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Reaction of (*R*)-1a,b with Grignard reagents. The general procedure described for **5d** was applied for the synthesis of **5b** (72%), **5c** (94%), **5e** (75%) and **5f** (90%). In the case of **5a** (72%), the THF solution of methylmagnesium chloride (3.0 M) (3.0 equiv.) was added to (*R*)-**1a** in the same solvent.

(1*S*,2*R*)-**5a**: *Rf*(85:15 *n*-hexane/AcOEt) 0.3; $[\alpha]^{20}_{D}$ -100.5 (*c* 0.79, $CHCl_3$) ee 64%; ^{1}H NMR ($CDCl_3$) δ 7.36-7.50 (5H, m), 7.34 (2H, d, *J* = 7.5 Hz), 7.04 (2H, d, *J* = 7.5 Hz), 5.40 (1H, br s), 5.16 (1H, d, *J* = 12.0 Hz), 5.02 (1H, d, *J* = 12.0 Hz), 4.42 (1H, m), 4.26 (1H, br d, *J* = 7.5 Hz), 2.33 (3H, s), 1.42 (3H, dq, *J* = 0.5 and 5.5 Hz); ^{13}C NMR ($CDCl_3$) δ 154.9, 140.7, 138.1, 135.3, 129.8, 128.7, 128.6, 124.5 (q, *J* = 285.6 Hz), 76.0 (q, *J* = 26.1 Hz), 68.5, 67.9, 21.3, 18.6 (q, *J* = 2.5 Hz); ^{19}F NMR ($CDCl_3$) δ -71.0 (3F, s); MS (EI, 70 eV) *m/Z* (%): 400 (M^++1, 1), 355 (5), 232 (6), 124 (100), 91 (100); FT IR (cm^{-1}) 3424 (br), 3069, 1706, 1589, 1269, 1206, 1153.

(1*R*,2*R*)-**5a**: *Rf*(85:15 *n*-hexane/AcOEt) 0.3; ^{19}F NMR ($CDCl_3$) δ -72.6 (3F, s)

(1*S*,2*R*)-**5b**: *Rf*(8:2 *n*-hexane/AcOEt) 0.40; $[\alpha]^{20}_{D}$ -195.7 (*c* 0.67, $CHCl_3$) ee 72%; mp 123 °C (85:15 *n*-hexane/AcOEt); ^{1}H NMR ($CDCl_3$) δ 7.25-7.5 (7H, m), 7.04 (2H, d, *J* = 7.9 Hz), 5.23 (1H, s), 5.12 (1H, d, *J* = 12.0 Hz), 4.99 (1H, d, *J* = 12.0 Hz), 4.22 (1H, br m), 3.80 (1H, br d, *J* = 7.7 Hz), 2.33 (3H, s), 1.88 (1H, m), 1.58 (1H, m), 1.12 (3H, t, *J* = 7.3 Hz); ^{13}C NMR ($CDCl_3$) δ 154.8, 140.6, 138.1, 135.3, 130.3, 129.8, 128.7 , 128.6, 128.5, 124.6 (q, *J* = 286.1 Hz), 75.7 (q, *J* = 26.0 Hz), 74.3, 67.8, 25.3 (q, *J* = 2.4 Hz), 21.3, 11.5;^{19}F NMR ($CDCl_3$) δ -71.0 (3F, s); MS (EI, 70 eV) *m/Z* (%): 413 (M^+, 15), 290 (22), 246 (70), 124 (68), 91 (100); FT IR (cm^{-1}) 3409 (br), 1703, 1452, 1259, 1201.

(1*R*,2*R*)-**5b**: *Rf*(8:2 *n*-hexane/AcOEt) 0.40; ^{1}H NMR ($CDCl_3$) δ 7.0-7.5 (9H, m), 5.11 (1H, d, *J* = 12.3 Hz), 5.04 (1H, d, *J* = 12.3 Hz), 4.93 (1H, s), 4.43 (1H, br d, *J* = 10.8 Hz), 4.02 (1H, t, *J* = 10.8 Hz), 2.37 (3H, s), 2.15 (1H, m), 1.58 (1H, m), 1.12 (3H, t, *J* = 7.3 Hz); ^{19}F ($CDCl_3$) δ -72.4 (3F, s).

(1*S*,2*R*)-**5c**: *Rf*(8:2 *n*-hexane/AcOEt) 0.45; $[\alpha]^{20}_{D}$ -140.9 (*c* 0.66, $CHCl_3$) ee 67%; ^{1}H NMR ($CDCl_3$) δ 7.32-7.44 (7H, m), 7.05 (2H, d, *J* = 7.7 Hz), 6.02 (1H, dddq, *J* = 1.3, 5.3, 10.4 and 16.9 Hz), 5.52 (1H, dt, *J* = 16.9 and 1.5 Hz), 5.31 (1H, dt, *J* = 10.4 and 1.5 Hz), 5.23 (1H, br s), 5.15 (1H, d, *J* = 12.2 Hz), 5.03 (1H, d, *J*

= 12.2 Hz), 4.79 (1H, m), 4.51 (1H, br d, J = 8.3 Hz), 2.33 (3H, s);^{13}C NMR ($CDCl_3$) δ 154.8, 140.7, 138.1, 135.3, 133.9 (q, J = 2.1 Hz), 129.8, 128.7, 128.64, 128.61, 124.5 (q, J = 286.1 Hz) 124.4, 118.8, 75.5 (q, J = 26.0 Hz), 72.9, 68.0, 21.3; ^{19}F NMR ($CDCl_3$) δ -71.2 (3F, s); MS (EI, 70 eV) *m/Z* (%): 412 (M^++1, 6), 355 (21), 244 (61), 215 (87), 124 (100). 91 (100); FT IR (cm^{-1}) 3231 (br), 1702, 1582, 1259, 1197.27, 1163, 1046.

(1*R*,2*R*)-**5c**: *Rf* (8:2 *n*-hexane/AcOEt) 0.45; ^{19}F NMR ($CDCl_3$) δ -72.2 (3F, s).

(1*S*,2*R*)-**5e**: *Rf* (8:2 *n*-hexane/AcOEt) 0.34; ^{1}H NMR ($CDCl_3$) δ 7.27-7.44 (7H, m), 7.08 (2H, d, J = 7.7 Hz), 6.65 (1H, t, J = 55.6 Hz), 5.56 (1H, br s), 4.97 (1H, d, J = 12.0 Hz), 4.89 (1H, d, J = 12.0 Hz), 4.22 (1H, br qn, J = 6.4 Hz), 3.26 (1H, br s), 2.34 (3H, s), 1.37 (3H, dd, J = 2.7 and 6.4 Hz); ^{13}C NMR ($CDCl_3$) δ 154.8, 140.4, 137.9, 135.5, 129.8, 128.6, 128.4, 128.3, 124.6, 115.0 (dd, J = 246.0 and 257.1 Hz), 74.4 (dd, J = 18.5 and 25.9 Hz), 68.0 (d, J = 5.6 Hz), 67.4, 21.3, 17.5 (d, J = 3.7 Hz); ^{19}F NMR ($CDCl_3$) δ -120.1 (1F, dd, J = 55.6 and 278.0 Hz), -132.3 (1F, dd, J = 55.6 and 278.0 Hz); MS (EI, 70 eV) *m/Z* (%) 382 (M^++1, 9), 258 (27), 214 (11), 124 (11), 91 (100); FT IR (cm^{-1}) 3239 (br), 3071, 1703, 1587, 1458, 1273, 1167, 1055.

(1*R*,2*R*)-**5e**: *Rf* (8:2 *n*-hexane/AcOEt) 0.34; ^{1}H NMR ($CDCl_3$) δ 7.27-7.44 (7H, m), 7.08 (2H, d, J = 7.7 Hz), 6.51 (1H, dd, J = 54.7 and 56.2 Hz), 5.38 (1H, br s), 5.03 (1H, d, J = 12.2 Hz), 4.93 (1H, d, J = 12.2 Hz), 4.34 (1H, m), 3.84 (1H, br s), 2.32 (3H, s), 1.45 (3H, dd, J = 1.9 and 6.4 Hz); ^{19}F NMR ($CDCl_3$) δ -125.8 (1F, dd, J = 56.2 and 275.8 Hz), -129.3 (1F, dd, J = 54.7 and 275.8 Hz).

(1*S*,2*R*)-**5f**: *Rf* (8:2 *n*-hexane/AcOEt) 0.44; $[\alpha]^{20}_{D}$ -11.0 (*c* 0.64, $CHCl_3$) ee 50%; ^{1}H NMR ($CDCl_3$) δ 7.45 (2H, d, J = 8.0 Hz), 7.2-7.4 (10 H, m), 7.07 (2H, d, J = 8.0 Hz), 6.33 (1H, t, J = 55.2 Hz), 5.46 (1H, s), 5.31 (1H, br d, J = 3.7 Hz), 4.98 (1H, d, J = 12.1 Hz), 4.92 (1H, d, J = 12.1 Hz), 3.87 (1H, br m), 2.34 (3H, s); ^{13}C NMR ($CDCl_3$) δ 154.8, 140.4, 138.2, 137.3, 135.5, 129.8, 128.7, 128.6, 128.5, 128.4, 128.1, 124.8, 114.7 (dd, J = 254.3 and 248.6 Hz), 74.5 (d, J = 3.5 Hz), 74.4 (dd, J = 19.1 and 21.7 Hz), 67.5, 21.3; ^{19}F NMR ($CDCl_3$) δ -123.4 (1F, dd, J = 55.2 and 276.0 Hz), -128.3 (1F, dd, J = 55.2 and 276.0 Hz); MS (EI, 70 eV) *m/Z* (%) 444 (M^++1, 4), 320 (18), 276 (21), 124 (20), 91 (100); FT IR (cm^{-1}) 3398 (br), 3034, 1718 (br), 1493, 1249, 1041.

(1*R*,2*R*)-**5f**: *Rf* (8:2 *n*-hexane/AcOEt) 0.51; $[\alpha]^{20}_{D}$ -53.3 (*c* 0.78, $CHCl_3$) ee 72%; ^{1}H NMR ($CDCl_3$) δ 7.27-7.50 (12H, m), 7.00 (2H, d, *J* = 8.0 Hz), 5.77 (1H, t, *J* = 54.6 Hz), 5.55 (1H, br s), 5.38 (1H, br s), 5.16 (1H, d, *J* = 12.1 Hz), 5.01 (1H, d, *J* = 12.1 Hz), 2.31 (3H, s); ^{19}F NMR ($CDCl_3$) δ -119.2 (1F, dd, *J* = 54.6 Hz and 274.7 Hz), -130.2 (1F, dd, *J* = 54.6 Hz and 274.7 Hz).

Epimerization test of 5d with Hunig base. To a solution of **5d** (26 mg, 0.05 mmol) in dry THF (500 μl) Hunig base (diisopropylethylamine) (0.05 mmol, 10 μl) was added at rt, under nitrogen. After 15 h a saturated aqueous NH_4Cl solution was added, and the mixture was extracted with AcOEt. The collected organic phases were dried over anhydrous sodium sulfate, filtered and the solvent removed *in vacuo*. FC of the crude (85:15 hexane/AcOEt) gave a 1:1 mixture of the two diastereoisomers **5d** (nearly quantitative).

Esterification with phenylacetic or phenylpropionic acid. The general procedure described for **8a** was applied for the synthesis of **6a** (quantitative), **6c** (quantitative), **8b** (quantitative), **9b** (quantitative), **10a** (quantitative), **10b** (quantitative).

(1*S*,2*R*,2'*S*)-**6a**: *Rf* (8:2 *n*-hexane/AcOEt) 0.48; mp 102-103 °C (AcOEt); ^{1}H NMR ($CDCl_3$) δ 7.15-7.45 (12H, m), 7.04 (2H, d, *J* = 9.5 Hz), 6.22 (1H, q, *J* = 5.0 Hz), 4.88 (1H, d, *J* = 12.0 Hz), 4.74 (1H, s), 4.70 (1H, d, *J* = 12.0 Hz), 3.72 (1H, q, *J* = 7.5 Hz), 2.34 (3H, s), 1.51 (3H, d, *J* = 7.5 Hz), 1.49 (3H, d, *J* = 5.0 Hz); ^{19}F NMR ($CDCl_3$) δ -70.9 (3F, s).

(1*S*,2*R*,2'*S*)-**6c**: *Rf* (85:15 *n*-hexane/AcOEt) 0.54; ^{1}H NMR ($CDCl_3$) δ 7.17-7.42 (12H, m), 7.00 (2H, d, *J* = 7.9 Hz), 6.62 (1H, d, *J* = 6.3 Hz), 5.84-6.03 (1H, m), 5.41 (1H, d, *J* = 16.3 Hz), 5.32 (1H, d, *J* = 10.8 Hz), 4.91 (1H, d, *J* = 12.0 Hz), 4.70 (1H, d, *J* = 12.0 Hz), 3.74 (1H, q, *J* = 7.2 Hz), 2.30 (3H, s), 1.50 (3H, d, *J* = 7.2 Hz); ^{19}F NMR ($CDCl_3$) δ -70.7 (3F, s).

(1*S*,2*R*,2'*R*)-**6c**: *Rf* (85:15 *n*-hexane/AcOEt) 0.54; ^{1}H NMR ($CDCl_3$) δ 7.19-7.41 (12H, m), 7.06 (2H, d, *J* = 8.0 Hz), 6.62 (1H, d, *J* = 6.3 Hz), 5.76-5.95 (1H, m), 5.25 (1H, d, *J* = 10.4 Hz), 5.22 (1H, d, *J* =17.1 Hz), 4.97 (1H, d, *J* = 12.0), 4.84 (1H,s), 4.83 (1H, d, *J* = 12.0 Hz), 3.69 (1H, q, *J* = 7.0 Hz), 2.33 (3H,s), 1.50 (3H, d, *J* = 7.0 Hz); ^{19}F NMR ($CDCl_3$) δ -70.8 (3F, s).

(1*S*,2*R*)-**8b**: *Rf* (8:2 *n*-hexane/AcOEt) 0.45; $[\alpha]^{20}_{D}$ -36.9 (*c* 0.85, $CHCl_3$) ee 61%; ^{1}H NMR ($CDCl_3$) δ 7.15-7.48 (17H, m), 7.01 (2H, d , *J* = 7.8 Hz), 6.52 (1H, s), 6.43 (1H, t, *J* = 54.9 Hz), 5.06 (1H, s), 4.89 (1H, d, *J* = 12.3 Hz), 4.76 (1H, d, *J* = 12.3 Hz), 3.66 (2H, s), 2.31 (3H, s); ^{13}C NMR ($CDCl_3$) δ 168.7, 153.6, 140.4, 138.2, 135.6, 134.5, 133.4, 129.7, 129.4, 129.1, 128.6, 128.52, 128.47, 128.40, 128.2, 127.2, 124.4, 114.3 (t, *J* = 253.4 Hz), 77.2, 75.0, 71.7 (t, *J* = 20.4 Hz), 67.2, 41.4, 21.3; ^{19}F NMR ($CDCl_3$) δ -125.3 (2F, d, *J* = 54.9 Hz); MS (EI, 70 eV) *m/Z* (%) 438 (M^+– S-*p*-Tol, 25), 426 (6), 123 (10), 91 (100); FT IR (cm^{-1}) 3403, 3034, 1748 (br), 1497, 1242, 1134, 1074.

(1*S*,2*R*)-**9b**: *Rf* (8:2 *n*-hexane/AcOEt) 0.38; $[\alpha]^{20}_{D}$ +14.6 (*c* 0.64, acetone) ee 72%; ^{1}H NMR (Acetone-d_6) δ 7.12-7.48 (15H, m), 6.74 (1H, br d, *J* = 9.9 Hz), 6.06 (1H, ddd, *J* = 2.5, 54.6 and 55.3 Hz), 5.9 (1H, d, *J* = 8.2 Hz), 5.01 (1H, d, *J* = 12.6 Hz), 4.92 (1H, d, *J* = 12.6), 4.54 (1H, m), 3.75 (2H,s); ^{13}C NMR (Acetone-d_6) δ 171.1, 157.5, 138.6, 138.3, 135.7, 131.0, 130.0, 129.9, 129.8, 129.2, 128.9, 128.5, 128.0, 115.7 (t, *J* = 242.3 Hz), 74.8, 67.5, 57.4 (t, *J* = 20.3 Hz), 42.2; ^{19}F NMR (Acetone-d_6) δ -123.5 (1F, ddd, *J* = 286.5, 55.3 and 6.6 Hz), -128.0 (1F, ddd, *J* = 286.5, 54.6 and 19.4 Hz); MS (EI, 70 eV) *m/Z* (%) 440 (M^++1, 23), 419 (9), 304 (19), 225 (12), 91 (100); FT IR (cm^{-1}) 3361 (br), 1702, 1533, 1261, 1160.

(1*S*,2*S*)-**9b**: *Rf* (8:2 *n*-hexane/AcOEt) 0.38; ^{1}H NMR (Acetone-d_6) δ 7.12-7.48 (15H, m), 6.76 (1H, br d, *J* = 9.8 Hz), 6.12 (1H, d, *J* = 3.9 Hz), 5.93 (1H, dt, *J* = 4.1 and 55.1 Hz), 5.04 (1H, d, *J* = 12.8 Hz), 4.96 (1H, d, *J* = 12.8 Hz), 4.46 (1H, m), 3.75 (2H, s); ^{19}F NMR (Acetone-d_6) δ -122.0 (1F, ddd, *J* = 8.9 Hz and 55.1 Hz and 285.7 Hz), -125.7 (1F, ddd, *J* = 16.3, 55.1 and 285.7 Hz).

(1*S*,2*S*,2'*S*)-**10a**: *Rf* (7:3 *n*-hexane/AcOEt) 0.65 ; ^{1}H NMR (Acetone-d_6) δ 7.05-7.45 (15H, m), 6.98 (1H, br d, *J* = 10.8 Hz), 6.06 (1H, d, *J* = 9.0 Hz), 5.00 (1H, d, *J* = 12.6 Hz), 4.91 (1H, d, *J* = 12.6 Hz), 4.80 (1H, m), 3.82 (1H, q, *J* = 7.2 Hz), 1.46 (3H, d, *J* = 7.2 Hz);^{13}C NMR (Acetone-d_6) δ 173.7, 157.3, 141.6, 137.8, 130.3, 130.0, 129.9, 129.33, 129.26, 129.2, 128.9, 128.6, 126.3 (q, *J* = 282.8 Hz), 73.8, 67.8, 57.1 (q, *J* = 29.2 Hz), 47.0, 19.2; ^{19}F NMR (Acetone-d_6) δ - 68.5 (3F, d, *J* = 7.6 Hz); MS (EI, 70 eV) *m/Z* (%) 472 (M^++1, 1), 356 (19), 322 (39), 239 (100), 231 (78), 133 (72), 105, (100), 91 (80); FT IR (cm^{-1}) 3361 (br), 1737, 1655, 1536, 1258, 1135.

(1*R*,2*R*,2'*S*)-**10a**: *Rf* (7:3 *n*-hexane/AcOEt) 0.65; ^{1}H NMR (Acetone-d_6) δ 7.05-7.45 (16H, m), 6.08 (1H, d, *J* = 8.9 Hz), 5.02 (1H, d, *J* = 12.5 Hz), 4.94 (1H, d, *J* = 12.5 Hz), 4.80 (1H, m), 4.03 (1H, q, *J* = 6.9 Hz), 1.40 (3H, d, *J* = 6.9 Hz); ^{19}F NMR (Acetone-d_6) δ - 68.1 (3F, d, *J* = 7.8 Hz).

(1*S*,2*S*,2'*S*)-**10b**: *Rf* (7:3 *n*-hexane/AcOEt) 0.72; ^{1}H NMR (Acetone-d_6) δ 7.1-7.46 (15H, m), 6.63 (1H, br d, *J* = 9.7 Hz), 5.82 (1H, d, *J* = 9.7 Hz), 5.62 (1H, dt, *J* = 55.5 and 1.6 Hz), 4.97 (1H, d, *J* = 16.6 Hz), 4.88 (1H, d, *J* = 16.6 Hz), 4.48 (1H, m), 3.87 (1H, q, *J* = 7.2 Hz), 1.46 (3H, d, *J* = 7.2 Hz); ^{13}C NMR (Acetone-d_6) δ 173.8, 157.5, 142.1, 138.5, 130.2, 130.12, 130.06, 129.8, 129.6, 129.23, 129.20, 129.16, 129.1, 128.1, 115.5 (t, *J* = 242.6 Hz), 74.8 (dd, *J* = 2.6 and 5.3 Hz), 67.5, 57.5 (t, *J* = 20.5 Hz), 46.9, 18.9; ^{19}F NMR (Acetone-d_6) δ -124.2 (1F, ddd, *J* = 286.0, 55.5 and 5.7 Hz), -129.0 (1F, ddd, *J* = 286.0, 55.5 and 23.3 Hz).

(1*R*,2*R*,2'*S*)-**10b**: *Rf* (7:3 *n*-hexane/AcOEt) 0.72; ^{1}H NMR (Acetone-d_6) δ 7.1-7.46 (15H, m), 6.73 (1H, br d, *J* = 10.0 Hz), 6.10 (1H, dt, *J* = 55.0 Hz and 2.5 Hz), 5.88 (1H, d, *J* = 8.9 Hz), 5.00 (1H, d, *J* = 10.8 Hz), 4.94 (1H, d, *J* = 10.8 Hz), 4.48 (1H, m), 3.92 (1H, q, *J* = 6.9 Hz), 1.41 (3H, d, *J* = 6.9 Hz); ^{19}F NMR (Acetone-d_6) δ -123.4 (1F, ddd, *J* = 286.3, 55.0 and 7.1 Hz), -127.8 (1F, ddd, *J* = 286.3, 55.0 and 21.7 Hz).

Synthesis of β-aminoalcohols 7a,b and β-aminoesters 9a,b. The general procedure described for **5d** was applied for the synthesis of **7b** (quantitative), **9a** (75%) and **9b** (quantitative).

(1*S*,2*S*)-**7b**: *Rf* (6:4 *n*-hexane/AcOEt) 0.35; $[\alpha]^{20}_D$ -11.7 (*c* 0.75, acetone) ee > 95%; mp 128-130 °C (diisopropyl ether); ^{1}H NMR (Acetone-d_6) δ 7.05-7.52 (10H, m), 6.62 (1H, br d, *J* = 9.8 Hz), 6.34 (1H, dt, *J* = 1.8 and 55.6 Hz), 4.97 (1H, d, *J* = 12.8 Hz), 4.88 (1H, d, *J* = 12.8 Hz), 4.79 (1H, d, *J* = 9.3 Hz), 4.29 (1H, m), 3.05 (1H, br s); ^{13}C NMR (Acetone-d_6) δ 157.5, 143.2, 138.8, 129.8, 129.6, 129.3, 129.1, 128.8, 128.7, 116.5 (t, *J* = 240.4 Hz), 73.8 (d, *J* = 5.0 Hz), 67.1, 59.3 (t, *J* = 18.5 Hz); ^{19}F NMR (Acetone-d_6) δ -124.2 (1F, ddd, *J* = 283.6, 55.6 and 5.6 Hz), -130.7 (1F, ddd, *J* = 283.6, 55.6 and 24.6 Hz); MS (EI, 70 eV) *m/Z* (%) 304 (M^++1-H_2O, 7), 240 (5), 107 (30), 91 (100); FT IR (cm^{-1}) 3416 (br), 1687, 1555, 1260, 1125.

(1*S*,2*R*)-**7b**: *Rf* (6:4 *n*-hexane/AcOEt) 0.35; ^{1}H NMR ($CDCl_3$) δ 6.95-7.6 (10H, m), 6.44 (1H, br d, *J* = 8.9 Hz), 6.01 (1H, ddd, *J* = 5.5, 56.6 and 55.6 Hz), 5.01 (1H, d, *J* = 12.8 Hz), 4.97 (1H, d, *J* = 5.6 Hz), 4.93

(1H, d, J = 12.8 Hz), 4.63 (1H, br d, J = 5.6 Hz), 4.35 (1H, m); ^{19}F NMR ($CDCl_3$) δ -121.1 (1F, ddd, J = 282.7, 55.6 and 8.1 Hz), -125.7 (1F, ddd, J = 282.7, 56.6 and 14.4 Hz).

(1*S*,2*S*)-**9a**: *Rf* (8:2 *n*-hexane/AcOEt) 0.35; ^{1}H NMR ($CDCl_3$) δ 6.90-7.45 (15H, m), 6.26 (1H, br d, J = 2.1 Hz), 5.20 (1H, br d, J = 10.2 Hz), 5.05 (1H, d, J = 12.1 Hz), 4.99 (1H, d, J = 12.1 Hz), 4.61 (1H, ddd, J = 10.2, 7.3 and 2.1 Hz), 3.69 (2H, s); ^{13}C NMR ($CDCl_3$) δ 169.2, 155.5, 135.8, 134.3, 133.1, 129.3, 129.2, 128.8, 128.7, 128.6, 128.3, 128.0, 127.2, 125.9, 123.9 (q, J = 283.0 Hz), 70.9, 67.5, 56.7 (q, J = 30.2 Hz), 41.1; ^{19}F NMR ($CDCl_3$) δ -75.3 (3F, d, J = 7.3 Hz); MS (EI, 70 eV) *m/Z* (%) 458 (M^++1, 15), 412 (14), 322 (100), 225 (100), 181 (45), 91 (100); FT IR (cm^{-1}) 3343 (br), 1742, 1542, 1253, 1183.

(1*S*,2*R*)-**9a**: *Rf* (8:2 hexane/ethyl acetate) 0.35; ^{1}H NMR ($CDCl_3$) δ 6.9-7.45 (15H, m), 6.07 (1H, br d, J = 4.4 Hz), 5.11 (1H, d, J = 12.1 Hz), 5.06 (1H, d, J = 12.1 Hz), 4.90 (1H, br d, J = 4.4 Hz), 3.65 (2H, s); ^{13}C NMR ($CDCl_3$) δ 170.0, 154.5, 135.7, 133.2, 123.9 (q, J = 283.9 Hz), 72.5, 67.6, 55.6 (q, J = 29.6 Hz), 43.4; ^{19}F NMR ($CDCl_3$) δ -73.1 (3F, d, J = 6.8 Hz).

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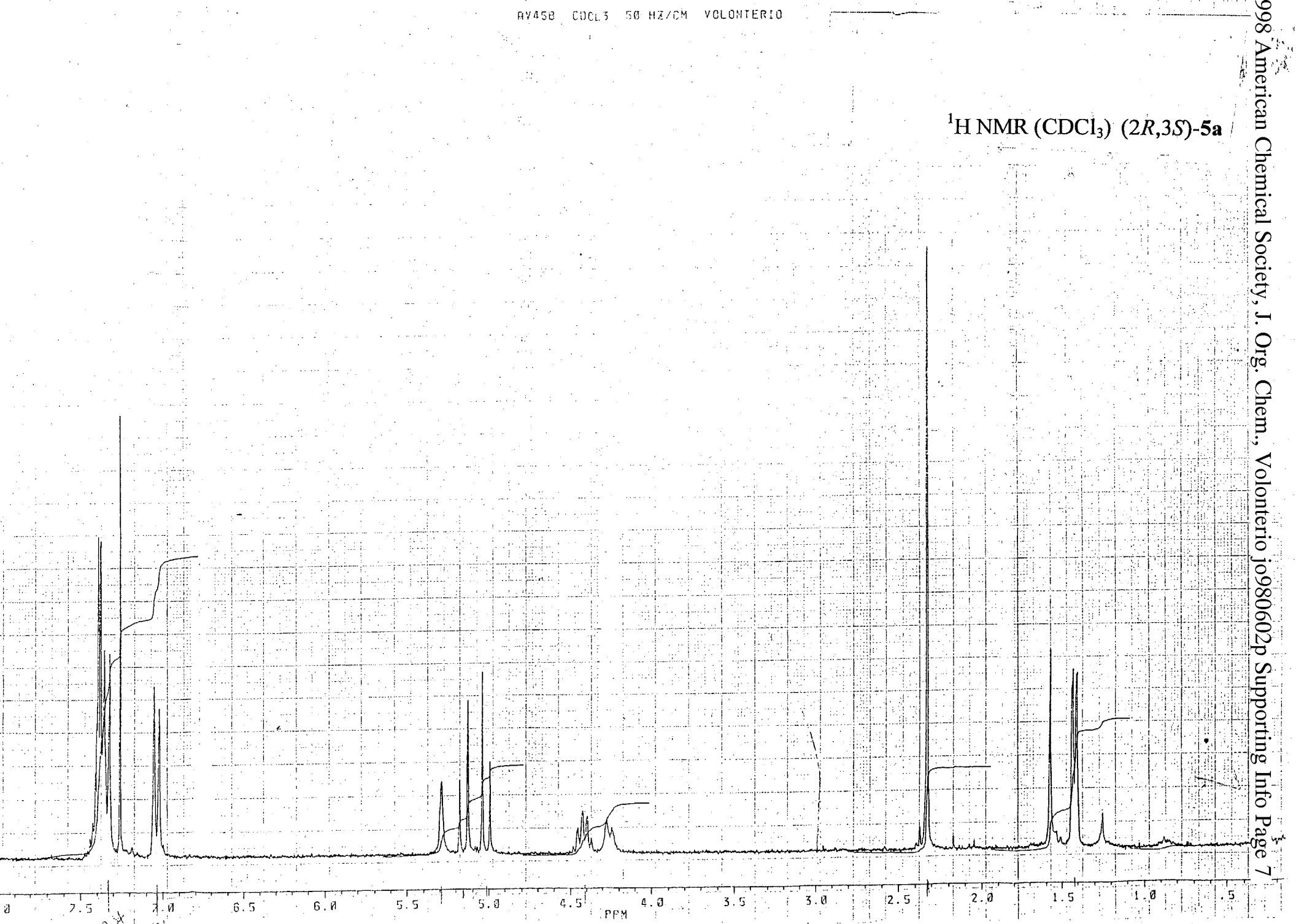
^{1}H NMR ($CDCl_3$) (2*R*,3*S*)-**5a**



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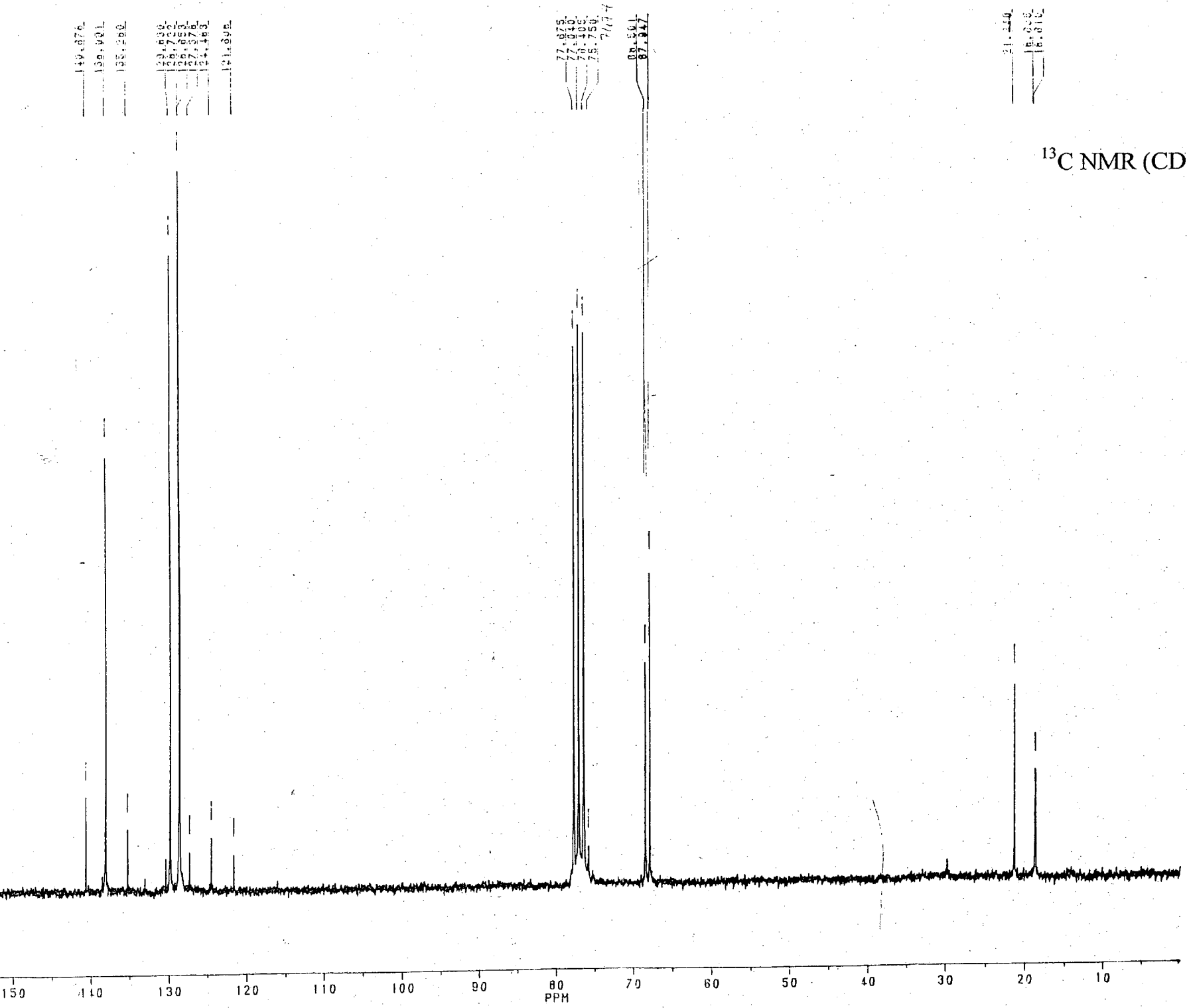
^{13}C NMR ($CDCl_3$) (2*R*,3*S*)-**5a**



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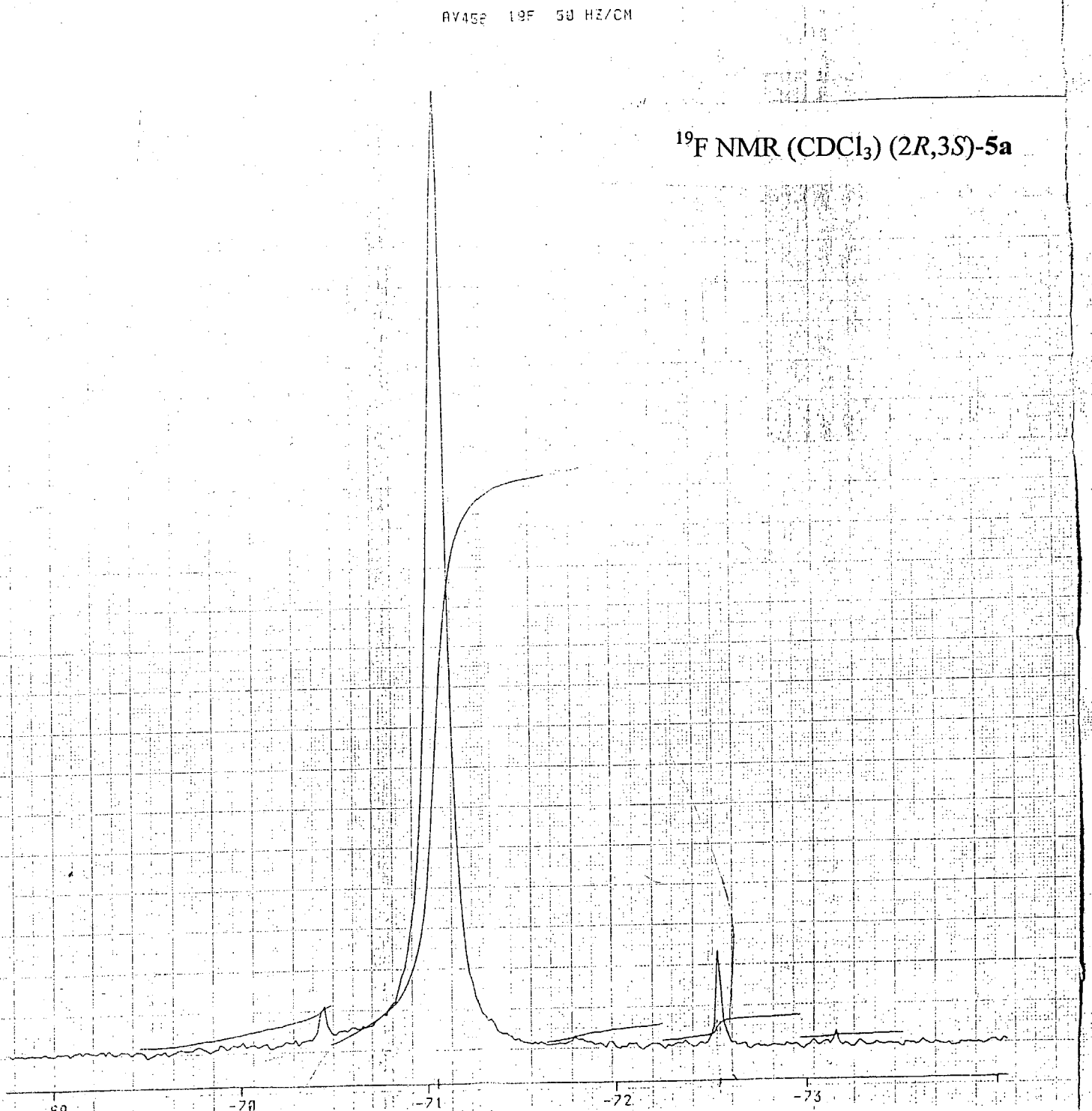
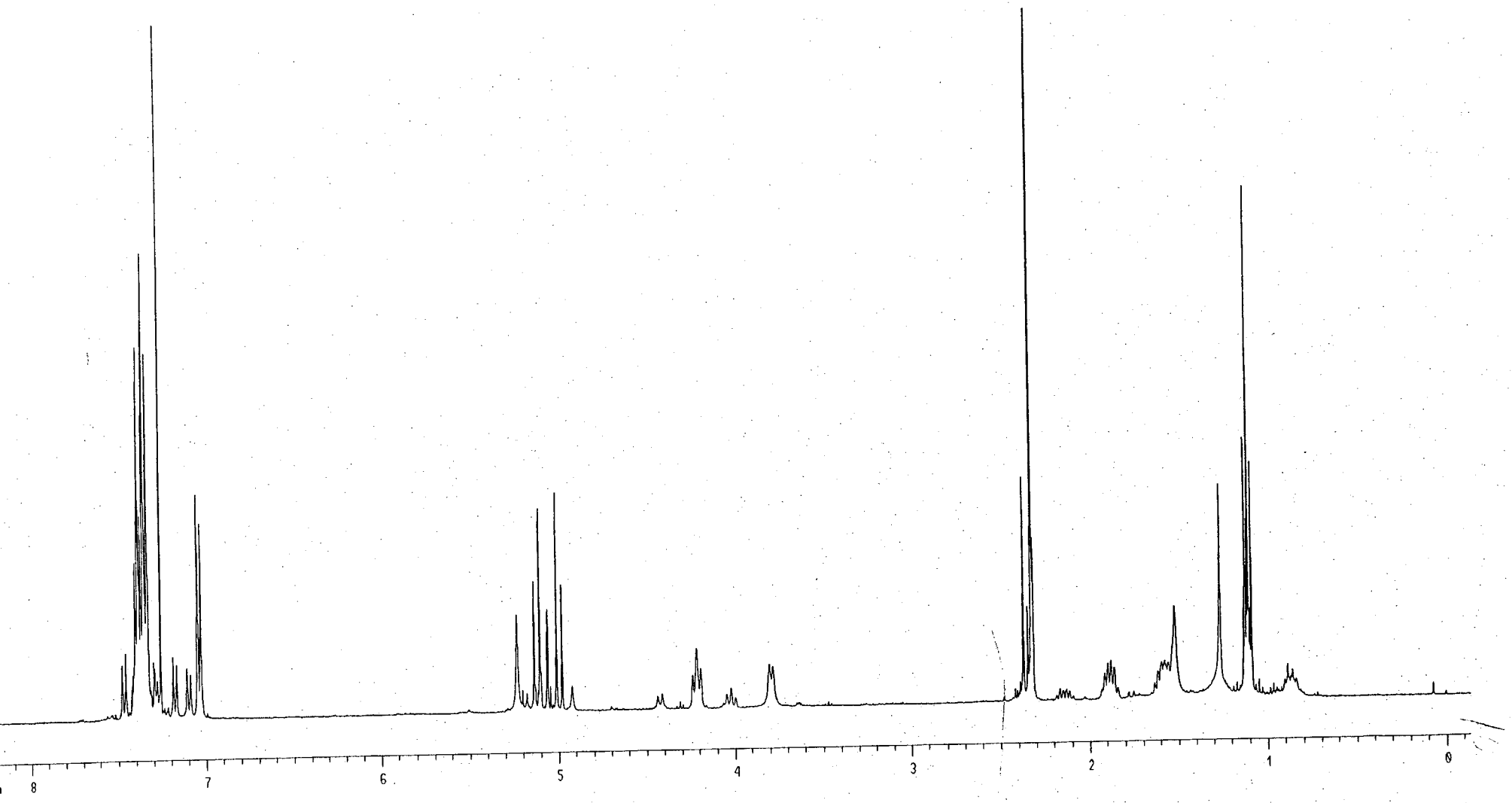


^{19}F NMR ($CDCl_3$) (2*R*,3*S*)-**5a**

^{1}H NMR ($CDCl_3$) (2*R*,3*S*)-**5b**/(2*R*,3*R*)-**5b** (dr 4:1)



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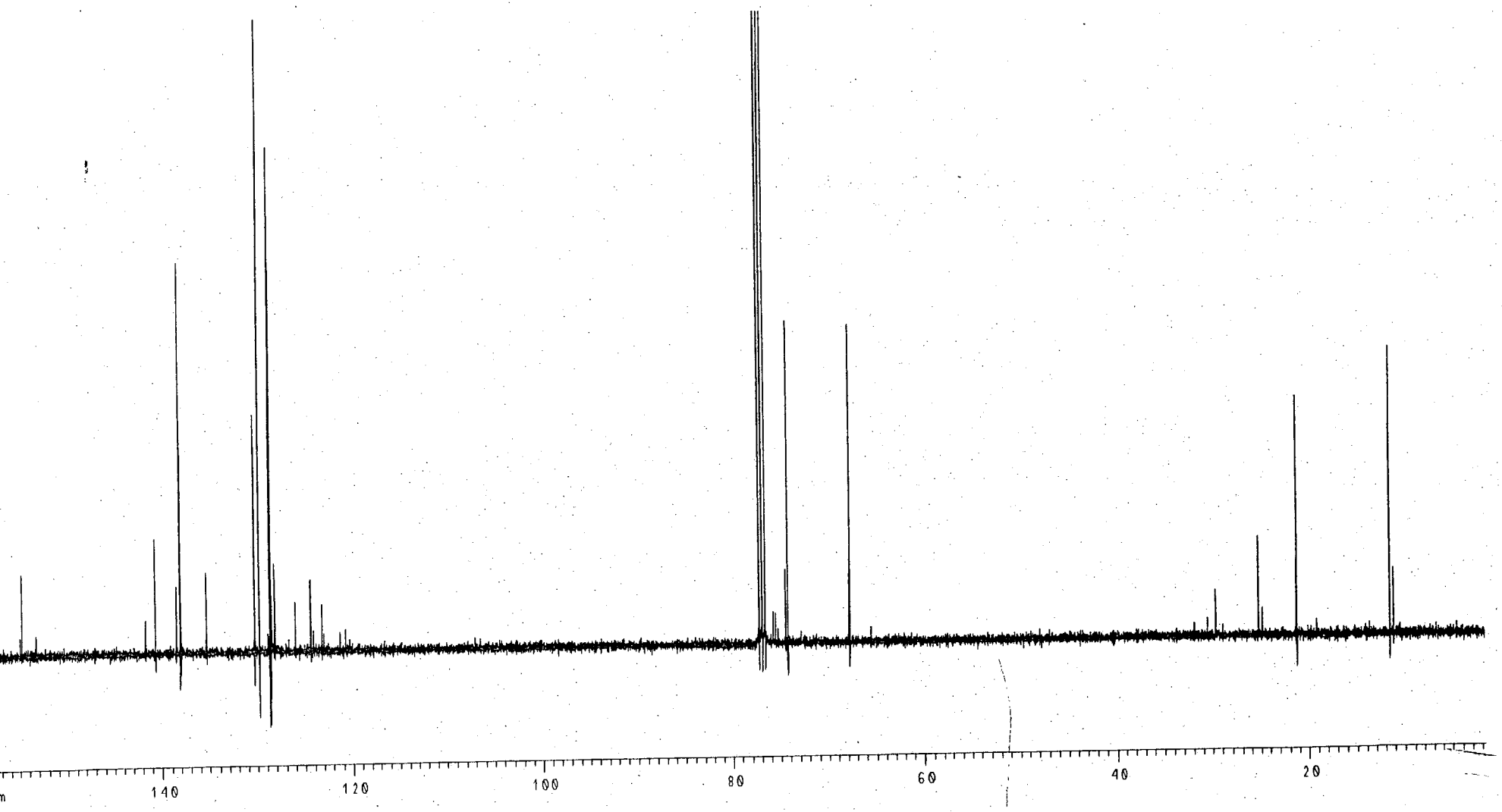
^{13}C NMR ($CDCl_3$) (2*R*,3*S*)-**5b**/(2*R*,3*R*)-**5b** (dr 4:1)



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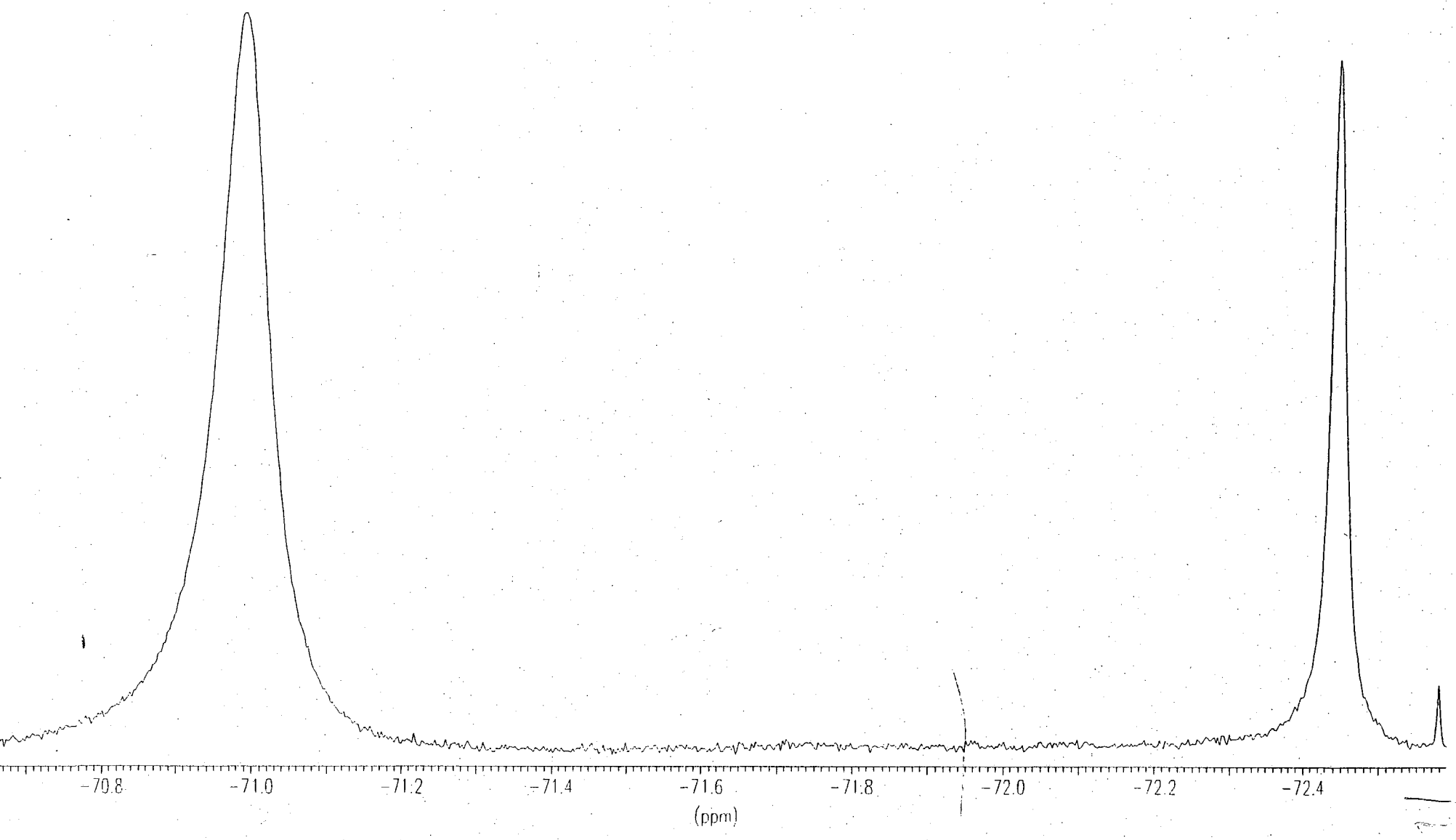
^{19}F NMR ($CDCl_3$) (2*R*,3*S*)-**5b**/(2*R*,3*R*)-**5b** (dr 4:1)



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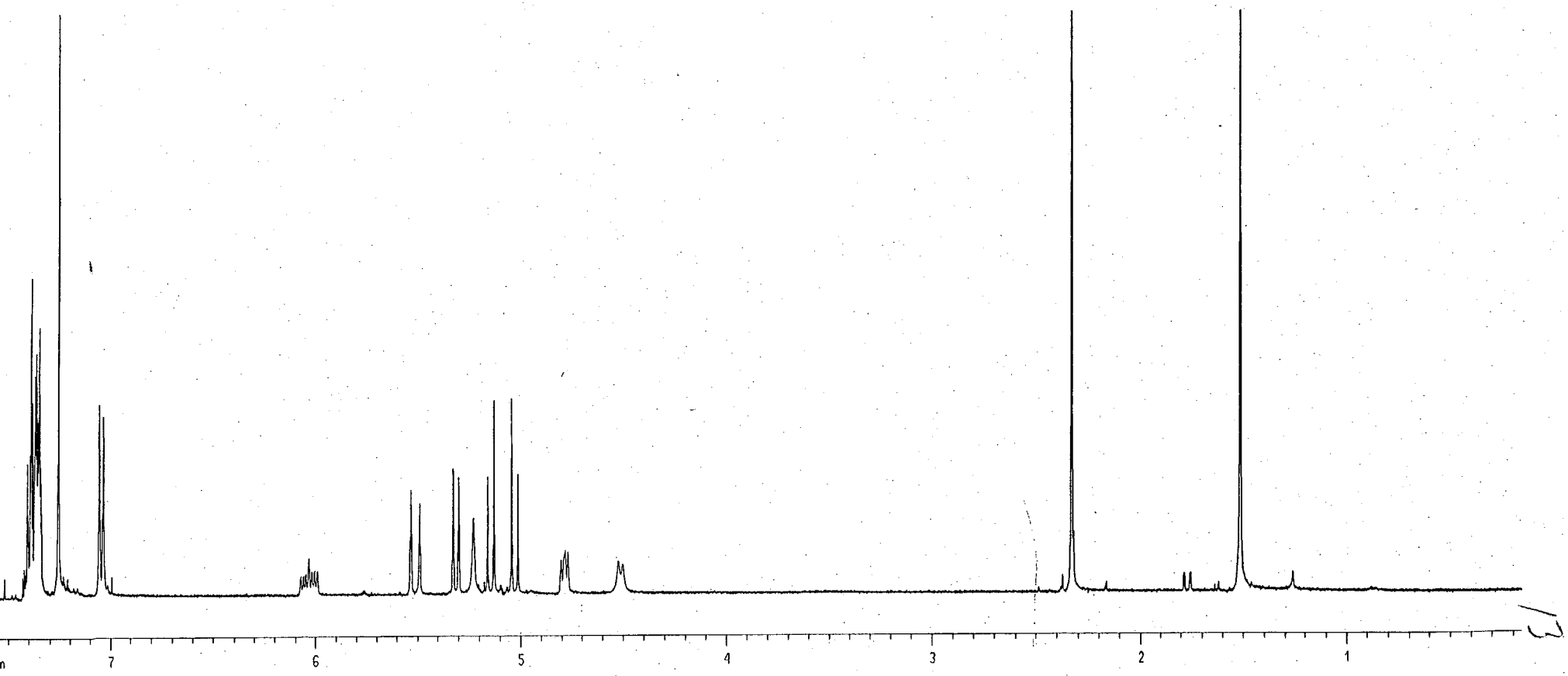
^{1}H NMR ($CDCl_3$) (2*R*,3*S*)-**5c**



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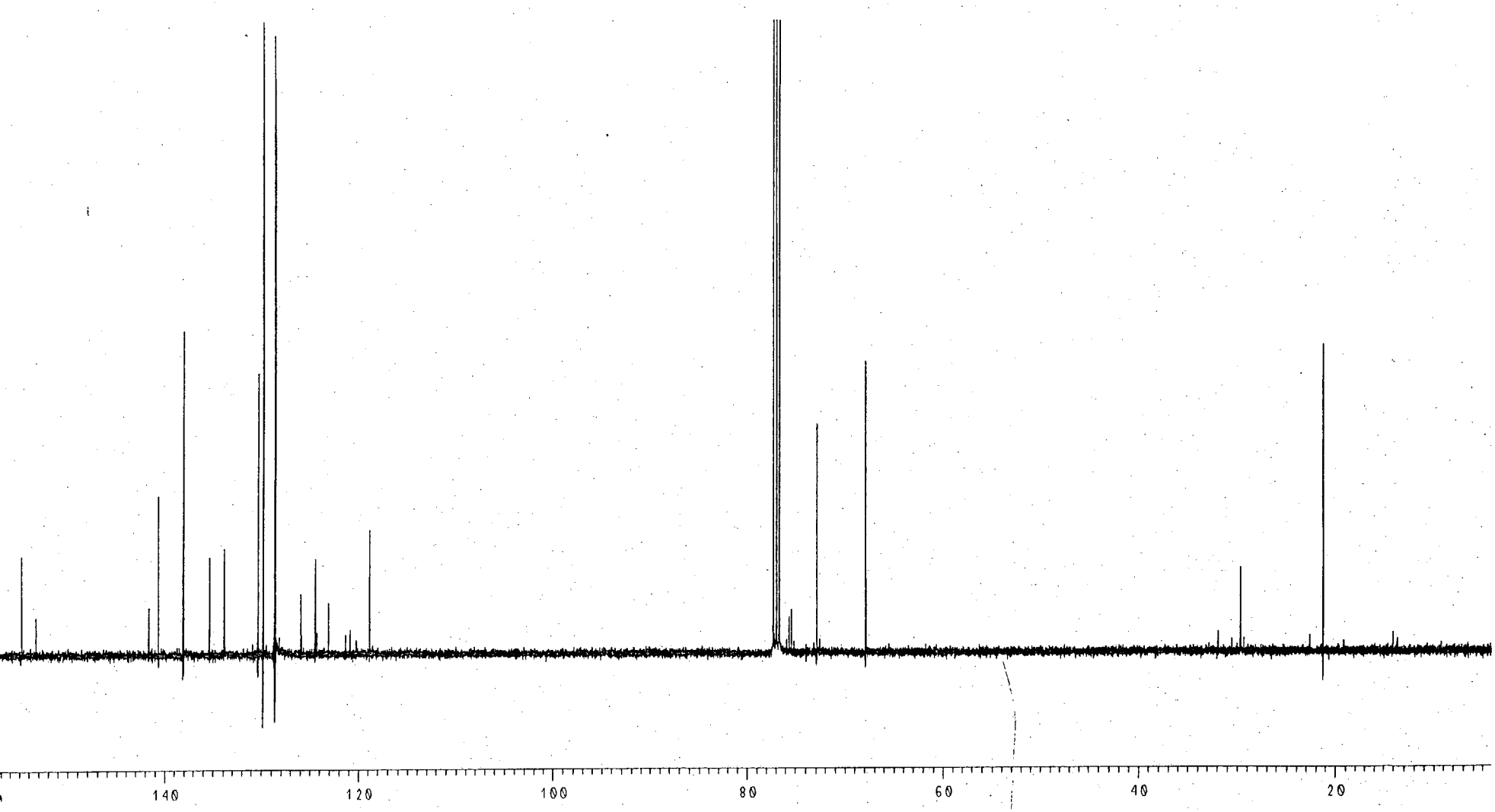
^{13}C NMR ($CDCl_3$) (2*R*,3*S*)-**5c**



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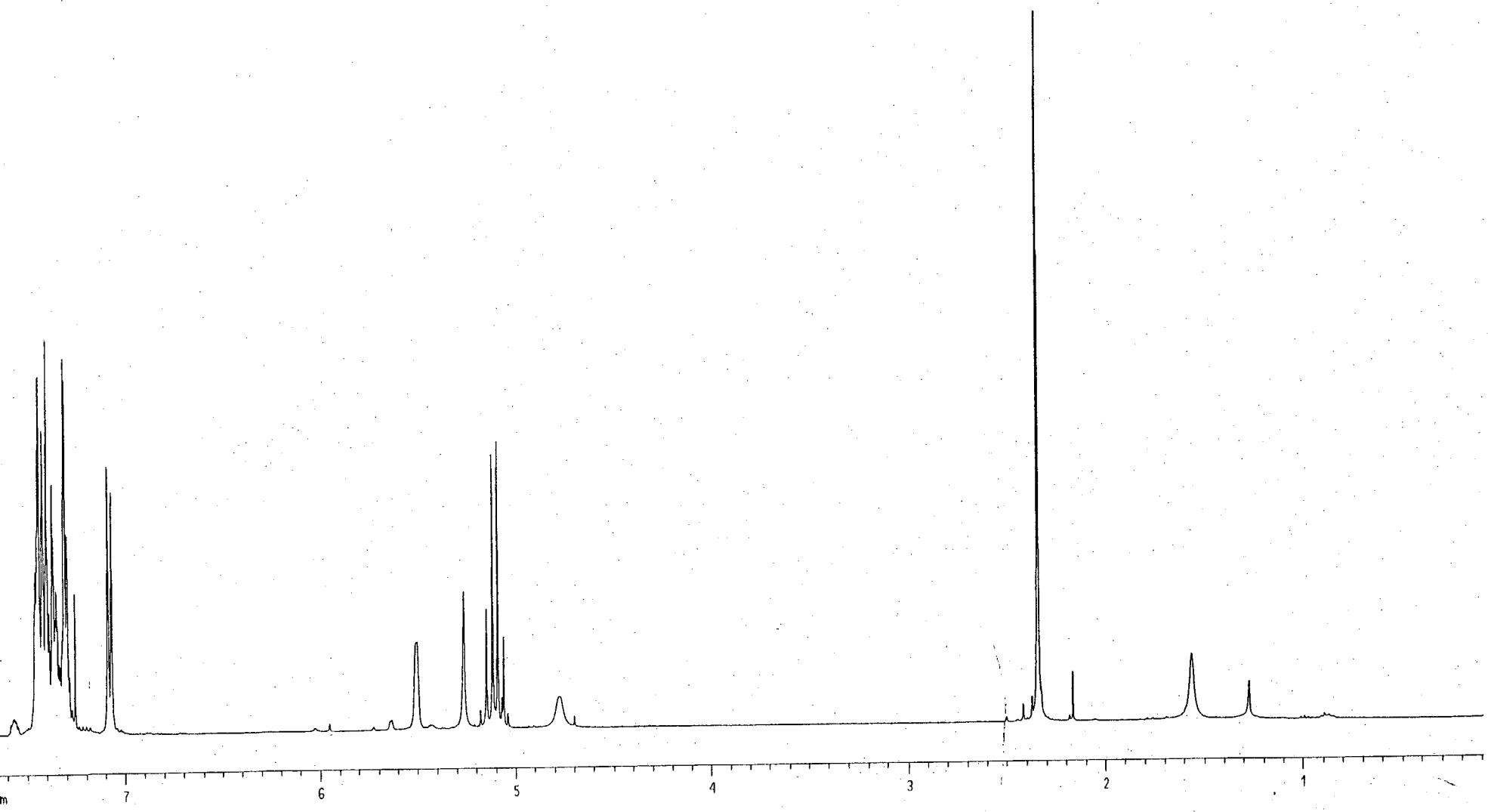
^{1}H NMR ($CDCl_3$) (2*R*,3*S*)-**5d**



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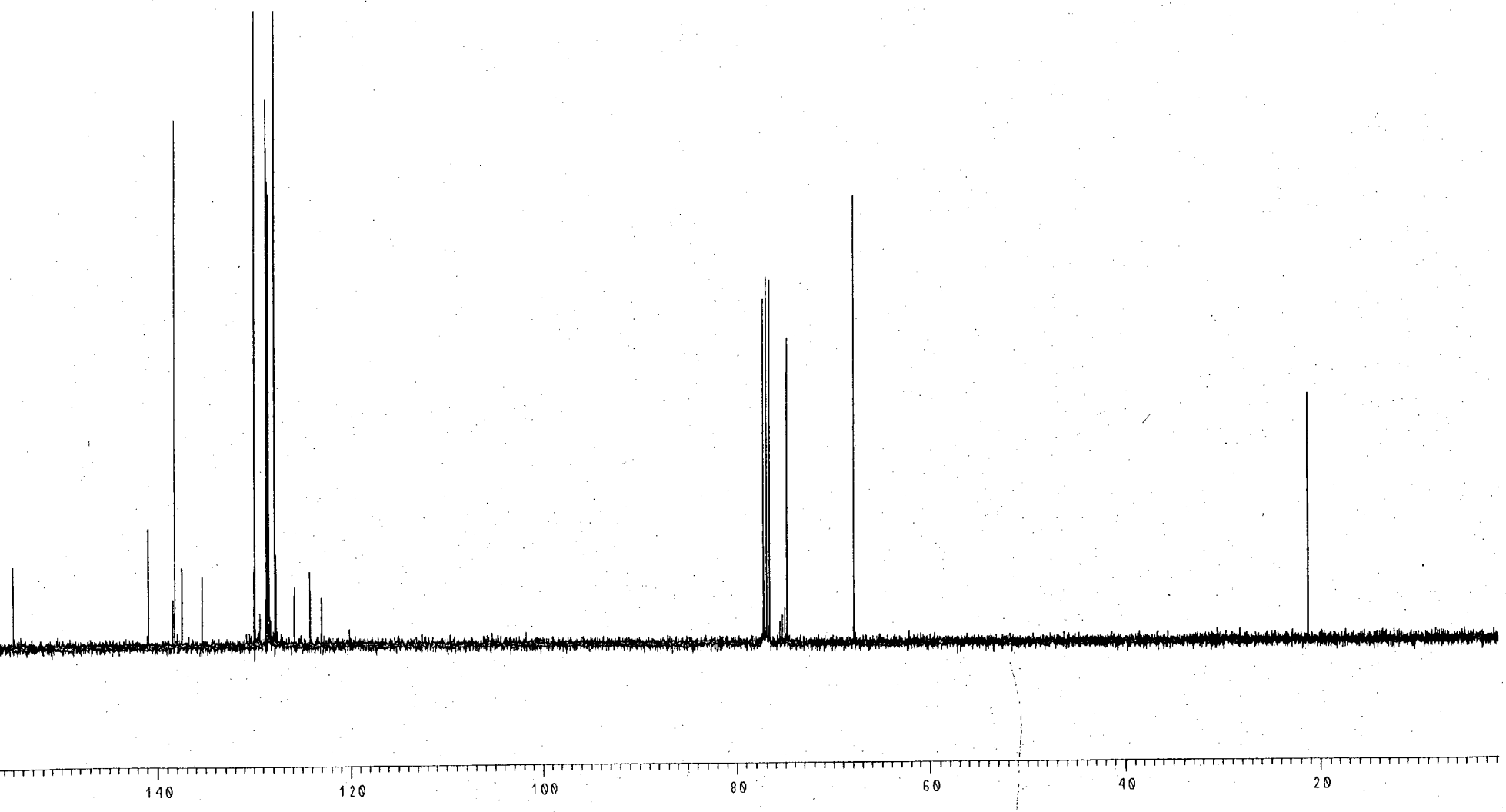
^{13}C NMR ($CDCl_3$) (2*R*,3*S*)-**5d**



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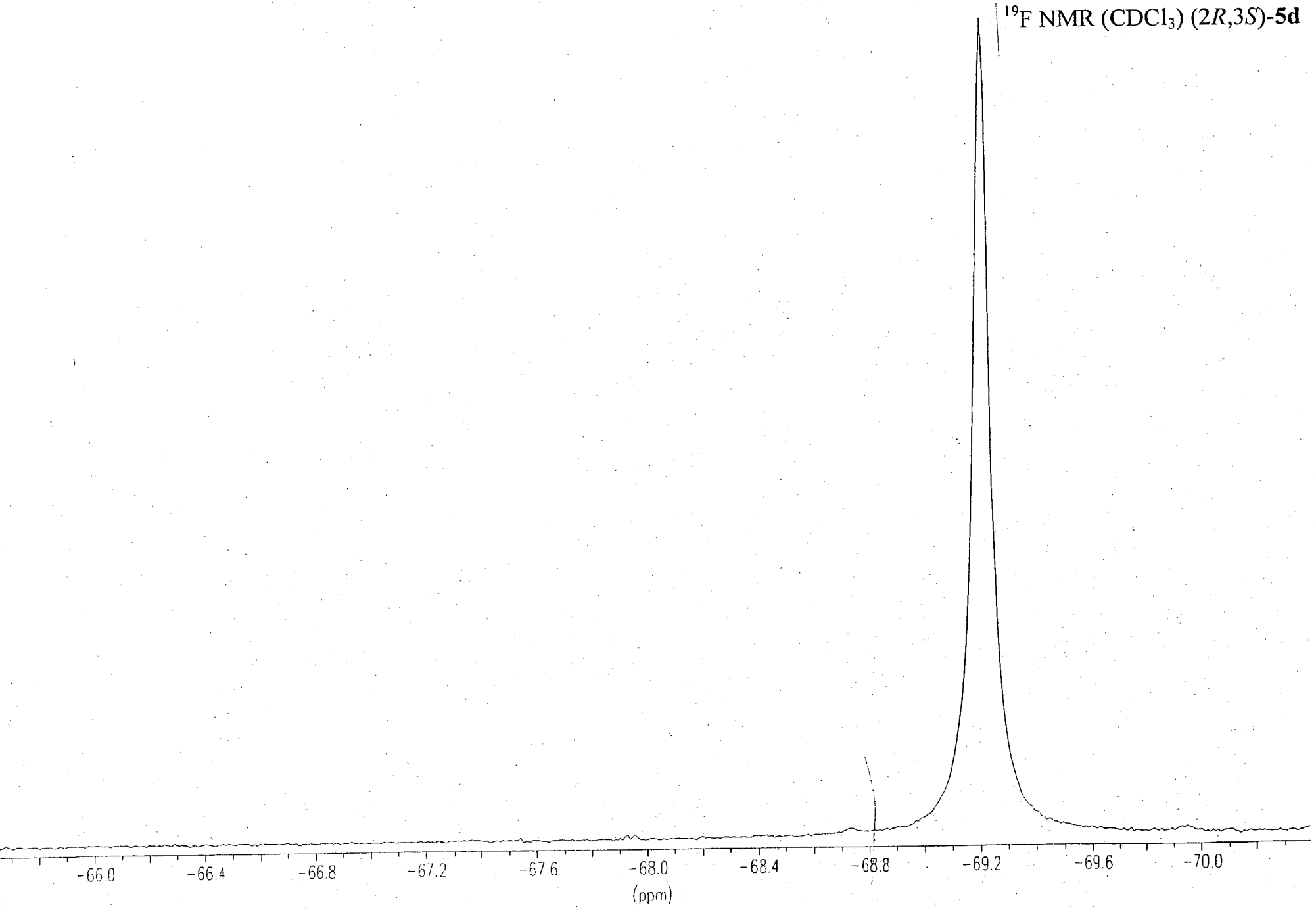
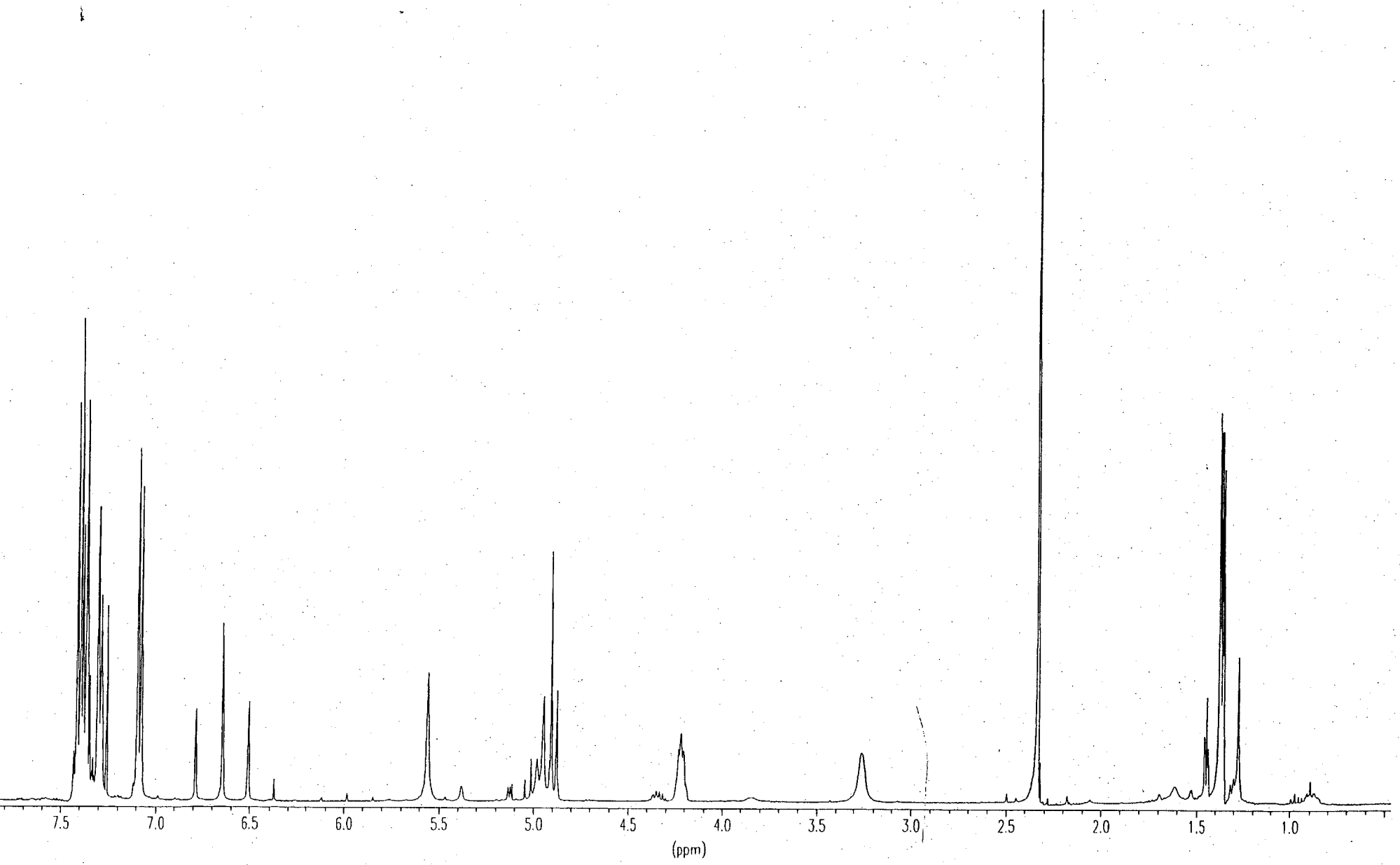
^{19}F NMR ($CDCl_3$) (2*R*,3*S*)-**5d**



^{1}H NMR ($CDCl_3$) (2*R*,3*S*)-**5e**/(2*R*,3*R*)-**5e** (dr 10:1)



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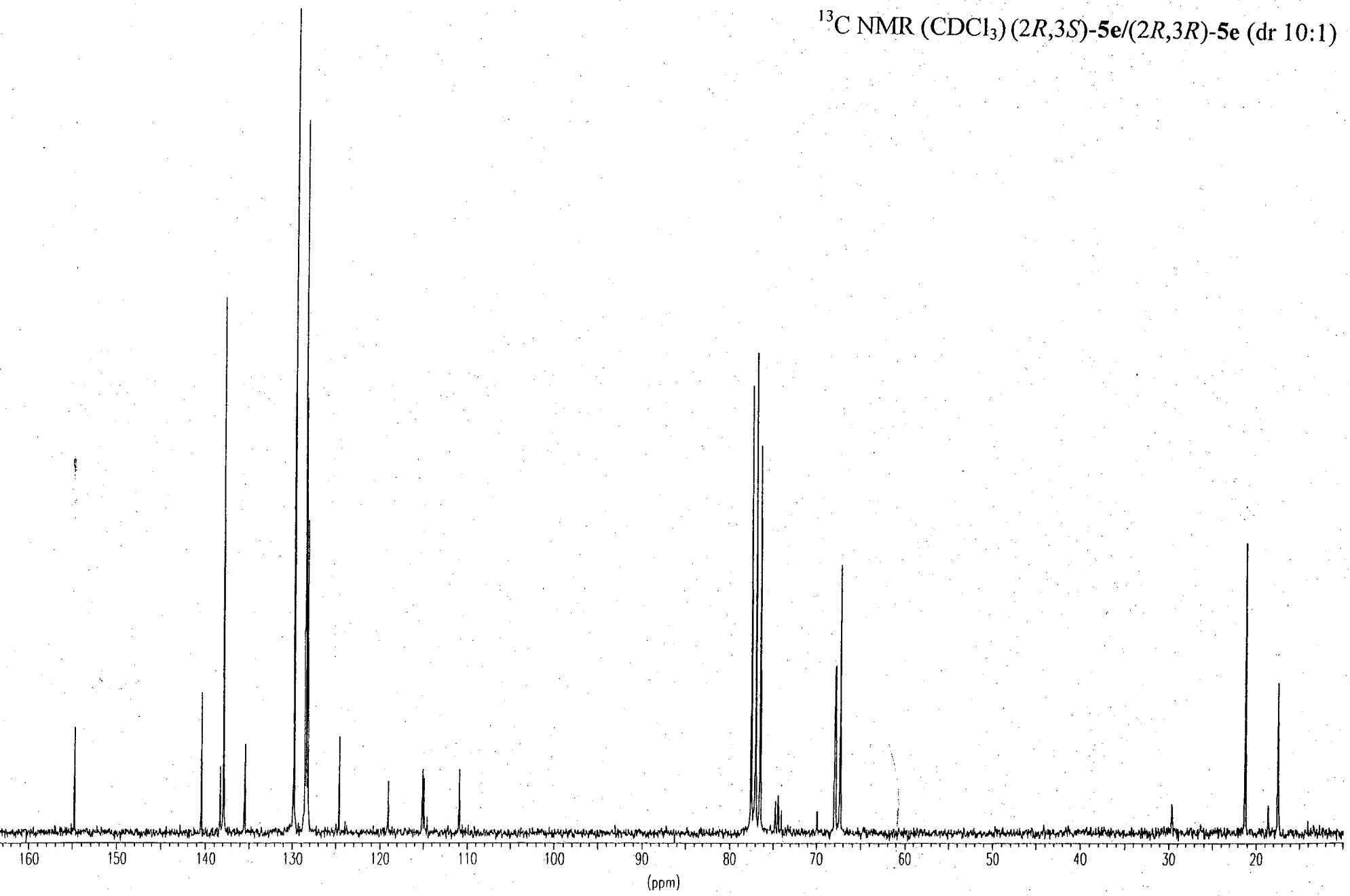
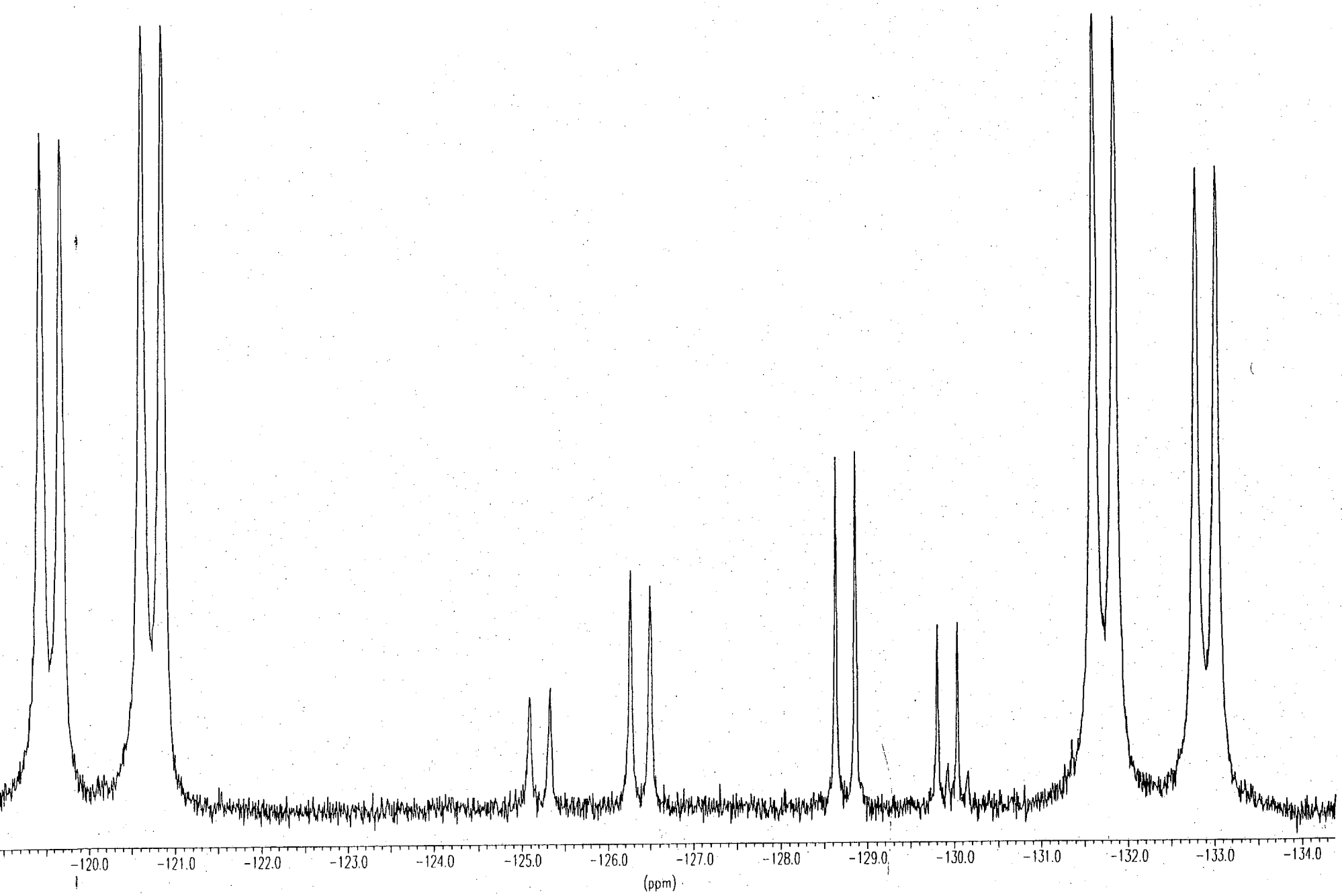
^{13}C NMR ($CDCl_3$) (2*R*,3*S*)-**5e**/(2*R*,3*R*)-**5e** (dr 10:1)



^{19}F NMR ($CDCl_3$) (2*R*,3*S*)-**5e**/(2*R*,3*R*)-**5e** (dr 10:1)



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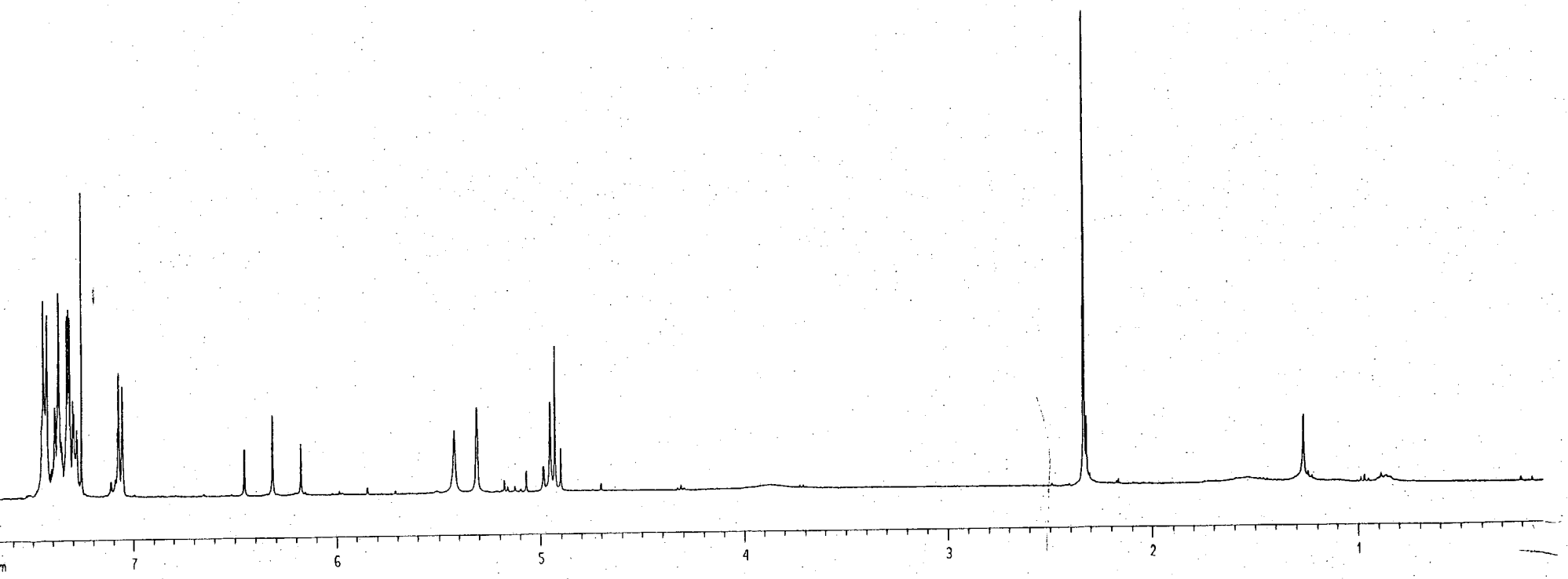
^{1}H NMR ($CDCl_3$) (2*R*,3*S*)-**5f**



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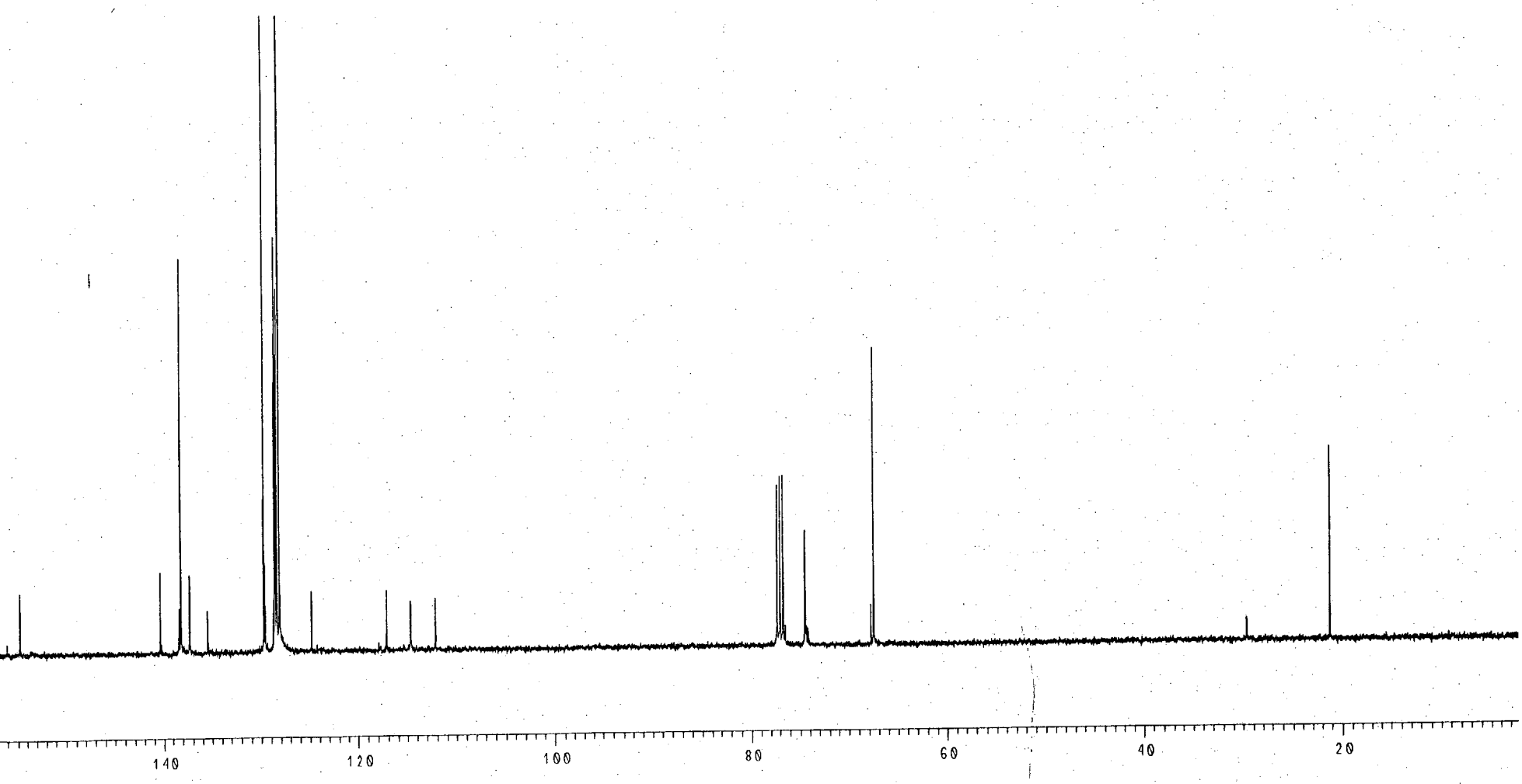
^{13}C NMR ($CDCl_3$) (2*R*,3*S*)-**5f**



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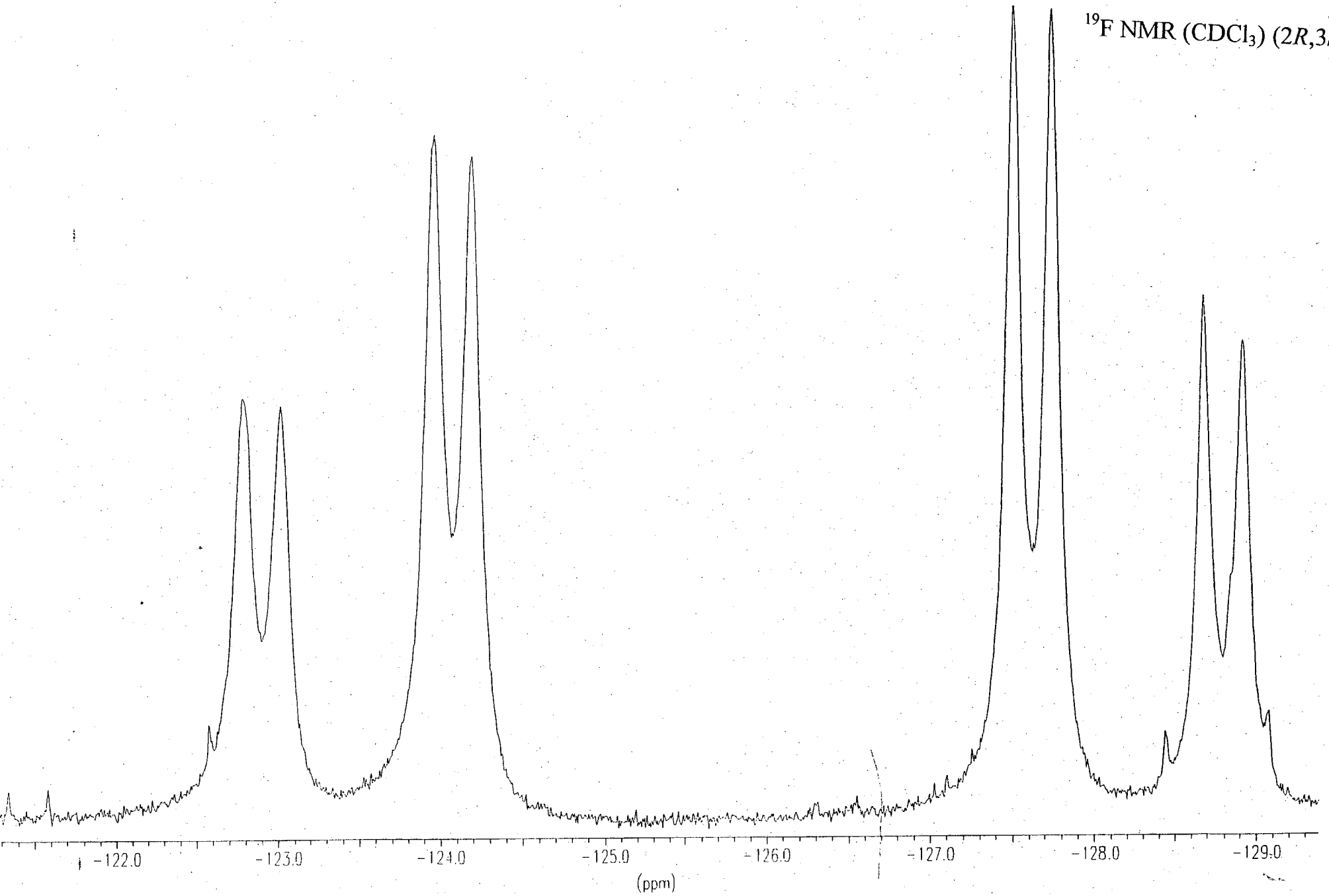
^{19}F NMR ($CDCl_3$) (2*R*,3*S*) **1**



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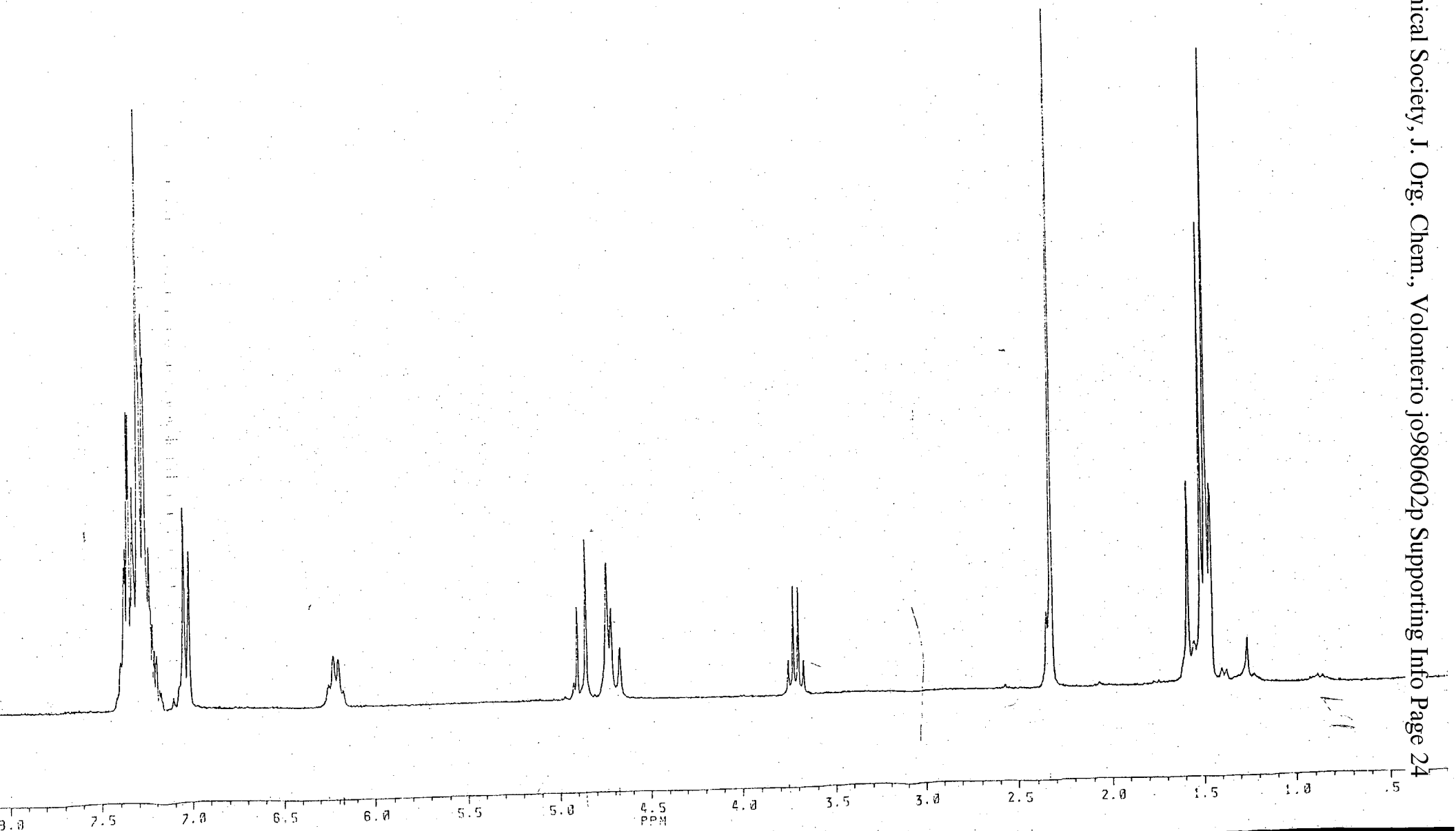
^{1}H NMR ($CDCl_3$) (2*R*,3*S*,2'*S*)-**6a**



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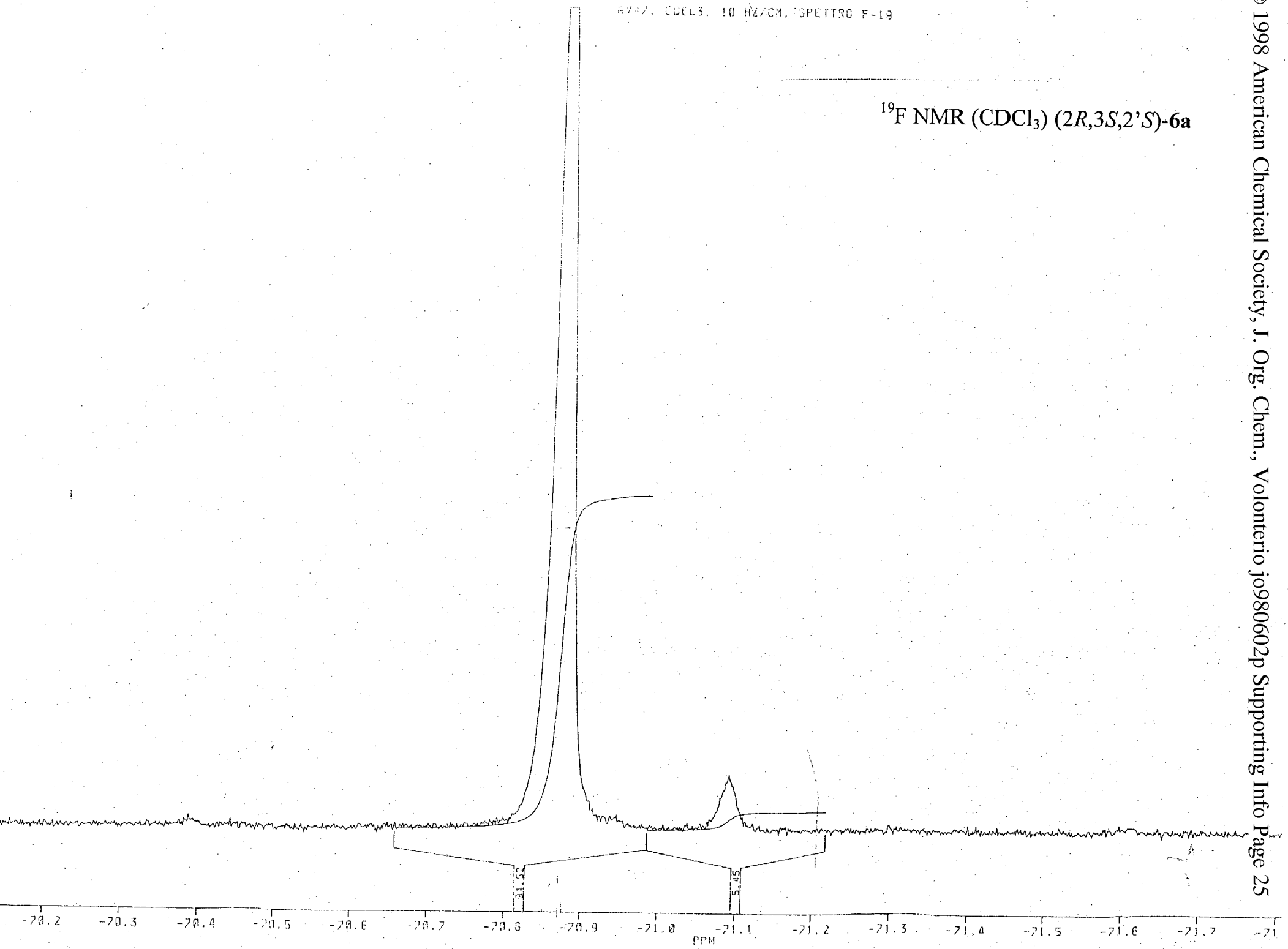
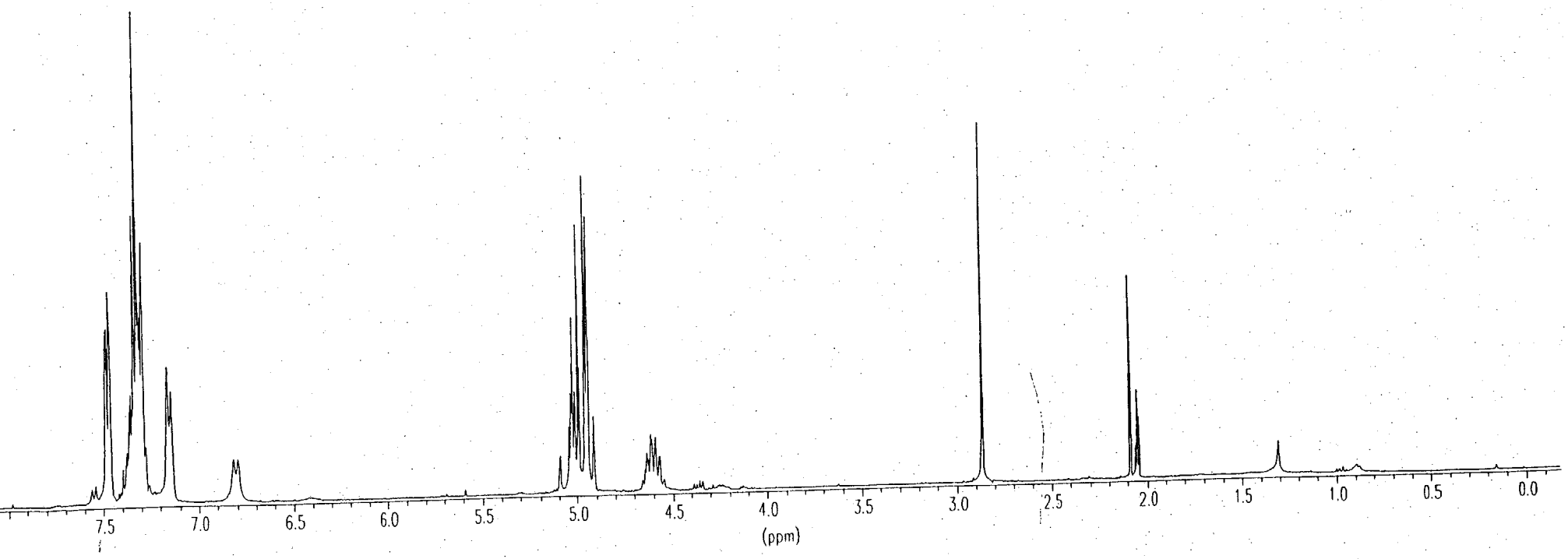


^{19}F NMR ($CDCl_3$) (2*R*,3*S*,2'*S*)-**6a**

^{1}H NMR (acetone-d_6) (2*S*,3*S*)-**7a**/(2*R*,3*S*)-**7a** (dr 12:1)



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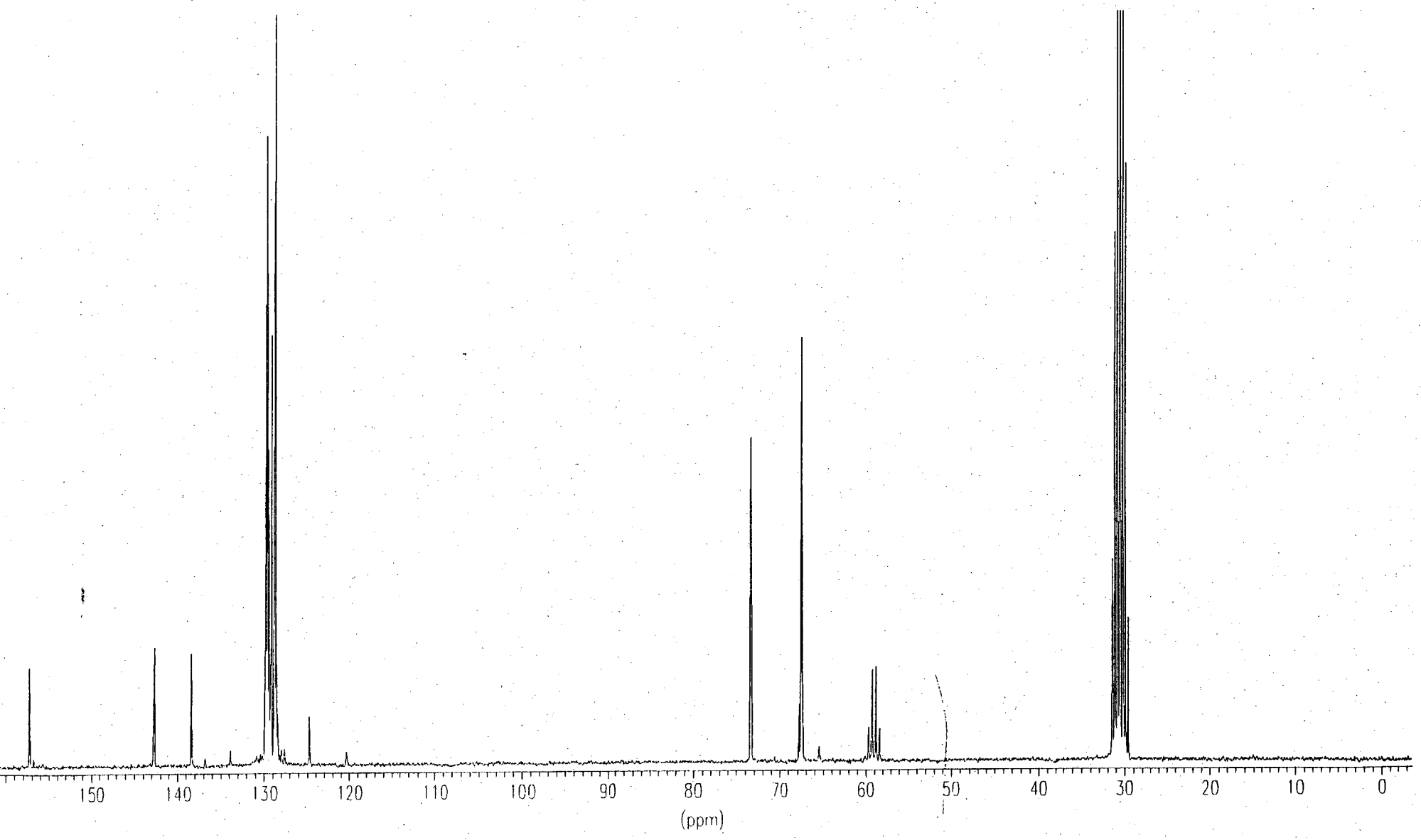
^{13}C NMR (acetone-d_6) (2*S*,3*S*)-**7a**/(2*R*,3*S*)-**7a** (dr 12:1)



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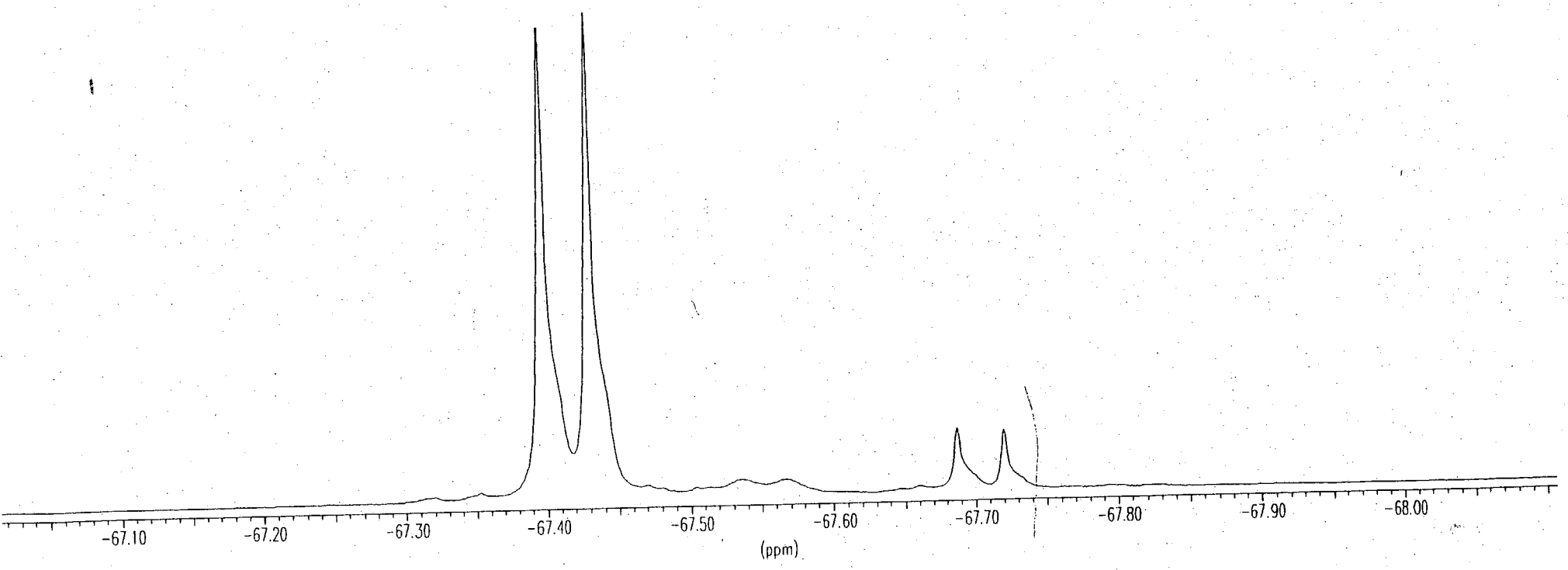
^{19}F NMR (acetone-d_6) (2*S*,3*S*)-**7a**/(2*R*,3*S*)-**7a** (dr 12:1)



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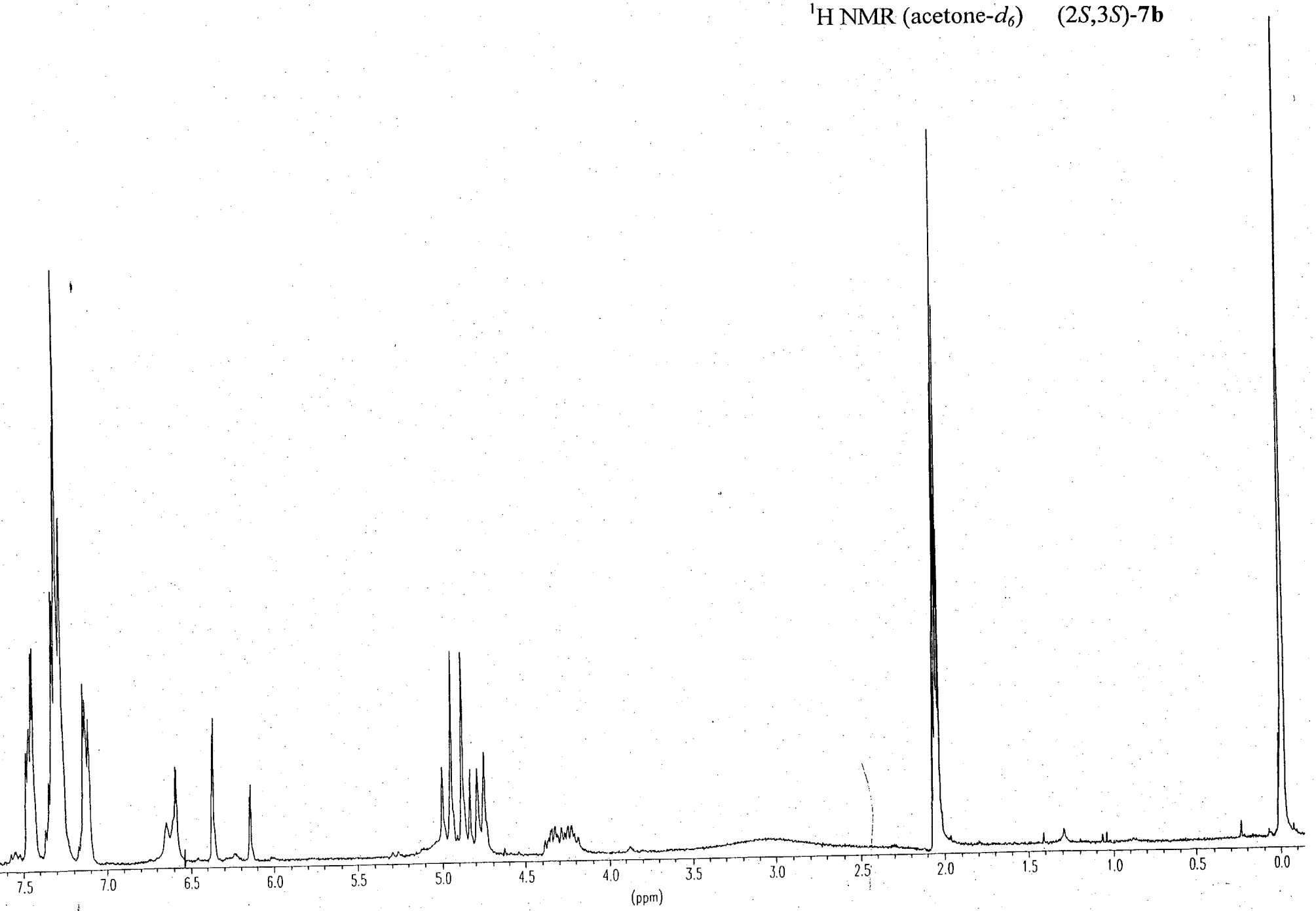
^{1}H NMR (acetone-d_6) (2*S*,3*S*)-**7b**



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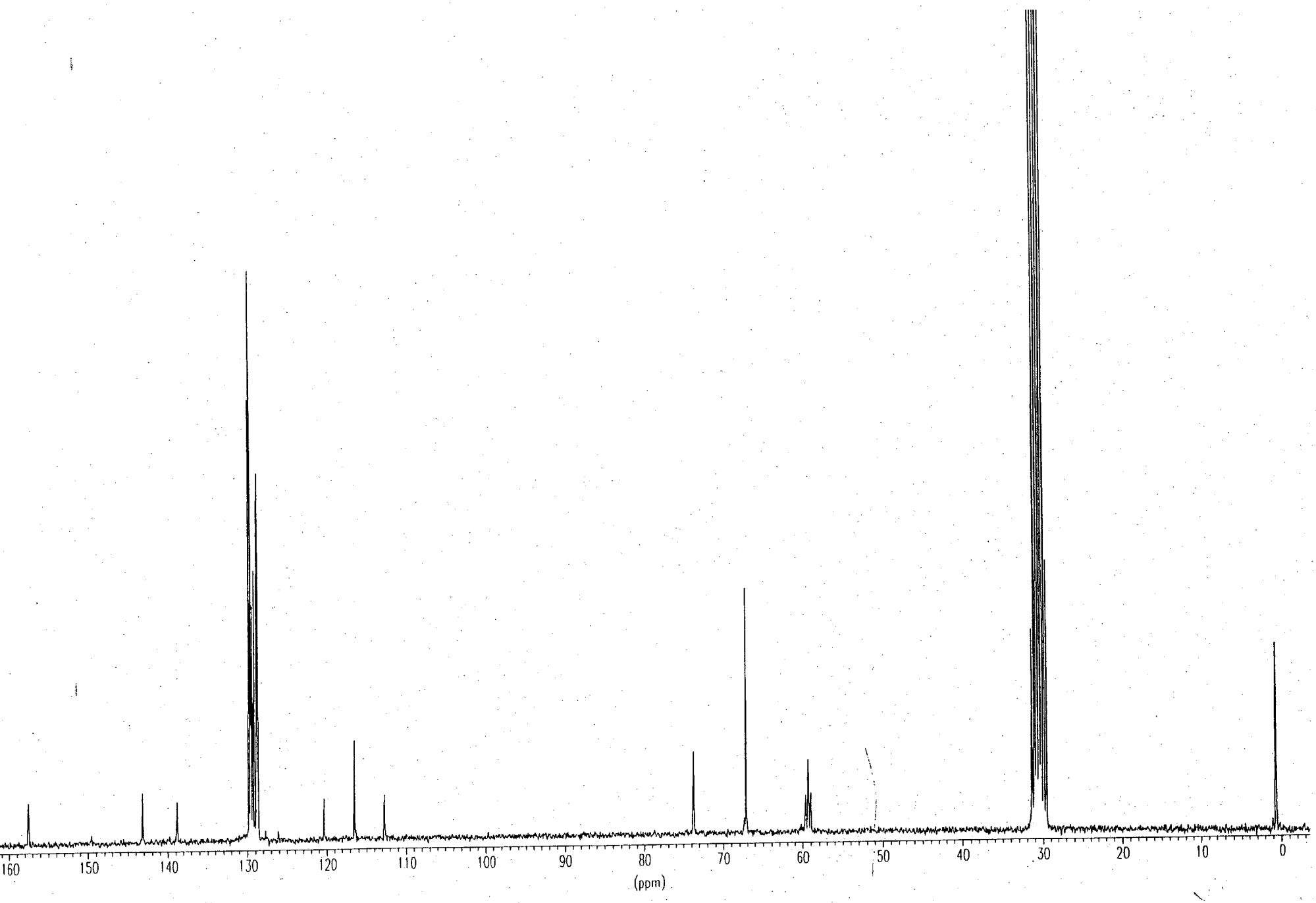
^{13}C NMR (acetone-d_6) (2*S*,3*S*)-**7b**



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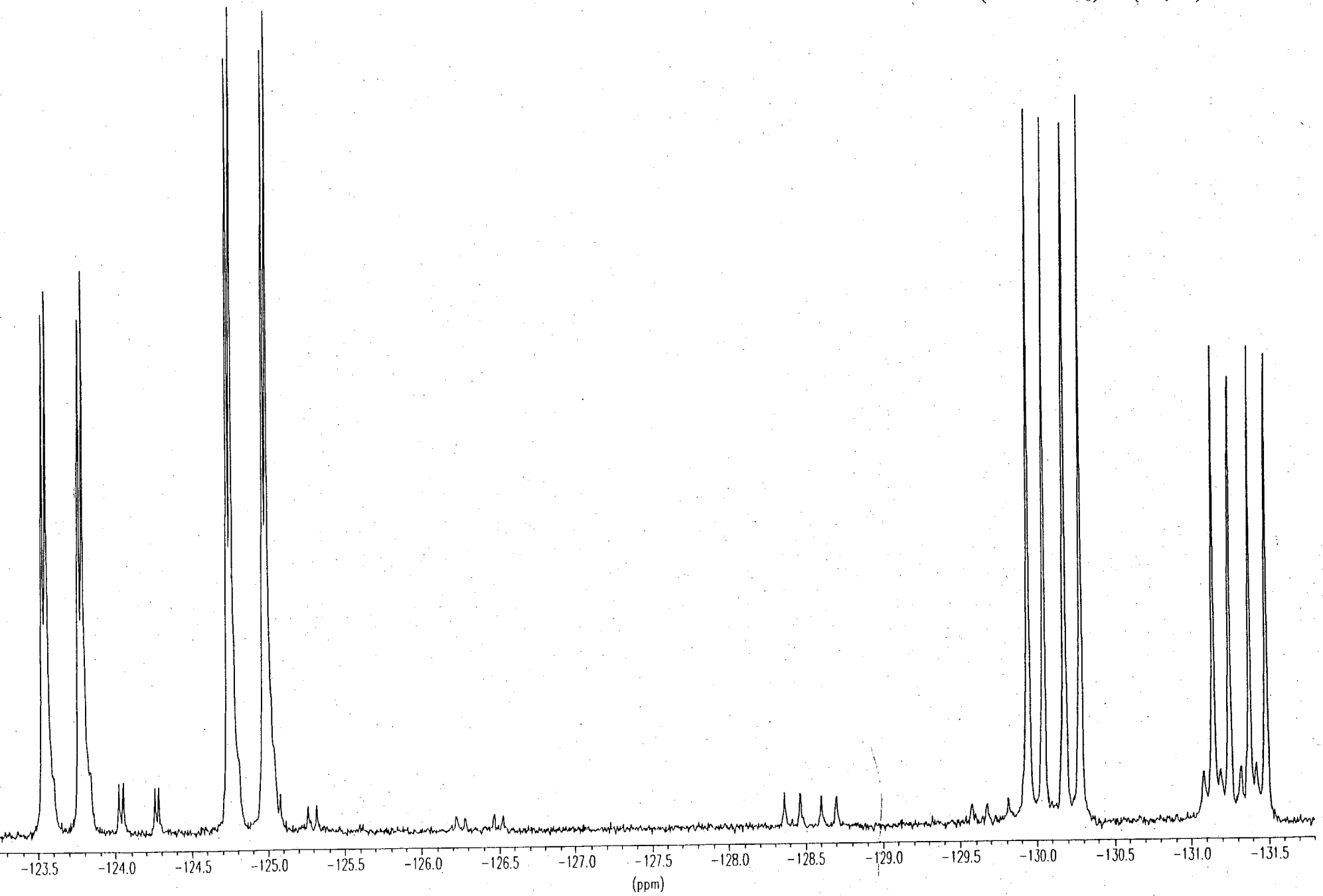
^{19}F NMR (acetone-d_6) (2*S*,3*S*)-**7b**



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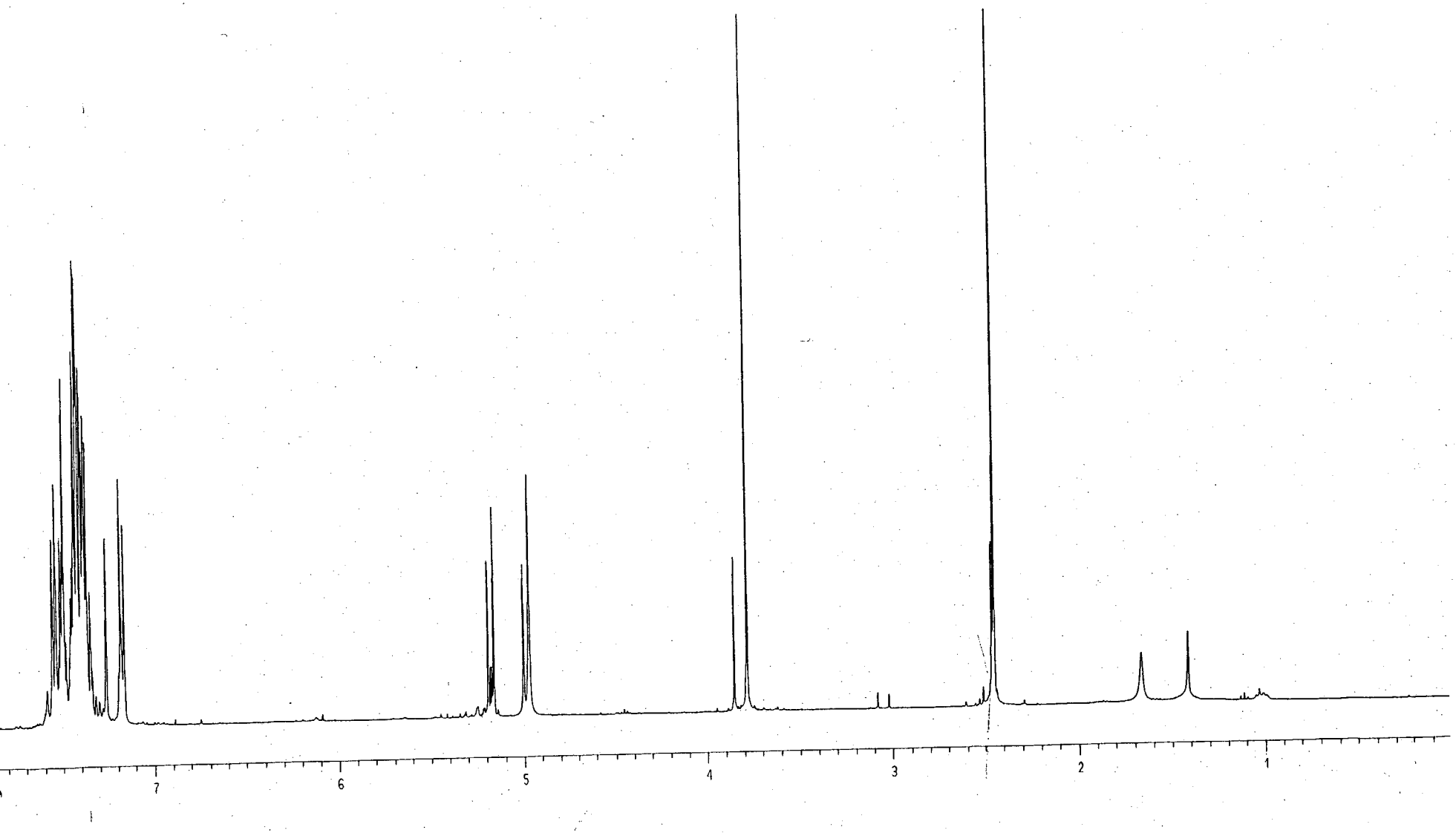
^{1}H NMR ($CDCl_3$) (2*R*,3*S*)-**8a**/(2*R*,3*R*)-**8a** (dr 7:1)



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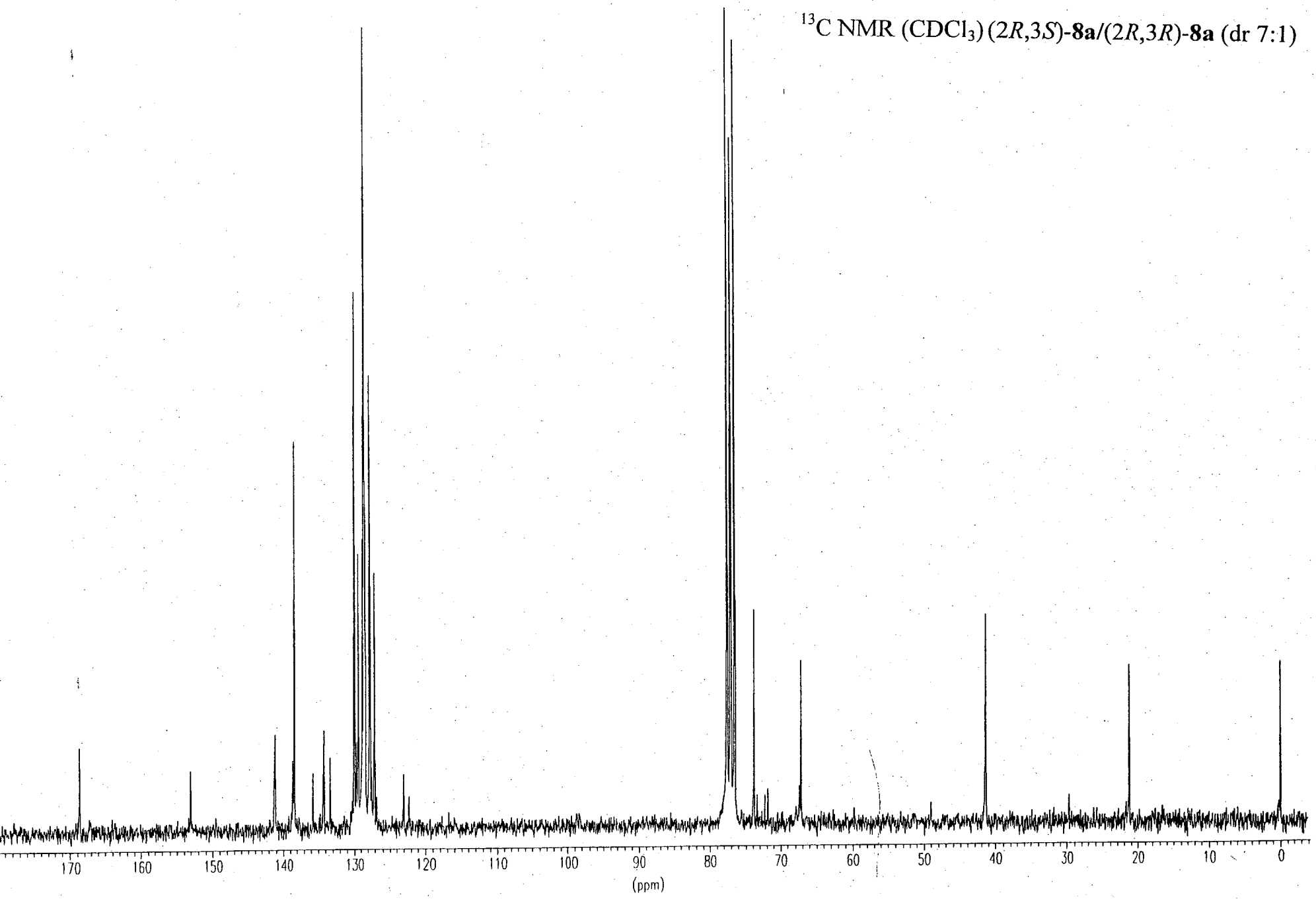
^{13}C NMR ($CDCl_3$) (2*R*,3*S*)-**8a**/(2*R*,3*R*)-**8a** (dr 7:1)



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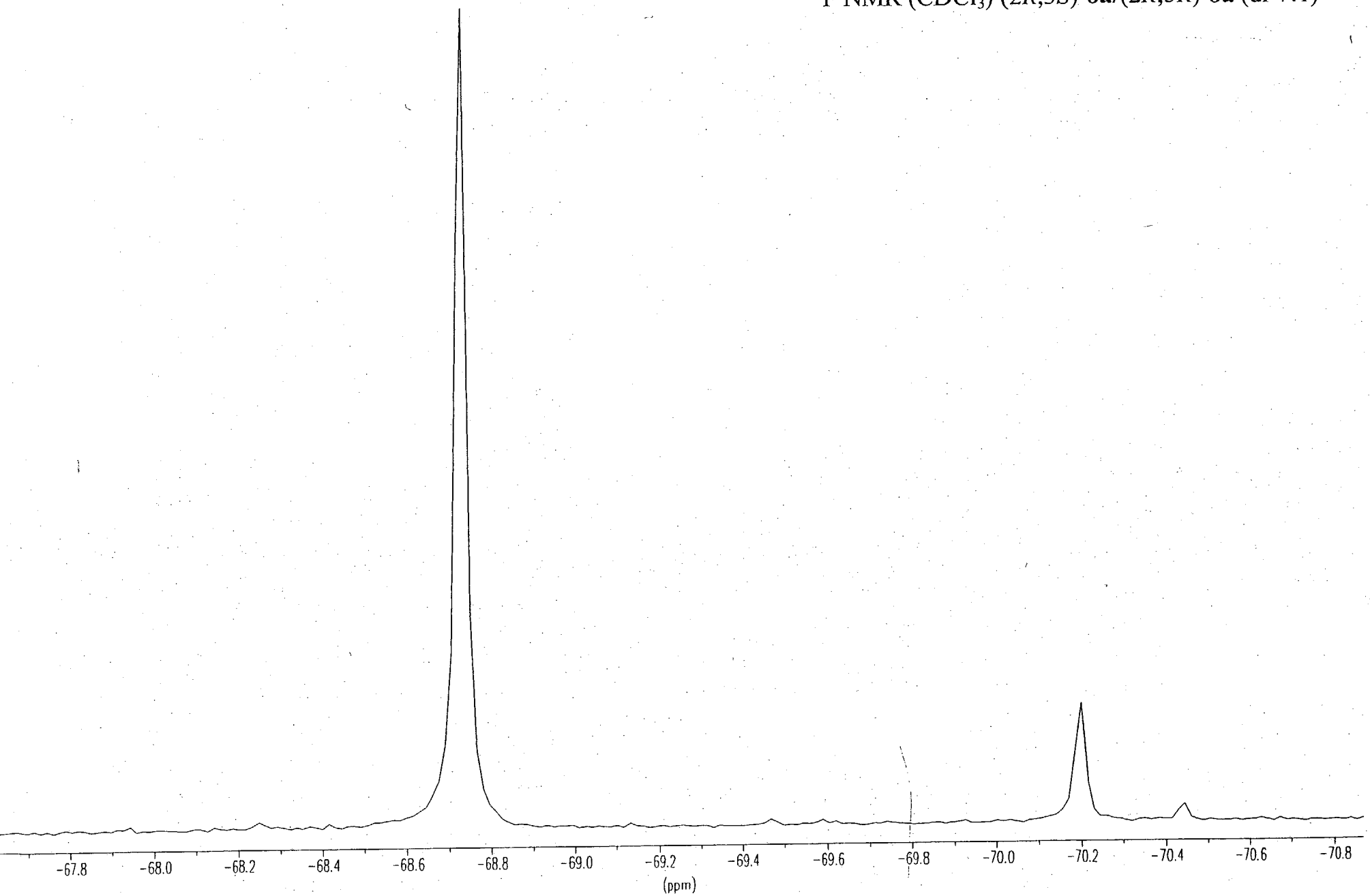

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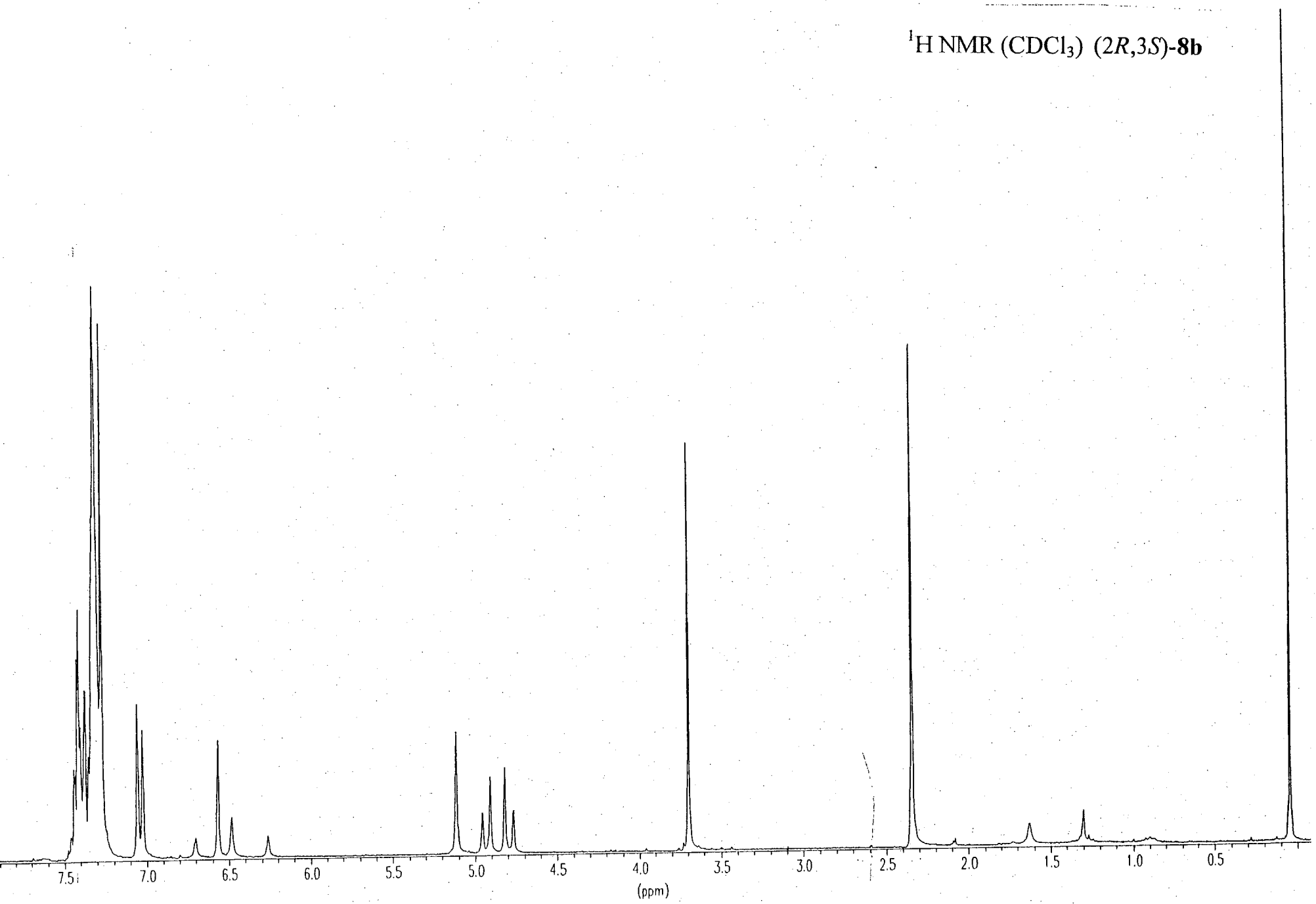
^{1}H NMR ($CDCl_3$) (2*R*,3*S*)-**8b**



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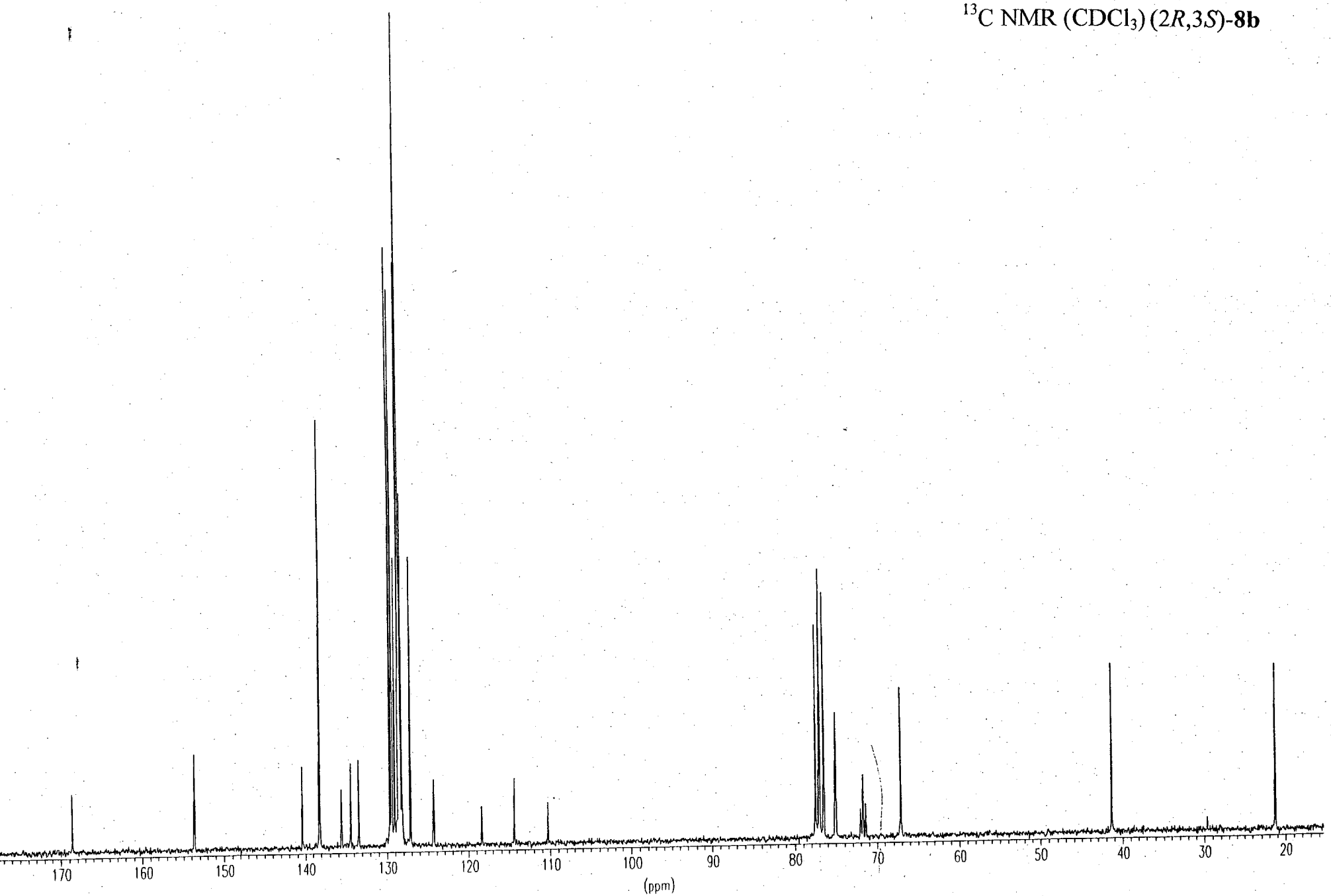

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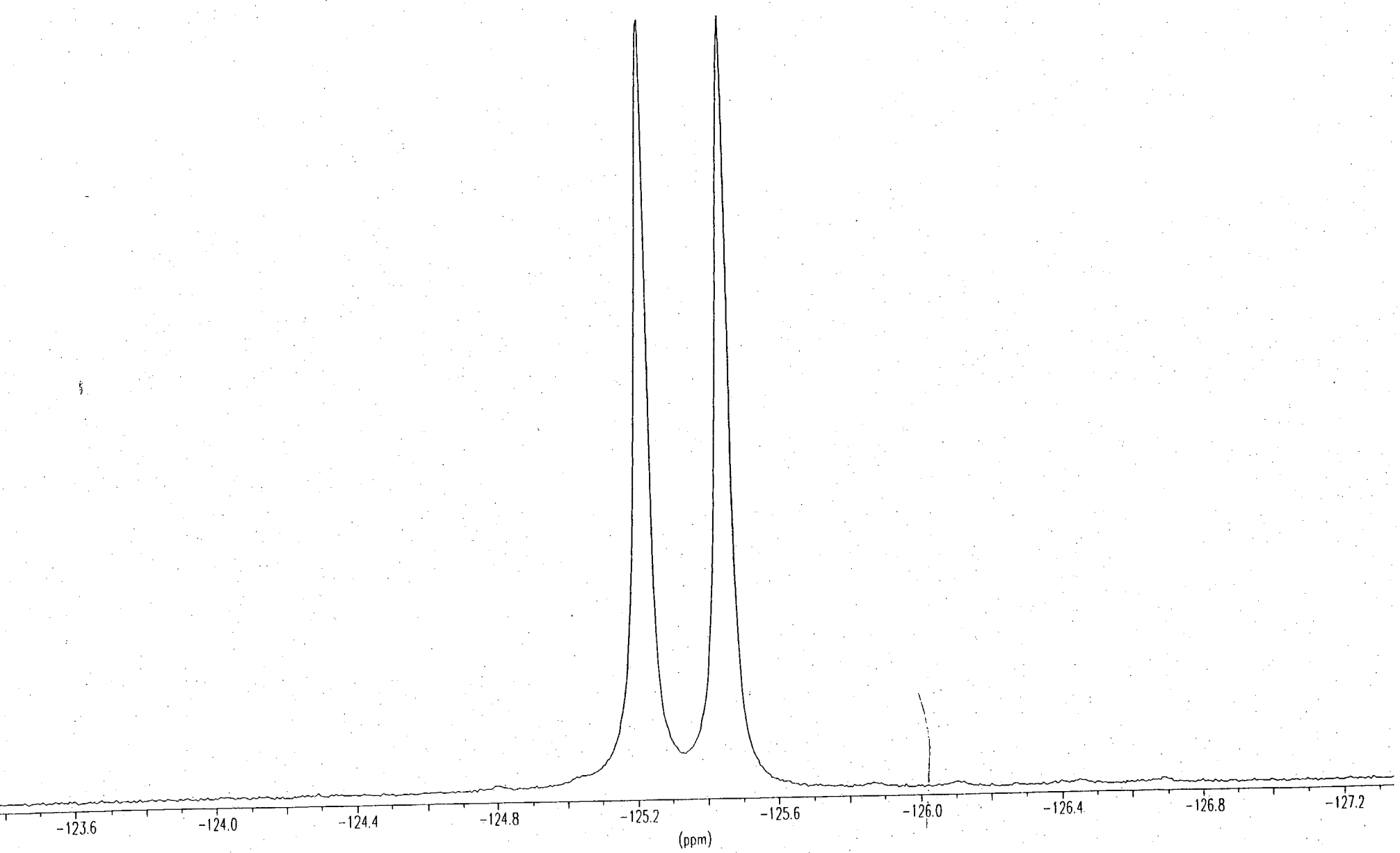
^{19}F NMR ($CDCl_3$) (2*R*,3*S*)-**8b**



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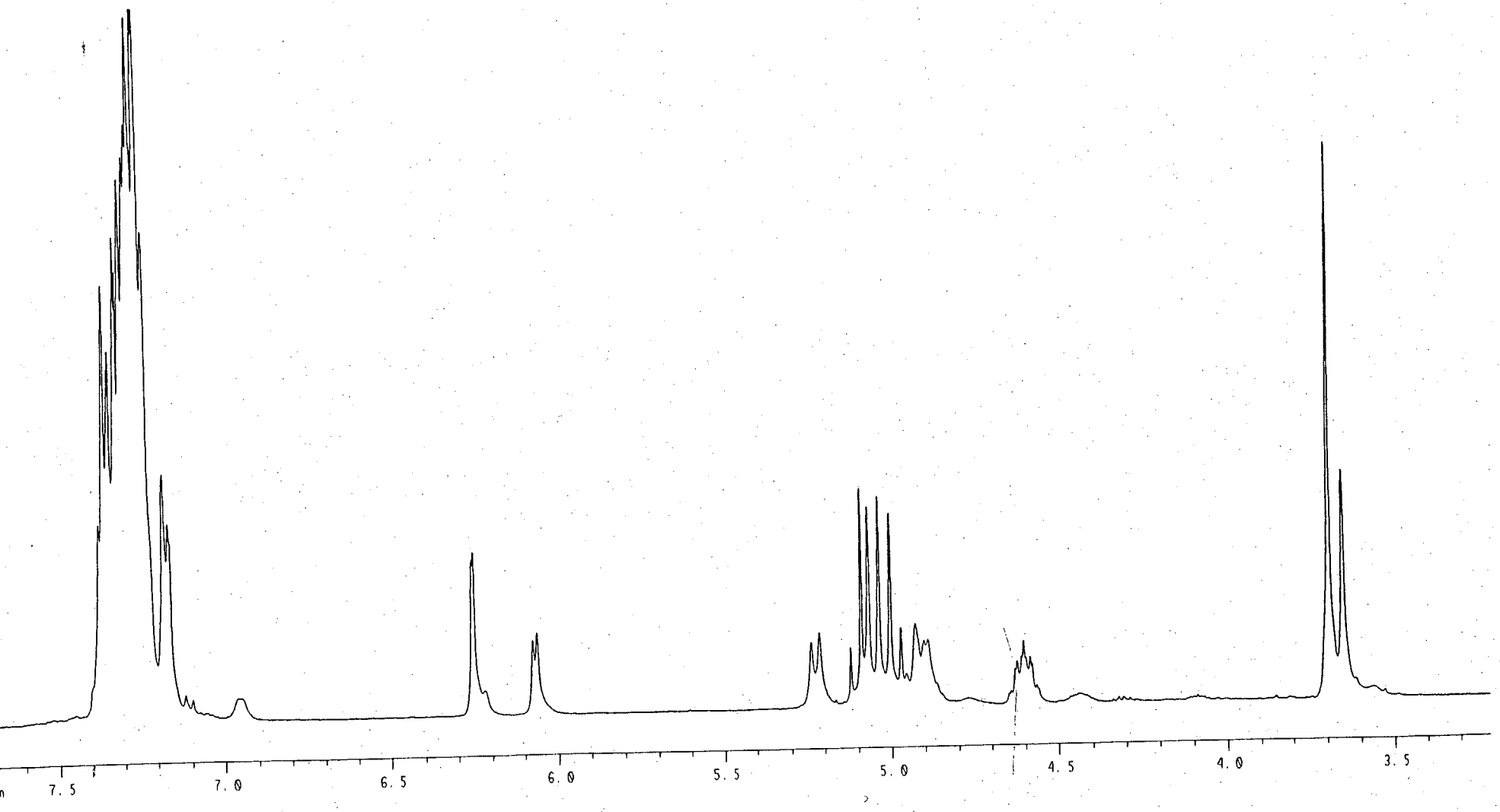
^{1}H NMR ($CDCl_3$) (2*R*,3*S*)-**9a**/(2*S*,3*S*)-**9a** (dr 1:1)



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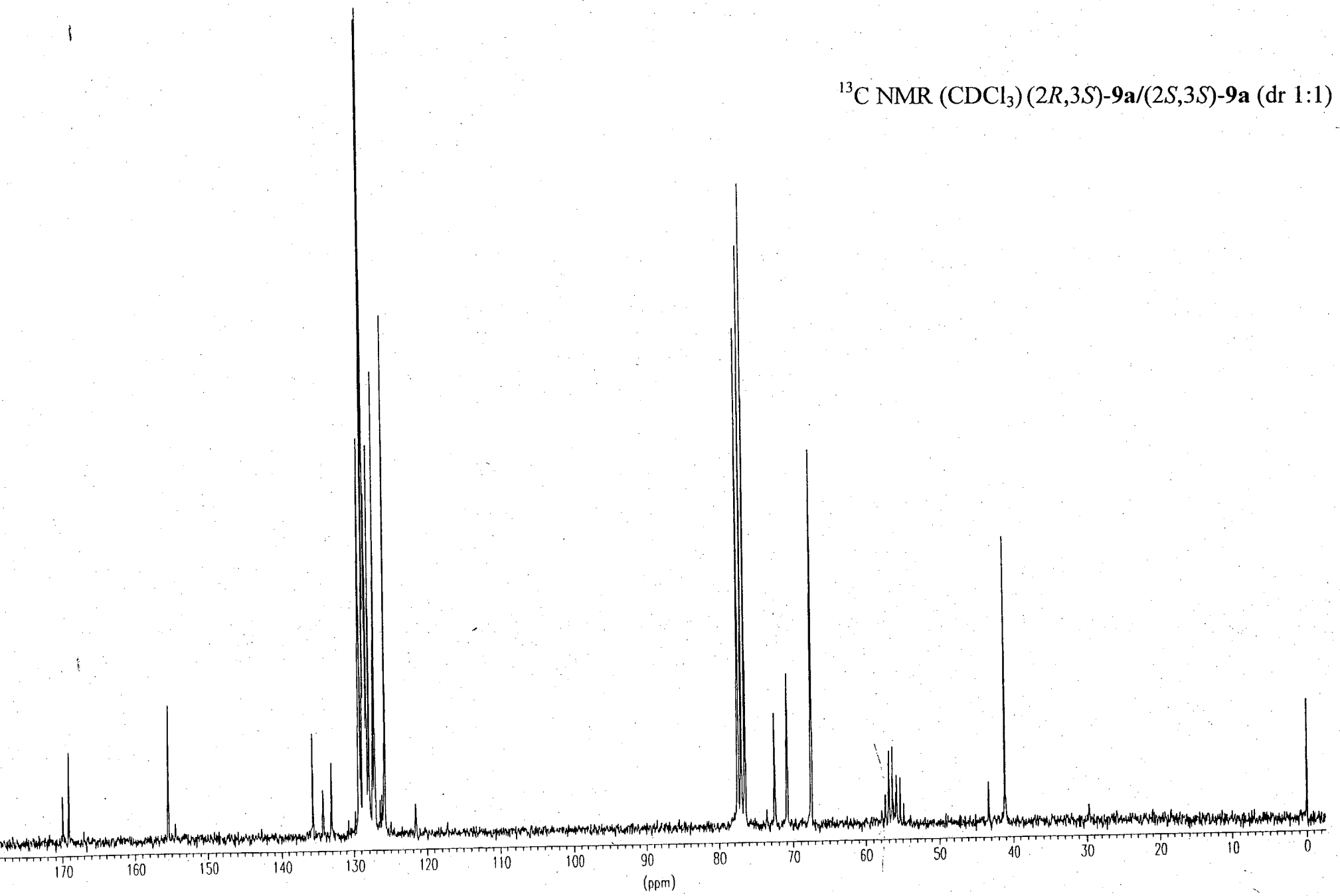
^{13}C NMR ($CDCl_3$) (2*R*,3*S*)-**9a**/(2*S*,3*S*)-**9a** (dr 1:1)



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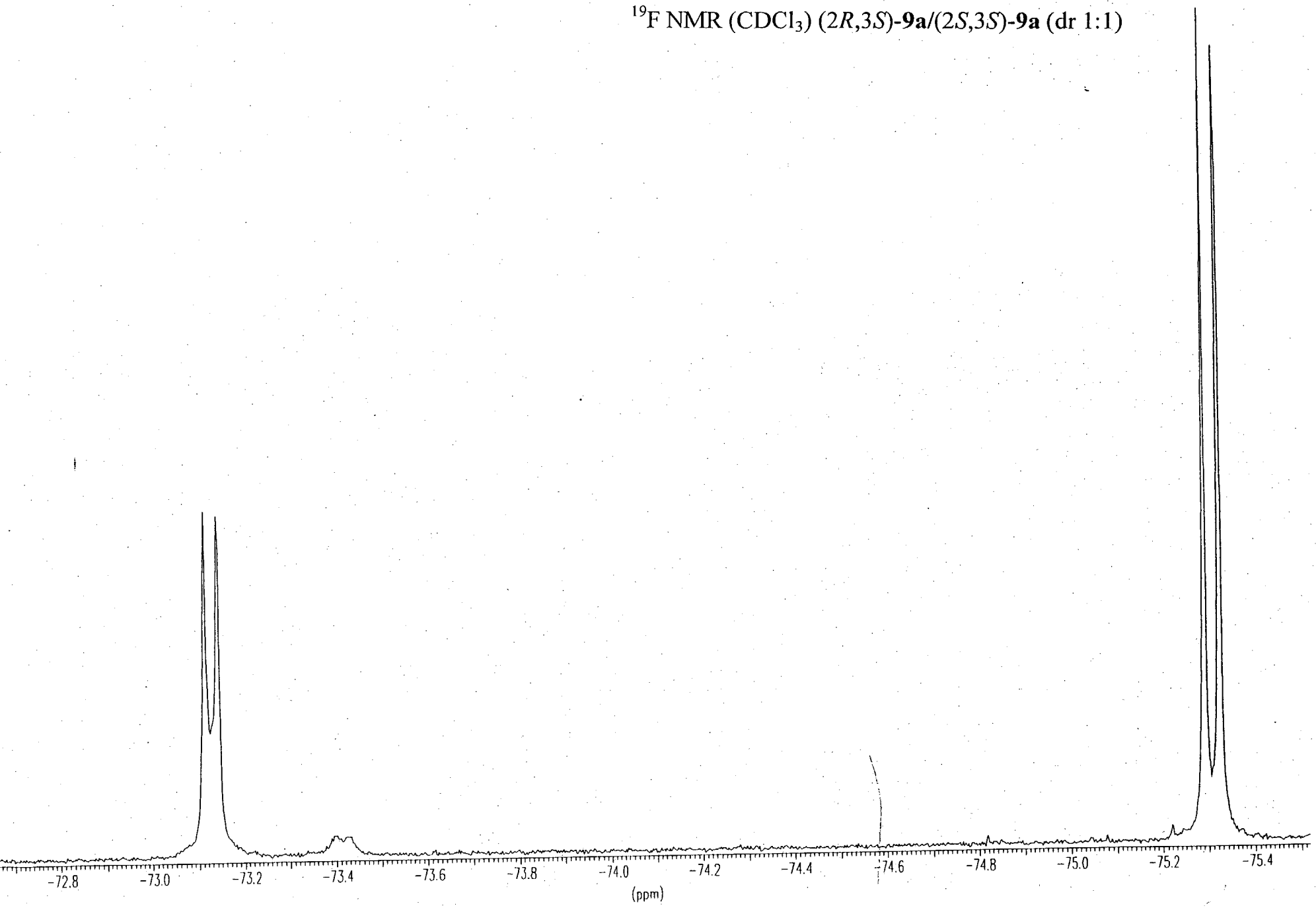
^{19}F NMR ($CDCl_3$) (2*R*,3*S*)-**9a**/(2*S*,3*S*)-**9a** (dr 1:1)