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SUPPORTING INFORMATION

A Metathesis Route to Resin Glycosides: Formal Total Synthesis of Tricolorin A

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Instrumentation and Spectra Formats. NMR: Spectra were recorded on a Bruker AC 200, AMX 300, AMX 400 or DMX 600 spectrometer in $CDCl_3$ unless stated otherwise. Chemical shifts (δ) are given in ppm relative to TMS, coupling constants (J) in Hz. IR: Nicolet FT-7199, wavenumbers in cm^{-1}. MS: Varian CH-5 (70 eV); HR-MS: Finnigan MAT SSQ 7000 (70 eV). Specific optical rotations: Perkin Elmer 241. Elemental analyses: Dornis & Kolbe, Mülheim.

5-Hexenal (4). A solution of 5-hexenol (5.00g, 49.9 mmol) in CH_2Cl_2 (100 mL) is added over a period of 30 min to a stirred suspension of PCC (16.15 g, 74.9 mmol) in CH_2Cl_2 (150 mL). After stirring for 4 h at ambient temperature, the insoluble residues are filtered off through a pad of silica and thoroughly rinsed with CH_2Cl_2 (100 mL in several portions). Evaporation of the combined filtrates gives the rather unstable aldehyde which was immediately used without further purification. IR (CH_2Cl_2) [cm^{-1}]: 3432, 3079, 2978, 2938, 2866, 2722, 1826, 1726, 1642, 1414, 1391, 1365, 1244, 1173, 1117, 1074, 996, 915, 863, 805, 704, 630, 554, 519. - ^{1}H-NMR (200 MHz, $CDCl_3$): δ = 9.77 (t, 1 H, J = 1.6 Hz), 5.77 (ddt, 1 H, J = 17.0 Hz 10.2 Hz 6.7 Hz), 5.09-4.97 (m, 2 H), 2.45 (dt, 2 H, J = 7.3 Hz 1.7 Hz), 2.10 (bq, 2 H, 7.2 Hz), 1.76 (quint., 2 H, J = 7.1). - ^{13}C-NMR (50 MHz, $CDCl_3$): δ = 201.9, 137.1, 115.1, 42.6, 32.5, 20.7. - MS (EI): m/z (rel. intensity): 98 (>1) [M^+], 80 (46), 70 (11), 69 (17), 55 (41), 54 (100), 44 (14), 43 (12), 42 (30), 39 (58), 29 (31), 27 (29).

(6*S*)-Undec-1-en-6-ol (6). A mixture of (1*R*,2*R*)-bis(trifluoromethanesulfonylamino)cyclohexane (**5**) (229 mg, 0.811 mmol)[7a] and freshly distilled $Ti(O\text{-}iPr)_4$ (20 mL, 67.9 mmol) in toluene (25 mL) is heated at 50 °C for 30 min. The clear solution is then cooled to -35 °C and dipentylzinc (10 g, 48.15 mmol) is added dropwise, causing an intense orange color to appear. A solution of aldehyde **4** (3.87 g, 39.42 mmol) in toluene (10 mL) is then slowly added and the mixture was stirred at -20 °C for 4 h. The reaction is quenched with saturated aq. NH_4Cl (20 ml), the organic layer is separated, the precipitate is dissolved by adding HCl (10%, ca. 50 mL), and the aqueous layer repeatedly extracted with diethyl ether. The combined organic phases are dried (Na_2SO_4), evaporated, and the crude product purified by flash chromatography with hexane/ethyl acetate (4/1) as the eluent affording pure **6** as a colorless oil (5.74 g, 86%).

The enantiomeric excess was determined as ee ≥ 99% by comparison with the racemic product by means of GC on a chiral column: G-TA, trifluoroacetylated γ-cyclodextrine G/212, 30 m (ICT, Internationale Chemie Technik); 70 °C isothermal; 0.9 bar H_2.

$[\alpha]_D^{rt}$ = + 1.6 ° (c 19.2, CH_2Cl_2). - IR [cm^{-1}]: 3354, 3078, 2956, 2931, 2859, 1823, 1641, 1459, 1441, 1415, 1378, 1324, 1265, 1233, 1196, 1127, 1056, 994, 966, 910, 827, 725, 634, 557. - ^{1}H-NMR (300 MHz, $CDCl_3$): δ = 5.81 (ddt, 1 H, J = 17.0 Hz 10.1 Hz 6.6 Hz), 5.06-4.92 (m, 2 H), 3.59 (br m, 1 H), 2.09-2.02 (m, 2 H), 1.81-1.21 (m, 12 H), 0.89 (t, 3 H, J = 6.3). - ^{13}C-NMR (75 MHz, $CDCl_3$): δ = 138.8, 114.6, 71.9, 37.5, 36.9, 33.8, 31.9, 25.3, 25.0, 22.7, 14.1. - MS (EI): m/z (rel. intensity): 101 (10), 99 (12), 83 (54), 82 (17), 81 (100), 67 (12), 57 (28), 55 (92), 54 (21), 43 (37), 41 (41), 39 (14), 29 (26), 27 (13). - $C_{11}H_{22}O$ (170.29): *calcd.* C 77.58, H 13.02; *found* C 77.71, H 12.98.

[(6*S*)-1-Undecen-6-yl] 2,3,4-tri-O-acetyl-ß-D-fucopyranoside (8). To a solution of 1,2,3,4-tetra-O-acetyl-D-fucopyranose (3.0 g, 9.03 mmol)[8] in CH_2Cl_2 (7.5 mL) is added Ac_2O (0.75 mL) and HBr (33% in HOAc, 10 mL) at 0 °C. After stirring the mixture overnight at ambient temperature, the solvents are removed *in vacuo* and the crude 2,3,4-tri-O-acetyl-α-D-fucopyranosyl bromide **7** is co-evaporated with toluene in several portions (25 mL each).

A suspension of alcohol **6** (1.05 g, 6.17 mmol) and pre-dried MS 3Å (1.5 g) in CH_2Cl_2 (5 mL) is stirred for 15 min prior to the addition of $AgNO_3$ on silica/alumina (van Boeckel catalyst, 3 g, ca. 9 mmol $AgNO_3$).[9] A solution of the crude **7** described above in CH_2Cl_2 (16 mL) is slowly added to this mixture at -10 °C. Stirring is continued for 4 h at that temperature before the mixture is allowed to warm to room temperature overnight. The insoluble residues are filtered off over a pad of silica, rinsed with CH_2Cl_2 in 3 portions (30 mL each), the combined filtrates are evaporated and the residue purified by flash chromatography with hexane/ethyl acetate (4/1) as the eluent affording glycoside **8** as a colorless syrup (1.35 g, 69%). $[\alpha]_D^n$ = - 14.1° (c 10.3, CH_2Cl_2). - IR [cm^{-1}]: 3077, 2936, 2861, 2722, 1753, 1641, 1459, 1437, 1368, 1314, 1251, 1224, 1174, 1133, 1075, 1021, 971, 931, 910, 729, 675, 653, 628, 596, 535. - ^{1}H-NMR (300 MHz, $CDCl_3$): δ = 5.78 (ddt, 1 H, J = 17.1 Hz,10.2 Hz, 6.6 Hz), 5.21 (dd, 1 H, J = 1 Hz, 3.5 Hz), 5.15 (dd, 1 H, J = 10.5 Hz, 7.8 Hz), 5.03- 4.94 (m, 3 H), 4.45 (d, 1 H, J = 7.8 Hz), 3.76 (dq, 1 H, J = 1 Hz, 6.3 Hz), 3.55 (q, 1 Hz, J = 5.9 Hz), 2.16 (s, 3 H), 2.04-2.02 (m, 4 H), 1,97 (s, 3 H), 1.50-1.23 (m, 13 H), 1.19 (d, 3 H, J = 6.4 Hz), 0.88 (t, 3 H, J = 6.9 Hz). - ^{13}C-NMR (75 MHz, $CDCl_3$): δ = 170.8, 170.3, 169.4, 138.6, 114.7, 100.9, 81.1, 71.6, 70.5, 69.5, 68.9, 34.8, 33.9, 33.5, 31.9, 24.8, 24.3, 22.6, 20.8, 20.7, 20.7, 16.2, 14.1. - MS (EI): m/z (rel. intensity): 273 (25), 184 (53), 171 (10), 157 (74), 153 (30), 142 (35), 115 (32), 111 (20), 97 (11), 83 (25), 69 (11), 55 (20), 43 (100), 41 (11). - $C_{37}H_{55}O_{12}$ (672.65): *calcd.* C 62.42, H 8.65; *found* C 62.49, H 8.62.

[(6*S*)-1-Undecen-6-yl] 3,4-O-isopropylidene-ß-D-fucopyranoside (10). Compound **8** (1.90 g, 4.29 mmol) is dissolved in MeOH (10 mL) and treated with KOMe (15 mg, 0.21 mmol) for 6 h. The mixture is neutralized with 2N HCl and the solvent removed *in vacuo*. A solution of crude **9** thus obtained in acetone (5 mL) and 2,2-dimethoxypropane (4 mL) is stirred overnight in the presence of p-TsOH·H_2O (ca. 20 mg). Neutralization with triethylamine, evaporation of the volatiles followed by flash chromatography with hexane/ethyl acetate (4/1) as the eluent affords compound **10** as a colorless syrup (1.20 g, 78%). $[\alpha]_D^n$ = - 0.8 ° (c 11, CH_2Cl_2). - IR [cm^{-1}]: 3485, 3076, 2983, 2934, 2862, 1641, 1458, 1415, 1380, 1346, 1291, 1245, 1219, 1182, 1156, 1130, 1072, 1036, 994, 912, 871, 802, 688, 509. - ^{1}H-NMR (300 MHz, $CDCl_3$):

δ = 5.79 (ddt, 1 H, J = 16.9 Hz, 10.2 Hz, 6.6 Hz), 5.04-4.92 (m, 2 H), 4.15 (d, 1 H, J = 8.3 Hz), 4.05-3.97 (m, 2 H), 3.82 (dq, 1 H, J = 6.6 Hz, 2.2 Hz), 3.69-3.56 (m, 2 H), 3.49 (dd, 1 H, J = 8.2 Hz, 7.2 Hz), 2.09-2.02 (m, 2 H), 1.60-1.25 (m, 20 H), 0.89 (t, 3 H, J = 6.8 Hz). - ^{1}H-NMR (300 MHz, $CDCl_3$): δ = 138.6, 114.7, 109.7, 101.5, 79.5, 79.0, 76.4, 73.7, 68.1, 34.7, 33.8, 33.4, 32.0, 31.9, 28.2, 26.3, 24.5, 22.6, 16.6, 14.1. - MS (EI): m/z (rel. intensity): 187 (30), 131 (27), 129 (16), 128 (11), 111 (10), 101 (53), 100 (74), 99 (100), 97 (17), 85 (13), 83 (41), 73 (59), 71 (56), 69 (21), 59 (76), 57 (29), 55 (45), 43 (50), 41 (29), 29 (14). - $C_{20}H_{36}O_5$ (356.45): *calcd.* C 67.39, H 10.18; *found* C 67.42, H 10.12

O-(2,3-Di-O-acetyl-4,6-O-benzylidene-D-glucopyranosyl) Trichloroacetimidate (14). A suspension of substrate **13** (1.65 g, 5.11 mmol), trichloroacetonitrile (0.94 mL, 9.37 mmol) and Cs_2CO_3 (159 mg, 0.5 mmol) in CH_2Cl_2 (8 mL) is stirred for 12 h at room temperature. The insoluble residues are filtered off and rinsed with the same solvent (75 mL in several portions), the combined filtrates are evaporated and the crude product is purified by flash chromatography with hexane/ethyl acetate (2/1) as the eluent, thus affording the title compound as a colorless foam (1.82 g, 76%). α : ß ≈ 2 : 1 (^{1}H-NMR). - $[\alpha]_D^n$ = + 30.5 ° (c 1.4, CH_2Cl_2). - IR [cm^{-1}]: 3474, 3308, 3071, 3038, 2987, 2940, 2875, 1755, 1677, 1498, 1458, 1431, 1418, 1372, 1292, 1235, 1220, 1183, 1140, 1102, 1070, 1033, 969, 907, 833, 798, 752, 735, 700, 645, 600, 560, 486. - ^{1}H-NMR (300 MHz, $CDCl_3$): α-anomer: δ = 8.66 (s, 1 H, NH), 7.47-7.33 (m, 5 H), 6.55 (d, 1 H, J = 3.9 Hz), 5.69 (t, 1 H, J = 9.9 Hz), 5.54 (s, 1 H), 5.15 (dd, 1 H, J = 9.9 Hz, 3.9 Hz), 4.36 (dd, 1 H, J = 10.4 Hz, 4.9 Hz), 4.17-4.09 (m, 1 H), 3.77 (dt, 2 H, J = 10.3 Hz, 6.3 Hz), 2.09 (s, 3 H), 2.03 (s, 3 H); ß-anomer (characteristic data): 8.75 (s, NH), 5.99 (d, 1H, J = 7.5 Hz) - ^{13}C-NMR (75 MHz, $CDCl_3$): α-anomer: δ = 170.1, 169.7, 161.2, 141.8, 136.7, 129.2, 128.3, 126.1, 101.6, 93.6, 78.7, 70.4, 68.8, 68.5, 65.1, 20.8, 20.5; ß-anomer (characteristic data): 101.7, 85.9 - MS (EI): m/z (rel. intensity): 495 (5) [M^+], 149 (19), 143 (13), 107 (15), 105 (30), 43 (100). - $C_{19}H_{20}Cl_3NO_8$ (496.73): *calcd.* C 45.94, H 4.06, N 2.82; *found* C 46.10, H 4.14, N 2.85.

Disaccharide 15. $BF_3{\cdot}Et_2O$ (0.25M in Et_2O, 1.64 mL) is added to a solution of alcohol **10** (510 mg, 1.43 mmol) and trichloroacetimidate **14** (548 mg, 1.22 mmol) in CH_2Cl_2 (6 mL) and n-hexane (6 mL) at -20 °C. After stirring for 30 min at that temperature, the reaction is quenched with sat. aq. $NaHCO_3$ (20 mL) and the mixture is diluted with CH_2Cl_2 (20 mL). The organic layer is separated, dried over Na_2SO_4, evaporated and the remaining product is purified by flash chromatography with hexane/ethyl acetate (2/1) as the eluent. Thus, compound **15** is obtained as a colorless syrup (691 mg, 82%). $[\alpha]_D^n$ = - 20.7 ° (c 19.5, CH_2Cl_2). - IR [cm^{-1}]: 3487, 3072, 3037, 2983, 2871, 2729, 1756, 1640, 1498, 1457, 1414, 1379, 1371, 1241, 1219, 1181, 1156, 1127, 1099, 1075, 1036, 915, 870, 802, 752, 699, 604, 510. - ^{1}H-NMR (300 MHz, $CDCl_3$): δ = 7.44-7.34 (m, 5 H), 5.85 (ddt, 1 H, J = 17.1 Hz, 10.2 Hz, 6.6 Hz), 5.49 (s, 1 H), 5.33-5.27 (m, 1 H), 5.03-4.94 (m, 3 H), 4.33 (dd, 1 H, J = 10.5 Hz, 5.1 Hz),4.23 (d, 1 H, J = 7.9 Hz), 4.02 (psdt, 1 H, J = 5.7-6.6 Hz), 3.96 (dd, 1 H, J = 5.7 Hz, 2.1 Hz), 3.82-3.44 (m, 6 H), 2.08 (s, 3 H), 2.07-2.05 (m, 1 H), 2.04 (s, 3 H), 1.54-1.26 (m, 23 H), 0.88 (t, 3 H, J = 6.7 Hz). - ^{13}C-NMR (50 MHz, $CDCl_3$): δ = 170.2, 169.7, 139.1, 136.9, 129.1, 128.2, 126.2, 114.5, 109.7, 101.5, 100.5, 100.3, 79.9, 79.8, 79.4, 78.4, 76.5, 72.9, 72.1, 68.8, 68.5, 66.3, 34.7, 33.9, 33.4, 31.9, 31.6, 27.9, 26.3, 24.8, 24.2, 22.6, 20.8, 16.6, 14.1. - MS (EI): m/z (rel. intensity): 336 (20), 335 (100), 276 (18), 275 (52), 187 (10), 169 (28), 157 (15),149 (76), 127 (13), 109 (15), 107 (14), 105 (16), 100 (83), 99 (93), 97 (18), 91 (10), 83 (21), 81 (10), 69 (21), 59 (12), 57 (17), 55 (23), 43 (86). - $C_{37}H_{54}O_{12}$ (690.82): *calcd.* C 64.23, H 7.87; *found* C 64.25, H 7.95.

Disaccharide 16. A solution of compound **15** (691 mg, 1.0 mmol) in MeOH (10 mL) is treated with KOMe (10 mg) for 4 h at ambient temperature. Neutralization of the mixture with 2N HCl, evaporation of the volatiles *in vacuo* and purification of the residue by flash chromatography with hexane/ethyl acetate (2/1→1/1) affords diol **16** (431 mg, 71%) as a colorless syrup. $[\alpha]_D^n$ = -1.3 ° (c 0.1, CH_2Cl_2).- IR [cm^{-1}]: 3460, 3070, 3037, 2982, 2933, 2870, 1640, 1500, 1456, 1381, 1298, 1242, 1221, 1179, 1073, 1033, 915, 896, 803, 762, 699, 623, 557, 509. - ^{1}H-NMR (300 MHz, $CDCl_3$): δ = 7.52-7.35 (m, 5 H), 5.80 (ddt, 1 H, J = 16.9 Hz, 10.3 Hz, 6.7 Hz), 5.51 (s, 1 H), 5.05-4.94 (m, 2 H), 4.64 (d, 1 H, J = 7.7 Hz), 4.30

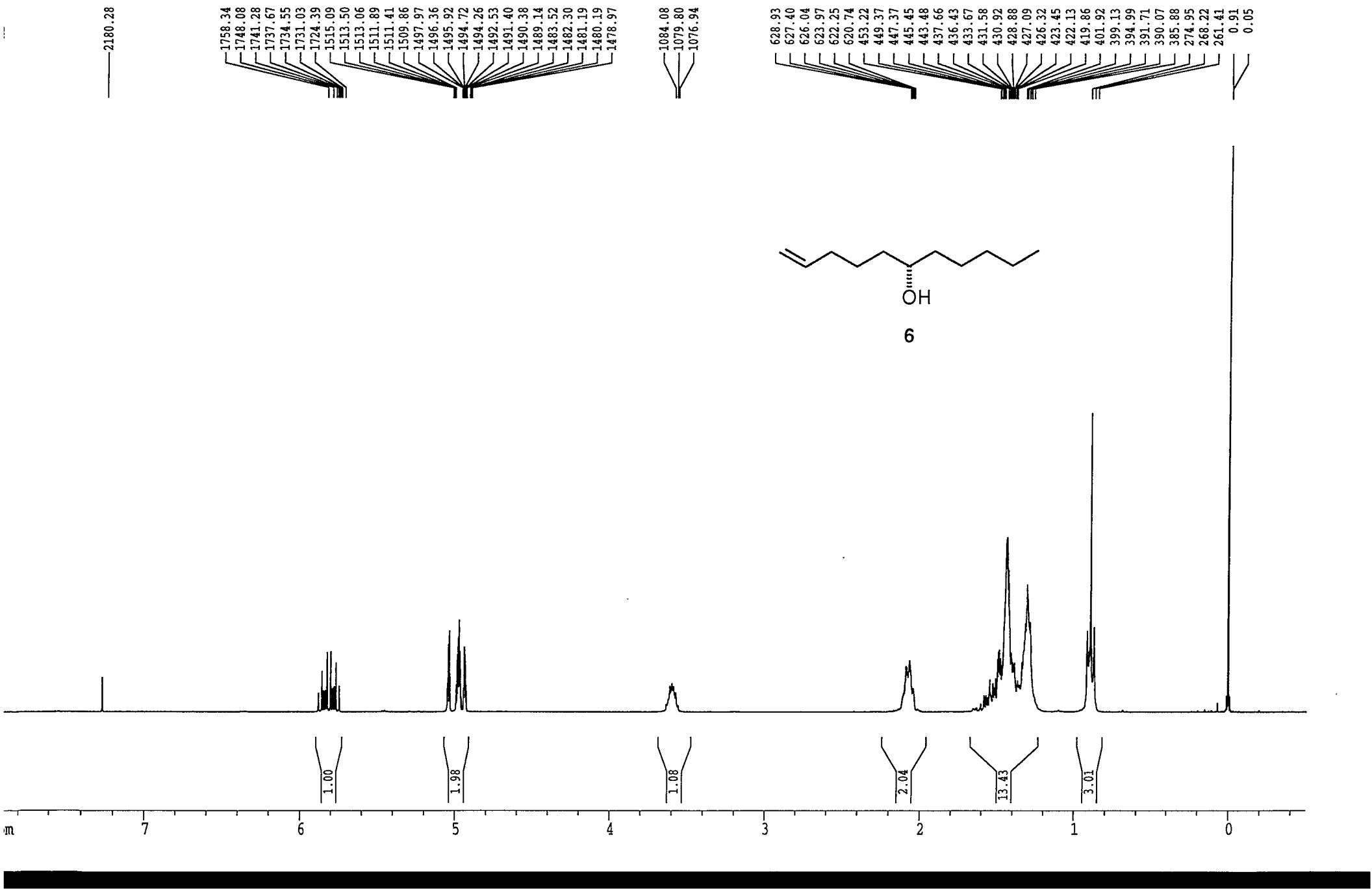
(dd, 1 H, J = 10.2 Hz, 4.4 Hz), 4.27 (d, 1 H, J = 8.2 Hz), 4.14 (dd, 1 H, J = 5.4 Hz, 2.1 Hz), 3.98 (dd, 1 H, J = 5.4 Hz, 2.1 Hz), 3.86-3.33 (m, 9 H), 2.08-2.03 (m, 2 H), 1.59-1.23 (m, 22 H), 0.89 (t, 3 H, J = 6.9 Hz).- ^{13}C-NMR (50 MHz, $CDCl_3$): δ = 138.7, 137.1, 129.2, 128.3, 126.3, 114.8, 110.3, 104.2, 101.4, 80.9, 80.7, 79.7, 78.7, 76.5, 76.0, 72.7, 68.8, 68.5, 66.9, 34.5, 34.0, 33.2, 31.9, 27.8, 26.2, 24.5, 24.2, 22.6, 16.5, 14.1. - MS (EI): m/z (rel. intensity): 351 (10), 323 (10), 252 (11), 251 (68), 215 (19), 187 (11), 157 (13), 107 (39), 105 (17), 101 (11), 100 (87), 99 (100), 97 (16), 91 (10), 85 (11), 83 (18), 73 (17), 71 (12), 69 (23), 59 (16), 57 (22), 55 (21), 43 (22), 41 (11). - $C_{33}H_{50}O_{10}$ (606.78): *calcd.* C 65.33, H 8.30; *found* C 65.37, H 8.40.

Disaccharide 17. A solution of diol **16** (200 mg, 0.33 mmol), DMAP (20 mg, 0.16 mmol) and DCC (80 mg, 0.39 mmol) in CH_2Cl_2 (10 mL) is stirred for 5 min prior to the addition of 6-heptenoic acid (44 μL, 0.33 mmol). The mixture is stirred overnight, the precipitate formed is filtered off over a short pad of silica, the insoluble residues are thoroughly washed with CH_2Cl_2 (70 mL in several portions), the combined filtrates are evaporated and the crude product is purified by flash chromatography with hexane/ethyl acetate (2/1) as the eluent. This affords diene **17** as a colorless solid (168 mg, 71%). $[\alpha]_D^n$ = - 58.8 ° (c 1.6, CH_2Cl_2). - IR [cm^{-1}]: 3544, 3070, 2982, 2935, 1749, 1641, 1627, 1581, 1536, 1459, 1415, 1382, 1349, 1310, 1249, 1218, 1178, 1154, 1099, 1081, 1038, 1010, 987, 916, 867, 812, 748, 696. - ^{1}H-NMR (300 MHz, $CDCl_3$): δ = 7.44-7.26 (m, 5 H), 5.80 (ddt, 1 H, J = 17 Hz, 10.1 Hz, 6.7 Hz), 5.71 (ddt, 1 H, J = 17.0 Hz, 10.1 Hz, 6.7 Hz), 5.47 (s, 1 H), 5.26 (t, 1 H, J = 9.3 Hz), 5.05-4.87 (m, 4 H), 4.74 (d, 1 H, J = 7.7 Hz), 4.33 (dd, 1 H, J = 10.5 Hz, 4.6 Hz), 4.28 (d, 1 H, J = 8.2 Hz), 4.13 (dd, 1 H, J = 7.4 Hz, 5.5 Hz), 4.00 (dd, 1 H, J = 5.5 Hz, 2.1 Hz), 3.82-3.45 (m, 8 H), 2.38 (t, 2 H, J = 7.3 Hz), 2.04 (m, 4 H), 1.70-1.25 (m, 23 H), 0.89 (t, 3 H, J = 6.8 Hz). - ^{13}C-NMR (50 MHz, $CDCl_3$): δ = 173.1, 138.7, 138.4, 137.0, 129.0, 128.2, 126.1, 114.7, 114.6, 110.2, 104.3, 101.4, 100.2, 80.8, 79.4, 78.9, 78.7, 76.6, 74.2, 72.7, 68.8, 68.6, 66.9, 34.5, 34.2, 33.9, 33.3, 33.1, 31.9, 28.1, 27.9, 26.2, 24.6, 24.5, 24.2, 22.6, 16.5, 14.1. - MS (EI): m/z (rel. intensity): 363 (13), 361 (48), 233 (28), 187 (23), 157 (12), 149 (18), 127 (18), 111 (33), 107 (40), 105 (14), 100 (75), 99 (100), 97 (25), 91 (11), 85 (12), 83 (41), 71

(13), 69 (31), 59 (14), 57 (17), 55 (50), 43 (22), 41 (14). - $C_{40}H_{60}O_{11}$ (716.86): *calcd.* C 67.02, H 8.44, *found* C 67.52, H 8.19.

Macrocycle 3. Solutions of diene **17** (161 mg, 0.224 mmol) and of the ruthenium carbene **18** (11 mg, 5 mol%) in CH_2Cl_2 each (50 mL) are simultaneously added via two dropping funnels to refluxing CH_2Cl_2 (50 mL) over a period of 8 h. Reflux is continued for 72 h until TLC shows complete conversion of the substrate. The solvent is removed *in vacuo*, the residue is dissolved in CH_2Cl_2 (5 mL) and filtered through a short pad of silica in order to remove the ruthenium catalyst. The solvent is removed and the residue co-evaporated with EtOH (3 x 5 mL). Crude cycloalkene **19** thus obtained is dissolved in EtOH (15 mL) and hydrogenated (1 atm H_2) over Pd/C (5 % w/w, 20 mg) for 8 h at ambient temperature. Filtration of the catalyst, removal of the solvent and flash chromatography with hexane/ethyl acetate (2/1) affords the title compound as a colorless solid (119 mg, 77%). $[\alpha]_D^{rt}$ = - 33.6 ° (c 6, CH_2Cl_2). - IR (KBr) [cm^{-1}]: 3573, 3069, 3039, 2931, 2857, 1741, 1721, 1640, 1553, 1459, 1411, 1381, 1372, 1302, 1244, 1224, 1184, 1155, 1074, 1038, 1004, 921, 866, 800, 748, 697, 631, 581, 507. - ^{1}H-NMR (300 MHz, $CDCl_3$): δ = 7.47-7.32 (m, 5H), 5.51 (s, 1H), 5.24 (t, 1H, J = 9 Hz), 5.06 (d, 1H, J = 7.5 Hz), 4.27 (dd, 1H, J = 10.6 Hz, 5.0 Hz), 4.24 (d, 1H, J = 8.3 Hz), 4.17 (dd, 1H, J = 7.3 Hz, 5.4 Hz), 3.95-3.73 (m, 5H), 3.60-3.39 (m, 3H), 2.47-2.31 (m, 2H), 1.70-1.27 (m, 33H), 0.88 (t, 3H, J = 6.8 Hz). - ^{13}C-NMR (50 MHz, $CDCl_3$): δ = 174.7, 137.1, 129.1, 128.2, 126.2, 109.7, 102.3, 101.6, 98.8, 83.1, 79.4, 78.3, 76.8, 75.1, 74.7, 74.6, 68.8, 66.2, 35.9, 35.6, 34.9, 31.9, 30.5, 29.3, 28.4, 28.3, 27.9, 26.9, 26.5, 25.8, 25.3, 22.6, 16.7, 14.1. - MS (EI): m/z (rel. intensity): 488 (12), 487 (29), 237 (22), 233 (19), 187 (17), 149 (19), 127 (21), 111 (10), 107 (49), 105 (21), 100 (69), 99 (100), 97 (17), 95 (11), 91 (23), 85 (17), 83 (19), 81 (12), 71 (11), 69 (30), 59 (24), 57 (26), 55 (37), 43 (32), 41 (16). The data are in agreement with those reported in ref.[3a] (Supporting Information).

MLT-MA-086-01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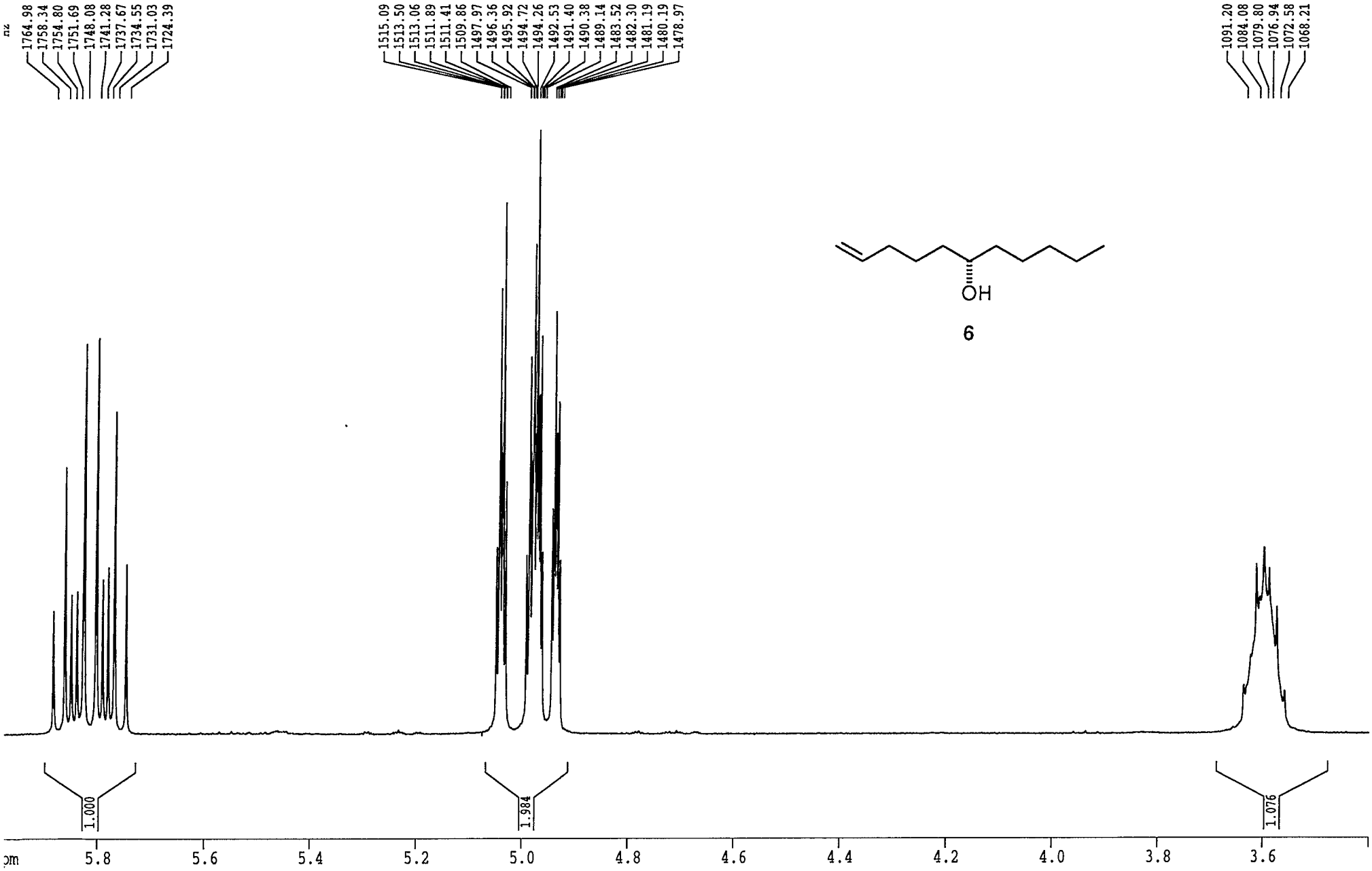
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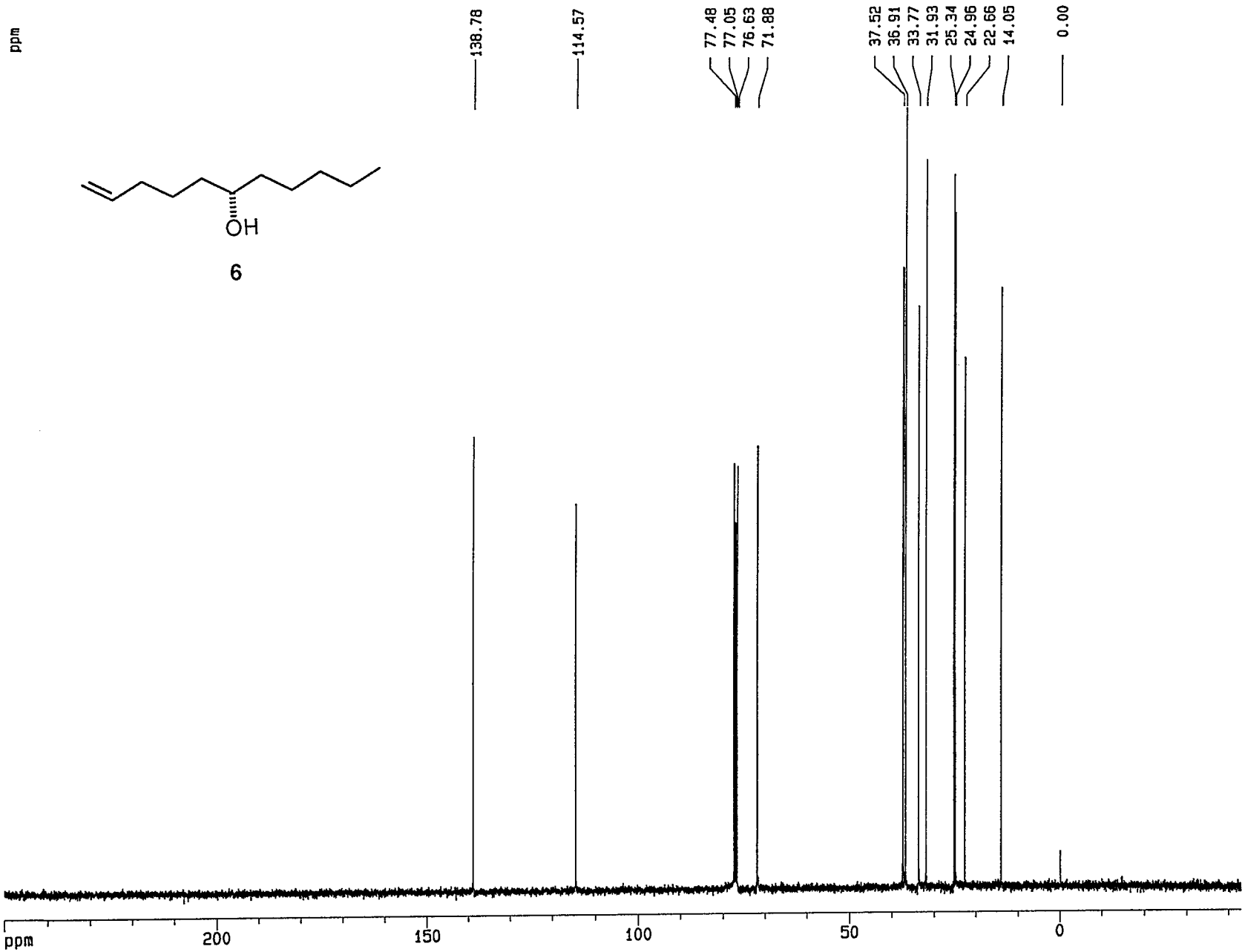
1490.38
1489.14
1483.52
1482.30
1481.19
1480.19
1478.97
1091.20
1084.08
1079.80
1076.94
1072.58
1068.21
OH
6
1.000
1.984
1.076
5.8
5.6
5.4
5.2
5.0
4.8
4.6
4.4
4.2
4.0
3.8
3.6



Current Data Parameters

NAME	jun02104
EXPNO	12
PROCNO	1
DU	ui
USER	et

F2 - Acquisition Parameters

Date	970602
Time	22.48
PULPROG	zgdc30
SOLVENT	CDCl3
AQ	0.9830652 sec
DW	15.0 usec
RG	16384
NUCLEUS	13C
SFO1	75.4815977 MHz
SFO2	300.1344003 MHz
TE	302.0 K
D11	0.0300000 sec
P31	100.0 usec
S2	27 dB
HL1	0 dB
D1	0.0300000 sec
P1	5.7 usec
DE	21.4 usec
SFO1	75.4815977 MHz
SWH	33333.16 Hz
TD	65536
NS	8000
DS	16

F2 - Processing parameters

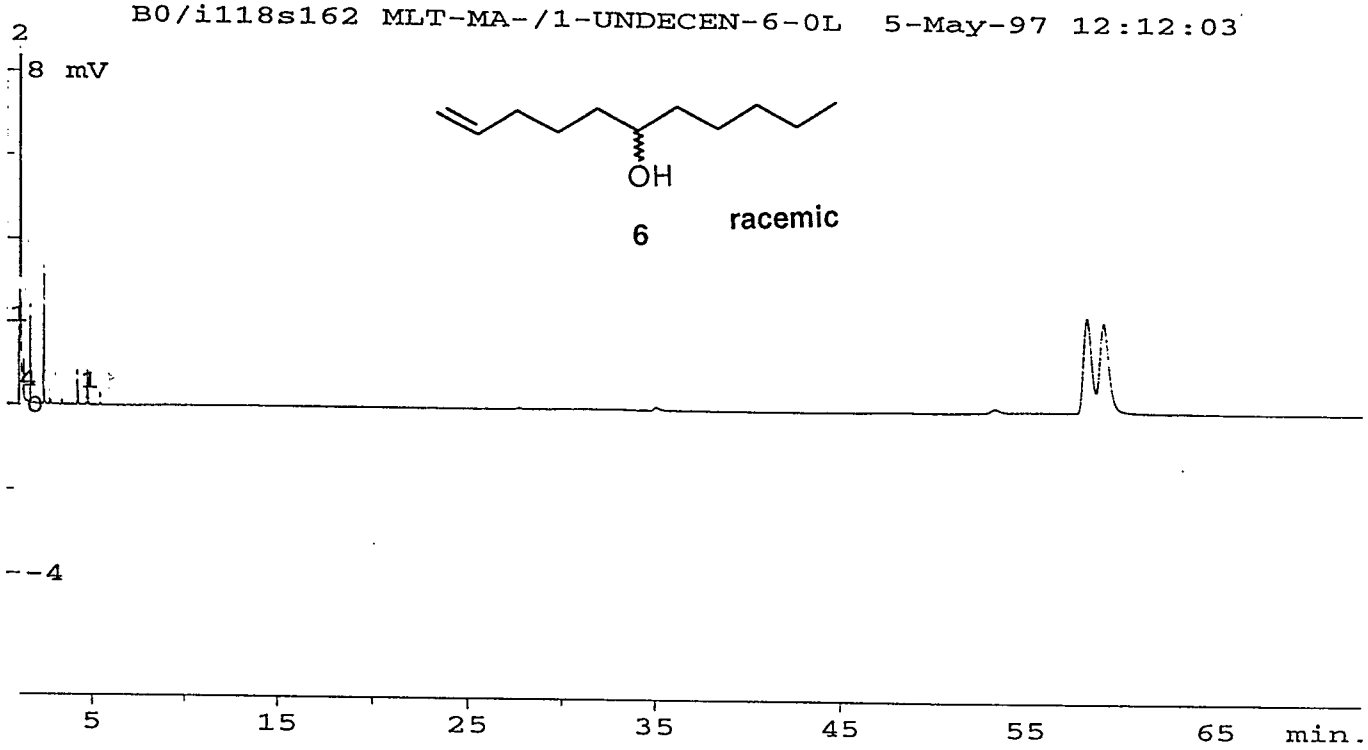
SI	32768
SF	75.4685882 MHz
SR	-1411.80 Hz
HZpPT	1.0172 Hz
WDW	EM
SSB	0
LB	0.80 Hz
GB	0
PC	2.00

1D NMR plot parameters

CX	22.10 cm
CY	14.00 cm
F1P	250.000 ppm
F1	18867.15 Hz
F2P	-42.900 ppm
F2	-3237.60 Hz
PPMCM	13.25339 ppm/cm
HZCM	1000.21490 Hz/cm

MLT-MA-086-01

B0/i118s162 MLT-MA-/1-UNDECEN-6-0L 5-May-97 12:12:03



********** r118s162 ********** 05-May-97 13:45:37

Sample : MLT-MA-/1-UNDECEN-6-0L

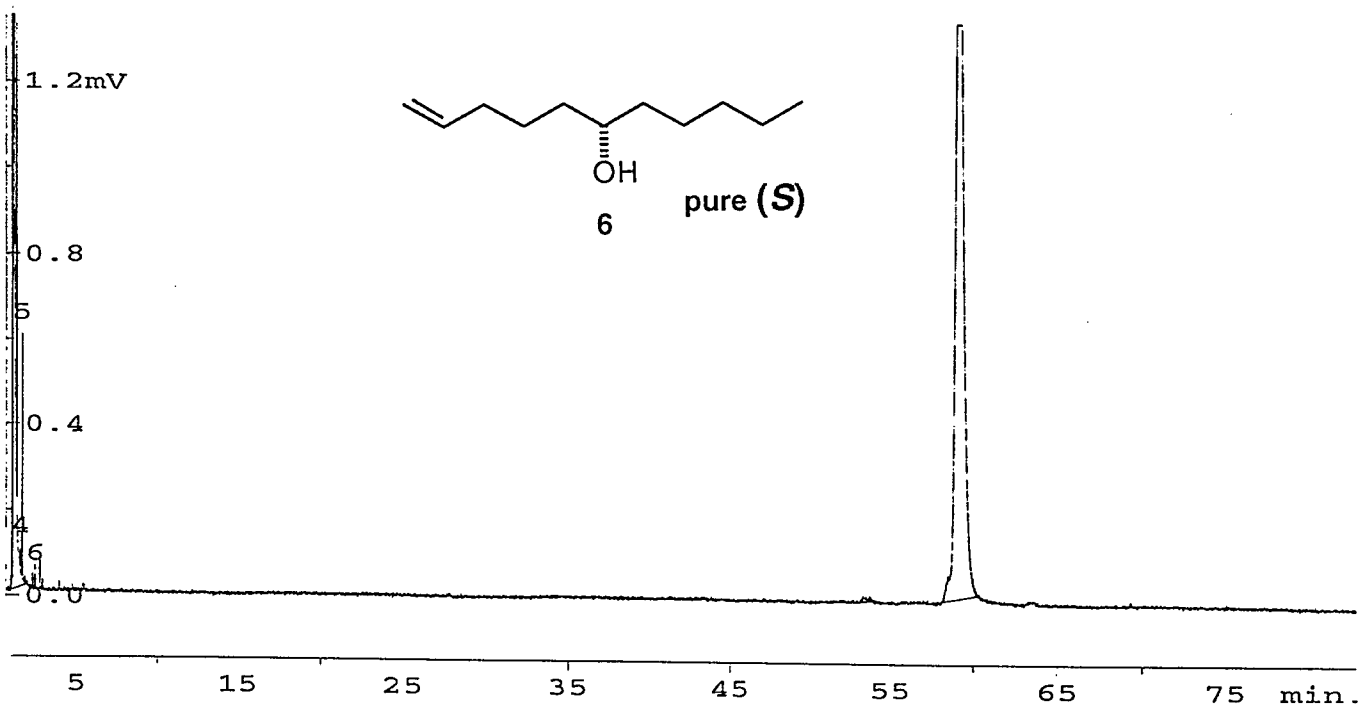
measured: 5-May-97 12:12:03
processed: 05-May-97 13:43:40
by: GC
with:

No.	min.	area-%	
17	58.16	49.7	1-Undecen-6-ol
18	59.00	50.3	

16 peaks had been suppressed.

Instrument : HP 5890 II, 118
Column : 30m G-TA, gamma CD, G/212
Detector : FID
Temperature : 180/70 ISOTH.0.1
Gas : 0.9 bar H2
Sample size : 0.1 1
Recorder : Kipp & Zonen 1 mV 0.2CM/MIN

B0/i118s163 MLT-MA-077-01-97-64450-K 5-May-97 13:35:33



********** r118s163 ********** 05-May-97 15:32:06

Sample : MLT-MA-077-01-97-64450-K

measured: 5-May-97 13:35:33
processed: 05-May-97 15:31:42
by: GC
with:

1-undecen-6-ol

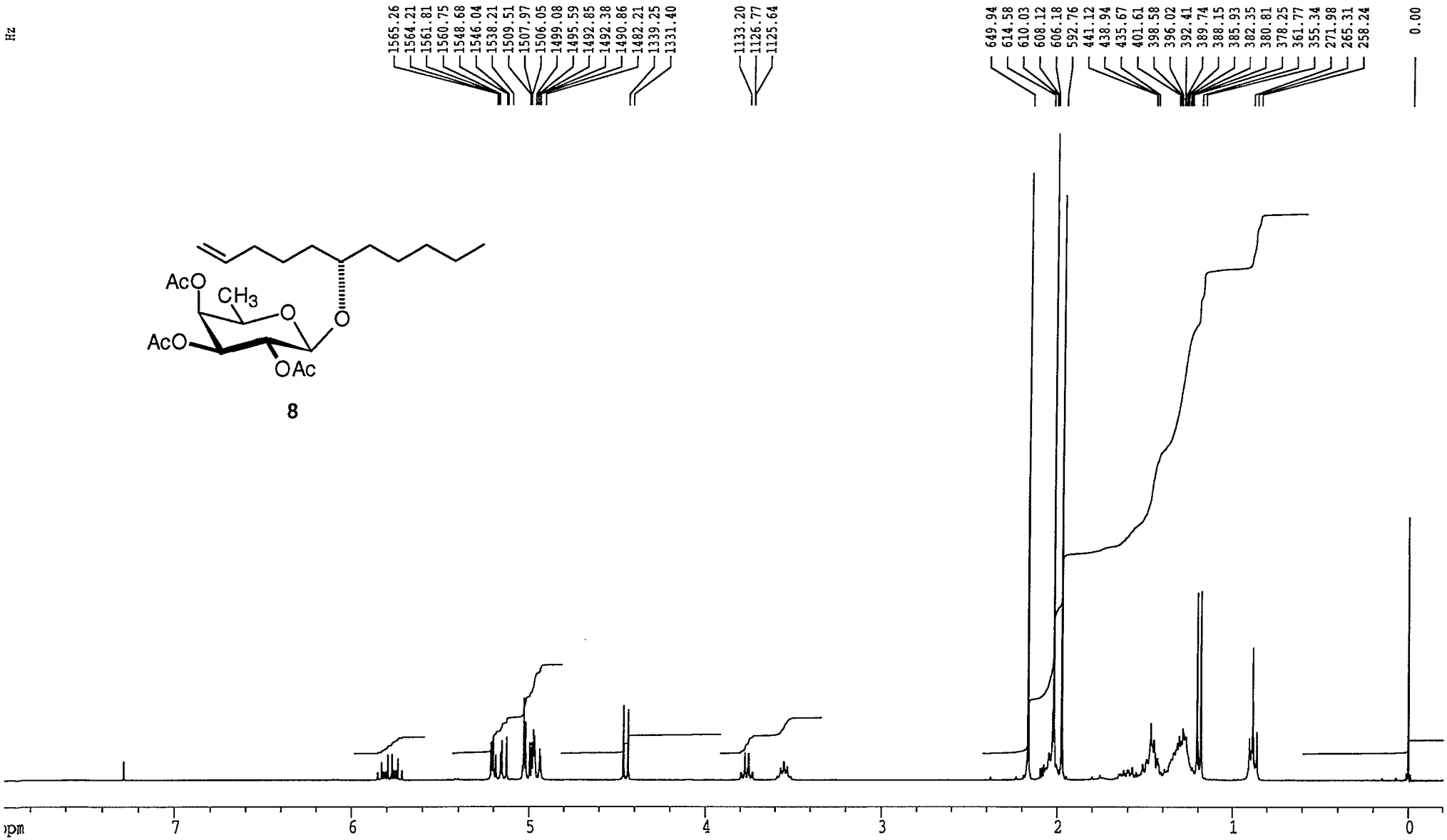
No.	min.	area-%	
11	59.11	100.0	= Peak 1 aus Enantiomeren Trennung

10 peaks had been suppressed.

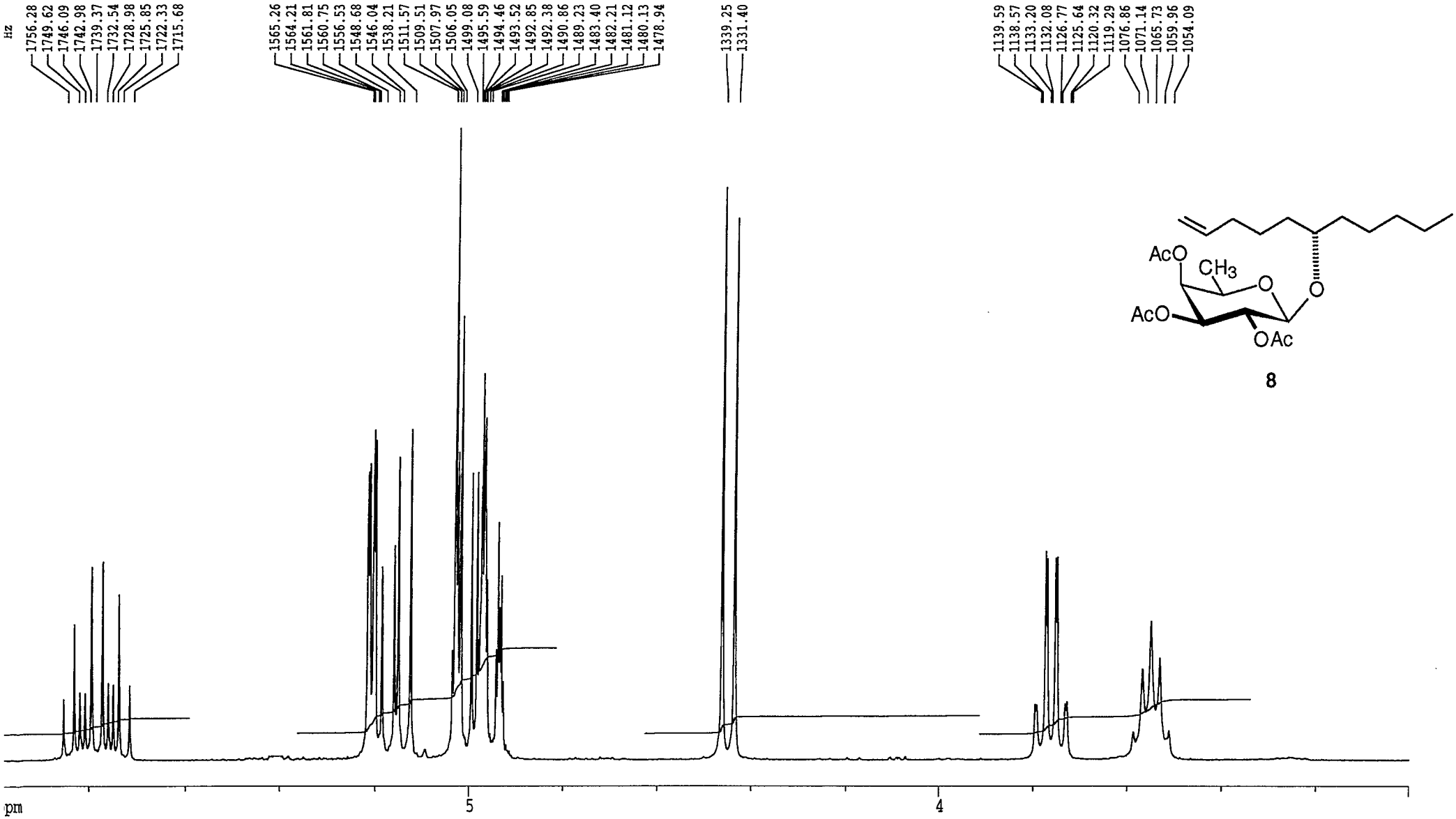
Instrument : HP 5890 II, 118
Column : 30m G-TA, gamma CD, G/212
Detector : FID
Temperature : 180/70 ISOTH.
Gas : 0.9 bar H2
Sample size : 0.1
Recorder : Kipp & Zonen 1 mV 0.2CM/MIN

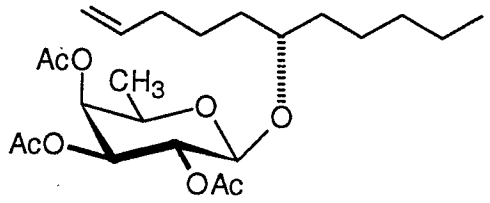
Sag

MLT-MA-147-02

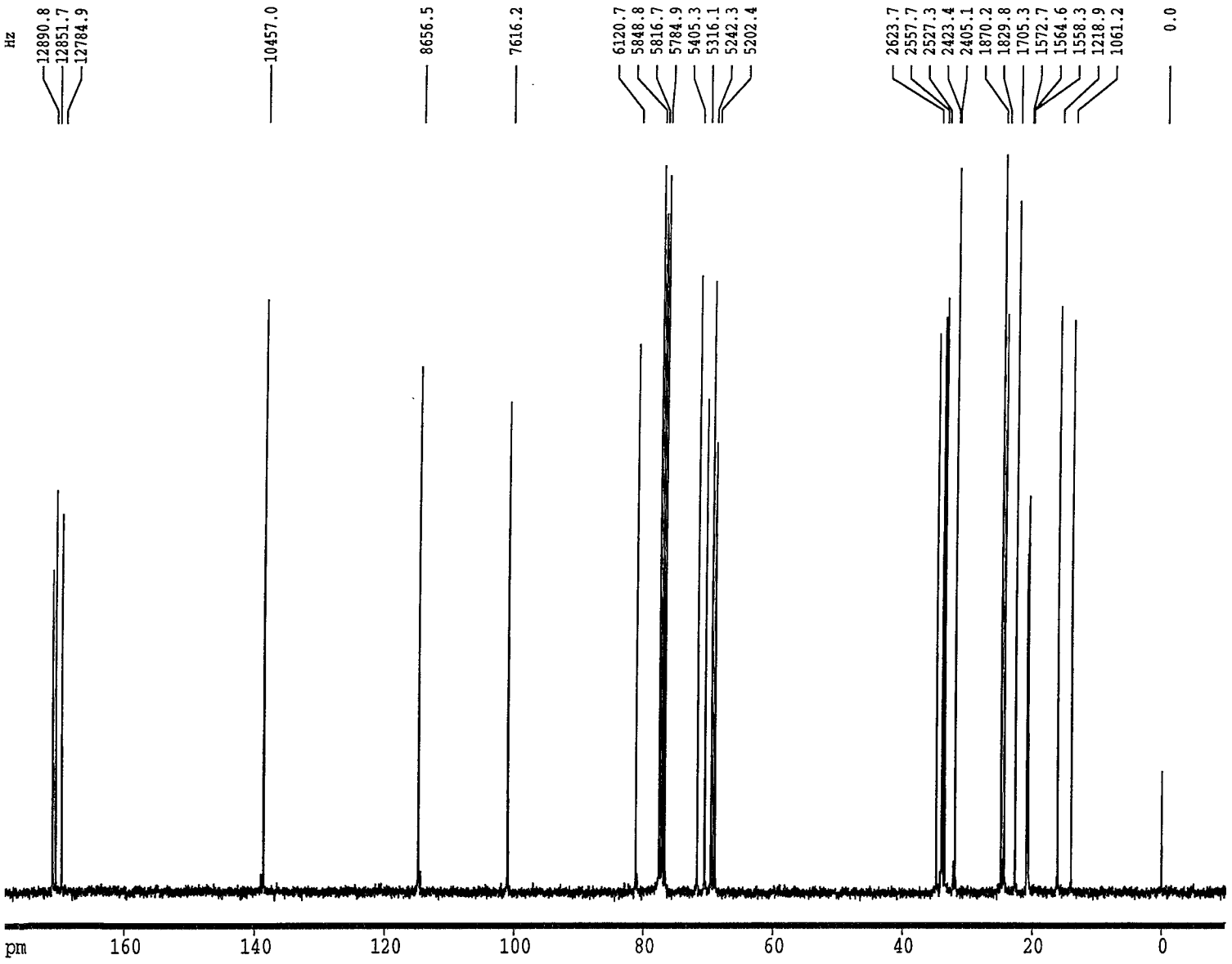

Hz
1565.26
1564.21
1561.81
1560.75
1548.68
1546.04
1538.21
1509.51
1507.97
1506.05
1499.08
1495.59
1492.85
1492.38
1490.86
1482.21
1339.25
1331.40
1133.20
1126.77
1125.64
649.94
614.58
610.03
608.12
606.18
592.76
441.12
438.94
435.67
401.61
398.58
396.02
392.41
389.74
388.15
385.93
382.35
380.81
378.25
361.77
355.34
271.98
265.31
258.24
0.00
AcO
CH3
O
O
AcO
OAc
8
ppm
7
6
5
4
3
2
1
0

MLT-MA-147-02


Hz
1756.28
1749.62
1746.09
1742.98
1739.37
1732.54
1728.98
1725.85
1722.33
1715.68
1565.26
1564.21
1561.81
1560.75
1556.53
1548.68
1546.04
1538.21
1511.57
1509.51
1507.97
1506.05
1499.08
1495.59
1494.46
1493.52
1492.85
1492.38
1490.86
1489.23
1483.40
1482.21
1481.12
1480.13
1478.94
1339.25
1331.40
1139.59
1138.57
1133.20
1132.08
1126.77
1125.64
1120.32
1119.29
1076.86
1071.14
1065.73
1059.96
1054.09
AcO
CH3
O
O
AcO
OAc
8
ppm
5
4



8



Current Data Parameters

NAME	sep17105
EXPNO	11
PROCNO	1
DU	mpi
USER	mltma

F2 - Acquisition Parameters

Date_	970917
Time	23.05
INSTRUM	amx300
PROBHD	5 mm QNP 1H
PULPROG	zgdc30
TD	65536
SOLVENT	CDCl3
NS	10000
DS	16
SWH	31249.998 Hz
FIDRES	0.476837 Hz
AQ	1.0486259 sec
RG	16384
DW	16.000 usec
DE	22.86 usec
TE	302.0 K
D11	0.03000000 sec
CPDPRG	waltz16
P31	100.00 usec
S2	27 dB
HL1	0 dB
D1	0.03000000 sec
P1	5.68 usec
DE	22.86 usec
SFO1	75.4734422 MHz
NUCLEUS	13C

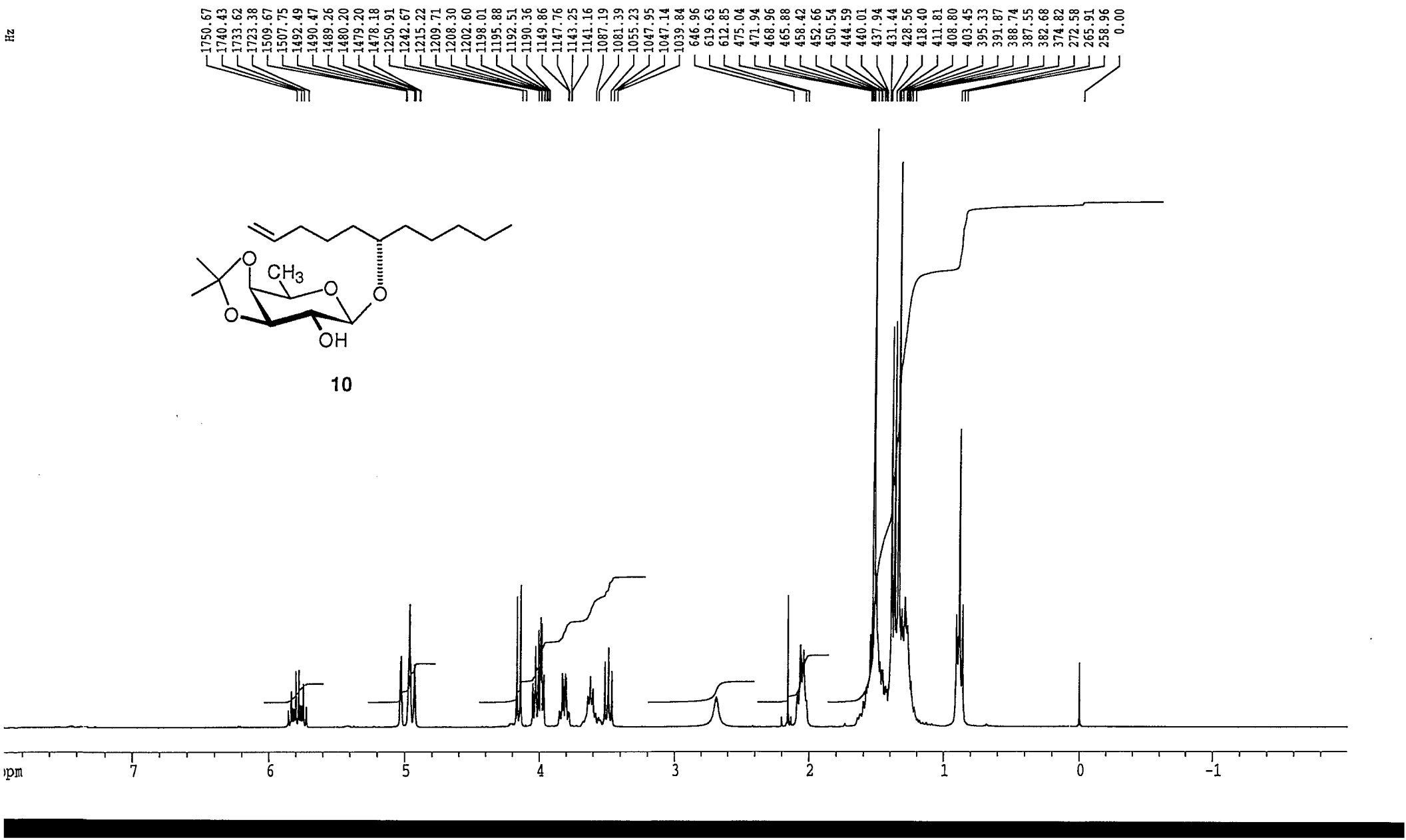
F2 - Processing parameters

SI	32768
SF	75.4685899 MHz
WDW	EM
SSB	0
LB	0.80 Hz
GB	0
PC	2.00

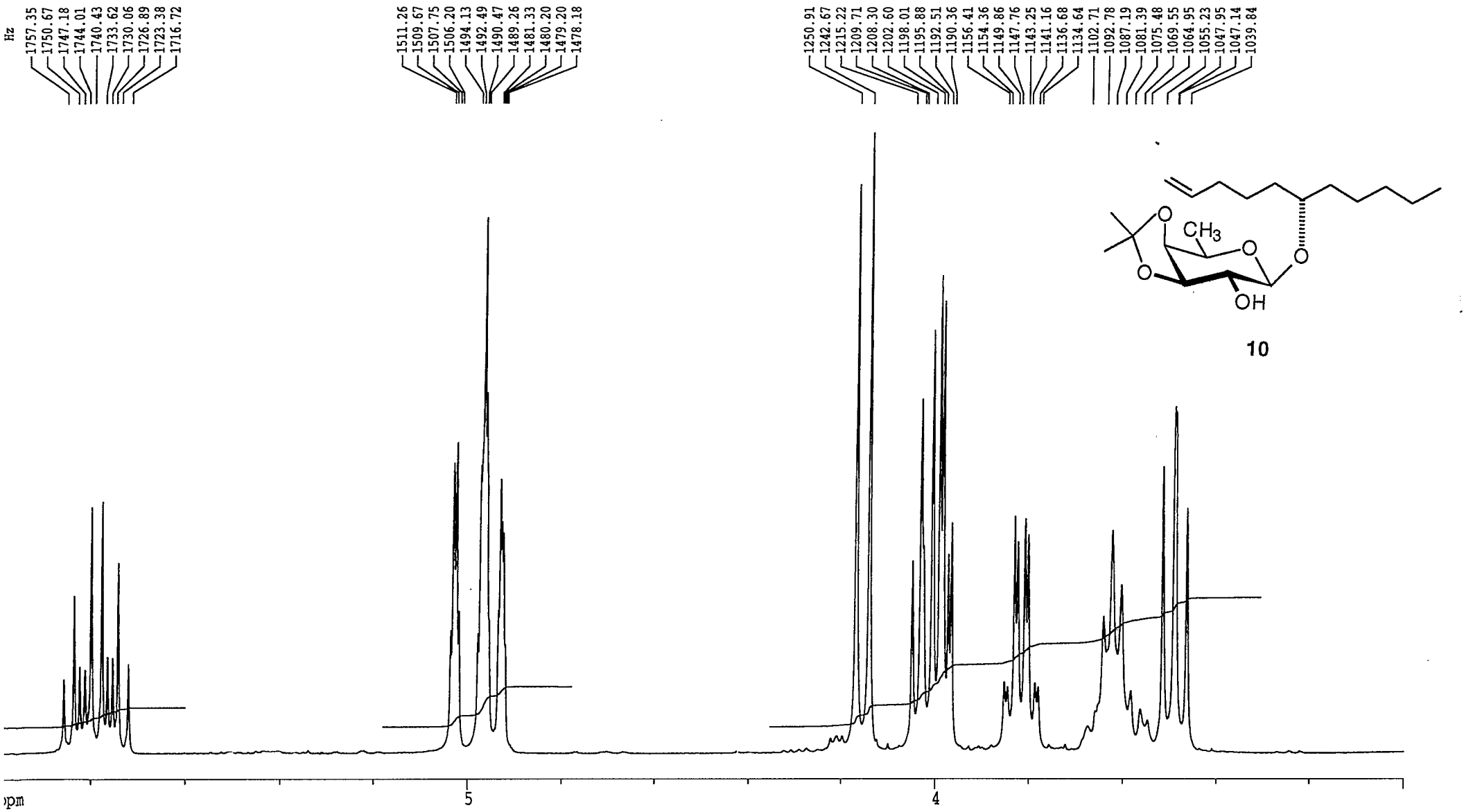
1D NMR plot parameters

CX	20.00 cm
F1P	180.000 ppm
F1	13584.35 Hz
F2P	-10.000 ppm
F2	-754.69 Hz
PPMCM	9.50000 ppm/cm
HZCM	716.95160 Hz/cm

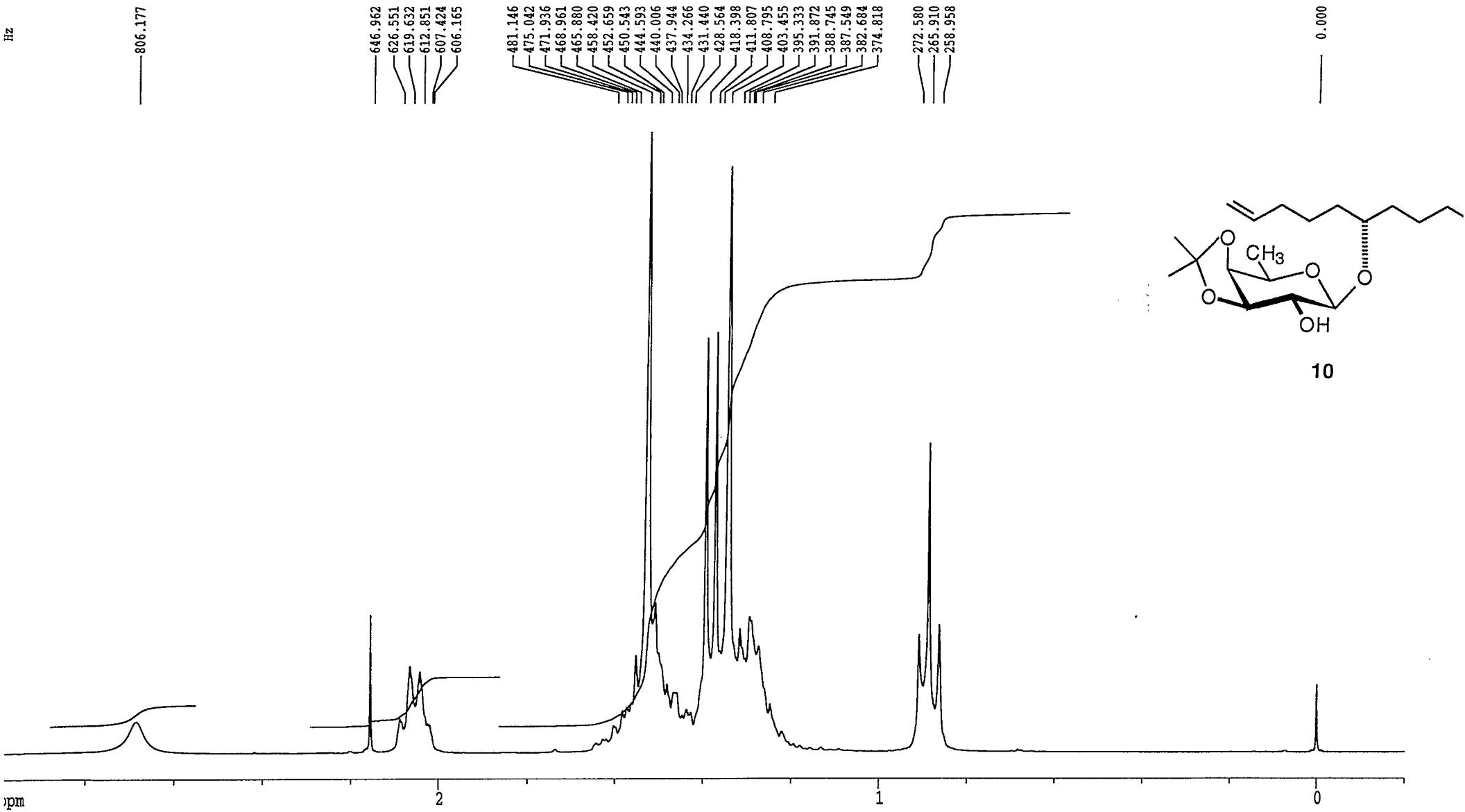
MLT-MA-158-03


Hz
1750.67
1740.43
1733.62
1723.38
1509.67
1507.75
1492.49
1490.47
1489.26
1480.20
1479.20
1478.18
1250.91
1242.67
1215.22
1209.71
1208.30
1202.60
1198.01
1195.88
1192.51
1190.36
1149.86
1147.76
1143.25
1141.16
1087.19
1081.39
1055.23
1047.95
1047.14
1039.84
646.96
619.63
612.85
475.04
471.94
468.96
465.88
458.42
452.66
450.54
444.59
440.01
437.94
431.44
428.56
418.40
411.81
408.80
403.45
395.33
391.87
388.74
387.55
382.68
374.82
272.58
265.91
258.96
0.00
CH3
O
O
O
O
OH
10
ppm
7
6
5
4
3
2
1
0
-1

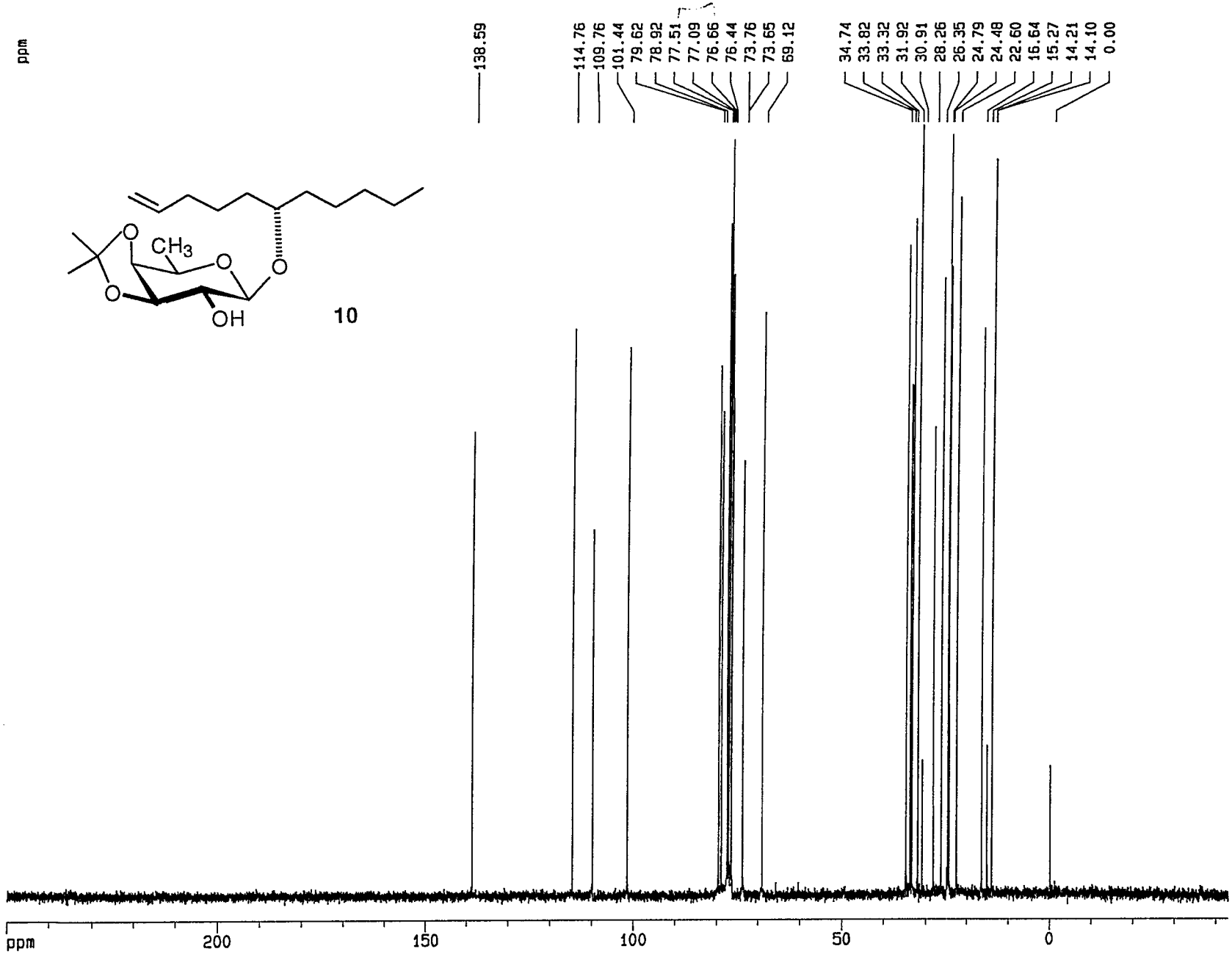
MLT-MA-158-03


Hz
1757.35
1750.67
1747.18
1744.01
1740.43
1733.62
1730.06
1726.89
1723.38
1716.72
1511.26
1509.67
1507.75
1506.20
1494.13
1492.49
1490.47
1489.26
1481.33
1480.20
1479.20
1478.18
1250.91
1242.67
1215.22
1209.71
1208.30
1202.60
1198.01
1195.88
1192.51
1190.36
1156.41
1154.36
1149.86
1147.76
1143.25
1141.16
1136.68
1134.64
1102.71
1092.78
1087.19
1081.39
1075.48
1069.55
1064.95
1055.23
1047.95
1047.14
1039.84
CH3
O
O
O
O
OH
10
5
4

MLT-MA-158-03



10



Current Data Parameters

NAME	jun12111
EXPNO	11
PROCNO	1
DU	u1
USER	et

F2 - Acquisition Parameters

Date	970618
Time	22.04
PULPROG	zgdc30
SOLVENT	CDCl3
AQ	0.9830652 sec
DW	15.0 usec
RG	16384
NUCLEUS	13C
SFO1	75.4815977 MHz
SFO2	300.1344003 MHz
TE	302.0 K
D11	0.0300000 sec
P31	100.0 usec
S2	27 dB
HL1	0 dB
D1	0.0300000 sec
P1	5.7 usec
DE	21.4 usec
SFO1	75.4815977 MHz
SWH	33333.16 Hz
TD	65536
NS	16000
DS	16

F2 - Processing parameters

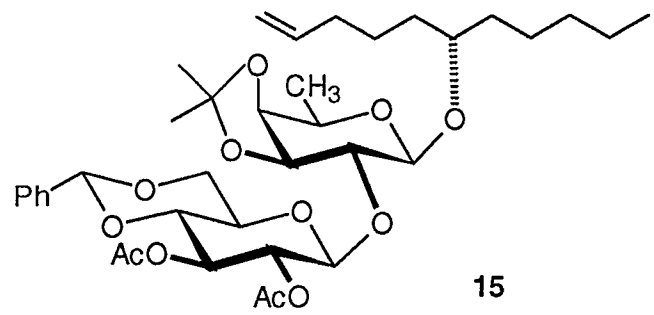
SI	32768
SF	75.4685872 MHz
SR	-1412.78 Hz
HZpPT	1.0172 Hz
WDW	EM
SSB	0
LB	0.80 Hz
GB	0
PC	2.00

1D NMR plot parameters

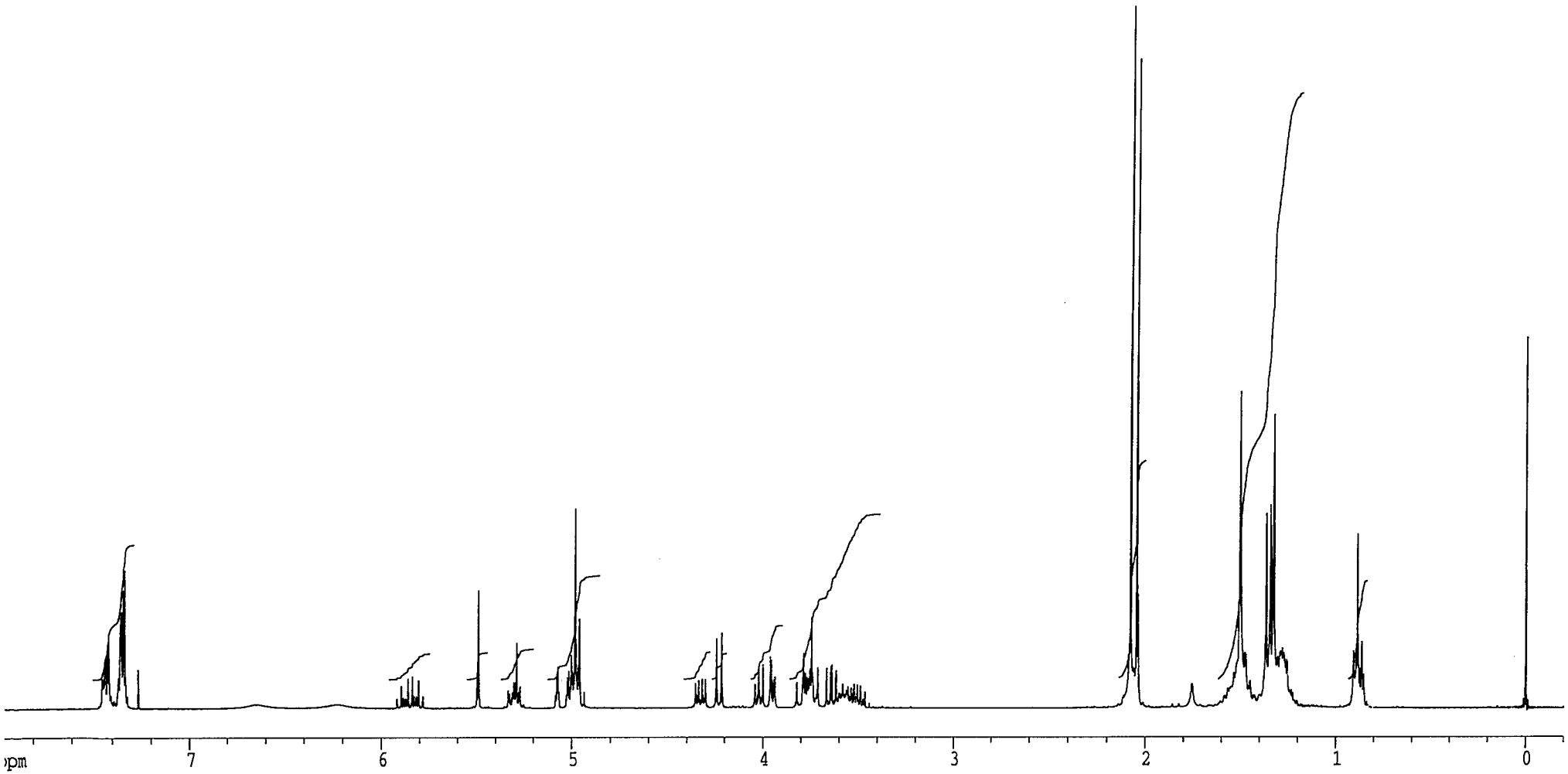
CX	22.10 cm
CY	14.00 cm
F1P	250.000 ppm
F1	18867.15 Hz
F2P	-42.900 ppm
F2	-3237.60 Hz
PPMCM	13.25339 ppm/cm
HZCM	1000.21490 Hz/cm

MLT-MA-093-01

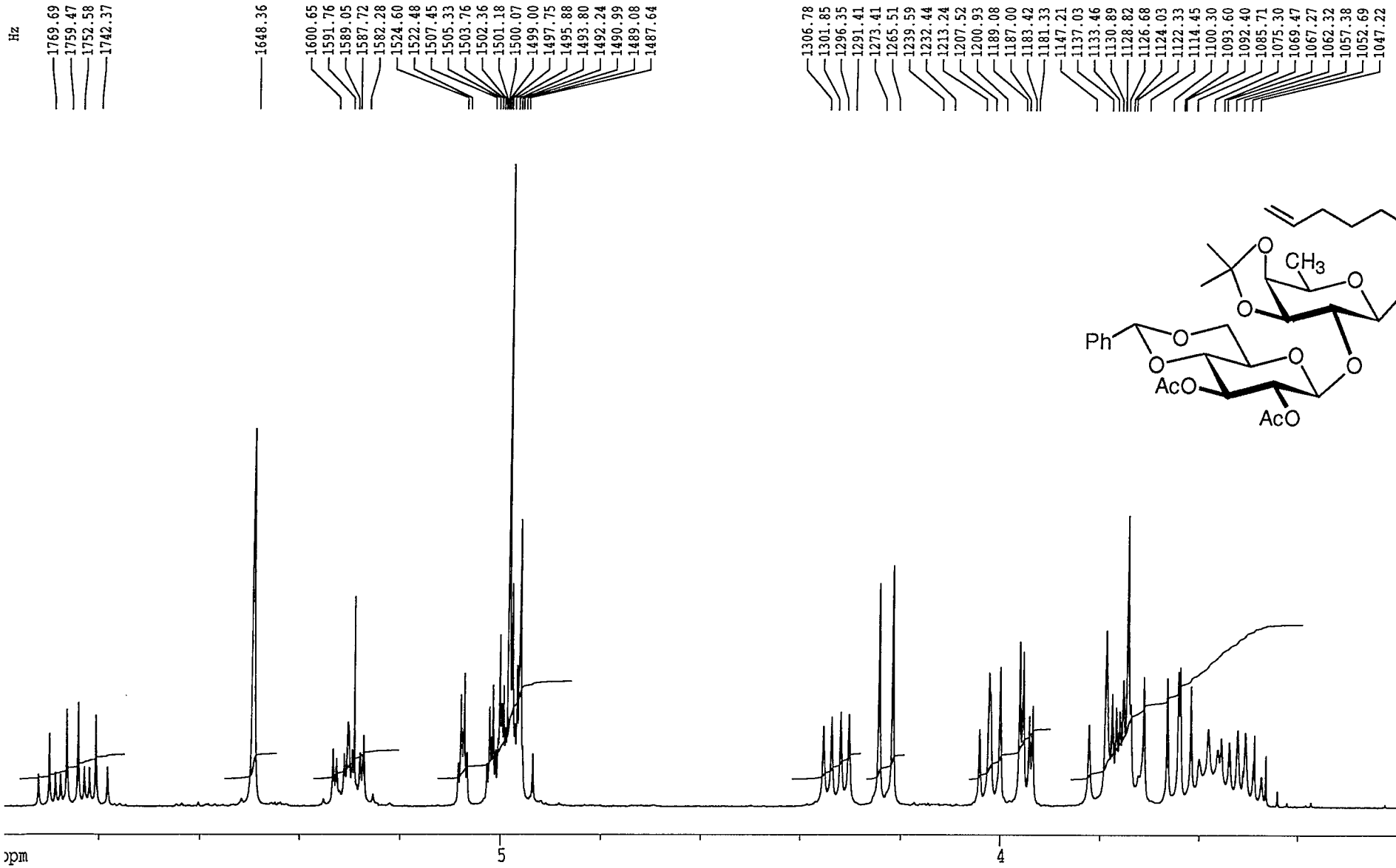
MLT-MA-114-01



15

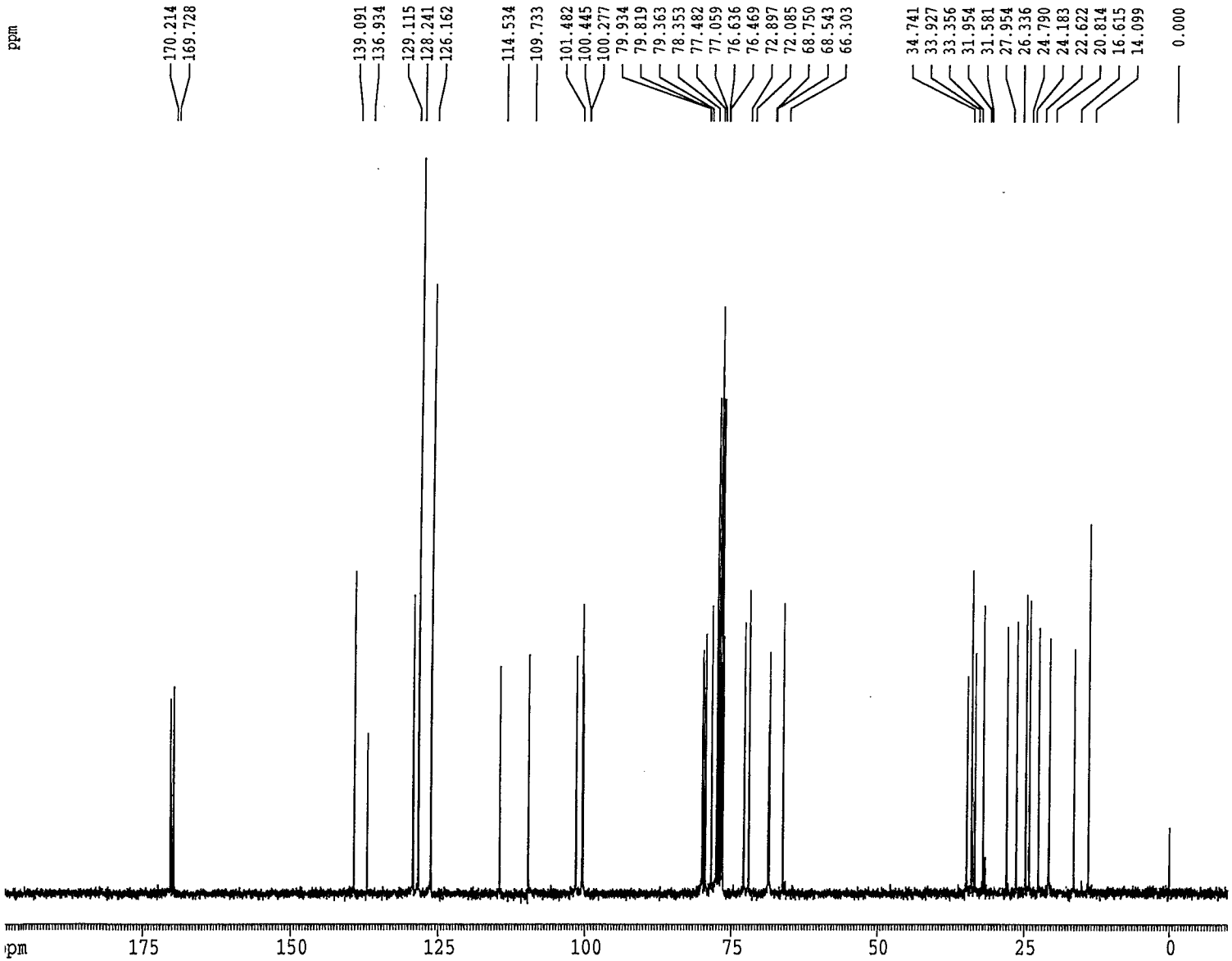


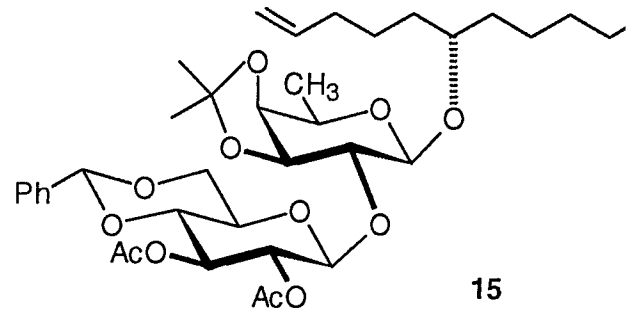
MLT-MA-114-01



15

MLT-MA-114-01





15

SOLVENT	CDCl3
NS	8000
DS	16
SWH	33333.156 Hz
FIDRES	0.508624 Hz
AQ	0.9830900 sec
RG	16384
DW	15.000 usec
DE	21.43 usec
TE	302.0 K
D11	0.03000000 sec
CPDPRG	waltz16
P31	100.00 usec
S2	27 dB
HL1	0 dB
D1	0.03000000 sec
P1	5.68 usec
DE	21.43 usec
SFO1	75.4815977 MHz
NUCLEUS	13C

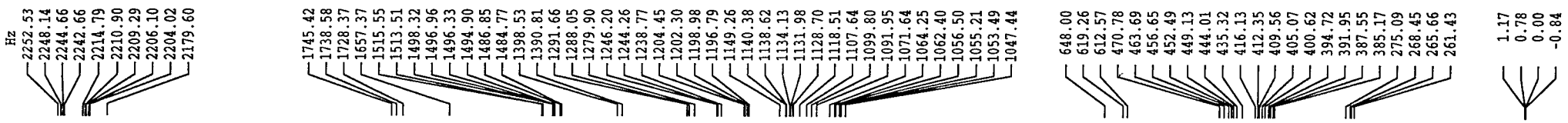
F2 - Processing parameters

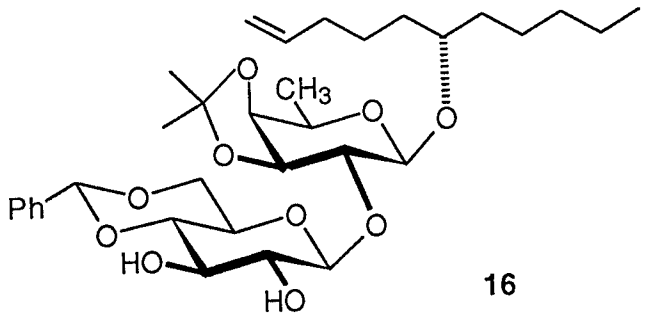
SI	32768
SF	75.4685904 MHz
WDW	EM
SSB	0
LB	0.80 Hz
GB	0
PC	2.00

1D NMR plot parameters

CX	20.00 cm
F1P	200.000 ppm
F1	15093.72 Hz
F2P	-10.000 ppm
F2	-754.69 Hz
PPMCM	10.50000 ppm/cm
HZCM	792.42017 Hz/cm

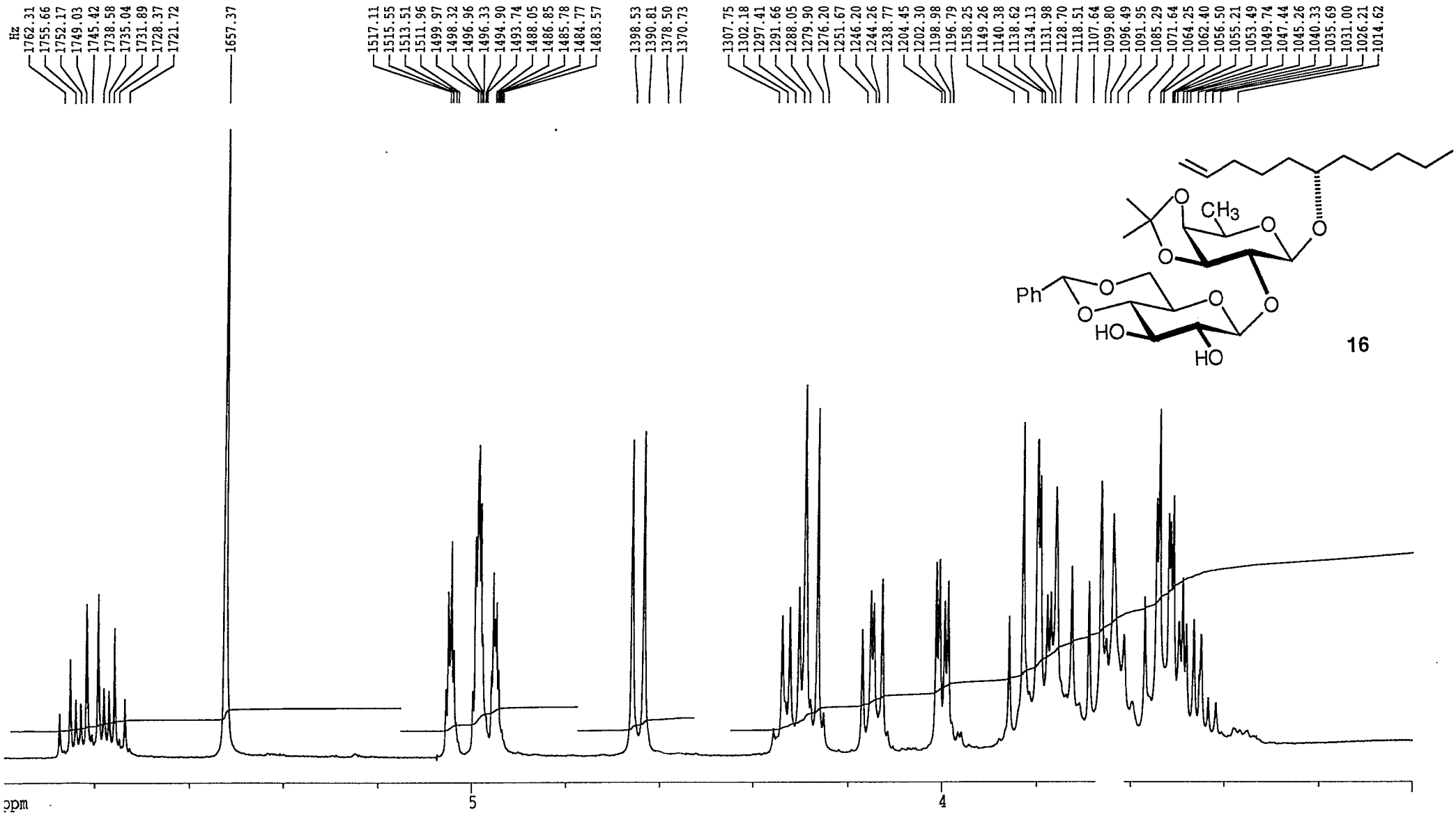
MLT-MA-169-01



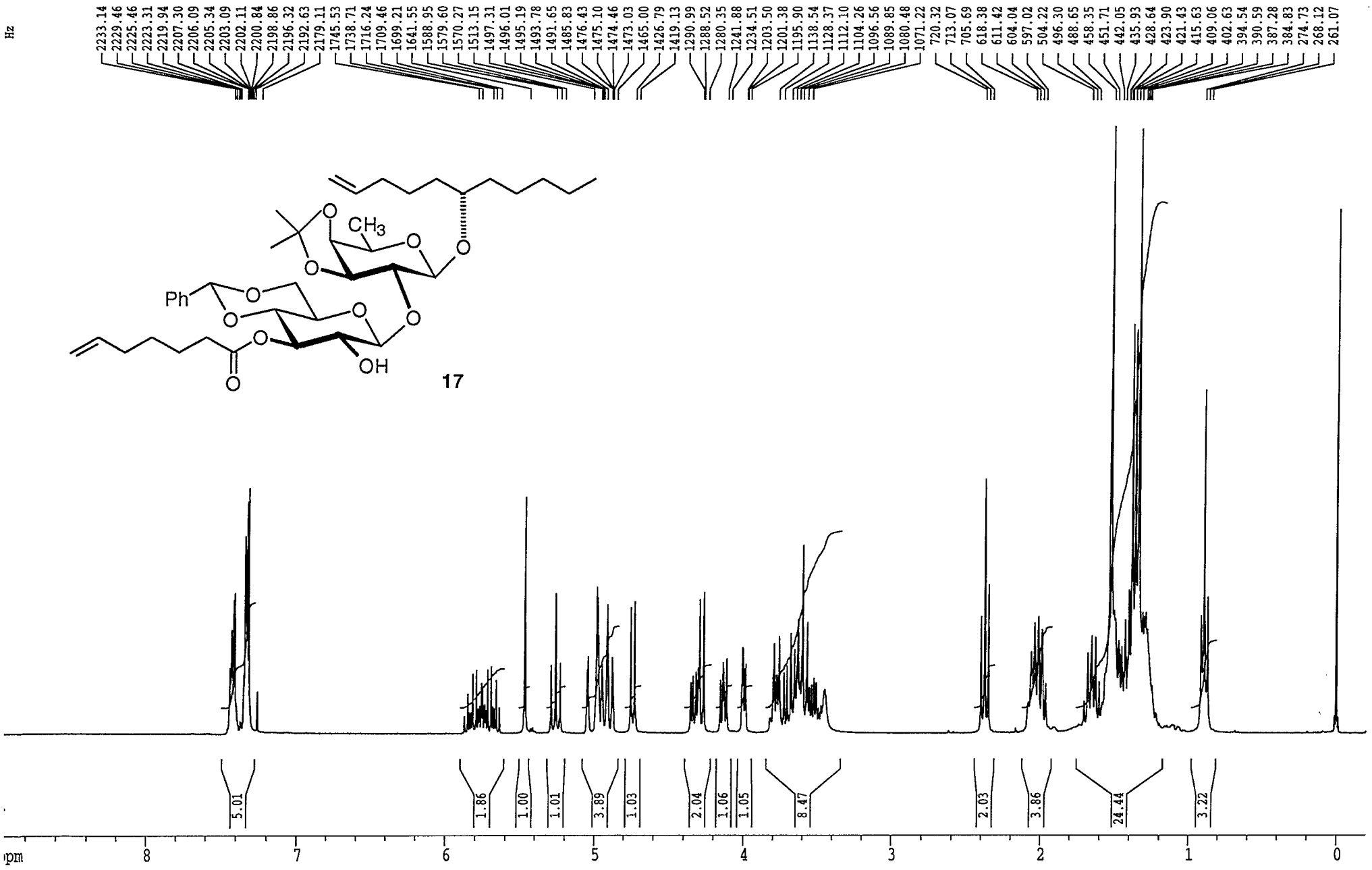


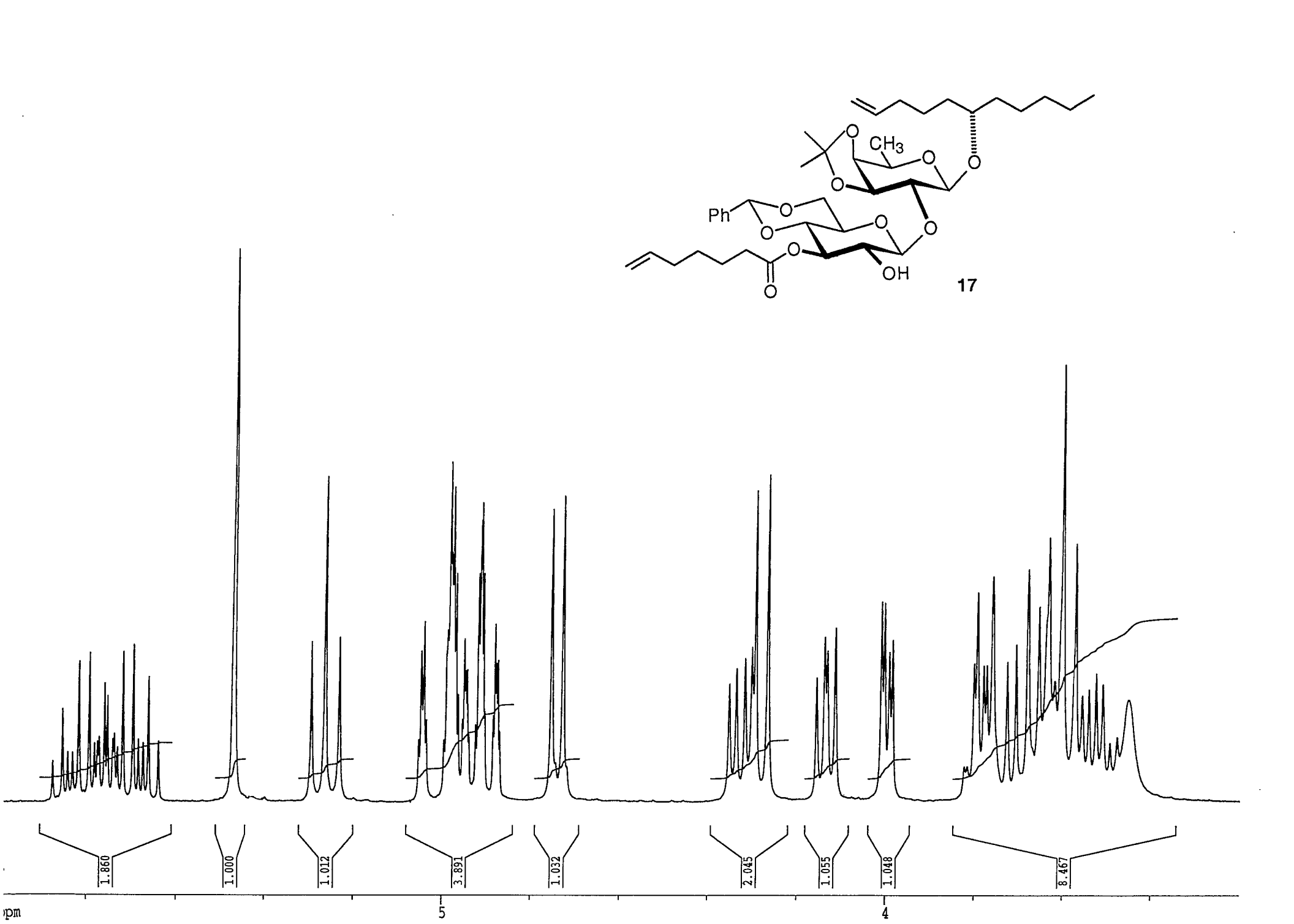
16

MLT-MA-169-01

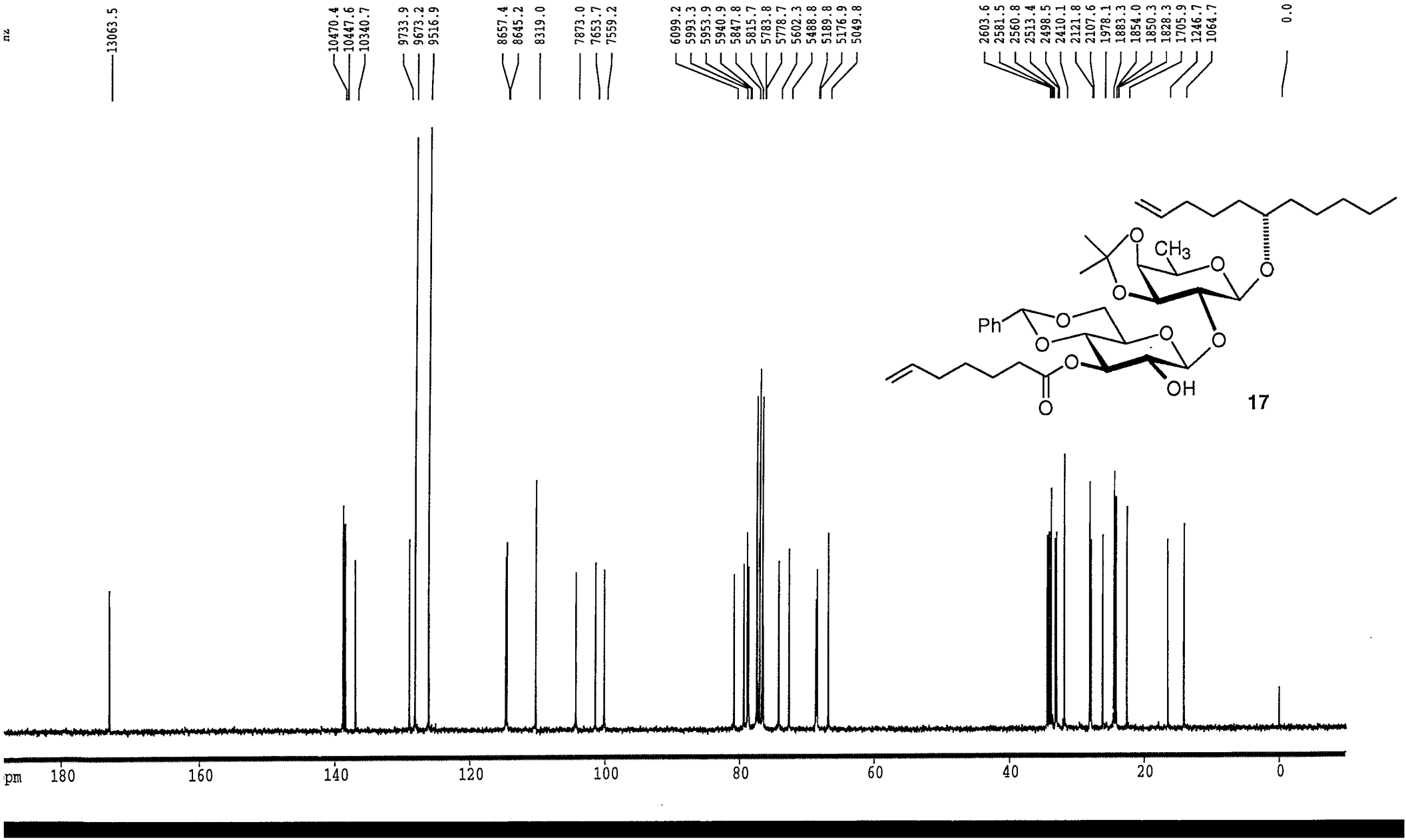

Hz
1762.31
1755.66
1752.17
1749.03
1745.42
1738.58
1735.04
1731.89
1728.37
1721.72
1657.37
1517.11
1515.55
1513.51
1511.96
1499.97
1498.32
1496.96
1496.33
1494.90
1493.74
1488.05
1486.85
1485.78
1484.77
1483.57
1398.53
1390.81
1378.50
1370.73
1307.75
1302.18
1297.41
1291.66
1288.05
1279.90
1276.20
1251.67
1246.20
1244.26
1238.77
1204.45
1202.30
1198.98
1196.79
1158.25
1149.26
1140.38
1138.62
1134.13
1131.98
1128.70
1118.51
1107.64
1099.80
1096.49
1091.95
1085.29
1071.64
1064.25
1062.40
1056.50
1055.21
1053.49
1049.74
1047.44
1045.26
1040.33
1035.69
1031.00
1026.21
1014.62
CH3
O
Ph
HO
HO
16
ppm
5
4

MLT-MA-164-01

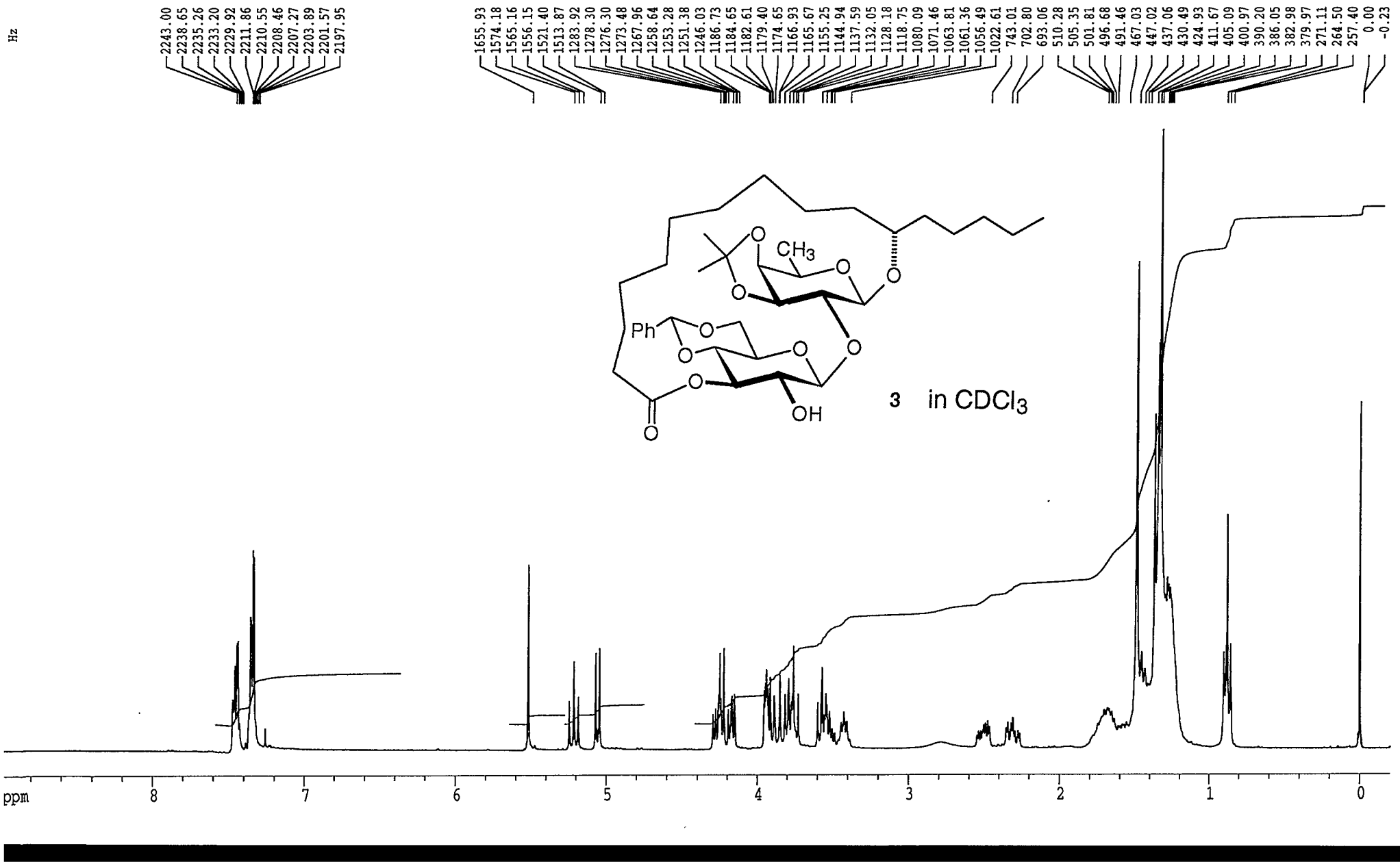

Hz
2233.14
2229.46
2225.46
2223.31
2219.94
2207.30
2206.09
2205.34
2203.09
2202.11
2200.84
2198.86
2196.32
2192.63
2179.11
1745.53
1738.71
1716.24
1709.46
1699.21
1641.55
1588.95
1579.60
1570.27
1513.15
1497.31
1496.01
1495.19
1493.78
1491.65
1485.83
1476.43
1475.10
1474.46
1473.03
1465.00
1426.79
1419.13
1290.99
1288.52
1280.35
1241.88
1234.51
1203.50
1201.38
1195.90
1138.54
1128.37
1112.10
1104.26
1096.56
1089.85
1080.48
1071.22
720.32
713.07
705.69
618.38
611.42
604.04
597.02
504.22
496.30
488.65
458.35
451.71
442.05
435.93
428.64
423.90
421.43
415.63
409.06
402.63
394.54
390.59
387.28
384.83
274.73
268.12
261.07
CH3
O
Ph
OH
17
5.01
1.86
1.00
1.01
3.89
1.03
2.04
1.06
1.05
8.47
2.03
3.86
24.44
3.22
ppm
8
7
6
5
4
3
2
1
0


CH3
Ph
OH
17
1.860
1.000
1.012
3.891
1.032
2.045
1.055
1.048
8.467
5
4

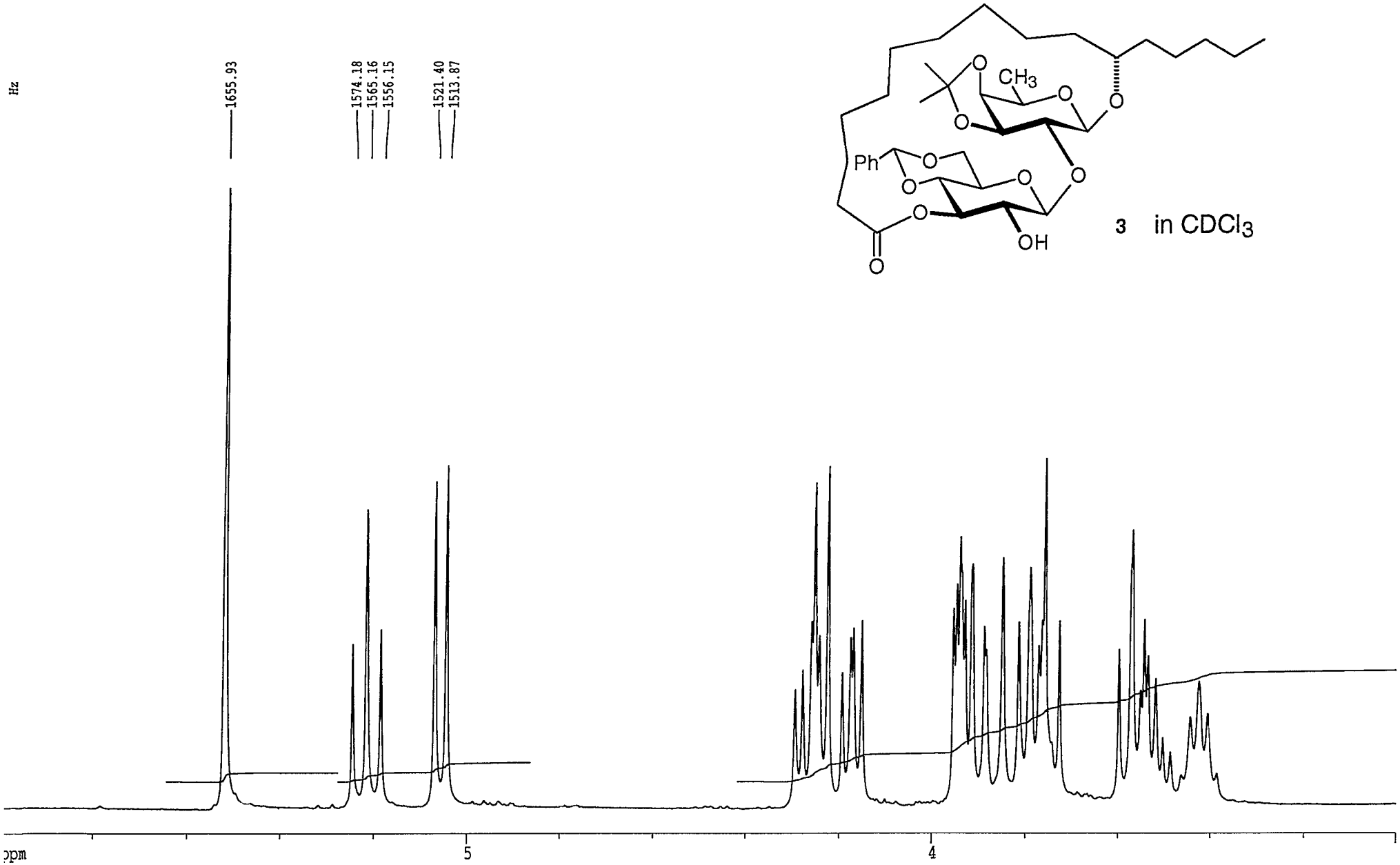
MLT-MA-164-01


13063.5
10470.4
10447.6
10340.7
9733.9
9673.2
9516.9
8657.4
8645.2
8319.0
7873.0
7653.7
7559.2
6099.2
5993.3
5953.9
5940.9
5847.8
5815.7
5783.8
5778.7
5602.3
5488.8
5189.8
5176.9
5049.8
2603.6
2581.5
2560.8
2513.4
2498.5
2410.1
2121.8
2107.6
1978.1
1883.3
1854.0
1850.3
1828.3
1705.9
1246.7
1064.7
0.0
CH3
Ph
OH
17
ppm
180
160
140
120
100
80
60
40
20
0

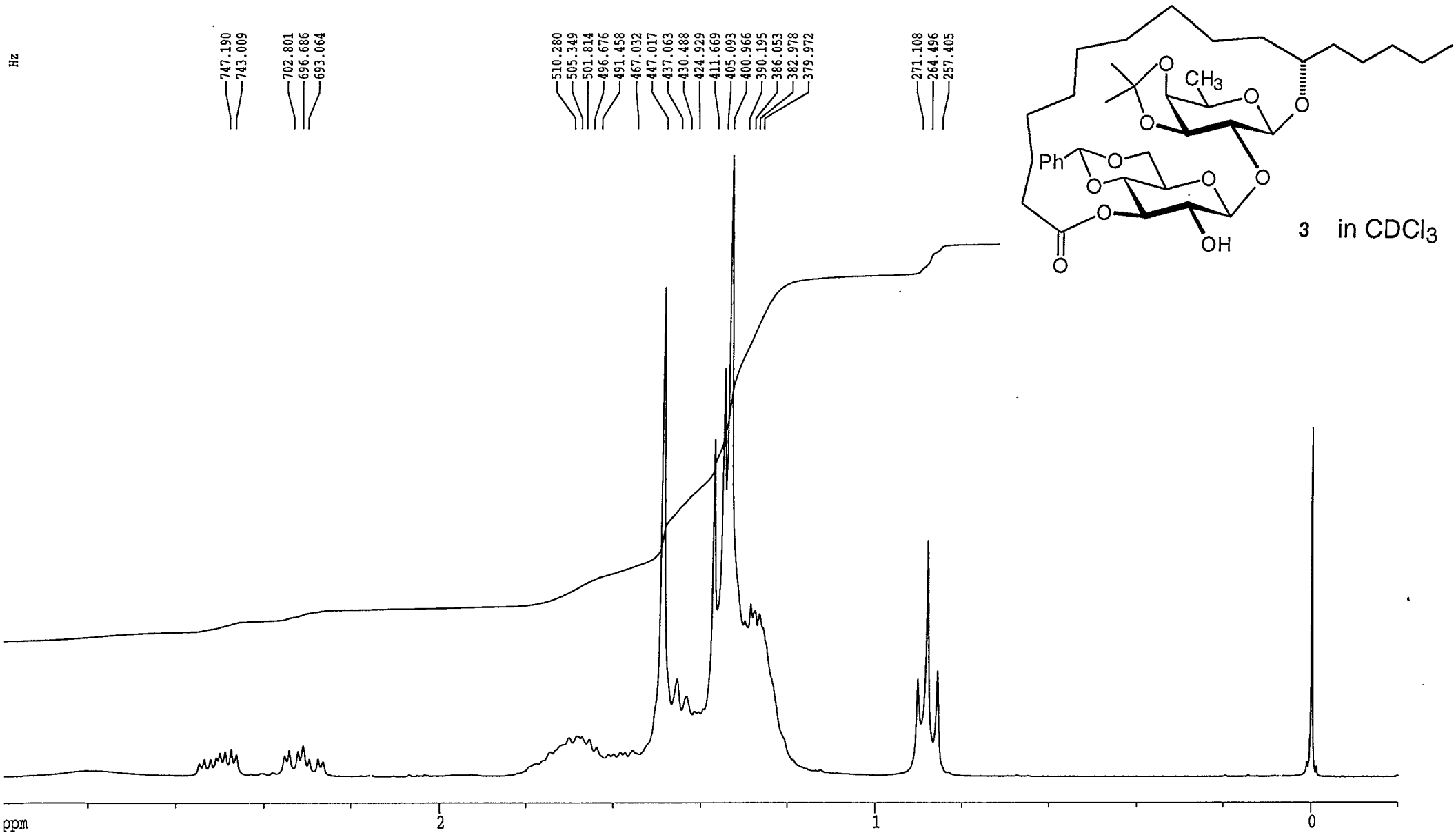
MLT-MA-163-01


Hz
2243.00
2238.65
2235.26
2233.20
2229.92
2211.86
2210.55
2208.46
2207.27
2203.89
2201.57
2197.95
1655.93
1574.18
1565.16
1556.15
1521.40
1513.87
1283.92
1278.30
1276.30
1273.48
1267.96
1258.64
1253.28
1251.38
1246.03
1186.73
1184.65
1182.61
1179.40
1174.65
1166.93
1165.67
1155.25
1144.94
1137.59
1132.05
1128.18
1118.75
1080.09
1071.46
1063.81
1061.36
1056.49
1022.61
743.01
702.80
693.06
510.28
505.35
501.81
496.68
491.46
467.03
447.02
437.06
430.49
424.93
411.67
405.09
400.97
390.20
386.05
382.98
379.97
271.11
264.50
257.40
0.00
-0.23
CH3
Ph
OH
3 in CDCl3
ppm
8
7
6
5
4
3
2
1
0

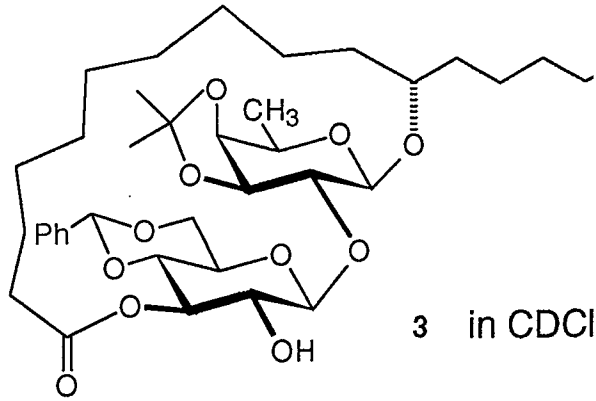
MLT-MA-163-01


Hz
1655.93
1574.18
1565.16
1556.15
1521.40
1513.87
CH3
Ph
OH
O
3 in CDCl3
ppm
5
4

MLT-MA-163-01


Hz
747.190
743.009
702.801
696.686
693.064
510.280
505.349
501.814
496.676
491.458
467.032
447.017
437.063
430.488
424.929
411.669
405.093
400.966
390.195
386.053
382.978
379.972
271.108
264.496
257.405
CH3
Ph
OH
3 in CDCl3
ppm
2
1
0

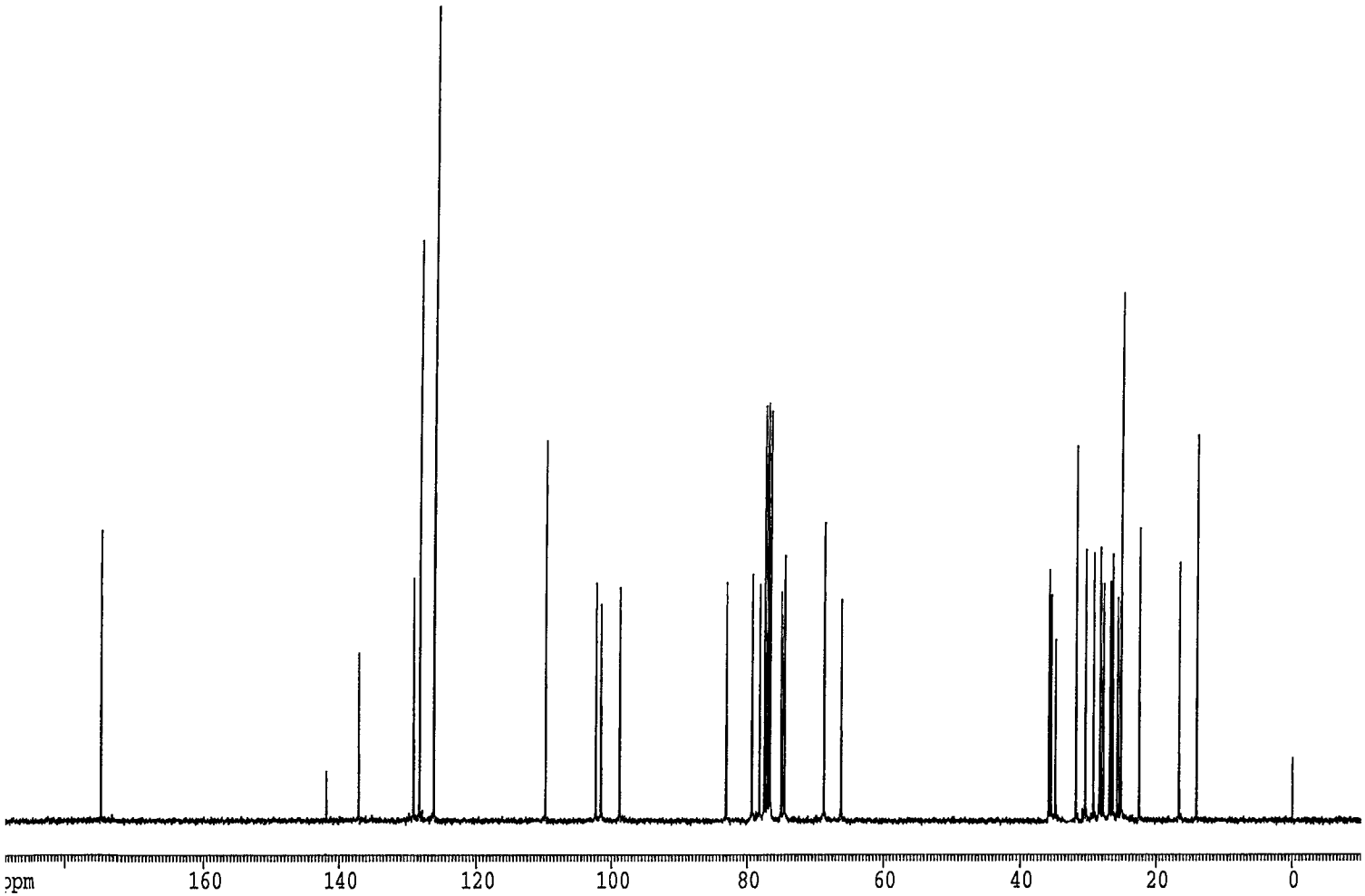
MLT-MA-163-01



3 in CDCl

Hz

13180.6 10714.3 10346.0 9743.8 9677.4 9526.1 8281.6 7722.9 7666.8 7458.6 6271.3 5991.9 5907.2 5848.6 5816.5 5795.4 5784.7 5664.8 5637.8 5629.5 5190.1 4997.7 2710.3 2687.2 2636.6 2406.0 2302.1 2214.1 2144.6 2138.3 2103.3 2032.1 2001.7 1947.9 1910.2 1705.4 1257.8 1063.2 0.0



NS	10000
DS	16
SWH	31249.998 Hz
FIDRES	0.476837 Hz
AQ	1.0486259 sec
RG	16384
DW	16.000 usec
DE	22.86 usec
TE	302.0 K
D11	0.03000000 sec
CPDPRG	waltz16
P31	100.00 usec
S2	27 dB
HL1	0 dB
D1	0.03000000 sec
P1	5.68 usec
DE	22.86 usec
SFO1	75.4734422 MHz
NUCLEUS	13C

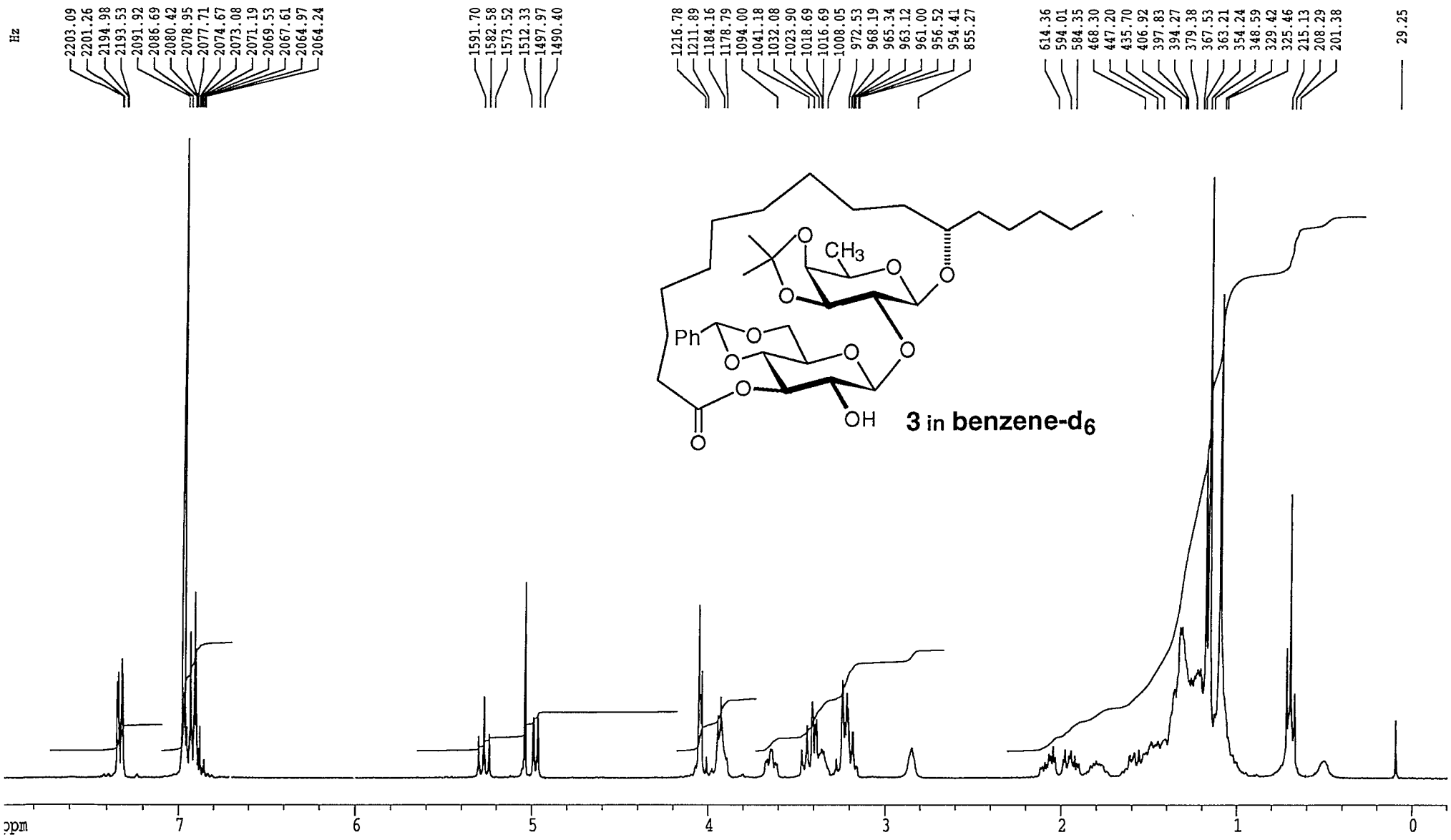
F2 - Processing parameters

SI	32768
SF	75.4685928 MHz
WDW	EM
SSB	0
LB	0.80 Hz
GB	0
PC	2.00

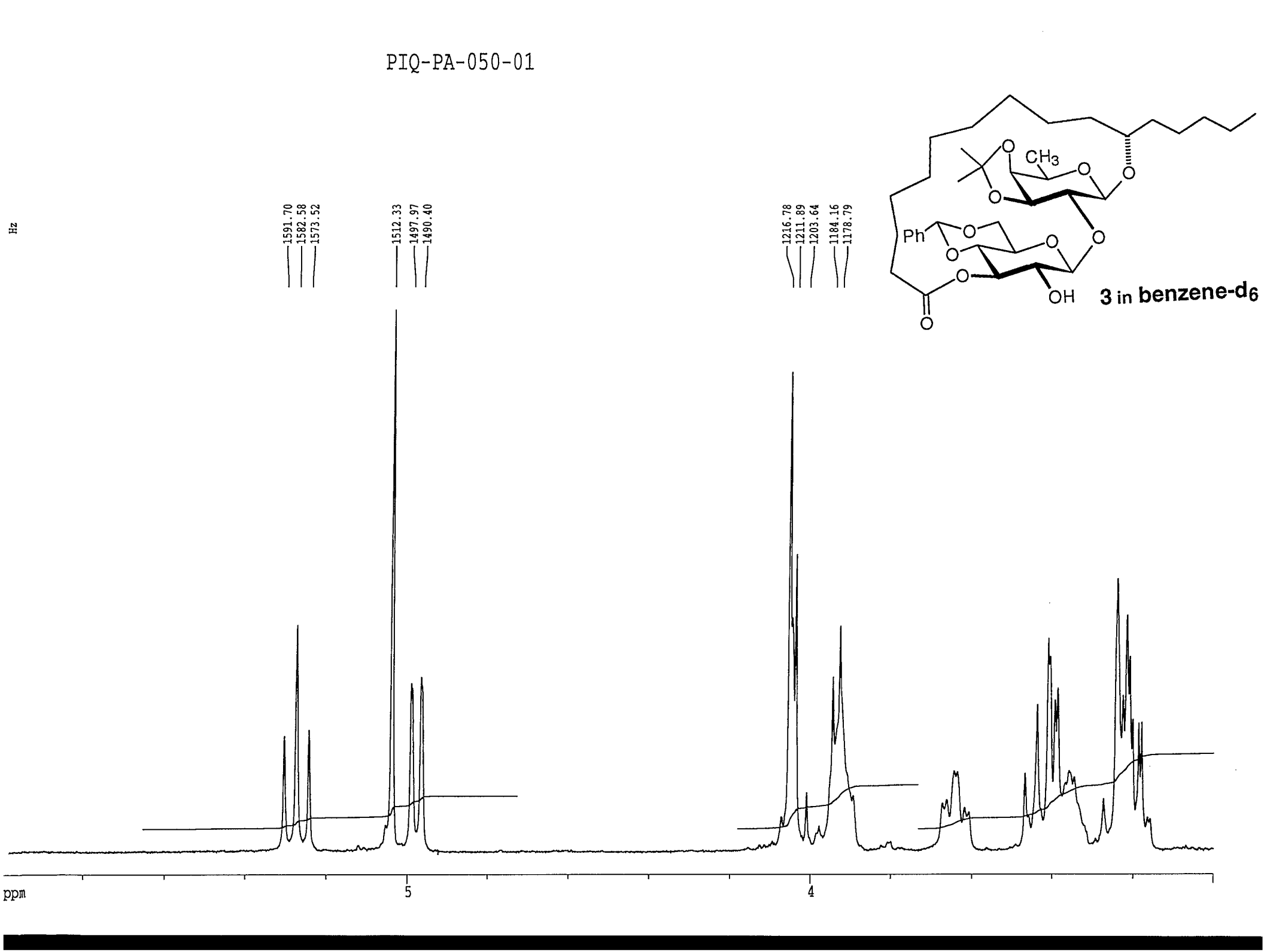
1D NMR plot parameters

CX	20.00 cm
F1P	190.000 ppm
F1	14339.03 Hz
F2P	-10.000 ppm
F2	-754.69 Hz
PPMCM	10.00000 ppm/cm
HZCM	754.68591 Hz/cm

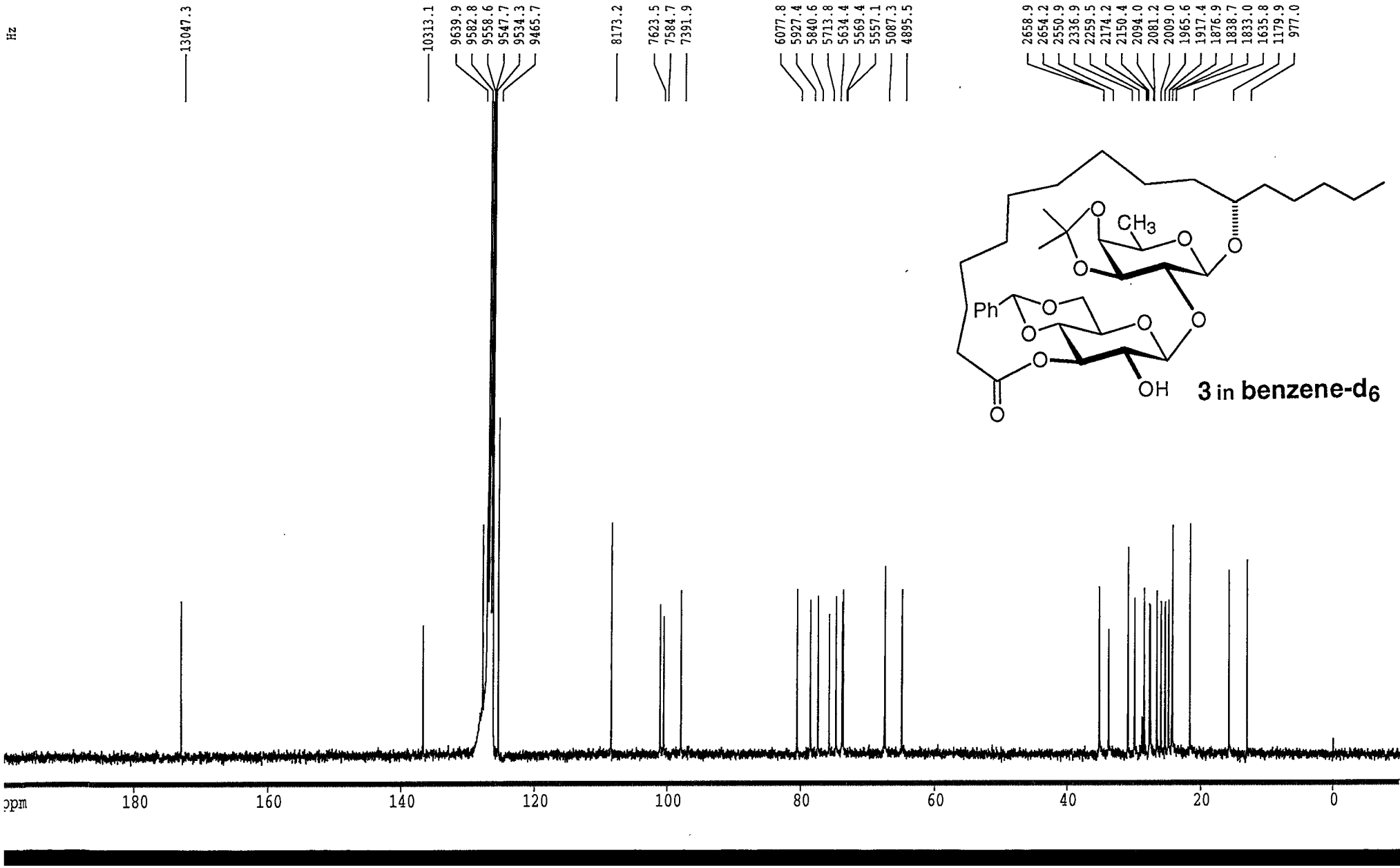
PIQ-PA-050-01


Hz
2203.09
2201.26
2194.98
2193.53
2091.92
2086.69
2080.42
2078.95
2077.71
2074.67
2073.08
2071.19
2069.53
2067.61
2064.97
2064.24
1591.70
1582.58
1573.52
1512.33
1497.97
1490.40
1216.78
1211.89
1184.16
1178.79
1094.00
1041.18
1032.08
1023.90
1018.69
1016.69
1008.05
972.53
968.19
965.34
963.12
961.00
956.52
954.41
855.27
614.36
594.01
584.35
468.30
447.20
435.70
406.92
397.83
394.27
379.38
367.53
363.21
354.24
348.59
329.42
325.46
215.13
208.29
201.38
29.25
CH3
Ph
OH
3 in benzene-d6
ppm
7
6
5
4
3
2
1
0

PIQ-PA-050-01


Hz
1591.70
1582.58
1573.52
1512.33
1497.97
1490.40
1216.78
1211.89
1203.64
1184.16
1178.79
CH3
Ph
OH
3 in benzene-d6
ppm
5
4

PIQ-PA-050-01


Hz
13047.3
10313.1
9639.9
9582.8
9558.6
9547.7
9534.3
9465.7
8173.2
7623.5
7584.7
7391.9
6077.8
5927.4
5840.6
5713.8
5634.4
5569.4
5557.1
5087.3
4895.5
2658.9
2654.2
2550.9
2336.9
2259.5
2174.2
2150.4
2094.0
2081.2
2009.0
1965.6
1917.4
1876.9
1838.7
1833.0
1635.8
1179.9
977.0
CH3
Ph
OH
3 in benzene-d6
ppm
180
160
140
120
100
80
60
40
20
0