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Electronic Supplementary Information for

Electrochemical nickel-induced fluoroalkylation: synthetic, structural and mechanistical study

Dmitry Y. Mikhaylov [a], Tatyana V. Gryaznova [a], Yulia B. Dudkina [a], Mikhail N. Khrizanphorov[a], Shamil K. Latypov [a], Olga N. Kataeva [a,b], David A. Vicic[c], Oleg G. Sinyashin[a] and Yulia H. Budnikova*[a]

[a] *A.E.Arbuzov Institute of Organic and Physical Chemistry, Kazan Scientific Center of Russian Academy of Sciences, 8, Arbuzov str., 420088 Kazan, Russian Federation Tel.: +7(843)279-53-35; fax: +7(843)275-22-53. *E-mail address: yulia@iopc.ru*

[b] *Leibniz Institute for Solid State and Materials Research IFW Dresden, D-01171 Dresden, Germany*

[c] *Department of Chemistry, University of Hawaii, 2545 McCarthy Mall, Honolulu, Hawaii 96822 USA*

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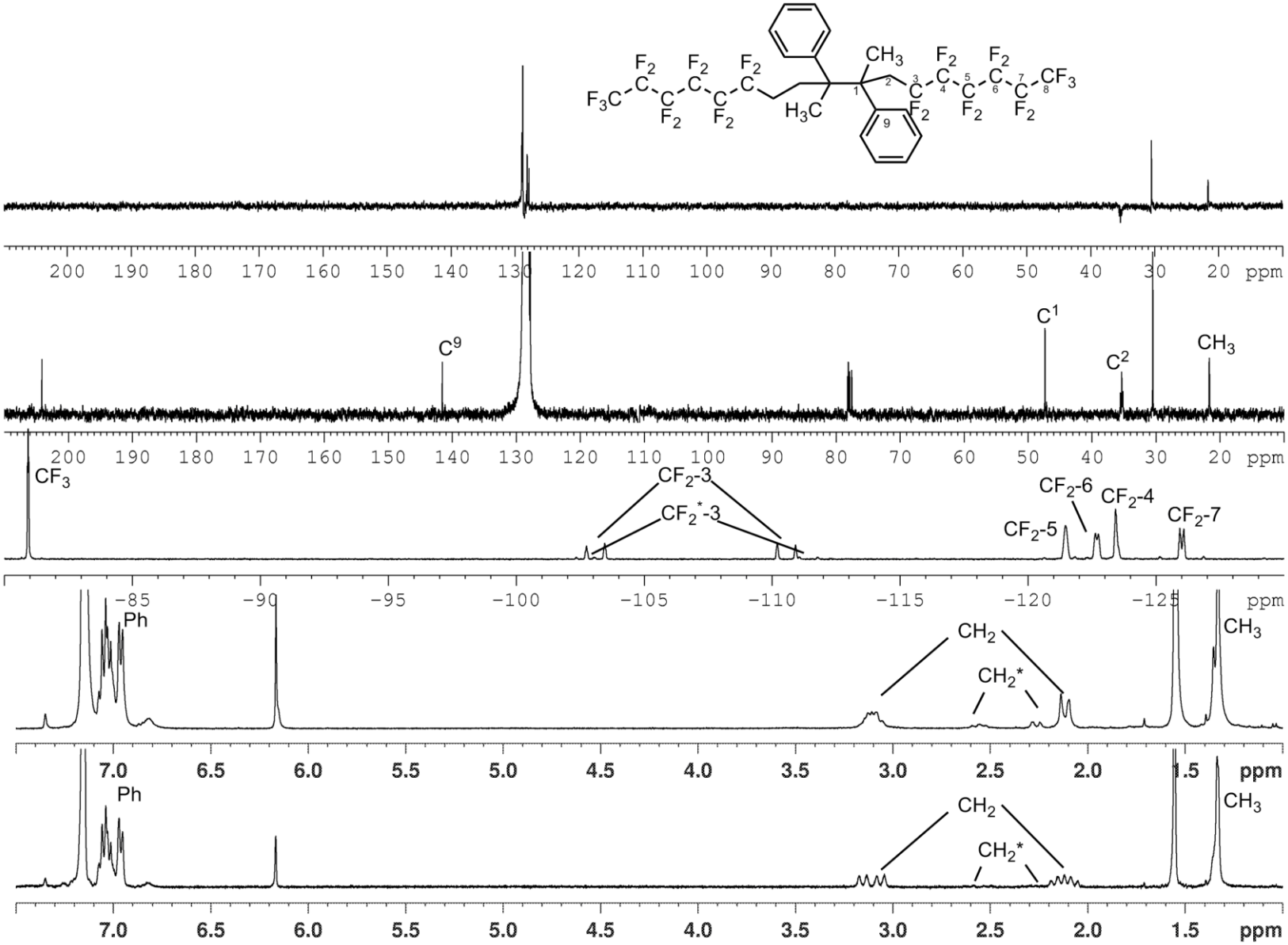

Figure S1. 1D ^{1}H, $^{1}H\{^{19}F\}$, ^{19}F, ^{13}C and DEPT NMR spectra in C_6D_6 of **1** (T=303K).

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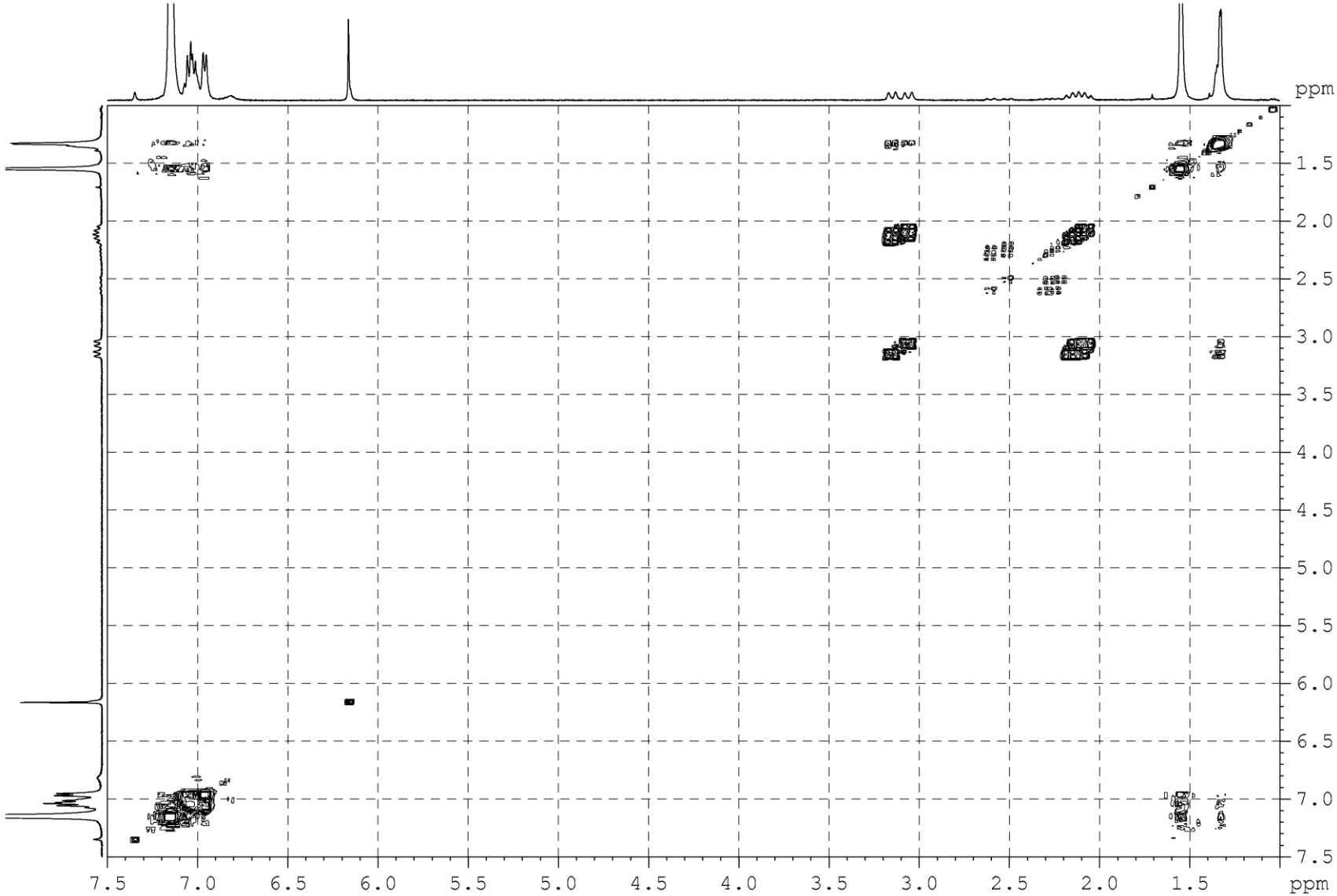


Figure S2. 2D ^{1}H-^{1}H COSY NMR spectra in C_6D_6 of **1** (T=303K).

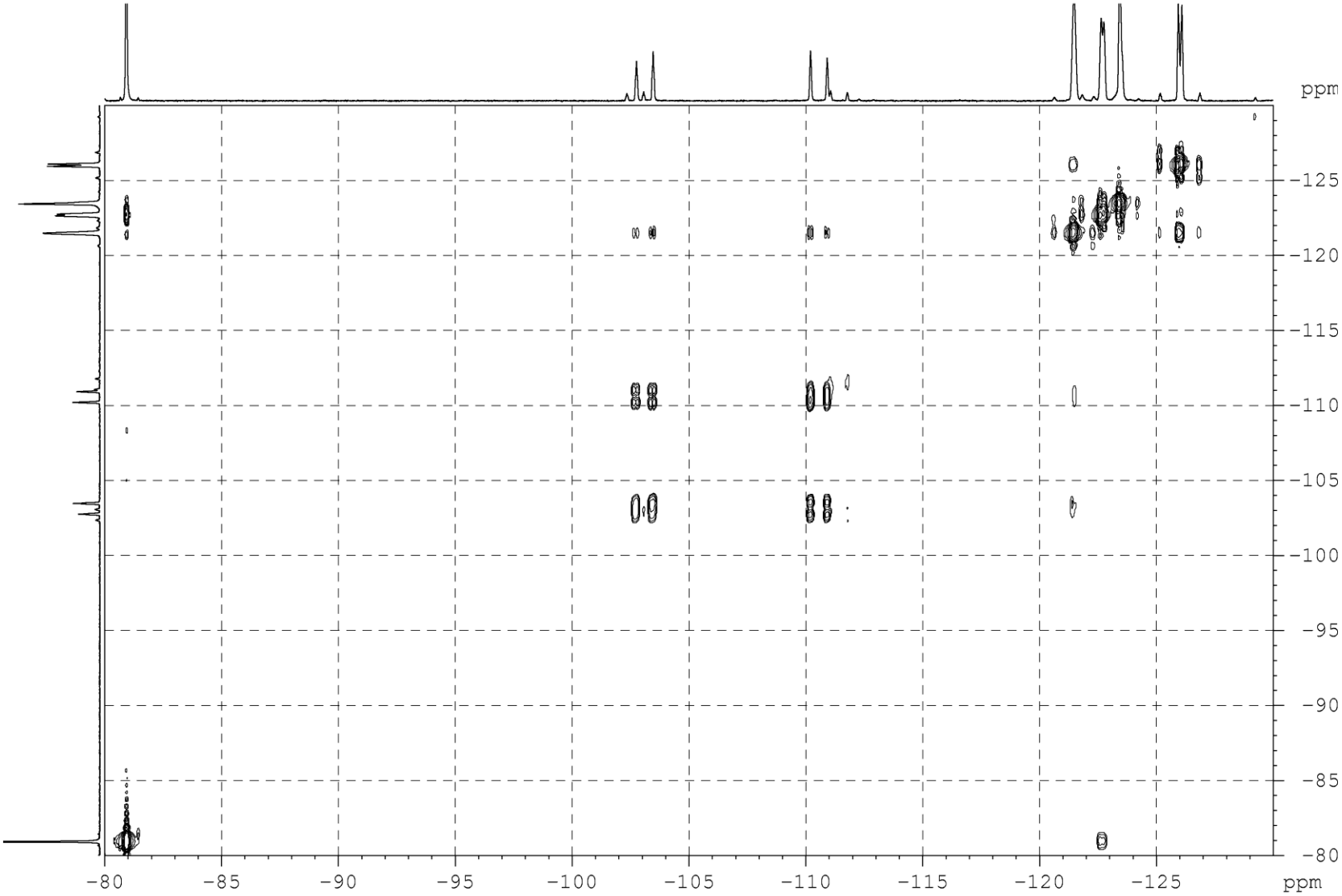
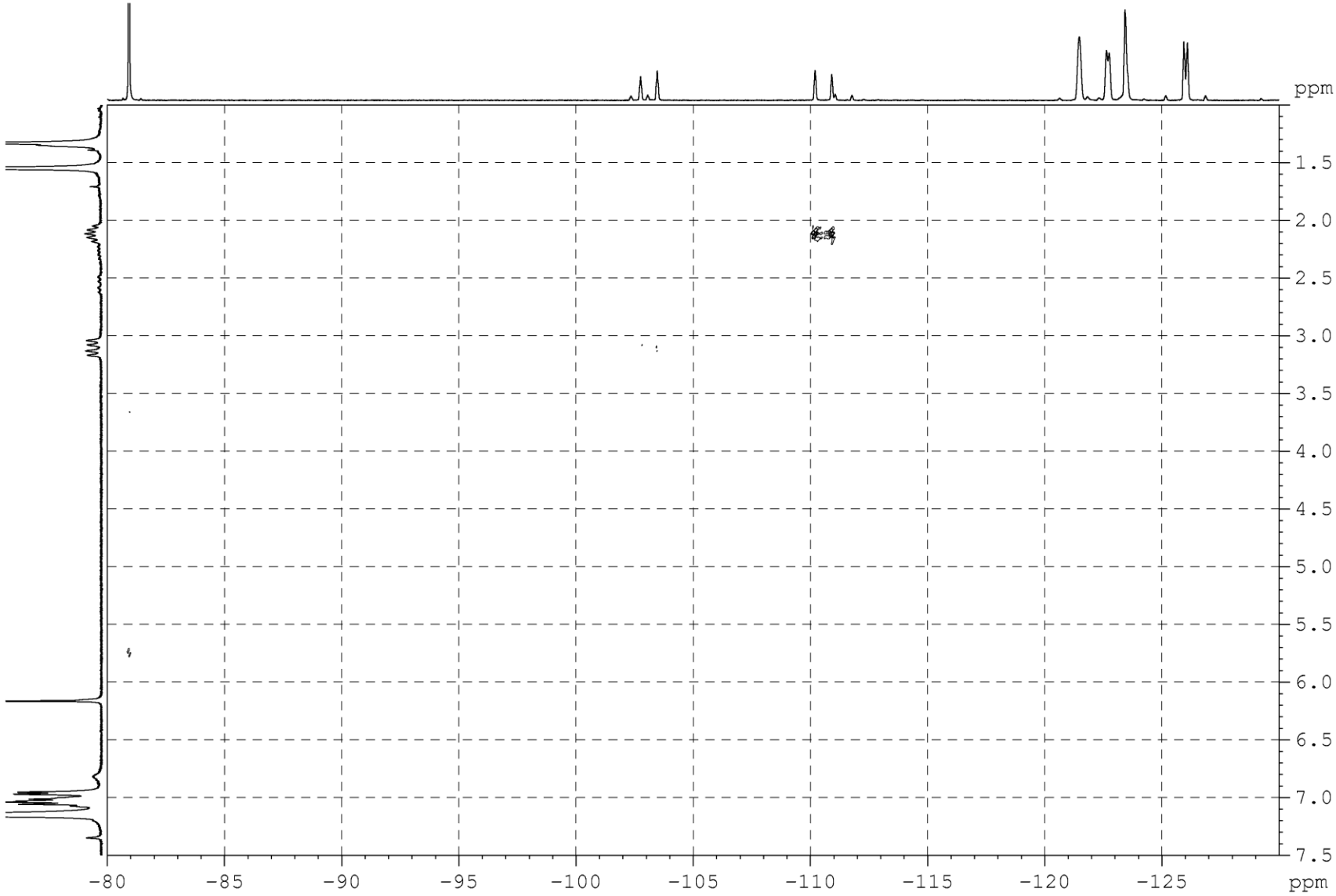


Figure S3. 2D ^{19}F-^{19}F COSY NMR spectra in C_6D_6 of **1** (T=303K).



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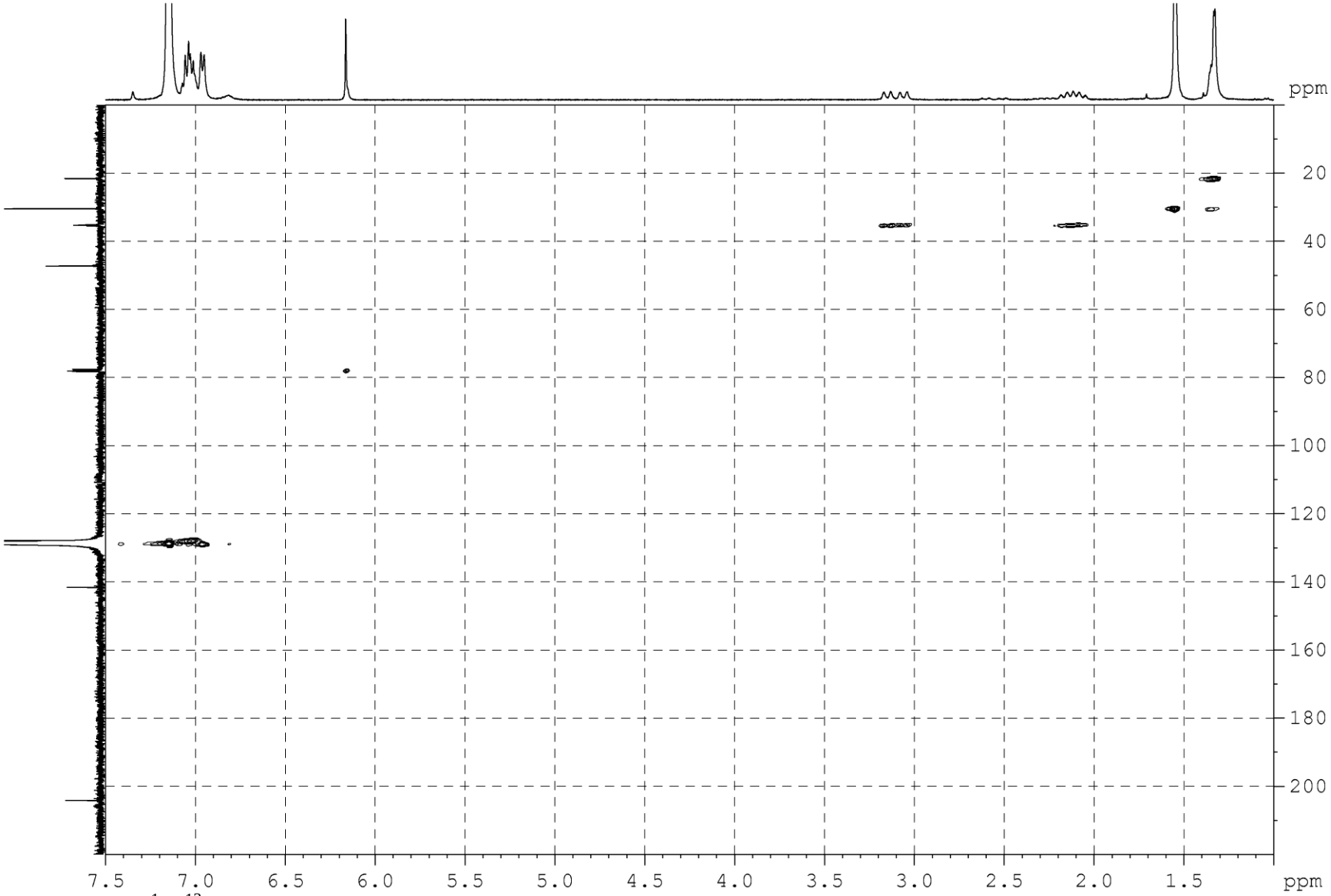

Figure S5. 2D ^{1}H-^{13}C HSQC NMR spectra in C_6D_6 of **1** (T=303K).

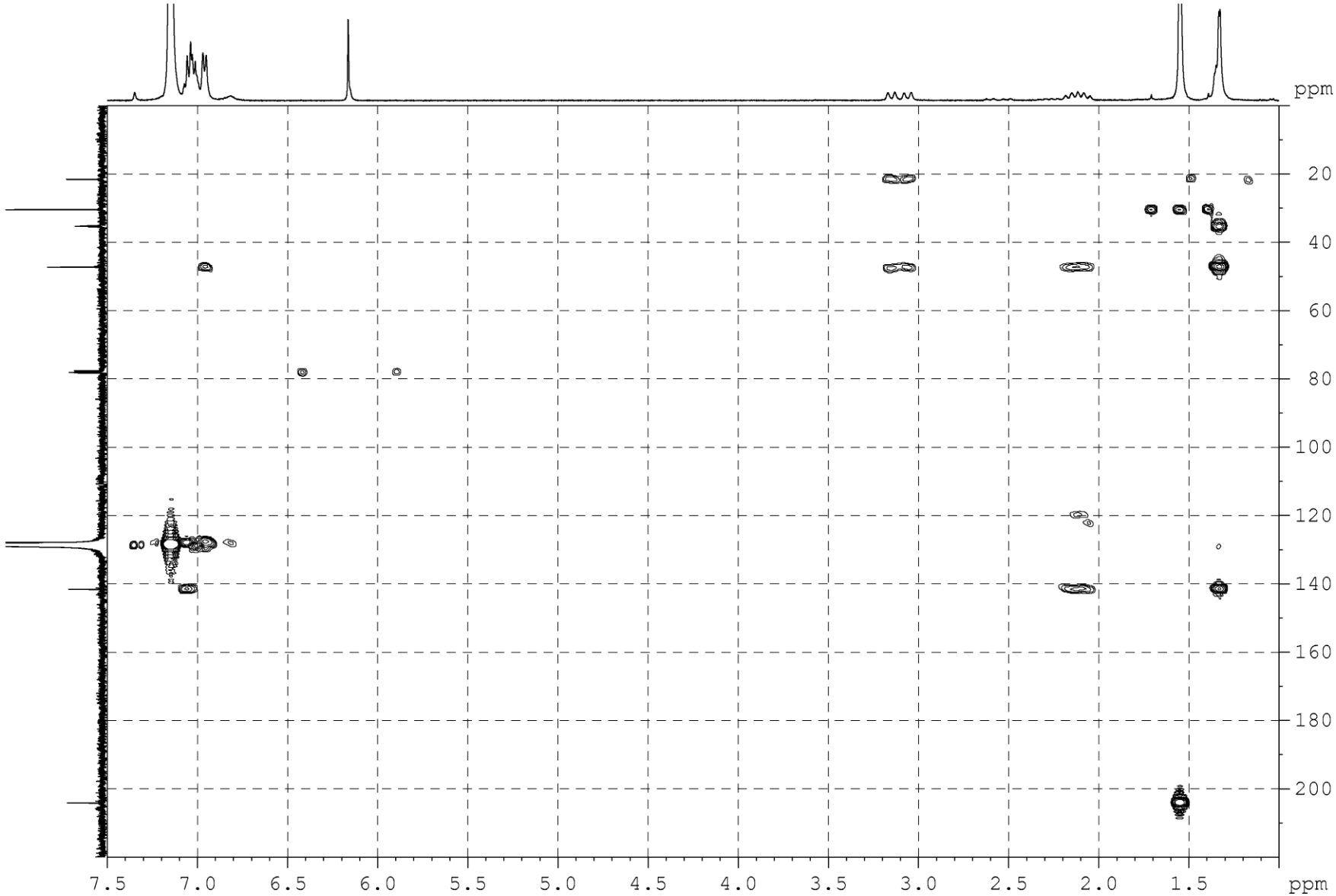

Figure S6. 2D ^{1}H-^{13}C HMBC NMR spectra in C_6D_6 of **1** (T=303K).

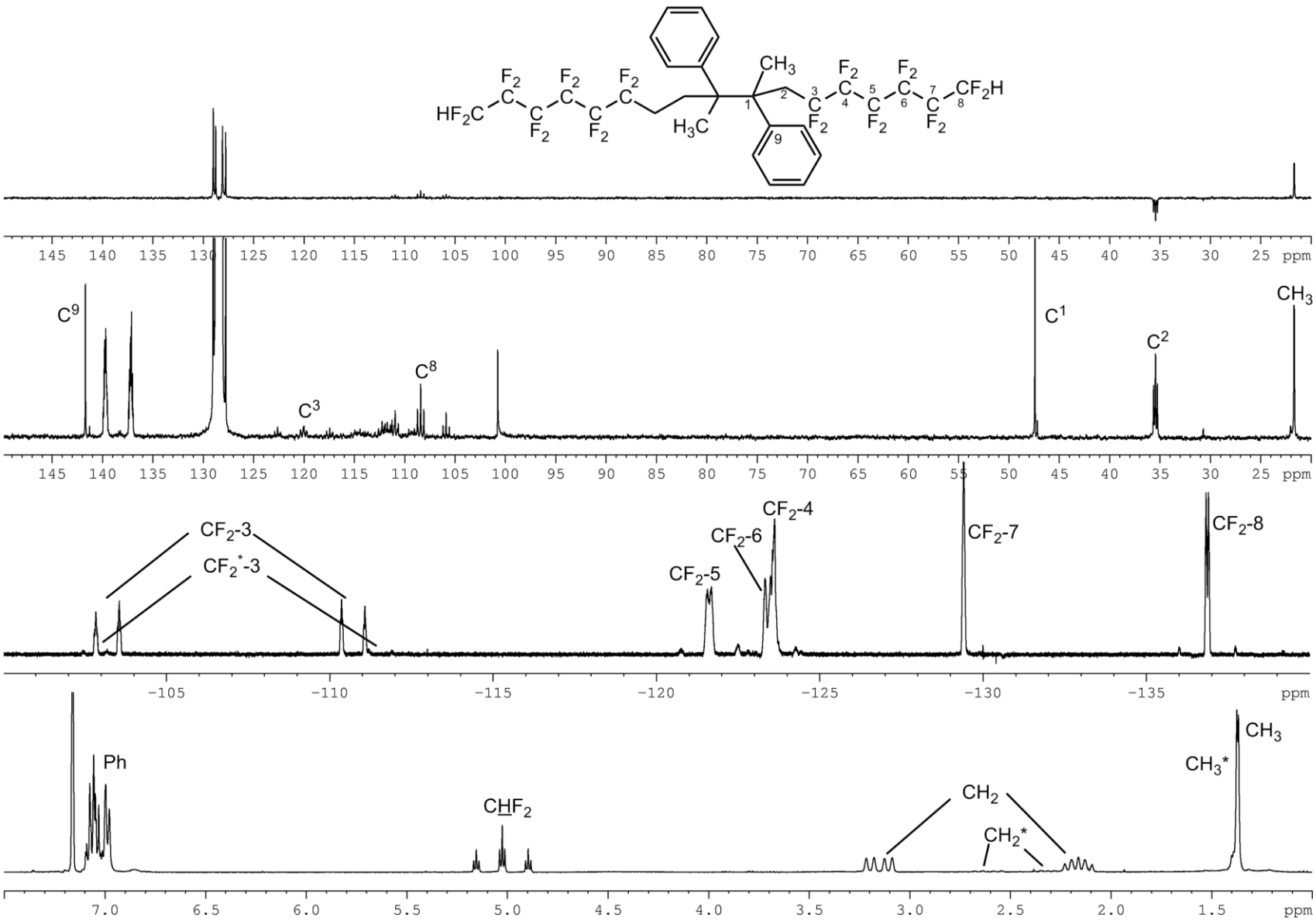

Figure S7. 1D ^{1}H, ^{19}F, ^{13}C and DEPT NMR spectra in C_6D_6 of **2** (T=303K).

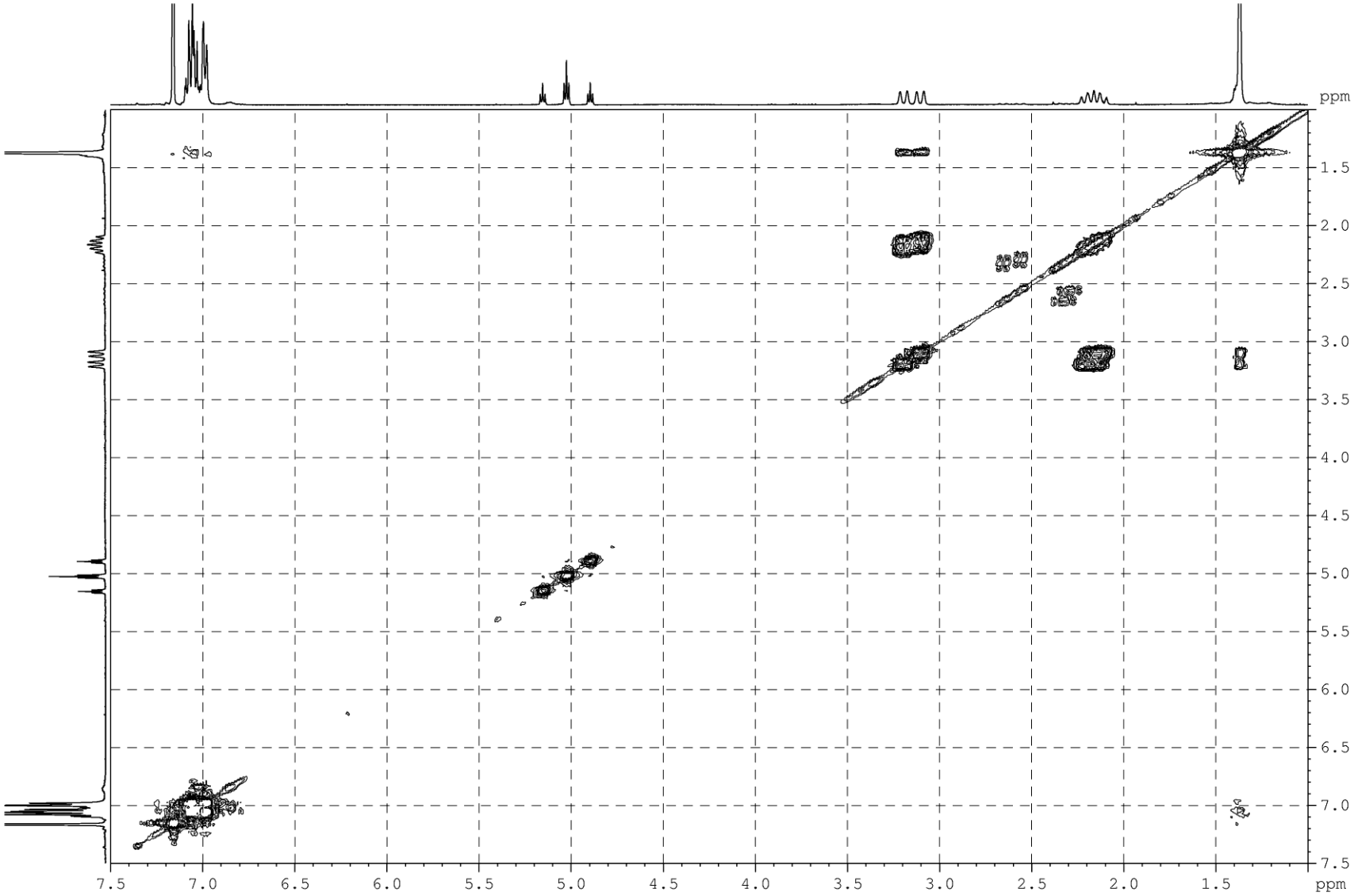

Figure S8. 2D ^{1}H-^{1}H COSY NMR spectra in C_6D_6 of **2** (T=303K).

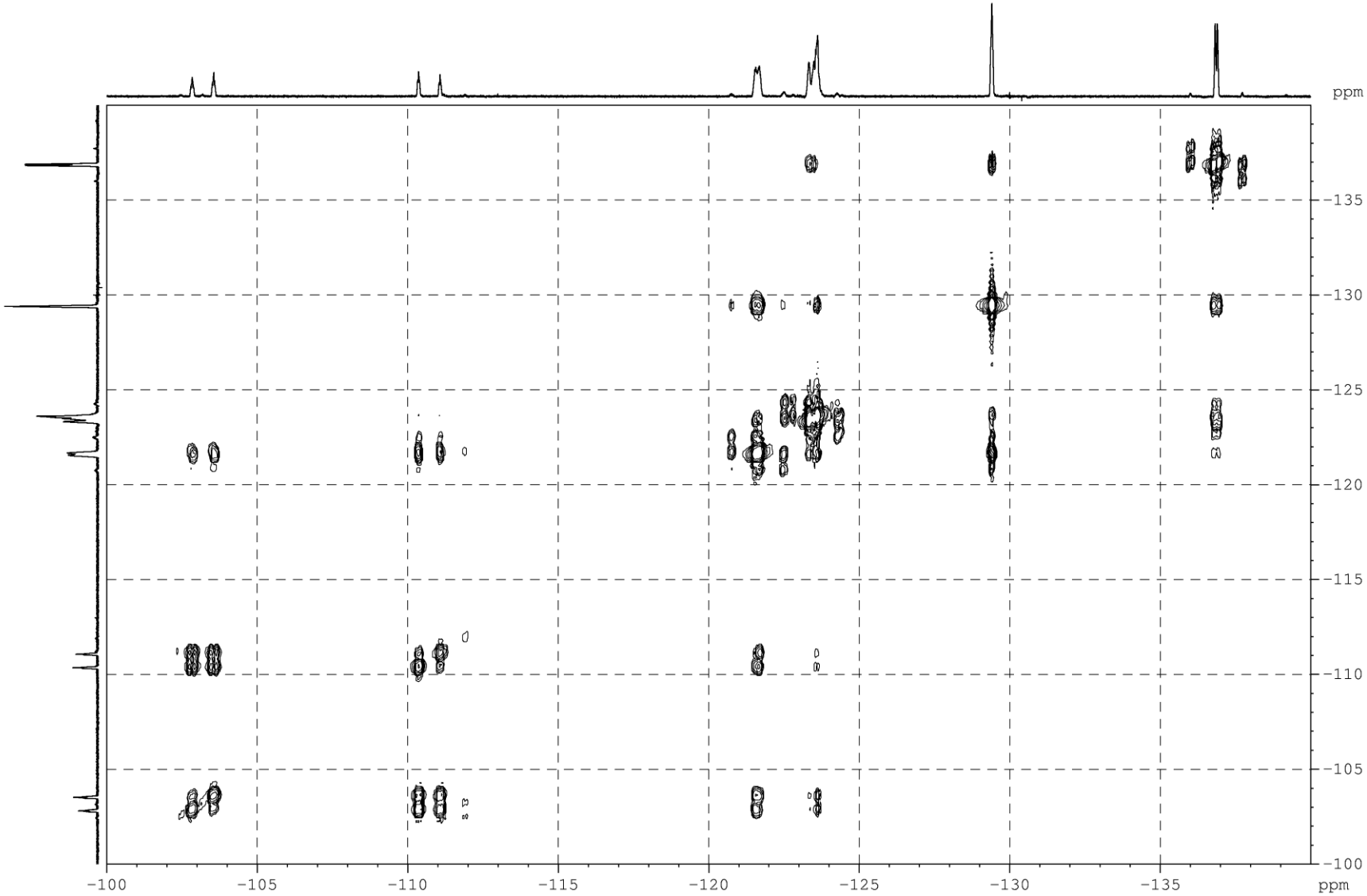

Figure S9. 2D ^{19}F-^{19}F COSY NMR spectra in C_6D_6 of **2** (T=303K).

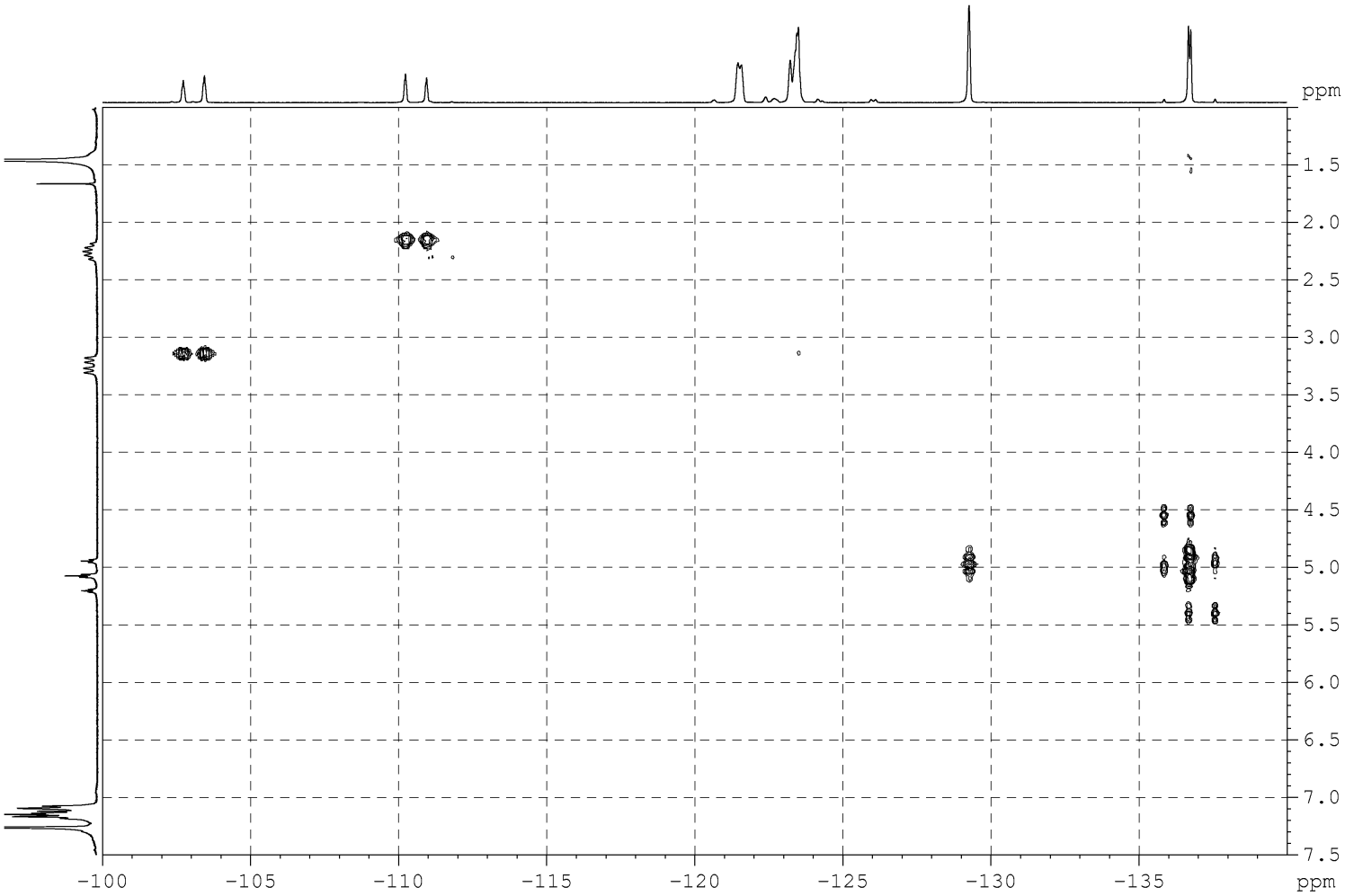

Figure S10. 2D ^{19}F-^{1}H HETCOR NMR spectra in C_6D_6 of **2** (T=303K).

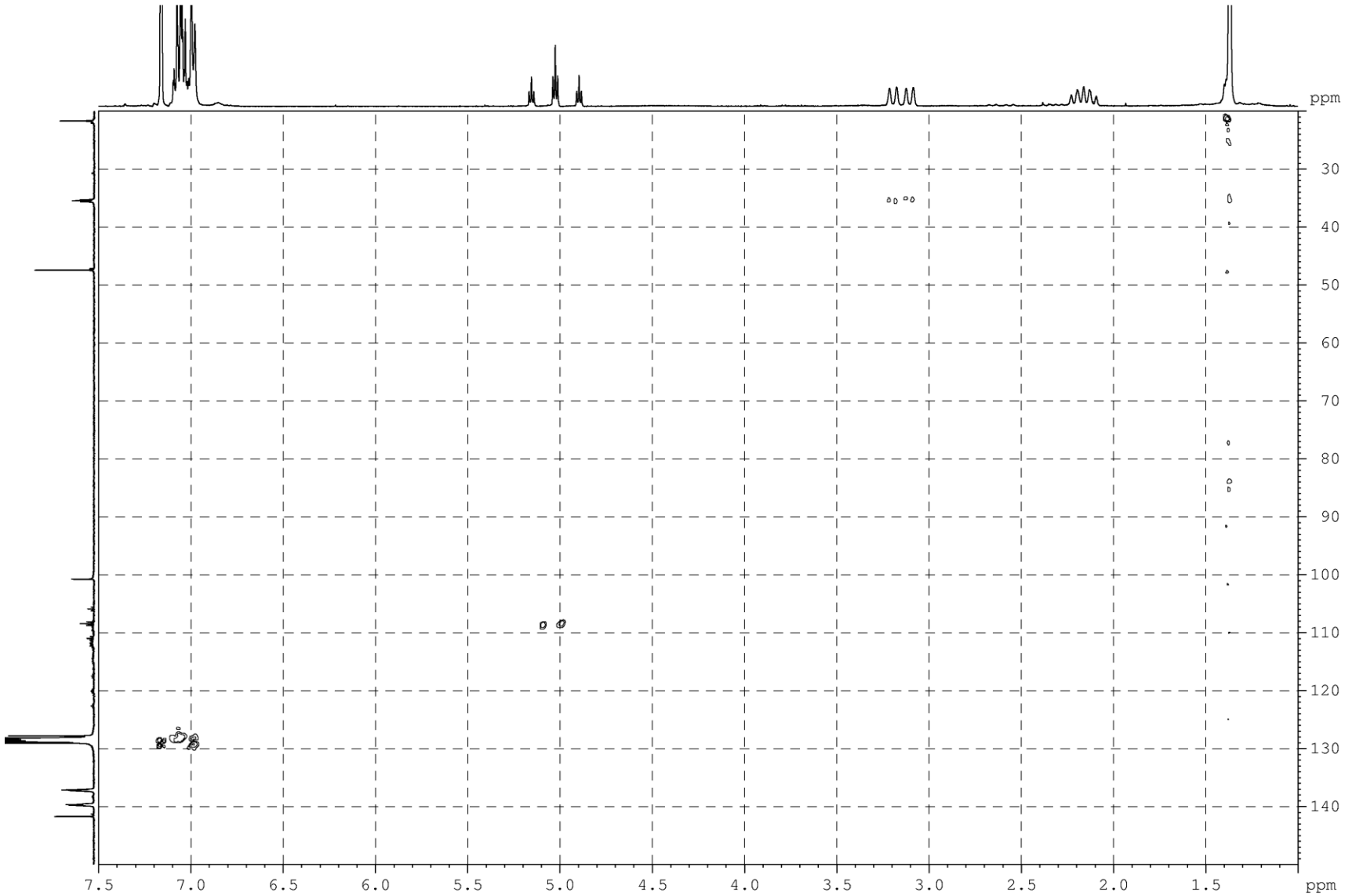

Figure S11. 2D ^{1}H-^{13}C HSQC NMR spectra in C_6D_6 of **2** (T=303K).

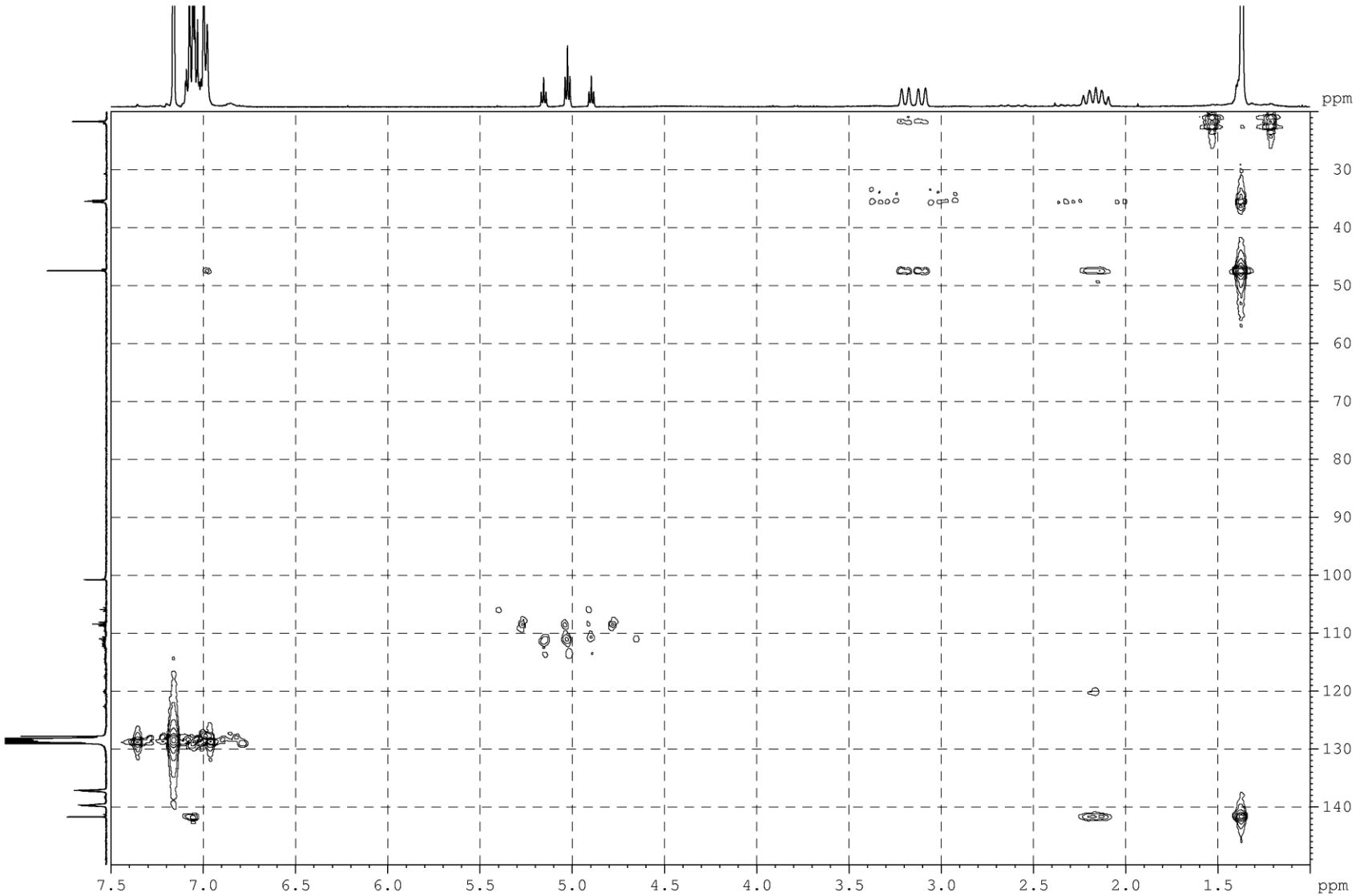

Figure S12. 2D ^{1}H-^{13}C HMBC NMR spectra in C_6D_6 of **2** (T=303K).

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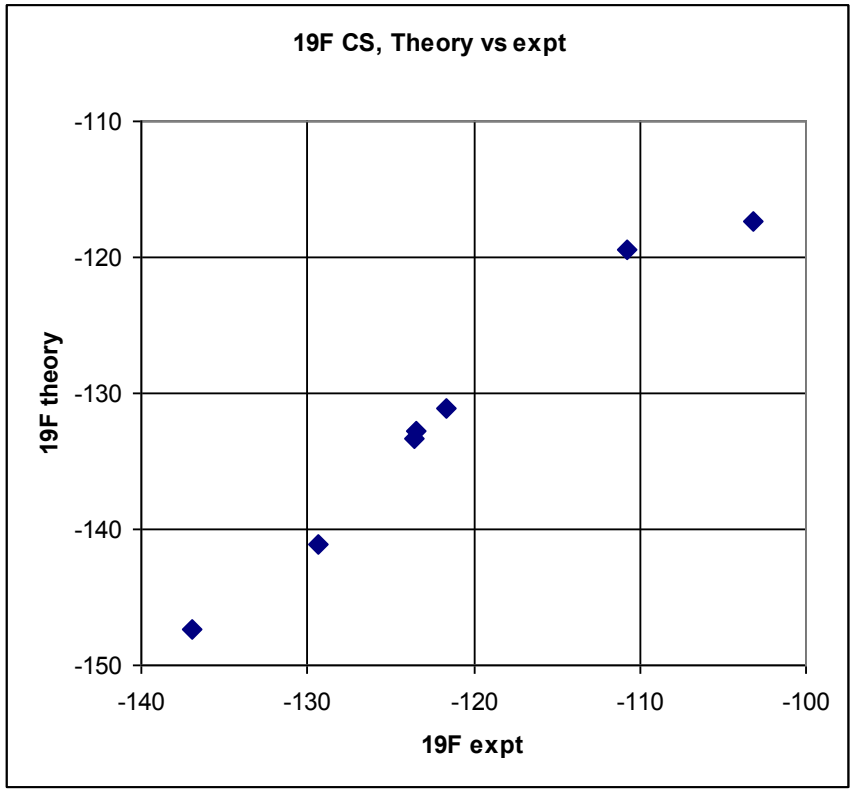

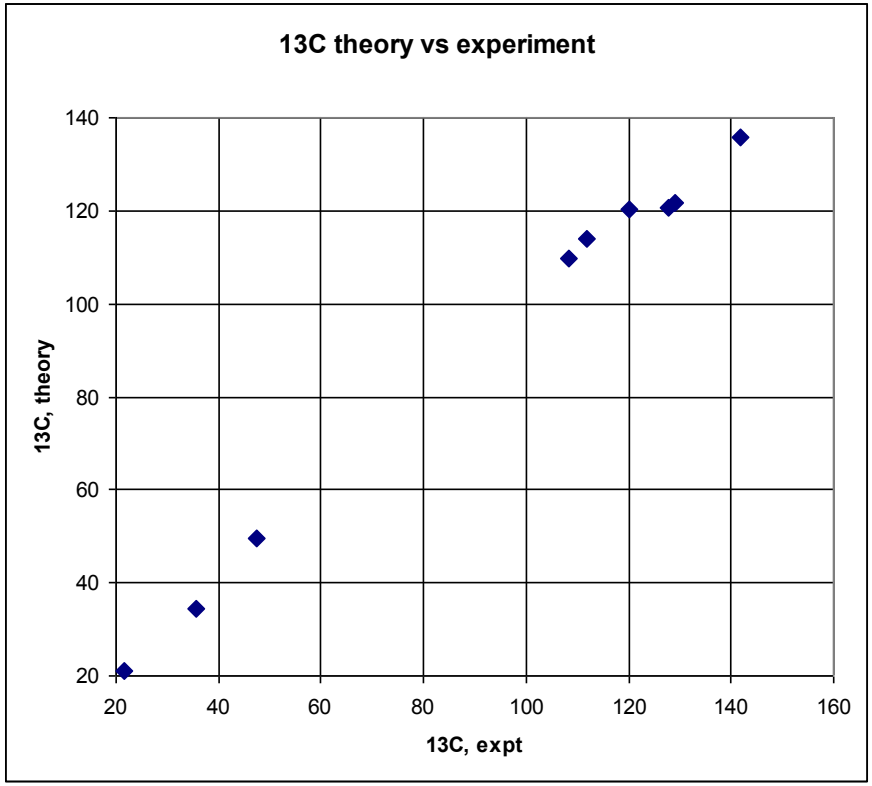

Figure S13. Correlation of calculated (B3LYP/6-31G(d)// B3LYP/6-31G(d)) *versus* experimental ^{13}C and ^{19}F chemical shifts of **2**.

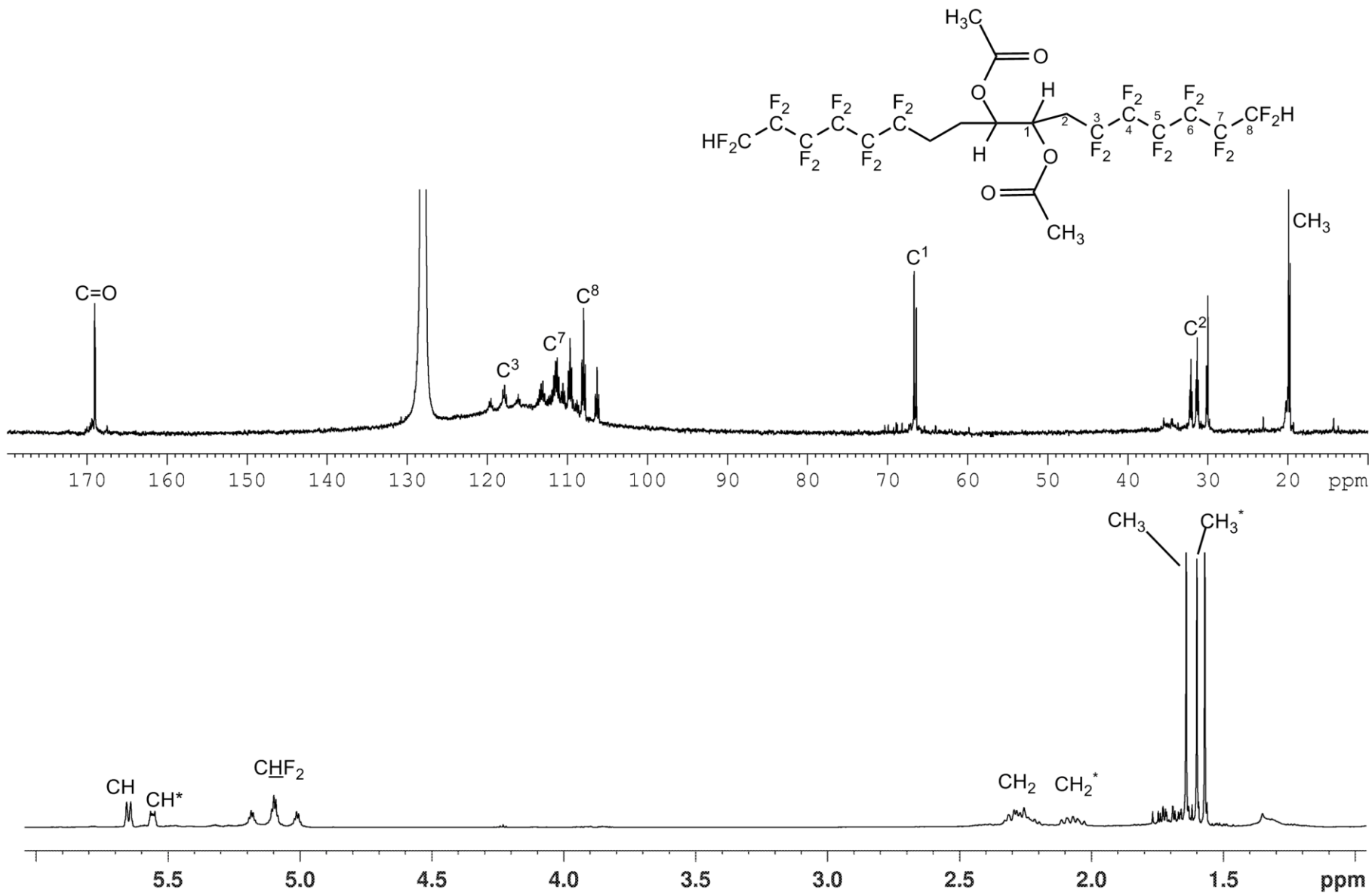

Figure S14. 1D ^{1}H and ^{13}C NMR spectra in C_6D_6 of **3** (T=303K, signals of the second diastereomer are marked with asterisk *).

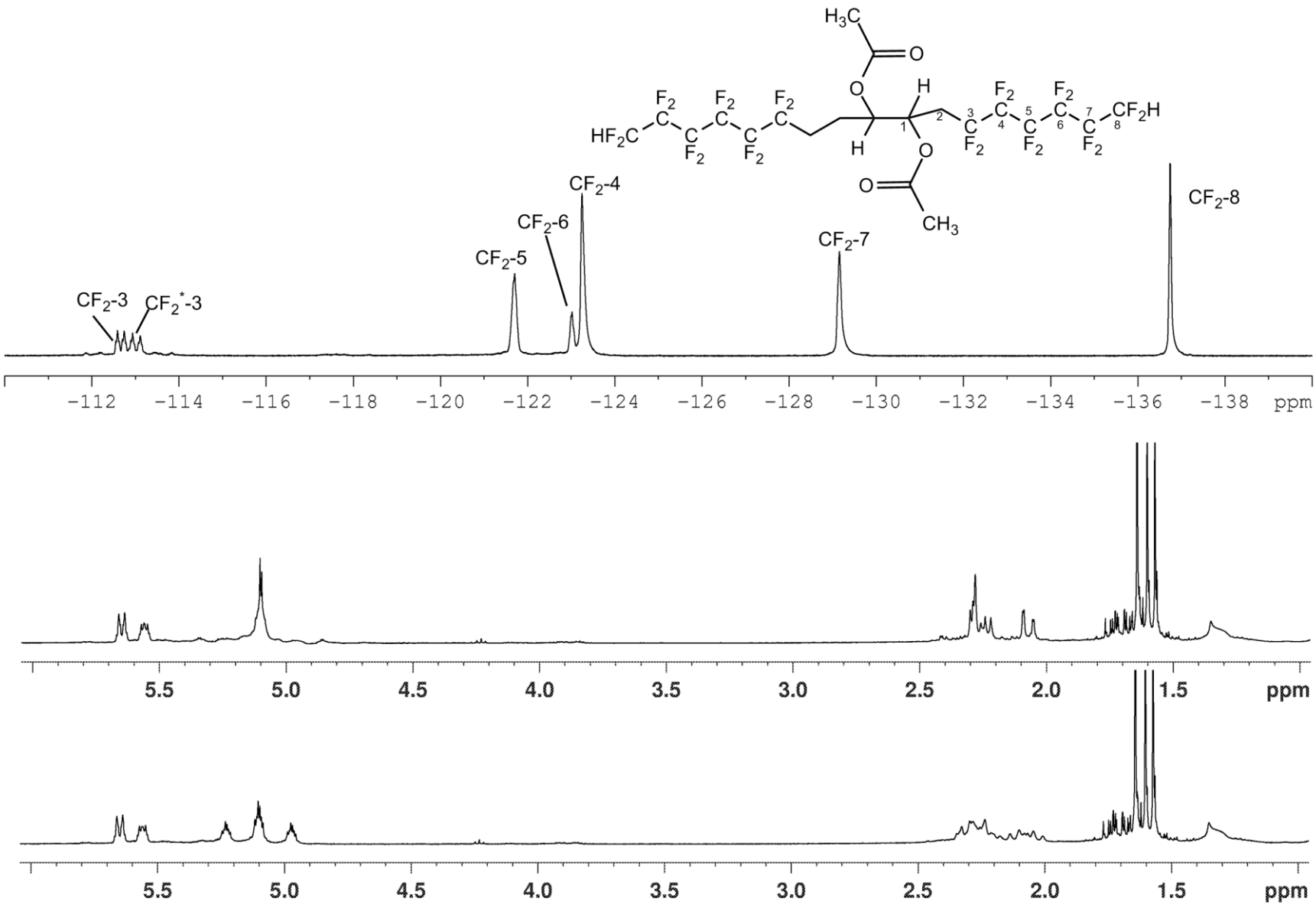

Figure S15. 1D ^{1}H, ^{1}H {^{19}F} and ^{19}F NMR spectra in C_6D_6 of **3** (T=303K, signals of the second diastereomer are marked with asterisk *).

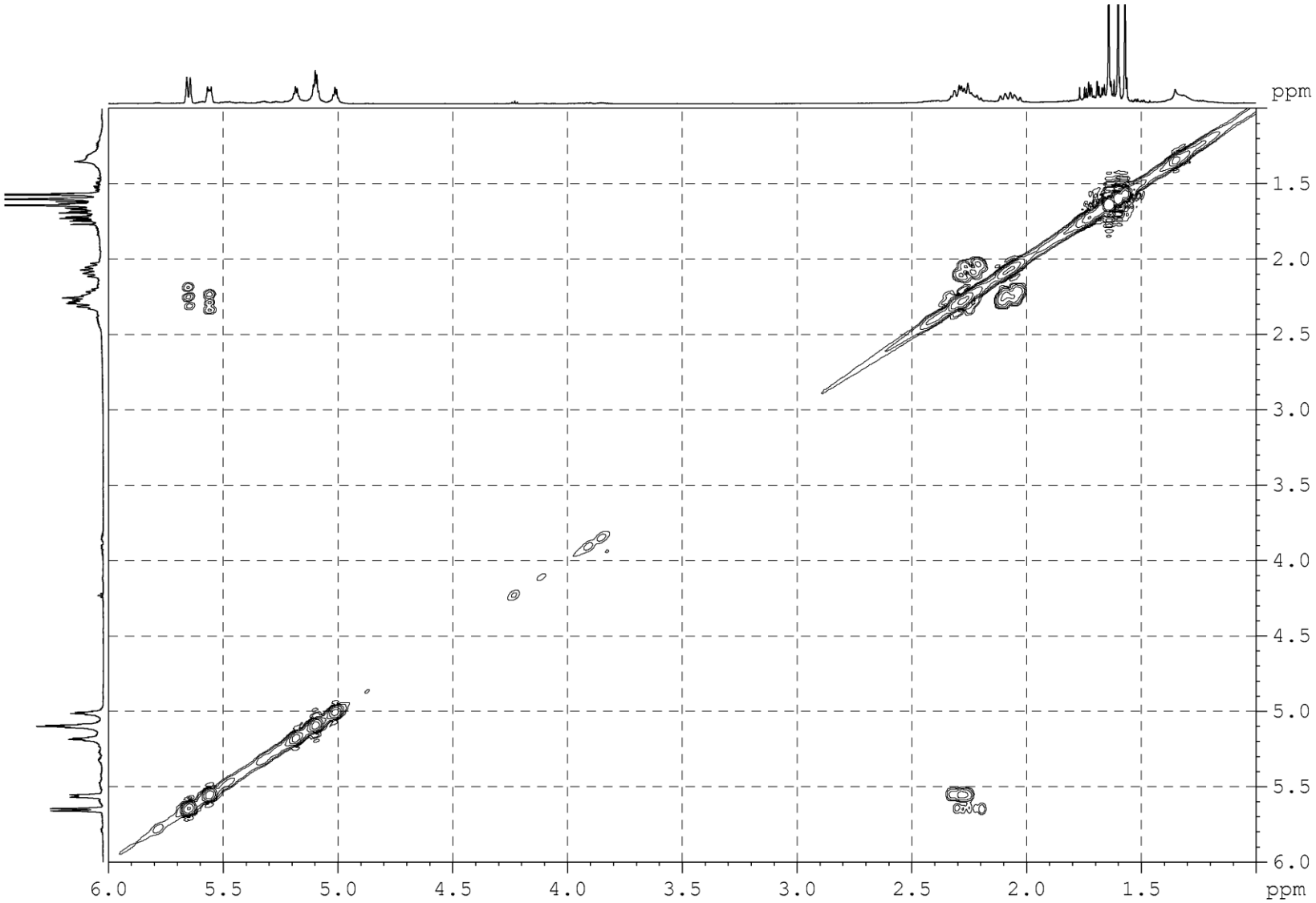

Figure S16. 2D ^{1}H-^{1}H COSY NMR spectra in C_6D_6 of **3** (T=303K).

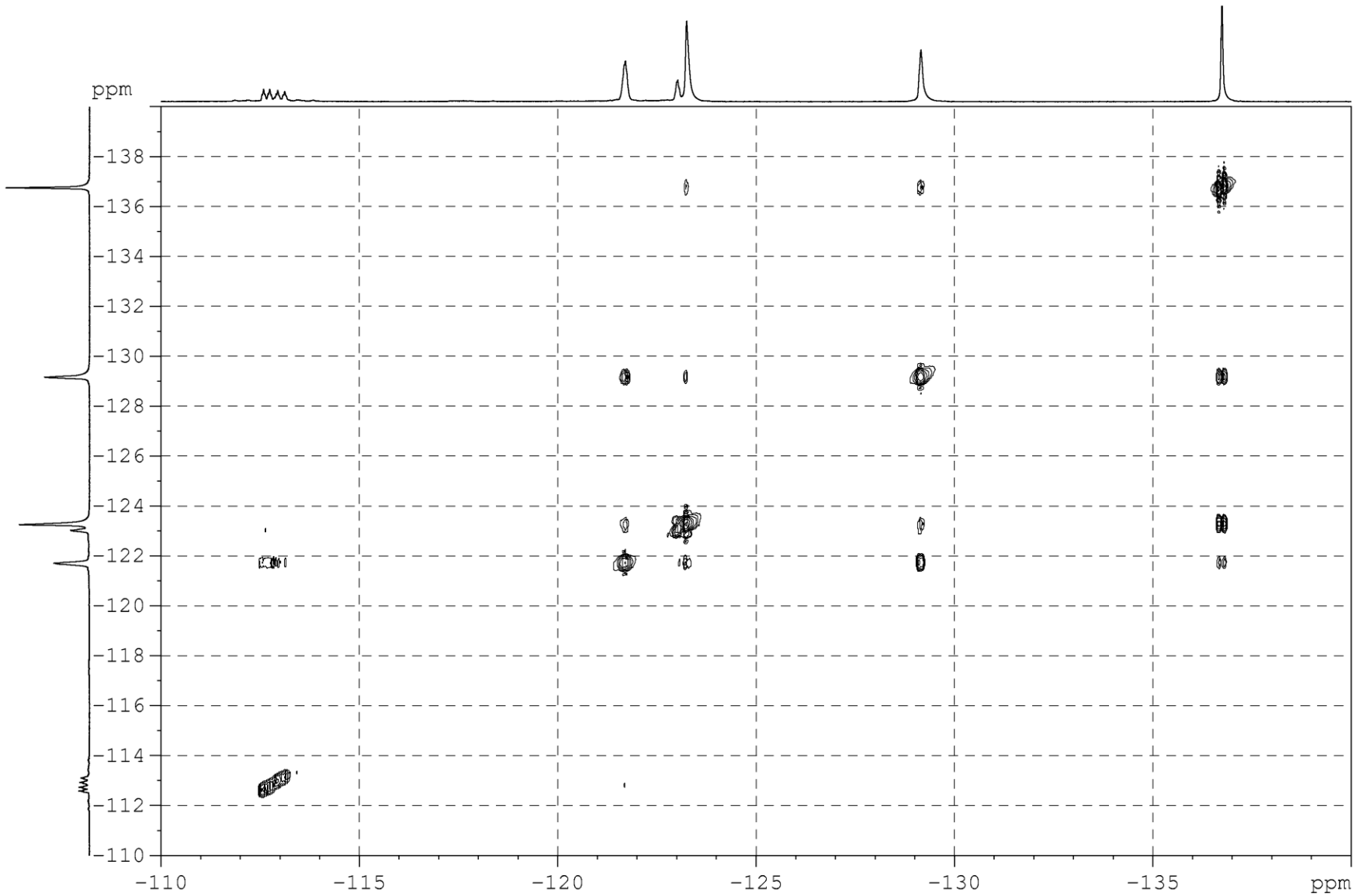

Figure S17. 2D ^{19}F-^{19}F COSY NMR spectra in C_6D_6 of **3** (T=303K).

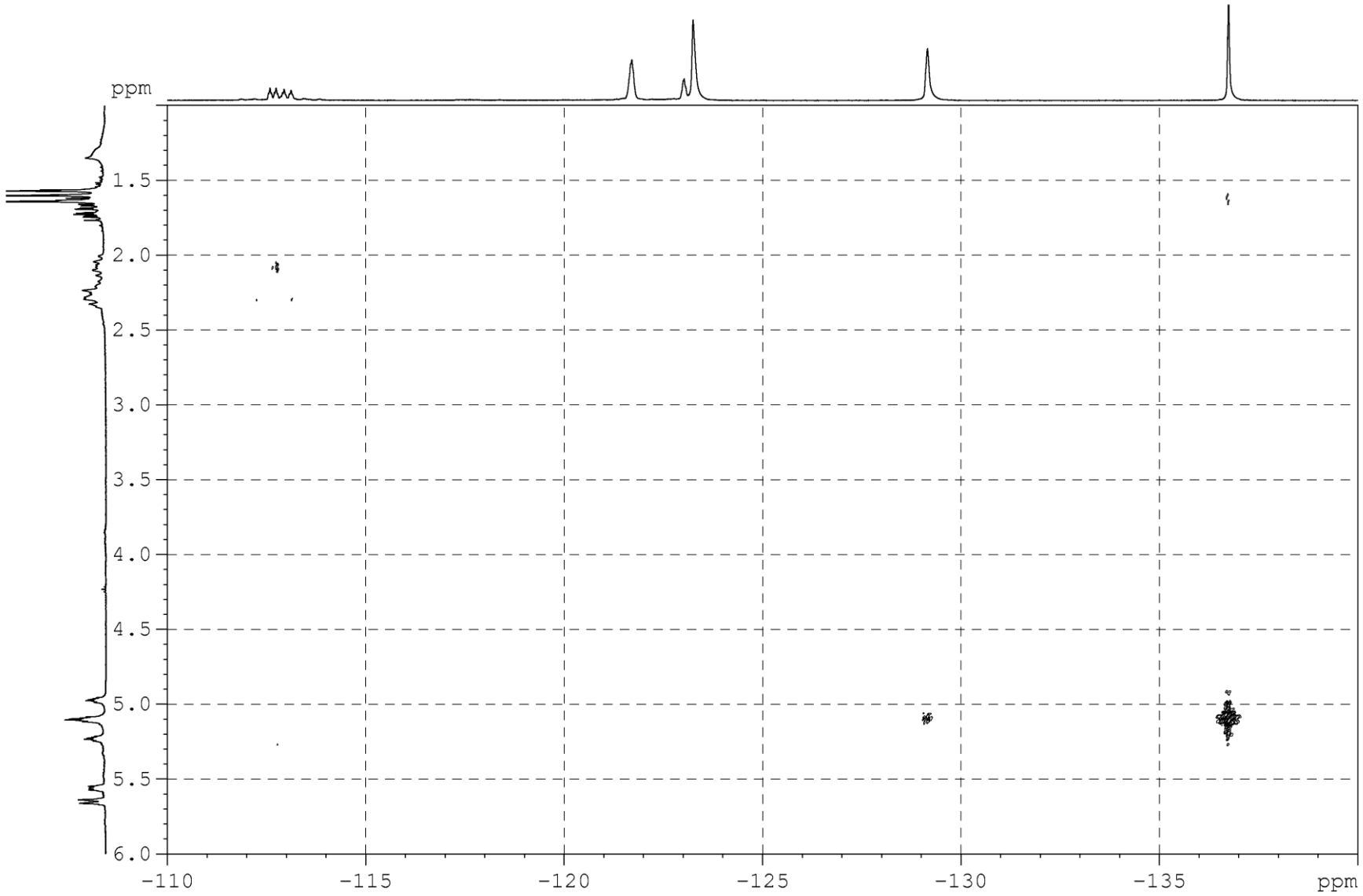

Figure S18. 2D ^{19}F-^{1}H HETCOR NMR spectra in C_6D_6 of **3** (T=303K).

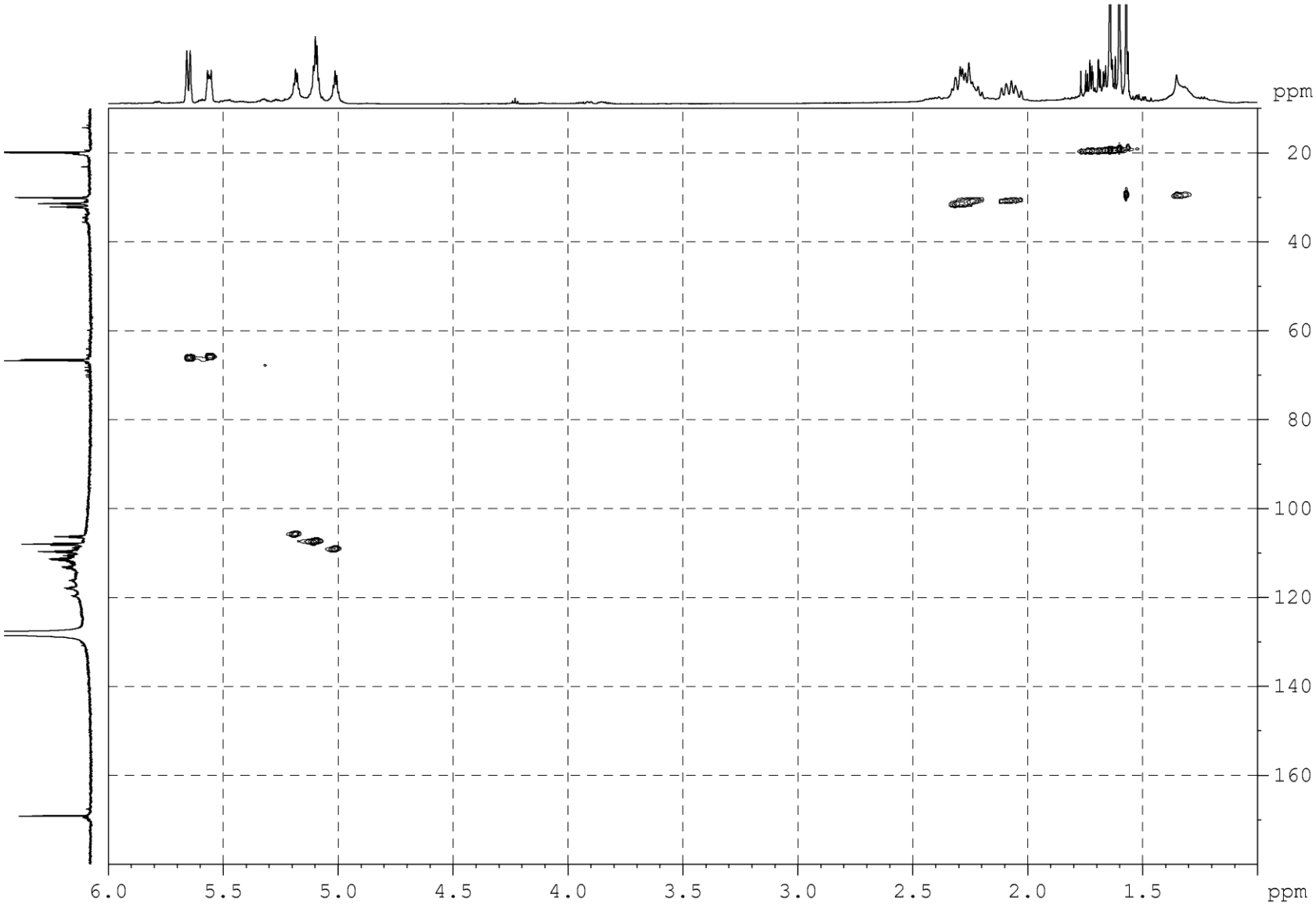

Figure S19. 2D ^{1}H-^{13}C HSQC NMR spectra in C_6D_6 of **3** (T=303K).

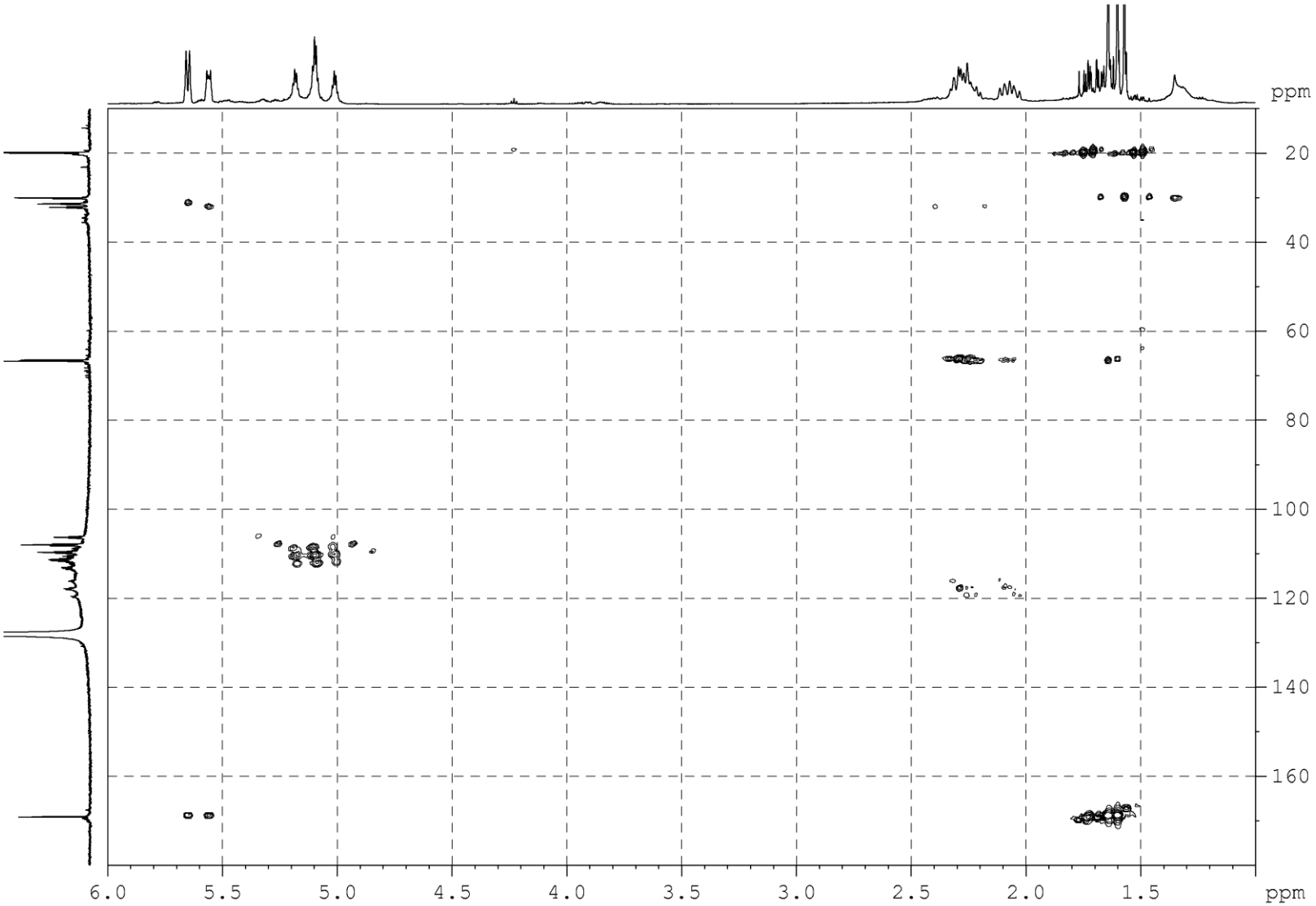

Figure S20. 2D ^{1}H-^{13}C HMBC NMR spectra in C_6D_6 of **3** (T=303K).

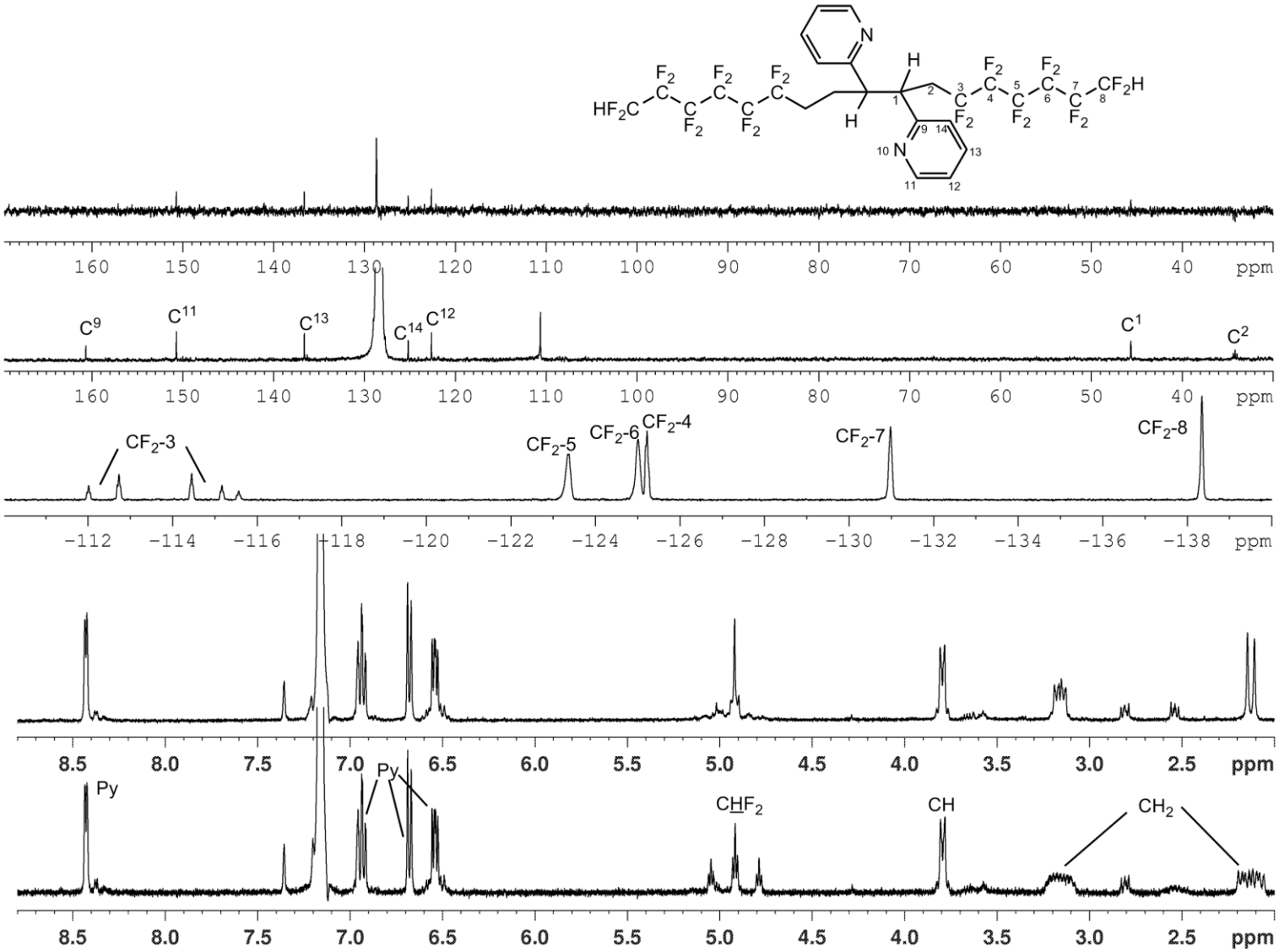

Figure S21. 1D ^{1}H, ^{1}H {^{19}F}, ^{19}F, ^{13}C and DEPT NMR spectra in C_6D_6 of **4** (T=303K).

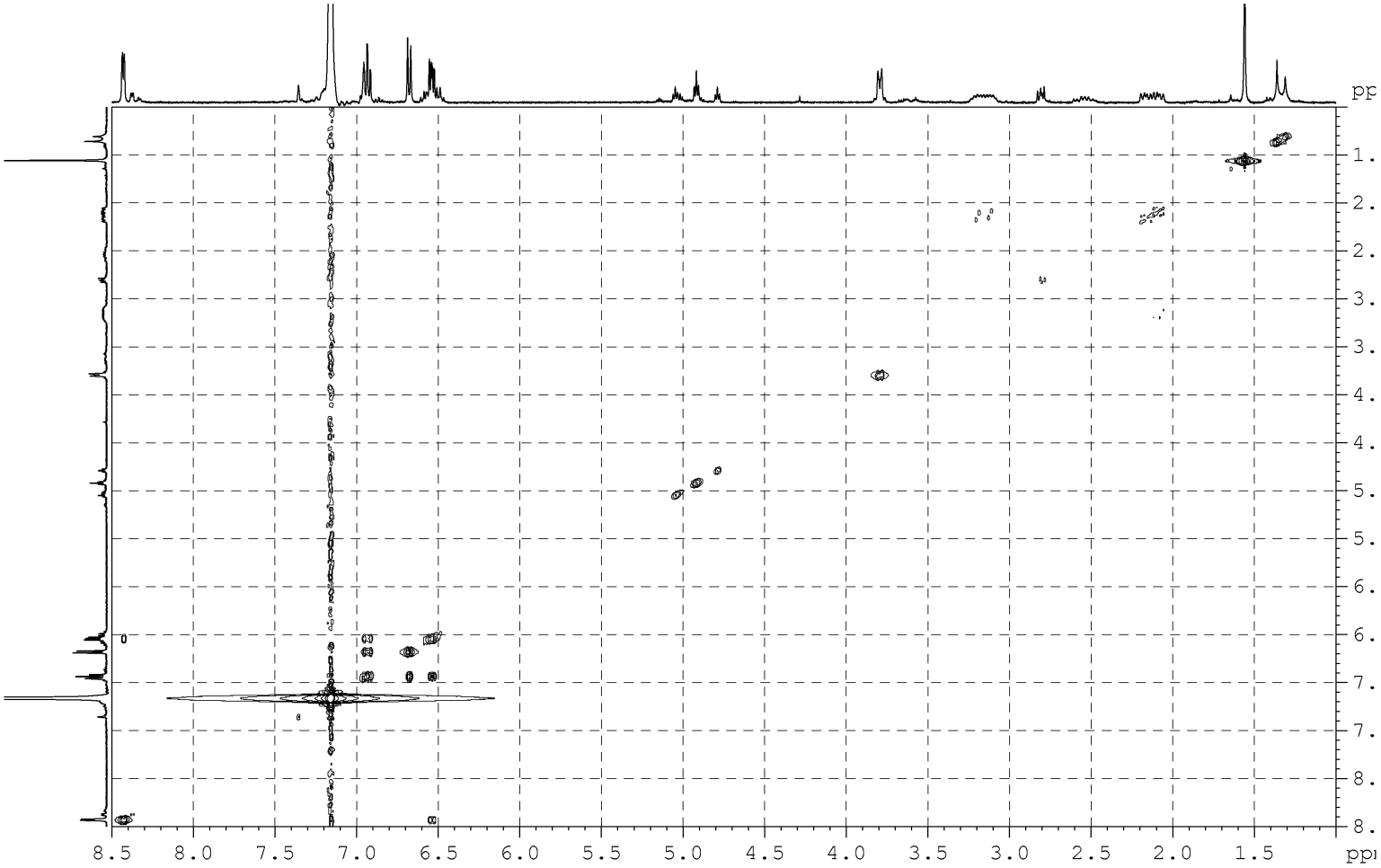

Figure S22. 2D ^{1}H-^{1}H COSY NMR spectra in C_6D_6 of **4** (T=303K).

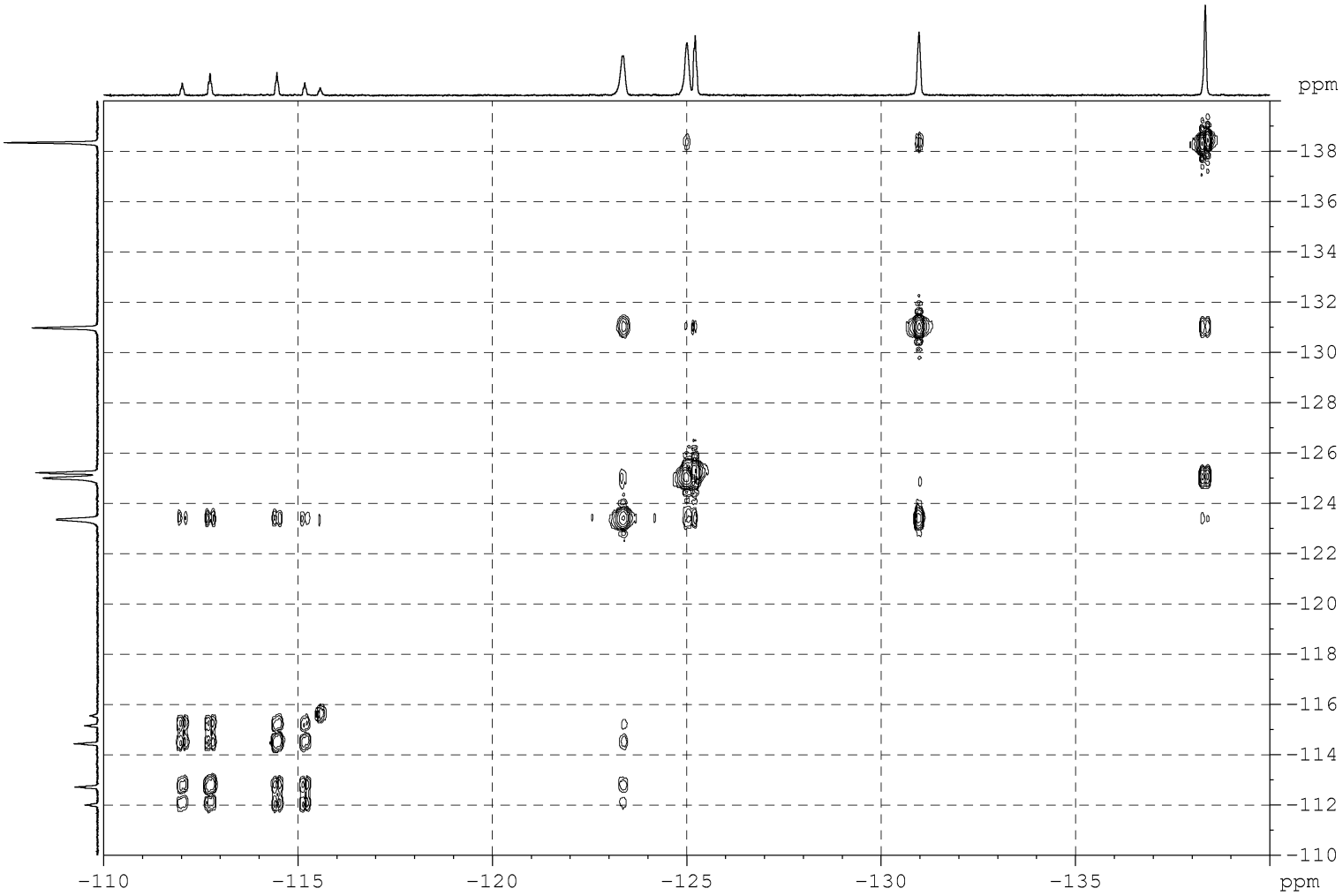

Figure S23. 2D ^{19}F-^{19}F COSY NMR spectra in C_6D_6 of **4** (T=303K).

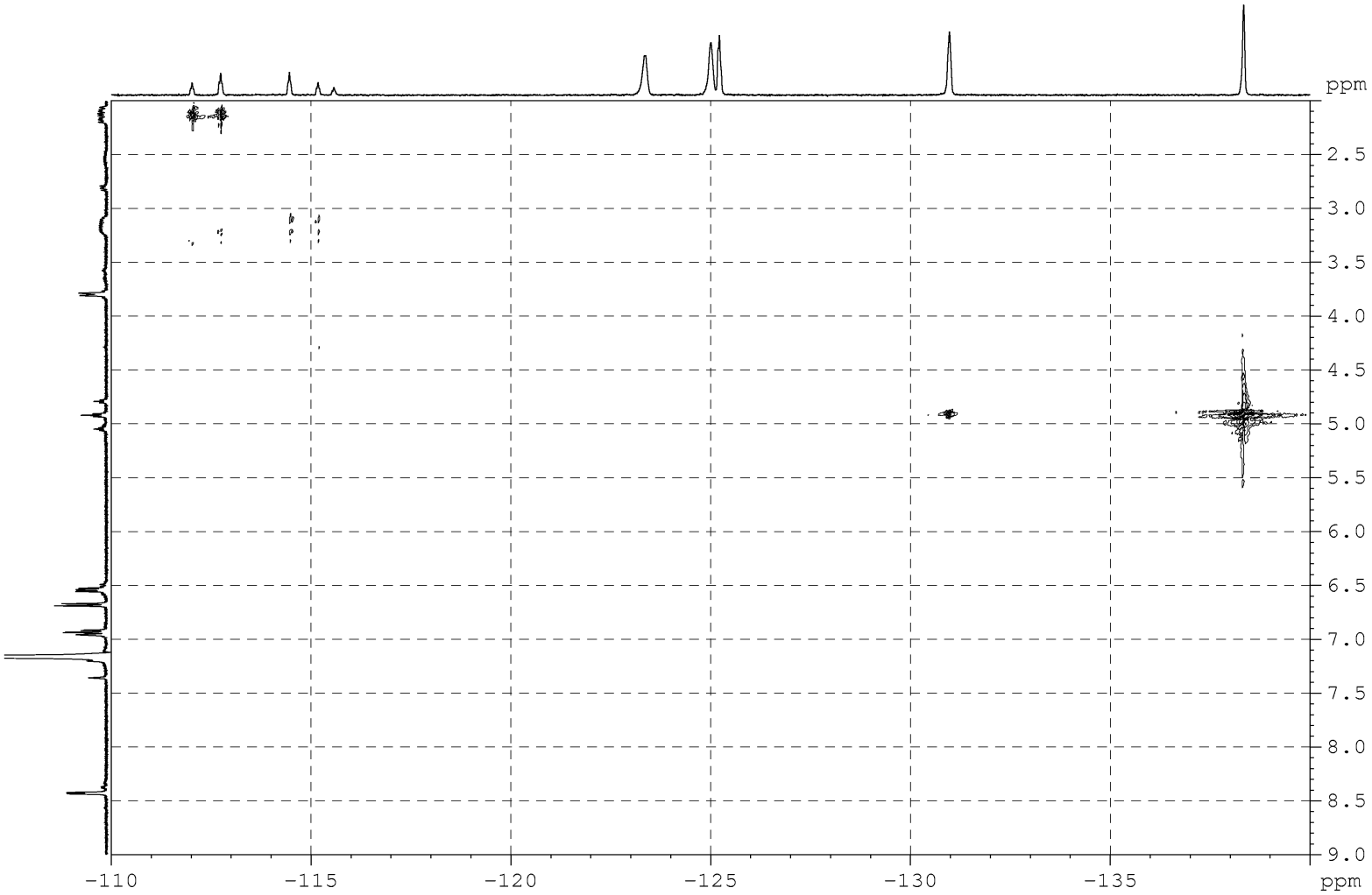

Figure S24. 2D ^{19}F-^{1}H COSY NMR spectra in C_6D_6 of **4** (T=303K).

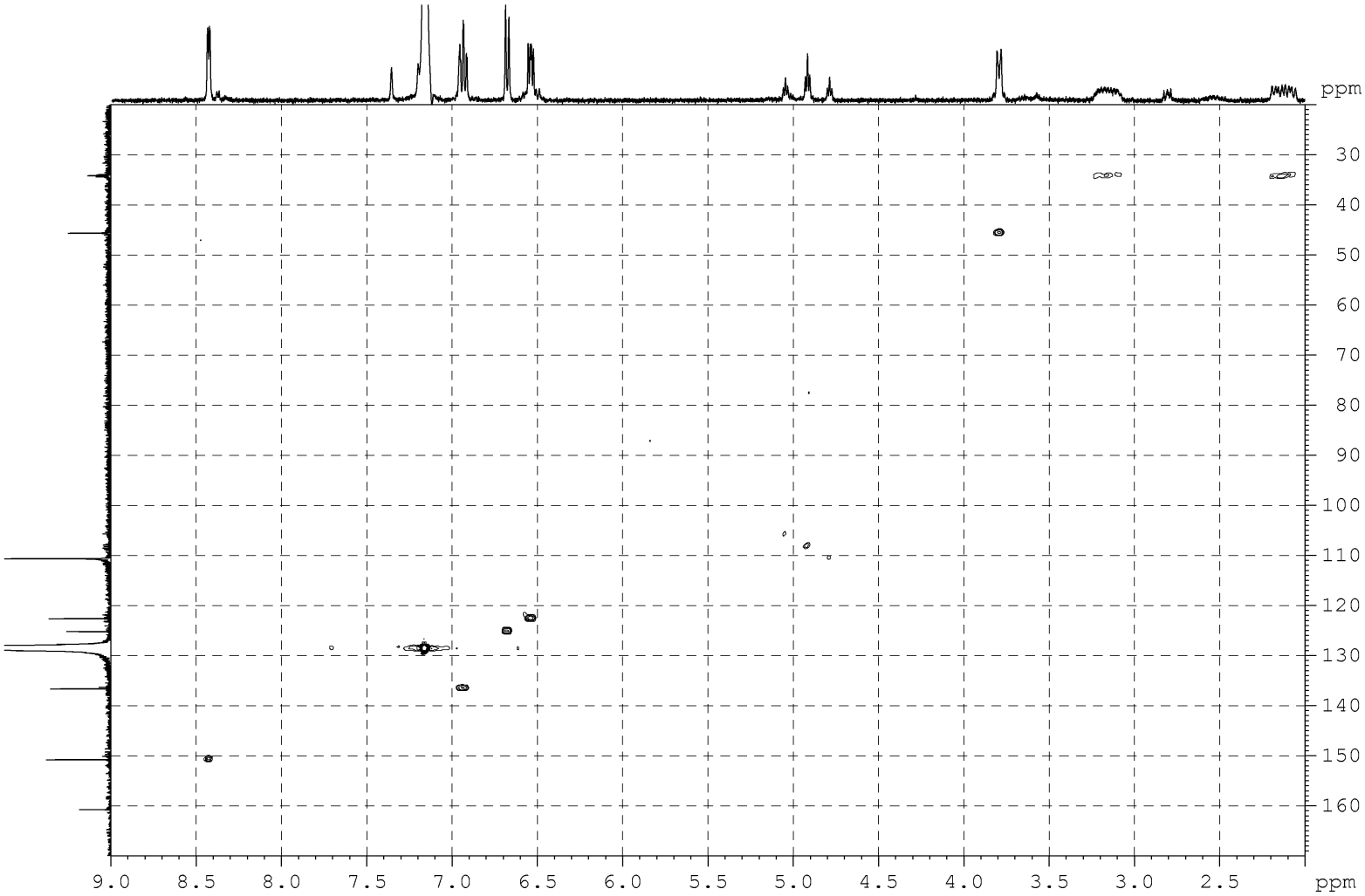

Figure S25. 2D ^{1}H-^{13}C HSQC NMR spectra in C_6D_6 of **4** (T=303K).

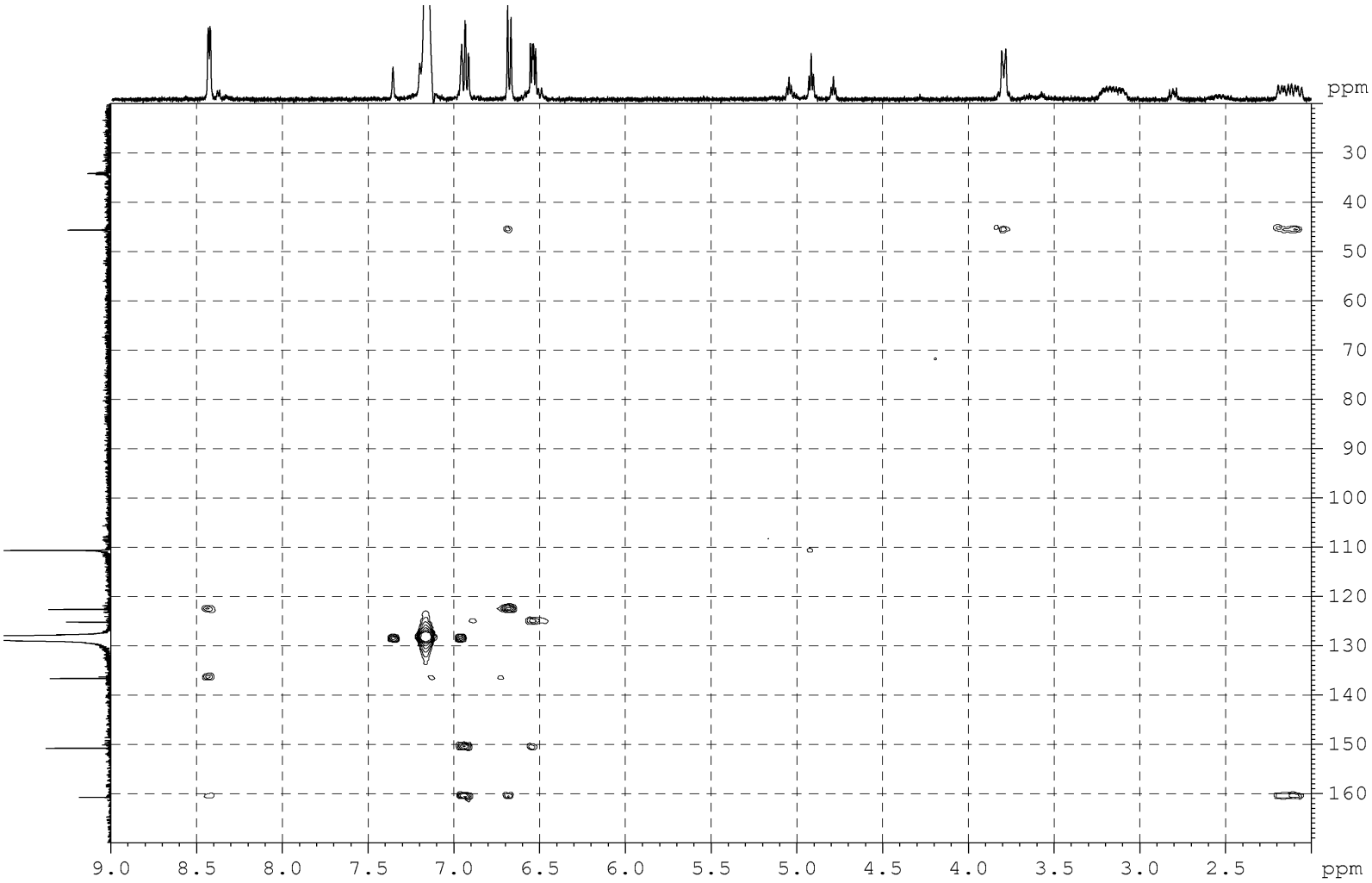

Figure S26. 2D ^{1}H-^{13}C HMBC NMR spectra in C_6D_6 of **4** (T=303K).

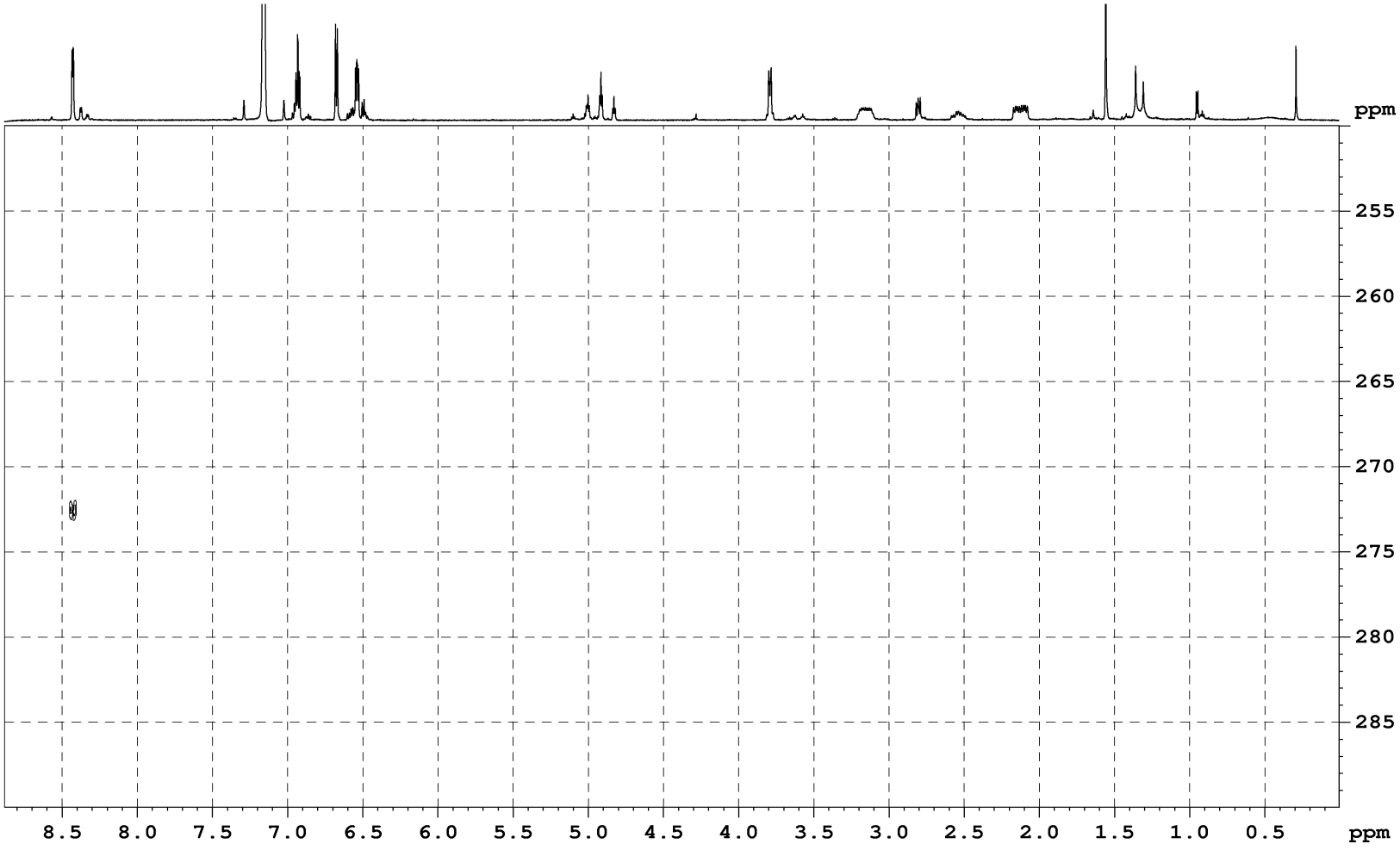

Figure S27. 2D ^{1}H-^{14}N HMBC NMR spectra in C_6D_6 of **4** (T=303K).

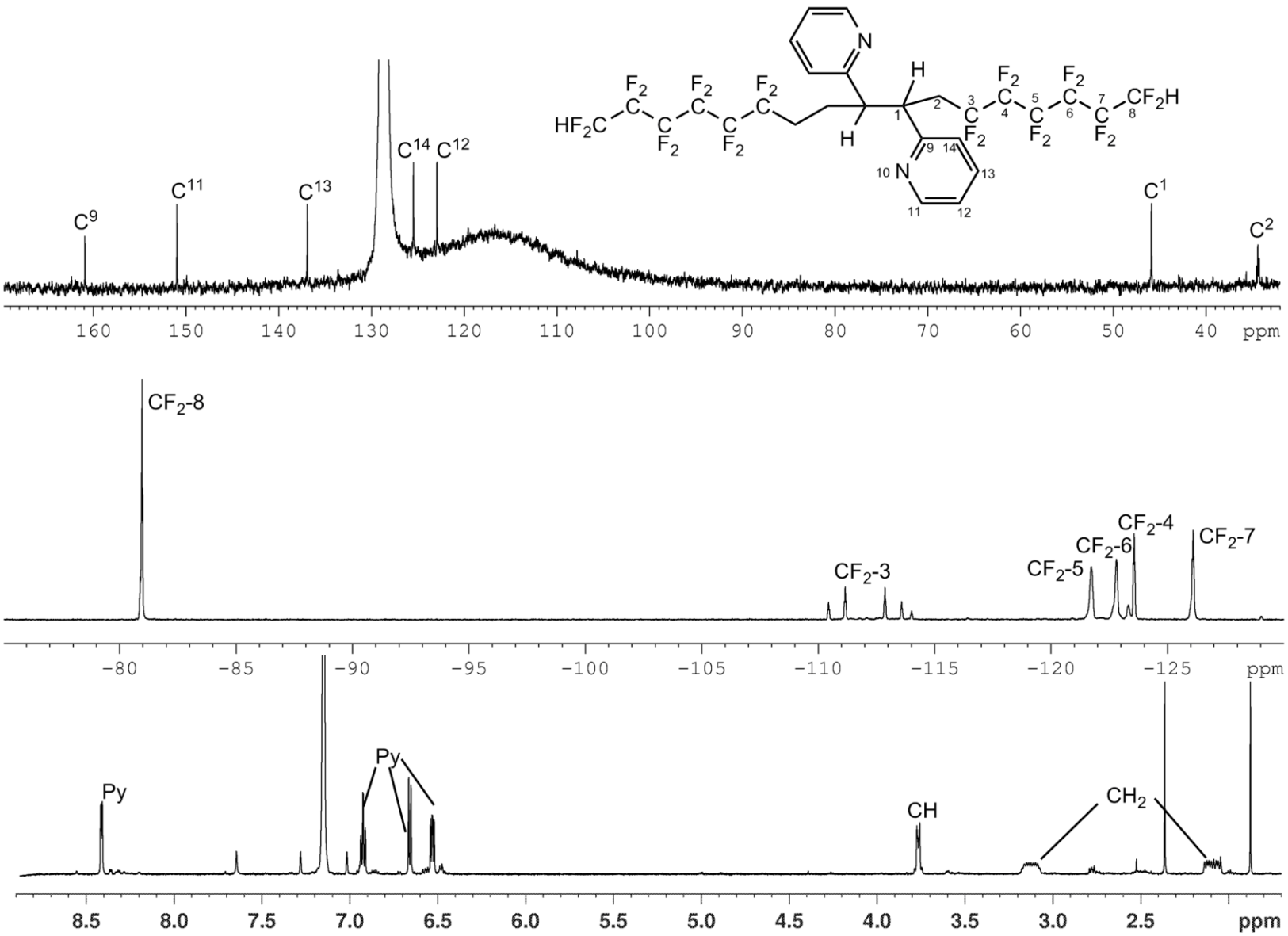

Figure S28. 1D ^{1}H, ^{19}F and ^{13}C NMR spectra in C_6D_6 of **5** (T=303K).

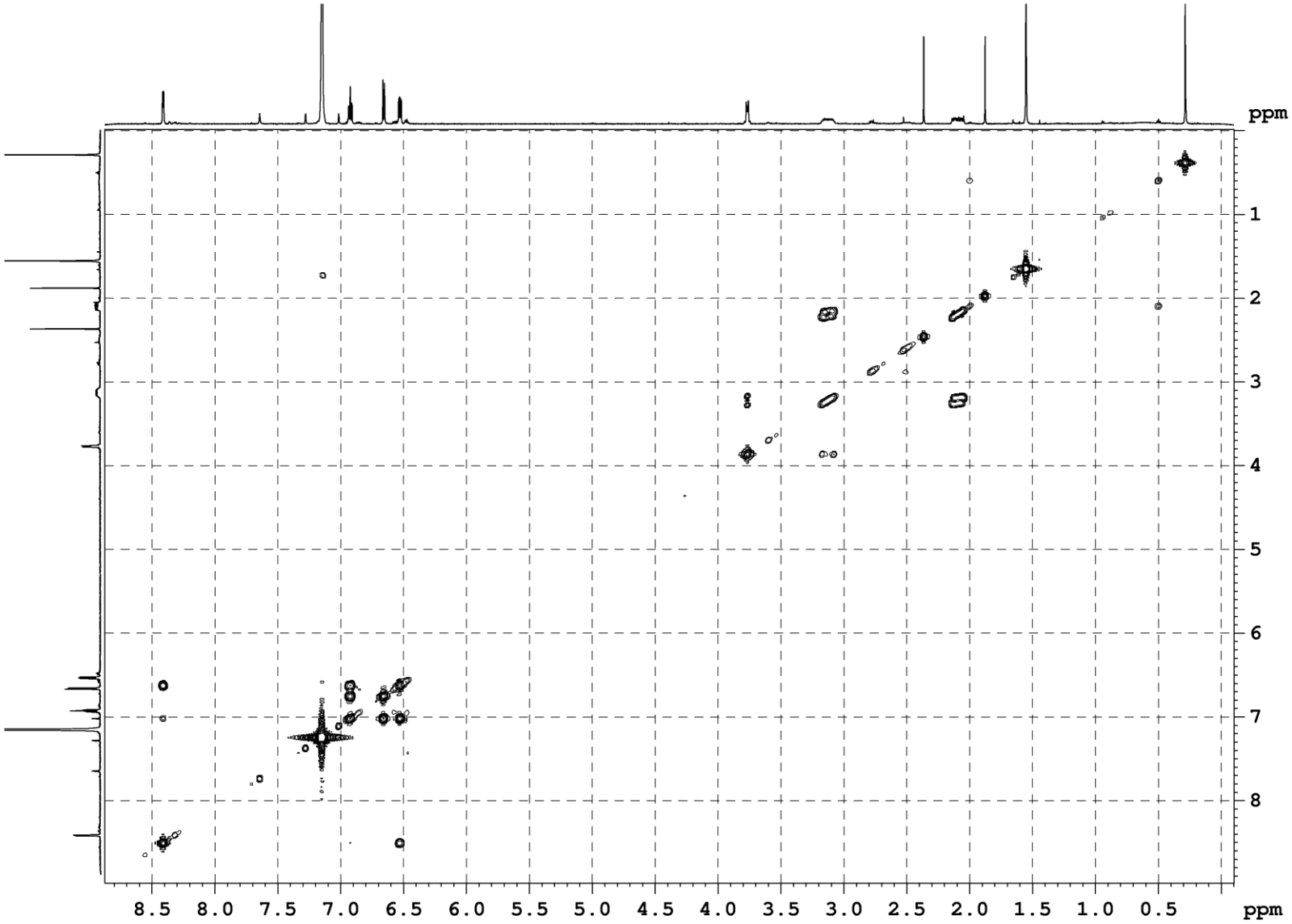

Figure S29. 2D ^{1}H-^{1}H COSY NMR spectra in C_6D_6 of **5** (T=303K).

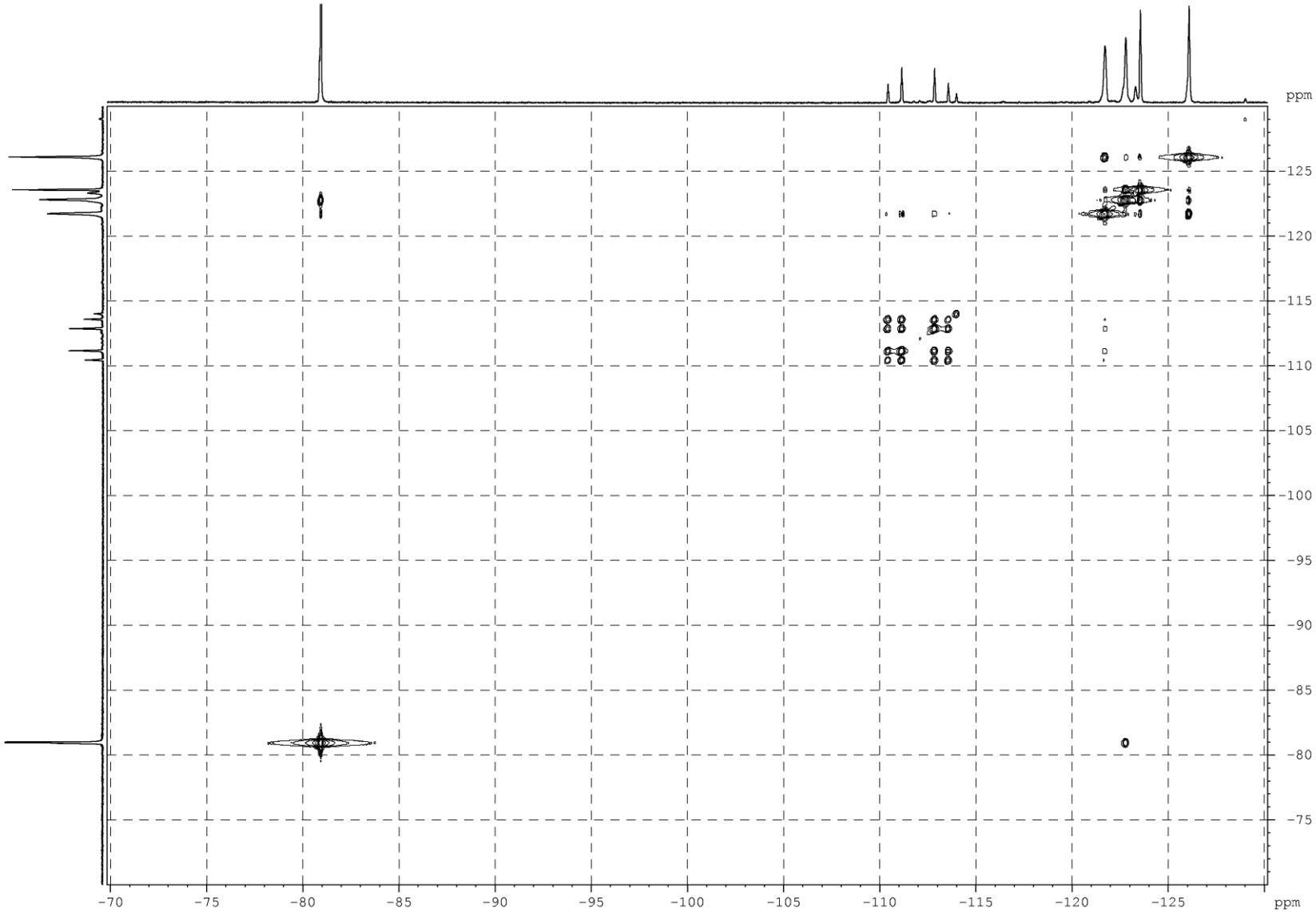

Figure S30. 2D ^{19}F-^{19}F COSY NMR spectra in C_6D_6 of **5** (T=303K).

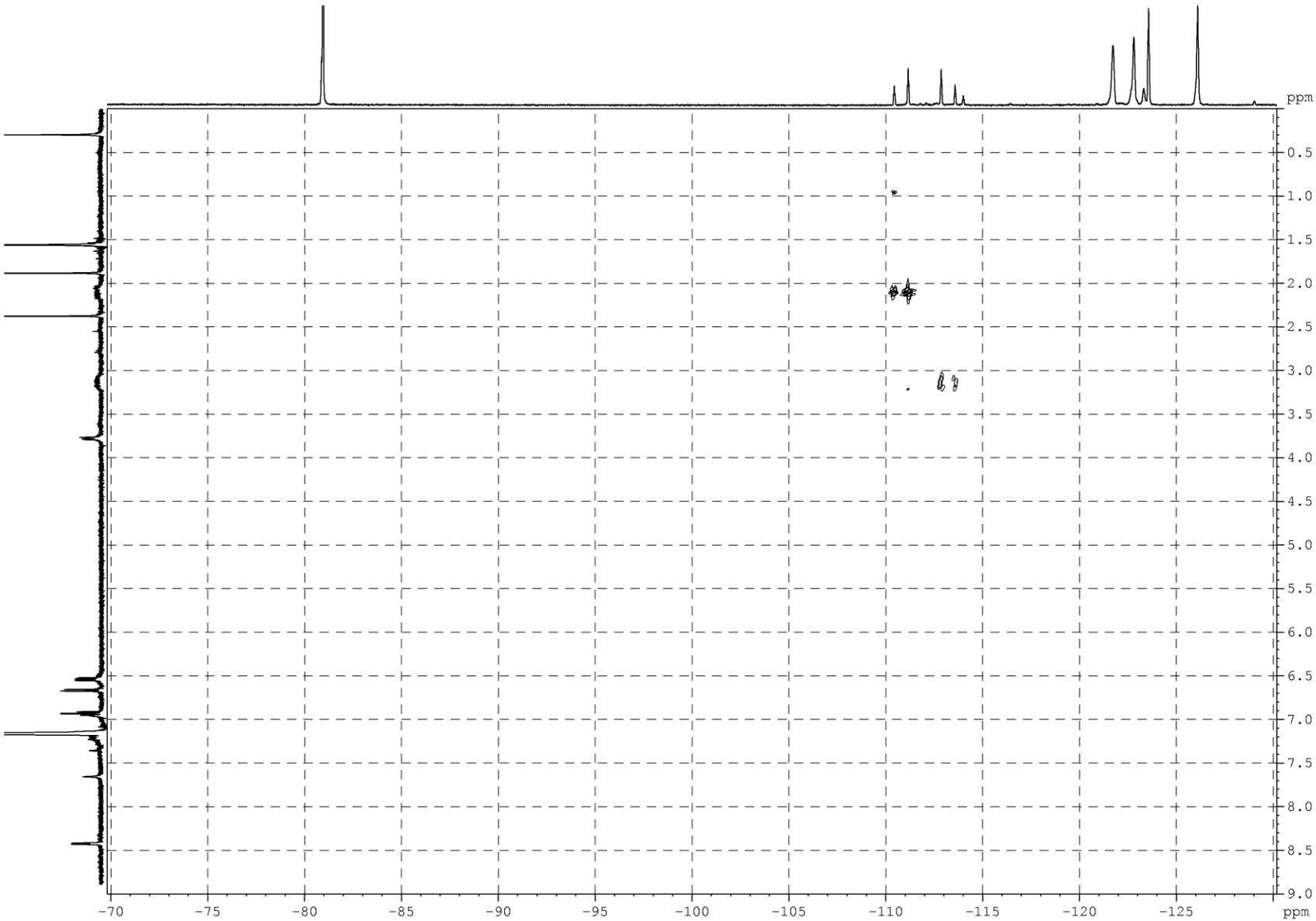

Figure S31. 2D ^{19}F-^{1}H HETCOR NMR spectra in C_6D_6 of **5** (T=303K).

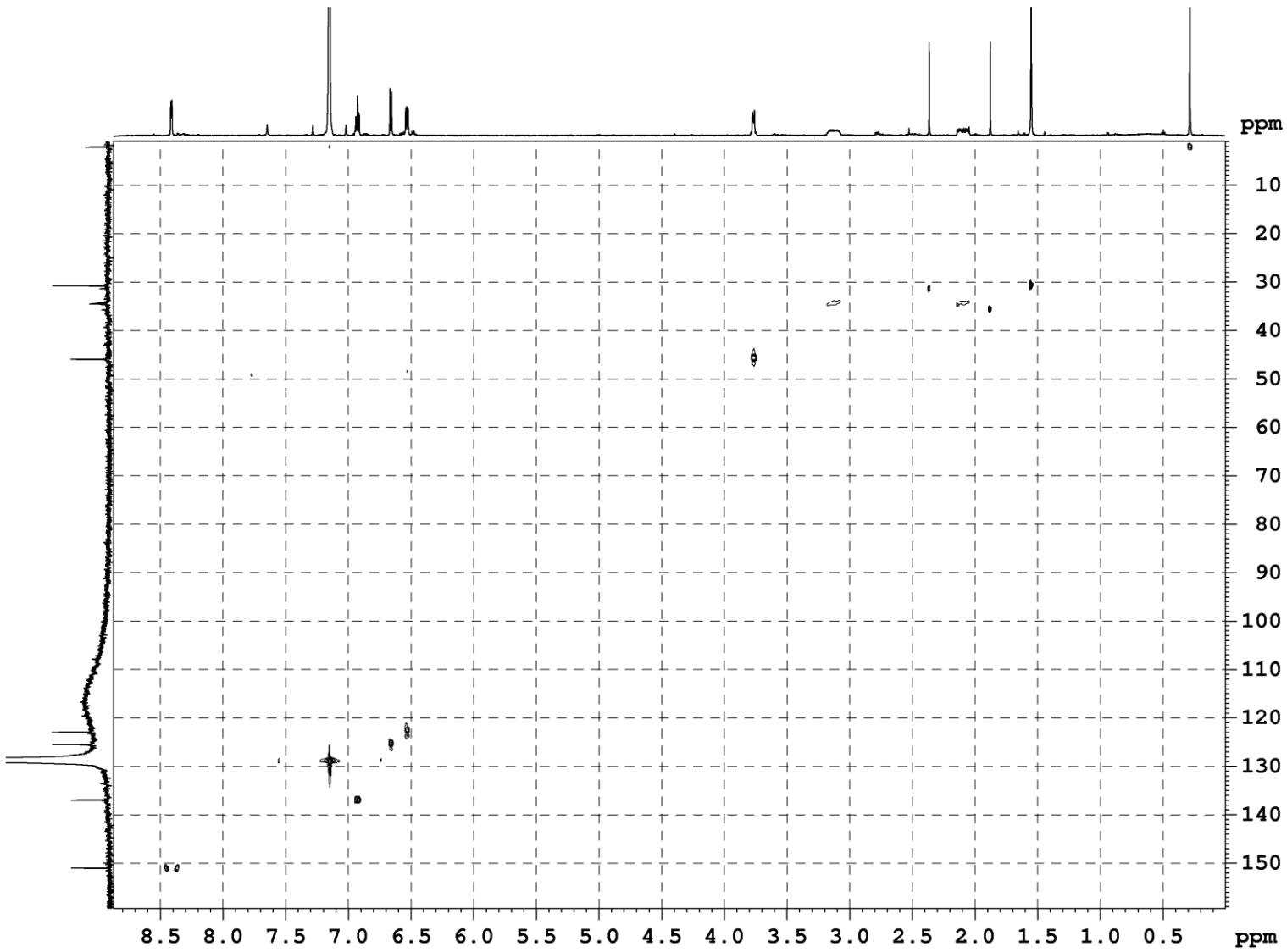

Figure S32. 2D ^{1}H-^{13}C HSQC NMR spectra in C_6D_6 of **5** (T=303K).

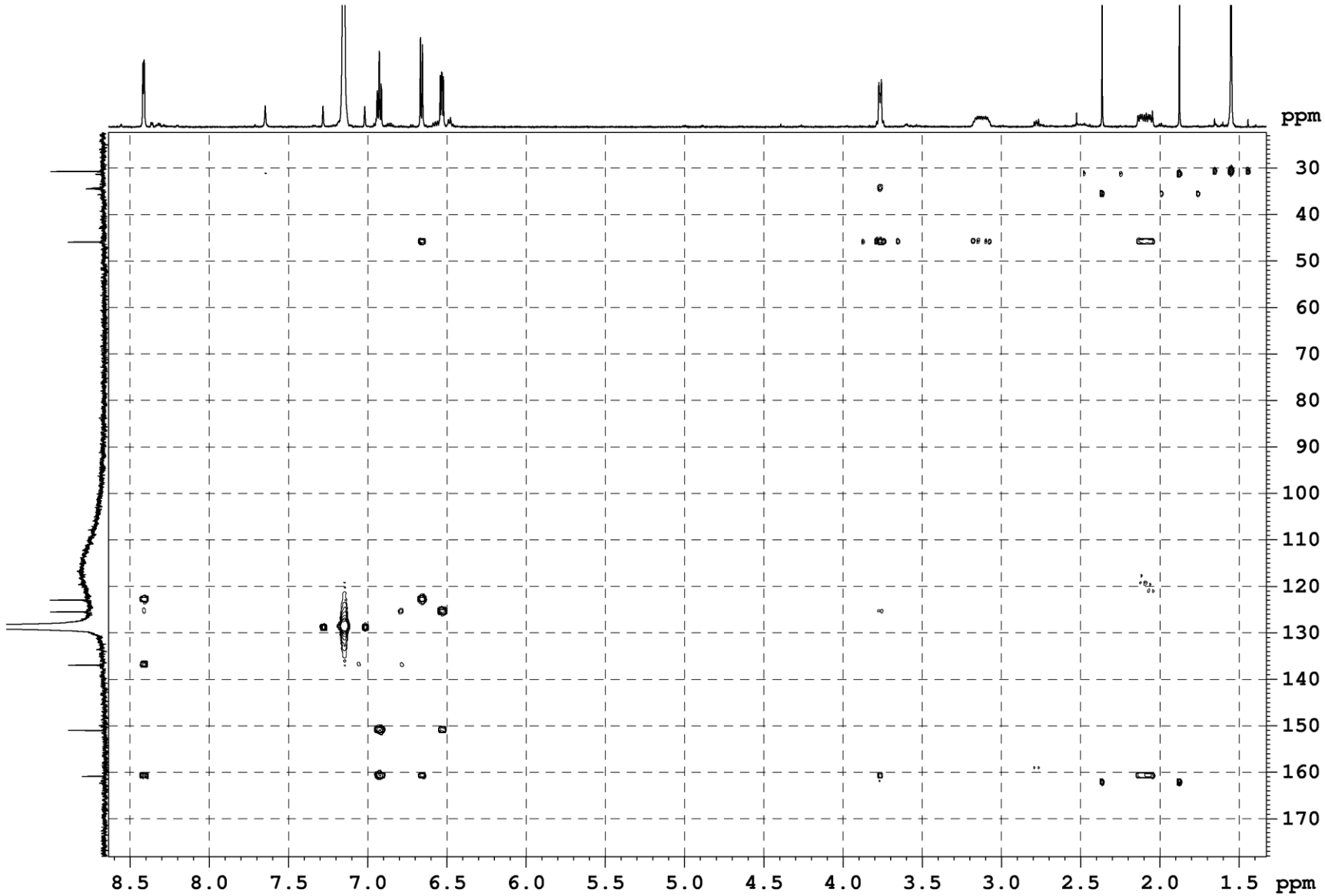

Figure S33. 2D ^{1}H-^{13}C HMBC NMR spectra in C_6D_6 of **5** (T=303K).

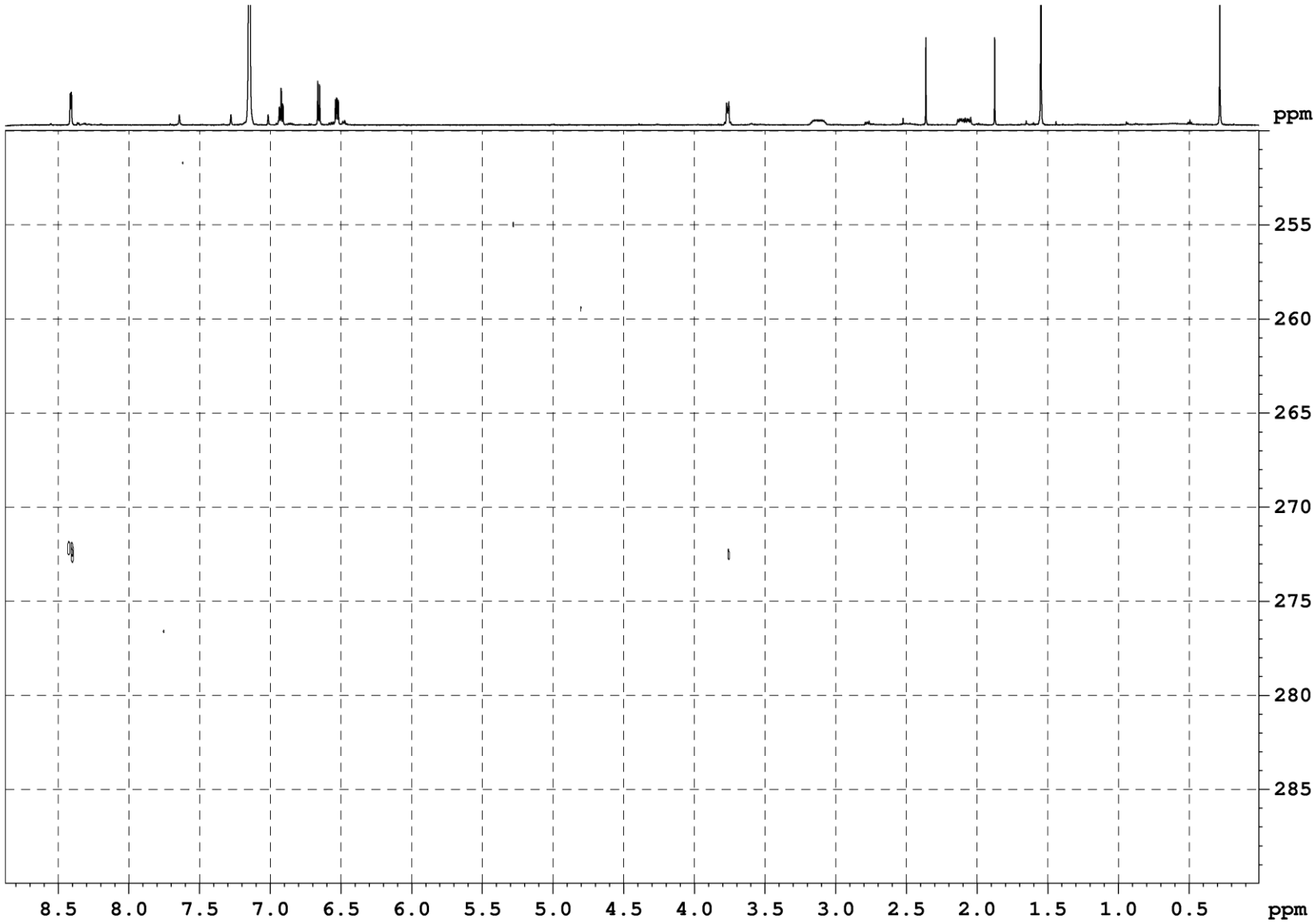

Figure S34. 2D ^{1}H-^{15}N HMBC NMR spectra in C_6D_6 of **5** (T=303K).

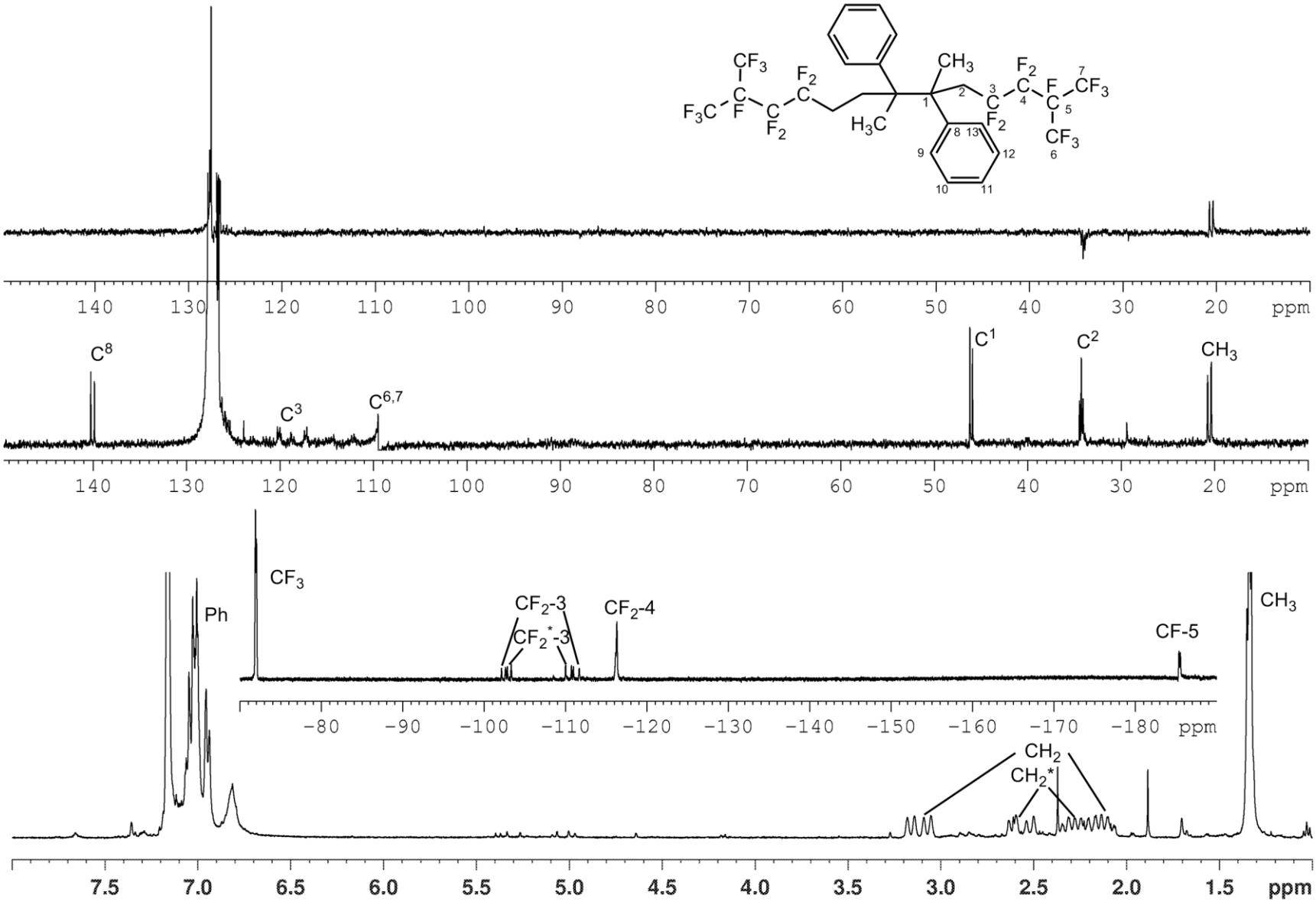

Figure S35. 1D ^{1}H, ^{19}F, ^{13}C and DEPT NMR spectra in C_6D_6 of **6** (T=303K).

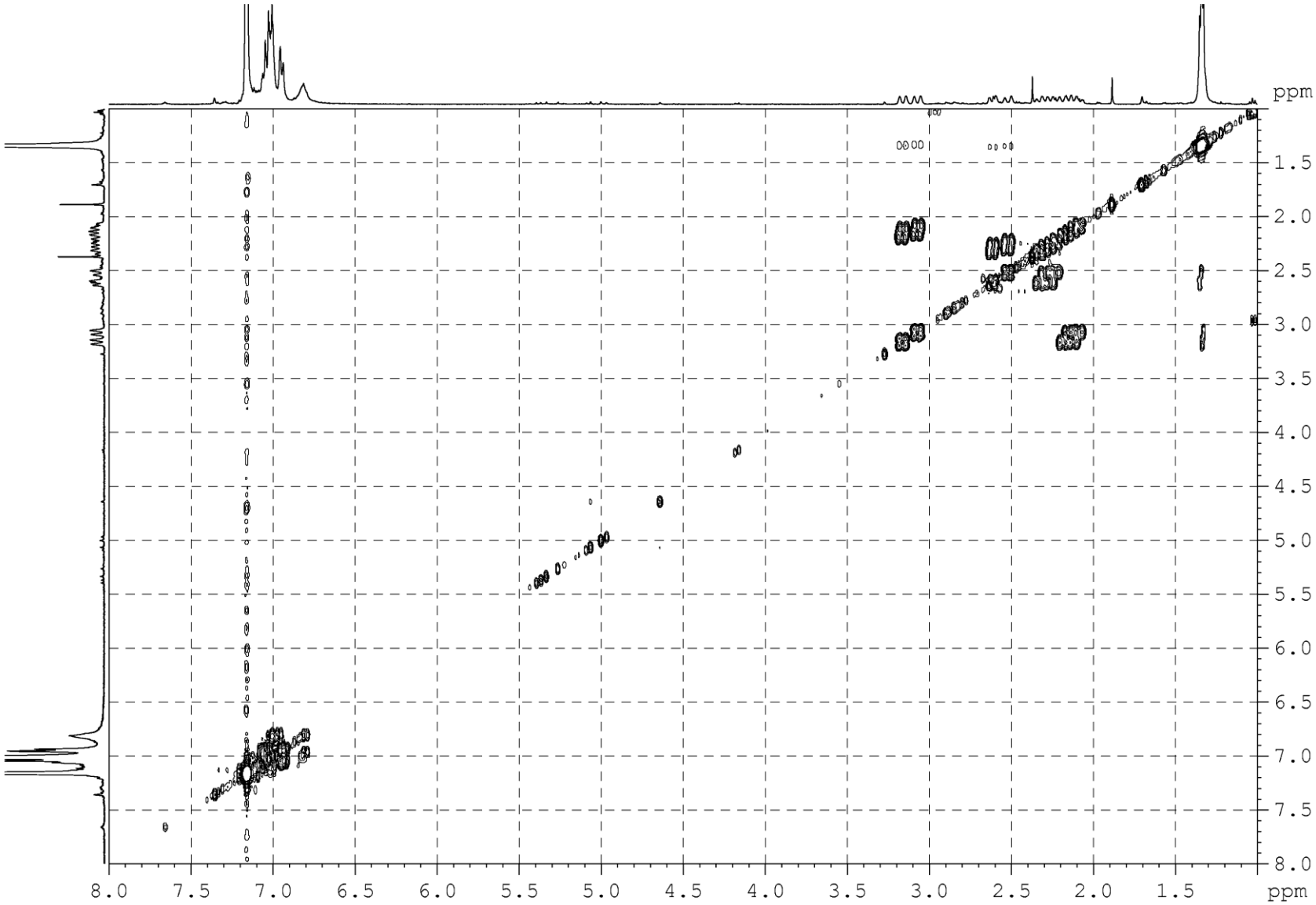

Figure S36. 2D ^{1}H-^{1}H COSY NMR spectra in C_6D_6 of **6** (T=303K).

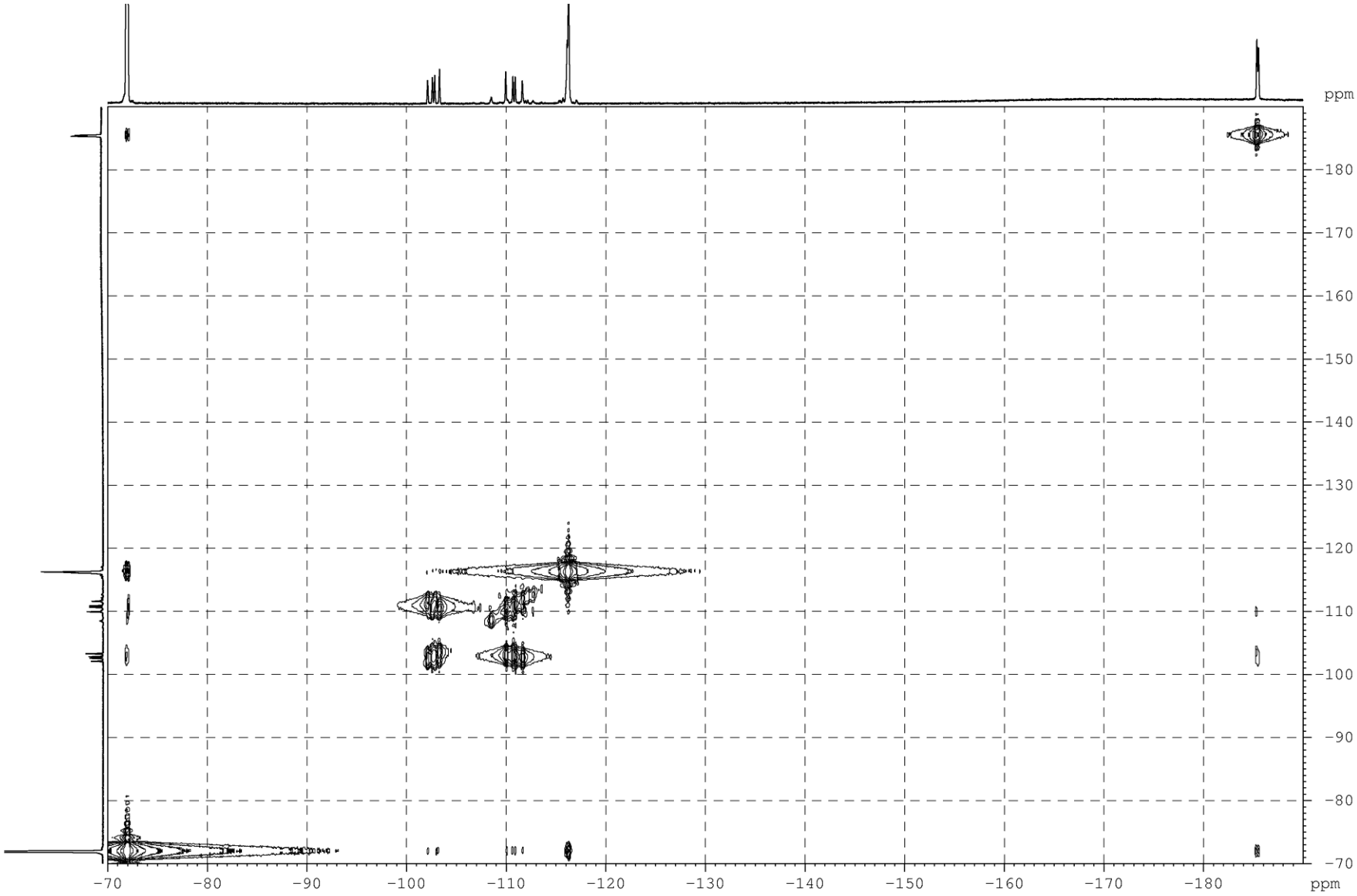

Figure S37. 2D ^{19}F-^{19}F COSY NMR spectra in C_6D_6 of **6** (T=303K).

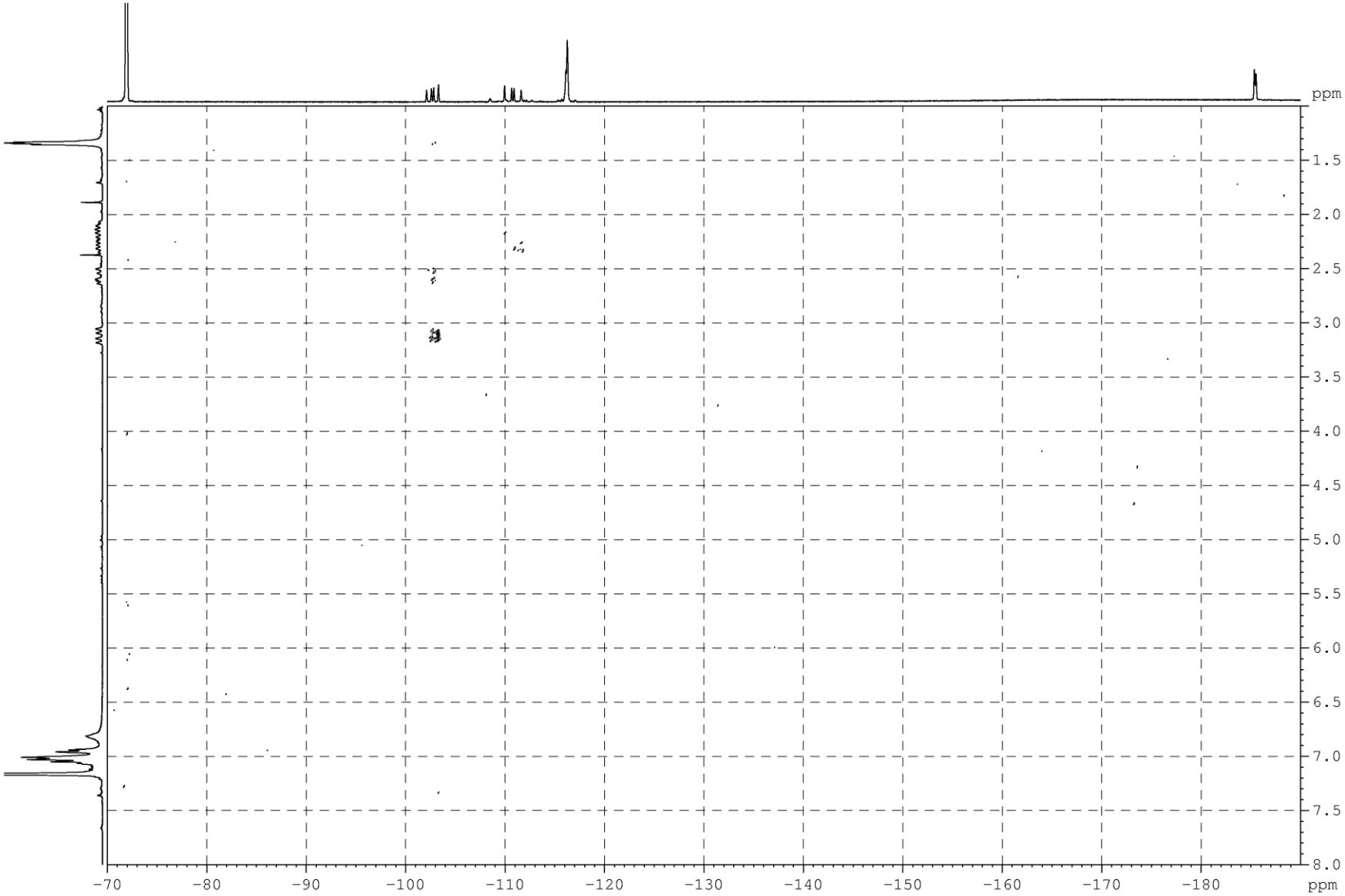

Figure S38. 2D ^{19}F-^{1}H HETCOR NMR spectra in C_6D_6 of **6** (T=303K).

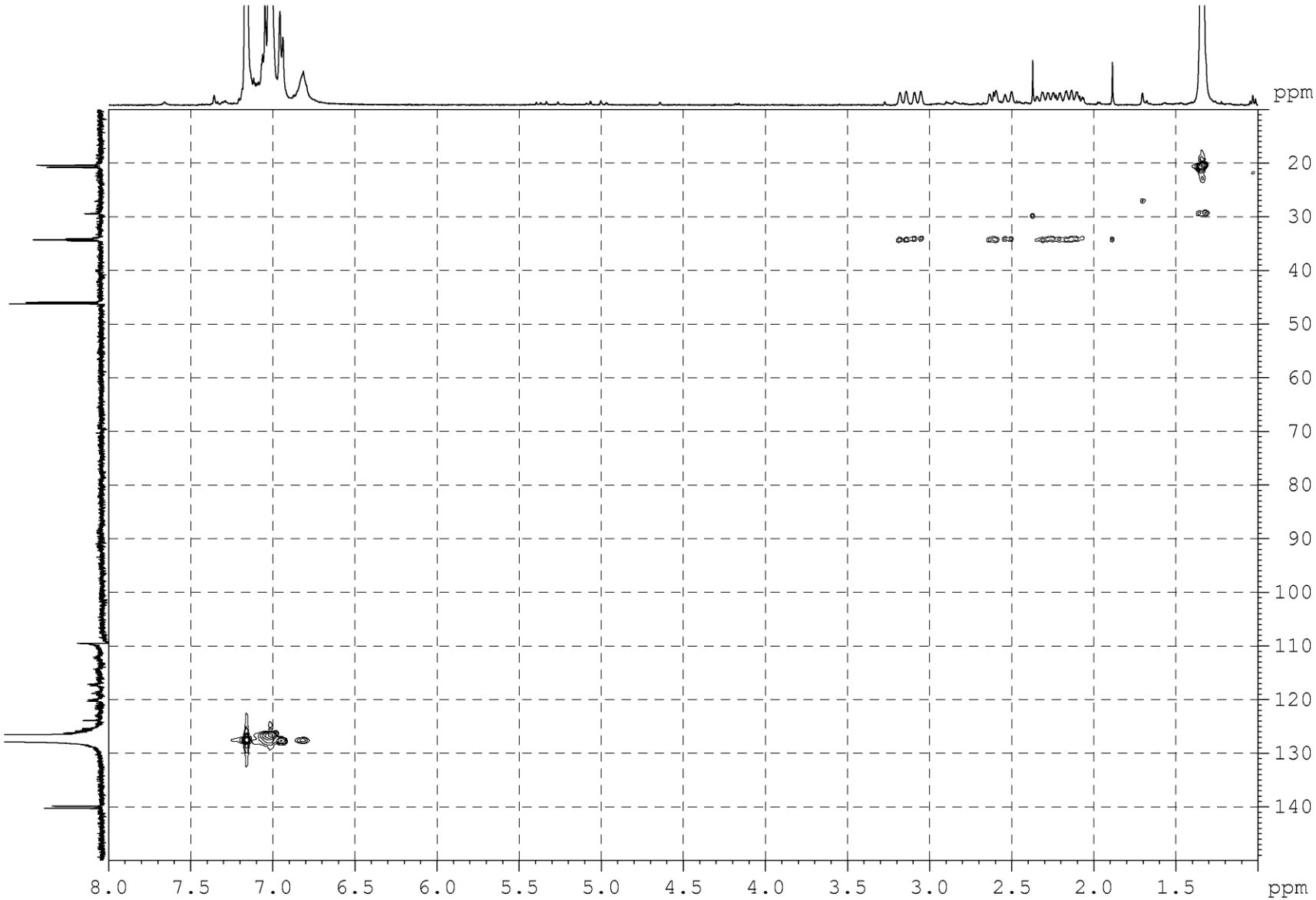

Figure S39. 2D ^{1}H-^{13}C HSQC NMR spectra in C_6D_6 of **6** (T=303K).

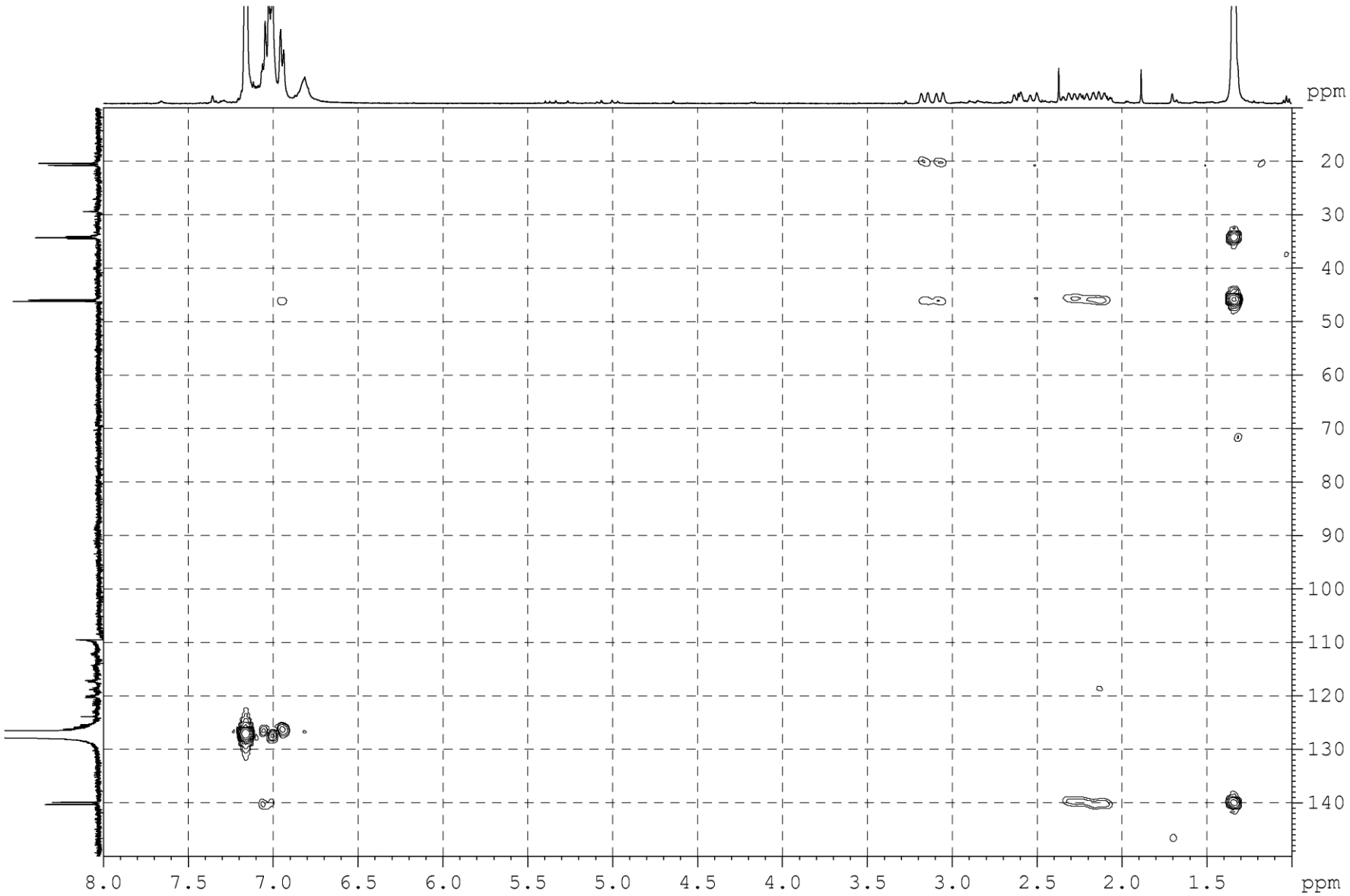

Figure S40. 2D ^{1}H-^{13}C HMBC NMR spectra in C_6D_6 of **6** (T=303K).

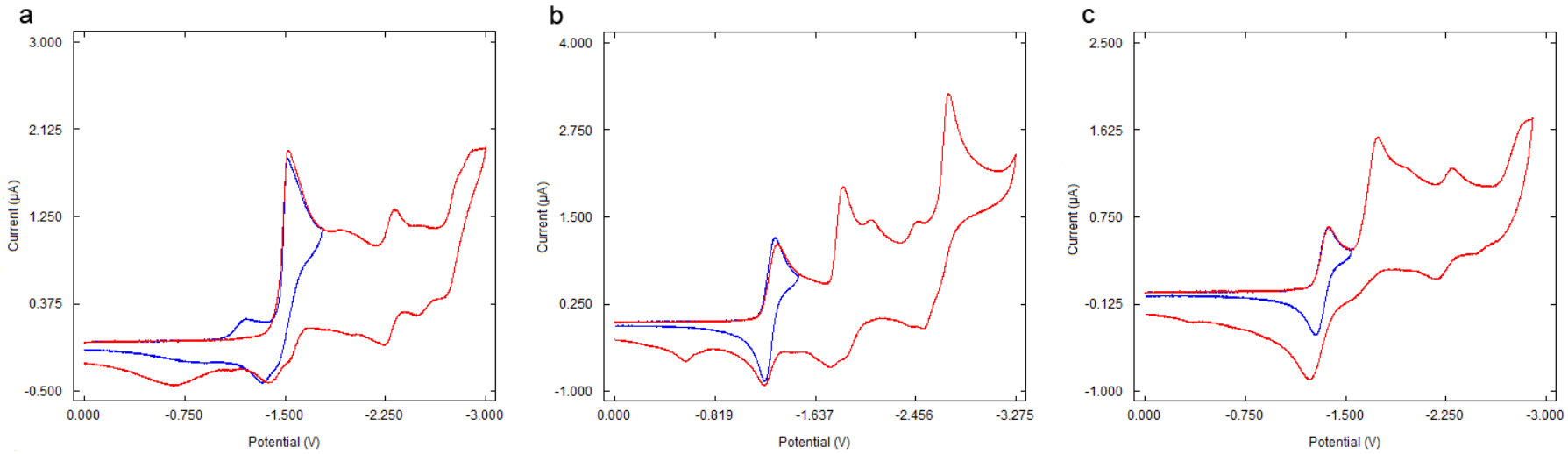

Figure S41. Cyclic voltammograms of (**a**) (bpy)$NiBr_2$, (**b**) (tpy)$NiBr_2$, (**c**) (pybox)$NiBr_2$. (0.01 mol dm^{-3} in DMF, supporting electrolyte - Bu_4NBF_4 0.1 mol dm^{-3} in DMF, working electrode – glassy carbon, reference electrode - Ag/$AgNO_3$, auxiliary electrode – Pt rod, scan rate 100 mV*s^{-1})

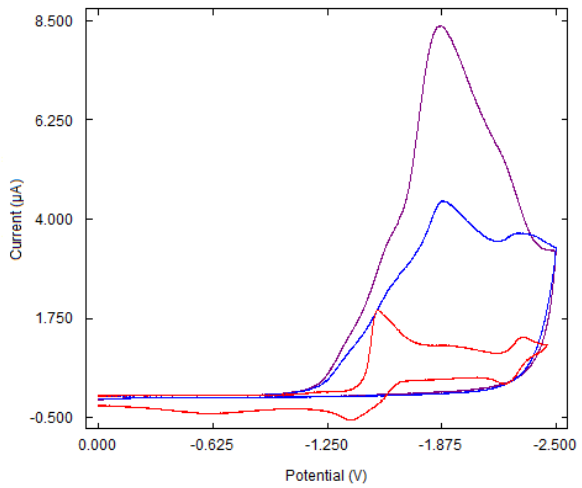

Figure S42. Cyclic voltammograms of (bpy)$NiBr_2$ (0.01 mol dm^{-3}) in the presence of increasing amounts of $C_6F_{13}I$ (1:0 - red, 1:3 – blue, 1:6 - violet).