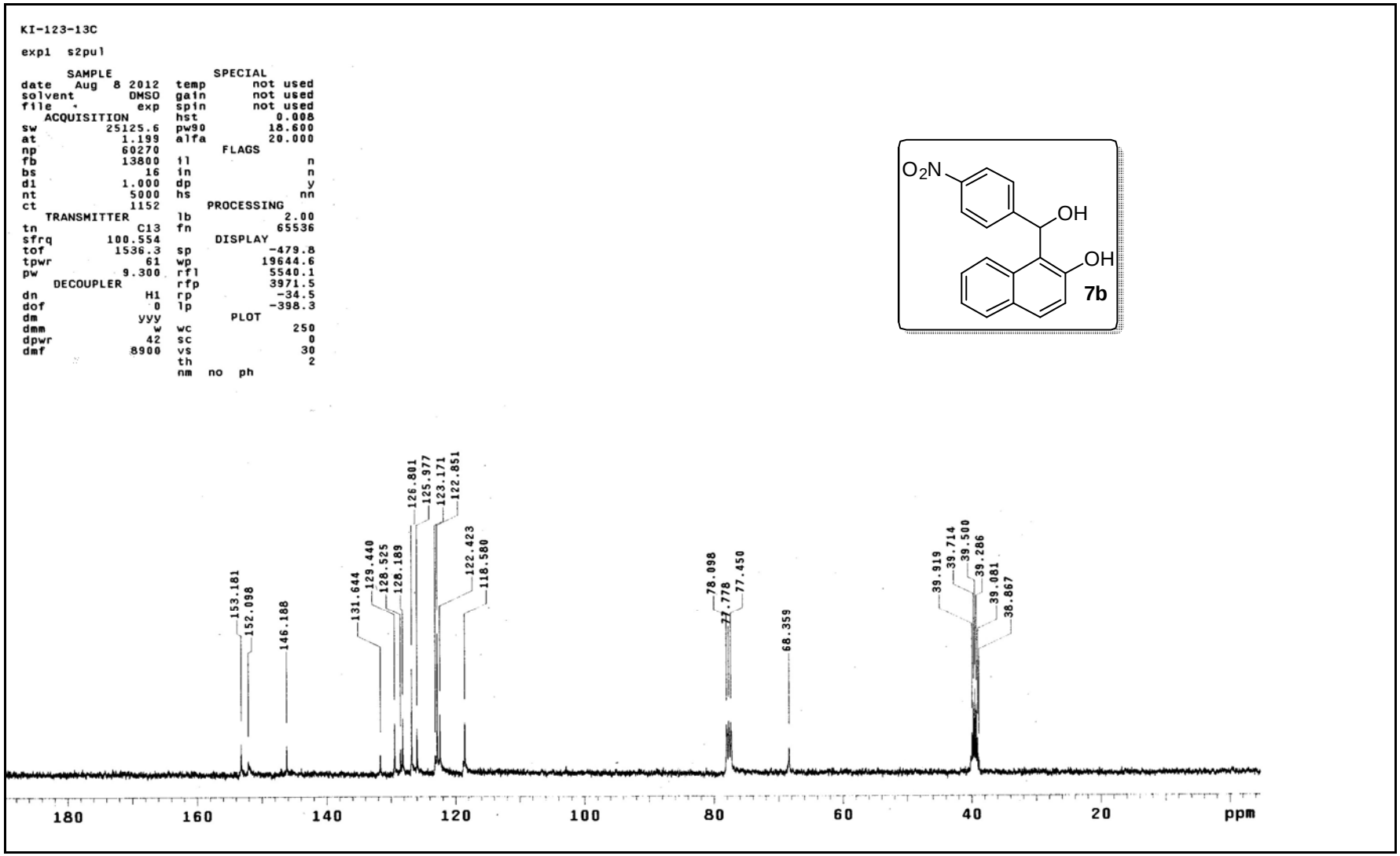
MS spectra of 7a



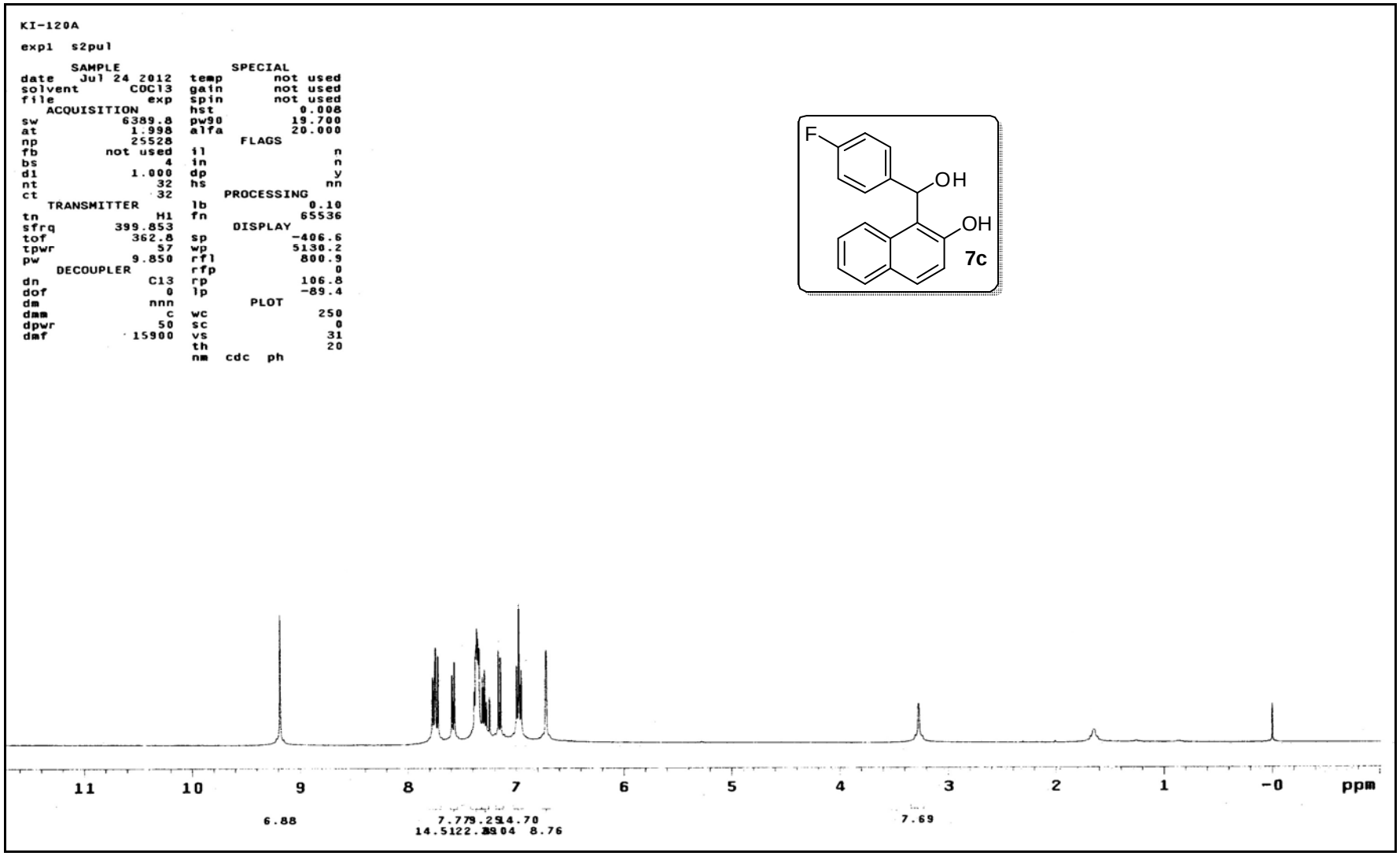
^{1}H NMR spectra of 7b



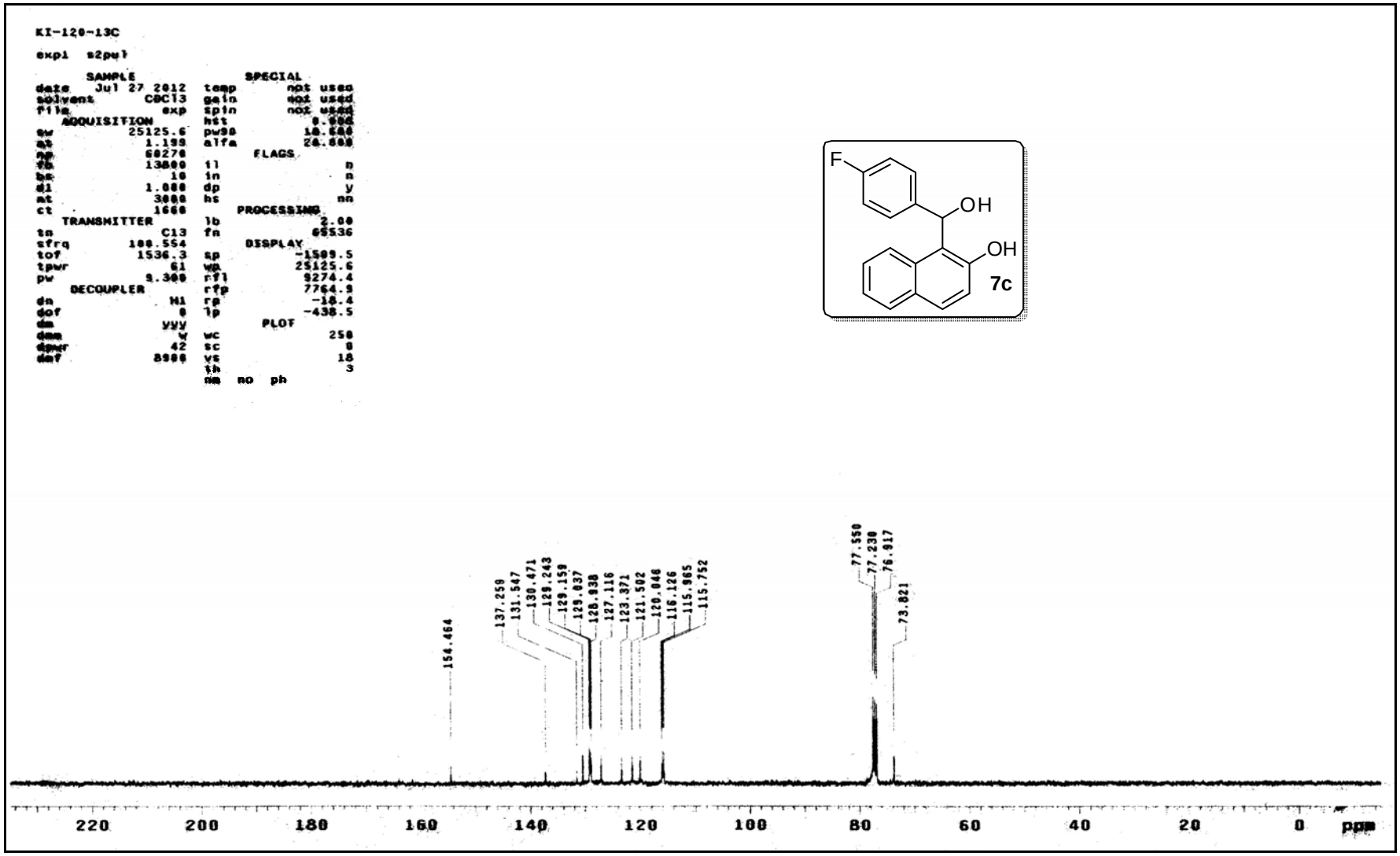
^{13}C NMR spectra of 7b



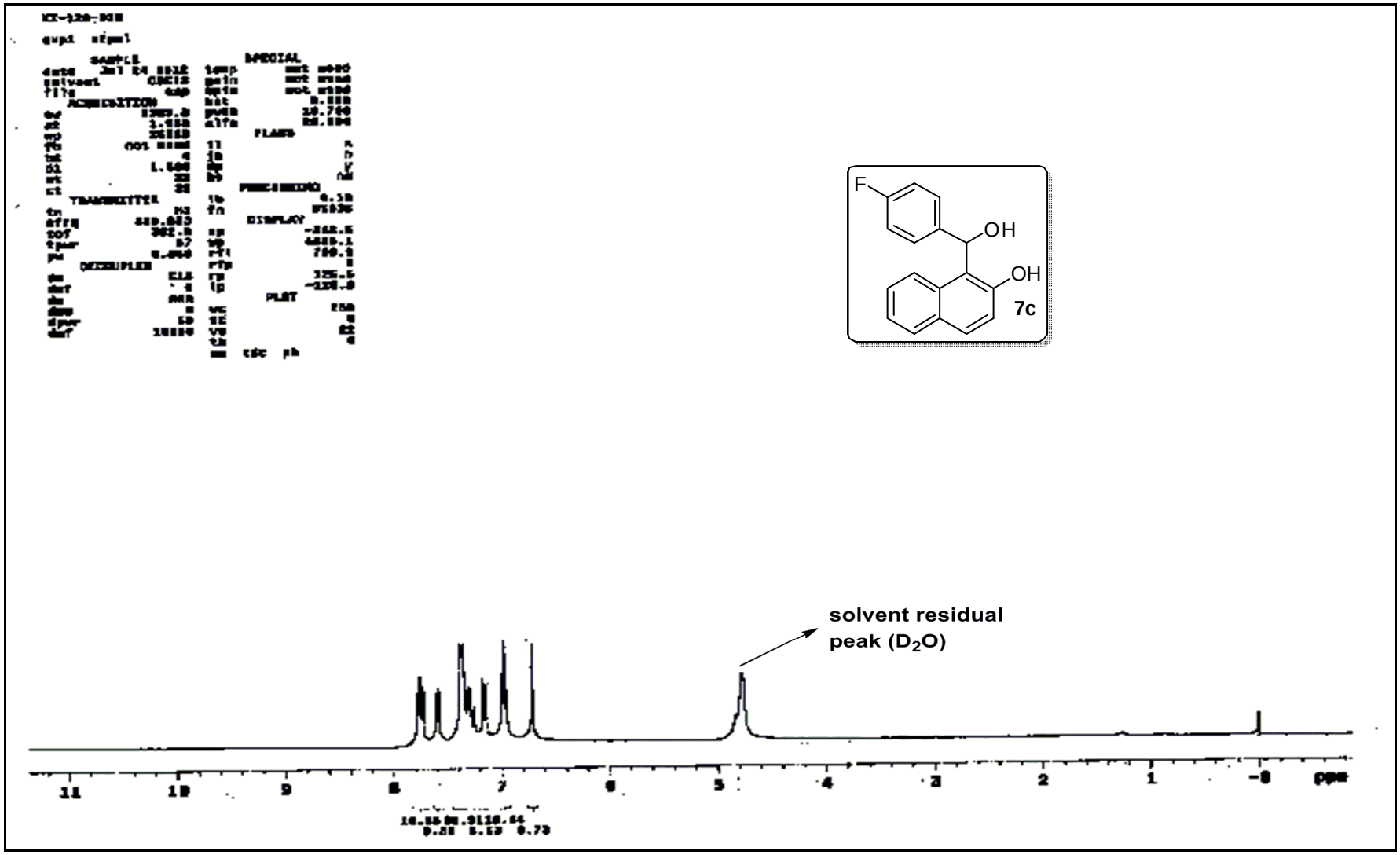
^{1}H NMR spectra of 7c



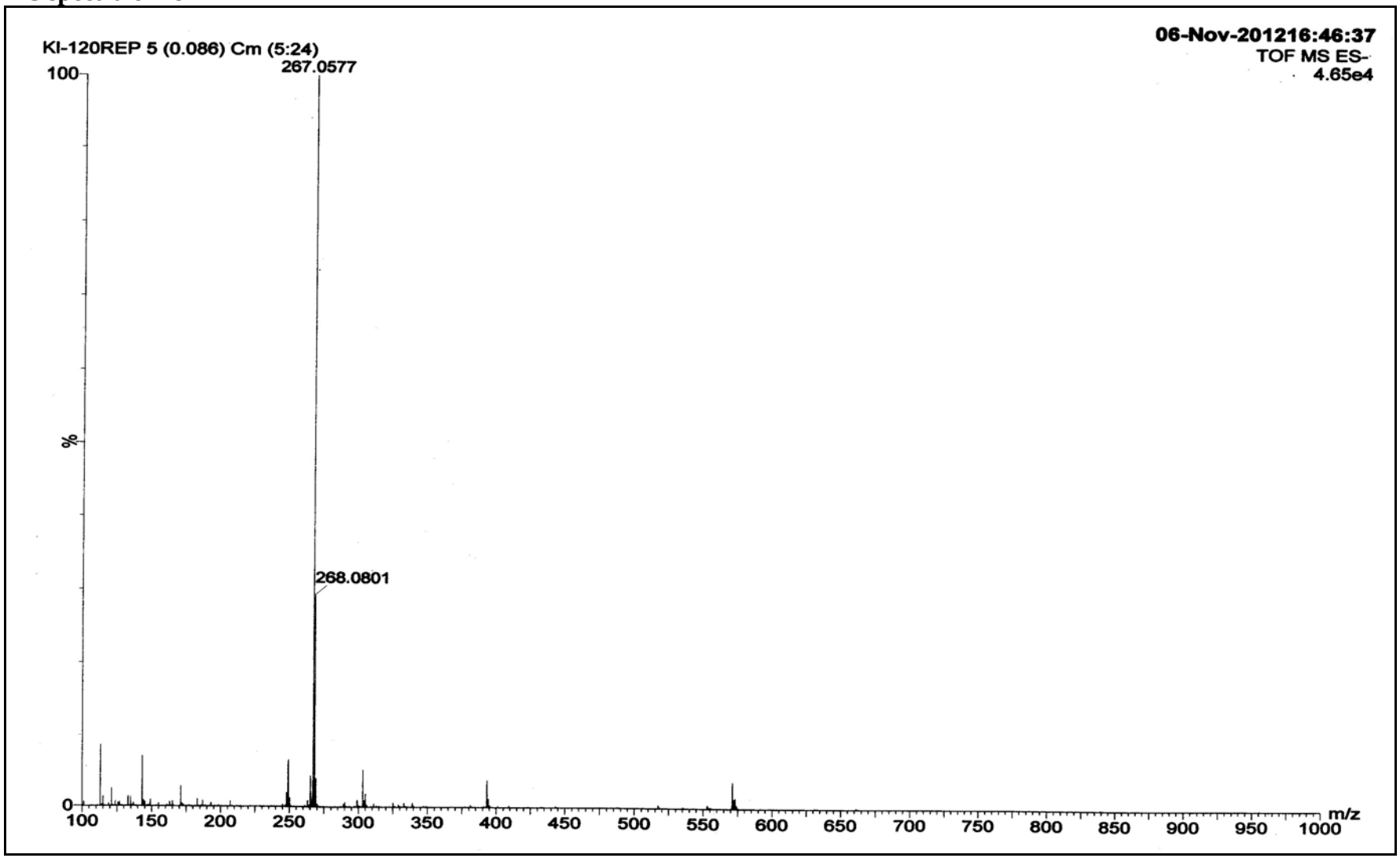
^{13}C NMR spectra of 7c



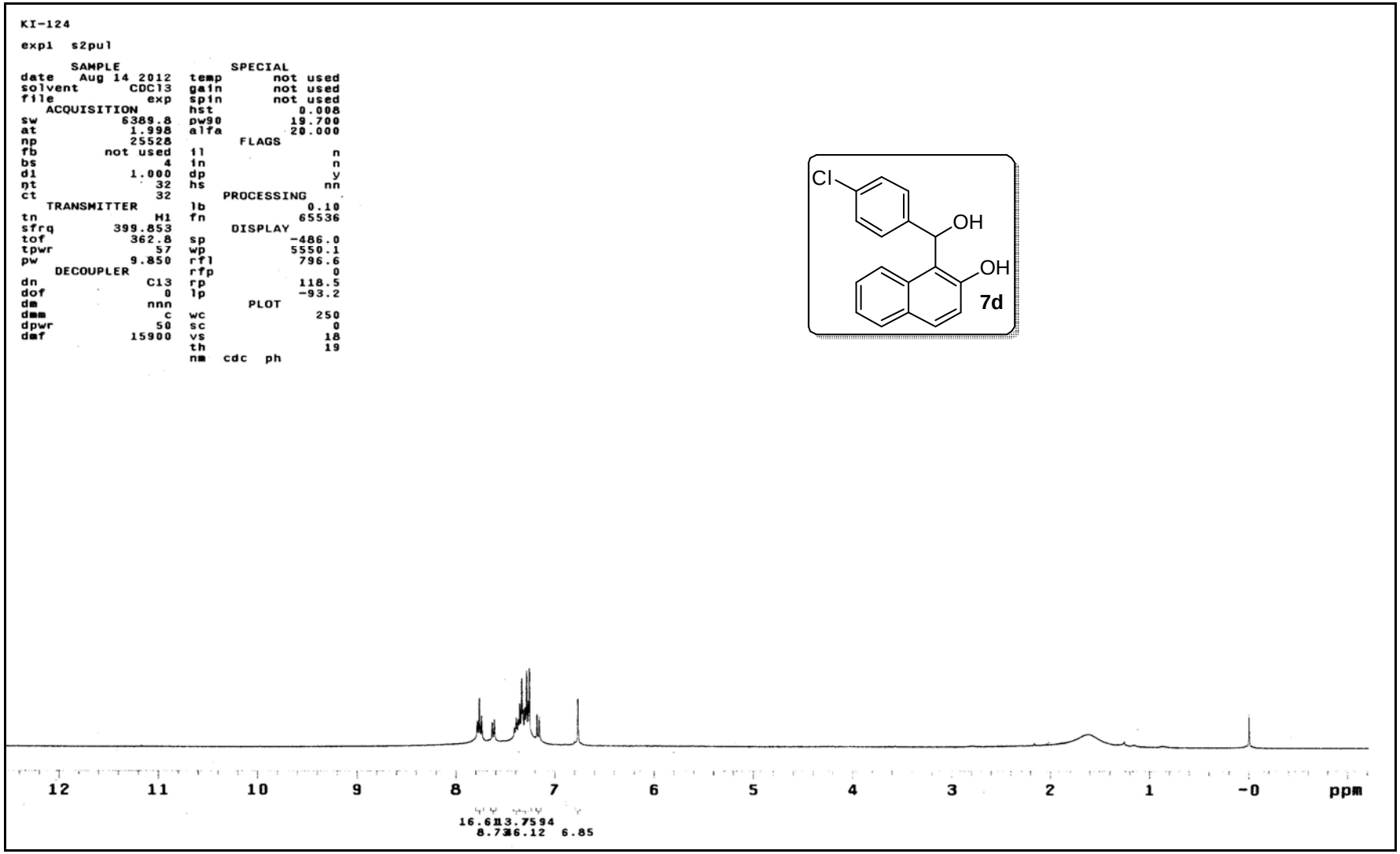
^{1}H NMR spectra of 7c (D_2O exchange)



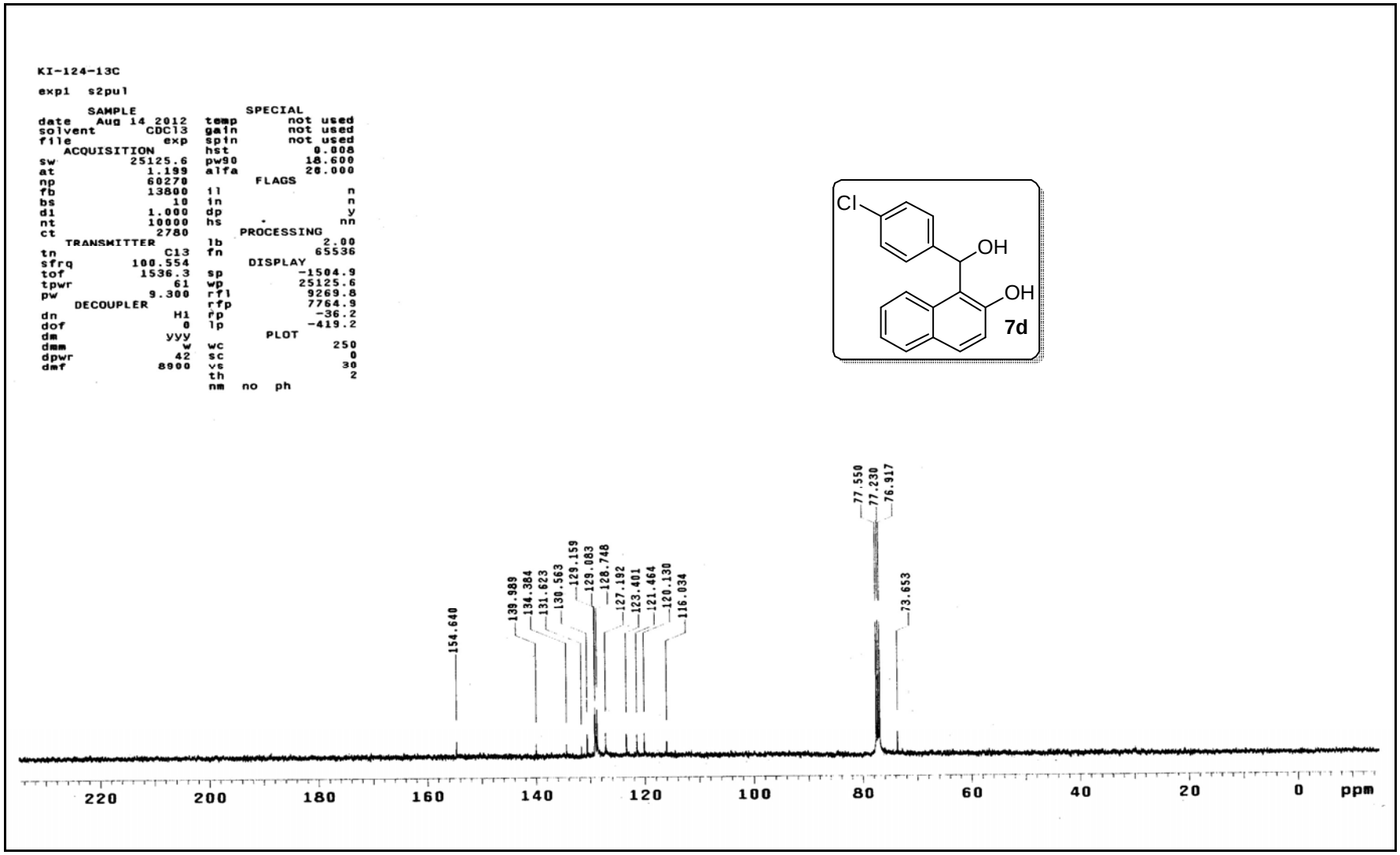
MS spectra of 7c



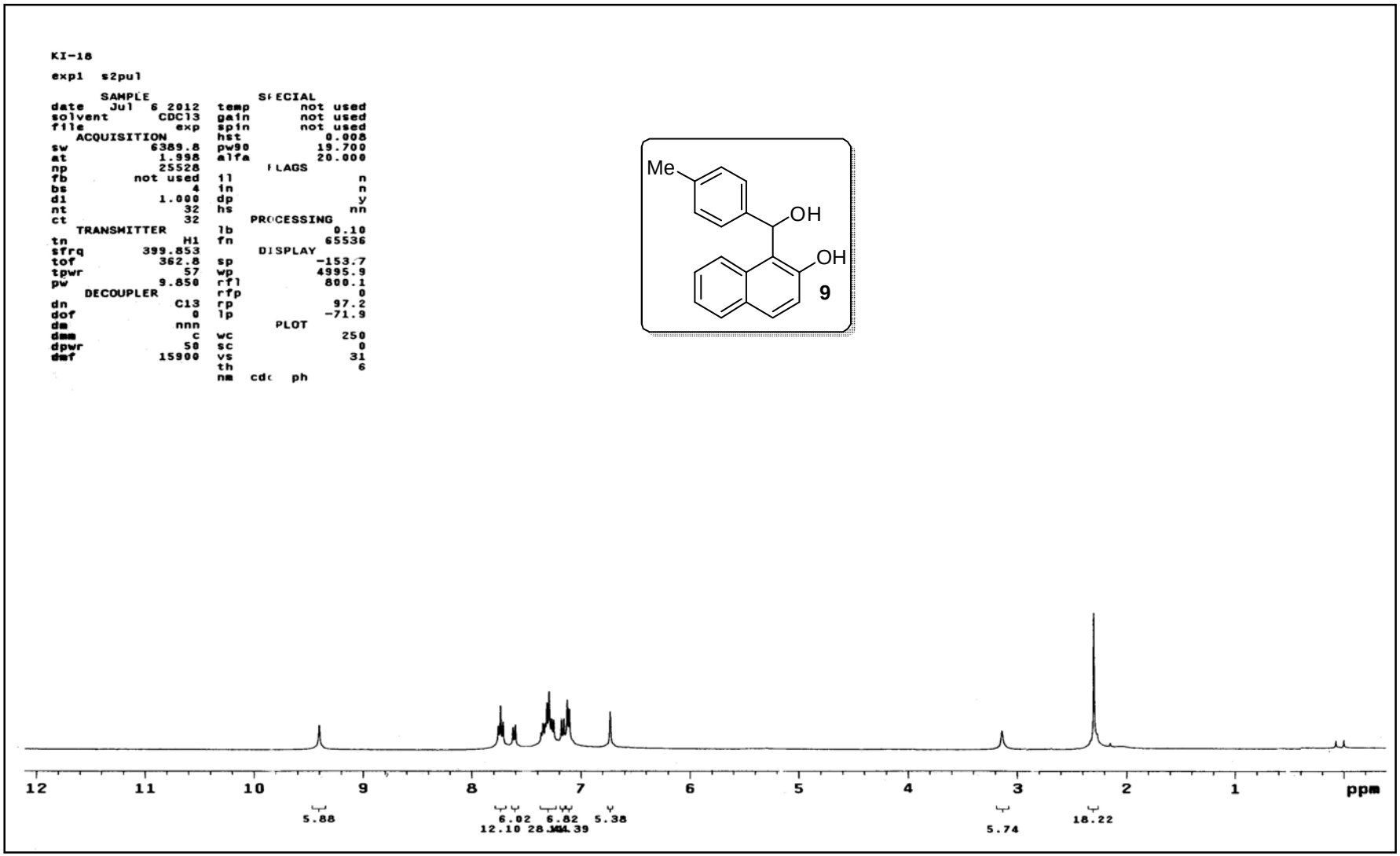
^{1}H NMR spectra of 7d



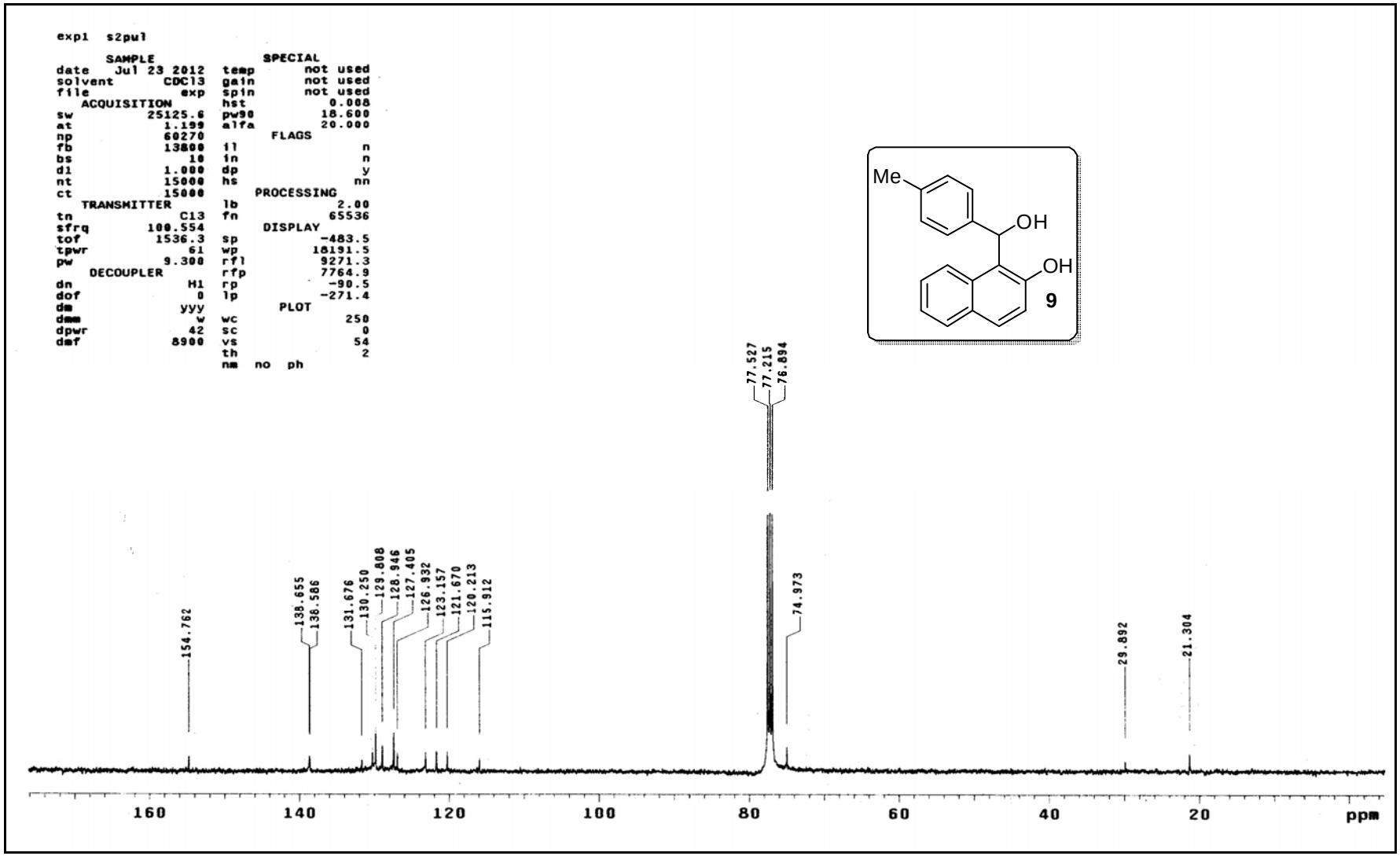
^{13}C NMR spectra of 7d



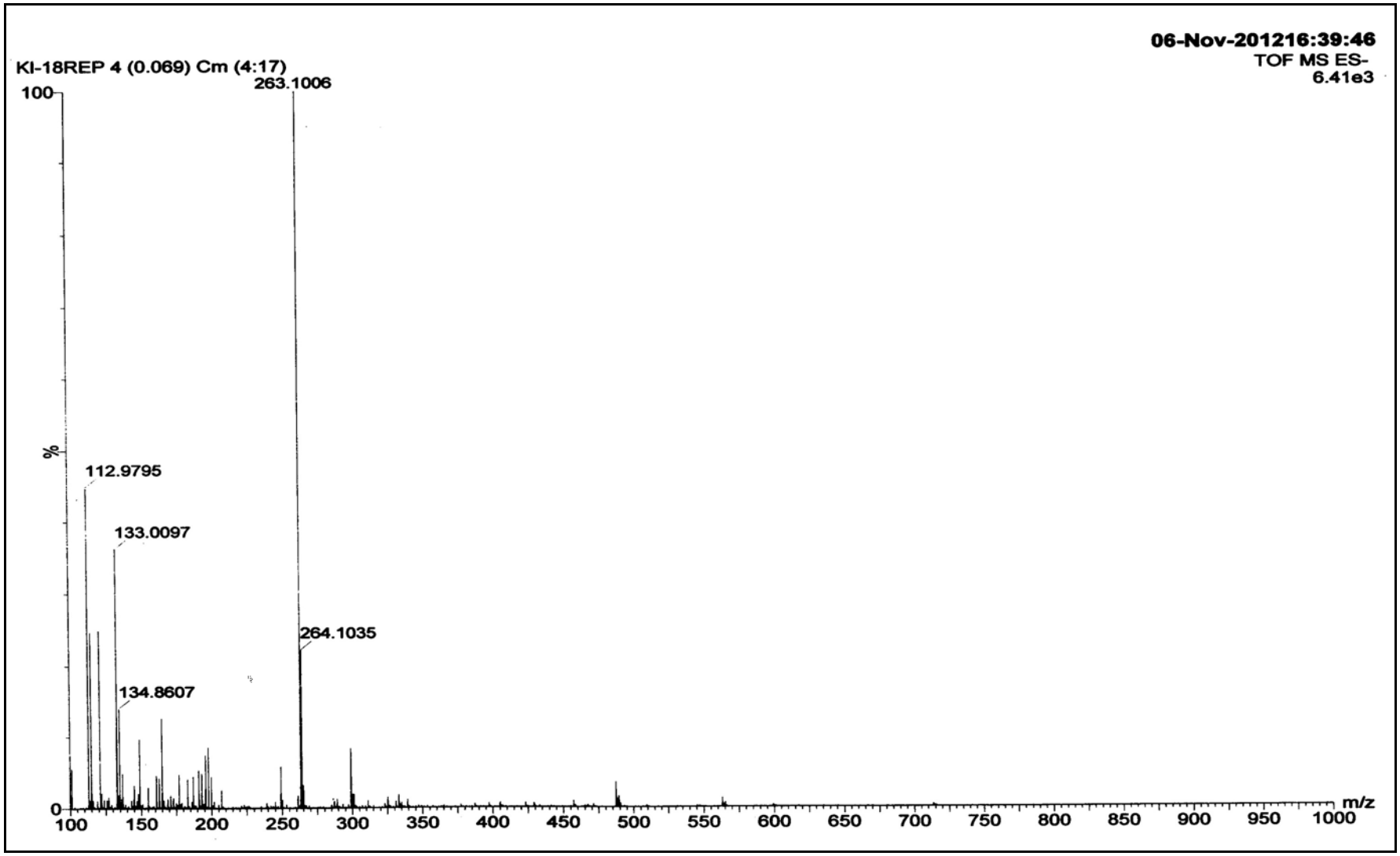
^{1}H NMR spectra of 9



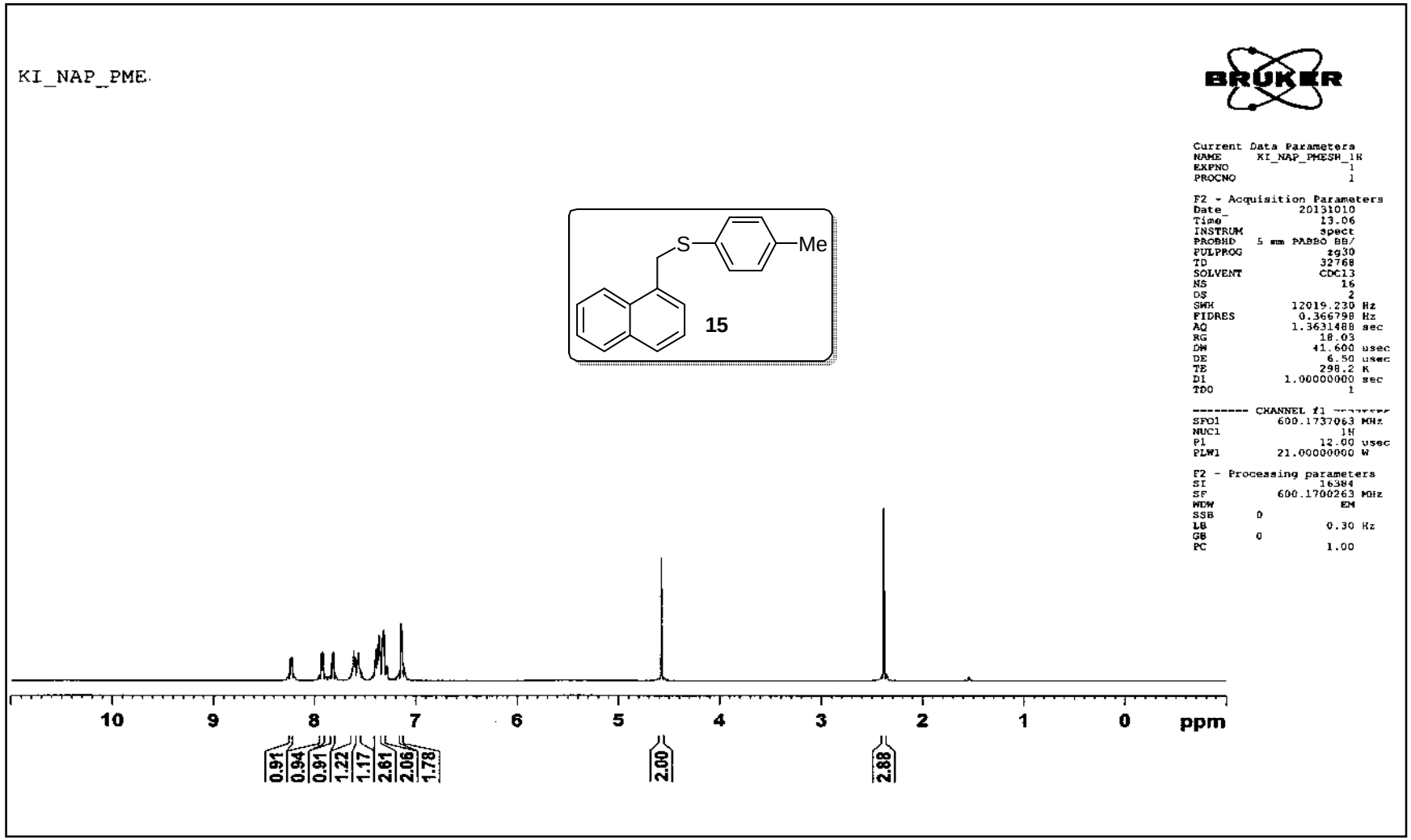
^{13}C NMR spectra of 9



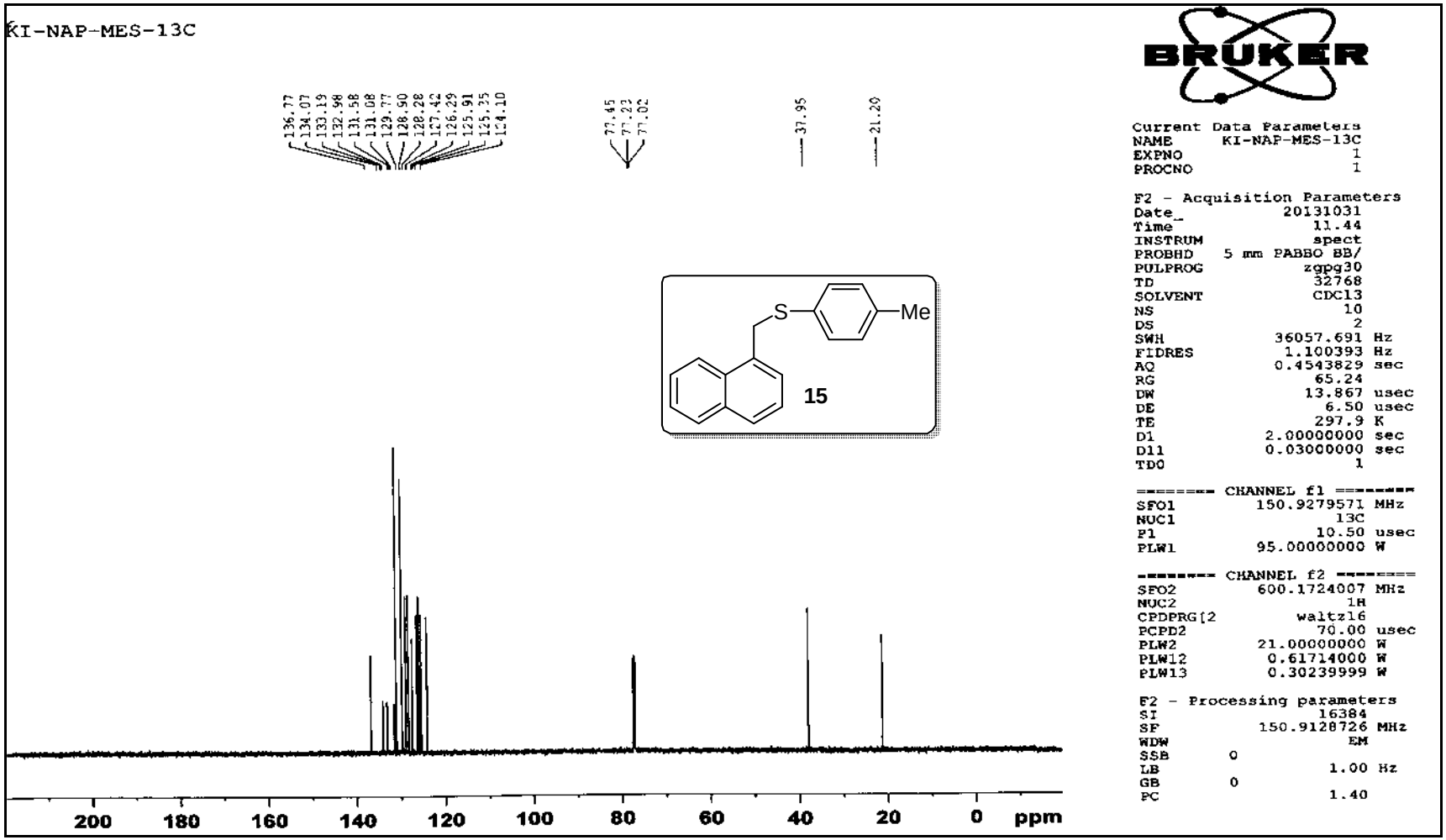
MS spectra of 9



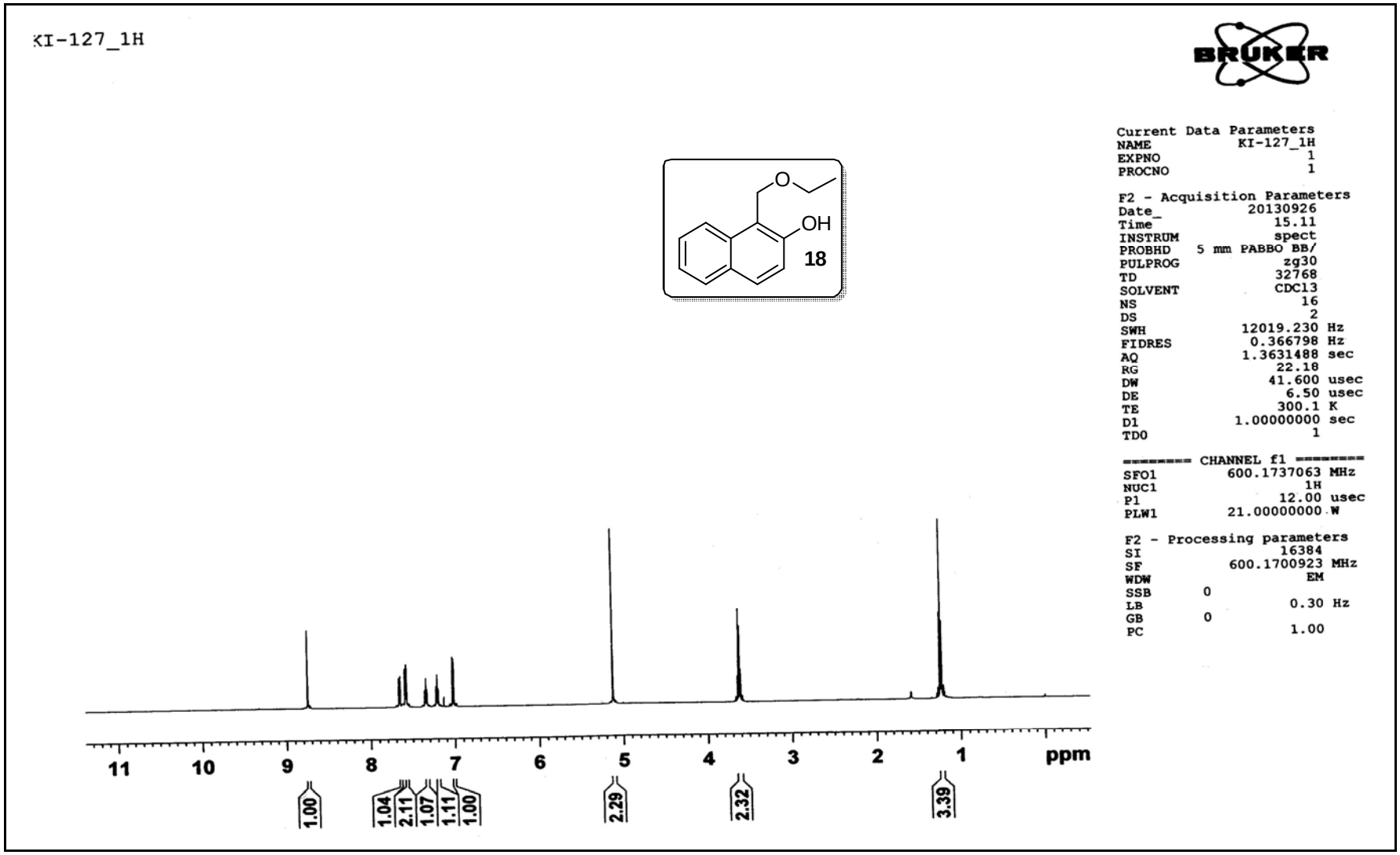
^{1}H NMR spectra of 15



^{13}C NMR spectra of 15



^{1}H NMR spectra of 18



^{13}C NMR spectra of 18