Supporting Information

A Convenient Synthesis of 7-Halo-1-indanones and 8-Halo-1-tetralones.

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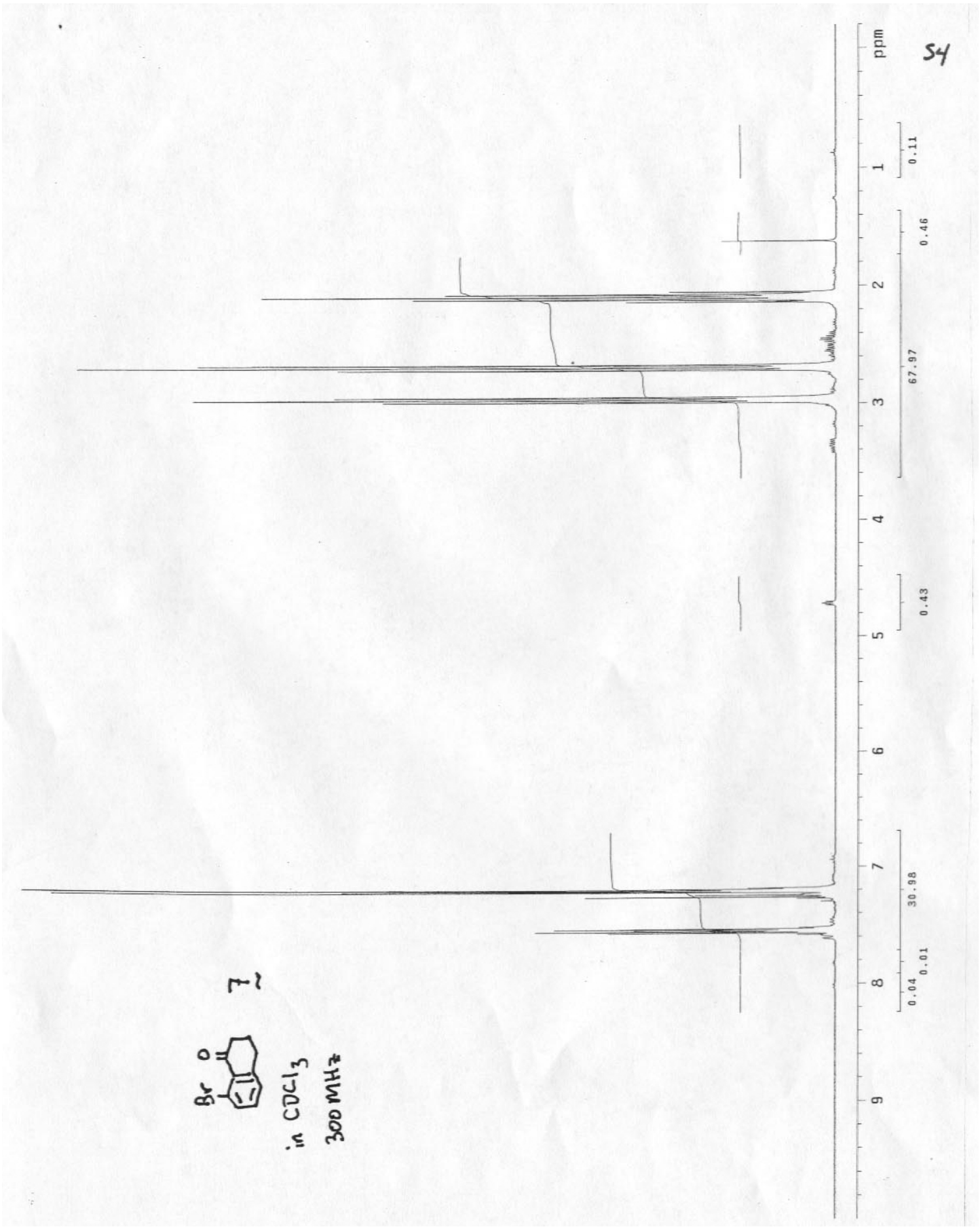
Contents:

General: Solvents were of reagent grade, and when necessary, anhydrous solvents were purchased and used without further drying. Commercially available reagents were used without further purification unless stated in the experimental details. Reactions were monitored by TLC using Merck silica (60 F-254). Column chromatography employed Whatman silica gel of 60 Å, 230-400 mesh. ^{1}H NMR spectra were recorded at 300 or 500 MHz. ^{13}C NMR spectra were recorded at 75 or 125 MHz. The MS was completed by electron impact (EI) unless stated otherwise.

Experimental procedures for the preparation of 8-amino-1-tetralone (**16**)[9]. 5,6,7,8-Tetrahydro-1-naphthylamine (**10**) (12.7 g, 85.2 mmol) in EtOH (40 mL, anhydrous) was added dropwise to a solution of acetic anhydride (16 mL, 170 mmol) in EtOH (200 mL) at 0 °C. The mixture was stirred for 16 h at rt. The solvent was removed under vacuum on a rotary evaporator to yield *N*-(5,6,7,8-Tetrahydro-1-naphthyl)-acetamide (**12**) as a white solid that was used without further purification. *Tetrahedron Asymmetry* **1995**, *6*, 245-254. ^{1}H NMR (300 MHz, $CDCl_3$) δ 7.60 (d, *J* = 8.1 Hz, 1H), 7.12 (t, *J* = 7.8 Hz, 1H), 6.92 (d, *J* = 7.8 Hz, 1H), 6.86 (brs, 1H), 2.78 (t, *J* = 6.0 Hz, 2H), 2.59 (t, *J* = 6.6 Hz, 2H), 2.20 (s, 3H), 1.88-1.73 (m, 4H); ^{13}C NMR (75 MHz, $CDCl_3$) δ 169.0, 138.1, 135.4, 129.7, 126.7, 125.6, 121.7, 29.8, 24.6, 24.0, 22.9, 22.6; HRMS m/z calcd for $C_{12}H_{15}NO$ 189.1154, obsd 189.1154. *N*-(5,6,7,8-Tetrahydro-1-naphthyl)-acetamide (**12**) (~16 g, 85 mmol) in acetone (600 mL) and 15% aqueous $MgSO_4$ (13.9 g in 78 mL of H_2O) at rt was treated with $KMnO_4$ (40.8 g, 255 mmol). The mixture was allowed to stir at rt for 2 h 15 m. The mixture was filtered through celite and the solids were washed with $CHCl_3$ and water. The organic layer was separated and the aqueous layer was extracted several times with $CHCl_3$. The pooled organic fractions were washed with brine and dried over $MgSO_4$, filtered and evaporated to give *N*-(8-oxo-5,6,7,8-tetrahydro-naphthyl)-acetamide (**14**) which was carried onto the next step without further purification. ^{1}H NMR (300 MHz, $CDCl_3$) δ 12.12 (brs, 1H), 8.57 (d, *J* = 8.4 Hz, 1H), 7.41 (t, *J* = 8.1 Hz, 1H), 6.90 (d, *J* = 7.5 Hz, 1H), 2,94 (t, *J* = 6.0 Hz, 2H), 2.67 (t, *J* = 6.3 Hz, 2H), 2.20 (s, 3H), 2.10-2.01 (m, 2H). ^{13}C NMR (75 MHz, $CDCl_3$) δ 203.5,

169.7, 146.1, 142.1, 135.2, 123.1, 118.4, 40.9, 31.1, 25.8, 22.9; HRMS m/z calcd for $C_{12}H_{13}NO_2$ 203.0946, obsd 203. *N*-(8-oxo-5,6,7,8-tetrahydro-naphthyl)-acetamide (**14**) in 6N HCl (200 mL) was heated at 90 °C for 3 h. The mixture was cooled to rt and the volatiles were removed under vacuum. Ice was added to the mixture followed by and 2M NaOH until the mixture was at pH 8. The aqueous layer was extracted with EtOAc and the organic fractions were combined, washed with brine, dried, filtered and concentrated to give 8-amino-1-tetralone (**16**) as tan solid 9.11 g (66% over three steps). ^{1}H NMR (300 MHz, $CDCl_3$) δ 7.14 (dd, *J* = 7.2, 8.4 Hz, 1H), 6.48-6.43 (m, 4H), 2.86 (t, *J* = 6.0 Hz, 2H), 2.62 (t, *J* = 6.0 Hz, 2H), 2.07-1.98 (m, 2H); ^{13}C NMR (75 MHz, $CDCl_3$) δ 201.5, 151.4, 146.2, 134.5, 116.0, 115.6, 114.8, 40.5, 31.1, 23.1; HRMS m/z calcd for $C_{10}H_{11}NO$ 161.0841, obsd 161.0847 Anal. calcd for $C_{10}H_{11}NO$: C, 74.51; H, 6.88; N, 8.69. Found: C, 74.32; H, 6.96; N, 8.42.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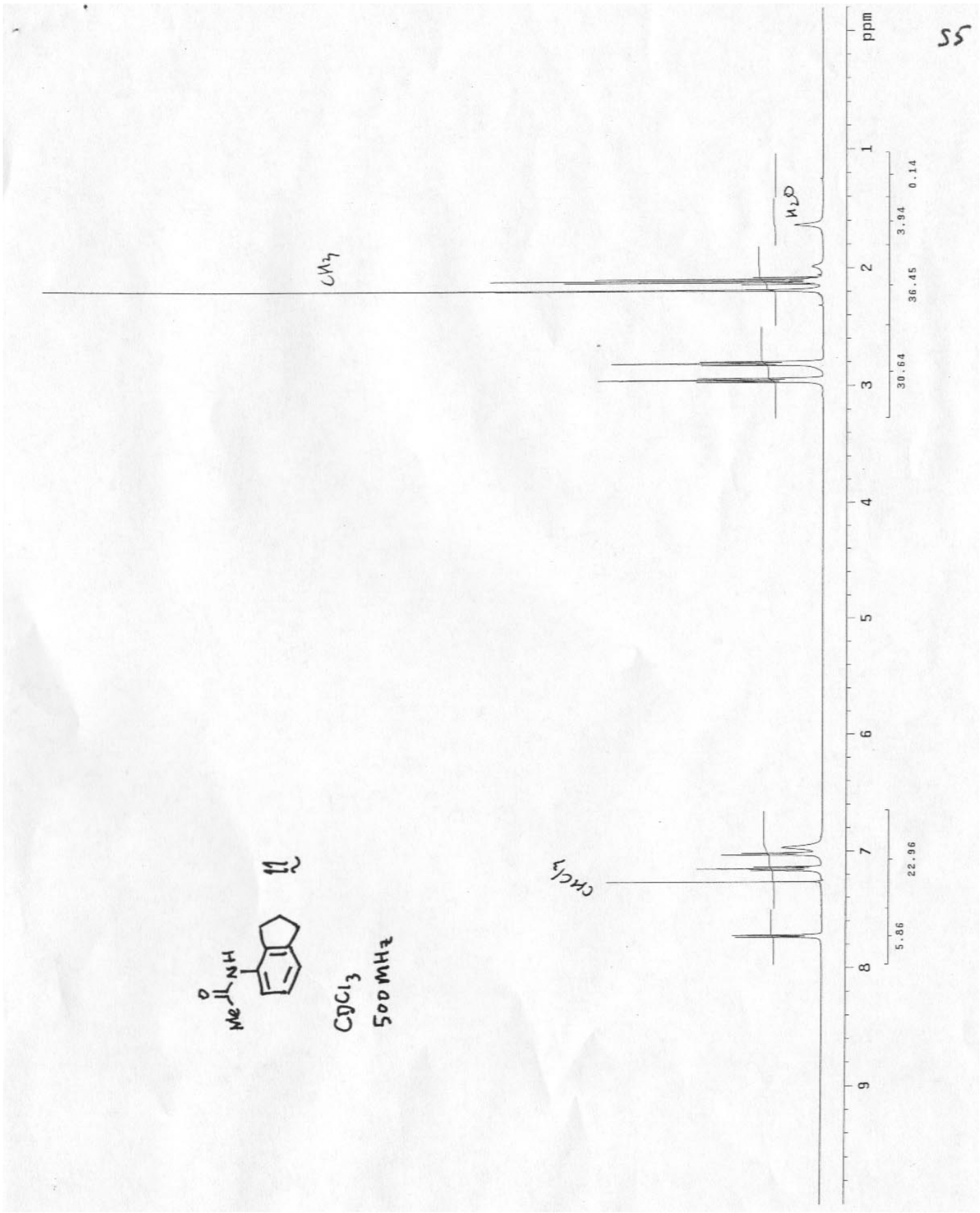
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CHCl3
ppm
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0.14
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