

Supplementary Information

Dual role of ionic liquids as phase transfer catalyst and solvent for glycosidation reactions

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Supplementary Experimental

General methods: TLCs were run on pre-coated Merck silica gel 60F254 plates and observed by charring with 3.5% H₂SO₄/1% AcOH/2.5% *p*-anisaldehyde/EtOH and with UV light. The products were isolated and purified using a Teledyne ISCO Rf flash chromatography system with hexanes and ethyl acetate as eluents. For verification of the product and purity analysis, the LC-MS was taken on an Agilent 1200 series system with an Agilent 6210 Time-Of-Flight (TOF) mass detector. The ¹H (400 MHz), ¹³C (101 MHz), gCOSY and gHSQC NMR spectra were taken on a Varian 400MR spectrometer. Chemical shifts (δ) are expressed in ppm, coupling constants (*J*) are expressed in Hz, and splitting patterns are described as follows: s = singlet; d = doublet; t = triplet; q = quartet; q_{AB} = AB quartet; quintet; sextet; septet; br = broad; m = multiplet; dd = doublet of

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doublets; dt = doublet of triplets; td = triplet of doublets; ddd = doublet of doublet of doublets. 1-Hydroxyhexyl-3-methylimidazolium bis(triflic)imide (HOHxMIm.TF₂N) was synthesized following the literature protocol.¹ 1-Hydroxyhexyl-3-methylimidazolium hexafluorophosphate (HOHxMIm.PF₆) was synthesized as described below. All other ionic liquids used in this study were purchased from Merck KgaA (EMD Chemicals), Darmstadt, Germany. 1-Butyl-3-methyl imidazolium chloride (BMIm.Cl) and all other chemicals were purchased from Sigma-Aldrich Co. and used without any further purification. The spectral characteristics of previously reported compounds **2**, **3**, **4**, **6**, **7**, **11**, **13**, **16**, **37** and RTIL HOHxMIm.TF₂N were analyzed and determined to be consistent with literature values.

Spectral data of **5, **8-10**, **12**, **14**, **15**, **17-36**, **38-41****

(2'-Formylphenyl) 2,3,4,6-tetra-*O*-acetyl- β -D-galactopyranoside (**5**): ¹H NMR (400 MHz, CDCl₃) δ 10.37 (d, *J* = 0.8 Hz, 1H), 7.87 (dd, *J* = 7.7, 1.8 Hz, 1H), 7.57 (ddd, *J* = 8.4, 7.4, 1.8 Hz, 1H), 7.21 – 7.16 (m, 1H), 7.15 – 7.12 (m, 1H), 5.60 (dd, *J* = 10.5, 7.9 Hz, 1H, H2), 5.49 (dd, *J* = 3.4, 0.9 Hz, 1H, H4), 5.18 – 5.13 (m, 2H, H1 and H3), 4.25 (dd, *J* = 11.1, 6.9 Hz, 1H, H6a), 4.19 – 4.11 (m, 2H, H5 and H6b), 2.21 (s, 3H), 2.07 (s, 6H), 2.03 (s, 3H). ¹³C NMR (101 MHz, CDCl₃) δ 189.37, 170.41, 170.29, 170.18, 169.42, 158.92, 135.80, 128.42, 126.28, 123.63, 115.89, 99.63 (C1), 71.41 (C5), 70.72 (C3), 68.49 (C2), 66.85 (C4), 61.39 (C6), 20.80, 20.77, 20.75, 20.68. LC-MS (ESI-TOF): *m/z* [M+Na]⁺ calcd for C₂₁H₂₄O₁₁ + Na: 475.1211; found 475.1215.

(3'-Bromophenyl) 2,3,4,6-tetra-*O*-acetyl- β -D-galactopyranoside (**8**): ^1H NMR (400 MHz, CDCl_3) δ 7.23 – 7.19 (m, 2H), 7.16 (t, J = 8.0 Hz, 1H), 6.94 (ddd, J = 8.0, 2.4, 1.2 Hz, 1H), 5.51 – 5.45 (m, 2H, H2, H4), 5.11 (dd, J = 10.4, 3.4 Hz, 1H, H3), 5.03 (d, J = 7.9 Hz, 1H, H1), 4.25 – 4.06 (m, 3H, H5, H6a, and H6b), 2.19 (s, 3H), 2.10 (s, 3H), 2.08 (s, 3H), 2.02 (s, 3H). ^{13}C NMR (101 MHz, CDCl_3) δ 170.56, 170.32, 170.18, 169.45, 157.57, 130.81, 126.52, 122.81, 120.20, 116.08, 99.53 (C1), 71.44 (C5), 70.88 (C3), 68.62 (C2), 67.05 (C4), 61.76 (C6), 20.85, 20.84, 20.78, 20.70. LC-MS (ESI-TOF): m/z $[\text{M}+\text{Na}]^+$ calcd for $\text{C}_{20}\text{H}_{23}\text{BrO}_{10}$ + Na: 525.0367; found 525.0371.

(3'-Chlorophenyl) 2,3,4,6-tetra-*O*-acetyl- β -D-galactopyranoside (**9**): ^1H NMR (400 MHz, CDCl_3) δ 7.22 (t, J = 8.1 Hz, 1H), 7.09 – 7.03 (m, 2H), 6.89 (ddd, J = 8.3, 2.4, 0.9 Hz, 1H), 5.51 – 5.45 (m, 2H, H2 and H4), 5.11 (dd, J = 10.4, 3.4 Hz, 1H, H3), 5.03 (d, J = 7.9 Hz, 1H, H1), 4.26 – 4.06 (m, 3H, H5, H6a, and H6b), 2.19 (s, 3H), 2.09 (s, 3H), 2.08 (s, 3H), 2.02 (s, 3H). ^{13}C NMR (101 MHz, CDCl_3) δ 170.56, 170.32, 170.20, 169.46, 157.56, 135.01, 130.50, 123.60, 117.35, 115.59, 99.57 (C1), 71.44 (C5), 70.90 (C3), 68.63 (C2), 67.04 (C4), 61.73 (C6), 20.86, 20.80, 20.79, 20.71. LC-MS (ESI-TOF): m/z $[\text{M}+\text{Na}]^+$ calcd for $\text{C}_{20}\text{H}_{23}\text{ClO}_{10}$ + Na: 481.0872; found 481.0876.

(3'-Methoxyphenyl) 2,3,4,6-tetra-*O*-acetyl- β -D-galactopyranoside (**10**): ^1H NMR (400 MHz, CDCl_3) δ 7.19 (t, J = 8.2 Hz, 1H), 6.66 – 6.56 (m, 3H), 5.48 (dd, J = 10.5, 8.0 Hz, 1H, H2)), 5.46 – 5.45 (m, 1H, H4), 5.11 (dd, J = 10.4, 3.4 Hz, 1H, H3), 5.04 (d, J = 8.0 Hz, 1H, H1), 4.22 (dd, J = 11.3, 7.1 Hz, 1H, H6a), 4.17 (dd, J = 11.3, 6.1 Hz, 1H, H6b), 4.09 – 4.03 (m, 1H, H5), 3.78 (s, 3H), 2.18 (s, 3H), 2.07 (s, 3H), 2.06 (s, 3H), 2.01 (s, 3H). ^{13}C NMR (101 MHz, CDCl_3) δ 170.51, 170.37, 170.24, 169.53, 160.89, 158.18, 130.12, 109.01, 108.69, 103.69, 99.67 (C1), 71.21 (C5), 70.99 (C3), 68.76 (C2), 67.04 (C4), 61.56 (C6), 55.50, 20.88, 20.80, 20.75, 20.72. LC-MS (ESI-TOF): m/z $[\text{M}+\text{Na}]^+$ calcd for $\text{C}_{21}\text{H}_{26}\text{O}_{11} + \text{Na}$: 477.1367; found 477.1373.

(4'-Chlorophenyl) 2,3,4,6-tetra-*O*-acetyl- β -D-galactopyranoside (**12**): ^1H NMR (400 MHz, CDCl_3) δ 7.26 (d, J = 9.0 Hz, 2H), 6.94 (d, J = 9.0 Hz, 2H), 5.50 – 5.44 (m, 2H, H2 and H4), 5.11 (dd, J = 10.4, 3.4 Hz, 1H, H3), 5.00 (d, J = 7.9 Hz, 1H, H1), 4.25 – 4.09 (m, 2H, H6a and H6b), 4.08 – 4.02 (m, 1H, H5), 2.18 (s, 3H), 2.07 (s, 3H), 2.06 (s, 3H), 2.01 (s, 3H). ^{13}C NMR (101 MHz, CDCl_3) δ 170.43, 170.31, 170.20, 169.44, 155.54, 129.63 (2 C's), 128.57, 118.49 (2 C's), 99.88 (C1), 71.24 (C5), 70.87 (C3), 68.69 (C2), 66.94 (C4), 61.46 (C6), 20.84, 20.77 (2 C's), 20.69. LC-MS (ESI-TOF): m/z $[\text{M}+\text{Na}]^+$ calcd for $\text{C}_{20}\text{H}_{23}\text{ClO}_{10} + \text{Na}$: 481.0872; found 481.0879.

(4'-Iodophenyl) 2,3,4,6-tetra-*O*-acetyl- β -D-galactopyranoside (**14**): ^1H NMR (400 MHz, CDCl_3) δ 7.59 (d, J = 8.9 Hz, 2H), 6.78 (d, J = 9.0 Hz, 2H), 5.50 – 5.44 (m,

2H, H2 and H4), 5.10 (dd, $J = 10.4, 3.4$ Hz, 1H, H3), 5.00 (d, $J = 7.9$ Hz, 1H, H1), 4.24 – 4.03 (m, 3H, H5, H6a, and H6b), 2.18 (s, 3H), 2.07 – 2.06 (m, $J = 1.0$ Hz, 6H), 2.01 (s, 3H). ^{13}C NMR (101 MHz, CDCl_3) δ 170.43, 170.30, 170.20, 169.43, 156.86, 138.60 (2 C's), 119.33 (2 C's), 99.63 (C1), 71.26 (C5), 70.86 (C3), 68.67 (C2), 66.93 (C4), 61.47 (C6), 20.84, 20.79, 20.78, 20.70. LC-MS (ESI-TOF): m/z $[\text{M}+\text{Na}]^+$ calcd for $\text{C}_{20}\text{H}_{23}\text{IO}_{10} + \text{Na}$: 573.0228; found 573.0224.

(4'-Phenylphenyl) 2,3,4,6-tetra-*O*-acetyl- β -D-galactopyranoside (**15**): ^1H NMR (400 MHz, CDCl_3) δ 7.56 – 7.50 (m, 4H), 7.45 – 7.40 (m, 2H), 7.33 (ddd, $J = 7.3, 3.9, 1.2$ Hz, 1H), 7.08 (d, $J = 8.8$ Hz, 2H), 5.52 (dd, $J = 10.5, 7.9$ Hz, 1H, H2), 5.47 (dd, $J = 3.4, 0.8$ Hz, 1H, H4), 5.13 (dd, $J = 10.4, 3.4$ Hz, 1H, H3), 5.09 (d, $J = 8.0$ Hz, 1H, H1), 4.25 (dd, $J = 11.3, 7.0$ Hz, 1H, H6a), 4.18 (dd, $J = 11.3, 6.3$ Hz, 1H, H6b), 4.11 – 4.07 (m, 1H, H5), 2.19 (s, 3H), 2.09 (s, 3H), 2.07 (s, 3H), 2.02 (s, 3H). ^{13}C NMR (101 MHz, CDCl_3) δ 170.48, 170.38, 170.26, 169.53, 156.54, 140.54, 136.63, 128.92 (2 C's), 128.40 (2 C's), 127.22, 127.02 (2 C's), 117.32, 99.81 (C1), 71.19 (C5), 70.99 (C3), 68.80 (C2), 67.02 (C4), 61.51 (C6), 20.89, 20.81 (2 C's), 20.73. LC-MS (ESI-TOF): m/z $[\text{M}+\text{Na}]^+$ calcd for $\text{C}_{26}\text{H}_{28}\text{O}_{10} + \text{Na}$: 523.1575; found 523.1581.

(4'-Ethylphenyl) 2,3,4,6-tetra-*O*-acetyl- β -D-galactopyranoside (**17**): ^1H NMR (400 MHz, CDCl_3) δ 7.12 (d, $J = 8.1$ Hz, 2H), 6.92 (d, $J = 8.2$ Hz, 2H), 5.52 – 5.43 (m, 2H, H2 and H4), 5.10 (dd, $J = 10.4, 3.3$ Hz, 1H, H3), 5.00 (d, $J = 8.0$ Hz, 1H, H1), 4.23 (dd, $J = 11.3, 7.0$ Hz, 1H, H6a), 4.16 (dd, $J = 11.2, 6.4$ Hz, 1H, H6b), 4.04

(apparent t, $J = 6.6$ Hz, 1H, H5), 2.61 (q, $J = 7.6$ Hz, 2H), 2.18 (s, 3H), 2.06 (s, 6H), 2.01 (s, 3H), 1.21 (t, $J = 7.6$ Hz, 3H). ^{13}C NMR (101 MHz, CDCl_3) δ 170.49, 170.40, 170.28, 169.53, 155.19, 139.43, 128.95 (2 C's), 117.09 (2 C's), 100.17 (C1), 71.07 (C5), 71.02 (C3), 68.85 (C2), 67.04 (C4), 61.49 (C6), 28.21, 20.87, 20.80 (2 C's), 20.73, 15.90. LC-MS (ESI-TOF): m/z $[\text{M}+\text{Na}]^+$ calcd for $\text{C}_{22}\text{H}_{28}\text{O}_{10}$ + Na: 475.1575; found 475.1579.

(4'-Propylphenyl) 2,3,4,6-tetra-*O*-acetyl- β -D-galactopyranoside (**18**): ^1H NMR (400 MHz, CDCl_3) δ 7.09 (d, $J = 8.7$ Hz, 2H), 6.92 (d, $J = 8.6$ Hz, 2H), 5.50 – 5.44 (m, 2H, H2 and H4), 5.10 (dd, $J = 10.5, 3.4$ Hz, 1H, H3), 5.00 (d, $J = 8.0$ Hz, 1H, H1), 4.23 (dd, $J = 11.3, 6.9$ Hz, 1H, H6a), 4.16 (dd, $J = 11.3, 6.4$ Hz, 1H, H6b), 4.07 – 4.02 (m, 1H, H5), 2.58 – 2.51 (m, 2H), 2.18 (s, 3H), 2.07 (s, 3H), 2.06 (s, 3H), 2.01 (s, 3H), 1.66 – 1.55 (m, 2H), 0.93 (t, $J = 7.3$ Hz, 3H). ^{13}C NMR (101 MHz, CDCl_3) δ 170.48, 170.39, 170.26, 169.52, 155.19, 137.84, 129.54 (2 C's), 116.98 (2 C's), 100.14 (C1), 71.06 (C5), 71.02 (C3), 68.85 (C2), 67.04 (C4), 61.49 (C6), 37.34, 24.81, 20.88, 20.80, 20.79, 20.73, 13.88. LC-MS (ESI-TOF): m/z $[\text{M}+\text{Na}]^+$ calcd for $\text{C}_{23}\text{H}_{30}\text{O}_{10}$ + Na: 489.1731; found 489.1737.

(4'-sec-Butylphenyl) 2,3,4,6-tetra-*O*-acetyl- β -D-galactopyranoside (**19**): ^1H NMR (400 MHz, CDCl_3) δ 7.09 (d, $J = 8.6$ Hz, 2H), 6.93 (d, $J = 8.7$ Hz, 2H), 5.50 – 5.44 (m, 2H, H2 and H4), 5.10 (dd, $J = 10.4, 3.4$ Hz, 1H, H3), 5.01 (d, $J = 8.0$ Hz, 1H, H1), 4.23 (dd, $J = 11.3, 6.9$ Hz, 1H, H6a), 4.16 (dd, $J = 11.4, 6.4$ Hz, 1H, H6b), 4.04 (ddd, $J = 6.8, 1.0$ Hz, 1H, H5), 2.56 (h, $J = 7.0$ Hz, 1H), 2.18 (s, 3H), 2.07 (s,

3H), 2.06 (s, 3H), 2.01 (s, 3H), 1.56 (p, $J = 7.3$ Hz, 2H), 1.21 (d, $J = 7.0$ Hz, 3H), 0.81 (t, $J = 7.4$ Hz, 3H). ^{13}C NMR (101 MHz, CDCl_3) δ 170.49, 170.40, 170.28, 169.54, 155.19, 142.81, 128.11 (2 C's), 116.95 (2 C's), 100.07 (C1), 71.06 (C5), 71.04 (C3), 68.86 (C2), 67.05 (C4), 61.50 (C6), 41.08, 31.38, 22.09, 20.89, 20.81 (2 C's), 20.73, 12.33. LC-MS (ESI-TOF): m/z $[\text{M}+\text{Na}]^+$ calcd for $\text{C}_{24}\text{H}_{32}\text{O}_{10} + \text{Na}$: 503.1888; found 503.1892.

(4'-Butoxyphenyl) 2,3,4,6-tetra-*O*-acetyl- β -D-galactopyranoside (**20**): ^1H NMR (400 MHz, CDCl_3) δ 6.94 (d, $J = 9.1$ Hz, 2H), 6.81 (d, $J = 9.1$ Hz, 2H), 5.49 – 5.43 (m, 2H, H2 and H4), 5.09 (dd, $J = 10.5, 3.4$ Hz, 1H, H3), 4.91 (d, $J = 8.0$ Hz, 1H, H1), 4.23 (dd, $J = 11.3, 6.9$ Hz, 1H, H6a), 4.16 (dd, $J = 11.3, 6.5$ Hz, 1H, H6b), 4.01 (ddd, $J = 6.7, 1.0$ Hz, 1H, H5), 3.92 (t, $J = 6.5$ Hz, 2H), 2.18 (s, 3H), 2.08 (s, 3H), 2.06 (s, 3H), 2.01 (s, 3H), 1.79 – 1.70 (m, 2H), 1.53 – 1.43 (m, 2H), 0.97 (t, $J = 7.4$ Hz, 3H). ^{13}C NMR (101 MHz, CDCl_3) δ 170.47, 170.39, 170.26, 169.52, 155.47, 151.03, 118.72 (2 C's), 115.33 (2 C's), 101.02 (C1), 71.04 (C5), 71.02 (C3), 68.90 (C2), 68.32, 67.04 (C4), 61.45 (C6), 31.47, 20.90, 20.81, 20.80, 20.73, 19.36, 13.97. LC-MS (ESI-TOF): m/z $[\text{M}+\text{Na}]^+$ calcd for $\text{C}_{24}\text{H}_{32}\text{O}_{11} + \text{Na}$: 519.1837; found 519.1839.

(4'-Phenoxyphenyl) 2,3,4,6-tetra-*O*-acetyl- β -D-galactopyranoside (**21**): ^1H NMR (400 MHz, CDCl_3) δ 7.36 – 7.29 (m, 2H), 7.11 – 7.05 (m, 1H), 7.02 – 6.93 (m, 6H), 5.50 – 5.45 (m, 2H, H2 and H4), 5.11 (dd, $J = 10.5, 3.4$ Hz, 1H, H3), 4.99 (d, $J = 8.0$ Hz, 1H, H2), 4.24 (dd, $J = 11.3, 7.0$ Hz, 1H, H6a), 4.16 (dd, $J = 11.3, 6.3$

Hz, 1H, H6b), 4.07 – 4.01 (m, 1H, H5), 2.19 (s, 3H), 2.09 (s, 3H), 2.05 (s, 3H), 2.02 (s, 3H). ^{13}C NMR (101 MHz, CDCl_3) δ 170.47, 170.36, 170.25, 169.50, 157.91, 153.01, 152.77, 129.85 (2 C's), 123.10, 120.45 (2 C's), 118.65 (2 C's), 118.28 (2 C's), 100.47 (C1), 71.16 (C5), 70.97 (C3), 68.82 (C2), 67.01 (C4), 61.48 (C6), 20.89, 20.80, 20.79, 20.72. LC-MS (ESI-TOF): m/z $[\text{M}+\text{Na}]^+$ calcd for $\text{C}_{26}\text{H}_{28}\text{O}_{11} + \text{Na}$: 539.1524; found 539.1528.

(4'-Benzyloxyphenyl) 2,3,4,6-tetra-*O*-acetyl- β -D-galactopyranoside (**22**): ^1H NMR (400 MHz, CDCl_3) δ 7.45 – 7.30 (m, 5H), 6.97 – 6.93 (m, 2H), 6.92 – 6.87 (m, 2H), 5.49 – 5.43 (m, 2H, H2 and H4), 5.09 (dd, J = 10.5, 3.4 Hz, 1H, H3), 5.03 (s, 2H), 4.92 (d, J = 8.0 Hz, 1H, H1), 4.23 (dd, J = 11.3, 6.9 Hz, 1H, H6a), 4.16 (dd, J = 11.3, 6.5 Hz, 1H, H6b), 4.01 (apparent td, J = 6.7, 1.0 Hz, 1H, H5), 2.18 (s, 3H), 2.08 (s, 3H), 2.05 (s, 3H), 2.01 (s, 3H). ^{13}C NMR (101 MHz, CDCl_3) δ 170.47, 170.38, 170.26, 169.51, 155.04, 151.32, 137.08, 128.72 (2 C's), 128.12, 127.57 (2 C's), 118.72 (2 C's), 115.79 (2 C's), 100.90 (C1), 71.06 (C5), 71.01 (C3), 70.66, 68.88 (C2), 67.03 (C4), 61.45 (C6), 20.90, 20.81, 20.79, 20.73. LC-MS (ESI-TOF): m/z $[\text{M}+\text{Na}]^+$ calcd for $\text{C}_{27}\text{H}_{30}\text{O}_{11} + \text{Na}$: 553.1680; found 553.1681.

(4'-*N*-Acetylphenyl) 2,3,4,6-tetra-*O*-acetyl- β -D-galactopyranoside (**23**): ^1H NMR (400 MHz, CDCl_3) δ 7.42 (d, J = 9.0 Hz, 2H), 7.35 (s, 1H), 6.96 (d, J = 9.0 Hz, 2H), 5.50 – 5.44 (m, 2H, H2 and H4), 5.10 (dd, J = 10.5, 3.4 Hz, 1H, H3), 4.98 (d, J = 8.0 Hz, 1H, H1), 4.22 (dd, J = 11.3, 7.0 Hz, 1H, H6a), 4.16 (dd, J = 11.3, 6.3

Hz, 1H, H6b), 4.04 (apparent t, $J = 6.6$ Hz, 1H, H5), 2.18 (s, 3H), 2.16 (s, 3H), 2.08 (s, 3H), 2.06 (s, 3H), 2.01 (s, 3H). ^{13}C NMR (101 MHz, CDCl_3) δ 170.52, 170.38, 170.26, 169.57, 168.44, 153.67, 133.53, 121.68 (2 C's), 117.72 (2 C's), 100.22 (C1), 71.13 (C5), 70.92 (C3), 68.75 (C2), 66.99 (C4), 61.47 (C6), 24.52, 20.89, 20.81, 20.80, 20.73. LC-MS (ESI-TOF): m/z $[\text{M}+\text{Na}]^+$ calcd for $\text{C}_{22}\text{H}_{27}\text{NO}_{11} + \text{Na}$: 504.1476; found 504.1475.

(3',5'-Dichlorophenyl) 2,3,4,6-tetra-*O*-acetyl- β -D-galactopyranoside (**24**): ^1H NMR (400 MHz, CDCl_3) δ 7.09 (t, $J = 1.8$ Hz, 1H), 6.93 (d, $J = 1.8$ Hz, 2H), 5.50 – 5.43 (m, 2H, H2 and H4), 5.11 (dd, $J = 10.4, 3.4$ Hz, 1H, H3), 5.02 (d, $J = 7.9$ Hz, 1H, H1), 4.23 – 4.08 (m, 3H, H5, H6a, and H6b), 2.19 (s, 3H), 2.11 (s, 3H), 2.08 (s, 3H), 2.02 (s, 3H). ^{13}C NMR (101 MHz, CDCl_3) δ 170.58, 170.27, 170.14, 169.39, 157.66, 135.57 (2 C's), 123.67, 116.03 (2 C's), 99.34 (C1), 71.69 (C5), 70.80 (C3), 68.46 (C2), 67.03 (C4), 61.90 (C6), 20.85, 20.79, 20.76, 20.68. LC-MS (ESI-TOF): m/z $[\text{M}+\text{Na}]^+$ calcd for $\text{C}_{20}\text{H}_{22}\text{Cl}_2\text{O}_{10} + \text{Na}$: 515.0482; found 515.0487.

(4'-Methoxy-2'-nitrophenyl) 2,3,4,6-tetra-*O*-acetyl- β -D-galactopyranoside (**25**): ^1H NMR (400 MHz, CDCl_3) δ 7.33 (d, $J = 9.2$ Hz, 1H), 7.29 (d, $J = 3.1$ Hz, 1H), 7.05 (dd, $J = 9.2, 3.1$ Hz, 1H), 5.50 (dd, $J = 10.5, 8.0$ Hz, 1H, H2), 5.45 (dd, $J = 3.4, 0.7$ Hz, 1H, H4), 5.09 (dd, $J = 10.5, 3.4$ Hz, 1H, H3), 4.96 (d, $J = 8.0$ Hz, 1H, H1), 4.26 (dd, $J = 11.3, 6.9$ Hz, 1H, H6a), 4.15 (dd, $J = 11.3, 6.3$ Hz, 1H, H6b), 4.03 – 3.98 (m, 1H, H5), 3.84 (s, 3H), 2.19 (s, 3H), 2.15 (s, 3H), 2.06 (s, 3H), 2.01 (s, 3H). ^{13}C NMR (101 MHz, CDCl_3) δ 170.43, 170.32, 170.23, 169.72,

155.78, 142.94, 142.22, 123.15, 120.08, 109.21, 101.75 (C1), 71.34 (C5), 70.71 (C3), 68.12 (C2), 66.88 (C4), 61.39 (C6), 56.18, 20.85, 20.80 (2 C's), 20.70. LC-MS (ESI-TOF): m/z $[M+Na]^+$ calcd for $C_{21}H_{25}NO_{13} + Na$: 522.1218; found 522.1216.

(4'-Chloro-3'-methylphenyl) 2,3,4,6-tetra-*O*-acetyl- β -D-galactopyranoside (**26**): 1H NMR (400 MHz, $CDCl_3$) δ 7.24 (d, J = 8.7 Hz, 1H), 6.89 (d, J = 2.8 Hz, 1H), 6.78 (dd, J = 8.7, 2.8 Hz, 1H), 5.49 – 5.44 (m, 2H, H2 and H4), 5.10 (dd, J = 10.5, 3.4 Hz, 1H, H3), 4.99 (d, J = 7.9 Hz, 1H, H1), 4.22 (dd, J = 11.3, 7.1 Hz, 1H, H6a), 4.16 (dd, J = 11.3, 6.1 Hz, 1H, H6b), 4.09 – 4.02 (m, 1H, H5), 2.34 (s, 3H), 2.18 (s, 3H), 2.07 (s, 3H), 2.06 (s, 3H), 2.01 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 170.45, 170.34, 170.22, 169.47, 155.46, 137.50, 129.87, 128.73, 119.69, 115.68, 99.88 (C1), 71.25 (C5), 70.91 (C3), 68.74 (C2), 67.00 (C4), 61.59 (C6), 20.87, 20.79 (2 C's), 20.71, 20.45. LC-MS (ESI-TOF): m/z $[M+Na]^+$ calcd for $C_{21}H_{25}ClO_{10} + Na$: 495.1028; found 495.1030.

(3',5'-Dimethylphenyl) 2,3,4,6-tetra-*O*-acetyl- β -D-galactopyranoside (**27**): 1H NMR (400 MHz, $CDCl_3$) δ 6.19 (s, 3H), 5.47 (dd, J = 8.2, 5.8 Hz, 1H), 5.49 – 5.45 (m, 1H, H2 and H4), 5.11 (dd, J = 10.4, 3.4 Hz, 1H, H3), 5.03 (d, J = 8.0 Hz, 1H, H1), 4.25 – 4.14 (m, 2H, H6a and H6b), 4.06 (apparent t, J = 6.6 Hz, 1H, H5), 3.76 (s, 6H), 2.18 (s, 3H), 2.07 (s, 3H), 2.07 (s, 3H), 2.01 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 170.53, 170.35, 170.20, 169.55, 161.57 (2 C's), 158.75, 99.47 (C1), 95.82 (2 C's), 95.12, 71.27 (C5), 70.98 (C3), 68.71 (C2), 67.06 (C4), 61.63

(C6), 55.55 (2 C's), 20.88, 20.77, 20.70 (2 C's). LC-MS (ESI-TOF): m/z $[M+Na]^+$ calcd for $C_{22}H_{28}O_{12} + Na$: 507.1473; found 507.1478.

(4'-Isopropylphenyl) 2,3,4,6-tetra-*O*-acetyl-1-thio- β -D-galactopyranoside (**28**): 1H NMR (400 MHz, $CDCl_3$) δ 7.44 (d, J = 8.3 Hz, 2H), 7.18 (d, J = 8.1 Hz, 2H), 5.41 (dd, J = 3.3, 1.0 Hz, 1H, H4), 5.23 (apparent t, J = 10.0 Hz, 1H, H2), 5.04 (dd, J = 10.0, 3.3 Hz, 1H, H3), 4.67 (d, J = 10.0 Hz, 1H, H1), 4.20 (dd, J = 11.3, 6.9 Hz, 1H, H6a), 4.14 – 4.07 (m, 1H, H6b), 3.96 – 3.89 (m, 1H, H5), 2.90 (sept, J = 7.1 Hz, 1H), 2.11 (s, 3H), 2.10 (s, 3H), 2.04 (s, 3H), 1.98 (s, 3H), 1.24 (d, J = 6.9 Hz, 6H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 170.51, 170.33, 170.21, 169.61, 149.48, 133.31 (2 C's), 129.17, 127.19 (2 C's), 87.13 (C1), 74.46 (C5), 72.18 (C3), 67.52 (C2), 67.36 (C4), 61.72 (C6), 33.97, 24.02 (2 C's), 21.02, 20.83, 20.78, 20.74. LC-MS (ESI-TOF): m/z $[M+Na]^+$ calcd for $C_{23}H_{30}O_9S + Na$: 505.1503; found 505.1511.

(2'-Methoxyphenyl) 2,3,4,6-tetra-*O*-acetyl-1-thio- β -D-galactopyranoside (**29**): 1H NMR (400 MHz, $CDCl_3$) δ 7.50 (dd, J = 7.7, 1.7 Hz, 1H), 7.29 (ddd, J = 8.1, 7.4, 1.6 Hz, 1H), 6.92 (ddd, J = 7.6, 1.2 Hz, 1H), 6.88 (dd, J = 8.3, 1.1 Hz, 1H), 5.42 (dd, J = 3.4, 1.0 Hz, 1H, H4), 5.28 (apparent t, J = 10.0 Hz, 1H, H2), 5.07 (dd, J = 9.9, 3.4 Hz, 1H, H3), 4.82 (d, J = 10.0 Hz, 1H, H1), 4.17 (dd, J = 11.3, 7.0 Hz, 1H, H6a), 4.10 (dd, J = 11.3, 6.3 Hz, 1H, H6b), 3.97 – 3.91 (m, 1H, H5), 3.86 (s, 3H), 2.14 (s, 3H), 2.07 (s, 3H), 2.02 (s, 3H), 1.98 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 170.50, 170.39, 170.24, 169.61, 158.37, 133.16, 129.48, 121.13,

120.93, 111.16, 85.25 (C1), 74.49 (C5), 72.23 (C3), 67.56 (C2), 67.40 (C4),
61.72 (C6), 55.91, 20.95, 20.81, 20.79, 20.73. LC-MS (ESI-TOF): m/z $[M+Na]^+$
calcd for $C_{21}H_{26}O_{10}S + Na$: 493.1139; found 493.1141.

(3'-Chlorophenyl) 2,3,4,6-tetra-*O*-acetyl-1-thio- β -D-galactopyranoside (**30**): 1H
NMR (400 MHz, $CDCl_3$) δ 7.56 (t, J = 1.7 Hz, 1H), 7.36 (dt, J = 7.4, 1.5 Hz, 1H),
7.31 – 7.27 (m, 1H), 7.25 (dd, J = 14.6, 6.9 Hz, 1H), 5.44 (dd, J = 3.3, 0.9 Hz, 1H,
H4), 5.23 (apparent t, J = 10.0 Hz, 1H, H2), 5.06 (dd, J = 9.9, 3.3 Hz, 1H, H3),
4.73 (d, J = 10.0 Hz, 1H, H1), 4.19 (dd, J = 11.5, 7.2 Hz, 1H, H6a), 4.14 (dd, J =
11.5, 5.7 Hz, 1H, H6b), 3.98 (ddd, J = 7.0, 5.7, 1.0 Hz, 1H, H5), 2.14 (s, 3H), 2.09
(s, 3H), 2.07 (s, 3H), 1.98 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 170.59, 170.30,
170.13, 169.49, 134.67, 134.57, 131.85, 130.36, 129.97, 128.35, 86.19 (C1),
74.79 (C5), 72.04 (C3), 67.38 (C4), 67.13 (C2), 62.01 (C6), 20.94, 20.85, 20.78,
20.71. LC-MS (ESI-TOF): m/z $[M+Na]^+$ calcd for $C_{20}H_{23}ClO_9S + Na$: 497.0644;
found 497.0649.

(4'-Nitrophenyl) 2,3,4,6-tetra-*O*-acetyl-1-thio- β -D-galactopyranoside (**31**): 1H
NMR (400 MHz, $CDCl_3$) δ 8.16 (d, J = 9.0 Hz, 2H), 7.61 (d, J = 9.0 Hz, 2H), 5.48
(dd, J = 3.3, 0.9 Hz, 1H, H4), 5.30 (apparent t, J = 10.0 Hz, 1H, H2), 5.11 (dd, J =
9.9, 3.3 Hz, 1H, H3), 4.87 (d, J = 10.0 Hz, 1H, H1), 4.21 (dd, J = 11.4, 7.2 Hz,
1H, H6a), 4.15 (dd, J = 11.4, 5.7 Hz, 1H, H6b), 4.05 (ddd, J = 6.9, 5.8, 0.9 Hz,
1H, H5), 2.16 (s, 3H), 2.09 (s, 3H), 2.08 (s, 3H), 1.99 (s, 3H). ^{13}C NMR (101
MHz, $CDCl_3$) δ 170.41, 170.12, 170.05, 169.47, 146.97, 142.51, 130.54 (2 C's),

123.97 (2 C's), 84.97 (C1), 74.99 (C5), 71.85 (C3), 67.20 (C4), 66.85 (C2), 61.80 (C6), 20.87, 20.83, 20.78, 20.67. LC-MS (ESI-TOF): m/z $[M+Na]^+$ calcd for $C_{20}H_{23}NO_{11}S + Na$: 508.0884; found 508.0888.

(2'-Naphthyl) 2,3,4,6-tetra-*O*-acetyl-1-thio- β -D-galactopyranoside (**32**): 1H NMR (400 MHz, $CDCl_3$) δ 8.02 (s, 1H), 7.84 – 7.77 (m, 3H), 7.58 (dd, J = 8.6, 1.6 Hz, 1H), 7.52 – 7.48 (m, 2H), 5.43 (apparent d, J = 3.3 Hz, 1H, H4), 5.28 (apparent t, J = 9.9 Hz, 1H, H2), 5.07 (dd, J = 10.0, 3.3 Hz, 1H, H3), 4.81 (d, J = 10.0 Hz, 1H, H1), 4.22 (dd, J = 11.4, 7.0 Hz, 1H, H6a), 4.13 (dd, J = 11.3, 6.0 Hz, 1H, H6b), 3.96 (apparent t, J = 6.5 Hz, 1H, H5), 2.13 (s, 3H), 2.07 (s, 3H), 2.01 (s, 3H), 1.97 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 170.50, 170.31, 170.17, 169.56, 133.56, 132.85, 132.05, 129.86, 129.70, 128.54, 127.82, 127.73, 126.77, 126.75, 86.74 (C1), 74.61, (C5), 72.11, (C3), 67.41 (C4), 67.35 (C2), 61.83 (C6), 21.01, 20.79, 20.72 (2 C's). LC-MS (ESI-TOF): m/z $[M+Na]^+$ calcd for $C_{24}H_{26}O_9S + Na$: 513.1190; found 513.1186.

(4'-Methylphenyl) 2,3,4,6-tetra-*O*-acetyl-1-thio- β -D-galactopyranoside (**33**): 1H NMR (400 MHz, $CDCl_3$) δ 7.41 (d, J = 8.0 Hz, 2H), 7.13 (d, J = 8.1 Hz, 2H), 5.41 (apparent d, J = 3.3 Hz, 1H, H4), 5.22 (apparent t, J = 9.9 Hz, 1H, H2), 5.04 (dd, J = 10.0, 3.3 Hz, 1H, H3), 4.65 (d, J = 10.0 Hz, 1H, H1), 4.19 (dd, J = 11.3, 6.9 Hz, 1H, H6a), 4.11 (dd, J = 11.3, 6.3 Hz, 1H, H6b), 3.91 (apparent t, J = 6.6 Hz, 1H, H5), 2.35 (s, 3H), 2.12 (s, 3H), 2.10 (s, 3H), 2.05 (s, 3H), 1.97 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 170.48, 170.31, 170.18, 169.54, 138.57, 133.23 (2

C's), 129.74 (2 C's), 128.72, 87.07 (C1), 74.44 (C5), 72.12 (C3), 67.37 (C2), 67.30 (C4), 61.69 (C6), 21.28, 20.99, 20.80, 20.76, 20.72. LC-MS (ESI-TOF): m/z $[M+Na]^+$ calcd for $C_{21}H_{26}O_9S + Na$: 477.1190; found 477.1198.

(4'-Aminophenyl) 2,3,4,6-tetra-*O*-acetyl-1-thio- β -D-galactopyranoside (**34**): 1H NMR (400 MHz, $CDCl_3$) δ 7.32 (d, J = 8.5 Hz, 2H), 6.61 (d, J = 8.5 Hz, 2H), 5.38 (dd, J = 3.3, 0.7 Hz, 1H, H4), 5.17 (apparent t, J = 9.9 Hz, 1H, H2), 5.02 (dd, J = 10.0, 3.3 Hz, 1H, H3), 4.52 (d, J = 9.9 Hz, 1H, H1), 4.17 (dd, J = 11.3, 6.8 Hz, 1H, H6a), 4.09 (dd, J = 11.8, 6.8 Hz, 1H, H6b), 3.87 (ddd, J = 6.6, 0.7 Hz, 1H, H5), 3.83 (s, 2H), 2.11 (s, 3H), 2.10 (s, 3H), 2.04 (s, 3H), 1.97 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 170.50, 170.35, 170.22, 169.55, 147.48, 136.24 (2 C's), 118.82, 115.19 (2 C's), 87.51 (C1), 74.29 (C5), 72.19 (C3), 67.43 (C4), 67.32 (C2), 61.61 (C6), 21.03, 20.80, 20.75, 20.72. LC-MS (ESI-TOF): m/z $[M+Na]^+$ calcd for $C_{20}H_{25}NO_9S + Na$: 478.1142; found 478.1138.

(2'-Hydroxyphenyl) 2,3,4,6-tetra-*O*-acetyl-1-thio- β -D-galactopyranoside (**35**): 1H NMR (400 MHz, $CDCl_3$) δ 7.43 (d, J = 7.7 Hz, 1H), 7.33 (t, J = 7.8 Hz, 1H), 7.14 (s, 1H), 6.99 (d, J = 8.2 Hz, 1H), 6.87 (t, J = 7.5 Hz, 1H), 5.38 (apparent d, J = 3.3 Hz, 1H, H4), 5.22 (apparent t, J = 9.9 Hz, 1H, H2), 5.01 (dd, J = 9.9, 3.3 Hz, 1H, H3), 4.59 (d, J = 10.0 Hz, 1H, H1), 4.16 (dd, J = 11.5, 7.4 Hz, 1H, H6a), 4.08 (dd, J = 11.5, 5.5 Hz, 1H, H6b), 3.97 – 3.91 (m, 1H, H5), 2.15 (s, 3H), 2.10 (s, 3H), 2.07 (s, 3H), 1.98 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 170.57, 170.18, 170.08, 169.42, 158.62, 137.24, 132.51, 120.65, 116.26, 115.29, 87.66 (C1),

74.96 (C5), 71.89 (C3), 67.17 (2 C's, C2 and C4), 61.60 (C6), 20.96, 20.74, 20.67 (2 C's). LC-MS (ESI-TOF): m/z $[M+Na]^+$ calcd for $C_{20}H_{24}O_{10}S + Na$: 479.0982; found 479.0986.

(2'-Cinnamoylphenyl) 2,3,4,6-tetra-*O*-acetyl- β -D-galactopyranoside (**36**): 1H NMR (400 MHz, $CDCl_3$) δ 7.62 – 7.57 (m, 2H), 7.53 – 7.43 (m, 3H), 7.41 – 7.37 (m, 3H), 7.28 – 7.16 (m, 3H), 5.46 – 5.40 (m, 2H, H2 and H4), 5.06 (dd, J = 10.4, 3.5 Hz, 1H, H3), 5.04 (d, J = 7.9 Hz, 1H, H1), 4.24 (dd, J = 11.3, 7.0 Hz, 1H, H6a), 4.16 (dd, J = 11.3, 6.3 Hz, 1H, H6b), 4.07 – 4.03 (m, 1H, H5), 2.09 (s, 3H), 2.07 (s, 3H), 1.99 (s, 3H), 1.96 (s, 3H). ^{13}C NMR (101 MHz, $CDCl_3$) δ 193.50, 170.44, 170.30, 170.18, 169.26, 154.79, 145.06, 134.97, 132.24, 131.81, 130.61, 129.72, 128.95 (2 C's), 128.74 (2 C's), 127.20, 123.91, 117.30, 100.73 (C1), 71.33 (C5), 70.95 (C3), 68.29 and 66.94 (C2 and C4), 61.43 (C6), 20.78, 20.77, 20.68, 20.65. LC-MS (ESI-TOF): m/z $[M+Na]^+$ calcd for $C_{29}H_{30}O_{11} + Na$: 577.1680; found 577.1683.

(2'-(2''-Methoxycinnamoyl)phenyl) 2,3,4,6-tetra-*O*-acetyl- β -D-galactopyranoside (**38**): 1H NMR (400 MHz, $CDCl_3$) δ 7.85 (d, J = 16.2 Hz, 1H), 7.62 (dd, J = 7.7, 1.7 Hz, 1H), 7.49 (dd, J = 7.6, 1.7 Hz, 1H), 7.44 (ddd, J = 8.4, 7.4, 1.8 Hz, 1H), 7.36 (ddd, J = 8.4, 7.4, 1.7 Hz, 1H), 7.26 – 7.16 (m, 3H), 7.01 – 6.95 (m, 1H), 6.91 (d, J = 8.4 Hz, 1H), 5.48 – 5.41 (m, 2H, H2 and H4), 5.05 (dd, J = 10.5, 3.4 Hz, 1H, H3), 5.02 (d, J = 8.0 Hz, 1H, H1), 4.25 (dd, J = 11.3, 7.0 Hz, 1H, H6a), 4.16 (dd, J = 11.3, 6.2 Hz, 1H, H6b), 4.07 – 4.02 (m, 1H, H5), 3.87 (s, 3H), 2.12

(s, 3H), 2.08 (s, 3H), 2.00 (s, 3H), 1.96 (s, 3H). ^{13}C NMR (101 MHz, CDCl_3) δ 193.95, 170.49, 170.35, 170.24, 169.33, 158.72, 154.82, 140.52, 132.15, 131.99, 131.97, 129.71, 129.04, 127.54, 123.94, 123.88, 120.82, 117.62, 111.22, 100.94 (C1), 71.28 (C5), 71.02 (C3), 68.25 and 67.00 (C2 and C4), 61.47 (C6), 55.62, 20.81, 20.78, 20.75, 20.69. LC-MS (ESI-TOF): m/z $[\text{M}+\text{Na}]^+$ calcd for $\text{C}_{30}\text{H}_{32}\text{O}_{12} + \text{Na}$: 607.1786; found 607.1782.

(2'-(2'',3''-Dimethoxycinnamoyl)-3',5'-dimethoxyphenyl) 2,3,4,6-tetra-O-acetyl- β -D-galactopyranoside (**39**): ^1H NMR (400 MHz, CDCl_3) δ 7.63 (d, J = 16.4 Hz, 1H), 7.21 (dd, J = 7.9, 1.2 Hz, 1H), 7.06 (t, J = 8.0 Hz, 1H), 6.93 (dd, J = 8.2, 1.2 Hz, 1H), 6.90 (d, J = 16.3 Hz, 1H), 6.44 (d, J = 2.1 Hz, 1H), 6.27 (d, J = 2.1 Hz, 1H), 5.41 (dd, J = 3.4, 1.0 Hz, 1H, H4), 5.34 (dd, J = 10.5, 8.0 Hz, 1H, H2), 5.02 (dd, J = 10.5, 3.4 Hz, 1H, H3), 4.94 (d, J = 8.0 Hz, 1H, H1), 4.24 – 4.12 (m, 2H, H6a and H6b), 4.05 – 4.00 (m, 1H, H5), 3.86 (s, 3H), 3.84 (s, 3H), 3.78 (s, 3H), 3.76 (s, 3H), 2.12 (s, 3H), 2.08 (s, 3H), 2.04 (s, 3H), 1.96 (s, 3H). ^{13}C NMR (101 MHz, CDCl_3) δ 194.14, 170.55, 170.36, 170.23, 169.51, 162.11, 158.53, 155.79, 153.20, 148.68, 140.39, 130.13, 129.36, 124.36, 119.62, 114.12, 100.75 (C1), 96.04, 93.45, 71.30 (C5), 70.92 (C3), 67.97 (C2), 67.10 (C4), 61.83 (C6), 61.63, 56.05, 56.03, 55.63, 20.81, 20.79, 20.77, 20.70.

(2'-(2'',3''-Dimethoxycinnamoyl)phenyl) 2,3,4,6-tetra-O-acetyl- β -D-galactopyranoside (**40**): ^1H NMR (400 MHz, CDCl_3) δ 7.76 (d, J = 16.1 Hz, 1H), 7.55 (d, J = 8.6 Hz, 1H), 7.46 (dd, J = 7.5, 1.7 Hz, 1H), 7.44 – 7.39 (m, 1H), 7.25

(d, $J = 8.1$ Hz, 1H), 7.21 – 7.15 (m, 1H), 7.13 (d, $J = 16.1$ Hz, 1H), 6.52 (dd, $J = 8.6, 2.3$ Hz, 1H), 6.44 (d, $J = 2.3$ Hz, 1H), 5.48 – 5.41 (m, 2H, H2 and H4), 5.05 (dd, $J = 10.5, 3.4$ Hz, 1H, H3), 5.00 (d, $J = 8.1$ Hz, 1H, H1), 4.25 (dd, $J = 11.3, 7.0$ Hz, 1H, H6a), 4.17 (dd, $J = 11.3, 6.2$ Hz, 1H, H6b), 4.05 (apparent t, $J = 6.6$ Hz, 1H, H5), 3.84 (s, 6H), 2.14 (s, 3H), 2.08 (s, 3H), 2.00 (s, 3H), 1.96 (s, 3H). ^{13}C NMR (101 MHz, CDCl_3) δ 194.08, 170.49, 170.35, 170.23, 169.38, 163.26, 160.29, 154.71, 140.85, 132.43, 131.68, 130.61, 129.58, 125.27, 123.85, 117.76, 117.04, 105.49, 101.03 (C1), 98.42, 71.25 (C5), 71.02 (C3), 68.22 and 67.02 (C2 and C4), 61.48 (C6), 55.61, 55.58, 20.80 (2 C's), 20.76, 20.68. LC-MS (ESI-TOF): m/z $[\text{M}+\text{Na}]^+$ calcd for $\text{C}_{31}\text{H}_{34}\text{O}_{13} + \text{Na}$: 637.1892; found 637.1899.

(2'-(2''-Cinnamoyl)-5'-methoxyphenyl) 2,3,4,6-tetra-*O*-acetyl- β -D-galactopyranoside (**41**): ^1H NMR (400 MHz, CDCl_3) δ 7.63 – 7.55 (m, 4H), 7.42 – 7.37 (m, 3H), 7.32 (d, $J = 15.9$ Hz, 1H), 6.79 (d, $J = 2.3$ Hz, 1H), 6.70 (dd, $J = 8.6, 2.3$ Hz, 1H), 5.48 – 5.42 (m, 2H, H2 and H4), 5.06 (dd, $J = 9.8, 4.0$ Hz, 1H, H3), 5.04 (d, $J = 8.0$ Hz, 1H, H1), 4.26 – 4.15 (m, 2H, H6a and H6b), 4.05 (t, $J = 6.9$ Hz, 1H, H5), 3.85 (s, 3H), 2.10 (s, 3H), 2.08 (s, 3H), 1.95 (s, 3H), 1.95 (s, 3H). ^{13}C NMR (101 MHz, CDCl_3) δ 191.33, 170.54, 170.29, 170.18, 169.18, 163.43, 156.92, 143.66, 135.26, 132.05, 130.36, 128.88 (2 C's), 128.73 (2 C's), 127.07, 124.59, 108.20, 104.36, 100.80 (C1), 71.57 and 71.00 (C3 and C5), 68.29 and 67.08 (C2 and C4), 61.65 (C6), 55.73, 20.76, 20.71, 20.68, 20.65. LC-MS (ESI-TOF): m/z $[\text{M}+\text{Na}]^+$ calcd for $\text{C}_{30}\text{H}_{32}\text{O}_{12} + \text{Na}$: 607.1786; found 607.1790.

1-Butyl-3-methylimidazolium 4-nitrophenoxide (**42**): Obtained as yellow oil in 9% yield.² ¹H NMR (400 MHz, DMSO) δ 9.11 (s, 1H), 7.76 – 7.74 (m, 1H), 7.74 – 7.70 (m, 2H), 7.69 – 7.67 (m, 1H), 5.99 – 5.93 (m, 2H), 4.13 (t, J = 7.2 Hz, 2H), 3.82 (s, 3H), 1.73 (dt, J = 14.8, 7.3 Hz, 2H), 1.23 (dq, J = 14.7, 7.4 Hz, 2H), 0.87 (t, J = 7.4 Hz, 3H). ¹³C NMR (101 MHz, DMSO) δ 179.49, 136.56, 127.44, 123.65, 122.30, 119.10, 48.52, 35.78, 31.39, 18.82, 13.32.

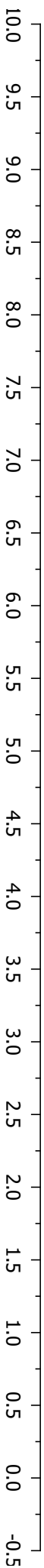
1. K. Shimojo, K. Nakashima, N. Kamiya and M. Goto, *Biomacromolecules*, 2006, **7**, 2-5.
2. S. Katsuta, K. Imai, Y. Kudo, Y. Takeda, H. Seki and M. Nakakoshi, *J. Chem. Eng. Data*, 2008, **53**, 1528-1532.

7.57
7.56
7.56
7.50
7.50
7.49

4.20
4.18
4.17
3.90
3.56
3.54
3.52

1.93
1.91
1.89
1.87
1.85

1.55
1.54
1.52
1.50
1.43
1.42
1.42
1.41
1.40
1.40
1.39
1.39
1.38
1.36
1.36
1.35



A (s)
8.74

B (t)
7.56

C (t)
7.50

D (t)
4.18

E (s)
3.90

F (t)
3.54

G (dt)
1.89

H (m)
1.54

I (m)
1.39

1.00

0.97

0.91

2.16

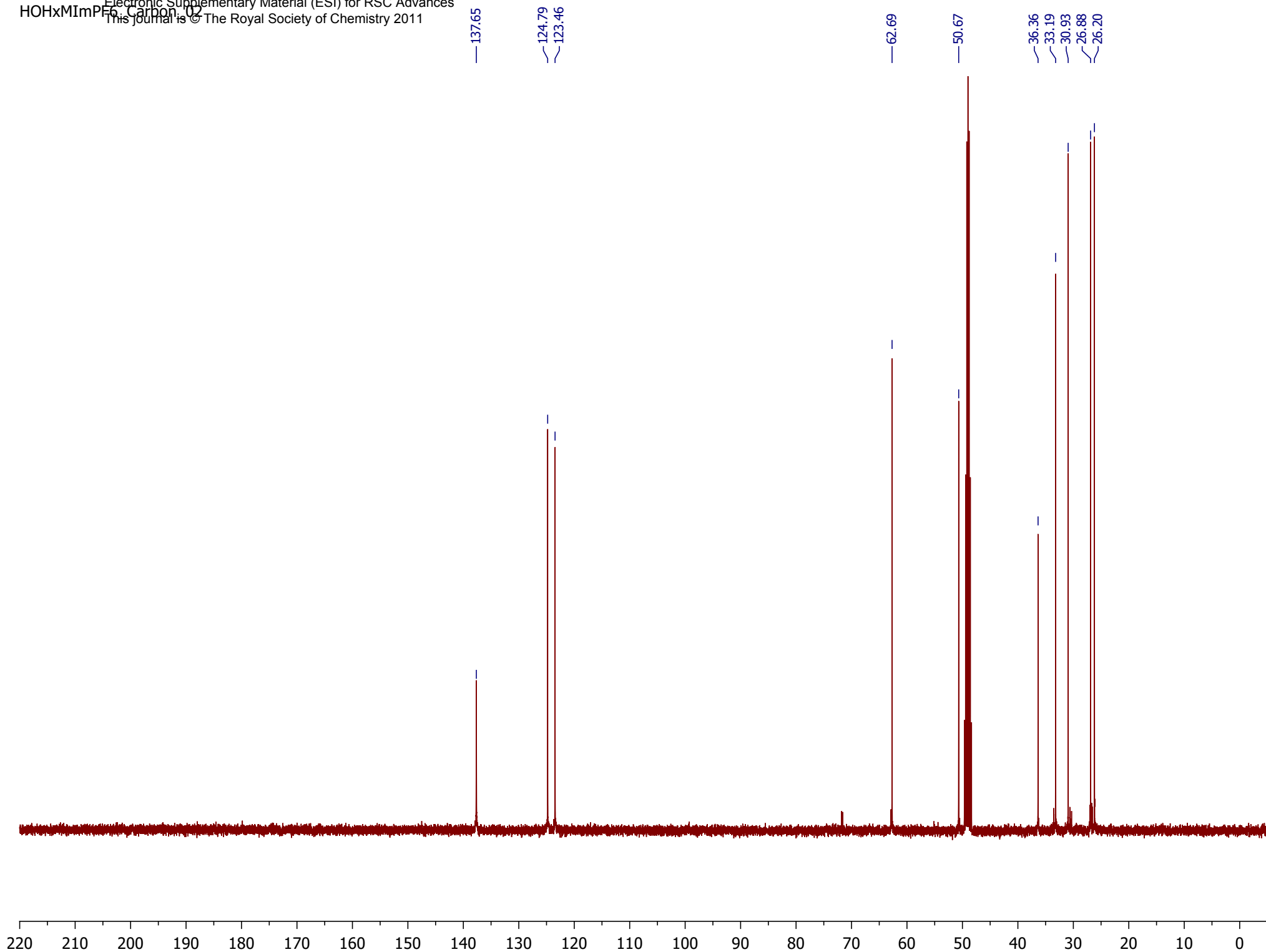
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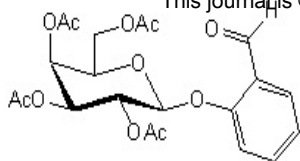
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2.21

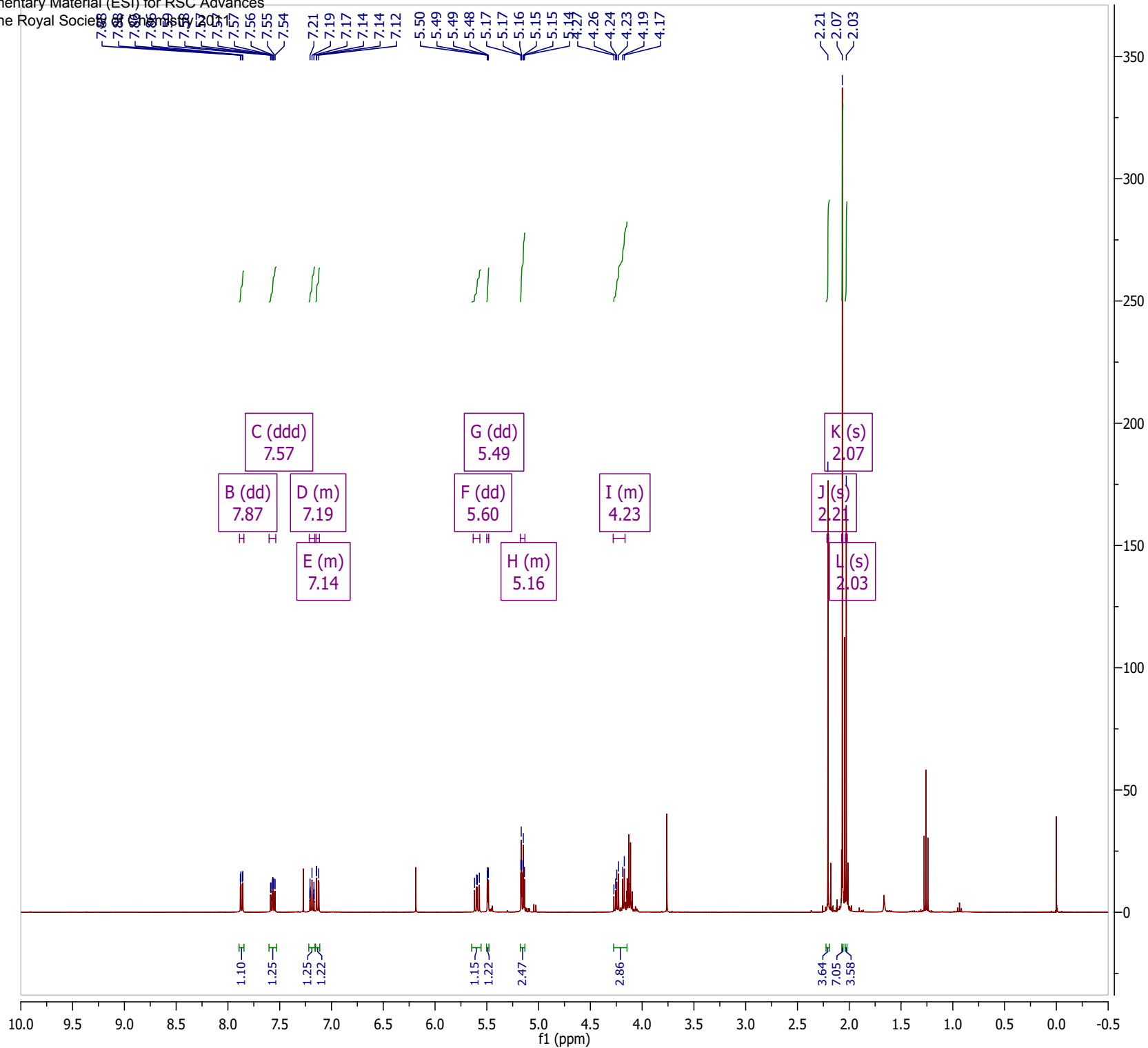
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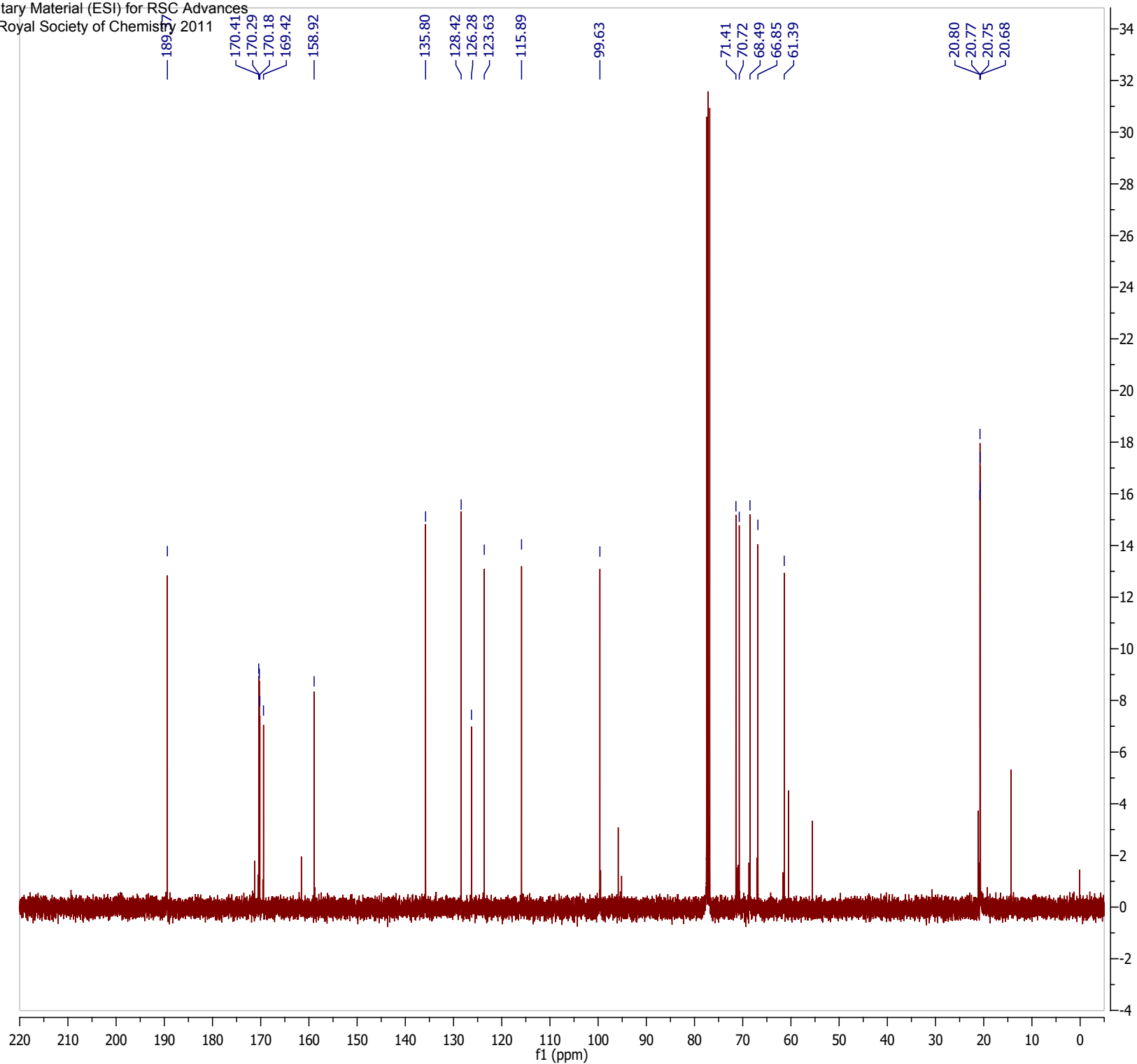
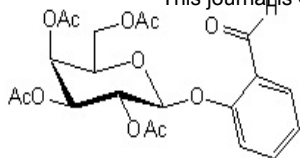
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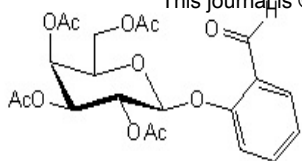


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-07-06T12:24:23
11 Modification Date	2010-07-06T11:24:58
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-800.7
15 Nucleus	1H
16 Acquired Size	13132
17 Spectral Size	32768

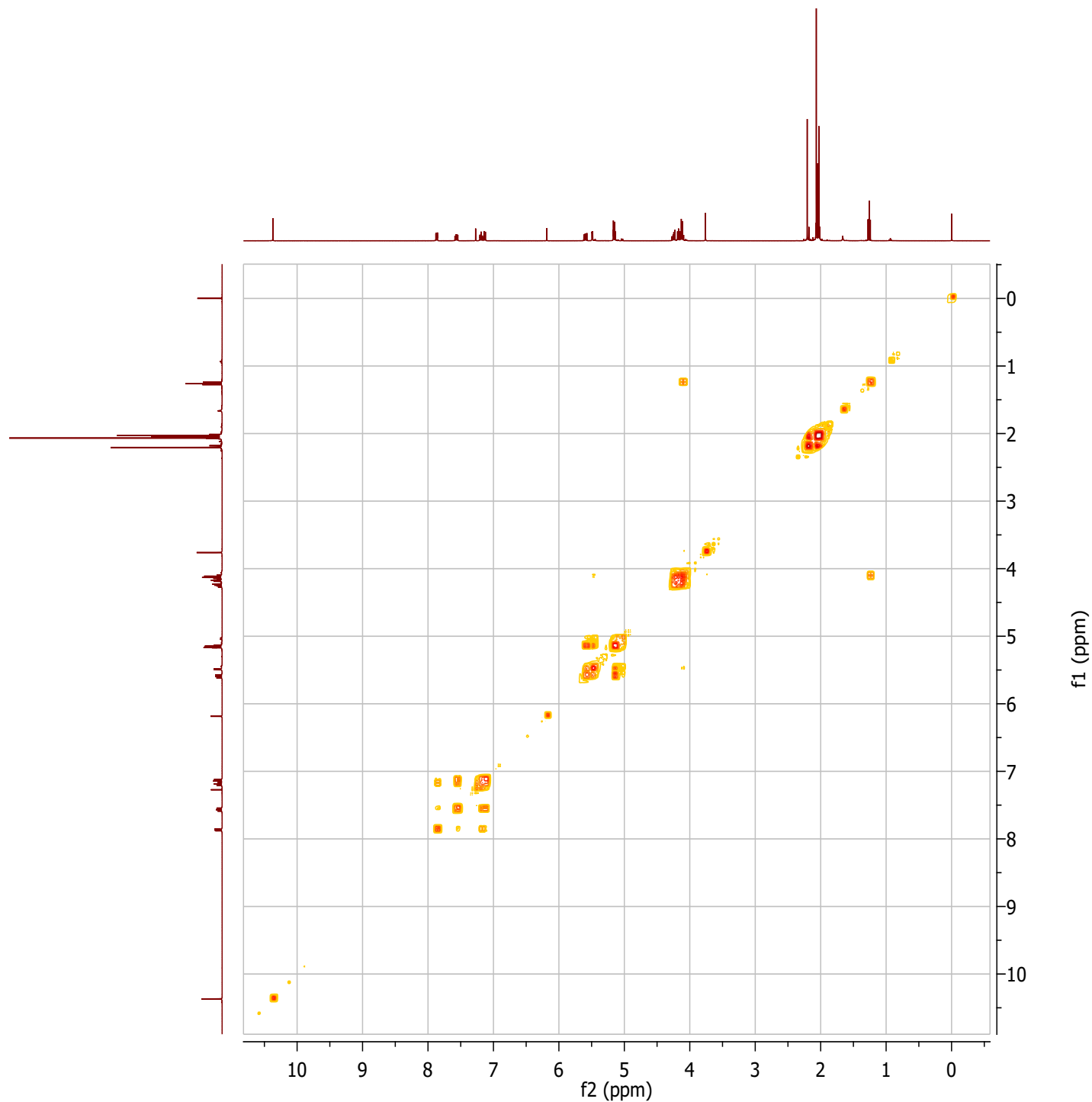


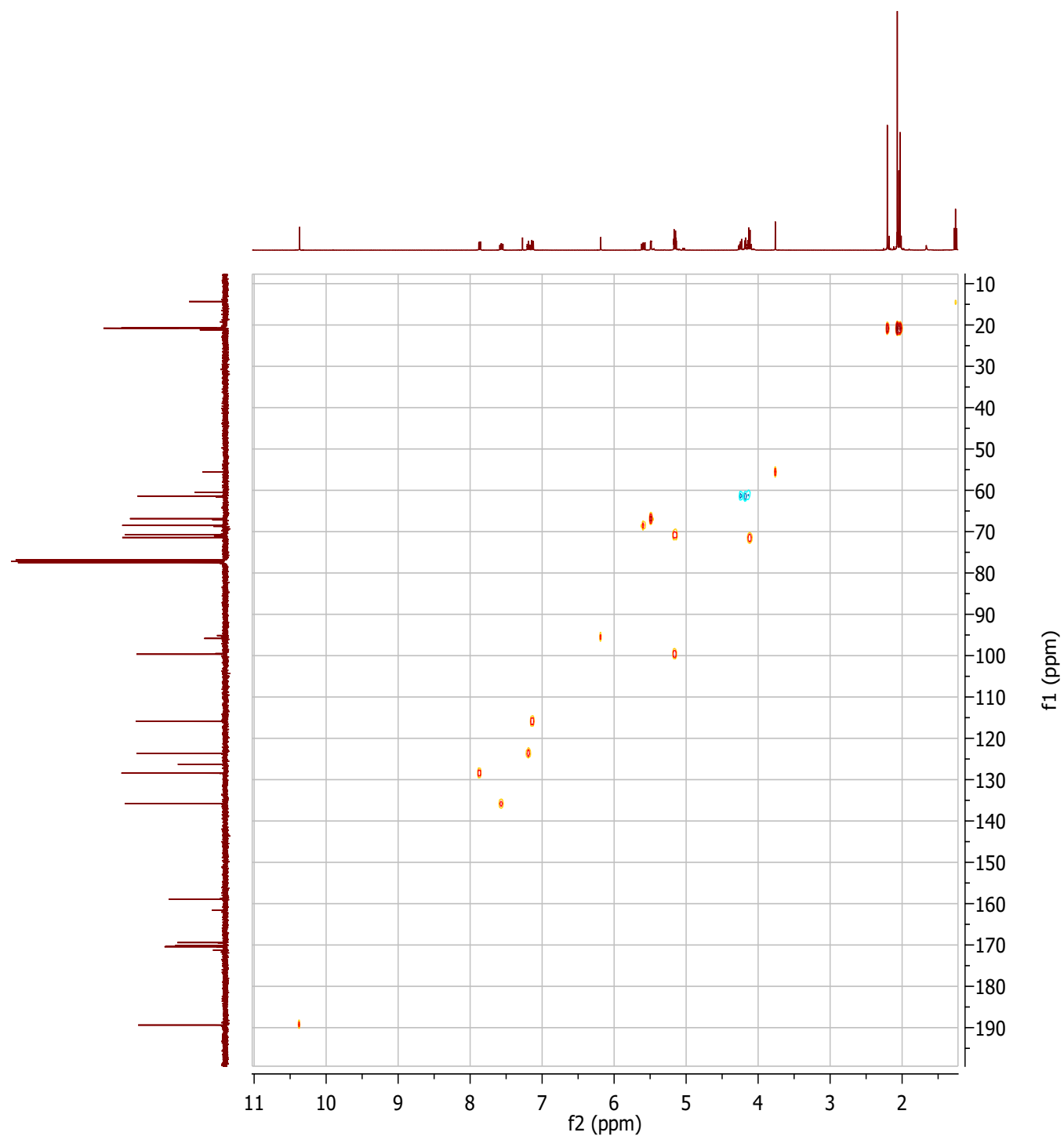
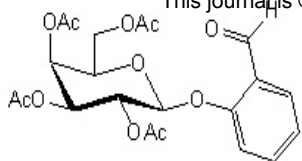


Parameter	Value
1 Spectrometer	nmr5
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-07-06T12:31:49
11 Modification Date	2010-07-06T11:51:30
12 Spectrometer	100.54
Frequency	
13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	13C
16 Acquired Size	31875
17 Spectral Size	65536

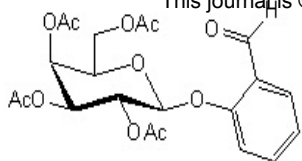


Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1950
10 Acquisition Date	2010-07-06T12:53:05
11 Modification Date	2010-07-06T11:56:03
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(5252.1, 5252.1)
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15 Nucleus	(1H, 1H)
16 Acquired Size	(1024, 128)
17 Spectral Size	(1024, 1024)

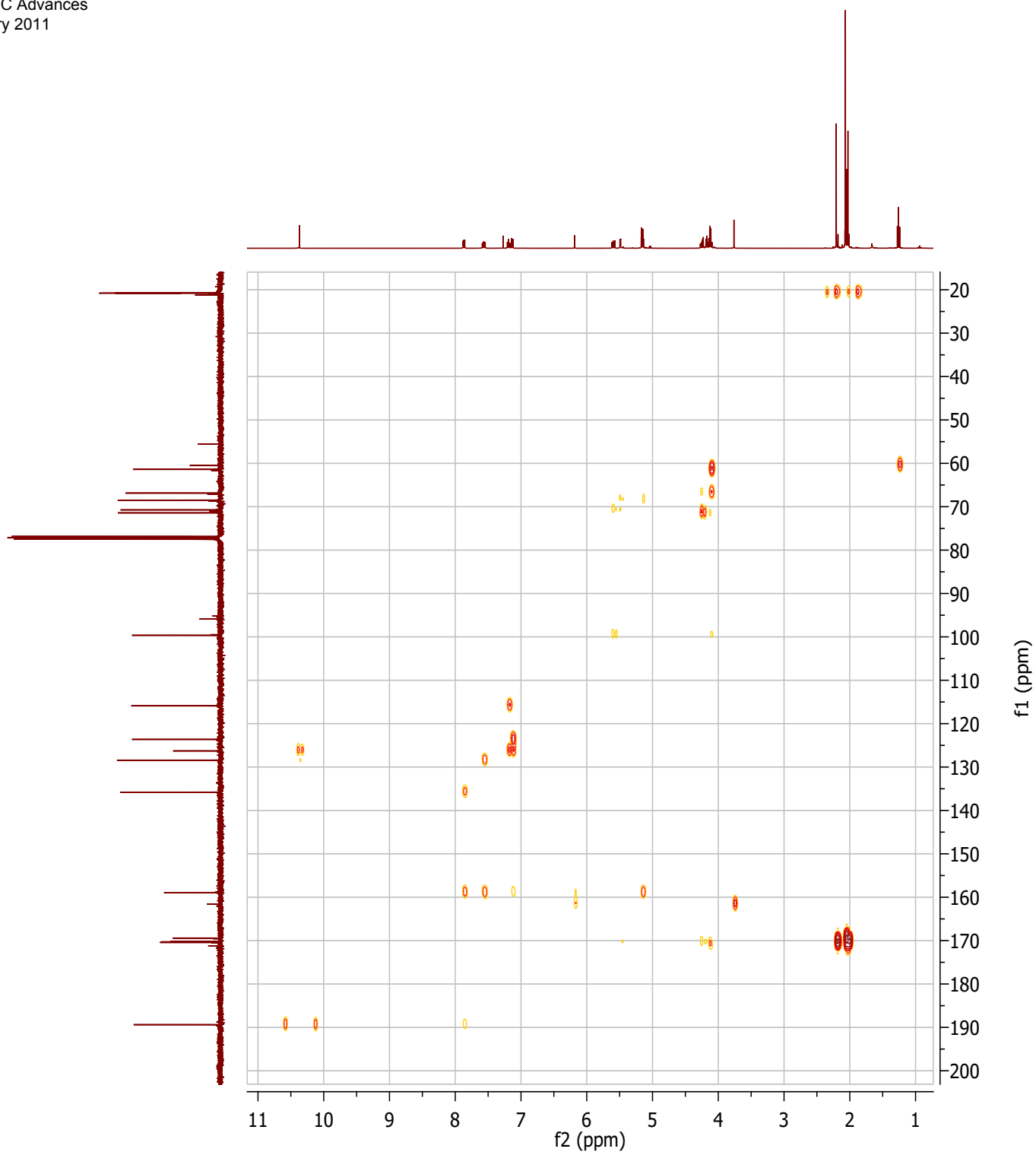


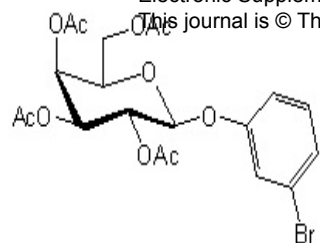


Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1993
10 Acquisition Date	2010-07-06T12:56:04
11 Modification Date	2010-07-06T12:07:24
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(5252.1, 24125.5)
14 Lowest Frequency	(-558.4, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(1047, 128)
17 Spectral Size	(1024, 1024)

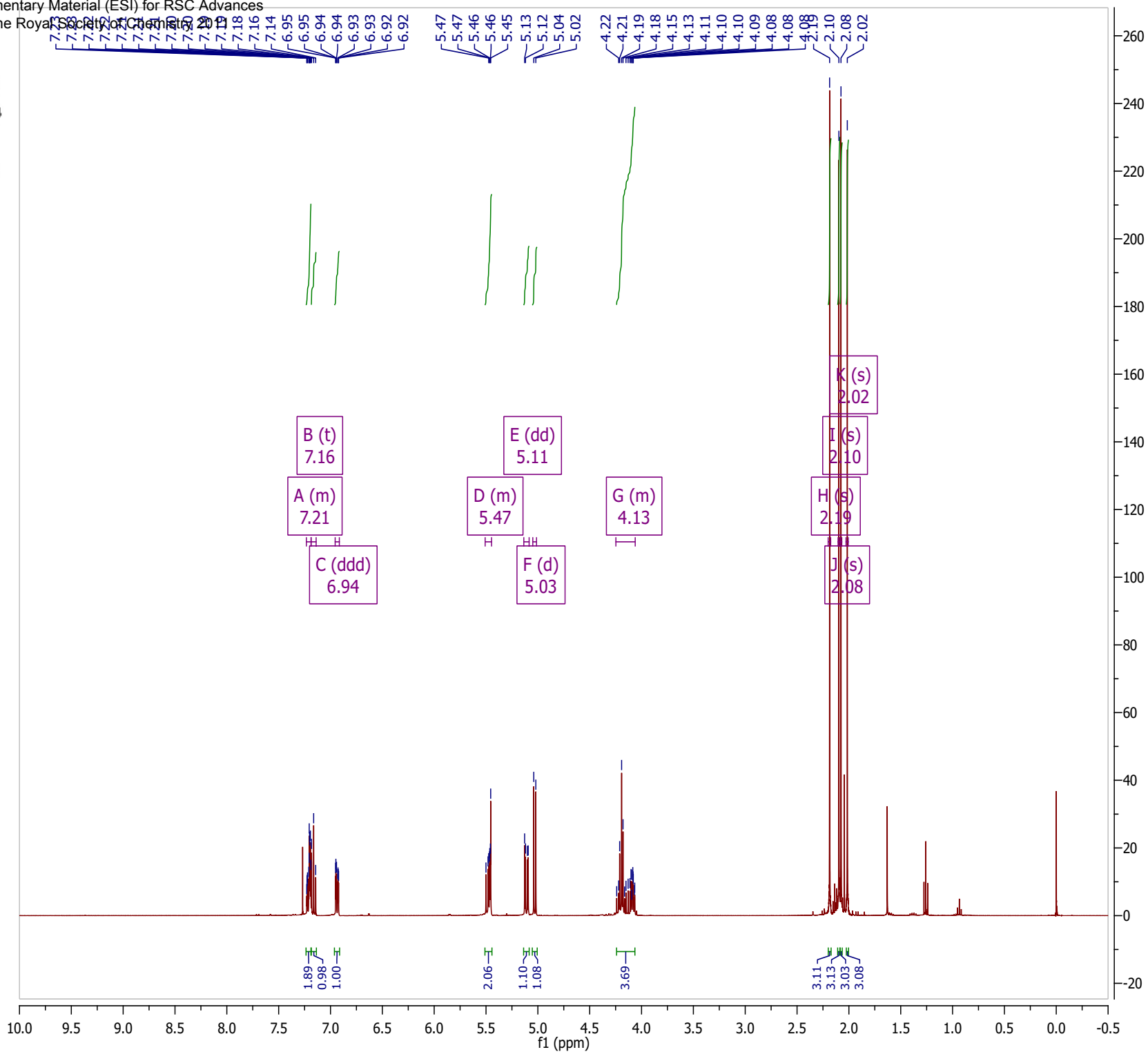


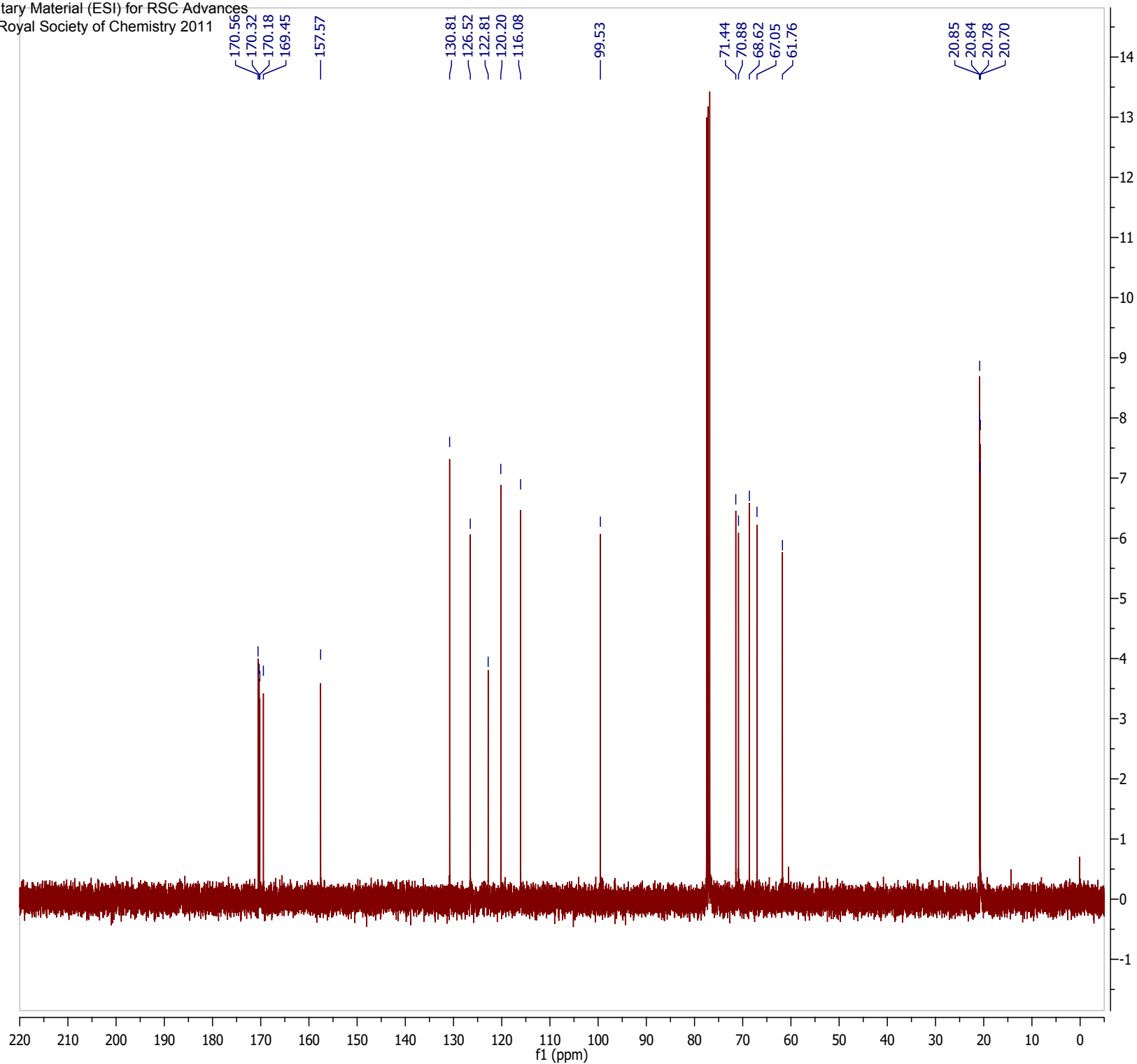
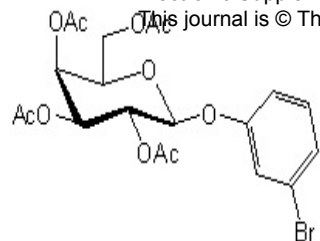
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1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1279
10 Acquisition Date	2010-07-06T13:07:25
11 Modification Date	2010-07-06T12:40:28
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(5252.1, 24125.5)
14 Lowest Frequency	(-558.4, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(672, 200)
17 Spectral Size	(1024, 1024)



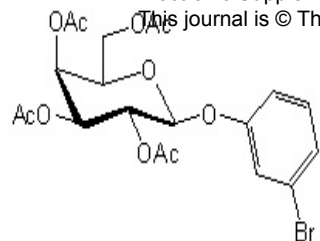


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-07-12T16:22:56
11 Modification Date	2010-07-12T15:23:30
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-802.3
15 Nucleus	1H
16 Acquired Size	13132
17 Spectral Size	32768

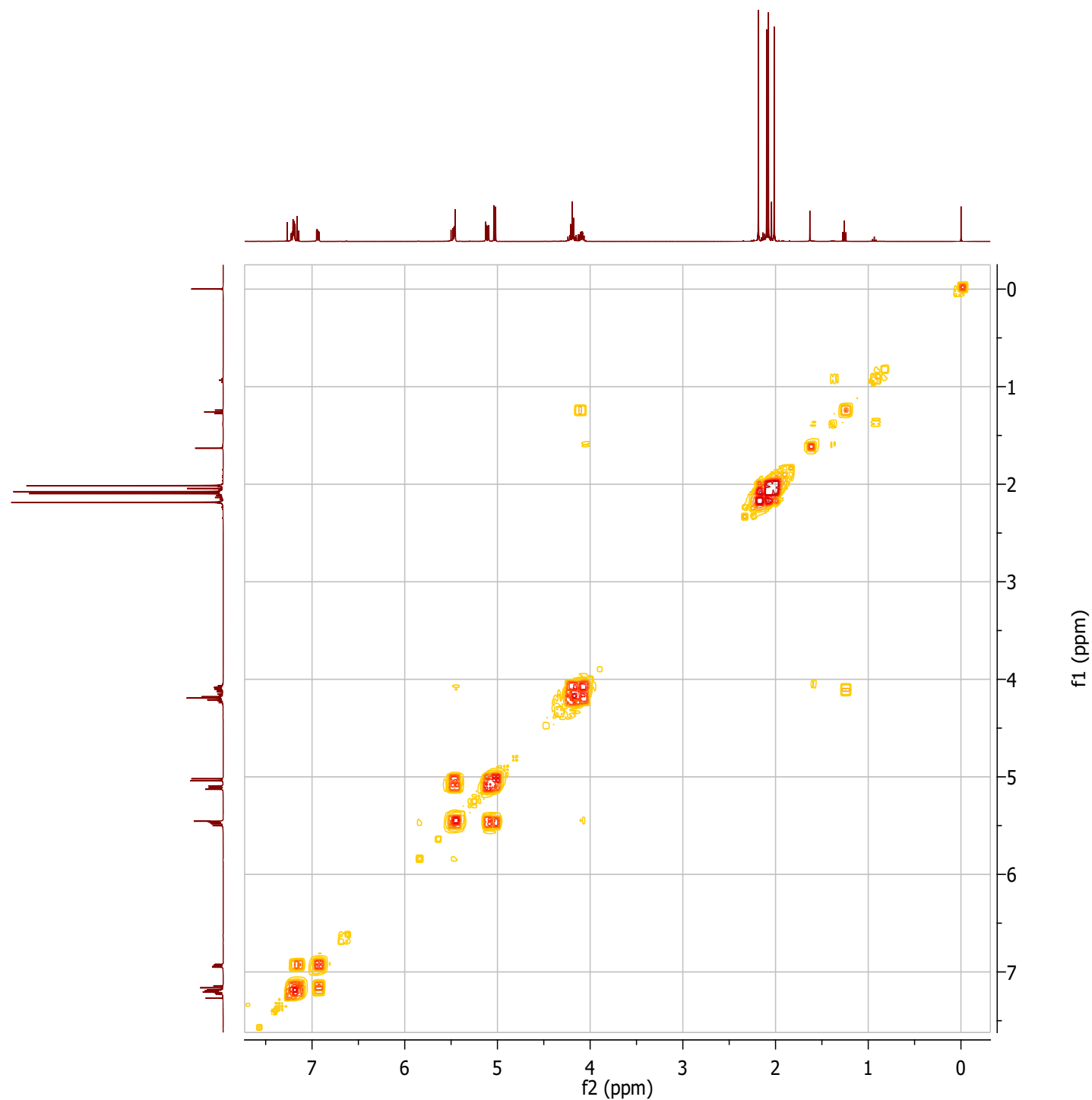


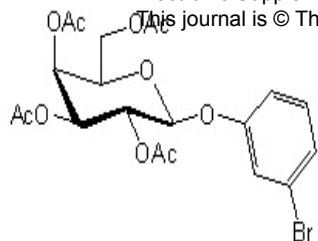


Parameter	Value
1 Spectrometer	nmr
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	256
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-07-12T16:24:23
11 Modification Date	2010-07-12T15:34:15
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	13C
16 Acquired Size	31875
17 Spectral Size	65536

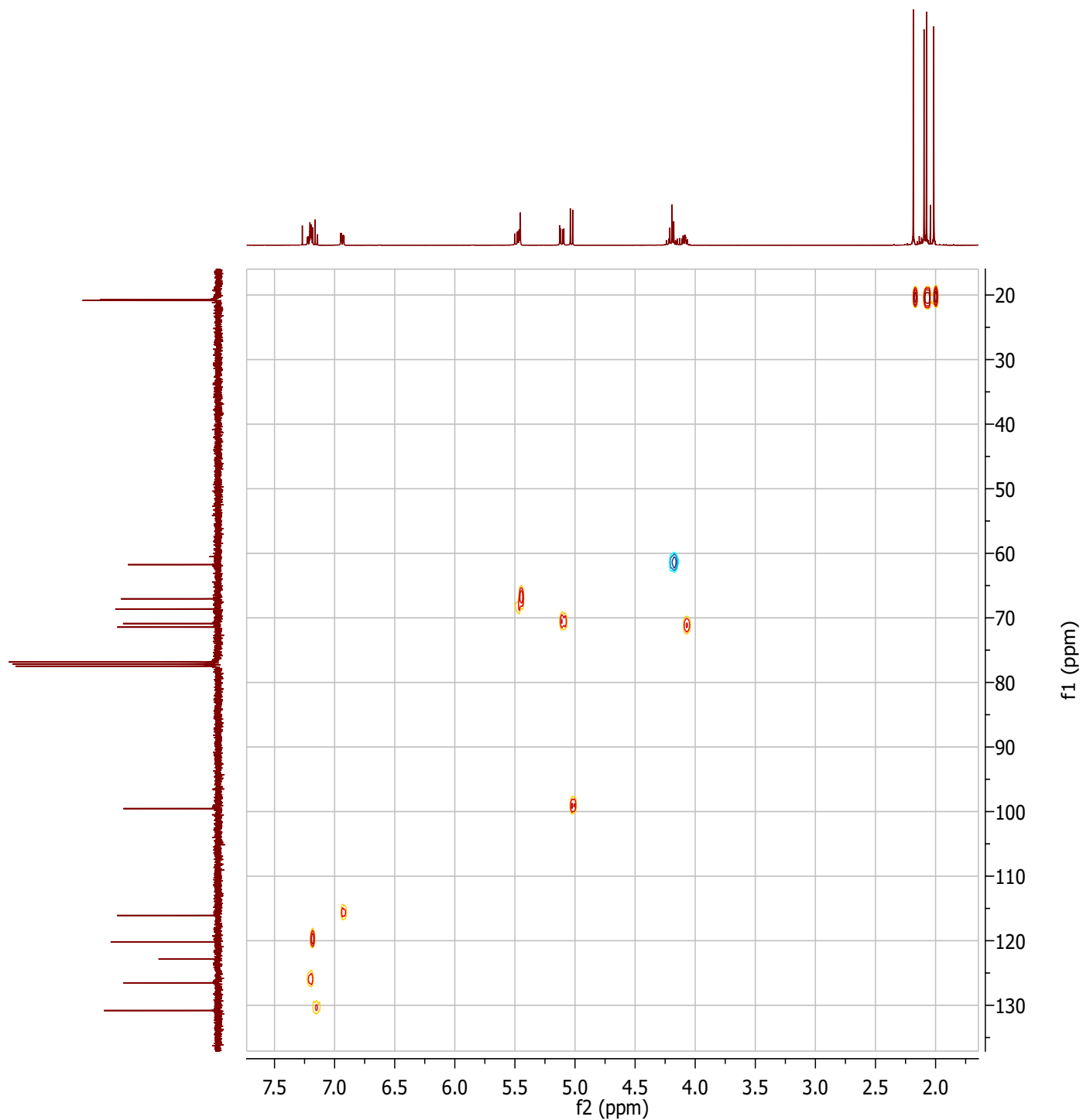


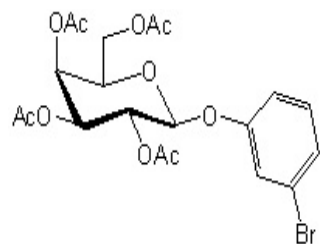
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2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1311
10 Acquisition Date	2010-07-12T16:35:50
11 Modification Date	2010-07-12T15:38:40
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(3906.2, 3906.2)
14 Lowest Frequency	(-457.8, -457.8)
15 Nucleus	(1H, 1H)
16 Acquired Size	(512, 128)
17 Spectral Size	(1024, 1024)



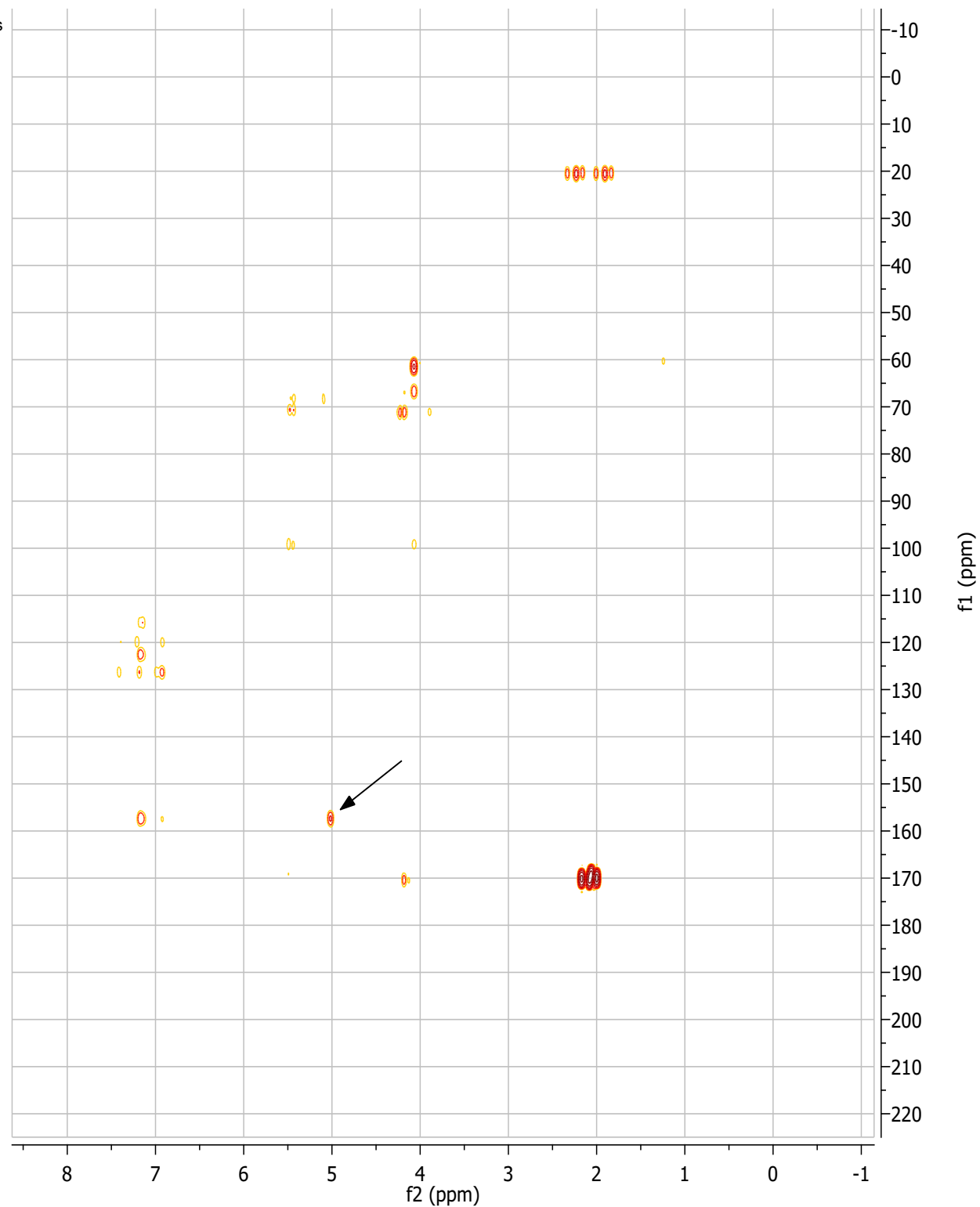


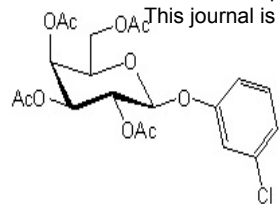
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1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1994
10 Acquisition Date	2010-07-12T16:38:41
11 Modification Date	2010-07-12T15:50:02
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3906.2, 24125.5)
14 Lowest Frequency	(-457.8, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(779, 128)
17 Spectral Size	(1024, 1024)



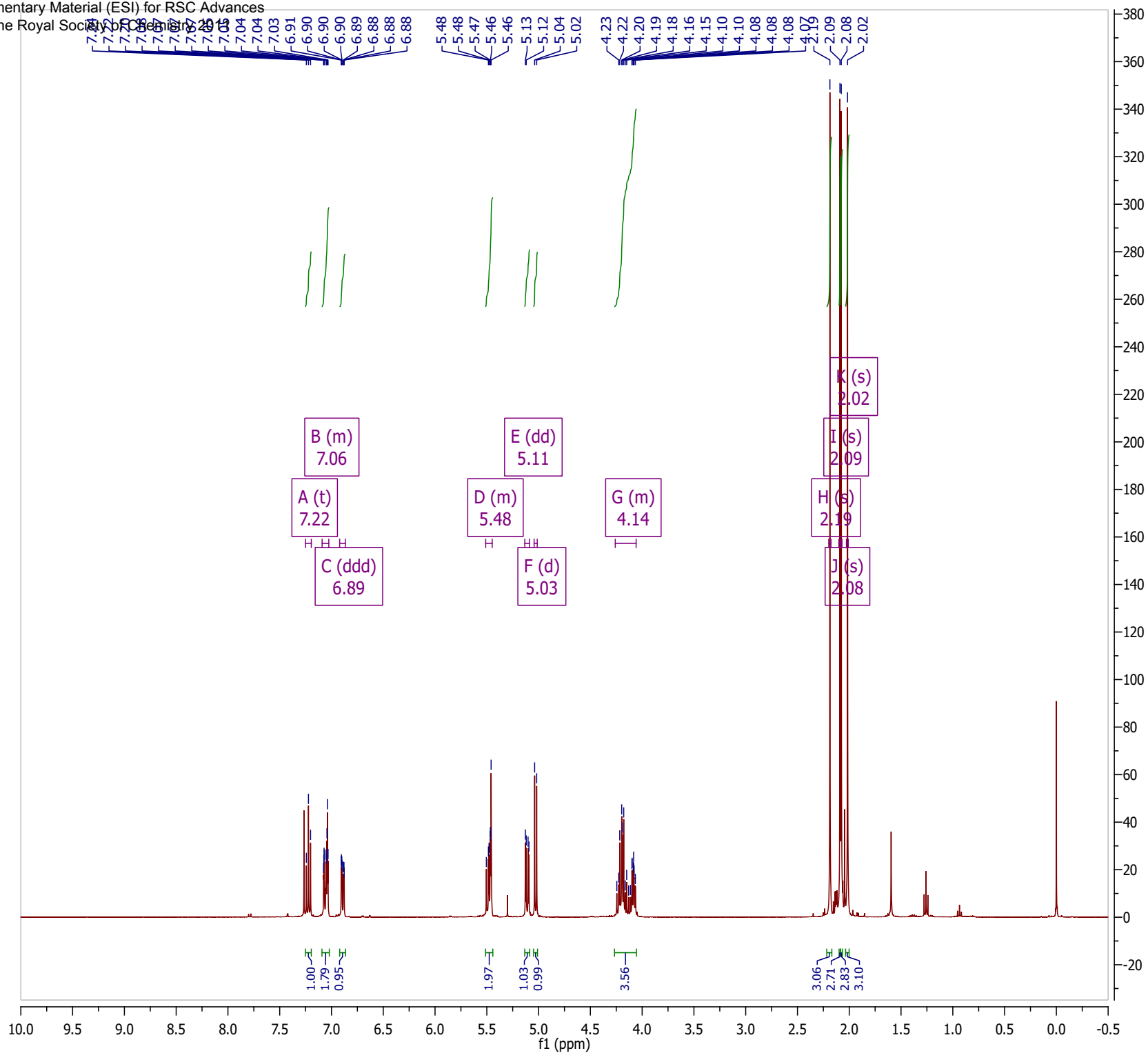


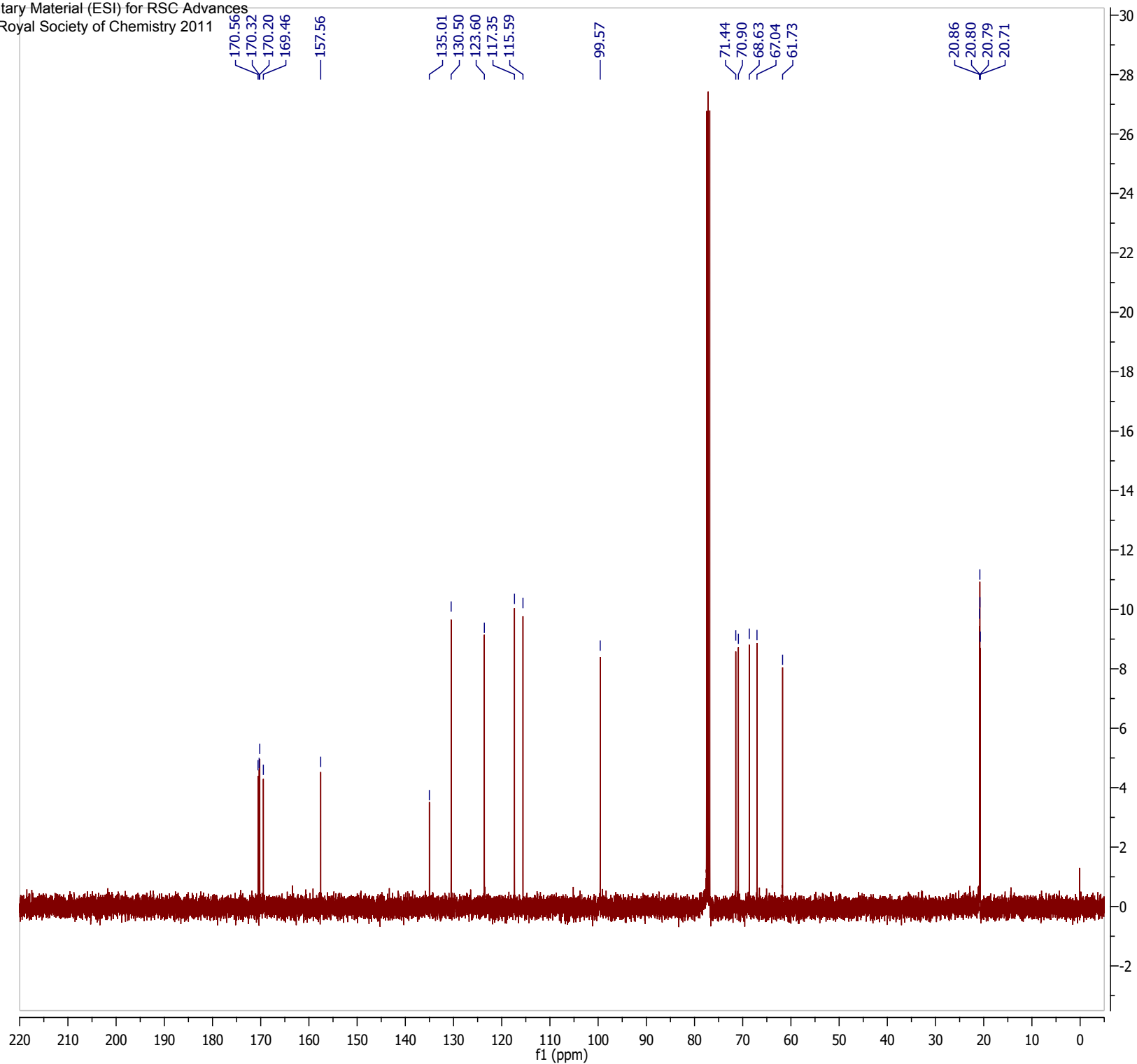
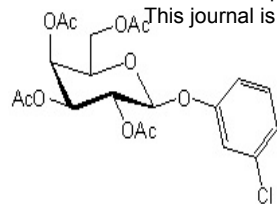
Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1280
10 Acquisition Date	2010-07-12T16:50:03
11 Modification Date	2010-07-12T16:23:11
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3906.2, 24125.5)
14 Lowest Frequency	(-457.8, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(500, 200)
17 Spectral Size	(512, 512)



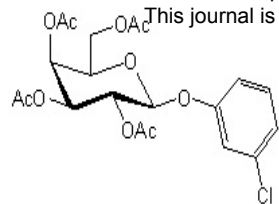


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	34
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-07-07T18:26:11
11 Modification Date	2010-07-07T17:26:45
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-803.6
15 Nucleus	1H
16 Acquired Size	13132
17 Spectral Size	32768

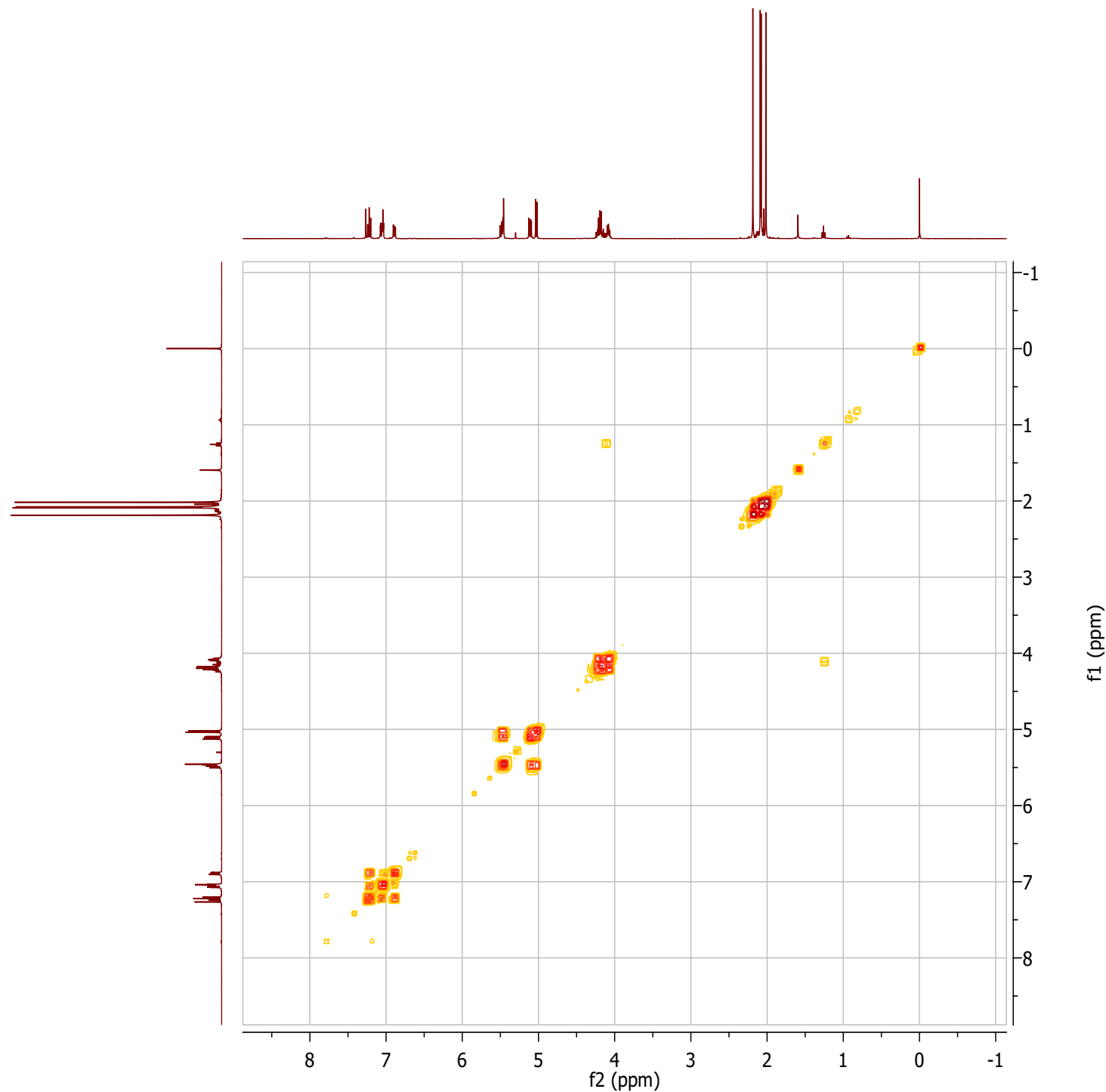


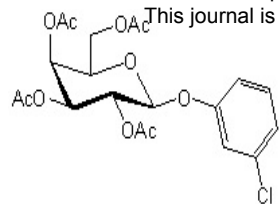


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
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11 Modification Date	2010-07-07T17:47:59
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13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	¹³ C
16 Acquired Size	31875
17 Spectral Size	65536

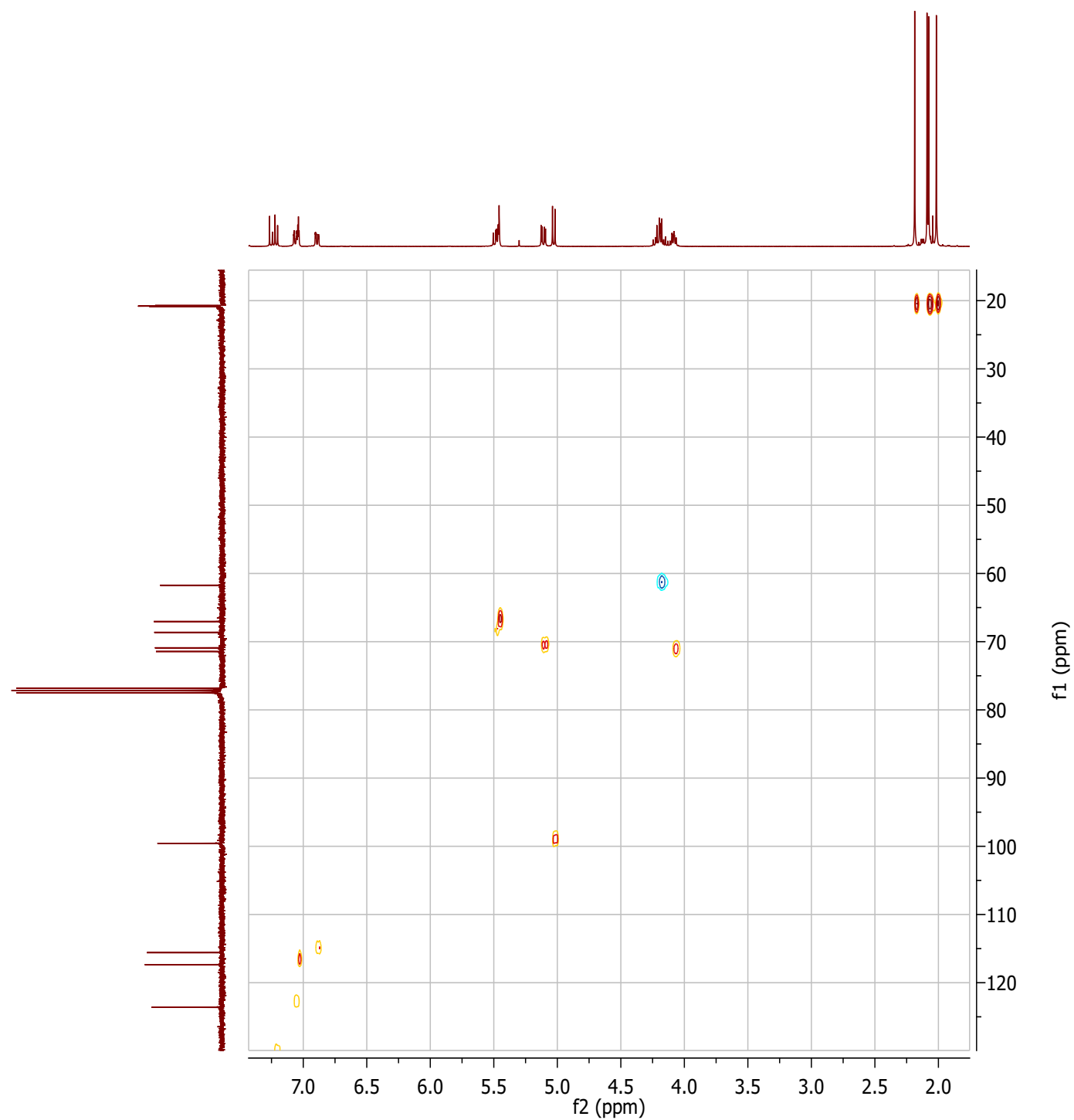


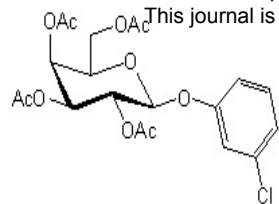
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3 Temperature	25.0
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5 Number of Scans	1
6 Receiver Gain	34
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1278
10 Acquisition Date	2010-07-07T18:49:46
11 Modification Date	2010-07-07T17:52:36
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(4006.4, 4006.4)
14 Lowest Frequency	(-456.3, -456.3)
15 Nucleus	(1H, 1H)
16 Acquired Size	(512, 128)
17 Spectral Size	(1024, 1024)



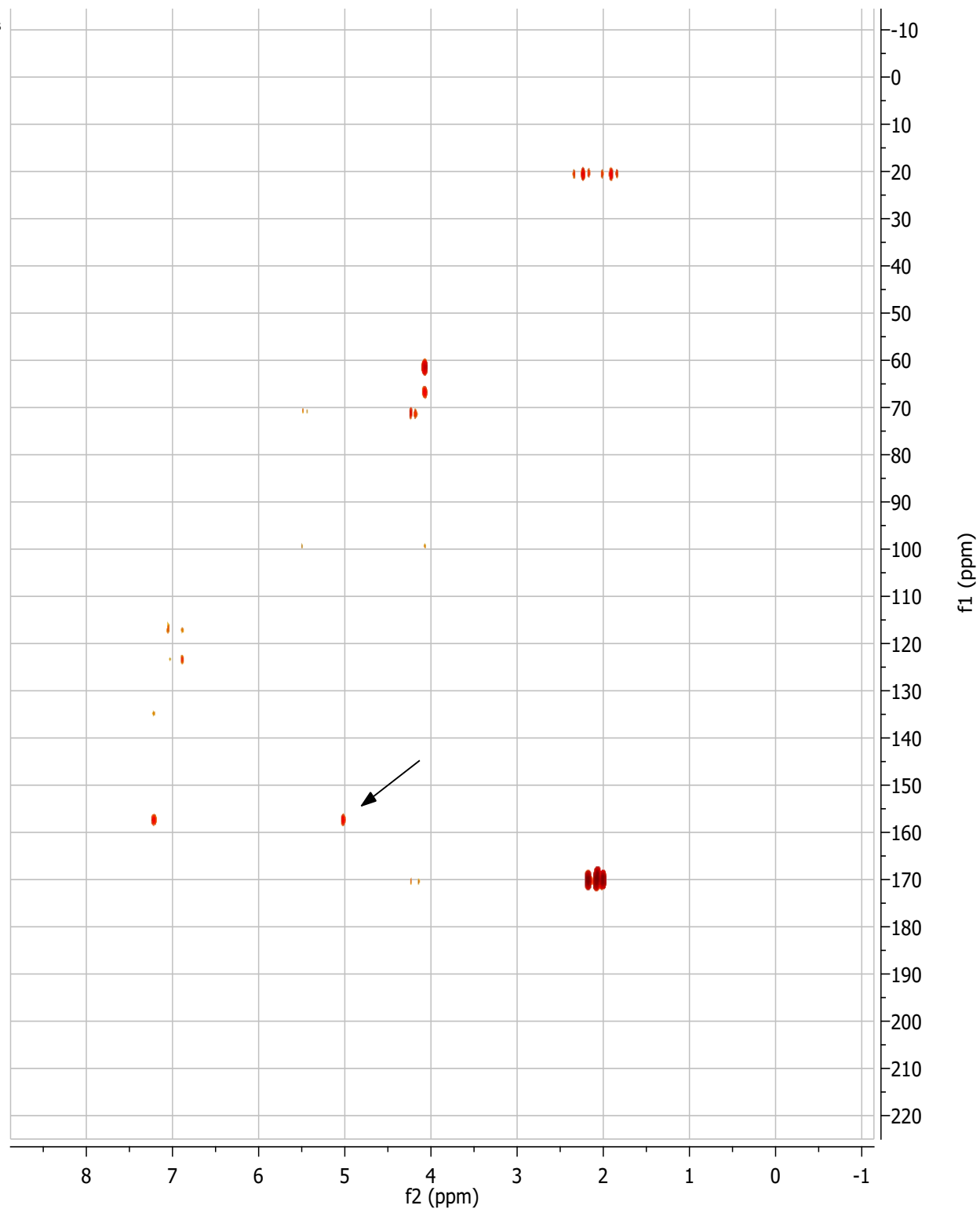


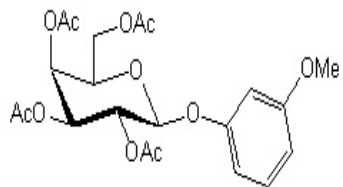
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2 Solvent	cdcl3
3 Temperature	25.0
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5 Number of Scans	2
6 Receiver Gain	34
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1994
10 Acquisition Date	2010-07-07T18:52:36
11 Modification Date	2010-07-07T18:03:58
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(4006.4, 24125.5)
14 Lowest Frequency	(-456.3, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(799, 128)
17 Spectral Size	(1024, 1024)



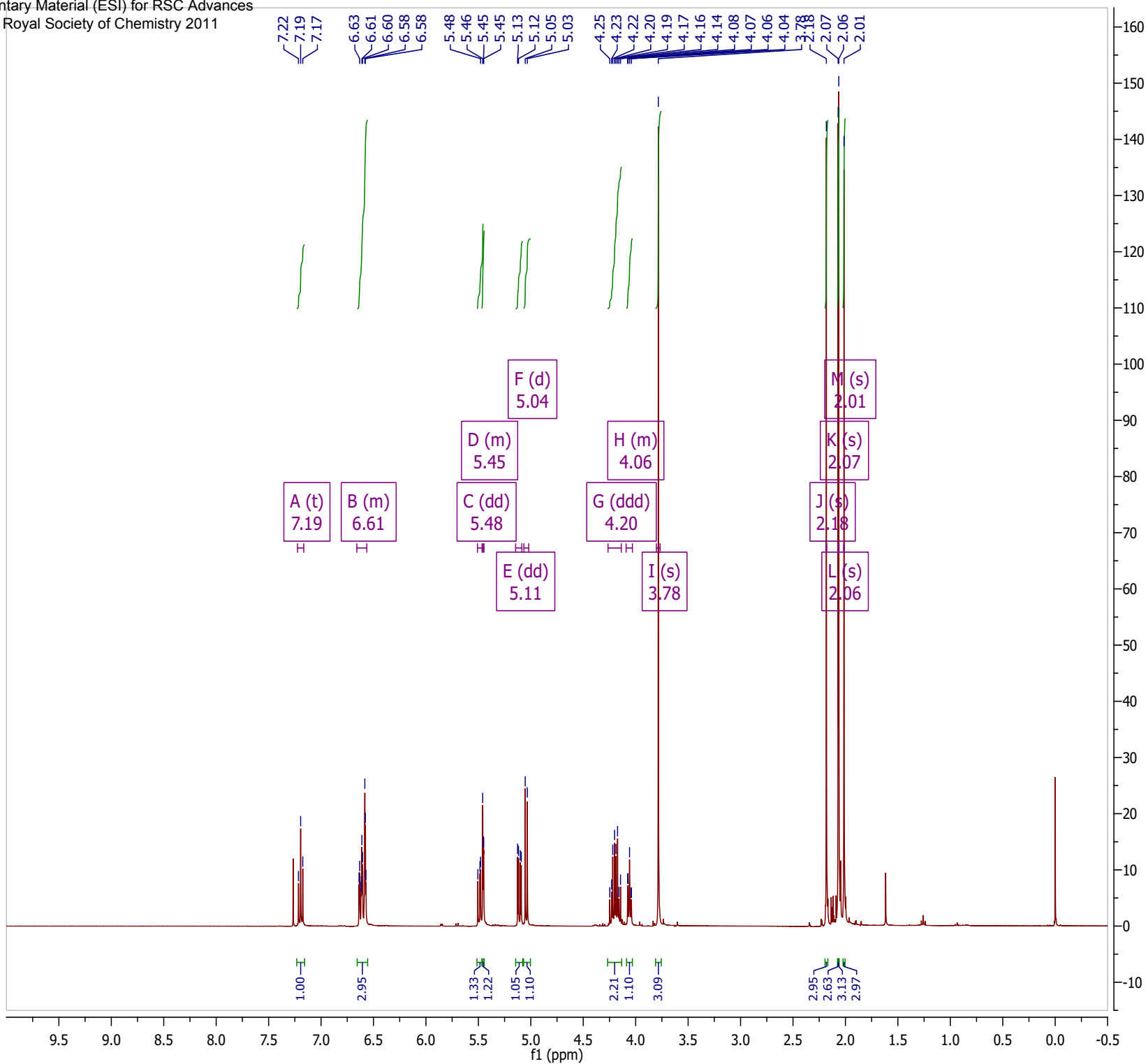


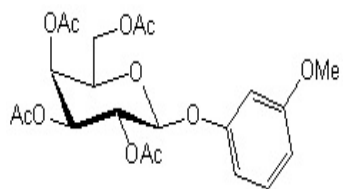
Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	34
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1280
10 Acquisition Date	2010-07-07T19:03:58
11 Modification Date	2010-07-07T18:37:07
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(4006.4, 24125.5)
14 Lowest Frequency	(-456.3, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(513, 200)
17 Spectral Size	(1024, 1024)



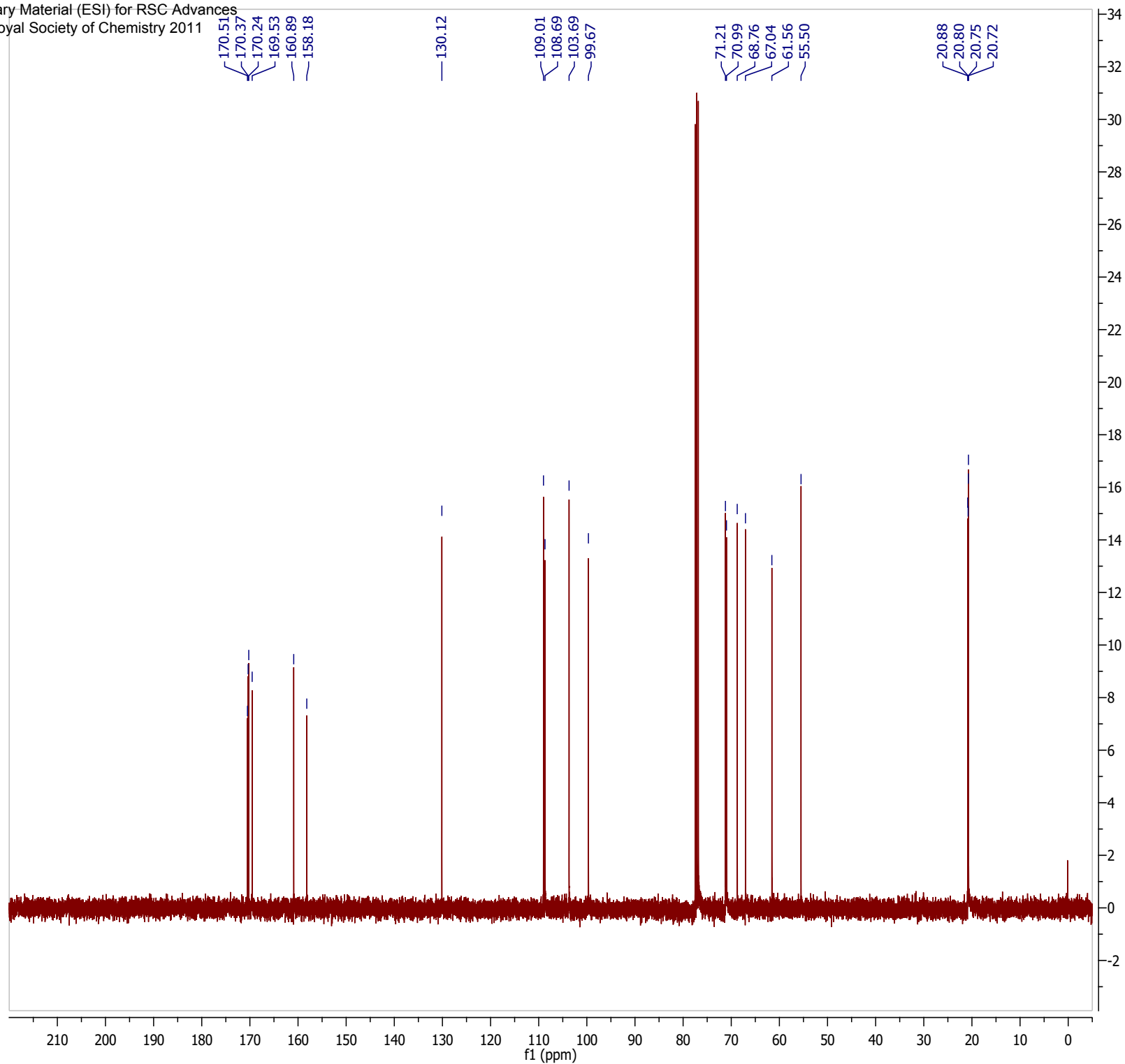


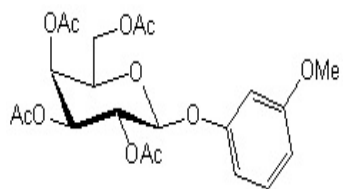
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2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-07-16T11:34:55
11 Modification Date	2010-07-16T10:35:29
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-804.4
15 Nucleus	¹ H
16 Acquired Size	13132
17 Spectral Size	32768



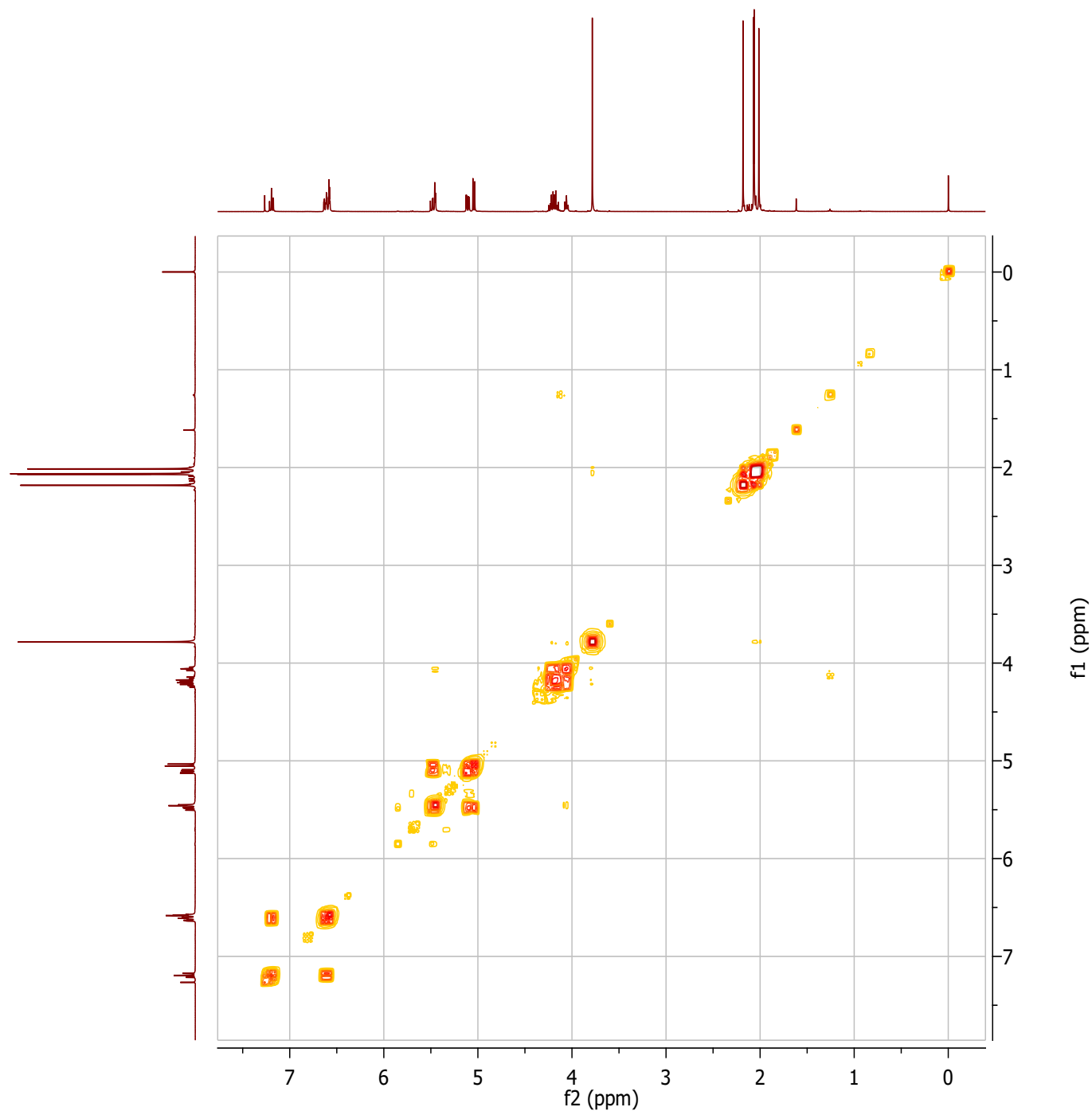


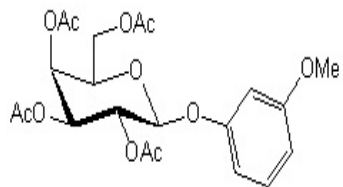
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1 Spectrometer	nmr
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-07-16T11:39:50
11 Modification Date	2010-07-16T10:59:32
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	¹³ C
16 Acquired Size	31875
17 Spectral Size	65536



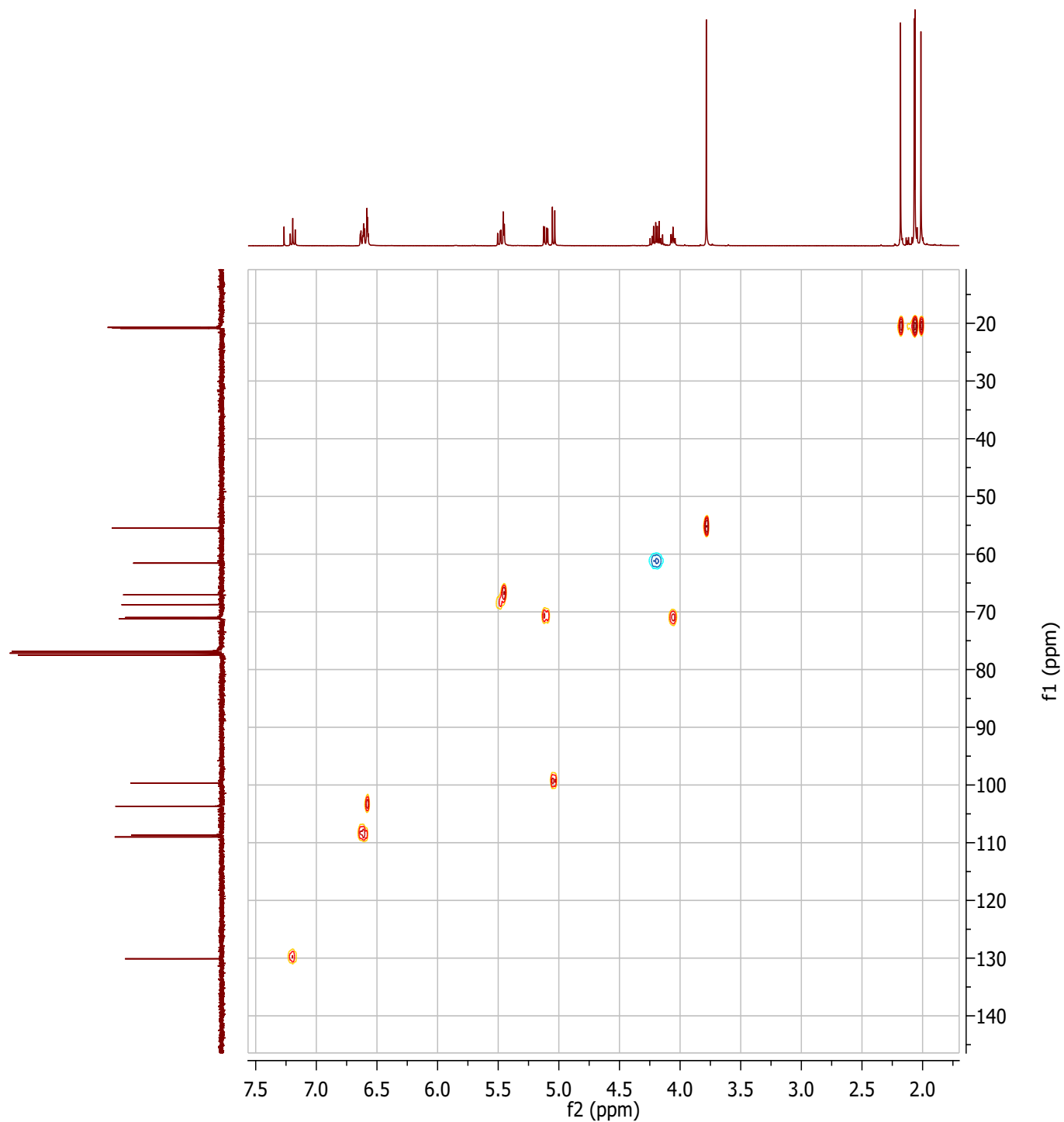


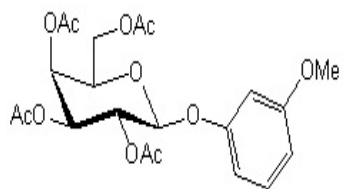
Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1368
10 Acquisition Date	2010-07-16T12:01:06
11 Modification Date	2010-07-16T11:03:57
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(3742.5, 3742.5)
14 Lowest Frequency	(-429.6, -429.6)
15 Nucleus	(1H, 1H)
16 Acquired Size	(512, 128)
17 Spectral Size	(1024, 1024)



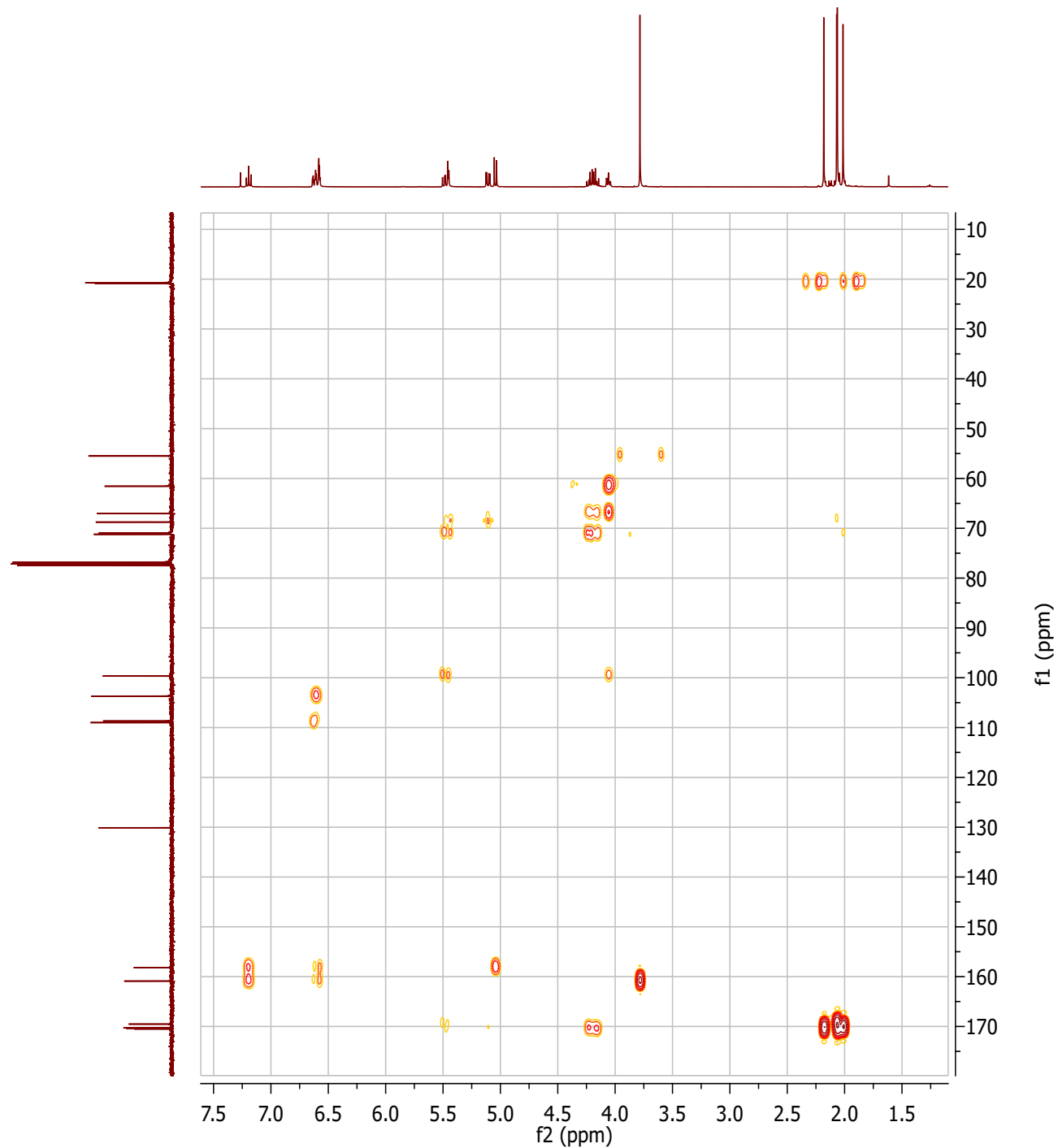


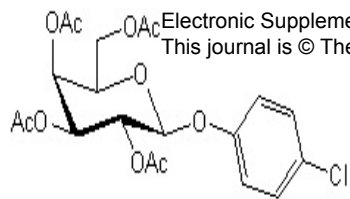
Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1993
10 Acquisition Date	2010-07-16T12:03:58
11 Modification Date	2010-07-16T11:15:20
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3742.5, 24125.5)
14 Lowest Frequency	(-429.6, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(746, 128)
17 Spectral Size	(1024, 1024)



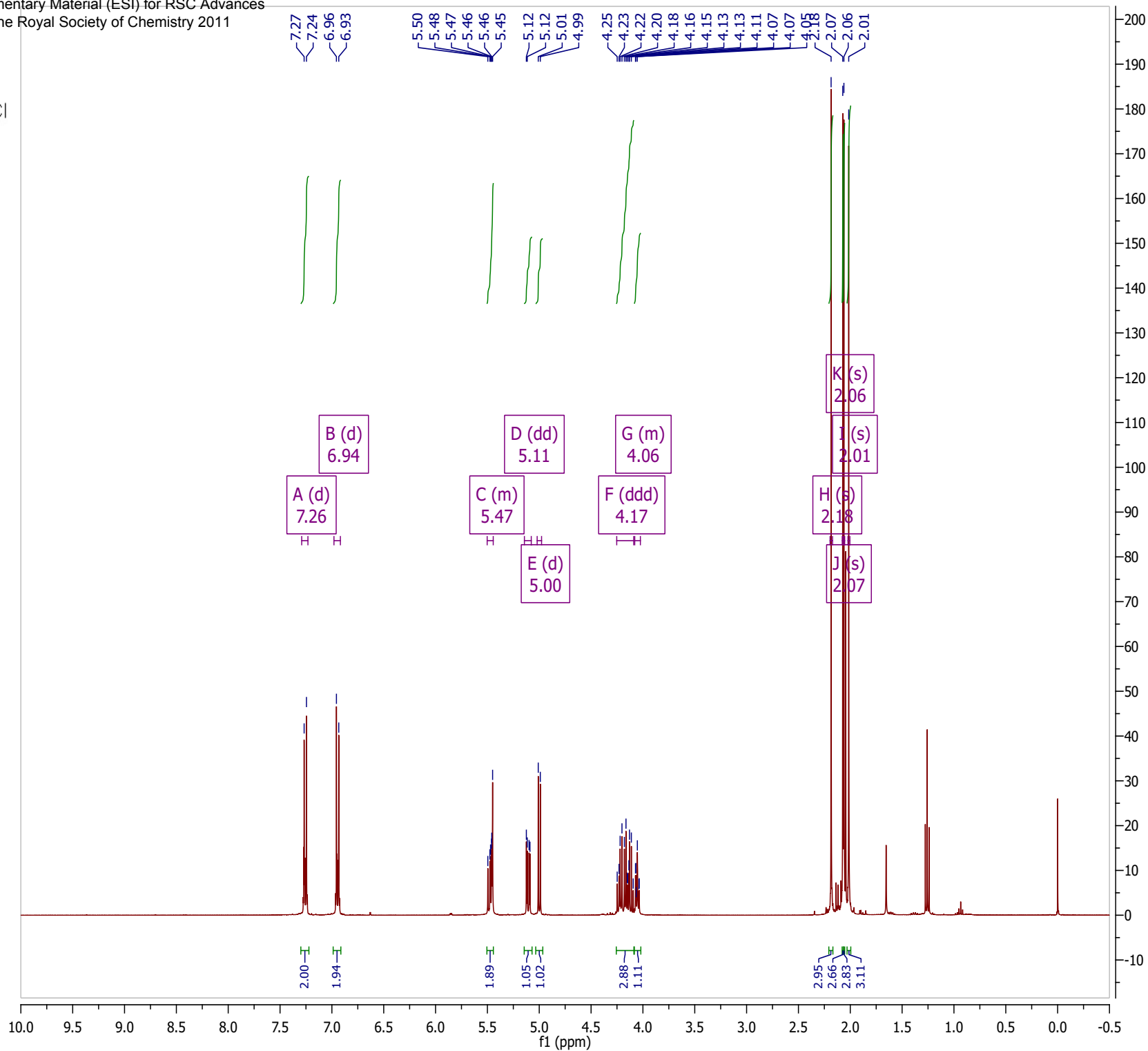


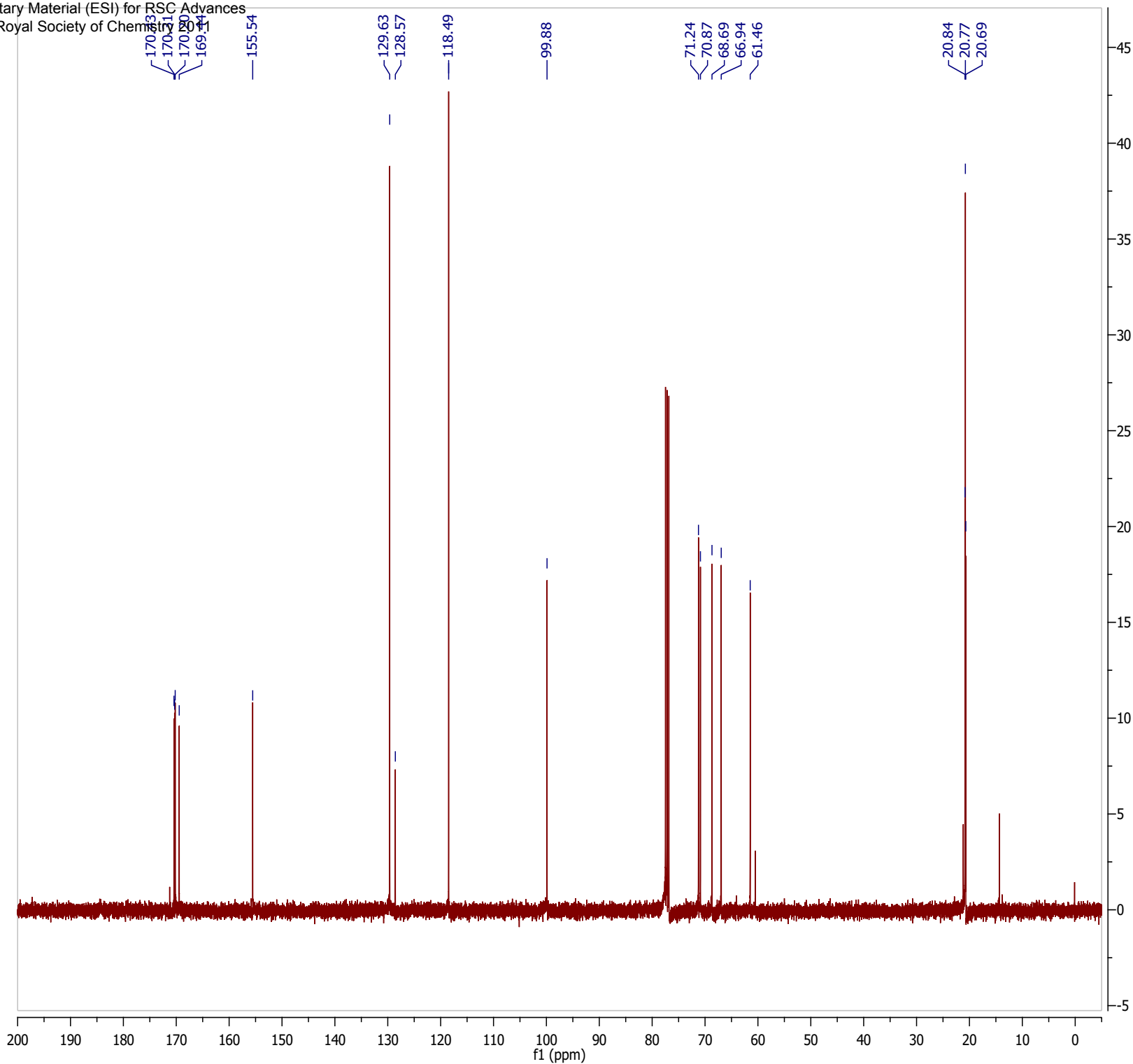
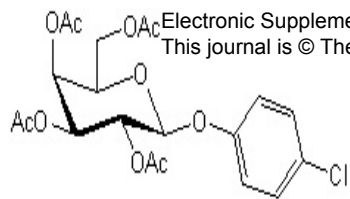
Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1280
10 Acquisition Date	2010-07-16T12:15:20
11 Modification Date	2010-07-16T11:48:28
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3742.5, 24125.5)
14 Lowest Frequency	(-429.6, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(479, 200)
17 Spectral Size	(1024, 1024)



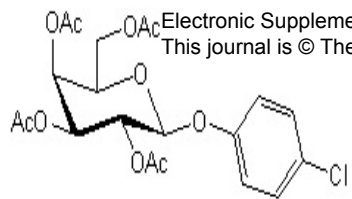


Parameter	Value
1 Spectrometer	nmr5
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-07-06T14:58:37
11 Modification Date	2010-07-06T13:59:12
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-801.1
15 Nucleus	¹ H
16 Acquired Size	13132
17 Spectral Size	32768

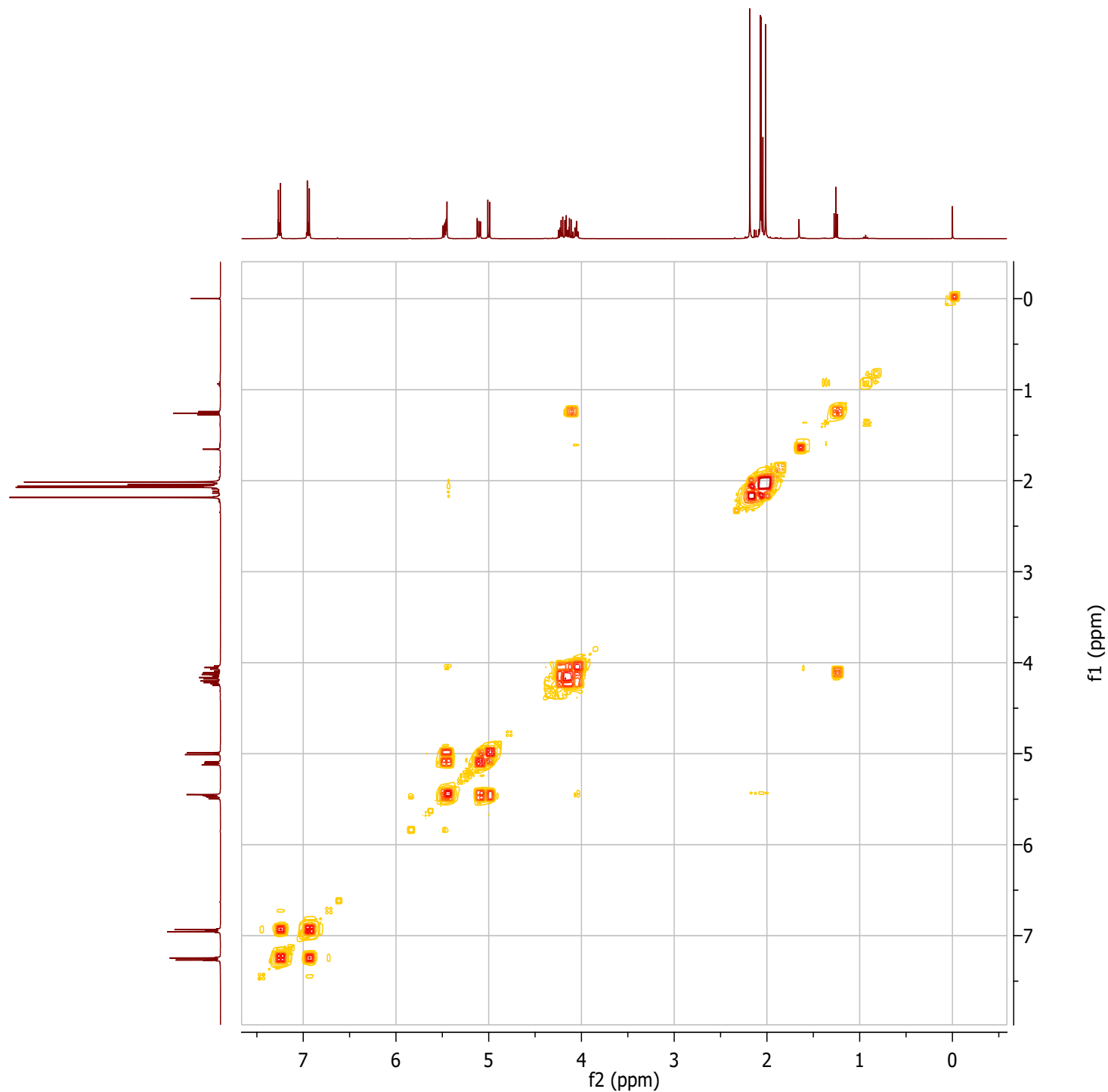


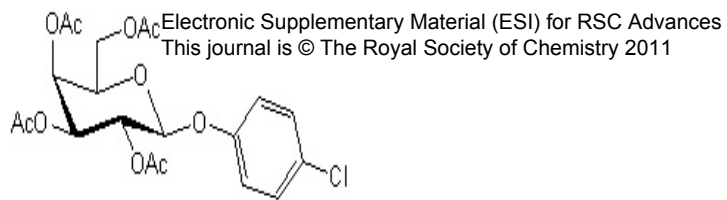


Parameter	Value
1 Spectrometer	nmr
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-07-06T15:02:03
11 Modification Date	2010-07-06T14:21:44
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	13C
16 Acquired Size	31875
17 Spectral Size	65536

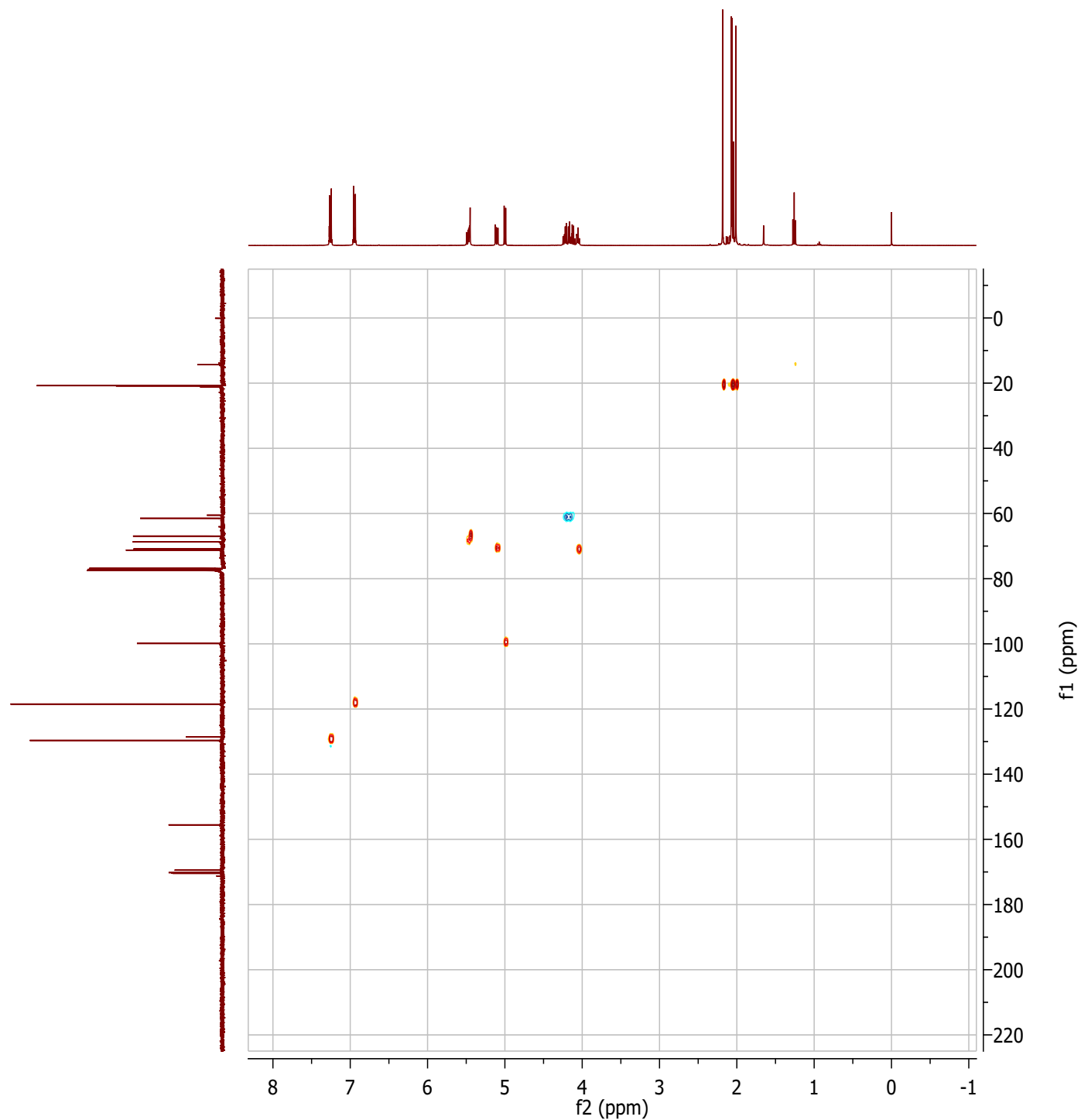


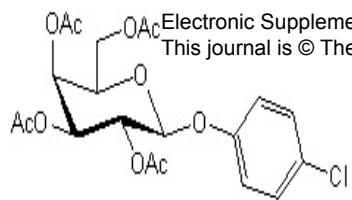
Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1360
10 Acquisition Date	2010-07-06T15:23:19
11 Modification Date	2010-07-06T14:26:10
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(3765.1, 3765.1)
14 Lowest Frequency	(-439.1, -439.1)
15 Nucleus	(1H, 1H)
16 Acquired Size	(512, 128)
17 Spectral Size	(1024, 1024)



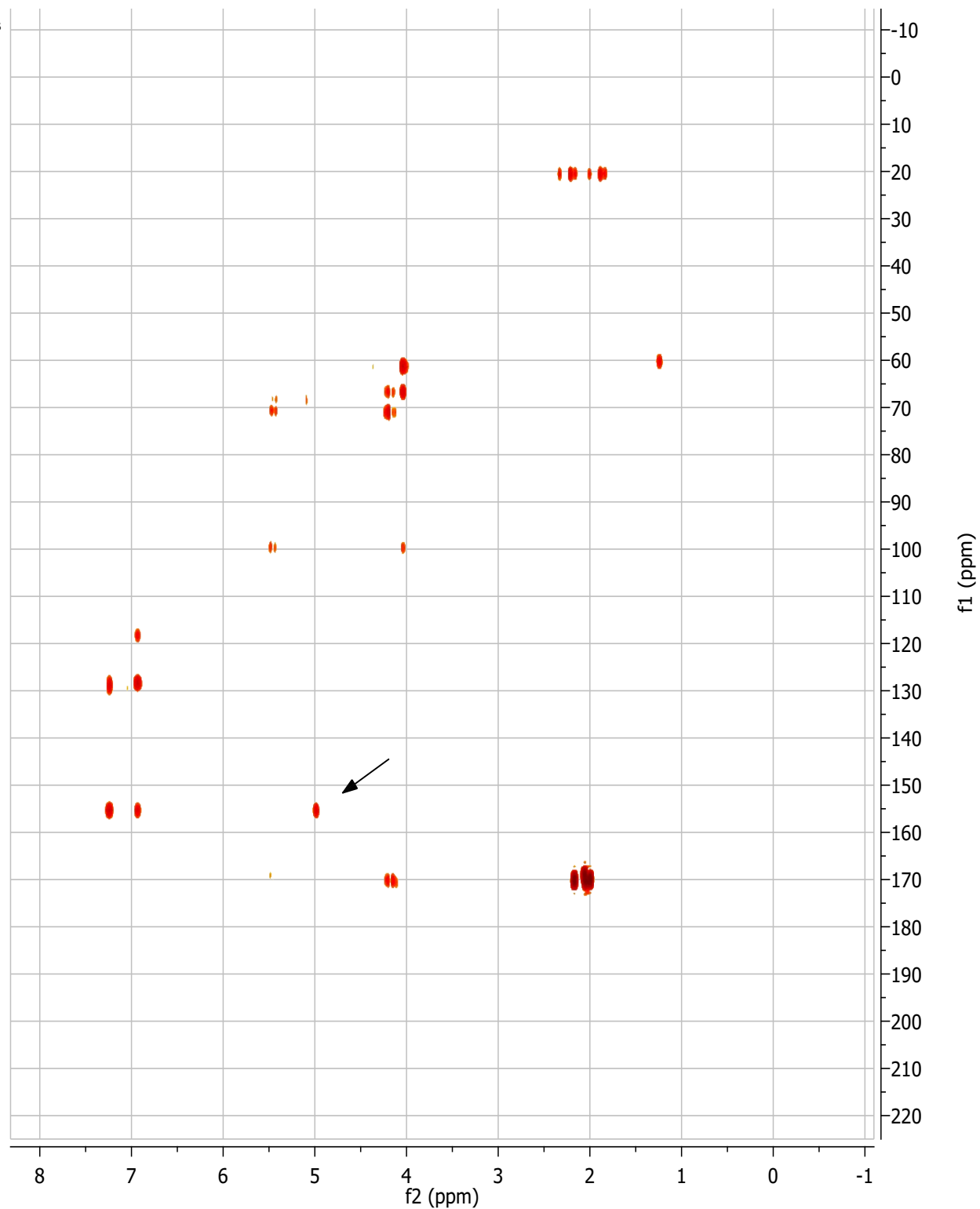


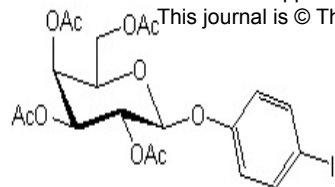
Parameter	Value (f2, f1)
1 Spectrometer	vnmr5
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1992
10 Acquisition Date	2010-07-06T15:26:10
11 Modification Date	2010-07-06T14:37:32
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3765.1, 24125.5)
14 Lowest Frequency	(-439.1, -1506.8)
15 Nucleus	(¹ H, ¹³ C)
16 Acquired Size	(750, 128)
17 Spectral Size	(1024, 1024)



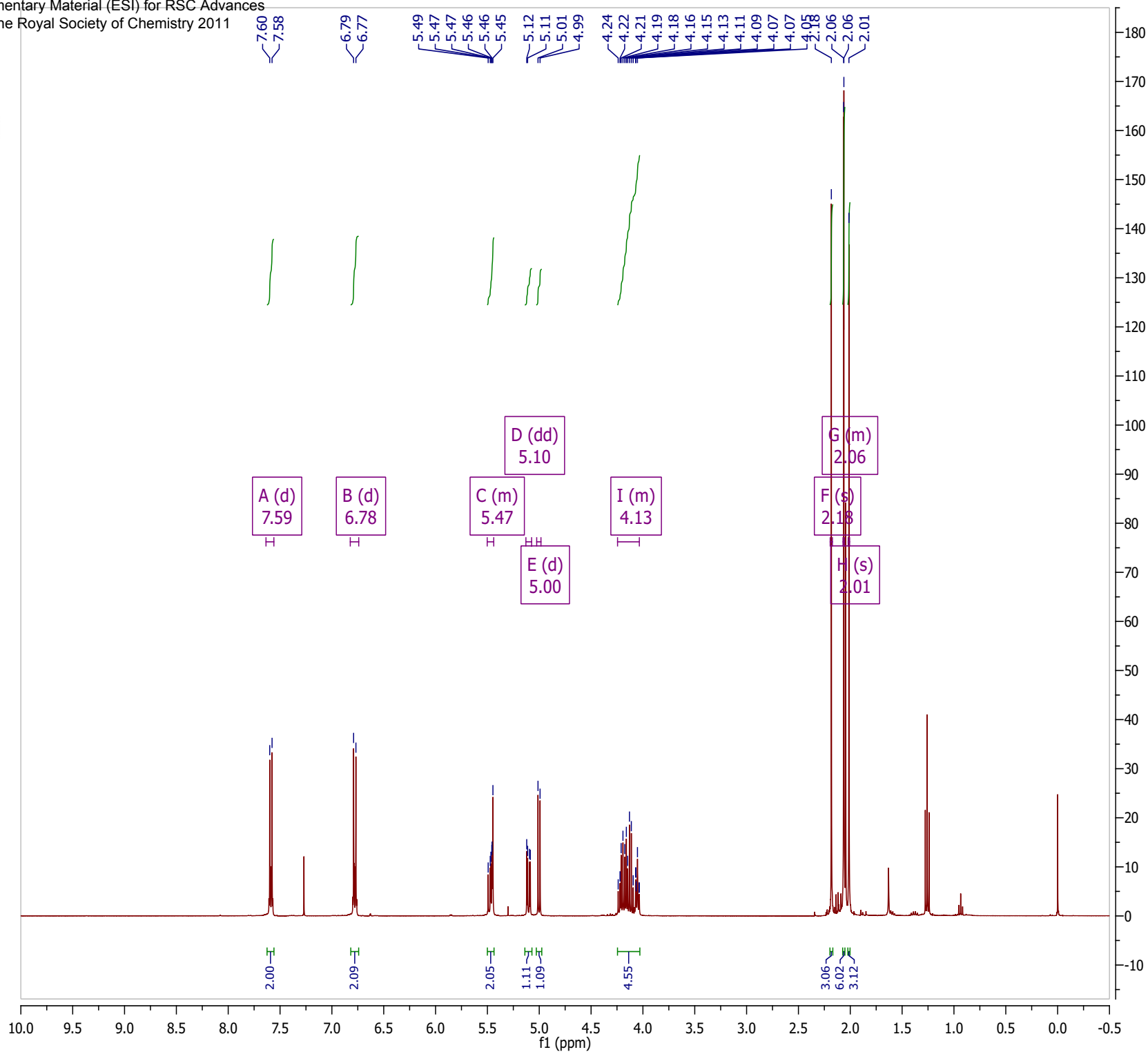


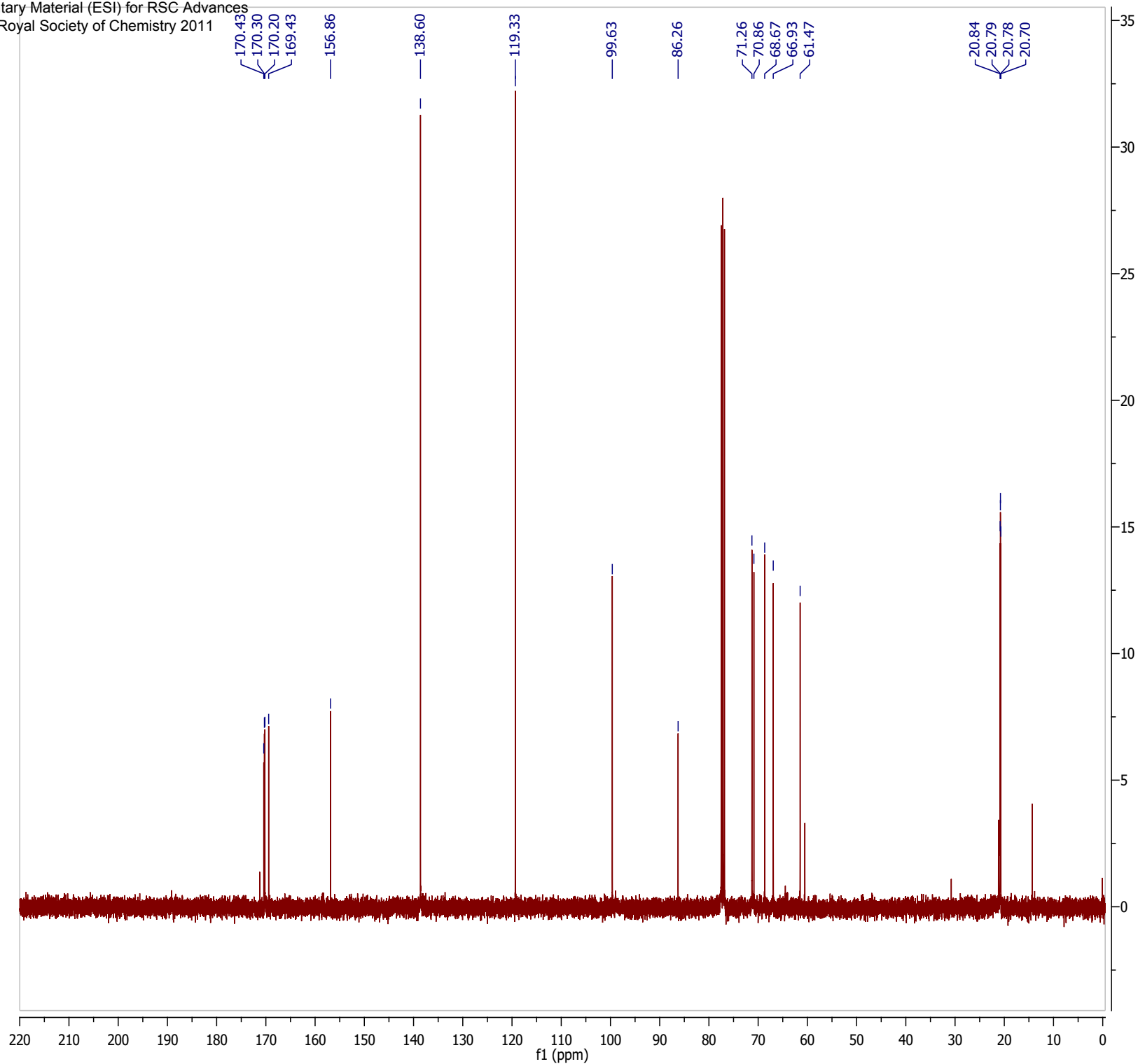
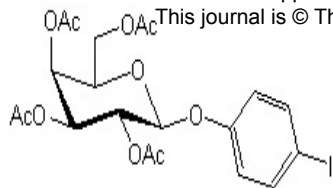
Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1280
10 Acquisition Date	2010-07-06T15:37:33
11 Modification Date	2010-07-06T15:10:41
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3765.1, 24125.5)
14 Lowest Frequency	(-439.1, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(482, 200)
17 Spectral Size	(1024, 1024)



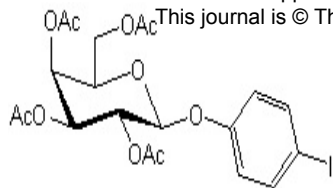


Parameter	Value
1 Spectrometer	nmrns
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-07-07T13:50:27
11 Modification Date	2010-07-07T12:51:01
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-802.1
15 Nucleus	1H
16 Acquired Size	13132
17 Spectral Size	32768

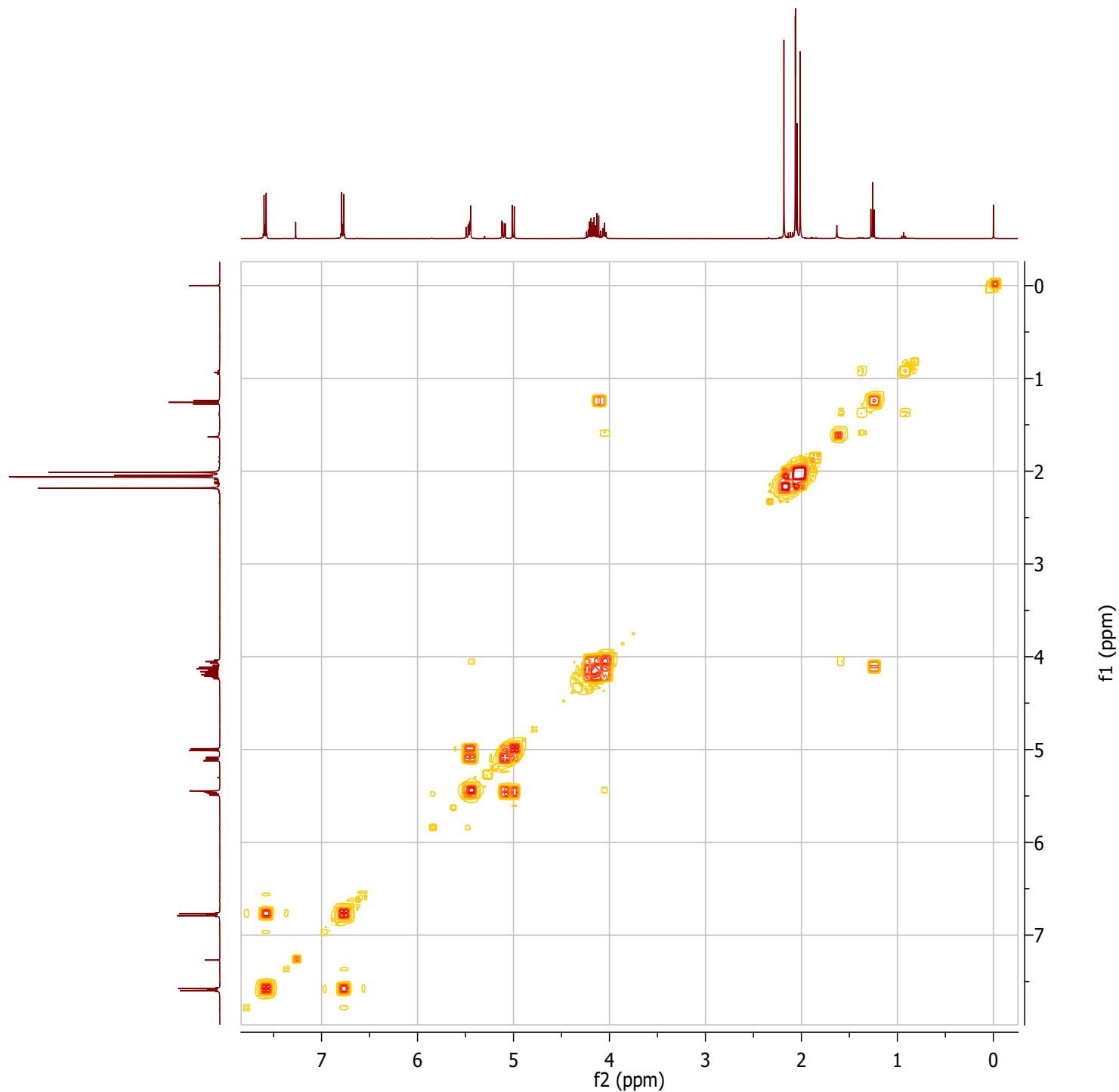


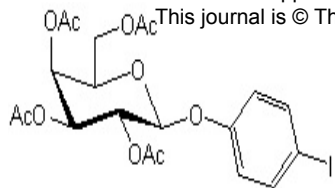


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-07-07T13:53:32
11 Modification Date	2010-07-07T13:13:13
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	¹³ C
16 Acquired Size	31875
17 Spectral Size	65536

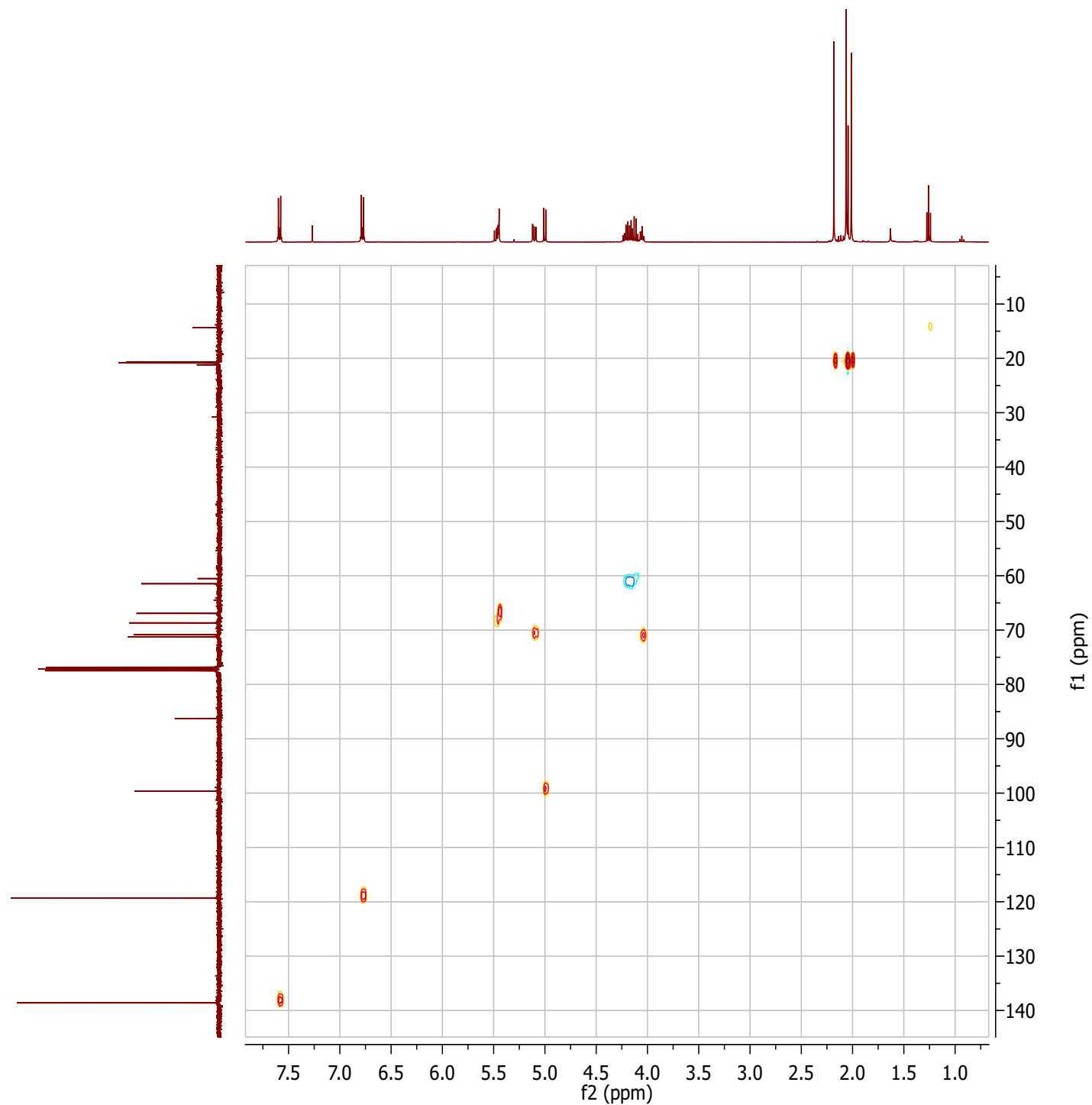


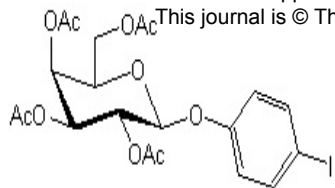
Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1311
10 Acquisition Date	2010-07-07T14:14:47
11 Modification Date	2010-07-07T13:17:38
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(3906.2, 3906.2)
14 Lowest Frequency	(-445.7, -445.7)
15 Nucleus	(1H, 1H)
16 Acquired Size	(512, 128)
17 Spectral Size	(1024, 1024)



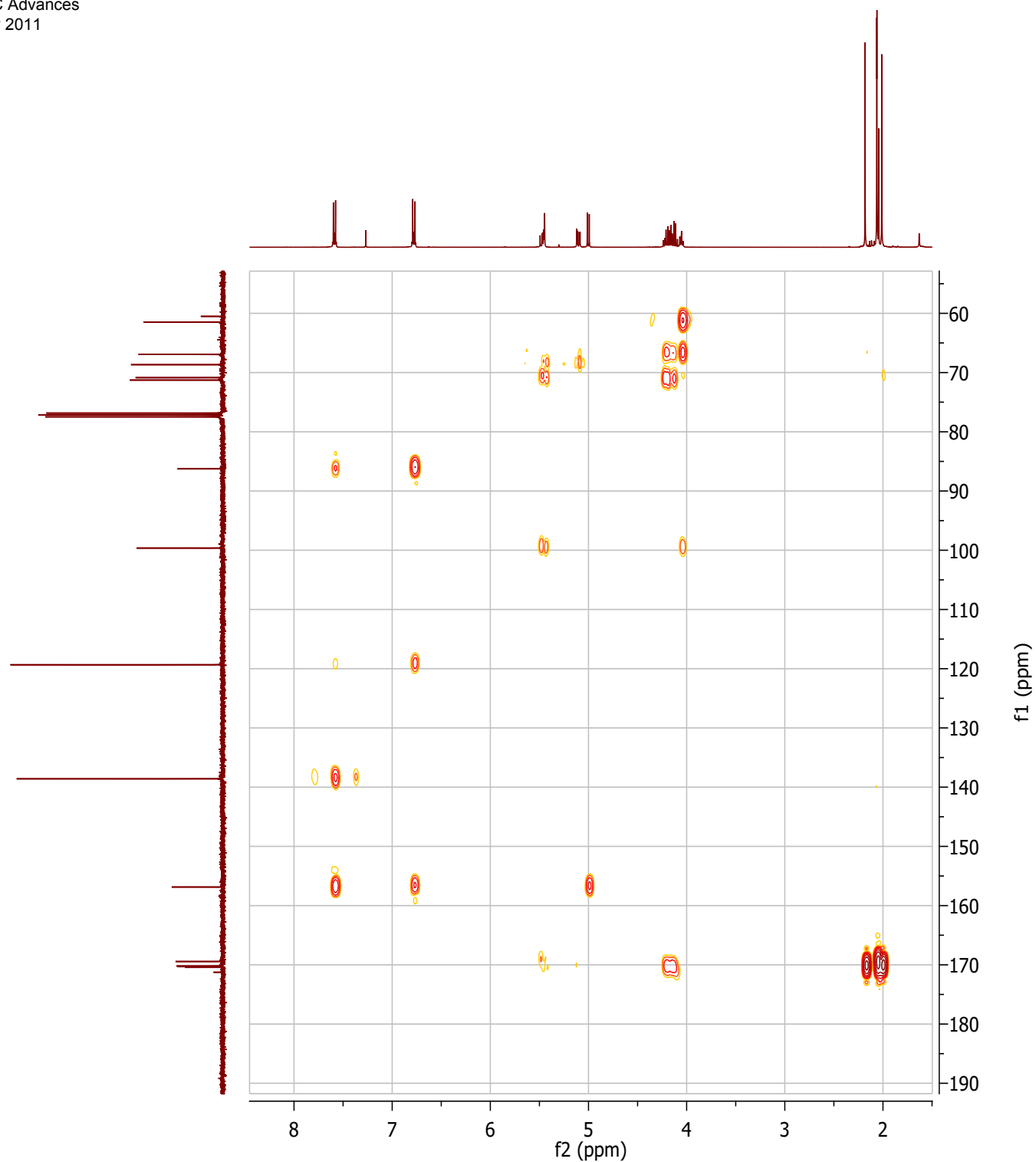


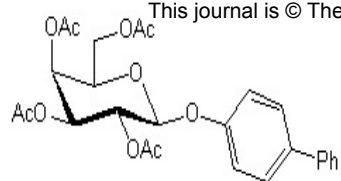
Parameter	Value (f2, f1)
1 Spectrometer	vnmr5
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1994
10 Acquisition Date	2010-07-07T14:17:38
11 Modification Date	2010-07-07T13:29:00
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3906.2, 24125.5)
14 Lowest Frequency	(-445.7, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(779, 128)
17 Spectral Size	(1024, 1024)



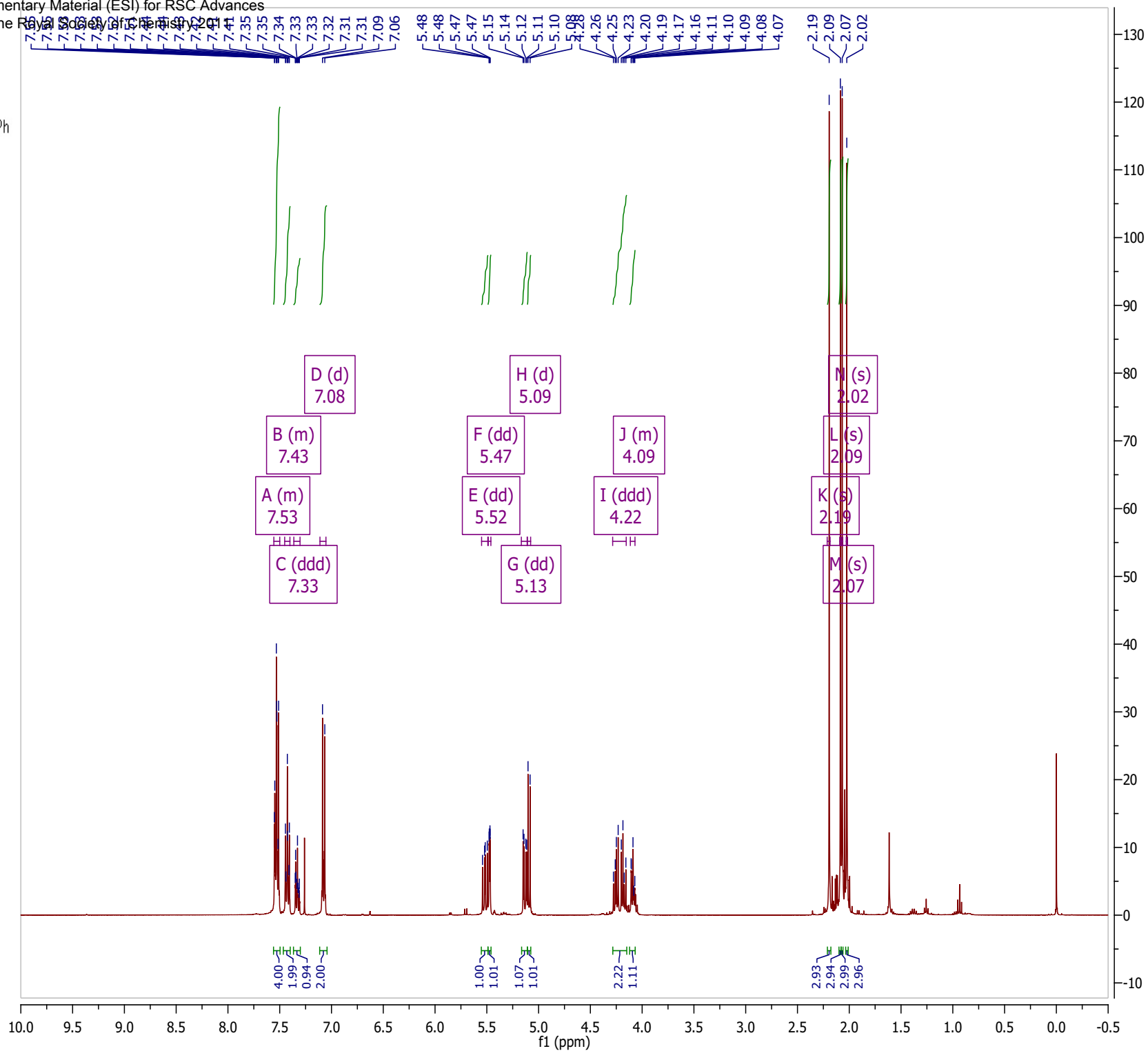


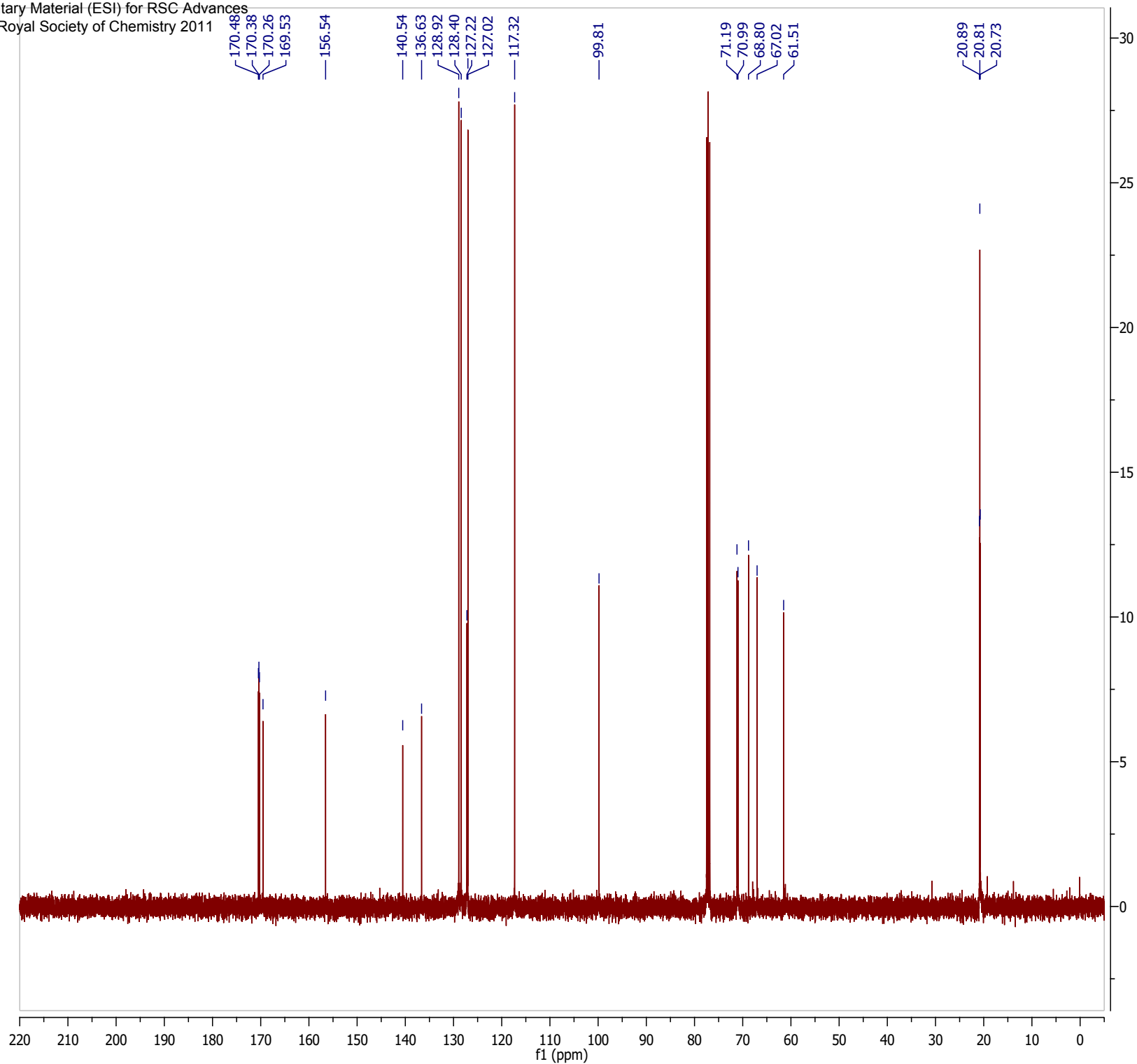
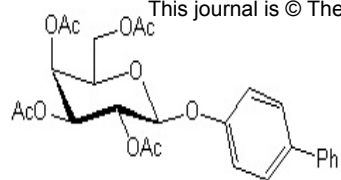
Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1280
10 Acquisition Date	2010-07-07T14:29:00
11 Modification Date	2010-07-07T14:02:08
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3906.2, 24125.5)
14 Lowest Frequency	(-445.7, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(500, 200)
17 Spectral Size	(1024, 1024)



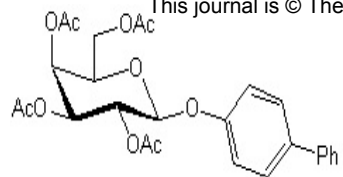


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-07-19T16:23:40
11 Modification Date	2010-07-19T15:24:14
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-806.6
15 Nucleus	¹ H
16 Acquired Size	13132
17 Spectral Size	32768

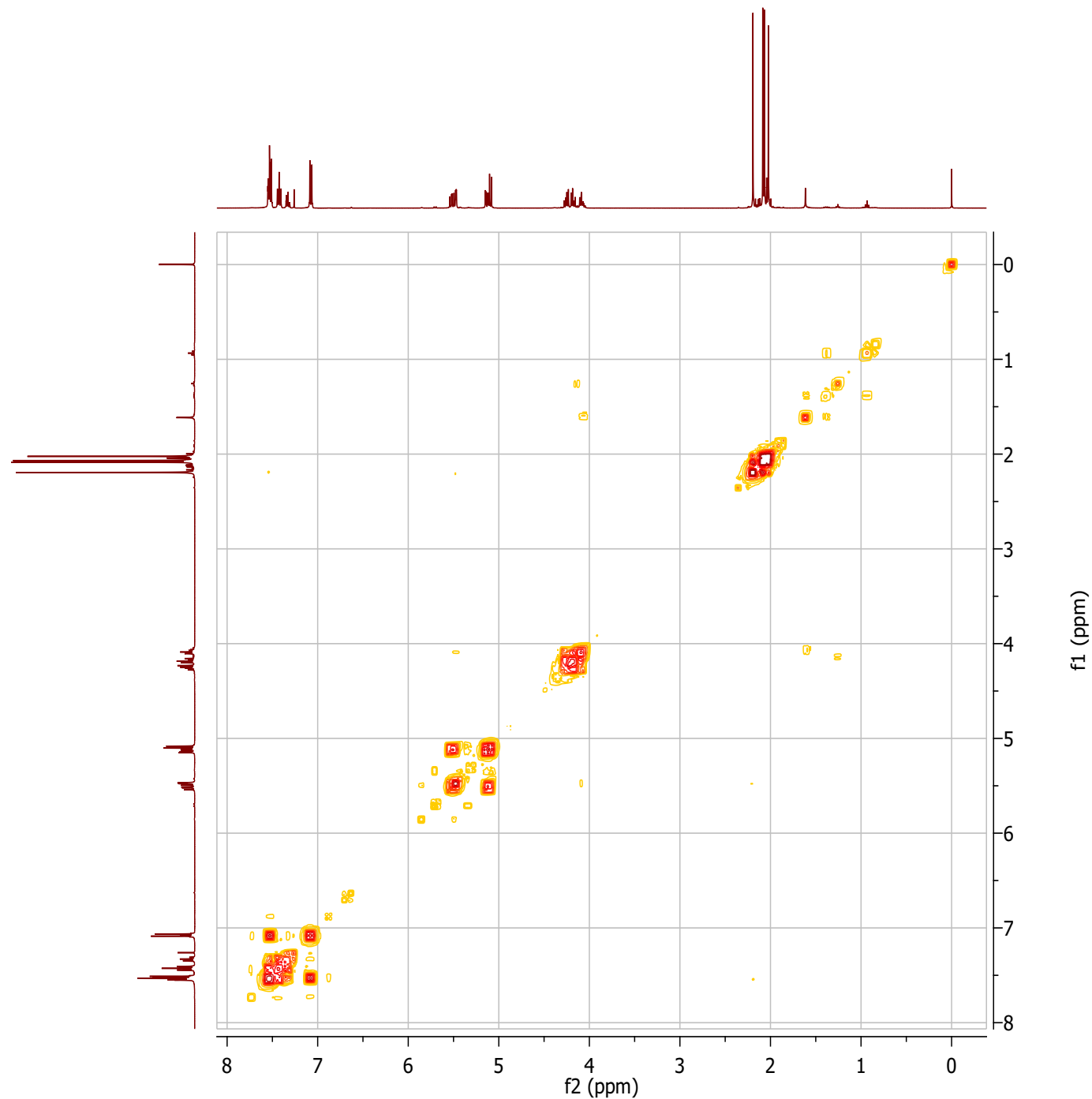


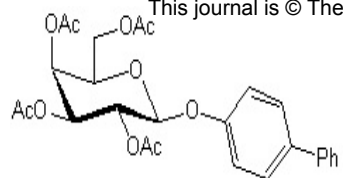


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-07-19T16:26:05
11 Modification Date	2010-07-19T15:45:47
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	¹³ C
16 Acquired Size	31875
17 Spectral Size	65536

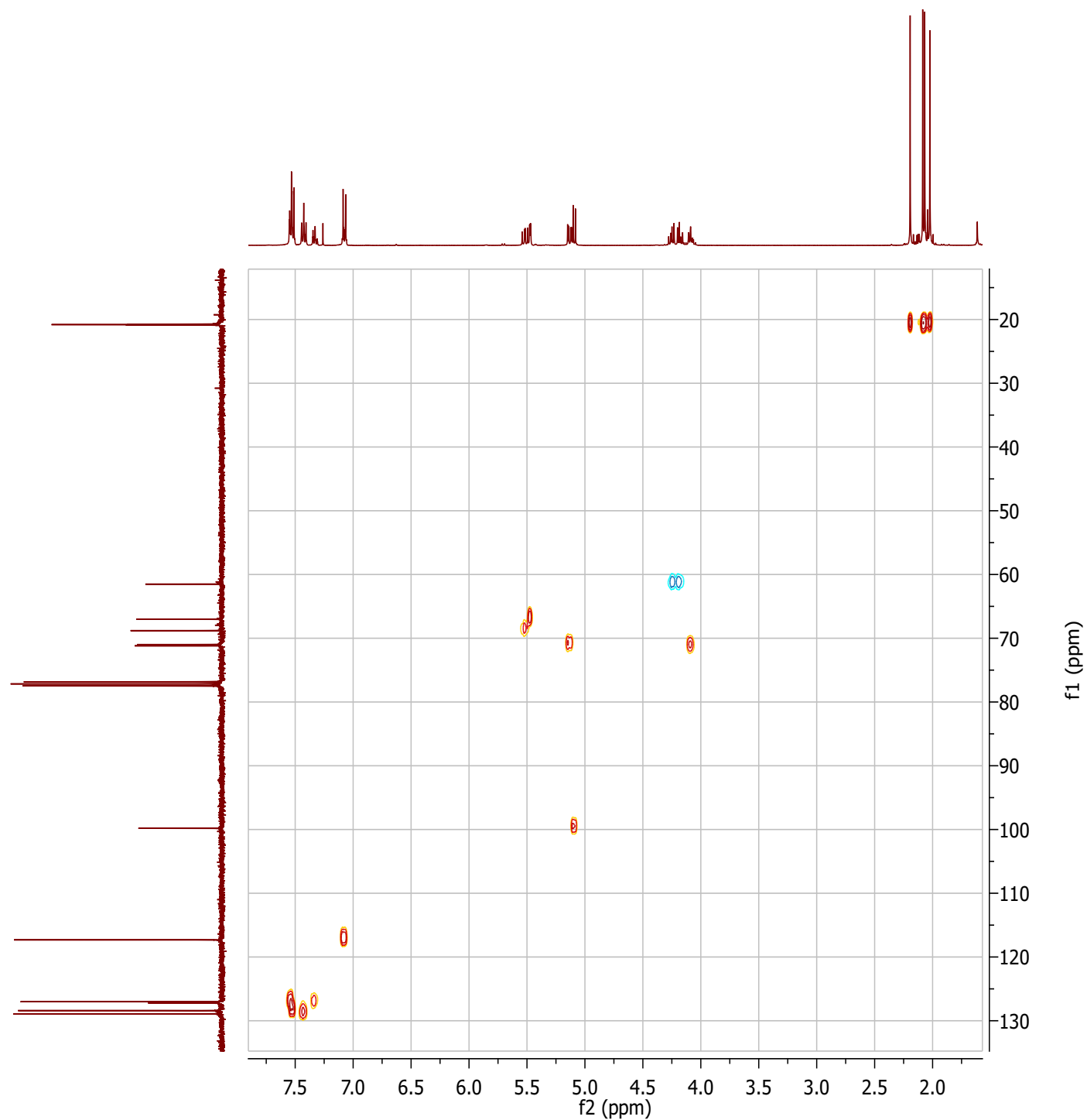


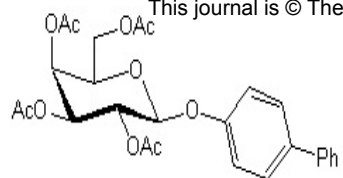
Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1319
10 Acquisition Date	2010-07-19T16:47:21
11 Modification Date	2010-07-19T15:50:11
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(3882.0, 3882.0)
14 Lowest Frequency	(-439.4, -439.4)
15 Nucleus	(1H, 1H)
16 Acquired Size	(512, 128)
17 Spectral Size	(1024, 1024)



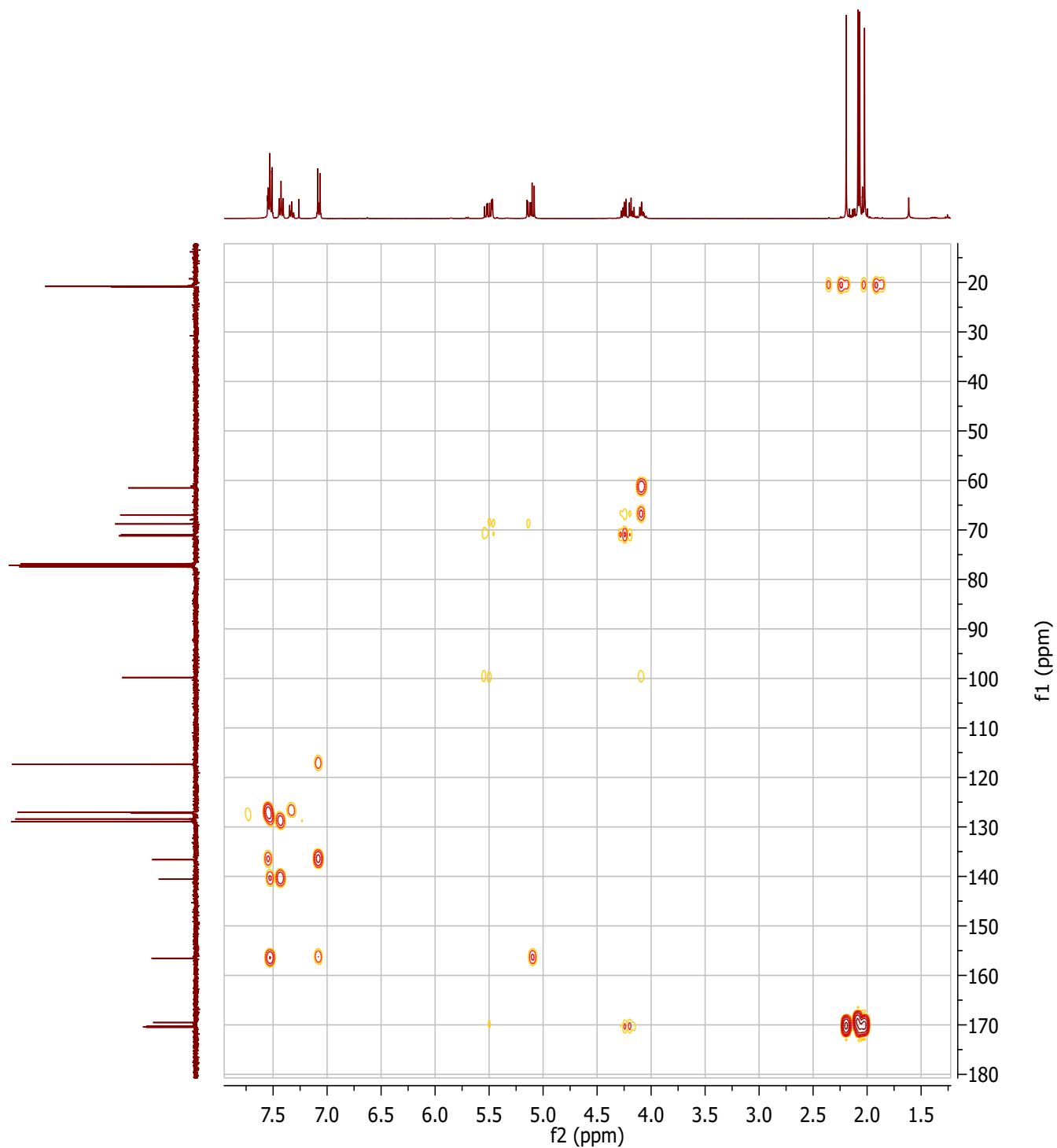


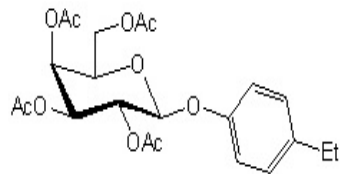
Parameter	Value (f2, f1)
1 Spectrometer	nmr
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1994
10 Acquisition Date	2010-07-19T16:50:12
11 Modification Date	2010-07-19T16:01:34
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3882.0, 24125.5)
14 Lowest Frequency	(-439.4, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(774, 128)
17 Spectral Size	(1024, 1024)



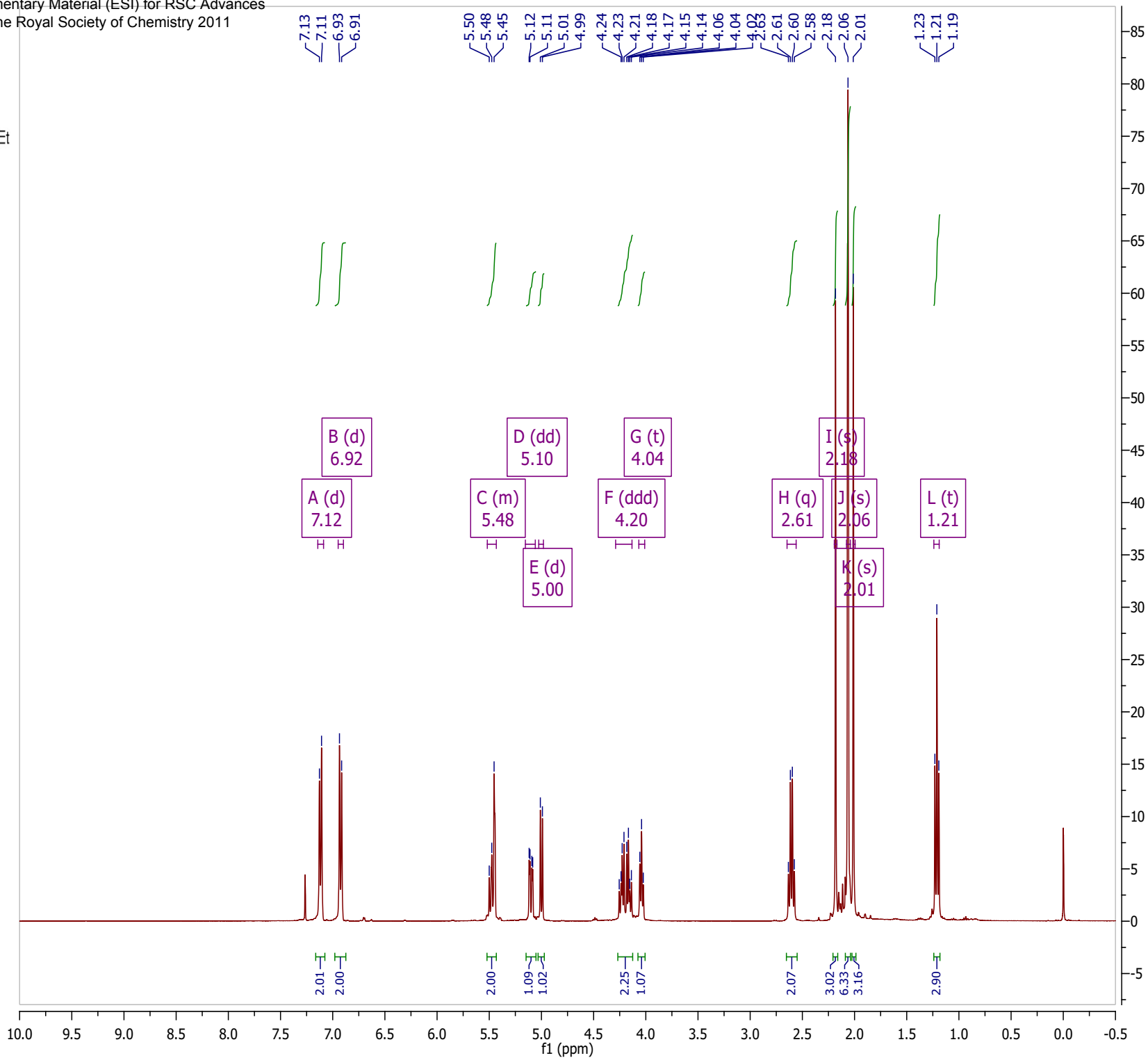


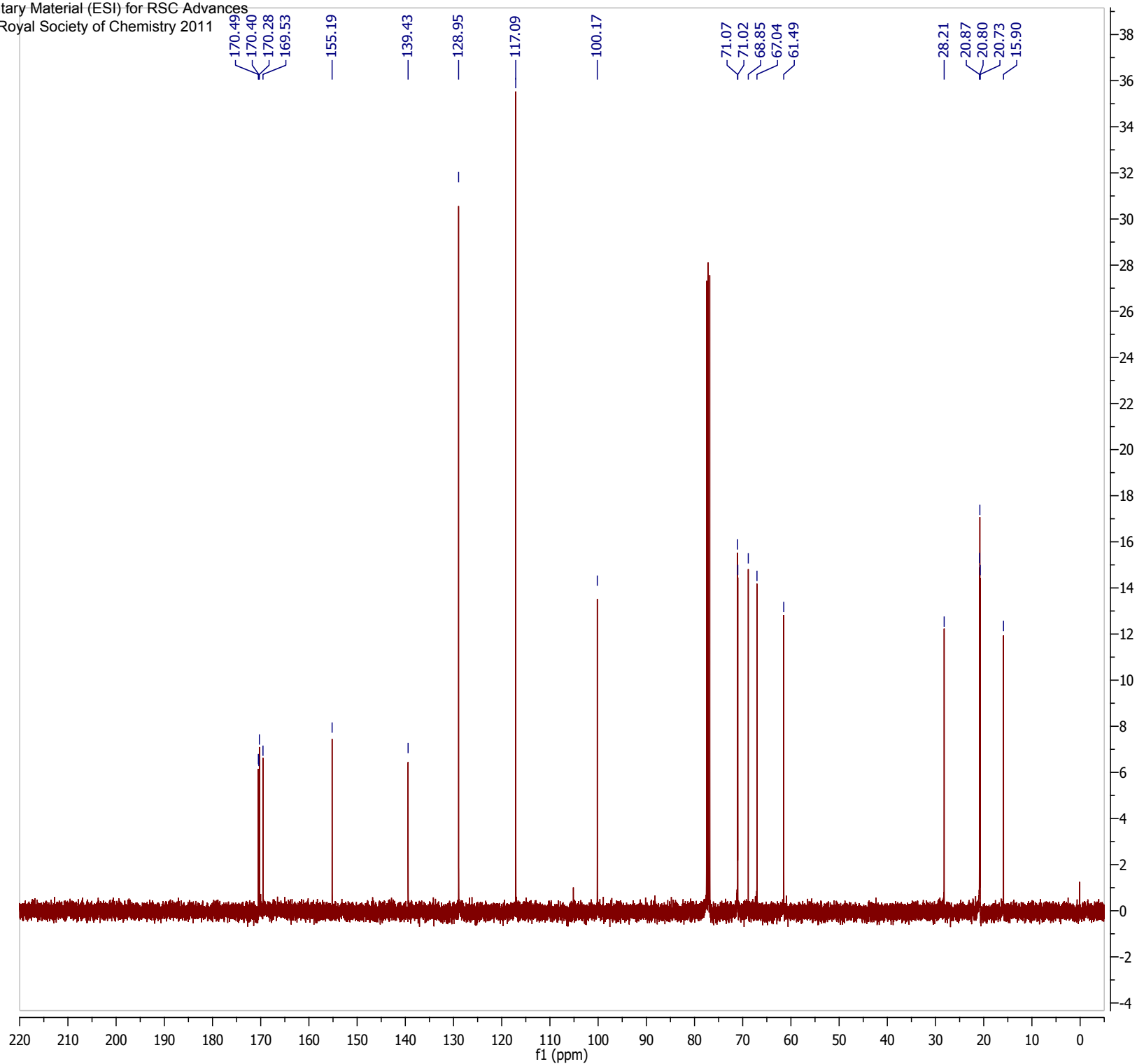
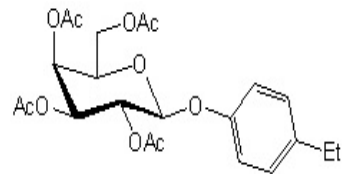
Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1280
10 Acquisition Date	2010-07-19T17:01:34
11 Modification Date	2010-07-19T16:34:42
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3882.0, 24125.5)
14 Lowest Frequency	(-439.4, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(497, 200)
17 Spectral Size	(1024, 1024)



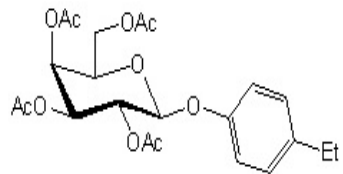


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-07-20T14:59:18
11 Modification Date	2010-07-20T13:59:52
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-855.5
15 Nucleus	¹ H
16 Acquired Size	13132
17 Spectral Size	32768

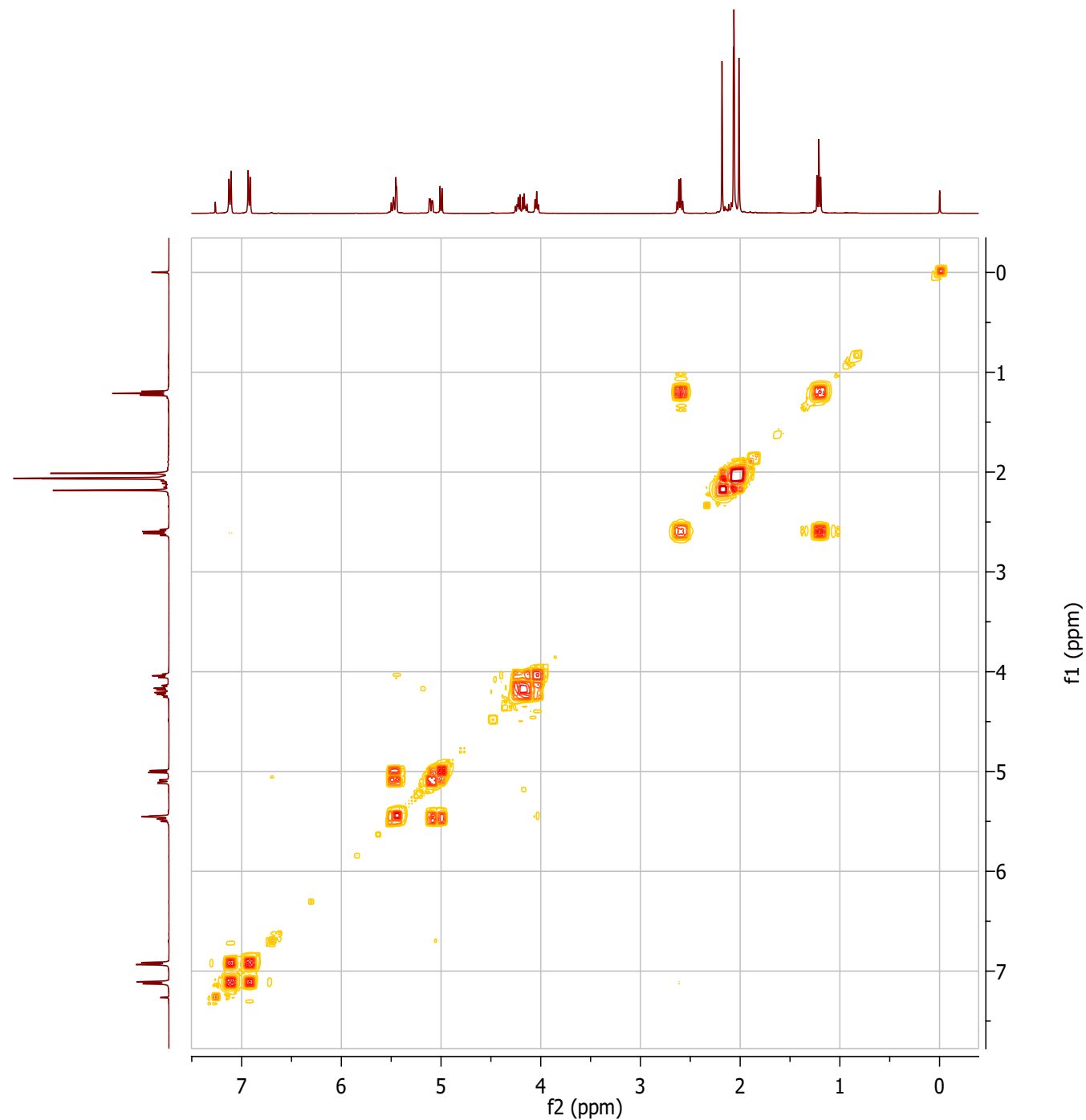


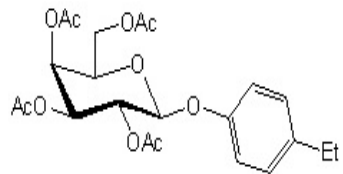


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-07-22T15:38:46
11 Modification Date	2010-07-22T14:58:28
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1696.4
15 Nucleus	13C
16 Acquired Size	31875
17 Spectral Size	65536

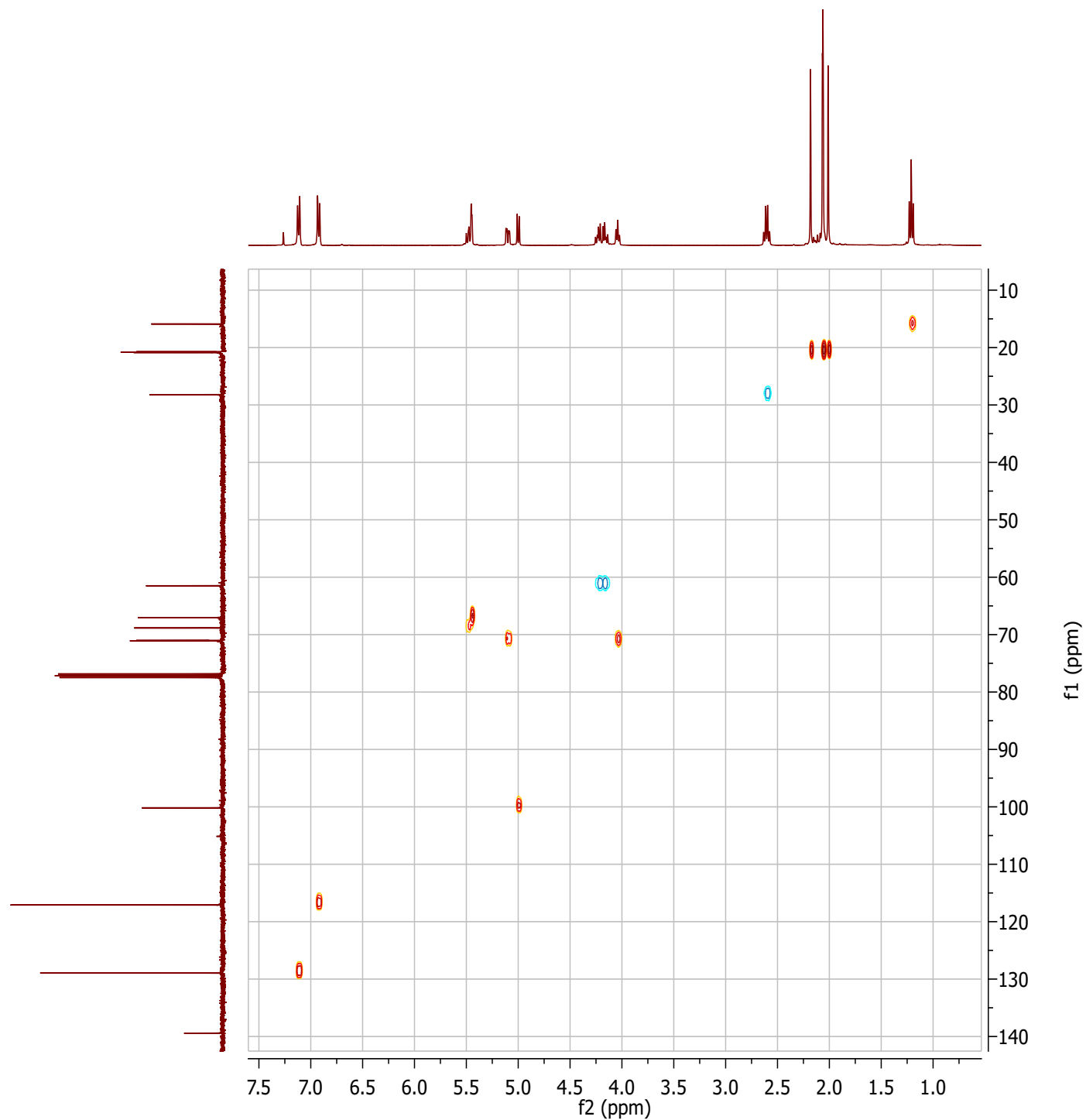


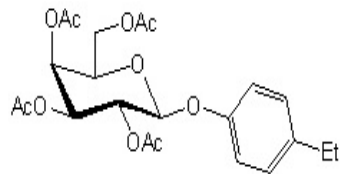
Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1368
10 Acquisition Date	2010-07-22T16:00:02
11 Modification Date	2010-07-22T15:02:53
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(3742.5, 3742.5)
14 Lowest Frequency	(-430.4, -430.4)
15 Nucleus	(1H, 1H)
16 Acquired Size	(512, 128)
17 Spectral Size	(1024, 1024)



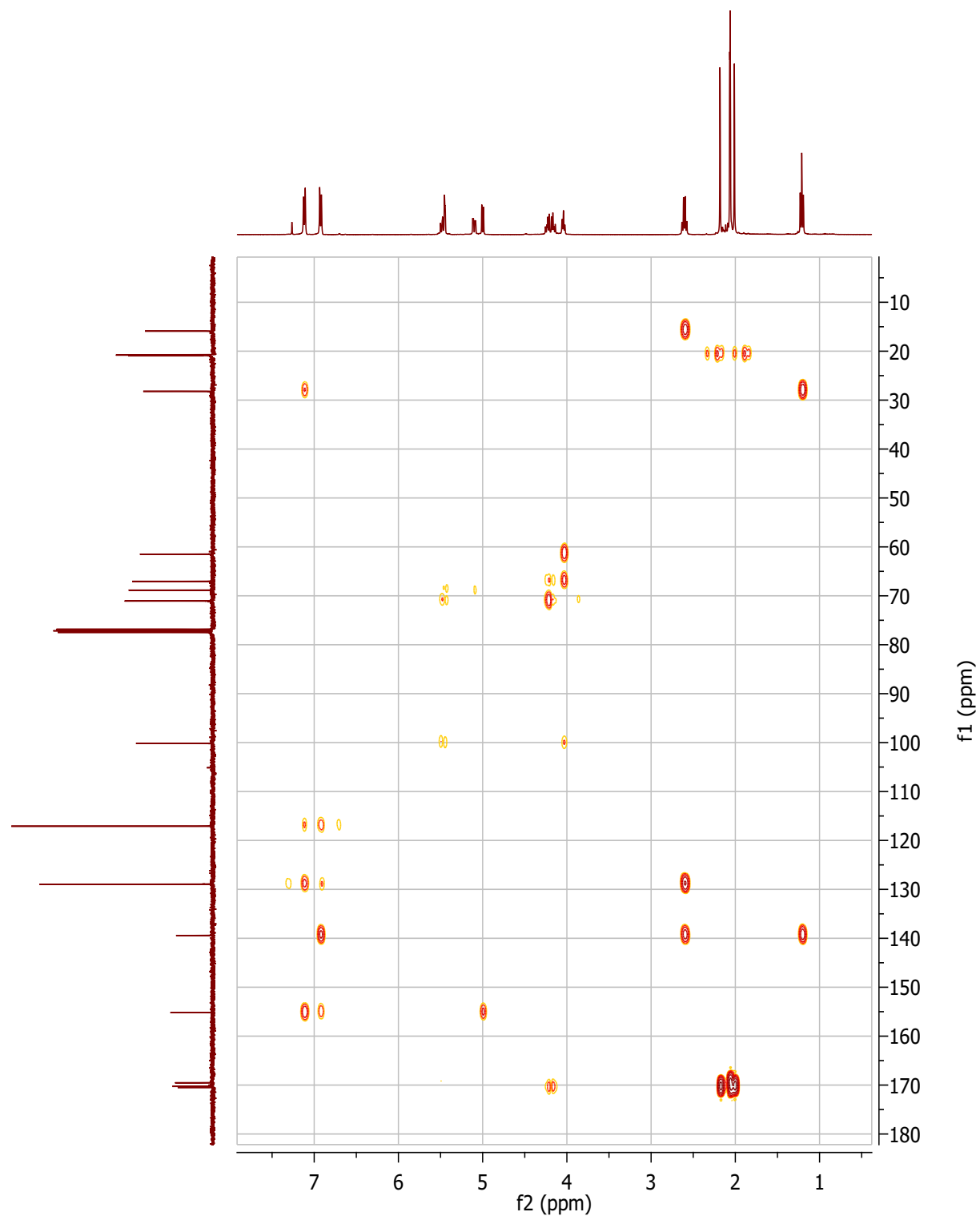


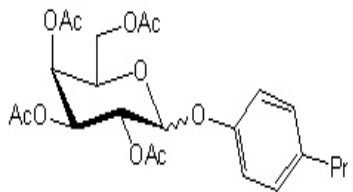
Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1993
10 Acquisition Date	2010-07-22T16:02:54
11 Modification Date	2010-07-22T15:14:16
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3742.5, 24125.5)
14 Lowest Frequency	(-430.4, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(746, 128)
17 Spectral Size	(1024, 1024)



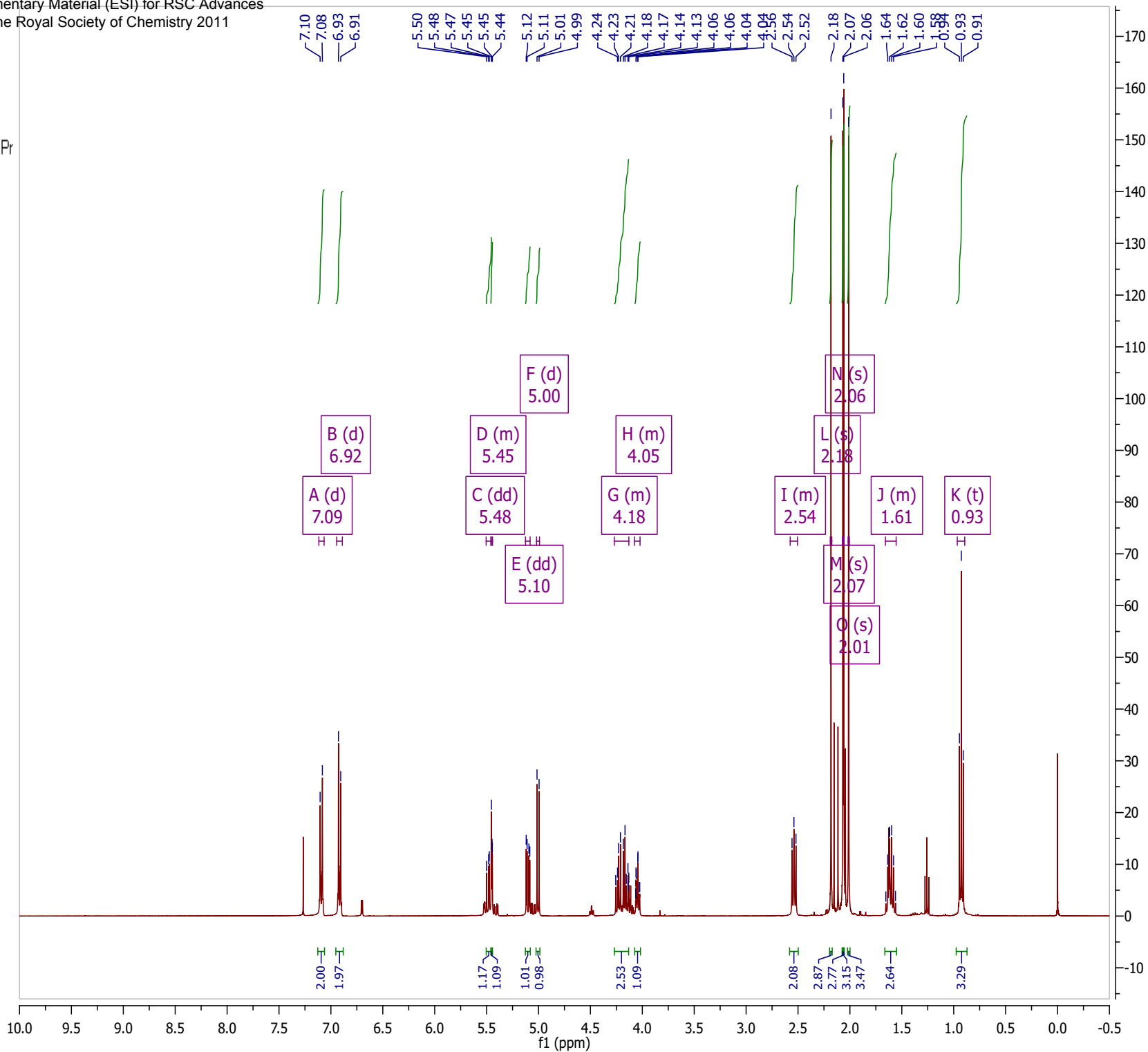


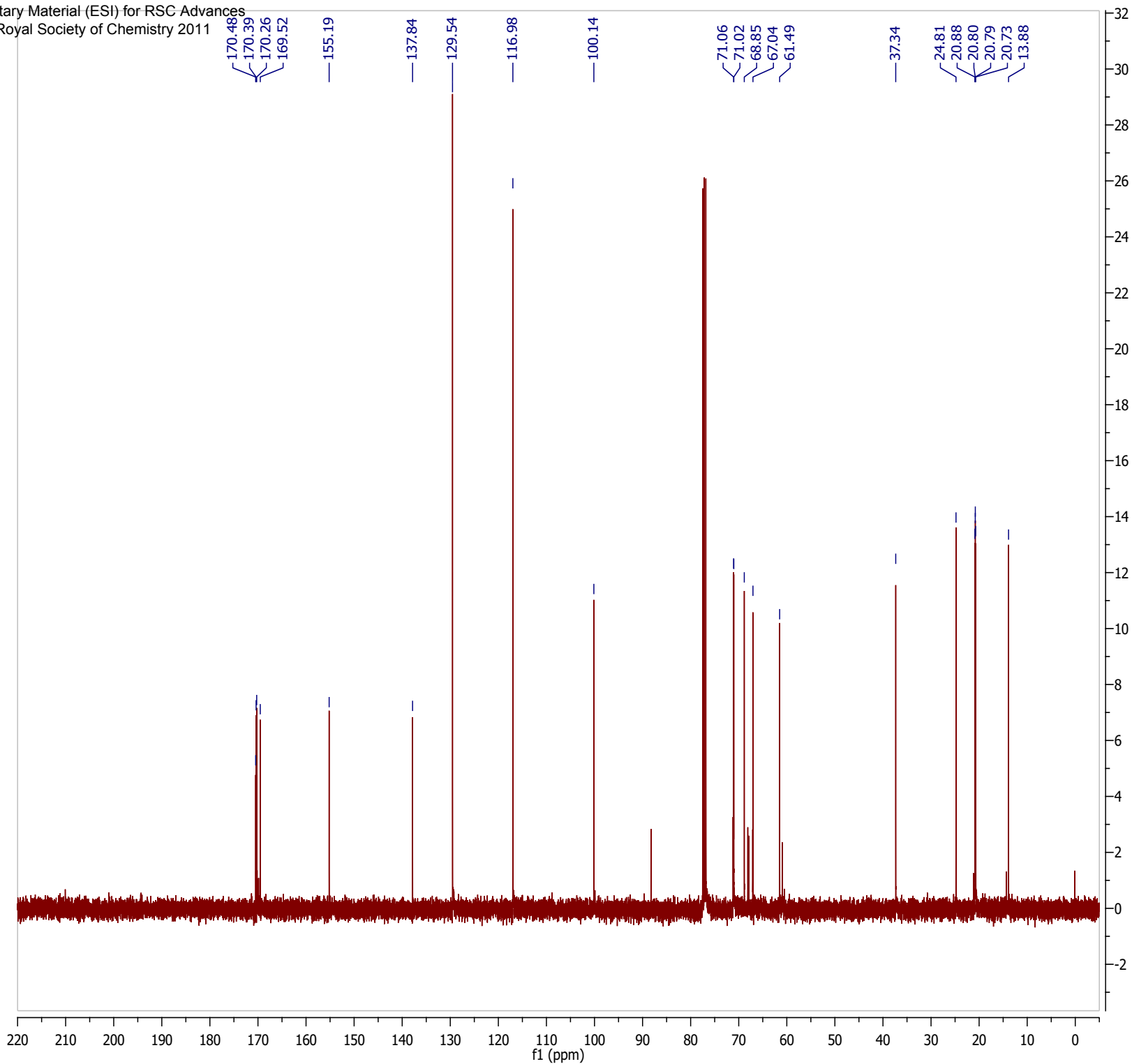
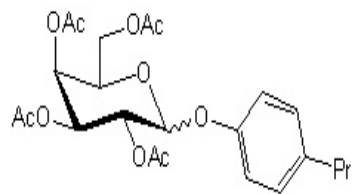
Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1280
10 Acquisition Date	2010-07-22T16:14:16
11 Modification Date	2010-07-22T15:47:25
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3742.5, 24125.5)
14 Lowest Frequency	(-430.4, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(479, 200)
17 Spectral Size	(1024, 1024)



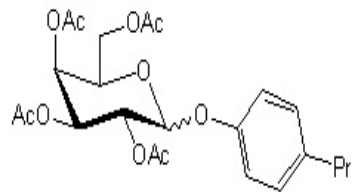


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-07-16T14:14:45
11 Modification Date	2010-07-16T13:15:19
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-804.2
15 Nucleus	¹ H
16 Acquired Size	13132
17 Spectral Size	32768

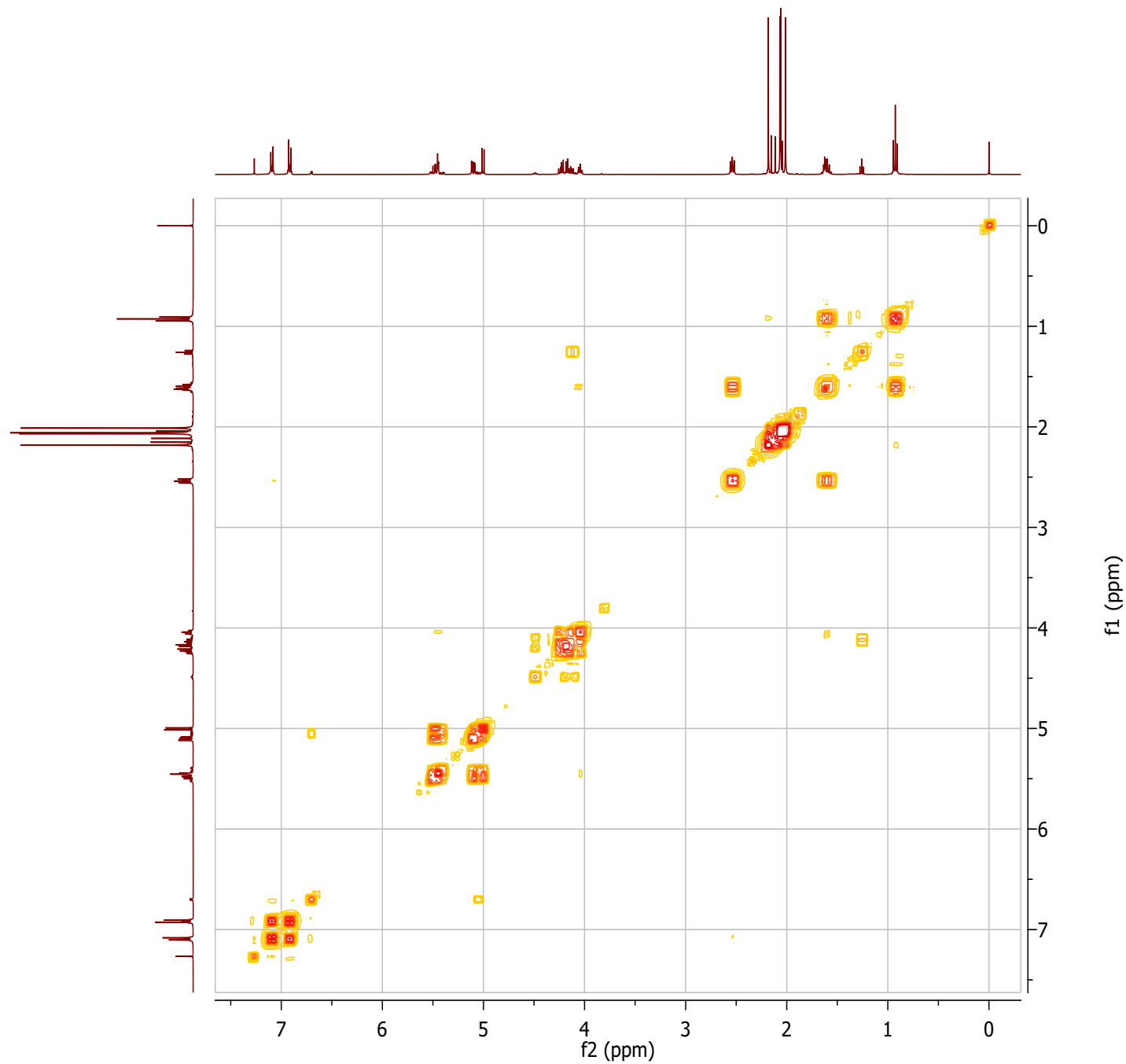


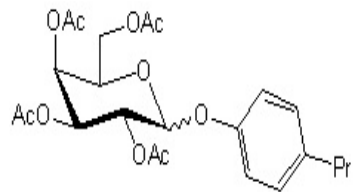


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-07-16T14:17:21
11 Modification Date	2010-07-16T13:37:02
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	13C
16 Acquired Size	31875
17 Spectral Size	65536

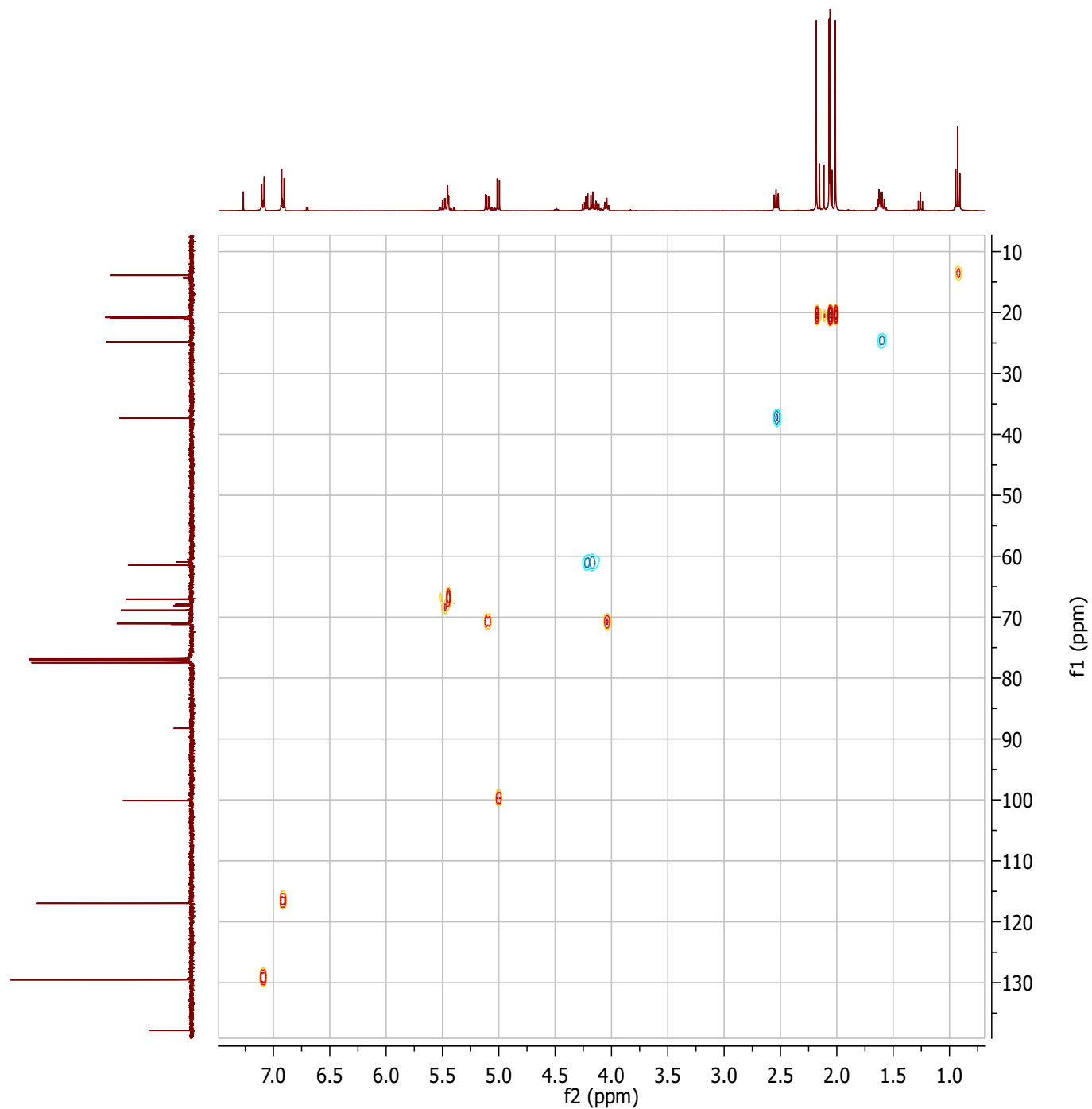


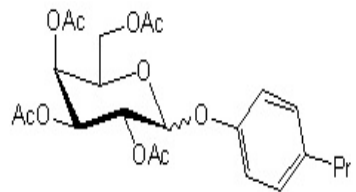
Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1368
10 Acquisition Date	2010-07-16T14:38:36
11 Modification Date	2010-07-16T13:41:28
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(3742.5, 3742.5)
14 Lowest Frequency	(-429.8, -429.8)
15 Nucleus	(1H, 1H)
16 Acquired Size	(512, 128)
17 Spectral Size	(1024, 1024)



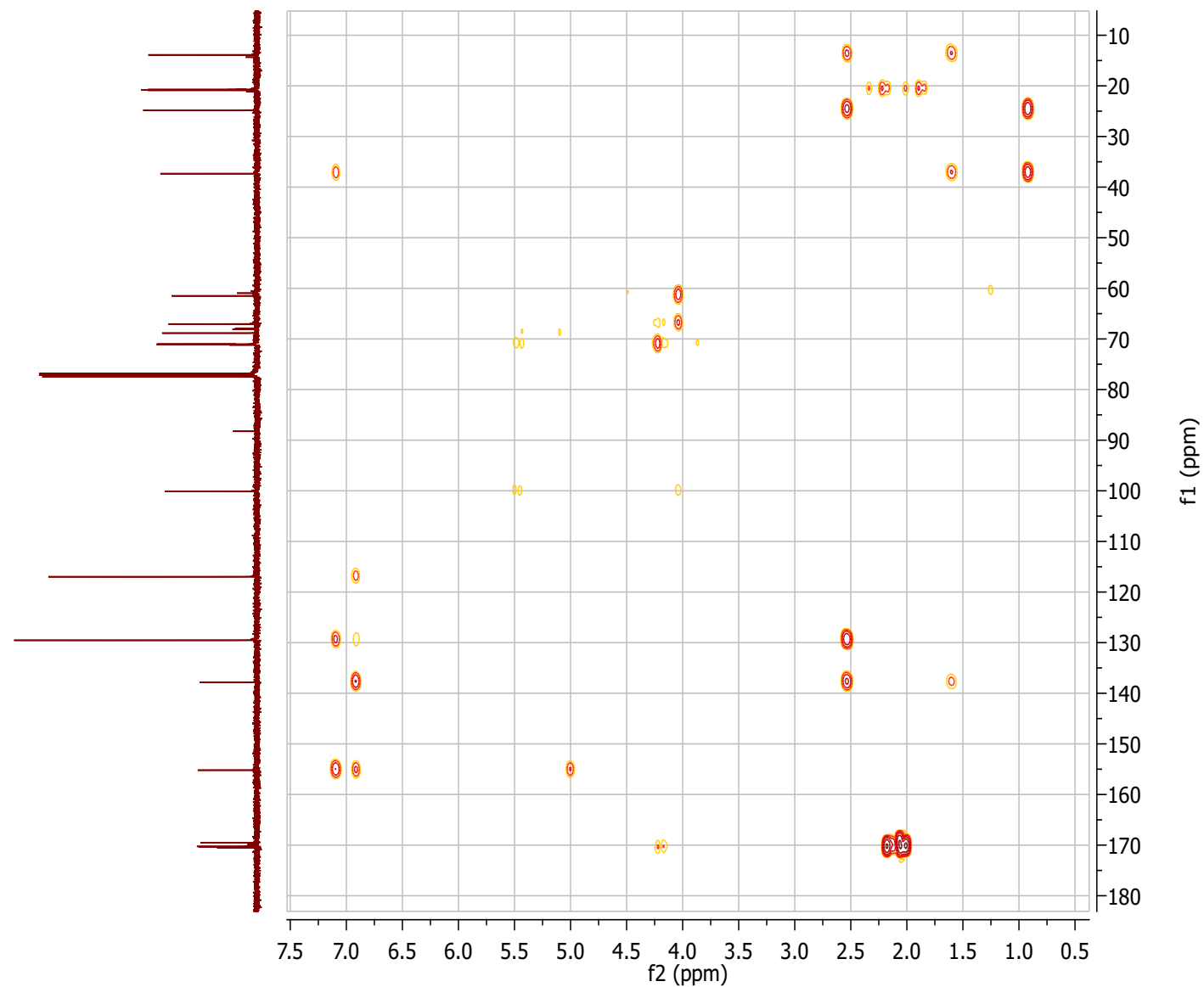


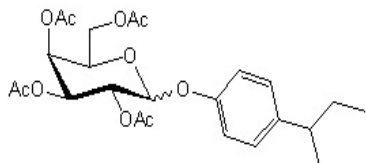
Parameter	Value (f2, f1)
1 Spectrometer	vnmr5
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1993
10 Acquisition Date	2010-07-16T14:41:28
11 Modification Date	2010-07-16T13:52:50
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3742.5, 24125.5)
14 Lowest Frequency	(-429.8, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(746, 128)
17 Spectral Size	(1024, 1024)



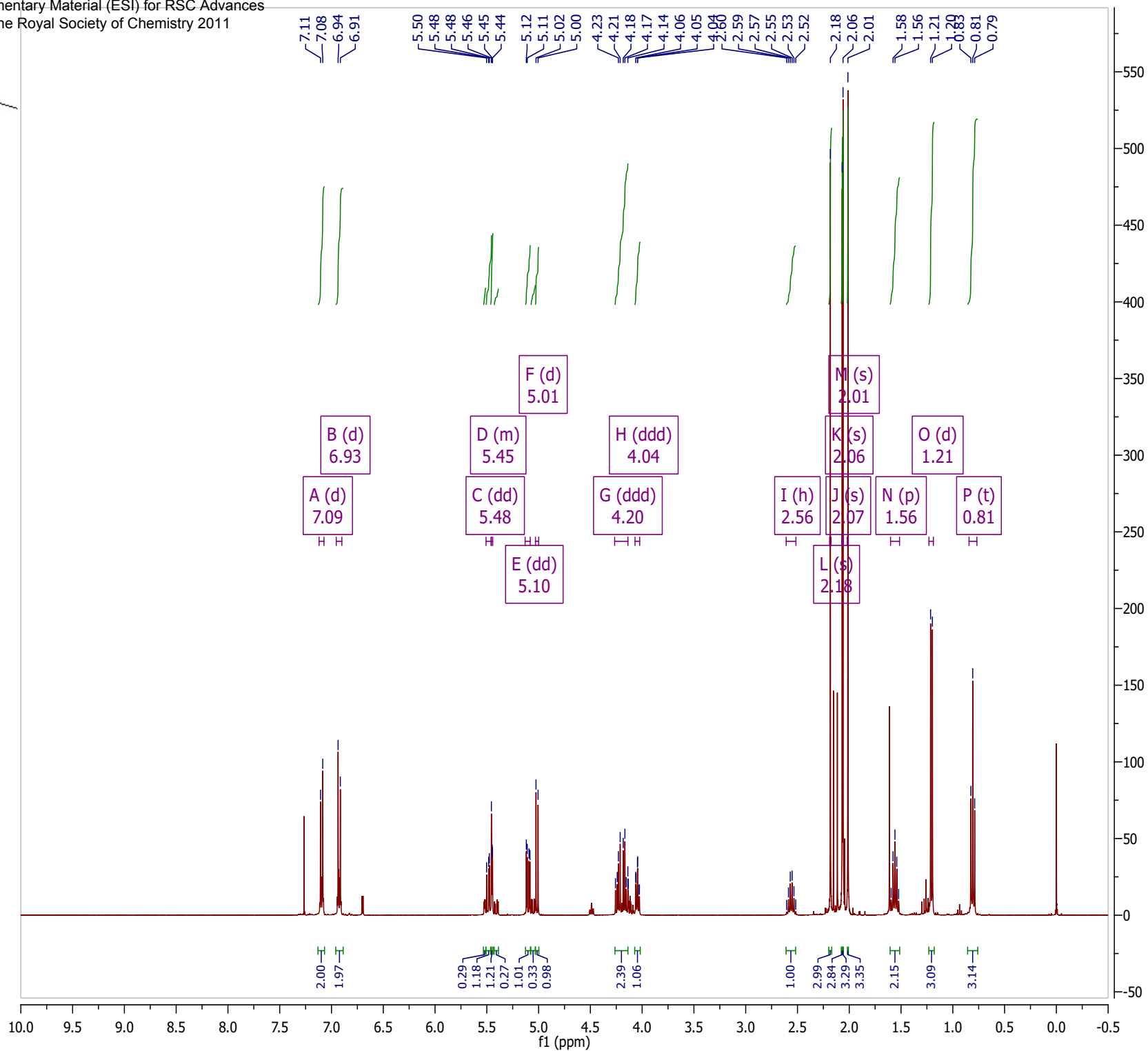


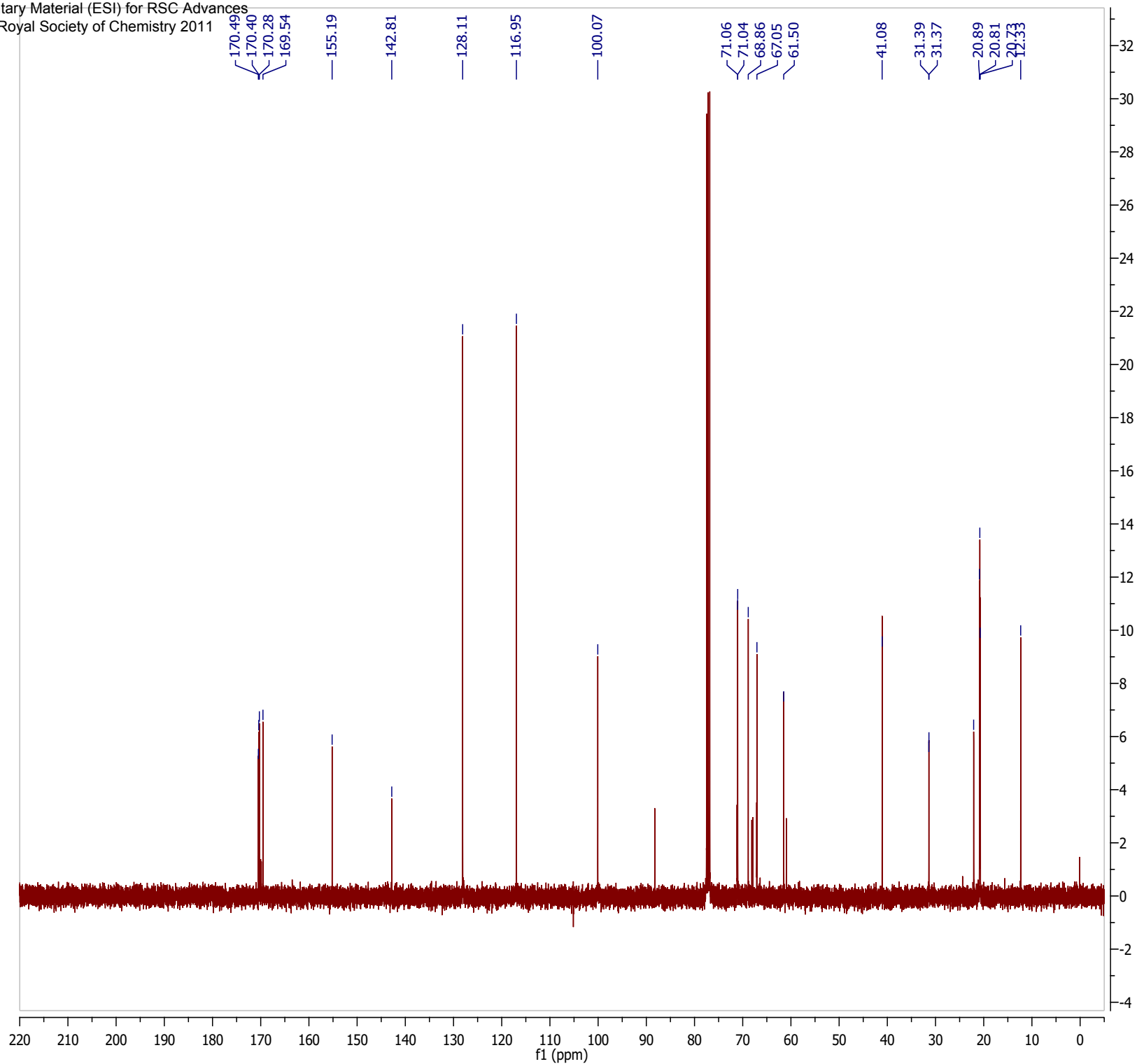
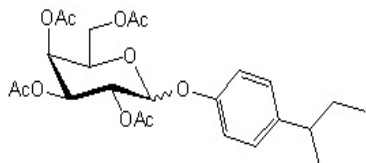
Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1280
10 Acquisition Date	2010-07-16T14:52:51
11 Modification Date	2010-07-16T14:25:59
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3742.5, 24125.5)
14 Lowest Frequency	(-429.8, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(479, 200)
17 Spectral Size	(1024, 1024)



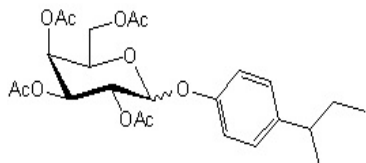


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	32
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-07-22T13:14:57
11 Modification Date	2010-07-22T12:15:31
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-803.8
15 Nucleus	¹ H
16 Acquired Size	13132
17 Spectral Size	32768

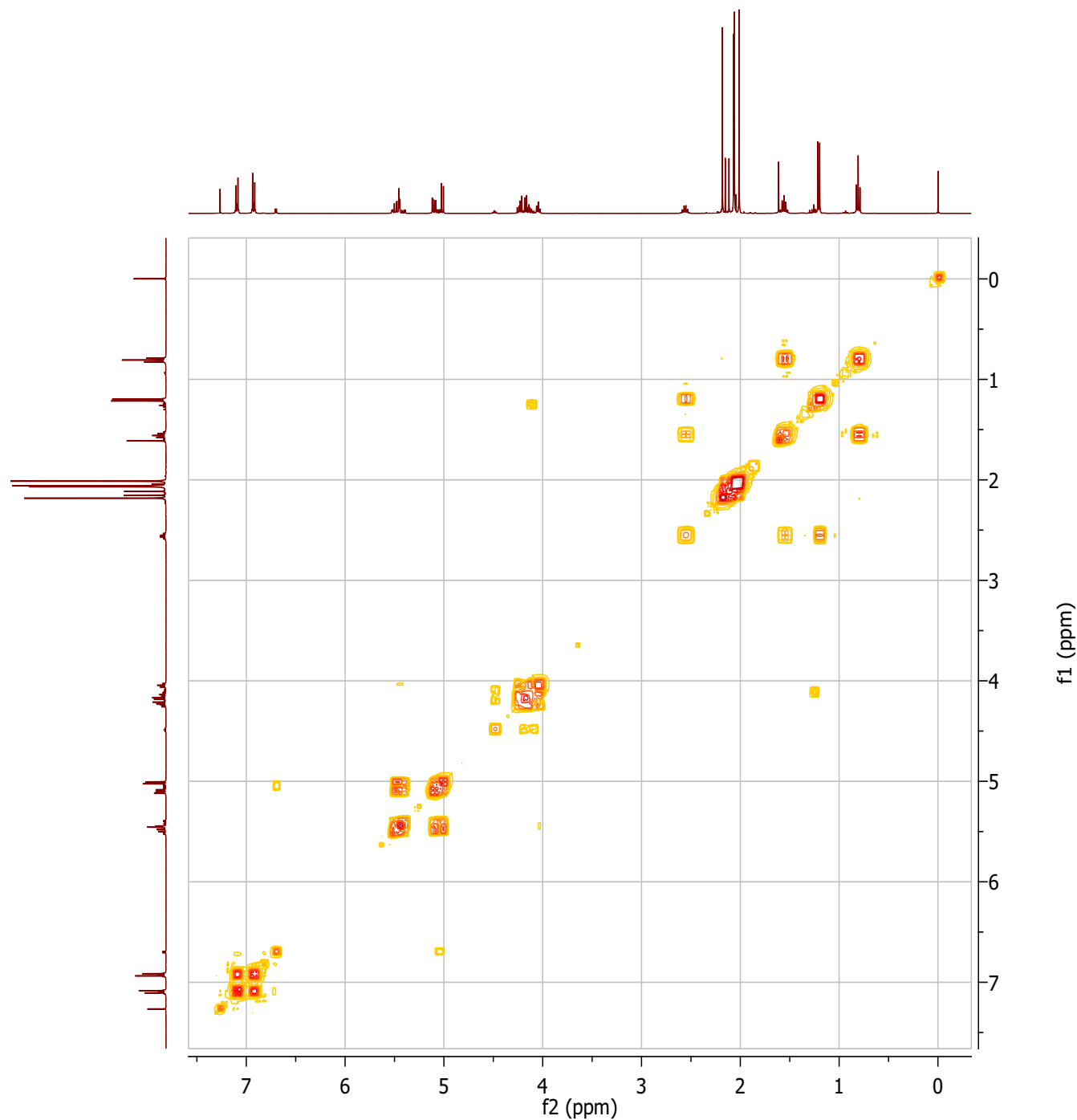


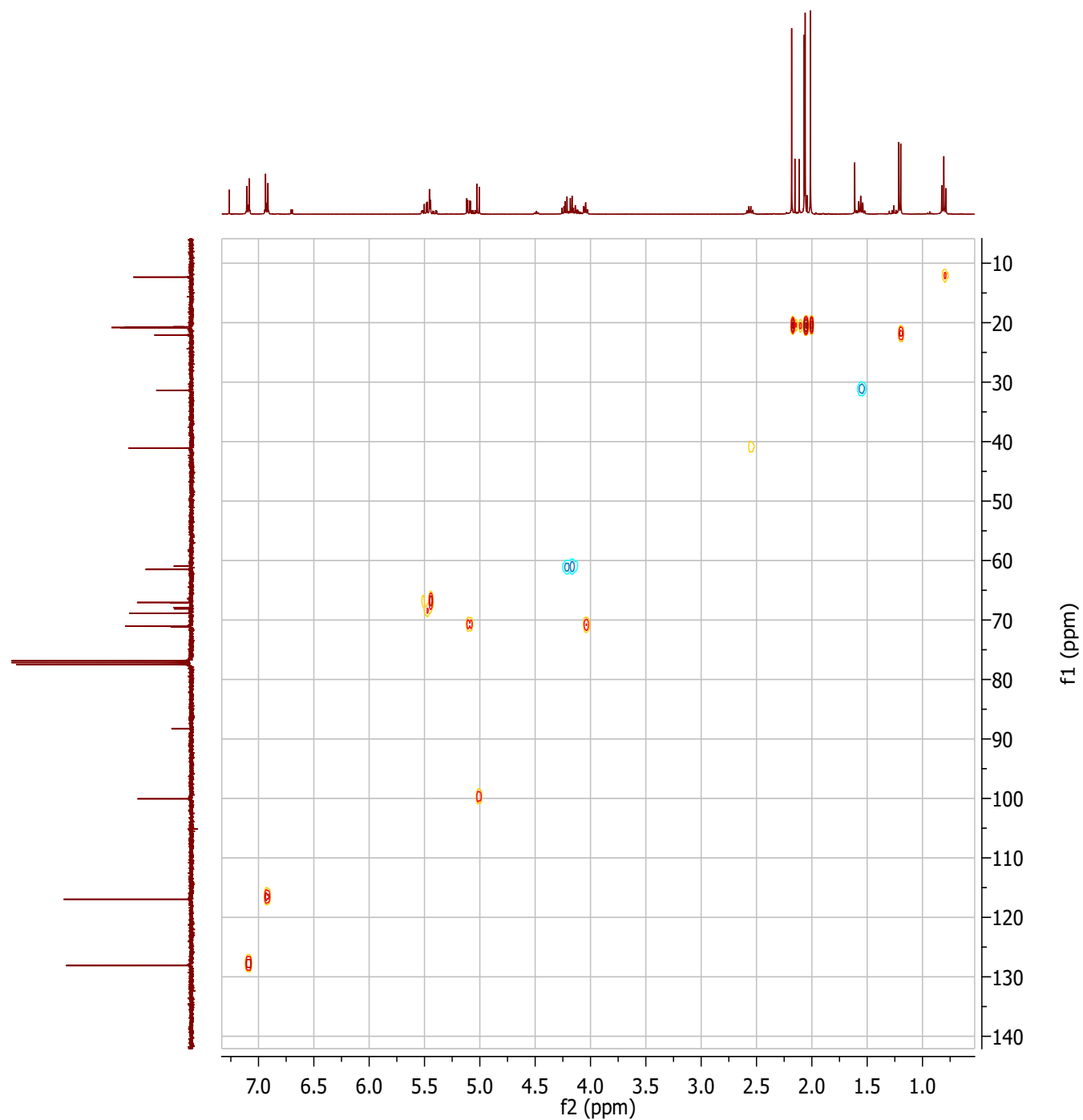
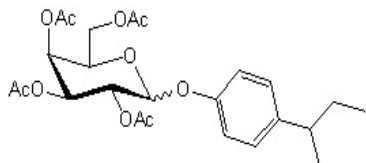


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-07-22T13:17:35
11 Modification Date	2010-07-22T12:37:17
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	13C
16 Acquired Size	31875
17 Spectral Size	65536

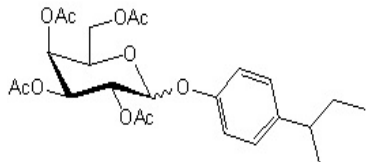


Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1368
10 Acquisition Date	2010-07-22T13:38:51
11 Modification Date	2010-07-22T12:41:42
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(3742.5, 3742.5)
14 Lowest Frequency	(-430.8, -430.8)
15 Nucleus	(1H, 1H)
16 Acquired Size	(512, 128)
17 Spectral Size	(1024, 1024)

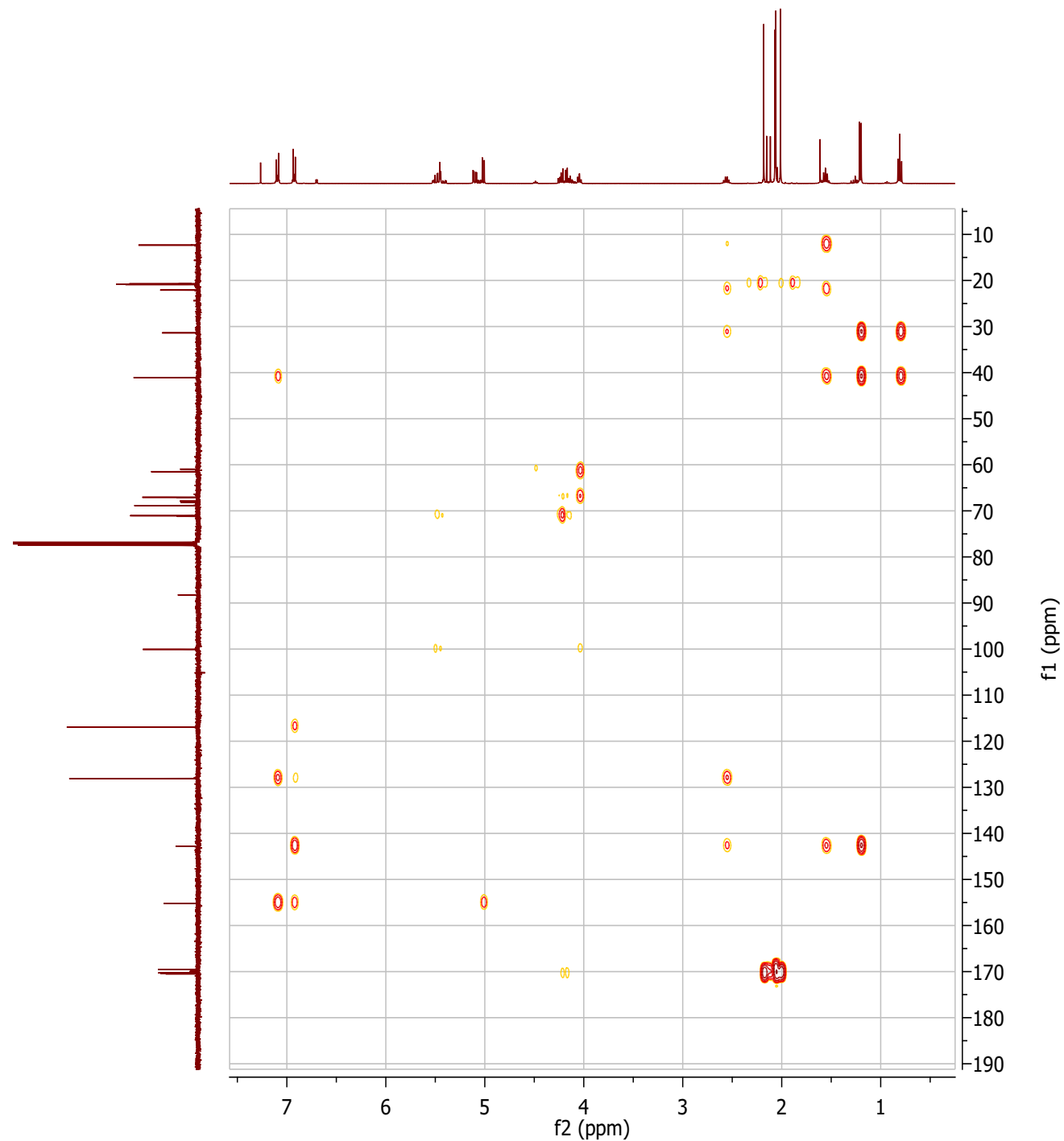


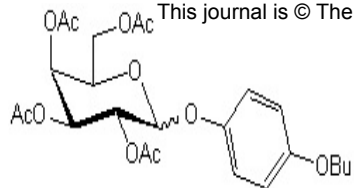


Parameter	Value (f2, f1)
1 Spectrometer	vnmr5
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1993
10 Acquisition Date	2010-07-22T13:41:42
11 Modification Date	2010-07-22T12:53:05
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3742.5, 24125.5)
14 Lowest Frequency	(-430.8, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(746, 128)
17 Spectral Size	(1024, 1024)

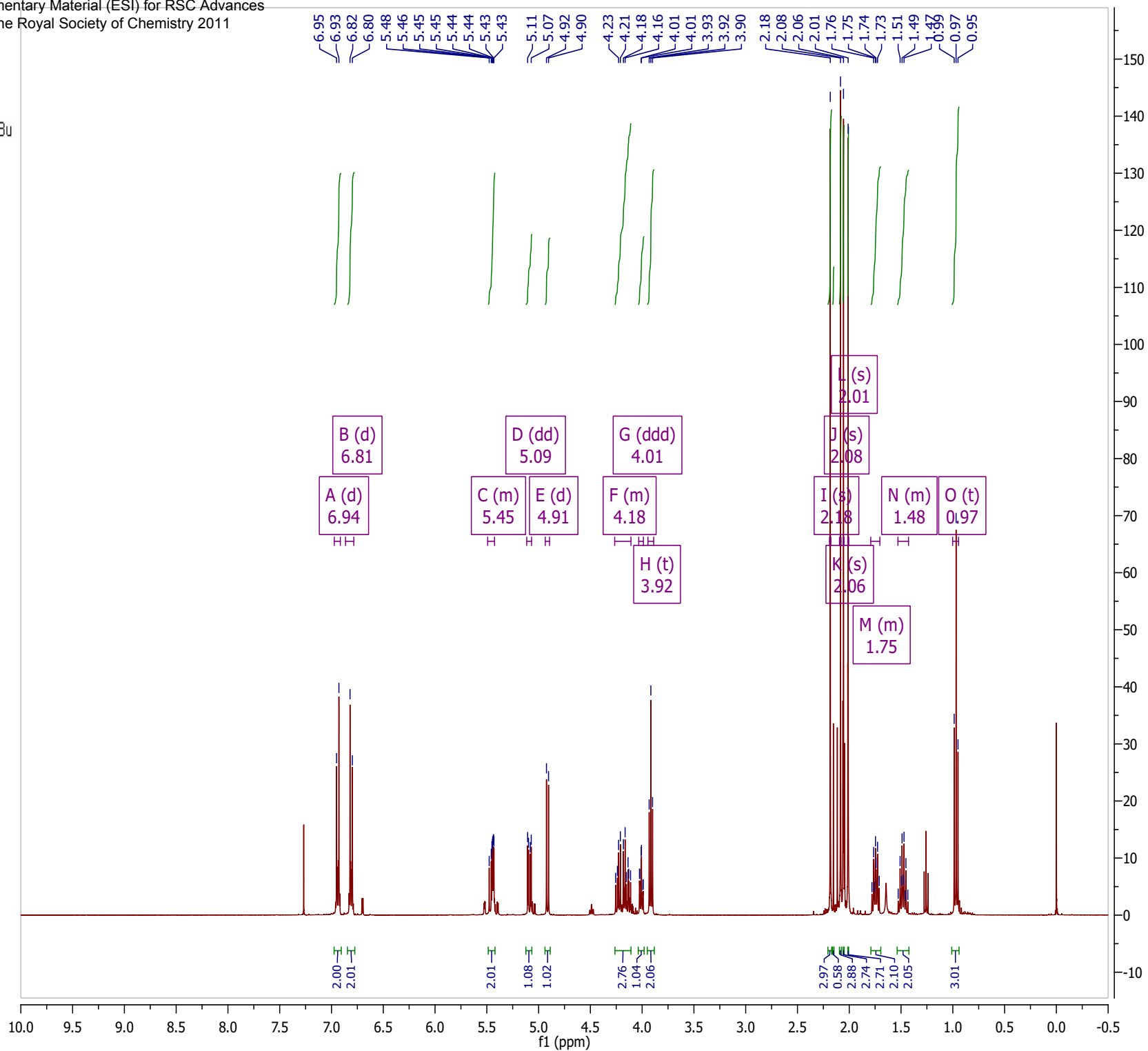


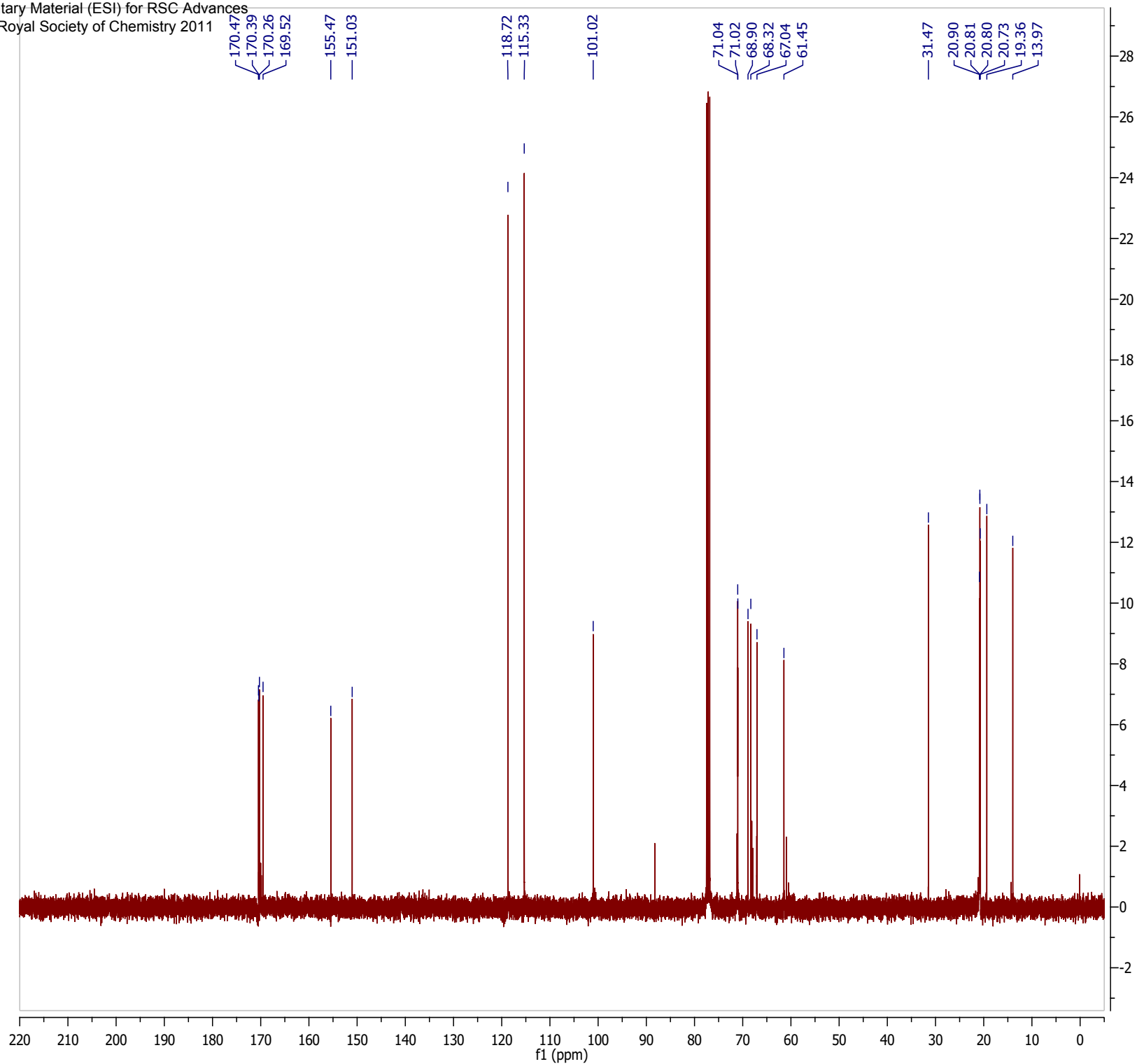
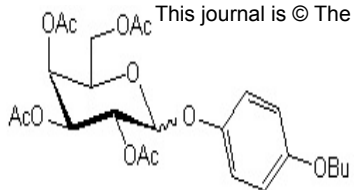
Parameter	Value (f2, f1)
1 Spectrometer	nmr
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1280
10 Acquisition Date	2010-07-22T13:53:05
11 Modification Date	2010-07-22T13:26:14
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3742.5, 24125.5)
14 Lowest Frequency	(-430.8, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(479, 200)
17 Spectral Size	(1024, 1024)



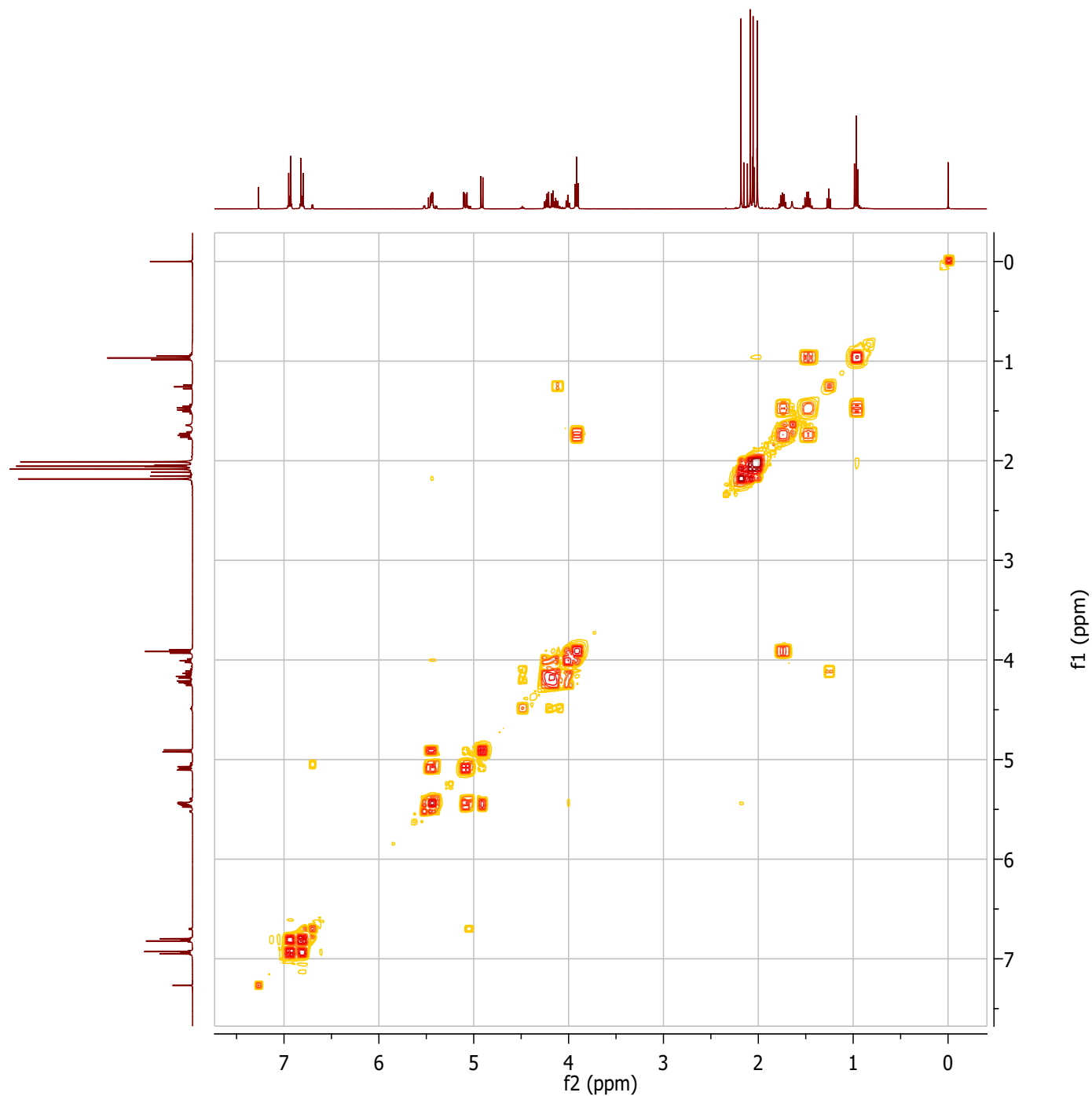
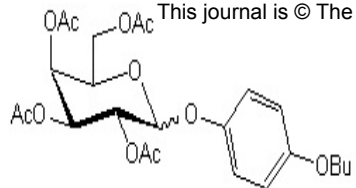


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-07-15T16:35:39
11 Modification Date	2010-07-15T15:36:13
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-803.6
15 Nucleus	1H
16 Acquired Size	13132
17 Spectral Size	32768

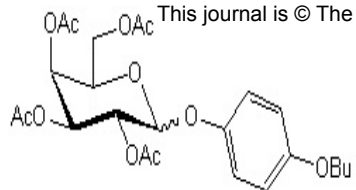




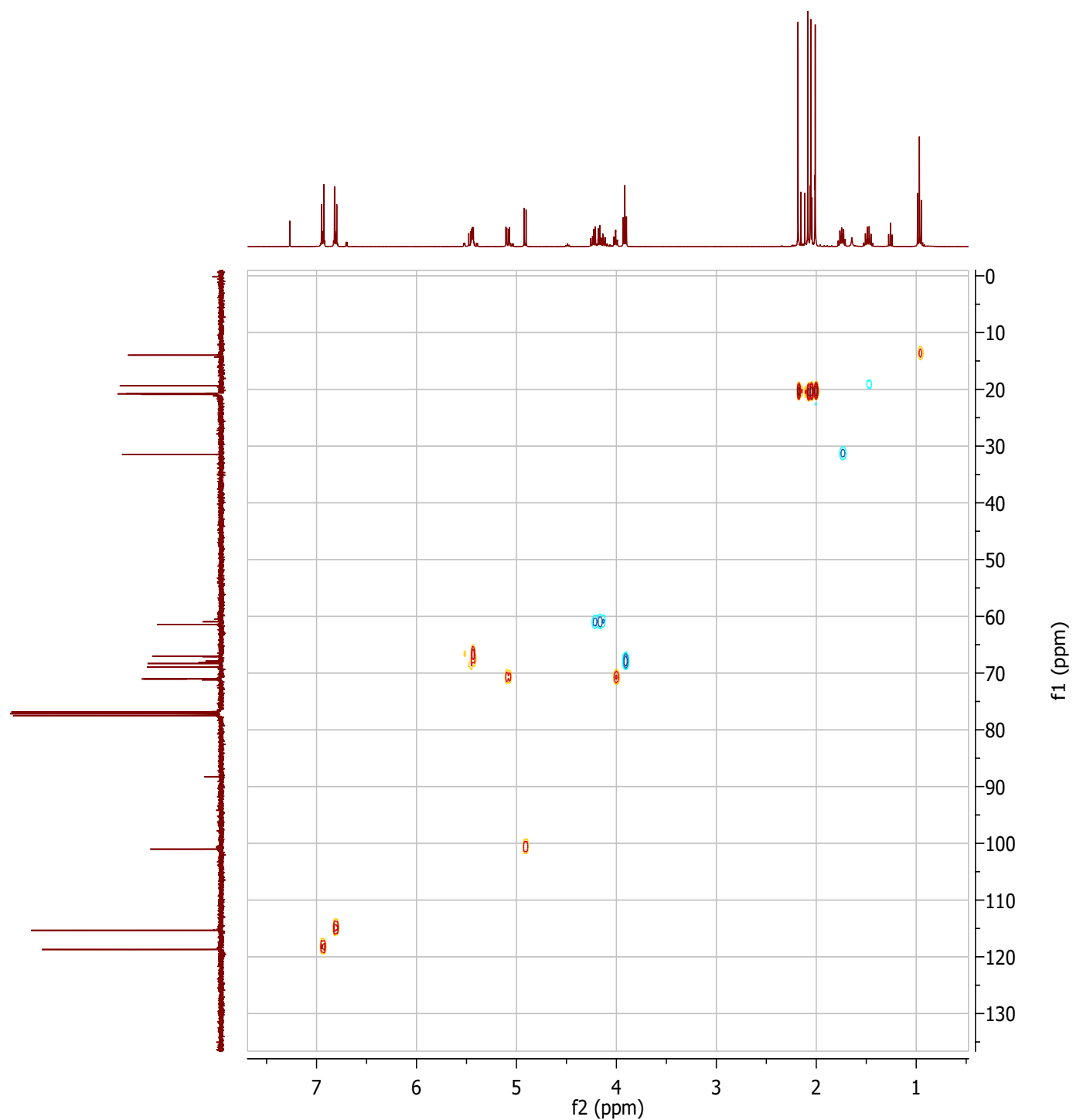
Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-07-15T16:37:55
11 Modification Date	2010-07-15T15:57:36
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	¹³ C
16 Acquired Size	31875
17 Spectral Size	65536

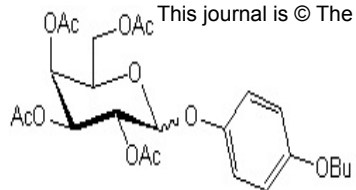


Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1360
10 Acquisition Date	2010-07-15T16:59:11
11 Modification Date	2010-07-15T16:02:02
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(3765.1, 3765.1)
14 Lowest Frequency	(-445.5, -445.5)
15 Nucleus	(1H, 1H)
16 Acquired Size	(512, 128)
17 Spectral Size	(1024, 1024)

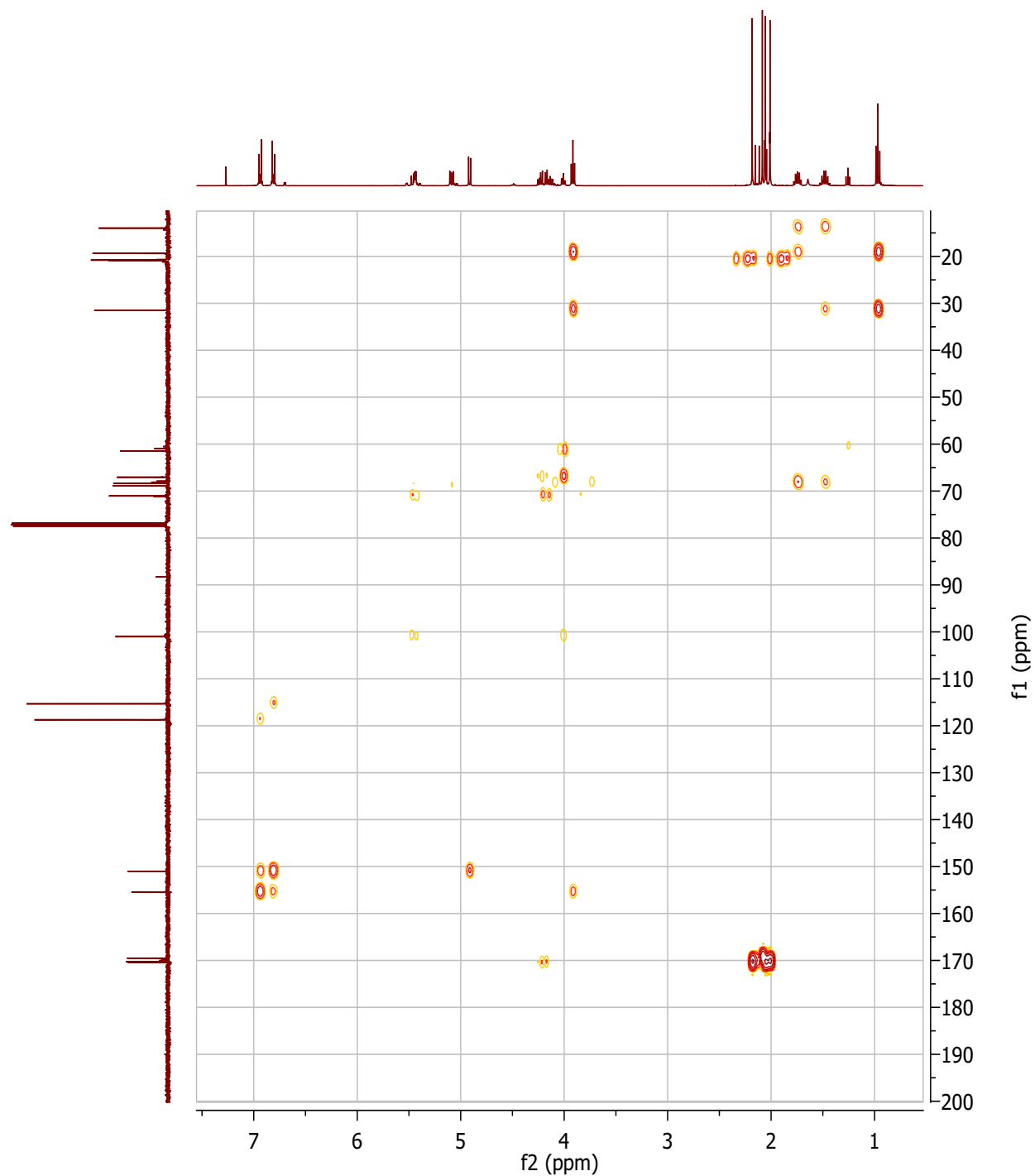


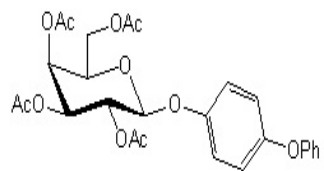
Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1992
10 Acquisition Date	2010-07-15T17:02:02
11 Modification Date	2010-07-15T16:13:24
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3765.1, 24125.5)
14 Lowest Frequency	(-445.5, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(750, 128)
17 Spectral Size	(1024, 1024)



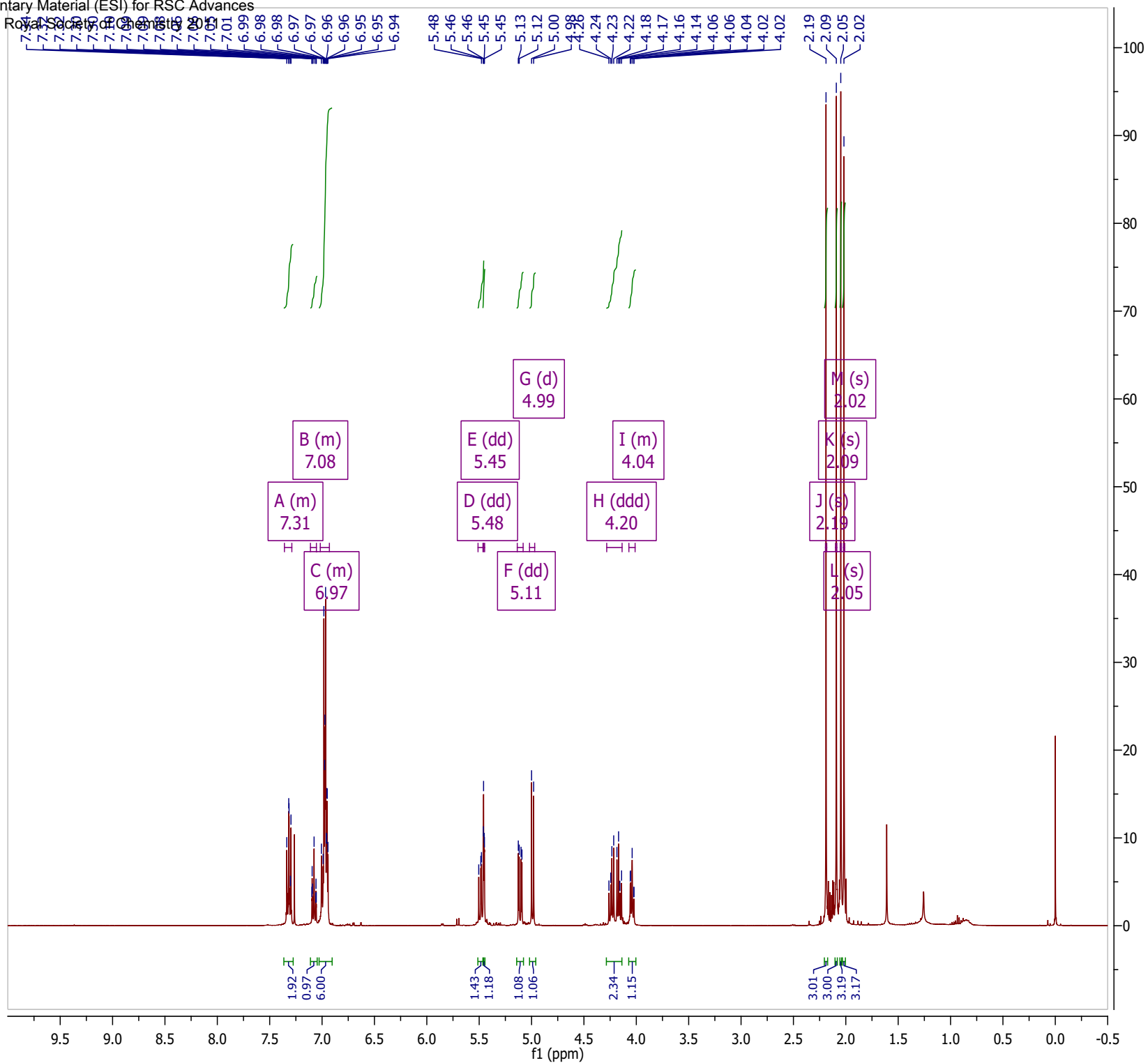


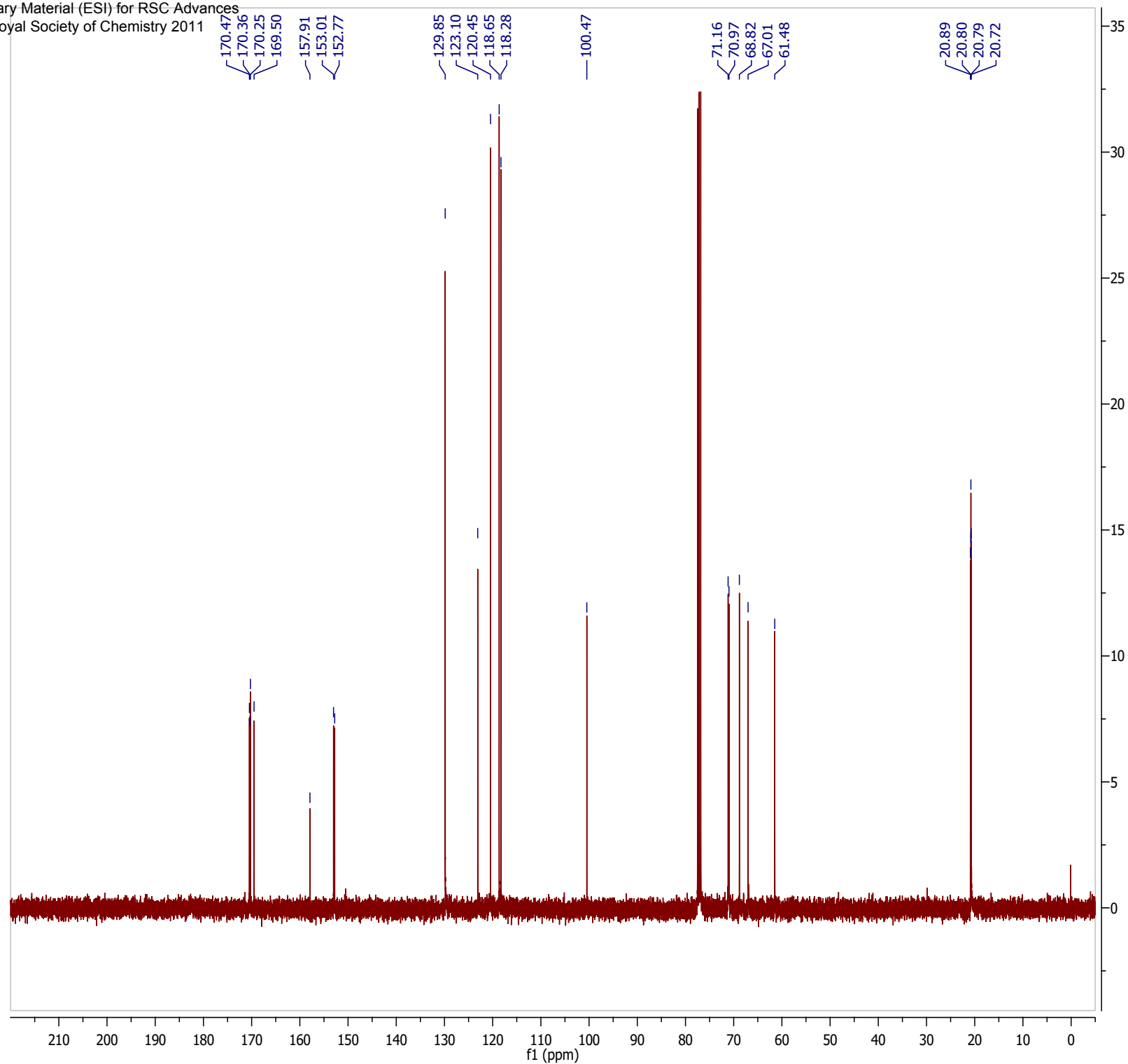
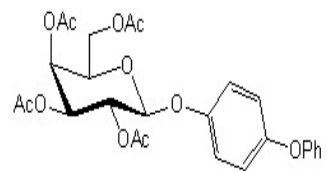
Parameter	Value (f2, f1)
1 Spectrometer	vnmr5
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1280
10 Acquisition Date	2010-07-15T17:13:25
11 Modification Date	2010-07-15T16:46:33
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3765.1, 24125.5)
14 Lowest Frequency	(-445.5, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(482, 200)
17 Spectral Size	(1024, 1024)



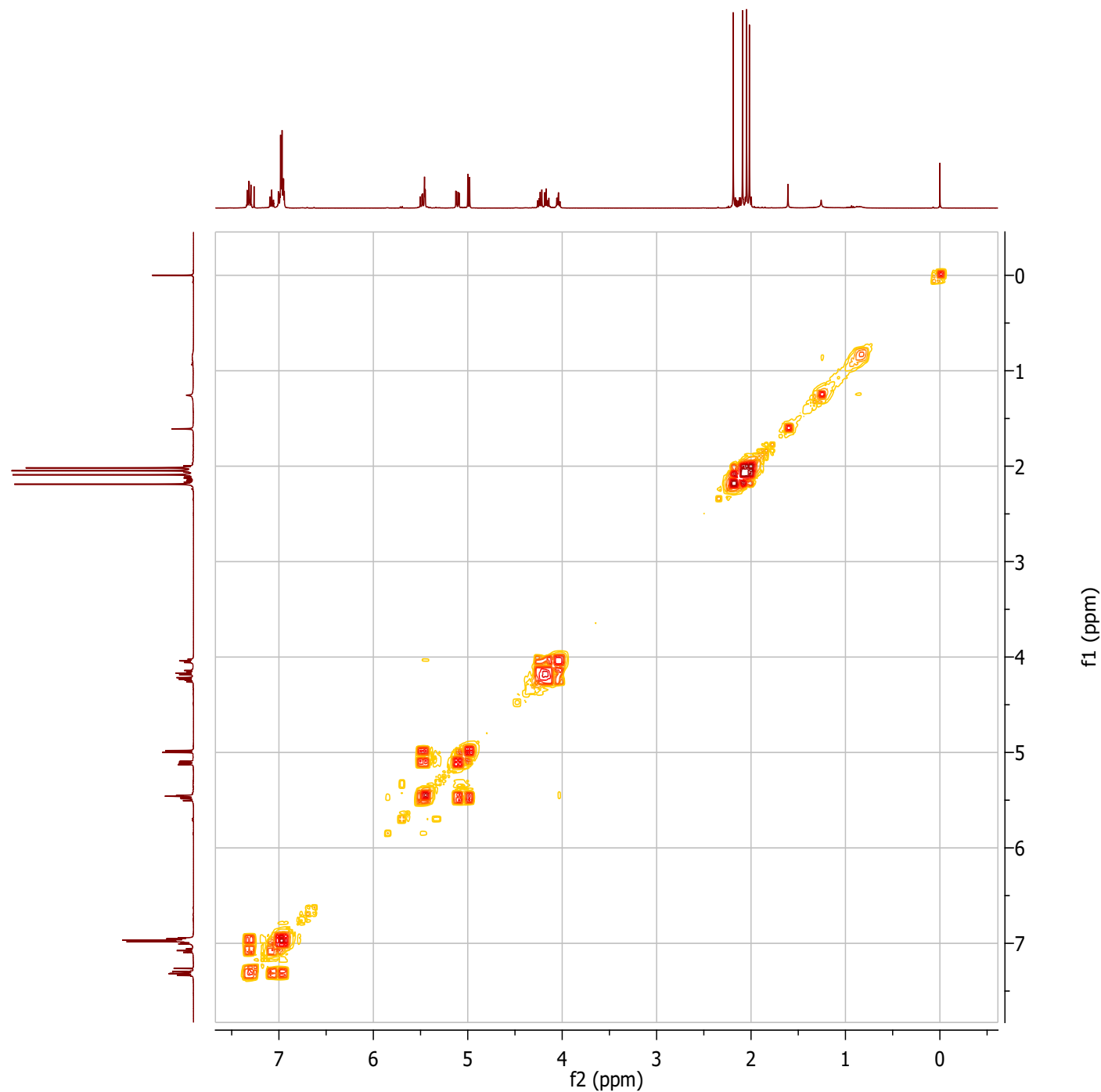
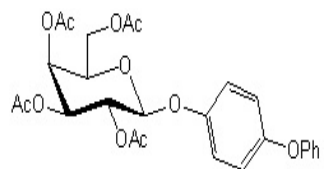


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-07-23T12:26:42
11 Modification Date	2010-07-23T11:27:17
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-804.4
15 Nucleus	1H
16 Acquired Size	13132
17 Spectral Size	32768

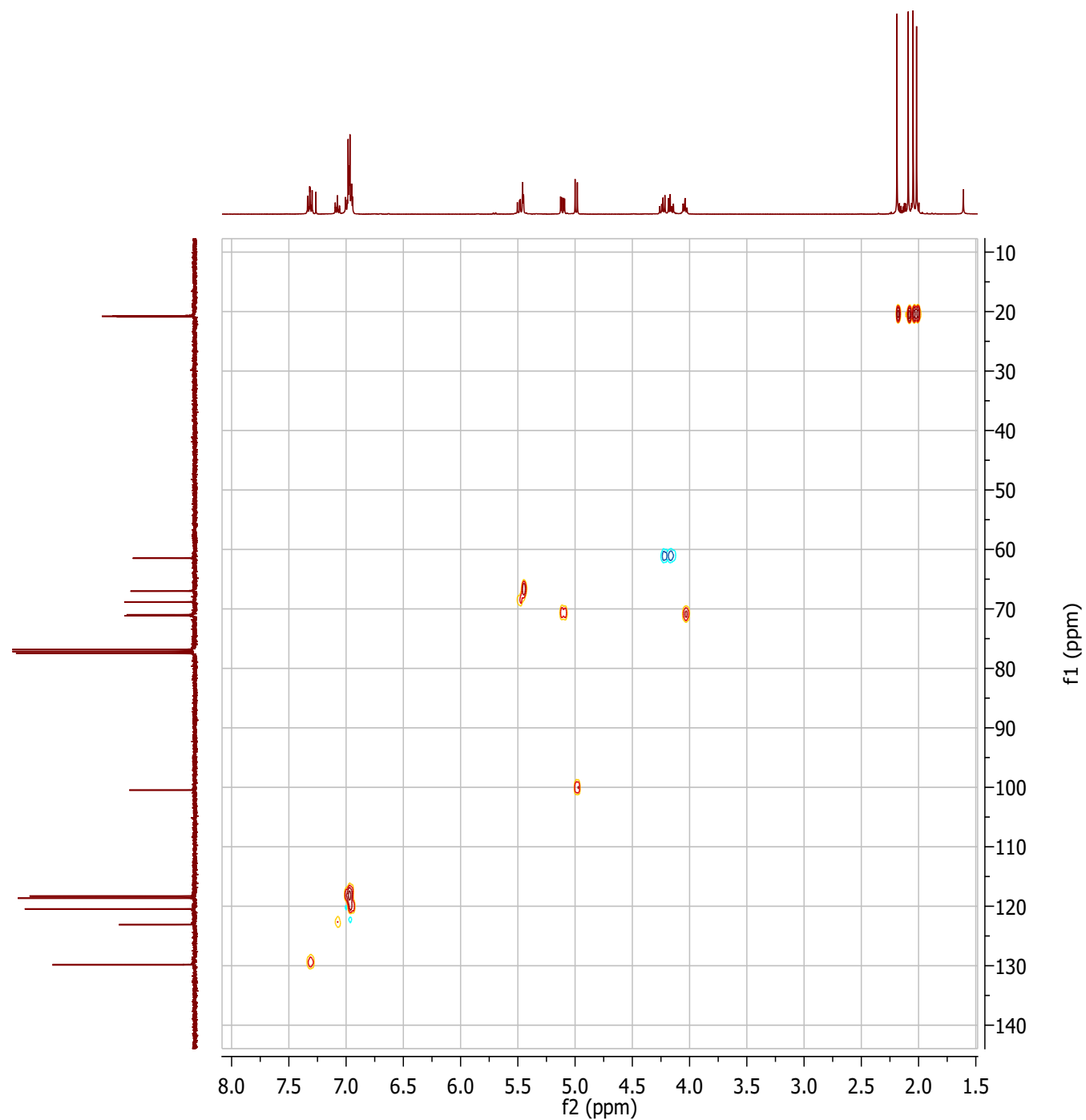
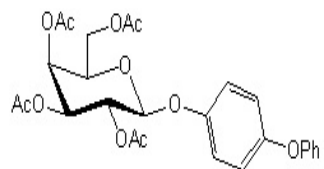




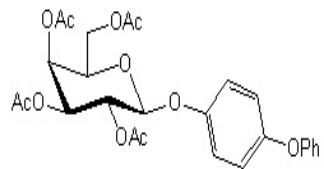
Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-07-23T12:28:53
11 Modification Date	2010-07-23T11:48:35
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	¹³ C
16 Acquired Size	31875
17 Spectral Size	65536



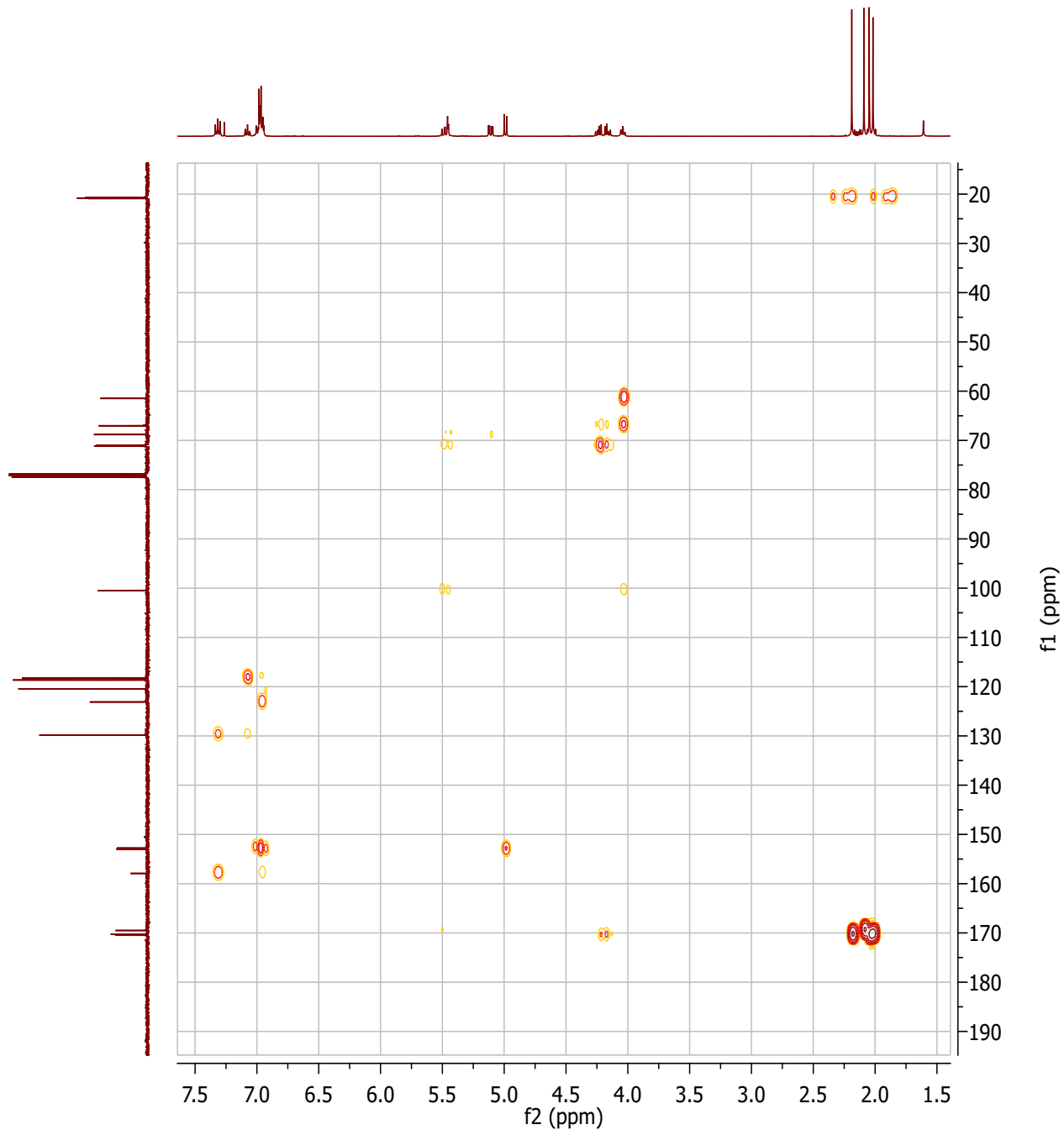
Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1352
10 Acquisition Date	2010-07-23T12:50:09
11 Modification Date	2010-07-23T11:53:00
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(3787.9, 3787.9)
14 Lowest Frequency	(-437.8, -437.8)
15 Nucleus	(1H, 1H)
16 Acquired Size	(512, 128)
17 Spectral Size	(1024, 1024)

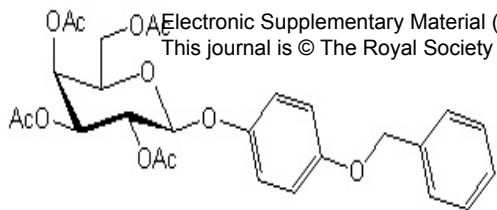


Parameter	Value (f2, f1)
1 Spectrometer	vnmr5
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1993
10 Acquisition Date	2010-07-23T12:53:01
11 Modification Date	2010-07-23T12:04:23
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3787.9, 24125.5)
14 Lowest Frequency	(-437.8, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(755, 128)
17 Spectral Size	(1024, 1024)

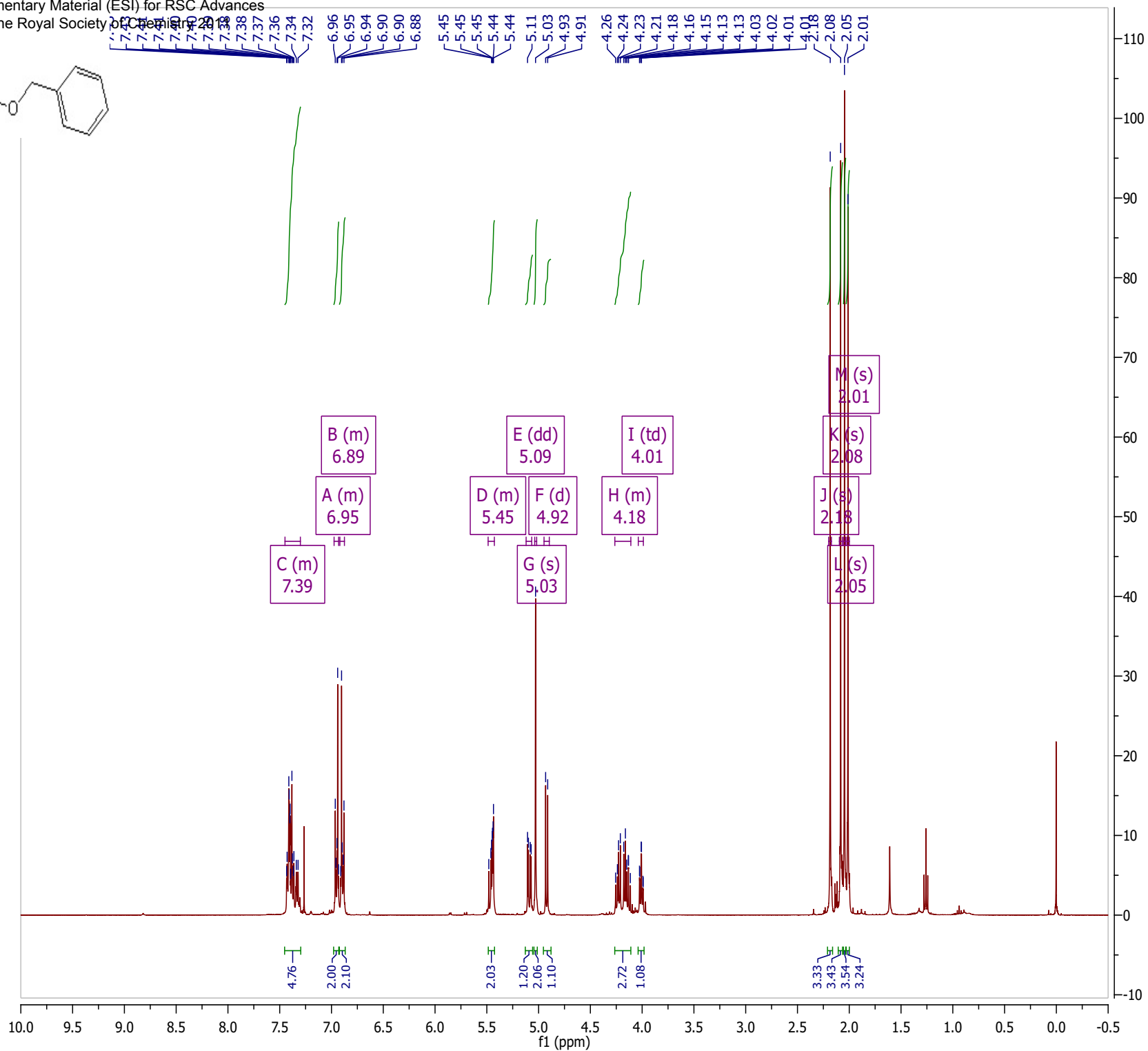


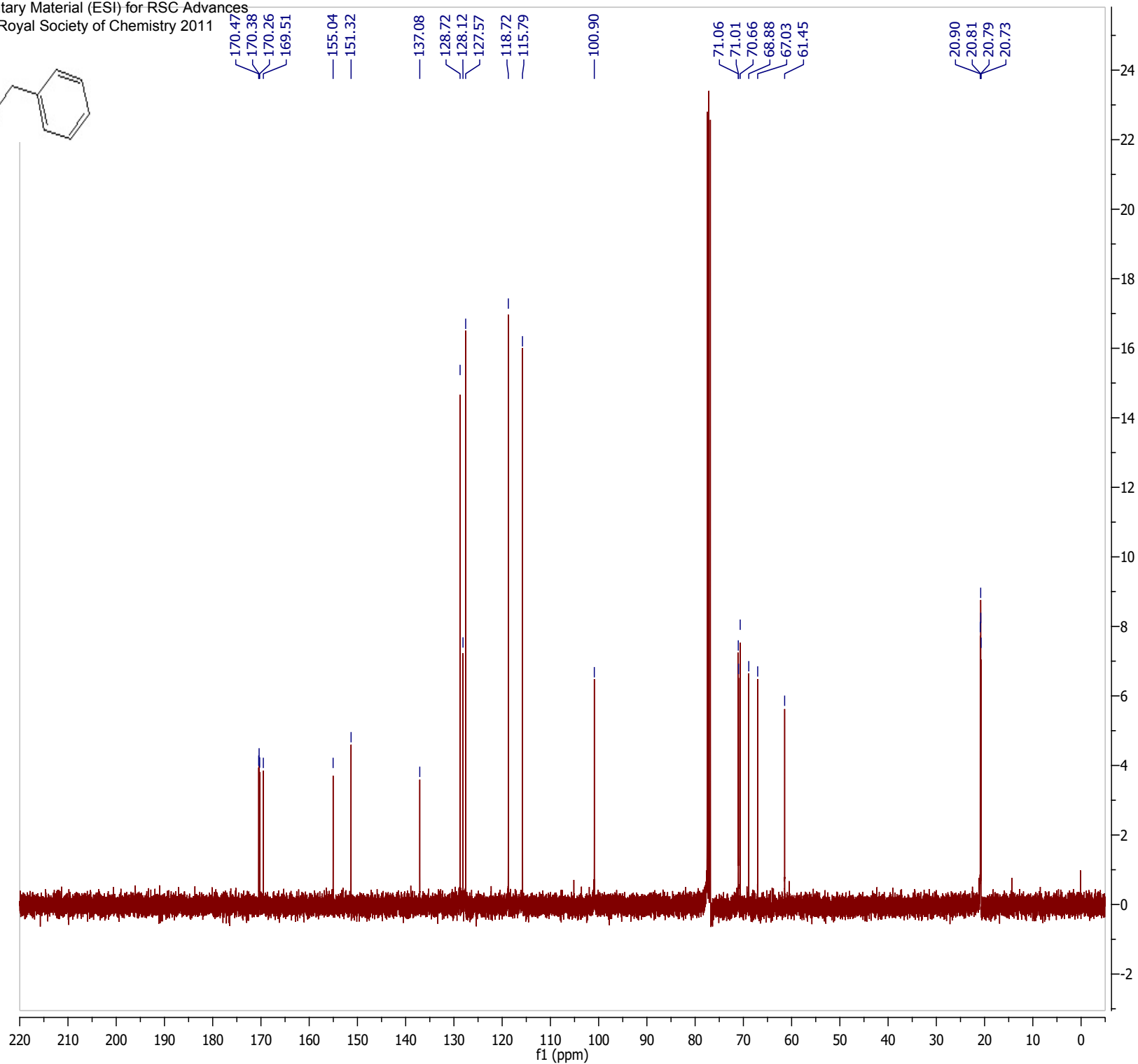
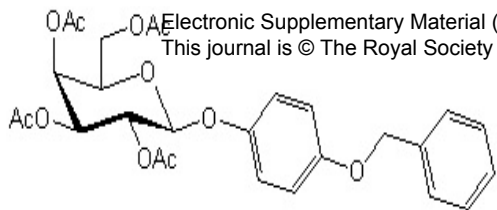
Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1280
10 Acquisition Date	2010-07-23T13:04:23
11 Modification Date	2010-07-23T12:37:31
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3787.9, 24125.5)
14 Lowest Frequency	(-437.8, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(485, 200)
17 Spectral Size	(1024, 1024)



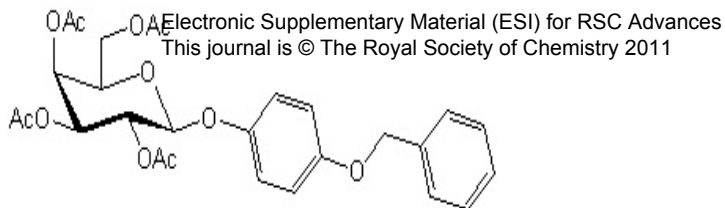


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-07-09T11:54:21
11 Modification Date	2010-07-09T10:54:55
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-804.0
15 Nucleus	1H
16 Acquired Size	13132
17 Spectral Size	32768

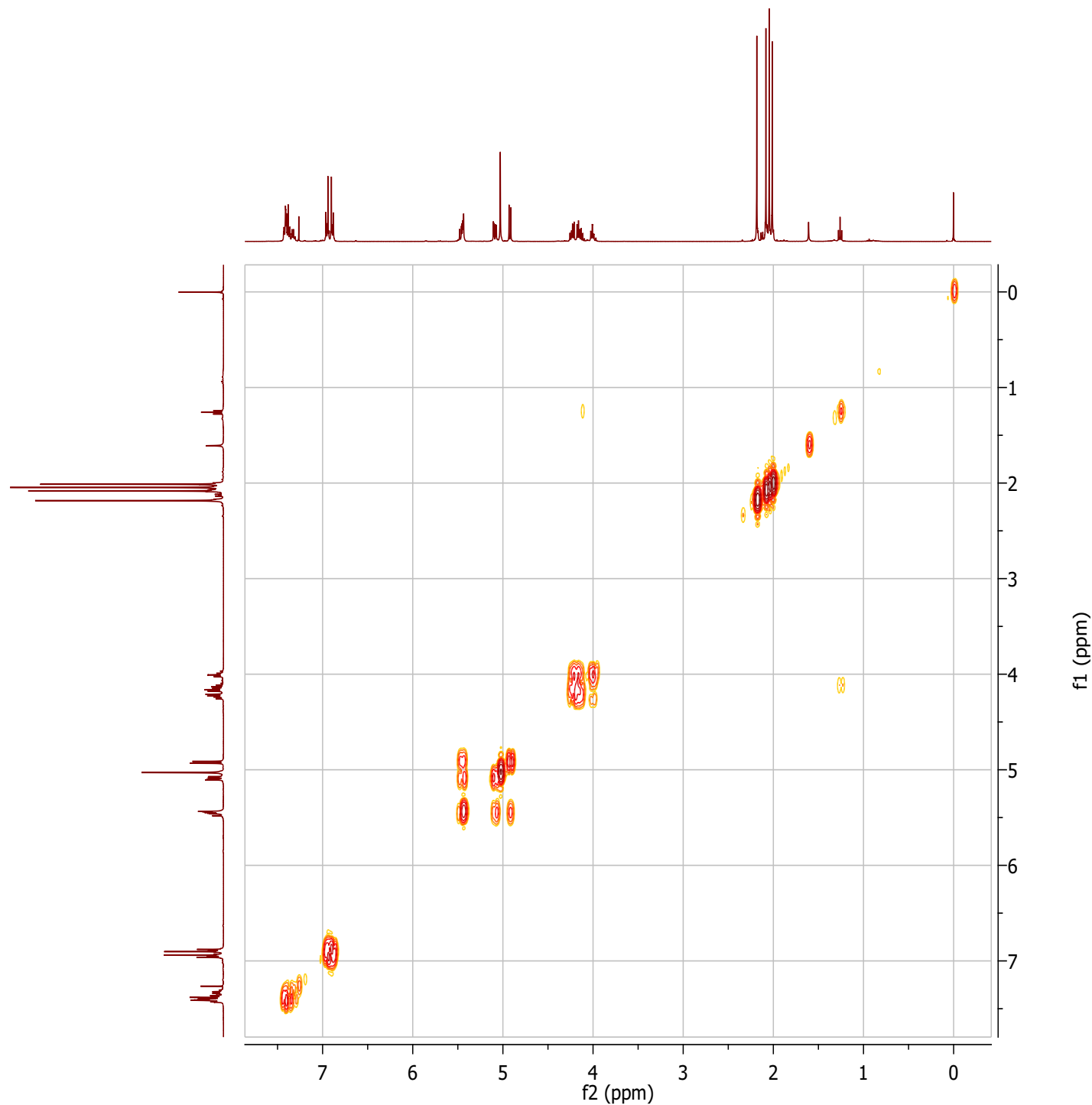


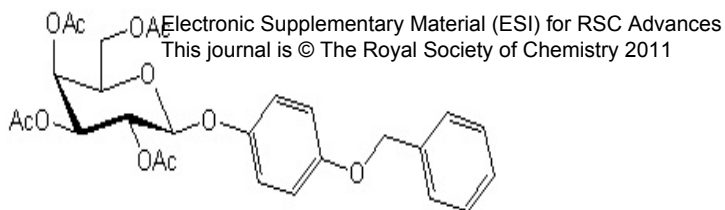


Parameter	Value
1 Spectrometer	nmr5
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-07-09T11:57:02
11 Modification Date	2010-07-09T11:16:43
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	¹³ C
16 Acquired Size	31875
17 Spectral Size	65536

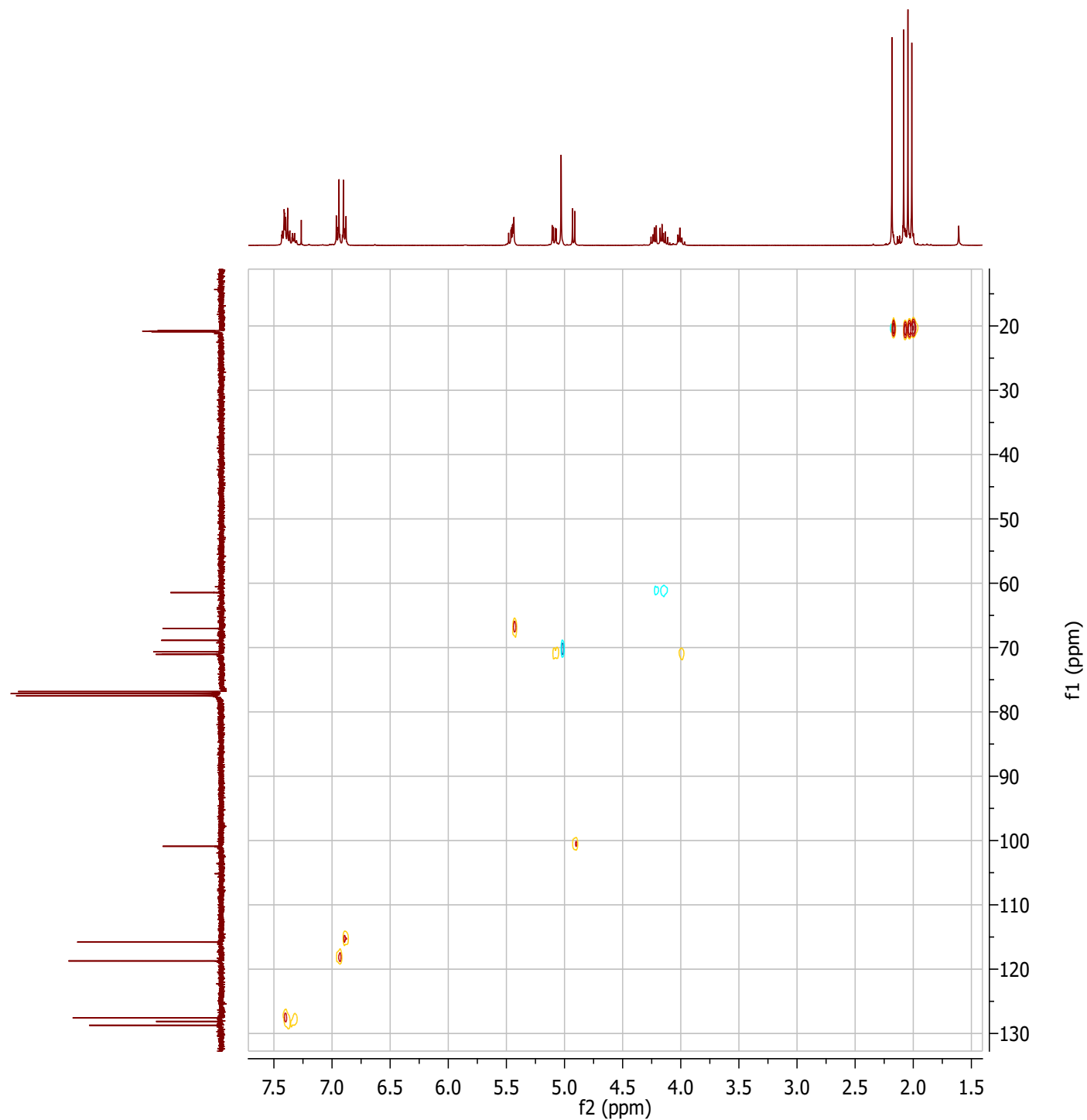


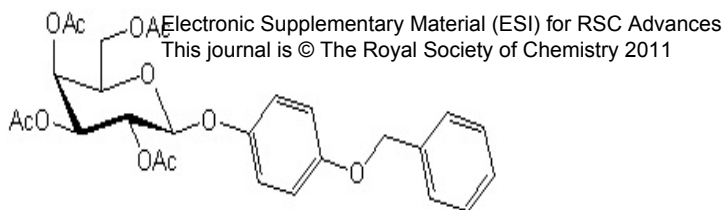
Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1343
10 Acquisition Date	2010-07-09T12:18:19
11 Modification Date	2010-07-09T11:21:10
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(3811.0, 3811.0)
14 Lowest Frequency	(-432.8, -432.8)
15 Nucleus	(1H, 1H)
16 Acquired Size	(512, 128)
17 Spectral Size	(1024, 1024)



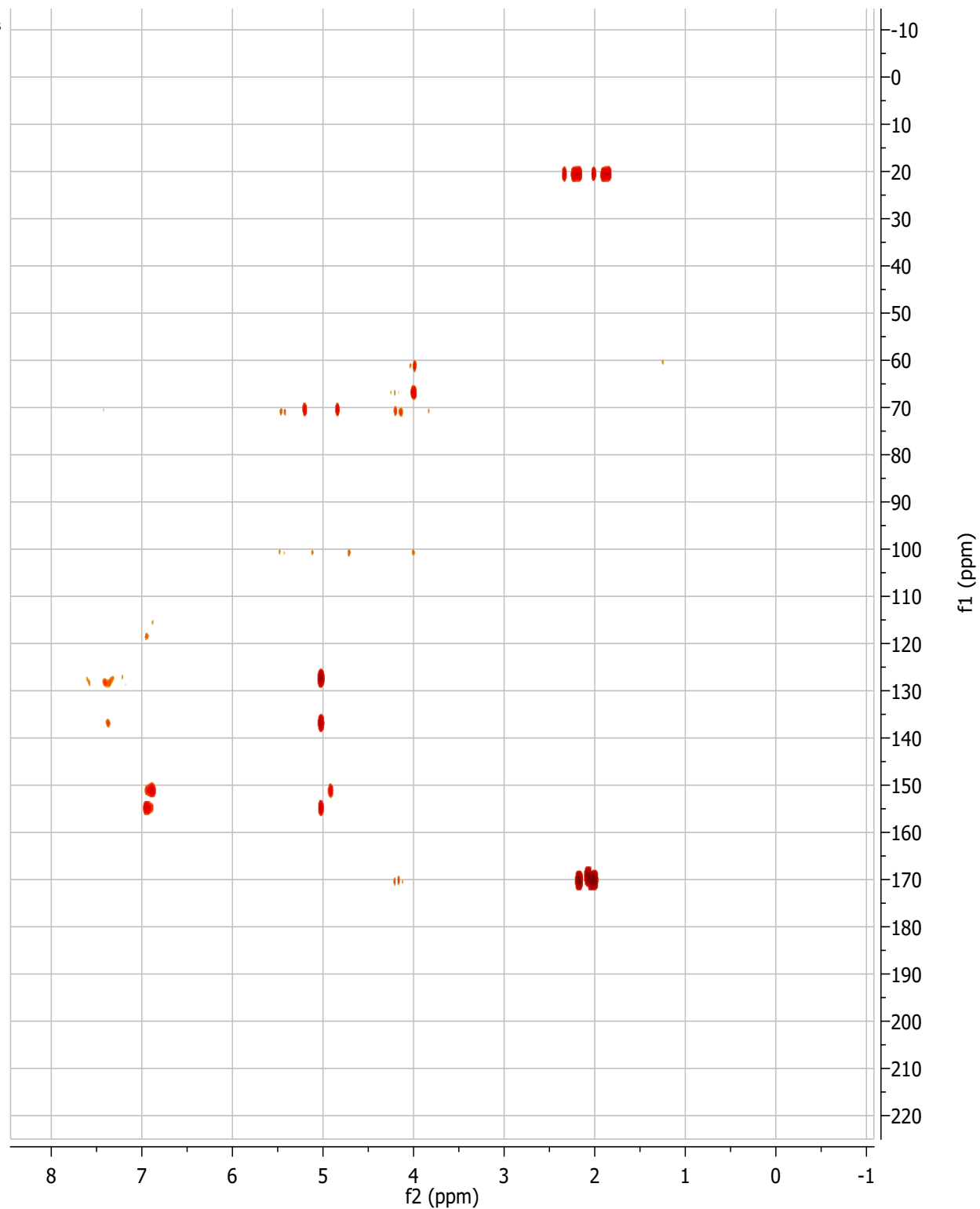


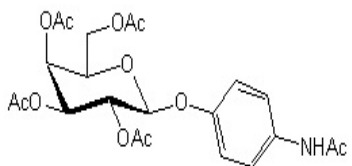
Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1994
10 Acquisition Date	2010-07-09T12:21:10
11 Modification Date	2010-07-09T11:32:32
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3811.0, 24125.5)
14 Lowest Frequency	(-432.8, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(760, 128)
17 Spectral Size	(1024, 1024)



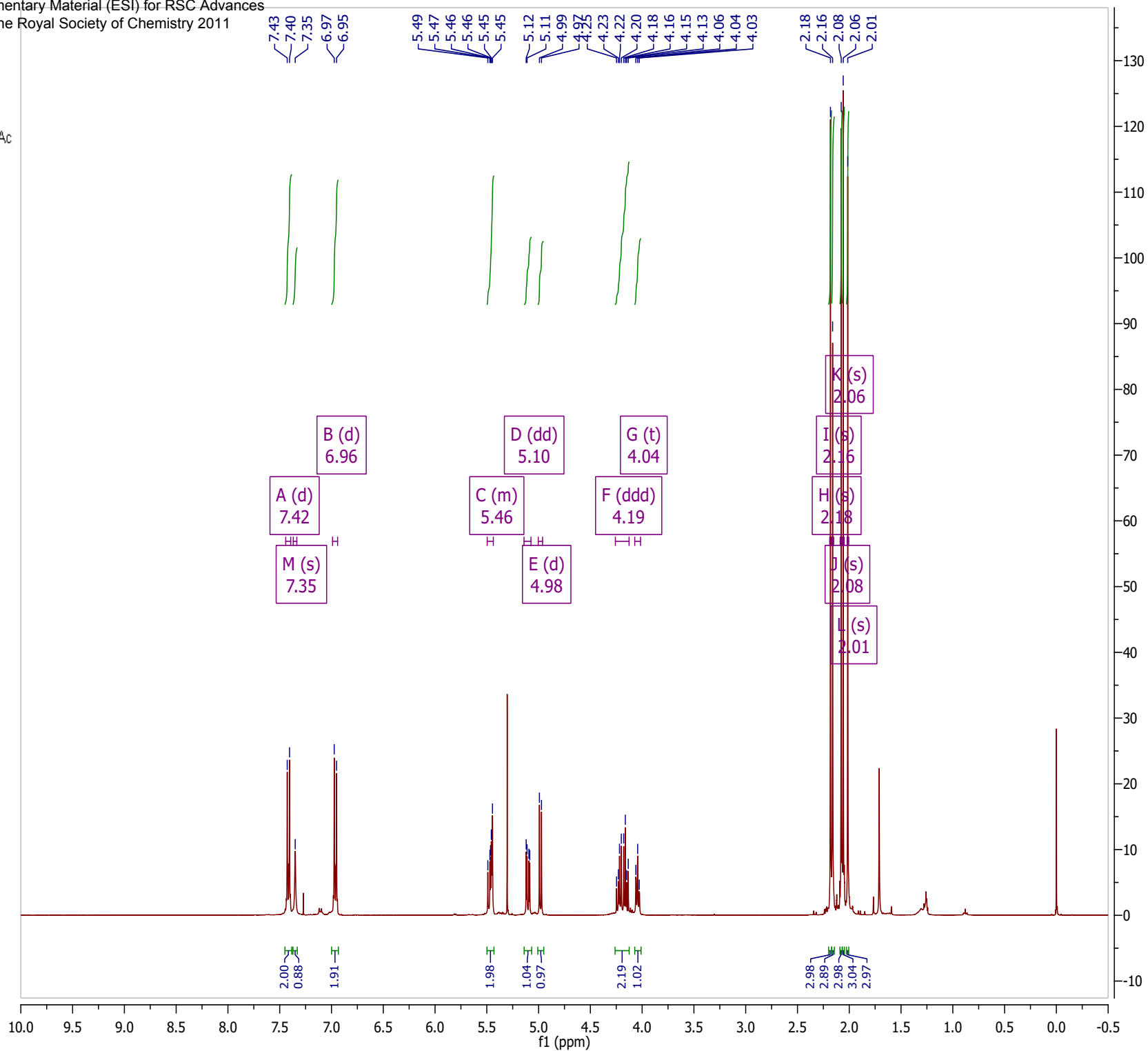


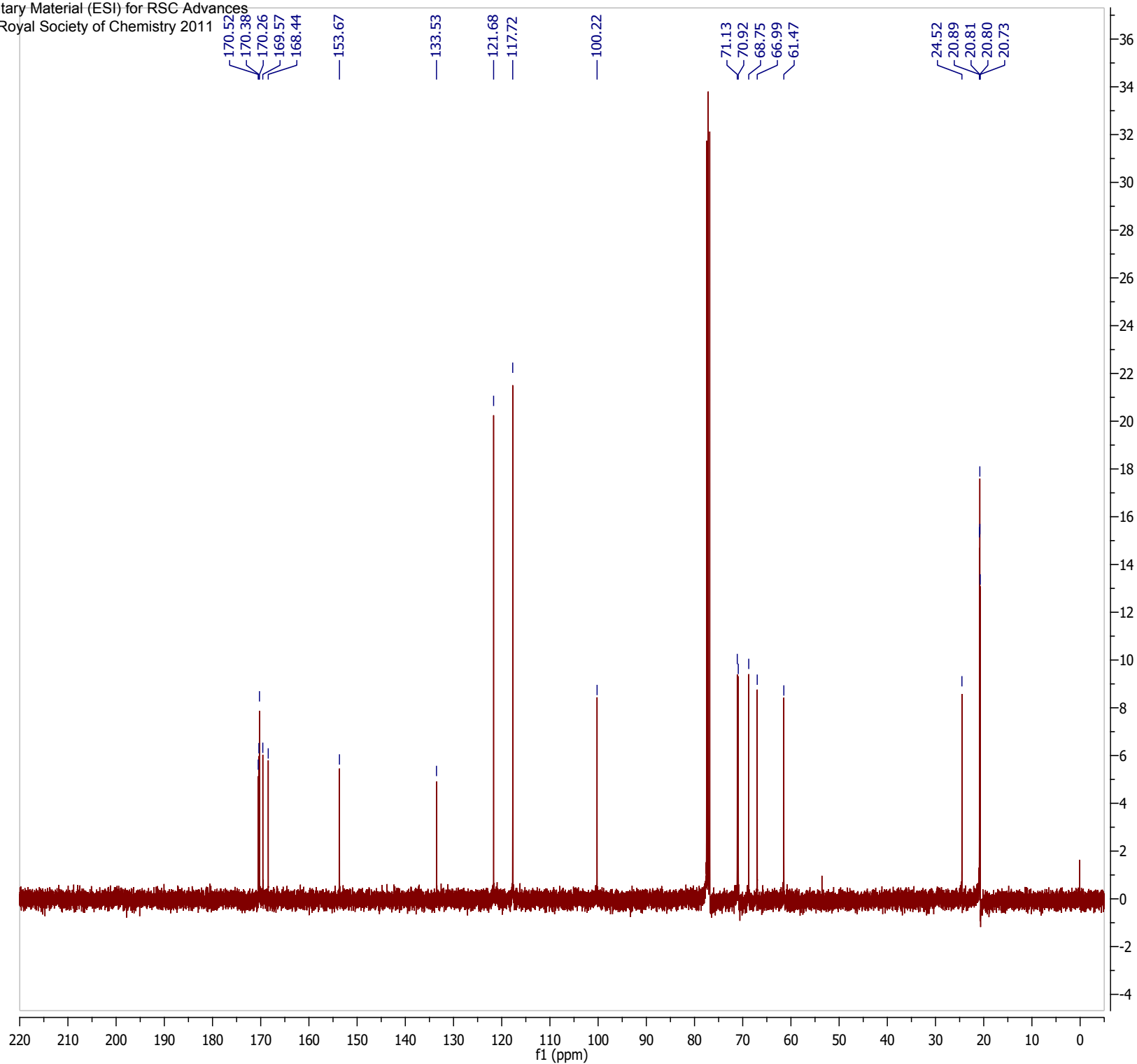
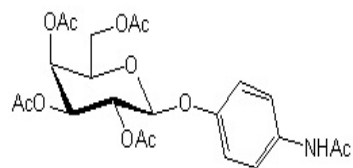
Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1281
10 Acquisition Date	2010-07-09T12:32:33
11 Modification Date	2010-07-09T12:05:41
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3811.0, 24125.5)
14 Lowest Frequency	(-432.8, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(488, 200)
17 Spectral Size	(1024, 1024)



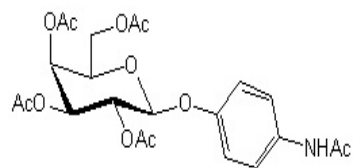


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-09-16T13:04:21
11 Modification Date	2010-09-16T12:04:58
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-801.3
15 Nucleus	¹ H
16 Acquired Size	13132
17 Spectral Size	32768

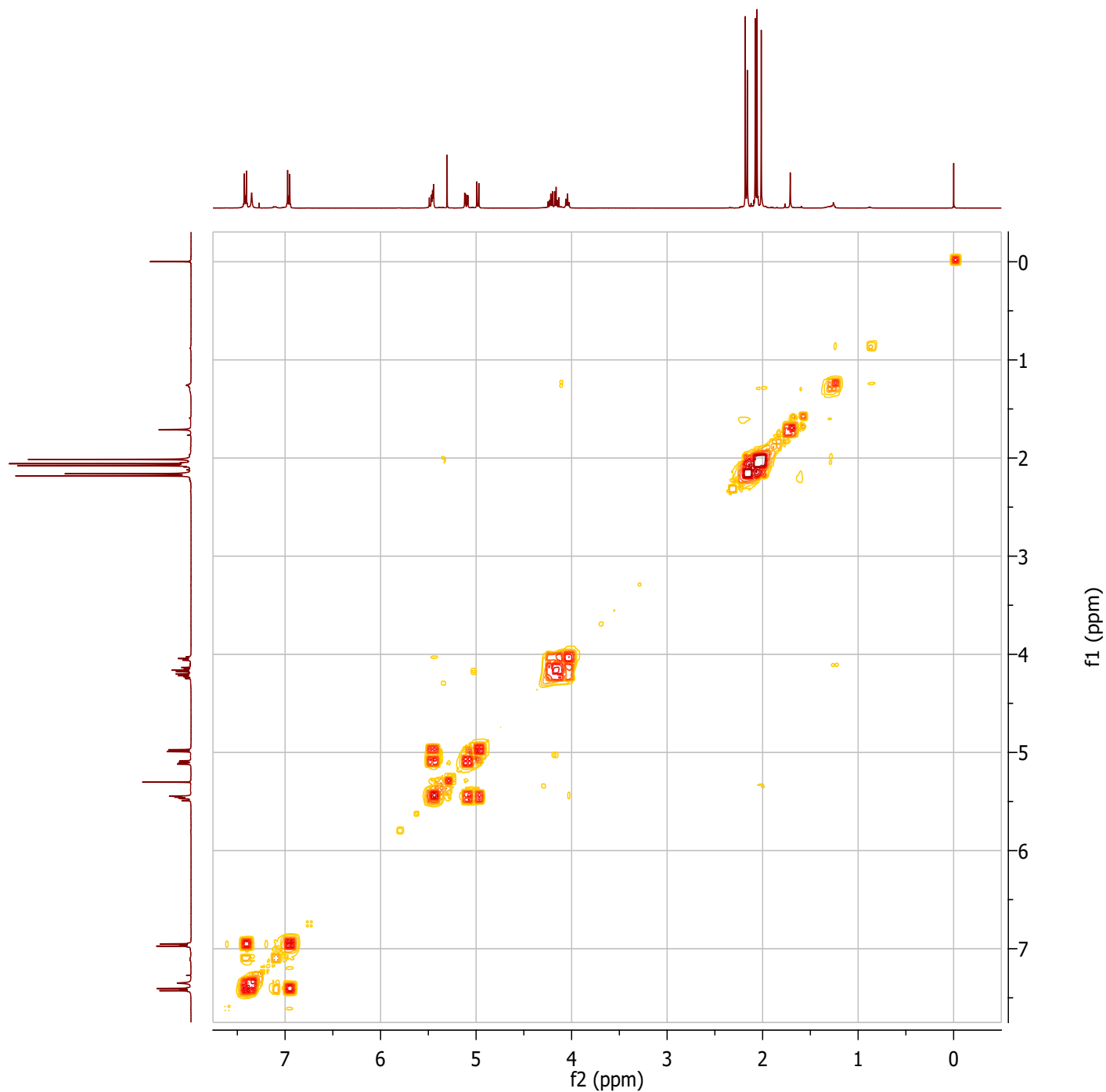


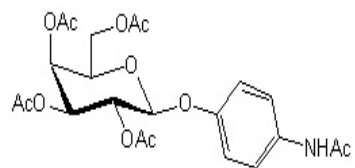


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-09-16T13:07:52
11 Modification Date	2010-09-16T12:27:36
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	¹³ C
16 Acquired Size	31875
17 Spectral Size	65536

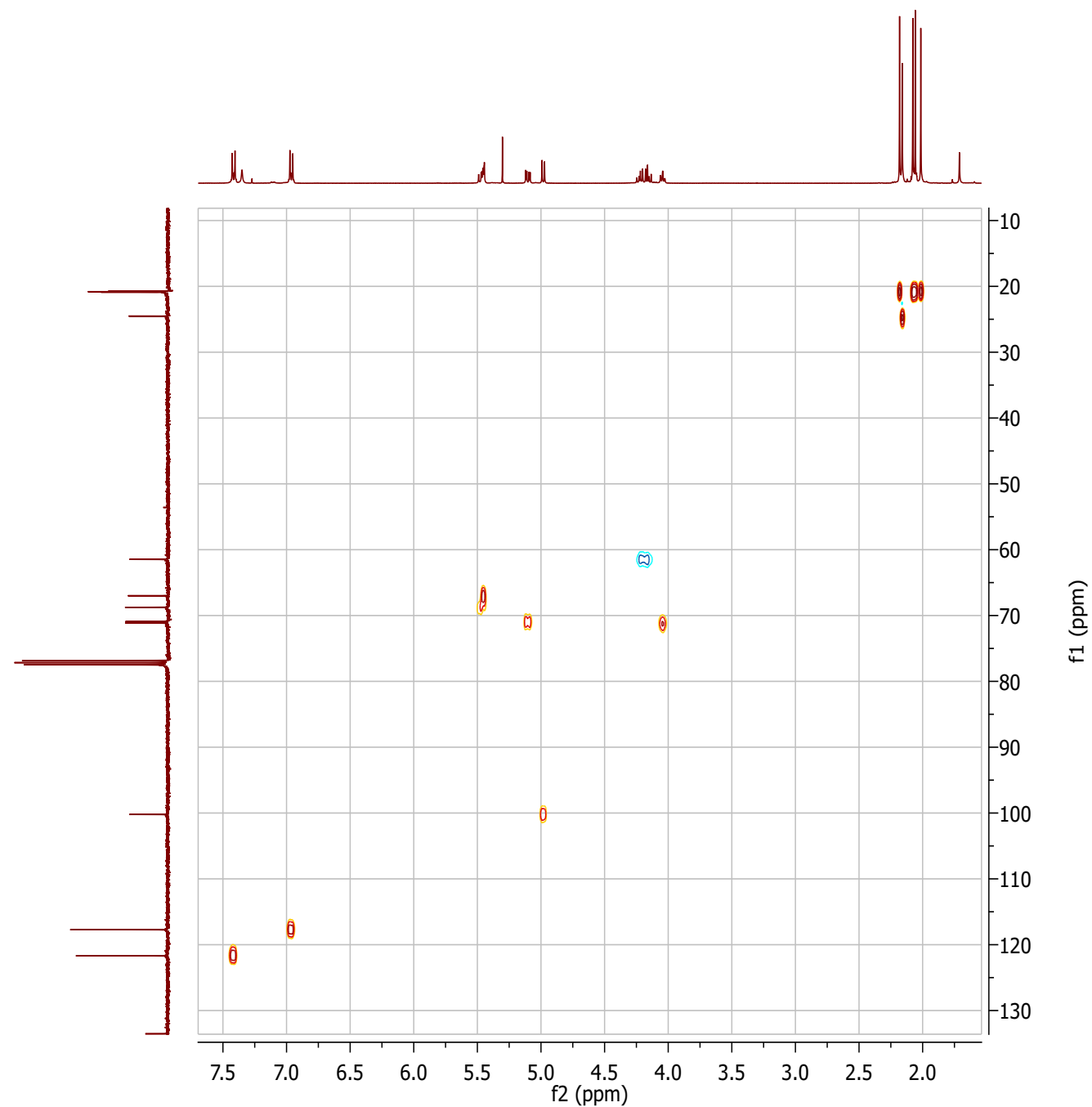


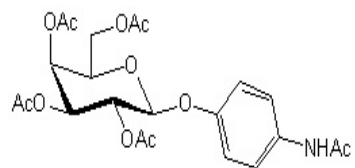
Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1335
10 Acquisition Date	2010-09-16T13:29:10
11 Modification Date	2010-09-16T12:32:01
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(3834.4, 3834.4)
14 Lowest Frequency	(-442.9, -442.9)
15 Nucleus	(1H, 1H)
16 Acquired Size	(512, 128)
17 Spectral Size	(1024, 1024)



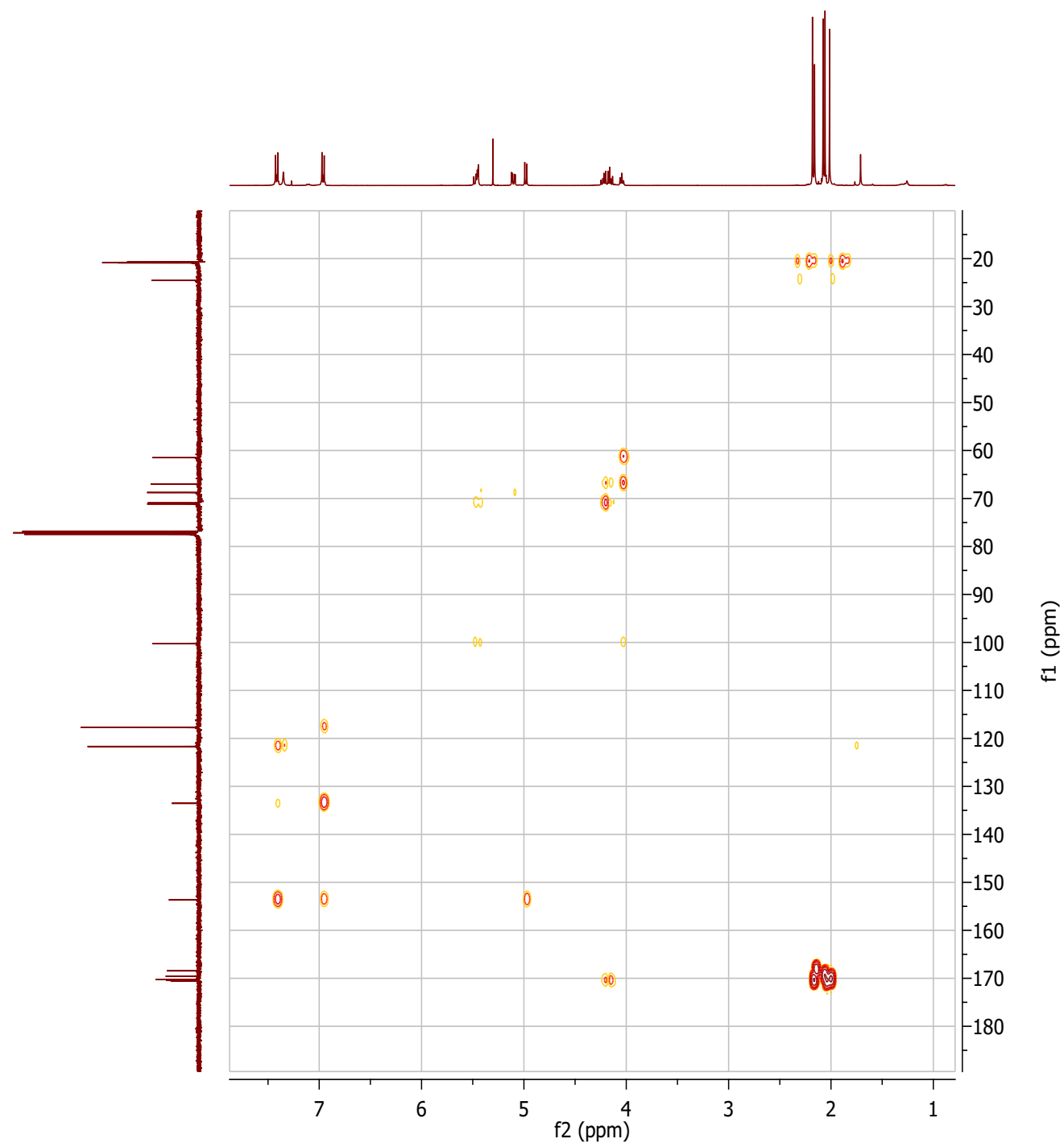


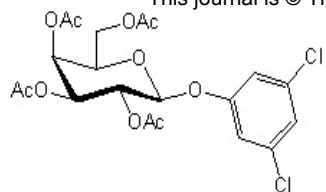
Parameter	Value (f2, f1)
1 Spectrometer	nmr
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1993
10 Acquisition Date	2010-09-16T13:32:01
11 Modification Date	2010-09-16T12:43:23
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3834.4, 24125.5)
14 Lowest Frequency	(-442.9, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(764, 128)
17 Spectral Size	(1024, 1024)



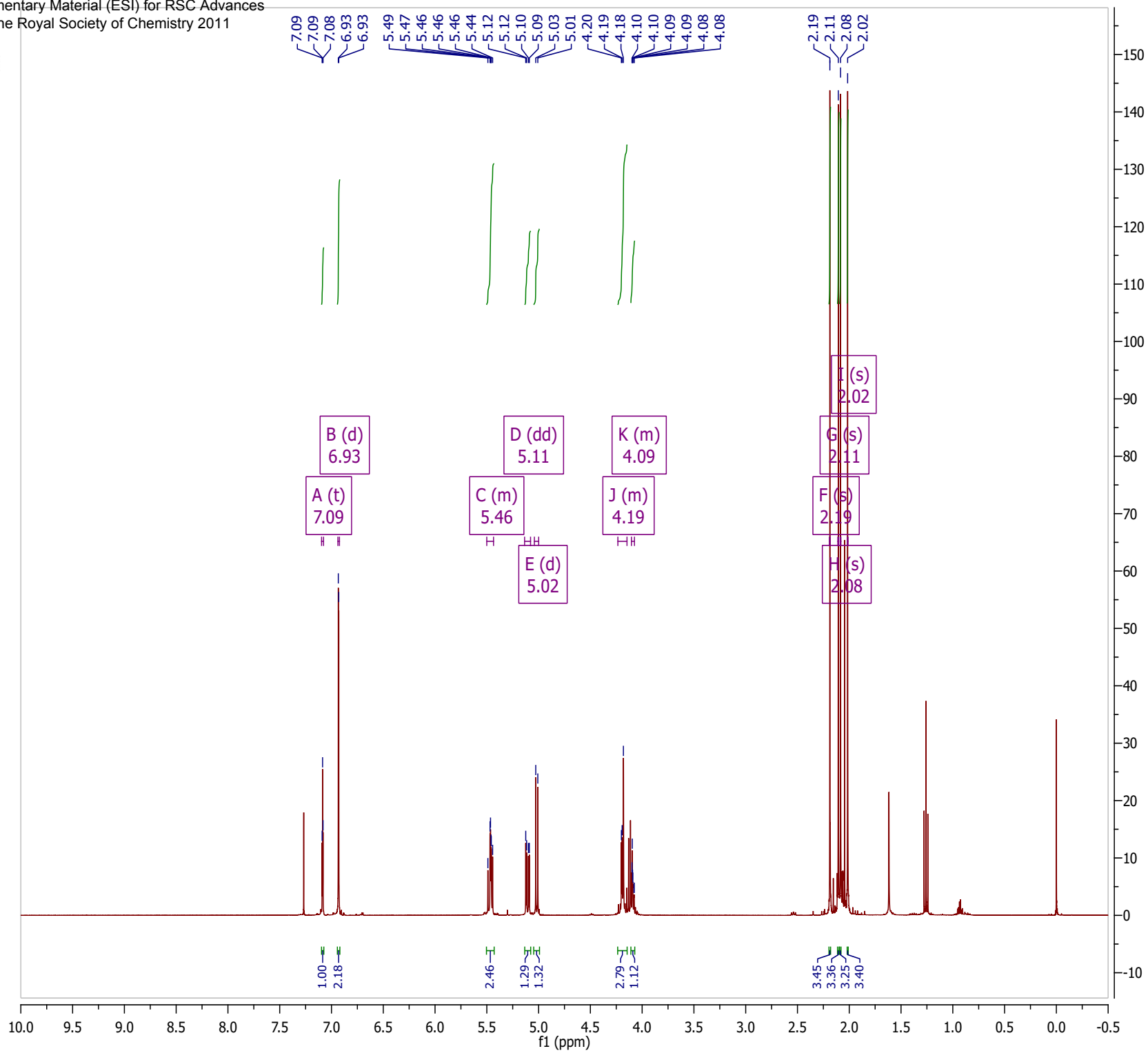


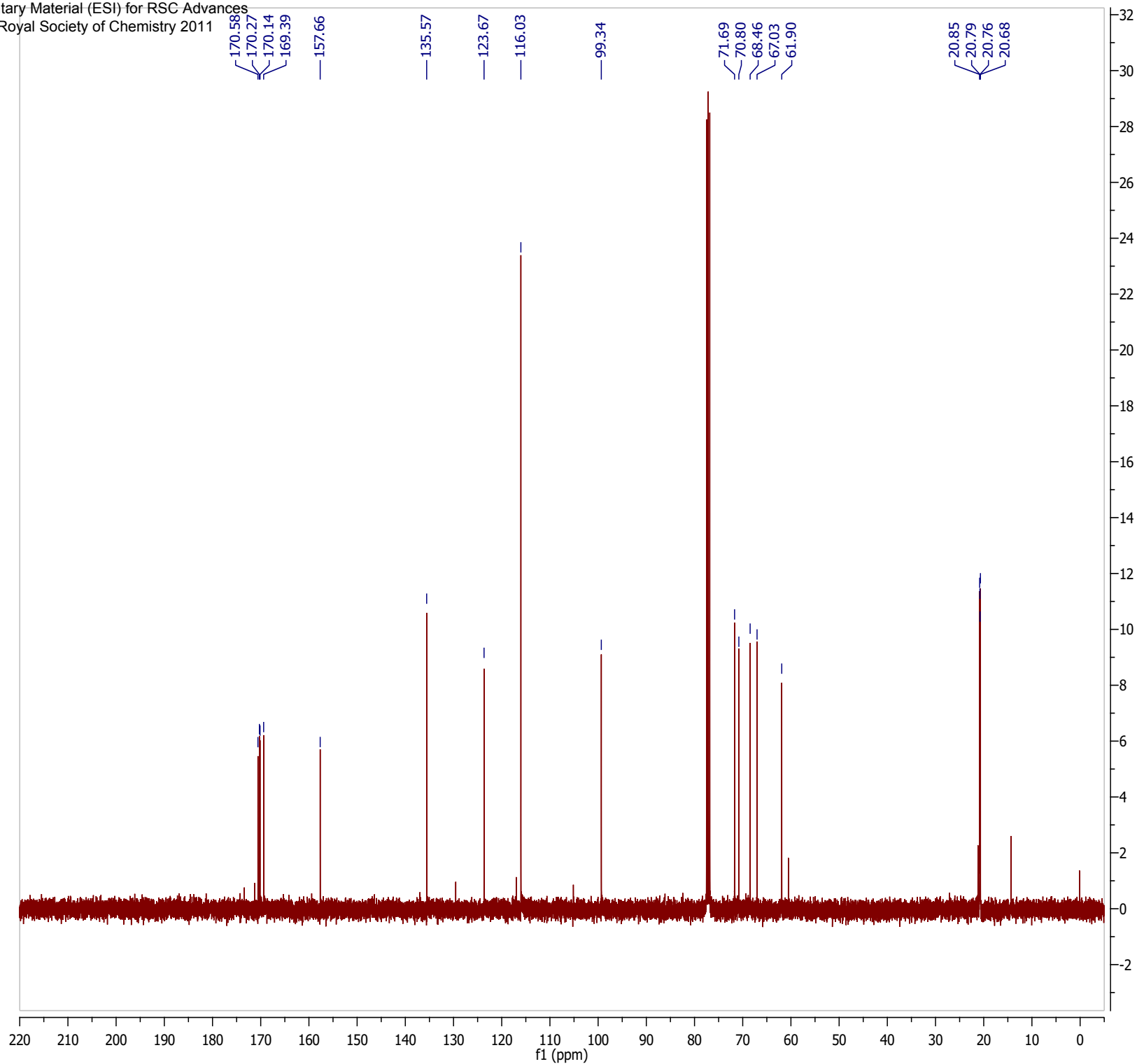
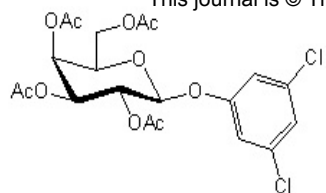
Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1281
10 Acquisition Date	2010-09-16T13:43:24
11 Modification Date	2010-09-16T13:16:32
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3834.4, 24125.5)
14 Lowest Frequency	(-442.9, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(491, 200)
17 Spectral Size	(1024, 1024)



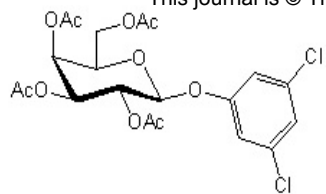


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-07-15T13:39:07
11 Modification Date	2010-07-15T12:39:41
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-803.6
15 Nucleus	¹ H
16 Acquired Size	13132
17 Spectral Size	32768

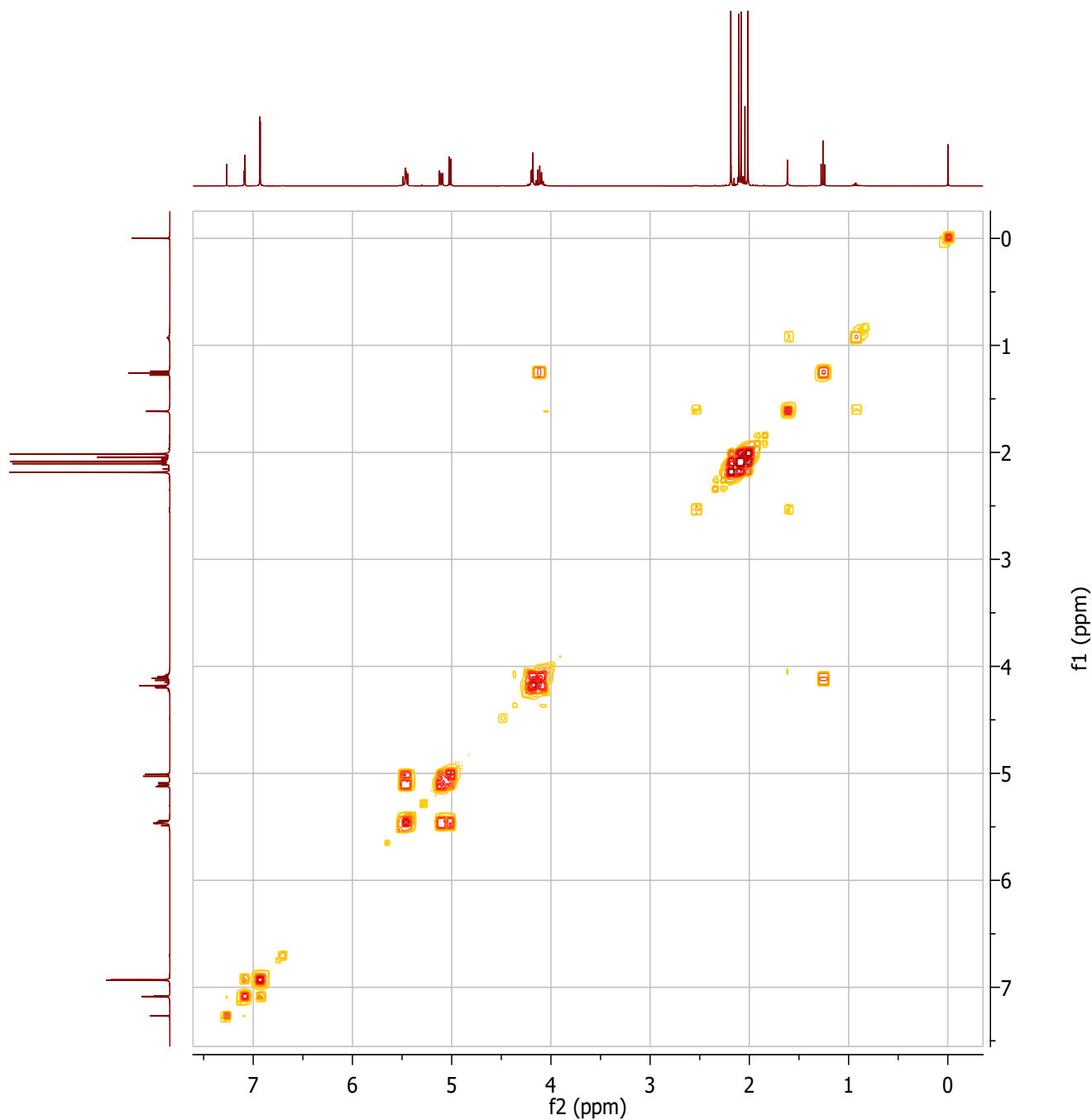


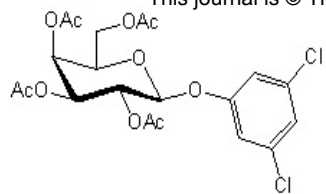


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-07-15T13:42:45
11 Modification Date	2010-07-15T13:02:26
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	¹³ C
16 Acquired Size	31875
17 Spectral Size	65536

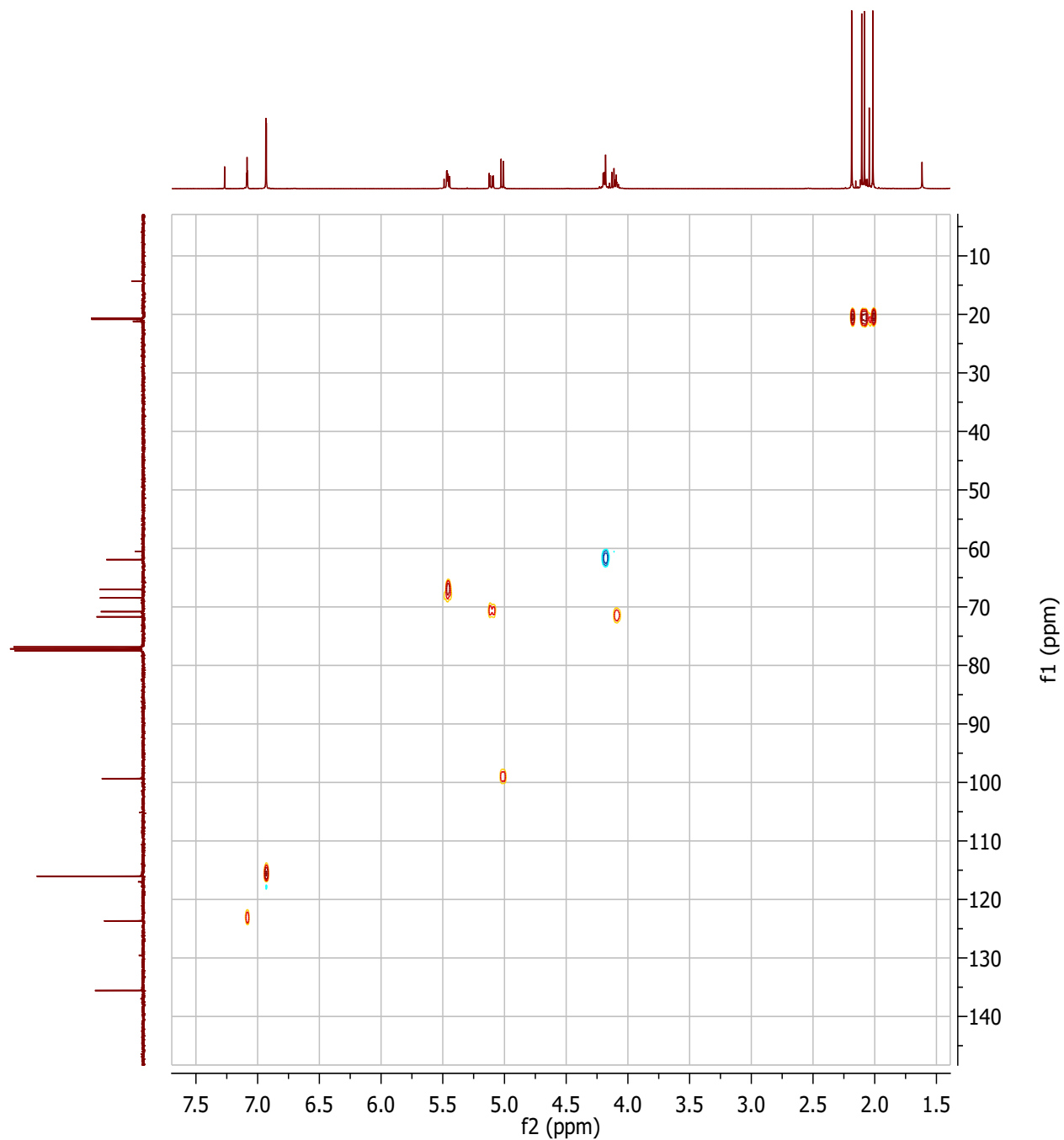


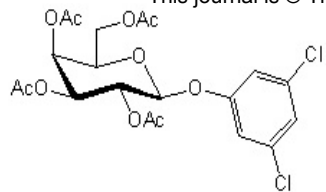
Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1368
10 Acquisition Date	2010-07-15T14:04:00
11 Modification Date	2010-07-15T13:06:52
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(3742.5, 3742.5)
14 Lowest Frequency	(-430.0, -430.0)
15 Nucleus	(1H, 1H)
16 Acquired Size	(512, 128)
17 Spectral Size	(1024, 1024)



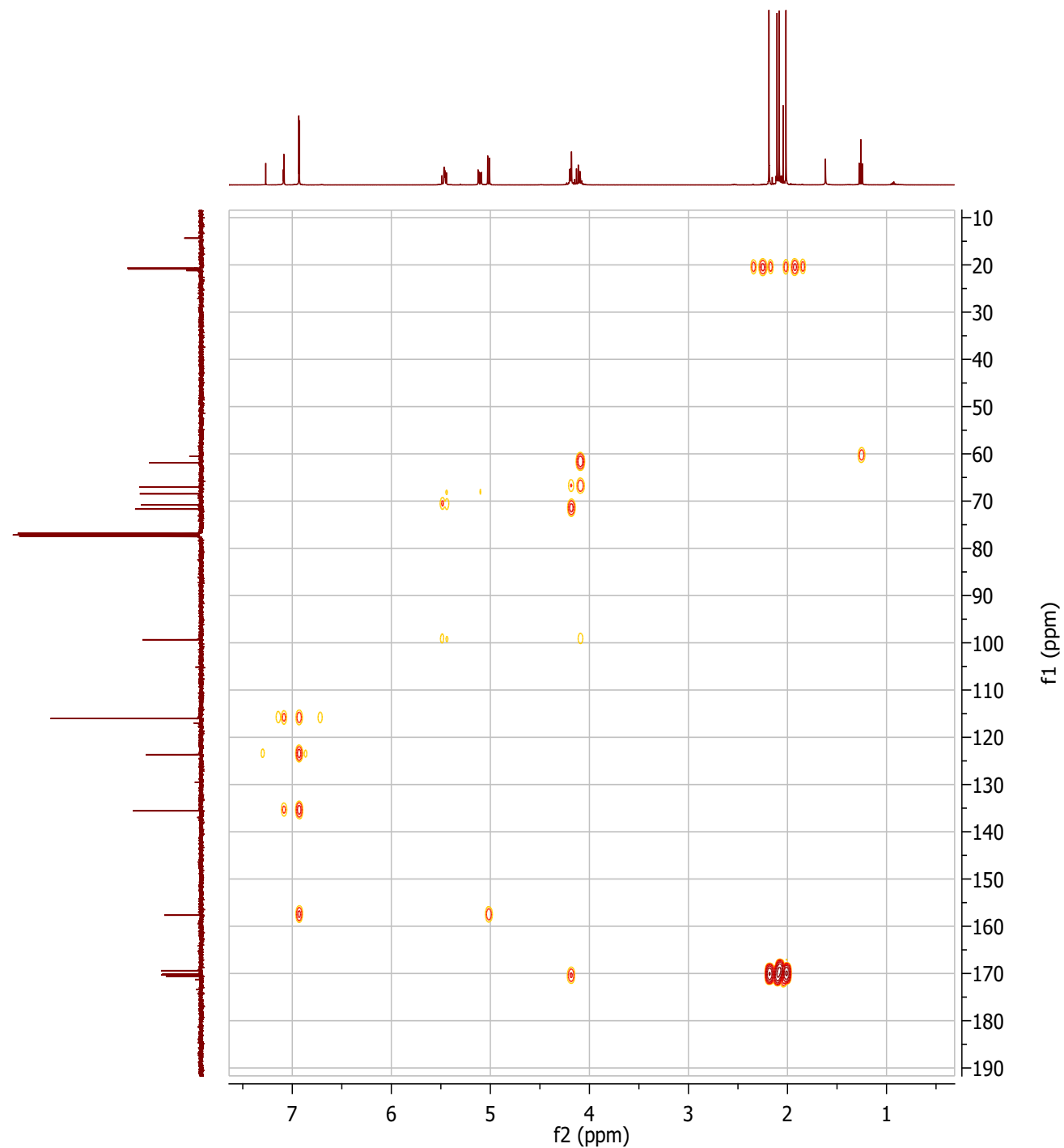


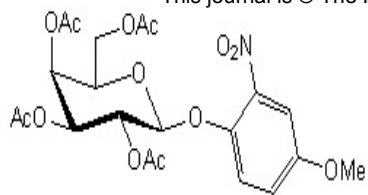
Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1993
10 Acquisition Date	2010-07-15T14:06:52
11 Modification Date	2010-07-15T13:18:14
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3742.5, 24125.5)
14 Lowest Frequency	(-430.0, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(746, 128)
17 Spectral Size	(1024, 1024)



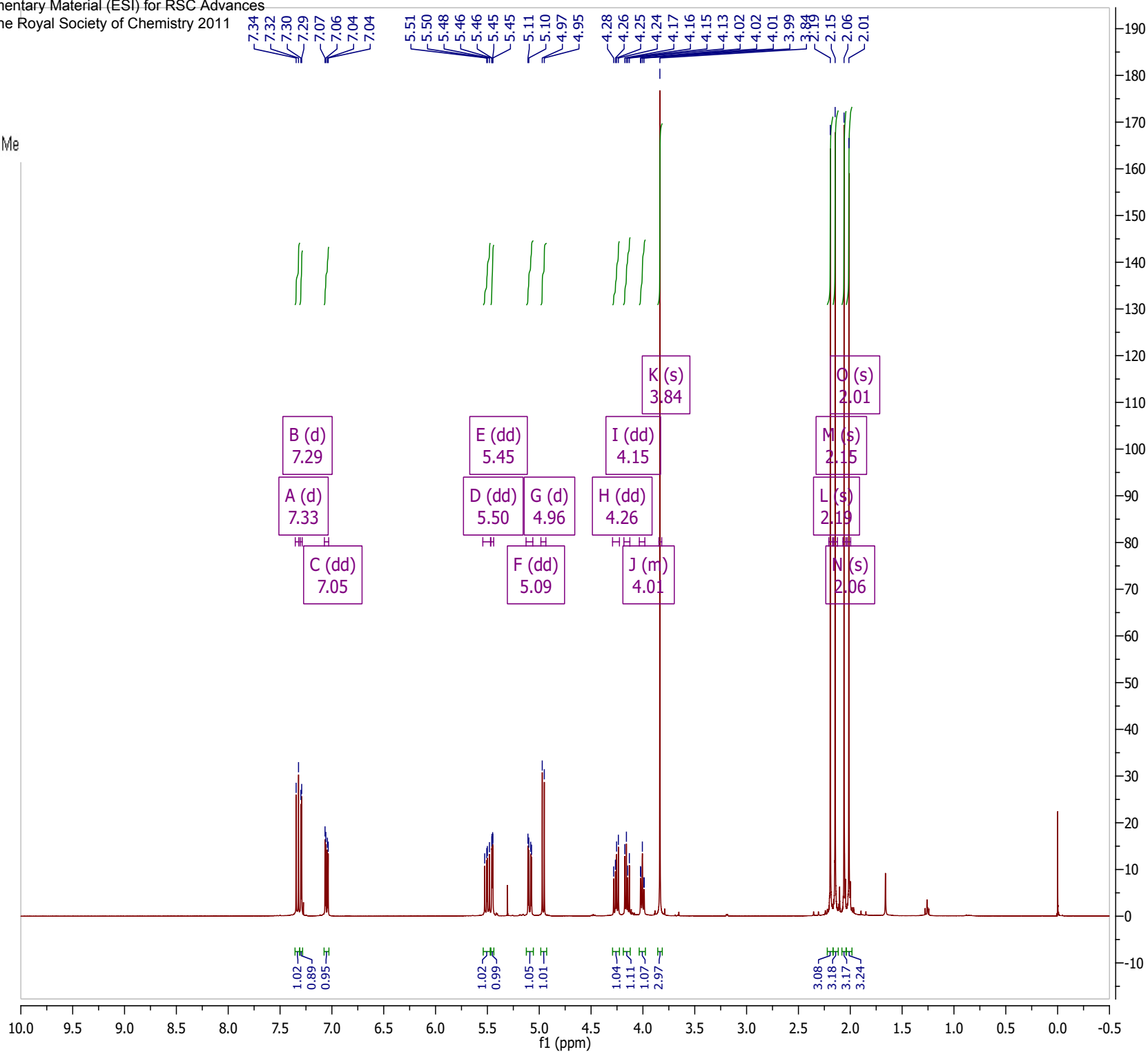


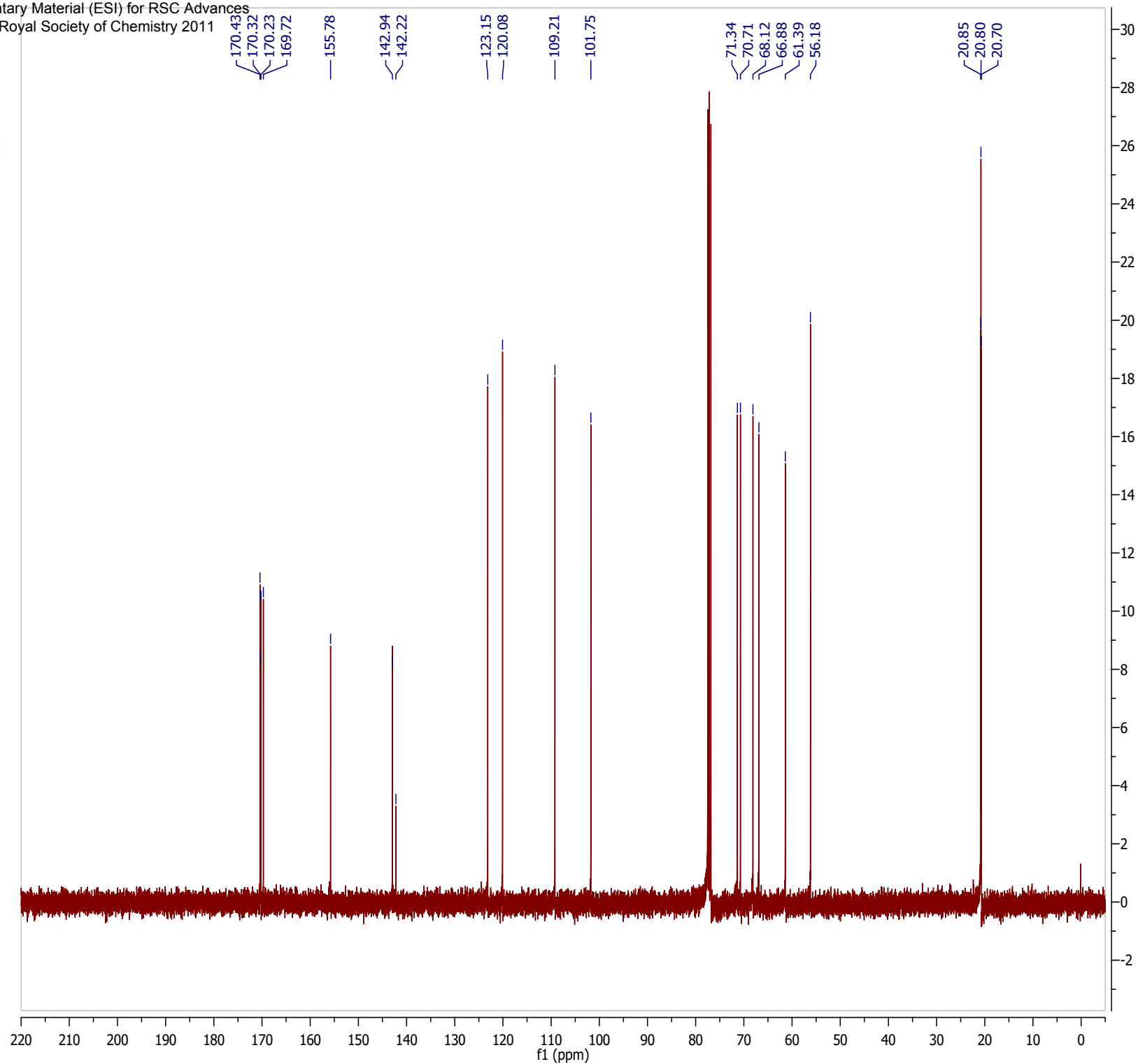
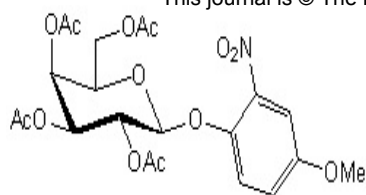
Parameter	Value (f2, f1)
1 Spectrometer	vnmr5
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1280
10 Acquisition Date	2010-07-15T14:18:15
11 Modification Date	2010-07-15T13:51:23
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3742.5, 24125.5)
14 Lowest Frequency	(-430.0, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(479, 200)
17 Spectral Size	(1024, 1024)



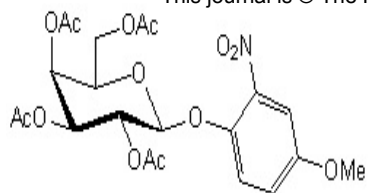


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-09-16T14:22:05
11 Modification Date	2010-09-16T13:22:41
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-800.1
15 Nucleus	¹ H
16 Acquired Size	13132
17 Spectral Size	32768

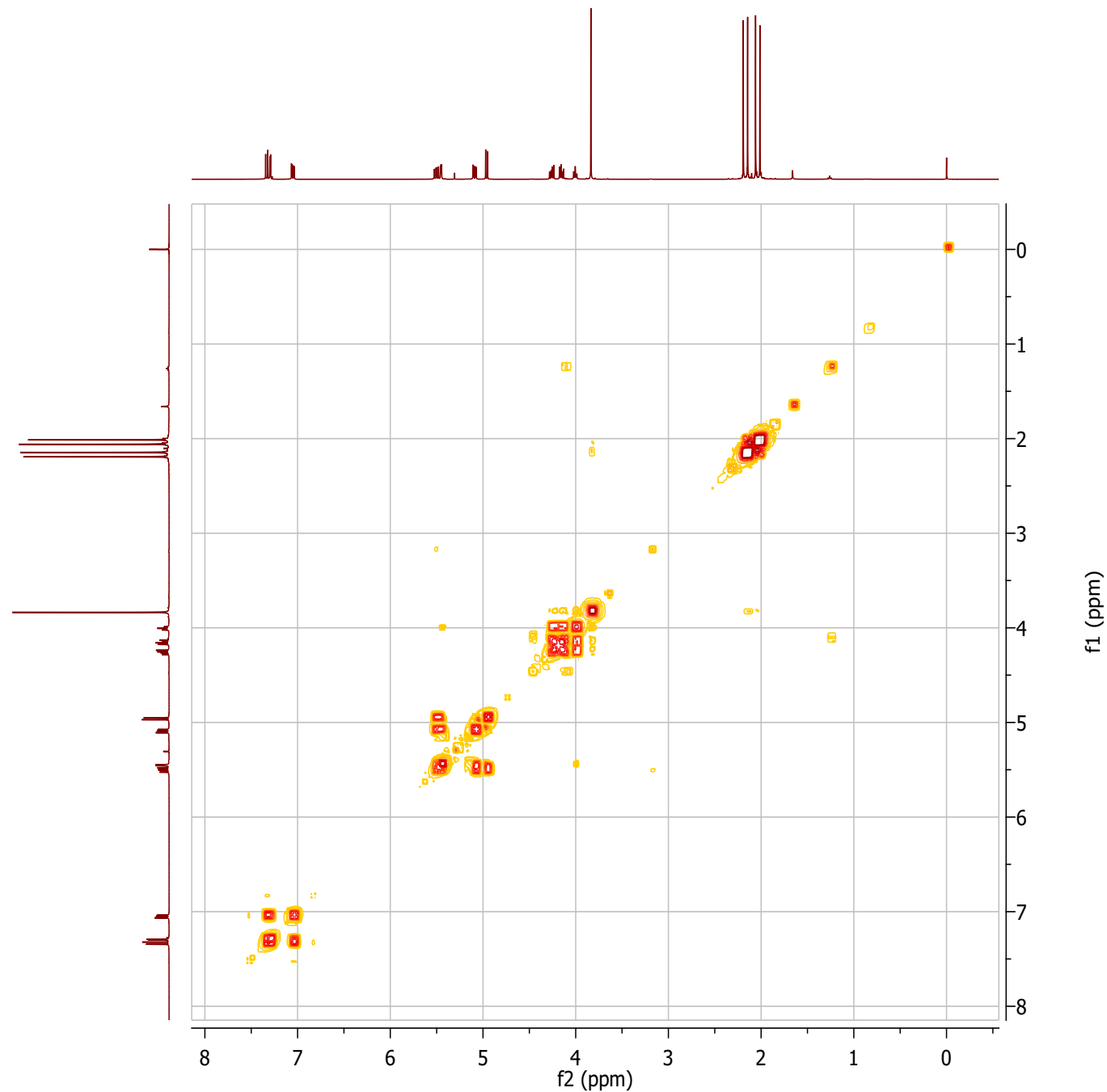


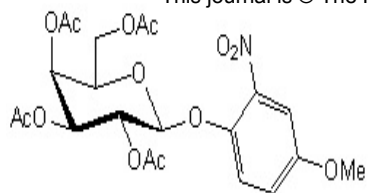


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-09-16T14:28:29
11 Modification Date	2010-09-16T13:48:12
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	13C
16 Acquired Size	31875
17 Spectral Size	65536

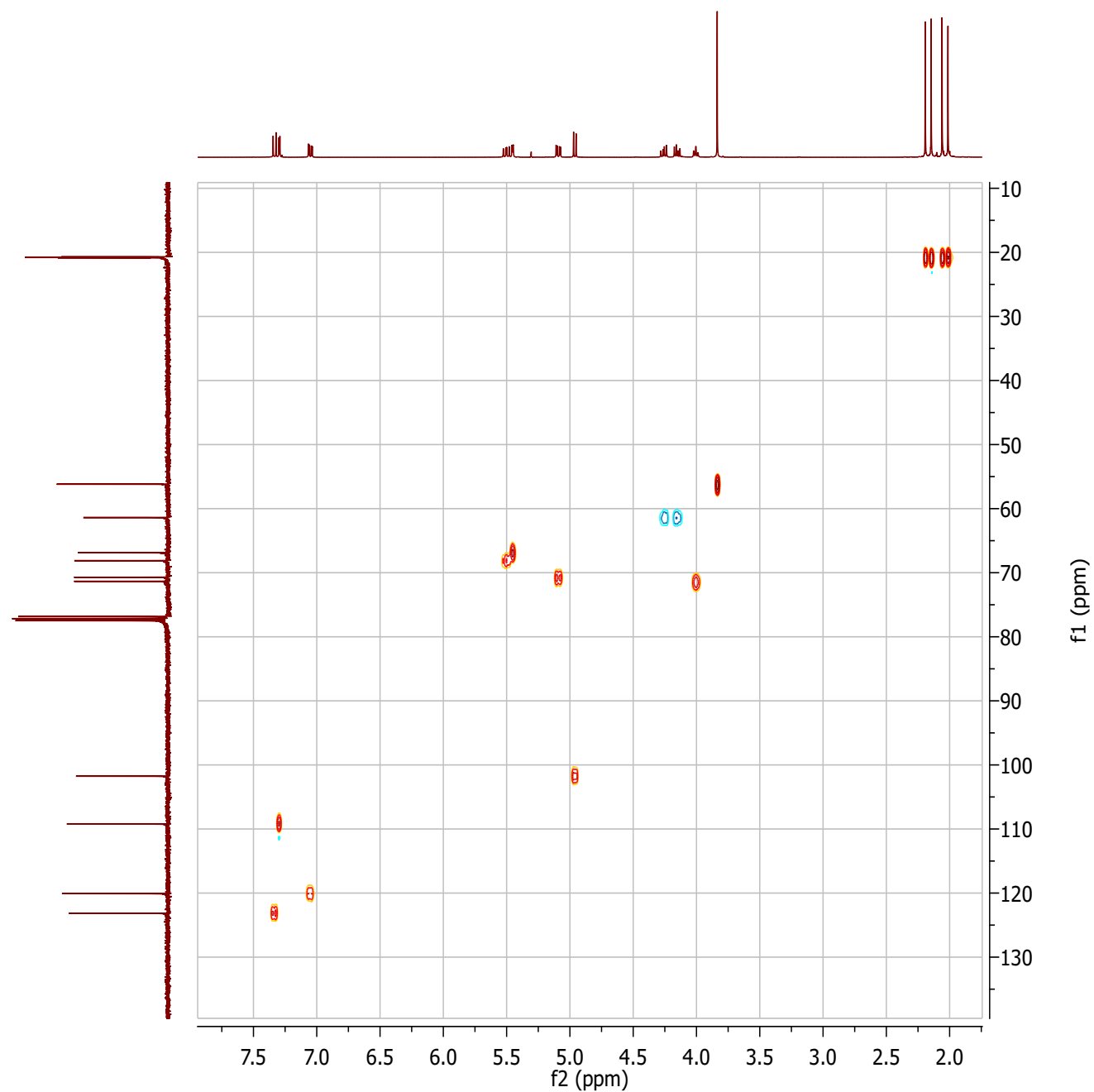


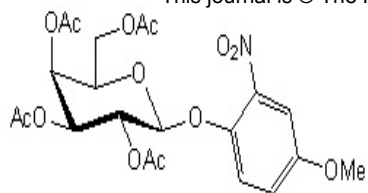
Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1352
10 Acquisition Date	2010-09-16T14:49:46
11 Modification Date	2010-09-16T13:52:37
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(3787.9, 3787.9)
14 Lowest Frequency	(-440.9, -440.9)
15 Nucleus	(1H, 1H)
16 Acquired Size	(512, 128)
17 Spectral Size	(1024, 1024)



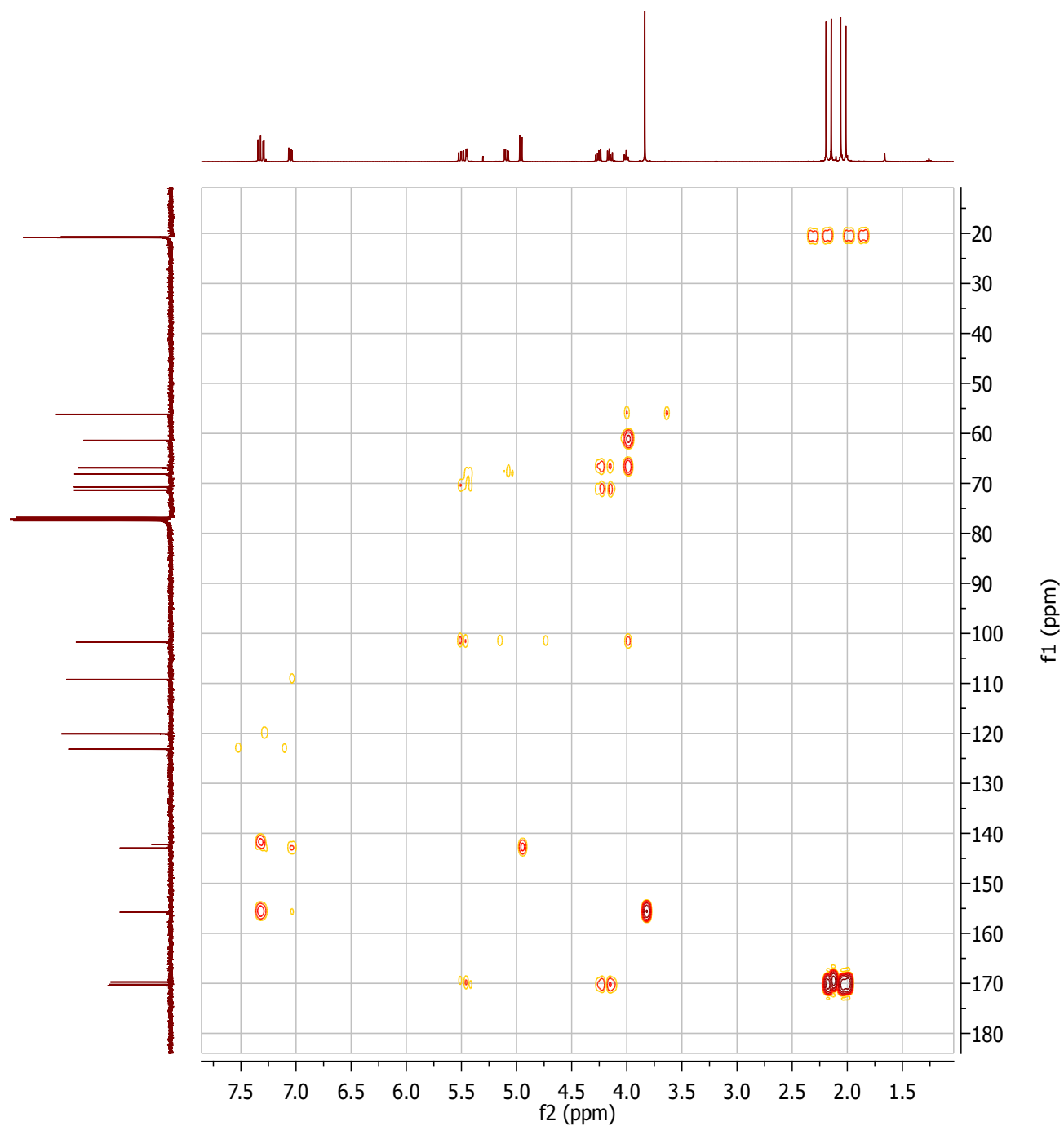


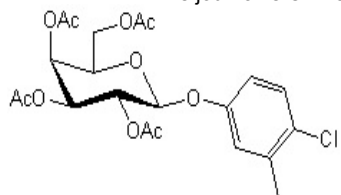
Parameter	Value (f2, f1)
1 Spectrometer	vnmr5
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1993
10 Acquisition Date	2010-09-16T14:52:38
11 Modification Date	2010-09-16T14:03:59
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3787.9, 24125.5)
14 Lowest Frequency	(-440.9, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(755, 128)
17 Spectral Size	(1024, 1024)



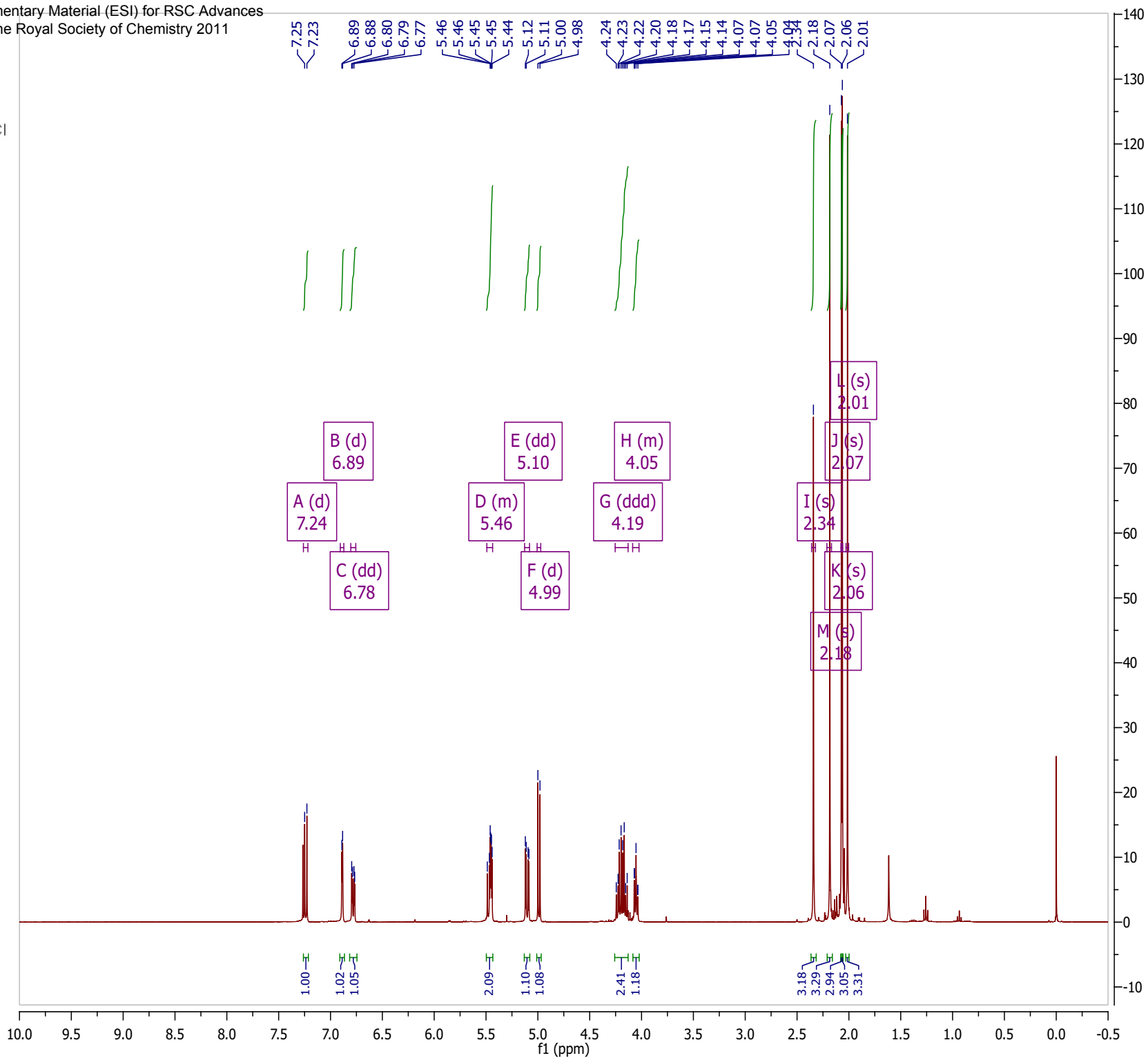


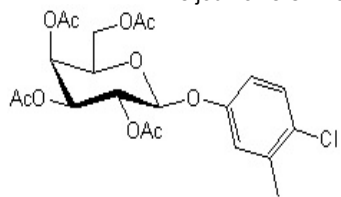
Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1280
10 Acquisition Date	2010-09-16T15:04:00
11 Modification Date	2010-09-16T14:37:08
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3787.9, 24125.5)
14 Lowest Frequency	(-440.9, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(485, 200)
17 Spectral Size	(1024, 1024)



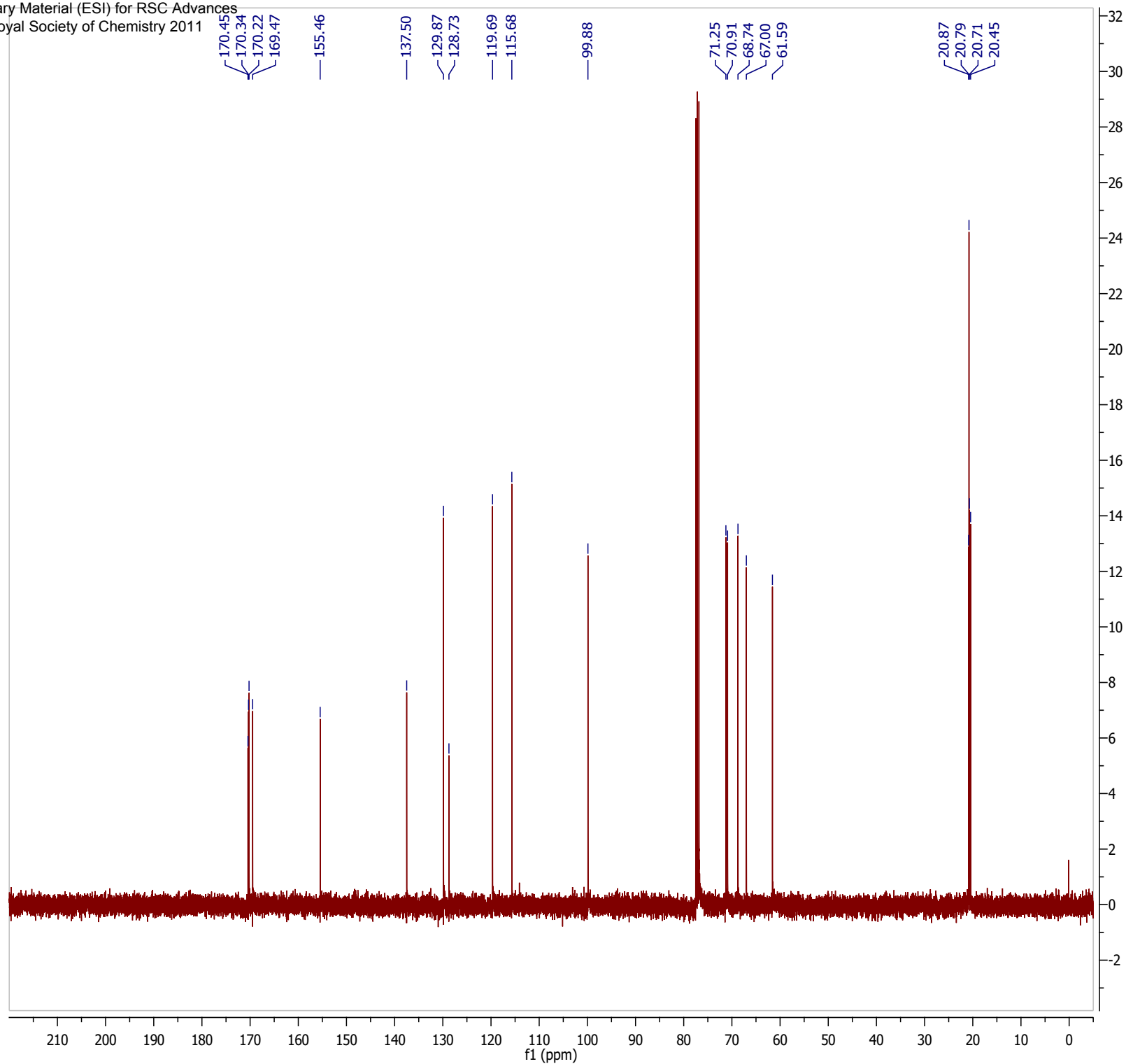


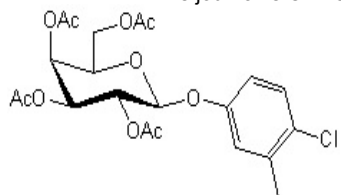
Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-07-07T15:12:15
11 Modification Date	2010-07-07T14:12:50
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-803.0
15 Nucleus	¹ H
16 Acquired Size	13132
17 Spectral Size	32768



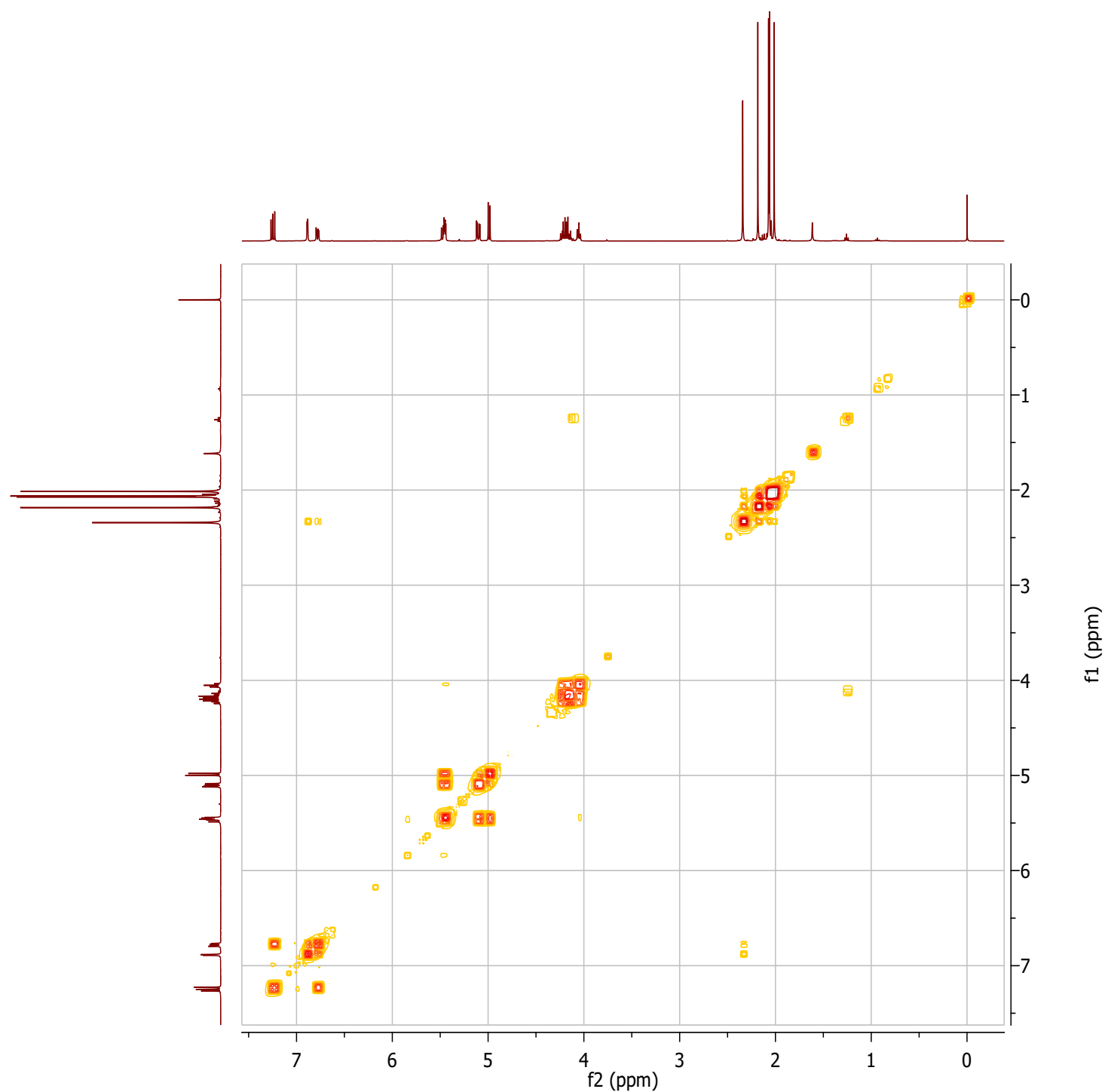


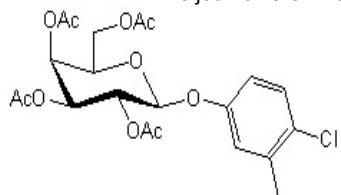
Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-07-07T15:16:36
11 Modification Date	2010-07-07T14:36:17
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1696.4
15 Nucleus	¹³ C
16 Acquired Size	31875
17 Spectral Size	65536



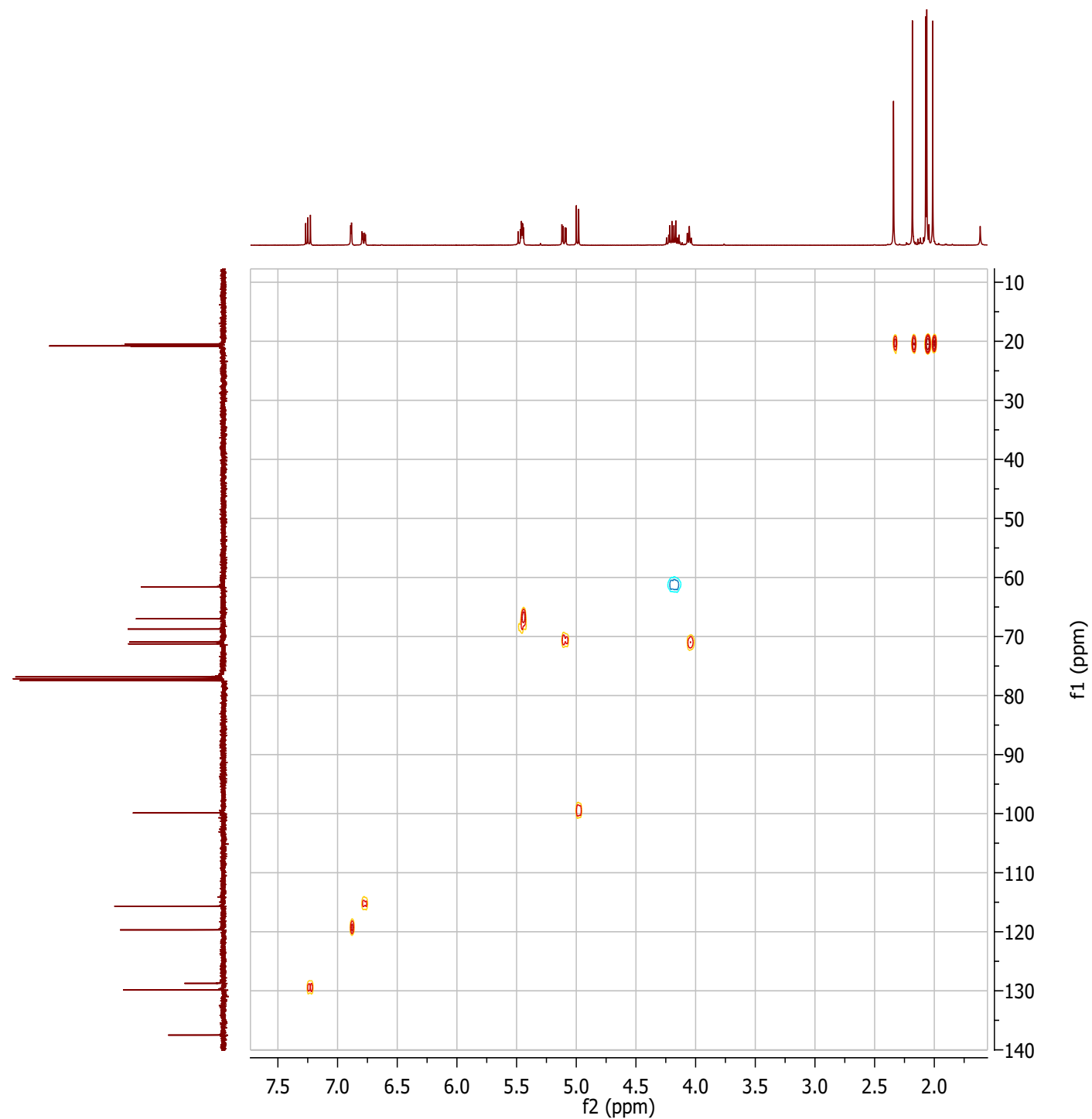


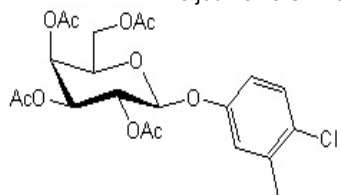
Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1360
10 Acquisition Date	2010-07-07T15:37:51
11 Modification Date	2010-07-07T14:40:42
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(3765.1, 3765.1)
14 Lowest Frequency	(-444.5, -444.5)
15 Nucleus	(1H, 1H)
16 Acquired Size	(512, 128)
17 Spectral Size	(1024, 1024)



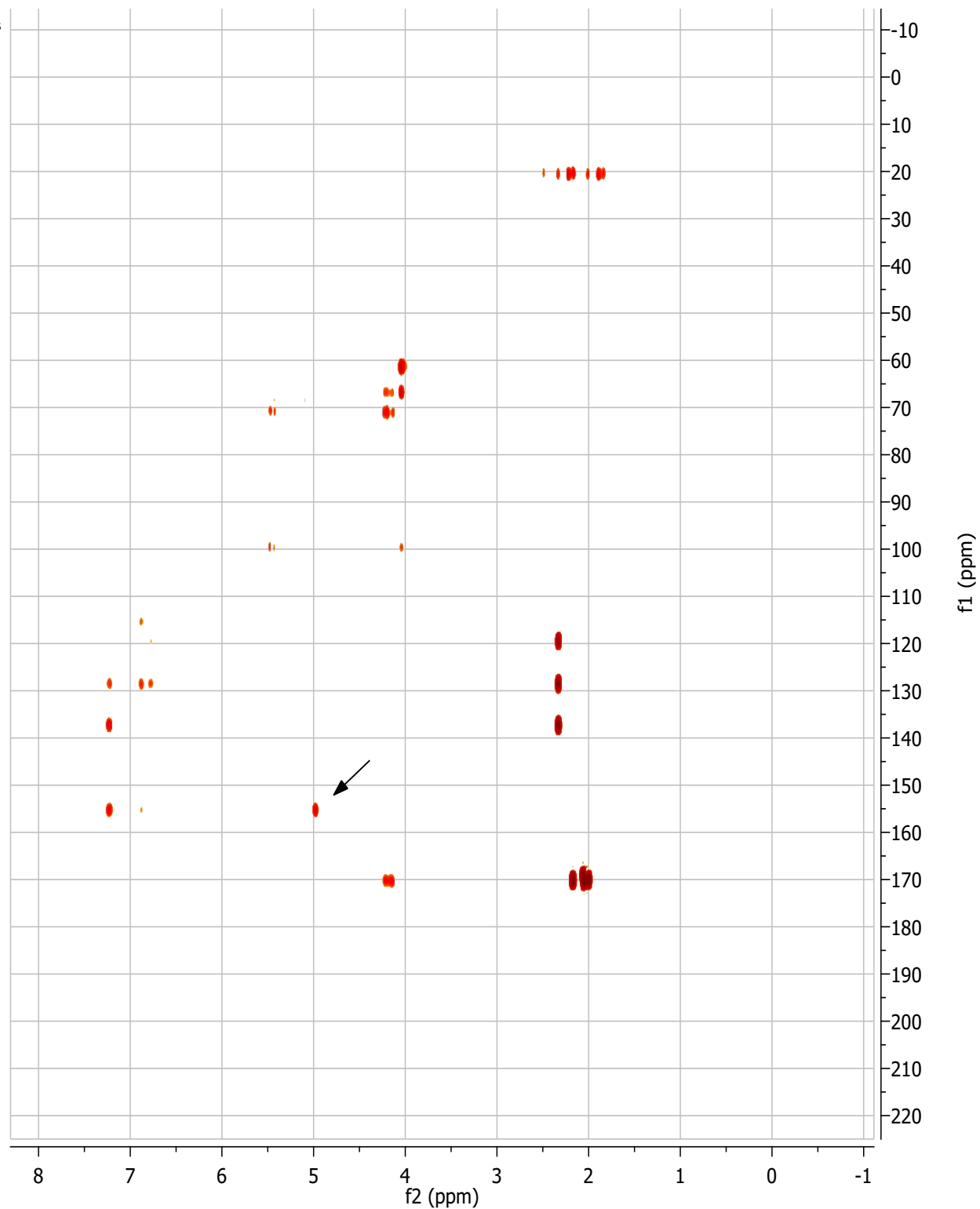


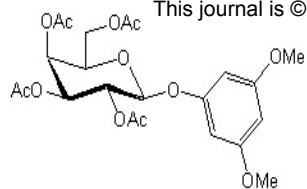
Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1992
10 Acquisition Date	2010-07-07T15:40:43
11 Modification Date	2010-07-07T14:52:04
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3765.1, 24125.5)
14 Lowest Frequency	(-444.5, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(750, 128)
17 Spectral Size	(1024, 1024)



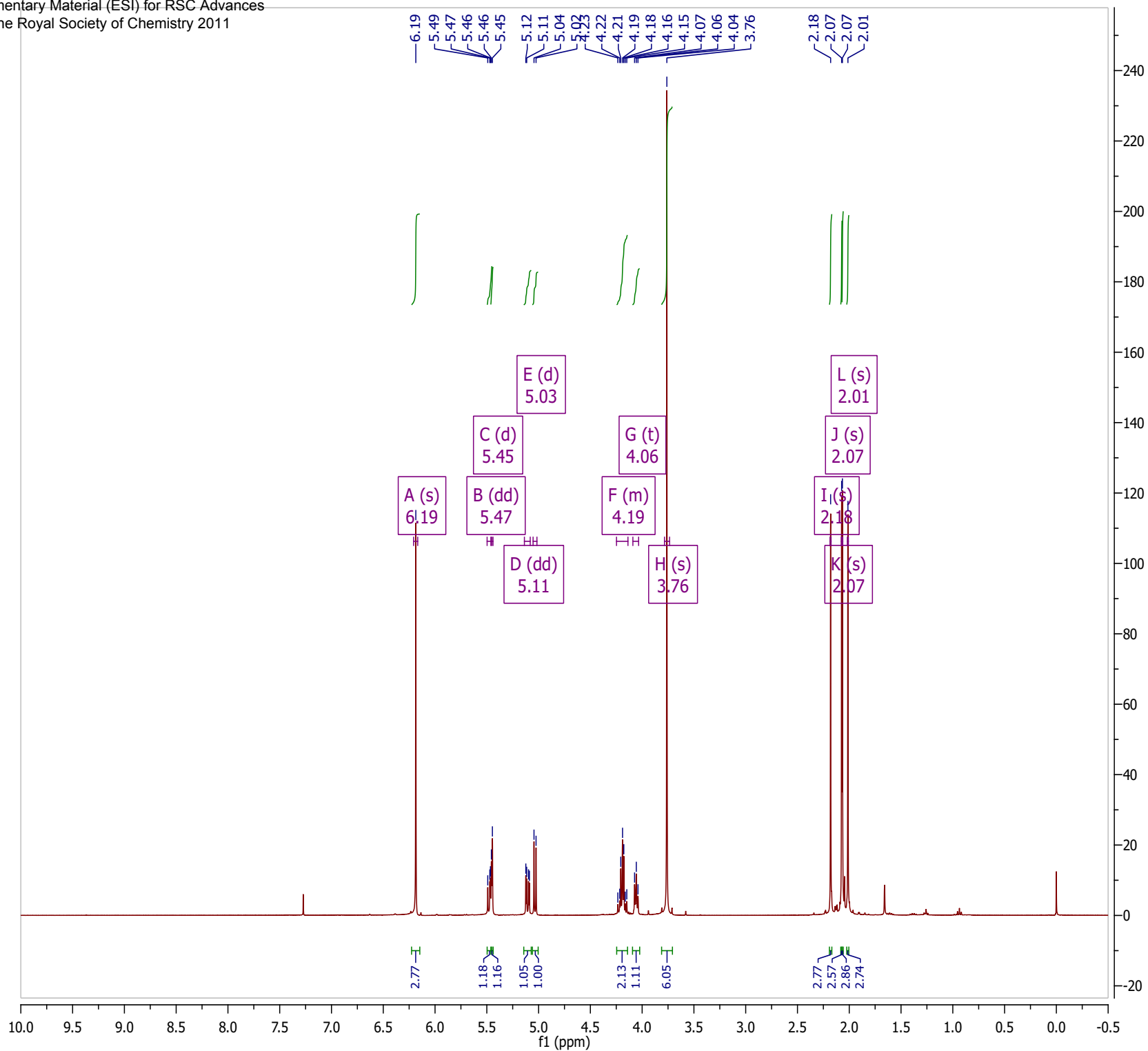


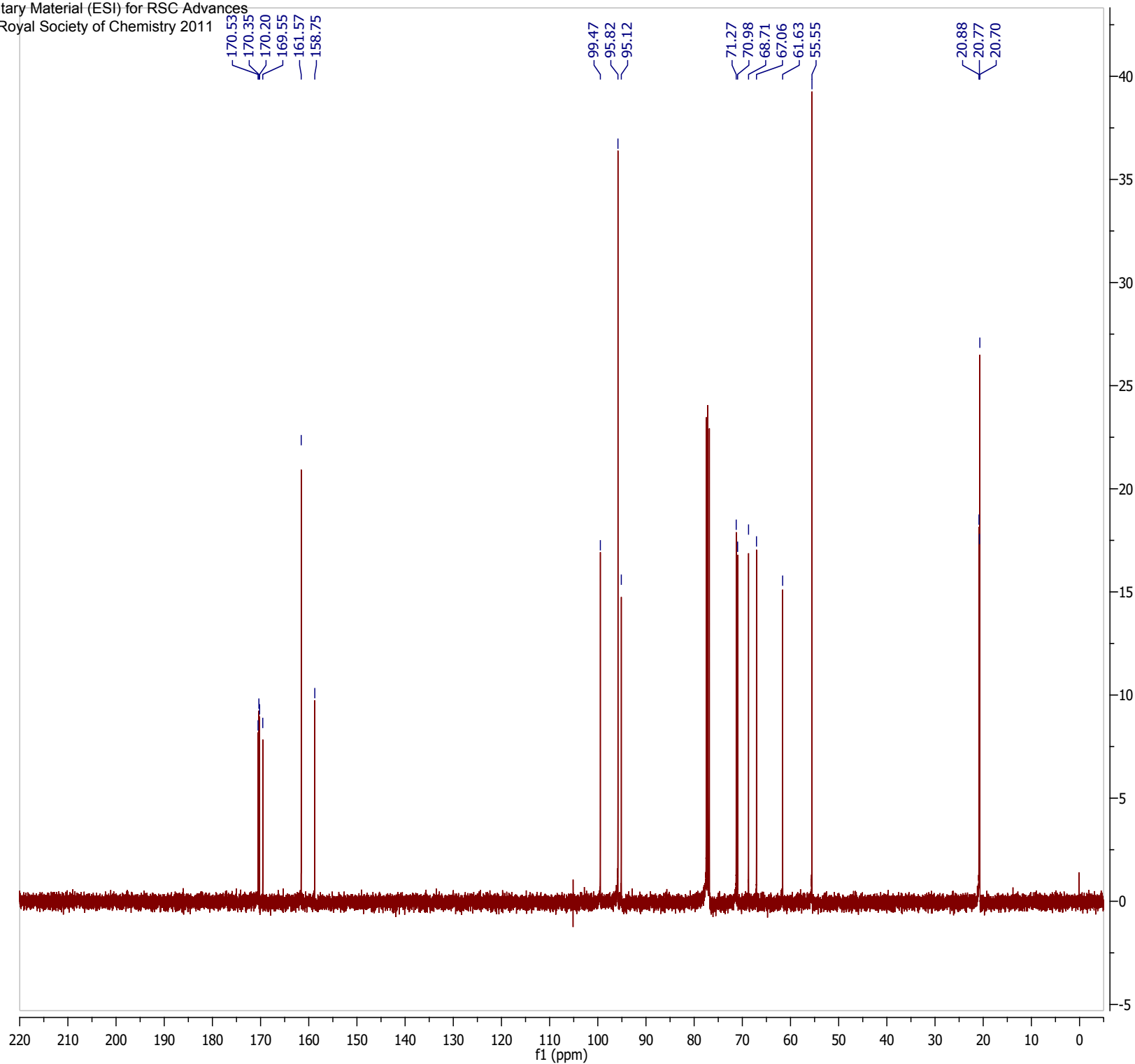
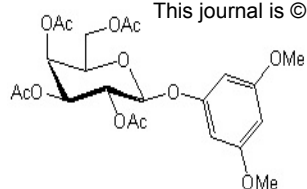
Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1280
10 Acquisition Date	2010-07-07T15:52:05
11 Modification Date	2010-07-07T15:25:13
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3765.1, 24125.5)
14 Lowest Frequency	(-444.5, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(482, 200)
17 Spectral Size	(1024, 1024)



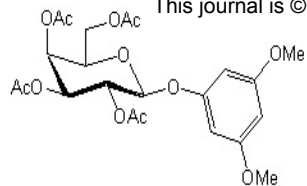


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-07-06T16:29:34
11 Modification Date	2010-07-06T15:30:08
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-800.9
15 Nucleus	¹ H
16 Acquired Size	13132
17 Spectral Size	32768

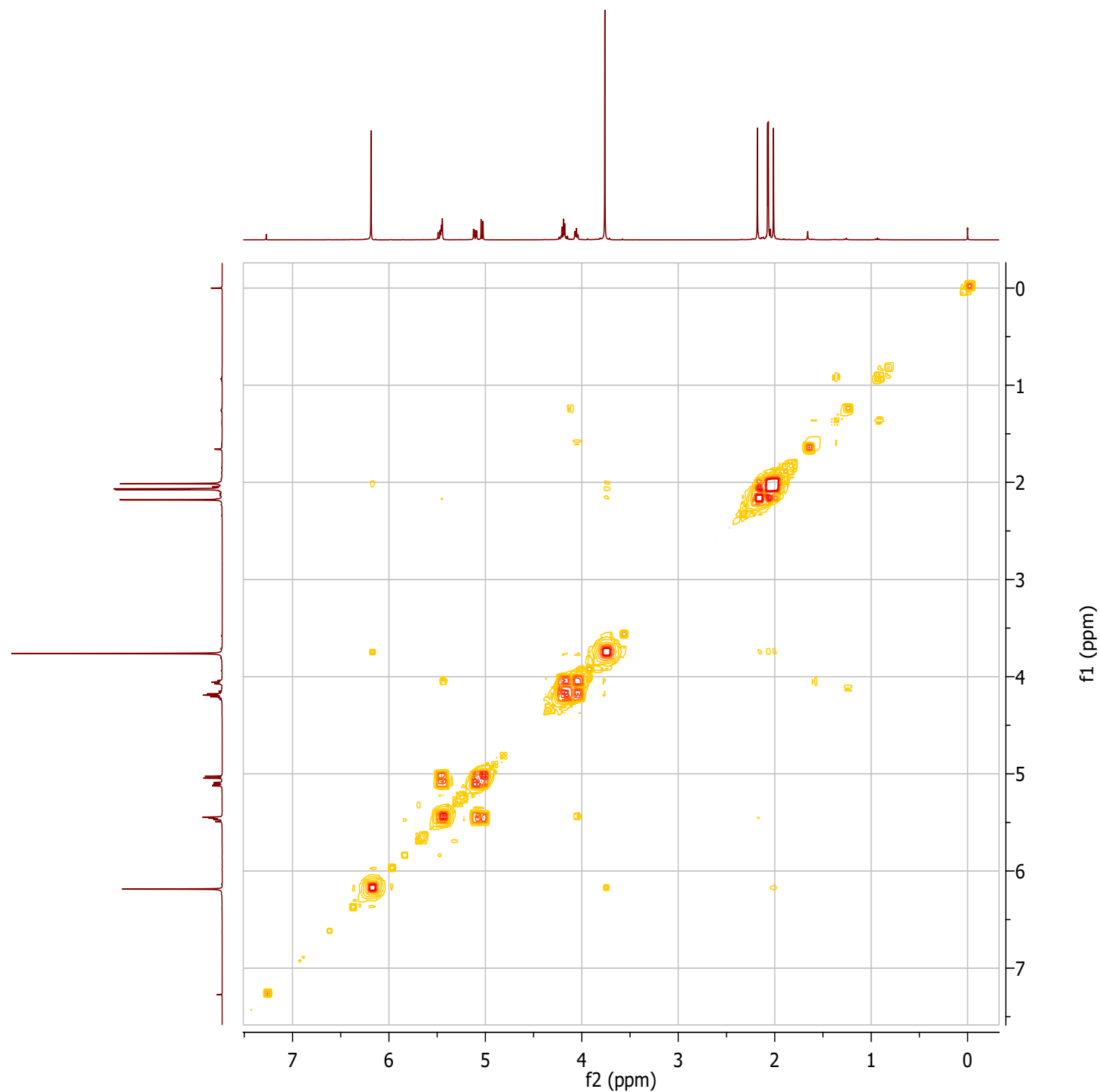


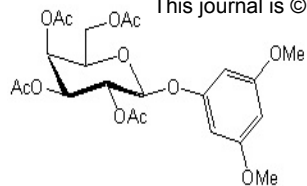


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-07-06T16:38:40
11 Modification Date	2010-07-06T15:58:21
12 Spectrometer	100.54
Frequency	
13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	13C
16 Acquired Size	31875
17 Spectral Size	65536

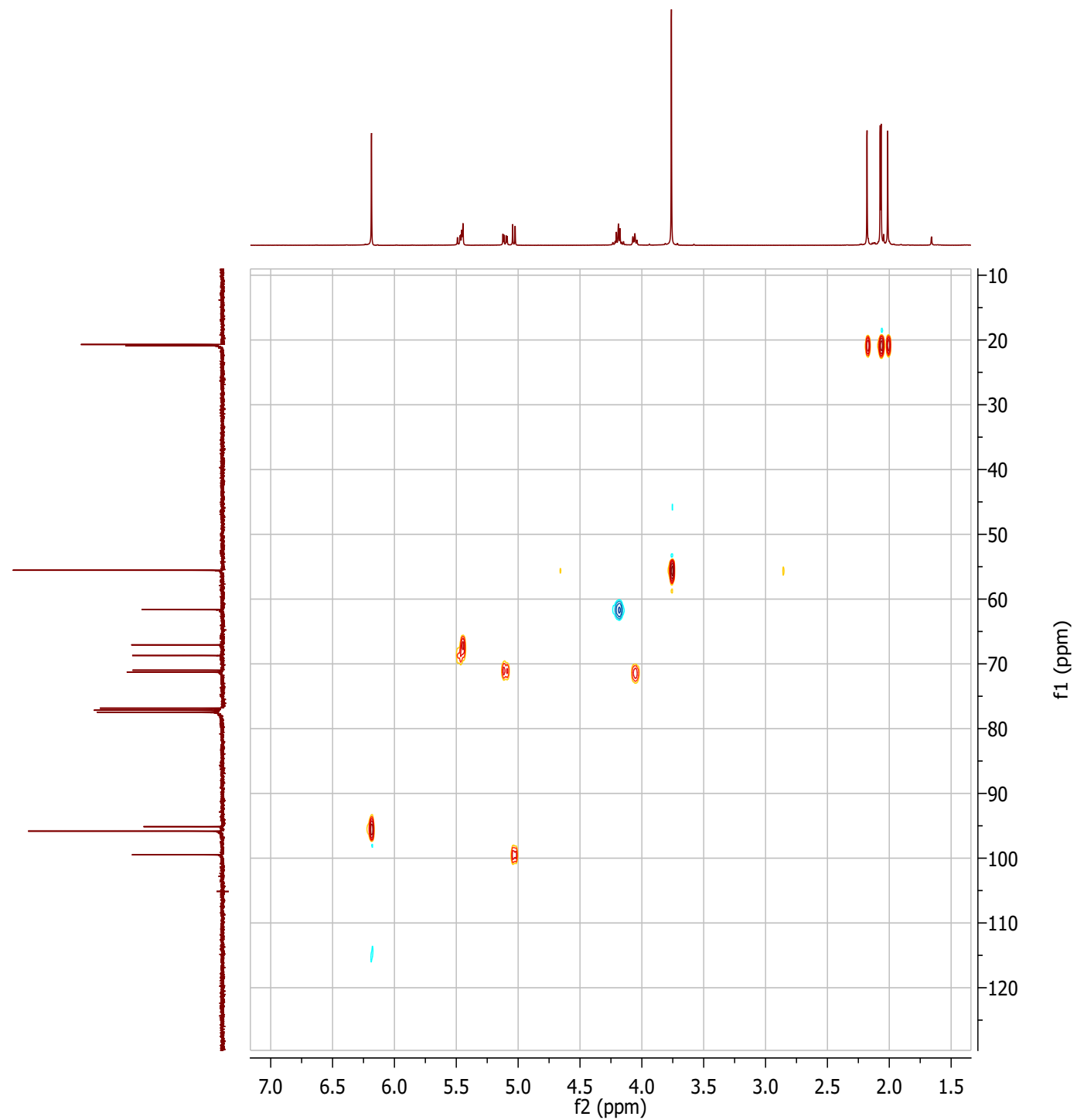


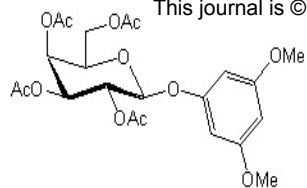
Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1368
10 Acquisition Date	2010-07-06T16:59:55
11 Modification Date	2010-07-06T16:02:47
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(3742.5, 3742.5)
14 Lowest Frequency	(-432.1, -432.1)
15 Nucleus	(1H, 1H)
16 Acquired Size	(512, 128)
17 Spectral Size	(1024, 1024)



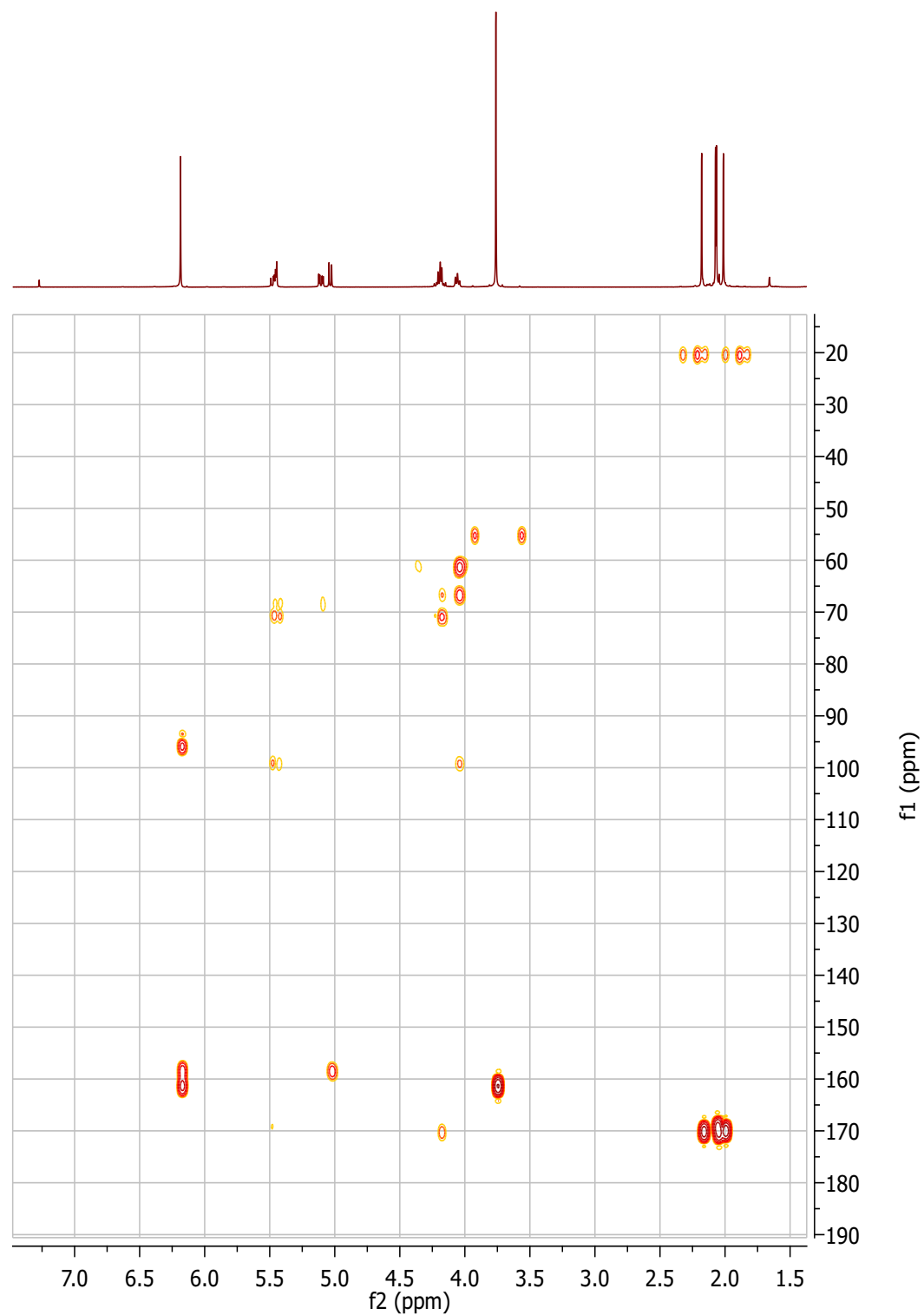
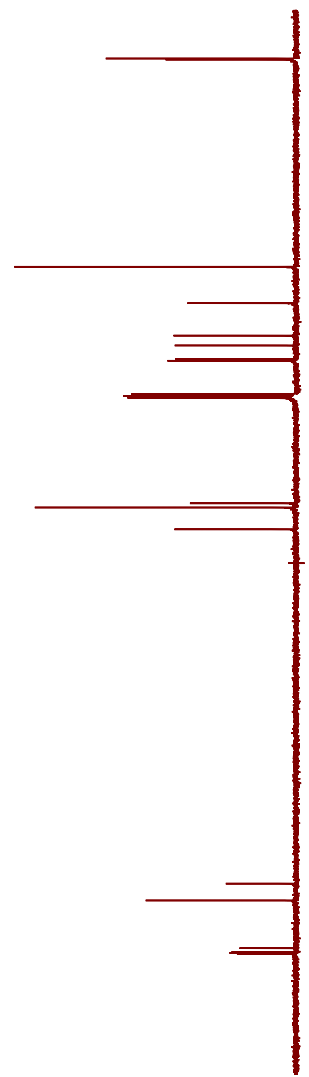


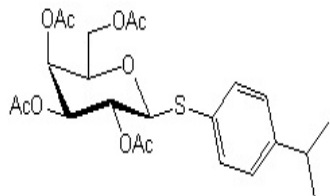
Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1993
10 Acquisition Date	2010-07-06T17:02:47
11 Modification Date	2010-07-06T16:14:09
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3742.5, 24125.5)
14 Lowest Frequency	(-432.1, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(746, 128)
17 Spectral Size	(1024, 1024)



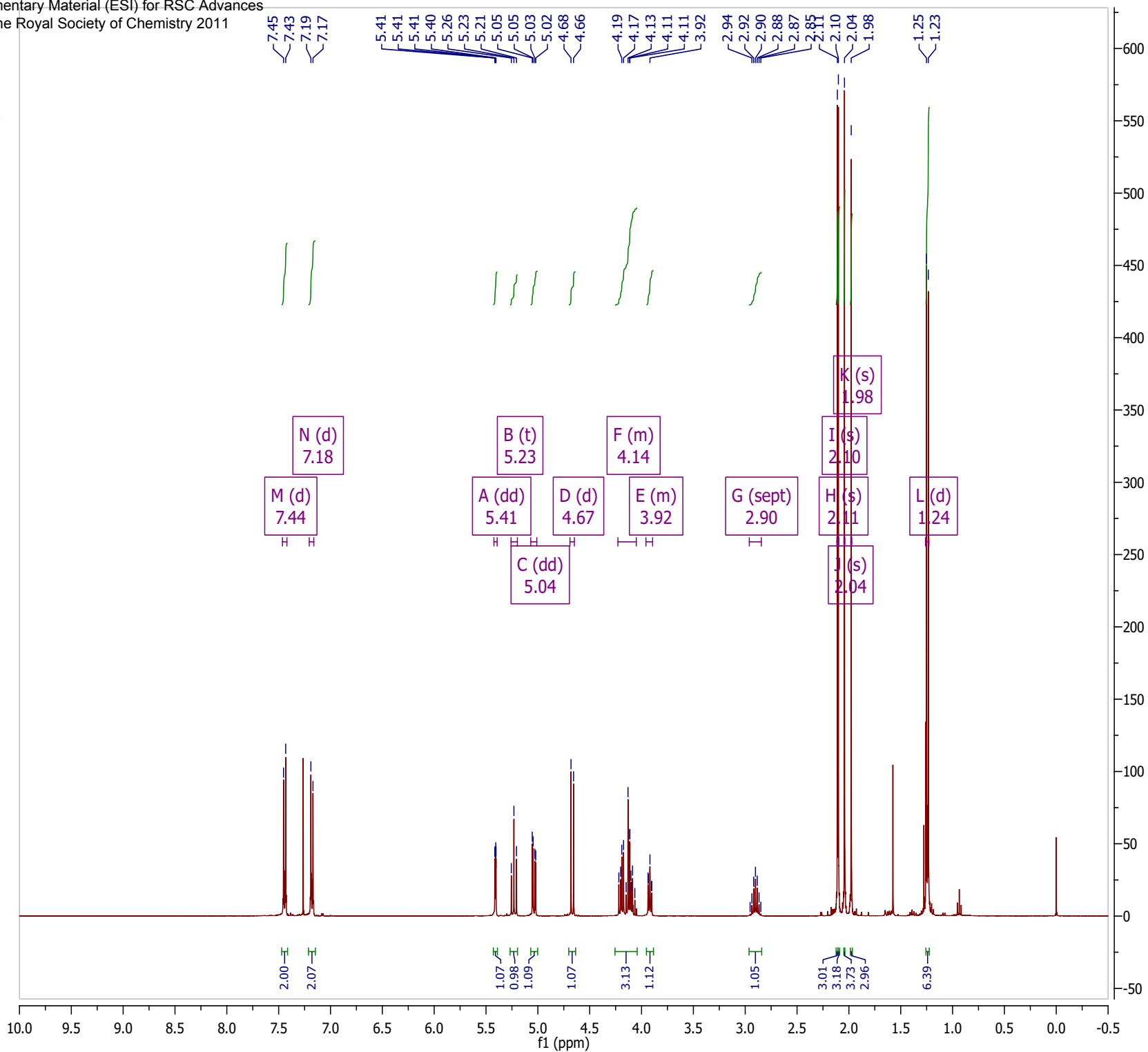


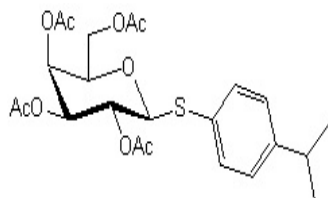
Parameter	Value (f2, f1)
1 Spectrometer	vnmr5
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1280
10 Acquisition Date	2010-07-06T17:14:09
11 Modification Date	2010-07-06T16:47:18
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3742.5, 24125.5)
14 Lowest Frequency	(-432.1, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(479, 200)
17 Spectral Size	(1024, 1024)



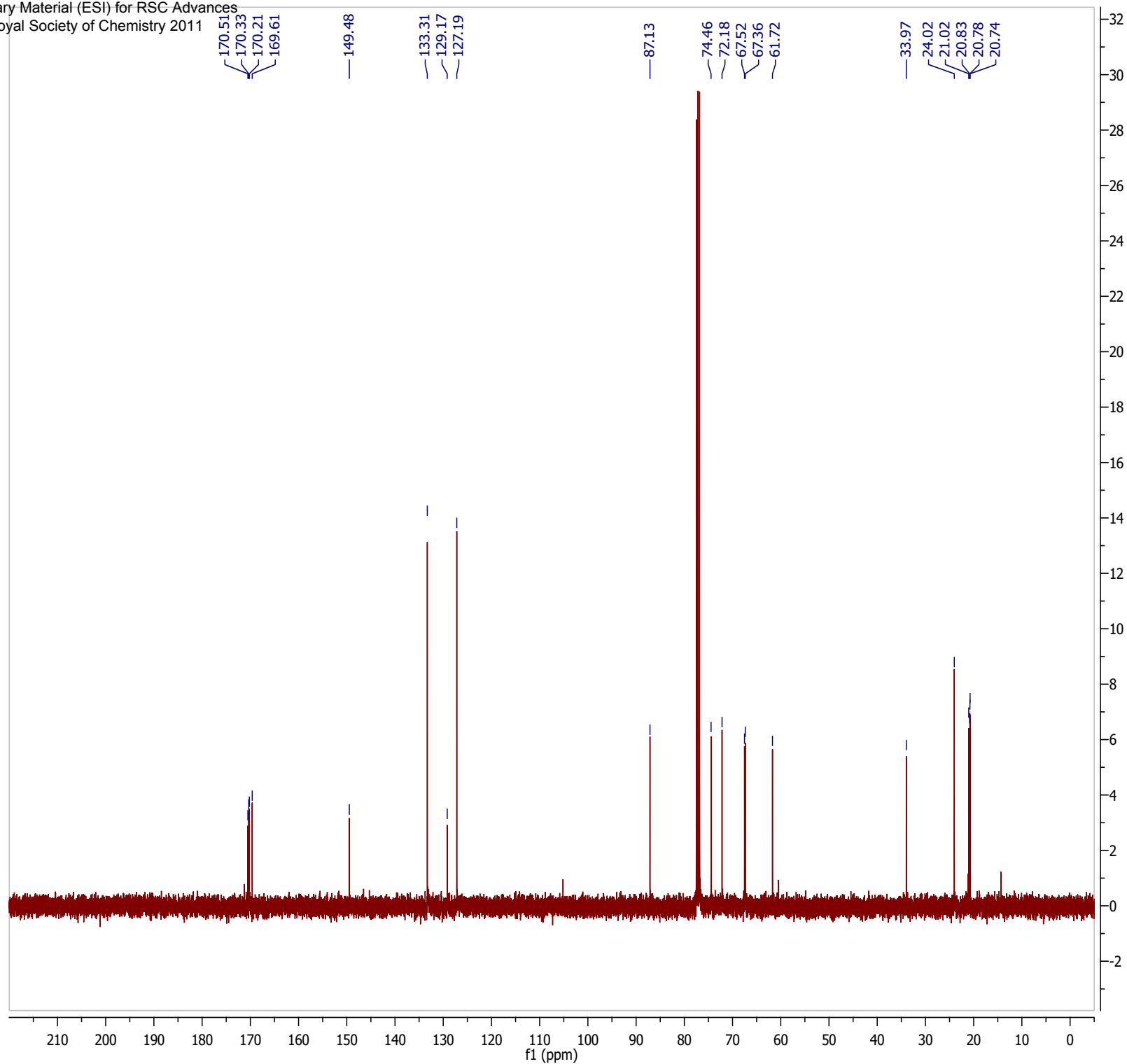


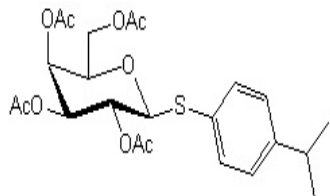
Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	36
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-08-12T16:50:23
11 Modification Date	2010-08-12T15:50:57
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-803.4
15 Nucleus	1H
16 Acquired Size	13132
17 Spectral Size	32768



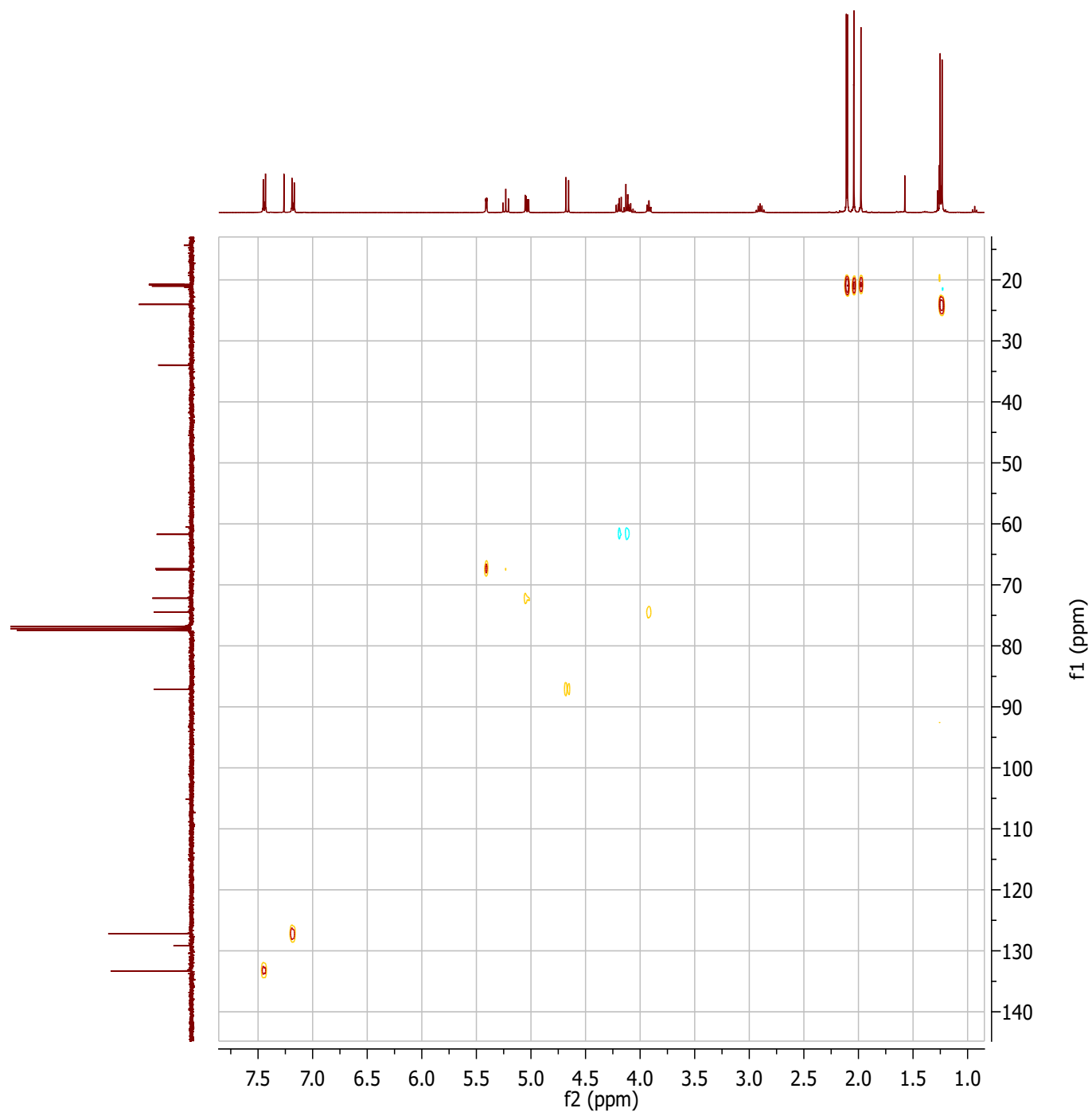


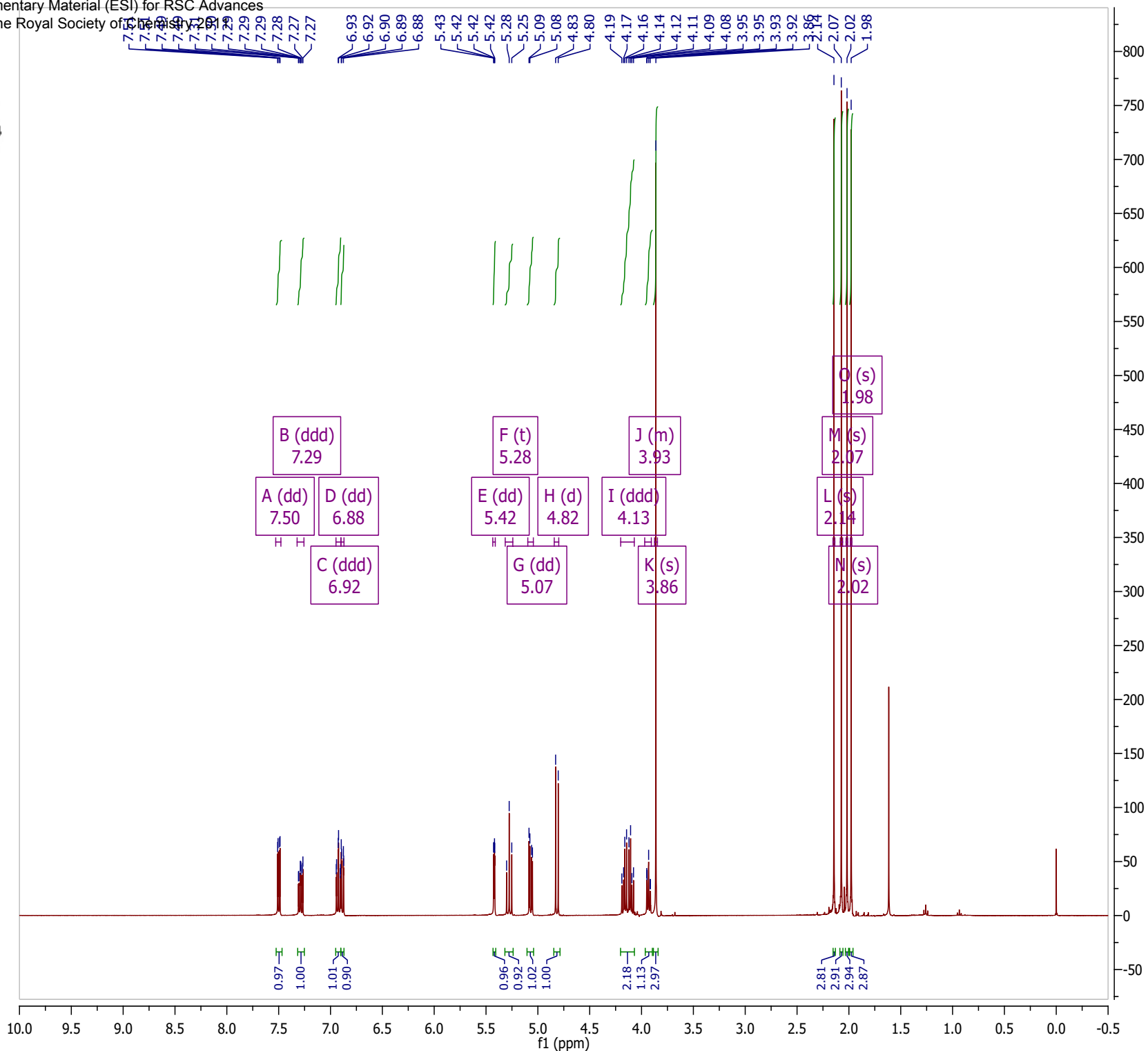
Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-08-12T16:53:05
11 Modification Date	2010-08-12T16:12:48
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	¹³ C
16 Acquired Size	31875
17 Spectral Size	65536

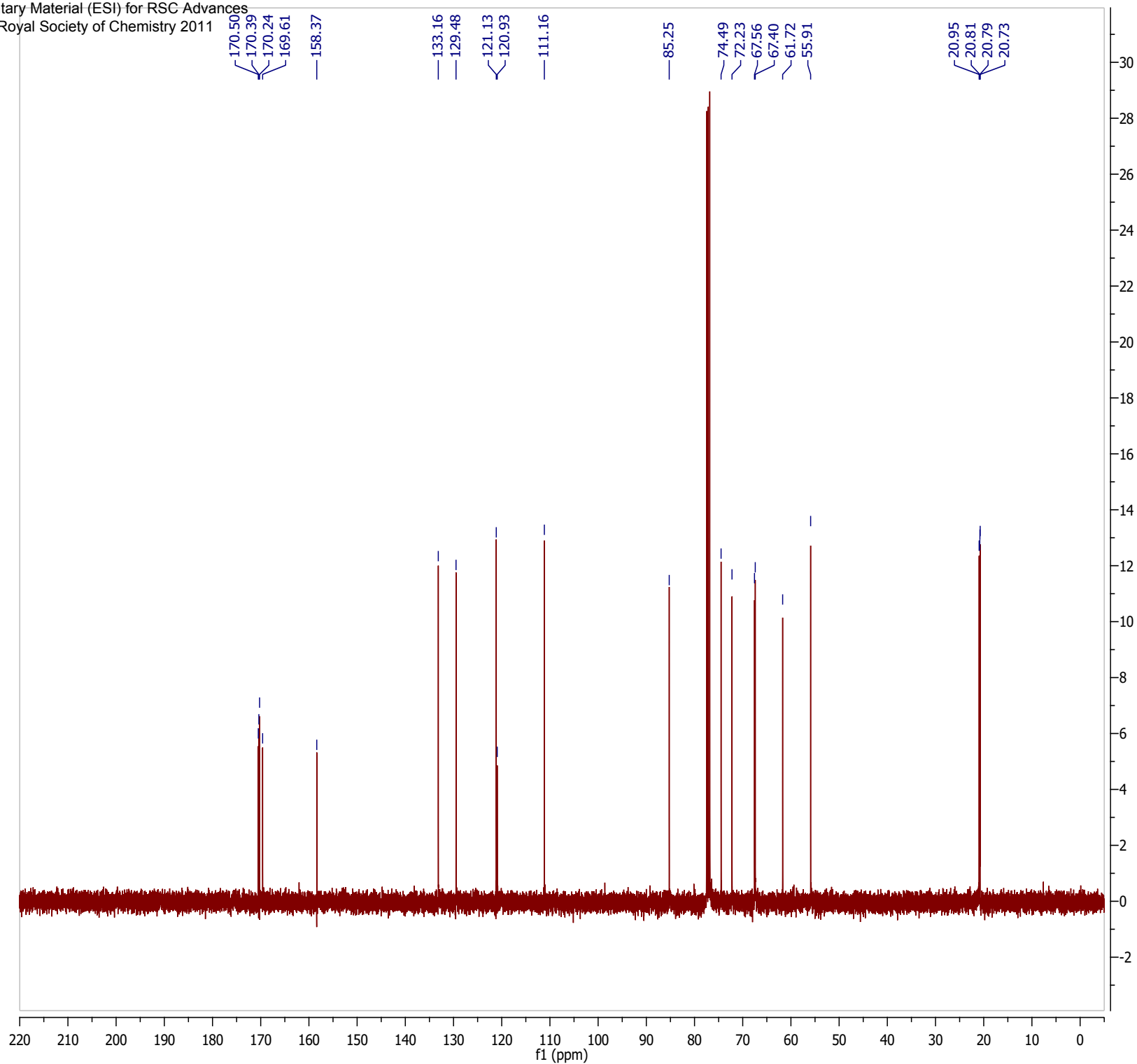
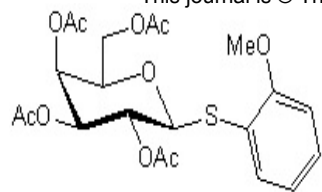




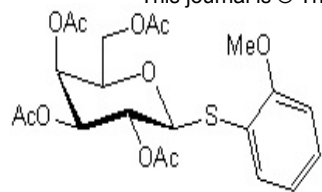
Parameter	Value (f2, f1)
1 Spectrometer	nmr
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	36
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1993
10 Acquisition Date	2010-08-12T17:17:26
11 Modification Date	2010-08-12T16:28:48
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3834.4, 24125.5)
14 Lowest Frequency	(-438.5, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(764, 128)
17 Spectral Size	(1024, 1024)



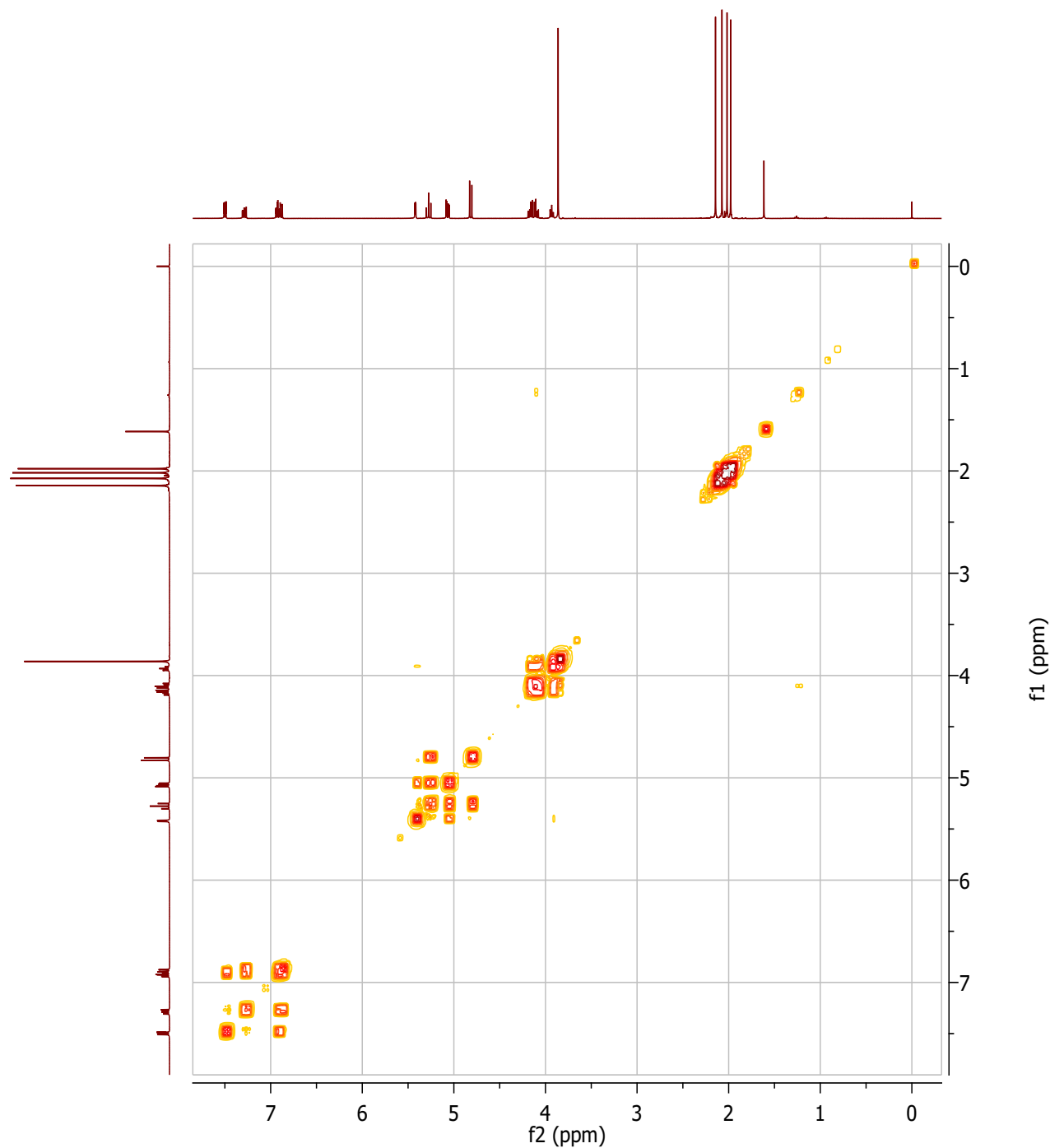


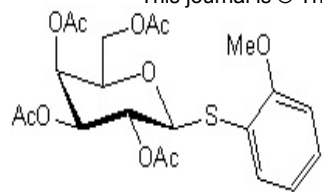


Parameter	Value
1 Spectrometer	nmr5
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-08-12T15:37:53
11 Modification Date	2010-08-12T14:57:35
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	¹³ C
16 Acquired Size	31875
17 Spectral Size	65536

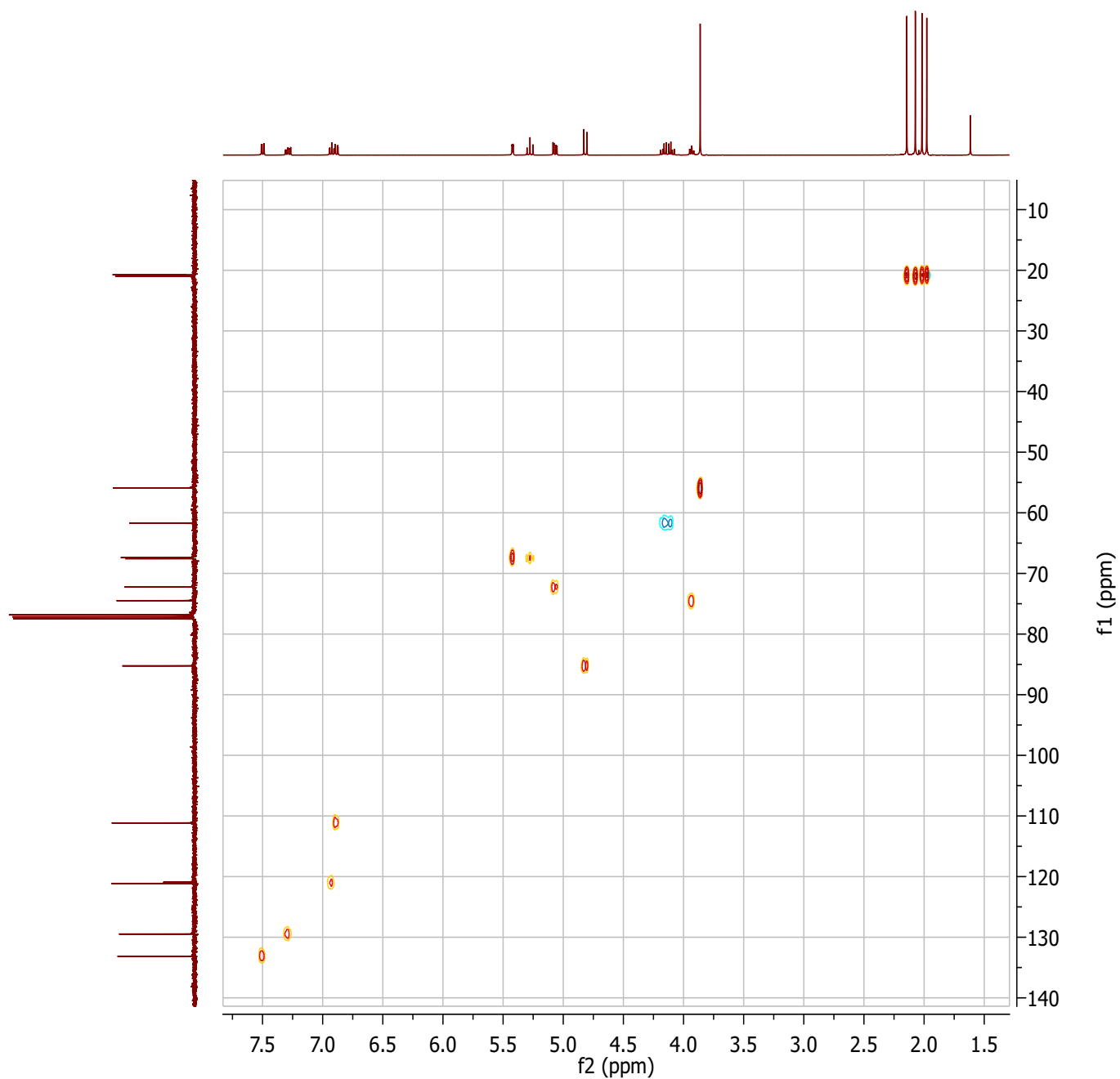


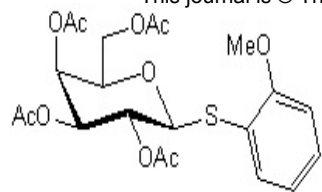
Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	34
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1327
10 Acquisition Date	2010-08-12T15:59:22
11 Modification Date	2010-08-12T15:02:13
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(3858.0, 3858.0)
14 Lowest Frequency	(-441.4, -441.4)
15 Nucleus	(1H, 1H)
16 Acquired Size	(512, 128)
17 Spectral Size	(1024, 1024)



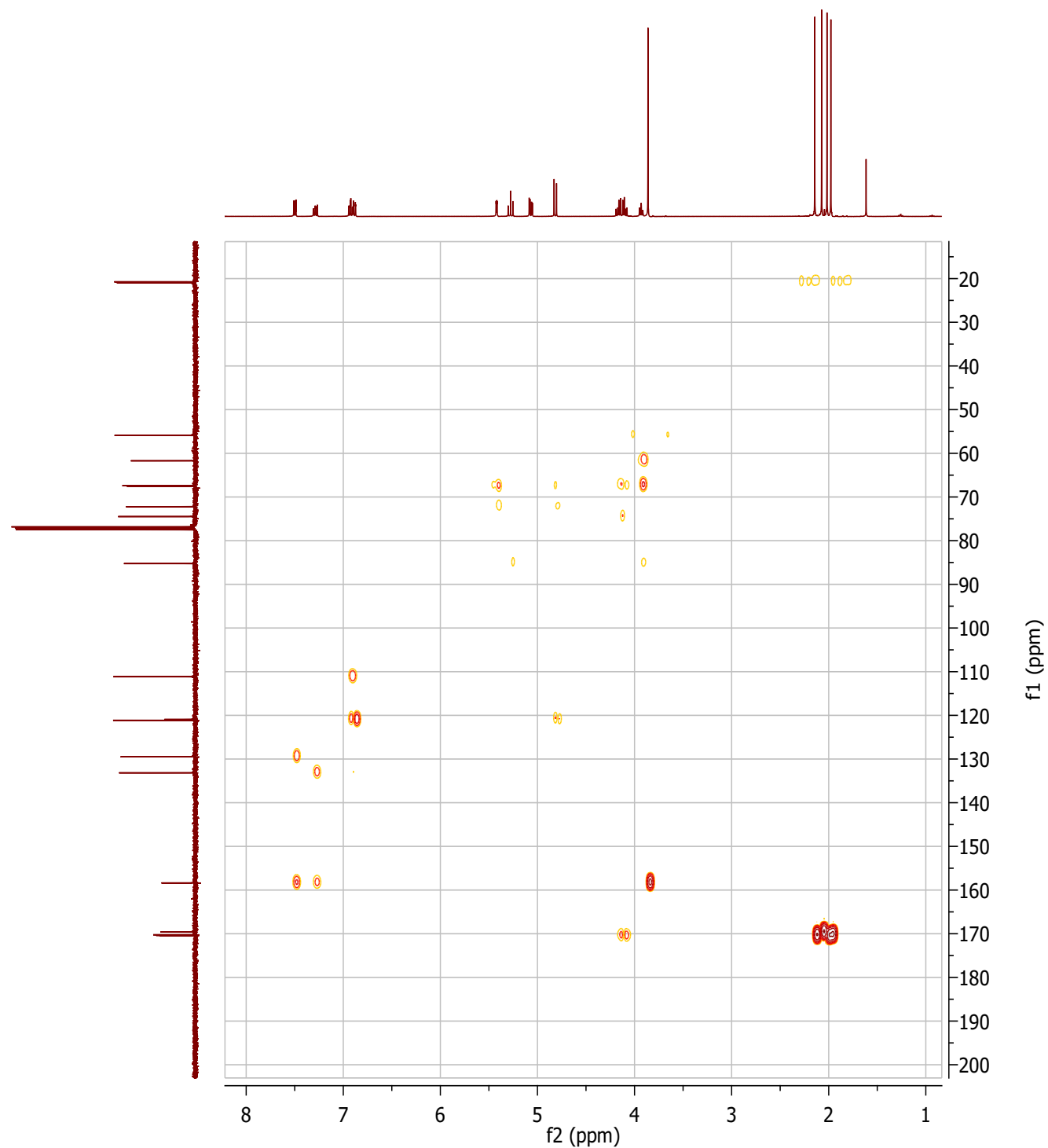


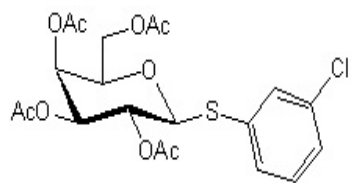
Parameter	Value (f2, f1)
1 Spectrometer	vnmr5
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	34
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1993
10 Acquisition Date	2010-08-12T16:02:13
11 Modification Date	2010-08-12T15:13:35
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3858.0, 24125.5)
14 Lowest Frequency	(-441.4, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(769, 128)
17 Spectral Size	(1024, 1024)



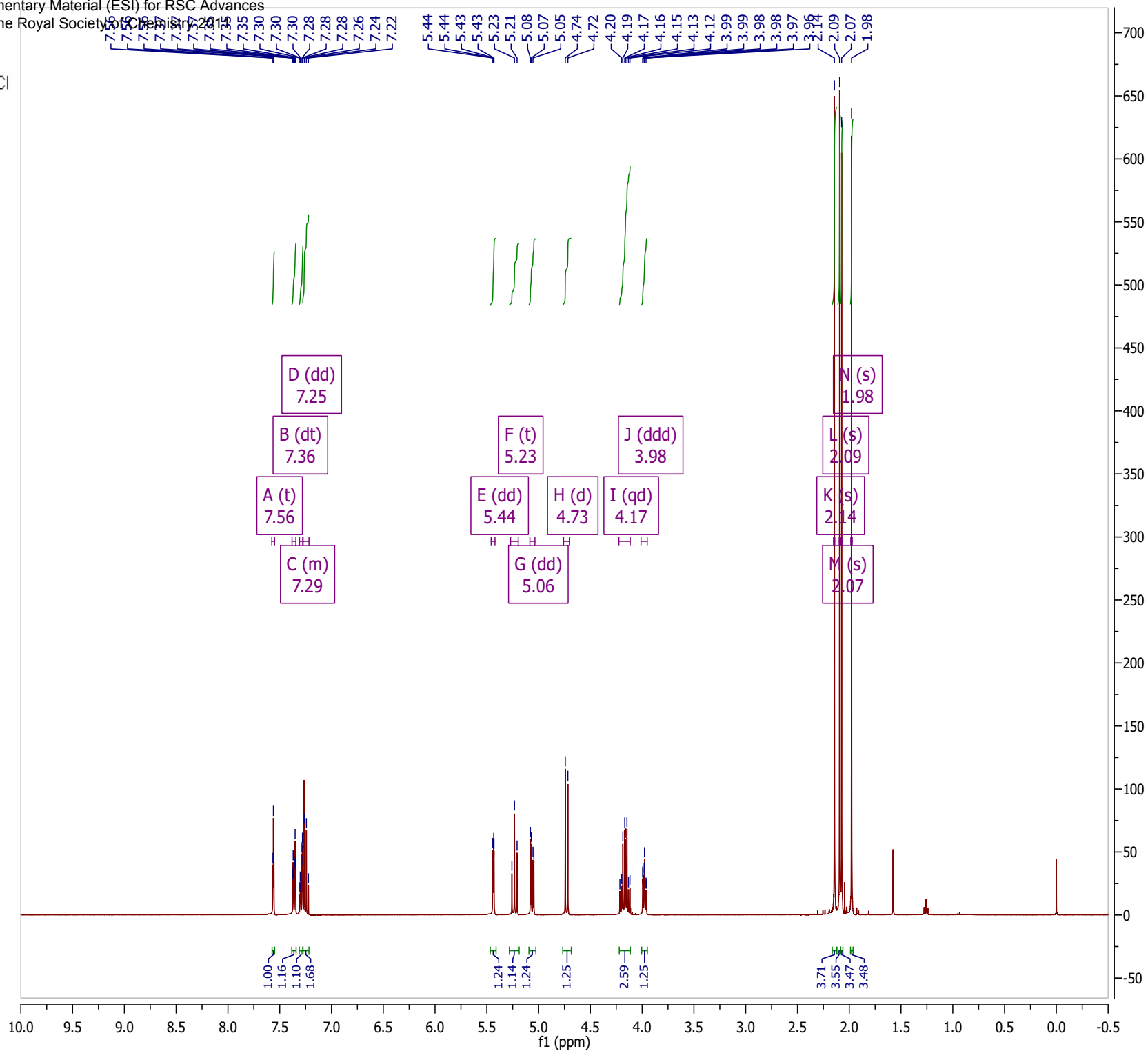


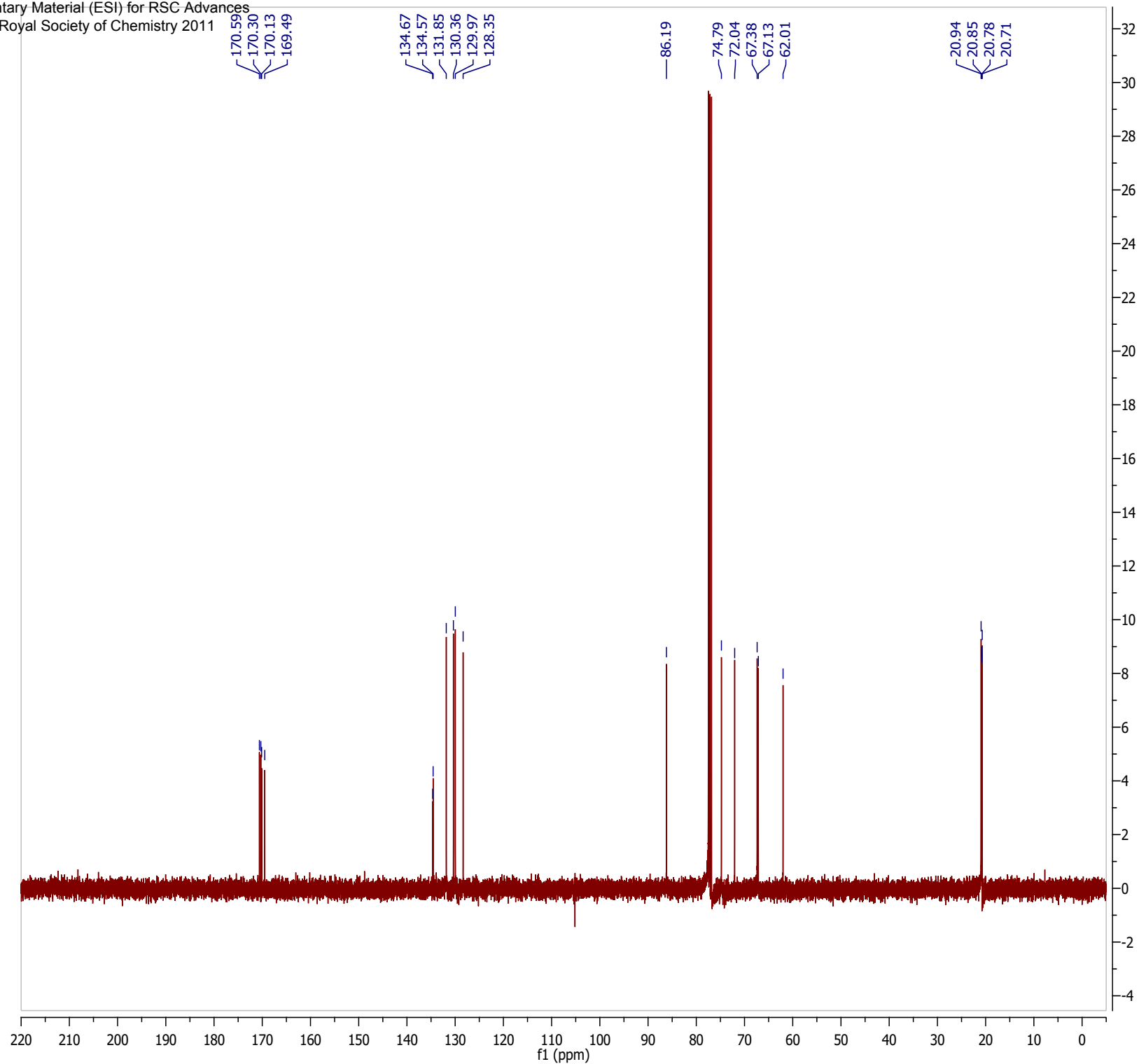
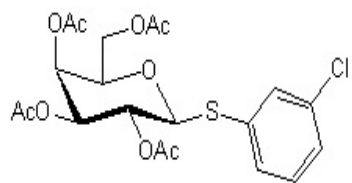
Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	34
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1280
10 Acquisition Date	2010-08-12T16:13:36
11 Modification Date	2010-08-12T15:46:44
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3858.0, 24125.5)
14 Lowest Frequency	(-441.4, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(494, 200)
17 Spectral Size	(1024, 1024)



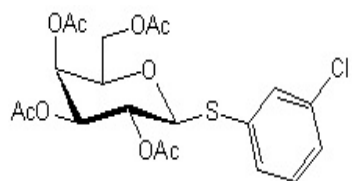


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	36
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-08-12T14:13:51
11 Modification Date	2010-08-12T13:14:24
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-804.2
15 Nucleus	1H
16 Acquired Size	13132
17 Spectral Size	32768

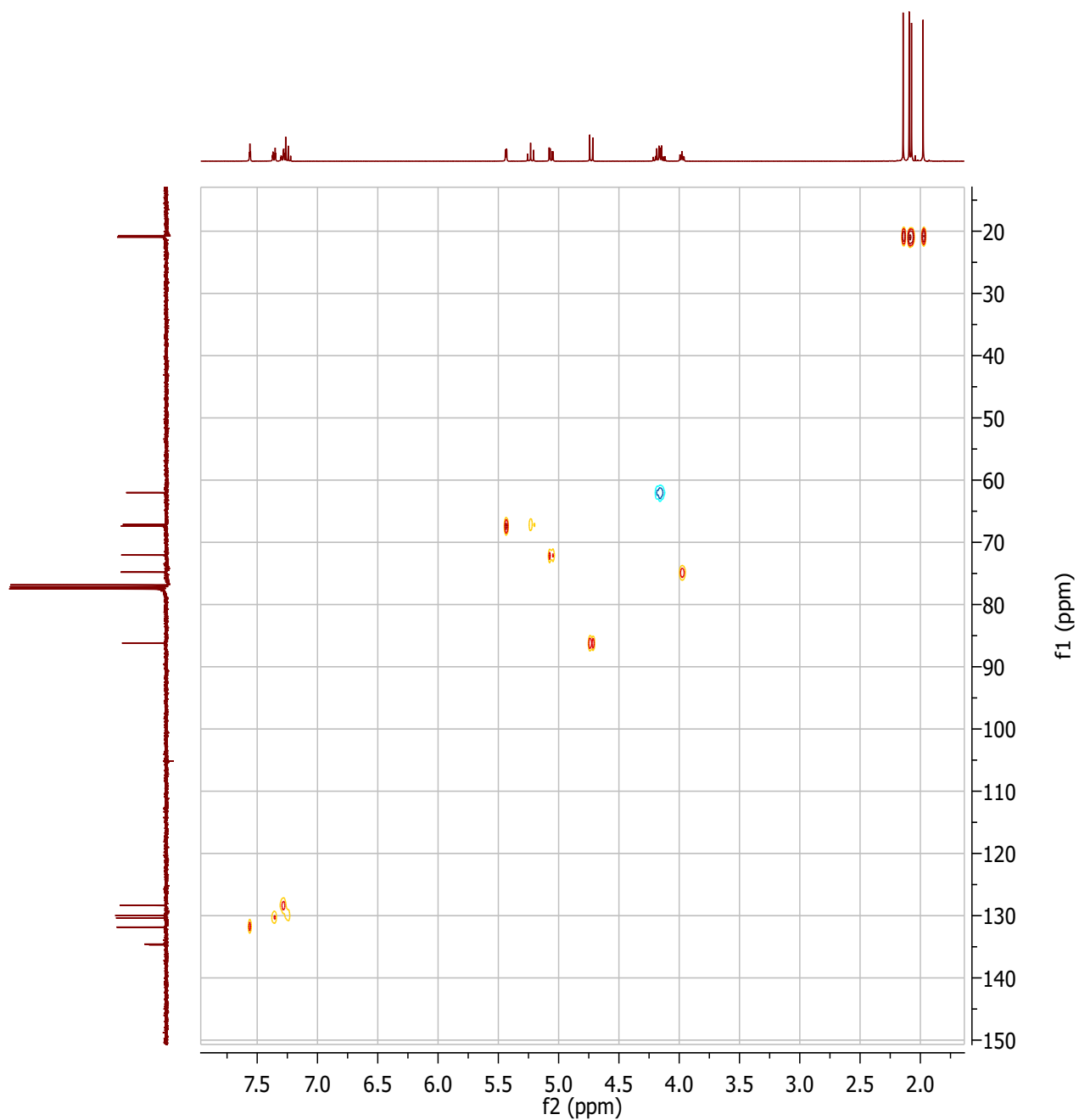


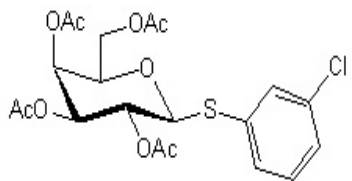


Parameter	Value
1 Spectrometer	nmr
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-08-12T14:16:48
11 Modification Date	2010-08-12T13:36:29
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	13C
16 Acquired Size	31875
17 Spectral Size	65536

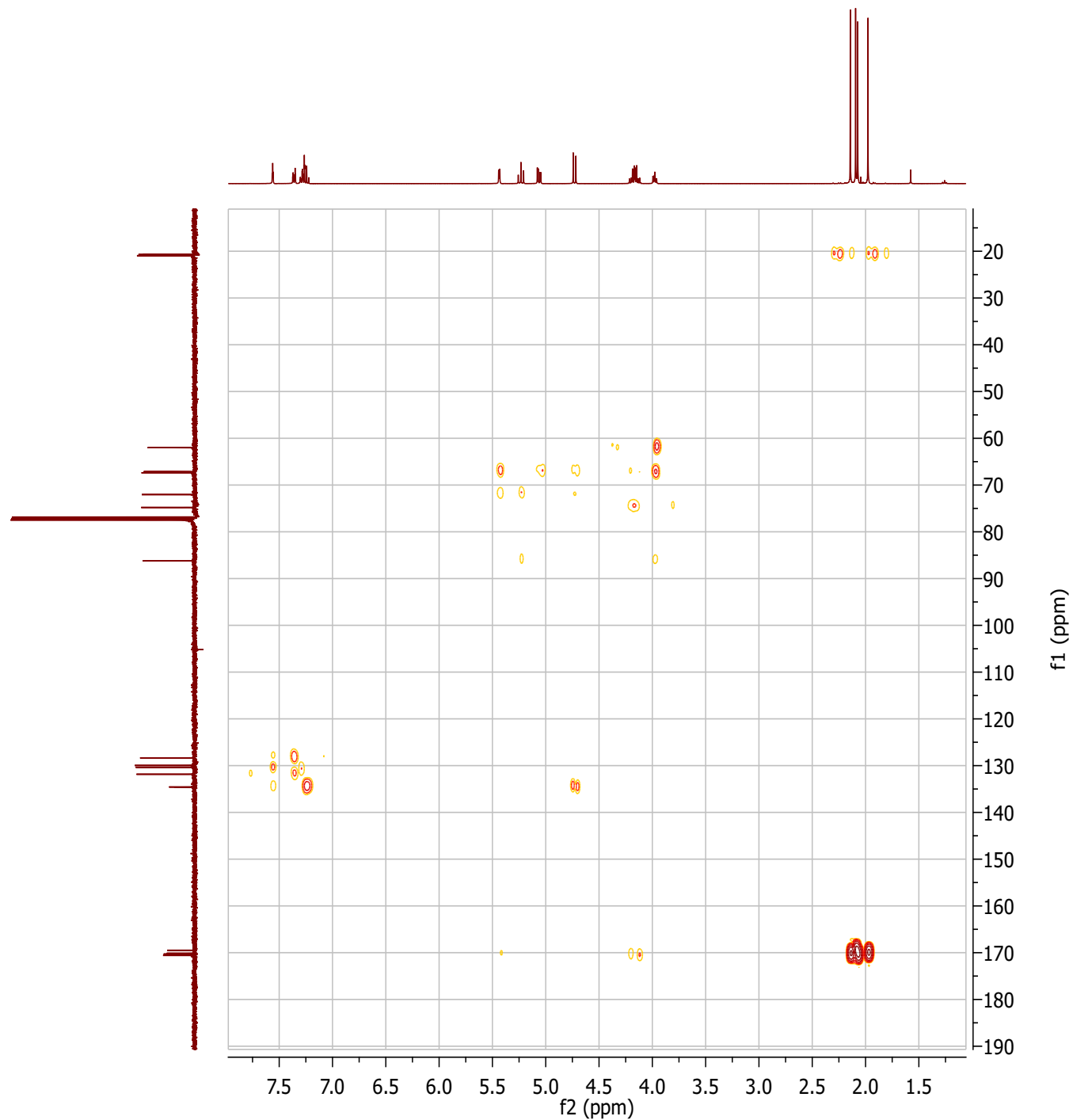


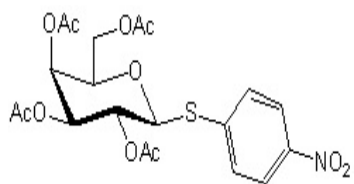
Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	36
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1994
10 Acquisition Date	2010-08-12T14:41:07
11 Modification Date	2010-08-12T13:52:29
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3882.0, 24125.5)
14 Lowest Frequency	(-439.7, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(774, 128)
17 Spectral Size	(1024, 1024)



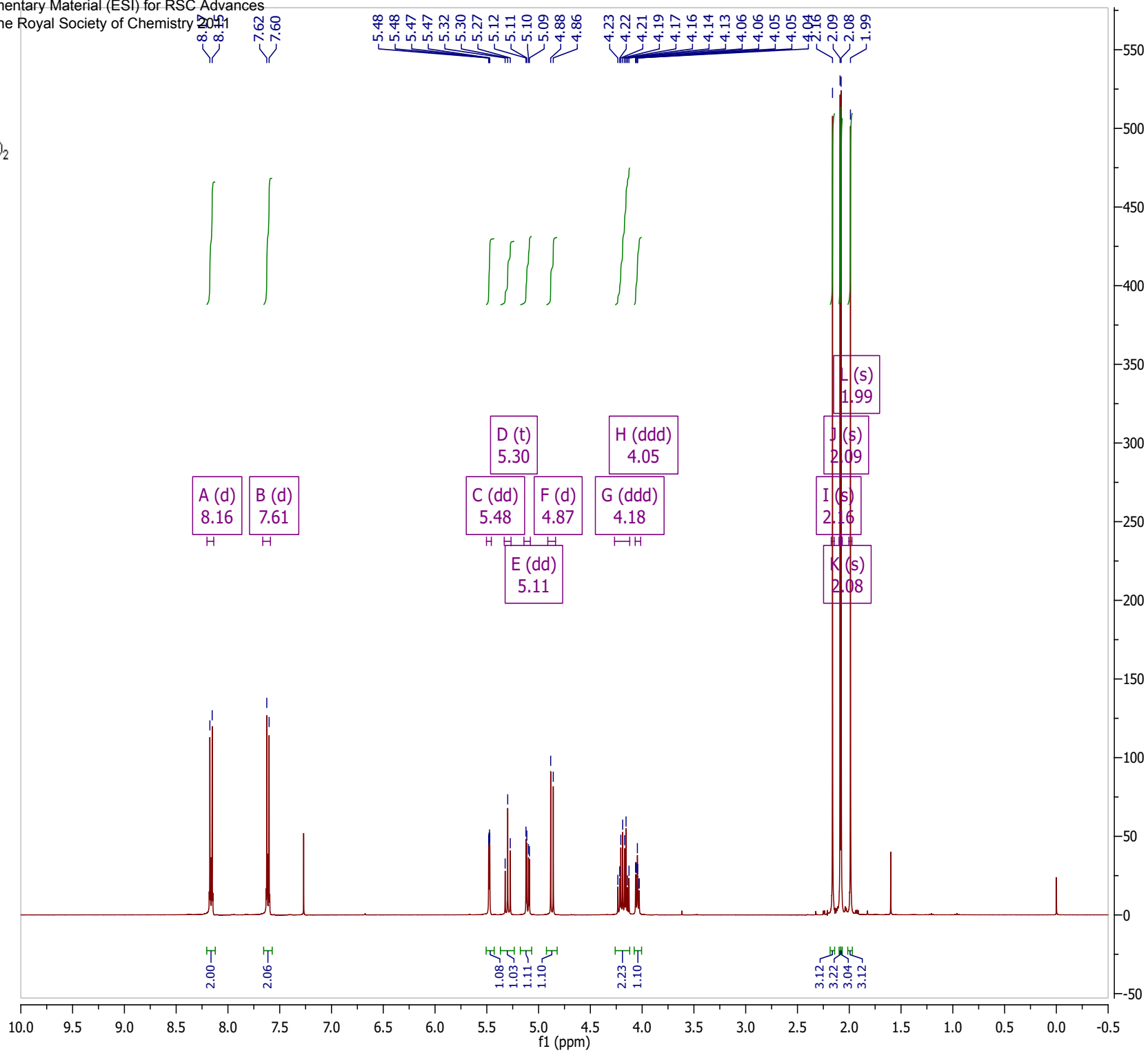


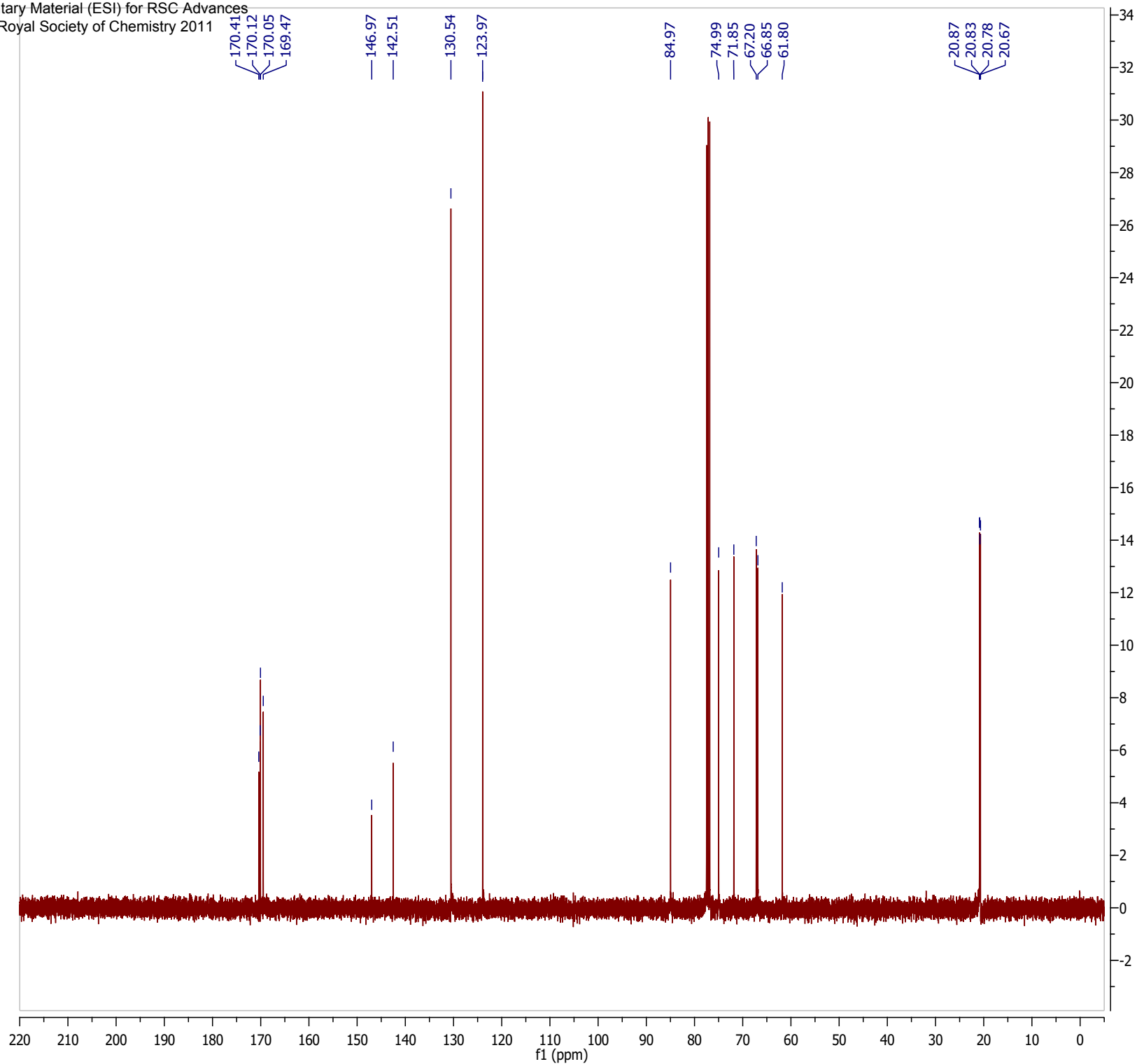
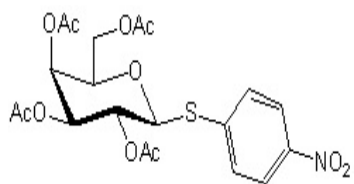
Parameter	Value (f2, f1)
1 Spectrometer	nmr
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	36
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1280
10 Acquisition Date	2010-08-12T14:52:29
11 Modification Date	2010-08-12T14:25:38
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3882.0, 24125.5)
14 Lowest Frequency	(-439.7, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(497, 200)
17 Spectral Size	(1024, 1024)



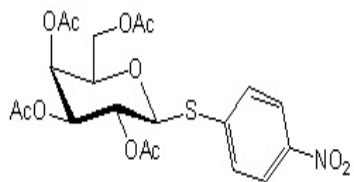


Parameter	Value
1 Spectrometer	nmr
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	32
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-08-11T17:05:15
11 Modification Date	2010-08-11T16:05:50
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-802.5
15 Nucleus	1H
16 Acquired Size	13132
17 Spectral Size	32768

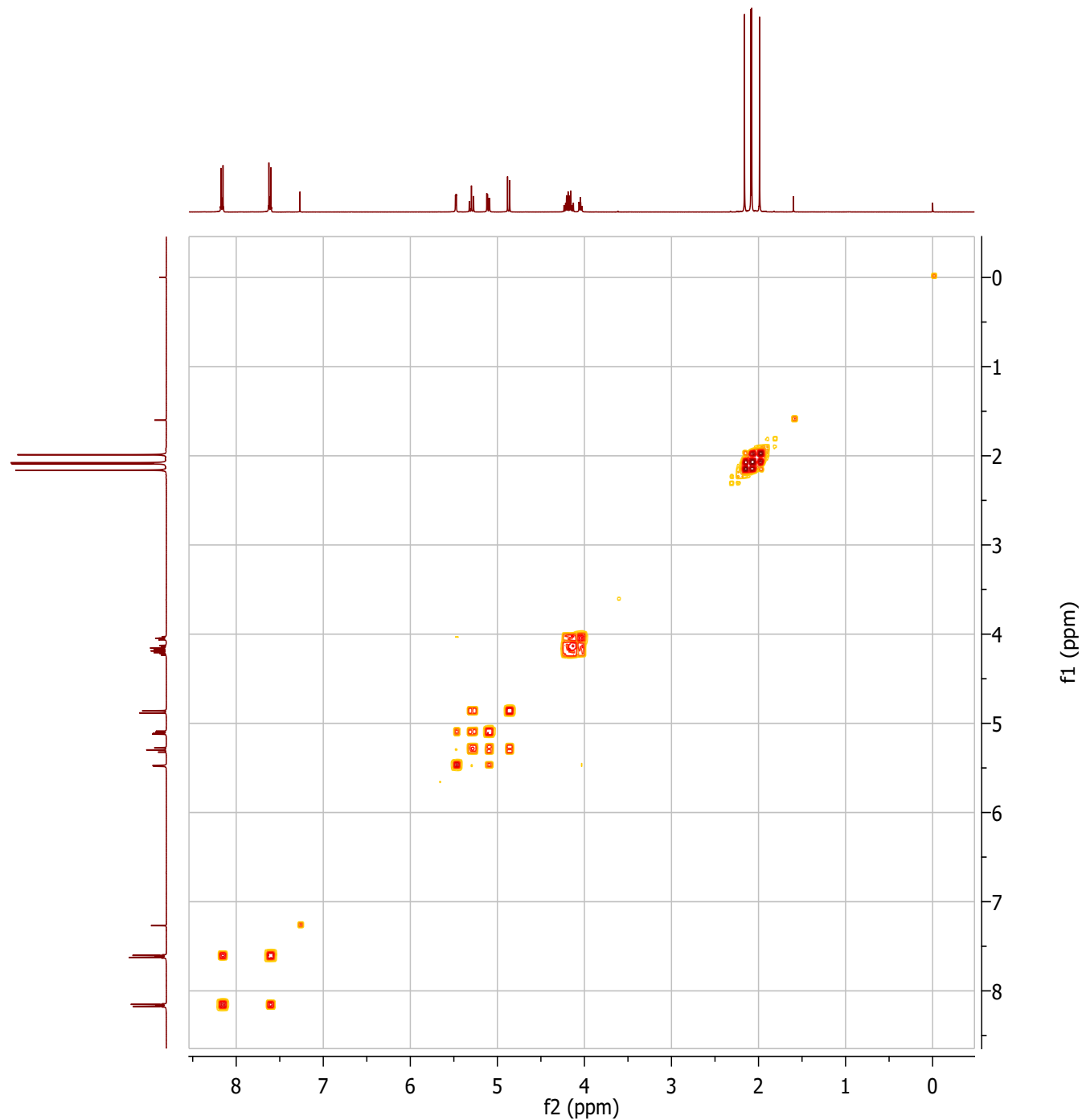


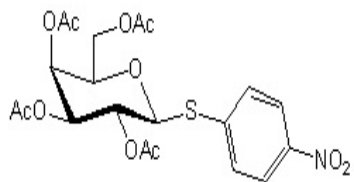


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-08-11T17:19:12
11 Modification Date	2010-08-11T16:38:54
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	13C
16 Acquired Size	31875
17 Spectral Size	65536

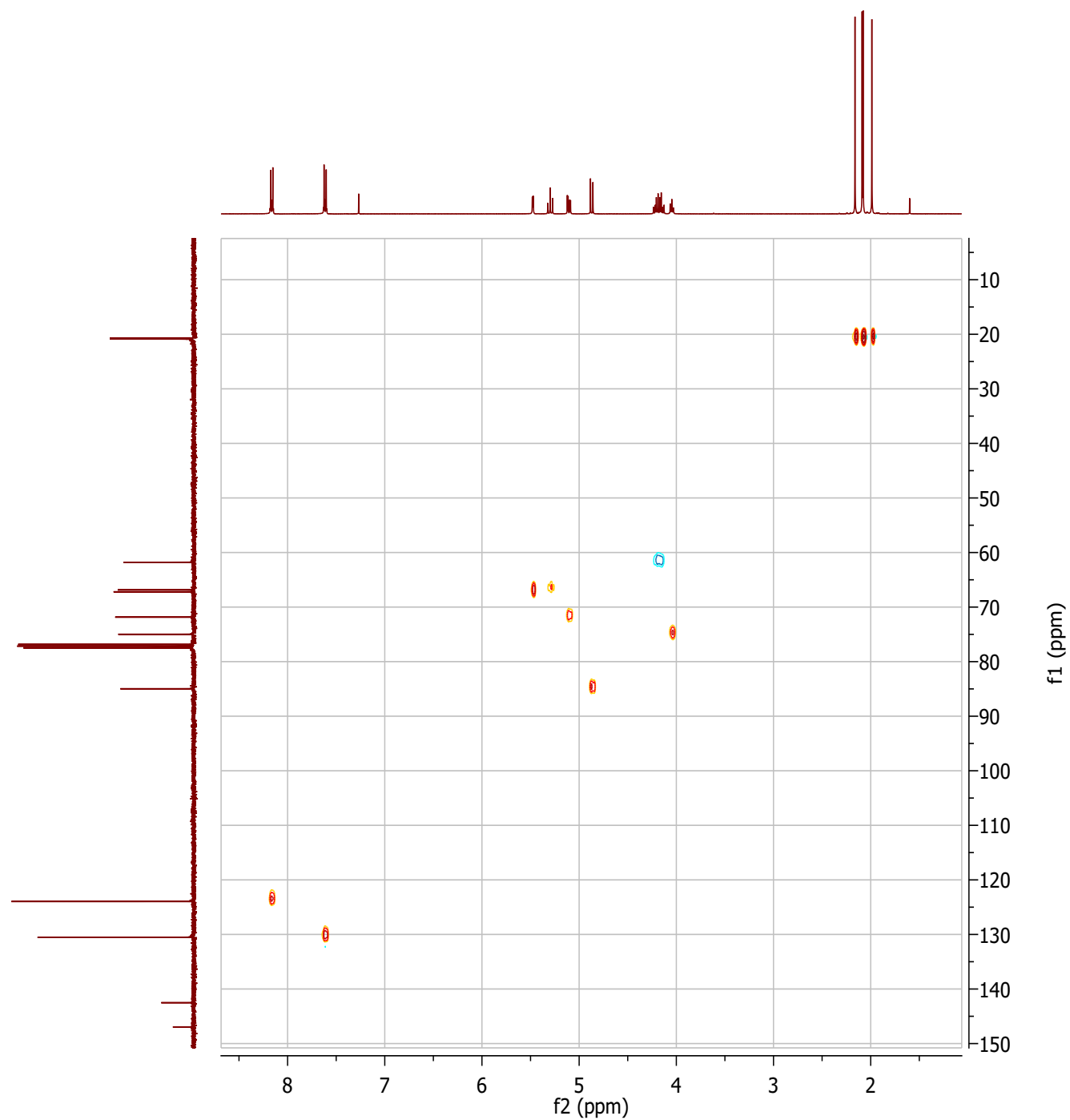


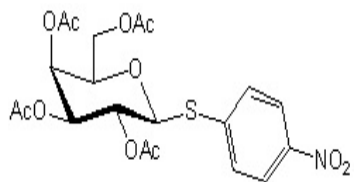
Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	32
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.2441
10 Acquisition Date	2010-08-11T17:40:42
11 Modification Date	2010-08-11T16:43:48
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(4194.6, 4194.6)
14 Lowest Frequency	(-466.7, -466.7)
15 Nucleus	(1H, 1H)
16 Acquired Size	(1024, 128)
17 Spectral Size	(1024, 1024)



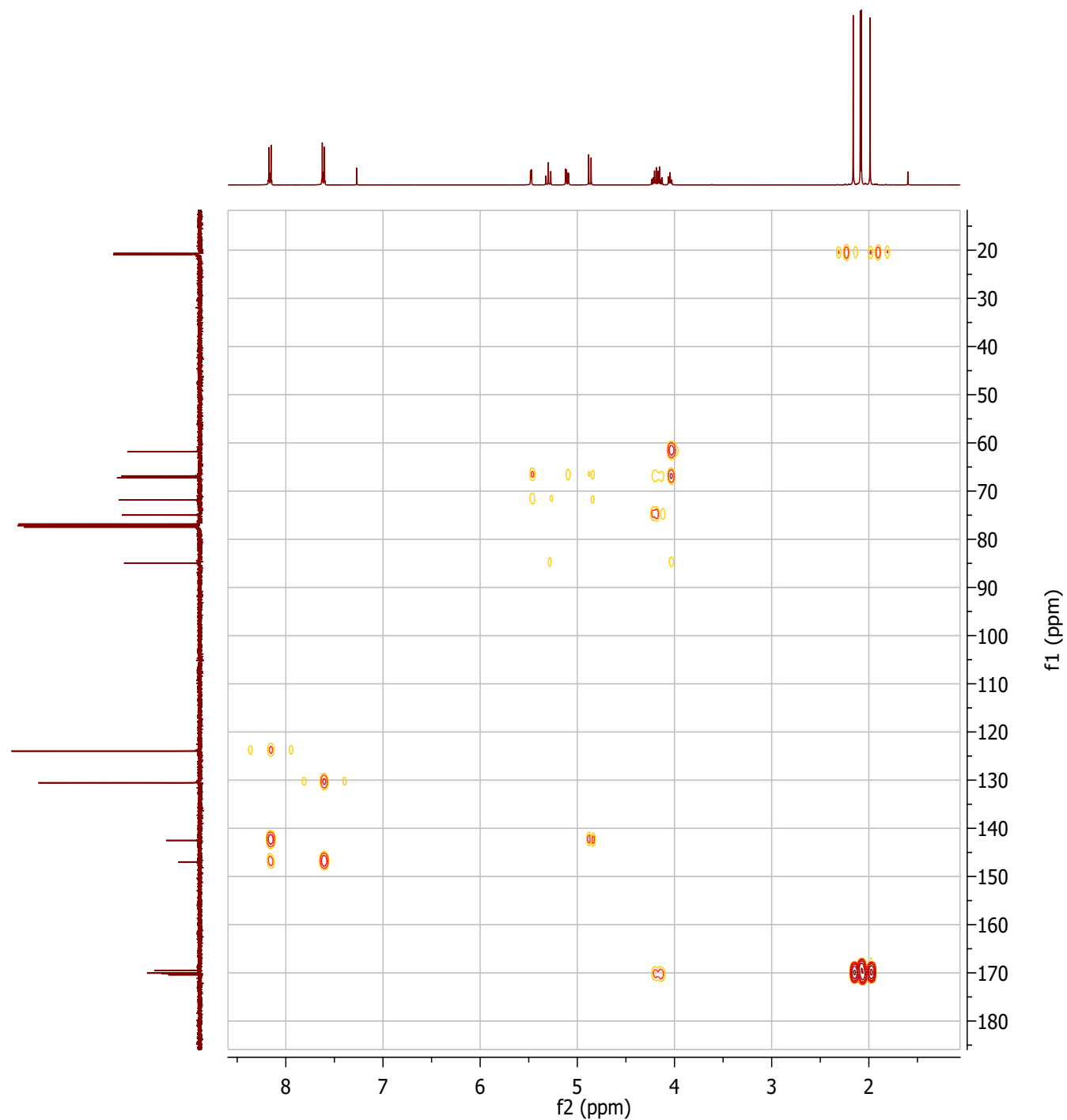


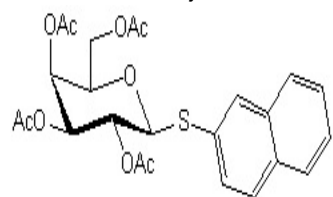
Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	32
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1993
10 Acquisition Date	2010-08-11T17:43:49
11 Modification Date	2010-08-11T16:55:10
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(4194.6, 24125.5)
14 Lowest Frequency	(-466.7, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(836, 128)
17 Spectral Size	(1024, 1024)



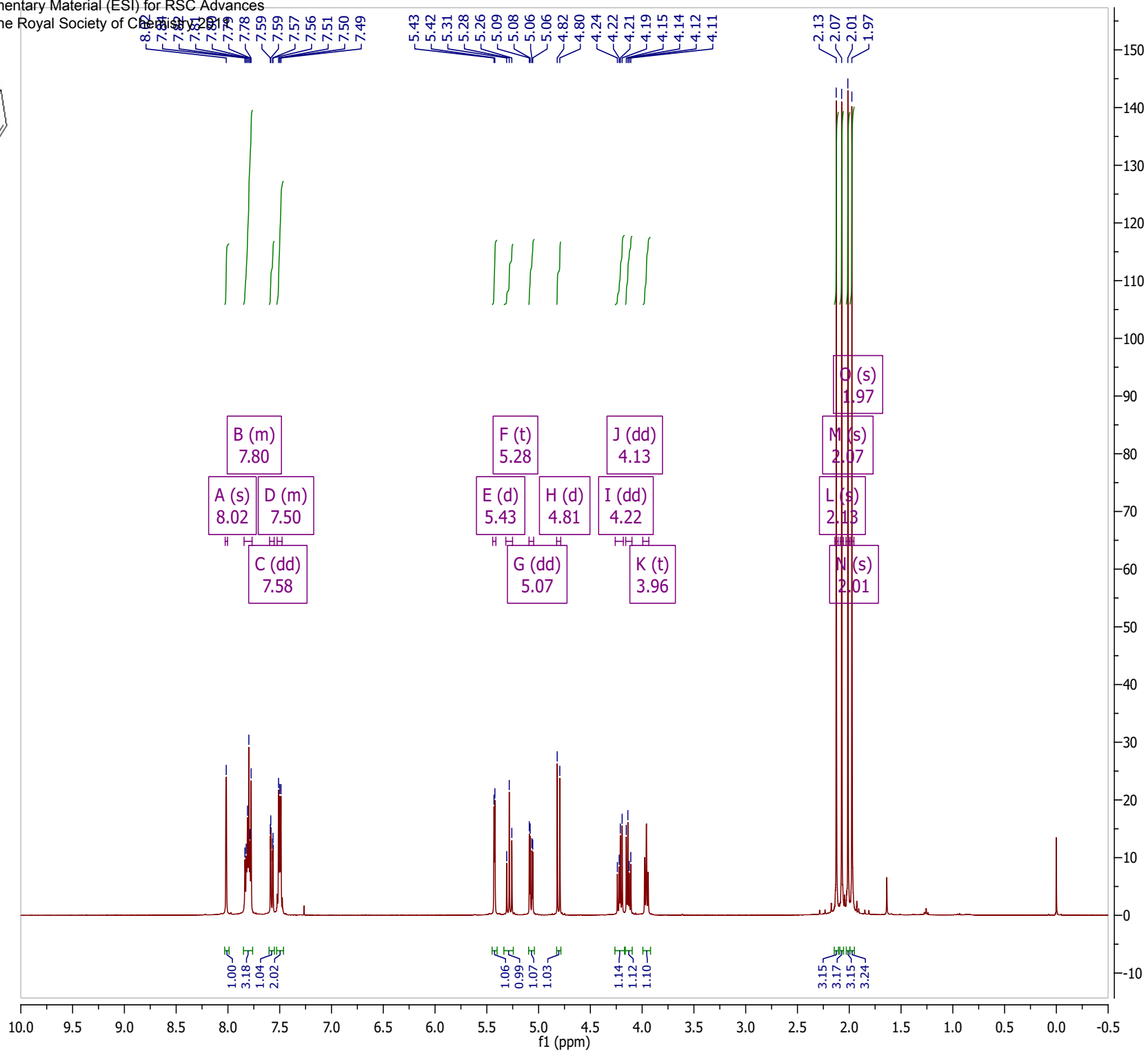


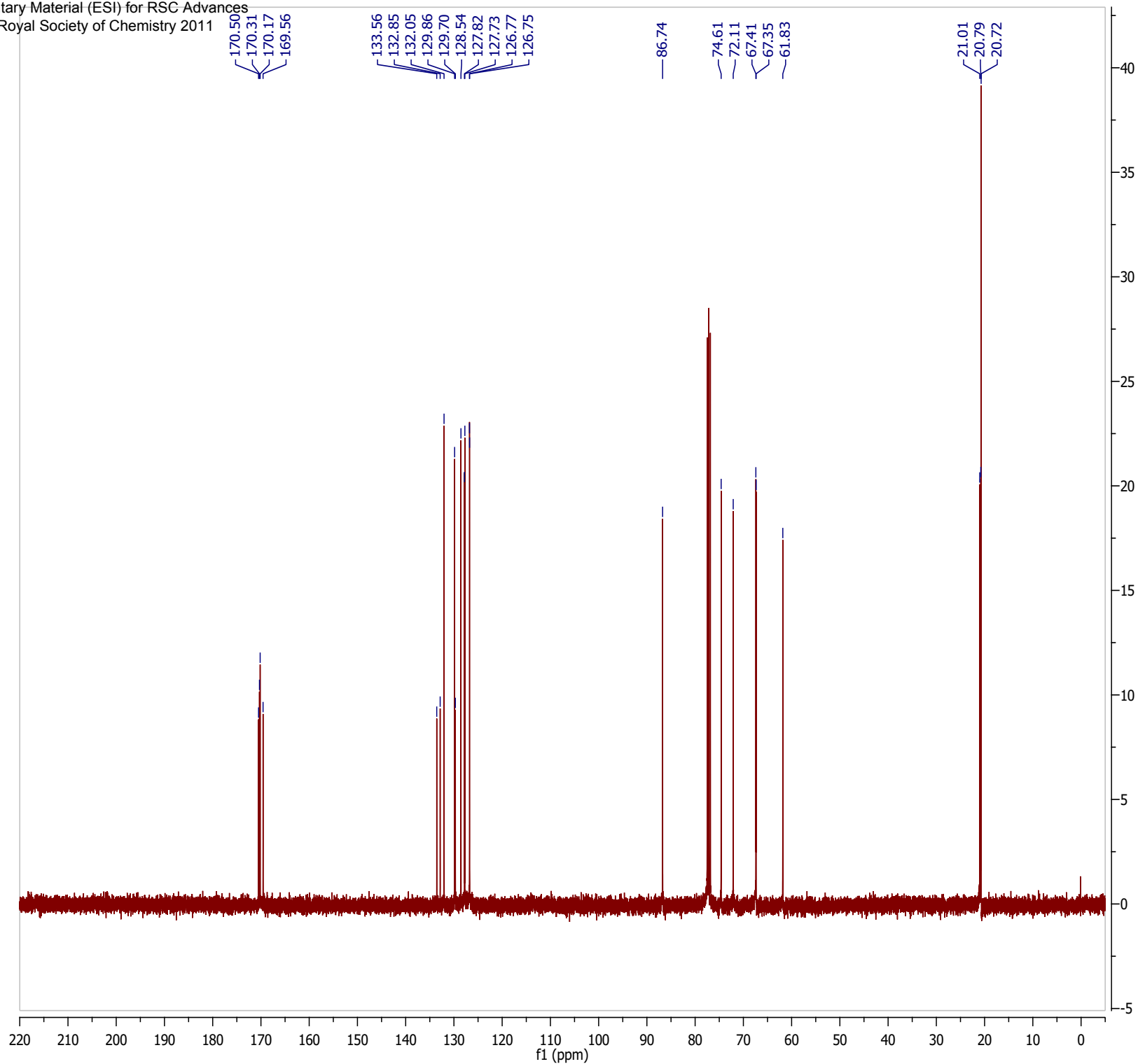
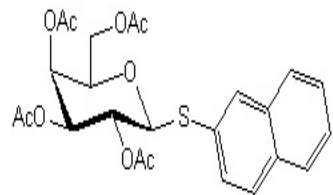
Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	32
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1280
10 Acquisition Date	2010-08-11T17:55:11
11 Modification Date	2010-08-11T17:28:18
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(4194.6, 24125.5)
14 Lowest Frequency	(-466.7, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(537, 200)
17 Spectral Size	(1024, 1024)



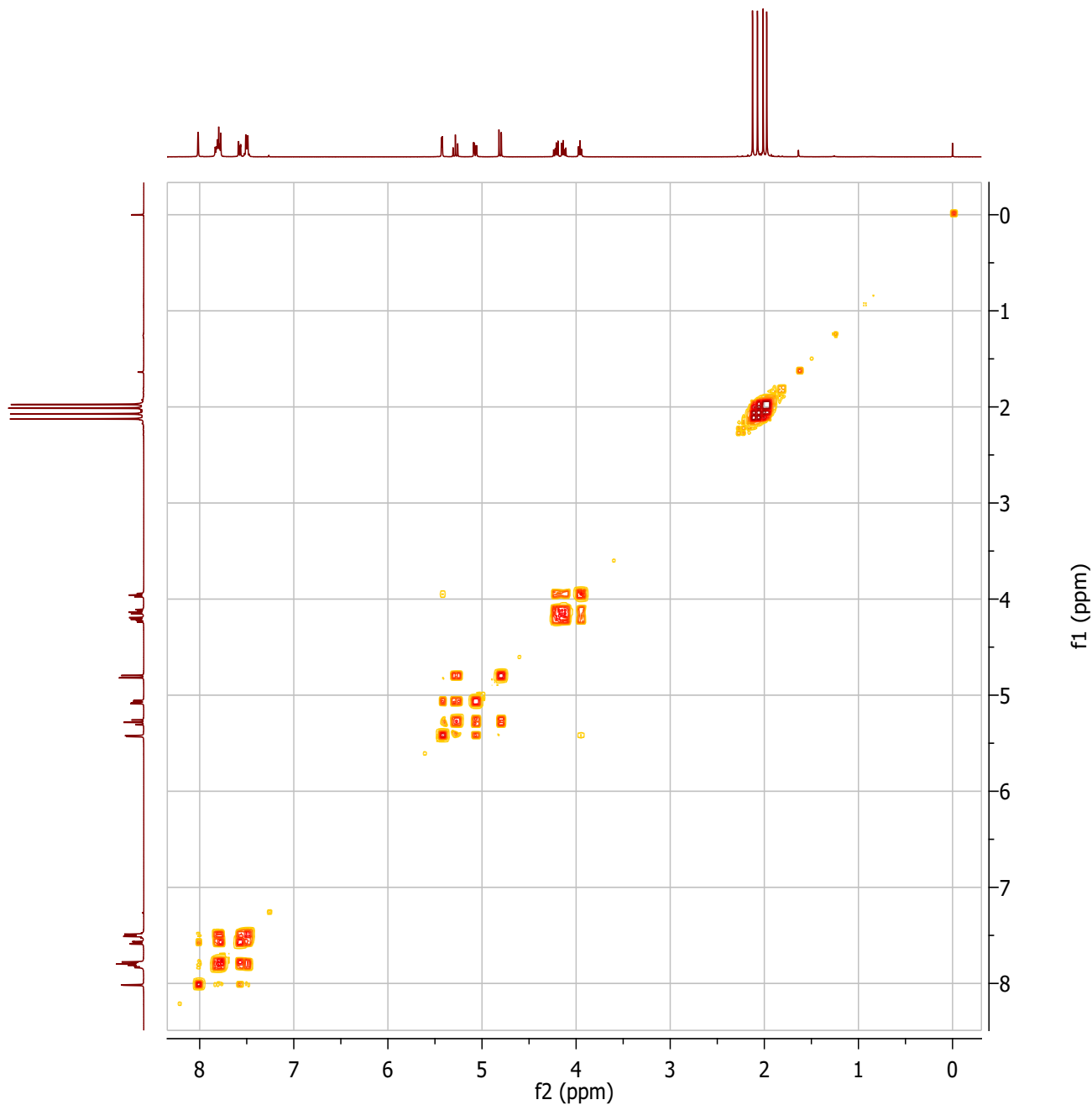
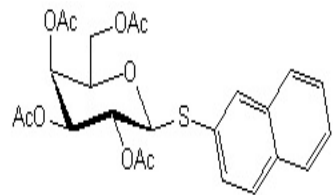


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-09-17T17:26:34
11 Modification Date	2010-09-17T16:27:10
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-803.6
15 Nucleus	¹ H
16 Acquired Size	13132
17 Spectral Size	32768

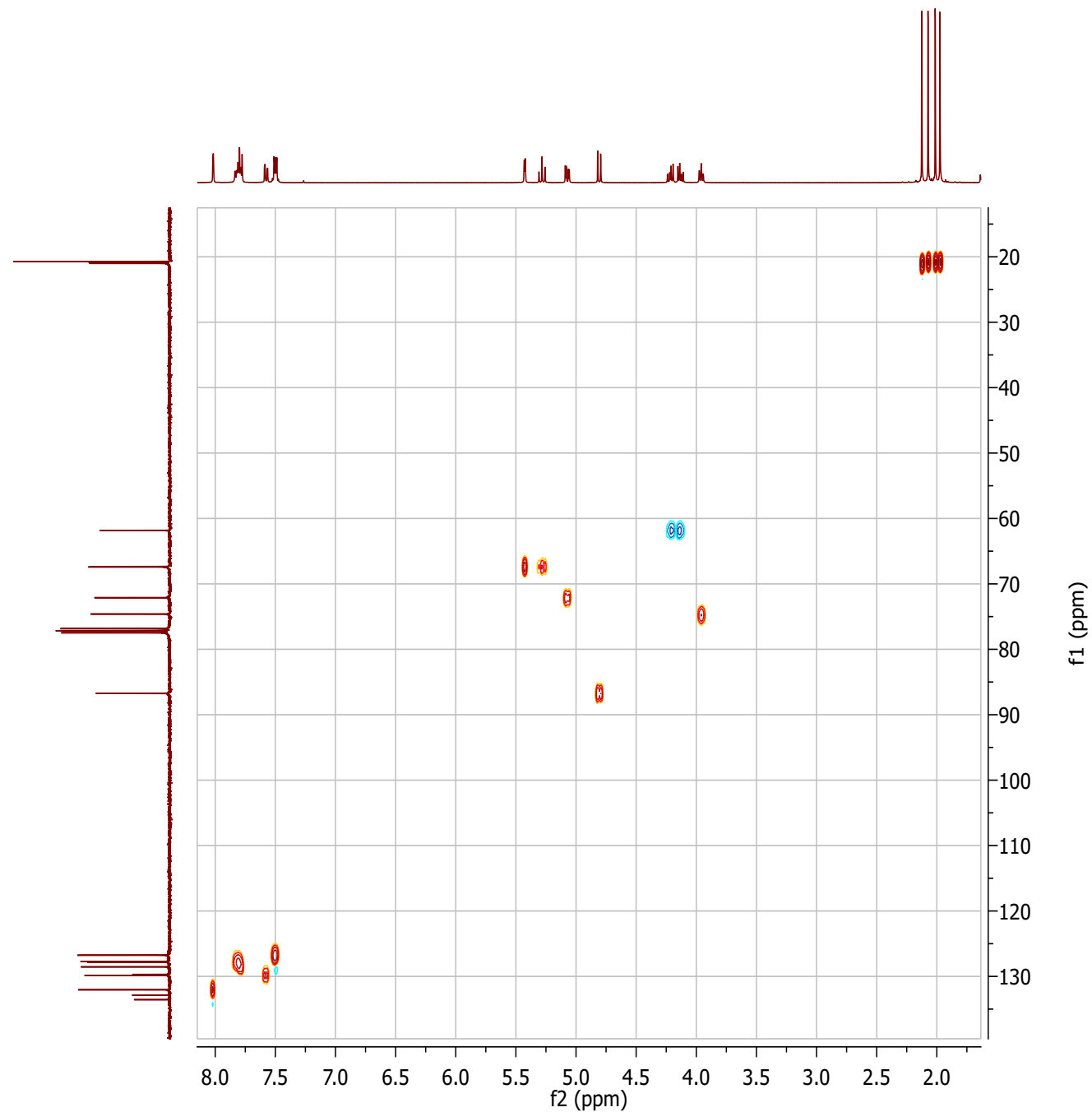
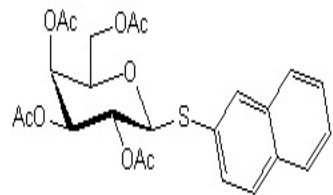




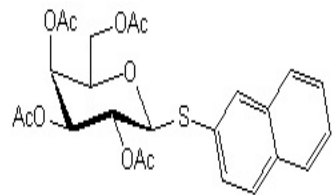
Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-09-17T17:29:19
11 Modification Date	2010-09-17T16:49:01
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	¹³ C
16 Acquired Size	31875
17 Spectral Size	65536



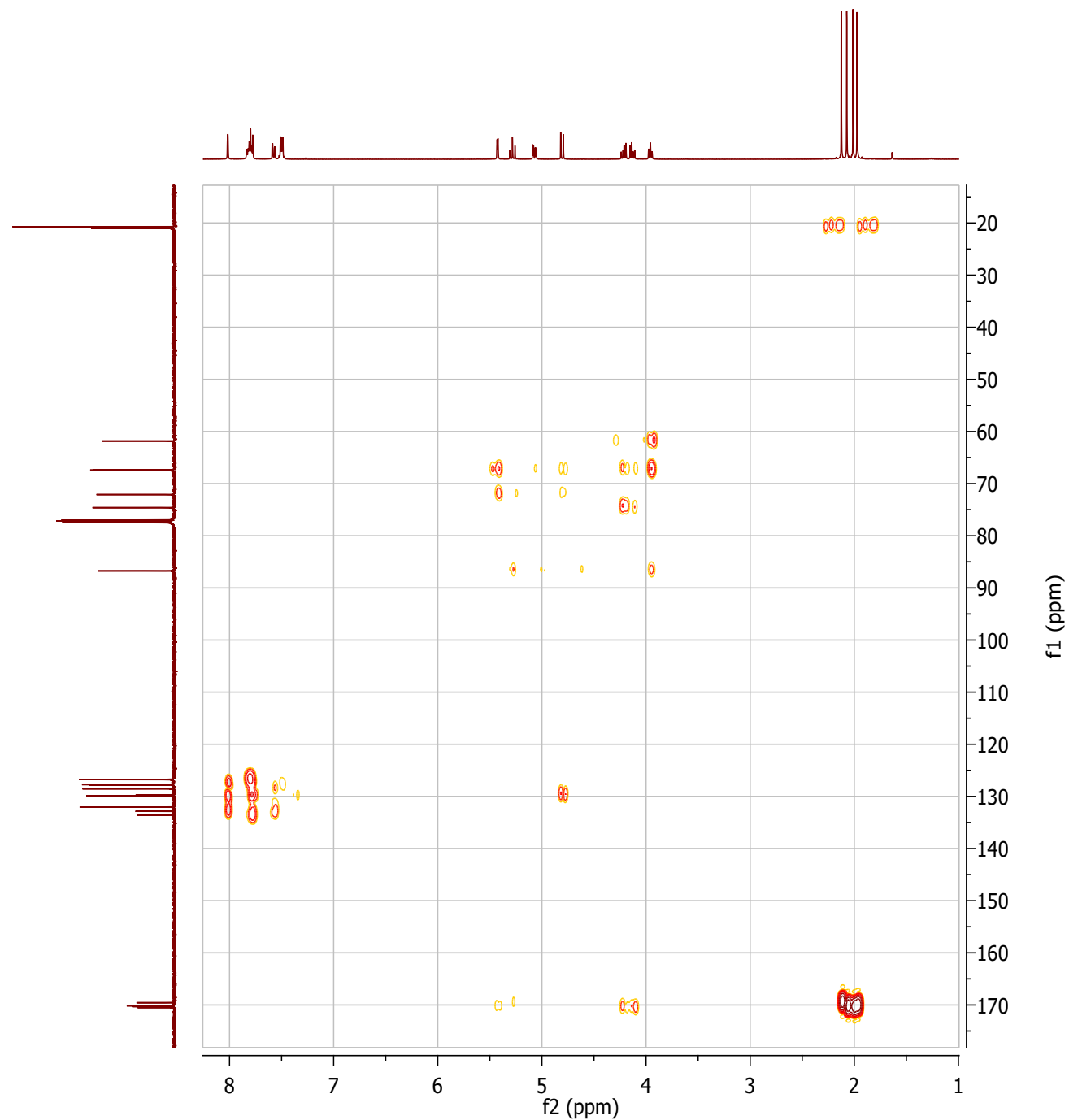
Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.2490
10 Acquisition Date	2010-09-17T17:50:36
11 Modification Date	2010-09-17T16:53:43
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(4111.8, 4111.8)
14 Lowest Frequency	(-463.1, -463.1)
15 Nucleus	(1H, 1H)
16 Acquired Size	(1024, 128)
17 Spectral Size	(1024, 1024)

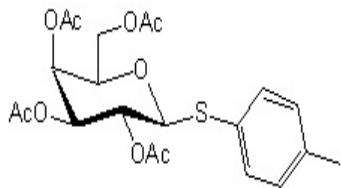


Parameter	Value (f2, f1)
1 Spectrometer	vnmr5
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1994
10 Acquisition Date	2010-09-17T17:53:43
11 Modification Date	2010-09-17T17:05:05
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(4111.8, 24125.5)
14 Lowest Frequency	(-463.1, -1506.8)
15 Nucleus	(^1H , ^{13}C)
16 Acquired Size	(820, 128)
17 Spectral Size	(1024, 1024)

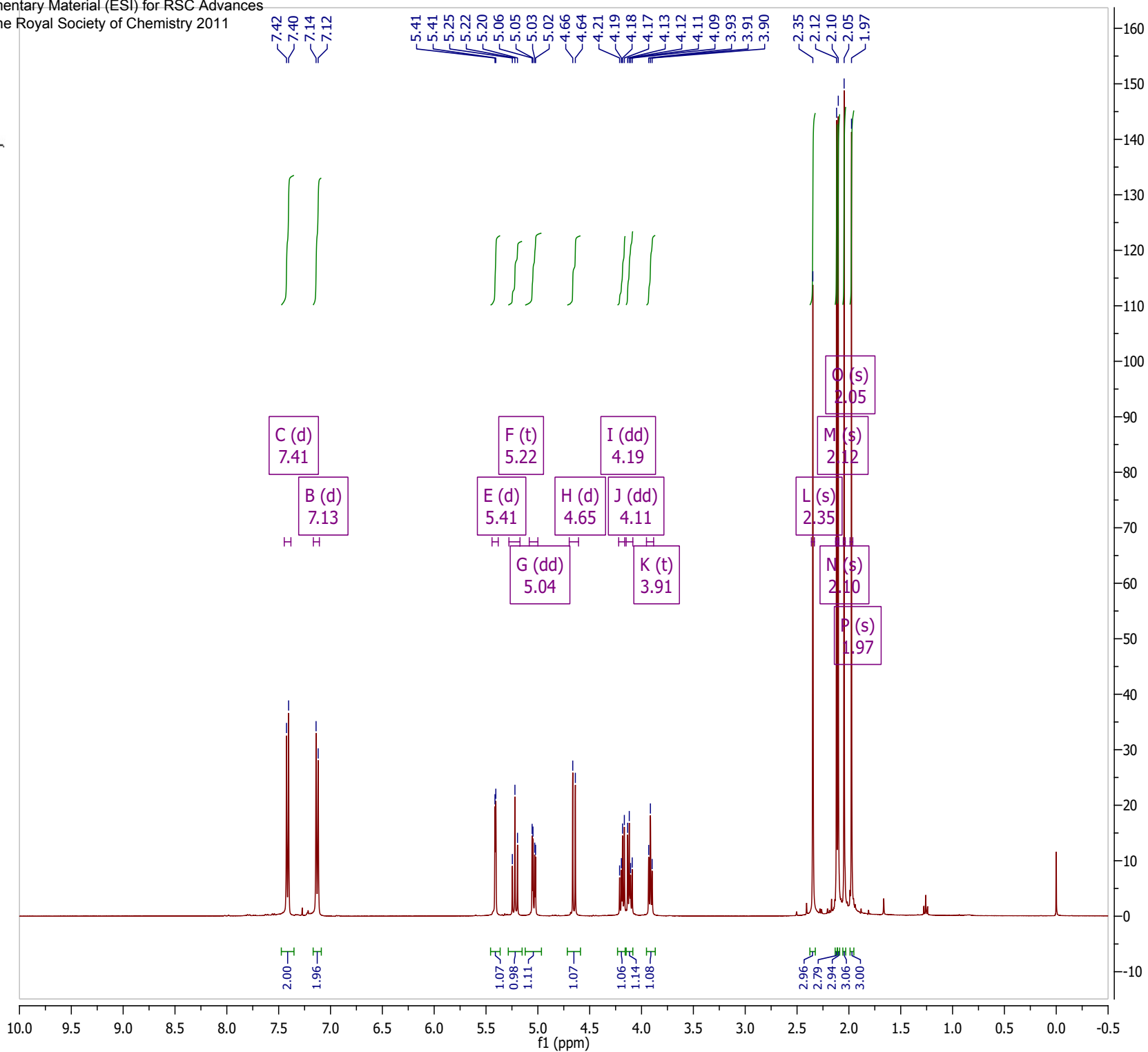


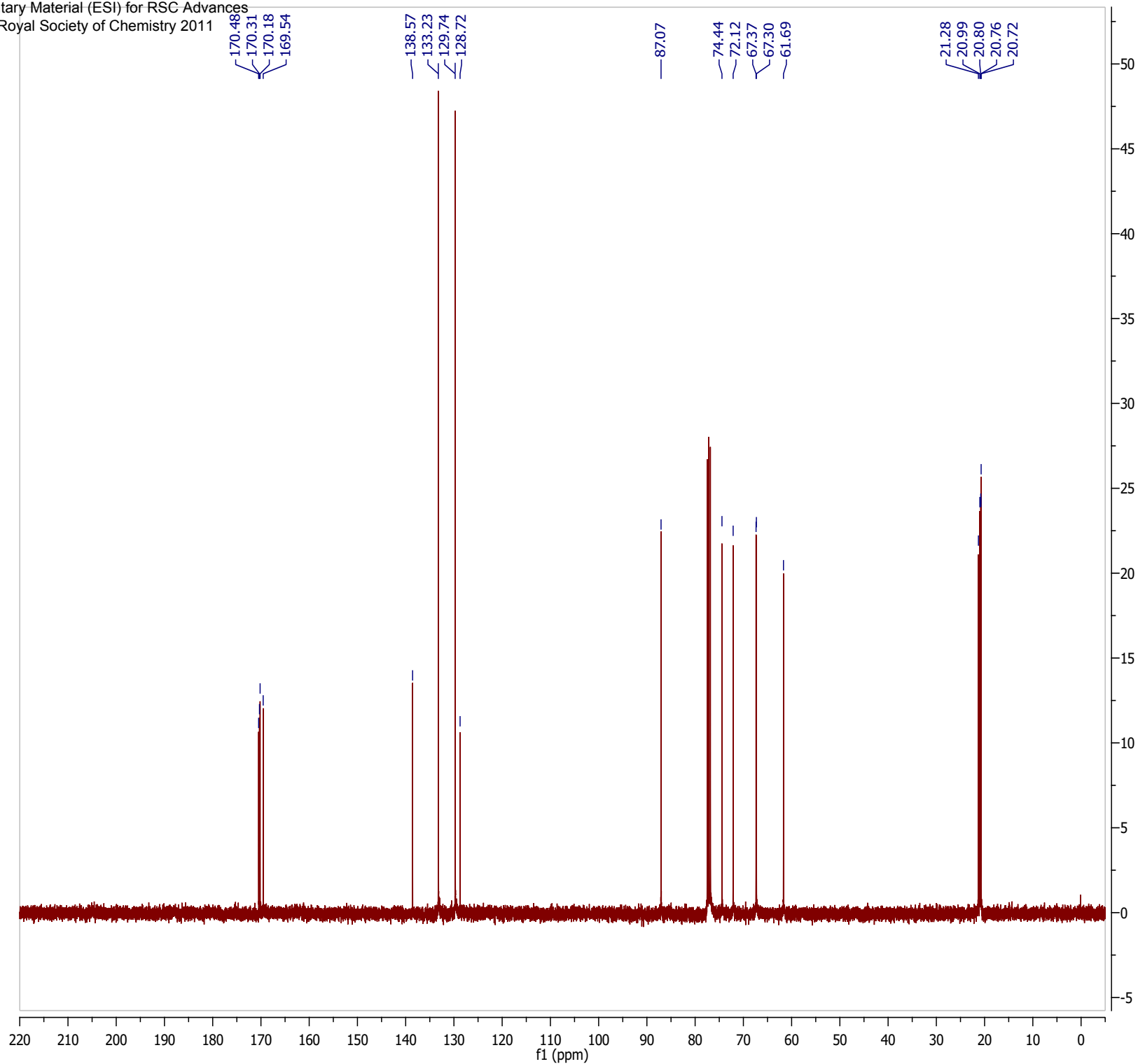
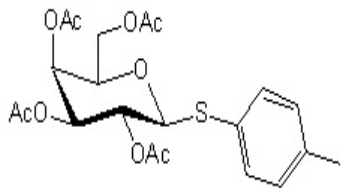
Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1279
10 Acquisition Date	2010-09-17T18:05:05
11 Modification Date	2010-09-17T17:38:12
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(4111.8, 24125.5)
14 Lowest Frequency	(-463.1, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(526, 200)
17 Spectral Size	(1024, 1024)



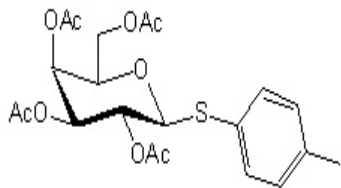


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-09-20T20:24:36
11 Modification Date	2010-09-20T19:25:12
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-800.7
15 Nucleus	¹ H
16 Acquired Size	13132
17 Spectral Size	32768

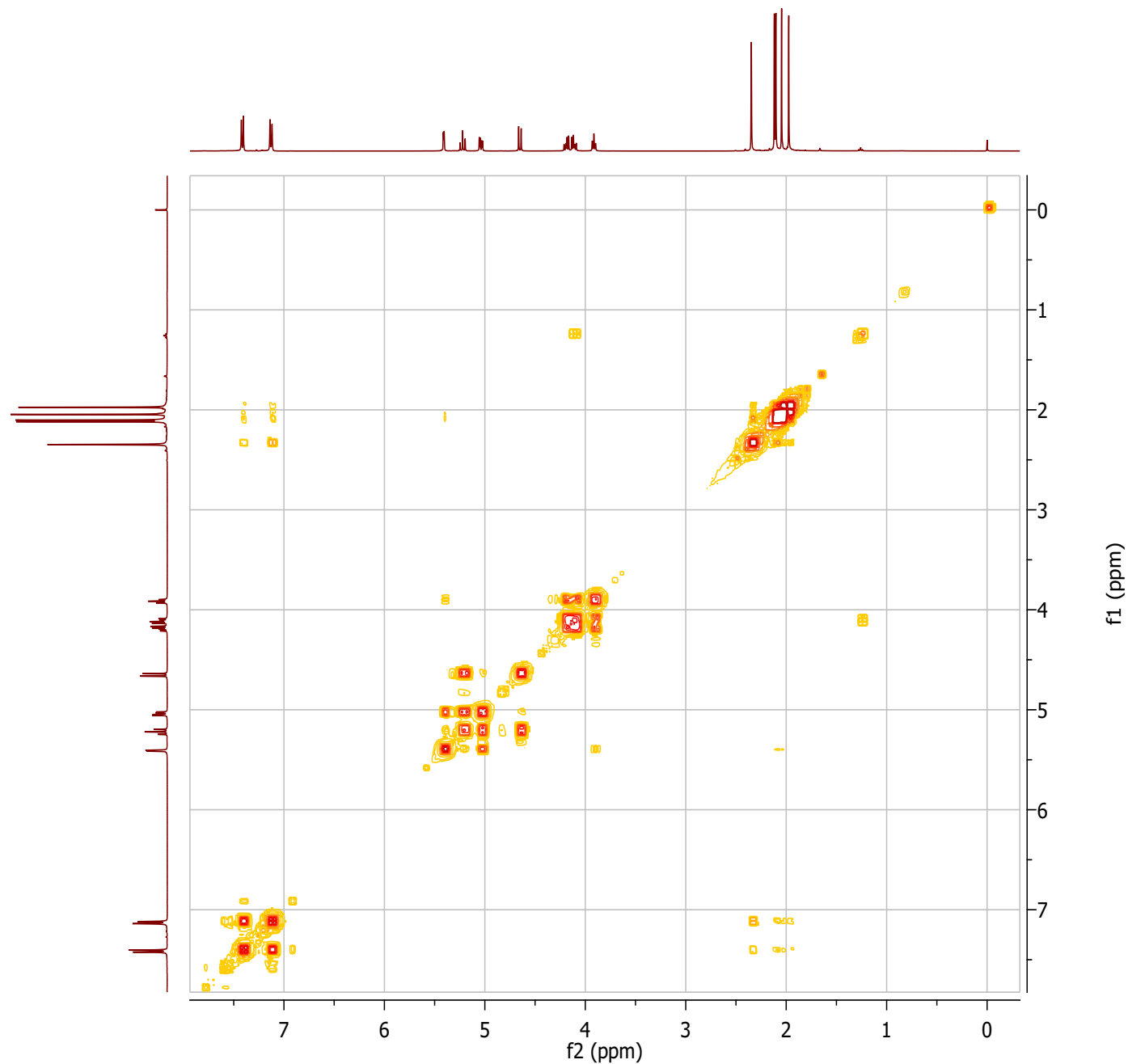


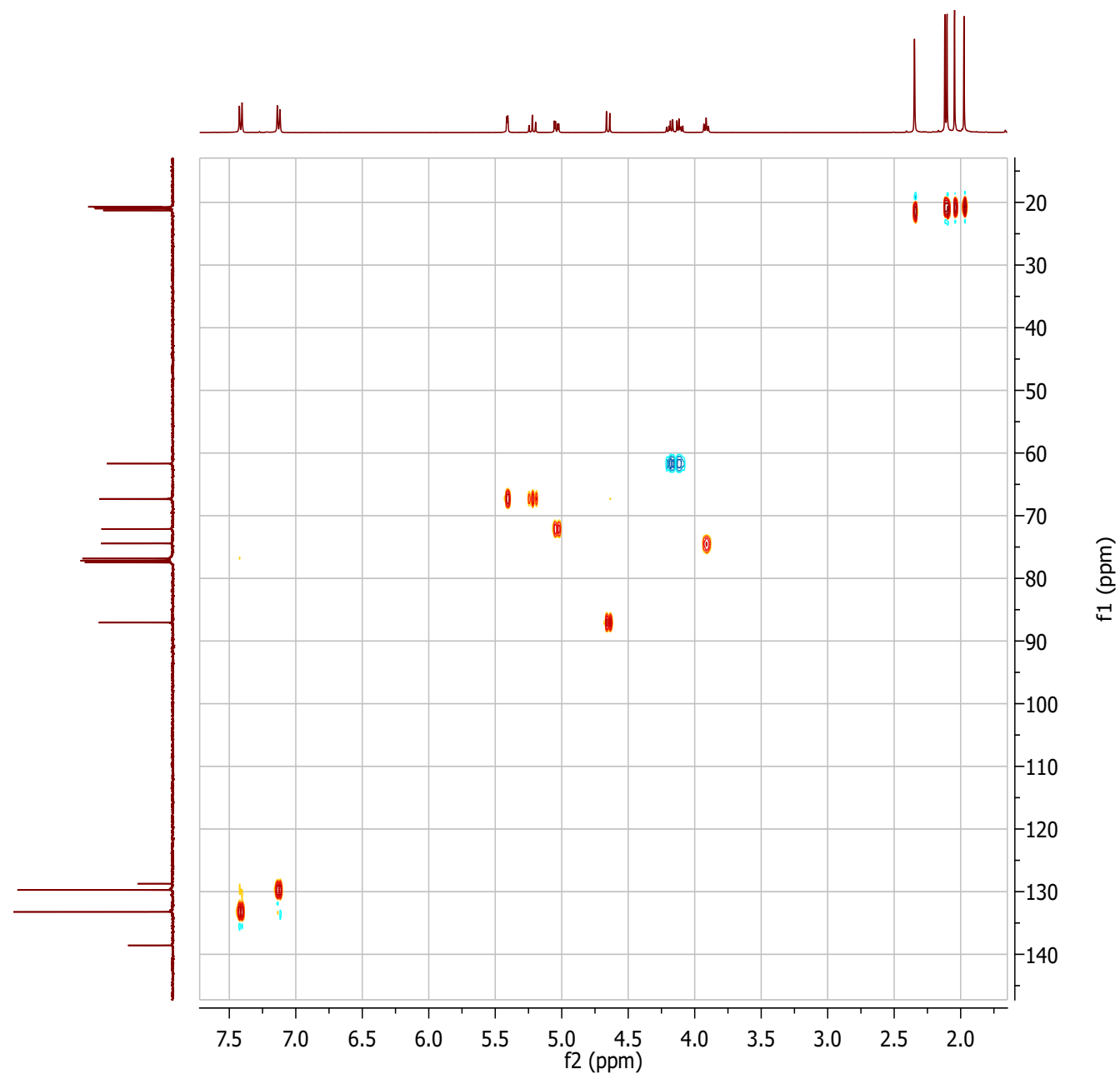
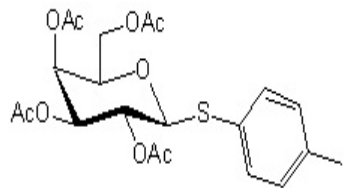


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-09-20T20:33:29
11 Modification Date	2010-09-20T19:53:13
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	¹³ C
16 Acquired Size	31875
17 Spectral Size	65536

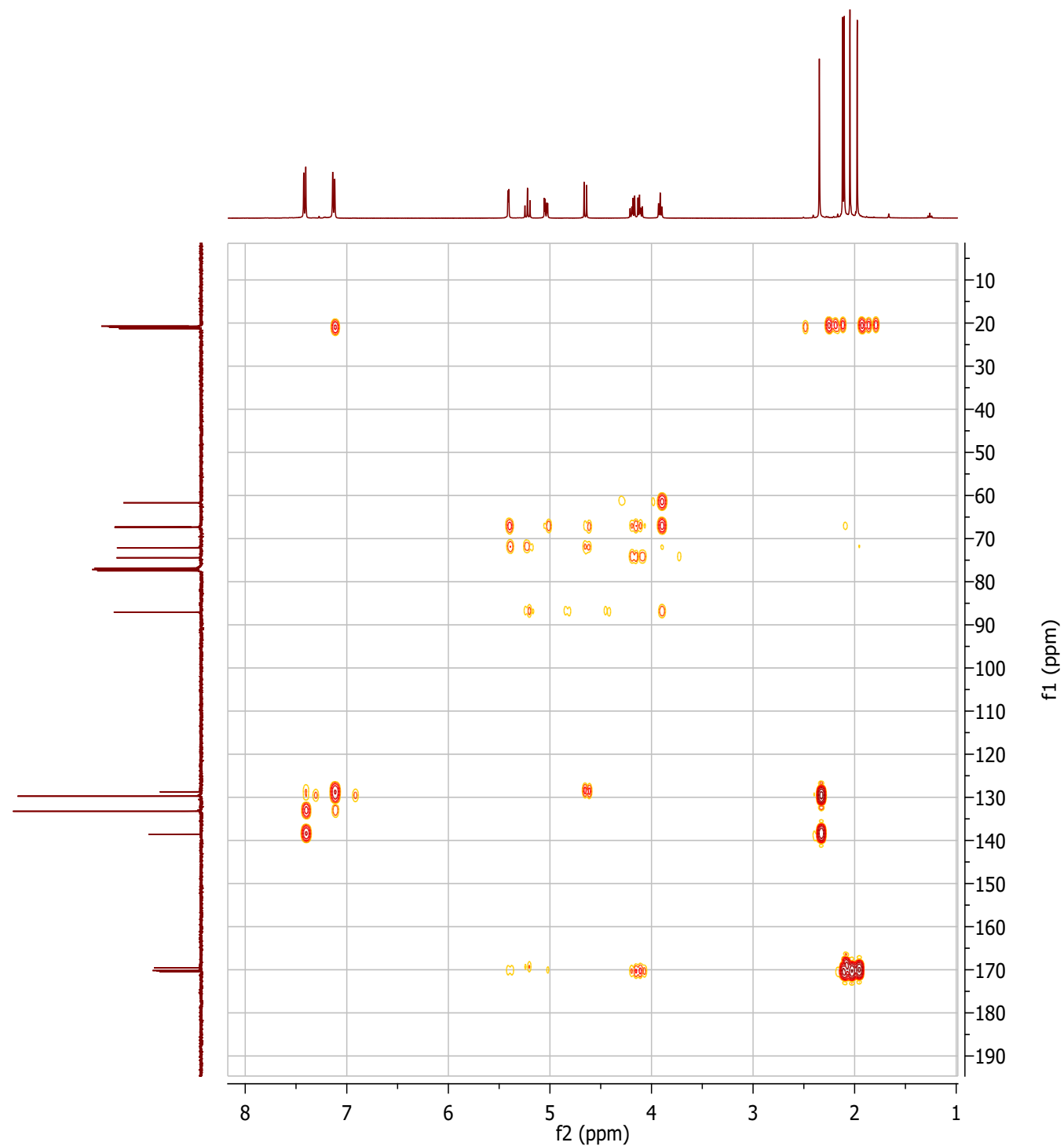
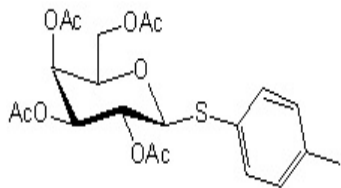


Parameter	Value (f2, f1)
1 Spectrometer	vnmr5
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1352
10 Acquisition Date	2010-09-20T20:54:49
11 Modification Date	2010-09-20T19:57:40
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(3787.9, 3787.9)
14 Lowest Frequency	(-415.0, -415.0)
15 Nucleus	(1H, 1H)
16 Acquired Size	(512, 128)
17 Spectral Size	(1024, 1024)

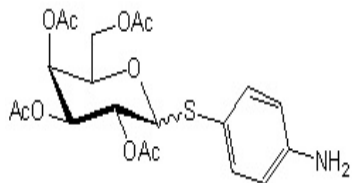




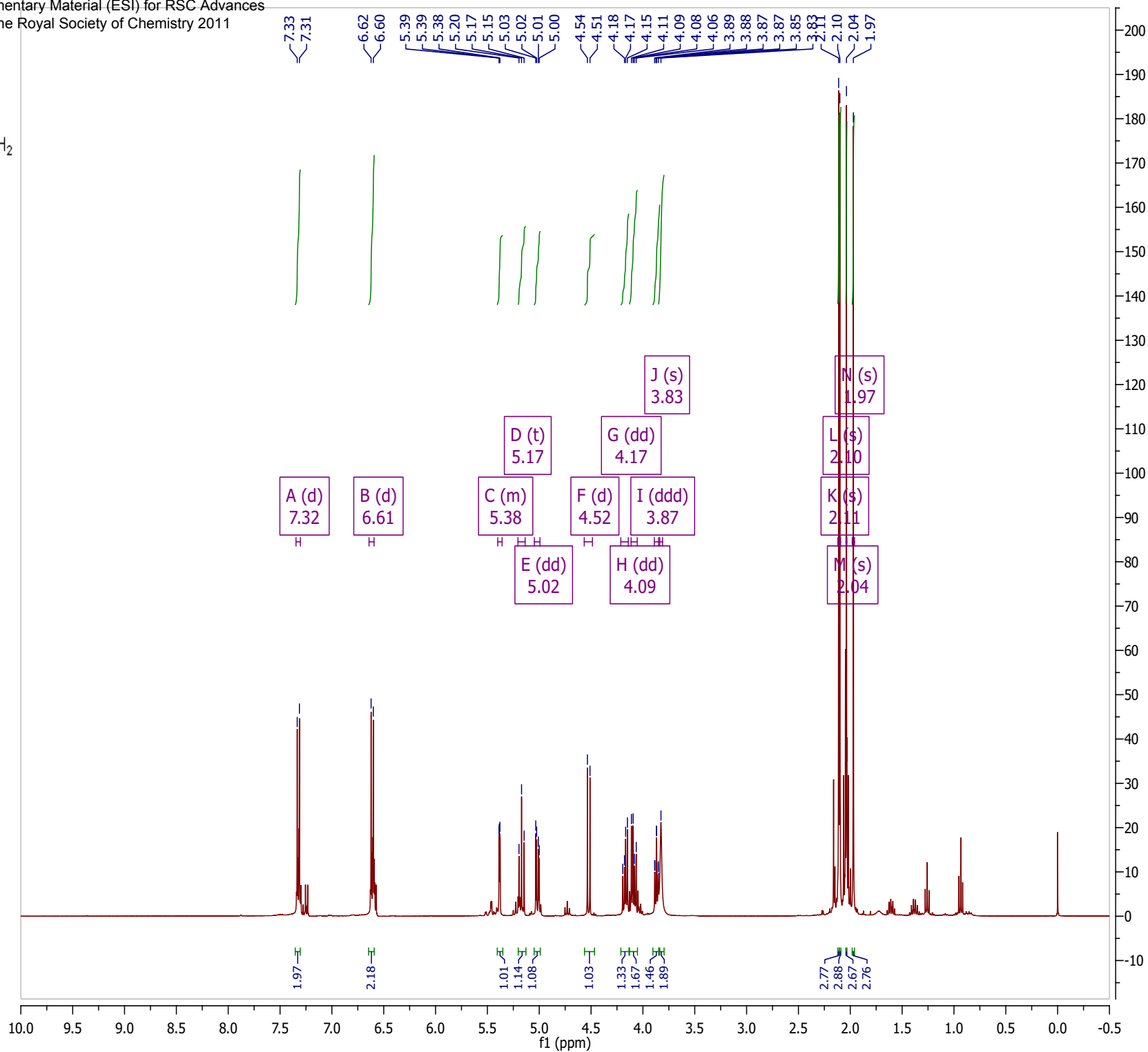
Parameter	Value (f2, f1)
1 Spectrometer	vnmr5
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1993
10 Acquisition Date	2010-09-20T20:57:40
11 Modification Date	2010-09-20T20:09:02
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3787.9, 24125.5)
14 Lowest Frequency	(-415.0, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(755, 128)
17 Spectral Size	(1024, 1024)

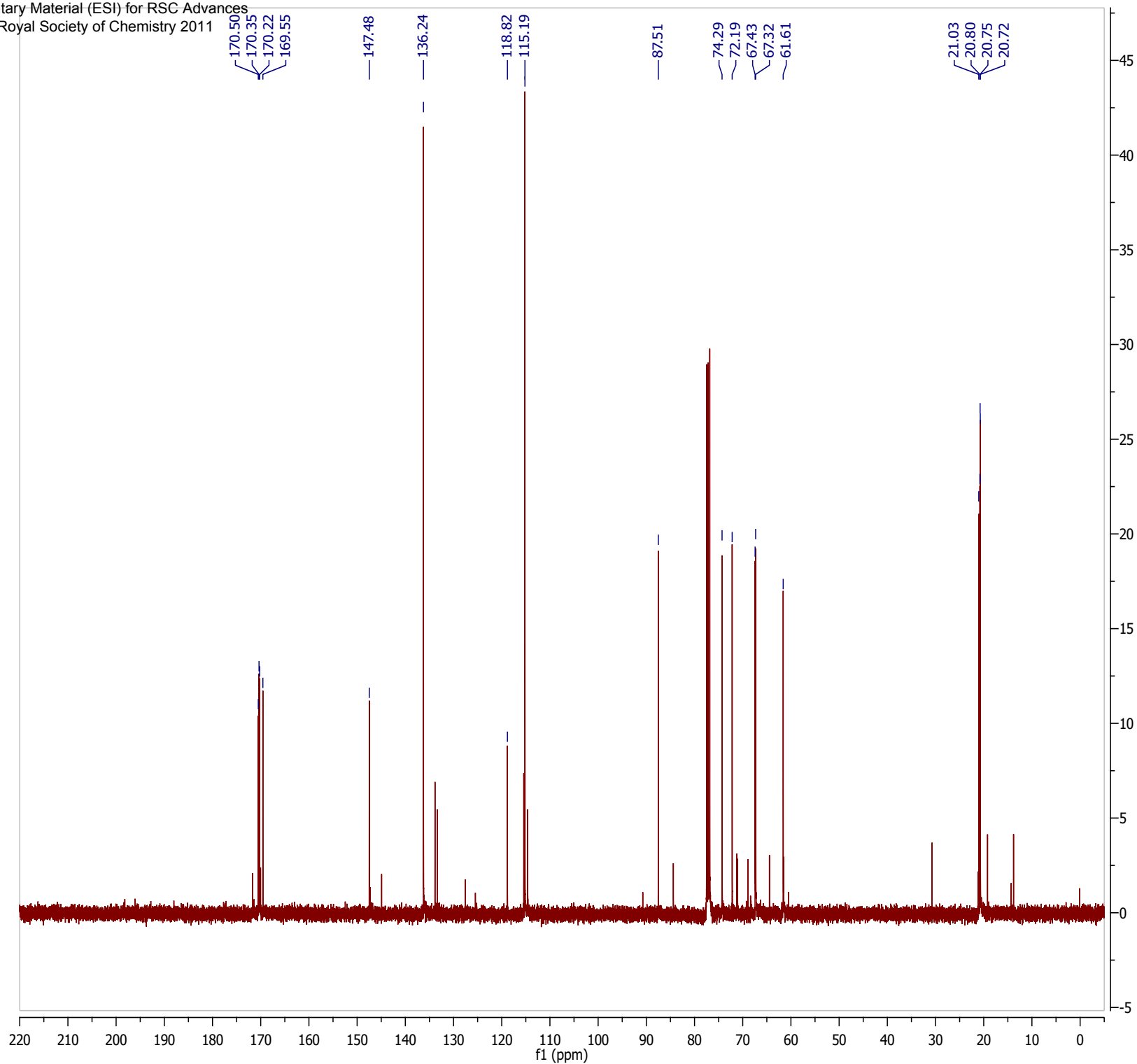
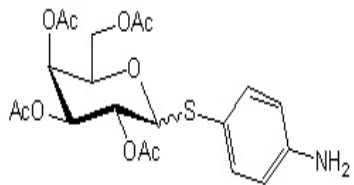


Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1280
10 Acquisition Date	2010-09-20T21:09:03
11 Modification Date	2010-09-20T20:42:11
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3787.9, 24125.5)
14 Lowest Frequency	(-415.0, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(485, 200)
17 Spectral Size	(1024, 1024)

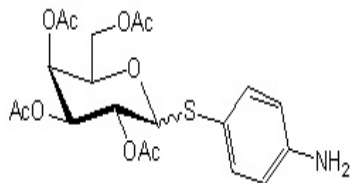


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-09-20T17:43:33
11 Modification Date	2010-09-20T16:44:10
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-799.1
15 Nucleus	¹ H
16 Acquired Size	13132
17 Spectral Size	32768

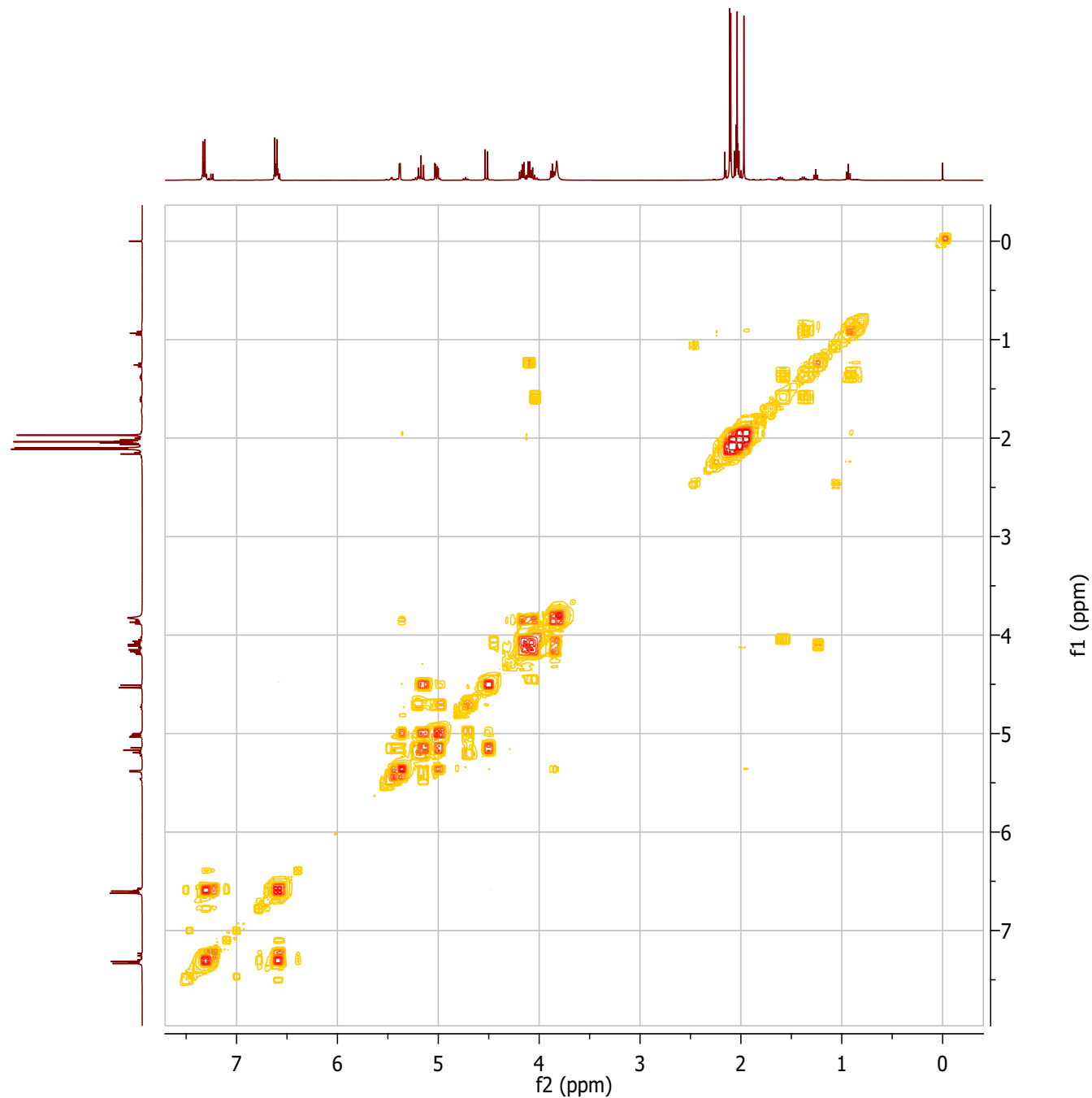


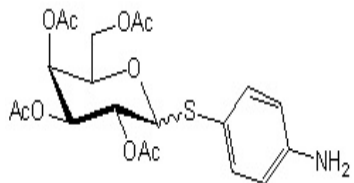


Parameter	Value
1 Spectrometer	nmr
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-09-20T17:46:20
11 Modification Date	2010-09-20T17:06:01
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	¹³ C
16 Acquired Size	31875
17 Spectral Size	65536

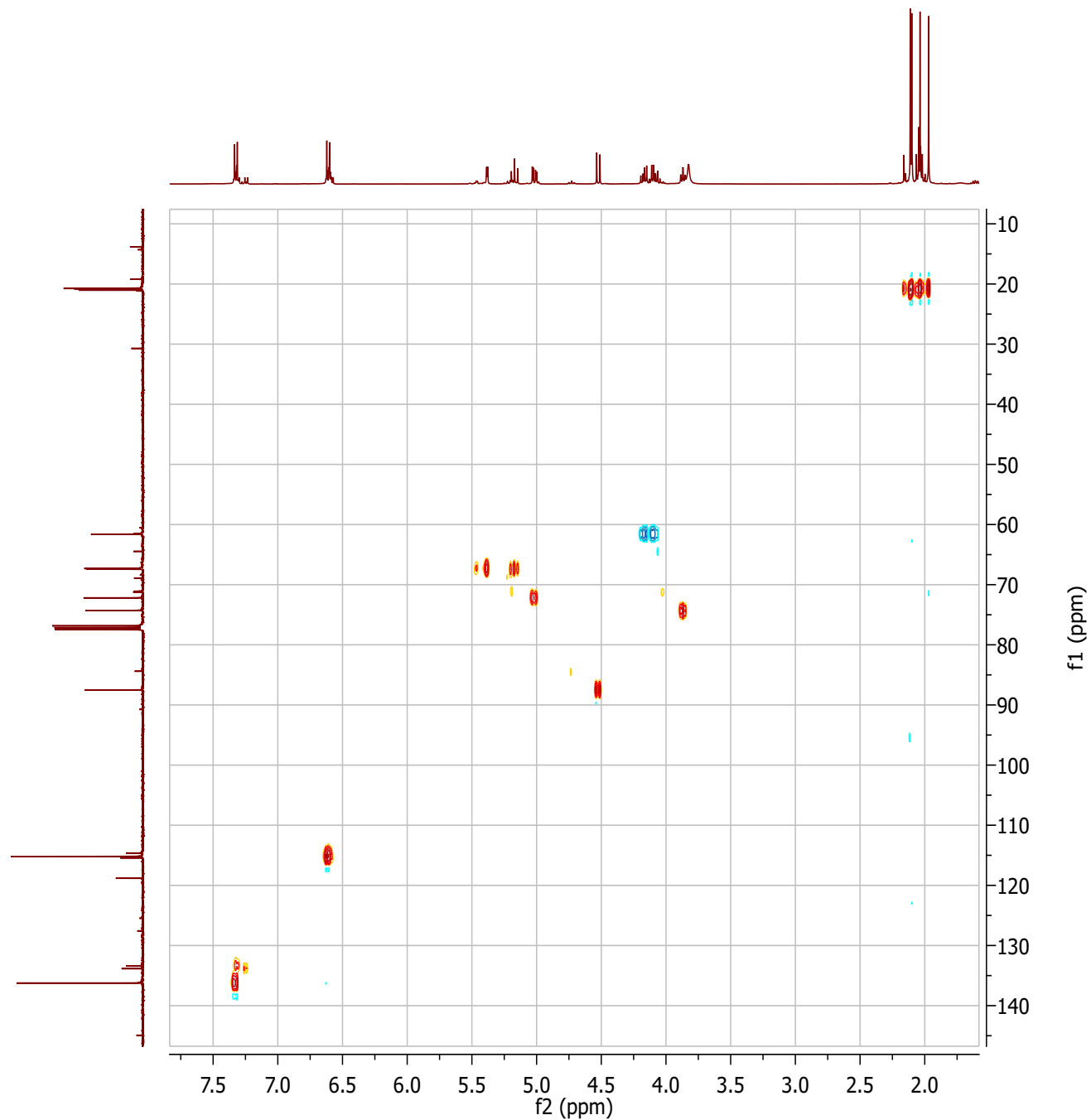


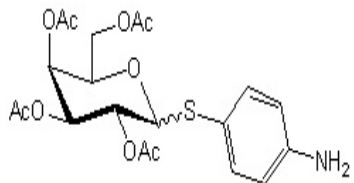
Parameter	Value (f2, f1)
1 Spectrometer	vnmr5
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1343
10 Acquisition Date	2010-09-20T18:07:36
11 Modification Date	2010-09-20T17:10:27
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(3811.0, 3811.0)
14 Lowest Frequency	(-419.1, -419.1)
15 Nucleus	(1H, 1H)
16 Acquired Size	(512, 128)
17 Spectral Size	(1024, 1024)



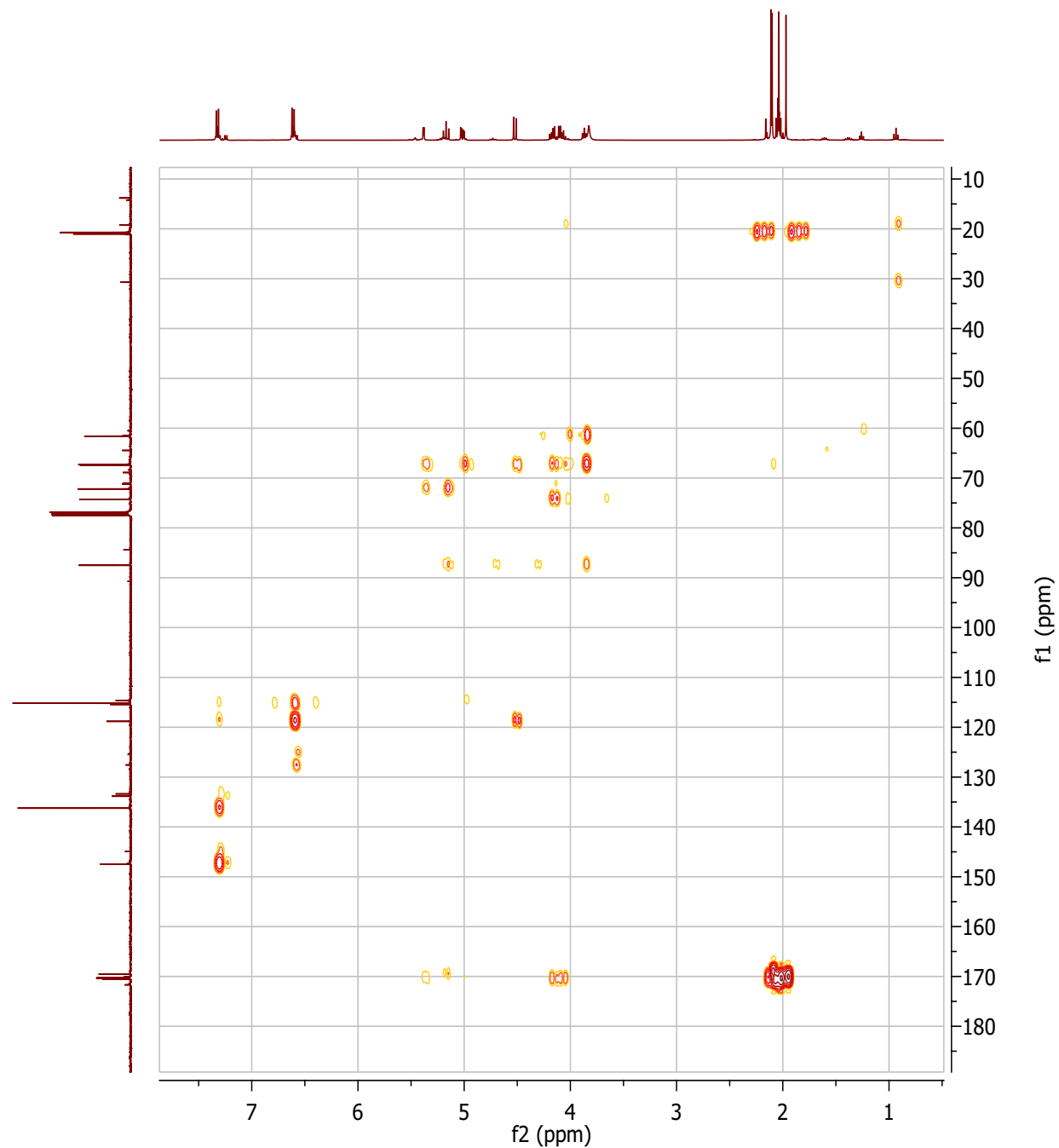


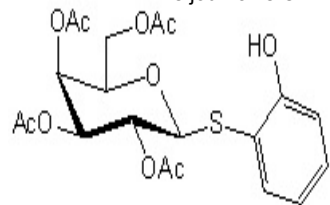
Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1994
10 Acquisition Date	2010-09-20T18:10:27
11 Modification Date	2010-09-20T17:21:49
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3811.0, 24125.5)
14 Lowest Frequency	(-419.1, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(760, 128)
17 Spectral Size	(1024, 1024)



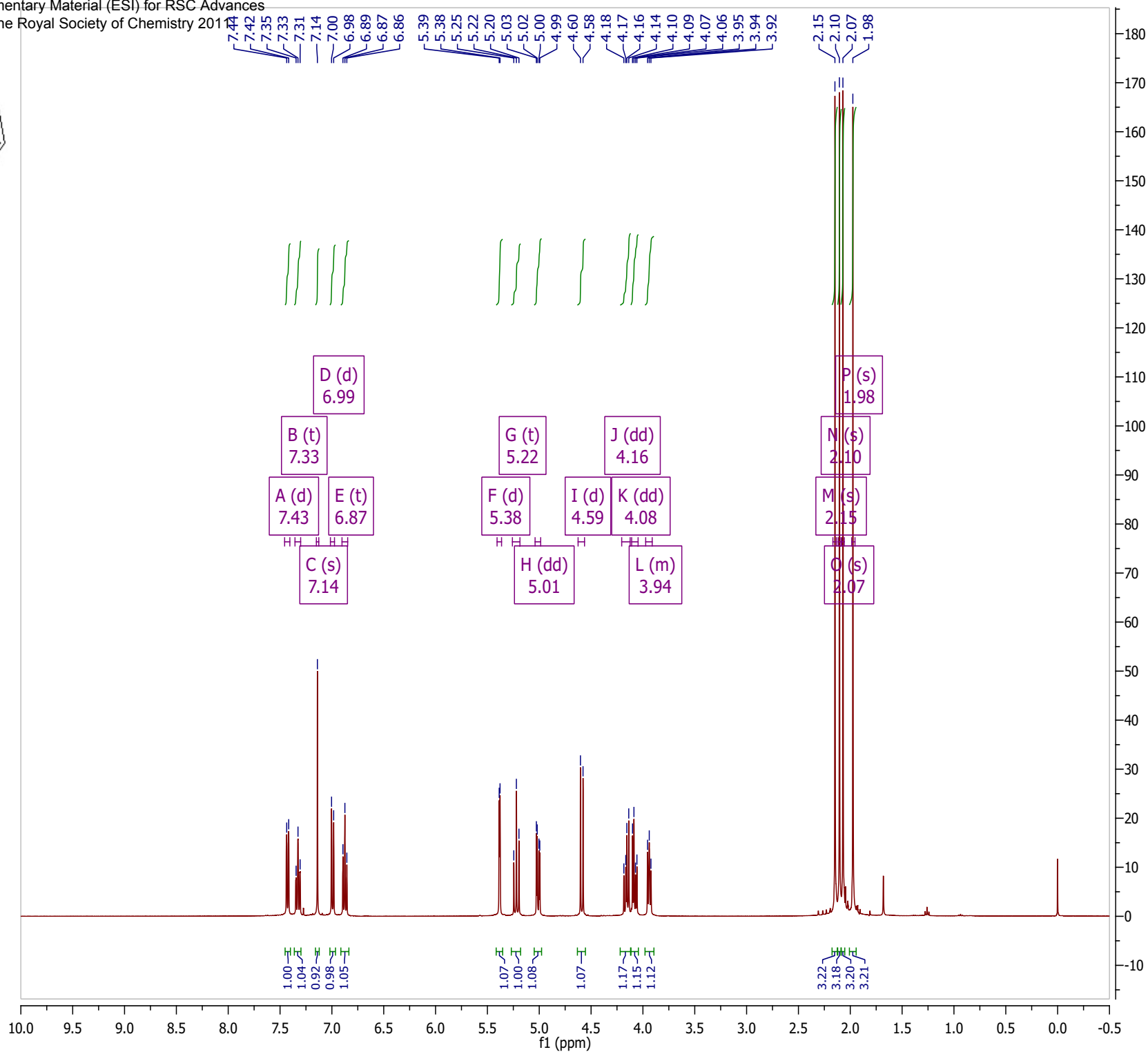


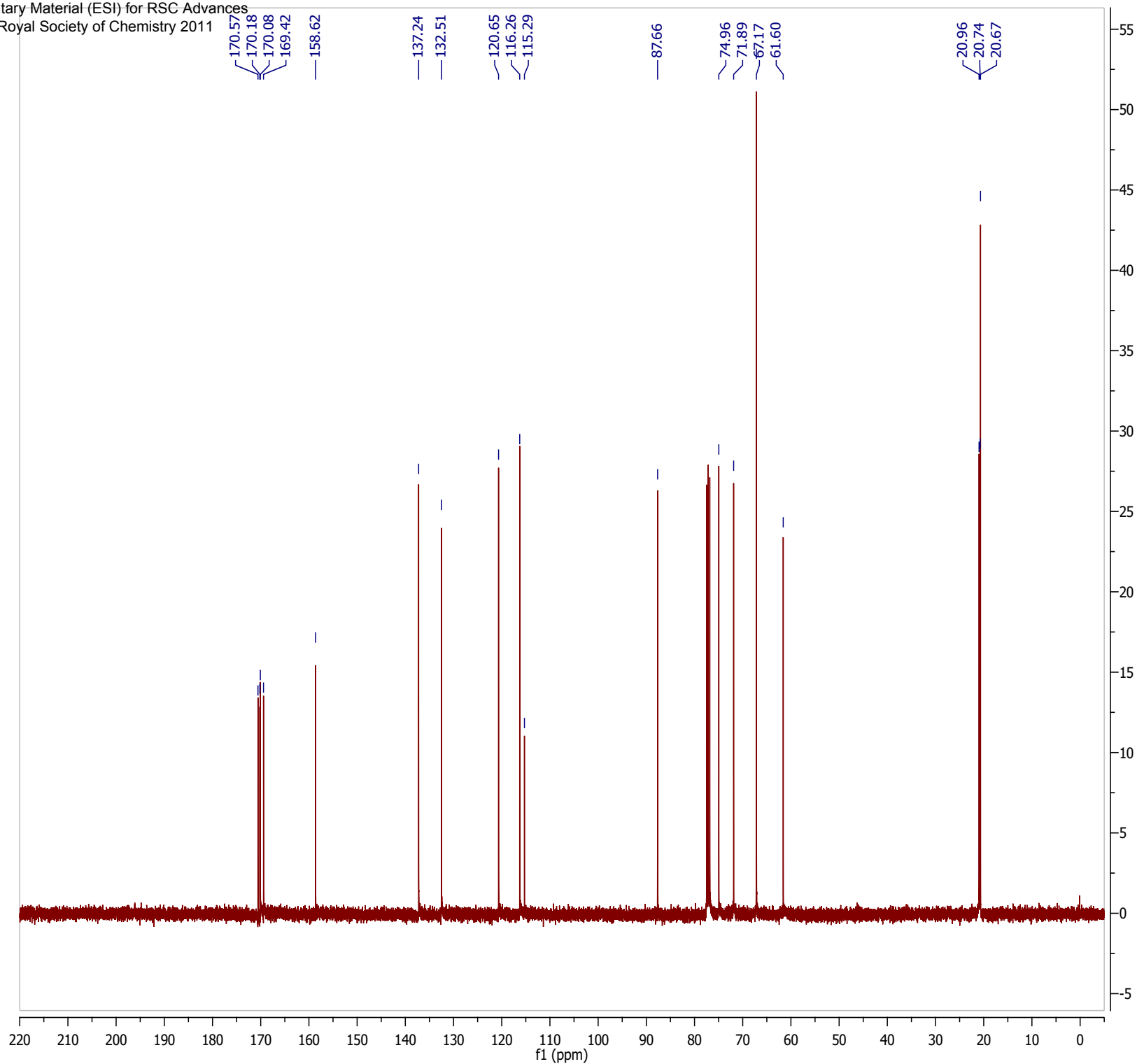
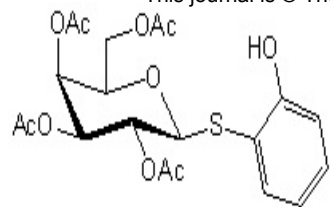
Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1281
10 Acquisition Date	2010-09-20T18:21:50
11 Modification Date	2010-09-20T17:54:58
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3811.0, 24125.5)
14 Lowest Frequency	(-419.1, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(488, 200)
17 Spectral Size	(1024, 1024)



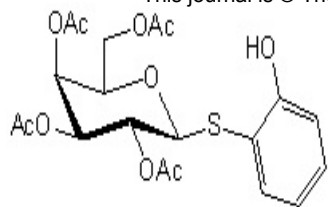


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-09-17T16:07:26
11 Modification Date	2010-09-17T15:08:02
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-800.1
15 Nucleus	1H
16 Acquired Size	13132
17 Spectral Size	32768

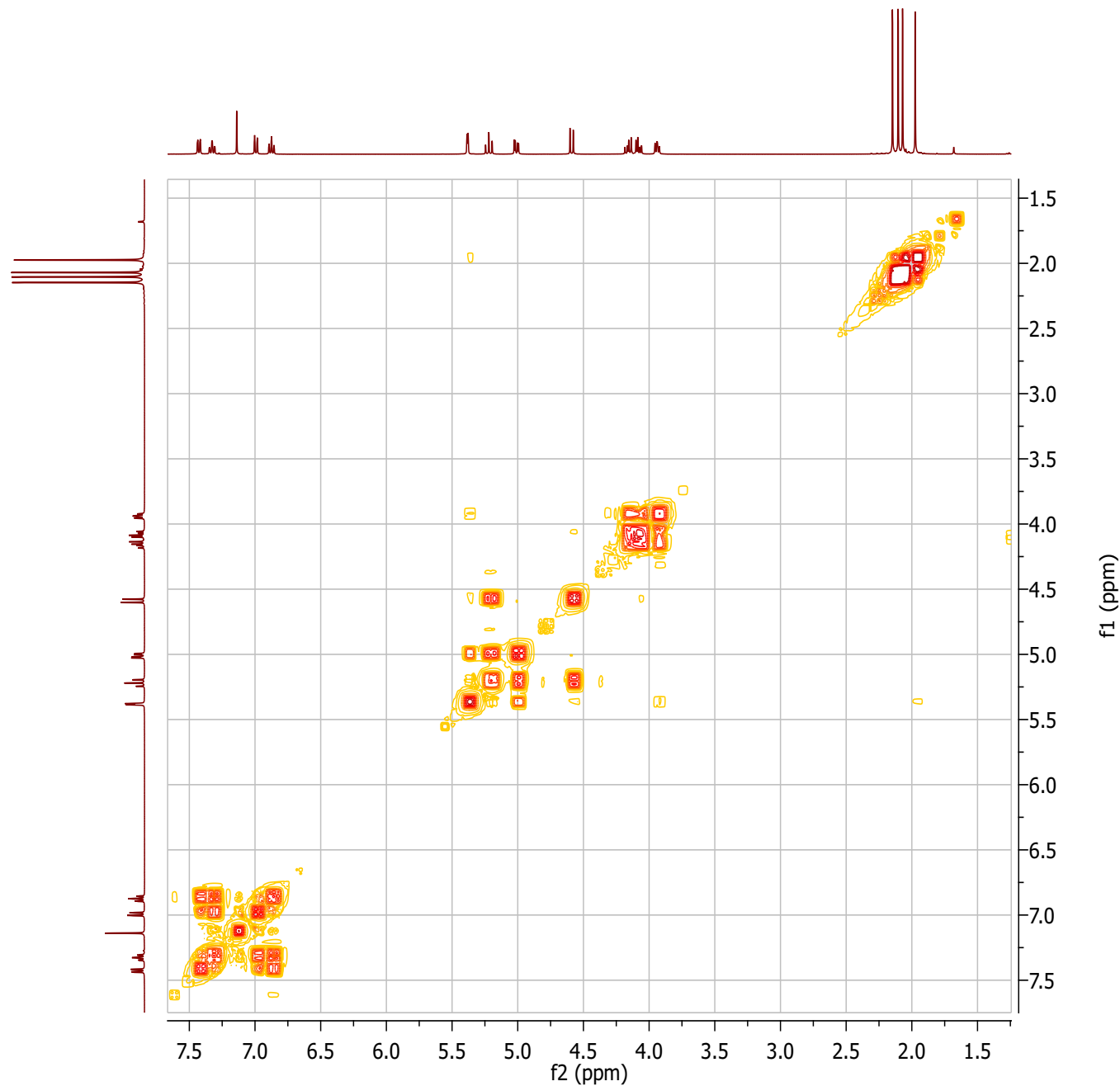


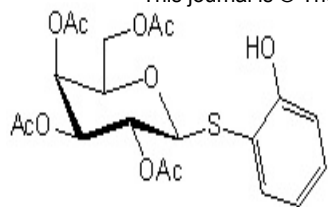


Parameter	Value
1 Spectrometer	nmr5
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-09-17T16:10:26
11 Modification Date	2010-09-17T15:30:08
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	13C
16 Acquired Size	31875
17 Spectral Size	65536

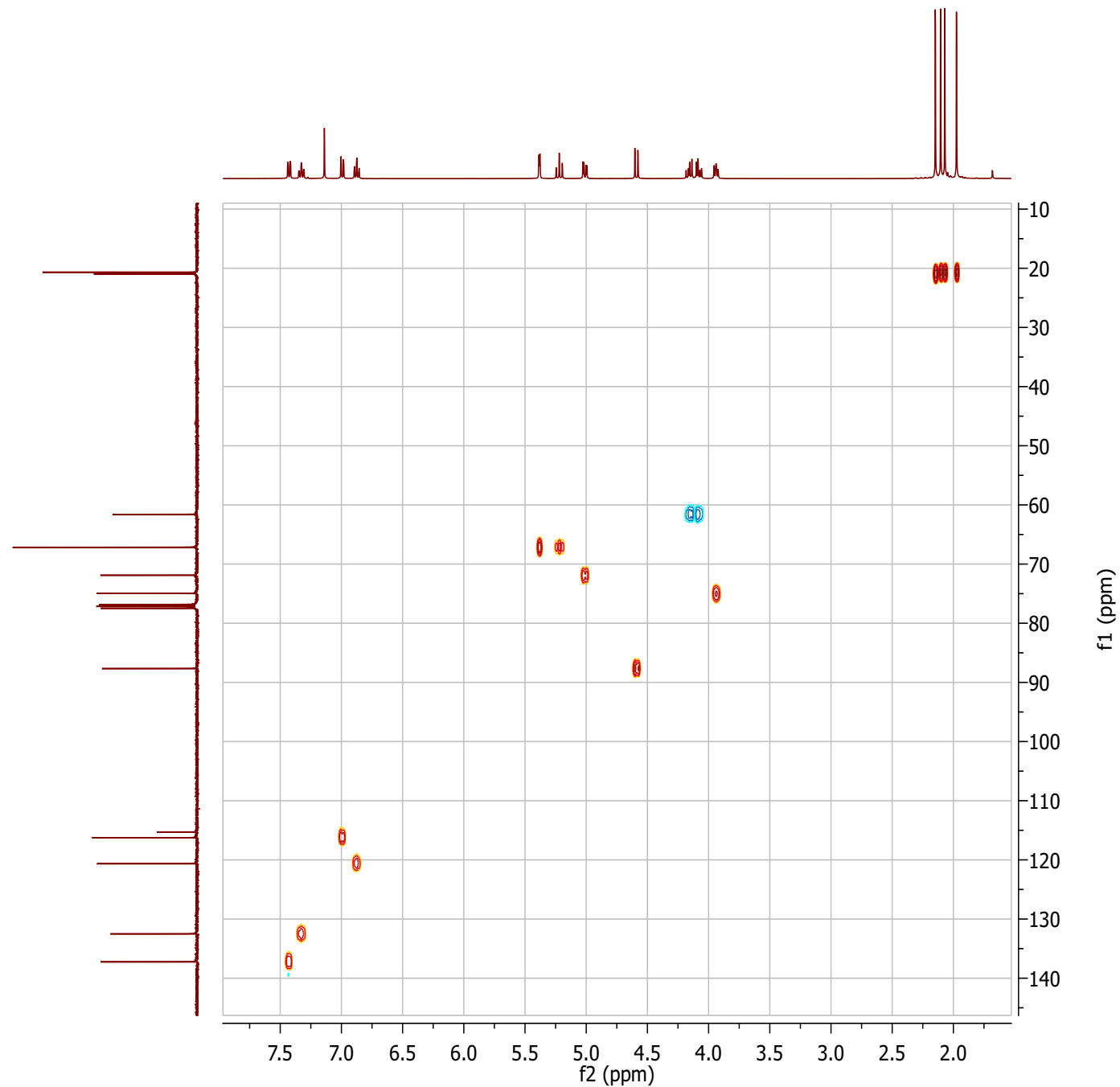


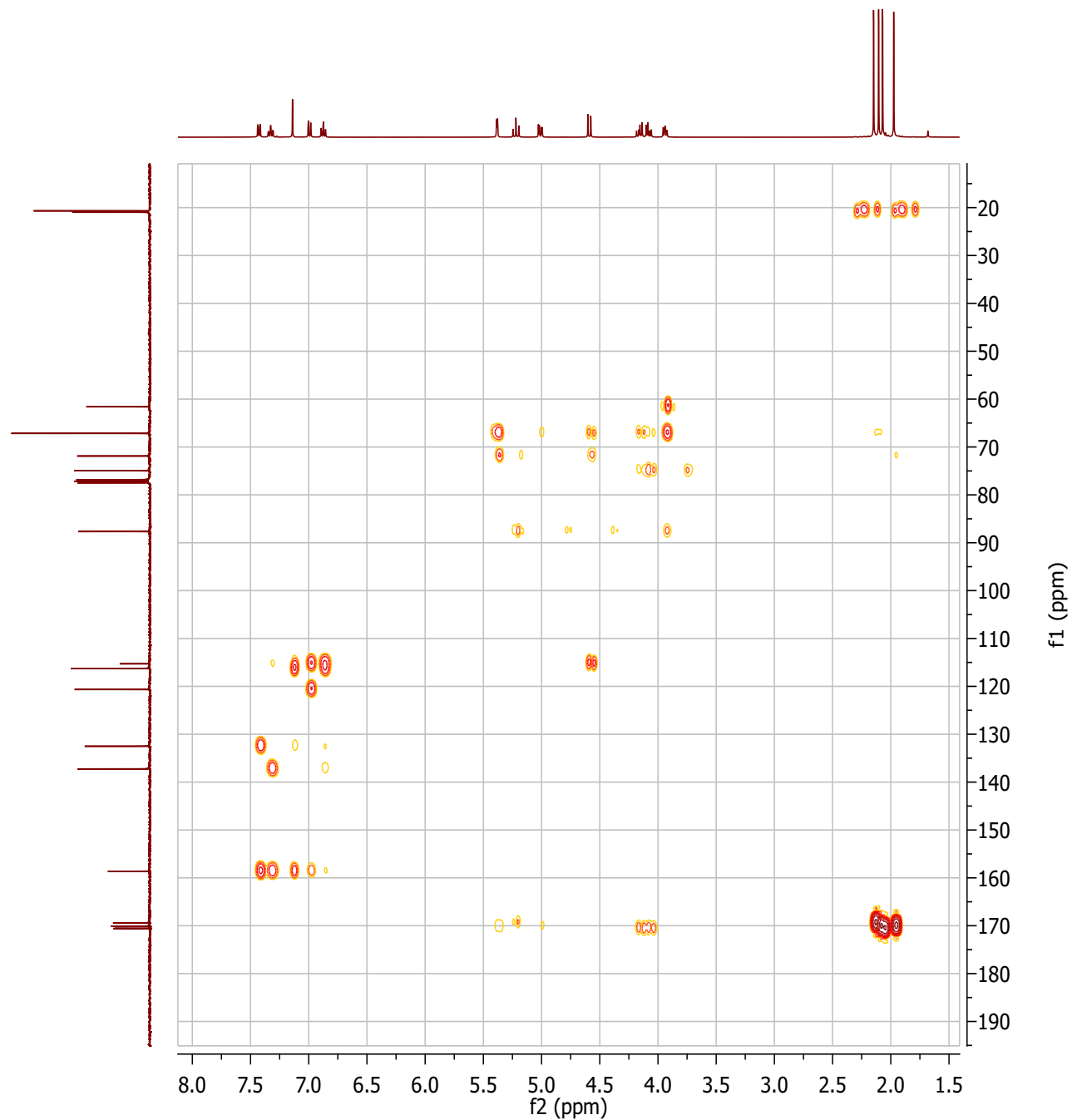
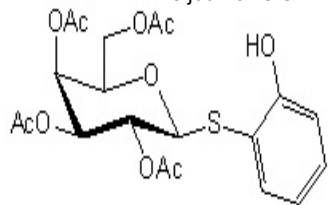
Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1343
10 Acquisition Date	2010-09-17T16:31:42
11 Modification Date	2010-09-17T15:34:33
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(3811.0, 3811.0)
14 Lowest Frequency	(-433.3, -433.3)
15 Nucleus	(1H, 1H)
16 Acquired Size	(512, 128)
17 Spectral Size	(1024, 1024)



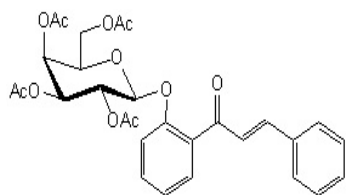


Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1994
10 Acquisition Date	2010-09-17T16:34:34
11 Modification Date	2010-09-17T15:45:56
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3811.0, 24125.5)
14 Lowest Frequency	(-433.3, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(760, 128)
17 Spectral Size	(1024, 1024)

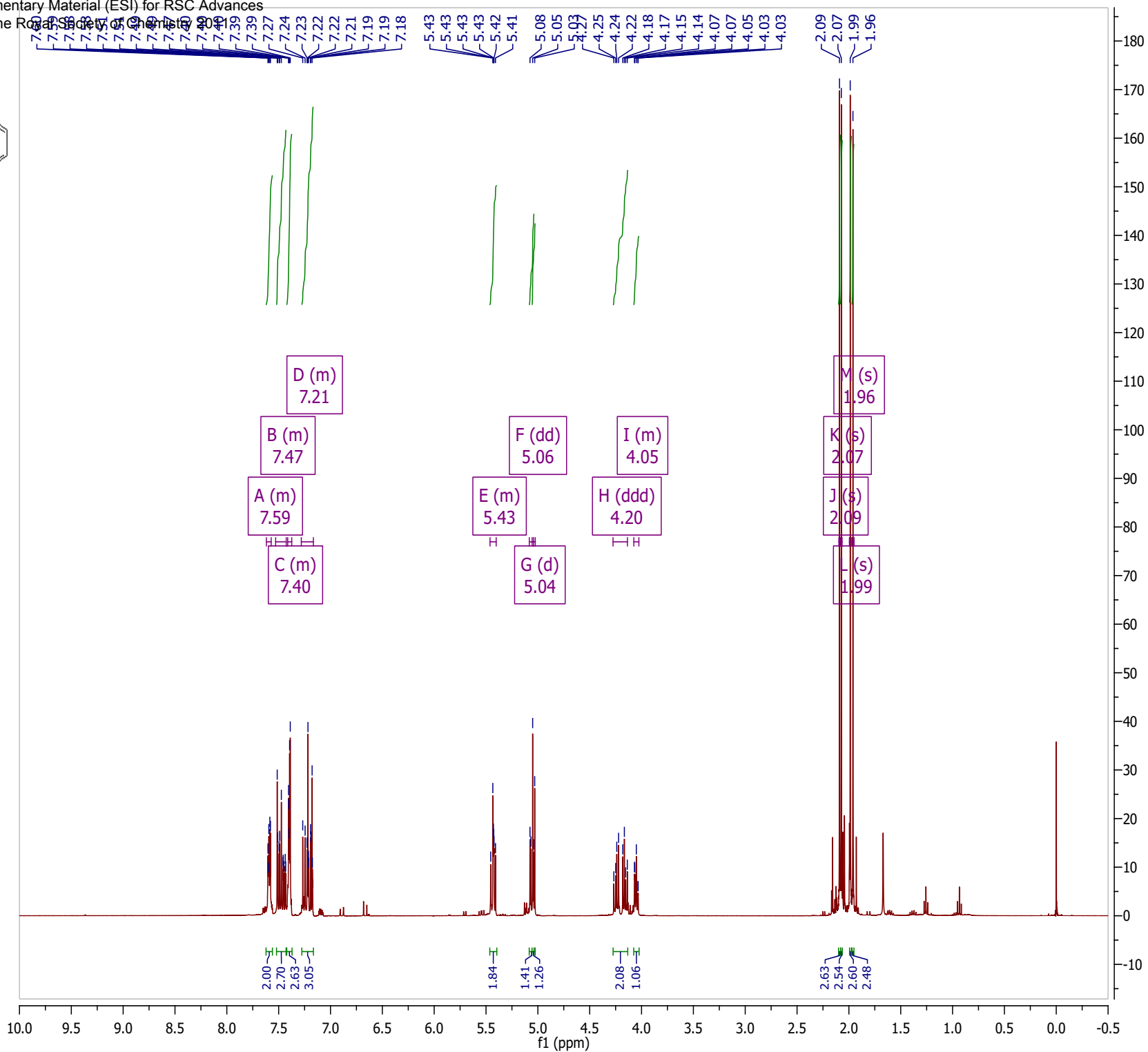


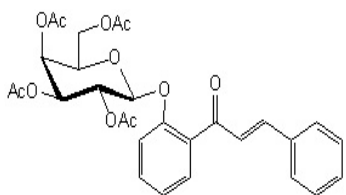


Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1281
10 Acquisition Date	2010-09-17T16:45:56
11 Modification Date	2010-09-17T16:19:04
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3811.0, 24125.5)
14 Lowest Frequency	(-433.3, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(488, 200)
17 Spectral Size	(1024, 1024)

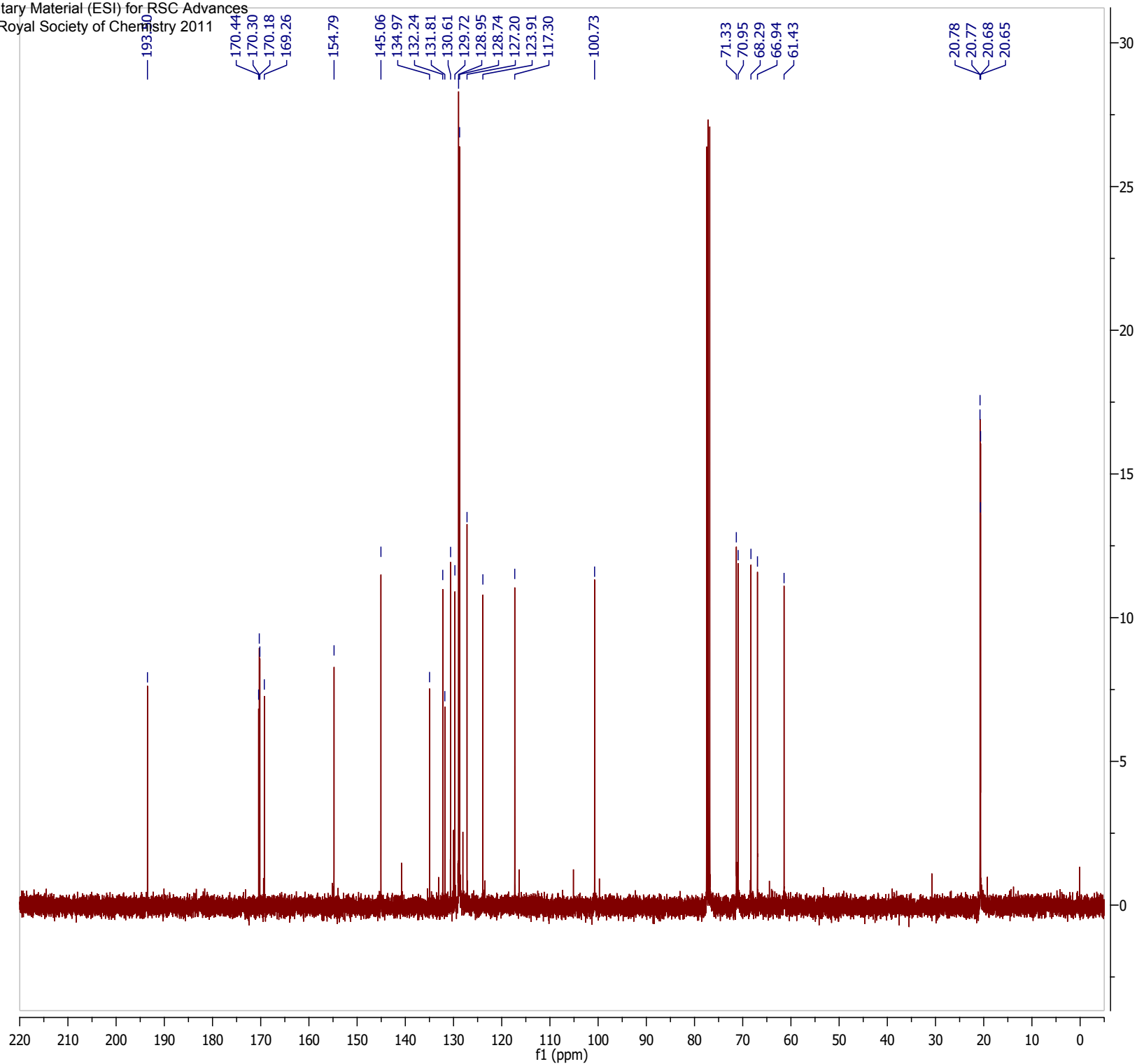


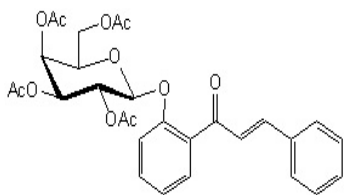
Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-07-19T15:16:42
11 Modification Date	2010-07-19T14:17:17
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-803.8
15 Nucleus	1H
16 Acquired Size	13132
17 Spectral Size	32768



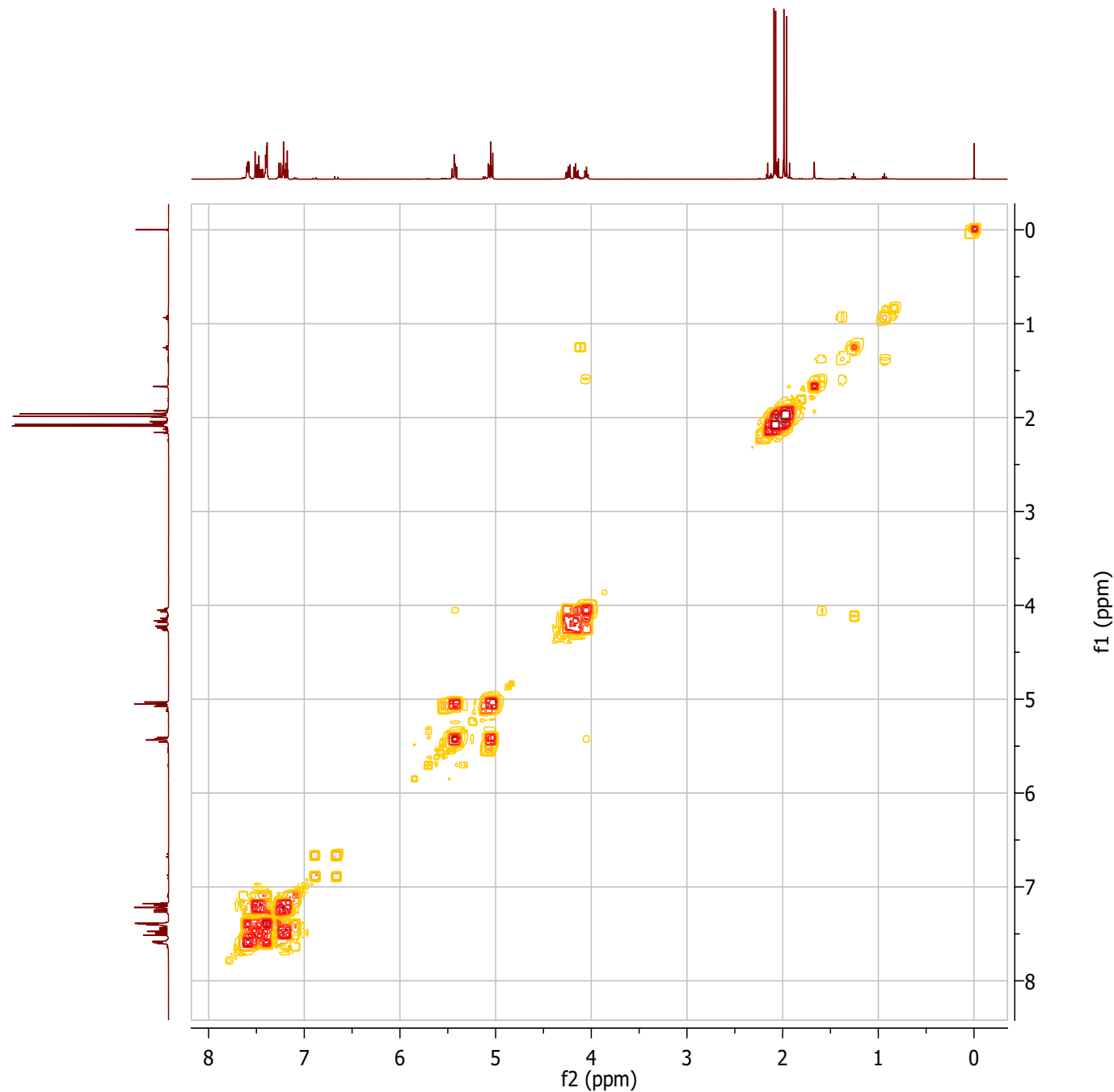


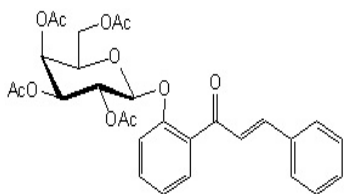
Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-07-19T17:54:47
11 Modification Date	2010-07-19T17:14:28
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	¹³ C
16 Acquired Size	31875
17 Spectral Size	65536



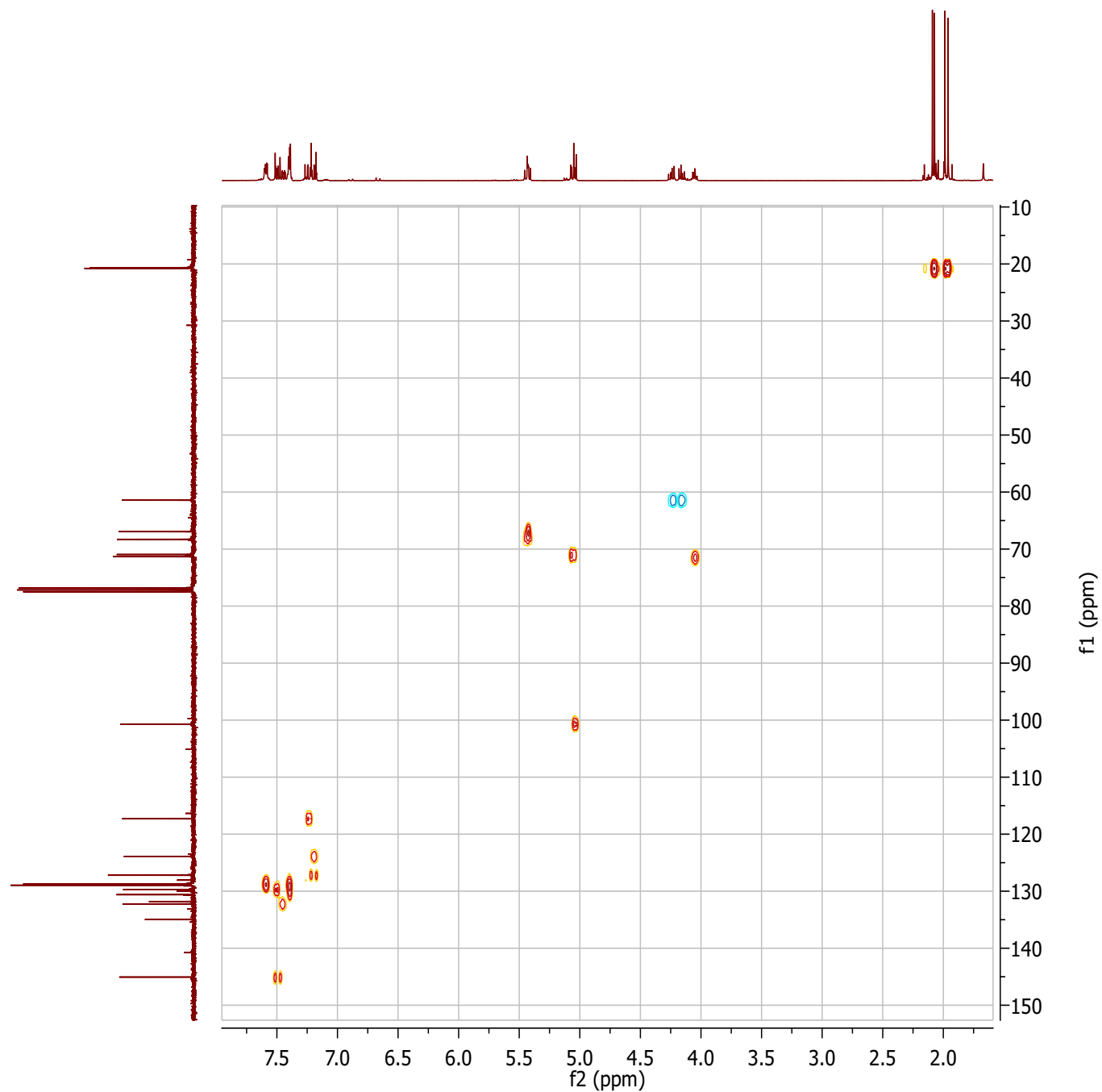


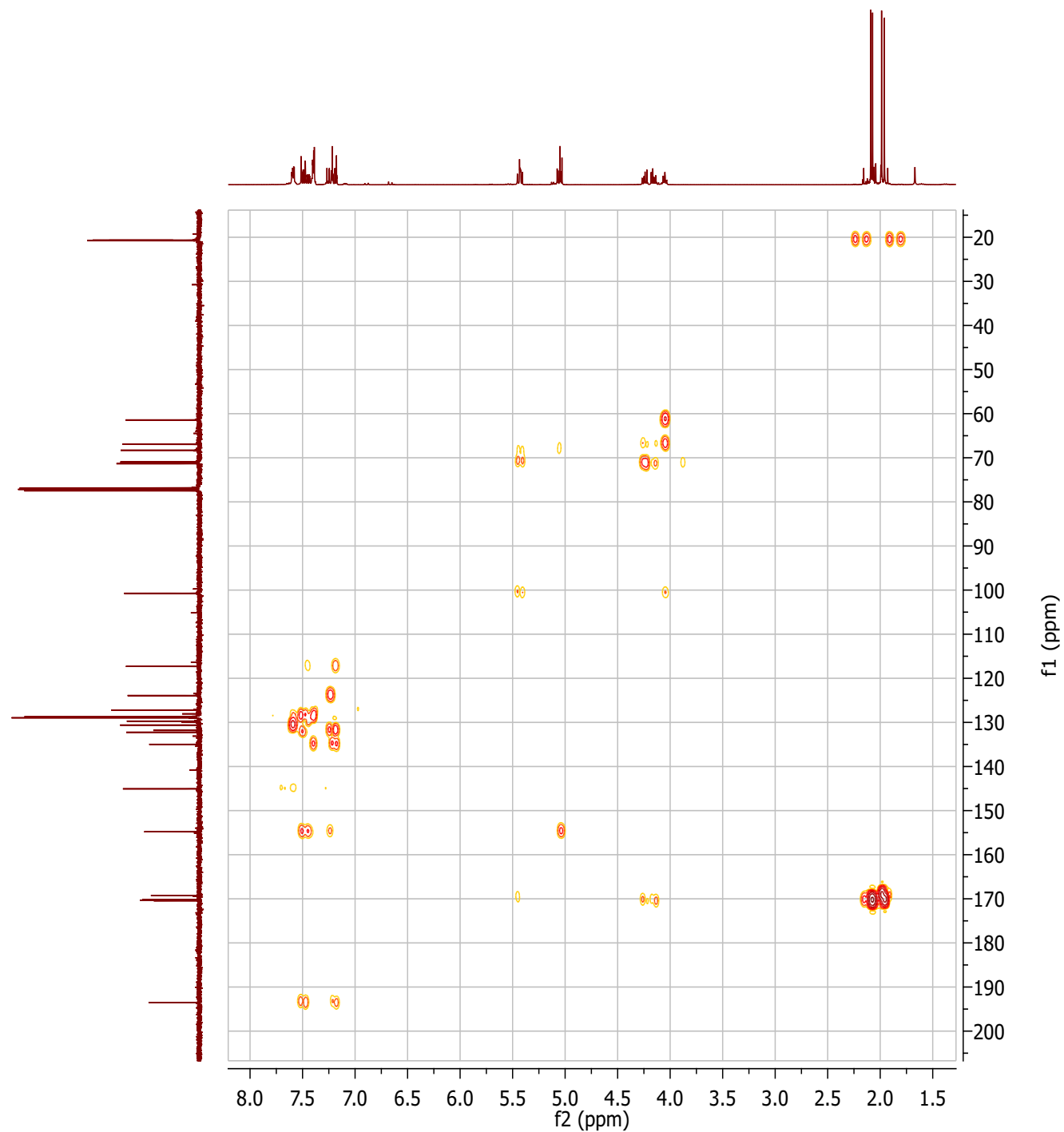
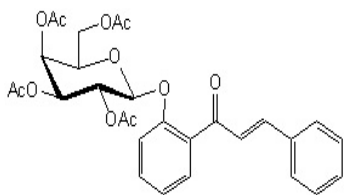
Parameter	Value (f2, f1)
1 Spectrometer	vnmr5
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1294
10 Acquisition Date	2010-07-19T18:16:02
11 Modification Date	2010-07-19T17:18:53
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(3955.7, 3955.7)
14 Lowest Frequency	(-472.8, -472.8)
15 Nucleus	(1H, 1H)
16 Acquired Size	(512, 128)
17 Spectral Size	(1024, 1024)



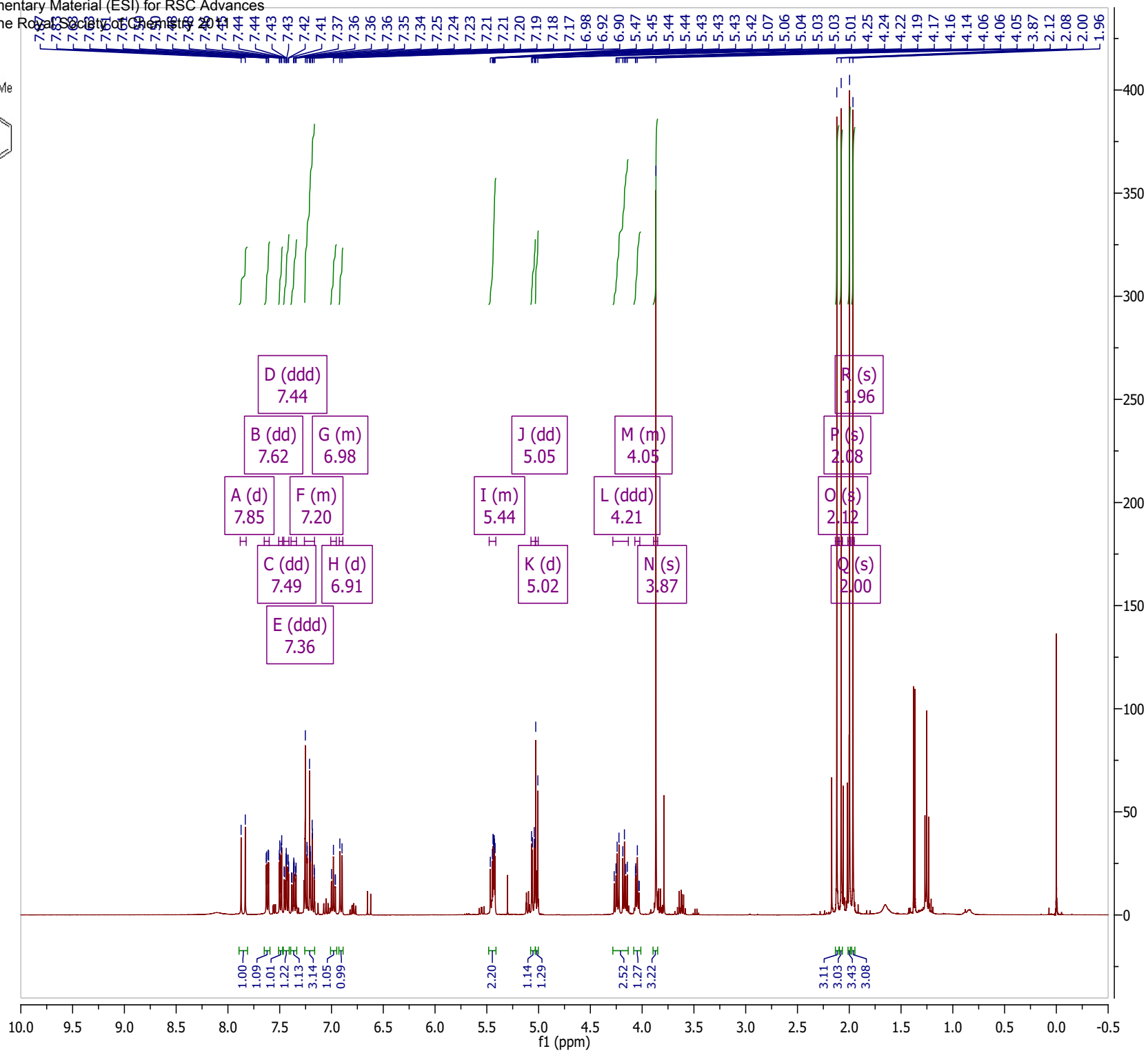
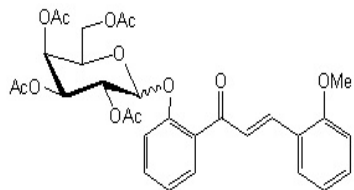


Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1992
10 Acquisition Date	2010-07-19T18:18:53
11 Modification Date	2010-07-19T17:30:15
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3955.7, 24125.5)
14 Lowest Frequency	(-472.8, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(788, 128)
17 Spectral Size	(1024, 1024)

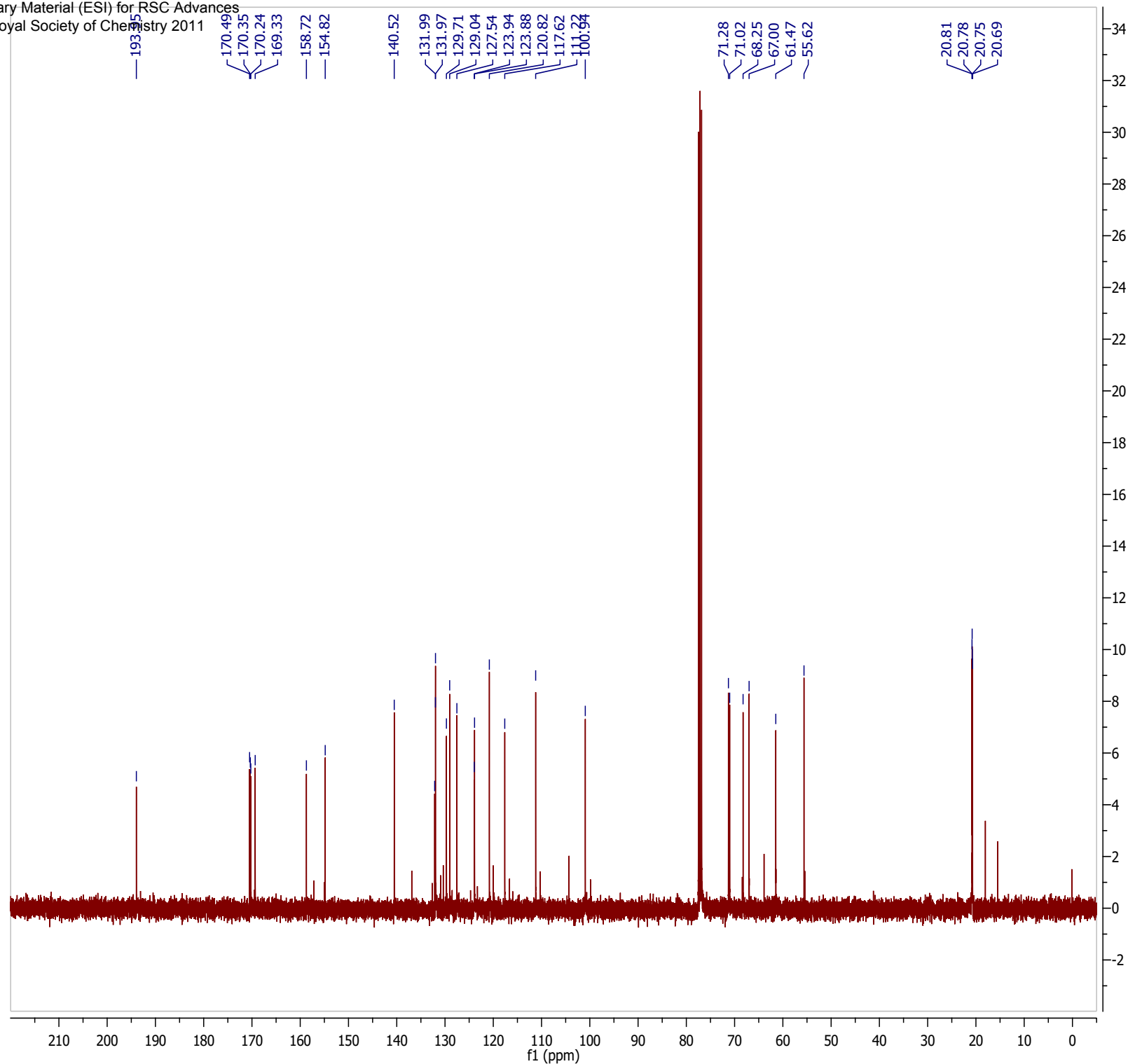
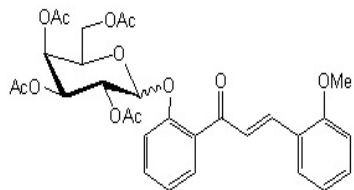




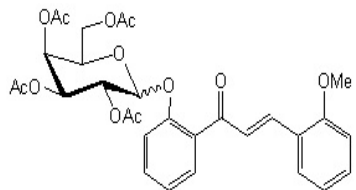
Parameter	Value (f2, f1)
1 Spectrometer	nmr
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1279
10 Acquisition Date	2010-07-19T18:30:15
11 Modification Date	2010-07-19T18:03:23
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3955.7, 24125.5)
14 Lowest Frequency	(-472.8, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(506, 200)
17 Spectral Size	(1024, 1024)



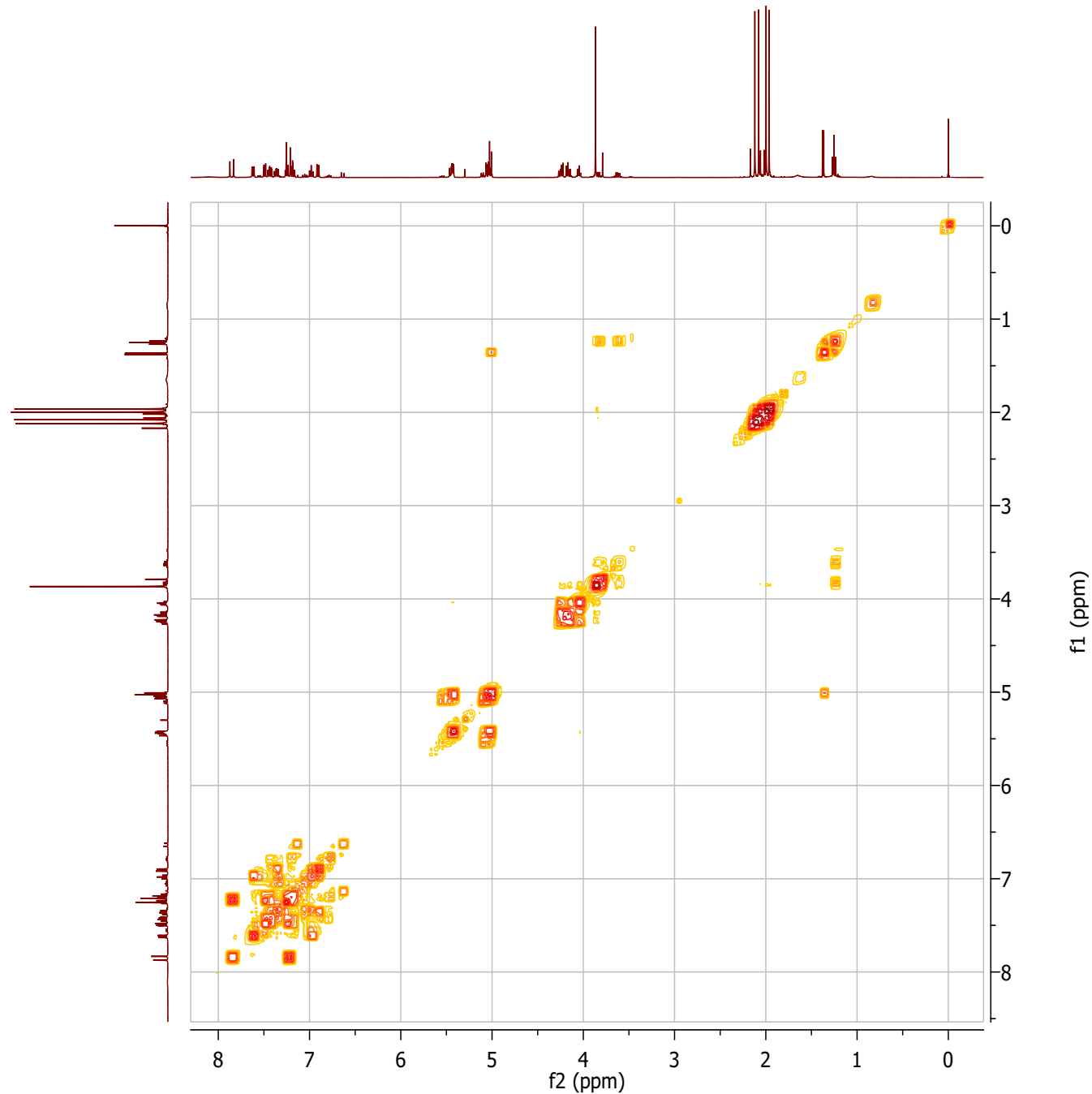
Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	32
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-09-17T13:32:52
11 Modification Date	2010-09-17T12:33:35
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-803.2
15 Nucleus	1H
16 Acquired Size	13132
17 Spectral Size	32768

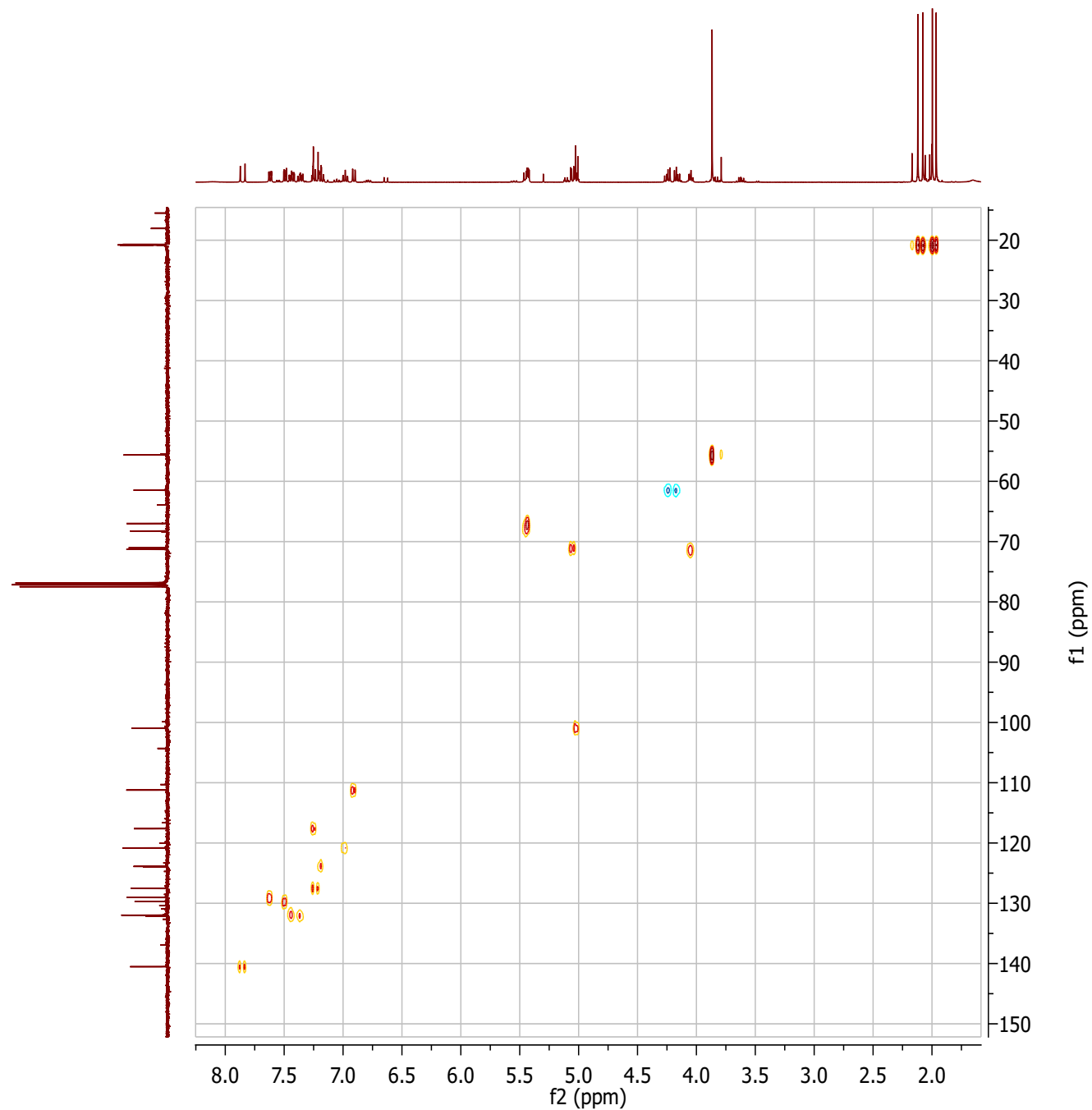
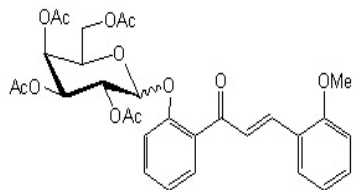


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-09-17T14:35:20
11 Modification Date	2010-09-17T13:55:02
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	¹³ C
16 Acquired Size	31875
17 Spectral Size	65536

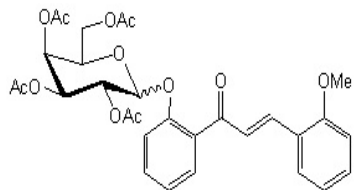


Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1253
10 Acquisition Date	2010-09-17T14:56:36
11 Modification Date	2010-09-17T13:59:26
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(4085.0, 4085.0)
14 Lowest Frequency	(-501.6, -501.6)
15 Nucleus	(1H, 1H)
16 Acquired Size	(512, 128)
17 Spectral Size	(1024, 1024)

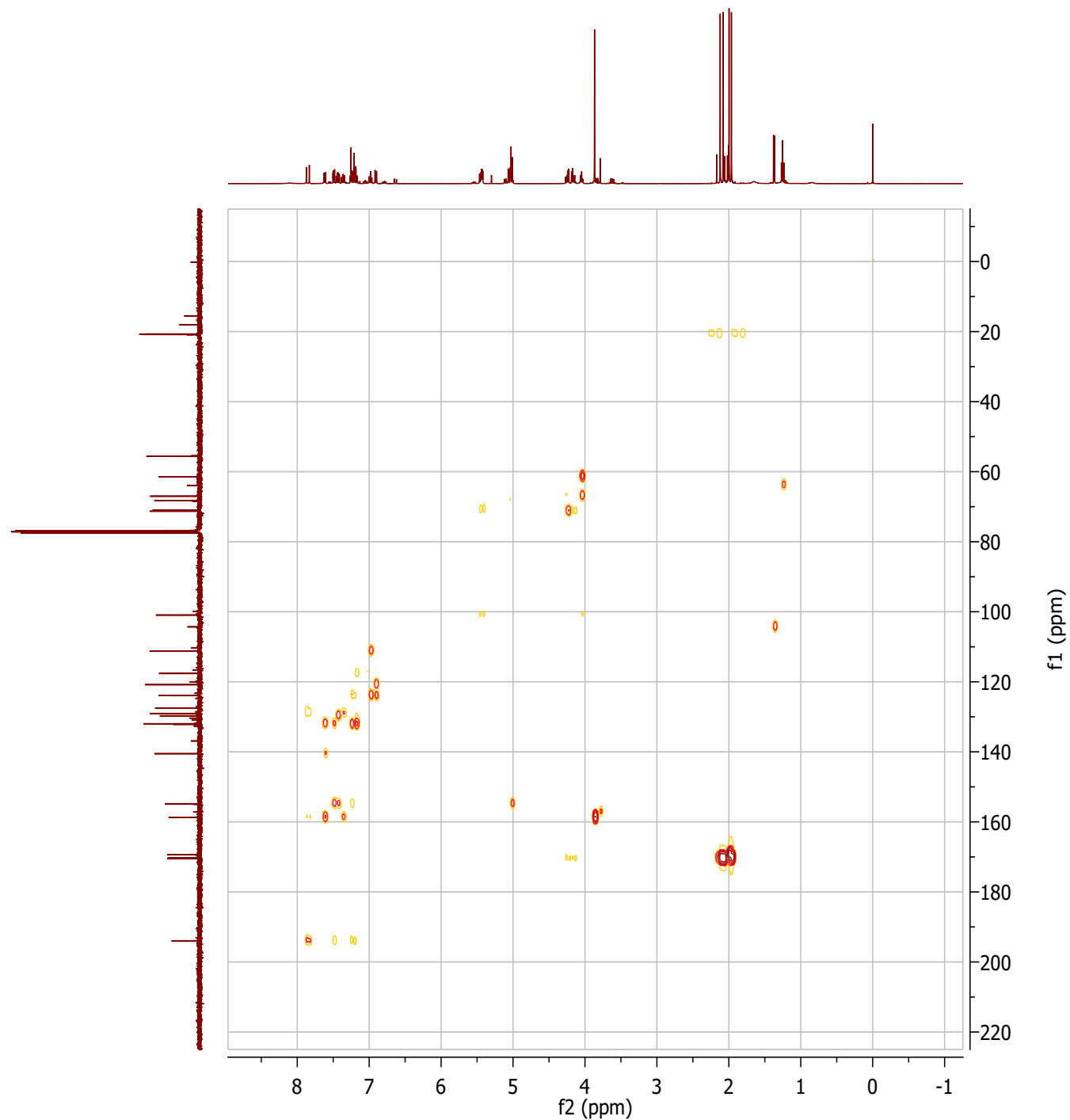


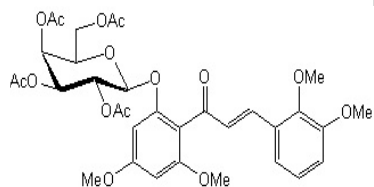


Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1993
10 Acquisition Date	2010-09-17T14:59:26
11 Modification Date	2010-09-17T14:10:48
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(4085.0, 24125.5)
14 Lowest Frequency	(-501.6, -1506.8)
15 Nucleus	(^1H , ^{13}C)
16 Acquired Size	(814, 128)
17 Spectral Size	(1024, 1024)

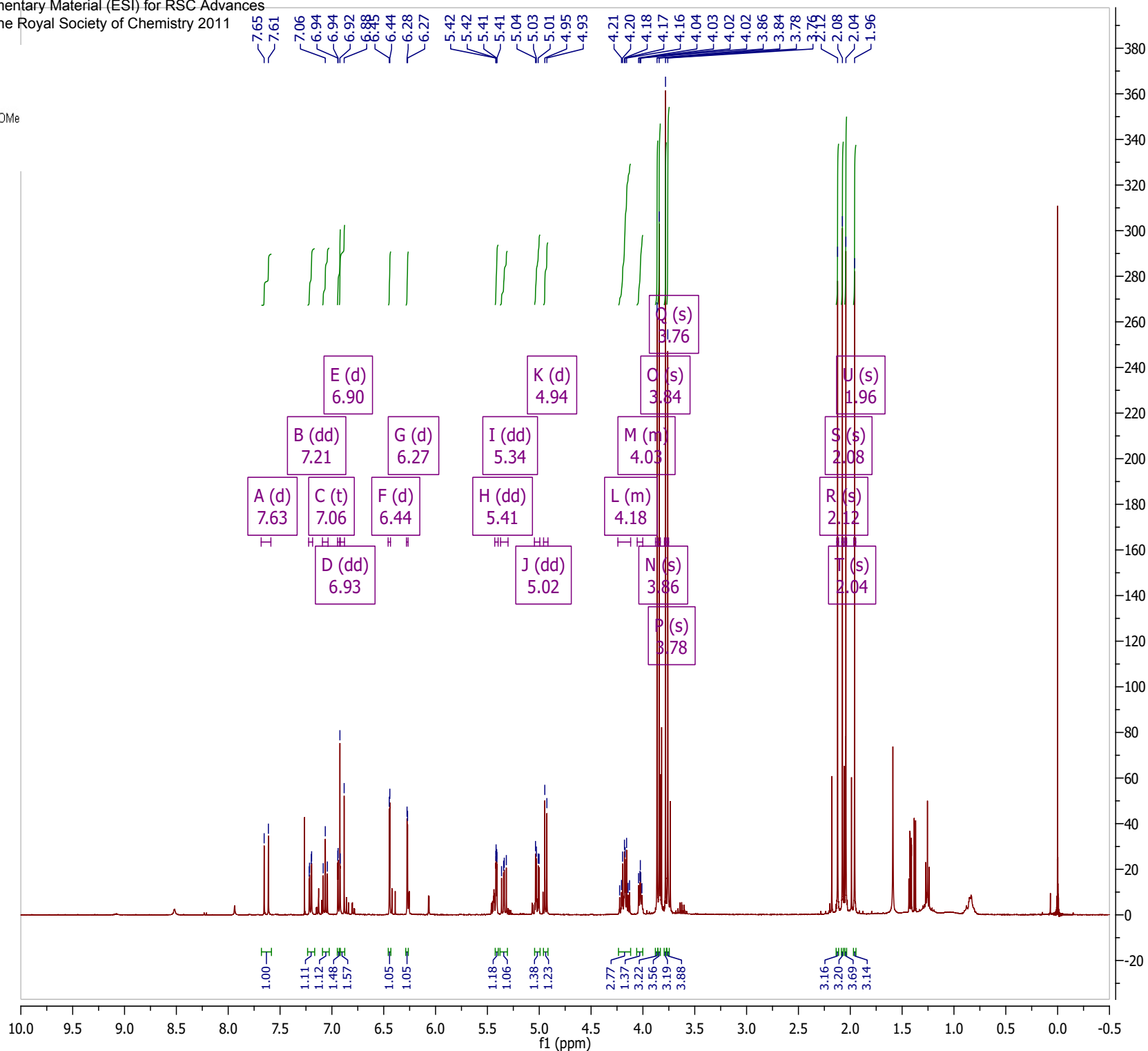


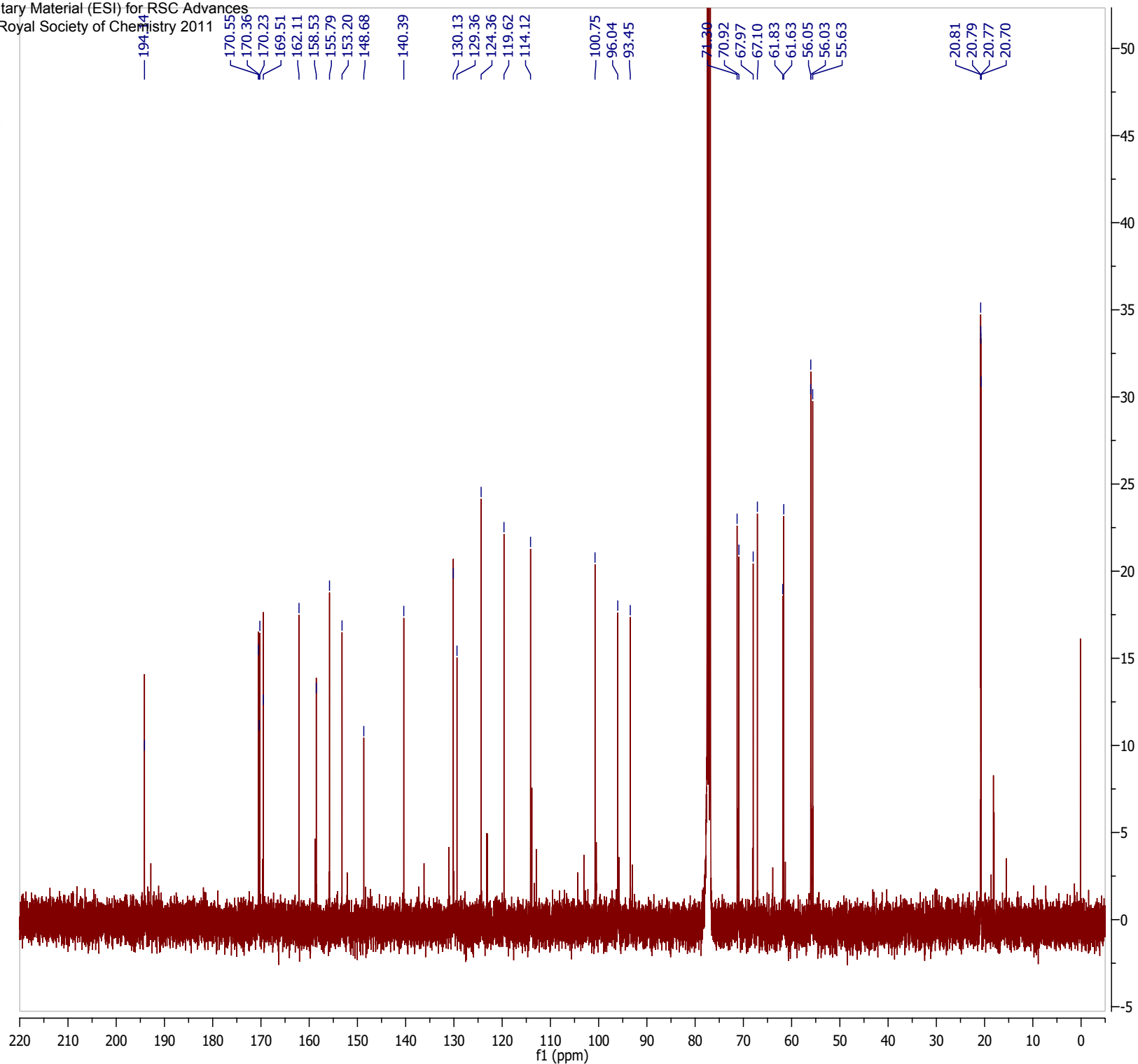
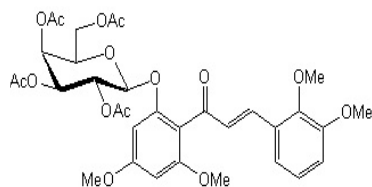
Parameter	Value (f2, f1)
1 Spectrometer	vnmr5
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1280
10 Acquisition Date	2010-09-17T15:10:48
11 Modification Date	2010-09-17T14:37:35
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(4085.0, 24125.5)
14 Lowest Frequency	(-501.6, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(523, 200)
17 Spectral Size	(1024, 1024)



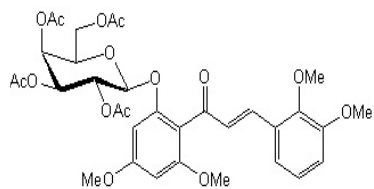


Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	40
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-09-21T18:56:49
11 Modification Date	2010-09-21T17:57:25
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-804.2
15 Nucleus	¹ H
16 Acquired Size	13132
17 Spectral Size	32768

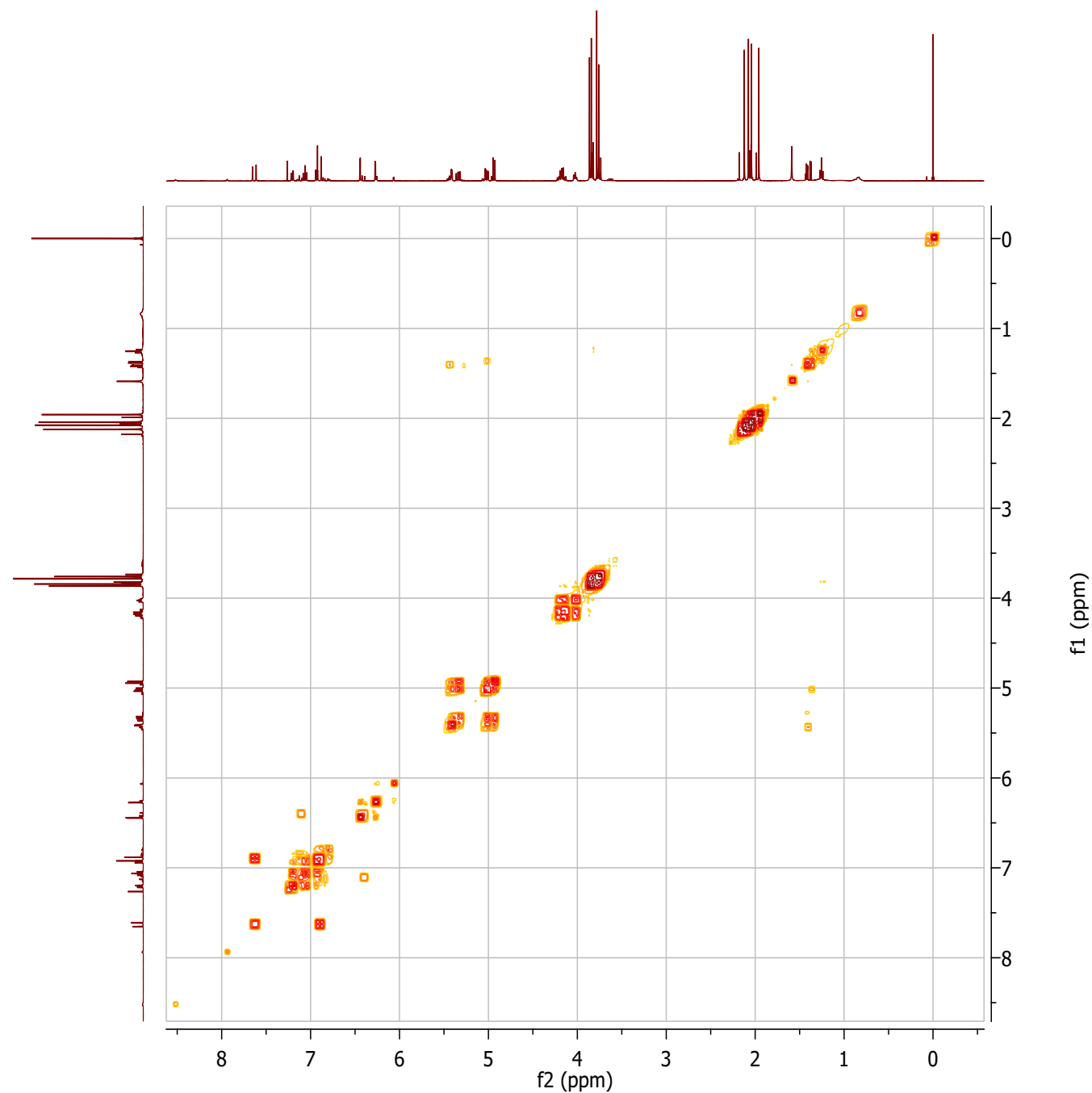


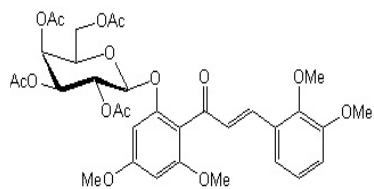


Parameter	Value
1 Spectrometer	nmr5
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	7000
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-09-21T19:37:14
11 Modification Date	2010-09-21T23:05:50
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1697.9
15 Nucleus	¹³ C
16 Acquired Size	31875
17 Spectral Size	65536

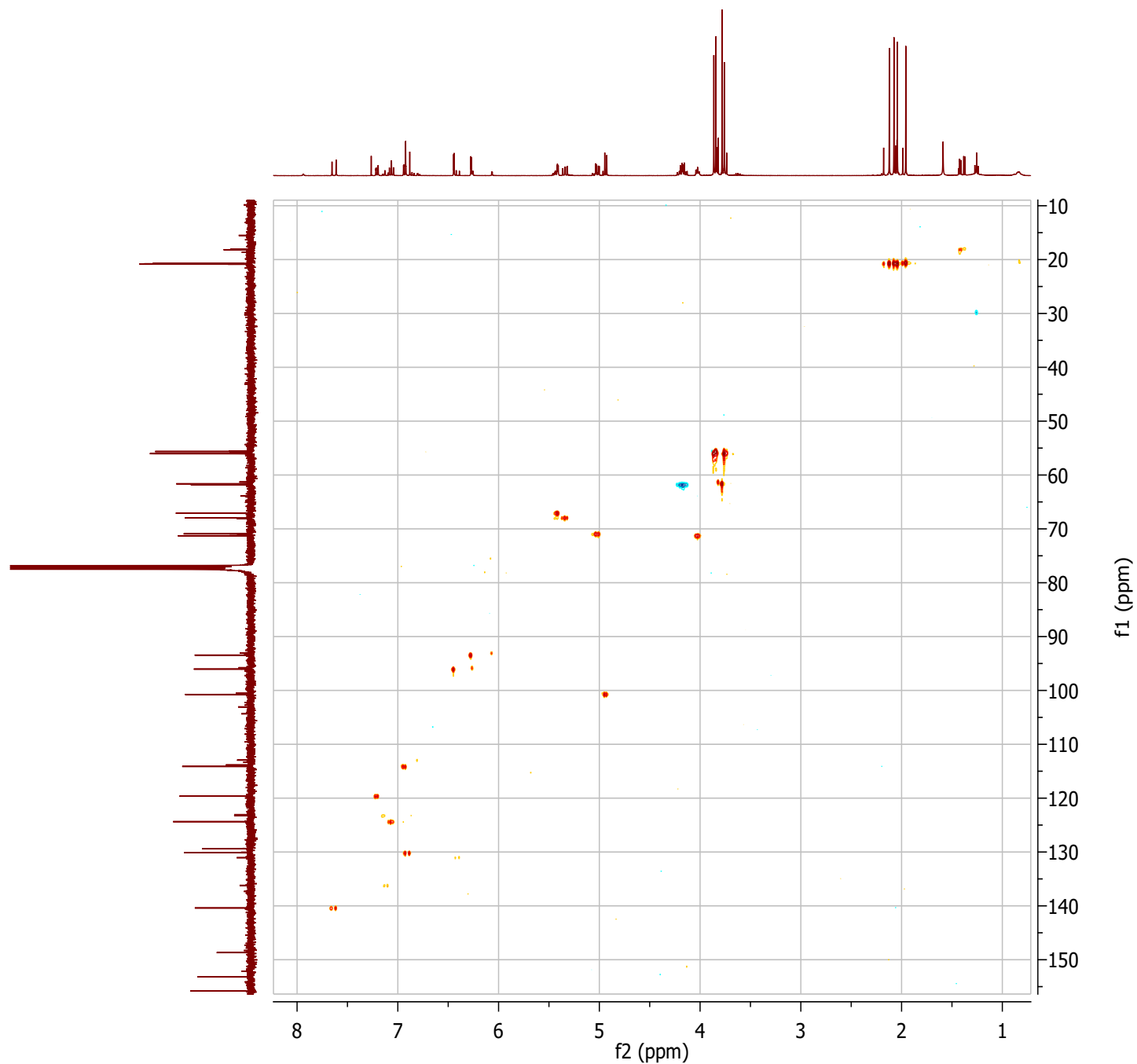


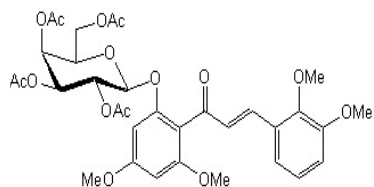
Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	38
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1286
10 Acquisition Date	2010-09-22T00:07:38
11 Modification Date	2010-09-21T23:10:27
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(3980.9, 3980.9)
14 Lowest Frequency	(-493.5, -493.5)
15 Nucleus	(1H, 1H)
16 Acquired Size	(512, 128)
17 Spectral Size	(1024, 1024)



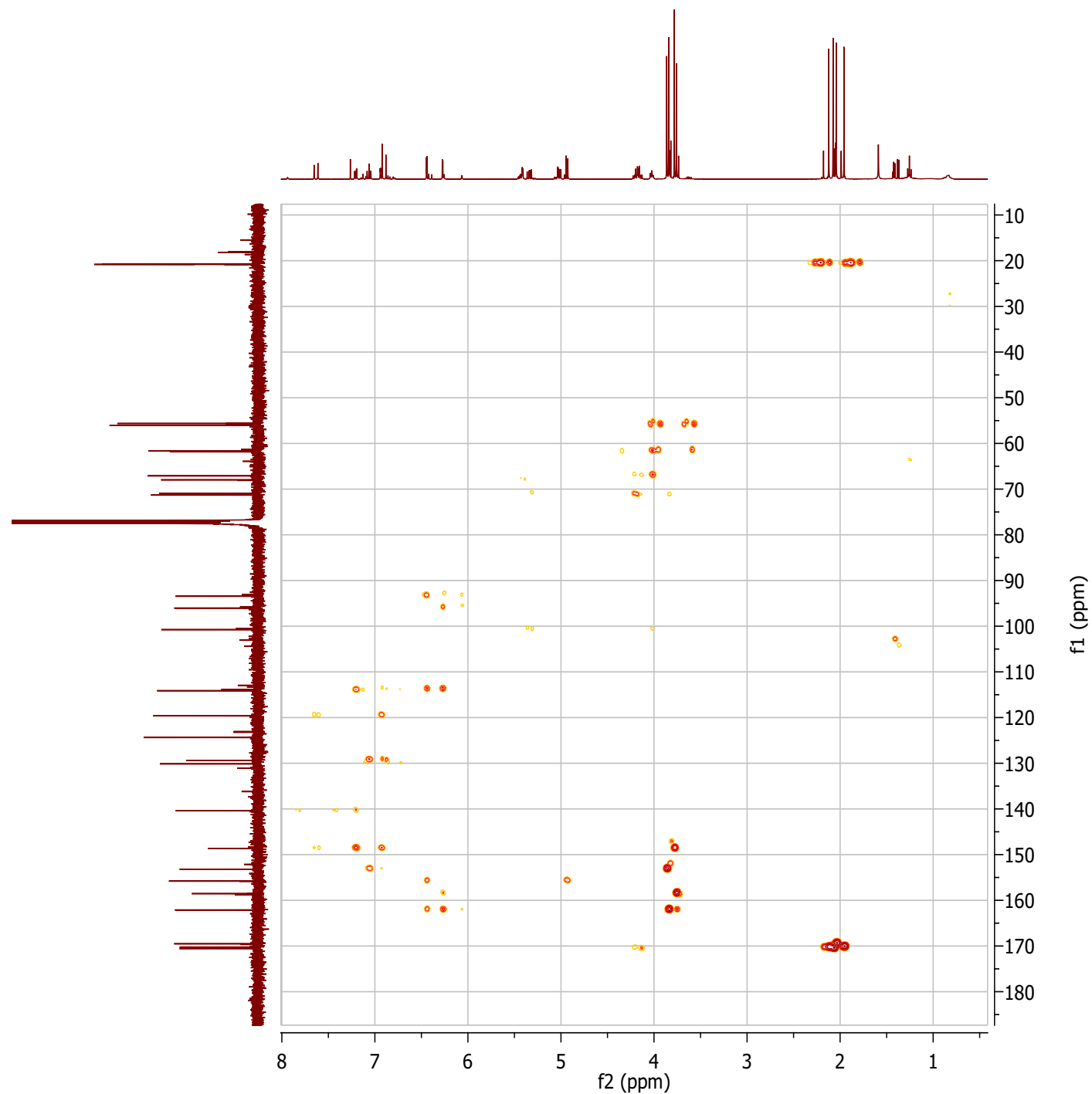


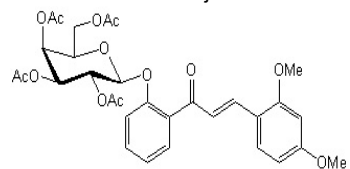
Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	16
6 Receiver Gain	38
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1992
10 Acquisition Date	2010-09-22T00:10:28
11 Modification Date	2010-09-22T04:53:56
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3980.9, 24125.5)
14 Lowest Frequency	(-493.5, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(793, 512)
17 Spectral Size	(1024, 1024)



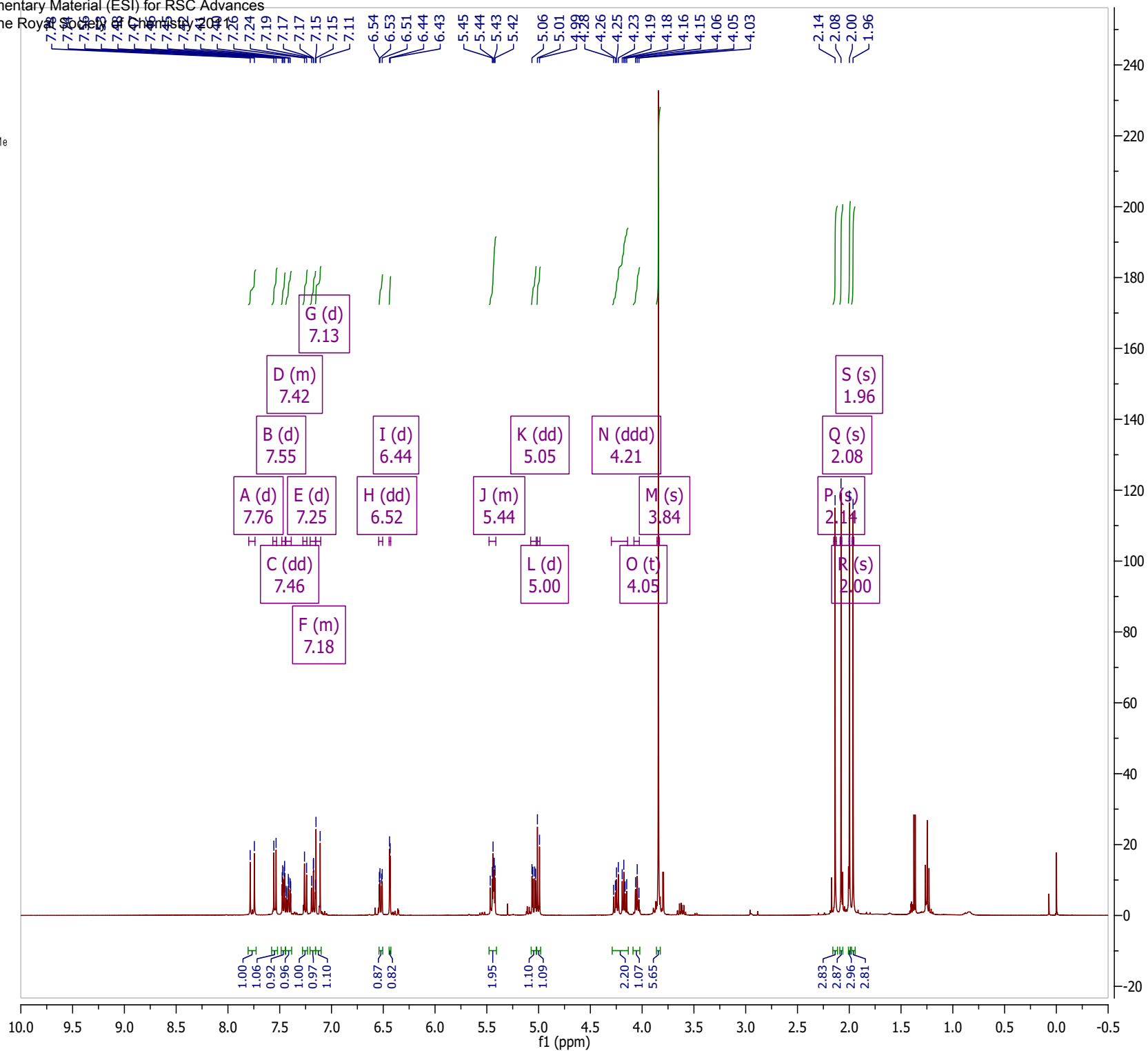


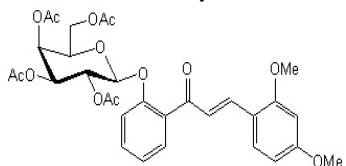
Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	16
6 Receiver Gain	38
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1281
10 Acquisition Date	2010-09-22T05:53:57
11 Modification Date	2010-09-22T07:41:33
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3980.9, 24125.5)
14 Lowest Frequency	(-493.5, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(510, 512)
17 Spectral Size	(1024, 1024)



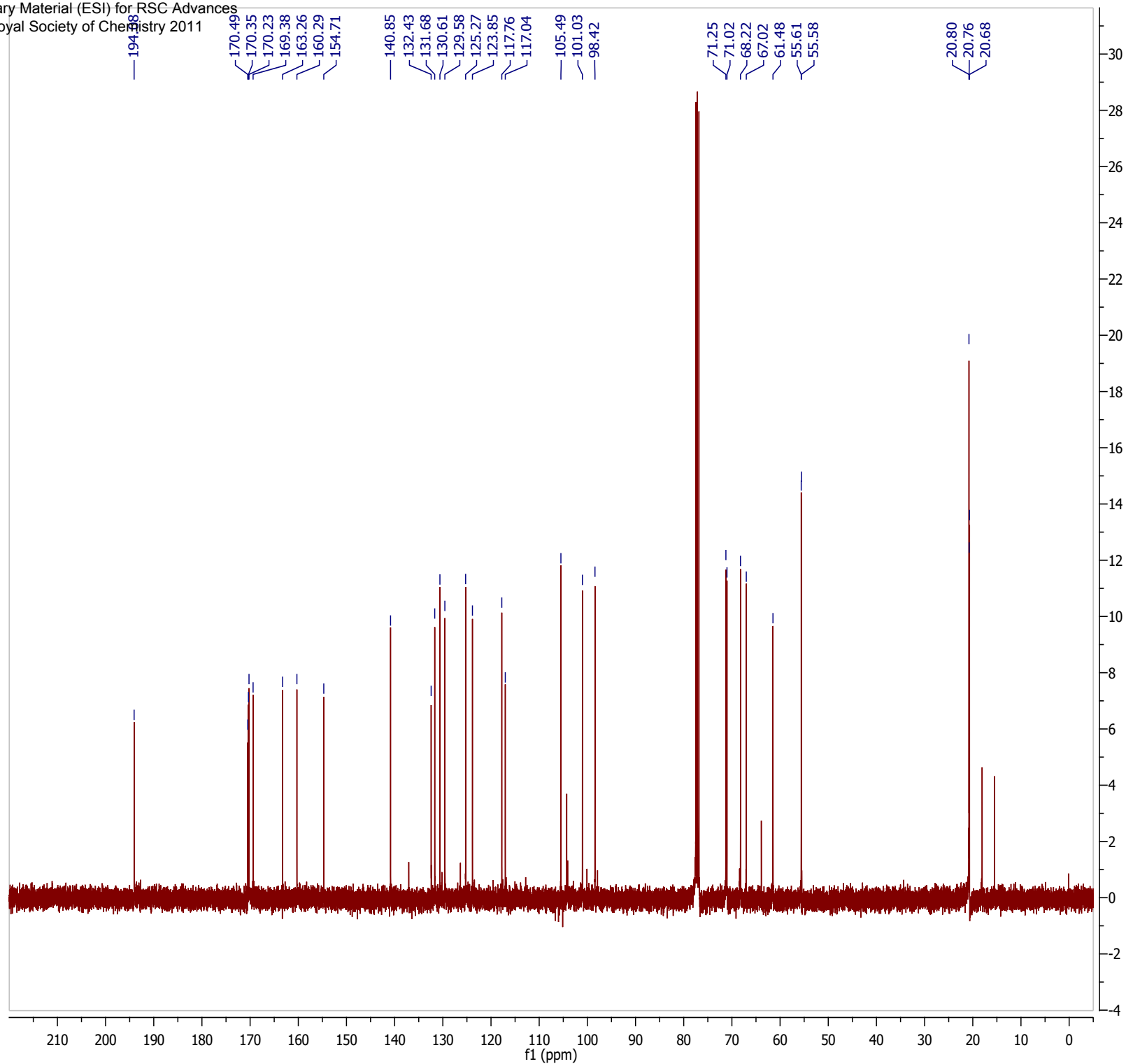


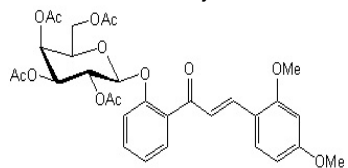
Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	2.0486
10 Acquisition Date	2010-09-17T12:16:16
11 Modification Date	2010-09-17T11:16:59
12 Spectrometer Frequency	399.81
13 Spectral Width	6410.3
14 Lowest Frequency	-801.5
15 Nucleus	1H
16 Acquired Size	13132
17 Spectral Size	32768



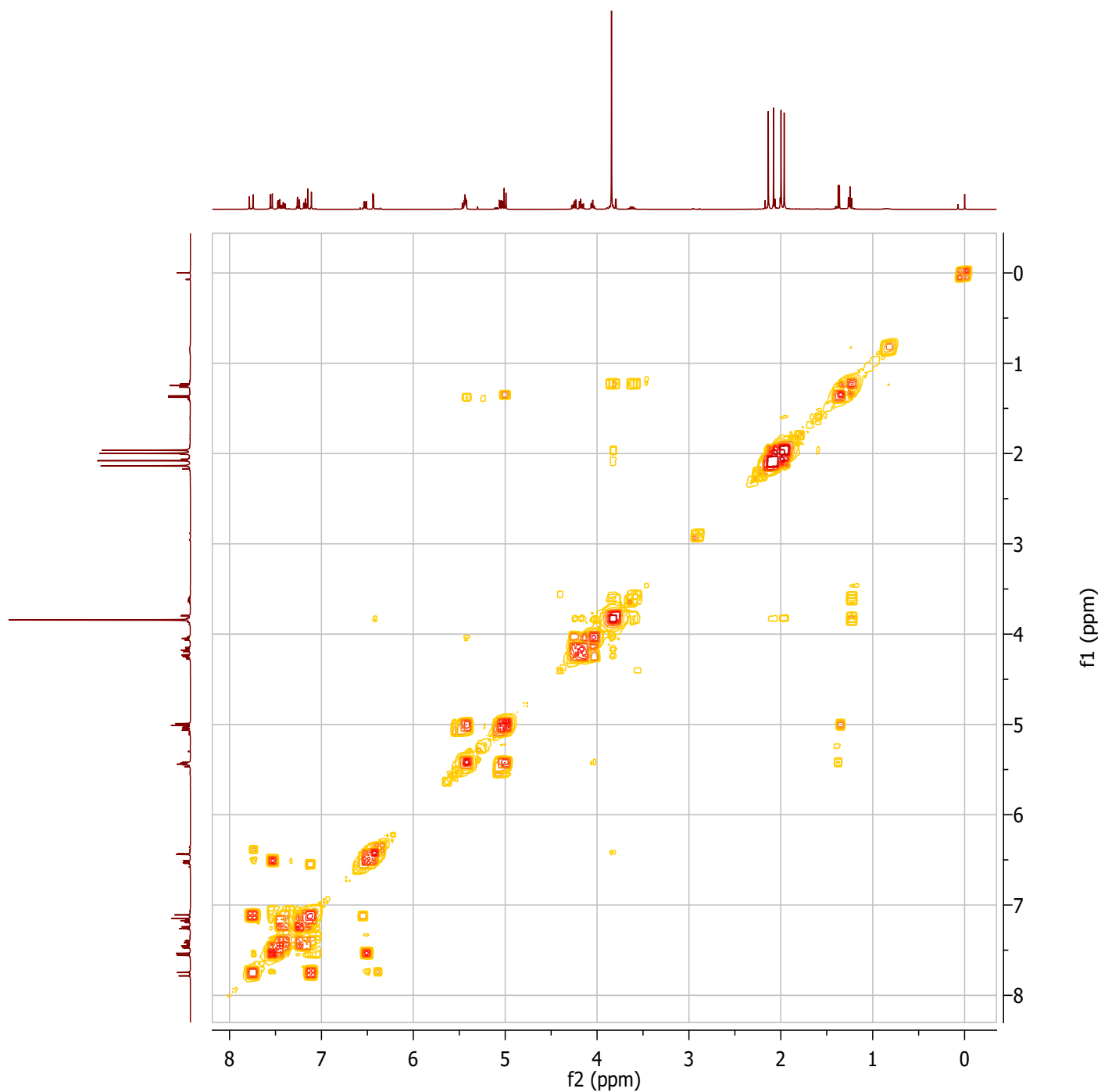


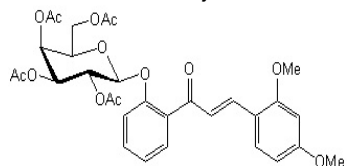
Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-09-17T12:18:09
11 Modification Date	2010-09-17T11:37:50
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	¹³ C
16 Acquired Size	31875
17 Spectral Size	65536



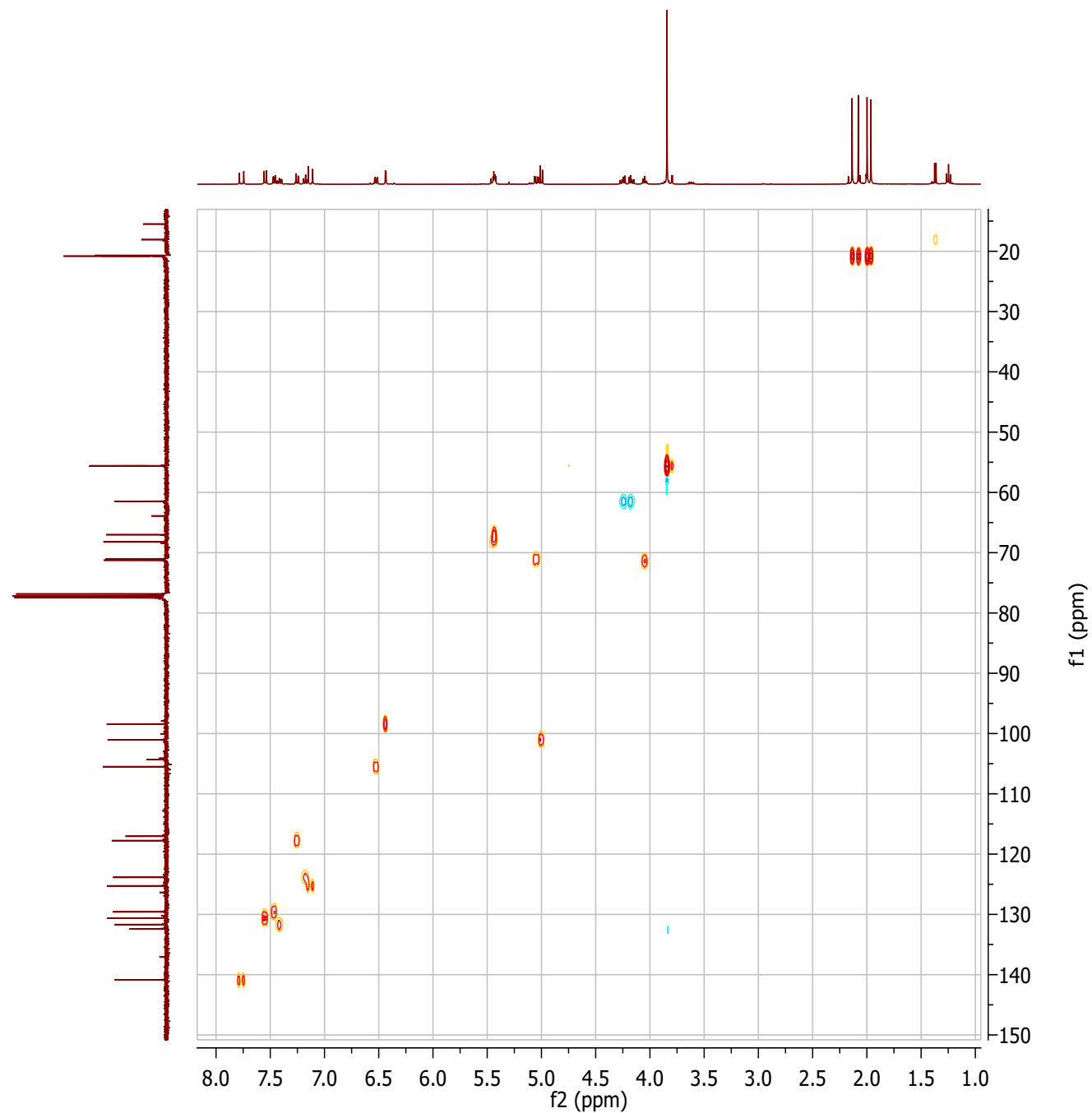


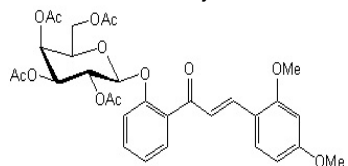
Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1278
10 Acquisition Date	2010-09-17T12:39:25
11 Modification Date	2010-09-17T11:42:15
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(4006.4, 4006.4)
14 Lowest Frequency	(-462.5, -462.5)
15 Nucleus	(1H, 1H)
16 Acquired Size	(512, 128)
17 Spectral Size	(1024, 1024)



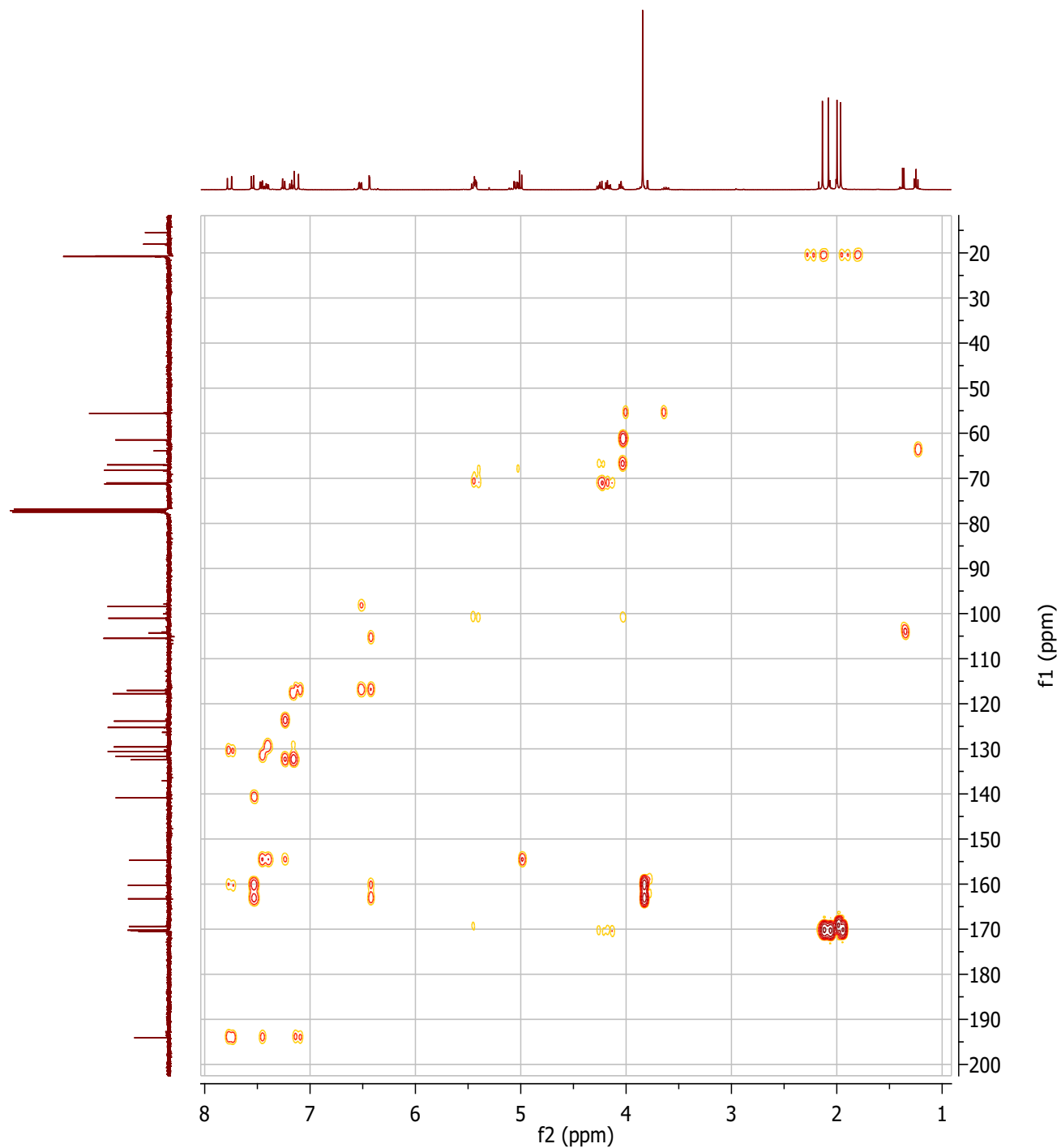


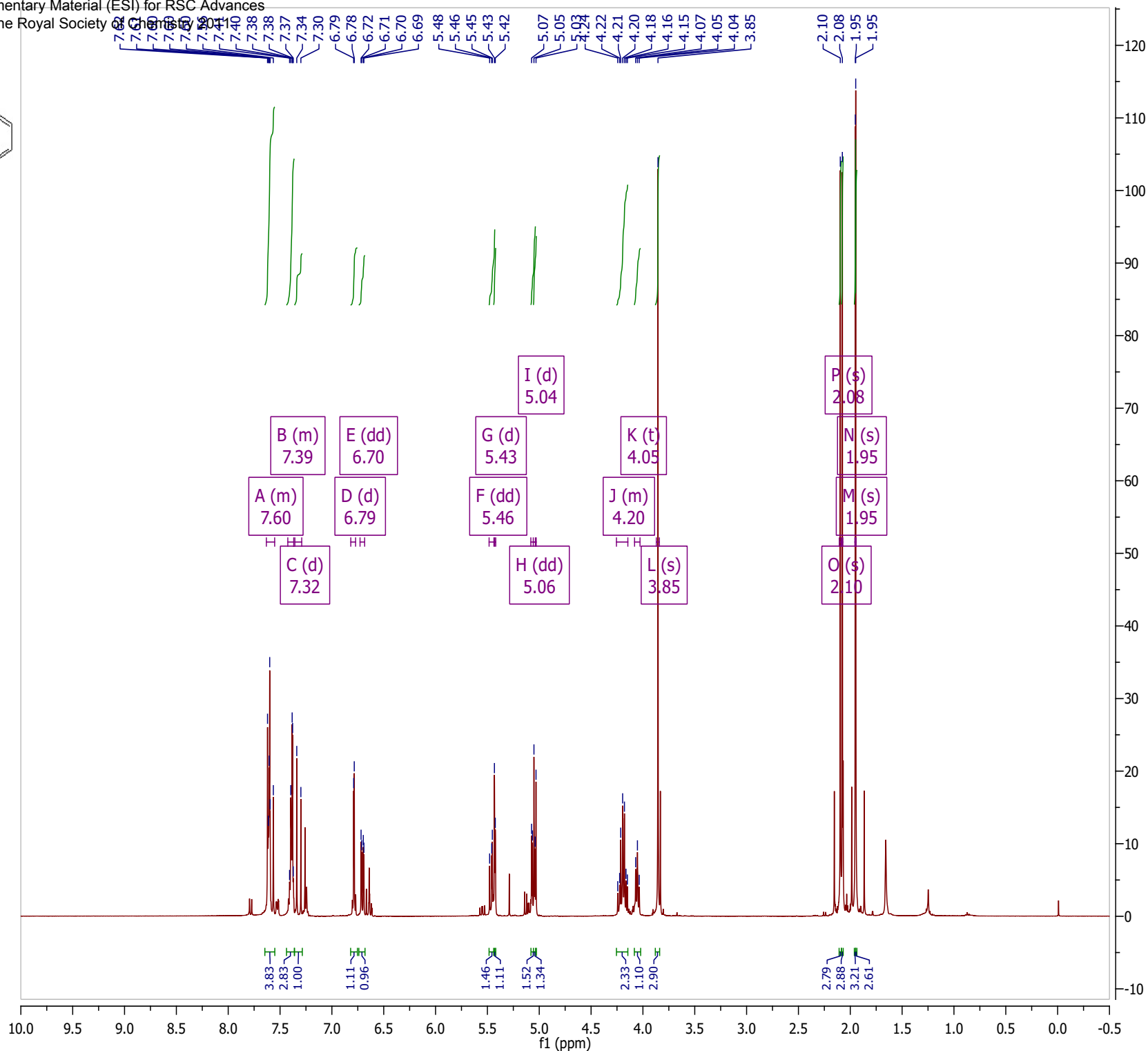
Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1994
10 Acquisition Date	2010-09-17T12:42:15
11 Modification Date	2010-09-17T11:53:37
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(4006.4, 24125.5)
14 Lowest Frequency	(-462.5, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(799, 128)
17 Spectral Size	(1024, 1024)

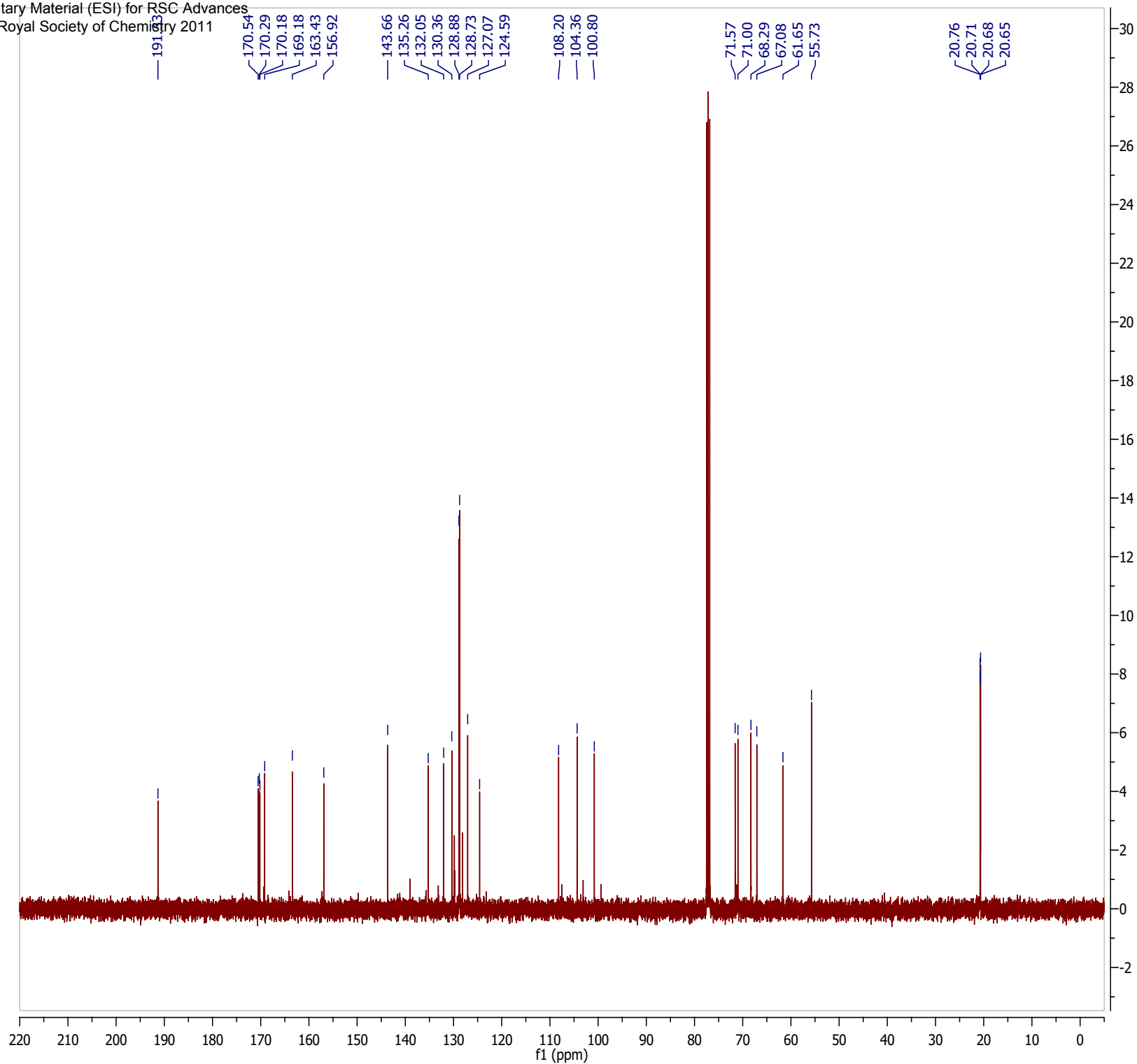
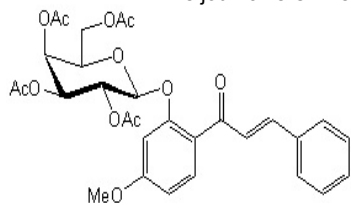




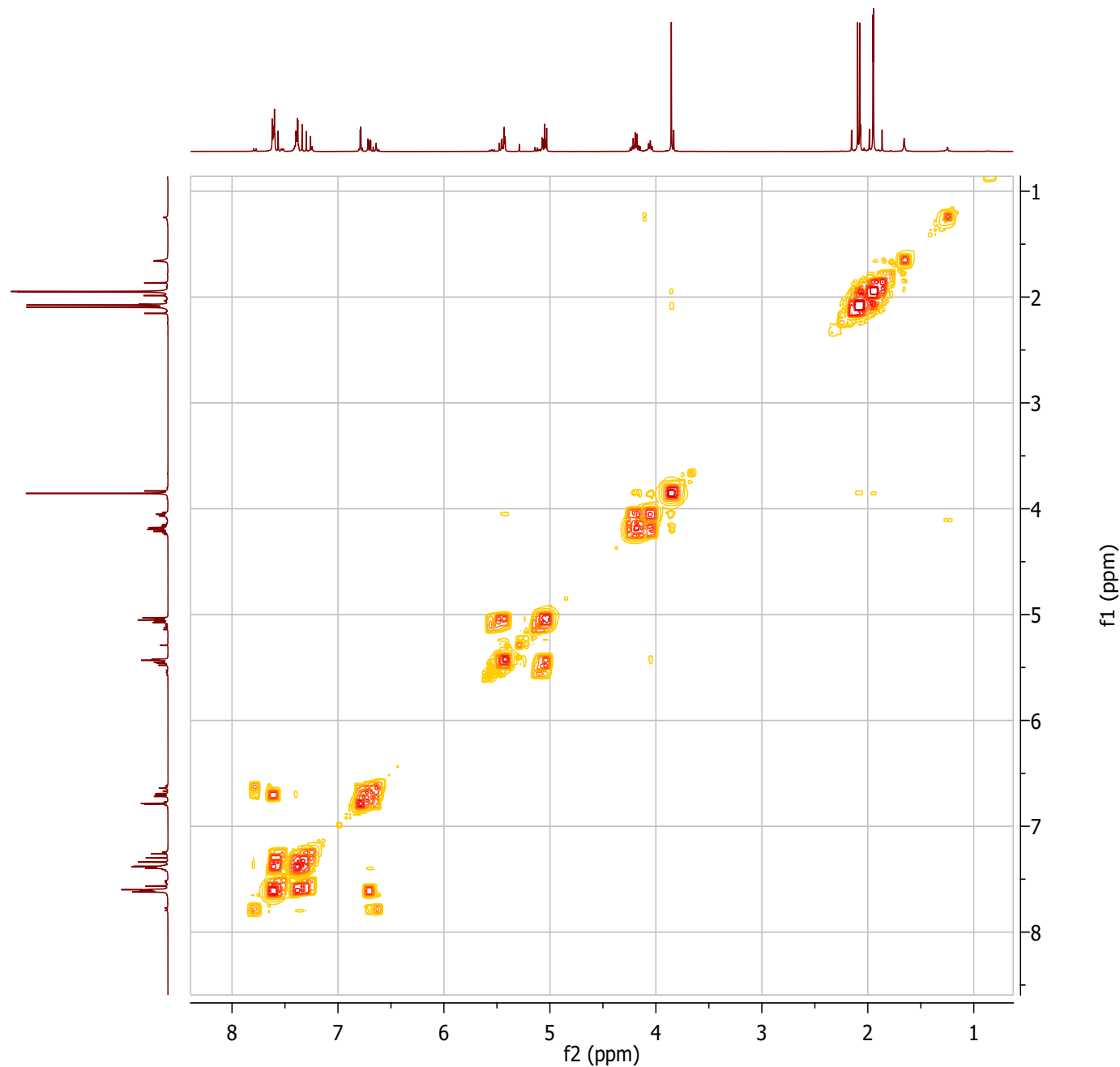
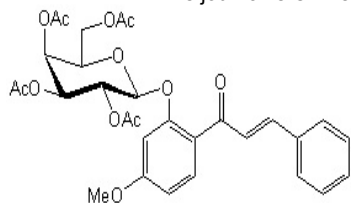
Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1280
10 Acquisition Date	2010-09-17T12:53:37
11 Modification Date	2010-09-17T12:26:45
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(4006.4, 24125.5)
14 Lowest Frequency	(-462.5, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(513, 200)
17 Spectral Size	(1024, 1024)



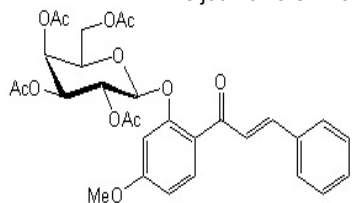




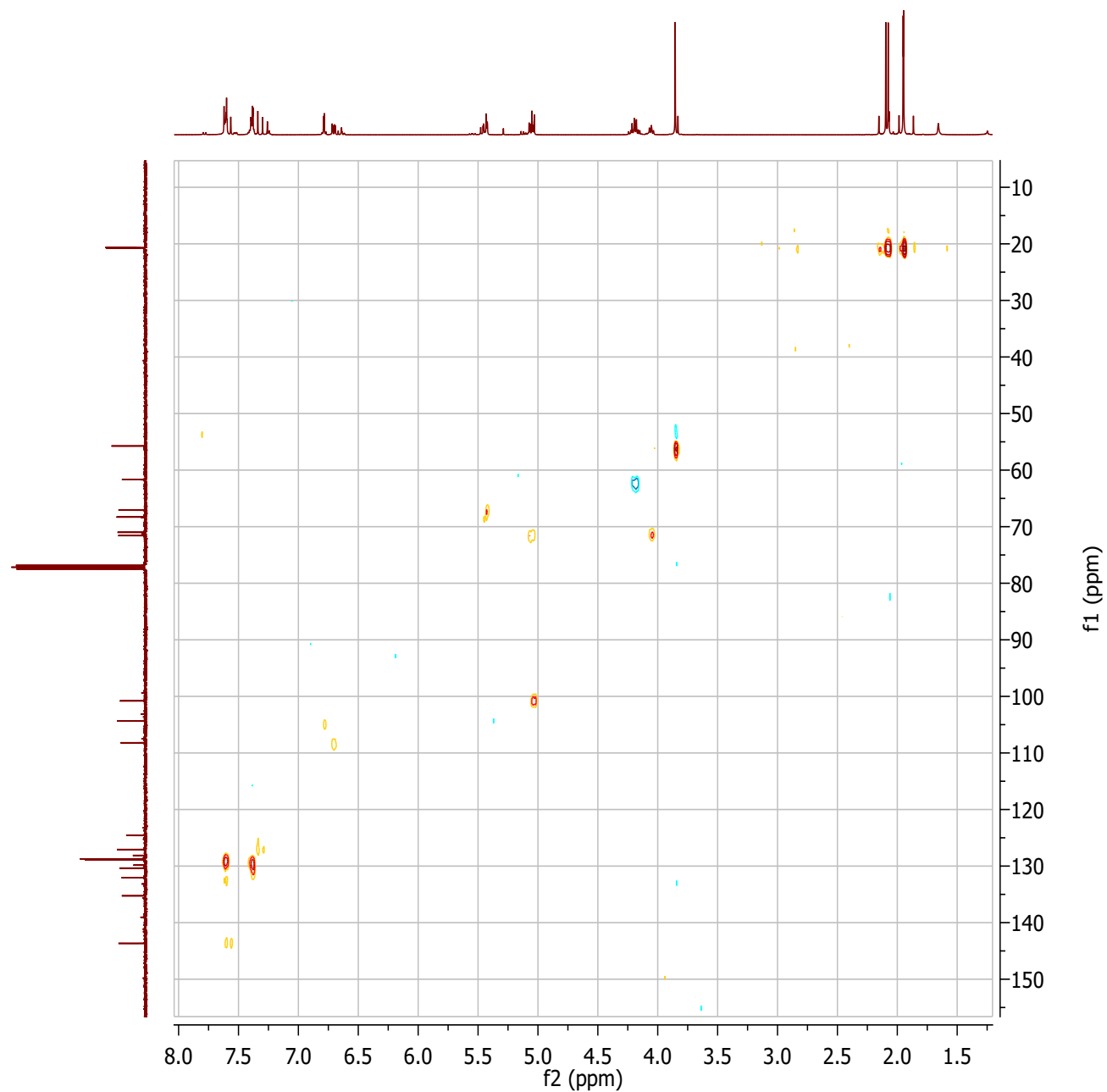
Parameter	Value
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	s2pul
5 Number of Scans	512
6 Receiver Gain	30
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	1.3005
10 Acquisition Date	2010-08-09T15:40:05
11 Modification Date	2010-08-09T14:59:47
12 Spectrometer Frequency	100.54
13 Spectral Width	24509.8
14 Lowest Frequency	-1699.1
15 Nucleus	¹³ C
16 Acquired Size	31875
17 Spectral Size	65536

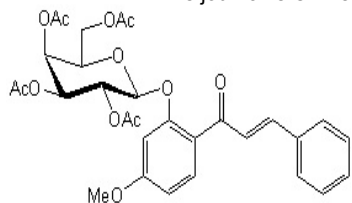


Parameter	Value (f2, f1)
1 Spectrometer	vnmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gCOSY
5 Number of Scans	1
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1286
10 Acquisition Date	2010-08-09T16:01:22
11 Modification Date	2010-08-09T15:04:12
12 Spectrometer Frequency	(399.81, 399.81)
13 Spectral Width	(3980.9, 3980.9)
14 Lowest Frequency	(-435.2, -435.2)
15 Nucleus	(1H, 1H)
16 Acquired Size	(512, 128)
17 Spectral Size	(1024, 1024)



Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHSQC
5 Number of Scans	2
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1992
10 Acquisition Date	2010-08-09T16:04:13
11 Modification Date	2010-08-09T15:15:35
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3980.9, 24125.5)
14 Lowest Frequency	(-435.2, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(793, 128)
17 Spectral Size	(1024, 1024)





Parameter	Value (f2, f1)
1 Spectrometer	nmrs
2 Solvent	cdcl3
3 Temperature	25.0
4 Pulse Sequence	gHMBC
5 Number of Scans	8
6 Receiver Gain	20
7 Relaxation Delay	1.0000
8 Pulse Width	0.0000
9 Acquisition Time	0.1281
10 Acquisition Date	2010-08-09T16:15:36
11 Modification Date	2010-08-09T15:48:44
12 Spectrometer Frequency	(399.81, 100.54)
13 Spectral Width	(3980.9, 24125.5)
14 Lowest Frequency	(-435.2, -1506.8)
15 Nucleus	(1H, 13C)
16 Acquired Size	(510, 200)
17 Spectral Size	(1024, 1024)

