Electronic Supplementary Material (ESI) for Catalysis Science & Technology.

SUPPORTING INFORMATION

INDEX

I.-GENERAL CONSIDERATIONS

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

Reaction solvents such as acetonitrile, were 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), 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8-heptadecafluoro-8-iodooctane 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. Sulfides were commercially available and purified by column chromatography or vacuum-distilled; the synthesis of sugar thioaldoses 2,3,4-tri-*O*-acetyl-1-thio-β-D-glucuronic acid methyl ester **5** and 2,3,4,6-tetra-*O*-acetyl-1-thio-β-D-galactopyranose **7** and disaccharide 2`,3`,4`,6`,2,3,6-hepta-*O*-acetyl-1-thio-β-D-cellobiose **9** have been accomplished by standard techniques and are given in section **IV.5.-**. 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. 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 ^{1}H 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 or CAN solution. 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 (λ_{max} = 370 nm). ^{1}H 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-*d6* at 2.54 ppm, $CDCl_3$ at 7.26 ppm). ^{1}H 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-*d6* 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 I**CF_2**-C_3F_7 (1 equiv, 35 µL neat) in mixtures with additives and substrates in a given solvent

entry	additive	-δ (ppm) δ I-**CF_2**-C_3F_7	Δ δ (ppm) [δ (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 TMEDA + 1 equiv PhSH	64.35[d]	0.20
7	0.5 equiv TMEDA + 1 equiv PhSH	62.17[d]	**2.00**
8	0.25 equiv TMEDA + 1 equiv PhSH	61.20[d]	**2.96**

a.-in CD_3CN

b.-in DMSO-d_6

c.-in DMF

d.-in CDCl3

III.-FIGURES

Figure S1. UV-visible Spectrum of C_4F_9I [0,6 M] in(MeCN at the working concentration. λ_{max}= 462 nm (ε= 0.677 10^3 dm^3 mol^{-1} cm^{-1})

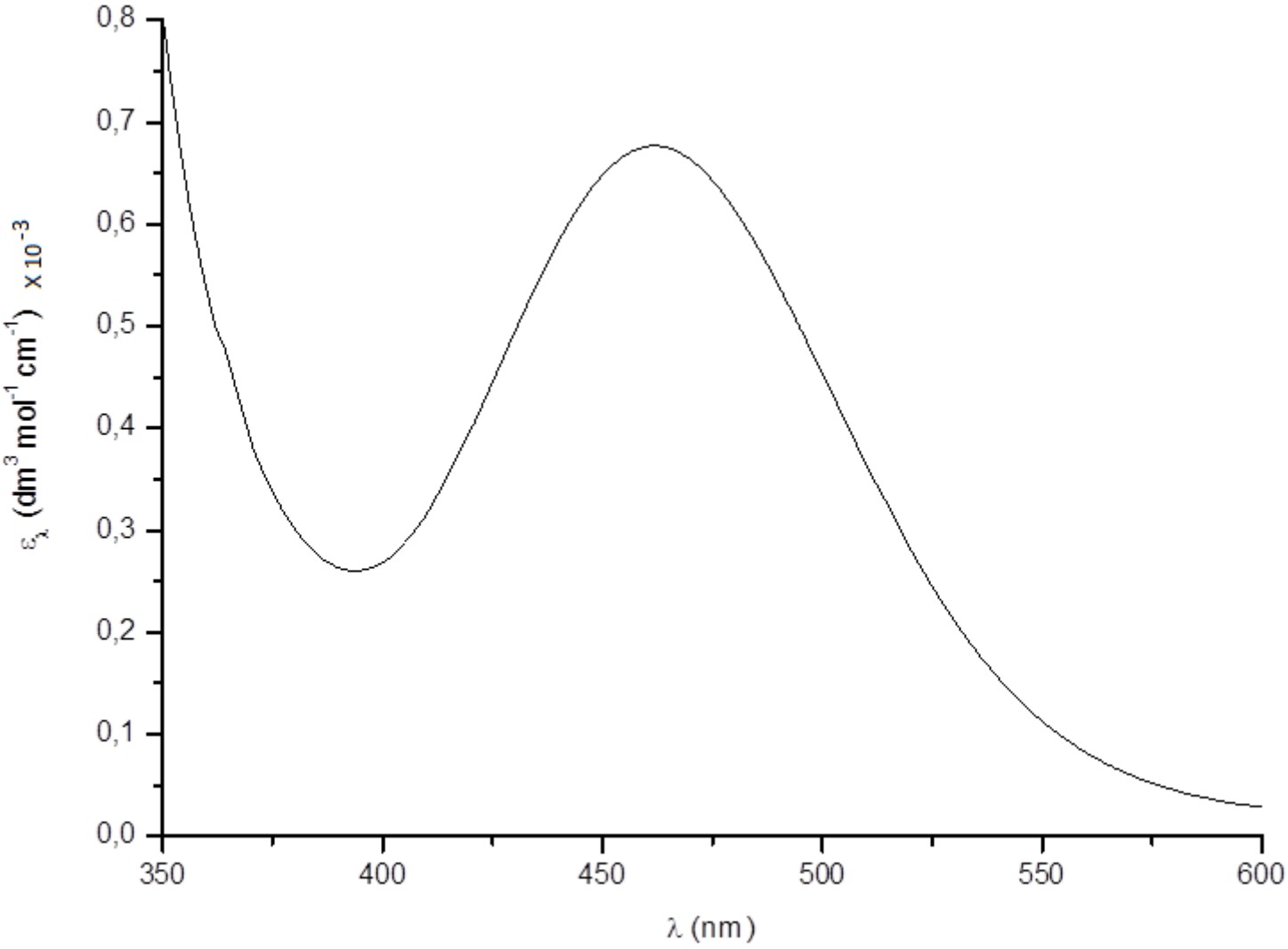


Figure S2. Uv-visible Spectrum of I_2 [0,55 mM] in (MeCN)

λ_{max}= 457 nm (ε= 0.699 dm^3 10^3 mol^{-1} cm^{-1})

λ_{max}= 364 nm (ε= 0.741 dm^3 10^3 mol^{-1} cm^{-1})

λ_{max}= 291 nm (ε= 1.459 dm^3 10^3 mol^{-1} cm^{-1})

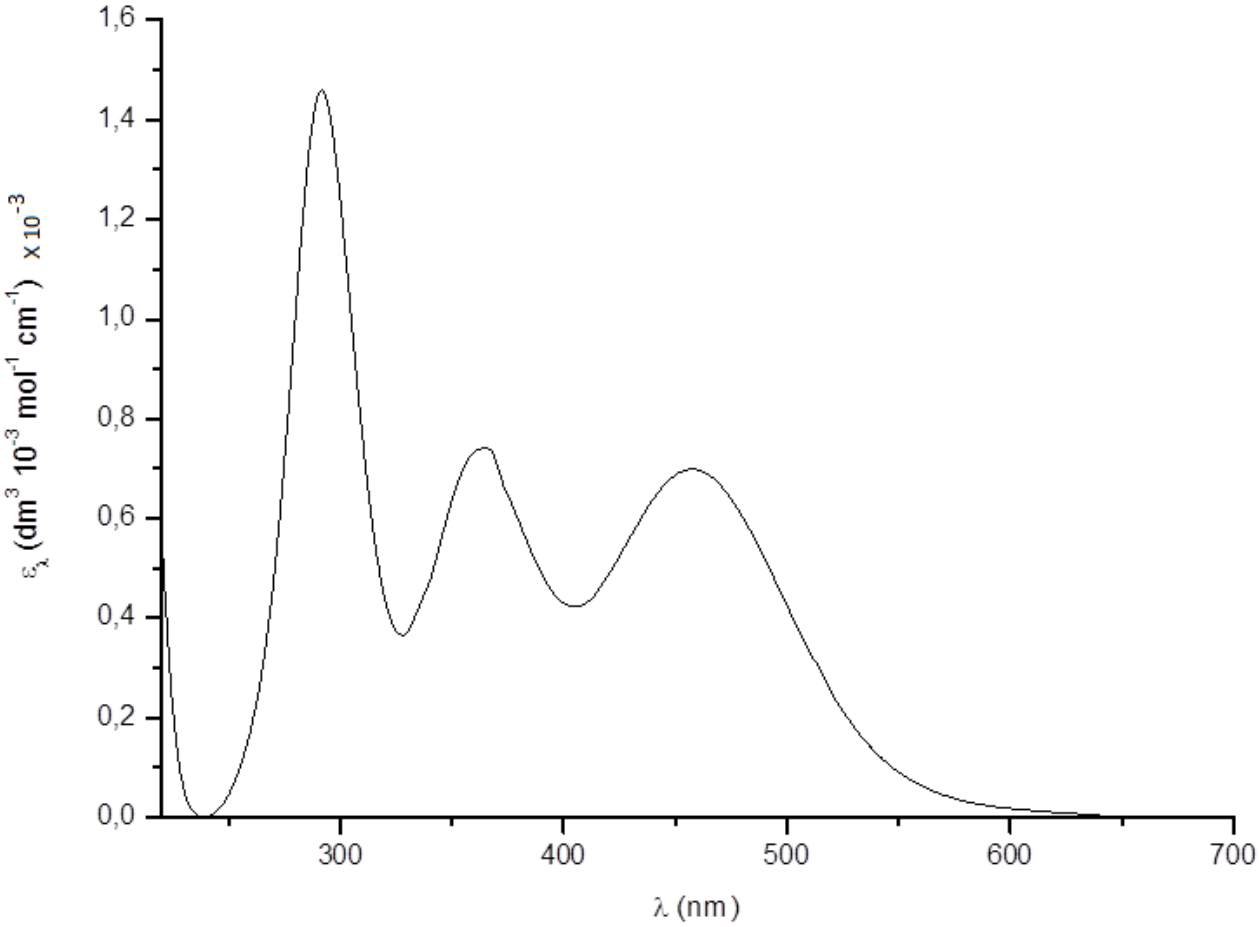


Figure S3. Uv-visible Spectrum of the mixture TMEDA [0.03 mM] + I_2 [0.06 mM] in (MeCN)

λ_{max}= 365 nm (ε= 7267 dm^3 10^3 mol^{-1} cm^{-1})

λ_{max}= 292 nm (ε= 13330 dm^3 10^3 mol^{-1} cm^{-1})

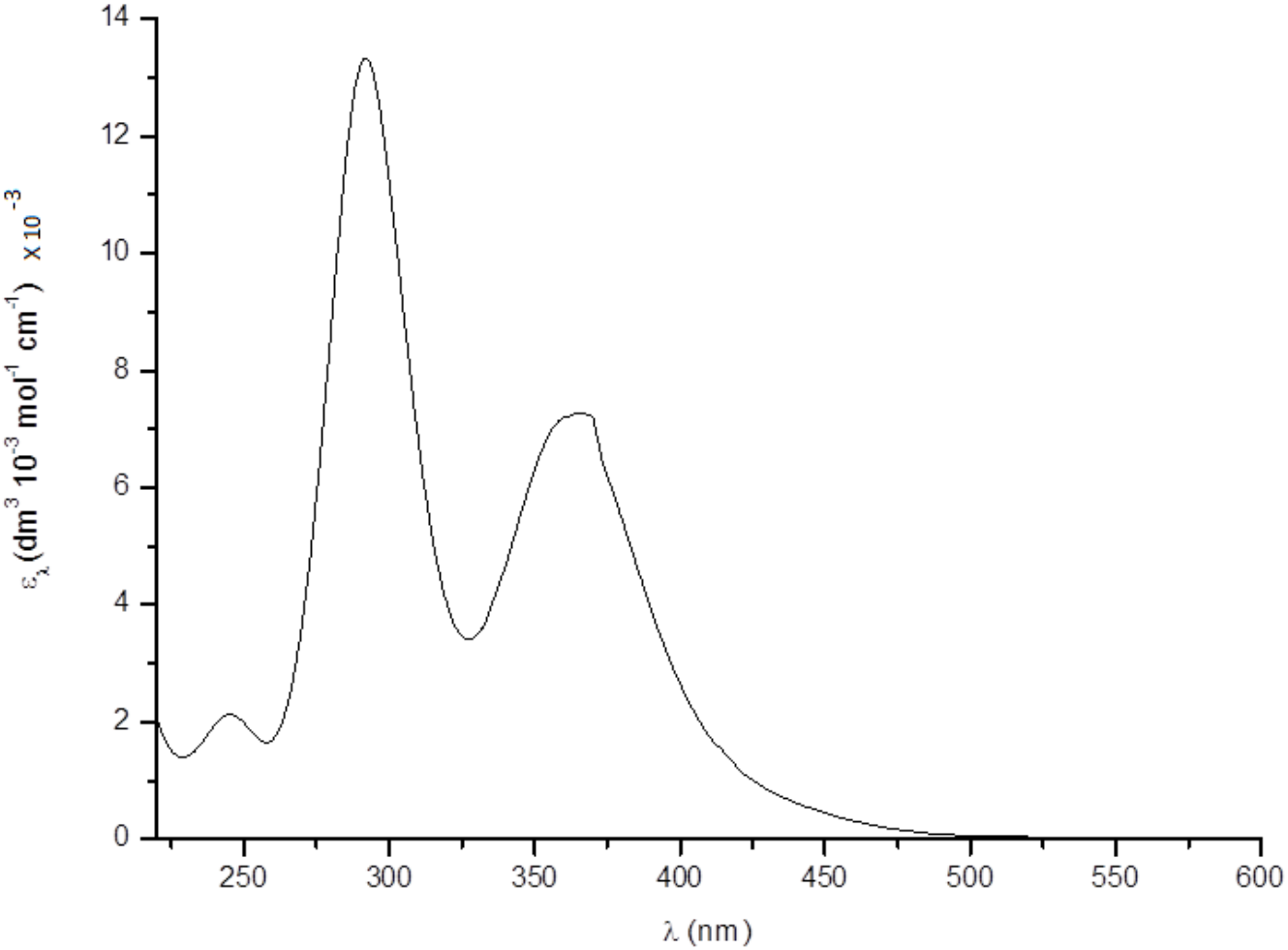
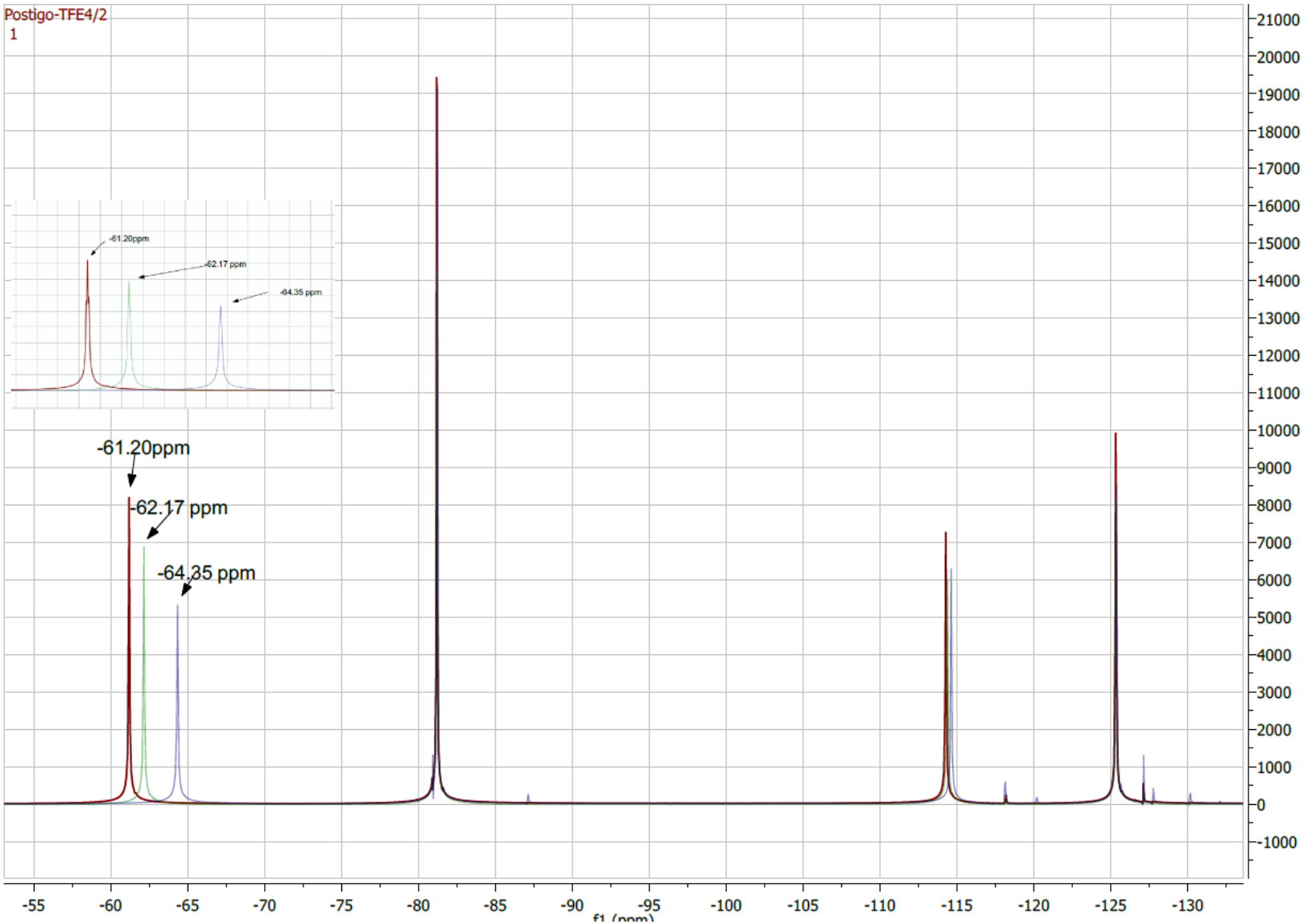


Figure S4: ^{19}F NMR overlaid spectra of *n*-C_4F_9I in the presence of RSH, RSH and TMEDAl



IV EXPERIMENTAL PROCEDURES AND CHARACTERIZATION DATA

IV.1.-PREPARATION OF PRECURSORS AND SUSBTRATES

Sugar thioaldoses 2,3,4-tri-*O*-acetyl-1-thio-β-D-glucuronic acid methyl ester **5** and 2,3,4,6-tetra-*O*-acetyl-1-thio-β-D-galactopyranose were prepared by standard techniques. The disaccharide 2`,3`,4`,6`,2,3,6-hepta-*O*-acetyl-1-thio-β-D-cellobiose was also prepared by conventional techniques (see characterization, for preparation procedures).

IV.2.-GENERAL PROCEDURE FOR THE (TMEDA.I).I3)-INITIATED REACTIONS

In a 4 mL screw-cap vial provided with a micro stir bar, (TMEDA) $I.I_3$ complex, ca. 0.25 mM, substrate (0.6 mmol thiol), 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. C_4F_9I 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, λ_{max} = 370 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 CH_2Cl_2 / water / brine. The organic layers were gathered and dried over anhydrous Na_2SO_4, 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 CH_2Cl_2 extractions eliminated the PC. The eluants employed are referred to in the TLC conditions of each compound.

IV.3.-TRIAL EXPERIMENT FOR THE CIS/TRANS ISOMERIZATION OF OLEIC ACID METHYL ESTER

Experiment 1:

Methyl oleate (0.5 mmol) was added to degassed MeCN (3 mL) along with TMEDA (1 equiv) and I_2 (2 equiv) in a 3 mL glass vial capped with a screw-cap provided with septum and a stirring bar. The set-up was placed on a stir plate, and vigorously stirred throughout the irradiation with a 60 Watt CFL bulb (commercial fluorescent light bulb). Aliquots were taken at 30min intervals, added an internal standard (palmitic acid methyl ester), and analyzed through capillary GC/MS with an appropriate capillary column (DB-5, 30 m). There was no conversion of oleic acid methyl ester into elaidic acid methyl ester. This experiment rules out the production of I atoms through irradiation of the complex [(TMEDA) $I.I_3$], or else are produced in sufficiently low quantities to enable the cis/trans isomerization. Conducting the irradiation with a black fluorescent light bulb (20 Watt), λ_{max} = 370 nm from a black fluorescent light bulb), the same results were obtained.

Experiment 2:

Methyl oleate (0.5 mmol) was added to degassed MeCN (3 mL) along with TMEDA (1 equiv) and C_4F_9I (3 equiv) in a 3 mL glass vial equipped with a screw-cap provided with a septum containing a stirring bar. The set-up was placed on a stir plate, sealed, and vigorously stirred throughout the irradiation with a 60 Watt CFL bulb (commercial fluorescent light bulb). Aliquots were taken at 30min intervals, added a standard, and analyzed through capillary GC/MS with a DB-5 capillary column and an internal standard (palmitic acid methyl ester). There was no conversion of oleic acid methyl ester into elaidic acid methyl ester

noticed through irradiation time. This experiment rules out that I_2 present in neat C_4F_9I, or else I_2 produced through photolytic cleavage of C_4F_9I complexes efficiently with TMEDA but do not produce I atoms on irradiation capable of the cis/trans isomerization of oleic acid methyl ester.

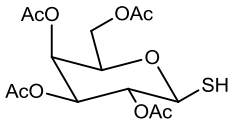
IV.4.-ISOLATION OF A 2,4-DINITROPHENYLHYDRAZONE FROM A CARBONYL COMPOUND DERIVED FROM TMEDA

To the crude reaction mixture from the irradiation of a thiol in the presence of TMEDA/n-C_4F_9I, 2,4-dinitrophenyl hydrazine was added, and left stirring at 10 °C for 24 hrs. The reaction was followed by TLC, and a deep yellow stain formed after a few hours of reaction. The hydrazine was separated by column chromatography, and the hydrazone of a carbonyl compound was detected by IR spectroscopy but not fully characterized. The yield of the hydrazine based on starting TMEDA was less than 5%.

IV.5. CHARACTERIZATION OF COMPOUNDS

All compounds are unknown chemicals, unless otherwise noted, and are reported as % yields obtained by weight or NMR integration (from ^{1}H and ^{19}F NMR integration) of the crude reaction mixtures. Isolated purified mass of compounds are expressed in Gram units. Characterizations employ ^{1}H, ^{13}C, ^{19}F 1D-NMR techniques, and 2D NMR spectroscopic techniques (HSQC, HMBC, COSY experiments)

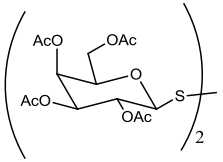
2,3,4,6-tetra-*O*-acetyl-1-thio-β-D-galactopyranose 7



2,3,4,6-tetra-*O*-acetyl-1-thio-β-D-galactopyranose was obtained as previously described[39] and showed the same properties as reported. Briefly, the thioaldose was obtained by hydrolysis of the corresponding isothiouronium salt promoted by sodium carbonate. The isothiouronium salt was in turn obtained by reaction of acetobromogalactose with thiourea in boiling acetone.

^{1}H NMR (200 MHz, Cl_3CD) δ = 5.45 (dd, 1H, $J_{3,4}$ = 3.4, $J_{4,5}$=1.0 Hz, H-4), 5.20 (t, 1H, $J_{2,3}$ = $J_{1,2}$ = 10.0 Hz, H-2), 5.00 (dd, $J_{3,4}$ = 3.4, $J_{2,3}$ = 10.0Hz, H-3), 4.55 (t, 1H, $J_{1,2}$ = $J_{1,SH}$ = 10.0 Hz, H-1), 4.20 (m, 2H, H-6a, H-6b), 3.95 (t, 1H, $J_{5,6a}$ = $J_{5,6b,}$ H-5), 2,40 (d, 1H, $J_{1,SH}$ = 10.0 Hz, SH), 2.09, 2.02, 1.97, 1.91 (4s, 12H, 4 CH_3CO). ^{13}C NMR (50.3 MHz, Cl_3CD) δ = 170.3, 170.1, 169.9, 169.7 (4 *C*OCH_3), 79.2 (C-1), 74.9, 71.6, 70.8, 67.2 (C-5, C-3, C-2, C-4), 61.5 (C-6), 20.8, 20.7 (2×), 20.6 (4 CO*C*H_3).

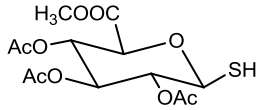
Bis(2,3,4,6-tetra-*O*-acetyl-1-deoxy-1-thio-β-D-galactopyranosyl) 1,1'-disulfide **7S**



The disulfide was obtained by oxidation of the corresponding 1-thio-β-D-galactopyranose.[40]

^{1}H NMR (200 MHz, Cl_3CD) δ = 5.43 (d, 1H, $J_{3,4}$ = 2.8 Hz, H-4), 5.35 (t, 1H, $J_{2,3}$ = $J_{1,2}$ = 9.9 Hz, H-2), 5.07 (dd, $J_{2,3}$ = 9.9, $J_{3,4}$ = 3.4 Hz, H-3), 4.56 (d, 1H, $J_{1,2}$ = 9.9 Hz, H-1), 4.27-3.96 (m, 3H, H-5, H-6a, H-6b), 2.17, 2.09, 2.04, 1.98 (4s, 12H, 4 C*H*$_3$CO). ^{13}C NMR (50.3 MHz, Cl_3CD) δ = 170.7, 170.3, 70.2, 170.0 (4 *C*OCH$_3$), 88.7 (C-1), 74.9, 72.0, 67.8, 67.2 (C-5, C-3, C-2, C-4), 61.0 (C-6), 20.8, 20.7, 20.6, 20.5 (4 CO*C*H$_3$).

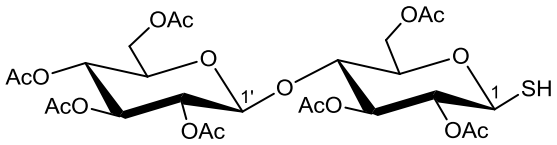
Methyl 2,3,4-tri-*O*-acetyl-1-thio-β-D-glucopyranosyluronate, **5**



Methyl 2,3,4-tri-*O*-acetyl-1-thio-β-D-glucopyranosyluronate was obtained as previously described[41] and showed the same properties as reported. Briefly, methyl (2,3,4-tri-O-acetyl-D-glucopyranosyl) uronate bromide was first reacted with potassium thioacetate in acetone to yield the 1-thioacetyl derivative which upon treatment with sodium methoxide, at −45 °C, provided the corresponding glucuronyl 1-thiol.

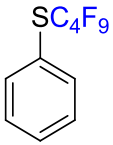
^{1}H-NMR (200 MHz, Cl_3CD) δ = 5.28-5.16 (m, 2H, H-3, H-4), 4.98 (t, 1H, $J_{2,3}$ = $J_{1,2}$ = 9.6 Hz, H-2), 4.57 (t, 1H, $J_{1,2}$ = $J_{1,SH}$ = 9.9 Hz, H-1), 4.04 (d, 1H, $J_{4,5}$ = 9.8 Hz, H-5), 3.75 (s, 3H, OCH_3), 2.38 (d, 1H, $J_{1,SH}$ = 9.9 Hz, S*H*), 2.07, 2.01 (2×) (3s, 9H, 3 CH_3CO). ^{13}C NMR (50.3 MHz, Cl_3CD) δ = 169.7, 169.5, 169.3 (3 *C*OCH_3), 166.7 (*C*OOCH_3), 79.0 (C-1), 76.6, 73.3, 72.7, 69.3 (C-5, C-3, C-2, C-4), 53.0 (O*C*H_3), 20.7, 20.6, 20.5 (3 CO*C*H_3).

2,2',3,3',4',6,6'-hepta-*O*-acetyl-1-thio-β-D-cellobiose **9**



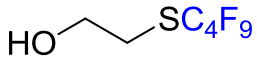
^{1}H-NMR (500 MHz, Cl_3CD) δ = 5.15 (t, 1H, $J_{2,3}$ = $J_{3,4}$ = 9.3 Hz, H-3), 5.13 (t, 1H, $J_{2',3'}$ = $J_{3',4'}$ = 9.4 Hz, H-3'), 5.05 (dd, 1H, $J_{3',4'}$ = 9.4, $J_{4',5'}$ = 9.9 Hz, H-4'), 4.91 (dd, 1H, $J_{1',2'}$ = 8.1, $J_{2',3'}$ = 9.4 Hz, H-2'), 4.88 (dd, 1H, $J_{2,3}$ = 9.3, $J_{1,2}$ = 9.9 Hz, H-2), 4.51 (d, 1H, $J_{1,2}$ = 9.9 Hz, H-1), 4.49 (d, 1H, $J_{1',2'}$ = 8.1 Hz, H-1'), 4.47 (dd, 1H, $J_{5,6a}$ = 2.0, $J_{6a,6b}$ = 12.1 Hz, H-6a), 4.36 (dd, 1H, $J_{5,6a'}$ = 4.4, $J_{6a',6b'}$ = 12.5 Hz, H-6a'), 4.08 (dd, 1H, $J_{5,6b}$ = 5.3, $J_{6a,6b}$ = 12.1 Hz, H-6b), 4.03 (dd, 1H, $J_{5,6b'}$ = 2.2, $J_{6a',6b'}$ = 12.5 Hz, H-6b'), 3.77 (dd, 1H, $J_{3,4}$ = 9.3, $J_{4,5}$ = 9.9 Hz, H-4), 3.66-3.60 (m, 2H, H-5, H-5'), 2.13, 2.08, 2. 06, 2.02, 2.01, 2.00, 1.97 (7s, 21H, 7 CH_3CO). ^{13}C NMR (125 MHz, Cl_3CD) δ = 170.6, 170.4, 170.3, 170.0, 169.8, 169.4, 169.2 (7 *C*OCH_3), 100.9 (C-1'), 78.6 (C-1), 77.3 (C-5), 76.4 (C-4), 73.9 (C-2), 73.3 (C-3), 73.0 (C-3'), 72.1 (C-5'), 71.7 (C-2'), 67.9 (C-4'), 62.2 (C-6), 61.7 (C-6'), 21.0, 20.9, 20.8, 20.7 (4×) (7 CO*C*H_3).

5H-[1,2,4]triazino[5,6-b]indole-3-thiol **16** was prepared according to literature procedures[42] and the spectroscopic data match well with the reported values.



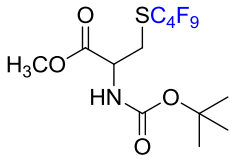
Perfluorobutyl)(phenyl)sulfane **1**[14]: Yield: 80 %. Isolated and purified mass obtained: 10 mg. TLC (Hexane): Rf = 0.75.

^{1}H-NMR (600 MHz, Cl_3CD) δ : 7.66 (d, 2H, J = 7.4 Hz), 7.51 (t, 1H, J = 7.5 Hz), 7.43 (t, 2H, J = 7.5 Hz). **^{13}C NMR** (150 MHz, Cl_3CD) δ : 137.6, 131.2, 129.6, 122.9. **^{19}F NMR** (564.603 MHz, Cl_3CD) δ : -81.0 (t, 3F), -87.1 (m, 2F), -120.1 (m, 2F), -125.5 (m, 2F)



2-((perfluorobutyl)thio)etanol **2**[9]: Yield: 75 %. Isolated and purified mass obtained: 12 mg. TLC (AcOEt: Hexane 1:1 v/v): Rf = 0.7.

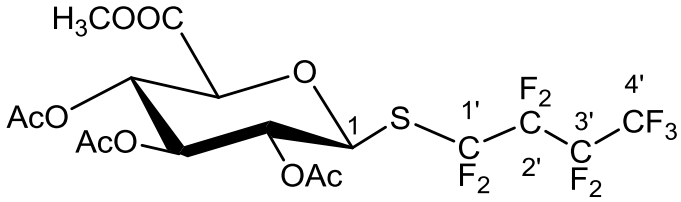
^{1}H-NMR (600 MHz, Cl_3CD) δ : 3.89 (t, 2H, J = 6.1 Hz), 3.14 (t, 2H, J = 6.1 Hz), 1.97 (bs, 1H). **^{13}C NMR** (150 MHz, Cl_3CD) δ : 61.6, 31.7. **^{19}F NMR** (564.603 MHz, Cl_3CD) δ : -81.0 (t, 3F), -87.0 (m, 2F), -120.7 (m, 2F), -125.5 (m, 2F).



Methyl 2-((*tert*-butoxycarbonyl)amino)-3-((perfluorobutyl)thio)propanoate,[6] 4: Yield: 25 %. Isolated and purified mass obtained: 10 mg. TLC (AcOEt: Hexane 4:6 v/v): Rf = 0.8.

^{1}H-NMR (500 MHz, Cl_3CD) δ : 5.37 (d, 1H, J =6.2 Hz), 4.63 (d, 1H, J = 5.5 Hz), 3.79 (bs, 3H), 3.53 (dd, 1H, J = 13.6 Hz, 4 Hz), 3.36 (dd, 1H, J = 13.7 Hz, 4.5 Hz), 1.44 (bs, 9H). **^{13}C NMR** (150 MHz, Cl_3CD) δ : 170.2, 164.4, 155.0, 131.4, 80.8, 53.2, 53.1, 31.1, 28.3. **^{19}F NMR** (564.603 MHz, Cl_3CD) δ : -81.0 (t, 3F), -86.7 (m, 2F), -120.5 (m, 2F), -125.5 (m, 2F).

Perfluorobutyl 2,3,4-tri-*O*-acetyl-1-thio-β-D-methylglucopyranosyluronate, **6**

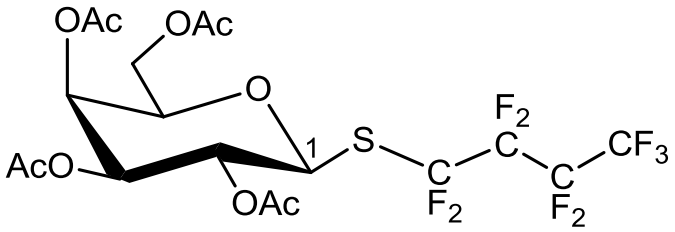


Yield: 75 %. Isolated and purified mass obtained: 21 mg. **TLC** (AcOEt: Hexane 4:6 v/v): Rf = 0.7.

^{1}H-NMR (600 MHz, Cl_3CD) δ = 5.33, 5.22 (2dd, 2H, *J* = 9.9, *J* = 8.9 Hz, H-3, H-4), 5.08 (dd, 1H, $J_{2,3}$ = 9.9, $J_{1,2}$ = 10.2 Hz, H-2), 5.04 (d, 1H, $J_{1,2}$ = 10.2 Hz, H-1), 4.09 (d, 1H, $J_{4,5}$ = 9.9 Hz, H-5), 3.77 (s, 3H, OCH_3), 2.06, 2.03 (2×) (3s, 9H, 3 CH_3CO). **^{13}C NMR** (150.9 MHz, Cl_3CD) δ = 170.0, 169.4, 169.3 (3 *C*OCH_3), 166.4 (*C*OOCH_3), 80.8 (C-1), 76.4, 72.7, 69.1, 69.0 (C-5, C-3, C-

2, C-4), 53.2 (O*C*H_3), 20.7, 20.6, 20.5 (3 CO*C*H_3). **^{19}F NMR** δ = 470.592 Cl_3CD) δ = -80.9 (t, *J* = 9.4 Hz, 3H, C*F*$_3$), -85.6, -88.2 (2 brd, 2F, *J* = 240.0 Hz, C$^{1'}$*F*$_2$), -120.4, -121.0 (2 dt, 2F, *J* = 8.1, *J* = 294.4 Hz, C$^{2'}$*F*$_2$), -125.5 (t, 2F, *J* = 12.8 Hz, C$^{3'}$*F*$_2$). HRMS (ESI): *m/z* [*M*+H]$^+$calcd for $C_{17}H_{17}F_9NaO_9S$: 591.03418, found: 591.03342.

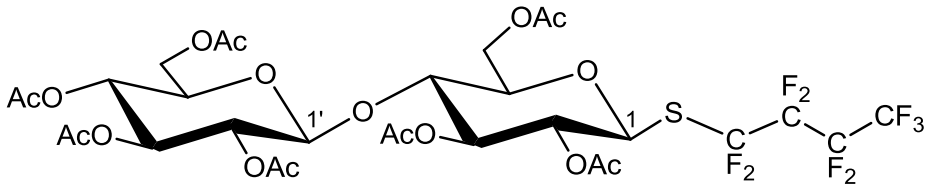
Perfluorobutyl 2,3,4,6-tetra-*O*-acetyl-1-thio-β-D-galactopyranoside, **8**



Yield: 83 %. Isolated and purified mass obtained: 30 mg. **TLC** (AcOEt: Hexane 1:1 v/v): Rf = 0.6

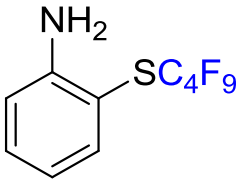
^{1}H NMR (600 MHz, Cl_3CD) δ = 5.44 (d, 1H, $J_{3,4}$ = 2.8Hz, H-4), 5.25 (t, 1H, $J_{2,3}$ = $J_{1,2}$ = 10.0 Hz, H-2), 5.10 (dd, $J_{3,4}$ = 3.3, $J_{2,3}$ = 10.0 Hz, H-3), 4.99 (d, 1H, $J_{1,2}$ = 10.0 Hz, H-1), 4.16 (dd, 1H, $J_{5,6a}$ = 7.2, $J_{6a,6b}$ = 11.4 Hz, H-6a), 4.10 (dd, 1H, $J_{5,6b}$ = 5.9, $J_{6a,6b}$ = 11.4 Hz, H-6b), 4.00 (dd, 1H, $J_{5,6a}$ = 7.2, $J_{5,6b}$ = 5.9 Hz, H-5), 2.16, 2.07, 2.03, 1.99 (4s, 12H, 4 C*H*$_3$CO). **^{13}C NMR** (150.9 MHz, Cl_3CD) δ = 170.5, 170.2, 169.9, 169.6 (4 *C*OCH_3), 81.3 (C-1), 75.2, 71.7, 67.0, 66.5 (C-5, C-3, C-2, C-4), 61.4 (C-6), 20.7, 20.6 (3×) (4 CO*C*H_3). **^{19}F NMR** (470.592 MHz, Cl_3CD) δ = -81.0 (t, *J* = 9.5 Hz, 3H, C*F*$_3$), -85.8, -88.9 (2 brd, 2F, *J* = 241.0 Hz, C$^{1'}$*F*$_2$), -120.3, -121.2 (2 dt, 2F, *J* = 8.4, *J* = 294.3 Hz, C$^{2'}$*F*$_2$), -125.5 (t, 2F, *J* = 13.2 Hz, C$^{3'}$*F*$_2$). HRMS (ESI): m/z [M+H]$^+$calcd for $C_{18}H_{19}F_9NaO_9S$: 605.04983, found: 605.04978.

Perfluorobutyl 2,2',3,3',4',6,6'-hepta-*O*-acetyl-1-thio-β-D-cellobioside, **10**



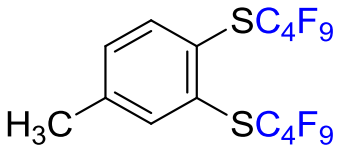
Yield: 50 %. Isolated and purified mass obtained: 20 mg. **TLC** (AcOEt: Hexane 1:1 v/v): Rf = 0.6

^{1}H NMR (600 MHz, Cl_3CD) δ = 5.23 (t, 1H, $J_{2,3} = J_{3,4} = 9.0$ Hz, H-3), 5.14 (t, 1H, $J_{2',3'} = J_{3',4'} = 9.4$ Hz, H-3'), 5.05 (dd, 1H, $J_{3',4'} = 9.4$ Hz, $J_{4',5'} = 10.0$ Hz, H-4'), 4.98 (dd, 1H, $J_{2,3} = 9.0$, $J_{1,2} = 10.0$ Hz, H-2), 4.95 (d, 1H, $J_{1,2} = 10.0$ Hz, H-1), 4.92 (dd, 1H, $J_{2',3'} = 9.4$ Hz, $J_{1',2'} = 8.0$ Hz, H-2'), 4.49 (d, 1H,$J_{1',2'} = 8.0$ Hz, H-1'), 4.46 (dd, 1H, $J_{5,6a} = 2.0$ Hz, $J_{6a,6b} = 12.0$ Hz, H-6a), 4.35 (dd, 1H, $J_{5',6a'} = 4.5$ Hz, $J_{6a',6b'} = 12.4$ Hz, H-6a'), 4.12 (dd, 1H, $J_{5,6b} = 6.1$ Hz, $J_{6a,6b} = 12.0$ Hz, H-6b), 4.03 (dd, 1H,$J_{5',6b'} = 2.0$ Hz, $J_{6a',6b'} =$ 12.4 Hz, H-6b'), 3.76 (dd, 1H, $J_{3,4} = 9.0$ Hz, $J_{4,5} = 10.0$ Hz, H-4), 3.70-3.65 (m, 2H, H-5, H-5'), 2.10, 2.08, 2. 06, 2.03, 2.02, 2.01, 1.98 (7s, 21H, 7 CH_3CO). **^{13}C NMR** (150.9 MHz, Cl_3CD) δ = 170.5, 170.3, 170.2, 169.7, 169.6, 169.4, 169.2 (7 *C*OCH_3), 100.9 (C-1'), 80.7 (C-1), 77.3 (C-5), 76.2 (C-4), 73.2 (C-3), 73.0 (C-3'), 72.2 (C-5'), 71.7 (C-2'), 69.6 (C-2), 67.9 (C-4'), 62.0 (C-6), 61.7 (C-6'), 20.8, 20.7, 20.6 (7 CO*C*H_3). **^{19}F NMR** 470.592 Cl_3CD) δ = -80.9 (t, J = 9.7 Hz, 3H, CF_3), -85.8, -88.8 (2 brd, 2F, J = 242.0 Hz, $C^{1'}F_2$), -120.0, -121.2 (2 dt, 2F, J= 8.5, J = 294.6 Hz, $C^{2'}F_2$), -125.5 (t, 2F, J = 13.0 Hz, $C^{3'}F_2$). HRMS (ESI): *m/z* $[M+H]^+$calcd for $C_{30}H_{36}F_9O_{17}S$: 871.1451, found: 871.1456.



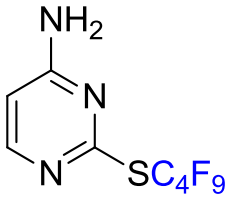
2-((perfluorobutyl)thio)aniline **11**[22]: Yield: 90 %. Isolated and purified mass obtained: 15 mg. TLC (CH_2Cl_2: iso-octane 1:1 v/v): Rf = 0.6

^{1}H-NMR (600 MHz, Cl_3CD) δ : 7.47 (d, 1H, *J* = 8.6 Hz), 7.28 (t, 1H, *J* = 8.2 Hz), 6.78 (d, 1H, *J* =8.1 Hz), 6.74 (t, 1H, *J* = 7.8 Hz), 4.45 (s, 2H). **^{13}C NMR** (150 MHz, Cl_3CD) δ : 151.1, 140.0, 133.4, 118.8, 115.8, 104.5. **^{19}F NMR** (564.603 MHz, Cl_3CD) δ : -81.1 (t, 3F), -87.1 (t, 2F), -120.4 (m, 2F), -125.5 (m, 2F).



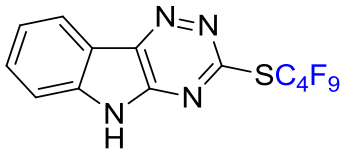
(4-methyl-1,2-phenylene)bis((perfluorobutyl)sulfane) **13**: Yield: 50 %. Isolated and purified mass obtained: 8 mg. TLC (Hexane): Rf = 0.6

^{1}H-NMR (500 MHz, Cl_3CD) δ : 7.78 (d, 1H, *J* = 8.0 Hz), 7.72 (bs, 1H), 7.37 (cplx d, 1H, J_o = 8 Hz, J_m = 2Hz, $J_{H\text{-}F5}$ = 0.7 Hz), 2.44 (s, 3H). **^{13}C NMR** (125.721 MHz, Cl_3CD) δ : 143.2, 140.3, 139.6, 133.0, 130.8, 127.3, 21.3. **^{19}F NMR** (470.585 MHz, Cl_3CD) δ : -81.0 (c, 6F), -86.3 (dt, 4F), -120.4 (m, 4F), -125.6 (m, 4F). HRMS (ESI):*m/z* $[M+H]^+$calcd for $C_{15}H_7F_{18}S_2$: 592.9623, found: 592.9641.



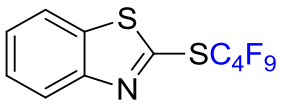
2-((perfluorobutyl)thio)pyrimidin-4-amine, **15**: Yield: 48 %. Isolated and purified mass obtained: 38 mg. TLC (AcOEt: MeOH + I Acetic Acid 9:1 v/v): Rf = 0.8

^{1}H-NMR (600 MHz, Cl_3CD) δ : 8.00 (d, 1H, *J* = 5.9 Hz), 7.34 (bs, 2H), 6.37 (d, 1H, *J* = 5.9 Hz). **^{13}C NMR** (150 MHz, Cl_3CD) δ : 163.7, 161.8, 155.6, 104.4. **^{19}F NMR** (564.603 MHz, Cl_3CD) δ : -80.7 (t, 3F), -87.6 (t, 2F), -120.1 (m, 2F), -125.3 (m, 2F). HRMS (ESI):*m/z* $[M+H]^+$calcd for $C_8H_5F_9N_3S$: 345.9982, found: 345.9896.



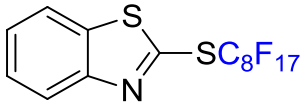
3-((perfluorobutyl)thio)-5H-[1,2,4]triazino[5,6-b]indole **17**: Yield: 50 %. Isolated and purified mass obtained: 10 mg. TLC (AcOEt: Hexane 1:1 v/v): Rf = 0.8

^{1}H-NMR (600 MHz, Cl_3CD) δ : 8.42 (d, 1H, *J* = 7.8 Hz), 7.80 (t, 1H, *J* = 8.3 Hz), 7.66 (d, 1H, *J* = 8.2 Hz), 7.52 (t, 1H, *J* = 7.9 Hz). **^{13}C NMR** (150 MHz, Cl_3CD) δ : 158.2, 146.5, 143.1, 141.4, 132.3, 123.1, 122.4, 116.9, 113.1. **^{19}F NMR** (564.603 MHz, Cl_3CD) δ : -80.4 (t, 3F), -86.3 (m, 2F), -119.8 (m, 2F), -125.1 (m, 2F). HRMS (ESI):*m/z* $[M+H]^+$calcd for $C_{13}H_6F_9N_4S$: 421.0091, found: 421.0045.



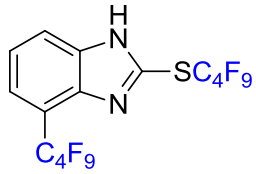
2-((perfluorobutyl)thio)benzo[d]thiazole **19**[29]: Yield: 99 %. Isolated and purified mass obtained: 23 mg. TLC ($CHCl_3$: iso-octane: MeOH 0.8:1: 0.2 v/v): Rf = 0.85

^{1}H-NMR (500 MHz, Cl_3CD) δ : 8.17 (cplx d, 1H, *J* = 8.2 Hz, 0.7 Hz), 7.92 (cplx d, 1H, *J* = 8.1 Hz, 0.7 Hz), 7.58 (m, 1H, *J* = 8.3 Hz, 1.2 Hz), 7.52 (m, 1H, *J* = 7.2 Hz, 1.3 Hz). **^{13}C NMR** (125.721 MHz, Cl_3CD) δ : 153.4, 150.0, 138.7, 127.2, 127.1, 124.6, 121.5. **^{19}F NMR** (470.585 MHz, Cl_3CD) δ : -80.9 (t, 3F), -85.2 (t, 2F), -119.8 (m, 2F), -125.5 (m, 2F). HRMS (ESI):*m/z* $[M+H]^+$calcd for $C_{11}H_5F_9NS_2$: 385.9641, found: 385.9625.



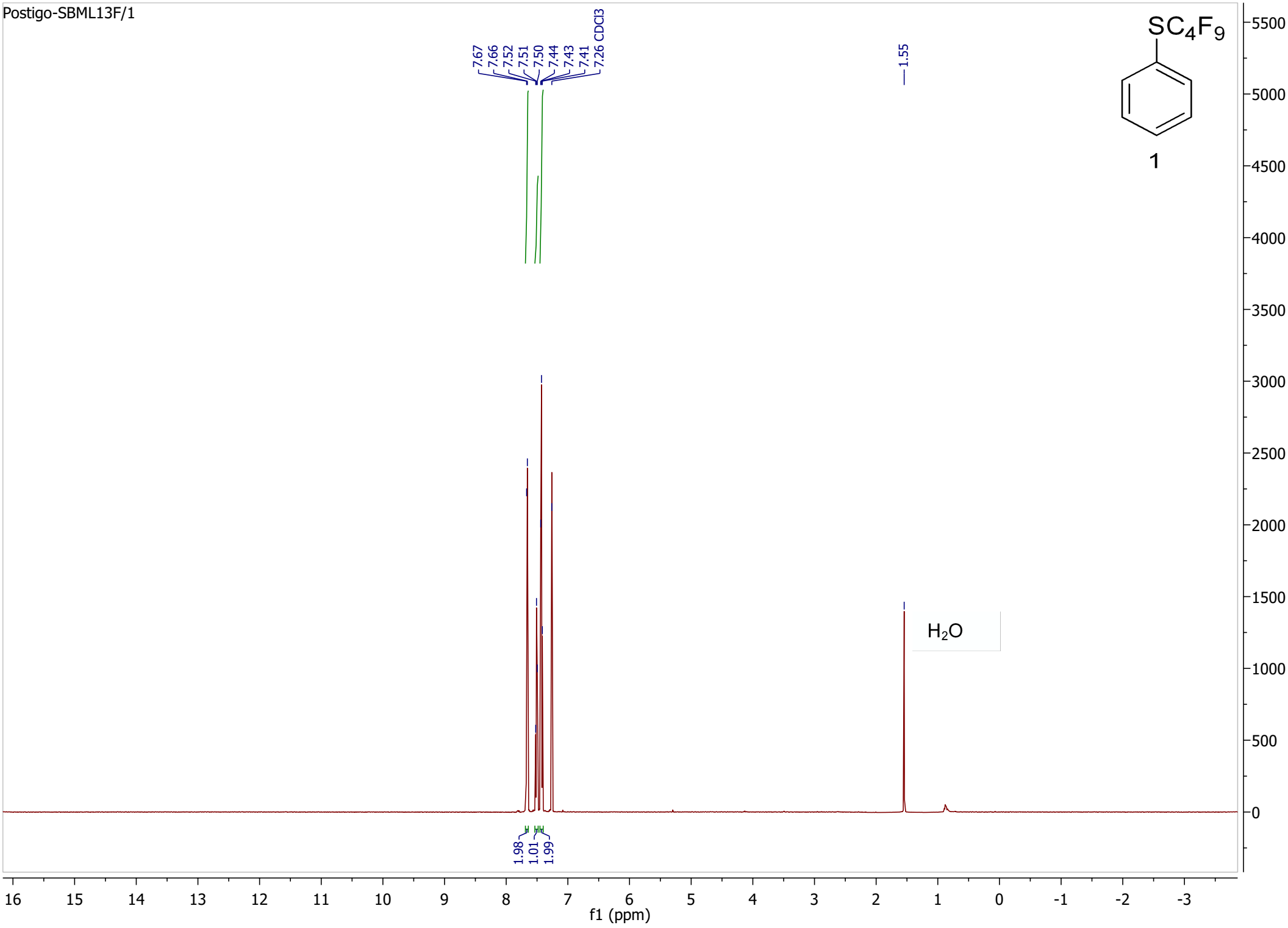
2-((perfluorooctyl)thio)benzo[d]thiazole **20**: Yield: 50 %. Isolated and purified mass obtained: 10 mg. TLC ($CHCl_3$: iso-octane: MeOH 0.8:1: 0.2 v/v): Rf = 0.75

^{1}H-NMR (600 MHz, Cl_3CD) δ : 8.18 (d, 1H, *J* = 8.2 Hz), 7.92 (d, 1H, *J* = 8.0 Hz), 7.58 (t, 1H, *J* = 7.2 Hz), 7.52 (t, 1H, *J* = 8.01 Hz). **^{13}C NMR** (150 MHz, Cl_3CD) δ : 157.7, 153.4, 138.7, 127.2, 127.1, 124.6, 121.5. **^{19}F NMR** (564.603 MHz, Cl_3CD) δ :-80.7 (t, 3F), -84.9 (t, 2F), -118.8 (m , 2F), -121.1 (m, 2F), -121.7 (m, 2F), -121.9 (m, 2F), -122.7 (m, 2F), -126.1 (m, 2F). HRMS (ESI):*m/z* $[M+H]^+$calcd for $C_{15}H_5F_{17}NS_2$: 585.9514, found: 585.9515.



4-(perfluorobutyl)-2-((perfluorobutyl)thio)-1H-benzo[d]imidazole **22**: Yield: 50 %. Isolated and purified mass obtained: 15 mg. TLC (CHCl3: hexane 7:3 v/v): Rf = 0.5

^{1}H-NMR (600 MHz, Cl_3CD) δ : 9.87 (bs, 1H), 8.08 (d, 1H, *J* = 8.1 Hz,, 7.61 (d, 1H, *J* = 7.7 Hz), 7.49 (t, 1H, *J* = 8.0 Hz). **^{13}C NMR** (150 MHz, Cl_3CD) δ : 145.3, 137.3, 132.6, 125.5, 125.1, 123.6, 122.9. **^{19}F NMR** (564.603 MHz, Cl_3CD) δ : -81.0 (m, 6F), -84.7 (t, 2F), -109.9 (t, 2F), -120.0 (m, 2F), -123.1 (m, 2F), -125.6 (m, 4F). HRMS (ESI):*m/z* [*M*+H]$^{+}$calcd for $C_{15}H_5F_{18}N_2S$: 586.9808, found: 586.9815.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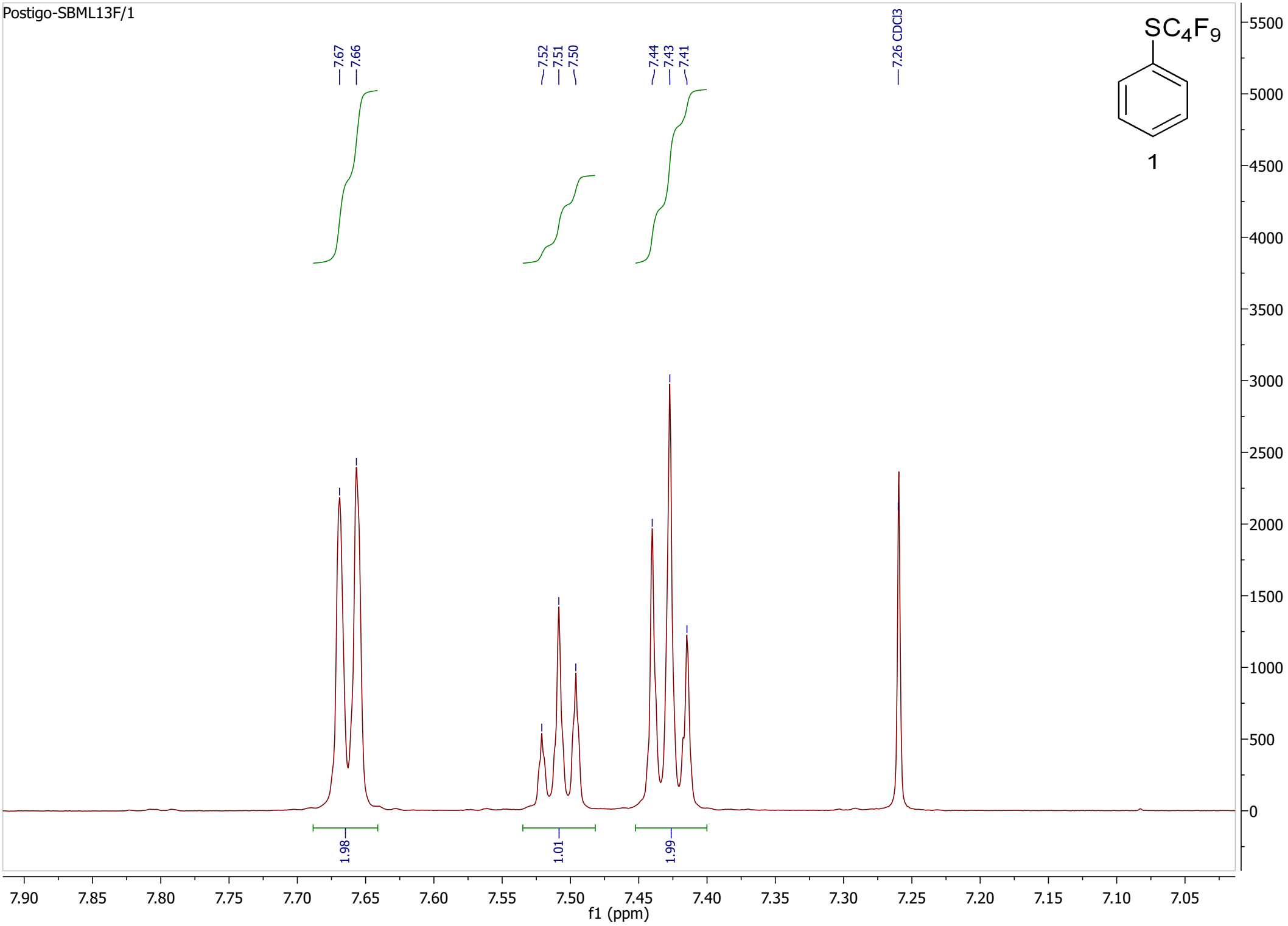
1.99
f1 (ppm)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1.99
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4500
4000
3500
3000
2500
2000
1500
1000
500
0
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7.80
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7.70
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7.60
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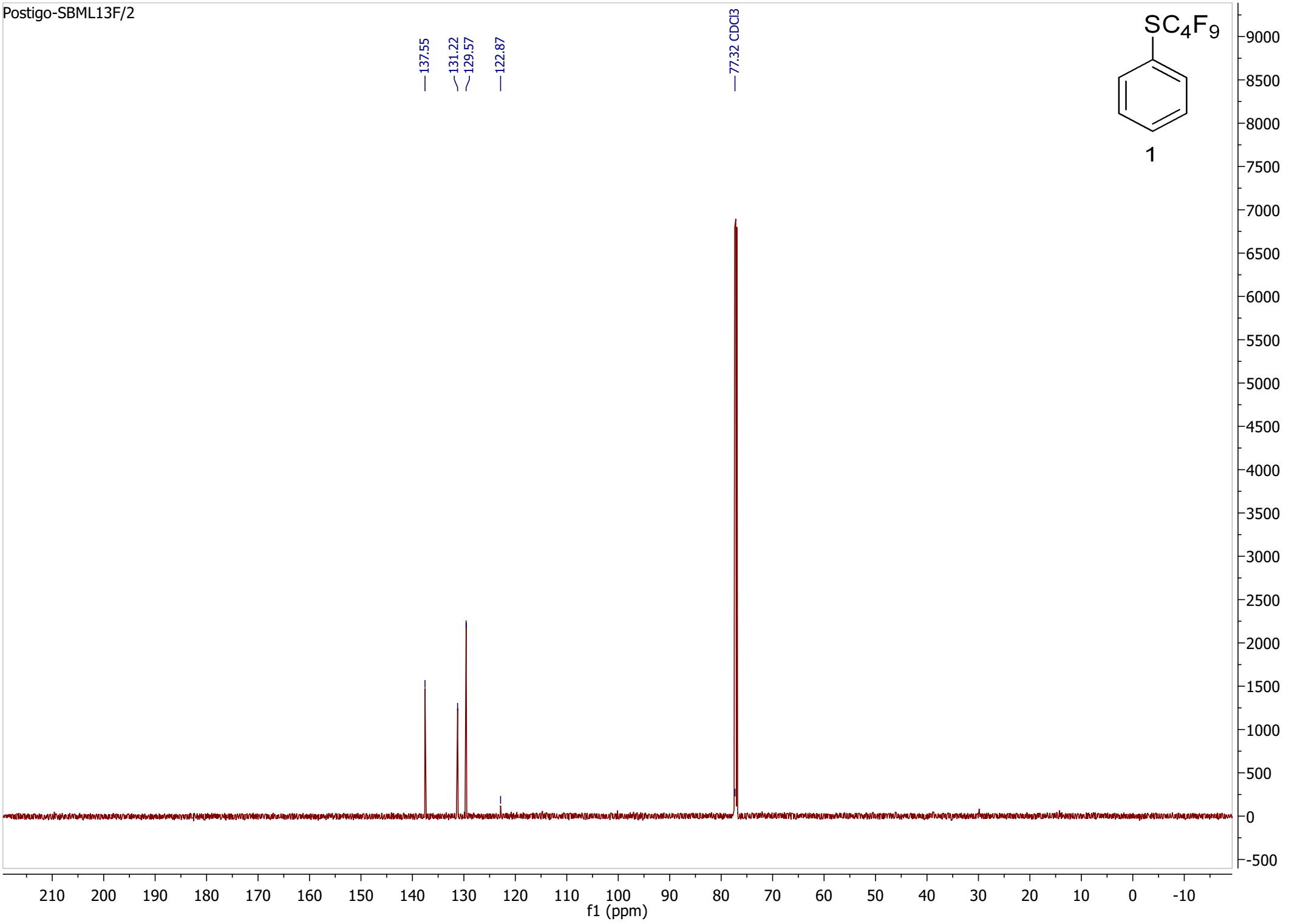
7.05
f1 (ppm)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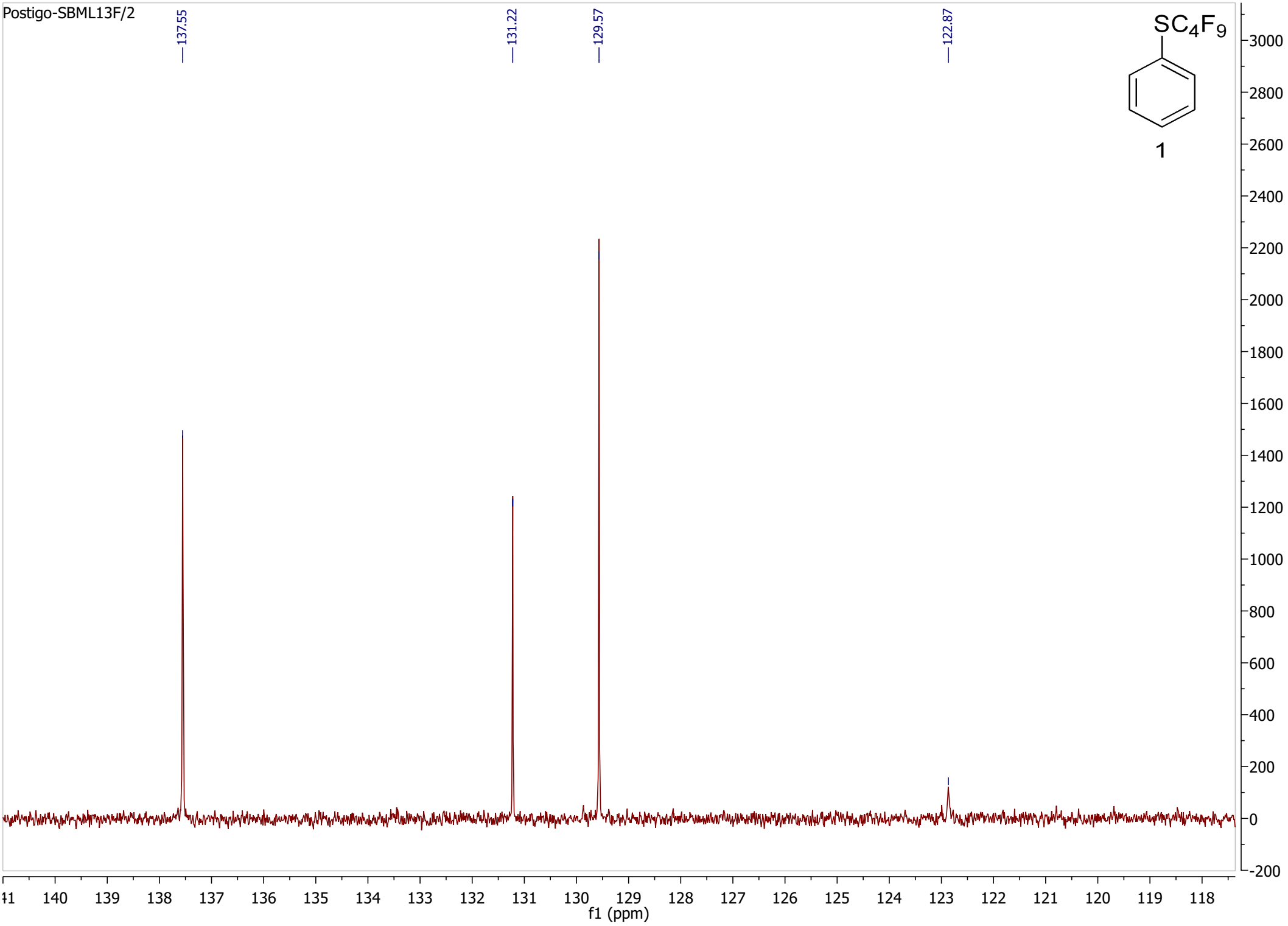
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136
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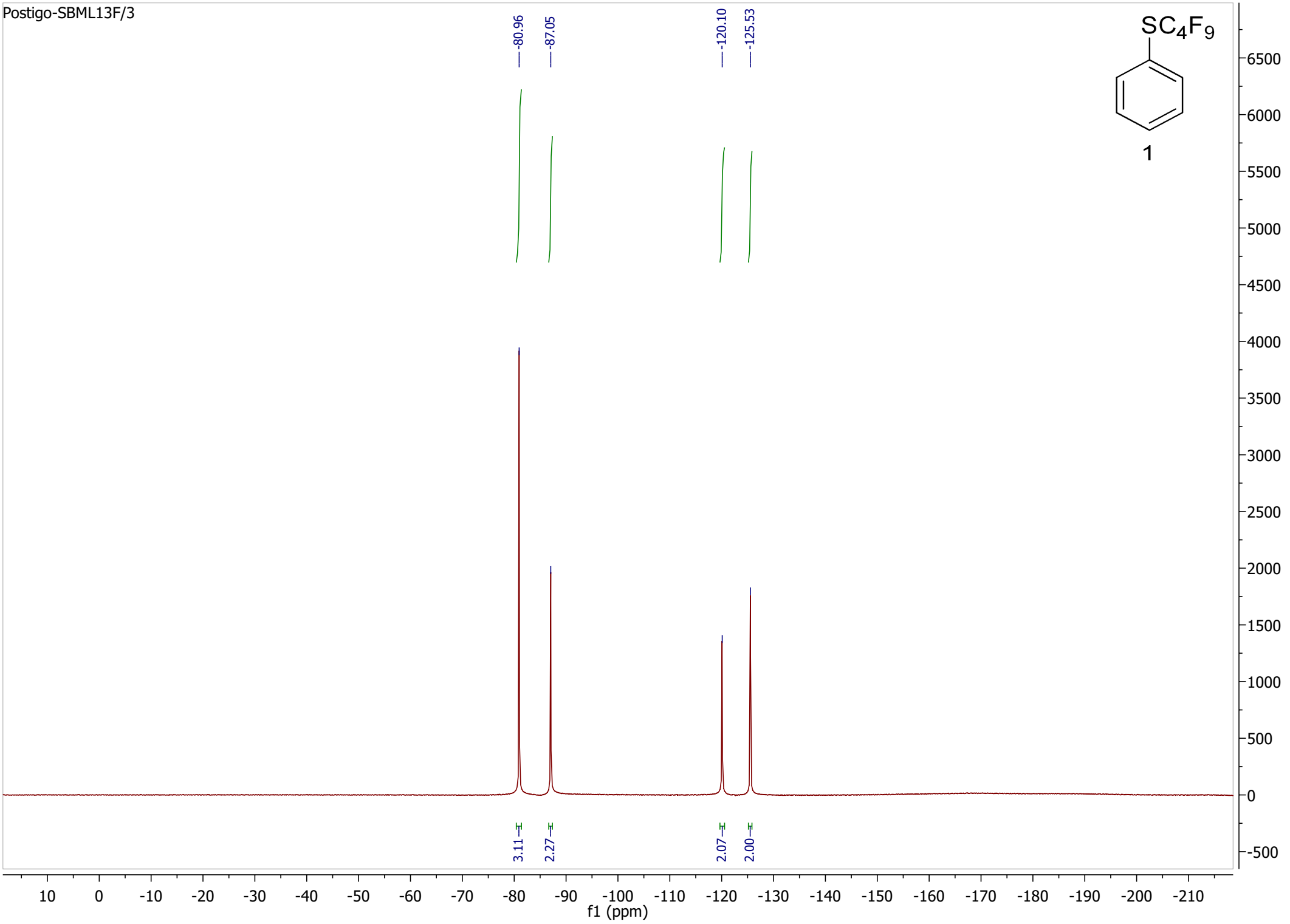
f1 (ppm)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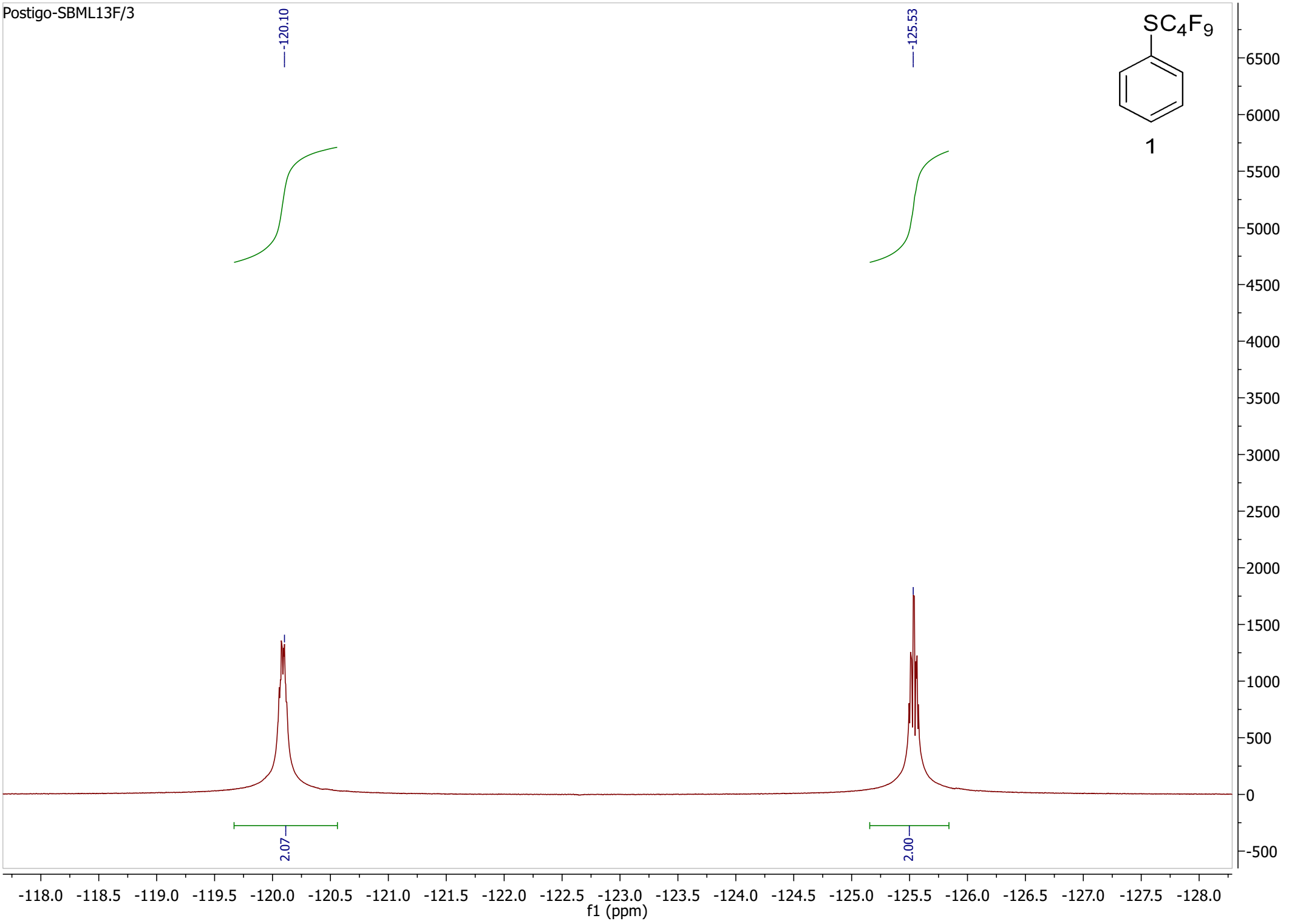
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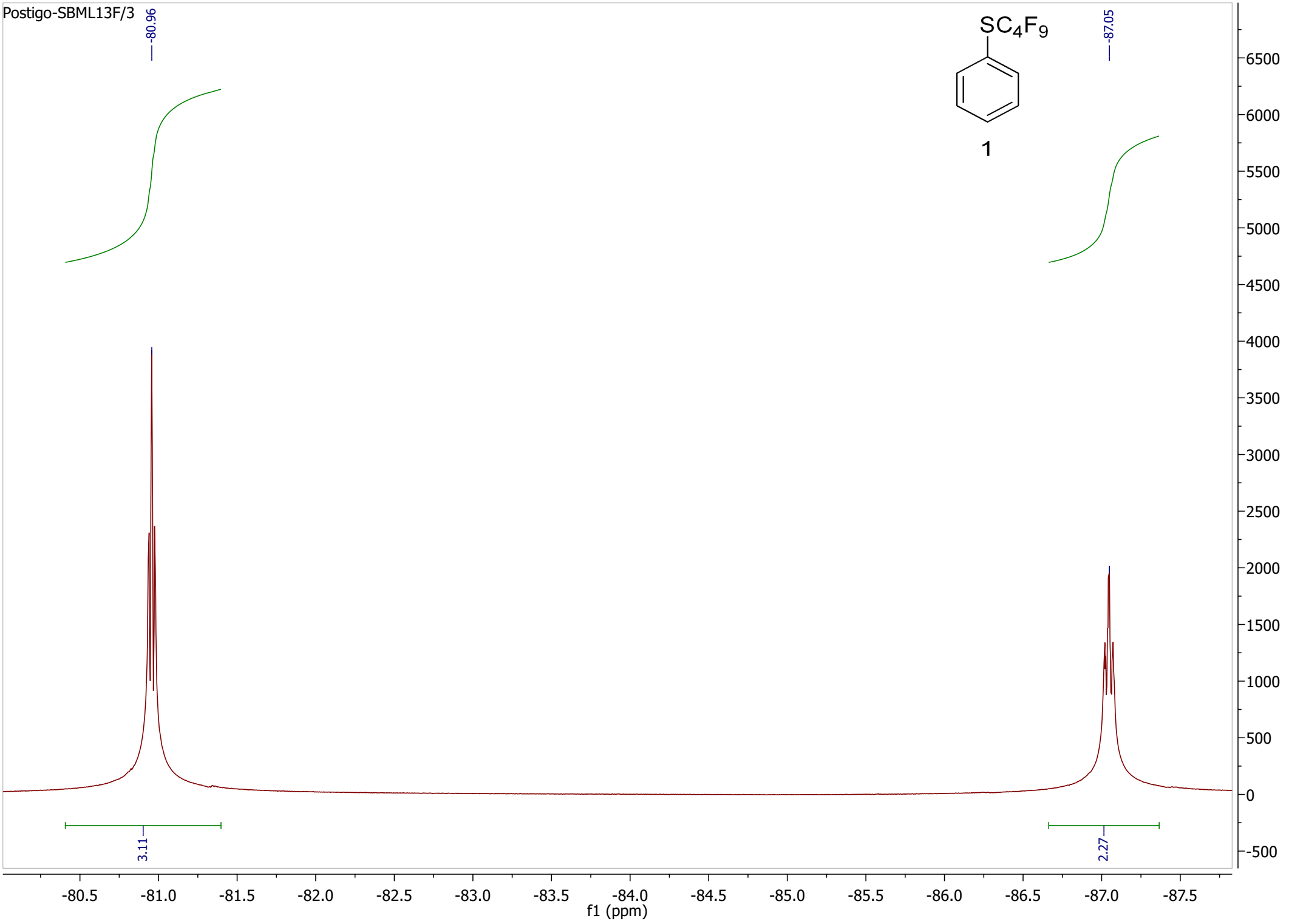
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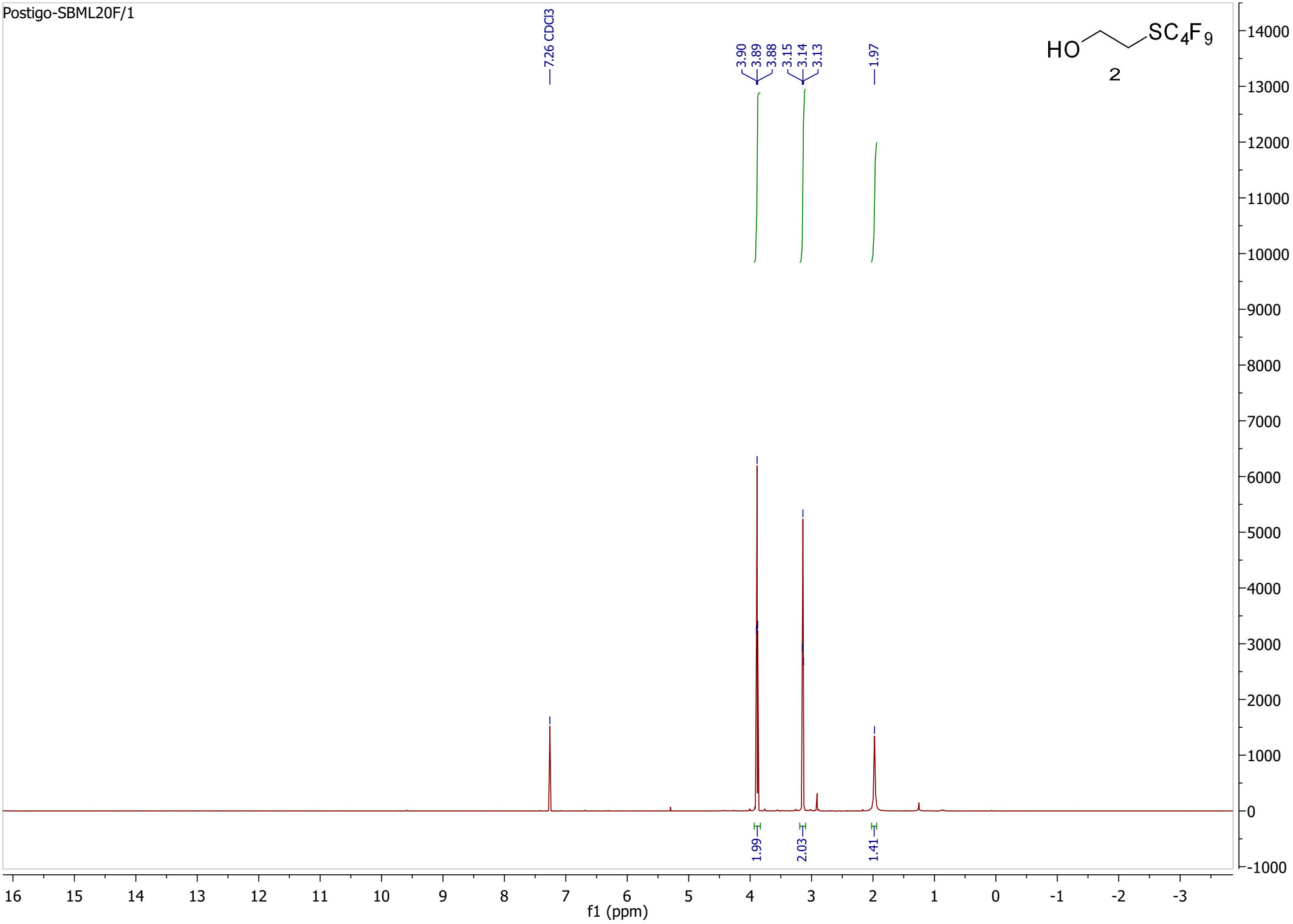
f1 (ppm)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2
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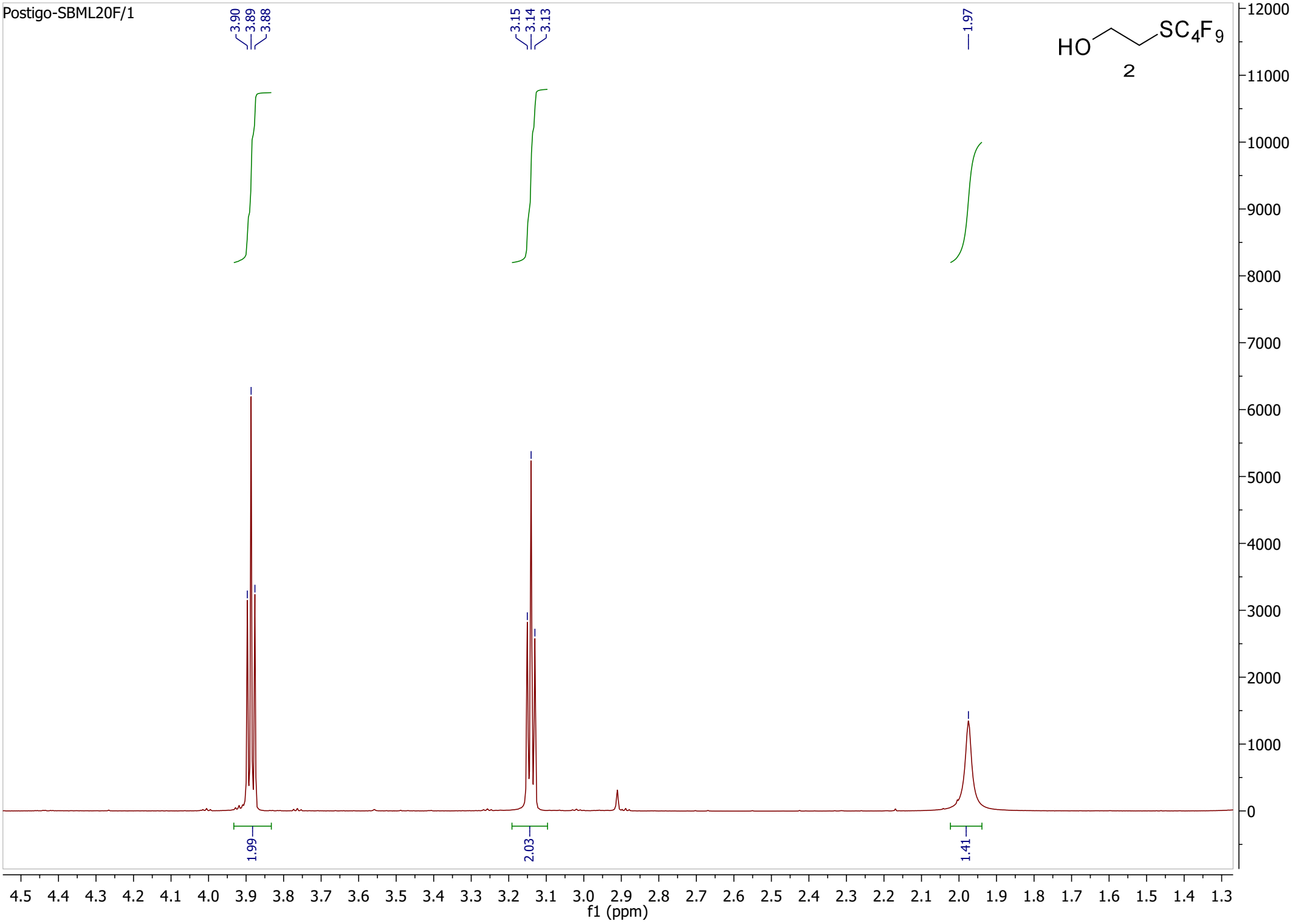
1.41
f1 (ppm)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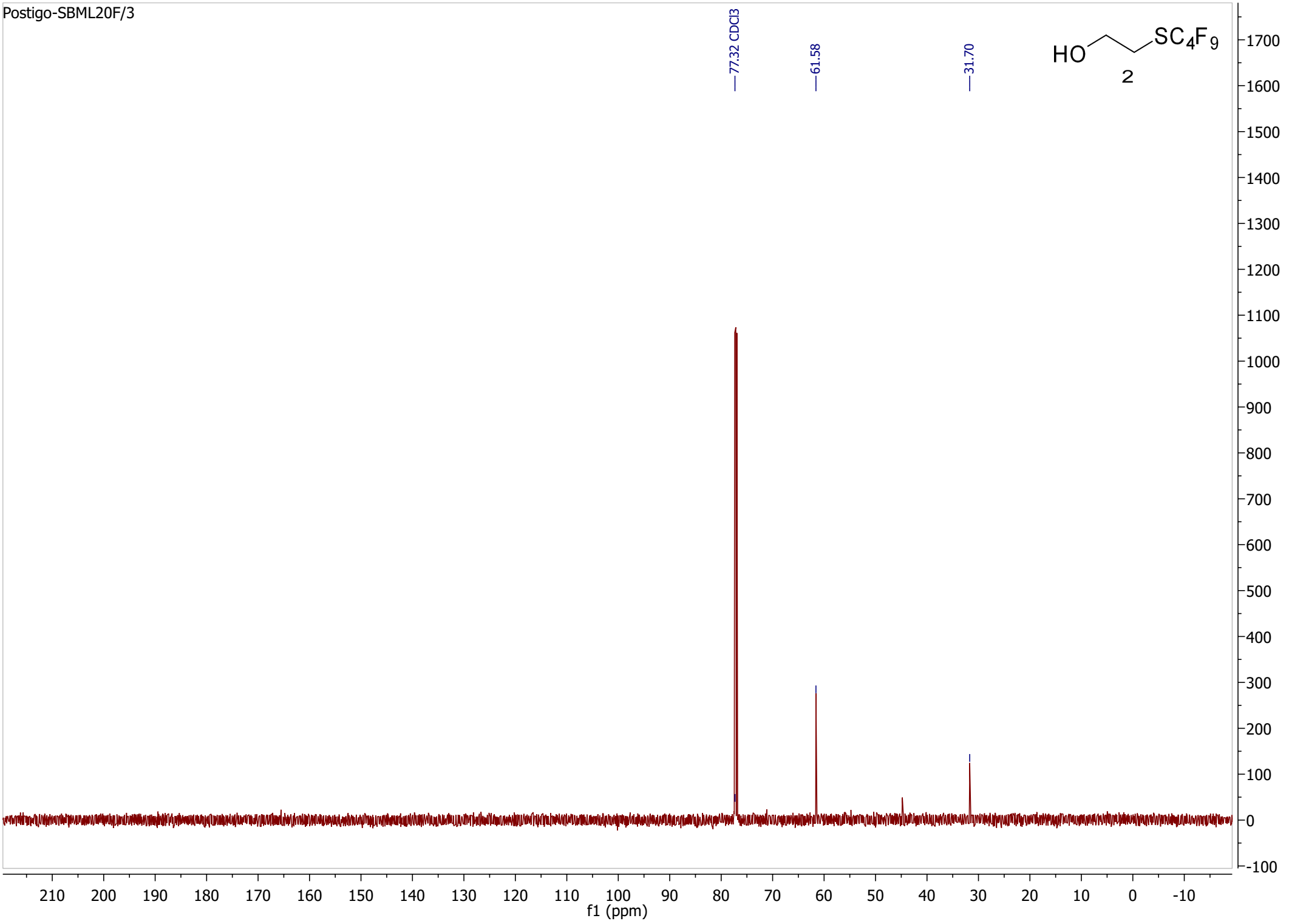
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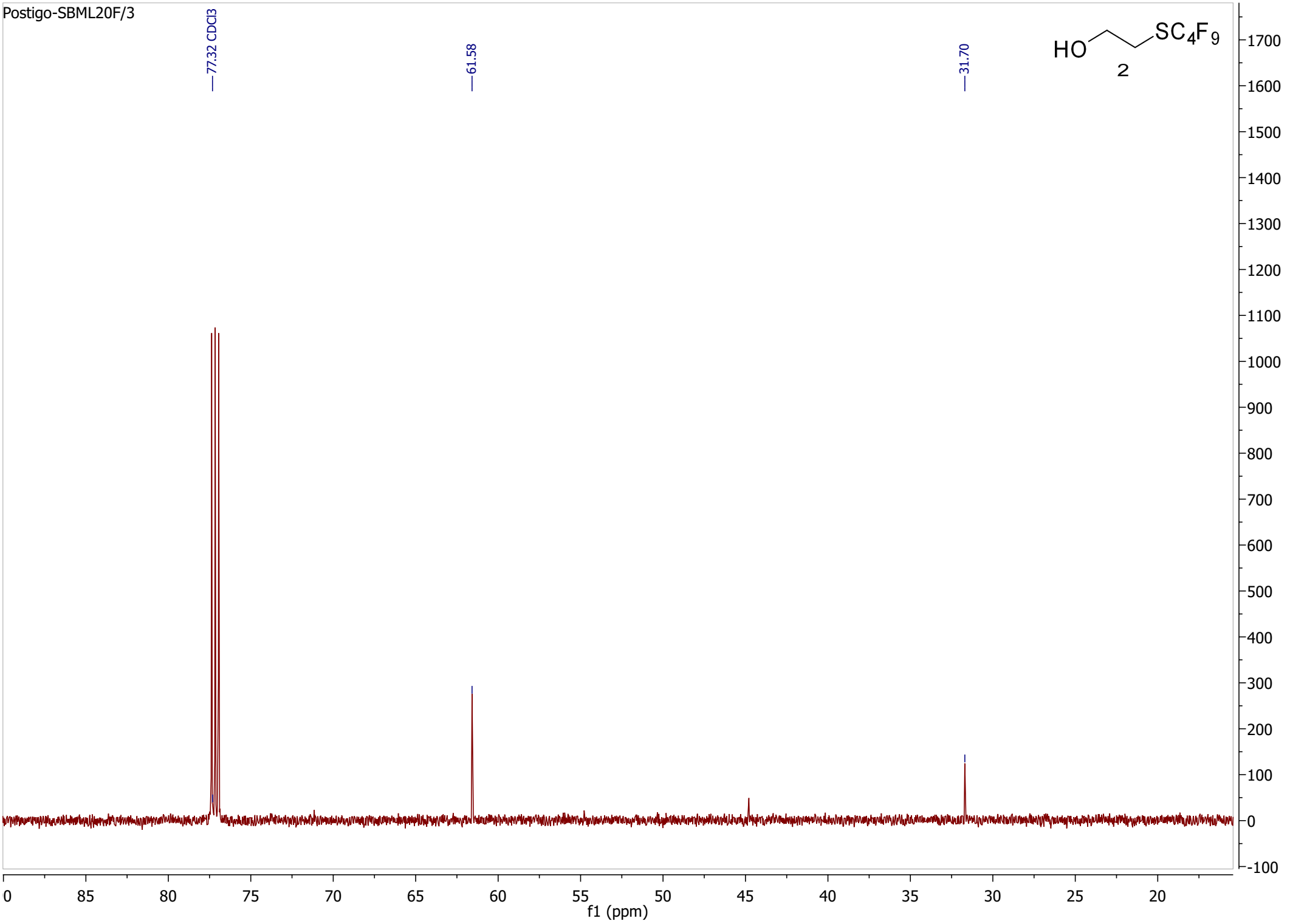
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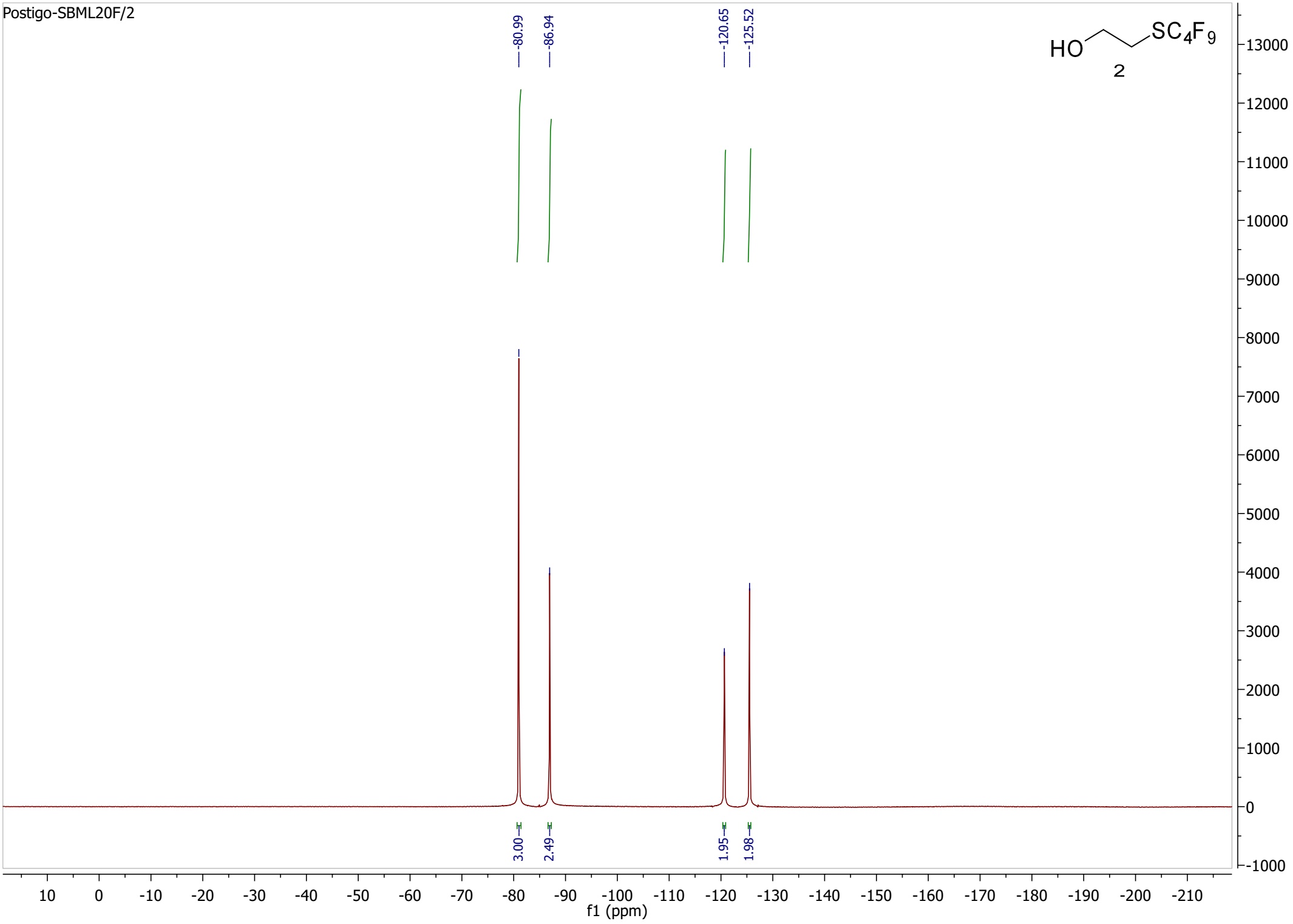
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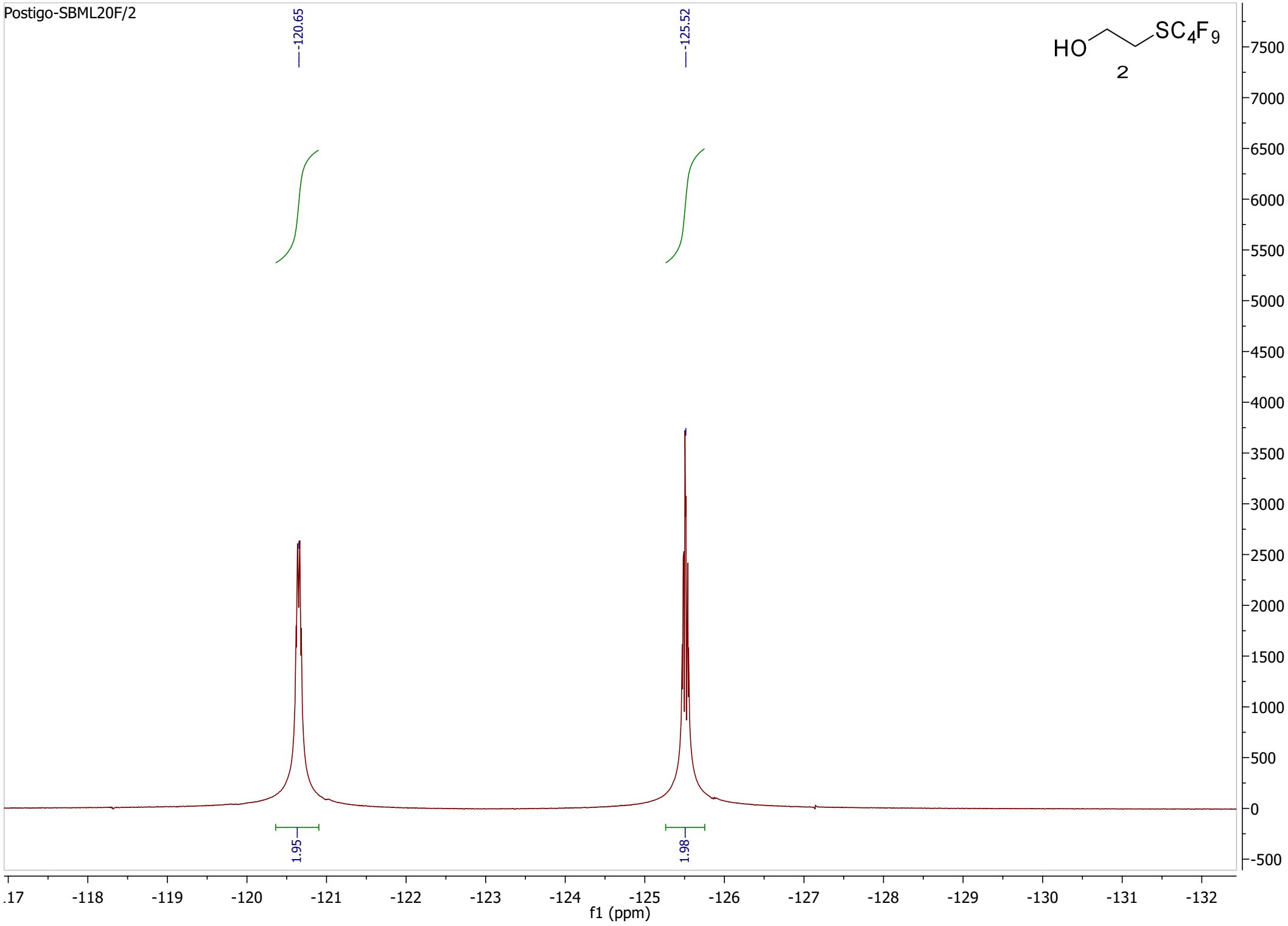
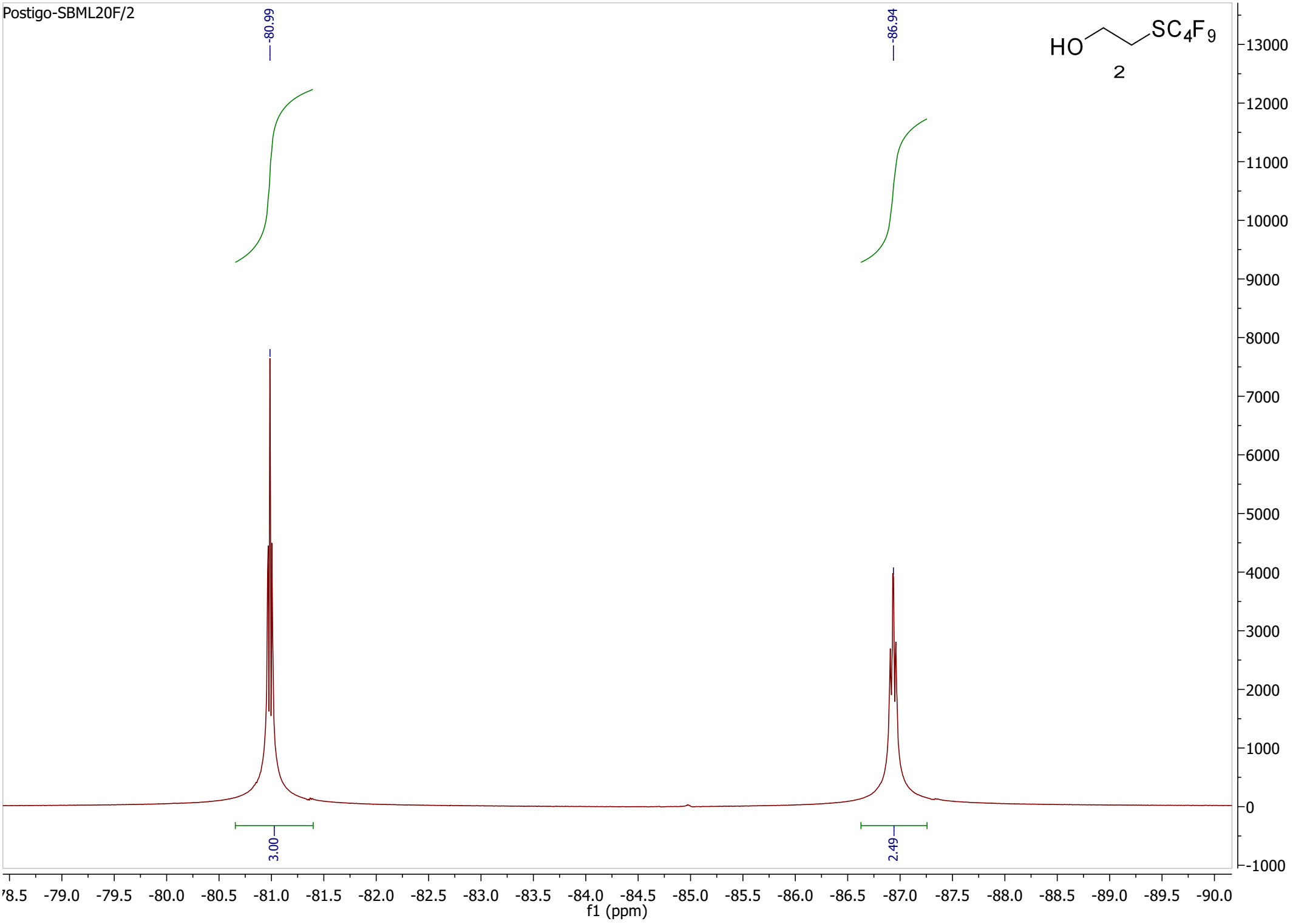
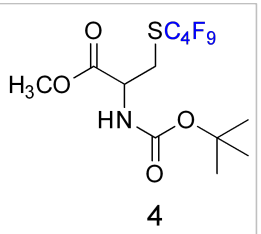
-210
f1 (ppm)


Postigo-SBML20F/2
-120.65
-125.52
HO
2
SC4F9
1.95
1.98
7500
7000
6500
6000
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
-500
-118
-119
-120
-121
-122
-123
-124
-125
-126
-127
-128
-129
-130
-131
-132
f1 (ppm)

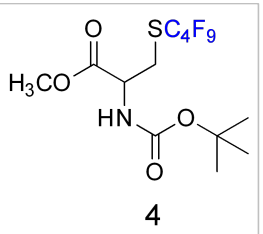

Postigo-SBML20F/2
-80.99
-86.94
HO
SC4F9
2
3.00
2.49
13000
12000
11000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
-79.0
-79.5
-80.0
-80.5
-81.0
-81.5
-82.0
-82.5
-83.0
-83.5
-84.0
-84.5
-85.0
-85.5
-86.0
-86.5
-87.0
-87.5
-88.0
-88.5
-89.0
-89.5
-90.0
f1 (ppm)

SBML-23-F2/1
SBML 23-F2 #//CDCl3//(Dr.Postigo-FFyB), posición 7.
umymfor_1h CDCl3 {C:\Bruker\TopSpin3.2} nmrsu 7



4

SBML-23-F2/1
SBML 23-F2 #//CDCl3//(Dr.Postigo-FFyB), posición 7.
umymfor_1h CDCl3 {C:\Bruker\TopSpin3.2} nmrsu 7

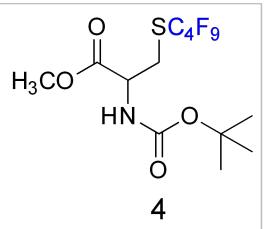


4

1.48
1.44
9.26

f1 (ppm)

SBML-23-F2/1
SBML 23-F2 #//CDCl3//(Dr.Postigo-FFyB), posición 7.
umymfor_1h CDCl3 {C:\Bruker\TopSpin3.2} nmrsu 7



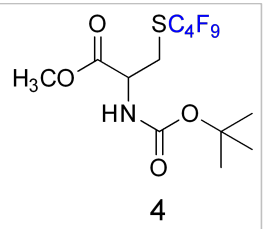
4

3.54 3.53 3.51 3.50 3.37 3.36 3.34 3.33

2.00

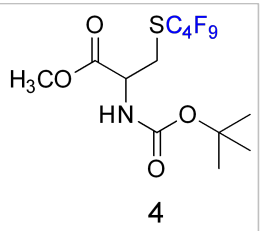
f1 (ppm)

SBML-23-F2/1
SBML 23-F2 #//CDCl3//(Dr.Postigo-FFyB), posición 7.
umymfor_1h CDCl3 {C:\Bruker\TopSpin3.2} nmrsu 7



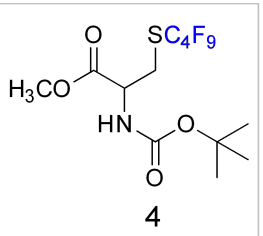
4

SBML-23-F2/1
SBML 23-F2 #//CDCl3//(Dr.Postigo-FFyB), posición 7.
umymfor_1h CDCl3 {C:\Bruker\TopSpin3.2} nmrsu 7



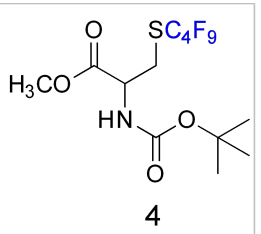
4

SBML-23-F2/4
SBML 23-F2 #//CDCl3//(Dr.Postigo-FFyB), posición 7.
umymfor_13c CDCl3 {C:\Bruker\TopSpin3.2} nmrsu 7



4

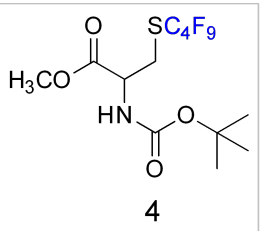
SBML-23-F2/4
SBML 23-F2 #//CDCl3//(Dr.Postigo-FFyB), posición 7.
umymfor_13c CDCl3 {C:\Bruker\TopSpin3.2} nmrsu 7



4

SBML-23-F2/4
SBML 23-F2 #//CDCl3//(Dr.Postigo-FFyB), posición 7.
umymfor_13c CDCl3 {C:\Bruker\TopSpin3.2} nmrsu 7

53.15
53.10



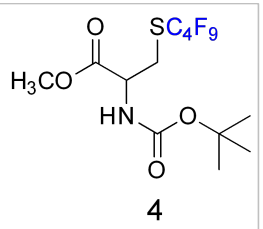
4

400000
350000
300000
250000
200000
150000
100000
50000
0

4.0 53.9 53.8 53.7 53.6 53.5 53.4 53.3 53.2 53.1 53.0 52.9 52.8 52.7 52.6 52.5 52.4
f1 (ppm)

SBML-23-F2/4
SBML 23-F2 #//CDCl3//(Dr.Postigo-FFyB), posición 7.
umymfor_13c CDCl3 {C:\Bruker\TopSpin3.2} nmrsu 7

80.80

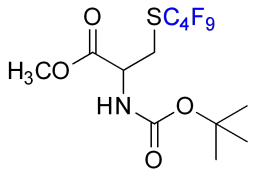


4

80000
75000
70000
65000
60000
55000
50000
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
-5000

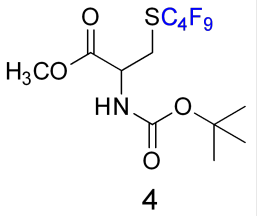
3.6 83.4 83.2 83.0 82.8 82.6 82.4 82.2 82.0 81.8 81.6 81.4 81.2 81.0 80.8 80.6 80.4 80.2 80.0 79.8 79.6 79.4 79.2 79.0 78.8 78.6 78.4 78.2 78.0 77.8
f1 (ppm)

SBML-23-F2/4
SBML 23-F2 #//CDCl3//(Dr.Postigo-FFyB), posición 7.
umymfor_13c CDCl3 {C:\Bruker\TopSpin3.2} nmrsu 7



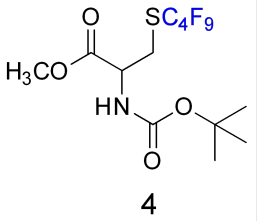
4

SBML-23-F2/2
SBML 23-F2 #//CDCl3//(Dr.Postigo-FFyB), posición 7.
umymfor_f19-cpd CDCl3 {C:\Bruker\TopSpin3.2} nmrsu 7



4

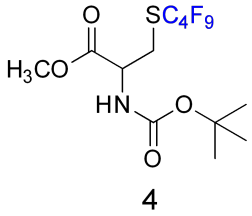
SBML-23-F2/2
SBML 23-F2 #//CDCl3//(Dr.Postigo-FFyB) posición 7.
umymfor_f19-cpd CDCl3 {C:\Bruker\TopSpin3.2} nmrsu 7



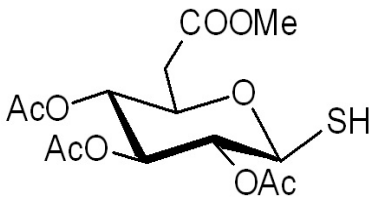
4

-120.54
-120.55
-125.52
2.07
2.07
f1 (ppm)

SBML-23-F2/2
SBML 23-F2 #//CDCl3//(Dr.Postigo-FFyB), posición 7.
umymfor_f19-cpd CDCl3 {C:\Bruker\TopSpin3.2} nmrsu 7

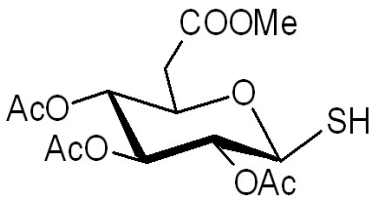


4

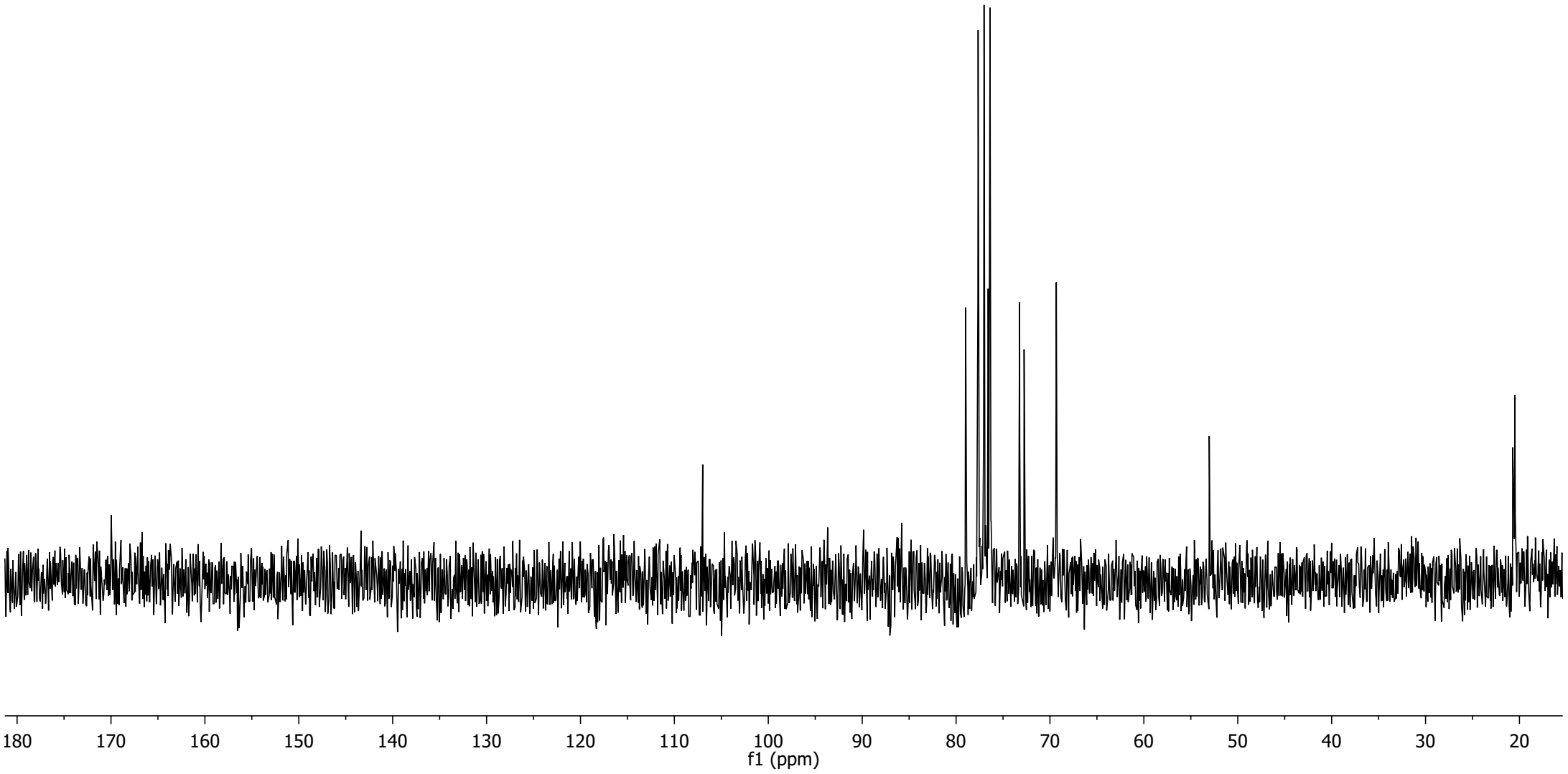

COOMe
AcO
O
SH
AcO
OAc

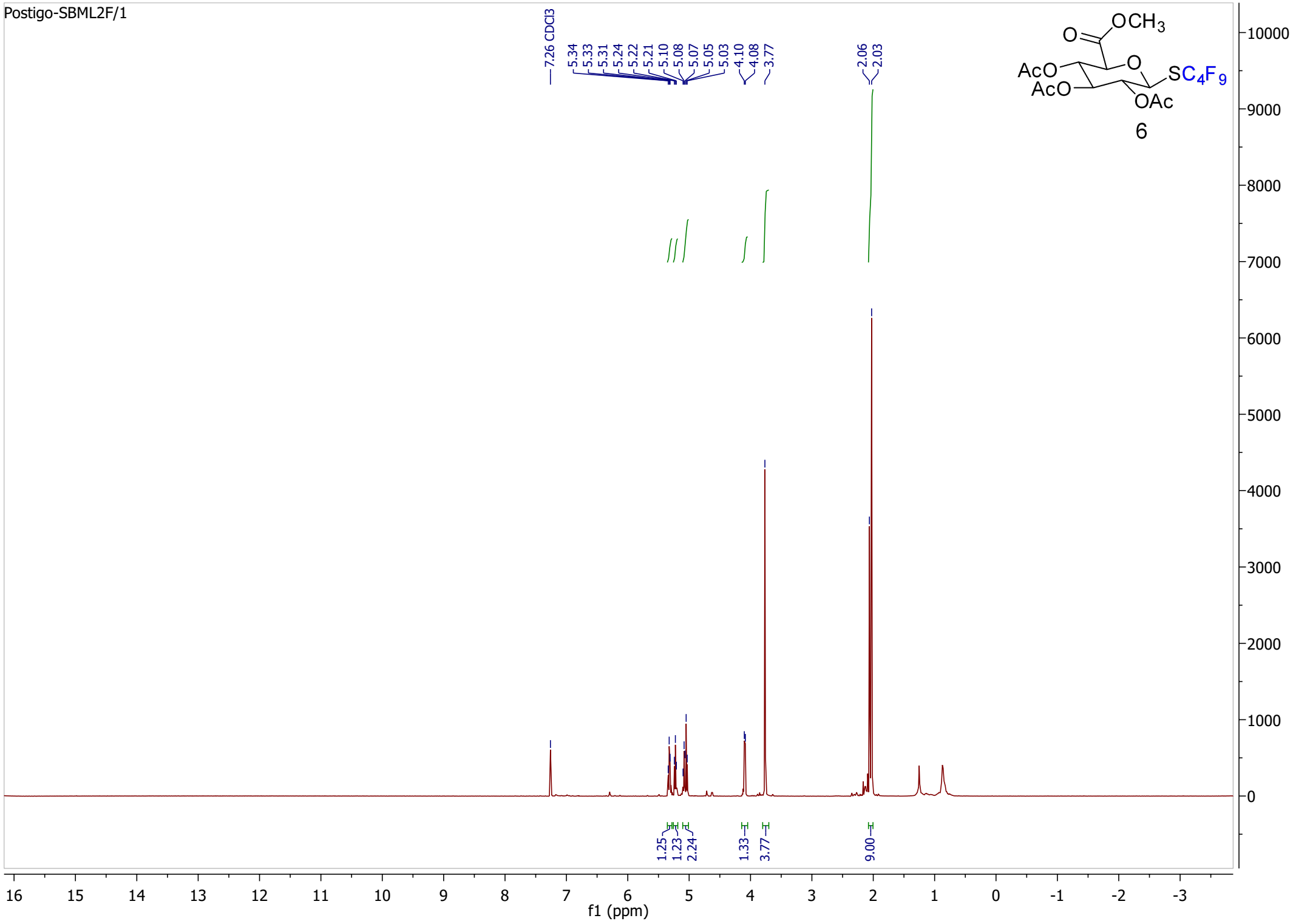
5

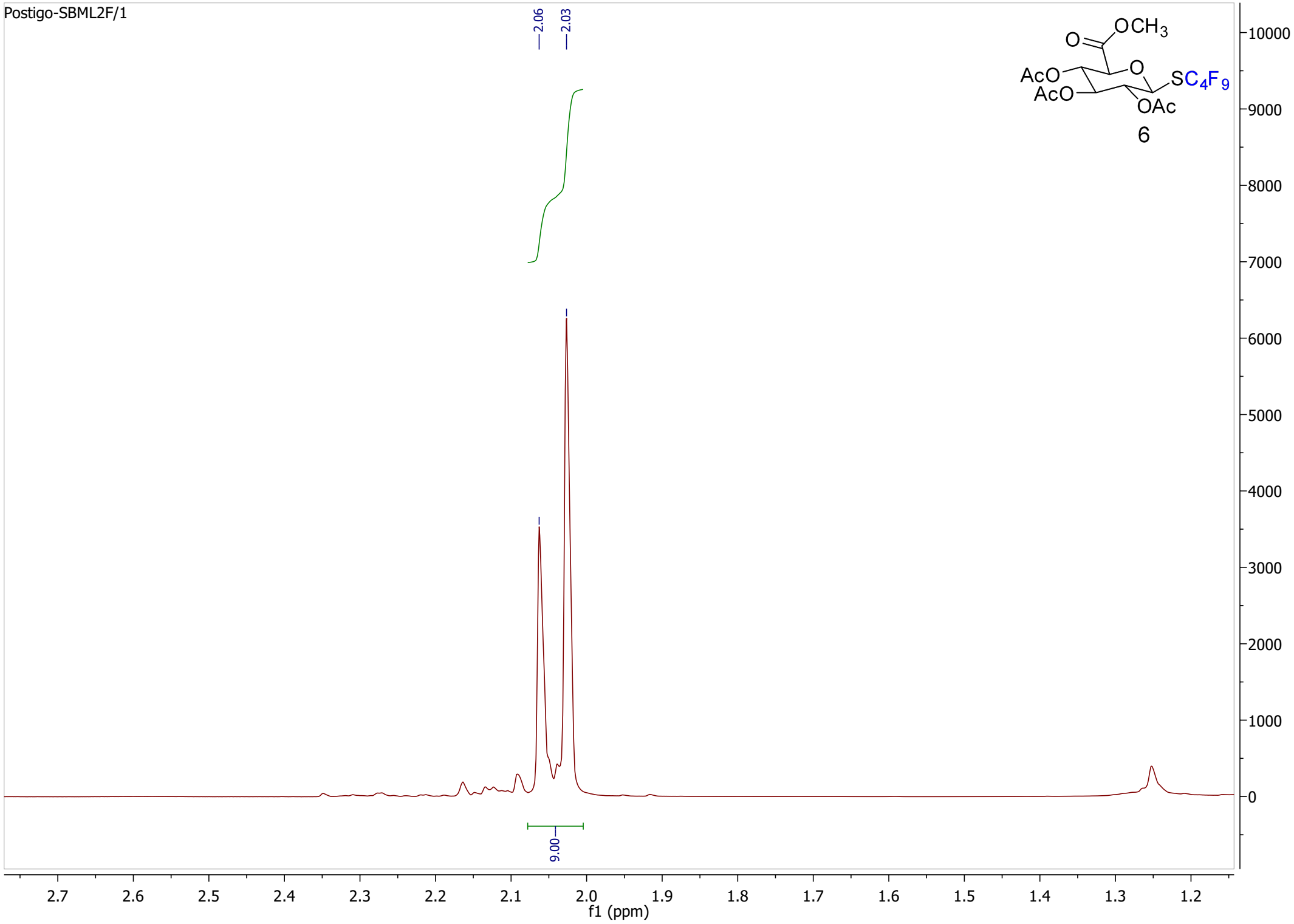
2.00
1.05
1.00
0.95
3.32
0.94
3.03
5.92
7.8
7.6
7.4
7.2
7.0
6.8
6.6
6.4
6.2
6.0
5.8
5.6
5.4
5.2
5.0
4.8
4.6
4.4
4.2
4.0
3.8
3.6
3.4
3.2
3.0
2.8
2.6
2.4
2.2
2.0
1.8
1.6
1.4
f1 (ppm)

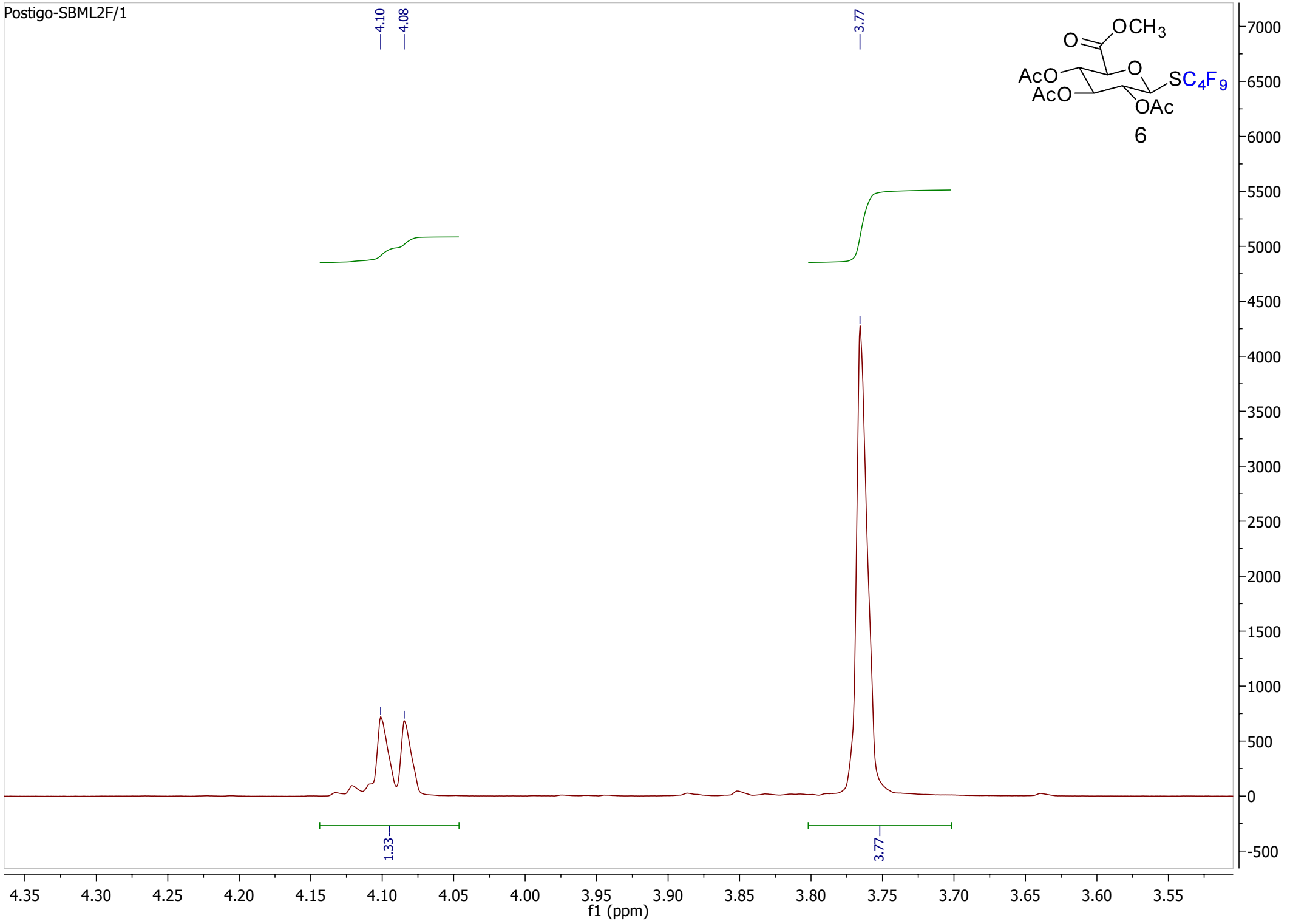

COOMe
AcO
O
SH
AcO
OAc

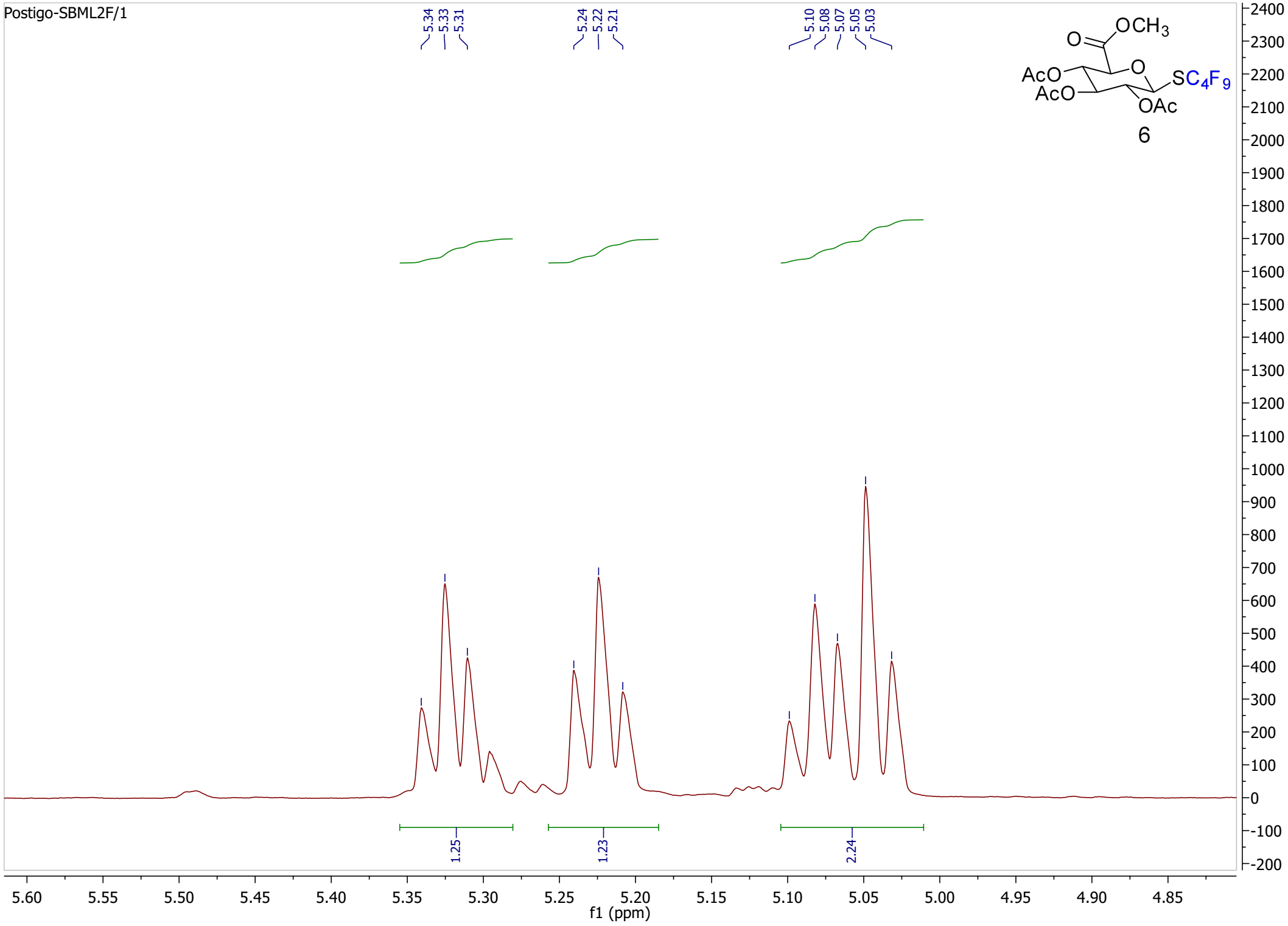
5


180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
f1 (ppm)

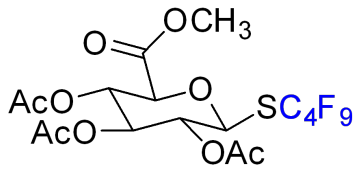

Postigo-SBML2F/1
7.26 CDCl3
5.34
5.33
5.31
5.24
5.22
5.21
5.10
5.08
5.07
5.05
5.03
4.10
4.08
3.77
2.06
2.03
OCH3
O
AcO
AcO
O
SC4F9
OAc
6
1.25
1.23
2.24
1.33
3.77
9.00
f1 (ppm)


Postigo-SBML2F/1
2.06
2.03
OCH3
O
AcO
AcO
O
SC4F9
OAc
6
9.00
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
2.7
2.6
2.5
2.4
2.3
2.2
2.1
2.0
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
f1 (ppm)


Postigo-SBML2F/1
4.10
4.08
3.77
OCH3
O
AcO
AcO
O
SC4F9
OAc
6
1.33
3.77
7000
6500
6000
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
-500
4.35
4.30
4.25
4.20
4.15
4.10
4.05
4.00
3.95
3.90
3.85
3.80
3.75
3.70
3.65
3.60
3.55
f1 (ppm)


Postigo-SBML2F/1
5.34
5.33
5.31
5.24
5.22
5.21
5.10
5.08
5.07
5.05
5.03
OCH3
O
O
AcO
AcO
SC4F9
OAc
6
1.25
1.23
2.24
f1 (ppm)

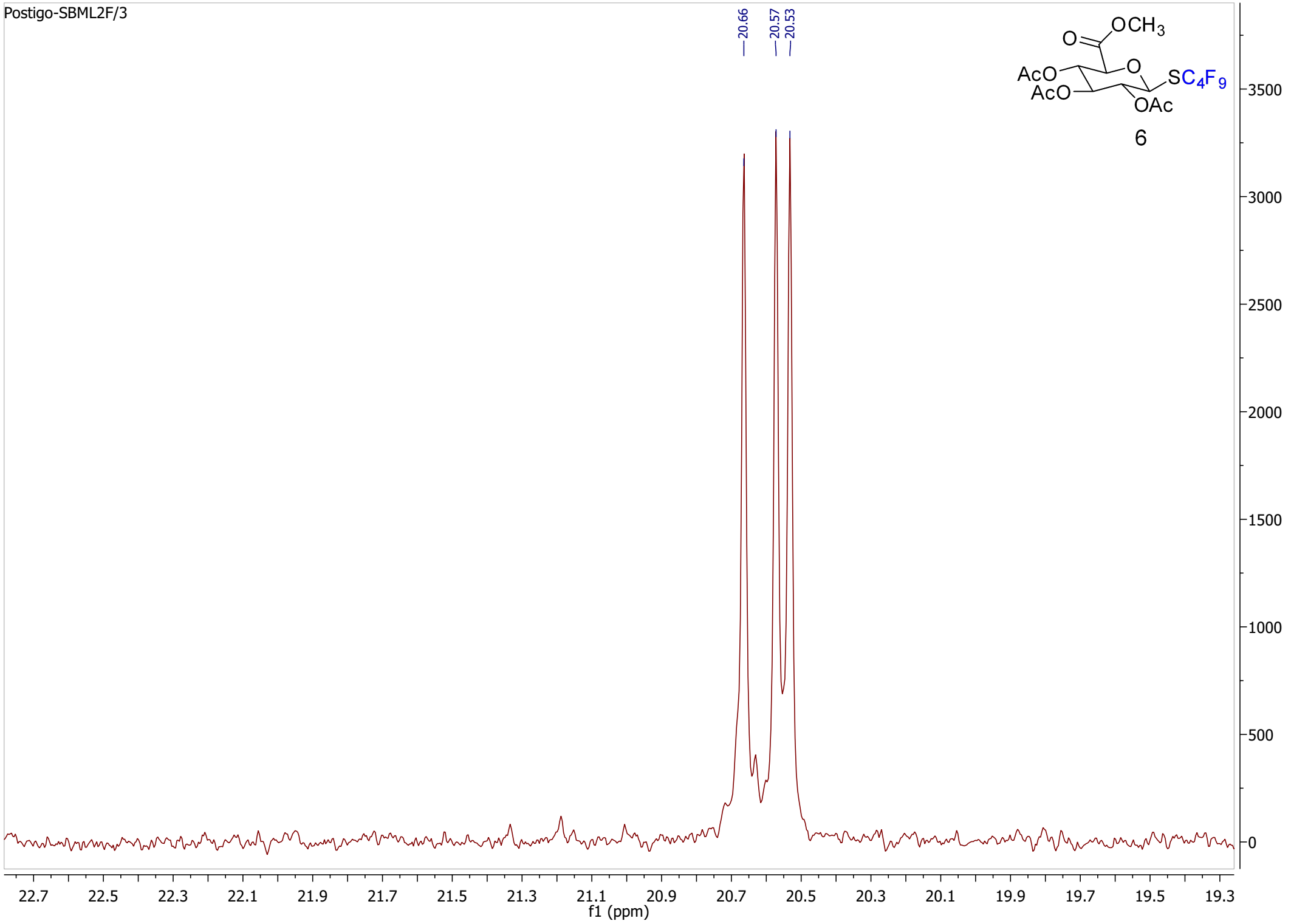
Postigo-SBML2F/3

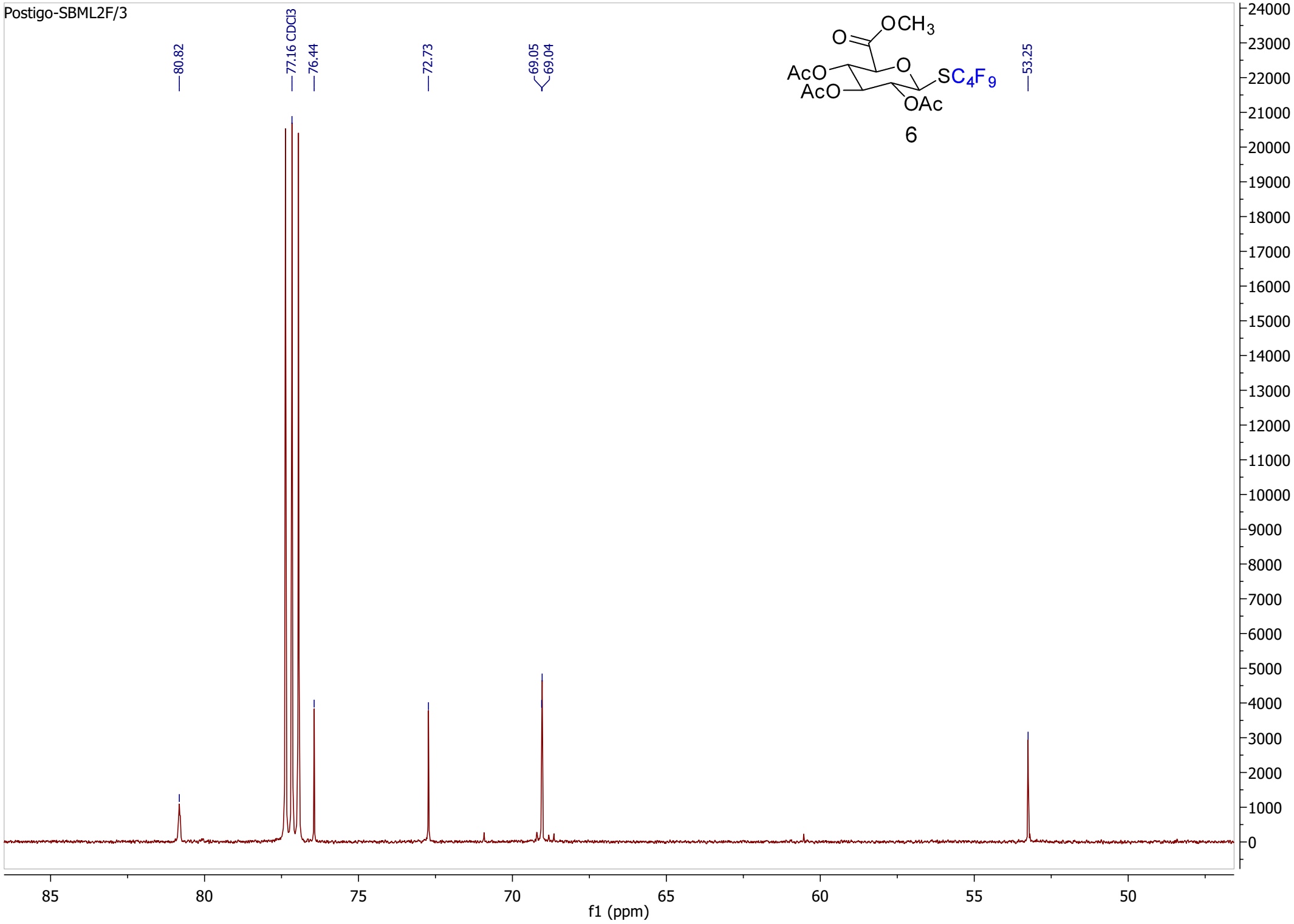


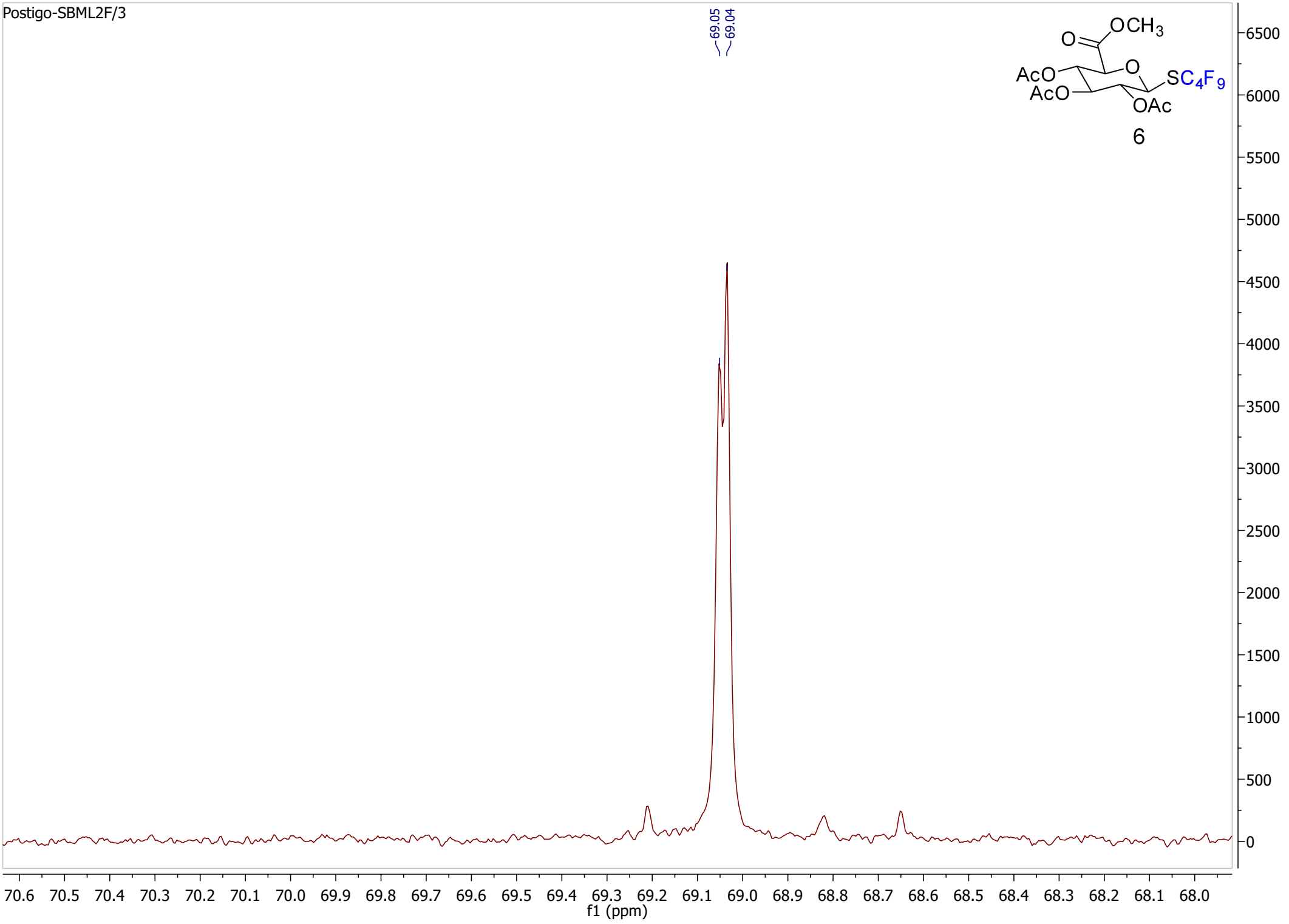
6

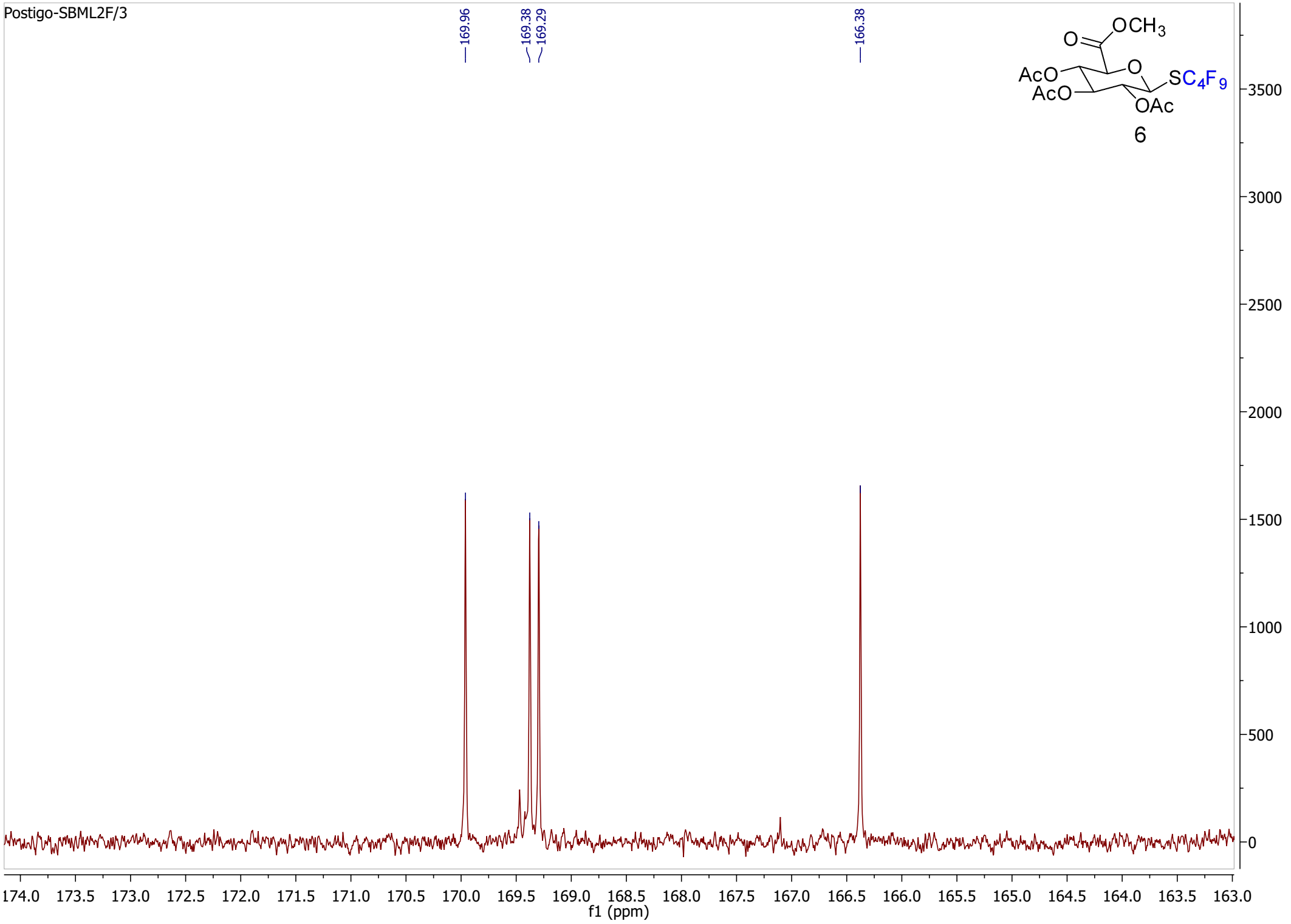
169.96
169.38
169.29
166.38
80.82
77.16 CDCl3
76.44
72.73
69.05
69.04
53.25
20.66
20.57
20.53

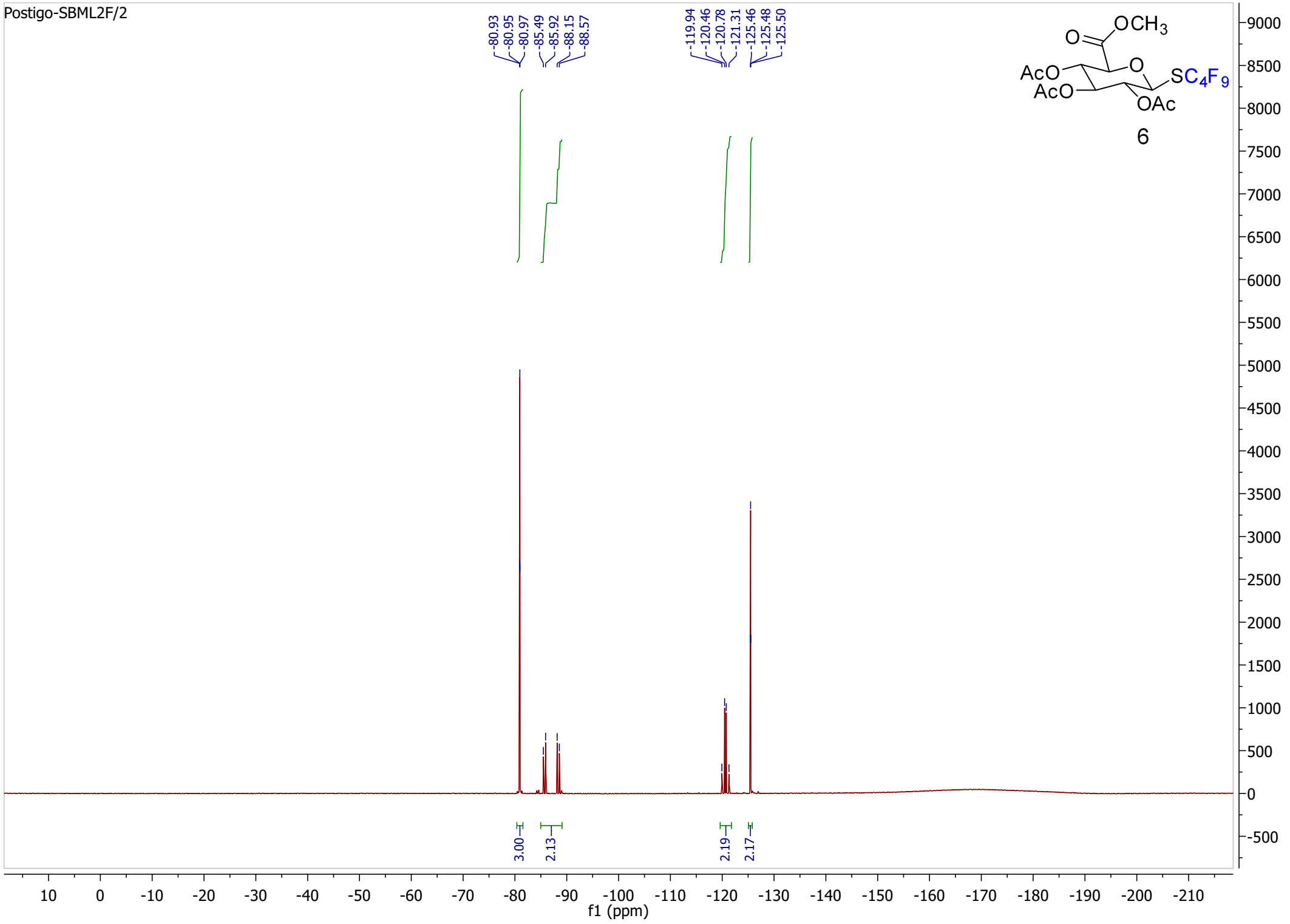
f1 (ppm)

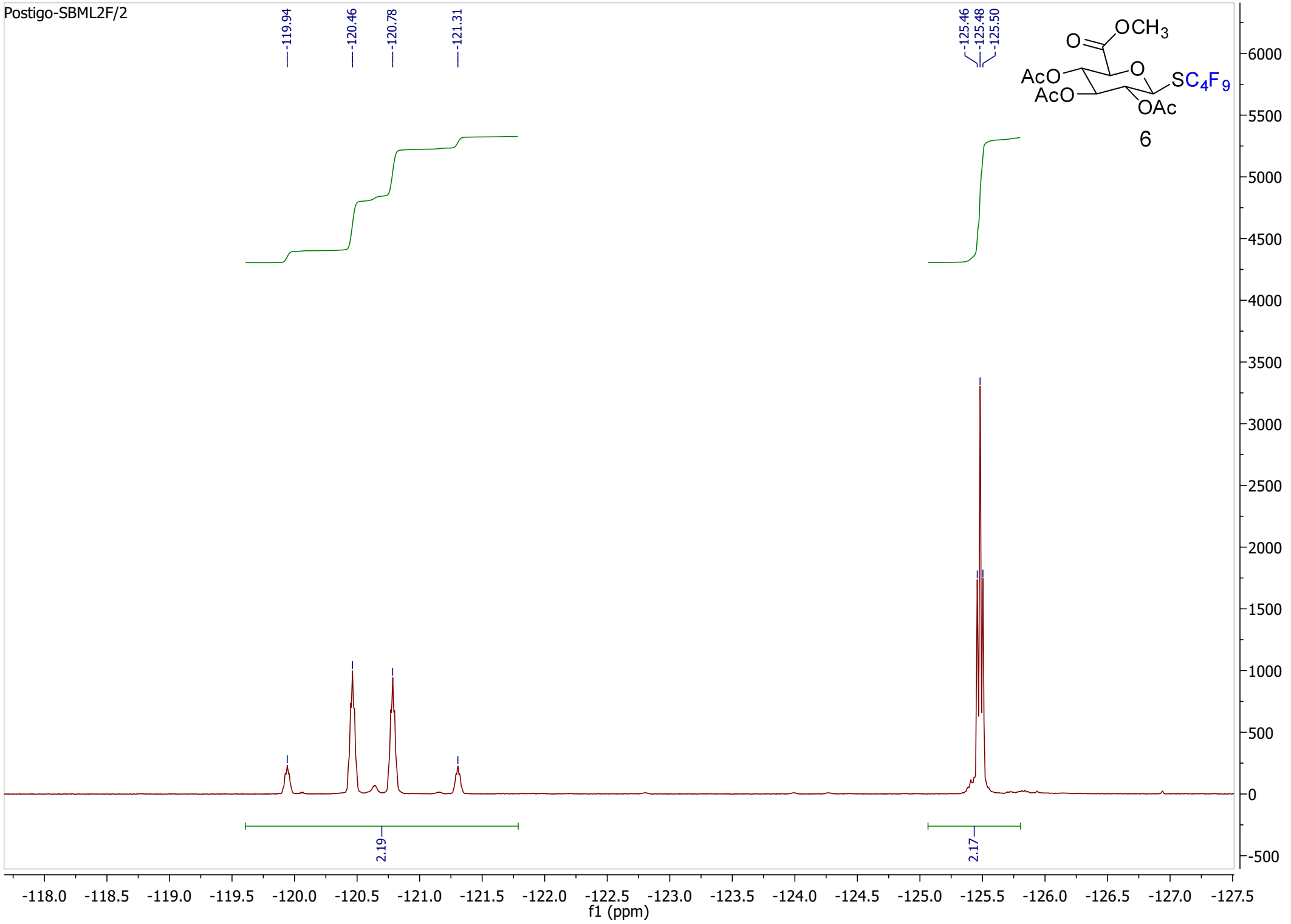

Postigo-SBML2F/3
20.66
20.57
20.53
OCH3
O
AcO
AcO
O
SC4F9
OAc
6
3500
3000
2500
2000
1500
1000
500
0
22.7
22.5
22.3
22.1
21.9
21.7
21.5
21.3
21.1
20.9
20.7
20.5
20.3
20.1
19.9
19.7
19.5
19.3
f1 (ppm)

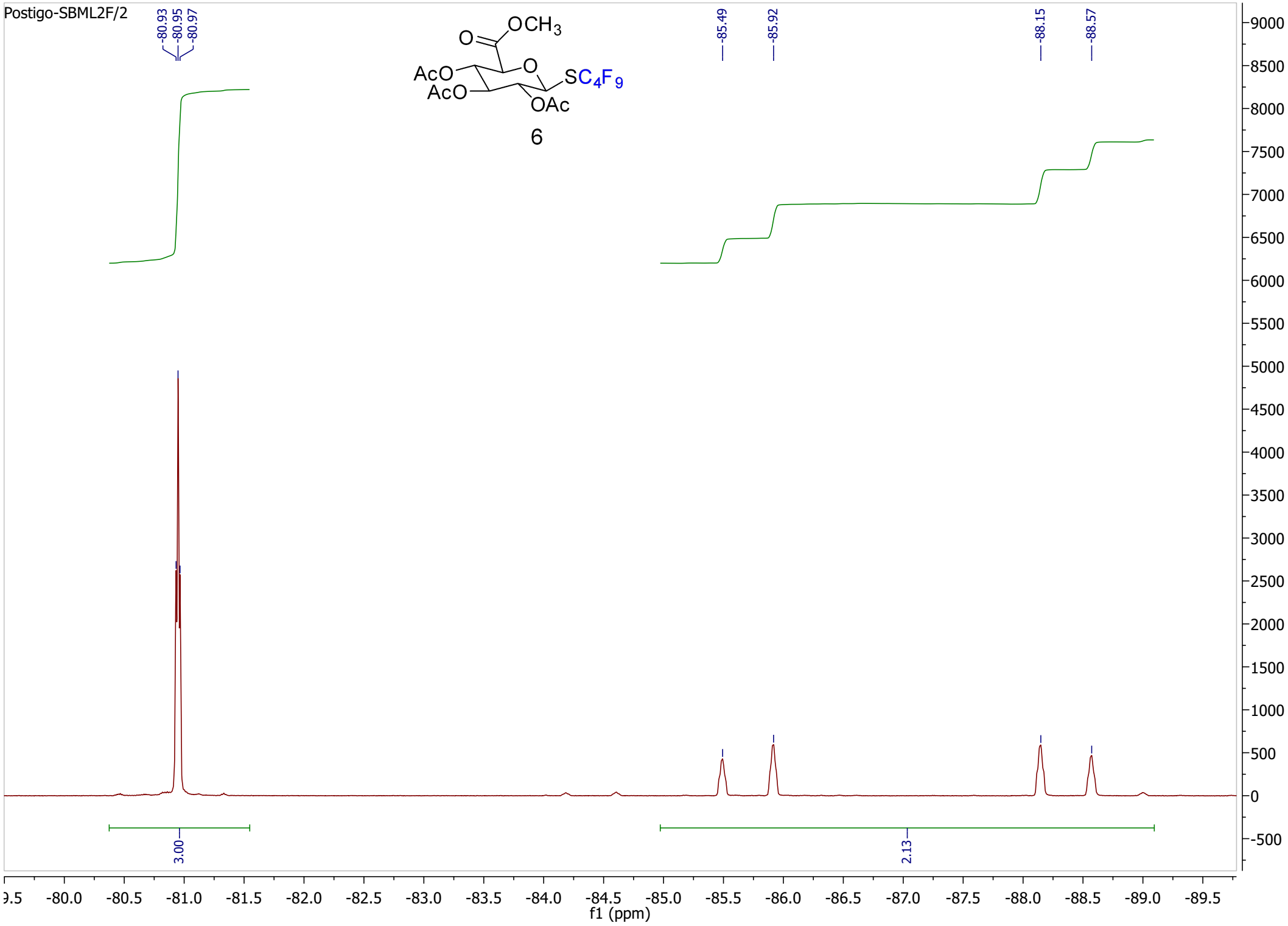

Postigo-SBML2F/3
80.82
77.16 CDCl3
76.44
72.73
69.05
69.04
53.25
OCH3
O
AcO
AcO
O
SC4F9
OAc
6
24000
23000
22000
21000
20000
19000
18000
17000
16000
15000
14000
13000
12000
11000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
85
80
75
70
65
60
55
50
f1 (ppm)

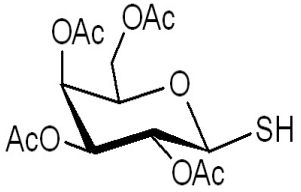

Postigo-SBML2F/3
69.05
69.04
OCH3
O
AcO
AcO
O
SC4F9
OAc
6
6500
6000
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
70.6 70.5 70.4 70.3 70.2 70.1 70.0 69.9 69.8 69.7 69.6 69.5 69.4 69.3 69.2 69.1 69.0 68.9 68.8 68.7 68.6 68.5 68.4 68.3 68.2 68.1 68.0
f1 (ppm)


Postigo-SBML2F/3
169.96
169.38
169.29
166.38
OCH3
O
AcO
AcO
O
SC4F9
OAc
6
3500
3000
2500
2000
1500
1000
500
0
174.0
173.5
173.0
172.5
172.0
171.5
171.0
170.5
170.0
169.5
169.0
168.5
168.0
167.5
167.0
166.5
166.0
165.5
165.0
164.5
164.0
163.5
163.0
f1 (ppm)

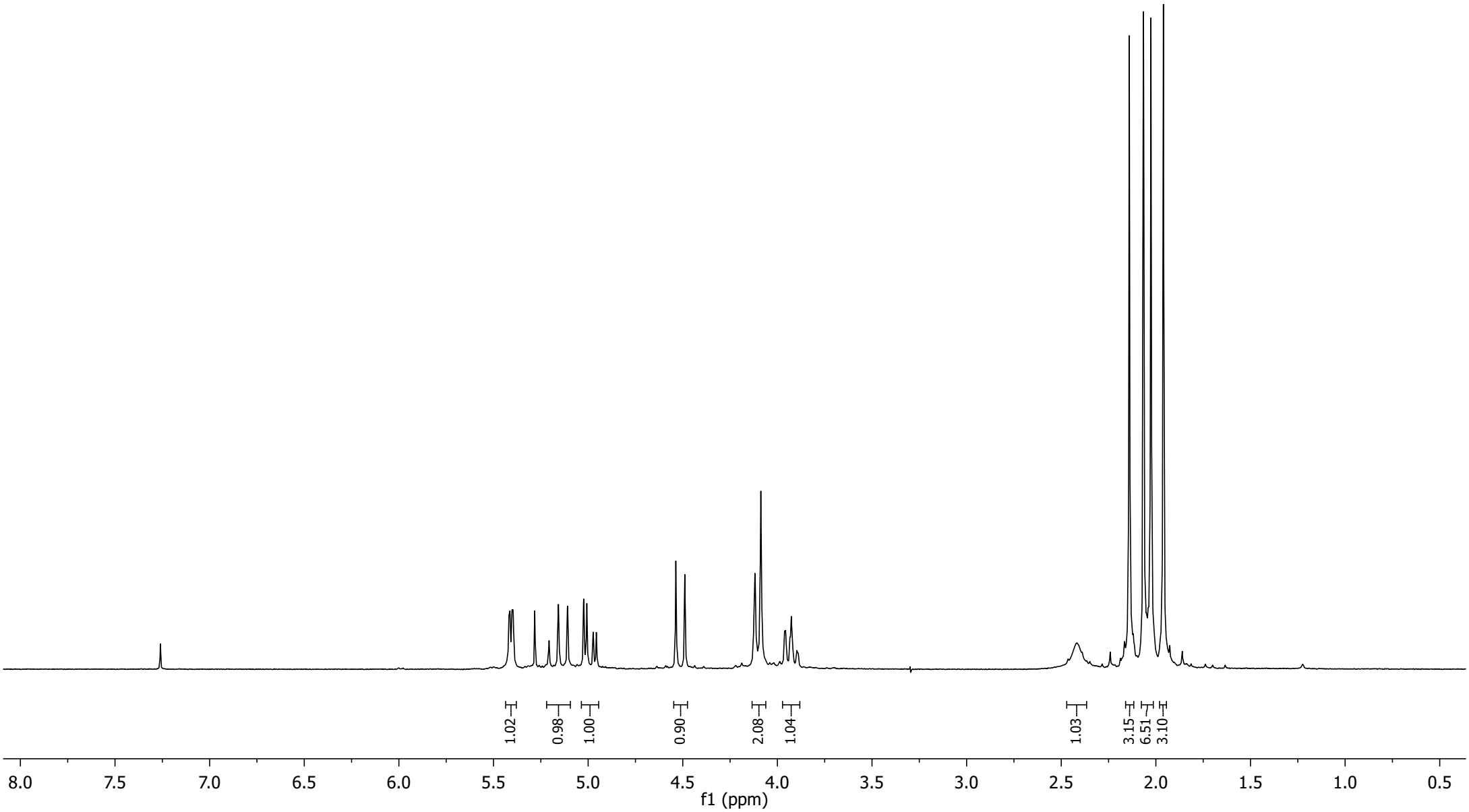

Postigo-SBML2F/2
-80.93
-80.95
-80.97
-85.49
-85.92
-88.15
-88.57
-119.94
-120.46
-120.78
-121.31
-125.46
-125.48
-125.50
OCH3
O
O
AcO
AcO
OAc
SC4F9
6
3.00
2.13
2.19
2.17
f1 (ppm)

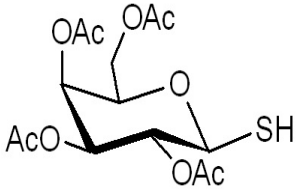

Postigo-SBML2F/2
-119.94
-120.46
-120.78
-121.31
-125.46
-125.48
-125.50
OCH3
O
AcO
AcO
O
SC4F9
OAc
6
2.19
2.17
6000
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
-500
-118.0
-118.5
-119.0
-119.5
-120.0
-120.5
-121.0
-121.5
-122.0
-122.5
-123.0
-123.5
-124.0
-124.5
-125.0
-125.5
-126.0
-126.5
-127.0
-127.5
f1 (ppm)


Postigo-SBML2F/2
-80.93
-80.95
-80.97
-85.49
-85.92
-88.15
-88.57
OCH3
O
AcO
AcO
O
SC4F9
OAc
6
3.00
2.13
f1 (ppm)

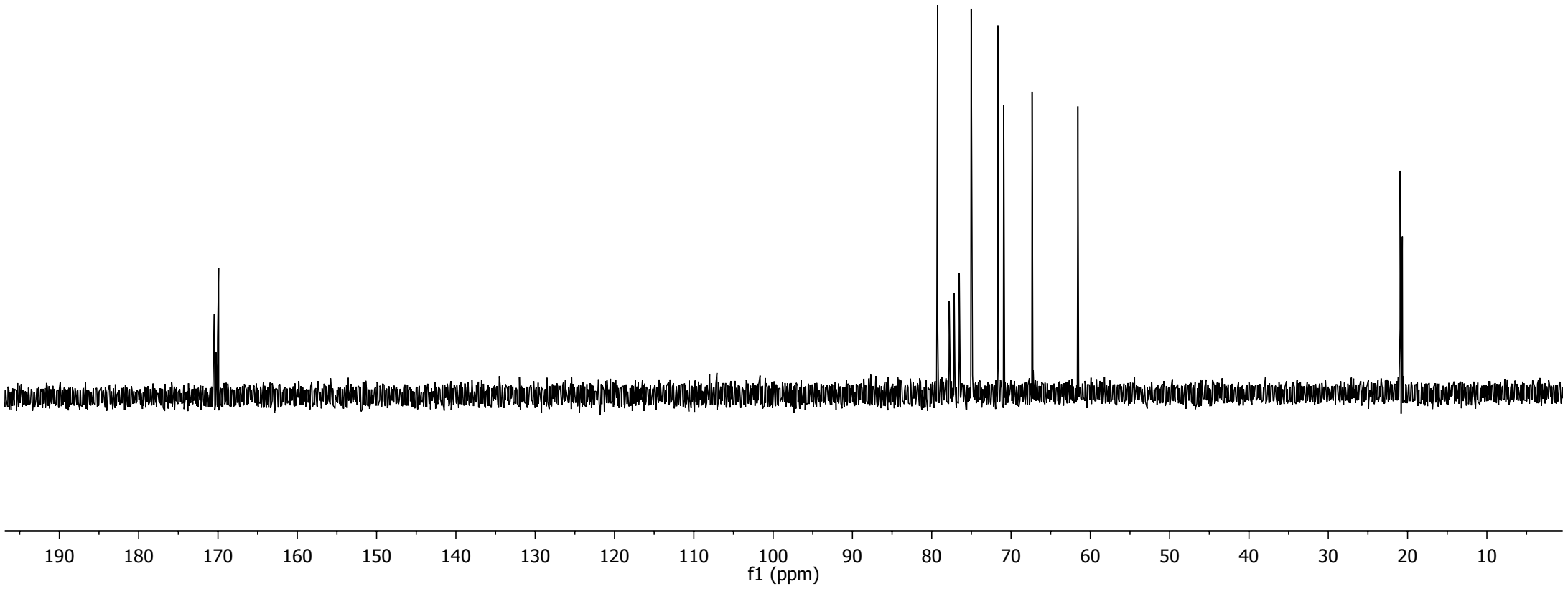

OAc
OAc
O
AcO
SH
OAc

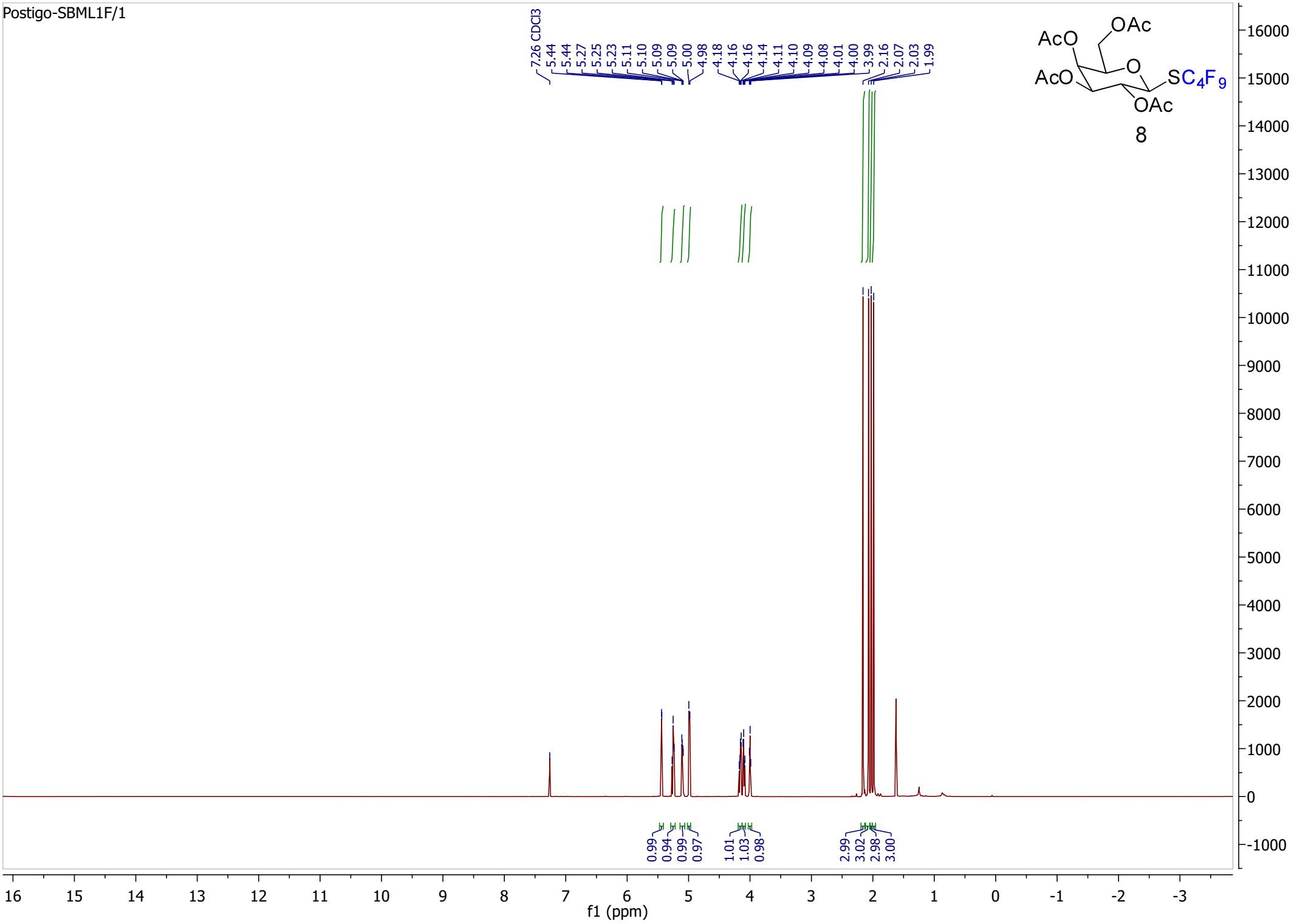
7

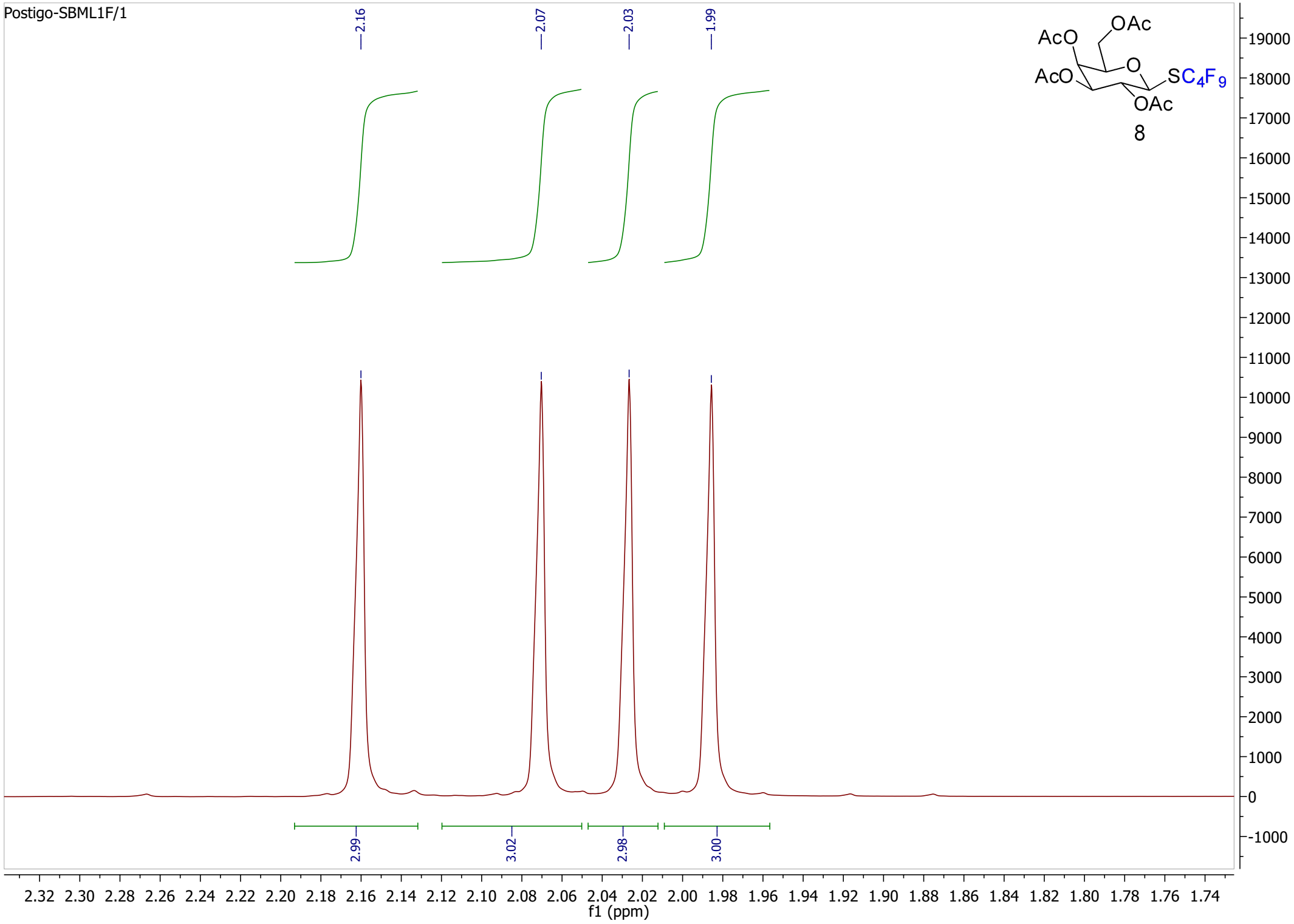

1.02
0.98
1.00
0.90
2.08
1.04
1.03
3.15
6.51
3.10
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
f1 (ppm)

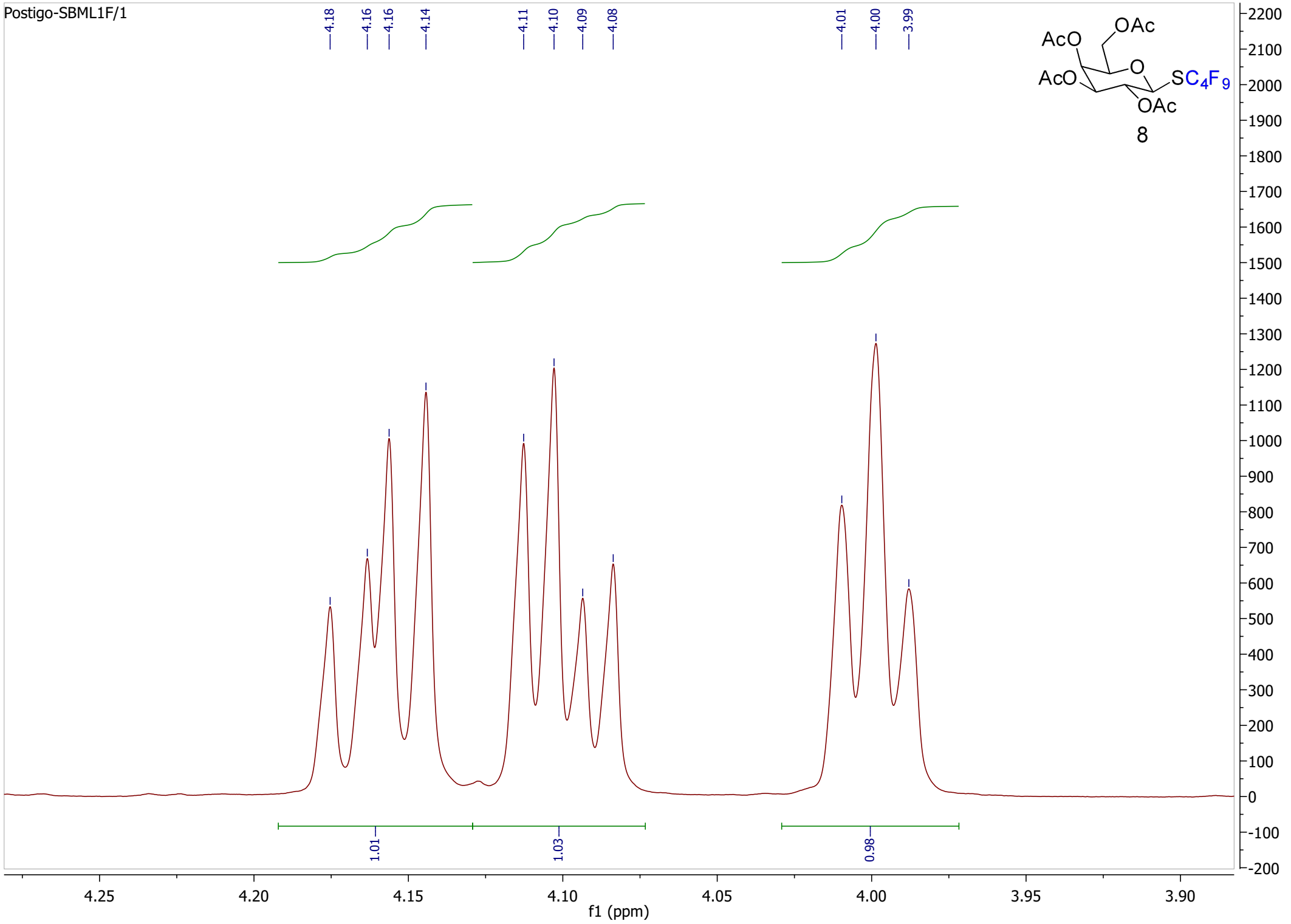

OAc
OAc
O
AcO
SH
OAc

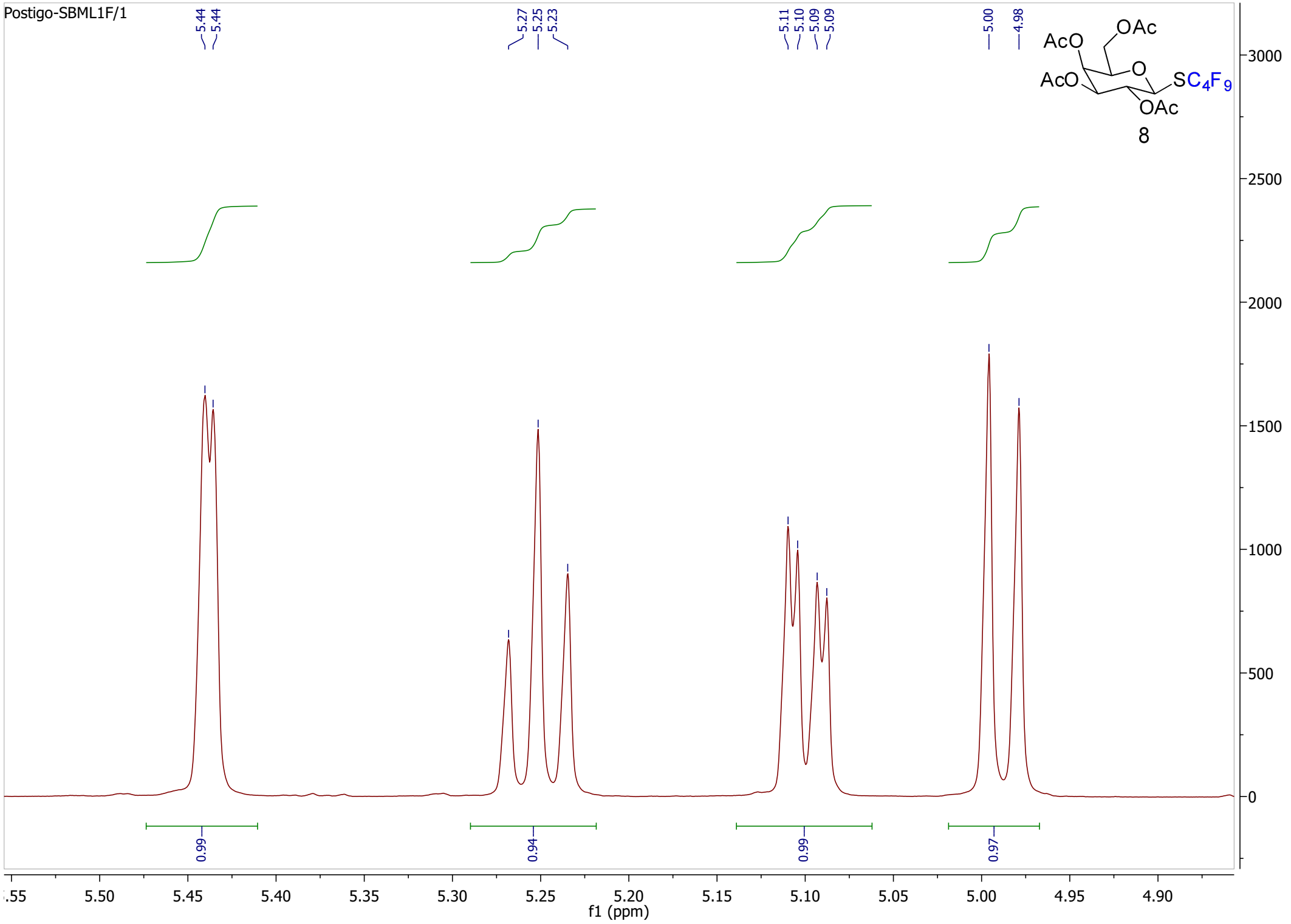
7


190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
f1 (ppm)

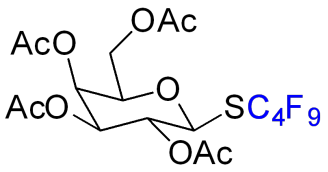

Postigo-SBML1F/1
7.26 CDCl3
5.44
5.44
5.27
5.25
5.23
5.11
5.10
5.09
5.09
5.00
4.98
4.18
4.16
4.16
4.14
4.11
4.10
4.09
4.08
4.01
4.00
3.99
2.16
2.07
2.03
1.99
AcO
OAc
AcO
O
SC4F9
OAc
8
0.99
0.94
0.99
0.97
1.01
1.03
0.98
2.99
3.02
2.98
3.00
f1 (ppm)


Postigo-SBML1F/1
2.16
2.07
2.03
1.99
AcO
OAc
AcO
O
SC4F9
OAc
8
2.99
3.02
2.98
3.00
19000
18000
17000
16000
15000
14000
13000
12000
11000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
2.32 2.30 2.28 2.26 2.24 2.22 2.20 2.18 2.16 2.14 2.12 2.10 2.08 2.06 2.04 2.02 2.00 1.98 1.96 1.94 1.92 1.90 1.88 1.86 1.84 1.82 1.80 1.78 1.76 1.74
f1 (ppm)


Postigo-SBML1F/1
4.18
4.16
4.16
4.14
4.11
4.10
4.09
4.08
4.01
4.00
3.99
AcO
OAc
AcO
O
SC4F9
OAc
8
1.01
1.03
0.98
4.25
4.20
4.15
4.10
4.05
4.00
3.95
3.90
f1 (ppm)


Postigo-SBML1F/1
5.44
5.44
5.27
5.25
5.23
5.11
5.10
5.09
5.09
5.00
4.98
AcO
OAc
AcO
O
SC4F9
OAc
8
0.99
0.94
0.99
0.97
3000
2500
2000
1500
1000
500
0
5.55
5.50
5.45
5.40
5.35
5.30
5.25
5.20
5.15
5.10
5.05
5.00
4.95
4.90
f1 (ppm)

Postigo-SBML1F/2



8

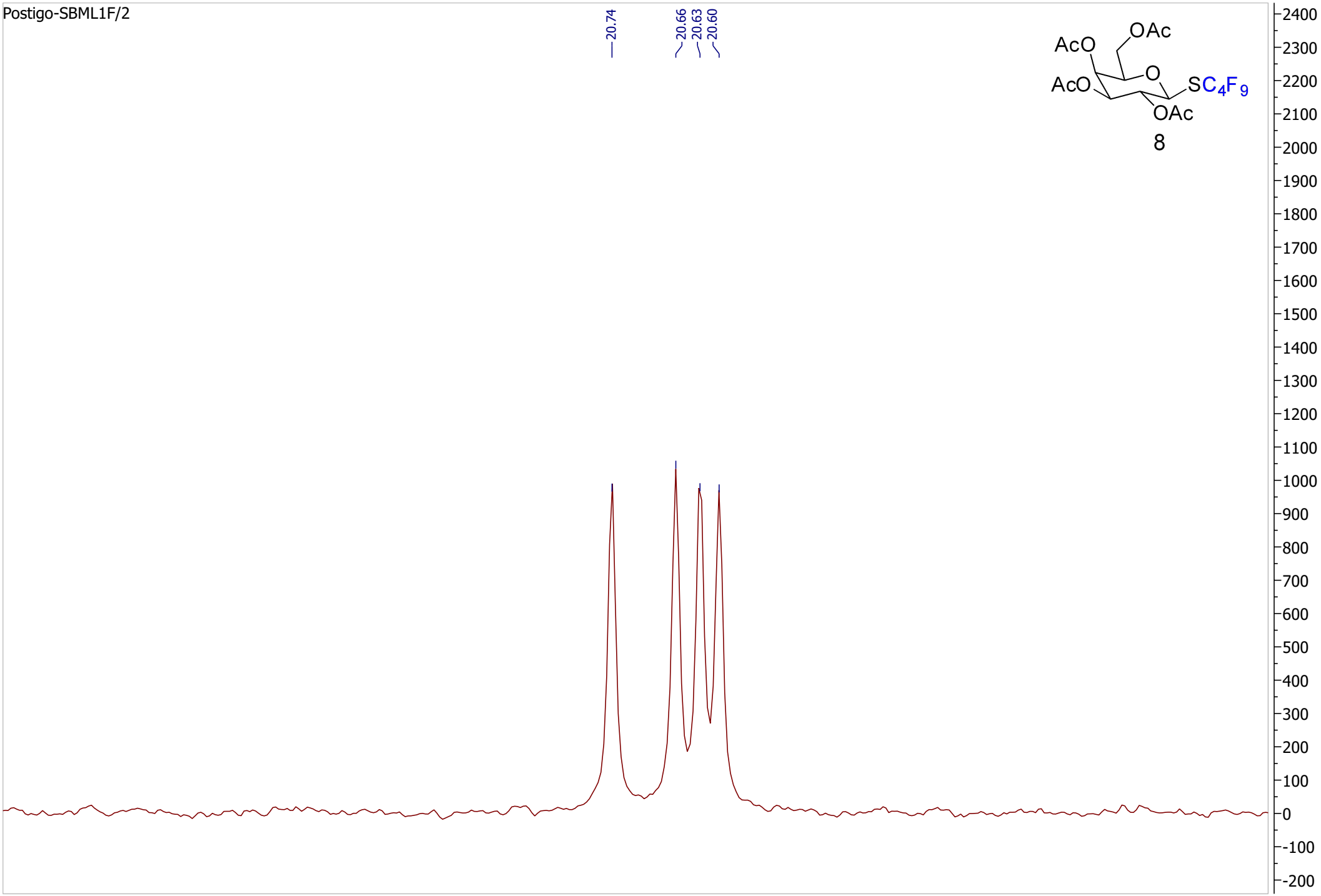
170.49
170.22
169.93
169.61

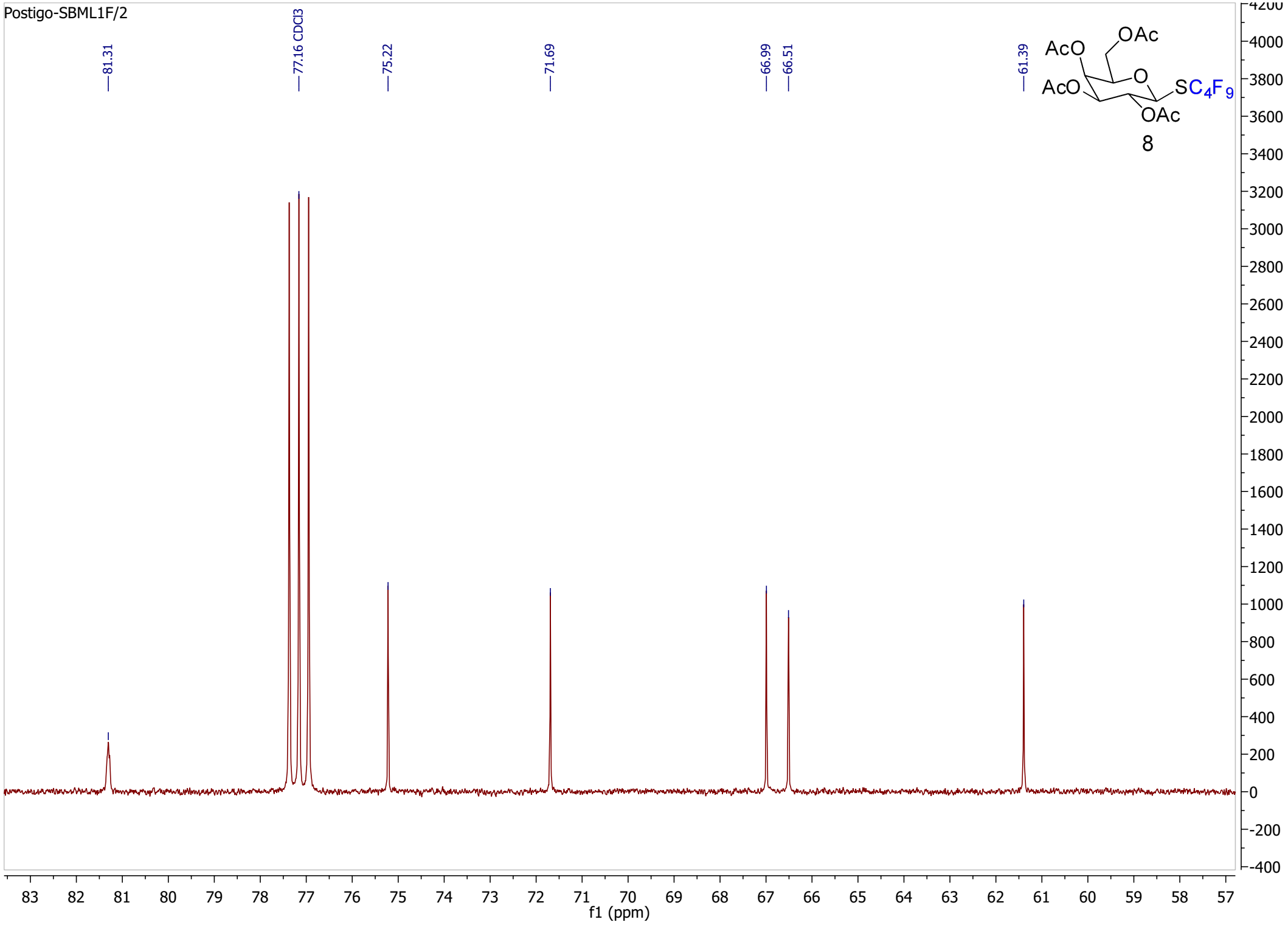
81.31
77.16 CDCl3
75.22
71.69
66.99
66.51
61.39

20.74
20.66
20.63
20.60

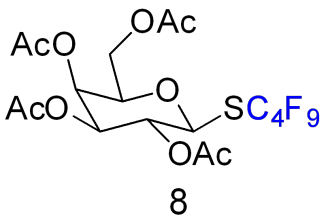
f1 (ppm)

Postigo-SBML1F/2



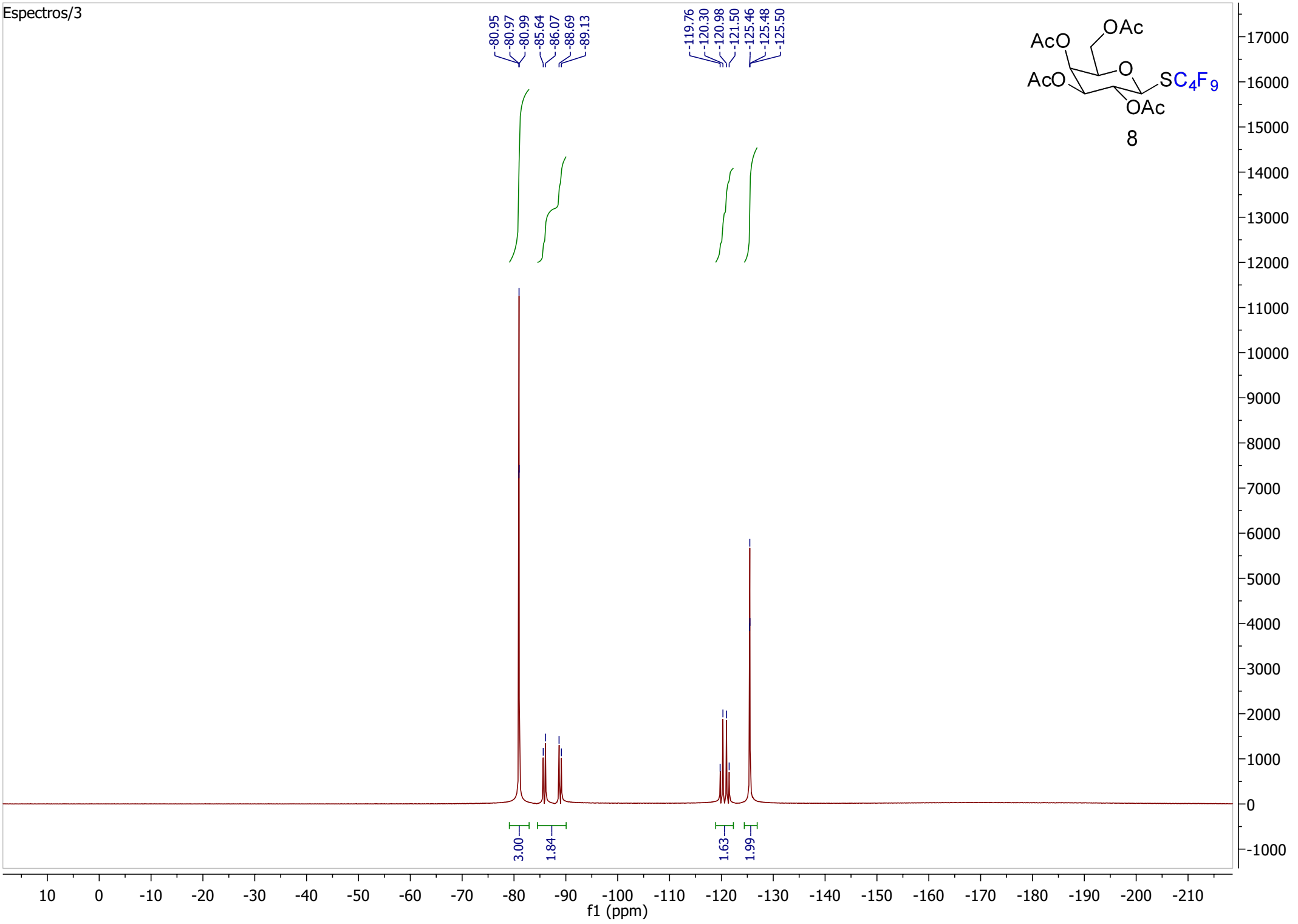

Postigo-SBML1F/2
81.31
77.16 CDCl3
75.22
71.69
66.99
66.51
61.39
AcO
OAc
AcO
O
SC4F9
OAc
8
f1 (ppm)

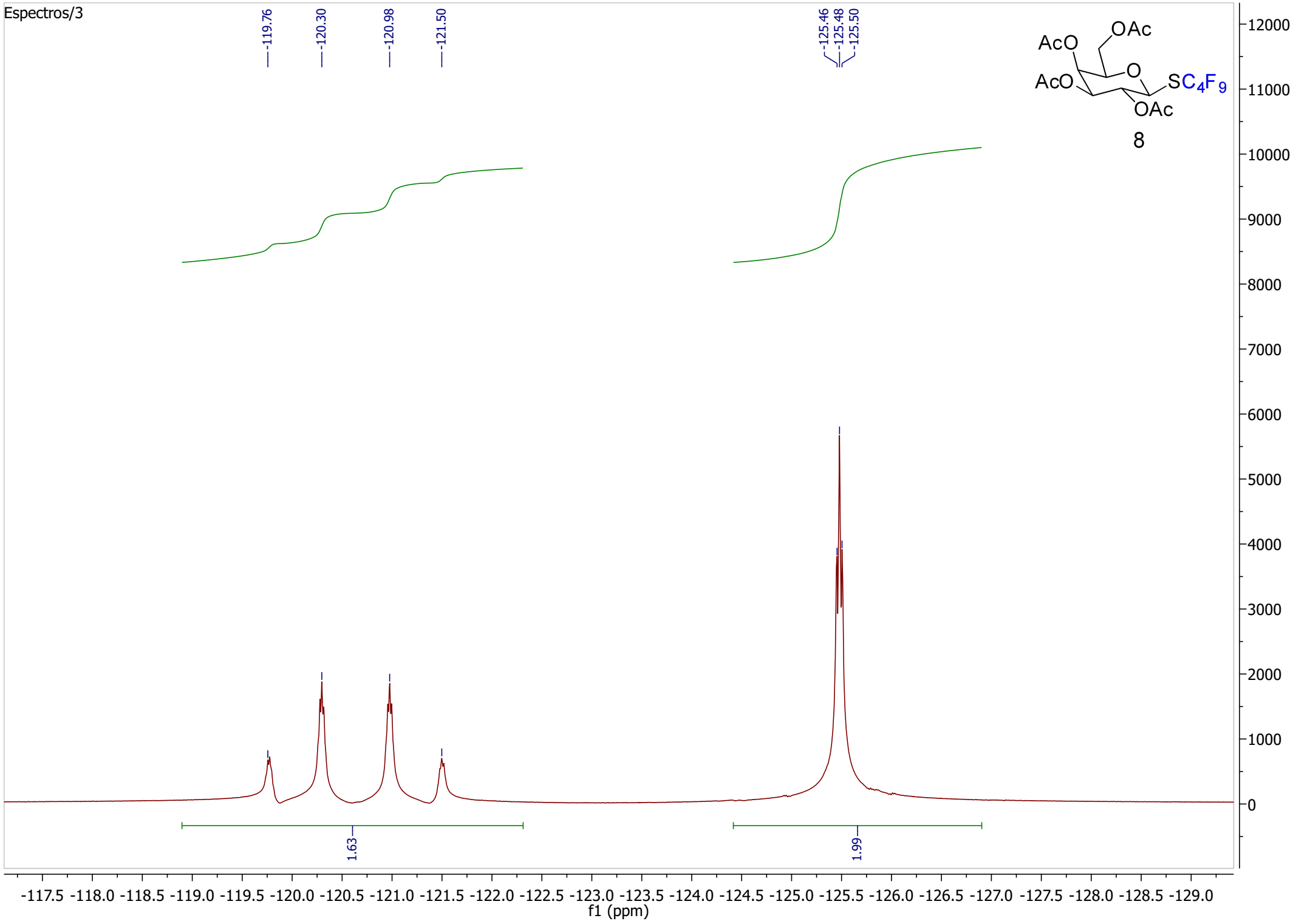
Postigo-SBML1F/2

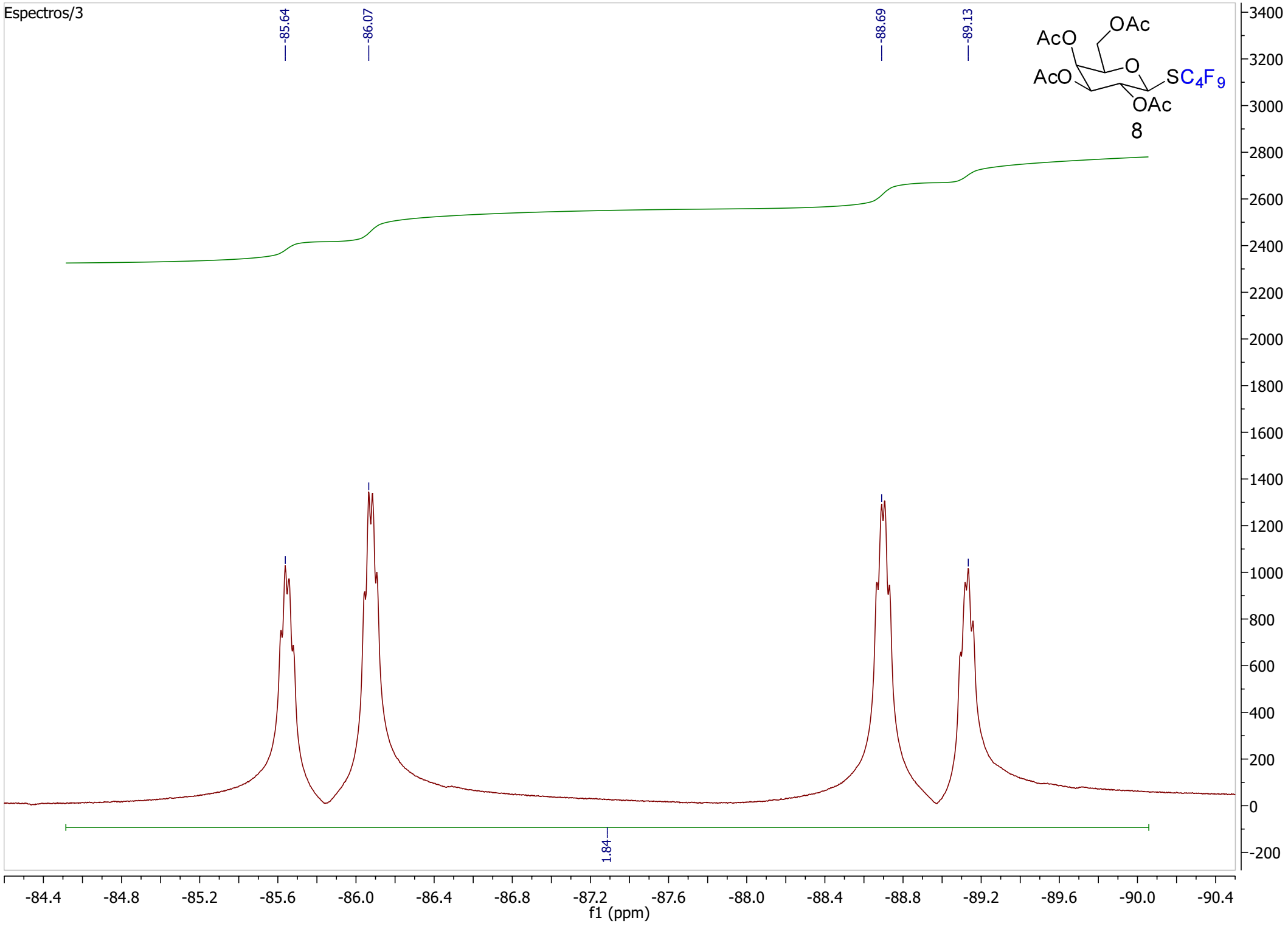


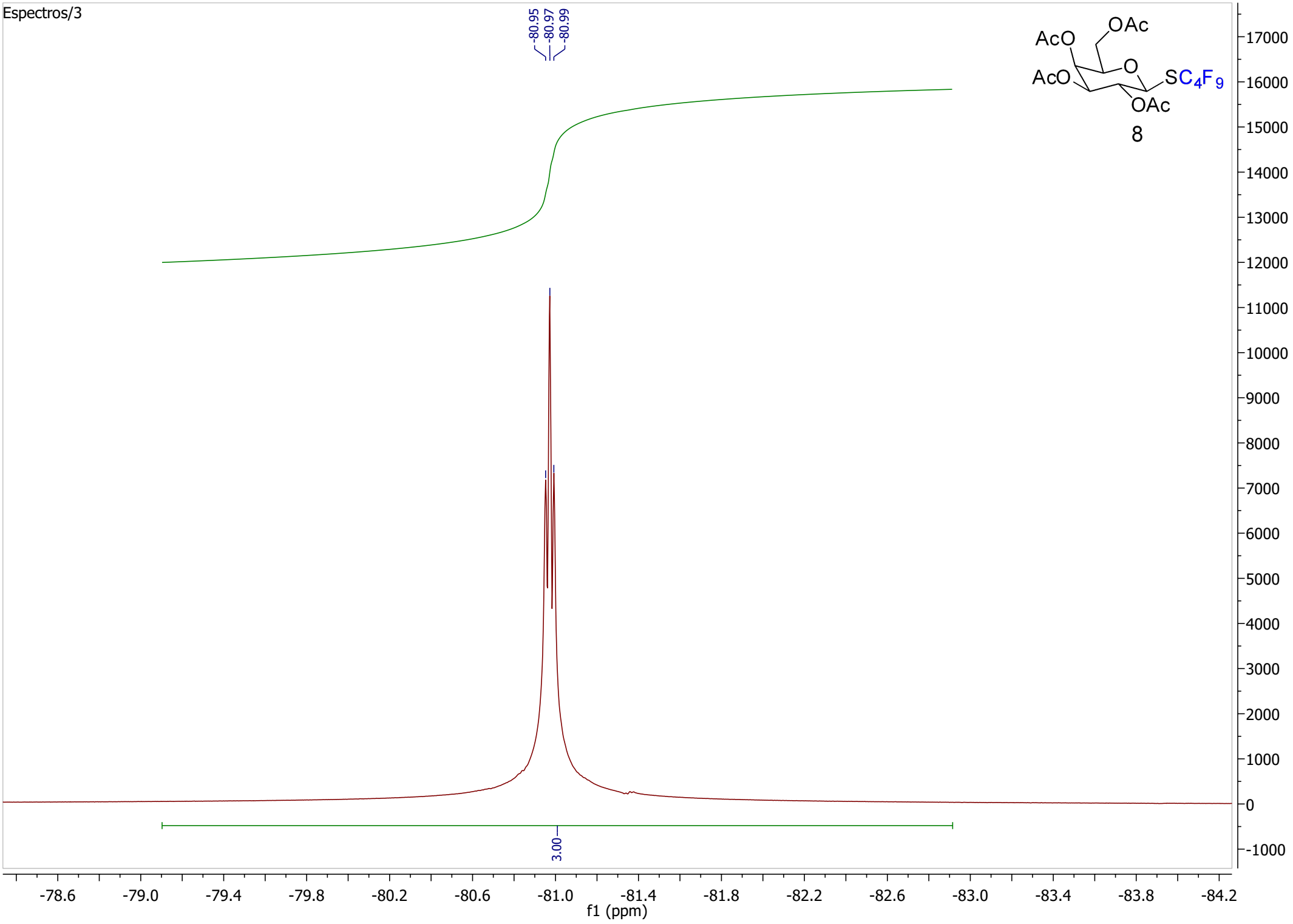
8

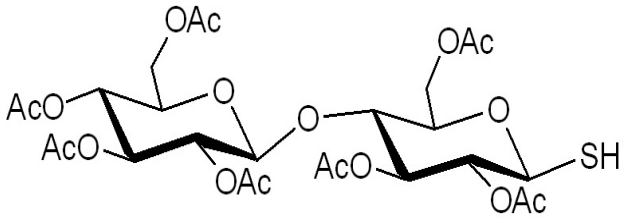
Espectros/3


-80.95
-80.97
-80.99
-85.64
-86.07
-88.69
-89.13
-119.76
-120.30
-120.98
-121.50
-125.46
-125.48
-125.50
AcO
OAc
AcO
O
SC4F9
OAc
8
3.00
1.84
1.63
1.99
f1 (ppm)


Espectros/3
-119.76
-120.30
-120.98
-121.50
-125.46
-125.48
-125.50
AcO
OAc
AcO
O
SC4F9
OAc
8
1.63
1.99
12000
11000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
-117.5 -118.0 -118.5 -119.0 -119.5 -120.0 -120.5 -121.0 -121.5 -122.0 -122.5 -123.0 -123.5 -124.0 -124.5 -125.0 -125.5 -126.0 -126.5 -127.0 -127.5 -128.0 -128.5 -129.0
f1 (ppm)

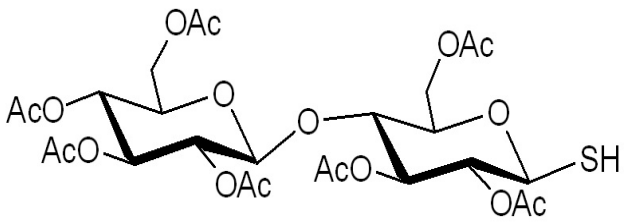

Espectros/3
-85.64
-86.07
-88.69
-89.13
AcO
OAc
AcO
O
SC4F9
OAc
8
1.84
-84.4
-84.8
-85.2
-85.6
-86.0
-86.4
-86.8
-87.2
-87.6
-88.0
-88.4
-88.8
-89.2
-89.6
-90.0
-90.4
f1 (ppm)
3400
3200
3000
2800
2600
2400
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
-200


Espectros/3
-80.95
-80.97
-80.99
AcO
OAc
AcO
O
SC4F9
OAc
8
3.00
-78.6
-79.0
-79.4
-79.8
-80.2
-80.6
-81.0
-81.4
-81.8
-82.2
-82.6
-83.0
-83.4
-83.8
-84.2
f1 (ppm)
17000
16000
15000
14000
13000
12000
11000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000


OAc
AcO
O
AcO
OAc
O
OAc
O
AcO
SH
OAc

9

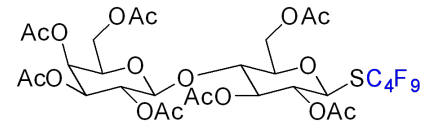
1.94
1.06
1.98
2.82
1.04
0.96
1.00
0.99
1.93
2.67
3.00
2.86
8.63
2.69
.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
f1 (ppm)


OAc
AcO
O
O
OAc
AcO
OAc
OAc
O
SH
AcO
OAc

9

180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
f1 (ppm)

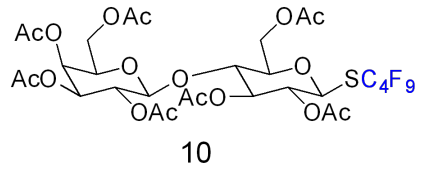
Postigo-SBML40F/1



10

f1 (ppm)

Postigo-SBML40F/1



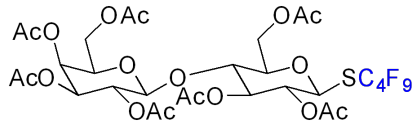
10

2.10 2.08 2.06 2.03 2.02 2.01 1.98

3.00 3.21 3.04 6.14 3.04 2.87

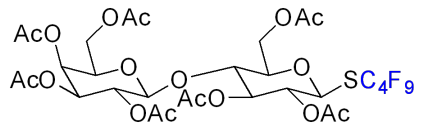
f1 (ppm)

Postigo-SBML40F/1

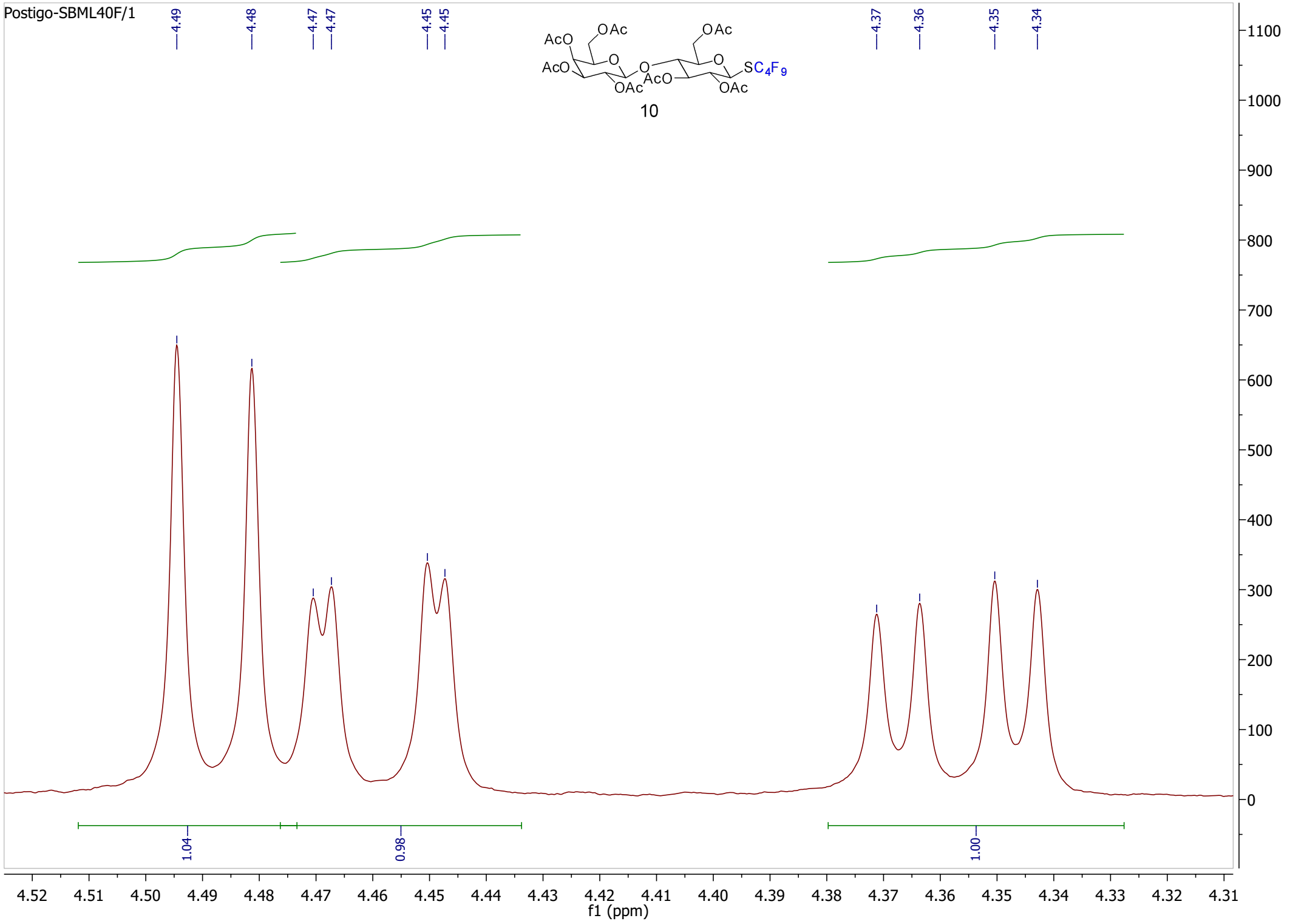


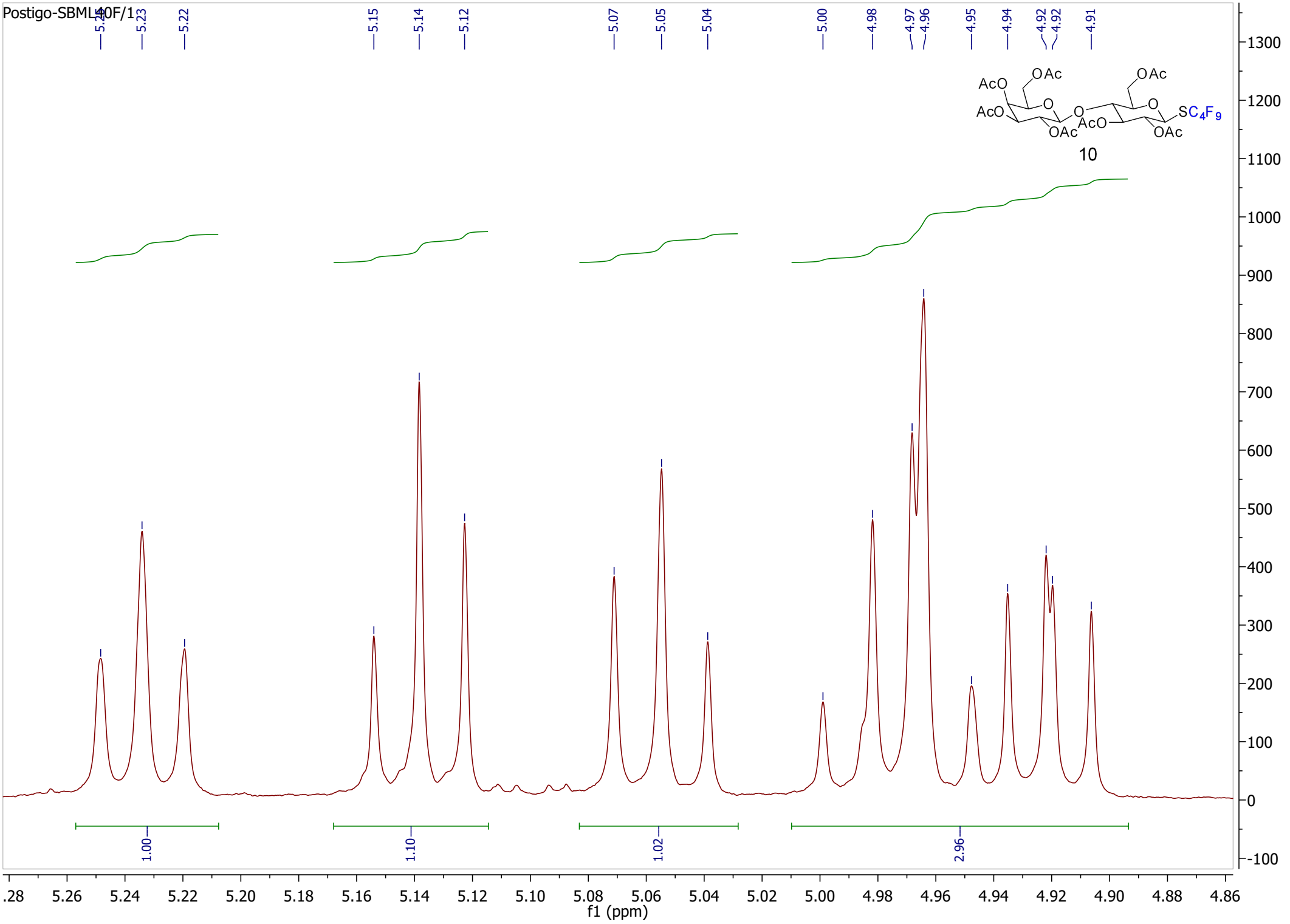
10

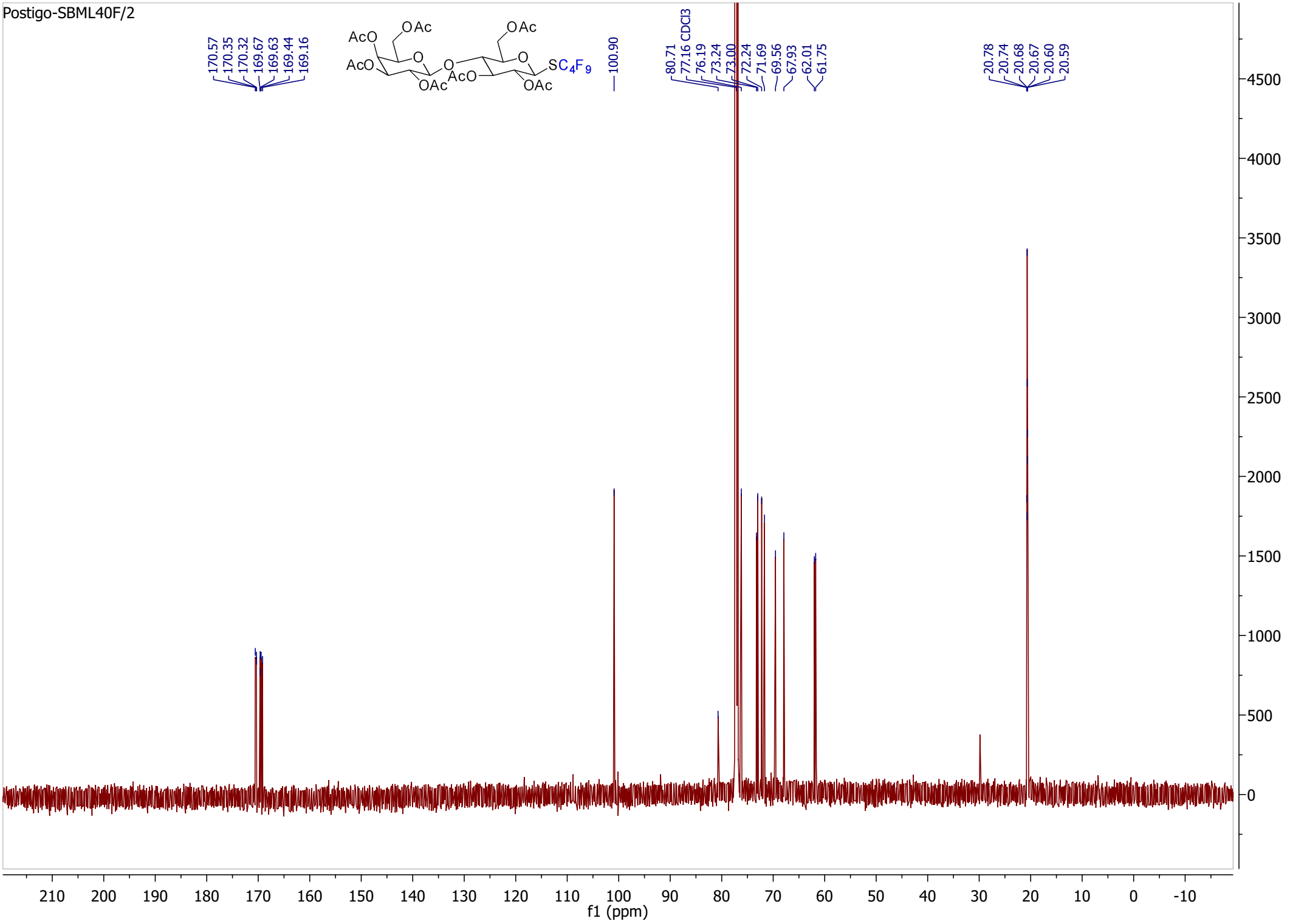
Postigo-SBML40F/1



10

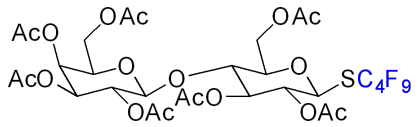

Postigo-SBML40F/1
4.49
4.48
4.47
4.47
4.45
4.45
4.37
4.36
4.35
4.34
AcO
OAc
AcO
O
O
AcO
OAc
OAc
O
SC4F9
OAc
10
1.04
0.98
1.00
1100
1000
900
800
700
600
500
400
300
200
100
0
4.52
4.51
4.50
4.49
4.48
4.47
4.46
4.45
4.44
4.43
4.42
4.41
4.40
4.39
4.38
4.37
4.36
4.35
4.34
4.33
4.32
4.31
f1 (ppm)


Postigo-SBML40F/1
5.24
5.23
5.22
5.15
5.14
5.12
5.07
5.05
5.04
5.00
4.98
4.97
4.96
4.95
4.94
4.92
4.92
4.91
AcO
OAc
AcO
OAc
O
O
AcO
OAc
O
OAc
SC4F9
10
1.00
1.10
1.02
2.96
f1 (ppm)


Postigo-SBML40F/2
170.57
170.35
170.32
169.67
169.63
169.44
169.16
AcO
OAc
AcO
O
O
AcO
OAc
O
OAc
SC4F9
OAc
100.90
80.71
77.16 CDCl3
76.19
73.24
73.00
72.24
71.69
69.56
67.93
62.01
61.75
20.78
20.74
20.68
20.67
20.60
20.59
4500
4000
3500
3000
2500
2000
1500
1000
500
0
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
f1 (ppm)

Postigo-SBML40F/2

20.78
20.74
20.68
20.67
20.60
20.59

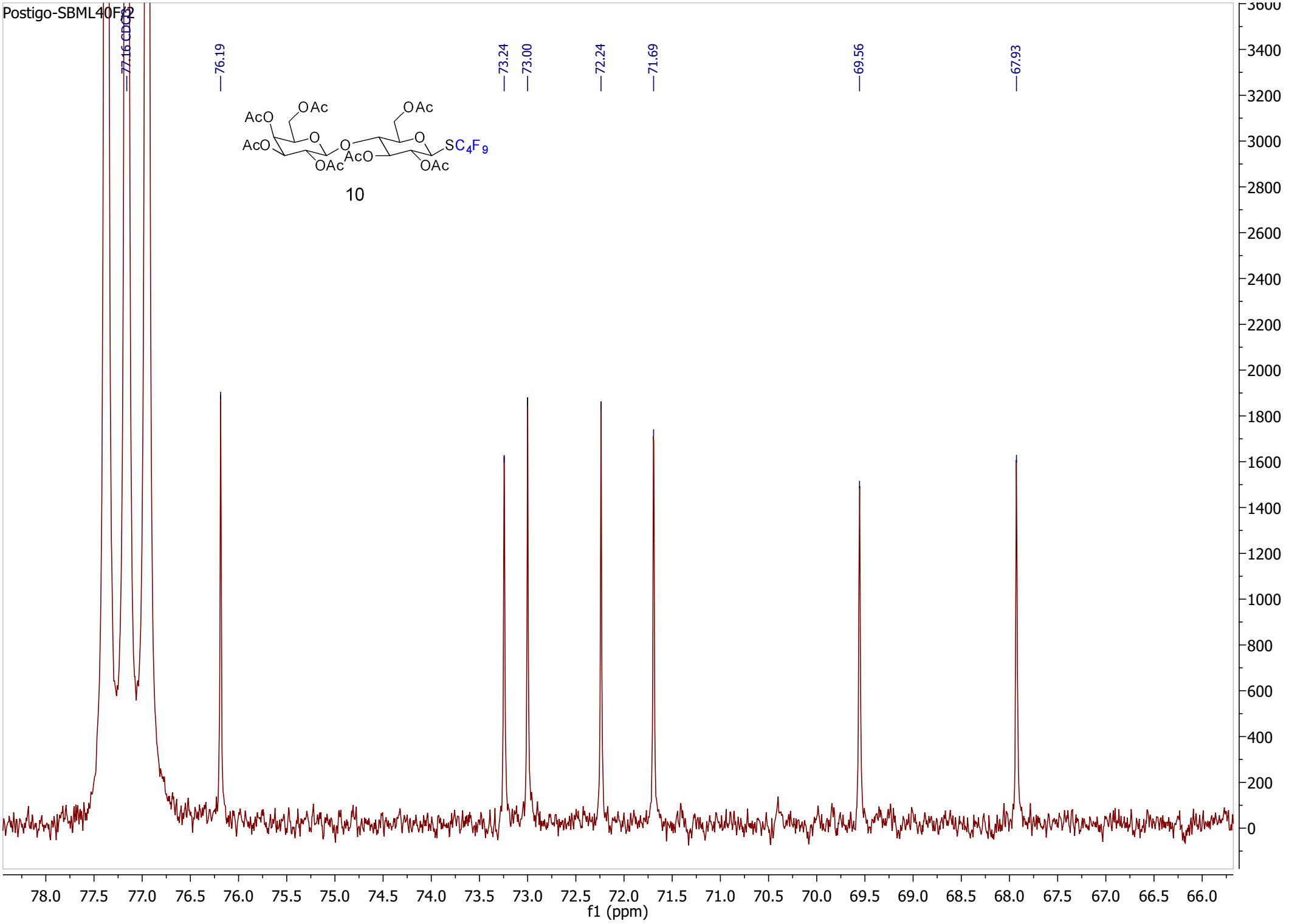


10

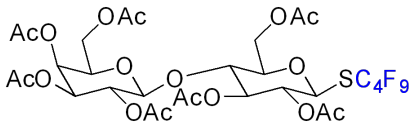
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0

..30 21.25 21.20 21.15 21.10 21.05 21.00 20.95 20.90 20.85 20.80 20.75 20.70 20.65 20.60 20.55 20.50 20.45 20.40 20.35 20.30 20.25 20.20 20.15 20.10

f1 (ppm)


Postigo-SBML40F2
77.16 CDCl3
76.19
73.24
73.00
72.24
71.69
69.56
67.93
AcO
OAc
AcO
OAc
O
O
AcO
OAc
O
OAc
SC4F9
10
f1 (ppm)

Postigo-SBML40F/2



10

100.90

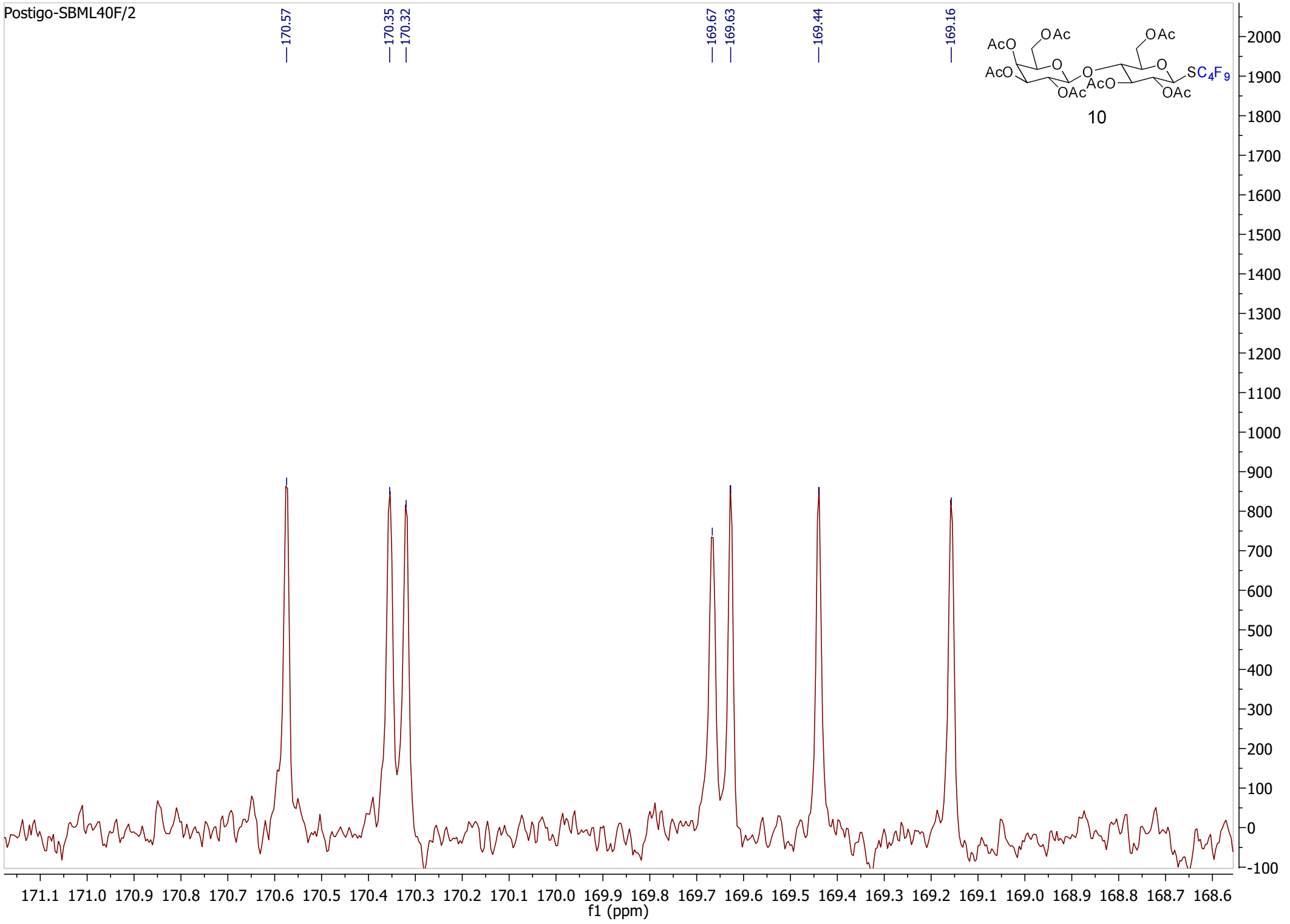
80.71

77.16 CDCl3

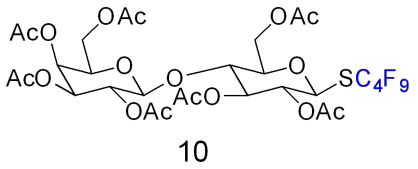
76.19

f1 (ppm)

Postigo-SBML40F/2



Postigo-SBML40F/3



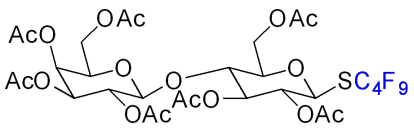
10

-80.93
-80.94
-80.96
-85.63
-86.08
-88.65
-89.08
-119.76
-120.28
-120.95
-121.47
-125.45
-125.47
-125.50

3.00
1.87
1.46
2.06

f1 (ppm)

Postigo-SBML40F/3



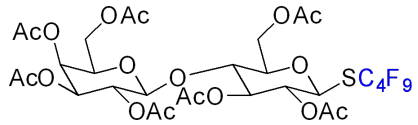
10

-119.76
-120.28
-120.95
-121.47
-125.45
-125.47
-125.50

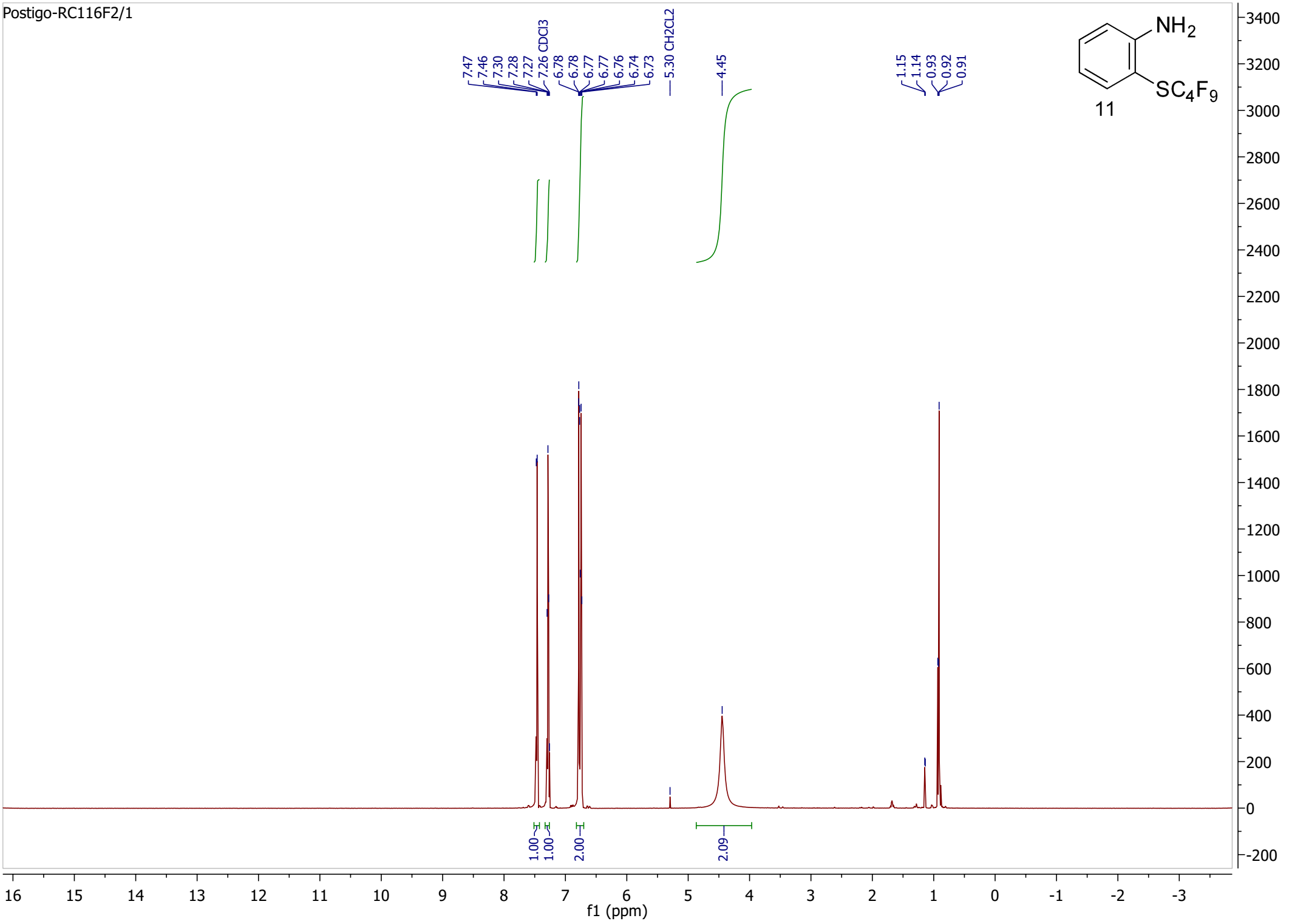
1.46
2.06

f1 (ppm)

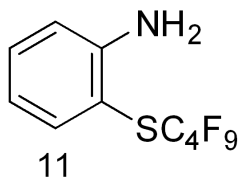
Postigo-SBML40F/3



10


Postigo-RC116F2/1
7.47
7.46
7.30
7.28
7.27
7.26 CDCl3
6.78
6.78
6.77
6.77
6.76
6.74
6.73
5.30 CH2CL2
4.45
1.15
1.14
0.93
0.92
0.91
NH2
SC4F9
11
1.00
1.00
2.00
2.09
f1 (ppm)

Postigo-RC116F2/1



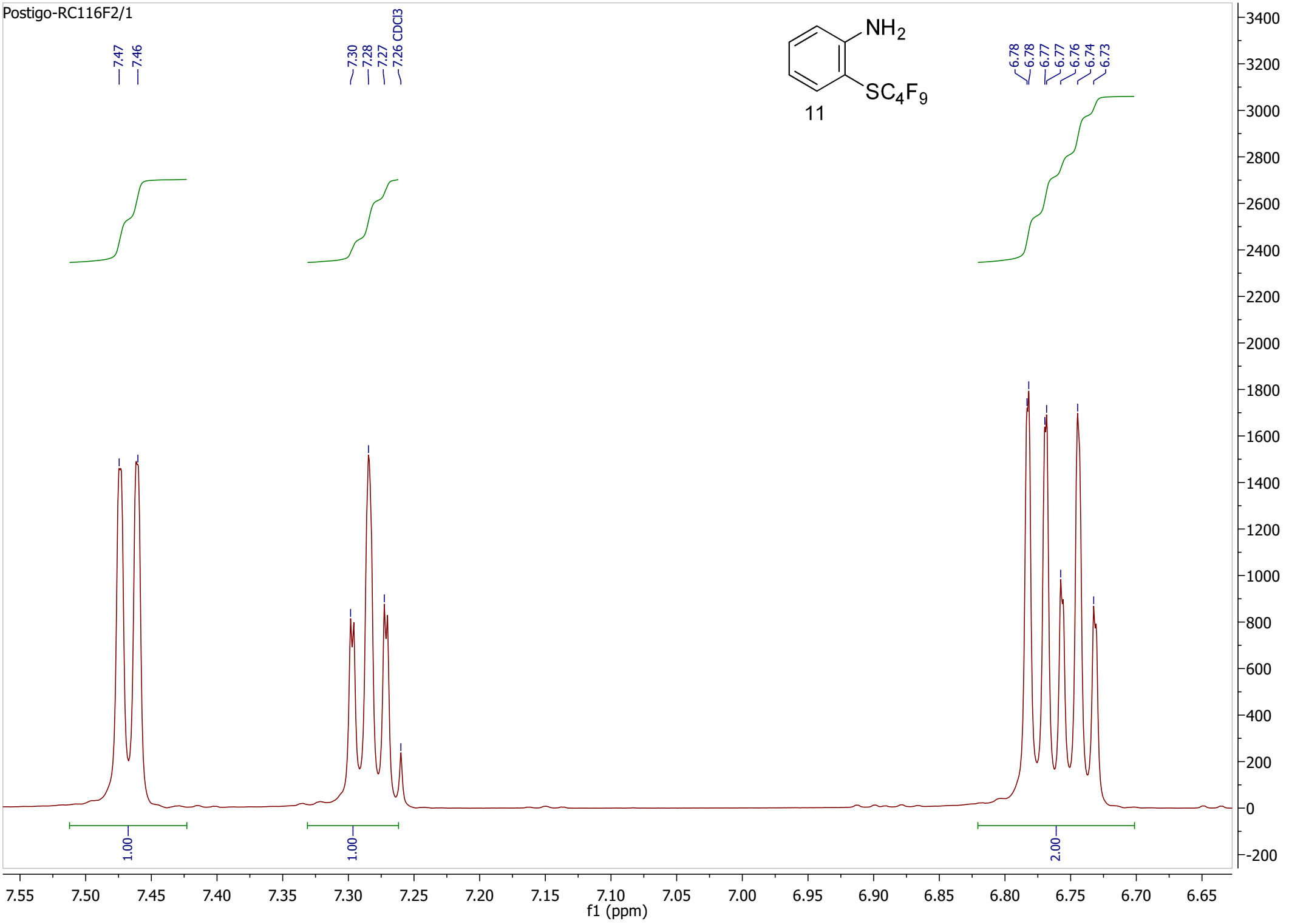
11

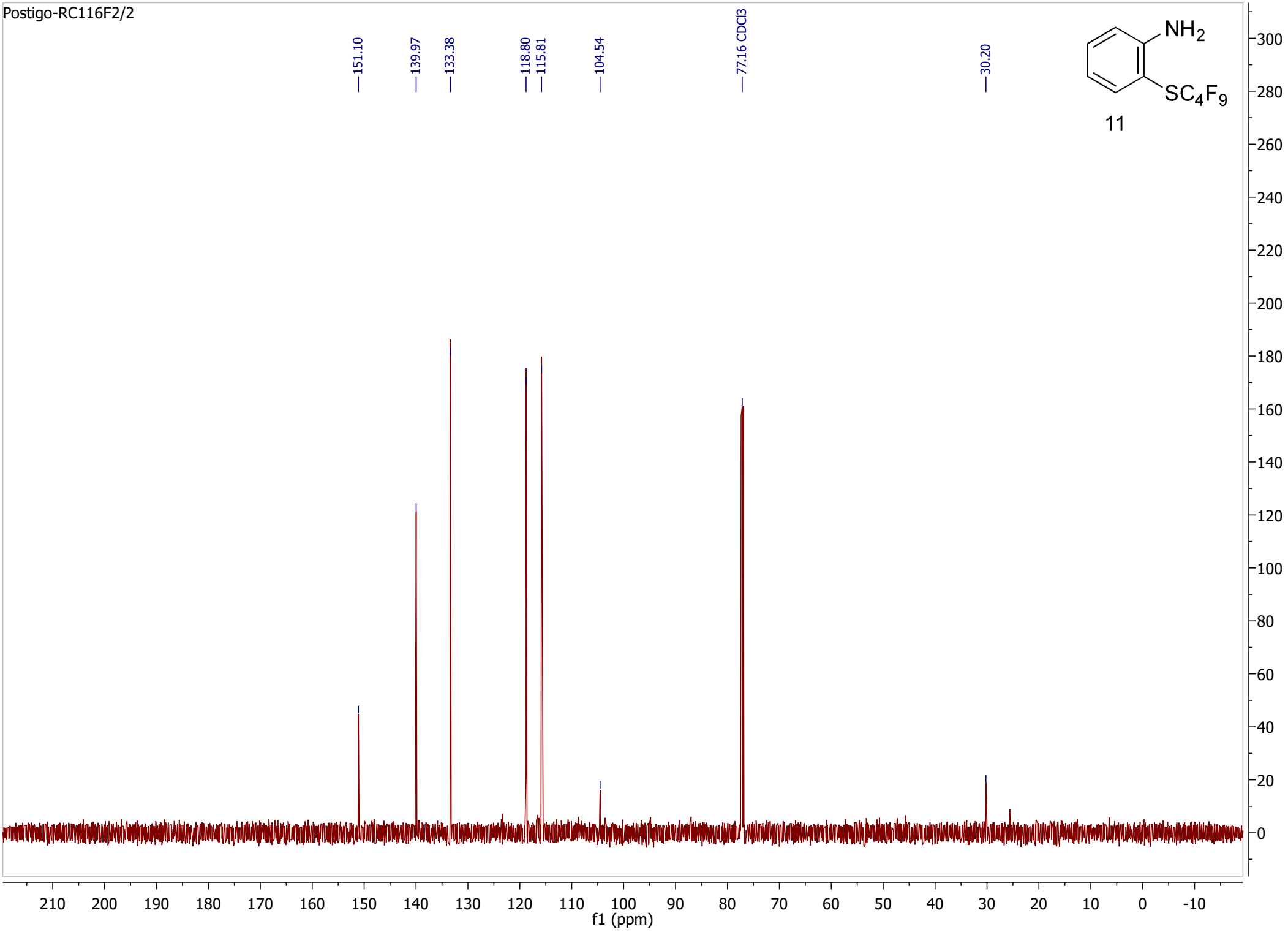
5.30 CH2CL2

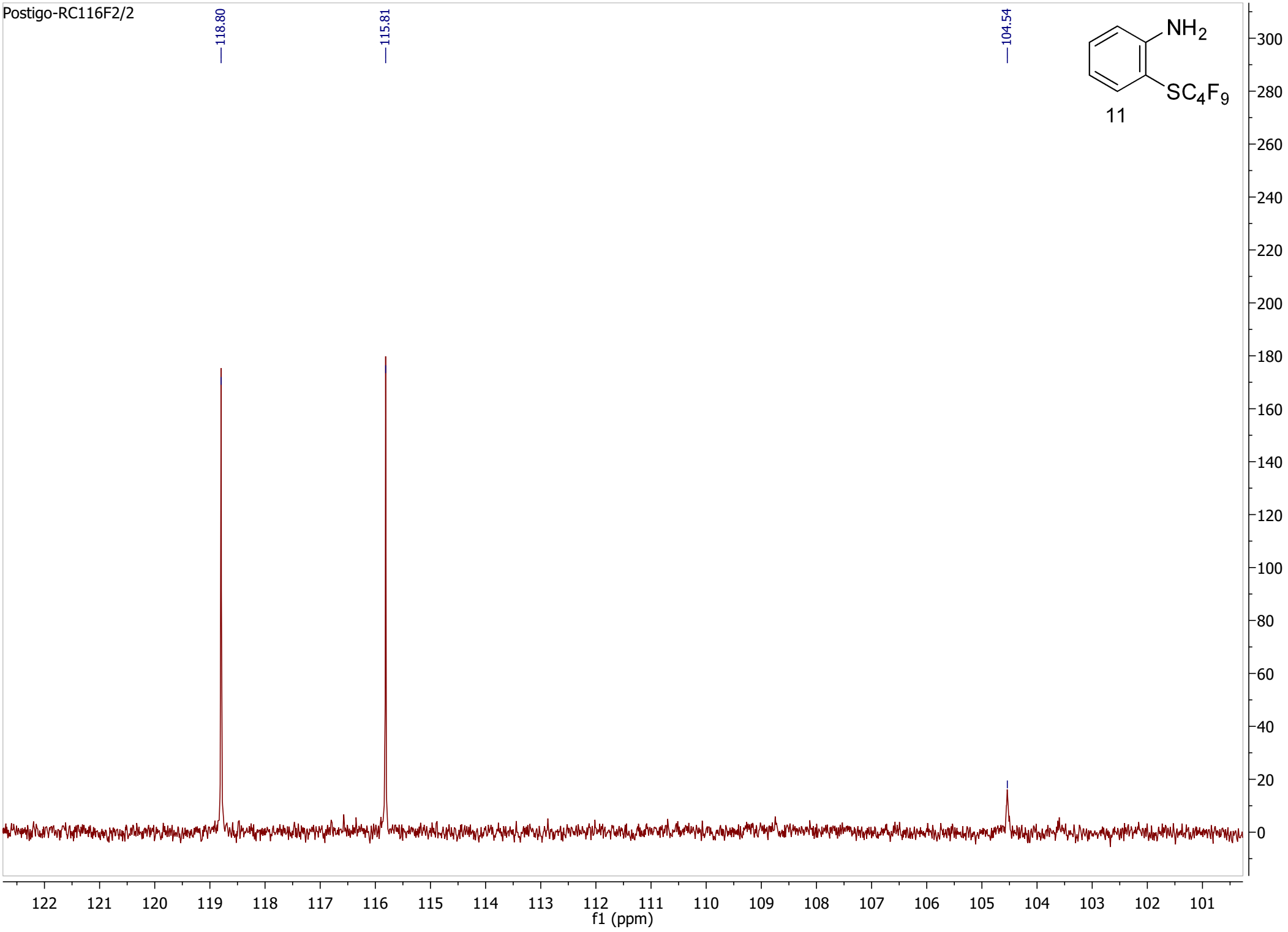
4.45

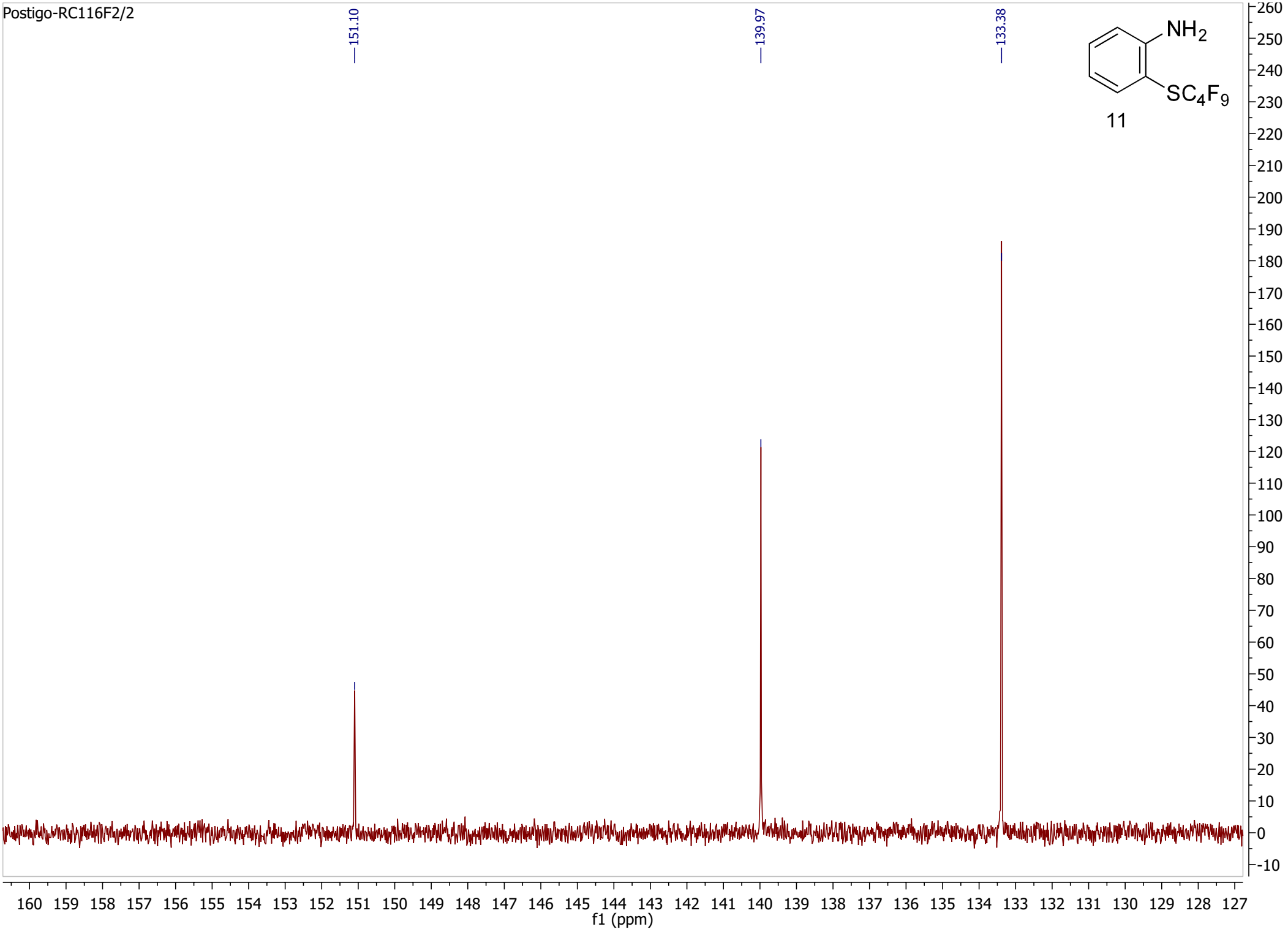
2.09

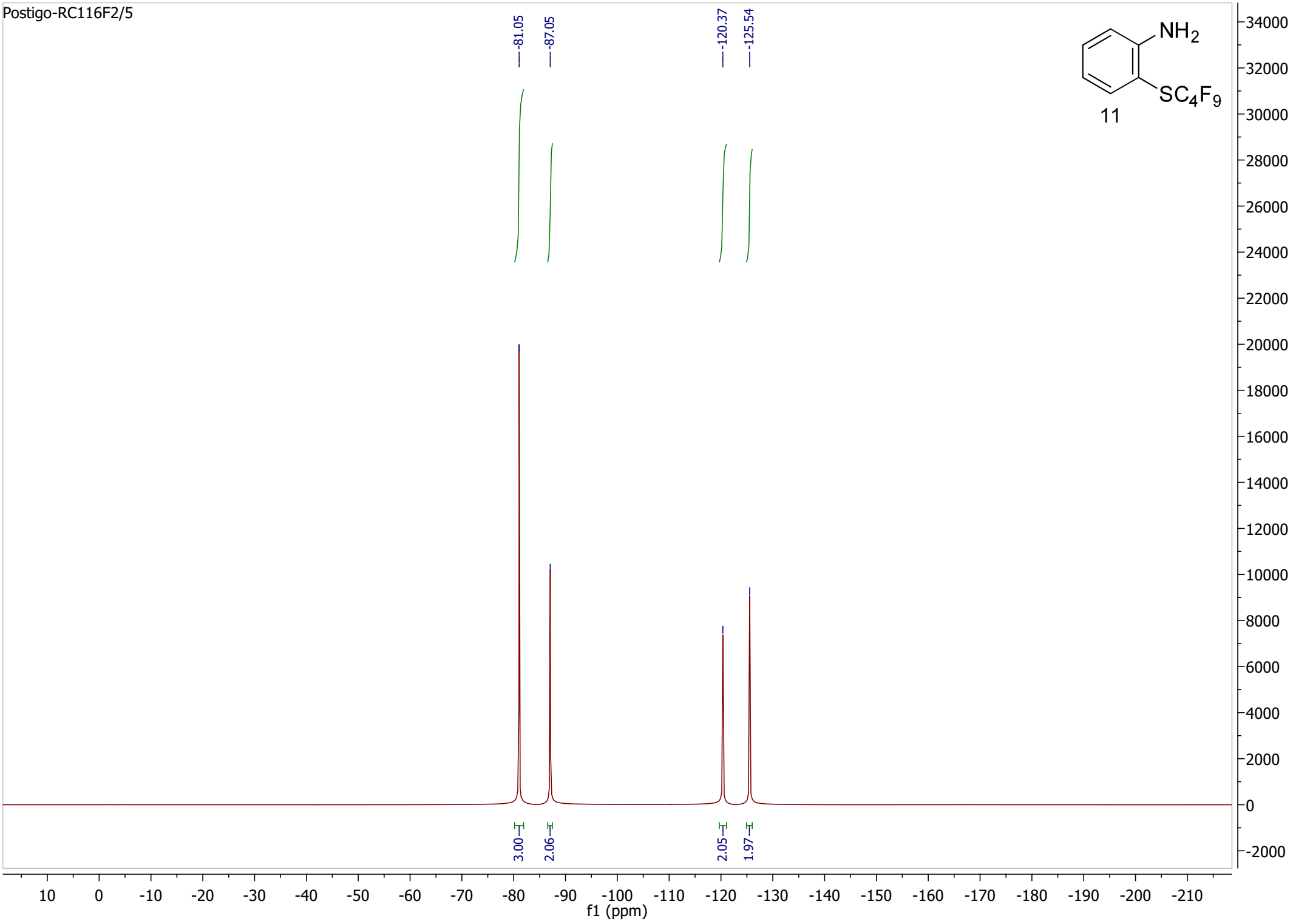
f1 (ppm)

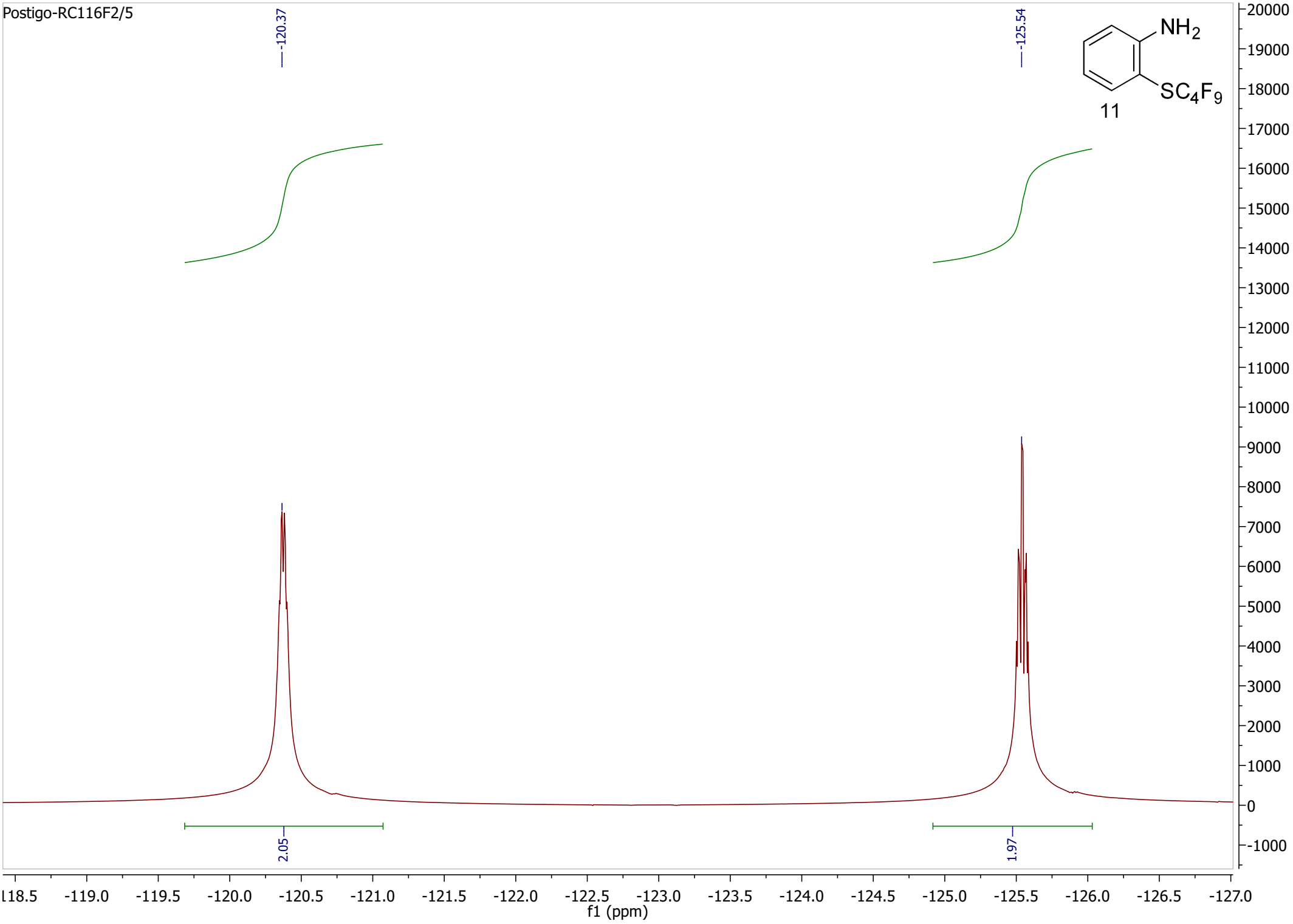

Postigo-RC116F2/1
7.47
7.46
7.30
7.28
7.27
7.26 CDCl3
6.78
6.78
6.77
6.77
6.76
6.74
6.73
NH2
SC4F9
11
1.00
1.00
2.00
f1 (ppm)

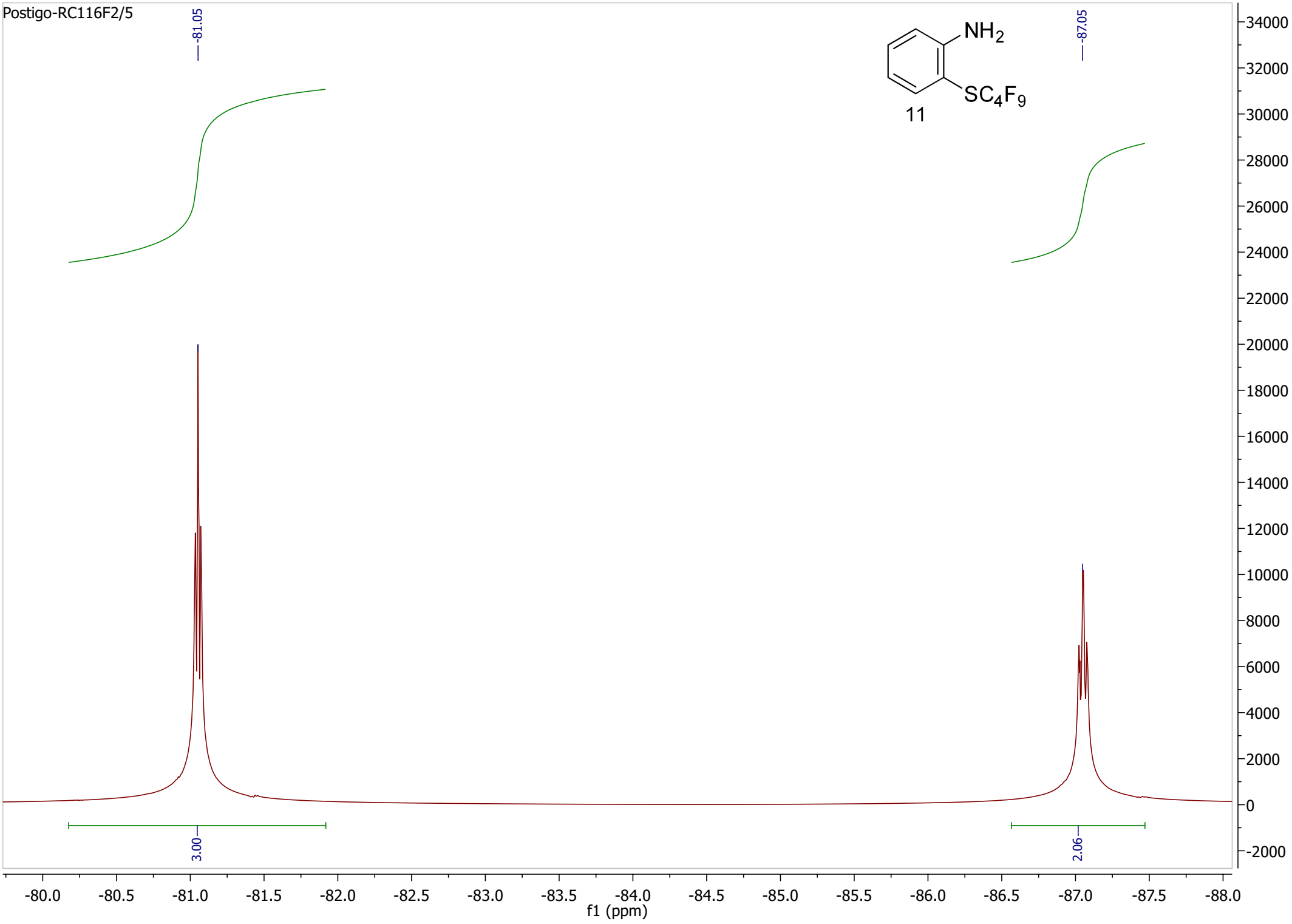

Postigo-RC116F2/2
151.10
139.97
133.38
118.80
115.81
104.54
77.16 CDCl3
30.20
NH2
SC4F9
11
f1 (ppm)

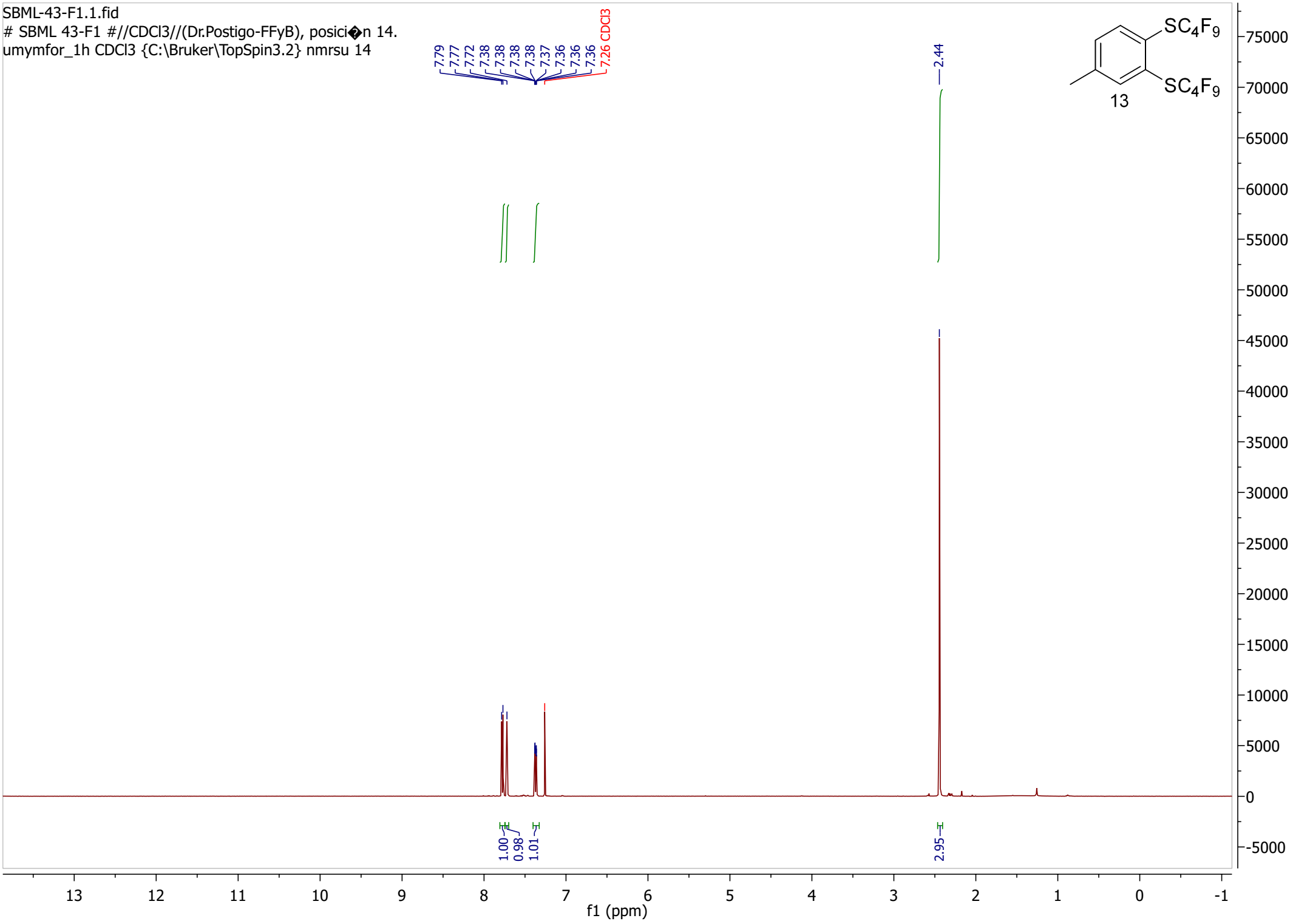

Postigo-RC116F2/2
118.80
115.81
104.54
NH2
SC4F9
11
f1 (ppm)


Postigo-RC116F2/2
151.10
139.97
133.38
NH2
SC4F9
11
f1 (ppm)

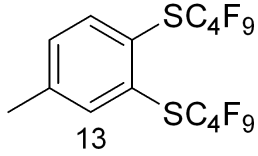

Postigo-RC116F2/5
-81.05
-87.05
-120.37
-125.54
NH2
SC4F9
11
3.00
2.06
2.05
1.97
f1 (ppm)


Postigo-RC116F2/5
-120.37
-125.54
NH2
SC4F9
11
2.05
1.97
20000
19000
18000
17000
16000
15000
14000
13000
12000
11000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
-118.5
-119.0
-119.5
-120.0
-120.5
-121.0
-121.5
-122.0
-122.5
-123.0
-123.5
-124.0
-124.5
-125.0
-125.5
-126.0
-126.5
-127.0
f1 (ppm)


Postigo-RC116F2/5
-81.05
-87.05
NH2
SC4F9
11
3.00
2.06
34000
32000
30000
28000
26000
24000
22000
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
-2000
-80.0
-80.5
-81.0
-81.5
-82.0
-82.5
-83.0
-83.5
-84.0
-84.5
-85.0
-85.5
-86.0
-86.5
-87.0
-87.5
-88.0
f1 (ppm)

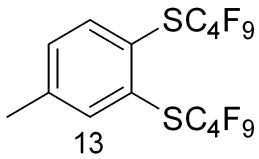

SBML-43-F1.1.fid
SBML 43-F1 #//CDCl3//(Dr.Postigo-FFyB), posici n 14.
umymfor_1h CDCl3 {C:\Bruker\TopSpin3.2} nmrsu 14
7.79
7.77
7.72
7.38
7.38
7.38
7.38
7.37
7.36
7.36
7.36
7.26 CDCl3
2.44
SC4F9
SC4F9
13
1.00
0.98
1.01
2.95
f1 (ppm)

SBML-43-F1.1.fid
SBML 43-F1 #//CDCl3//(Dr.Postigo-FFyB), posici□n 14.
umymfor_1h CDCl3 {C:\Bruker\TopSpin3.2} nmrsu 14



13

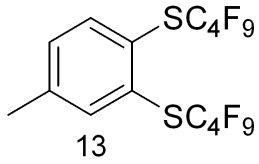
SBML-43-F1.1.fid
SBML 43-F1 #//CDCl3//(Dr.Postigo-FFyB), posici□n 14.
umymfor_1h CDCl3 {C:\Bruker\TopSpin3.2} nmrsu 14



13

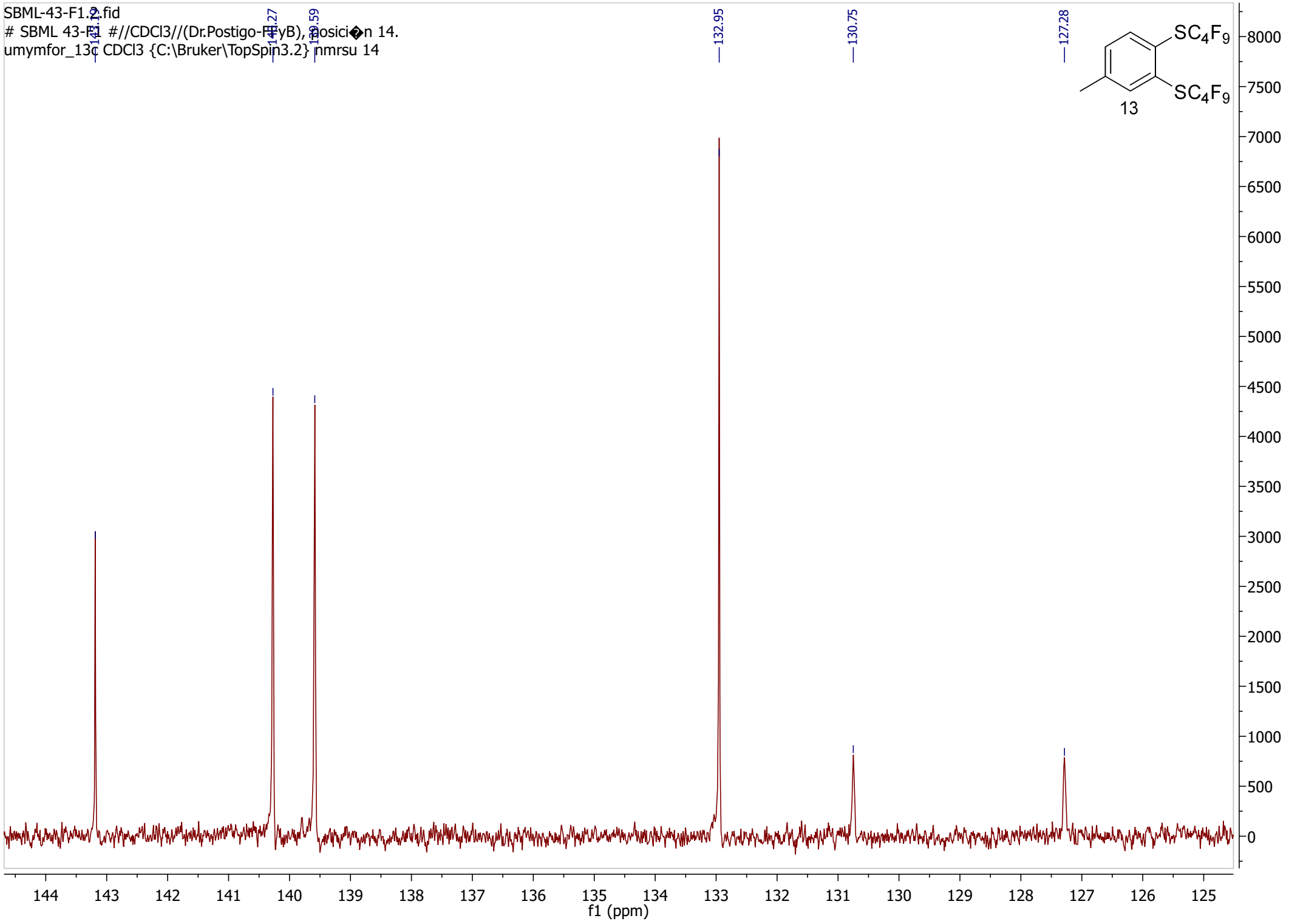
SBML-43-F1.2.fid
SBML 43-F1 #//CDCl3//(Dr.Postigo-FFyB), posici□n 14.
umymfor_13c CDCl3 {C:\Bruker\TopSpin3.2} nmrsu 14

143.19
140.27
139.59
132.95
130.75
127.28
76.91 CDCl3
21.29

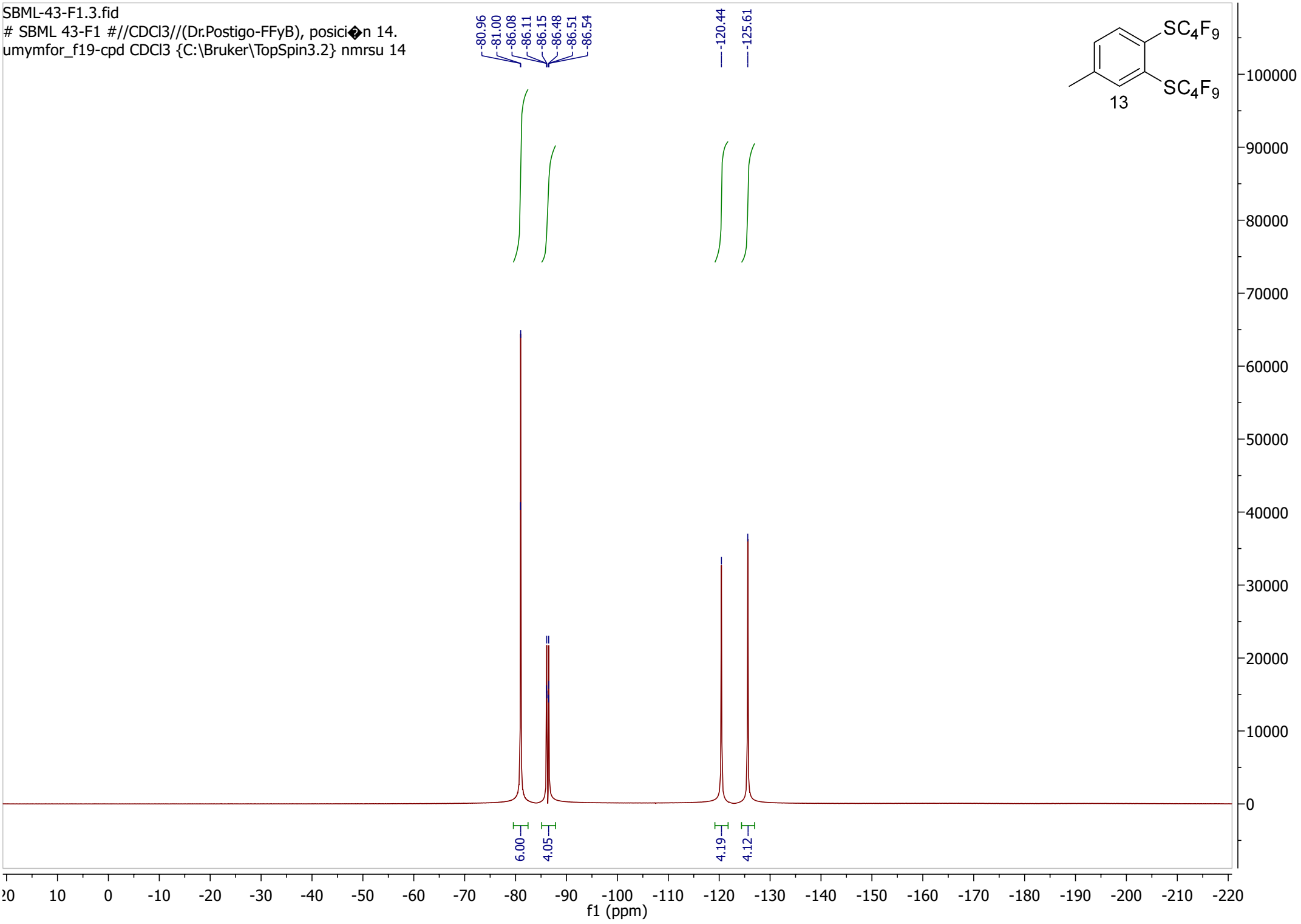


13

f1 (ppm)

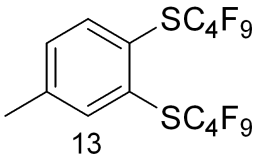

SBML-43-F1.2.fid
SBML 43-F1 #//CDCl3//(Dr.Postigo-FryB), posici□n 14.
umymfor_13c CDCl3 {C:\Bruker\TopSpin3.2} nmrsu 14
141.11
140.27
139.59
132.95
130.75
127.28
SC4F9
SC4F9
13
f1 (ppm)

SBML-43-F1.3.fid
SBML 43-F1 #//CDCl3//(Dr.Postigo-FFyB), posici□n 14.
umymfor_f19-cpd CDCl3 {C:\Bruker\TopSpin3.2} nmrsu 14



13

SBML-43-F1.3.fid
SBML 43-F1 #//CDCl3//(Dr.Postigo-FFyB) posici[illegible]n 14.
umymfor_f19-cpd CDCl3 {C:\Bruker\TopSpin3.2} nmrsu 14



13

-120.44

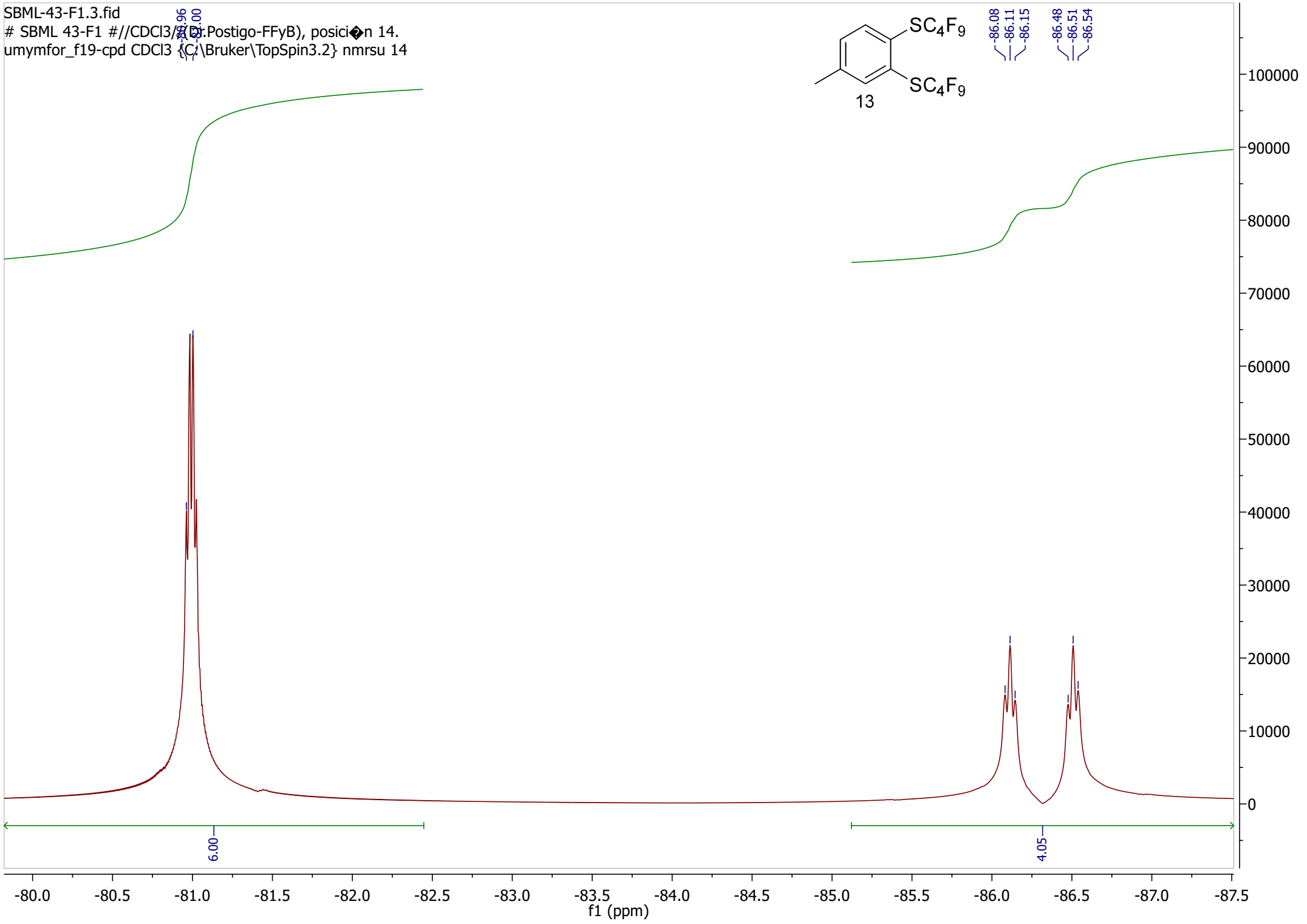
-125.61

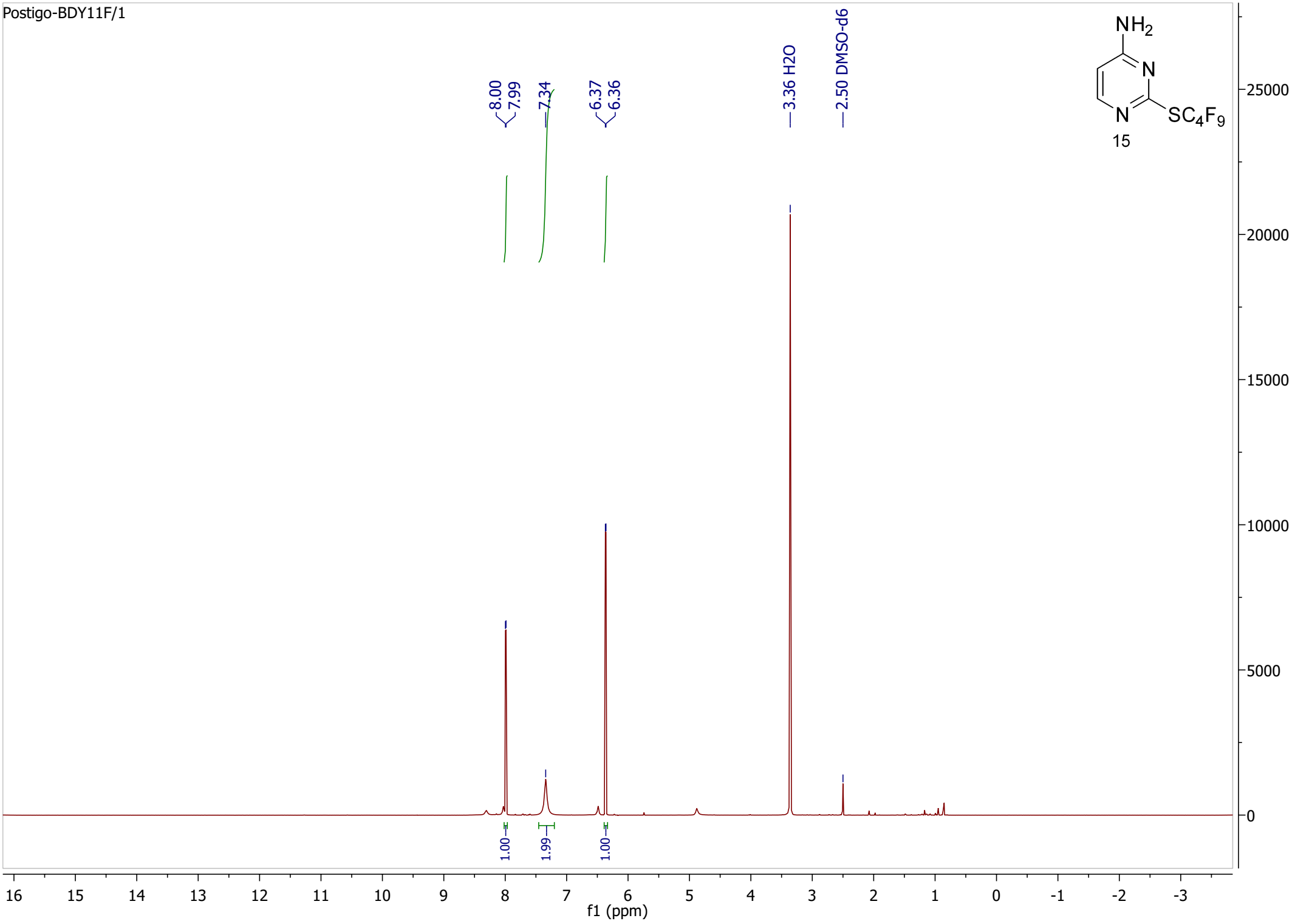
4.19

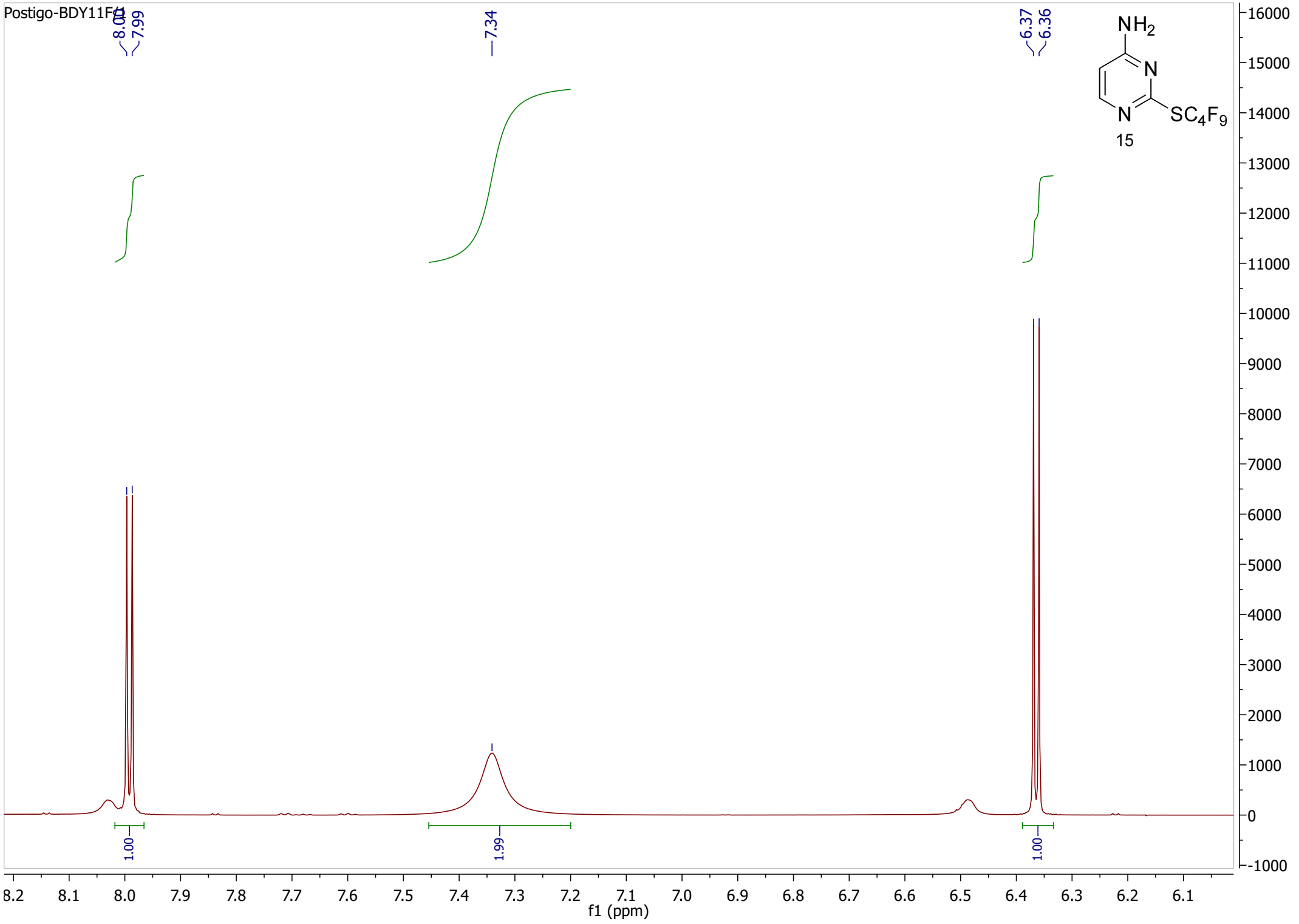
4.12

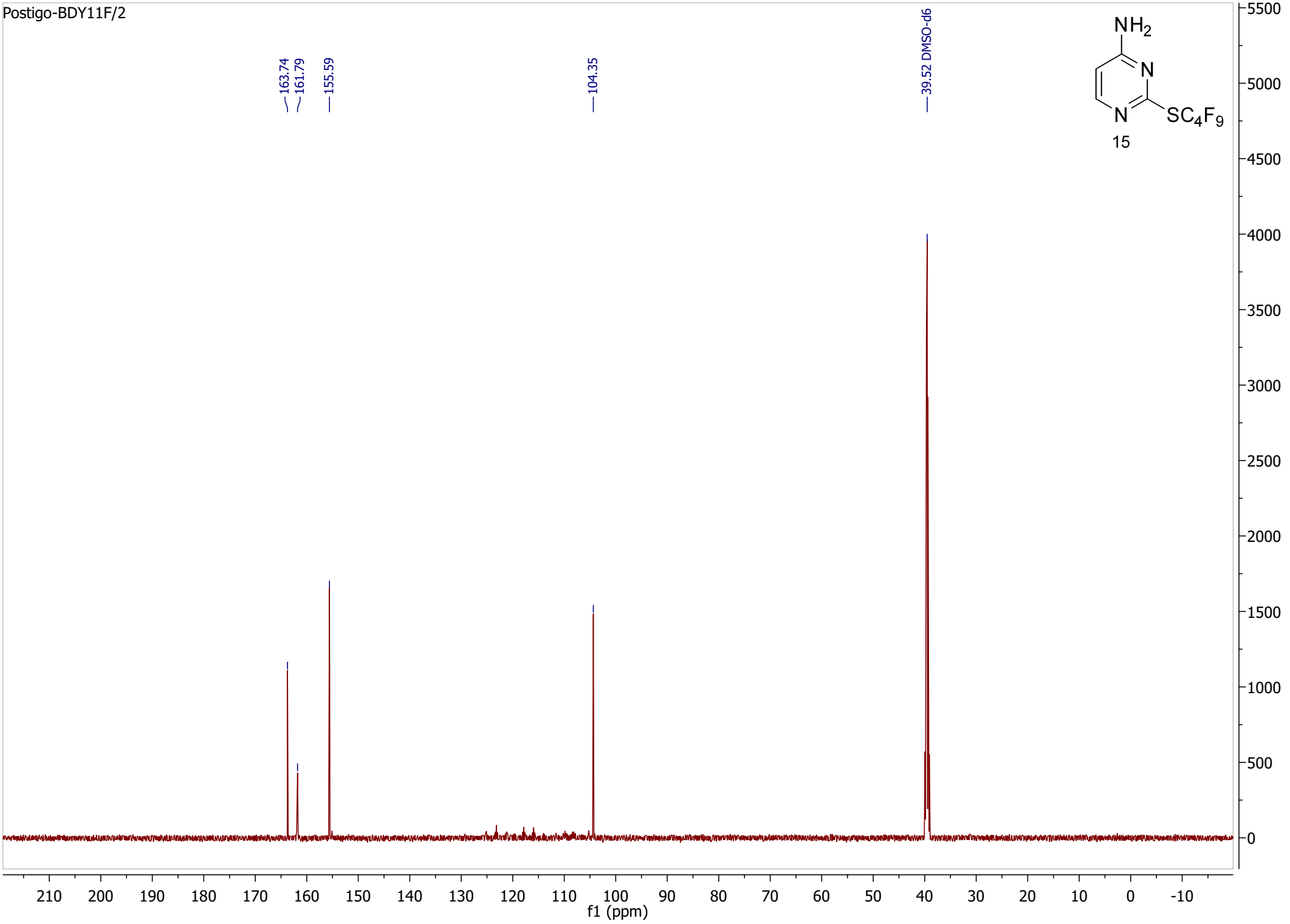
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0

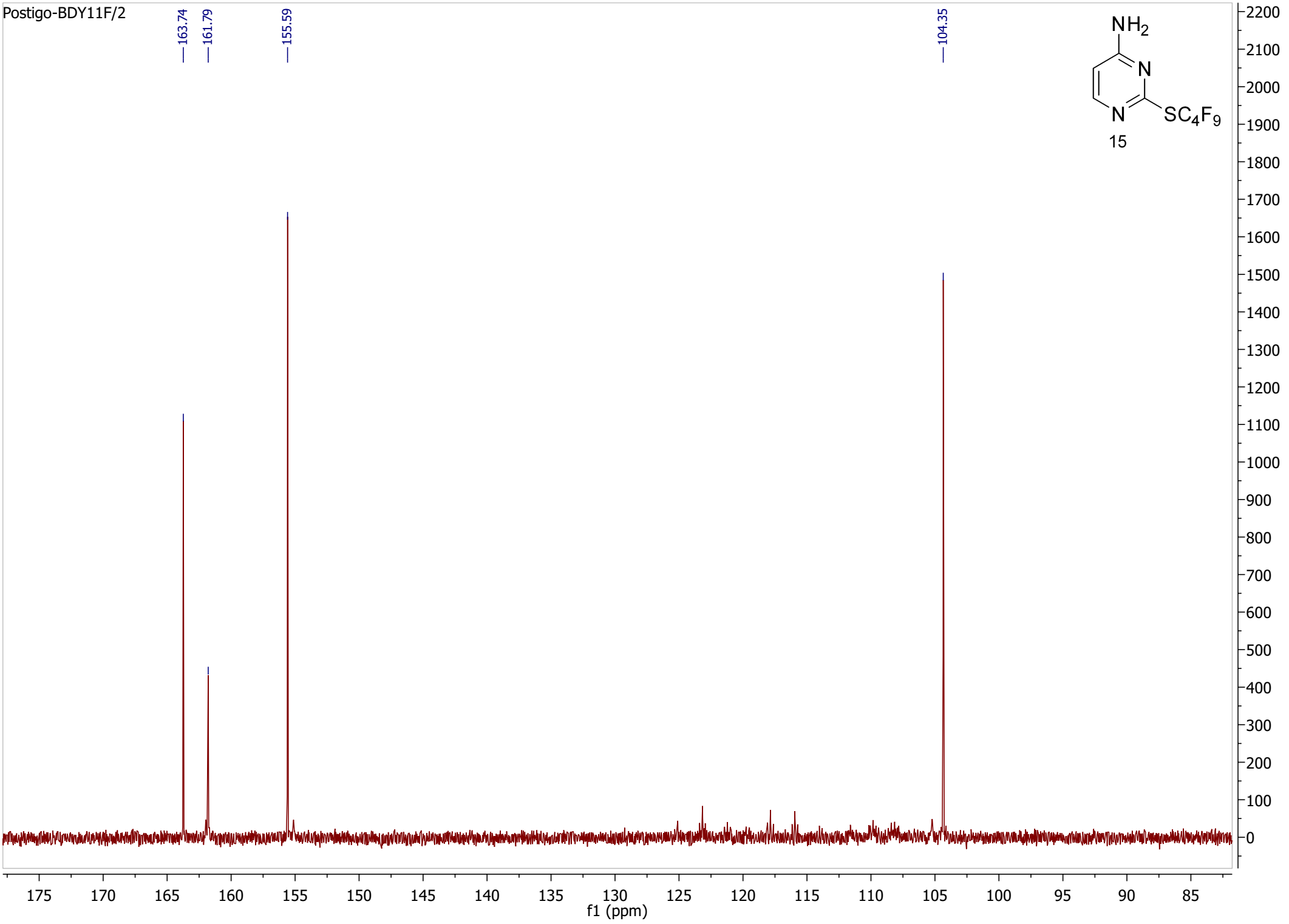
-118.0 -118.5 -119.0 -119.5 -120.0 -120.5 -121.0 -121.5 -122.0 -122.5 -123.0 -123.5 -124.0 -124.5 -125.0 -125.5 -126.0 -126.5 -127.0 -127.5 -128.0 -128.5
f1 (ppm)

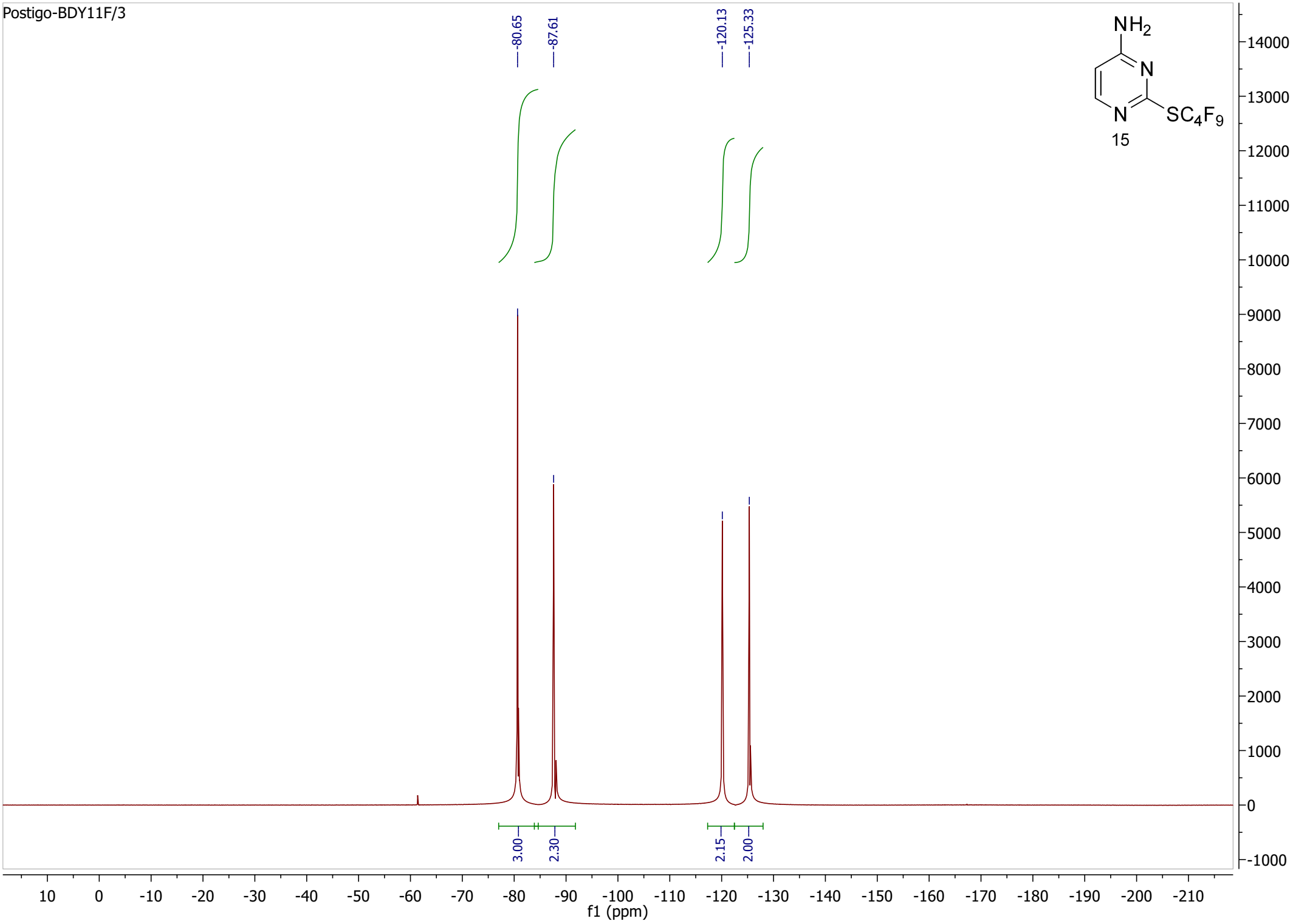

SBML-43-F1.3.fid
SBML 43-F1 #//CDCl3/ALB.Postigo-FFyB), posici n 14.
umymfor_f19-cpd CDCl3 {C:\Bruker\TopSpin3.2} nmrsu 14
-81.00
-81.96
-86.08
-86.11
-86.15
-86.48
-86.51
-86.54
SC4F9
SC4F9
13
6.00
4.05
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
-80.0
-80.5
-81.0
-81.5
-82.0
-82.5
-83.0
-83.5
-84.0
-84.5
-85.0
-85.5
-86.0
-86.5
-87.0
-87.5
f1 (ppm)

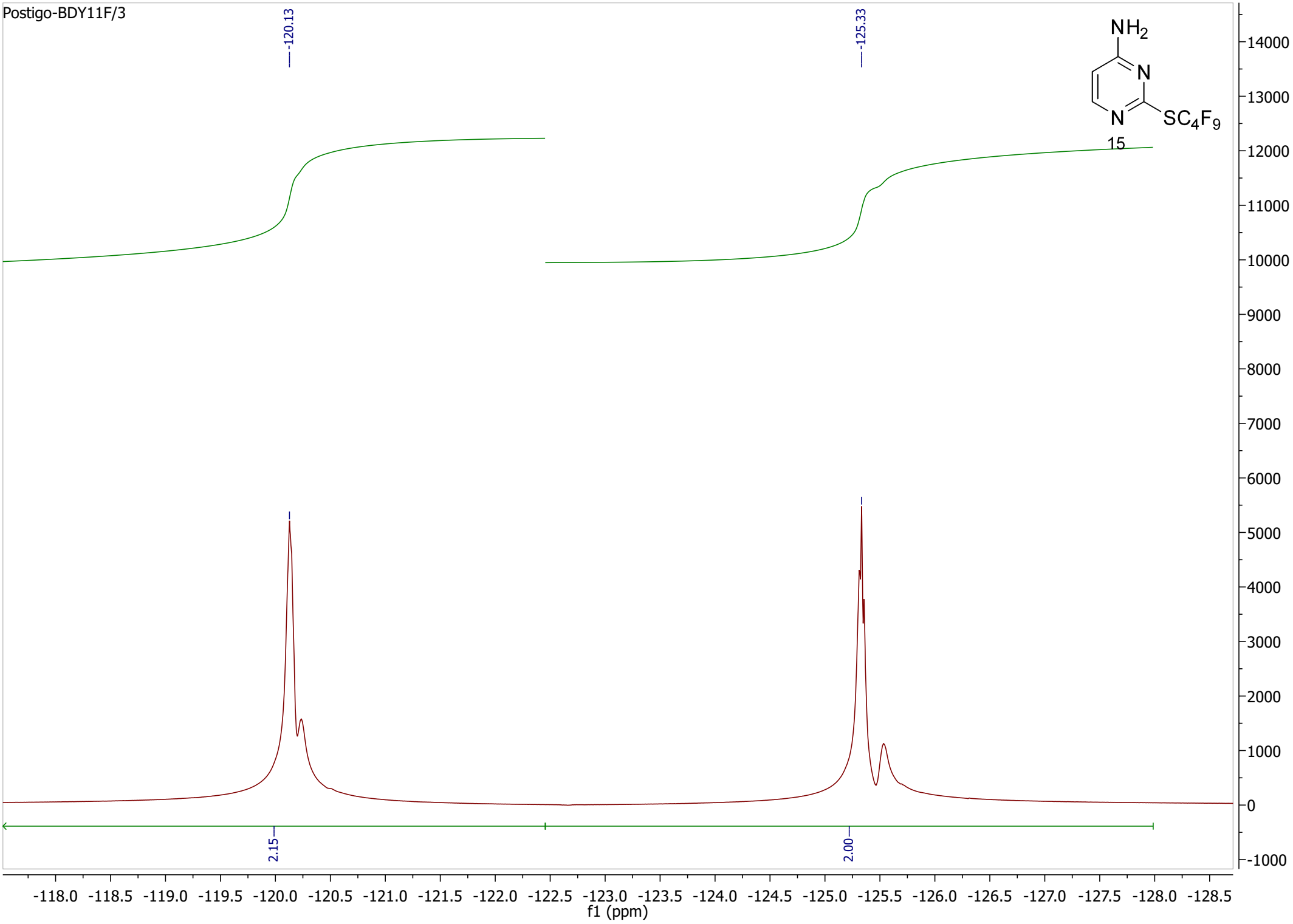

Postigo-BDY11F/1
8.00
7.99
7.34
6.37
6.36
3.36 H2O
2.50 DMSO-d6
NH2
N
N
SC4F9
15
1.00
1.99
1.00
25000
20000
15000
10000
5000
0
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
-1
-2
-3
f1 (ppm)

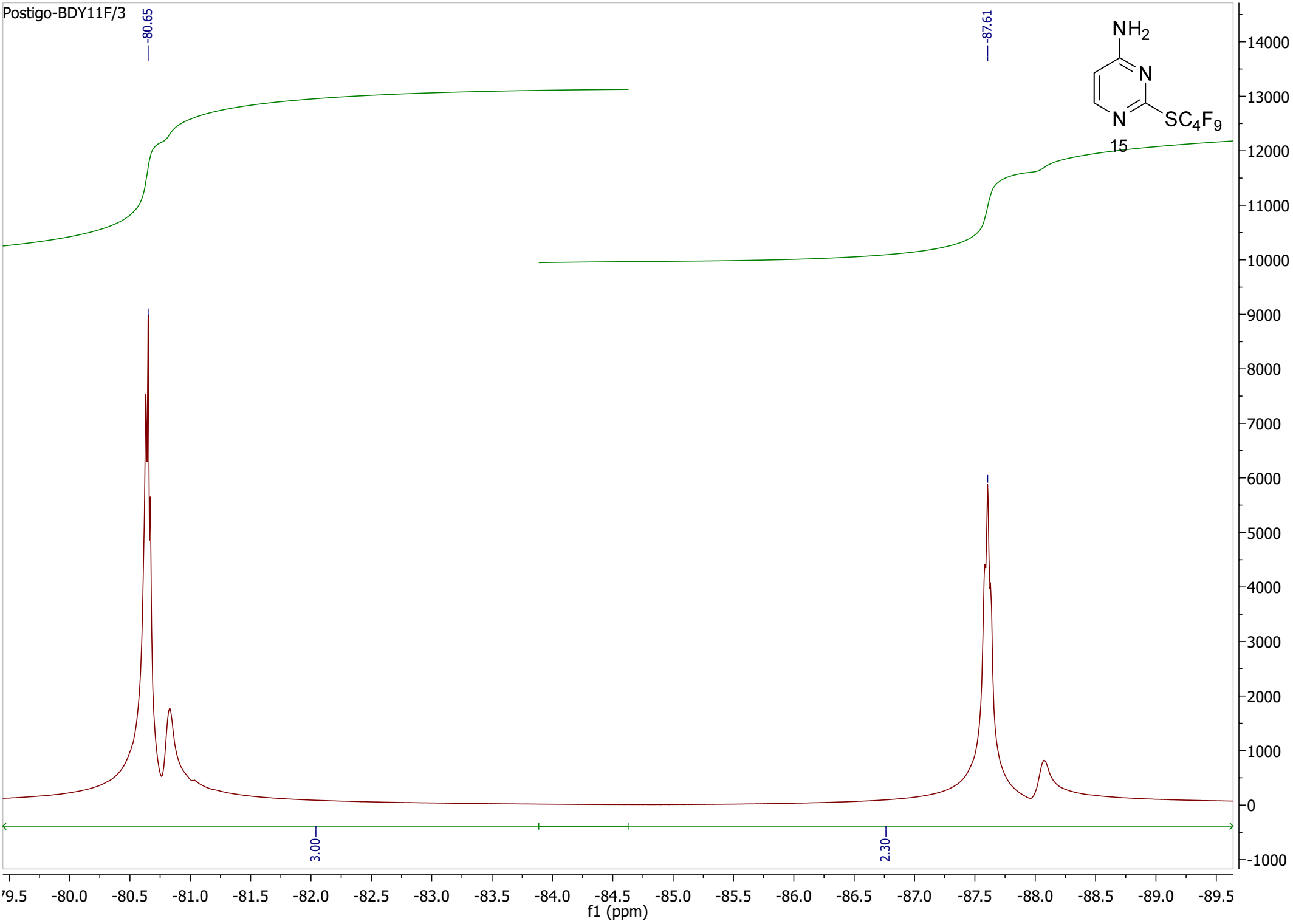

Postigo-BDY11F(1)
8.00
7.99
7.34
6.37
6.36
NH2
N
N
SC4F9
15
1.00
1.99
1.00
16000
15000
14000
13000
12000
11000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
8.2
8.1
8.0
7.9
7.8
7.7
7.6
7.5
7.4
7.3
7.2
7.1
7.0
6.9
6.8
6.7
6.6
6.5
6.4
6.3
6.2
6.1
f1 (ppm)

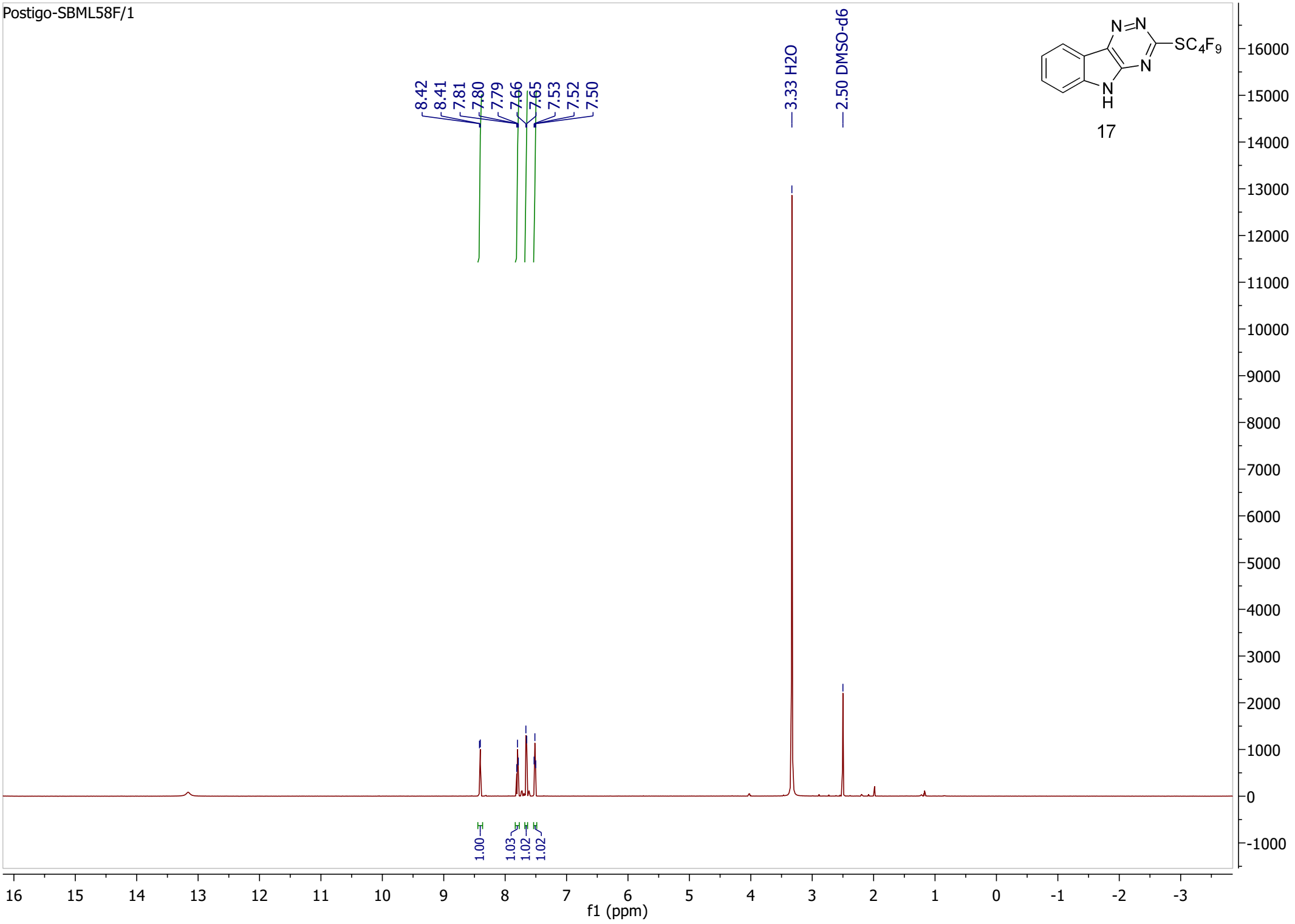

Postigo-BDY11F/2
163.74
161.79
155.59
104.35
39.52 DMSO-d6
NH2
N
N
SC4F9
15
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
f1 (ppm)

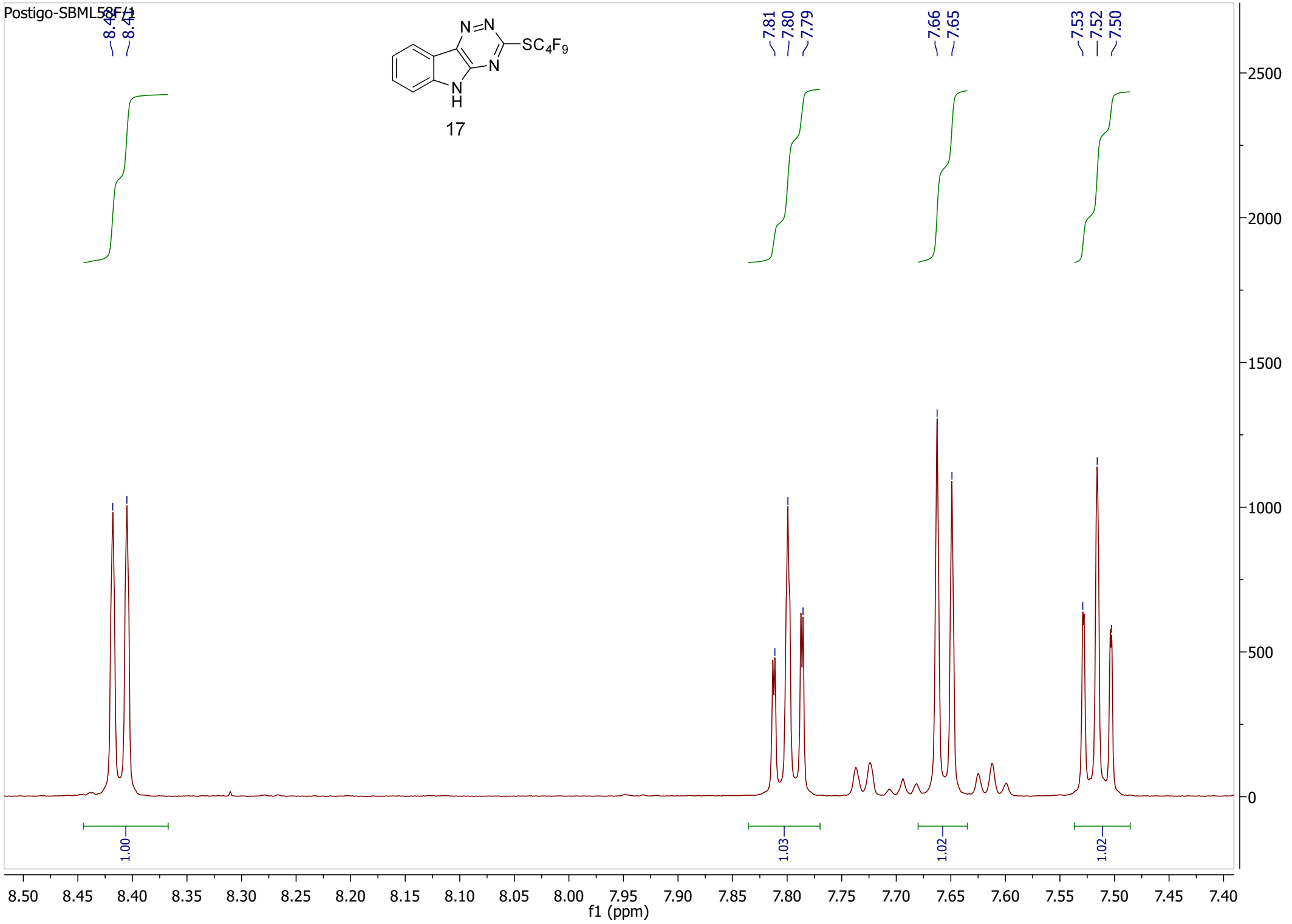

Postigo-BDY11F/2
163.74
161.79
155.59
104.35
NH2
N
N
SC4F9
15
f1 (ppm)


Postigo-BDY11F/3
-80.65
-87.61
-120.13
-125.33
NH2
N
N
SC4F9
15
3.00
2.30
2.15
2.00
f1 (ppm)

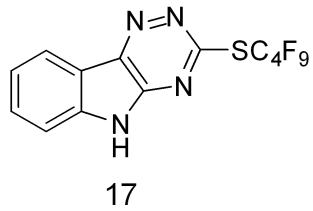

Postigo-BDY11F/3
-120.13
-125.33
NH2
N
N
SC4F9
15
2.15
2.00
14000
13000
12000
11000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
-118.0 -118.5 -119.0 -119.5 -120.0 -120.5 -121.0 -121.5 -122.0 -122.5 -123.0 -123.5 -124.0 -124.5 -125.0 -125.5 -126.0 -126.5 -127.0 -127.5 -128.0 -128.5
f1 (ppm)


Postigo-BDY11F/3
-80.65
-87.61
NH2
N
N
SC4F9
15
14000
13000
12000
11000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
-1000
3.00
2.30
-79.5
-80.0
-80.5
-81.0
-81.5
-82.0
-82.5
-83.0
-83.5
-84.0
-84.5
-85.0
-85.5
-86.0
-86.5
-87.0
-87.5
-88.0
-88.5
-89.0
-89.5
f1 (ppm)


Postigo-SBML58F/1
8.42
8.41
7.81
7.80
7.79
7.66
7.65
7.53
7.52
7.50
3.33 H2O
2.50 DMSO-d6
N=N
SC4F9
N
N
H
17
1.00
1.03
1.02
1.02
f1 (ppm)


Postigo-SBML58F/1
8.42
8.41
N=N
SC4F9
N
N
H
17
7.81
7.80
7.79
7.66
7.65
7.53
7.52
7.50
2500
2000
1500
1000
500
0
1.00
1.03
1.02
1.02
8.50
8.45
8.40
8.35
8.30
8.25
8.20
8.15
8.10
8.05
8.00
7.95
7.90
7.85
7.80
7.75
7.70
7.65
7.60
7.55
7.50
7.45
7.40
f1 (ppm)

Postigo-SBML58F/2

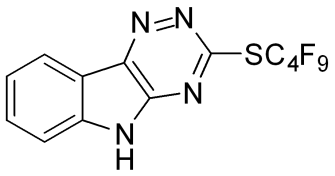


17

158.15
146.47
143.13
141.36
132.29
123.09
122.36
116.92
113.09
39.94
39.52 DMSO-d6

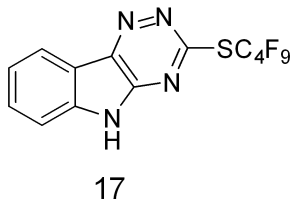
f1 (ppm)

Postigo-SBML58F/2

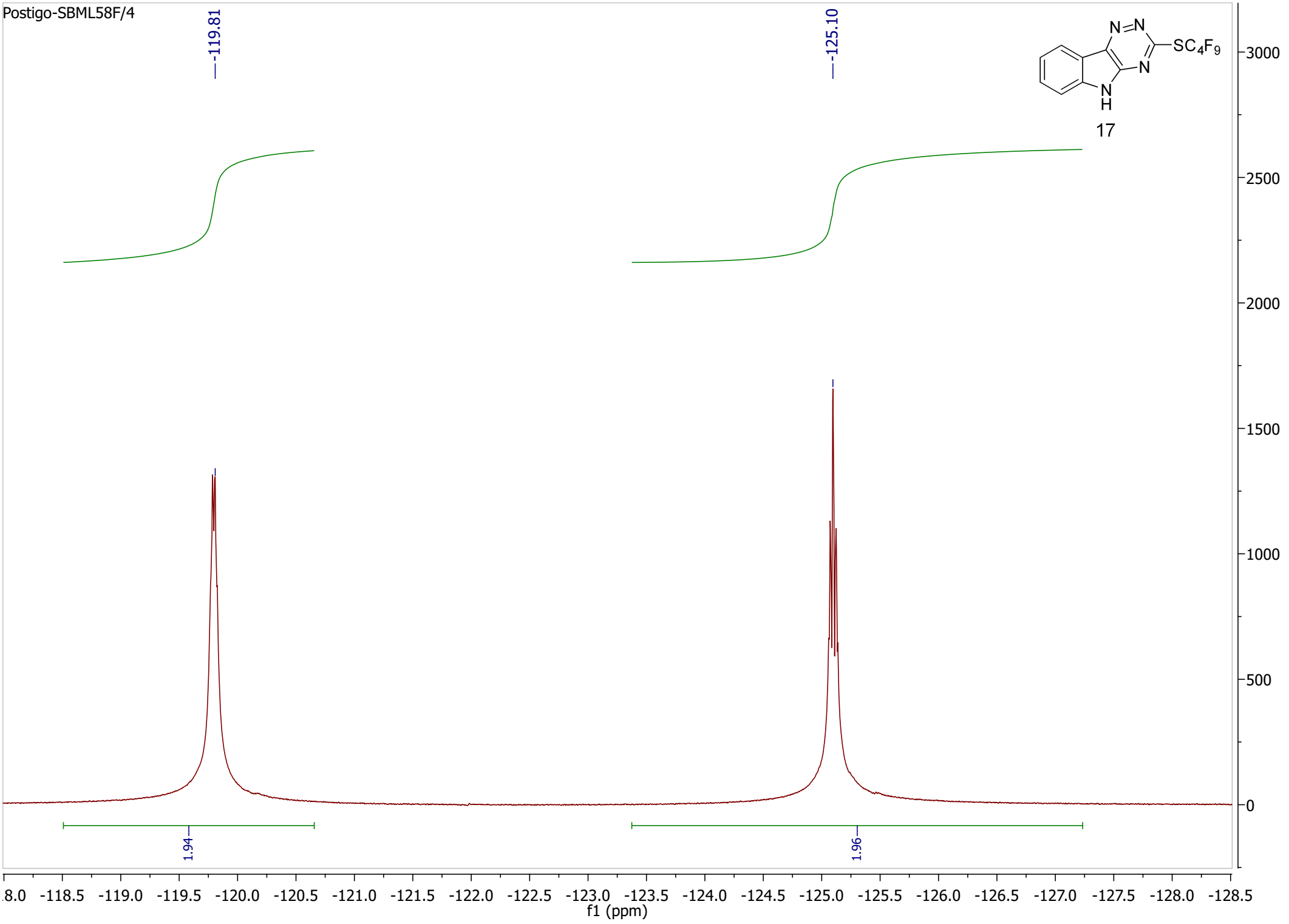


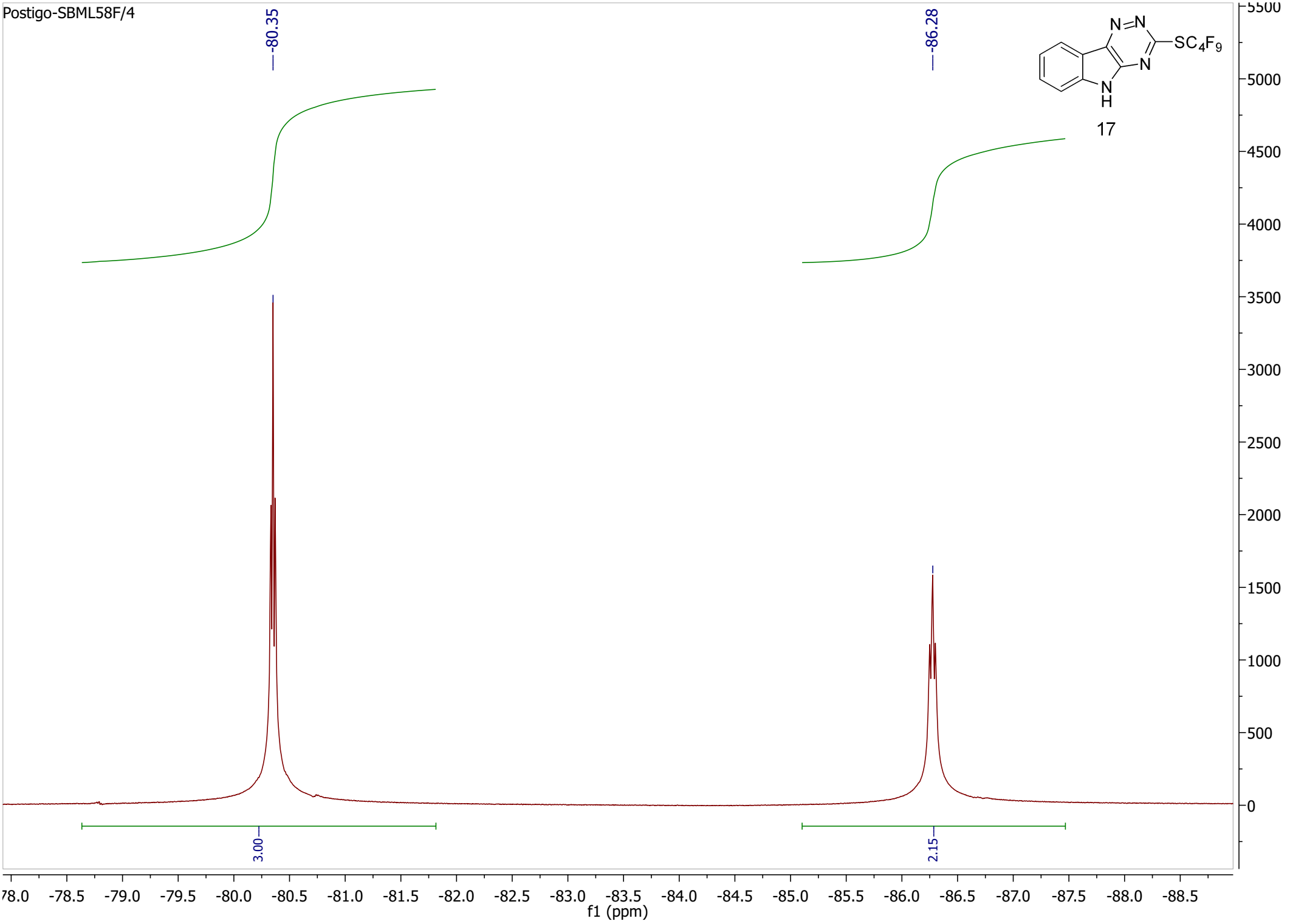
17

Postigo-SBML58F/4



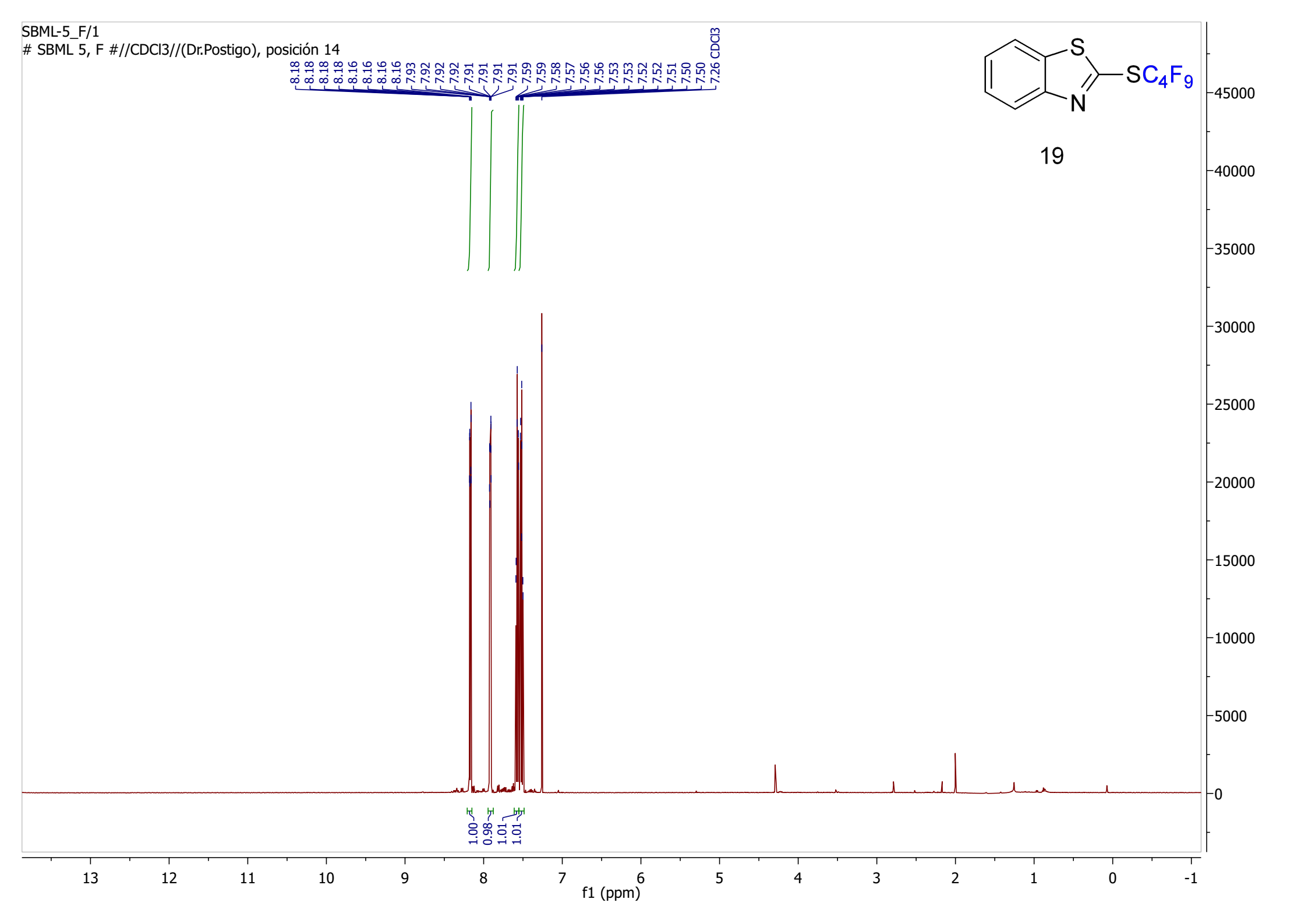
17


Postigo-SBML58F/4
-119.81
-125.10
N
N
N
H
SC4F9
17
3000
2500
2000
1500
1000
500
0
1.94
1.96
.8.0 -118.5 -119.0 -119.5 -120.0 -120.5 -121.0 -121.5 -122.0 -122.5 -123.0 -123.5 -124.0 -124.5 -125.0 -125.5 -126.0 -126.5 -127.0 -127.5 -128.0 -128.5
f1 (ppm)

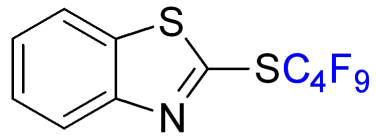

Postigo-SBML58F/4
-80.35
-86.28
N=N
SC4F9
N
N
H
17
3.00
2.15
f1 (ppm)

SBML-5_F/1

SBML 5, F #//CDCl3//(Dr.Postigo), posición 14



SBML-5_F/1
SBML 5, F #//CDCl3//(Dr.Postigo), posición 14



19

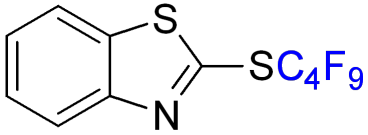
7.59 7.59 7.58 7.57 7.56 7.56 7.53 7.53 7.52 7.52 7.51 7.50 7.50

1.01 1.01

f1 (ppm)

SBML-5_F/1

SBML 5, F #//CDCl3//(Dr.Postigo), posición 14



19

8.18 8.18 8.18 8.16 8.16 8.16 8.16

7.93 7.92 7.92 7.92 7.91 7.91 7.91 7.91

1.00

0.98

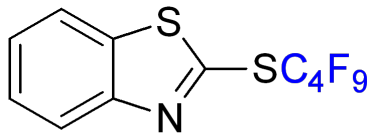
8.21 8.19 8.17 8.15 8.13 8.11 8.09 8.07 8.05 8.03 8.01 7.99 7.97 7.95 7.93 7.91 7.89 7.87

f1 (ppm)

45000 40000 35000 30000 25000 20000 15000 10000 5000 0

SBML-5_F/4
SBML 5, F #//CDCl3//(Dr.Postigo), posición 14

153.35
150.08
138.65
127.19
127.07
124.55
121.46
77.16 CDCl3

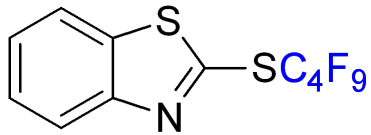


19

f1 (ppm)

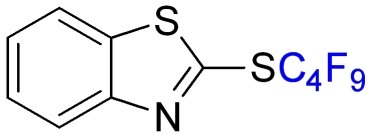
SBML-5_F/4

SBML 5, F #//CDCl3//(Dr.Postigo), posición 14



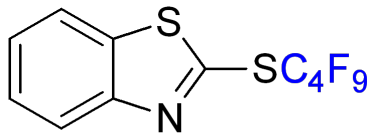
19

SBML-5_F/4
SBML 5, F #//CDCl3//(Dr.Postigo), posición 14



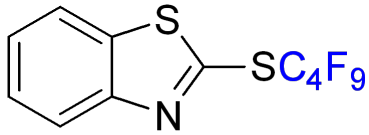
19

SBML-5_F/2
SBML 5, F #//CDCl3//(Dr.Postigo), posición 14.
19F **** DESACOPLADO del 1H ****



19

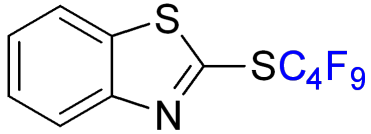
SBML-5_F/2
SBML 5, F #//CDCl3//(Dr.Postigo), posición 14.
19F **** DESACOPLADO del 1H ****



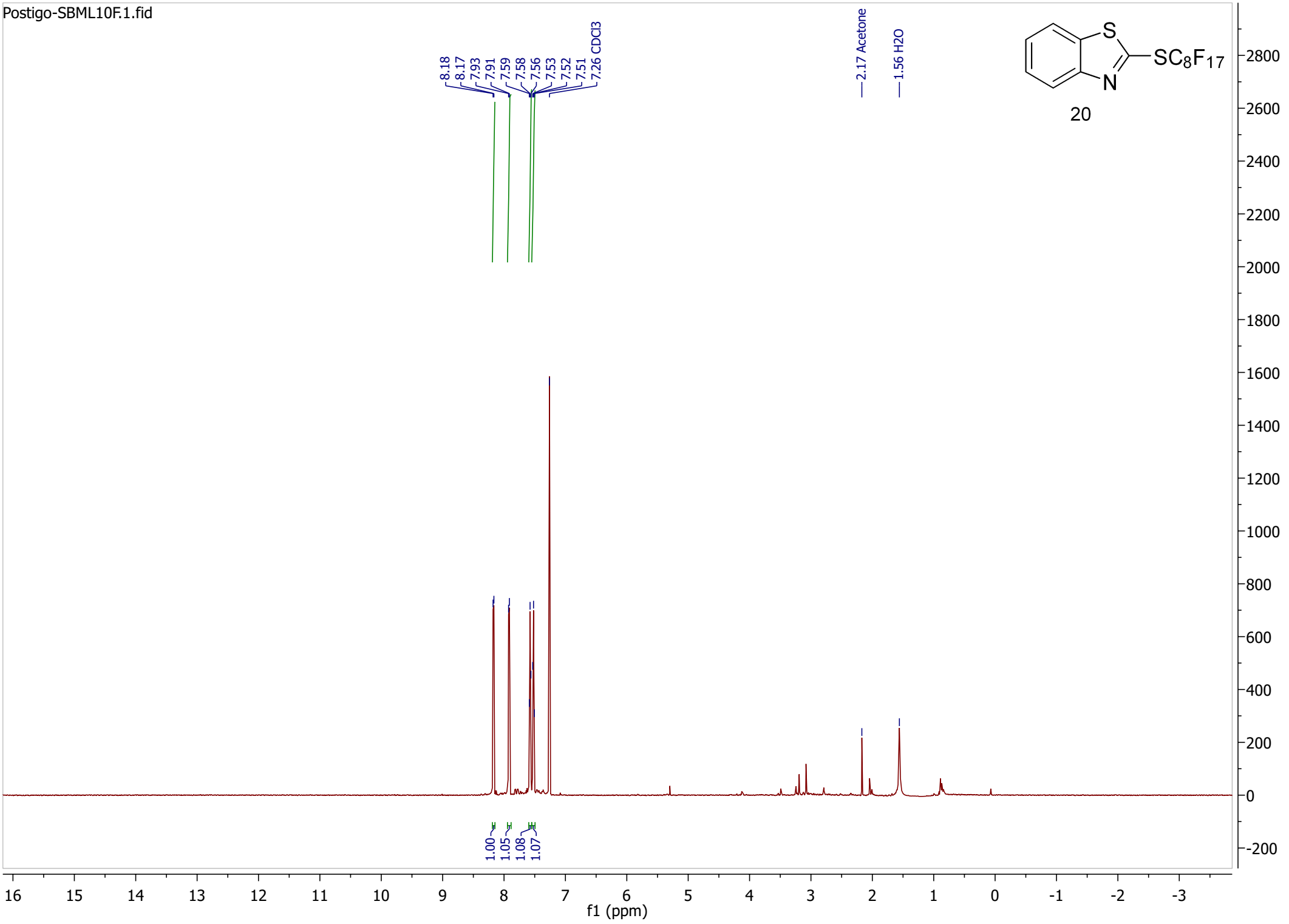
19

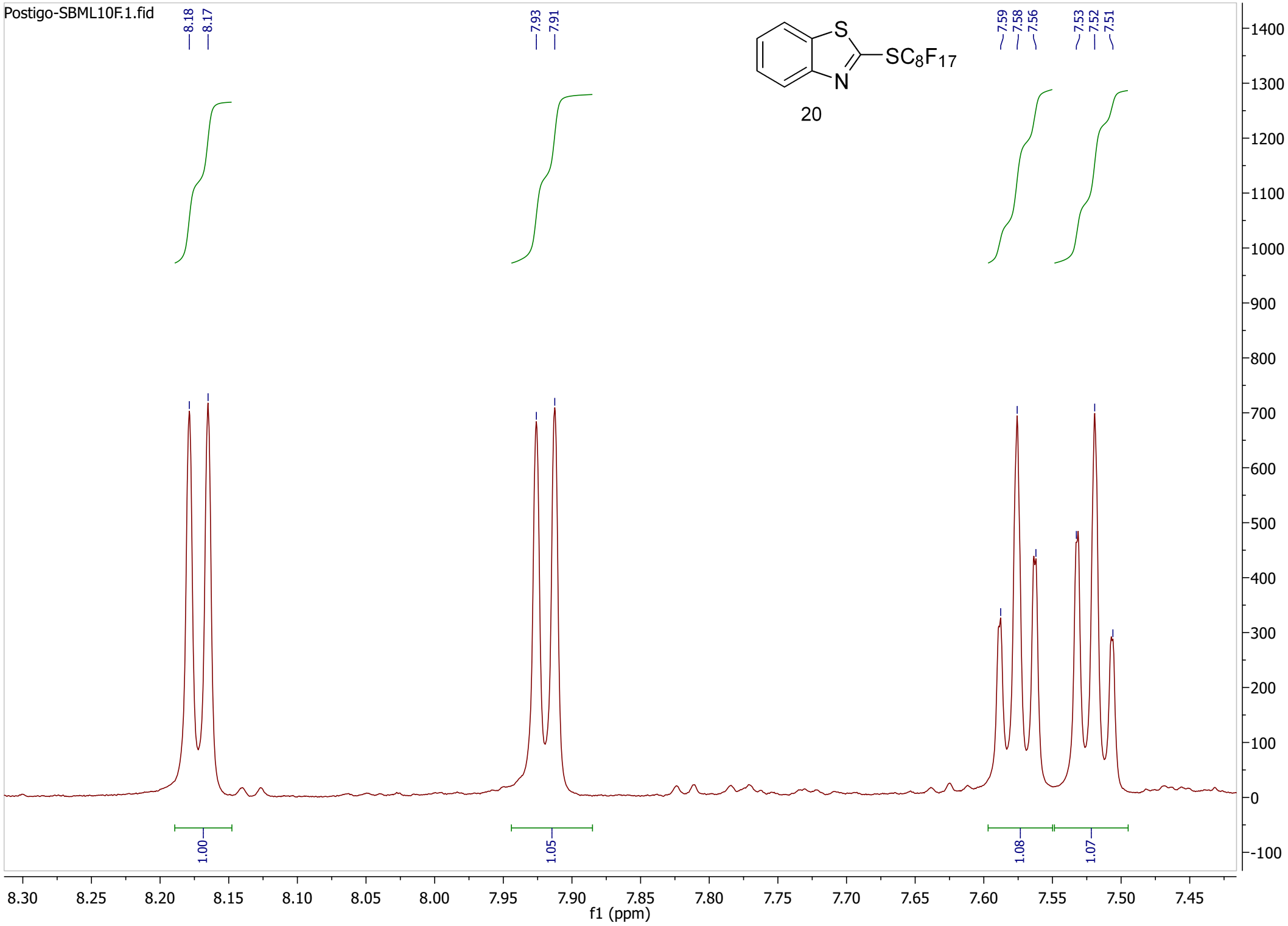
-119.75
-119.77
-119.79
-119.81
-125.52
-125.54
1.86
2.01
f1 (ppm)

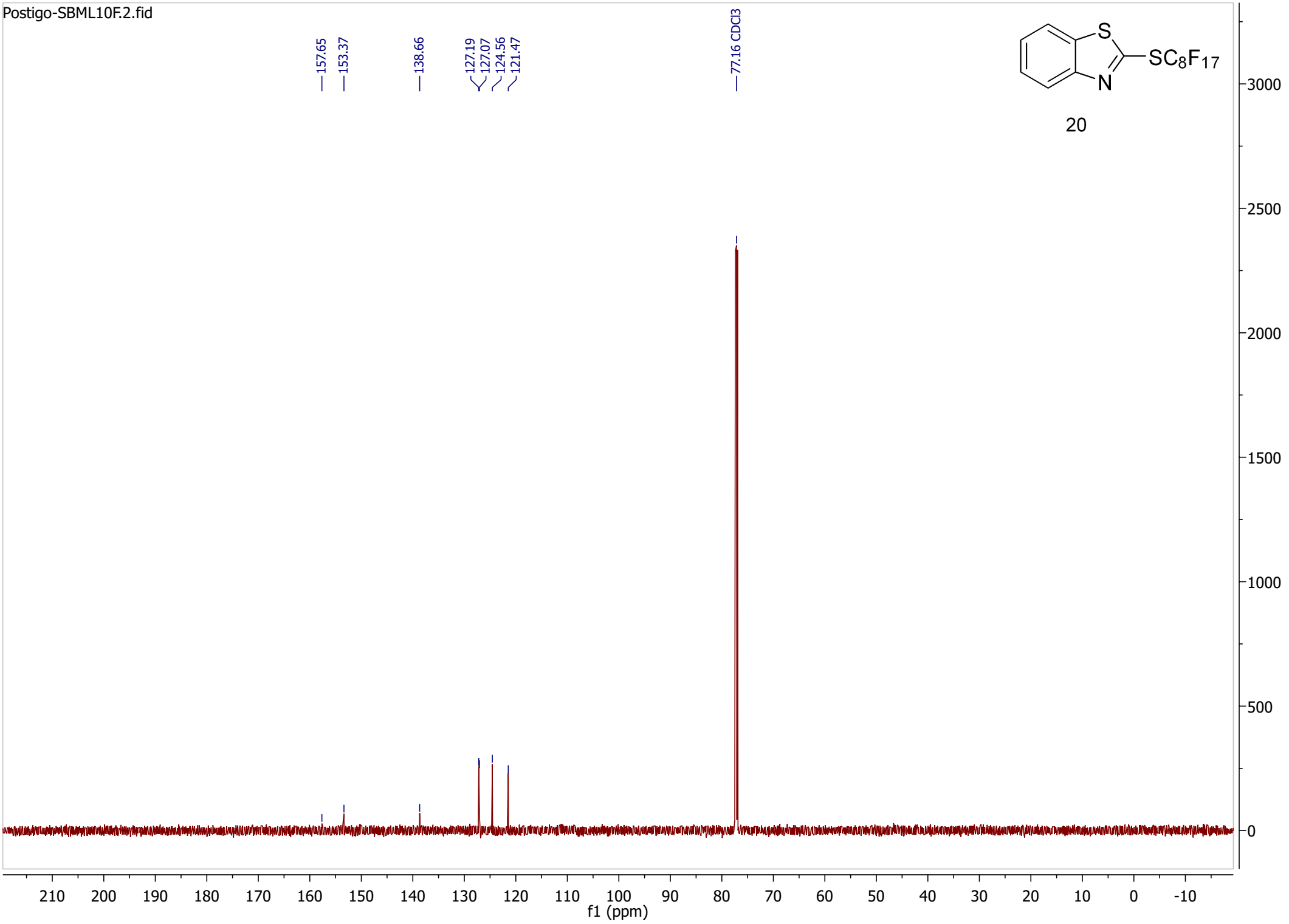
SBML-5_F/2
SBML 5, F #//CDCl3//(DePostigo), posición 14.
19F **** DESACOPLADO del 1H ****

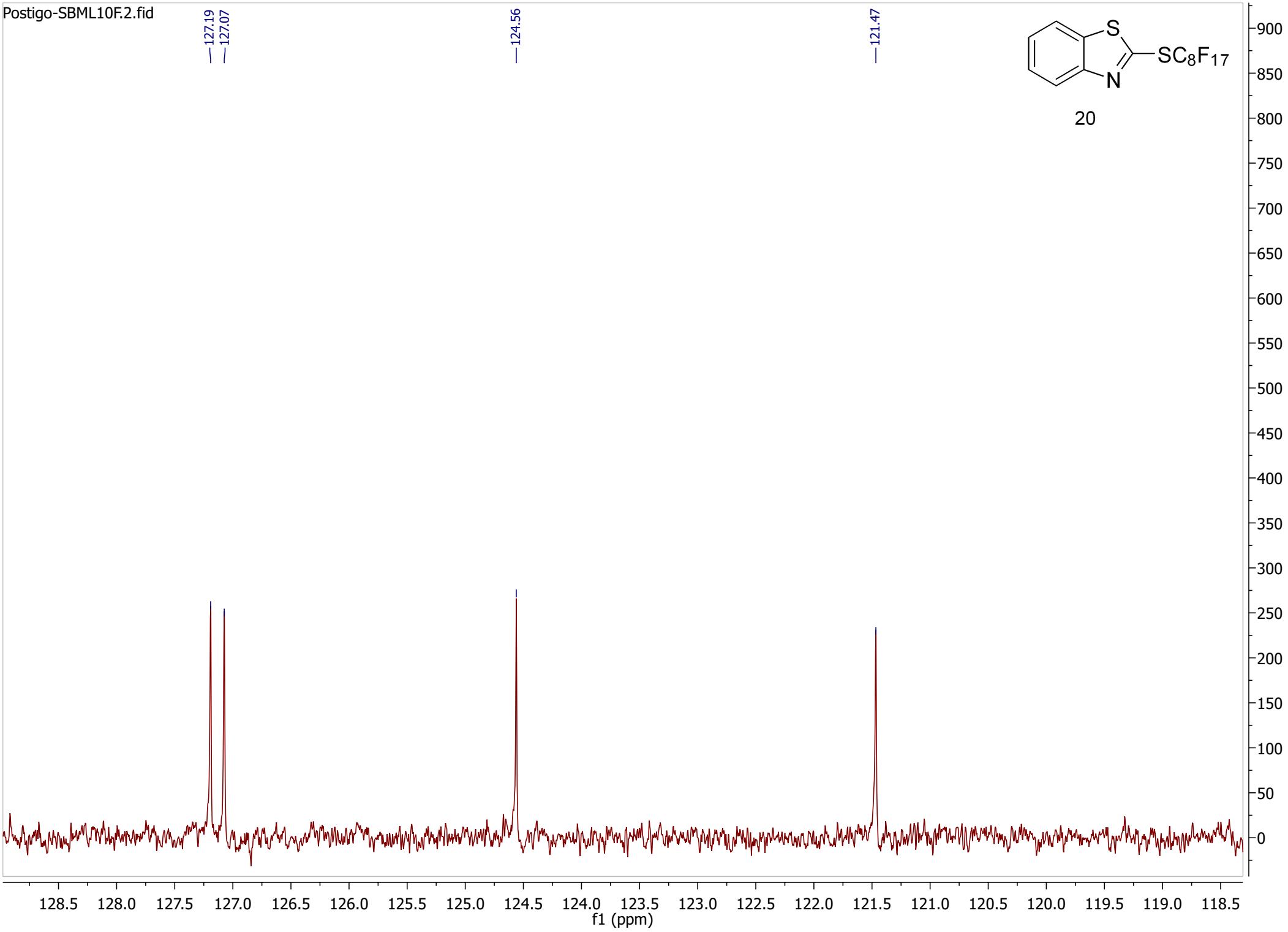


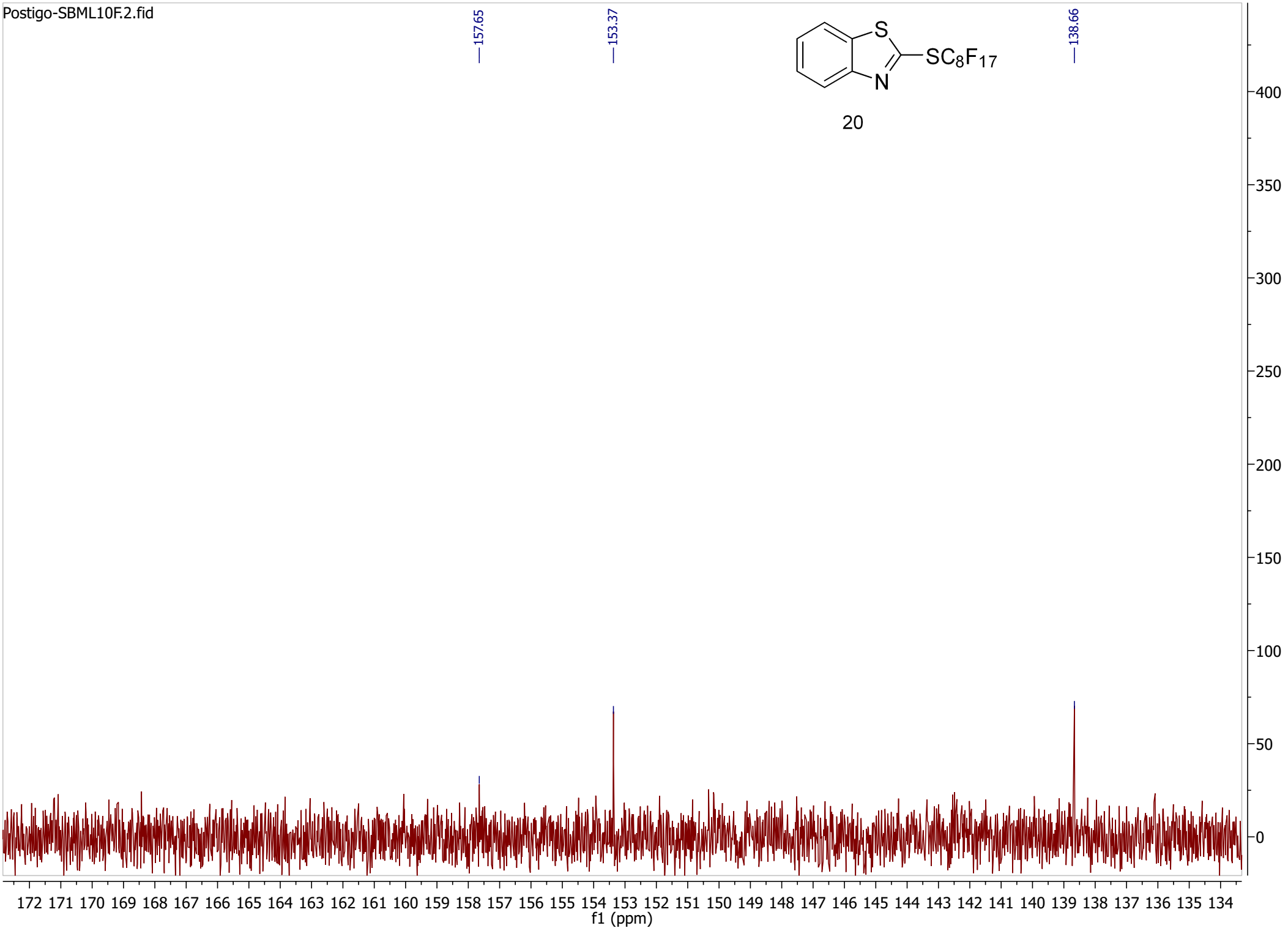
19

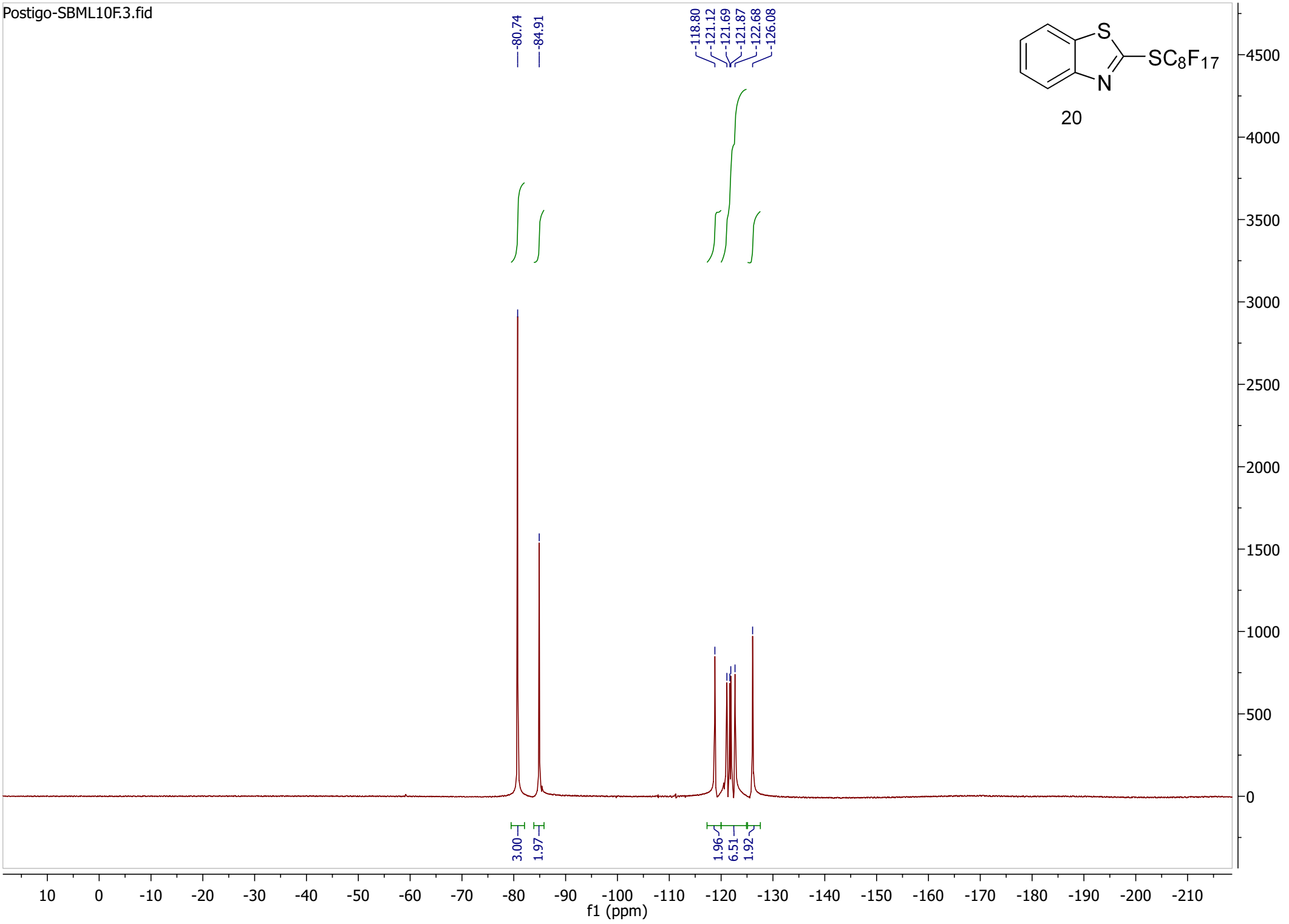

Postigo-SBML10F.1.fid
8.18
8.17
7.93
7.91
7.59
7.58
7.56
7.53
7.52
7.51
7.26 CDCl3
2.17 Acetone
1.56 H2O
S
N
SC8F17
20
1.00
1.05
1.08
1.07
f1 (ppm)

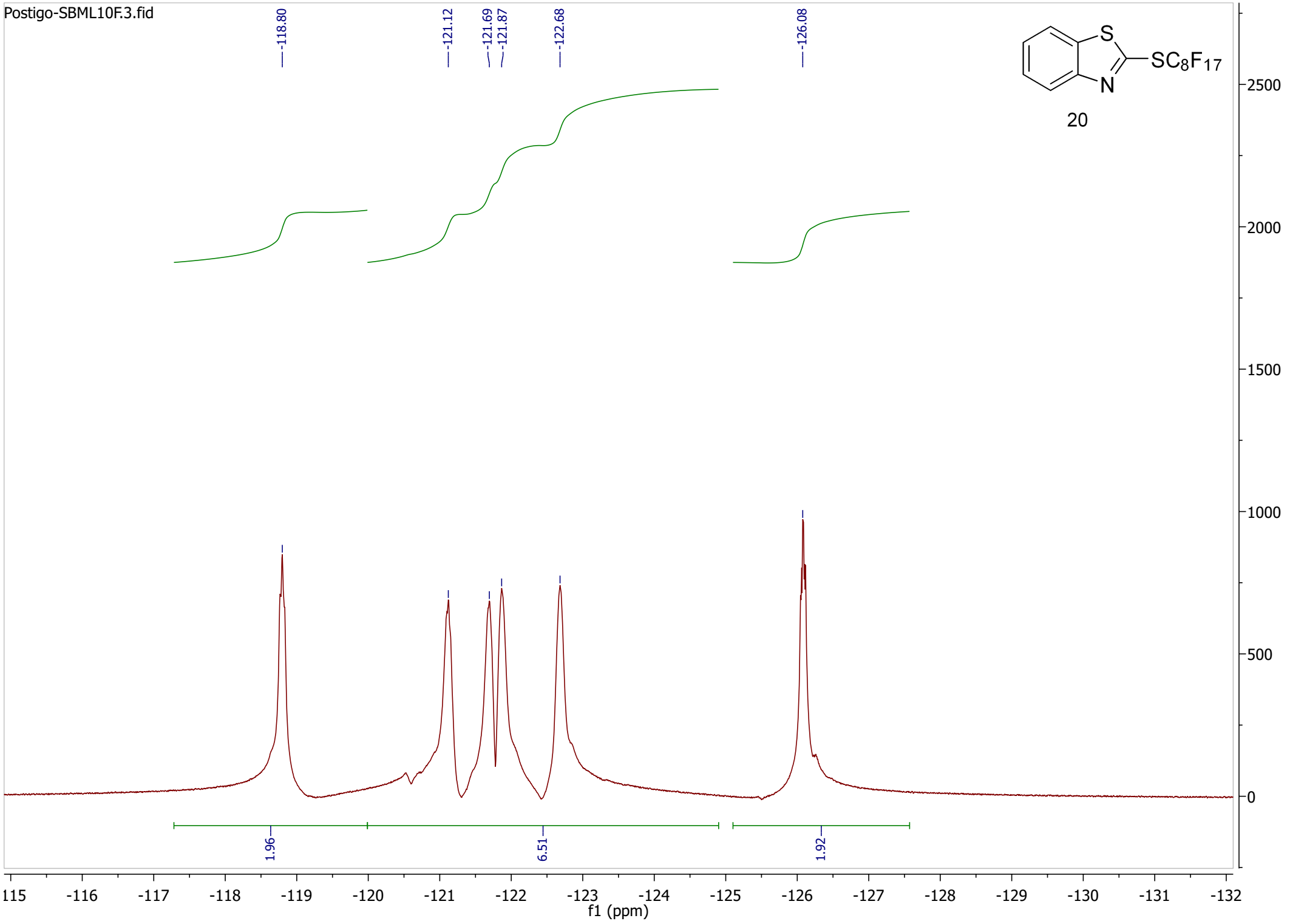

Postigo-SBML10F.1.fid
8.18
8.17
7.93
7.91
7.59
7.58
7.56
7.53
7.52
7.51
S
N
SC8F17
20
1.00
1.05
1.08
1.07
f1 (ppm)


Postigo-SBML10F.2.fid
157.65
153.37
138.66
127.19
127.07
124.56
121.47
77.16 CDCl3
S
N
SC8F17
20
3000
2500
2000
1500
1000
500
0
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10
f1 (ppm)

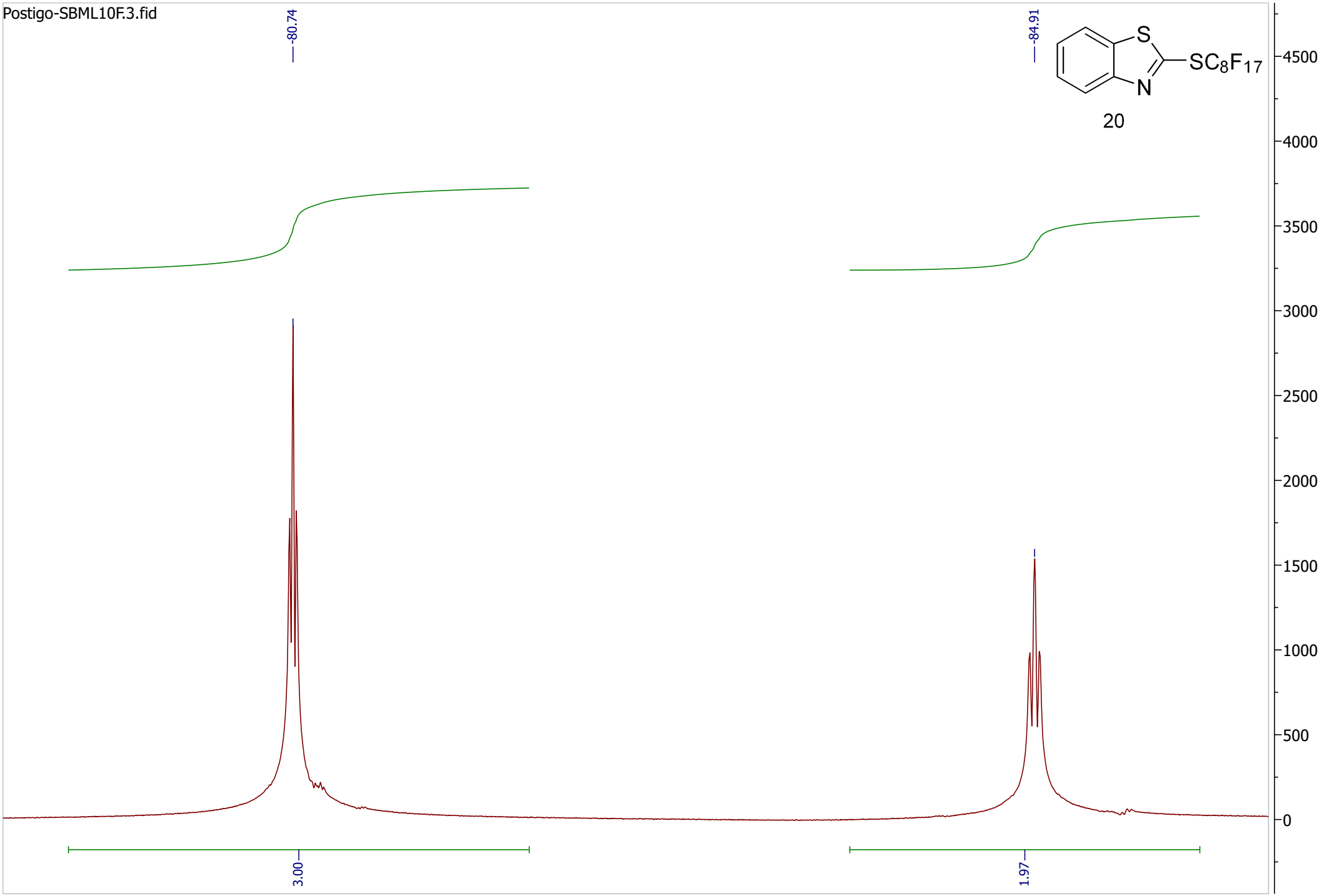

Postigo-SBML10F.2.fid
127.19
127.07
124.56
121.47
S
N
SC8F17
20
900
850
800
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
128.5
128.0
127.5
127.0
126.5
126.0
125.5
125.0
124.5
124.0
123.5
123.0
122.5
122.0
121.5
121.0
120.5
120.0
119.5
119.0
118.5
f1 (ppm)

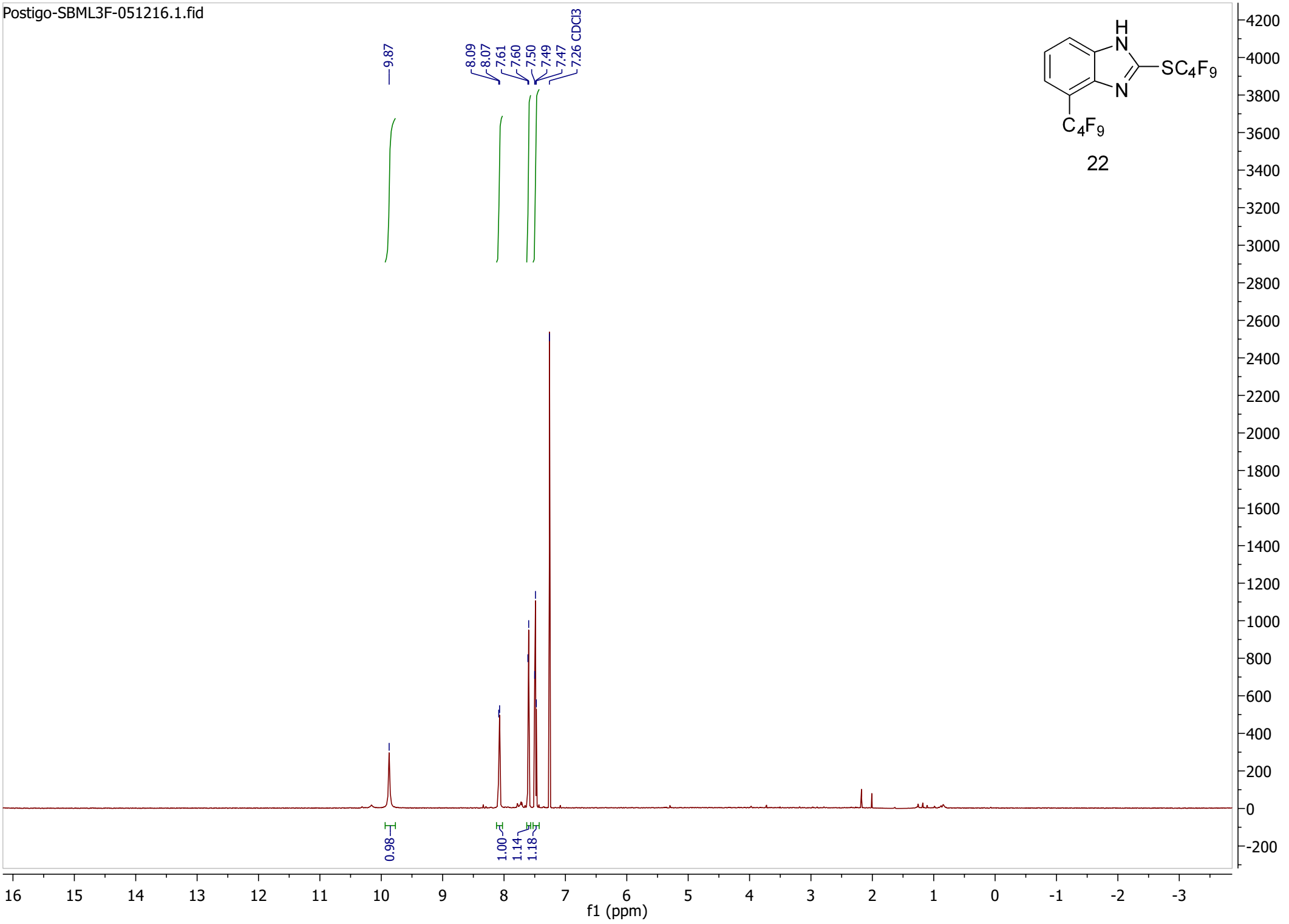

Postigo-SBML10F.2.fid
157.65
153.37
138.66
S
N
SC8F17
20
400
350
300
250
200
150
100
50
0
172 171 170 169 168 167 166 165 164 163 162 161 160 159 158 157 156 155 154 153 152 151 150 149 148 147 146 145 144 143 142 141 140 139 138 137 136 135 134
f1 (ppm)

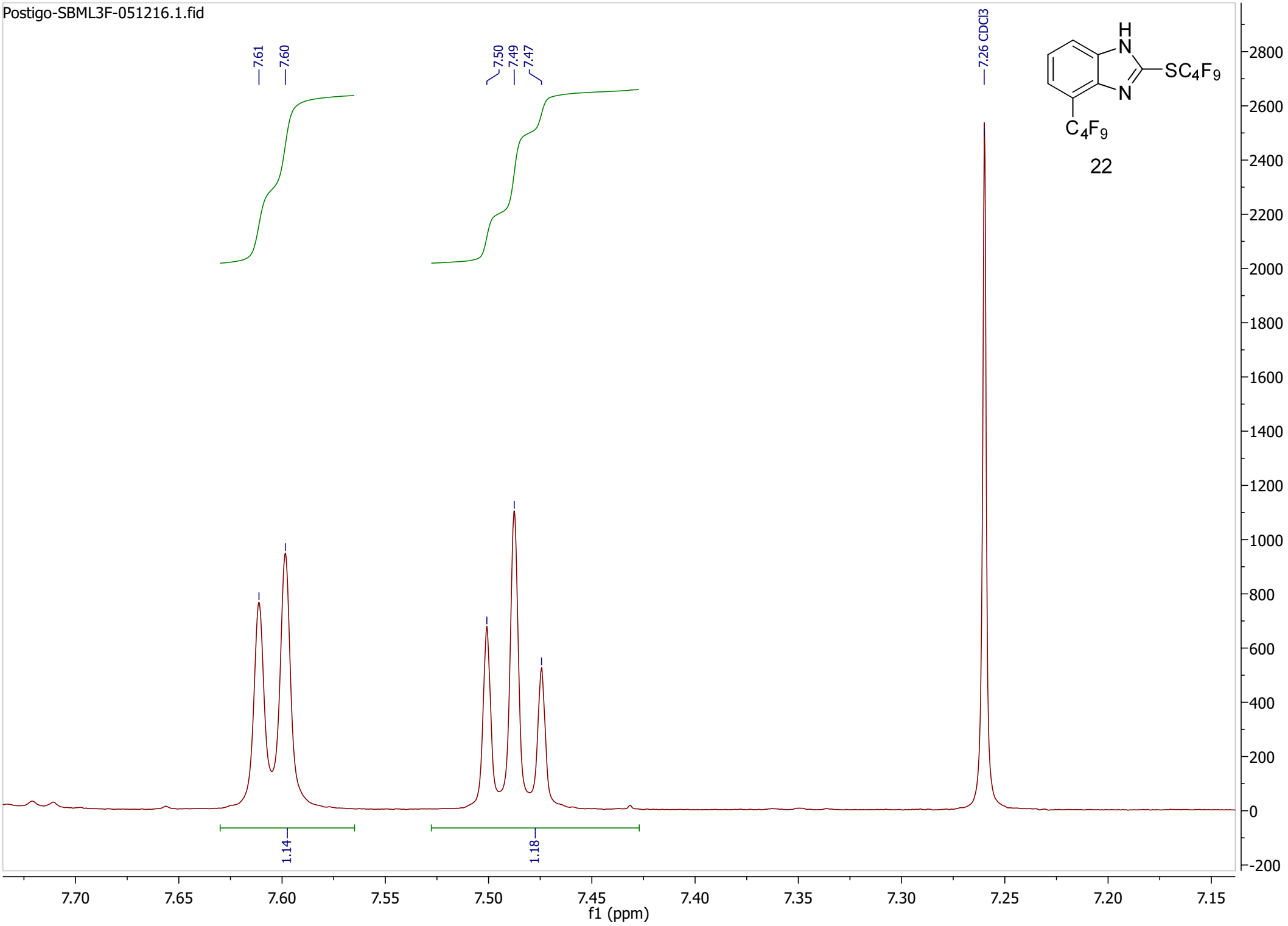

Postigo-SBML10F.3.fid
-80.74
-84.91
-118.80
-121.12
-121.69
-121.87
-122.68
-126.08
S
N
SC8F17
20
3.00
1.97
1.96
6.51
1.92
4500
4000
3500
3000
2500
2000
1500
1000
500
0
10
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
-110
-120
-130
-140
-150
-160
-170
-180
-190
-200
-210
f1 (ppm)

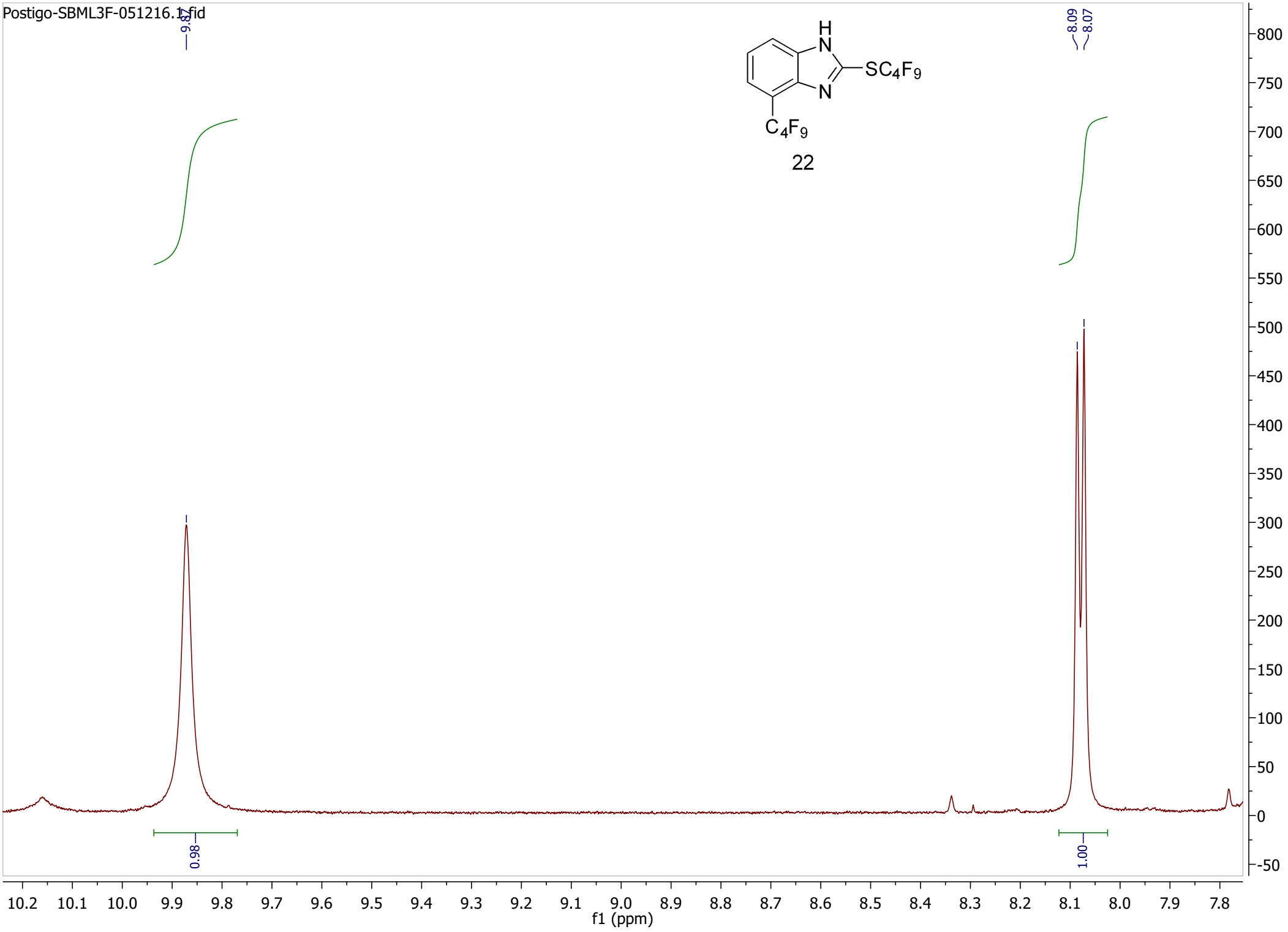

Postigo-SBML10F.3.fid
-118.80
-121.12
-121.69
-121.87
-122.68
-126.08
S
N
SC8F17
20
2500
2000
1500
1000
500
0
1.96
6.51
1.92
-115
-116
-117
-118
-119
-120
-121
-122
-123
-124
-125
-126
-127
-128
-129
-130
-131
-132
f1 (ppm)

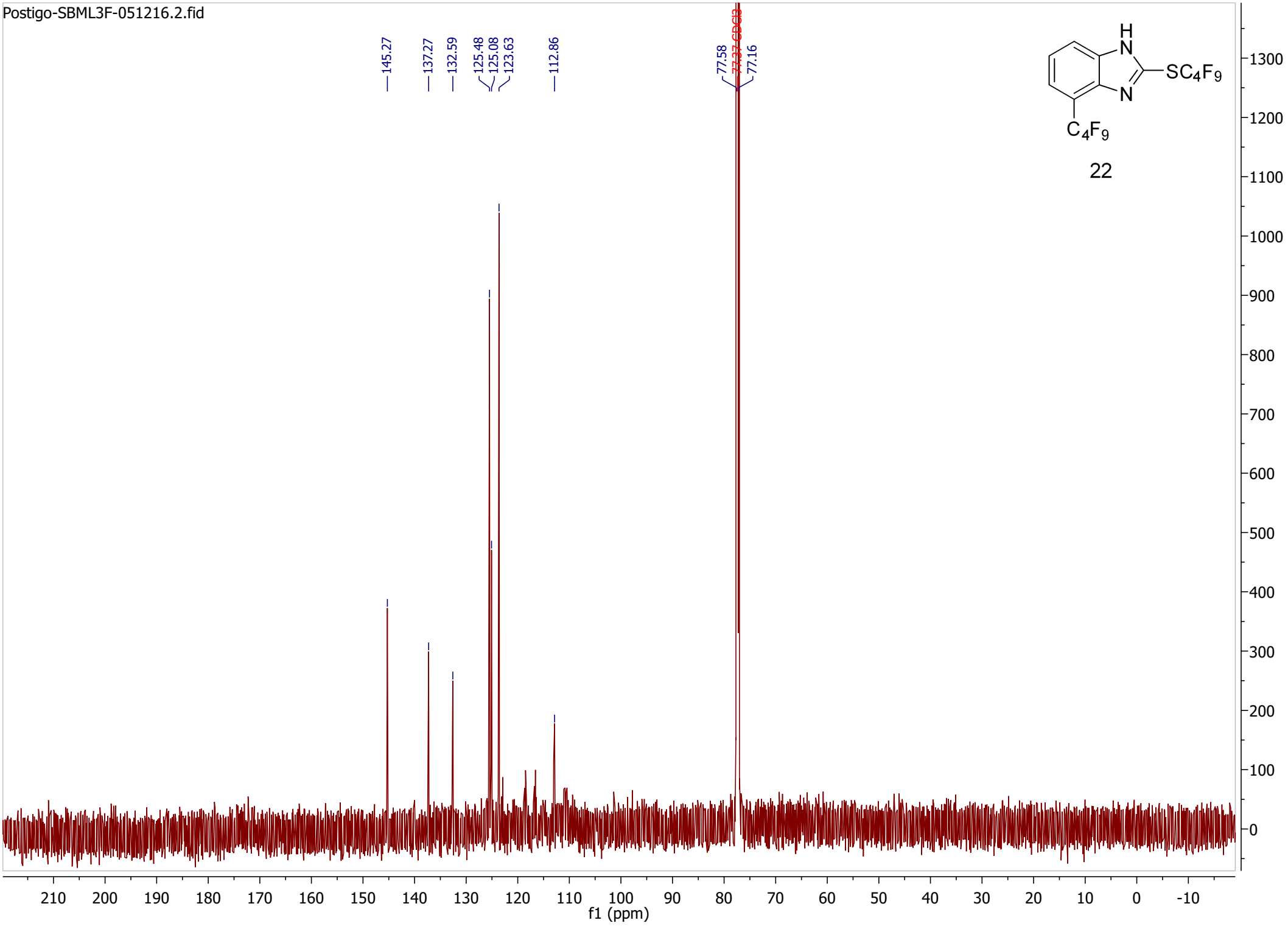
Postigo-SBML10F.3.fid

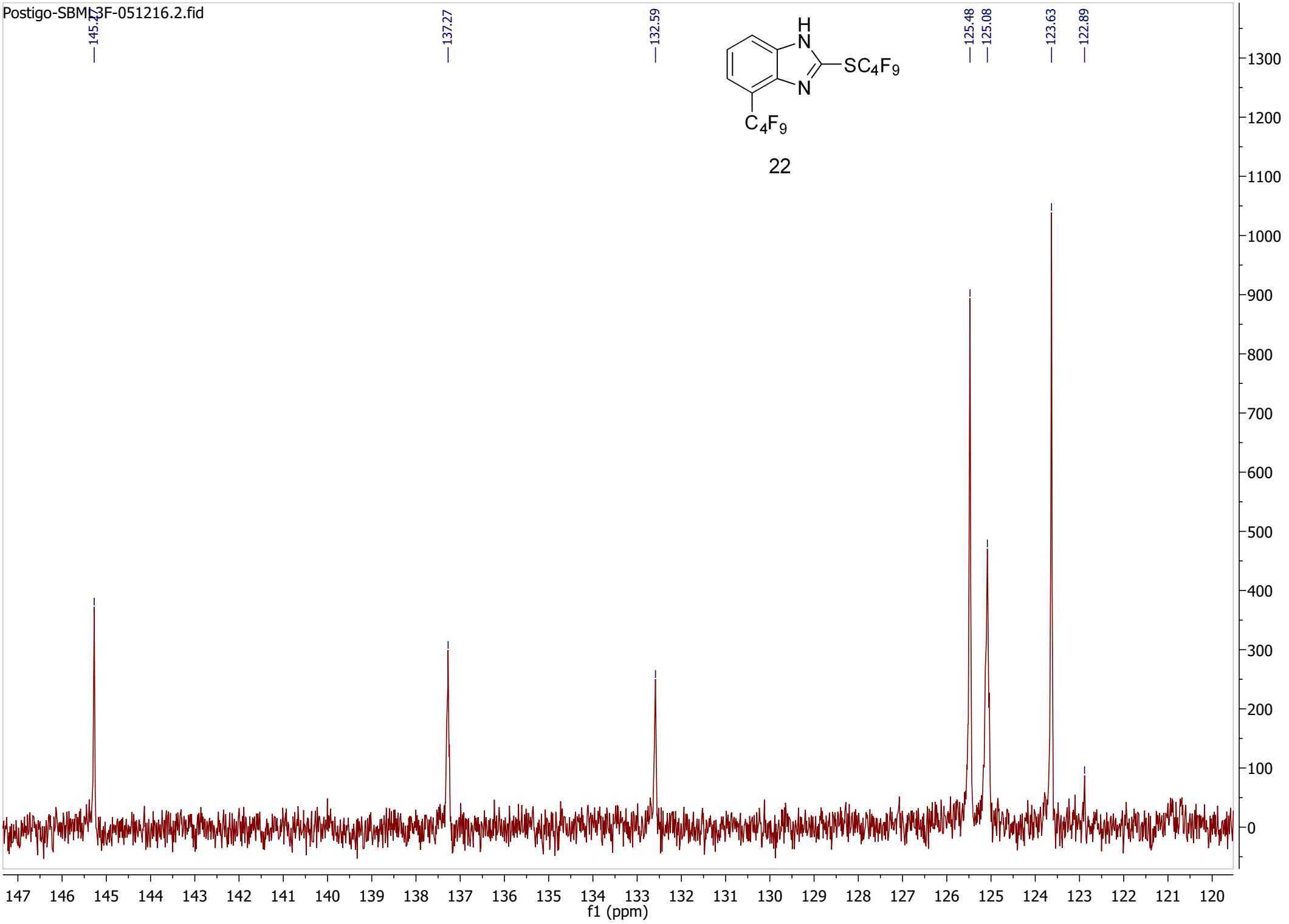


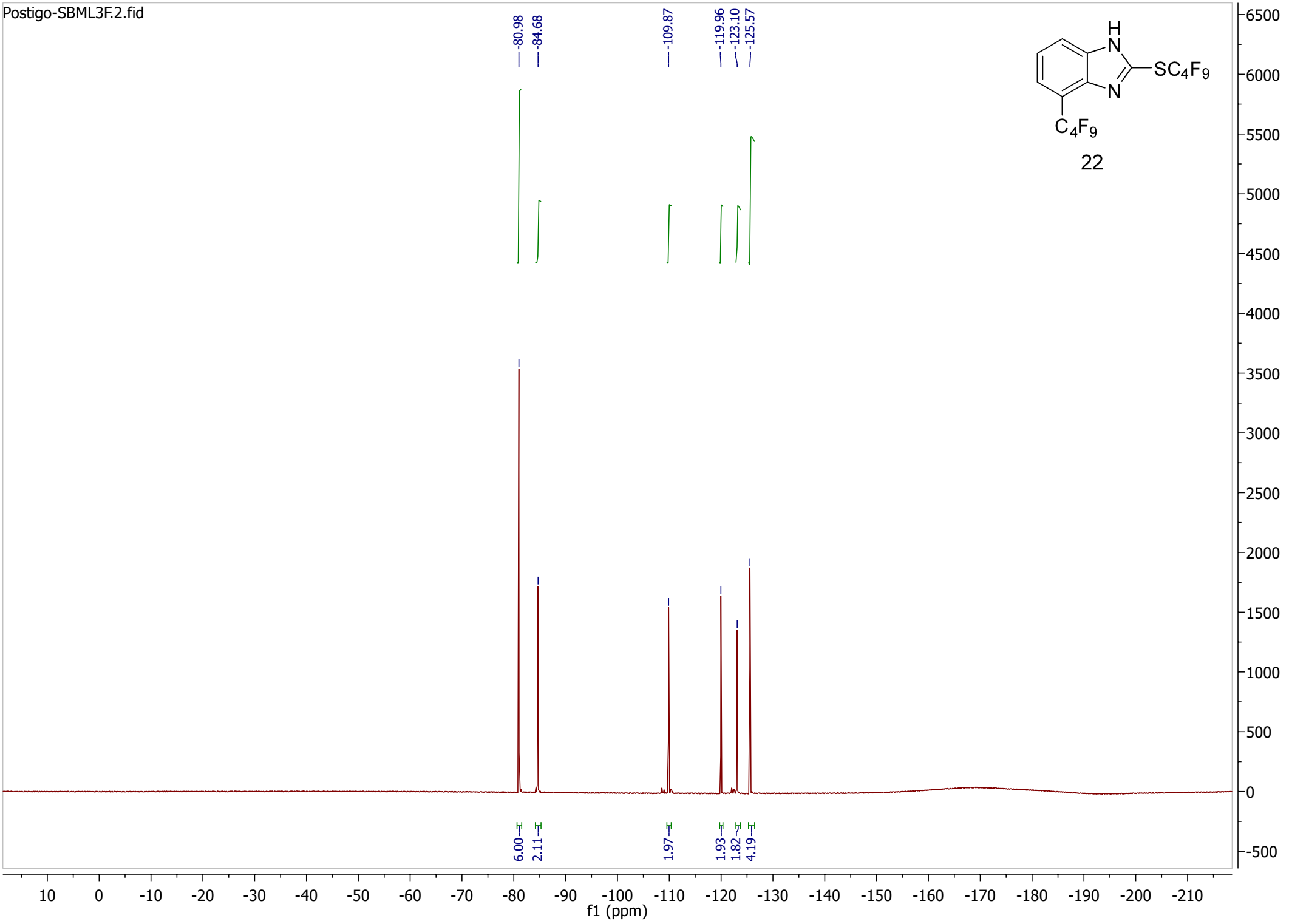

Postigo-SBML3F-051216.1.fid
9.87
8.09
8.07
7.61
7.60
7.50
7.49
7.47
7.26 CDCl3
H
N
N
SC4F9
C4F9
22
0.98
1.00
1.14
1.18
f1 (ppm)

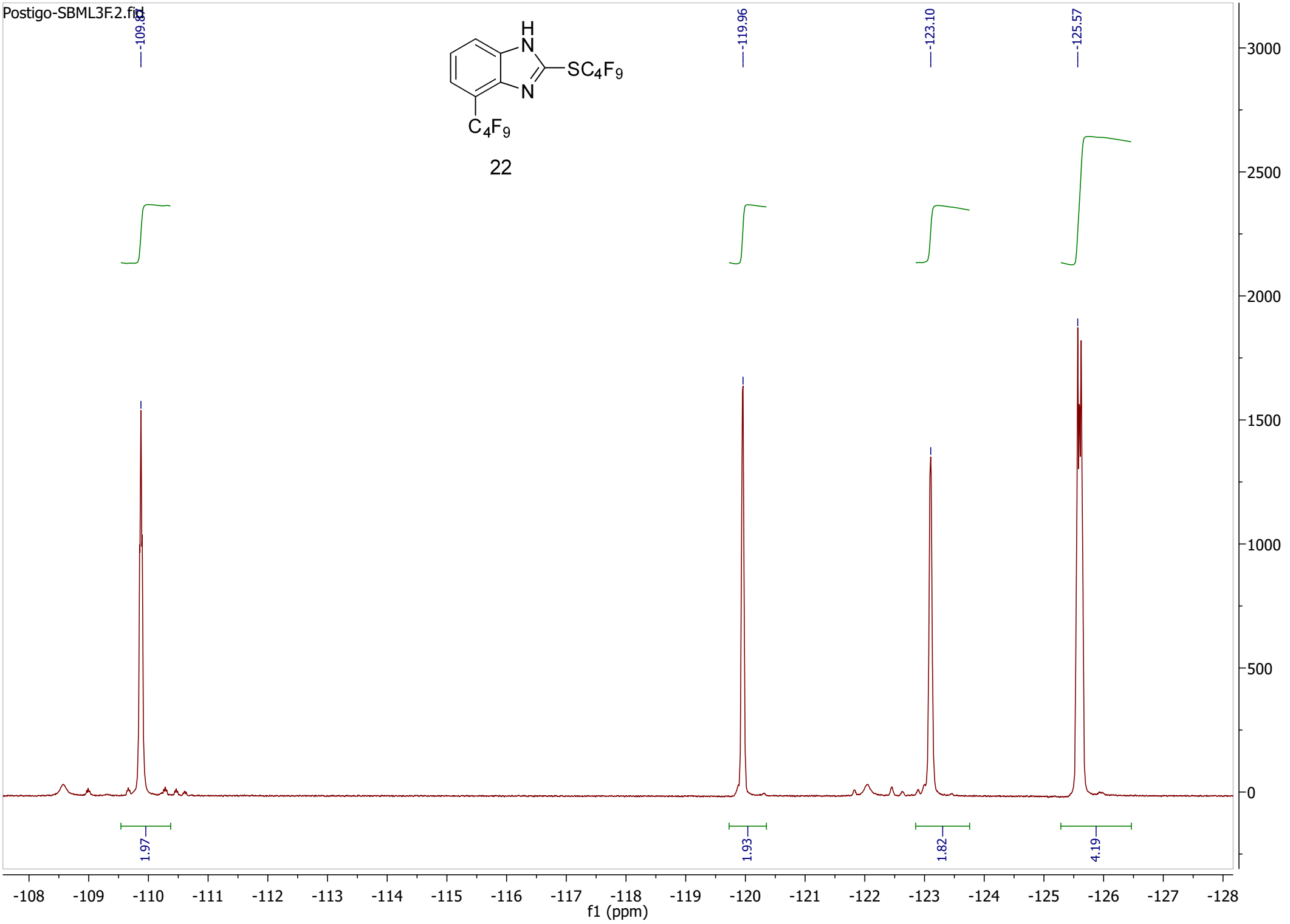

Postigo-SBML3F-051216.1.fid
7.61
7.60
7.50
7.49
7.47
7.26 CDCl3
H
N
N
SC4F9
C4F9
22
1.14
1.18
2800
2600
2400
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
-200
7.70
7.65
7.60
7.55
7.50
7.45
7.40
7.35
7.30
7.25
7.20
7.15
f1 (ppm)


Postigo-SBML3F-051216.1.fid
9.87
8.09
8.07
H
N
N
SC4F9
C4F9
22
0.98
1.00
f1 (ppm)


Postigo-SBML3F-051216.2.fid
145.27
137.27
132.59
125.48
125.08
123.63
112.86
77.58
77.16
H
N
N
SC4F9
C4F9
22
f1 (ppm)


Postigo-SBM-3F-051216.2.fid
145.47
137.27
132.59
125.48
125.08
123.63
122.89
H
N
N
SC4F9
C4F9
22
f1 (ppm)


Postigo-SBML3F.2.fid
-80.98
-84.68
-109.87
-119.96
-123.10
-125.57
6.00
2.11
1.97
1.93
1.82
4.19
f1 (ppm)
22


Postigo-SBML3F.2.fid
-109.81
-119.96
-123.10
-125.57
H
N
N
SC4F9
C4F9
22
3000
2500
2000
1500
1000
500
0
1.97
1.93
1.82
4.19
-108
-109
-110
-111
-112
-113
-114
-115
-116
-117
-118
-119
-120
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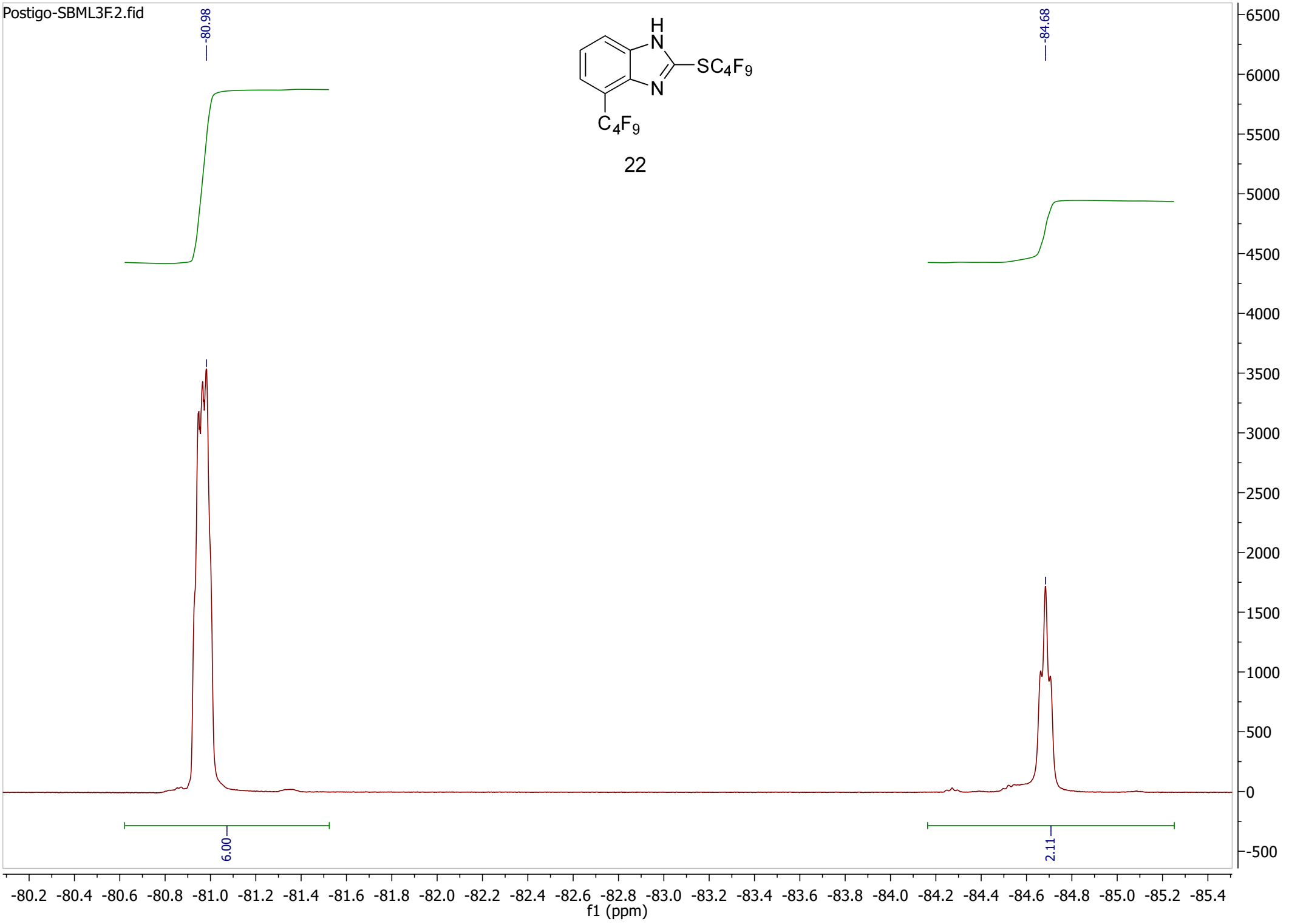
-122
-123
-124
-125
-126
-127
-128
f1 (ppm)


Postigo-SBML3F.2.fid
-80.98
-84.68
H
N
N
SC4F9
C4F9
22
6.00
2.11
6500
6000
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
-500
-80.2 -80.4 -80.6 -80.8 -81.0 -81.2 -81.4 -81.6 -81.8 -82.0 -82.2 -82.4 -82.6 -82.8 -83.0 -83.2 -83.4 -83.6 -83.8 -84.0 -84.2 -84.4 -84.6 -84.8 -85.0 -85.2 -85.4
f1 (ppm)

IR spectrum of the hydrazone derived from the carbonyl compound