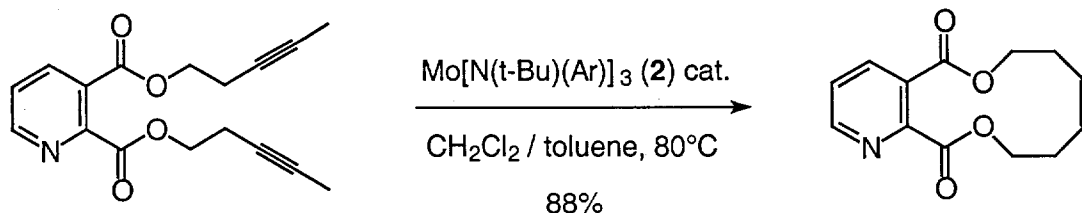


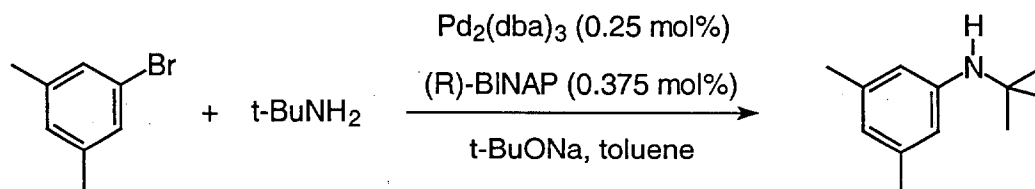
Representative Procedure



All reactions were carried out under Ar using Schlenck techniques. The solvents were dried by distillation over the following drying agents and were transferred under Ar: toluene (Na/K); CH_2Cl_2 (P_4O_{10}).

To a stirred solution of complex **2** (104.4 mg, 0.17 mmol) in toluene (80 mL) are successively added CH_2Cl_2 (160 μL) and pyridine-2,3-dicarboxylic acid bis(3-pentyn-1-yl) ester (511 mg, 1.70 mmol) and the resulting mixture is stirred at 80°C until TLC shows complete conversion of the substrate (20 h). For work-up, the solvent is evaporated in vacuo and the residue is purified by flash chromatography (Merck silica gel 60, 230-400 mesh) with hexane/ethyl acetate (4/1) as the eluent, thus providing the desired cycloalkyne product as a colorless syrup (369 mg, 88%). ^1H NMR (300 MHz, CD_2Cl_2): δ = 8.74 (dd, 1H, J = 4.9, 1.6 Hz), 8.10 (dd, 1H, J = 7.8, 1.6 Hz), 7.52 (dd, 1H, J = 7.8, 4.8 Hz), 4.50 (t, 2H, J = 5.4 Hz), 4.43 (t, 2H, J = 5.3 Hz), 2.57 (m, 4H). ^{13}C NMR (75 MHz, CD_2Cl_2): δ = 166.8, 166.7, 152.0, 151.9, 137.4, 129.3, 125.7, 79.8, 79.4, 64.0, 63.9, 20.4, 20.3. MS (70 eV): m/z (rel. intensity): 245 (2, $[\text{M}^+]$), 78 (100).

Large Scale Synthesis of *tert*-Butyl-3,5-Dimethylaniline¹



A three necked flask is charged under Ar with NaOt-Bu (18.16 g, 189 mmol), (*R*)-BINAP (0.316 g, 0.506 mmol), Pd₂(dba)₃ (0.309 g, 0.338 mmol) and anhydrous toluene (540 mL). *Tert*-Butylamine (11.85 g, 162 mmol) and 5-bromo-1,3-dimethylbenzene (25.0 g, 135 mmol) are subsequently added and the mixture is stirred at 80°C for 48 h under Ar. For work-up, all volatile compounds are removed in vacuo and the crude material is purified by flash chromatography (silica, *tert*-BuOMe/pentane = 1/15). Thereby unreacted 5-bromo-1,3-dimethylbenzene (11.2 g, 45%) is recovered and the desired *N-tert*-butyl-3,5-dimethylaniline is isolated as a colorless oil (11.3 g, 47%, 85% based on recovered starting material).

¹H NMR (300 MHz, CDCl₃): δ = 6.41 (s, 1H), 6.38 (s, 2H), 3.30 (br, 1H), 2.23 (s, 6H), 1.32 (s, 9H). ¹³C NMR (75 MHz, CDCl₃): δ = 146.9, 138.4, 120.2, 115.4, 51.3, 30.2, 21.5. MS (70 eV): *m/z* (rel. intensity): 177 (40, M⁺), 162 (100), 121 (25).

¹ Wolfe, J. P.; Wagwaw, S.; Buchwald, S. L. *J. Am. Chem. Soc.* **1996**, *118*, 7215.

Compound 3

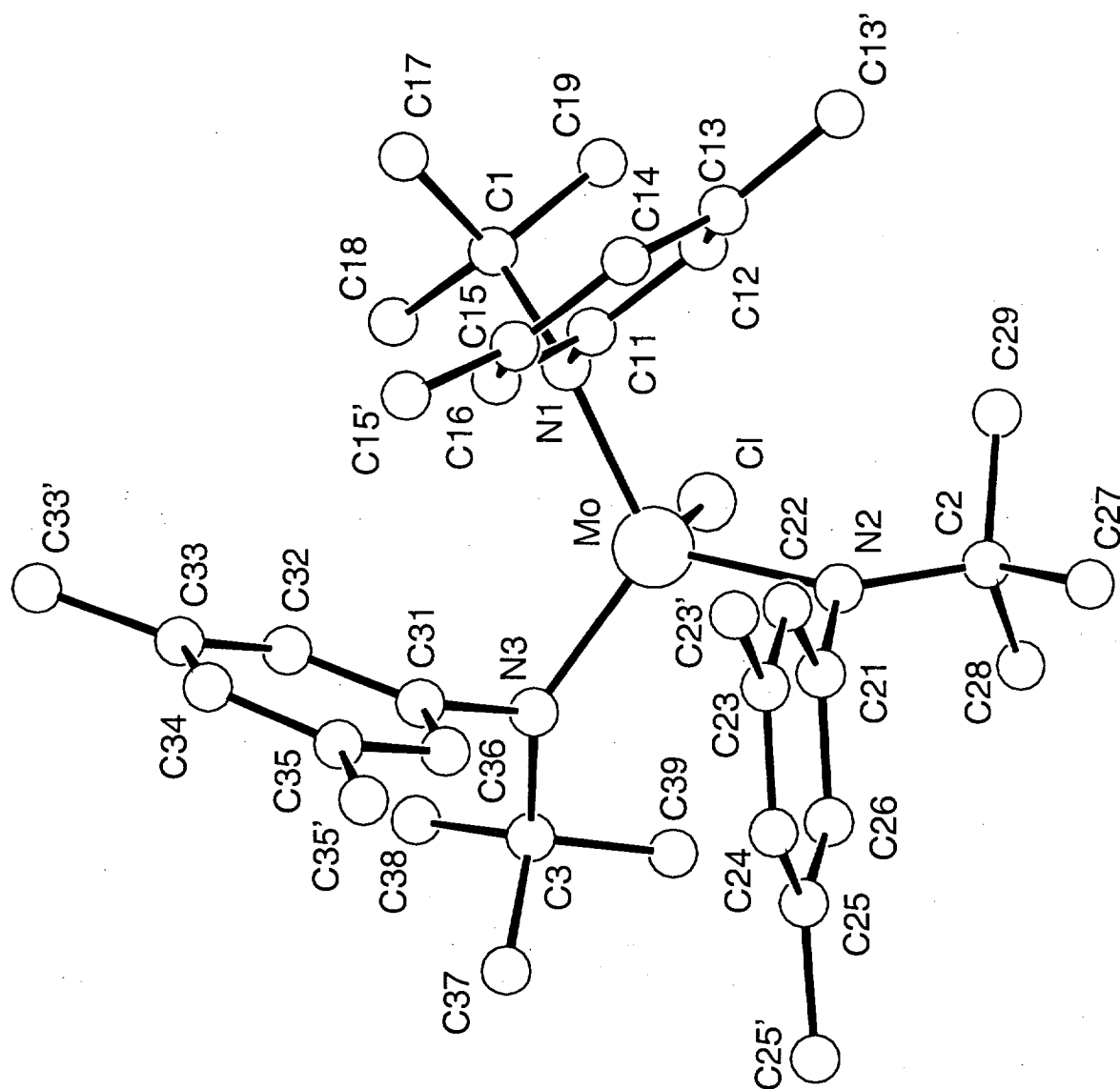


Table 1. Crystal data and structure refinement

Identification code	3143	
Empirical formula	C ₃₆ H ₅₄ Cl Mo N ₃	
Color	red	
Formula weight	660.21 g · mol ⁻¹	
Temperature	100 K	
Wavelength	0.71073 Å	
Crystal system, space group	Monoclinic, P2₁ (no.4)	
Unit cell dimensions	a = 10.7575(6) Å	α = 90 °
	b = 11.1362(6) Å	β = 94.480(2) °
	c = 14.8699(8) Å	γ = 90 °
Volume	1775.94(17) Å ³	
Z, Calculated density	2, 1.235 Mg · m ⁻³	
Absorption coefficient	0.471 mm ⁻¹	
F(000)	700 e	
Crystal size	0.26 x 0.26 x 0.06 mm	
θ range for data collection	1.90 to 33.15 °	
Index ranges	-16 ≤ h ≤ 13, -16 ≤ k ≤ 16, -16 ≤ l ≤ 22	
Reflections collected / unique	19610 / 10480 [R _{int} = 0.0549]	
Completeness to θ = 33.15	94.4%	
Absorption correction	Empirical	
Max. and min. transmission	0.97120 and 0.87769	
Refinement method	Full-matrix least-squares on F ²	
Data / restraints / parameters	10480 / 1 / 386	
Goodness-of-fit on F ²	0.948	
Final R indices [I > 2σ(I)]	R ₁ = 0.0553	wR ² = 0.0902
R indices (all data)	R ₁ = 0.1041	wR ² = 0.1020
Absolute structure parameter	0.48(3)	
Largest diff. peak and hole	0.674 and -0.591 e · Å ⁻³	

Table 2. Bond Distances in (Å)

Mo - CL	2.350(1)	Mo - N(1)	1.963(3)
Mo - N(2)	1.963(3)	Mo - N(3)	1.952(3)
N(1) - C(1)	1.507(5)	N(1) - C(11)	1.462(5)
N(2) - C(2)	1.498(5)	N(2) - C(21)	1.453(5)
N(3) - C(3)	1.510(5)	N(3) - C(31)	1.457(5)
C(1) - C(17)	1.526(6)	C(1) - C(18)	1.539(6)
C(1) - C(19)	1.526(5)	C(2) - C(27)	1.528(6)
C(2) - C(28)	1.533(6)	C(2) - C(29)	1.534(6)
C(3) - C(37)	1.539(6)	C(3) - C(38)	1.513(6)
C(3) - C(39)	1.523(5)	C(11) - C(12)	1.397(6)
C(11) - C(16)	1.399(5)	C(12) - C(13)	1.390(6)
C(13) - C(13')	1.495(6)	C(13) - C(14)	1.404(6)
C(14) - C(15)	1.386(6)	C(15) - C(15')	1.517(6)
C(15) - C(16)	1.390(6)	C(21) - C(22)	1.408(5)
C(21) - C(26)	1.406(6)	C(22) - C(23)	1.407(5)
C(23) - C(23')	1.518(6)	C(23) - C(24)	1.387(6)
C(24) - C(25)	1.414(6)	C(25) - C(25')	1.497(6)
C(25) - C(26)	1.387(6)	C(31) - C(32)	1.398(6)
C(31) - C(36)	1.391(5)	C(32) - C(33)	1.388(6)
C(33) - C(33')	1.494(6)	C(33) - C(34)	1.391(6)
C(34) - C(35)	1.400(6)	C(35) - C(35')	1.501(6)
C(35) - C(36)	1.401(6)		

Table 3. Bond Angles in (°)

N(3) - Mo - N(2)	113.4(1)	N(3) - Mo - N(1)	119.2(1)
N(3) - Mo - CL	101.2(1)	N(2) - Mo - N(1)	117.9(1)
N(2) - Mo - CL	102.7(1)	N(1) - Mo - CL	97.4(1)
C(11) - N(1) - C(1)	114.5(3)	C(11) - N(1) - Mo	109.3(2)
C(1) - N(1) - Mo	136.0(2)	C(21) - N(2) - C(2)	117.2(3)
C(21) - N(2) - Mo	109.0(2)	C(2) - N(2) - Mo	133.4(2)
C(31) - N(3) - C(3)	116.4(3)	C(31) - N(3) - Mo	109.1(2)
C(3) - N(3) - Mo	134.5(2)	C(19) - C(1) - C(18)	110.4(3)
C(19) - C(1) - C(17)	109.7(3)	C(19) - C(1) - N(1)	109.6(3)
C(18) - C(1) - C(17)	107.8(3)	C(18) - C(1) - N(1)	107.7(3)
C(17) - C(1) - N(1)	111.7(3)	C(29) - C(2) - C(28)	109.8(3)
C(29) - C(2) - C(27)	108.5(3)	C(29) - C(2) - N(2)	108.4(3)
C(28) - C(2) - C(27)	109.5(3)	C(28) - C(2) - N(2)	109.5(3)
C(27) - C(2) - N(2)	111.1(3)	C(39) - C(3) - C(38)	109.4(3)
C(39) - C(3) - C(37)	107.5(3)	C(39) - C(3) - N(3)	109.7(3)
C(38) - C(3) - C(37)	110.2(3)	C(38) - C(3) - N(3)	111.2(3)
C(37) - C(3) - N(3)	108.7(3)	C(16) - C(11) - C(12)	119.4(4)
C(16) - C(11) - N(1)	118.7(3)	C(12) - C(11) - N(1)	121.8(3)
C(13) - C(12) - C(11)	121.4(4)	C(14) - C(13) - C(13')	121.3(4)
C(14) - C(13) - C(12)	117.8(4)	C(13') - C(13) - C(12)	120.8(4)
C(15) - C(14) - C(13)	121.8(4)	C(16) - C(15) - C(15')	118.9(4)
C(16) - C(15) - C(14)	119.3(4)	C(15') - C(15) - C(14)	121.7(4)
C(15) - C(16) - C(11)	120.2(4)	C(26) - C(21) - C(22)	118.7(4)
C(26) - C(21) - N(2)	122.5(3)	C(22) - C(21) - N(2)	118.7(3)
C(23) - C(22) - C(21)	120.2(4)	C(24) - C(23) - C(23')	120.1(4)
C(24) - C(23) - C(22)	119.5(4)	C(23') - C(23) - C(22)	120.5(4)
C(25) - C(24) - C(23)	121.6(4)	C(26) - C(25) - C(25')	121.6(4)
C(26) - C(25) - C(24)	117.9(4)	C(25') - C(25) - C(24)	120.4(4)
C(25) - C(26) - C(21)	122.1(4)	C(36) - C(31) - C(32)	119.6(4)
C(36) - C(31) - N(3)	118.9(3)	C(32) - C(31) - N(3)	121.6(3)
C(33) - C(32) - C(31)	121.5(4)	C(34) - C(33) - C(33')	120.7(4)
C(34) - C(33) - C(32)	117.9(4)	C(33') - C(33) - C(32)	121.4(4)
C(35) - C(34) - C(33)	122.3(4)	C(36) - C(35) - C(35')	120.5(4)
C(36) - C(35) - C(34)	118.3(4)	C(35') - C(35) - C(34)	121.1(4)
C(35) - C(36) - C(31)	120.3(4)		

**Table 4. Atomic Coordinates and Equivalent Isotropic Thermal Parameters (Å²)
with Standard Deviations in Parentheses. a)**

Atom	x	y	z	U _{eq}
Mo	0.3684(1)	0.7821(1)	0.2686(1)	0.015(1)
CL	0.5797(1)	0.8270(1)	0.3053(1)	0.025(1)
N(1)	0.3938(3)	0.6424(3)	0.1917(2)	0.023(2)
N(2)	0.3053(3)	0.9304(3)	0.2101(2)	0.022(2)
N(3)	0.3097(3)	0.7575(3)	0.3881(2)	0.019(2)
C(1)	0.4954(3)	0.5510(3)	0.1831(3)	0.021(2)
C(2)	0.3674(4)	1.0370(3)	0.1715(2)	0.021(2)
C(3)	0.3414(3)	0.8122(3)	0.4799(2)	0.021(2)
C(11)	0.2907(4)	0.6345(4)	0.1218(3)	0.023(2)
C(12)	0.2997(4)	0.6816(4)	0.0356(3)	0.024(2)
C(13)	0.2030(4)	0.6697(4)	-0.0314(3)	0.027(2)
C(13')	0.2157(4)	0.7165(4)	-0.1244(3)	0.032(2)
C(14)	0.0960(4)	0.6069(4)	-0.0101(3)	0.030(2)
C(15)	0.0849(4)	0.5594(4)	0.0750(3)	0.029(2)
C(15')	-0.0282(4)	0.4868(4)	0.0967(3)	0.041(3)
C(16)	0.1832(3)	0.5718(4)	0.1408(3)	0.024(2)
C(17)	0.4465(4)	0.4387(4)	0.1334(3)	0.027(2)
C(18)	0.5442(4)	0.5133(4)	0.2790(3)	0.030(2)
C(19)	0.6001(4)	0.6066(4)	0.1335(3)	0.024(2)
C(21)	0.1716(4)	0.9379(4)	0.2173(3)	0.023(2)
C(22)	0.0914(3)	0.8751(4)	0.1544(3)	0.023(2)
C(23)	-0.0382(4)	0.8776(4)	0.1611(3)	0.028(2)
C(23')	-0.1254(4)	0.8134(4)	0.0917(3)	0.035(3)
C(24)	-0.0861(4)	0.9404(4)	0.2310(3)	0.029(2)
C(25)	-0.0078(4)	1.0022(4)	0.2963(3)	0.030(3)
C(25')	-0.0623(4)	1.0715(4)	0.3699(3)	0.037(3)
C(26)	0.1196(4)	1.0009(4)	0.2871(3)	0.029(2)
C(27)	0.2737(4)	1.1130(4)	0.1138(3)	0.028(2)
C(28)	0.4283(4)	1.1138(4)	0.2483(3)	0.031(2)
C(29)	0.4673(4)	0.9916(4)	0.1116(3)	0.030(2)
C(31)	0.2201(4)	0.6591(4)	0.3839(2)	0.022(2)
C(32)	0.2559(4)	0.5419(4)	0.4074(3)	0.027(2)
C(33)	0.1707(4)	0.4482(4)	0.4028(3)	0.029(2)
C(33')	0.2086(4)	0.3234(4)	0.4296(4)	0.042(3)
C(34)	0.0475(4)	0.4744(4)	0.3744(3)	0.032(3)
C(35)	0.0073(4)	0.5912(4)	0.3526(3)	0.025(2)

C(35')	-0.1274(4)	0.6178(5)	0.3266(3)	0.041(3)
C(36)	0.0959(3)	0.6836(4)	0.3573(3)	0.024(2)
C(37)	0.2196(4)	0.8370(4)	0.5244(3)	0.036(3)
C(38)	0.4247(4)	0.7299(4)	0.5389(3)	0.040(3)
C(39)	0.4068(4)	0.9321(4)	0.4696(3)	0.029(2)

$$a) U_{eq} = 1/3 \sum_i \sum_j U_{ij} a_i^* a_j^* \bar{a}_i \cdot \bar{a}_j \text{ or } U_{iso}$$

Table 5. Atomic Fractional Coordinates with Standard Deviations in Parentheses

Atom	x	y	z
Mo	0.3684(1)	0.7821(1)	0.2686(1)
Cl	0.5797(1)	0.8270(1)	0.3053(1)
N(1)	0.3938(3)	0.6424(3)	0.1917(2)
N(2)	0.3053(3)	0.9304(3)	0.2101(2)
N(3)	0.3097(3)	0.7575(3)	0.3881(2)
C(1)	0.4954(3)	0.5510(3)	0.1831(3)
C(2)	0.3674(4)	1.0370(3)	0.1715(2)
C(3)	0.3414(3)	0.8122(3)	0.4799(2)
C(11)	0.2907(4)	0.6345(4)	0.1218(3)
C(12)	0.2997(4)	0.6816(4)	0.0356(3)
C(13)	0.2030(4)	0.6697(4)	-0.0314(3)
C(13')	0.2157(4)	0.7165(4)	-0.1244(3)
C(14)	0.0960(4)	0.6069(4)	-0.0101(3)
C(15)	0.0849(4)	0.5594(4)	0.0750(3)
C(15')	-0.0282(4)	0.4868(4)	0.0967(3)
C(16)	0.1832(3)	0.5718(4)	0.1408(3)
C(17)	0.4465(4)	0.4387(4)	0.1334(3)
C(18)	0.5442(4)	0.5133(4)	0.2790(3)
C(19)	0.6001(4)	0.6066(4)	0.1335(3)
C(21)	0.1716(4)	0.9379(4)	0.2173(3)
C(22)	0.0914(3)	0.8751(4)	0.1544(3)
C(23)	-0.0382(4)	0.8776(4)	0.1611(3)
C(23')	-0.1254(4)	0.8134(4)	0.0917(3)
C(24)	-0.0861(4)	0.9404(4)	0.2310(3)
C(25)	-0.0078(4)	1.0022(4)	0.2963(3)
C(25')	-0.0623(4)	1.0715(4)	0.3699(3)
C(26)	0.1196(4)	1.0009(4)	0.2871(3)
C(27)	0.2737(4)	1.1130(4)	0.1138(3)
C(28)	0.4283(4)	1.1138(4)	0.2483(3)
C(29)	0.4673(4)	0.9916(4)	0.1116(3)
C(31)	0.2201(4)	0.6591(4)	0.3839(2)
C(32)	0.2559(4)	0.5419(4)	0.4074(3)
C(33)	0.1707(4)	0.4482(4)	0.4028(3)
C(33')	0.2086(4)	0.3234(4)	0.4296(4)
C(34)	0.0475(4)	0.4744(4)	0.3744(3)
C(35)	0.0073(4)	0.5912(4)	0.3526(3)
C(35')	-0.1274(4)	0.6178(5)	0.3266(3)

C(36)	0.0959(3)	0.6836(4)	0.3573(3)
C(37)	0.2196(4)	0.8370(4)	0.5244(3)
C(38)	0.4247(4)	0.7299(4)	0.5389(3)
C(39)	0.4068(4)	0.9321(4)	0.4696(3)

Table 6. Thermal Parameters (Å) with Standard Deviations in Parentheses

Atom	$U_{1,1}$	$U_{2,2}$	$U_{3,3}$	$U_{1,2}$	$U_{1,3}$	$U_{2,3}$
Mo	0.014(1)	0.016(1)	0.015(1)	-0.001(1)	0.002(1)	-0.002(1)
CL	0.015(1)	0.032(1)	0.027(1)	-0.004(1)	0.001(1)	-0.004(1)
N(1)	0.019(2)	0.025(2)	0.025(2)	-0.002(1)	0.001(1)	0.001(1)
N(2)	0.017(2)	0.025(2)	0.025(2)	0.008(1)	-0.001(1)	-0.007(1)
N(3)	0.016(1)	0.024(3)	0.018(1)	0.002(1)	0.003(1)	-0.005(1)
C(1)	0.015(2)	0.021(2)	0.027(2)	-0.005(2)	0.005(2)	0.004(1)
C(2)	0.026(2)	0.020(2)	0.018(2)	0.004(2)	0.002(2)	-0.006(2)
C(3)	0.023(2)	0.023(3)	0.019(2)	0.001(1)	0.005(1)	0.001(1)
C(11)	0.023(2)	0.022(2)	0.024(2)	-0.004(2)	0.002(2)	0.002(2)
C(12)	0.023(2)	0.022(2)	0.029(2)	0.002(2)	0.005(2)	0.001(2)
C(13)	0.027(2)	0.030(2)	0.024(2)	-0.005(2)	-0.001(2)	-0.002(2)
C(13')	0.029(2)	0.043(3)	0.025(2)	-0.008(2)	-0.001(2)	0.001(2)
C(14)	0.022(2)	0.037(3)	0.031(2)	-0.005(2)	-0.006(2)	0.002(2)
C(15)	0.022(2)	0.024(2)	0.041(3)	-0.004(2)	0.005(2)	-0.002(2)
C(15')	0.026(2)	0.041(3)	0.054(3)	-0.005(2)	-0.005(2)	-0.011(2)
C(16)	0.021(2)	0.023(2)	0.028(2)	-0.006(2)	0.003(2)	-0.002(2)
C(17)	0.026(2)	0.019(2)	0.038(2)	-0.007(2)	0.008(2)	0.002(2)
C(18)	0.023(2)	0.037(3)	0.030(2)	0.010(2)	0.002(2)	0.003(2)
C(19)	0.023(2)	0.027(2)	0.024(2)	0.001(2)	0.002(2)	-0.002(2)
C(21)	0.024(2)	0.018(2)	0.028(2)	0.005(2)	0.003(2)	0.002(2)
C(22)	0.020(2)	0.023(2)	0.025(2)	0.004(2)	-0.002(2)	-0.005(2)
C(23)	0.024(2)	0.021(2)	0.038(2)	0.005(2)	0.001(2)	0.002(2)
C(23')	0.020(2)	0.039(4)	0.045(3)	-0.006(2)	-0.002(2)	-0.005(2)
C(24)	0.026(2)	0.024(2)	0.038(3)	0.010(2)	0.007(2)	0.001(2)
C(25)	0.027(2)	0.028(3)	0.036(3)	0.001(2)	0.009(2)	0.002(2)
C(25')	0.031(2)	0.043(3)	0.039(3)	-0.002(2)	0.012(2)	0.006(2)
C(26)	0.034(2)	0.025(2)	0.028(2)	-0.001(2)	0.003(2)	0.002(2)
C(27)	0.031(2)	0.025(2)	0.028(2)	0.009(2)	-0.001(2)	-0.004(2)
C(28)	0.037(2)	0.031(3)	0.025(2)	-0.005(2)	0.001(2)	-0.007(2)
C(29)	0.032(2)	0.040(3)	0.019(2)	0.003(2)	0.009(2)	-0.004(2)
C(31)	0.025(2)	0.022(2)	0.017(2)	0.001(2)	0.003(2)	-0.001(2)
C(32)	0.024(2)	0.025(2)	0.032(2)	-0.002(2)	0.005(2)	0.001(2)
C(33)	0.027(2)	0.021(2)	0.040(3)	0.003(2)	0.008(2)	-0.001(2)
C(33')	0.038(3)	0.023(2)	0.067(3)	0.001(2)	0.010(2)	0.003(2)
C(34)	0.034(3)	0.032(3)	0.032(2)	-0.001(2)	0.008(2)	-0.009(2)
C(35)	0.023(2)	0.028(2)	0.024(2)	0.003(2)	0.001(2)	-0.005(2)
C(35')	0.021(2)	0.049(3)	0.053(3)	0.010(2)	-0.004(2)	-0.007(2)

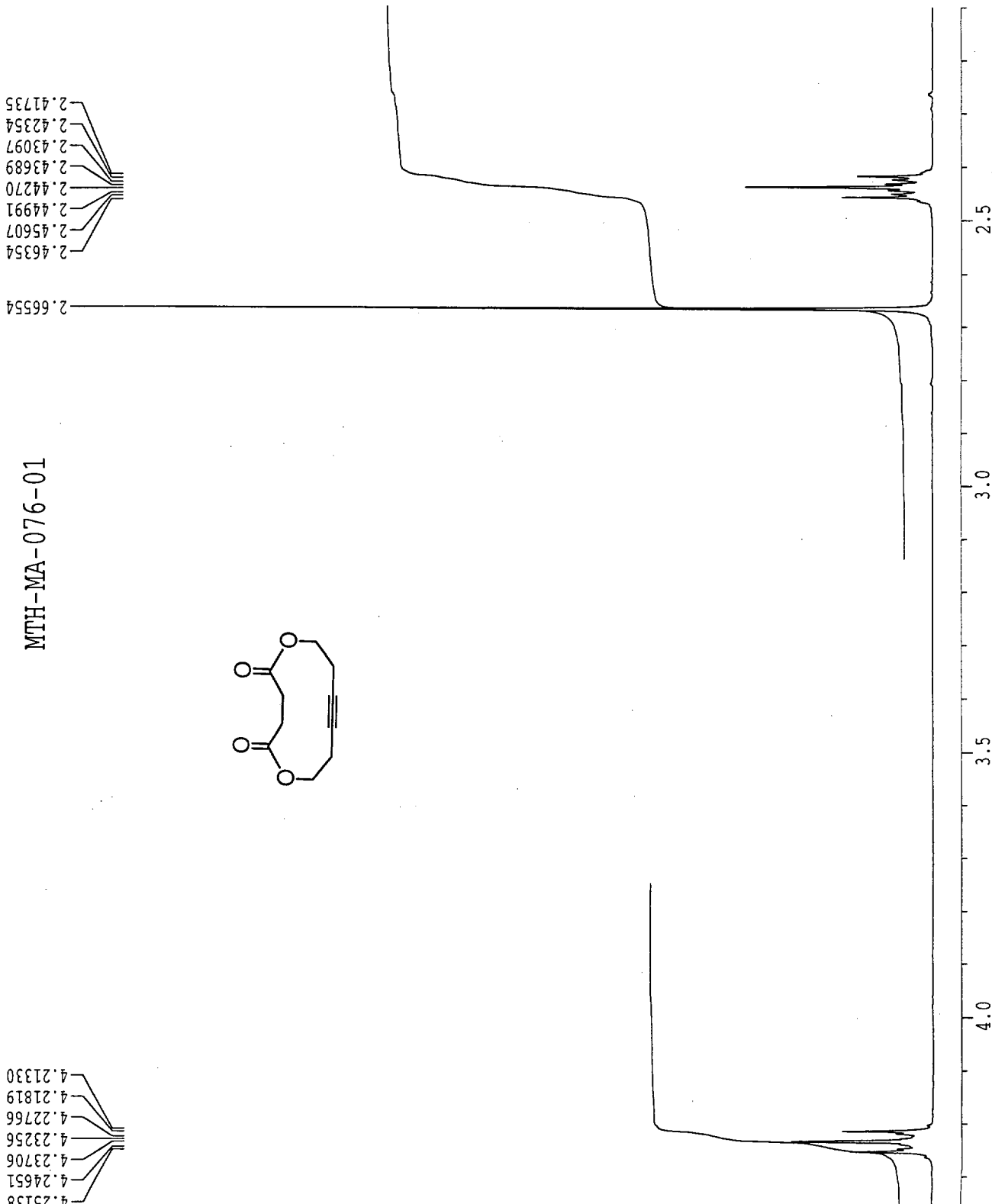
C(36)	0.020(2)	0.032(2)	0.021(2)	0.005(2)	0.003(2)	-0.004(2)
C(37)	0.043(3)	0.037(3)	0.030(2)	-0.012(2)	0.015(2)	-0.014(2)
C(38)	0.051(3)	0.027(2)	0.037(3)	0.001(2)	-0.023(2)	-0.003(2)
C(39)	0.030(2)	0.027(2)	0.030(2)	-0.001(2)	0.005(2)	-0.007(2)

Current Data Parameters
 NAME OK23042
 EXPNO 10
 PROCNO 1
 DU mpi
 USER mathes

F2 - Acquisition Parameters
 Date_ 981026
 Time 1.03
 INSTRUM dpx300
 PROBHD 5 mm QNP
 PULPROG zg30
 TD 32768
 SOLVENT CDCl3
 NS 32
 DS 0
 SWH 6172.839 Hz
 FIDRES 0.188380 Hz
 AQ 2.6542580 sec
 RG 203.2
 DW 81.000 usec
 DE 4.50 usec
 TE 300.0 K
 HL1 90 dB
 D1 2.0000000 sec
 P1 7.30 usec
 DE 4.50 usec
 SF01 300.1318534 MHz
 NUCLEUS off

F2 - Processing parameters
 SI 16384
 SF 300.1300124 MHz
 SR 12.41 Hz
 WDW no
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 2.00

1D NMR plot parameters
 CX 22.00 cm
 FIP 4.500 ppm
 F1 1350.58 Hz
 F2P 2.100 ppm
 F2 630.27 Hz
 PPMCM 0.10909 ppm/cm
 HZCM 32.74146 Hz/cm



Current Data Parameters
 NAME ok23042
 EXPNO 11
 PROCNO 1
 DU mpi
 USER mathes

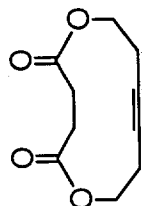
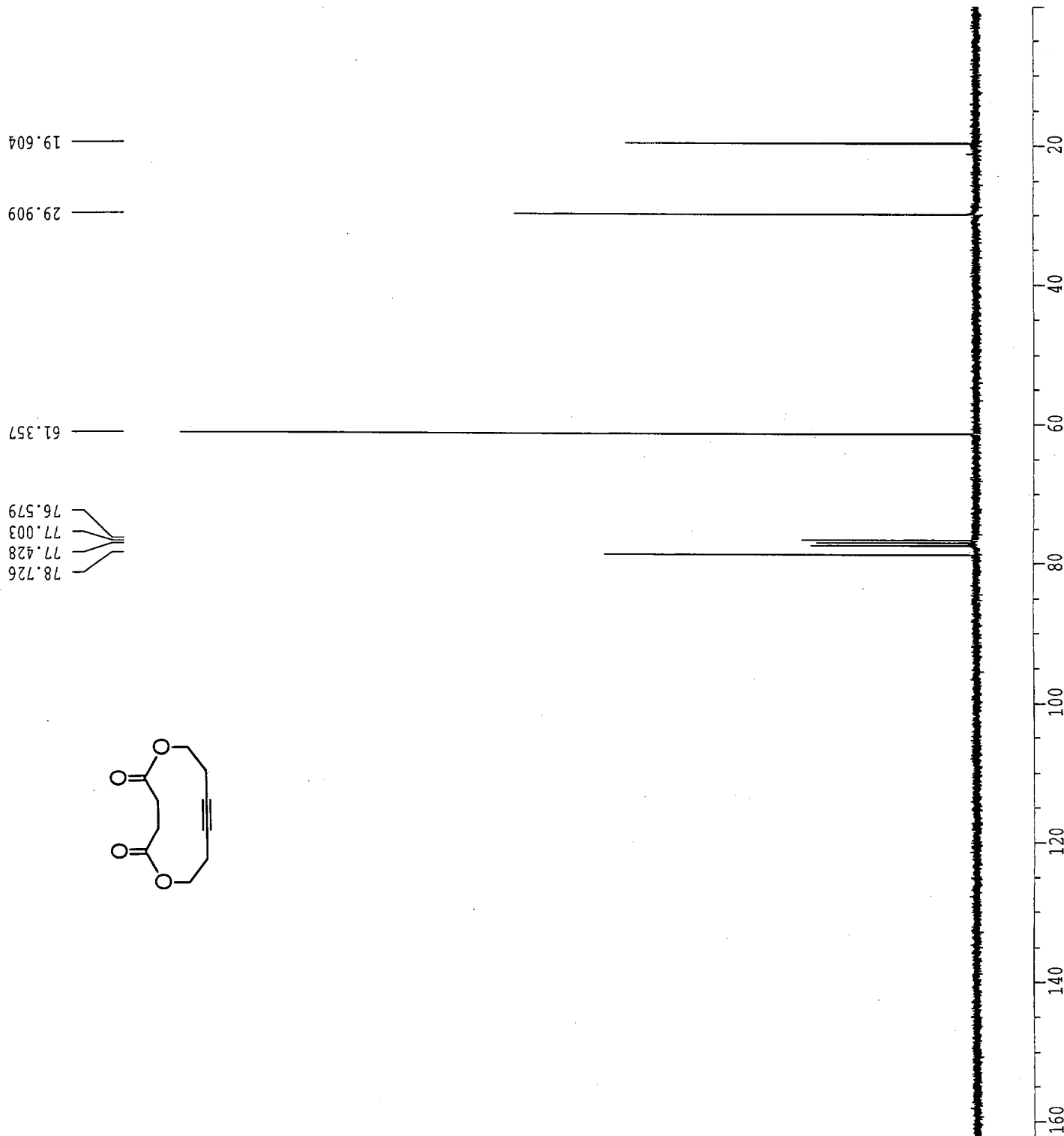
F2 - Acquisition Parameters

Date_ 981026
 Time 1.36
 INSTRUM dpx300
 PROBHD 5 mm QNP
 PULPROG zgdc30
 TD 65536
 SOLVENT CDCl3
 NS 1200
 DS 2
 SWH 21231.422 Hz
 FIDRES 0.323966 Hz
 AQ 1.5434228 sec
 RG 16384
 DW 23.550 usec
 DE 4.50 usec
 TE 300.0 K
 D11 0.03000000 sec
 CPDPRG waltz16
 P31 80.00 usec
 S2 83 dB
 HL1 90 dB
 D1 0.03000000 sec
 P1 6.60 usec
 DE 4.50 usec
 SF01 75.4760670 MHz
 NUCLEUS off

F2 - Processing parameters
 SI 32768
 SF 75.4677524 MHz
 SR 33.38 Hz
 WDW no
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 1.40

1D NMR plot parameters

CX 22.00 cm
 F1P 180.000 ppm
 F1 13584.20 Hz
 F2P 0.000 ppm
 F2 0.00 Hz
 PPMCM 8.18182 ppm/cm
 HZCM 617.46344 Hz/cm

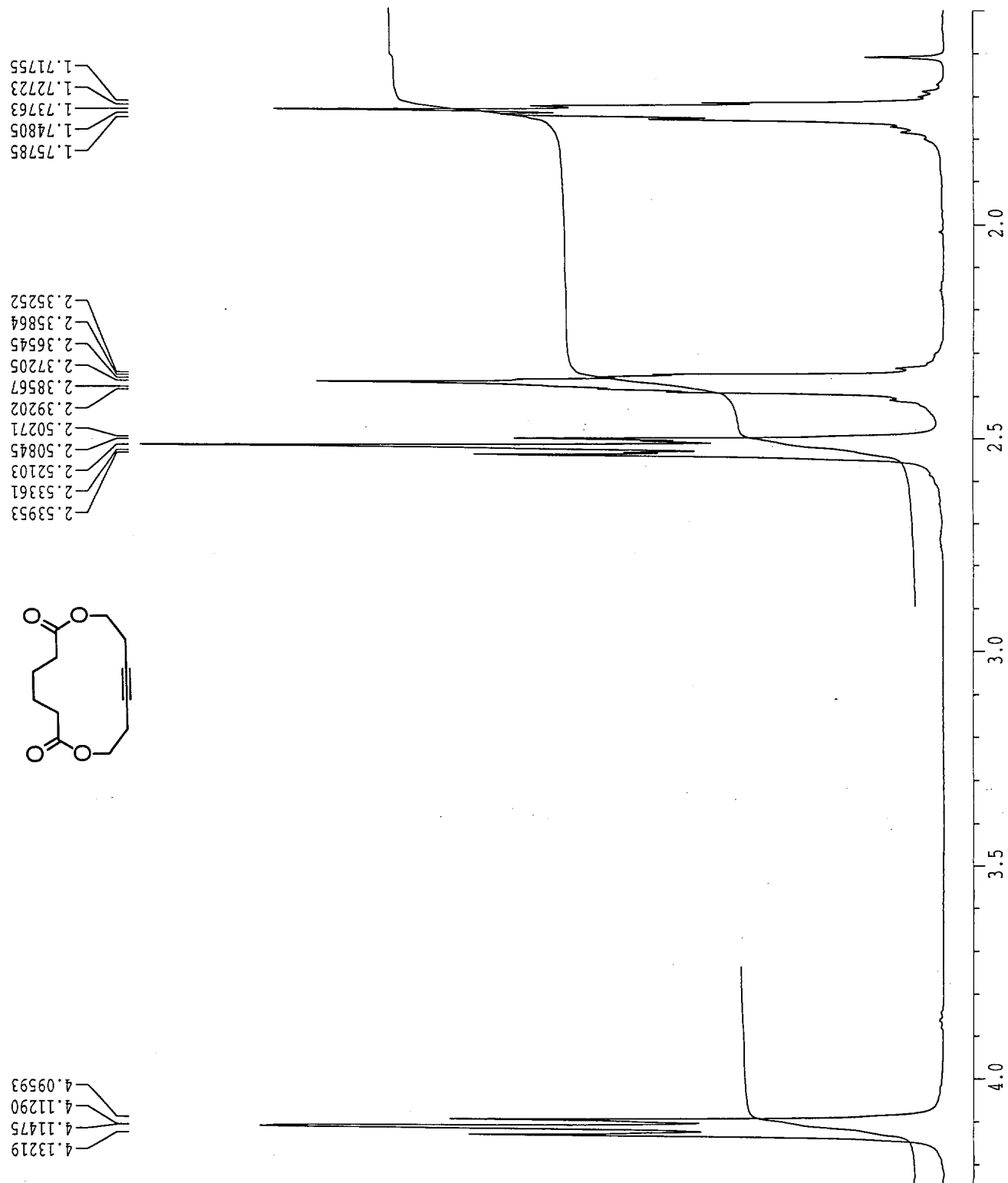


Current Data Parameters
 NAME ap14014
 EXPNO 10
 PROCNO 1
 DU mpi
 USER mathes

F2 - Acquisition Parameters
 Date_ 990414
 Time 19.15
 INSTRUM dpx300
 PROBHD 5 mm QNP
 PULPROG zg30
 TD 32768
 SOLVENT CD2Cl2
 NS 32
 DS 0
 SMH 6172.839 Hz
 FIDRES 0.188380 Hz
 AQ 2.6542580 sec
 RG 322.5
 DW 81.000 usec
 DE 4.50 usec
 TE 300.0 K
 HL1 90 dB
 D1 2.00000000 sec
 P1 7.30 usec
 DE 4.50 usec
 SF01 300.1318534 MHz
 NUCLEUS off

F2 - Processing parameters
 SI 16384
 SF 300.1300047 MHz
 SR 4.69 Hz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 2.00

1D NMR plot parameters
 CX 22.00 cm
 F1P 4.500 ppm
 F1 1350.58 Hz
 F2P 1.500 ppm
 F2 450.20 Hz
 PPMCM 0.13636 ppm/cm
 HZCM 40.92682 Hz/cm

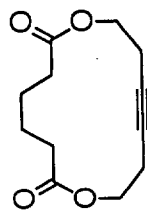
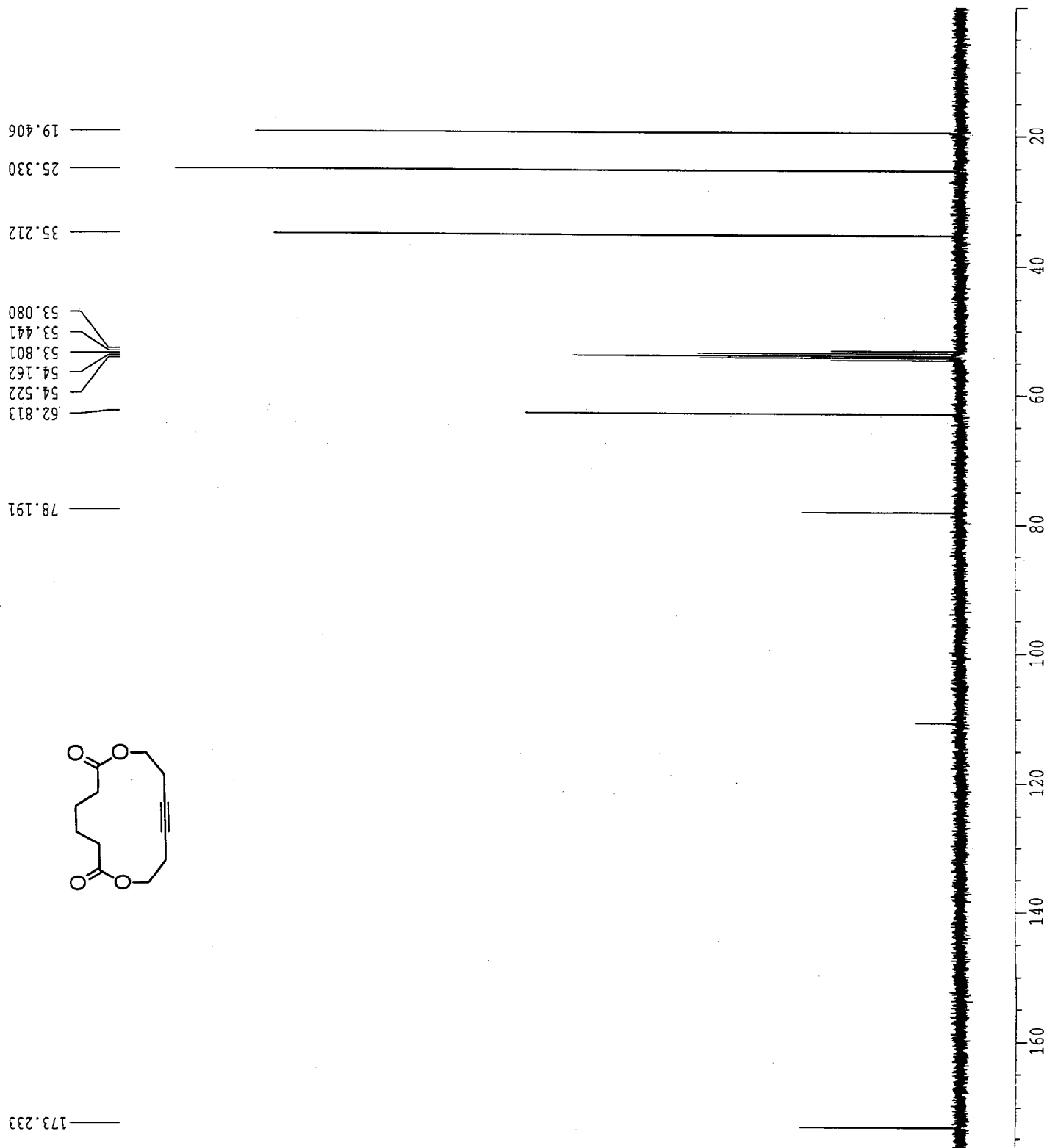


Current Data Parameters
 NAME ap14014
 EXPNO 11
 PROCNO 1
 DU mpi
 USER mathes

F2 - Acquisition Parameters
 Date_ 990414
 Time 19.48
 INSTRUM dpx300
 PROBD 5 mm QNP
 PULPROG zgdc30
 TD 65536
 SOLVENT CD2Cl2
 NS 1200
 DS 2
 SWH 21231.422 Hz
 FIDRES 0.323966 Hz
 AQ 1.5434228 sec
 RG 16384
 DW 23.550 usec
 DE 4.50 usec
 TE 300.0 K
 D11 0.03000000 sec
 CPDPRG waltz16
 P31 80.00 usec
 S2 83 dB
 HL1 90 dB
 D1 0.03000000 sec
 P1 6.60 usec
 DE 4.50 usec
 SFO1 75.4760670 MHz
 NUCLEUS off

F2 - Processing parameters
 SI 32768
 SF 75.4677214 MHz
 SR 2.41 Hz
 WDW no
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 1.40

ID NMR plot parameters
 CX 22.00 cm
 F1P 190.000 ppm
 F1 14338.87 Hz
 F2P 0.000 ppm
 F2 0.00 Hz
 PPMCM 8.63636 ppm/cm
 HZCM 651.76666 Hz/cm



Current Data Parameters
 NAME ok23044
 EXPNO 10
 PROCNO 1
 DU mpi
 USER mathes

F2 - Acquisition Parameters

Date_ 981026
 Time 2.26
 INSTRUM dpx300
 PROBHD 5 mm QNP
 PULPROG zg30
 TD 32768
 SOLVENT CDC13
 NS 32
 DS 0
 SWH 6172.839 Hz
 FIDRES 0.188380 Hz
 AQ 2.6542580 sec
 RG 362
 DW 81.000 usec
 DE 4.50 usec
 TE 300.0 K
 HL1 90 dB
 DI 2.0000000 sec
 P1 7.30 usec
 DE 4.50 usec
 SF01 300.1318534 MHz
 NUCLEUS off

F2 - Processing parameters

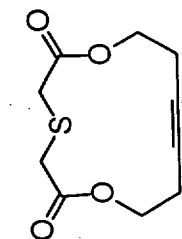
SI 16384
 SF 300.1300124 MHz
 SR 12.41 Hz
 WDW no
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 2.00

1D NMR plot parameters

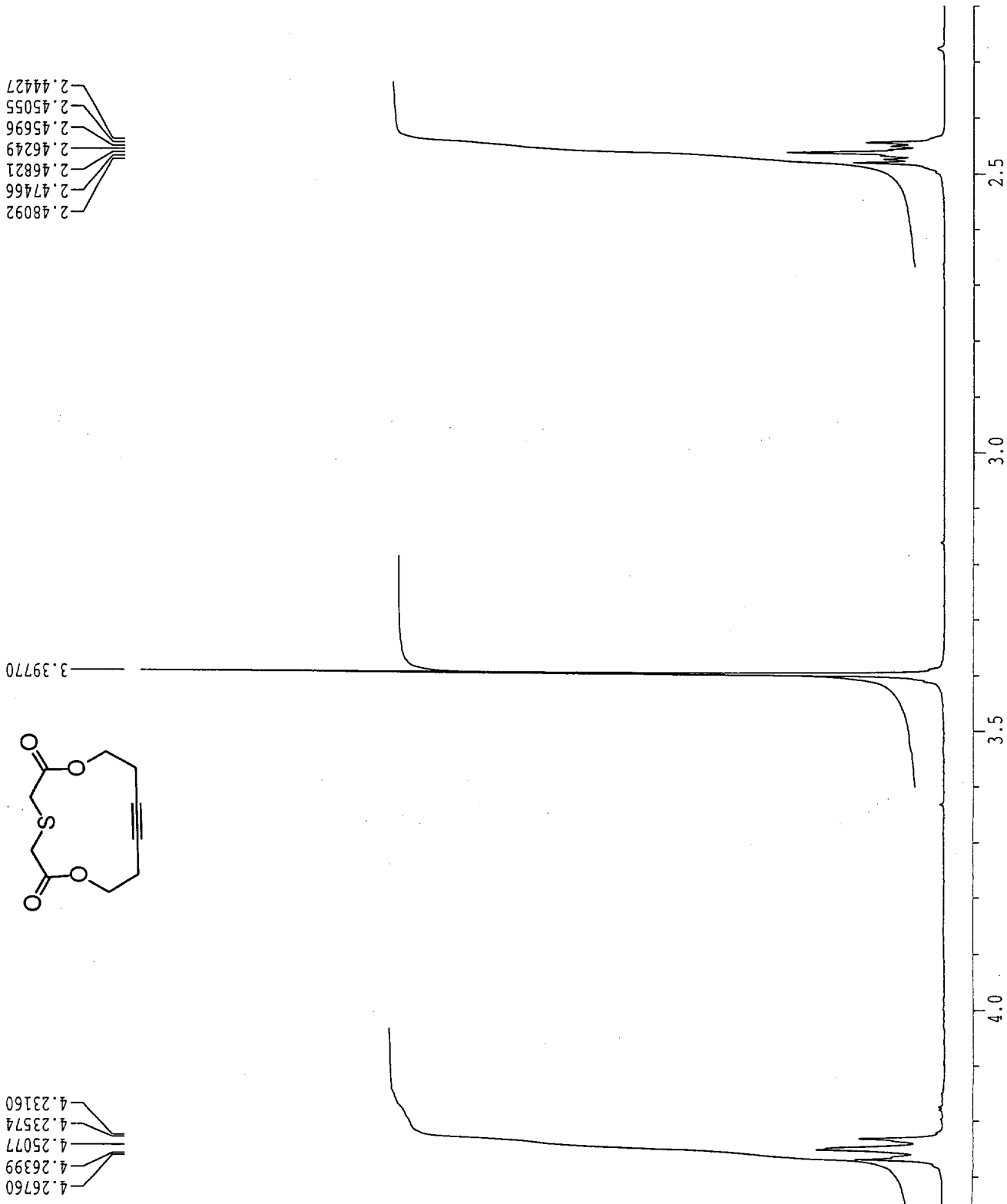
CX 22.00 cm
 F1P 4.500 ppm
 F1 1350.58 Hz
 F2P 2.200 ppm
 F2 660.29 Hz
 PPMCM 0.10455 ppm/cm
 HZCM 31.37723 Hz/cm

2.48092
 2.47466
 2.46821
 2.46249
 2.45696
 2.45055
 2.44427

3.39770



4.26760
 4.26399
 4.25077
 4.23574
 4.23160



Current Data Parameters
 NAME ok23044
 EXPNO 11
 PROCNO 1
 DU mpi
 USER mathes

F2 - Acquisition Parameters

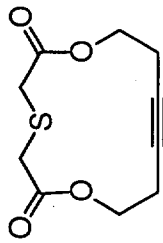
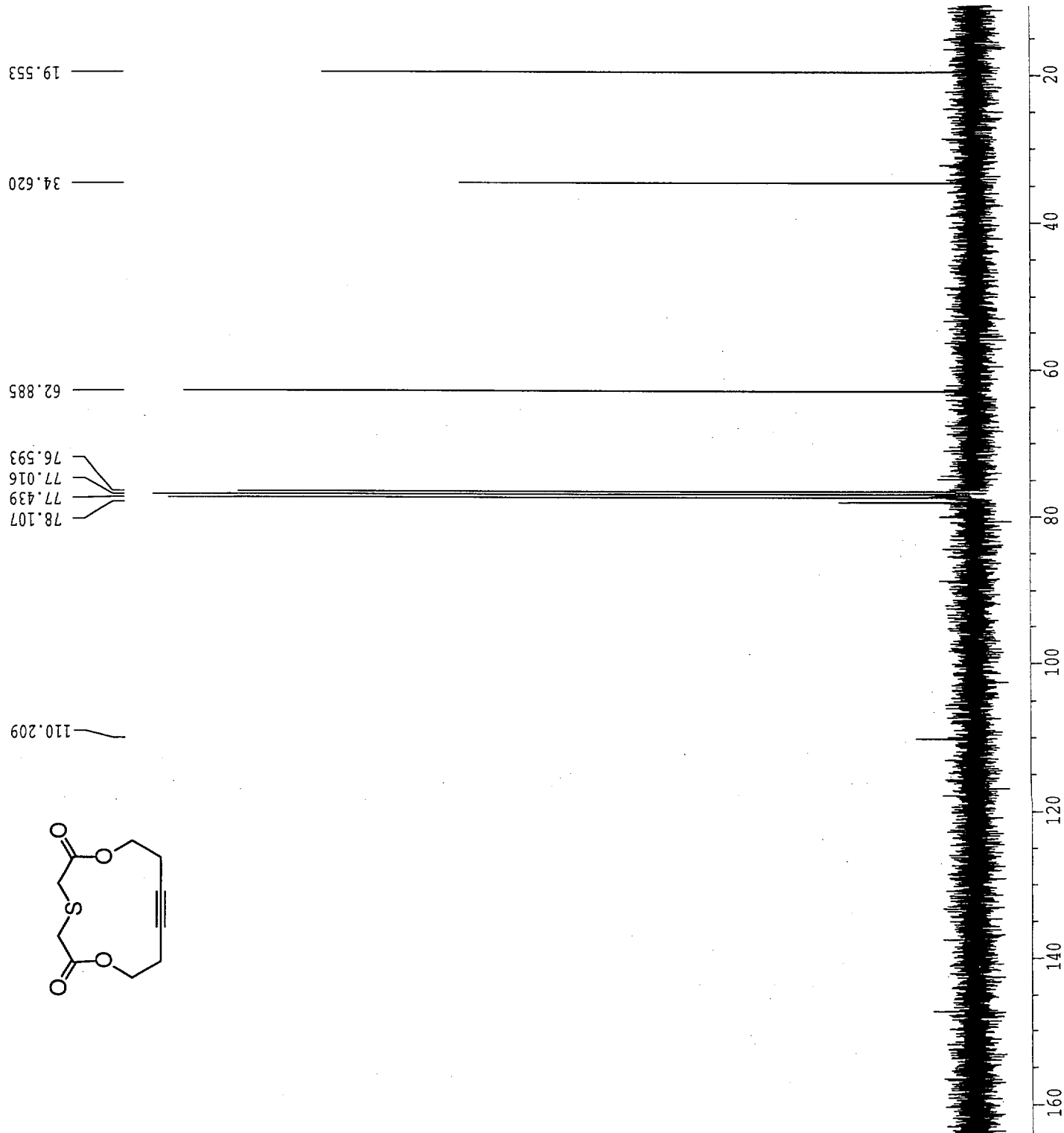
Date_ 981026
 Time 2.59
 INSTRUM dpx300
 PROBHD 5 mm QNP
 PULPROG zgpg30
 TD 65536
 SOLVENT CDCl3
 NS 1200
 DS 2
 SWH 21231.422 Hz
 FIDRES 0.323966 Hz
 AQ 1.5434228 sec
 RG 16384
 DW 23.550 usec
 DE 4.50 usec
 TE 300.0 K
 D1 0.03000000 sec
 CPDPRG waltz16
 P31 80.00 usec
 S2 83 dB
 HL1 90 dB
 D1 0.03000000 sec
 P1 6.60 usec
 DE 4.50 usec
 SF01 75.4760670 MHz
 NUCLEUS off

F2 - Processing parameters

SI 32768
 SF 75.4677498 MHz
 SR 30.78 Hz
 MDM no
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 1.40

1D NMR plot parameters

CX 22.00 cm
 F1P 180.000 ppm
 F1 13584.20 Hz
 F2P 10.400 ppm
 F2 784.86 Hz
 PPMCM 7.70909 ppm/cm
 HZCM 581.78778 Hz/cm

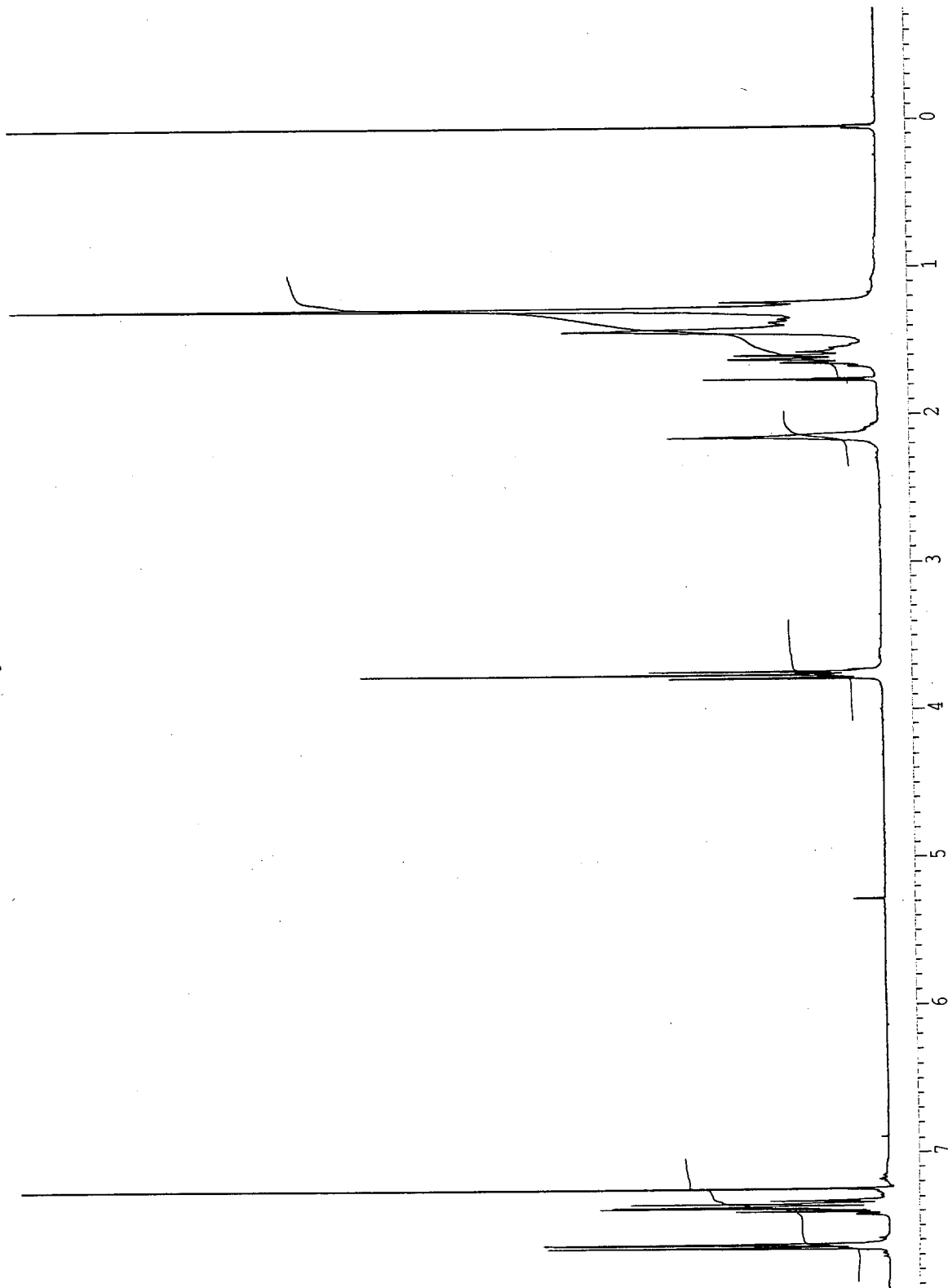
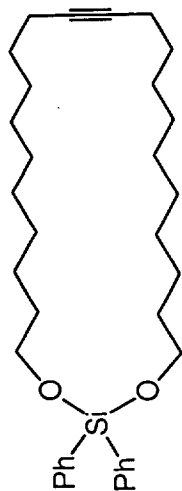


Current Data Parameters
 NAME del18037
 EXPNO 20
 PROCNO 1
 DU mpi
 USER mathes

F2 - Acquisition Parameters
 Date_ 981220
 Time 22.45
 INSTRUM dpx300
 PROBHD 5 mm QNP
 PULPROG zg30
 TD 32768
 SOLVENT CDCl3
 NS 32
 DS 0
 SWH 6172.839 Hz
 FIDRES 0.188380 Hz
 AQ 2.6542580 sec
 RG 456.1
 DW 81.000 usec
 DE 4.50 usec
 TE 300.0 K
 HL1 90 dB
 D1 2.00000000 sec
 P1 7.30 usec
 DE 4.50 usec
 SF01 300.1318534 MHz
 NUCLEUS off

F2 - Processing parameters
 SI 16384
 SF 300.1300124 MHz
 SR 12.41 Hz
 WDW no
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 2.00

1D NMR plot parameters
 CX 22.00 cm
 F1P 8.500 ppm
 F1 2551.10 Hz
 F2P -0.750 ppm
 F2 -225.10 Hz
 PPMCM 0.42045 ppm/cm
 HZCM 126.19104 Hz/cm



Current Data Parameters
 NAME de18037
 EXPNO 21
 PROCNO 1
 DU mpi
 USER mathes

F2 - Acquisition Parameters
 Date_ 981220
 Time 23.17
 INSTRUM dpx300
 PROBHD 5 mm QNP
 PULPROG zgdc30
 TD 65536
 SOLVENT CDC13
 NS 1200
 DS 2
 SWH 21231.422 Hz
 FIDRES 0.323966 Hz
 AQ 1.5434228 sec
 RG 16384
 DW 23.550 usec
 DE 4.50 usec
 TE 300.0 K
 D11 0.03000000 sec
 CPDPRG waltz16
 P31 80.00 usec
 S2 83 dB
 HL1 90 dB
 D1 0.03000000 sec
 P1 6.60 usec
 DE 4.50 usec
 SF01 75.476070 MHz
 NUCLEUS off

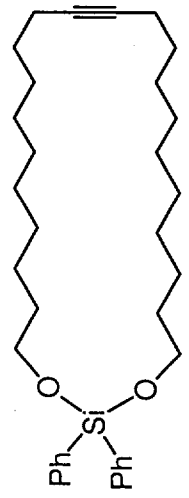
F2 - Processing parameters
 SI 32768
 SF 75.4677504 MHz
 SR 31.44 Hz
 WDW no
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 1.40

1D NMR plot parameters
 CX 22.00 cm
 F1P 150.000 ppm
 F1 11320.16 Hz
 F2P 1.100 ppm
 F2 83.01 Hz
 PPMCM 6.76818 ppm/cm
 HZCM 510.77945 Hz/cm

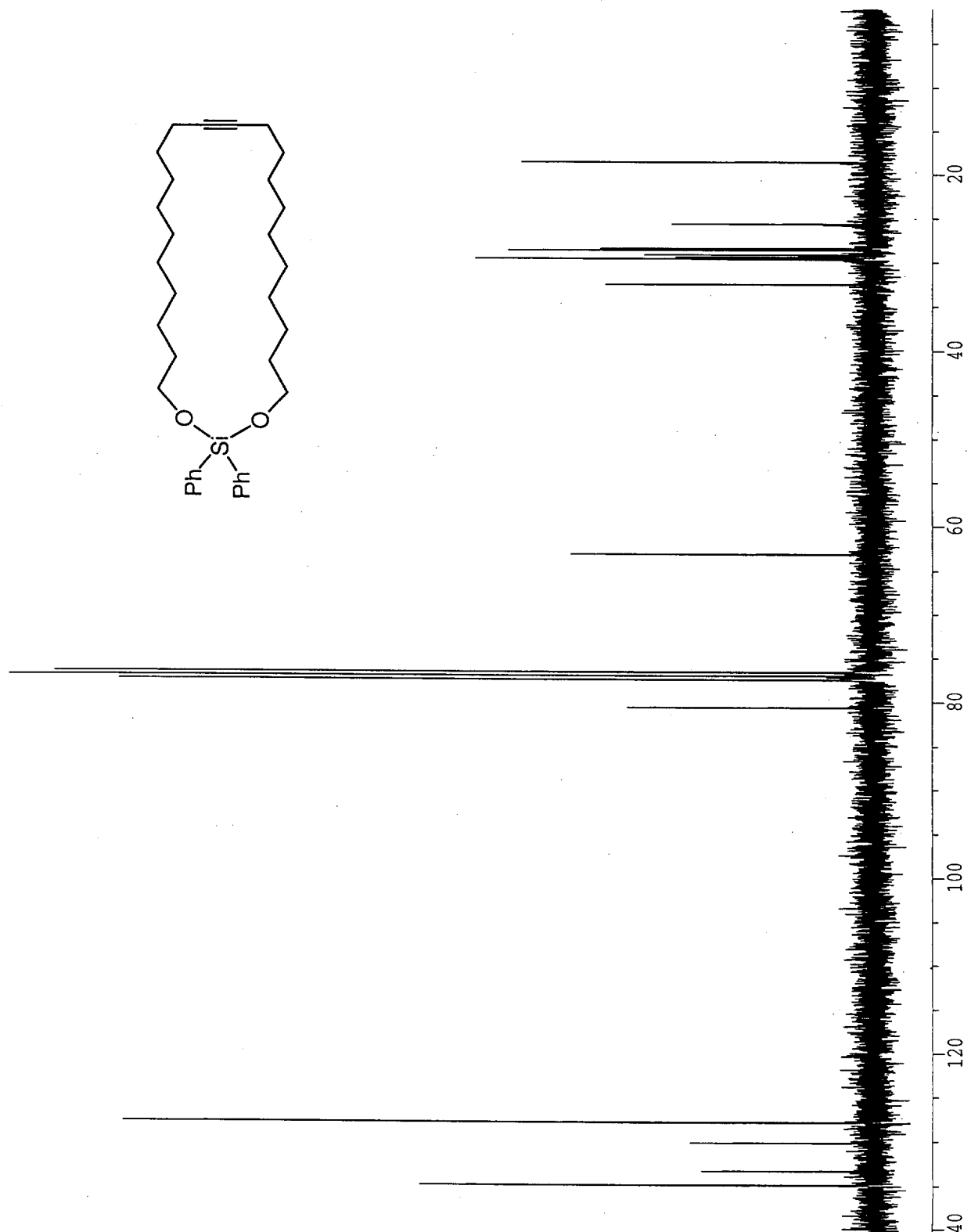
18.558
 25.631
 28.405
 28.620
 29.172
 29.387
 29.573
 29.654
 32.510

63.186
 76.578
 77.000
 77.424
 80.580

127.766
 130.089
 133.244
 134.858



MTH-MA-102-01

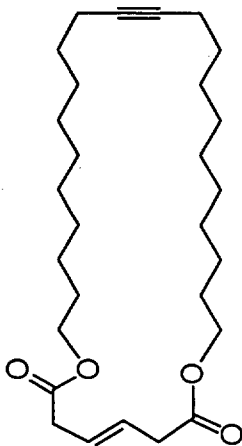


Current Data Parameters
 NAME apl2044
 EXPNO 10
 PROCNO 1
 DU mpi
 USER mathes

F2 - Acquisition Parameters
 Date_ 990413
 Time 20.02
 INSTRUM dpx300
 PROBD 5 mm QNP
 PULPROG zg30
 TD 32768
 SOLVENT CDCl3
 NS 32
 DS 0
 SWH 6172.839 Hz
 FIDRES 0.188380 Hz
 AQ 2.6542580 sec
 RG 406.4
 DW 81.000 usec
 DE 4.50 usec
 TE 300.0 K
 HL1 90 dB
 D1 2.0000000 sec
 P1 7.30 usec
 DE 4.50 usec
 SF01 300.1318534 MHz
 NUCLEUS off

F2 - Processing parameters
 SI 16384
 SF 300.1300120 MHz
 SR 12.03 Hz
 WDW no
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 2.00

1D NMR plot parameters
 CX 22.00 cm
 F1P 8.000 ppm
 F1 2401.04 Hz
 F2P 0.000 ppm
 F2 0.00 Hz
 PPMCM 0.36364 ppm/cm
 HZCM 109.13818 Hz/cm



Current Data Parameters
 NAME apl2044
 EXPNO 10
 PROCNO 1
 DU mpi
 USER mathes

F2 - Acquisition Parameters
 Date_ 990413
 Time 20.02
 INSTRUM dpx300
 PROBHD 5 mm QNP
 PULPROG zg30
 TD 32768
 SOLVENT CDCl3
 NS 32
 DS 0
 SWH 6172.839 Hz
 FIDRES 0.188380 Hz
 AQ 2.6542580 sec
 RG 406.4
 DW 81.000 usec
 DE 4.50 usec
 TE 300.0 K
 HL1 90 dB
 D1 2.0000000 sec
 P1 7.30 usec
 DE 4.50 usec
 SF01 300.1318534 MHz
 NUCLEUS off

F2 - Processing parameters
 SI 16384
 SF 300.1300120 MHz
 SR 12.03 Hz
 WDW no
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 2.00

1D NMR plot parameters
 CX 22.00 cm
 F1P 5.800 ppm
 F1 1740.75 Hz
 F2P 2.000 ppm
 F2 600.26 Hz
 PPMCM 0.17273 ppm/cm
 HZCM 51.84064 Hz/cm

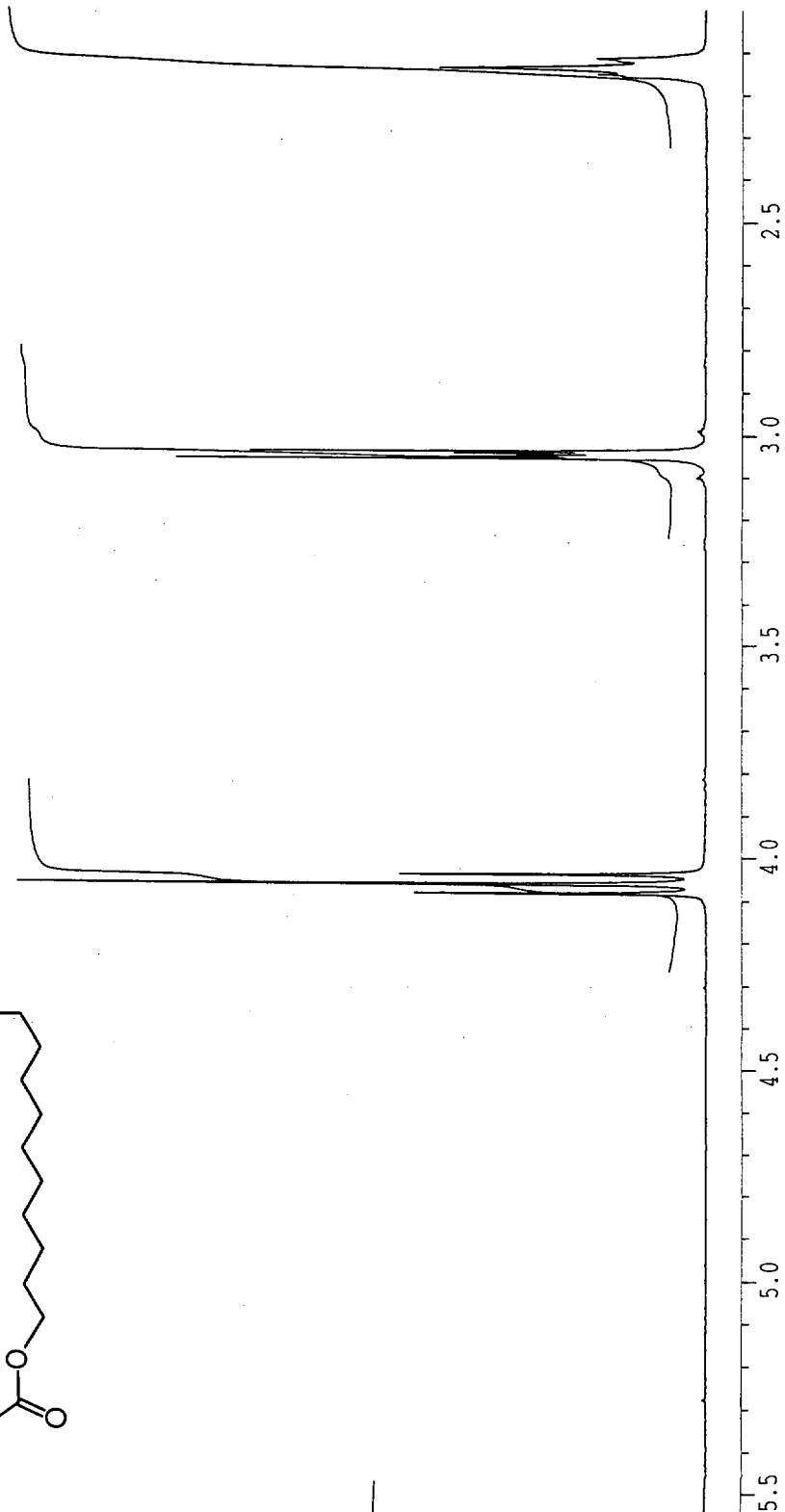
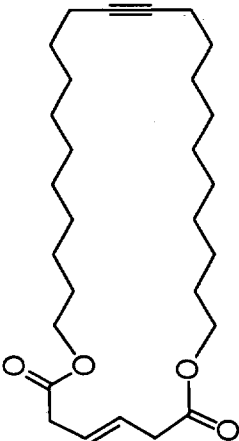
2.15612
 2.15077
 2.13578
 2.11475

3.05471
 3.04937
 3.04202
 3.03626

4.08307
 4.06150
 4.03992

5.67095
 5.66580
 5.65834
 5.65320

MTH-MA-105-01



Current Data Parameters
 NAME apl2044
 EXPNO 11
 PROCNO 1
 DU mpi
 USER mathes

F2 - Acquisition Parameters

Date_ 990413
 Time 20.35
 INSTRUM dpx300
 PROBHD 5 mm QNP
 PULPROG zgpg30
 TD 65536
 SOLVENT CDCl3
 NS 1200
 DS 2
 SWH 21211.422 Hz
 FIDRES 0.323966 Hz
 AQ 1.5434228 sec
 RG 16384
 DW 23.550 usec
 DE 4.50 usec
 TE 300.0 K
 D11 0.03000000 sec
 CPDPRG waltz16
 P31 80.00 usec
 S2 83 dB
 HL1 90 dB
 D1 0.03000000 sec
 P1 6.60 usec
 DE 4.50 usec
 SFO1 75.4760570 MHz
 NUCLEUS off

F2 - Processing parameters

SI 32768
 SF 75.4677491 MHz
 SR 30.13 Hz
 WDW no
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 1.40

1D NMR plot parameters
 CX 22.00 cm
 FIP 200.000 ppm
 F1 15093.55 Hz
 F2P 0.000 ppm
 F2 0.00 Hz
 BPMCM 9.09091 ppm/cm
 HZCM 686.07043 Hz/cm

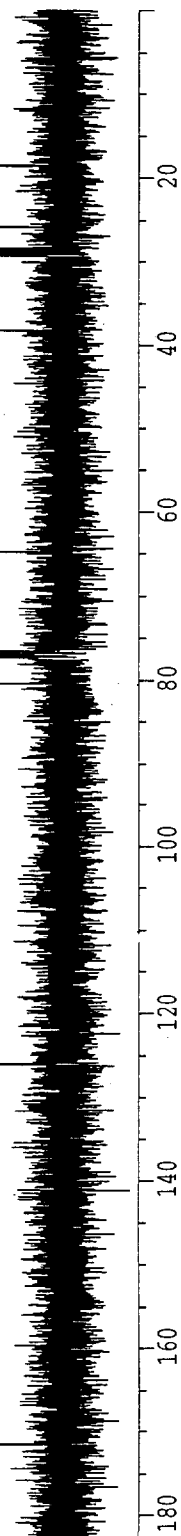
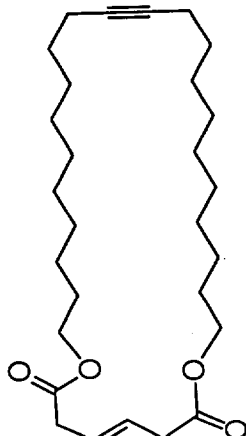
18.620
 25.847
 28.422
 28.552
 28.784
 29.016
 29.186
 29.299
 29.367
 38.261

64.826
 76.597
 77.020
 77.445
 80.442

125.946

171.449

MTH-MA-105-01



Current Data Parameters
 NAME ap12044
 EXPNO 11
 PROCNO 1
 DU mpi
 USER mathes

F2 - Acquisition Parameters

Date_ 990413
 Time 20.35
 INSTRUM dpx300
 PROBHD 5 mm QNP
 PULPROG zgdc30
 TD 65536
 SOLVENT CDC13
 NS 1200
 DS 2
 SWH 21231.422 Hz
 FIDRES 0.323966 Hz
 AQ 1.5434228 sec
 RG 16384
 DW 23.550 usec
 DE 4.50 usec
 TE 300.0 K
 D11 0.03000000 sec
 CPDPRG waltz16
 P31 80.00 usec
 S2 83 dB
 HL1 90 dB
 D1 0.03000000 sec
 P1 6.60 usec
 DE 4.50 usec
 SF01 75.4760670 MHz
 NUCLEUS off

F2 - Processing parameters

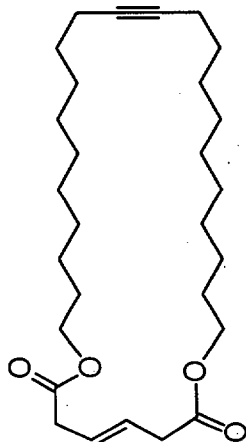
SI 32768
 SF 75.4677491 MHz
 SR 30.13 Hz
 WDW no
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 1.40

1D NMR plot parameters

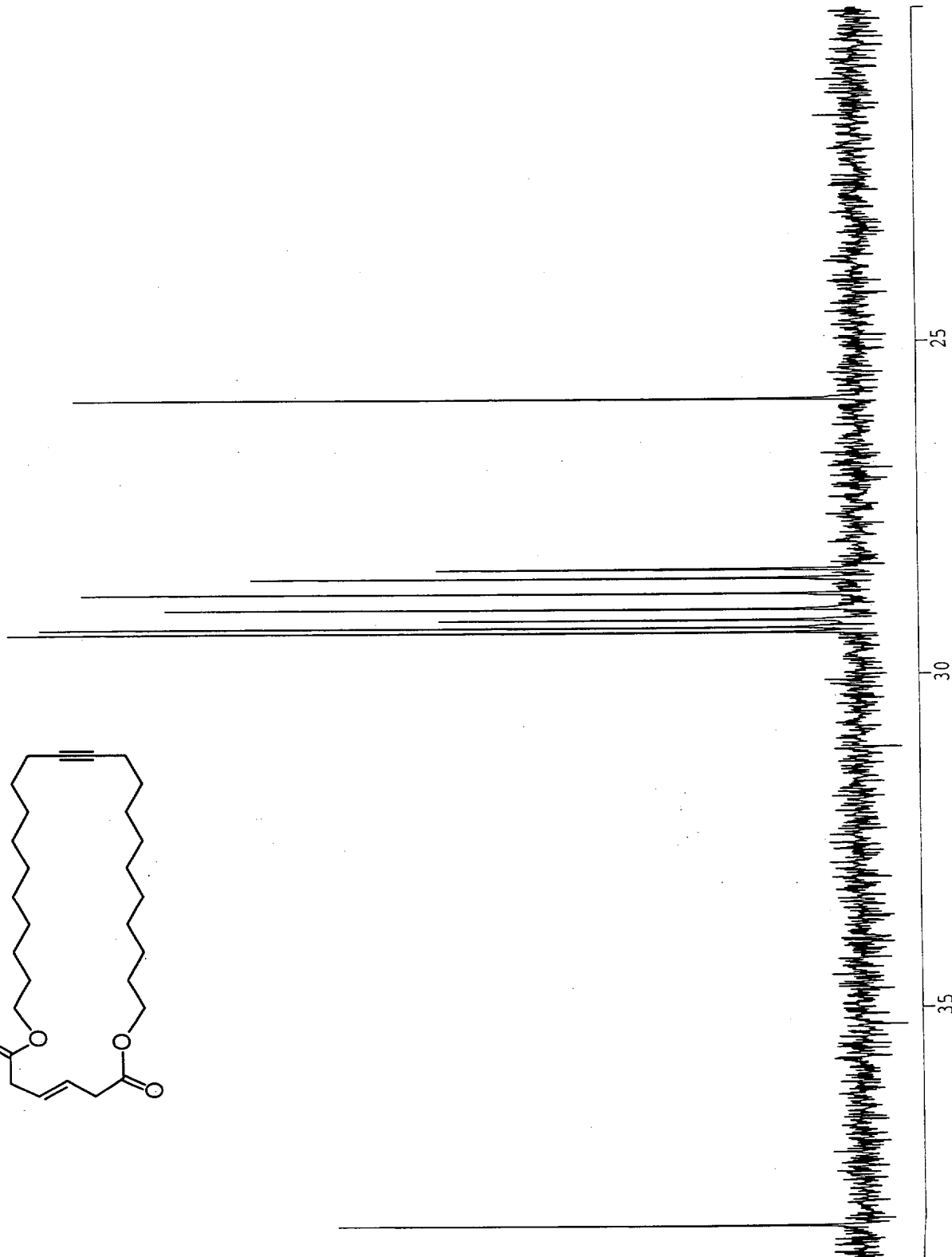
CX 22.00 cm
 F1P 40.000 ppm
 F1 3018.71 Hz
 F2P 20.000 ppm
 F2 1509.35 Hz
 PPMCM 0.90909 ppm/cm
 HZCM 68.60705 Hz/cm

25.8473

28.4219
 28.5516
 28.7836
 29.0155
 29.1859
 29.2987
 29.3674



38.2615



Current Data Parameters
 NAME ap12042
 EXPNO 10
 PROCNO 1
 DU mpi
 USER mathes

F2 - Acquisition Parameters

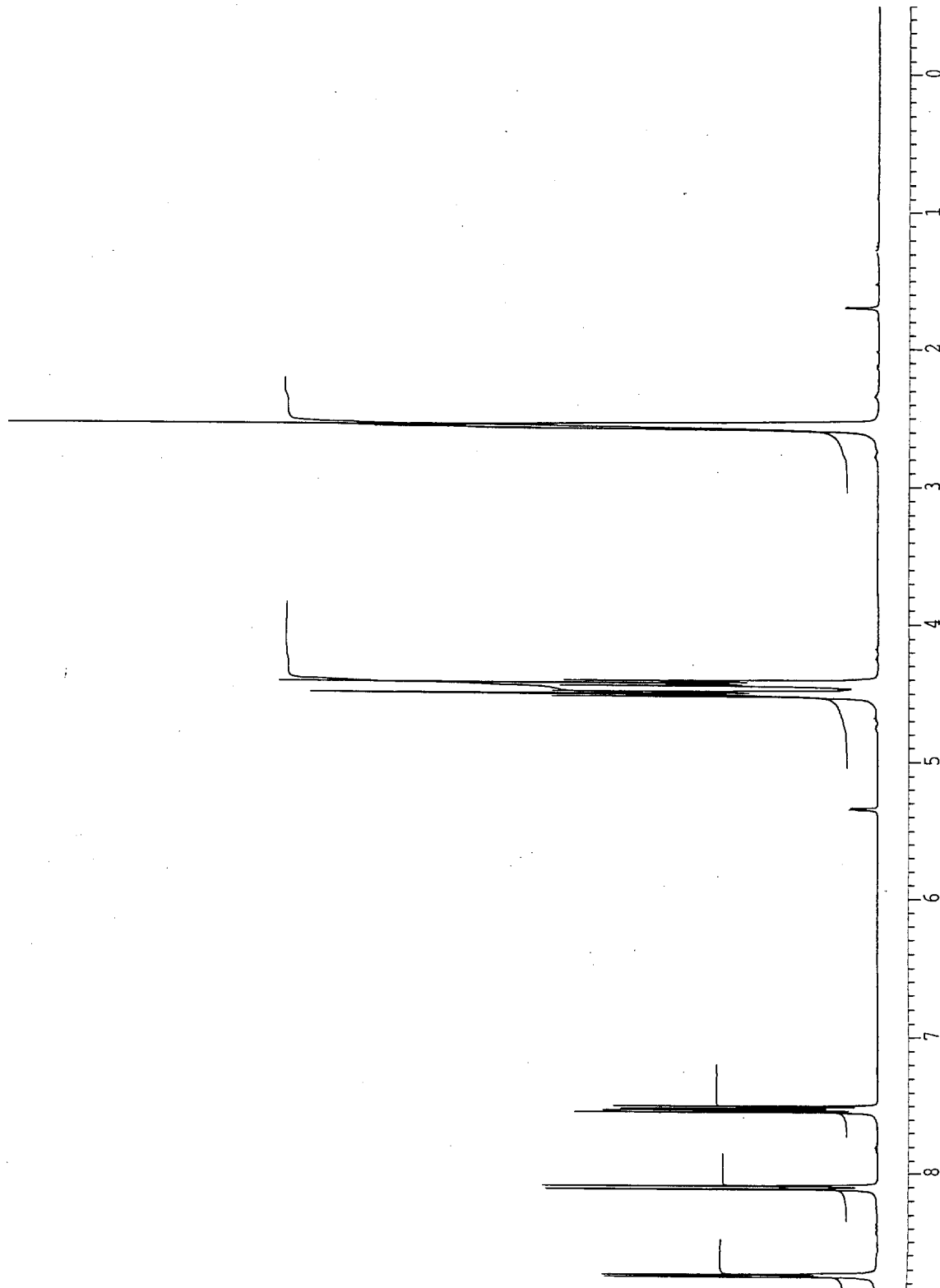
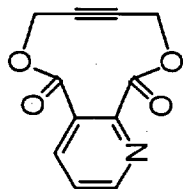
Date_ 990413
 Time 17.51
 INSTRUM dpx300
 PROBHD 5 mm QNP
 PULPROG zg30
 TD 32768
 SOLVENT CD2Cl2
 NS 32
 DS 0
 SWH 6172.839 Hz
 FIDRES 0.188380 Hz
 AQ 2.6542580 sec
 RG 256
 DW 81.000 usec
 DE 4.50 usec
 TE 300.0 K
 HL1 90 dB
 D1 2.0000000 sec
 P1 7.30 usec
 DE 4.50 usec
 SF01 300.1318534 MHz
 NUCLEUS off

F2 - Processing parameters

SI 16384
 SF 300.1300043 MHz
 SR 4.33 Hz
 WDW no
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 2.00

1D NMR plot parameters

CX 22.00 cm
 FIP 9.500 ppm
 F1 2851.24 Hz
 F2P -0.500 ppm
 F2 -150.07 Hz
 PPMCM 0.45455 ppm/cm
 HZCM 136.42274 Hz/cm

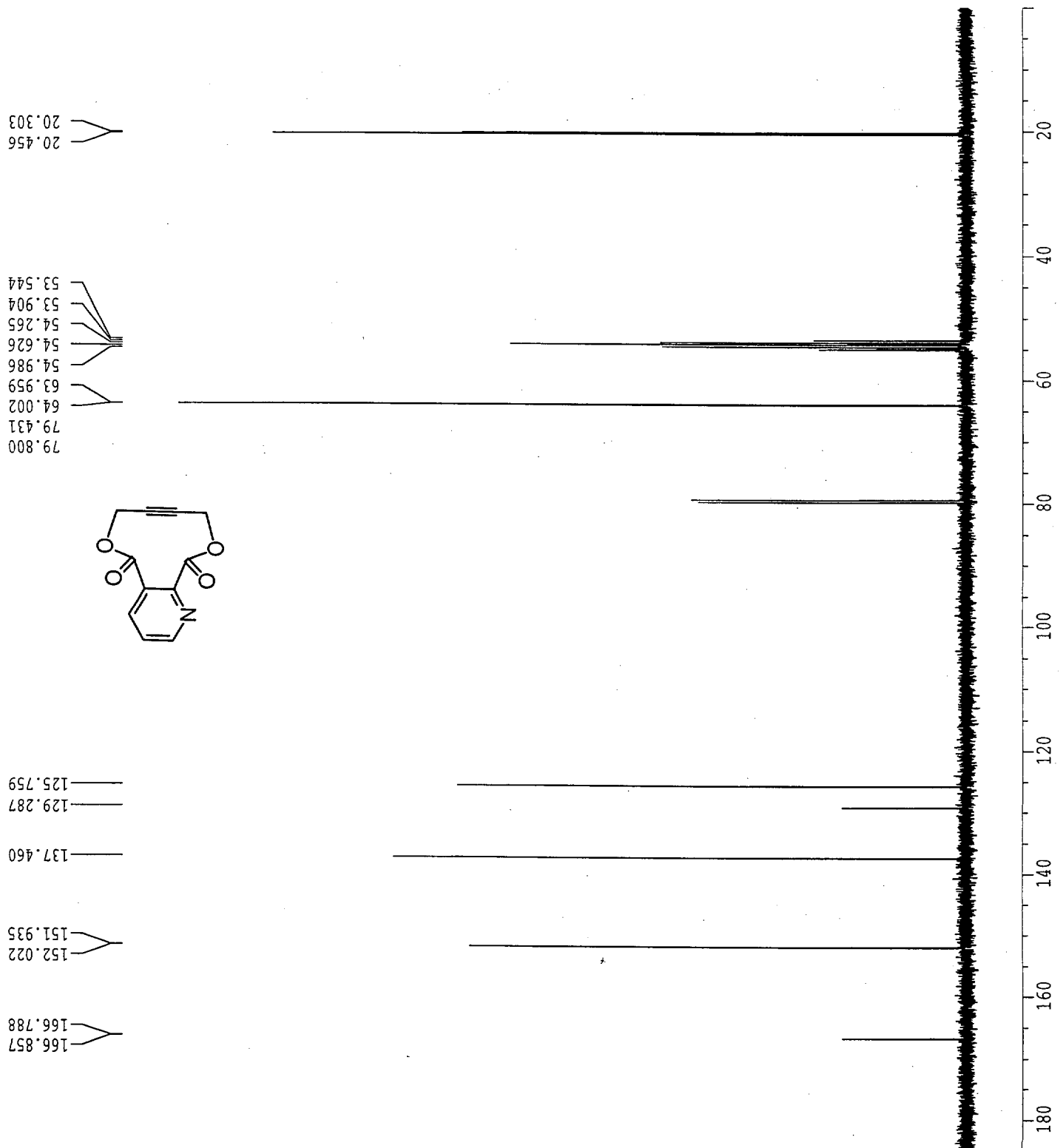


Current Data Parameters
 NAME apl12042
 EXPNO 11
 PROCNO 1
 DU mpi
 USER mathes

F2 - Acquisition Parameters
 Date_ 990413
 Time 18.24
 INSTRUM dpx300
 PROBHD 5 mm QNP
 PULPROG zgpg30
 TD 65536
 SOLVENT CD2Cl2
 NS 1200
 DS 2
 SWH 21231.422 Hz
 FIDRES 0.323966 Hz
 AQ 1.5434228 sec
 RG 16384
 DW 23.550 usec
 DE 4.50 usec
 TE 300.0 K
 D11 0.03000000 sec
 CPDPRG waltz16
 P31 80.00 usec
 S2 83 dB
 HL1 90 dB
 D1 0.03000000 sec
 P1 6.60 usec
 DE 4.50 usec
 SFO1 75.4760670 MHz
 NUCLEUS off

F2 - Processing parameters
 SI 32768
 SF 75.4676888 MHz
 SR -30.19 Hz
 WDW no
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 1.40

ID NMR plot parameters
 CX 22.00 cm
 FIP 200.000 ppm
 F1 15093.54 Hz
 F2P 0.000 ppm
 F2 0.00 Hz
 PPMCM 9.09091 ppm/cm
 HZCM 686.06989 Hz/cm



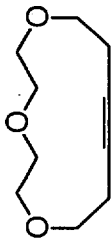
Current Data Parameters
 NAME apl2041
 EXPNO 10
 PROCNO 1
 DU mpi
 USER mathes

F2 - Acquisition Parameters
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 Time 16.54
 INSTRUM dpx300
 PROBHD 5 mm QNP
 PULPROG zg30
 TD 32768
 SOLVENT CDCl2
 NS 32
 DS 0
 SWH 6172.839 Hz
 FIDRES 0.188380 Hz
 AQ 2.6542580 sec
 RG 161.3
 DW 81.000 usec
 DE 4.50 usec
 TE 300.0 K
 HL1 90 dB
 D1 2.00000000 sec
 P1 7.30 usec
 DE 4.50 usec
 SFO1 300.1318534 MHz
 NUCLEUS off

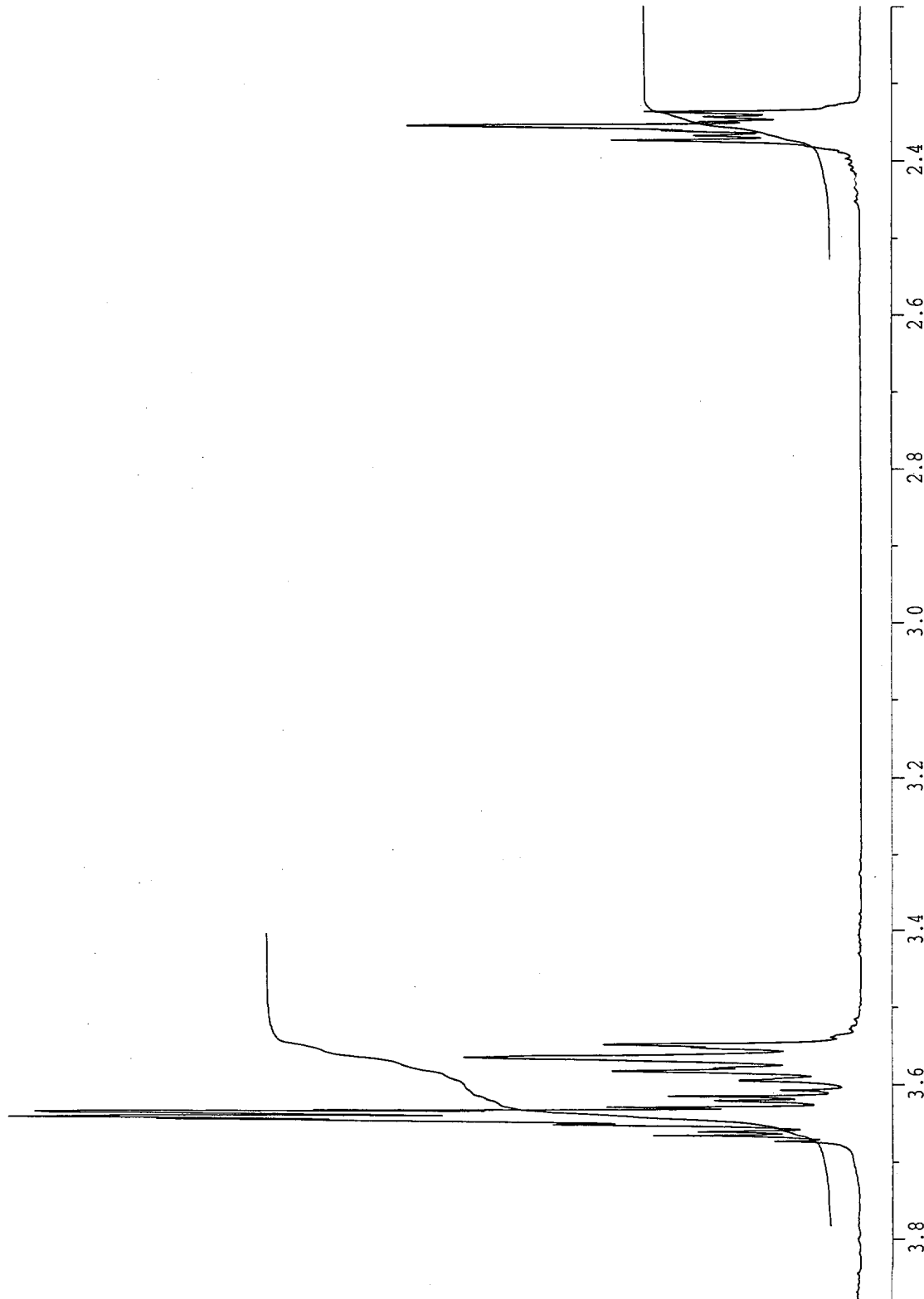
F2 - Processing parameters
 SI 16384
 SF 300.1300043 MHz
 SR 4.33 Hz
 WDW no
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 2.00

1D NMR plot parameters
 CX 22.00 cm
 FIP 4.000 ppm
 F1 1200.52 Hz
 F2P 2.200 ppm
 F2 660.29 Hz
 PPMCM 0.08182 ppm/cm
 HZCM 24.55609 Hz/cm

2.37361
 2.36723
 2.36088
 2.35575
 2.34979
 2.34385
 2.33762



3.67299
 3.66545
 3.66004
 3.65136
 3.64643
 3.64358
 3.63682
 3.63289
 3.62792
 3.61946
 3.61401
 3.60645
 3.59446
 3.58191
 3.57747
 3.56514
 3.55097
 3.54702



Current Data Parameters
 NAME ap12041
 EXPNO 11
 PROCNO 1
 DU mpi
 USER mathes

F2 - Acquisition Parameters

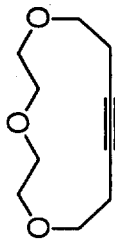
Date_ 990413
 Time 17.26
 INSTRUM dpx300
 PROBHD 5 mm QNP
 PULPROG zgdc30
 TD 65536
 SOLVENT CD2Cl2
 NS 1200
 DS 2
 SMH 21231.422 Hz
 FIDRES 0.323966 Hz
 AQ 1.5434228 sec
 RG 16384
 DW 23.550 usec
 DE 4.50 usec
 TE 300.0 K
 D11 0.03000000 sec
 CPDPRG waltz16
 P31 80.00 usec
 S2 83 dB
 HL1 90 dB
 D1 0.03000000 sec
 P1 6.60 usec
 DE 4.50 usec
 SF01 75.4760670 MHz
 NUCLEUS off

F2 - Processing parameters

SI 32768
 SF 75.4677234 MHz
 SR 4.36 Hz
 WDW no
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 1.40

ID NMR plot parameters
 CX 22.00 cm
 FLP 100.000 ppm
 F1 7546.77 Hz
 F2P 0.000 ppm
 F2 0.00 Hz
 PPMCH 4.54545 ppm/cm
 HZCH 343.03510 Hz/cm

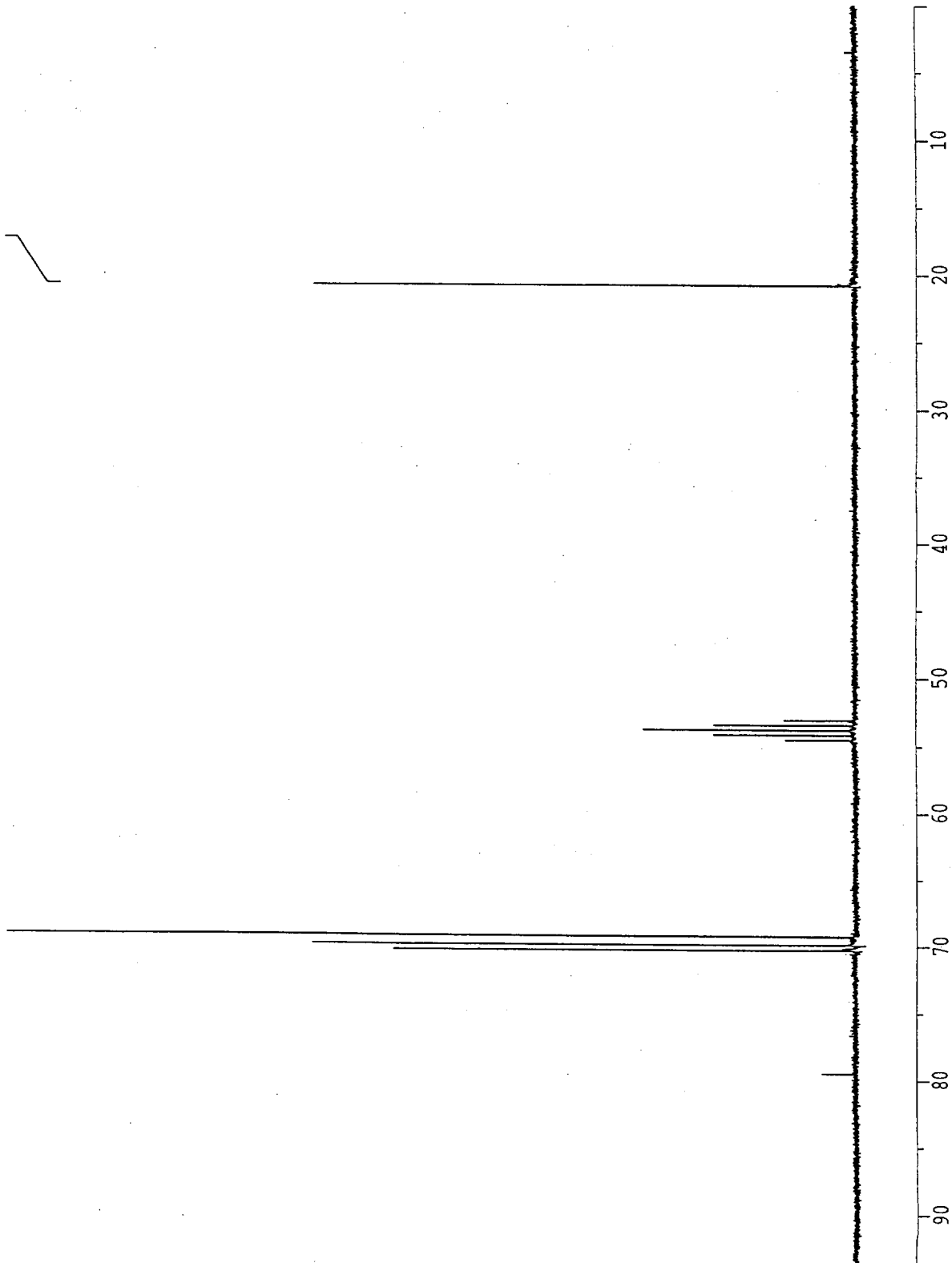
20.7887



53.0785
 53.4388
 53.7993
 54.1601
 54.5206

69.2197
 69.8633
 70.2584

79.4038

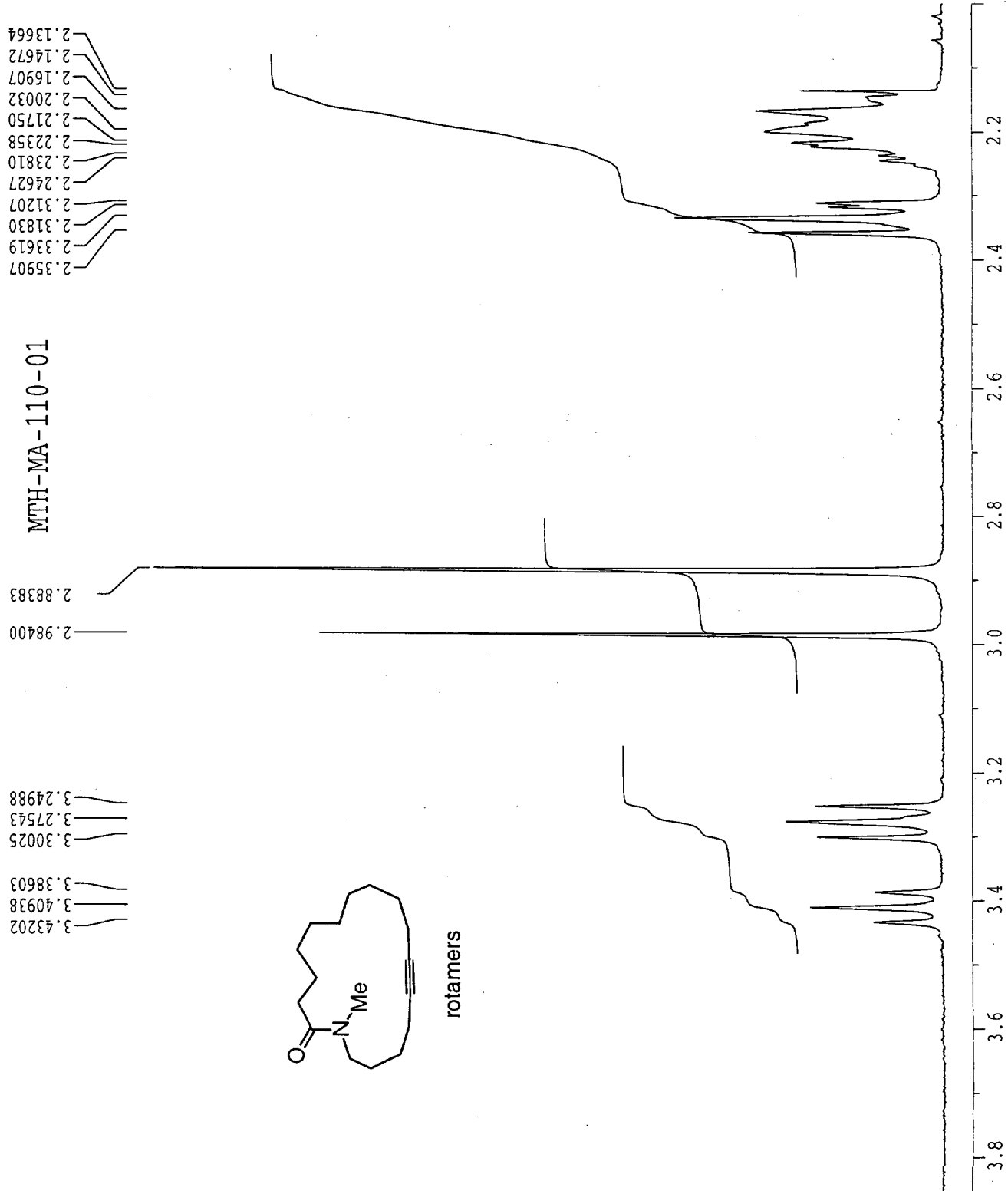


Current Data Parameters
 NAME ap14020
 EXPNO 10
 PROCNO 1
 DU mp1
 USER mathes

F2 - Acquisition Parameters
 Date_ 990415
 Time 1.05
 INSTRUM dpx300
 PROBHD 5 mm QNP zg30
 PULPROG 32768
 TD 32768
 SOLVENT CD2Cl2
 NS 32
 DS 0
 SWH 6172.839 Hz
 FIDRES 0.188380 Hz
 AQ 2.6542580 sec
 RG 4
 DW 81.000 usec
 DE 4.50 usec
 TE 300.0 K
 HL1 90 dB
 D1 2.00000000 sec
 P1 7.30 usec
 DE 4.50 usec
 SF01 300.1318534 MHz
 NUCLEUS off

F2 - Processing parameters
 SI 16384
 SF 300.1300043 MHz
 SR 4.33 Hz
 WDW no
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 2.00

1D NMR plot parameters
 CX 22.00 cm
 F1P 4.000 ppm
 F1 1200.52 Hz
 F2P 2.000 ppm
 F2 600.26 Hz
 PPMCM 0.09091 ppm/cm
 HZCM 27.28455 Hz/cm



18.756
18.945
19.065
24.266
25.329
27.007
27.081
27.148
27.492
27.800
27.975
28.059
28.165
28.198
28.315
28.386
31.326
33.330
49.986
53.076
53.437
53.798
54.158
54.519
79.995
80.431
80.810
80.903

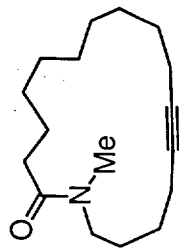
Current Data Parameters
NAME apl4020
EXPNO 11
PROCNO 1
DU mpi
USER mathes

F2 - Acquisition Parameters

Date_ 990415
Time 1.38
INSTRUM dpx300
PROBHD 5 mm QNP
PULPROG zgpg30
TD 65536
SOLVENT CD2Cl2
NS 1200
DS 2
SWH 21231.422 Hz
FIDRES 0.323966 Hz
AQ 1.5434228 sec
RG 16384
DW 23.550 usec
DE 4.50 usec
TE 300.0 K
D11 0.03000000 sec
CPDPRG waltz16
P31 80.00 usec
S2 83 dB
HL1 90 dB
D1 0.03000000 sec
P1 6.60 usec
DE 4.50 usec
SFO1 75.4760670 MHz
NUCLEUS off

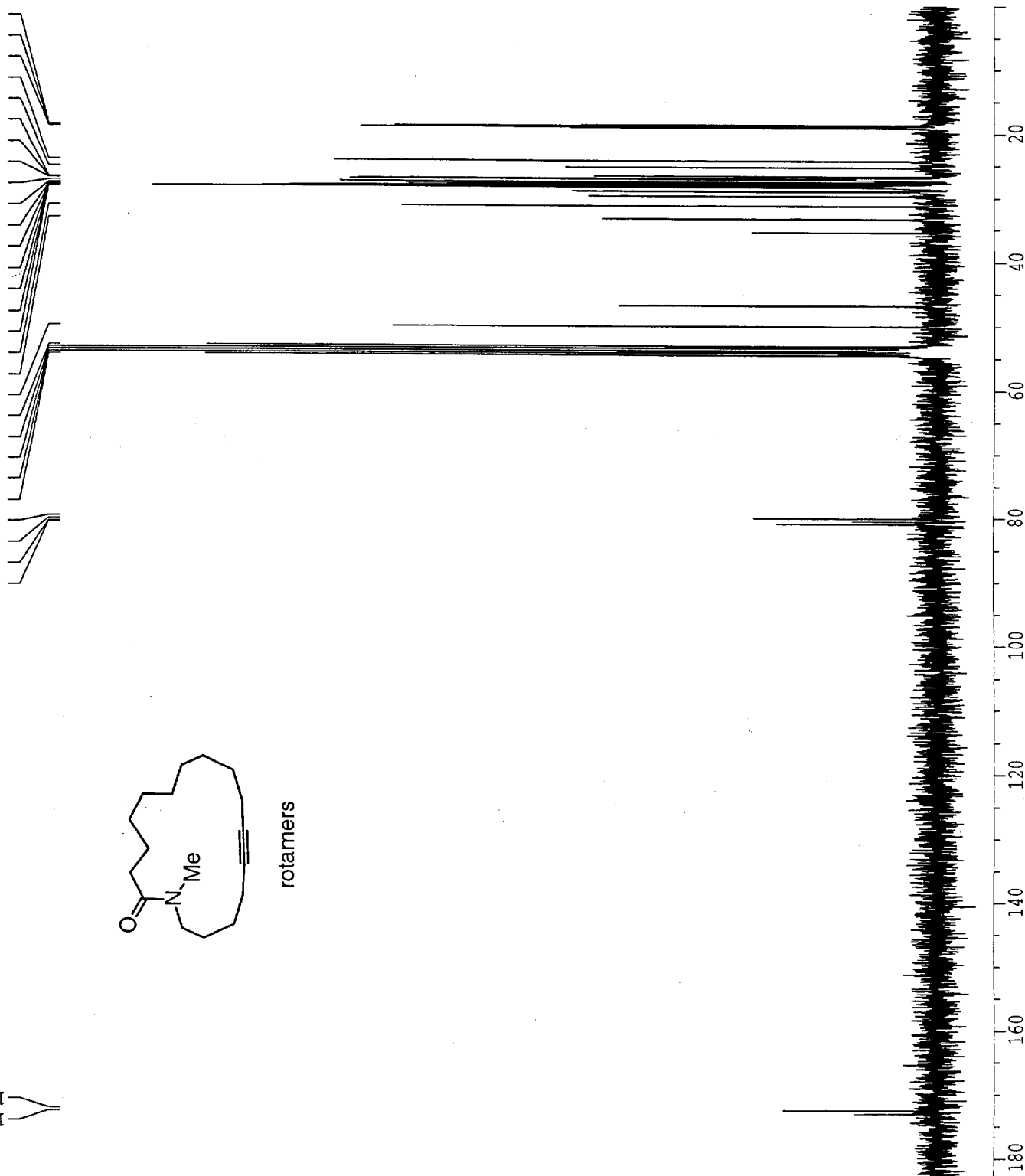
F2 - Processing parameters

SI 32768
SF 75.4677202 MHz
SR 1.24 Hz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40
ID NMR plot parameters
CX 22.00 cm
FIP 200.000 ppm
F1 15093.54 Hz
F2P 0.000 ppm
F2 0.00 Hz
PPMCM 9.09091 ppm/cm
HZCM 686.07019 Hz/cm



rotamers

172.967
172.496



Current Data Parameters
 NAME ap14056
 EXPNO 10
 PROCNO 1
 DU mpi
 USER mathes

F2 - Acquisition Parameters

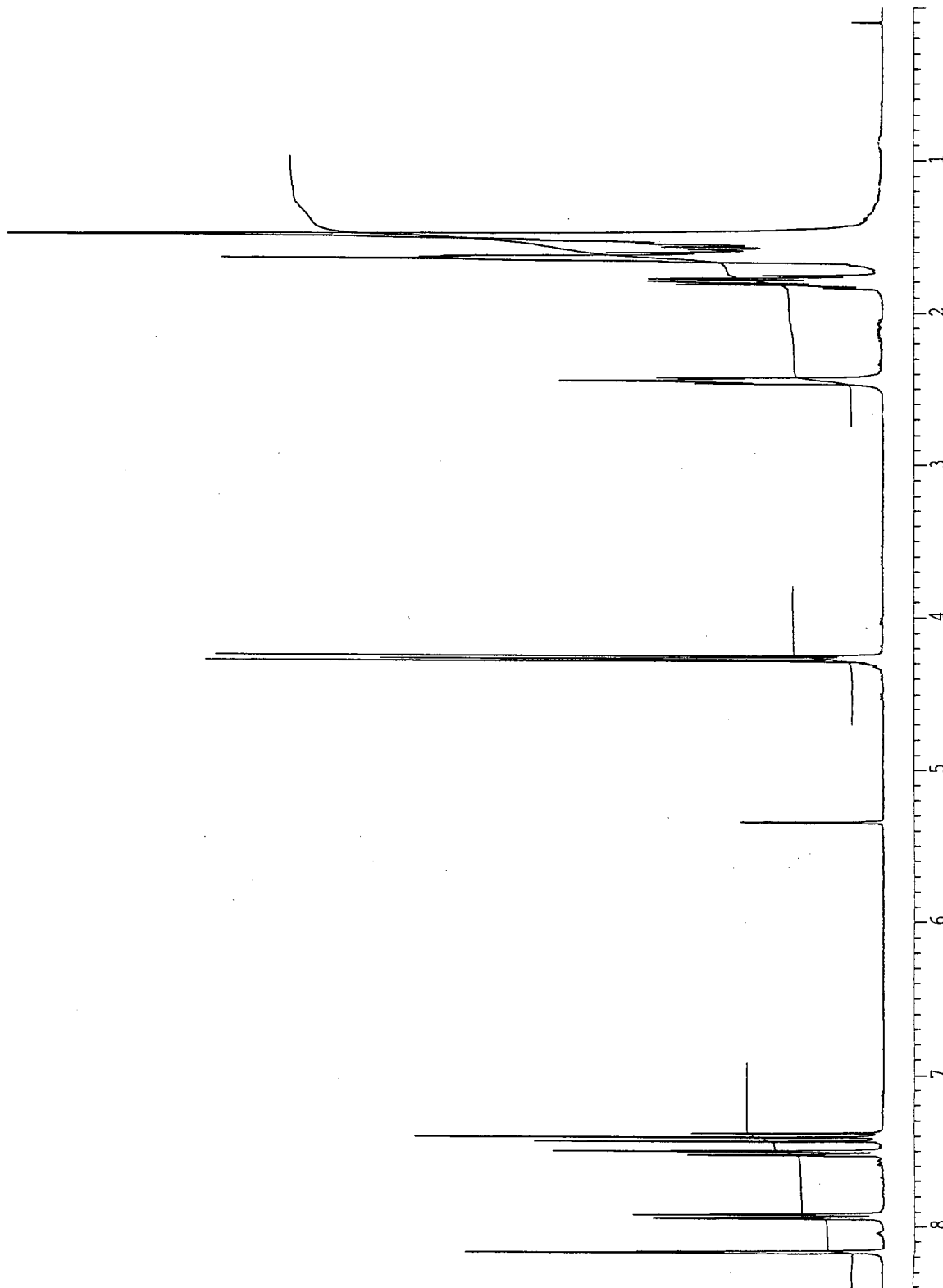
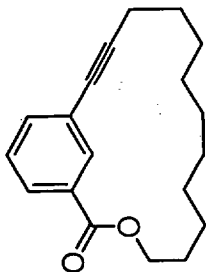
Date_ 990415
 Time 23.04
 INSTRUM dpx300
 PROBHD 5 mm QNP
 PULPROG zg30
 TD 32768
 SOLVENT CD2Cl2
 NS 32
 DS 0
 SWH 6172.839 Hz
 FIDRES 0.188380 Hz
 AQ 2.6542580 sec
 RG 322.5
 DW 81.000 usec
 DE 4.50 usec
 TE 300.0 K
 HL1 90 dB
 D1 2.00000000 sec
 P1 7.30 usec
 DE 4.50 usec
 SF01 300.1318534 MHz
 NUCLEUS off

F2 - Processing parameters

SI 16384
 SF 300.1300047 MHz
 SR 4.71 Hz
 WDW no
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 2.00

1D NMR plot parameters

CX 22.00 cm
 F1P 9.000 ppm
 F1 2701.17 Hz
 F2P 0.000 ppm
 F2 0.00 Hz
 PPMCM 0.40909 ppm/cm
 HZCM 122.78046 Hz/cm



Current Data Parameters
 NAME apl4056
 EXPNO 11
 PROCNO 1
 DU mpi
 USER mathes

F2 - Acquisition Parameters
 Date_ 990415
 Time 23.37
 INSTRUM dpx300
 PROBHD 5 mm QNP
 PULPROG zgpg30
 TD 65536
 SOLVENT CD2C12
 NS 1200
 DS 2
 SWH 21231.422 Hz
 FIDRES 0.323966 Hz
 AQ 1.5434228 sec
 RG 16384
 DW 23.550 usec
 DE 4.50 usec
 TE 300.0 K
 D11 0.03000000 sec
 CPDPRG waltz16
 P31 80.00 usec
 S2 83 dB
 HL1 90 dB
 D1 0.03000000 sec
 P1 6.60 usec
 DE 4.50 usec
 SF01 75.4760670 MHz
 NUCLEUS off

F2 - Processing parameters
 SI 32768
 SF 75.4677208 MHz
 SR 1.77 Hz
 WDW no
 SSB 0
 LB 0.00 Hz
 GB 0
 PC 1.40

1D NMR plot parameters
 CX 22.00 cm
 F1P 180.000 ppm
 F1 13584.19 Hz
 F2P 0.000 ppm
 F2 0.00 Hz
 PPMCM 8.18182 ppm/cm
 HZCM 617.46313 Hz/cm

19.647
 26.876
 27.749
 27.864
 29.048
 29.133
 29.159
 29.281
 29.822

53.077
 53.438
 53.798
 54.159
 54.519

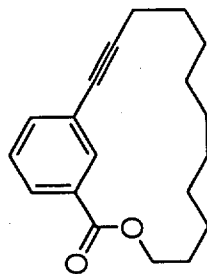
66.095

81.024

92.864

124.845
 128.546
 128.909
 131.157
 133.947
 134.662

165.996



MTH-MA-159-02

