

SUPPORTING INFORMATION

INDEX

I.-GENERAL CONSIDERATIONS

II.-TABLES

III.-FIGURES

IV.-EXPERIMENTAL PROCEDURES AND CHARACTERIZATION DATA

IV.A.-PREPARATION OF PRECURSORS AND SUBSTRATES

IV.B.-GENERAL PROCEDURE FOR THE (TMEDA.I).I3)-INITIATED REACTIONS

IV.C.-CIS/TRANS ISOMERIZATION OF OLEIC ACID METHYL ESTER

IV.D.-ISOLATION OF 2,4-DINITROPHENYLHYDRAZONE FROM OXALDEHYDE

IV.E. CHARACTERIZATION OF COMPOUNDS

I.-GENERAL CONSIDERATIONS

All reactions were carried out in an argon atmosphere under anhydrous conditions or otherwise noted.

Reaction solvents such as acetonitrile, was chromatography quality and were not further purified. Chromatography and extraction solvents dichloromethane, chloroform, *iso*-octane, *n*-hexane, *n*-heptane, ethyl acetate, acetone, and, ethanol were purchased from commercial suppliers.

N,N,N',N'-tetramethylethylene diamine TMEDA was 99% pure and used as received from the supplier. Fluorinated reagents

1,1,1,2,2,3,3,4,4-nonafluoro-4-iodobutane (perfluorobutyl iodide), 1,1,1,2,2,3,3,4,4,5,5,6,6-tridecafluoro-6-iodohexane,

1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10-henicosafuoro-10-iododecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8-heptadecafluoro-8-iodooctane

,1,4-diiodo-1,1,2,2,3,3,4,4-octafluorobutane and 1,1,2,2,3,3,4,4,5,5,6,6-dodecafluoro-1,6-diiodohexane were used as received from the supplier without further purification, except when traces of iodine had to be removed, in which case, the neat liquid was passed through a neutral alumina column. Anilines were commercially available and purified by column chromatography or vacuum-distilled. 2,2,6,6-Tetramethyl-1-piperidinyloxy (TEMPO) and 1,4-dinitrobenzene were Ultra pure grade. Dye Rose Bengal (4,5,6,7-Tetrachloro-3',6'-dihydroxy-2',4',5',7'-tetraiodo-3*H*-spiro[isobenzofuran-1,9'-xanthen]-3-one), was 99.9% pure and used as received from the supplier. Benzocaine was excipient-free and used as the active monodrug. Yields were referred to as isolated yields of analytically pure material unless otherwise noted, as the case of yields calculated from ^{19}F NMR and ^1H NMR spectral integration.

Reactions were magnetically stirred and monitored by thin-layer chromatography (TLC) using Silica gel 60 F254 pre-coated plates (0.25 mm, Merk), and revealed by UV-light.

Purification of the reaction products was carried out by flash column chromatography using Ultra Pure Silica Gel (230–400 mesh) or standard silica-gel for column chromatography (60 mesh).

The light source was a commercially available household 60-watt fluorescent light bulb or a 50 Watt black light ($\lambda_{\text{max}} = 370 \text{ nm}$).

^1H NMR spectra were recorded on a Bruker Avance 600 (600 MHz) spectrometers, and are reported in ppm using the solvent residual peak resonance as the internal standard (dimethylsulfoxide-*d*6 at 2.54 ppm, CDCl_3 at 7.26 ppm). ^1H NMR data are reported as follows: chemical shift; multiplicity; coupling constants (Hz); number of hydrogen.

Multiplicity is abbreviated as follows: s = singlet, d = doublet, t = triplet, dd = double doublet, m = multiplet, br = broad. Proton-decoupled ^{13}C NMR spectra were recorded on a Bruker Avance 500 (at 125.758 MHz), or on a Bruker Avance 600 (at 150.903 MHz) spectrometers and are reported in ppm using the C resonance signal from the solvent as the internal standard (acetone-*d*6 at 29.8 ppm, CDCl_3 at 77.00 ppm). ^{19}F NMR spectra were recorded on a Bruker Avance 500 (at 470.592 MHz), or a Bruker Avance 600 (at 564.686 MHz) spectrometers and are reported in ppm using the internal standard signal from the spectrometer. High-resolution mass spectra (HRMS) were obtained using JEOL-DX 700 mass spectrometer.

II.-TABLES

Table S1. Averaged ^{19}F NMR chemical shift (ppm) values observed for the CF_2 group in $\text{ICF}_2\text{-C}_3\text{F}_7$ (1 equiv, 35 μL neat) in mixtures with additives and substrates in a given solvent

entry	additive	$-\delta$ (ppm) δ I- CF_2 - C_3F_7	$\Delta \delta$ (ppm) $[\delta$ (I- CF_2 - C_3F_7) - δ (I- CF_2 - C_3F_7) _{additive}]
1	-	64.16 ^a	0
2	-	66.98 ^b	0
3	1 equiv TMEDA	68.08 ^a	3.92
4	0.25 equiv TMEDA	68.14 ^a	3.98
5	0.4 equiv TMEDA	68.57 ^a	4.41
6	1 equiv 2,4,6,- triaminopyrimidine	68.76 ^c	4.60
7	0.25 equiv 2,4,6,- triaminopyrimidine + 1 equiv TMEDA	70.35 ^c	6.19
8	0.4 equiv 2,4-dihydroxy-6- methyl-pyrimidine	68.60 ^c	4.44
9	0.25 equiv 2,4-dihydroxy-6- methyl-pyrimidine + 1 equiv TMEDA	70.30 ^c	6.14
10	0.4 equiv 1 equiv 2,4-diamino- 6-hydroxy-pyrimidine	68.77 ^c	4.61
11	0.25 equiv 2,4-diamino-6- hydroxy-pyrimidine + 1 equiv TMEDA	70.46 ^c	6.30
12	0.4 equiv barbituric acid	68.73 ^c	4.57

a.-in CD_3CN . b.-in DMSO-d_6 . c.-in DMF

III.-FIGURES

Figure S1. Uv-visible Spectrum of C_4F_9I [0,6 M] in MeCN at the working concentration. $\lambda_{\max}= 462 \text{ nm}$ ($\varepsilon= 0.677 \cdot 10^3 \text{ dm}^3 \text{ mol}^{-1} \text{ cm}^{-1}$) denoting the absorption of I2

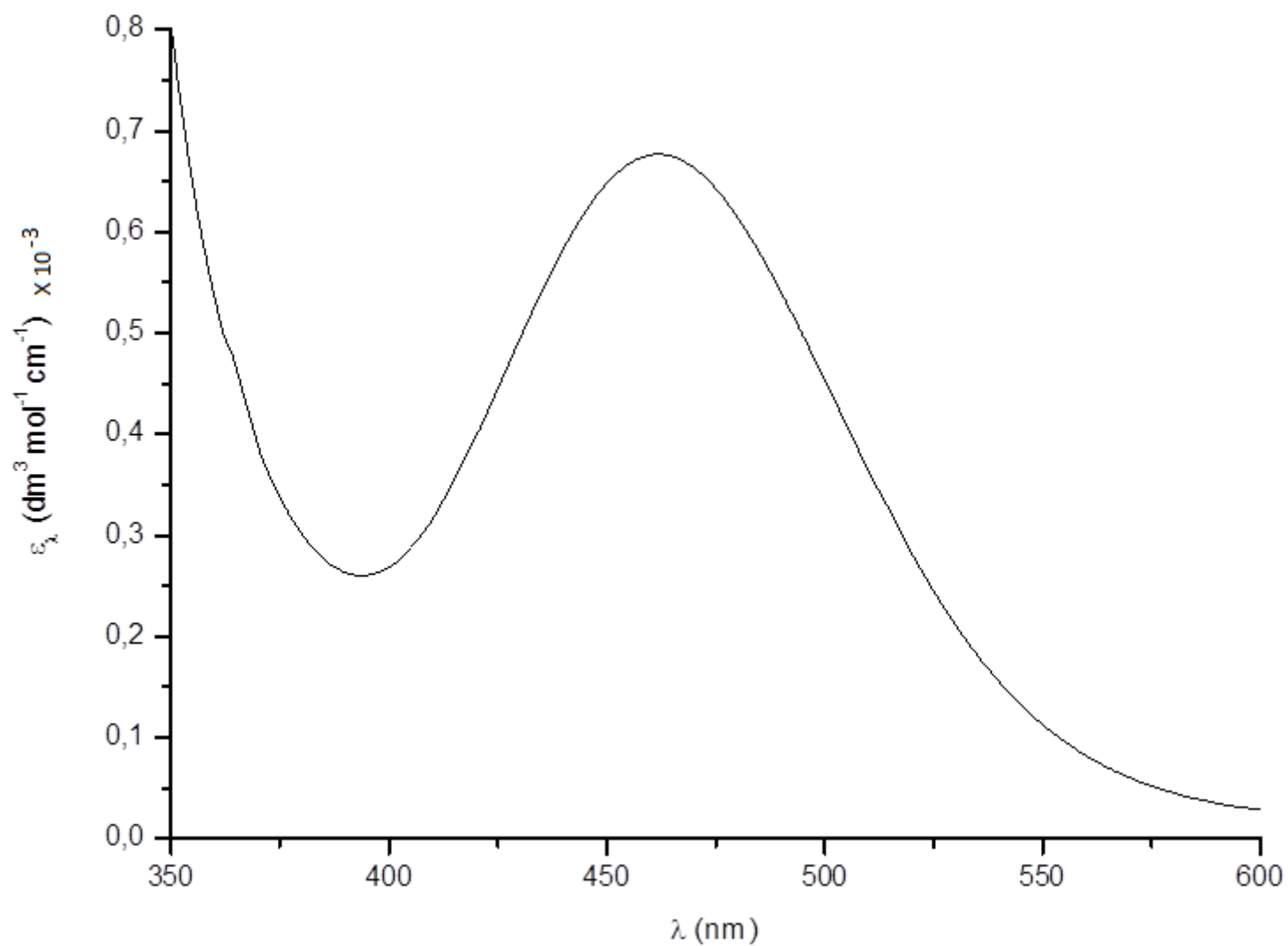


Figure S2. Uv-visible Spectrum of I₂ [0,55 mM] in (MeCN)

$$\lambda_{\max} = 457 \text{ nm } (\epsilon = 0.699 \text{ dm}^3 \text{ 10}^3 \text{ mol}^{-1} \text{ cm}^{-1})$$

$$\lambda_{\max} = 364 \text{ nm } (\epsilon = 0.741 \text{ dm}^3 \text{ 10}^3 \text{ mol}^{-1} \text{ cm}^{-1})$$

$$\lambda_{\max} = 291 \text{ nm } (\epsilon = 1.459 \text{ dm}^3 \text{ 10}^3 \text{ mol}^{-1} \text{ cm}^{-1})$$

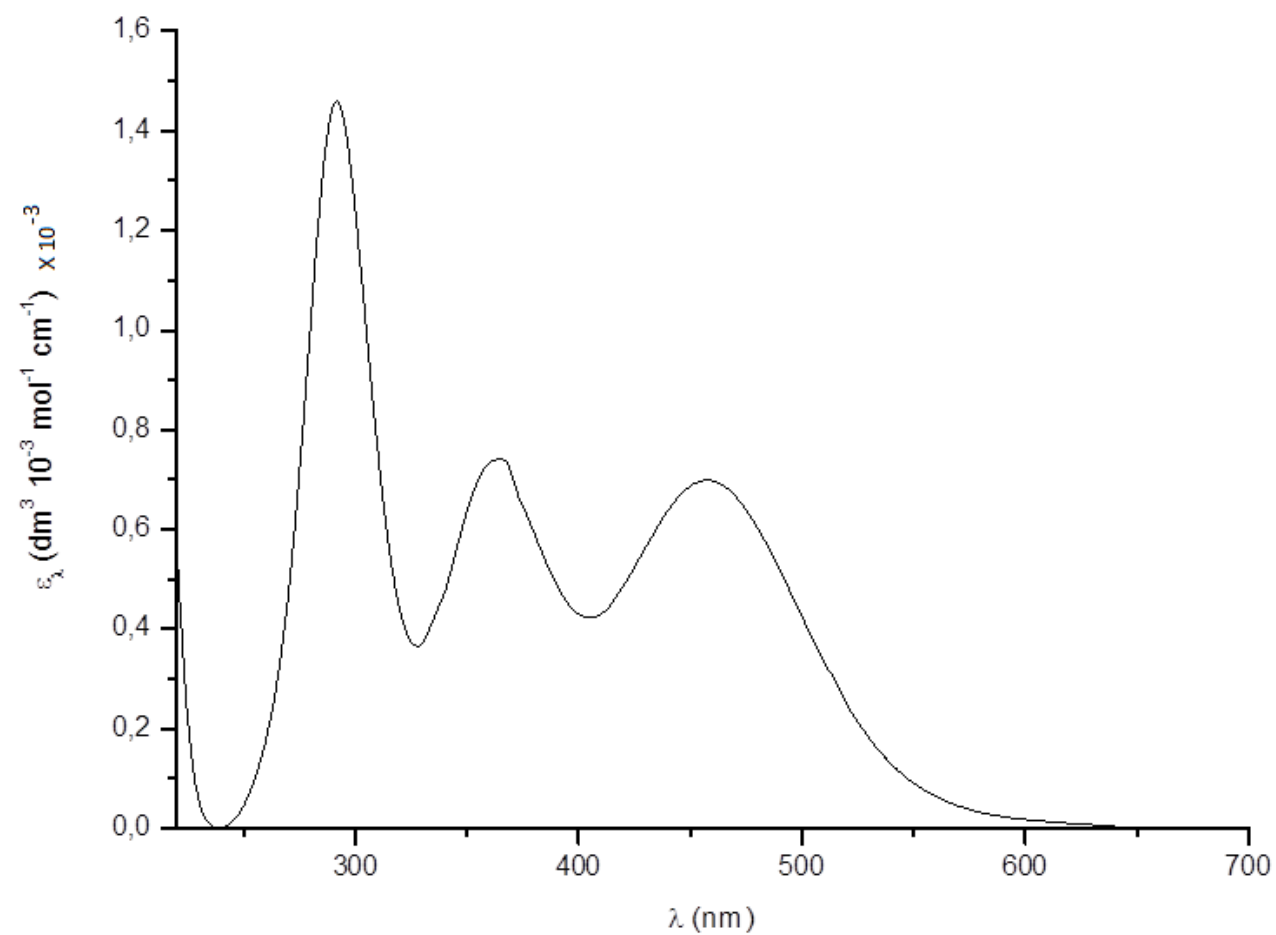
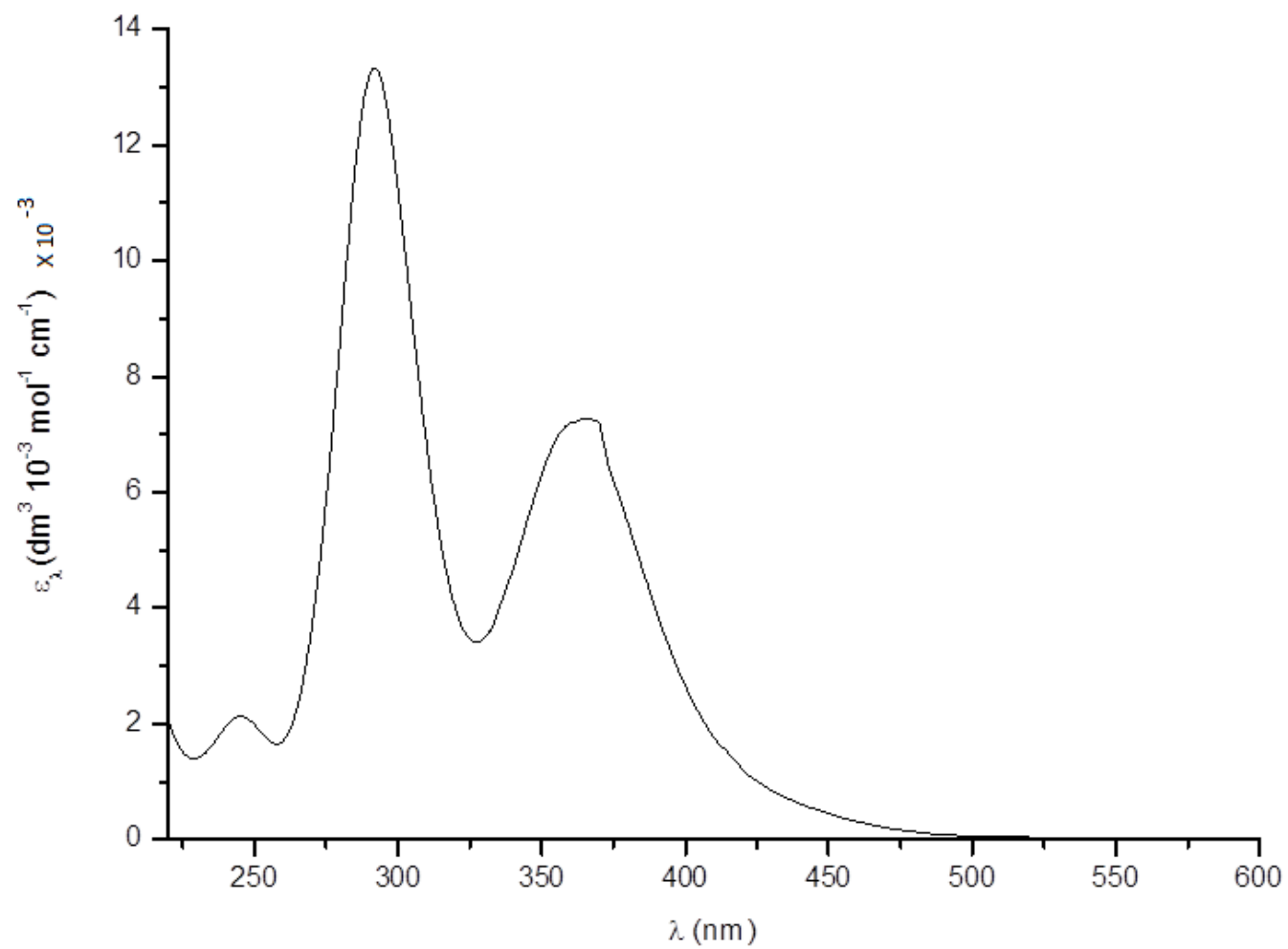


Figure S3. Uv-visible Spectrum of the mixture TMEDA [0.03 mM] + I₂ [0.06 mM] in (MeCN)

$$\lambda_{\max} = 365 \text{ nm } (\epsilon = 7267 \text{ dm}^3 \text{ 10}^{-3} \text{ mol}^{-1} \text{ cm}^{-1})$$

$$\lambda_{\max} = 292 \text{ nm } (\epsilon = 13330 \text{ dm}^3 \text{ 10}^{-3} \text{ mol}^{-1} \text{ cm}^{-1})$$



IV.-EXPERIMENTAL PROCEDURES AND CHARACTERIZATION DATA

IV.A.-GENERAL PROCEDURE FOR THE (TMEDA.I).I₃)-INITIATED REACTIONS

In a 4 mL screw-cap vial provided with a micro stir bar, TMEDA (1.8 mmol) ((TMEDA) I₃ complex, ca. 0.25 mM), substrate (0.6 mmol, aniline derivative or aminoheteroaromatic compound), or photocatalyst Rose Bengal where needed (0.05 equiv) and 3 mL of acetonitrile were introduced. The mixture was de-oxygenated with a stream of Ar for 15 min. and C₄F₉I or other R_FI (3 equiv) was introduced by microliter syringe, and the vial sealed. The closed reaction vessel was placed in front of a 60 Watt household fluorescent light bulb (or 20 Watt fluorescent black light, $\lambda_{\text{max}} = 370 \text{ nm}$) and illuminated, under constant vigorous stirring, for 24 hrs or otherwise noted. After the reaction time was completed, the mixture was extracted thrice with CH₂Cl₂ / water / brine. The organic layers were gathered and dried over anhydrous Na₂SO₄, filtered and evaporated under vacuo. The crude reaction mixture was purified by silica-gel (60 mesh) column chromatography, with the eluants indicated in the TLC conditions (*vide infra*, spectral data). The polarity of the dye did not introduce any particular difficulty in the separation and purification protocol, as the several CH₂Cl₂ extractions eliminated the **PC**. The eluants employed are referred to in the TLC conditions of each compound.

IV.B.-LARGE SCALE REACTIONS

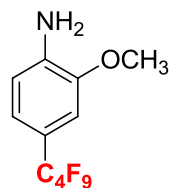
In a 60 mL Schlenk-type tube 2-anisidine (12 mmol), TMEDA (36 mmol), and a stir bar were placed and a volume of 60 mL of MeCN was introduced by syringe through a septum. The mixture was de-oxygenated with a stream of dry Ar for 30 min., and 36 mmol of *n*-C₄F₉I were added to the mixture. The set-up was placed on a stir plate, and vigorously stirred throughout the reaction time. The vessel was placed in front (1 cm) of a 60 Watt CFL, and irradiated for 40 hours. The crude reaction mixture was purified by silica-gel (60 mesh) column chromatography, with the eluants indicated in the TLC conditions (*vide infra*, spectral data). The large-scale reaction afforded 36 % yield (1.474 g) of combined purified products **1**.

In a 60 mL Schlenk-type tube 5-bromo-2-aminopyridine (12 mmol), TMEDA (36 mmol), and a stir bar were placed. A volume of 60 mL of MeCN was introduced by 50-mL syringe. The mixture was de-oxygenated with a stream of dry Ar for 30 min., and 36 mmol of *n*-C₄F₉I were added to the mixture by syringe through a septum. The set-up was placed on a stir plate, and vigorously stirred throughout the reaction time. The vessel was placed in front (1 cm) of a 60 Watt CFL, and irradiated for 40 hours. The crude reaction mixture was purified by silica-gel (60 mesh) column chromatography, with the eluants indicated in the TLC conditions (*vide infra*, spectral data). The large-scale reaction afforded 45 % yield (2.111 g) of purified product **24**.

IV.C.-CHARACTERIZATION OF COMPOUNDS

All compounds are unknown chemicals, unless otherwise noted, and are reported as % yields obtained by NMR integration (from ^1H and ^{19}F NMR integration) of the crude reaction mixtures. Isolated purified masses of compounds are expressed in Gram units.

Characterizations employ ^1H , ^{13}C , ^{19}F 1D-NMR techniques, and 2D NMR spectroscopic techniques (HSQC, HMBC, COSY experiments, and DEPT-135), and HRMS measurements.



2-methoxy-4-(perfluorobutyl)aniline (**1**),: yellow oil, 95%. Isolated and purified mass obtained: 67 mg.

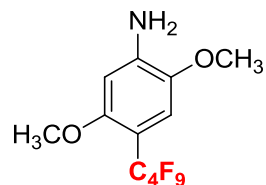
TLC (CH_2Cl_2 /*iso*-octane 1:1 v/v): R_f = 0.5;

^1H NMR (600 MHz, CDCl_3) δ : 7.01 (d, J = 10 Hz, 1H), 6.92 (s, 1H), 6.73 (d, J = 10 Hz, 1H), 4.15 (b s, 2H), 3.90 (s, 3H).

^{13}C NMR (150 MHz, CDCl_3) δ : 146.5, 139.7, 120.4 (t, CF₂), 118.7 (m, CF₂), 118.1 (t, CF₃), 116.7 (m), 113.5, 112.5, 109.7, 108.4, 55.6.

^{19}F NMR (564.603 MHz CDCl_3) δ : -81.11 (t, 3F), -109.32 (t, 2F), -122.78 (m, 2F), -125.68 (m, 2F).

HRMS-EI+ (M+1): Calcd. For $\text{C}_{11}\text{H}_9\text{F}_9\text{NO}$: 342.05349; found, 342.05388.



2,5-dimethoxy-4-(perfluorobutyl)aniline (**2**); yellow oil. Yield= 63%. Isolated and purified mass obtained: 27 mg.

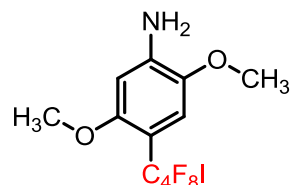
TLC (CH_2Cl_2 : *iso*-octane 7:3 v/v): R_f = 0.69

^1H NMR (600 MHz, CDCl_3) δ : 6.82 (s, 1H), 6.35 (s, 1H), 4.15 (b s, 2H), 3.83 (s, 3H), 3.76 (s, 3H).

^{13}C NMR (151 MHz, CDCl_3) δ : 154.1, 141.2, 140.6, 116.8 (CF₂), 110.9, 104.9, 99.8, 56.7, 56.3.

^{19}F NMR (564.63 MHz, CDCl_3) δ : -81.00 (t, 3F), -106.20 (t, 2F), -122.25 (m, 2F), -126.06 (m, 2F).

HRMS-El $^+$ (M+1): Calcd. For $\text{C}_{12}\text{H}_{10}\text{F}_9\text{NO}_2$: 372.05678; found, 372.05670



2,5-dimethoxy-4-(1,1,2,2,3,3,4,4-octafluoro-4-iodobutyl)aniline (**3**); pale yellow oil. Yield= 18%. Isolated and purified mass obtained: 21 mg.

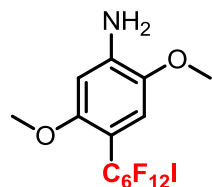
TLC (CH_2Cl_2 : *n*-hexane 8:2 v/v): R_f = 0.62

^1H NMR (600 MHz, CDCl_3) δ : 6.82 (s, 1H), 6.35 (s, 1H), 4.13 (b s, 2H), 3.83 (s, 3H), 3.76 (s, 3H).

^{13}C NMR (151 MHz, CDCl_3) δ : 154.1, 141.0, 140.6, 111.0, 100.1, 99.9, 56.8, 56.3.

^{19}F NMR (564.63 MHz, CDCl_3) δ : -57.55 (t, 2F), -106.07 (t, 2F), -112.78 (m, 2F), -120.43 (m, 2F).

HRMS-El $^+$ (M+1): Calcd. For $\text{C}_{12}\text{H}_{10}\text{F}_8\text{INO}_2$: 479.96285; found, 479.96280.



2,5-dimethoxy-4-(1,1,2,2,3,3,4,4,5,5,6,6-dodecafluoro-6-iodohexyl)aniline(**4a**); pale yellow oil. Yield= 39%.

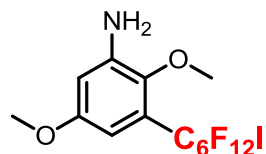
TLC (CH_2Cl_2 : *n*-hexane 8:2 v/v): R_f = 0.52

^1H NMR (600 MHz, CDCl_3) δ : 6.85 (s, 1H), 6.14 (s, 1H), 3.99 (b s, 2H), 3.70 (s, 3H), 3.63 (s, 3H).

^{13}C NMR (151 MHz, CDCl_3) δ : 152.3, 142.7, 139.9, 112.7, 108.5, 98.1, 56.7, 56.6.

^{19}F NMR (564.63 MHz, CDCl_3) δ : -58.70 (t, 2F), -107.16 (t, 2F), -113.07 (m, 2F), -119.97 (m, 2F), -120.88 (m, 2F), -121.74 (m, 2F).

HRMS-El $^+$ (M+1): Calcd. For $\text{C}_{14}\text{H}_{10}\text{F}_{12}\text{INO}_2$ 579.95646; found, 579.95635.



2,5-dimethoxy-3-(1,1,2,2,3,3,4,4,5,5,6,6-dodecafluoro-6-iodohexyl)aniline (**4b**); pale yellow oil. Yield= 37%.

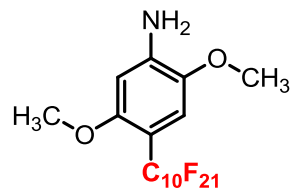
TLC (CH₂Cl₂: *n*-hexane 8:2 v/v): R_f= 0.55

¹H NMR (600 MHz, CDCl₃) δ: 6.45 (s, 1H), 6.31 (s, 1H), 3.99 (b s, 2H), 3.66 (s, 3H), 3.57 (s, 3H).

¹³C NMR (151 MHz, CDCl₃) δ: 153.1, 142.6, 140.6, 112.8, 111.2, 105.3, 56.2, 55.7.

¹⁹F NMR (564.63 MHz, CDCl₃) δ: -58.39 (t, 2F), -107.16 (t, 2F), -113.07 (m, 2F), -120.13 (m, 2F), -120.88 (m, 2F), -121.48 (m, 2F).

HRMS-El⁺ (M+1): Calcd. For C₁₄H₁₀F₁₂INO₂ 579.95646; found, 579.95640.



2,5-dimethoxy-4-(perfluorodecyl)aniline (**5**); pink solid. Yield= 10%. Isolated and purified mass obtained: 6 mg.

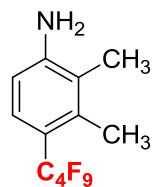
TLC (ethyl acetate: *n*-hexane 4:6 v/v): R_f= 0.70

¹H NMR (600 MHz, CDCl₃) δ: 6.82 (s, 1H), 6.35 (s, 1H), 4.13 (b s, 2 H), 3.83 (s, 3H), 3.77 (s, 3H).

¹³C NMR (151 MHz, CDCl₃) δ: 154.1, 141.1, 140.6, 110.9, 102.1, 99.8, 56.8, 56.3.

¹⁹F NMR (564.63 MHz, CDCl₃) δ: -80.74 (t, 3F), -105.98 (m, 2F), -121.33 (m, 2F), -121.78 (m, 10F), -122.67 (m, 2F), -126.08 (m, 2F).

HRMS-El⁺ (M+1): Calcd. For C₁₈H₁₀F₂₁NO₂ 672.03762; found, 672.03741.



2,3-dimethyl-4-(perfluorobutyl)aniline (**6**); dark amber oil. Yield= 24%. Isolated and purified mass obtained: 30 mg.

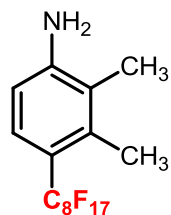
TLC (CH₂Cl₂: *iso*-octane 7:3 v/v): R_f= 0.57

¹H NMR (600 MHz, CDCl₃) δ: 7.21 (d, J = 8.6 Hz, 1H), 6.61 (d, J = 8.6 Hz, 1H), 3.88 (b s, 2H), 2.33 (s, 3H), 2.10 (s, 3H).

¹³C NMR (151 MHz, CDCl₃) δ: 147.6, 137.6, 127.0, 121.9, 117.0, 112.3, 17.0, 13.1.

¹⁹F NMR (564.63 MHz, CDCl₃) δ: -80.98 (t, 3F), -102.89 (t, 2F), -121.33 (m, 2F), -125.79 (m, 2F).

HRMS-EI+ (M+1): Calcd. For C₁₂H₁₀F₉N 340.06695; found, 340.06690.



2,3-dimethyl-4-(perfluorooctyl)aniline (**7**); pale yellow solid. Yield= 58%. Isolated and purified mass obtained: 26 mg.

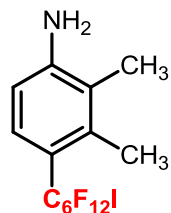
TLC (CH₂Cl₂: *n*-hexane 1:1 v/v): R_f= 0.67

¹H NMR (600 MHz, CDCl₃) δ: 7.21 (d, J = 8.6 Hz, 1H), 6.61 (d, J = 8.6 Hz, 1H), 3.88 (b s, 2H), 2.33 (s, 3H), 2.10 (s, 3H).

¹³C NMR (151 MHz, CDCl₃) δ: 147.6, 137.7, 127.0, 121.9, 117.2, 112.3, 17.0, 13.1.

¹⁹F NMR (564.63 MHz, CDCl₃) δ: -80.81 (t, 3F), -102.72 (t, 2F), -120.40 (m, 2F), -121.49 (m, 2F), -121.87 (m, 4F), -122.73 (m, 2F), -126.13 (m, 2F).

HRMS-EI+ (M+1): Calcd. For C₁₆H₁₀F₁₇N 540.05418; found, 540.05420.



2,3-dimethyl-4-(1,1,2,2,3,3,4,4,5,5,6,6-dodecafluoro-6-iodohexyl)aniline (**8**); pale yellow oil. Yield= 54%. Isolated and purified mass obtained: 13 mg.

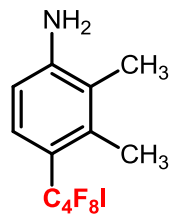
TLC (CH₂Cl₂: *n*-hexane 6:4 v/v): R_f= 0.66

¹H NMR (600 MHz, CDCl₃) δ: 7.21 (d, J = 8.6 Hz, 1H), 6.60 (d, J = 8.6 Hz, 1H), 3.87 (b s, 2H), 2.33 (s, 3H), 2.10 (s, 3H).

¹³C NMR (151 MHz, CDCl₃) δ: 147.6, 137.7, 127.1, 121.9, 117.3, 112.3, 17.1, 13.1.

¹⁹F NMR (564.63 MHz, CDCl₃) δ: -58.58 (t, 2F), -102.70 (t, 2F), -112.99 (m, 2F), -120.36 (m, 2F), -120.87 (m, 2F), -121.48 (m, 2F).

HRMS-EI+ (M+1): Calcd. For C₁₄H₁₀F₁₂IN 547.96663; found, 547.96651.



2,3-dimethyl-4-(1,1,2,2,3,3,4,4-octafluoro-4-iodobutyl)aniline (**9**); yellow oil. Yield= 37%. Isolated and purified mass obtained: 68 mg.

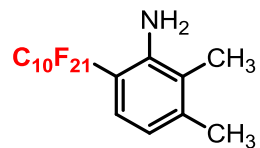
TLC (CH₂Cl₂: *n*-hexane 8:2 v/v): R_f= 0.77

¹H NMR (600 MHz, CDCl₃) δ: 7.20 (d, J = 8.6 Hz, 1H), 6.60 (d, J = 8.6 Hz, 1H), 3.85 (b s, 2H), 2.32 (s, 3H), 2.10 (s, 3H).

¹³C NMR (151 MHz, CDCl₃) δ: 147.6, 137.6, 127.1, 121.8, 117.1, 112.3, 17.0, 13.1.

¹⁹F NMR (564.63 MHz, CDCl₃) δ: -57.77 (t, 2F), -102.74 (t, 2F), -112.56 (m, 2F), -119.42 (m, 2F).

HRMS-EI+ (M+1): Calcd. For C₁₂H₁₀F₈IN 447.97302; found, 447.96999



2,3-dimethyl-6-(perfluorodecyl)aniline (**10a**); white solid. Yield= 2%.

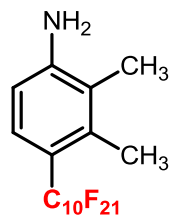
TLC (CH₂Cl₂: *n*-hexane 1:1 v/v): R_f= 0.88

¹H NMR (600 MHz, CDCl₃) δ: 7.10 (d, J = 8.0 Hz, 1H), 6.66 (d, J = 8.0 Hz, 1H), 3.49 (b s, 2H), 2.31 (s, 3H), 2.09 (s, 3H).

¹³C NMR (151 MHz, CDCl₃) δ: 143.9, 141.2, 125.9, 122.0, 119.6, 109.8, 20.9, 12.6

¹⁹F NMR (564.63 MHz, CDCl₃) δ: -59.21 (t, 2F), -81.03 (t, 3F), -113.20 (m, 2F), -121.02 (m, 2F), -121.98 (m, 8F), -122.89 (m, 2F), -126.32 (m, 2F).

HRMS-EI⁺ (M+1): Calcd. For C₁₈H₁₀F₂₁N 640.04779; found, 640.04771



2,3-dimethyl-4-(perfluorodecyl)aniline (**10b**); pale yellow solid. Yield= 4%. Isolated and purified mass obtained: 4.6 mg.

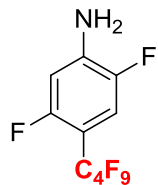
TLC (CH₂Cl₂: *n*-hexane 1:1 v/v): R_f= 0.60

¹H NMR (600 MHz, CDCl₃) δ: 7.21 (d, J = 8.6 Hz, 1H), 6.61 (d, J = 8.6 Hz, 1H), 3.88 (b s, 2H), 2.33 (s, 3H), 2.10 (s, 3H).

¹³C NMR (151 MHz, CDCl₃) δ: 147.6, 137.7, 127.1, 121.9, 117.2, 112.3, 17.0, 13.1.

¹⁹F NMR (564.63 MHz, CDCl₃) δ: -80.73 (t, 3F), -102.69 (t, 2F), -120.37 (m, 2F), -121.79 (m, 10F), -122.67 (m, 2F), -126.08 (m, 2F).

HRMS-EI⁺ (M+1): Calcd. For C₁₈H₁₀F₂₁N 640.04779; found, 640.04758



2,5-difluoro-4-(perfluorobutyl)aniline (**11**); yellow oil. Yield= 9%. Isolated and purified mass obtained: 2.5 mg.

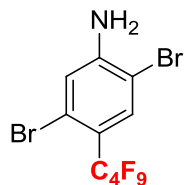
TLC (CH₂Cl₂: *iso*-octane 6:4 v/v): R_f= 0.58

¹H NMR (600 MHz, CDCl₃) δ: 7.11 (dd, J = 4.6 Hz, J = 11 Hz, 1H), 6.53 (dd, J = 4.5 Hz, J = 11.6 Hz, 1H), 4.20 (b s, 2H).

¹³C NMR (151 MHz, CDCl₃) δ: 156.6, 147.5, 139.9, 115.0 (m), 108.2, 103.8 (dd).

¹⁹F NMR (564.63 MHz, CDCl₃) δ: -81.01 (t, 3F), -108.30 (m, 2F), -116.62 (td, 1F), -123.00 (m, 2F), -125.93 (m, 2F), -140.51 (d, 1F).

HRMS-EI+ (M+1): Calcd. For C₁₀H₄F₁₁N 348.01681; found, 348.01690



2,5-dibromo-4-(perfluorobutyl)aniline (**12**); yellow oil. Yield= 15%. Isolated and purified mass obtained: 53.4 mg.

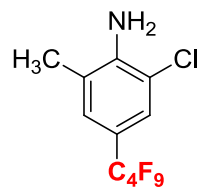
TLC (CH₂Cl₂: petroleum ether 4:6 v/v): R_f= 0.60

¹H NMR (600 MHz, CDCl₃) δ: 7.58 (s, 1H), 7.05 (s, 1H), 4.49 (b s, 2H).

¹³C NMR (151 MHz, CDCl₃) δ: 147.9, 134.2, 120.7, 120.5, 117.6, 106.9.

¹⁹F NMR (564.63 MHz, CDCl₃) δ: -80.95 (t, 3F), -105.73 (t, 2F), -120.58 (m, 2F), -125.81 (m, 2F)

HRMS-EI+ (M+1): Calcd. For C₁₀H₄F₉Br₂N 467.85668; found, 467.85669.



2-chloro-6-methyl-4-(perfluorobutyl)aniline (**13**); dark amber oil. Yield= 15%. Isolated and purified mass obtained: 13.7 mg.

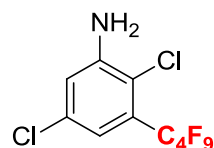
TLC (CH₂Cl₂: *iso*-octane 4:6 v/v): R_f= 0.56

¹H NMR (600 MHz, CDCl₃) δ: 7.36 (s, 1H), 7.15 (s, 1H), 4.36 (b s, 2H), 2.24 (s, 3H).

¹³C NMR (151 MHz, CDCl₃) δ = 144.5, 127.2, 126.0, 123.0, 118.6, 117.9, 18.1.

¹⁹F NMR (564.63 MHz, CDCl₃) δ: -81.09 (t, 3F), -109.72 (t, 2F), -122.71 (m, 2F), -125.64 (m, 2F).

HRMS-EI+ (M+1): Calcd. For C₁₁H₇F₉ClN 360.01233; found, 360.01241.



2,5-dichloro-3-(perfluorobutyl)aniline (**14**); dark amber oil. Yield= 16%. Isolated and purified mass obtained: 58 mg.

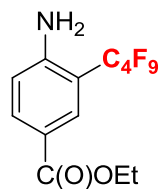
TLC (CH₂Cl₂: *iso*-octane 3:7 v/v): R_f= 0.73

¹H NMR (600 MHz, CDCl₃) δ: 7.45 (d, J = 2.3 Hz, 1H), 7.24 (d, J = 2.3 Hz, 1H), 4.75 (b s, 2H).

¹³C NMR (151 MHz, CDCl₃) δ: 142.6, 141.2, 132.9, 127.6, 121.9.

¹⁹F NMR (564.63 MHz, CDCl₃) δ: -80.89 (t, 3F), -109.07 (t, 2F), -122.49 (m, 2F), -125.78 (m, 2F)..

HRMS-EI+ (M+1): Calcd. For C₁₀H₄Cl₂F₉N 379.95771 ; found, 379.95784.



Ethyl-4-amino-3-(1,1,2,3,3,4,4,4-octafluoro-2-methylbutyl)benzoate, **(15)**: white solid, m.p. 89 – 90 °C.

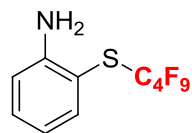
TLC (CH₂Cl₂/iso-octane 1:1 v/v): R_f = 0.6;

¹H NMR (600 MHz, CDCl₃) δ: 8.03 (d, J = 2Hz, 1H), 7.94 (dd, J = 10 Hz, J = 5Hz, 1H), 6.70 (d, J = 10 Hz, 1H), 4.66 (b s, 2H), 4.33 (q, J = 7Hz, 2H), 1.37 (t, J = 7Hz, 3H).

¹³C NMR (150 MHz, CDCl₃) δ: 165.6, 149.5, 134.2, 131.6 (t, CF₂), 119.8, 118.4, 117.4, 116.9, 110.0 (t, CF₂), 60.8, 14.3.

¹⁹F NMR (564.603 MHz CDCl₃) δ: -81.00 (t, 3F), -109.06 (t, 2F), -122.74 (m, 2F), -125.83 (m, 2F).

HRMS-EI+ (M+1): Calcd. For C₁₃H₁₁F₉NO₂: 384.06406; found, 384.06535.



2-((perfluorobutyl)thio)aniline **(16)**; pale yellow oil. Yield > 95%. Isolated and purified mass obtained: 66.2 mg.

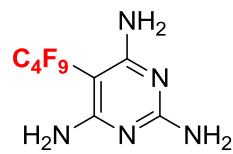
TLC (CH₂Cl₂: iso-octane 1:1 v/v): R_f = 0.63

¹H NMR (600 MHz, CDCl₃) δ: 7.47 (d, J = 7.8 Hz, 1H), 7.28 (t, J = 7.3 Hz, J = 8.2 Hz, 1H), 6.77 (d, J = 8.2 Hz, 1H), 6.74 (t, J = 7.3 Hz, J = 7.8 Hz, 1H), 4.45 (b s, 2H).

¹³C NMR (151 MHz, CDCl₃) δ: 151.1, 140.0, 133.4, 118.8, 115.8, 104.5.

¹⁹F NMR (564.63 MHz, CDCl₃) δ: -81.05 (t, 3F), -87.05 (t, 2F), -120.37 (m, 2F), -125.54 (m, 2F).

HRMS-EI+ (M+1): Calcd. For C₁₀H₆F₉NS 344.00772 ; found, 344.00801.



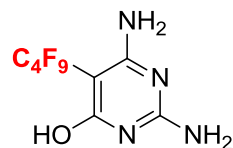
5-(perfluorobutyl)pyrimidine-2,4,6-triamine (**17**) pale yellow oil. Yield > 48%. Isolated and purified mass obtained: 56.2 mg

^1H NMR (600 MHz, DMSO- d_6) δ : -

^{13}C NMR (151 MHz, DMSO- d_6) δ : 162.4, 162.5

^{19}F NMR (564.63 MHz, DMSO- d_6) δ : -80.41 (t, 3F), -101.47 (m, 2F), -122.77 (m, 2F), -125.35 (m, 2F).

HRMS- EI^+ ($M+1$): Calcd. For $\text{C}_8\text{H}_6\text{F}_9\text{N}_5$ 344.04795 ; found, 344.04799.



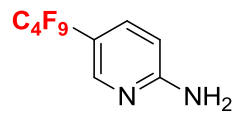
2,6-diamino-5-(perfluorobutyl)pyrimidin-4-ol (**18**) pale yellow oil. Yield > 64%. Isolated and purified mass obtained: 39.8 mg

^1H NMR (600 MHz, DMSO- d_6) δ : 5.74 (s)

^{13}C NMR (151 MHz, DMSO- d_6) δ : 206.5 (C=O from tautomer), 167.3 (from oxo tautomer), 163.1 (from oxo tautomer), 160.6, 160.3, 157.5, 156.3, 155.0 (from oxo tautomer).

^{19}F NMR (564.63 MHz, DMSO- d_6) δ : -79.10 (t, 3F) (from oxo tautomer), -80.45 (t, 3F), -102.34 (m, 2F) (from oxo tautomer), -111.83 (m, 2F), -121.54 (m, 4F), -122.38 (m, 2F), -125.35 (m, 2F).

HRMS- EI^+ ($M+1$): Calcd. For $\text{C}_8\text{H}_5\text{F}_9\text{N}_4\text{O}$ 345.03196; found 345.03205.



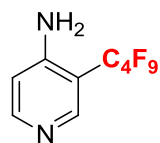
5-(perfluorobutyl)pyridin-2-amine (**19**) pale yellow oil. Yield > 23%. Isolated and purified mass obtained: 19.8 mg

¹H NMR (600 MHz, CDCl₃) δ: 8.26 (s, 1H), 7.56 (1H, d, J = 3 Hz), 6.53 (d, 1H, J = 3 Hz), 4.86 (broad s, 2H).

¹³C NMR (151 MHz, CDCl₃) δ: 160.6, 147.7, 136.3, 114.8, 107.8.

¹⁹F NMR (564.63 MHz, CDCl₃) δ: -81.07 (t, 3F), -110.57 (m, 2F), -123.02 (m, 2F), -125.59 (m, 2F).

HRMS-EI+ (M+1): Calcd. For C₉H₅F₉N₂ 313.03090; found 313.03081.



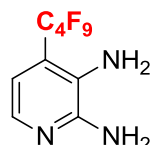
3-(perfluorobutyl)pyridin-4-amine (**21**) Yield > 25%. Isolated and purified mass obtained: 19.9 mg

¹H NMR (600 MHz, CDCl₃) δ: 8.37 (s, 1H), 8.27 (d, 1H, J = 3 Hz), 6.57 (d, 1H, J = 3 Hz), 4.78 (broad s, 2 H).

¹³C NMR (151 MHz, CDCl₃) δ: 152.6, 151.6, 150.2, 150.0, 111.4.

¹⁹F NMR (564.63 MHz, CDCl₃) δ: -80.96 (t, 3F), -109.48 (broad s, 2F), -123.05 (broad s, 2F), -125.74 (brad s, 2F).

HRMS-EI+ (M+1): Calcd. For C₉H₅F₉N₂; 313.03090; found 313.03099



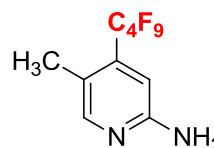
4-(perfluorobutyl)pyridine-2,3-diamine (**22**) Yield > 12%. Isolated and purified mass obtained: 10 mg

¹H NMR (600 MHz, CDCl₃) δ: 7.01 (d, 1 H, J = 2 Hz), 6.94 (d, 1H, J = 2 Hz), 4.38 (broad s, 2 H), 3.60 (broad s, 2 H), 3.82 (s, =NH), 3.75 (s, =NH).

¹³C NMR (151 MHz, CDCl₃) δ: 148.6, 135.6, 132.1, 120.9, 115.1.

¹⁹F NMR (564.63 MHz, CDCl₃) δ: -80.99 (t, 3F), -113.22 (m, 2F), -122.75 (m, 2F), -125.76 (m, 2F).

HRMS-EI+ (M+1): Calcd. For C₉H₆F₉N₃ 328.04180; found 328.04210.



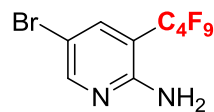
5-methyl-4-(perfluorobutyl)pyridin-2-amine (**23**) Yield > 47%. Isolated and purified mass obtained: 51 mg

¹H NMR (600 MHz, DMSO-d₆) δ: 8.07 (s, 1H), 7.47 (s, 1H), 6.07 (broad s, 2 H), 3.33 (s, 3H).

¹³C NMR (151 MHz, DMSO-d₆) δ: 154.6, 152.9, 142.3, 137.7, 120.6, 16.4.

¹⁹F NMR (564.63 MHz, DMSO-d₆) δ: -80.5 (t, 3F), -108.86 (m, 2F), -122.23 (m, 2F), -125.34 (m, 2F)

HRMS-EI+ (M+1): Calcd. For C₁₀H₇F₉N₂ 327.04655; found 327.04669.



5-bromo-3-(perfluorobutyl)pyridin-2-amine (**24**) Yield > 50%. Isolated and purified mass obtained: 53 mg

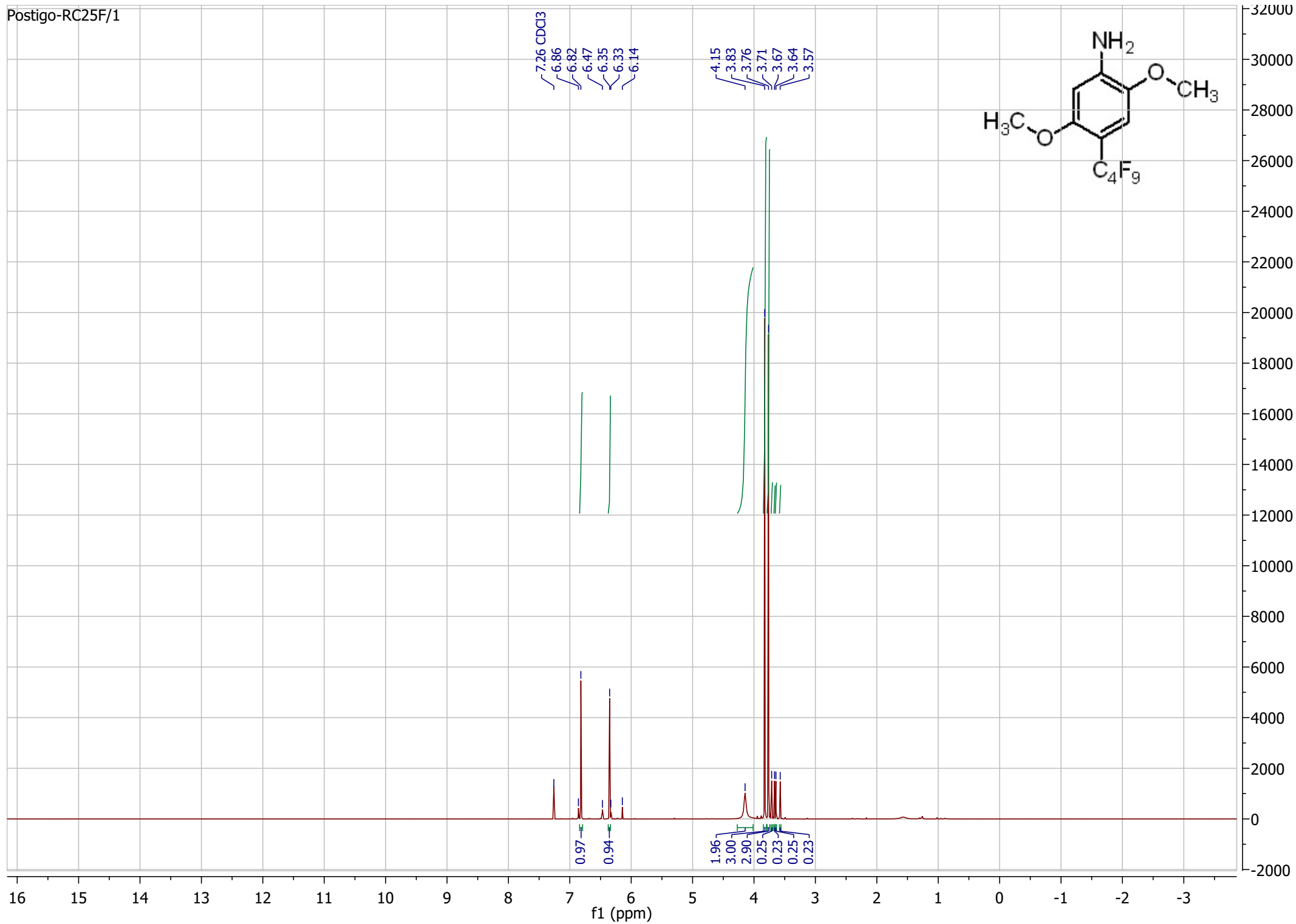
¹H NMR (600 MHz, DMSO-d₆) δ: 8.31 (s, 1H), 7.79 (s, H), 6.65 (broad s, 2 H).

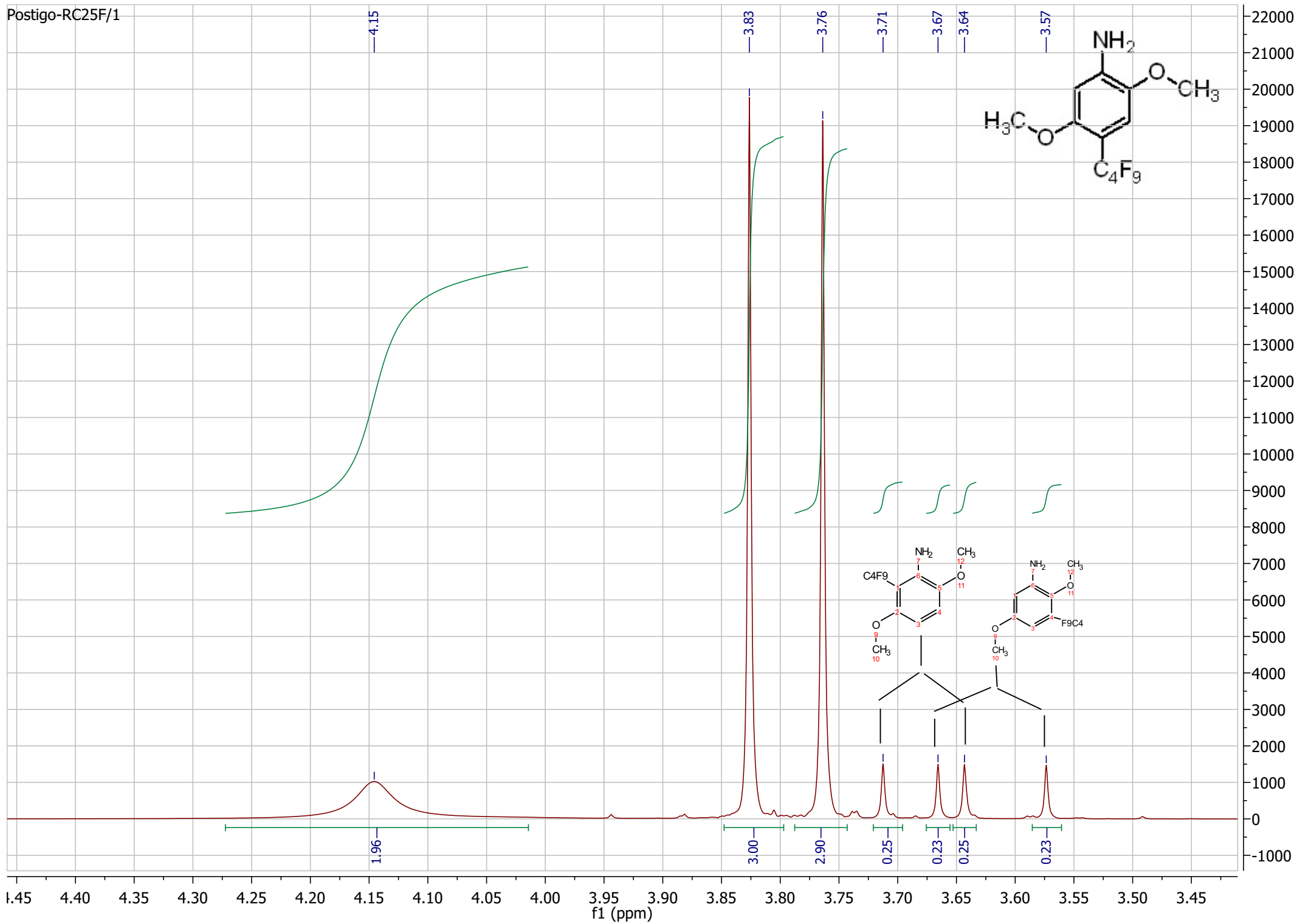
¹³C NMR (151 MHz, DMSO-d₆) δ: 155.2, 153.3, 139.2, 104.1, 99.5.

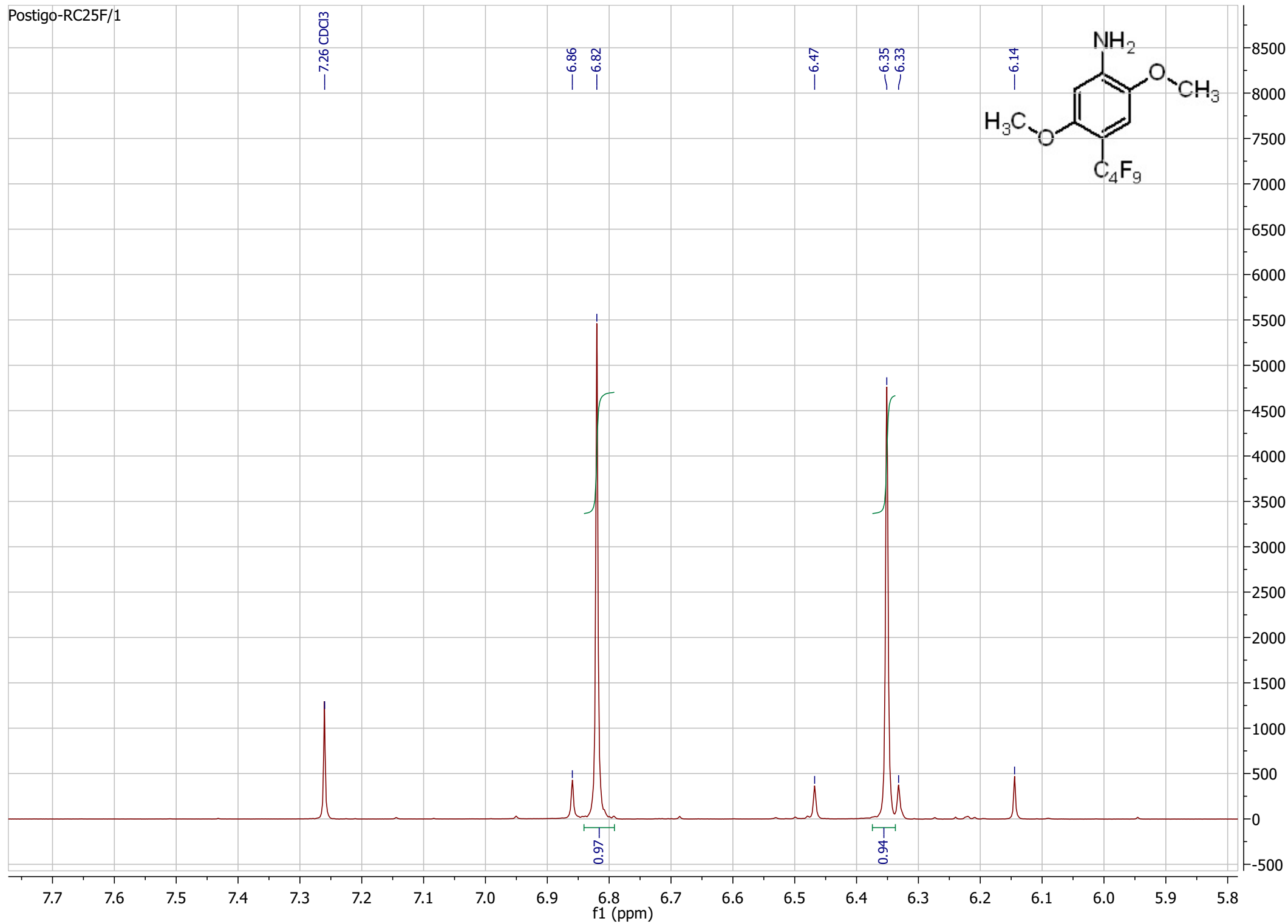
¹⁹F NMR (564.63 MHz, DMSO-d₆) δ: -80.49 (t, 3F), -109.39 (m, 2F), -122.21 (m, 2F), -125.27 (m, 2F).

HRMS-EI+ (M+1): Calcd. For $\text{C}_9\text{H}_4\text{BrF}_9\text{N}_2$ 390.94141; found 390.94151.

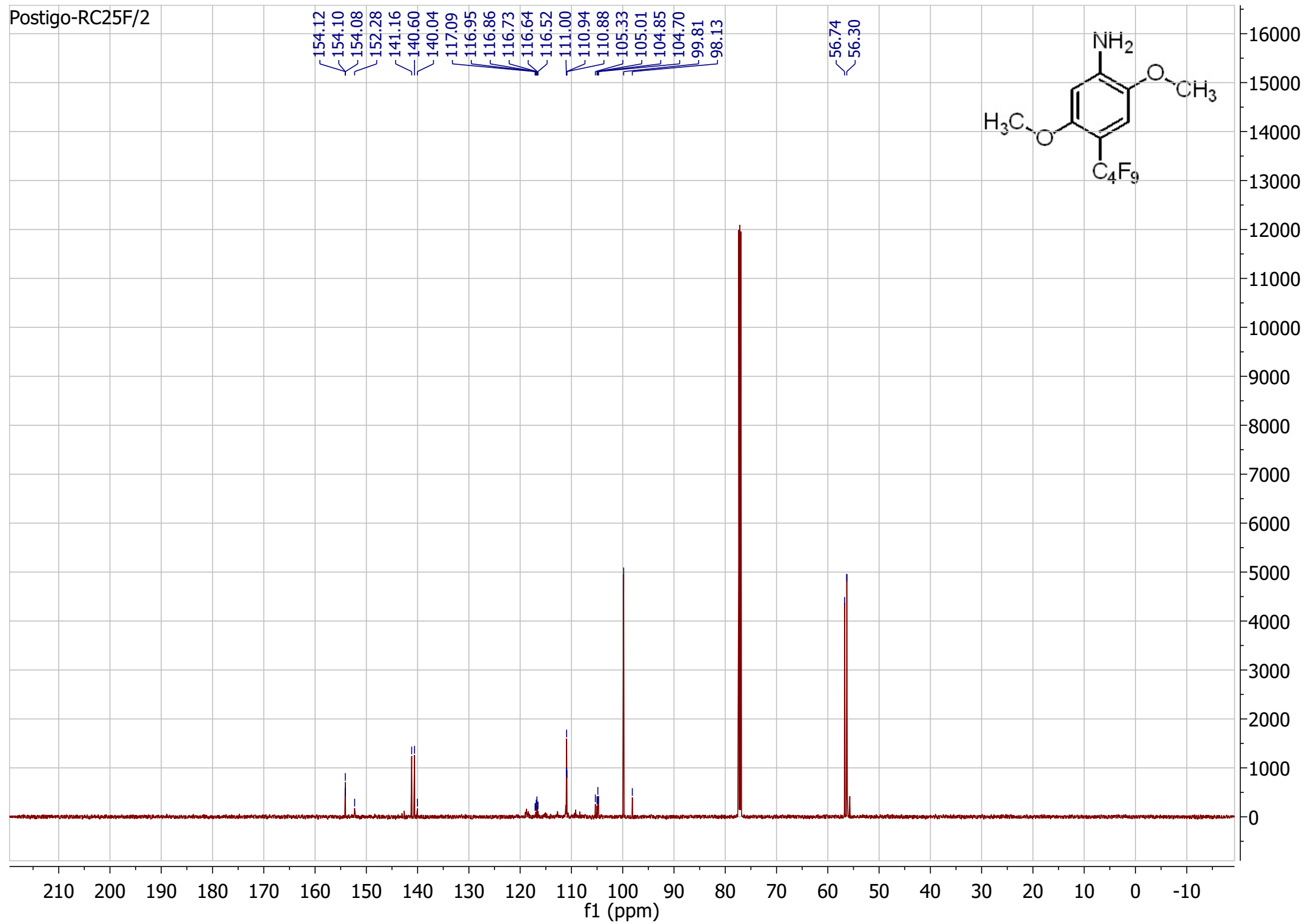
Postigo-RC25F/1



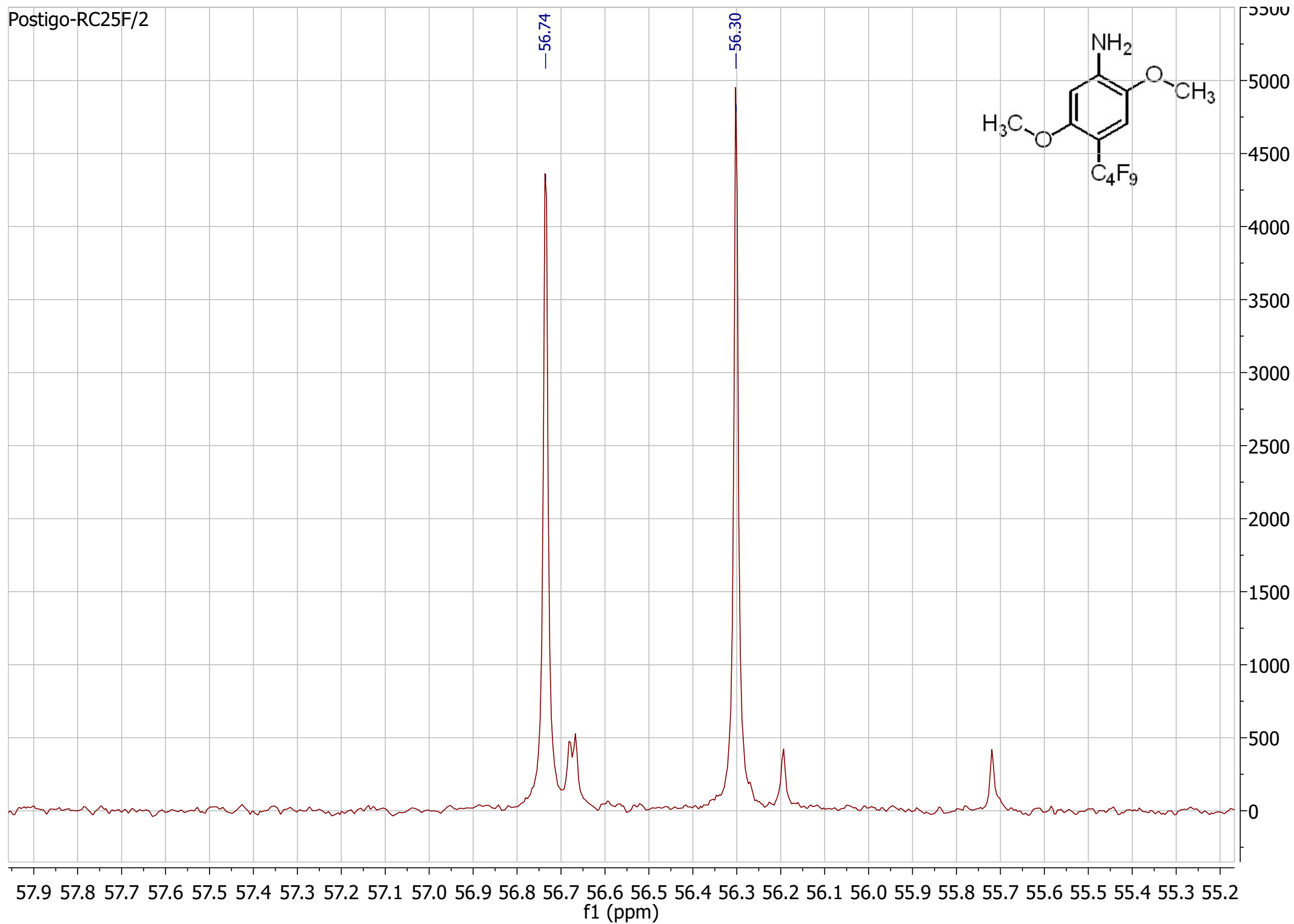




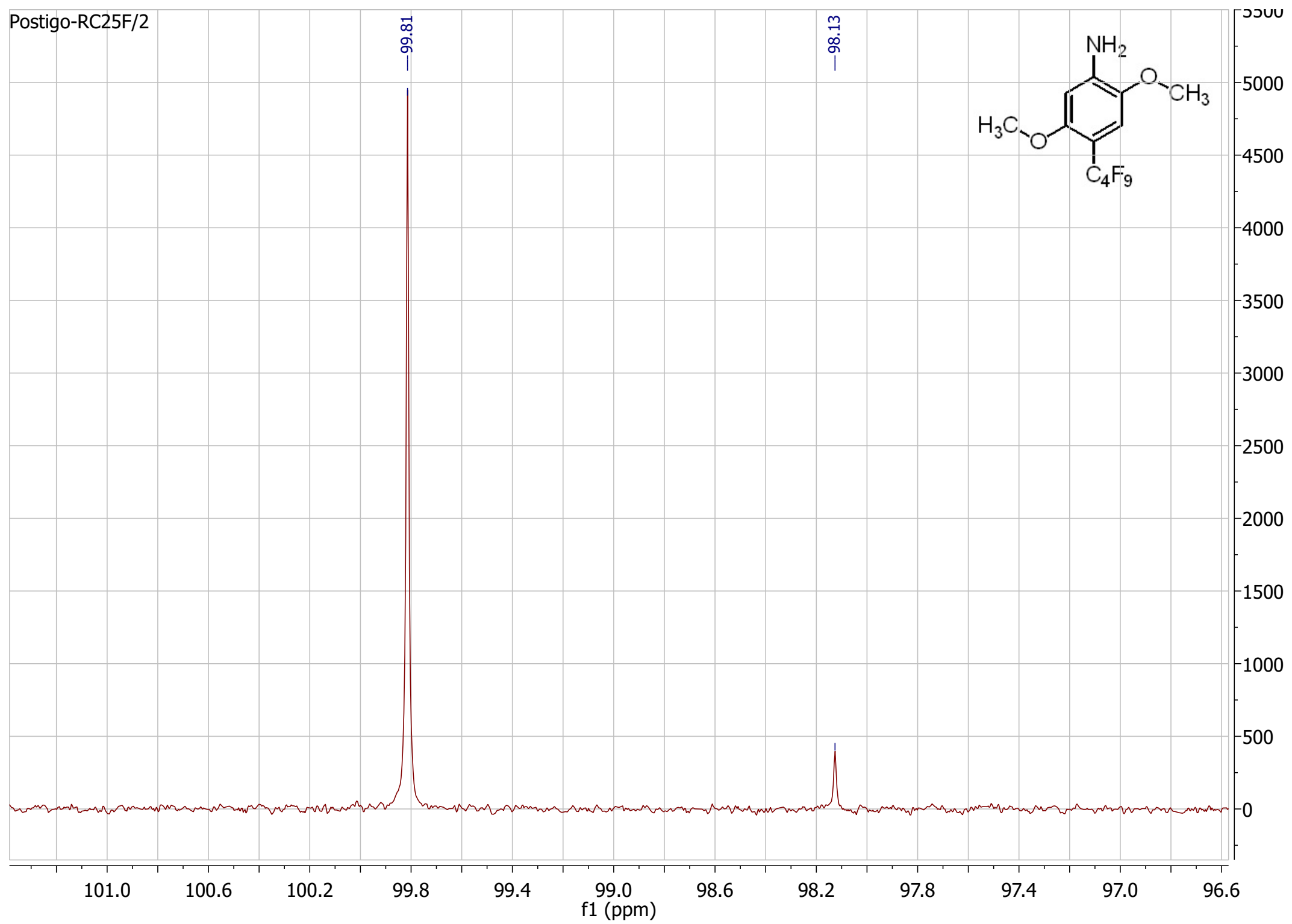
Postigo-RC25F/2



Postigo-RC25F/2



Postigo-RC25F/2



101.0

100.6

100.2

99.8

99.4

99.0

98.6

98.2

97.8

97.4

97.0

96.6

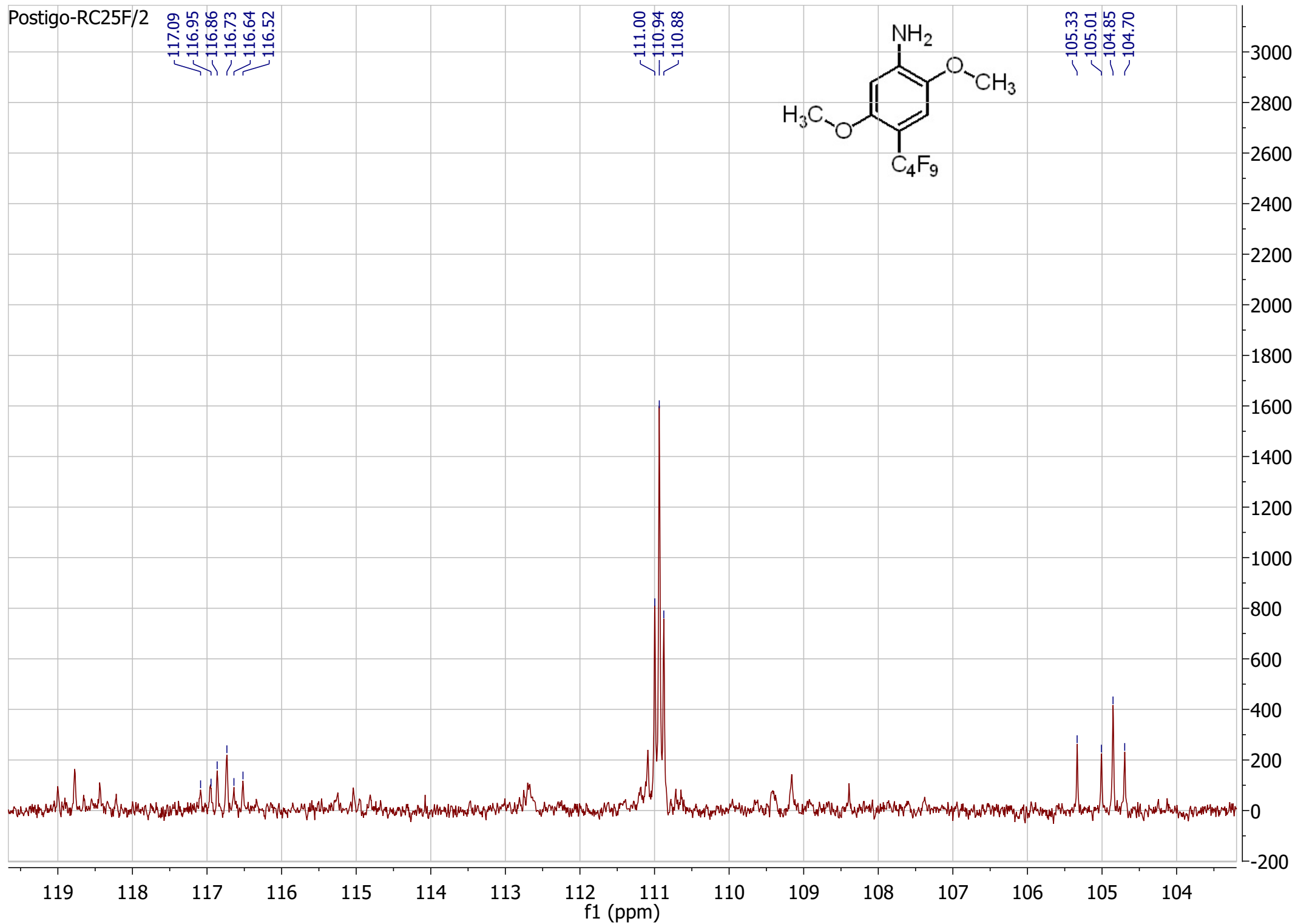
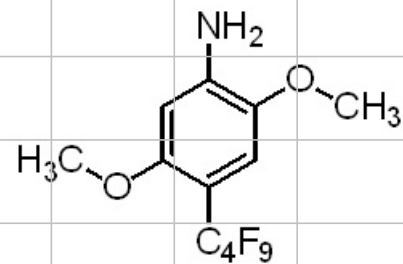
f1 (ppm)

Postigo-RC25F/2

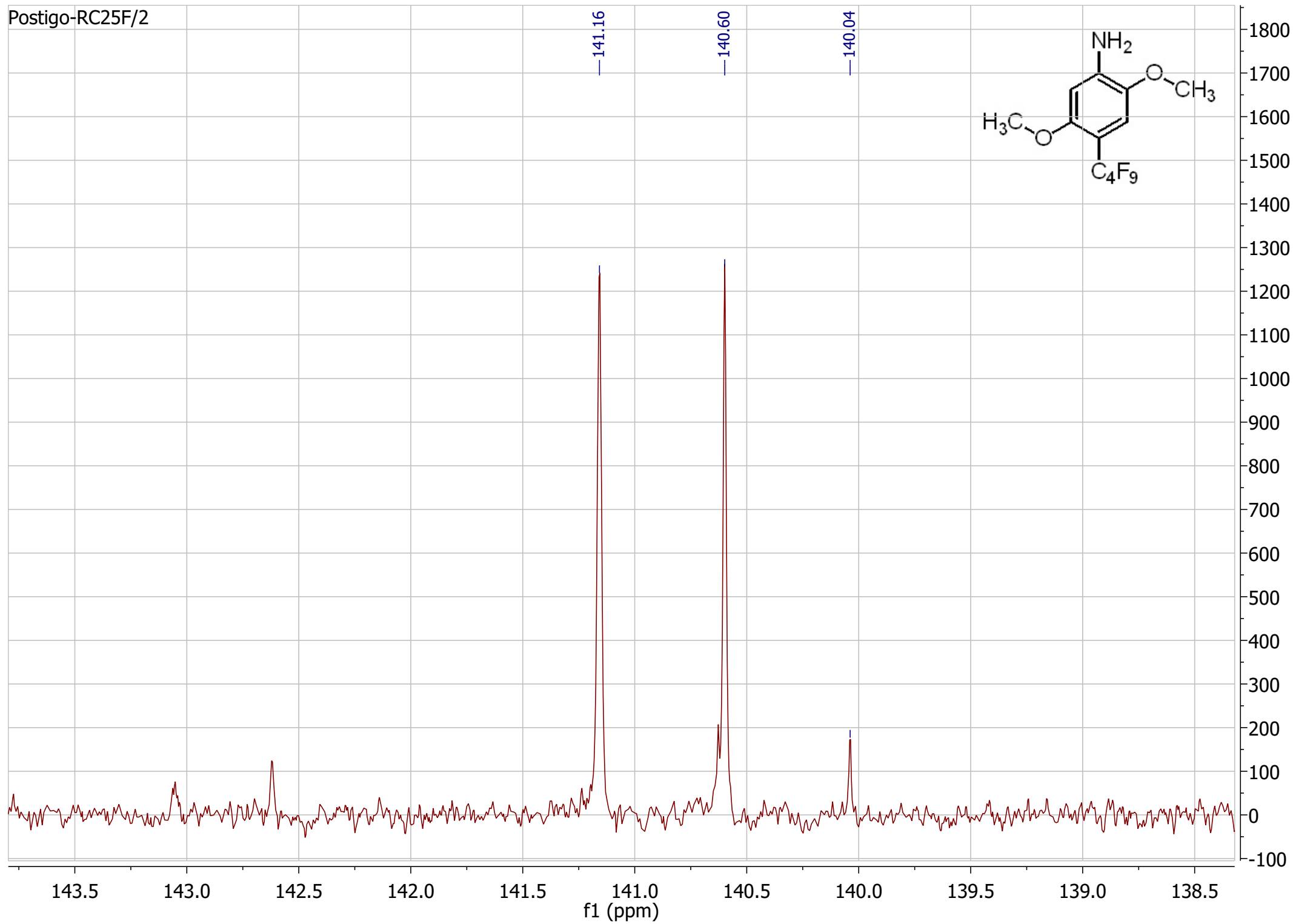
117.09
116.95
116.86
116.73
116.64
116.52

111.00
110.94
110.88

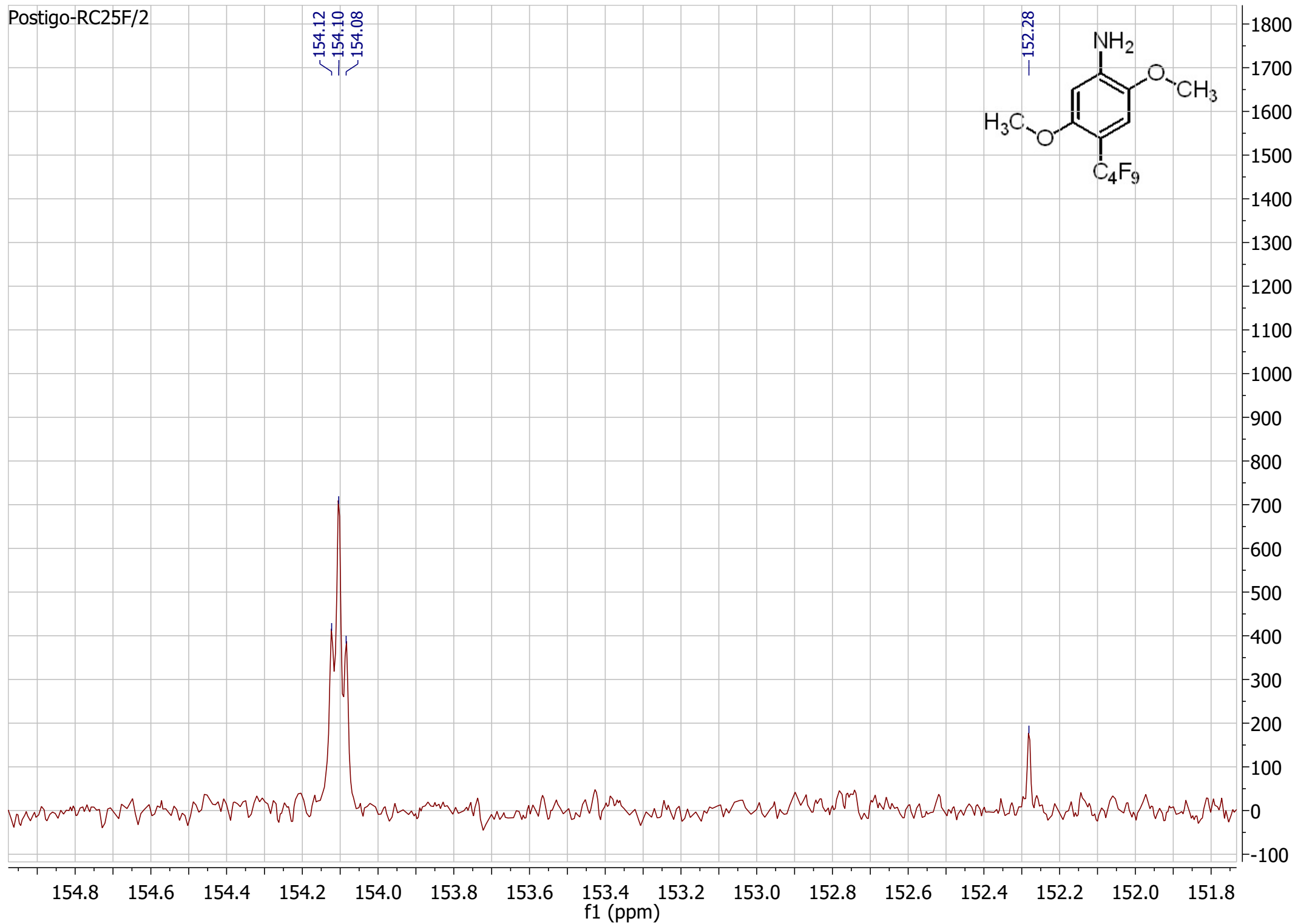
105.33
105.01
104.85
104.70



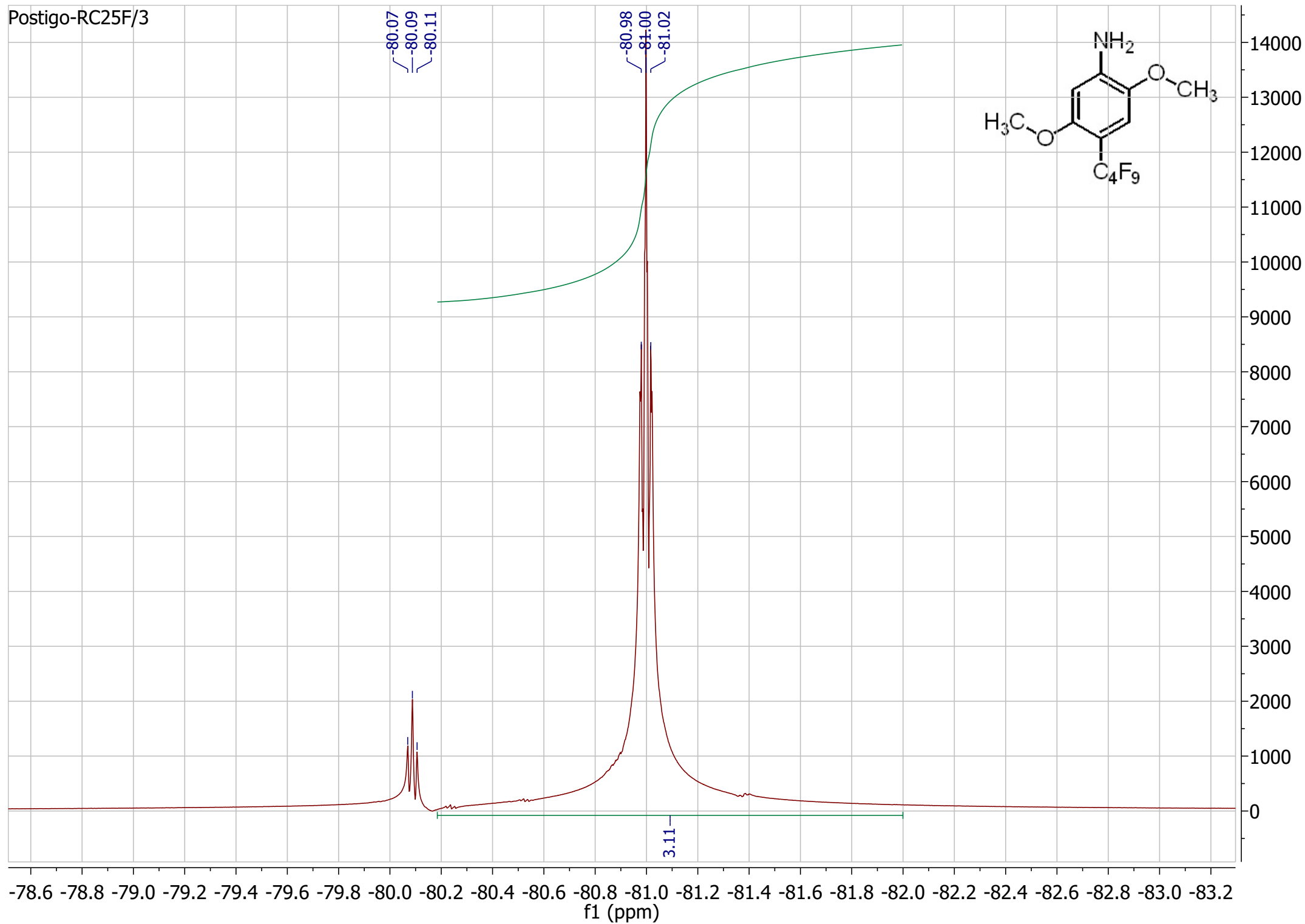
Postigo-RC25F/2



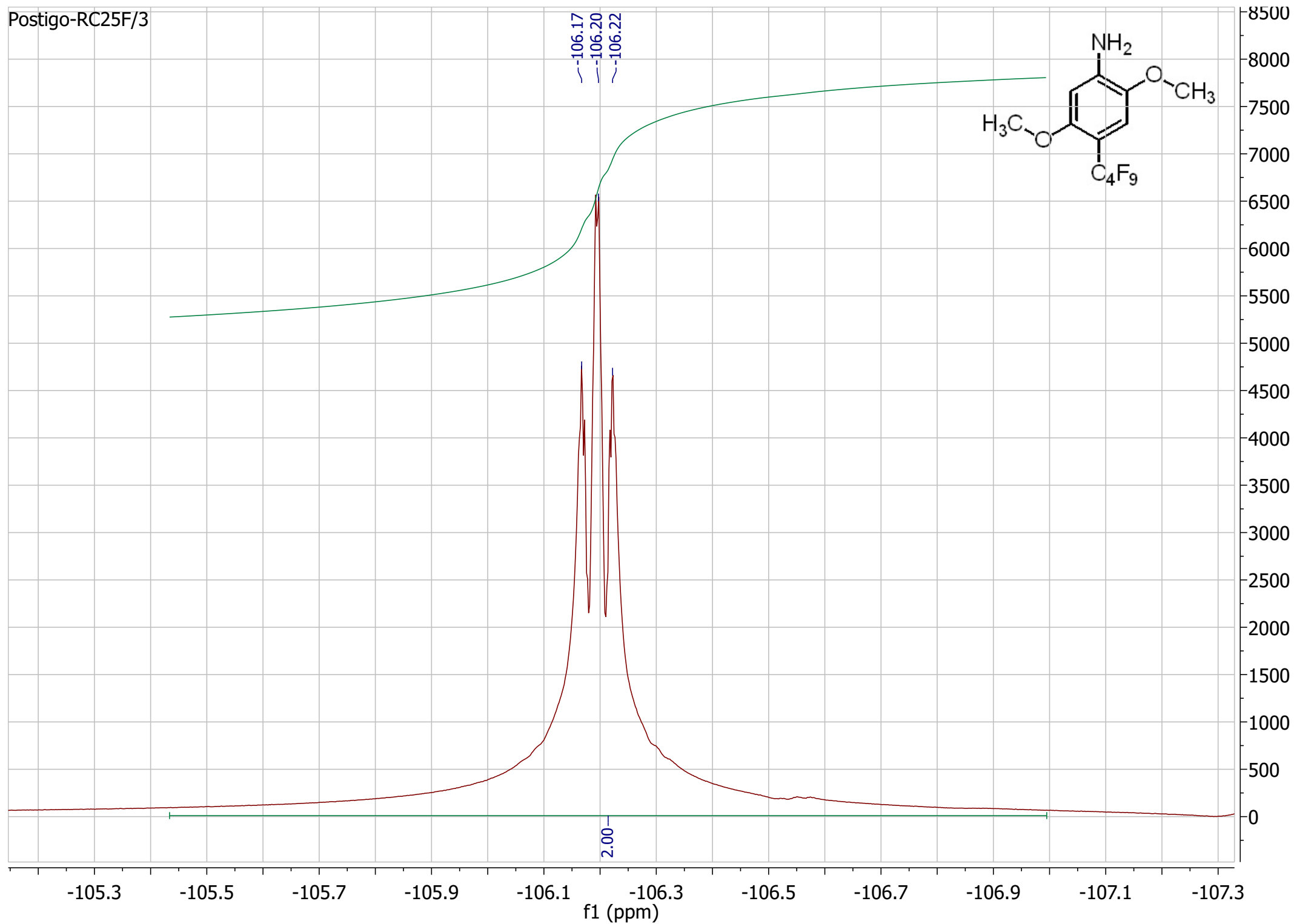
Postigo-RC25F/2



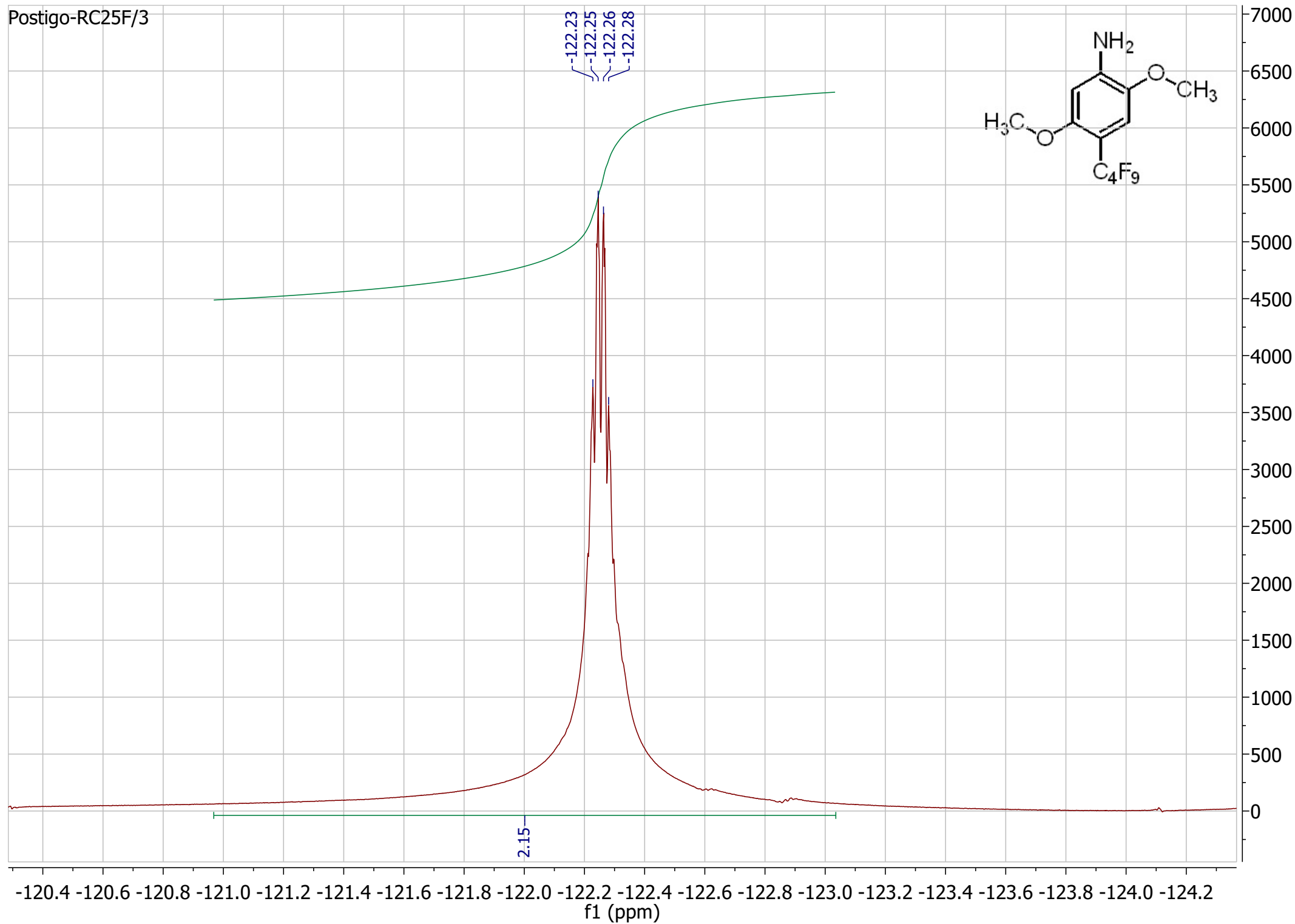
Postigo-RC25F/3



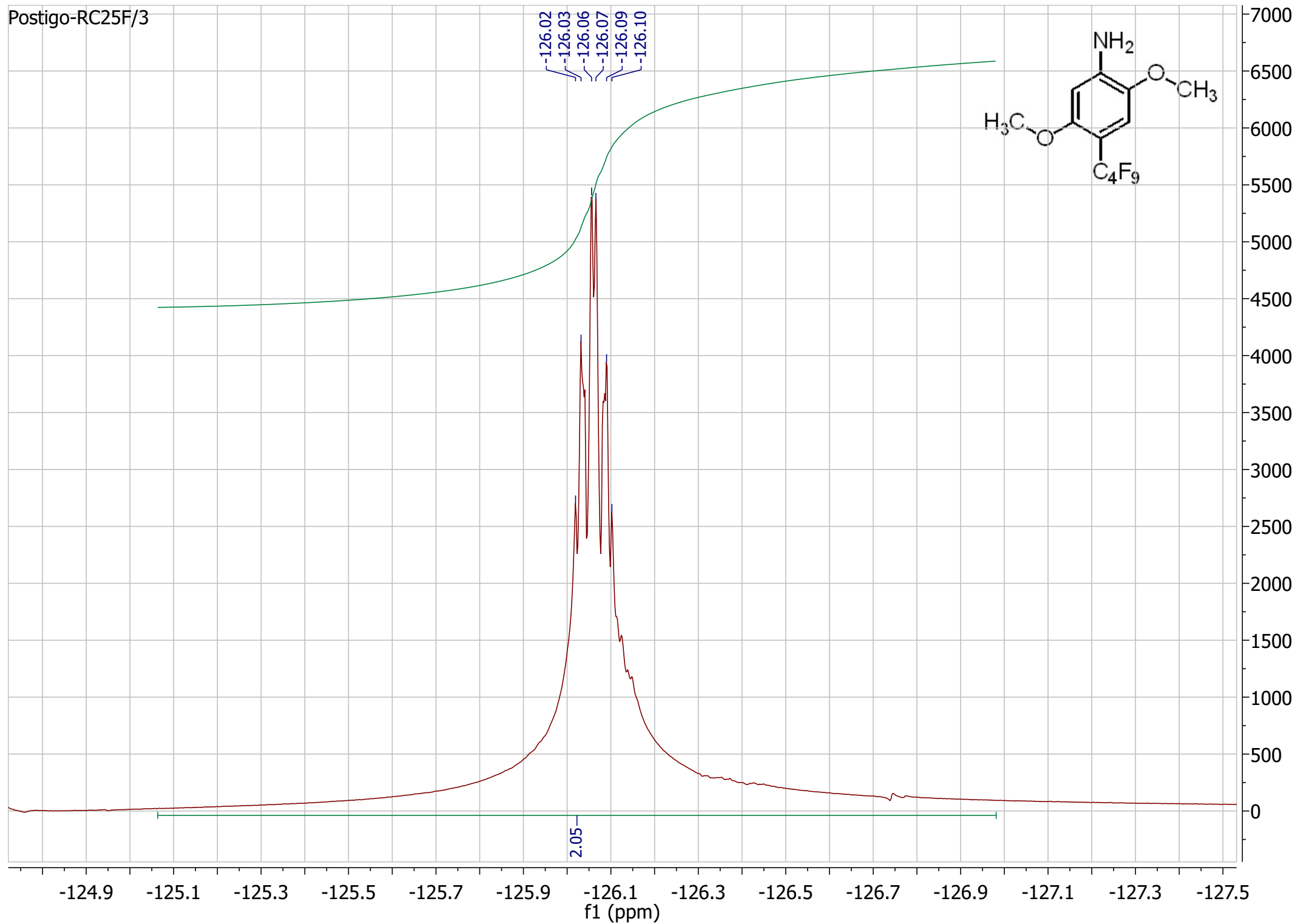
Postigo-RC25F/3



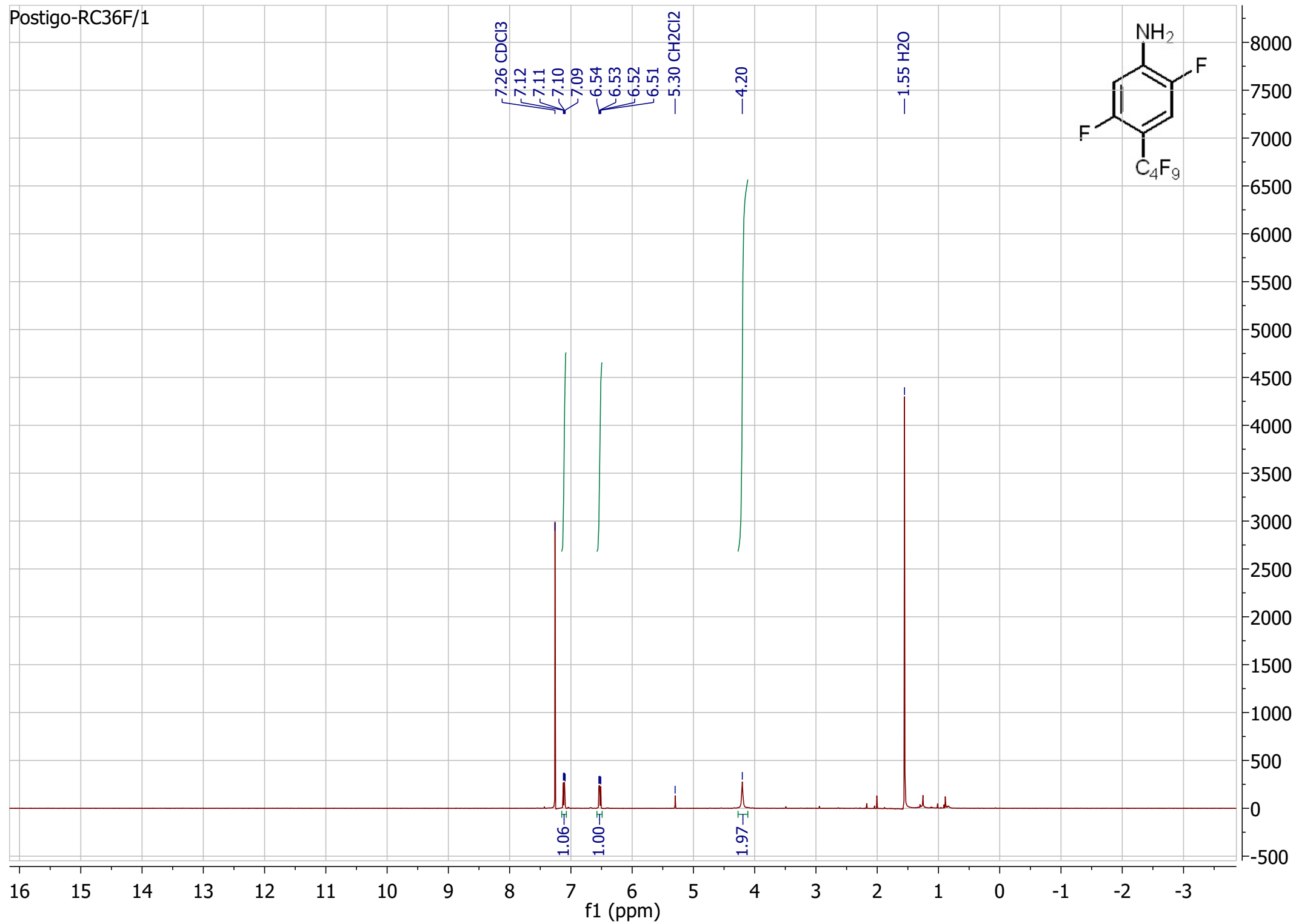
Postigo-RC25F/3



Postigo-RC25F/3



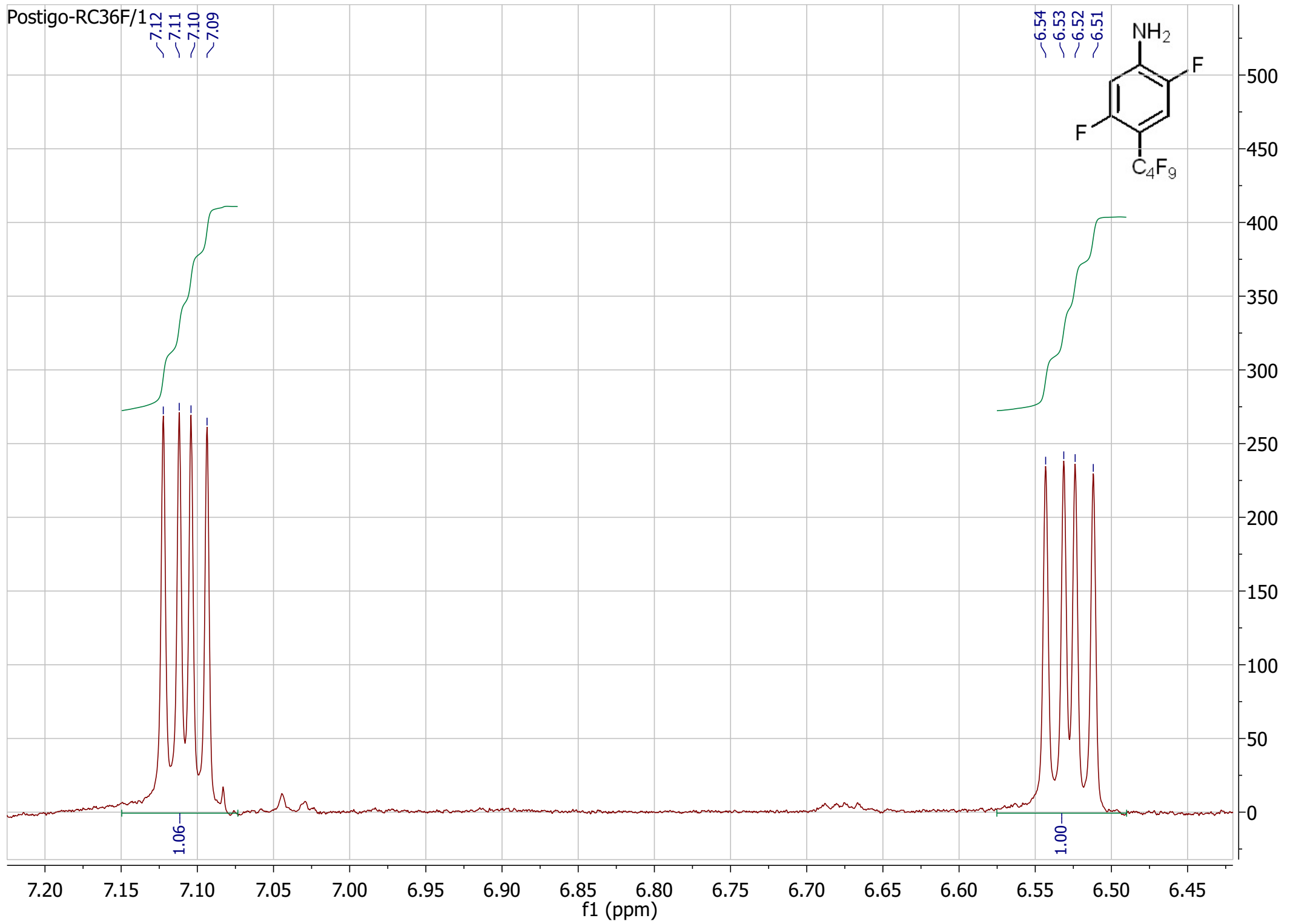
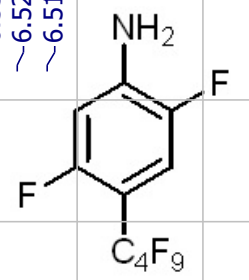
Postigo-RC36F/1



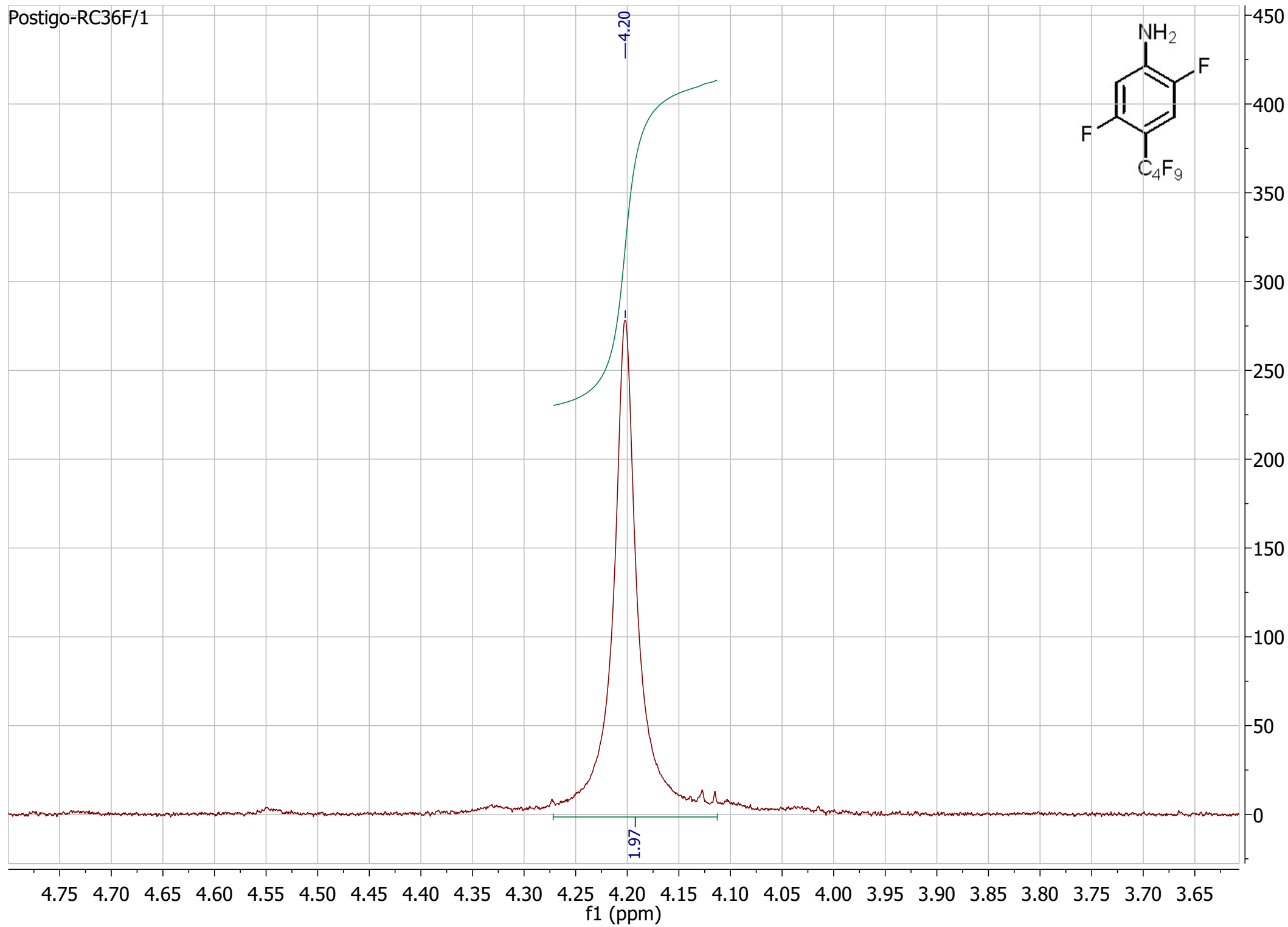
Postigo-RC36F/1

~7.12
~7.11
~7.10
~7.09

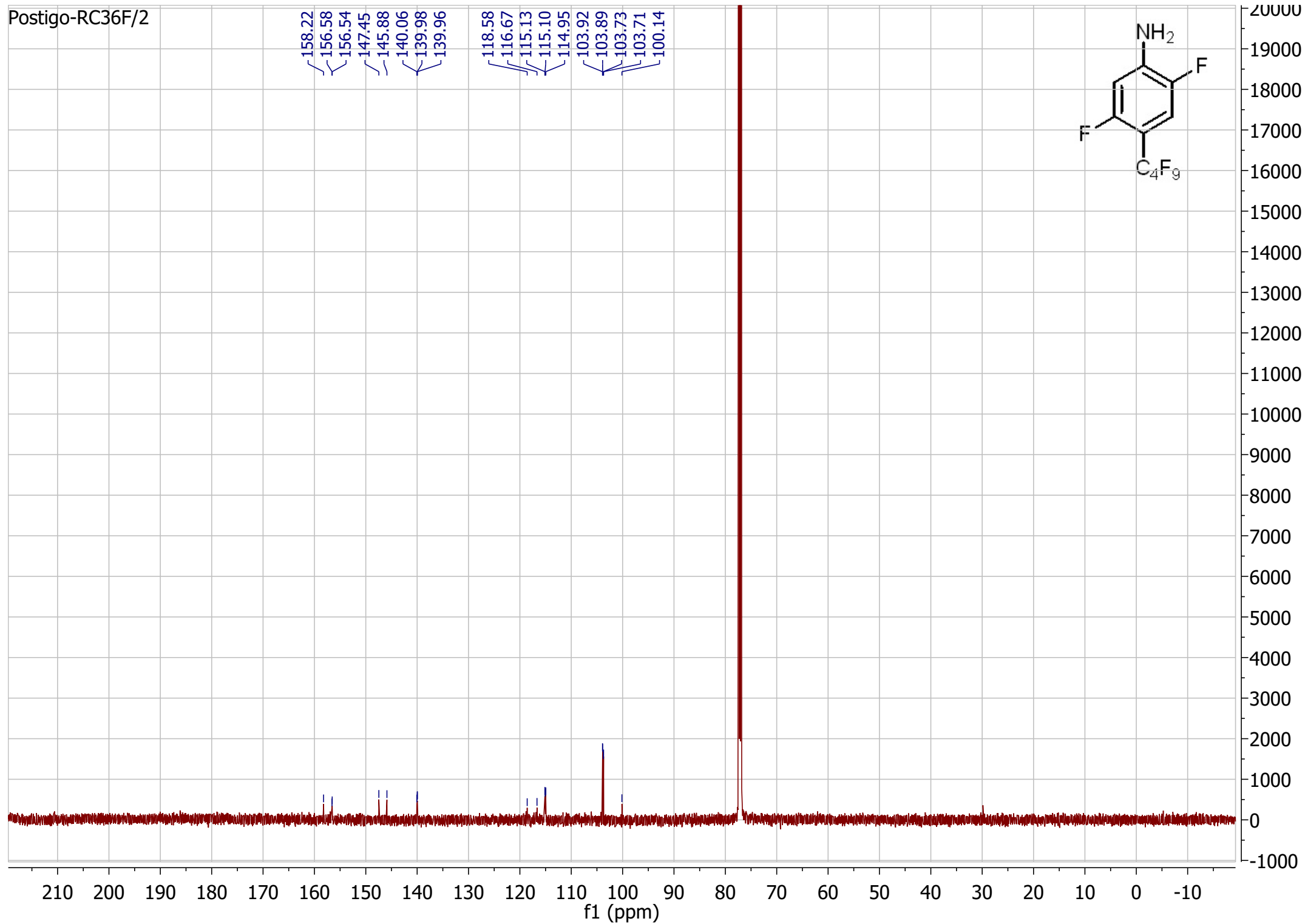
~6.54
~6.53
~6.52
~6.51



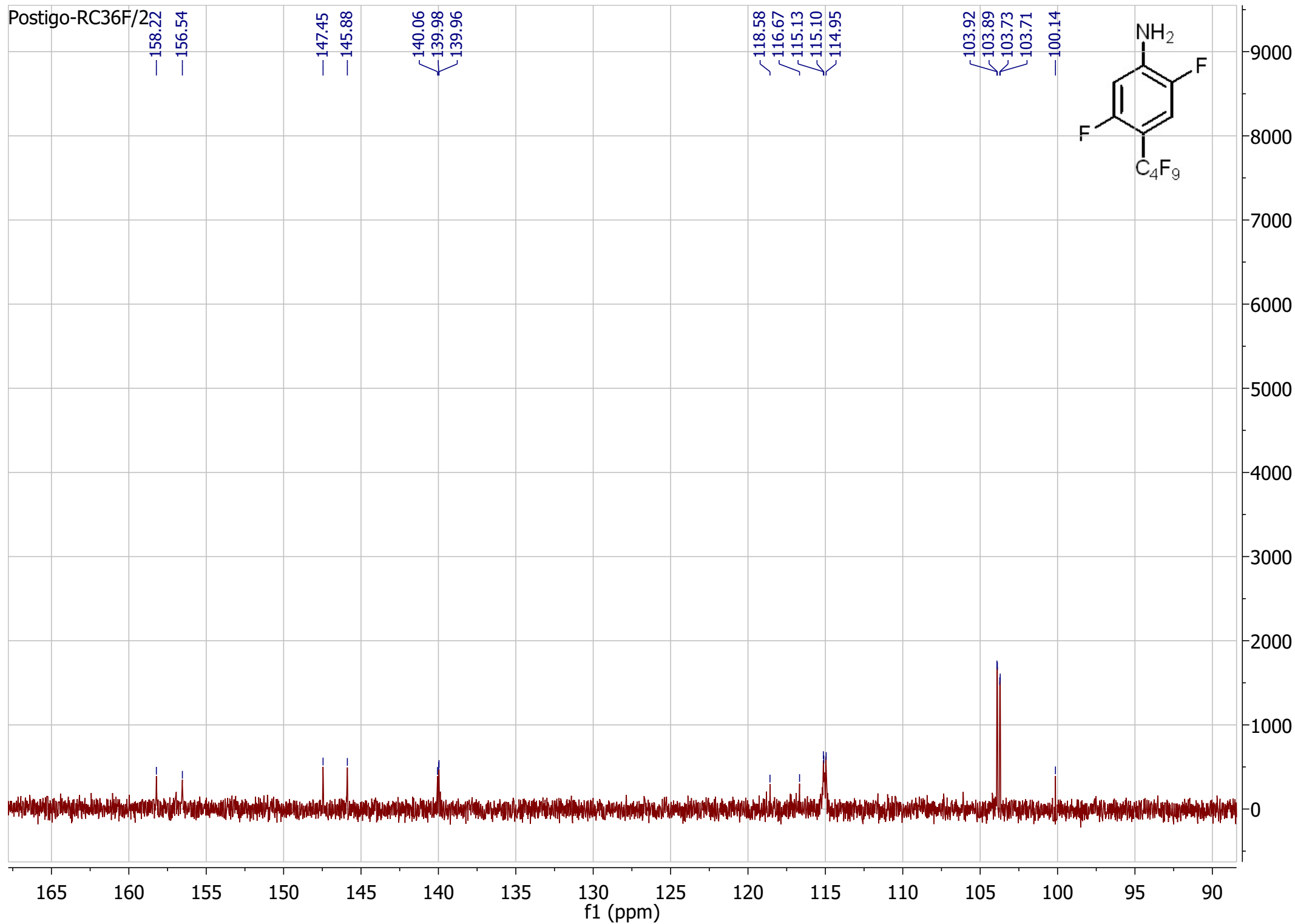
Postigo-RC36F/1



Postigo-RC36F/2

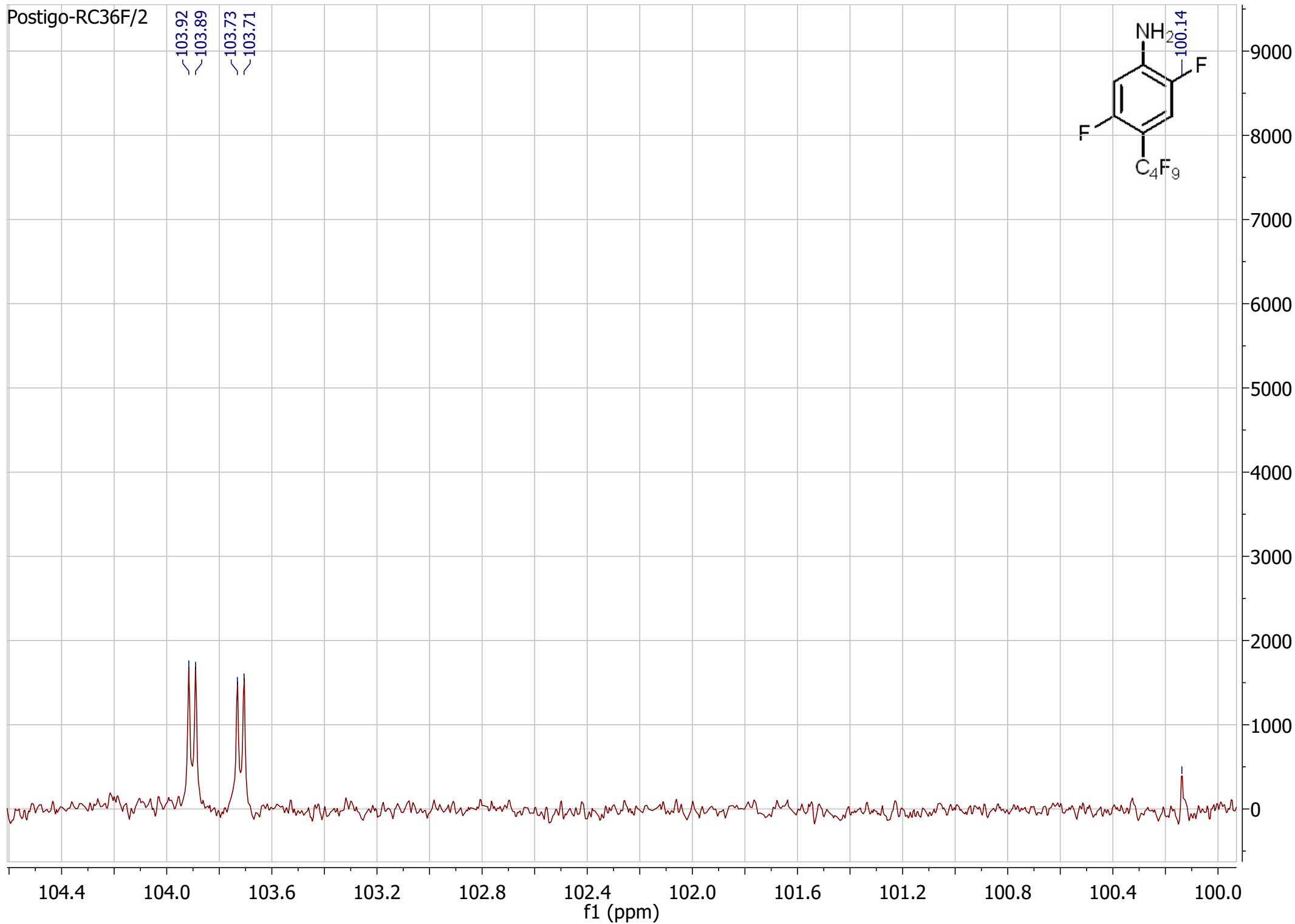
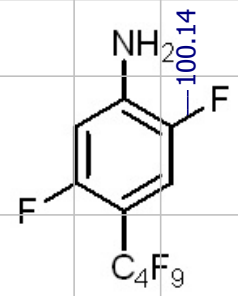


Postigo-RC36F/2



Postigo-RC36F/2

103.92
103.89
103.73
103.71



Postigo-RC36F/2

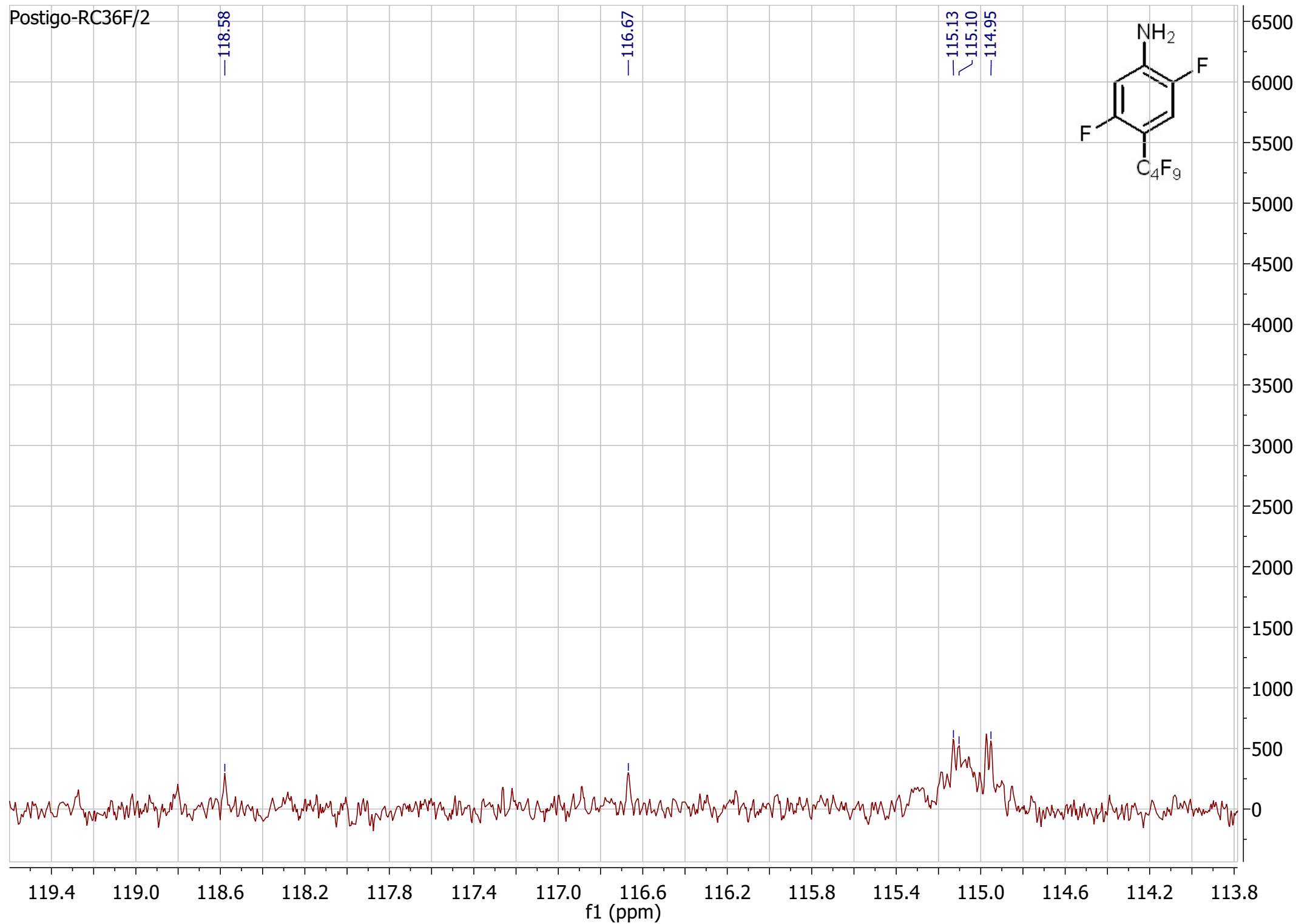
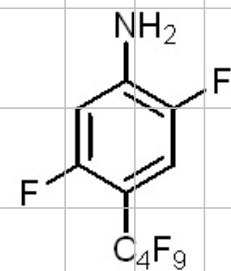
—118.58

—116.67

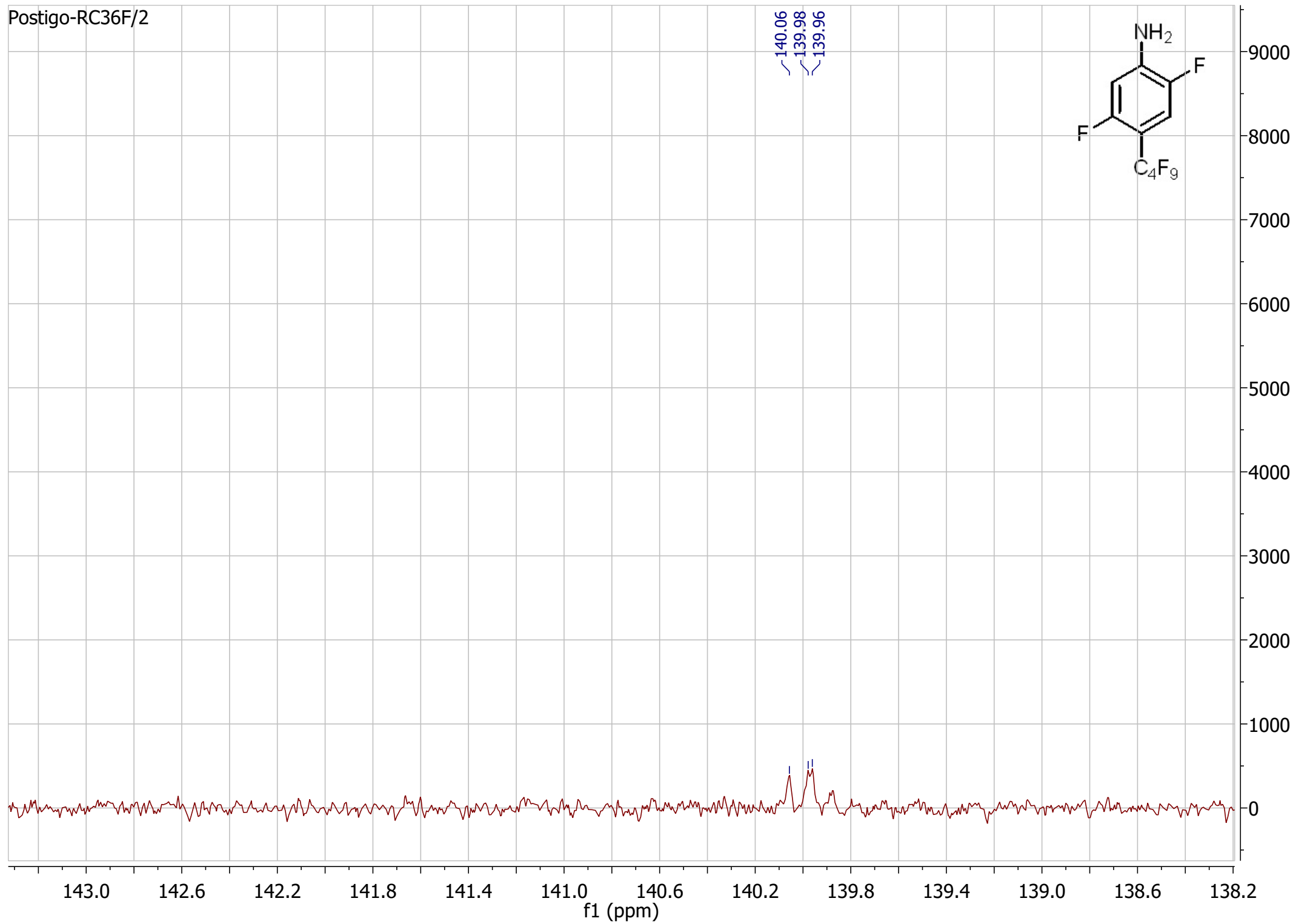
—115.13

—115.10

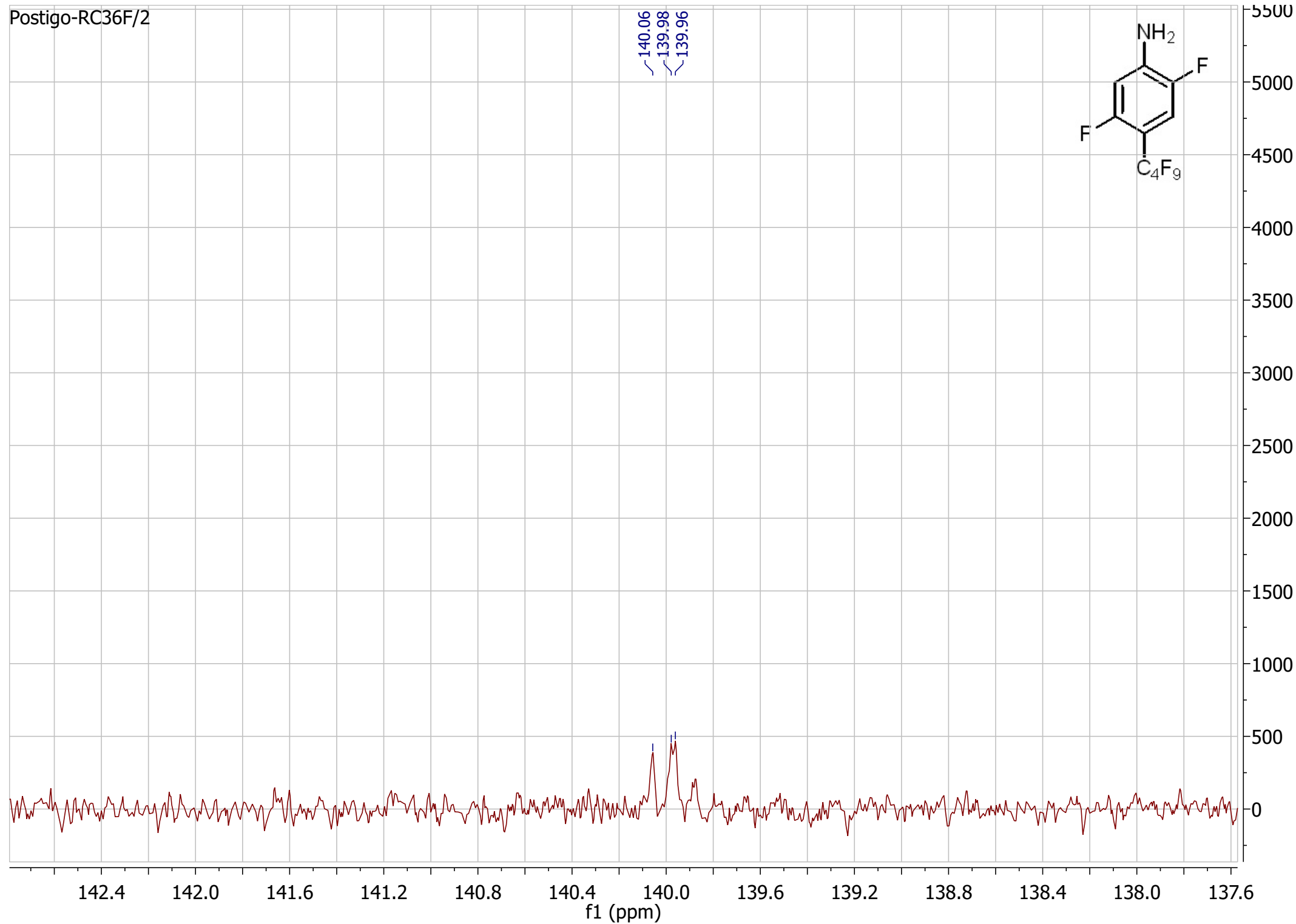
—114.95



Postigo-RC36F/2



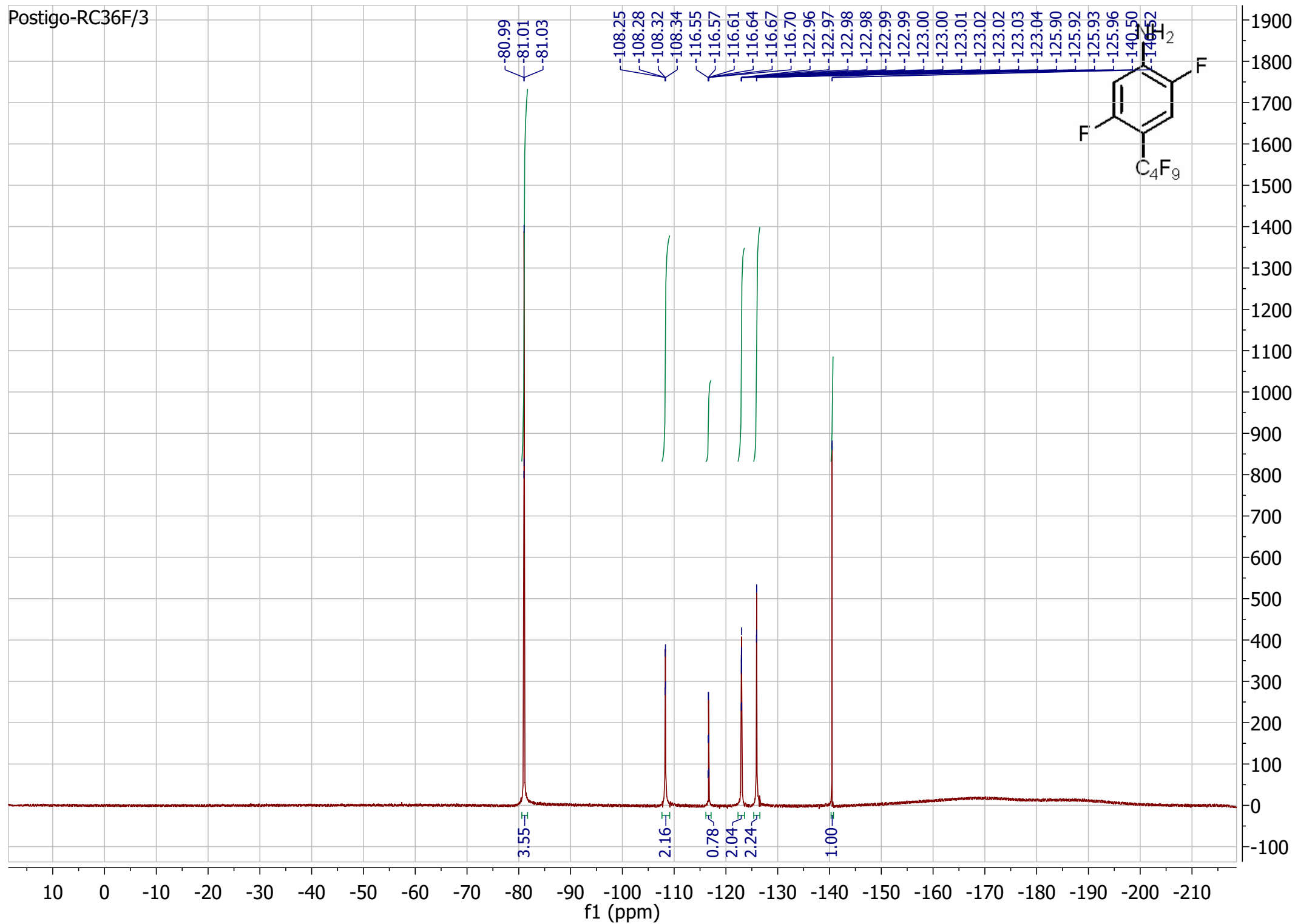
Postigo-RC36F/2



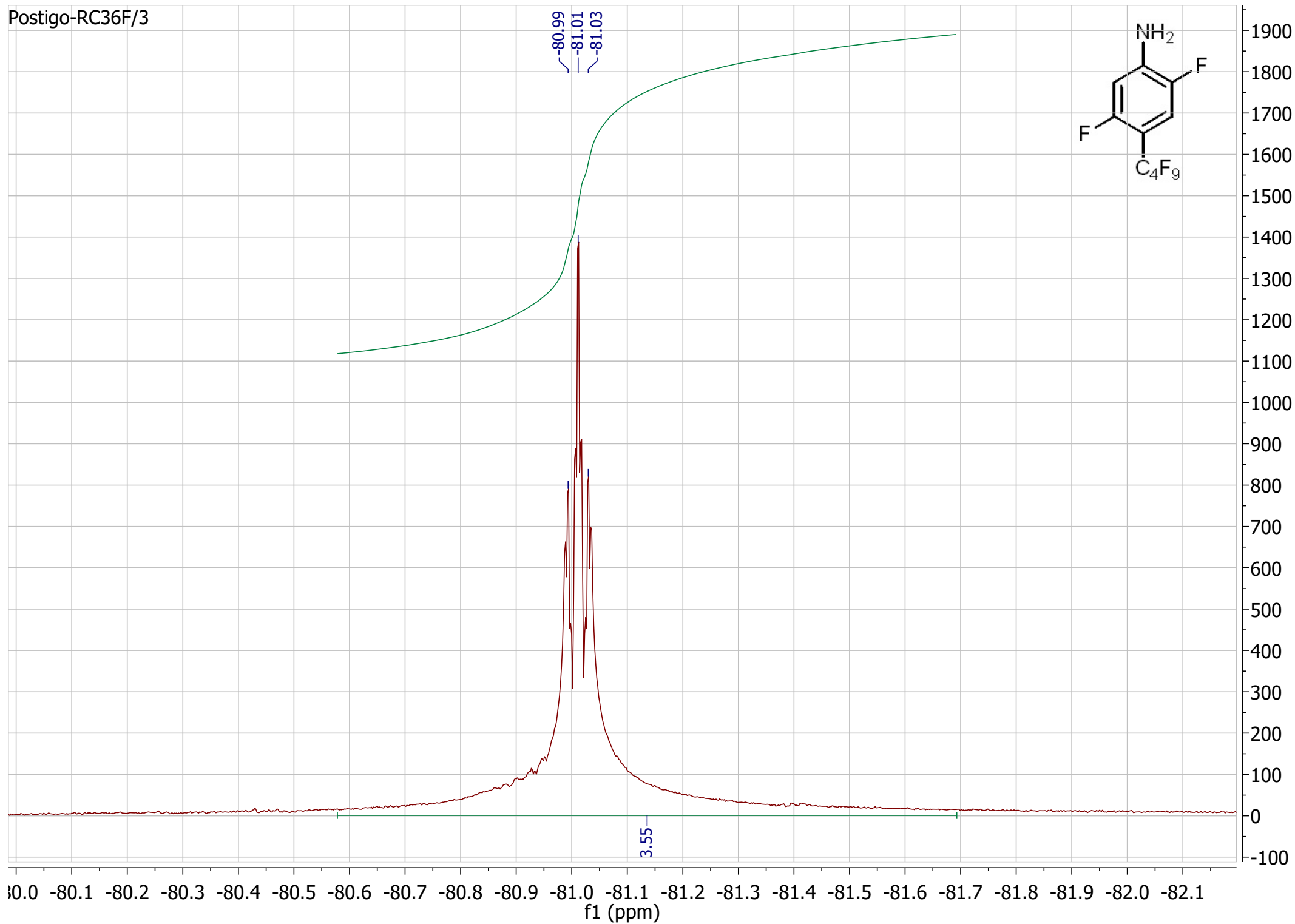
Postigo-RC36F/2



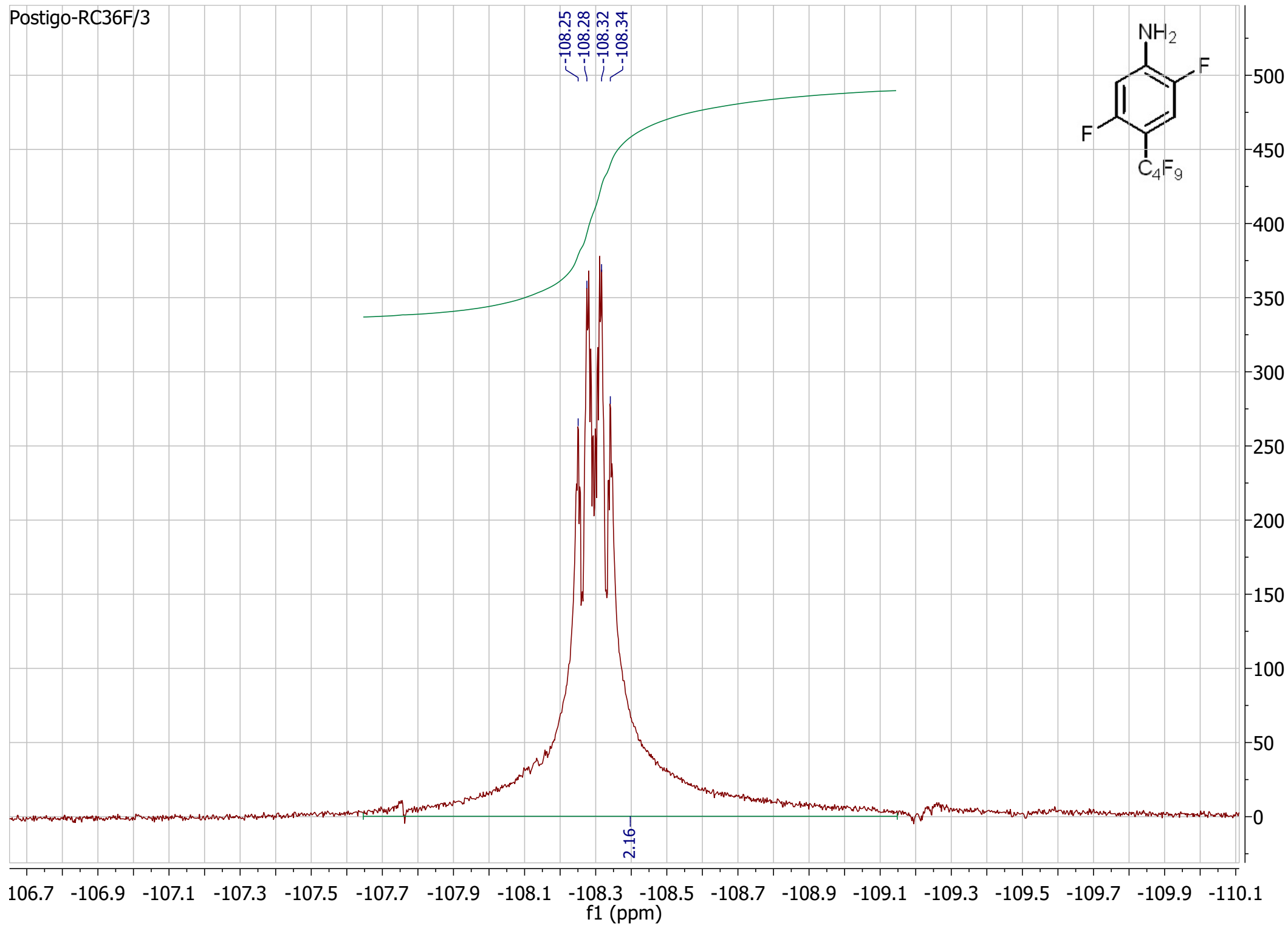
Postigo-RC36F/3



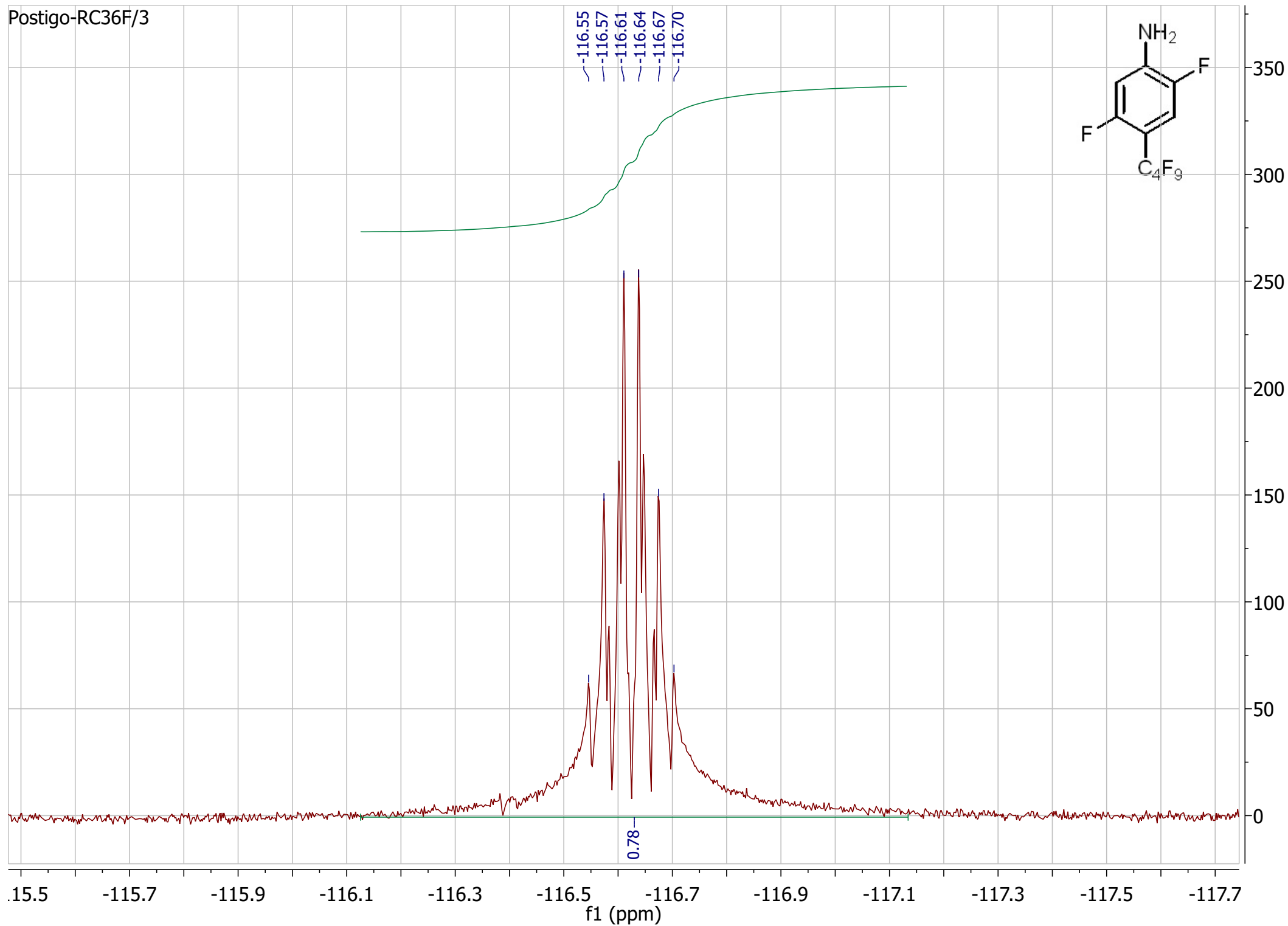
Postigo-RC36F/3



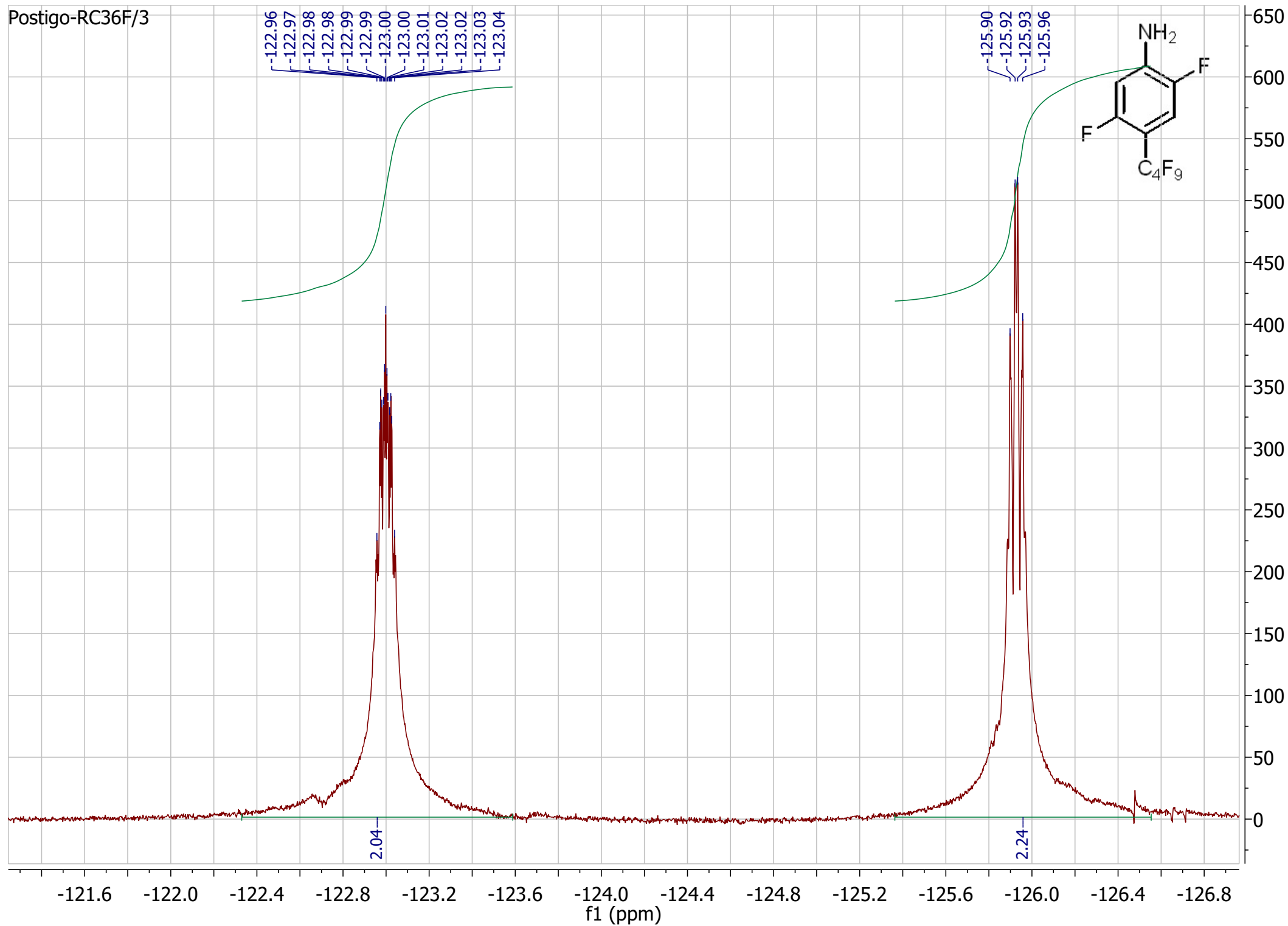
Postigo-RC36F/3



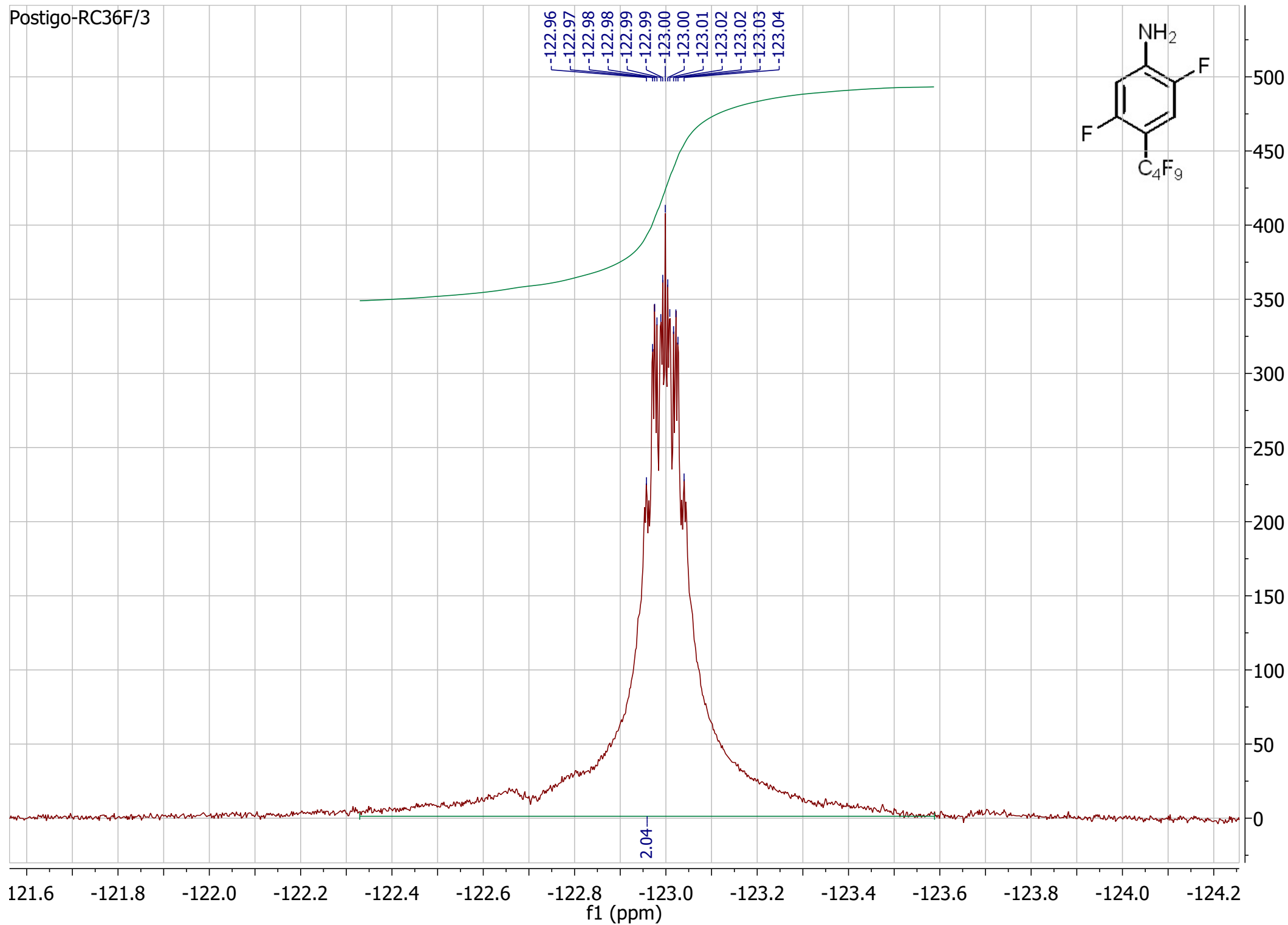
Postigo-RC36F/3



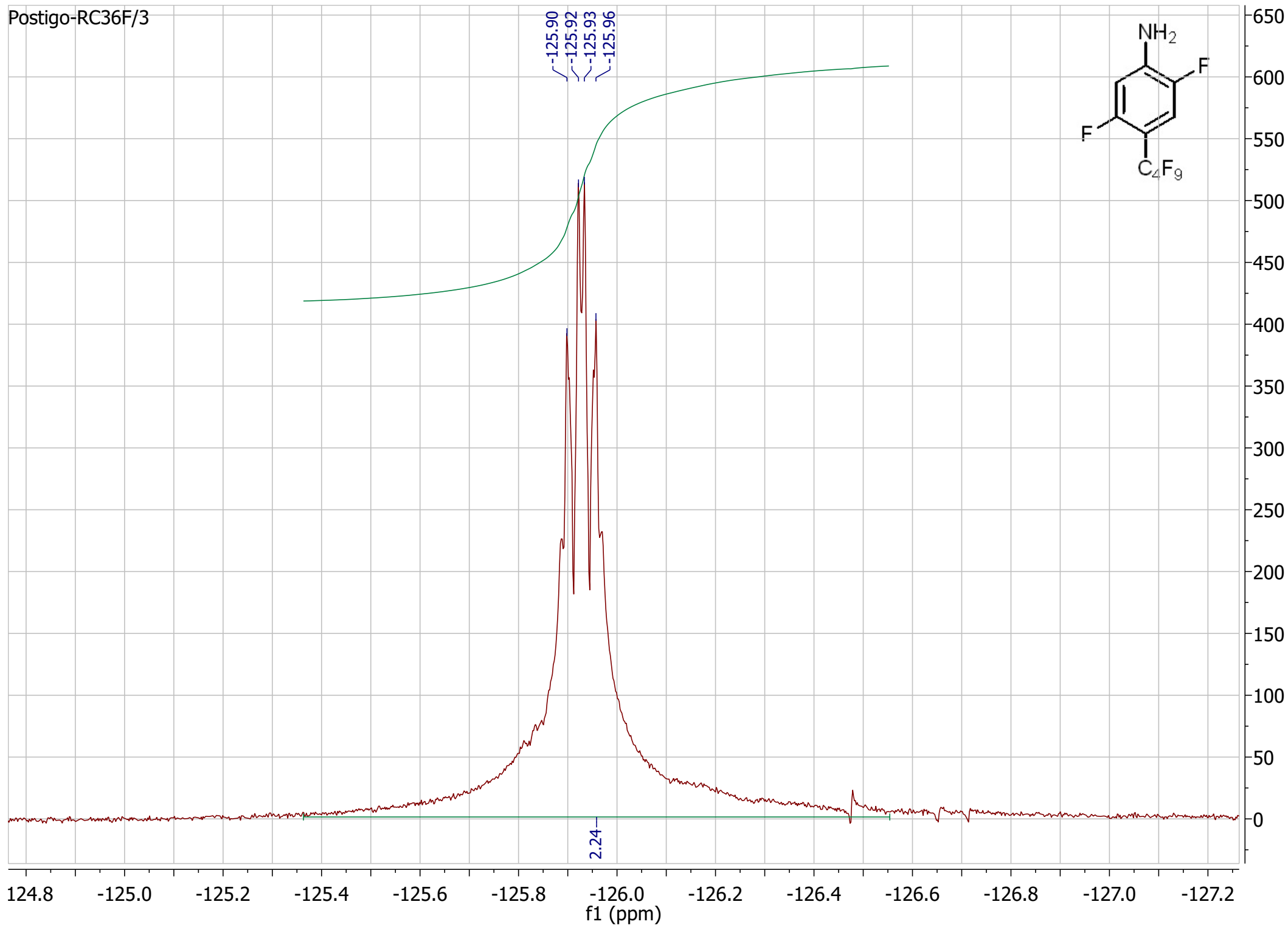
Postigo-RC36F/3



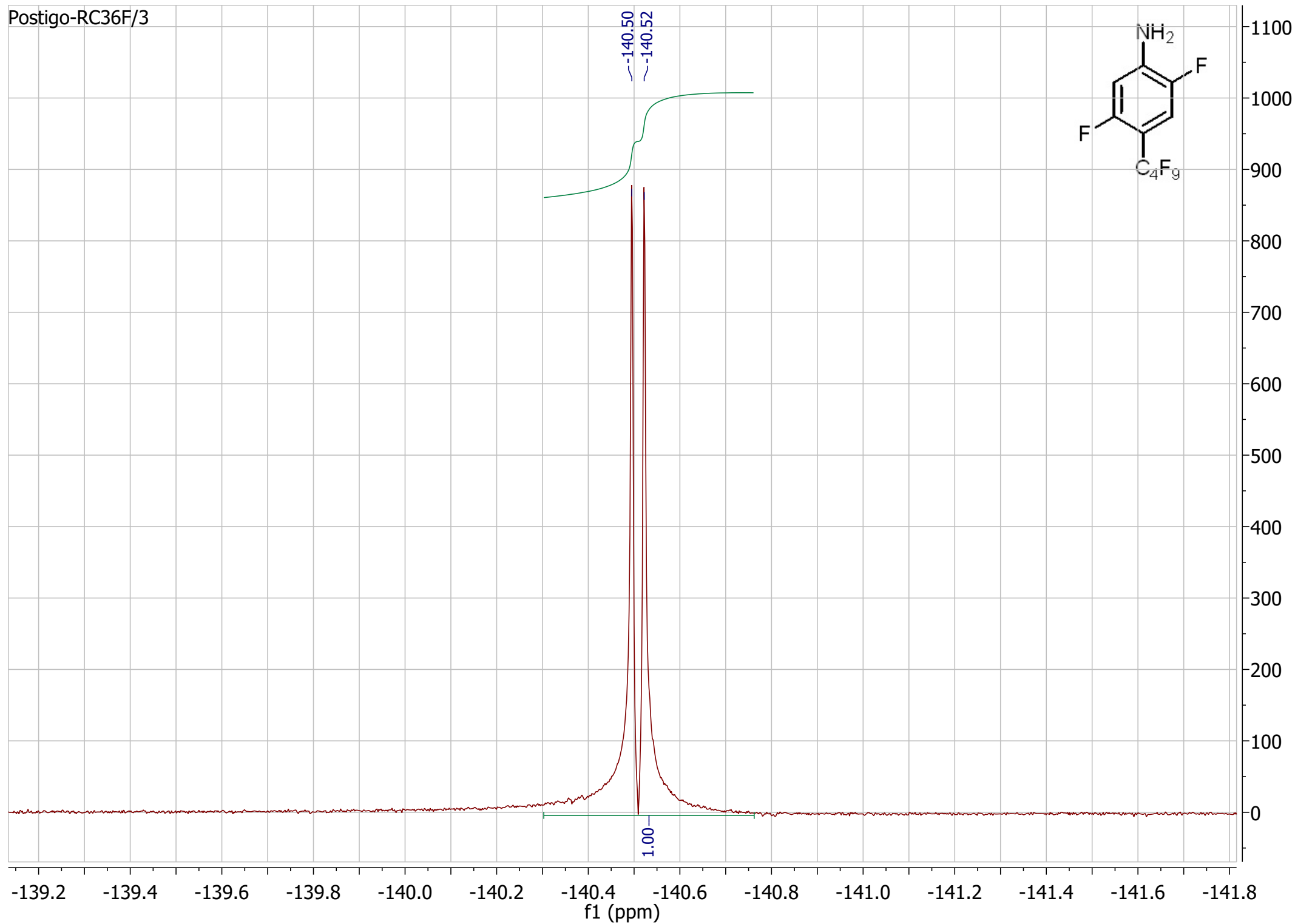
Postigo-RC36F/3



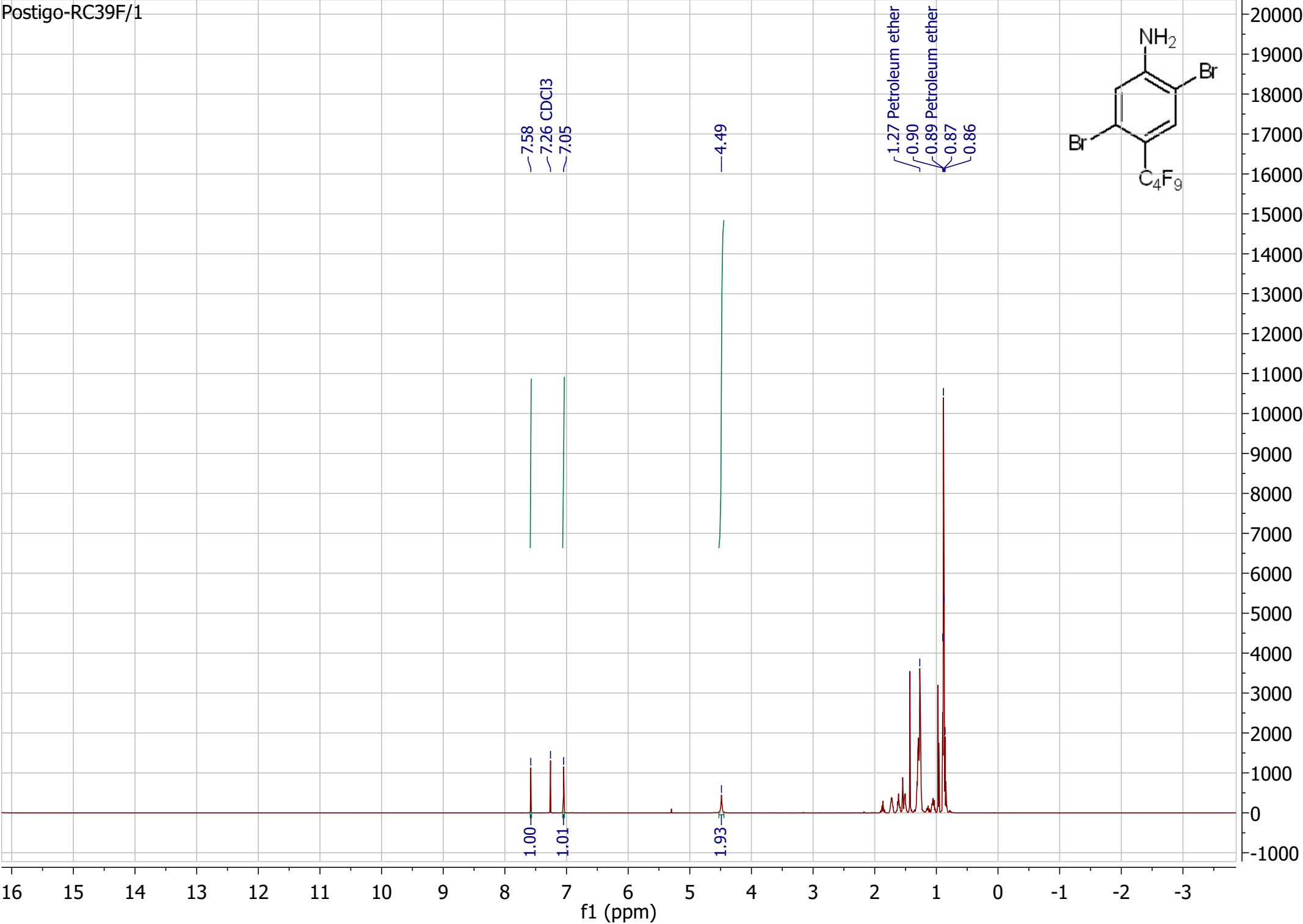
Postigo-RC36F/3



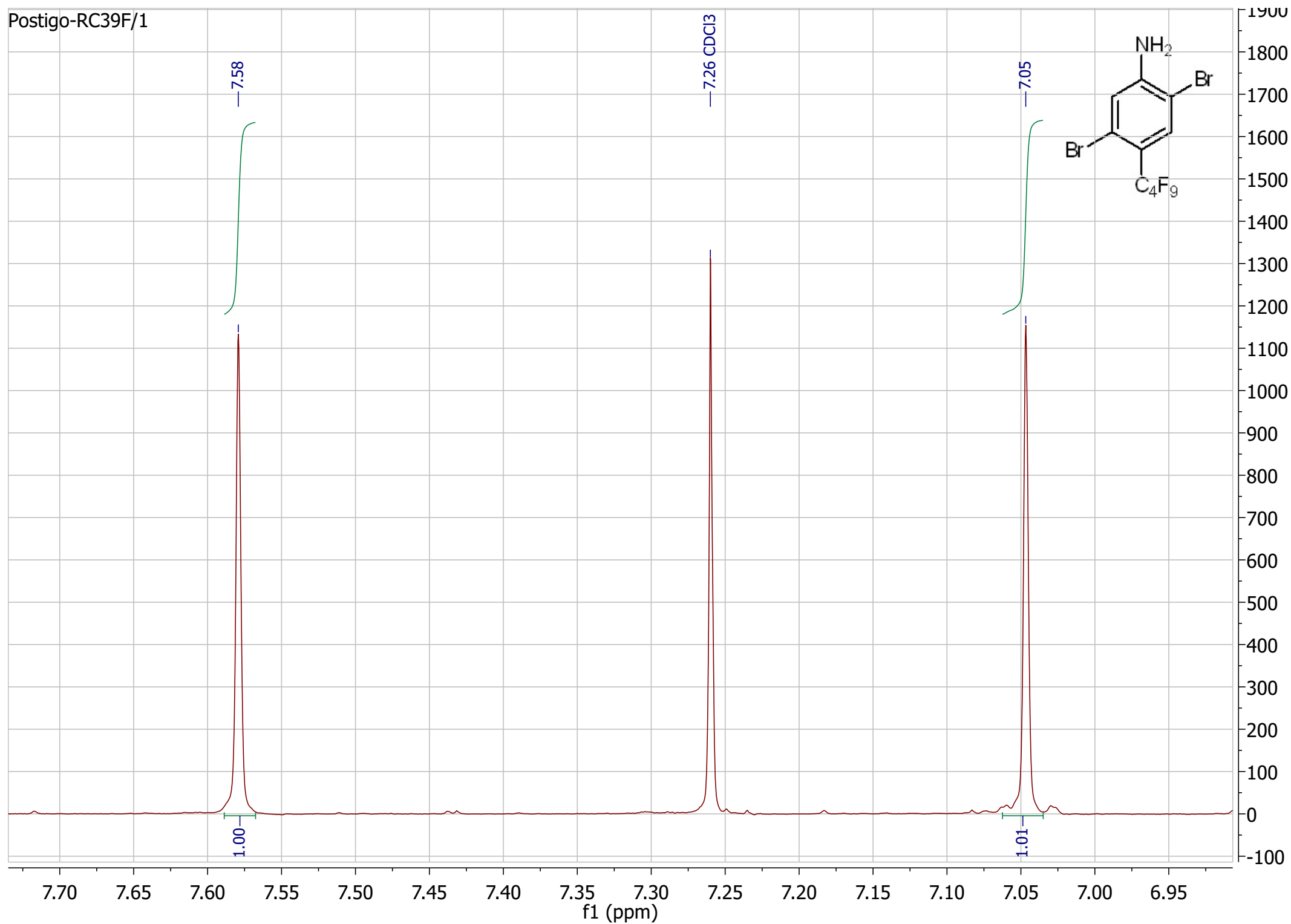
Postigo-RC36F/3



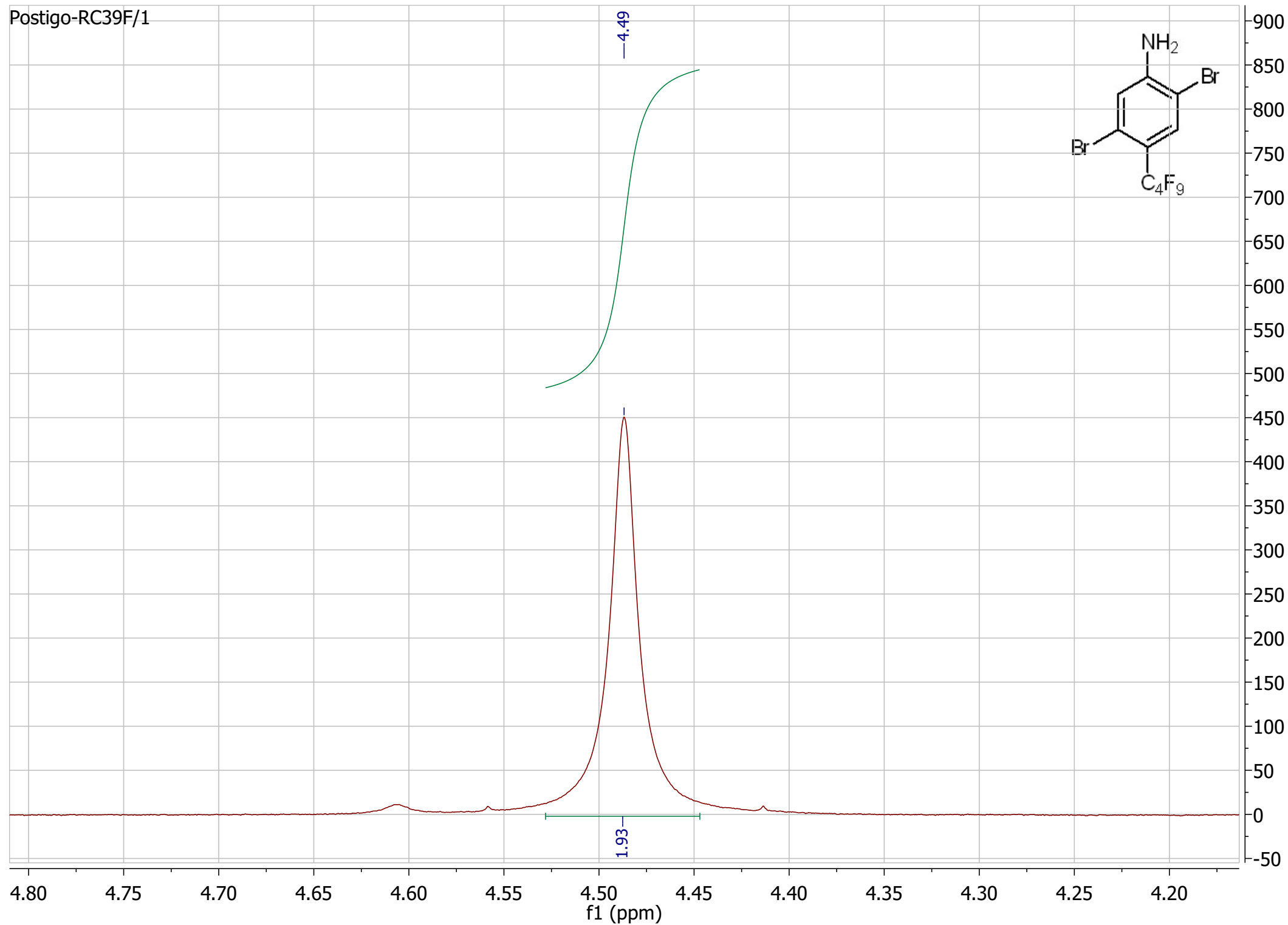
Postigo-RC39F/1



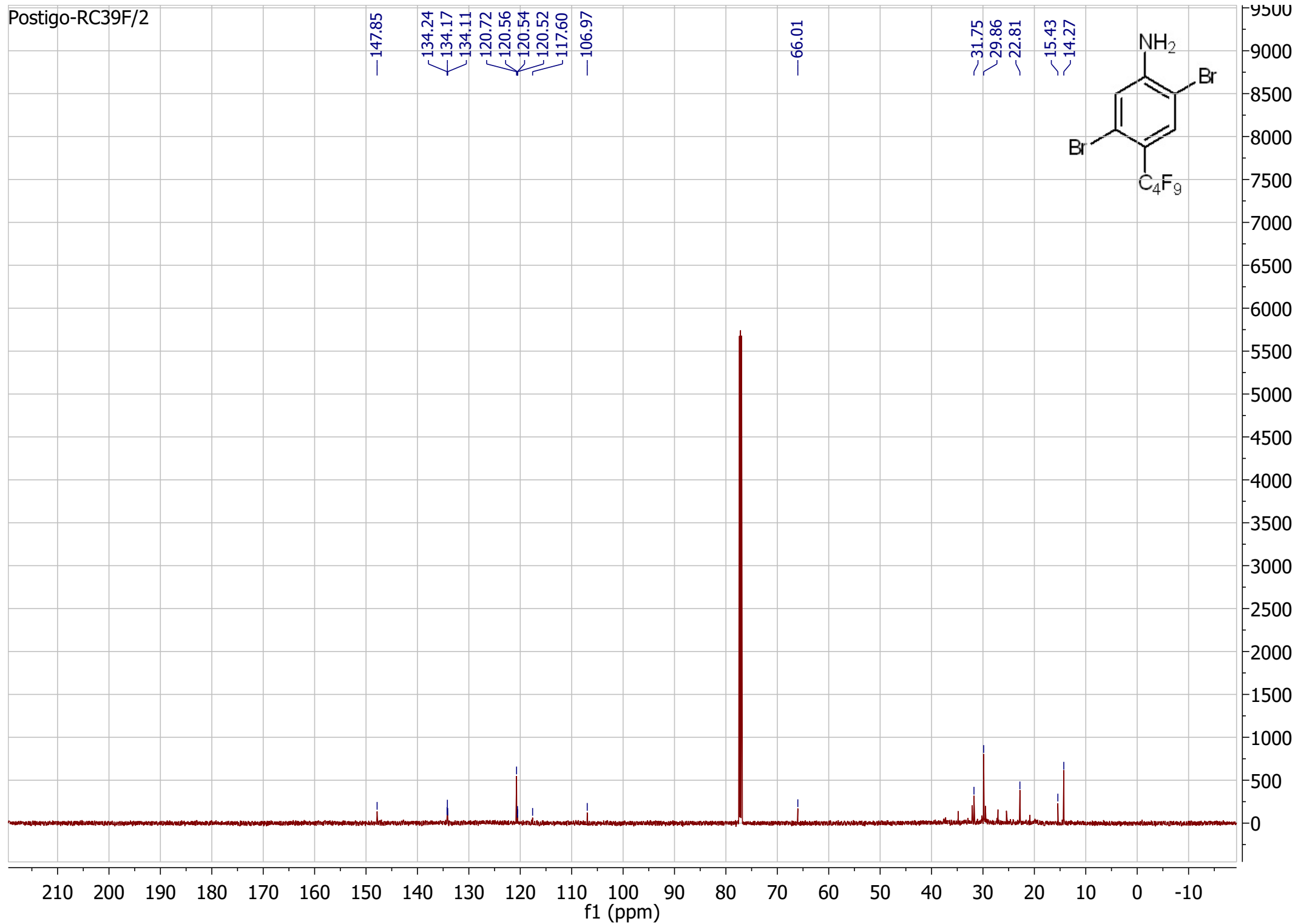
Postigo-RC39F/1



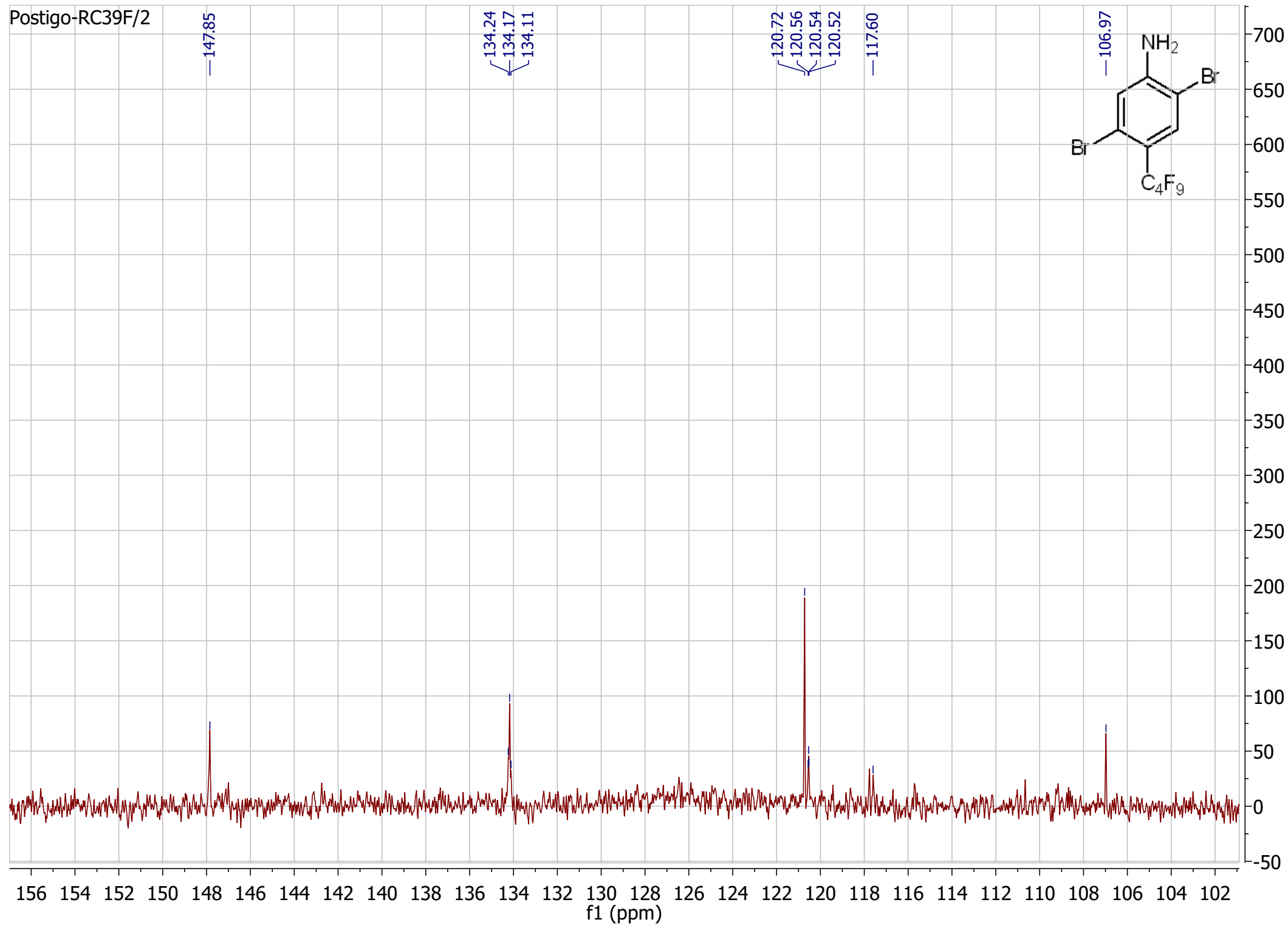
Postigo-RC39F/1



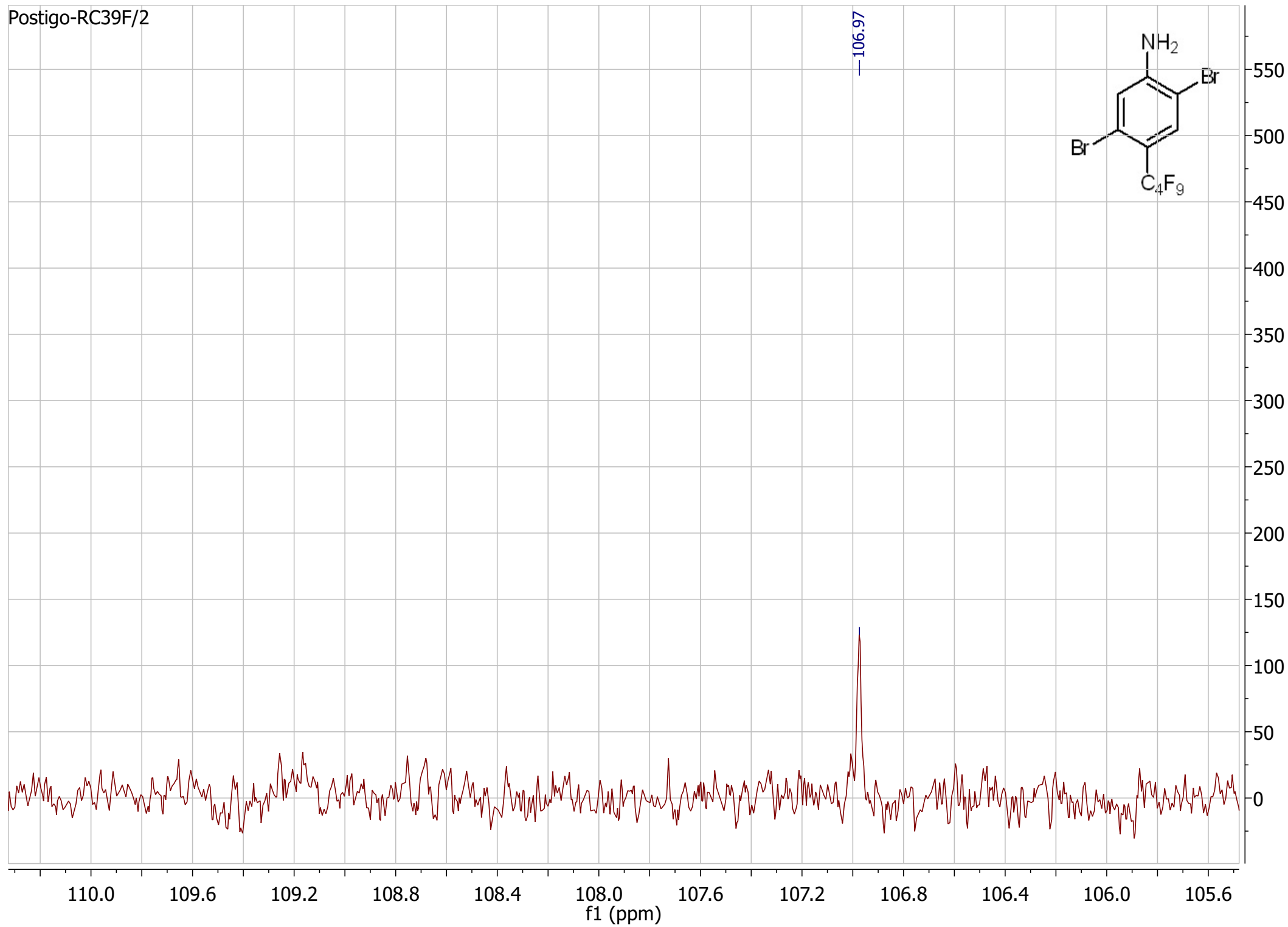
Postigo-RC39F/2



Postigo-RC39F/2



Postigo-RC39F/2



Postigo-RC39F/2

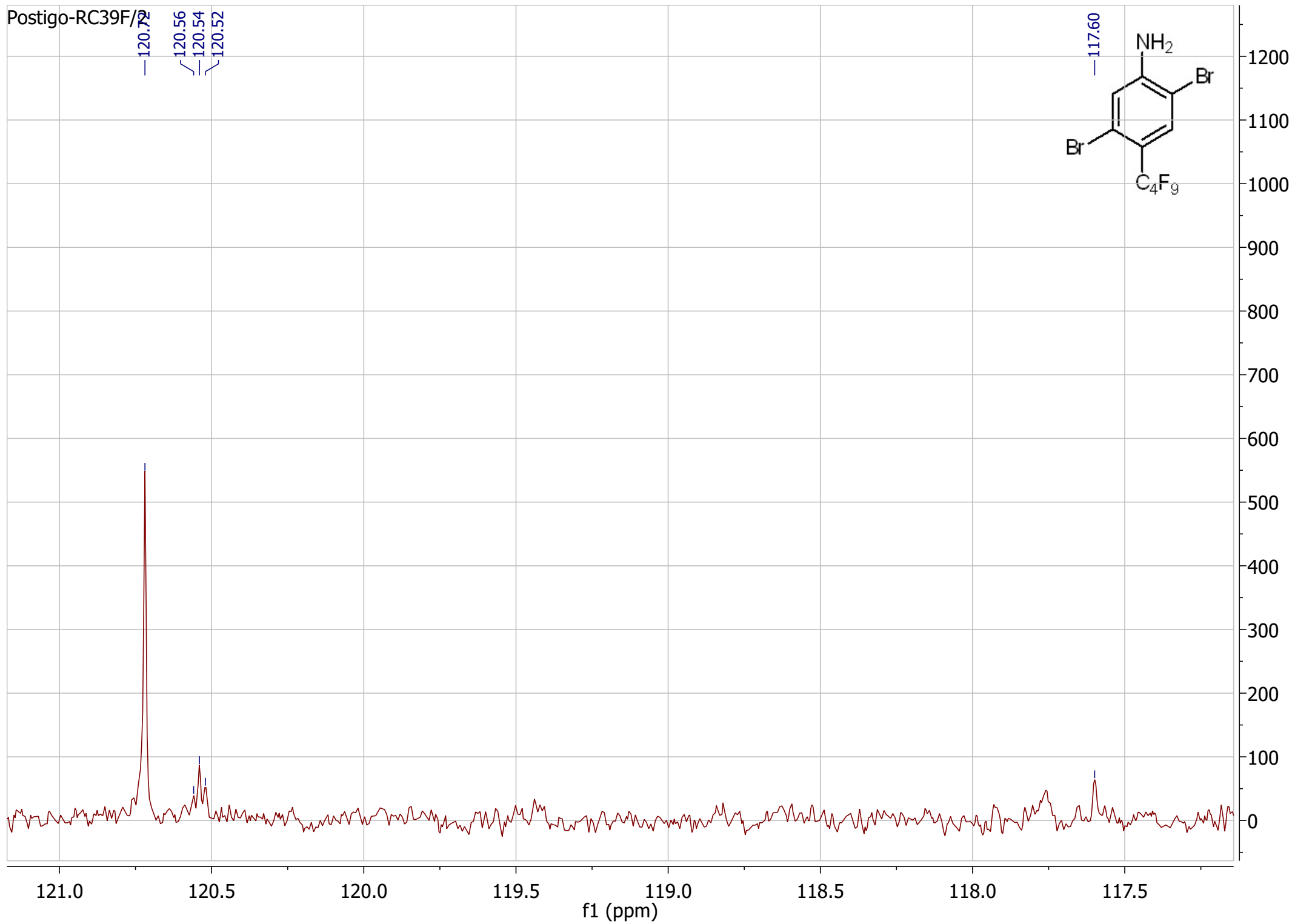
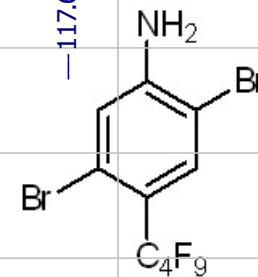
120.72

120.56

120.54

120.52

117.60



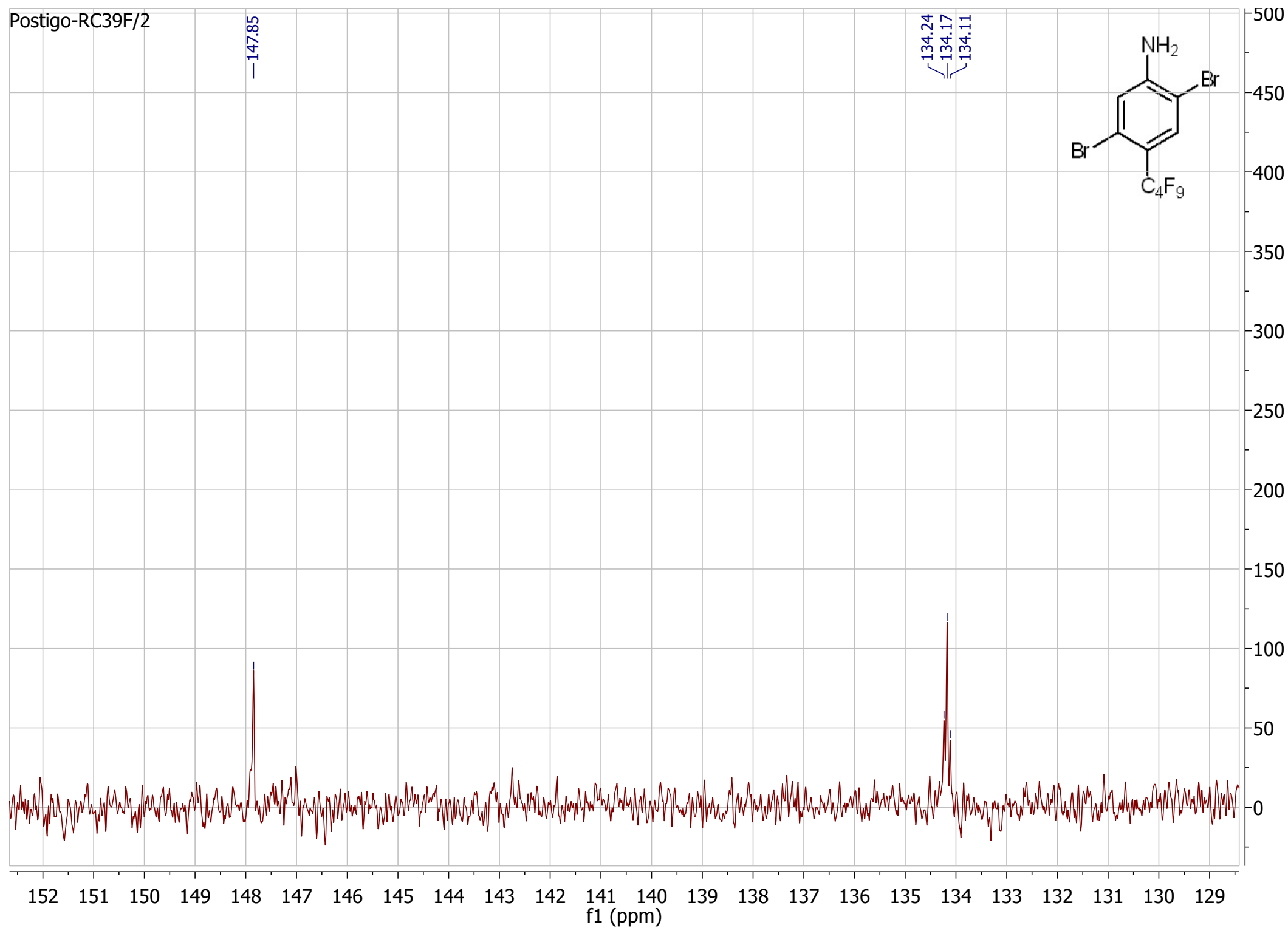
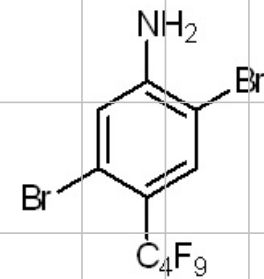
Postigo-RC39F/2

—147.85

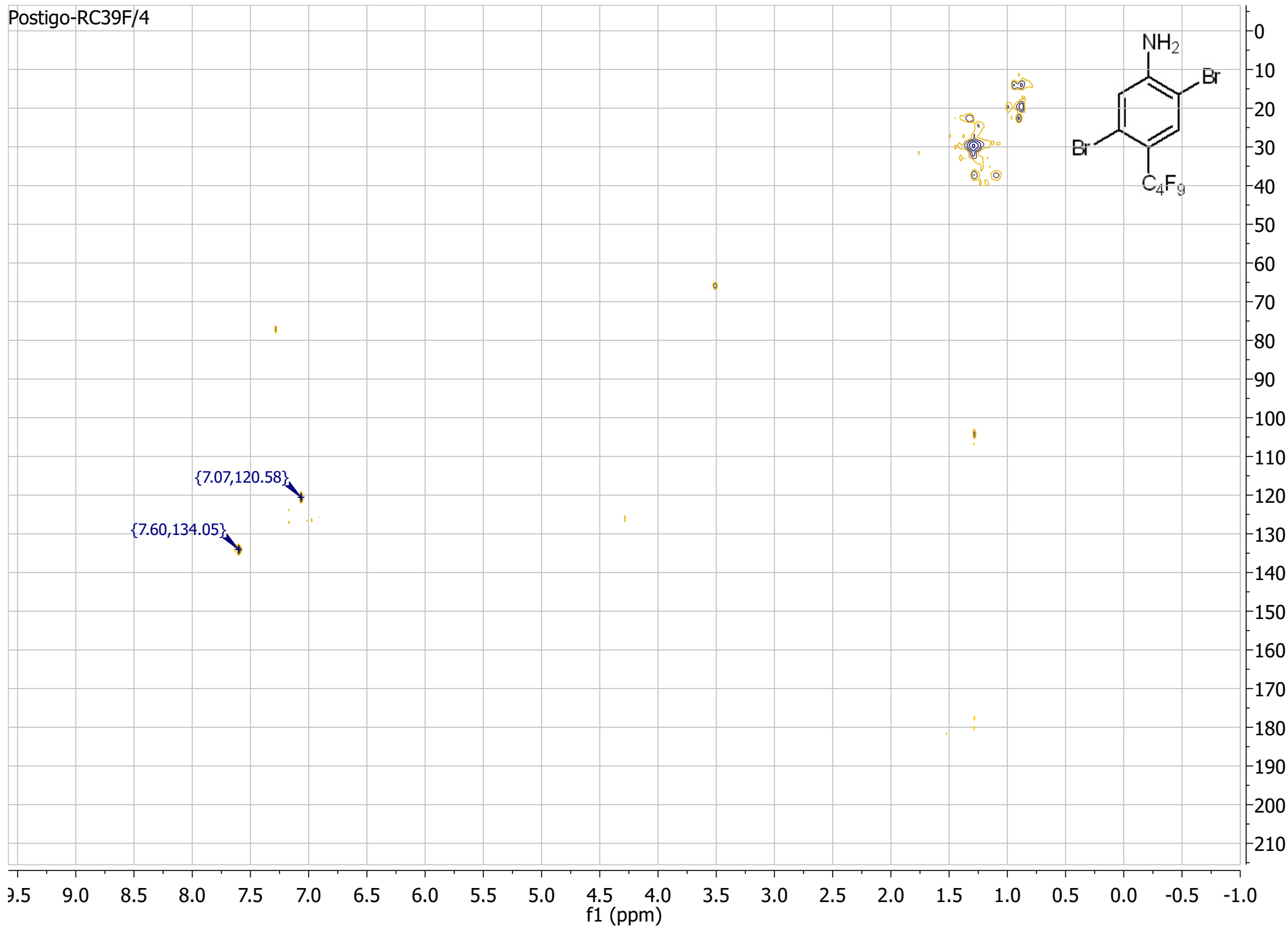
134.24

134.17

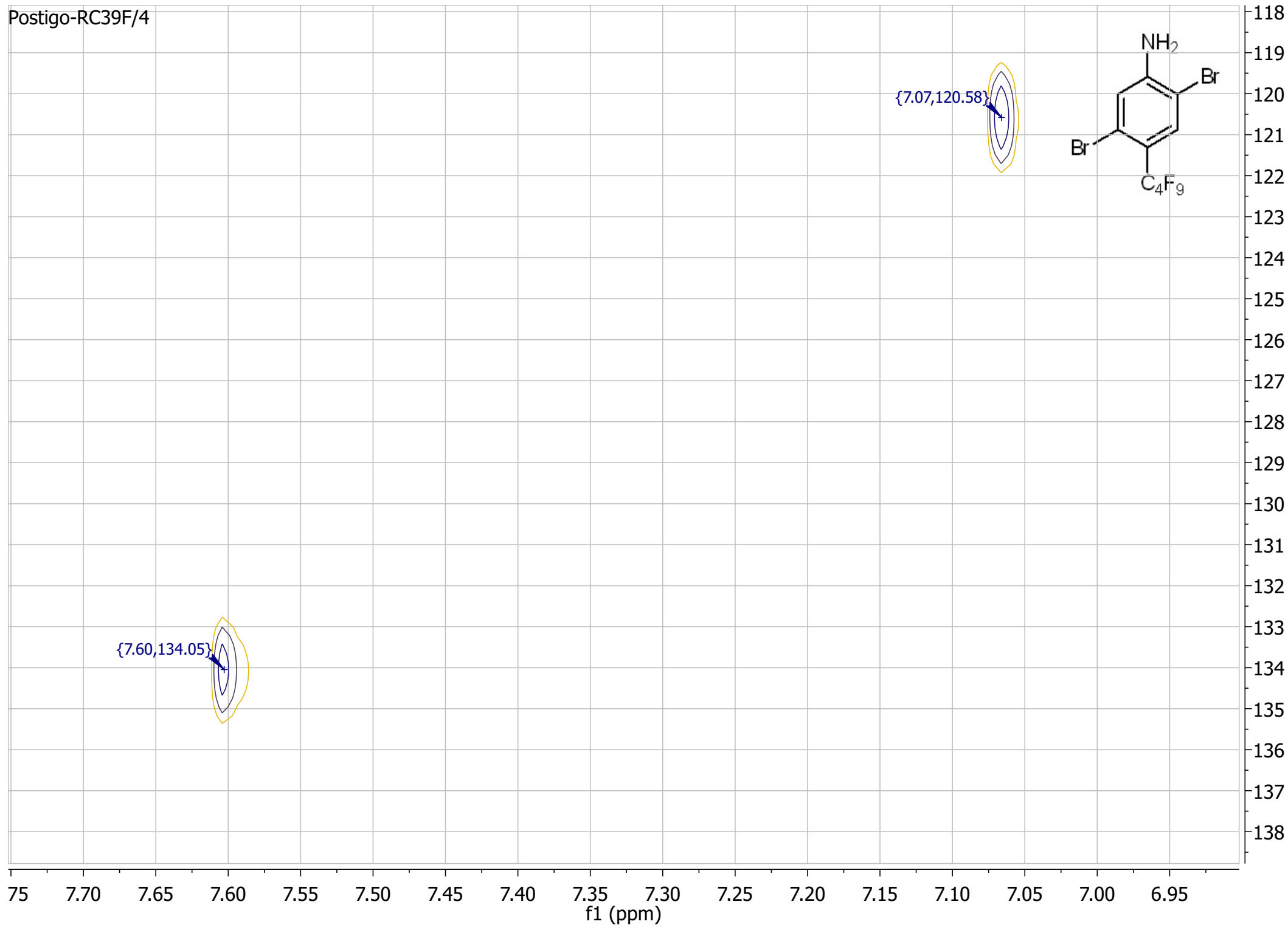
134.11



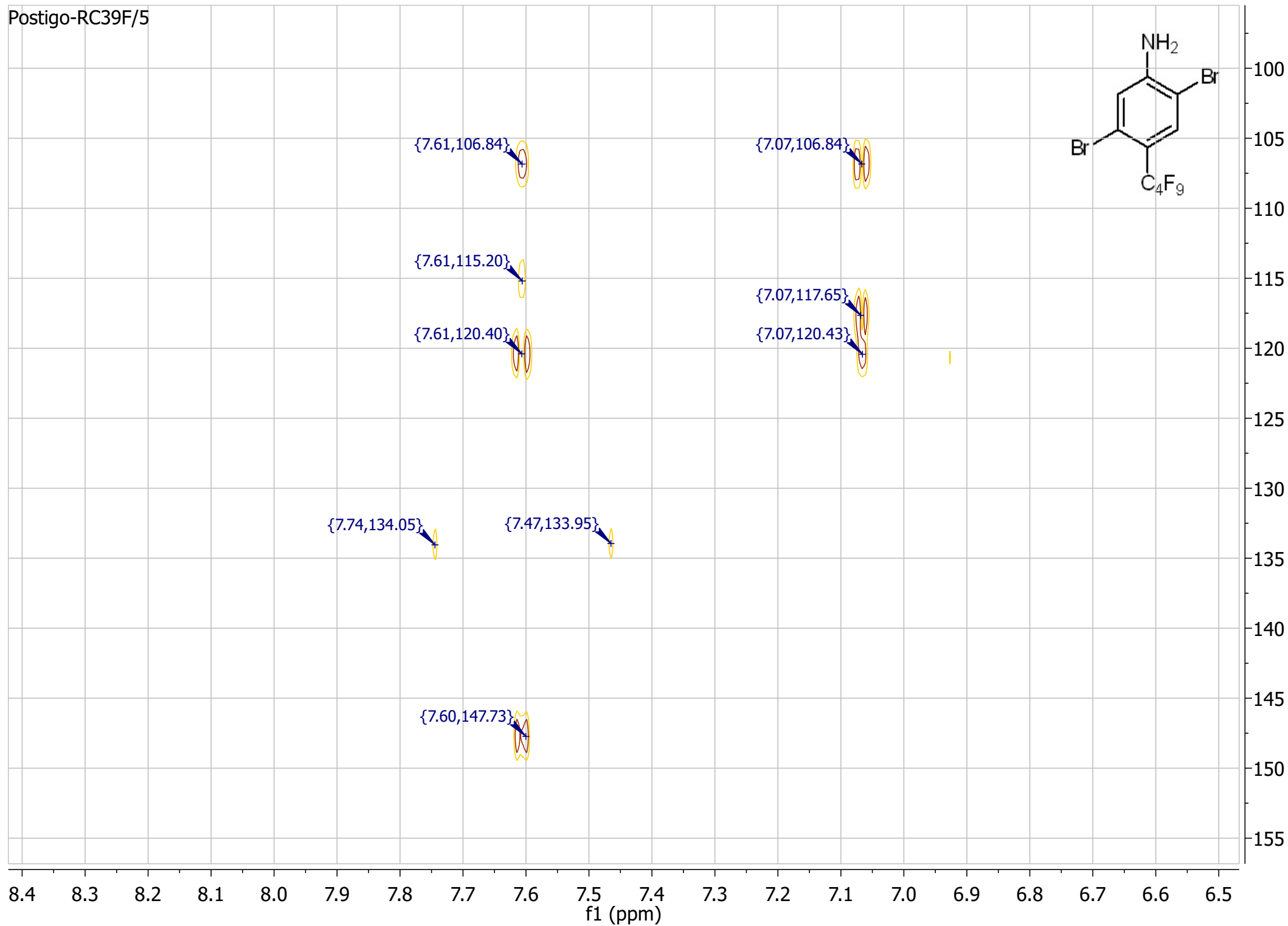
Postigo-RC39F/4



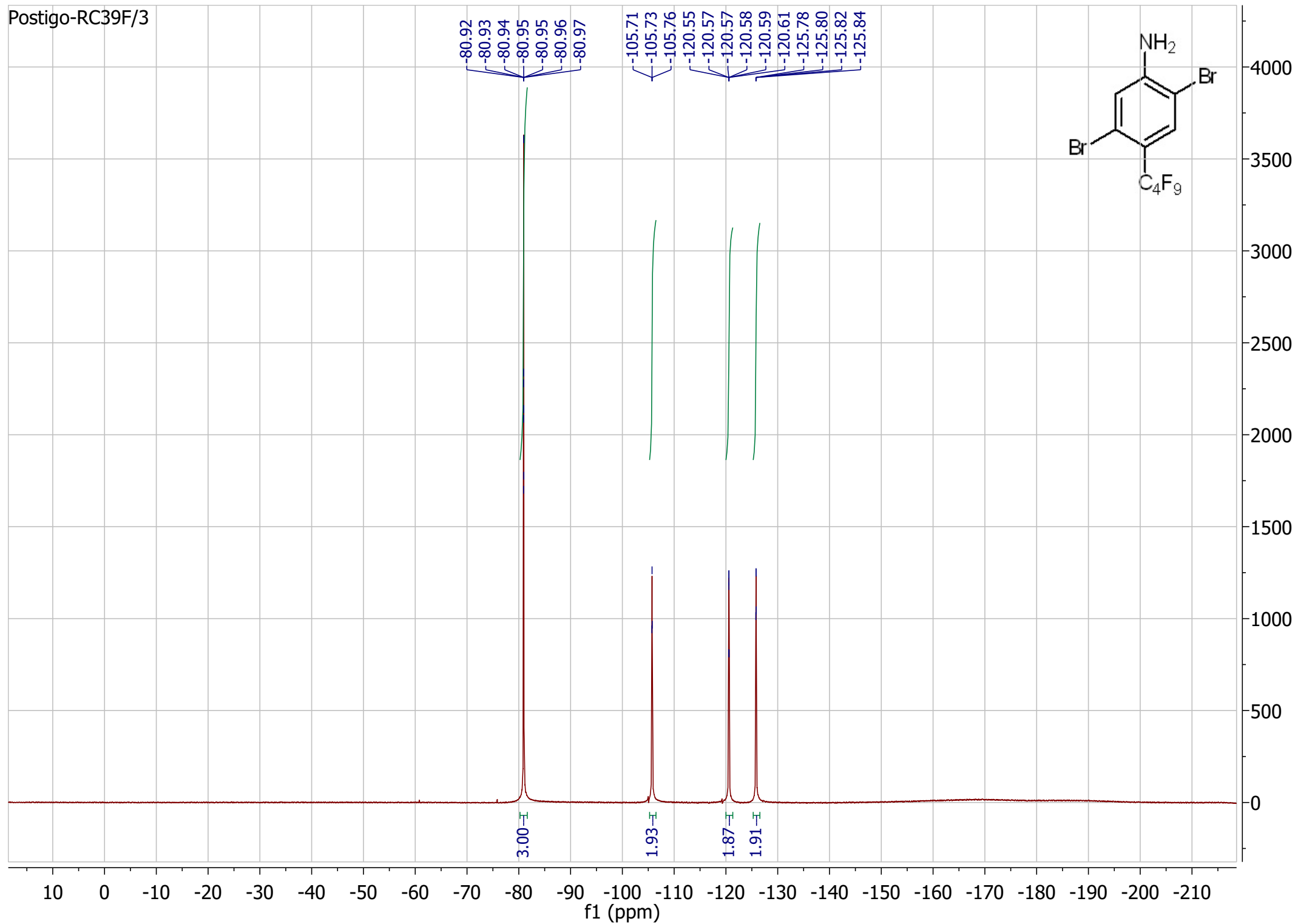
Postigo-RC39F/4



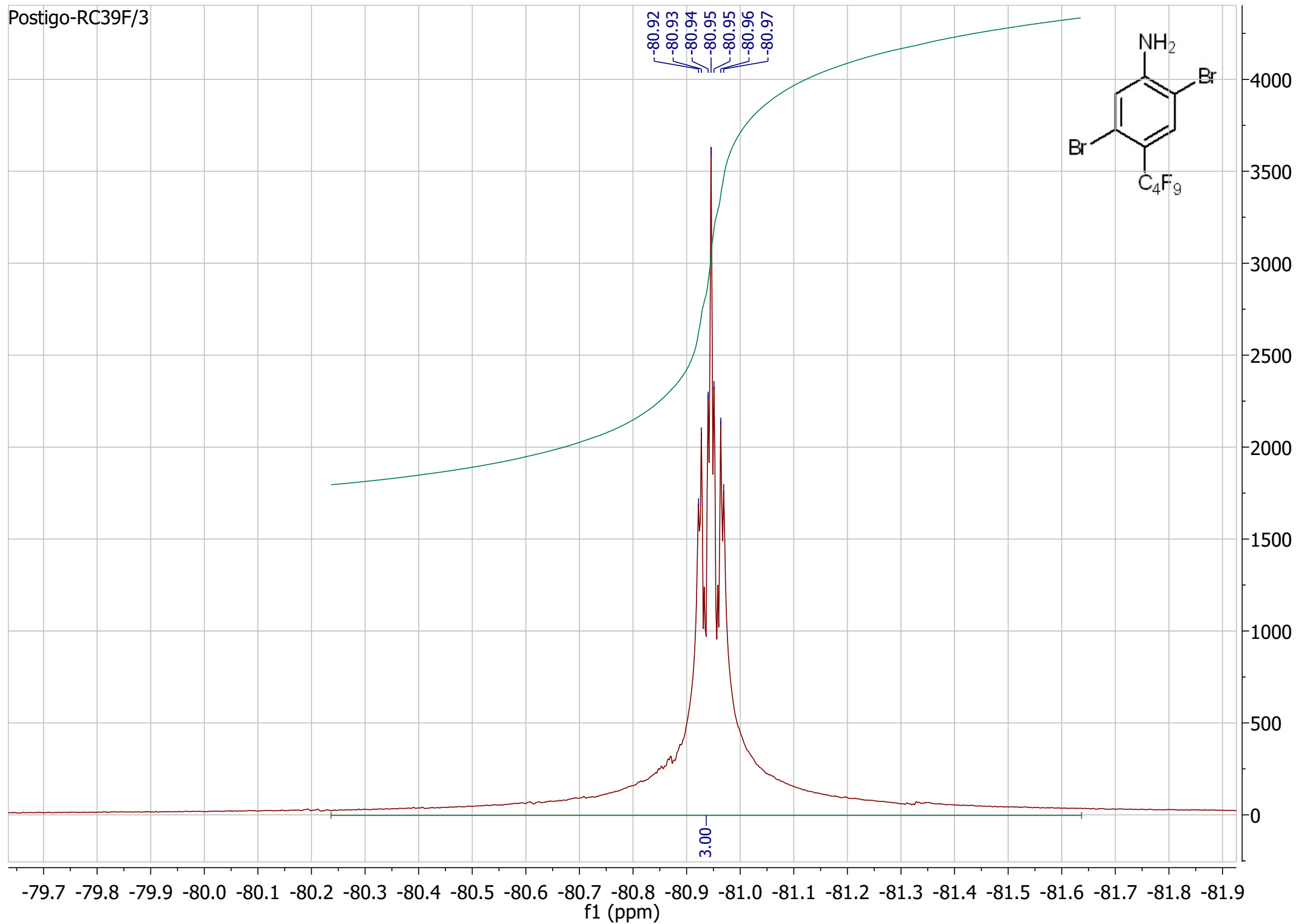
Postigo-RC39F/5



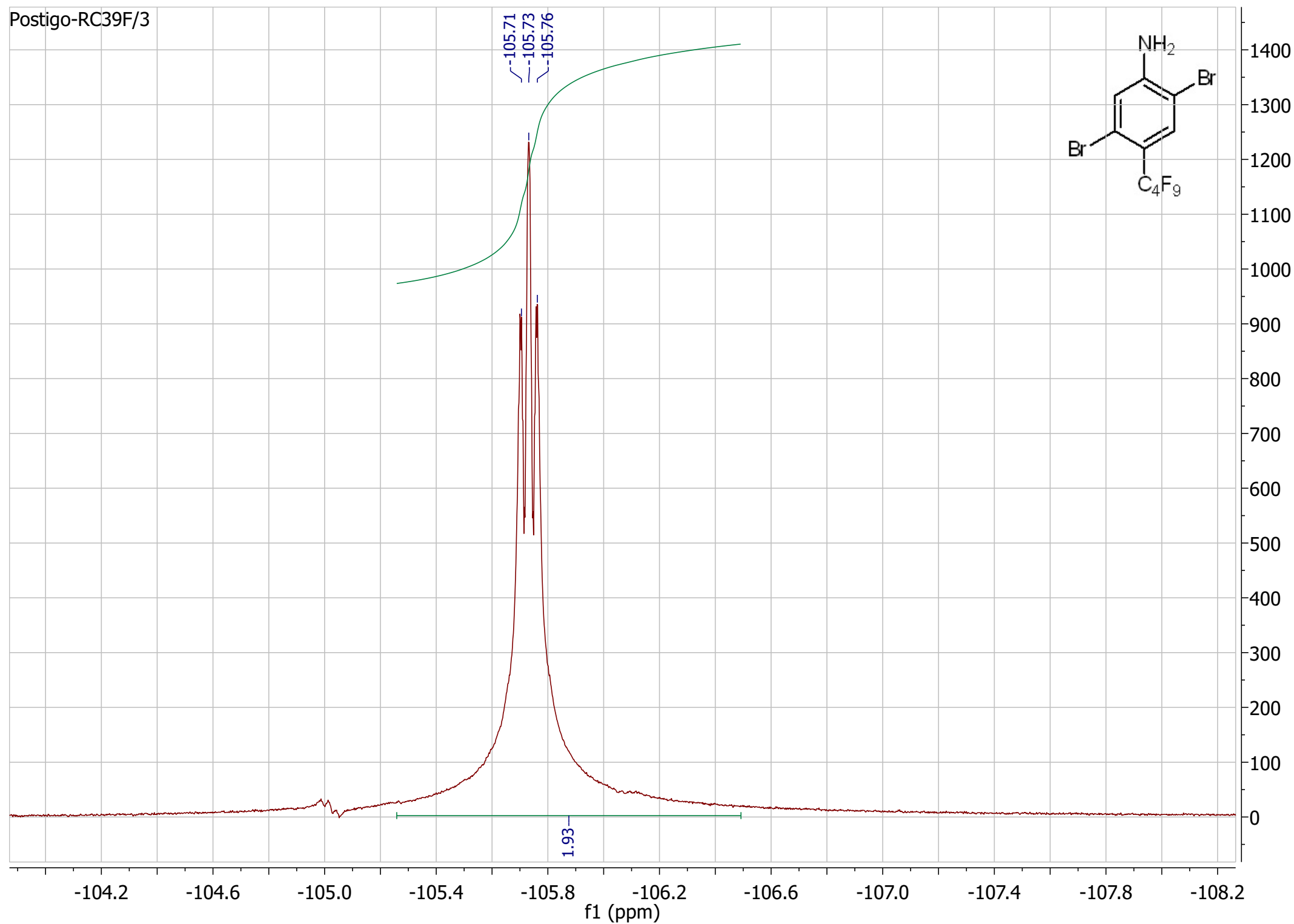
Postigo-RC39F/3



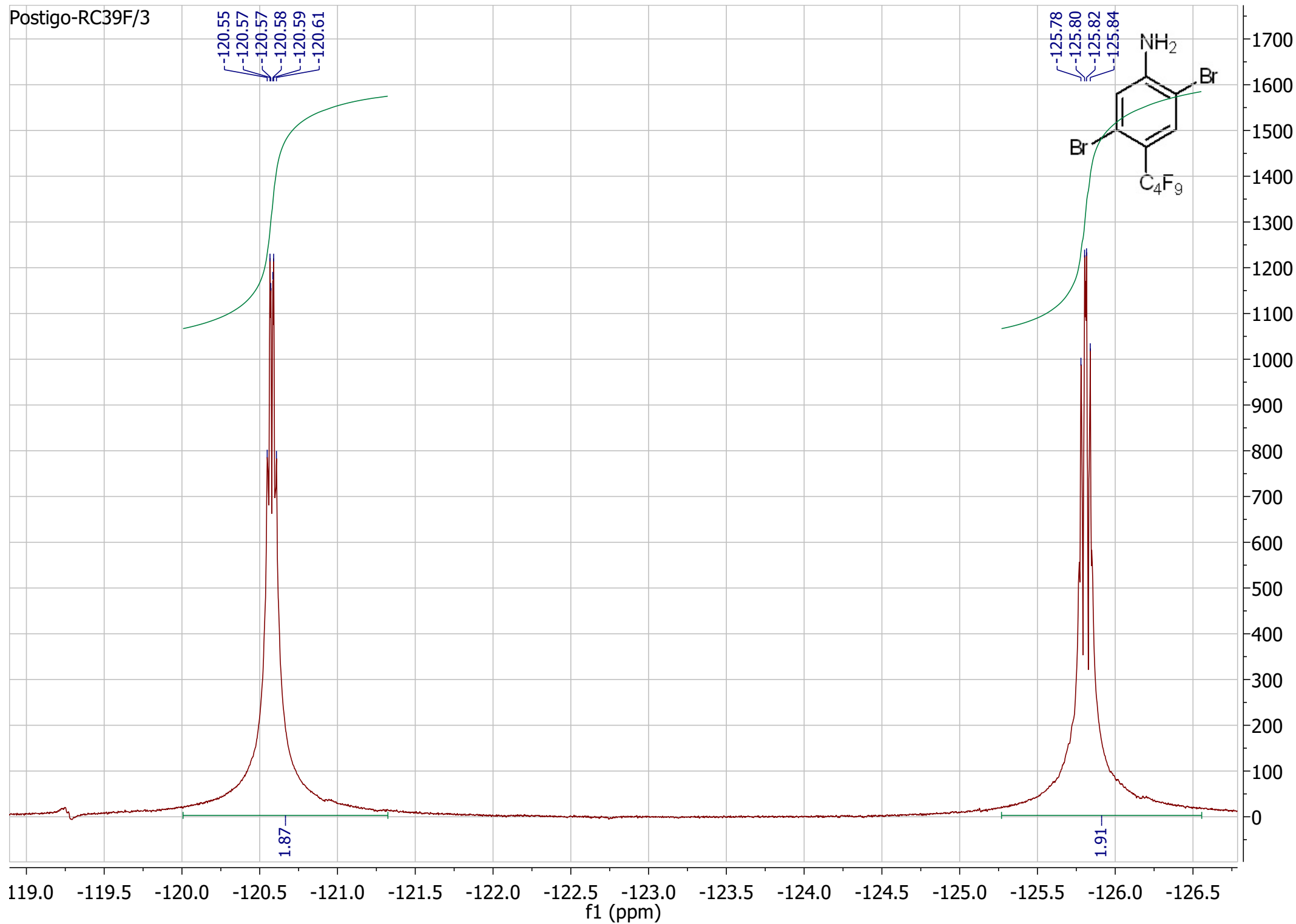
Postigo-RC39F/3



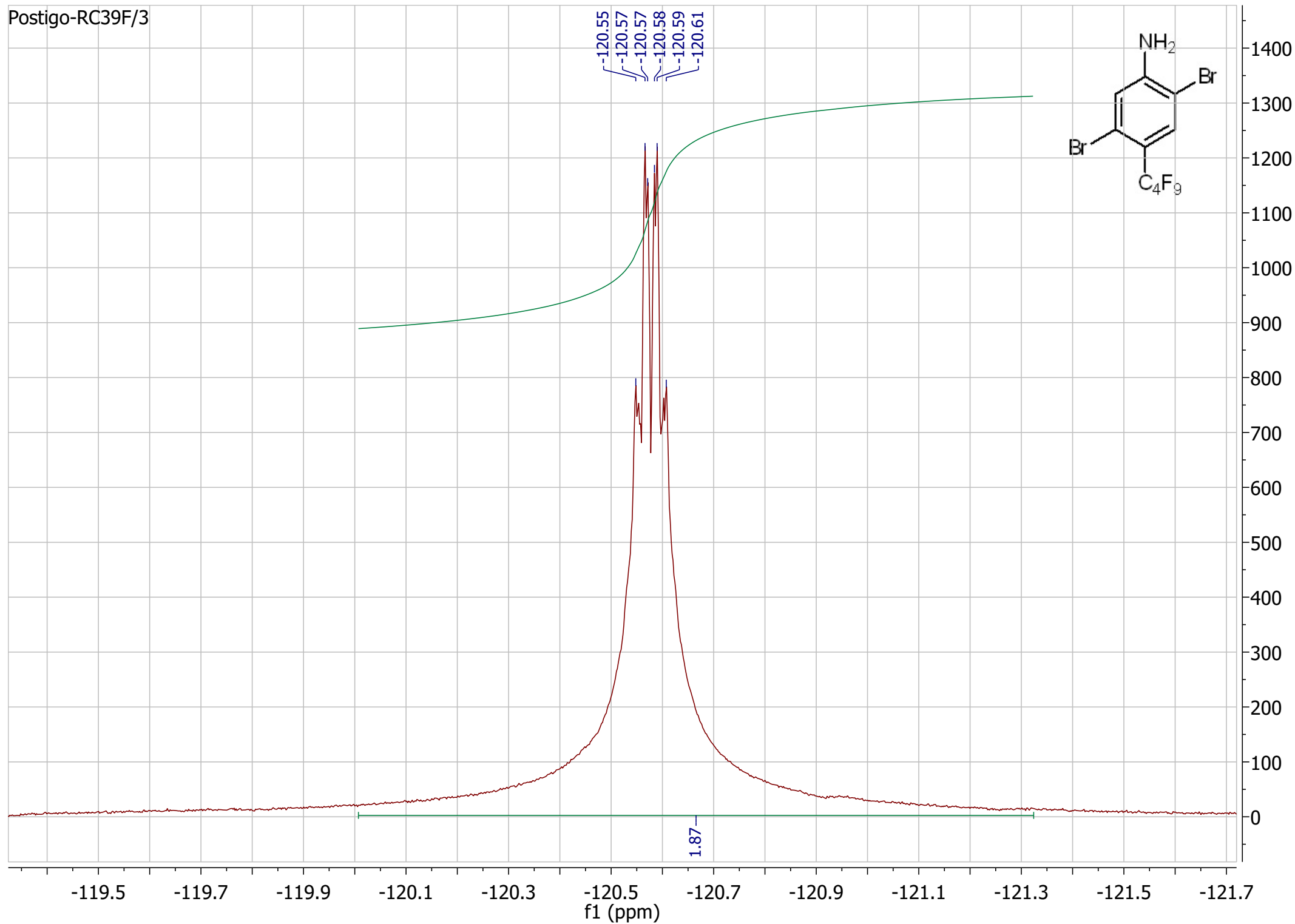
Postigo-RC39F/3



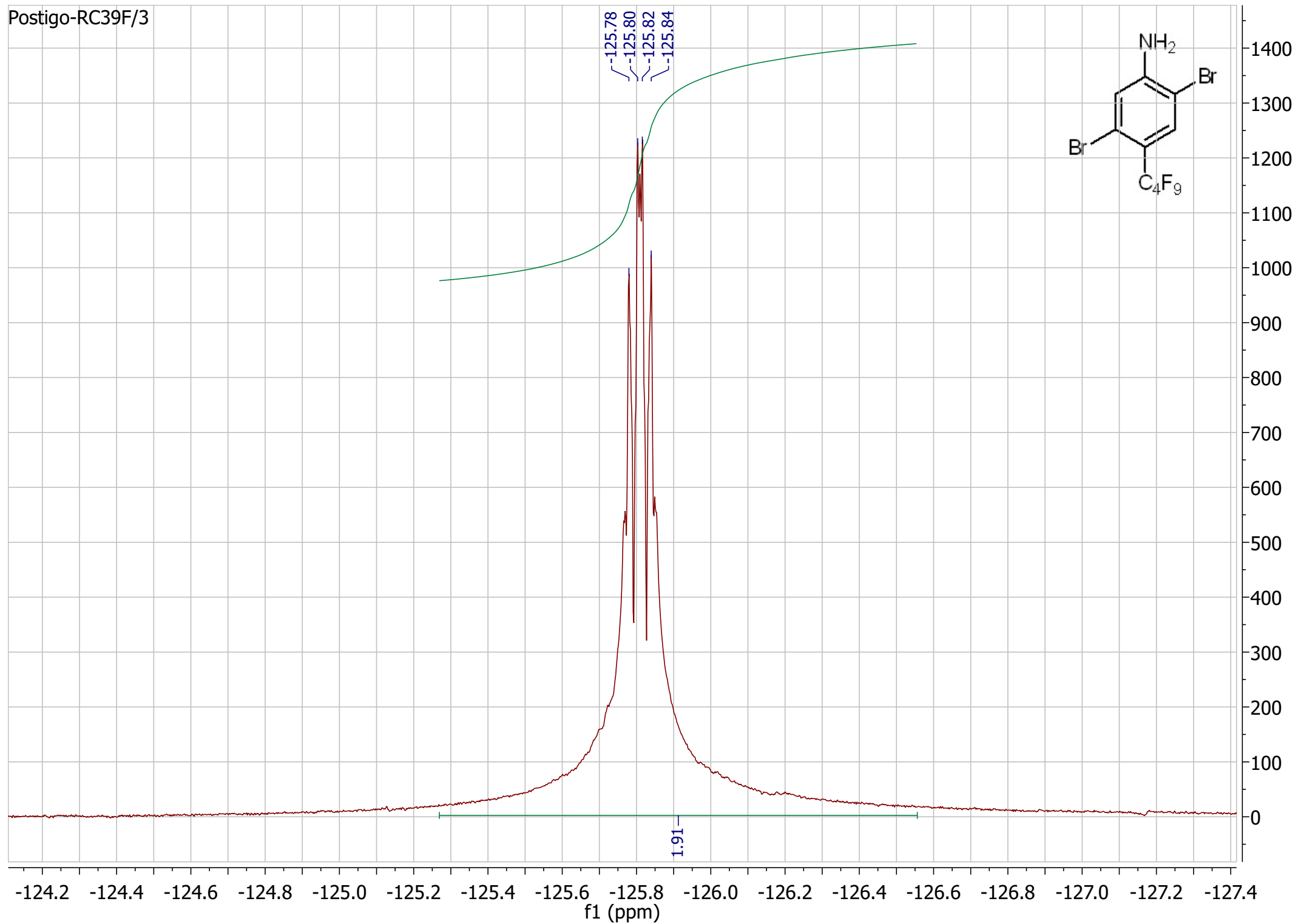
Postigo-RC39F/3

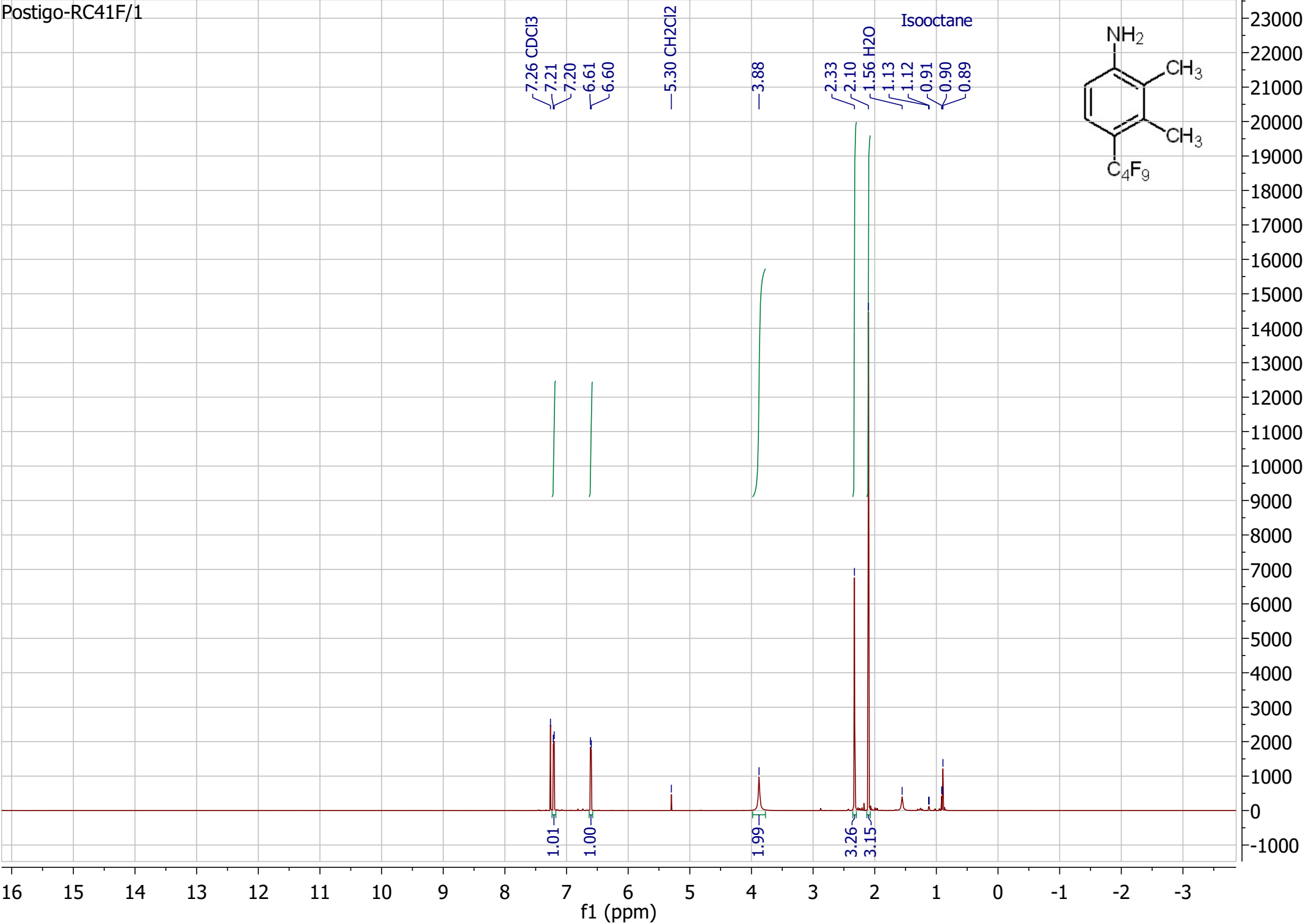


Postigo-RC39F/3



Postigo-RC39F/3





Postigo-RC41F/1

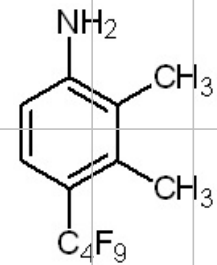
7.26 CDCl₃

7.21

7.20

6.61

6.60



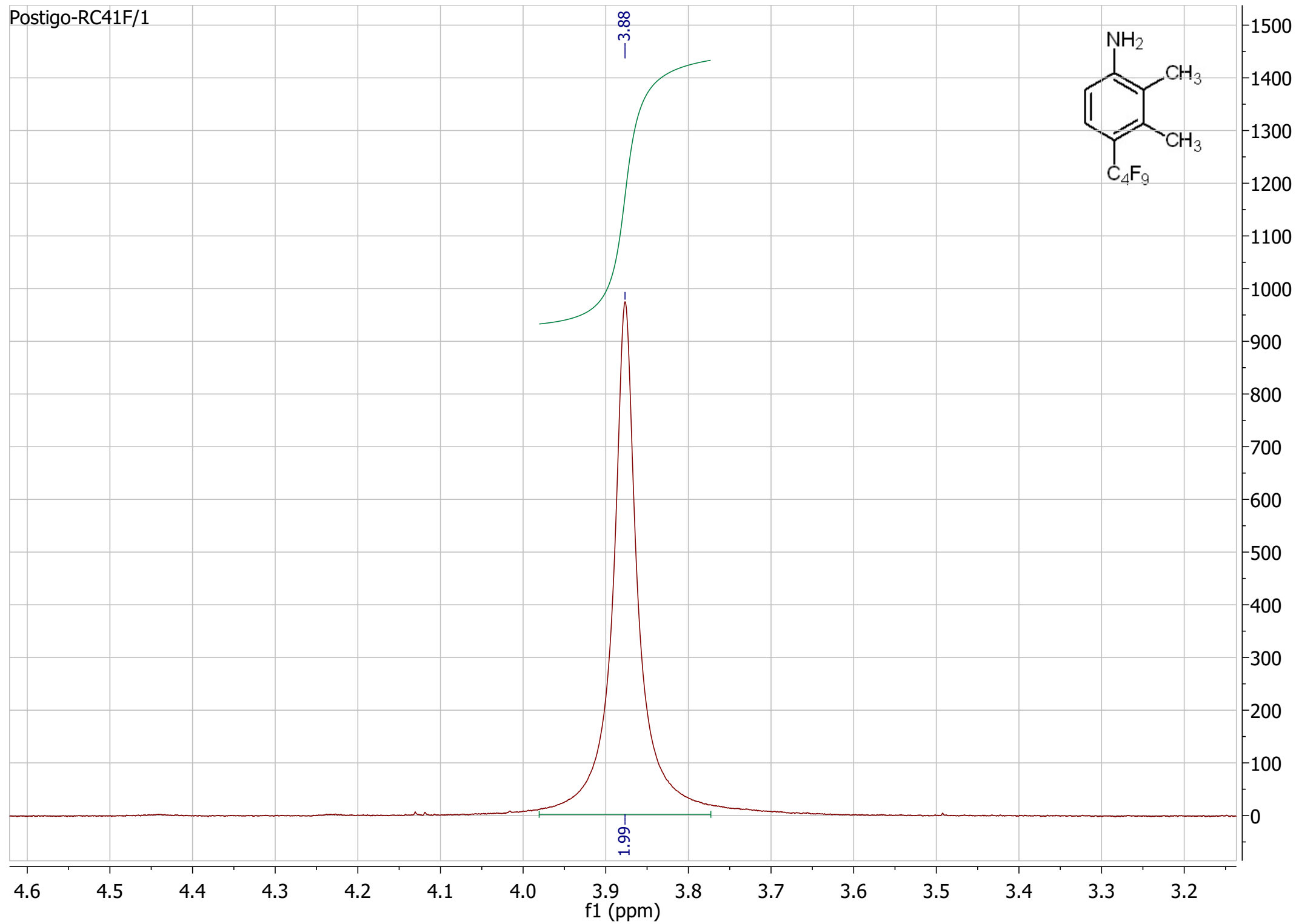
7.40 7.35 7.30 7.25 7.20 7.15 7.10 7.05 7.00 6.95 6.90 6.85 6.80 6.75 6.70 6.65 6.60 6.55 6.50 6.45

f1 (ppm)

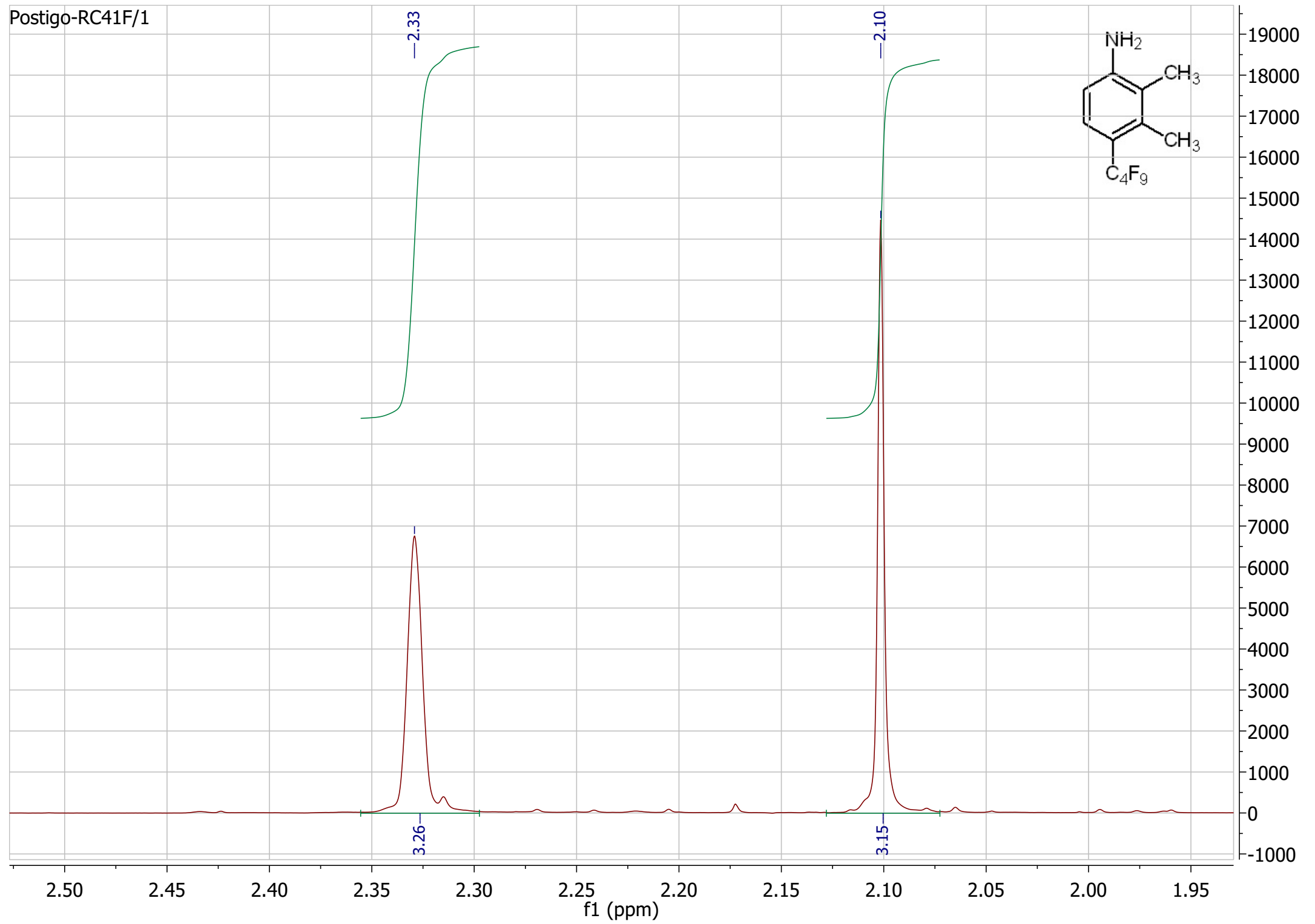
1.01

1.00

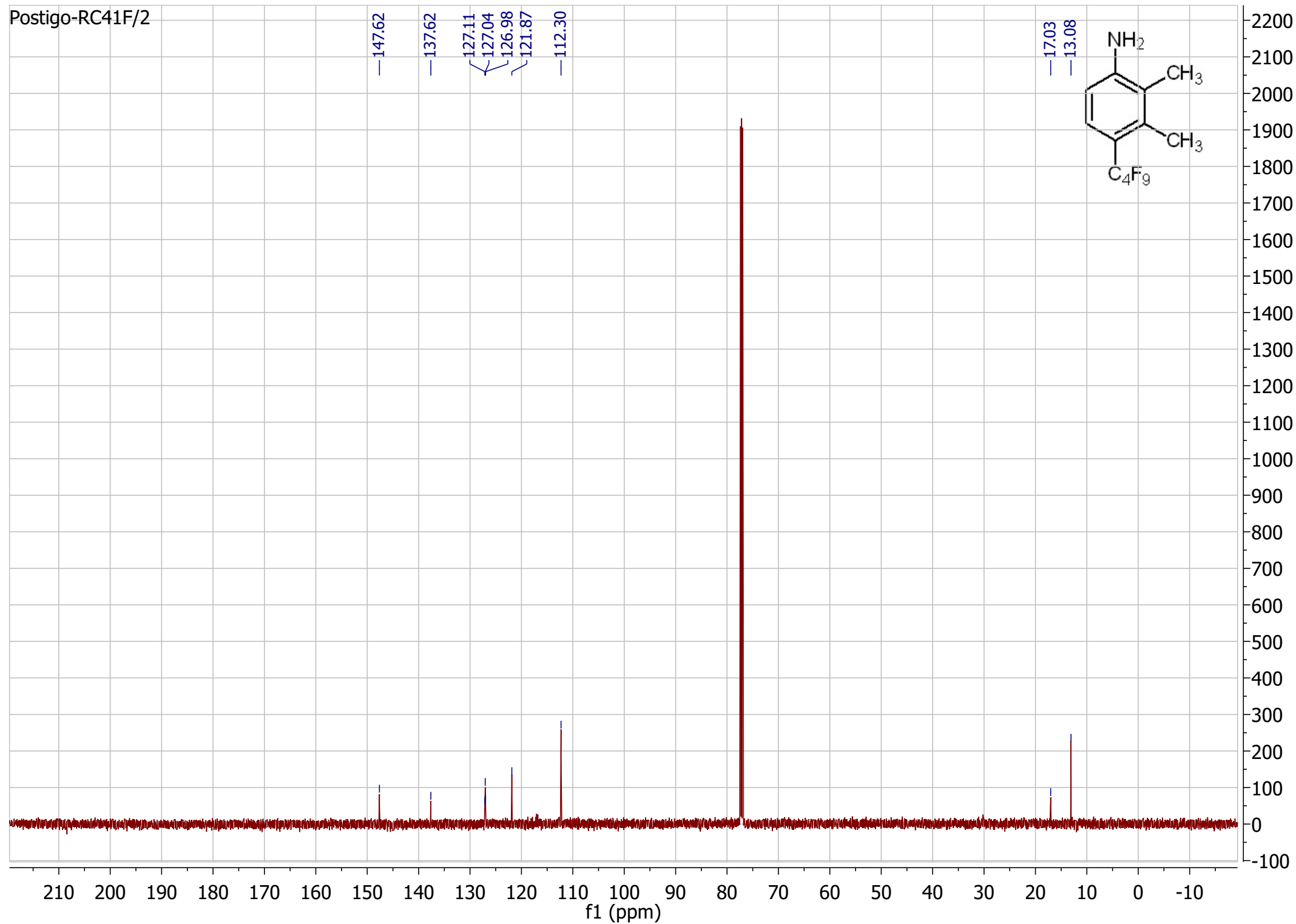
Postigo-RC41F/1



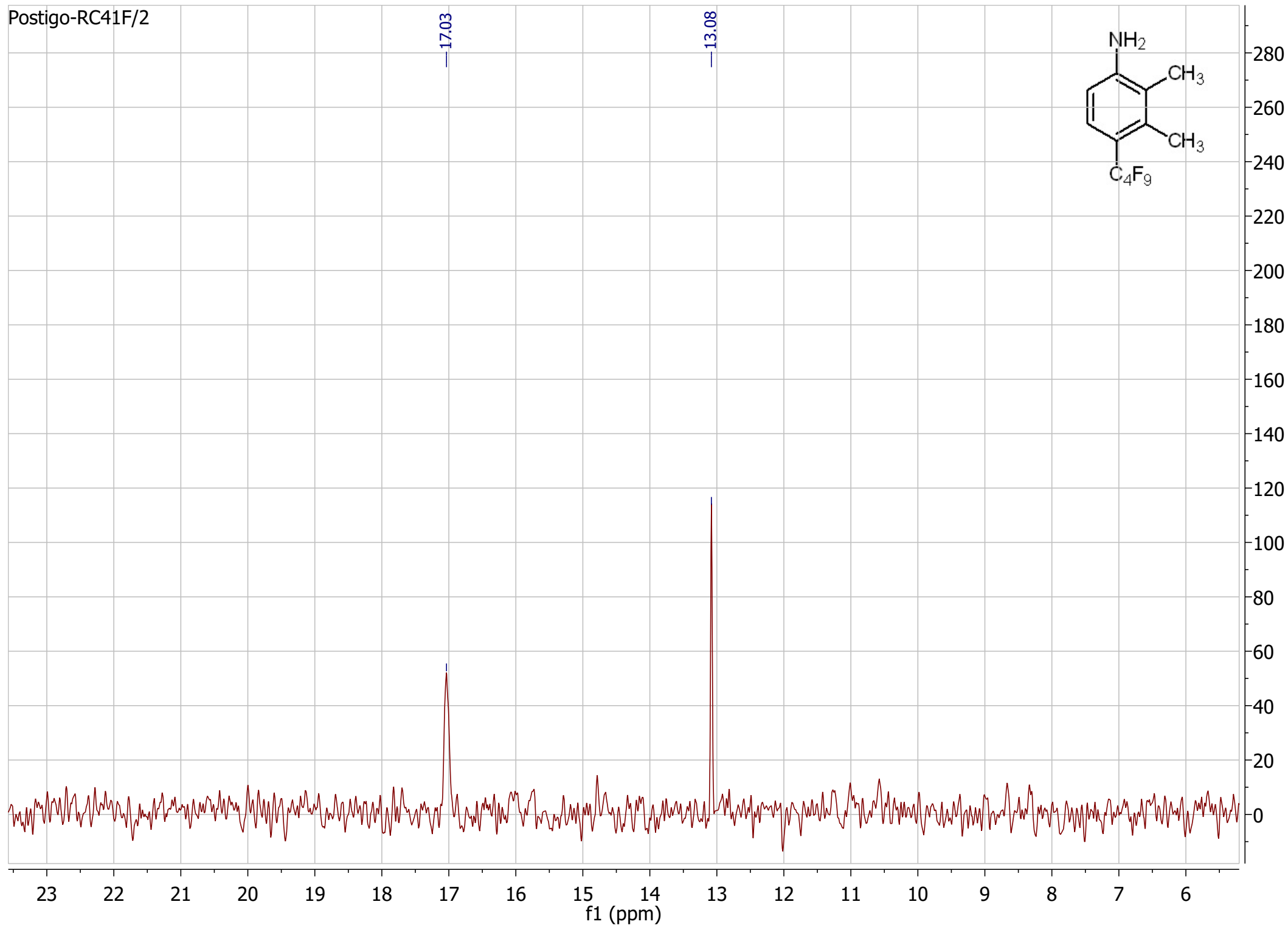
Postigo-RC41F/1



Postigo-RC41F/2



Postigo-RC41F/2



Postigo-RC41F/2

—147.62

—137.62

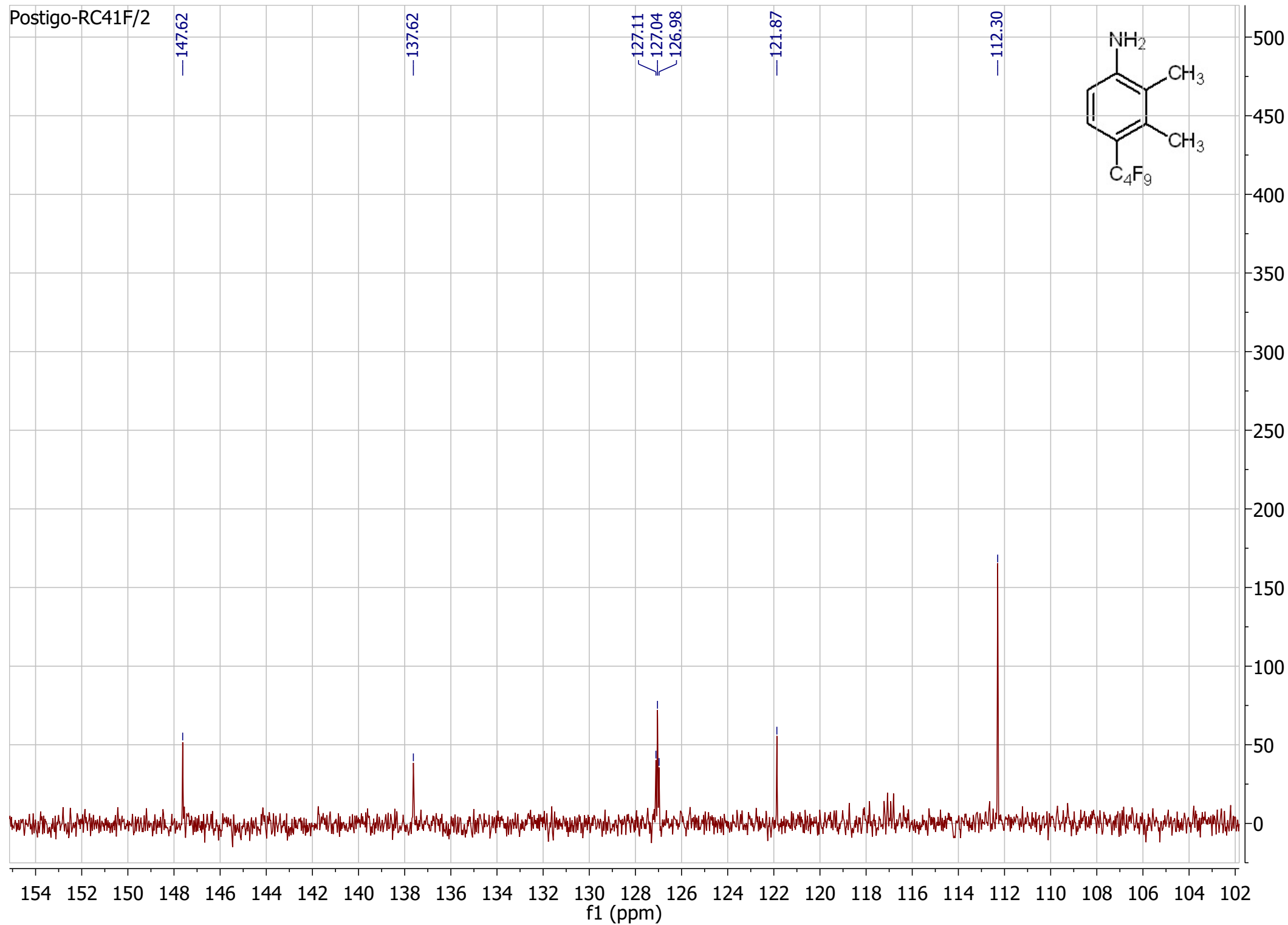
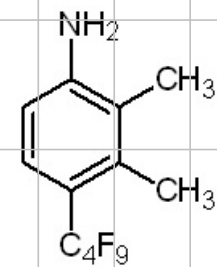
127.11

127.04

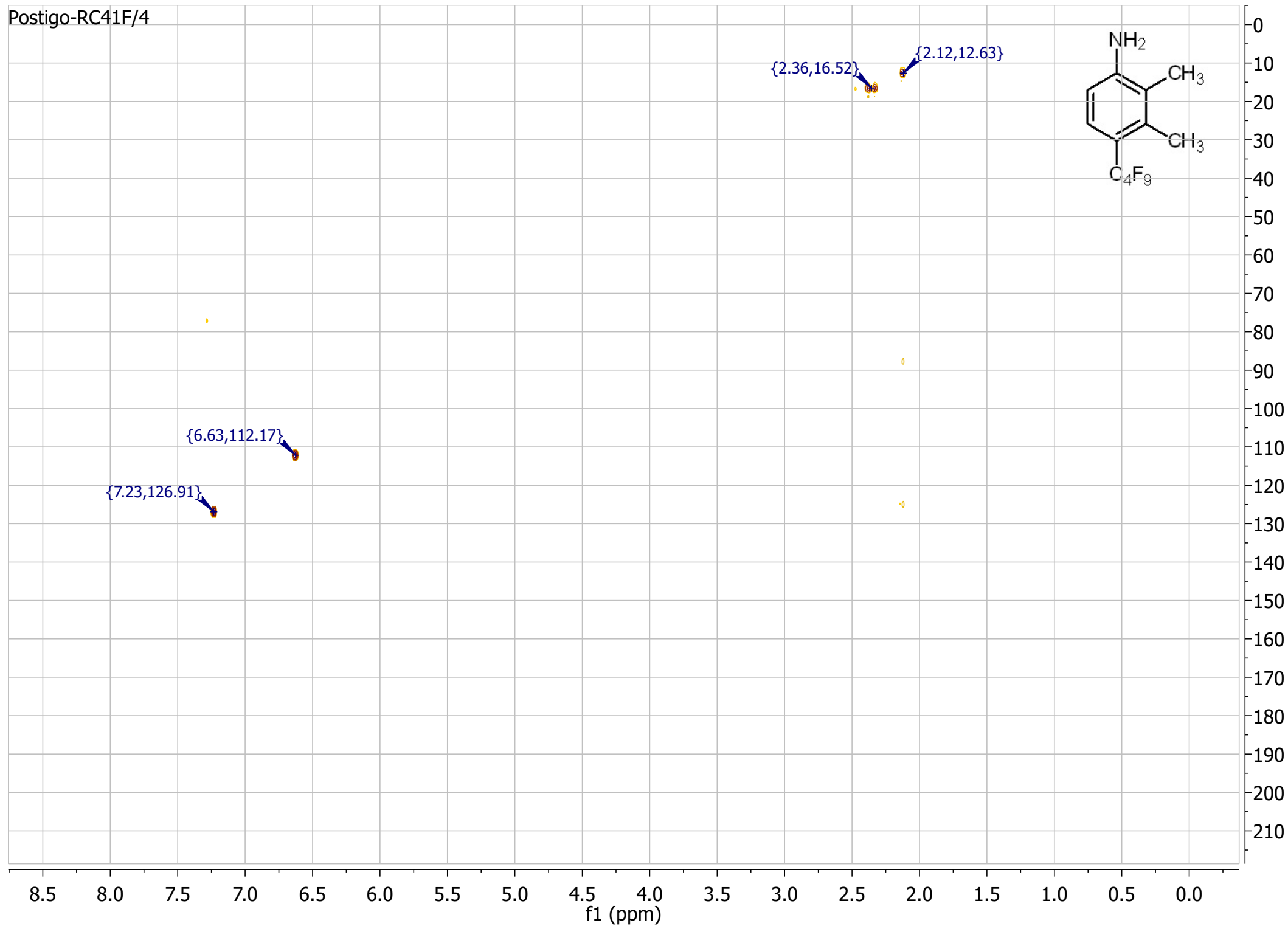
126.98

—121.87

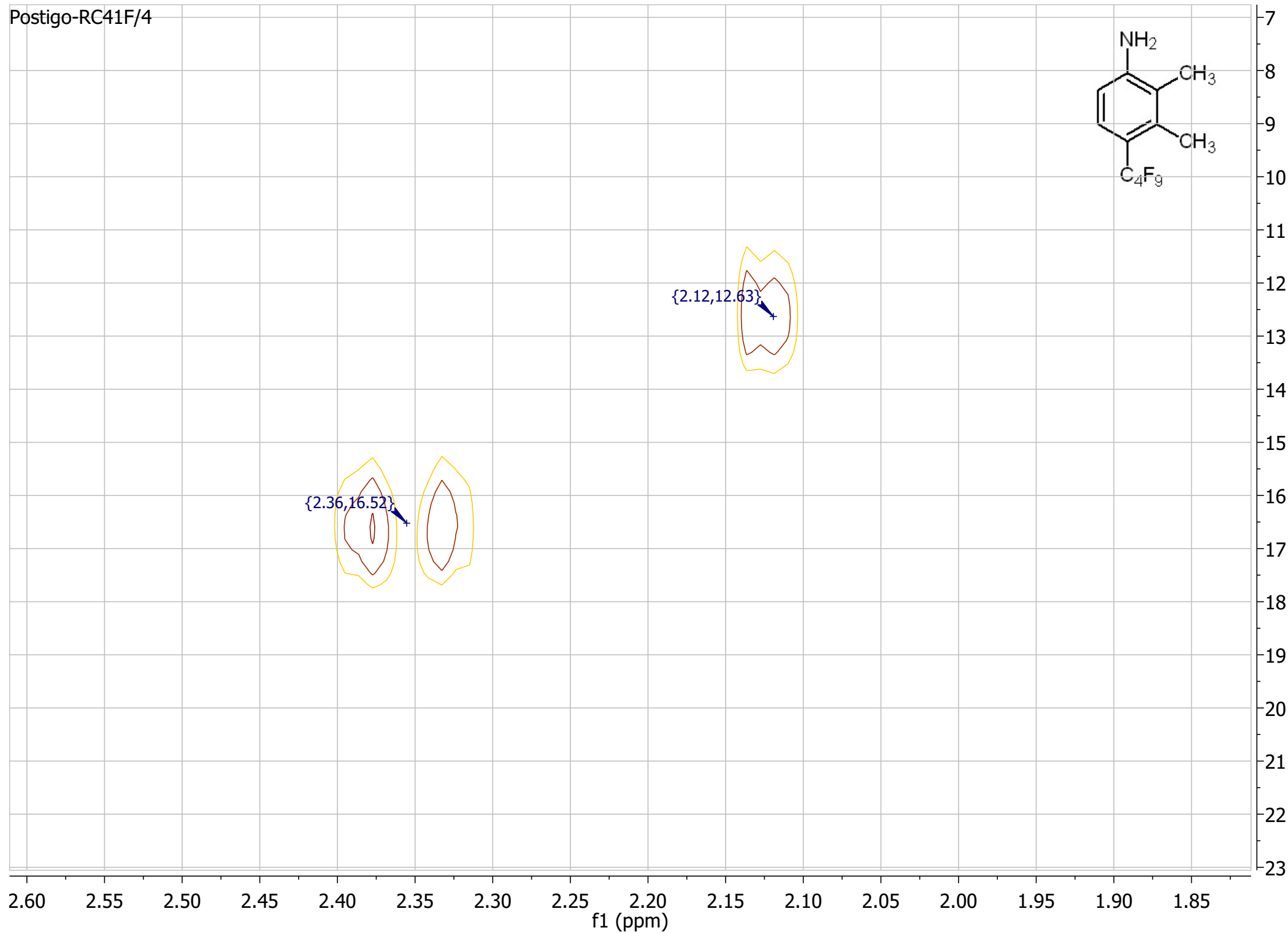
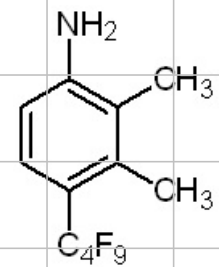
—112.30



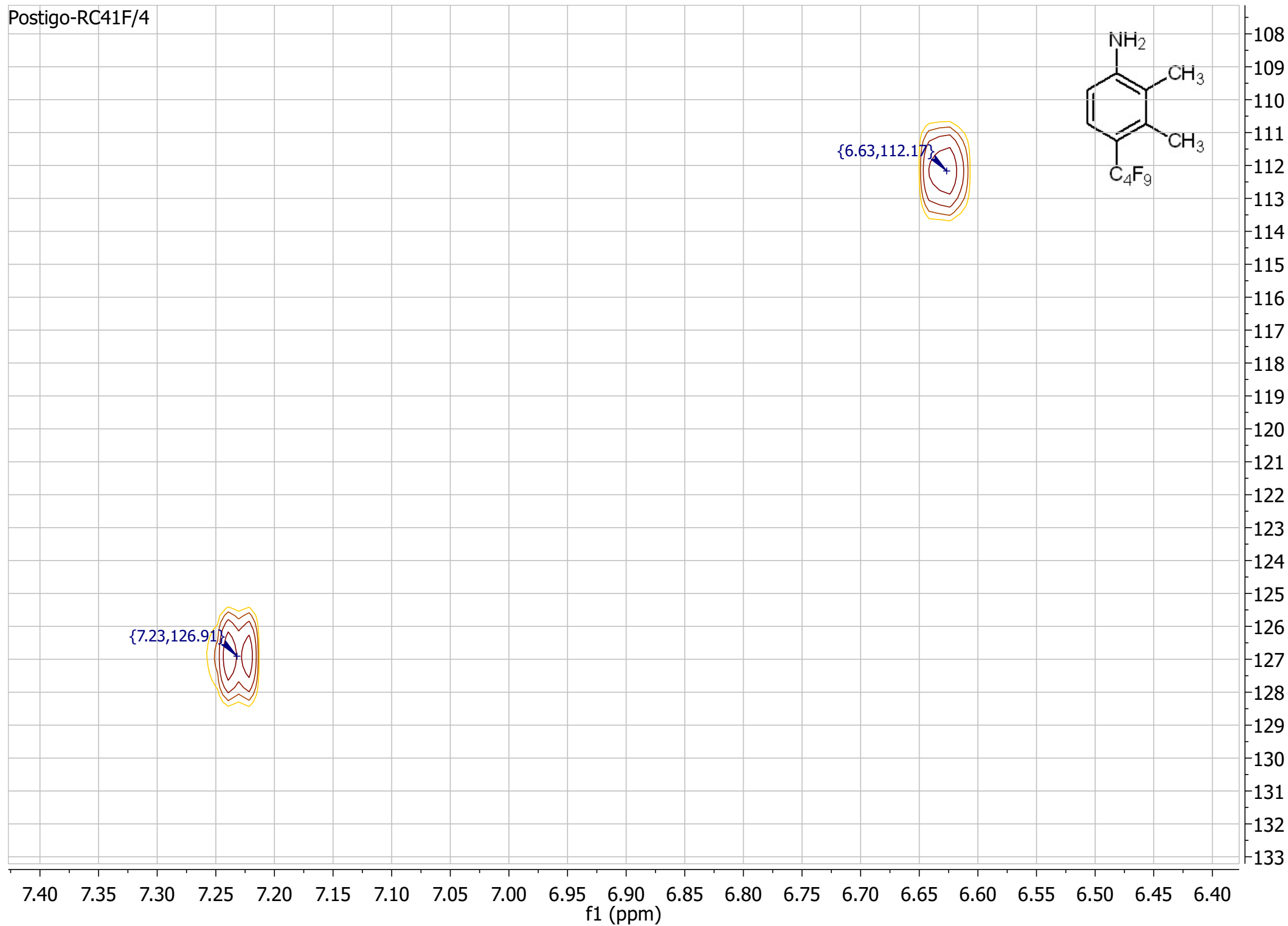
Postigo-RC41F/4



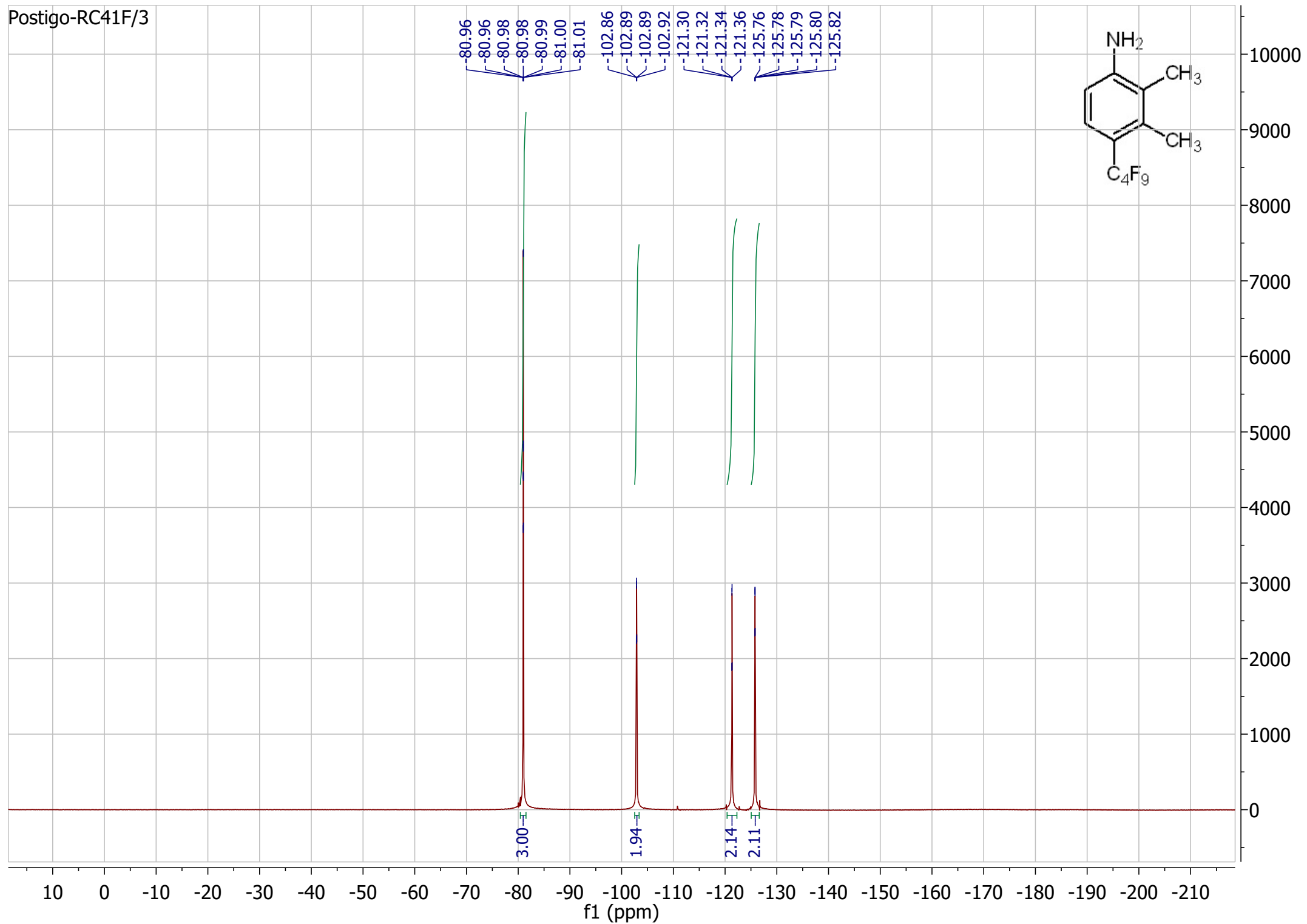
Postigo-RC41F/4



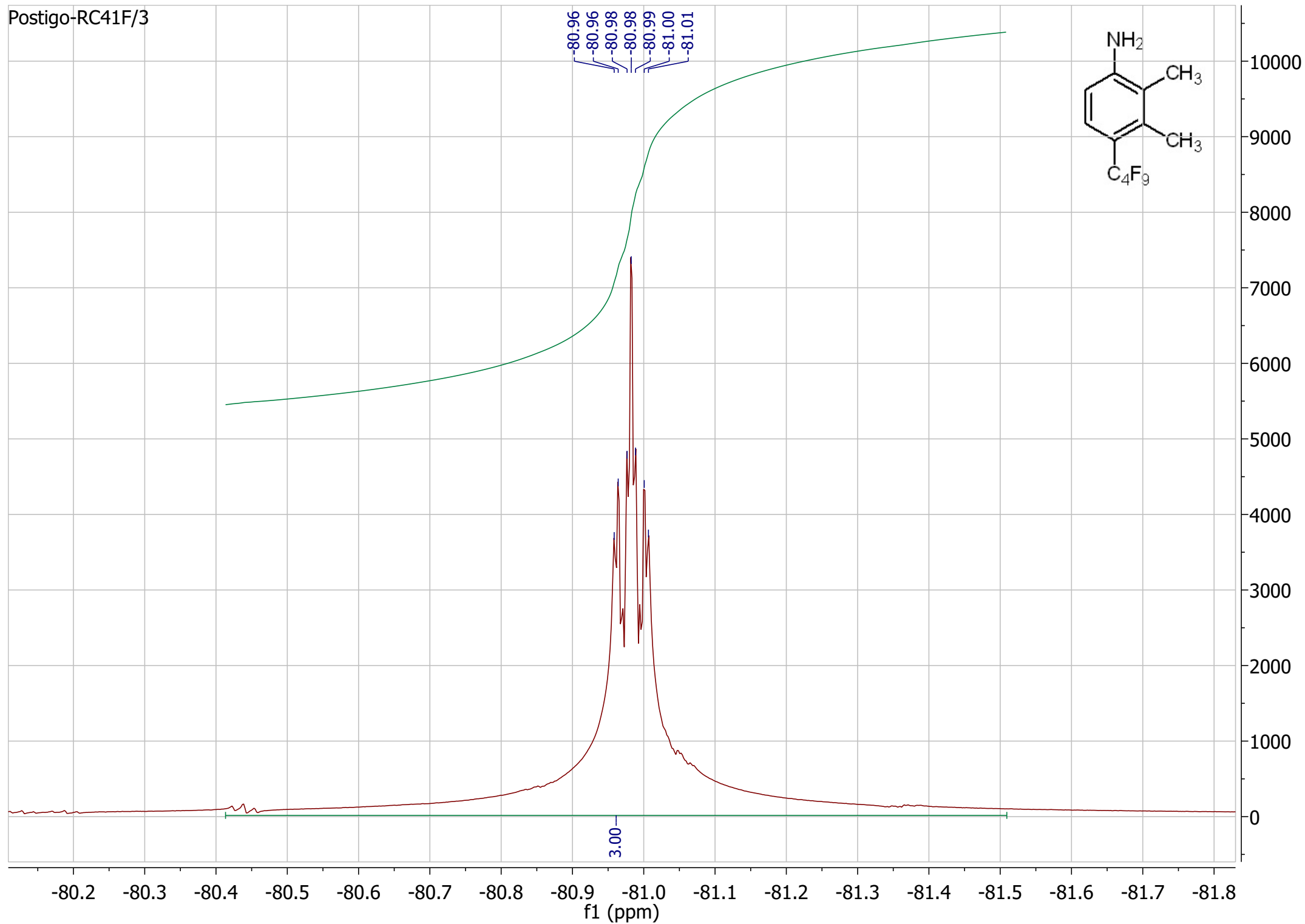
Postigo-RC41F/4



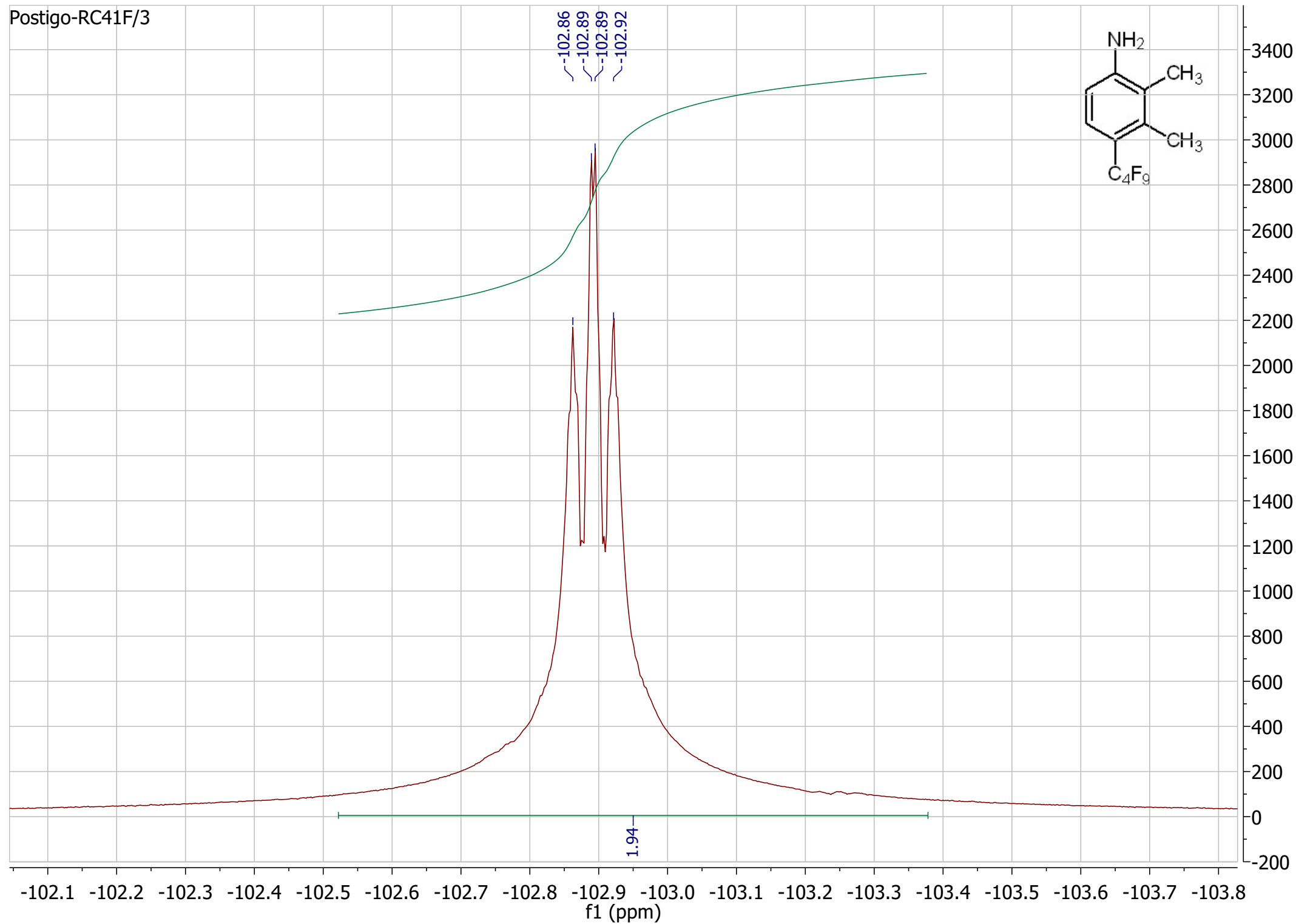
Postigo-RC41F/3



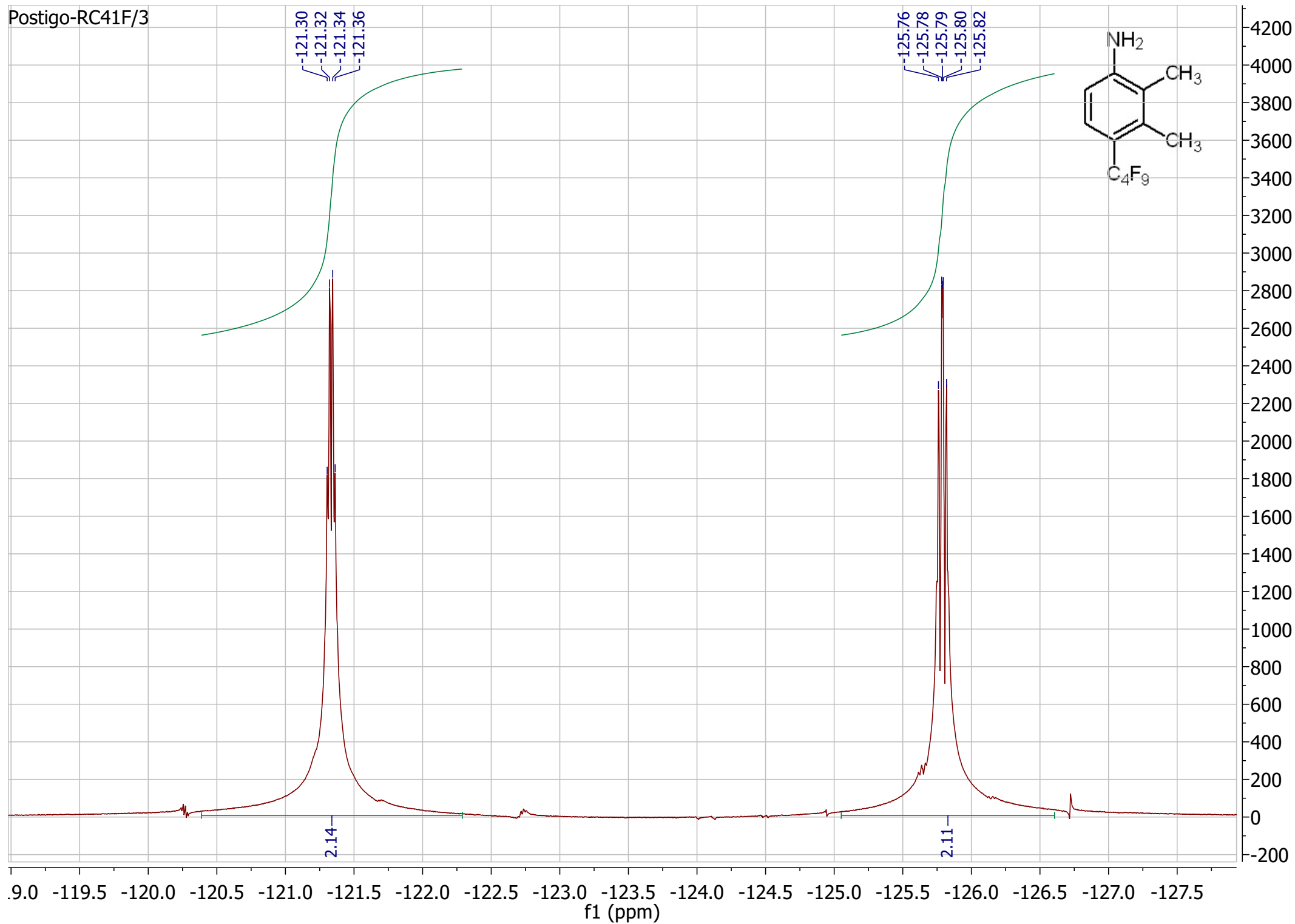
Postigo-RC41F/3



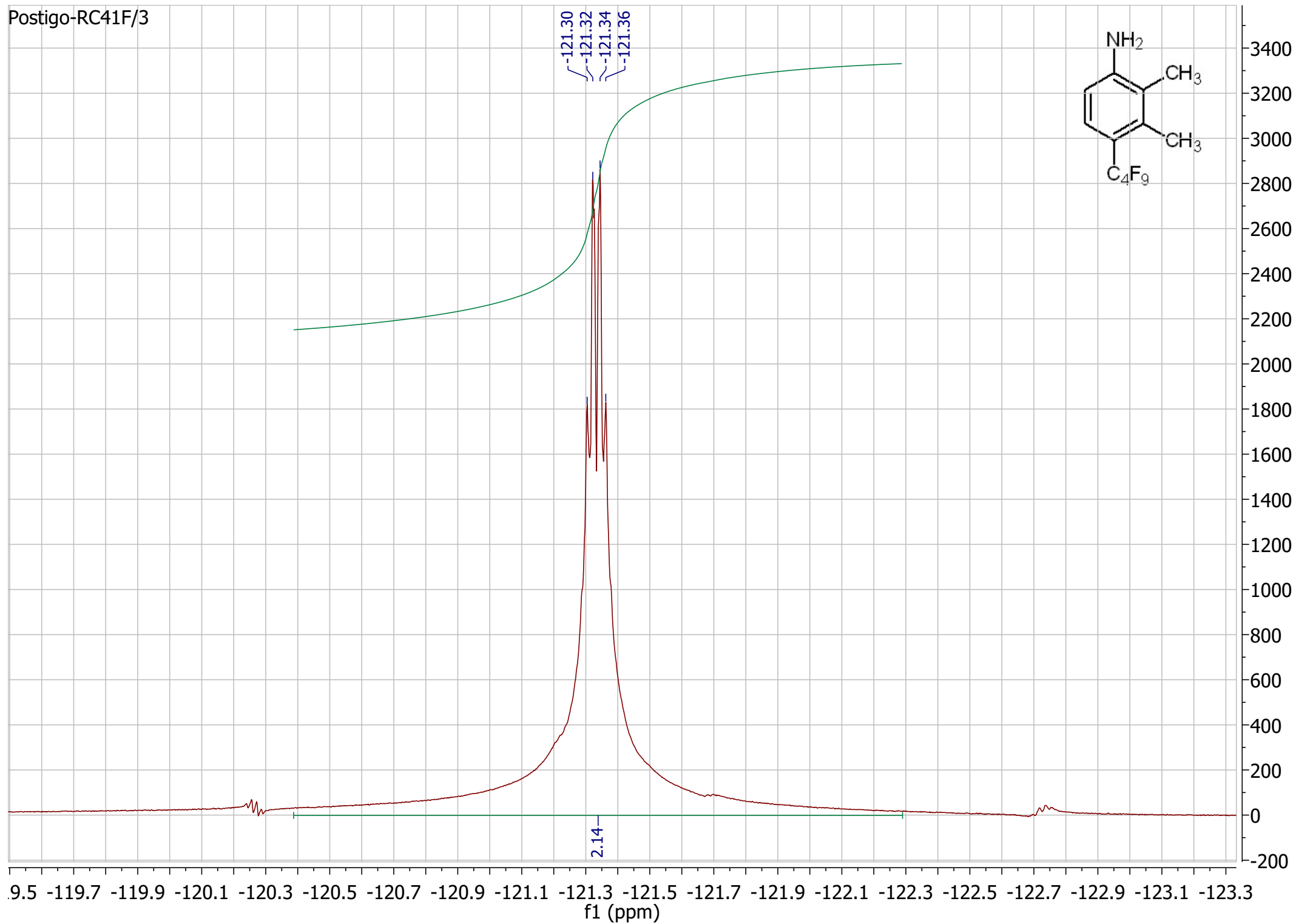
Postigo-RC41F/3



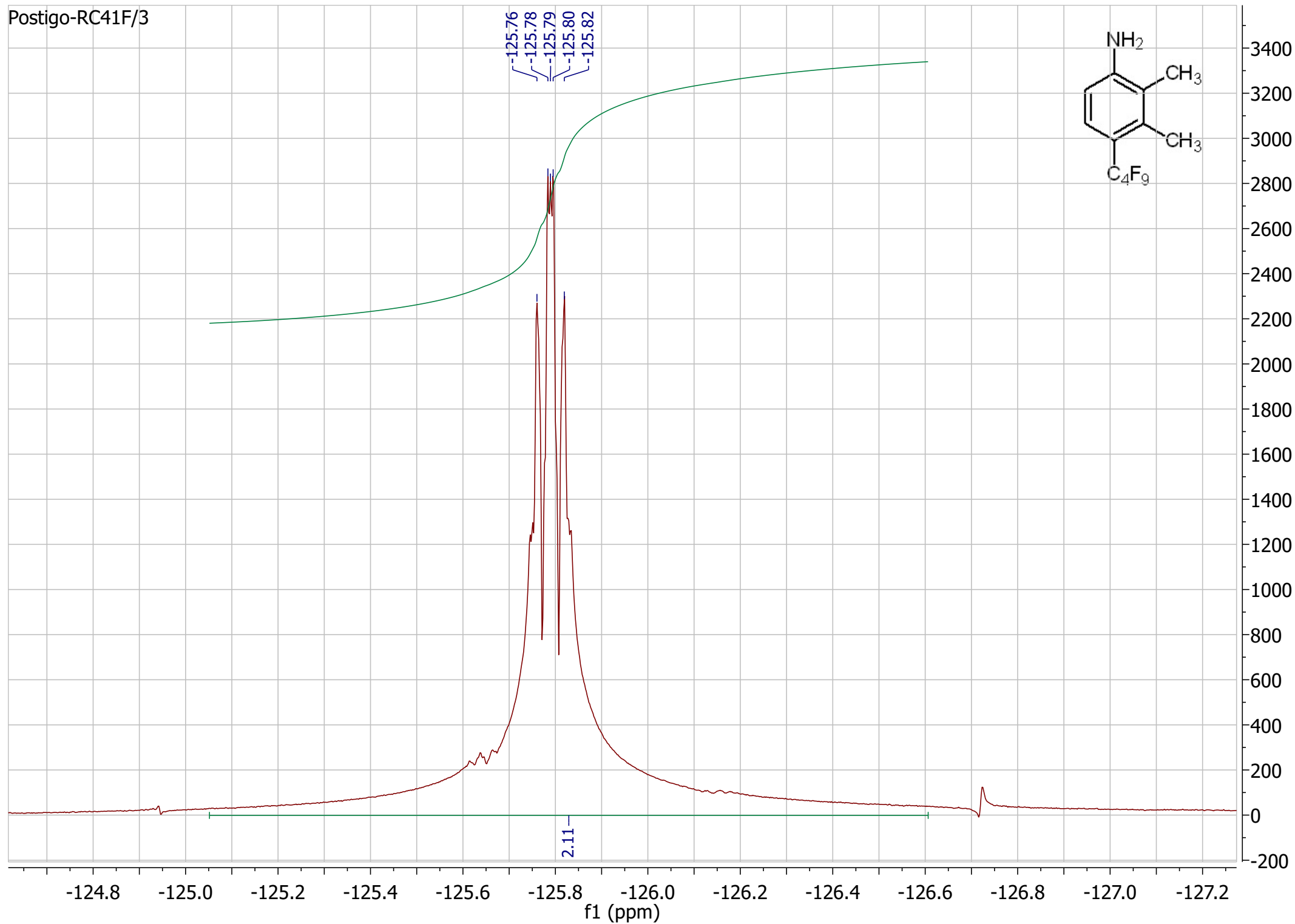
Postigo-RC41F/3



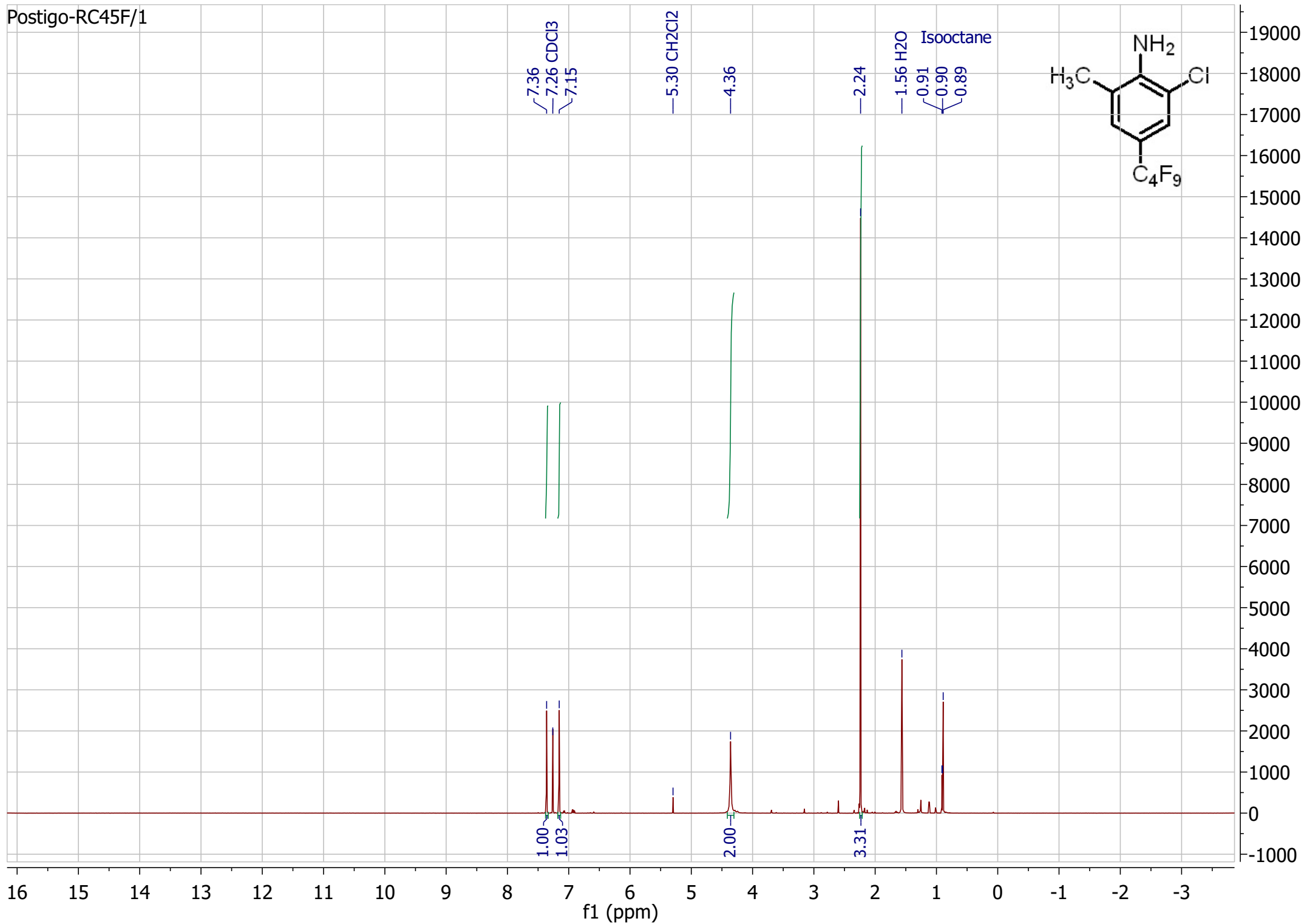
Postigo-RC41F/3



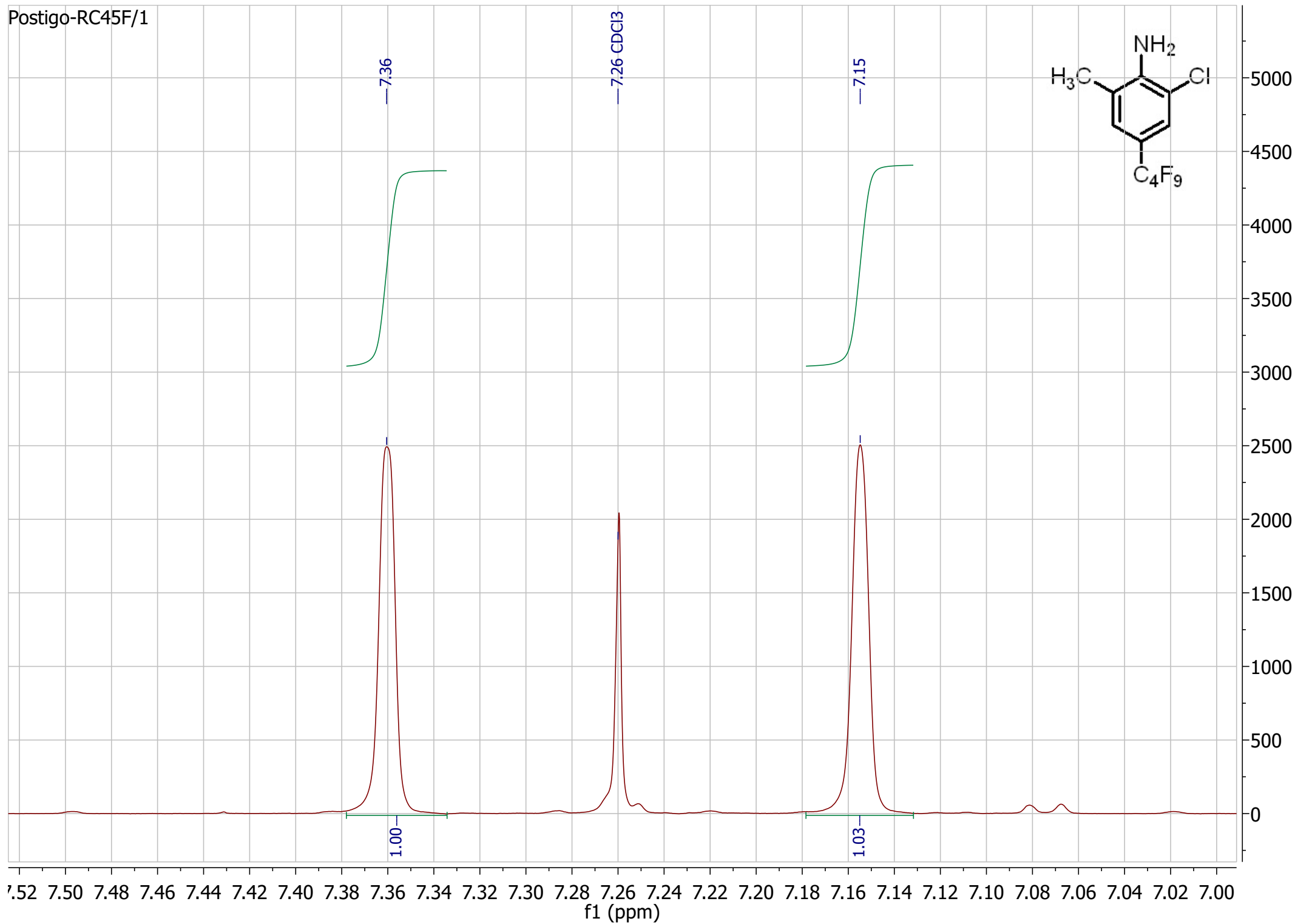
Postigo-RC41F/3



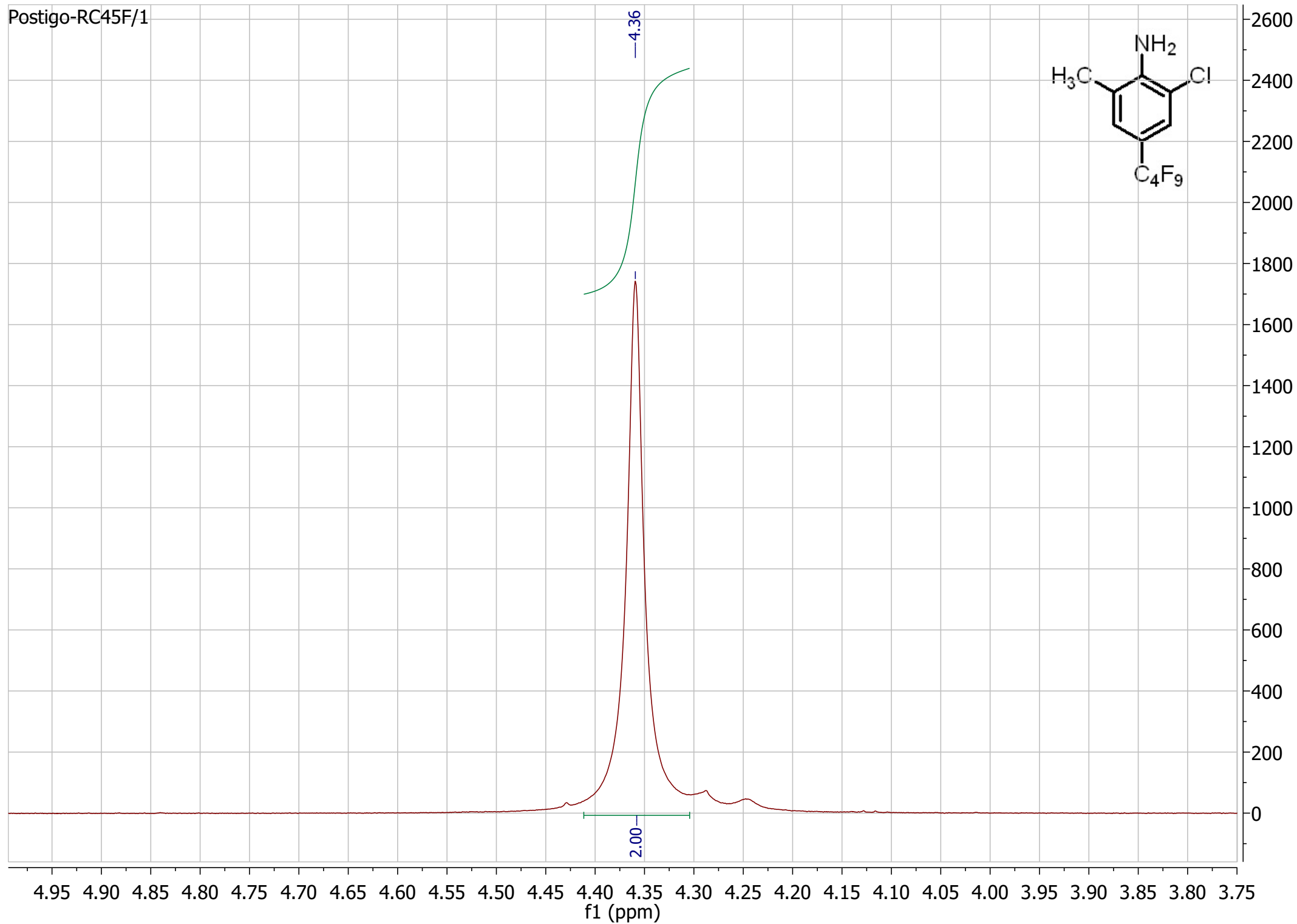
Postigo-RC45F/1



Postigo-RC45F/1

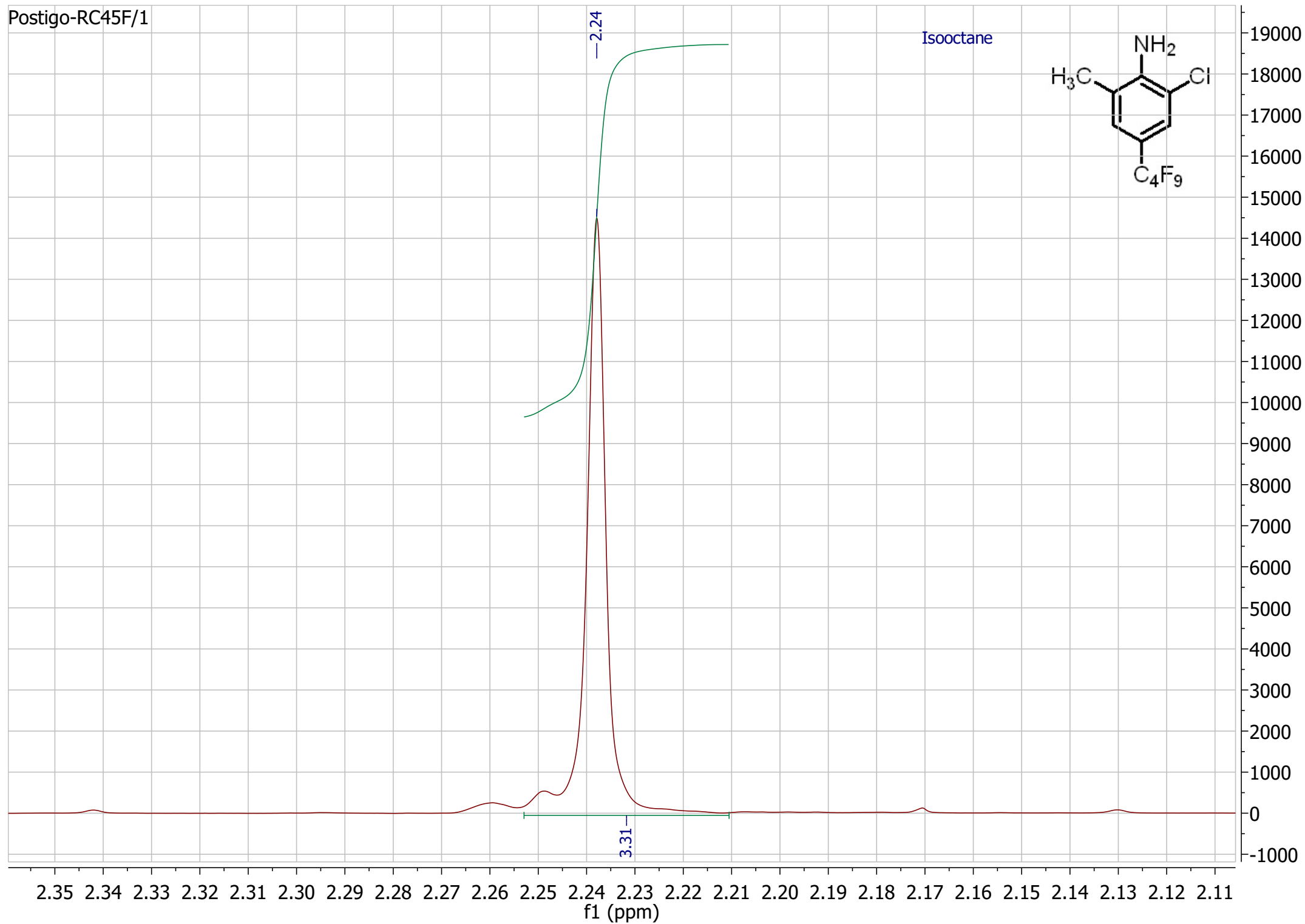
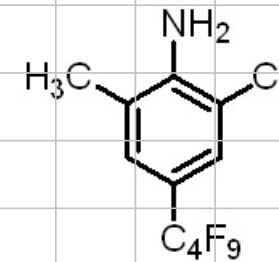


Postigo-RC45F/1

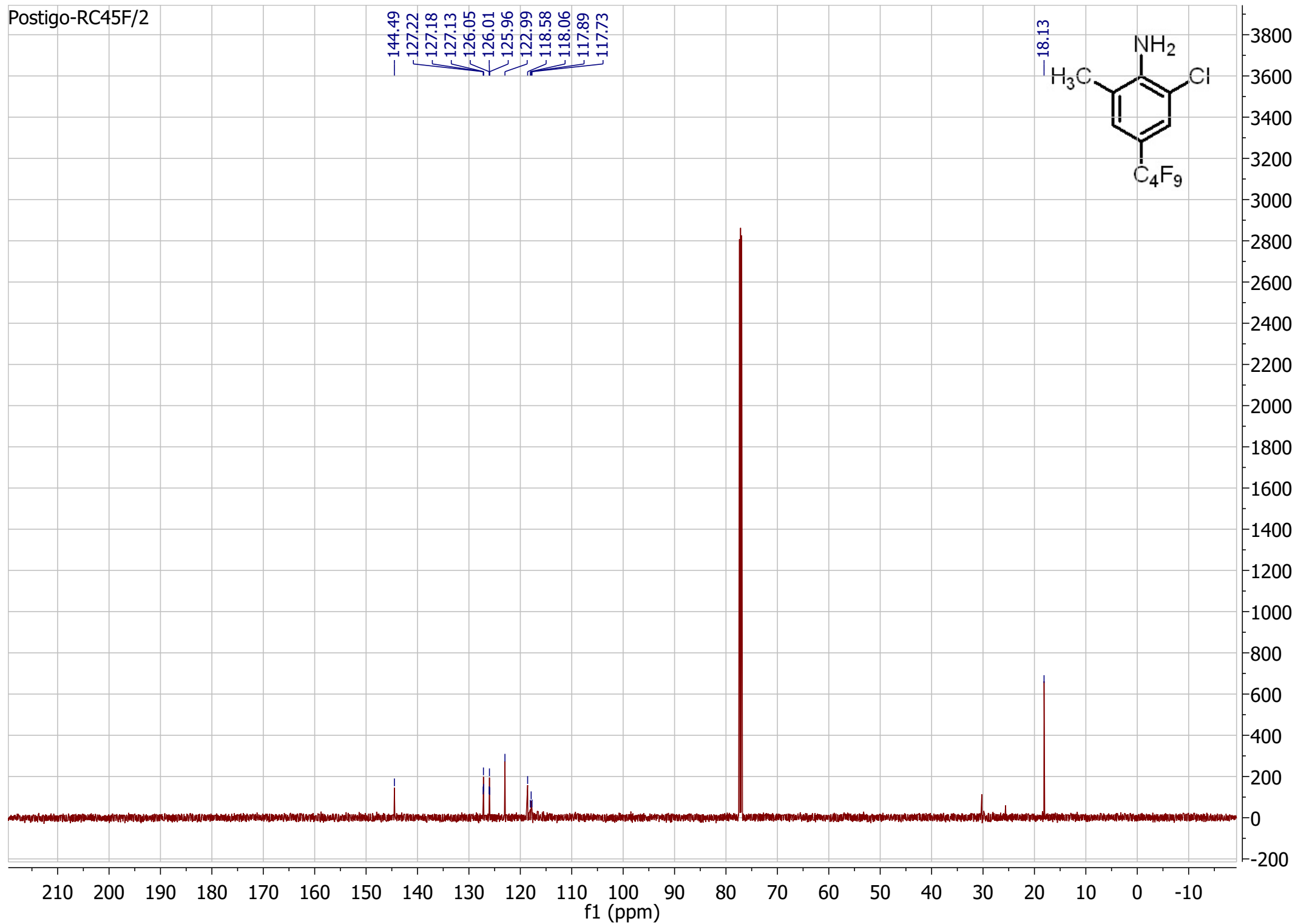


Postigo-RC45F/1

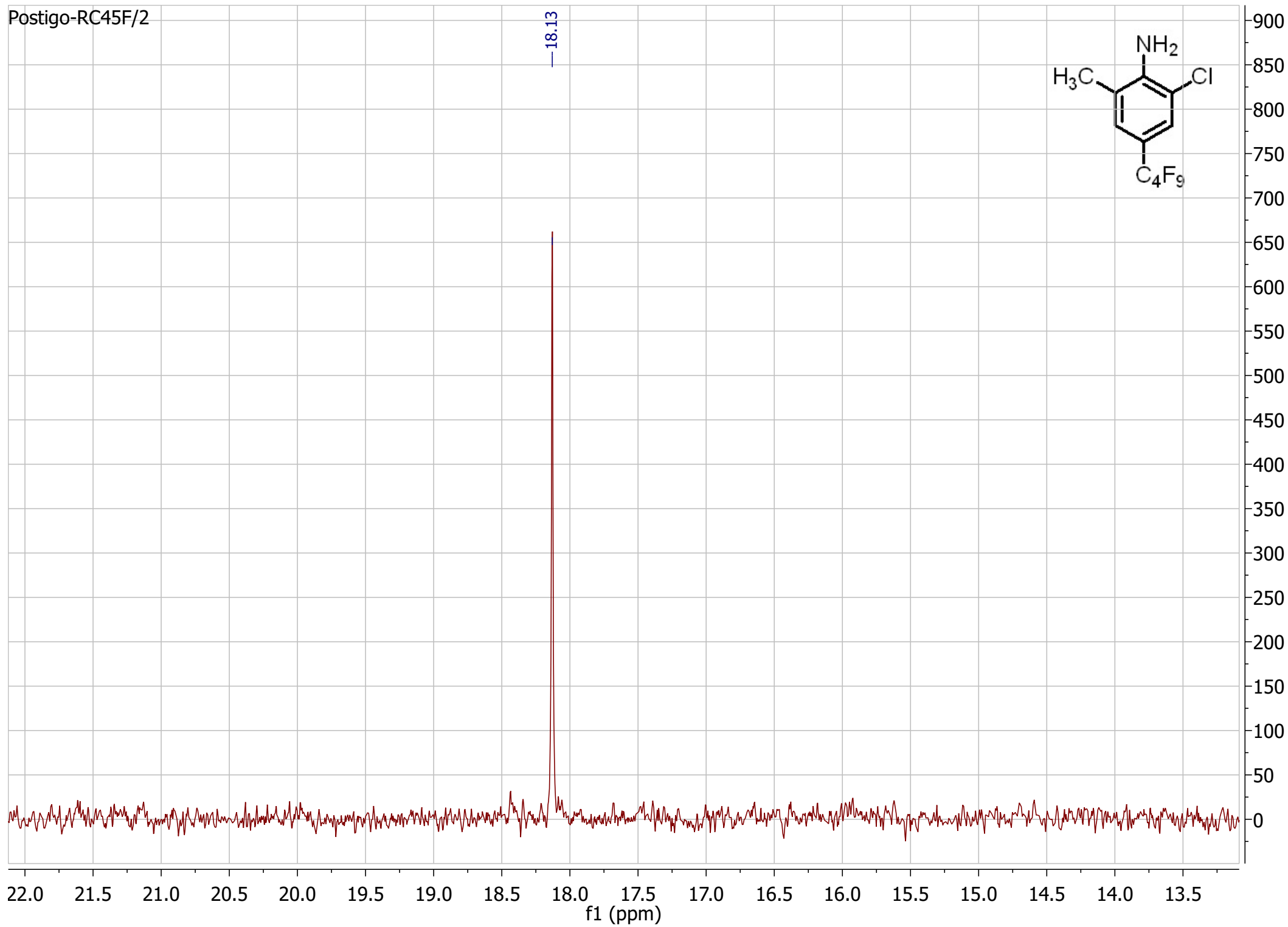
Isooctane



Postigo-RC45F/2



Postigo-RC45F/2



Postigo-RC45F/2

—144.49

127.22

127.18

127.13

126.05

126.01

125.96

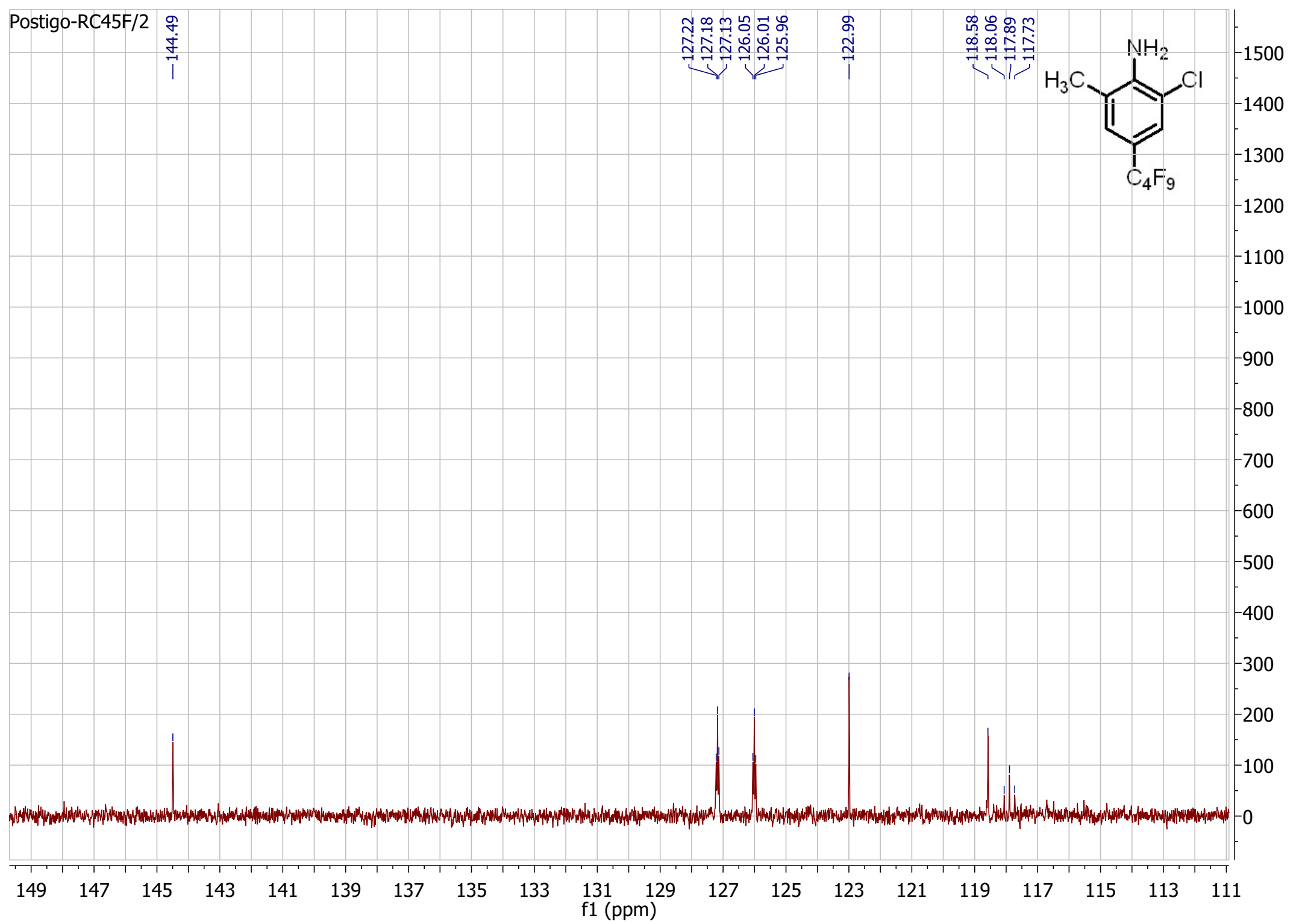
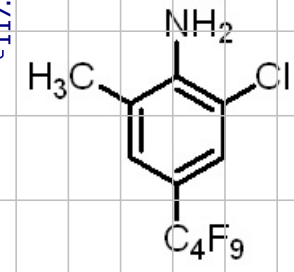
—122.99

118.58

118.06

117.89

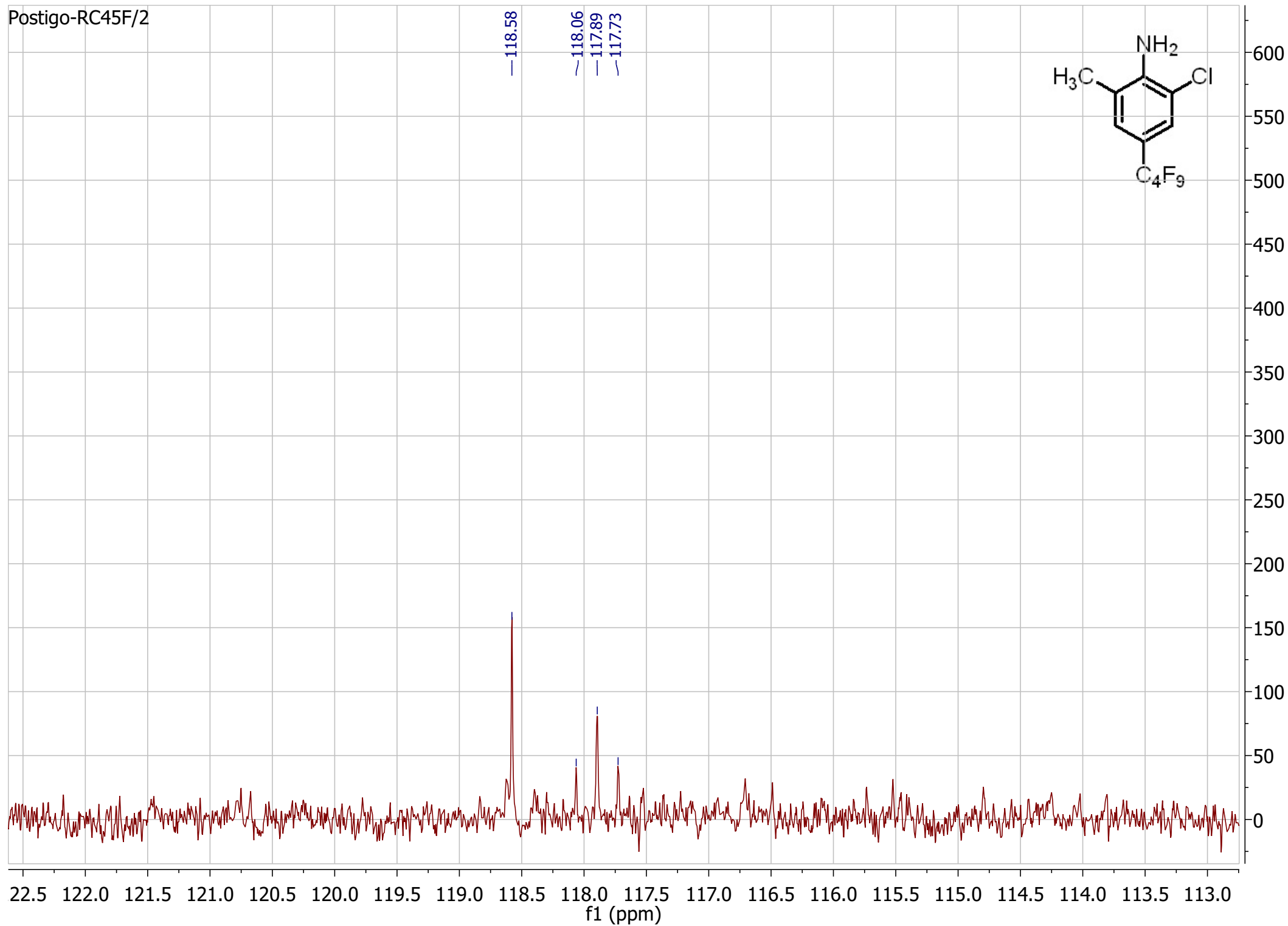
117.73



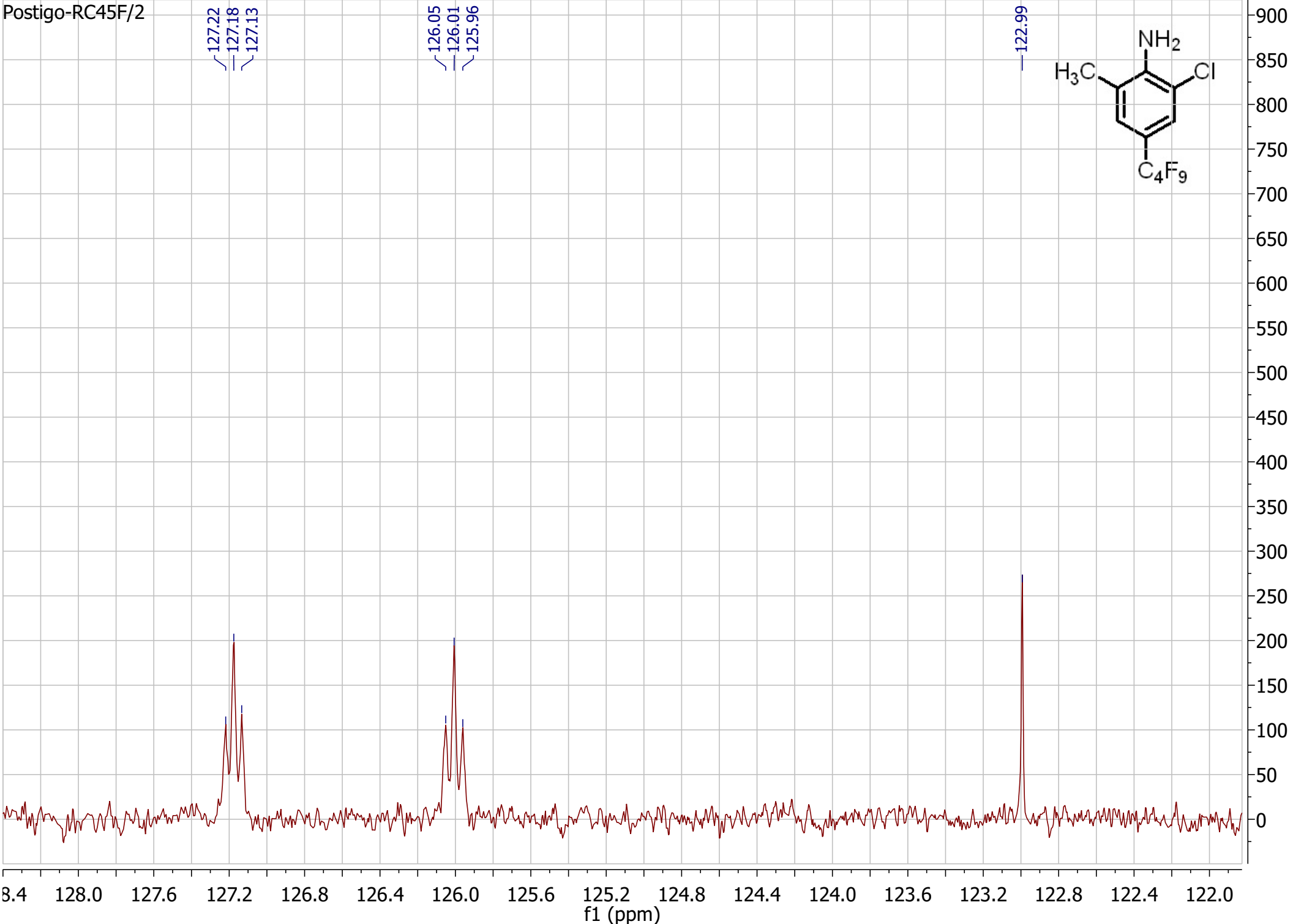
149 147 145 143 141 139 137 135 133 131 129 127 125 123 121 119 117 115 113 111

f1 (ppm)

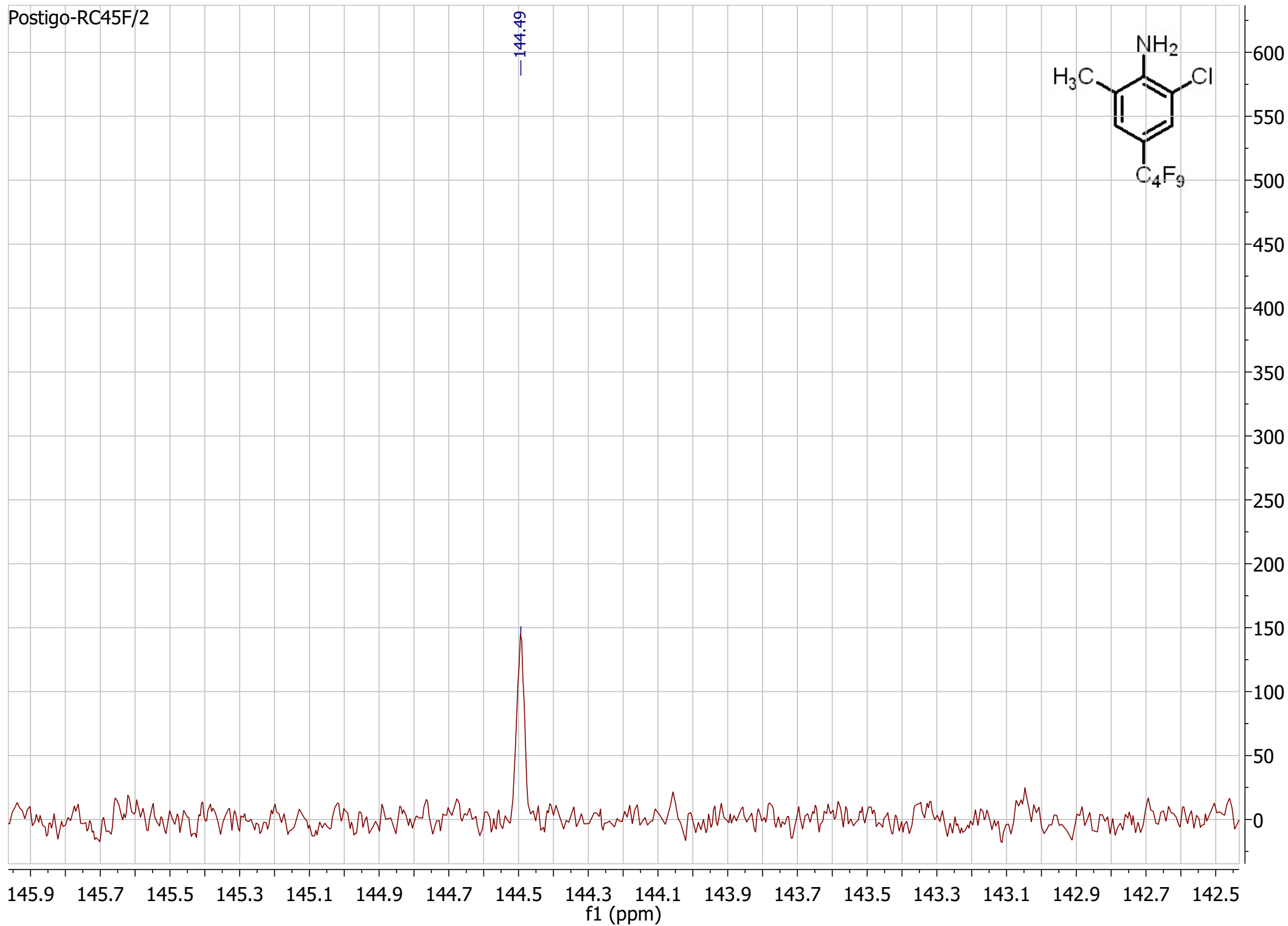
Postigo-RC45F/2



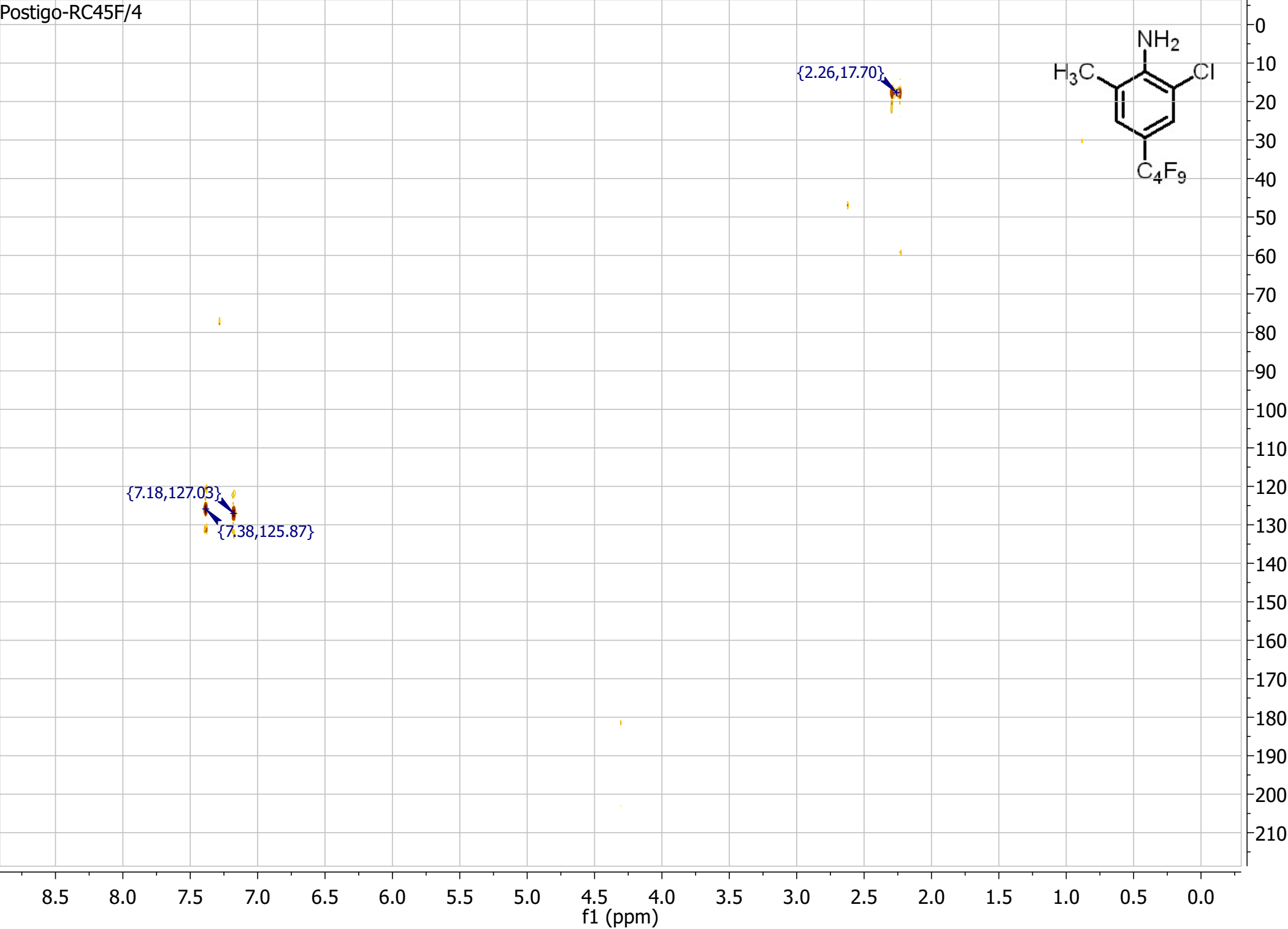
Postigo-RC45F/2



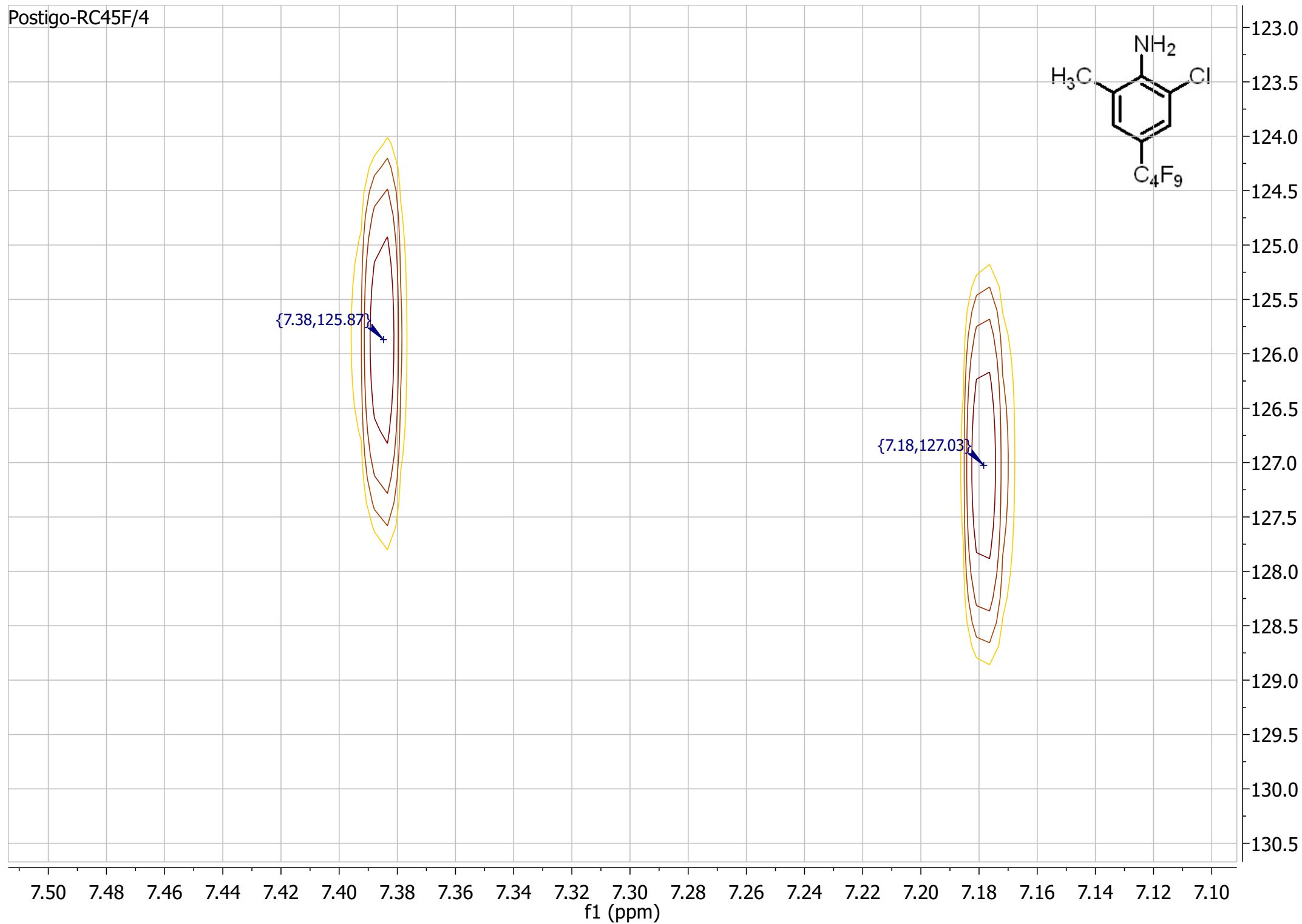
Postigo-RC45F/2



Postigo-RC45F/4

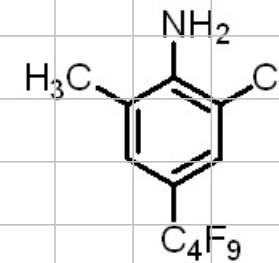


Postigo-RC45F/4



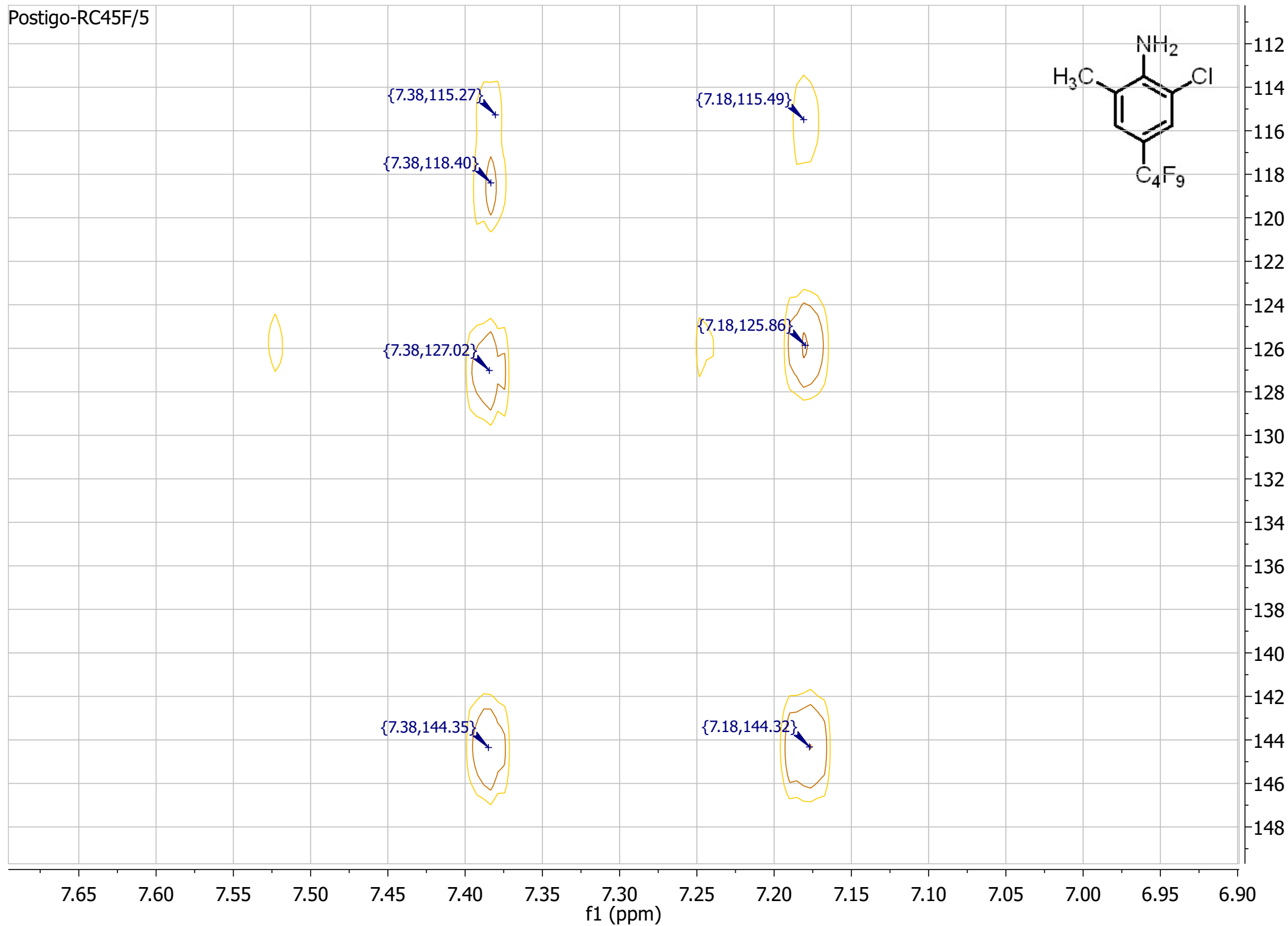
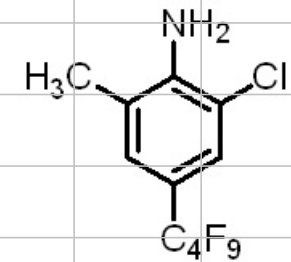
Postigo-RC45F/5

{7.18,18.01}

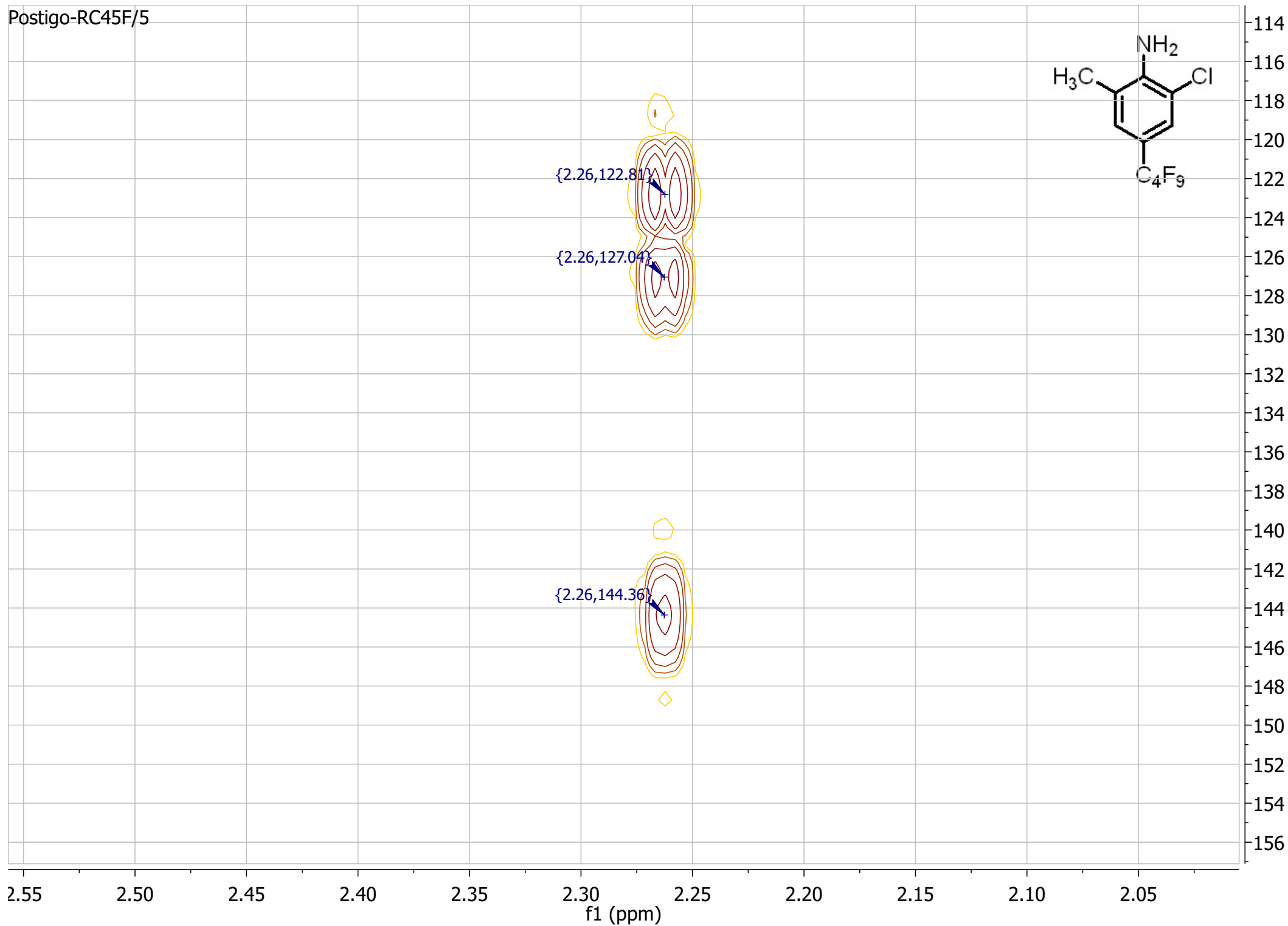


7.40 7.35 7.30 7.25 7.20 7.15 7.10 7.05 7.00 6.95 6.90 6.85 6.80 6.75 6.70 6.65 6.60 6.55 6.50 6.45 6.40 6.35 6.30 6.25 6.20 6.15
f1 (ppm)

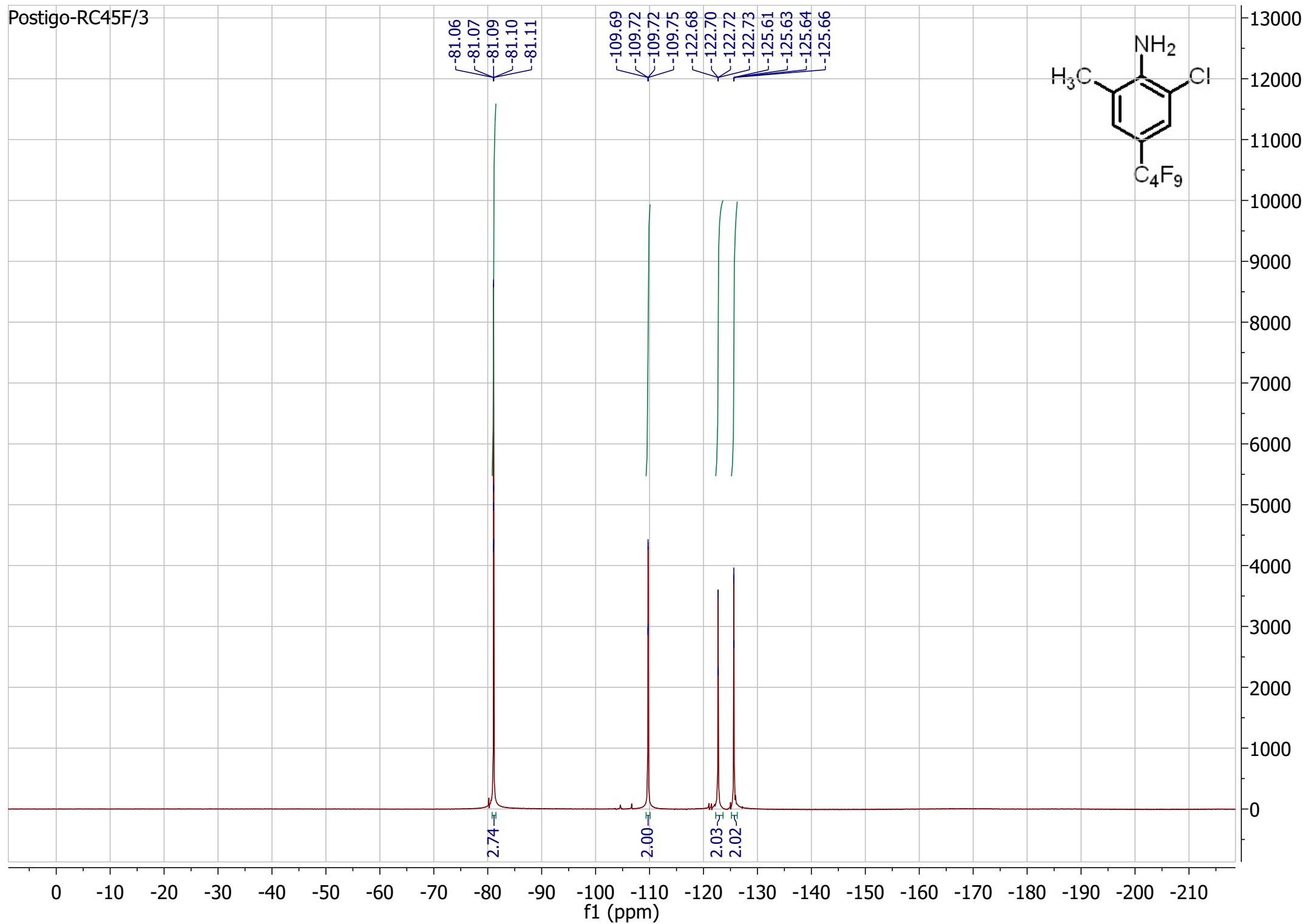
Postigo-RC45F/5



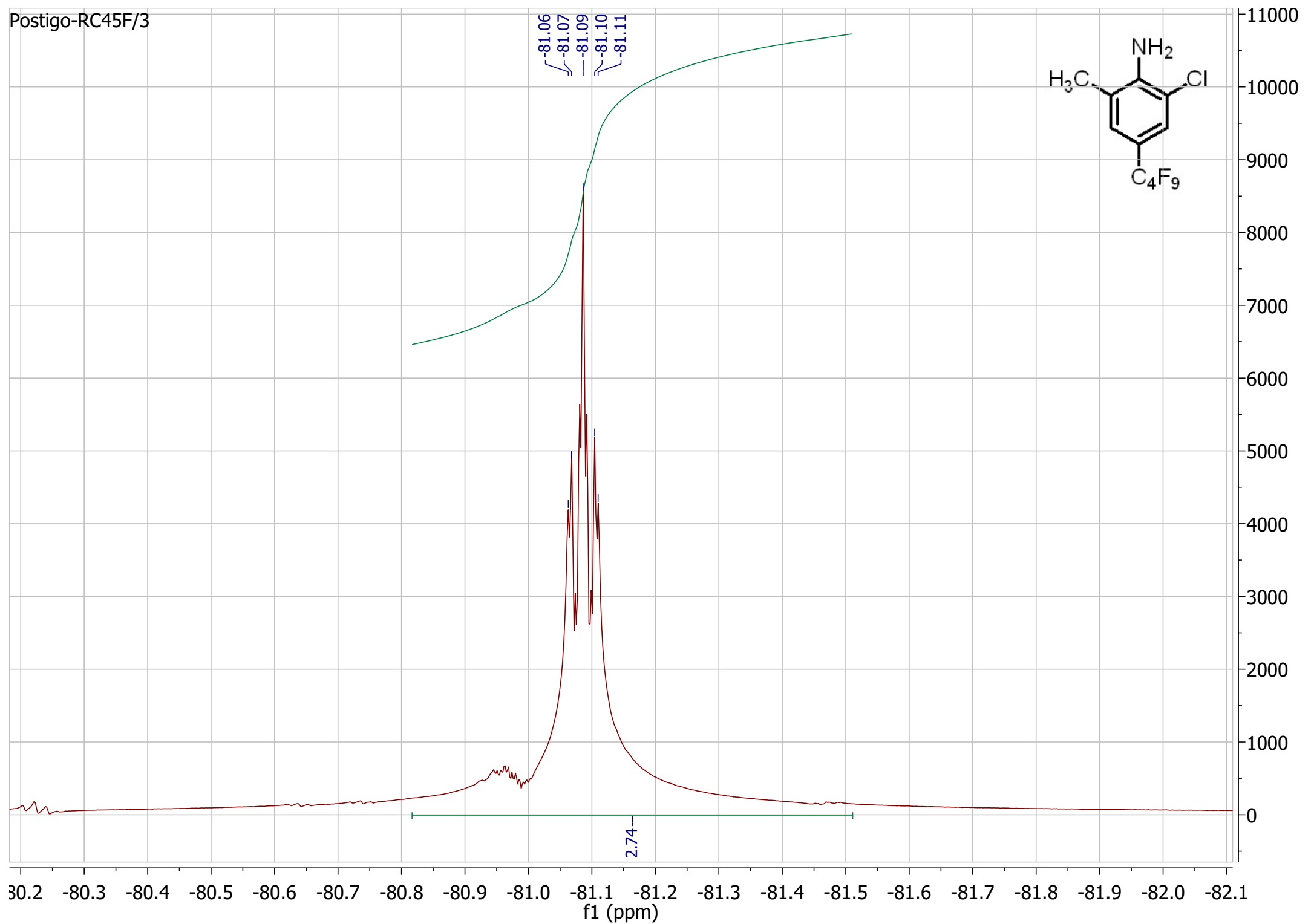
Postigo-RC45F/5



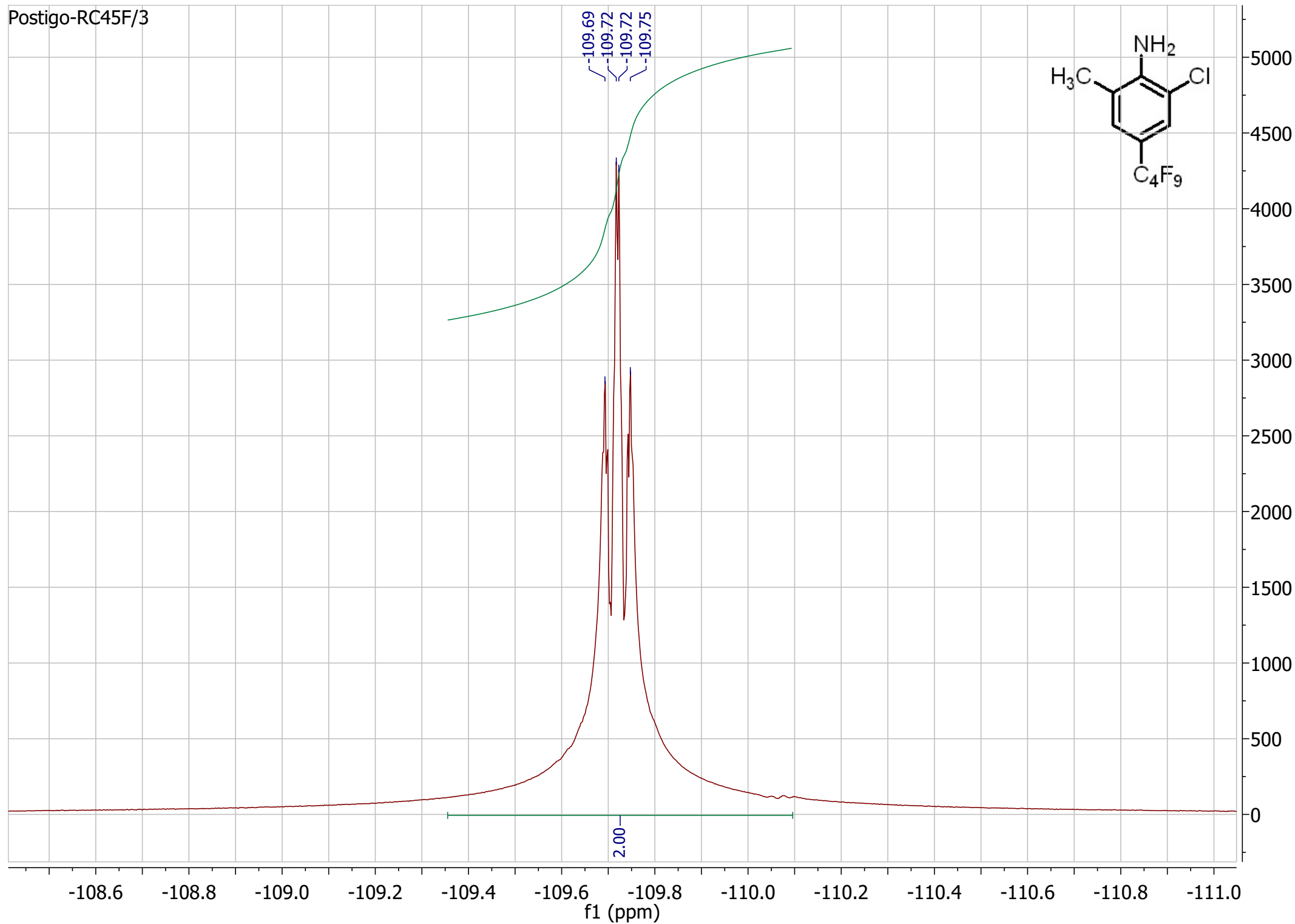
Postigo-RC45F/3



Postigo-RC45F/3



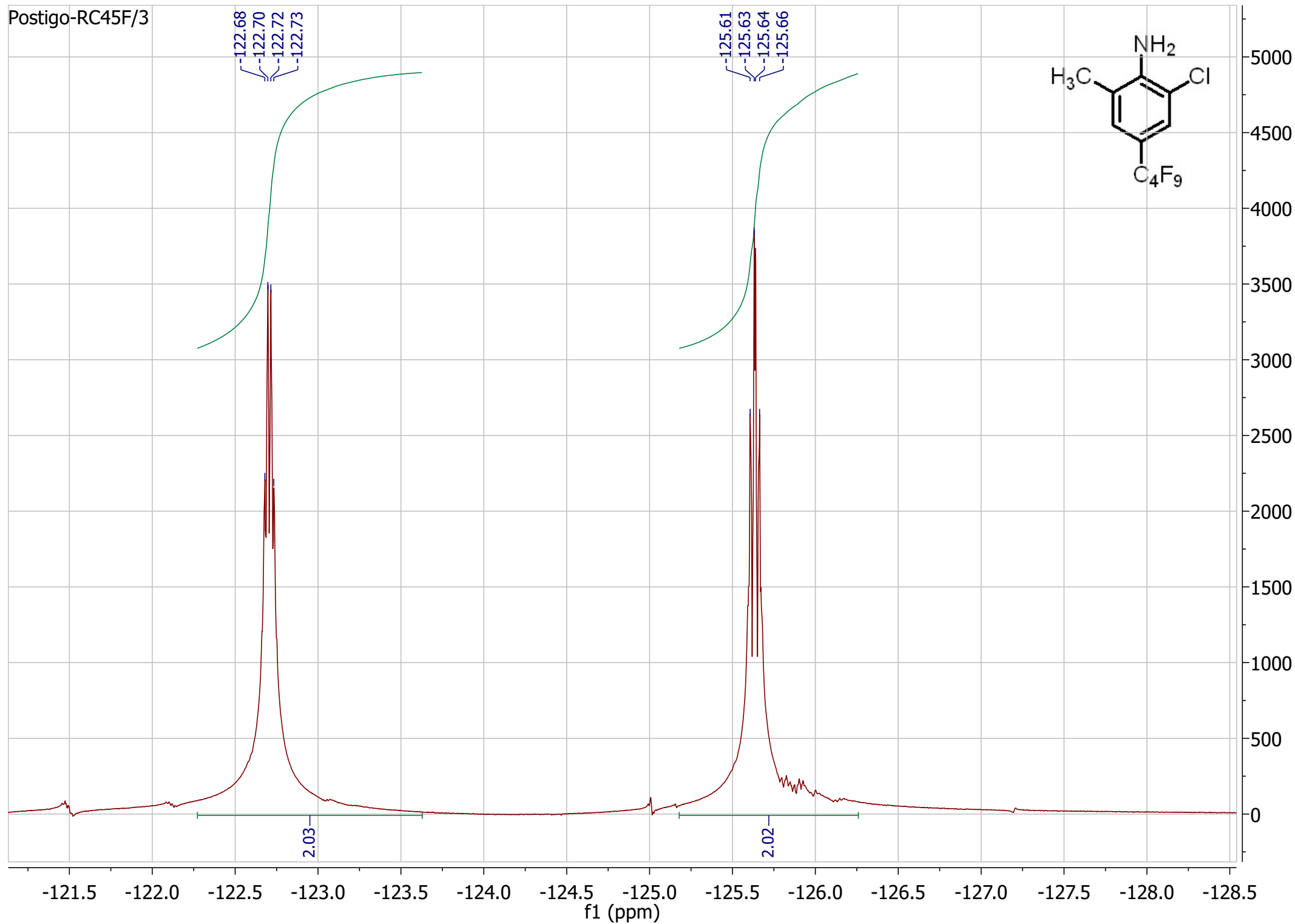
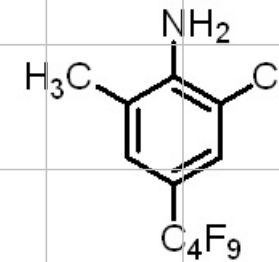
Postigo-RC45F/3



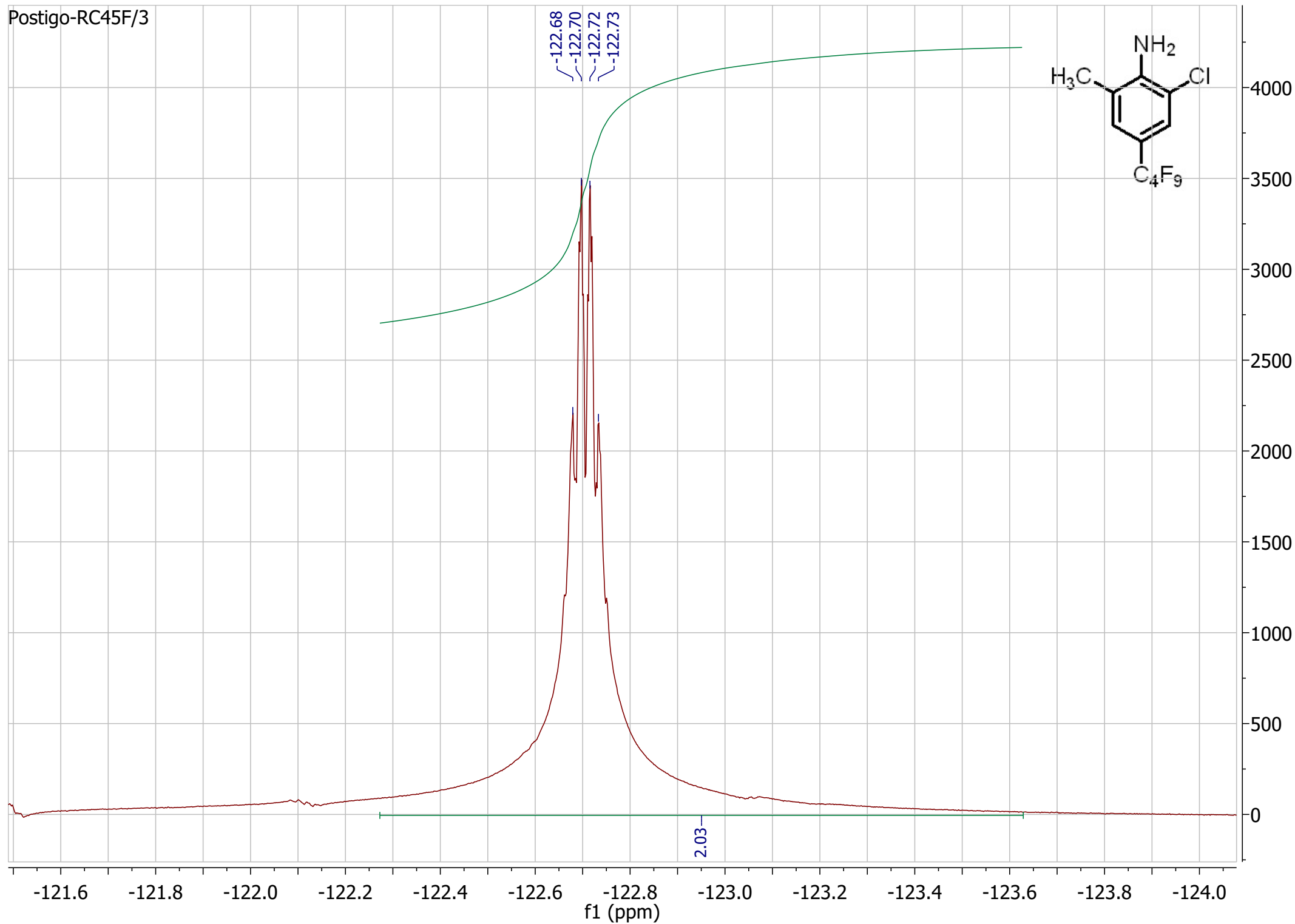
Postigo-RC45F/3

122.68
122.70
122.72
122.73

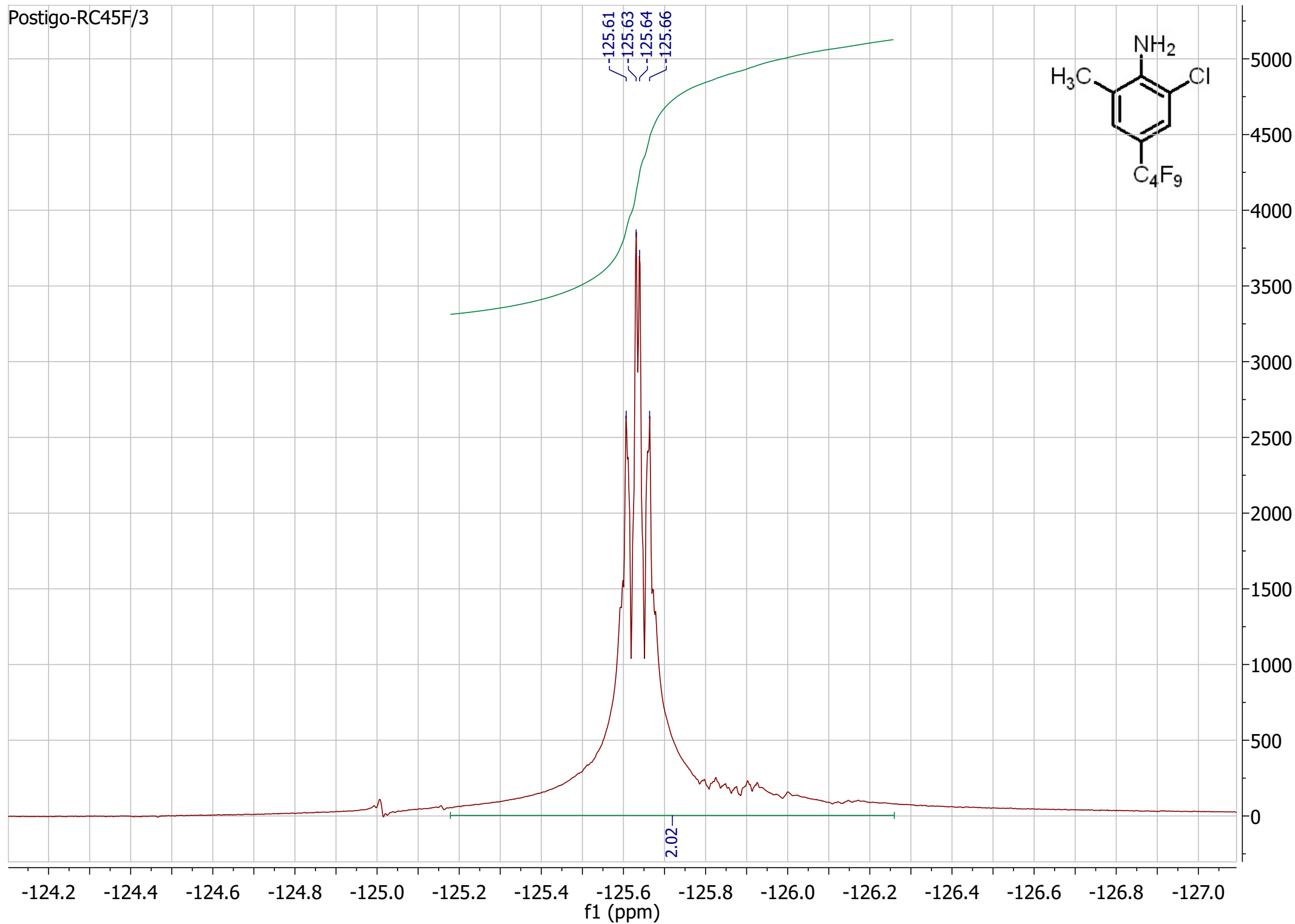
125.61
125.63
125.64
125.66

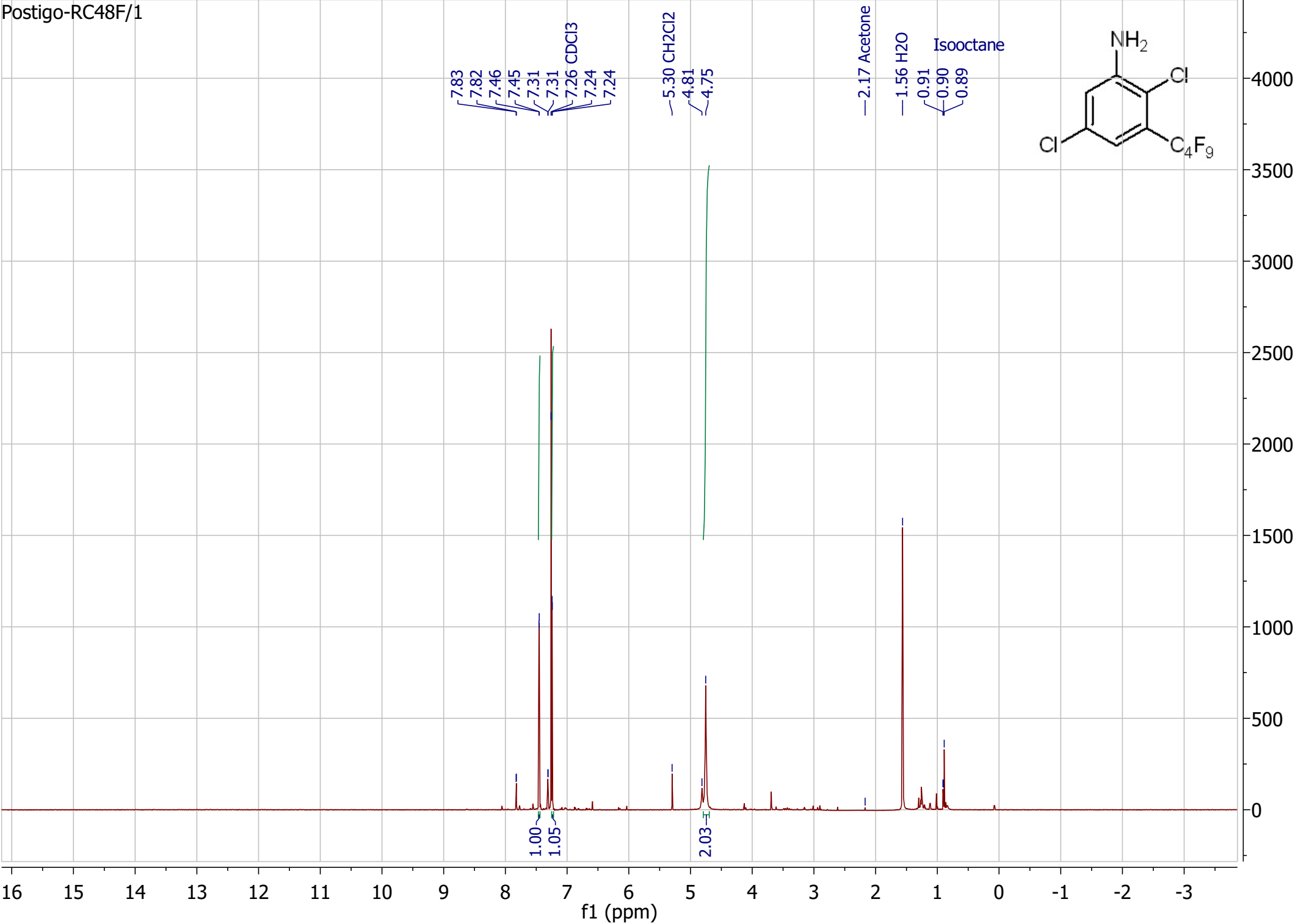


Postigo-RC45F/3

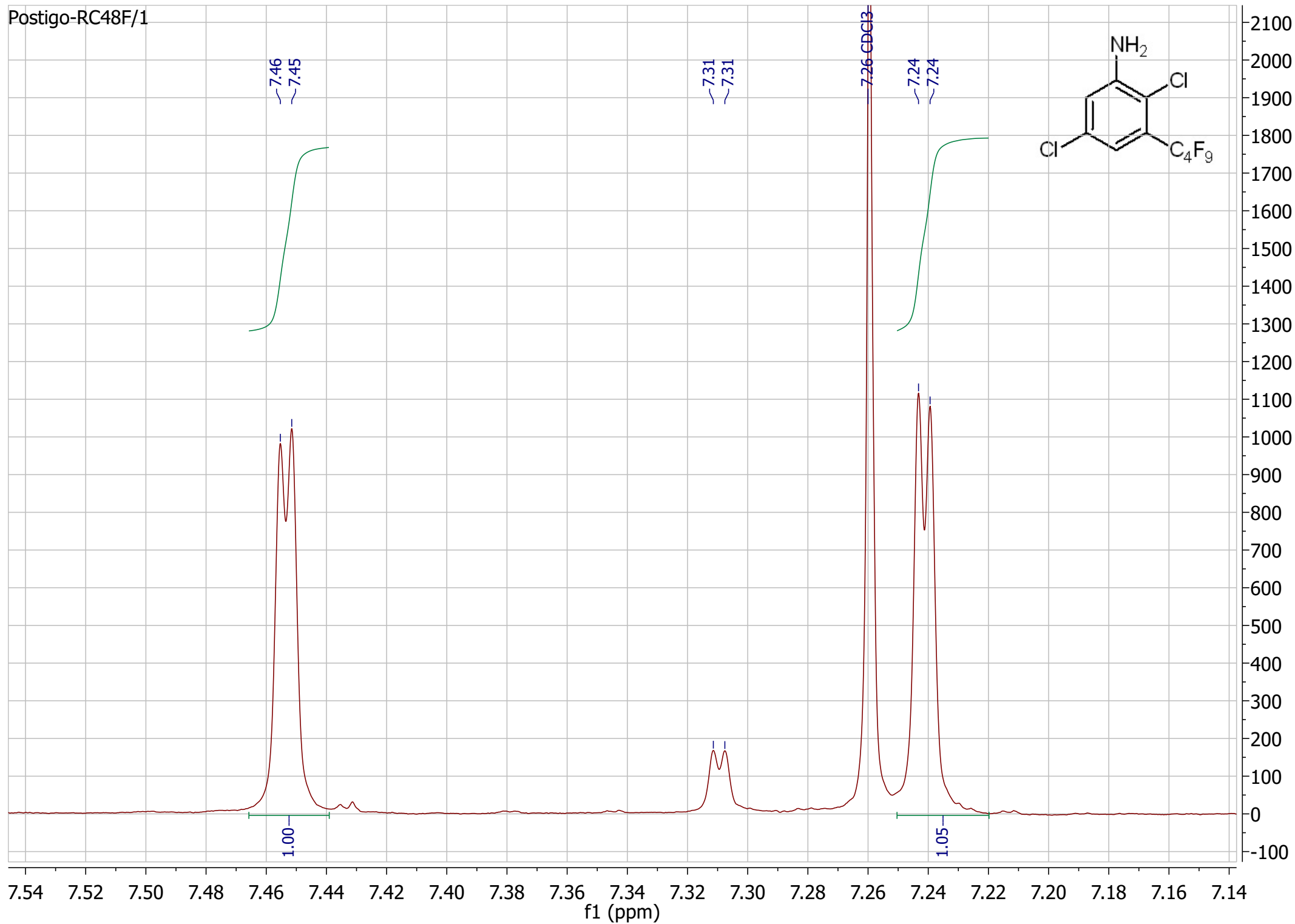


Postigo-RC45F/3

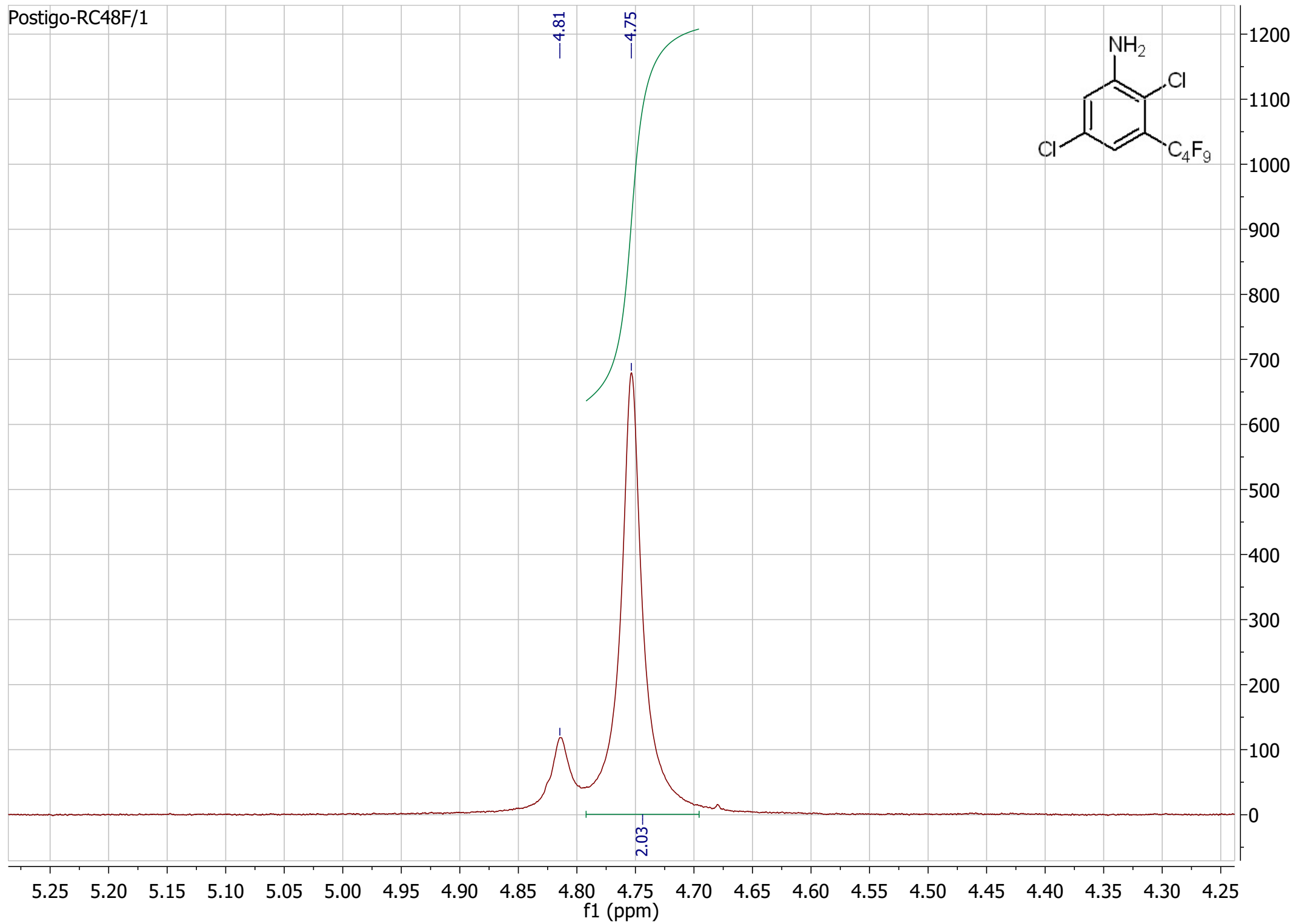


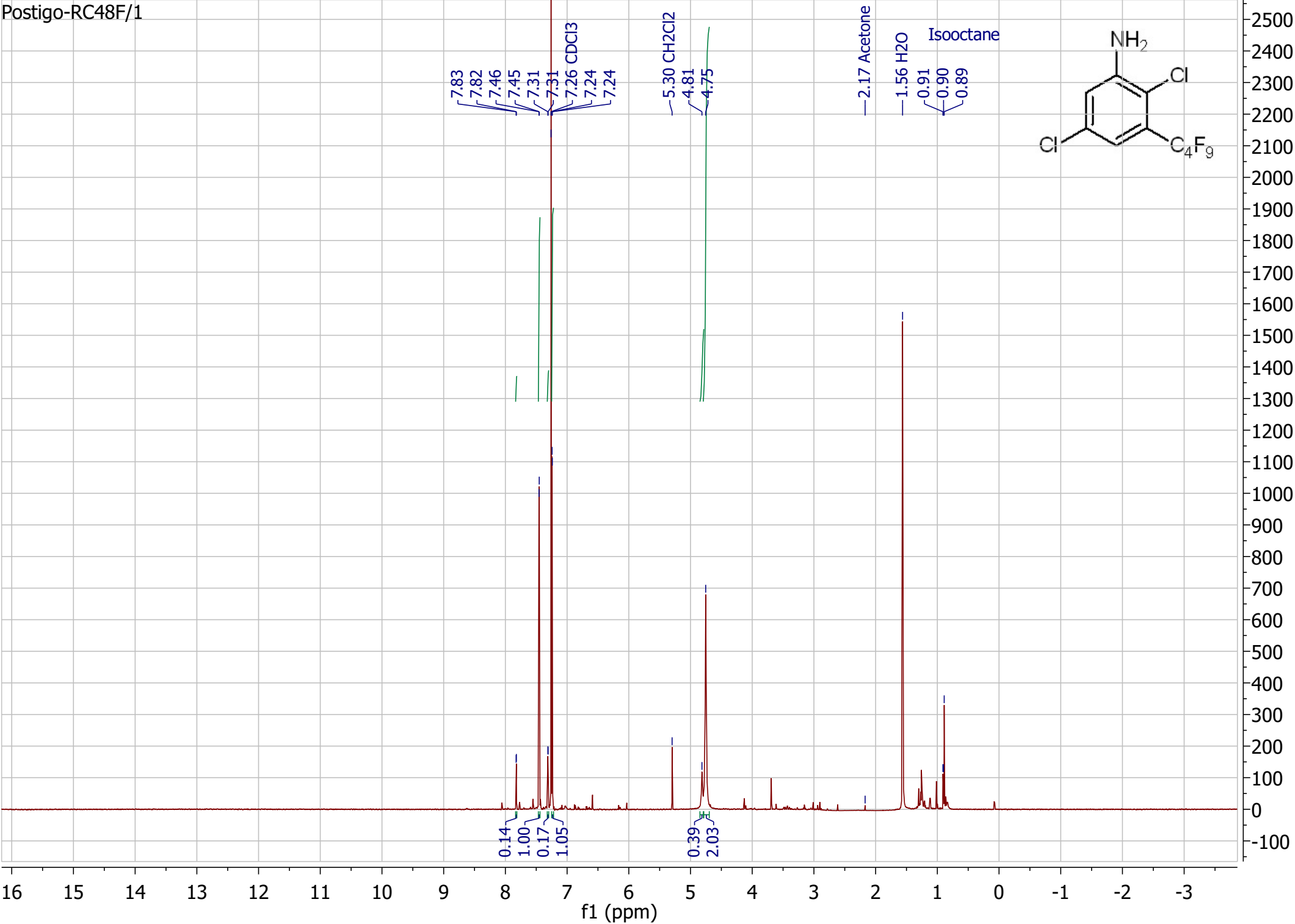


Postigo-RC48F/1

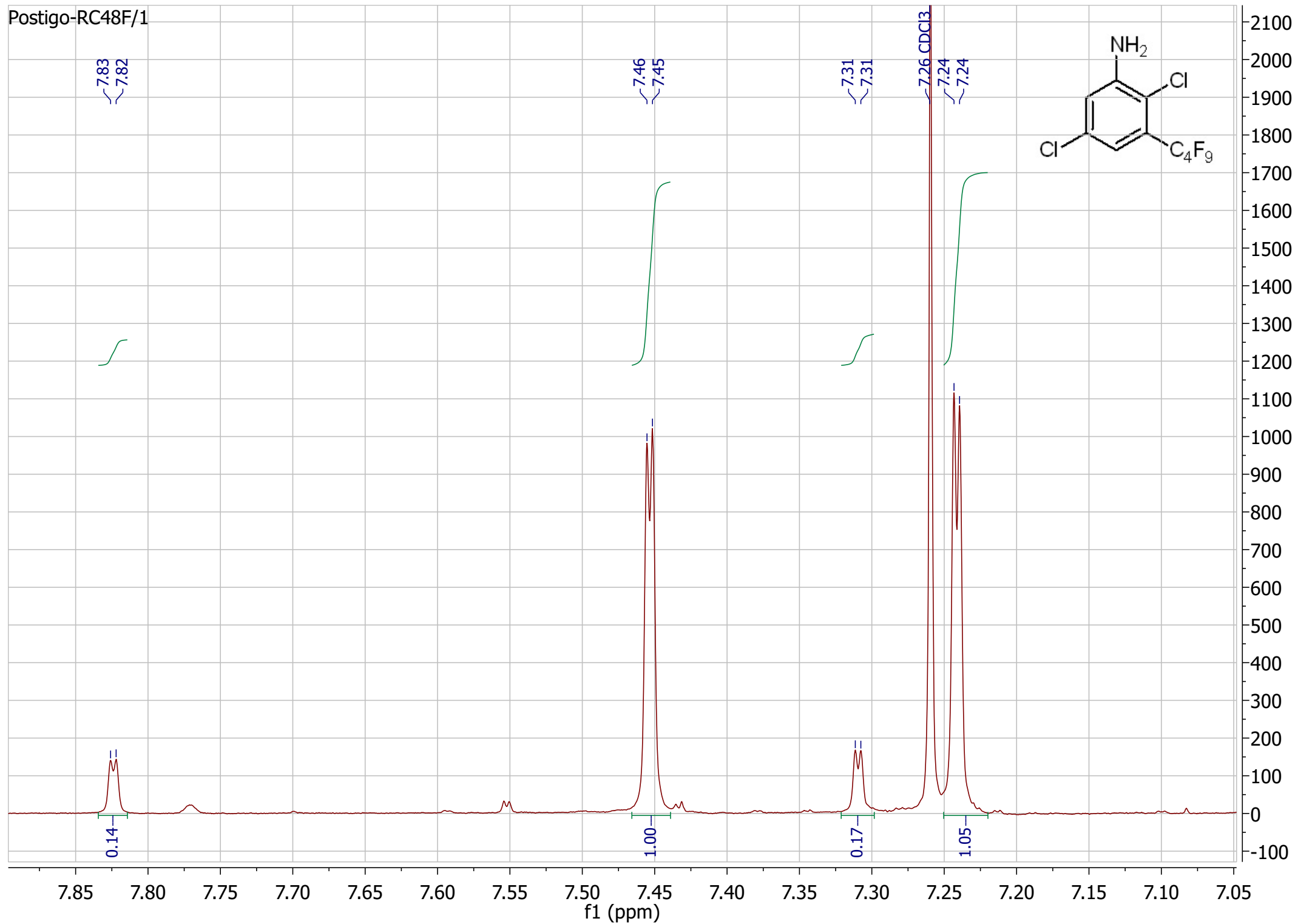


Postigo-RC48F/1

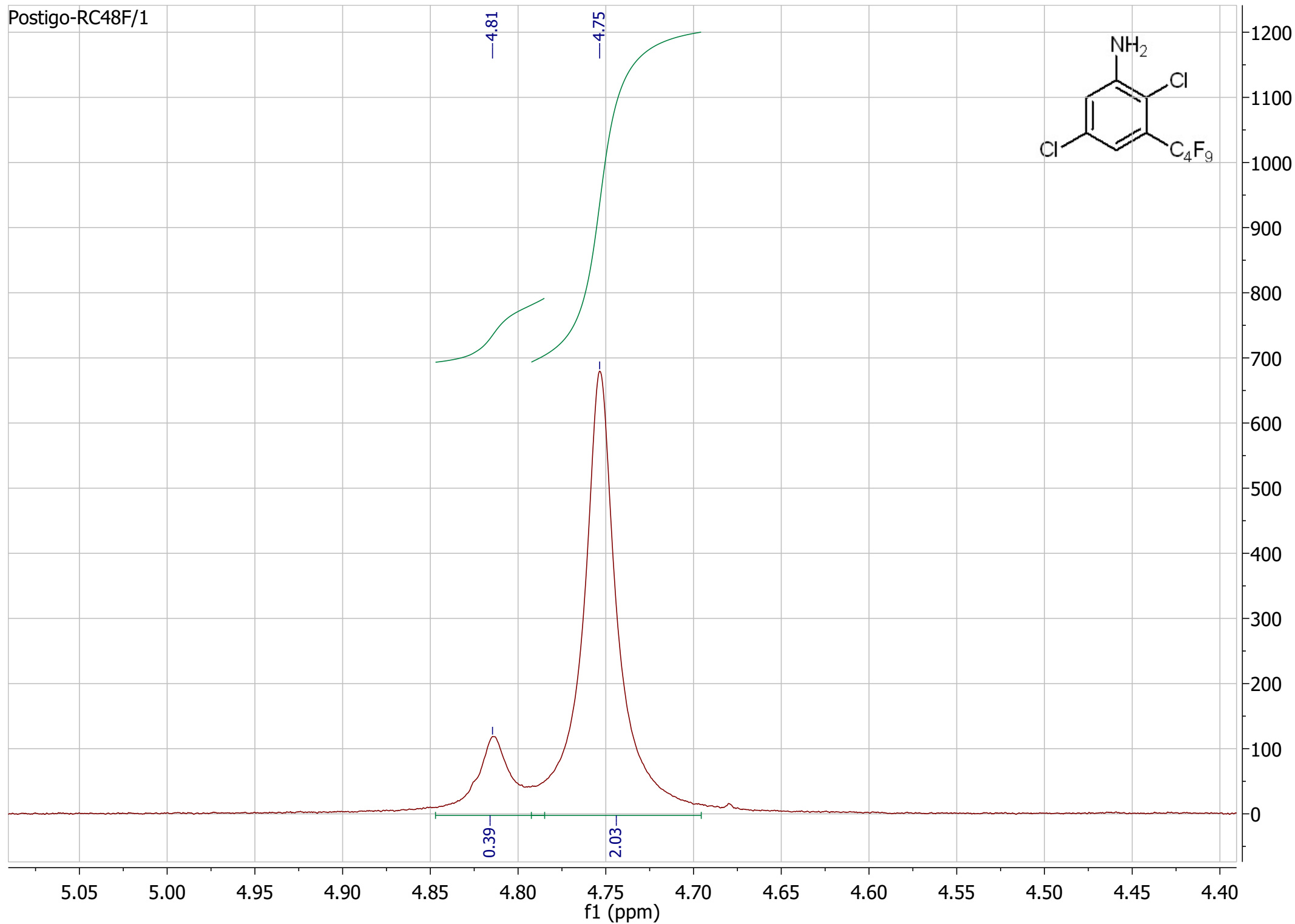




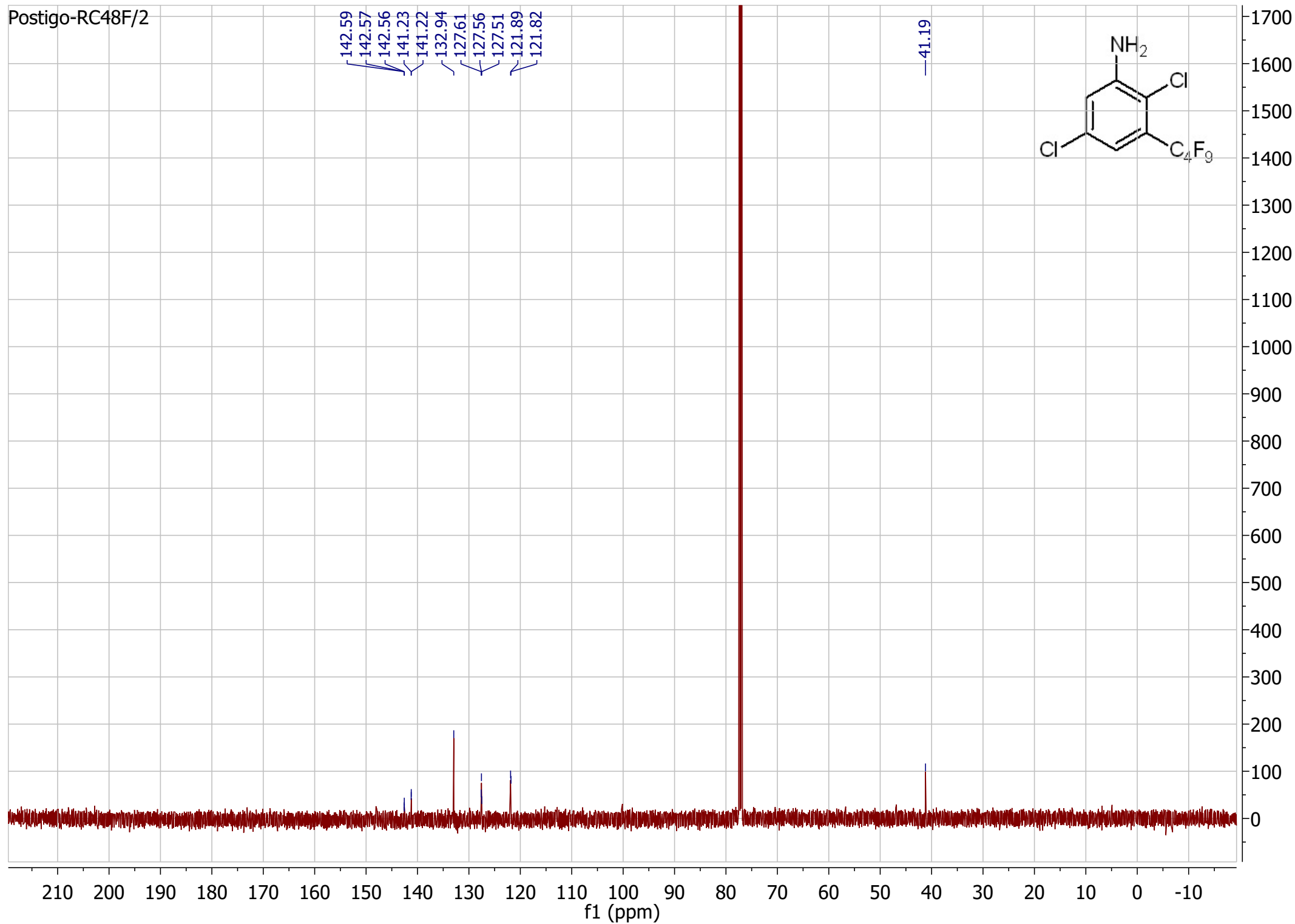
Postigo-RC48F/1



Postigo-RC48F/1



Postigo-RC48F/2



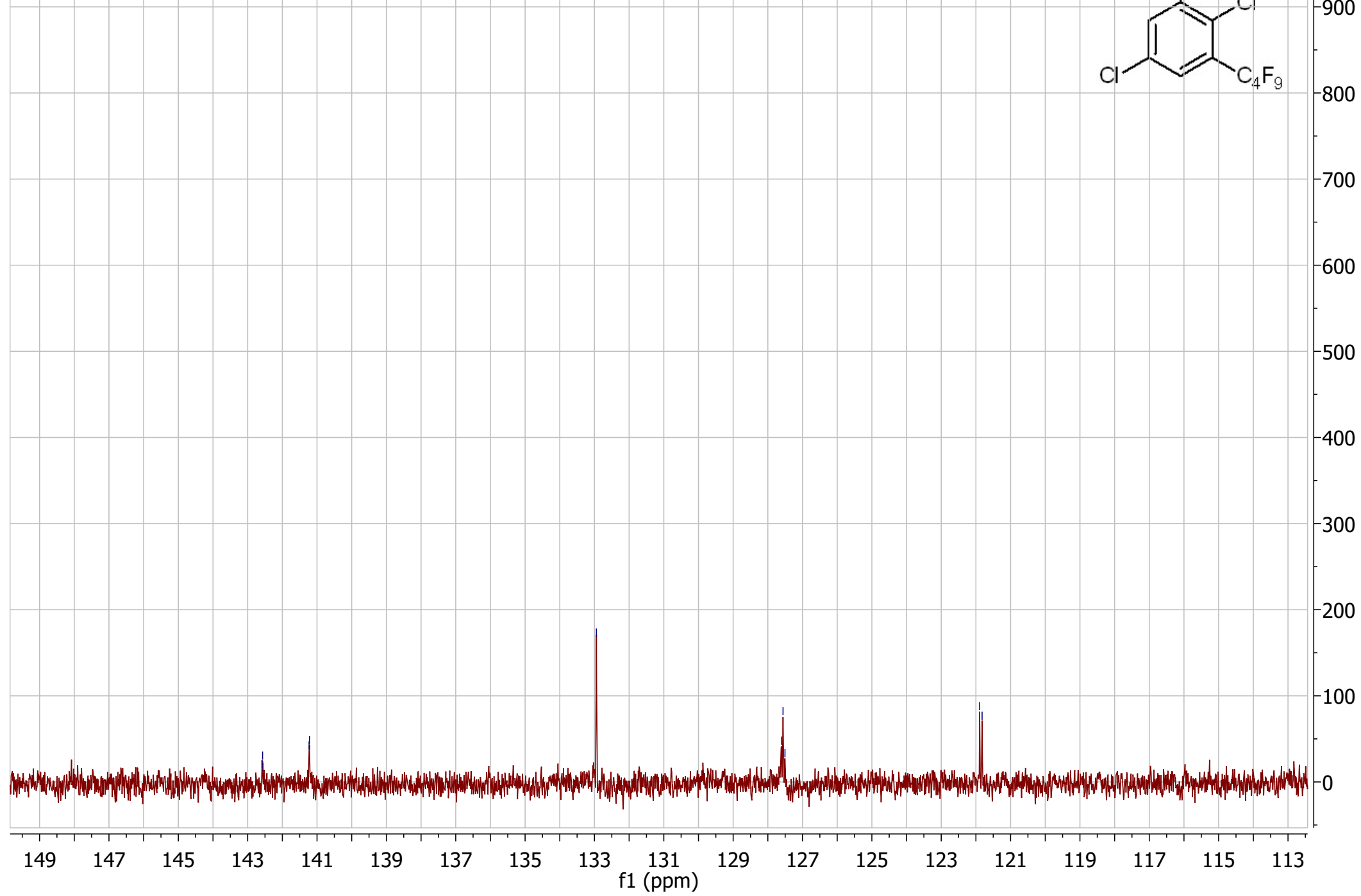
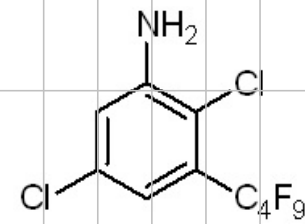
Postigo-RC48F/2

142.59
142.57
142.56
141.23
141.22

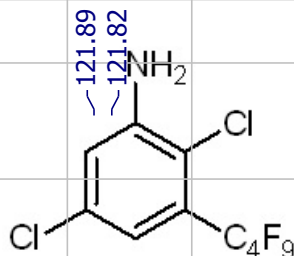
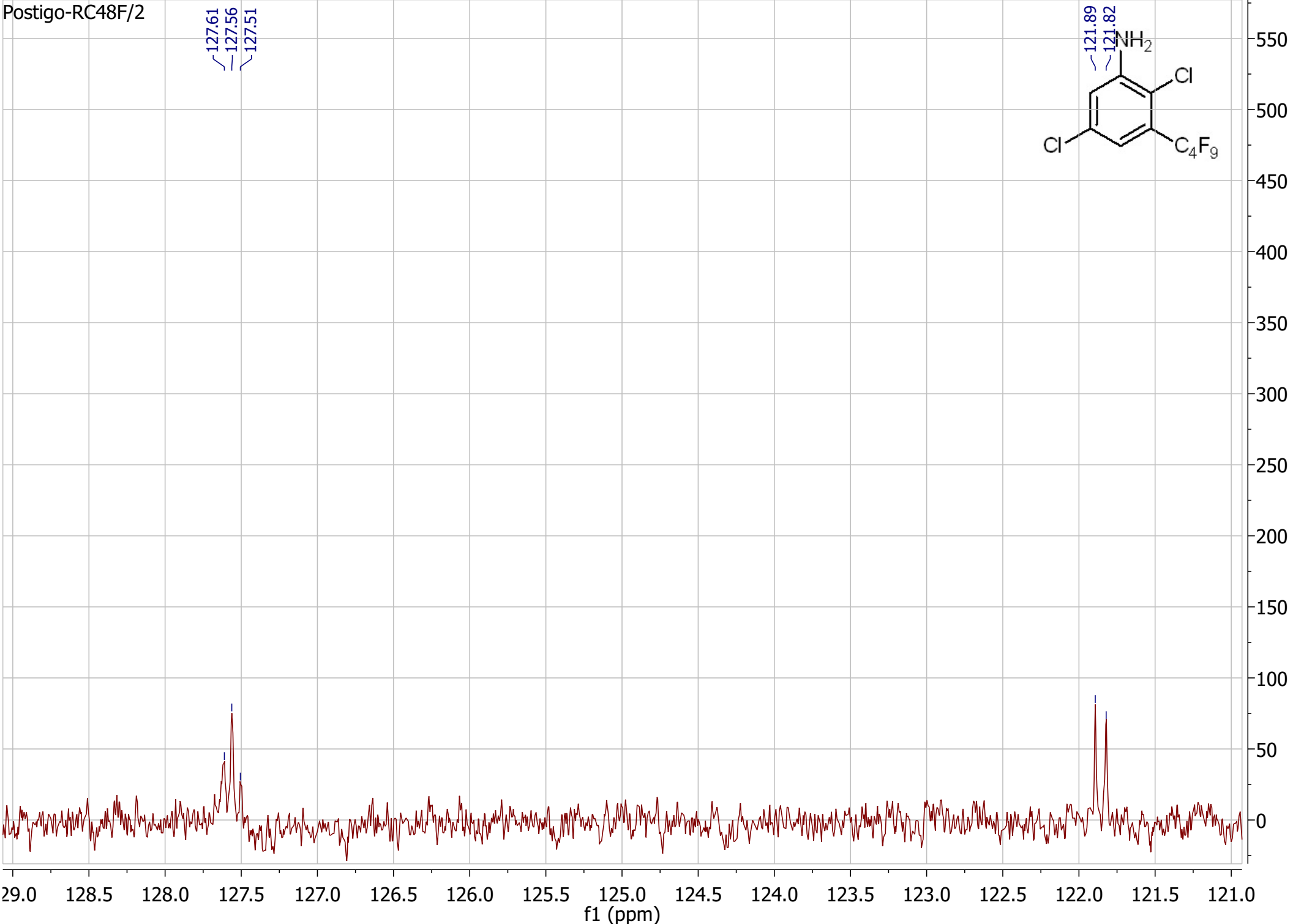
132.94

127.61
127.56
127.51

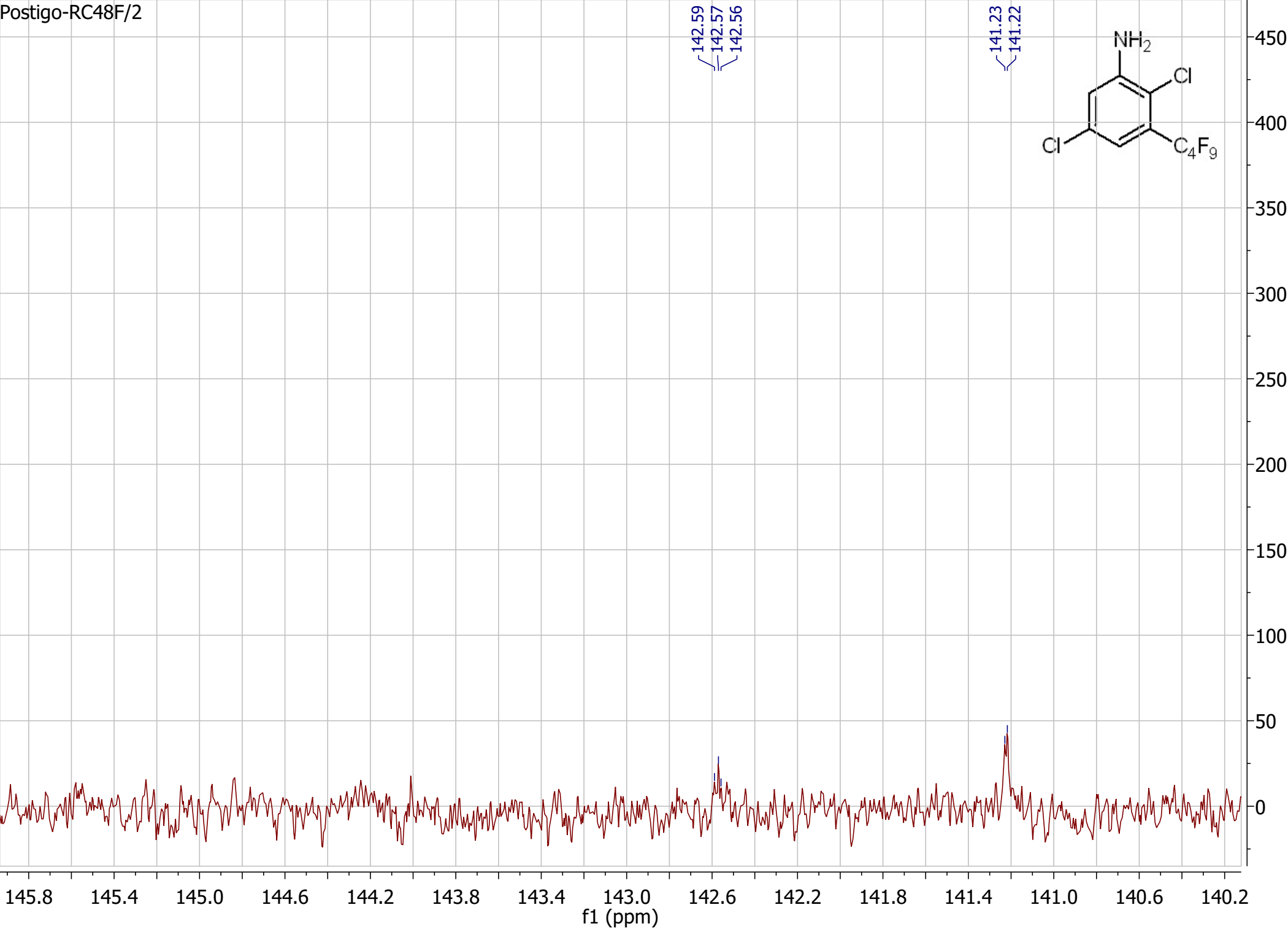
121.89
121.82



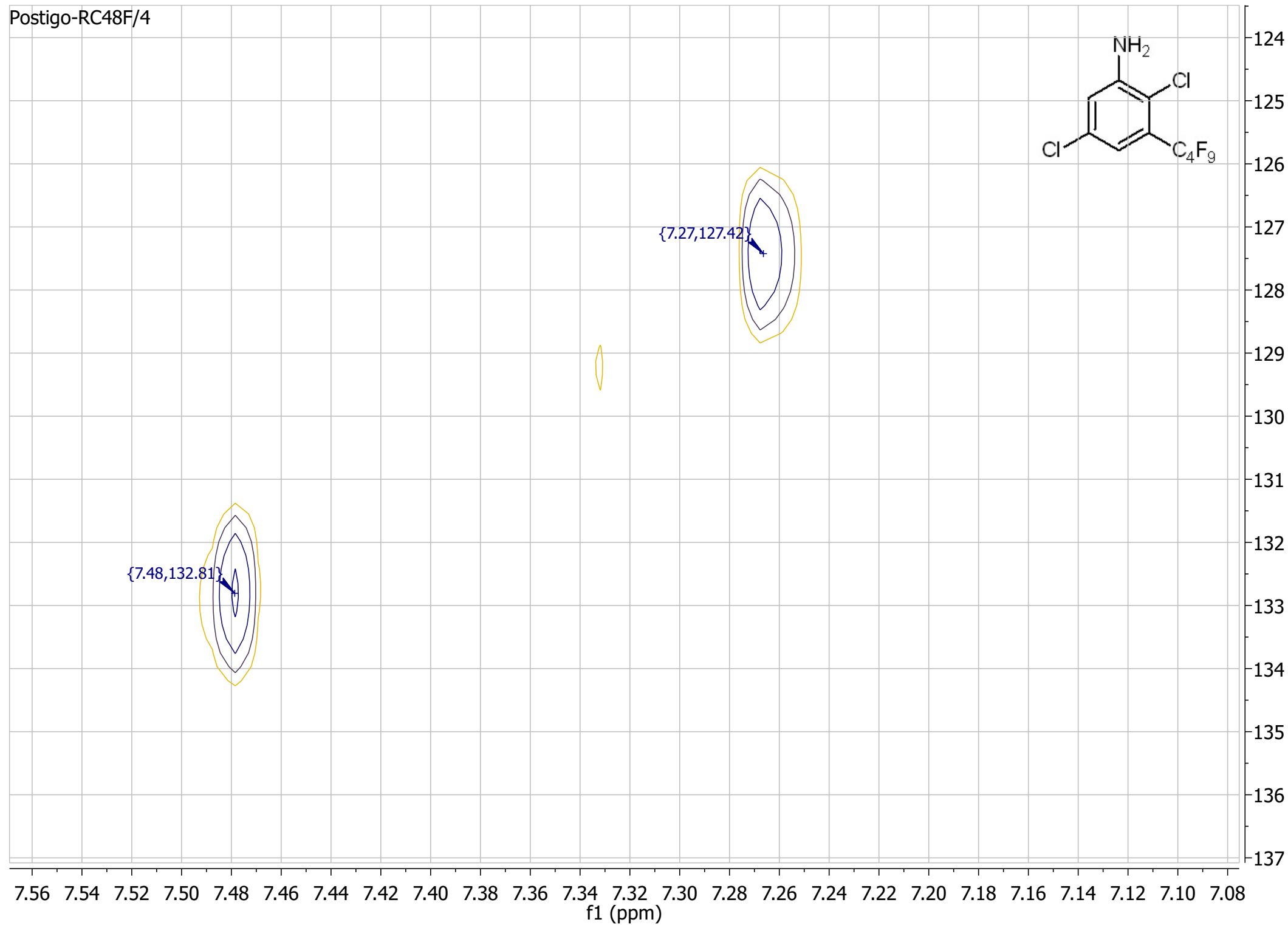
Postigo-RC48F/2



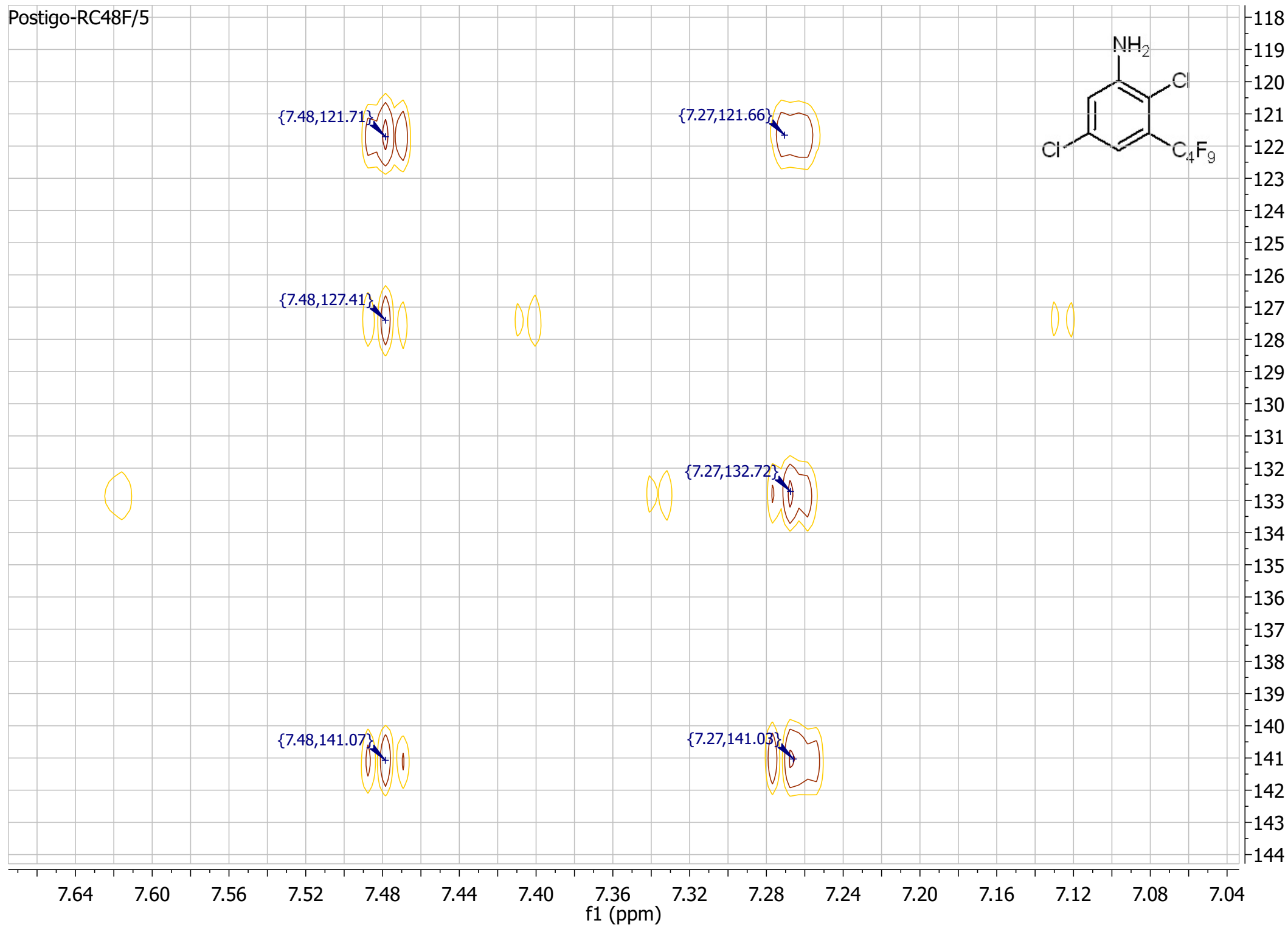
Postigo-RC48F/2



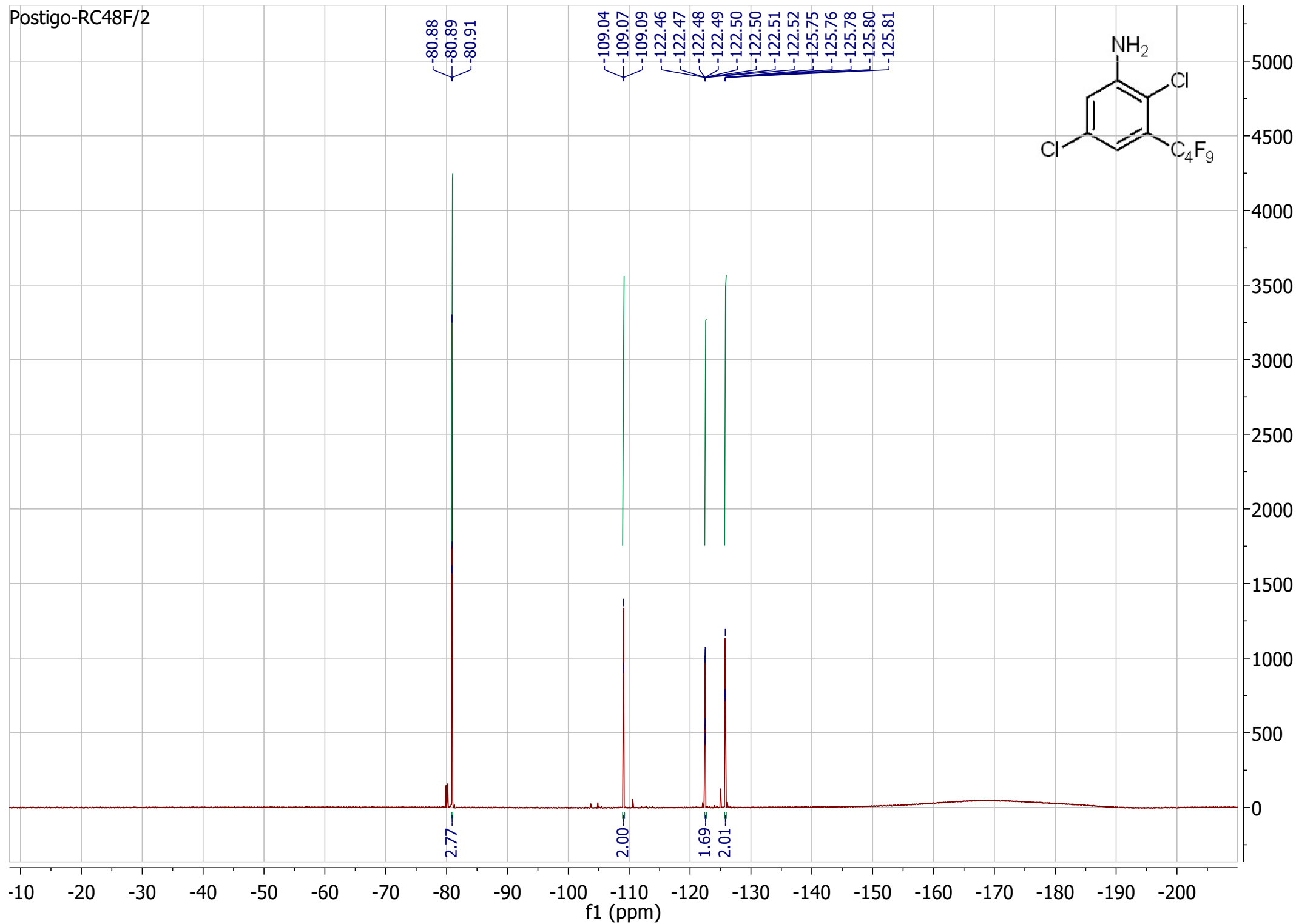
Postigo-RC48F/4



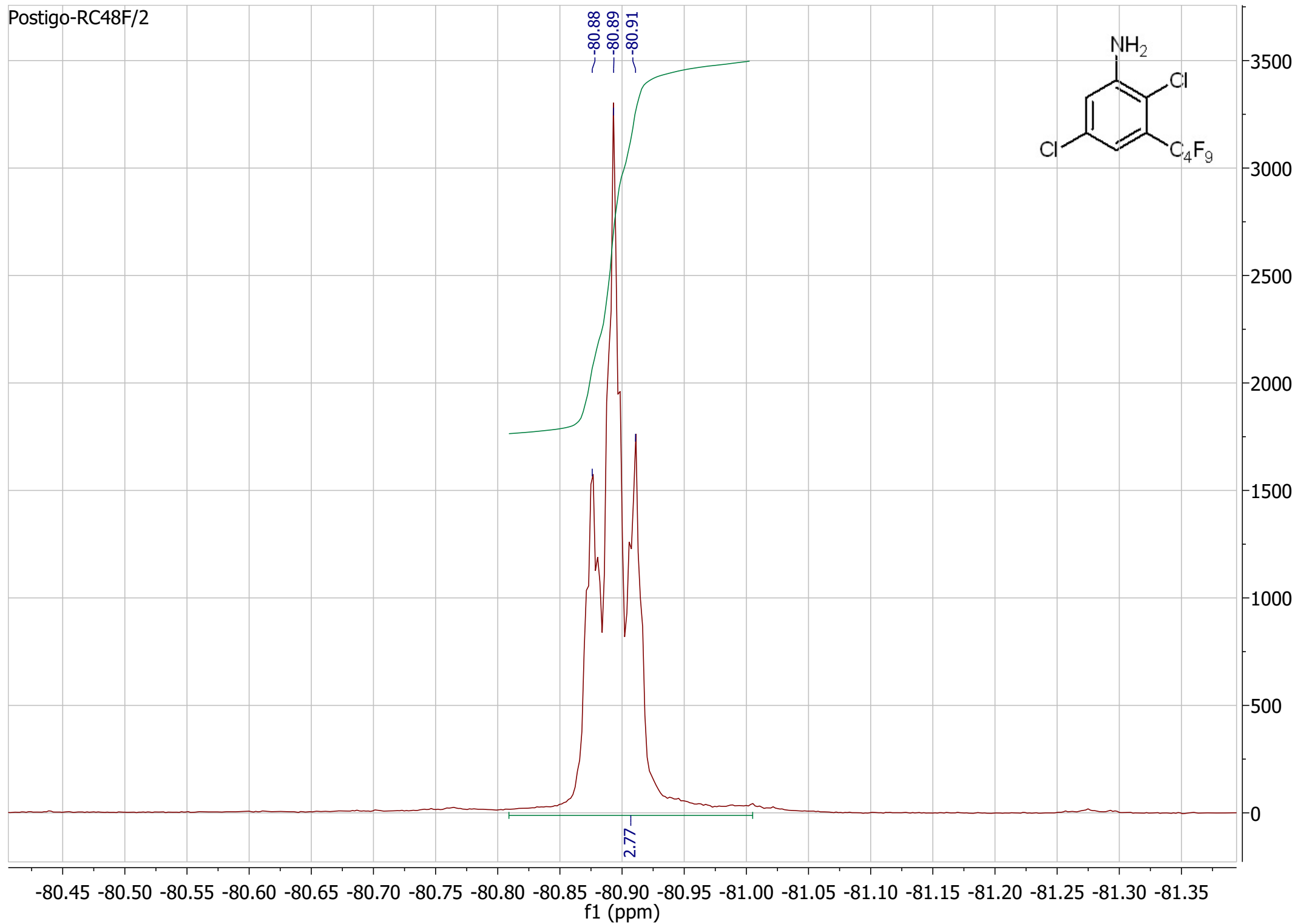
Postigo-RC48F/5



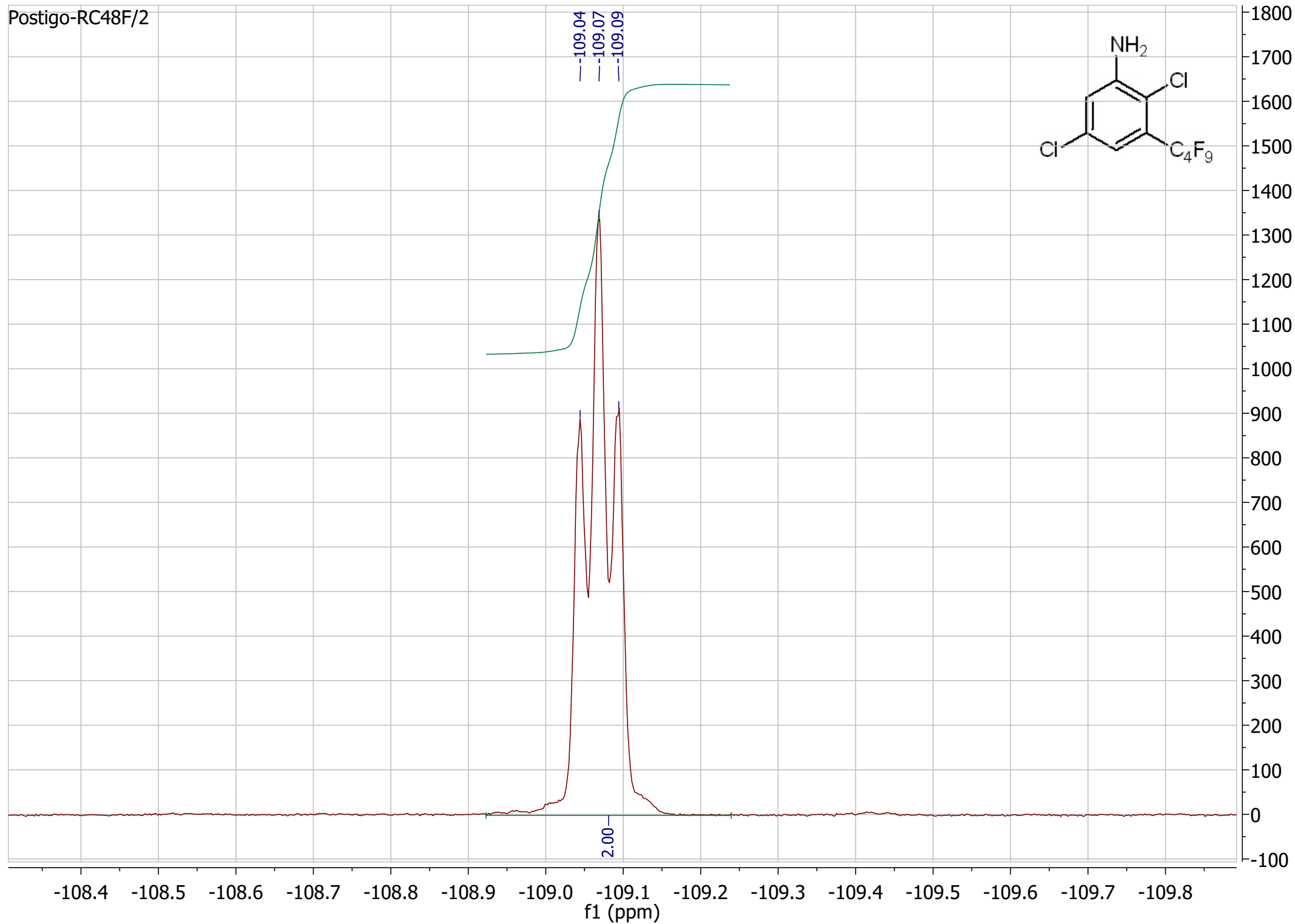
Postigo-RC48F/2



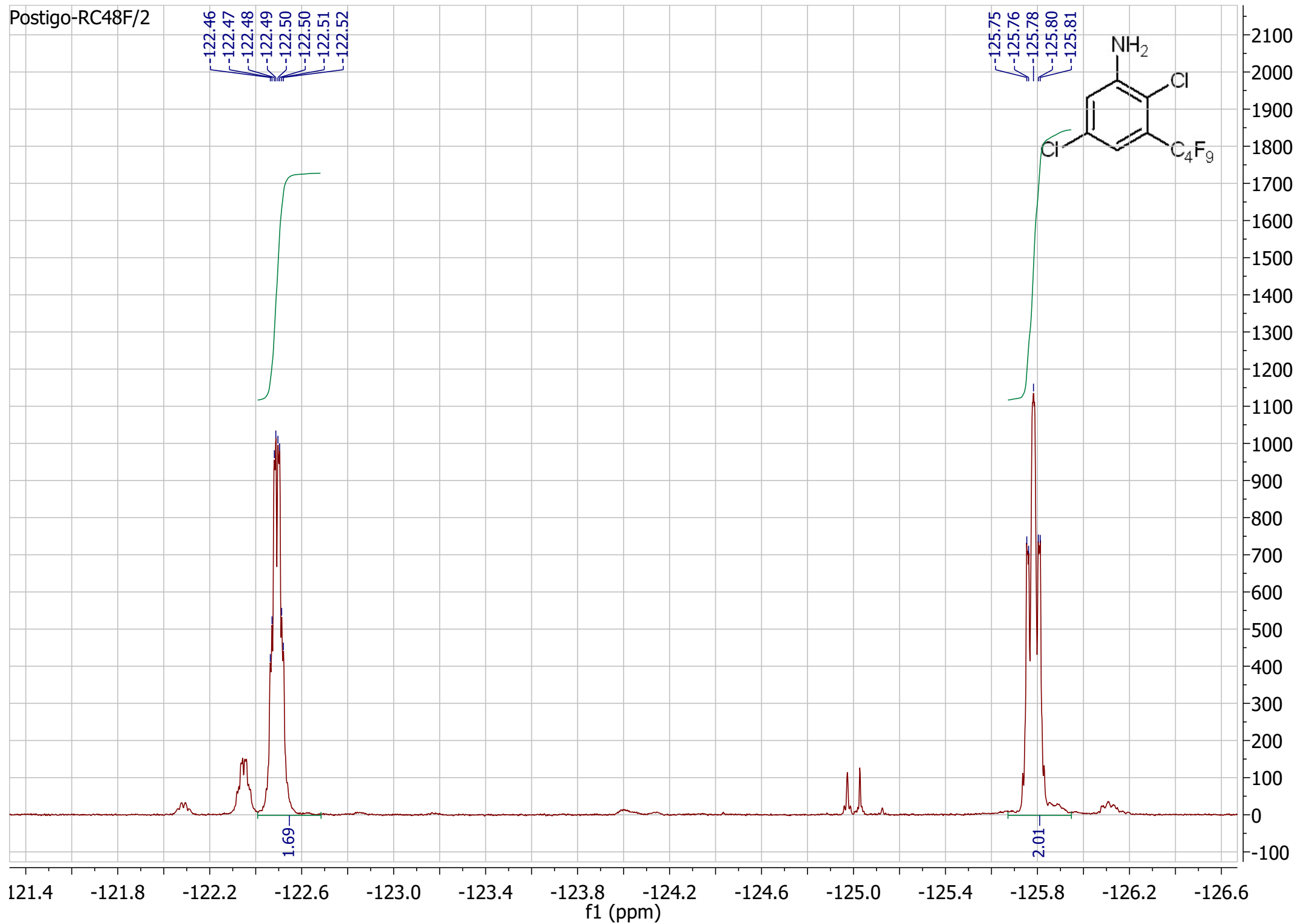
Postigo-RC48F/2



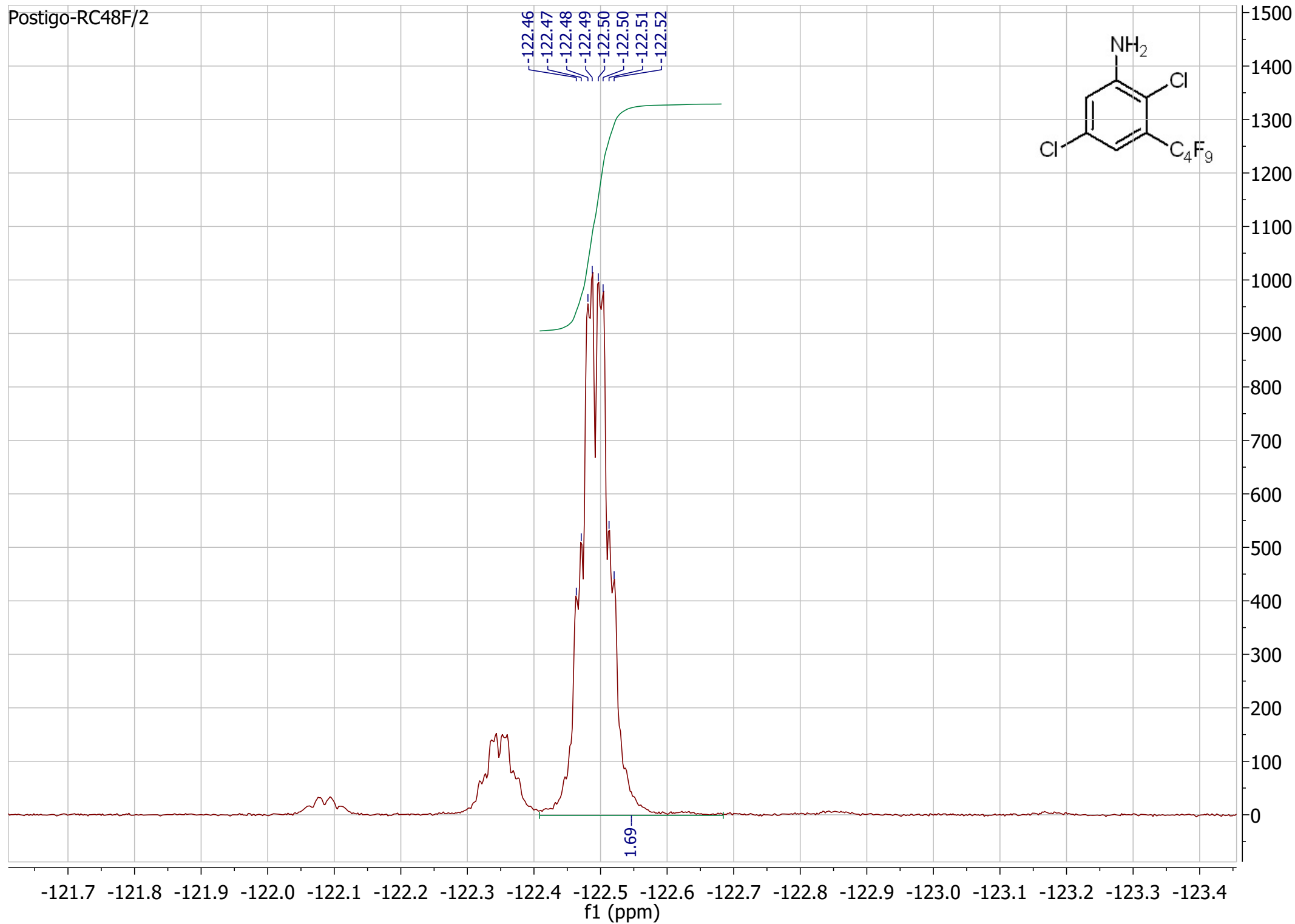
Postigo-RC48F/2



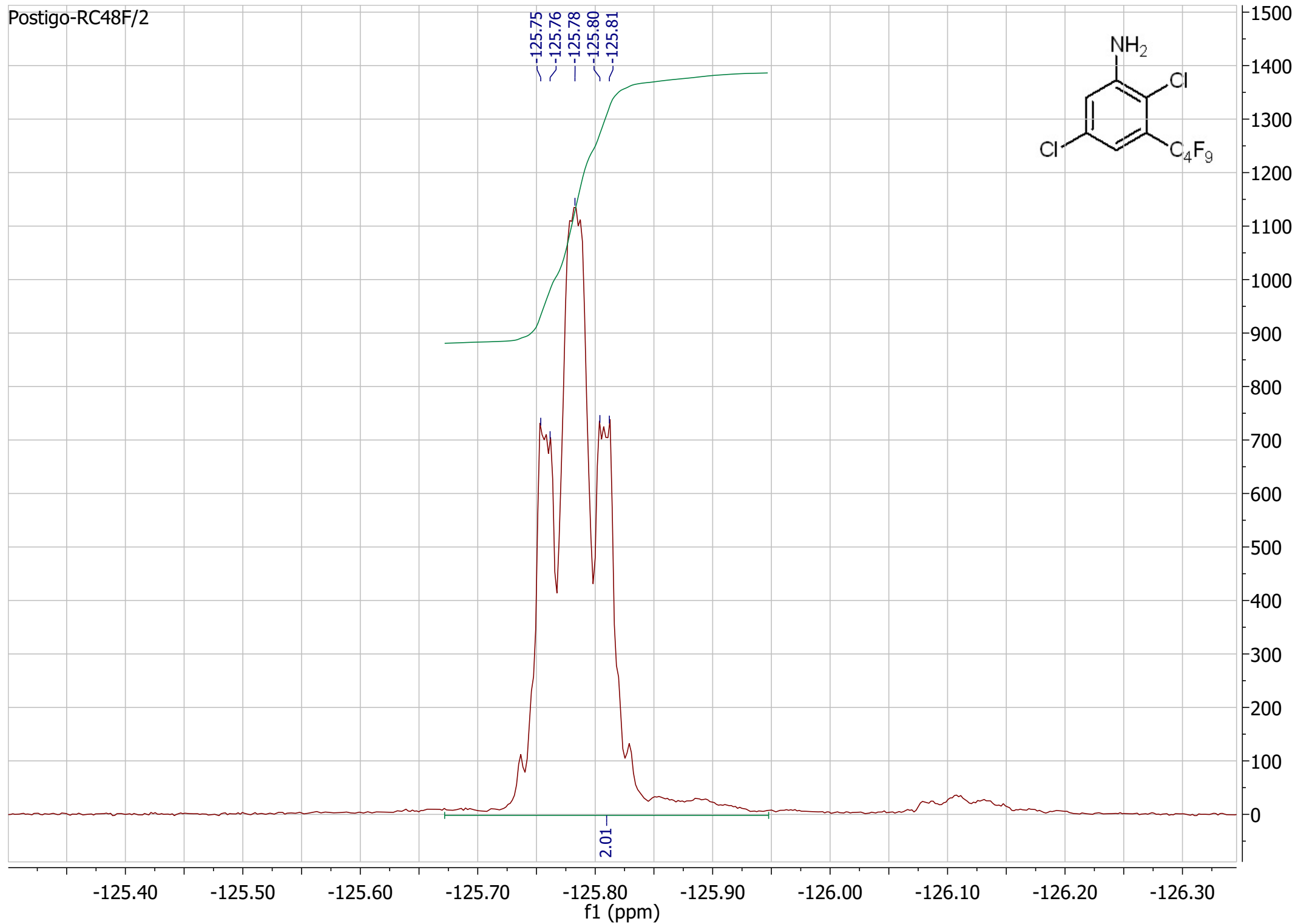
Postigo-RC48F/2



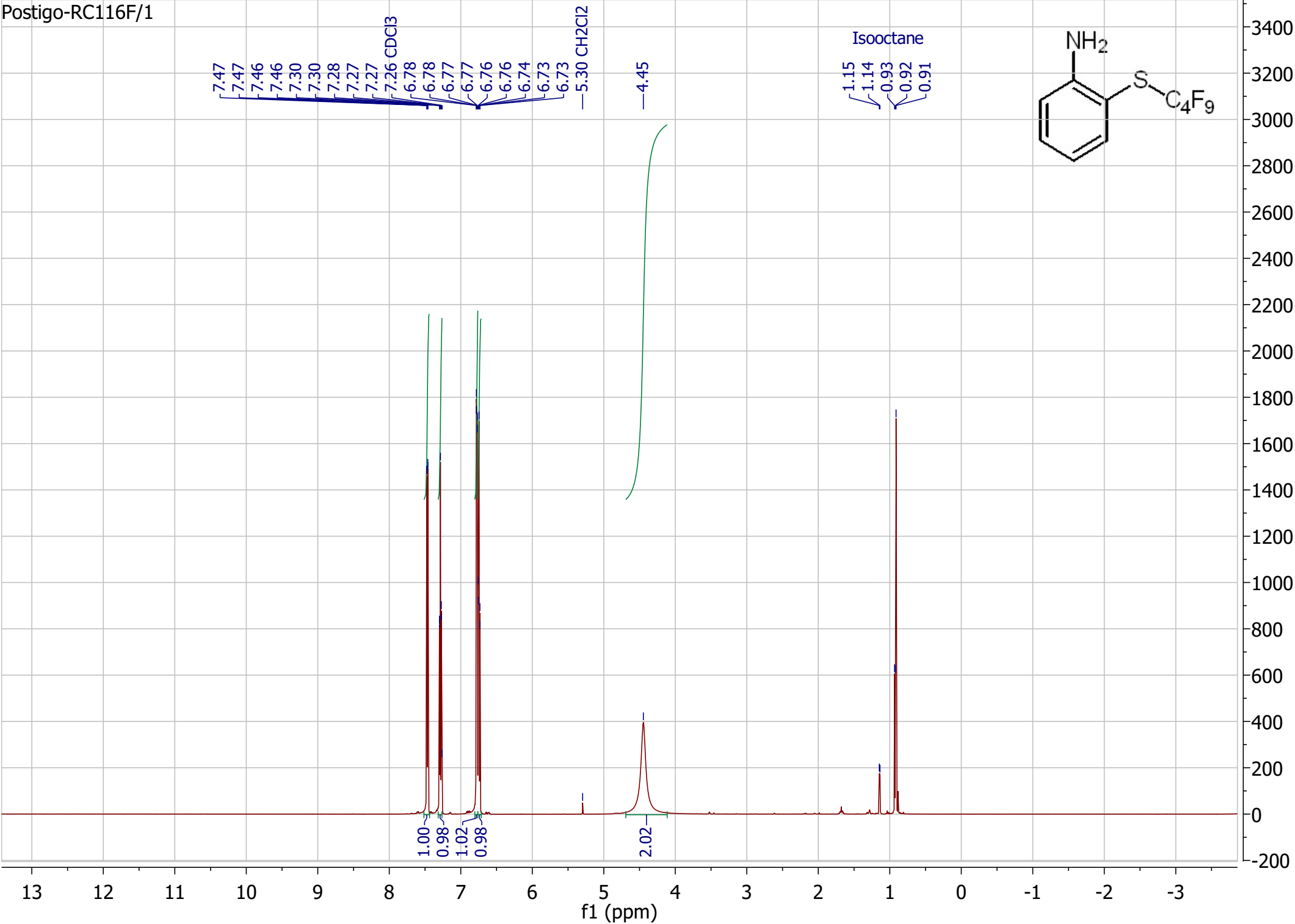
Postigo-RC48F/2



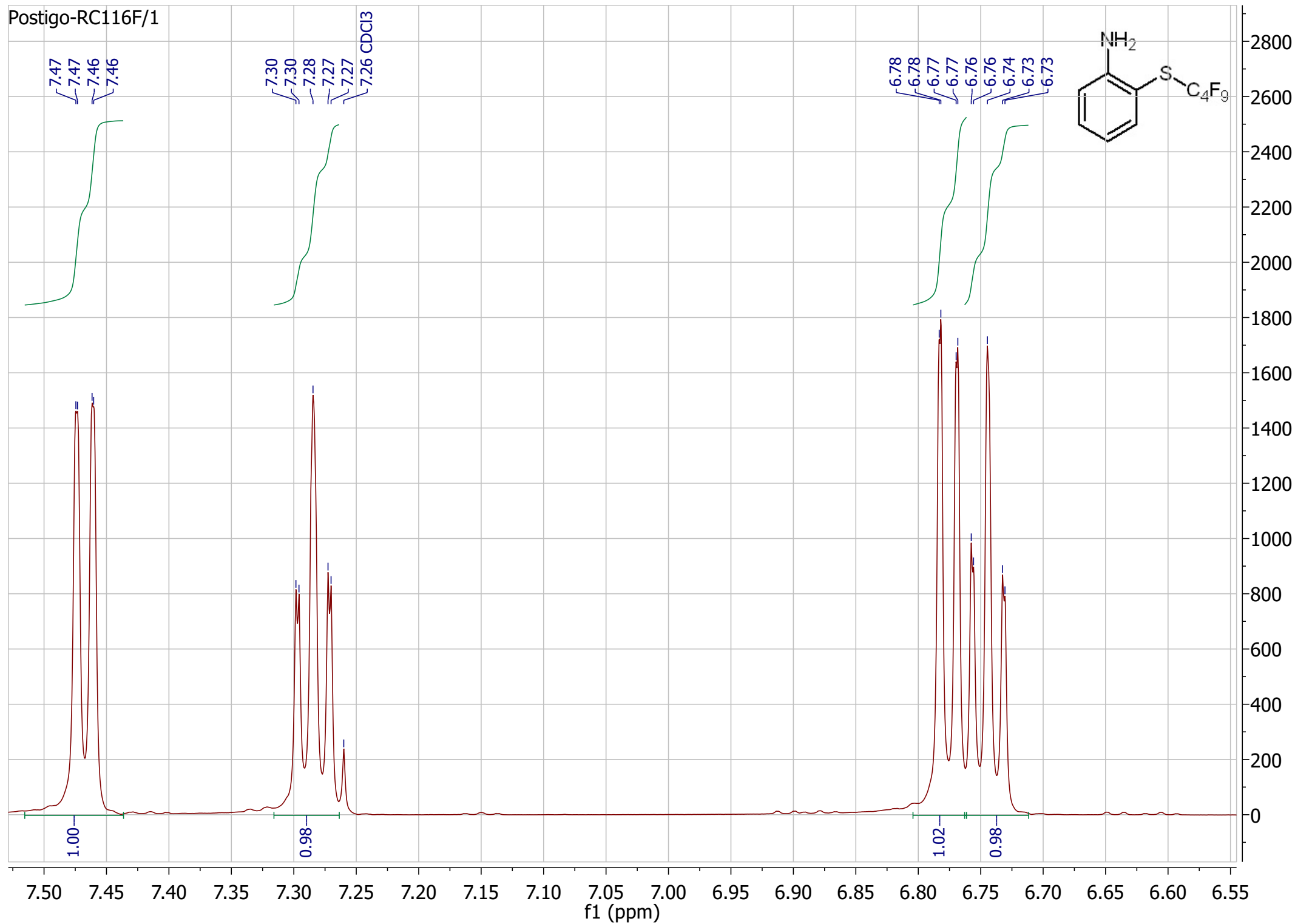
Postigo-RC48F/2



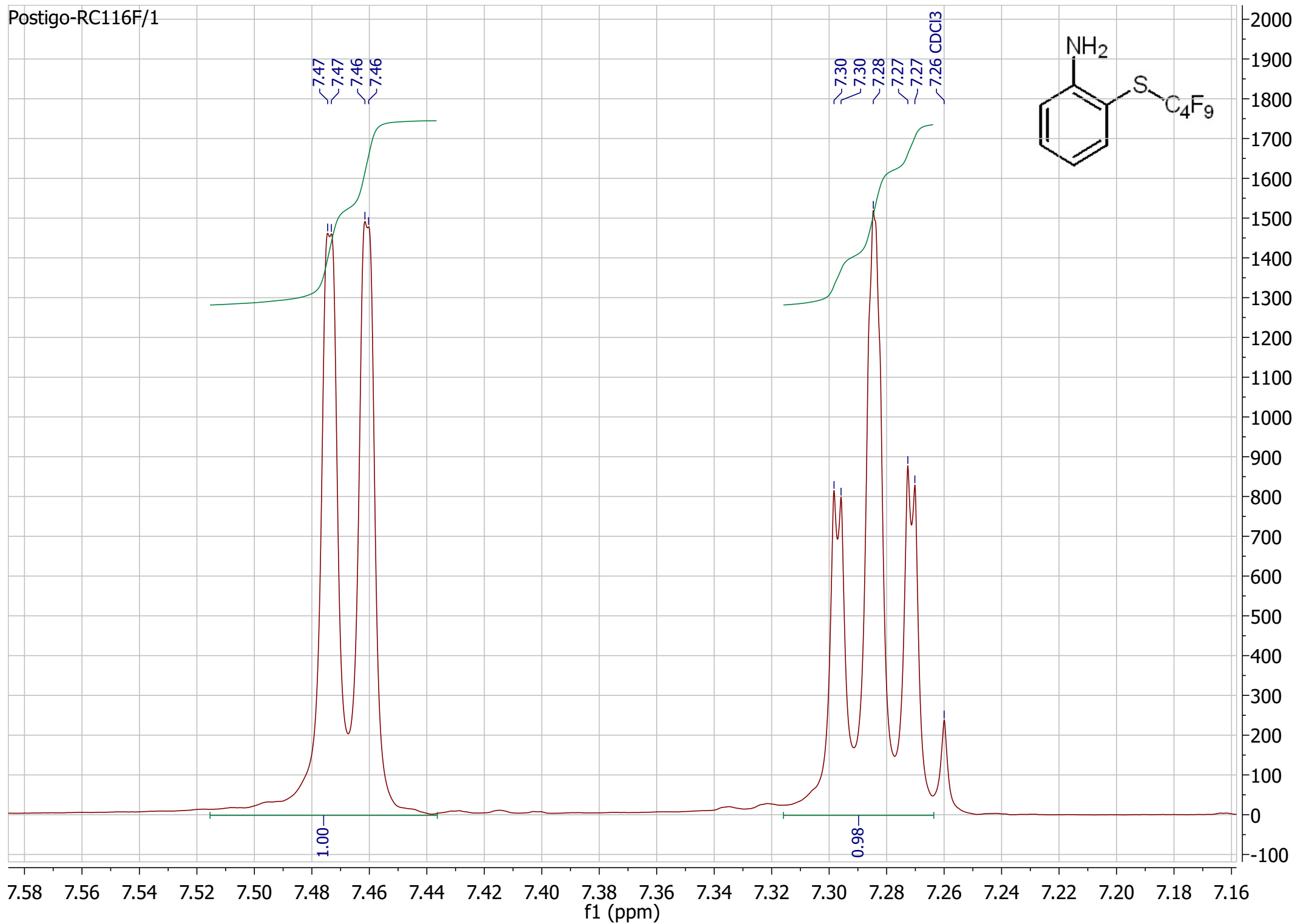
Postigo-RC116F/1



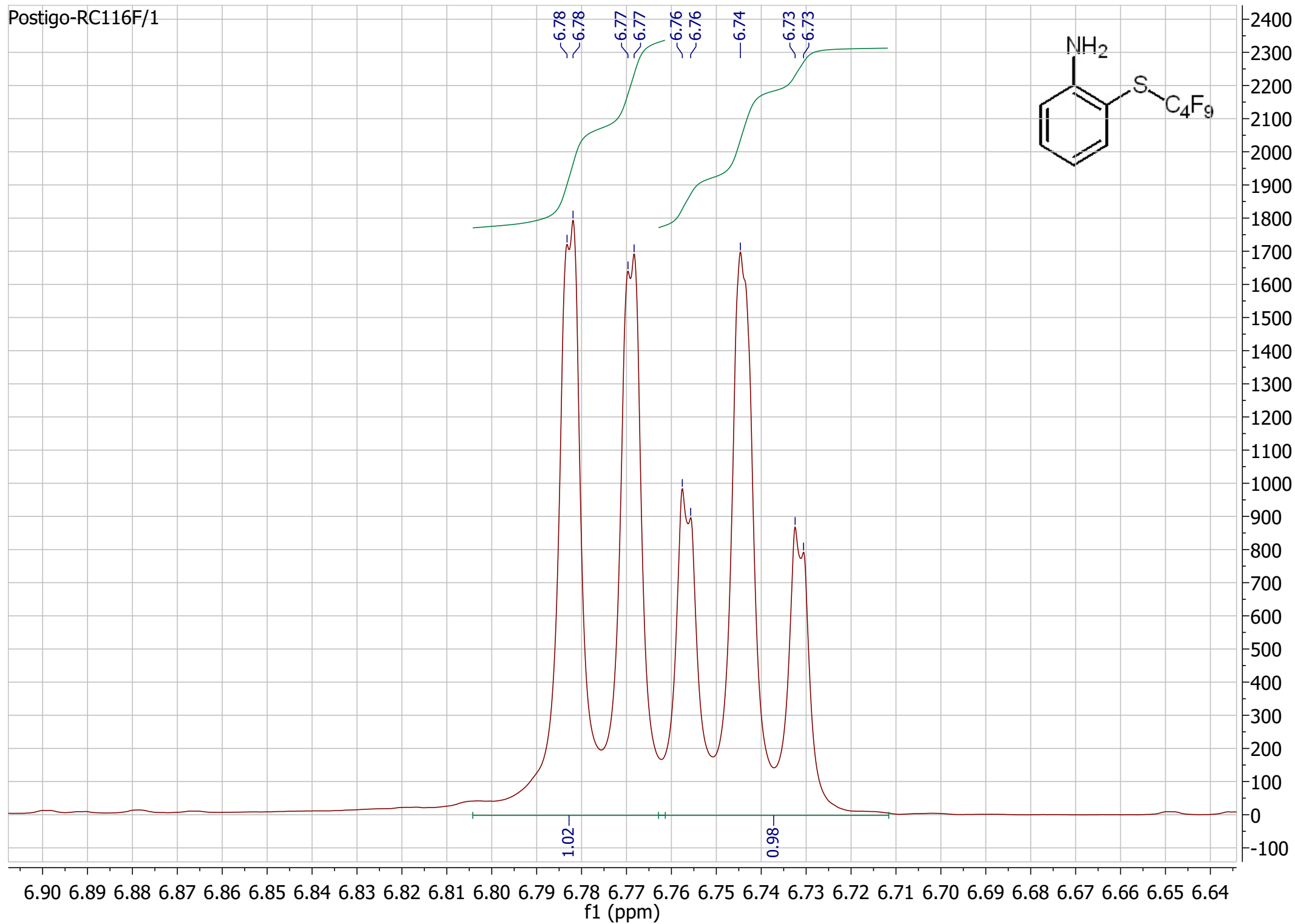
Postigo-RC116F/1



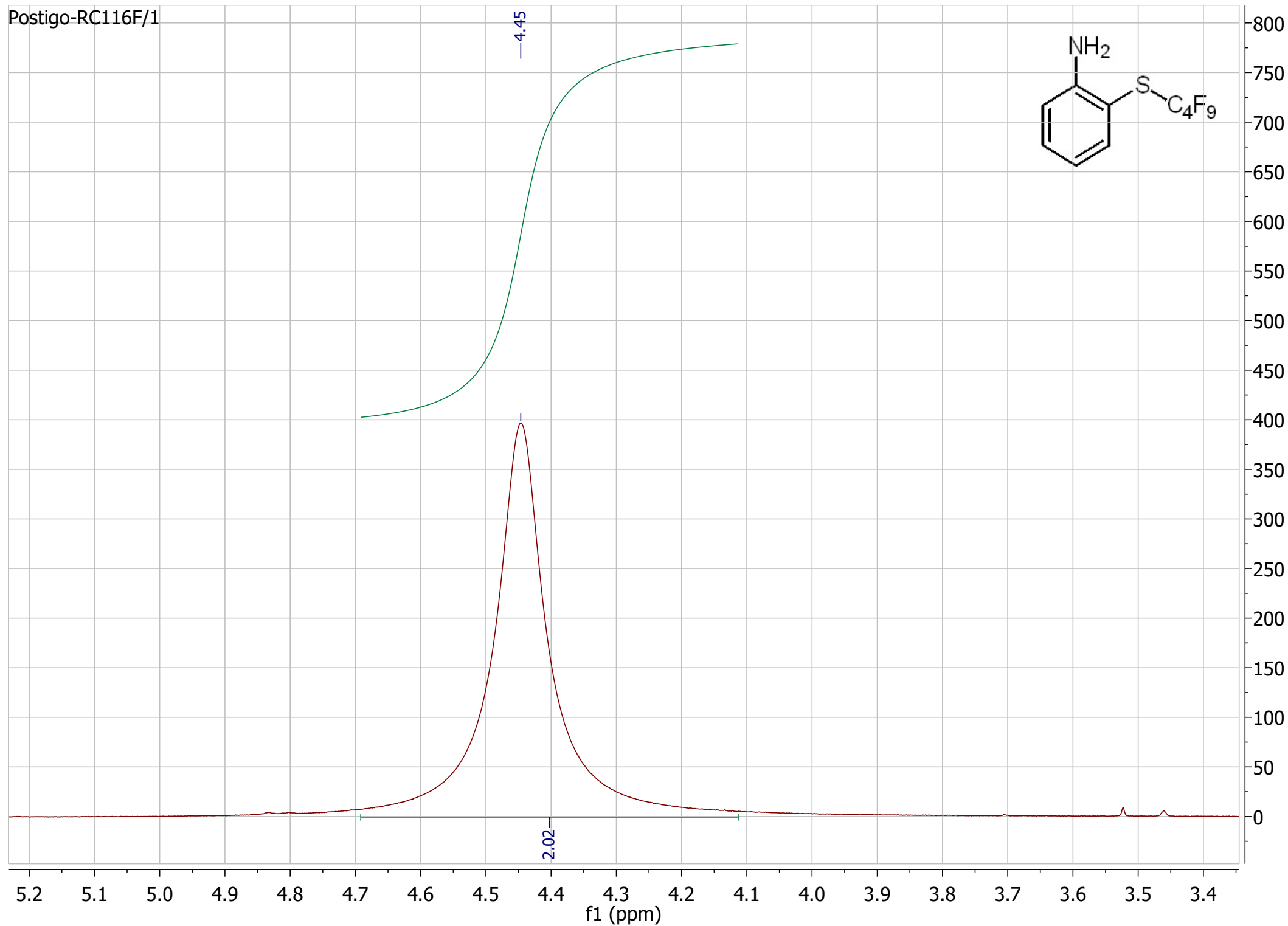
Postigo-RC116F/1



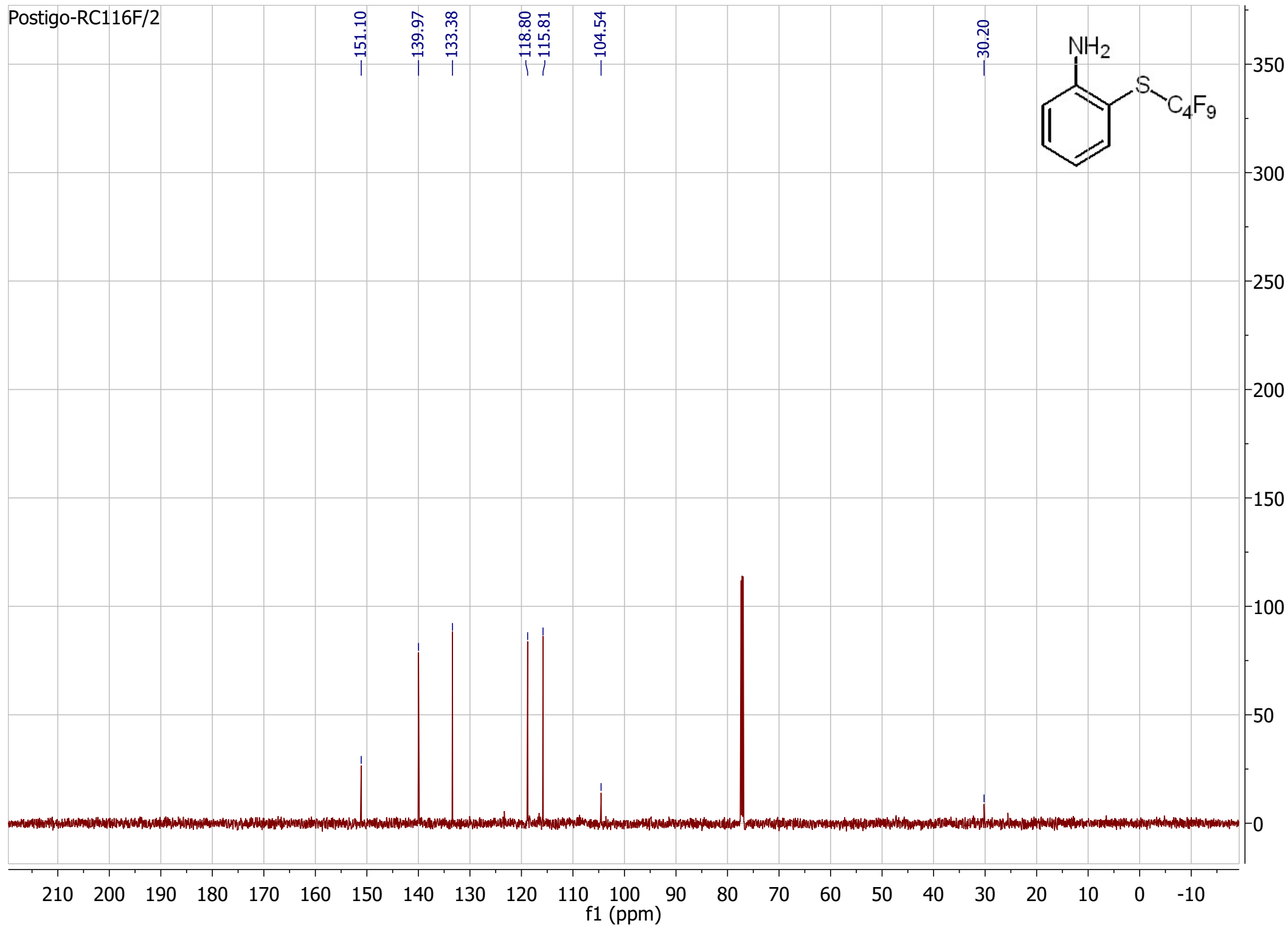
Postigo-RC116F/1



Postigo-RC116F/1



Postigo-RC116F/2

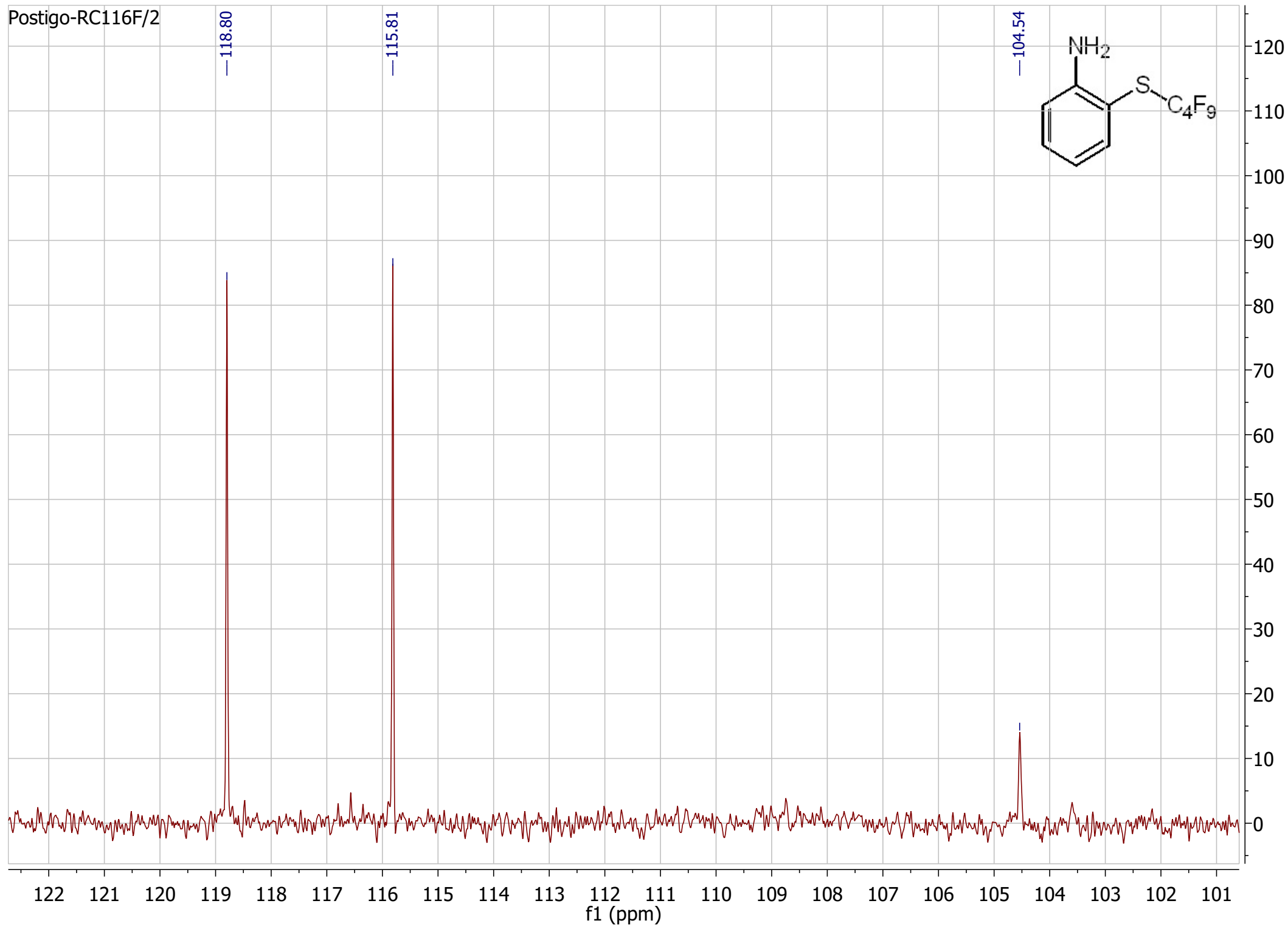


Postigo-RC116F/2

—118.80

—115.81

—104.54

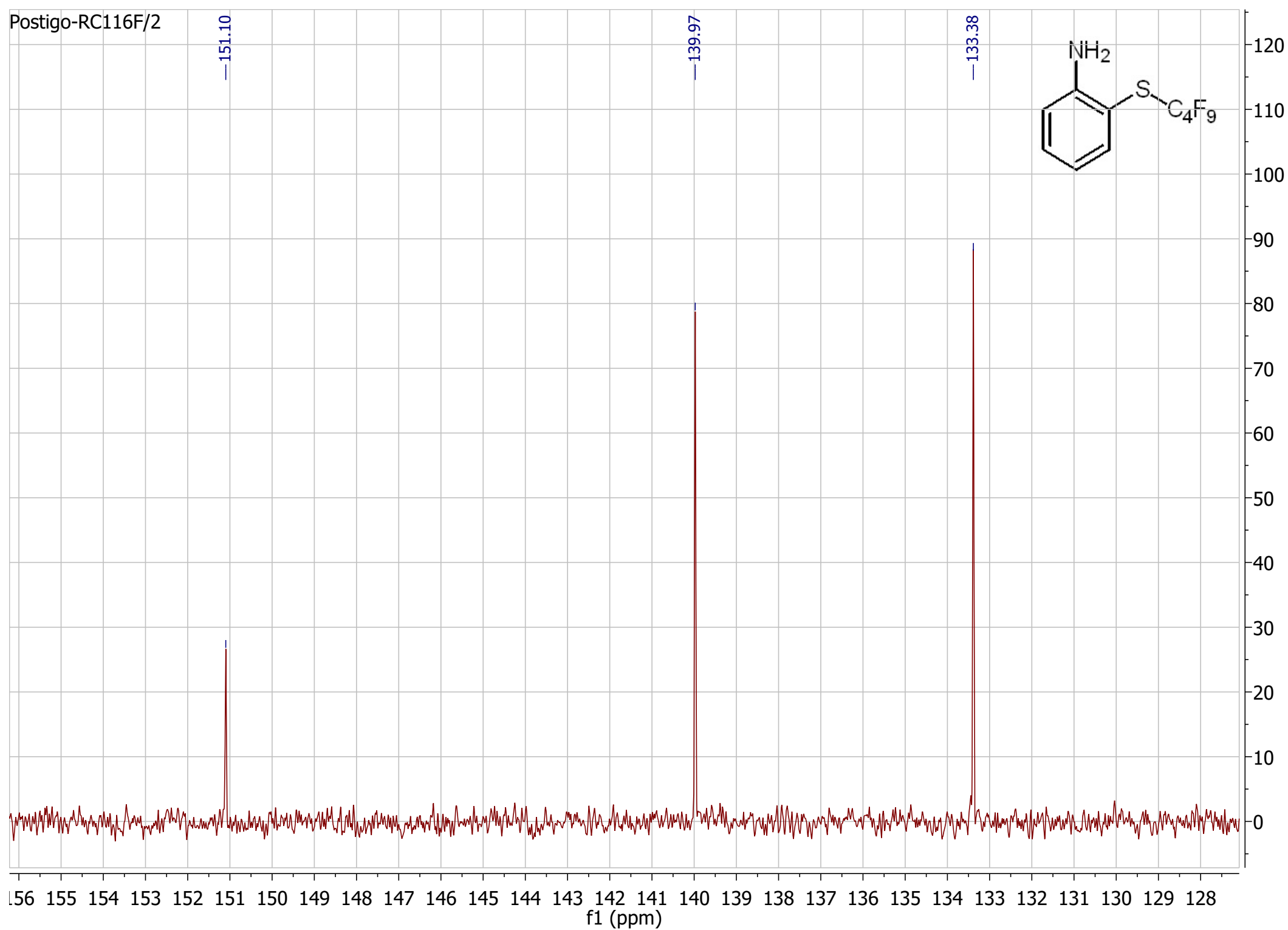


Postigo-RC116F/2

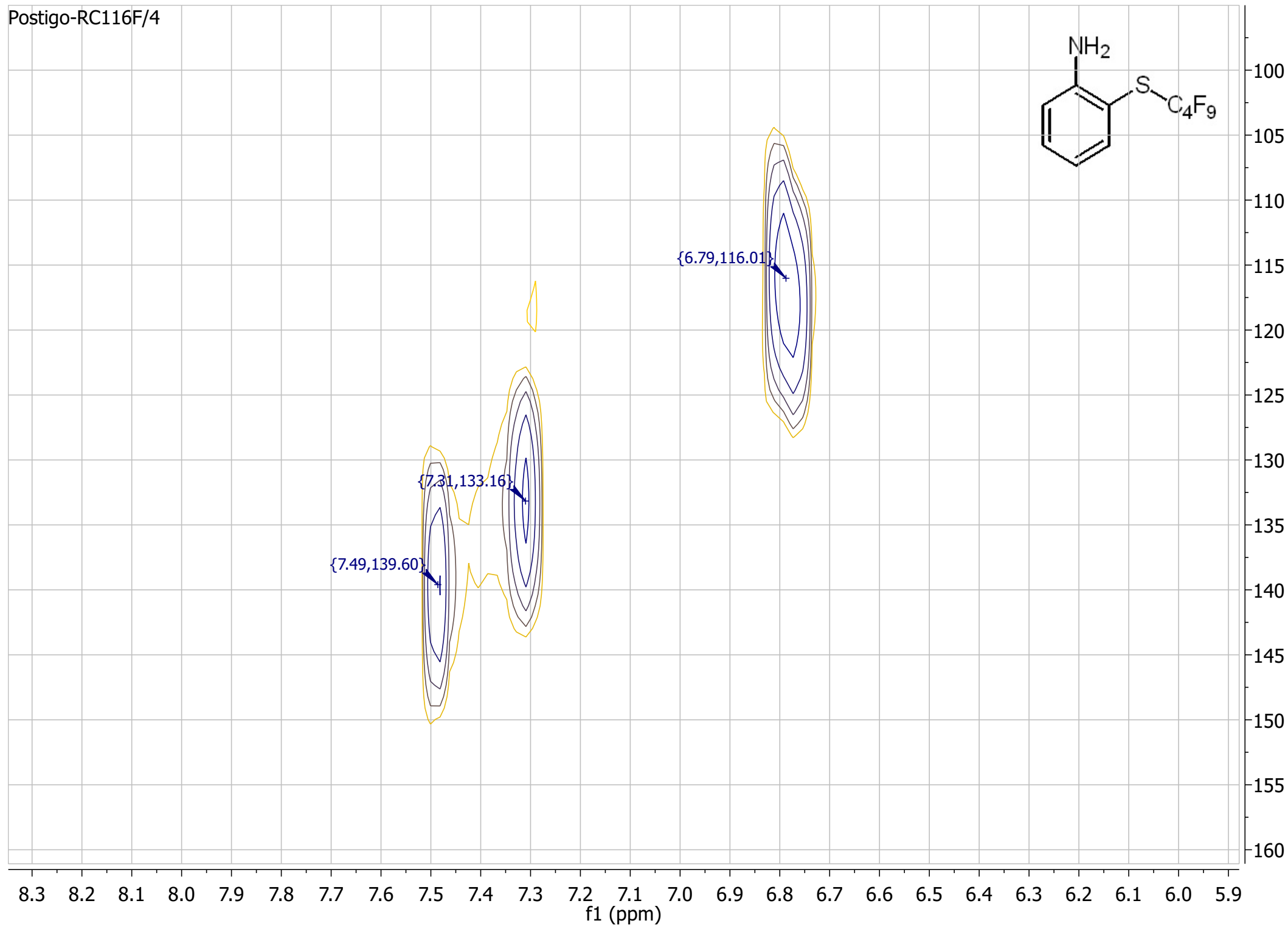
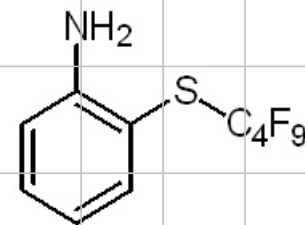
—151.10

—139.97

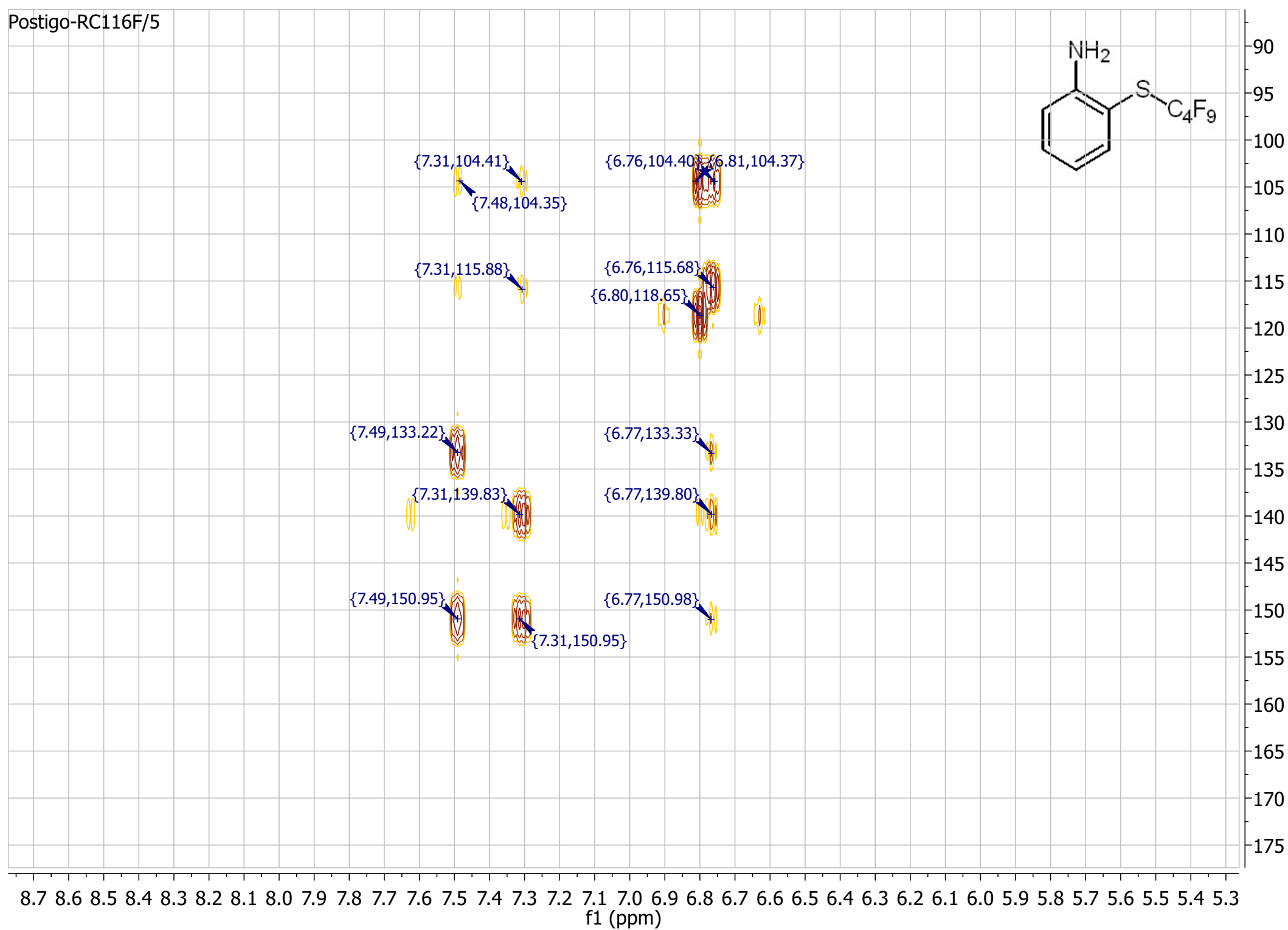
—133.38



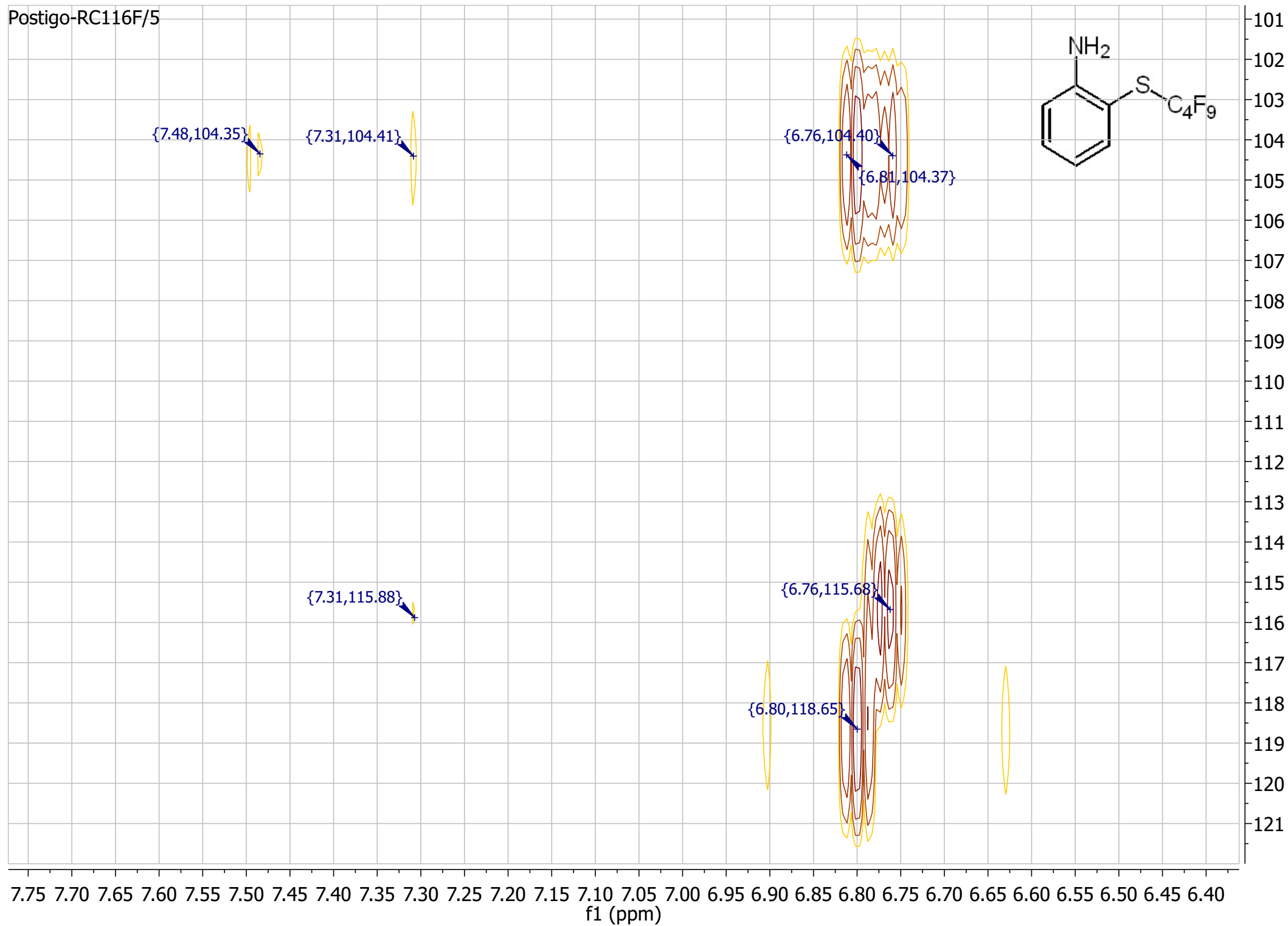
Postigo-RC116F/4



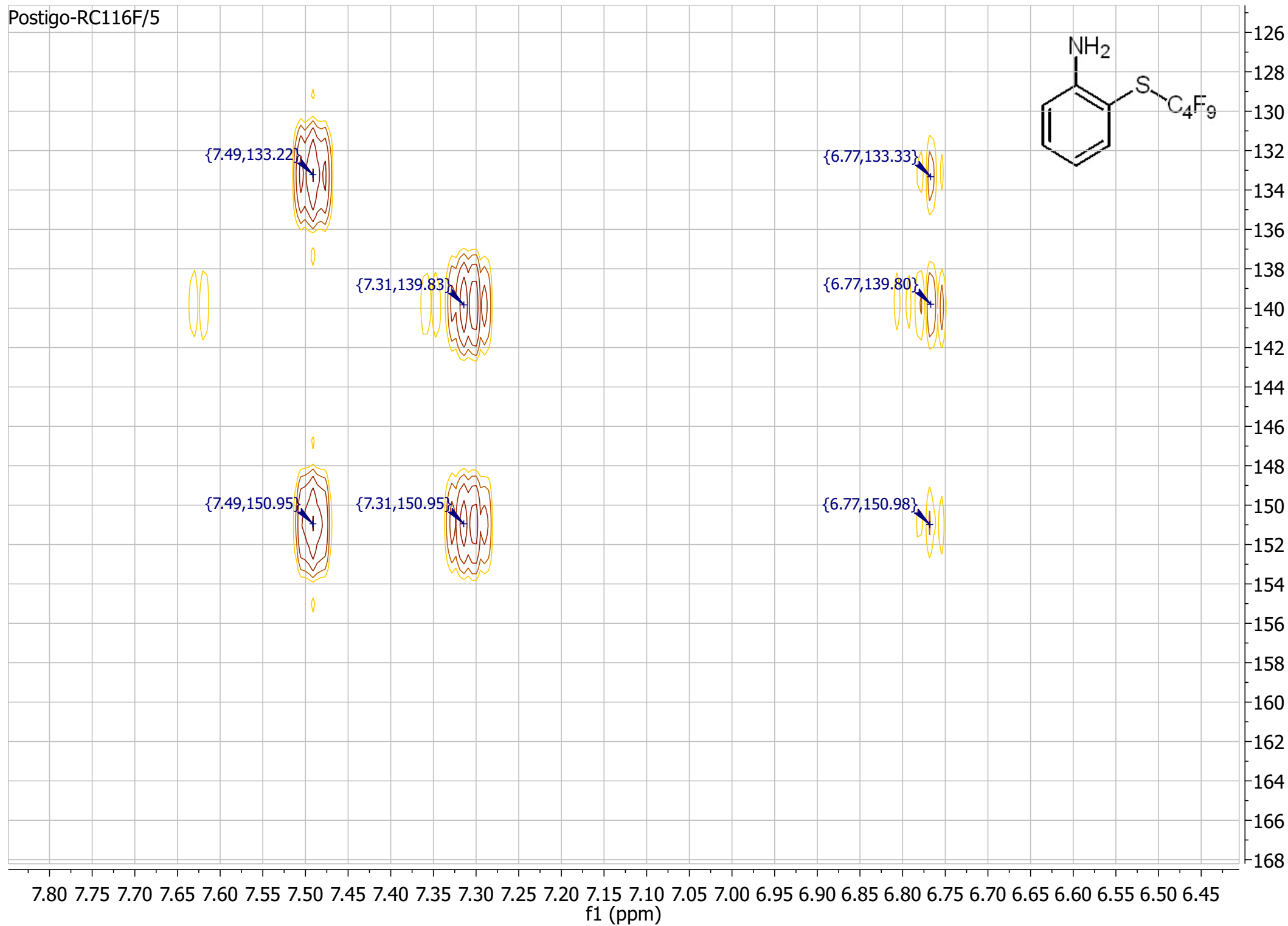
Postigo-RC116F/5



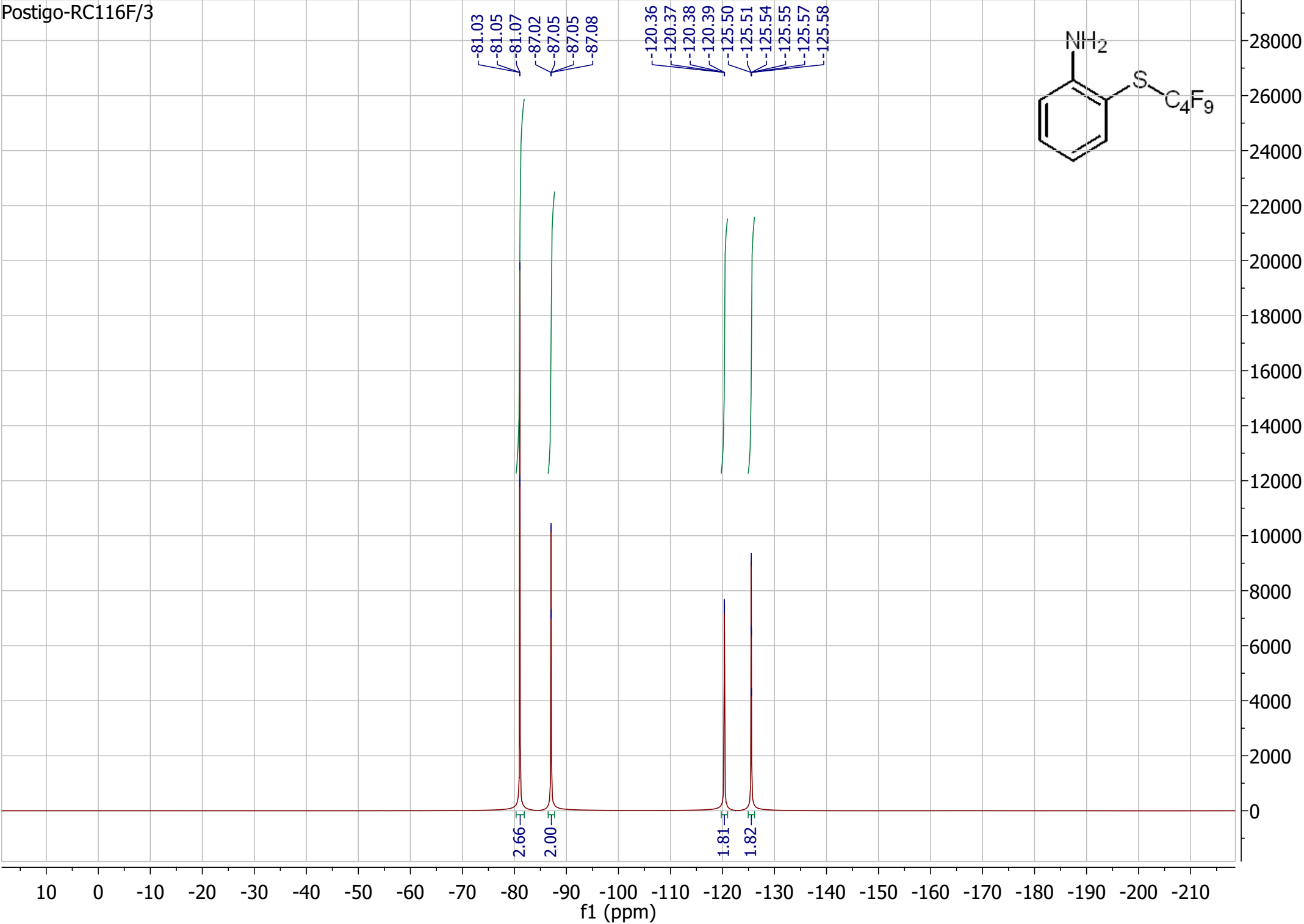
Postigo-RC116F/5



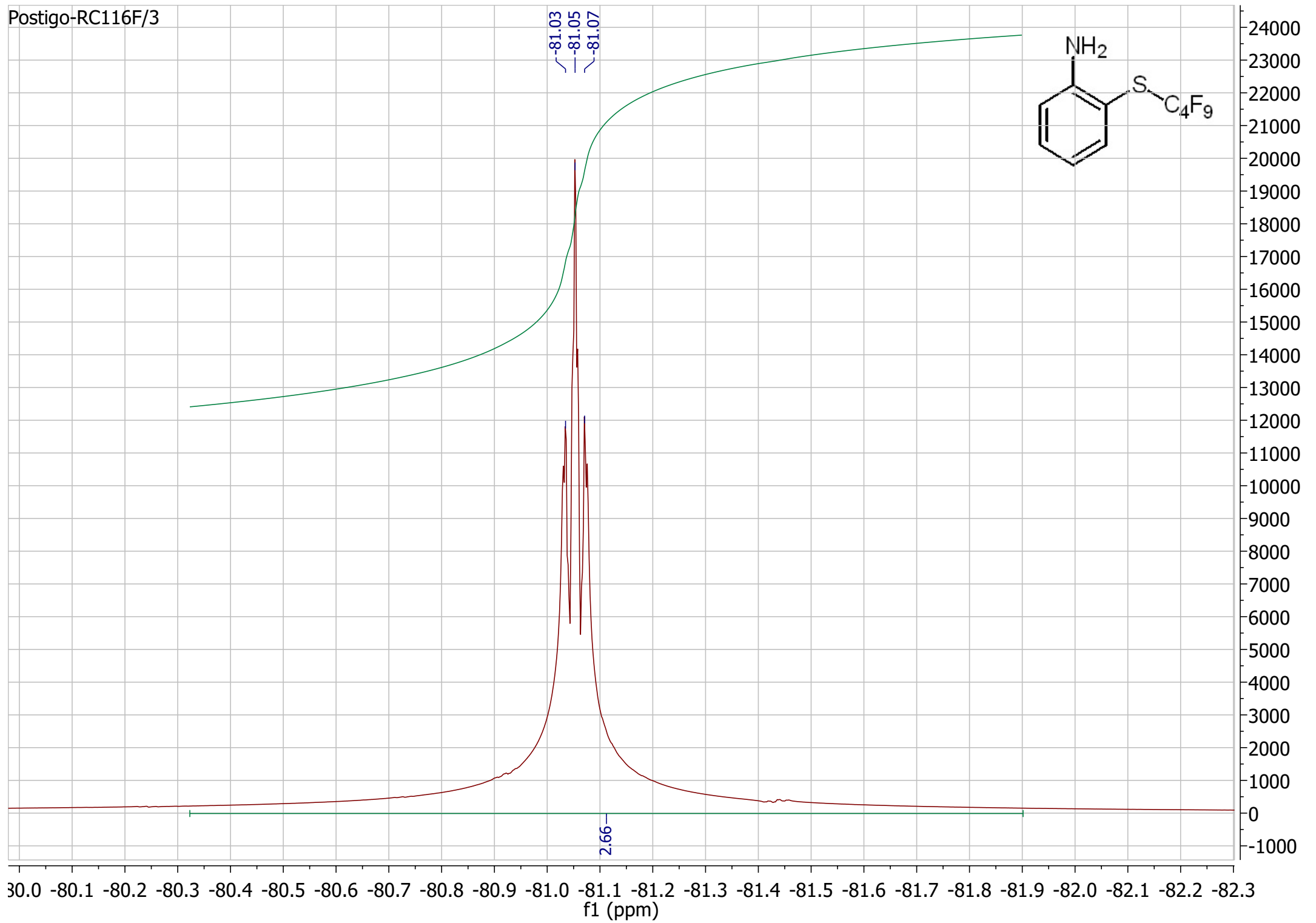
Postigo-RC116F/5



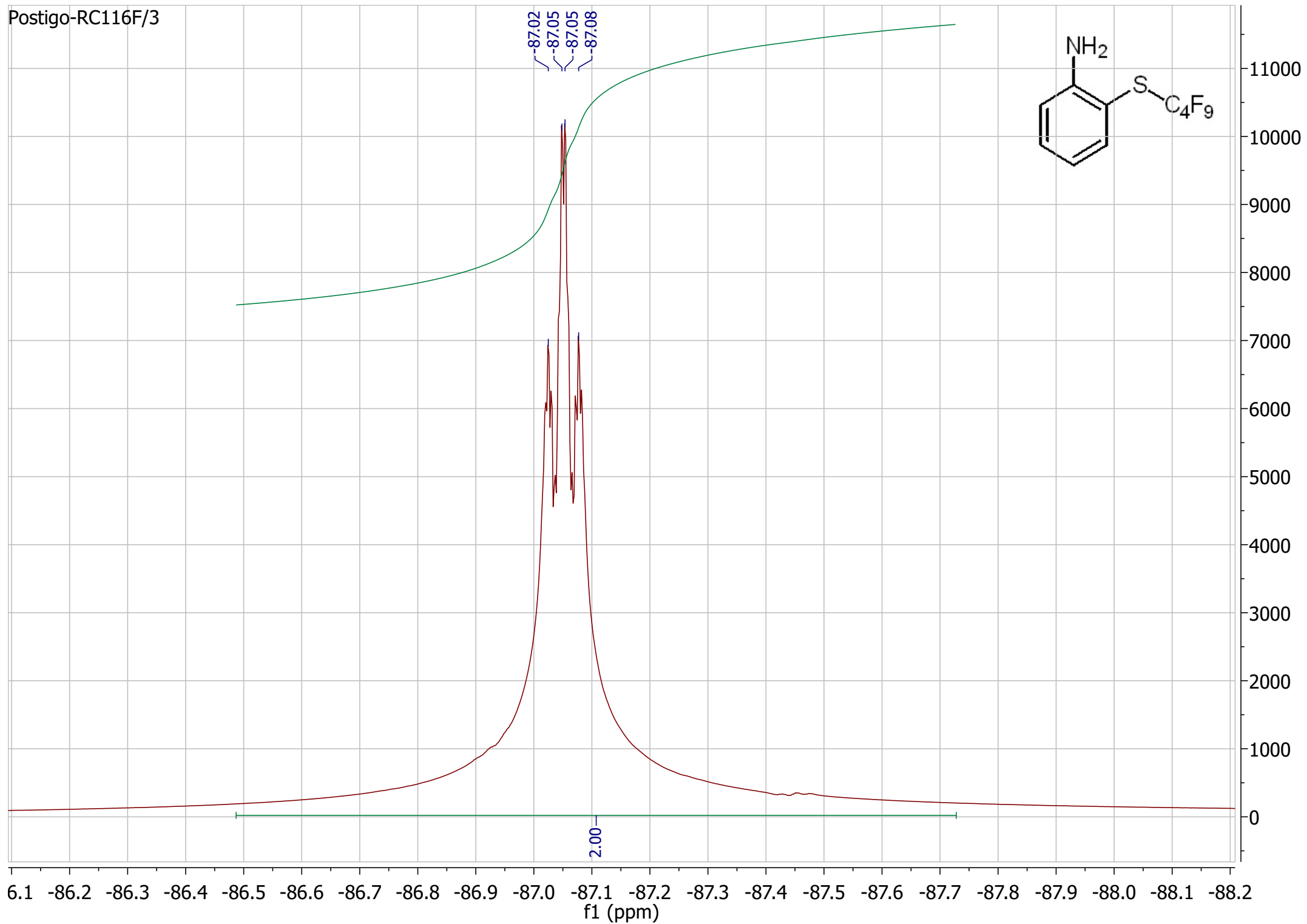
Postigo-RC116F/3



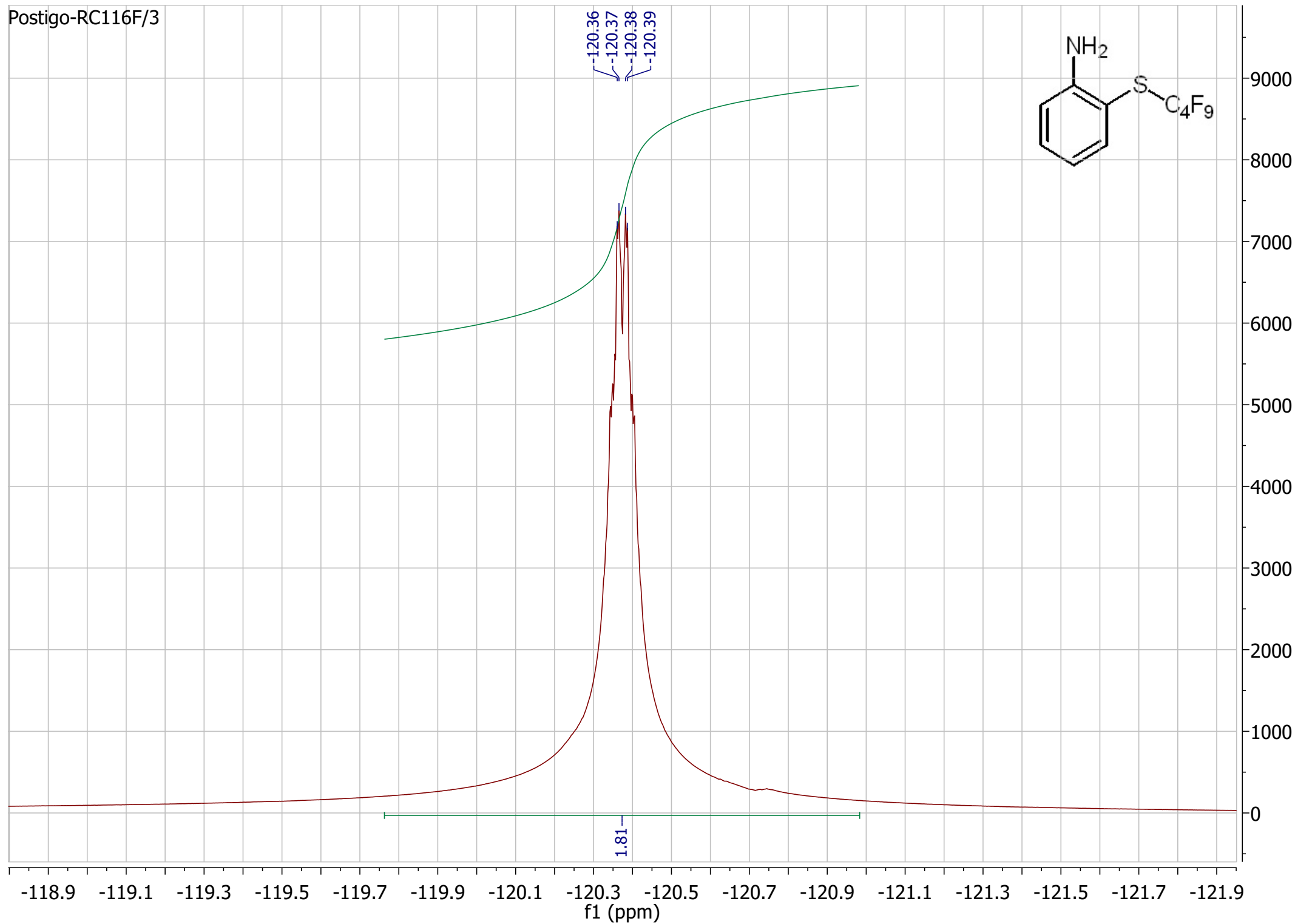
Postigo-RC116F/3



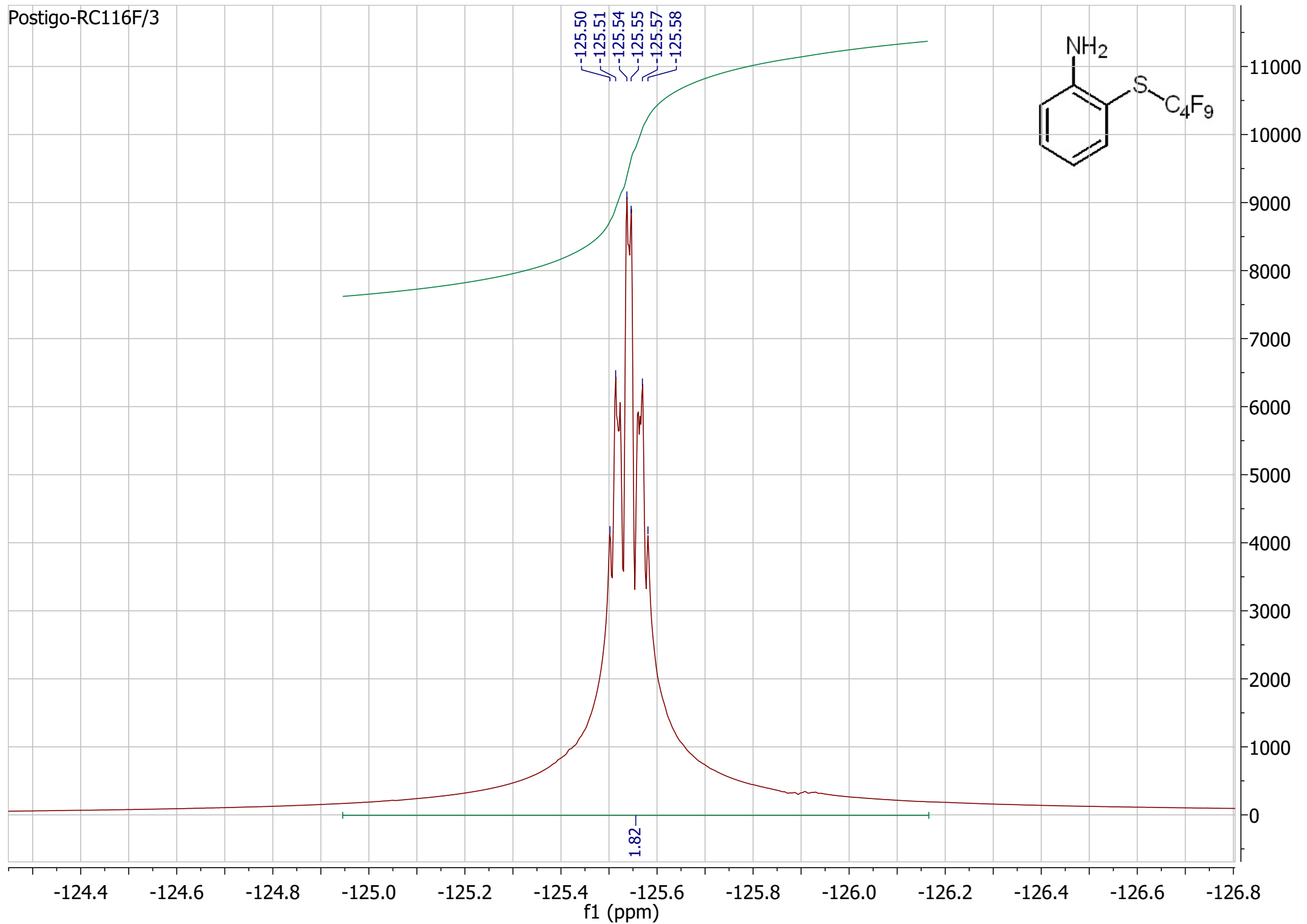
Postigo-RC116F/3

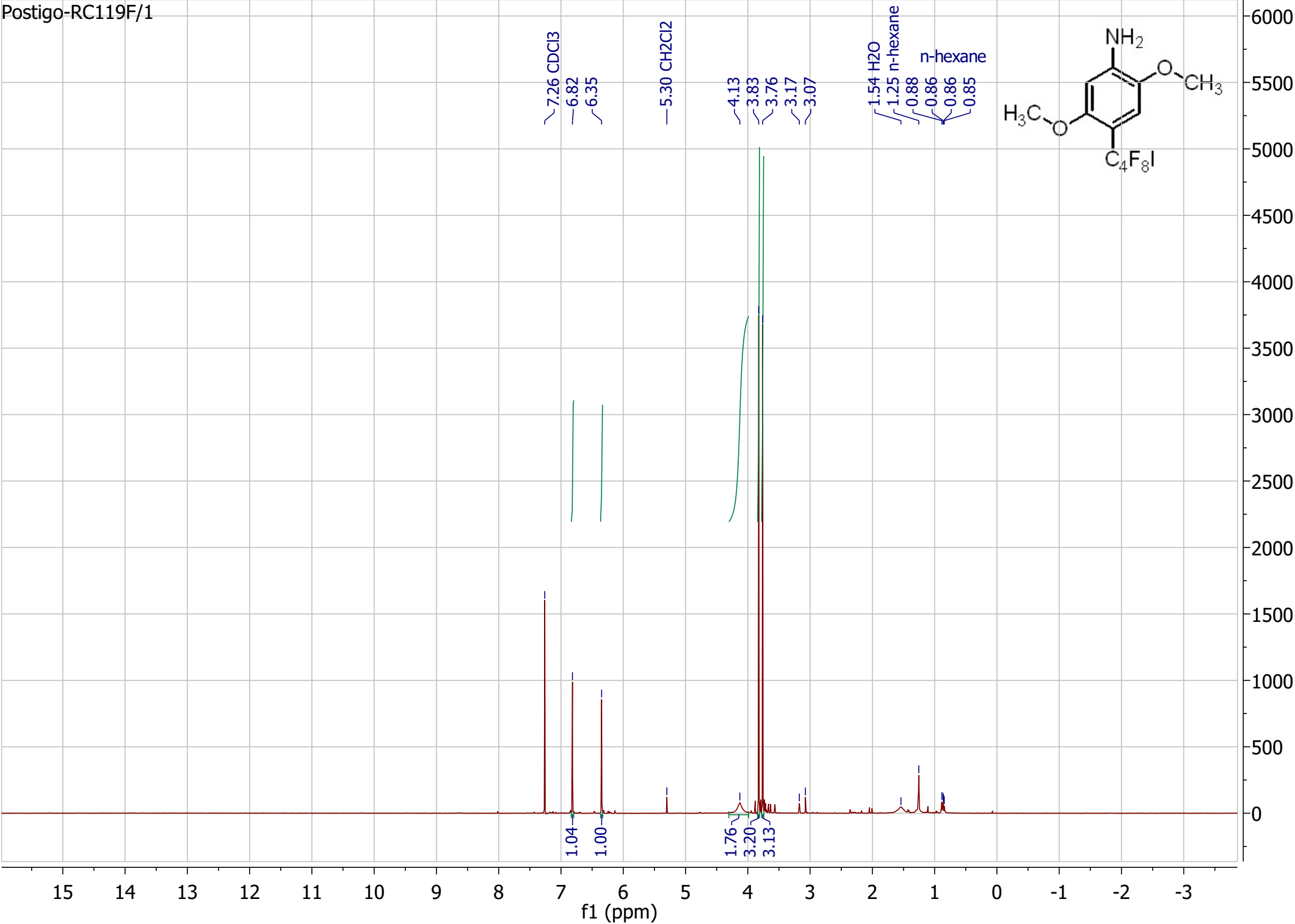


Postigo-RC116F/3

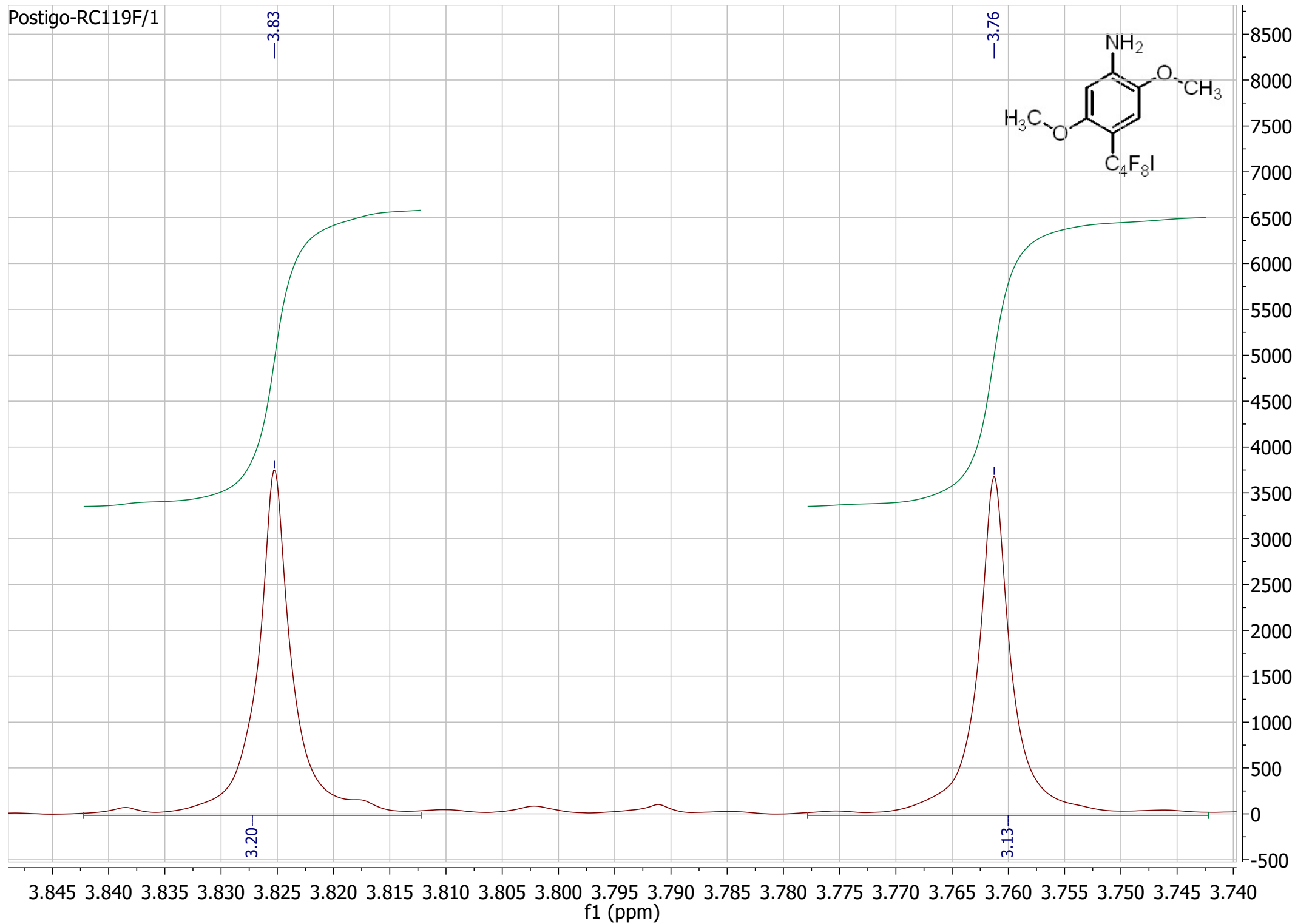


Postigo-RC116F/3

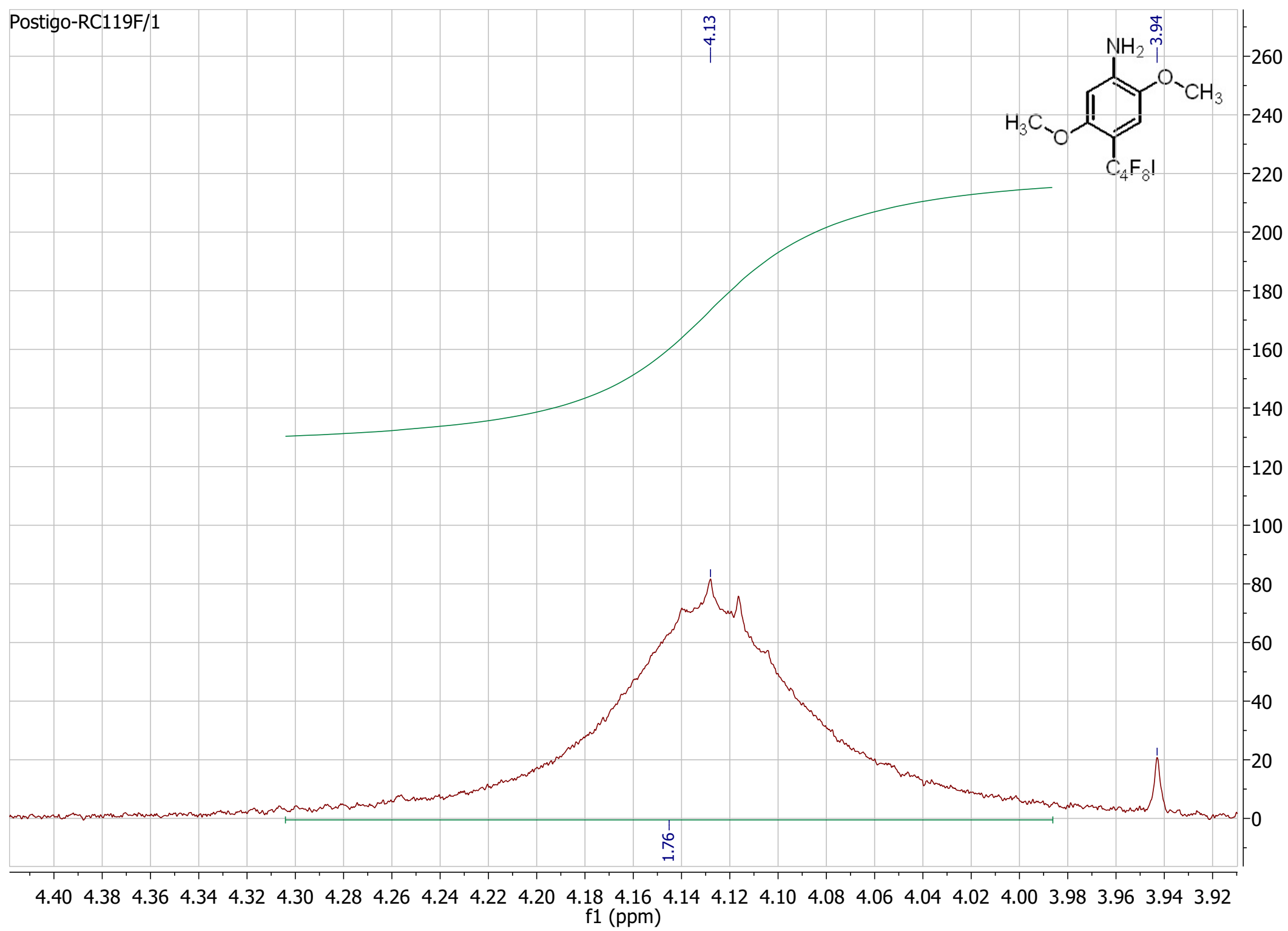




Postigo-RC119F/1



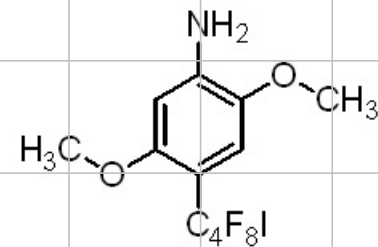
Postigo-RC119F/1



Postigo-RC119F/1

6.82
1.04

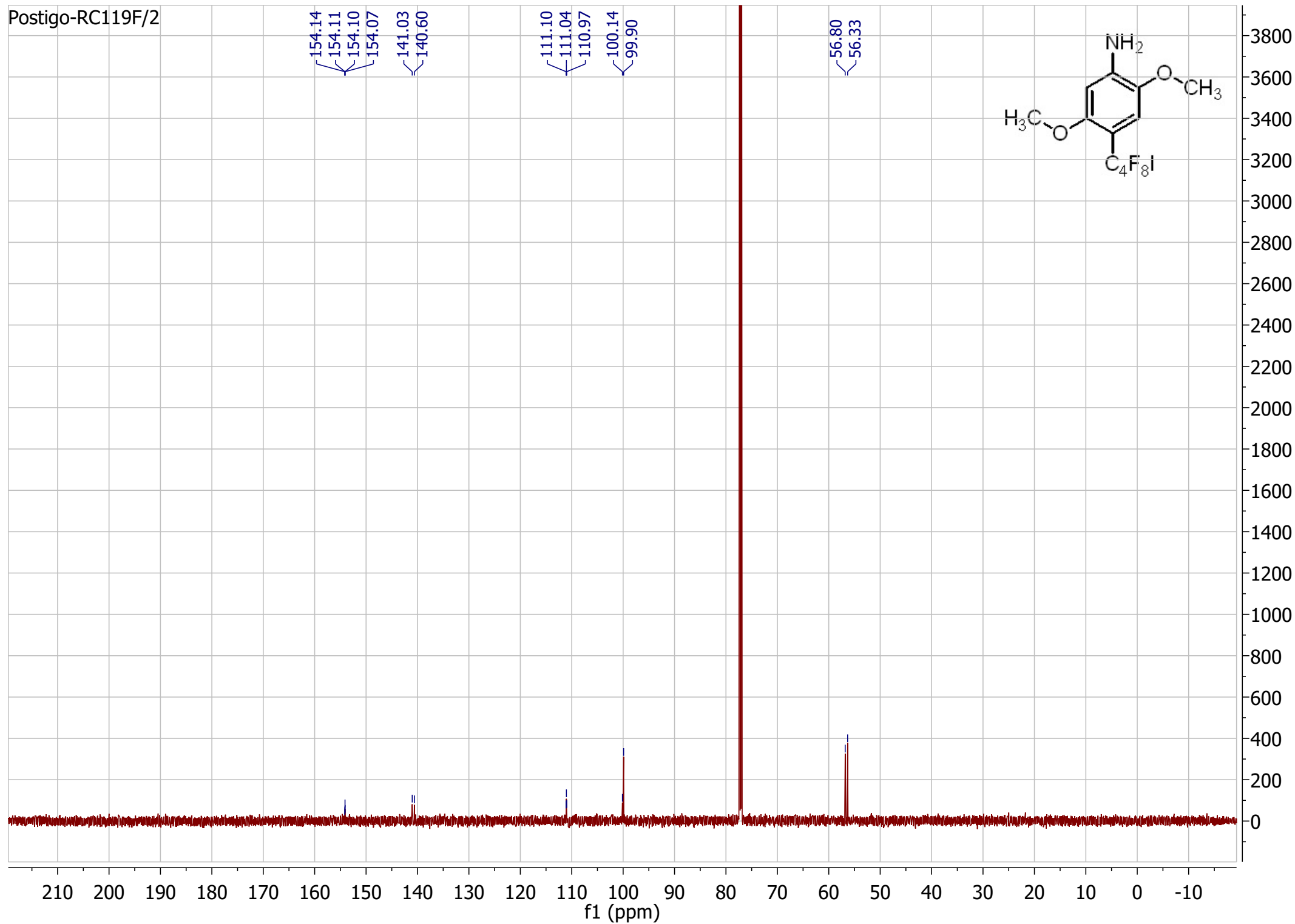
6.35
1.00



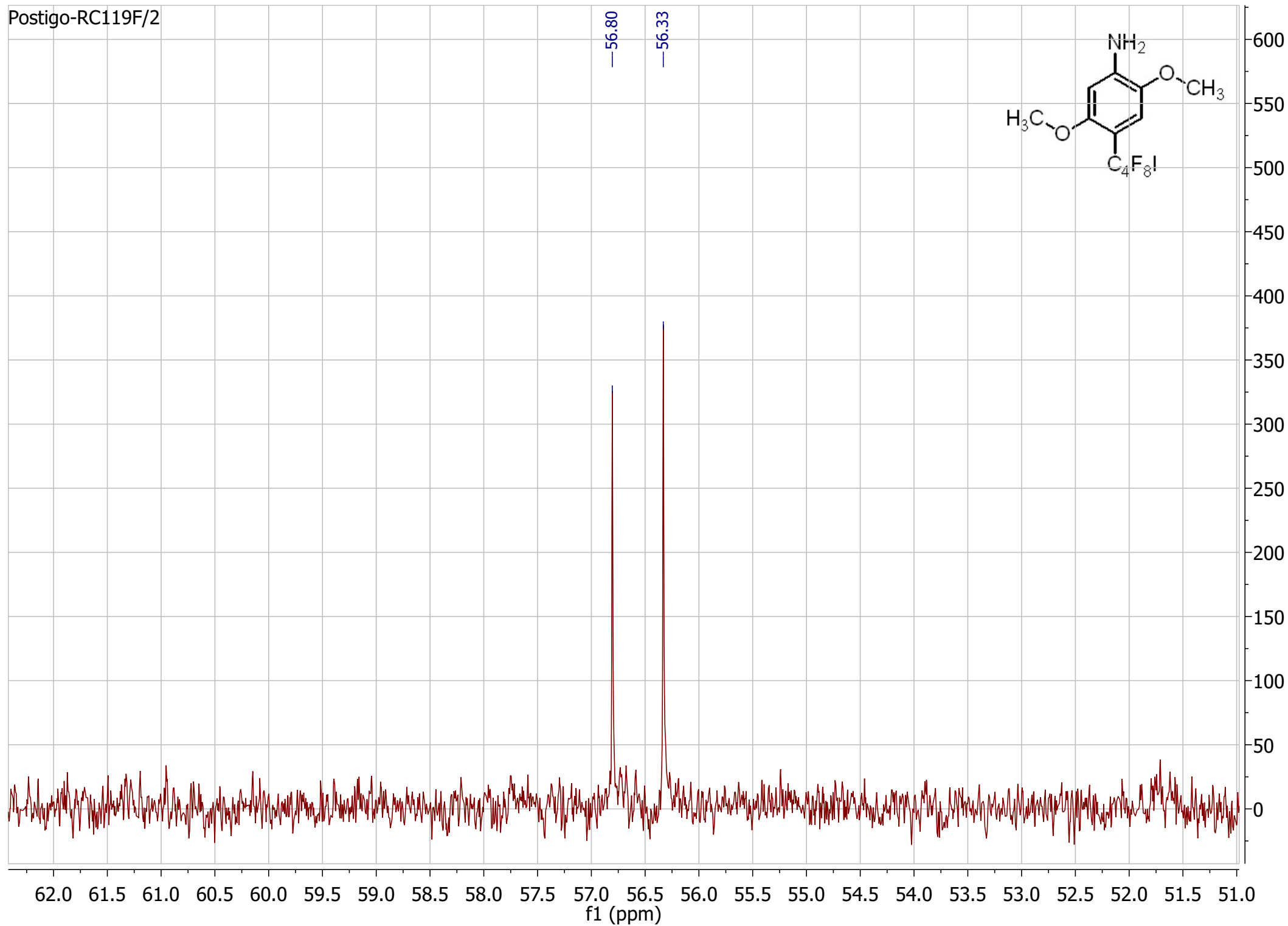
6.90 6.85 6.80 6.75 6.70 6.65 6.60 6.55 6.50 6.45 6.40 6.35 6.30 6.25 6.20

f1 (ppm)

Postigo-RC119F/2



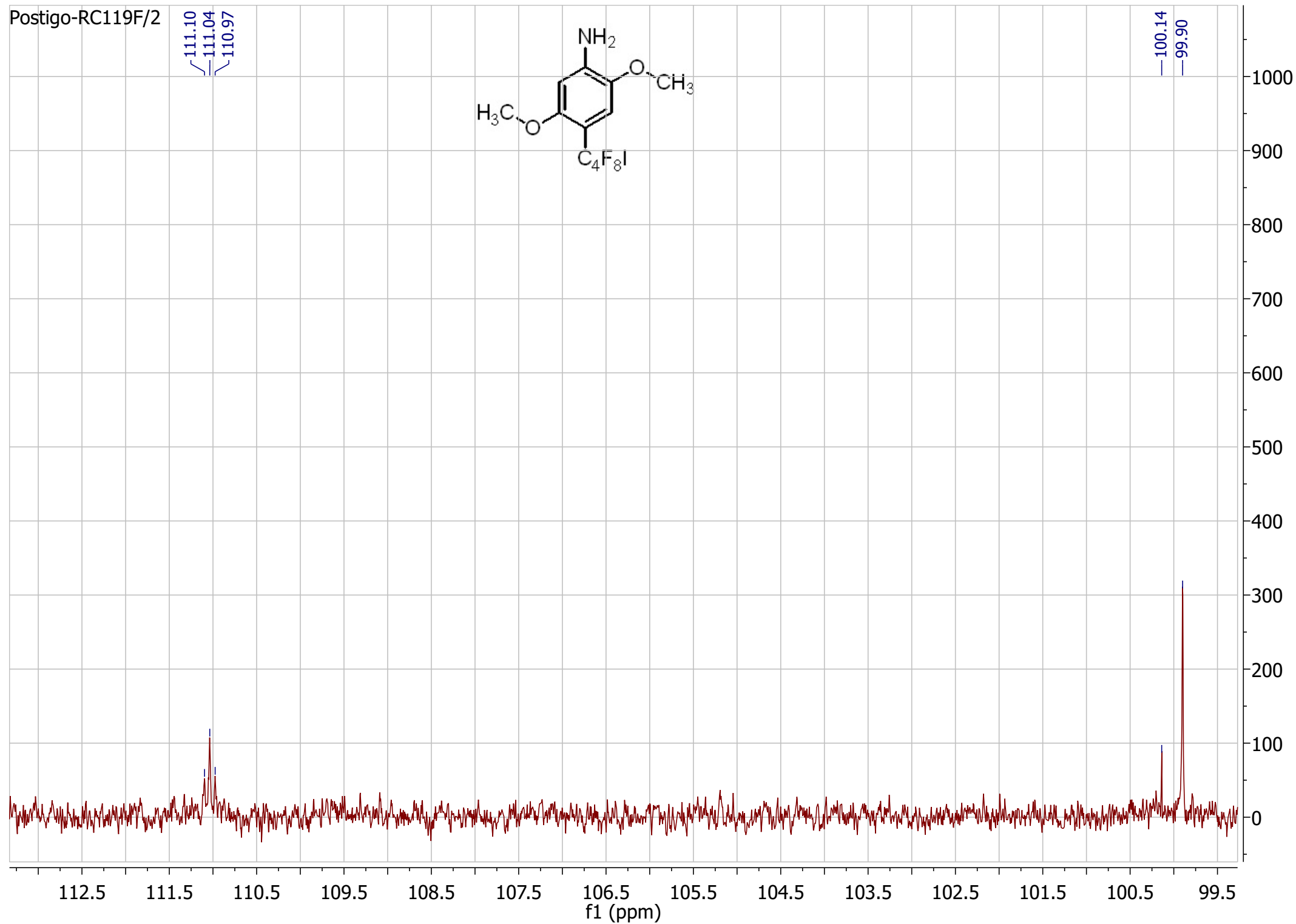
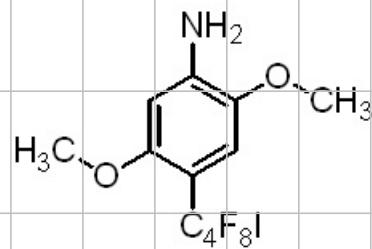
Postigo-RC119F/2



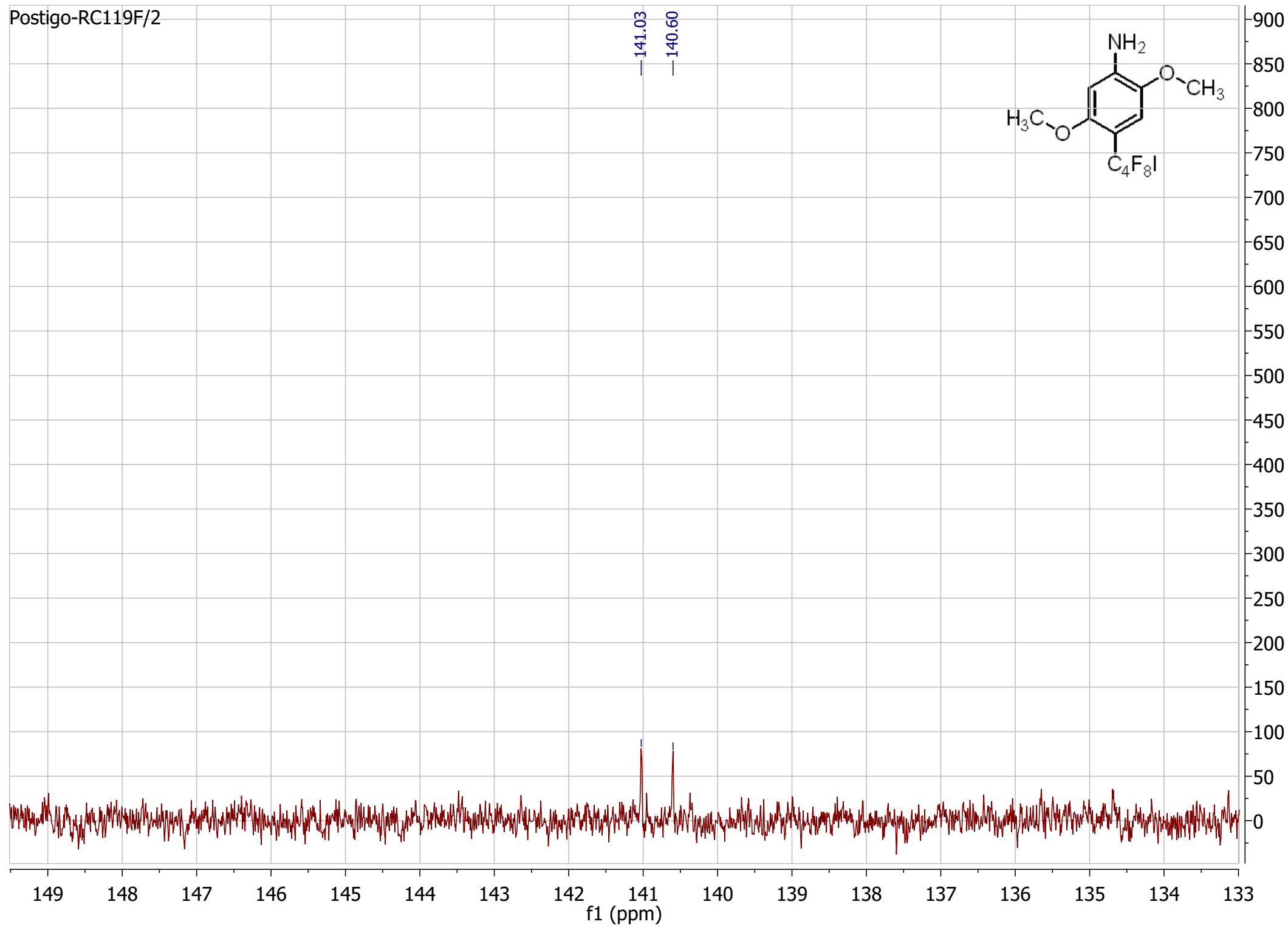
Postigo-RC119F/2

111.10
111.04
110.97

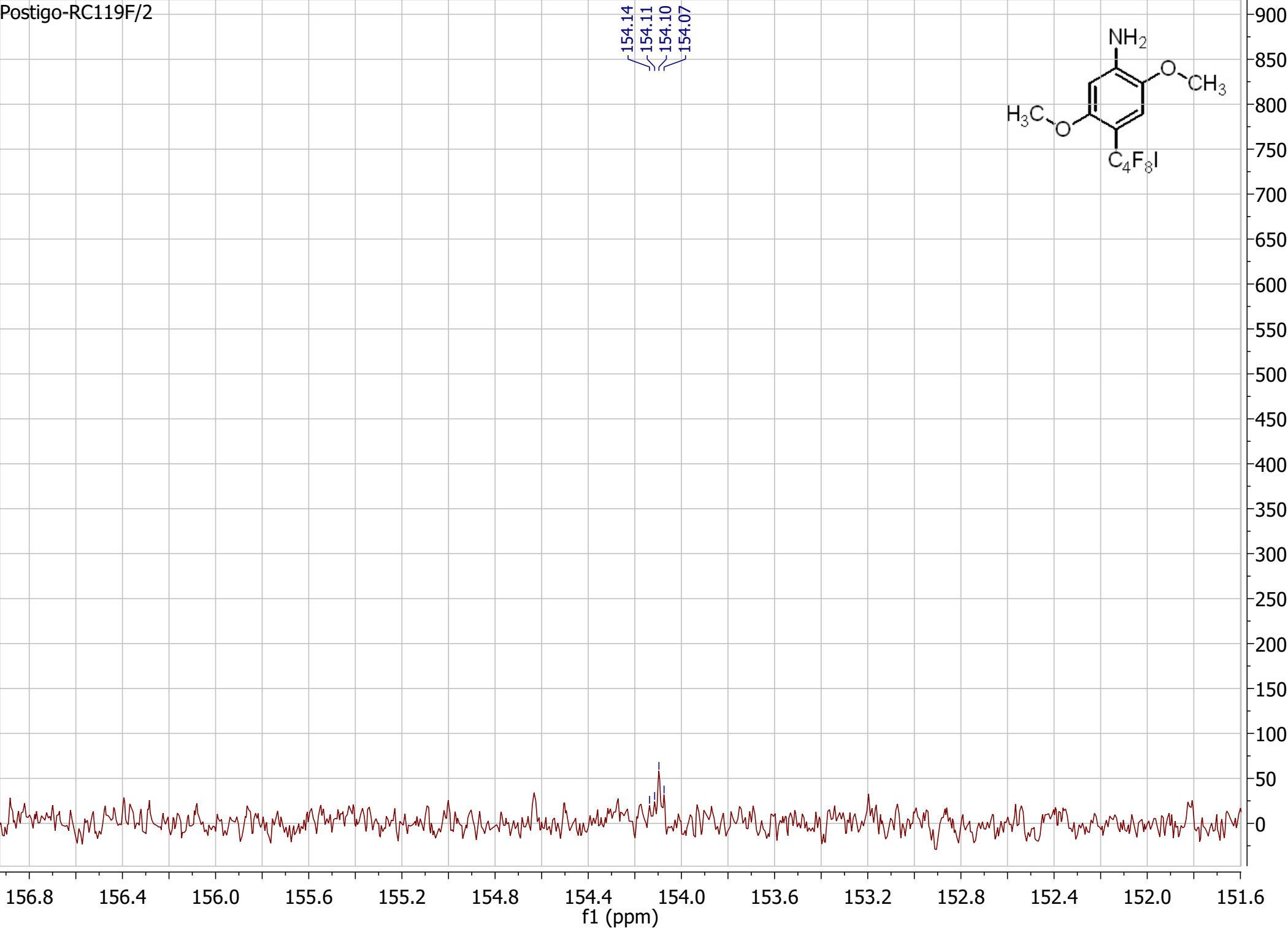
100.14
99.90



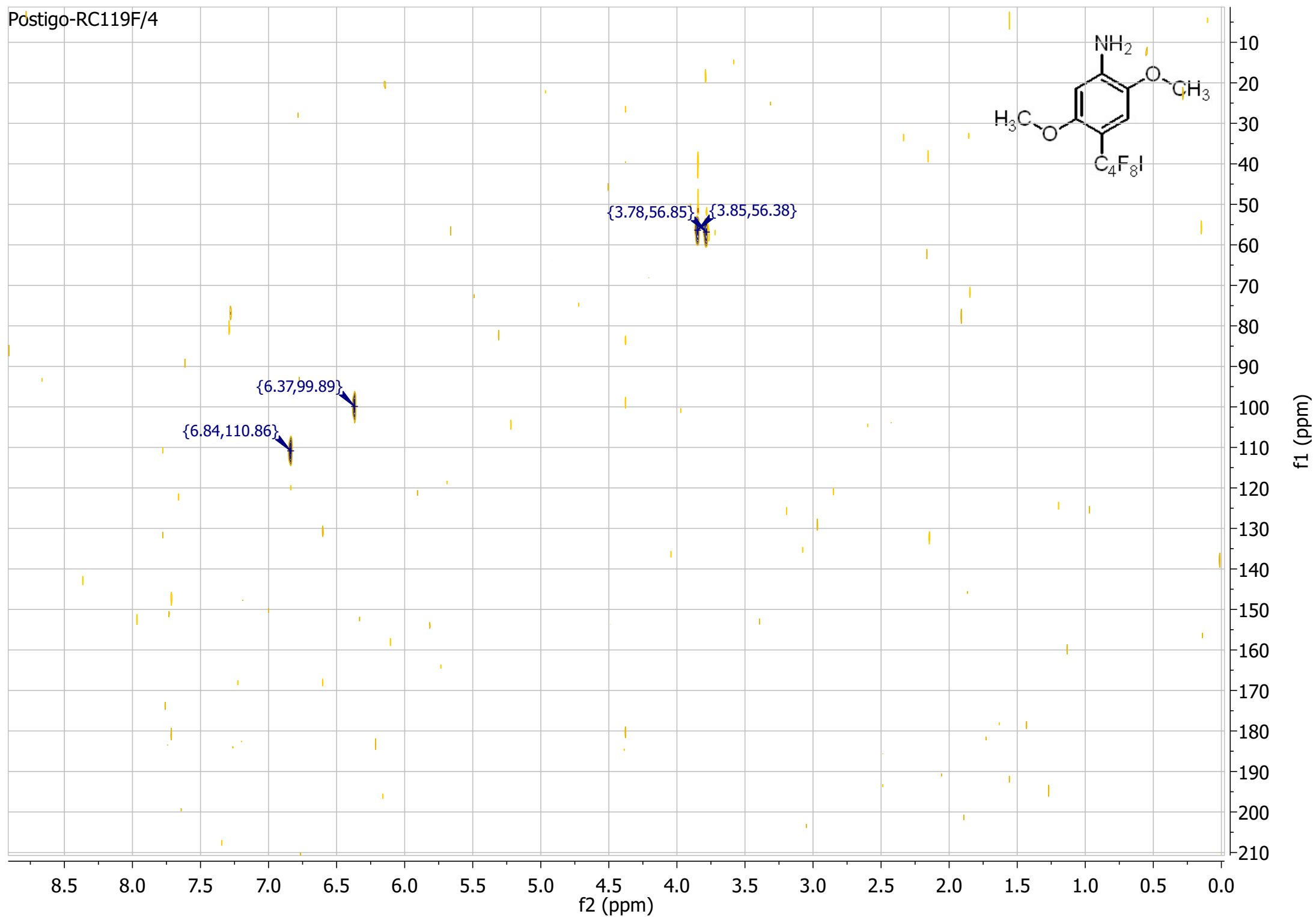
Postigo-RC119F/2



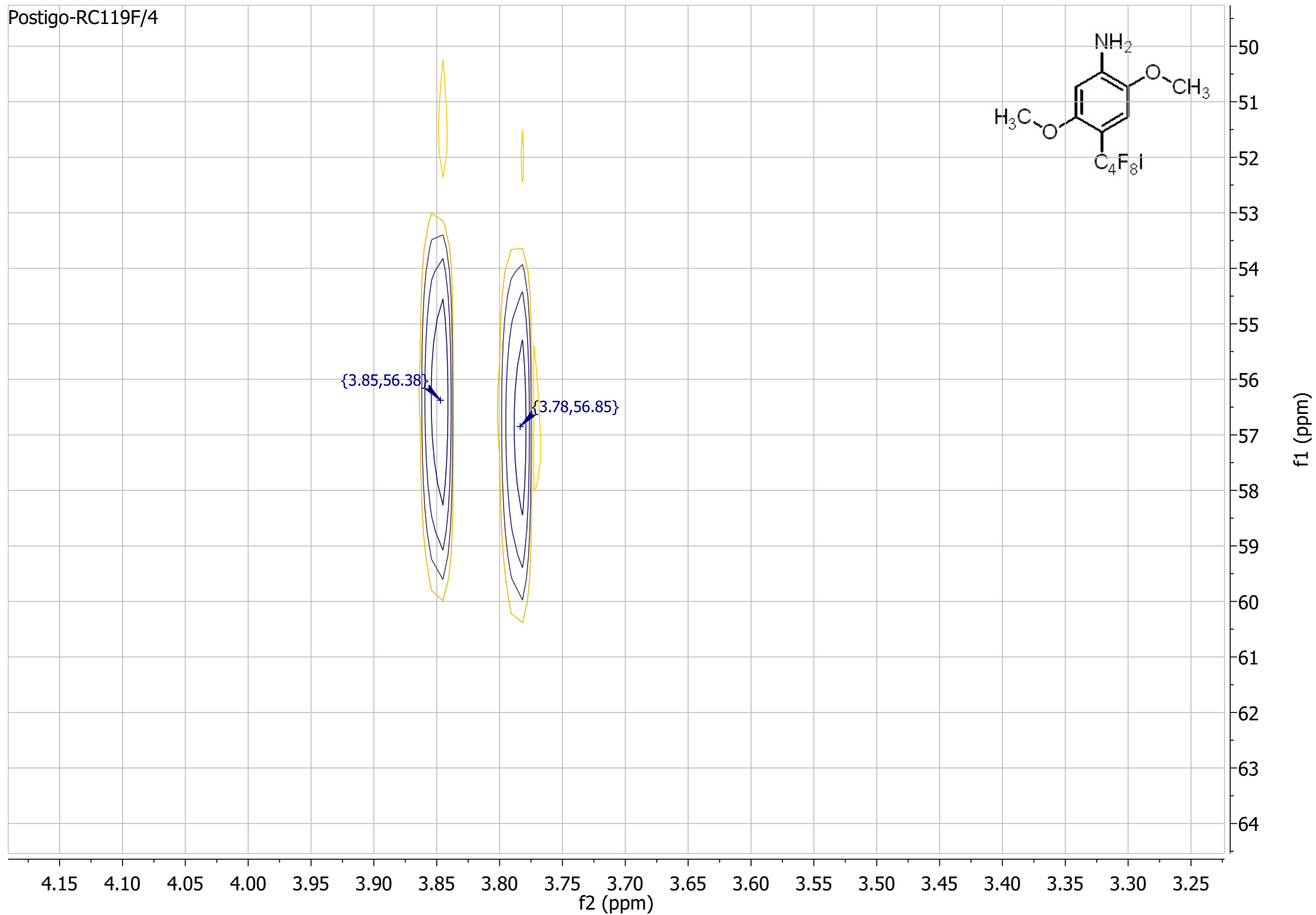
Postigo-RC119F/2



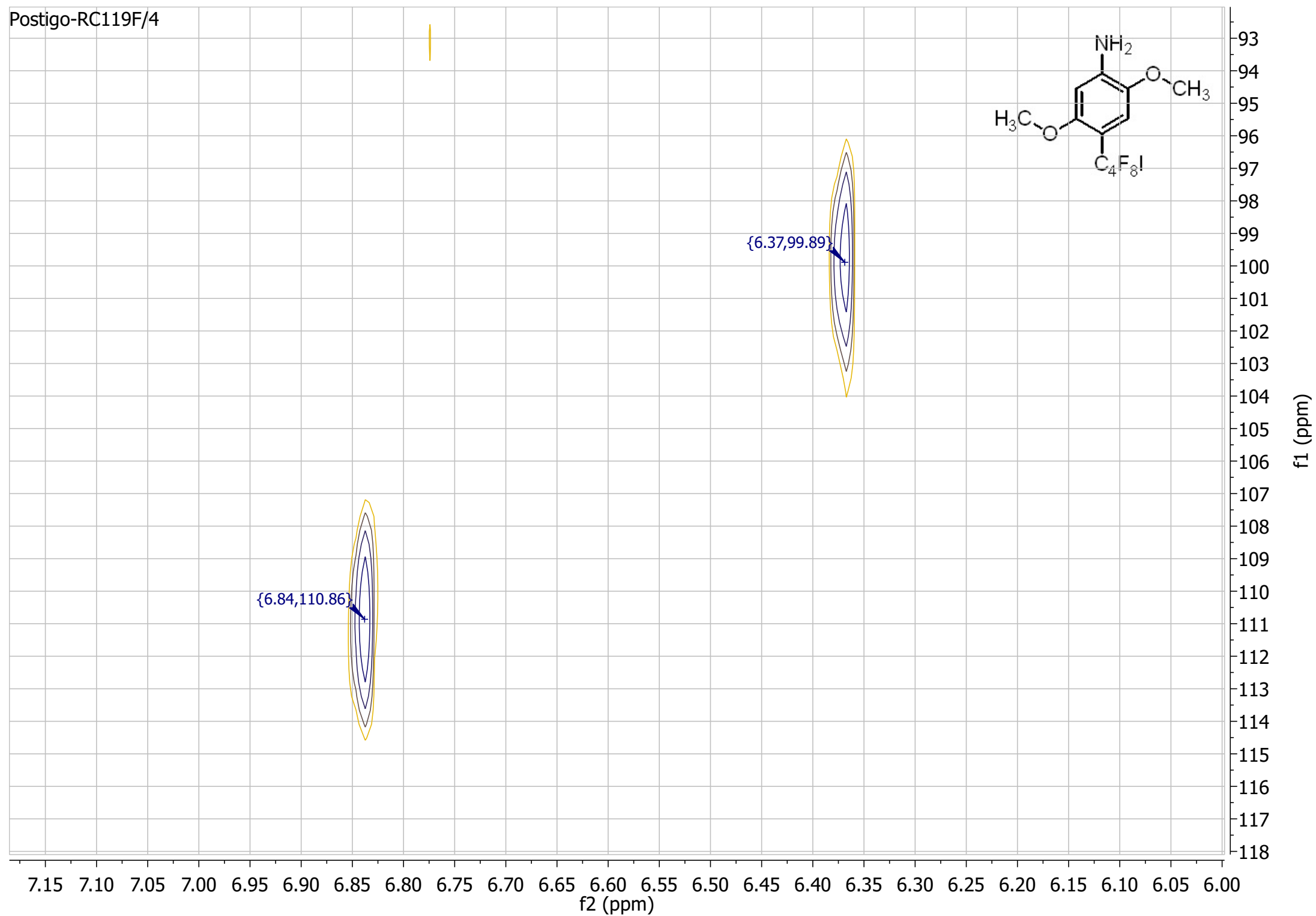
Postigo-RC119F/4



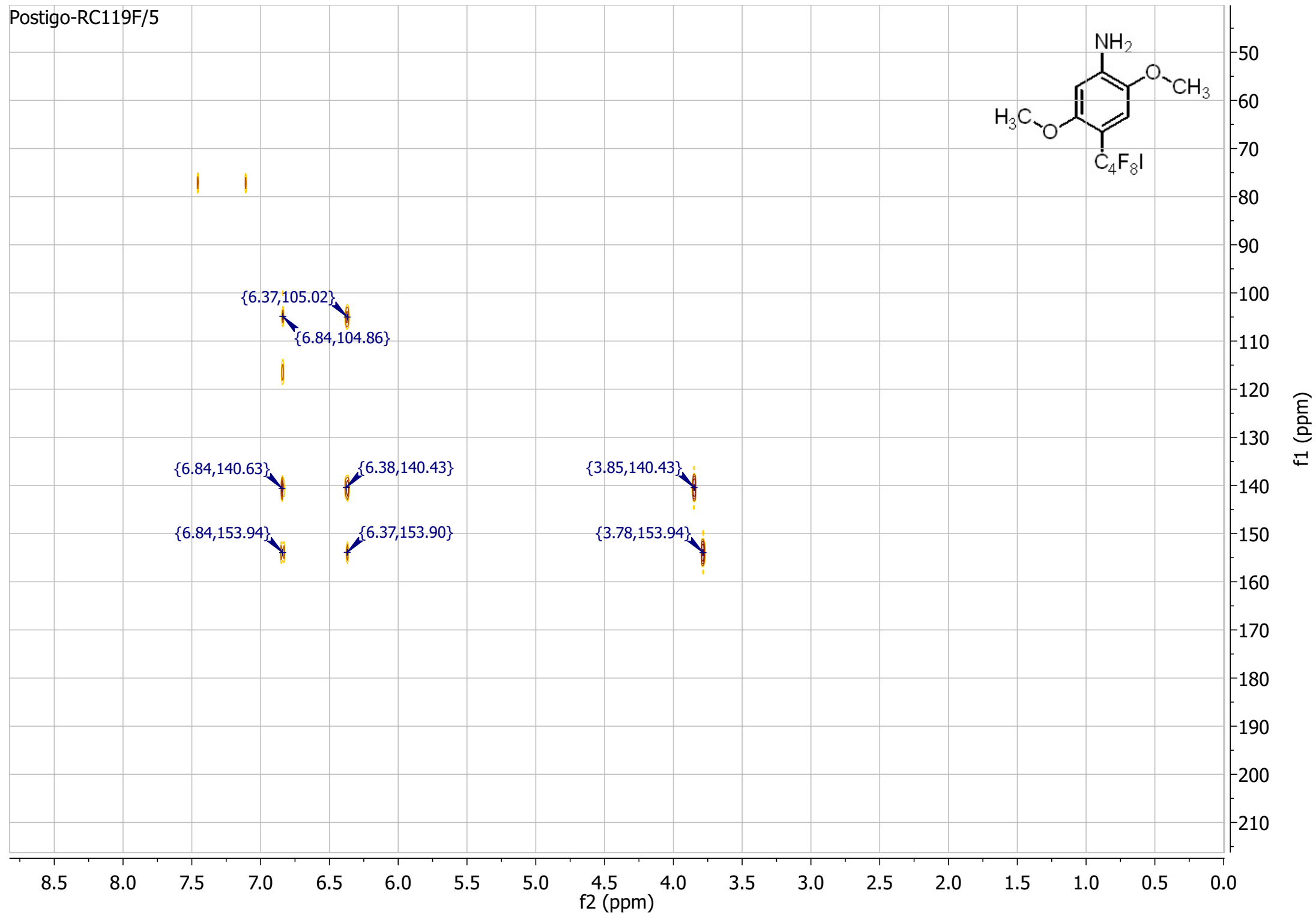
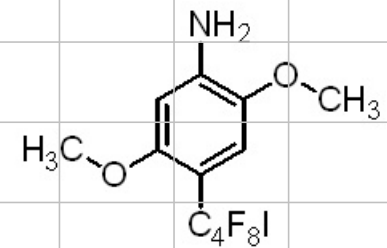
Postigo-RC119F/4



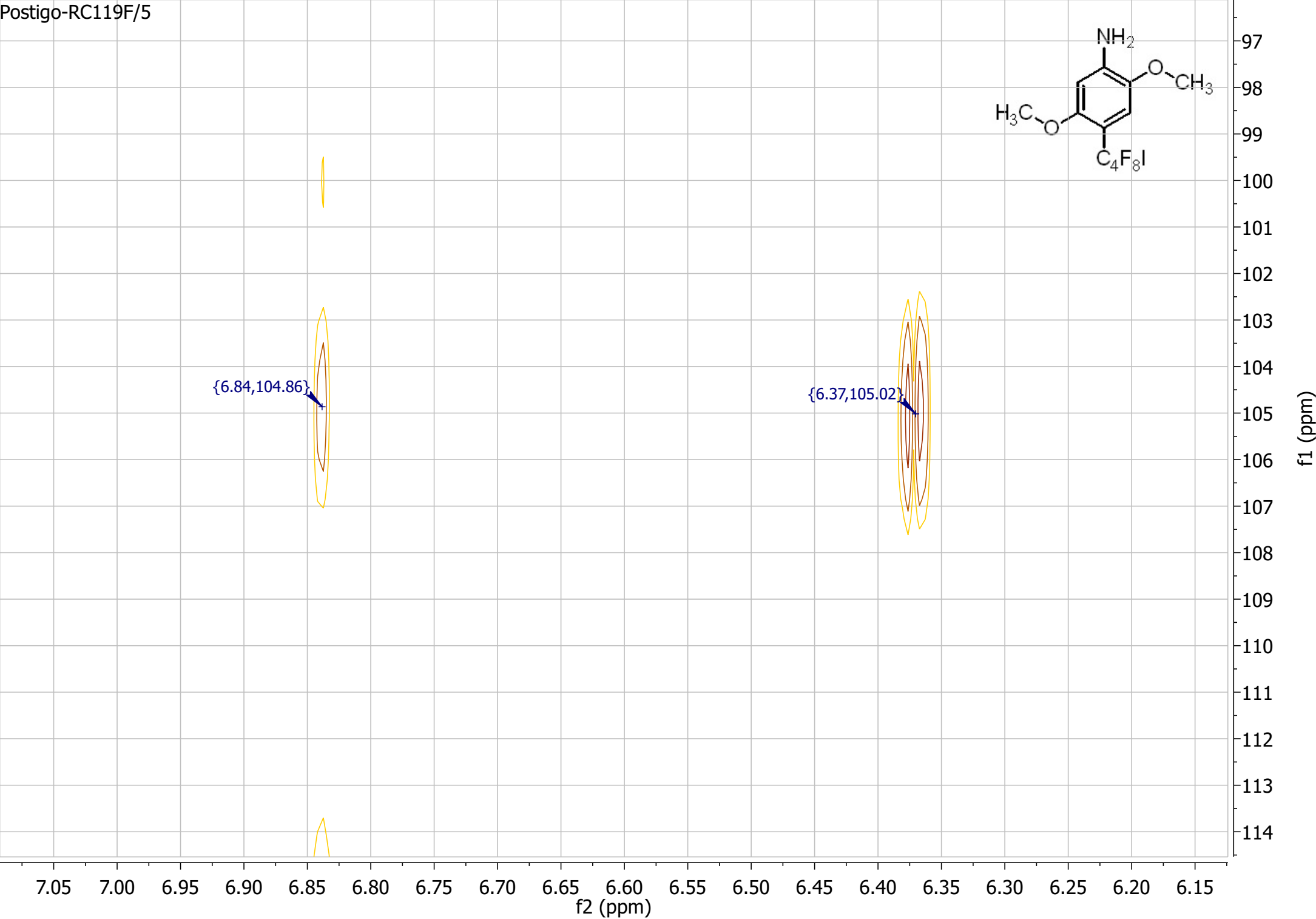
Postigo-RC119F/4



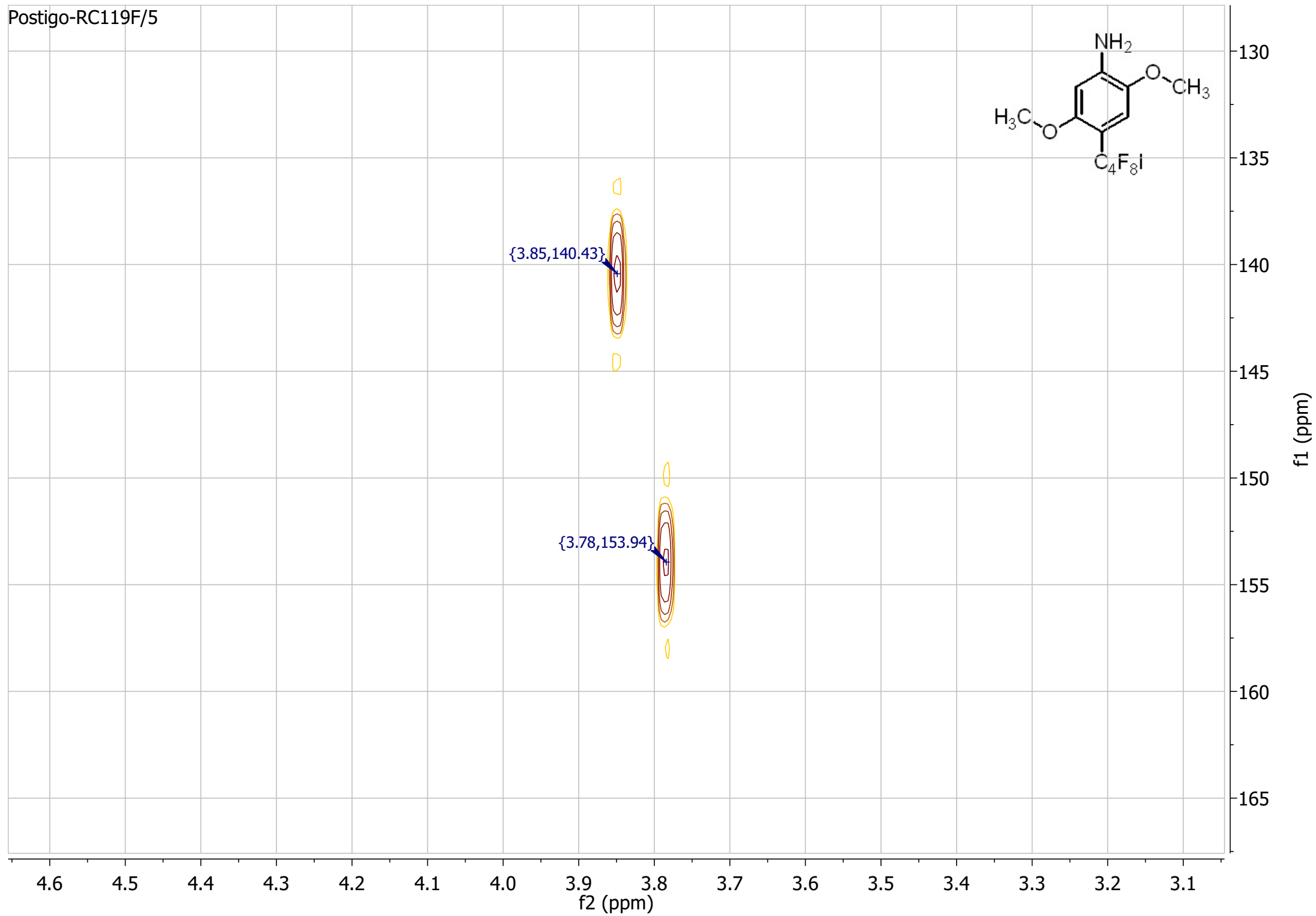
Postigo-RC119F/5



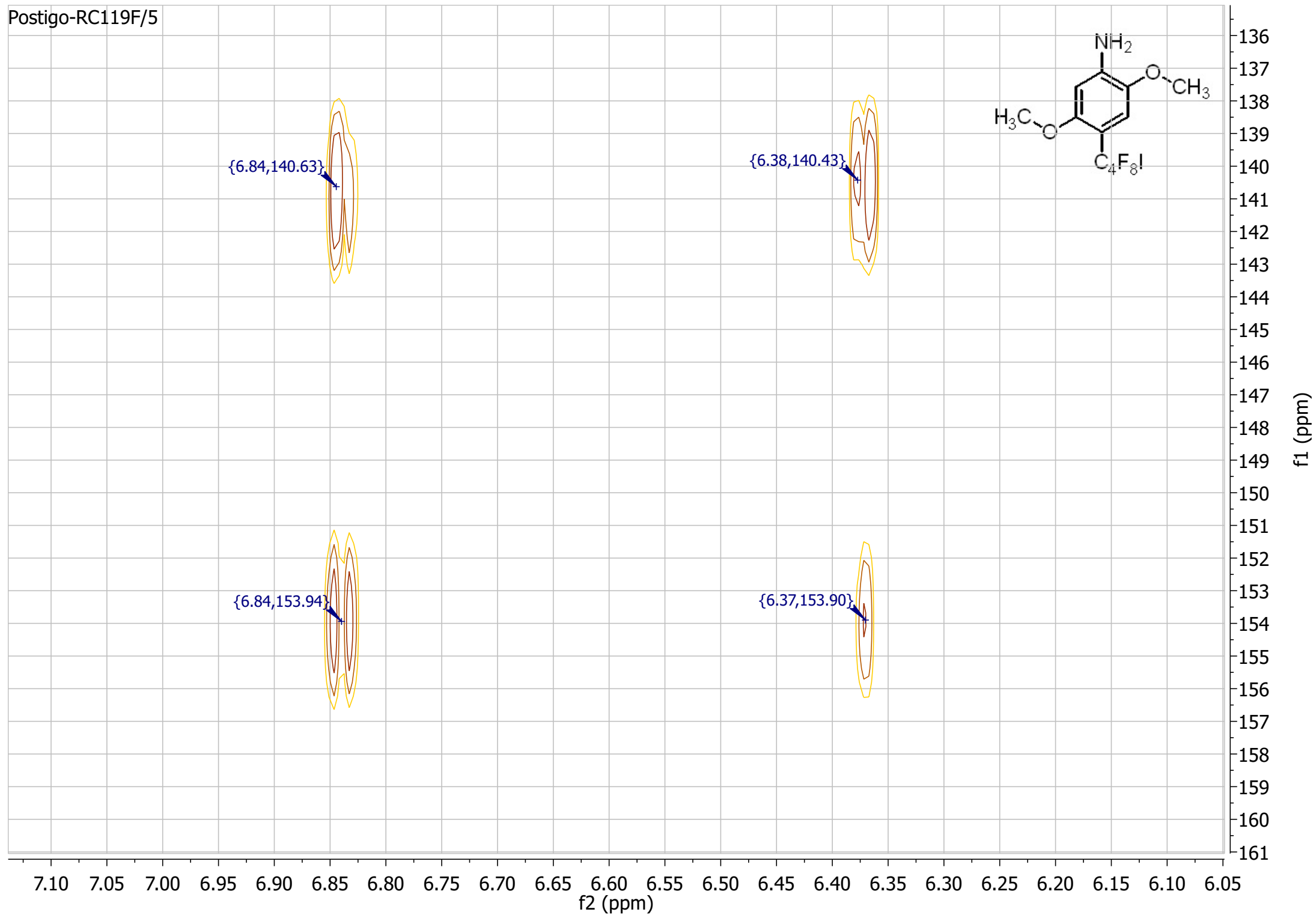
Postigo-RC119F/5



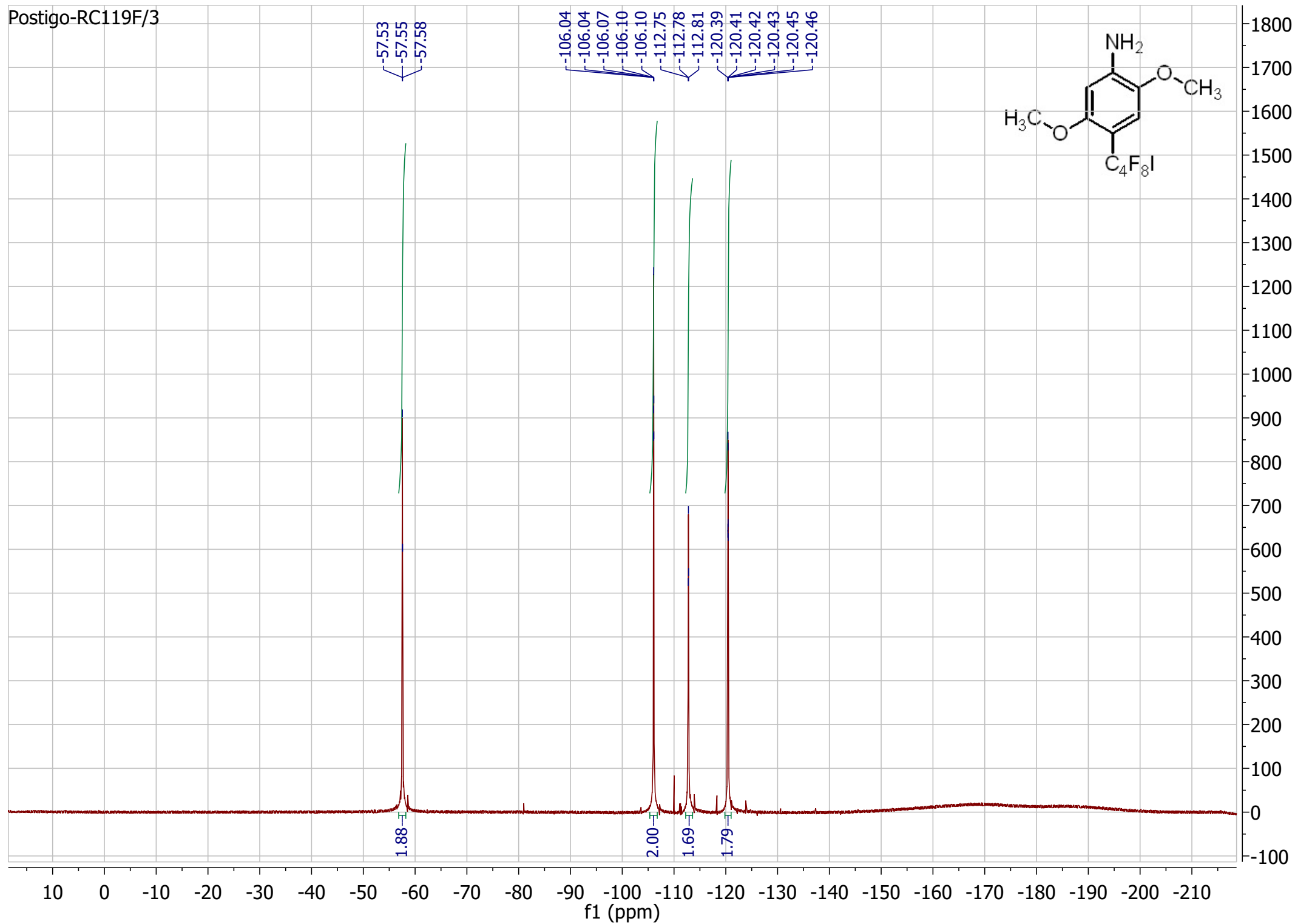
Postigo-RC119F/5



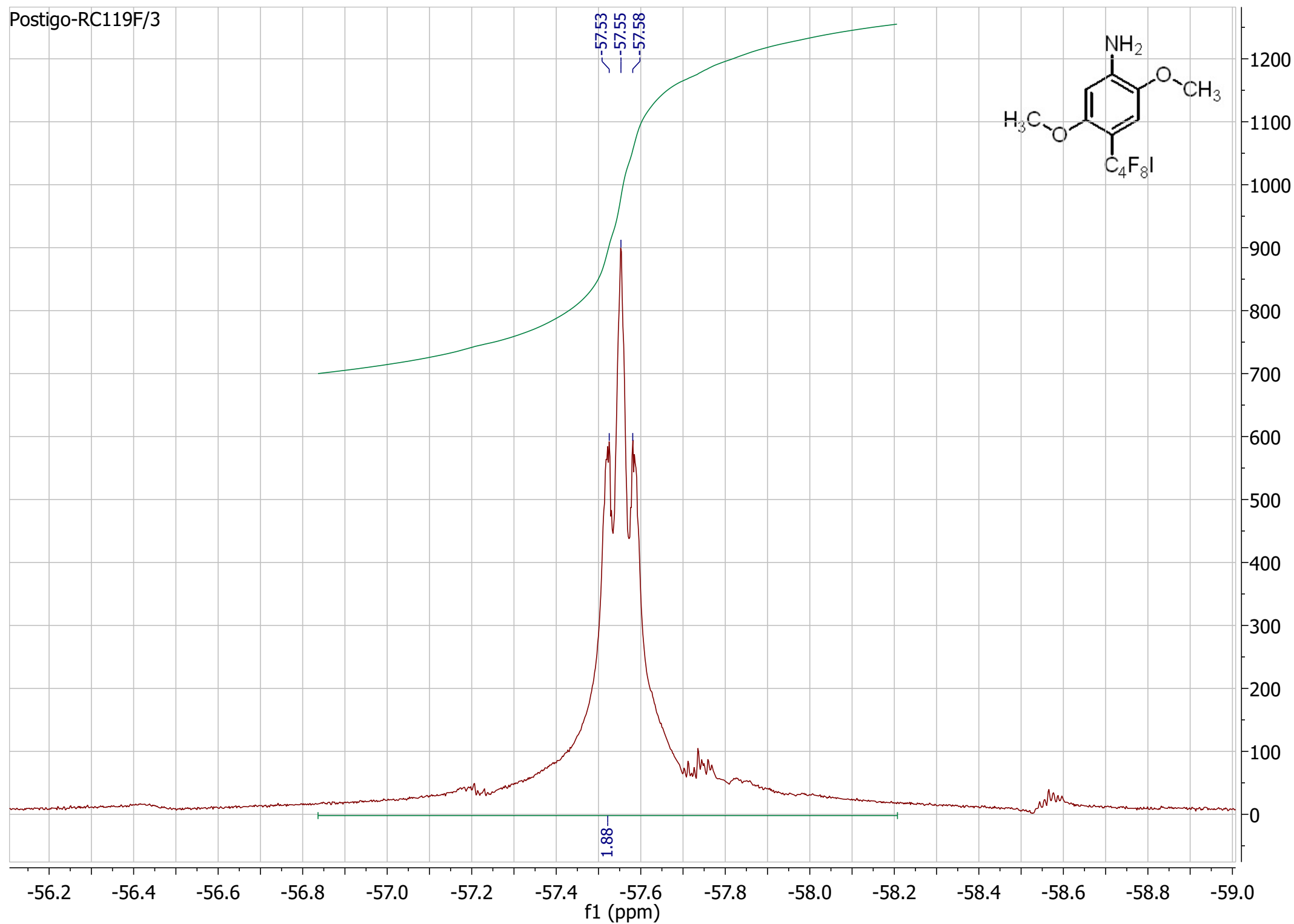
Postigo-RC119F/5



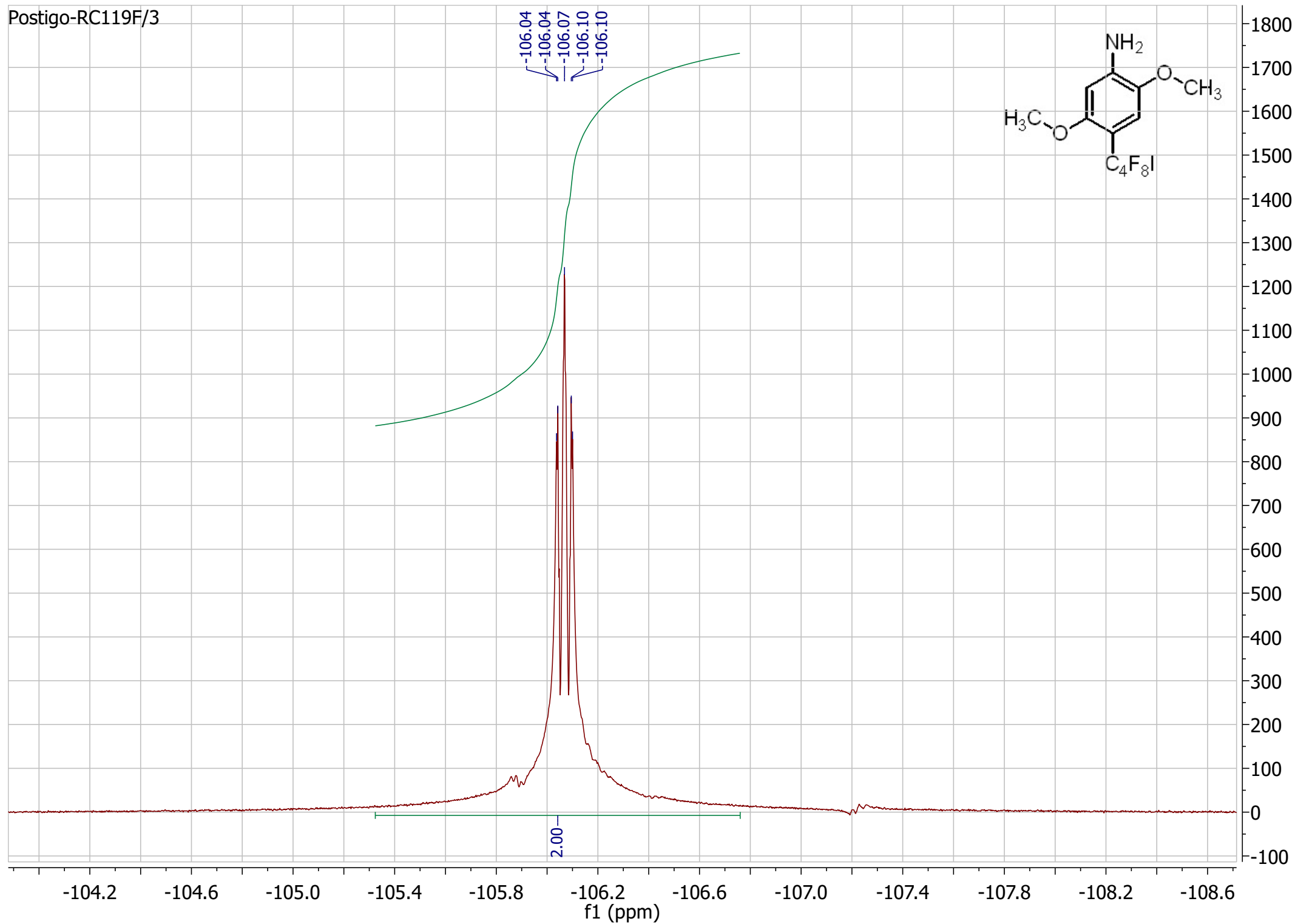
Postigo-RC119F/3



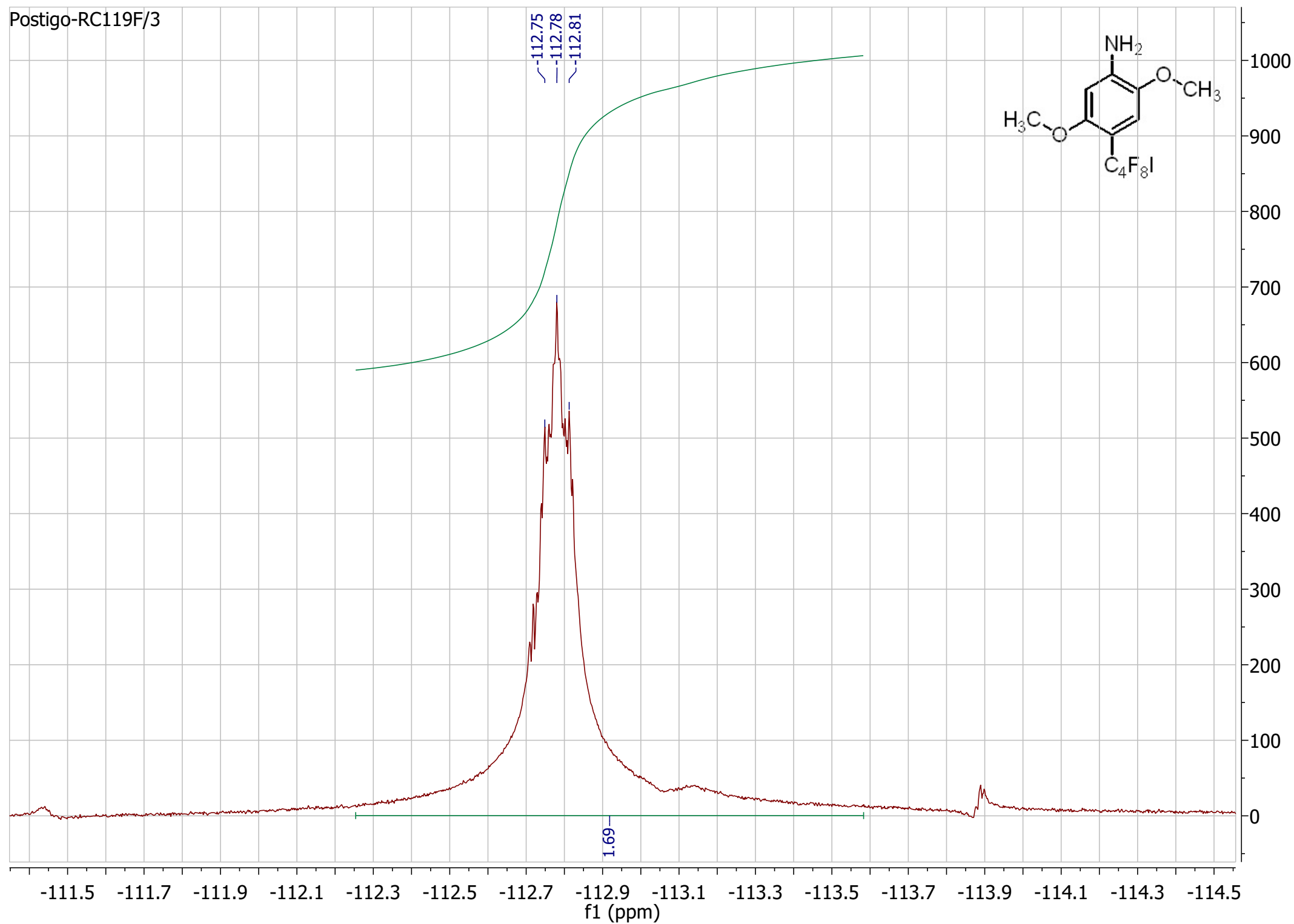
Postigo-RC119F/3



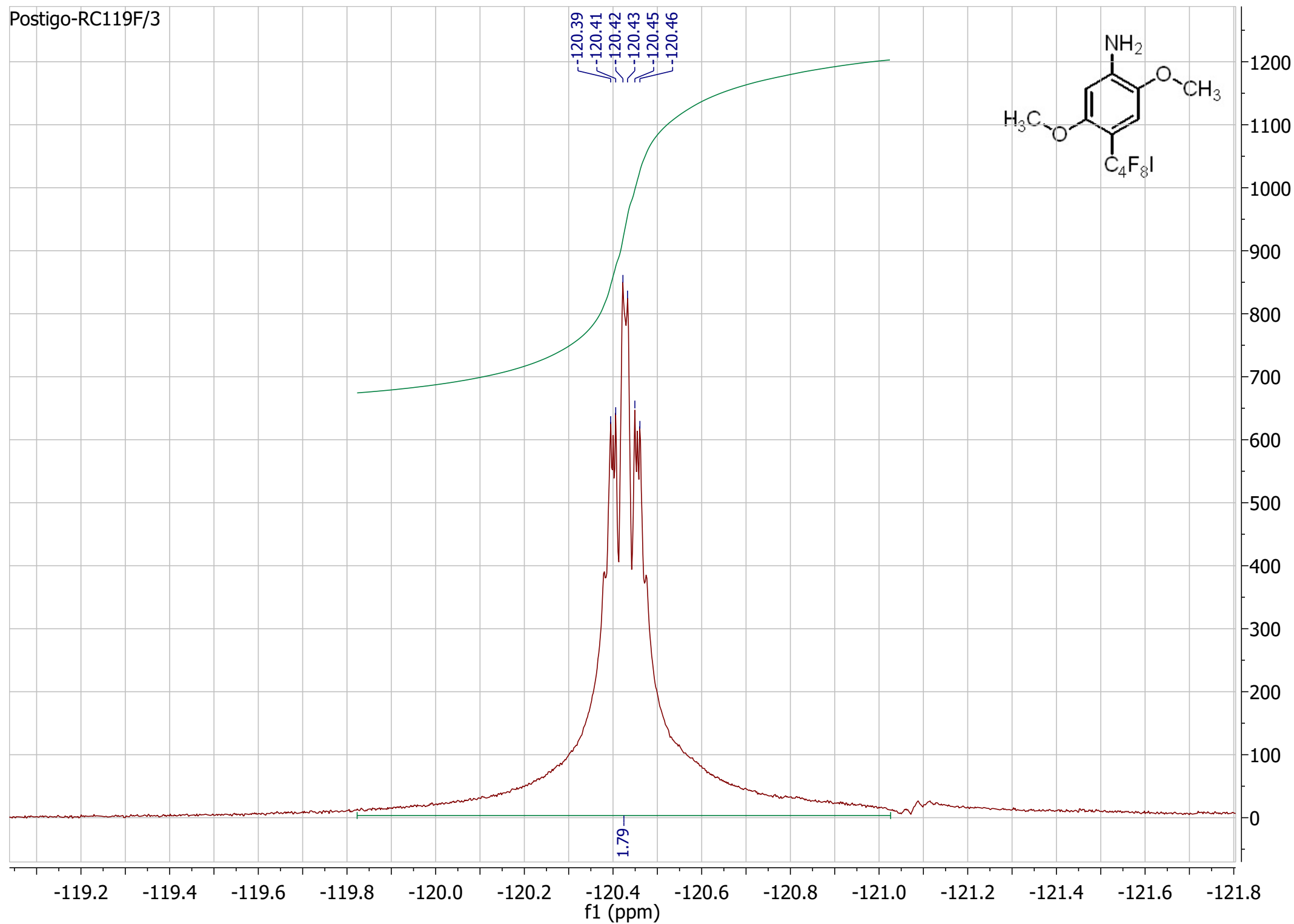
Postigo-RC119F/3



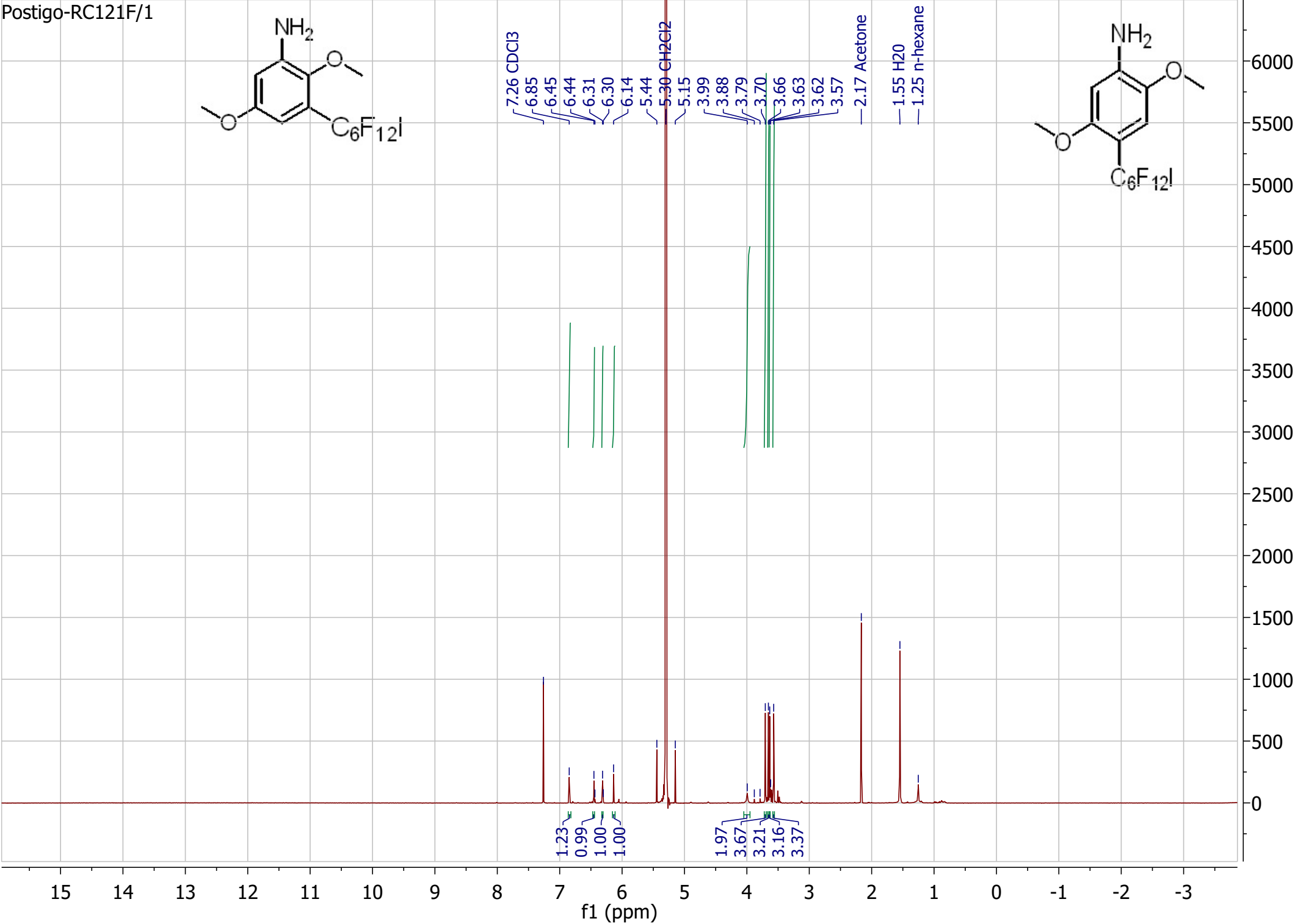
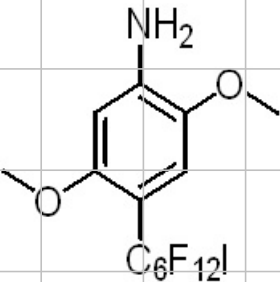
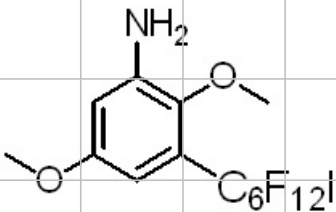
Postigo-RC119F/3



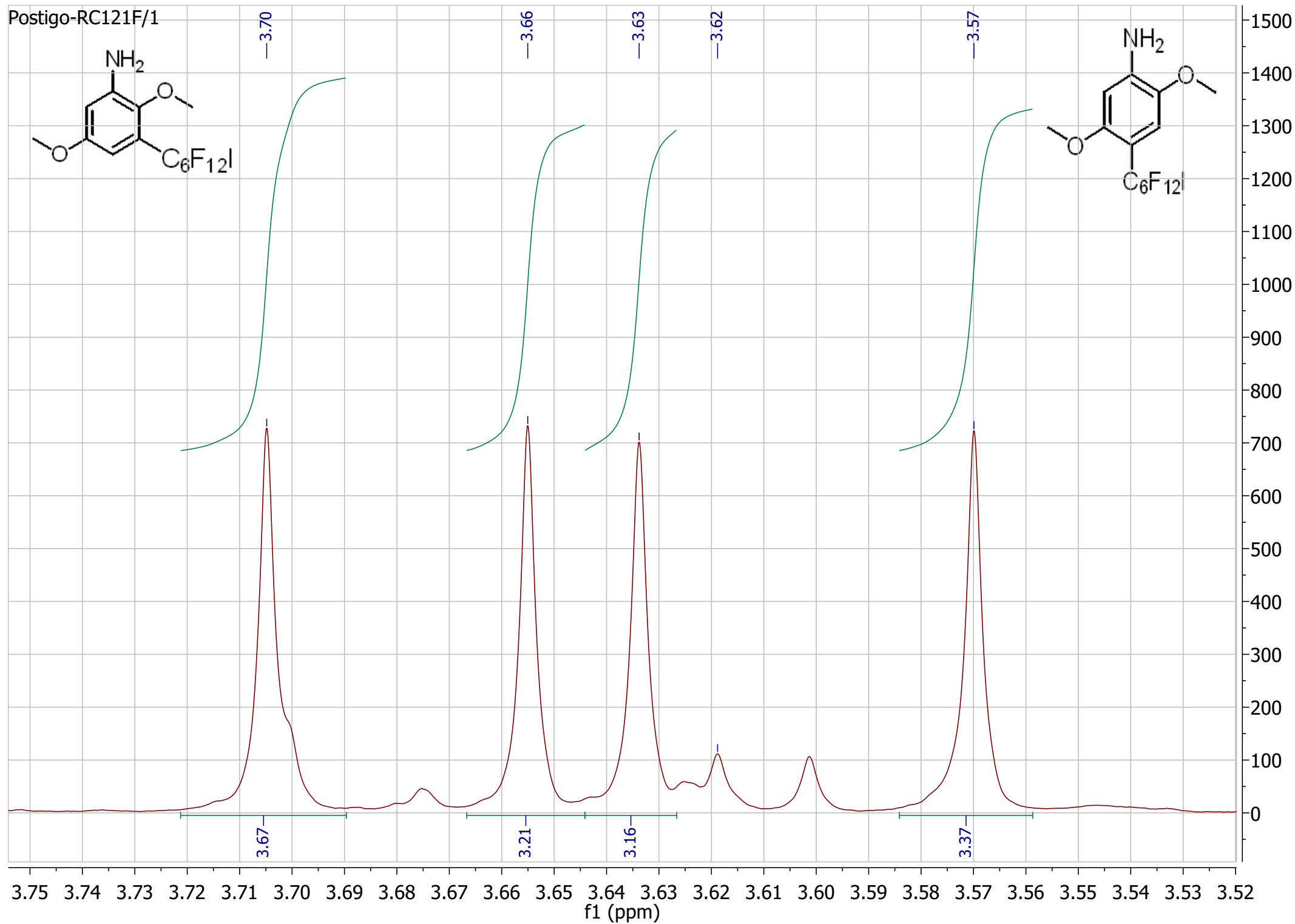
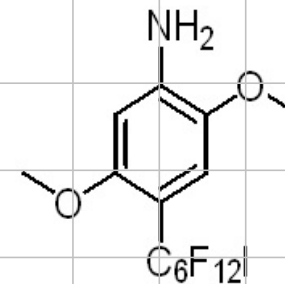
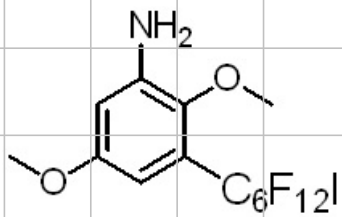
Postigo-RC119F/3



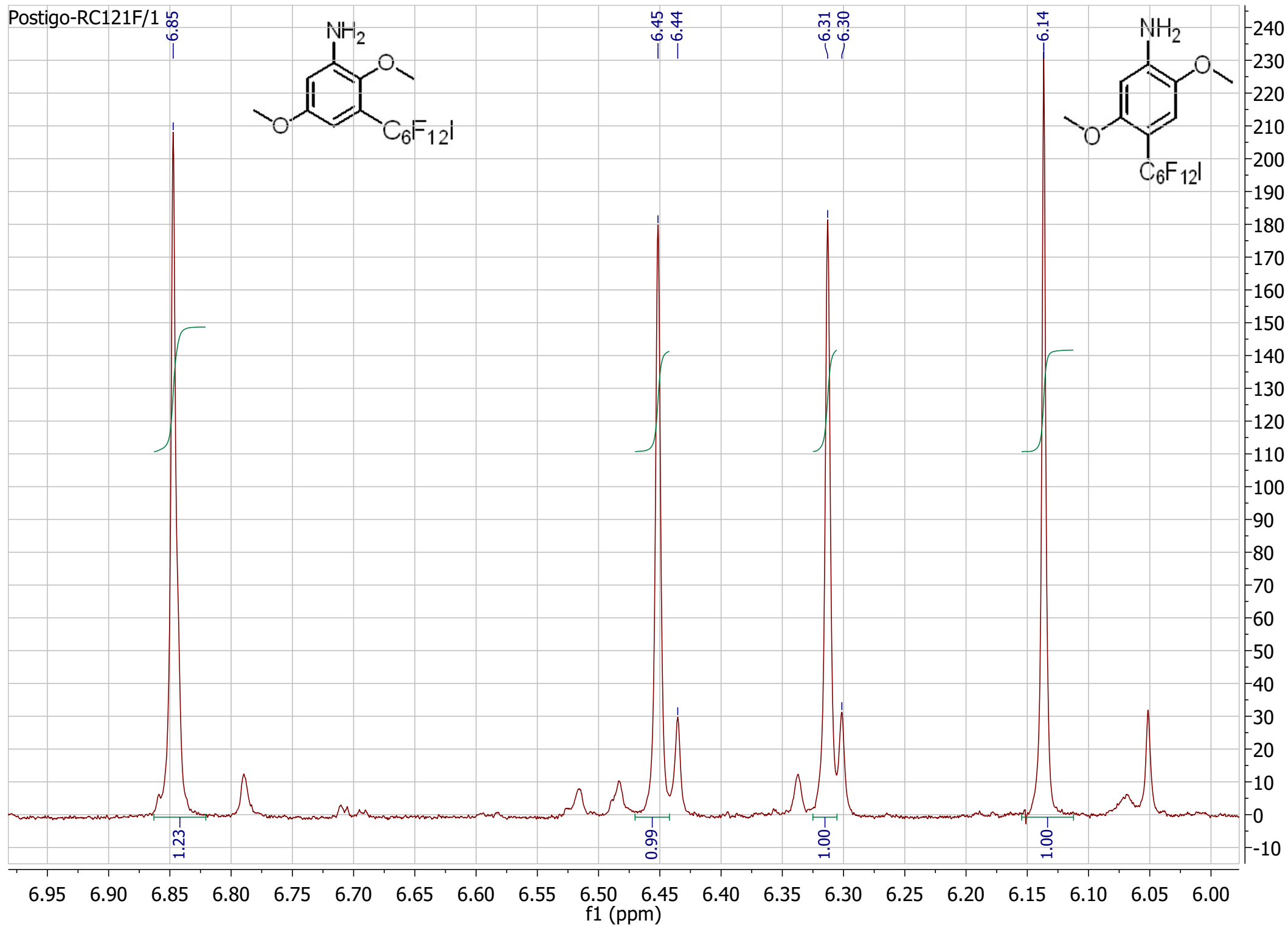
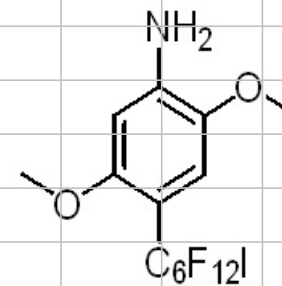
Postigo-RC121F/1



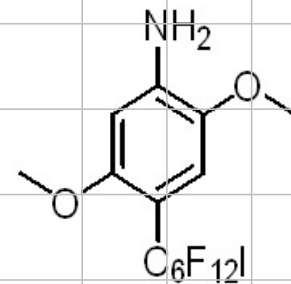
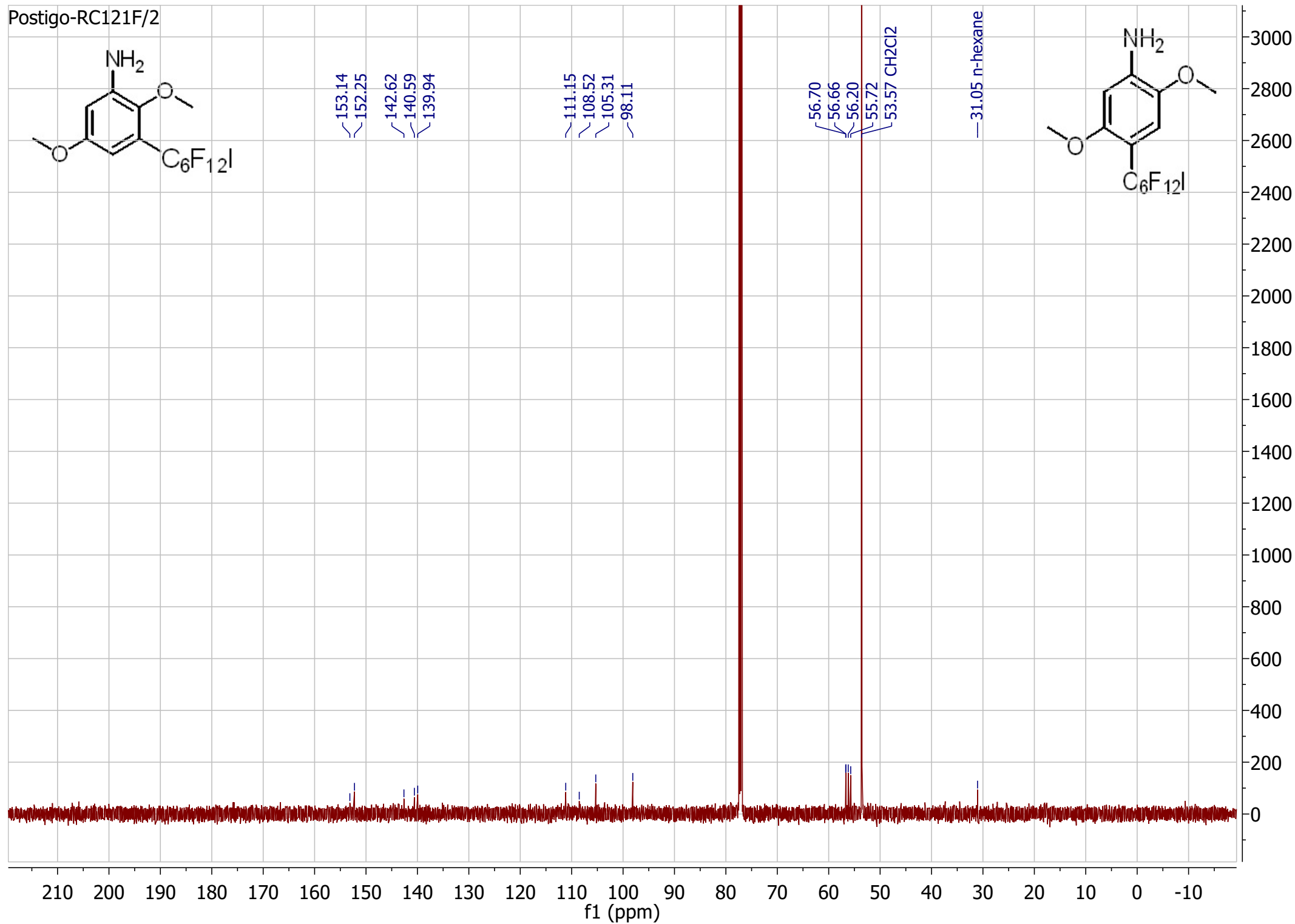
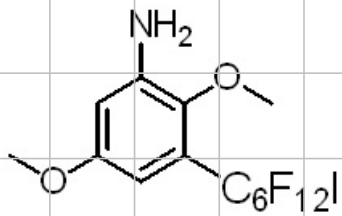
Postigo-RC121F/1



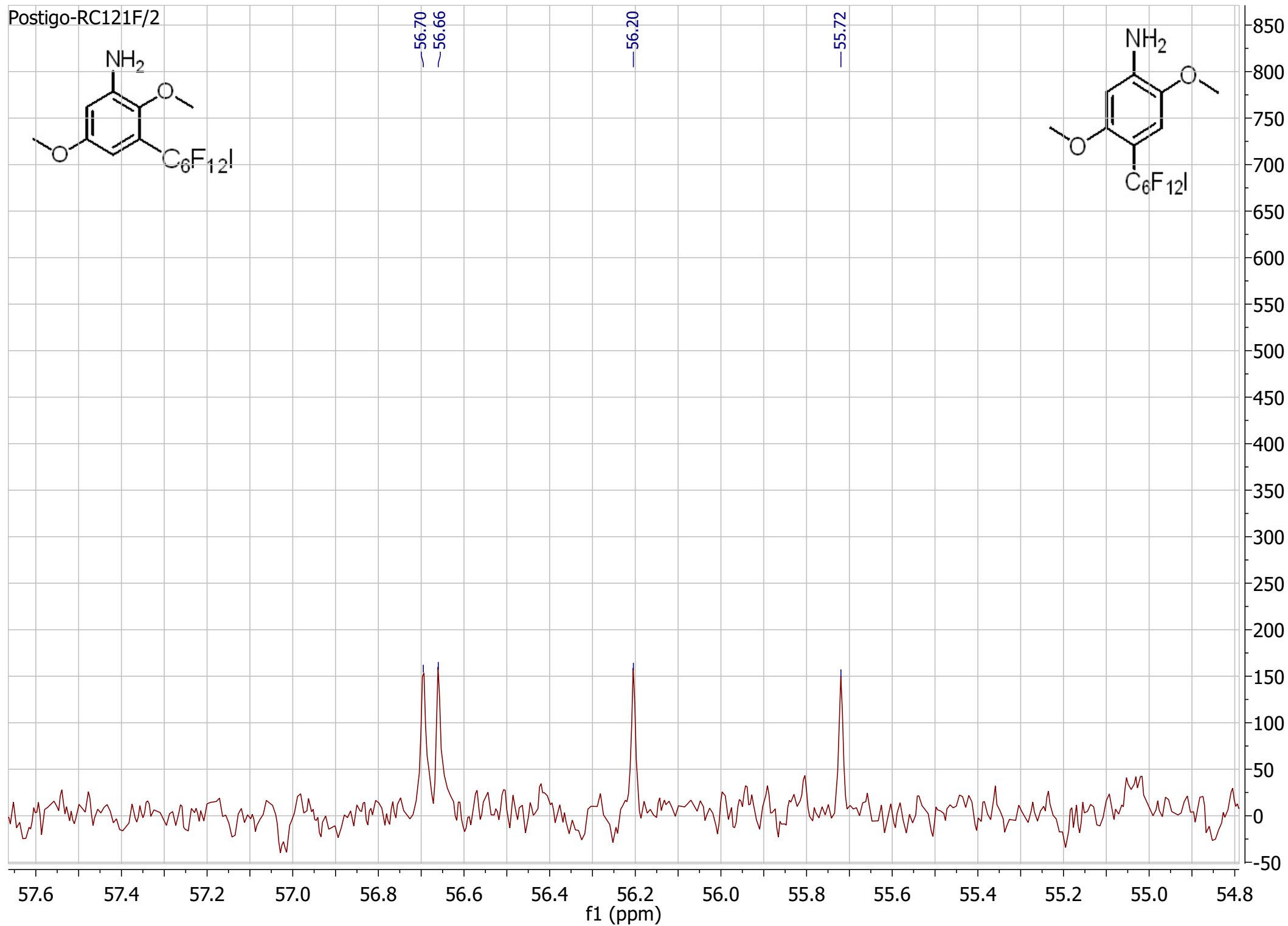
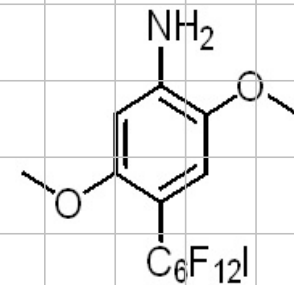
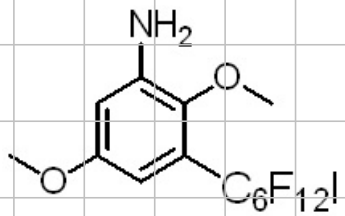
Postigo-RC121F/1



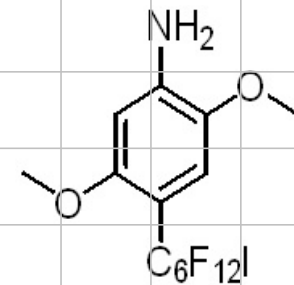
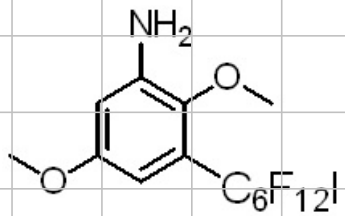
Postigo-RC121F/2



Postigo-RC121F/2



Postigo-RC121F/2

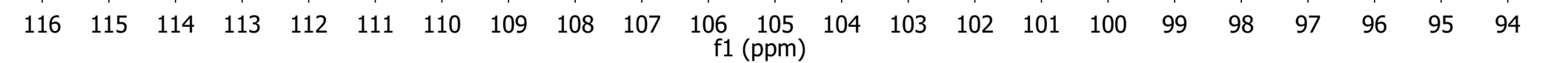


—111.15

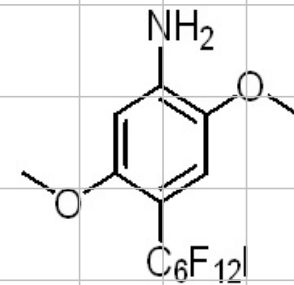
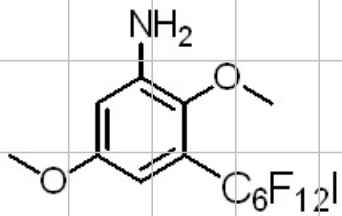
—108.52

—105.31

—98.11



Postigo-RC121F/2



—153.14

—152.25

—142.62

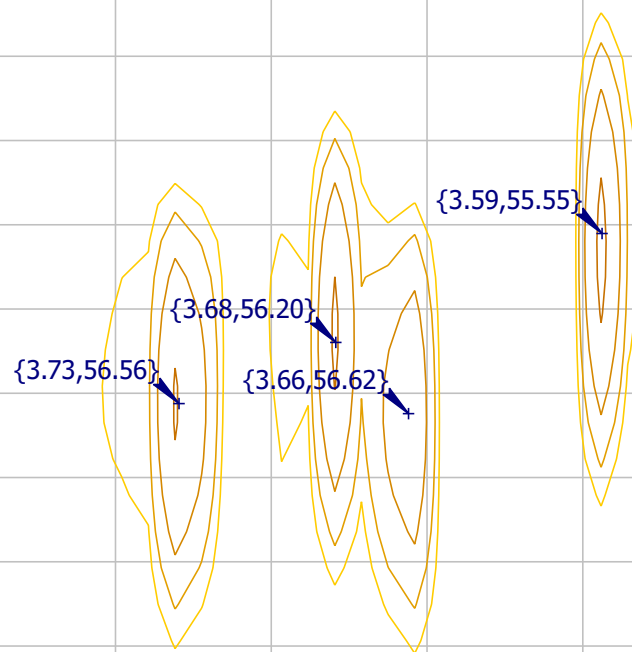
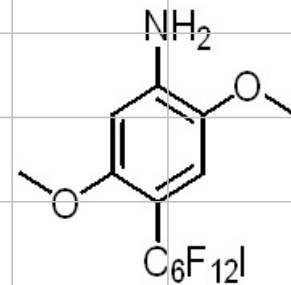
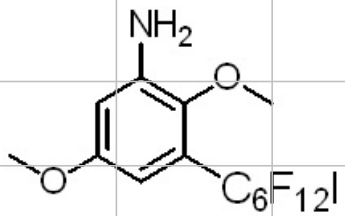
—140.59

—139.94

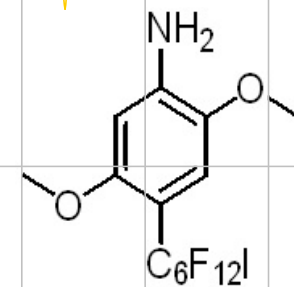
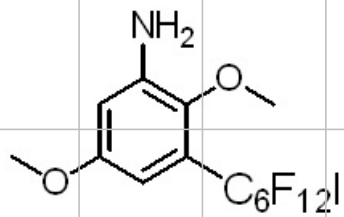
159 158 157 156 155 154 153 152 151 150 149 148 147 146 145 144 143 142 141 140 139 138 137 136 135

f1 (ppm)

Postigo-RC121F/4



Postigo-RC121F/4



{6.87,112.66}

{6.48,111.03}

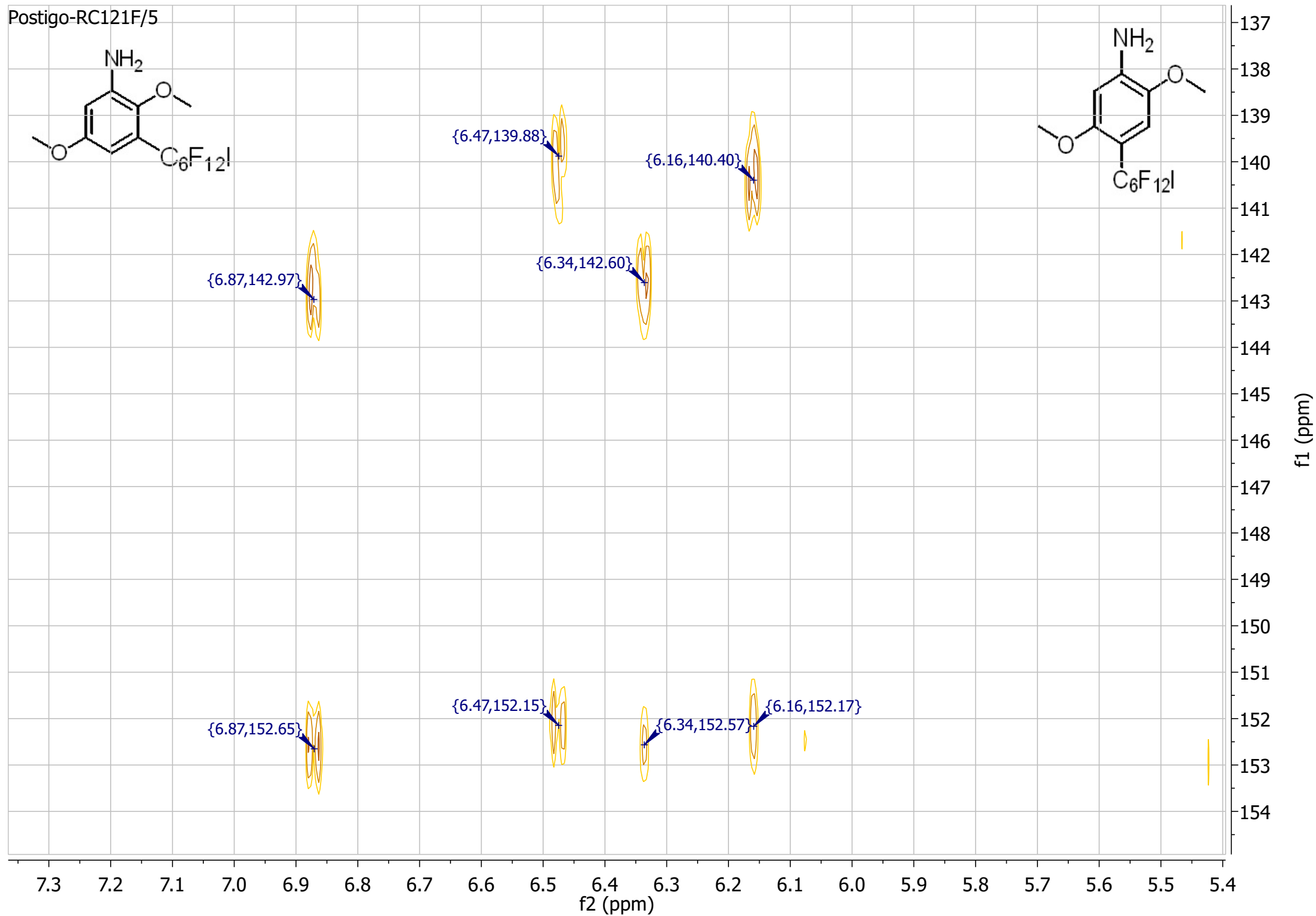
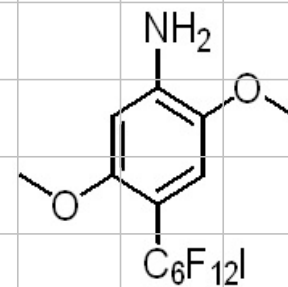
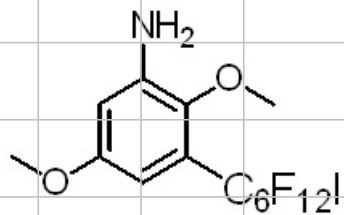
{6.34,104.98}

{6.16,97.95}

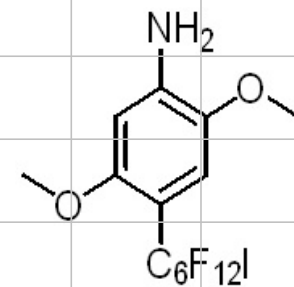
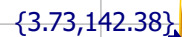
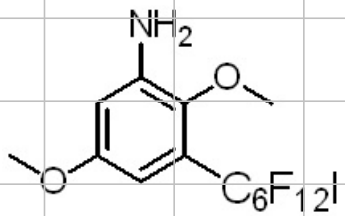
f1 (ppm)

f2 (ppm)

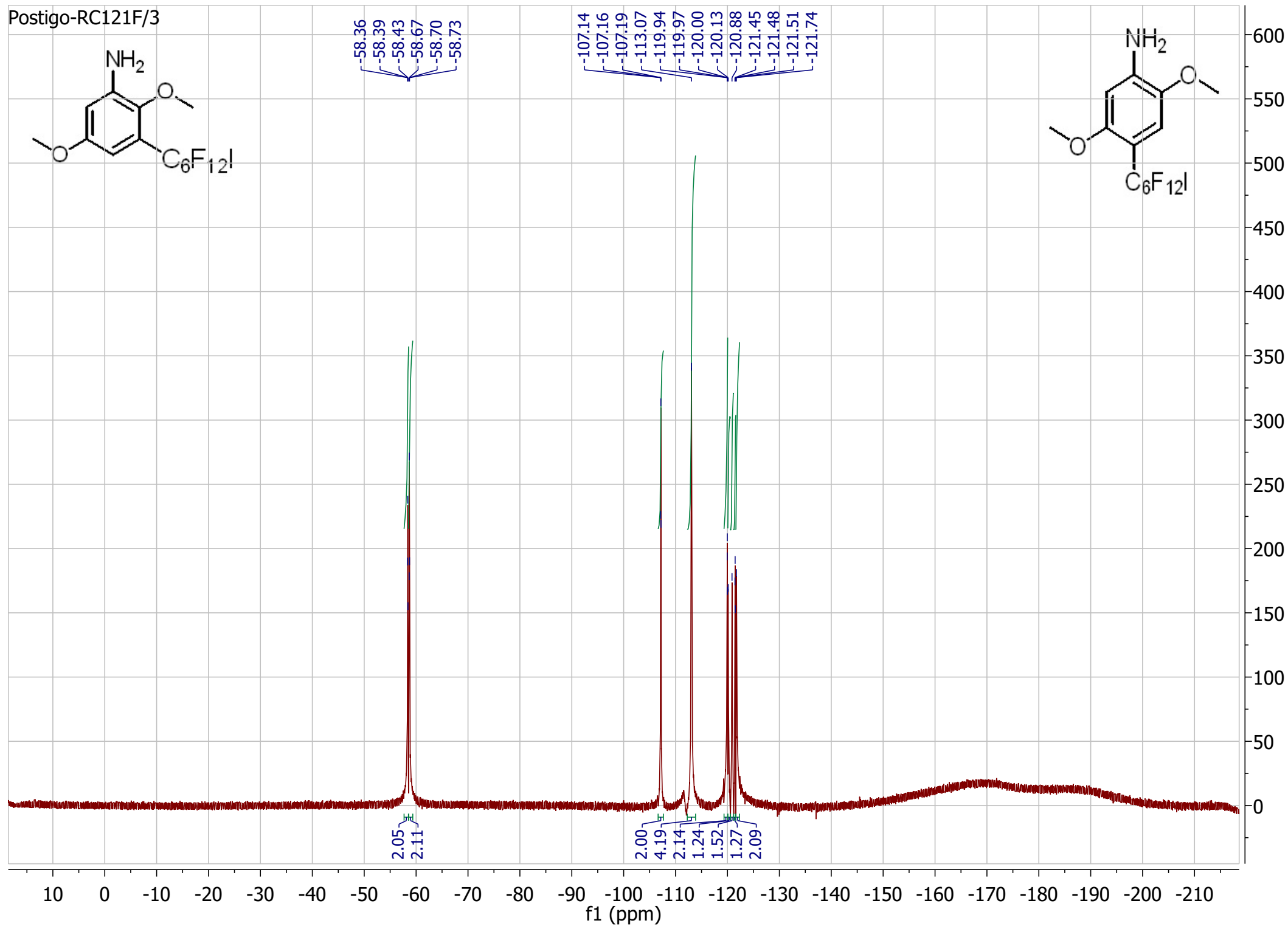
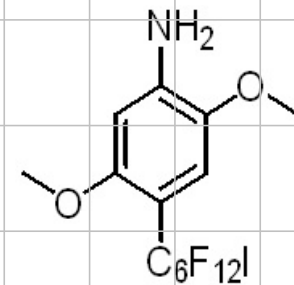
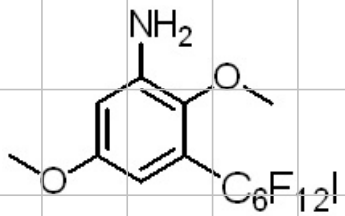
Postigo-RC121F/5



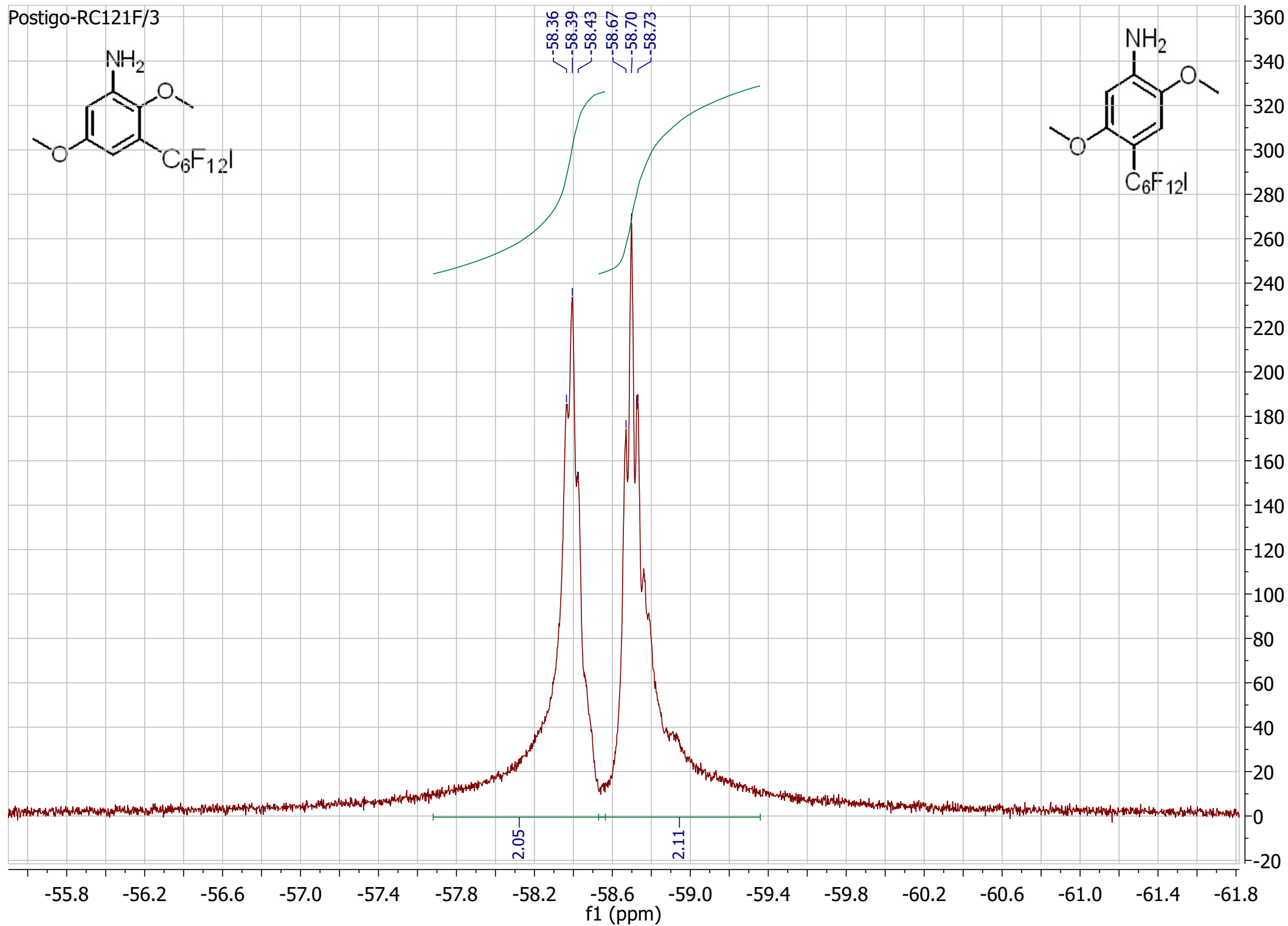
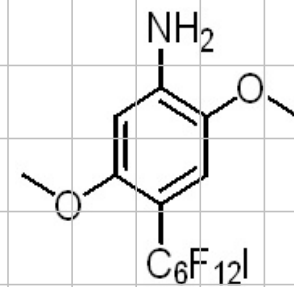
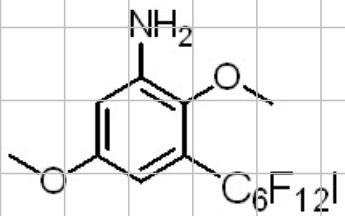
Postigo-RC121F/5

 $\{3.59, 152.10\}$ $\{3.66, 152.58\}$

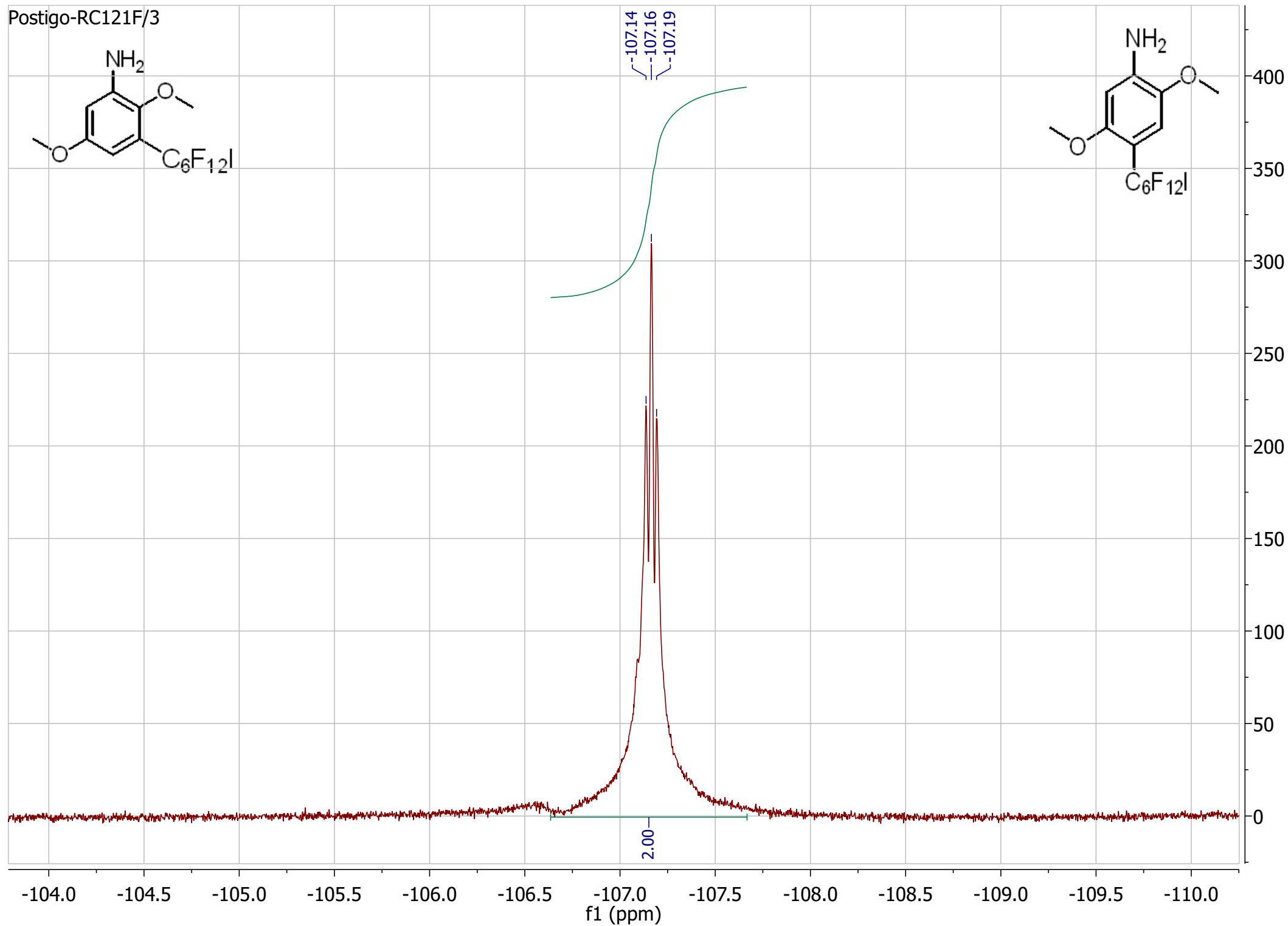
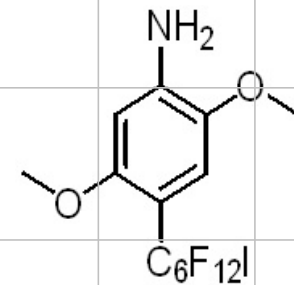
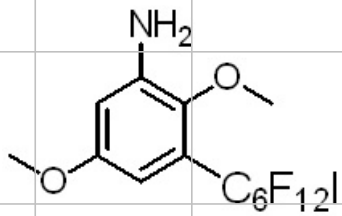
Postigo-RC121F/3



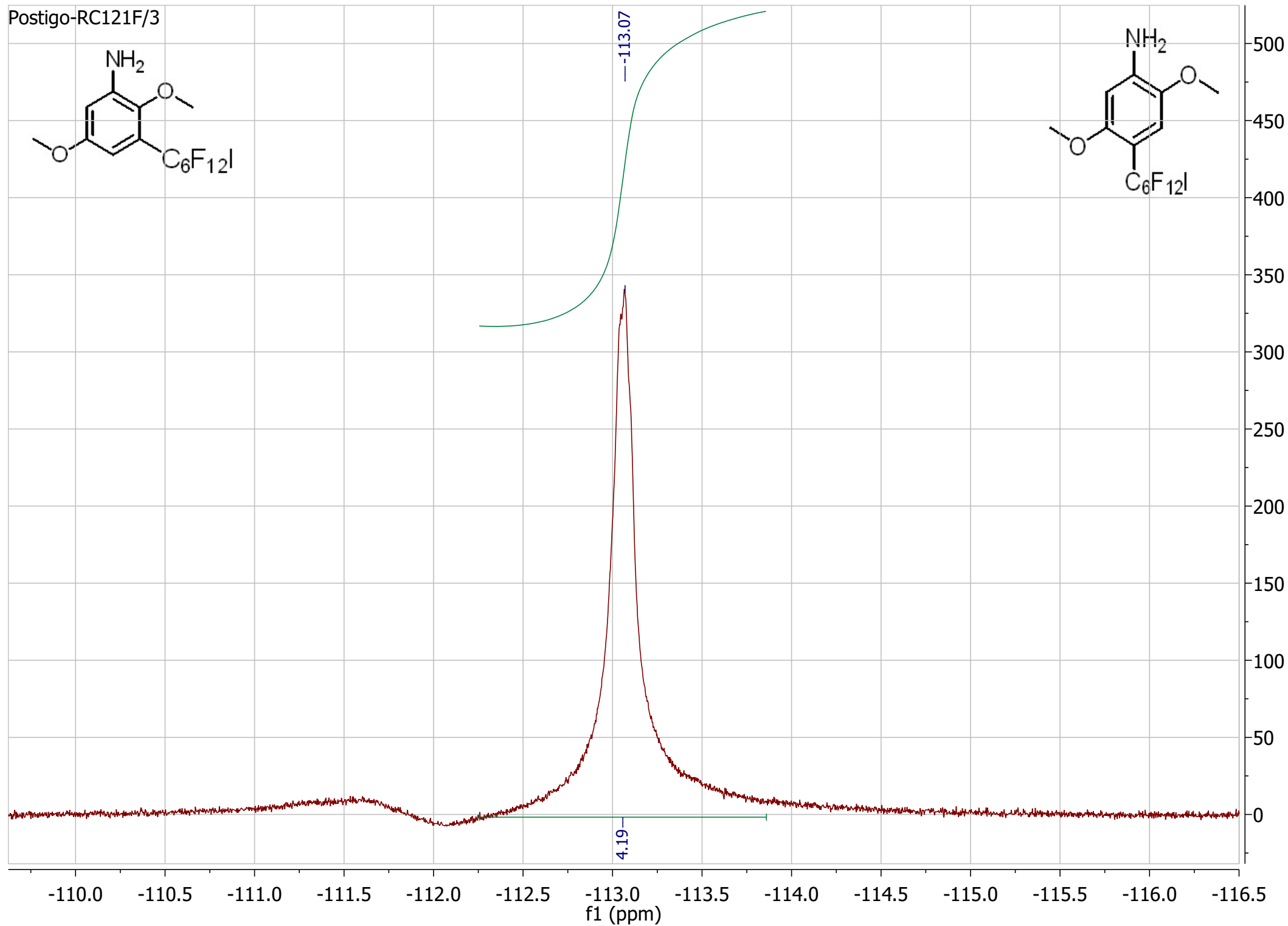
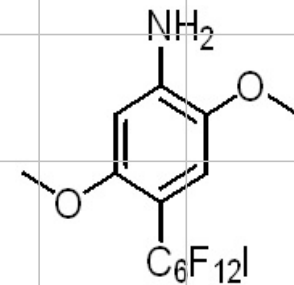
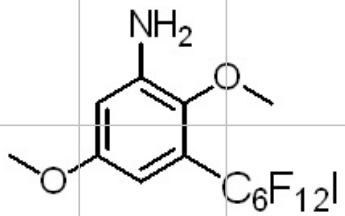
Postigo-RC121F/3



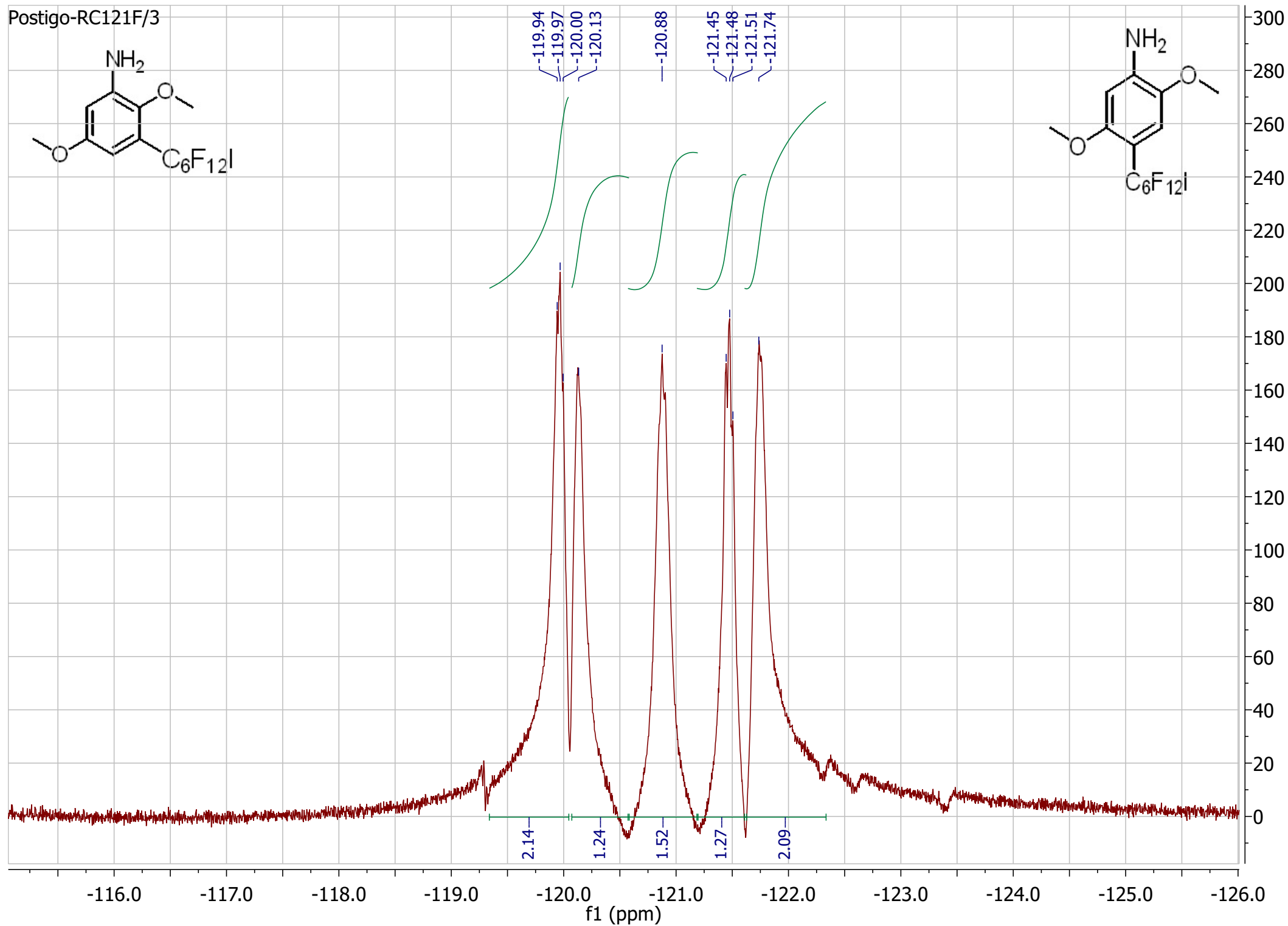
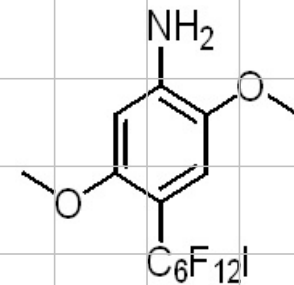
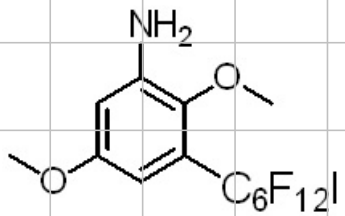
Postigo-RC121F/3

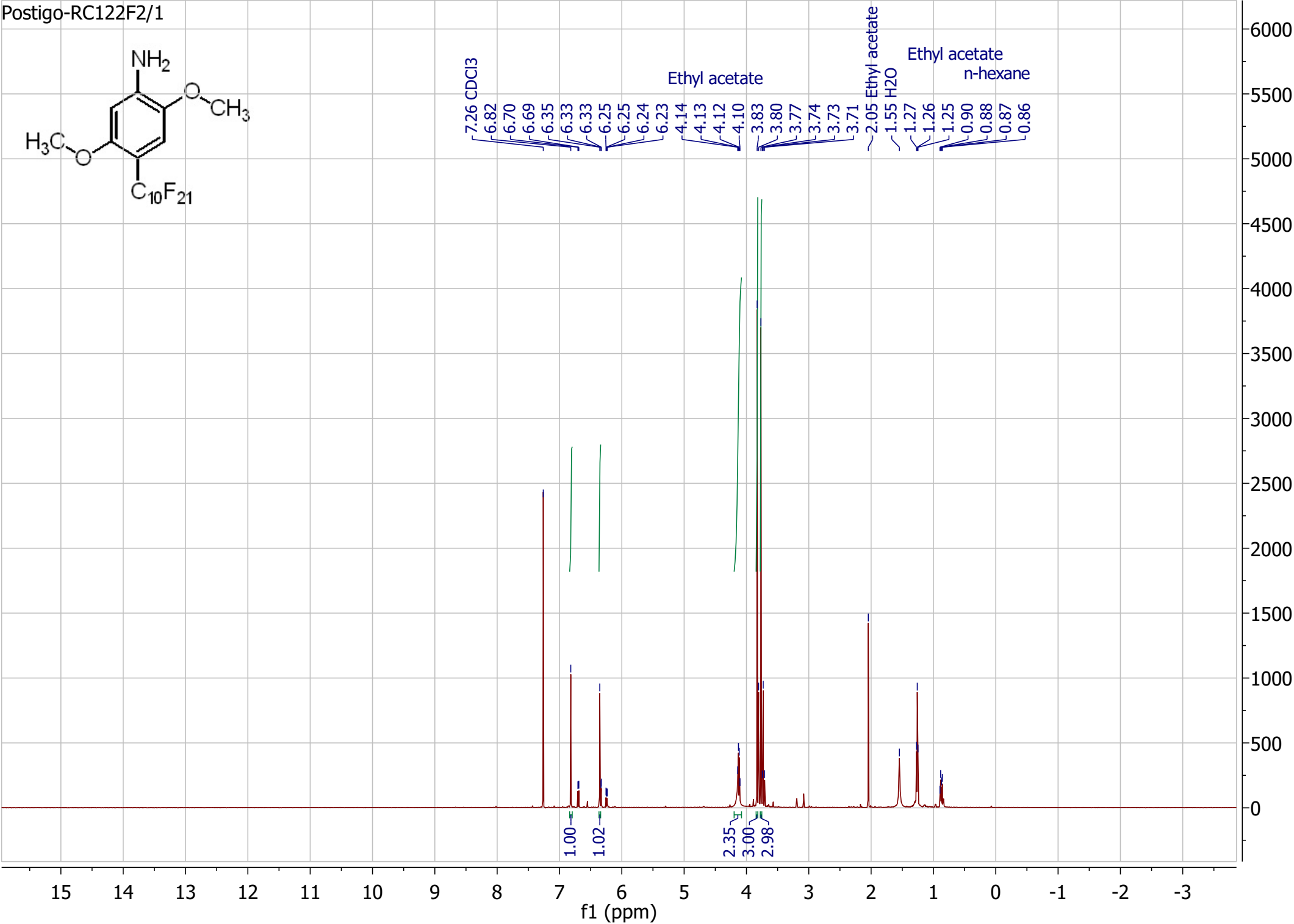


Postigo-RC121F/3

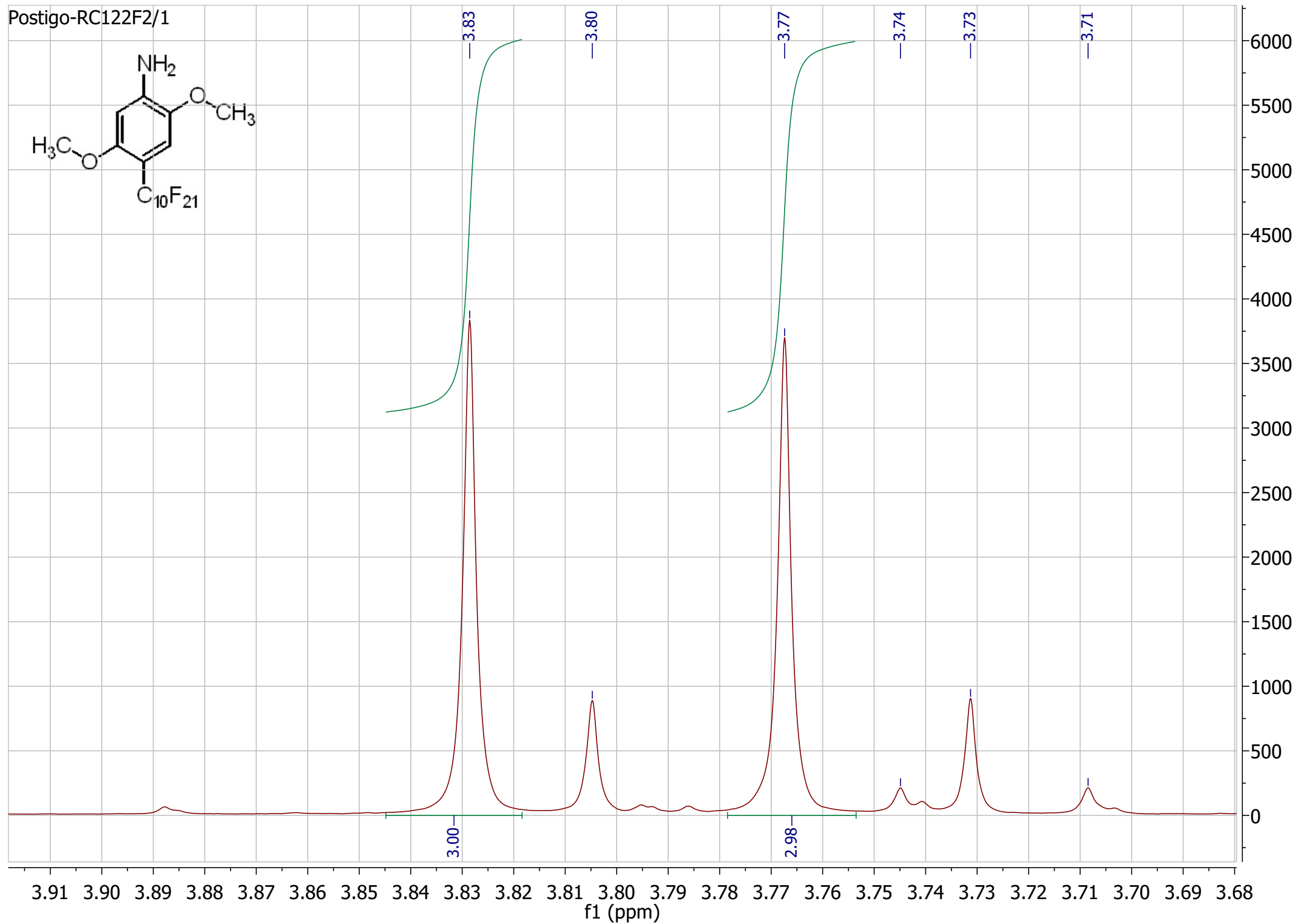
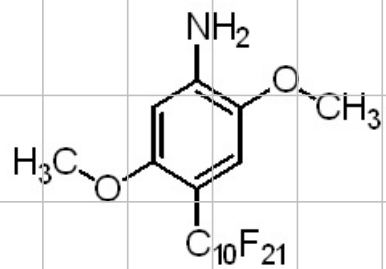


Postigo-RC121F/3

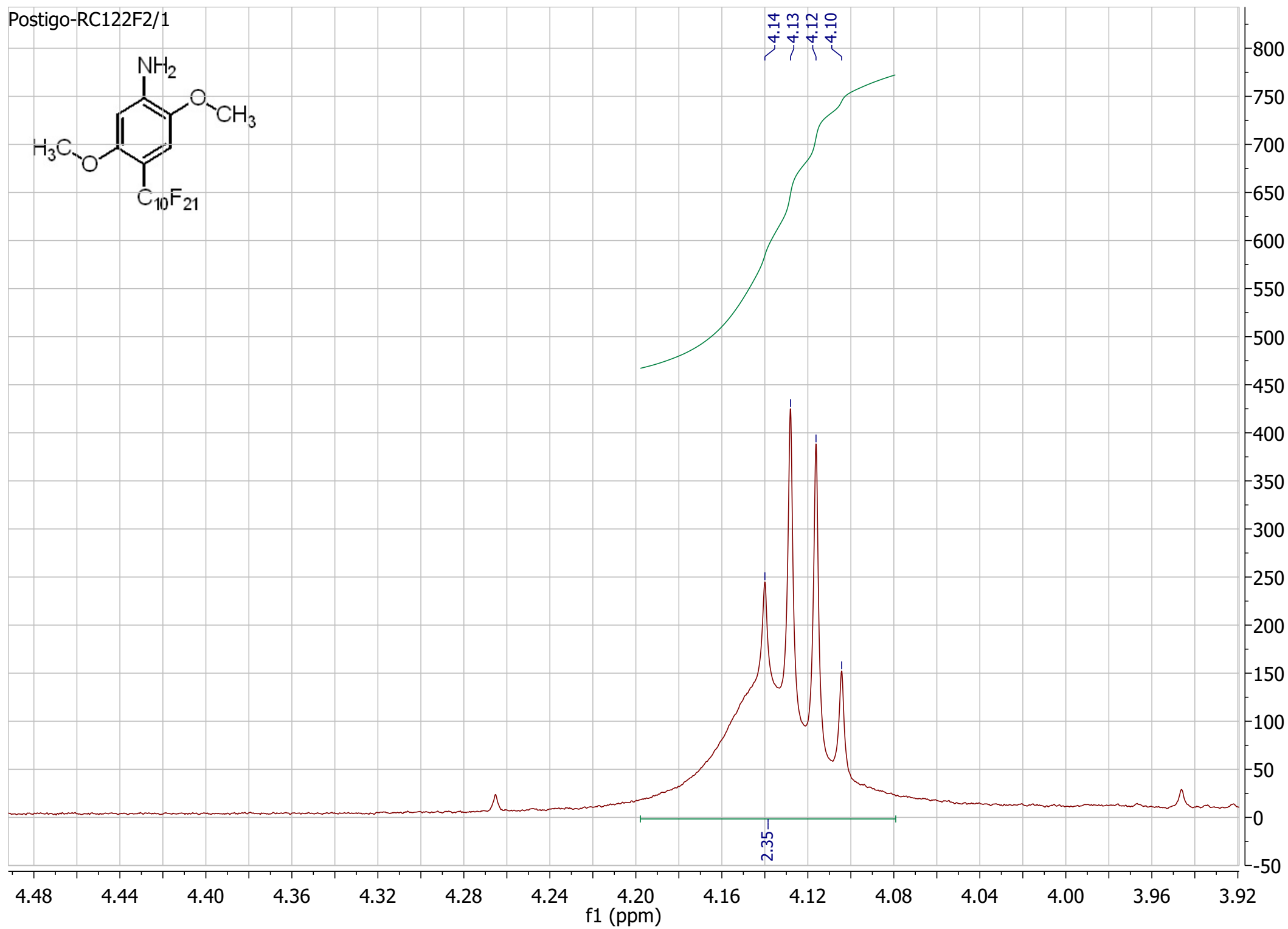
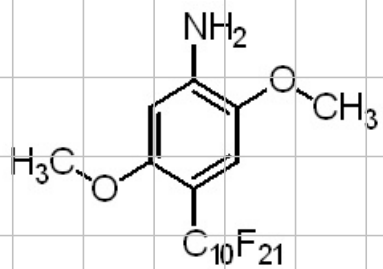




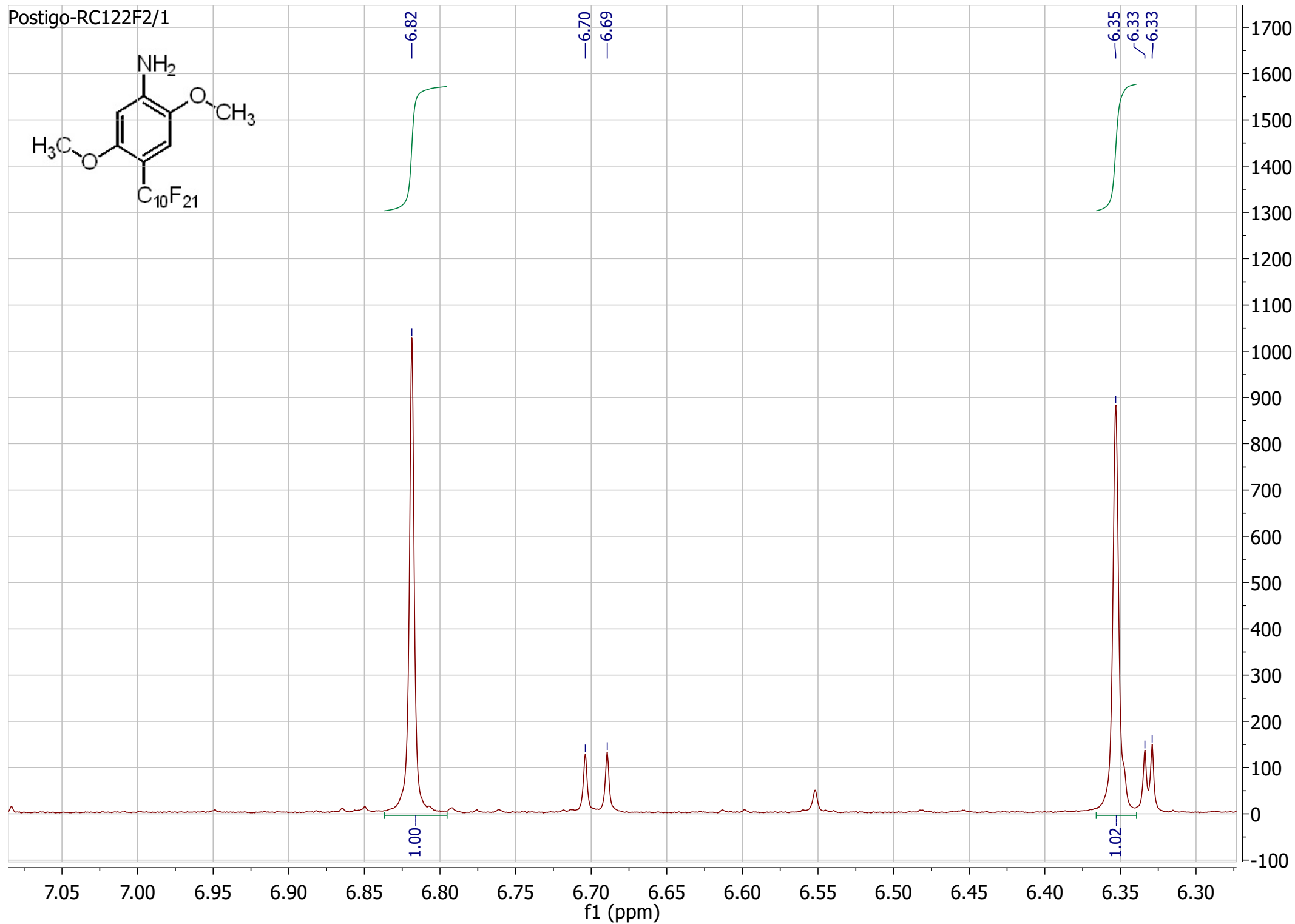
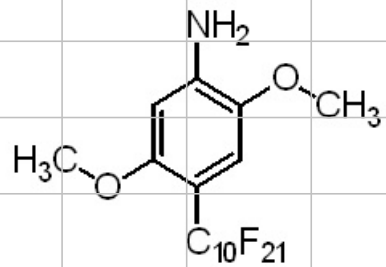
Postigo-RC122F2/1



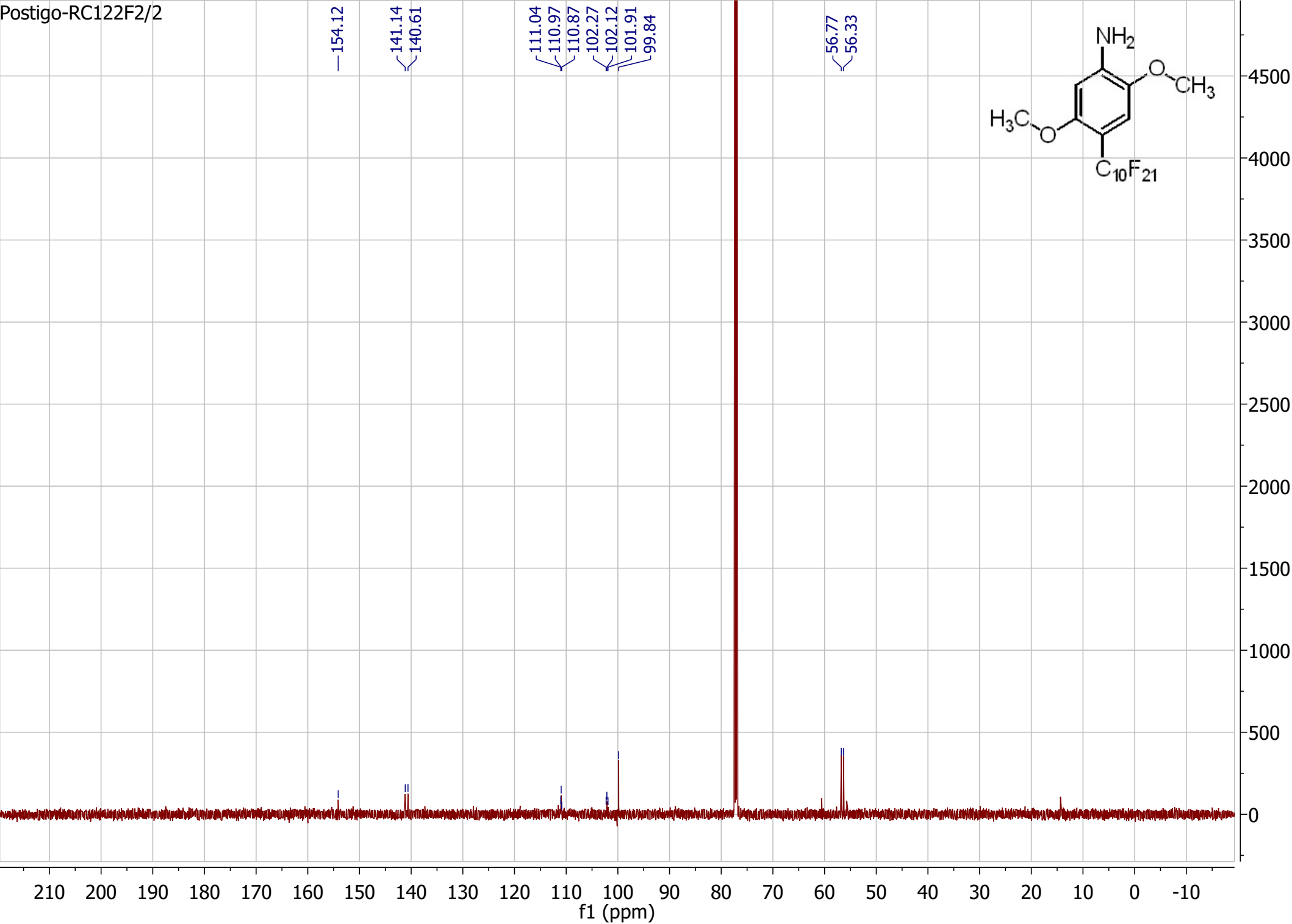
Postigo-RC122F2/1



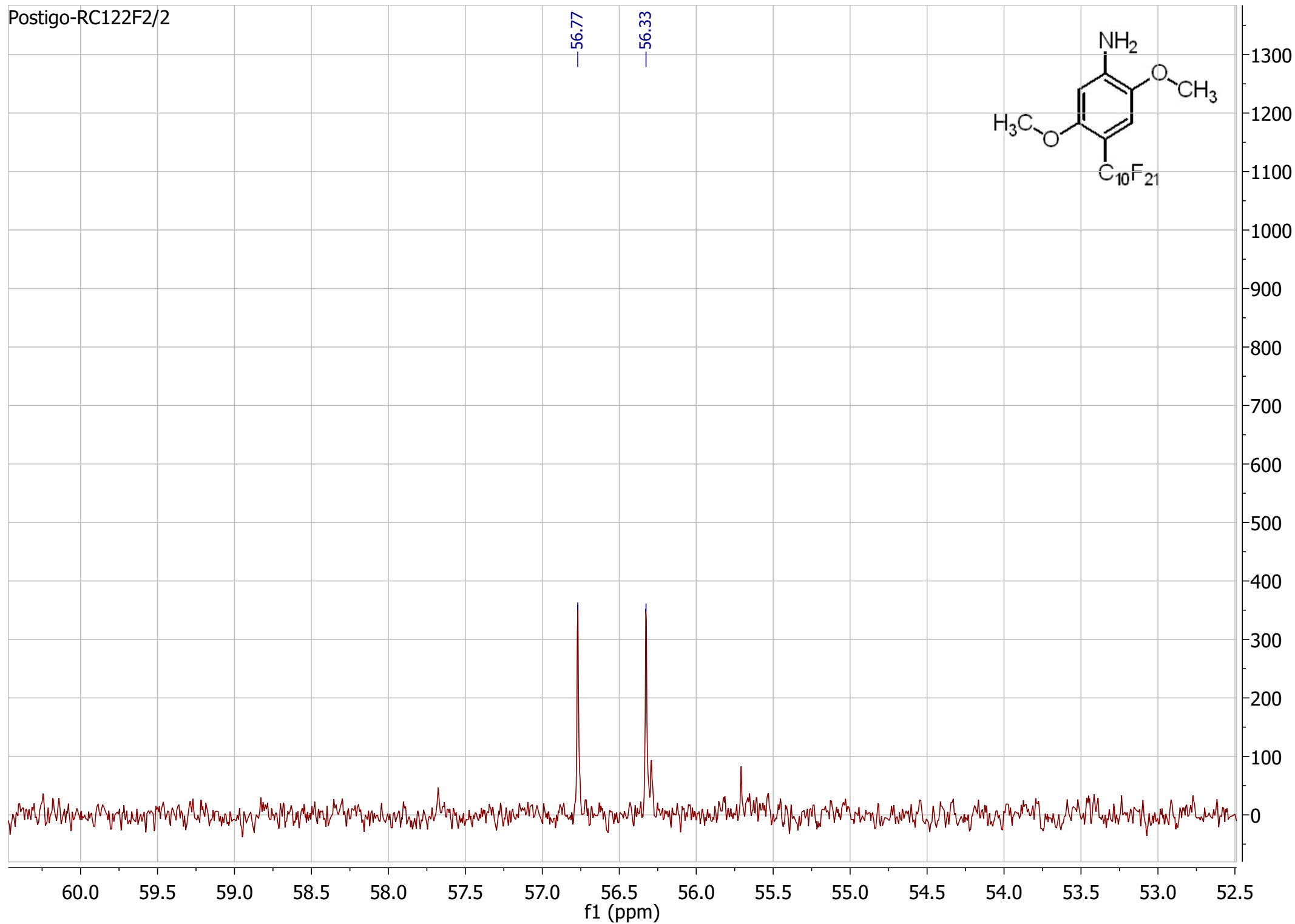
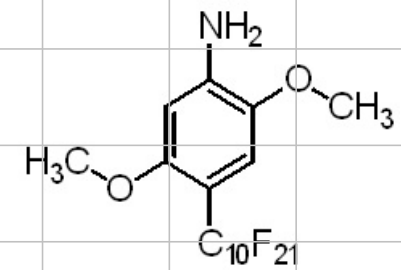
Postigo-RC122F2/1



Postigo-RC122F2/2



Postigo-RC122F2/2		
-------------------	--	--

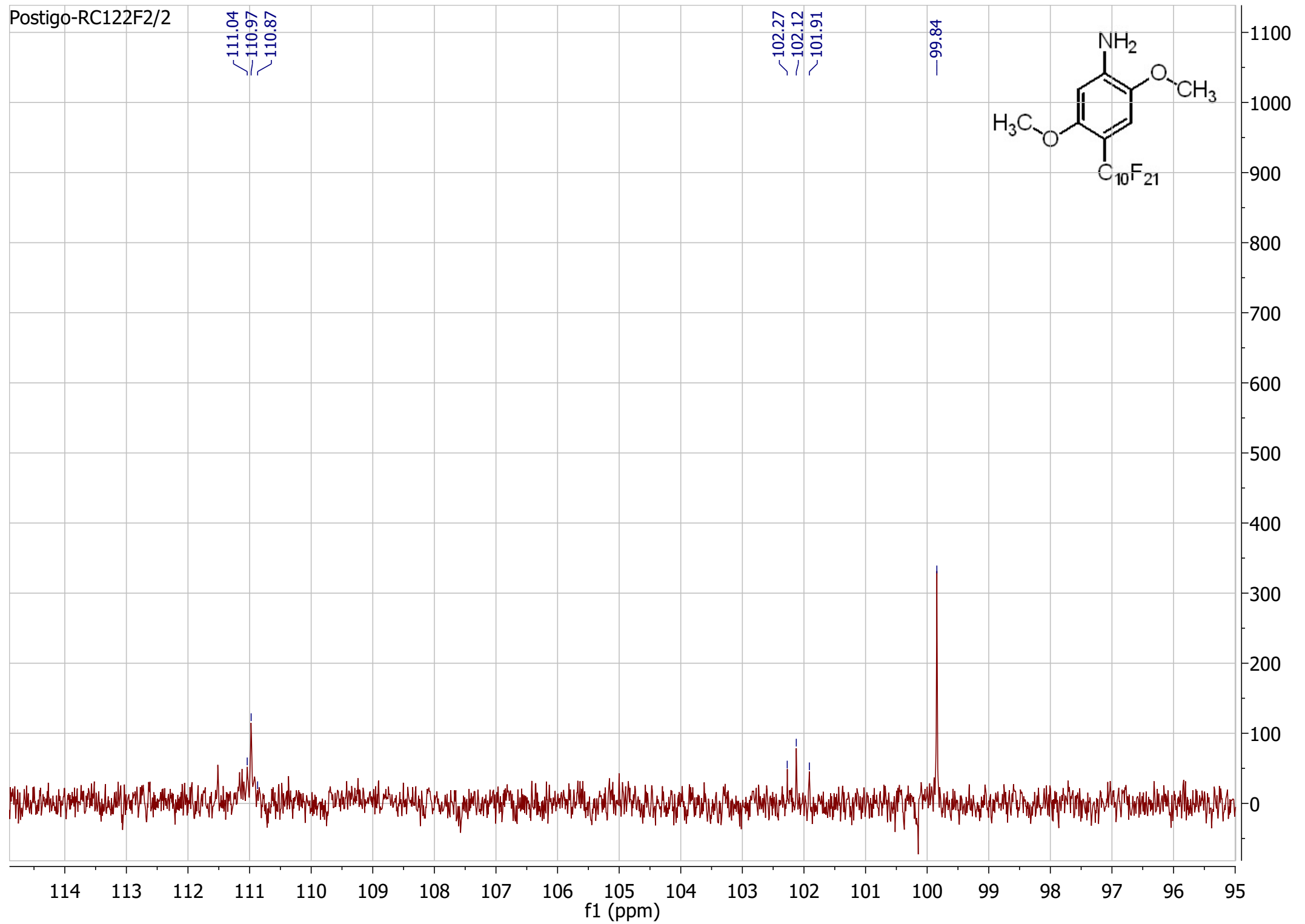
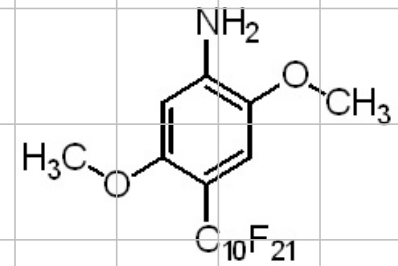


Postigo-RC122F2/2

111.04
110.97
110.87

102.27
102.12
101.91

99.84

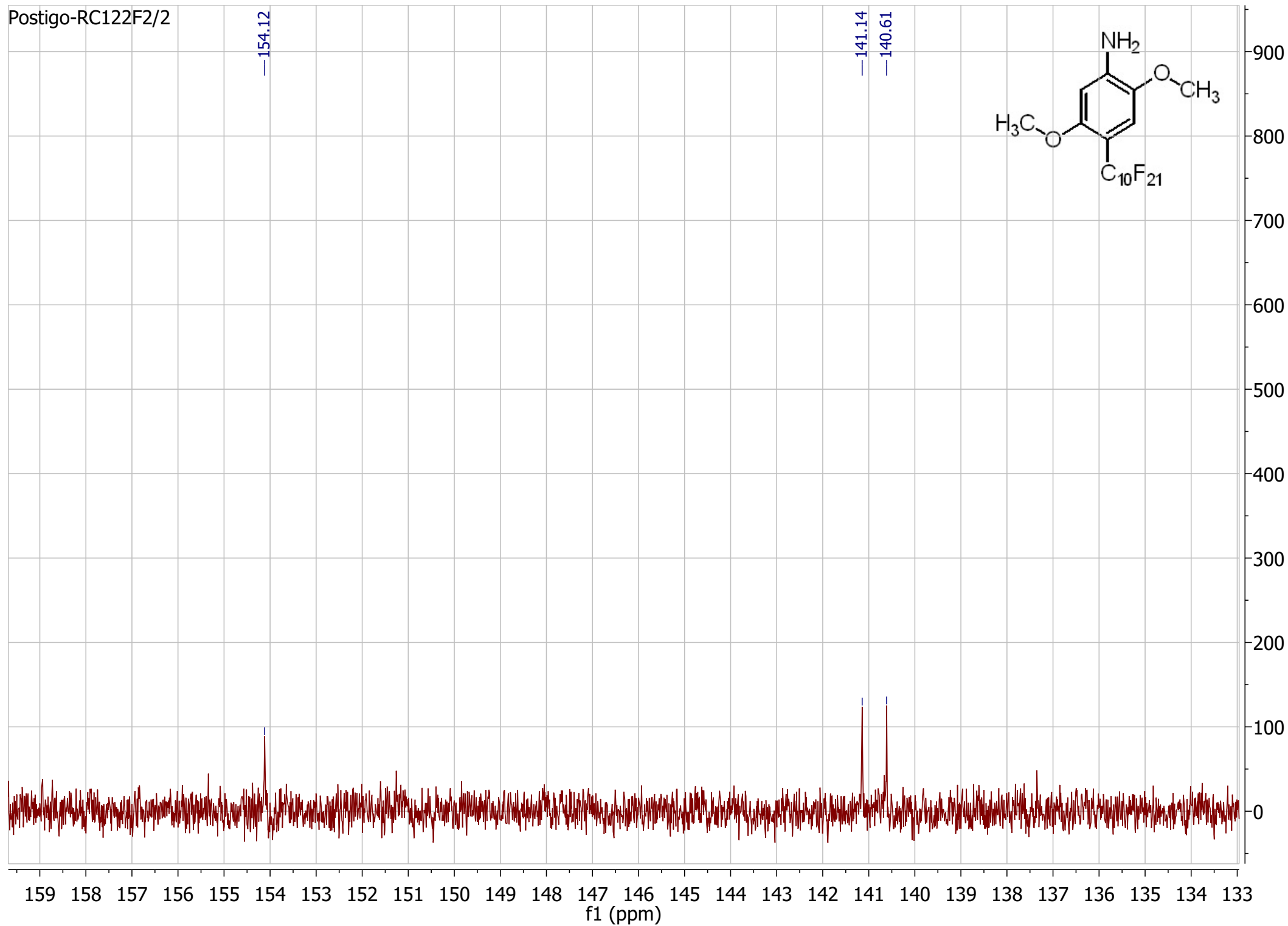
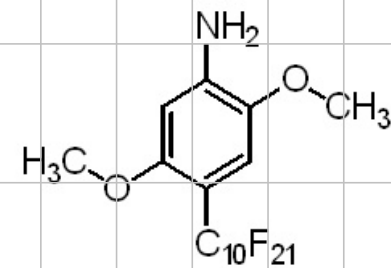


Postigo-RC122F2/2

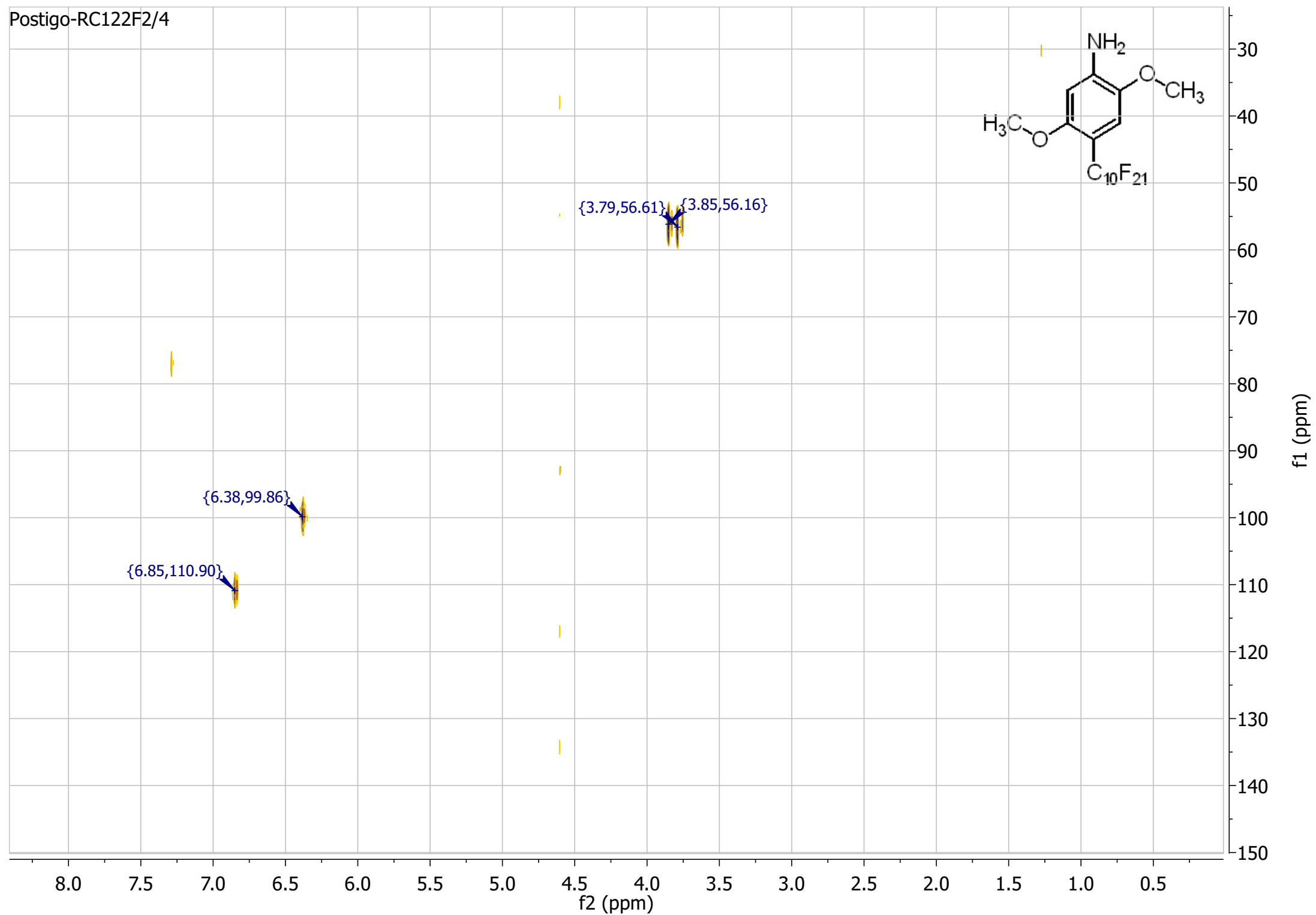
—154.12

—141.14

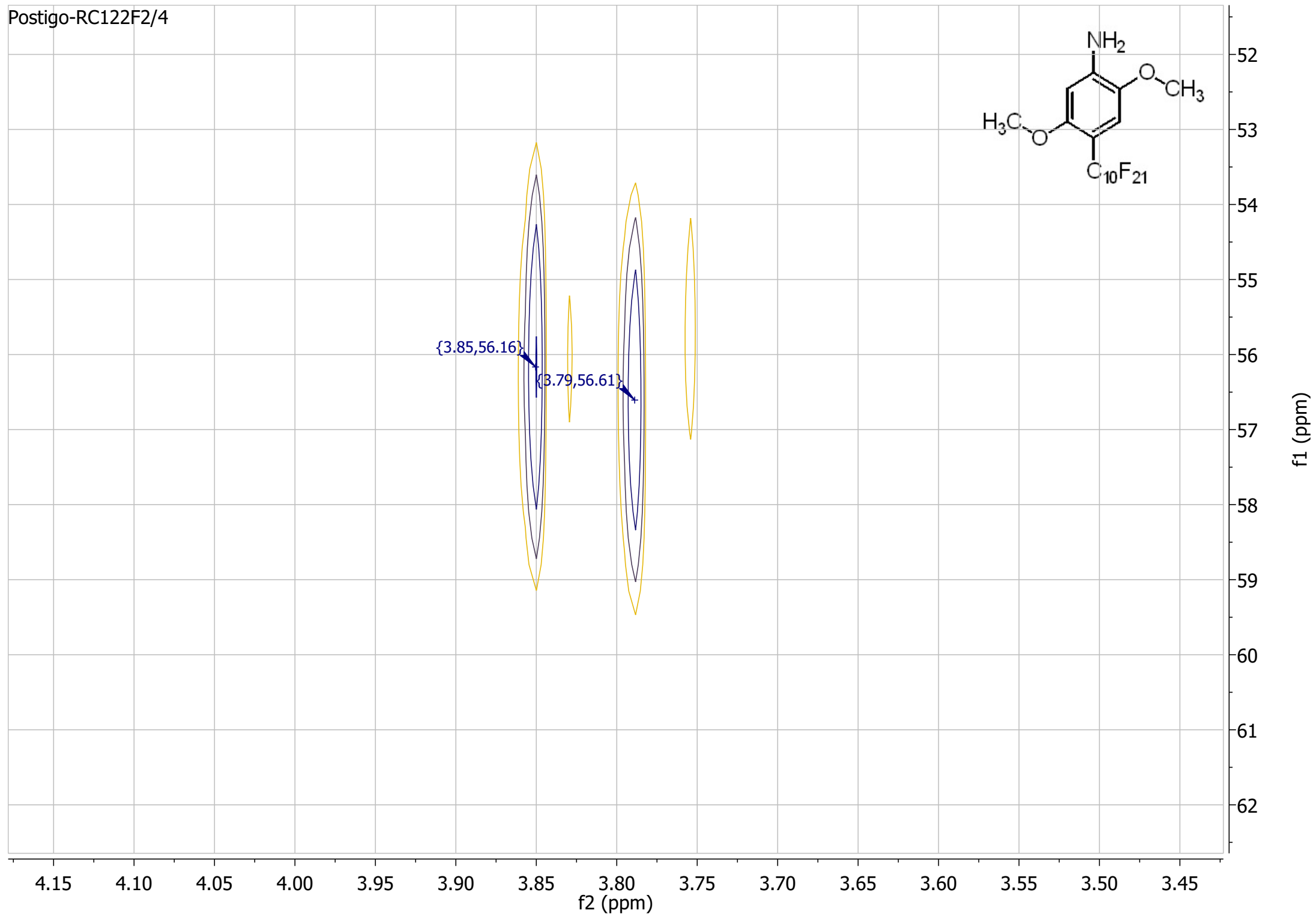
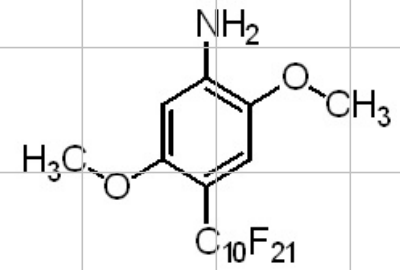
—140.61



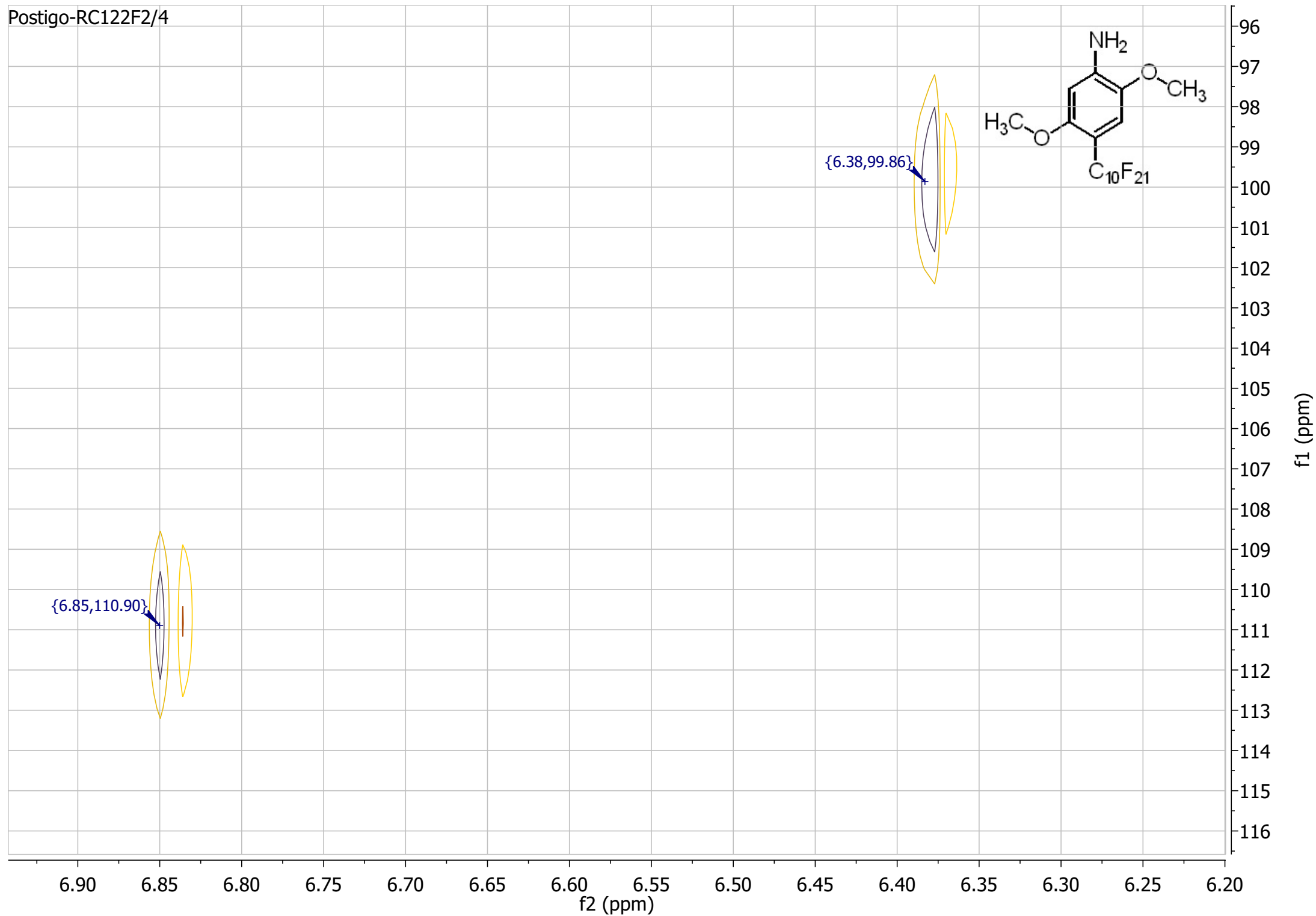
Postigo-RC122F2/4

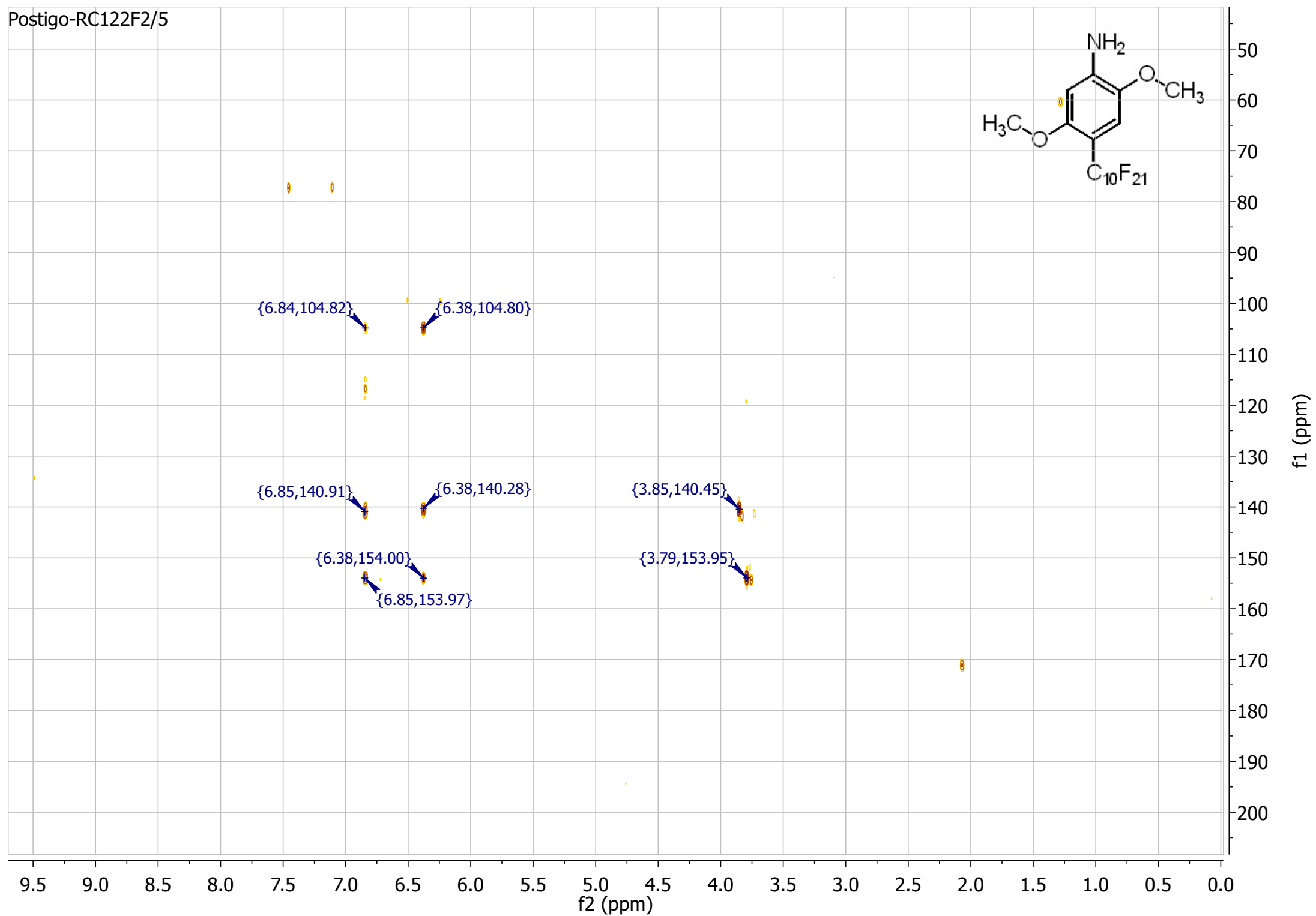


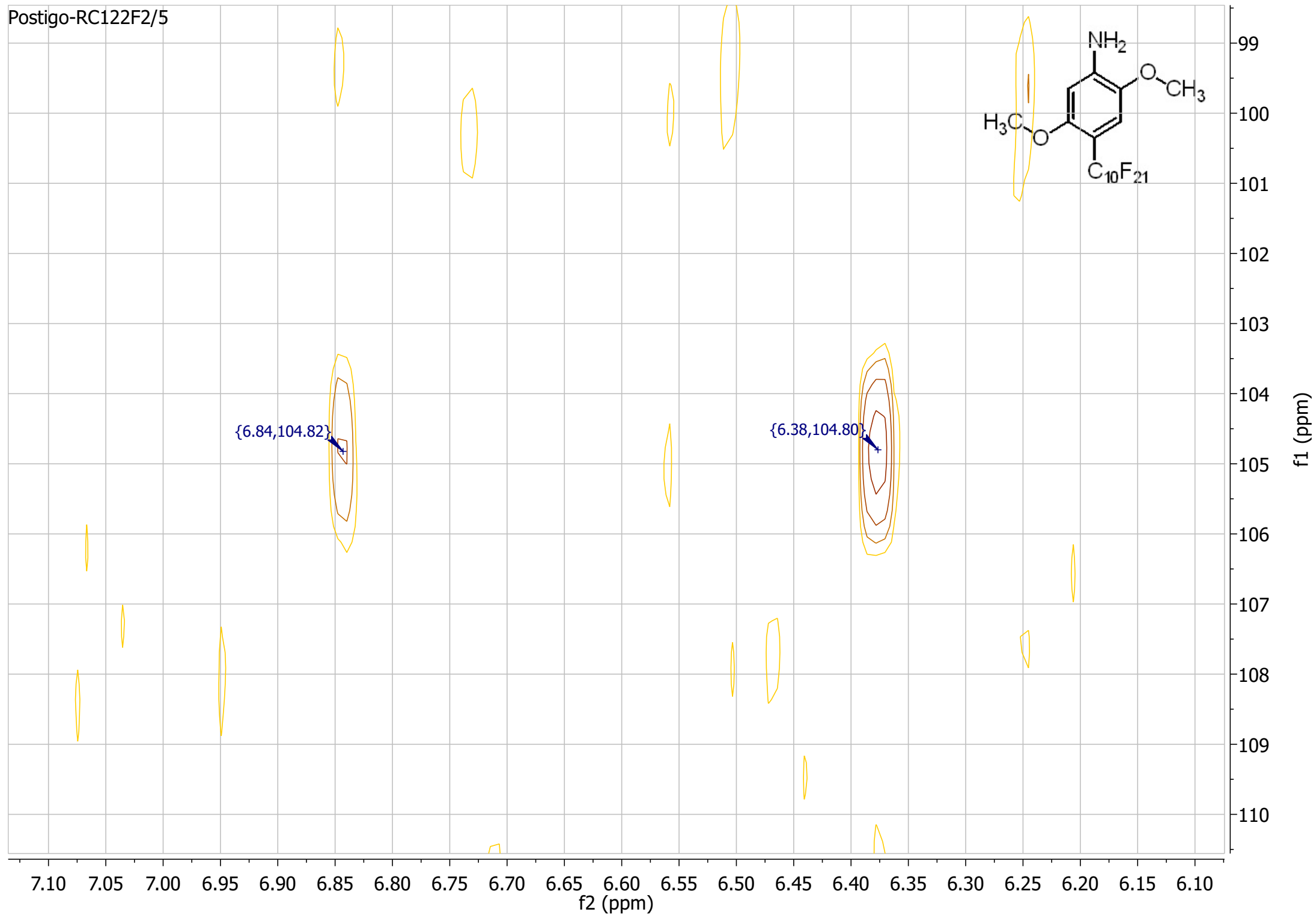
Postigo-RC122F2/4



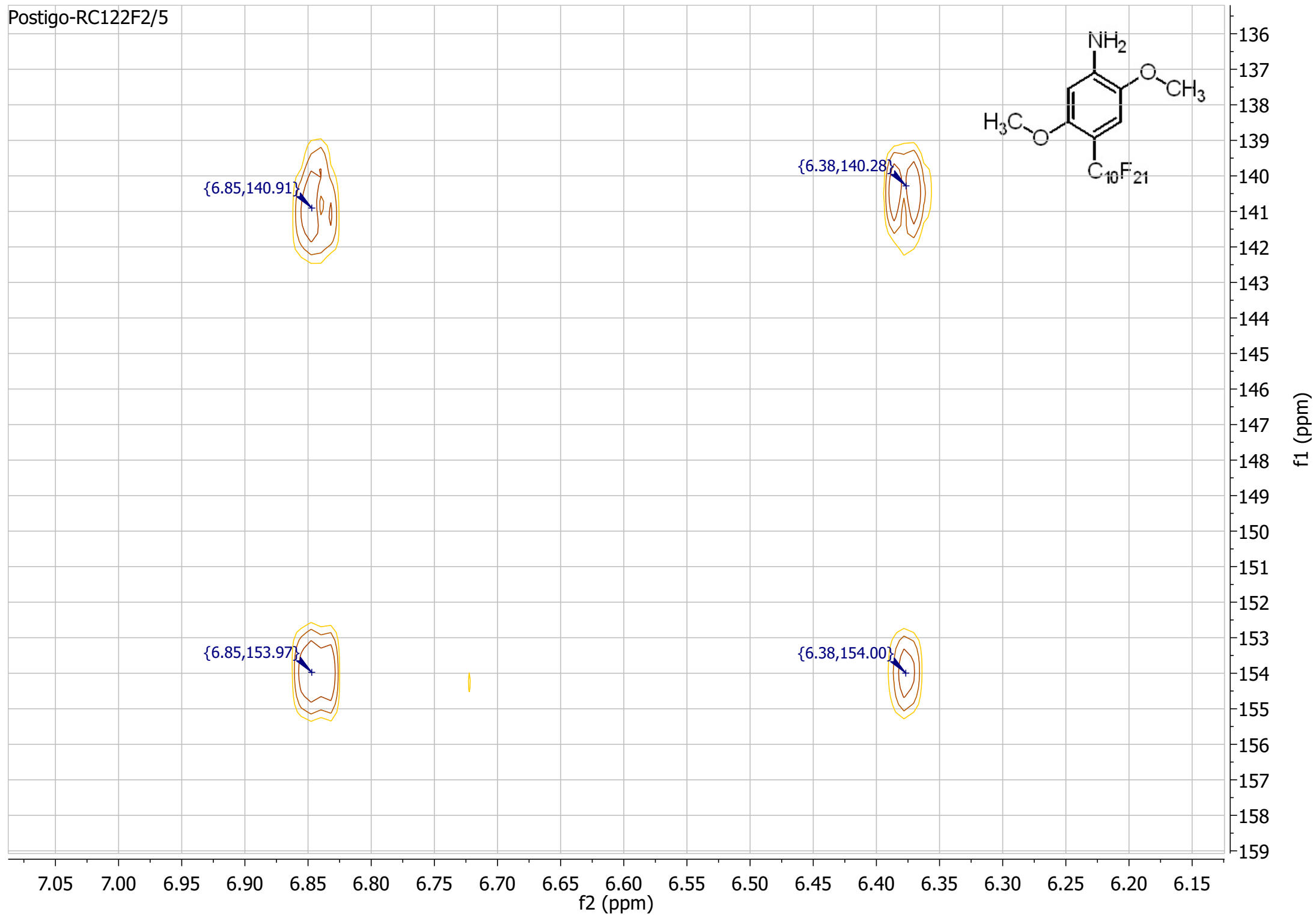
Postigo-RC122F2/4



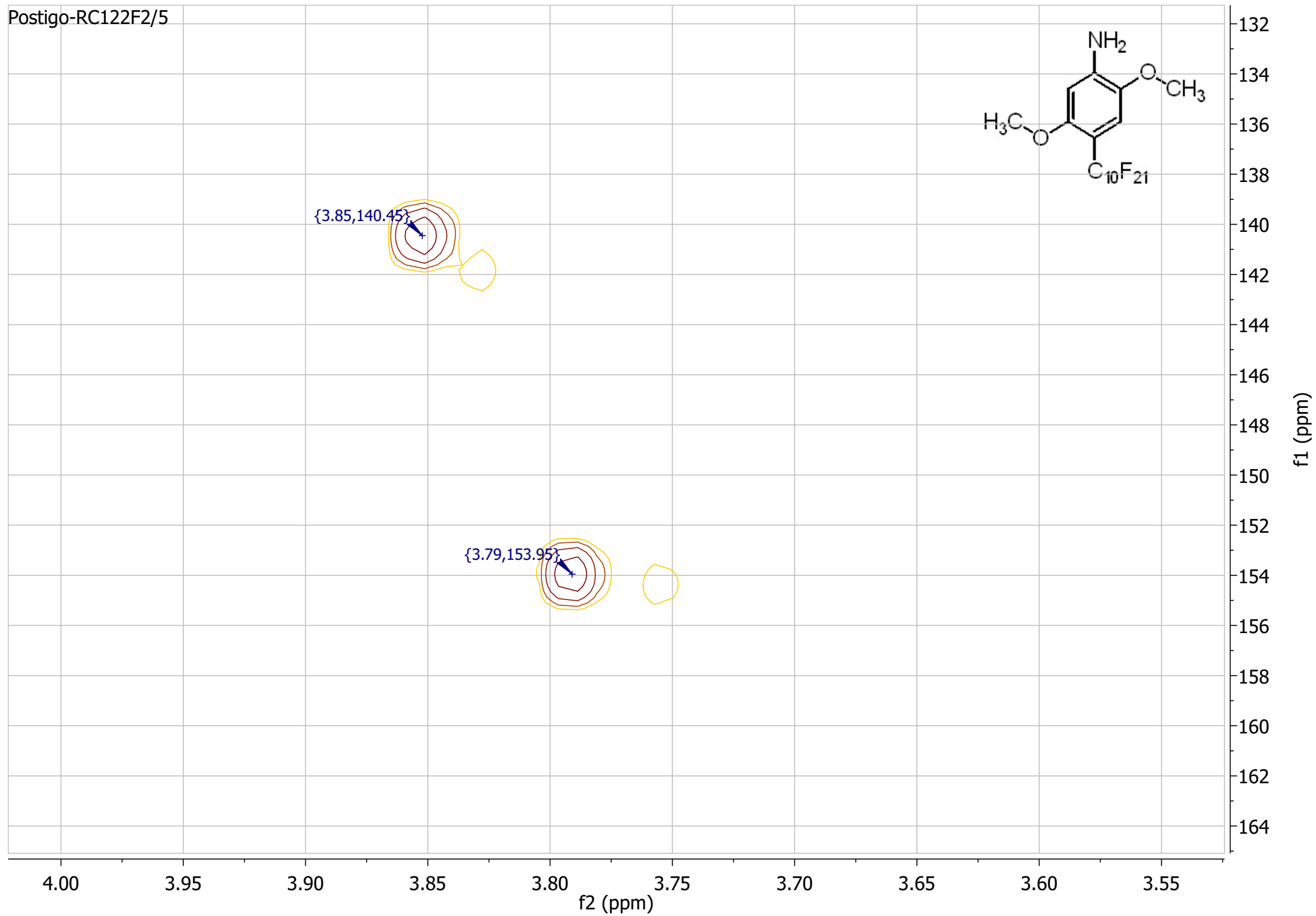




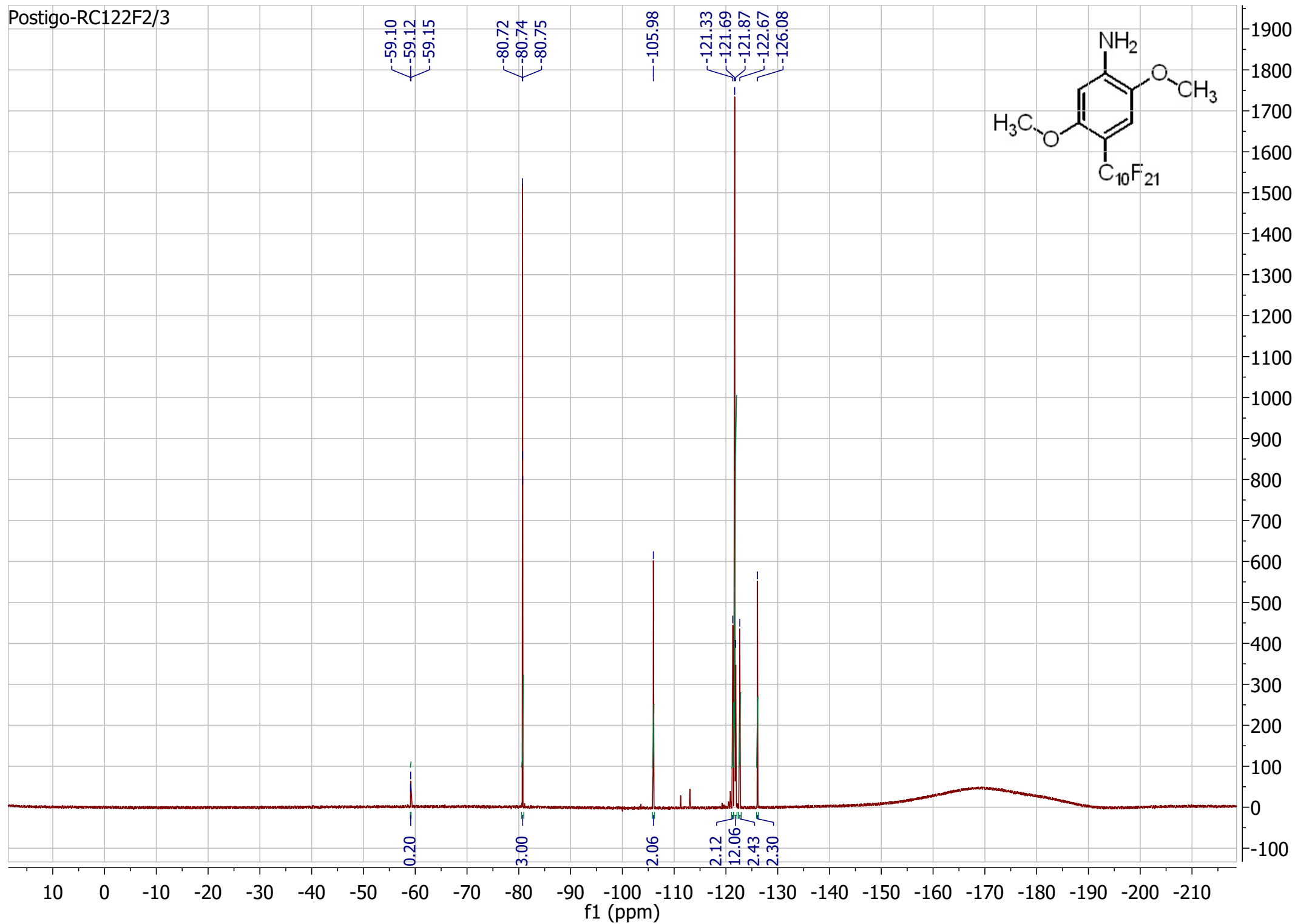
Postigo-RC122F2/5



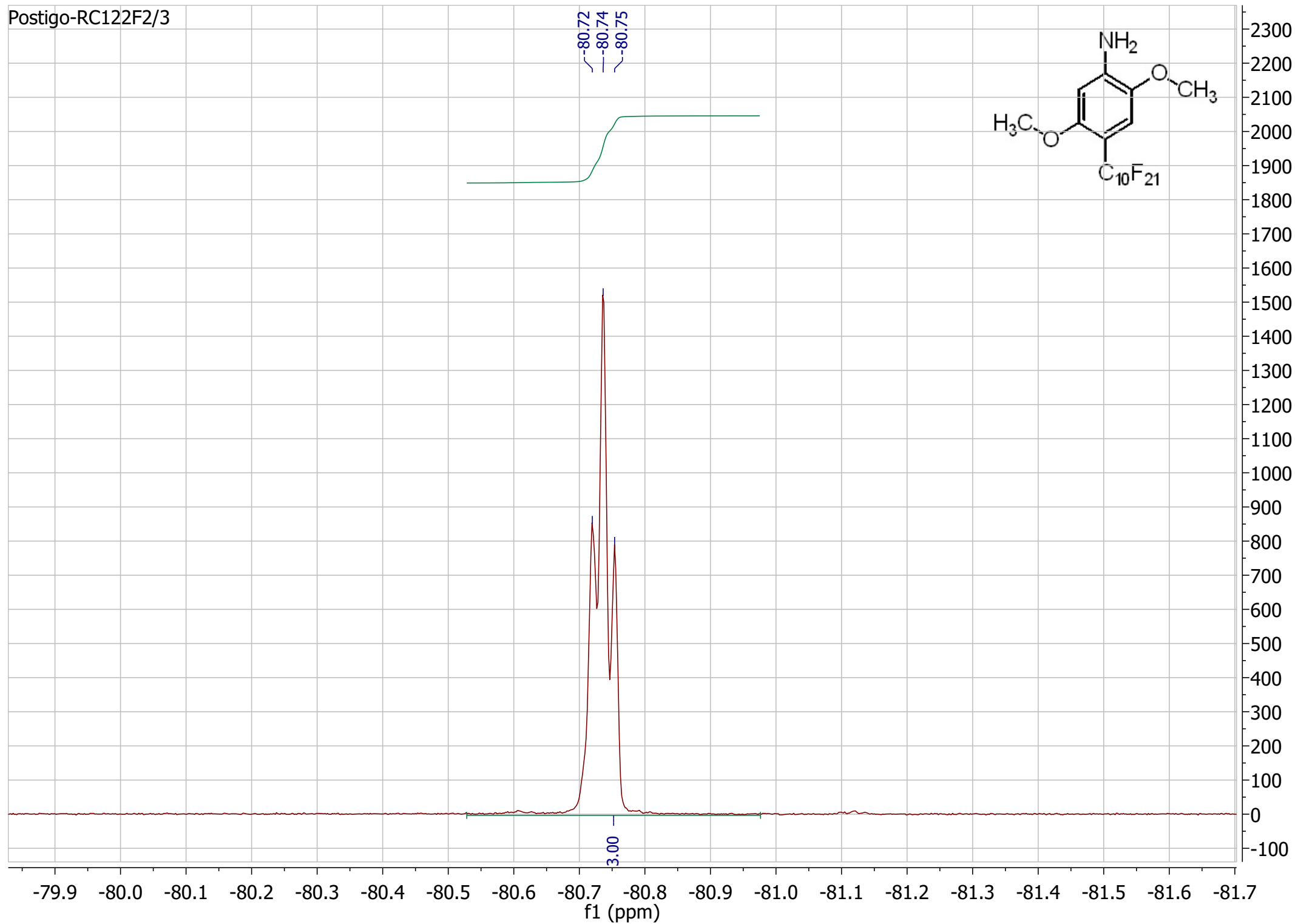
Postigo-RC122F2/5



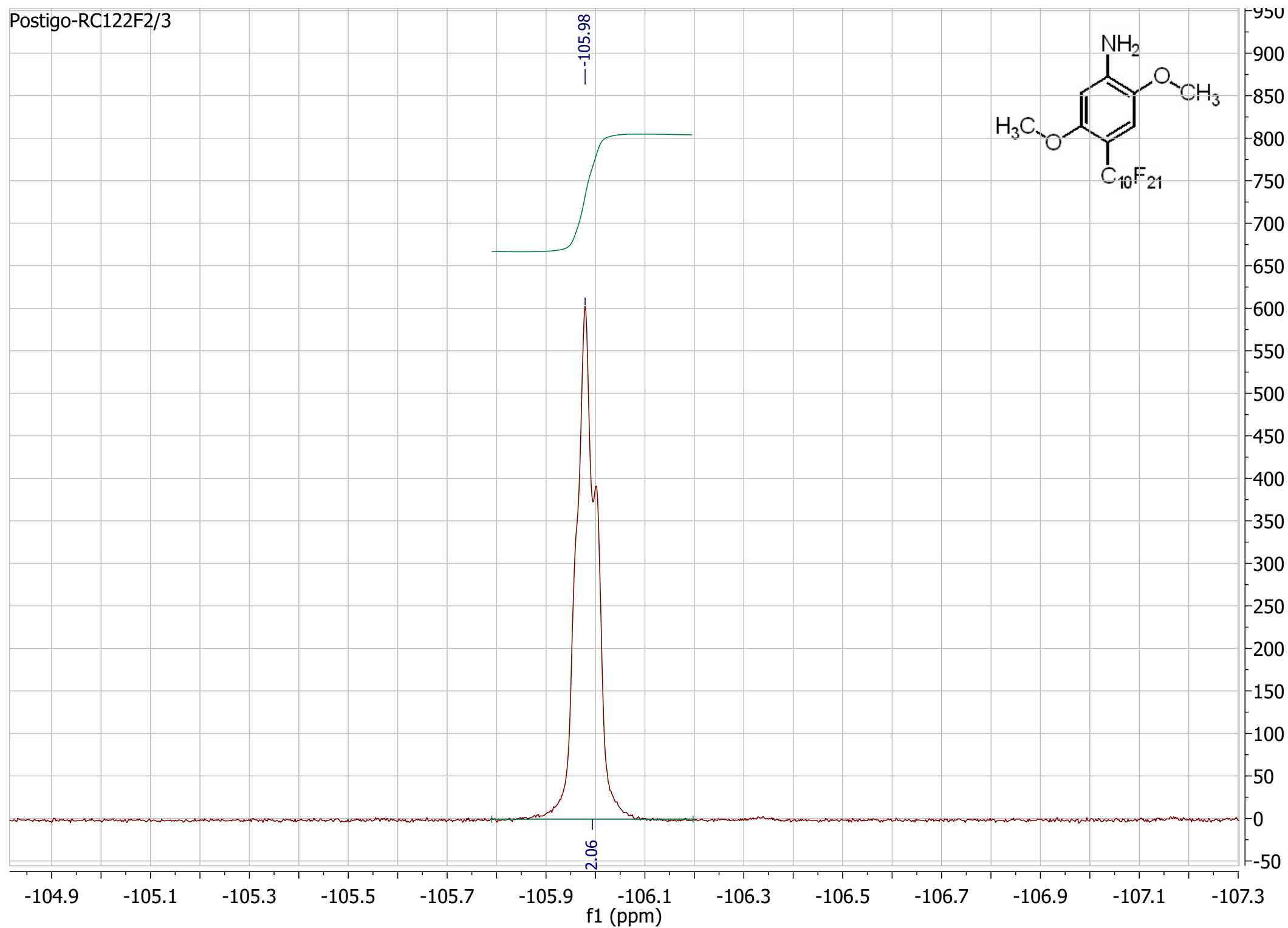
Postigo-RC122F2/3



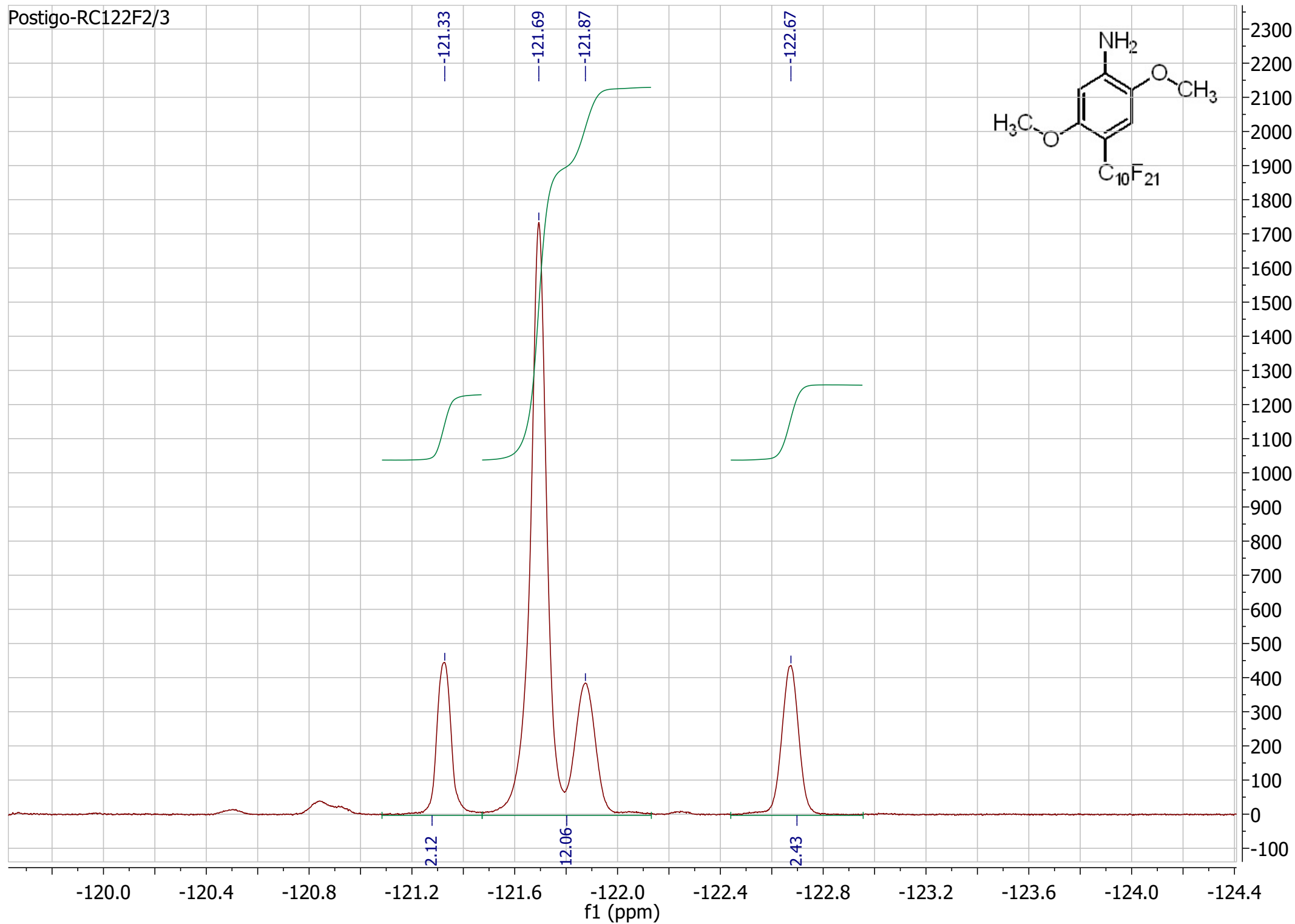
Postigo-RC122F2/3



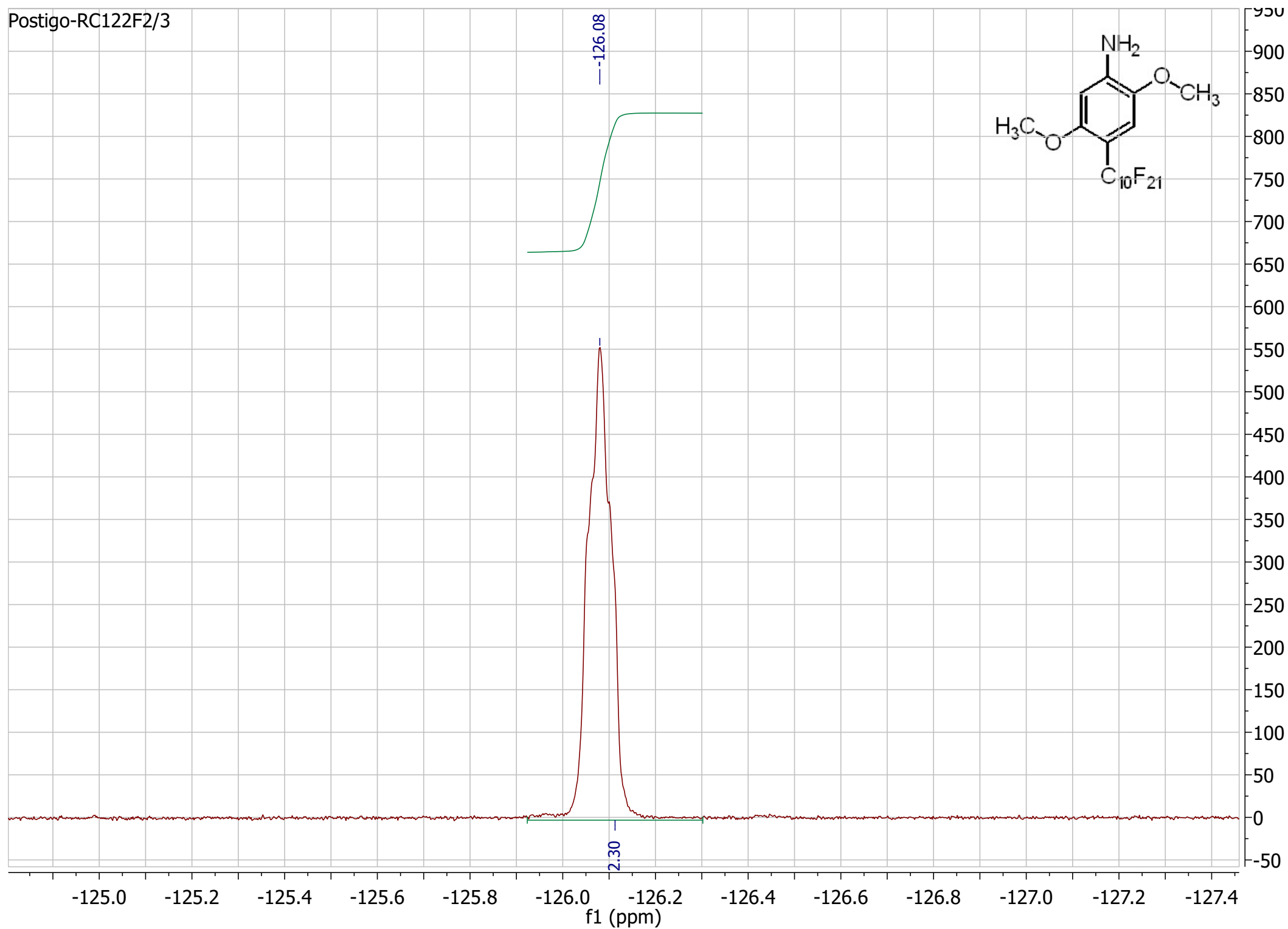
Postigo-RC122F2/3



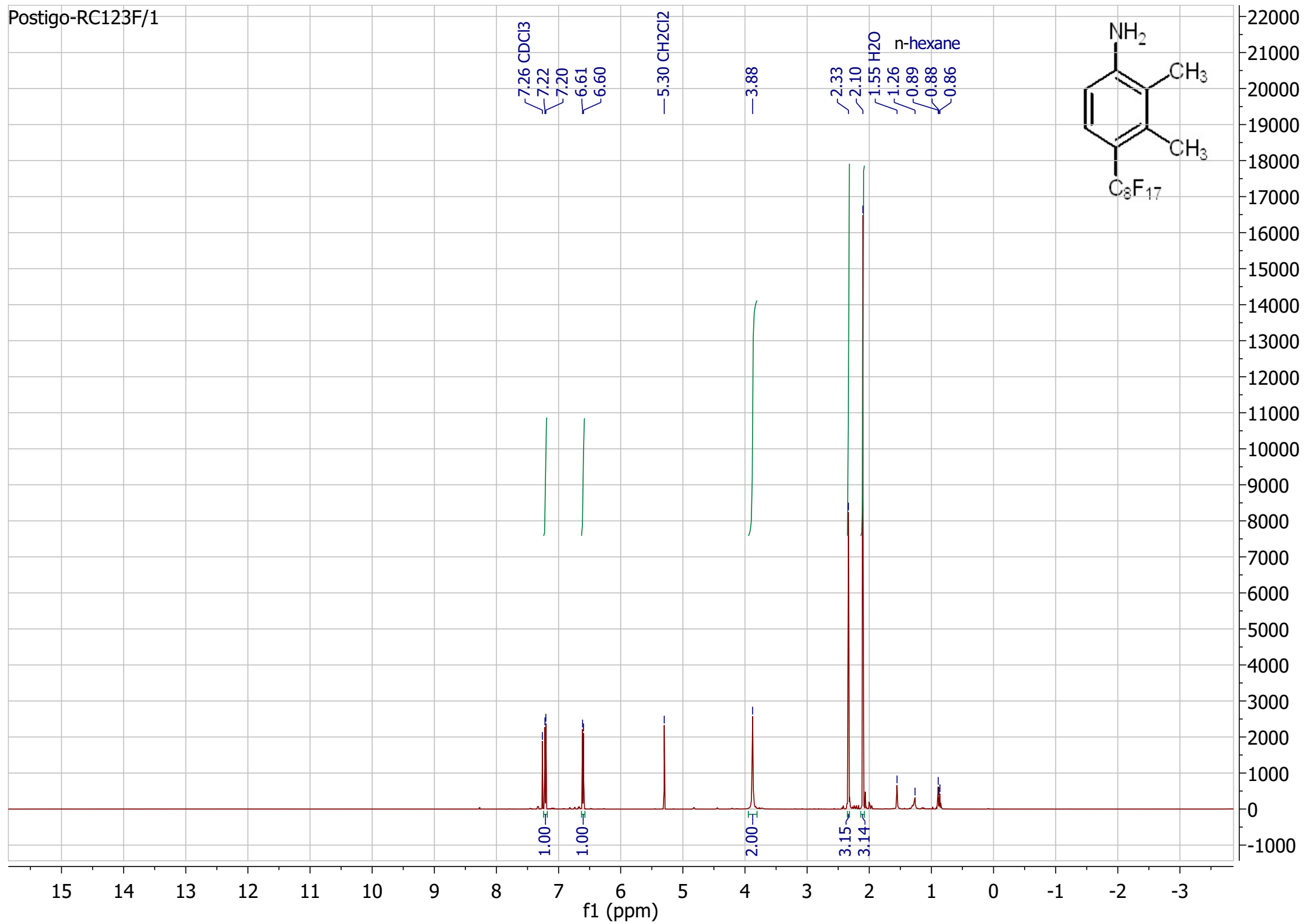
Postigo-RC122F2/3



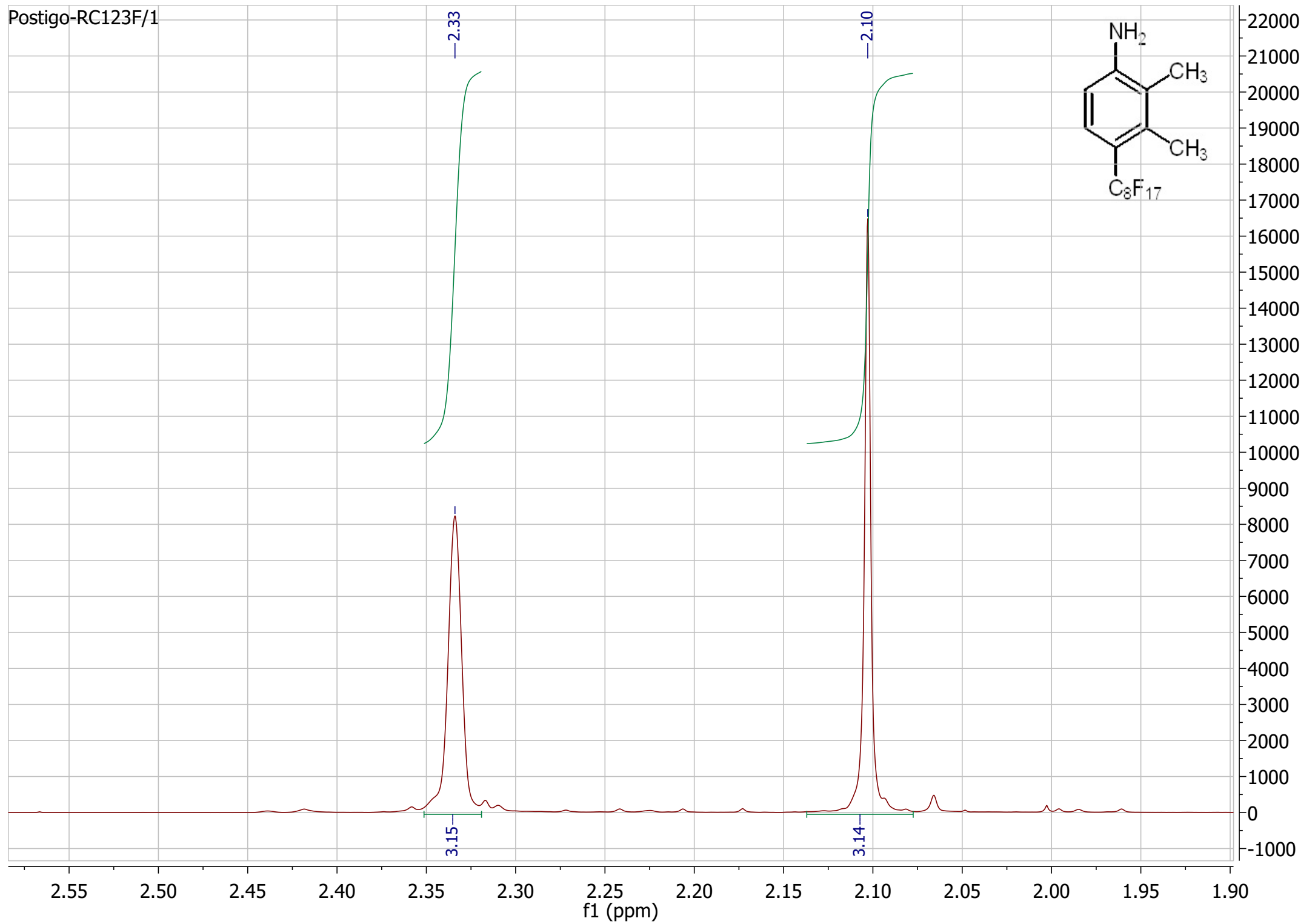
Postigo-RC122F2/3



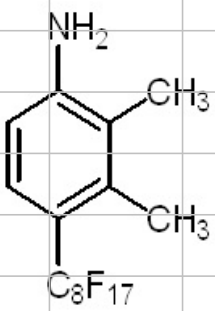
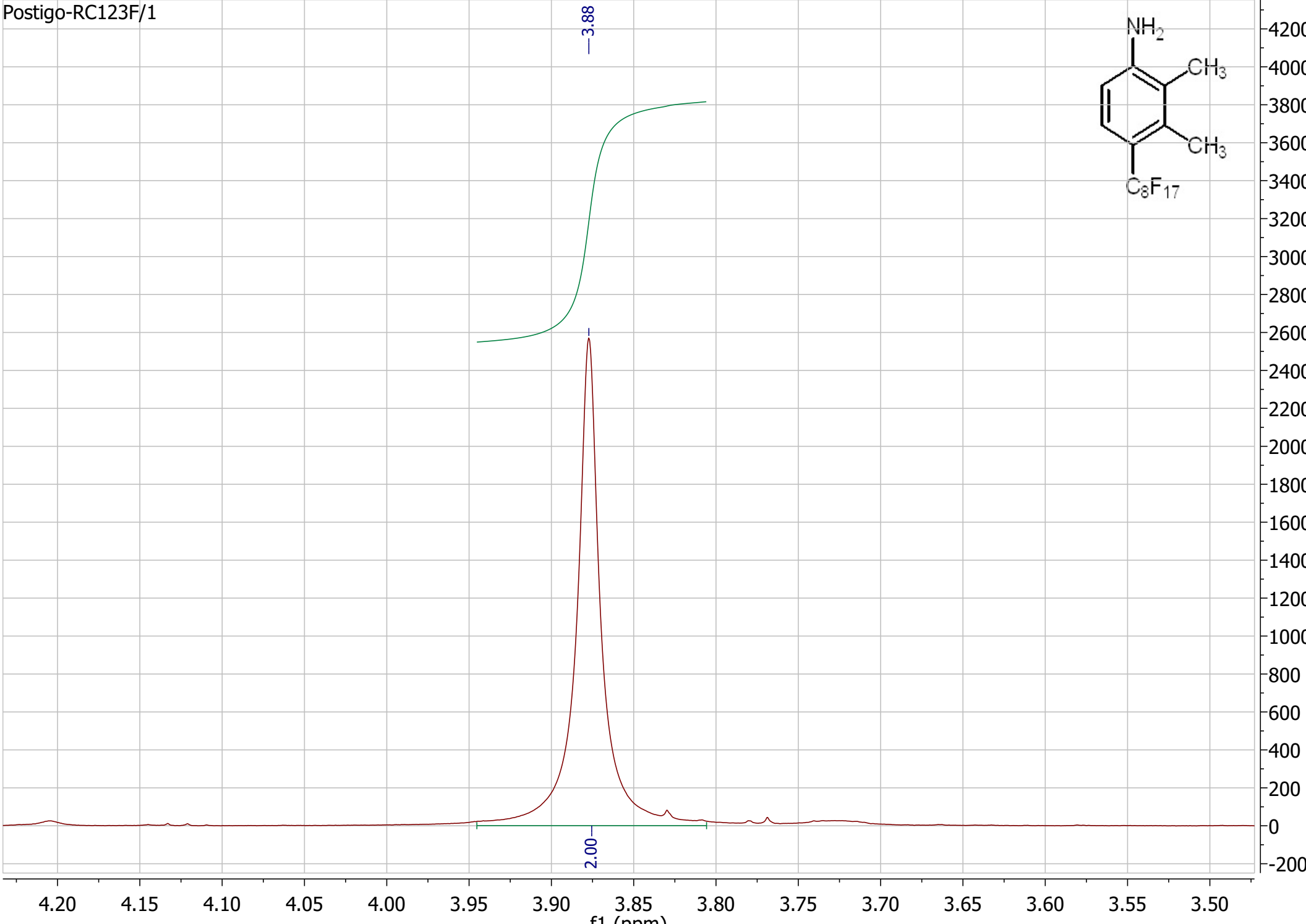
Postigo-RC123F/1



Postigo-RC123F/1



Postigo-RC123F/1



Postigo-RC123F/1

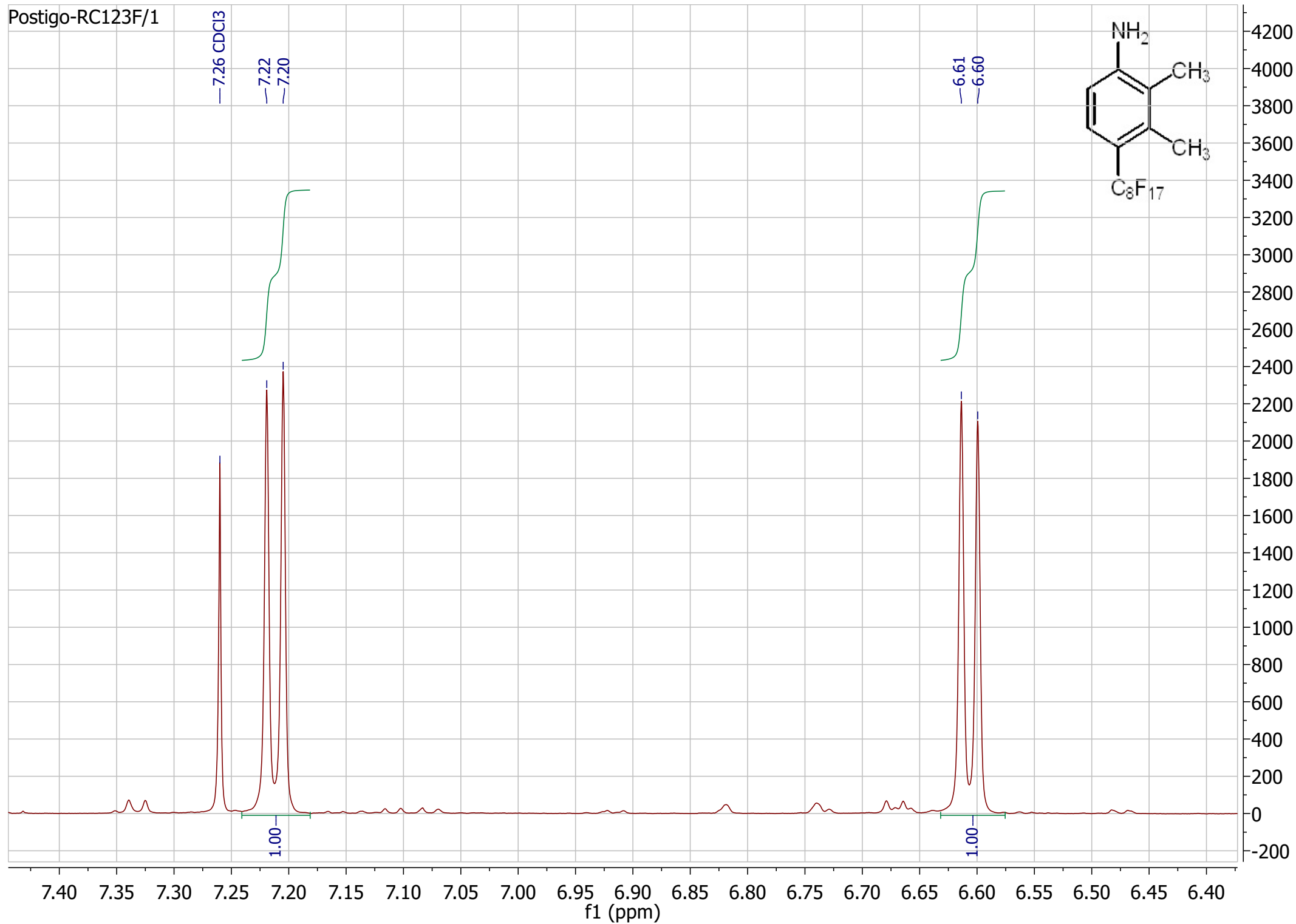
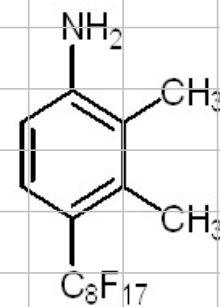
—7.26 CDCl₃

—7.22

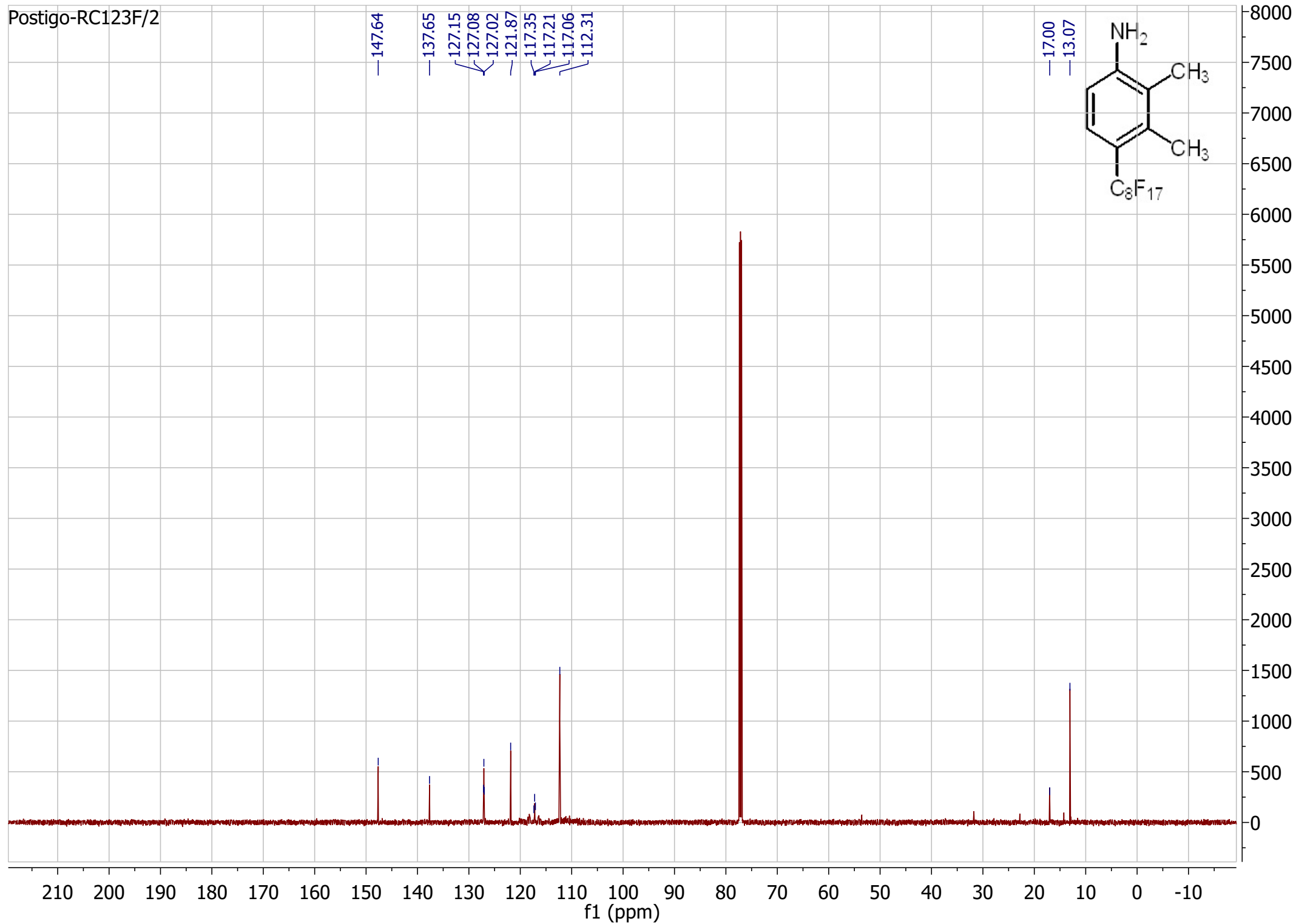
—7.20

—6.61

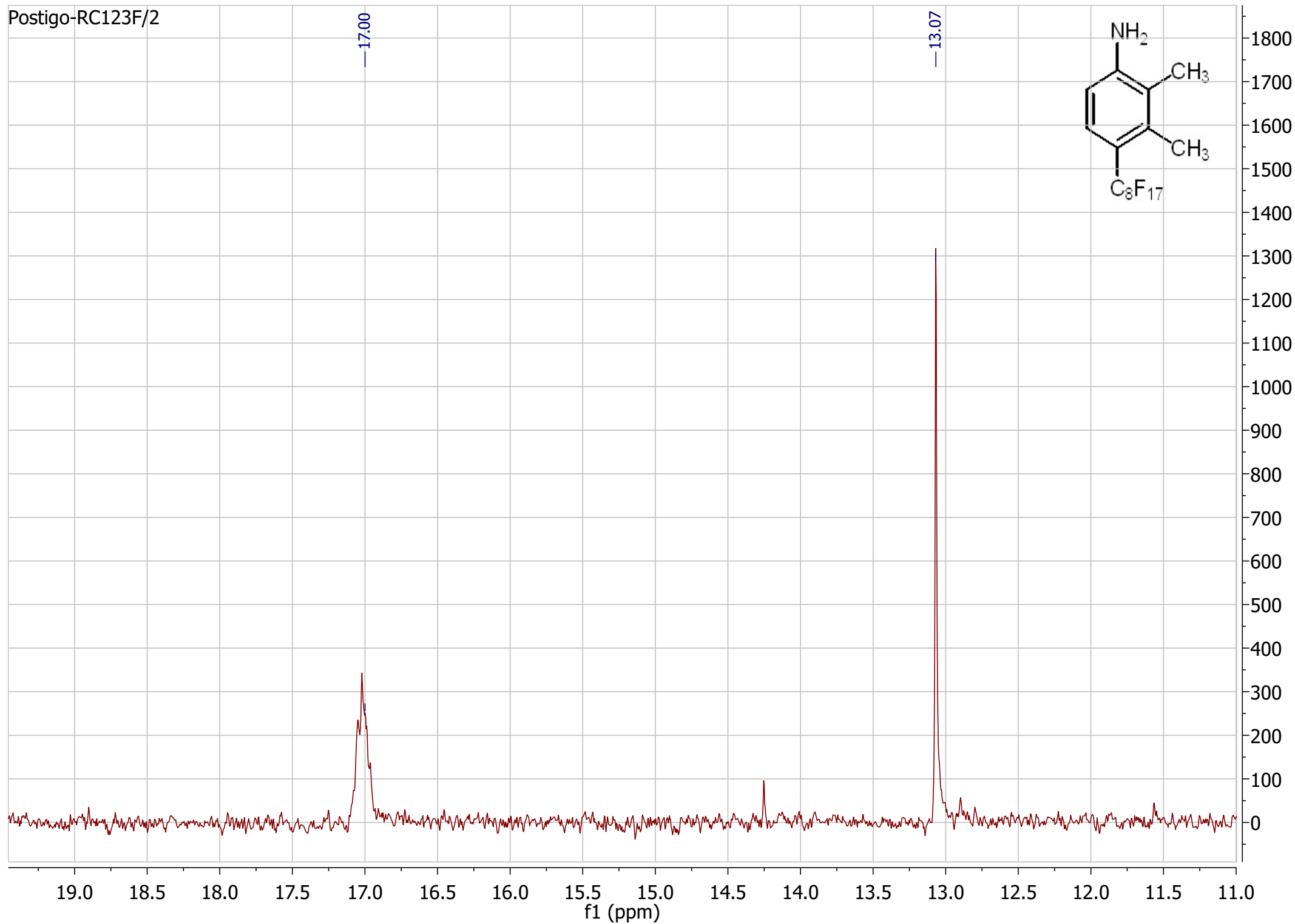
—6.60



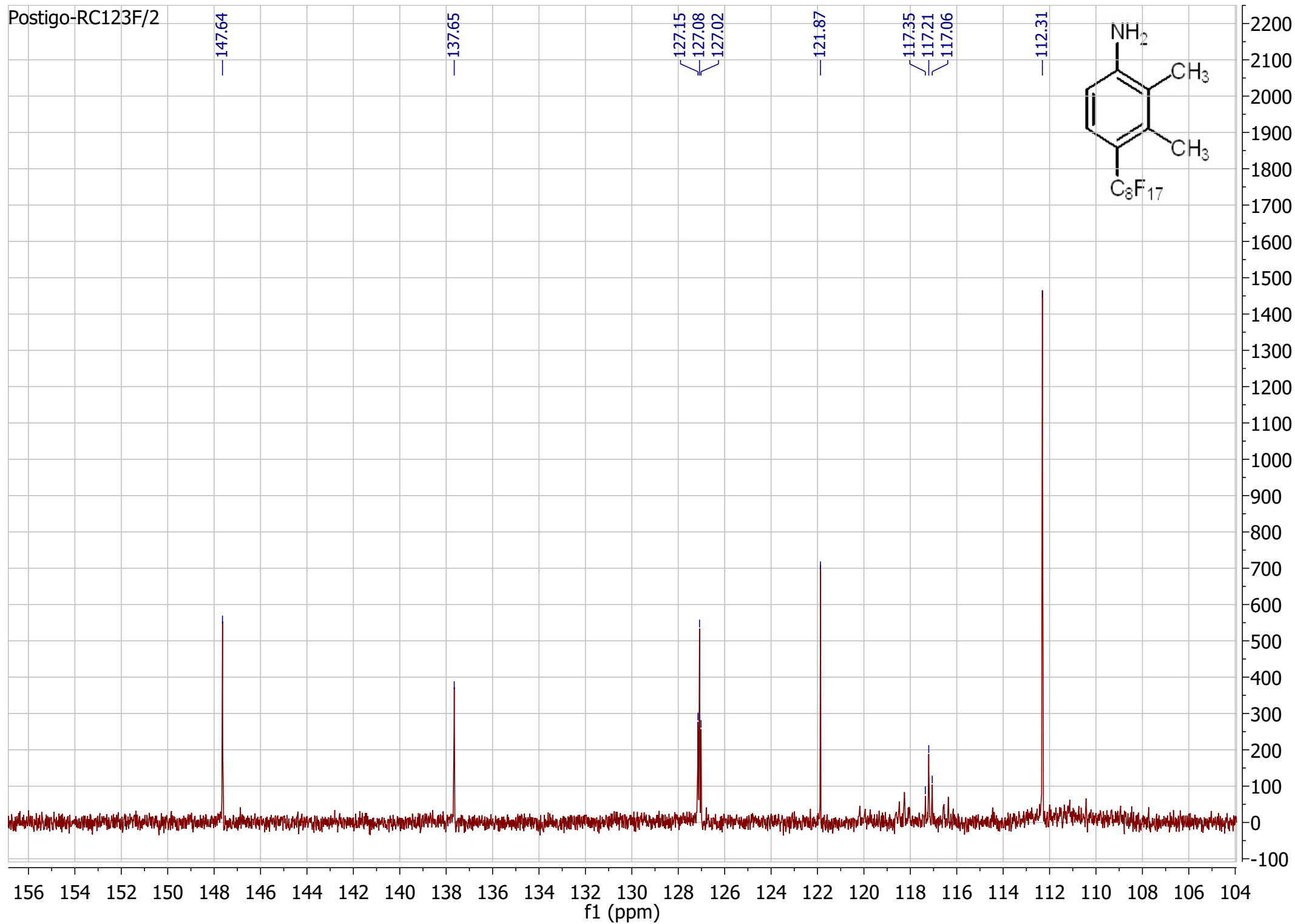
Postigo-RC123F/2



Postigo-RC123F/2



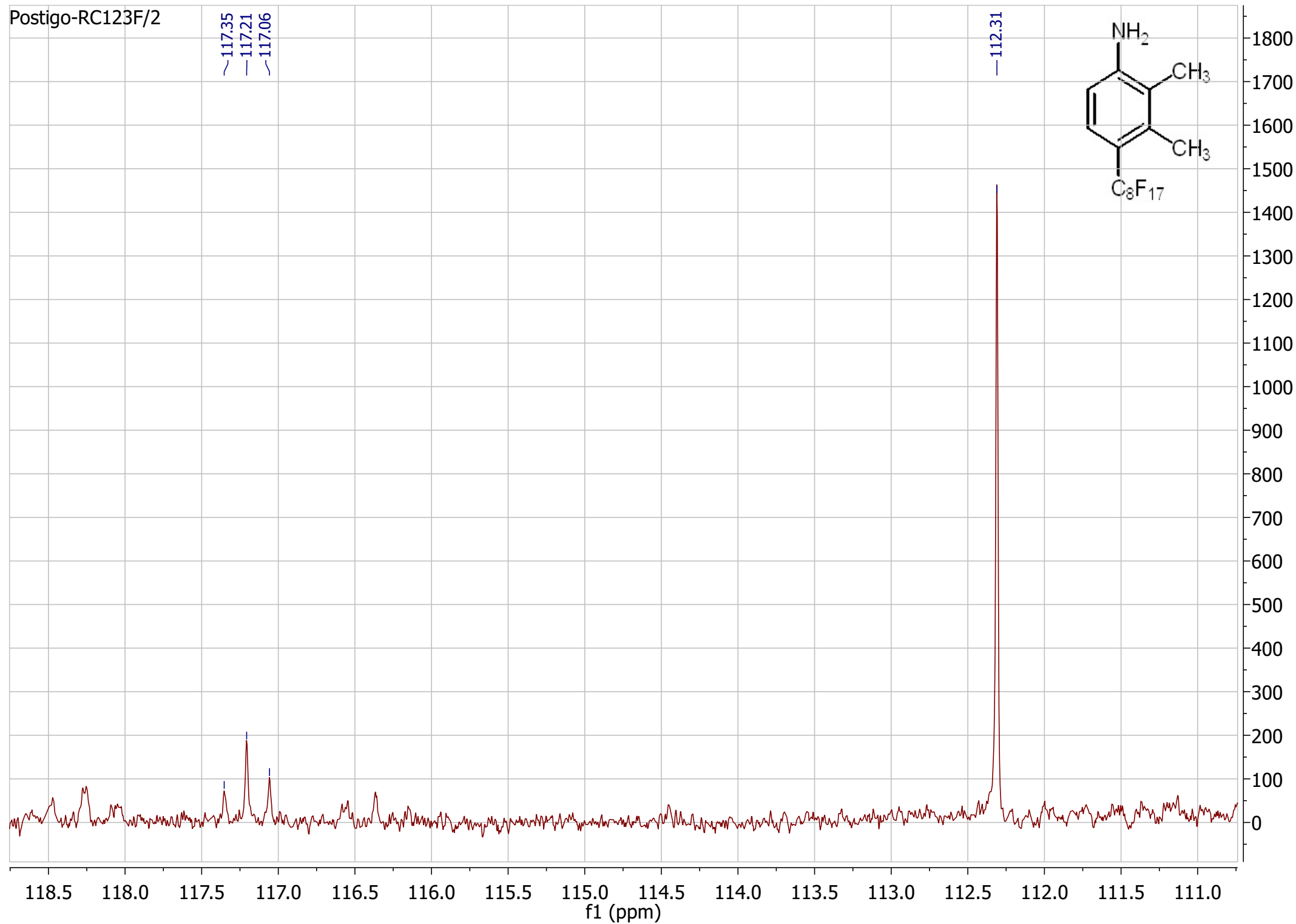
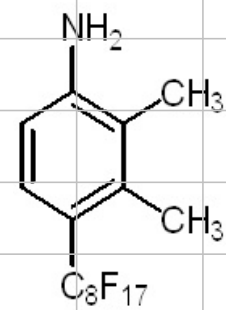
Postigo-RC123F/2



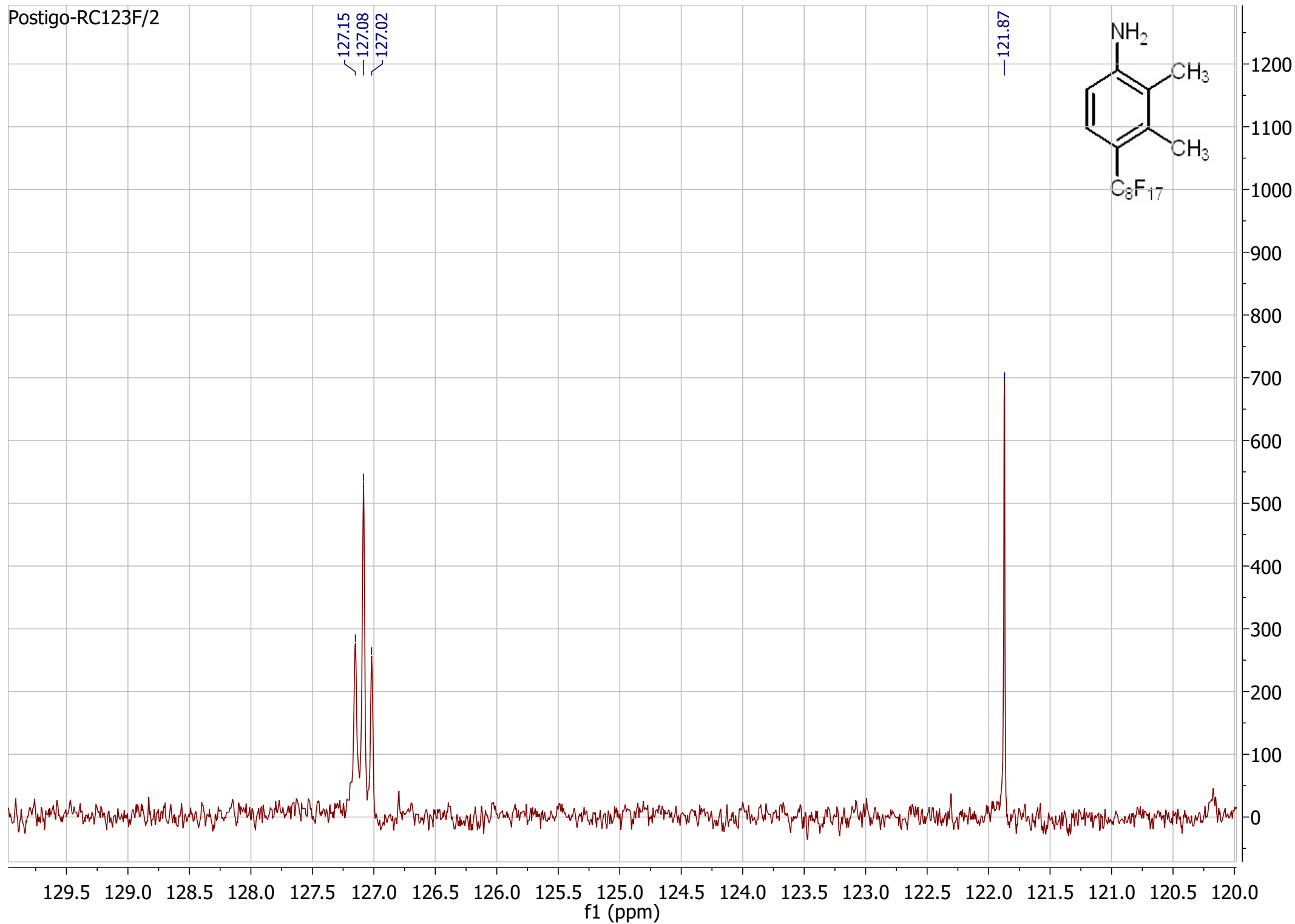
Postigo-RC123F/2

~117.35
—117.21
~117.06

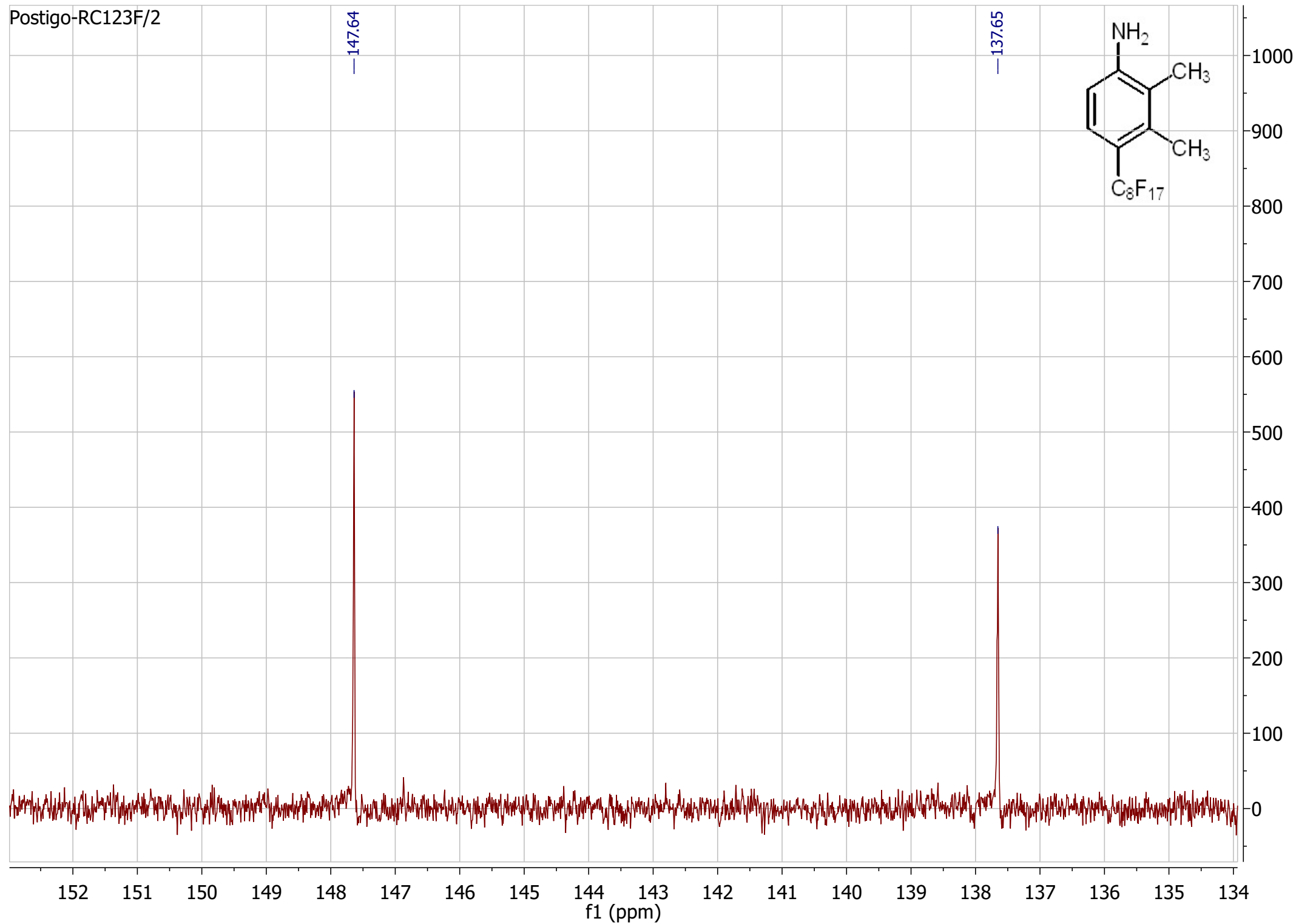
—112.31



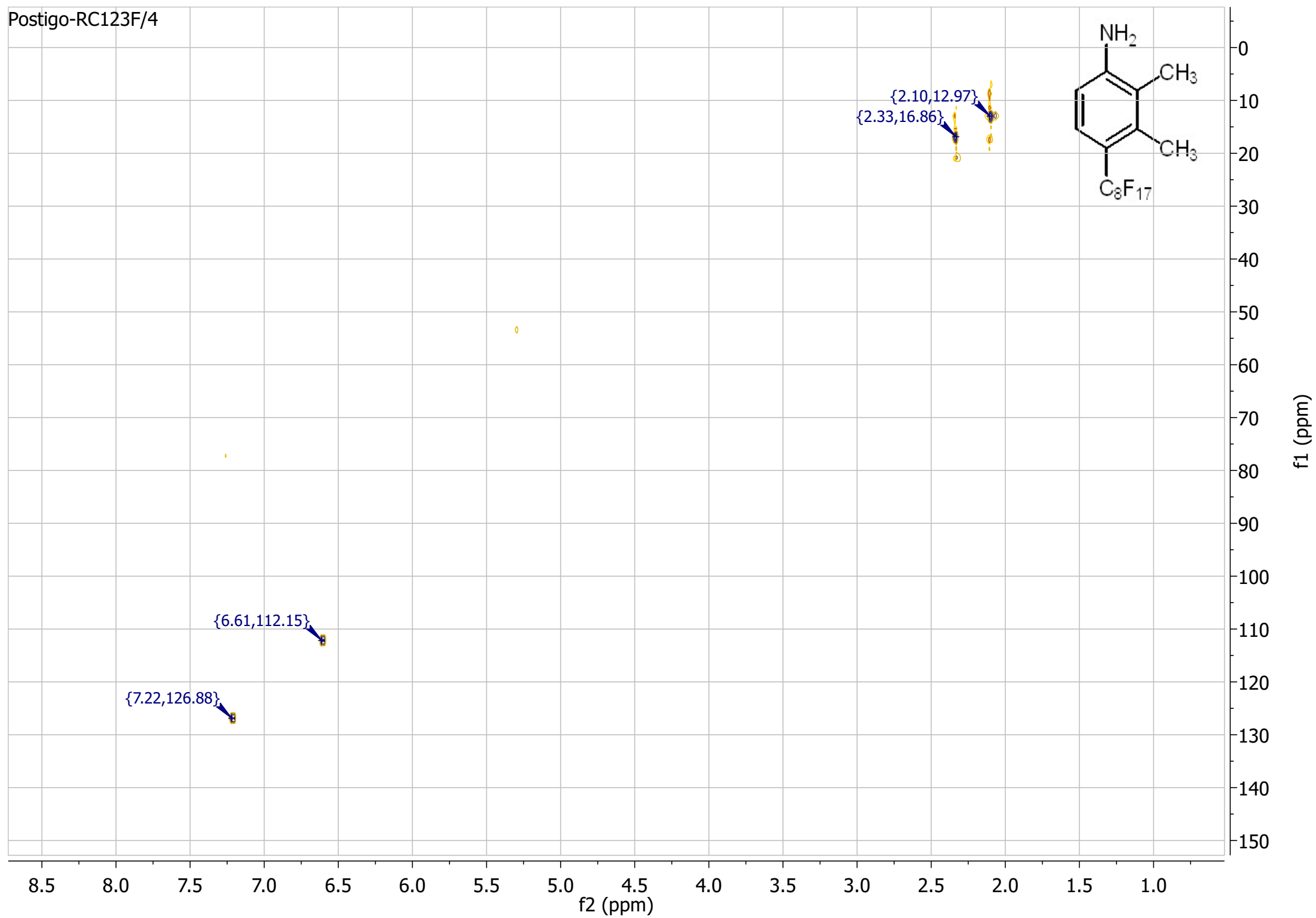
Postigo-RC123F/2



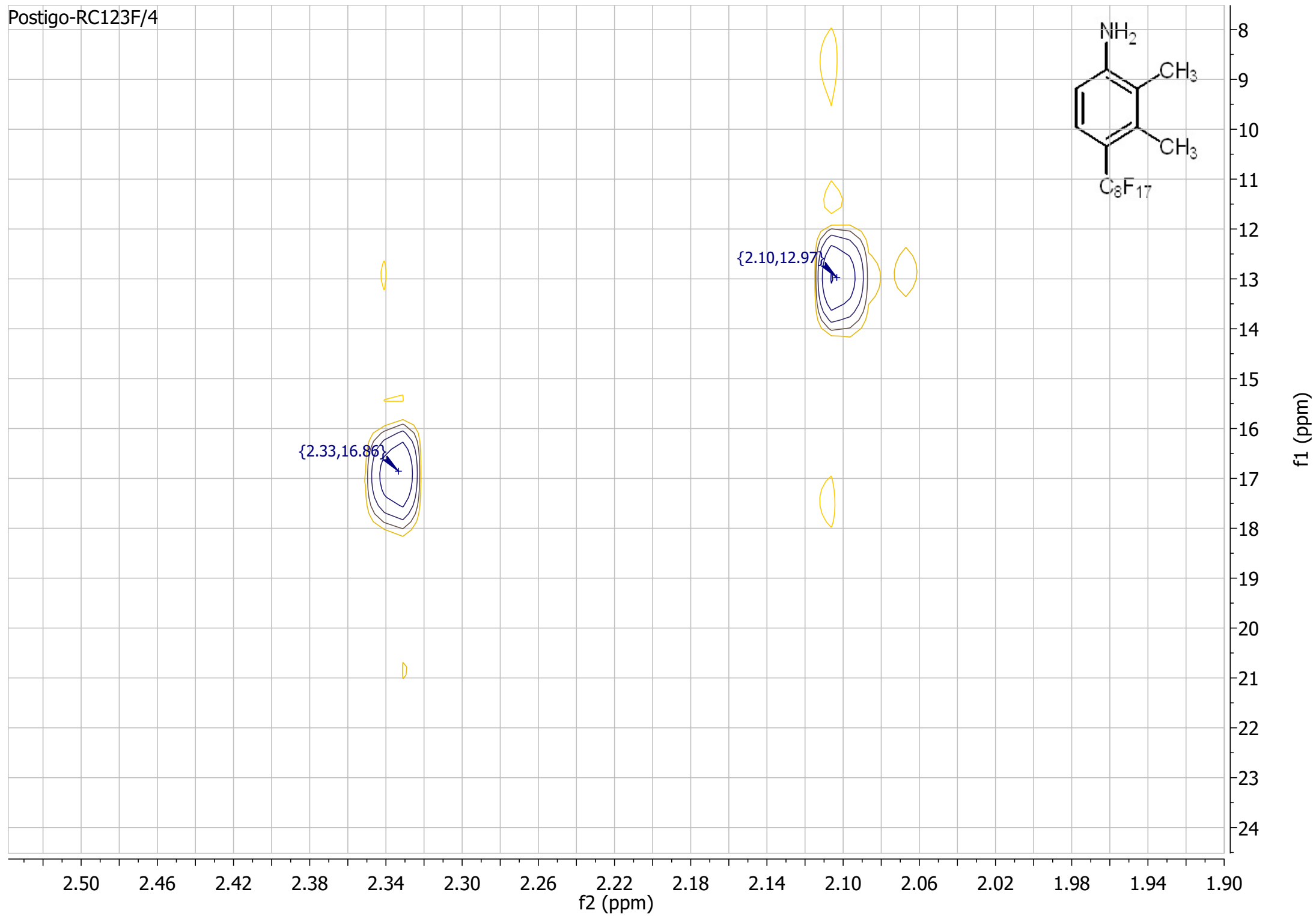
Postigo-RC123F/2



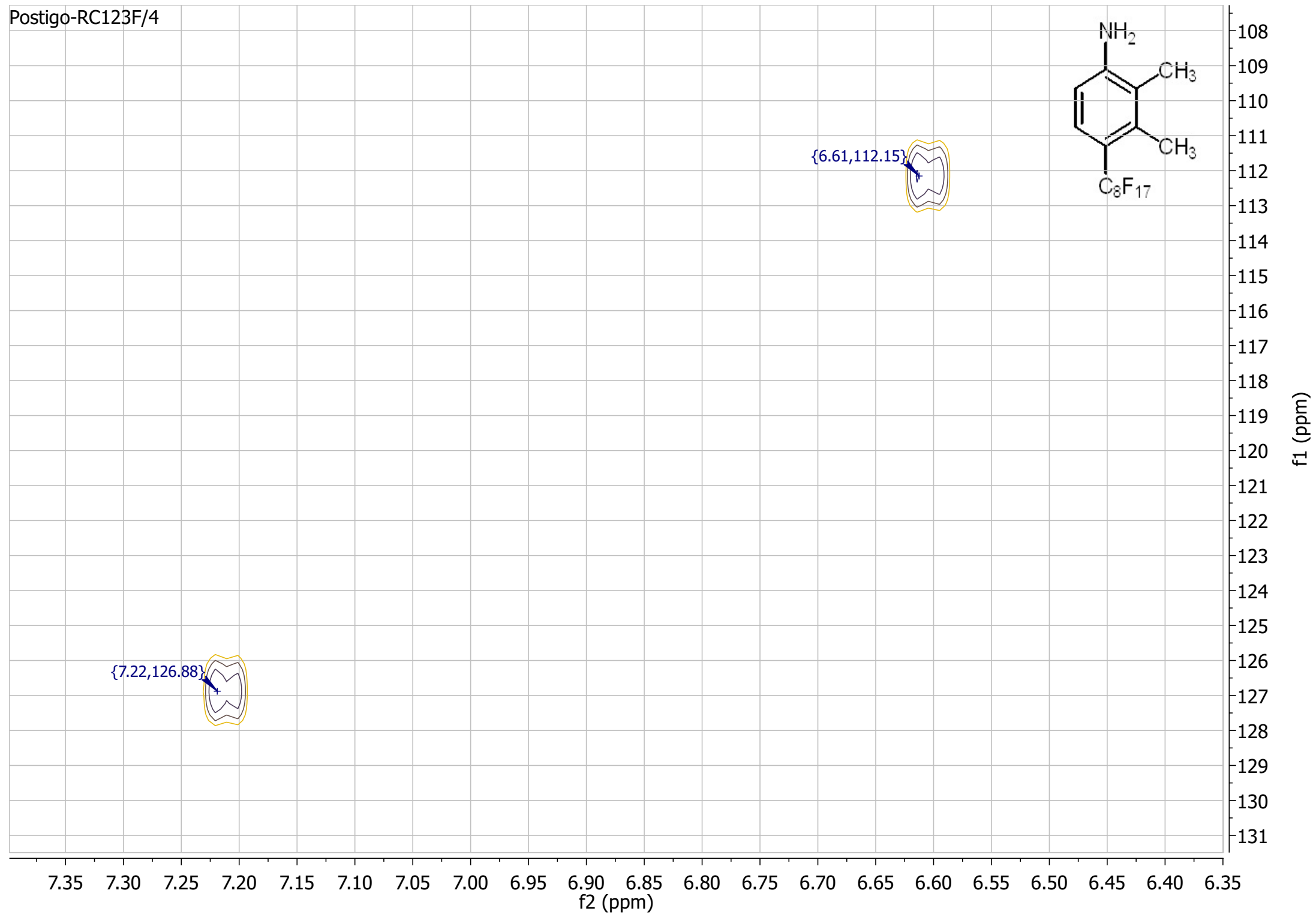
Postigo-RC123F/4



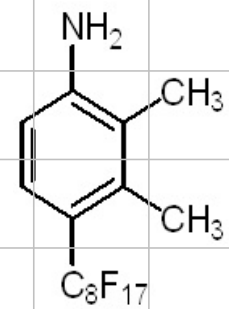
Postigo-RC123F/4



Postigo-RC123F/4



Postigo-RC123F/5



f1 (ppm)

95
100
105
110
115
120
125
130
135
140
145
150
155
160
165

{7.21,118.09}

{6.61,121.74}

{6.61,117.01}

{2.34,116.95}

{2.34,121.75}

{2.11,121.72}

{7.21,137.50}

{2.11,137.48}

{2.34,137.46}

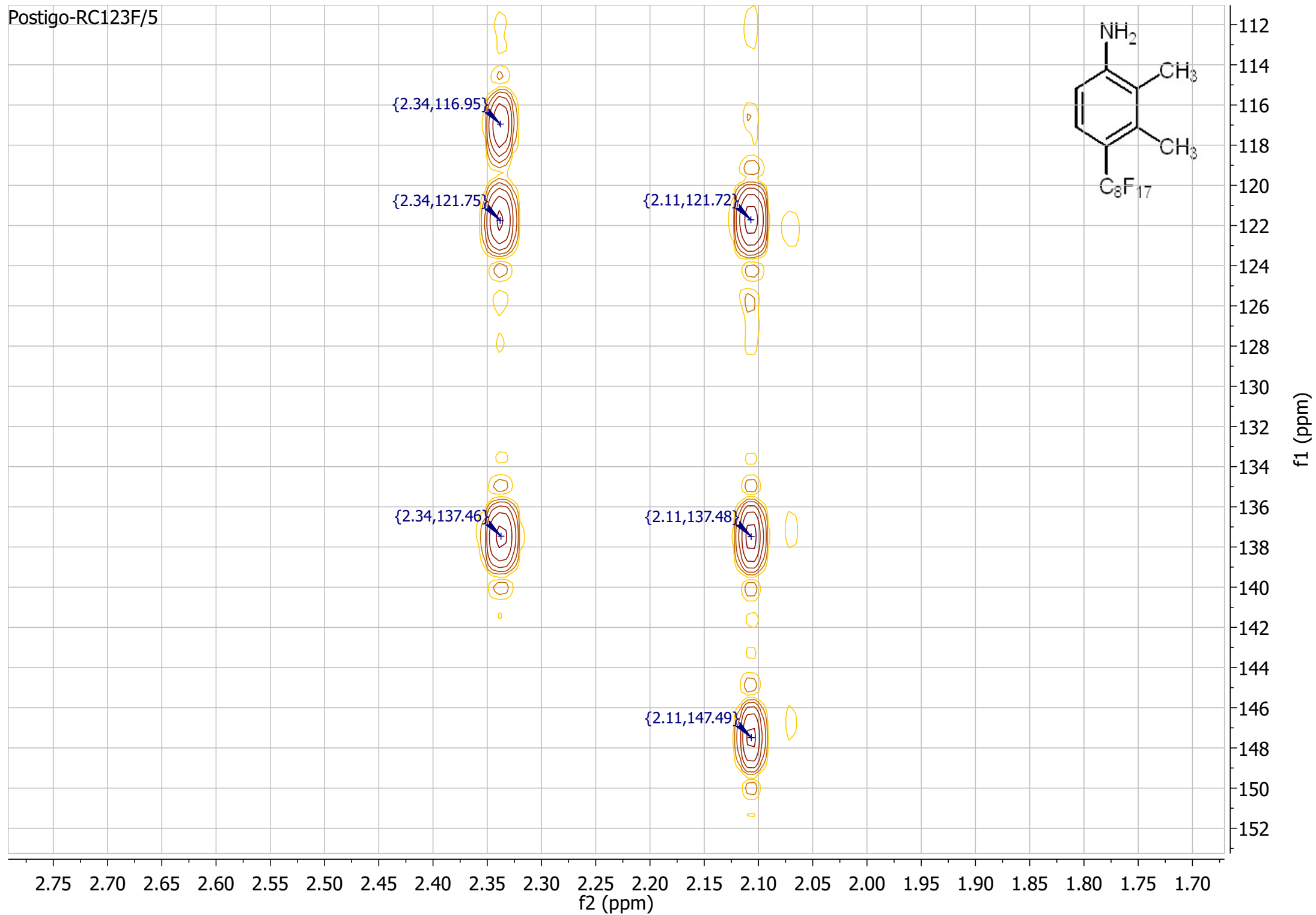
{7.21,147.48}

{2.11,147.49}

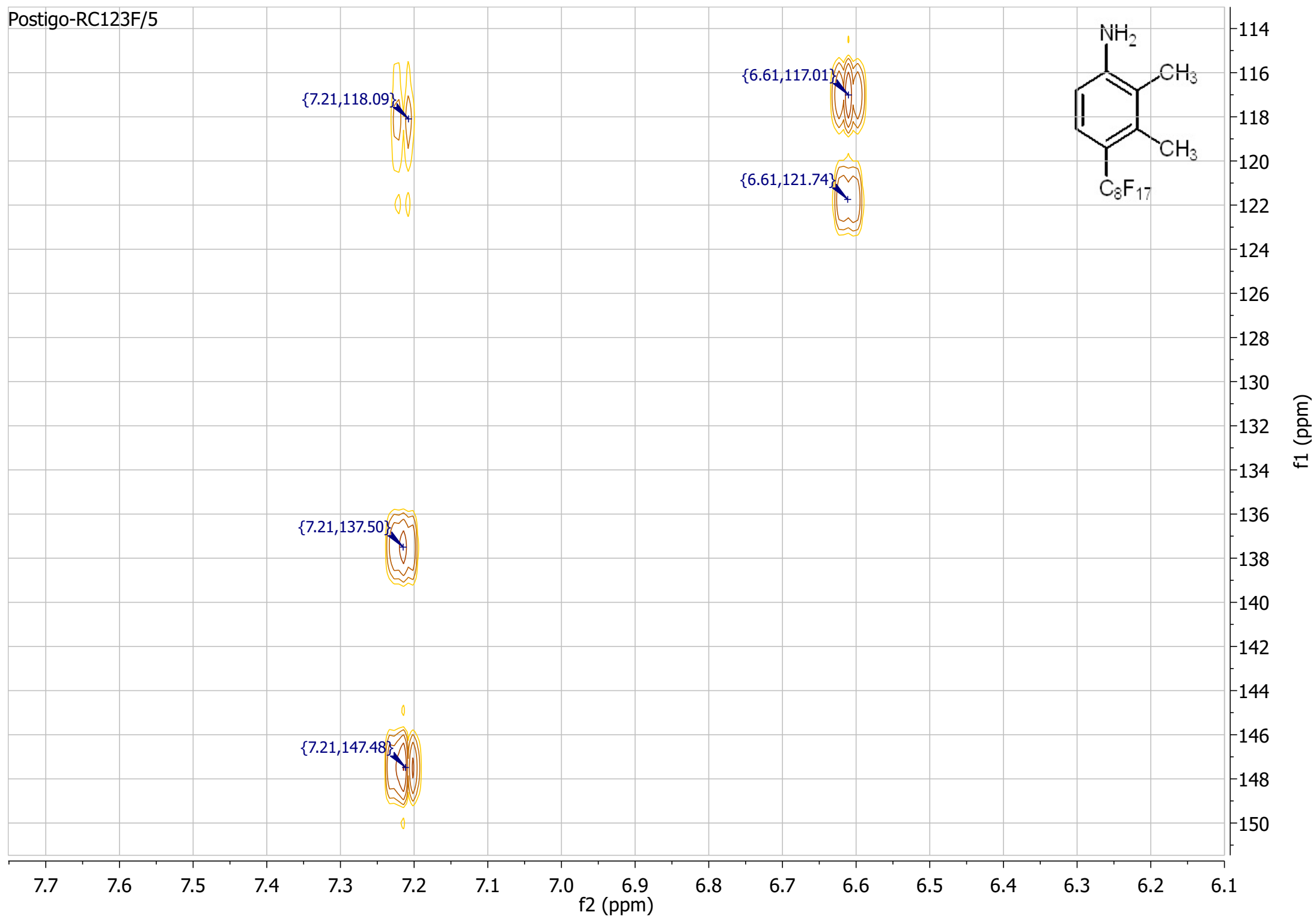
f2 (ppm)

8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0

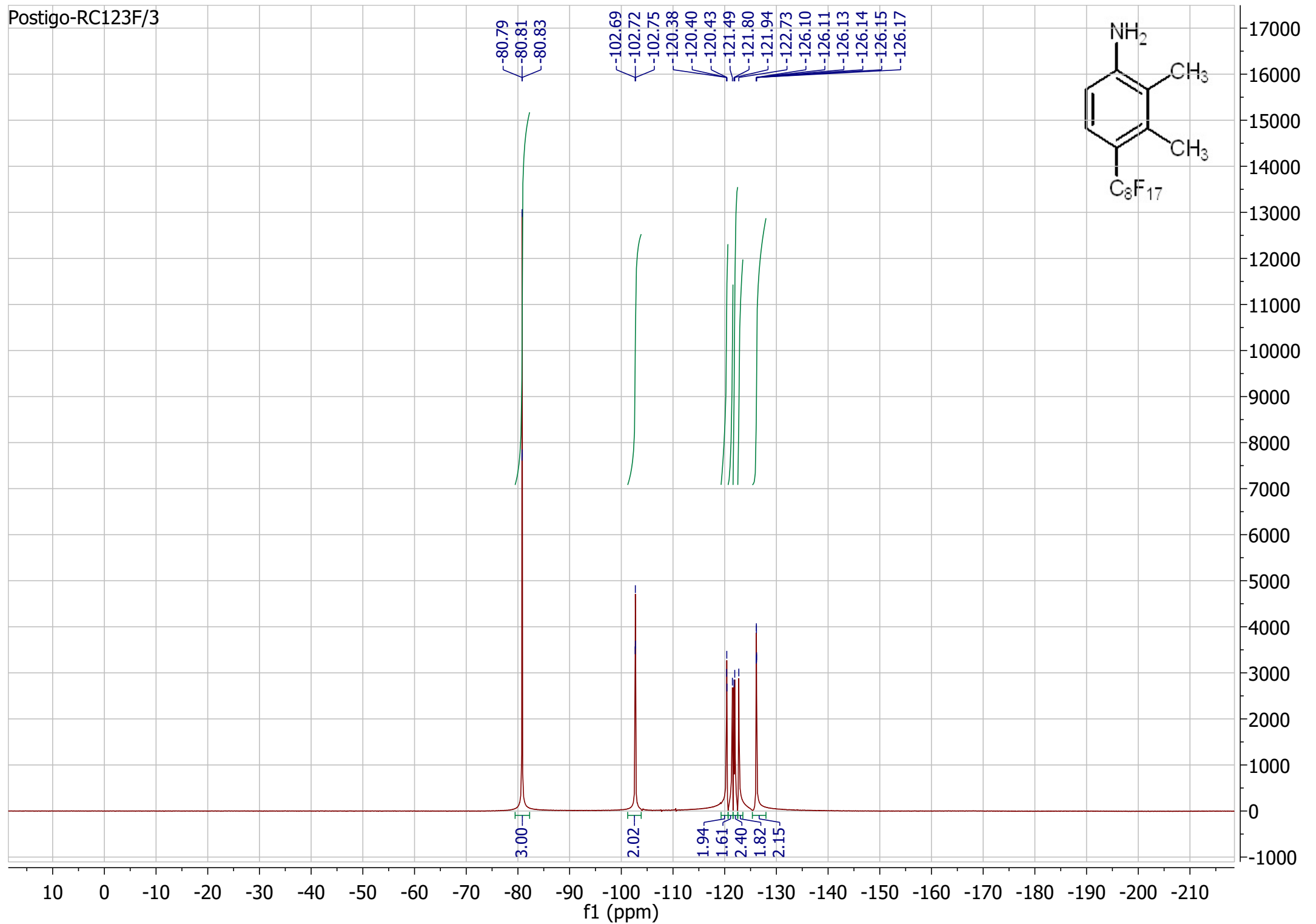
Postigo-RC123F/5



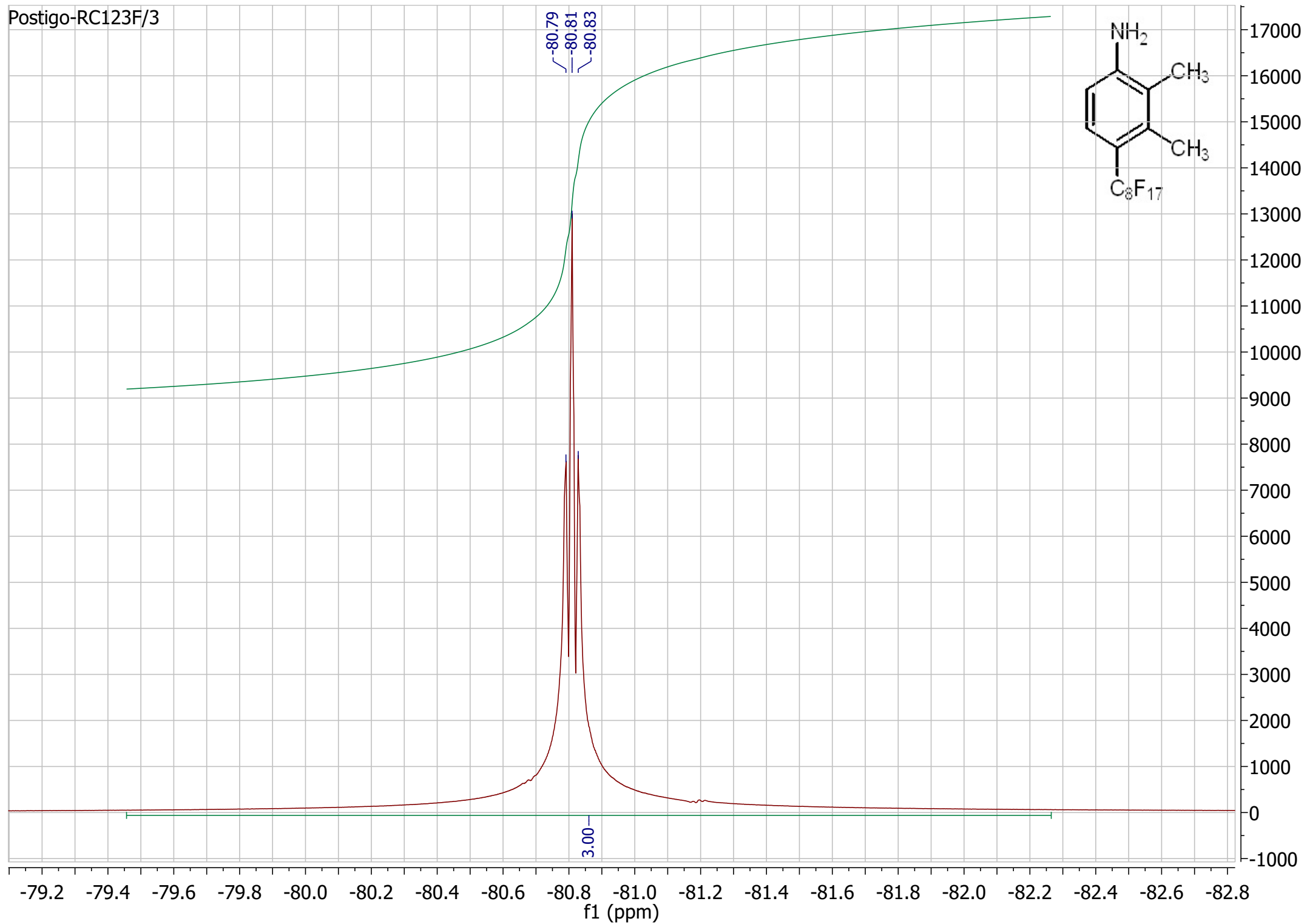
Postigo-RC123F/5



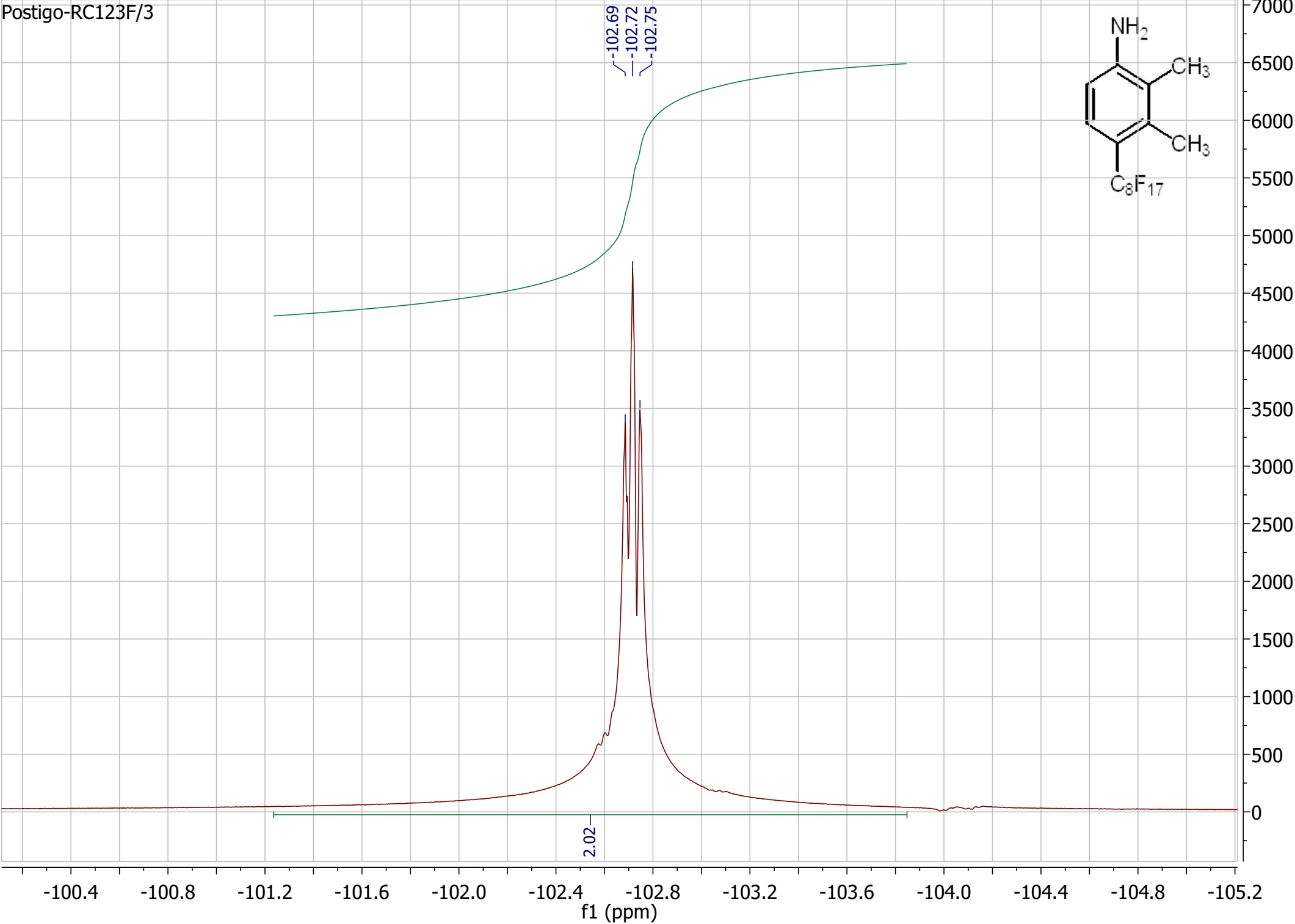
Postigo-RC123F/3



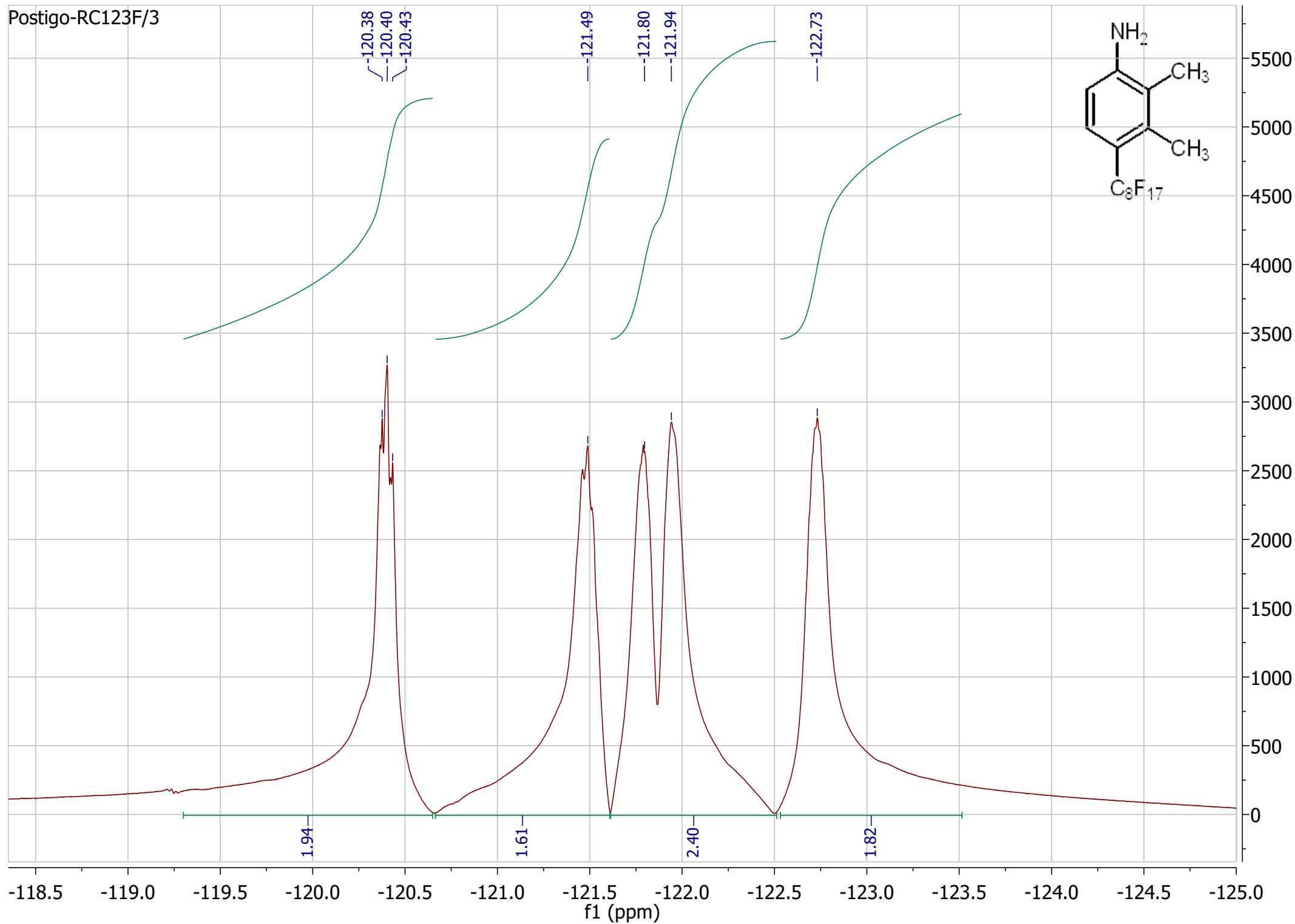
Postigo-RC123F/3



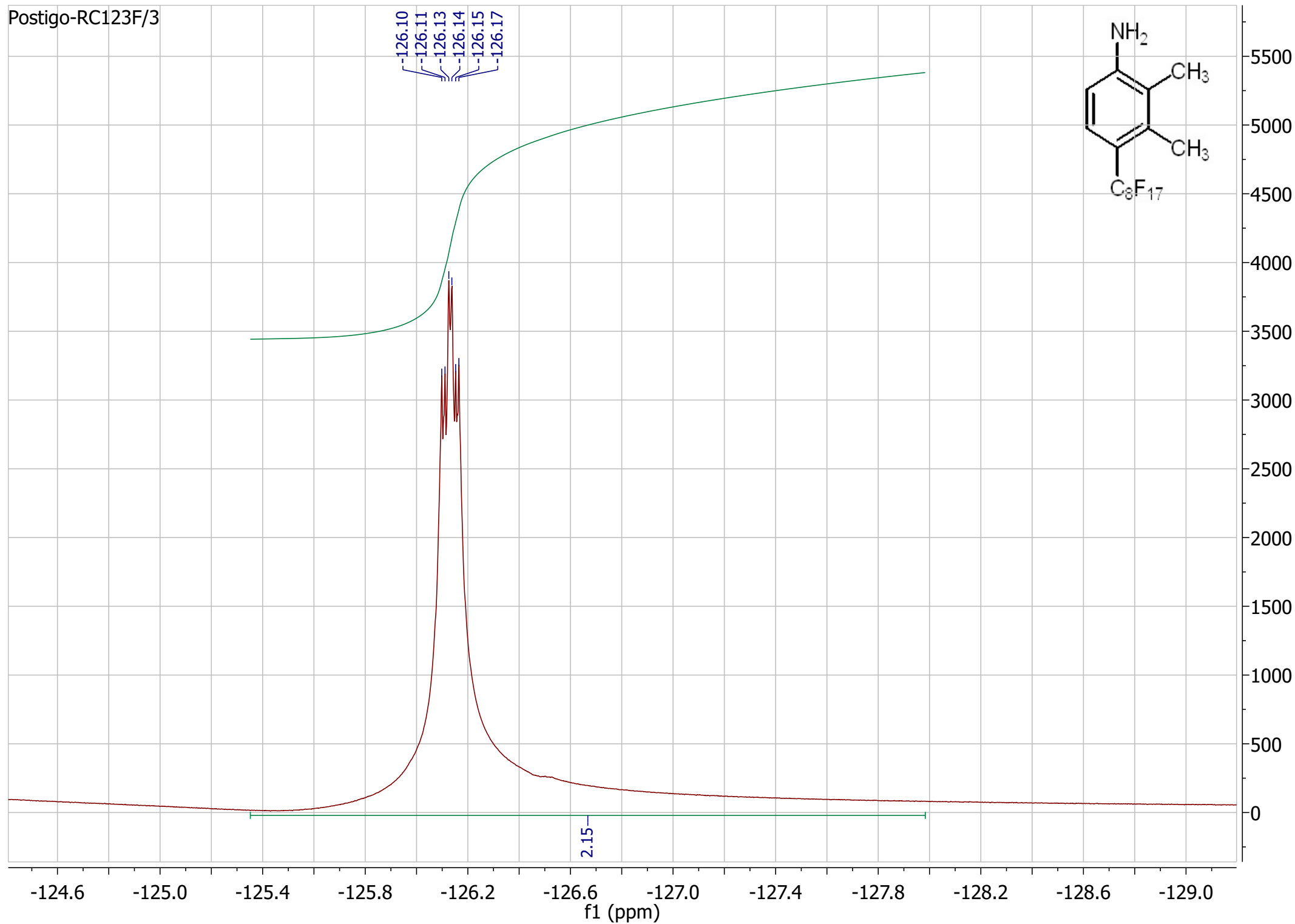
Postigo-RC123F/3

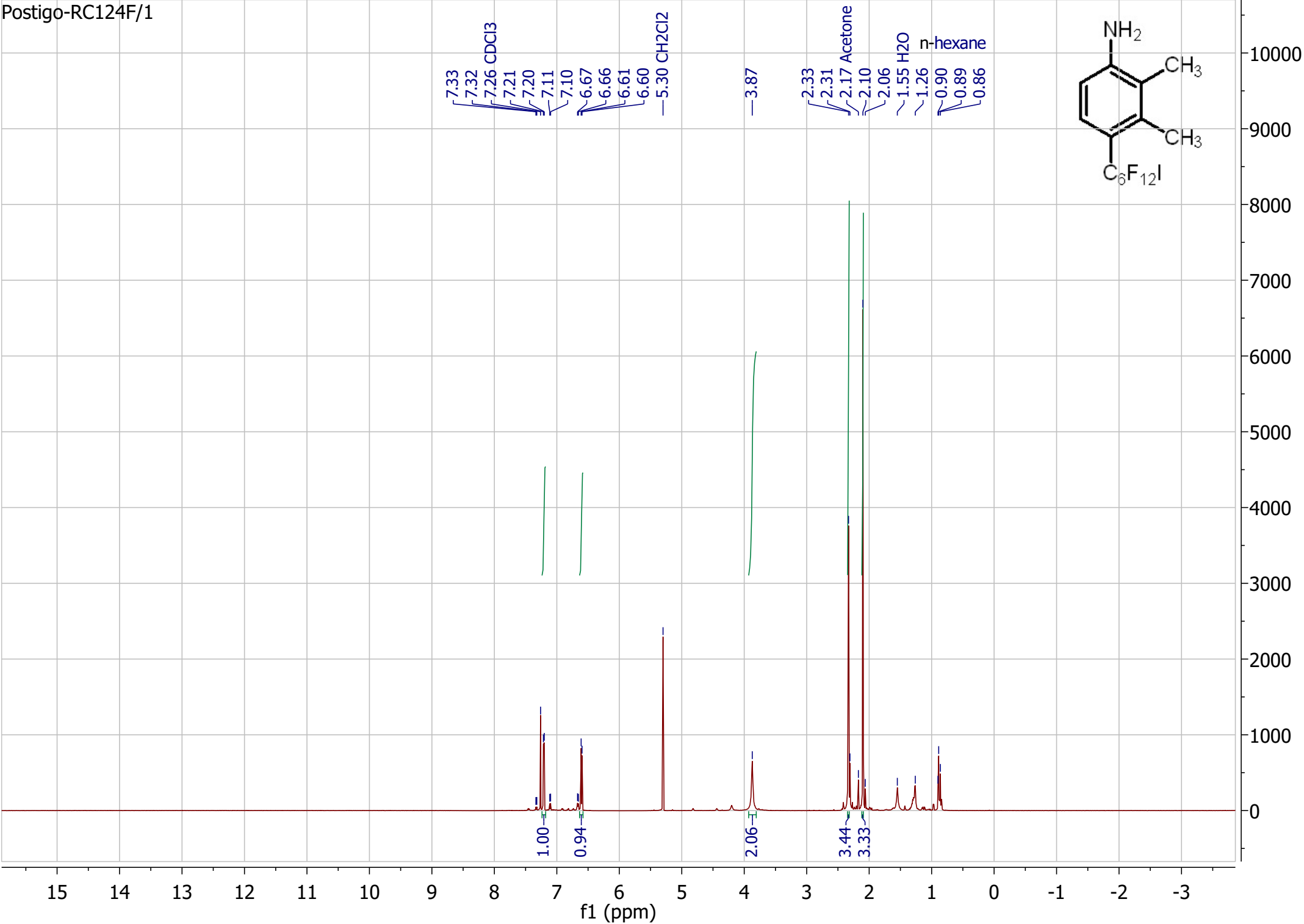


Postigo-RC123F/3

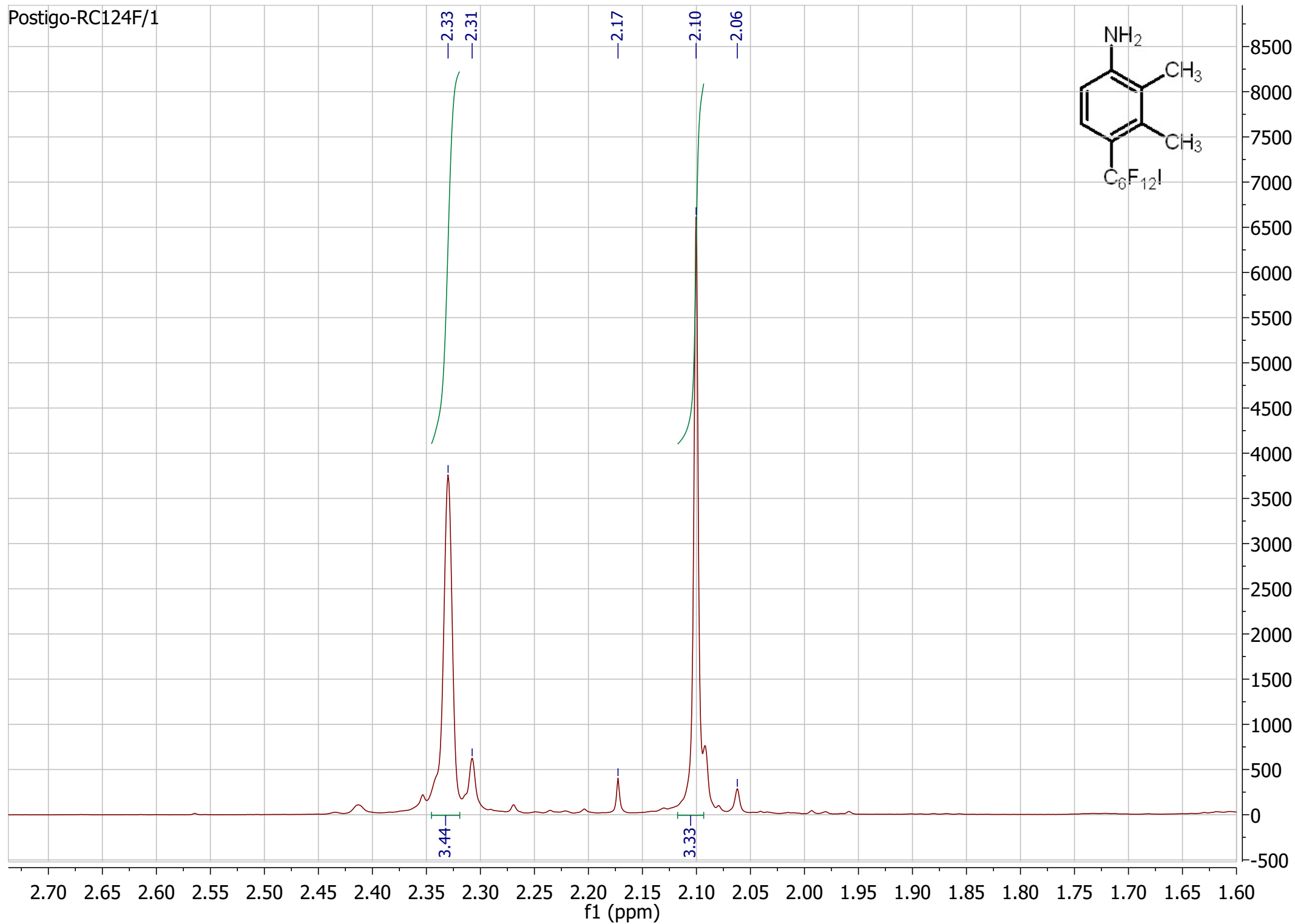


Postigo-RC123F/3

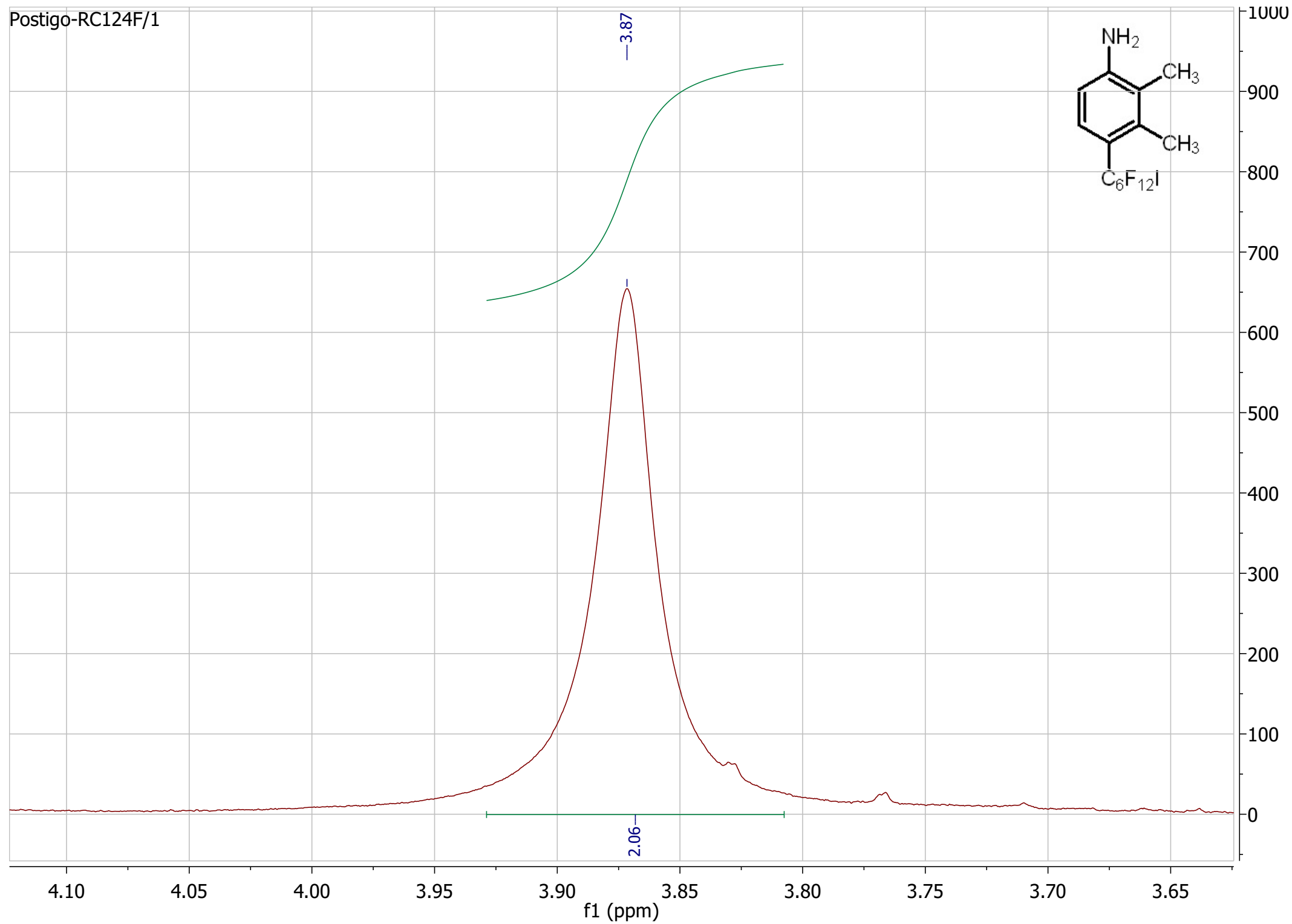




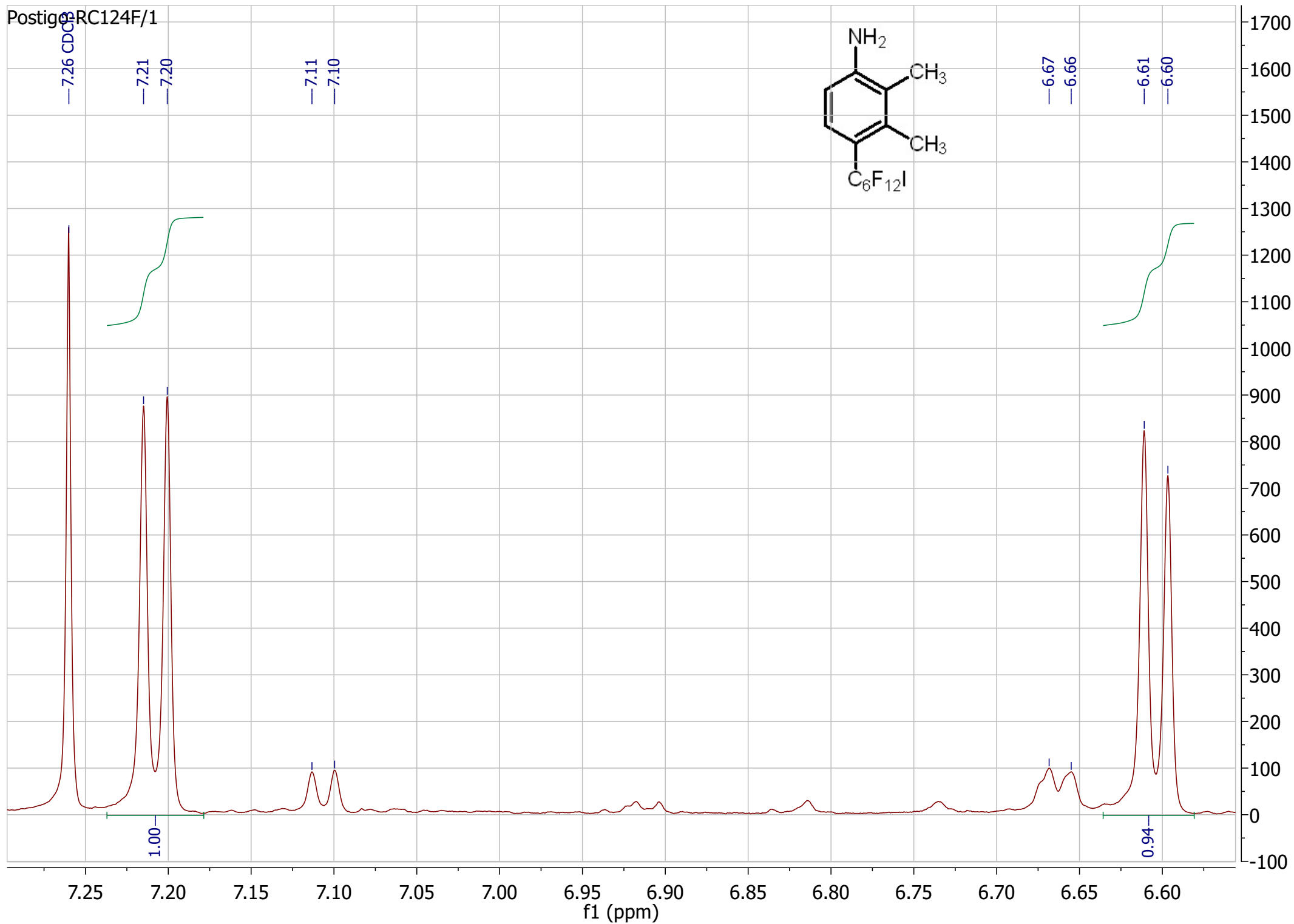
Postigo-RC124F/1



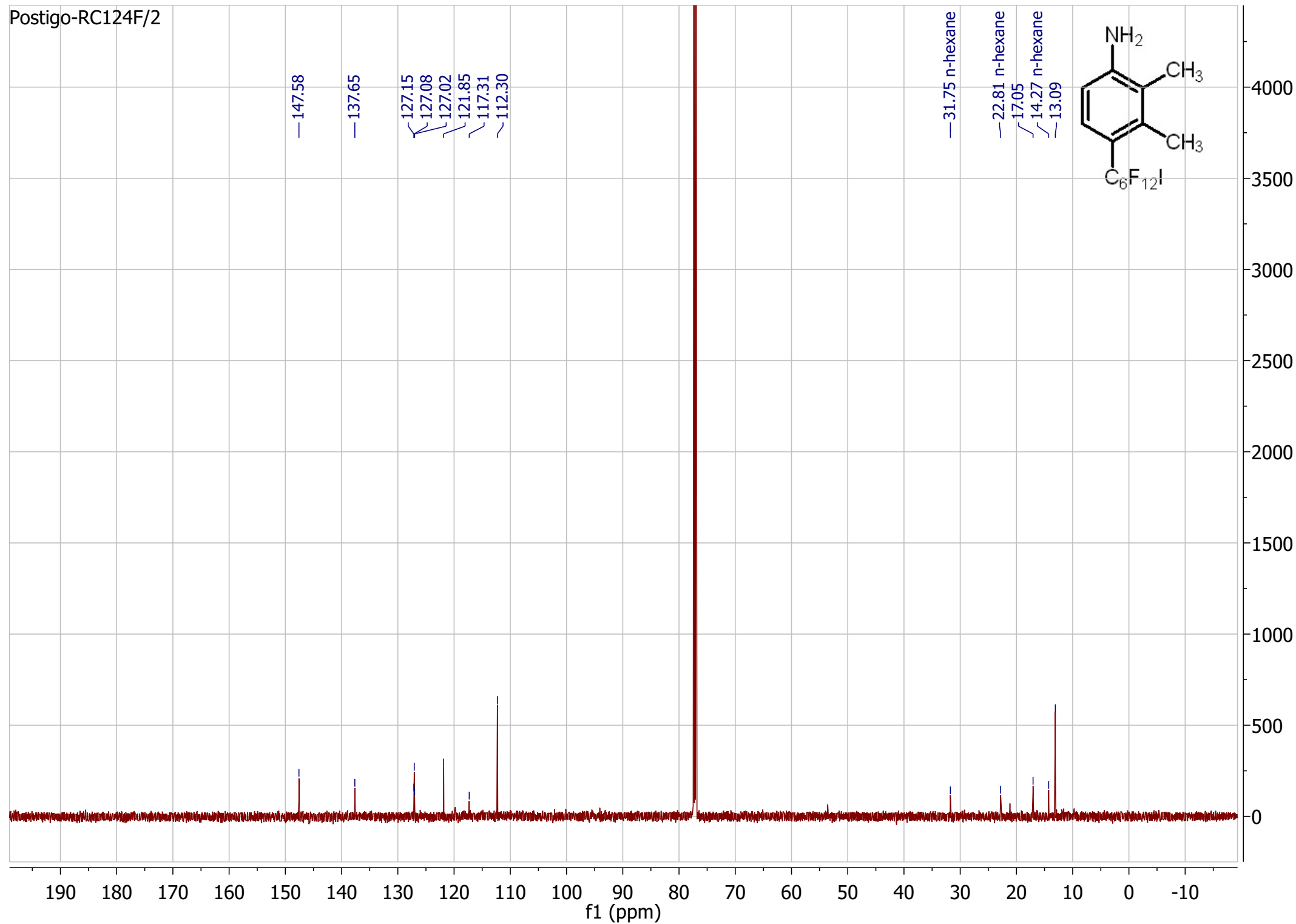
Postigo-RC124F/1



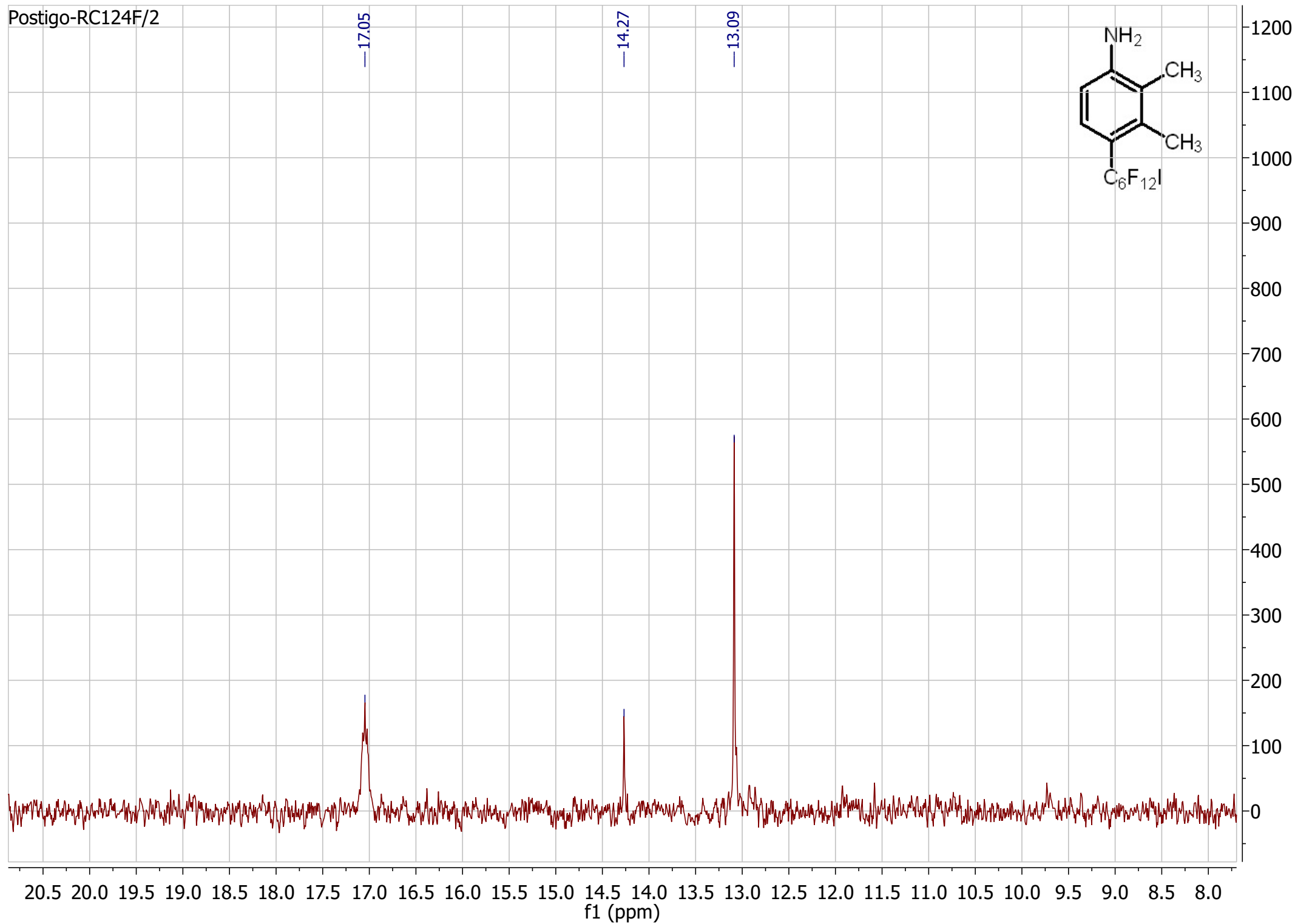
Postigo RC124F/1



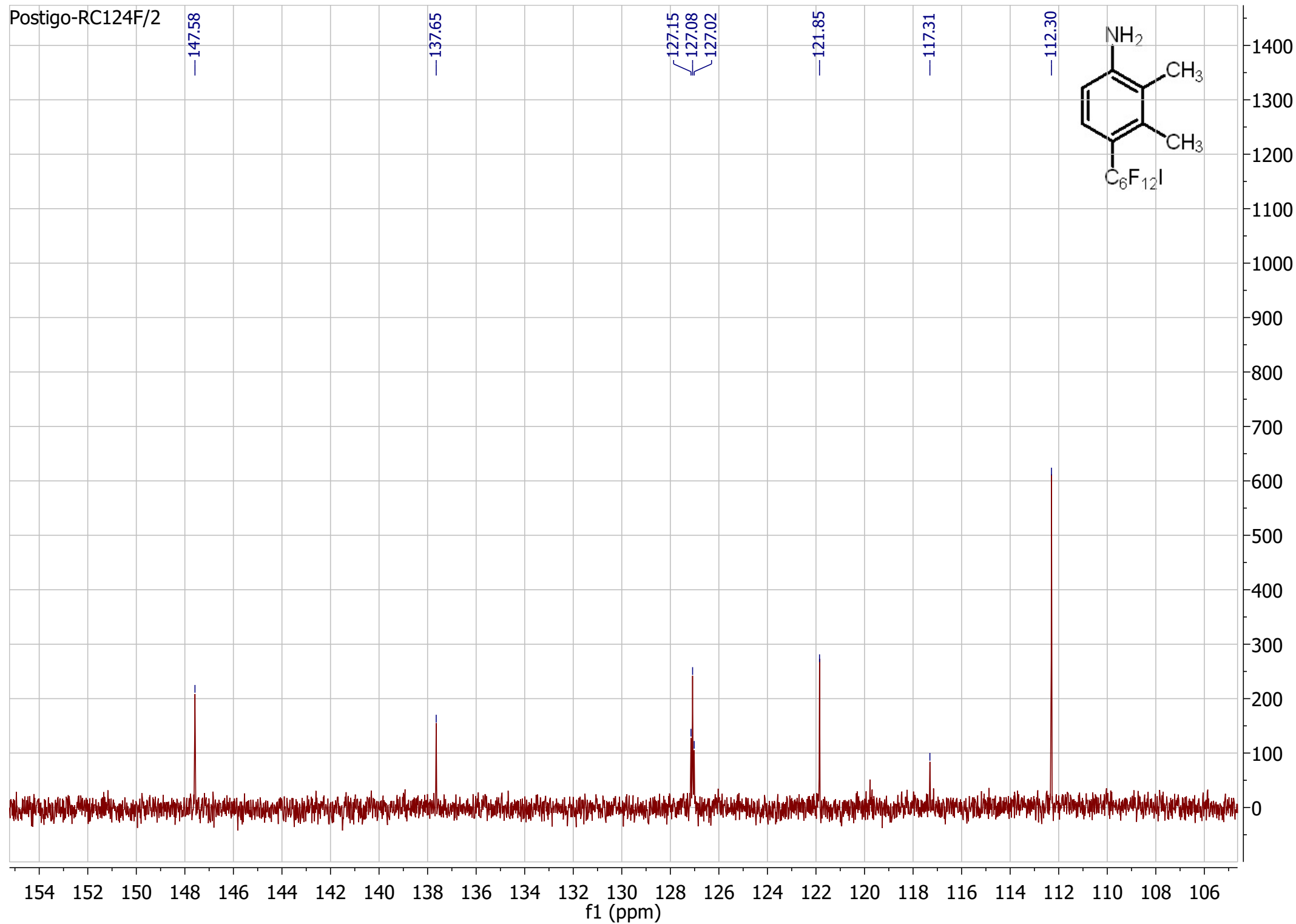
Postigo-RC124F/2



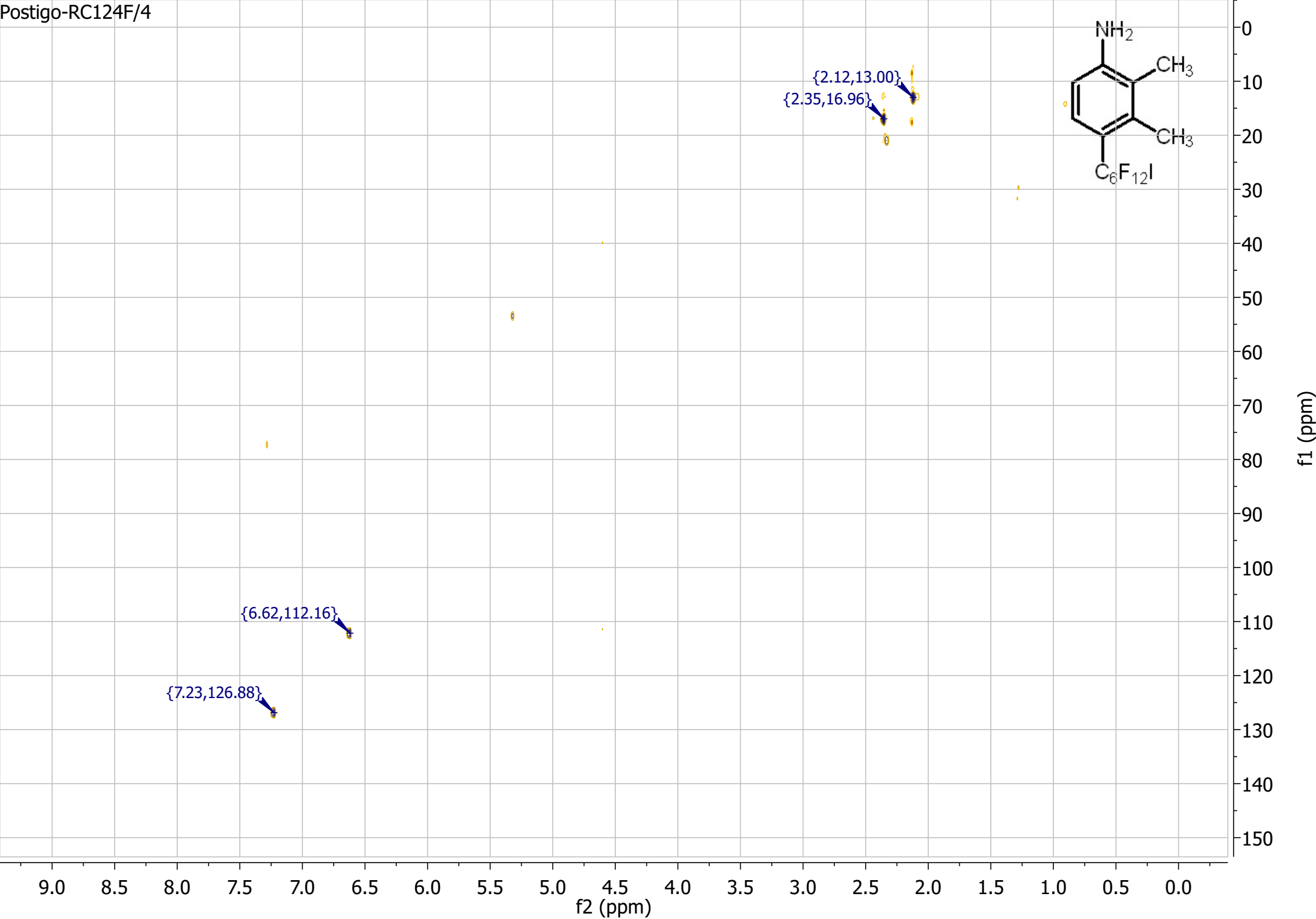
Postigo-RC124F/2



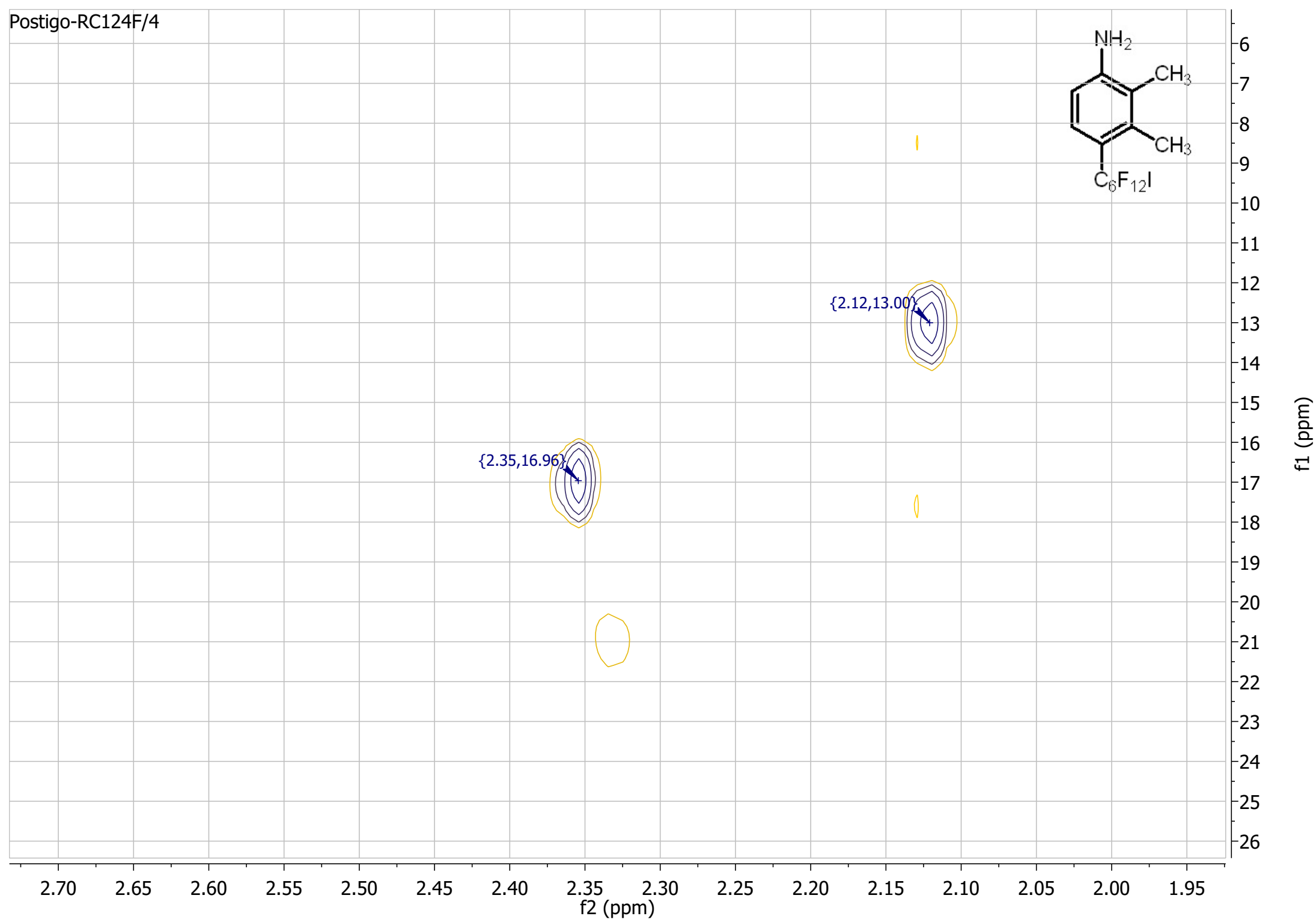
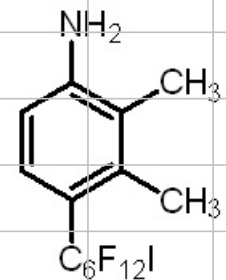
Postigo-RC124F/2



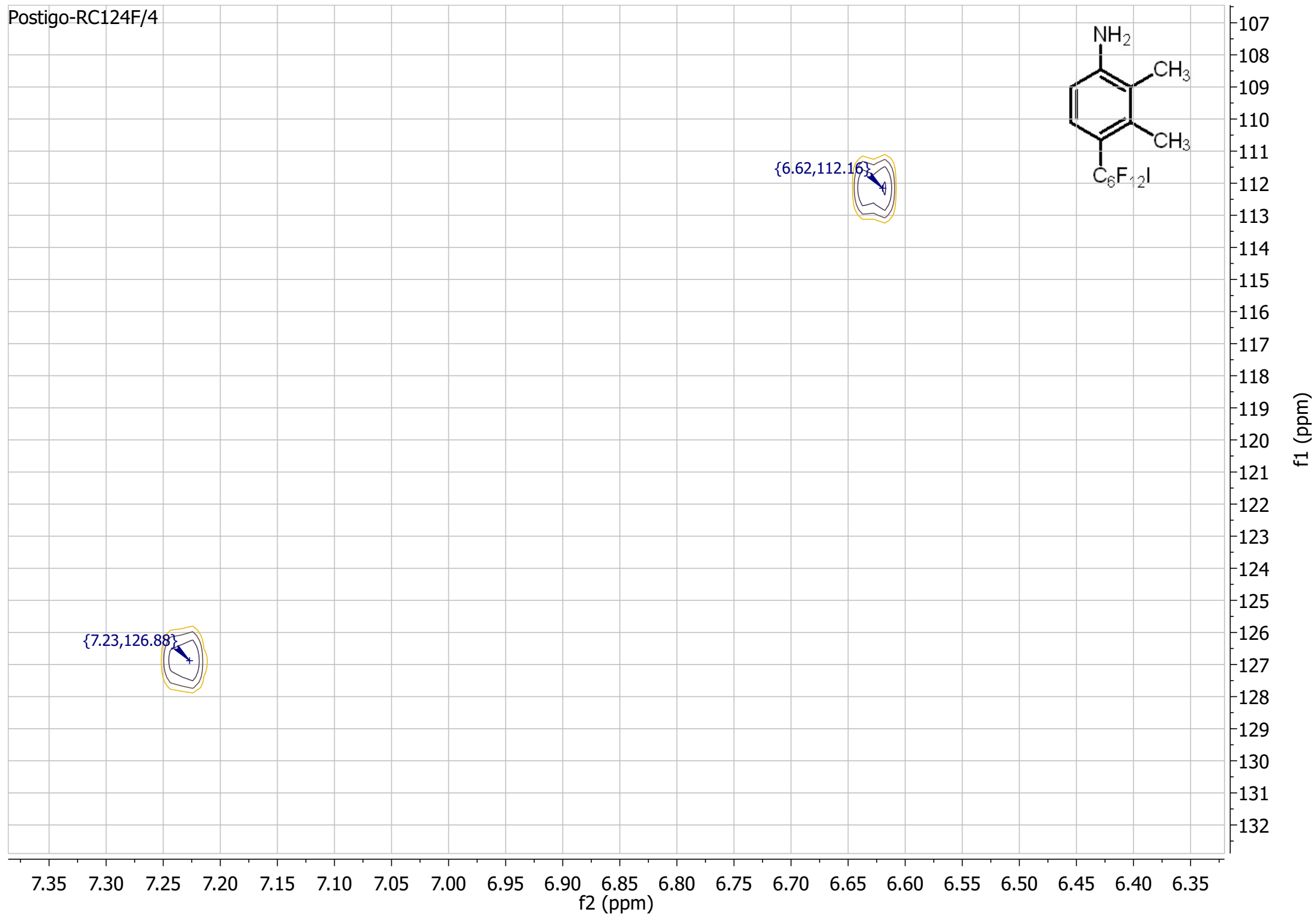
Postigo-RC124F/4



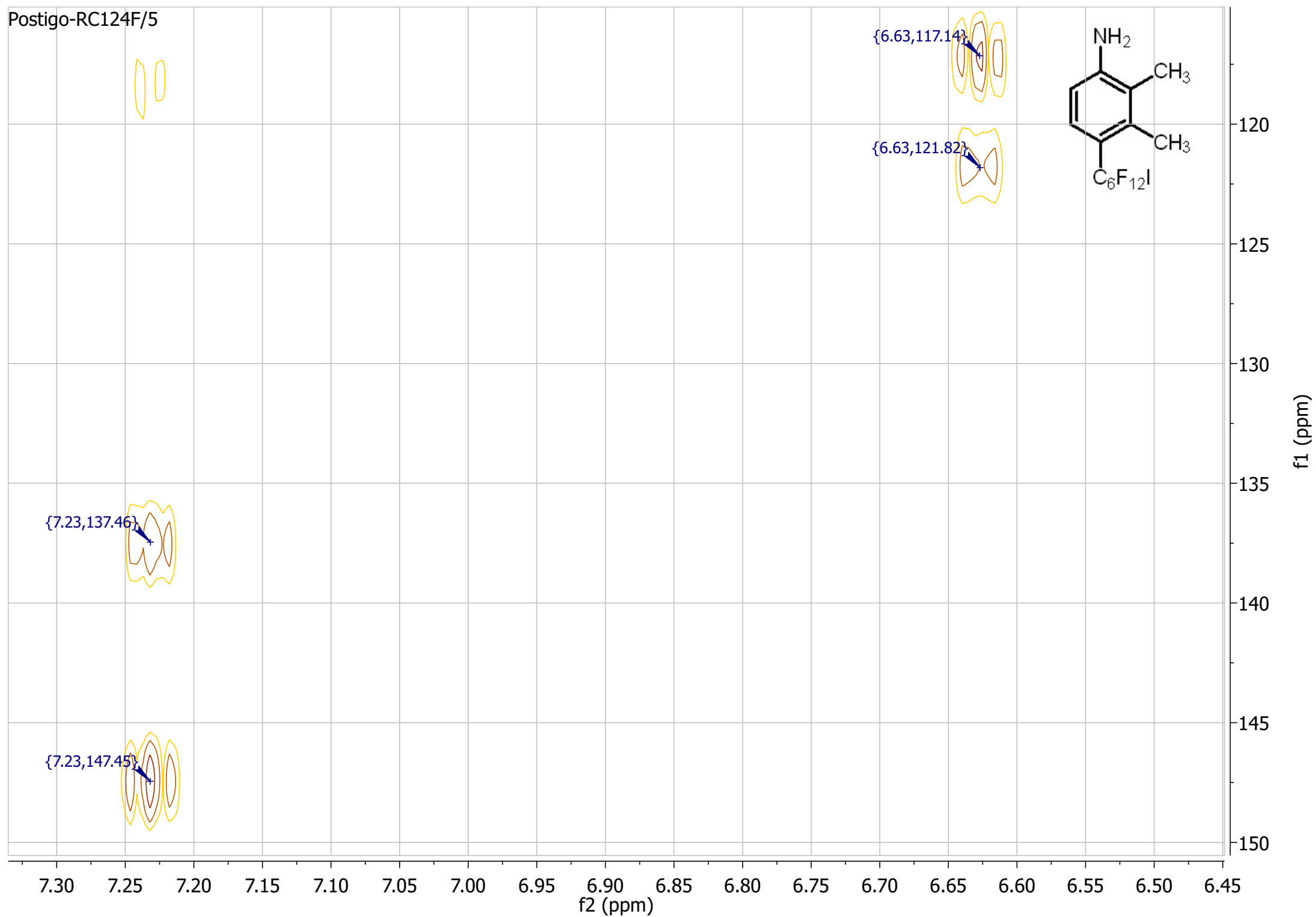
Postigo-RC124F/4



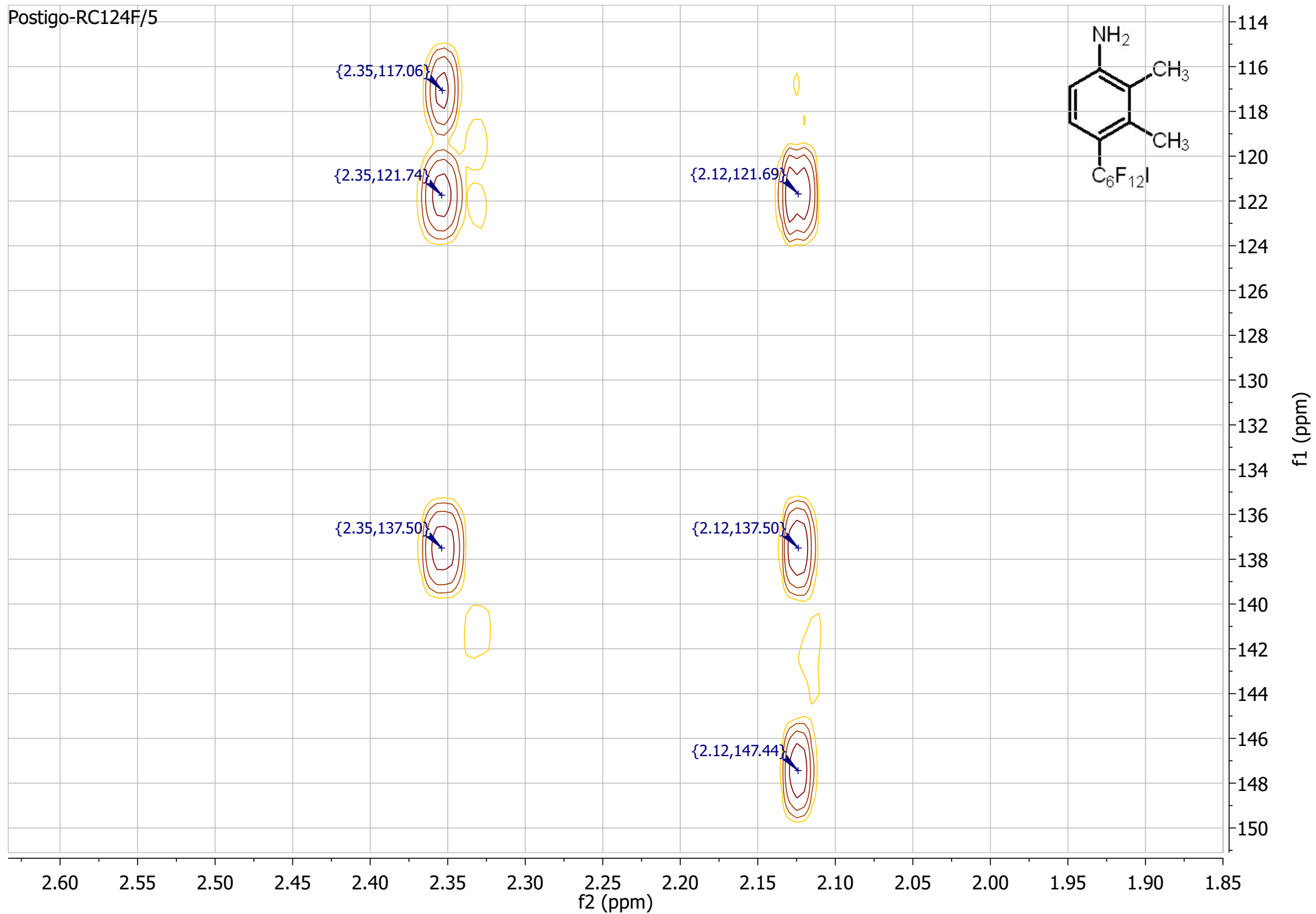
Postigo-RC124F/4



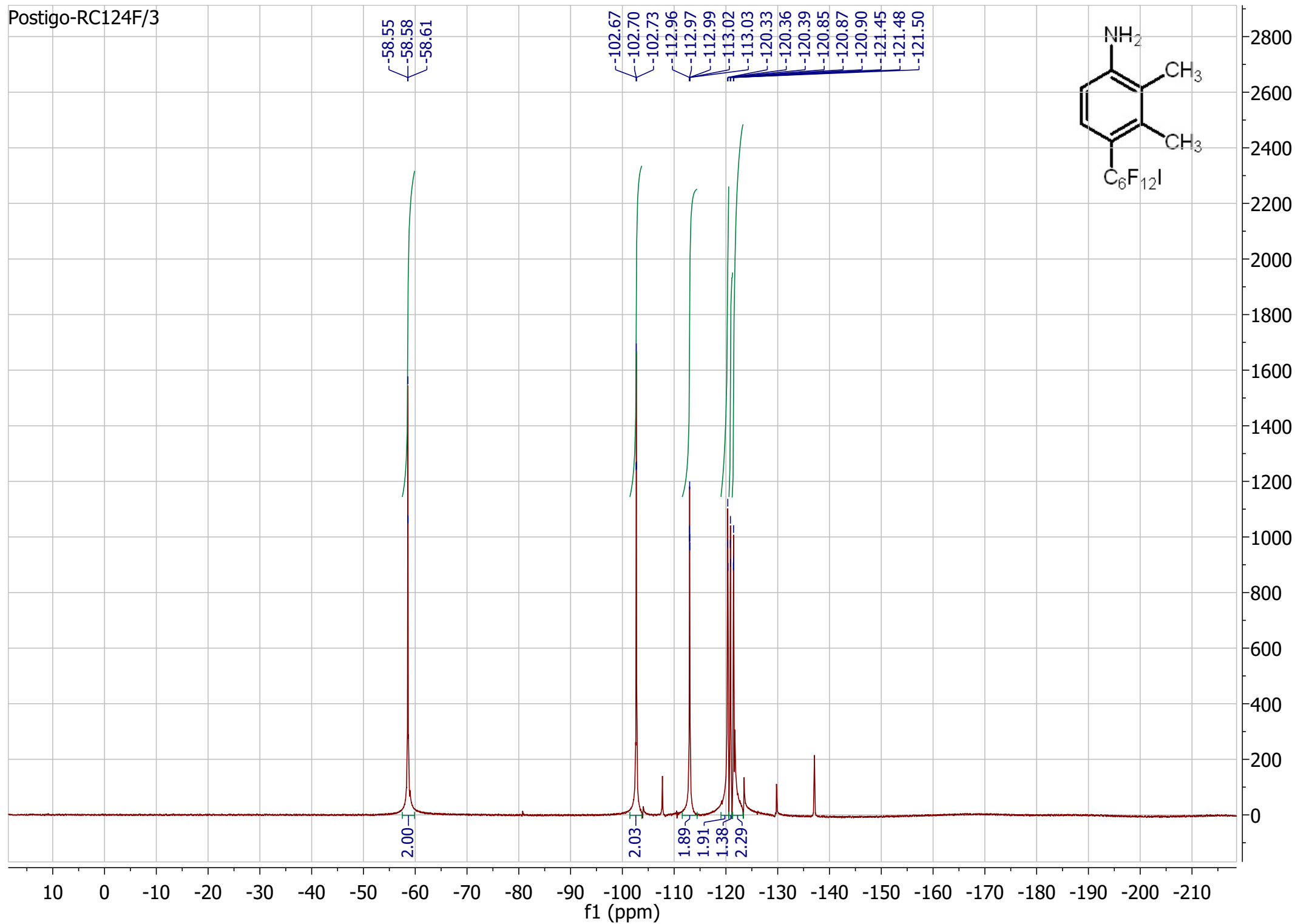
Postigo-RC124F/5



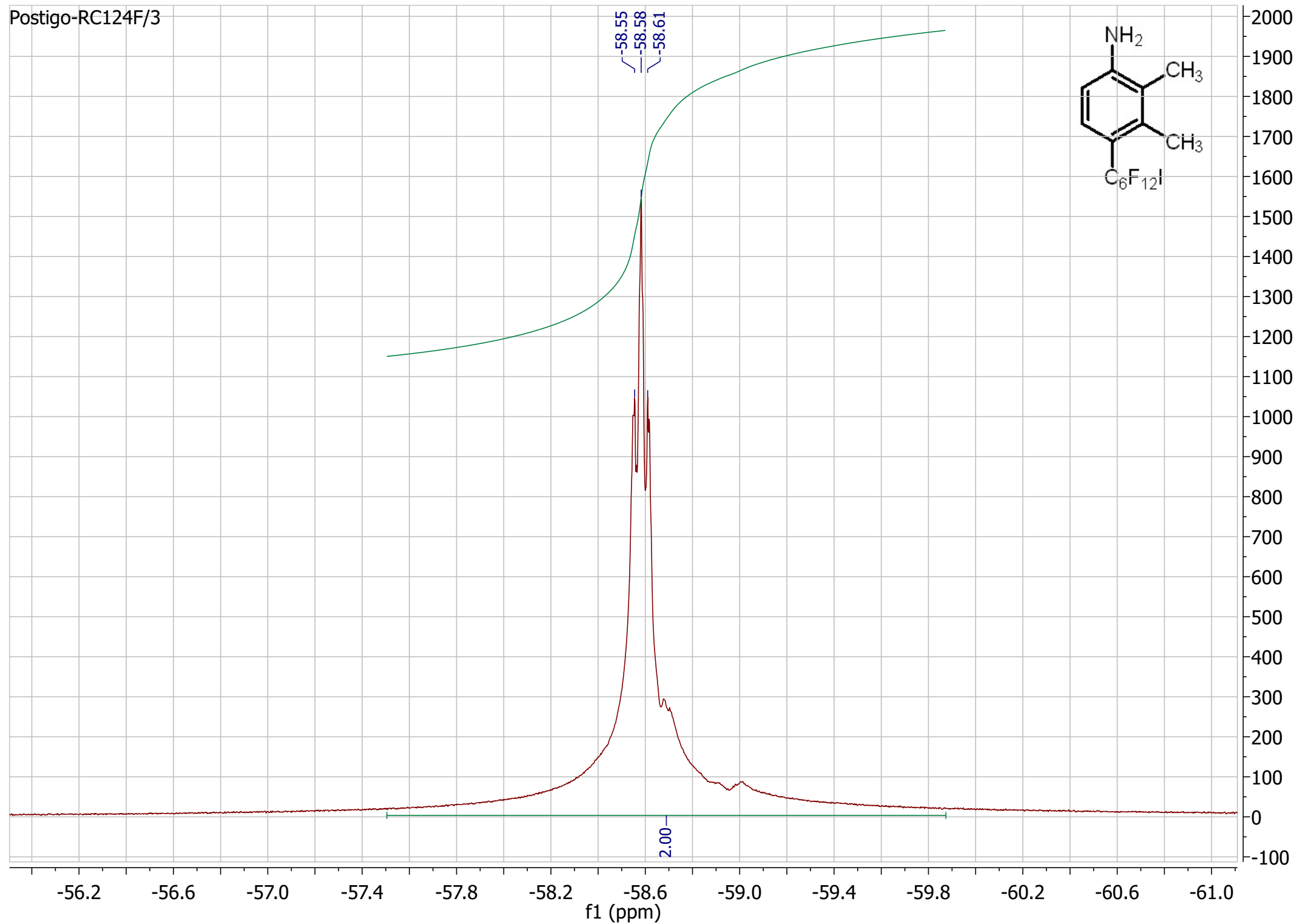
Postigo-RC124F/5



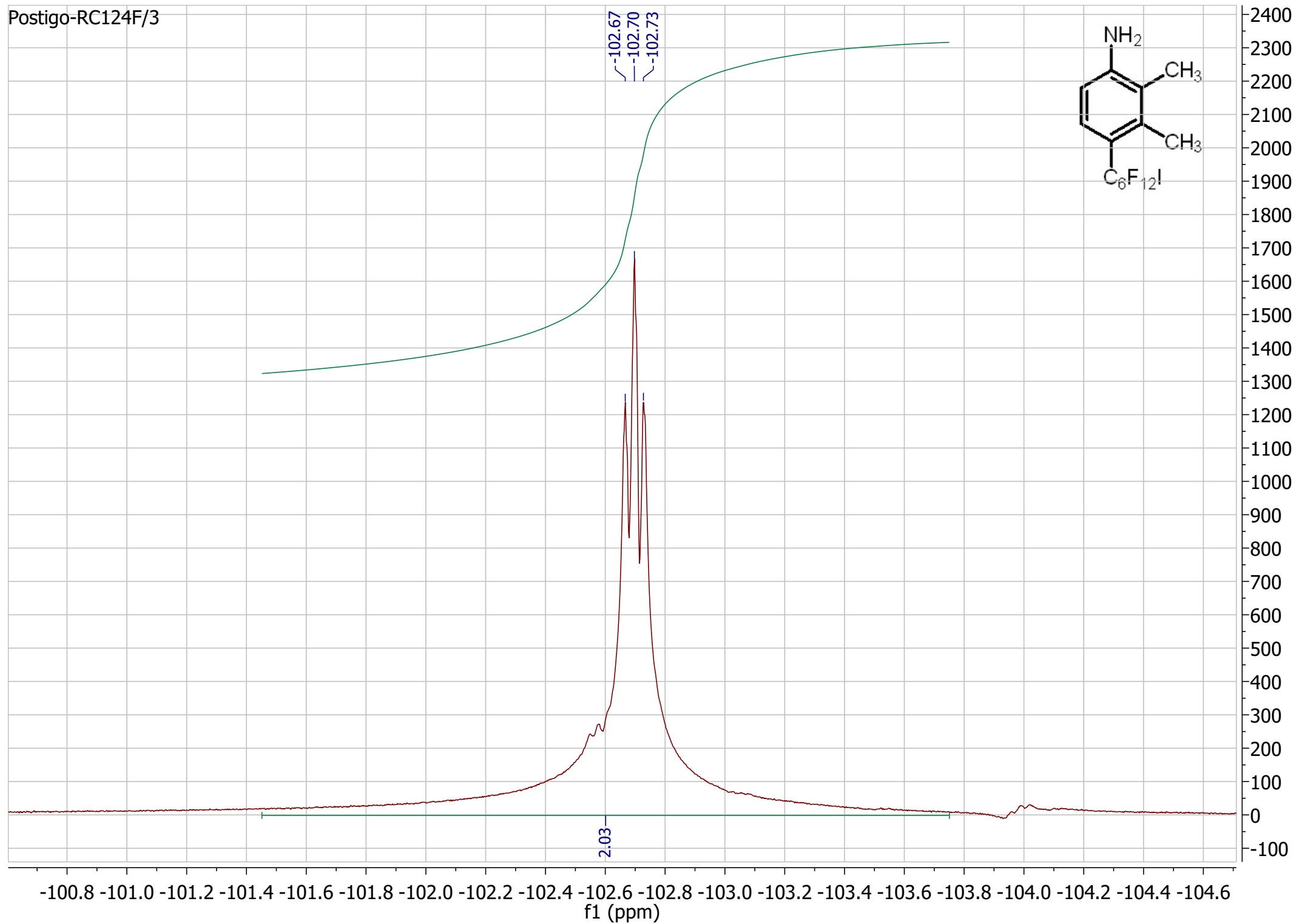
Postigo-RC124F/3



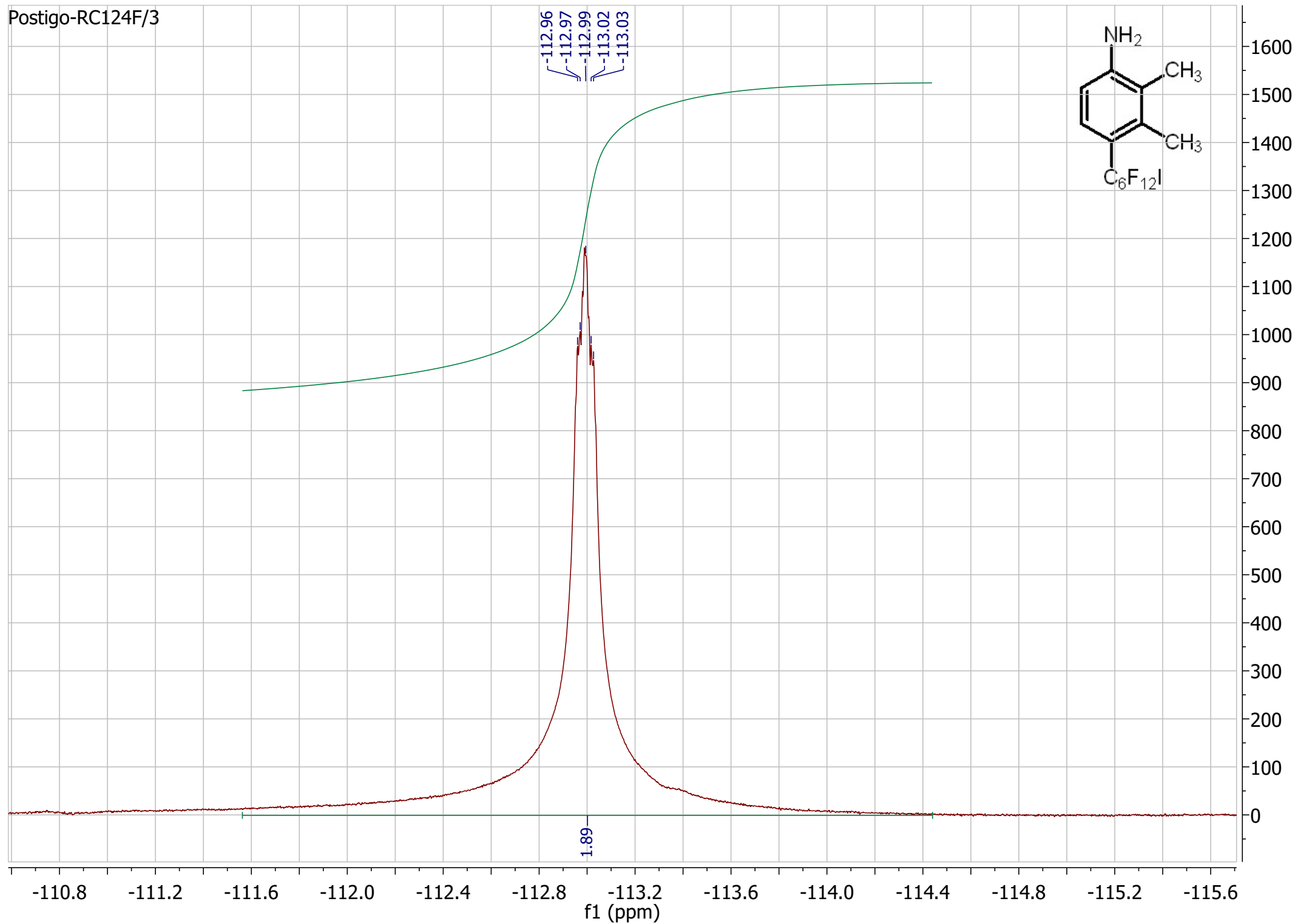
Postigo-RC124F/3



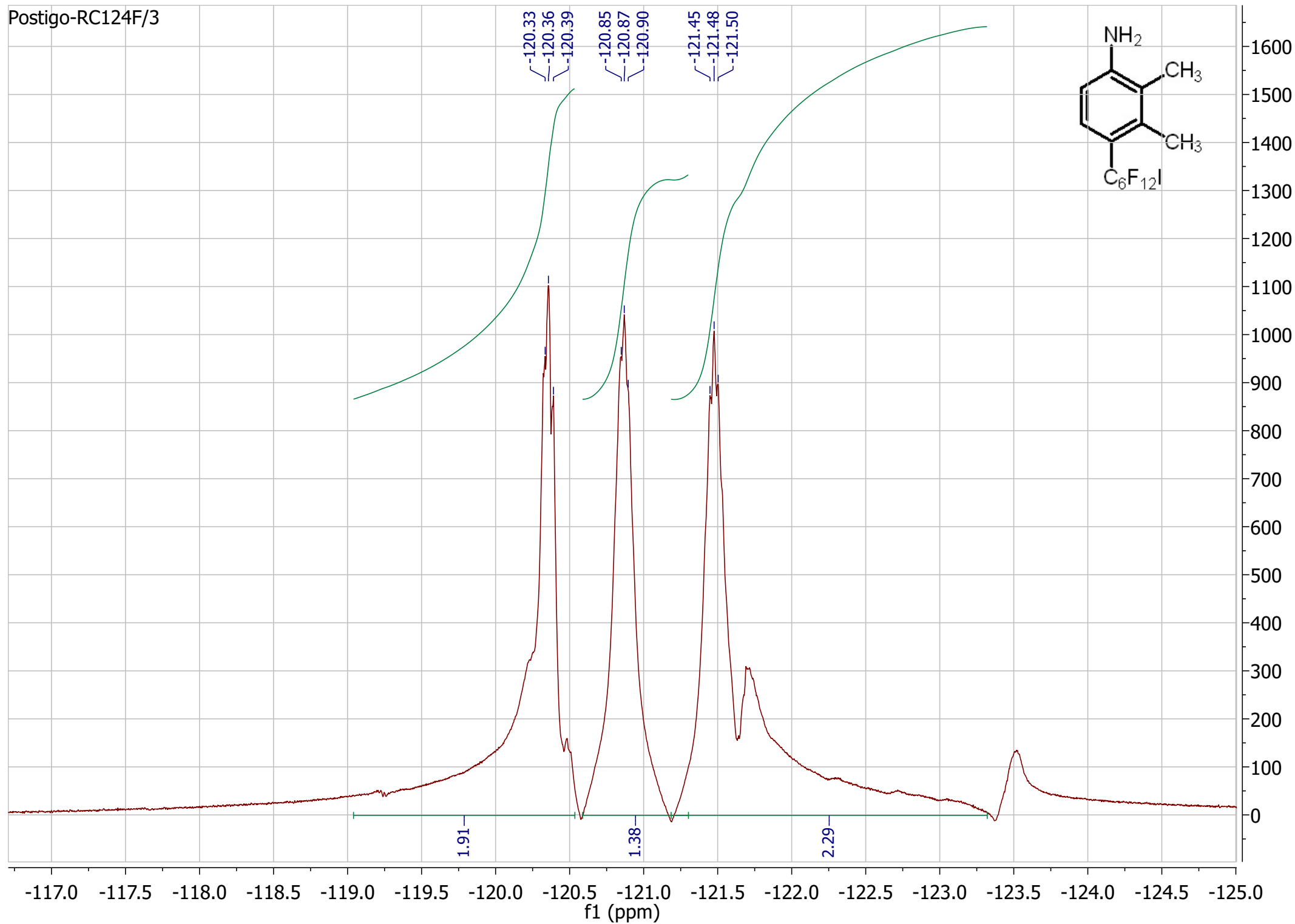
Postigo-RC124F/3



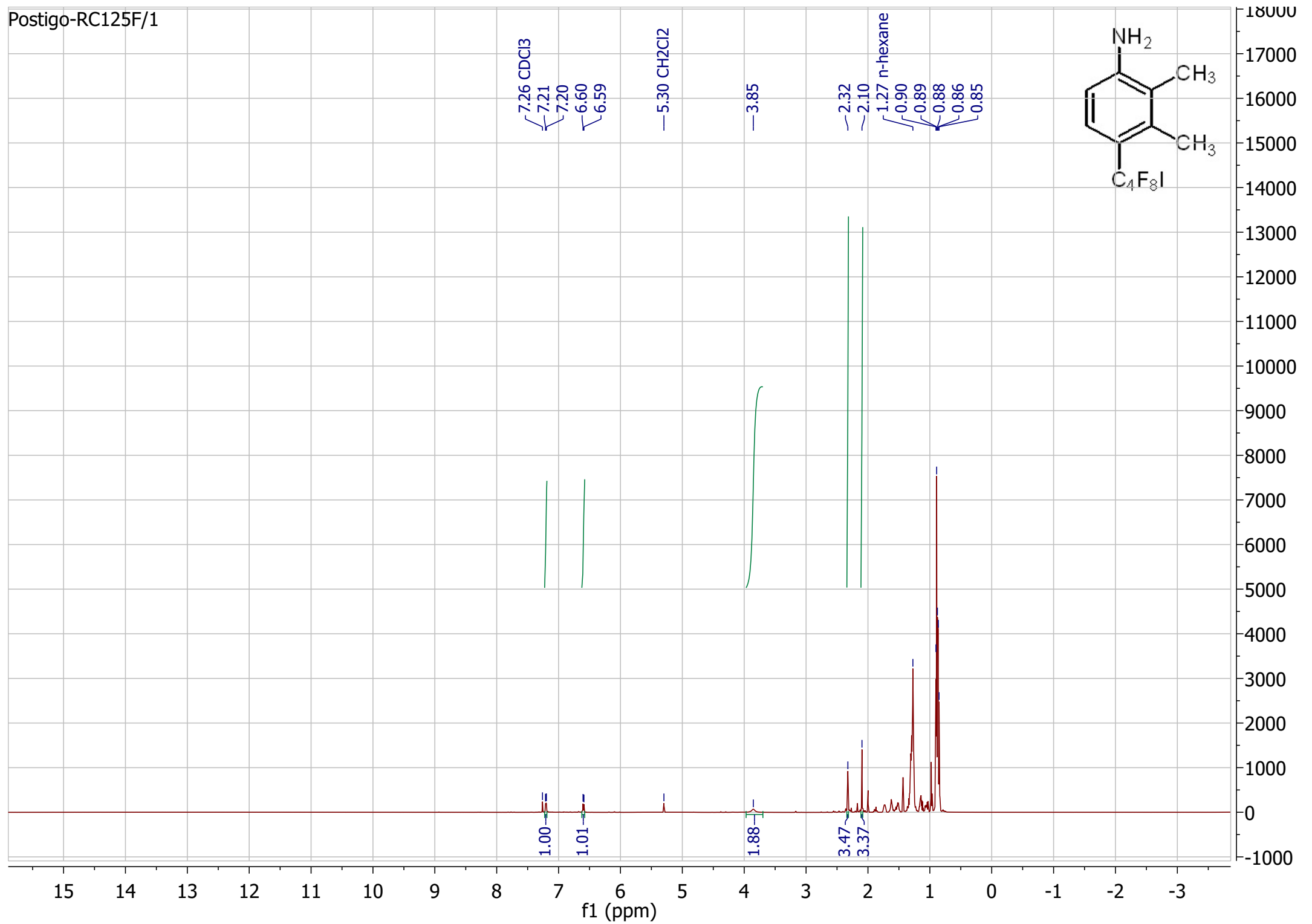
Postigo-RC124F/3



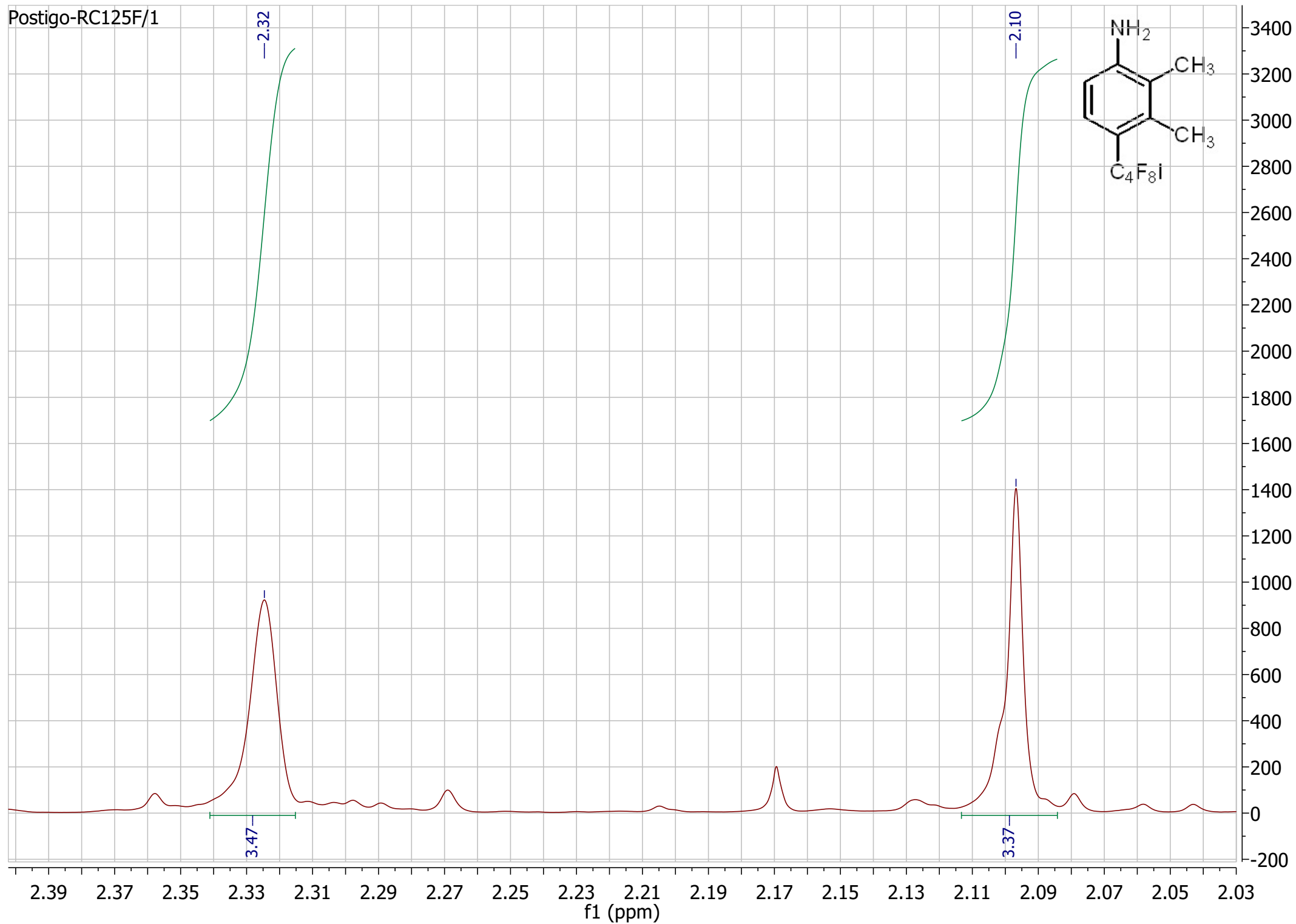
Postigo-RC124F/3



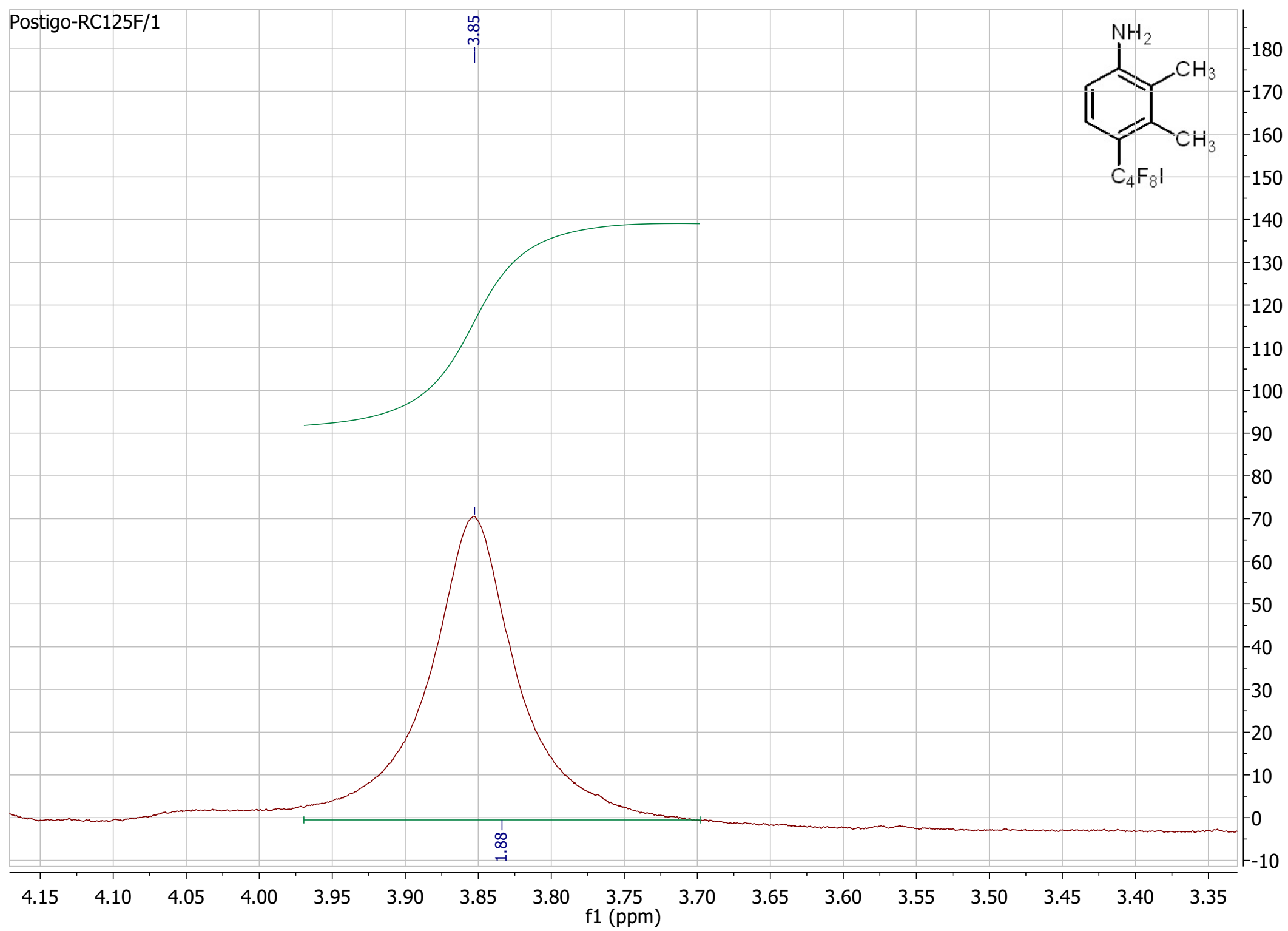
Postigo-RC125F/1



Postigo-RC125F/1



Postigo-RC125F/1



Postigo-RC125F/1

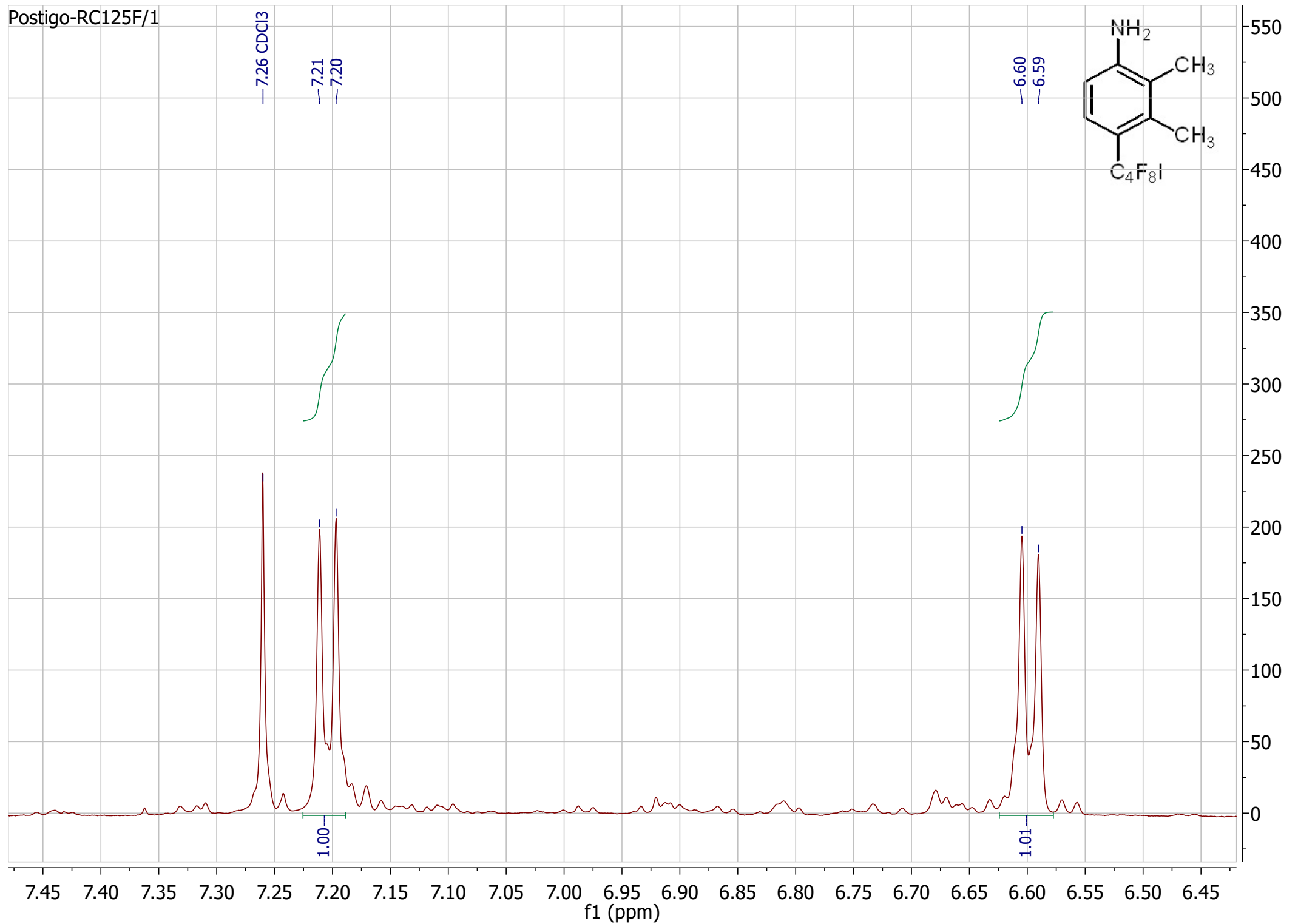
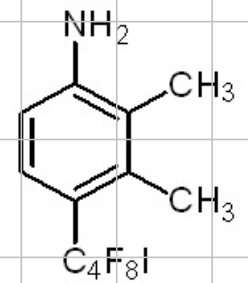
7.26 CDCl₃

7.21

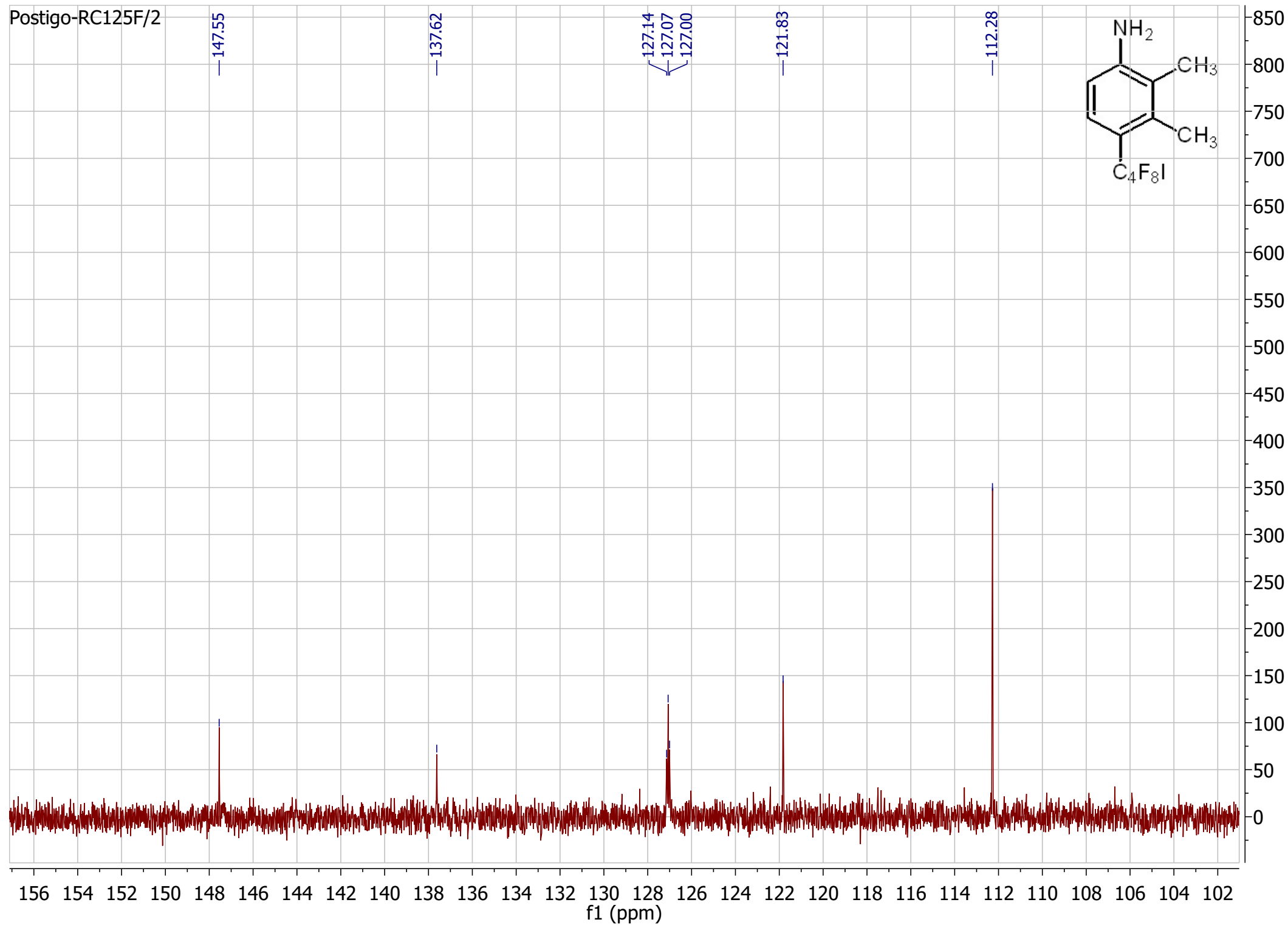
7.20

6.60

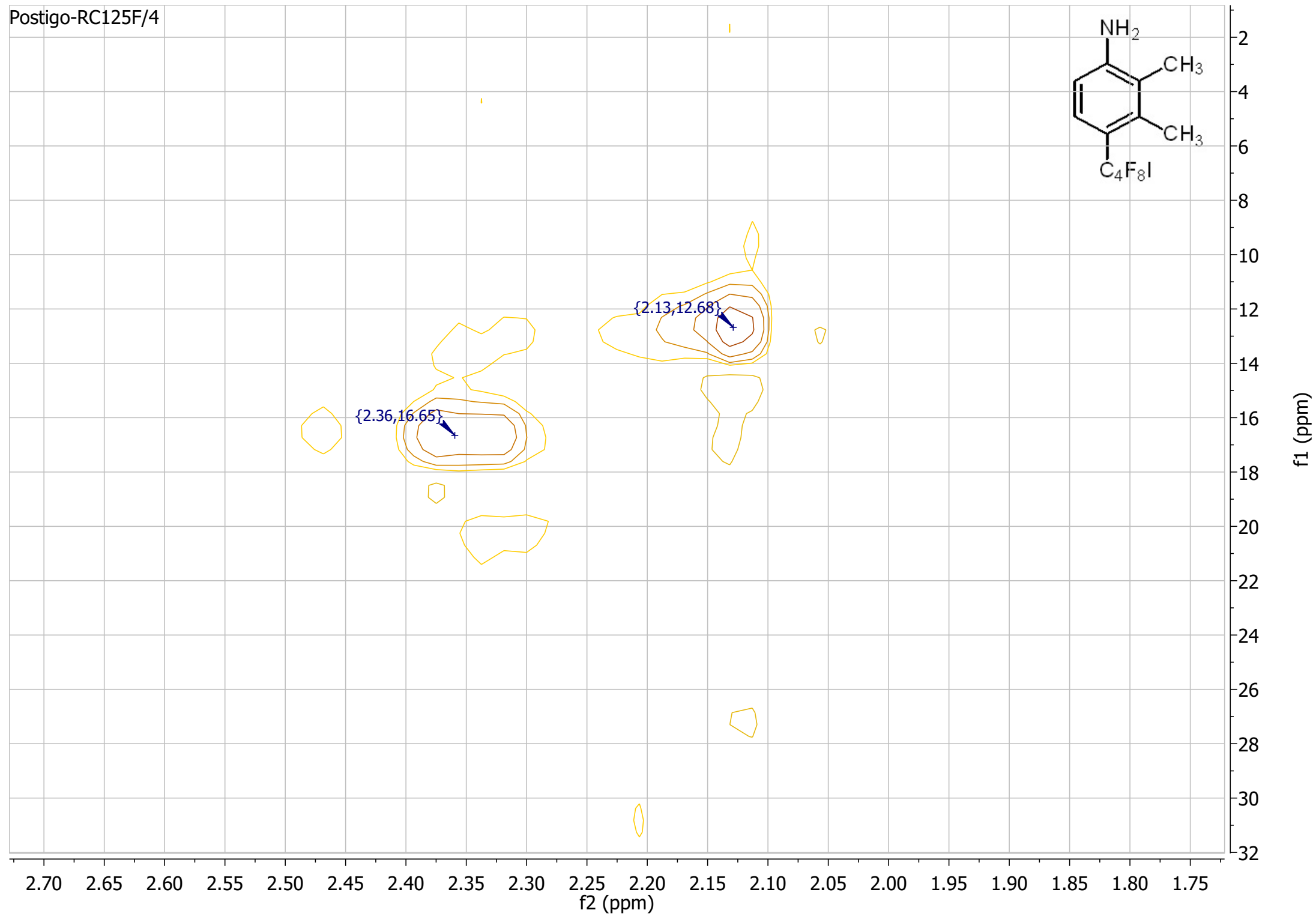
6.59



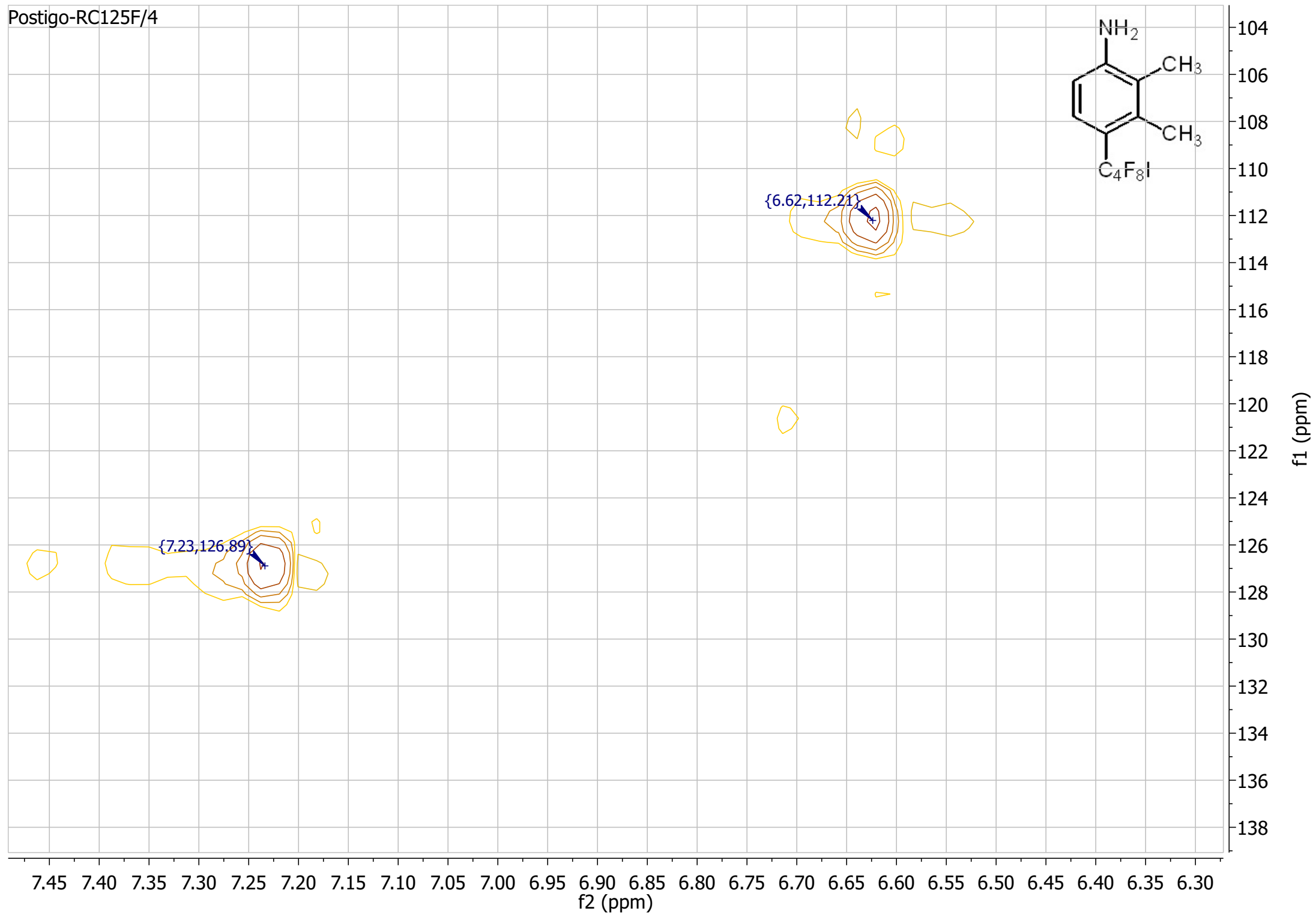
Postigo-RC125F/2



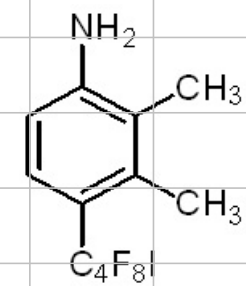
Postigo-RC125F/4



Postigo-RC125F/4



Postigo-RC125F/5



f1 (ppm)

85
90
95
100
105
110
115
120
125
130
135
140
145
150
155
160
165
170
175

8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5

f2 (ppm)

{6.62,117.08}

{6.62,121.95}

{7.22,137.46}

{7.23,147.39}

{2.35,116.84}

{2.35,121.97}

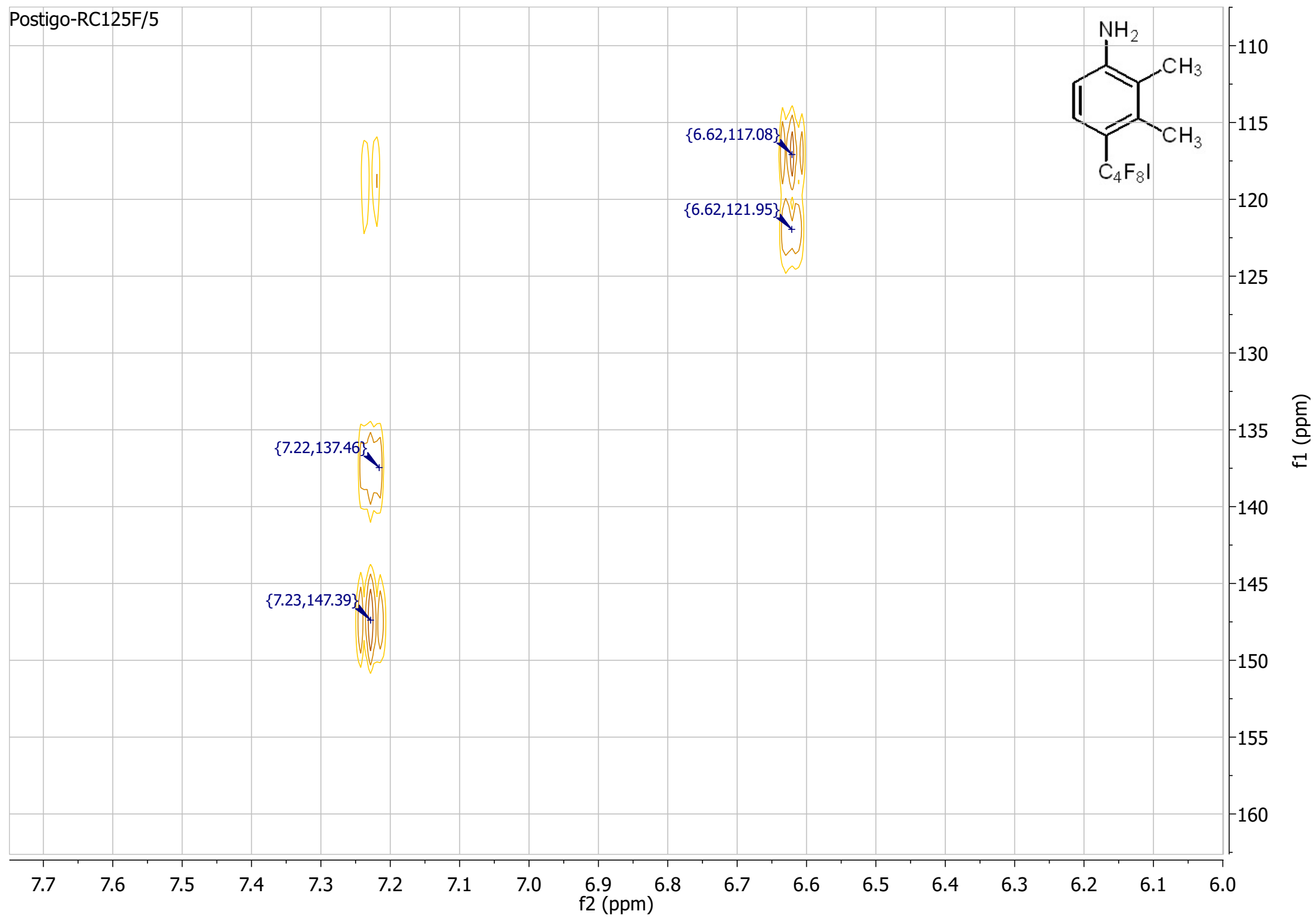
{2.12,121.69}

{2.12,137.48}

{2.35,137.47}

{2.12,147.50}

Postigo-RC125F/5



Postigo-RC125F/5

{2.35,116.84}

{2.35,121.97}

{2.35,137.47}

{2.12,121.69}

{2.12,137.48}

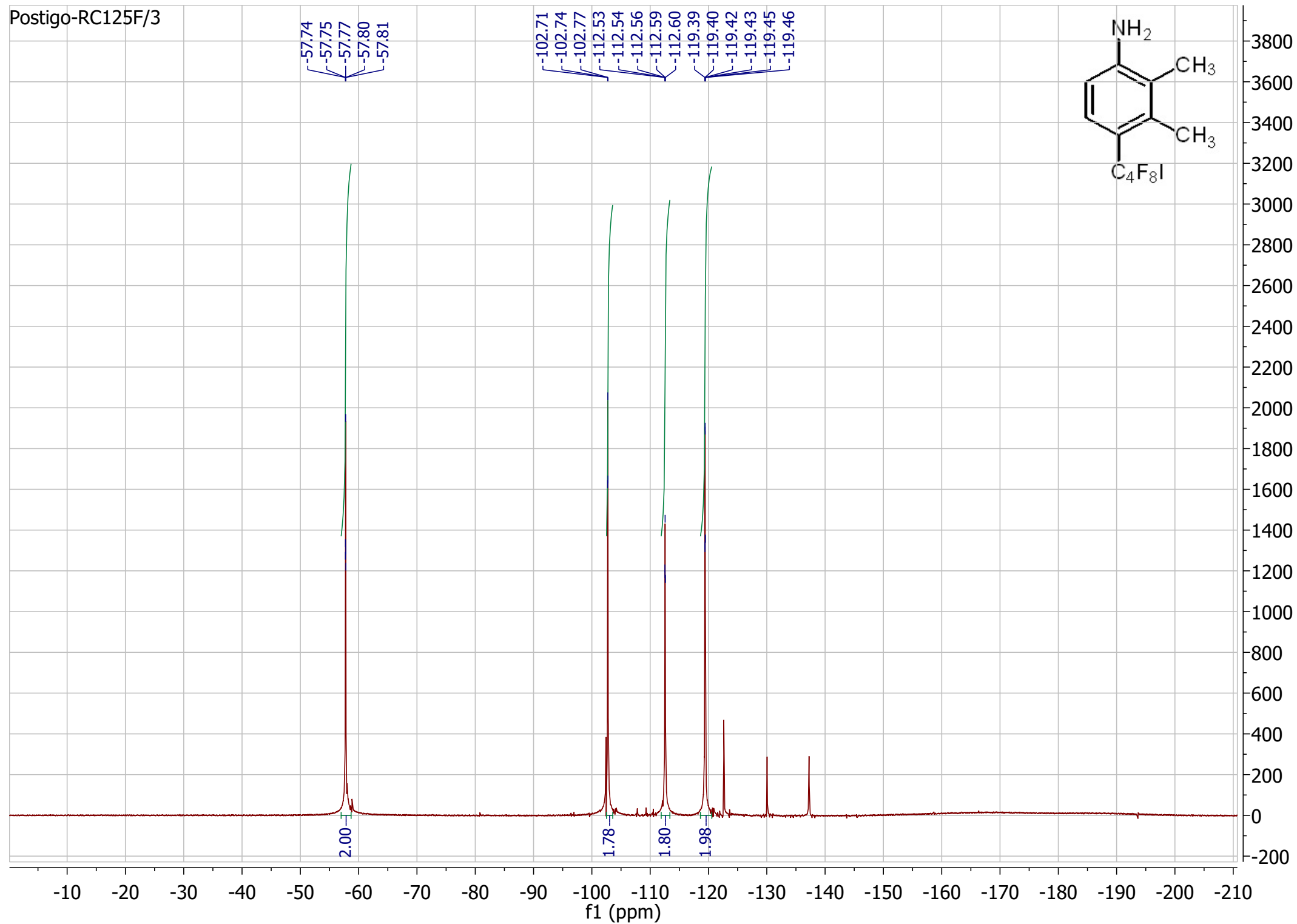
{2.12,147.50}



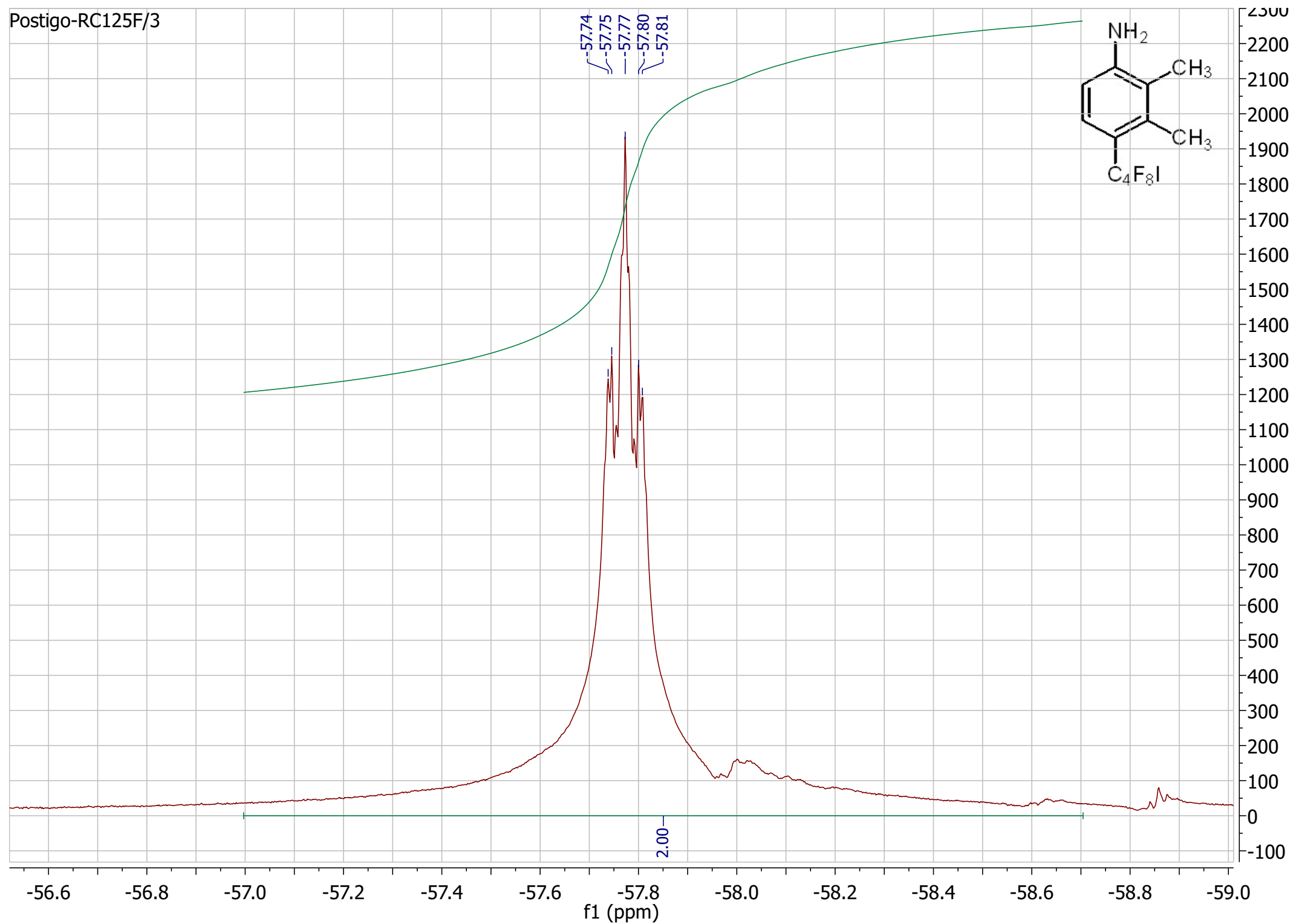
f1 (ppm)

f2 (ppm)

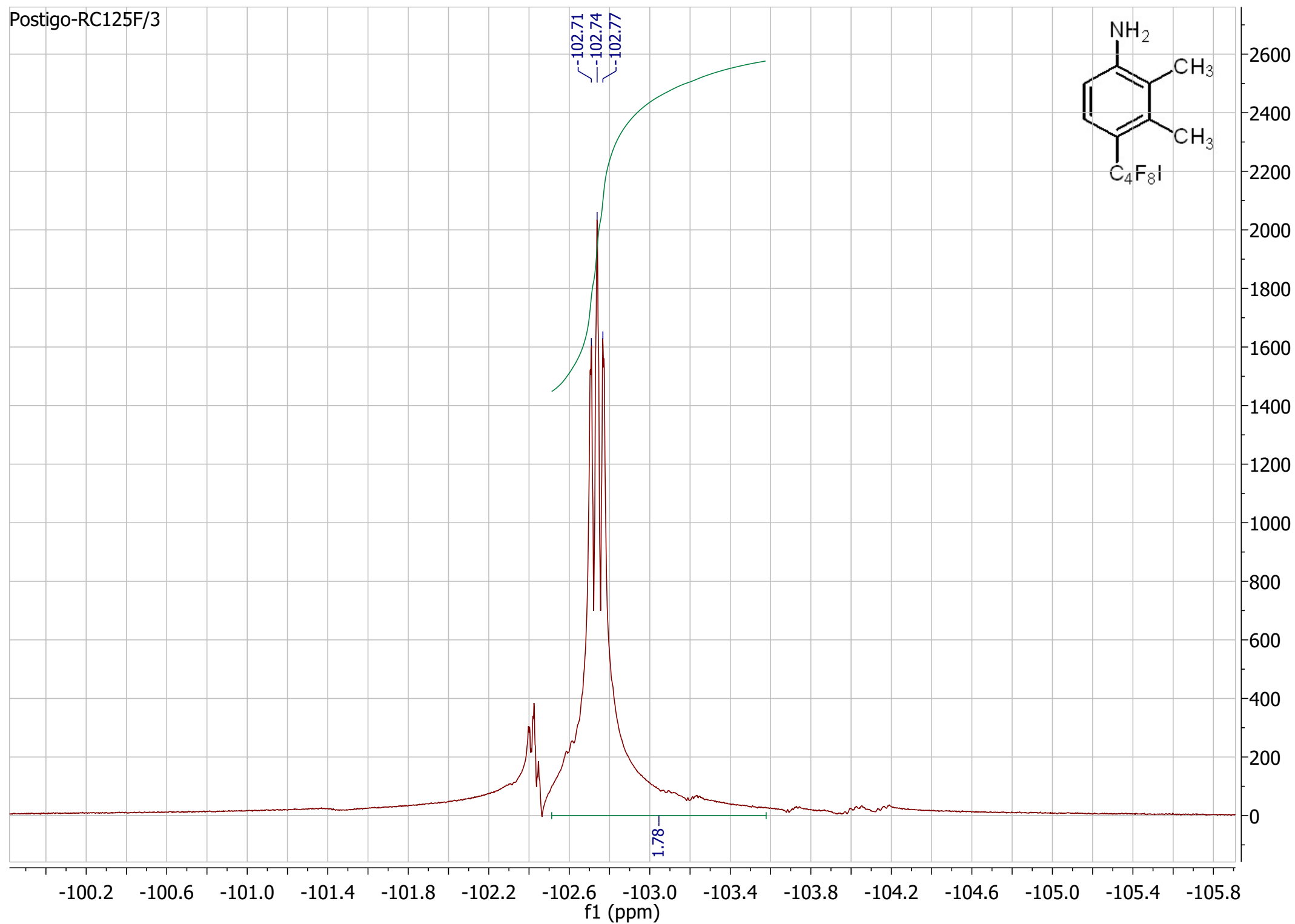
Postigo-RC125F/3



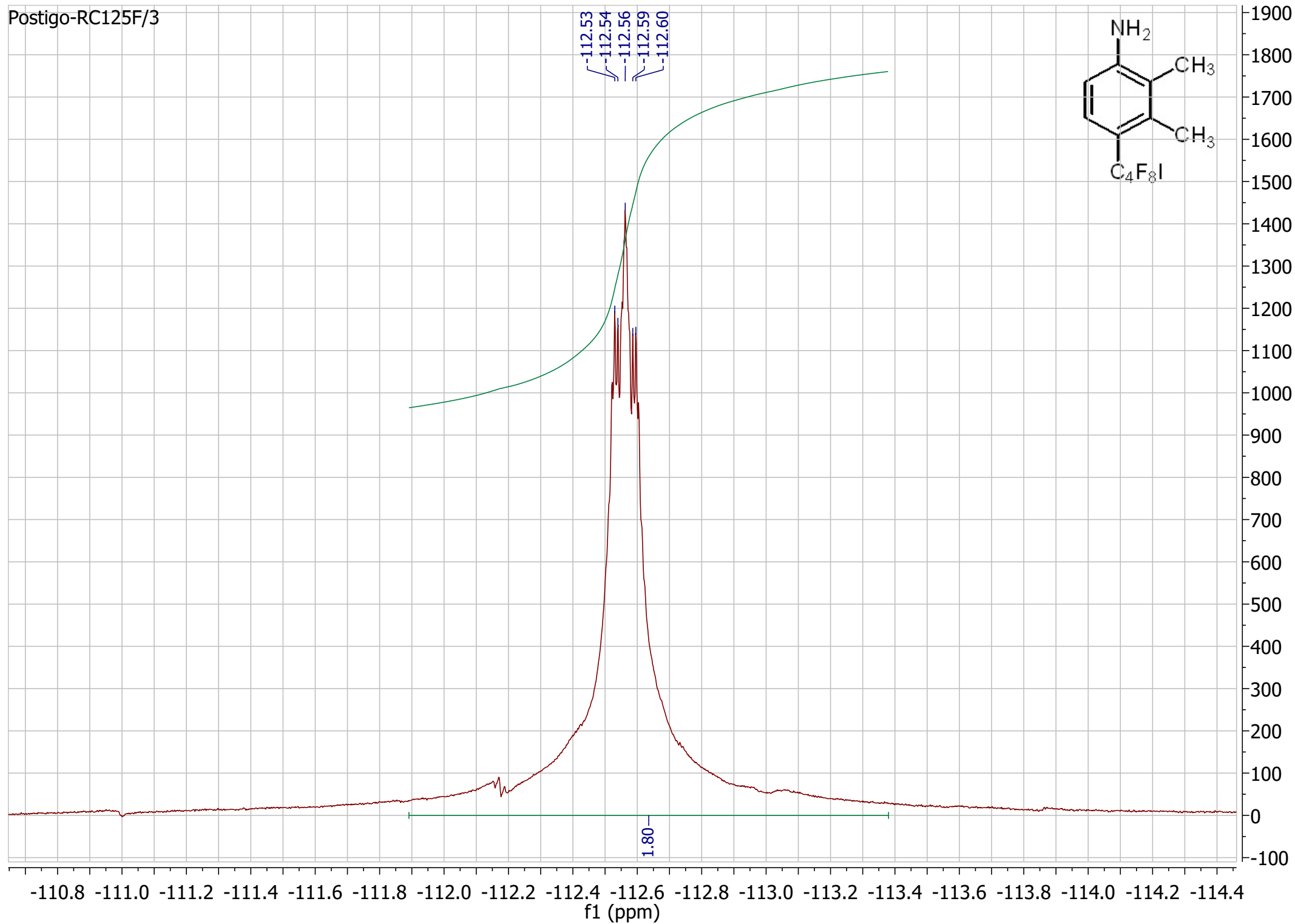
Postigo-RC125F/3



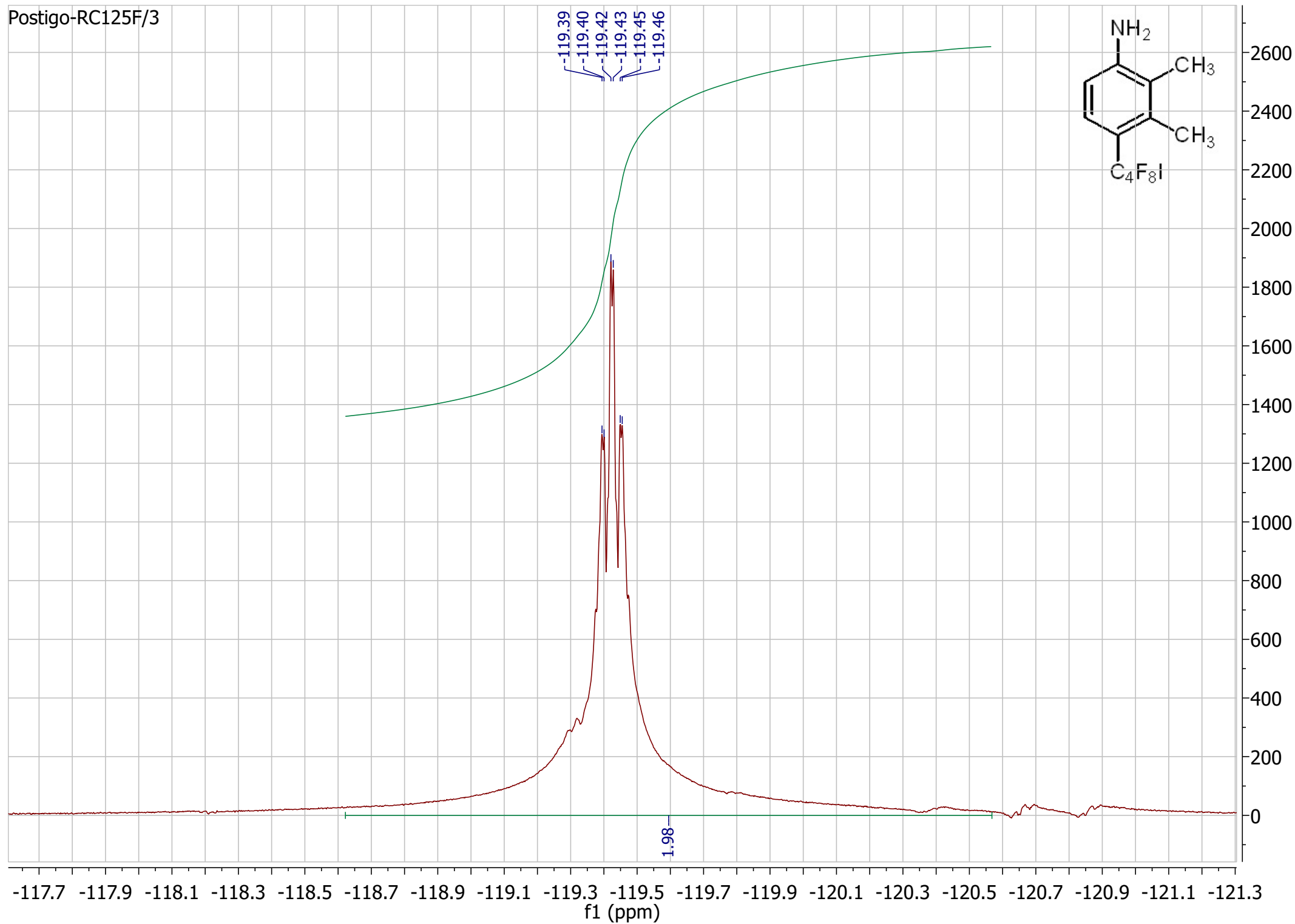
Postigo-RC125F/3

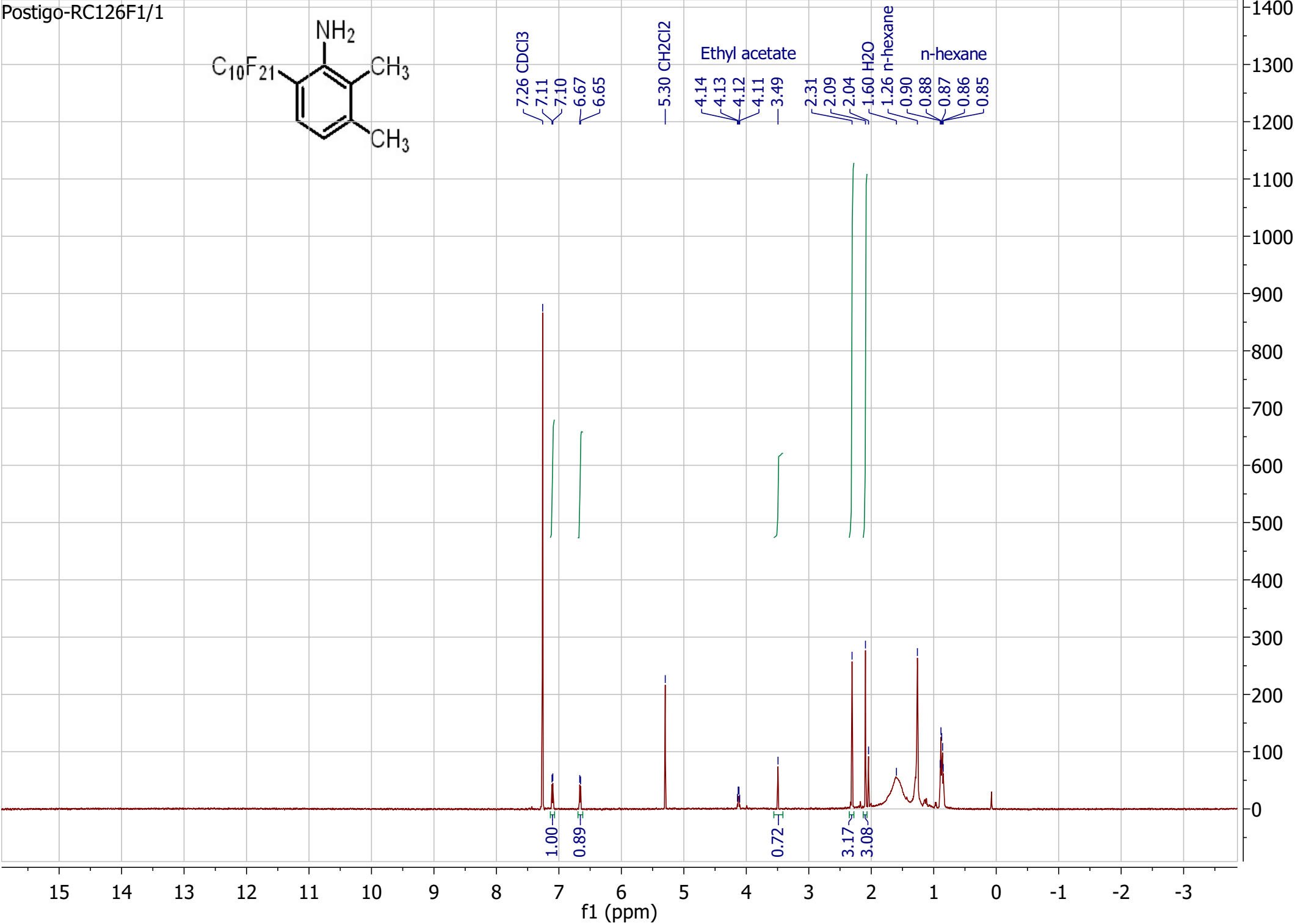


Postigo-RC125F/3

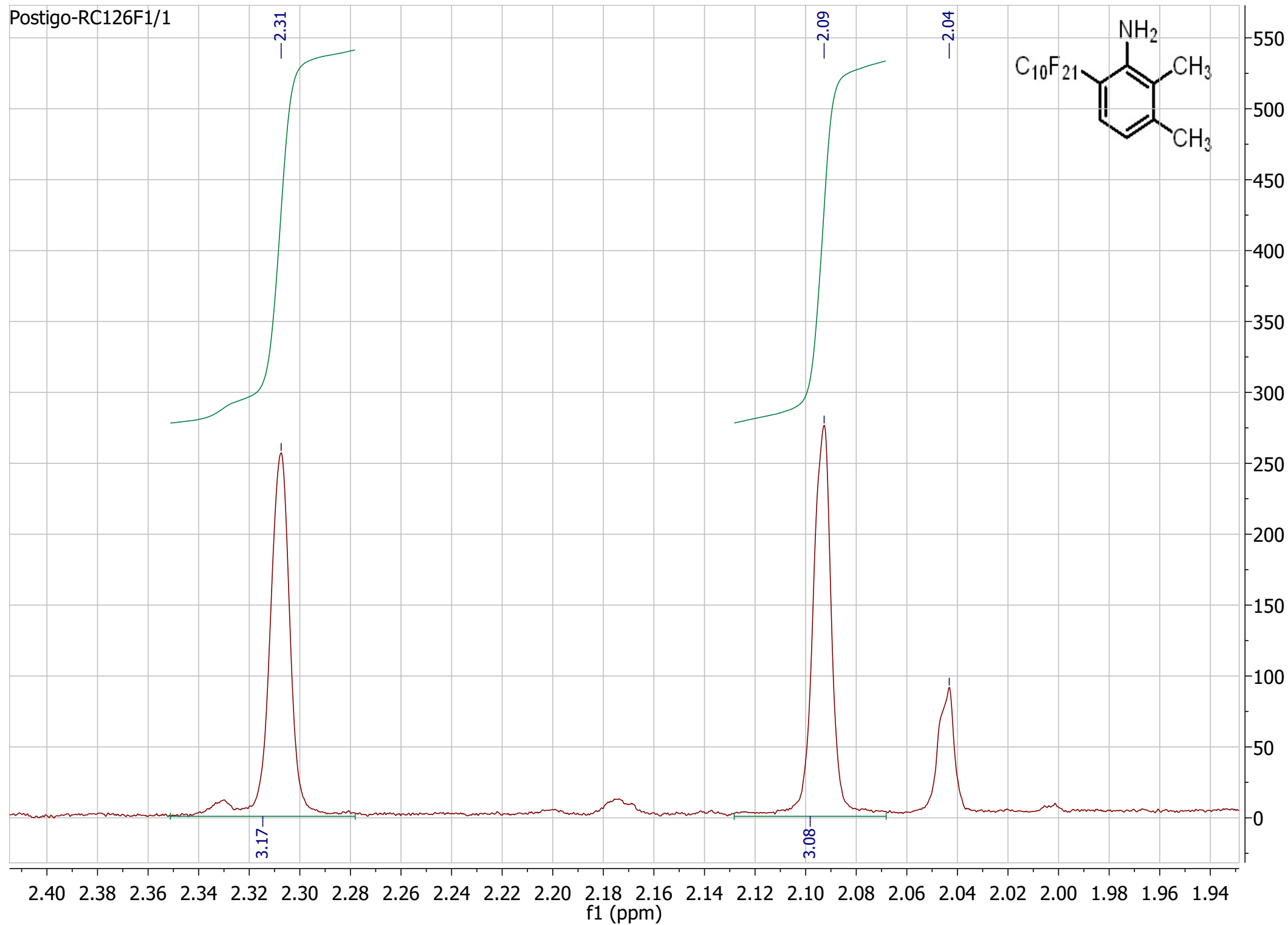


Postigo-RC125F/3

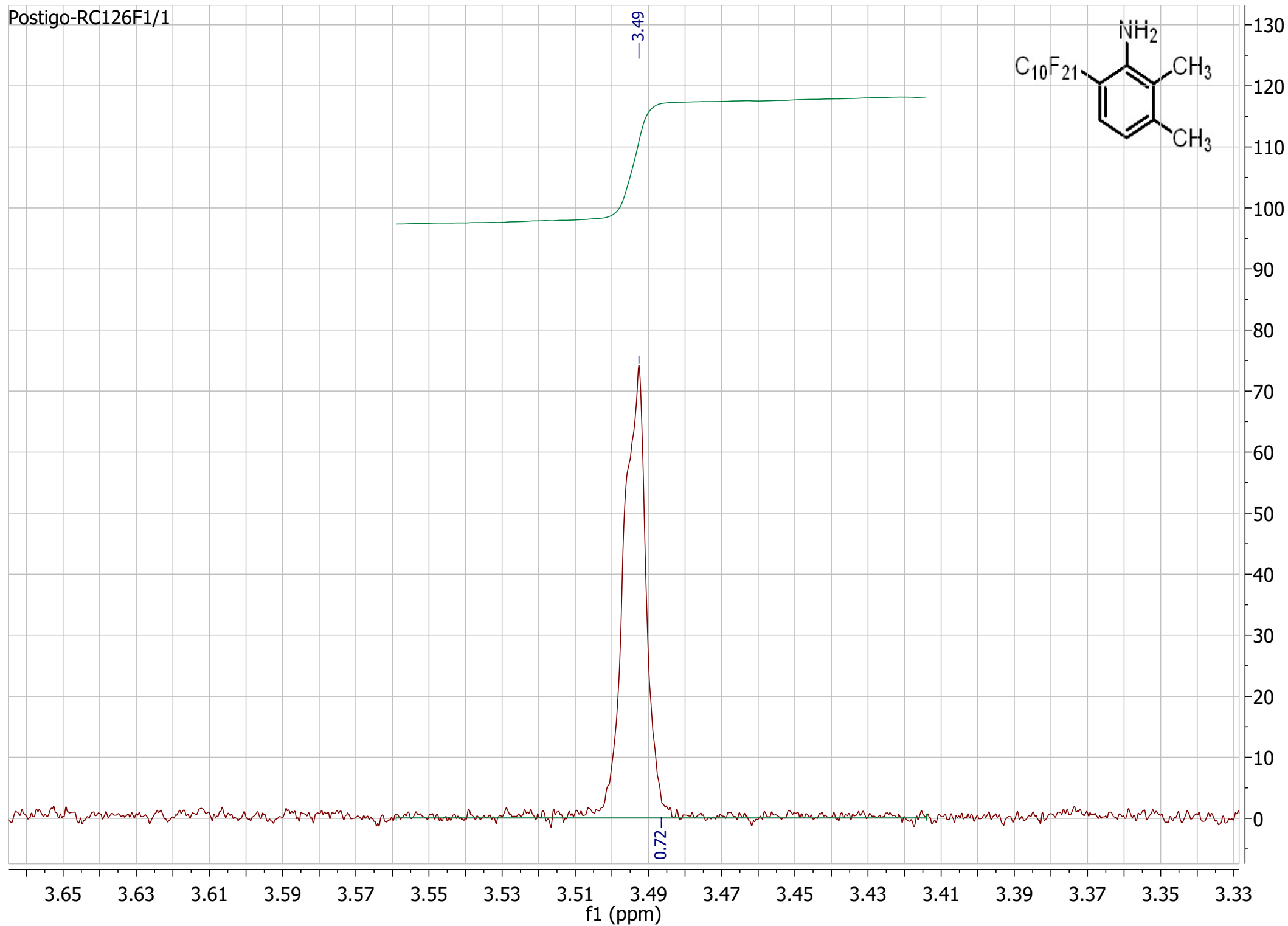




Postigo-RC126F1/1



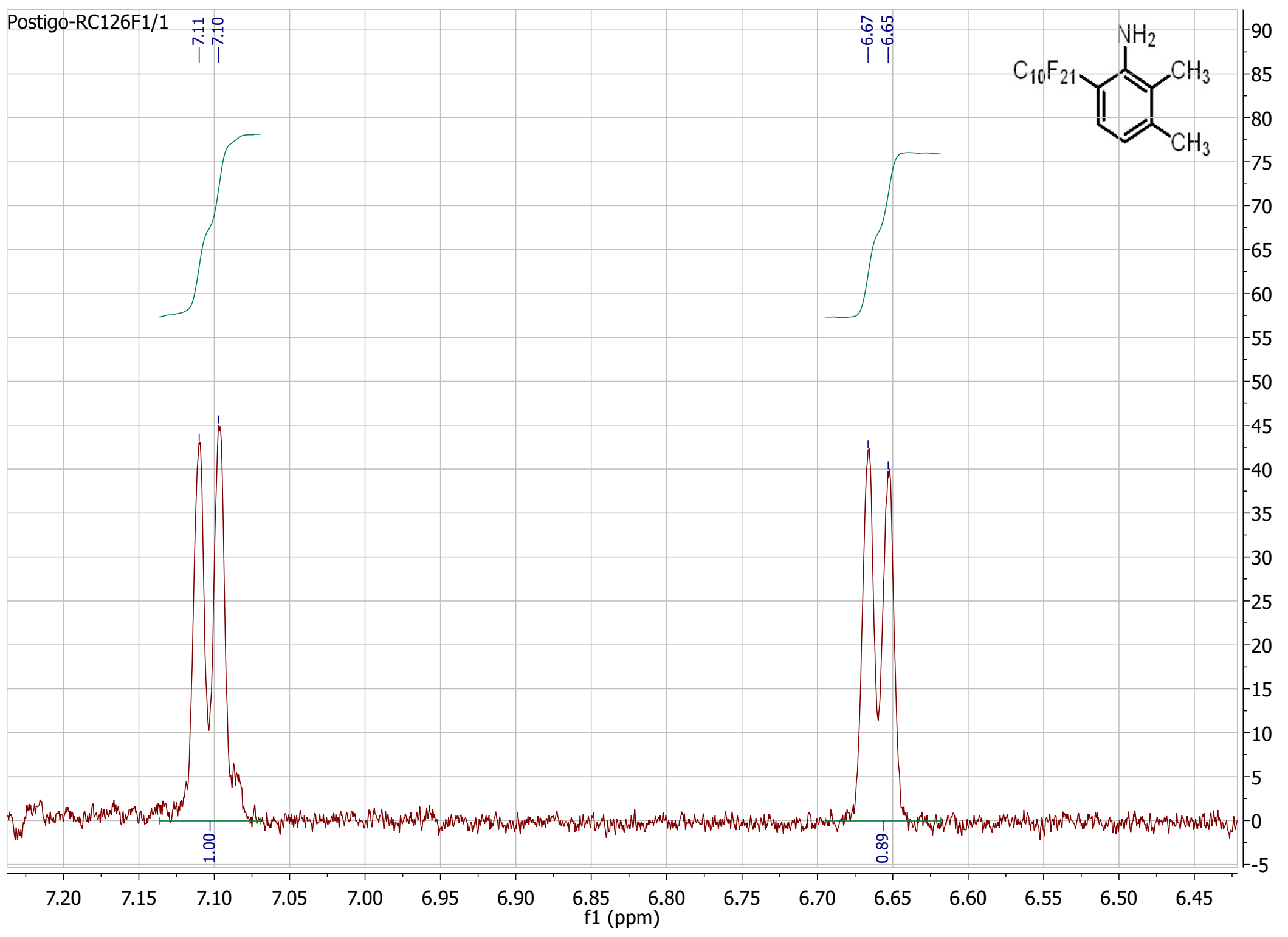
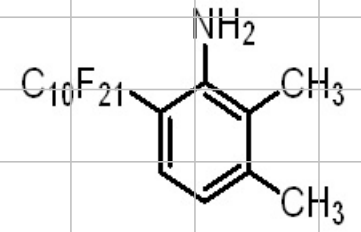
Postigo-RC126F1/1

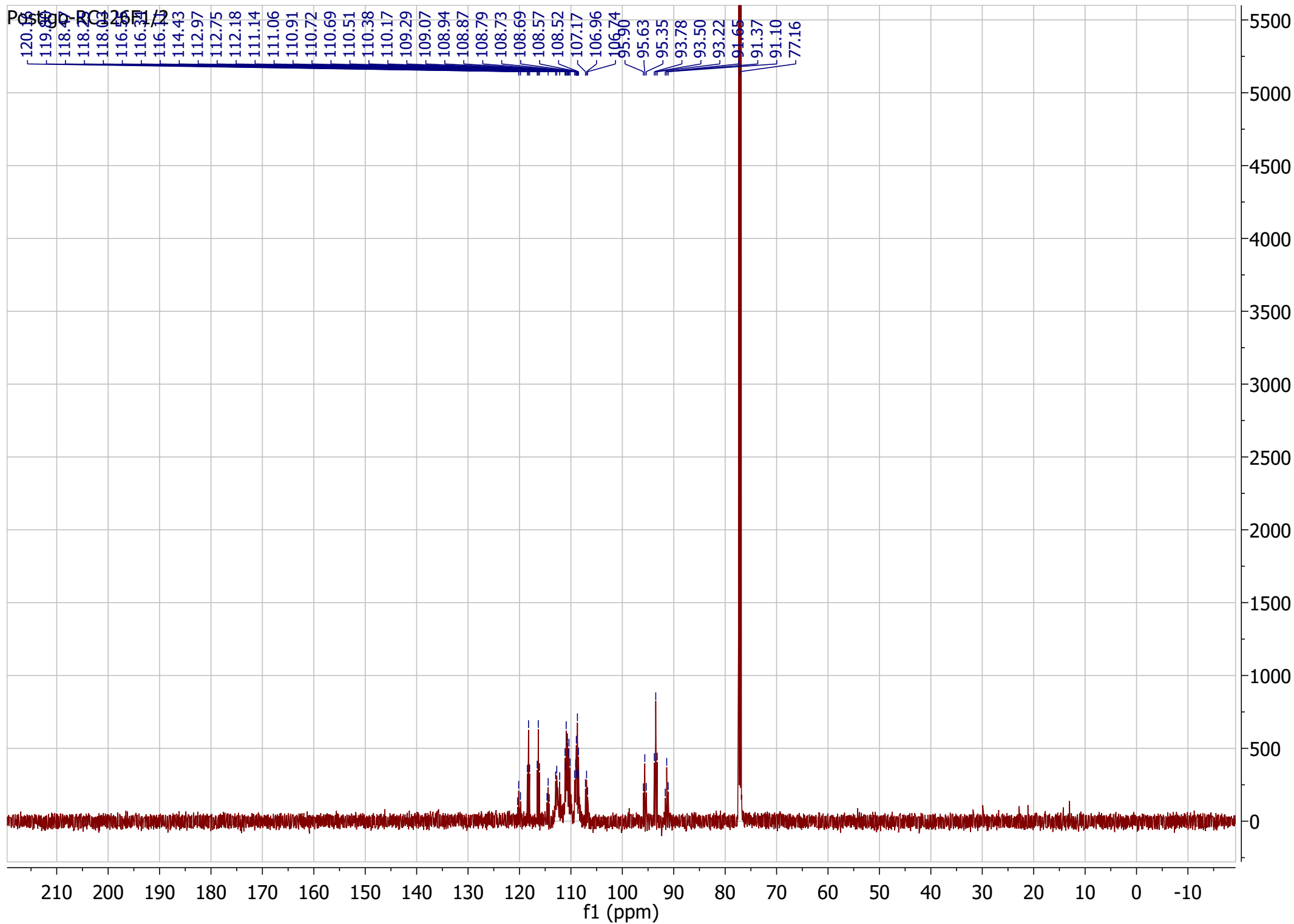


Postigo-RC126F1/1

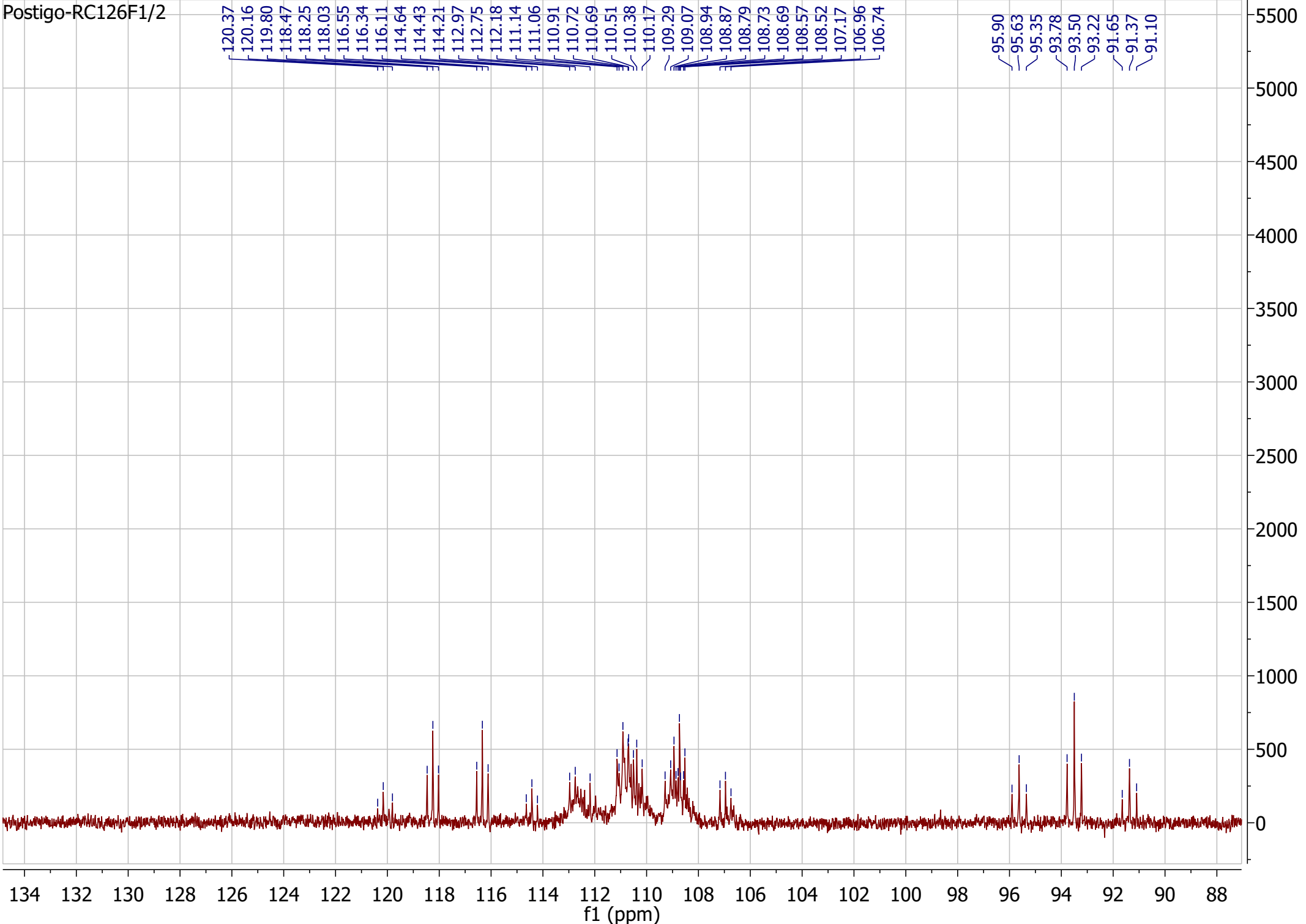
7.11
7.10

6.67
6.65

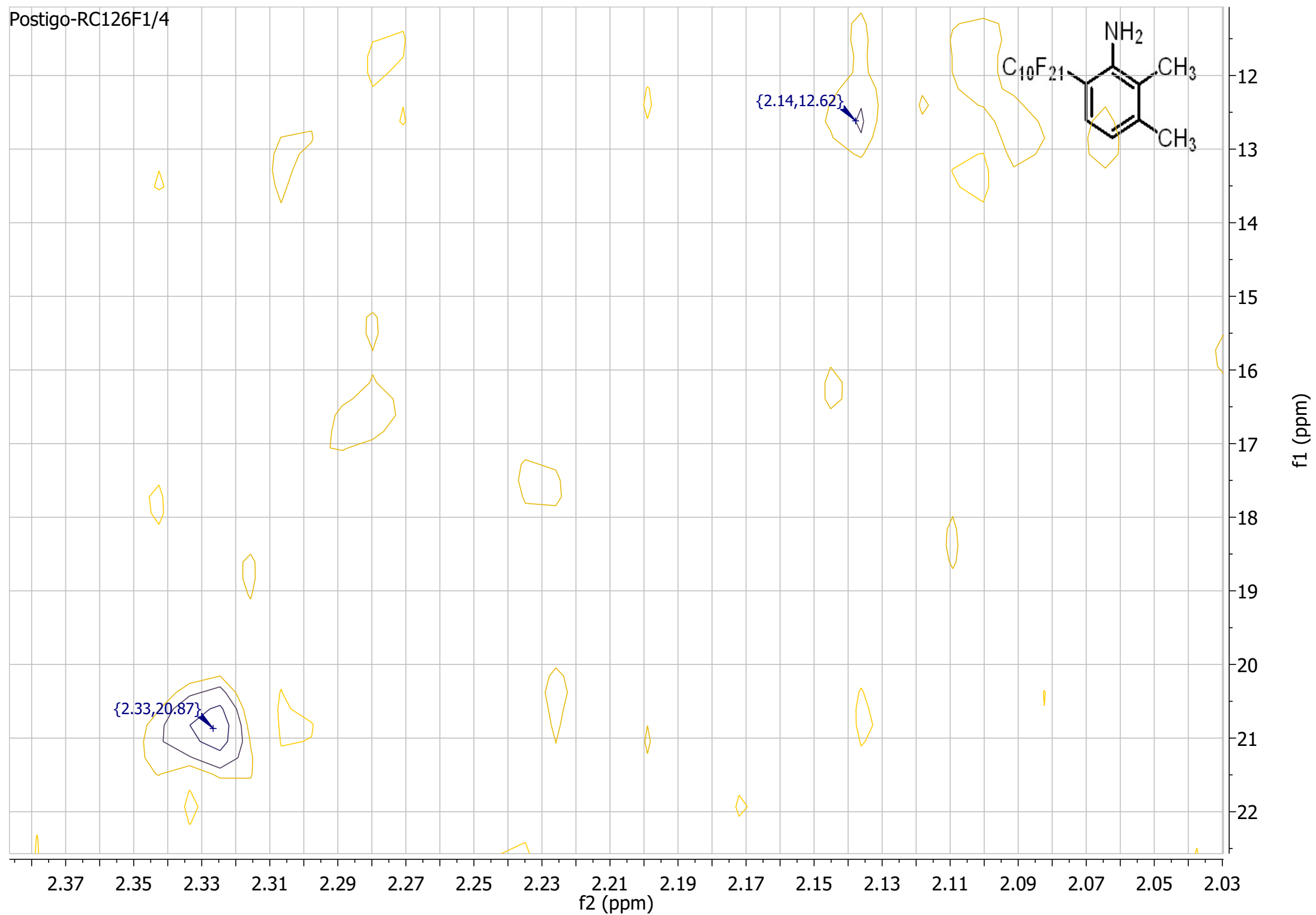




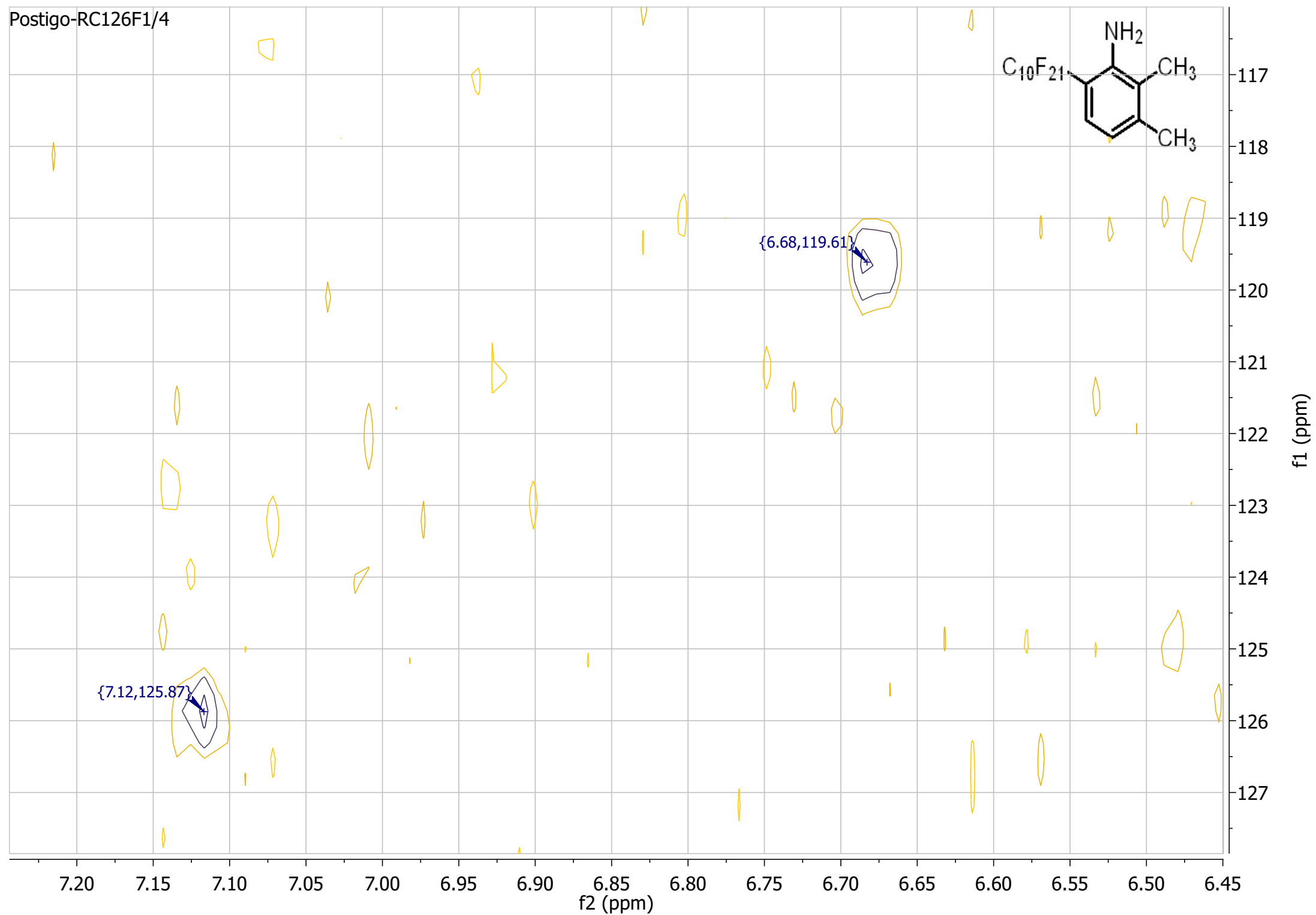
Postigo-RC126F1/2



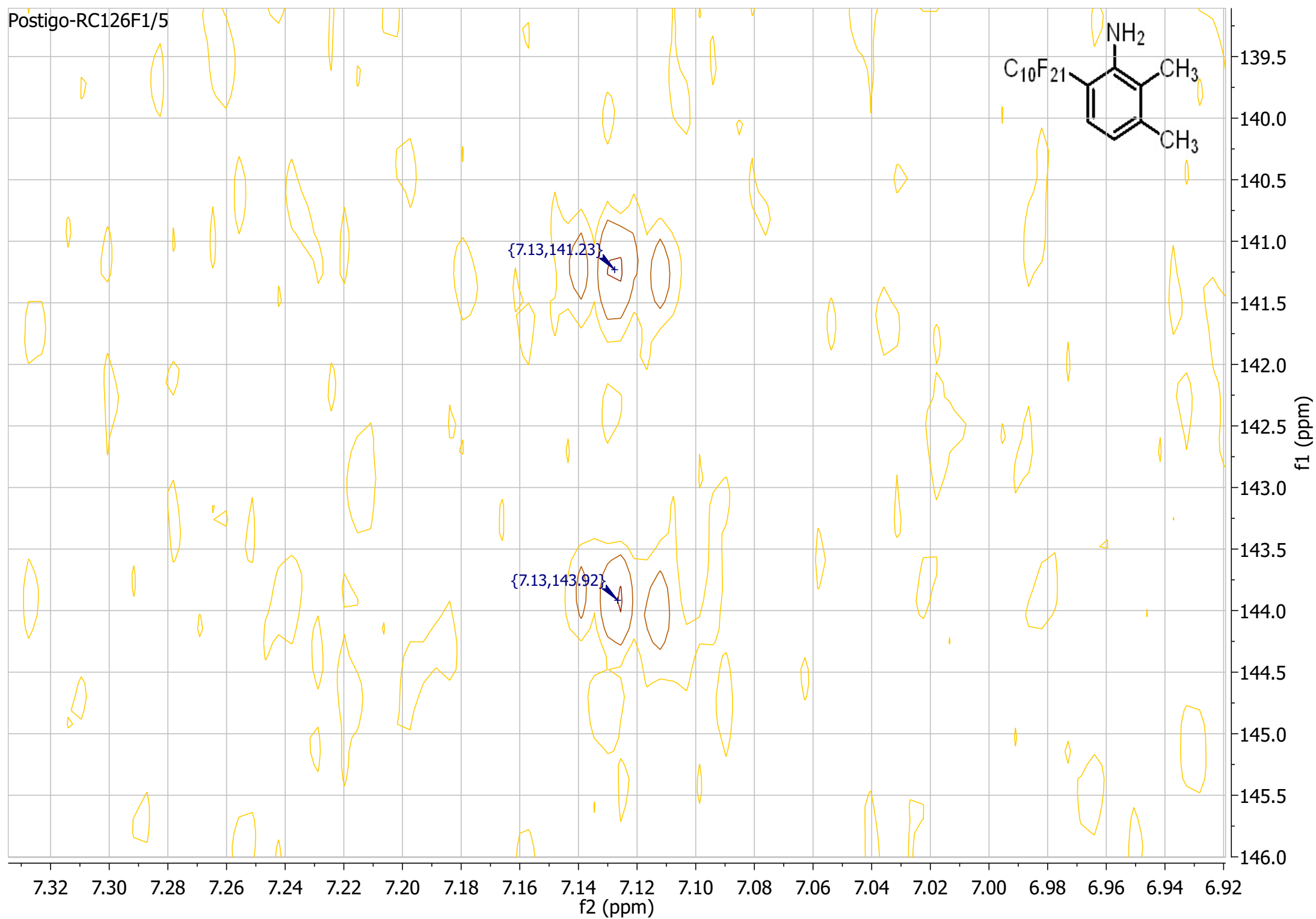
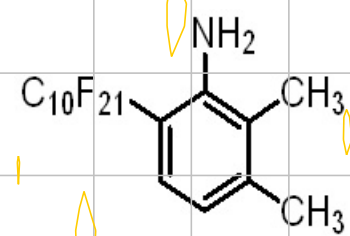
Postigo-RC126F1/4



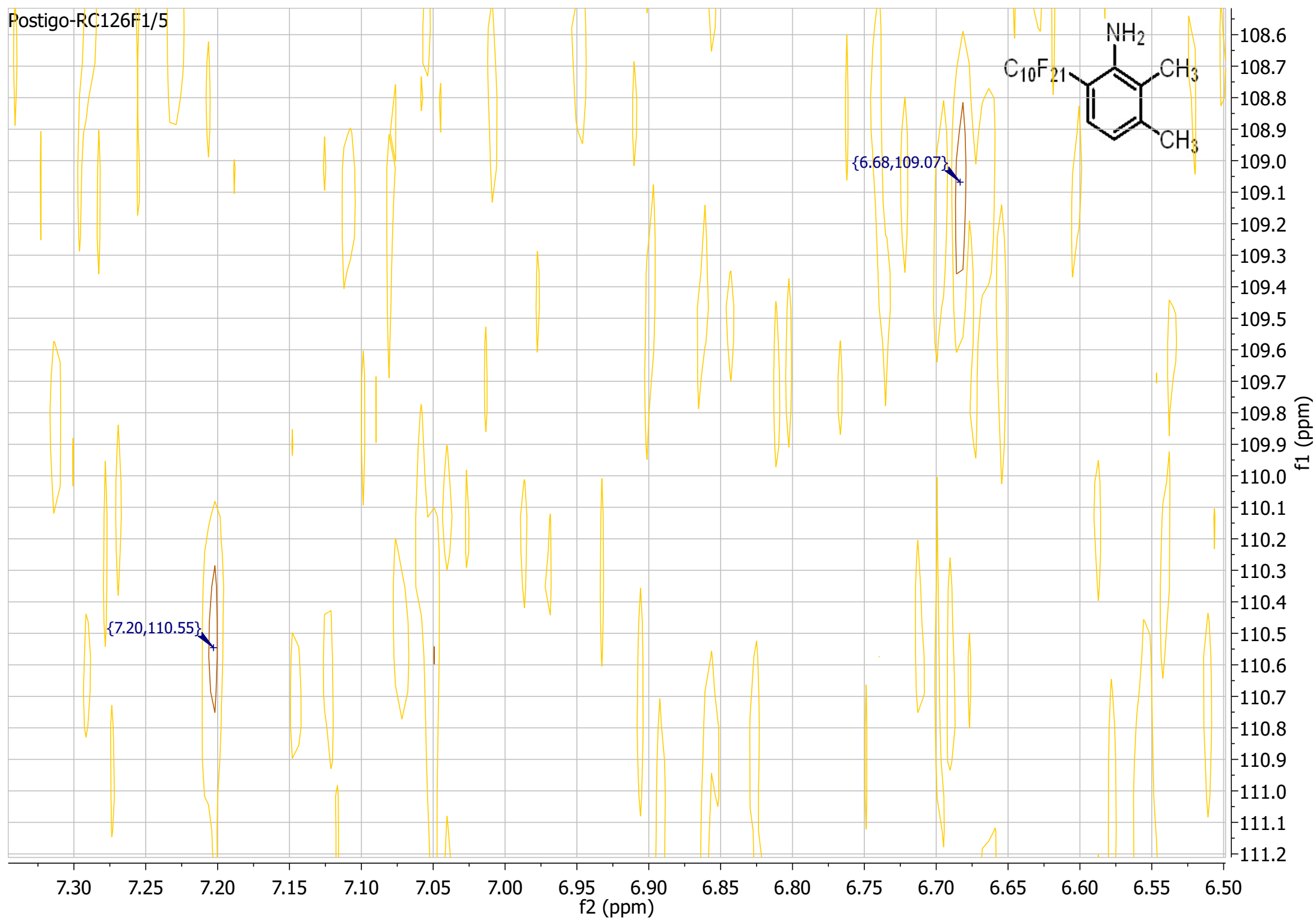
Postigo-RC126F1/4



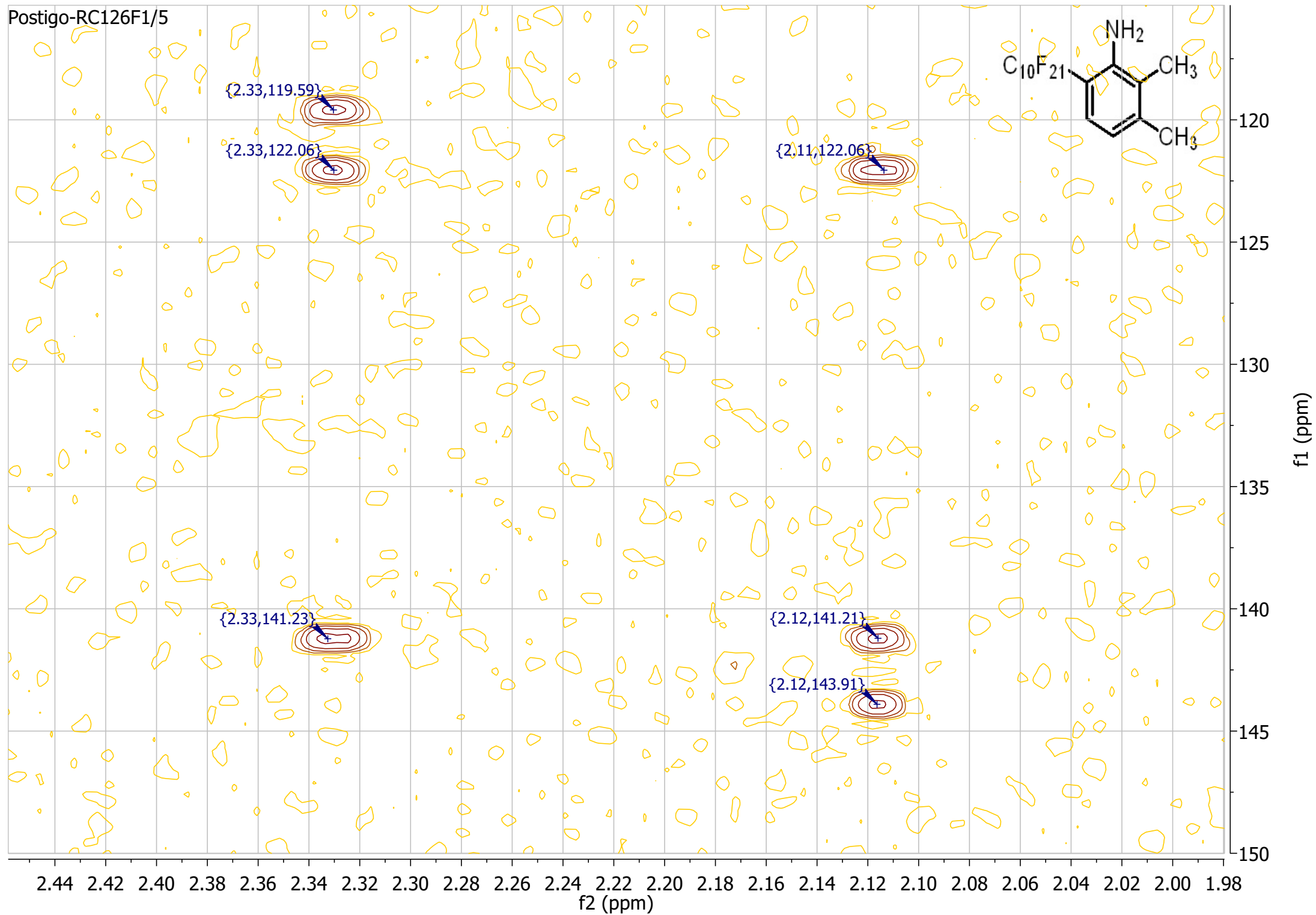
Postigo-RC126F1/5

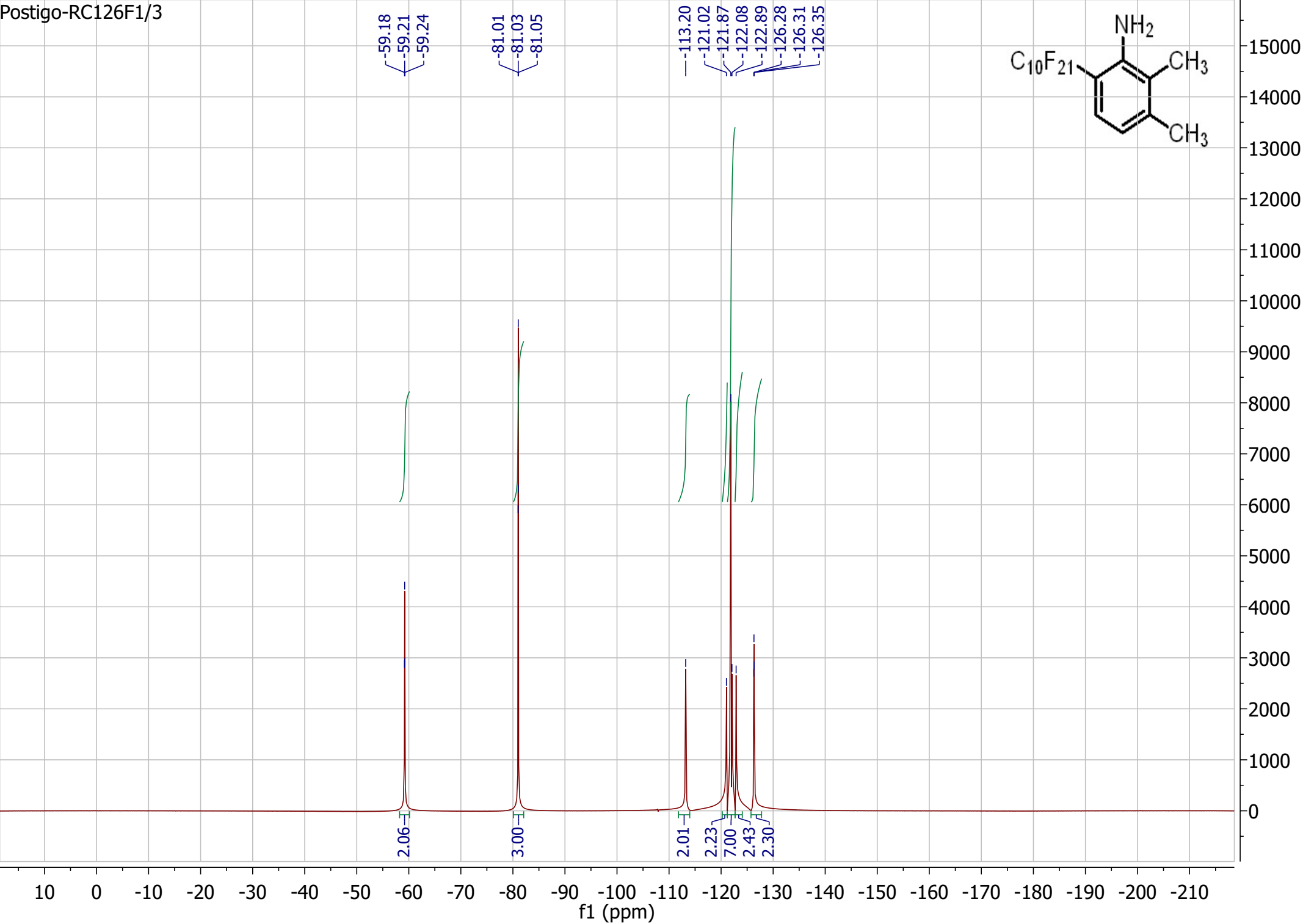


Postigo-RC126F1/5

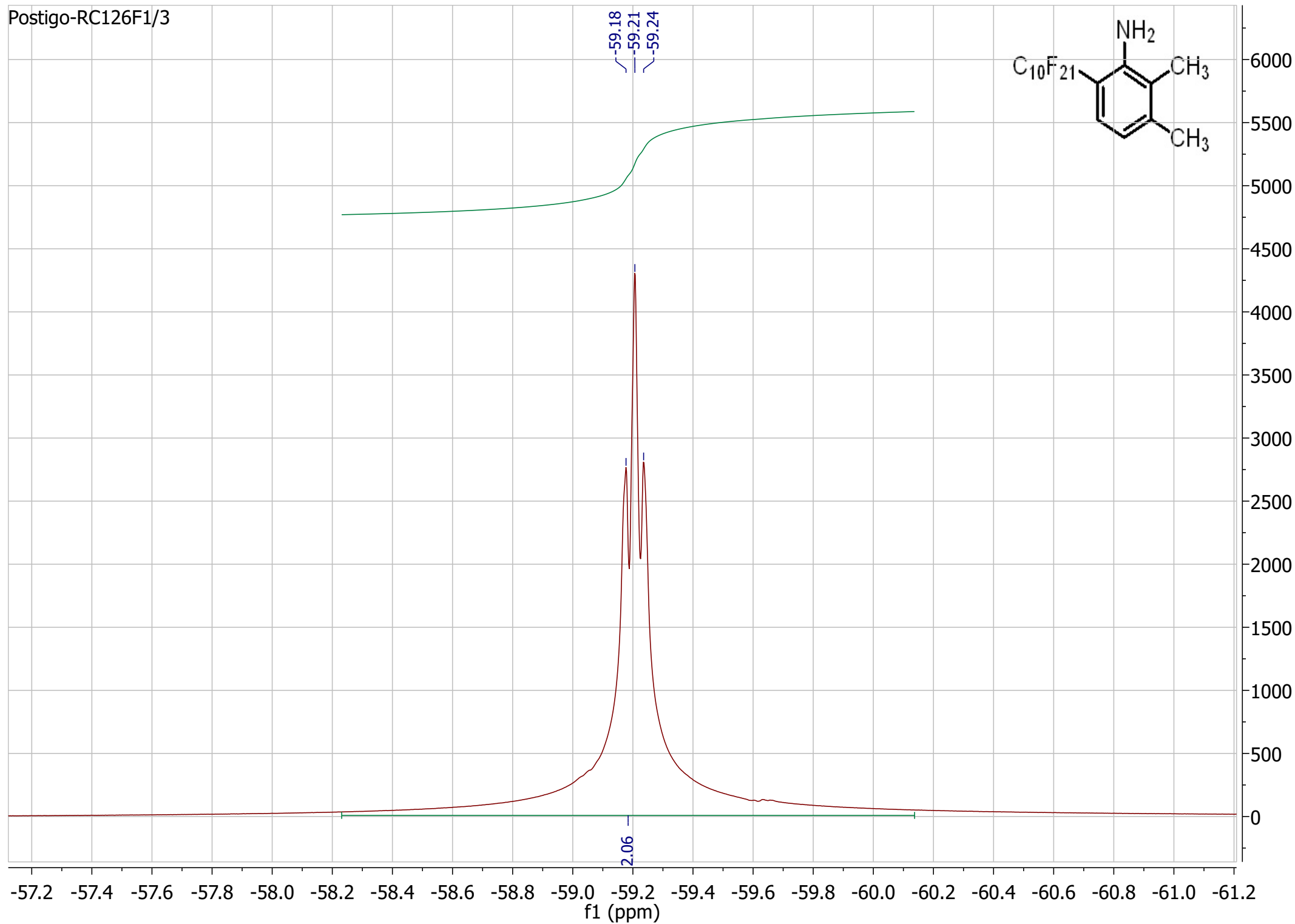


Postigo-RC126F1/5

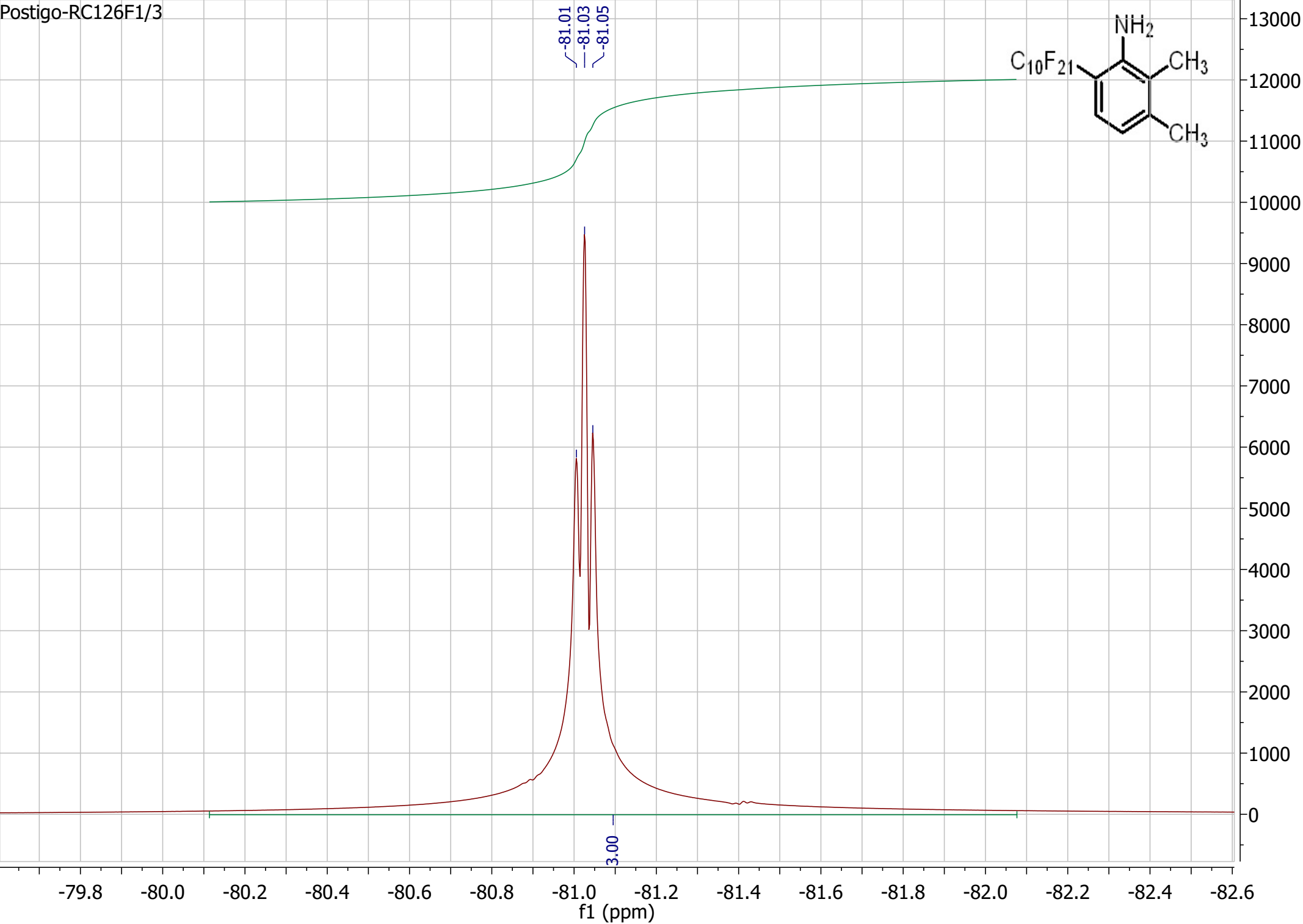




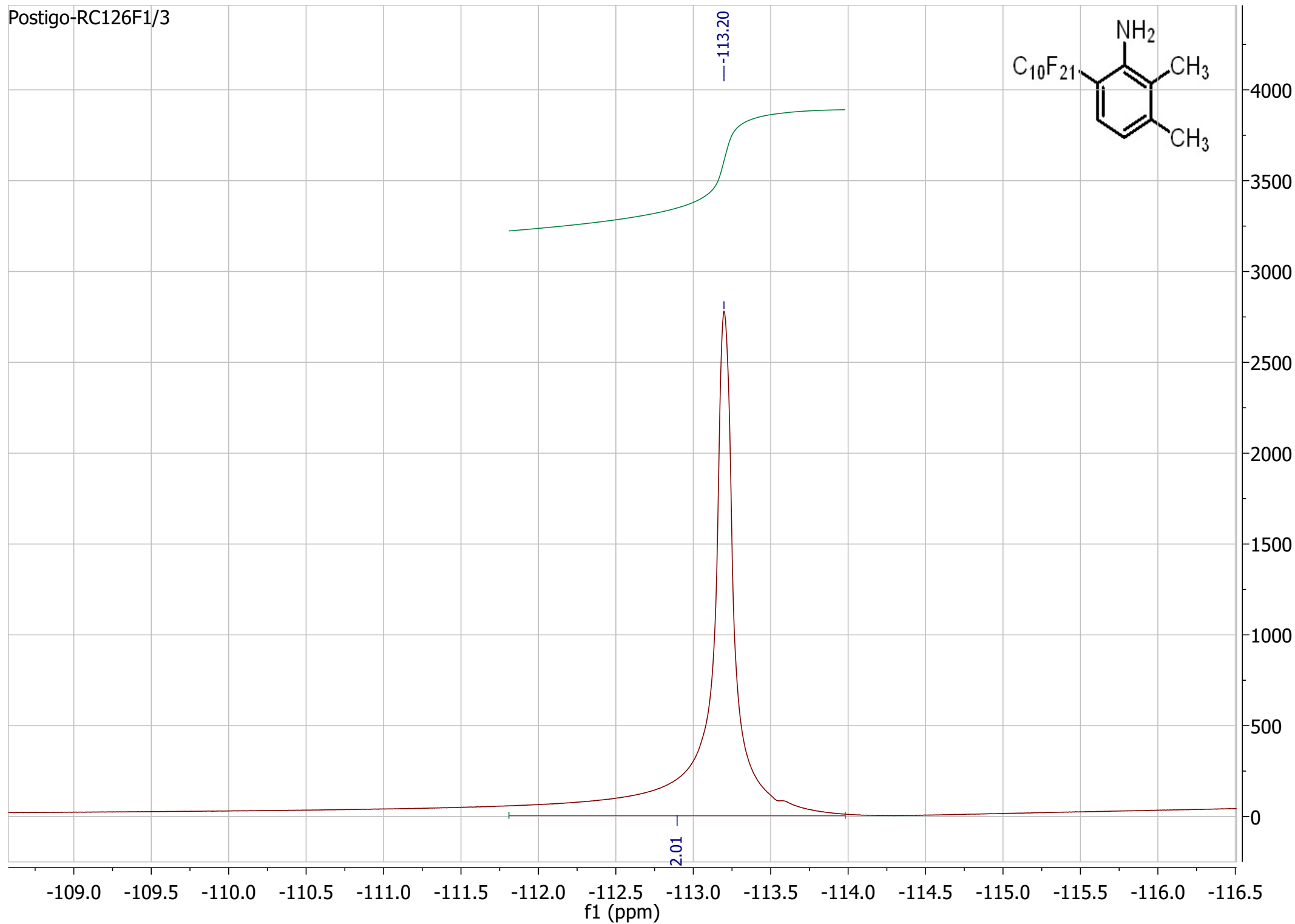
Postigo-RC126F1/3



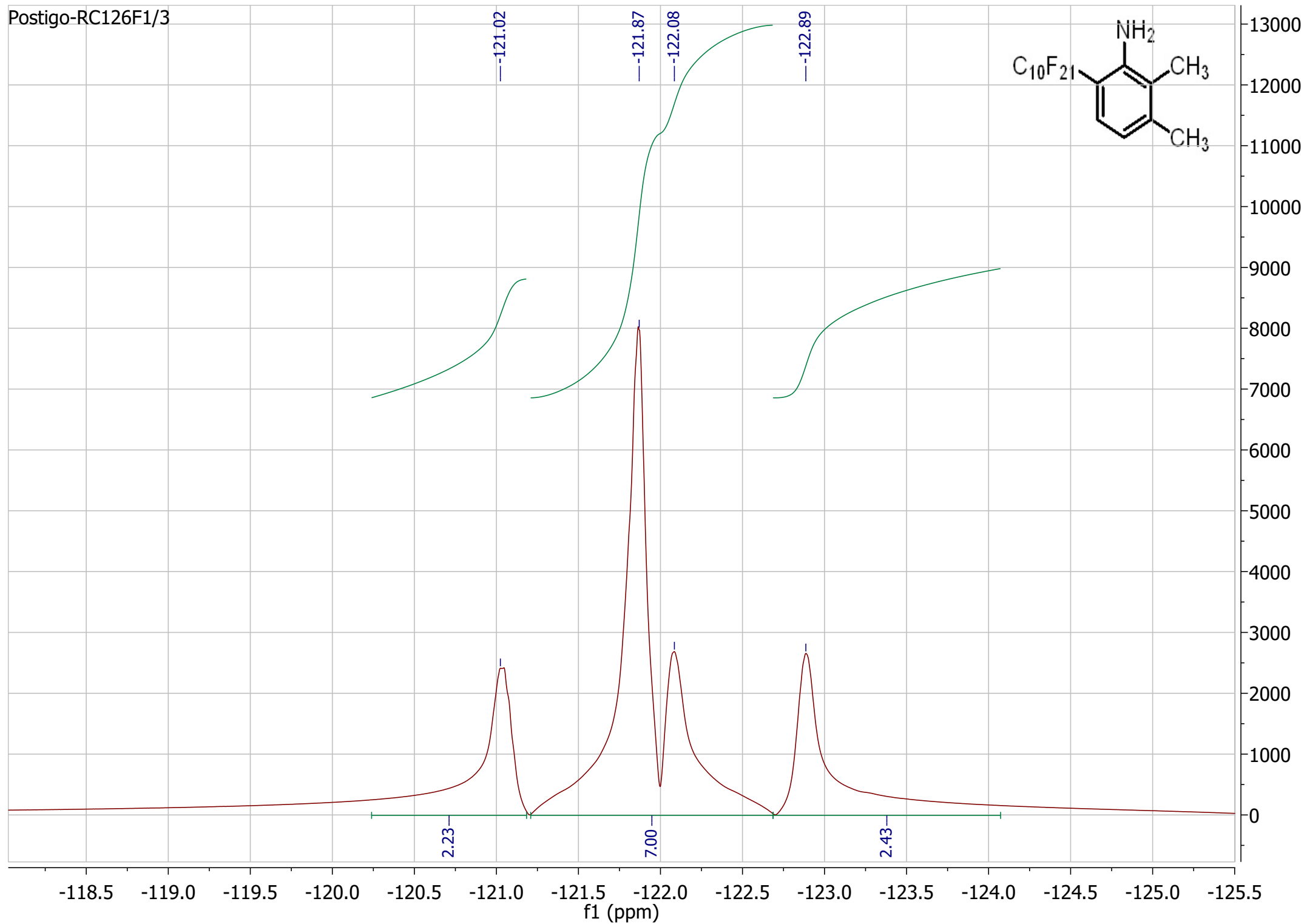
Postigo-RC126F1/3



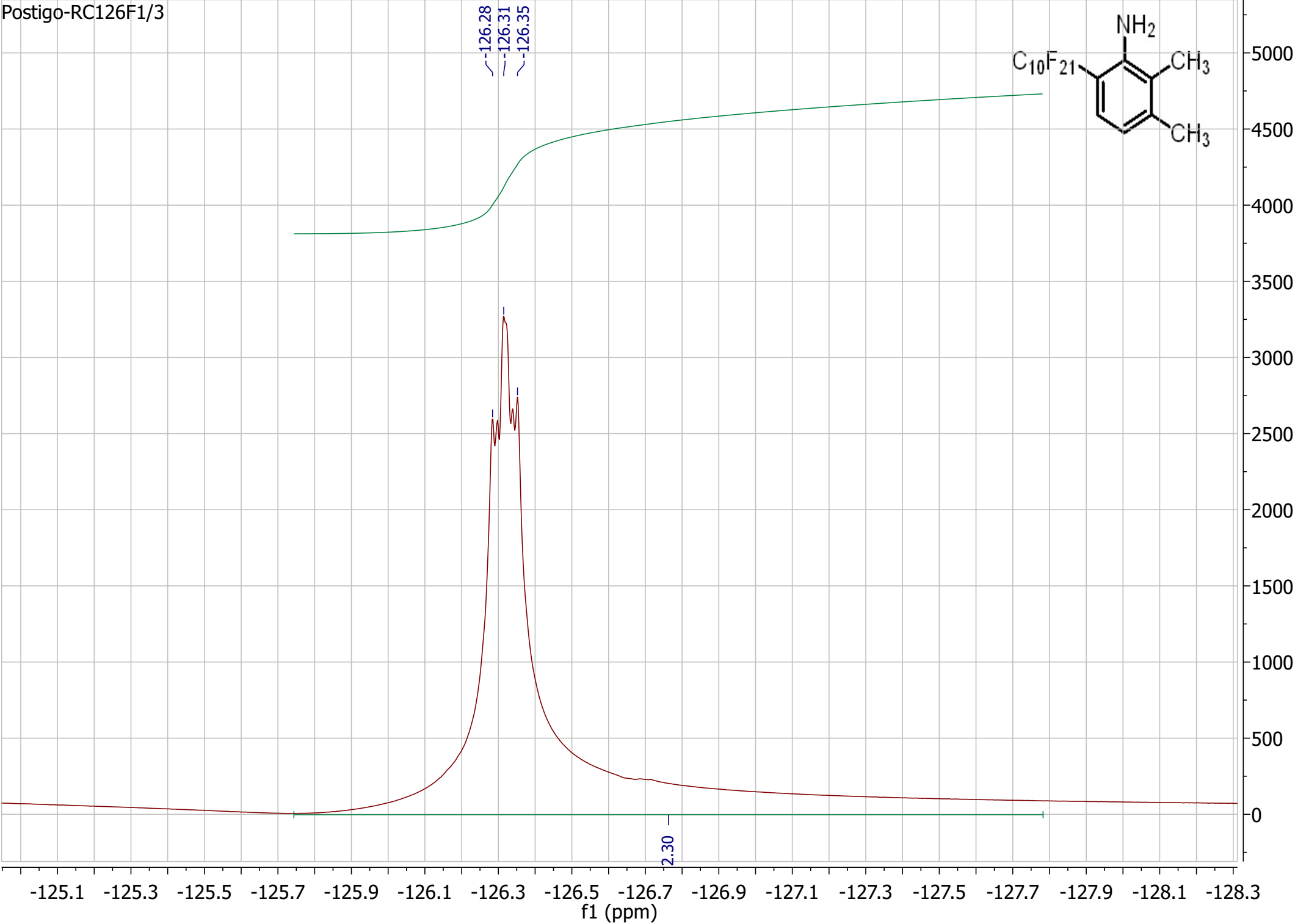
Postigo-RC126F1/3

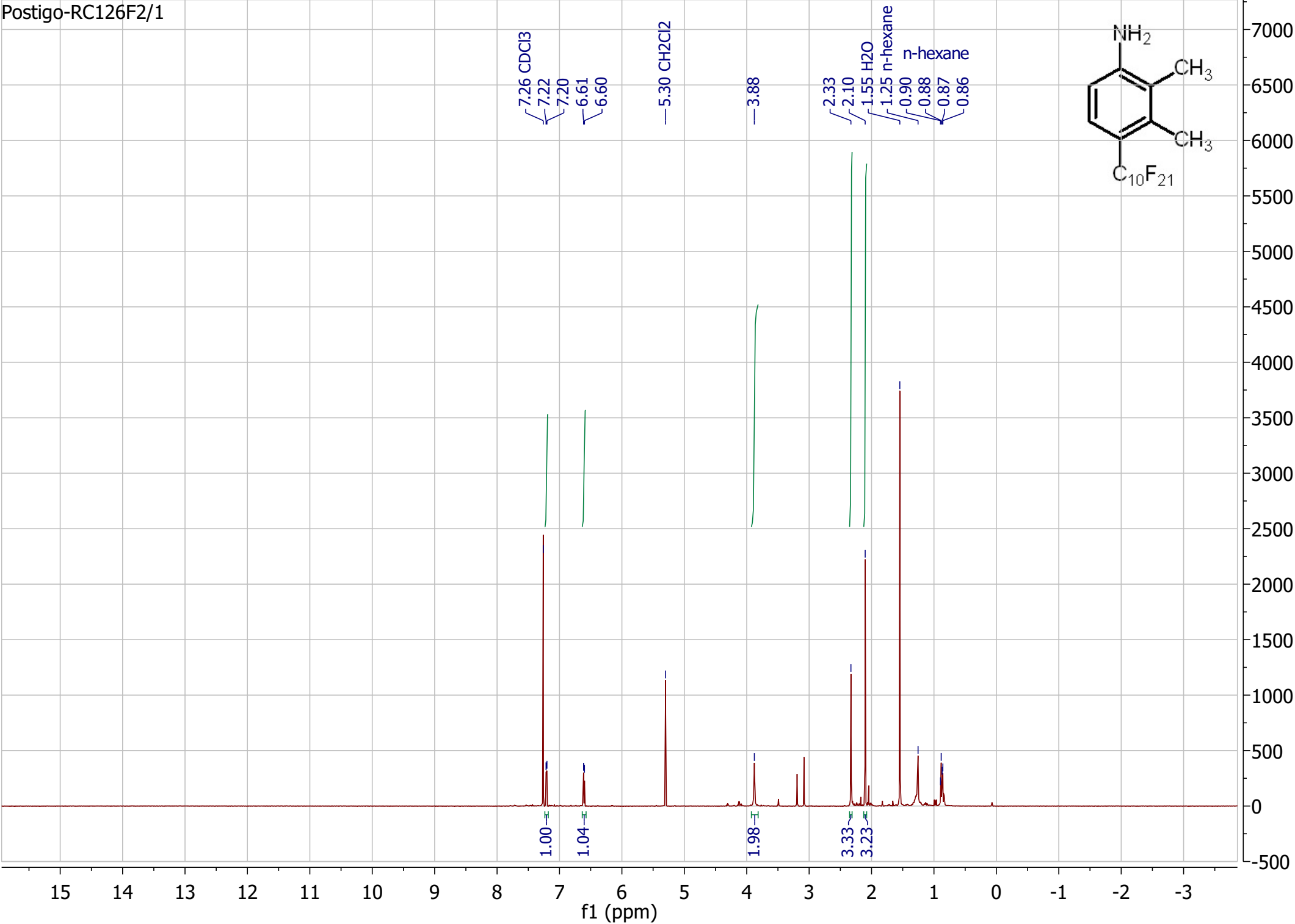


Postigo-RC126F1/3

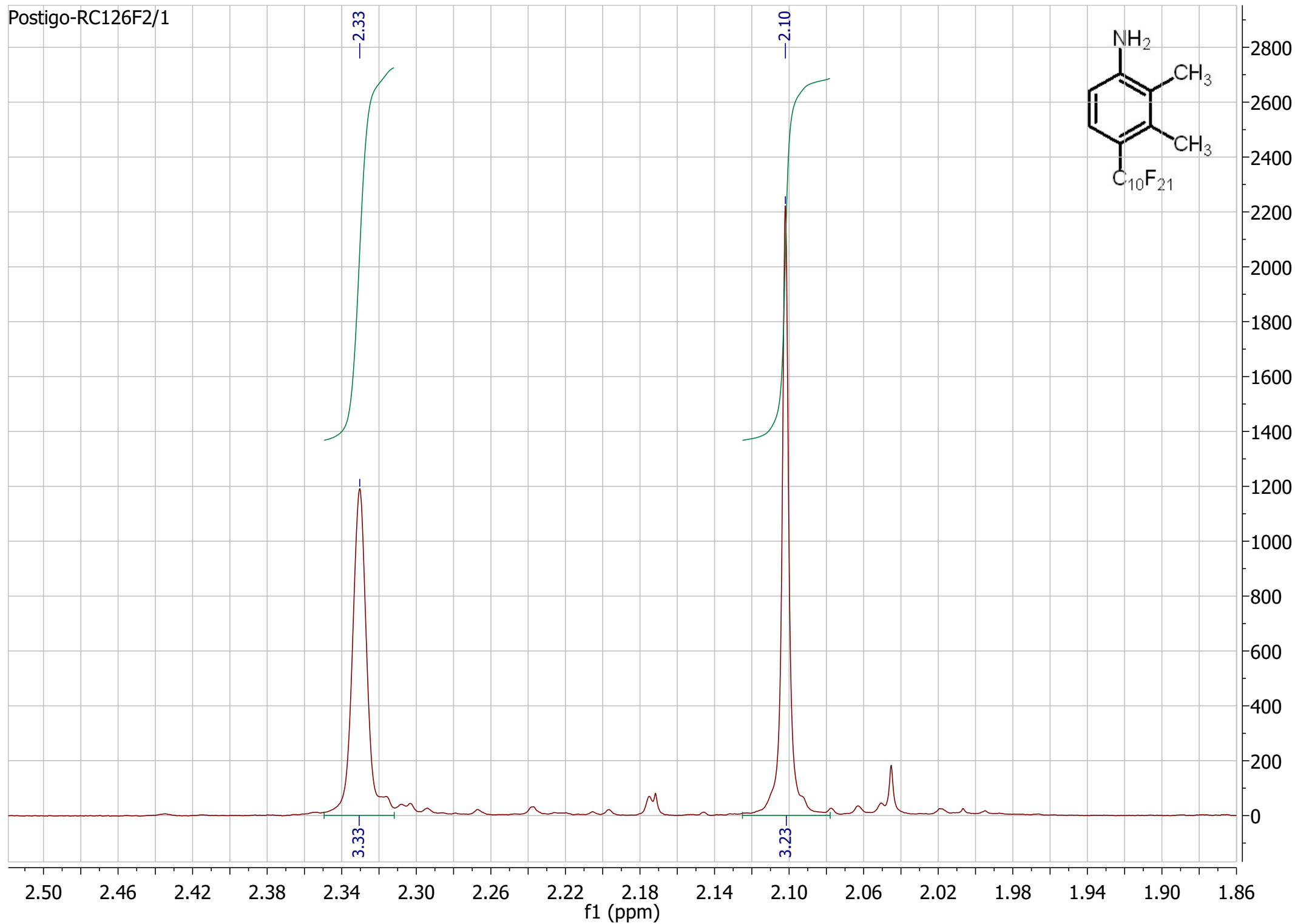


Postigo-RC126F1/3

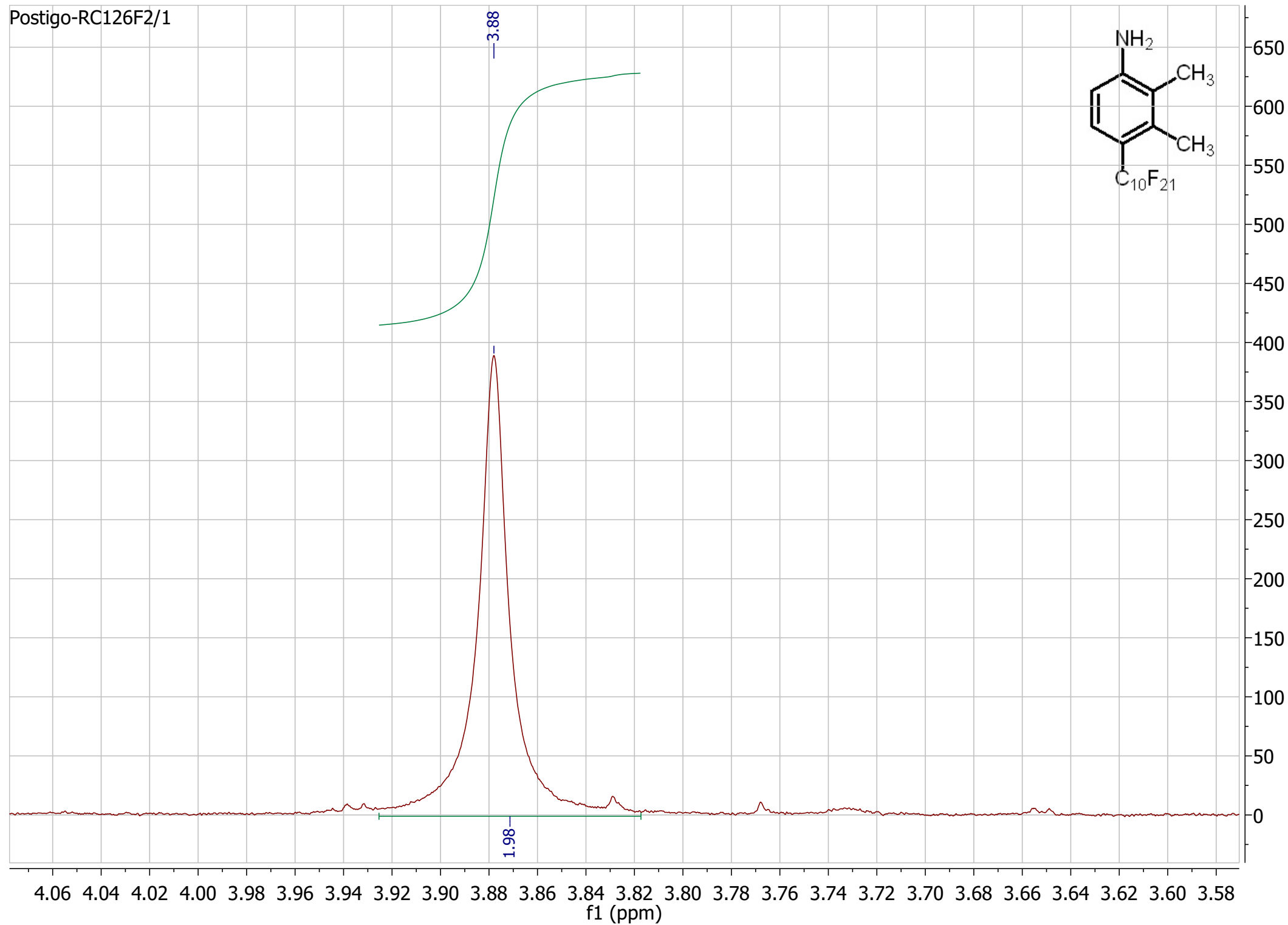




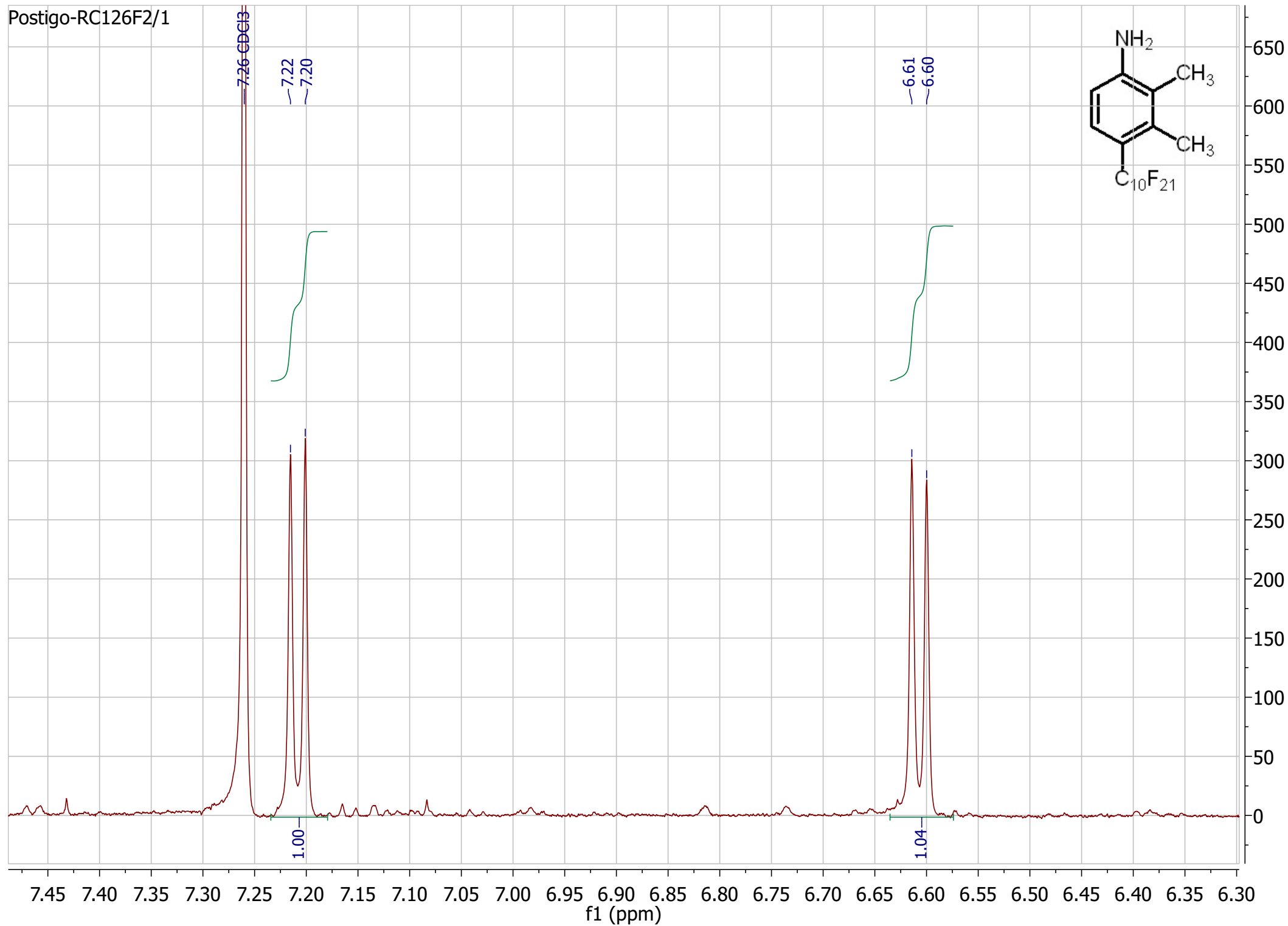
Postigo-RC126F2/1

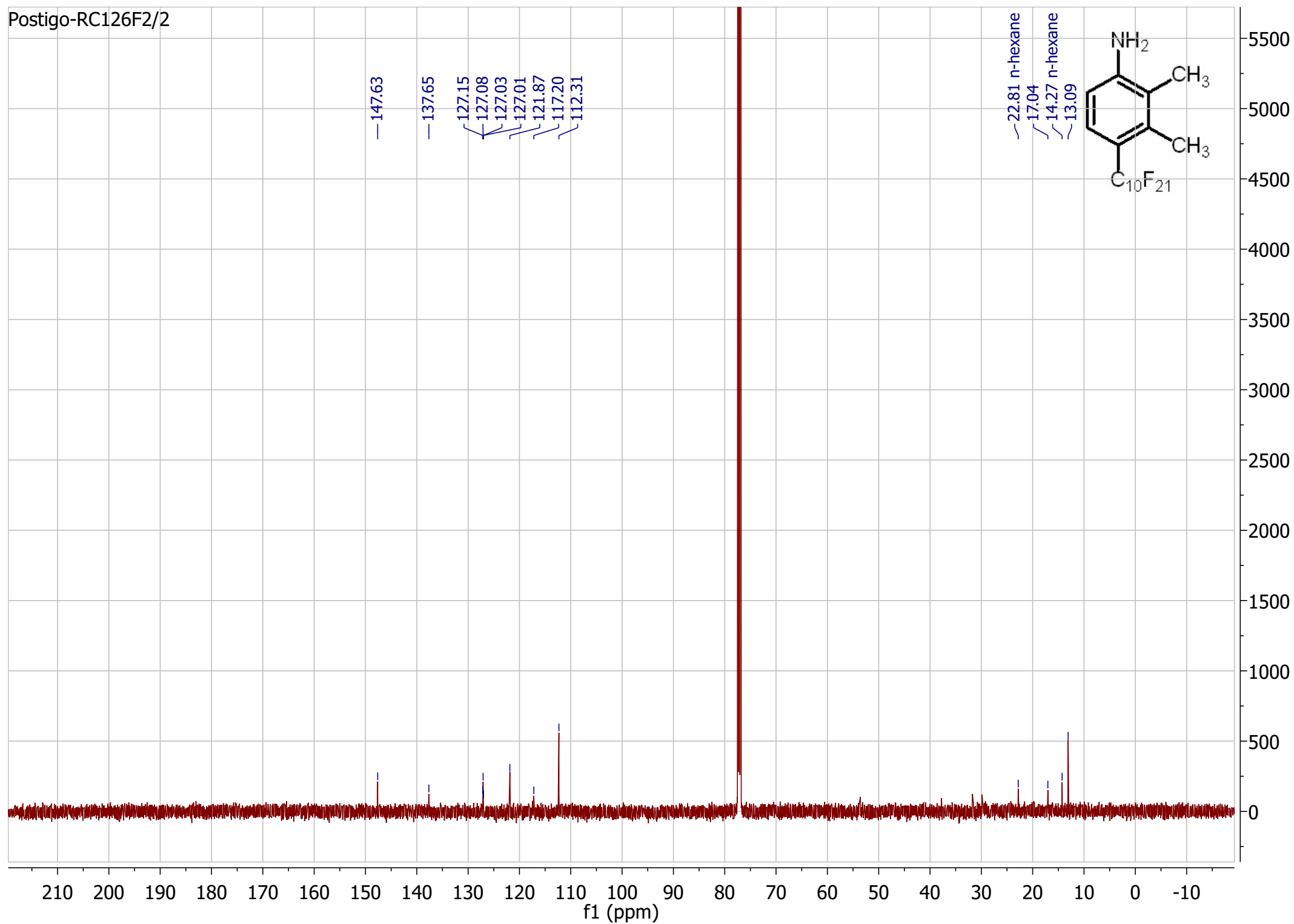


Postigo-RC126F2/1

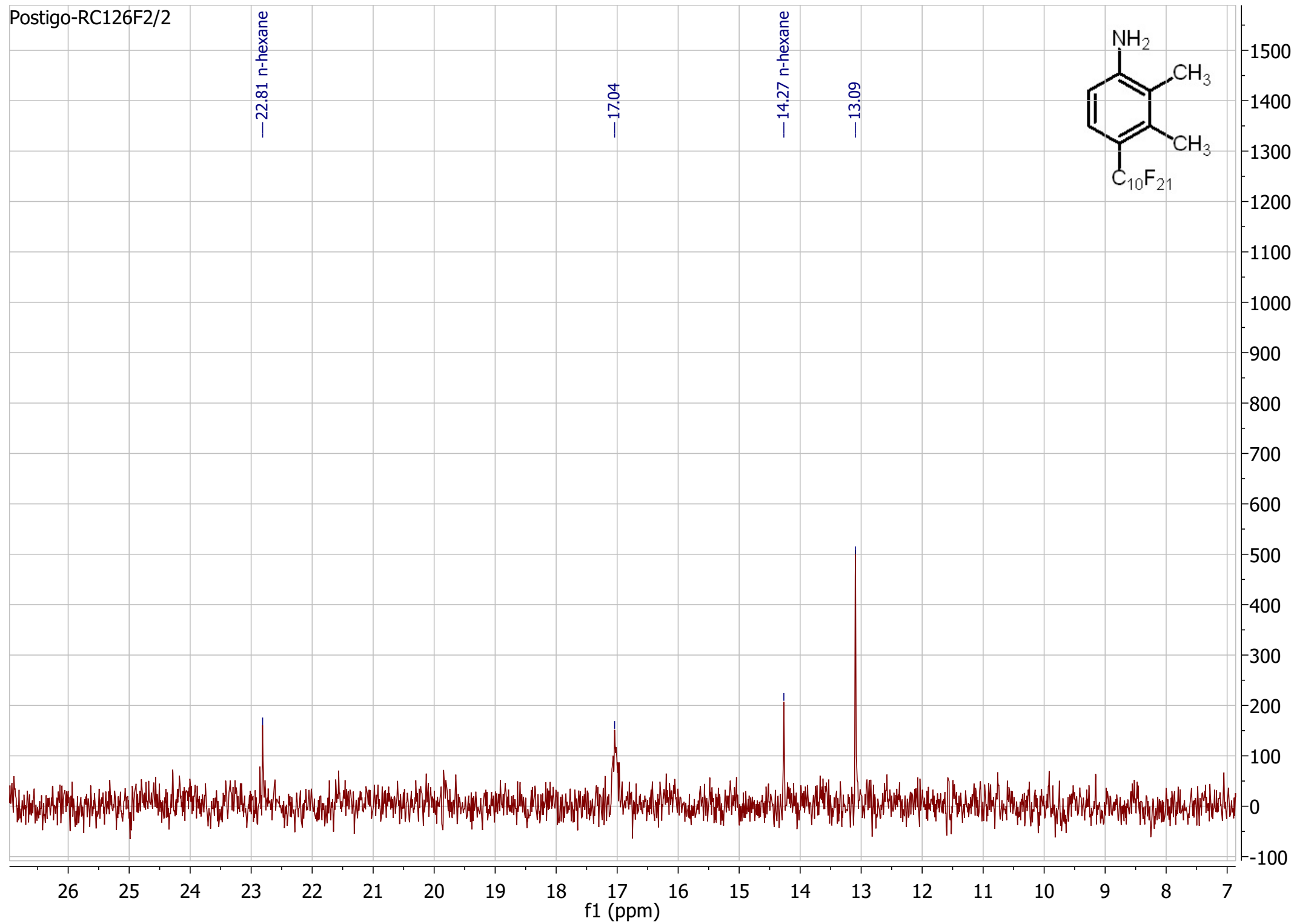


Postigo-RC126F2/1





Postigo-RC126F2/2



Postigo-RC126F2/2

147.63

137.65

127.15

127.08

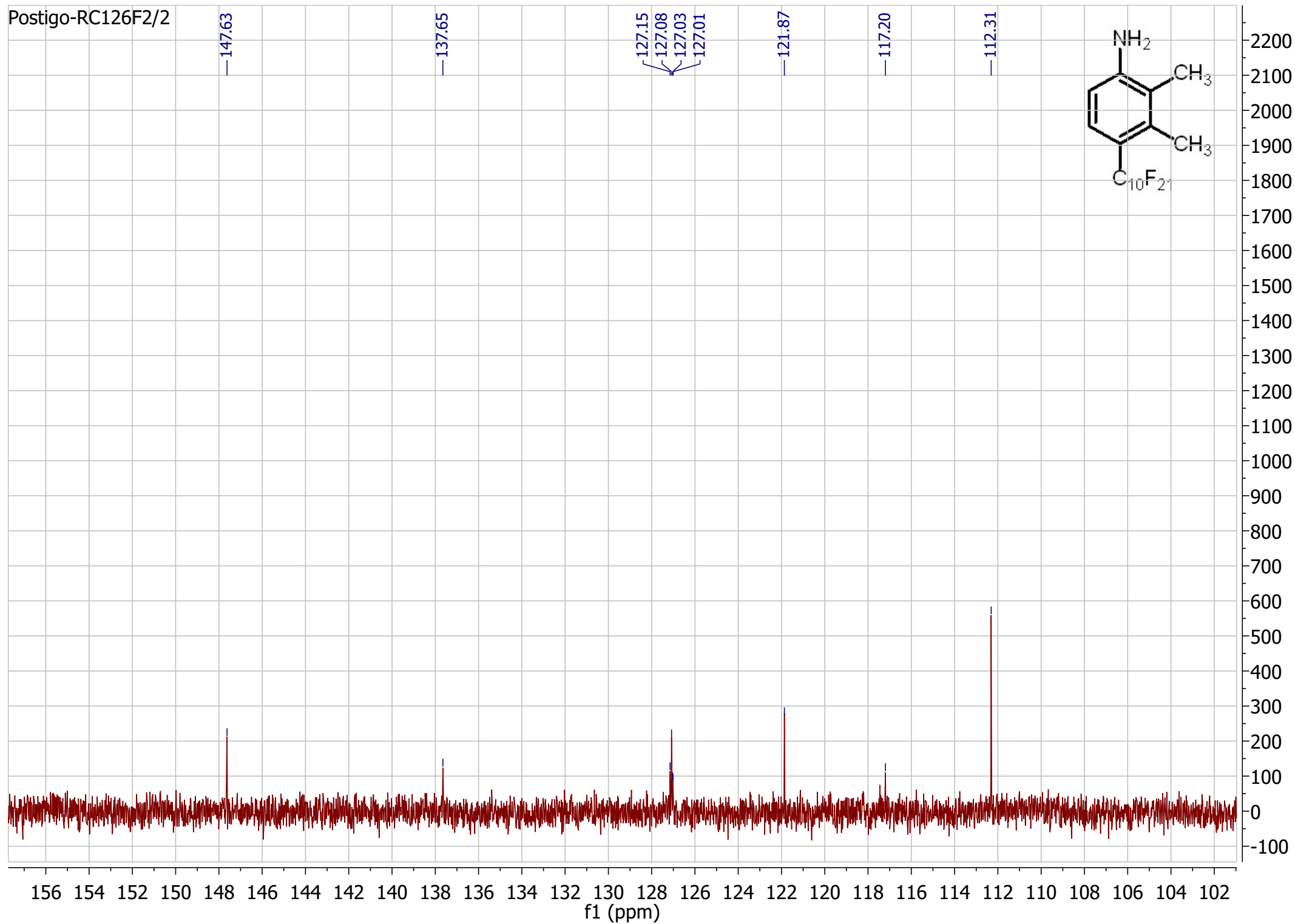
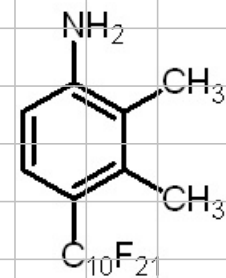
127.03

127.01

121.87

117.20

112.31

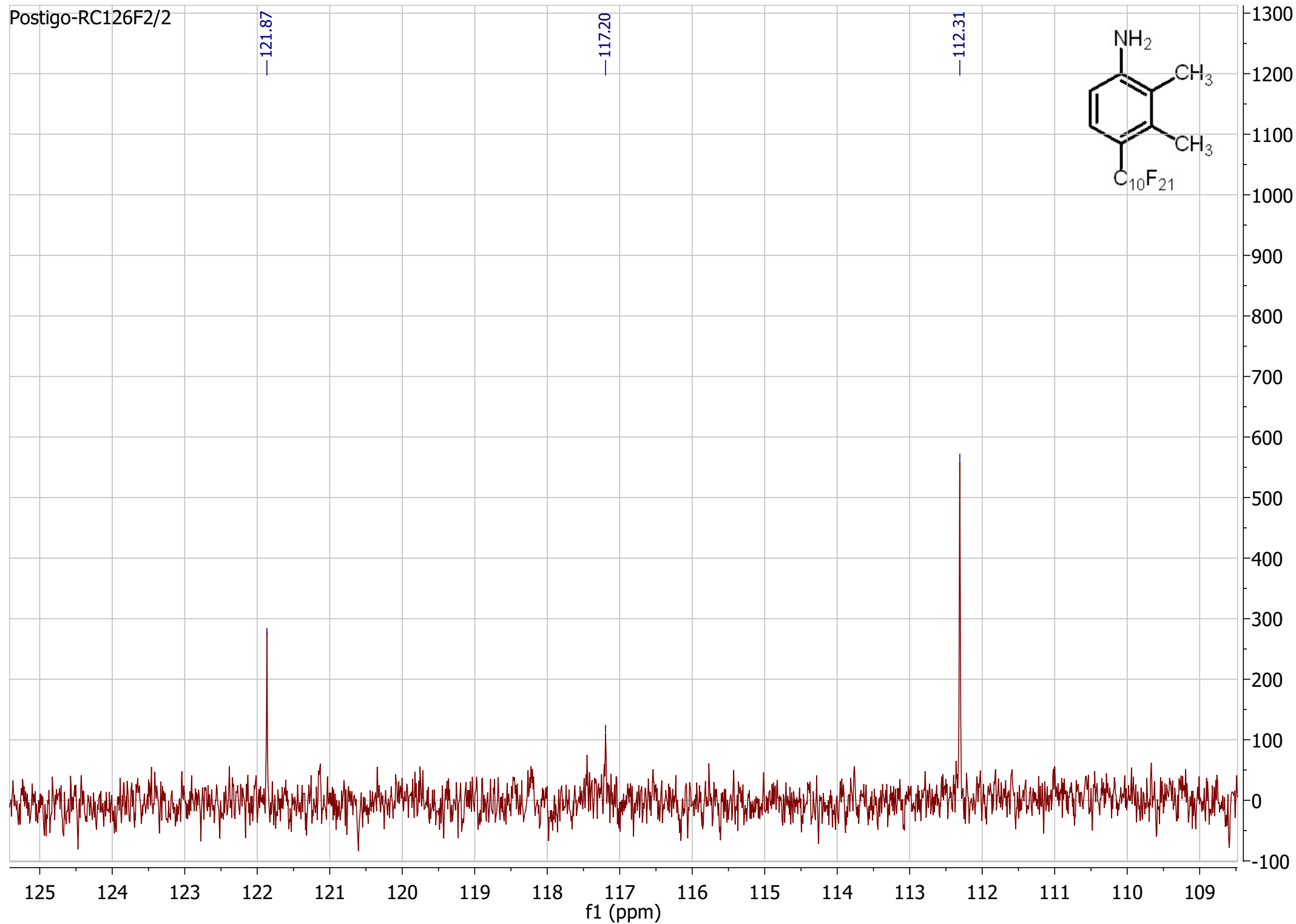


Postigo-RC126F2/2

—121.87

—117.20

—112.31



Postigo-RC126F2/2

—147.63

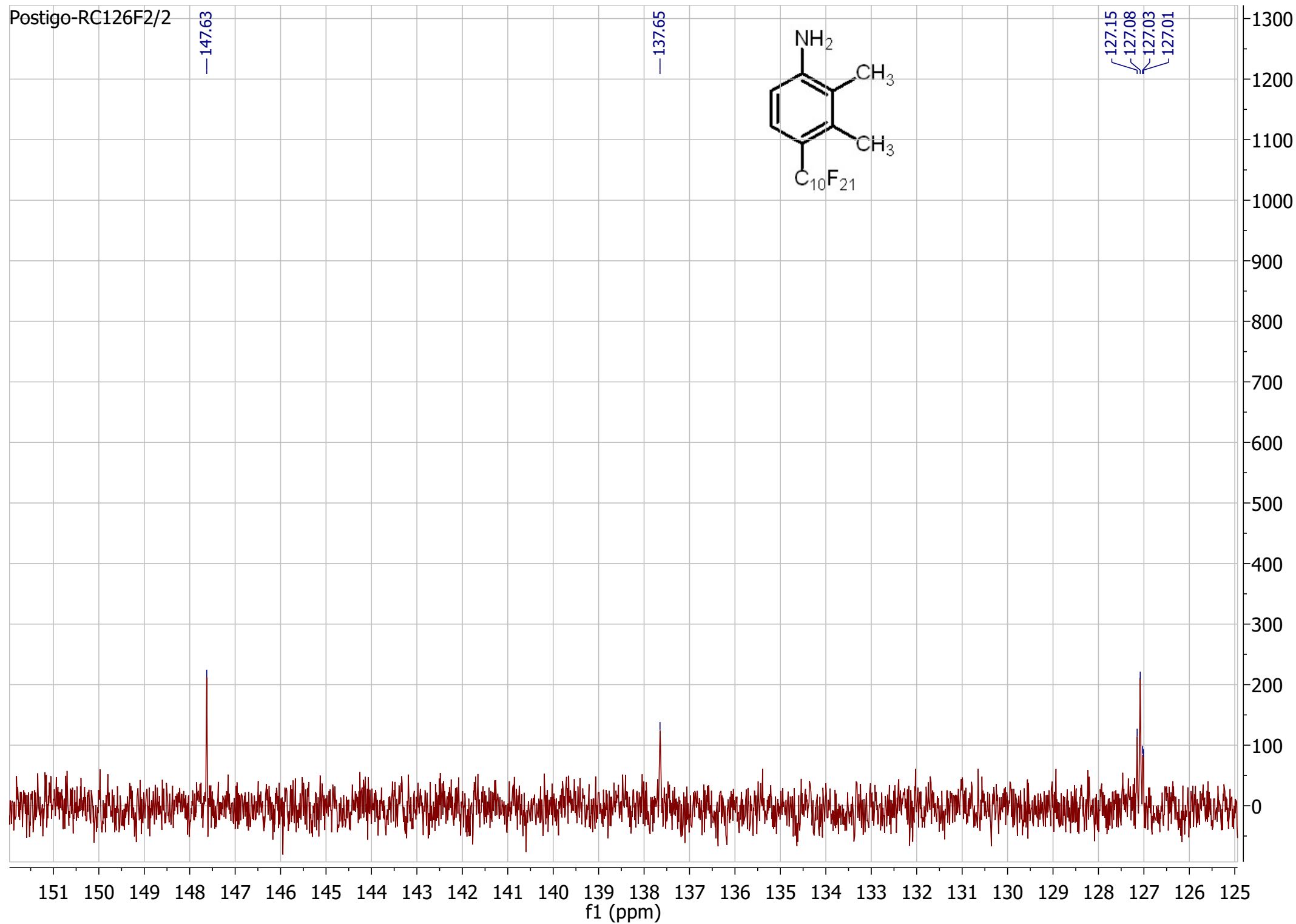
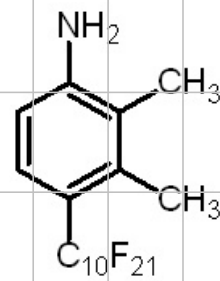
—137.65

127.15

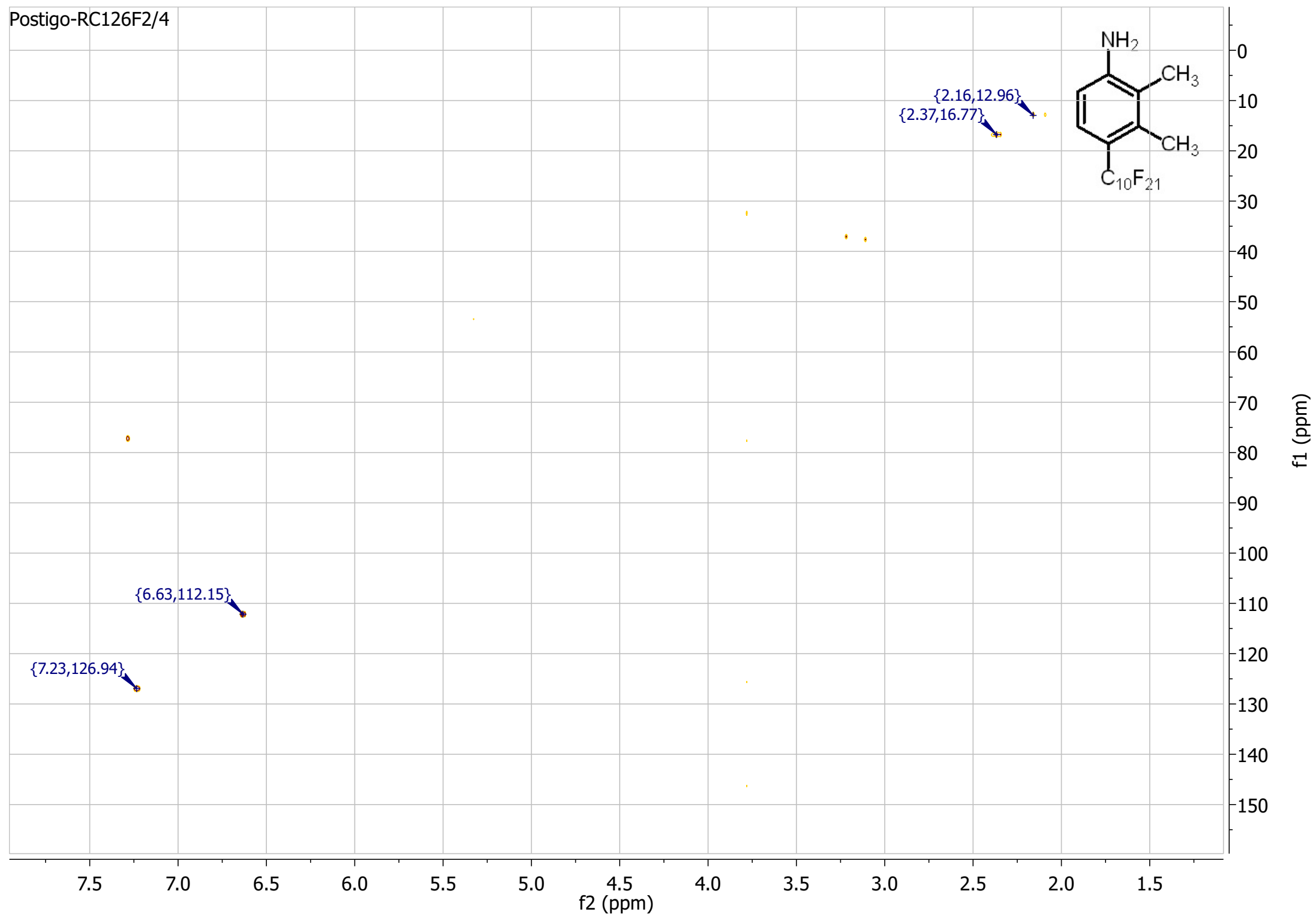
127.08

127.03

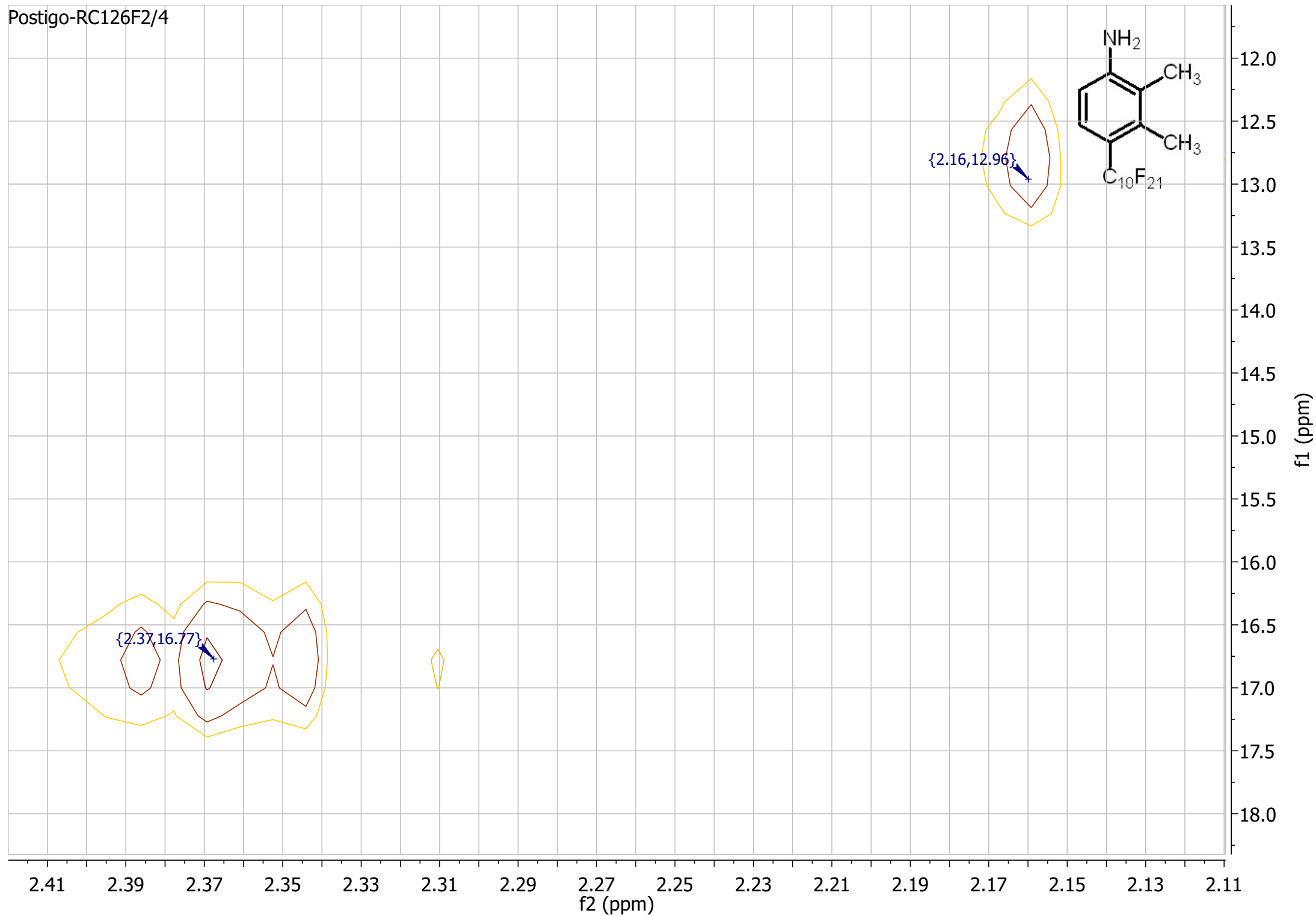
127.01



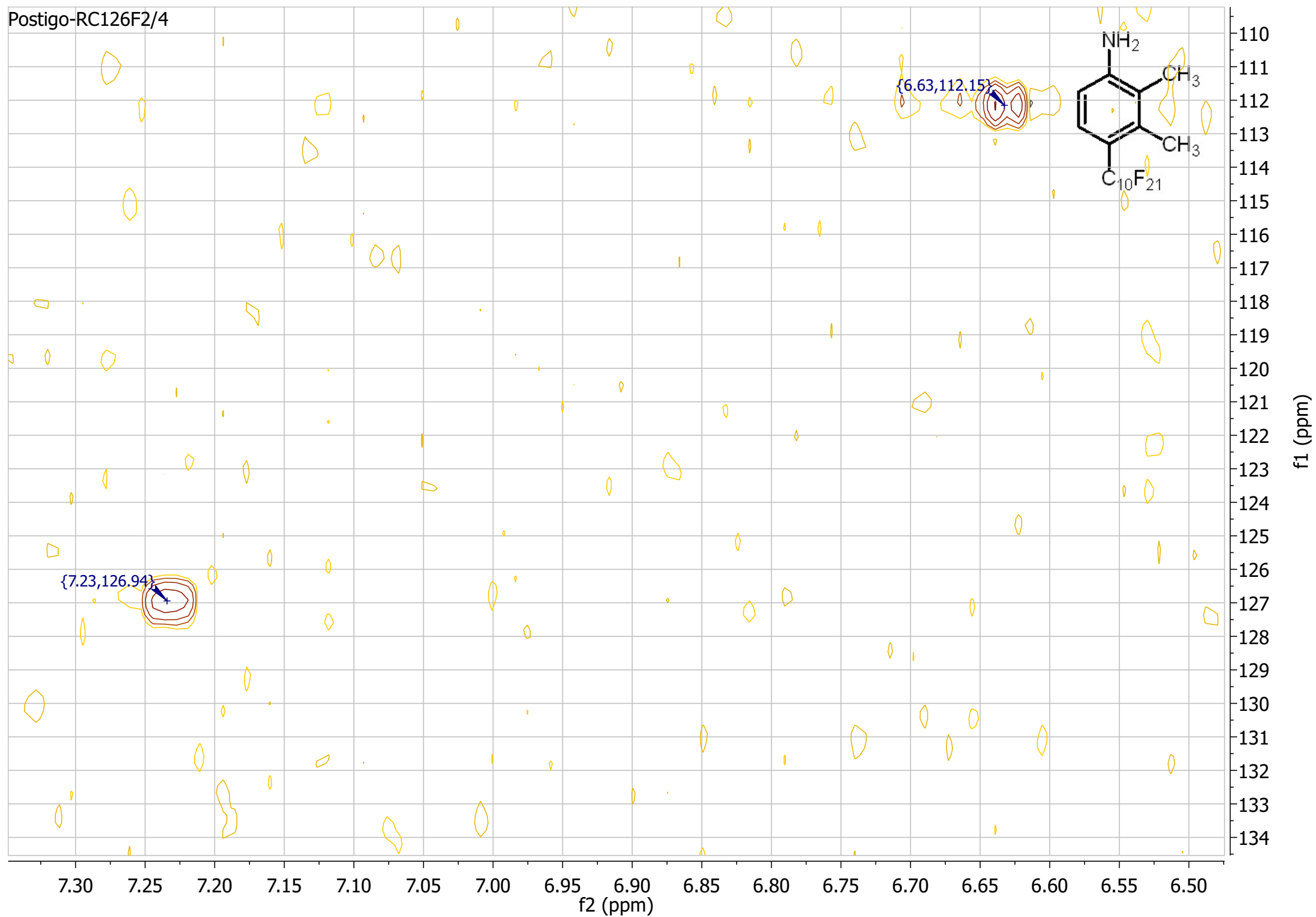
Postigo-RC126F2/4



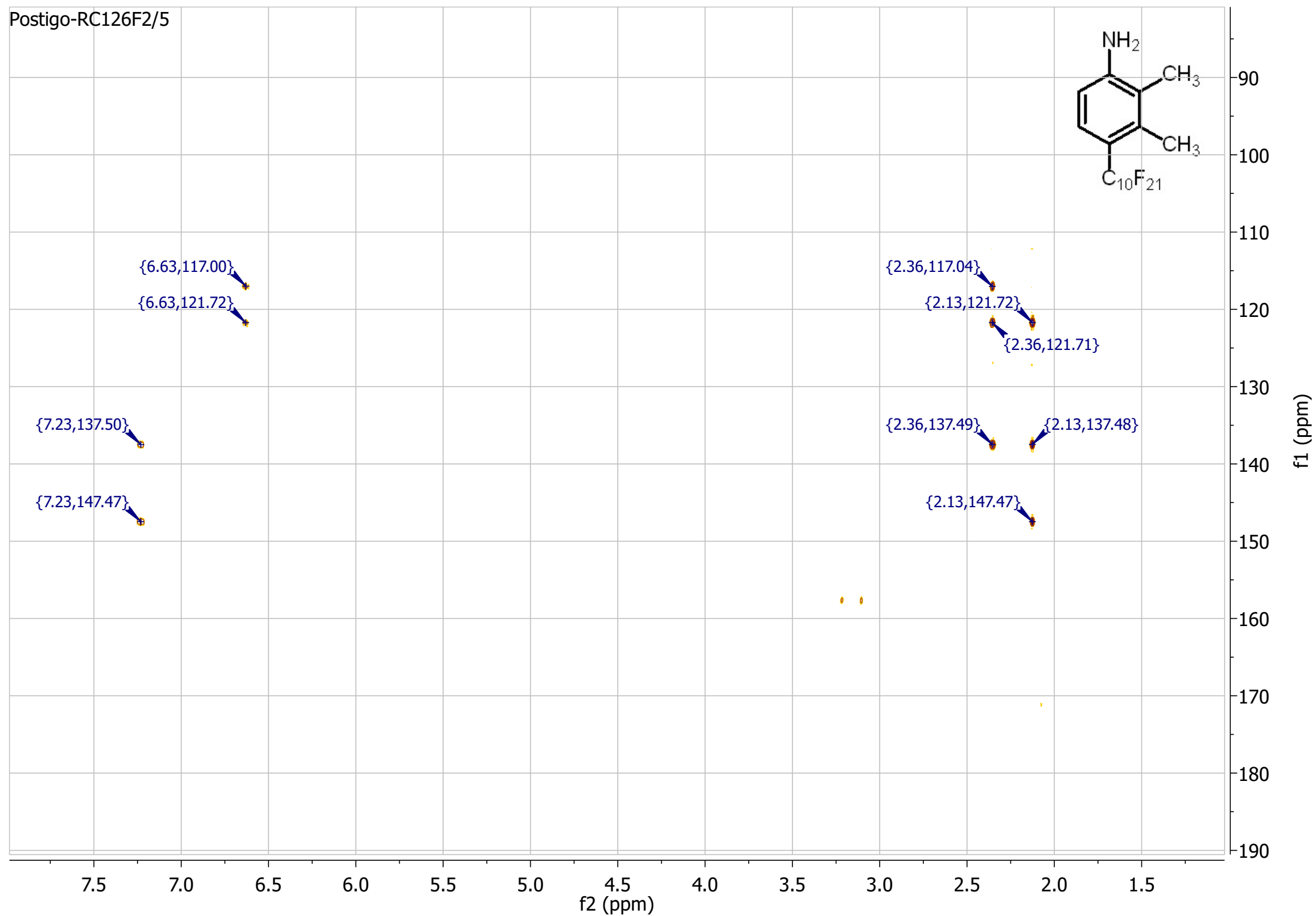
Postigo-RC126F2/4



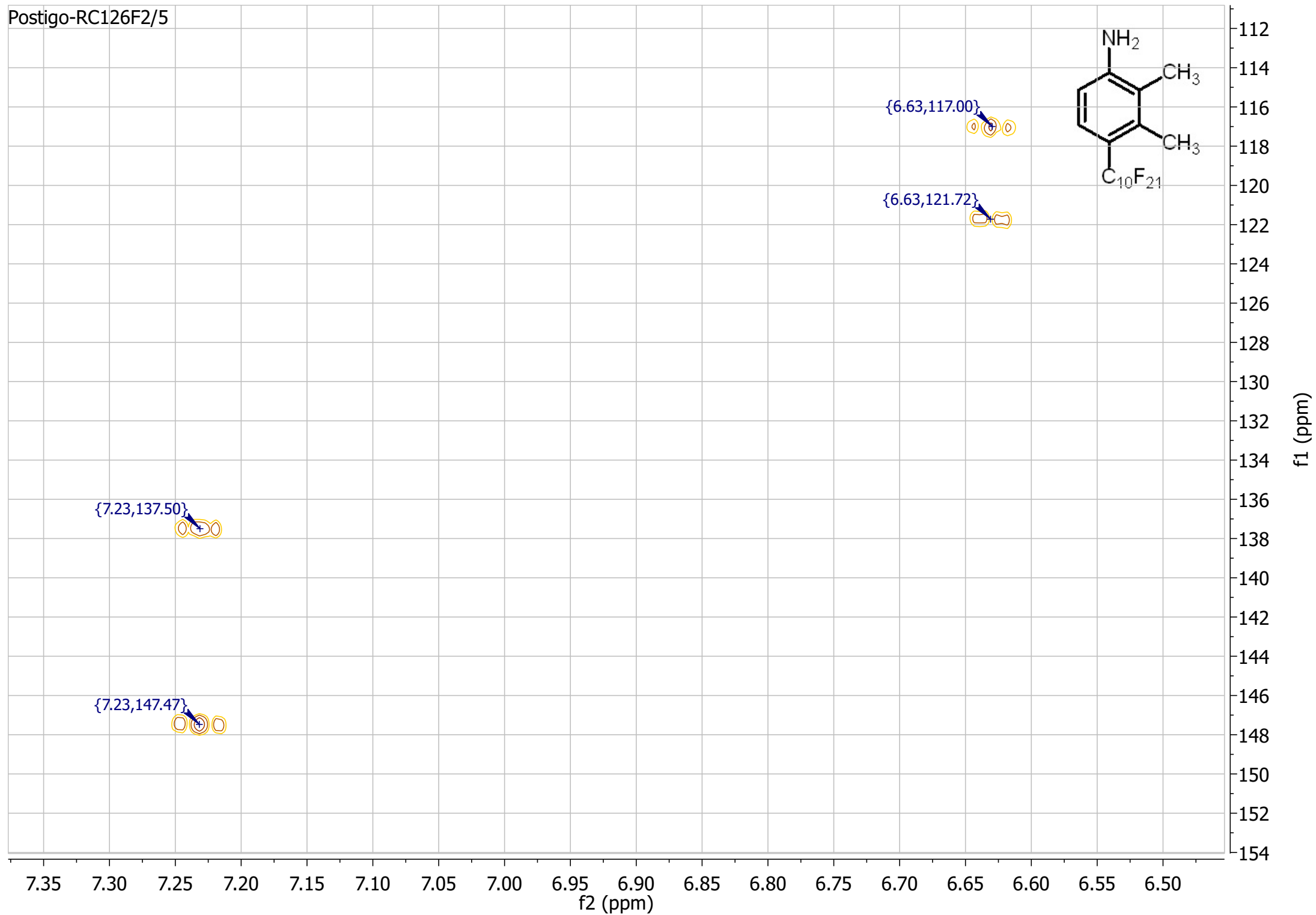
Postigo-RC126F2/4



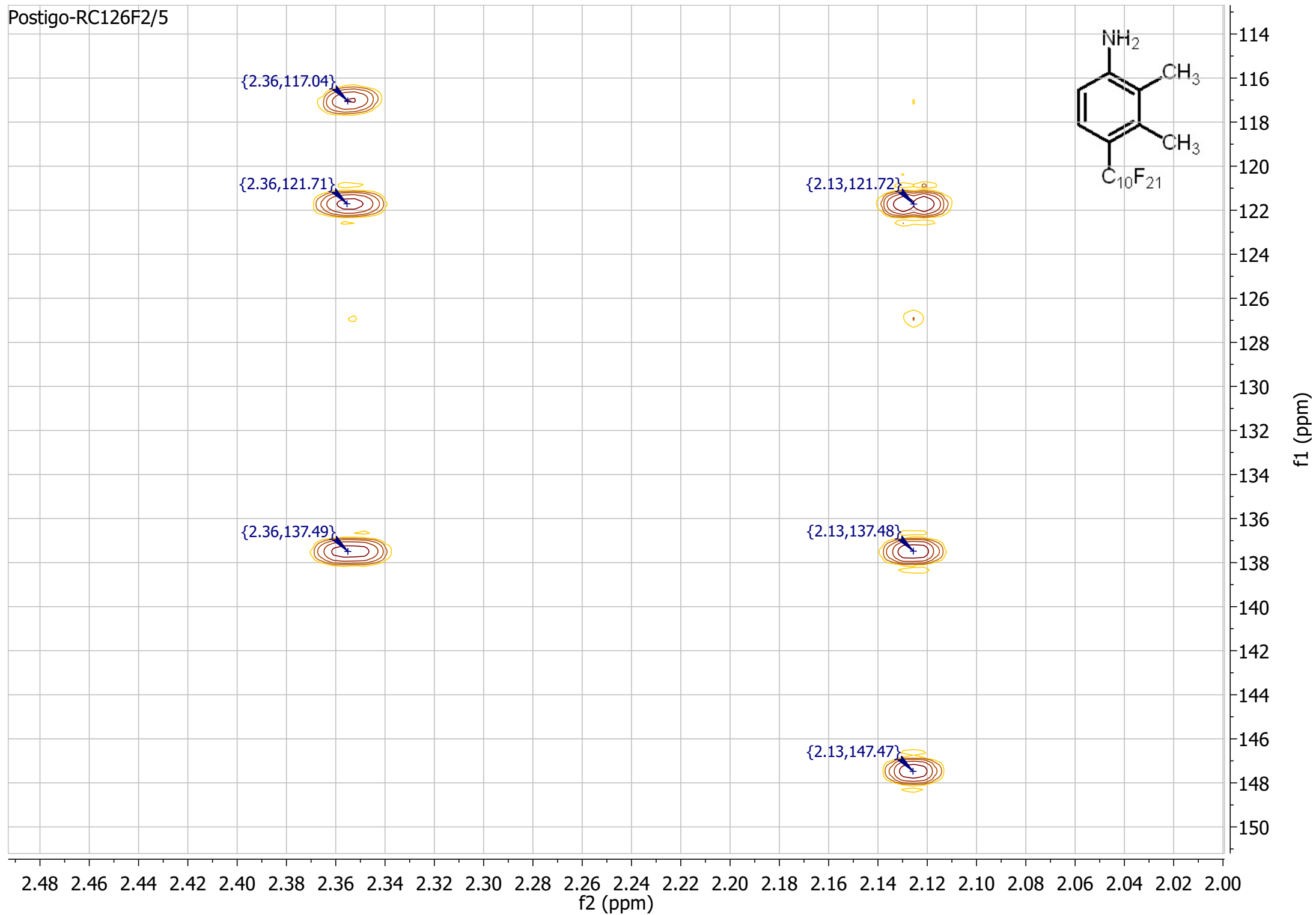
Postigo-RC126F2/5



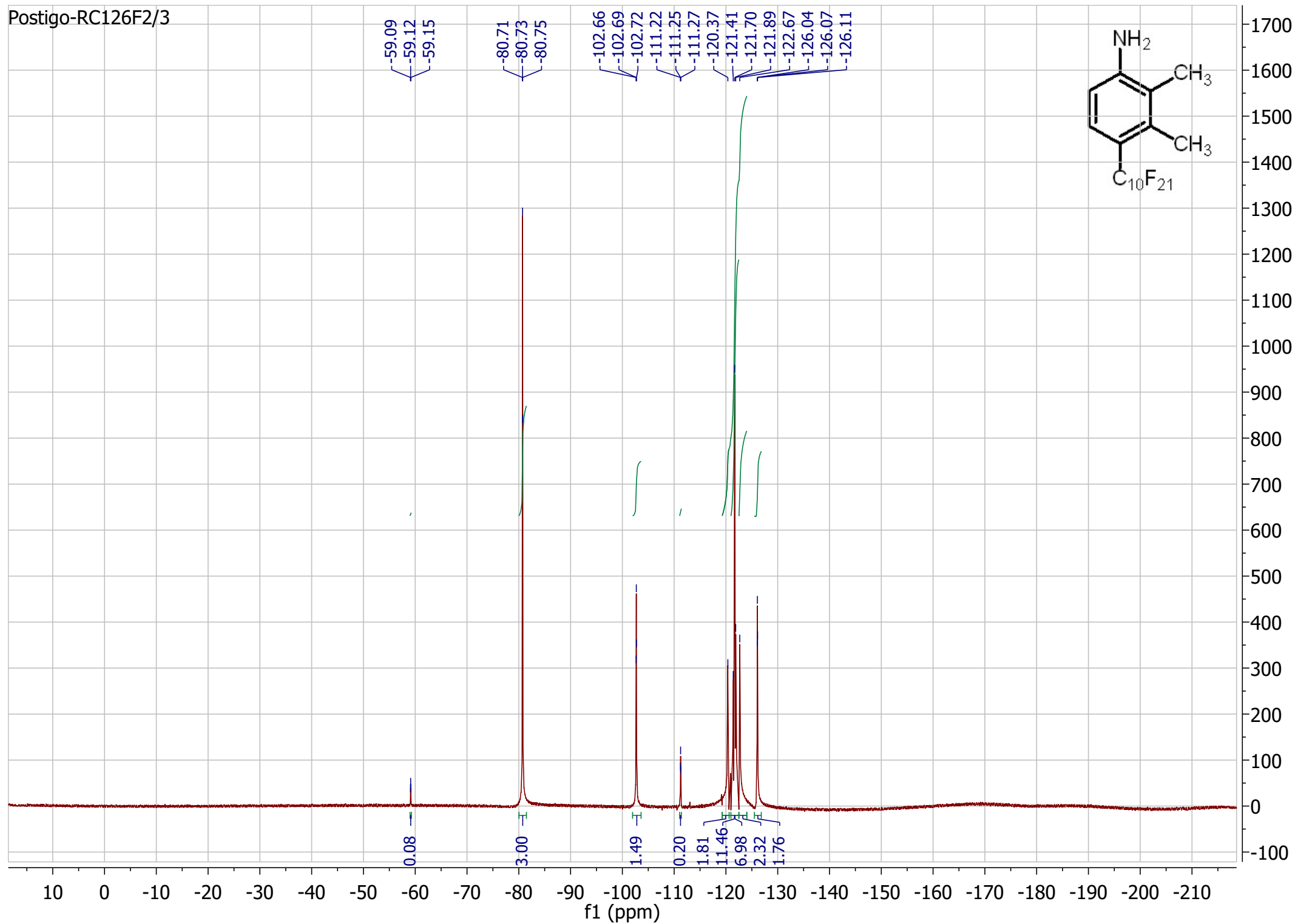
Postigo-RC126F2/5



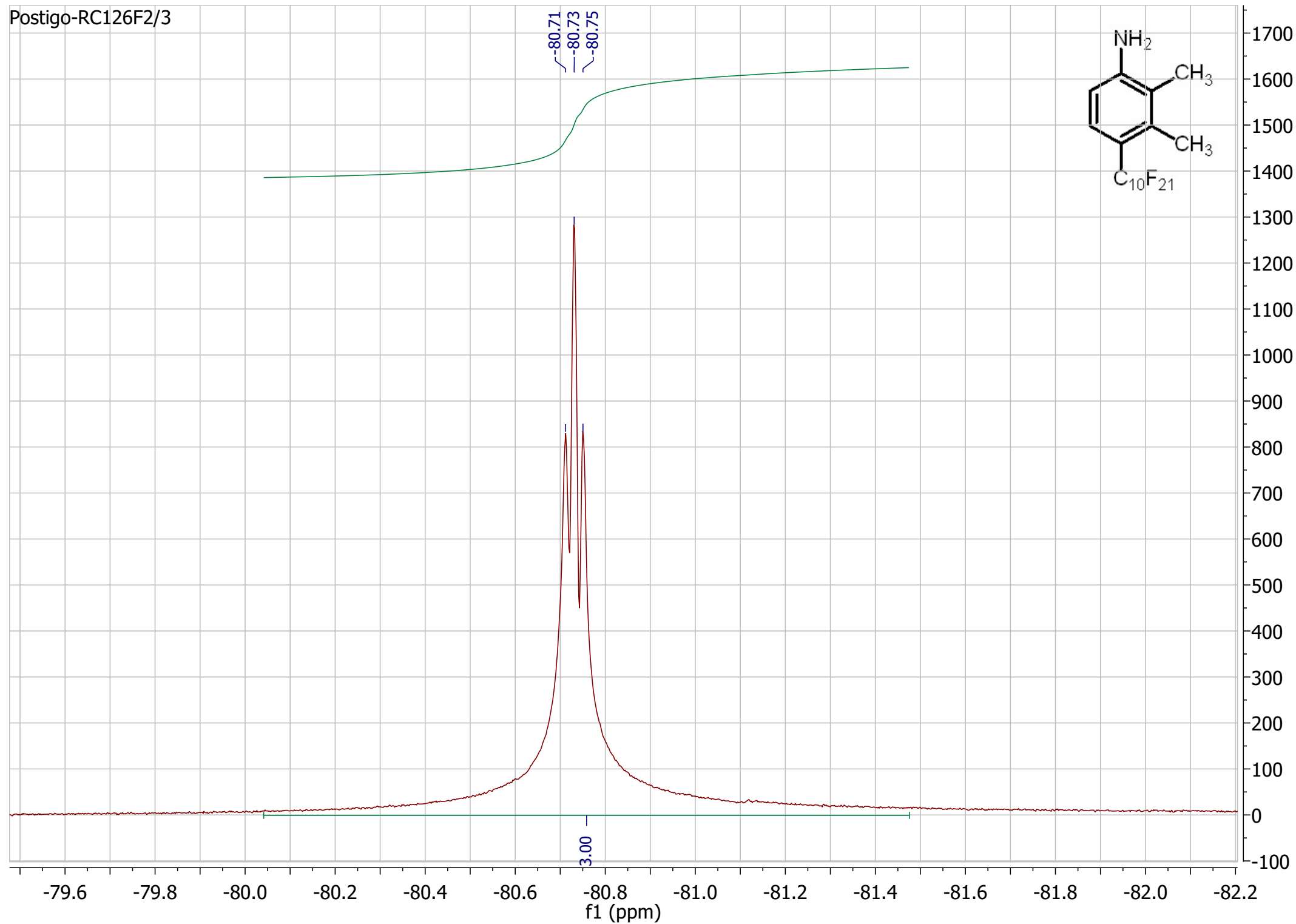
Postigo-RC126F2/5



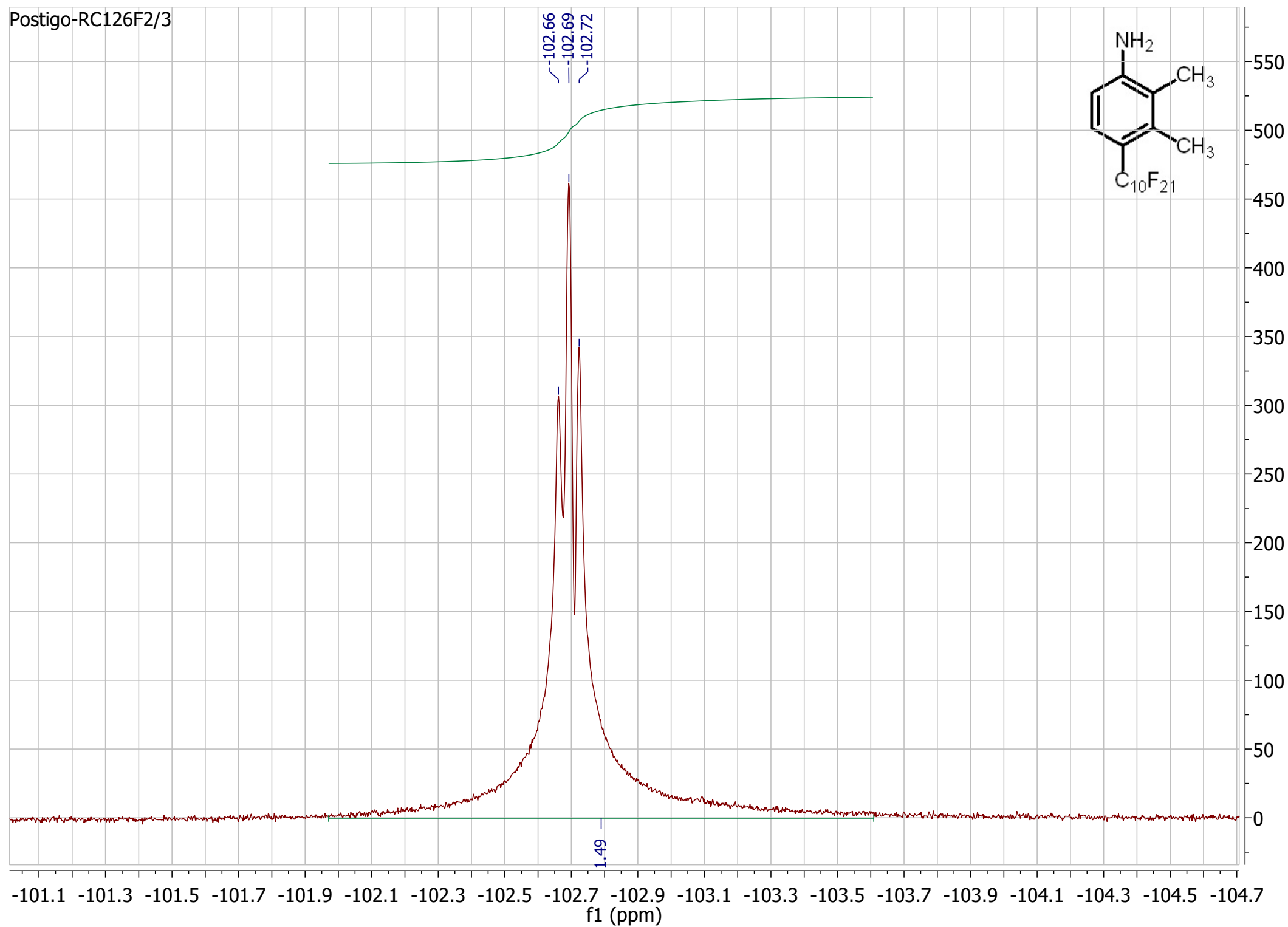
Postigo-RC126F2/3

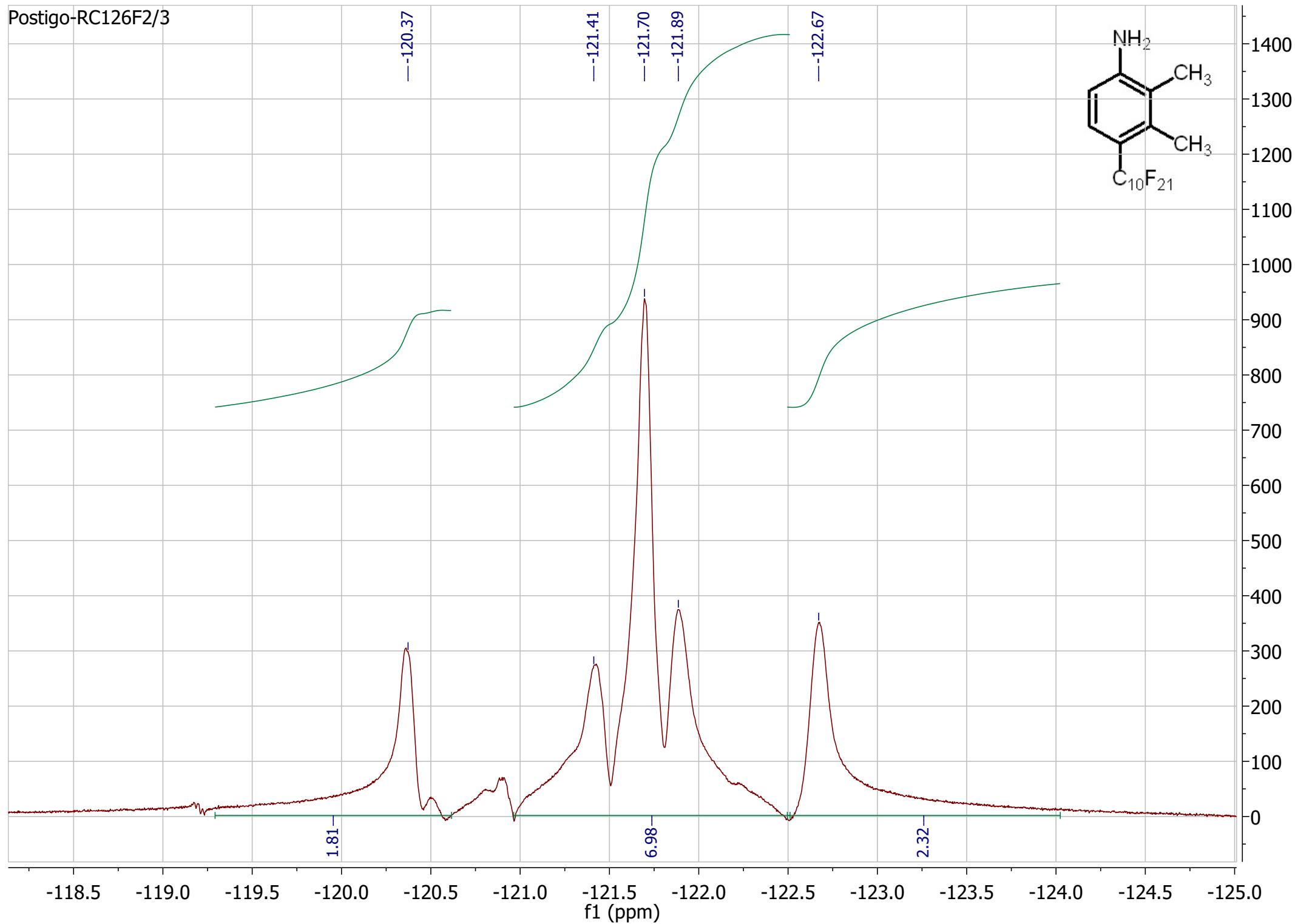


Postigo-RC126F2/3

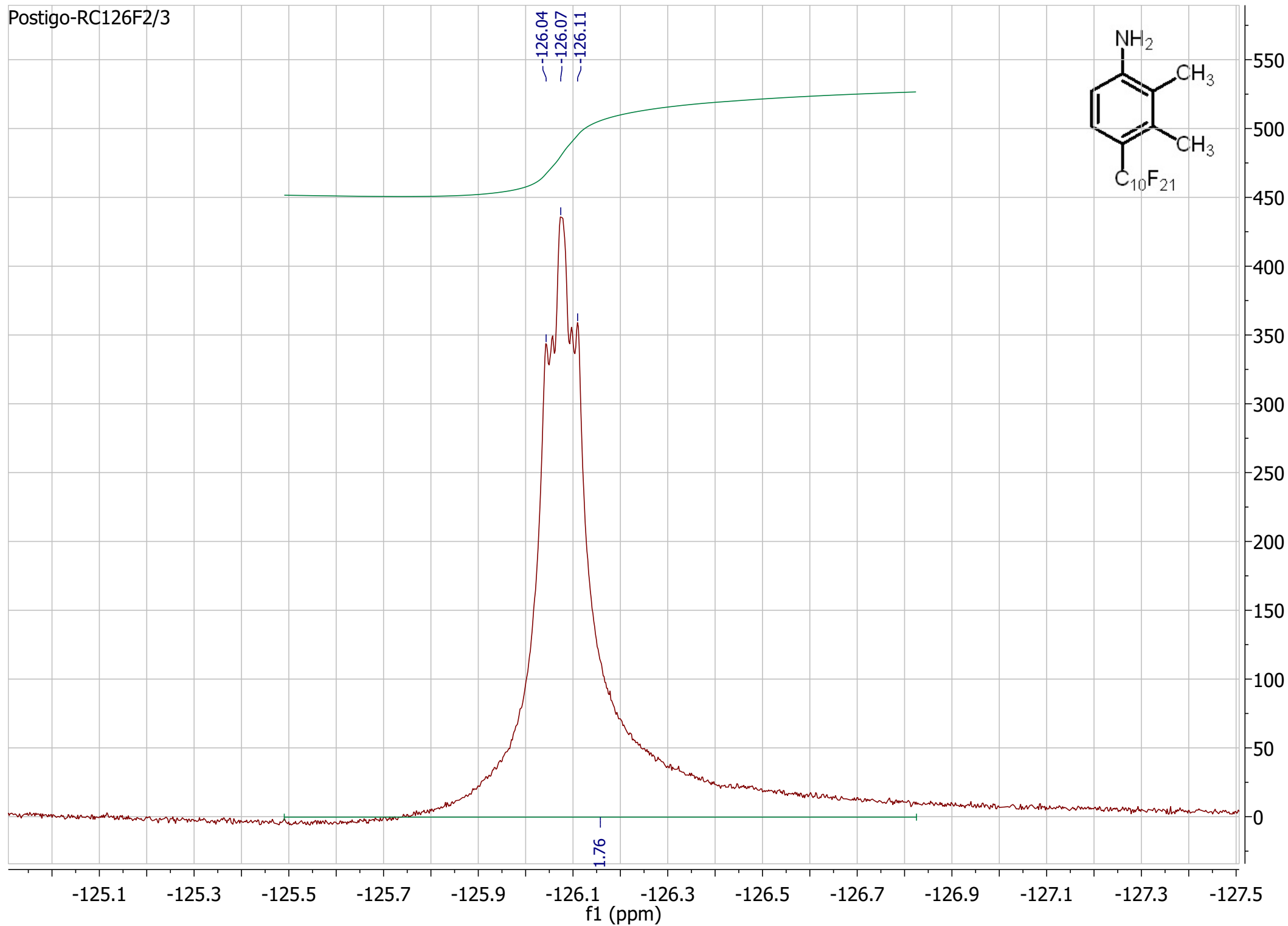


Postigo-RC126F2/3

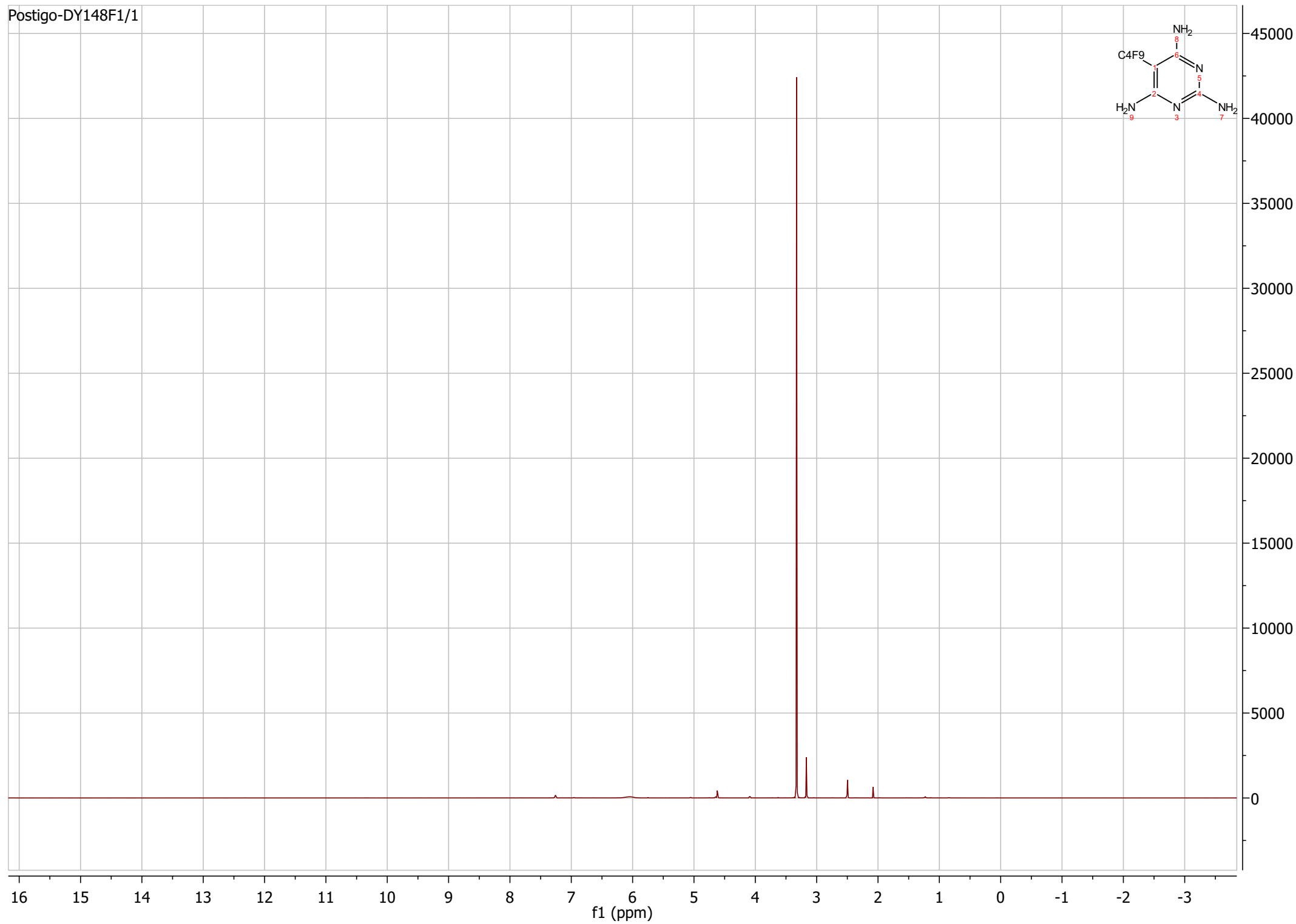




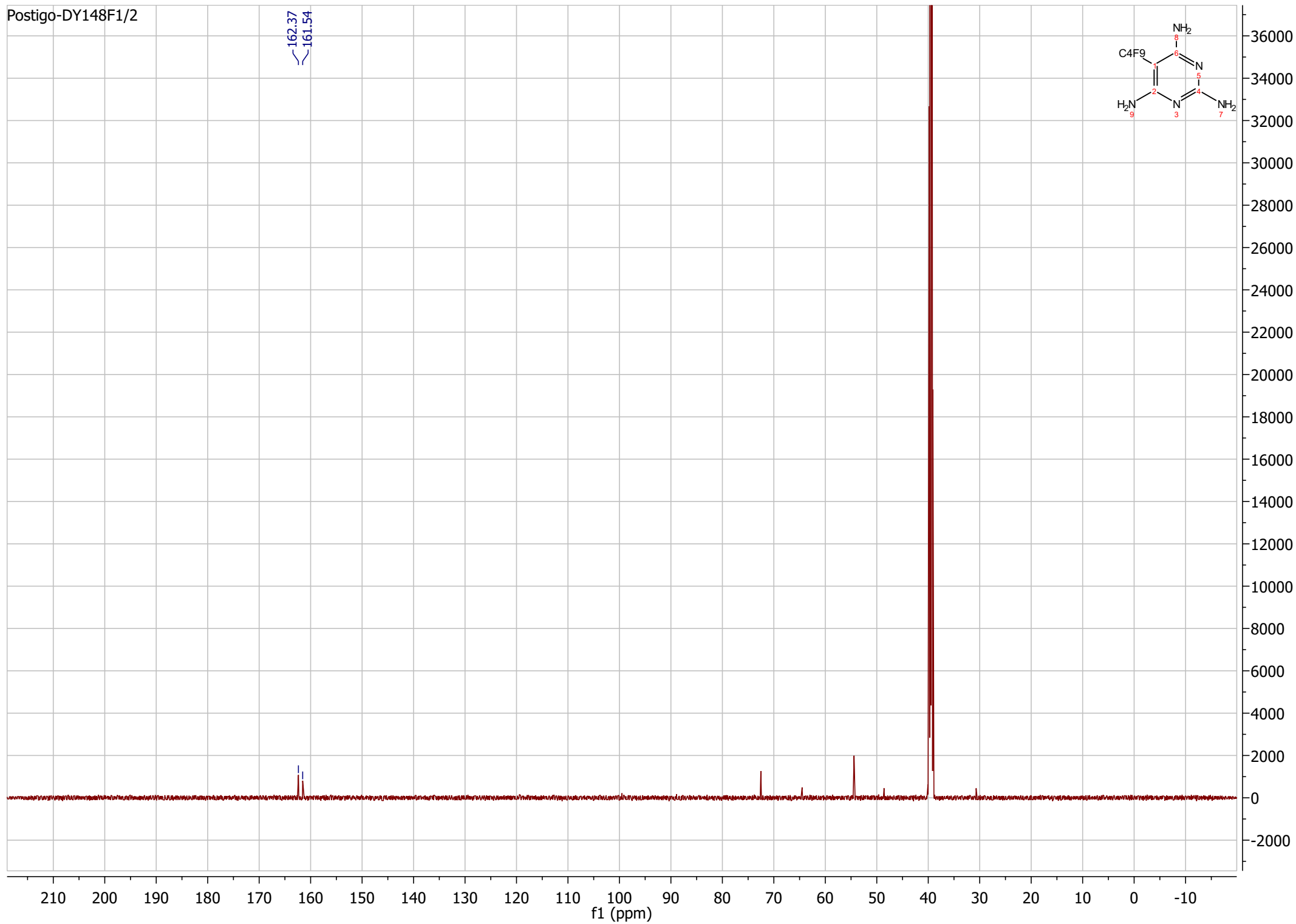
Postigo-RC126F2/3



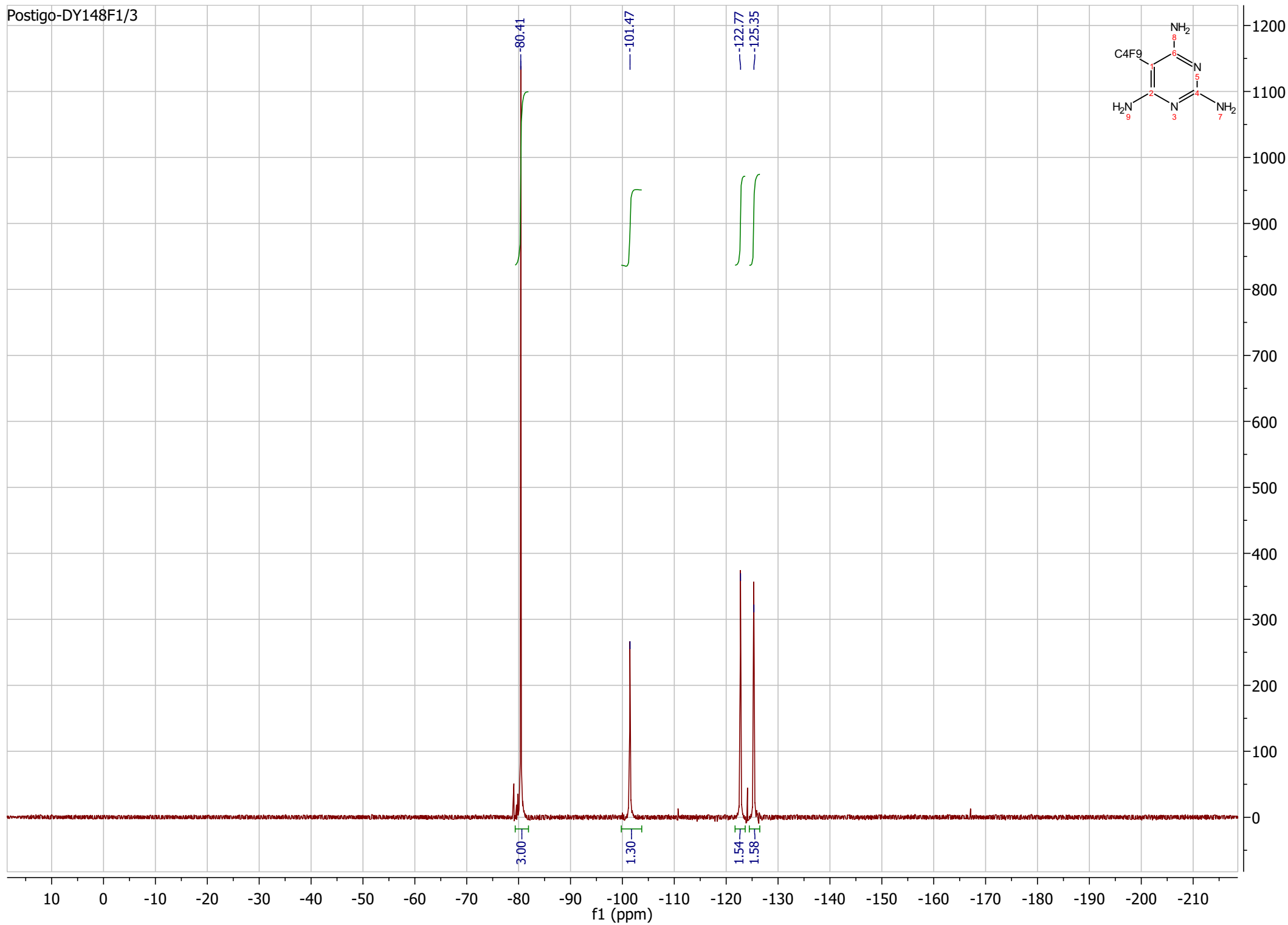
Postigo-DY148F1/1



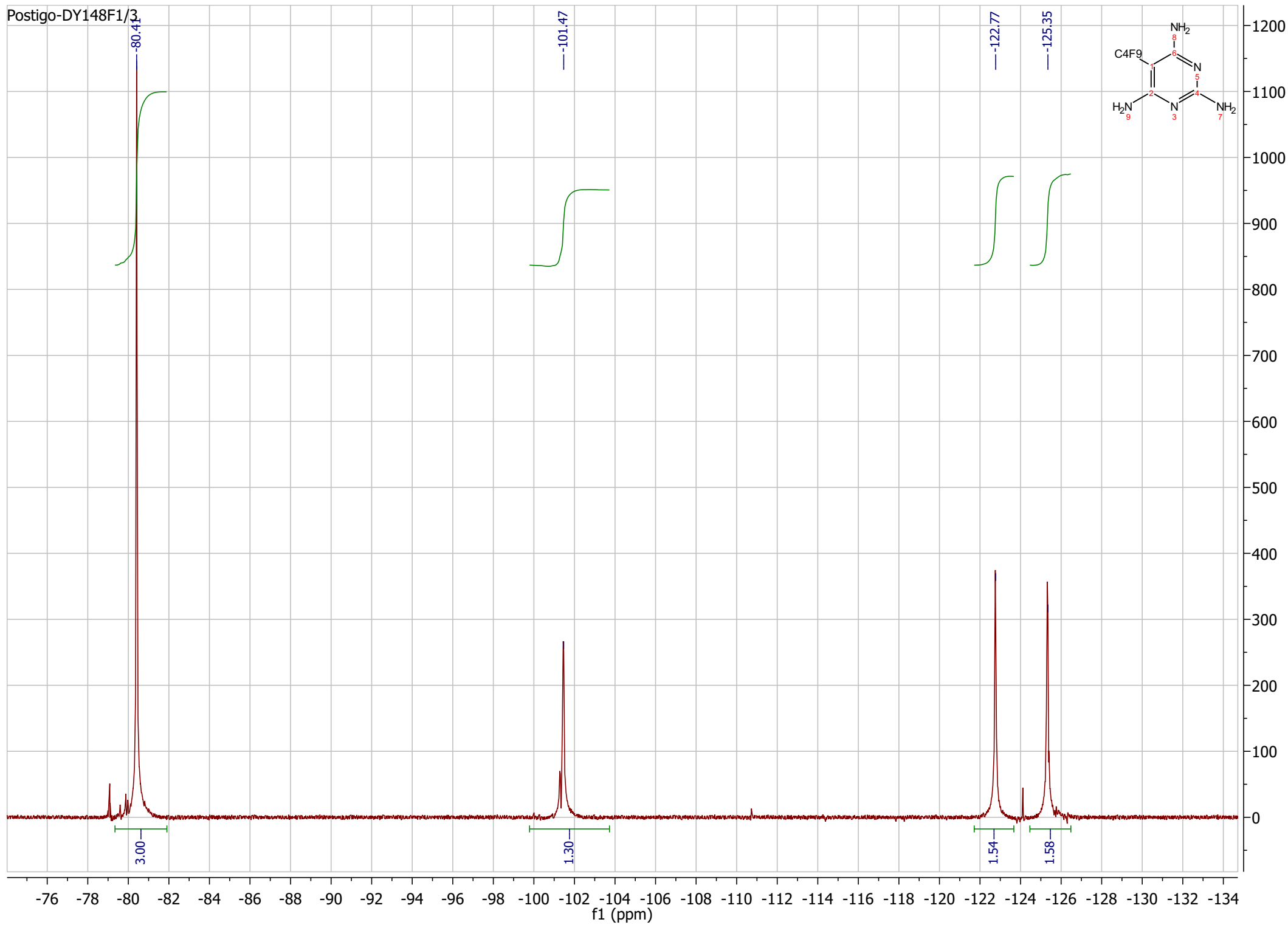
Postigo-DY148F1/2



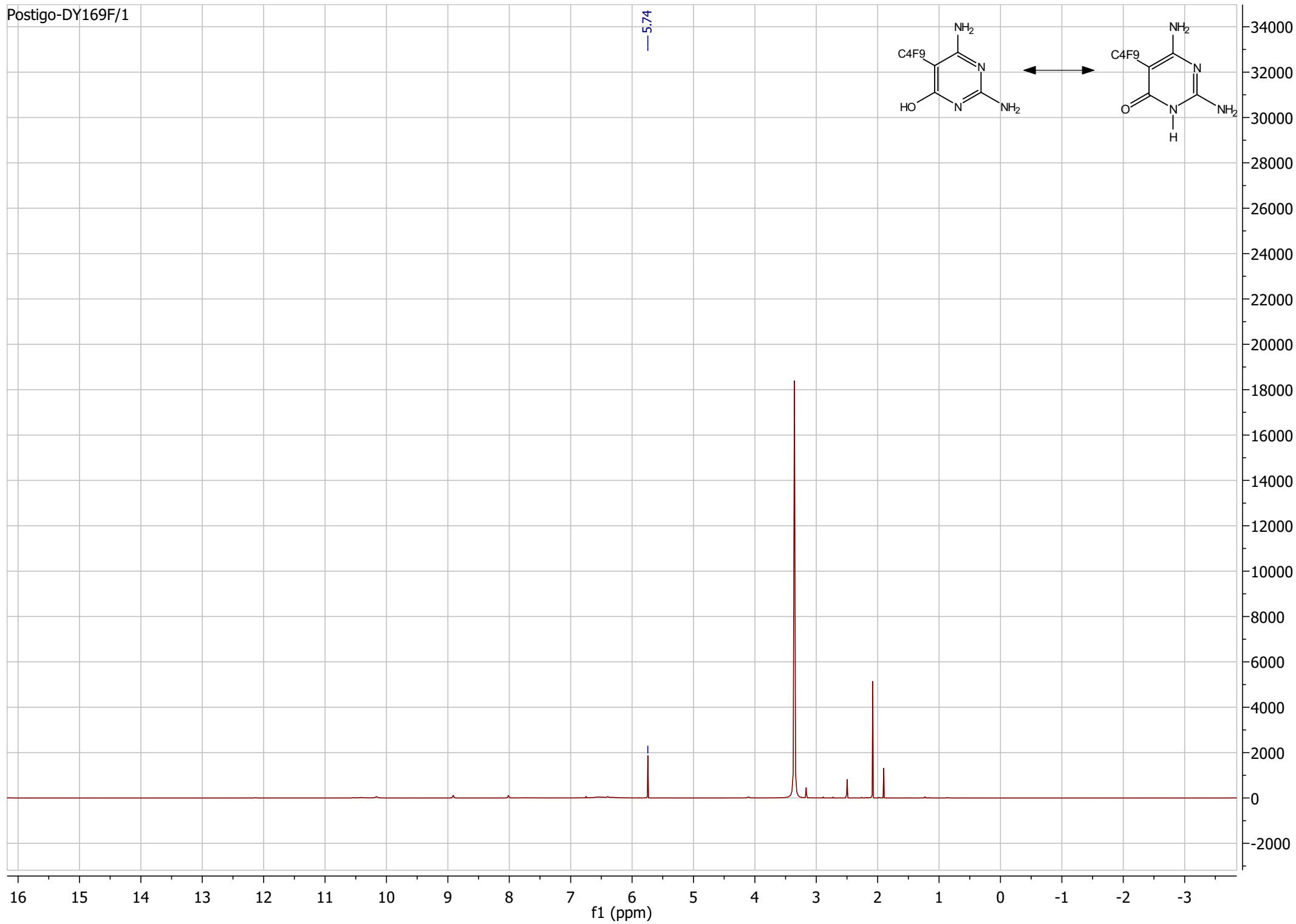
Postigo-DY148F1/3



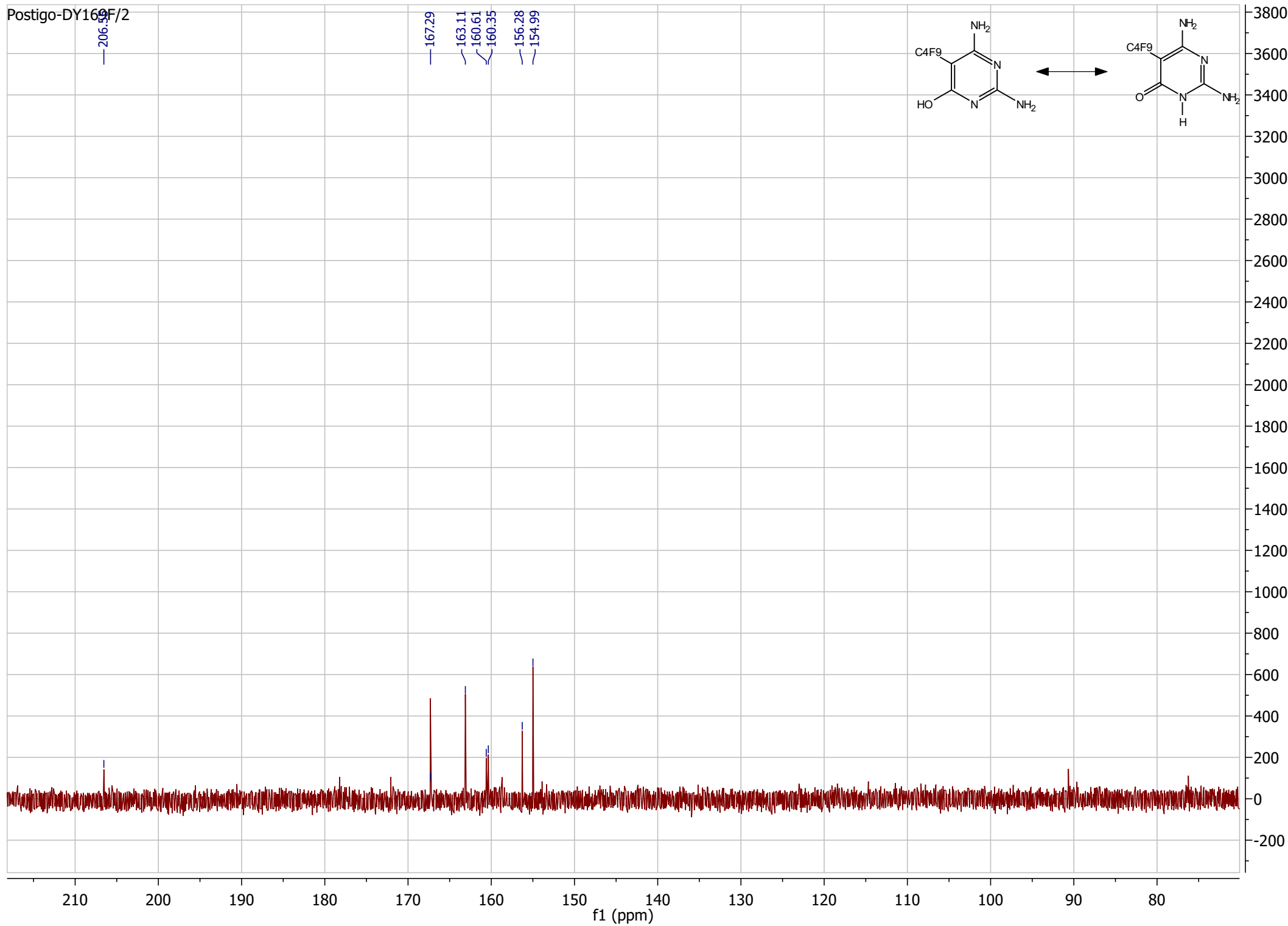
Postigo-DY148F1/3

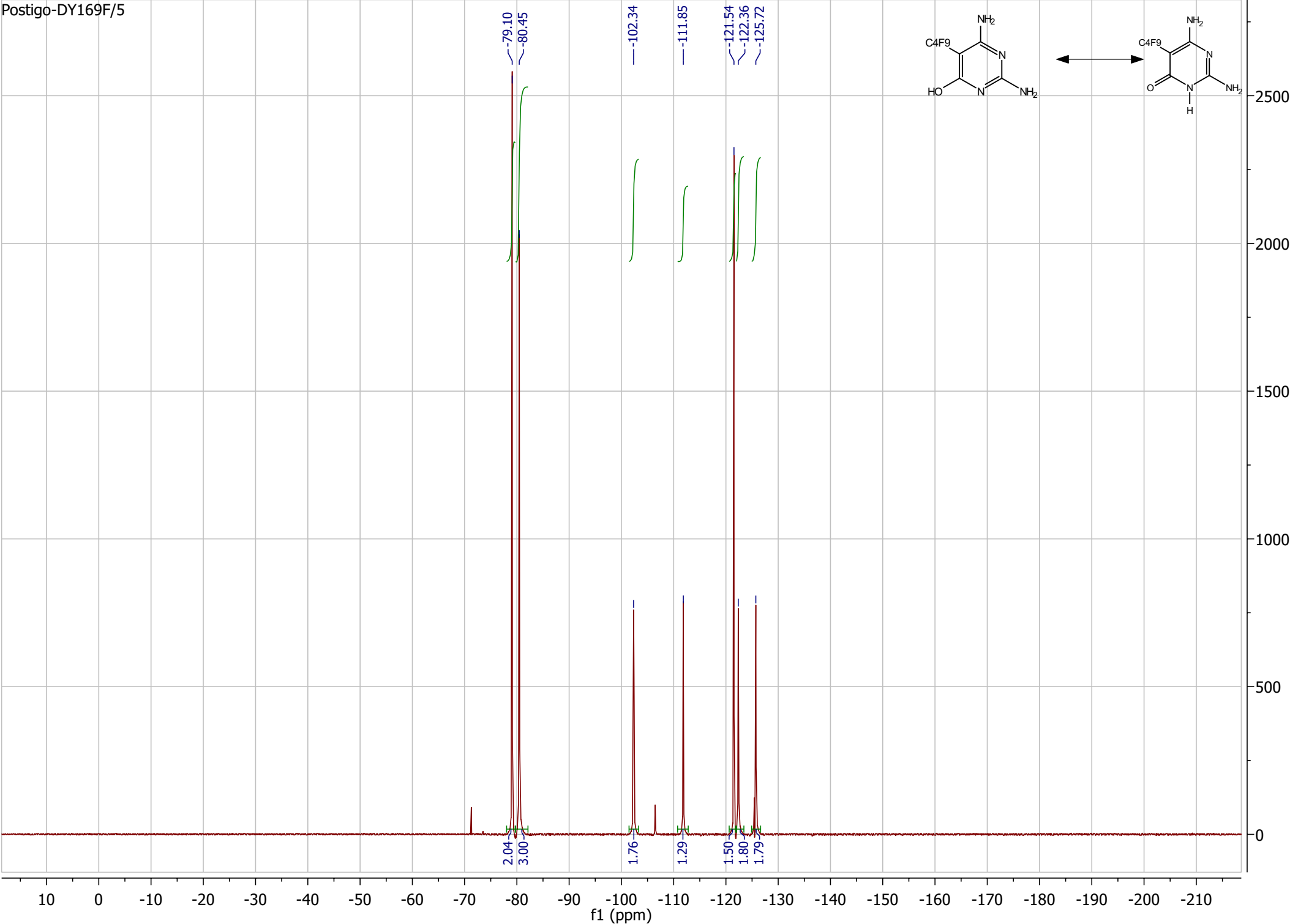


Postigo-DY169F/1

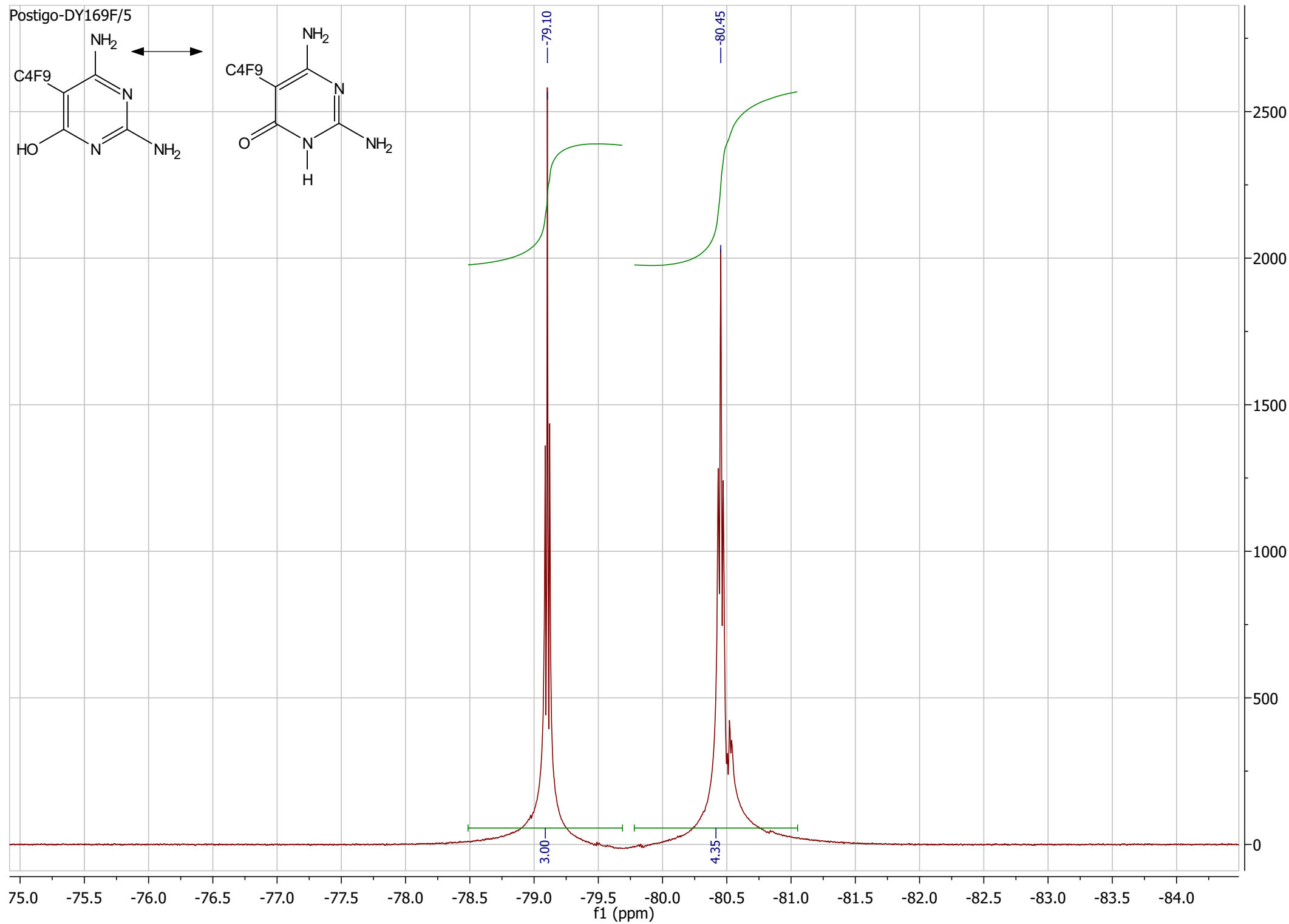
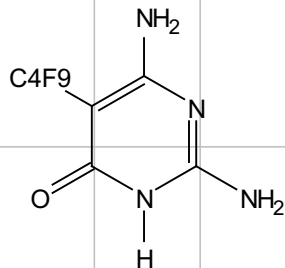
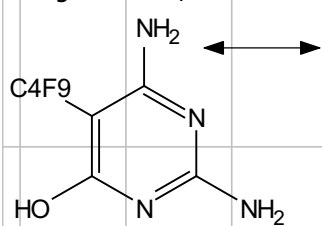


Postigo-DY169F/2

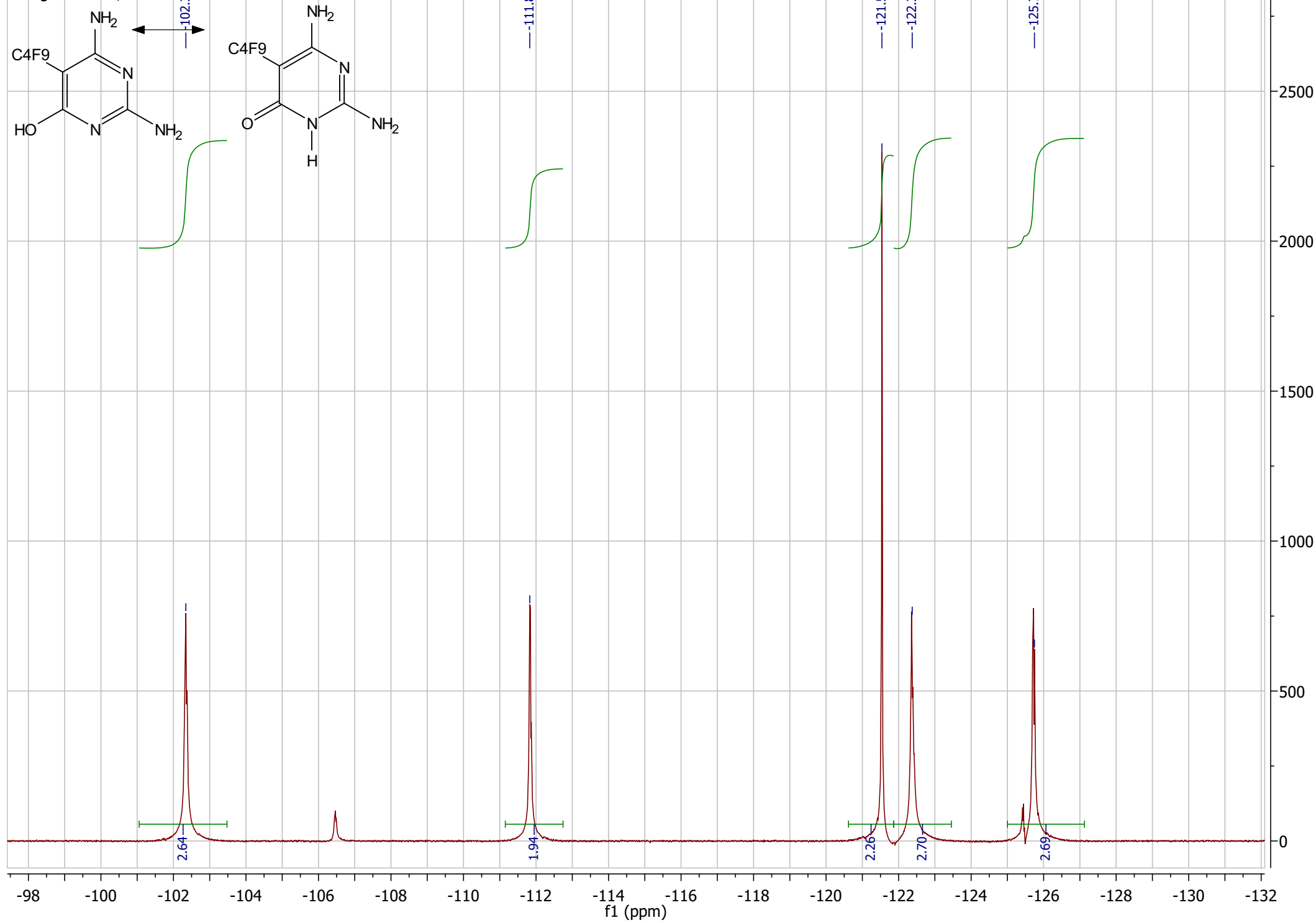




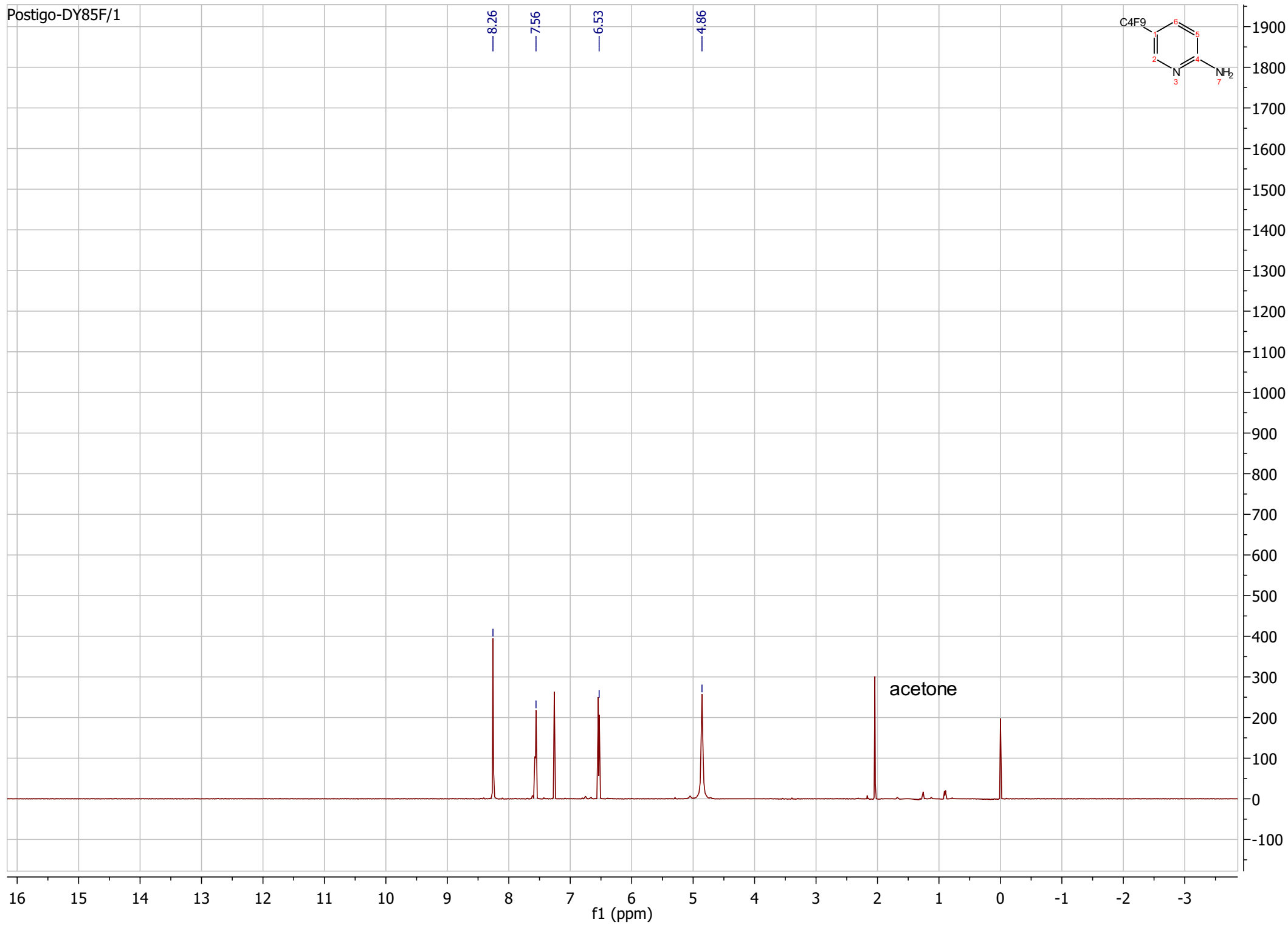
Postigo-DY169F/5



Postigo-DY169F/5



Postigo-DY85F/1



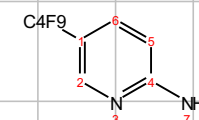
Postigo-DY85F/1

8.26

7.56

6.53

4.86



1.00

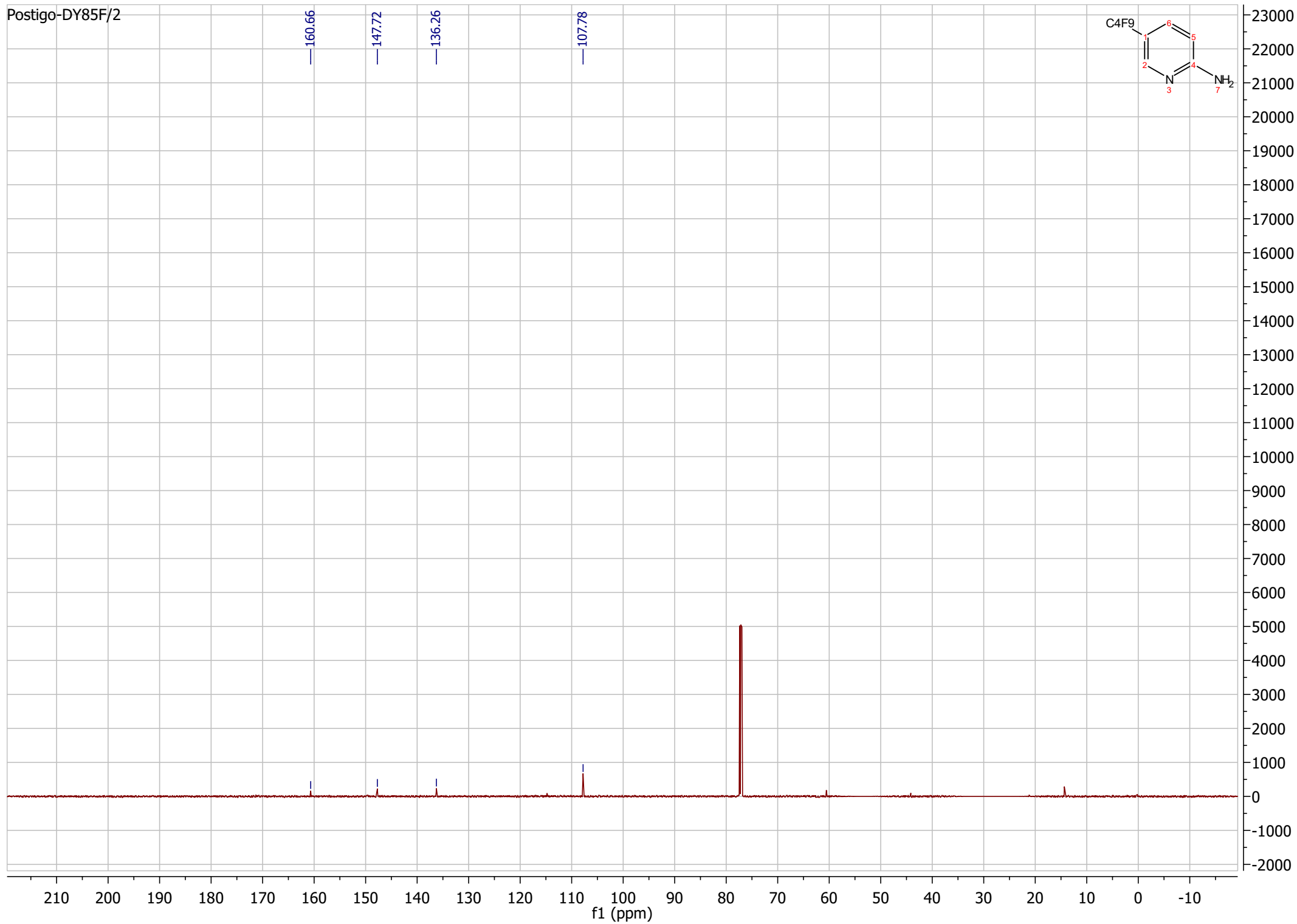
0.99

0.99

2.09

f1 (ppm)

Postigo-DY85F/2



Postigo-DY85F/2

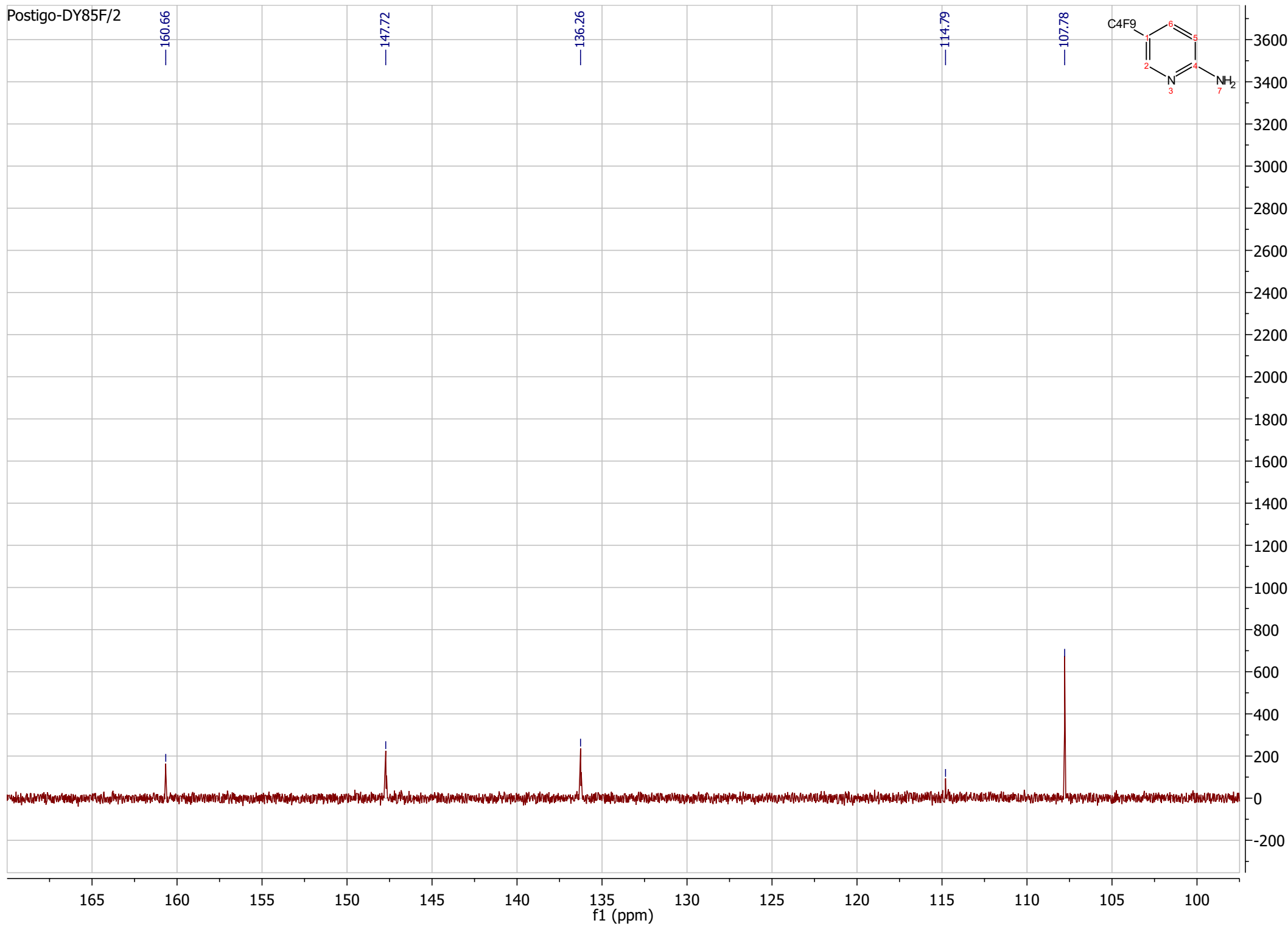
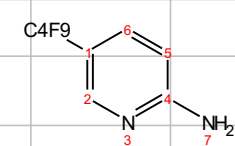
— 160.66

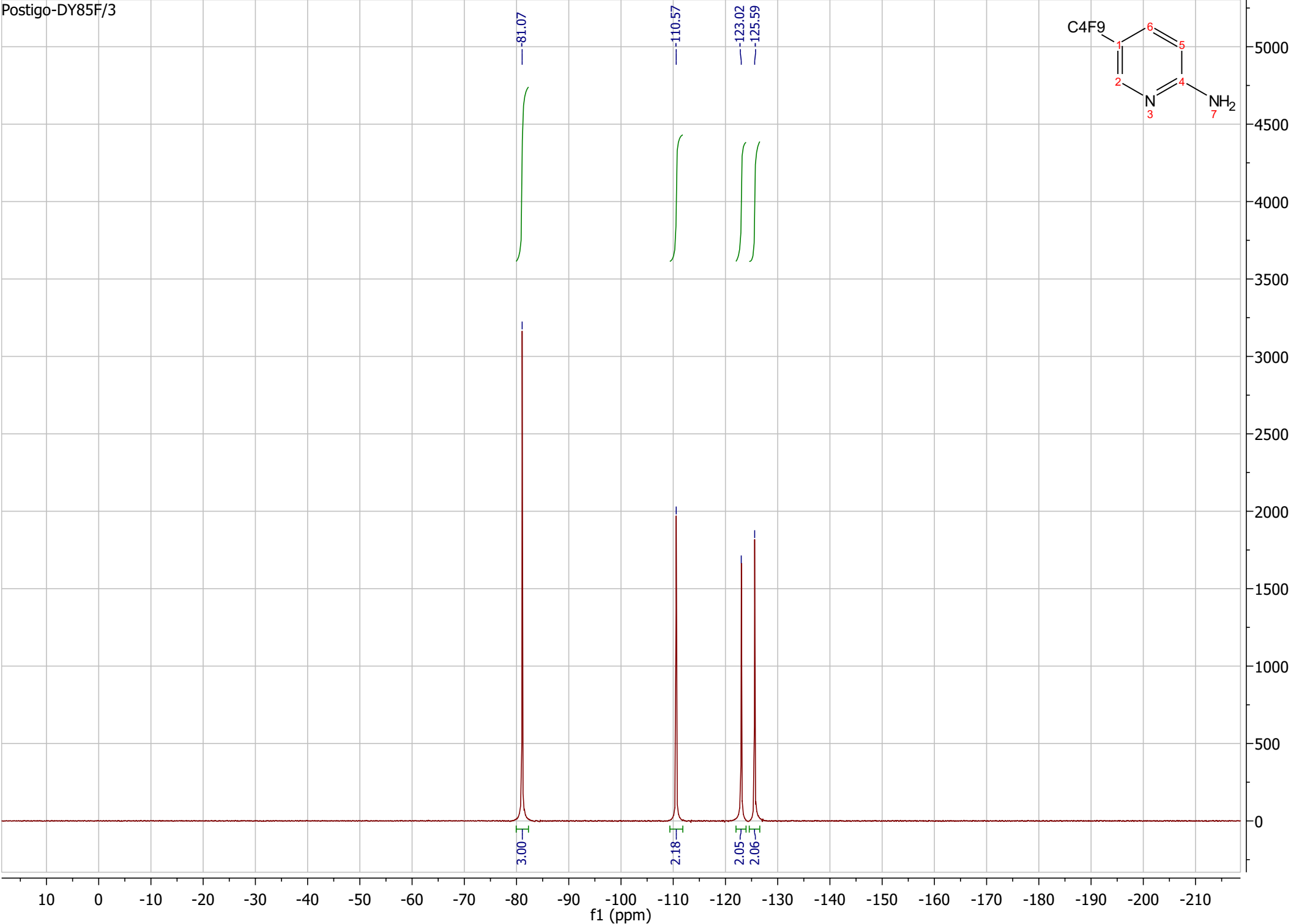
— 147.72

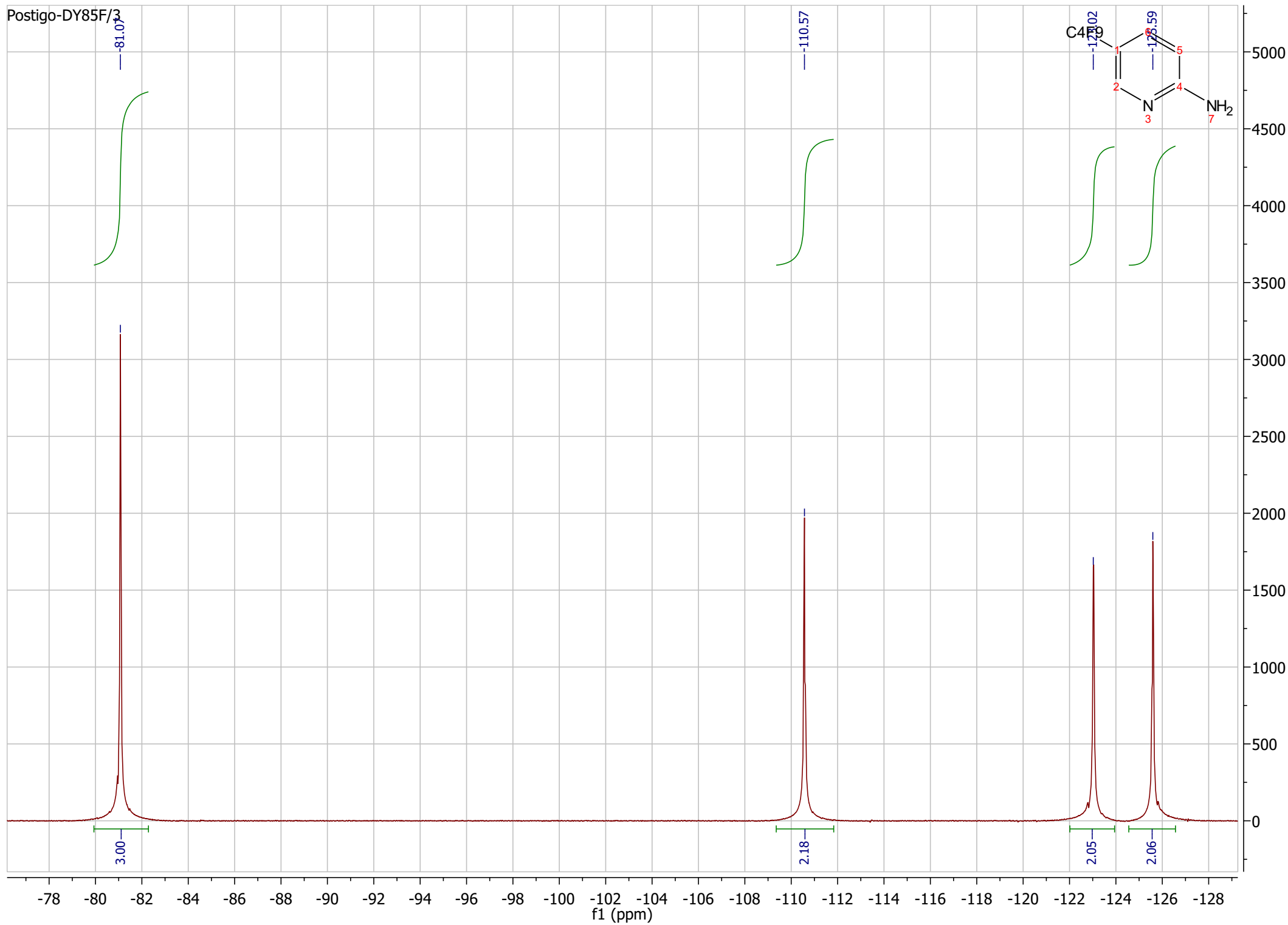
— 136.26

— 114.79

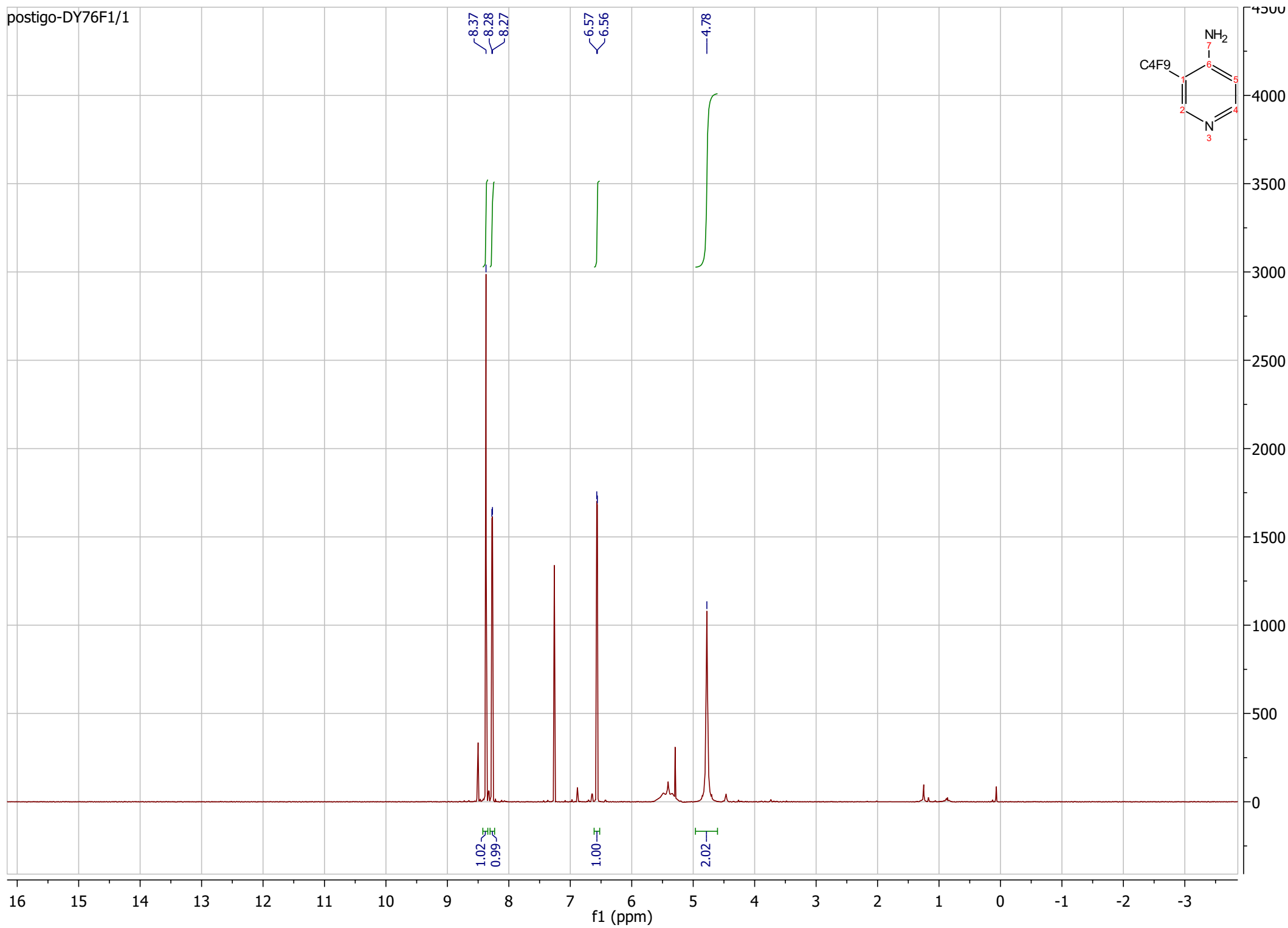
— 107.78



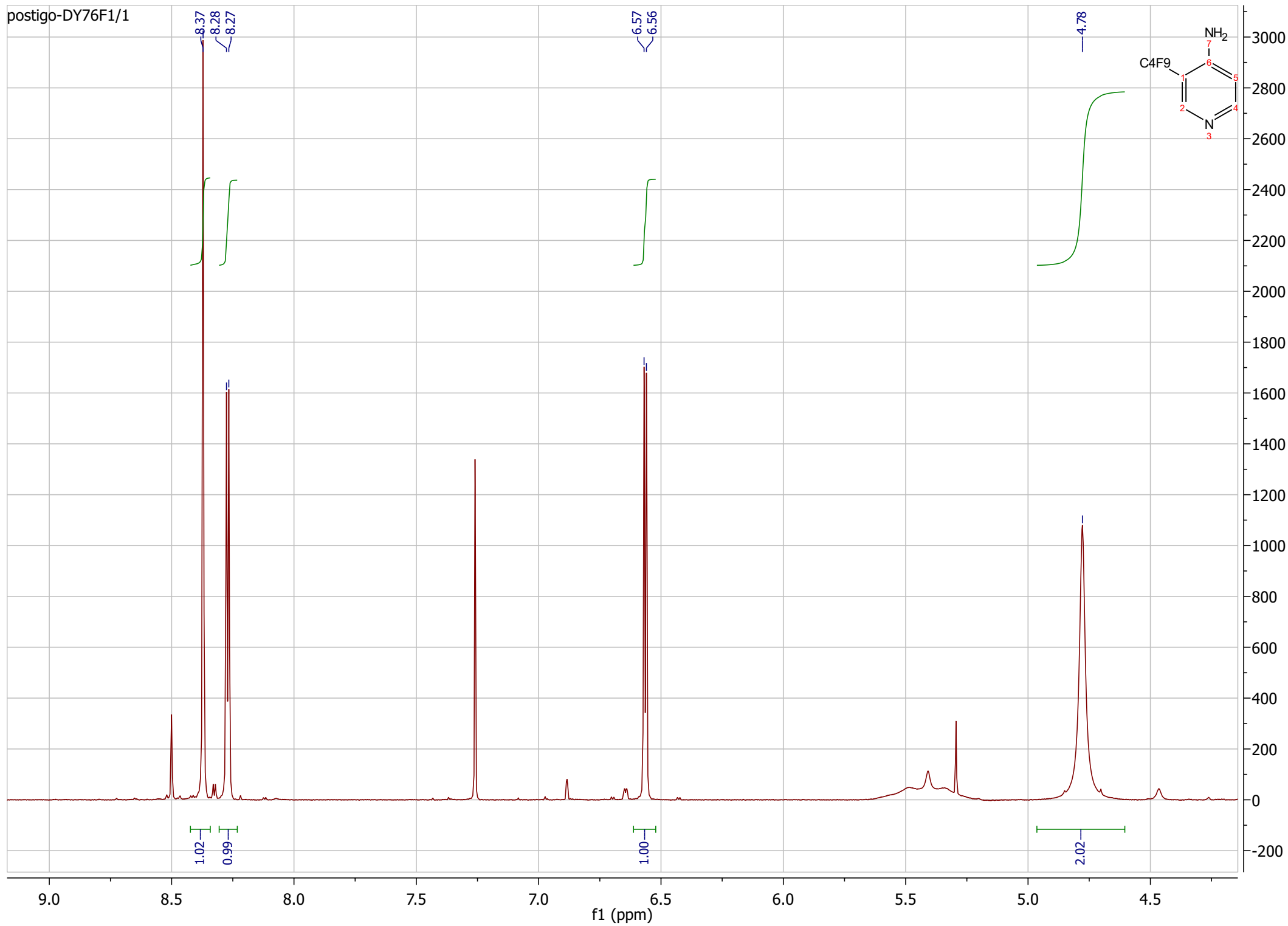




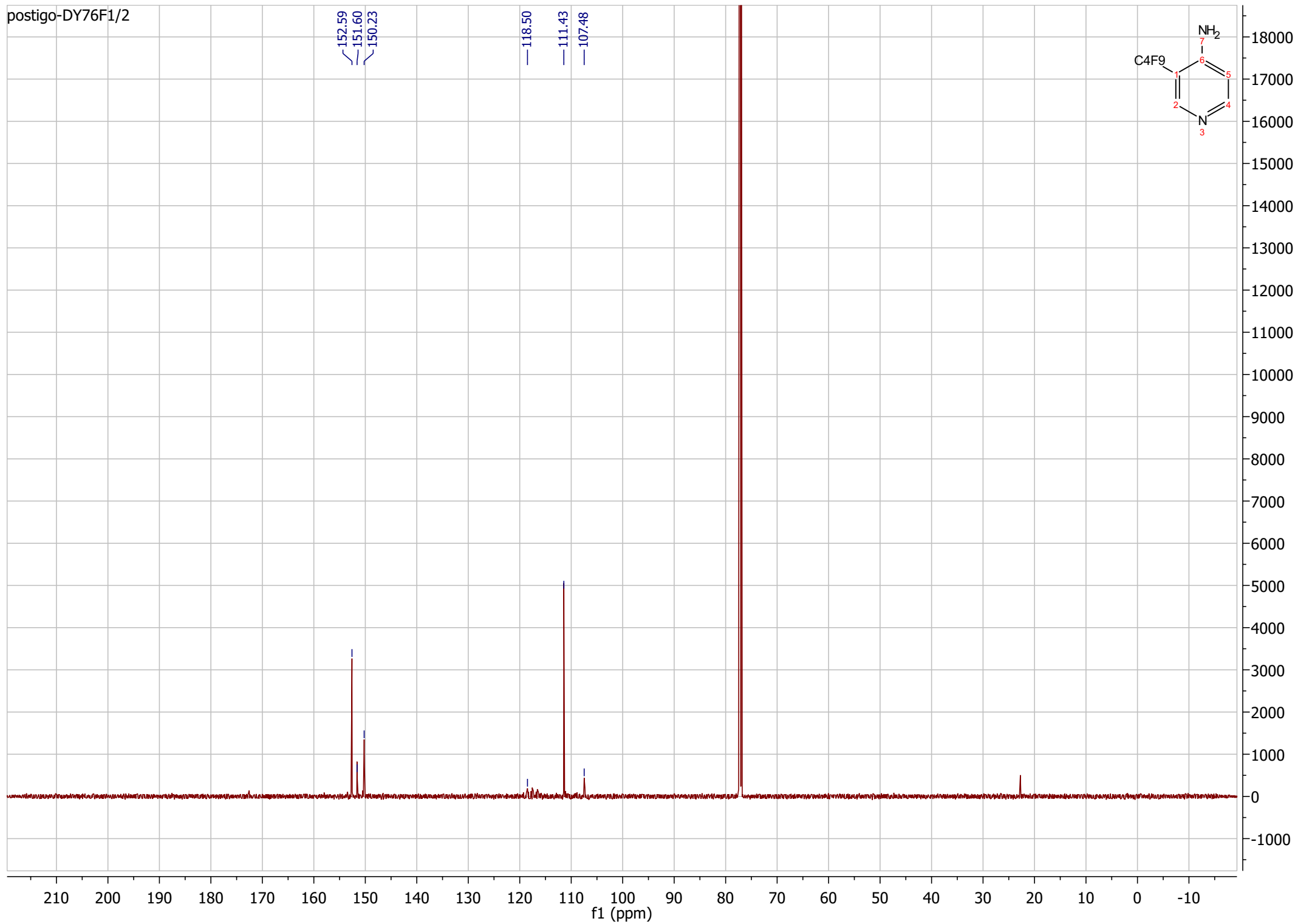
postigo-DY76F1/1



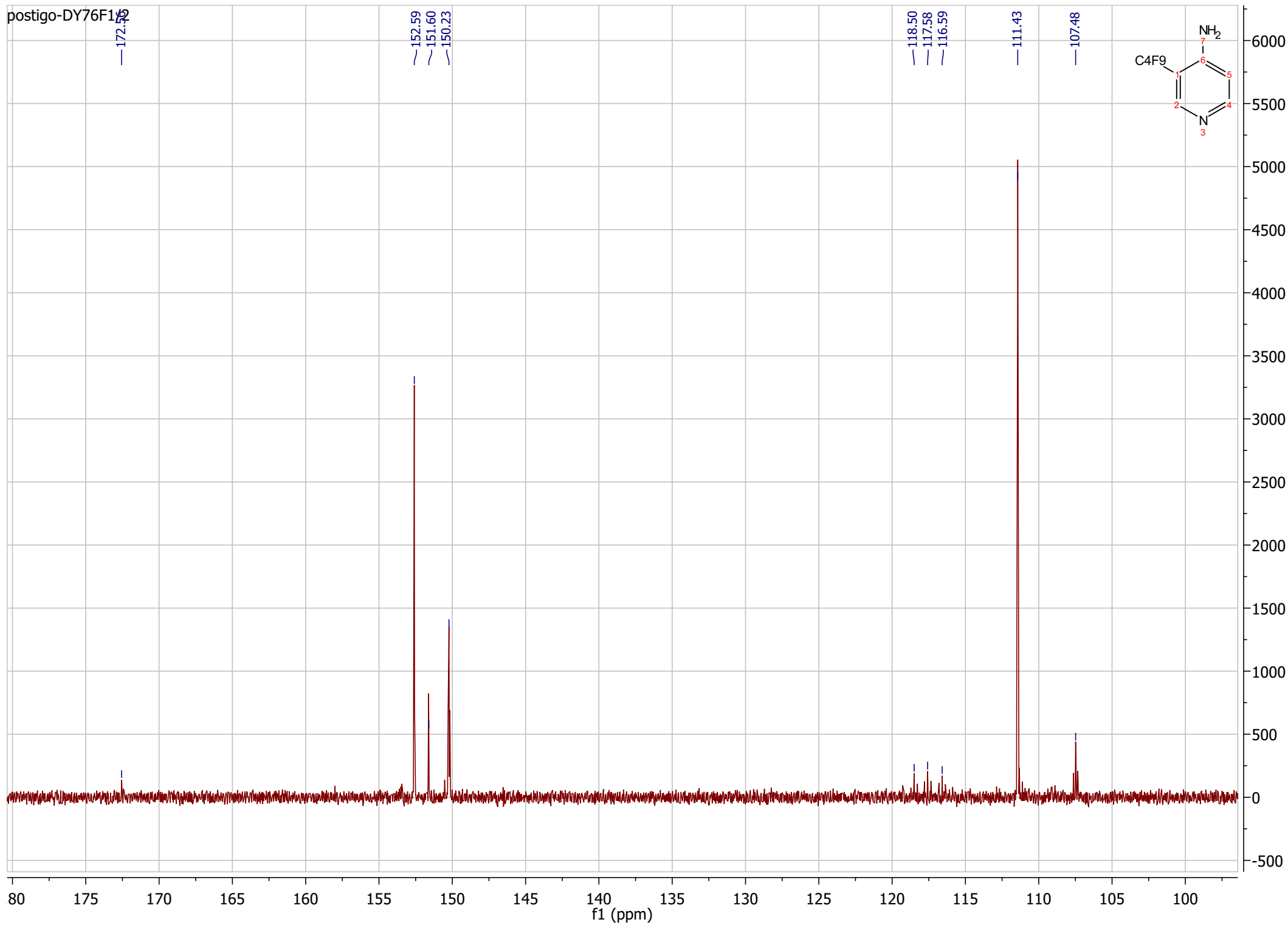
postigo-DY76F1/1



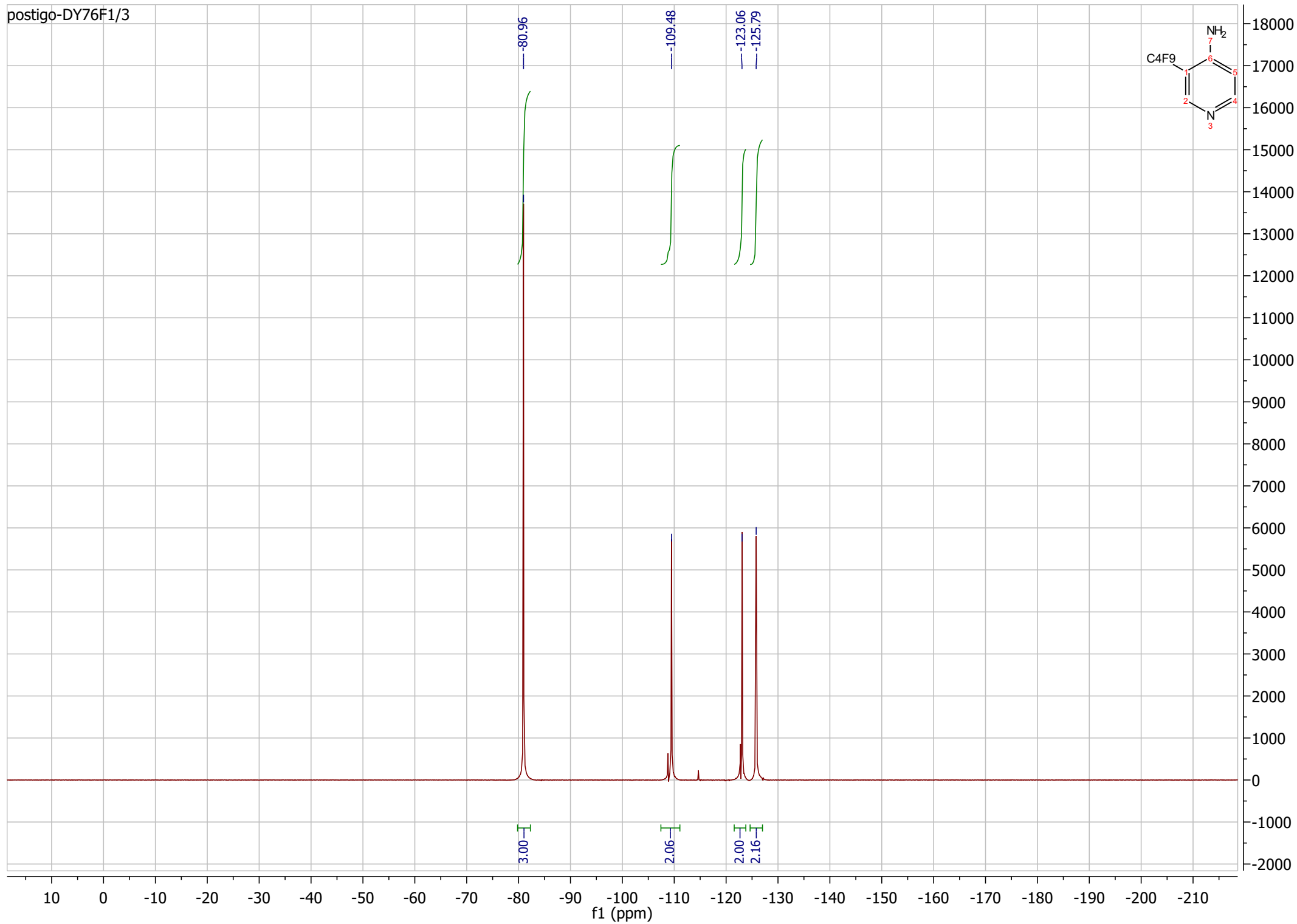
postigo-DY76F1/2



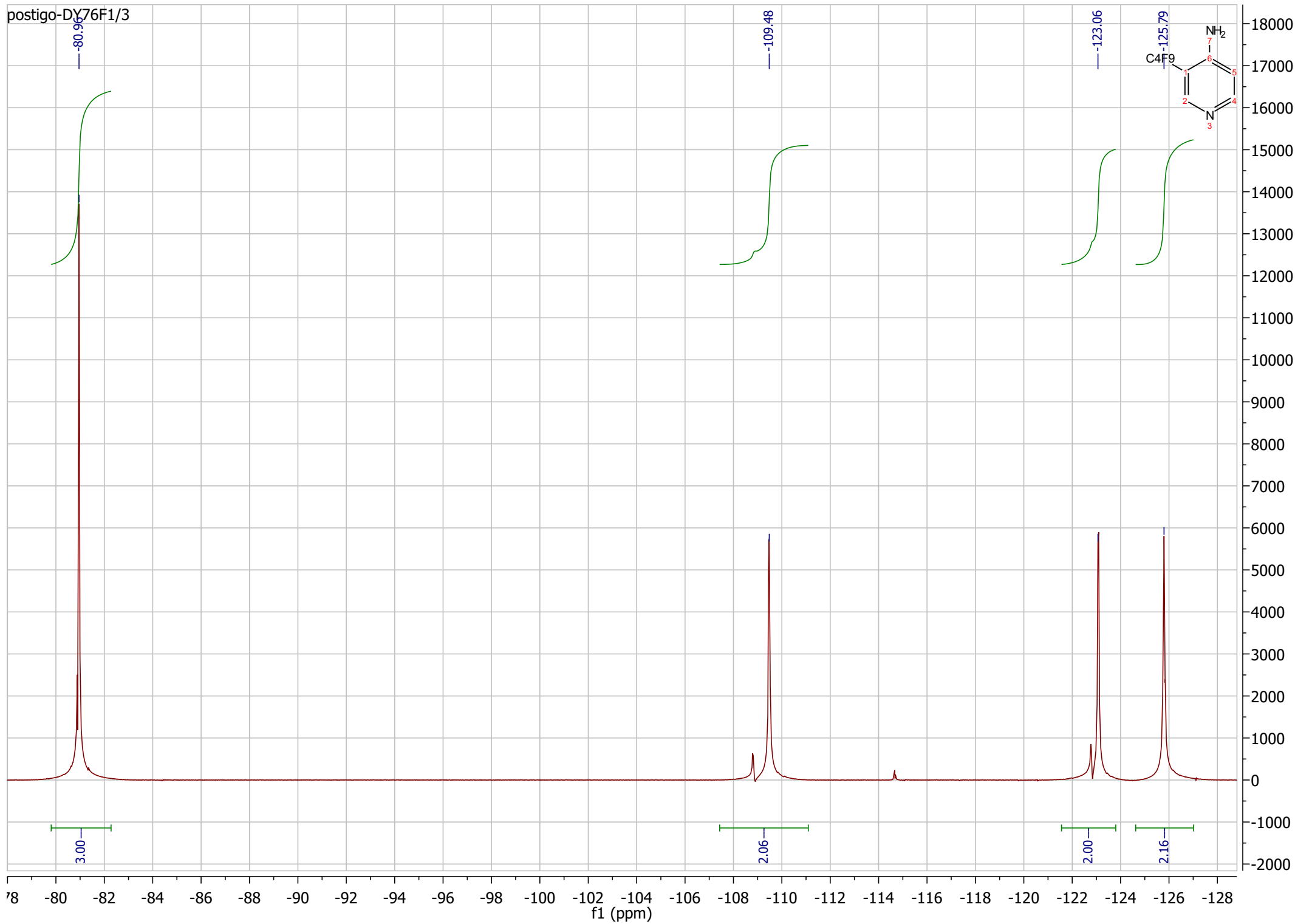
postigo-DY76F142



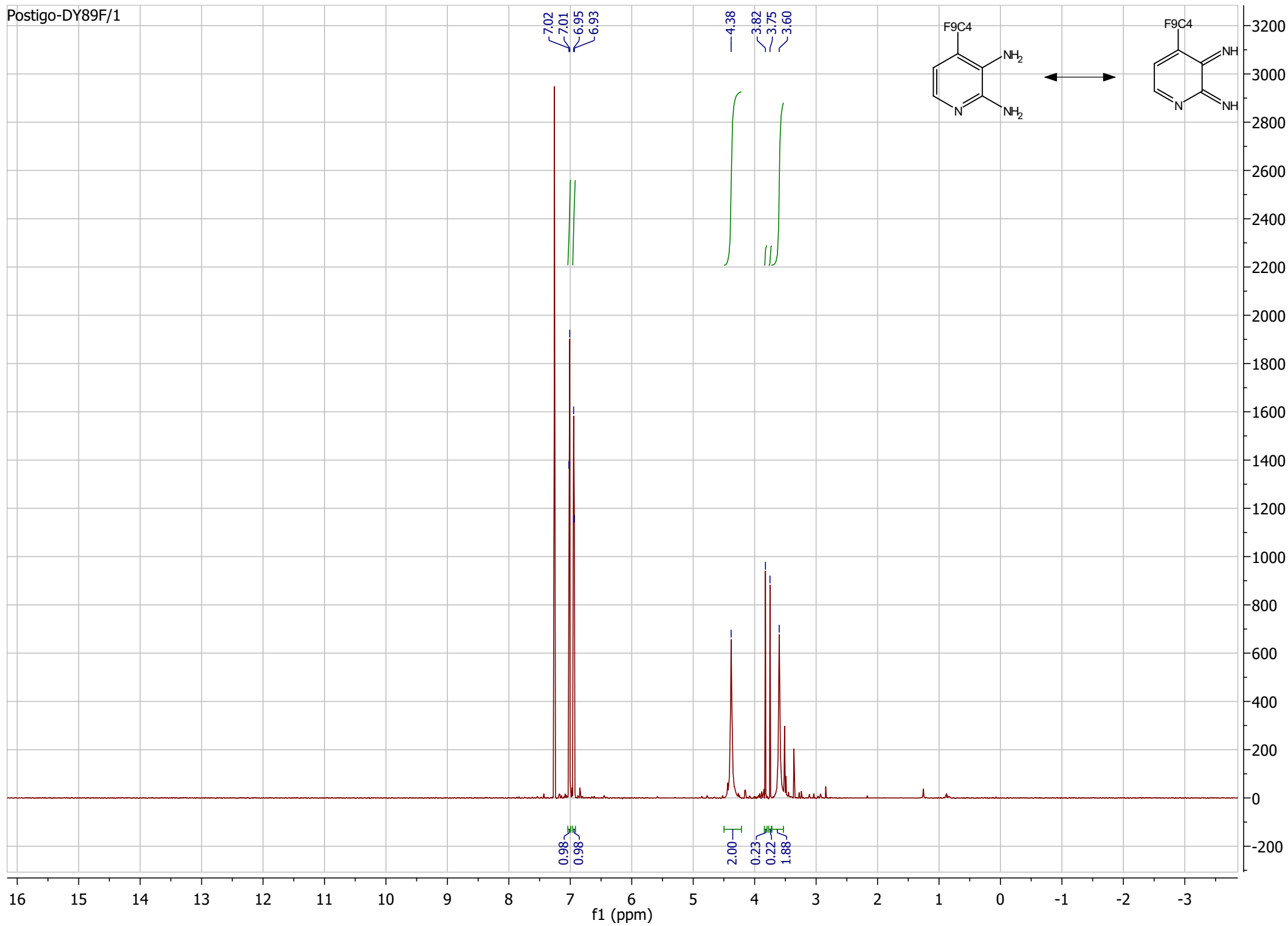
postigo-DY76F1/3



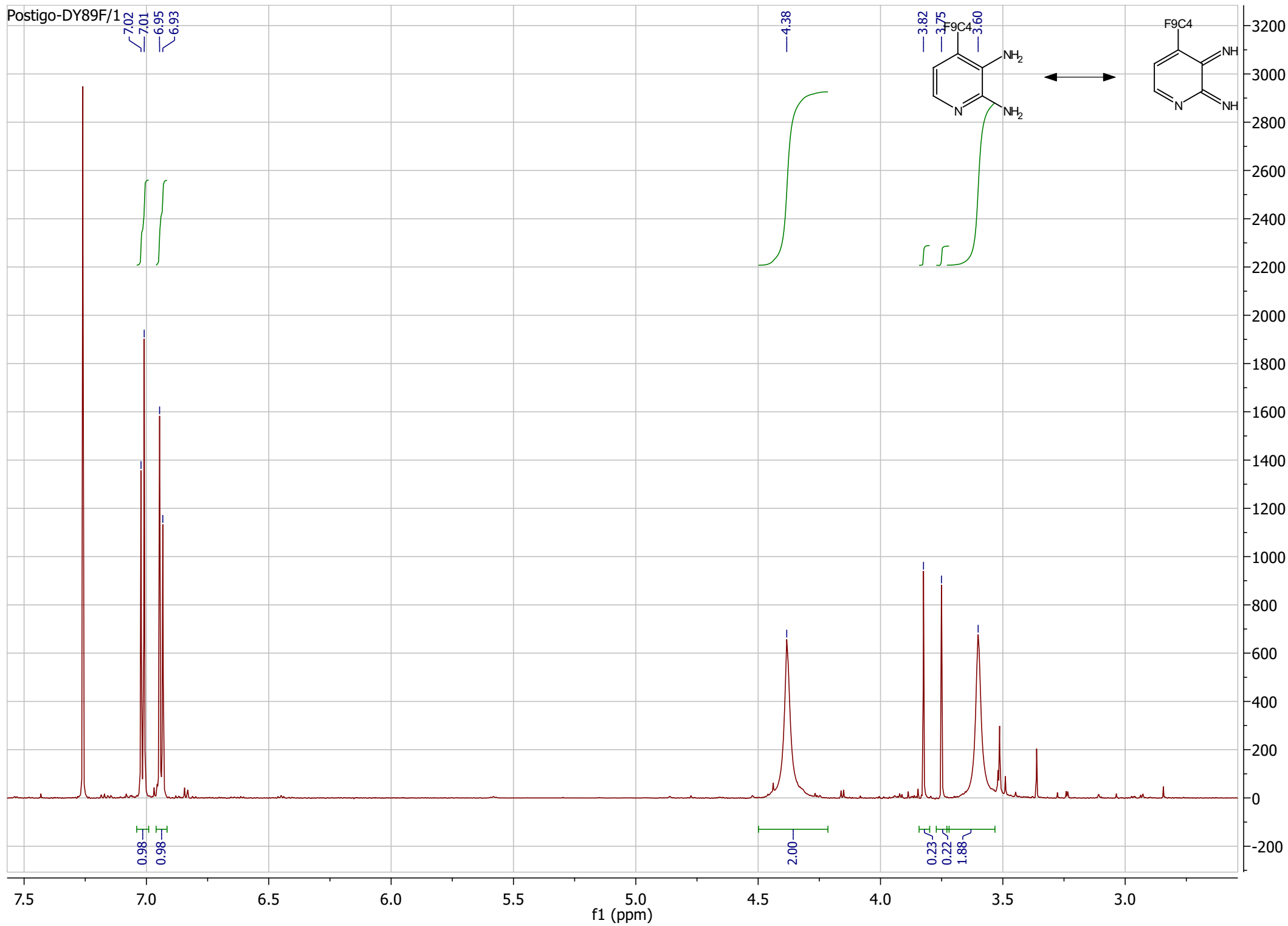
postigo-DY76F1/3



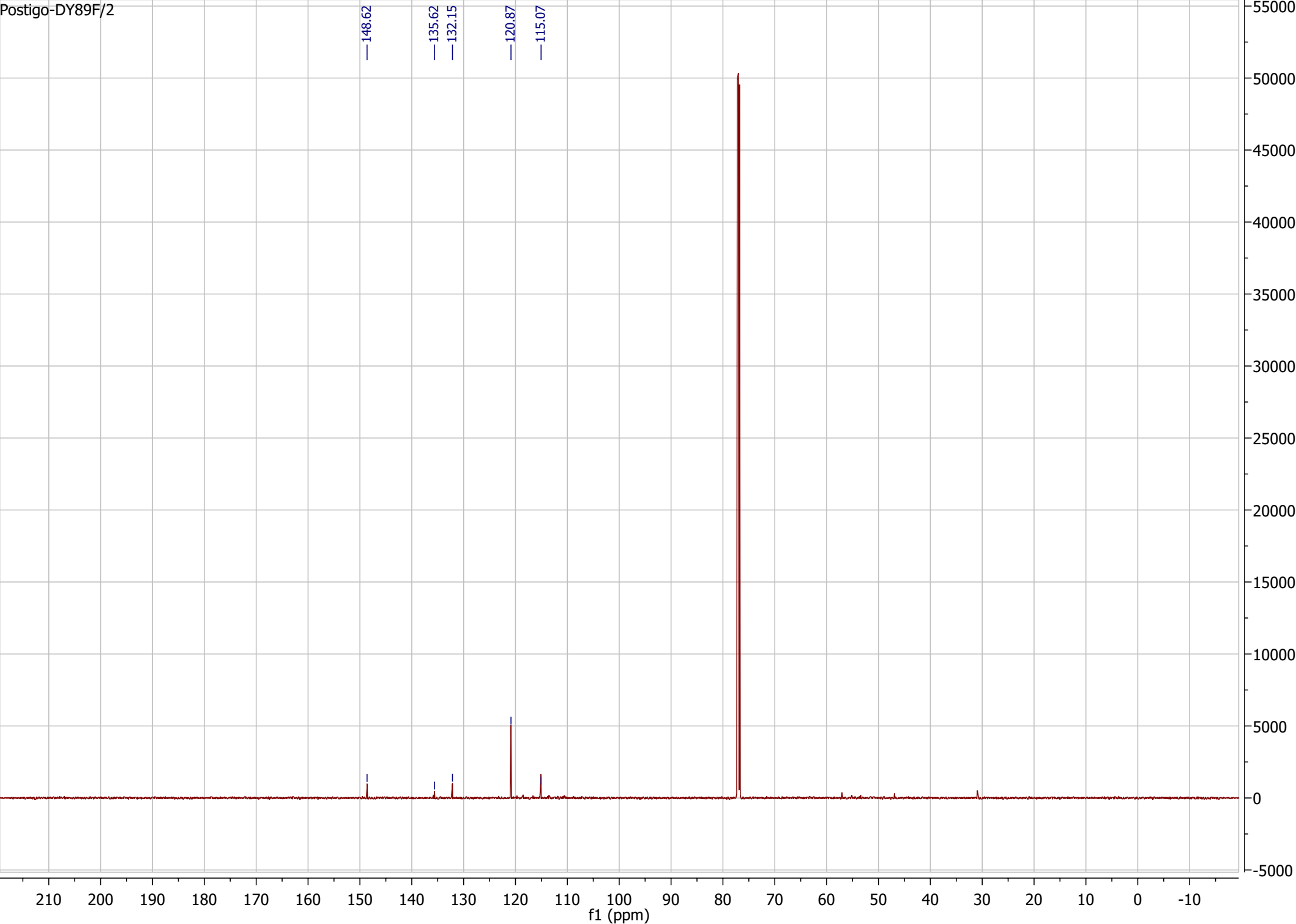
Postigo-DY89F/1



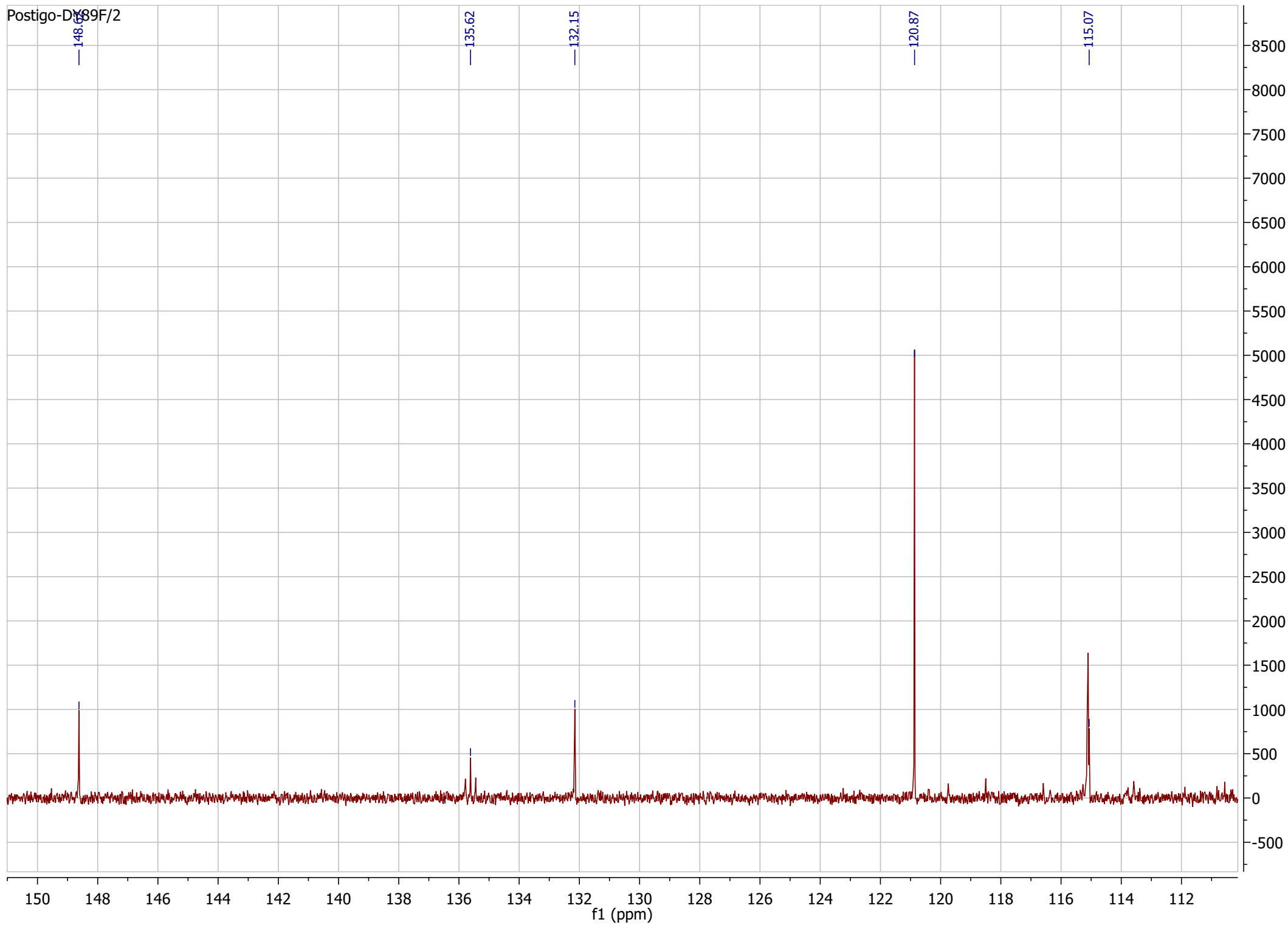
Postigo-DY89F/1

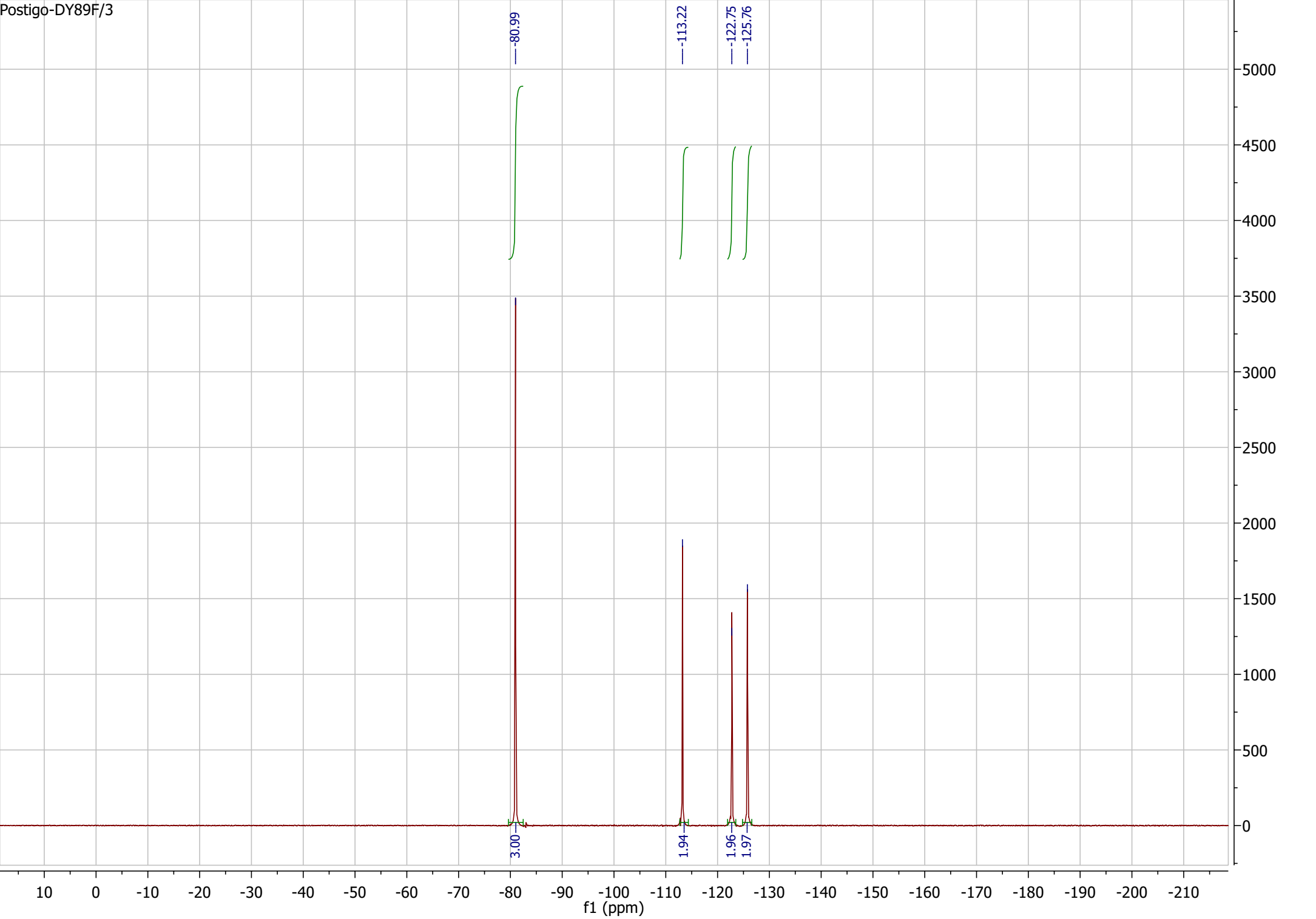


Postigo-DY89F/2

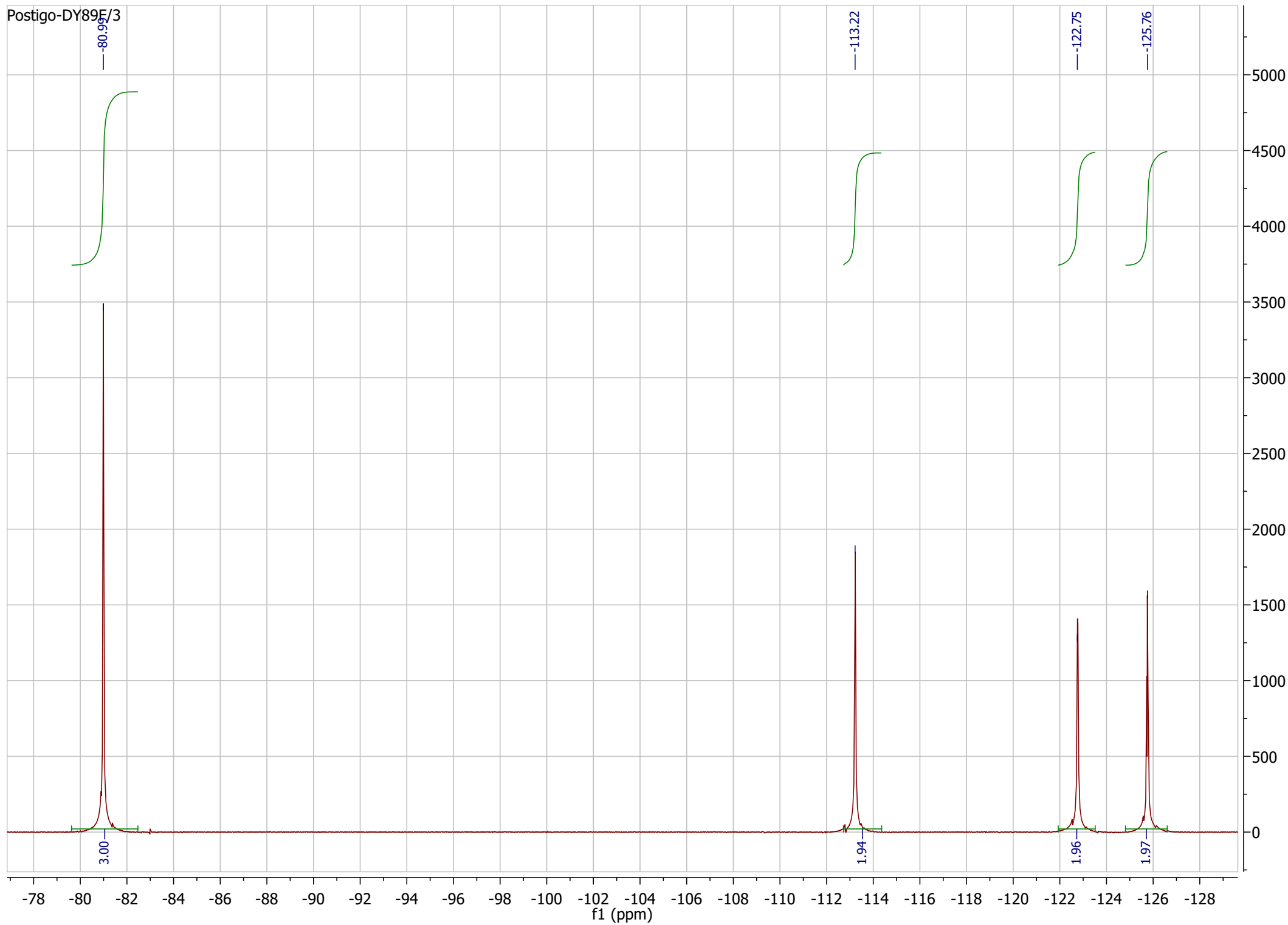


Postigo-DX89F/2

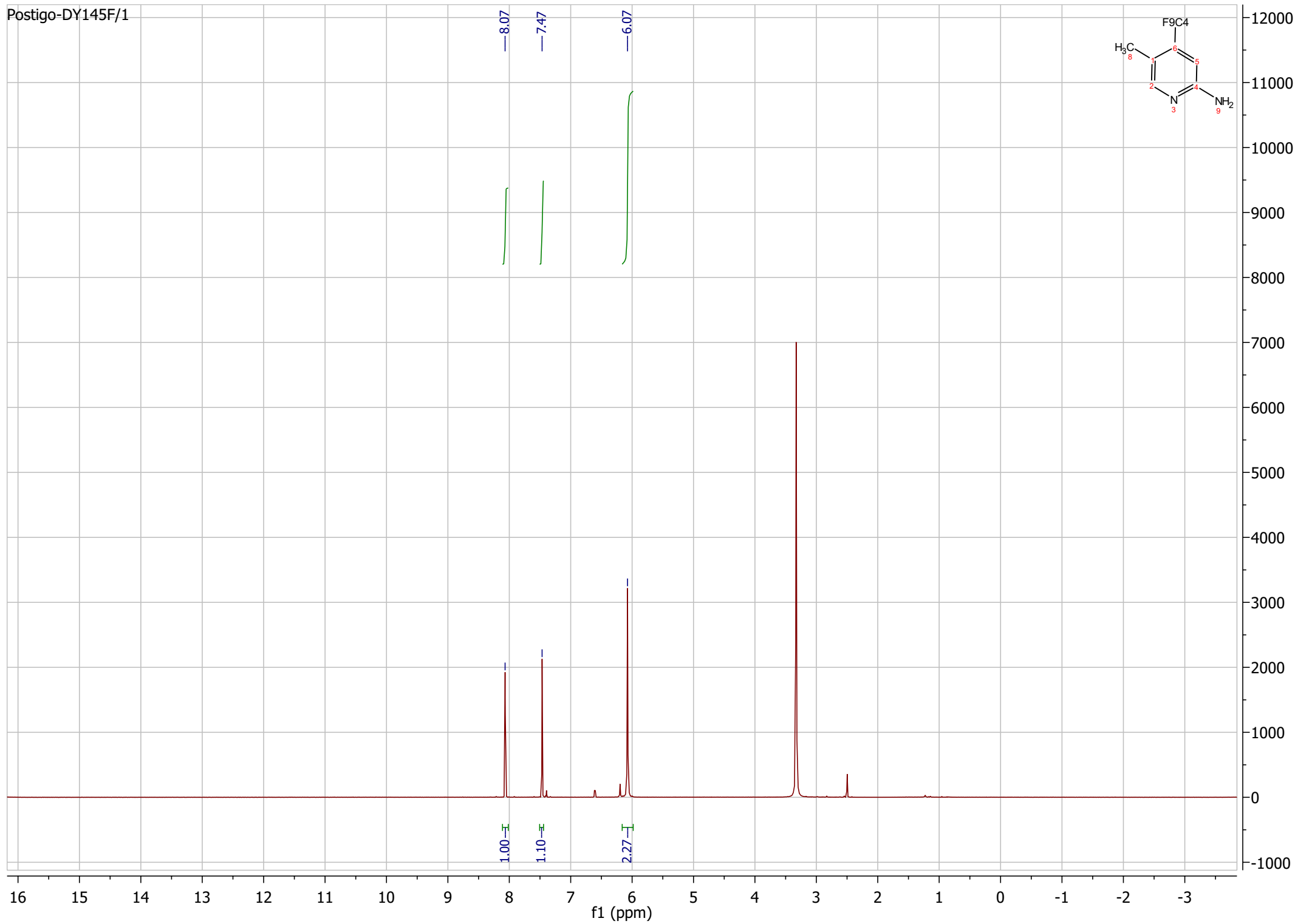




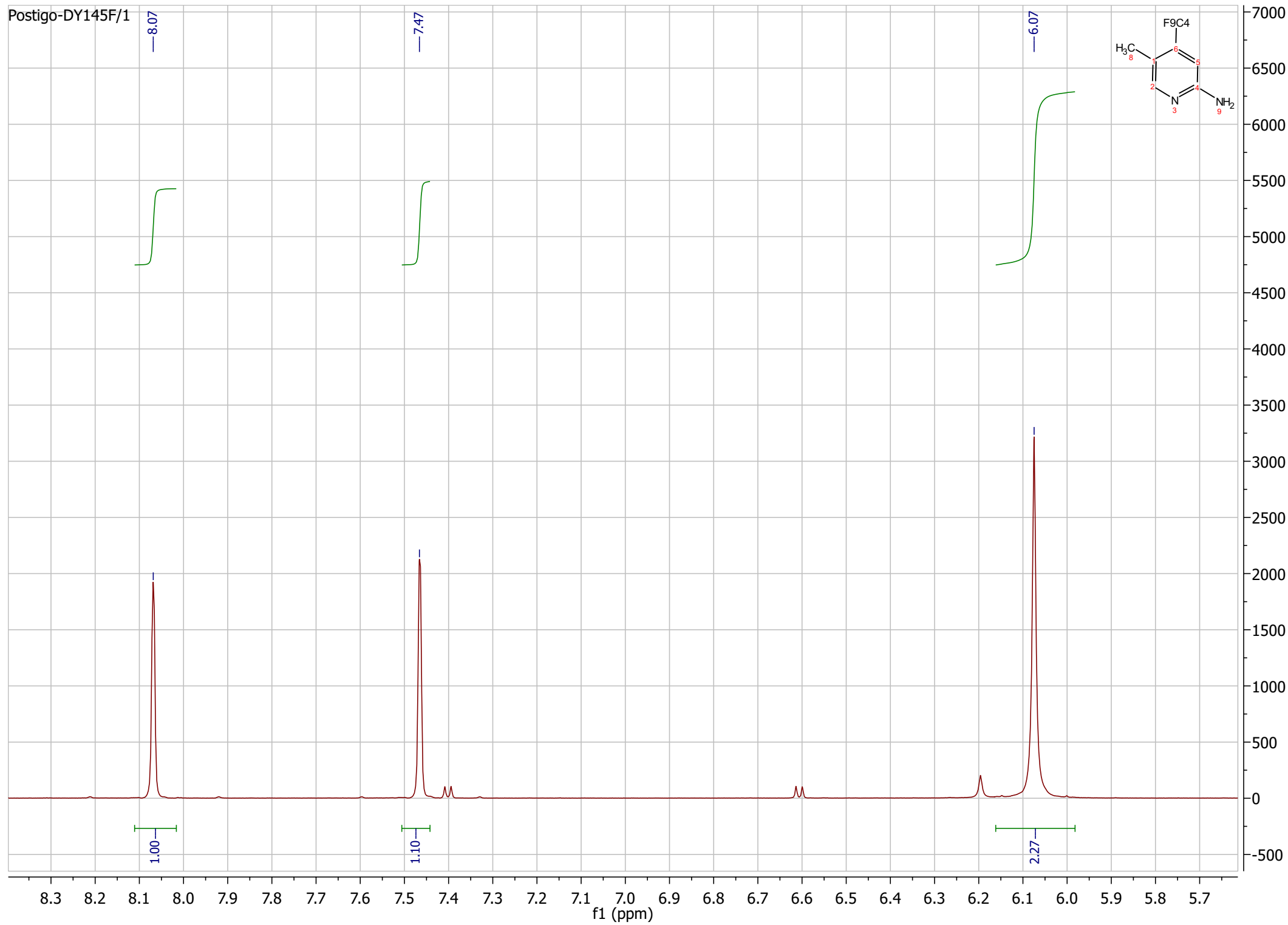
Postigo-DY89E/3



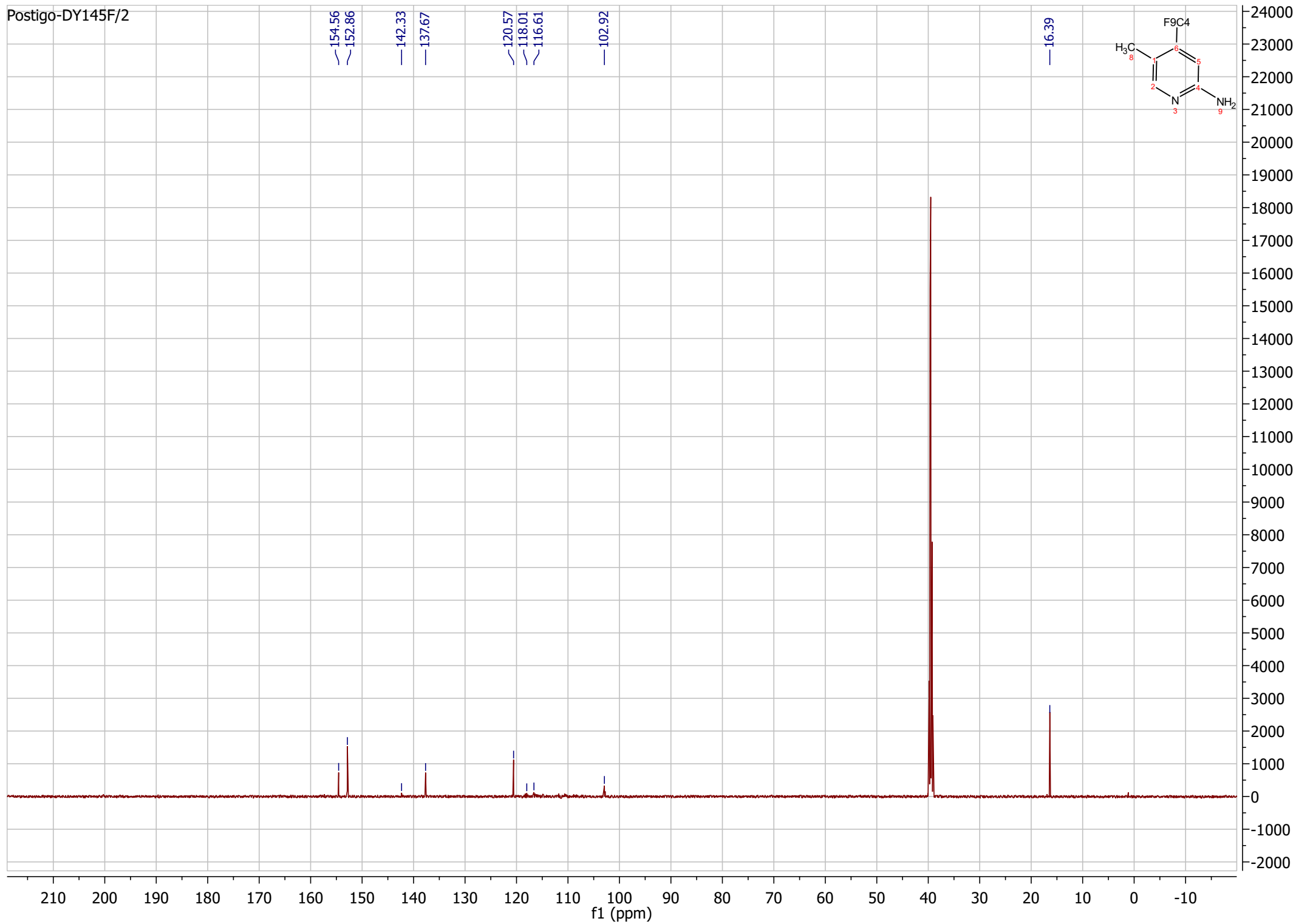
Postigo-DY145F/1



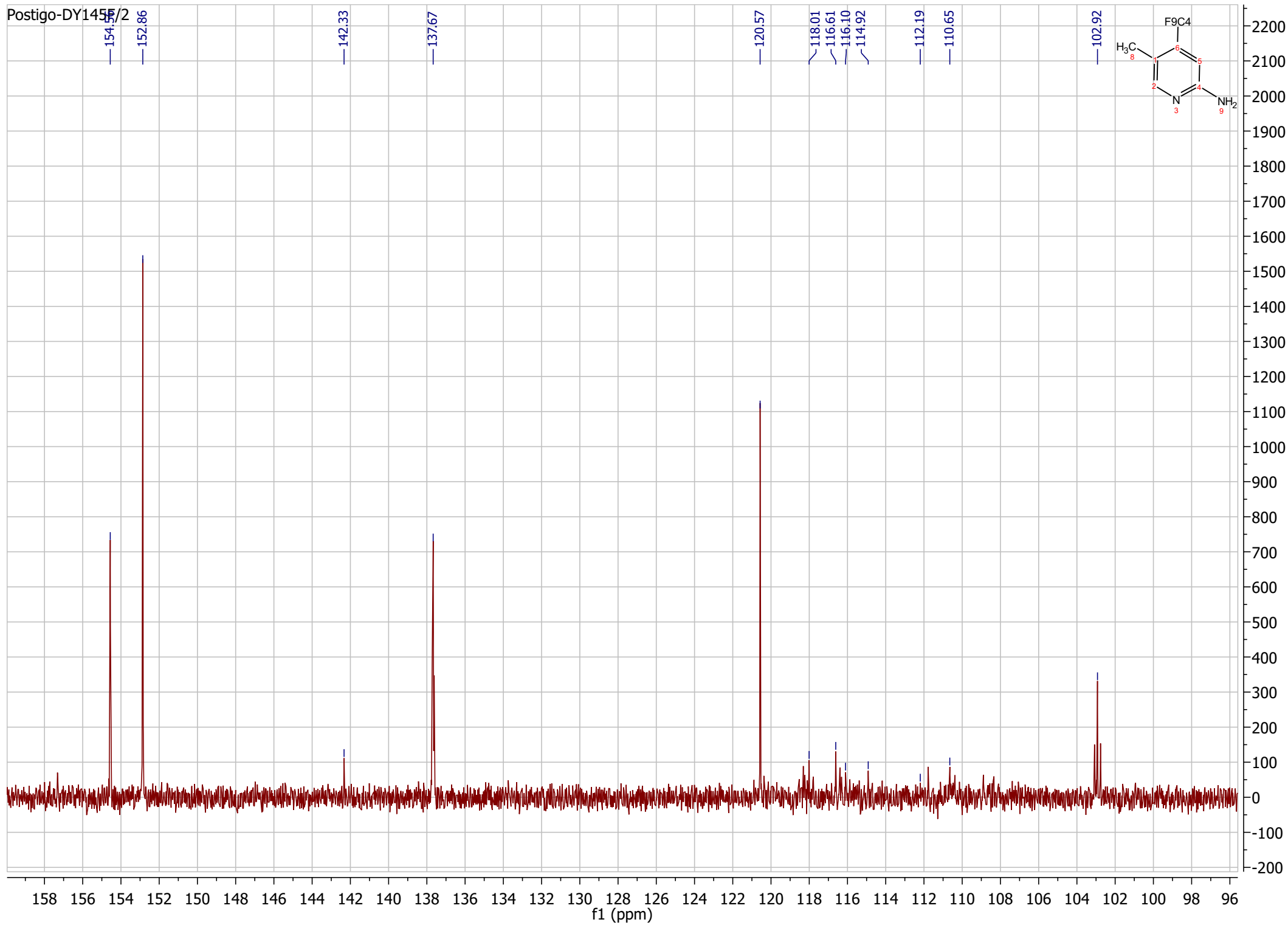
Postigo-DY145F/1

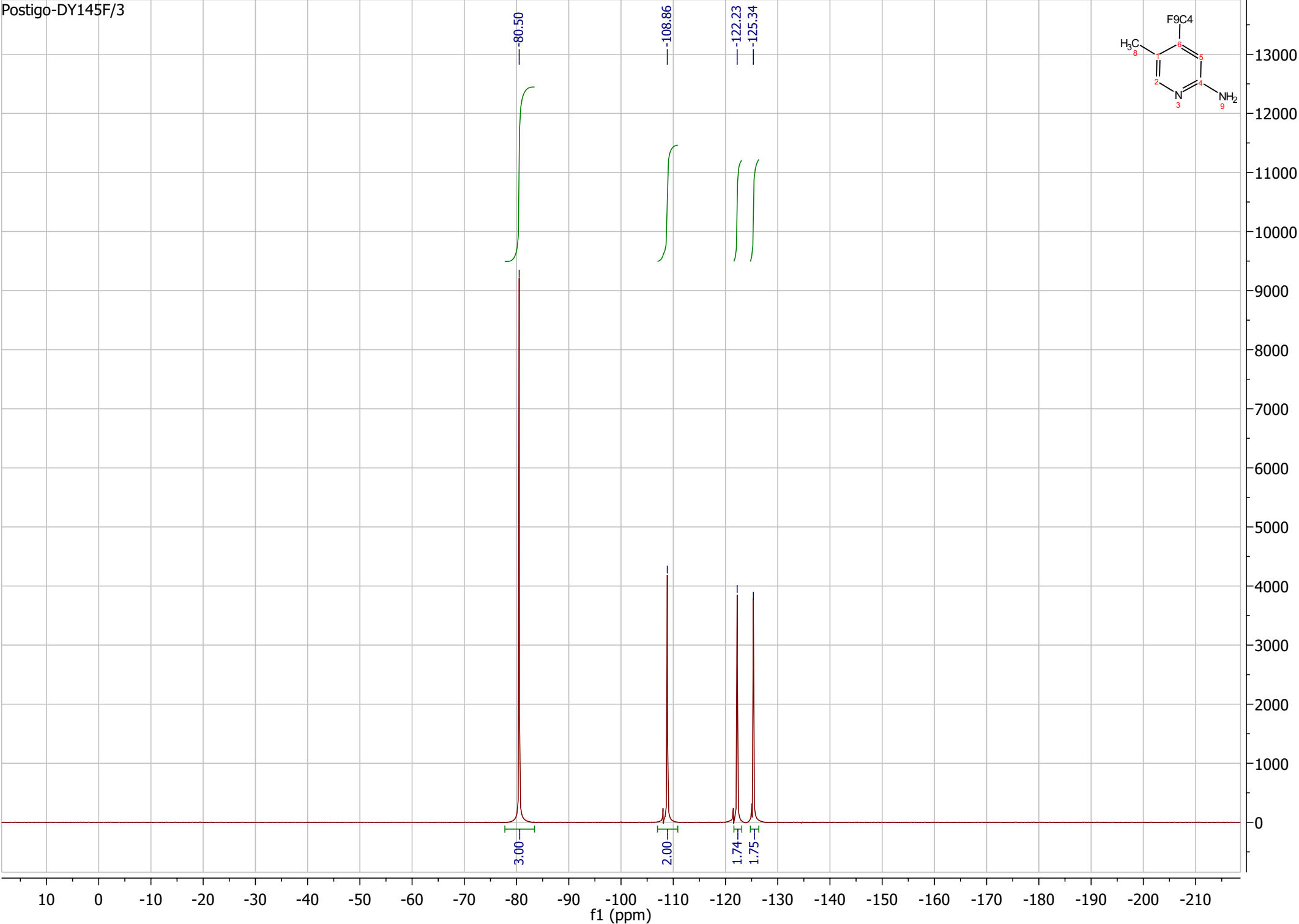


Postigo-DY145F/2

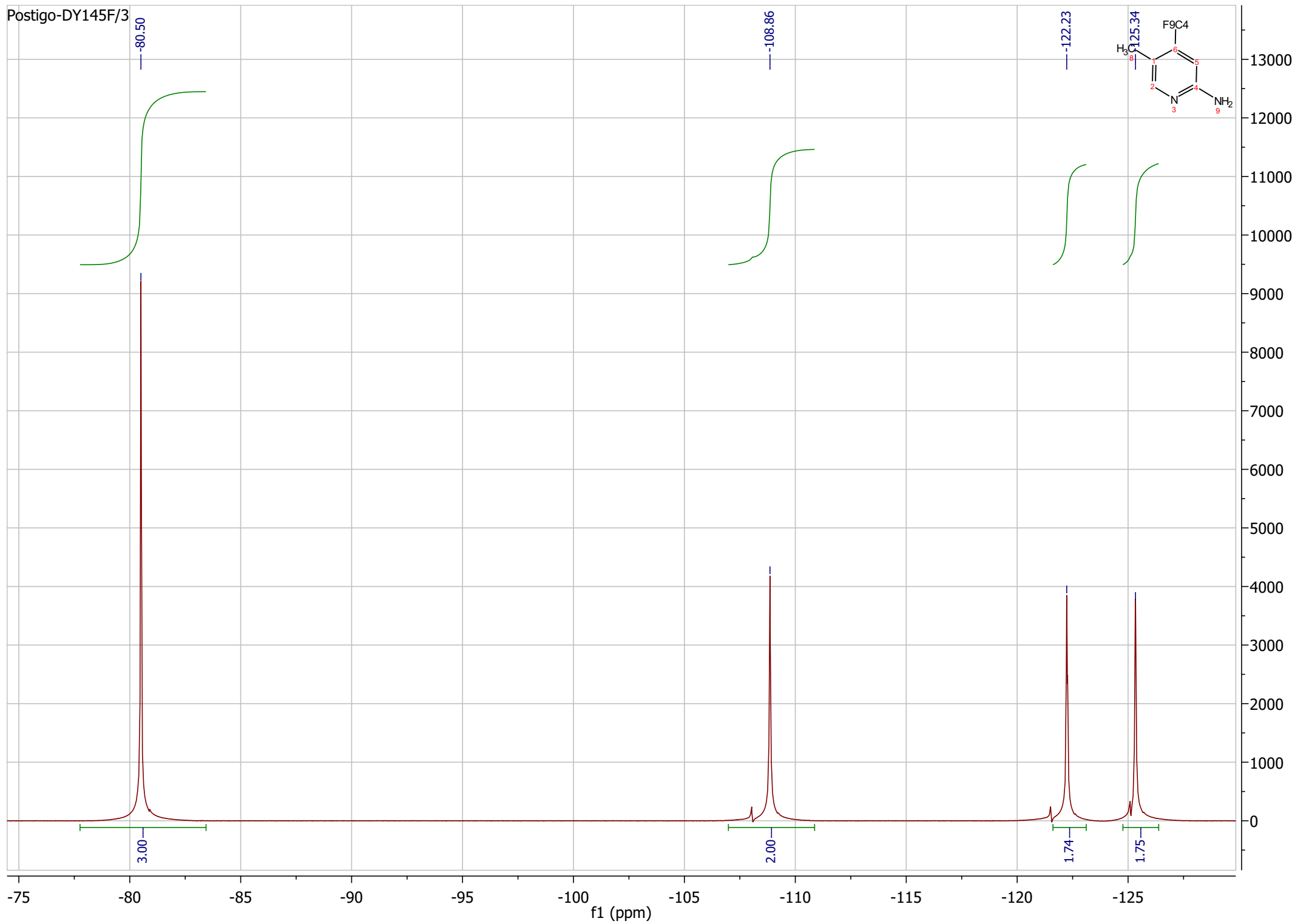


Postigo-DY1455

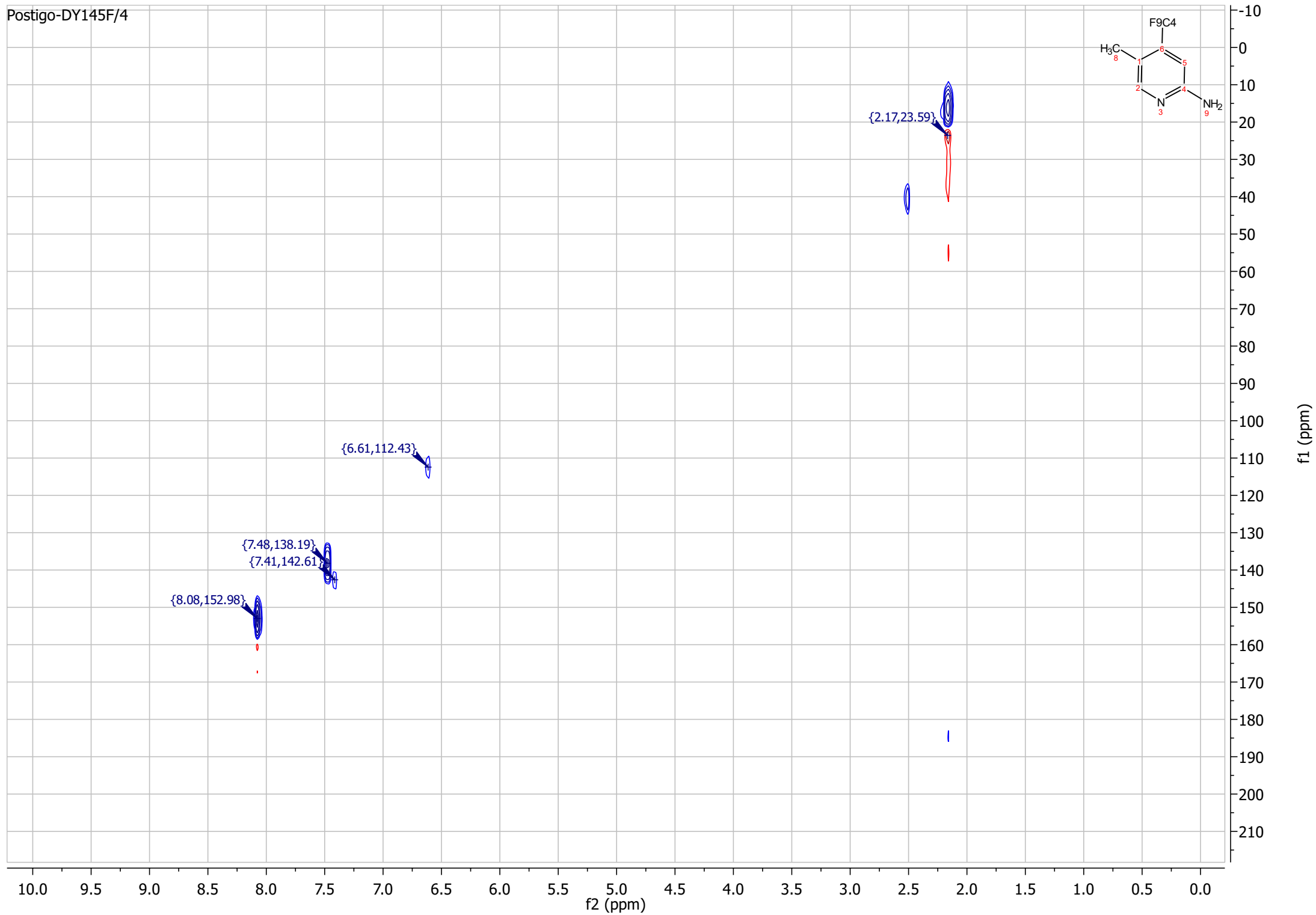




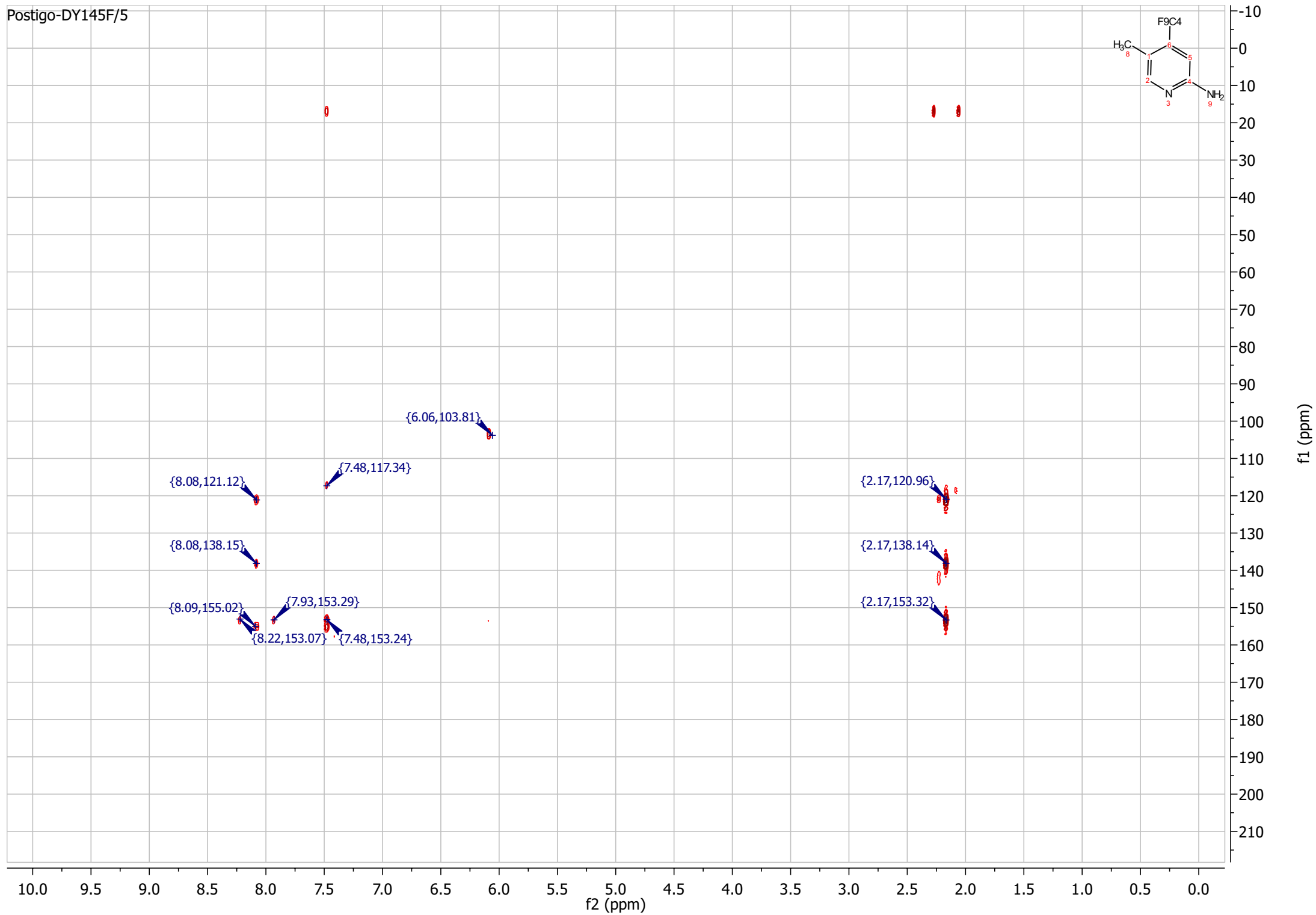
Postigo-DY145F/3



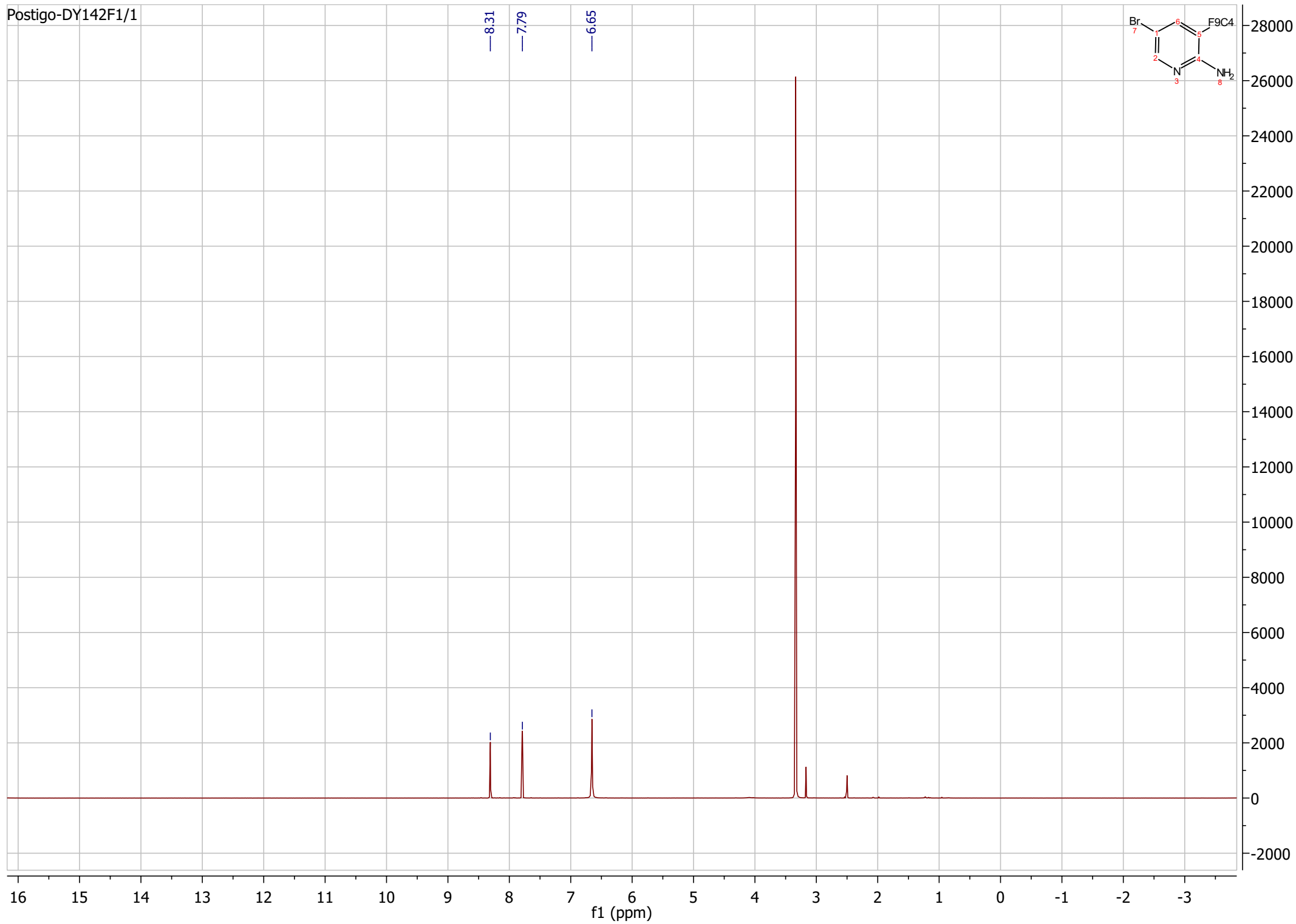
Postigo-DY145F/4



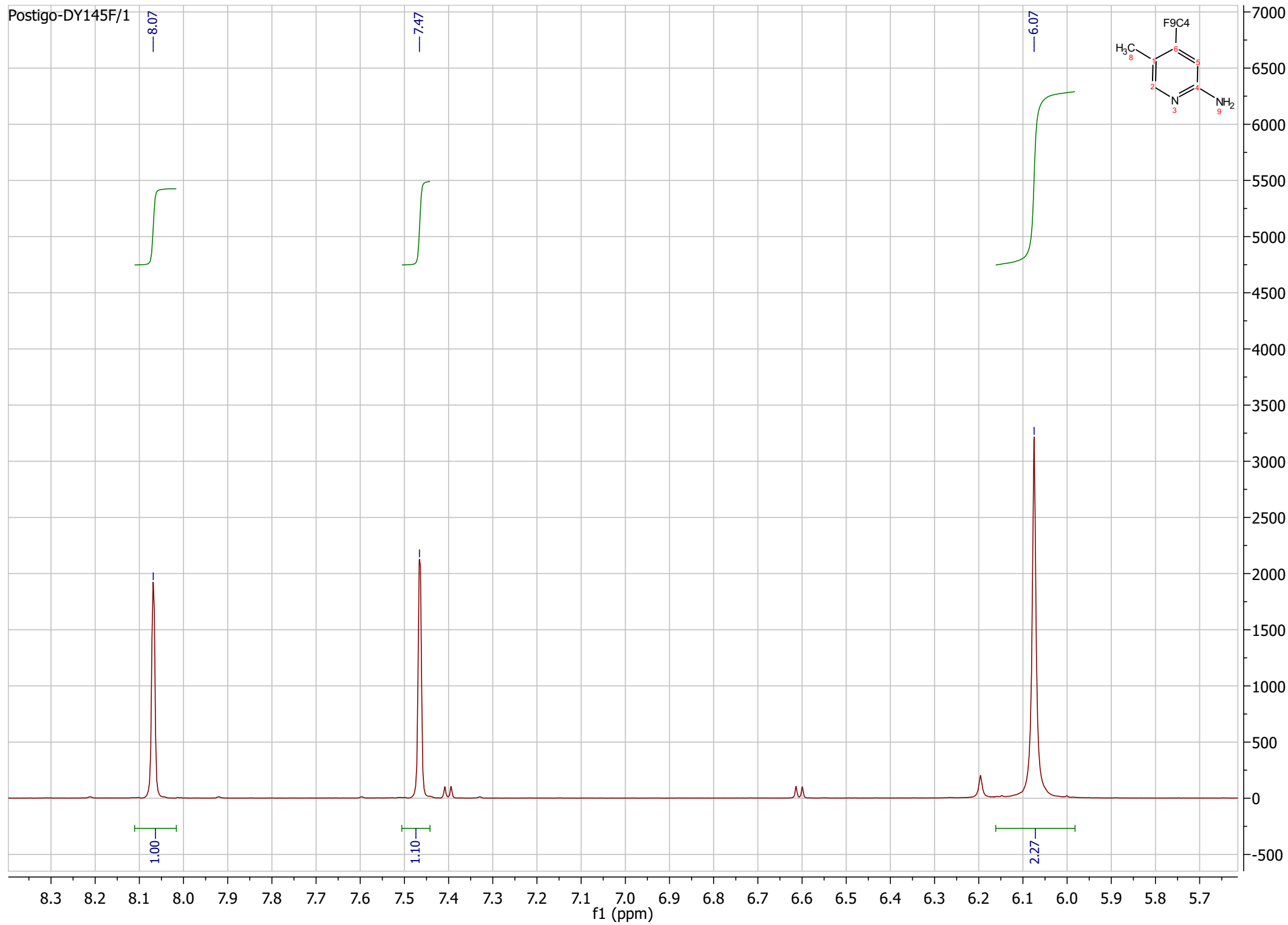
Postigo-DY145F/5



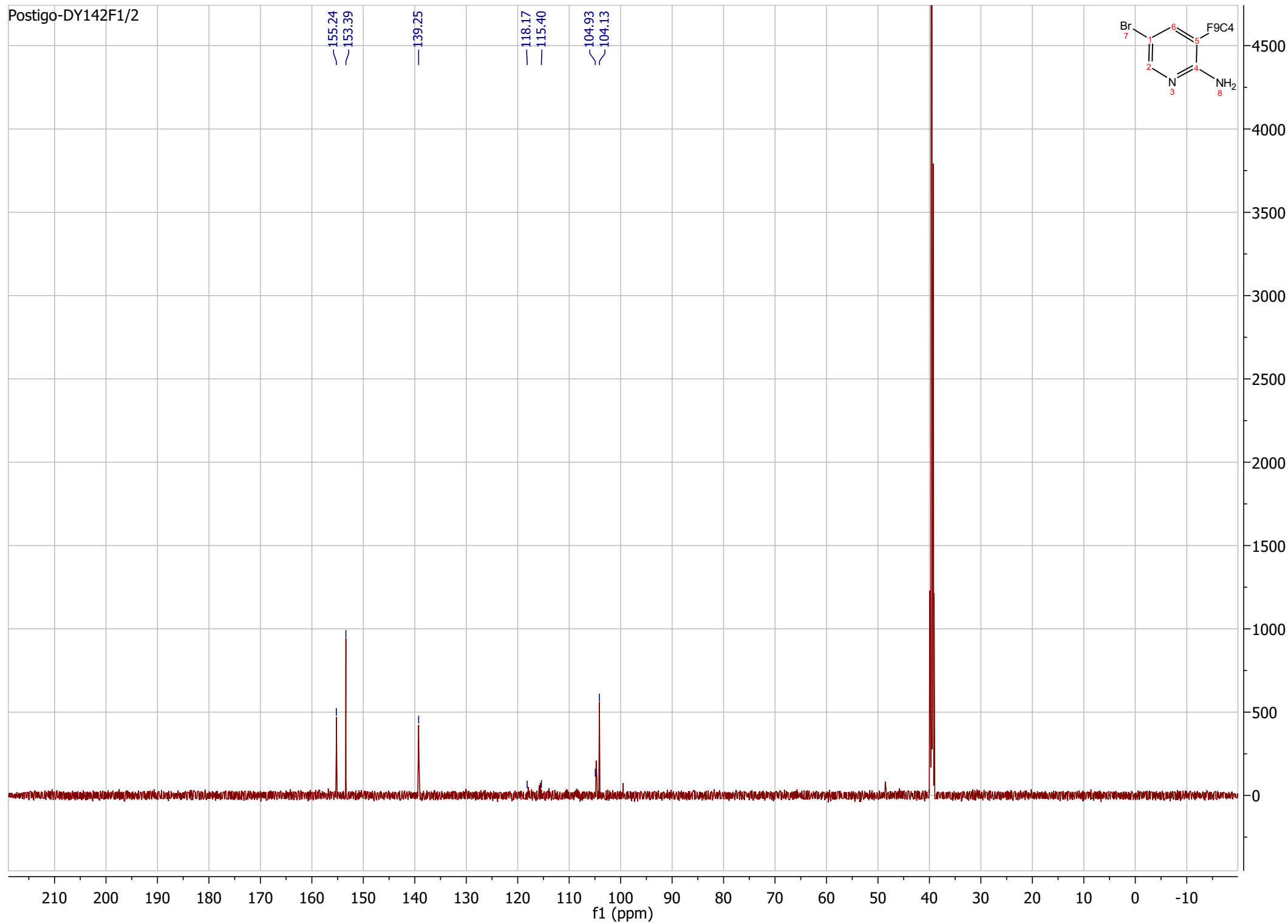
Postigo-DY142F1/1



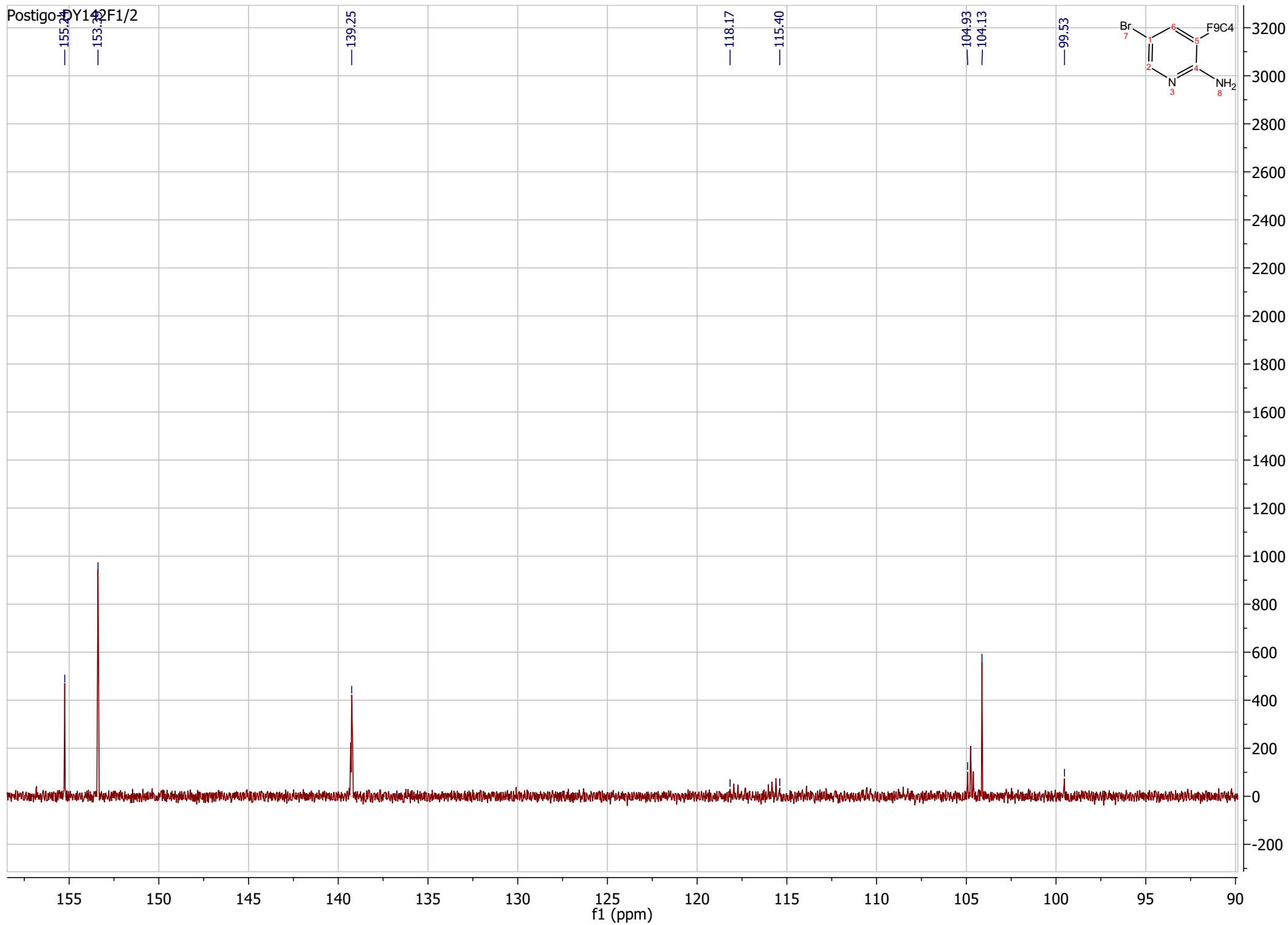
Postigo-DY145F/1

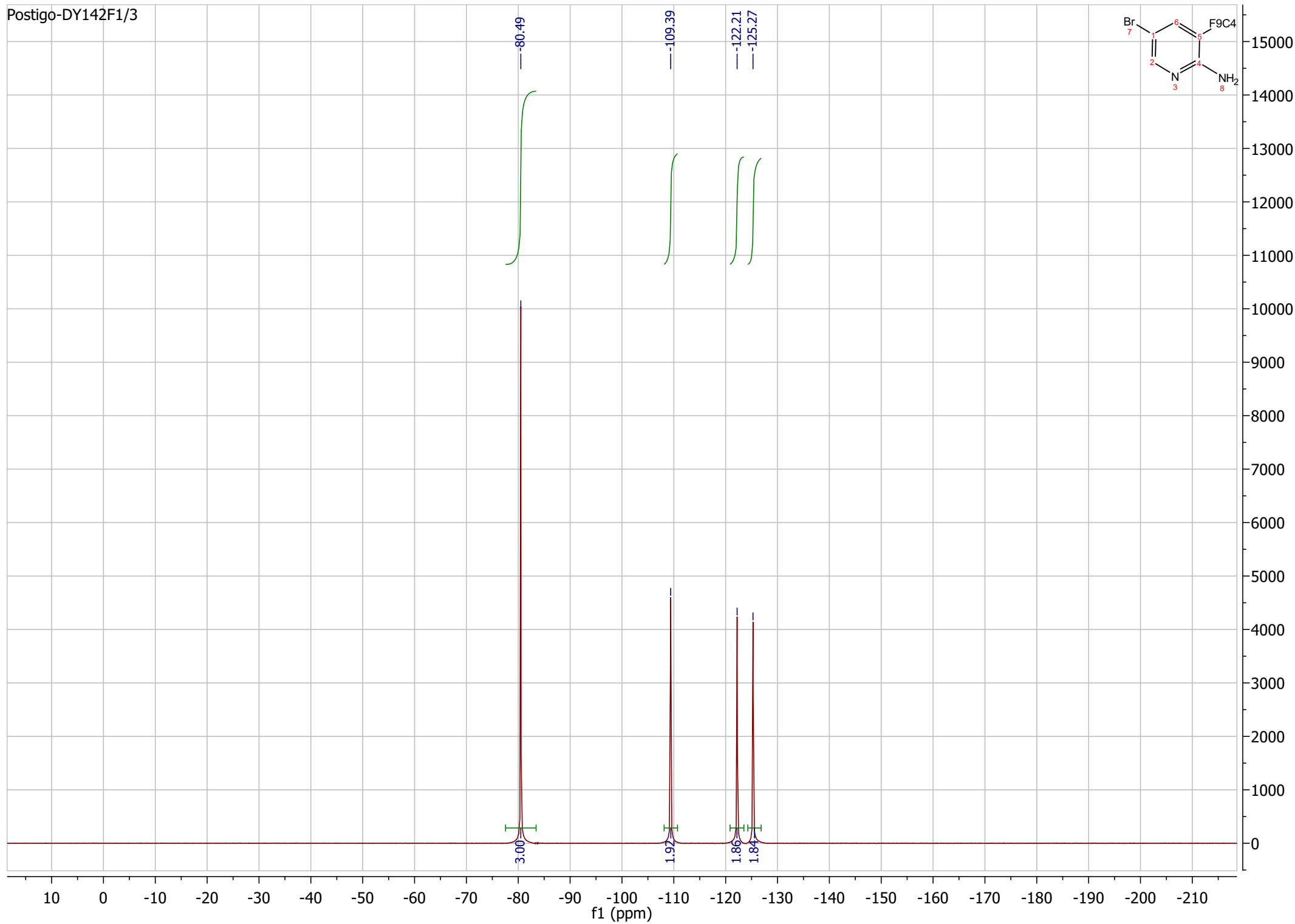


Postigo-DY142F1/2



Postigo DY142F1/2





Postigo-DY142F1/3

