SUPPORTING INFORMATION

Direct *N*-Cyclopropylation of Cyclic Amides and Azoles Employing a Cyclopropylbismuth Reagent

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General: All reactions were run under nitrogen atmosphere in non flame dried glassware. Anhydrous solvents were purchased from Aldrich and used directly without further treatment. Flash column chromatography was performed employing 230-400 mesh silica (Silicycle) using the indicated solvent system according to standard techniques.[1] Infrared spectra were taken on a Mattson Research Series FTIR spectrometer and are reported in reciprocal centimeters (cm^{-1}). Nuclear magnetic resonance spectra (^1H, ^{13}C) were recorded on a Bruker Avance 400 spectrometer. Chemical shifts for ^1H NMR spectra are recorded in parts per million from tetramethylsilane with the solvent resonance as the internal standard (chloroform, δ 7.27 ppm, DMSO δ 2.54 ppm). Data are reported as follows: chemical shift, multiplicity (s = singlet, d = doublet, t = triplet, q = quartet, m = multiplet and br = broad), coupling constant in Hz and integration. Chemical shifts for ^{13}C NMR spectra are recorded in parts per million from tetramethylsilane using the central peak of deuterochloroform (77.00 ppm) as the internal standard. All spectra were obtained with complete proton decoupling. Optical rotations were determined with a Perkin-Elmer 241 polarimeter at 589 nm. Data are reported as follows: [α]temp, concentration (c in g/100 mL) and solvent.. High resolution mass spectra (electron impact) were performed at the Université de Sherbrooke, chemistry department. Combustion analyses (carbon, hydrogen and nitrogen) were performed by the Laboratoire d'analyse élémentaire de l'Université de Montréal. Chlorine, bromine and magnesium analyses (neutron activation) were performed at the École Polytechnique de Montréal. Bismuth content was calculated by ICP-MS following acid digestion. The bismuth analyses were performed at Maxxam Analytique Inc.

Reagents: Unless otherwise stated, commercial reagents were used without further purification. Cyclopropylmagnesium bromide 0.5M in THF was purchased from Boulder and titrated prior to use.[2] Anhydrous bismuth chloride 99.999% was purchased from Strem. Indole was recrystallized from hot hexanes prior to use.

Tricyclopropylbismuth (2a). Bismuth chloride (2.50 g, 7.93 mmol) was dissolved in anhydrous THF (100 mL) and cooled to -10 °C (ice-acetone bath).[3] Cyclopropylmagnesium bromide (77.1 mL, 26.2 mmol, 0.34M in THF) was slowly added dropwise under argon *via* syringe pump over one hour. The reaction mixture was stirred

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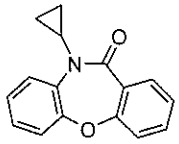
[1] Still, C. W.; Kahn, M.; Mitra, A. *J. Org. Chem.* **1978**, *43*, 2923-2925.

[2] The Grignard reagent was titrated using the diphenyl ditelluride method: Aso, Y.; Yamashita, H.; Otsubo, T.; Ogura, F. *J. Org. Chem.* **1989**, *54*, 5627-5629.

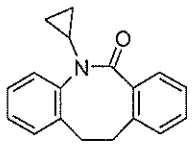
[3] The bismuth chloride is not entirely soluble at this temperature and a white solid may be observed.

at room temperature for one hour, and heated at 70 °C for 30 minutes.[4] After cooling to r.t., the solution was cannulated under argon over a degassed biphasic solution of brine (200 mL) and ether (200 mL). The heterogeneous solution was stirred five minutes, transferred in a separation funnel and diluted with EtOAc (100 mL). The organic phase was collected, dried over sodium sulfate, filtered and concentrated under reduced pressure to afford a yellow oily solid. Ether (50 mL) was added, followed by hexanes (50 mL). The mixture was sonicated, cooled to 0 °C and filtered over Buchner to afford **2a** as a white solid (1.75 g, 72%): ^{1}H-NMR (400 MHz, DMSO-d6) δ 1.91 (s (br), 3H), 1.57 (s (br), 6H), 1.22 (s (br) 6H); HRMS (EI) calcd for $C_9H_{15}Bi$ (M) 332.0978, found 332.0973 (M), 291.0584 (M-^{c}Pr), 250.0191 (M-2(^{c}Pr)), 208.9808 (Bi). *The reagent should not be extensively pumped under high vacuum for a prolonged period of time. The solid should be placed immediately under argon in the freezer after use. The reactivity will remain essentially the same for a few weeks if stored appropriately.*

General procedure for the *N*-cyclopropylation of amides, azoles, and derivatives. Compounds **4**, **6a-j**, and **8a-p** were prepared according to the following procedure: In a sealed tube, the starting amide or azole (0.30 mmol) was diluted in dichloromethane (3 mL). Copper acetate (82 mg, 0.45 mmol, 1.5 equiv) was added, followed by pyridine (73 μL, 0.90 mmol, 3.0 equiv) and cyclopropylbismuth reagent **2a** (250 mg, 0.75 mmole, 2.5 equiv). The tube was purged with argon, sealed and heated to 50 °C for 18 hours. The reaction mixture was cooled to r.t. and silica gel was added. The mixture was concentrated under reduced pressure and the crude product was purified by column chromatography using the indicated solvent system to afford the desired pure *N*-cyclopropyl amide or azole.



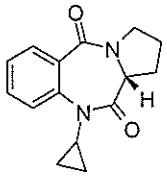
10-Cyclopropyldibenzo[b,f][1,4]oxazepin-11-one (4). The general procedure was followed on a 0.14 mmol scale starting from 10, 11-dihydrodibenz[b,f][1,4]oxazepin-1-one. The crude material was purified on silica gel (20% EtOAc/hexanes) to afford **4** as a pale yellow oil (22.4 mg, 63%): R_f 0.40 (40% EtOAc/hexanes); ^{1}H-NMR (400 MHz, $CDCl_3$) δ 7.98 (dd, J = 8, 2 Hz, 1H), 7.46 (dt, J = 8, 2 Hz, 1H), 7.40 (dd, J = 8, 2 Hz, 1H), 7.24-7.19 (m, 4H), 7.14-7.10 (m, 1H), 3.32-3.27 (m, 1H), 1.12-1.11 (m, 2H), 0.67 (s (br), 2H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 166.5, 159.7, 152.6, 134.6, 132.7, 131.4, 124.9, 124.5, 124.1, 122.9, 119.9, 118.9, 30.0, 9.1; IR (neat) 3075, 3011, 2961, 2924, 2854, 1664, 1604, 1497, 1451, 1352, 1271 cm^{-1}; HRMS (EI) calcd for $C_{16}H_{14}NO_2$ (M+H) 252.1025, found 252.1018.



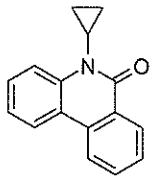
5-Cyclopropyl-11, 12-dihydrodibenz[b,f]azocin-6-one (6a). The general procedure was followed on a 0.18 mmol scale starting from 5, 6, 11, 12-tetrahydrodibenz[b,f]azocin-6-one. The crude material was purified on silica gel (2% acetone/CH_2Cl_2) to afford **6a** as a colorless oil (45.6 mg, 97%): R_f 0.31 (40% EtOAc/hexanes); ^{1}H-NMR (400 MHz, $CDCl_3$) δ 7.25-7.23 (m, 1H), 7.13-7.02 (m, 5H), 6.97-6.91 (m, 2H), 3.42-3.36 (m, 1H), 3.34-3.27 (m, 1H), 3.21-3.13 (m, 1H), 2.95-2.82 (m, 2H), 1.09-1.01 (m, 1H), 0.84-

[4] A black precipitate is observed at this point. When stirring is stopped, a clear greyish solution is obtained.

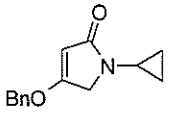
0.77 (m, 1H), 0.76-0.68 (m, 1H), 0.42-0.35 (m, 1H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 173.8, 141.6, 137.9, 137.7, 135.8, 130.4, 129.5, 128.8, 127.8, 127.7, 127.2, 126.7, 126.4, 32.2, 31.7, 30.8, 8.2, 5.8; IR (neat) 3065, 3016, 2924, 2853, 1657, 1346 cm^{-1}; HRMS (EI) calcd for $C_{18}H_{18}NO$ (M+H) 264.1388, found 264.1384.



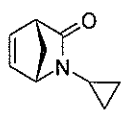
(*S*)-10-Cyclopropyl-1, 2, 3, 11a-tetrahydrobenzo[e]pyrrolo[1, 2-*a*][1,4]-5, 11-dione (6b). The general procedure was followed on a 0.14 mmol scale starting from (*S*)-(+)-2,3-dihydro-1H-pyrrol[2,1-C][1,4]benzodiazepine(10H, 11AH)-dione. The crude material was purified on silica gel (2% acetone/CH_2Cl_2) to afford **6b** as a white solid (23.1 mg, 65%): mp 168 °C; $[\alpha]_D^{20}$ +391.8 (c 0.50, MeOH); R_f 0.20 (5% acetone/CH_2Cl_2); ^{1}H-NMR (400 MHz, $CDCl_3$) δ 7.85 (d, J = 8 Hz, 1H), 7.53 (t, J = 8 Hz, 1H), 7.36 (d, J = 8 Hz, 1H), 7.27 (dd, J = 8, 5 Hz, 1H), 4.02-4.00 (m, 1H), 3.79-3.75 (m, 1H), 3.60-3.52 (m, 1H), 3.18-3.13 (m, 1H), 2.79-2.76 (m, 1H), 2.09-1.96 (m, 3H), 1.26-1.16 (m, 1H), 0.84-0.77 (m, 1H), 0.73-0.67 (m, 1H), 0.23-0.17 (m, 1H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 172.0, 165.4, 140.1, 131.6, 129.8, 129.7, 125.2, 122.9, 58.0, 46.6, 30.3, 26.5, 23.6, 11.5, 7.4; IR (neat) 3014, 2986, 2954, 2877, 1693, 1637, 1271 cm^{-1}; HRMS (EI) calcd for $C_{15}H_{17}N_2O_2$ (M+H) 257.1290, found 257.1285; Elemental analysis calcd for $C_{15}H_{16}N_2O_2$: C, 70.29; H, 6.29; N, 10.93. Found: C, 70.61, H, 6.33; N, 10.79.



5-Cyclopropylphenanthridin-6-one (6c). The general procedure was followed on a 0.20 mmol scale starting from 6(5H)-phenanthridinone. The crude material was purified on silica gel (20% EtOAc/hexanes) to afford **6c** as a colorless oil (18.0 mg, 37%): R_f 0.29 (40% EtOAc/hexanes); ^{1}H-NMR (400 MHz, $CDCl_3$) δ 8.51 (d, J = 8 Hz, 1H), 8.25 (d, J = 8 Hz, 2H), 7.92 (d, J = 8 Hz, 1H), 7.75 (t, J = 8 Hz, 1H), 7.58 (t, J = 8 Hz, 1H), 7.54 (dd, J = 8, 1 Hz, 1H), 7.32 (t, J = 8 Hz, 1H), 3.10-3.04 (m, 1H), 1.41 (dd, J = 13, 6 Hz, 2H), 0.95-0.91 (m, 2H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 163.5, 139.2, 134.2, 132.8, 129.4, 128.9, 128.3, 126.7, 123.6, 122.9, 121.9, 120.0, 116.9, 26.9, 11.2; IR (neat) 3073, 2971, 2922, 2852, 1657, 1608, 1318, 1119 cm^{-1}; HRMS (EI) calcd for $C_{16}H_{14}NO$ (M+H) 236.1075, found 236.1071.

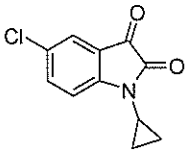


4-Benzyloxy-1-cyclopropyl-3-pyrrolidin-2-one (6d). The general procedure was followed on a 0.16 mmol scale starting from 4-benzyloxy-3-pyrrolin-2-one. The crude material was purified on silica gel (2% MeOH/CH_2Cl_2) to afford **6d** as a pale yellow oil (25.5 mg, 70%): R_f 0.20 (100% EtOAc); ^{1}H-NMR (400 MHz, $CDCl_3$) δ 7.42-7.36 (m, 5H), 5.10 (s, 1H), 4.95 (s, 2H), 3.85 (s, 2H), 2.67-2.62 (m, 1H), 0.82-0.77 (m, 2H), 0.73-0.69 (m, 2H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 173.2, 171.5, 134.7, 128.7, 127.9, 95.8, 72.9, 51.3, 24.1, 5.58; IR (neat) 3087, 3034, 3011, 2951, 2920, 2870, 1659, 1611, 1461, 1397, 1339, 1211 cm^{-1}; HRMS (EI) calcd for $C_{14}H_{16}NO_2$ (M+H) 230.1181, found 230.1174.

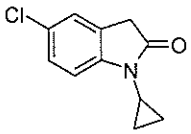


2-Azabicyclo[2.2.1]-2-cyclopropylhept-5-en-3-one (6e). The general procedure was followed on a 0.30 mmol scale starting from 2-azabicyclo[2.2.1]hept-5-en-3-one. The crude material was purified on silica gel (100% EtOAc) to afford **6e** as a colorless oil (26.9 mg, 60%): R_f 0.17

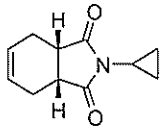
(50% EtOAc/hexanes); ^{1}H-NMR (400 MHz, $CDCl_3$) δ 6.86 (d, J = 3 Hz, 1H), 6.83 (d, J = 3 Hz, 1H), 4.12 (s, 1H), 3.31 (s, 1H), 2.23-2.19 (m, 2H), 2.10-2.08 (m, 1H), 0.83-0.71 (m, 2H), 0.61-0.54 (m, 1H), 0.50-0.43 (m, 1H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 181.8, 139.6, 137.8, 64.4, 58.2, 54.5, 26.3, 6.2, 4.1; IR (neat) 3079, 3011, 2952, 1705, 1390, 1367 cm^{-1}; HRMS (EI) calcd for $C_9H_{11}NO$ (M) 149.0841, found 149.0836.



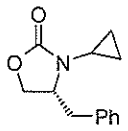
5-Chloro-1-cyclopropylisatin (6f). The general procedure was followed on a 0.20 mmol scale starting from 5-chloroisatin. The crude material was purified on silica gel (30% EtOAc/hexanes) to afford **6f** as an orange solid (19.3 mg, 44%): mp 144 °C; R_f 0.37 (40% EtOAc/hexanes); ^{1}H-NMR (400 MHz, $CDCl_3$) δ 7.59-7.57 (m, 2H), 7.16 (d, J = 8 Hz, 1H), 2.72-2.67 (m, 1H), 1.15-1.11 (m, 2H), 0.98-0.95 (m, 2H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 182.6, 158.0, 150.2, 137.7, 129.6, 124.8, 118.1, 112.5, 22.2, 6.2; IR (neat) 3105, 3077, 3024, 1744, 1606, 1300, 1178 cm^{-1}; HRMS (EI) calcd for $C_{11}H_8ClNO_2$ (M) 221.0244, found 221.0250.



5-Chloro-1-cyclopropyloxindole (6g). The general procedure was followed on a 0.30 mmol scale starting from 5-chlorooxindole. The crude material was purified on silica gel (25% EtOAc/hexanes) to afford **6g** as a white wax (24.0 mg, 38%): R_f 0.31 (40% EtOAc/hexanes); ^{1}H-NMR (400 MHz, $CDCl_3$) δ 7.29-7.23 (m, 2H), 7.04-7.02 (m, 1H), 3.50 (s, 2H), 2.66-2.62 (m, 1H), 1.11-1.08 (m, 2H), 0.94-0.91 (m, 2H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 175.1, 144.1, 127.7, 127.6, 125.6, 124.6, 110.2, 35.9, 22.1, 6.0; IR (neat) 3068, 3018, 2952, 2921, 1708, 1610, 1485, 1372, 1328, 1182 cm^{-1}; HRMS (EI) calcd for $C_{11}H_{10}ClNO$ (M) 207.0451, found 207.0455.

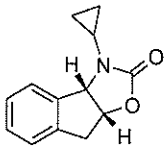


***N*-Cyclopropyl *cis*-1,2,3,6-tetrahydrophthalimide (6h).** The general procedure was followed on a 0.20 mmol scale starting from *cis*-1,2,3,6-tetrahydrophthalimide. The crude material was purified on silica gel (25% EtOAc/hexanes) to afford **6h** as a colorless oil (18.0 mg, 47%): R_f 0.25 (40% EtOAc/hexanes); ^{1}H-NMR (400 MHz, $CDCl_3$) δ 5.90-5.84 (m, 2H), 3.03-2.98 (m, 2H), 2.62-2.59 (m, 1H), 2.59-2.53 (m, 2H), 2.23-2.21 (m, 1H), 2.20-2.17 (m, 1H), 0.96-0.89 (m, 2H), 0.89-0.84 (m, 2H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 180.9, 128.0, 39.0, 23.9, 22.5, 5.30; IR (neat) 3041, 2952, 2903, 2850, 1773, 1707, 1403, 1220 cm^{-1}; HRMS (EI) calcd for $C_{11}H_{13}NO_2$ (M) 191.0946, found 191.0952.

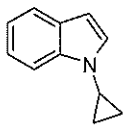


(*R*)-3-Cyclopropyl-4-benzyl-2-oxazolidinone (6i). The general procedure was followed on a 0.23 mmol scale starting from (*R*)-(+)-4-benzyl-2-oxazolidinone. The crude material was purified on silica gel (3% acetone/CH_2Cl_2) to afford **6i** as a pale yellow oil (42.5 mg, 87%): R_f 0.38 (40% EtOAc/hexanes); ^{1}H-NMR (400 MHz, $CDCl_3$) δ 7.37-7.27 (m, 3H), 7.20 (d, J = 7 Hz, 2H), 4.08 (t, J = 9 Hz, 1H), 4.02 (dd, J = 9, 4 Hz, 1H), 3.92-3.85 (m, 1H), 3.30 (dd, J = 14, 4 Hz, 1H), 2.73 (dd, J = 14, 10 Hz, 1H), 2.55-2.50 (m, 1H), 1.03-0.95 (m, 1H), 0.95-0.90 (m, 1H), 0.78-0.72 (m, 1H), 0.71-0.63 (m, 1H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 158.5, 136.3, 129.5, 129.4, 127.6, 66.6, 58.7, 38.9, 24.5, 8.4, 5.3; IR (neat) 2982, 2919,

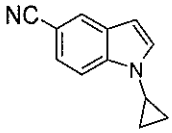
2851, 1755, 1417, 1123 cm^{-1}; HRMS (EI) calcd for $C_{13}H_{16}NO_2$ (M+H) 218.1181, found 218.1178.



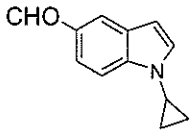
3-Cyclopropyl-3, 3a, 8, 8a-tetrahydroindeno[1, 2-*d*]oxazol-2-one (6j). The general procedure was followed on a 0.20 mmol scale starting from tetrahydro-2H-indeno[1,2-D]oxazol-2-one. The crude material was purified on silica gel (40% EtOAc/hexanes) to afford **6j** as a pale yellow oil (38.0 mg, 87%): $[\alpha]_D^{20}$ -33.9 (c 0.88, MeOH); R_f 0.20 (40% EtOAc/hexanes); ^{1}H-NMR (400 MHz, DMSO-d6) δ 7.57 (d, J = 7 Hz, 1H), 7.39-7.29 (m, 3H), 5.19 (t, J = 7 Hz, 1H), 5.13 (d, J = 7 Hz, 1H), 3.37 (dd, J = 18, 6 Hz, 1H), 3.12 (d, J = 18 Hz, 1H), 2.50-2.46 (m, 1H), 0.91-0.83 (m, 3H), 0.78-0.73 (m, 1H); ^{13}C NMR (100 MHz, DMSO-d6) δ 157.0, 140.7, 139.5, 129.5, 127.6, 126.0, 125.5, 77.2, 64.9, 38.8, 24.6, 9.0, 5.2; IR (neat) 3075, 3011, 2955, 2925, 1750, 1406, 1033 cm^{-1}; HRMS (EI) calcd for $C_{13}H_{13}NO_2$ (M) 215.0946, found 215.0941.



1-Cyclopropylindole (8a). The general procedure was followed on a 0.20 mmol scale starting from indole.[5] The crude material was purified on silica gel (2% EtOAc/hexanes) to afford **8a** as a colorless oil (14.8 mg, 47%): R_f 0.57 (20% EtOAc/hexanes); ^{1}H-NMR (400 MHz, $CDCl_3$) δ 7.62 (d, J = 8 Hz, 1H), 7.59 (d, J = 8 Hz, 1H), 7.24 (t, J = 8 Hz, 1H), 7.14 (d, J = 3 Hz, 1H), 7.12 (d, J = 7 Hz, 1H), 6.44 (d, J = 3 Hz, 1H), 3.39-3.33 (m, 1H), 1.10-1.07 (m, 2H), 1.04-1.00 (m, 2H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 137.5, 128.7, 128.0, 121.5, 120.8, 119.7, 110.3, 101.0, 26.9, 6.2; IR (neat) 3088, 3052, 3012, 2925, 1511, 1476, 1464, 1371, 1324, 1234 cm^{-1}; HRMS (EI) calcd for $C_{11}H_{11}N$ (M) 157.0891, found 157.0886.



5-Cyano-1-cyclopropylindole (8b).[6] The general procedure was followed on a 0.21 mmol scale starting from 5-cyanoindole. The crude material was purified on silica gel (10% EtOAc/hexanes) to afford **8b** as a colorless oil (23.1 mg, 60%): R_f 0.48 (40% EtOAc/hexanes); ^{1}H-NMR (400 MHz, $CDCl_3$) δ 7.95 (s, 1H), 7.62 (d, J = 8 Hz, 1H), 7.46 (d, J = 8 Hz, 1H), 7.25 (d, J = 3 Hz, 1H), 6.51 (d, J = 3 Hz, 1H), 3.42-3.36 (m, 1H), 1.17-1.12 (m, 2H), 1.05-1.01 (m, 2H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 139.5, 130.8, 128.8, 126.9, 124.9, 121.3, 111.6, 103.2, 102.6, 27.6, 6.8; IR (neat) 3090, 3063, 3031, 3010, 2924, 2866, 1484, 1247, 1150 cm^{-1}; HRMS (EI) calcd for $C_{12}H_{11}N_2$ (M+H) 183.0922, found 183.0917.

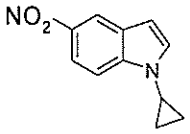


1-Cyclopropylindole-5-carboxaldehyde (8c). The general procedure was followed on a 0.20 mmol scale starting from indole-5-carboxaldehyde. The crude material was purified on silica gel (20% EtOAc/hexanes) to afford **8c** as a white solid (26.0 mg, 66%): mp 68°C; R_f 0.44 (40% EtOAc/hexanes); ^{1}H-NMR (400 MHz, $CDCl_3$) δ 10.04 (s, 1H), 8.13 (s, 1H), 7.80 (dd, J = 9, 1 Hz, 1H), 7.66 (d, J = 9 Hz, 1H), 7.24 (d, J = 3 Hz, 1H), 6.60 (d, J = 3 Hz, 1H), 3.44-3.38 (m, 1H), 1.17-1.12 (m, 2H), 1.07-1.03 (m, 2H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 193.0, 141.3, 130.4, 130.1, 128.9, 126.7, 122.3, 111.3, 103.6, 27.7, 6.8; IR

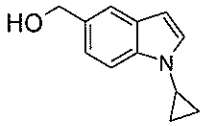
[5] Indole was recrystallized from hot hexanes prior to use.

[6] For a previous synthesis of this compound, see: Li, Q. et al. *Bioorg. Med. Chem. Lett.* **2002**, *12*, 465-469.

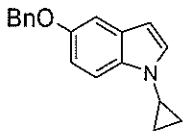
(neat) 3100, 3013, 2820, 2790, 2720, 1685, 1605, 1382, 1297 cm^{-1}; HRMS (EI) calcd for $C_{12}H_{12}NO$ (M+H) 186.0919, found 186.0913; Elemental analysis calcd for $C_{12}H_{11}NO$: C, 77.81; H, 5.99; N, 7.56. Found: C, 77.45, H, 5.66; N, 7.68.



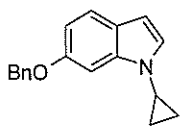
1-Cyclopropyl-5-nitroindole (8d). The general procedure was followed on a 0.19 mmol scale starting from 5-nitroindole. The crude material was purified on silica gel (20% EtOAc/hexanes) to afford **8d** as a yellow solid (33.7 mg, 90%): mp 71 °C; R_f 0.41 (40% EtOAc/hexanes); ^{1}H-NMR (400 MHz, $CDCl_3$) δ 8.57 (d, J = 2 Hz, 1H), 8.14 (dd, J = 9, 2 Hz, 1H), 7.59 (d, J = 9 Hz, 1H), 7.28 (d, J = 3 Hz, 1H), 6.61 (d, J = 3 Hz, 1H), 3.45-3.39 (m, 1H), 1.19-1.14 (m, 2H), 1.07-1.03 (m, 2H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 140.9, 139.4, 130.3, 126.9, 117.1, 116.3, 109.1, 102.7, 26.3, 5.4; IR (neat) 3100, 3015, 2956, 2921, 2851, 1611, 1511, 1327, 1069 cm^{-1}; HRMS (EI) calcd for $C_{11}H_{11}N_2O_2$ (M+H) 203.0821, found 203.0817; Elemental analysis calcd for $C_{11}H_{10}N_2O_2$: C, 65.34; H, 4.98; N, 13.85. Found: C, 64.98, H, 4.58; N, 13.93.



1-Cyclopropyl-5-hydroxymethylindole (8e). The general procedure was followed on a 0.20 mmol scale starting from 5-hydroxymethylindole. The crude material was purified on silica gel (20% EtOAc/hexanes) to afford **8e** as a colorless oil (11.5 mg, 31%): R_f 0.28 (40% EtOAc/hexanes); ^{1}H-NMR (400 MHz, $CDCl_3$) δ 7.60 (s, 1H), 7.57 (d, J = 8 Hz, 1H), 7.25 (d, J = 1 Hz, 1H), 7.15 (d, J = 3 Hz, 1H), 6.43 (d, J = 3 Hz, 1H), 4.77 (s, 2H), 3.39-3.33 (m, 1H), 1.59 (s (br), 1H), 1.11-1.06 (m, 2H), 1.04-0.99 (m, 2H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 137.5, 132.8, 129.1, 129.0, 121.9, 120.2, 110.9, 101.5, 66.7, 27.3, 6.6; IR (neat) 3368 (br), 3098, 3012, 2929, 2871, 1485, 1388, 1229 cm^{-1}; HRMS (EI) calcd for $C_{12}H_{13}NO$ (M) 187.0997, found 187.1003.

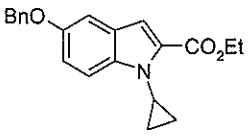


5-Benzyloxy-1-Cyclopropylindole (8f). The general procedure was followed on a 0.13 mmol scale starting from 5-benzyloxyindole. The crude material was purified on silica gel (10% EtOAc/hexanes) to afford **8f** as a pale yellow oil (16.7 mg, 47%): R_f 0.58 (40% EtOAc/hexanes); ^{1}H-NMR (400 MHz, $CDCl_3$) δ 7.49-7.46 (m, 3H), 7.41-7.30 (m, 3H), 7.15 (d, J = 2 Hz, 1H), 7.11 (d, J = 3 Hz, 1H), 6.98 (dd, J = 9, 2 Hz, 1H), 6.34 (d, J = 3 Hz, 1H), 5.11 (s, 2H), 3.35-3.30 (m, 1H), 1.07-0.98 (m, 4H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 153.8, 138.1, 133.3, 129.3, 128.9, 128.8, 128.1, 127.9, 112.9, 111.3, 104.6, 101.0, 71.3, 27.3, 6.5; IR (neat) 3090, 3063, 3031, 3009, 2924, 2866, 1620, 1574, 1484, 1247, 1150 cm^{-1}; HRMS (EI) calcd for $C_{18}H_{18}NO$ (M+H) 264.1388, found 264.1385.

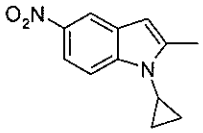


6-Benzyloxy-1-cyclopropylindole (8g). The general procedure was followed on a 0.13 mmol scale starting from 6-benzyloxyindole. The crude material was purified on silica gel (10% EtOAc/hexanes) to afford **8g** as a pale yellow oil (12.3 mg, 35%): R_f 0.46 (20% EtOAc/hexanes); ^{1}H-NMR (400 MHz, $CDCl_3$) δ 7.51-7.47 (m, 3H), 7.42-7.32 (m, 3H), 7.12 (d, J = 2 Hz, 1H), 7.03 (d, J = 3 Hz, 1H), 6.88 (dd, J = 9, 2 Hz, 1H), 6.36 (d, J = 3 Hz, 1H), 5.16 (s, 2H), 3.30-3.25 (m, 1H), 1.06-1.02 (m, 2H), 1.00-0.95 (m, 2H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 155.6, 138.5, 137.9, 128.9, 128.2, 127.9, 127.5, 123.5, 121.7, 110.4, 101.3,

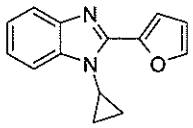
96.0, 71.1, 27.1, 6.5; IR (neat) 3090, 3064, 3030, 3009, 2927, 2869, 1620, 1486, 1457, 1224, 1025 cm^{-1}; HRMS (EI) calcd for $C_{18}H_{18}NO$ (M+H) 264.1388, found 264.1385.



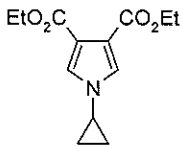
5-Benzyloxy-1-cyclopropylindole-2-carboxylic acid ethyl ester (8h). The general procedure was followed on a 0.10 mmol scale starting from ethyl 5-benzyloxyindole-2-carboxylate. The crude material was purified on silica gel (20% EtOAc/hexanes) to afford **8h** as a colorless oil (33.5 mg, 98%): R_f 0.60 (40% EtOAc/hexanes); ^{1}H-NMR (400 MHz, $CDCl_3$) δ 7.54 (d, J = 8 Hz, 1H), 7.48 (d, J = 8 Hz, 1H), 7.47 (s, 1H), 7.40 (t, J = 8 Hz, 2H), 7.35-7.31 (m, 1H), 7.14-7.07 (m, 3H), 5.10 (s, 2H), 4.38 (q, J = 7 Hz, 2H), 3.52-3.46 (m, 1H), 1.41 (t, J = 7 Hz, 3H), 1.23-1.18 (m, 2H), 0.96-0.92 (m, 2H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 161.9, 154.1, 137.7, 136.0, 130.4, 128.9, 128.2, 127.9, 126.3, 117.0, 113.3, 110.4, 104.6, 71.0, 60.8, 27.4, 14.7, 9.4; IR (neat) 3090, 3065, 2959, 2928, 2856, 1713, 1261, 1528, 1462, 1412, 1024 cm^{-1}: HRMS (EI) calcd for $C_{21}H_{21}NO_3$ (M) 335.1521, found 335.1516.



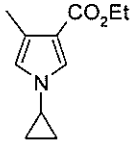
1-Cyclopropyl-2-methyl-5-nitroindole (8i). The general procedure was followed on a 0.30 mmol scale starting from 2-methyl-5-nitroindole. The crude material was purified on silica gel (20% EtOAc/hexanes) to afford **8i** as a yellow solid (37.7 mg, 58%): mp 117°C; R_f 0.32 (20% EtOAc/hexanes); ^{1}H-NMR (400 MHz, $CDCl_3$) δ 8.40 (s, 1H), 8.04-8.01 (m, 1H), 7.54-7.51 (m, 1H), 6.36 (s, 1H), 3.21-3.17 (m, 1H), 2.54 (s, 3H), 1.26-1.23 (m, 2H), 1.07-1.04 (m, 2H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 142.3, 141.4, 141.0, 127.1, 116.5, 116.2, 109.8, 102.5, 25.0, 13.7, 7.2; IR (neat) 3097, 3032, 2988, 2961, 2923, 1512, 1399, 1344 cm^{-1}; HRMS (EI) calcd for $C_{12}H_{12}N_2O_2$ (M) 216.0899, found 216.0902.



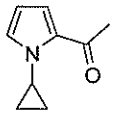
1-Cyclopropyl-2-furan-2-ylbenzimidazole (8j). The general procedure was followed on a 0.20 mmol scale starting from fuberidazole. The crude material was purified on silica gel (50% EtOAc/hexanes) to afford **8j** as a colorless oil (13.3 mg, 30%): R_f 0.18 (40% EtOAc/hexanes); ^{1}H-NMR (400 MHz, $CDCl_3$) δ 7.80-7.78 (m, 1H), 7.67 (s, 1H), 7.59-7.57 (m, 1H), 7.30-7.27 (m, 2H), 7.22 (d, J = 0.5 Hz, 1H), 6.62 (t, J = 0.5 Hz, 1H), 3.55-3.51 (m, 1H), 1.32-1.27 (m, 1H), 1.07-1.03 (m, 1H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 145.9, 145.4, 144.5, 142.8, 136.6, 123.3, 123.1, 120.3, 113.2, 112.1, 111.3, 26.4, 9.1 ; IR (neat) 3119, 3089, 3055, 3017, 2925, 1726, 1512, 1428, 1322, 1256, 1187 cm^{-1}; HRMS (EI) calcd for $C_{14}H_{13}N_2O$ (M+H) 225.1028, found 225.1024.



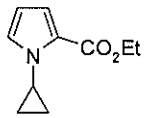
Diethyl 1-Cyclopropyl-3, 4-pyrroledicarboxylate (8k). The general procedure was followed on a 0.19 mmol scale starting from diethyl 3, 4-pyrroledicarboxylate. The crude material was purified on silica gel (20% EtOAc/hexanes) to afford **8k** as a pale yellow oil (39.5 mg, 83%): R_f 0.29 (40% EtOAc/hexanes); ^{1}H-NMR (400 MHz, $CDCl_3$) δ 7.29 (s, 2H), 4.29 (q, J = 7 Hz, 4H), 3.39-3.34 (m, 1H), 1.34 (t, J = 7 Hz, 6H), 1.10-0.98 (m, 4H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 164.0, 128.6, 116.4, 60.6, 31.1, 14.8, 6.8; IR (neat) 3130, 2981, 2906, 1728, 1538, 1269, 1065 cm^{-1}; HRMS (EI) calcd for $C_{13}H_{18}NO_4$ (M+H) 252.1236, found 252.1234.



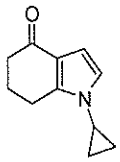
1-Cyclopropyl-4-methylpyrrole-3-carboxylic acid ethyl ester (8l). The general procedure was followed on a 0.20 mmol scale starting from ethyl 4-methylpyrrole-3-carboxylate. The crude material was purified on silica gel (30% ether/hexanes) to afford **8l** as a colorless oil (20.3 mg, 54%): R_f 0.54 (40% EtOAc/hexanes); ^{1}H-NMR (400 MHz, $CDCl_3$) δ 7.30 (d, J = 2Hz, 1H), 6.49 (s, 1H), 4.25 (q, J = 7 Hz, 2H), 3.32-3.27 (m, 1H), 2.24 (s, 3H), 1.33 (t, J = 7 Hz, 3H), 0.92-0.83 (m, 4H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 165.6, 127.4, 121.7, 121.3, 114.4, 59.5, 30.5, 14.9, 12.0, 6.5 ; IR (neat) 3131, 3095, 2979, 2927, 1704, 1526, 1247, 1092 cm^{-1}; HRMS (EI) calcd for $C_{11}H_{16}NO_2$ (M+H) 194.1181, found 194.1178.



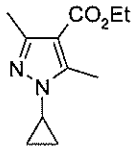
2-Acetyl-1-cyclopropylpyrrole (8m). The general procedure was followed on a 0.20 mmol scale starting from 2-acetylpyrrole. The crude material was purified on silica gel (50% EtOAc/hexanes) to afford **8m** as a colorless oil (25.0 mg, 83%): R_f 0.34 (30% EtOAc/hexanes); ^{1}H-NMR (400 MHz, $CDCl_3$) δ 6.94-6.92 (m, 2H), 6.08 (t, J = 3 Hz, 1H), 3.84-3.78 (m, 1H), 2.45 (s, 3H), 1.07-1.02 (m, 2H), 0.89-0.85 (m, 2H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 188.1, 132.7, 128.6, 120.5, 107.9, 32.3, 27.8, 8.1; IR (neat) 2987, 2917, 2870, 1656, 1409, 1141 cm^{-1}; HRMS (EI) calcd for $C_9H_{12}NO$ (M+H) 150.0919, found 150.0912.



1-Cyclopropylpyrrole-2-carboxylic acid ethyl ester (8n). The general procedure was followed on a 0.30 mmol scale starting from ethyl pyrrole-2-carboxylate. The crude material was purified on silica gel (30% ether/hexanes) to afford **8n** as a colorless oil (28.4 mg, 53%): R_f 0.60 (40% EtOAc/hexanes); ^{1}H-NMR (400 MHz, $CDCl_3$) δ 6.95 (dd, J = 4, 2 Hz, 1H), 6.87 (t, J = 2 Hz, 1H), 6.07 (dd, J = 4, 3 Hz, 1H), 4.31 (q, J = 7 Hz, 2H), 3.75-3.69 (m, 1H), 1.36 (t, J = 7 Hz, 3H), 1.07-1.02 (m, 2H), 0.95-0.91 (m, 2H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 161.2, 127.4, 124.5, 118.6, 107.7, 60.0, 31.5, 14.8, 7.9; IR (neat) 2979, 2917, 2850, 1710, 1418, 1254, 1116 cm^{-1}; HRMS (EI) calcd for $C_{10}H_{14}NO_2$ (M+H) 180.1025, found 180.1022.



1-Cyclopropyl-1, 5, 6, 7-tetrahydroindol-4-one (8o). The general procedure was followed on a 0.22 mmol scale starting from 1,5,6,7-tetrahydro-4H-indol-4-one. The crude material was purified on silica gel (2% acetone/CH_2Cl_2) to afford **8o** as a pale yellow oil (21.9 mg, 56%): R_f 0.13 (40% EtOAc/hexanes); ^{1}H-NMR (400 MHz, $CDCl_3$) δ 6.58 (d, J = 3 Hz, 1H), 6.47 (d, J = 3 Hz, 1H), 3.20-3.14 (m, 1H), 2.87 (t, J = 6 Hz, 2H), 2.47 (t, J = 6 Hz, 2H), 2.19-2.13 (m, 2H), 1.05-0.99 (m, 2H), 0.96-0.92 (m, 2H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 194.8, 146.1, 122.9, 121.4, 105.2, 38.3, 28.3, 24.2, 22.7, 6.8; IR (neat) 3110, 3014, 2943, 2864, 1657, 1499, 1468 cm^{-1}; HRMS (EI) calcd for $C_{11}H_{14}NO$ (M+H) 176.1075, found 176.1070.



Ethyl 1-cyclopropyl-3, 5-dimethylpyrazole 4-carboxylate (8p). The general procedure was followed on a 0.20 mmol scale starting from ethyl 3,5-dimethyl-1H-pyrazolecarboxylate. The crude material was purified on silica gel (40% EtOAc/hexanes) to afford **8p** as a colorless oil (16.0 mg, 38%): R_f 0.33 (40% EtOAc/hexanes); ^{1}H-NMR (400 MHz, $CDCl_3$) δ 4.28 (q, J = 7 Hz, 2H), 3.30-3.25 (m, 1H), 2.59 (s, 3H), 2.92 (s, 3H), 1.35 (t, J = 7 Hz, 3H), 1.16-1.12 (m, 2H), 1.10-1.04 (m, 2H); ^{13}C NMR (100 MHz, $CDCl_3$) δ 164.9, 150.1, 146.3, 131.3, 129.2, 110.1, 59.9, 30.2, 14.8, 14.6, 11.8, 7.1; IR (neat) 2979, 2927, 1707, 1513, 1425, 1288, 1110 cm^{-1}; HRMS (EI) calcd for $C_{11}H_{16}N_2O_2$ (M) 208.1212, found 208.1210.

KL-4064-0228PA1

07/05/2005 11:19 AM

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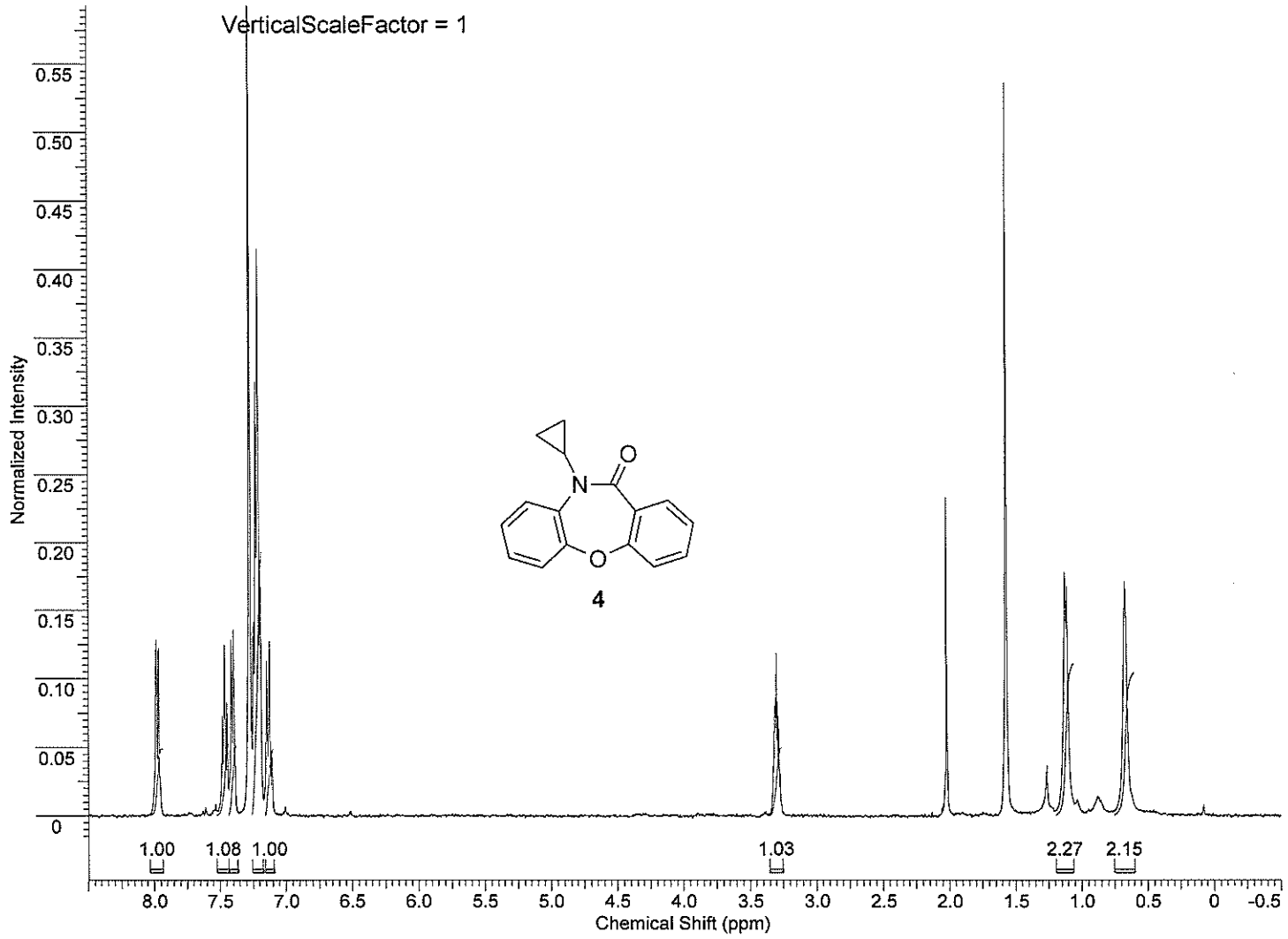

4

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6	[7.36 .. 7.43]	1.059	2.29919e+9	1.059
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RZ
July 5, 2005

KL-4064-0228PA1

08/18/2005 11:15 AM

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Date	18 Aug 2005 02:35:44				
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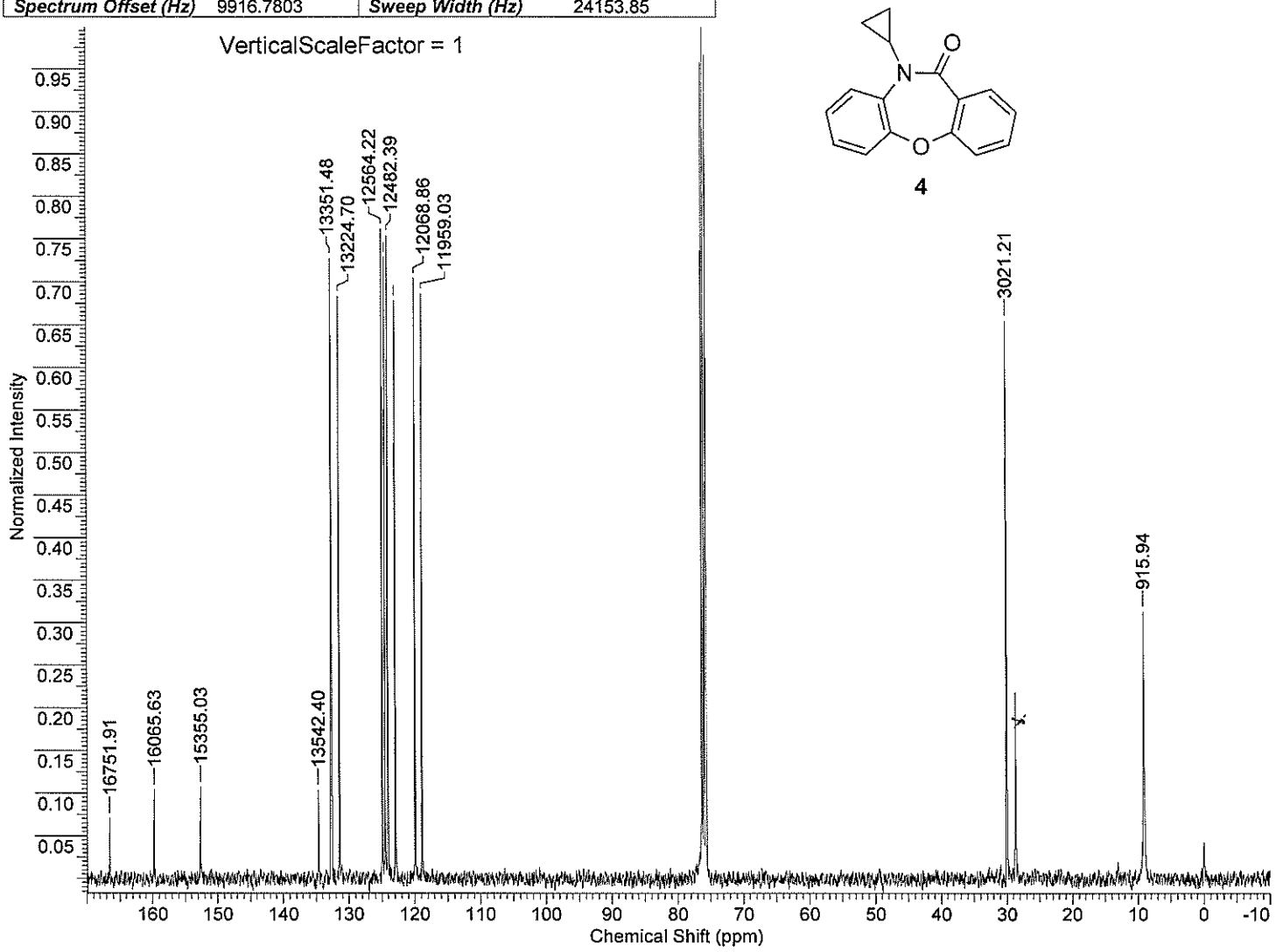
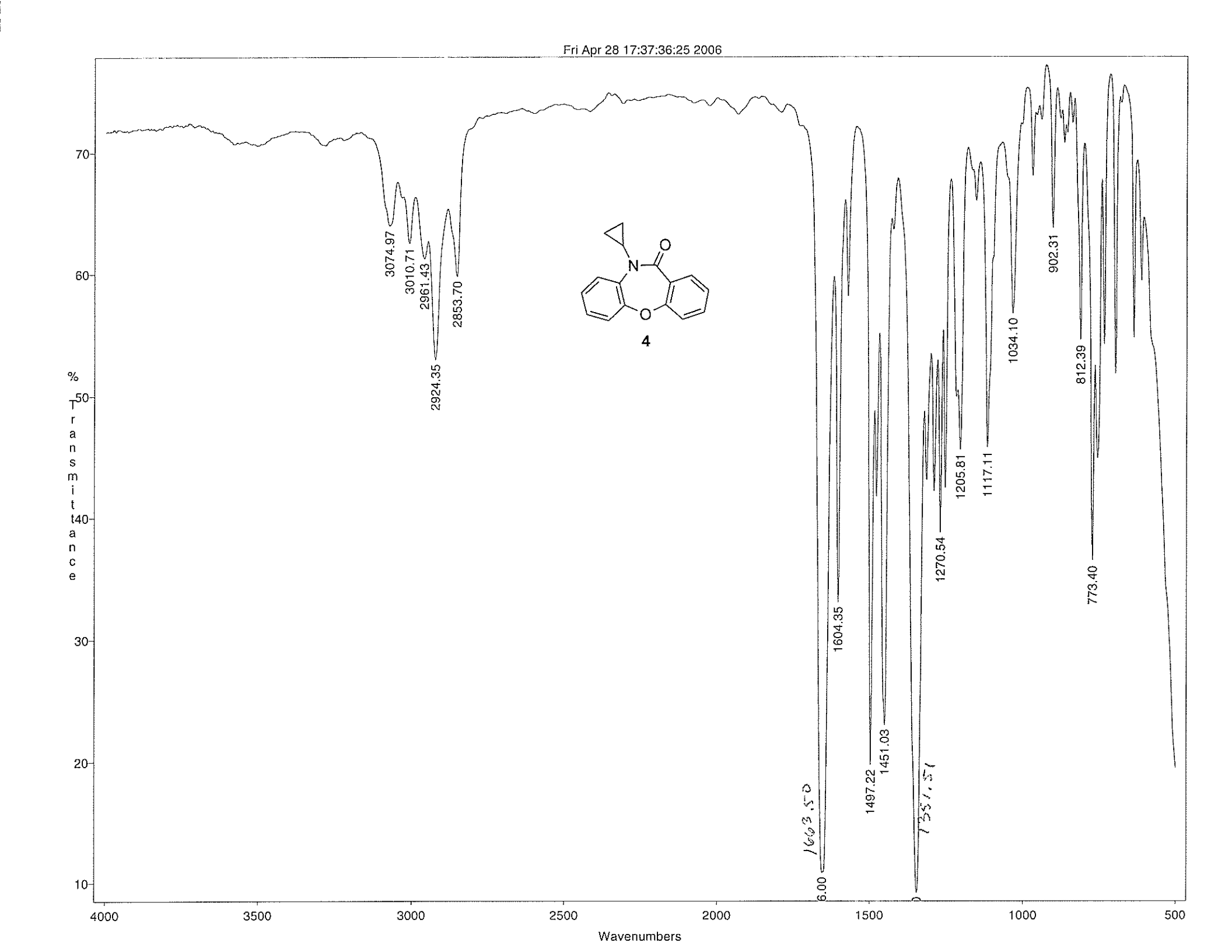
Frequency (MHz)	100.61	***Nucleus***	13C	***Number of Transients***	4000
Origin	spect	***Original Points Count***	32768	***Owner***	chemistry
Points Count	32768	***Pulse Sequence***	zgpg60	***Receiver Gain***	18390.40
SW(cyclical) (Hz)	24154.59	***Solvent***	CHLOROFORM-d		
Spectrum Offset (Hz)	9916.7803	***Sweep Width (Hz)***	24153.85		



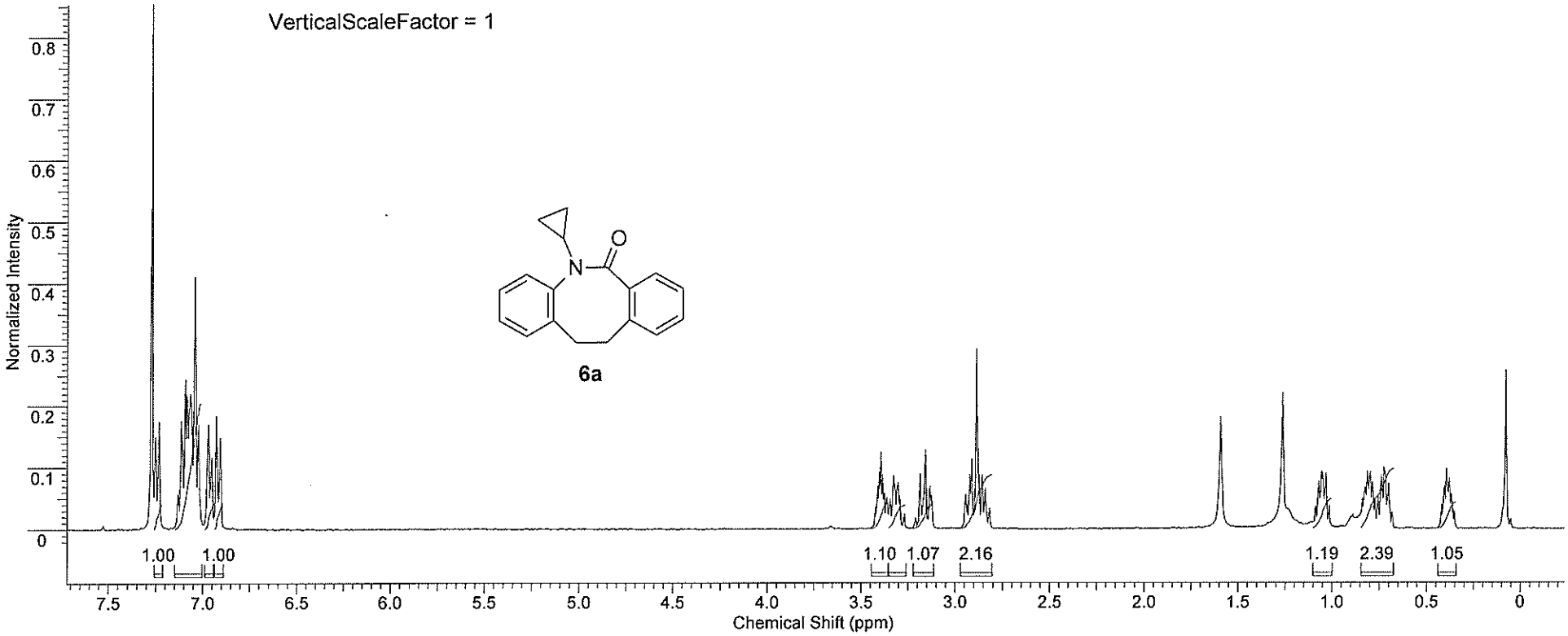
No.	(ppm)	(Hz)	Height
1	9.10	915.9	0.3142
2	30.03	3021.2	0.6550
3	118.86	11959.0	0.6864
4	119.95	12068.9	0.7051
5	122.89	12364.5	0.6785
6	124.06	12482.4	0.7544
7	124.48	12524.4	0.7291
8	124.88	12564.2	0.7627
9	131.44	13224.7	0.6840
10	132.70	13351.5	0.7282
11	134.60	13542.4	0.1039
12	152.61	15355.0	0.1078
13	159.68	16065.6	0.1044
14	166.50	16751.9	0.0712


Fri Apr 28 17:37:36:25 2006
% Transmittance
Wavenumbers
4000
3500
3000
2500
2000
1500
1000
500
70
60
50
40
30
20
10
3074.97
3010.71
2961.43
2924.35
2853.70
1604.35
1497.22
1451.03
1270.54
1205.81
1117.11
1034.10
902.31
812.39
773.40
4

KL-4064-0119PA1

05/11/2005 2:04 PM

Acquisition Time (sec)	5.1120	***Comment***	1Dproton CDCl3 D: klittle1 12			***Date***	11 May 2005 13:41:20
File Name	\\LAVFS01\nmrdata\Data\klittle1\nmr\KL-4064-0119PA1_020001r					***Frequency (MHz)***	400.13
Nucleus	1H	***Number of Transients***	16	***Origin***	spect	***Original Points Count***	32768
Owner	chemistry	***Points Count***	32768	***Pulse Sequence***	zg60	***Receiver Gain***	1149.40
SW(cyclical) (Hz)	6410.26	***Solvent***	CHLOROFORM-d			***Spectrum Offset (Hz)***	2466.1470
Sweep Width (Hz)	6410.06						



6a

No.	(ppm)	Value	Absolute Value	Non-Negative Value
1	[0.34 .. 0.44]	1.046	2.60541e+9	1.046
2	[0.68 .. 0.85]	2.390	5.95346e+9	2.390
3	[1.00 .. 1.10]	1.188	2.95951e+9	1.188
4	[2.81 .. 2.97]	2.161	5.38087e+9	2.161
5	[3.11 .. 3.22]	1.066	2.65415e+9	1.066
6	[3.26 .. 3.35]	0.941	2.34399e+9	0.941
7	[3.35 .. 3.44]	1.100	2.73991e+9	1.100
8	[6.89 .. 6.94]	1.005	2.50188e+9	1.005
9	[6.94 .. 6.99]	1.027	2.55777e+9	1.027
10	[7.00 .. 7.15]	5.101	1.27044e+10	5.101
11	[7.22 .. 7.26]	1.001	2.49314e+9	1.001

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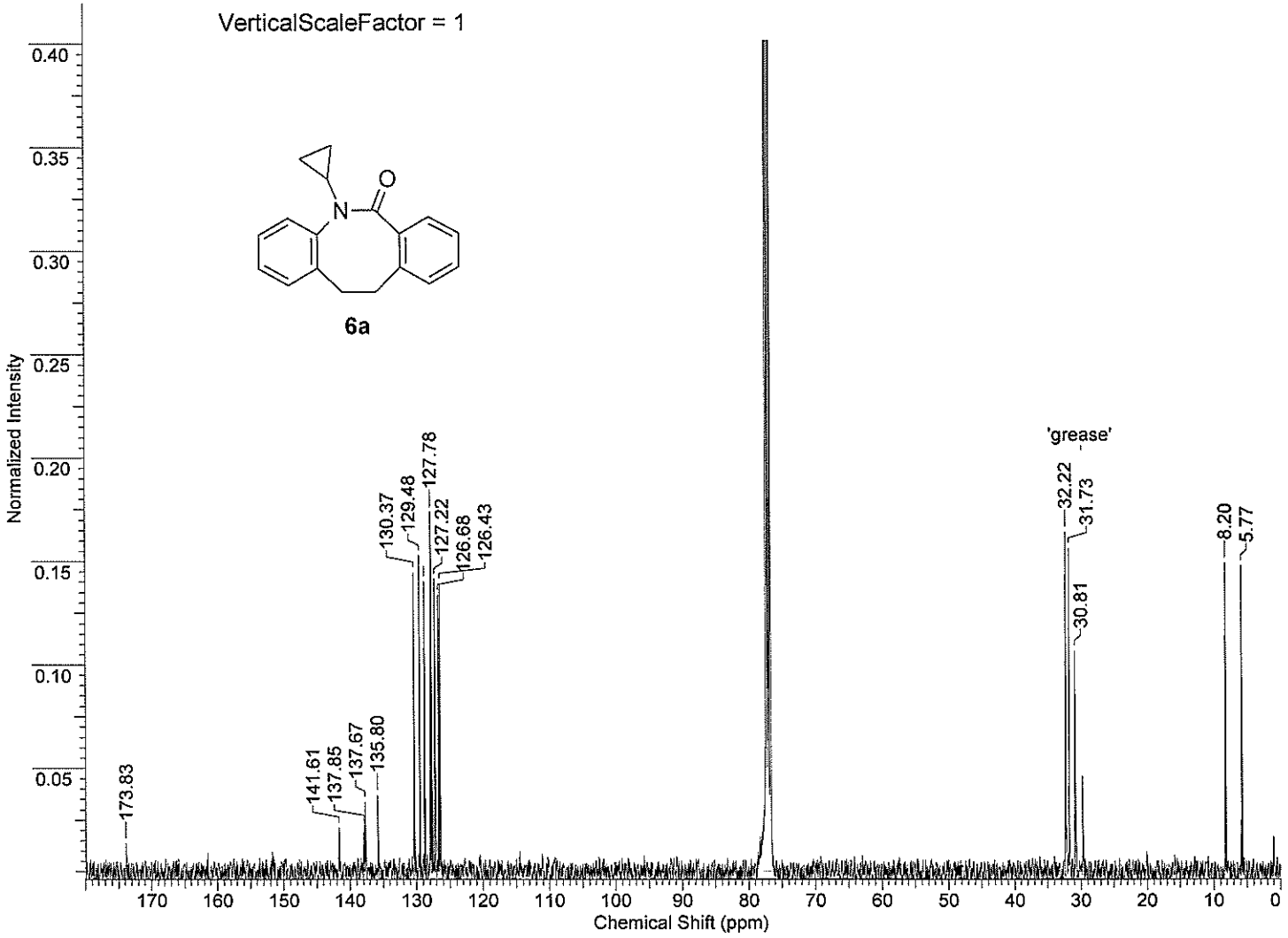
May 11, 2005

KL-4064-0119PA1

08/01/2005 9:18 AM

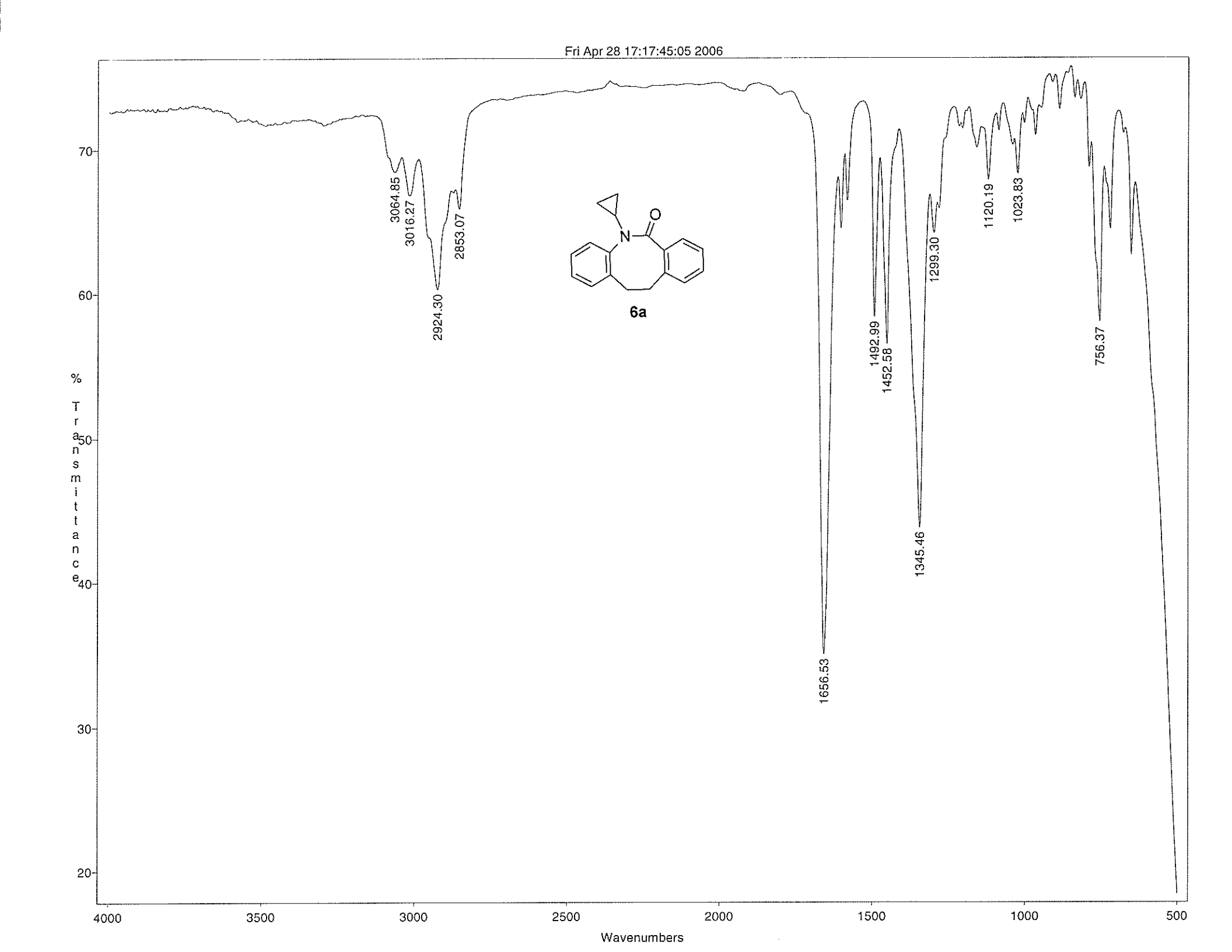
Acquisition Time (sec)	1.3566	***Comment***	1Dcarbon CDCl3 D: klittle1 43		
Date	30 Jul 2005 23:40:48				
File Name	\\LAVFS01\nmrdata\Data\klittle1\nmr\KL-4064-0119PA1_010001r				
Frequency (MHz)	100.61	***Nucleus***	13C	***Number of Transients***	10240
Origin	spect	***Original Points Count***	32768	***Owner***	chemistry
Points Count	32768	***Pulse Sequence***	zgpg60	***Receiver Gain***	20642.50
SW(cyclical) (Hz)	24154.59	***Solvent***	CHLOROFORM-d		
Spectrum Offset (Hz)	10018.6865	***Sweep Width (Hz)***	24153.85		



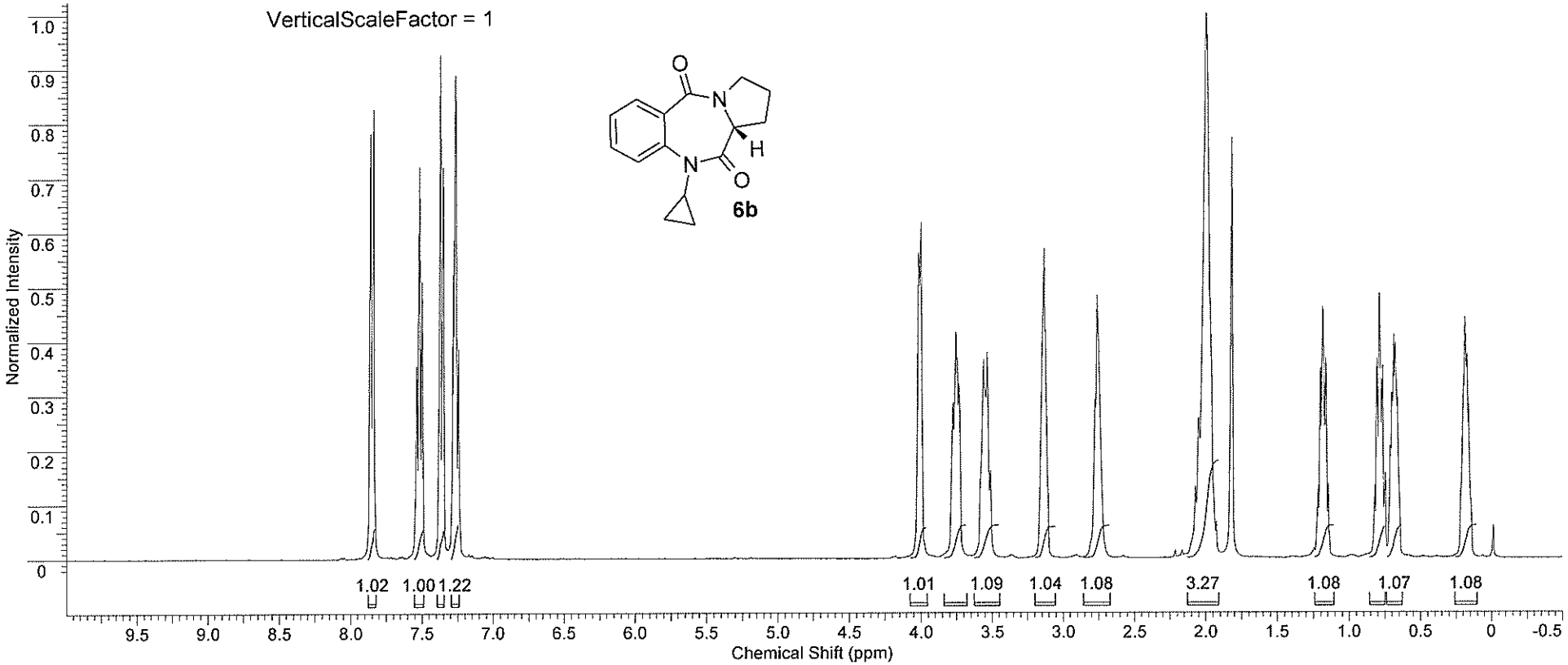
No.	(ppm)	(Hz)	*(ppm)	*(Hz)	Height	*Height	*FWHH	*Area	*LF	*Function
1	5.77	580.7	5.77	580.72	0.1482	0.1482	0.74	0.14	0.50	Gauss+Lorentz
2	8.20	825.5	8.20	825.45	0.1494	0.1494	0.74	0.15	0.50	Gauss+Lorentz
3	30.81	3100.3	-	-	0.1066	-	-	-	-	-
4	31.73	3192.4	-	-	0.1564	-	-	-	-	-
5	32.22	3241.8	-	-	0.1645	-	-	-	-	-
6	126.43	12720.7	126.43	12720.67	0.1393	0.1393	0.74	0.14	0.50	Gauss+Lorentz
7	126.68	12745.7	126.68	12745.73	0.1339	0.1339	0.74	0.13	0.50	Gauss+Lorentz
8	127.22	12800.3	127.22	12800.28	0.1417	0.1417	0.74	0.14	0.50	Gauss+Lorentz
9	127.74	12852.6	127.74	12852.62	0.1525	0.1525	0.74	0.15	0.50	Gauss+Lorentz

No.	(ppm)	(Hz)	*(ppm)	*(Hz)	H
10	127.78	12856.3	127.78	12856.31	0.
11	128.75	12953.6	128.75	12953.61	0.
12	129.48	13027.3	129.48	13027.32	0.
13	130.37	13116.5	130.37	13116.52	0.
14	135.80	13663.5	135.80	13663.47	0.
15	137.67	13851.4	137.67	13851.44	0.
16	137.85	13869.1	137.85	13869.14	0.
17	141.61	14248.0	141.61	14248.02	0.
18	173.83	17490.0	173.83	17489.96	0.

KL
1 Aug 1, 2005


Fri Apr 28 17:17:45:05 2006
3064.85
3016.27
2924.30
2853.07
1656.53
1492.99
1452.58
1345.46
1299.30
1120.19
1023.83
756.37
6a
% Transmittance
70
60
50
40
30
20
4000
3500
3000
2500
2000
1500
1000
500
Wavenumbers

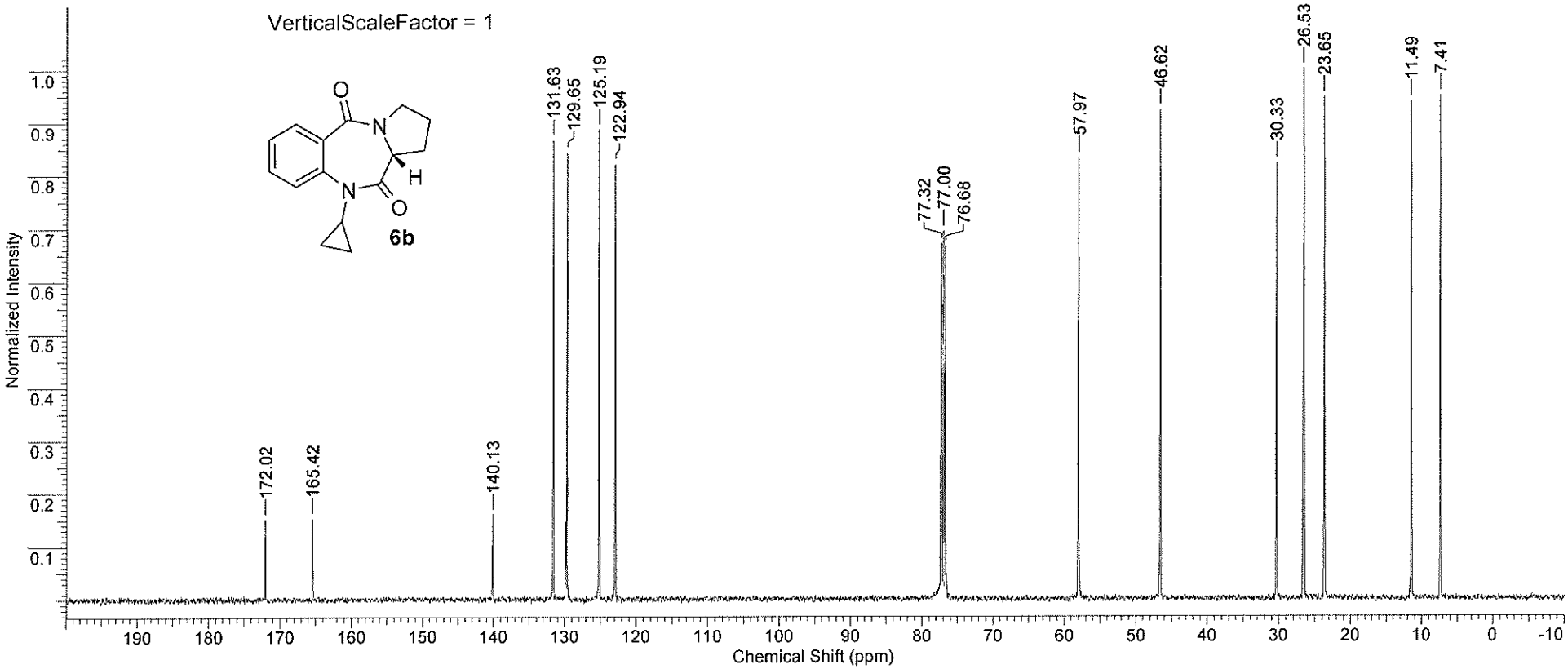
Acquisition Time (sec)	5.1120	***Comment***	1Dproton CDCl3 D: agagnon 31			***Date***	31 May 2006 19:46:08
File Name	\\LAVFS01\Nmrdata\Data\agagnon\nmr\ADG-4045-1360PA1_020001r					***Frequency (MHz)***	400.13
Nucleus	1H	***Number of Transients***	16	***Origin***	spect	***Original Points Count***	32768
Owner	chemistry	***Points Count***	32768	***Pulse Sequence***	zg60	***Receiver Gain***	181.00
SW(cyclical) (Hz)	6410.26	***Solvent***	CHLOROFORM-d			***Spectrum Offset (Hz)***	2467.1255
Sweep Width (Hz)	6410.06						



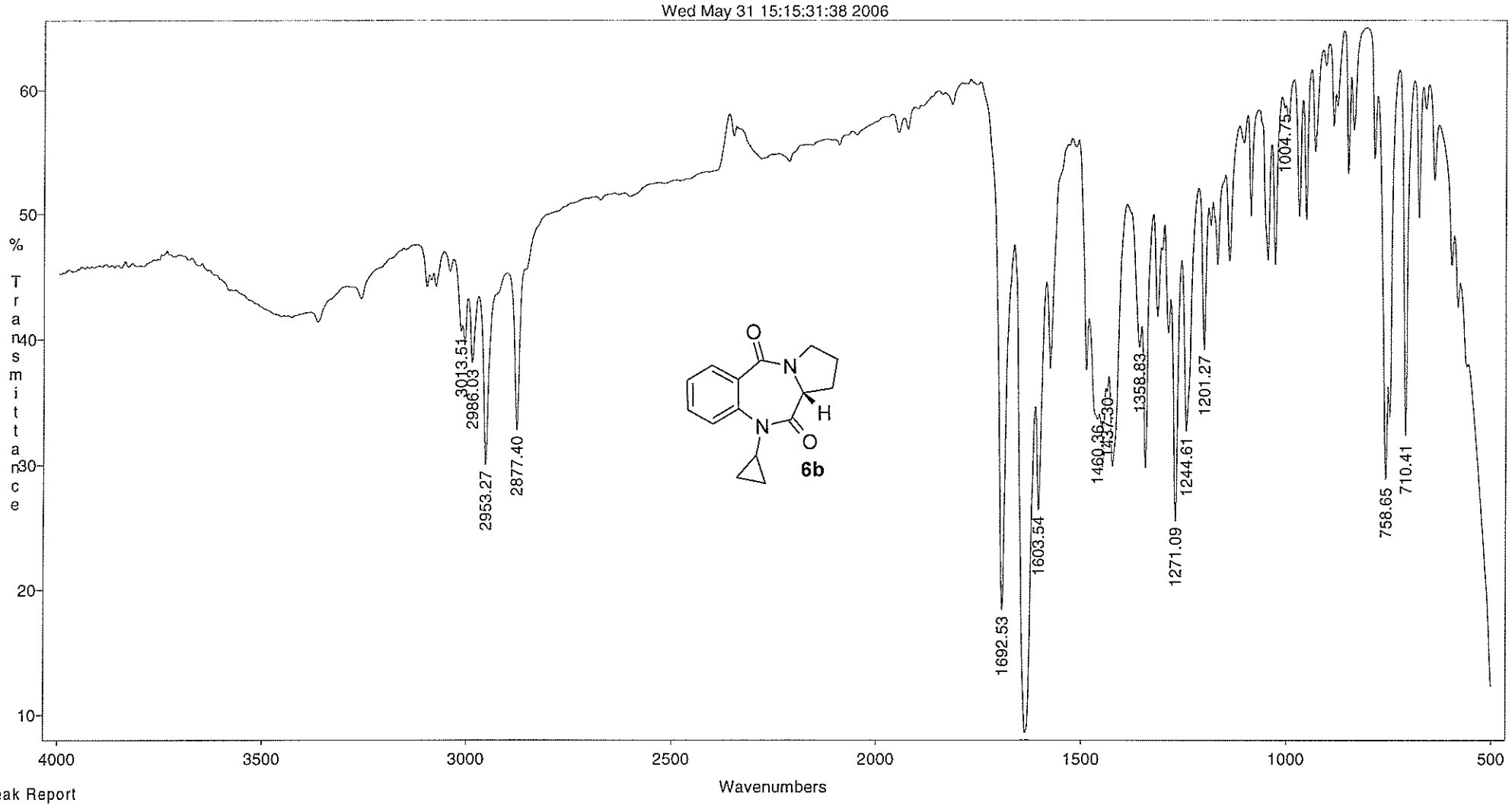
No.	(ppm)	Value	Absolute Value	Non-Negative Value
1	[0.10 .. 0.26]	1.075	2.08340e+10	1.075
2	[0.63 .. 0.74]	1.074	2.08167e+10	1.074
3	[0.75 .. 0.86]	1.053	2.04031e+10	1.053
4	[1.11 .. 1.24]	1.077	2.08688e+10	1.077
5	[1.91 .. 2.13]	3.271	6.33842e+10	3.271
6	[2.68 .. 2.86]	1.079	2.09095e+10	1.079
7	[3.06 .. 3.20]	1.037	2.00949e+10	1.037

No.	(ppm)	Value	Absolute Value	Non-Negative Value
8	[3.45 .. 3.63]	1.092	2.11678e+10	1.092
9	[3.68 .. 3.84]	1.095	2.12261e+10	1.095
10	[3.96 .. 4.08]	1.012	1.96098e+10	1.012
11	[7.24 .. 7.30]	1.216	2.35666e+10	1.216
12	[7.35 .. 7.39]	0.986	1.91062e+10	0.986
13	[7.49 .. 7.55]	1.000	1.93787e+10	1.000
14	[7.82 .. 7.88]	1.023	1.98320e+10	1.023

Acquisition Time (sec)	1.3566	***Comment***	1Dcarbon CDCl3 D: agagnon 31			***Date***	01 Jun 2006 00:44:48
File Name	\\LAVFS01\Nmrdata\Data\agagnon\nmr\ADG-4045-1360PA1_021001r					***Frequency (MHz)***	100.61
Nucleus	13C	***Number of Transients***	5120	***Origin***	spect	***Original Points Count***	32768
Owner	chemistry	***Points Count***	32768	***Pulse Sequence***	zgpg60	***Receiver Gain***	18390.40
SW(cyclical) (Hz)	24154.59	***Solvent***	CHLOROFORM-d			***Spectrum Offset (Hz)***	10014.9902
Sweep Width (Hz)	24153.85						



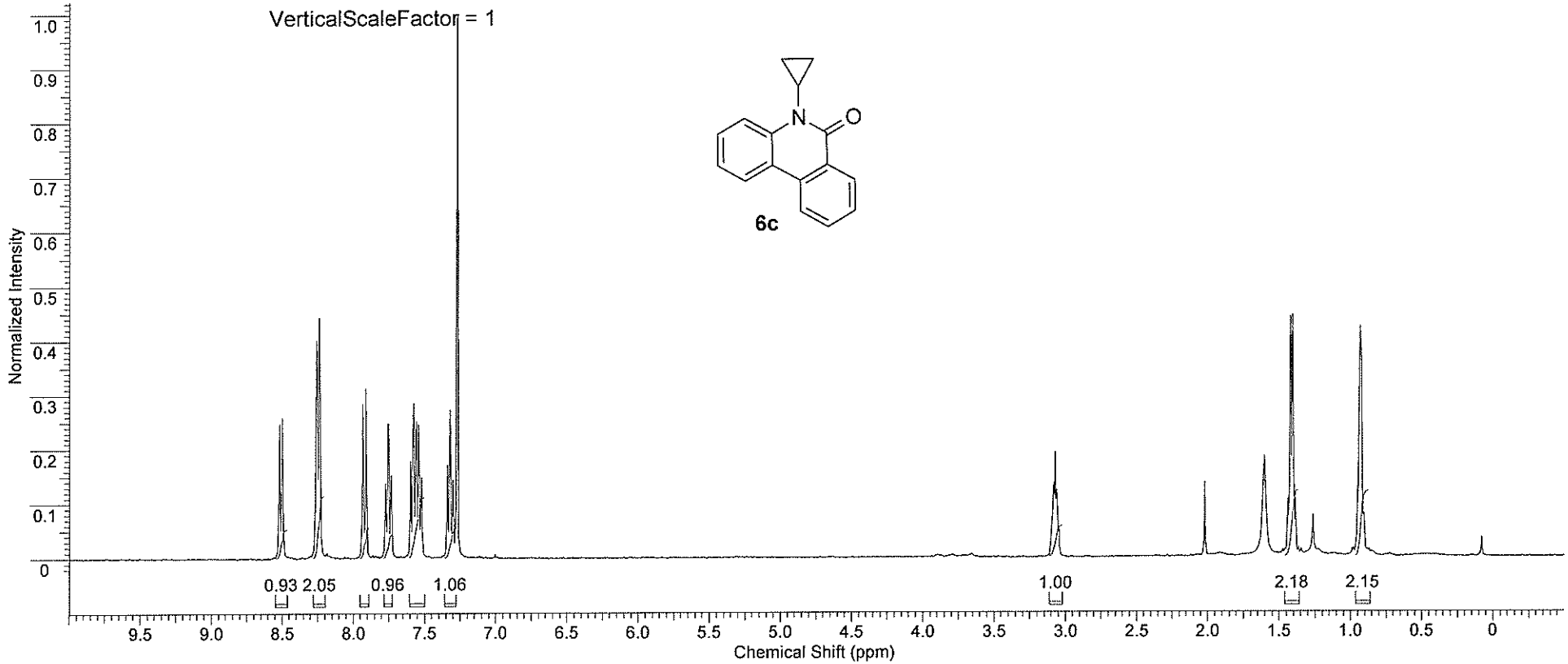
No.	(ppm)	(Hz)	Height	No.	(ppm)	(Hz)	Height
1	7.41	745.1	0.9491	10	77.32	7778.9	0.6711
2	11.49	1156.4	0.9377	11	122.94	12369.8	0.8209
3	23.65	2379.3	0.9462	12	125.19	12596.1	0.8875
4	26.53	2669.0	1.0000	13	129.65	13044.3	0.8432
5	30.33	3051.6	0.8216	14	129.82	13061.2	0.1655
6	46.62	4690.3	0.9226	15	131.63	13244.0	0.8666
7	57.97	5832.8	0.8324	16	140.13	14098.4	0.1609
8	76.68	7715.5	0.6663	17	165.42	16643.0	0.1537
9	77.00	7747.2	0.6942	18	172.02	17307.1	0.1514



Peak Report
File: c:\adg1360.ras
Title: Wed May 31 15:15:31:38 2006
Filter: Three Point Center of Gravity

cm-1	%T	cm-1	%T	cm-1	%T
3013.51	40.63	2986.03	38.07	2953.27	29.96
2877.40	32.73	1692.53	18.35	1636.66	8.58
1603.54	26.33	1460.36	33.66	1437.30	35.82
1358.83	39.35	1271.09	25.46	1244.61	32.69
1201.27	39.17	758.65	28.78	710.41	32.29
1004.75	58.51				

Acquisition Time (sec)	5.1120	***Comment***	1Dproton CDCl3 D: klittle1 46			***Date***	11 May 2005 20:43:44
File Name	\\LAVFS01\nmrdata\!Archive\2005\klittle1\NMR\0105-0135\KL-4064-0124PA1_010001r					***Frequency (MHz)***	400.13
Nucleus	1H	***Number of Transients***	16	***Origin***	spect	***Original Points Count***	32768
Owner	chemistry	***Points Count***	32768	***Pulse Sequence***	zg60	***Receiver Gain***	1024.00
SW(cyclical) (Hz)	6410.26	***Solvent***	CHLOROFORM-d			***Spectrum Offset (Hz)***	2466.1470
Sweep Width (Hz)	6410.06						



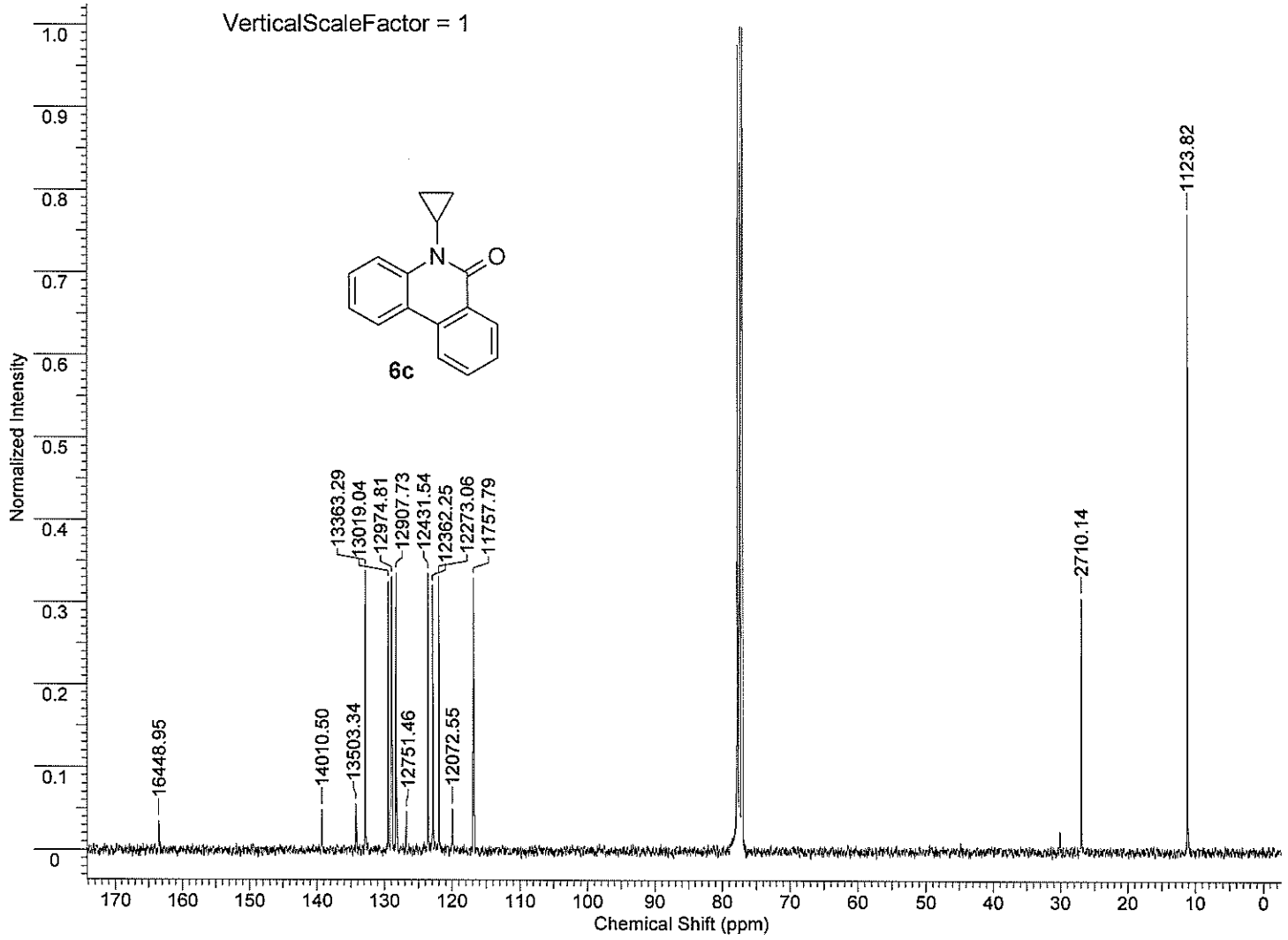
6c

No.	(ppm)	Value	Absolute Value	Non-Negative Value
1	[0.87 .. 0.97]	2.154	7.19070e+9	2.154
2	[1.36 .. 1.47]	2.179	7.27412e+9	2.179
3	[3.02 .. 3.12]	1.000	3.33868e+9	1.000
4	[7.28 .. 7.36]	1.056	3.52672e+9	1.056
5	[7.50 .. 7.61]	2.001	6.68157e+9	2.001
6	[7.73 .. 7.79]	0.964	3.21834e+9	0.964
7	[7.89 .. 7.96]	0.997	3.32870e+9	0.997
8	[8.20 .. 8.28]	2.047	6.83604e+9	2.047
9	[8.47 .. 8.55]	0.930	3.10395e+9	0.930

KL-4064-0124PA1

08/17/2005 2:43 PM

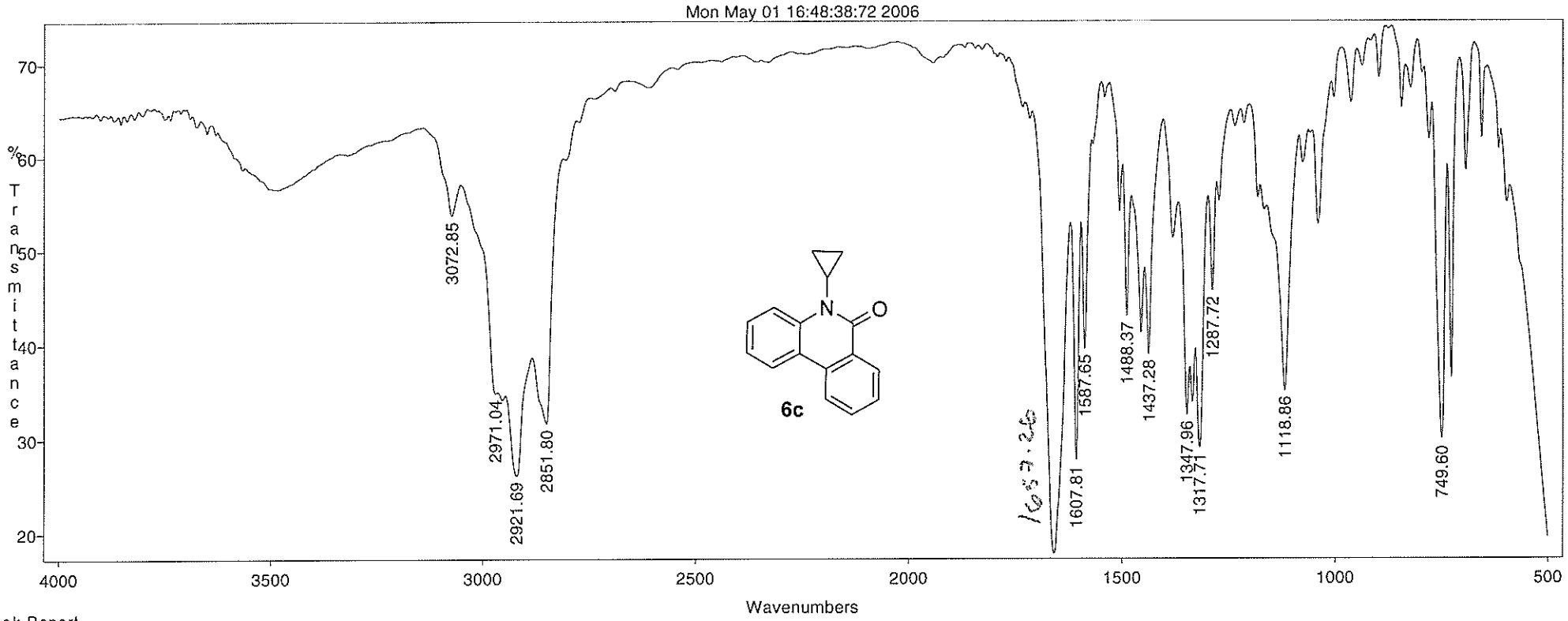
Acquisition Time (sec)	1.3566	***Comment***	1Dcarbon CDCl3 D: klittle1 96		
Date	02 Aug 2005 04:48:00				
File Name	\\LAVFS01\nmrdata\Data\klittle1\nmr\KL-4064-0124PA1_010001r				
Frequency (MHz)	100.61	***Nucleus***	13C	***Number of Transients***	10240
Origin	spect	***Original Points Count***	32768	***Owner***	chemistry
Points Count	32768	***Pulse Sequence***	zgpg60	***Receiver Gain***	18390.40
SW(cyclical) (Hz)	24154.59	***Solvent***	CHLOROFORM-d		
Spectrum Offset (Hz)	10061.2686	***Sweep Width (Hz)***	24153.85		



No.	(ppm)	(Hz)	Height
1	11.17	1123.8	0.7729
2	26.94	2710.1	0.3078
3	116.86	11757.8	0.3296
4	119.99	12072.6	0.0502
5	121.98	12273.1	0.3316
6	122.87	12362.2	0.3208
7	123.56	12431.5	0.3355
8	126.74	12751.5	0.0470
9	128.29	12907.7	0.3359
10	128.96	12974.8	0.3308
11	129.40	13019.0	0.3258
12	132.82	13363.3	0.3389
13	134.21	13503.3	0.0556
14	139.25	14010.5	0.0489
15	163.49	16449.0	0.0352

X1

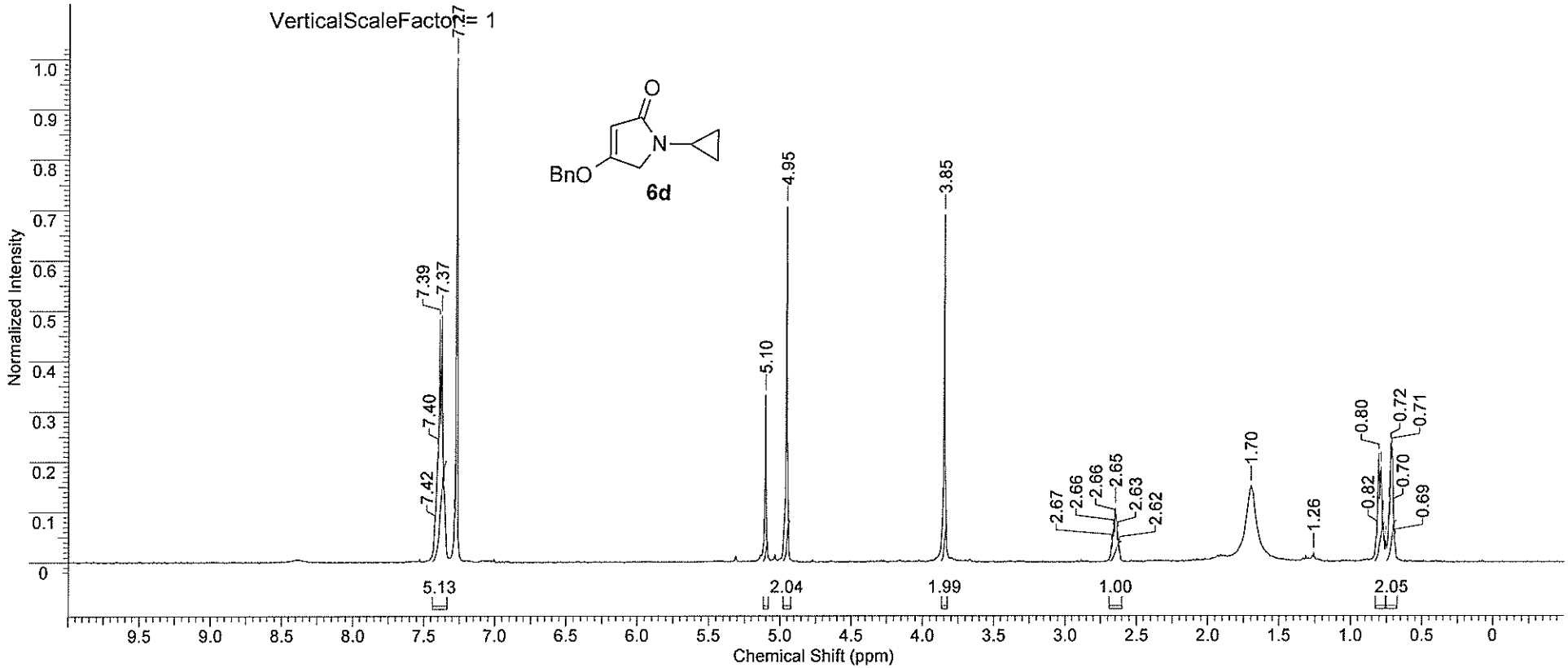
Aug 17, 2005



Peak Report
File: c:\kl124.ras
Title: Mon May 01 16:48:38:72 2006
Filter: Three Point Center of Gravity

cm-1	%T	cm-1	%T	cm-1	%T
3072.85	53.74	2971.04	34.89	2921.69	26.17
2851.80	31.69	1659.90	17.88	1607.81	27.75
1587.65	39.55	1488.37	42.96	1437.28	38.98
1347.96	32.52	1317.71	29.08	1287.72	45.69
1118.86	35.10	749.60	30.07		

Acquisition Time (sec)	5.1120	***Comment***	1Dproton CDCl3 D: klittle1 35			***Date***	08 Jul 2005 16:38:24
File Name	\\LAVFS01\nmrdata\Archive\2005\klittle1\NMR\0226-0245\KL-4064-0239PA1_010001r					***Frequency (MHz)***	400.13
Nucleus	1H	***Number of Transients***	16	***Origin***	spect	***Original Points Count***	32768
Owner	chemistry	***Points Count***	32768	***Pulse Sequence***	zg60	***Receiver Gain***	1149.40
SW(cyclical) (Hz)	6410.26	***Solvent***	CHLOROFORM-d			***Spectrum Offset (Hz)***	2465.7559
Sweep Width (Hz)	6410.06						



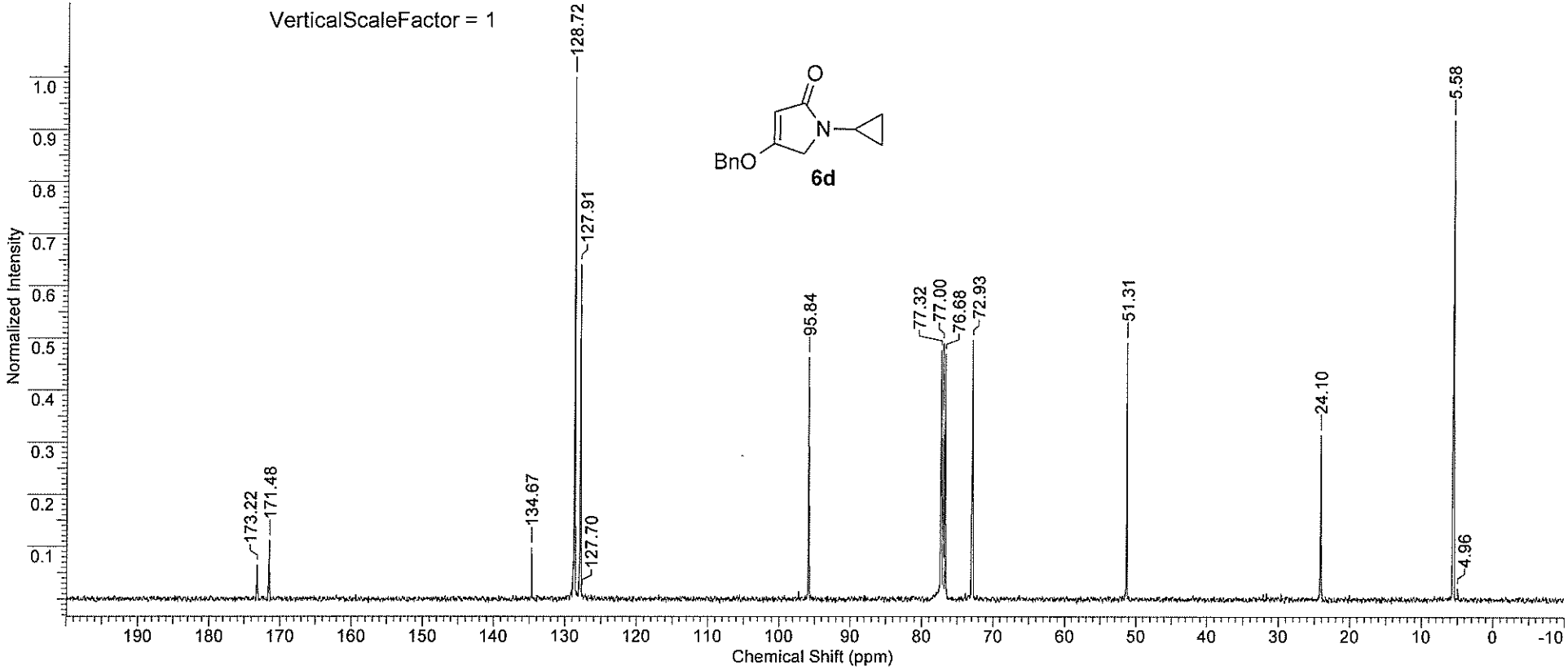
No.	(ppm)	(Hz)	Height
1	0.69	276.6	0.0453
2	0.70	280.5	0.1054
3	0.71	284.4	0.2259
4	0.72	288.3	0.2355
5	0.73	292.5	0.1179
6	0.75	301.6	0.0421
7	0.76	303.2	0.0430
8	0.77	309.7	0.0932
9	0.79	315.0	0.1826
10	0.79	316.3	0.1881
11	0.80	321.6	0.2132

No.	(ppm)	(Hz)	Height
12	0.82	328.8	0.0625
13	1.26	504.5	0.0171
14	1.70	679.0	0.1494
15	2.62	1048.4	0.0299
16	2.63	1052.1	0.0590
17	2.64	1055.6	0.0770
18	2.65	1058.9	0.1063
19	2.66	1062.6	0.0847
20	2.66	1065.8	0.0639
21	2.67	1069.7	0.0344
22	3.85	1539.0	0.6895

No.	(ppm)	(Hz)	Height
23	4.95	1982.3	0.7058
24	5.10	2041.2	0.3314
25	7.27	2908.9	1.0000
26	7.28	2914.8	0.0964
27	7.36	2944.5	0.1513
28	7.37	2950.8	0.4895
29	7.39	2956.7	0.4826
30	7.40	2961.6	0.2257
31	7.42	2970.0	0.0732

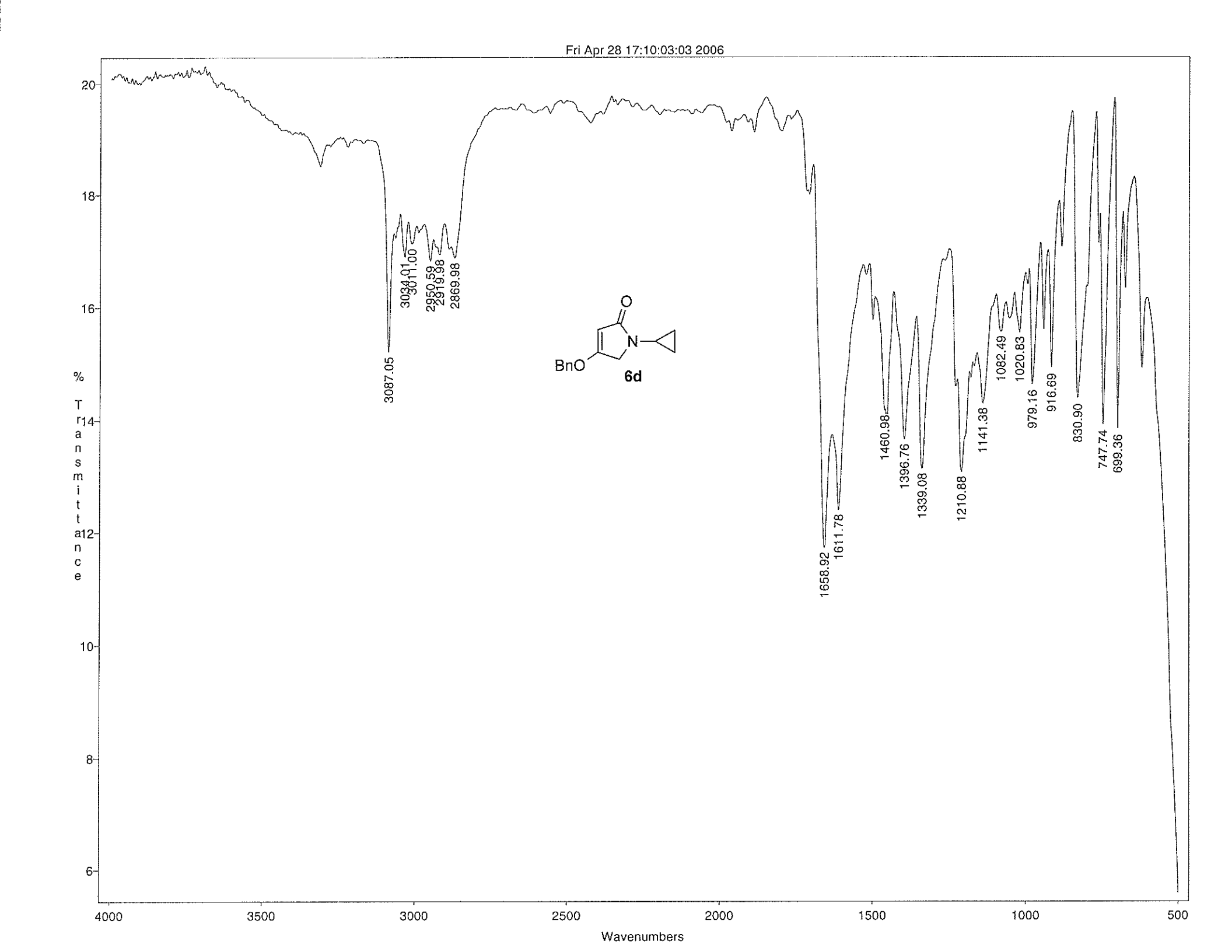
No.	(ppm)	Value	Absolute Value	Non-Negative Value
1	[0.68 .. 0.75]	2.055	4.65330e+9	2.055
2	[0.76 .. 0.83]	2.029	4.59421e+9	2.029
3	[2.60 .. 2.69]	0.999	2.26280e+9	0.999
4	[3.83 .. 3.87]	1.994	4.51530e+9	1.994
5	[4.93 .. 4.98]	2.038	4.61456e+9	2.038
6	[5.08 .. 5.12]	0.974	2.20491e+9	0.974
7	[7.34 .. 7.44]	5.126	1.16087e+10	5.126

Acquisition Time (sec)	1.3566	***Comment***	1Dcarbon CDCl3 D: klittle1 40			***Date***	18 Aug 2005 06:30:24
File Name	\\LAVFS01\nmrdata\Archive\2005\klittle1\NMR\0226-0245\KL-4064-0239PA1_020001r					***Frequency (MHz)***	100.61
Nucleus	13C	***Number of Transients***	4000	***Origin***	spect	***Original Points Count***	32768
Owner	chemistry	***Points Count***	32768	***Pulse Sequence***	zgpg60	***Receiver Gain***	18390.40
SW(cyclical) (Hz)	24154.59	***Solvent***	CHLOROFORM-d			***Spectrum Offset (Hz)***	10015.7275
Sweep Width (Hz)	24153.85						



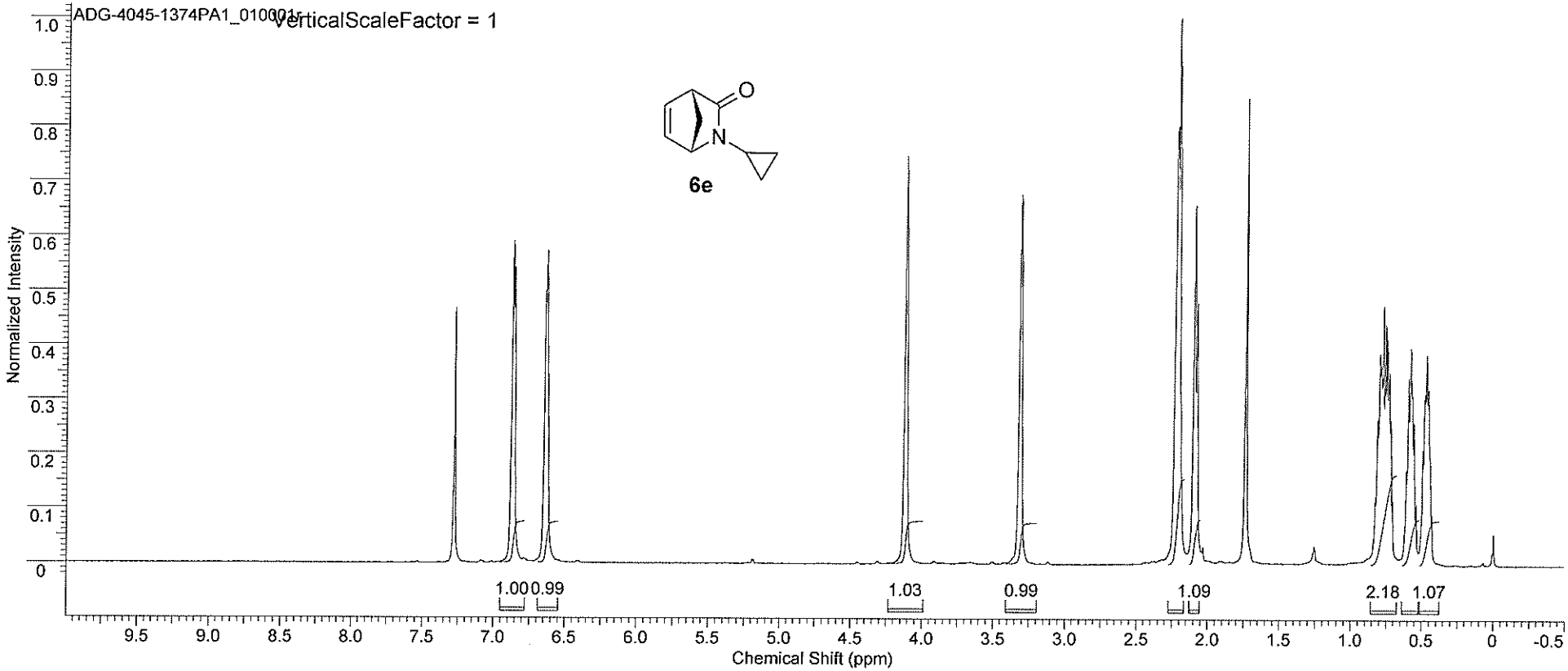
No.	(ppm)	(Hz)	Height
1	4.96	498.9	0.0221
2	5.58	561.5	0.9200
3	24.10	2425.0	0.3146
4	51.31	5162.8	0.4917
5	72.93	7337.3	0.4971
6	76.68	7715.5	0.4695
7	77.00	7747.2	0.4909
8	77.32	7778.9	0.4771
9	95.84	9643.1	0.4636

No.	(ppm)	(Hz)	Height
10	127.70	12848.2	0.0177
11	127.91	12869.6	0.6412
12	128.04	12882.1	0.0325
13	128.72	12950.6	1.0000
14	128.84	12962.4	0.0405
15	134.67	13549.2	0.0977
16	171.48	17252.6	0.1126
17	173.22	17428.0	0.0649


Fri Apr 28 17:10:03:03 2006
% Transmittance
Wavenumbers
4000
3500
3000
2500
2000
1500
1000
500
20
18
16
14
12
10
8
6
3087.05
3034.01
3011.00
2950.59
2919.98
2869.98
1658.92
1611.78
1460.98
1396.76
1339.08
1210.88
1141.38
1082.49
1020.83
979.16
916.69
830.90
747.74
699.36
BnO
O
N
6d

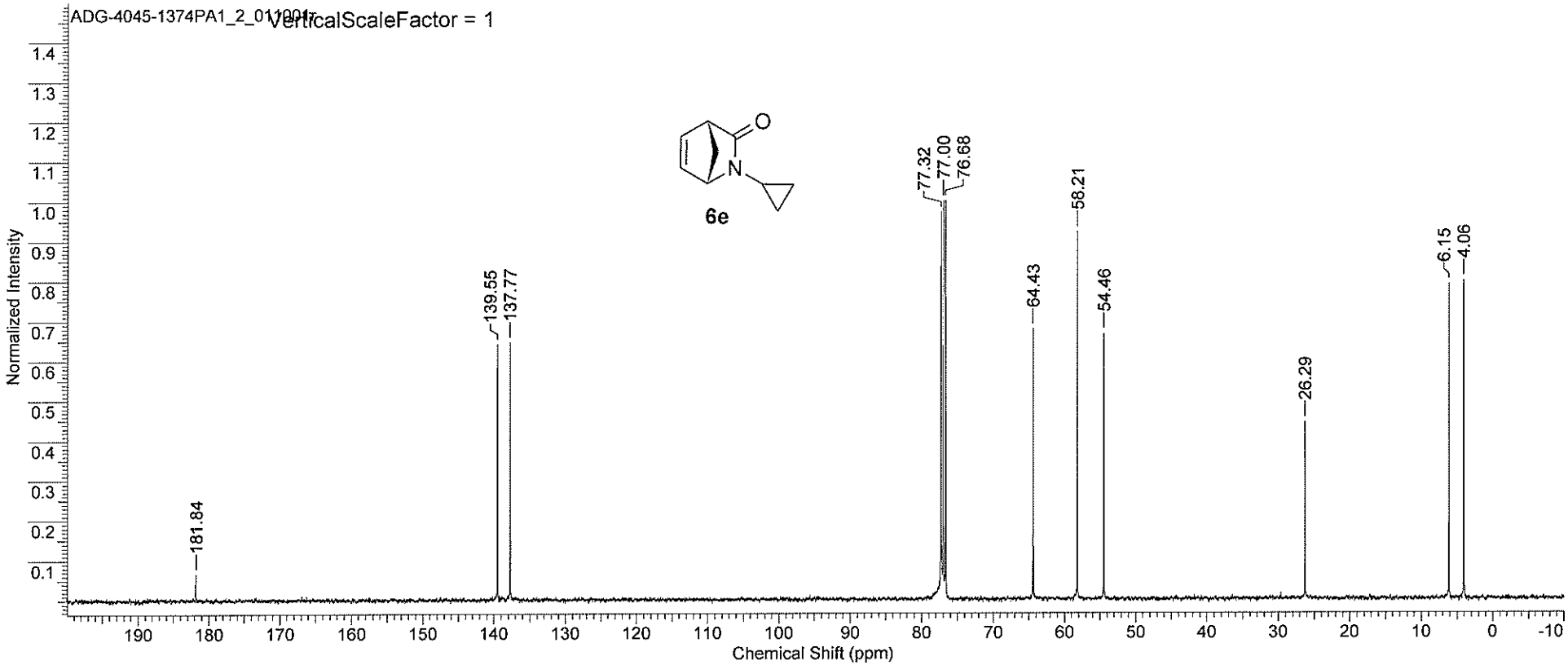
06/30/2006 3:55:55 PM

Acquisition Time (sec)	2.5559	***Comment***	1Dproton CDCl3 D: agagnon 47			***Date***	30 Jun 2006 19:52:32
Date Stamp	30 Jun 2006 19:52:32			***File Name***	\\LAVFS01\Nmrdata\Data\agagnon\nmr\ADG-4045-1374PA1_010001r		
Frequency (MHz)	400.13	***Nucleus***	1H	***Number of Transients***	16	***Origin***	spect
Original Points Count	16384	***Owner***	chemistry	***Points Count***	32768	***Pulse Sequence***	zg60
Receiver Gain	362.00	***SW(cyclical) (Hz)***	6410.26	***Solvent***	CHLOROFORM-d		
Spectrum Offset (Hz)	2467.5908	***Sweep Width (Hz)***	6410.06				

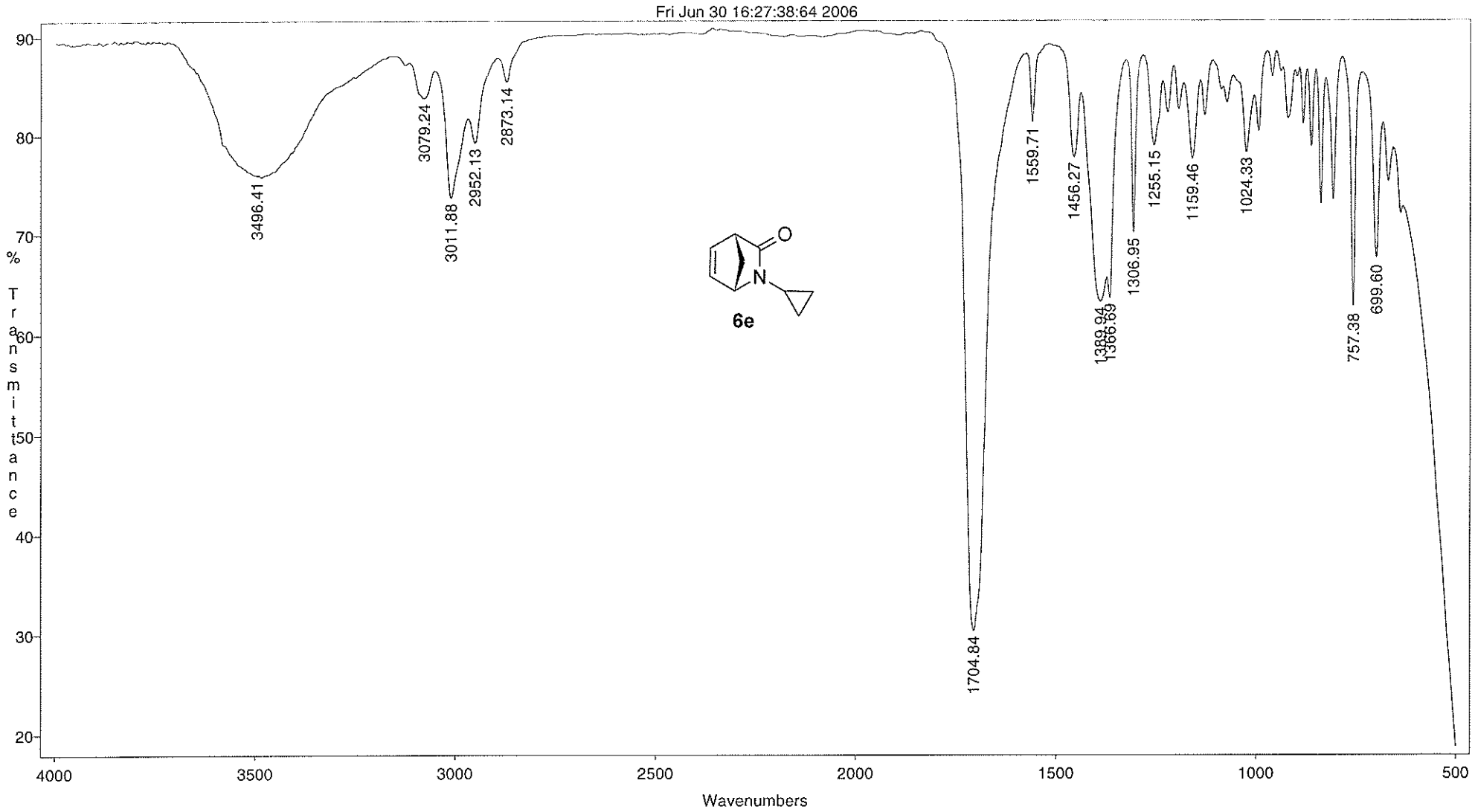


No.	(ppm)	Value	Absolute Value	Non-Negative Value
1	0.38 .. 0.52	1.069	1.41097e+10	1.069
2	0.53 .. 0.64	1.100	1.45150e+10	1.100
3	0.68 .. 0.86	2.177	2.87353e+10	2.177
4	2.06 .. 2.13	1.087	1.43533e+10	1.087
5	2.17 .. 2.27	2.075	2.73933e+10	2.075
6	3.20 .. 3.41	0.988	1.30359e+10	0.988
7	3.99 .. 4.24	1.026	1.35466e+10	1.026
8	6.55 .. 6.69	0.992	1.30938e+10	0.992
9	6.79 .. 6.96	1.000	1.31988e+10	1.000

Acquisition Time (sec)	0.6783	***Comment***	1Dcarbon CDCl3 D: agagnon 62			***Date***	05 Jul 2006 03:07:44
Date Stamp	05 Jul 2006 03:07:44			***File Name***	\\LAVFS01\Nmrdata\Data\agagnon\nmr\ADG-4045-1374PA1_2_011001r		
Frequency (MHz)	100.61	***Nucleus***	13C	***Number of Transients***	10240	***Origin***	spect
Original Points Count	16384	***Owner***	chemistry	***Points Count***	32768	***Pulse Sequence***	zgpg60
Receiver Gain	18390.40	***SW(cyclical) (Hz)***	24154.59	***Solvent***	CHLOROFORM-d		
Spectrum Offset (Hz)	10017.2021	***Sweep Width (Hz)***	24153.85				



No.	(ppm)	(Hz)	Height
1	4.06	409.0	0.7975
2	6.15	619.0	0.7883
3	26.29	2645.4	0.4423
4	54.46	5479.7	0.6650
5	58.21	5857.2	0.9211
6	64.43	6482.2	0.6768
7	76.68	7715.5	0.9992
8	77.00	7747.2	1.0000
9	77.21	7767.8	0.0976
10	77.32	7779.6	0.9712
11	137.77	13861.0	0.6460
12	139.55	14040.9	0.6425



Peak Report
File: c:\adg1374.ras
Title: Fri Jun 30 16:27:38:64 2006
Filter: Three Point Center of Gravity

cm-1	%T	cm-1	%T	cm-1	%T
3496.41	75.96	3079.24	83.74	3011.88	73.67
2952.13	79.22	2873.14	85.38	1704.84	30.35
1559.71	81.32	1456.27	77.74	1389.94	63.24
1366.69	63.59	1306.95	70.13	1255.15	78.94
1159.46	77.61	1024.33	78.24	757.38	62.79
699.60	67.60				

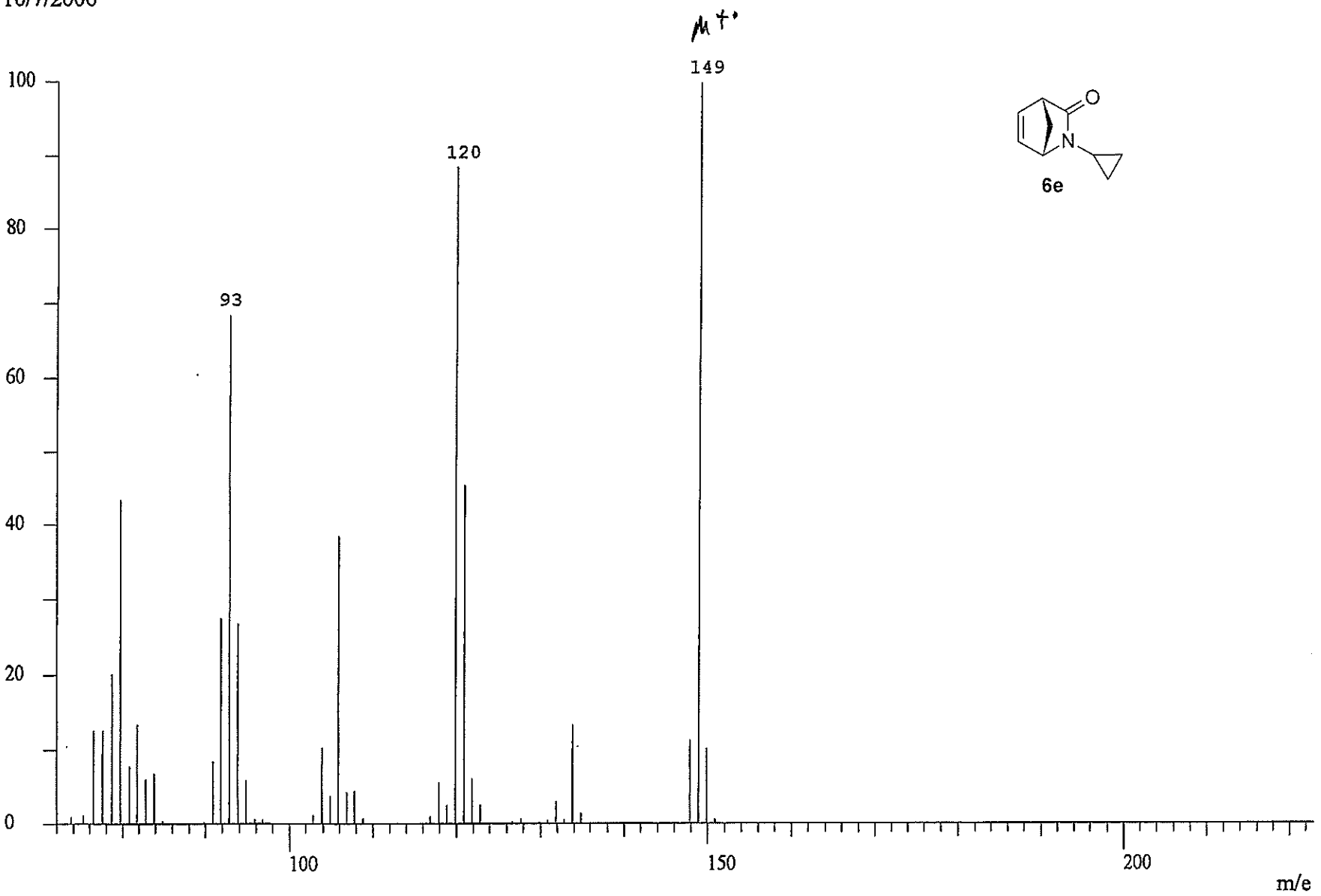
Spectre de masse

Université de Sherbrooke

c:\masspec\bordeleau\adg40451374pa1.mas
Échantillon : ADG-4045-1374PA1
10/7/2006

ionisation électronique:70eV

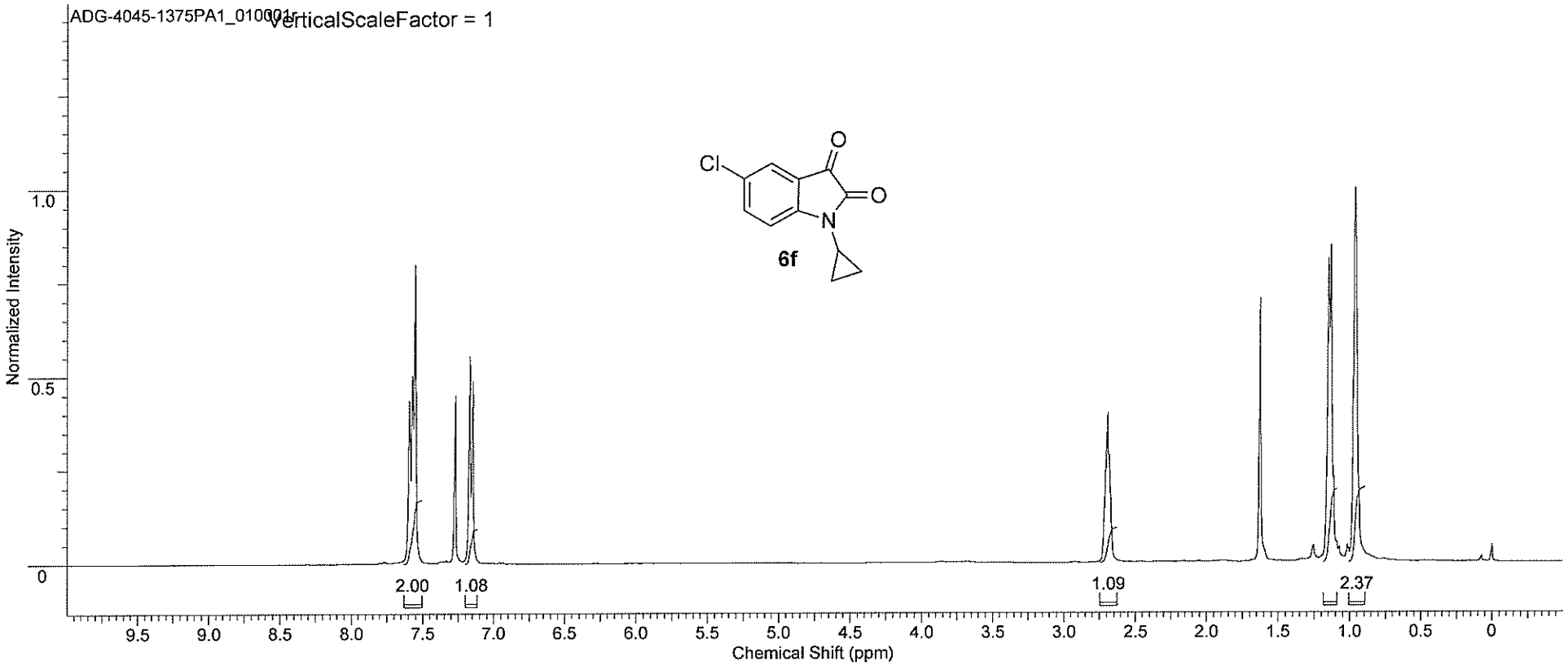
2006G011



6e

07/04/2006 5:07:58 PM

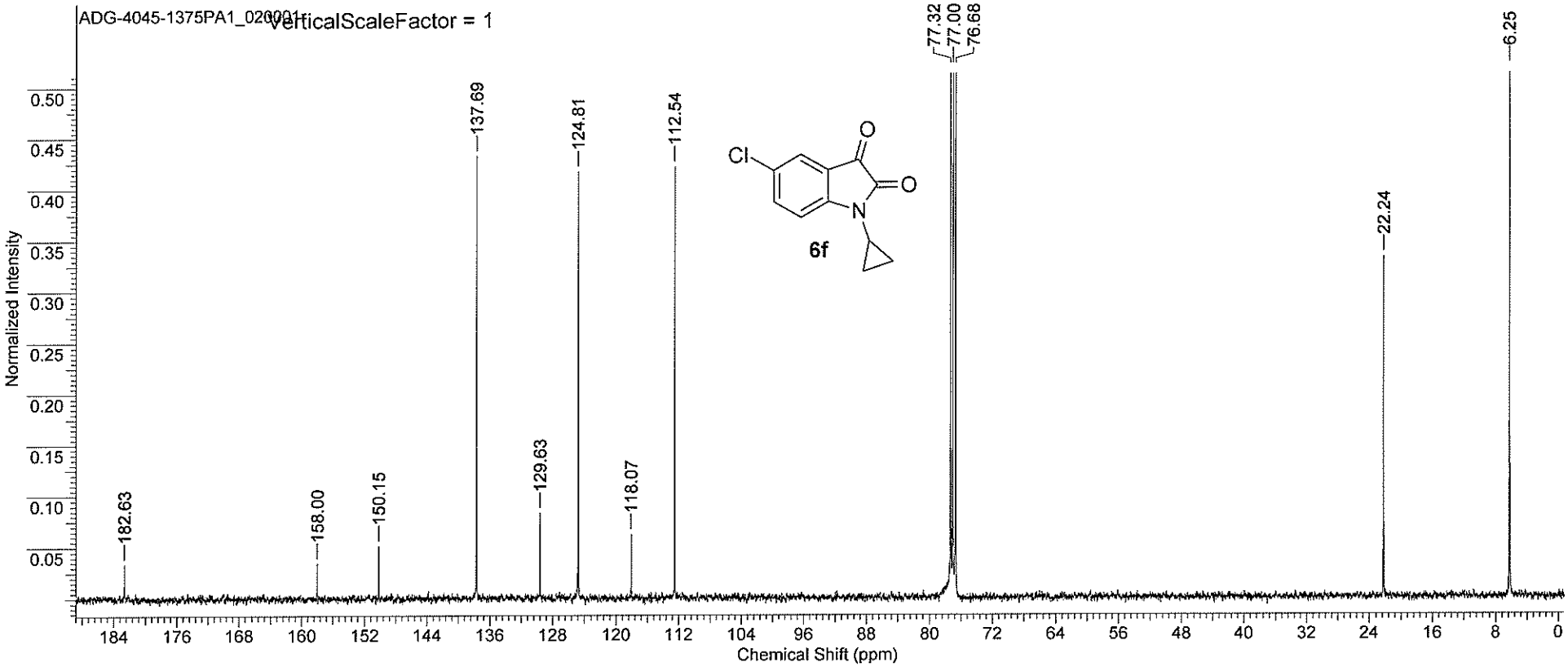
Acquisition Time (sec)	2.5559	***Comment***	1Dproton CDCl3 D: agagnon 98			***Date***	04 Jul 2006 21:00:48
Date Stamp	04 Jul 2006 21:00:48			***File Name***	\\LAVFS01\Nmrdata\Data\agagnon\nmr\ADG-4045-1375PA1_010001r		
Frequency (MHz)	400.13	***Nucleus***	1H	***Number of Transients***	275	***Origin***	spect
Original Points Count	16384	***Owner***	chemistry	***Points Count***	32768	***Pulse Sequence***	zg60
Receiver Gain	574.70	***SW(cyclical) (Hz)***	6410.26	***Solvent***	CHLOROFORM-d		
Spectrum Offset (Hz)	2467.3206	***Sweep Width (Hz)***	6410.06				



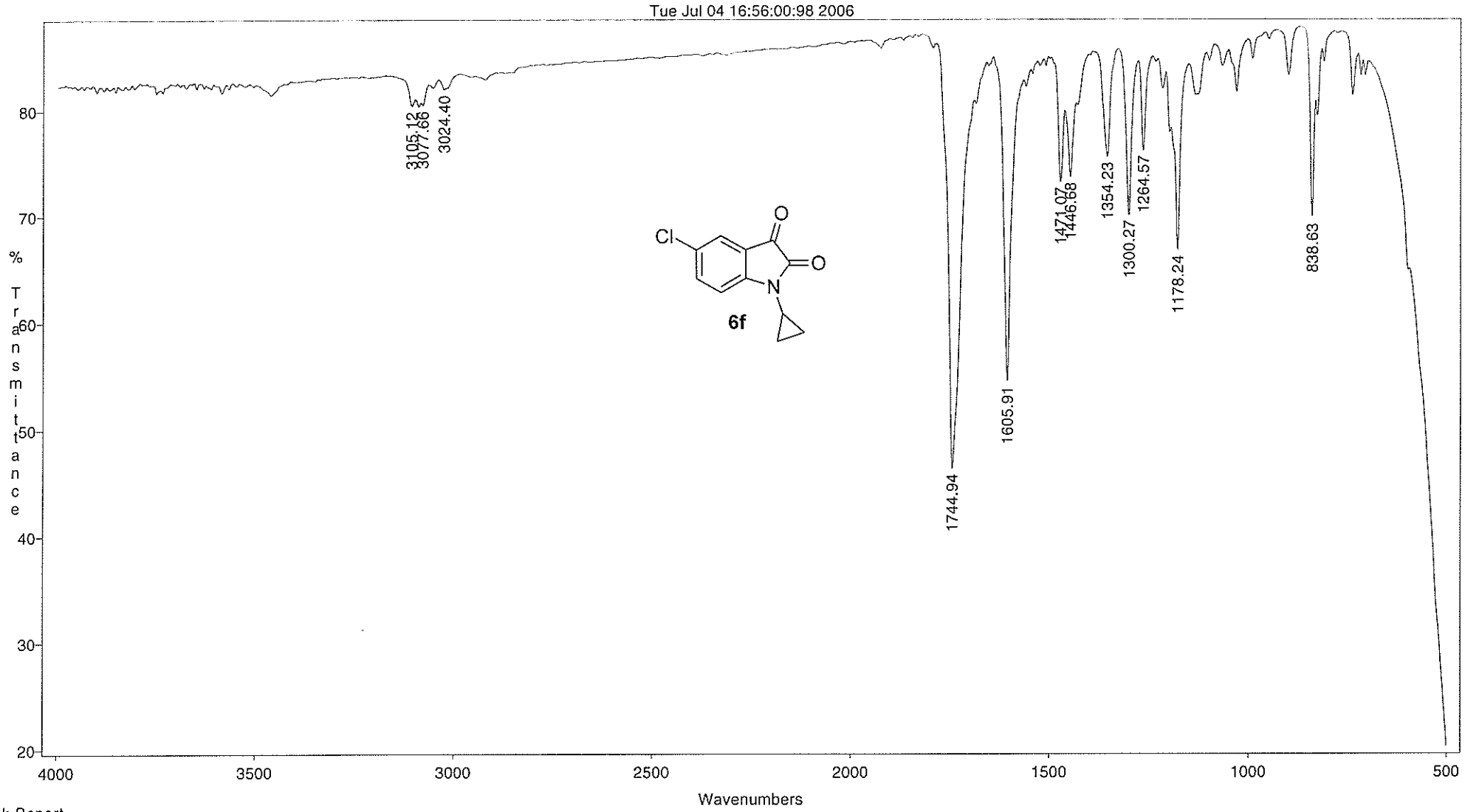
No.	(ppm)	Value	Absolute Value	Non-Negative Value
1	0.89 .. 1.01	2.371	2.15830e+10	2.371
2	1.09 .. 1.18	2.317	2.10870e+10	2.317
3	2.63 .. 2.75	1.091	9.93051e+9	1.091
4	7.11 .. 7.20	1.081	9.84001e+9	1.081
5	7.50 .. 7.63	2.000	1.82048e+10	2.000

07/06/2006 8:08:11 AM

Acquisition Time (sec)	0.6783	***Comment***	1Dcarbon CDCl3 D: agagnon 101			***Date***	06 Jul 2006 05:30:40
Date Stamp	06 Jul 2006 05:30:40			***File Name***	\\LAVFS01\Nmrdata\Data\agagnon\nmr\ADG-4045-1375PA1_020001r		
Frequency (MHz)	100.61	***Nucleus***	13C	***Number of Transients***	5120	***Origin***	spect
Original Points Count	16384	***Owner***	chemistry	***Points Count***	32768	***Pulse Sequence***	zgpg60
Receiver Gain	16384.00	***SW(cyclical) (Hz)***	24154.59	***Solvent***	CHLOROFORM-d		
Spectrum Offset (Hz)	10017.2021	***Sweep Width (Hz)***	24153.85				



No.	(ppm)	(Hz)	Height
1	6.25	628.6	1.0000
2	22.24	2237.8	0.3332
3	76.68	7715.5	0.5509
4	77.00	7747.2	0.5755
5	77.21	7767.8	0.0519
6	77.32	7778.9	0.5531
7	112.54	11323.0	0.4219
8	118.07	11878.8	0.0623
9	124.81	12557.0	0.4177
10	129.63	13042.1	0.0834
11	137.69	13853.6	0.4329
12	150.15	15106.8	0.0513



eak Report
ile: c:\clisatin.ras
itle: Tue Jul 04 16:56:00:98 2006
ilter: Three Point Center of Gravity

m-1	%T	cm-1	%T	cm-1	%T
105.12	80.42	3077.66	80.50	3024.40	81.99
744.94	46.34	1605.91	54.57	1471.07	73.17
446.68	73.65	1354.23	75.55	1300.27	70.06
264.57	76.18	1178.24	66.74	838.63	69.90

Spectre de masse

Université de Sherbrooke

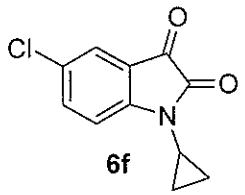
2006G012

c:\masspec\bordeleau\adg40451375pa1.mas

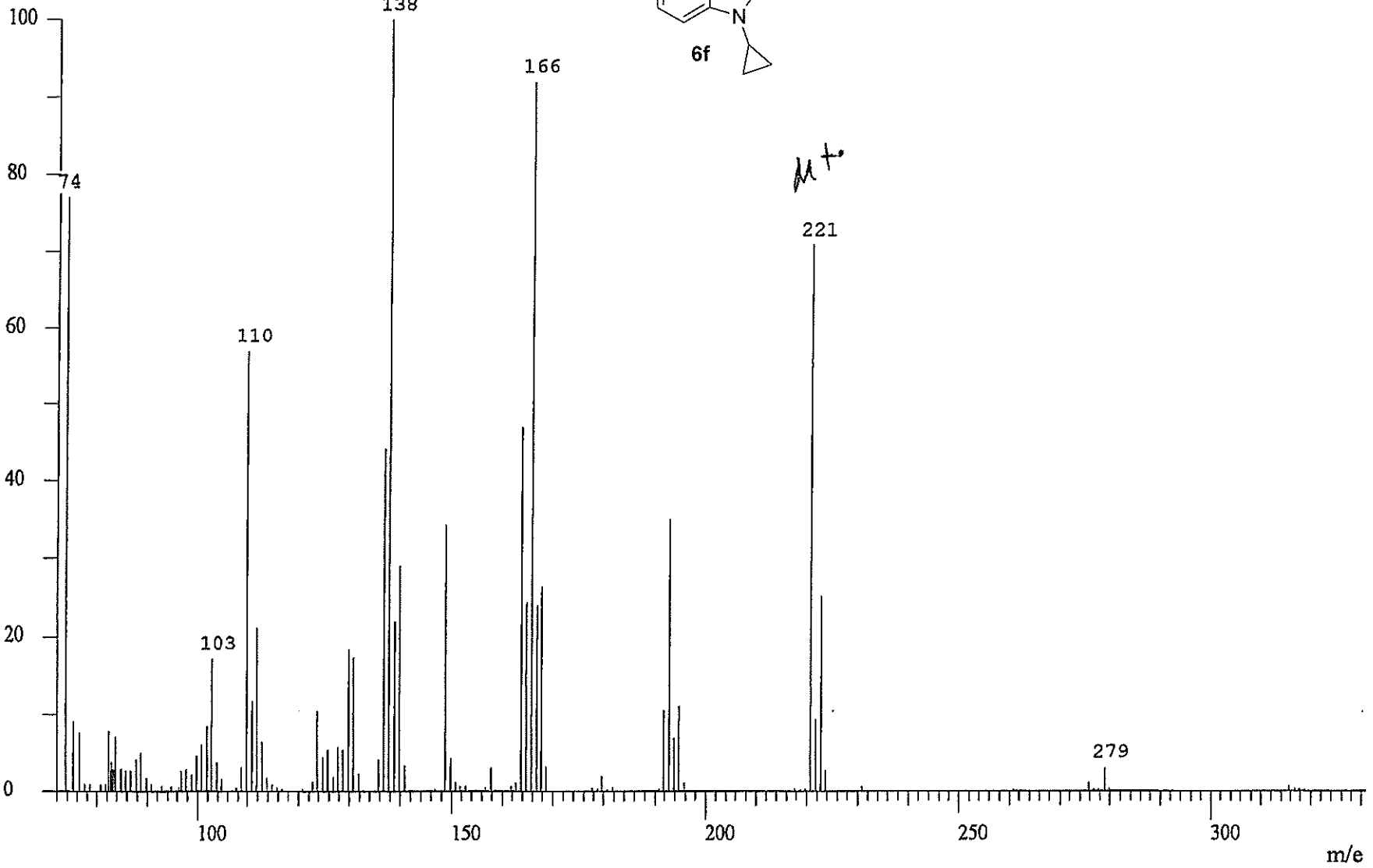
ionisation électronique:70eV

Échantillon : ADG-4045-1375PA1

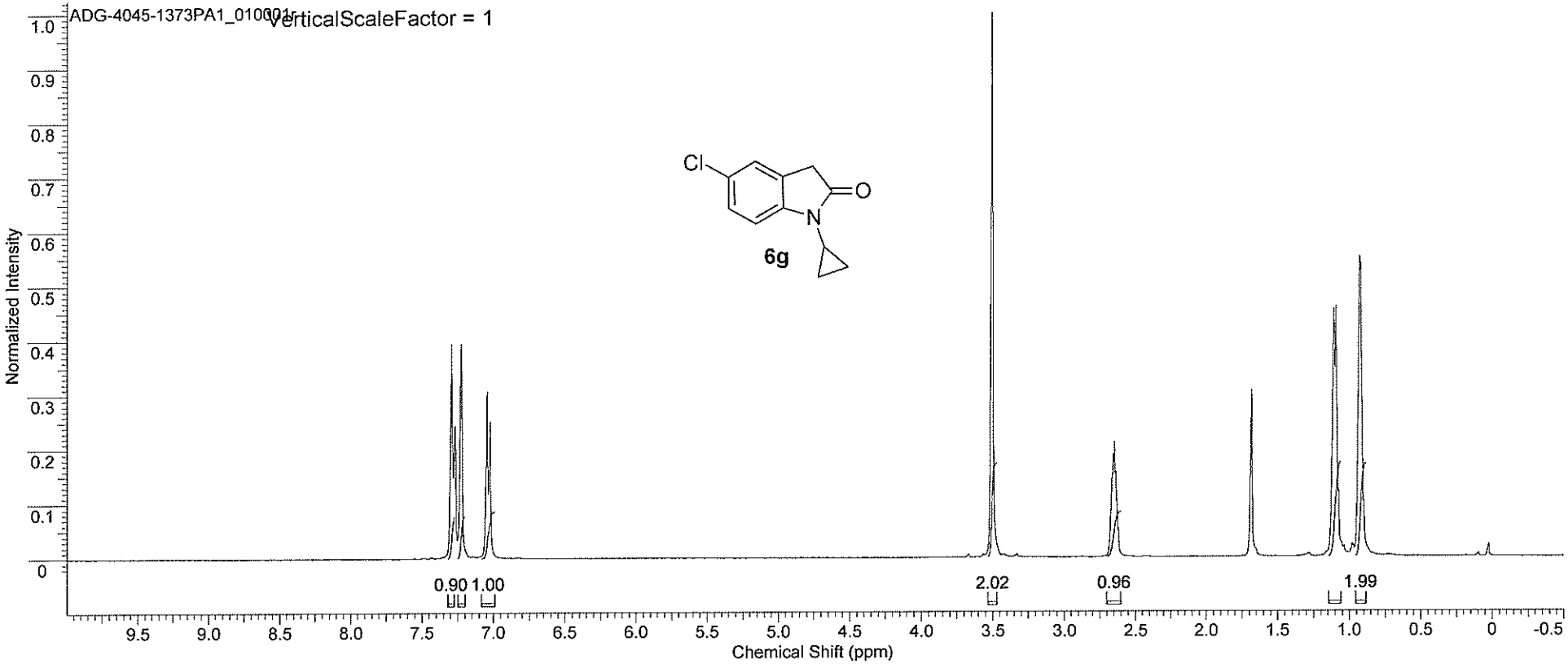
10/7/2006



6f

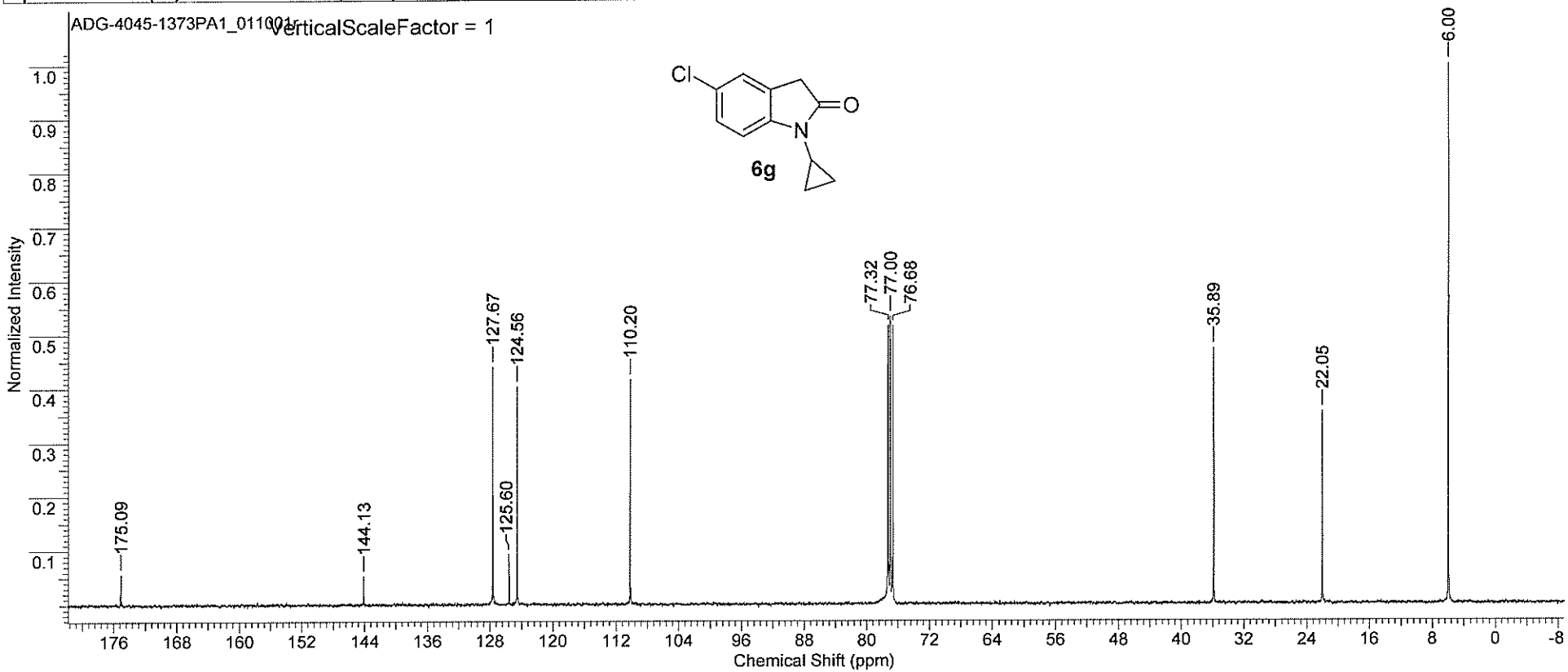


Acquisition Time (sec)	2.5559	***Comment***	1Dproton CDCl3 D: agagnon 19			***Date***	30 Jun 2006 15:21:36
Date Stamp	30 Jun 2006 15:21:36			***File Name***	\\LAVFS01\Nmrdata\Data\agagnon\nmr\ADG-4045-1373PA1_010001r		
Frequency (MHz)	400.13	***Nucleus***	1H	***Number of Transients***	16	***Origin***	spect
Original Points Count	16384	***Owner***	chemistry	***Points Count***	32768	***Pulse Sequence***	zg60
Receiver Gain	406.40	***SW(cyclical) (Hz)***	6410.26	***Solvent***	CHLOROFORM-d		
Spectrum Offset (Hz)	2476.9063	***Sweep Width (Hz)***	6410.06				

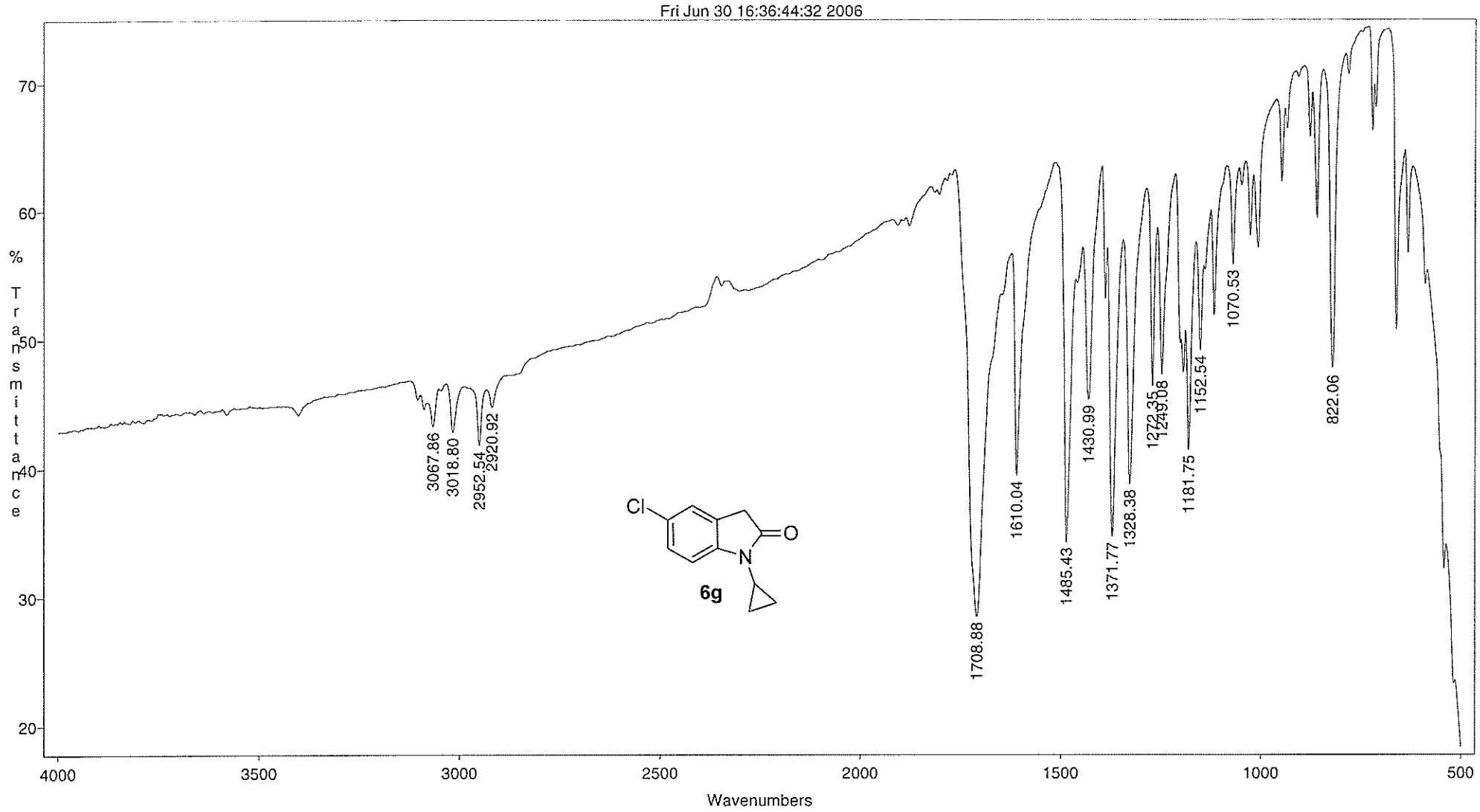


No.	(ppm)	Value	Absolute Value	Non-Negative Value
1	0.89 .. 0.96	1.995	1.35203e+10	1.995
2	1.06 .. 1.15	2.019	1.36841e+10	2.019
3	2.60 .. 2.70	0.963	6.52387e+9	0.963
4	3.47 .. 3.53	2.019	1.36806e+10	2.019
5	6.99 .. 7.09	0.997	6.75983e+9	0.997
6	7.20 .. 7.25	0.902	6.11403e+9	0.902
7	7.28 .. 7.32	0.904	6.12731e+9	0.904

Acquisition Time (sec)	0.6783	***Comment***	1Dcarbon CDCl3 D: agagnon 19			***Date***	03 Jul 2006 07:10:56
Date Stamp	03 Jul 2006 07:10:56			***File Name***	\\LAVFS01\Nmrdata\Data\agagnon\nmr\ADG-4045-1373PA1_011001r		
Frequency (MHz)	100.61	***Nucleus***	13C	***Number of Transients***	10240	***Origin***	spect
Original Points Count	16384	***Owner***	chemistry	***Points Count***	32768	***Pulse Sequence***	zgpg60
Receiver Gain	16384.00	***SW(cyclical) (Hz)***	24154.59	***Solvent***	CHLOROFORM-d		
Spectrum Offset (Hz)	10017.2021	***Sweep Width (Hz)***	24153.85				



No.	(ppm)	(Hz)	Height
1	6.00	603.6	1.0000
2	22.05	2218.6	0.3560
3	35.89	3611.1	0.4726
4	76.68	7715.5	0.5158
5	77.00	7747.2	0.5334
6	77.21	7767.8	0.0517
7	77.32	7778.9	0.5167
8	110.20	11087.2	0.4169
9	124.56	12532.0	0.4041
10	125.60	12637.4	0.0922
11	127.67	12845.2	0.4409
12	144.13	14500.9	0.0539



Peak Report
File: c:\cccadg13.ras
Title: Fri Jun 30 16:36:44:32 2006
Filter: Three Point Center of Gravity

cm-1	%T	cm-1	%T	cm-1	%T
3067.86	43.28	3018.80	42.84	2952.54	41.80
2920.92	44.78	1708.88	28.47	1610.04	39.45
1485.43	34.26	1430.99	45.34	1371.77	34.68
1328.38	38.77	1272.35	46.40	1249.08	47.26
1181.75	41.45	1152.54	49.17	822.06	47.81
1070.53	55.80				

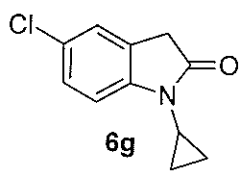
Spectre de masse

Université de Sherbrooke

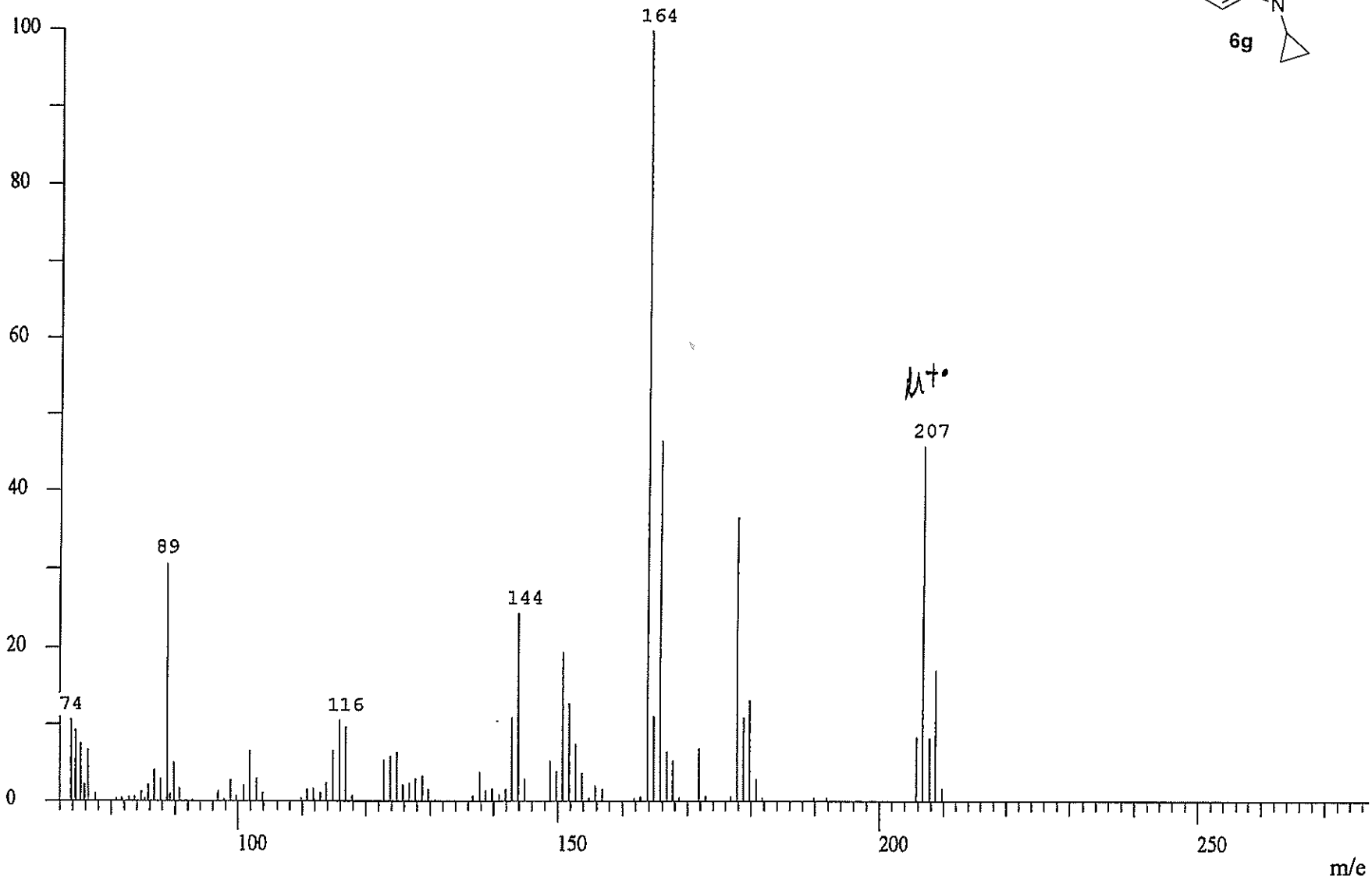
c:\masspec\bordeleau\adg40451373pa1.mas
Échantillon : ADG-4045-1373PA1
10/7/2006

ionisation électronique:70eV

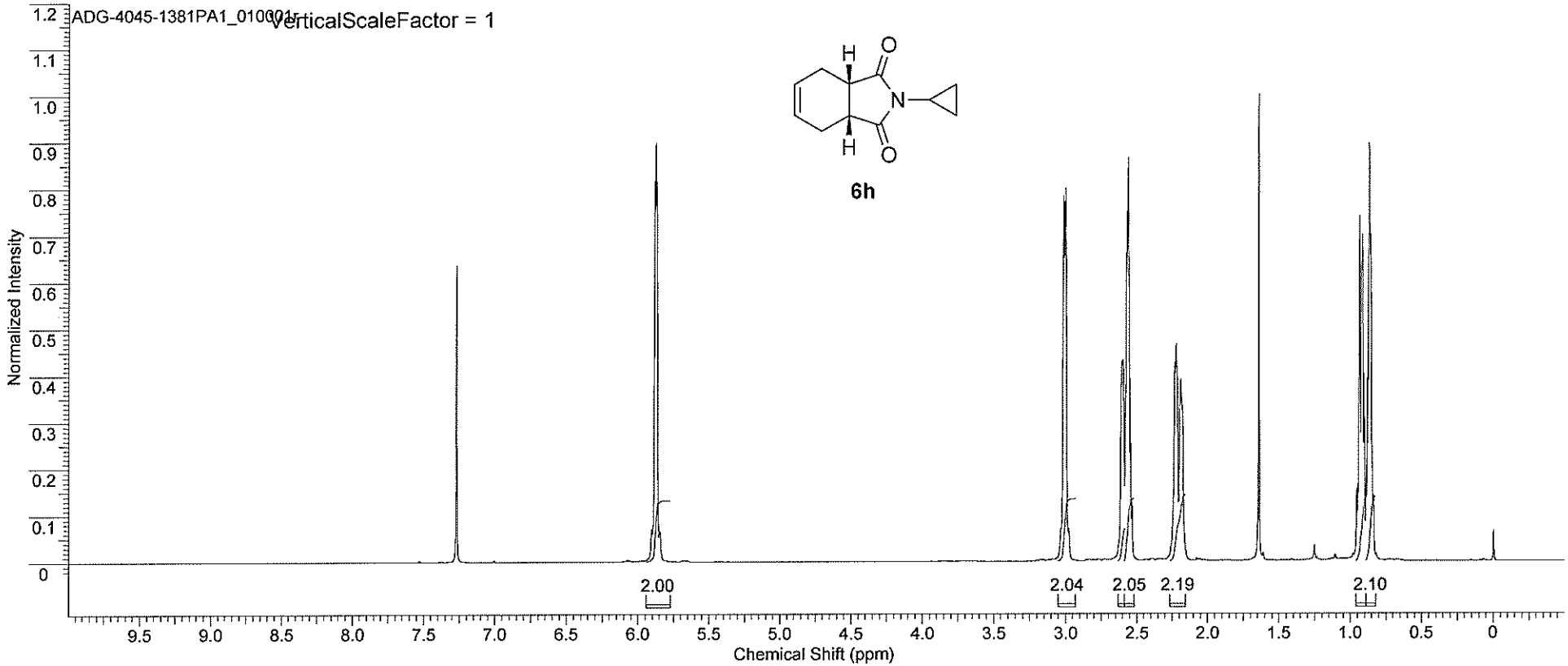
2006G010



6g



Acquisition Time (sec)	2.5559	***Comment***	1Dproton CDCl3 D: agagnon 70			***Date***	06 Jul 2006 16:36:16
Date Stamp	06 Jul 2006 16:36:16			***File Name***	\\LAVFS01\Nmrdata\Data\agagnon\nmr\ADG-4045-1381PA1_010001r		
Frequency (MHz)	400.13	***Nucleus***	1H	***Number of Transients***	16	***Origin***	spect
Original Points Count	16384	***Owner***	chemistry	***Points Count***	32768	***Pulse Sequence***	zg60
Receiver Gain	322.50	***SW(cyclical) (Hz)***	6410.26	***Solvent***	CHLOROFORM-d		
Spectrum Offset (Hz)	2465.7556	***Sweep Width (Hz)***	6410.06				

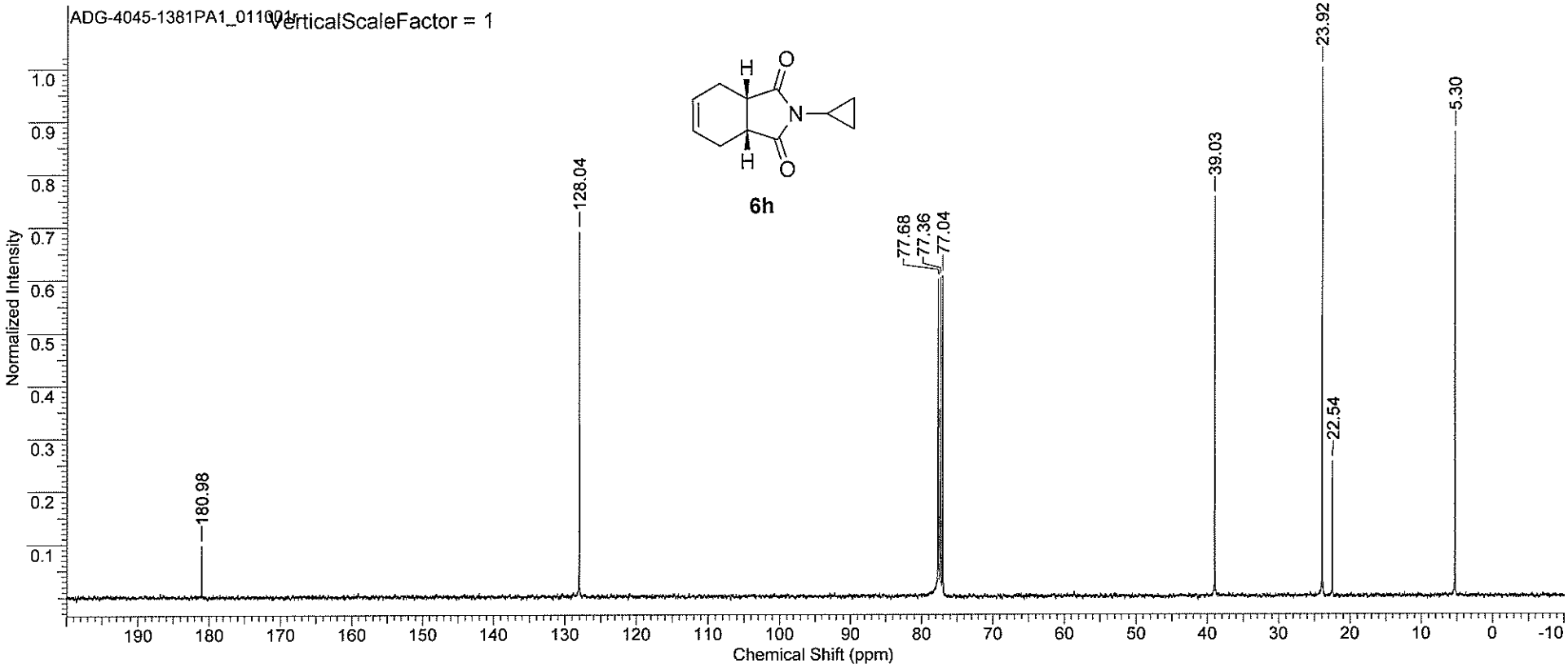


6h

No.	(ppm)	Value	Absolute Value	Non-Negative Value
1	0.83 .. 0.89	2.102	2.31540e+10	2.102
2	0.89 .. 0.96	2.127	2.34329e+10	2.127
3	2.15 .. 2.26	2.185	2.40729e+10	2.185
4	2.52 .. 2.58	2.054	2.26319e+10	2.054
5	2.58 .. 2.63	1.060	1.16820e+10	1.060
6	2.93 .. 3.05	2.038	2.24513e+10	2.038
7	5.77 .. 5.94	2.001	2.20452e+10	2.001

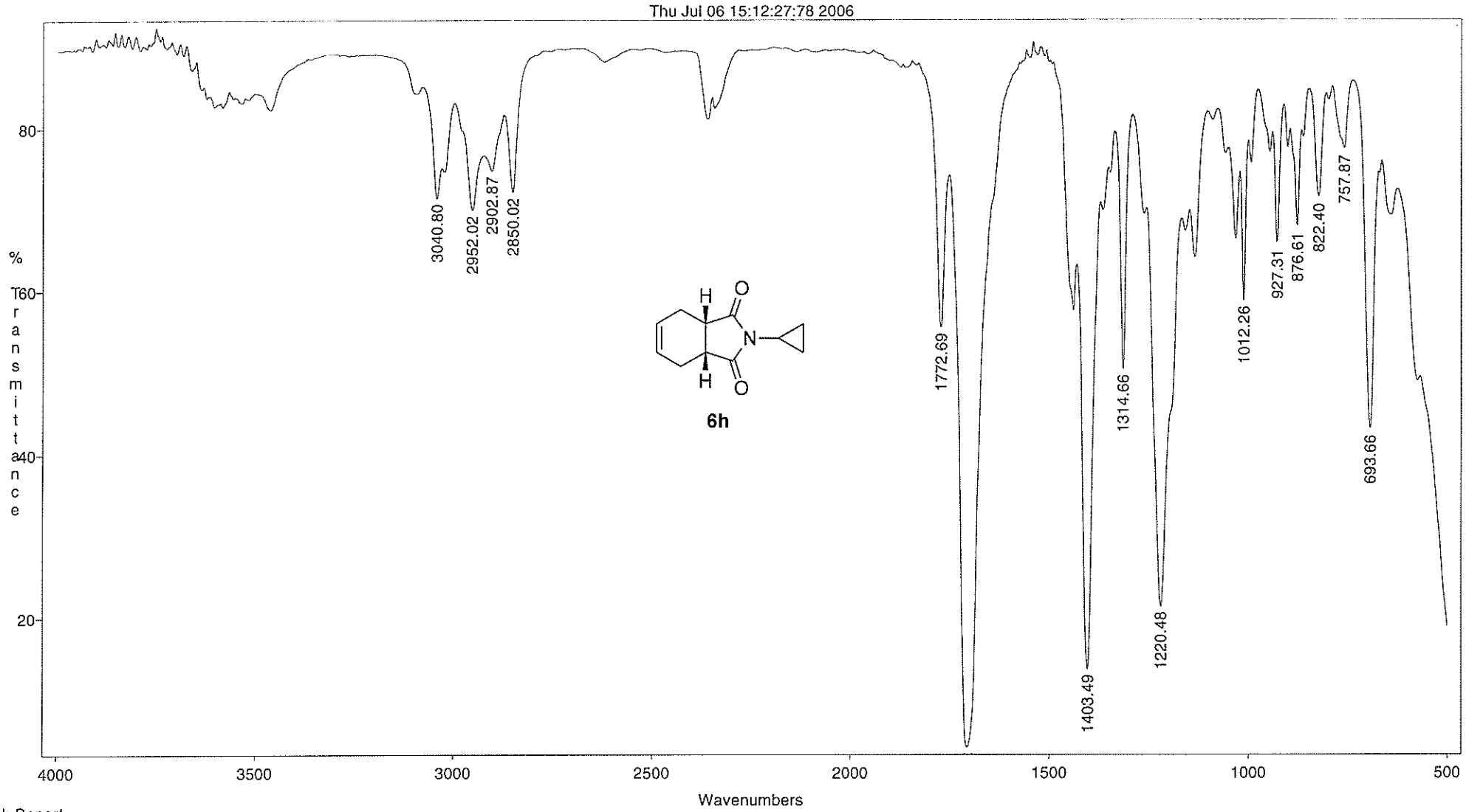
07/07/2006 7:59:25 AM

Acquisition Time (sec)	0.6783	***Comment***	1Dcarbon CDCl3 D: agagnon 70			***Date***	07 Jul 2006 00:42:40
Date Stamp	07 Jul 2006 00:42:40			***File Name***	\\LAVFS01\Nmrdata\Data\agagnon\nmr\ADG-4045-1381PA1_011001r		
Frequency (MHz)	100.61	***Nucleus***	13C	***Number of Transients***	5120	***Origin***	spect
Original Points Count	16384	***Owner***	chemistry	***Points Count***	32768	***Pulse Sequence***	zgpg60
Receiver Gain	16384.00	***SW(cyclical) (Hz)***	24154.59	***Solvent***	CHLOROFORM-d		
Spectrum Offset (Hz)	10054.1602	***Sweep Width (Hz)***	24153.85				



6h

No.	(ppm)	(Hz)	Height
1	5.30	532.9	0.8770
2	22.54	2267.4	0.2538
3	23.92	2406.7	1.0000
4	39.03	3926.7	0.7544
5	77.04	7751.7	0.6061
6	77.36	7783.4	0.6028
7	77.68	7815.8	0.5995
8	128.04	12882.2	0.6905
9	180.98	18208.8	0.0979



eak Report
ile: c:\adg1381.ras
itle: Thu Jul 06 15:12:27:78 2006
ilter: Three Point Center of Gravity

m-1	%T	cm-1	%T	cm-1	%T
040.80	71.34	2952.02	69.88	2902.87	74.71
850.02	72.08	1772.69	55.49	1707.32	4.18
403.49	13.67	1314.66	50.44	1220.48	21.37
012.26	58.77	927.31	65.87	876.61	67.93
22.40	71.51	757.87	77.46	693.66	43.21

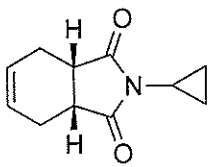
Spectre de masse

Université de Sherbrooke

20066023

c:\masspec\bordeleau\adg4045-1381pa.mas
Échantillon : ADG-4045-1381PA1
14/7/2006

ionisation électronique:70eV

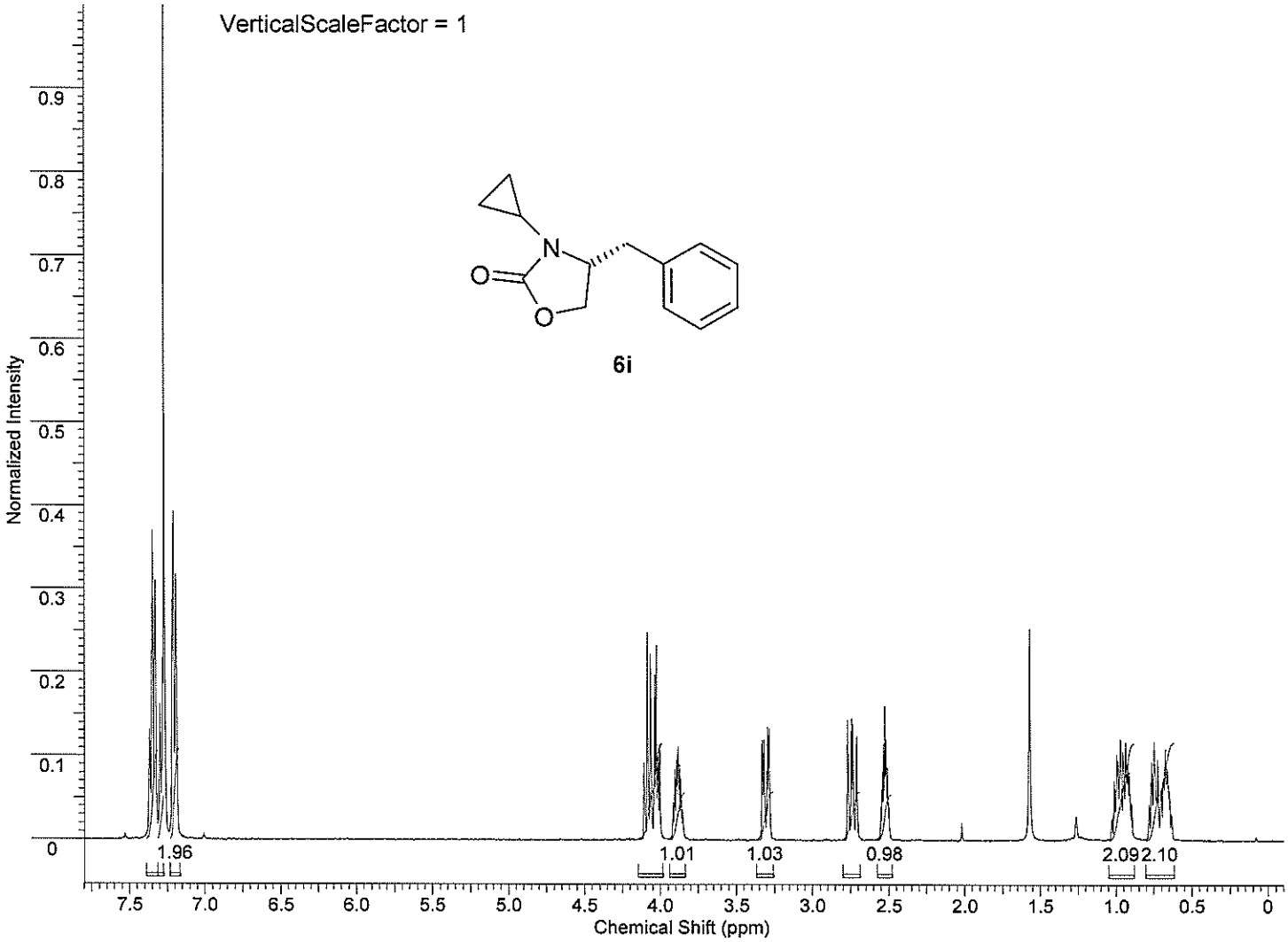


6h

KL-4064-0145PA1

05/18/2005 10:27 AM

Acquisition Time (sec)	5.1120	***Comment***	1Dproton CDCl3 D: klittle1 3		
Date	18 May 2005 12:35:12				
File Name	\\LAVFS01\nmrdata\Data\klittle1\nmr\KL-4064-0145PA1_010001r				
Frequency (MHz)	400.13	***Nucleus***	1H	***Number of Transients***	16
Origin	spect	***Original Points Count***	32768	***Owner***	chemistry
Points Count	32768	***Pulse Sequence***	zg60	***Receiver Gain***	1149.40
SW(cyclical) (Hz)	6410.26	***Solvent***	CHLOROFORM-d		
Spectrum Offset (Hz)	2465.7559	***Sweep Width (Hz)***	6410.06		



6i

No.	(ppm)	Value	Absolute Value	Non-Negative Value
1	[0.61 .. 0.80]	2.100	7.20068e+9	2.100
2	[0.88 .. 1.05]	2.093	7.17604e+9	2.093
3	[2.47 .. 2.57]	0.977	3.35044e+9	0.977
4	[2.68 .. 2.80]	1.035	3.54879e+9	1.035
5	[3.26 .. 3.37]	1.032	3.54024e+9	1.032
6	[3.83 .. 3.94]	1.012	3.47143e+9	1.012
7	[3.98 .. 4.14]	2.070	7.09881e+9	2.070
8	[7.16 .. 7.23]	1.965	6.73736e+9	1.965
9	[7.27 .. 7.31]	0.929	3.18555e+9	0.929
10	[7.31 .. 7.39]	1.943	6.66313e+9	1.943

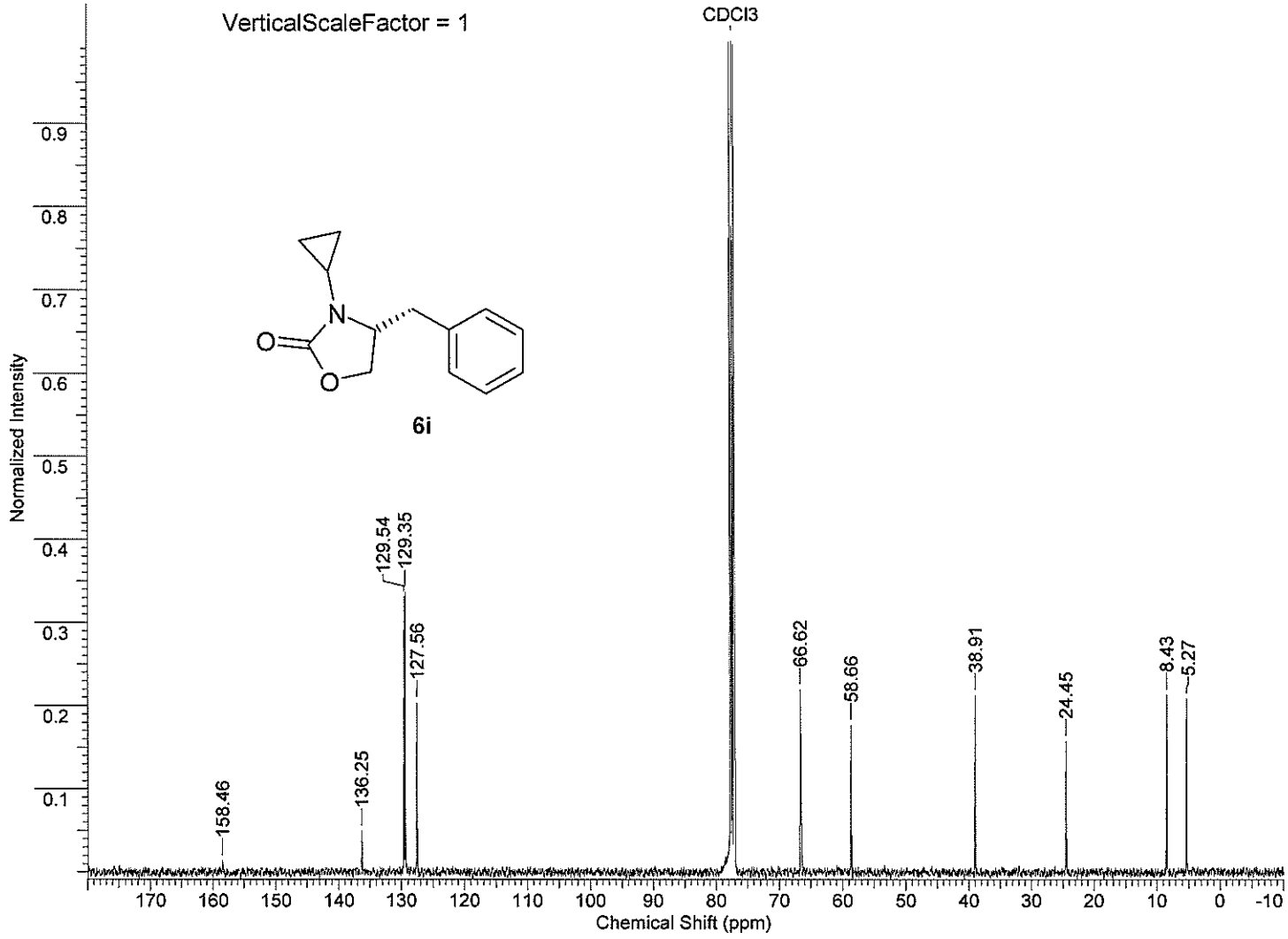
KL

May 18, 2005

KL-4064-0145PA1

06/07/2005 11:16 AM

Acquisition Time (sec)	1.3566	***Comment***	1Dcarbon CDCl3 D: klittle1 3		
Date	19 May 2005 02:52:48				
File Name	\\LAVFS01\nmrdata\Data\klittle1\nmr\0136-0165\KL-4064-0145PA1_011001r				
Frequency (MHz)	100.61	***Nucleus***	13C	***Number of Transients***	10240
Origin	spect	***Original Points Count***	32768	***Owner***	chemistry
Points Count	32768	***Pulse Sequence***	zgpg60	***Receiver Gain***	20642.50
SW(cyclical) (Hz)	24154.59	***Solvent***	CHLOROFORM-d		
Spectrum Offset (Hz)	10061.2686	***Sweep Width (Hz)***	24153.85		

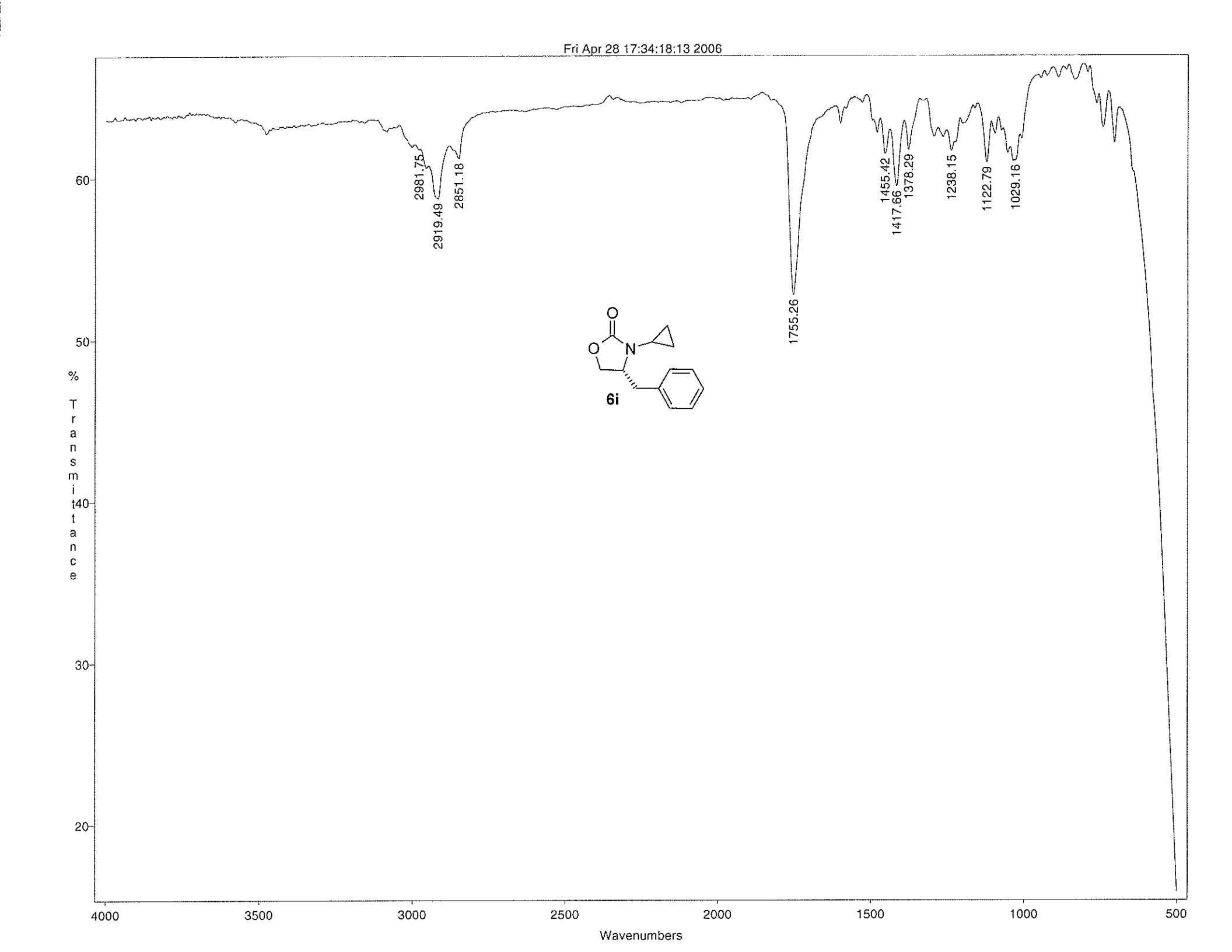


No.	(ppm)	(Hz)	Height
1	5.27	530.4	0.2089
2	8.43	848.1	0.2140
3	24.45	2460.3	0.1583
4	38.91	3914.6	0.2130
5	58.66	5902.0	0.1768
6	66.62	6703.2	0.2195
7	127.56	12834.0	0.2035
8	129.35	13013.9	0.3368
9	129.54	13033.0	0.3312
10	136.25	13708.3	0.0495
11	158.46	15943.3	0.0145

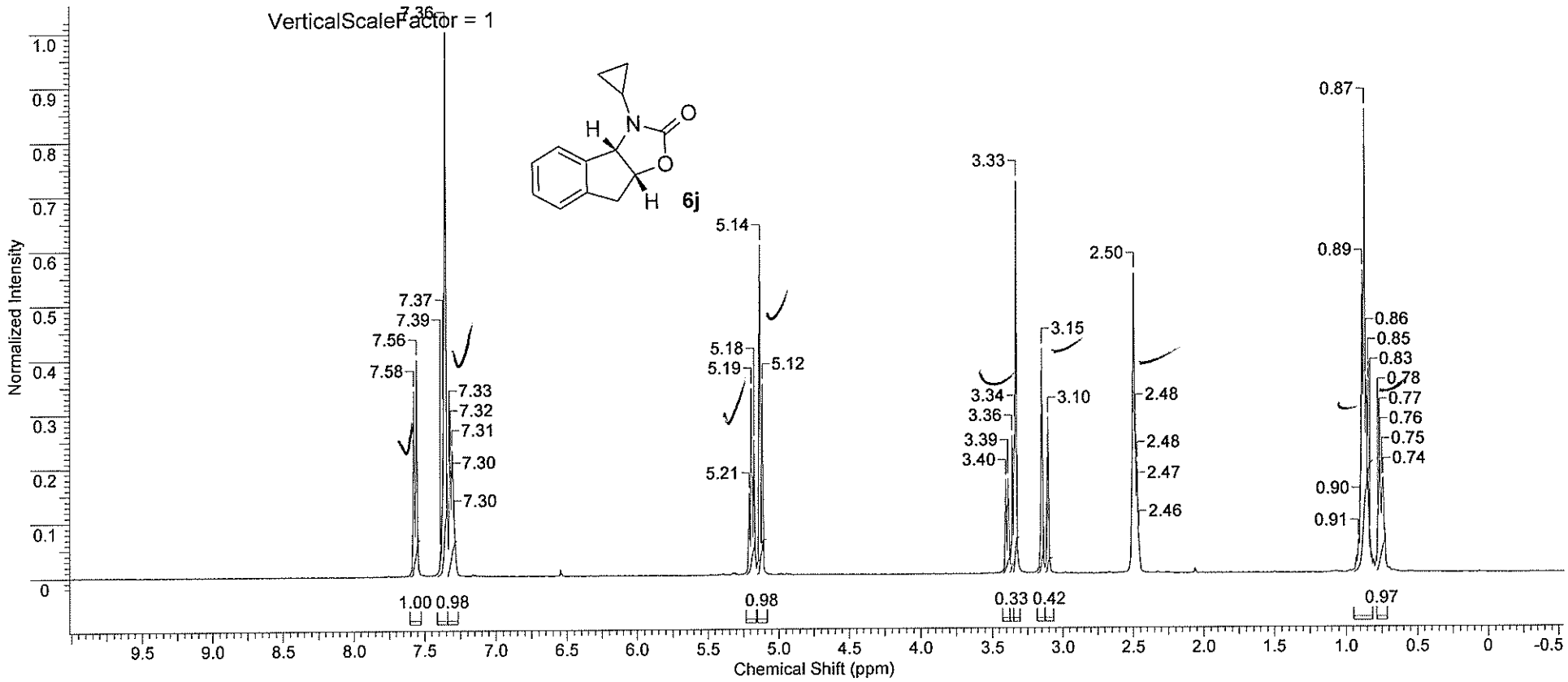
No.	Annotation	(ppm)
1	CDCl3	77.42

RL

June 7, 2005


Fri Apr 28 17:34:18:13 2006
2981.75
2919.49
2851.18
1755.26
1455.42
1417.66
1378.29
1238.15
1122.79
1029.16
6i
% Transmittance
60
50
40
30
20
4000
3500
3000
2500
2000
1500
1000
500
Wavenumbers

Acquisition Time (sec)	5.1120	***Comment***	1Dproton DMSO D: mstonge 80			***Date***	08 Apr 2005 21:02:56
File Name	\\LAVFS01\nmrdata\Data\mstonge\nmr\MS-4072-0094PA1_2_010001r					***Frequency (MHz)***	400.13
Nucleus	1H	***Number of Transients***	16	***Origin***	spect	***Original Points Count***	32768
Owner	chemistry	***Points Count***	32768	***Pulse Sequence***	zg60	***Receiver Gain***	322.50
SW(cyclical) (Hz)	6410.26	***Solvent***	DMSO-d6	***Spectrum Offset (Hz)***	2468.5920	***Sweep Width (Hz)***	6410.06



No.	(ppm)	(Hz)	Height
1	0.73	292.9	0.0779
2	0.74	296.7	0.1724
3	0.75	299.2	0.1707
4	0.76	302.3	0.1230
5	0.76	305.1	0.1703
6	0.77	307.2	0.2029
7	0.78	310.9	0.1137
8	0.83	333.0	0.0761
9	0.85	339.3	0.2396
10	0.86	343.2	0.3599
11	0.86	344.6	0.3599

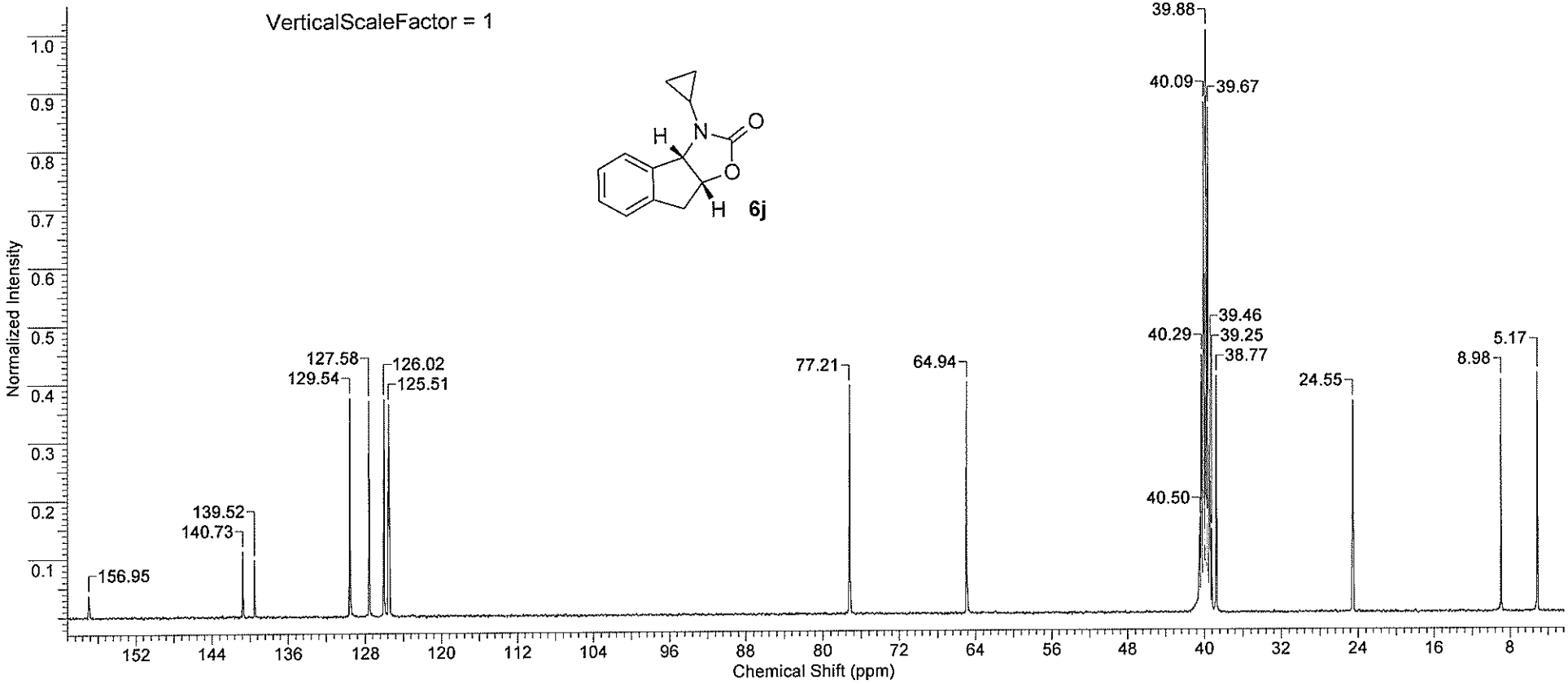
No.	(ppm)	(Hz)	Height
12	0.87	349.3	0.8500
13	0.89	355.5	0.5552
14	0.90	361.4	0.1178
15	0.91	365.9	0.0593
16	2.46	983.7	0.0768
17	2.47	987.8	0.1473
18	2.48	990.3	0.2035
19	2.48	994.3	0.2910
20	2.50	998.6	0.4816
21	2.50	1000.3	0.5507
22	3.10	1242.3	0.2868

No.	(ppm)	(Hz)	Height
23	3.15	1260.3	0.4127
24	3.33	1333.1	0.7212
25	3.34	1337.0	0.2797
26	3.36	1343.6	0.2534
27	3.39	1355.2	0.1742
28	3.40	1361.6	0.1723
29	5.12	2047.9	0.3502
30	5.14	2054.9	0.6056
31	5.18	2071.4	0.2474
32	5.19	2077.6	0.3433
33	5.21	2084.1	0.1502

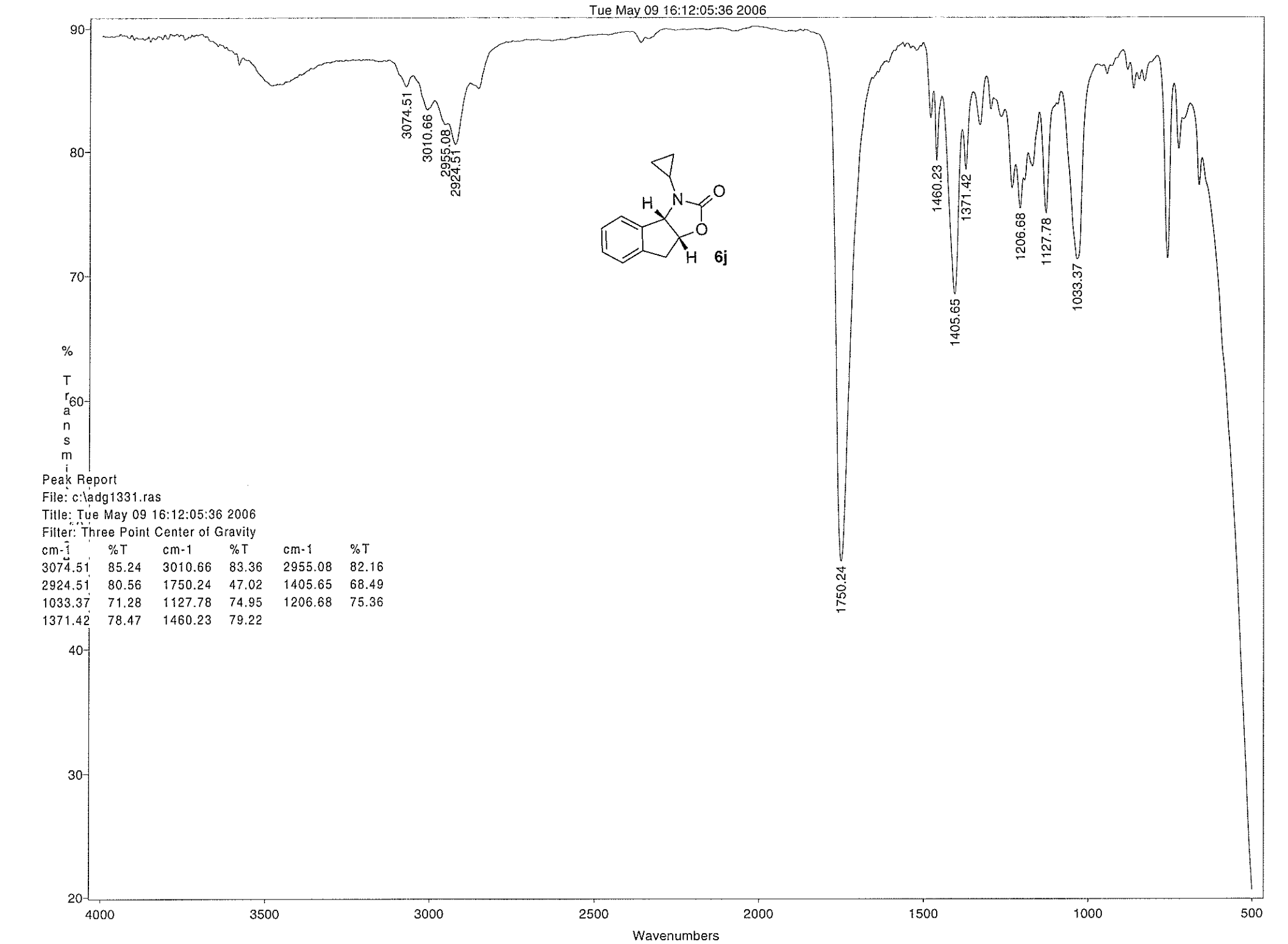
No.	(ppm)	(Hz)	Height
34	7.29	2916.3	0.0904
35	7.30	2919.2	0.1026
36	7.30	2922.1	0.1725
37	7.31	2924.7	0.2321
38	7.32	2929.4	0.1897
39	7.33	2932.1	0.2025
40	7.36	2944.1	1.0000
41	7.37	2949.3	0.3182
42	7.39	2957.2	0.0508
43	7.56	3024.5	0.3989
44	7.58	3031.7	0.3411

No.	(ppm)	Value	Absolute Value	Non-Negative Value
1	[0.71 .. 0.79]	0.967	6.20966e+9	0.967
2	[0.82 .. 0.95]	3.092	1.98537e+10	3.092
3	[3.07 .. 3.12]	0.419	2.69293e+9	0.419
4	[3.13 .. 3.18]	0.608	3.90141e+9	0.608
5	[3.30 .. 3.35]	0.999	6.41571e+9	0.999
6	[3.35 .. 3.37]	0.328	2.10443e+9	0.328
7	[3.37 .. 3.42]	0.425	2.73074e+9	0.425
8	[5.08 .. 5.15]	0.984	6.31748e+9	0.984
9	[5.16 .. 5.23]	0.989	6.35037e+9	0.989
10	[7.27 .. 7.34]	0.982	6.30724e+9	0.982
11	[7.34 .. 7.41]	1.964	1.26078e+10	1.964
12	[7.53 .. 7.61]	1.000	6.42225e+9	1.000

Acquisition Time (sec)	1.3566	***Comment***	1Dcarbon DMSO D: mstonge 15			***Date***	14 Apr 2005 11:09:52
File Name	\\LAVFS01\nmrdata\Data\mstonge\nmr\MS-4072-0094PA1_020001r					***Frequency (MHz)***	100.61
Nucleus	13C	***Number of Transients***	7680	***Origin***	spect	***Original Points Count***	32768
Owner	chemistry	***Points Count***	32768	***Pulse Sequence***	zgpg60	***Receiver Gain***	18390.40
SW(cyclical) (Hz)	24154.59	***Solvent***	DMSO-d6	***Spectrum Offset (Hz)***	10010.9619	***Sweep Width (Hz)***	24153.85



No.	(ppm)	(Hz)	Height	No.	(ppm)	(Hz)	Height
1	5.17	519.9	0.4092	11	40.50	4075.1	0.1609
2	8.98	904.0	0.3982	12	64.94	6533.5	0.3967
3	24.55	2470.4	0.3622	13	77.21	7768.2	0.3917
4	38.77	3900.4	0.4058	14	125.51	12628.2	0.3636
5	39.25	3949.1	0.1433	15	126.02	12679.0	0.3723
6	39.46	3970.5	0.4279	16	127.58	12836.0	0.3700
7	39.67	3991.1	0.8659	17	129.54	13033.6	0.3745
8	39.88	4012.5	1.0000	18	139.52	14037.6	0.0969
9	40.09	4033.1	0.8752	19	140.73	14159.2	0.1123
10	40.29	4053.8	0.4409	20	156.95	15791.2	0.0379



Peak Report
File: c:\adg1331.ras
Title: Tue May 09 16:12:05:36 2006
Filter: Three Point Center of Gravity

cm-1	%T	cm-1	%T	cm-1	%T
3074.51	85.24	3010.66	83.36	2955.08	82.16
2924.51	80.56	1750.24	47.02	1405.65	68.49
1033.37	71.28	1127.78	74.95	1206.68	75.36
1371.42	78.47	1460.23	79.22		

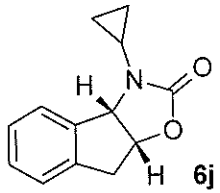
Spectre de masse

Université de Sherbrooke

c:\masspec\bordeleau\4045-1331pa1.mas ionisation électronique:70eV

Échantillon : ADG-4045-1331PA1 2006E052

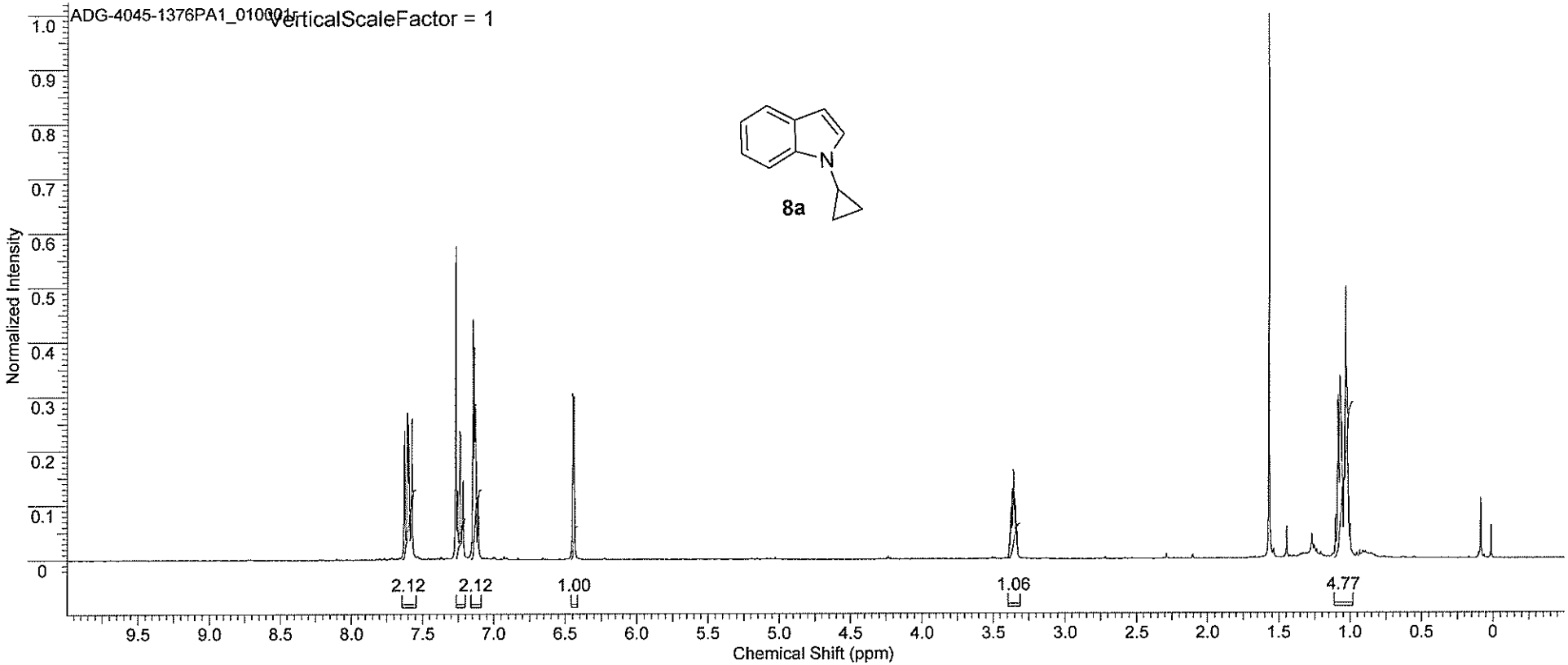
16/5/2006



6j

07/05/2006 10:55:13 AM

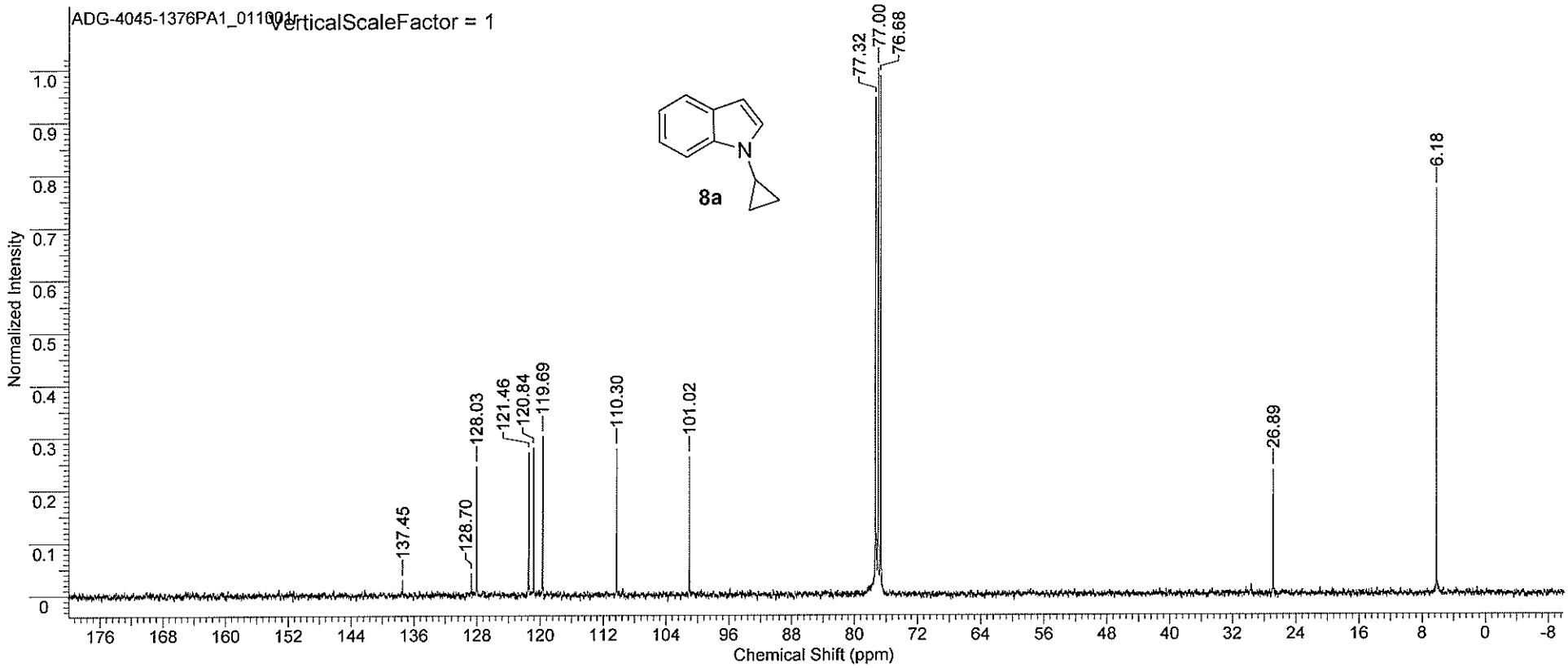
Acquisition Time (sec)	2.5559	***Comment***	1Dproton CDCl3 D: agagnon 115			***Date***	05 Jul 2006 14:47:28
Date Stamp	05 Jul 2006 14:47:28			***File Name***	\\LAVFS01\Nmrdata\Data\agagnon\nmr\ADG-4045-1376PA1_010001r		
Frequency (MHz)	400.13	***Nucleus***	1H	***Number of Transients***	16	***Origin***	spect
Original Points Count	16384	***Owner***	chemistry	***Points Count***	32768	***Pulse Sequence***	zg60
Receiver Gain	574.70	***SW(cyclical) (Hz)***	6410.26	***Solvent***	CHLOROFORM-d		
Spectrum Offset (Hz)	2465.7559	***Sweep Width (Hz)***	6410.06				



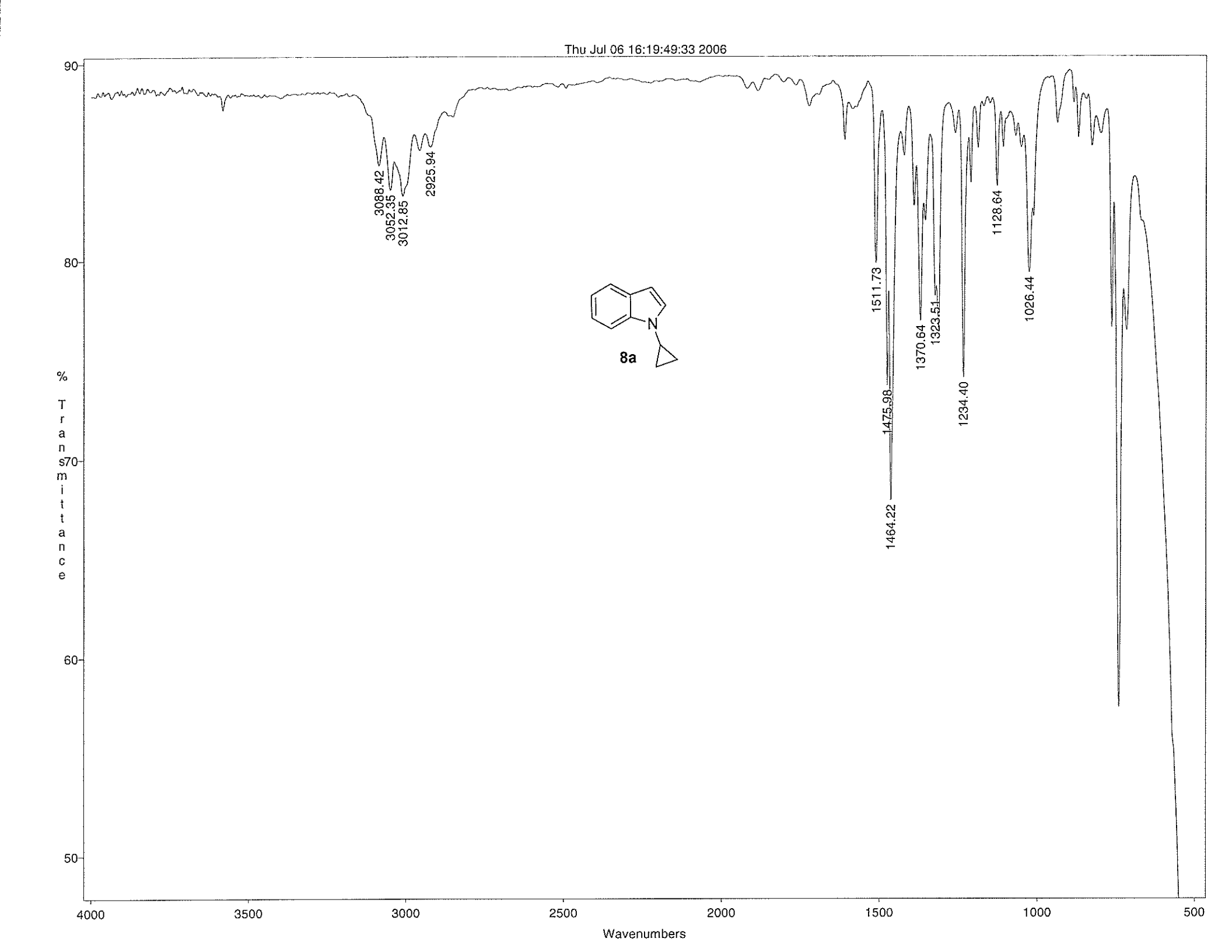
No.	(ppm)	Value	Absolute Value	Non-Negative Value
1	0.98 .. 1.12	4.772	2.17880e+10	4.772
2	3.32 .. 3.40	1.063	4.85377e+9	1.063
3	6.42 .. 6.46	0.999	4.55894e+9	0.999
4	7.09 .. 7.17	2.115	9.65750e+9	2.115
5	7.21 .. 7.27	1.244	5.67919e+9	1.244
6	7.55 .. 7.65	2.118	9.66922e+9	2.118

07/06/2006 8:10:40 AM

Acquisition Time (sec)	0.6783	***Comment***	1Dcarbon CDCl3 D: agagnon 115			***Date***	06 Jul 2006 07:57:52
Date Stamp	06 Jul 2006 07:57:52			***File Name***	\\LAVFS01\Nmrdata\Data\agagnon\nmr\ADG-4045-1376PA1_011001r		
Frequency (MHz)	100.61	***Nucleus***	13C	***Number of Transients***	5120	***Origin***	spect
Original Points Count	16384	***Owner***	chemistry	***Points Count***	32768	***Pulse Sequence***	zgpg60
Receiver Gain	16384.00	***SW(cyclical) (Hz)***	24154.59	***Solvent***	CHLOROFORM-d		
Spectrum Offset (Hz)	10017.9395	***Sweep Width (Hz)***	24153.85				



No.	(ppm)	(Hz)	Height
1	6.18	622.0	0.7702
2	26.89	2705.9	0.2348
3	76.68	7715.5	0.9869
4	77.00	7747.2	1.0000
5	77.21	7767.8	0.0882
6	77.32	7779.6	0.9444
7	101.02	10164.3	0.2623
8	110.30	11097.5	0.2772
9	119.69	12042.5	0.3027
10	120.84	12158.2	0.2801
11	121.46	12220.9	0.2719
12	128.03	12881.4	0.2450


Thu Jul 06 16:19:49:33 2006
90
80
70
60
50
% Transmittance
4000
3500
3000
2500
2000
1500
1000
500
Wavenumbers
3088.42
3052.35
3012.85
2925.94
1511.73
1475.98
1464.22
1370.64
1323.51
1234.40
1128.64
1026.44
N
8a

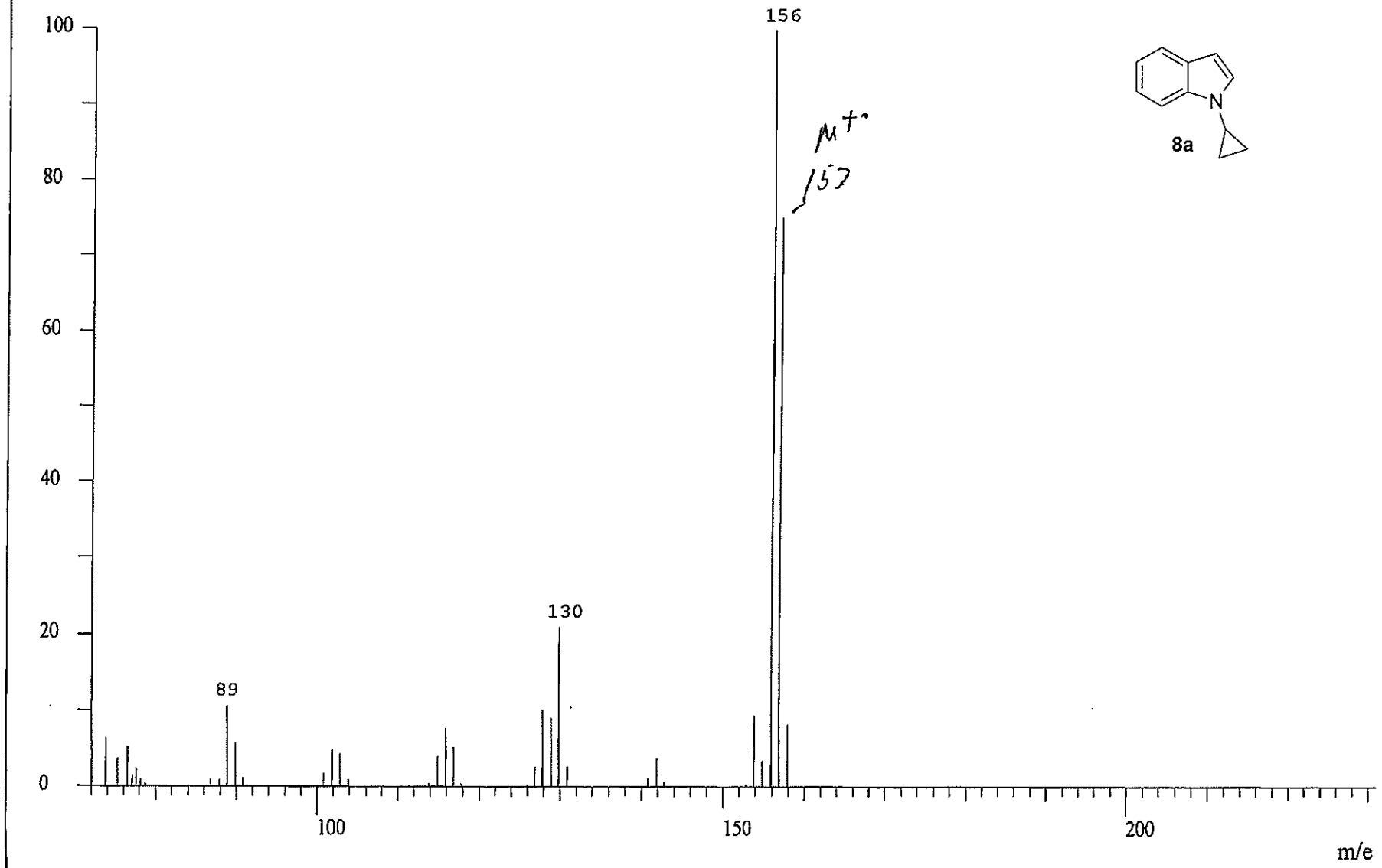
Spectre de masse

Université de Sherbrooke

c:\masspec\bordeleau\adg40451376pa1.mas
Échantillon : ADG-4045-1376PA1
10/7/2006

ionisation électronique:70eV

20066013



8a