Biological screening of a diverse set of AI-2 analogues in *Vibrio harveyi* suggests that receptors which are involved in synergistic agonism of AI-2 and analogues are promiscuous.

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General Methods of Synthesis

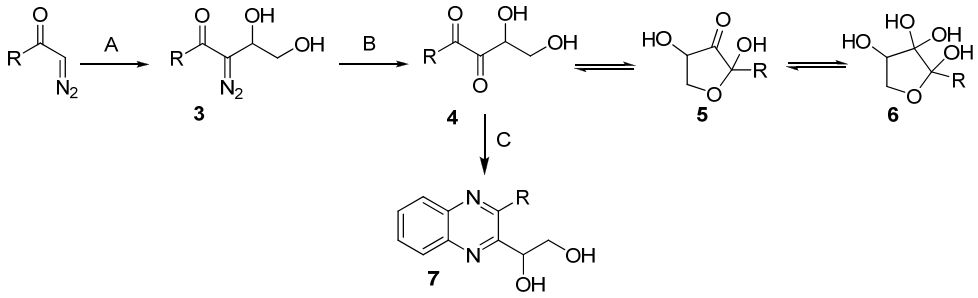
Air and moisture sensitive reactions were carried out in oven-dried glasswares sealed with rubber septa under a positive pressure of dry argon or nitrogen, unless otherwise indicated. Reactions were stirred using Teflon-coated magnetic stir bars. Organic solutions were concentrated using a Büchi rotary evaporator with an aspirator pump. Dry tetrahydrofuran was obtained using a solvent purification system (PureSolvent™) prior to use. Dry acetonitrile was distilled from CaH_2 prior to use. Thin-layer chromatography (TLC) was performed on Merck Kieselgel 60 F254 plates with a 365 nm fluorescent indicator. The TLC was visualized by ultraviolet light and acidic *p*-anisaldehyde stain followed by gentle heating. The crude reaction mixtures were purified by flash chromatography on silica gel (230-400 mesh).

NMR spectra were measured on Bruker AV-400, Bruker DRX-400 (^{1}H at 400 MHz, ^{13}C at 100MHz), Bruker DRX-500 (^{1}H at 500 MHz, ^{13}C at 125MHz) or Bruker AVIII-600 (^{1}H at 600 MHz, ^{13}C at 150MHz). Data for ^{1}H -NMR spectra are reported as follows: chemical shift (ppm, relative to residual solvent peaks or indicated external standards; s = singlet, d = doublet, t = triplet, q = quartet, dd = doublet of doublets, td = triplet of doublets, ddd = doublet of doublet of doublets, dddd = doublet of doublet of doublet of doublets, m = multiplet), coupling constant (Hz), and integration. Data for ^{13}C -NMR are reported in terms of chemical shift (ppm) relative to residual solvent peak. Mass spectra (MS) and high resolution mass spectra (HRMS) were recorded by JEOL AccuTOF-CS (ESI positive, needle voltage 1000 eV). Infrared spectra (IR) were recorded by a ThermoNicolet IR200 Spectrometer

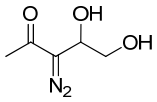
Bioluminescence assay

V. harveyi strain MM32 was obtained from ATCC. All bacteria were maintained on AB agar at 30˚C and grown in AB media at 30˚C with 250rpm. Overnight culture of MM32 were diluted 1:5000 in fresh AB media with100μM of boric acid and AI-2 and/or analogues at the indicated

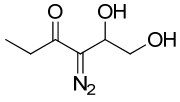
concentration and grown for 8 hours at 30˚C with 250rpm. At the 8 hour time point, bacteria for all samples have reached an OD_{600} of 0.6-0.8. The luminescence of eight independent cultures were determined for each analogue using a Spectromax M5 (Molecular Devices). All samples are reported as averages of the readings with error as one standard deviation from the mean.



A: To a solution of the diazocarbonyl in anhydrous acetonitrile (0.2 M) was added DBU (0.16-0.20 eq.) and 2-(*tert*-butyldimethylsilyloxy)acetaldehyde (1.0-1.5 eq.).[1] The reaction was stirred at room temperature under nitrogen for 4-8 hours and monitored by TLC. Upon the disappearance of starting material, the reaction was quenched with a saturated solution of sodium bicarbonate. The organic layer was extracted with dichloromethane (3 x 20 mL) and dried with magnesium sulfate. The solvent was evaporated under reduced pressure. To a solution of crude product in anhydrous tetrahydrofuran (0.2 M) was added TBAF (1-2 eq.) at 0 ^{o}C. The solution was allowed to warm to room temperature and stirred for 1-3 hours under nitrogen. The solvent was evaporated and the crude product was purified by column chromatography. The product eluted with 1:3 to 3:2 ethyl acetate: hexane. Compound **3** was eluted as yellow oil (20-52 % yield over 2 steps).

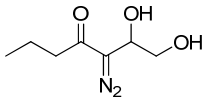


3-diazo-4, 5-dihydroxypentan-2-one (3a): ^{1}H NMR (400 MHz, $CDCl_3$) δ ppm 4.76 (1H, m), 3.85 (1H, dd, *J* = 11.4, 3.2 Hz), 3.75 (1H, dd, *J* = 11.4, 3.2 Hz), 3.46 (1H, s, br), 2.69 (1H, s, br), 2.26 (3H, s). ^{13}C NMR (100 MHz, $CDCl_3$) δ ppm 191.7, 66.3, 64.2, 25.6. IR: 3349, 2361, 2338, 2092, 1607 cm^{-1}. Yield: 50% (over 2 steps)

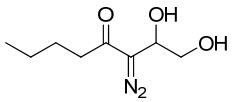


4-diazo-5,6-dihydroxyhexan-3-one (3b): ^{1}H NMR (400 MHz, $CDCl_3$) δ ppm 4.75 (1H, m), 4.48 (1H, br), 4.21 (1H, br), 3.81-3.79 (1H, m), 3.72-3.70 (1H, m), 3.44 (1H, br), 2.50 (2H, q, *J* = 7.4

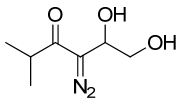
Hz), 1.13 (3H, t, *J* = 7.4 Hz); ^{13}C NMR (100 MHz, $CDCl_3$) δ ppm 195.2, 65.9, 64.1, 31.2, 8.2; IR: 3365, 2980, 2940, 2084, 1607 cm^{-1}. Yield 33% (over 2 steps)



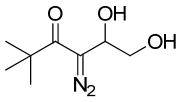
3-diazo-1,2-dihydroxyheptan-4-one (3c): ^{1}H NMR (400 MHz, $CDCl_3$) δ ppm 4.75 (1H, m), 4.08 (1H, br), 3.81 (1H, dd, *J* = 11.2, 3.4 Hz), 3.70 (1H, dd, *J* = 11.2, 5.4 Hz), 3.35 (1H, br), 2.45 (2H, t, *J* = 7.4 Hz), 1.68-1.63 (2H, m), 0.94 (3H, t, *J* = 7.4 Hz). ^{13}C NMR (100 MHz, $CDCl_3$) δ ppm 195.3, 66.6, 64.8, 40.5, 18.6, 14.1. IR: 3395, 2964, 2935, 2876, 2082, 1605 cm^{-1}. Yield: 52% (over 2 steps)



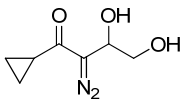
3-diazo-1,2-dihydroxyoctan-4-one (3d): ^{1}H NMR (400 MHz, $CDCl_3$) 4.75 (1H, br), 3.83 (1H, dd, *J* = 3.9, 11.4 Hz), 3.72 (1H, dd, *J* = 5.3, 11.5 Hz), 3.02 (1H, s, br), 2.45-2.49 (2H, m), 1.95 (1H, s, br), 1.57-1.65 (2H, m), 1.30-1.40 (2H, m), 0.91 (3H, t, *J* = 7.3 Hz) ^{13}C NMR (100 MHz, $CDCl_3$) δ ppm 194.9, 66.2, 64.1, 37.7, 26.5, 22.1, 13.6. IR: 3334, 2959, 2872, 2082, 1607 cm^{-1}. Yield: 48% (over 2 steps)



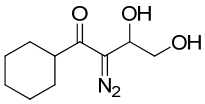
4-diazo-5,6-dihydroxy-2-methylhexan-3-one (3e): ^{1}H NMR (400 MHz, $CDCl_3$) δ ppm 4.74-4.76 (1H, m), 3.81 (1H, dd, *J* = 11.4, 3.9 Hz), 3.70 (1H, dd, *J* = 11.5, 5.6 Hz), 2.79-2.86 (1H, m), 1.12 (6H, d, *J* = 6.8 Hz). ^{13}C NMR (100 MHz, $CDCl_3$) δ ppm 199.5, 66.7, 64.8, 36.5, 19.1. IR: 3357, 2971, 2929, 2362, 2084, 1738, 1609 cm^{-1}. Yield: 25% (over 2 steps)



4-diazo-5,6-dihydroxy-2,2-dimethylhexan-3-one (3f): ^{1}H NMR (400 MHz, $CDCl_3$) δ ppm 4.78 (1H, t, *J* = 4.9 Hz), 3.83 (1H, dd, *J* = 4.2, 11.5 Hz), 3.74-3.70 (1H, m), 1.23 (9H, s). ^{13}C NMR (100 MHz, $CDCl_3$) δ ppm 200.6, 67.8, 64.0, 44.3, 26.6. IR: 3358, 2971, 2361, 2338, 2077, 1702, 1602 cm^{-1}. Yield: 20% (over 2 steps)

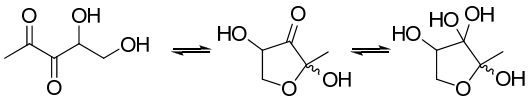


1-cyclopropyl-2-diazo-3,4-dihydroxybutan-1-one (3g): ^{1}H NMR (400 MHz, $CDCl_3$) δ ppm 4.81 (1H, s, br), 3.87-3.92 (1H, m), 3.79-3.83 (1H, m), 3.38 (1H, s, br), 2.62 (1H, s, br), 1.94-2.01 (1H, m), 1.13-1.17 (2H, m), 0.92-0.97 (2H, m); ^{13}C NMR (100 MHz, $CDCl_3$) δ ppm 193.5, 66.4, 63.7, 16.4, 9.5. IR: 3401, 2929, 2362, 2088, 1690, 1612 cm^{-1}. Yield: 28% (over 2 steps)

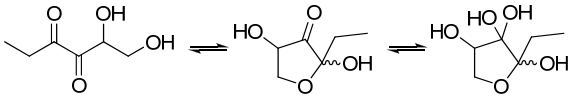


1-cyclohexyl-2-diazo-3,4-dihydroxybutan-1-one (3h): ^{1}H NMR (400 MHz, $CDCl_3$) δ ppm 4.75 (1H, t, *J* = 4.6, 4.6Hz), 3.85 (1H, dd, *J* = 4.1, 11.4Hz), 3.75 (1H, dd, *J* = 4.9, 11.5Hz), 3.41 (1H, s, br), 2.58 (1H, s, br), 2.49-2.56 (1H, m), 1.74-1.83 (3H, m), 1.68-1.70 (1H, m), 1.42-1.51 (2H, m), 1.22-1.32 (3H, m). ^{13}C NMR (100 MHz, $CDCl_3$) δ ppm 198.4, 66.7, 64.3, 46.3, 28.8, 25.5. IR: 3399, 2975, 2932, 2362, 2085, 1616 cm^{-1}. Yield: 36% (over 2 steps)

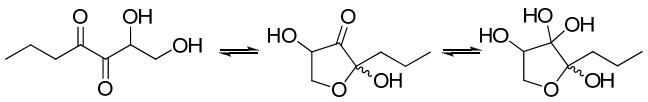
B: To a solution of Compound **3** (1 eq.) in acetone (1-2 mL) was added dioxirane (15-20 mL) in acetone dropwise. The reaction was allowed to stir at room temperature (1-2 hrs) until complete disappearance of starting material as indicated by TLC (loss of UV activity). Solvent and excess reagent was evaporated under reduced pressure. NMR was taken without further purification.



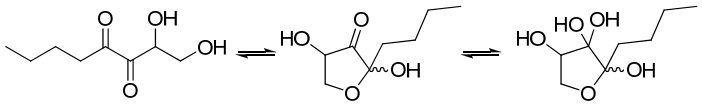
Equilibrium mixture of compounds 4a-6a: ^{1}H NMR (400 MHz, D_2O) δ ppm 4.24-4.28 (m), 4.04-4.10 (m), 3.93-3.95 (m), 3.84-3.86 (m), 3.67-3.72 (m), 3.52-3.59 (m), 3.44-3.48 (m), 2.26 (s), 1.30 (s), 1.26 (s). ^{13}C NMR (100 MHz, D_2O) δ ppm 103.9, 99.1, 74.3, 73.5, 71.2, 61.4, 24.8, 20.2, 19.6.



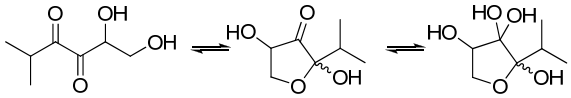
Equilibrium mixture of compounds 4b-6b: ^{1}H NMR (400 MHz, $CDCl_3$) δ ppm 4.94 (t, *J* = 3.1), 3.99-4.07 (m), 2.91-3.01 (1H, m), 2.75-2.85 (1H, m), 1.80-1.88 (2H, m), 1.15 (t, *J* = 7.2 Hz). ^{13}C NMR (100 MHz, $CDCl_3$) δ ppm 200.2, 198.8, 75.2, 64.2, 30.9, 18.9, 6.9.



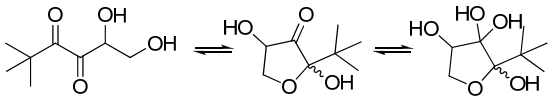
Equilibrium mixture of compounds 4c-6c: ^{1}H NMR (400 MHz, $CDCl_3$) δ ppm 4.91 (t, *J* = 3.1 Hz), 3.96-4.04 (m), 2.81-2.89 (m), 2.70-2.78 (m), 1.61-1.70 (m), 0.88-0.99 (m). ^{13}C NMR (100 MHz, $CDCl_3$) δ 199.3, 198.4, 74.7, 63.7, 38.7, 16.2, 13.5.



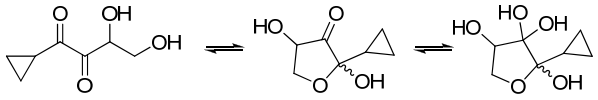
Equilibrium mixture of compounds 4d-6d: ^{1}H NMR (400 MHz, $CDCl_3$) δ ppm 4.94, (t, *J* = 3.2 Hz), 3.98-4.06 (m), 2.86-2.94 (m), 2.74-2.83 (m), 1.59-1.67 (m), 1.34-1.43 (m), 0.95 (t, *J* = 7.3 Hz). ^{13}C NMR (400 MHz, $CDCl_3$) δ ppm 199.2, 198.2, 74.5, 63.5, 36.4, 24.4, 21.9, 13.5.



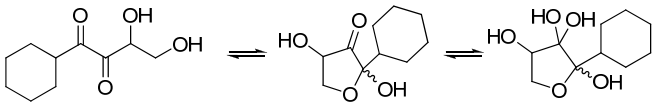
Equilibrium mixture of compounds 4e-6e: ^{1}H NMR (400 MHz, $CDCl_3$) δ ppm 4.92 (t, *J* = 3.2 Hz), 3.98 (d, *J* = 3.3 Hz), 3.72 (q, *J* = 7.0 Hz), 3.34-3.41 (m), 1.23-1.29 (m), 1.19 (dd, *J* = 6.9, 1.4 Hz) 1.15 (dd, *J* = 6.9, 6.3 Hz), 1.03 (dd, *J* = 6.9, 1.5 Hz), 0.92 (d, *J* = 6.9 Hz); ^{13}C NMR (100 MHz, $CDCl_3$) δ ppm 203.1, 199.5, 75.3, 63.9, 35.3, 34.1, 30.1, 17.7, 17.3.



Equilibrium mixture of compounds 4f-6f: ^{1}H NMR (400 MHz, $CDCl_3$) δ ppm 4.78 (t, *J* = 3.5 Hz), 4.37-4.45 (m), 3.91 (d, *J* = 3.5 Hz), 3.69-3.74 (m), 1.27 (s), 1.23 (s), 1.09 (s), 1.06 (s), 1.01 (s). ^{13}C NMR (100 MHz, $CDCl_3$) δ ppm 213.8, 207.4, 201.4, 101.7, 75.5, 73.1, 66.8, 63.2, 42.9, 37.1, 26.6, 26.1, 24.6, 24.1.

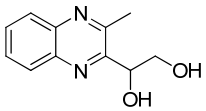


Equilibrium mixture of compounds 4g-6g: ^{1}H NMR (400 MHz, $CDCl_3$) δ ppm 4.90 (t, *J* = 3.2 Hz), 4.00 (d, *J* =3.2 Hz), 2.71-2.75 (m), 1.09-1.24 (m), 0.83-0.89 (m).^{13}C NMR (100 MHz, $CDCl_3$) δ ppm 74.7, 63.7, 29.7, 16.3, 14.3.

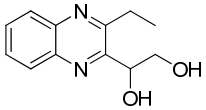


Equilibrium mixture of compounds 4g-6g: ^{1}H NMR (400 MHz, $CDCl_3$) δ ppm 4.93 (br), 4.00 (d, *J* = 2.8 Hz), 3.14-3.20 (m), 1.71-1.92 (m), 1.23-1.48 (m). ^{13}C NMR (100 MHz, $CDCl_3$) δ ppm 202.4, 199.6, 75.2, 63.9, 44.6, 28.1, 27.6, 26.1, 26.0, 25.9, 25.5.

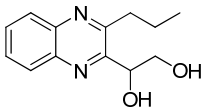
C: To a solution of DPD-analogues was added 1,2-phenylenediamine (1.5 eq.). The reaction was stirred at room temperature for 10 minutes and then the reaction mixture was washed with 2 M HCl aqueous solution. The crude mixture was purified with silica-gel column chromatography (hexane: ethyl acetate).



1-(3-methylquinoxalin-2-yl)ethane-1,2-diol (7a): ^{1}H NMR (500 MHz, $CDCl_3$) δ ppm 8.03-8.06 (2H, m), 7.72-7.78 (2H, m), 5.11-5.16 (1H, m, br), 4.55 (1H, d, *J* = 7.6 Hz), 4.03-4.08 (1H, m), 3.86 (1H, dd, *J* = 11.4, 5.5 Hz), 2.83 (3H, s). ^{13}C NMR (125 MHz, $CDCl_3$) δ ppm 153.1, 152.2, 142.1, 139.6, 130.3, 129.8, 128.8, 128.6, 71.2, 66.2, 29.9, 22.2. HRMS (ESI+): Found 205.0978 Calc'd 205.0977 (M+H).

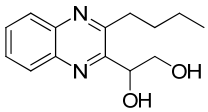


1-(3-ethylquinoxalin-2-yl)ethane-1,2-diol (7b): ^{1}H NMR (500 MHz, $CDCl_3$) δ ppm 8.10 (1H, dd, *J* = 8.4, 1.8 Hz), 8.02 (1H, d, *J* = 8.0 Hz), 7.71-7.78 (2H, m), 5.17 (1H, s, br), 4.56 (1H, d, *J* = 7.0 Hz), 4.01-4.06 (1H, m), 3.83 (1H, dd, *J* = 11.6, 5.7 Hz), 3.02-3.16 (2H, m),1.46 (3H, t, *J* = 7.5 Hz). ^{13}C NMR (125 MHz, $CDCl_3$) δ ppm 156.4, 152.7, 142.3, 139.5, 130.2, 129.7, 128.9, 128.6, 70.9, 66.7, 29.6, 12.8. HRMS (ESI+): Found 219.1131 Calc'd 219.1134 (M+H).

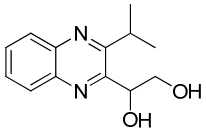


1-(3-propylquinoxalin-2-yl)ethane-1,2-diol (7c): ^{1}H NMR (500 MHz, $CDCl_3$) δ ppm 8.06 (1H, dd, *J* = 8.3, 1.7 Hz), 8.02 (1H, d, *J* = 8.0 Hz), 7.70-7.77 (2H, m), 5.17 (1H, s, br), 4.56 (1H, d, *J* = 7.0Hz), 4.06-4.01 (1H, m), 3.83 (1H, dd, *J* = 11.7, 5.7 Hz), 3.02-3.16 (2H, m),1.46 (3H, t, *J* =

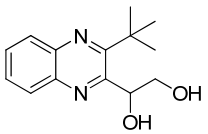
7.5Hz). ^{13}C NMR (125 MHz, $CDCl_3$) δ ppm 156.4, 152.7, 142.3, 139.5, 130.2, 129.7, 128.9, 128.6, 70.9, 66.7, 29.6, 12.8. HRMS (ESI+): Found 233.1331 Calc'd 233.1290 (M+H).



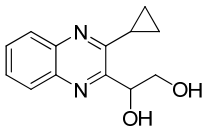
1-(3-butylquinoxalin-2-yl)ethane-1,2-diol (7d): ^{1}H NMR (500 MHz, $CDCl_3$) δ ppm 8.07 (1H, d, *J* = 8.0 Hz), 8.03 (1H, d, *J* = 7.5 Hz), 7.71-7.77 (2H, m), 5.17 (1H, s, br), 4.57 (1H, s, br), 4.04 (1H, dd, *J* = 11.6, 3.2 Hz), 3.81 (1H, dd, *J* = 11.6, 5.9 Hz), 2.99-3.10 (2H, m), 1.79-1.94 (2H, m), 1.47-1.55 (2H, m), 1.00 (3H, t, *J* = 7.4 Hz). ^{13}C NMR (125 MHz, $CDCl_3$) δ ppm 155.8, 152.8, 142.3, 139.4, 130.2, 129.7, 128.9, 128.6, 70.9, 66.8, 34.3, 31.2, 23.1, 14.2. HRMS (ESI+): Found 247.1459 Calc'd 247.1447 (M+H).



1-(3-isopropylquinoxalin-2-yl)ethane-1,2-diol (7e): ^{1}H NMR (600 MHz, $CDCl_3$) δ ppm 8.08 (1H, d, *J* = 7.8 Hz), 8.03 (1H, d, *J* = 7.8 Hz), 7.71-7.77 (2H, m), 5.22 (1H, s), 4.69 (1H, s), 4.03 (1H, dd, *J* = 11.4, 2.5 Hz), 3.77 (1H, dd, *J* = 11.6, 6.0 Hz), 3.43-3.47 (1H, m), 1.45 (3H, d, *J* = 6.7Hz), 1.39 (3H, d, *J* = 6.7 Hz). ^{13}C NMR (150 MHz, $CDCl_3$) δ ppm 160.4, 151.9, 142.5, 139.4, 130.0, 129.7, 129.1, 128.5, 70.7, 67.2, 31.2, 29.9, 22.9, 21.8. ESI-MS: 233 (M+H).

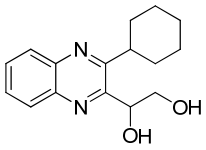


1-(3-tert-butylquinoxalin-2-yl)ethane-1,2-diol (7f): ^{1}H NMR (600 MHz, $CDCl_3$) δ ppm 8.06 (1H, d, *J* = 8.4 Hz), 7.99 (1H, d, *J* = 7.8 Hz), 7.71-7.76 (2H, m), 5.42-5.44 (1H, m), 3.97 (1H, dd, *J* = 11.6, 2.9 Hz), 3.83 (1H, dd, *J* = 11.6, 6.3 Hz), 1.59 (9H, s). ^{13}C NMR (100 MHz, $CDCl_3$) δ ppm 161.1, 154.7, 141.1, 139.3, 130.2, 129.8, 129.5, 128.2, 71.6, 68.1, 39.1, 30.6. HRMS (ESI+): Found 247.1455 Calc'd 247.1447 (M+H).



1-(3-cyclopropylquinoxalin-2-yl)ethane-1,2-diol (7g): ^{1}H NMR (500 MHz, $CDCl_3$) δ ppm 8.01 (1H, dd, *J* = 8.0, 1.1 Hz), 7.96 (1H, dd, *J* = 8.3, 1.2 Hz), 7.65-7.72 (2H, m), 5.36-5.39 (1H, m),

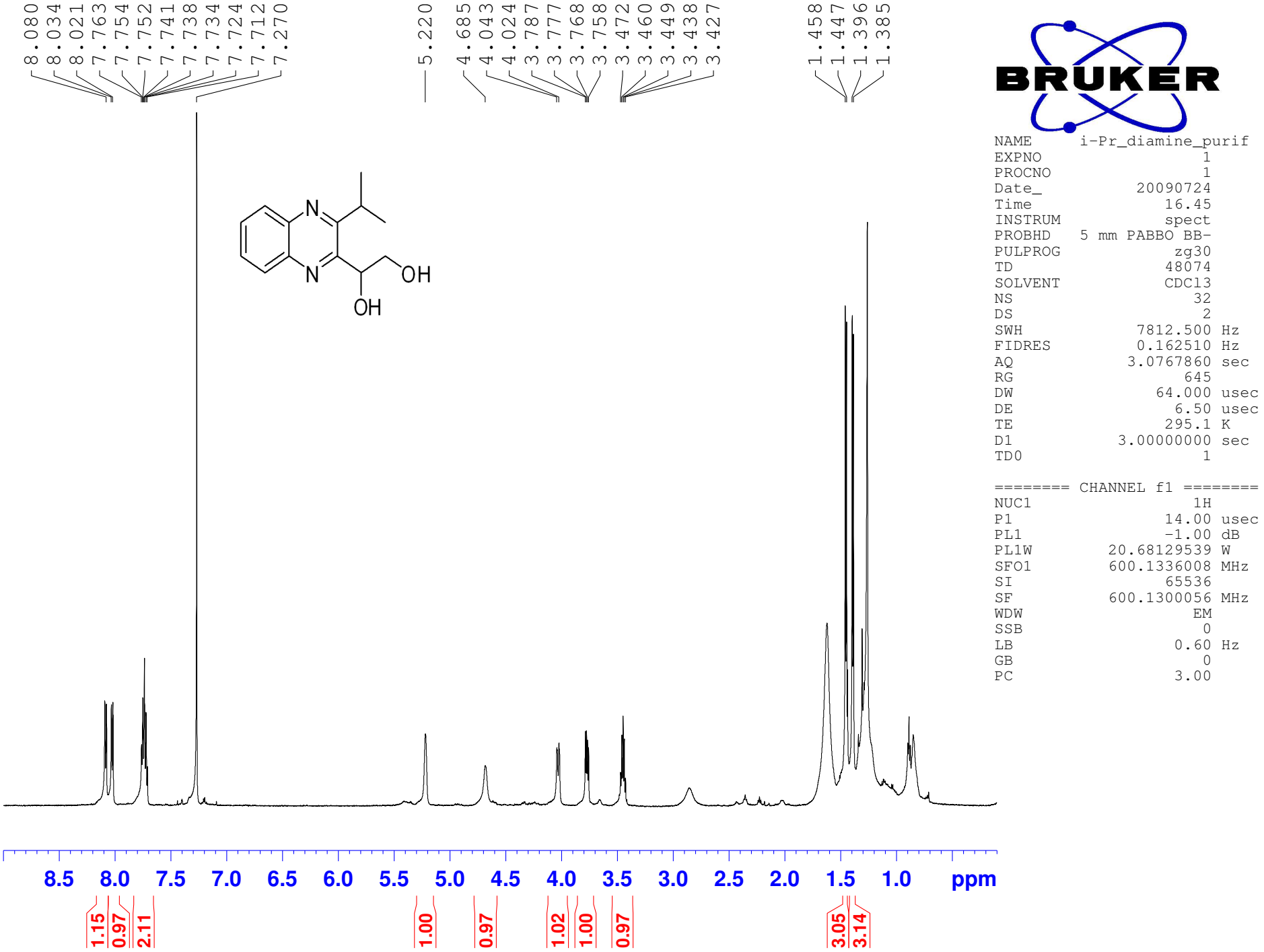
4.85 (1H, d, *J* = 6.0Hz), 4.17 (1H, d, *J* = 11.2Hz), 3.84 (1H, dd, *J* = 6.0, 11.6Hz), 2.78 (1H, s, br), 2.27-2.32 (1H, m), 1.48-1.52 (1H, m), 1.23-1.27 (1H, m), 1.15-1.21 (2H, m). ^{13}C NMR (125 MHz, $CDCl_3$) δ ppm 156.2, 152.3, 142.3, 138.9, 129.9, 129.1, 128.8, 128.5, 71.1, 66.6, 13.8, 11.9, 10.6. HRMS (ESI+): Found 231.1133 Calc'd 231.1134 (M+H).



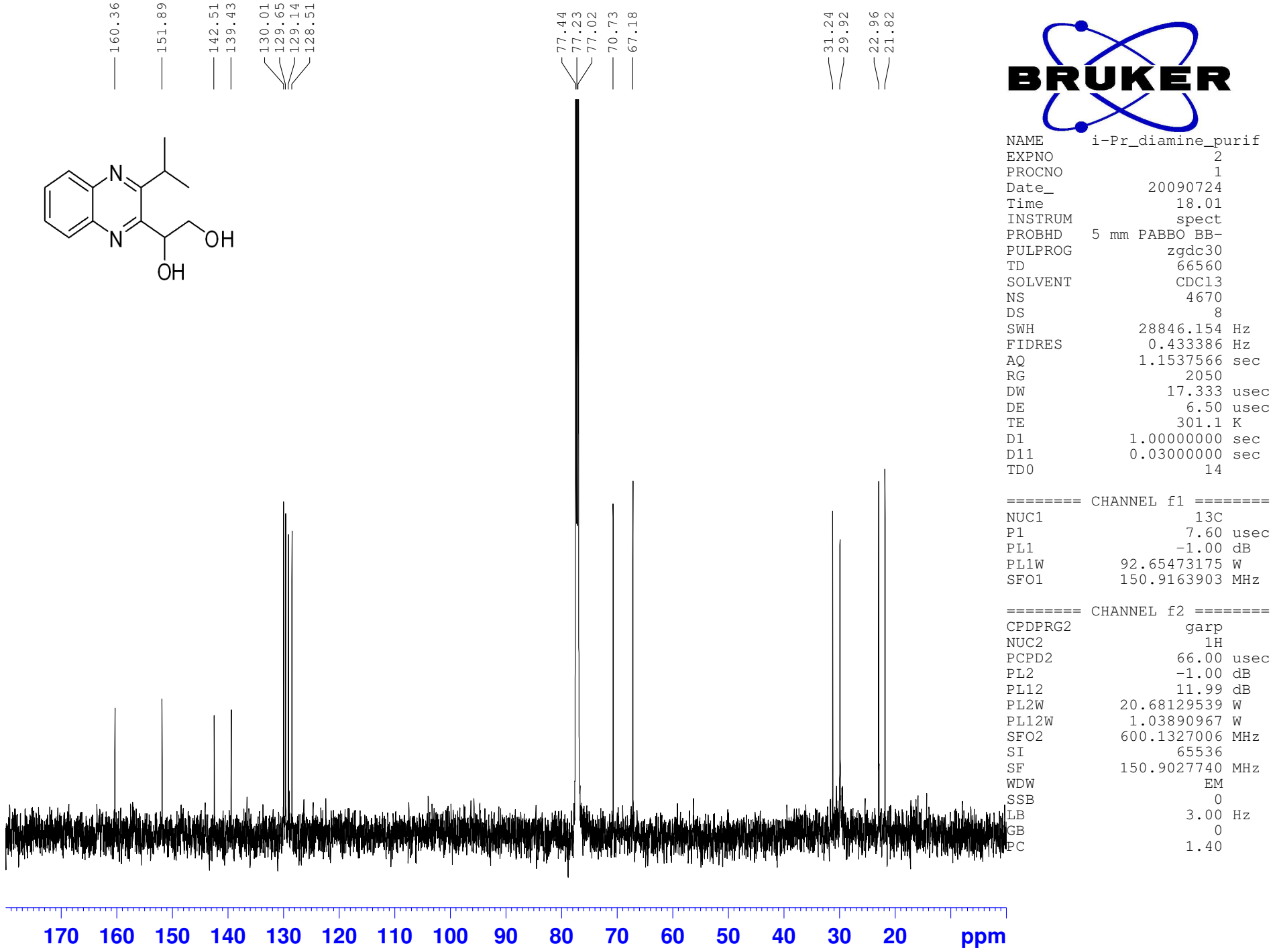
1-(3-cyclohexylquinoxalin-2-yl)ethane-1,2-diol (7h): ^{1}H NMR (500 MHz, $CDCl_3$) δ ppm 8.09 (1H, d, *J* = 8.0 Hz), 8.02 (1H, d, *J* = 8.0 Hz), 7.70-7.76 (2H, m), 5.21 (1H, s, br), 4.66 (1H, s, br), 4.01-4.04 (1H, m), 3.75 (1H, dd, *J* = 11.5, 6.1 Hz), 3.01-3.07 (1H, m), 1.76-1.98 (6H, m), 1.44-1.49 (4H, m). ^{13}C NMR (125 MHz, $CDCl_3$) δ ppm 159.6, 152.0, 142.5, 139.4, 130.0, 129.6, 129.1, 128.5, 70.7, 67.3, 41.7, 33.2, 32.0, 26.8, 26.1. HRMS (ESI+): Found 273.1618 Calc'd 273.1603 (M+H).

References

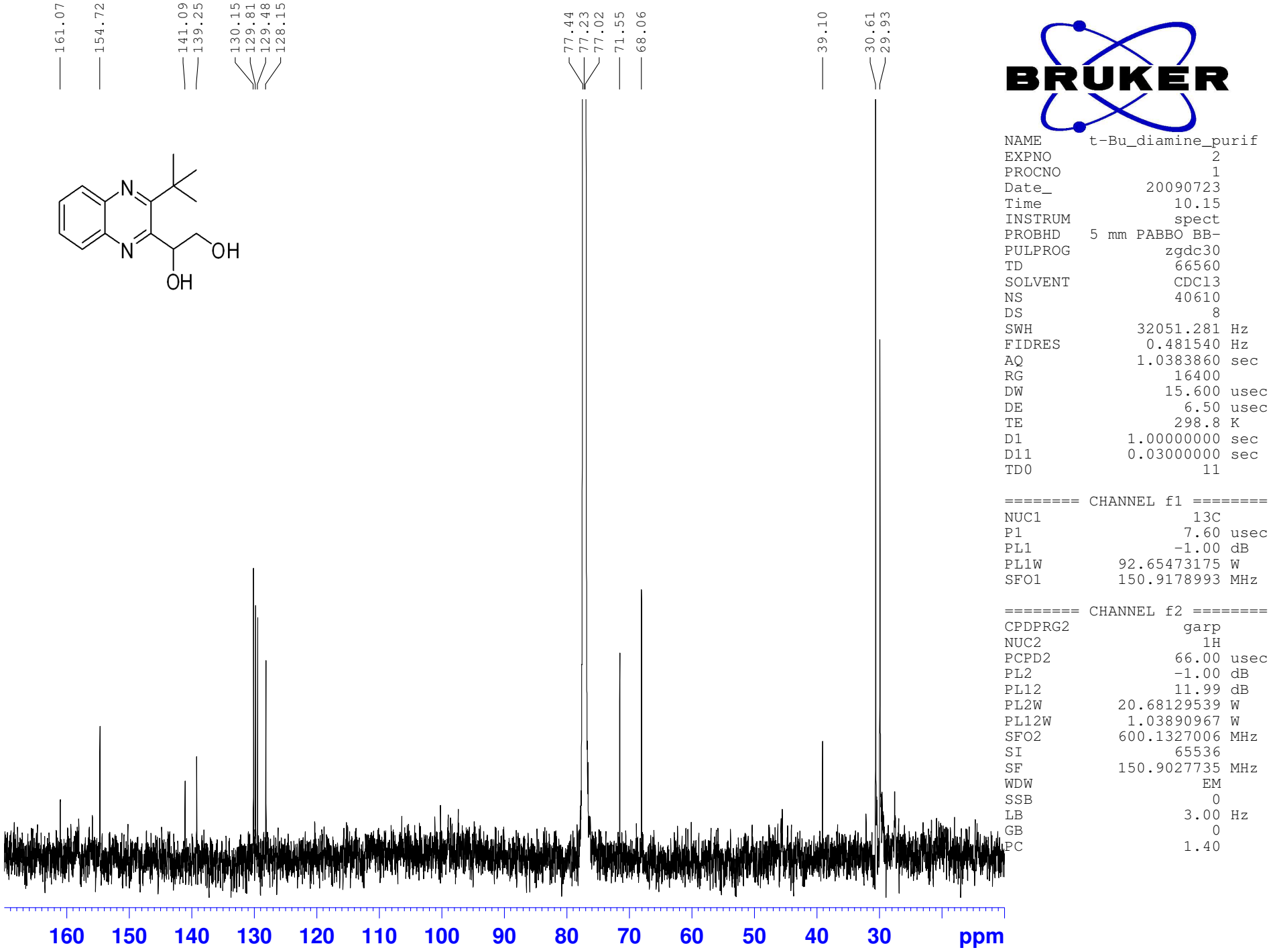
1. Jiang, N., Wang, J. (2002). DBU-promoted condensation of acyldiazomethanes to aldehydes and imines under catalytic conditions. Tet. Lett. *54* 1285-1287



NAME	i-Pr_diamine_purif	
EXPNO	1	
PROCNO	1	
Date_	20090724	
Time	16.45	
INSTRUM	spect	
PROBHD	5 mm PABBO BB-	
PULPROG	zg30	
TD	48074	
SOLVENT	CDCl3	
NS	32	
DS	2	
SWH	7812.500	Hz
FIDRES	0.162510	Hz
AQ	3.0767860	sec
RG	645	
DW	64.000	usec
DE	6.50	usec
TE	295.1	K
D1	3.00000000	sec
TD0	1	
======== CHANNEL f1 ========		
NUC1	1H	
P1	14.00	usec
PL1	-1.00	dB
PL1W	20.68129539	W
SFO1	600.1336008	MHz
SI	65536	
SF	600.1300056	MHz
WDW	EM	
SSB	0	
LB	0.60	Hz
GB	0	
PC	3.00	

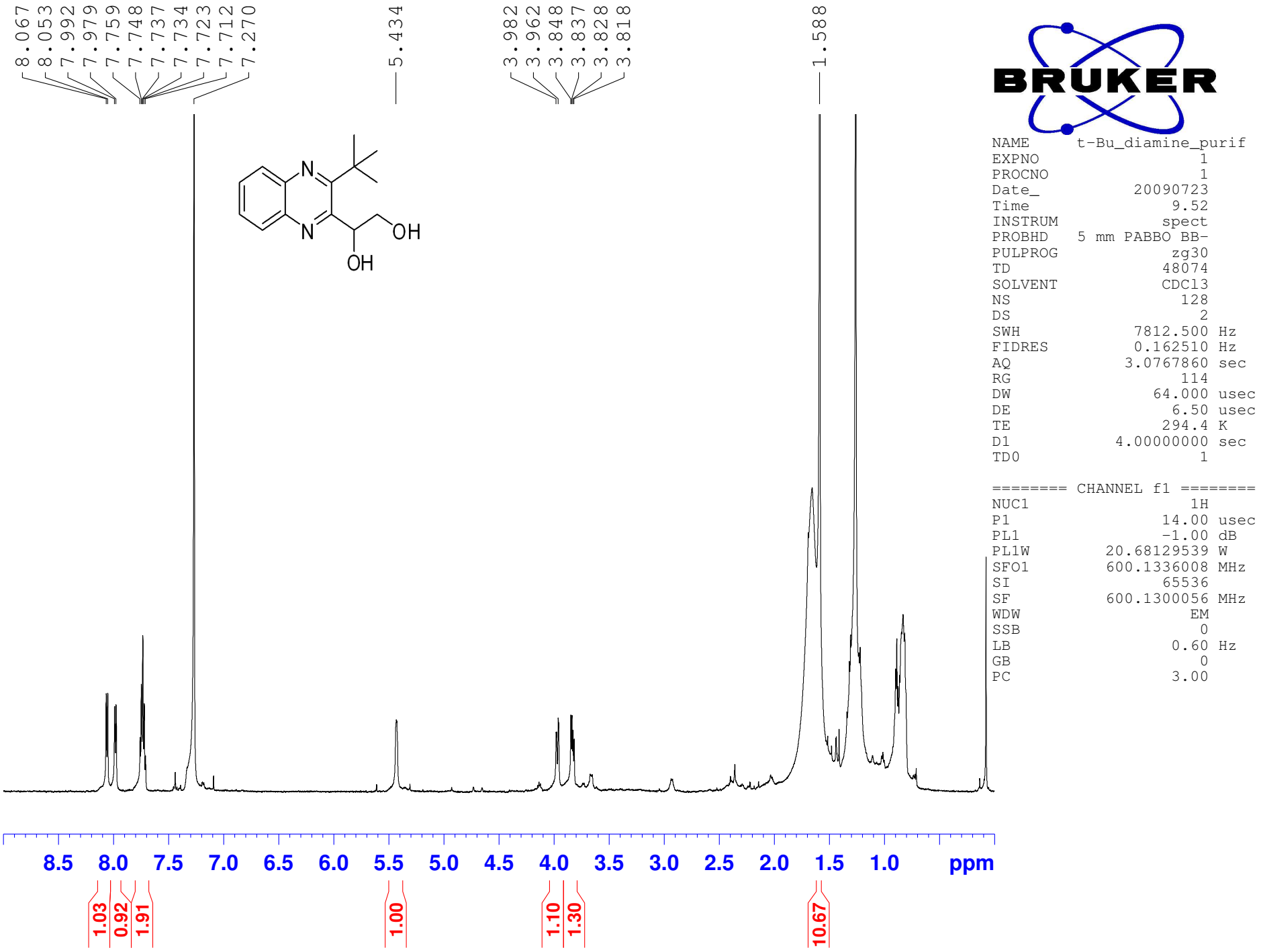


NAME	i-Pr_diamine_purif
EXPNO	2
PROCNO	1
Date_	20090724
Time	18.01
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zgdc30
TD	66560
SOLVENT	CDCl3
NS	4670
DS	8
SWH	28846.154 Hz
FIDRES	0.433386 Hz
AQ	1.1537566 sec
RG	2050
DW	17.333 usec
DE	6.50 usec
TE	301.1 K
D1	1.00000000 sec
D11	0.03000000 sec
TD0	14
======== CHANNEL f1 ========	
NUC1	13C
P1	7.60 usec
PL1	-1.00 dB
PL1W	92.65473175 W
SFO1	150.9163903 MHz
======== CHANNEL f2 ========	
CPDPRG2	garp
NUC2	1H
PCPD2	66.00 usec
PL2	-1.00 dB
PL12	11.99 dB
PL2W	20.68129539 W
PL12W	1.03890967 W
SFO2	600.1327006 MHz
SI	65536
SF	150.9027740 MHz
WDW	EM
SSB	0
LB	3.00 Hz
GB	0
PC	1.40



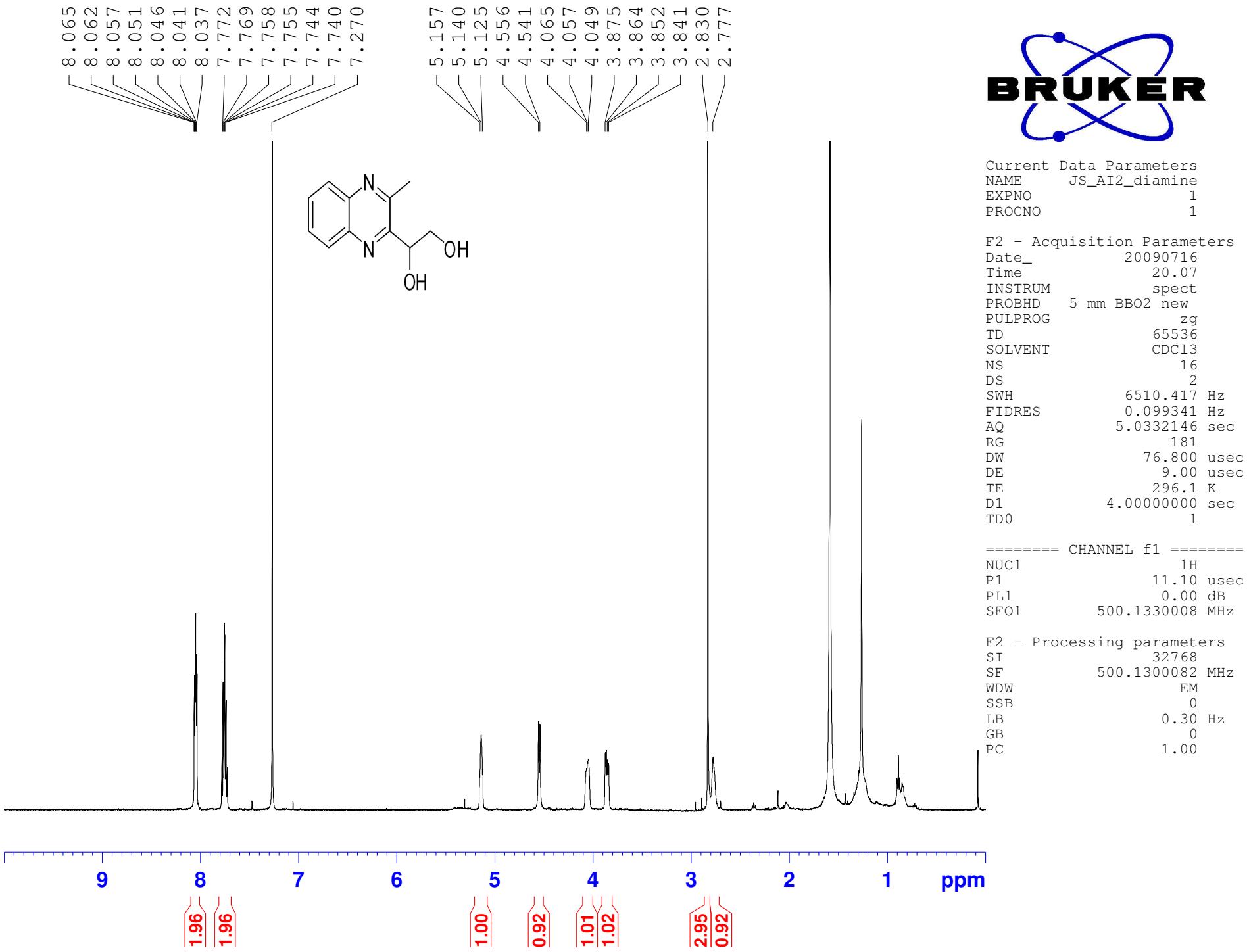
BRUKER

NAME	t-Bu_diamine_purif
EXPNO	2
PROCNO	1
Date_	20090723
Time	10.15
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zgdc30
TD	66560
SOLVENT	CDCl3
NS	40610
DS	8
SWH	32051.281 Hz
FIDRES	0.481540 Hz
AQ	1.0383860 sec
RG	16400
DW	15.600 usec
DE	6.50 usec
TE	298.8 K
D1	1.00000000 sec
D11	0.03000000 sec
TD0	11
======== CHANNEL f1 ========	
NUC1	13C
P1	7.60 usec
PL1	-1.00 dB
PL1W	92.65473175 W
SFO1	150.9178993 MHz
======== CHANNEL f2 ========	
CPDPRG2	garp
NUC2	1H
PCPD2	66.00 usec
PL2	-1.00 dB
PL12	11.99 dB
PL2W	20.68129539 W
PL12W	1.03890967 W
SFO2	600.1327006 MHz
SI	65536
SF	150.9027735 MHz
WDW	EM
SSB	0
LB	3.00 Hz
GB	0
PC	1.40



BRUKER

NAME	t-Bu_diamine_purif
EXPNO	1
PROCNO	1
Date_	20090723
Time	9.52
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zg30
TD	48074
SOLVENT	CDCl3
NS	128
DS	2
SWH	7812.500 Hz
FIDRES	0.162510 Hz
AQ	3.0767860 sec
RG	114
DW	64.000 usec
DE	6.50 usec
TE	294.4 K
D1	4.00000000 sec
TD0	1
======== CHANNEL f1 ========	
NUC1	1H
P1	14.00 usec
PL1	-1.00 dB
PL1W	20.68129539 W
SFO1	600.1336008 MHz
SI	65536
SF	600.1300056 MHz
WDW	EM
SSB	0
LB	0.60 Hz
GB	0
PC	3.00

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Current Data Parameters
NAME      JS_AI2_diamine
EXPNO                  1
PROCNO                 1

F2 - Acquisition Parameters
Date_           20090716
Time               20.07
INSTRUM            spect
PROBHD   5 mm BBO2 new
PULPROG               zg
TD                 65536
SOLVENT            CDCl3
NS                    16
DS                     2
SWH             6510.417 Hz
FIDRES          0.099341 Hz
AQ             5.0332146 sec
RG                   181
DW                76.800 usec
DE                 9.00 usec
TE                296.1 K
D1           4.00000000 sec
TD0                    1

======== CHANNEL f1 ========
NUC1                  1H
P1                11.10 usec
PL1                0.00 dB
SFO1        500.1330008 MHz

F2 - Processing parameters
SI                 32768
SF          500.1300082 MHz
WDW                   EM
SSB                    0
LB                0.30 Hz
GB                     0
PC                1.00
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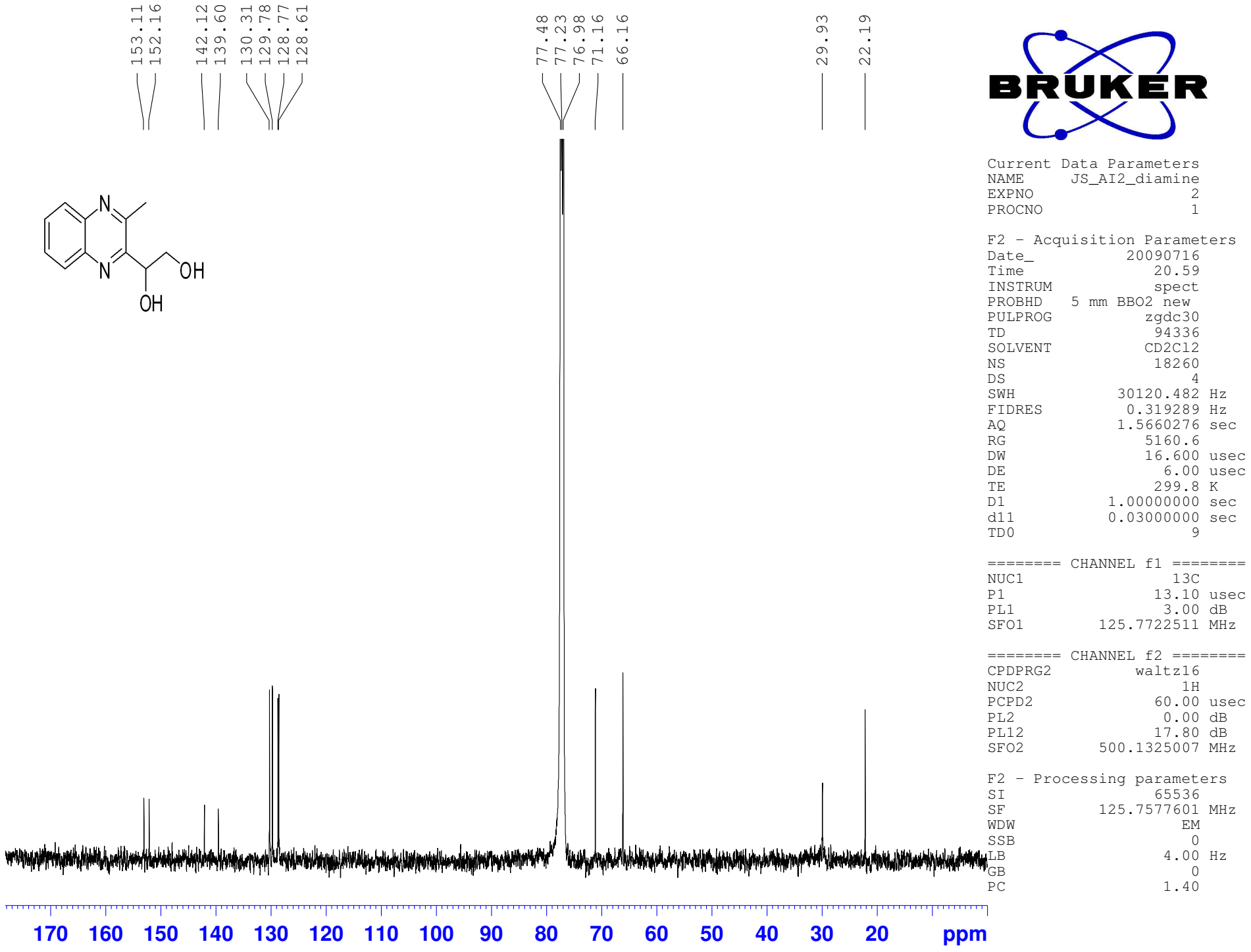


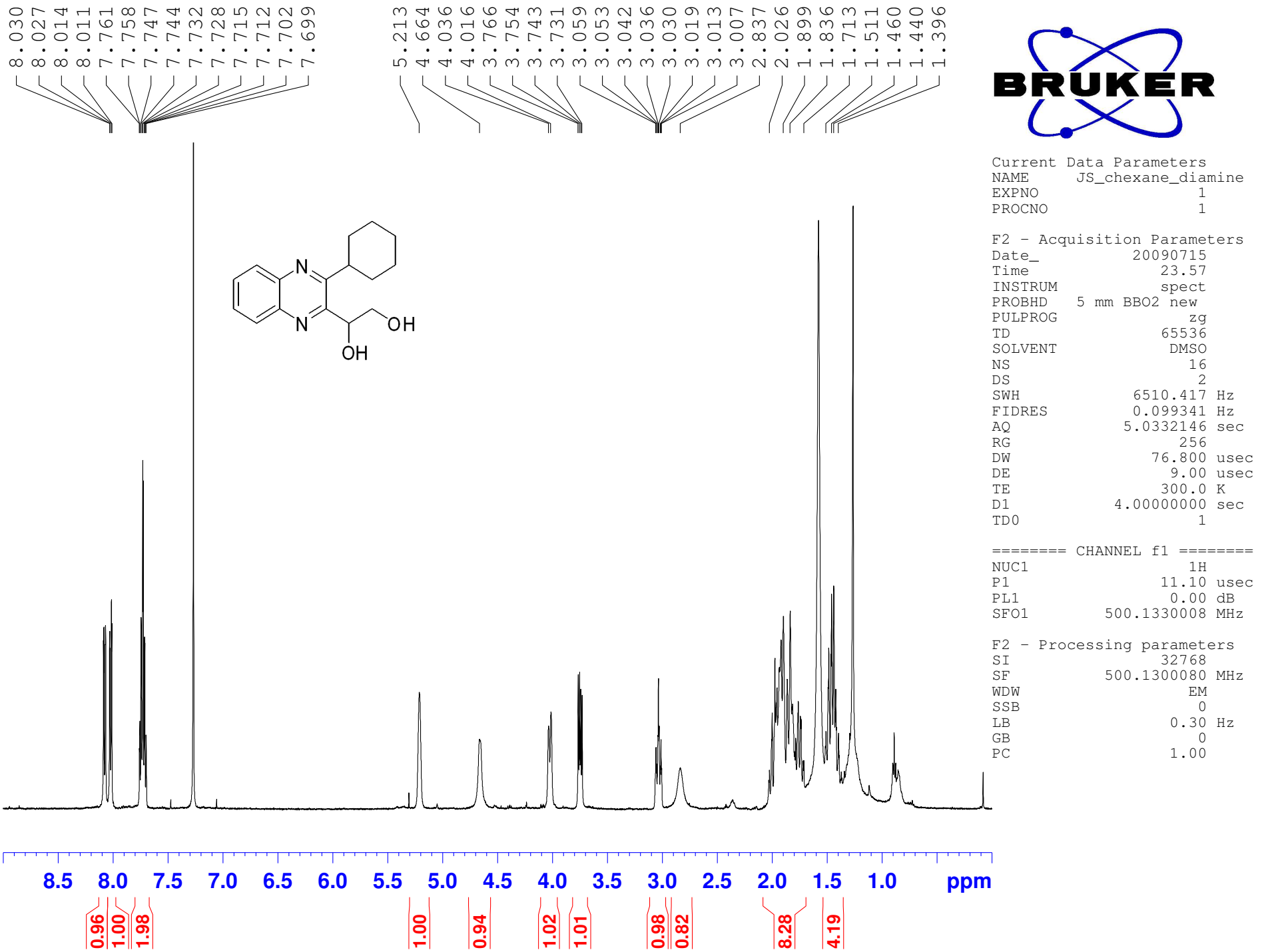
Current Data Parameters
NAME JS_AI2_diamine
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20090716
Time 20.59
INSTRUM spect
PROBHD 5 mm BBO2 new
PULPROG zgdc30
TD 94336
SOLVENT CD2Cl2
NS 18260
DS 4
SWH 30120.482 Hz
FIDRES 0.319289 Hz
AQ 1.5660276 sec
RG 5160.6
DW 16.600 usec
DE 6.00 usec
TE 299.8 K
D1 1.00000000 sec
d11 0.03000000 sec
TD0 9

======== CHANNEL f1 ========
NUC1 13C
P1 13.10 usec
PL1 3.00 dB
SFO1 125.7722511 MHz

======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 60.00 usec
PL2 0.00 dB
PL12 17.80 dB
SFO2 500.1325007 MHz

F2 - Processing parameters
SI 65536
SF 125.7577601 MHz
WDW EM
SSB 0
LB 4.00 Hz
GB 0
PC 1.40



BRUKER

```
Current Data Parameters
NAME      JS_chexane_diamine
EXPNO                      1
PROCNO                     1

F2 - Acquisition Parameters
Date_            20090715
Time                23.57
INSTRUM             spect
PROBHD    5 mm BBO2 new
PULPROG                zg
TD                  65536
SOLVENT              DMSO
NS                     16
DS                      2
SWH              6510.417 Hz
FIDRES           0.099341 Hz
AQ               5.0332146 sec
RG                    256
DW                 76.800 usec
DE                  9.00 usec
TE                 300.0 K
D1           4.00000000 sec
TD0                    1

======== CHANNEL f1 ========
NUC1                  1H
P1                 11.10 usec
PL1                 0.00 dB
SFO1         500.1330008 MHz

F2 - Processing parameters
SI                 32768
SF           500.1300080 MHz
WDW                   EM
SSB                    0
LB                  0.30 Hz
GB                     0
PC                  1.00
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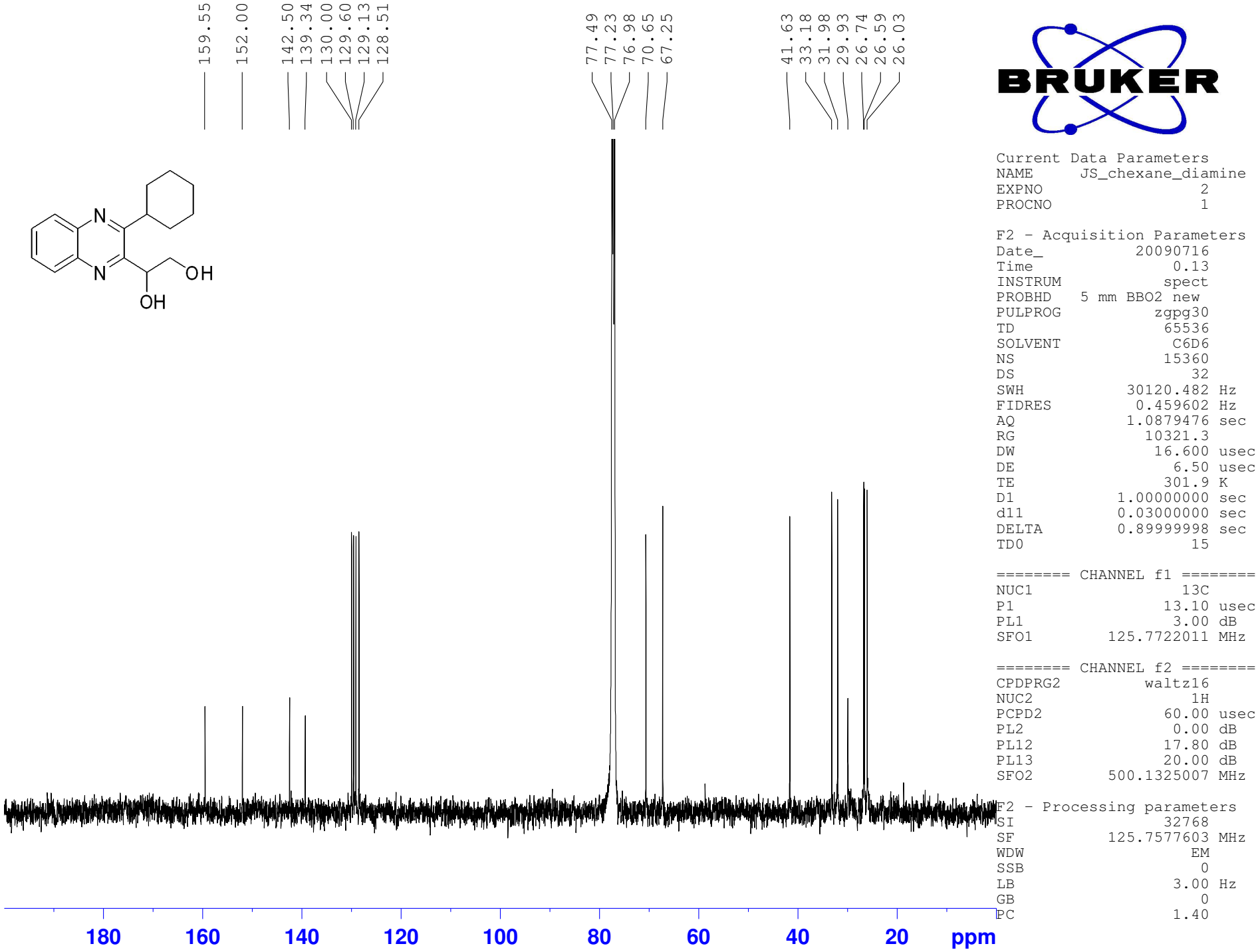

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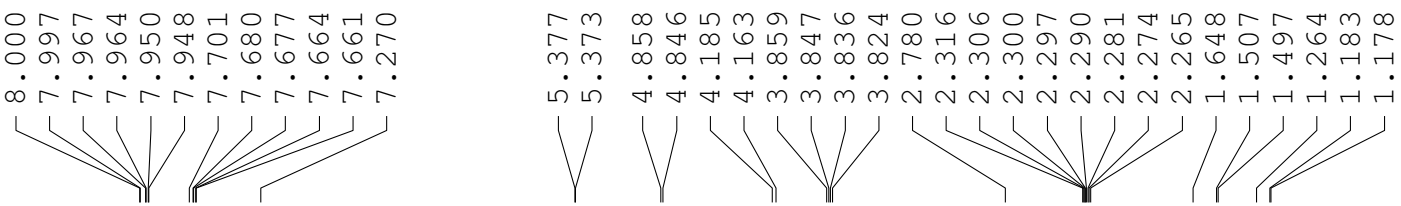
Current Data Parameters
NAME JS_chexane_diamine
EXPNO 2
PROCNO 1

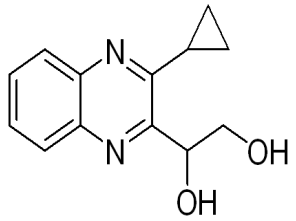
F2 - Acquisition Parameters
Date_ 20090716
Time 0.13
INSTRUM spect
PROBHD 5 mm BBO2 new
PULPROG zgpg30
TD 65536
SOLVENT C6D6
NS 15360
DS 32
SWH 30120.482 Hz
FIDRES 0.459602 Hz
AQ 1.0879476 sec
RG 10321.3
DW 16.600 usec
DE 6.50 usec
TE 301.9 K
D1 1.00000000 sec
d11 0.03000000 sec
DELTA 0.89999998 sec
TD0 15

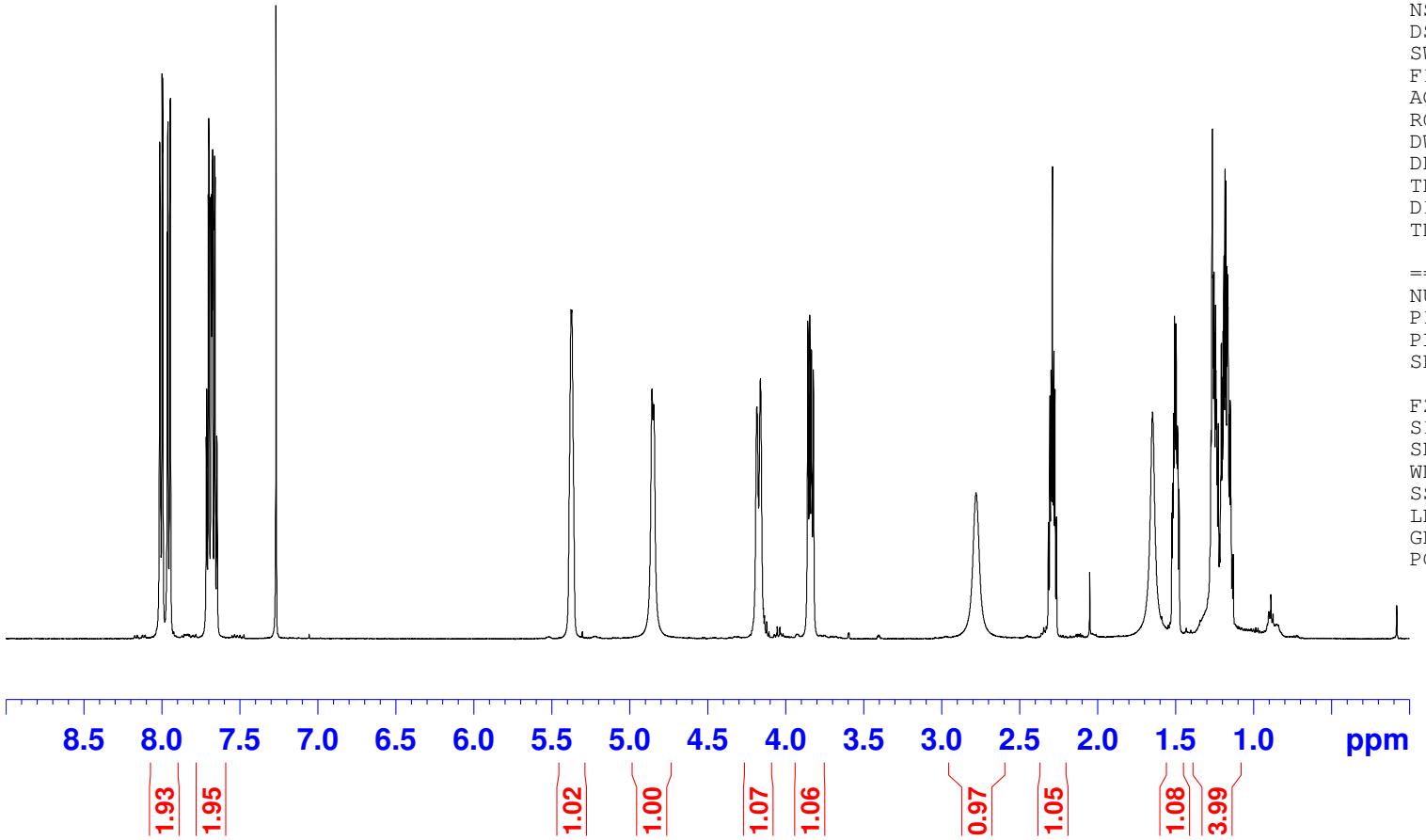
======== CHANNEL f1 ========
NUC1 13C
P1 13.10 usec
PL1 3.00 dB
SFO1 125.7722011 MHz

======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 60.00 usec
PL2 0.00 dB
PL12 17.80 dB
PL13 20.00 dB
SFO2 500.1325007 MHz

F2 - Processing parameters
SI 32768
SF 125.7577603 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 1.40








```
Current Data Parameters
NAME      JS_cpropane_diamine
EXPNO                       1
PROCNO                      1

F2 - Acquisition Parameters
Date_              20090715
Time                  23.25
INSTRUM               spect
PROBHD    5 mm BBO2 new
PULPROG                  zg
TD                    65536
SOLVENT               CDCl3
NS                       14
DS                        2
SWH                6510.417 Hz
FIDRES             0.099341 Hz
AQ                5.0332146 sec
RG                      181
DW                   76.800 usec
DE                    9.00 usec
TE                   301.4 K
D1               4.00000000 sec
TD0                       1

======== CHANNEL f1 ========
NUC1                     1H
P1                   11.10 usec
PL1                   0.00 dB
SFO1          500.1330008 MHz

F2 - Processing parameters
SI                    32768
SF              500.1300082 MHz
WDW                      EM
SSB                       0
LB                    0.30 Hz
GB                        0
PC                    1.00
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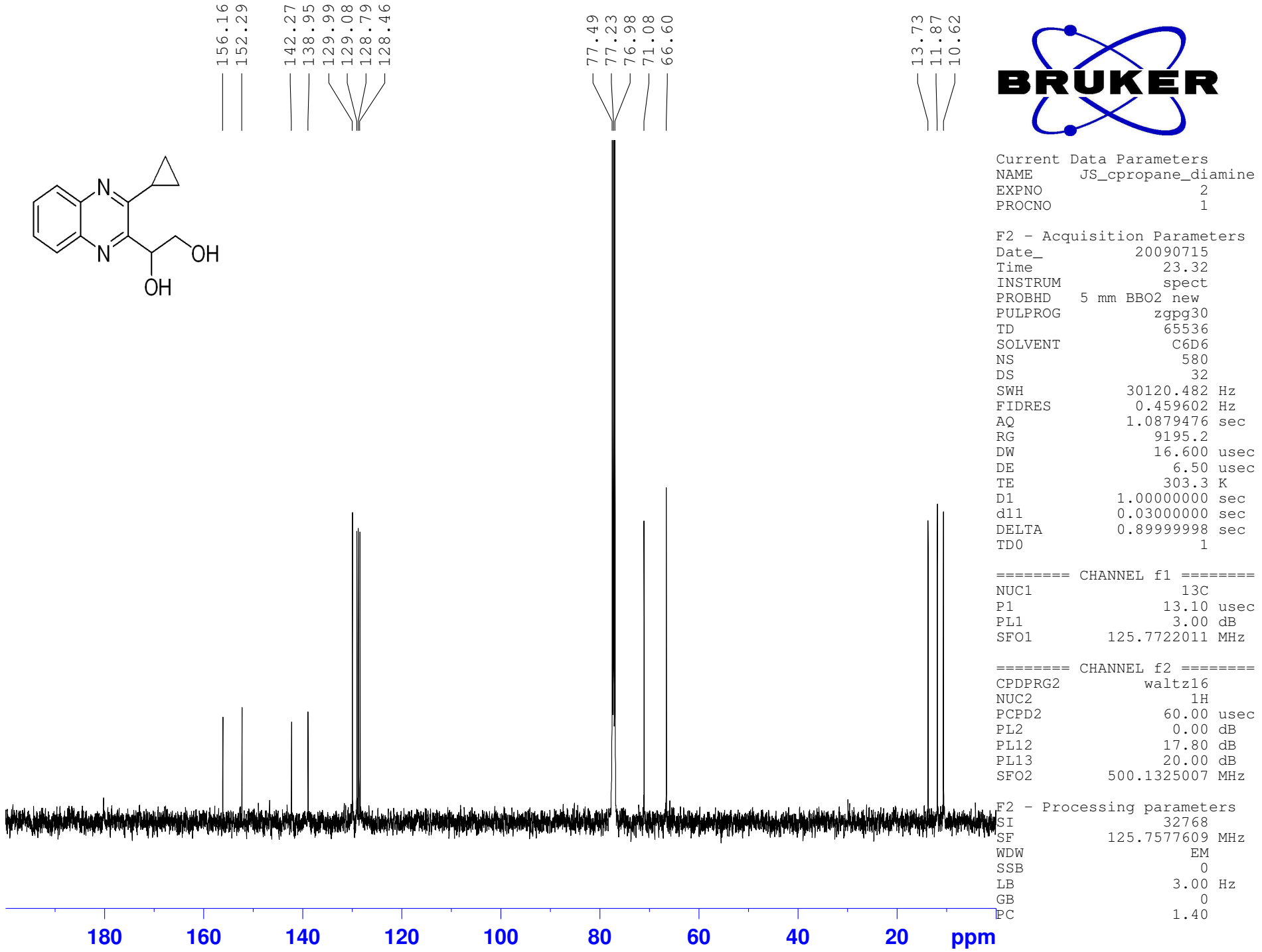


```
Current Data Parameters
NAME      JS_cpropane_diamine
EXPNO                       2
PROCNO                      1

F2 - Acquisition Parameters
Date_              20090715
Time                  23.32
INSTRUM               spect
PROBHD    5 mm BBO2 new
PULPROG              zgpg30
TD                    65536
SOLVENT                C6D6
NS                      580
DS                       32
SWH              30120.482 Hz
FIDRES            0.459602 Hz
AQ               1.0879476 sec
RG                  9195.2
DW                 16.600 usec
DE                  6.50 usec
TE                 303.3 K
D1              1.00000000 sec
d11             0.03000000 sec
DELTA           0.89999998 sec
TD0                         1

======== CHANNEL f1 ========
NUC1                      13C
P1                    13.10 usec
PL1                    3.00 dB
SFO1           125.7722011 MHz

======== CHANNEL f2 ========
CPDPRG2             waltz16
NUC2                      1H
PCPD2                60.00 usec
PL2                   0.00 dB
PL12                 17.80 dB
PL13                 20.00 dB
SFO2           500.1325007 MHz

F2 - Processing parameters
SI                      32768
SF             125.7577609 MHz
WDW                        EM
SSB                         0
LB                    3.00 Hz
GB                          0
PC                     1.40
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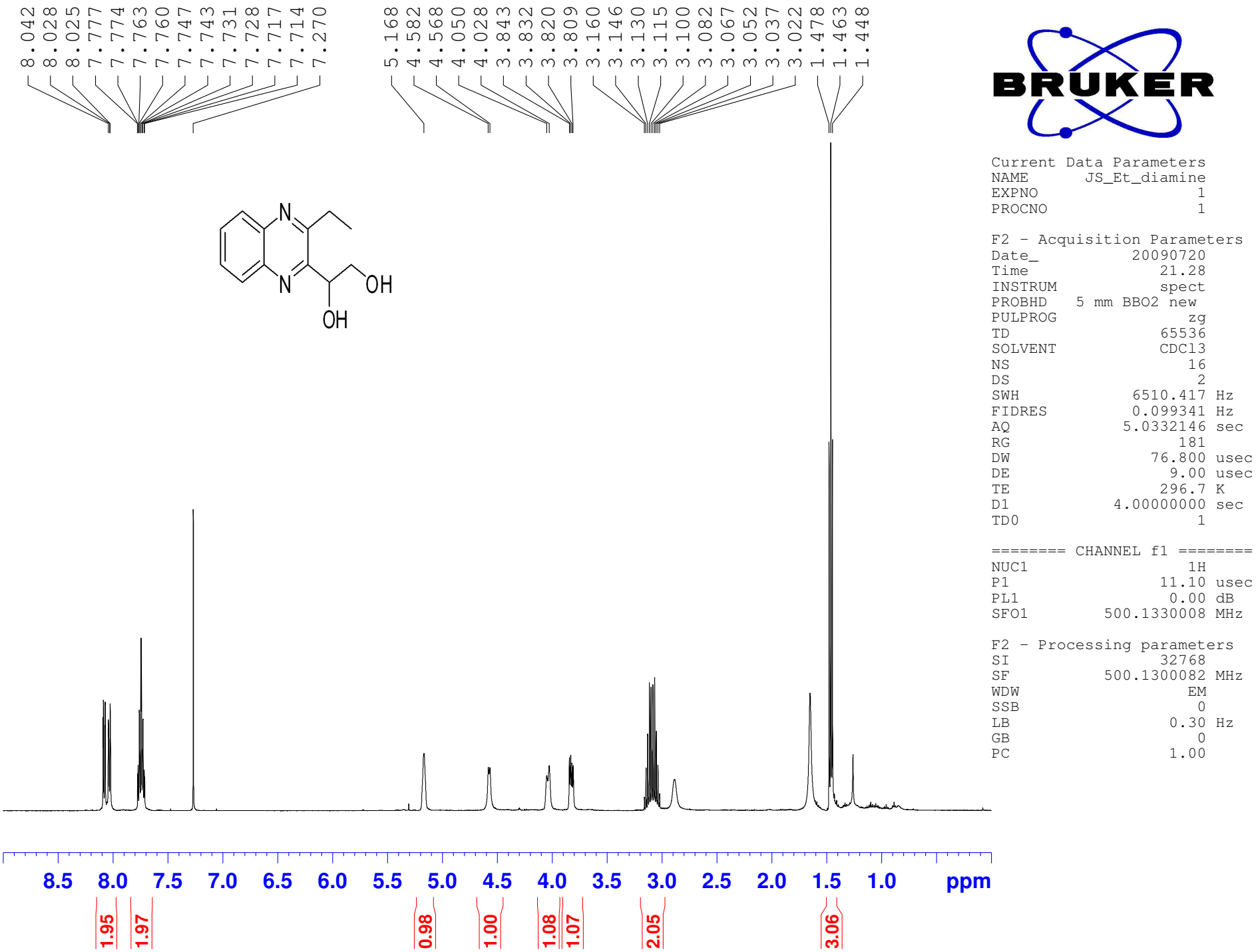


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Current Data Parameters
NAME       JS_Et_diamine
EXPNO                  1
PROCNO                 1

F2 - Acquisition Parameters
Date_           20090720
Time               21.28
INSTRUM            spect
PROBHD   5 mm BBO2 new
PULPROG               zg
TD                 65536
SOLVENT            CDCl3
NS                    16
DS                     2
SWH             6510.417 Hz
FIDRES          0.099341 Hz
AQ             5.0332146 sec
RG                   181
DW                76.800 usec
DE                 9.00 usec
TE                296.7 K
D1           4.00000000 sec
TD0                    1

======== CHANNEL f1 ========
NUC1                  1H
P1                 11.10 usec
PL1                 0.00 dB
SFO1        500.1330008 MHz

F2 - Processing parameters
SI                 32768
SF          500.1300082 MHz
WDW                   EM
SSB                    0
LB                  0.30 Hz
GB                     0
PC                  1.00
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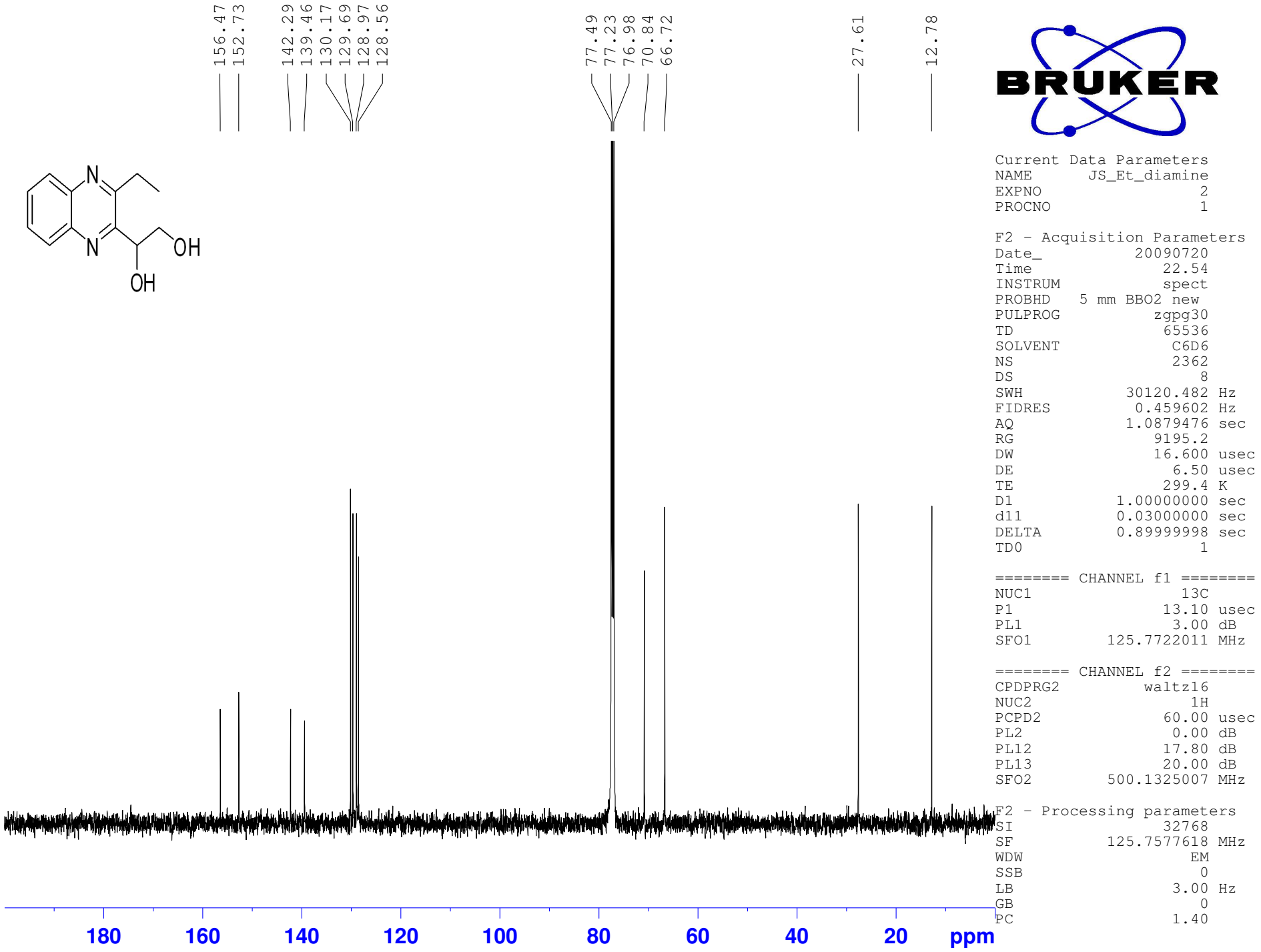
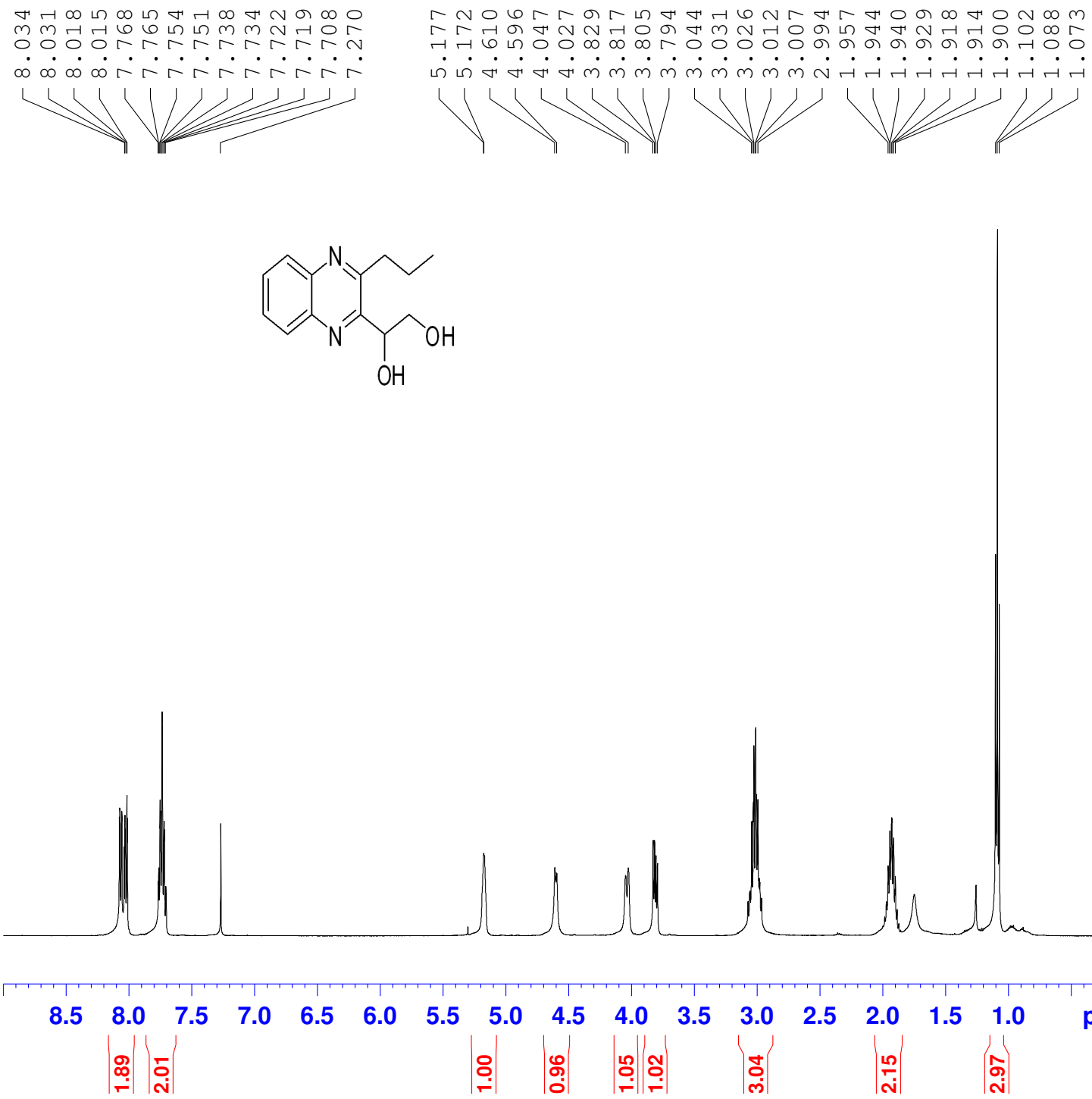

156.47
152.73
142.29
139.46
130.17
129.69
128.97
128.56
77.49
77.23
76.98
70.84
66.72
27.61
12.78
N
N
OH
OH
BRUKER
Current Data Parameters
NAME JS_Et_diamine
EXPNO 2
PROCNO 1
F2 - Acquisition Parameters
Date_ 20090720
Time 22.54
INSTRUM spect
PROBHD 5 mm BBO2 new
PULPROG zgpg30
TD 65536
SOLVENT C6D6
NS 2362
DS 8
SWH 30120.482 Hz
FIDRES 0.459602 Hz
AQ 1.0879476 sec
RG 9195.2
DW 16.600 usec
DE 6.50 usec
TE 299.4 K
D1 1.00000000 sec
d11 0.03000000 sec
DELTA 0.89999998 sec
TD0 1
======== CHANNEL f1 ========
NUC1 13C
P1 13.10 usec
PL1 3.00 dB
SFO1 125.7722011 MHz
======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 60.00 usec
PL2 0.00 dB
PL12 17.80 dB
PL13 20.00 dB
SFO2 500.1325007 MHz
F2 - Processing parameters
SI 32768
SF 125.7577618 MHz
WDW EM
SSB 0
LB 3.00 Hz
GB 0
PC 1.40
180
160
140
120
100
80
60
40
20
ppm

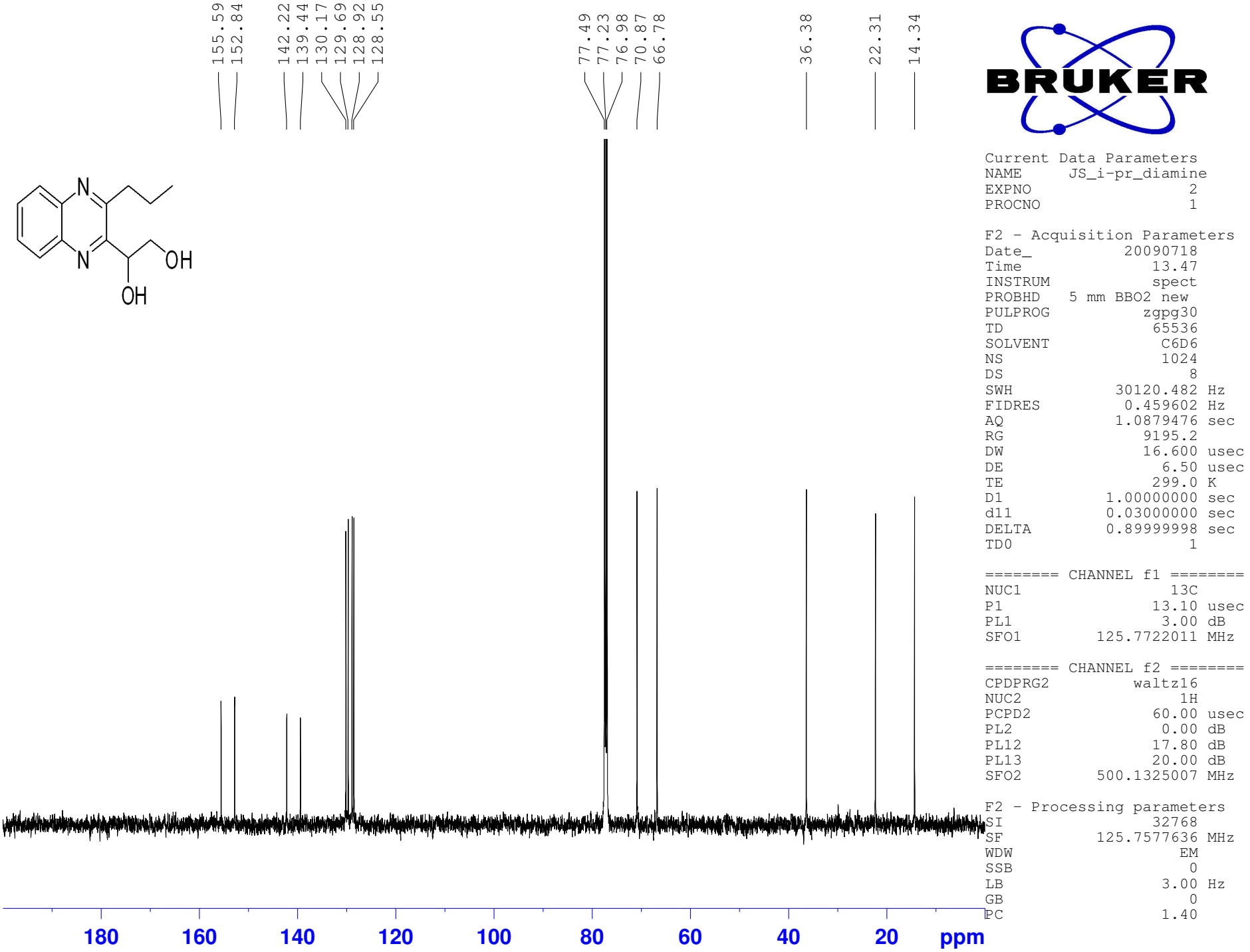


Current Data Parameters
NAME JS_i-pr_diamine
EXPNO 1
PROCNO 1

F2 - Acquisition Parameters
Date_ 20090718
Time 13.08
INSTRUM spect
PROBHD 5 mm BBO2 new
PULPROG zg
TD 65536
SOLVENT CDCl3
NS 16
DS 2
SWH 6510.417 Hz
FIDRES 0.099341 Hz
AQ 5.0332146 sec
RG 101.6
DW 76.800 usec
DE 9.00 usec
TE 296.1 K
D1 4.00000000 sec
TD0 1

======== CHANNEL f1 ========
NUC1 1H
P1 11.10 usec
PL1 0.00 dB
SFO1 500.1330008 MHz

F2 - Processing parameters
SI 32768
SF 500.1300079 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00



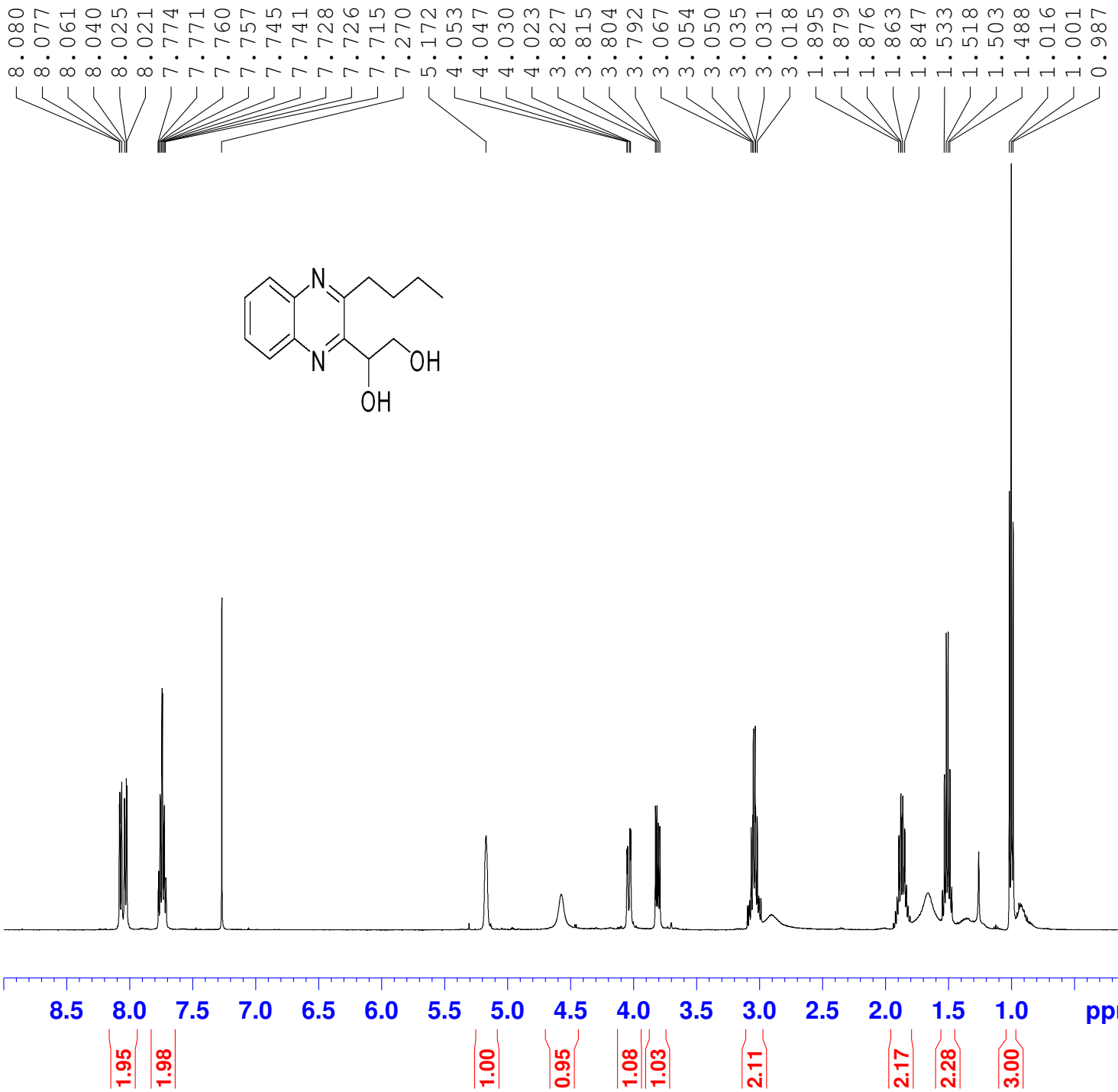

```
Current Data Parameters
NAME      JS_i-pr_diamine
EXPNO                   2
PROCNO                  1

F2 - Acquisition Parameters
Date_           20090718
Time               13.47
INSTRUM            spect
PROBHD    5 mm BBO2 new
PULPROG           zgpg30
TD                 65536
SOLVENT              C6D6
NS                   1024
DS                      8
SWH           30120.482 Hz
FIDRES         0.459602 Hz
AQ            1.0879476 sec
RG               9195.2
DW              16.600 usec
DE               6.50 usec
TE               299.0 K
D1           1.00000000 sec
d11          0.03000000 sec
DELTA        0.89999998 sec
TD0                     1

======== CHANNEL f1 ========
NUC1                  13C
P1                13.10 usec
PL1                3.00 dB
SFO1        125.7722011 MHz

======== CHANNEL f2 ========
CPDPRG2          waltz16
NUC2                  1H
PCPD2             60.00 usec
PL2                0.00 dB
PL12               17.80 dB
PL13               20.00 dB
SFO2        500.1325007 MHz

F2 - Processing parameters
SI                 32768
SF          125.7577636 MHz
WDW                   EM
SSB                    0
LB                 3.00 Hz
GB                     0
PC                 1.40
```

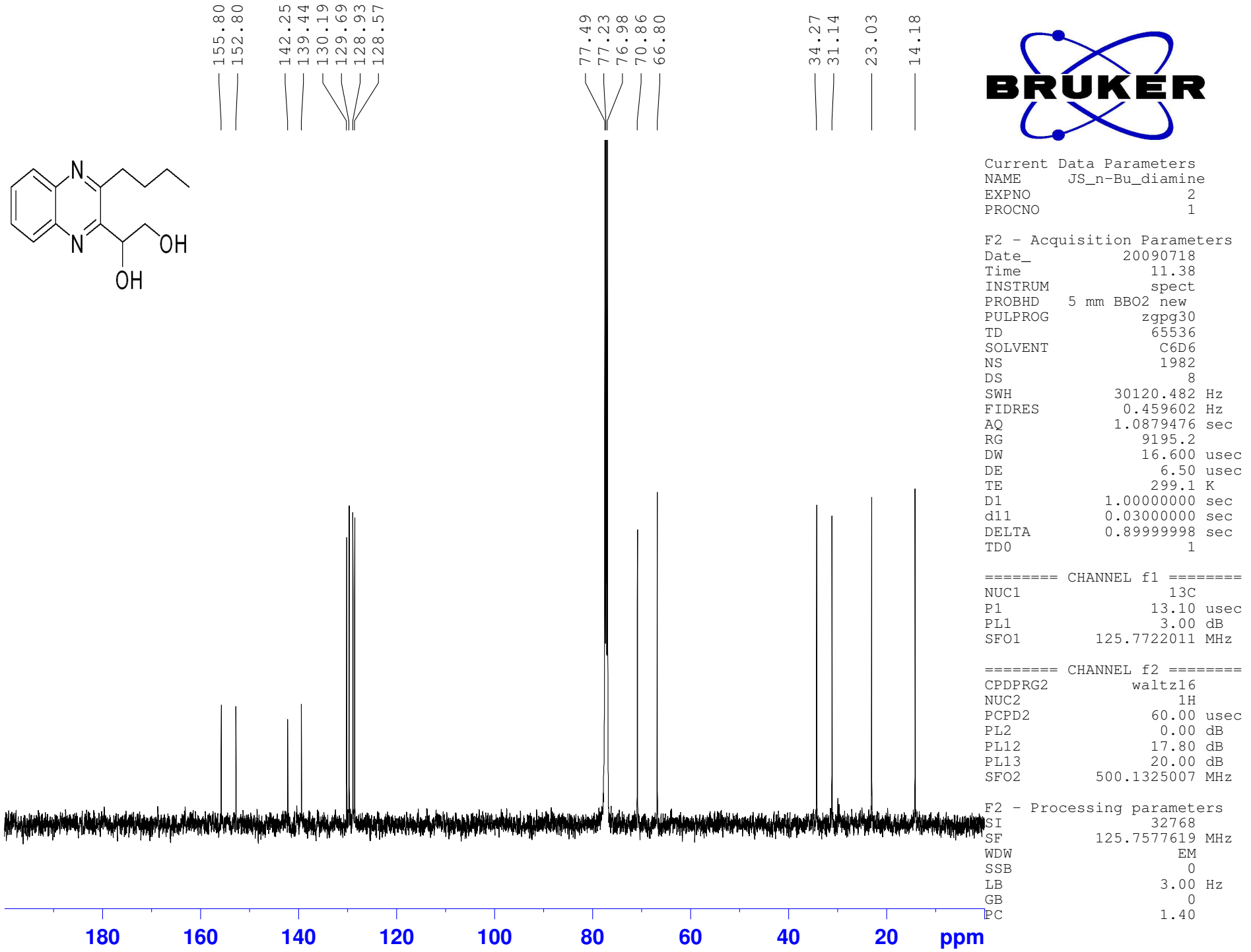



```
Current Data Parameters
NAME      JS_n-Bu_diamine
EXPNO                   1
PROCNO                  1

F2 - Acquisition Parameters
Date_           20090718
Time               10.25
INSTRUM            spect
PROBHD   5 mm BBO2 new
PULPROG                zg
TD                  65536
SOLVENT             CDCl3
NS                     16
DS                      2
SWH             6510.417 Hz
FIDRES          0.099341 Hz
AQ             5.0332146 sec
RG                    181
DW                76.800 usec
DE                 9.00 usec
TE                296.0 K
D1           4.00000000 sec
TD0                     1

======== CHANNEL f1 ========
NUC1                   1H
P1                 11.10 usec
PL1                 0.00 dB
SFO1         500.1330008 MHz

F2 - Processing parameters
SI                  32768
SF           500.1300081 MHz
WDW                    EM
SSB                     0
LB                 0.30 Hz
GB                      0
PC                 1.00
```



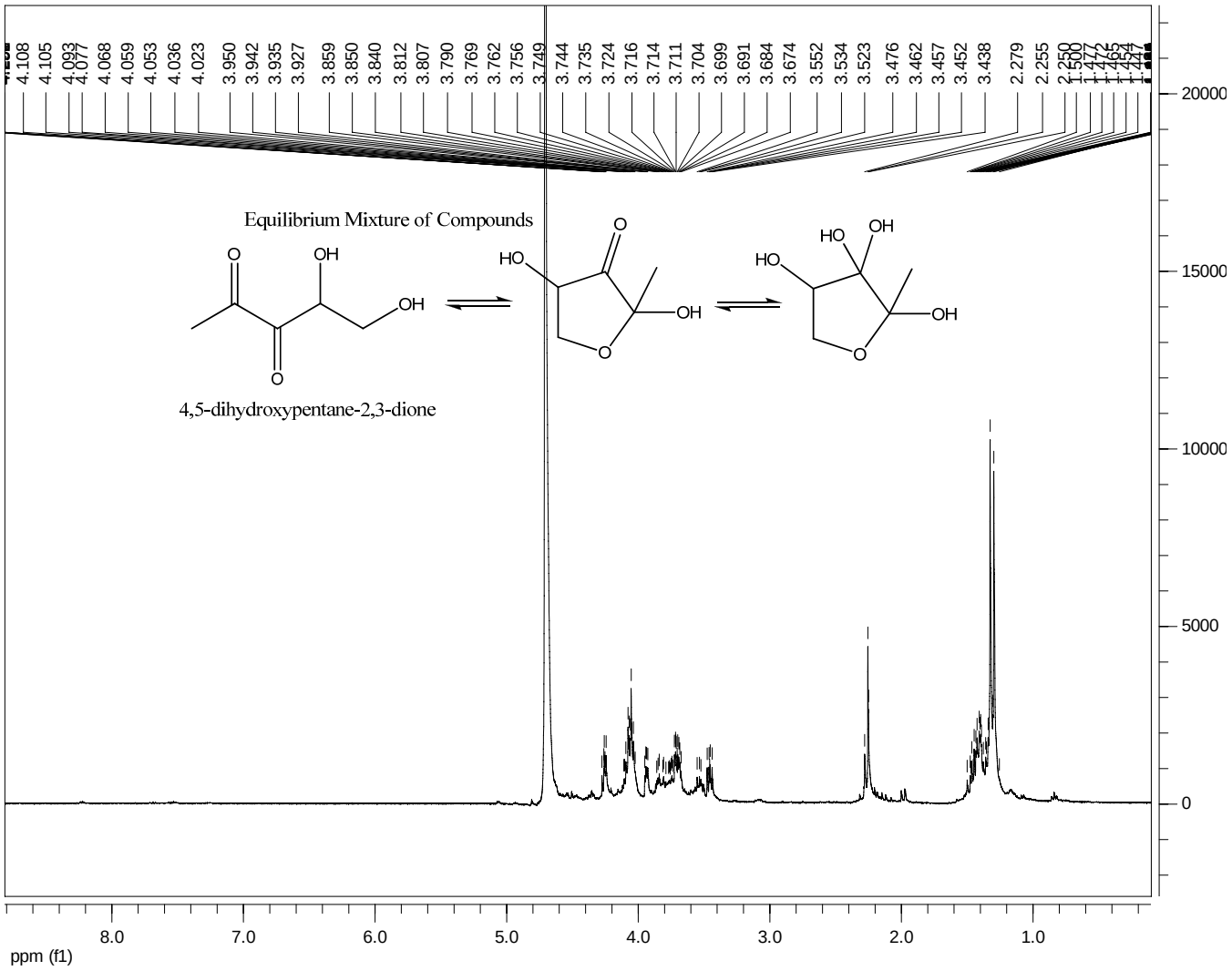

```
Current Data Parameters
NAME      JS_n-Bu_diamine
EXPNO                   2
PROCNO                  1

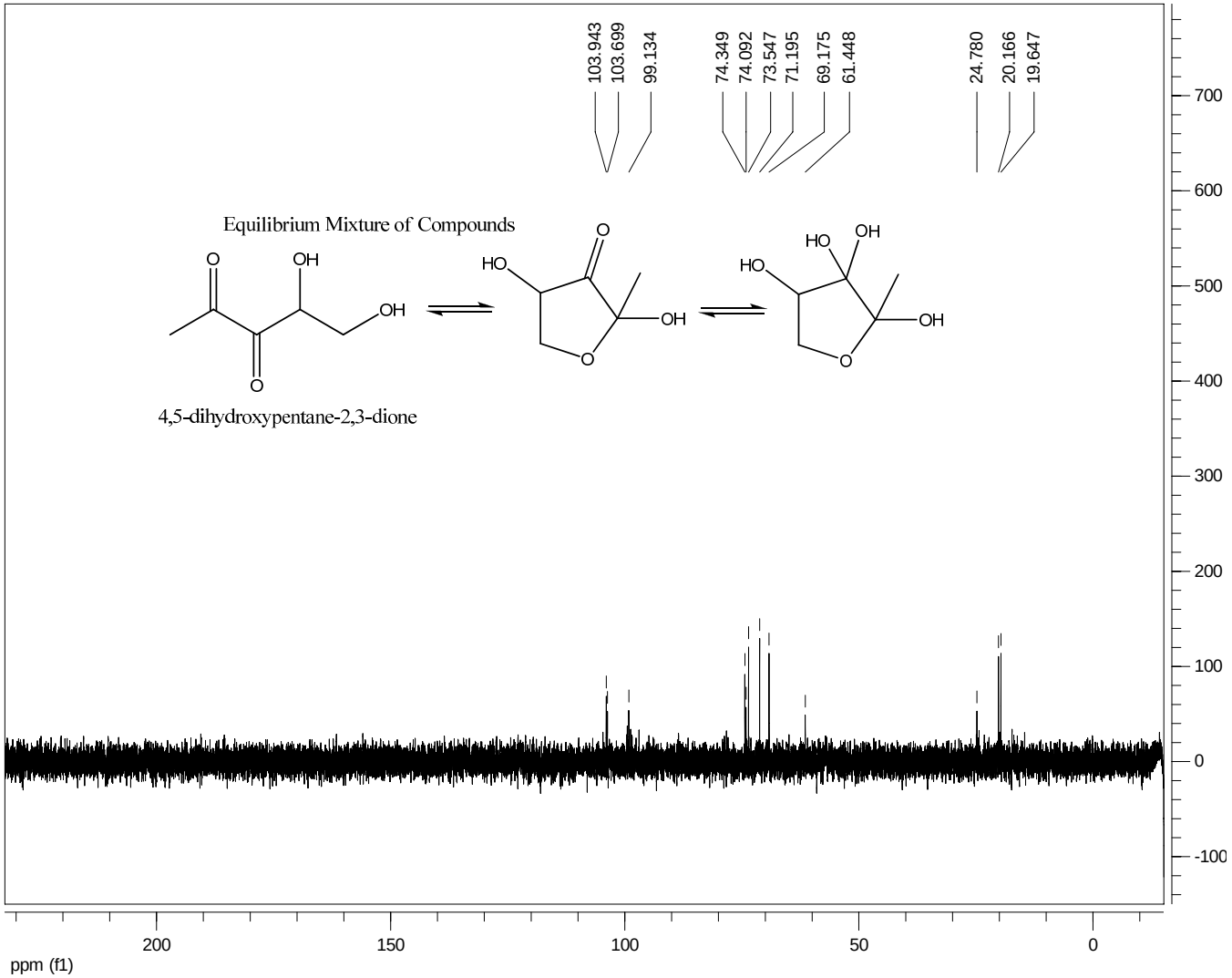
F2 - Acquisition Parameters
Date_           20090718
Time               11.38
INSTRUM            spect
PROBHD    5 mm BBO2 new
PULPROG          zgpg30
TD                65536
SOLVENT             C6D6
NS                  1982
DS                     8
SWH           30120.482 Hz
FIDRES         0.459602 Hz
AQ            1.0879476 sec
RG               9195.2
DW              16.600 usec
DE               6.50 usec
TE               299.1 K
D1           1.00000000 sec
d11          0.03000000 sec
DELTA        0.89999998 sec
TD0                    1

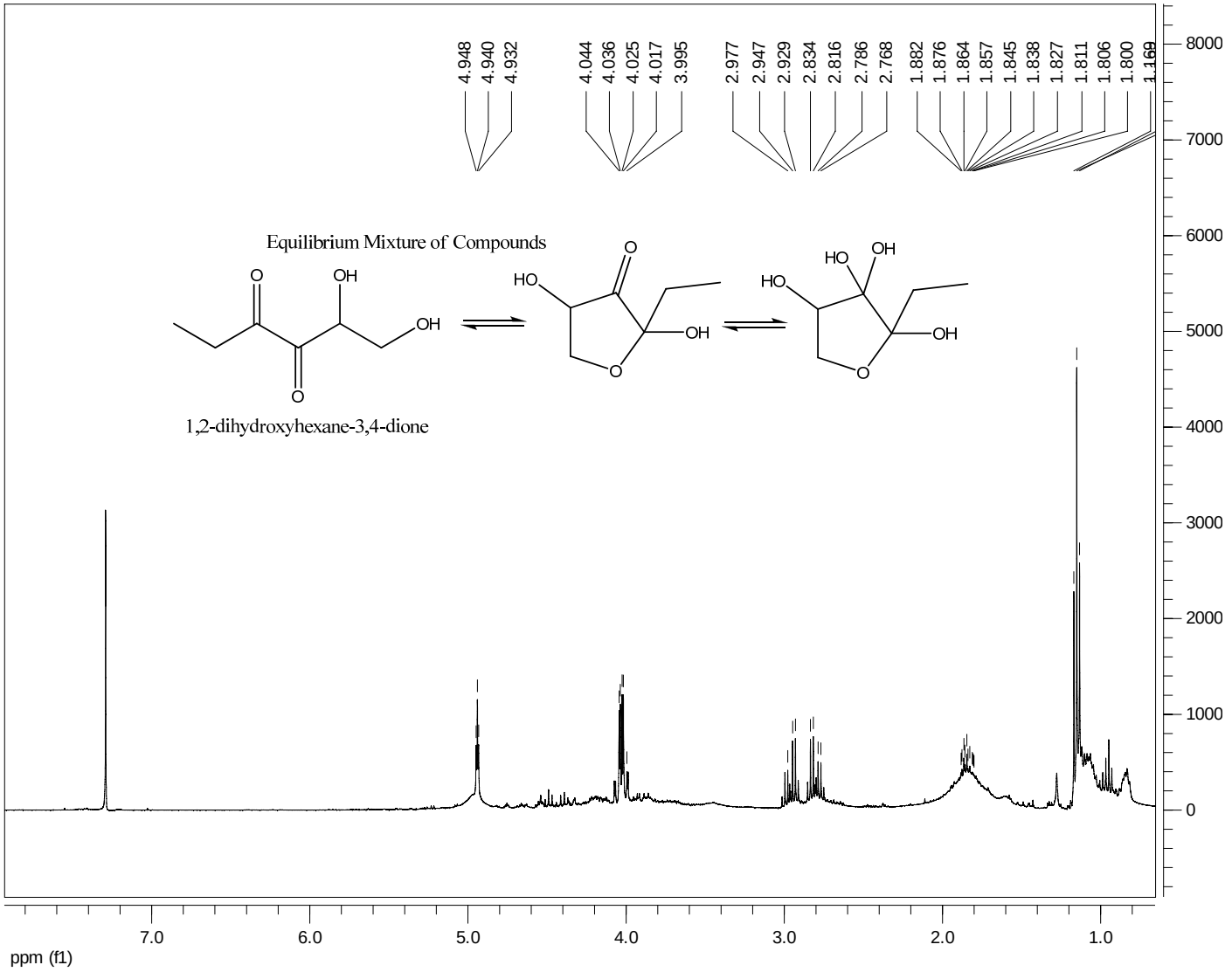
======== CHANNEL f1 ========
NUC1                 13C
P1                13.10 usec
PL1                3.00 dB
SFO1        125.7722011 MHz

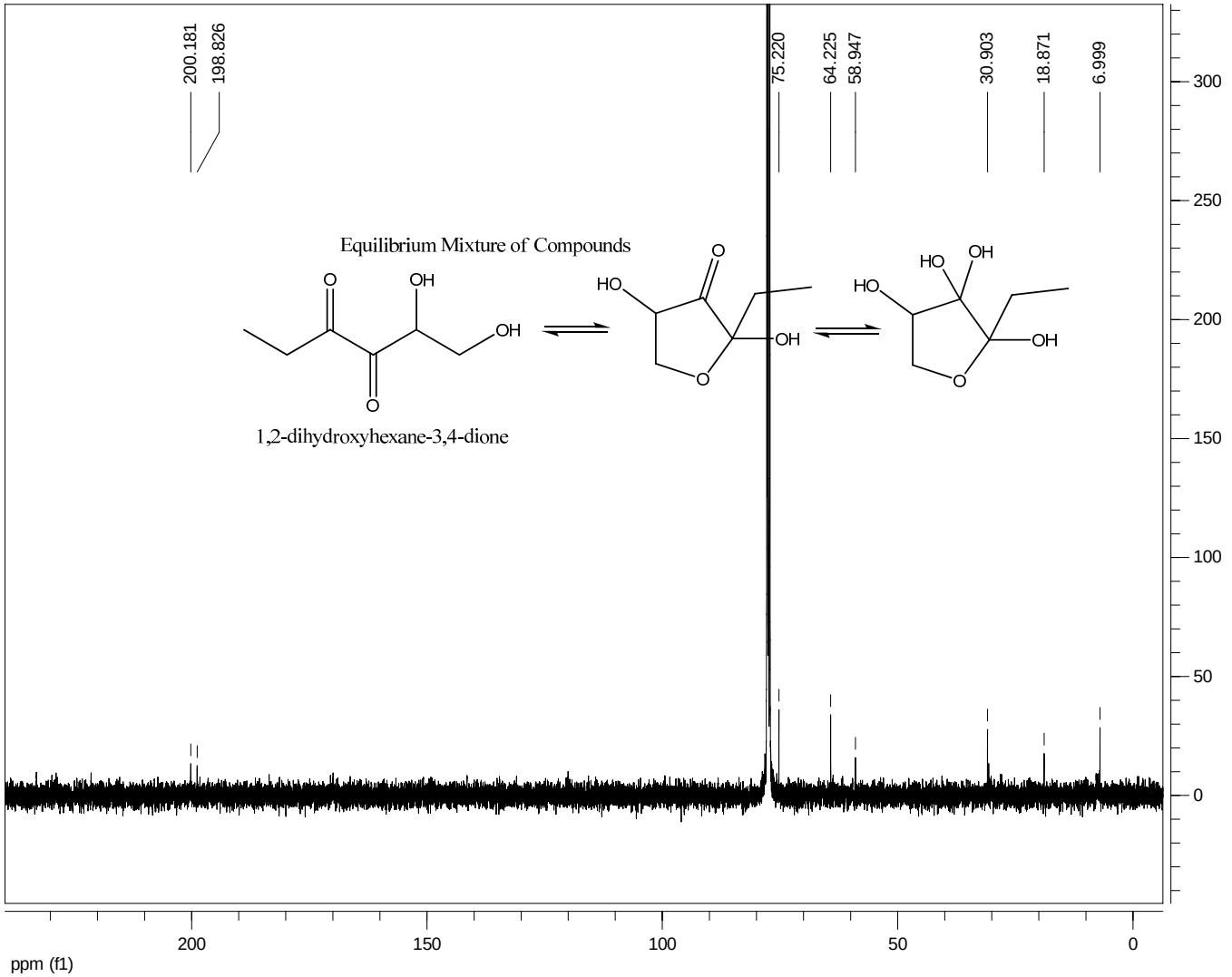
======== CHANNEL f2 ========
CPDPRG2          waltz16
NUC2                 1H
PCPD2             60.00 usec
PL2                0.00 dB
PL12              17.80 dB
PL13              20.00 dB
SFO2        500.1325007 MHz

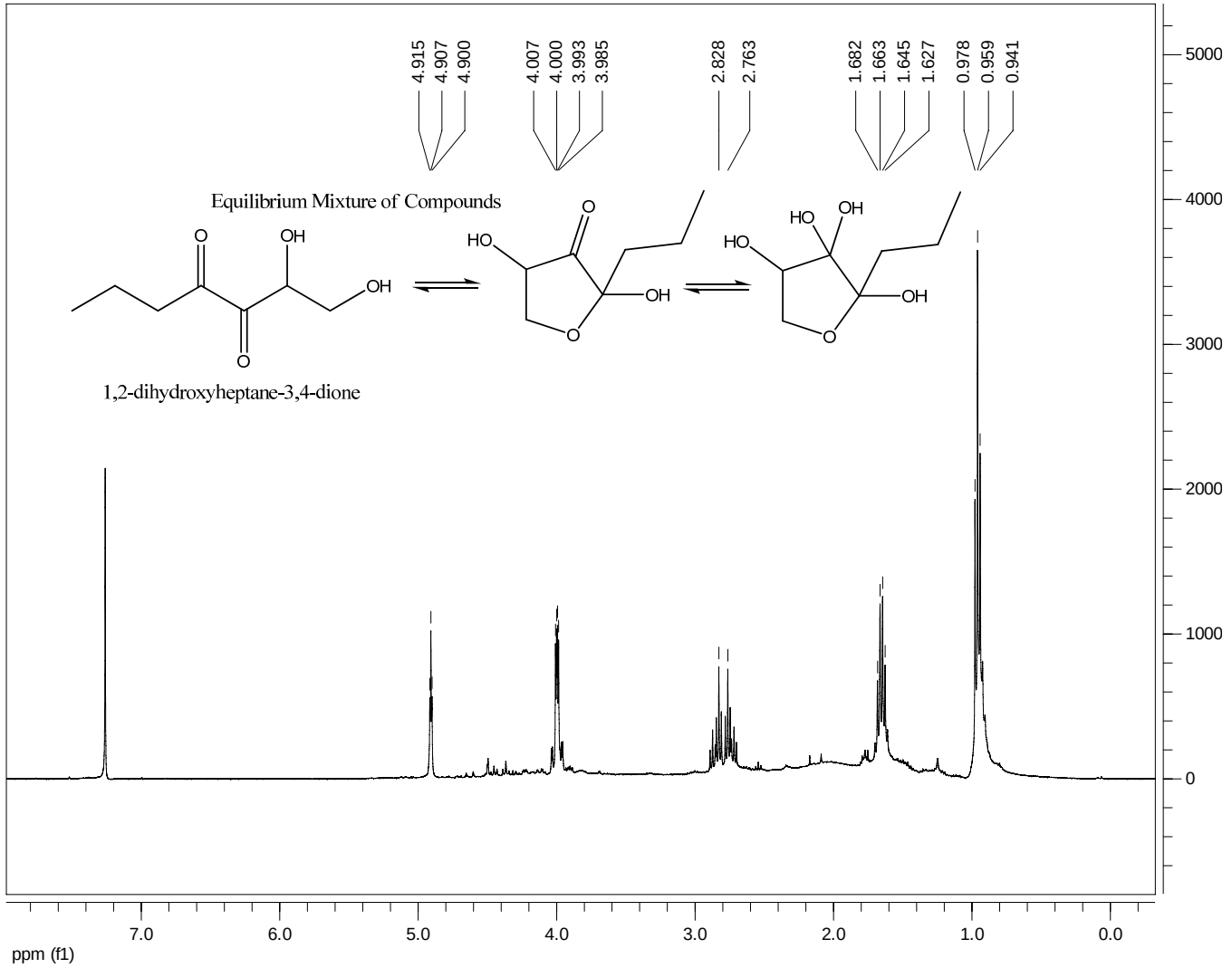
F2 - Processing parameters
SI                 32768
SF          125.7577619 MHz
WDW                   EM
SSB                    0
LB                 3.00 Hz
GB                     0
PC                 1.40
```

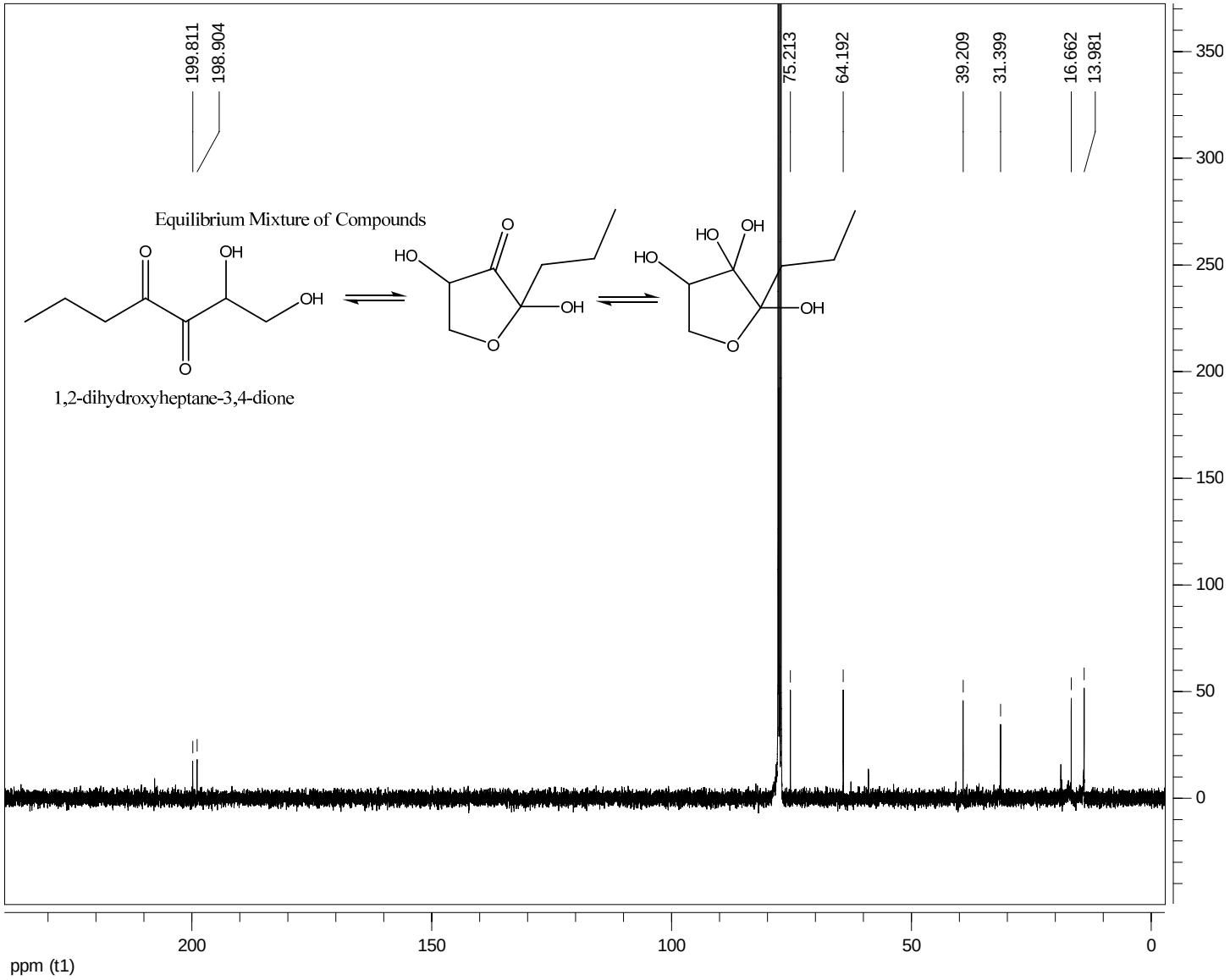

4.108
4.105
4.093
4.077
4.068
4.059
4.053
4.036
4.023
3.950
3.942
3.935
3.927
3.859
3.850
3.840
3.812
3.807
3.790
3.769
3.762
3.756
3.749
3.744
3.735
3.724
3.716
3.714
3.711
3.704
3.699
3.691
3.684
3.674
3.552
3.534
3.523
3.476
3.462
3.457
3.452
3.438
2.279
2.255
2.250
1.500
1.477
1.472
1.465
1.454
1.447
20000
15000
10000
5000
0
Equilibrium Mixture of Compounds
4,5-dihydroxypentane-2,3-dione
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
ppm (f1)

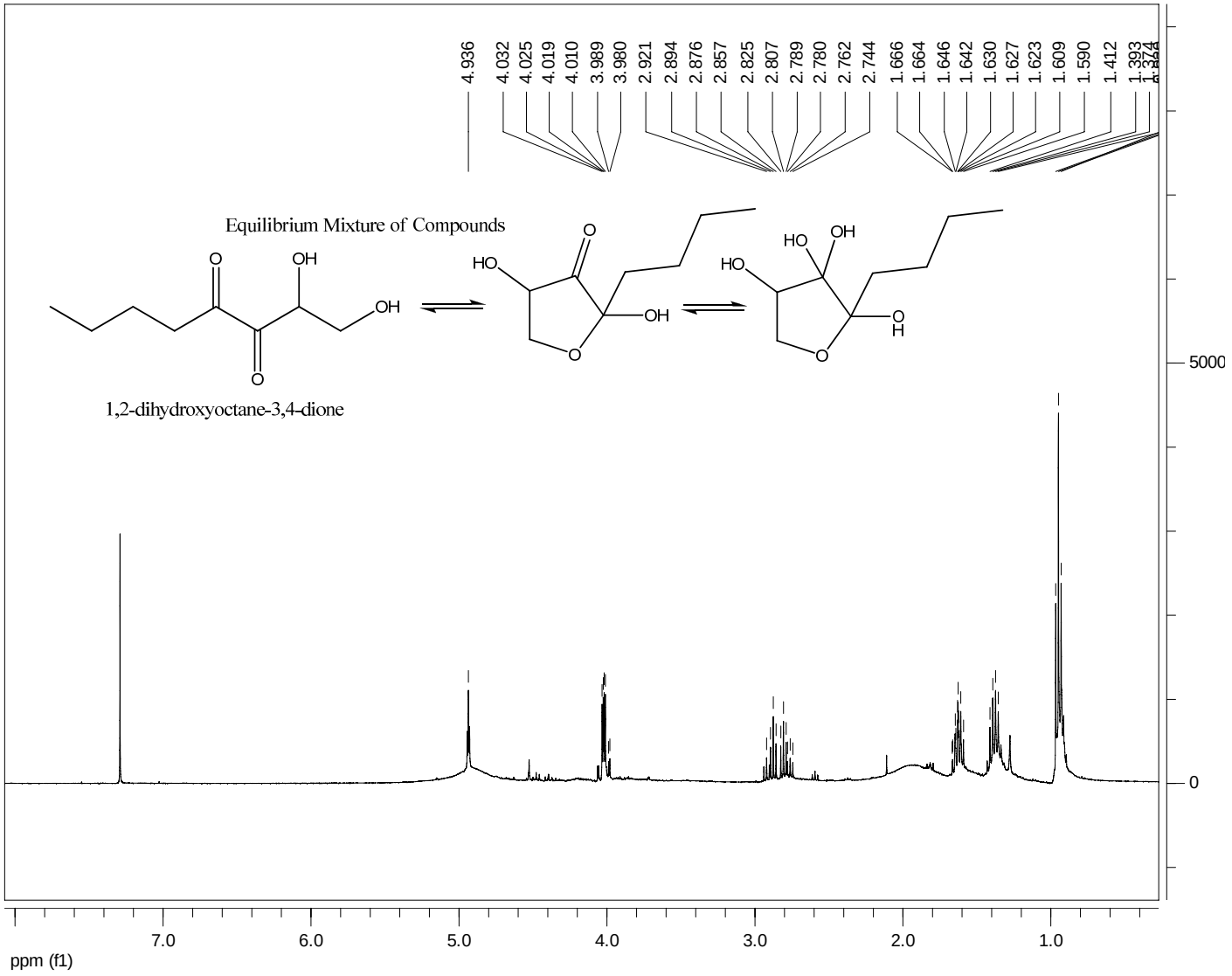

103.943
103.699
99.134
74.349
74.092
73.547
71.195
69.175
61.448
24.780
20.166
19.647
Equilibrium Mixture of Compounds
4,5-dihydroxypentane-2,3-dione
700
600
500
400
300
200
100
0
-100
200
150
100
50
0
ppm (f1)

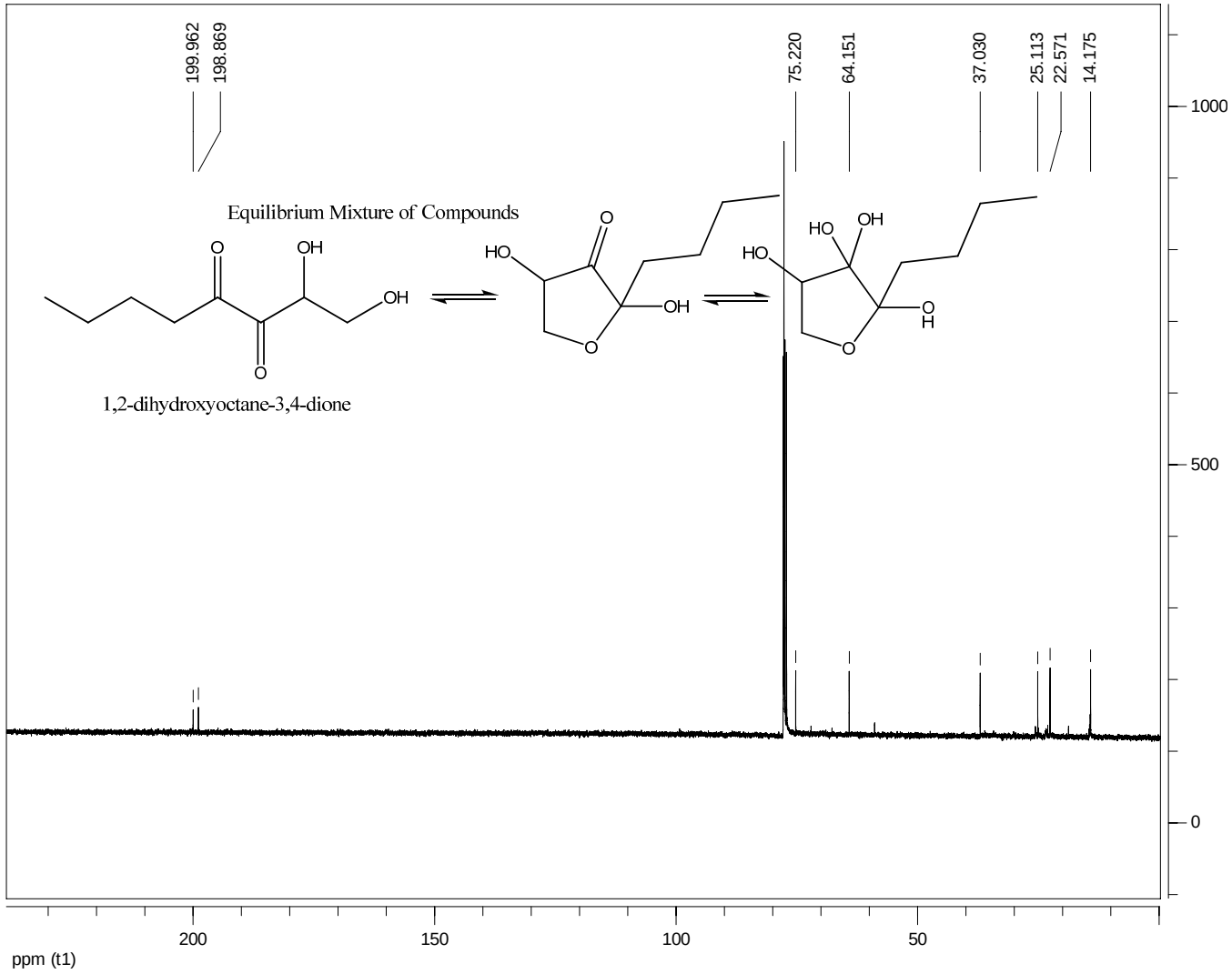

4.948
4.940
4.932
4.044
4.036
4.025
4.017
3.995
2.977
2.947
2.929
2.834
2.816
2.786
2.768
1.882
1.876
1.864
1.857
1.845
1.838
1.827
1.811
1.806
1.800
1.169
Equilibrium Mixture of Compounds
1,2-dihydroxyhexane-3,4-dione
8000
7000
6000
5000
4000
3000
2000
1000
0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
ppm (f1)

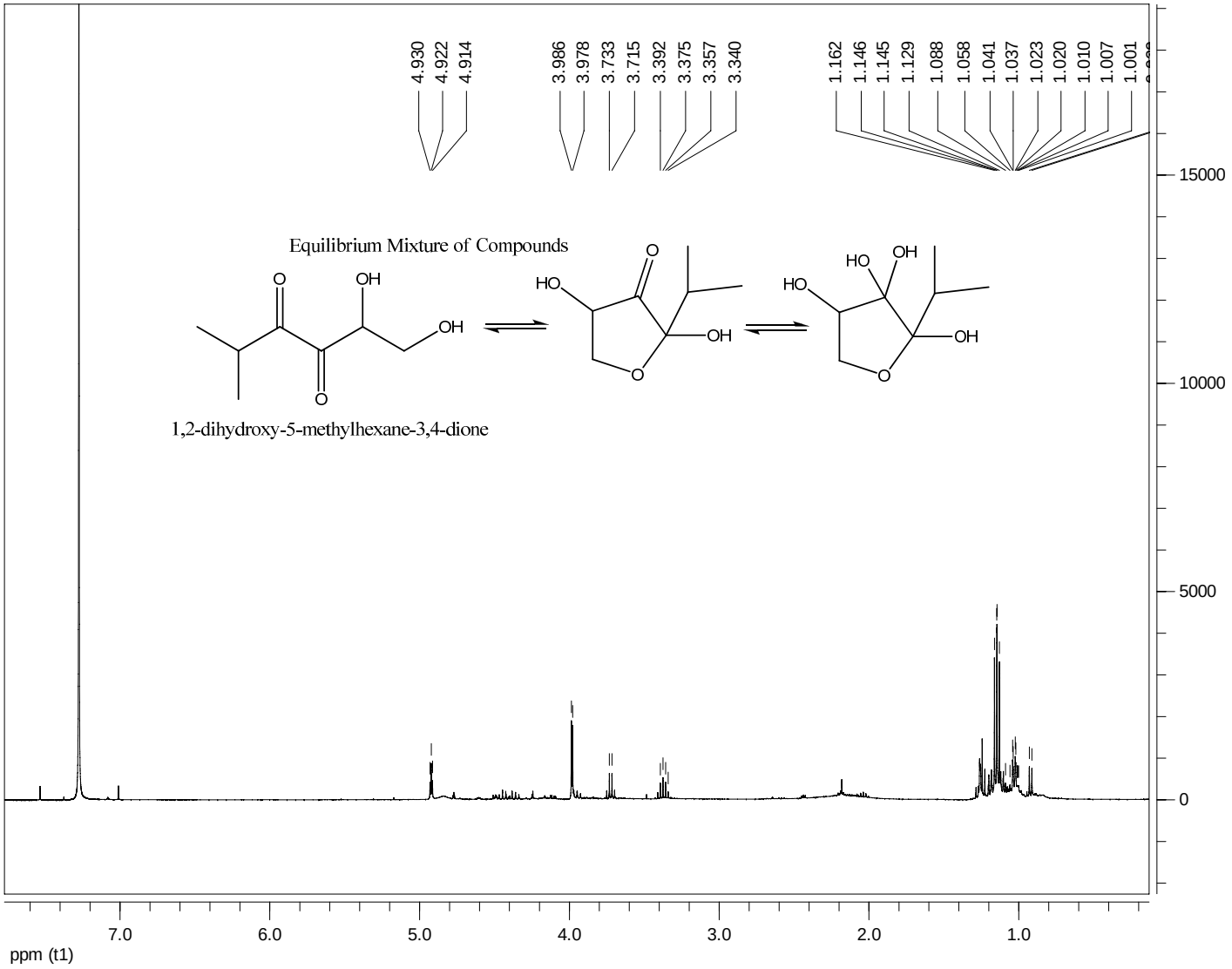

200.181
198.826
75.220
64.225
58.947
30.903
18.871
6.999
Equilibrium Mixture of Compounds
1,2-dihydroxyhexane-3,4-dione
300
250
200
150
100
50
0
200
150
100
50
0
ppm (f1)

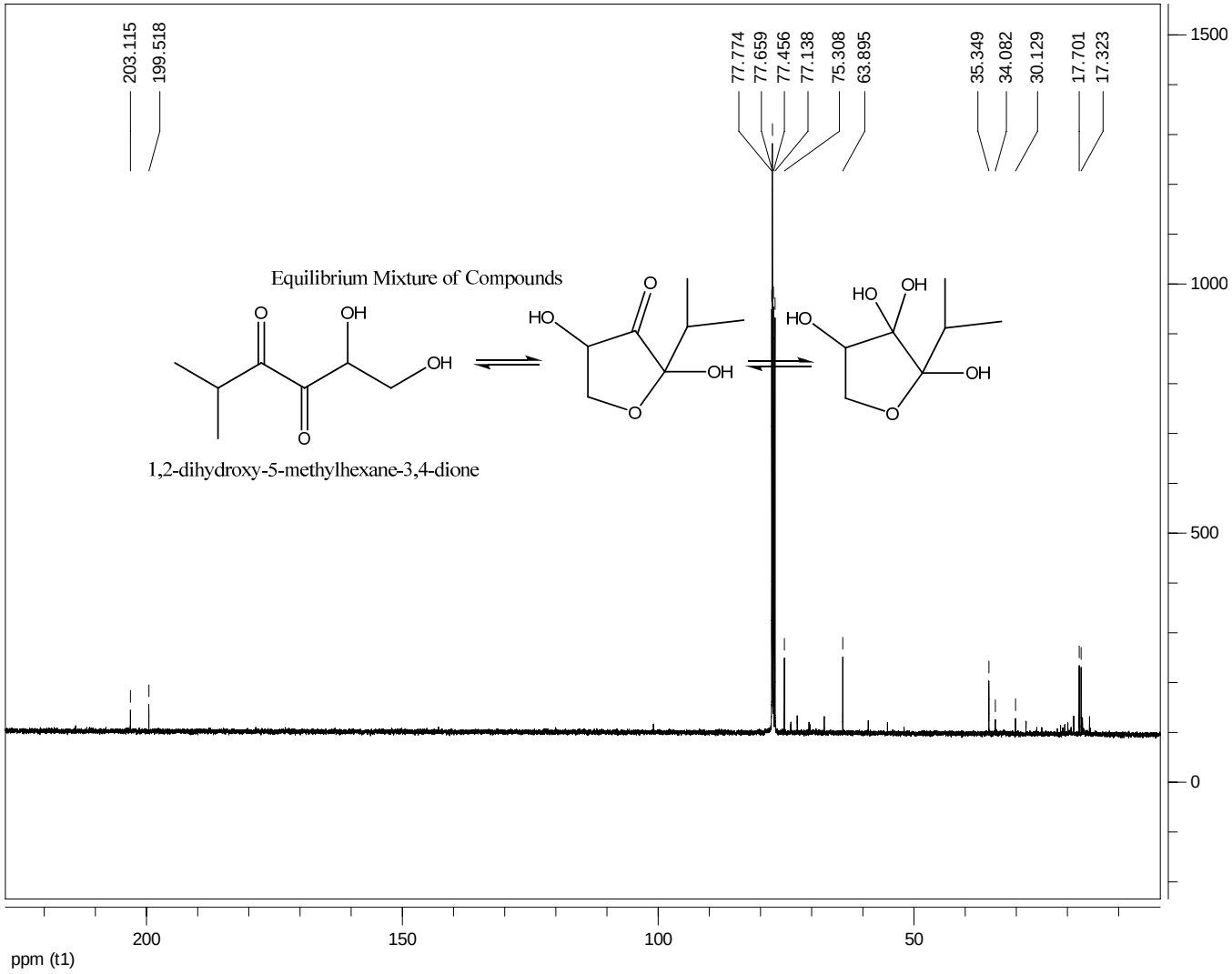

4.915
4.907
4.900
4.007
4.000
3.993
3.985
2.828
2.763
1.682
1.663
1.645
1.627
0.978
0.959
0.941
Equilibrium Mixture of Compounds
1,2-dihydroxyheptane-3,4-dione
5000
4000
3000
2000
1000
0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
ppm (f1)

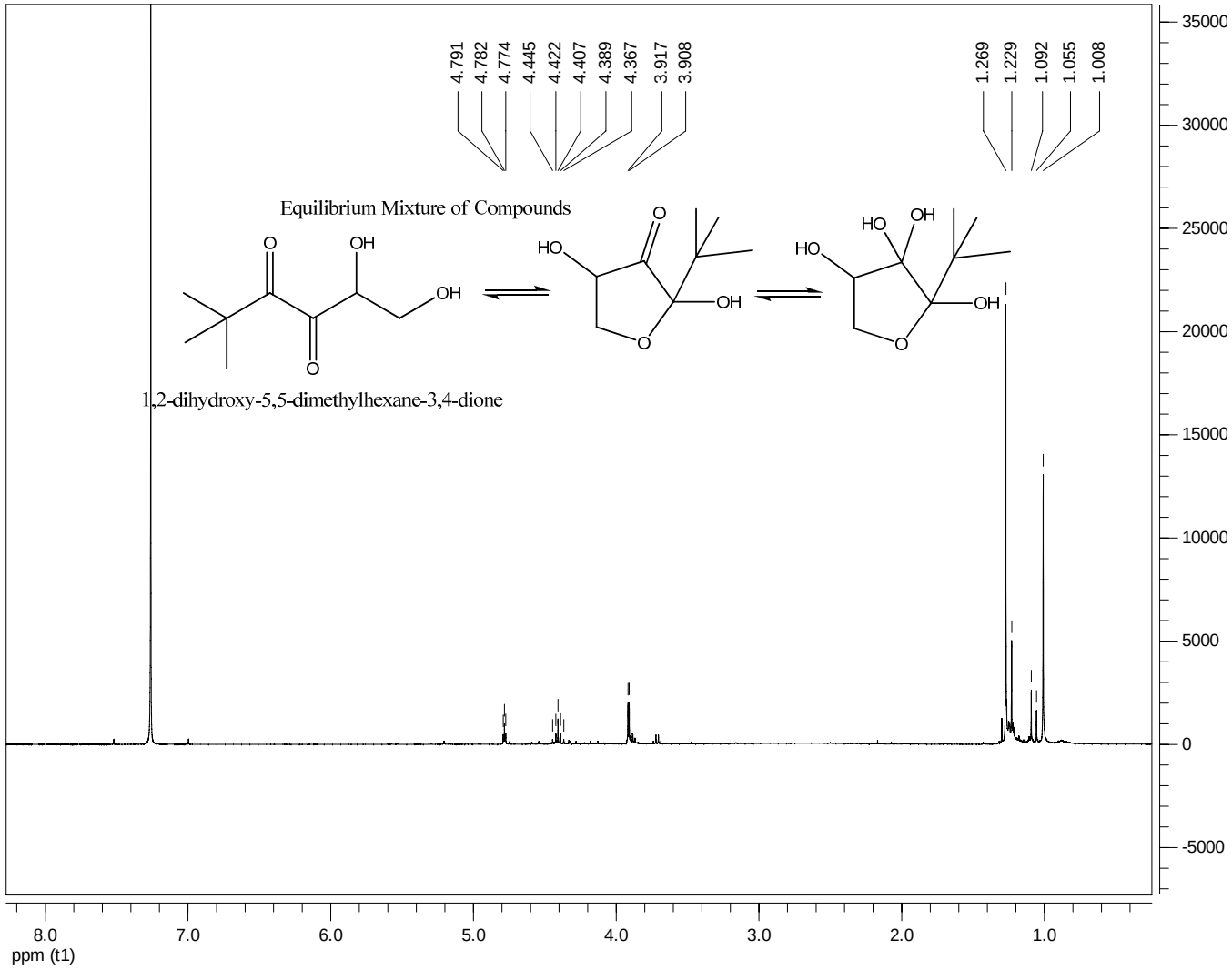

199.811
198.904
75.213
64.192
39.209
31.399
16.662
13.981
Equilibrium Mixture of Compounds
1,2-dihydroxyheptane-3,4-dione
350
300
250
200
150
100
50
0
200
150
100
50
0
ppm (t1)

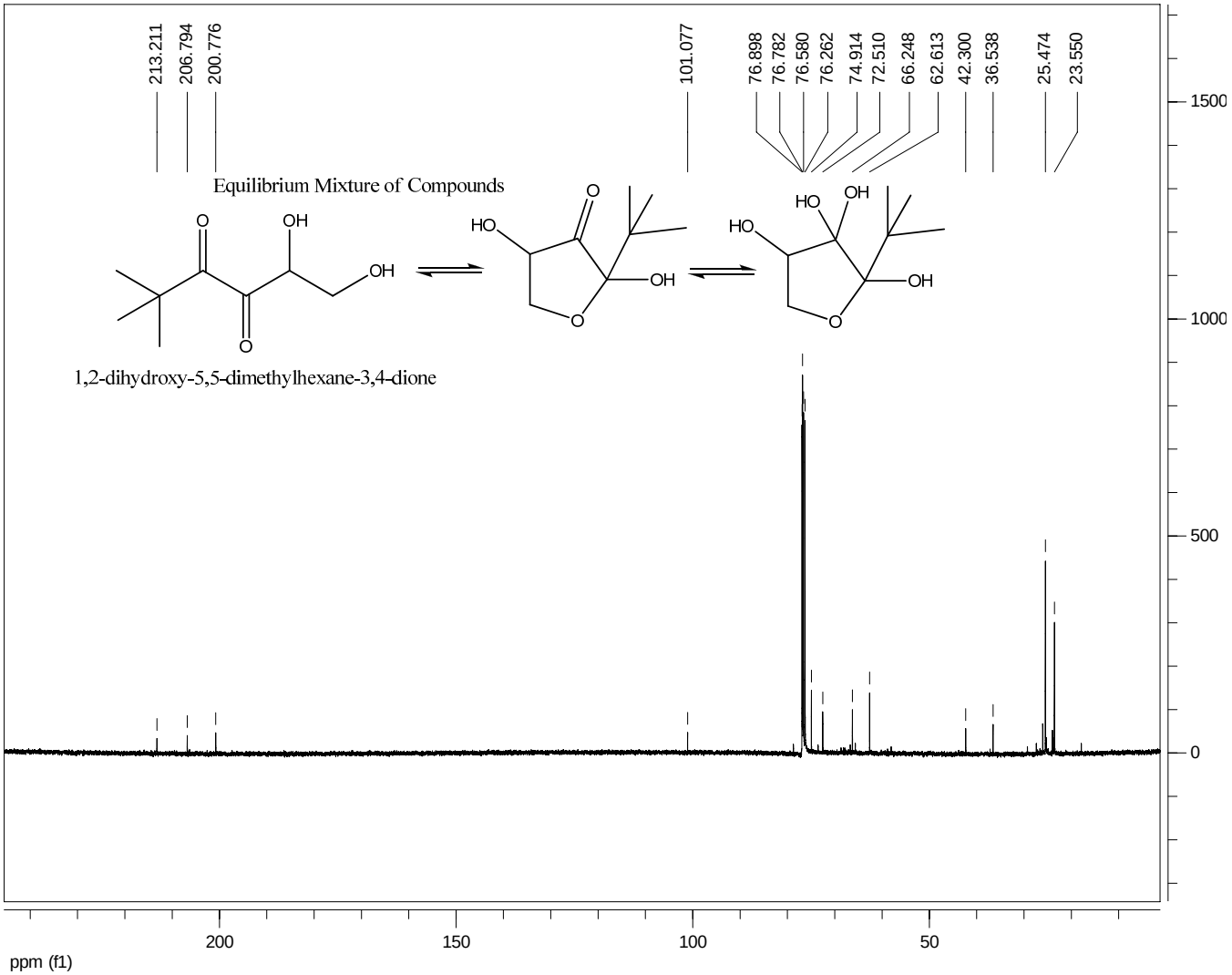

4.936
4.032
4.025
4.019
4.010
3.989
3.980
2.921
2.894
2.876
2.857
2.825
2.807
2.789
2.780
2.762
2.744
1.666
1.664
1.646
1.642
1.630
1.627
1.623
1.609
1.590
1.412
1.393
Equilibrium Mixture of Compounds
1,2-dihydroxyoctane-3,4-dione
5000
0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
ppm (f1)

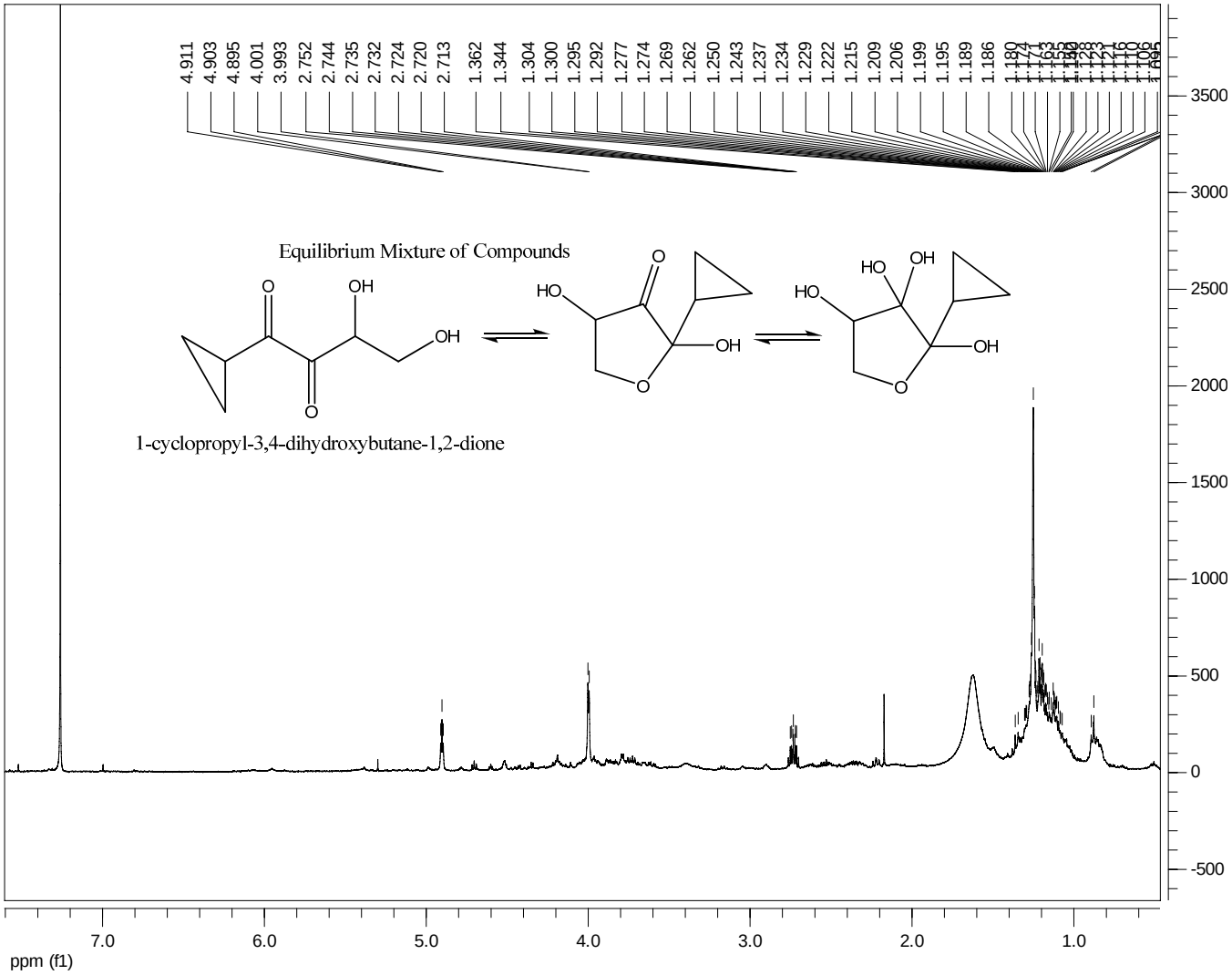

199.962
198.869
75.220
64.151
37.030
25.113
22.571
14.175
Equilibrium Mixture of Compounds
1,2-dihydroxyoctane-3,4-dione
1000
500
0
200
150
100
50
ppm (t1)

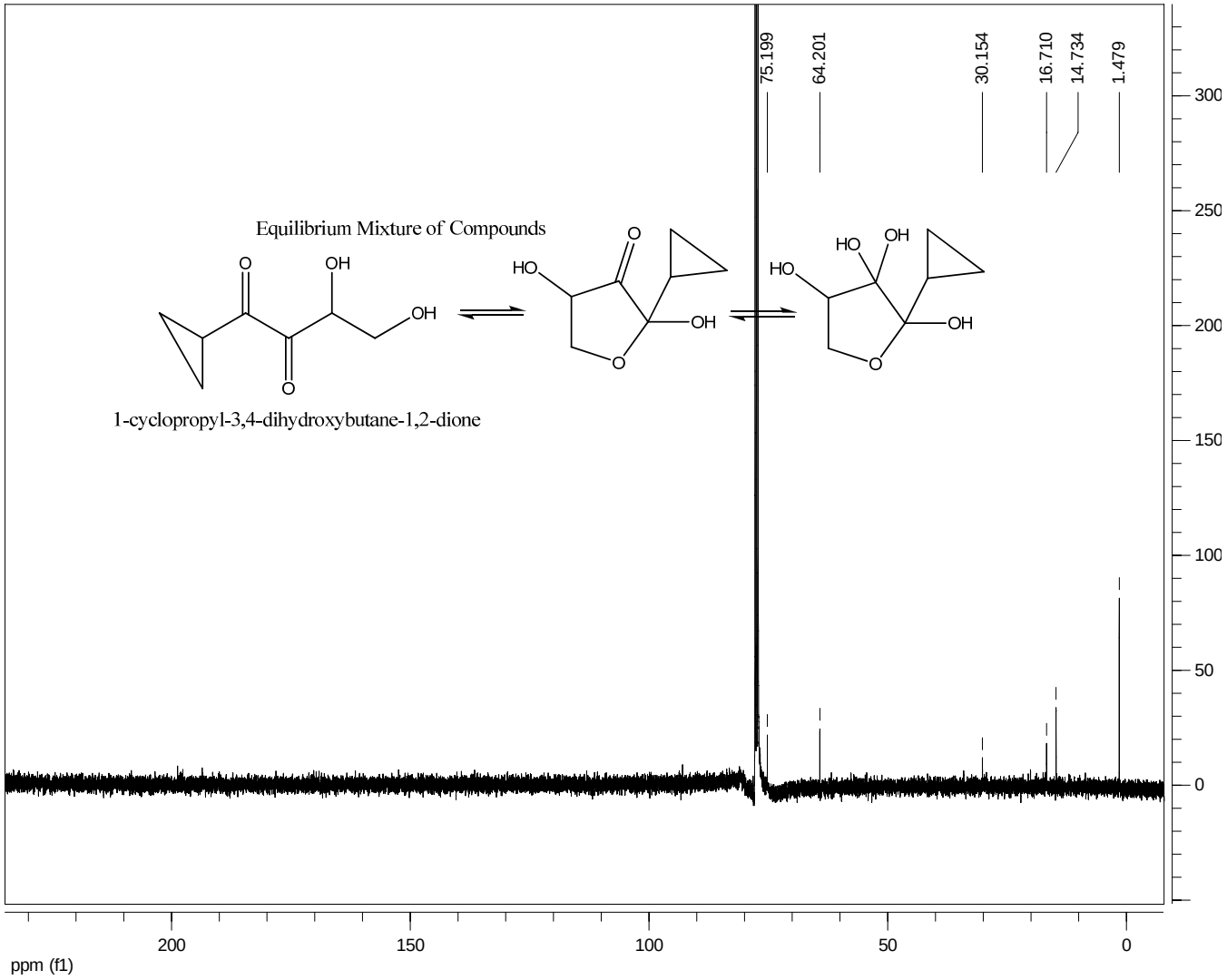

4.930
4.922
4.914
3.986
3.978
3.733
3.715
3.392
3.375
3.357
3.340
1.162
1.146
1.145
1.129
1.088
1.058
1.041
1.037
1.023
1.020
1.010
1.007
1.001
Equilibrium Mixture of Compounds
1,2-dihydroxy-5-methylhexane-3,4-dione
15000
10000
5000
0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
ppm (t1)


203.115
199.518
77.774
77.659
77.456
77.138
75.308
63.895
35.349
34.082
30.129
17.701
17.323
1500
1000
500
0
Equilibrium Mixture of Compounds
1,2-dihydroxy-5-methylhexane-3,4-dione
200
150
100
50
ppm (t1)

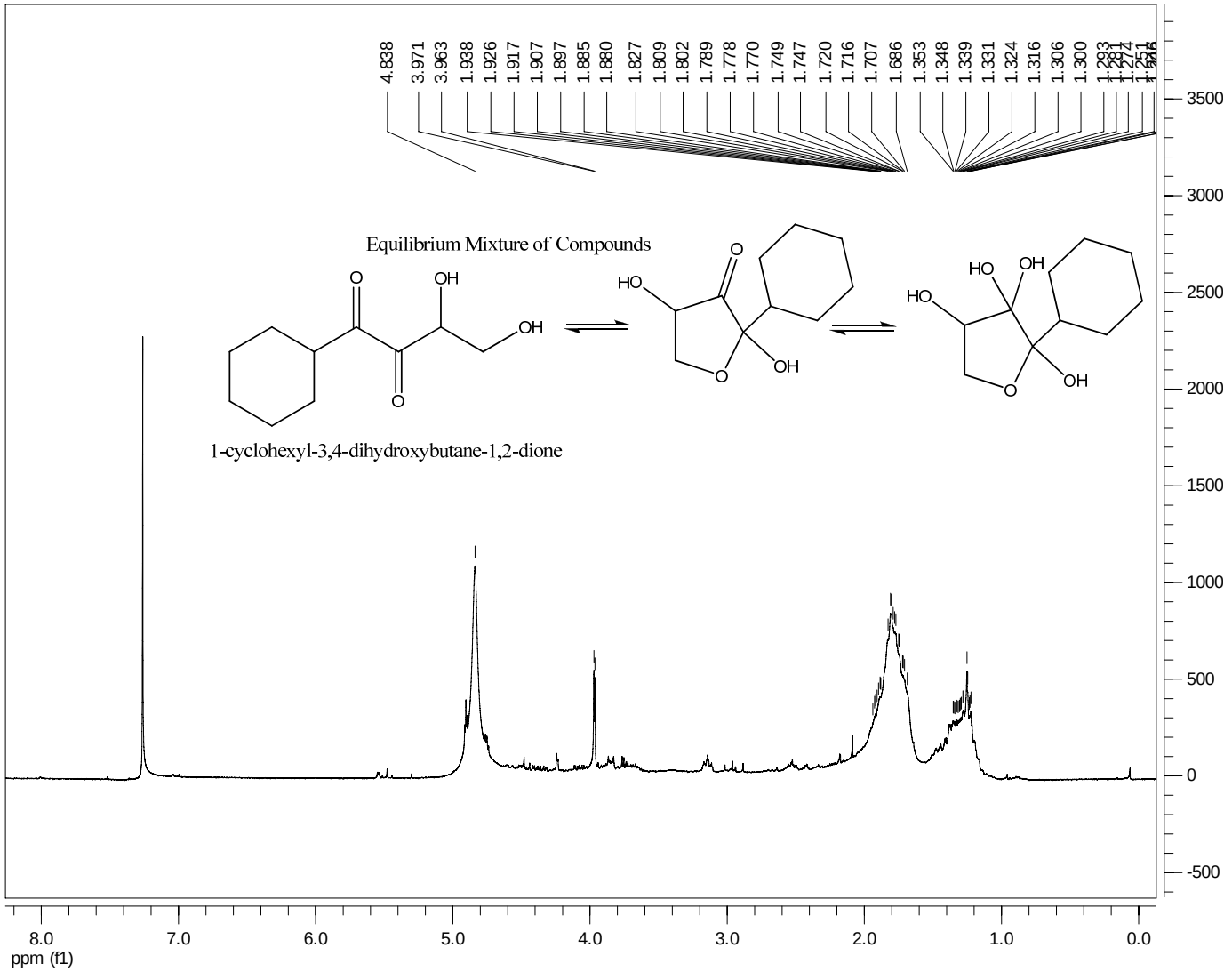

4.791
4.782
4.774
4.445
4.422
4.407
4.389
4.367
3.917
3.908
1.269
1.229
1.092
1.055
1.008
Equilibrium Mixture of Compounds
1,2-dihydroxy-5,5-dimethylhexane-3,4-dione
35000
30000
25000
20000
15000
10000
5000
0
-5000
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
ppm (t1)

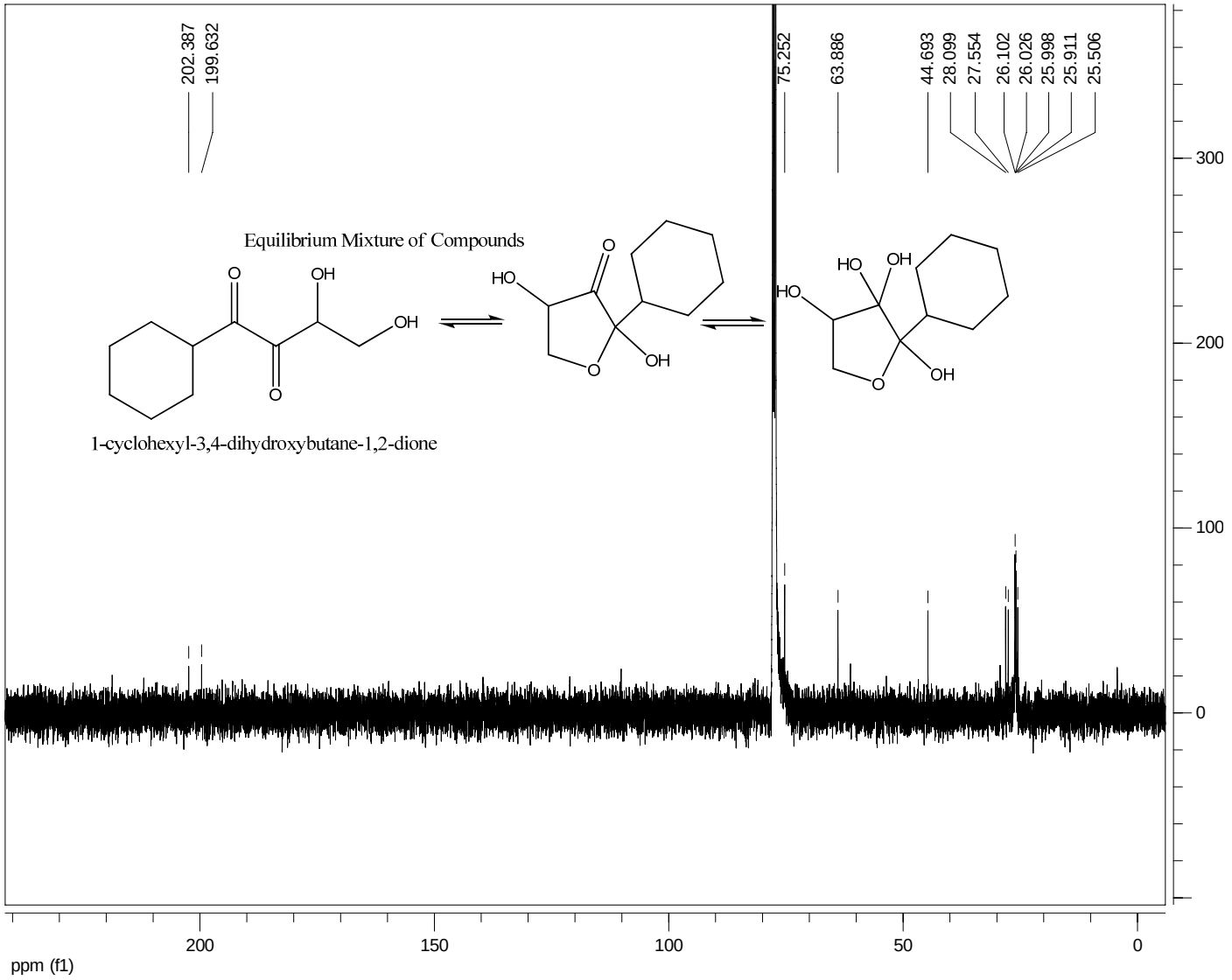

213.211
206.794
200.776
101.077
76.898
76.782
76.580
76.262
74.914
72.510
66.248
62.613
42.300
36.538
25.474
23.550
Equilibrium Mixture of Compounds
1,2-dihydroxy-5,5-dimethylhexane-3,4-dione
1500
1000
500
0
200
150
100
50
ppm (f1)

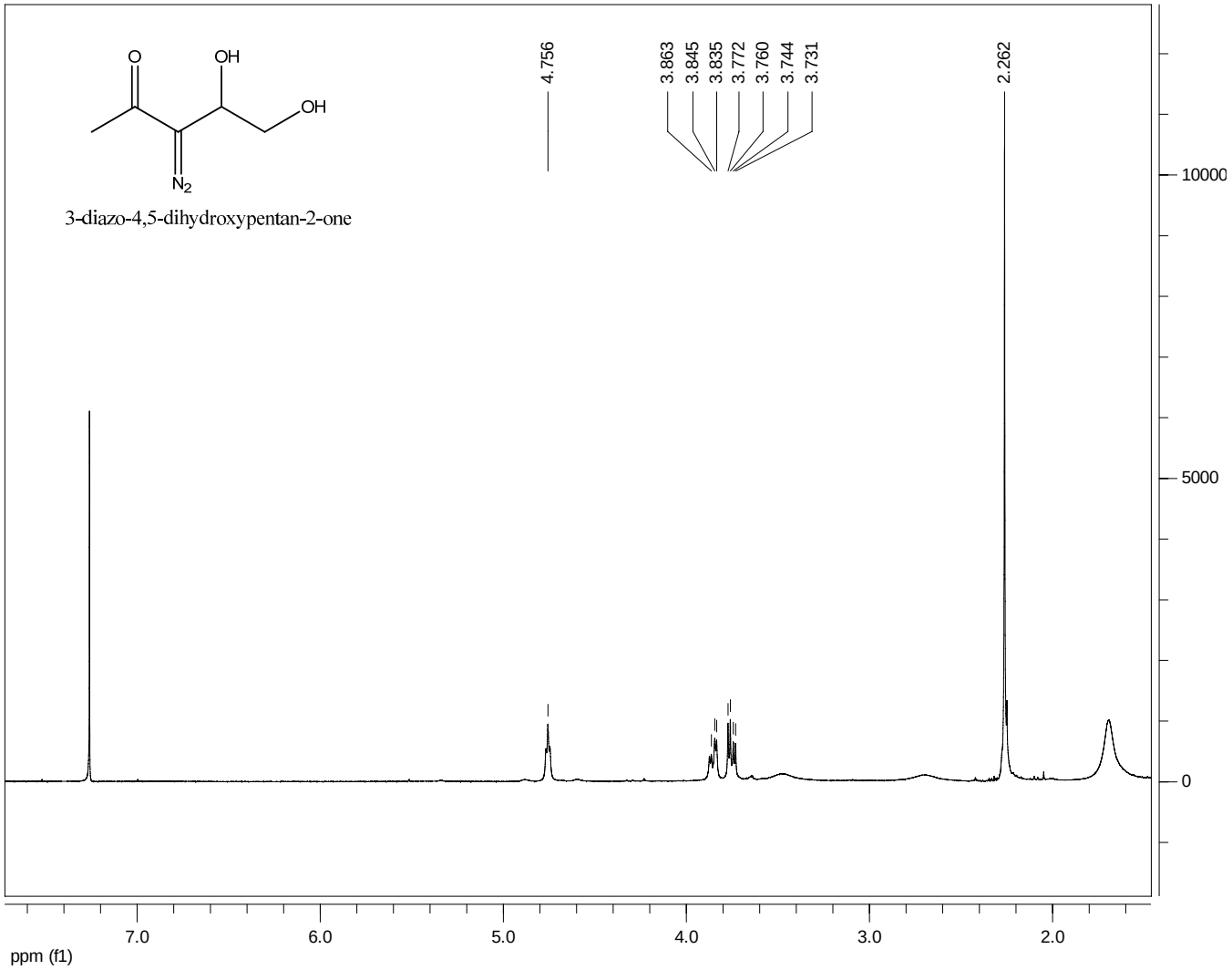

4.911
4.903
4.895
4.001
3.993
2.752
2.744
2.735
2.732
2.724
2.720
2.713
1.362
1.344
1.304
1.300
1.295
1.292
1.277
1.274
1.269
1.262
1.250
1.243
1.237
1.234
1.229
1.222
1.215
1.209
1.206
1.199
1.195
1.189
1.186
Equilibrium Mixture of Compounds
1-cyclopropyl-3,4-dihydroxybutane-1,2-dione
3500
3000
2500
2000
1500
1000
500
0
-500
7.0
6.0
5.0
4.0
3.0
2.0
1.0
ppm (f1)

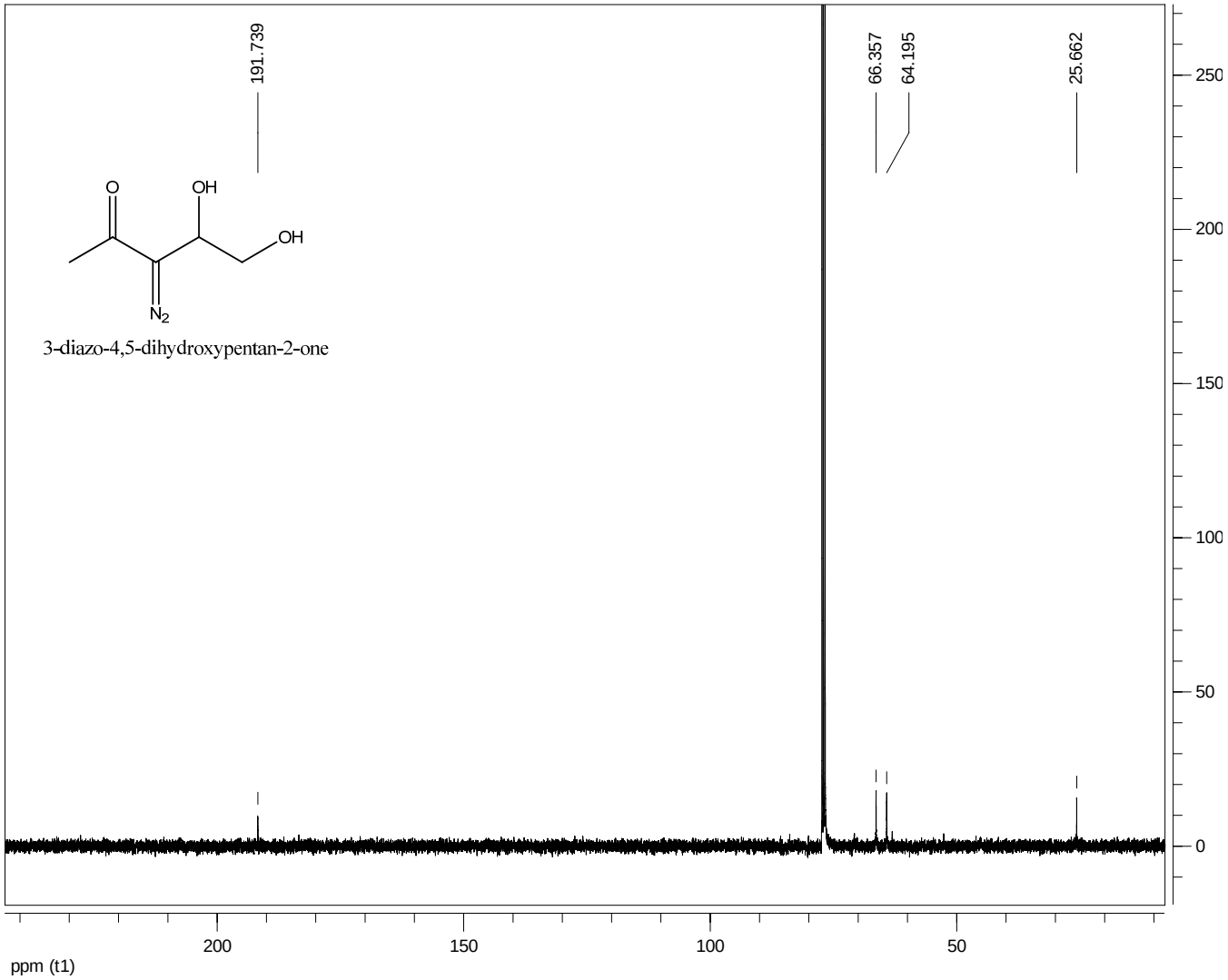


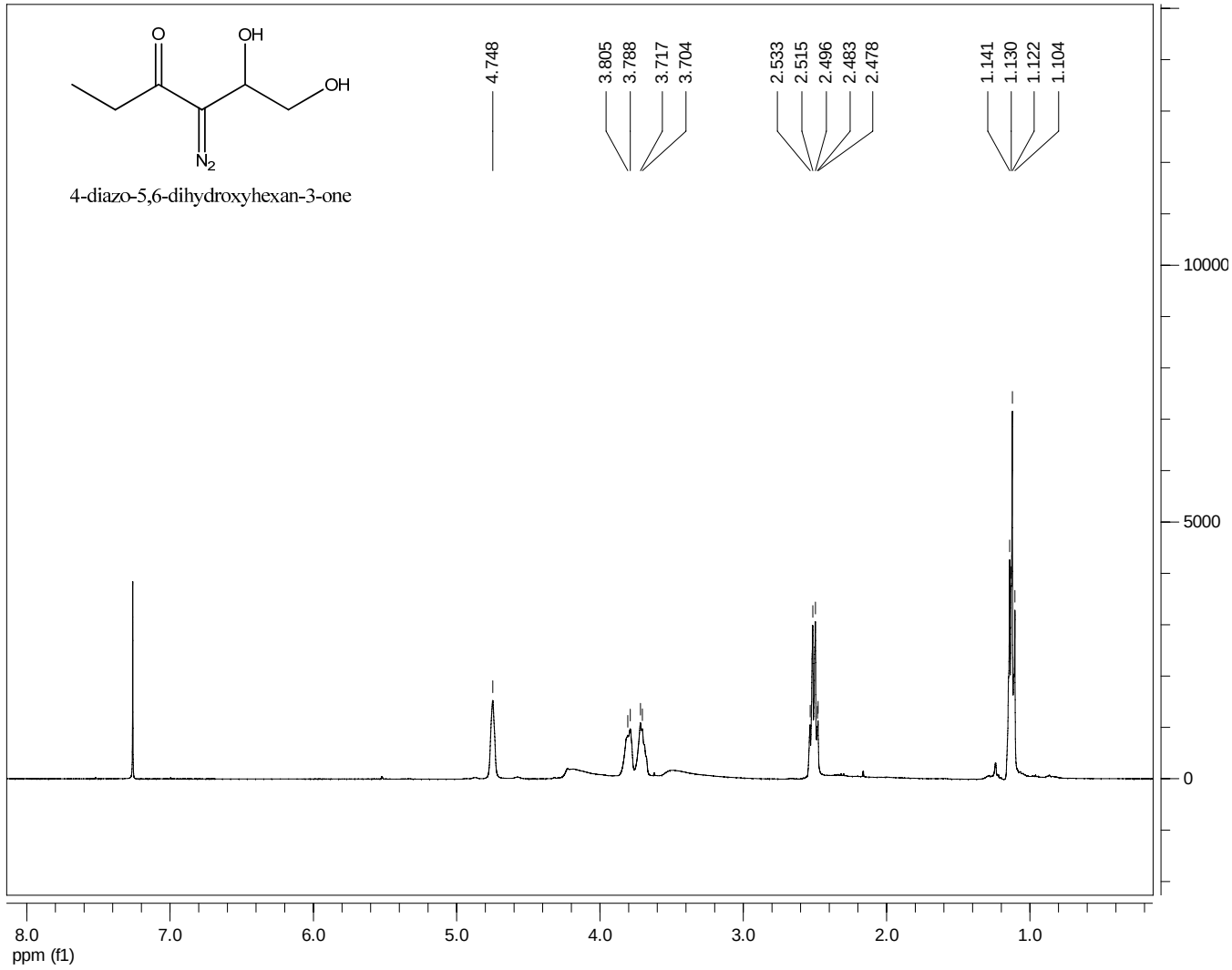
1-cyclopropyl-3,4-dihydroxybutane-1,2-dione

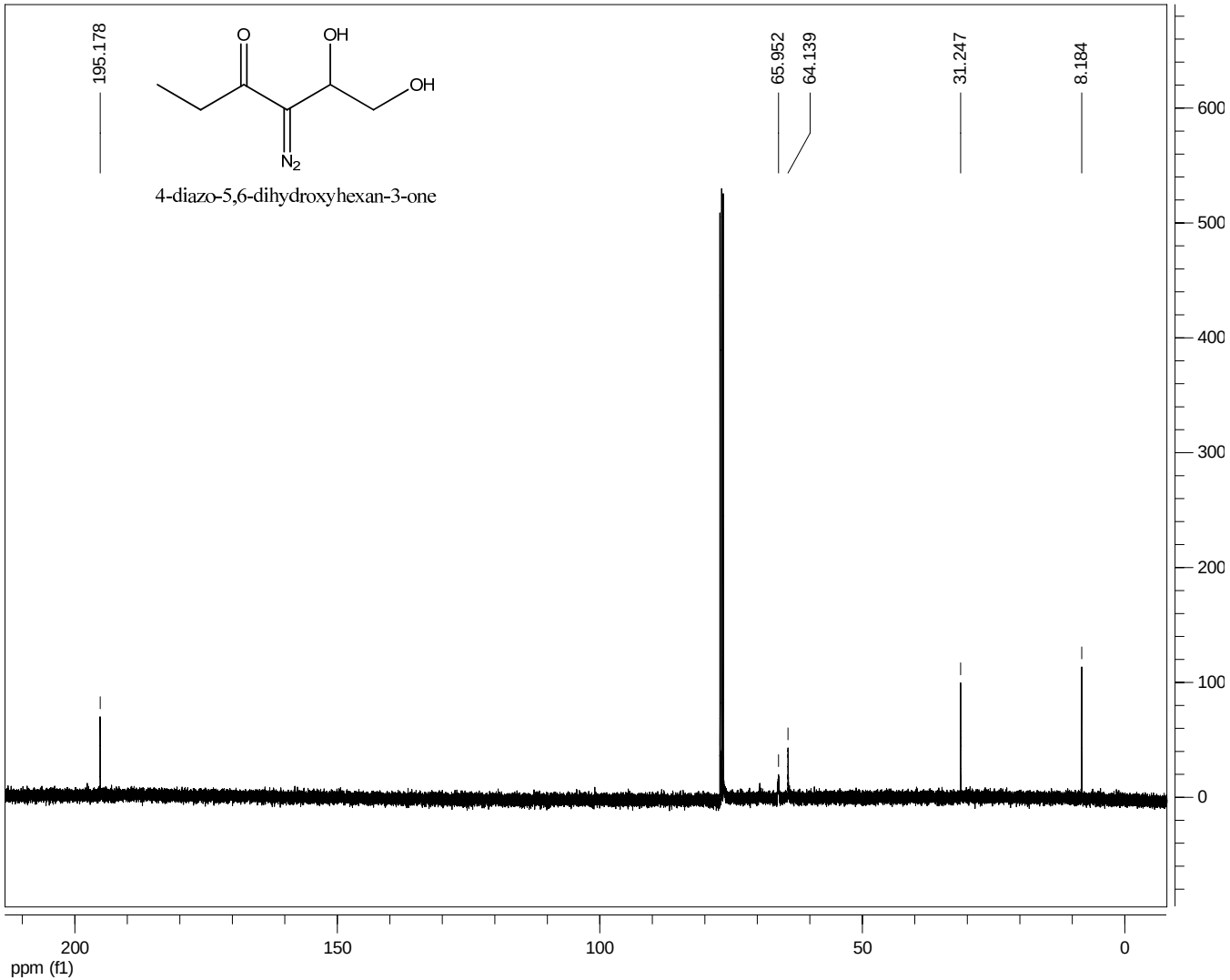

4.838
3.971
3.963
1.938
1.926
1.917
1.907
1.897
1.885
1.880
1.827
1.809
1.802
1.789
1.778
1.770
1.749
1.747
1.720
1.716
1.707
1.686
1.353
1.348
1.339
1.331
1.324
1.316
1.306
1.300
1.293
Equilibrium Mixture of Compounds
1-cyclohexyl-3,4-dihydroxybutane-1,2-dione
3500
3000
2500
2000
1500
1000
500
0
-500
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
ppm (f1)

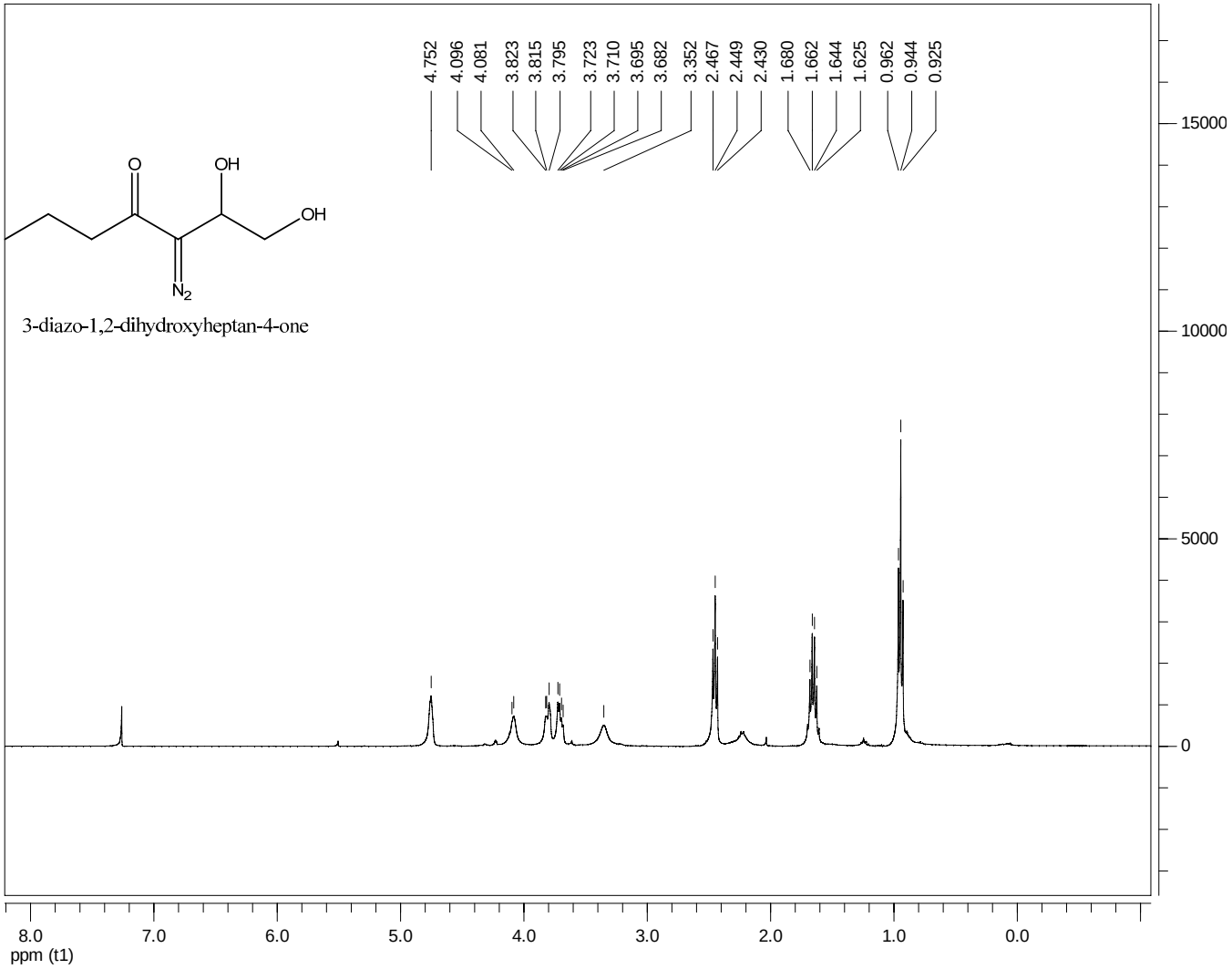

202.387
199.632
75.252
63.886
44.693
28.099
27.554
26.102
26.026
25.998
25.911
25.506
Equilibrium Mixture of Compounds
1-cyclohexyl-3,4-dihydroxybutane-1,2-dione
300
200
100
0
200
150
100
50
0
ppm (f1)

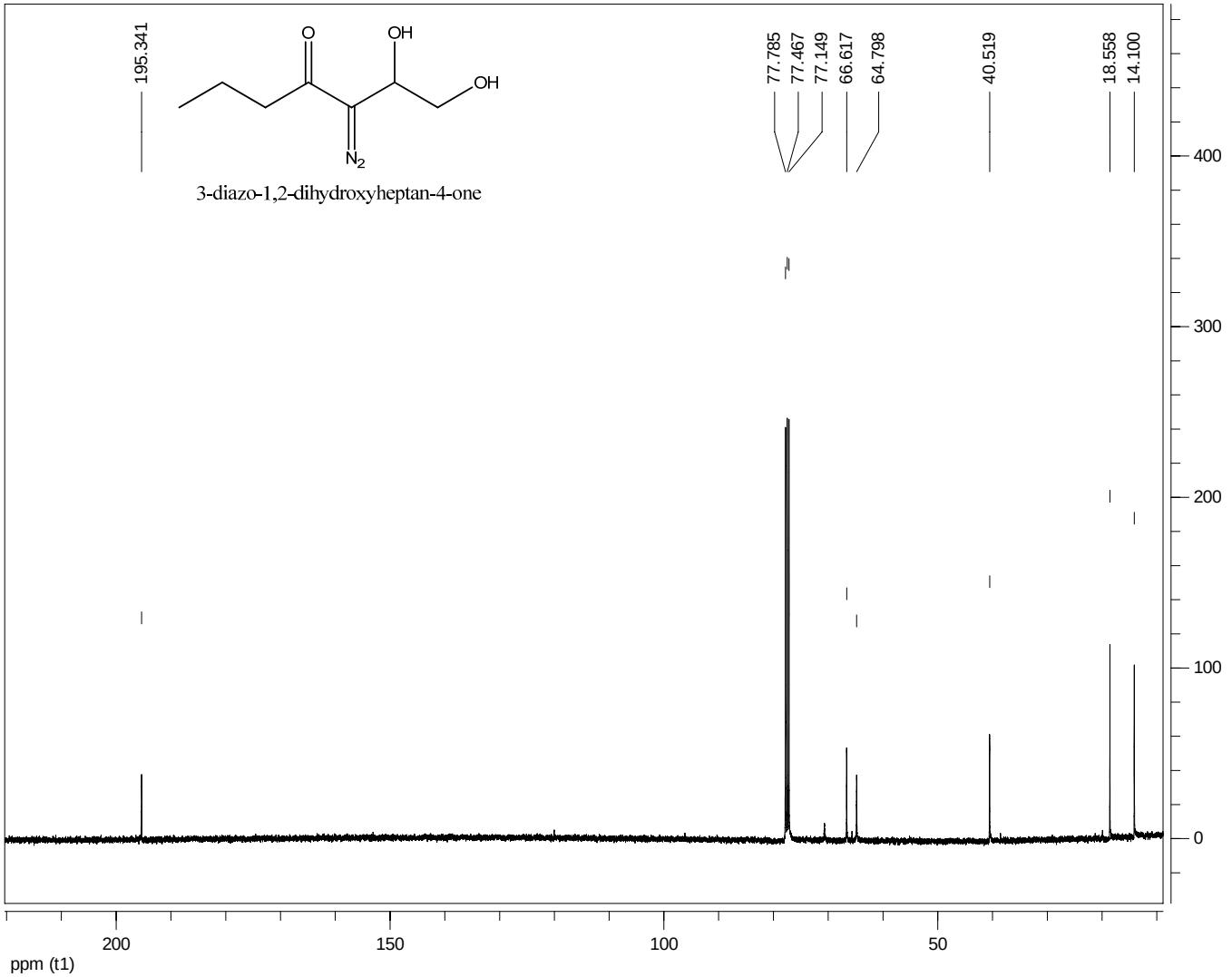

O
OH
OH
N2
3-diazo-4,5-dihydroxypentan-2-one
4.756
3.863
3.845
3.835
3.772
3.760
3.744
3.731
2.262
10000
5000
0
7.0
6.0
5.0
4.0
3.0
2.0
ppm (f1)


191.739
66.357
64.195
25.662
O
OH
OH
N2
3-diazo-4,5-dihydroxypentan-2-one
250
200
150
100
50
0
200
150
100
50
ppm (t1)

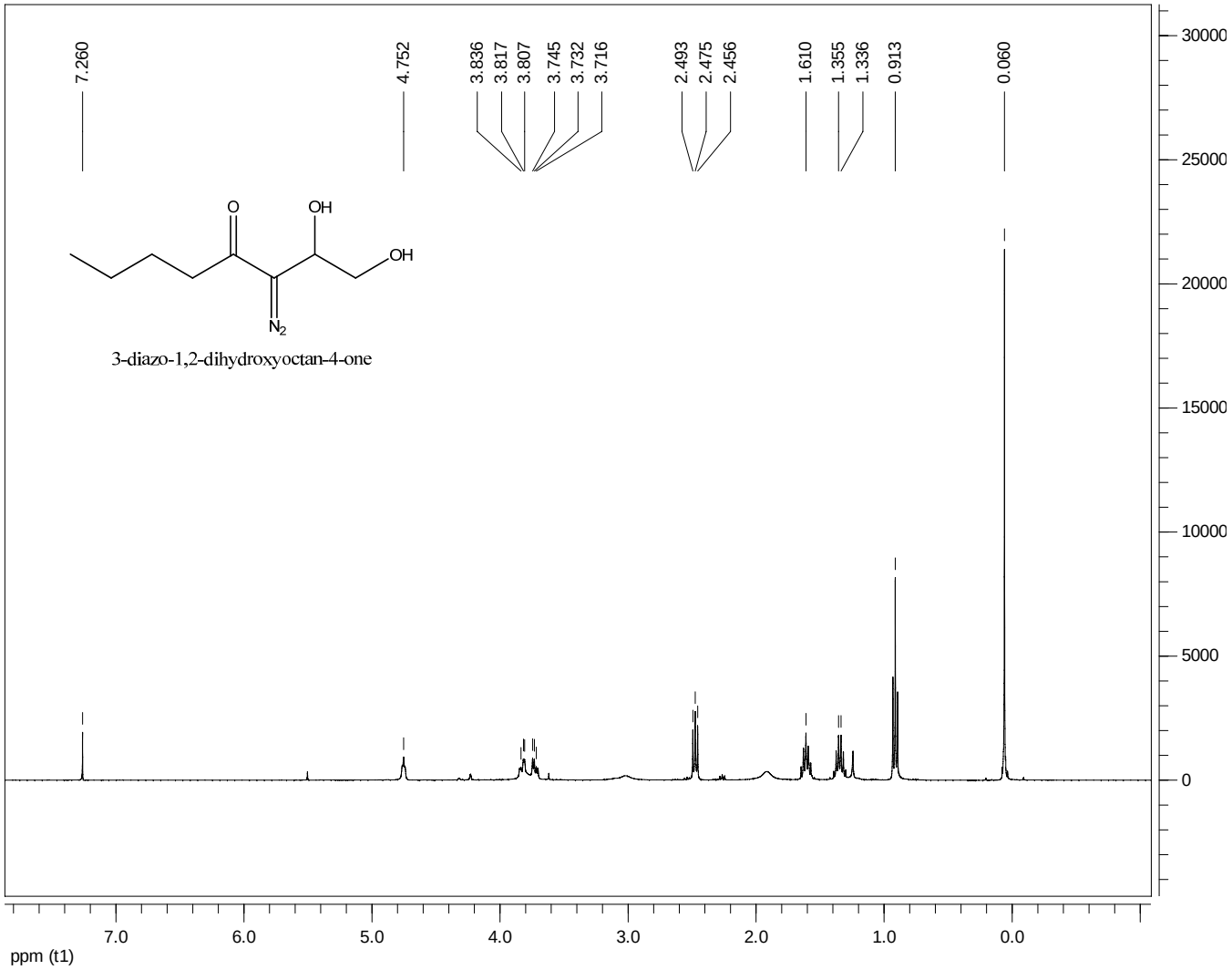

O
OH
OH
N2
4-diazo-5,6-dihydroxyhexan-3-one
4.748
3.805
3.788
3.717
3.704
2.533
2.515
2.496
2.483
2.478
1.141
1.130
1.122
1.104
10000
5000
0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
ppm (f1)

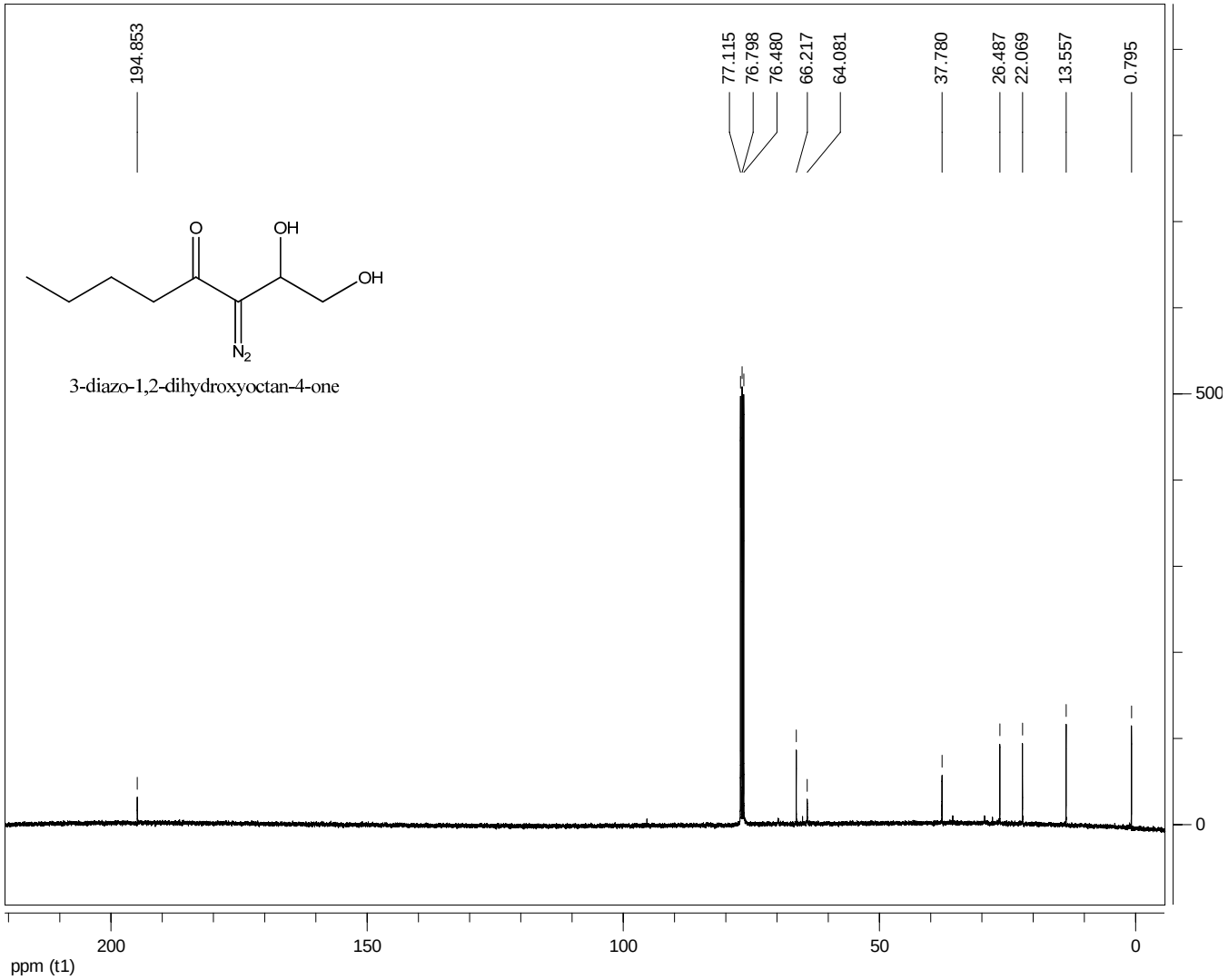

195.178
O
OH
OH
N2
65.952
64.139
31.247
8.184
4-diazo-5,6-dihydroxyhexan-3-one
600
500
400
300
200
100
0
200
150
100
50
0
ppm (f1)

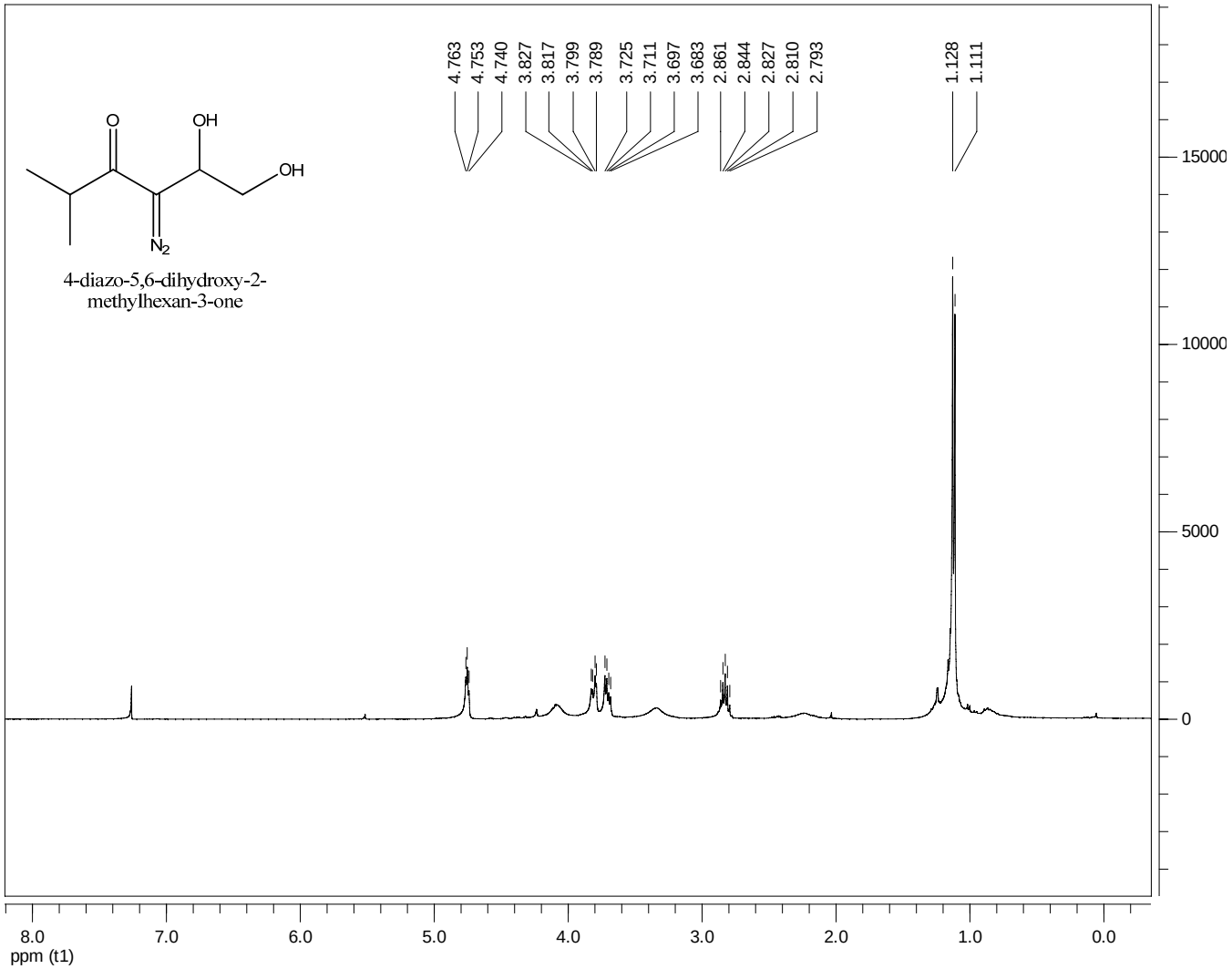

4.752
4.096
4.081
3.823
3.815
3.795
3.723
3.710
3.695
3.682
3.352
2.467
2.449
2.430
1.680
1.662
1.644
1.625
0.962
0.944
0.925
O
OH
OH
N2
3-diazo-1,2-dihydroxyheptan-4-one
15000
10000
5000
0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
ppm (t1)



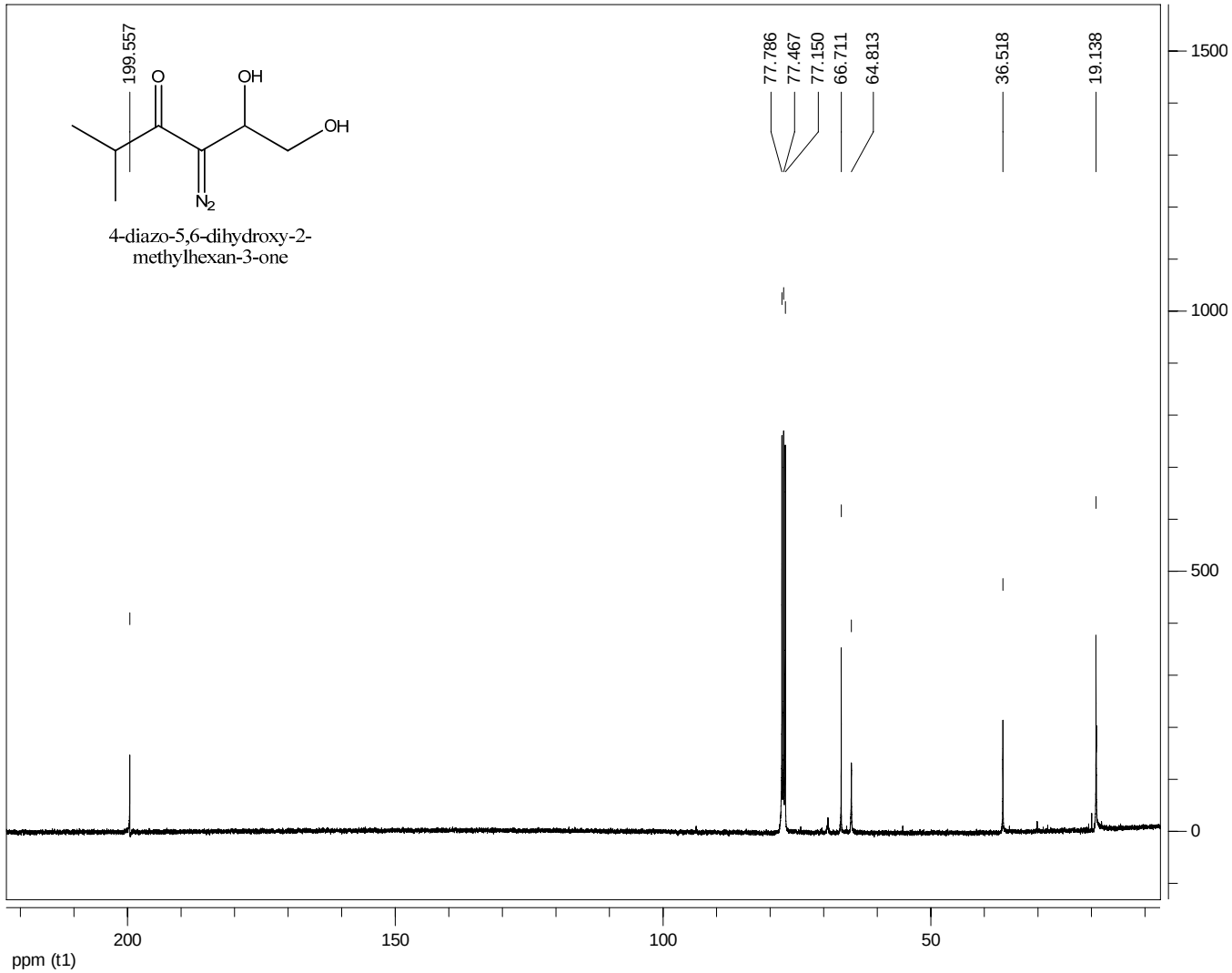
3-diazo-1,2-dihydroxyheptan-4-one


7.260
4.752
3.836
3.817
3.807
3.745
3.732
3.716
2.493
2.475
2.456
1.610
1.355
1.336
0.913
0.060
O
OH
OH
N2
3-diazo-1,2-dihydroxyoctan-4-one
30000
25000
20000
15000
10000
5000
0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
ppm (t1)

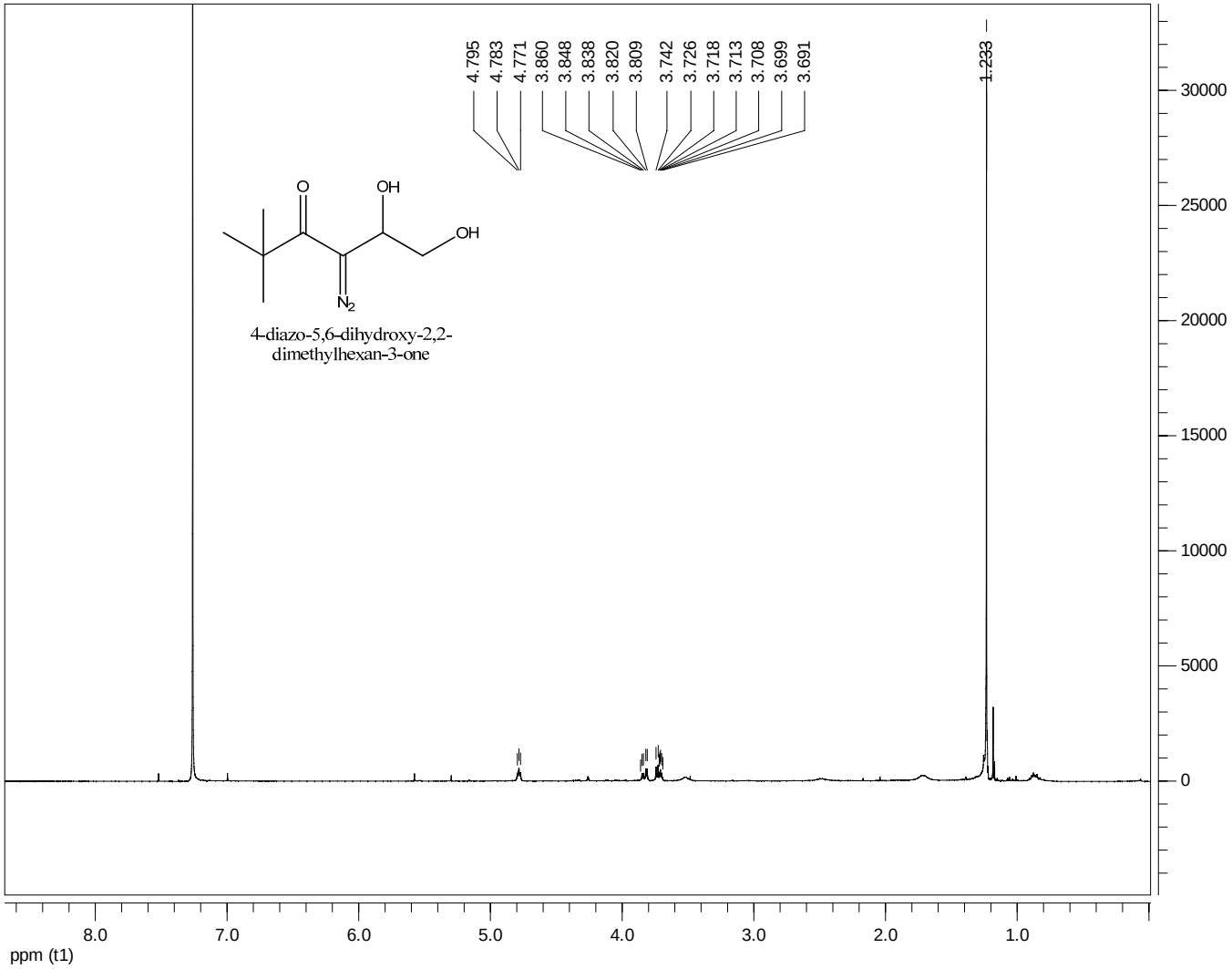

194.853
77.115
76.798
76.480
66.217
64.081
37.780
26.487
22.069
13.557
0.795
O
OH
OH
N2
3-diazo-1,2-dihydroxyoctan-4-one
500
0
200
150
100
50
0
ppm (t1)

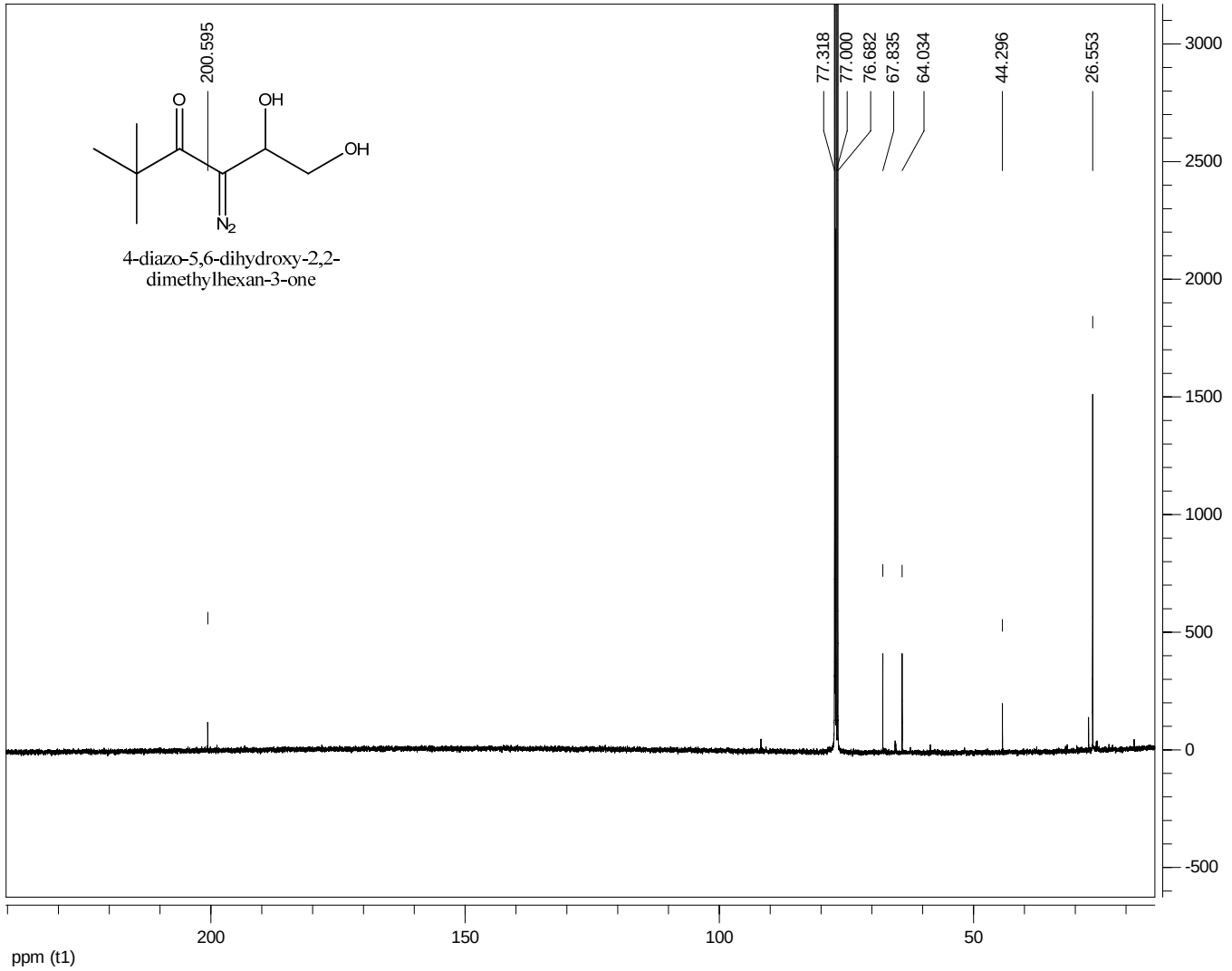


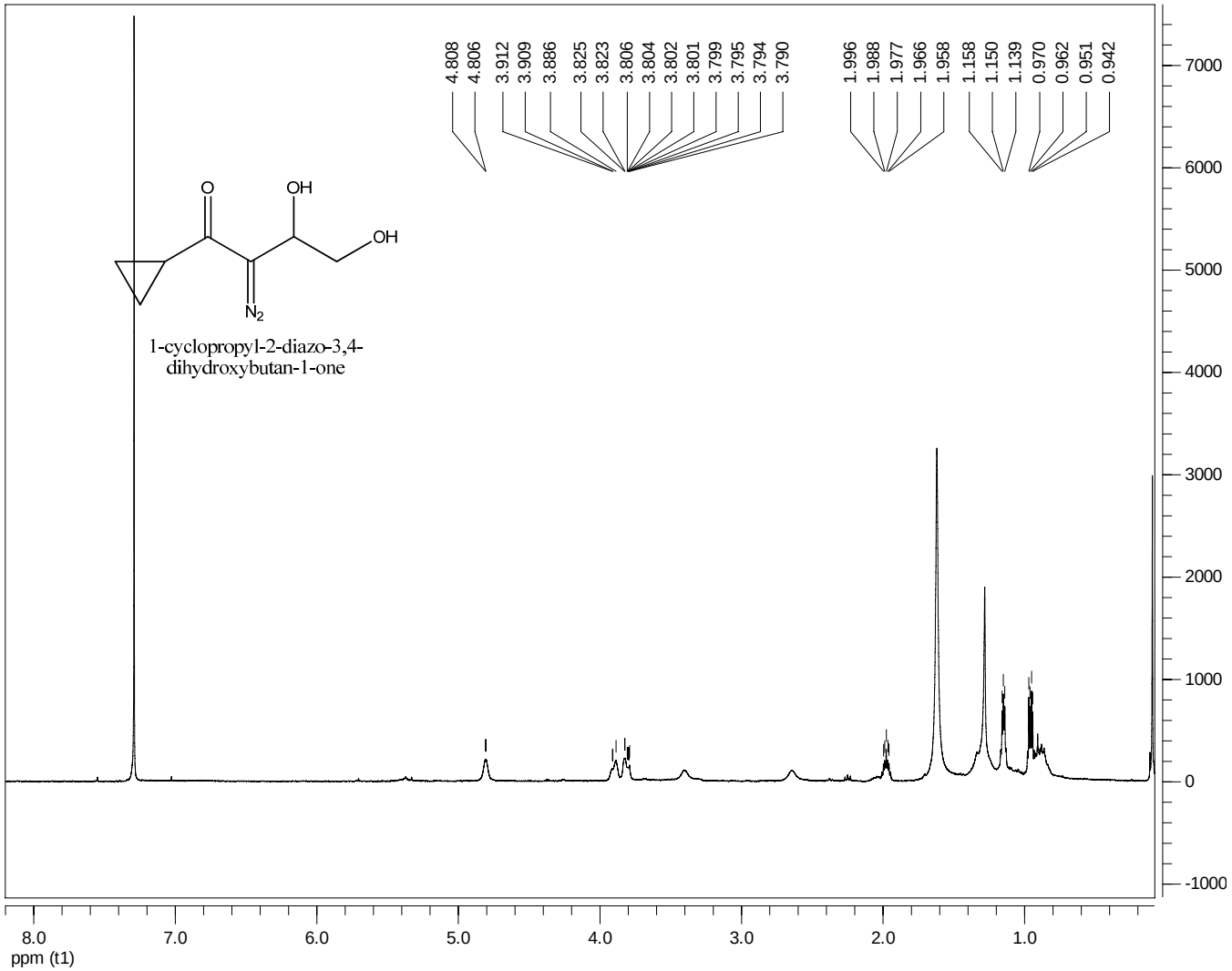
4-diazo-5,6-dihydroxy-2-methylhexan-3-one

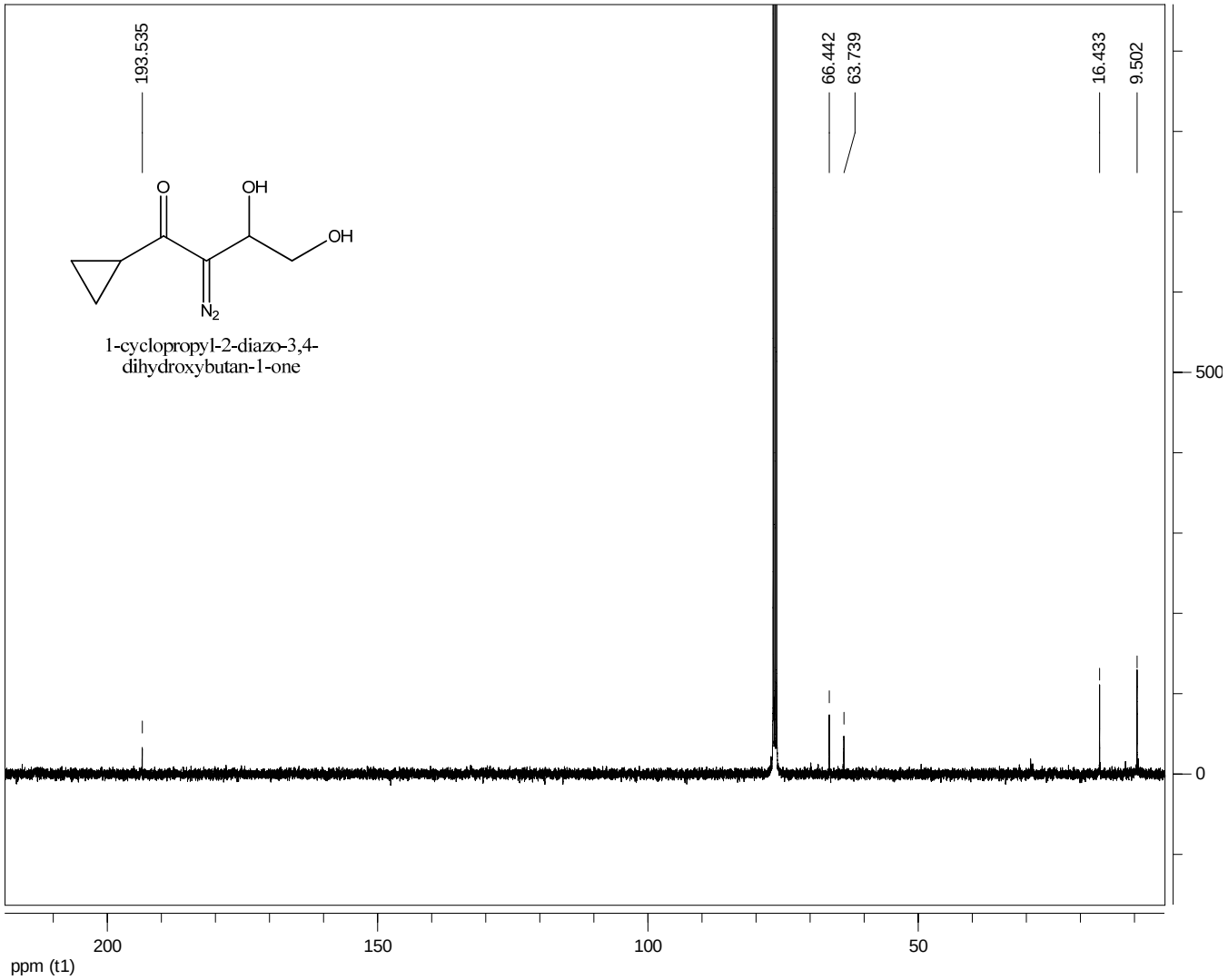


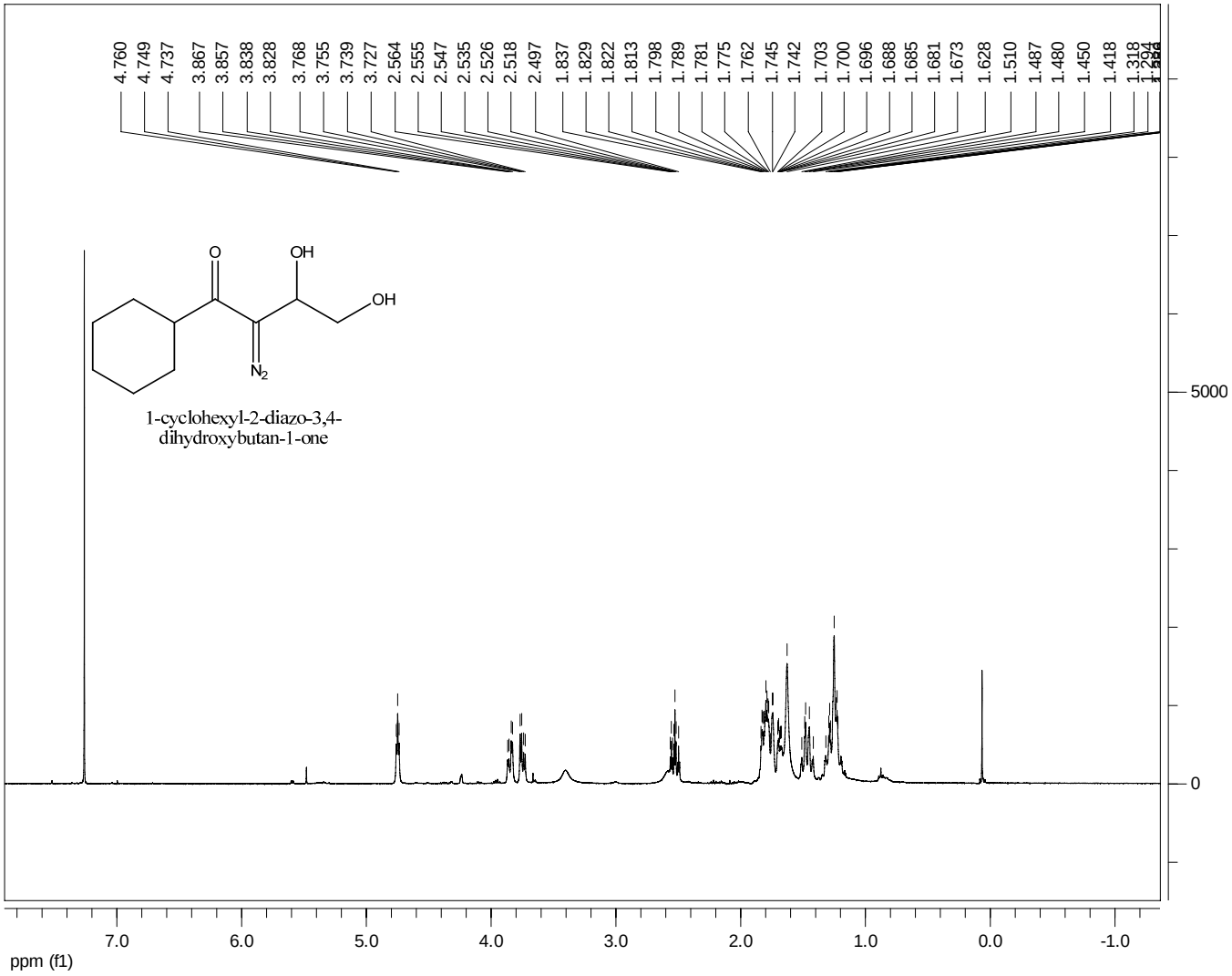
4-diazo-5,6-dihydroxy-2-methylhexan-3-one

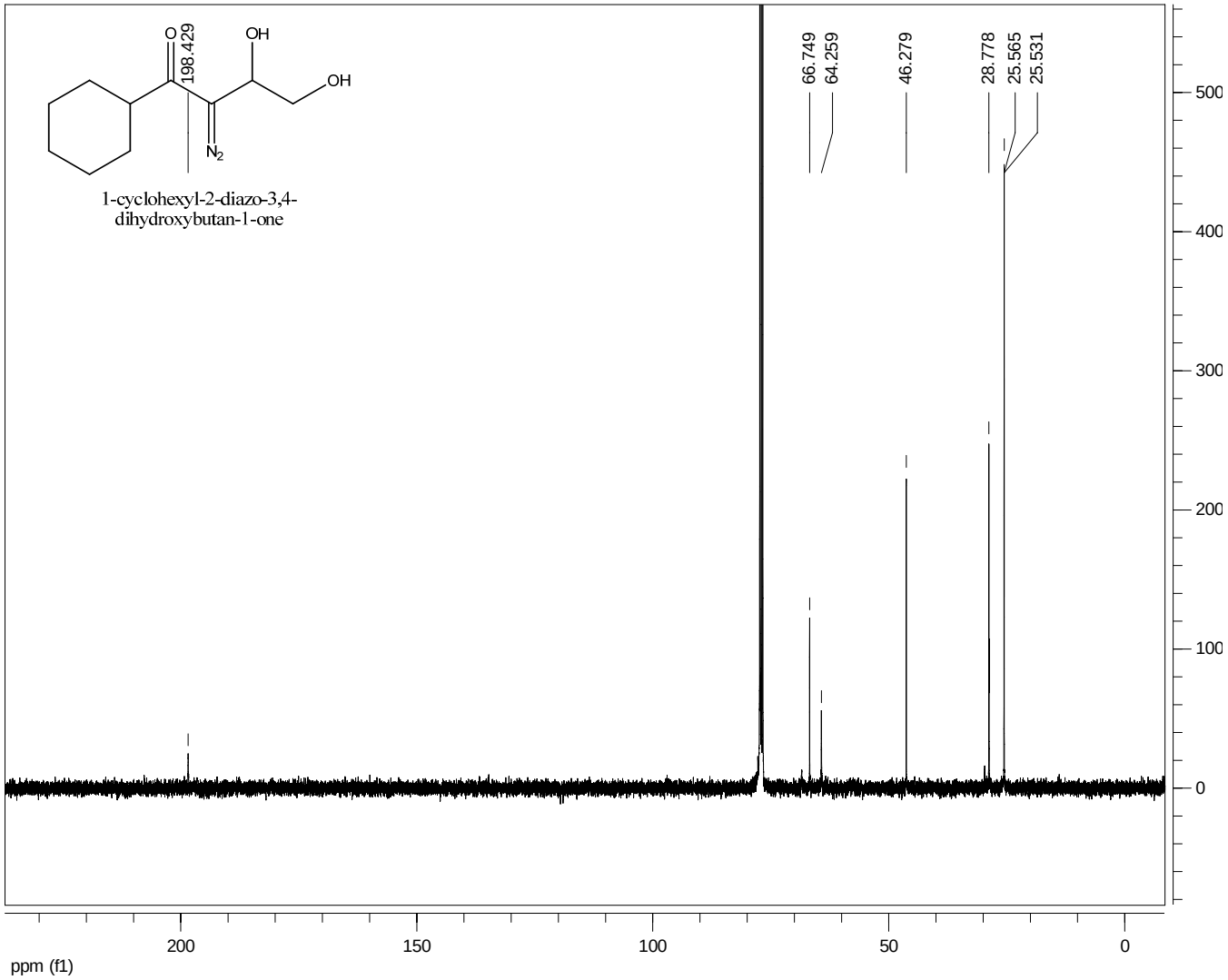

4.795
4.783
4.771
3.860
3.848
3.838
3.820
3.809
3.742
3.726
3.718
3.713
3.708
3.699
3.691
1.233
O
OH
OH
N2
4-diazo-5,6-dihydroxy-2,2-dimethylhexan-3-one
30000
25000
20000
15000
10000
5000
0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
ppm (t1)


200.595
77.318
77.000
76.682
67.835
64.034
44.296
26.553
O
OH
OH
N2
4-diazo-5,6-dihydroxy-2,2-dimethylhexan-3-one
3000
2500
2000
1500
1000
500
0
-500
200
150
100
50
ppm (t1)


4.808
4.806
3.912
3.909
3.886
3.825
3.823
3.806
3.804
3.802
3.801
3.799
3.795
3.794
3.790
1.996
1.988
1.977
1.966
1.958
1.158
1.150
1.139
0.970
0.962
0.951
0.942
O
OH
OH
N2
1-cyclopropyl-2-diazo-3,4-dihydroxybutan-1-one
7000
6000
5000
4000
3000
2000
1000
0
-1000
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
ppm (t1)


193.535
66.442
63.739
16.433
9.502
O
OH
OH
N2
1-cyclopropyl-2-diazo-3,4-dihydroxybutan-1-one
500
0
200
150
100
50
ppm (t1)


4.760
4.749
4.737
3.867
3.857
3.838
3.828
3.768
3.755
3.739
3.727
2.564
2.555
2.547
2.535
2.526
2.518
2.497
1.837
1.829
1.822
1.813
1.798
1.789
1.781
1.775
1.762
1.745
1.742
1.703
1.700
1.696
1.688
1.685
1.681
1.673
1.628
1.510
1.487
1.480
1.450
1.418
1.318
O
OH
OH
N2
1-cyclohexyl-2-diazo-3,4-dihydroxybutan-1-one
5000
0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
ppm (f1)


O
198.429
OH
OH
N2
1-cyclohexyl-2-diazo-3,4-dihydroxybutan-1-one
66.749
64.259
46.279
28.778
25.565
25.531
500
400
300
200
100
0
200
150
100
50
0
ppm (f1)