

“Push-Push and Push-Pull” Polystannanes

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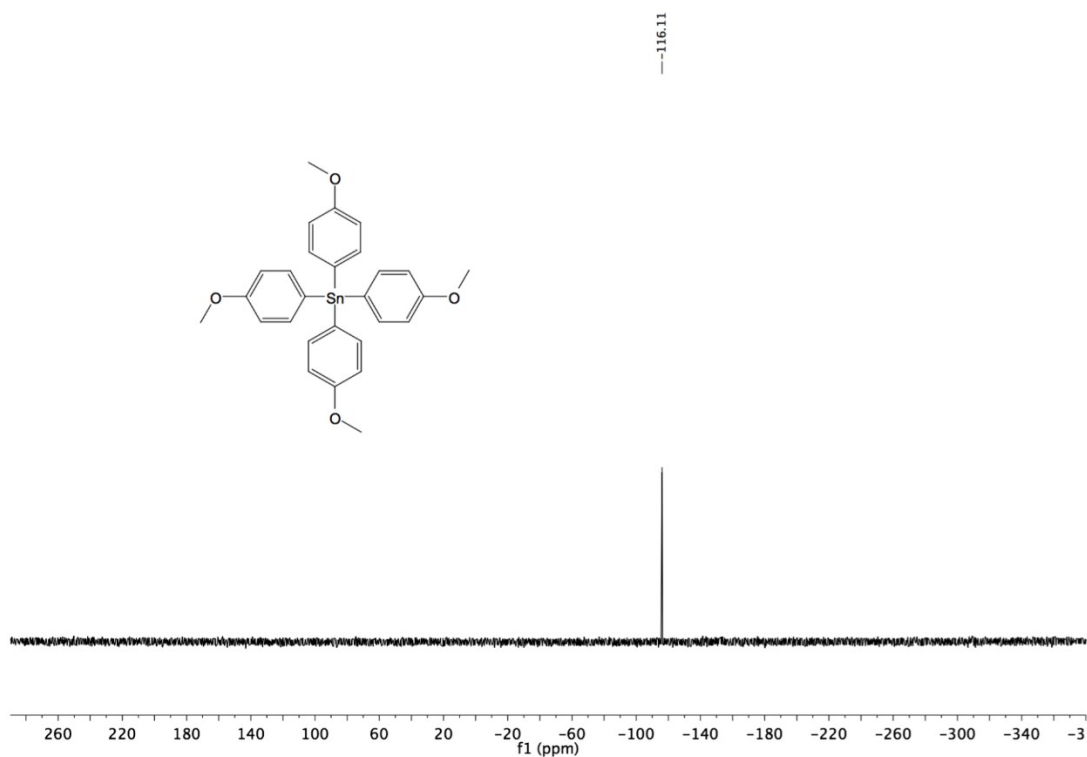


Figure A 1. ^{119}Sn NMR (CDCl₃) spectrum of **1**.

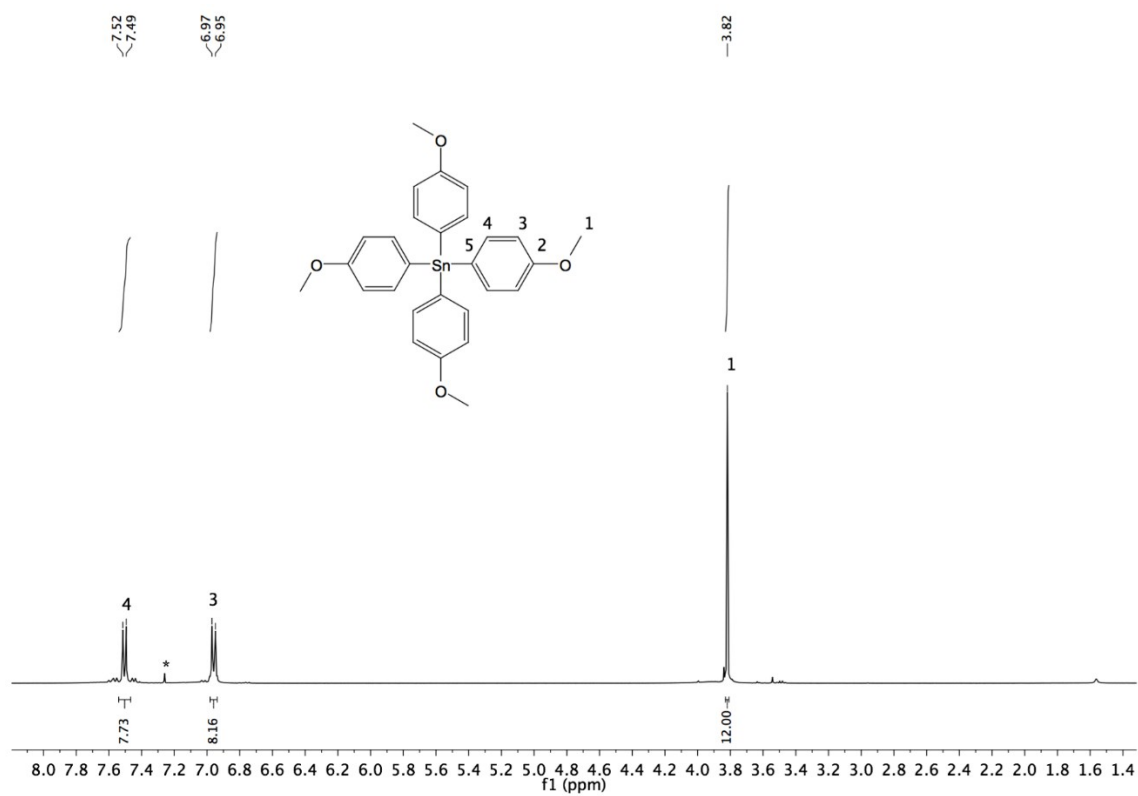


Figure A 2. ^1H NMR (CDCl₃^{*}) spectrum of compound **1**.

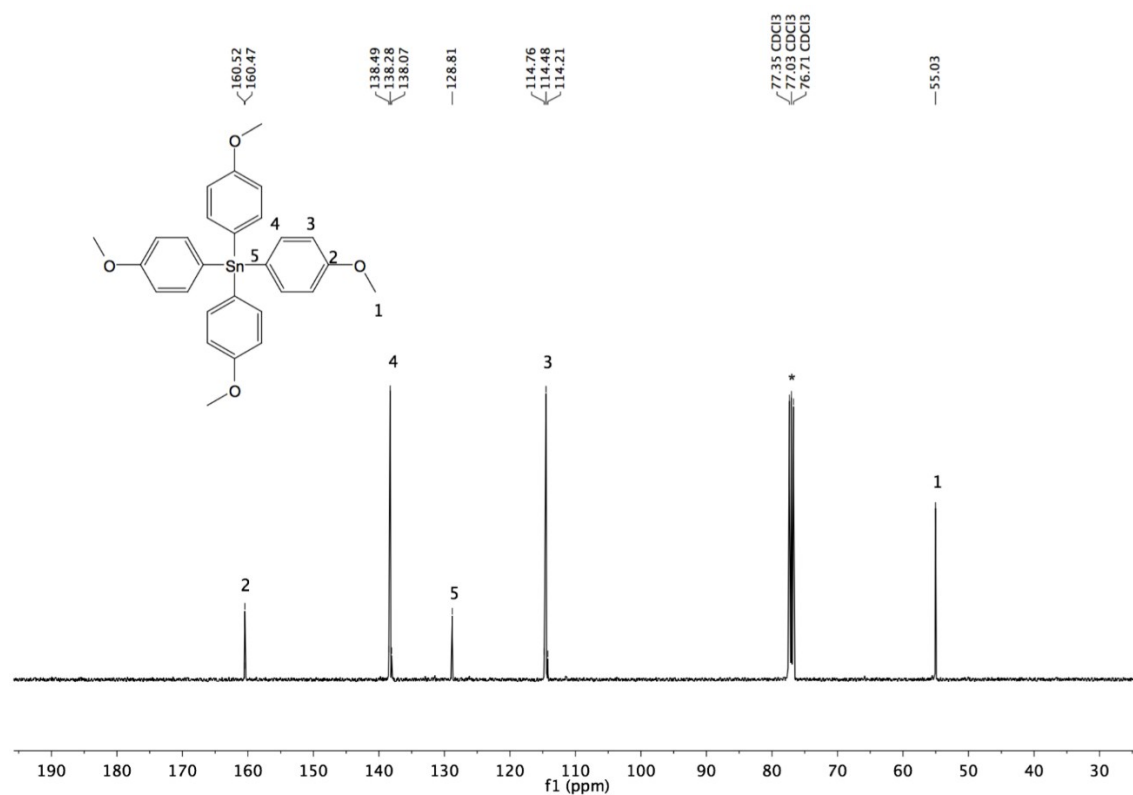


Figure A 3. ¹³C NMR (CDCl₃*) spectrum of compound 1.

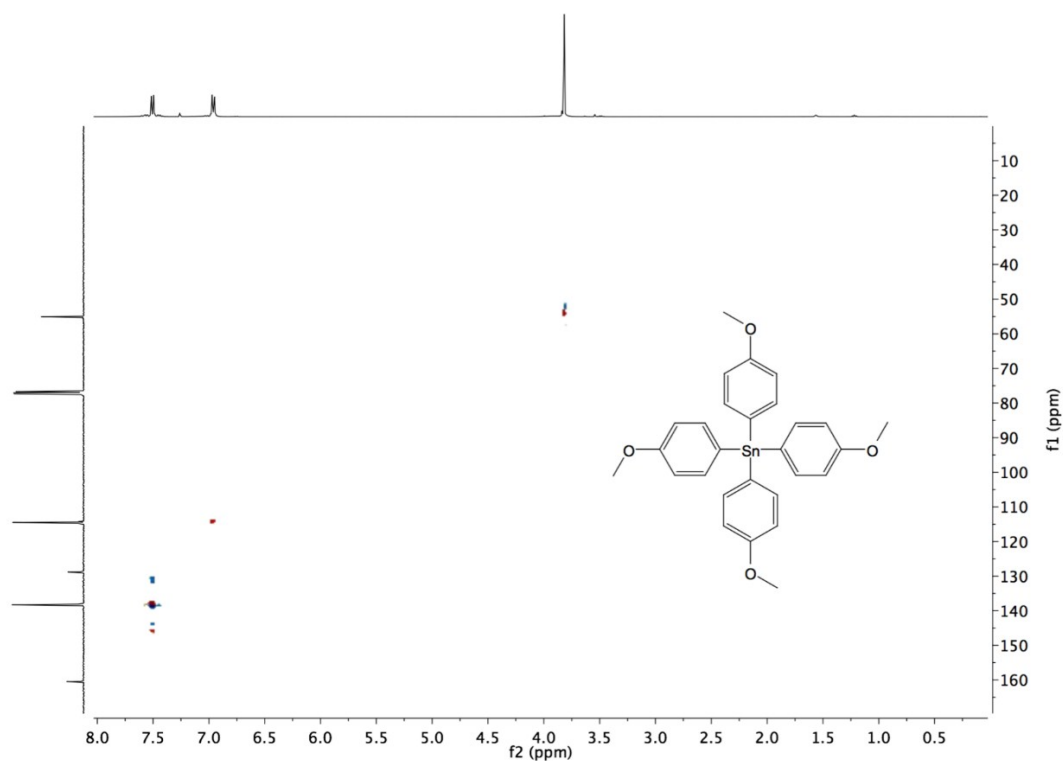


Figure A 4. HSQC (CDCl₃) spectrum of compound 1.

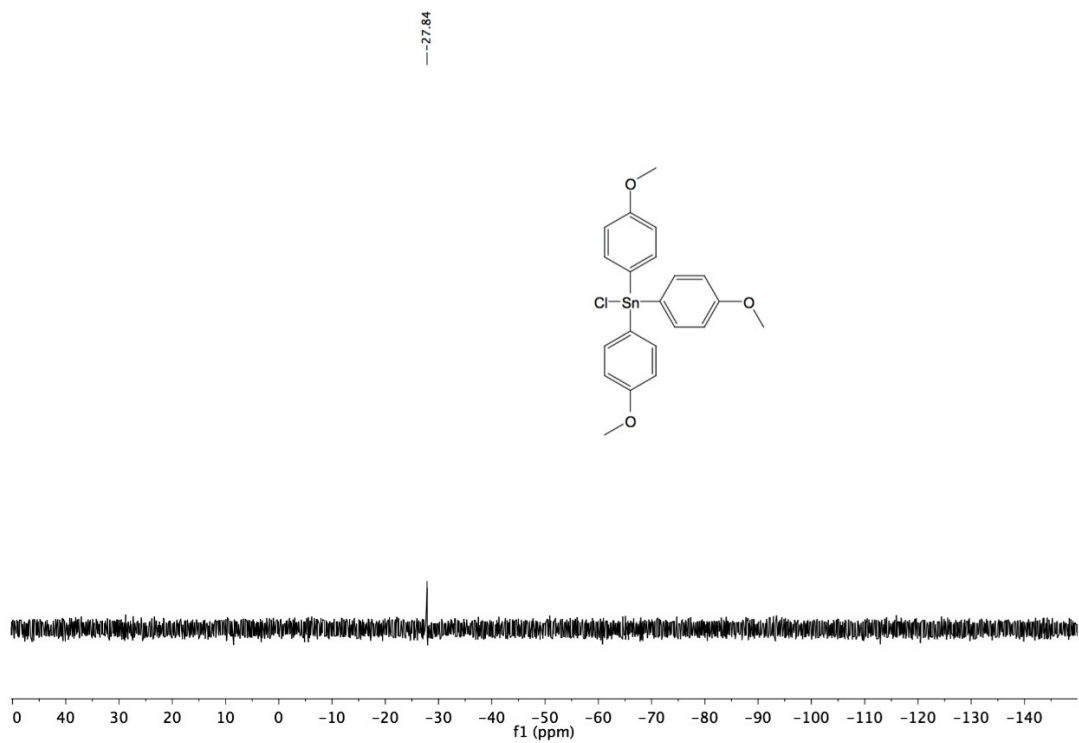


Figure A 5. ^{119}Sn NMR (CDCl₃) spectrum of compound 3.

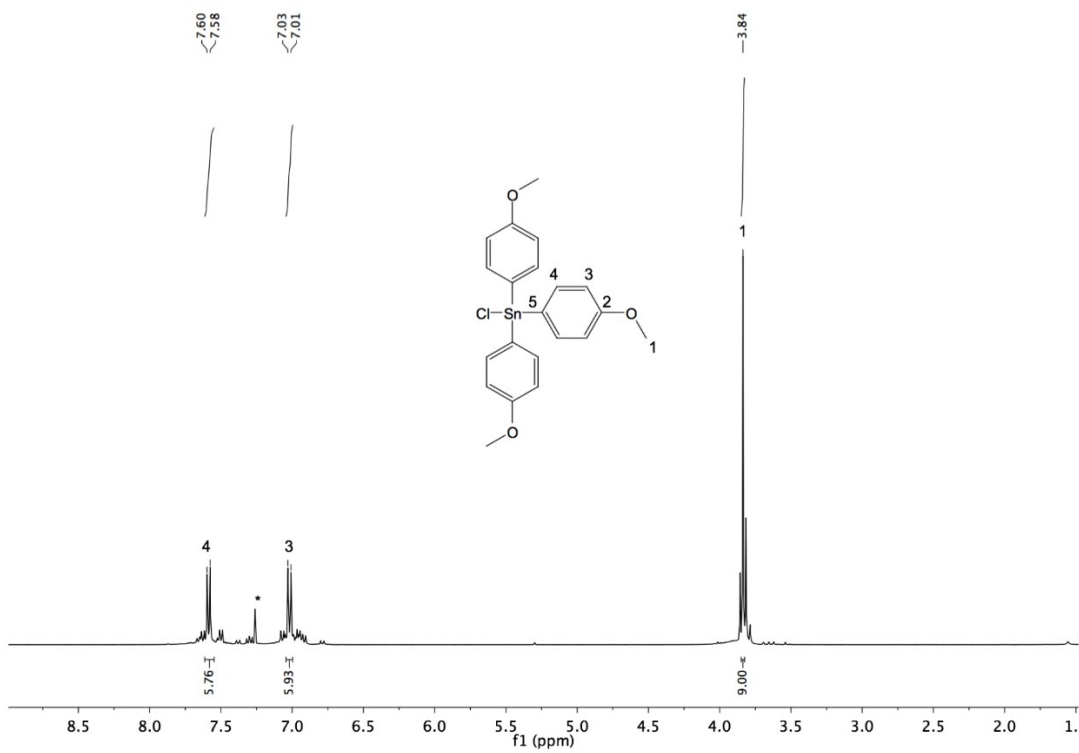


Figure A 6. ^1H NMR (CDCl₃^{*}) spectrum of compound 3.

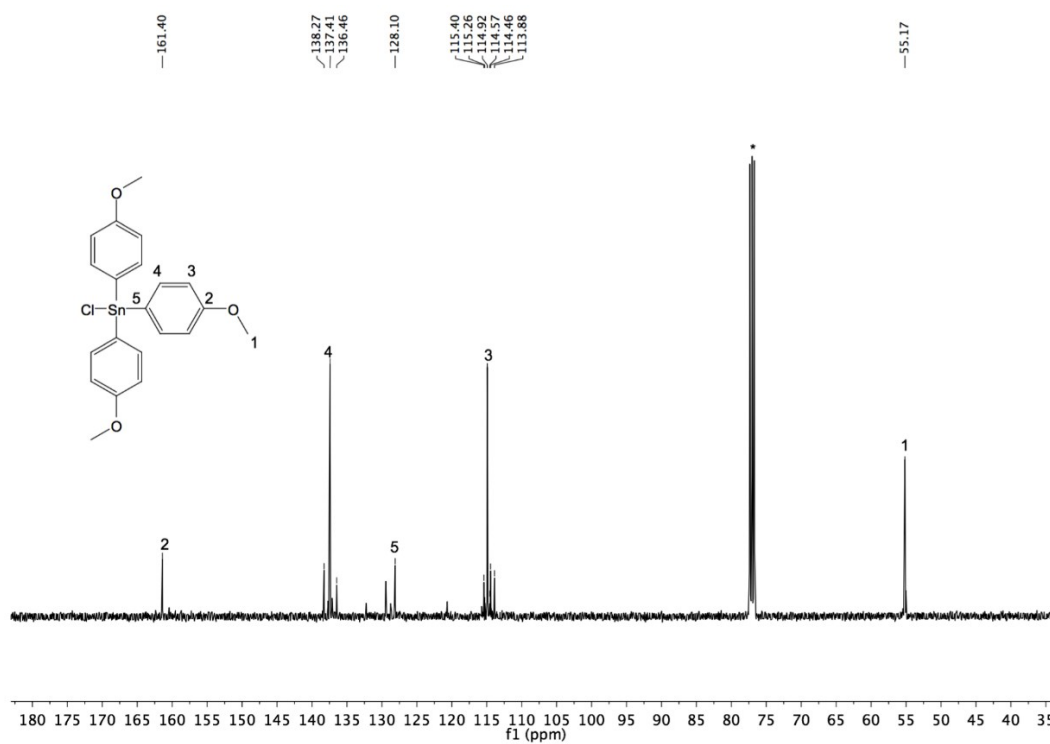


Figure A 7. ^{13}C NMR (CDCl₃*) spectrum of compound 3.

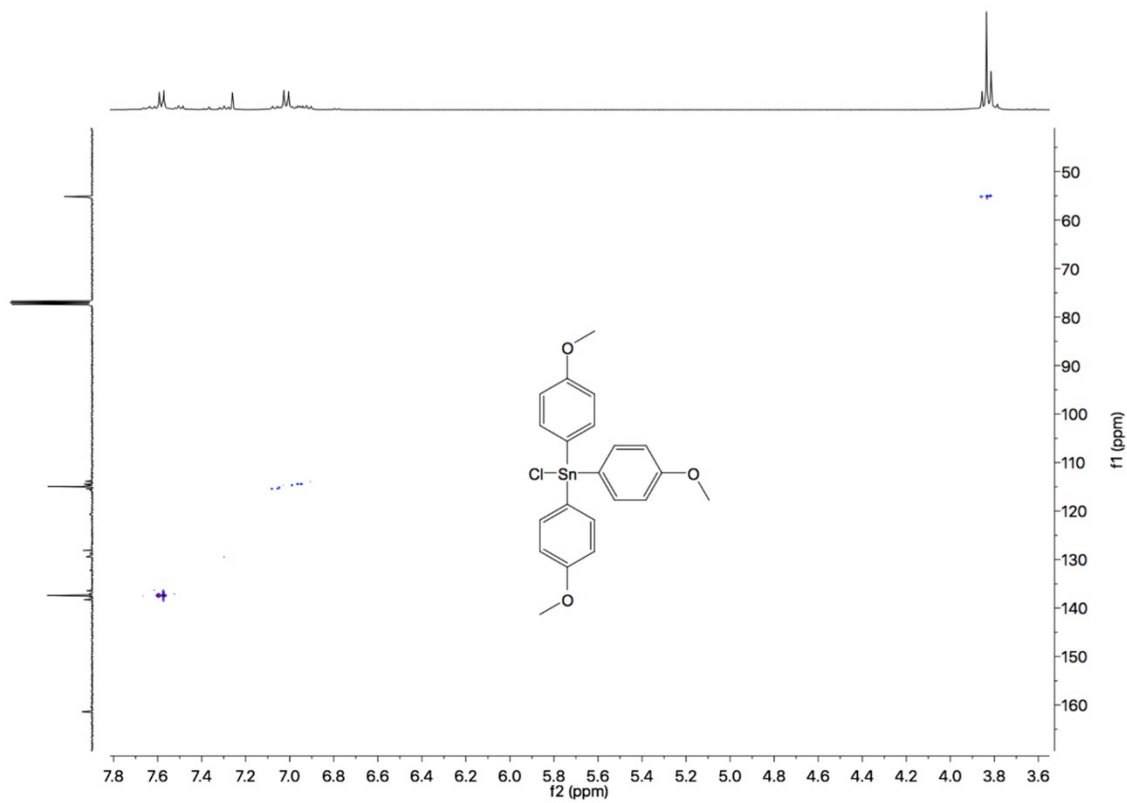


Figure A 8. HSQC (CDCl₃) spectrum of compound 3.

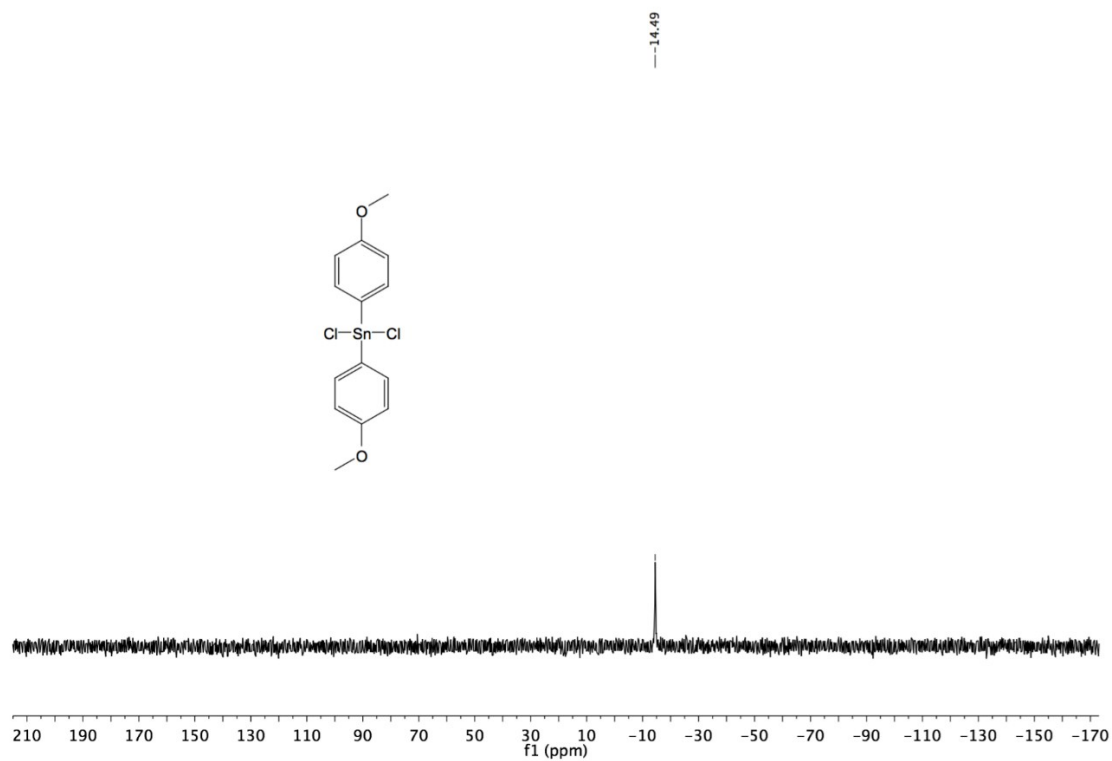


Figure A 9. ^{119}Sn NMR (CDCl₃) spectrum of compound 4.

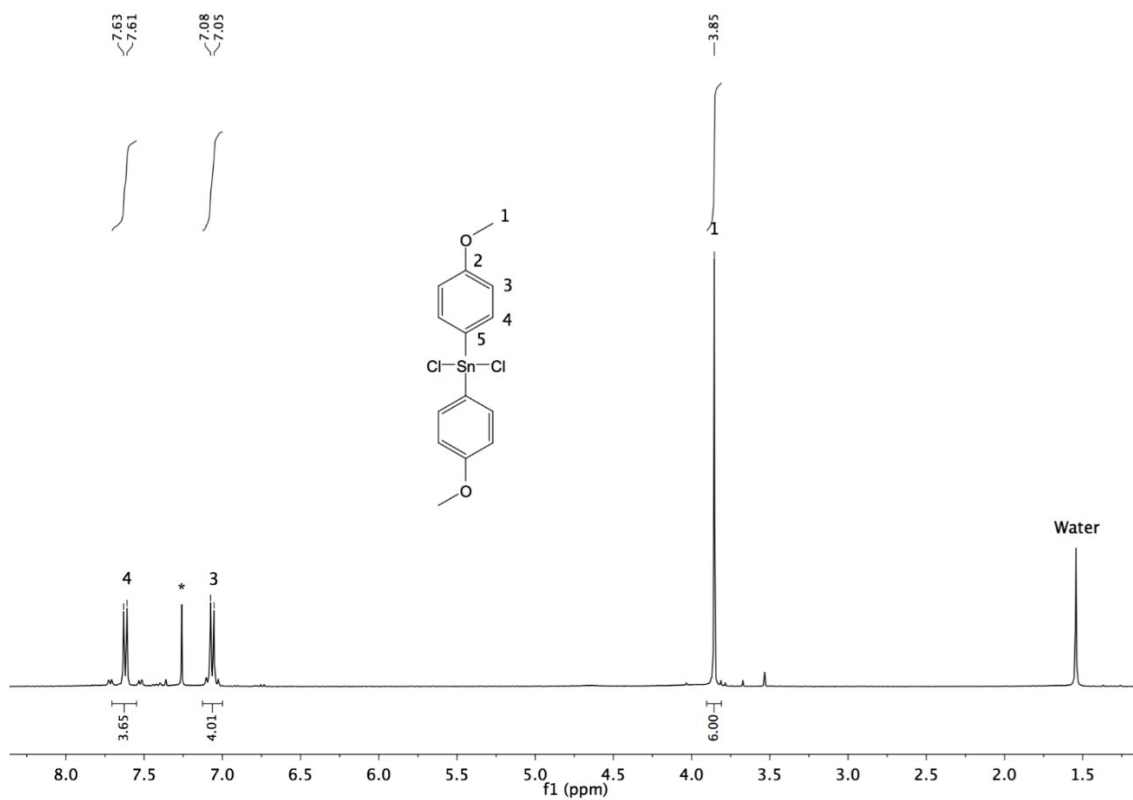


Figure A 10. ^1H NMR (CDCl₃^{*}) spectrum of compound 4.

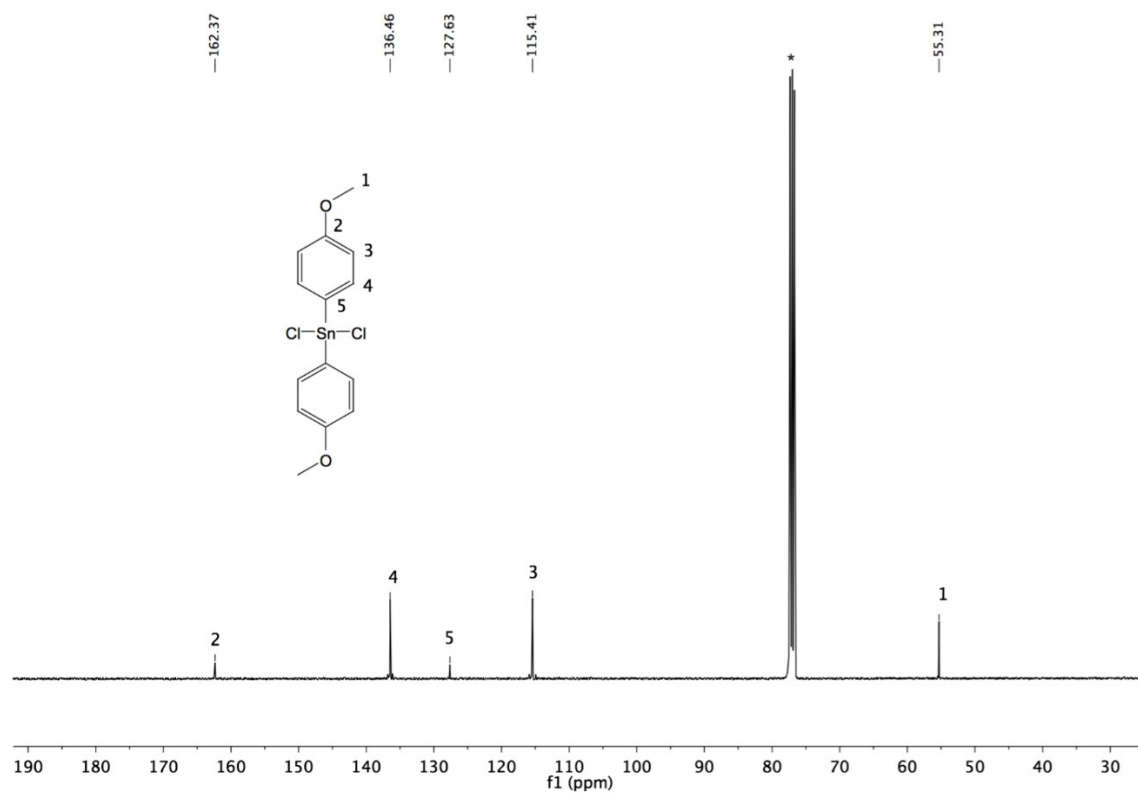


Figure A 11. ^{13}C NMR (CDCl_3) spectrum of compound 4.

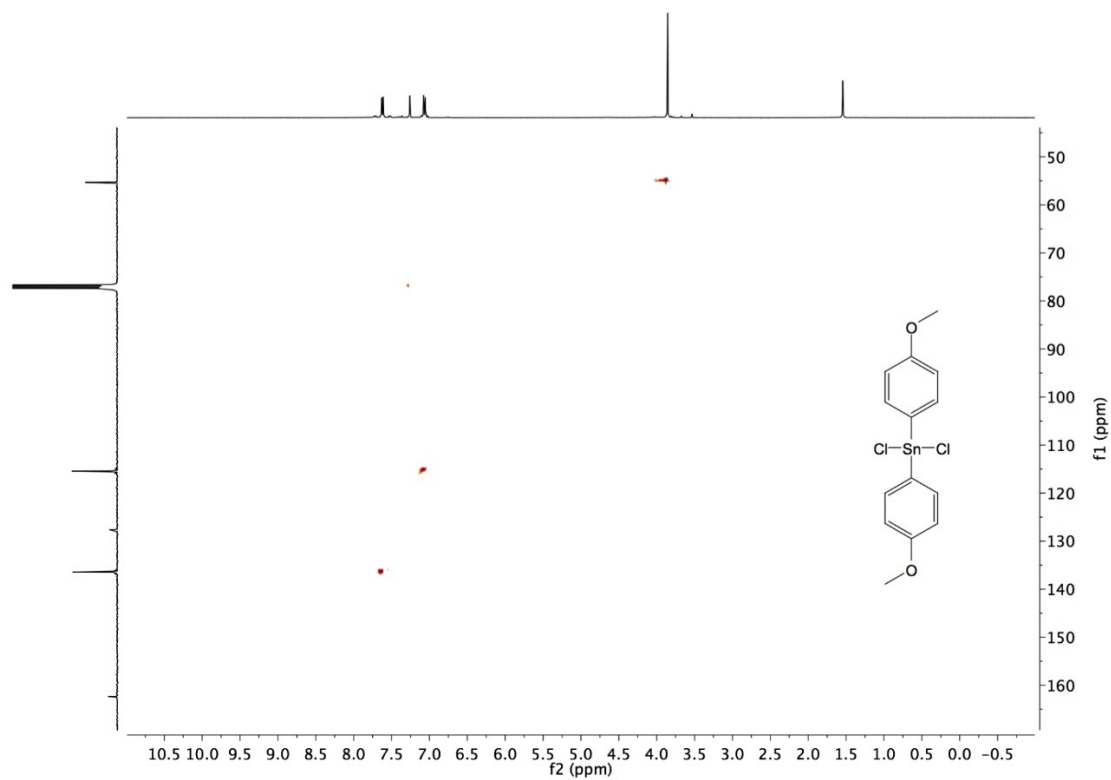


Figure A 12. HSQC (CDCl_3) spectrum of compound 4.

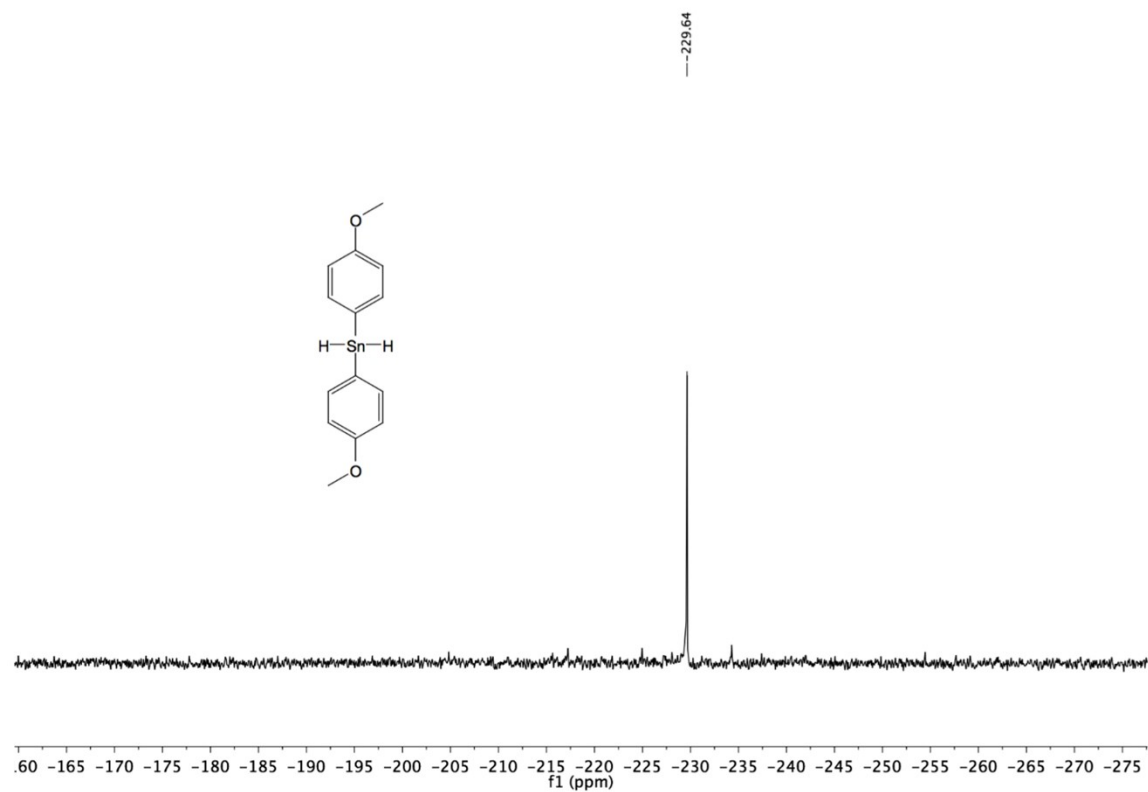


Figure A 13. ^{119}Sn NMR (C₆D₆) spectrum of compound 6.

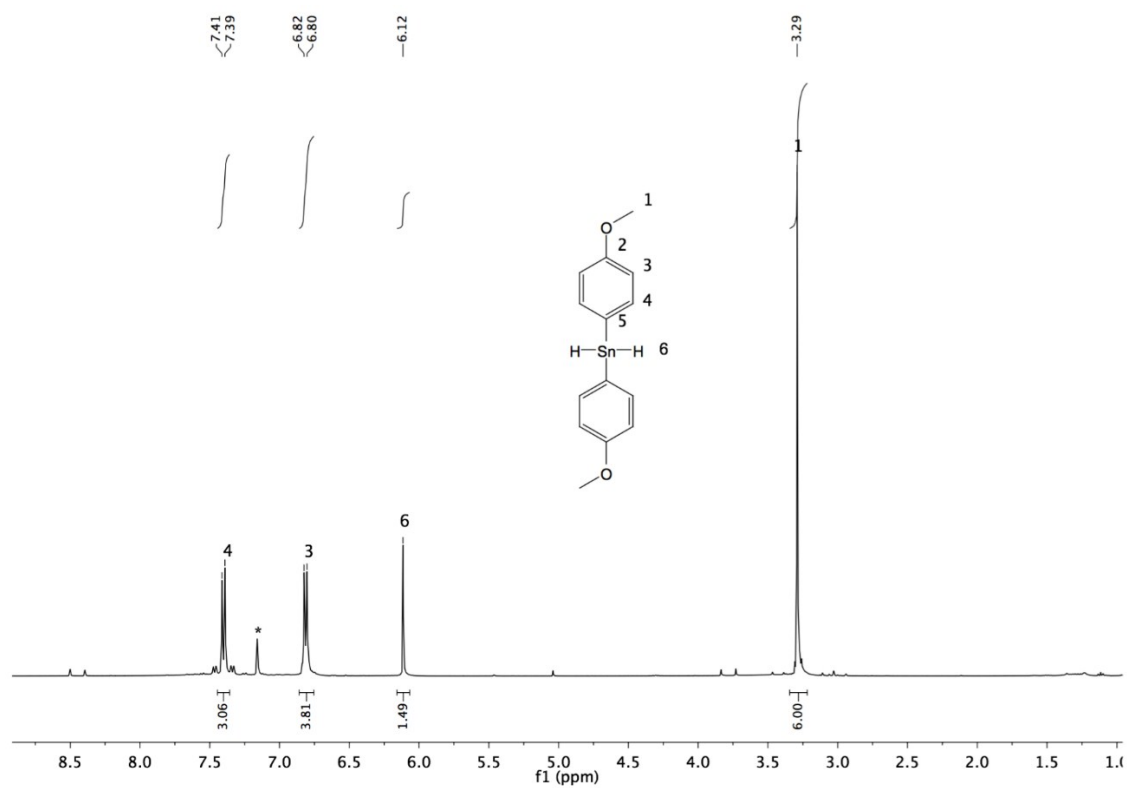


Figure A 14. ^1H NMR (C₆D₆^{*}) spectrum of compound 6.

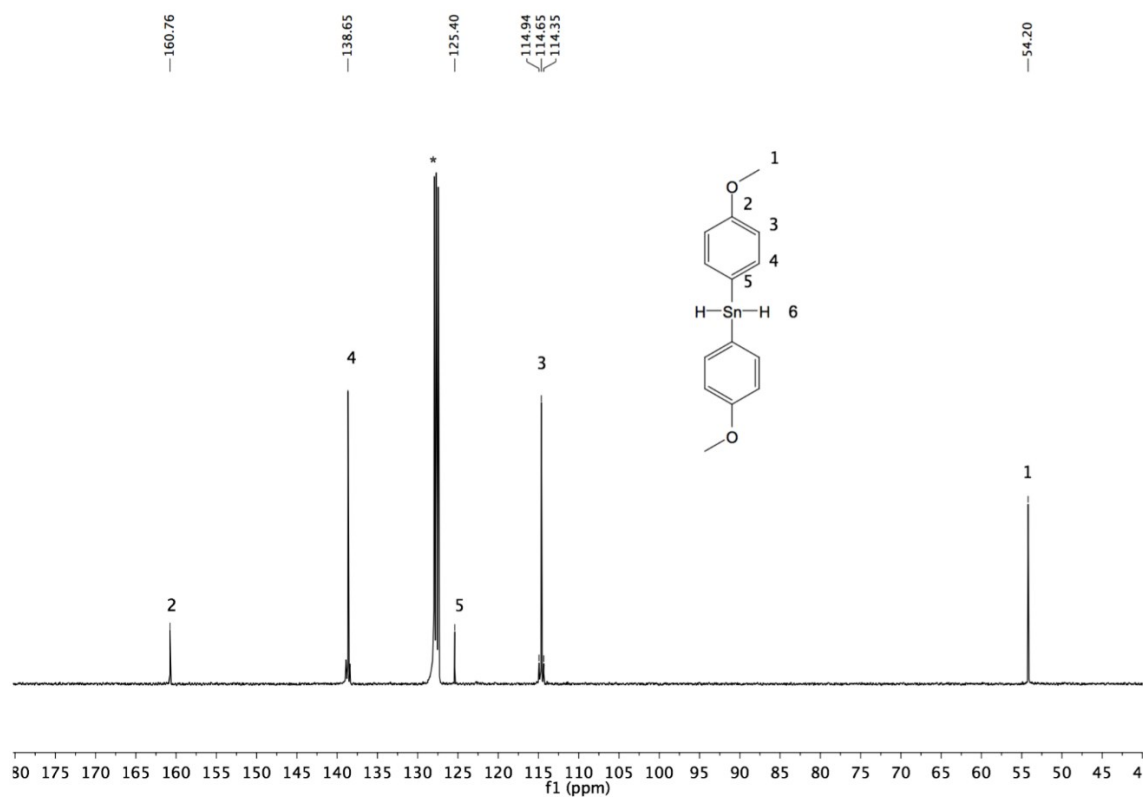


Figure A 15. ^{13}C NMR (C₆D₆) spectrum of compound 6.

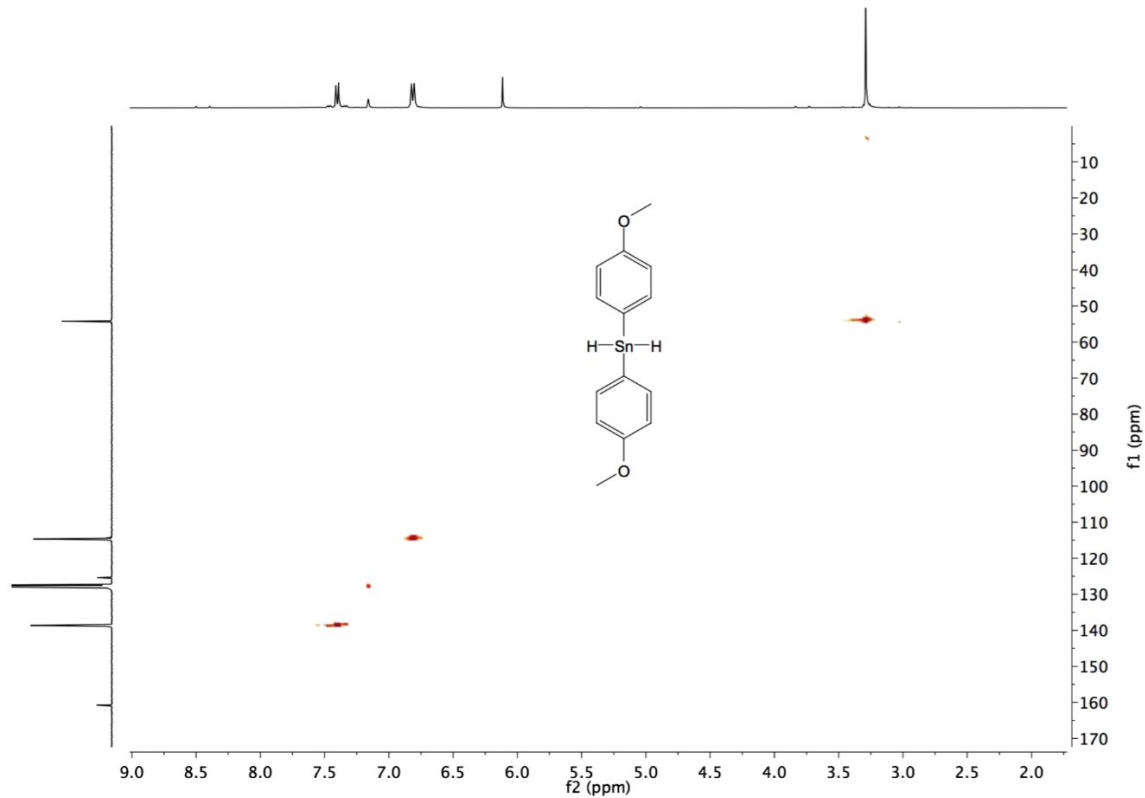


Figure A 16. HSQC (C₆D₆) spectrum of compound 6.

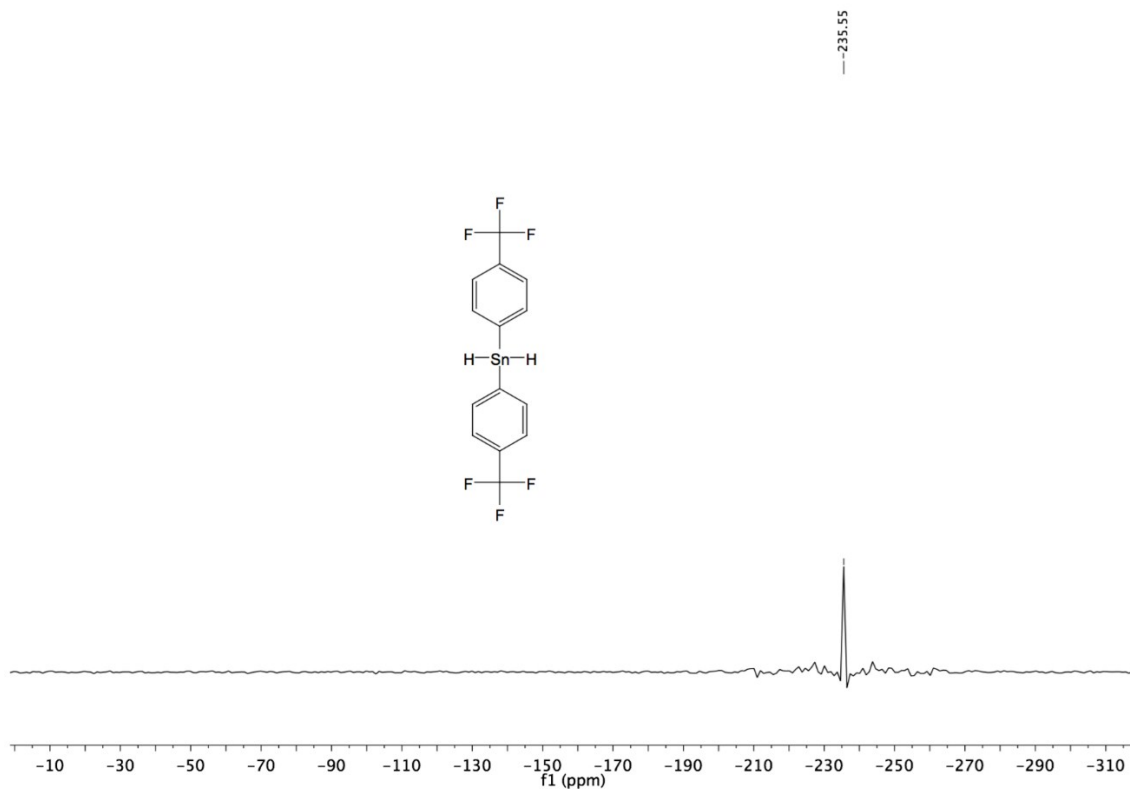


Figure A 17. ^{119}Sn NMR (C₆D₆) spectrum of compound 7.

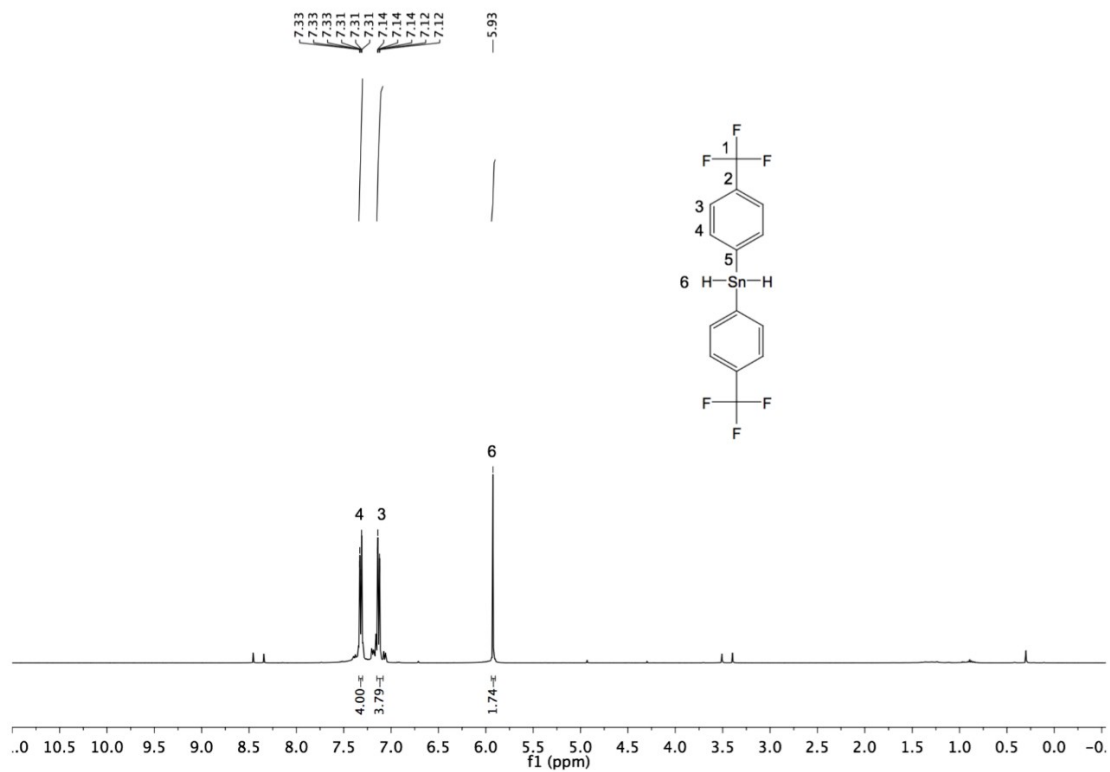


Figure A 18. ^1H NMR (C₆D₆) spectrum of compound 7.

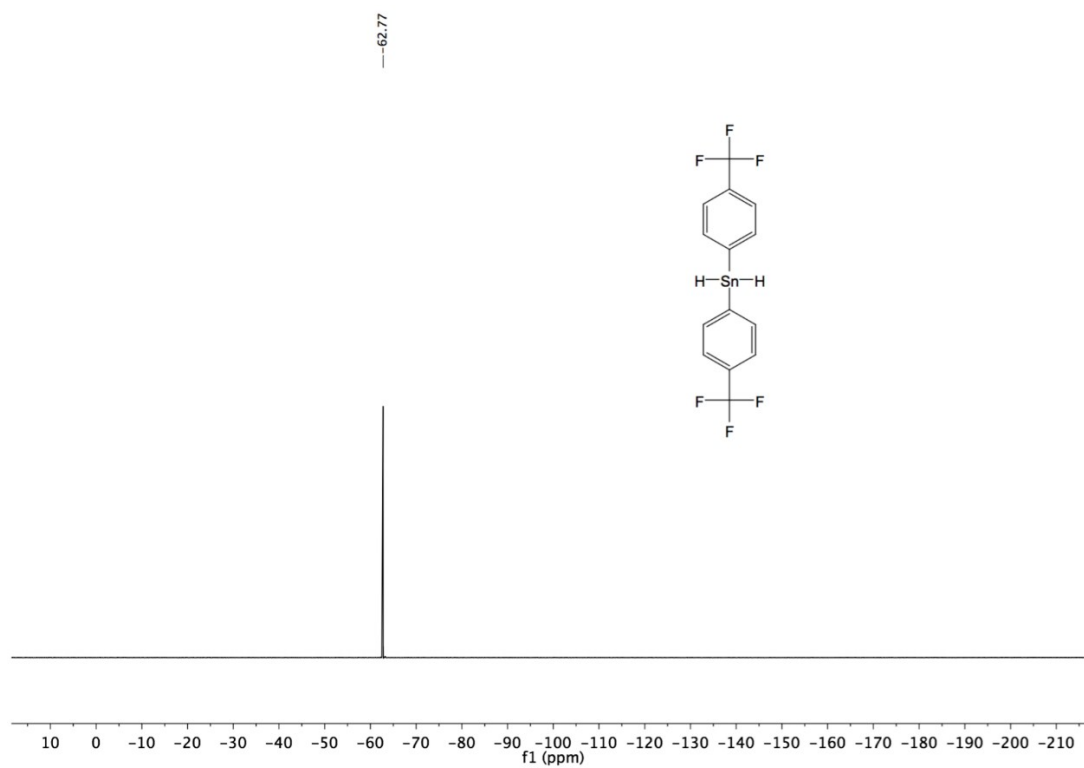


Figure A 19. ^{19}F NMR (C_6D_6) spectrum of compound 7.

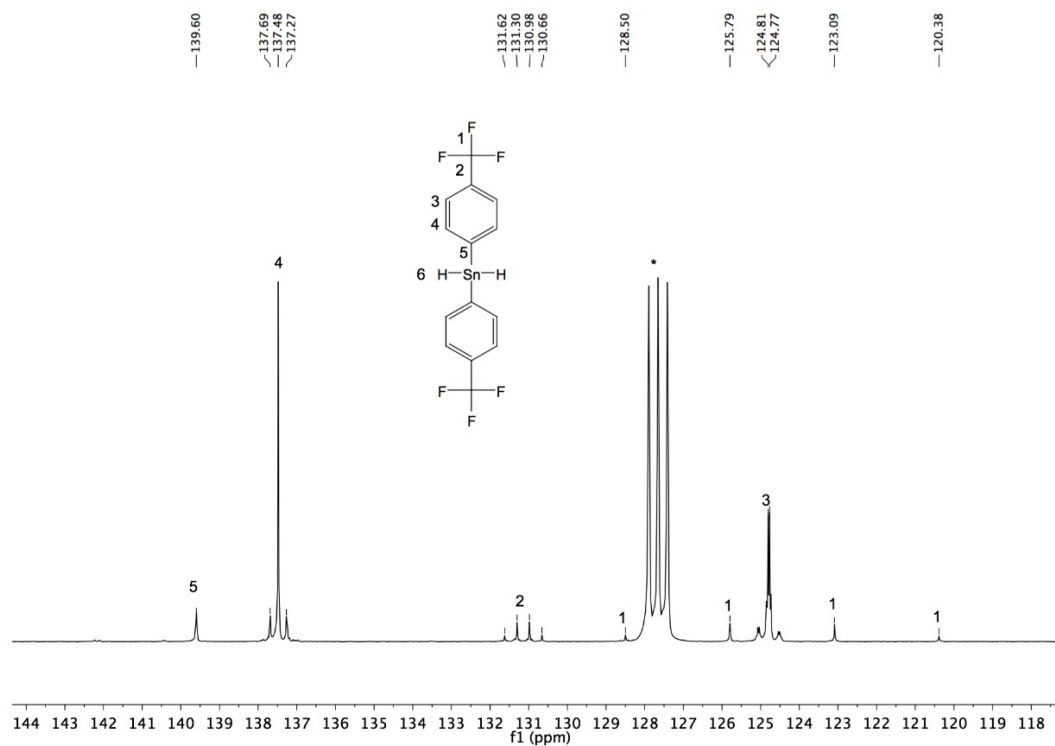


Figure A 20. ^{13}C NMR (C_6D_6^*) spectrum of compound 7.

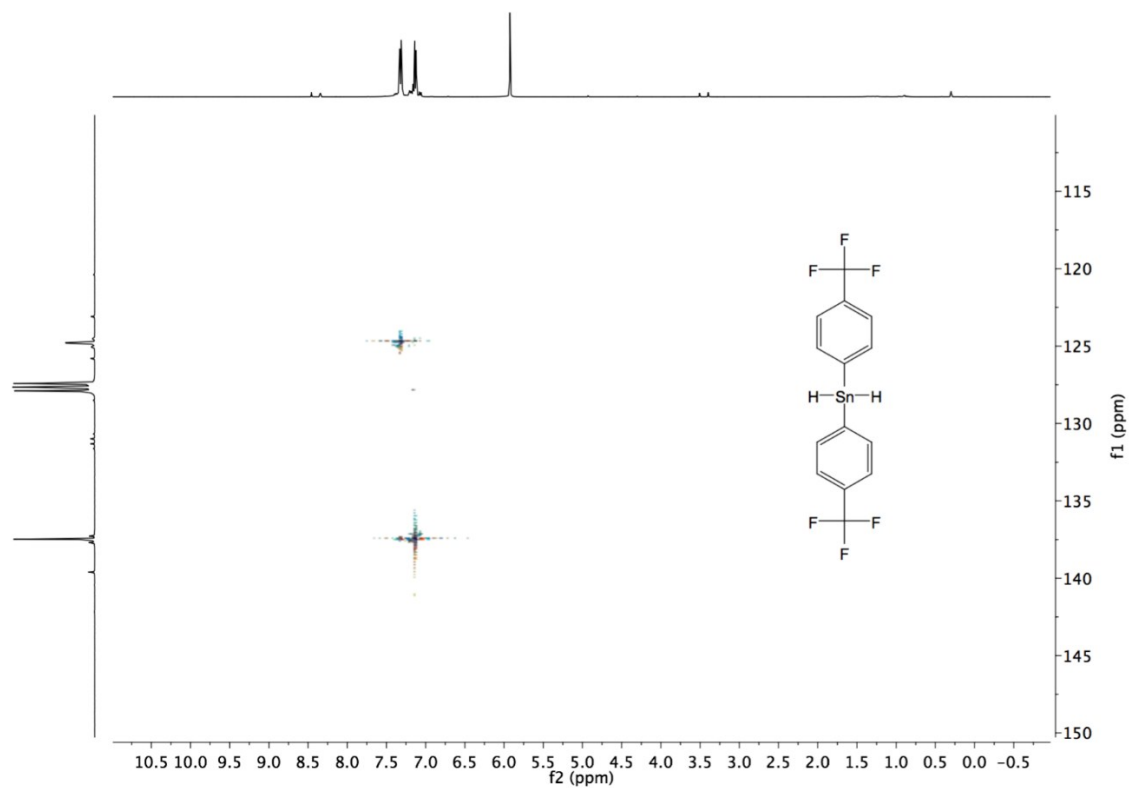


Figure A 21. HSQC (C_6D_6) spectrum of compound 7.

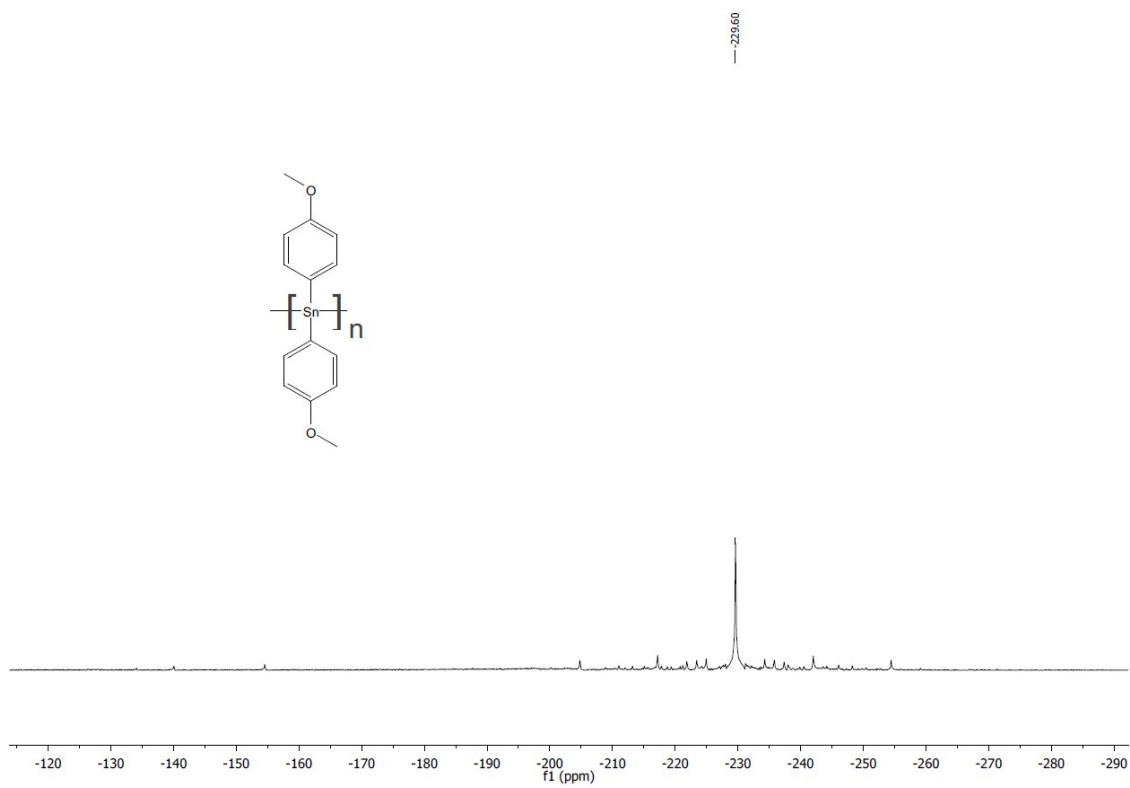


Figure A 22. ^{119}Sn NMR (C_6D_6) spectrum of compound 8.

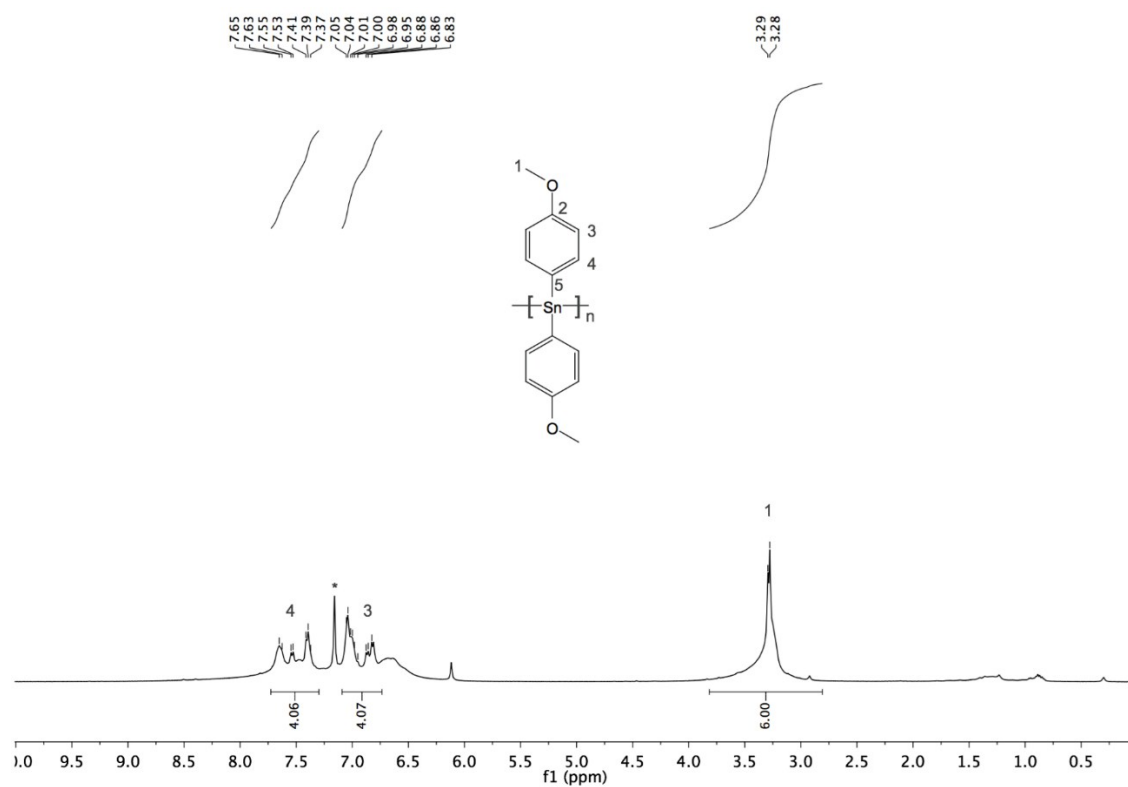


Figure A 23. ¹H NMR (C₆D₆*) spectrum of compound **8**.

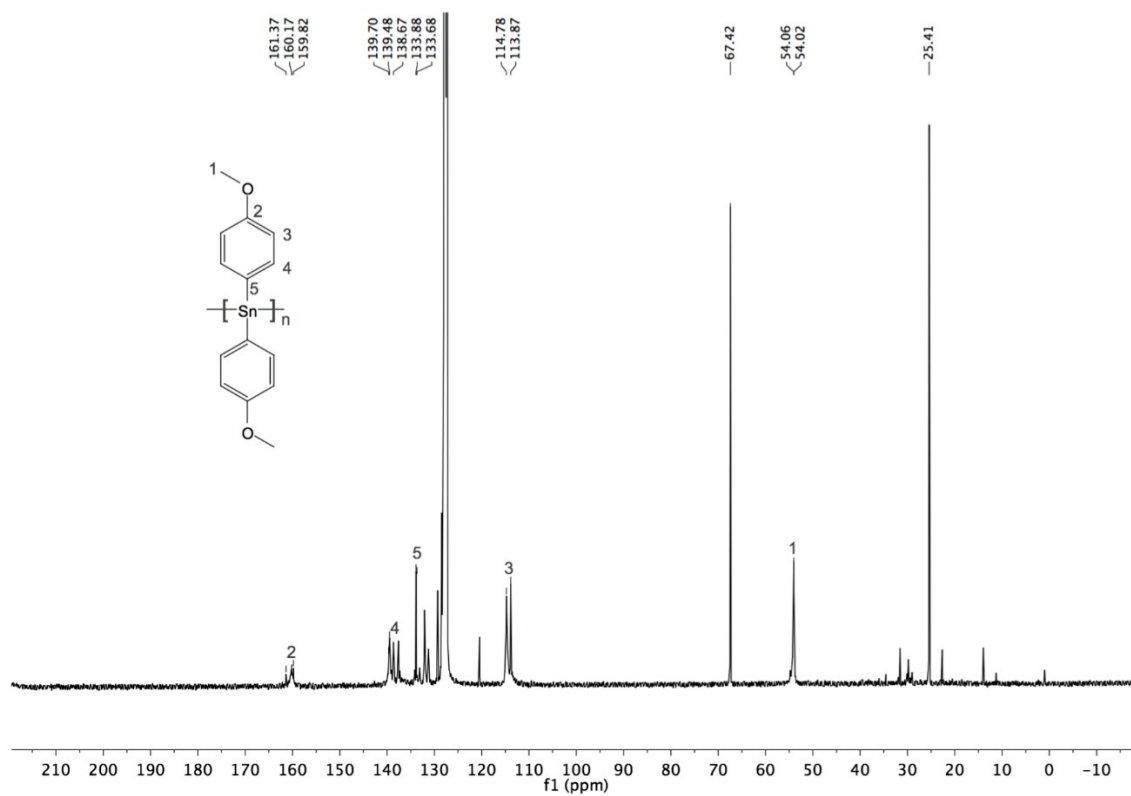


Figure A 24. ¹³C NMR (C₆D₆) spectrum of compound **8**.

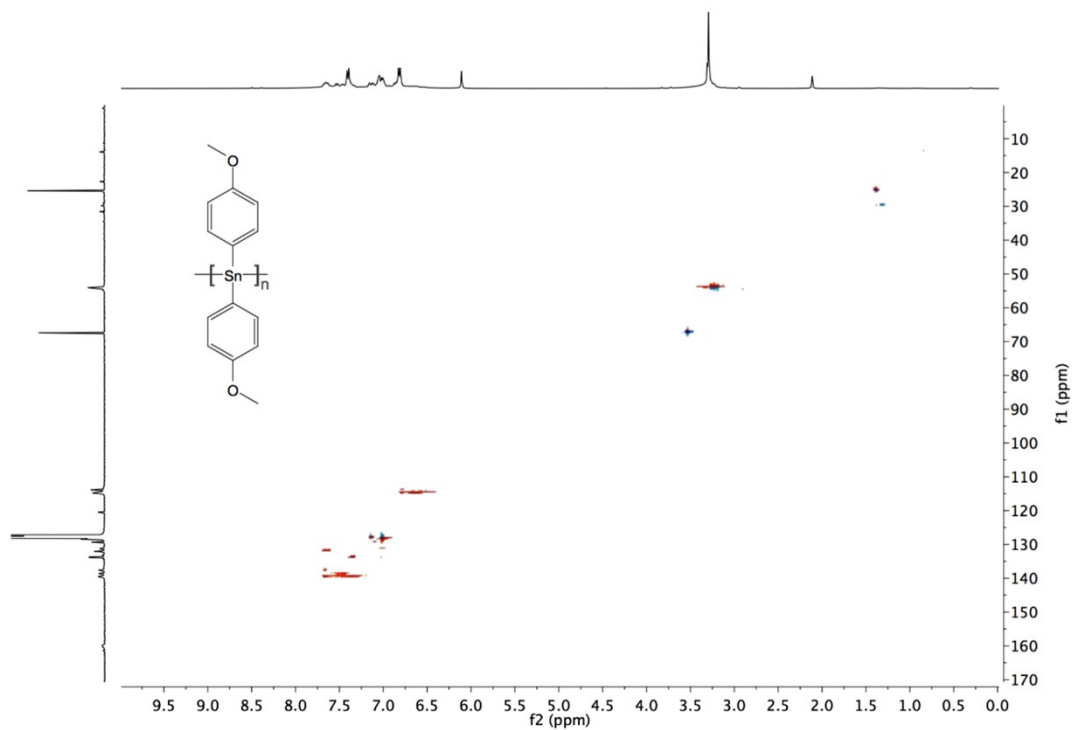


Figure A 25. HSQC (C_6D_6) spectrum of compound **8**.

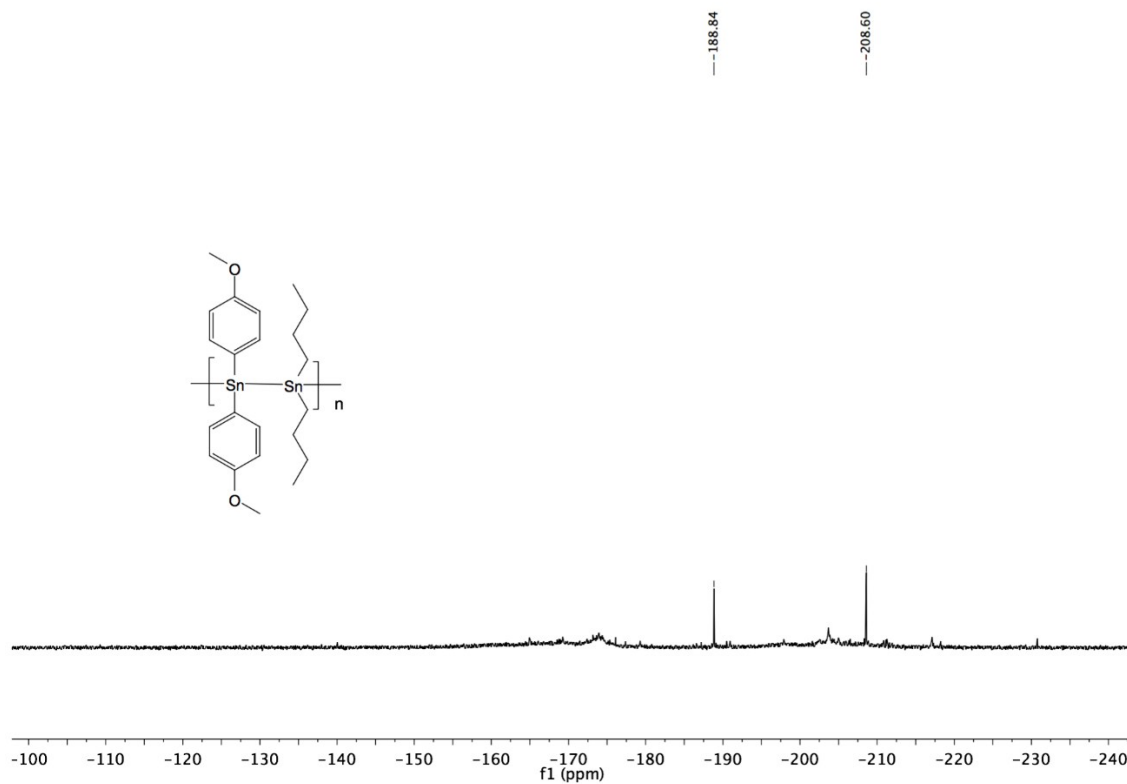


Figure A 26. ^{119}Sn NMR (C_6D_6) spectrum of crude compound **10**.

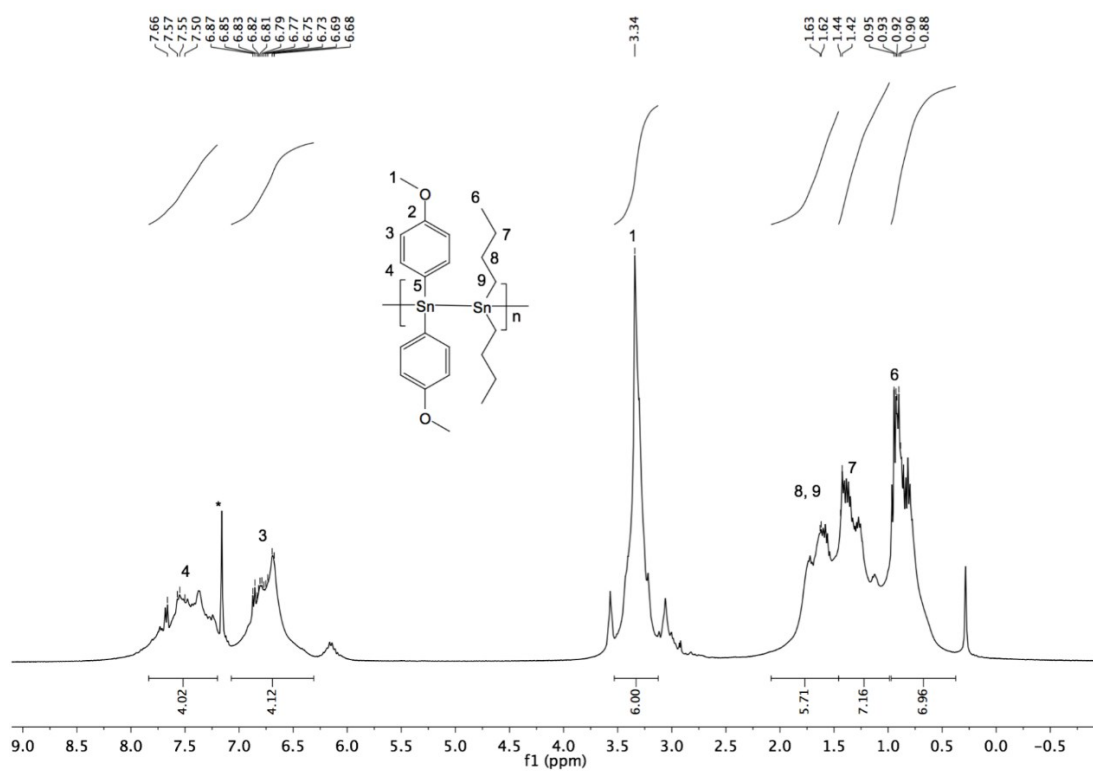


Figure A 27. ¹H NMR (C₆D₆^{*}) spectrum of compound 10.

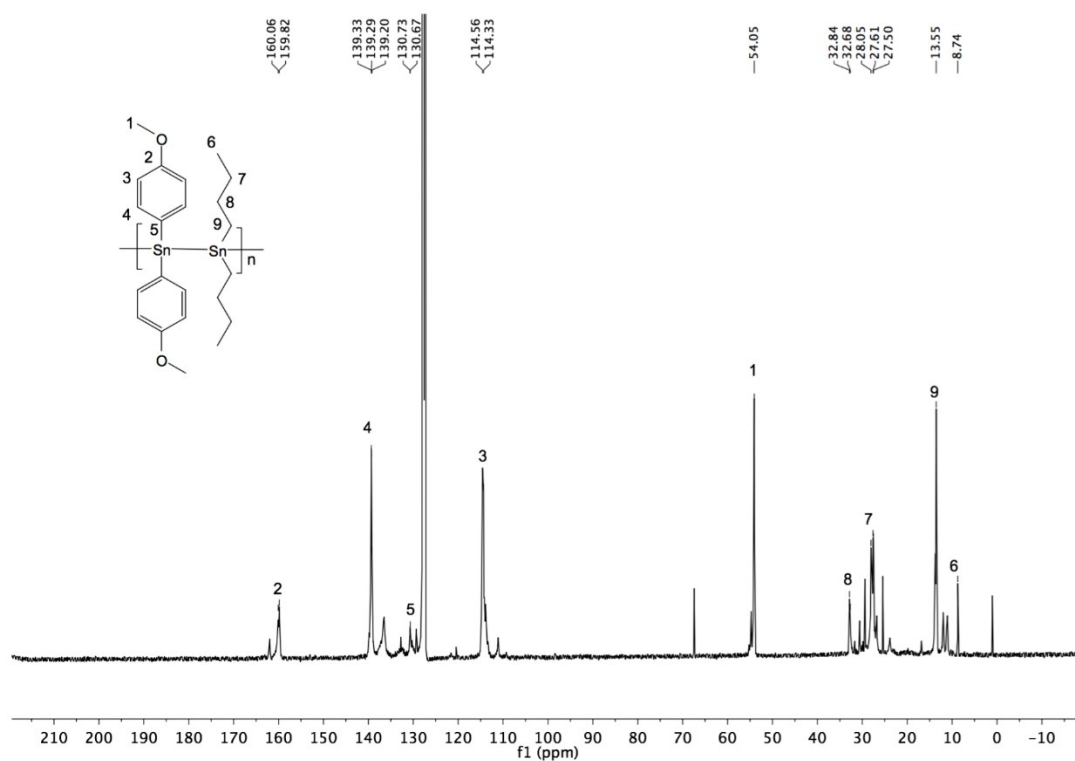


Figure A 28. ¹³C NMR (C₆D₆) spectrum of compound 10.

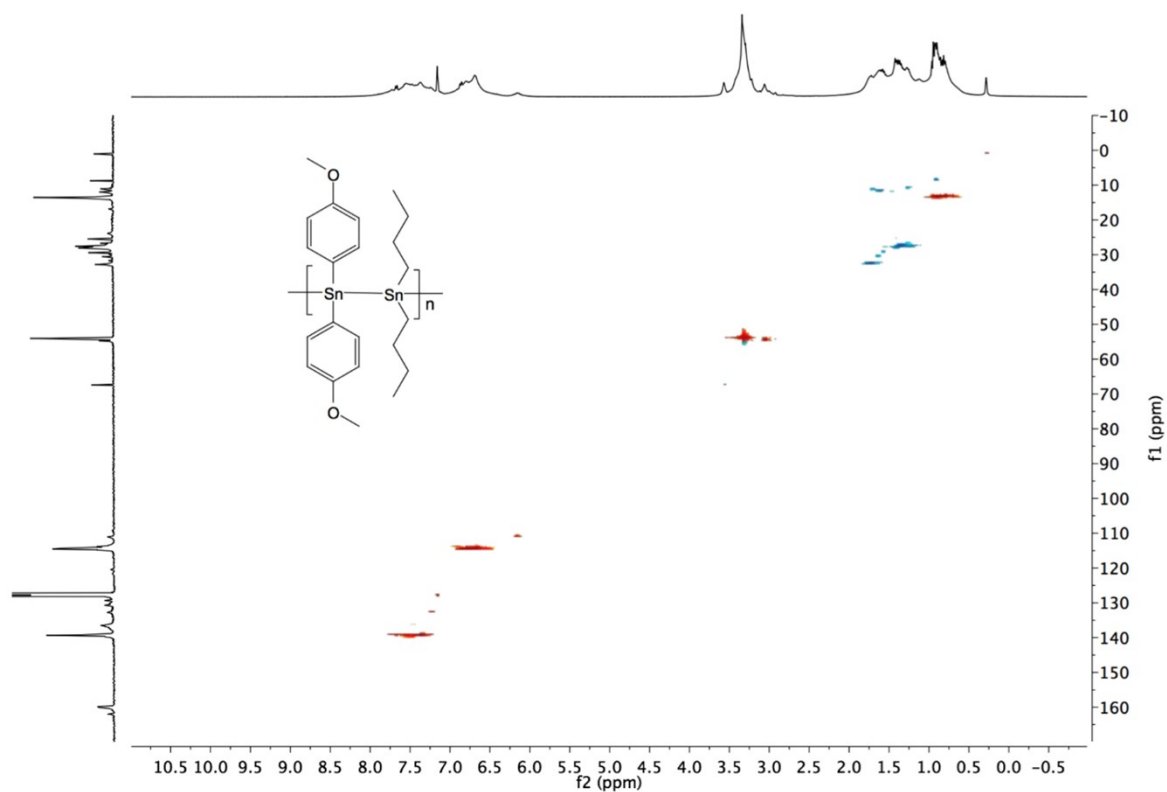


Figure A 29. HSQC (C_6D_6) spectrum of compound **10**.

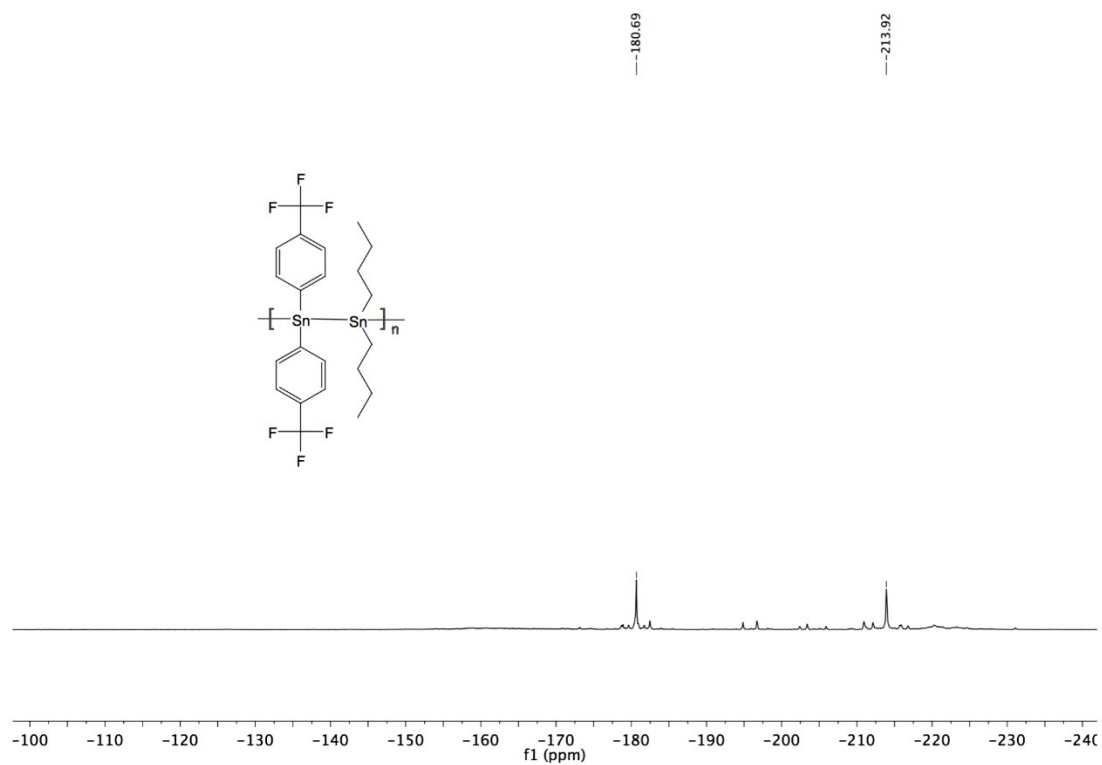


Figure A 30. ^{119}Sn NMR (C_6D_6) spectrum of compound **11**.

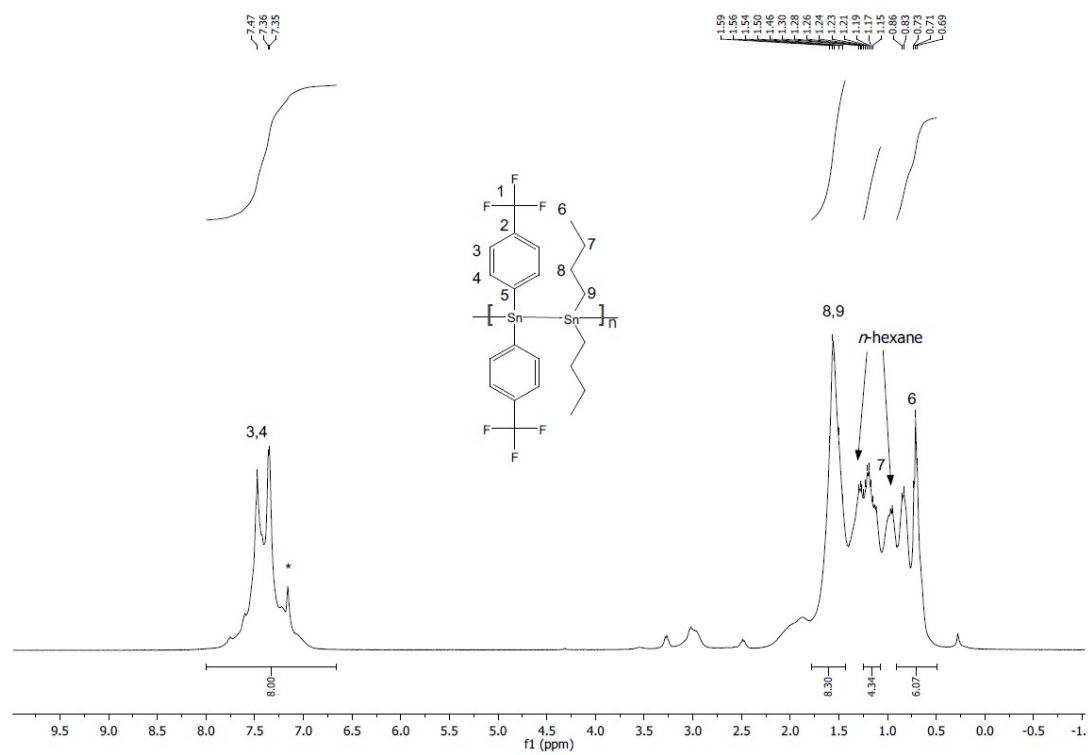


Figure A 31. ¹H NMR (C₆D₆^{*}) spectrum of compound 11.

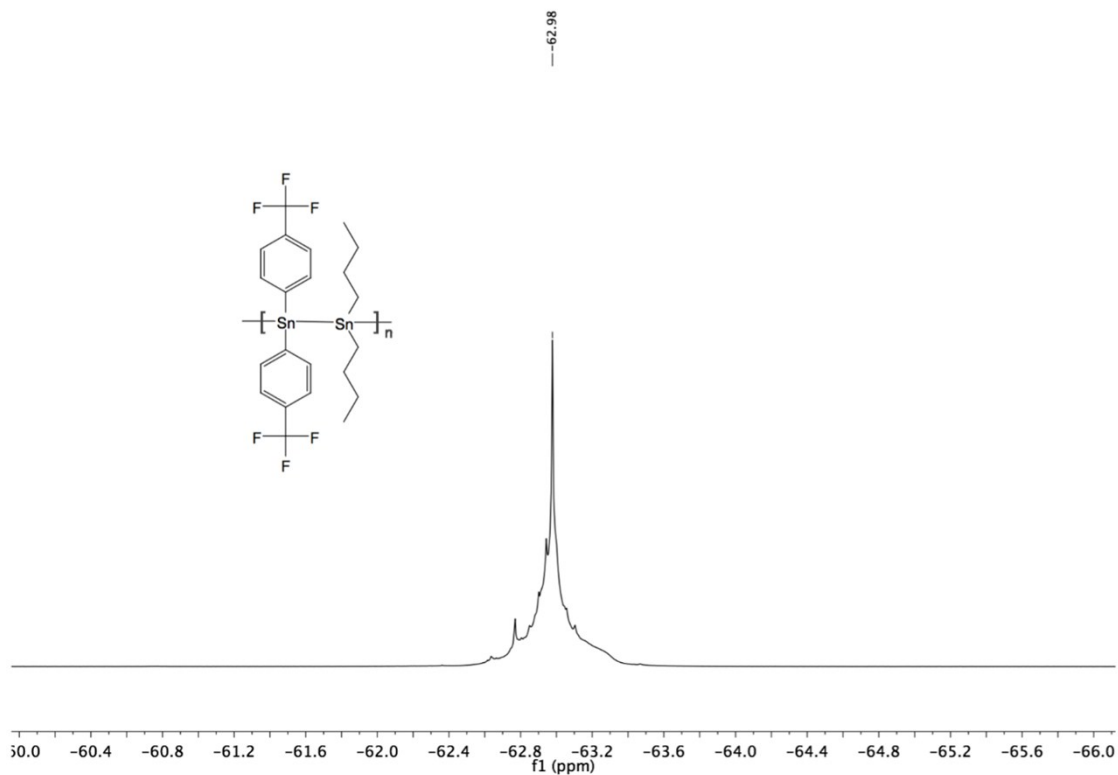


Figure A 32. ¹⁹F NMR (C₆D₆) spectrum of compound 11.

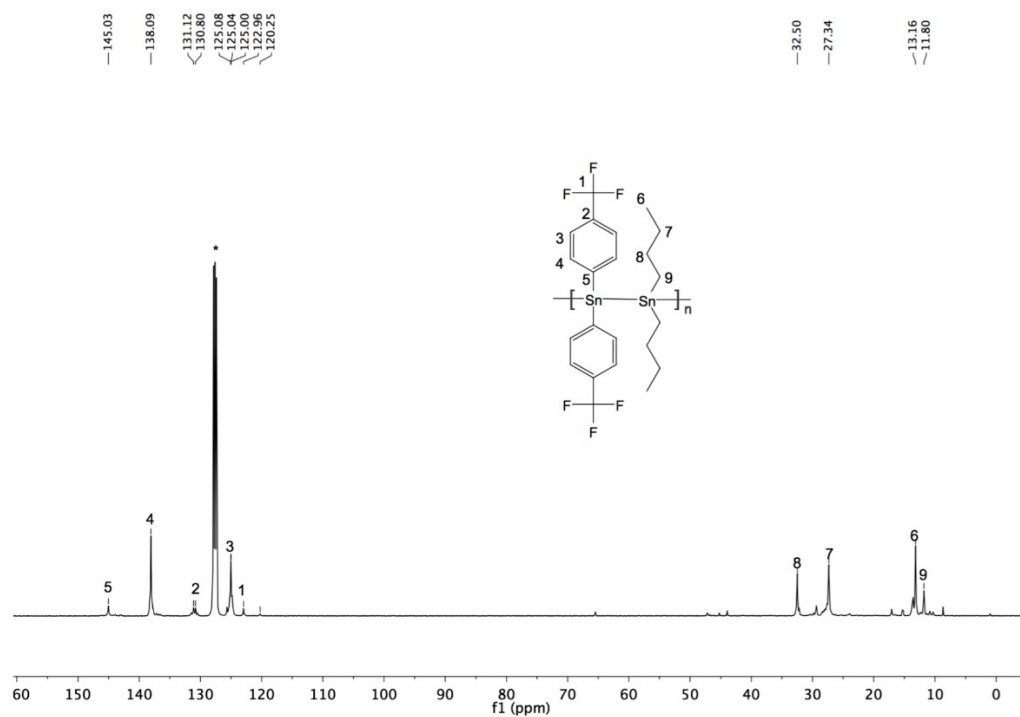


Figure A 33. ^{13}C NMR (C_6D_6^*) spectrum of compound 11.

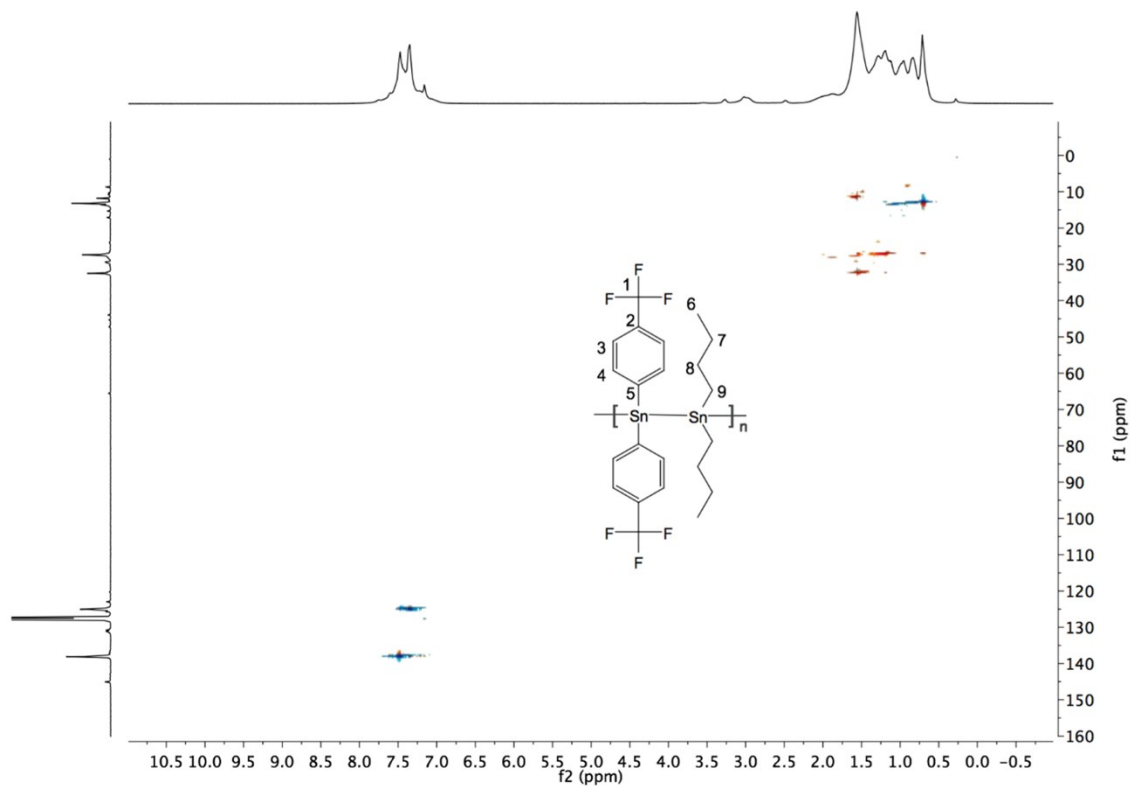


Figure A 34. HSQC (C_6D_6) spectrum of compound 11.

Appendix B: UV-Visible Spectroscopy and Thermal Analysis

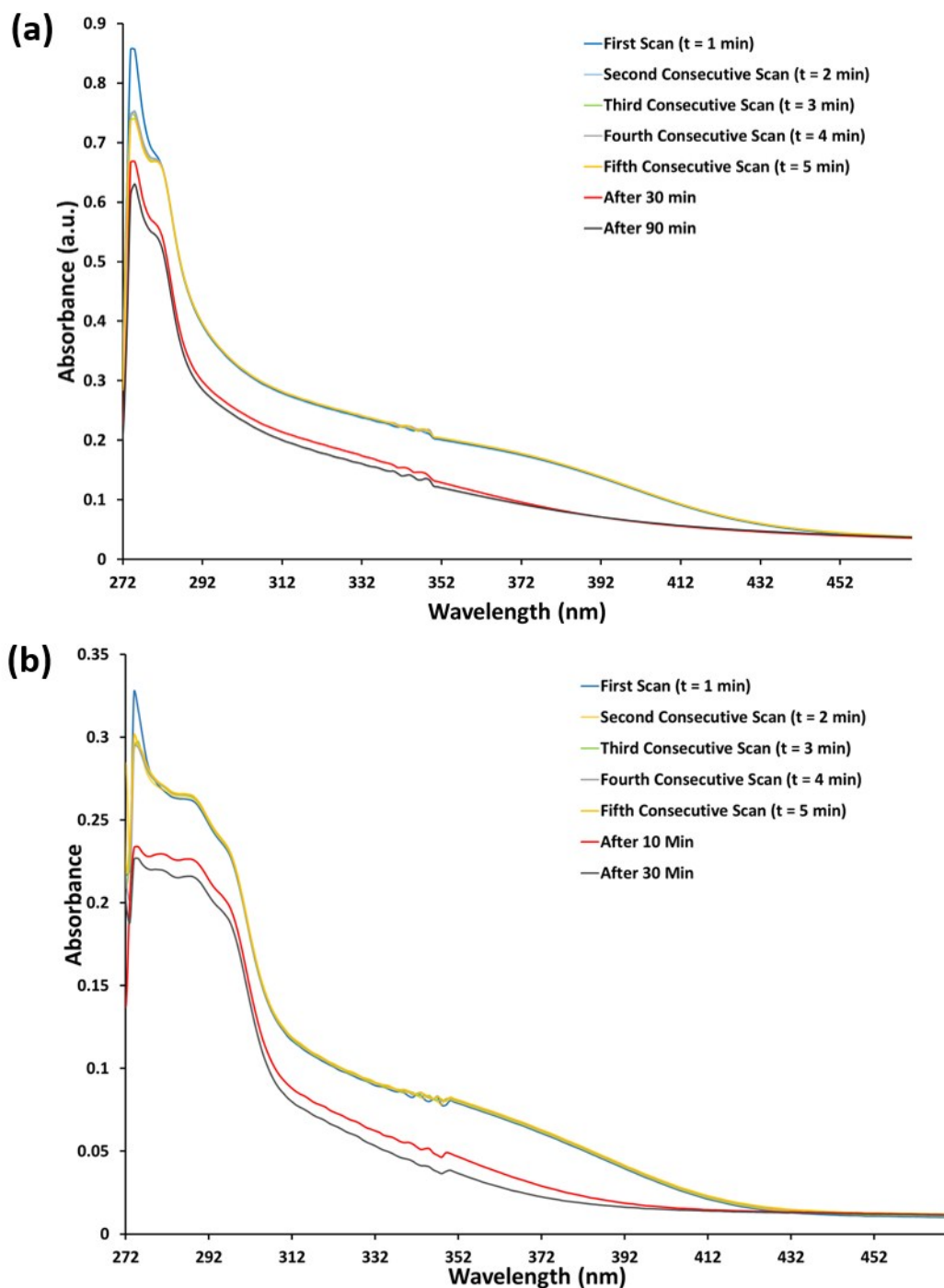


Figure B 1. UV-Vis spectroscopy of (a) polymer **8** and (b) polymer **10** in dry, degassed C_6H_6 . The duration between consecutive scans is 1 min. UV samples were prepared in N_2 filled glove box, transferred to a sealed cuvette and their UV-Vis absorption spectra were recorded.

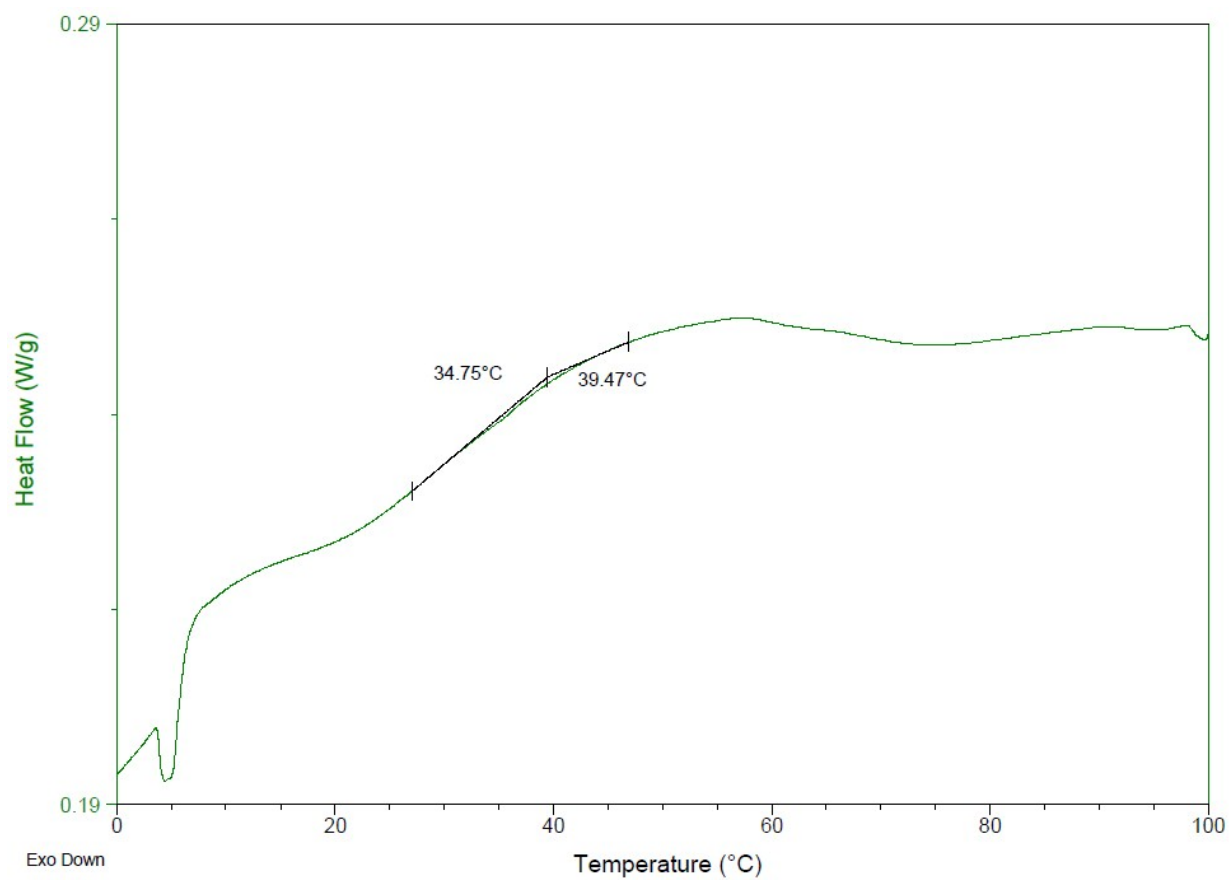


Figure B 2. Thermal Gravimetric Analysis of Polymer 8.