"Push-Push and Push-Pull" Polystannanes

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Supporting Information

Table of Contents

Appendix A: List of NMR Spectra

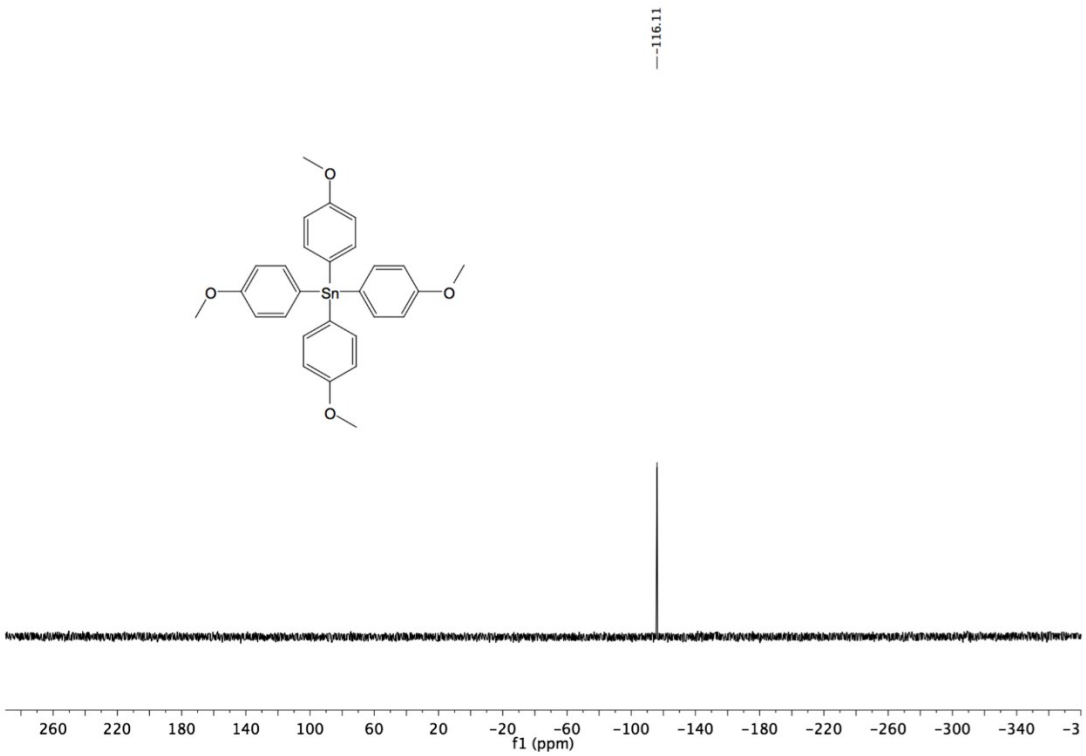

Figure A 1. ^{119}Sn NMR ($CDCl_3$) spectrum of **1**.

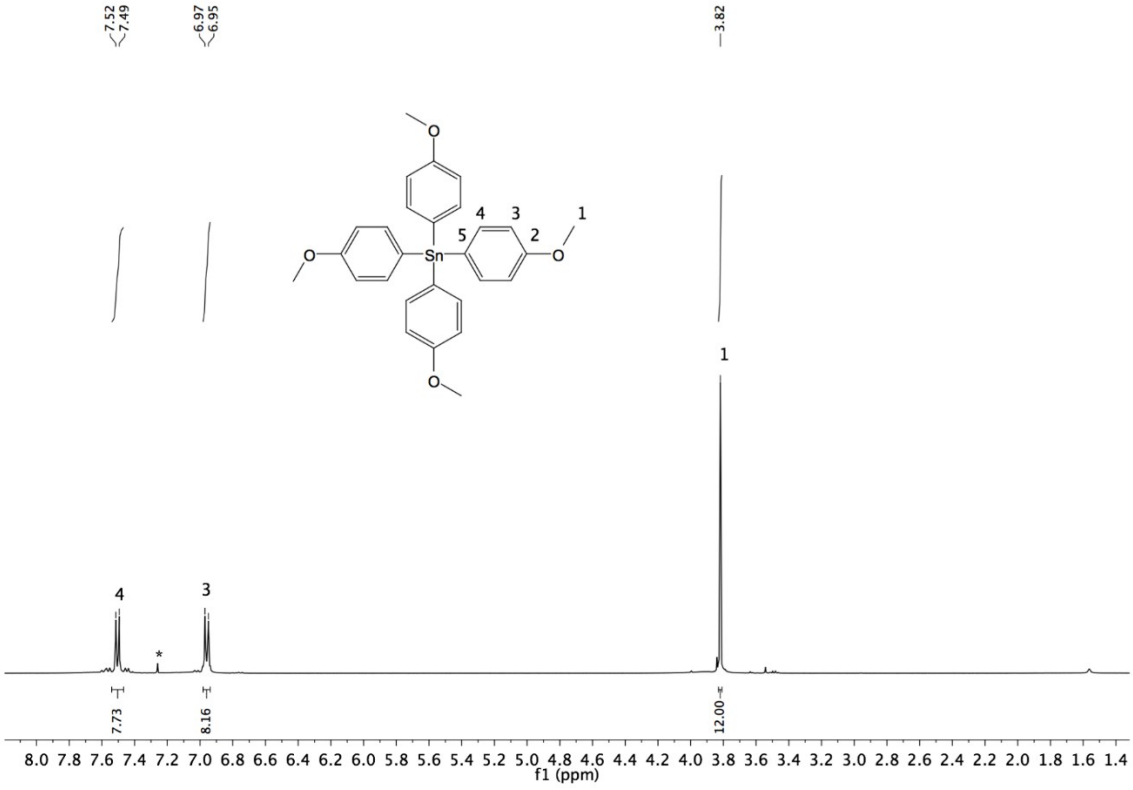

Figure A 2. ^{1}H NMR ($CDCl_3^*$) spectrum of compound **1**.

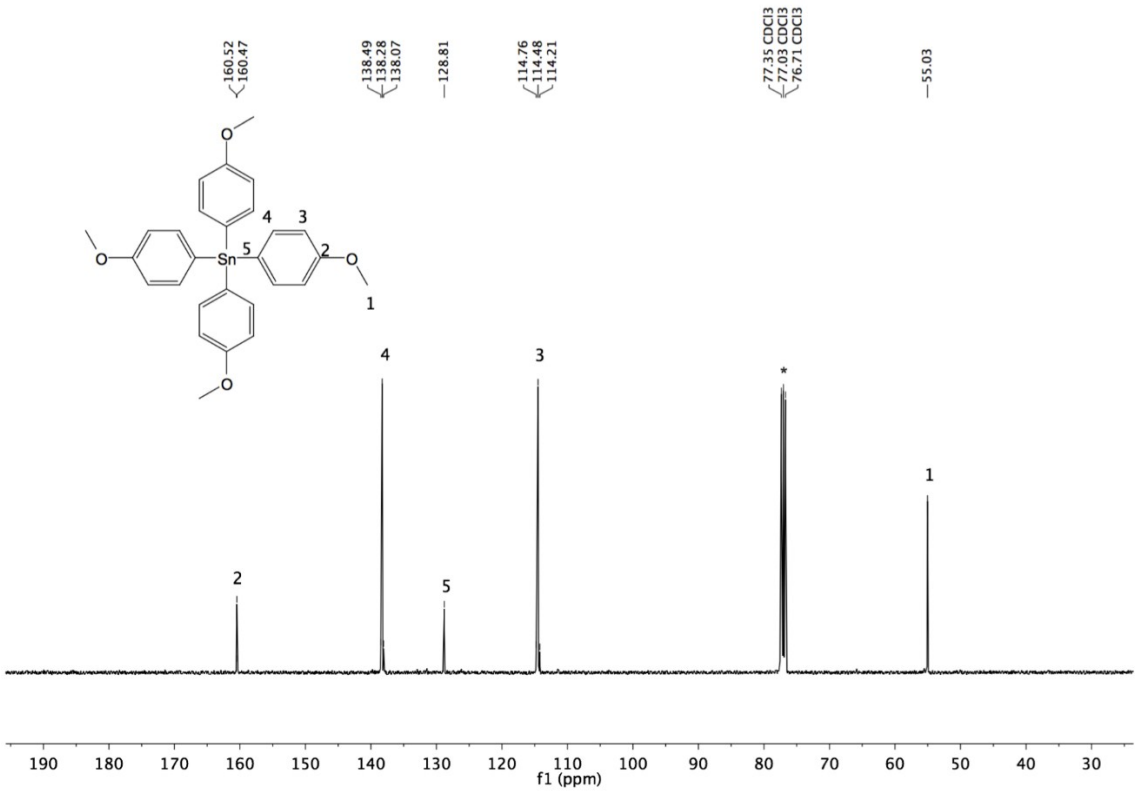

Figure A 3. ^{13}C NMR ($CDCl_3^*$) spectrum of compound **1**.

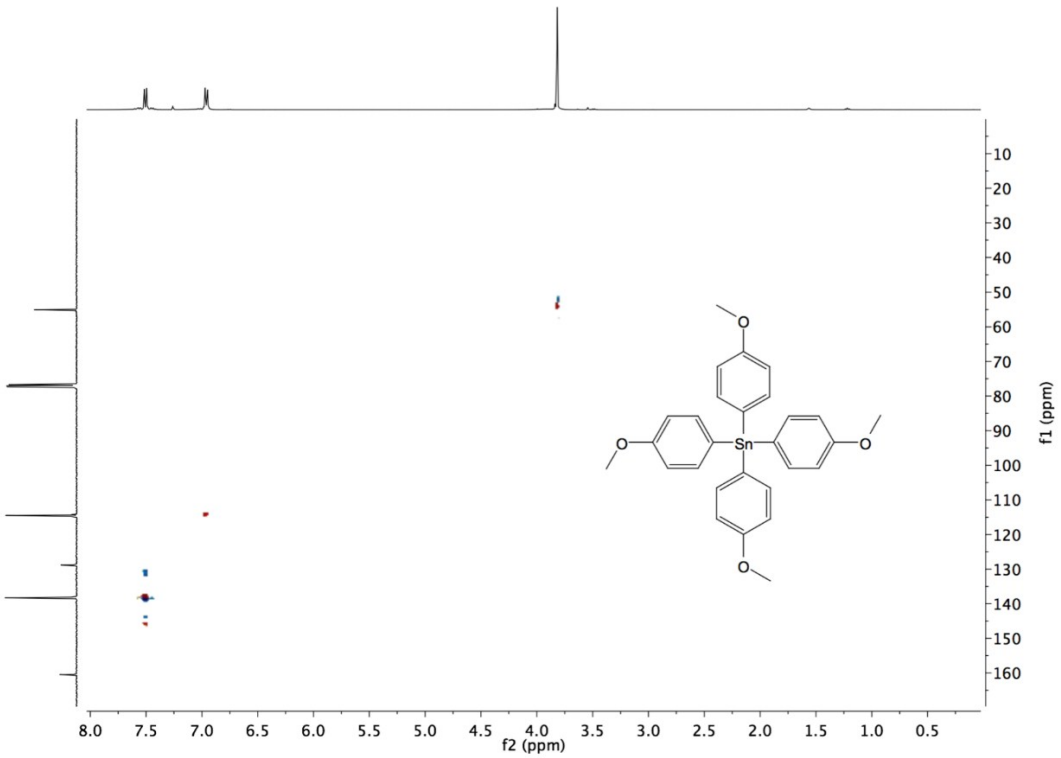

Figure A 4. HSQC ($CDCl_3$) spectrum of compound **1**.

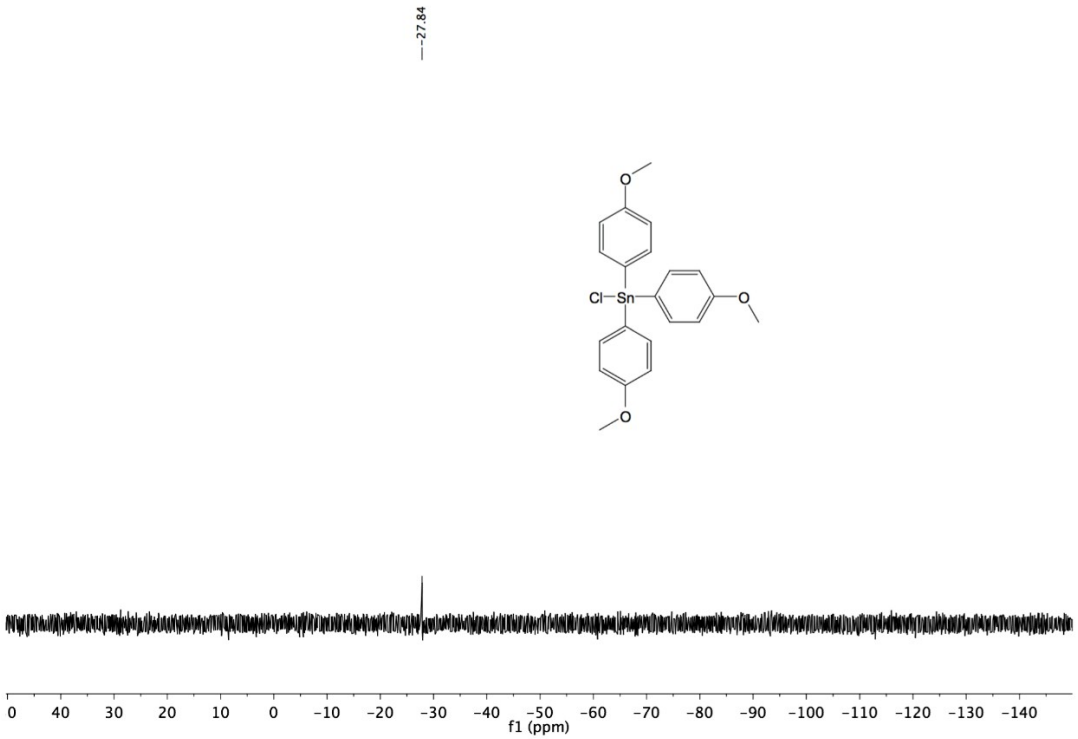

Figure A 5. ^{119}Sn NMR ($CDCl_3$) spectrum of compound **3**.

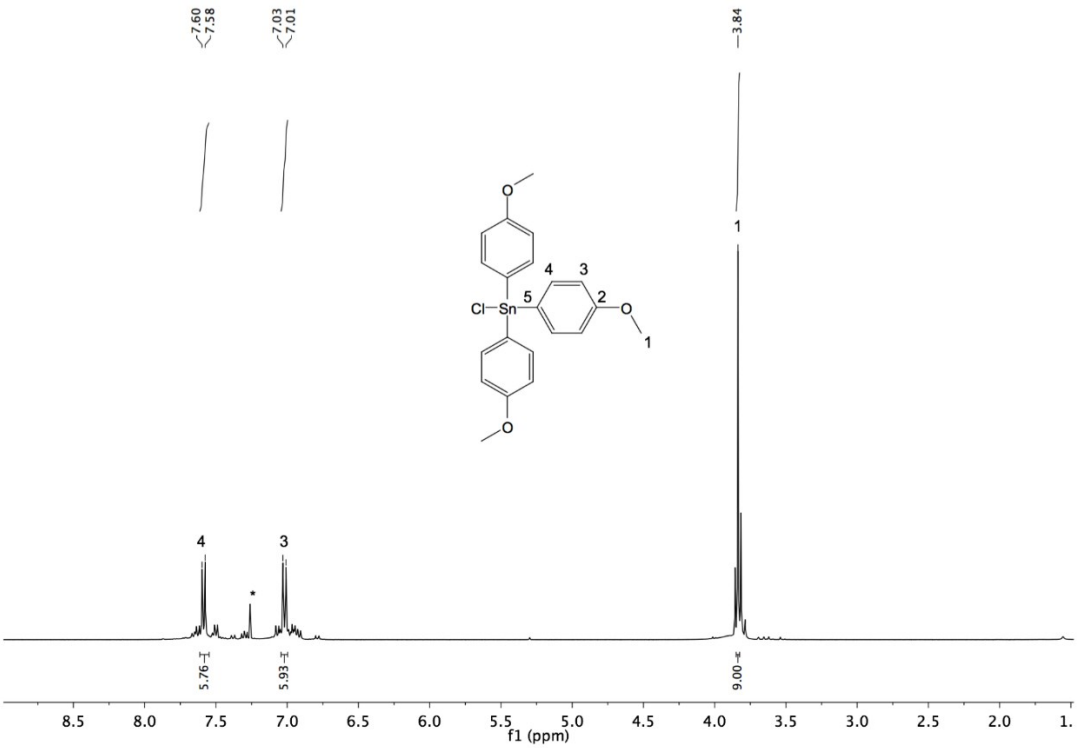

Figure A 6. ^{1}H NMR ($CDCl_3$*) spectrum of compound **3**.

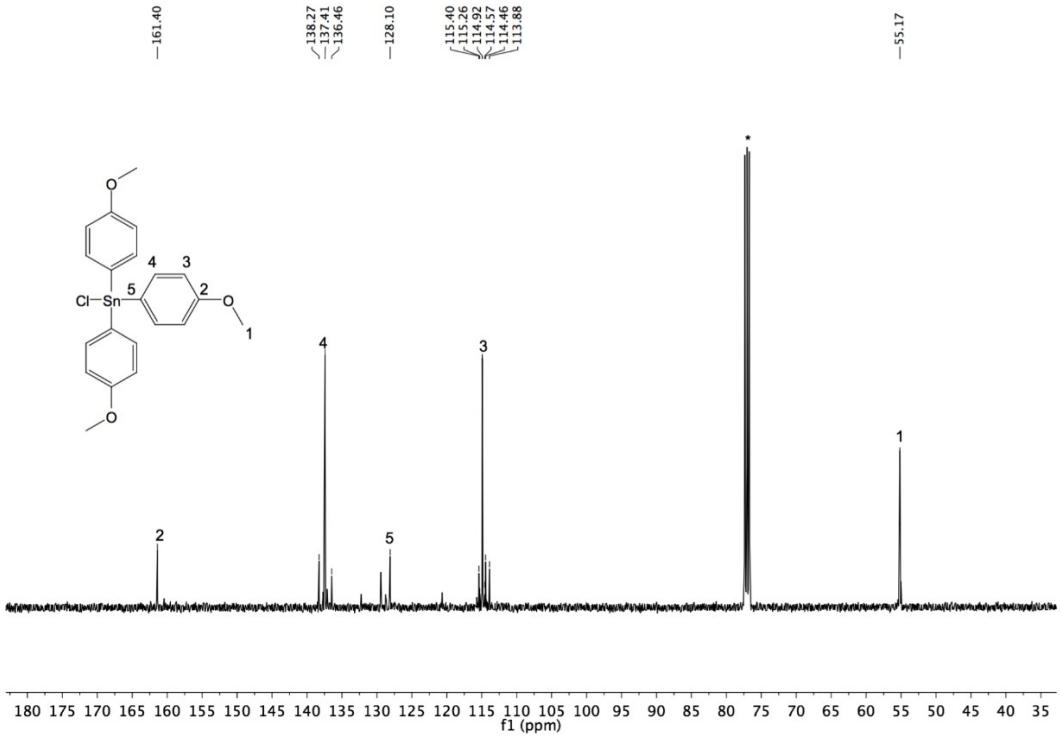

Figure A 7. ^{13}C NMR ($CDCl_3^*$) spectrum of compound **3**.

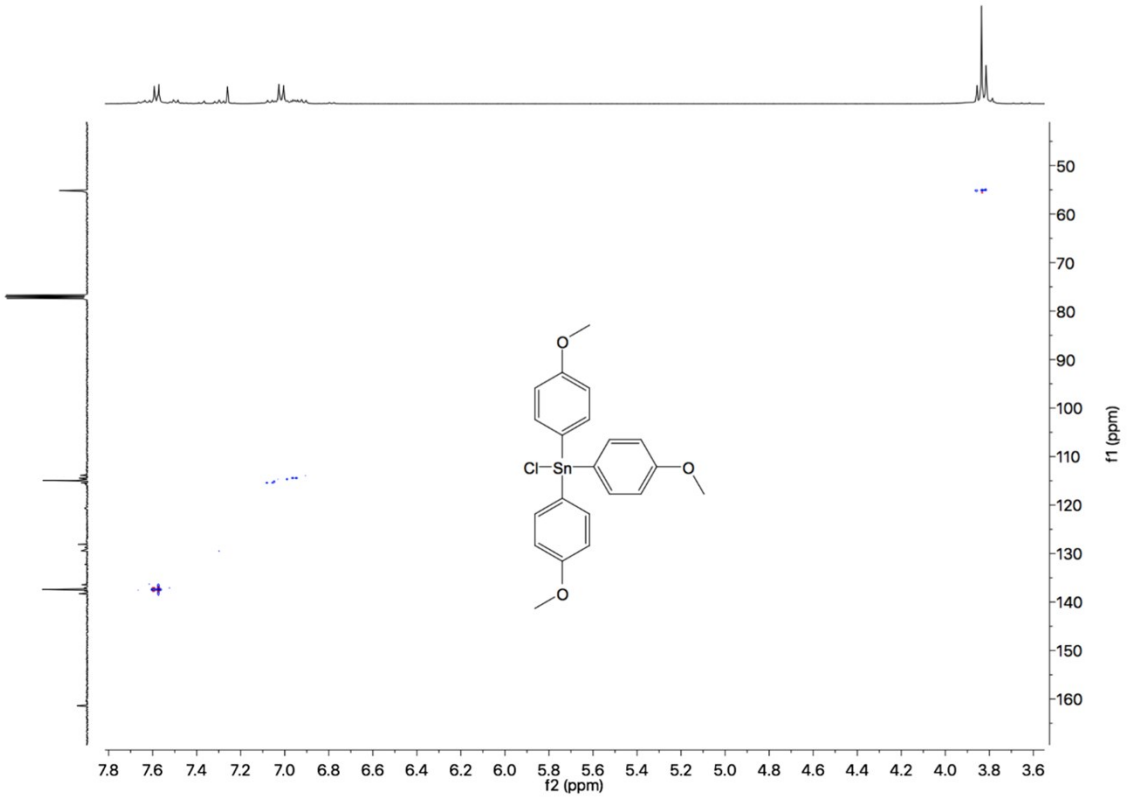

Figure A 8. HSQC ($CDCl_3$) spectrum of compound **3**.

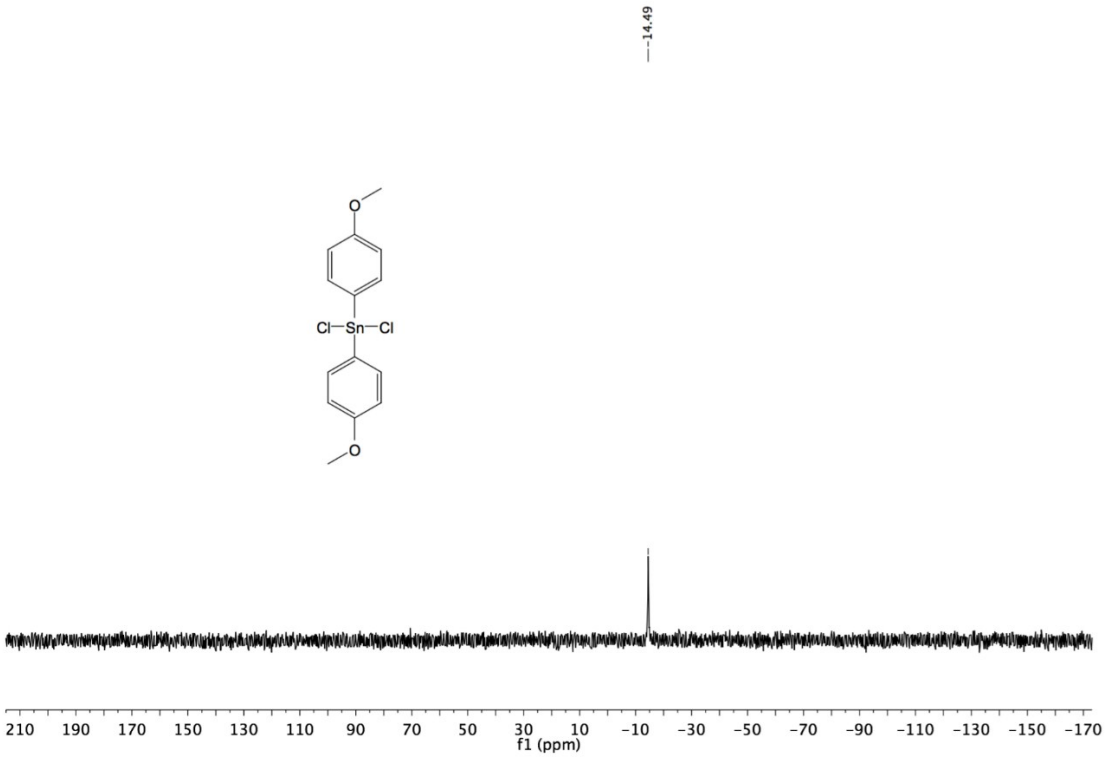

Figure A 9. ^{119}Sn NMR ($CDCl_3$) spectrum of compound **4**.

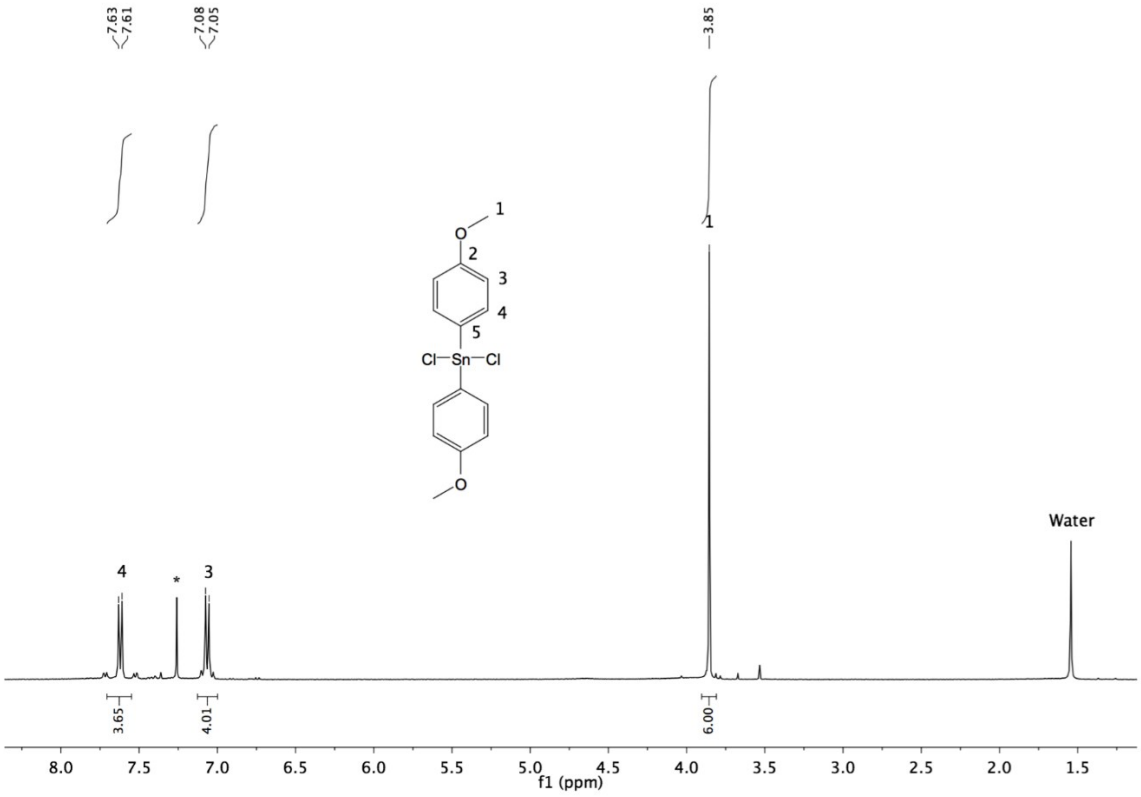

Figure A 10. ^{1}H NMR ($CDCl_3$*) spectrum of compound **4**.

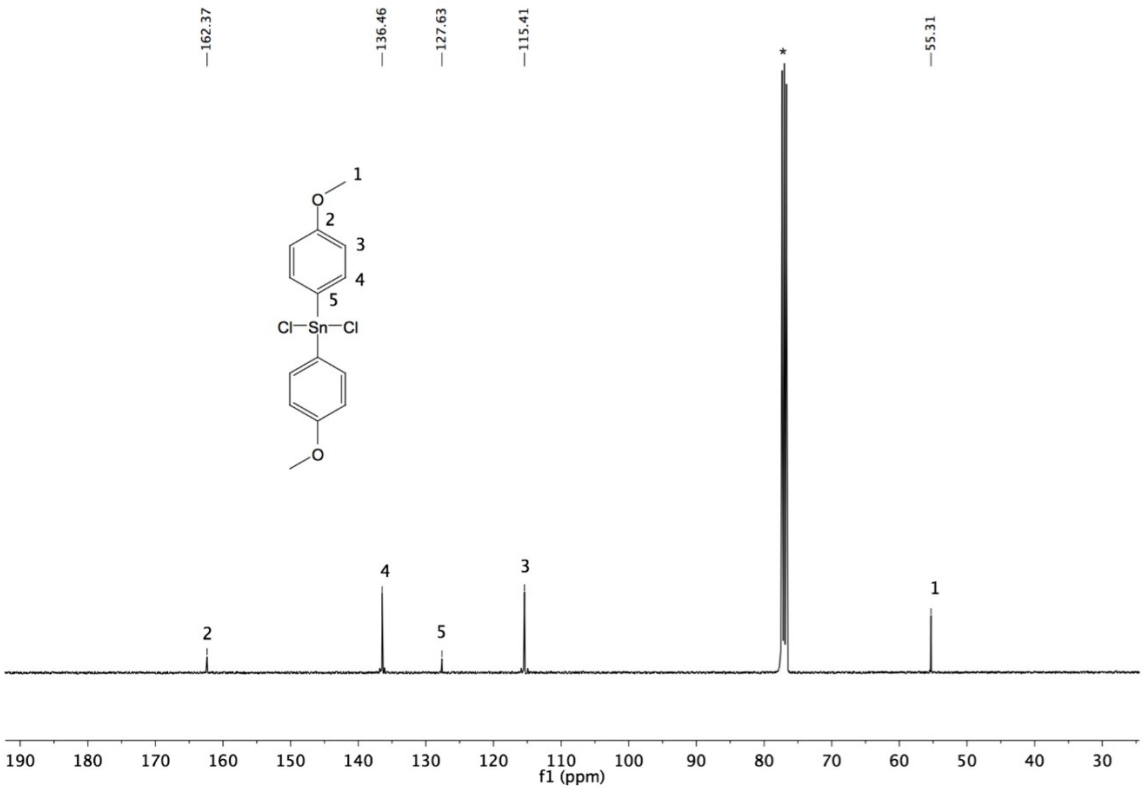

Figure A 11. ^{13}C NMR ($CDCl_3$) spectrum of compound **4**.

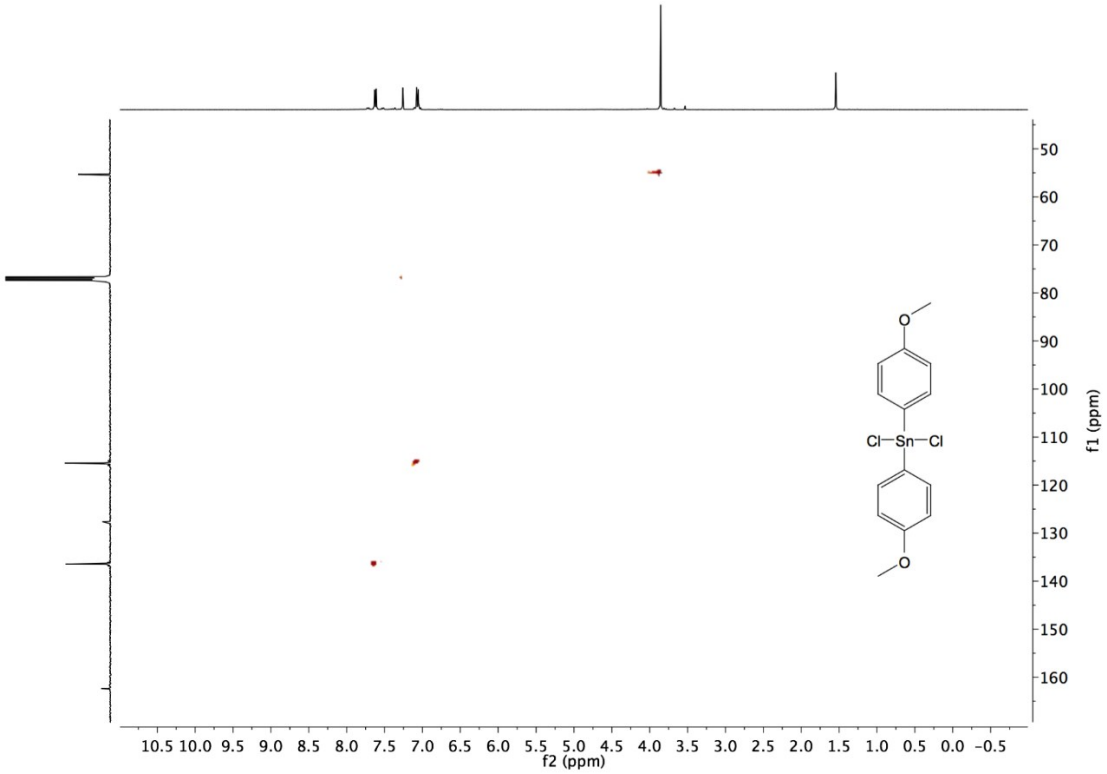

Figure A 12. HSQC ($CDCl_3$) spectrum of compound **4**.

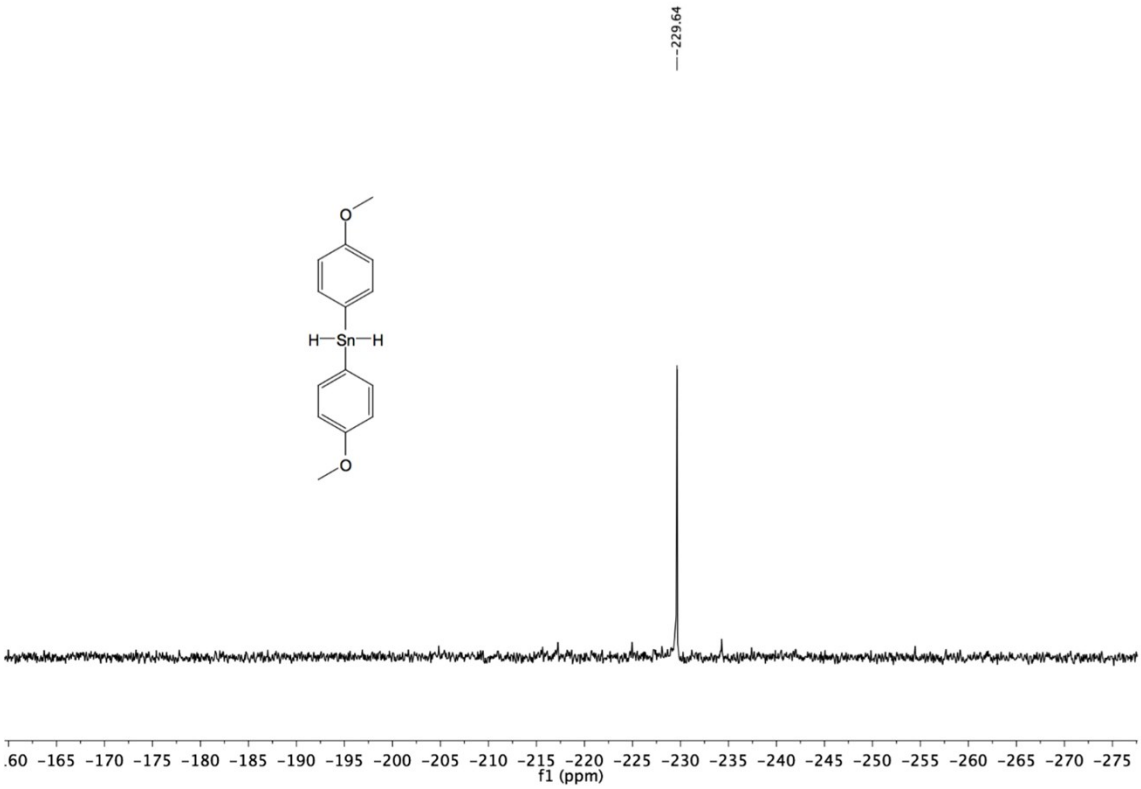

Figure A 13. ^{119}Sn NMR (C_6D_6) spectrum of compound **6**.

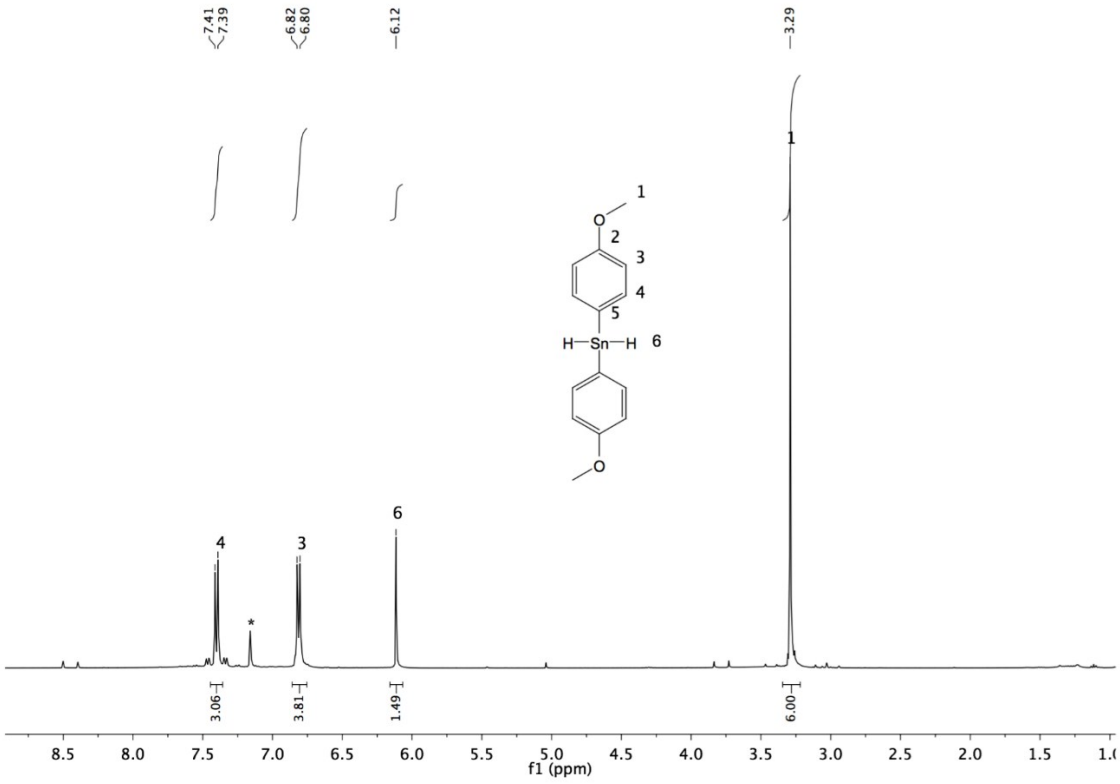

Figure A 14. ^{1}H NMR ($C_6D_6^{*}$) spectrum of compound **6**.

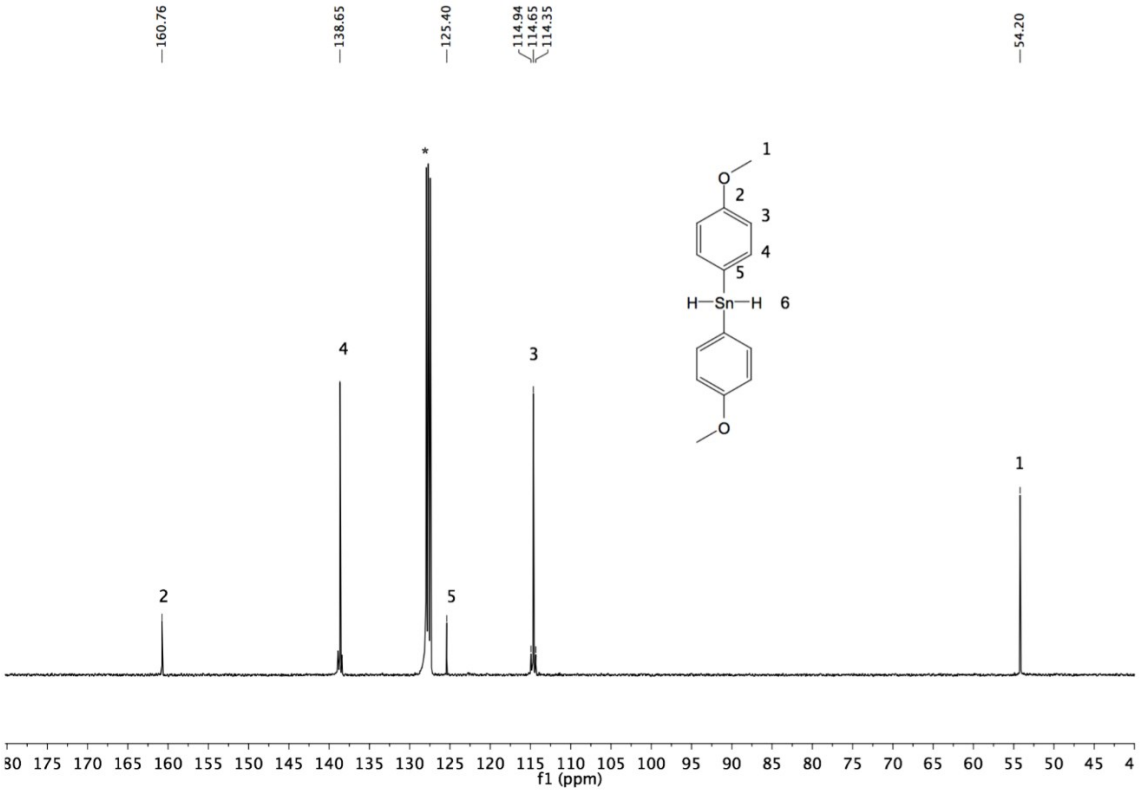

Figure A 15. ^{13}C NMR (C_6D_6) spectrum of compound **6**.

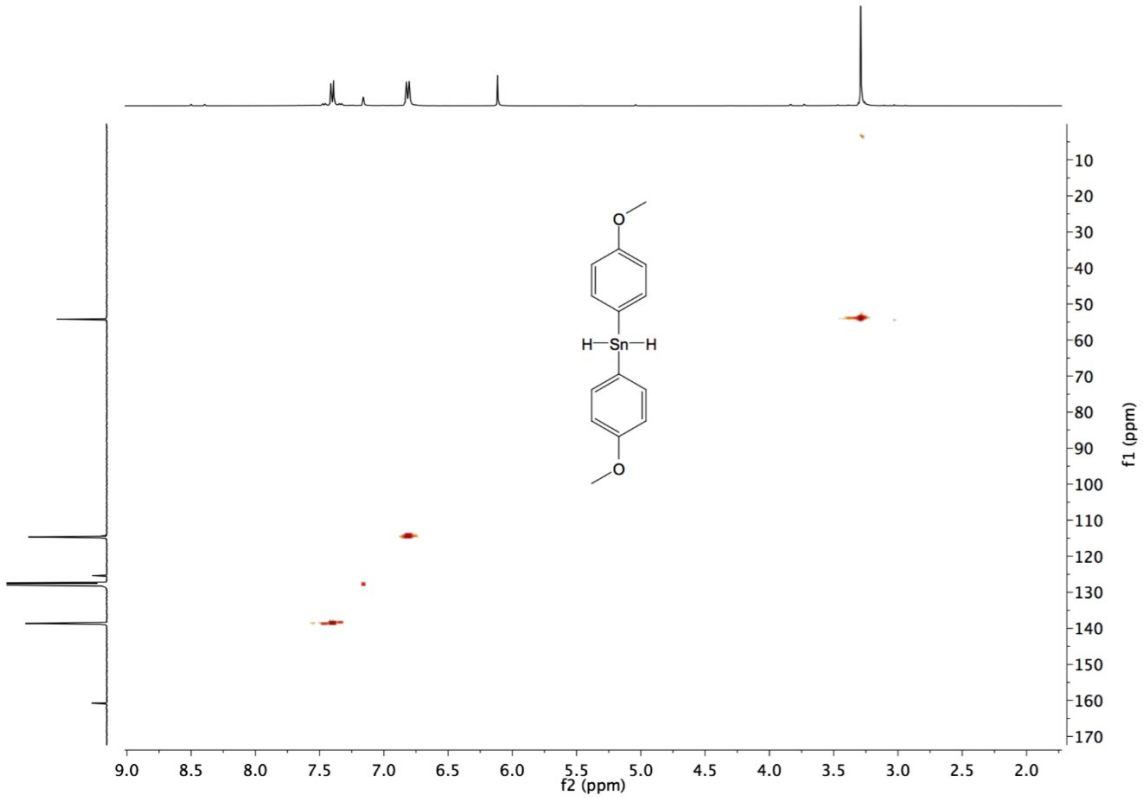

Figure A 16. HSQC (C_6D_6) spectrum of compound **6**.

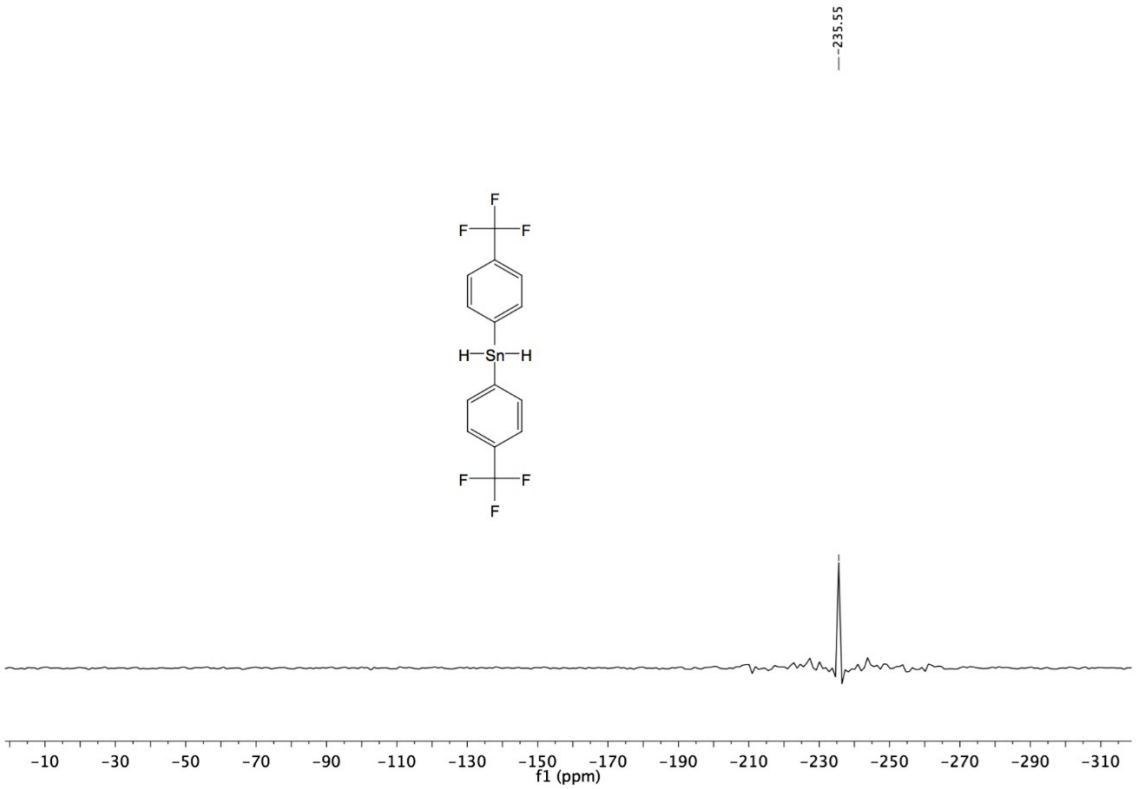

Figure A 17. ^{119}Sn NMR (C_6D_6) spectrum of compound **7**.

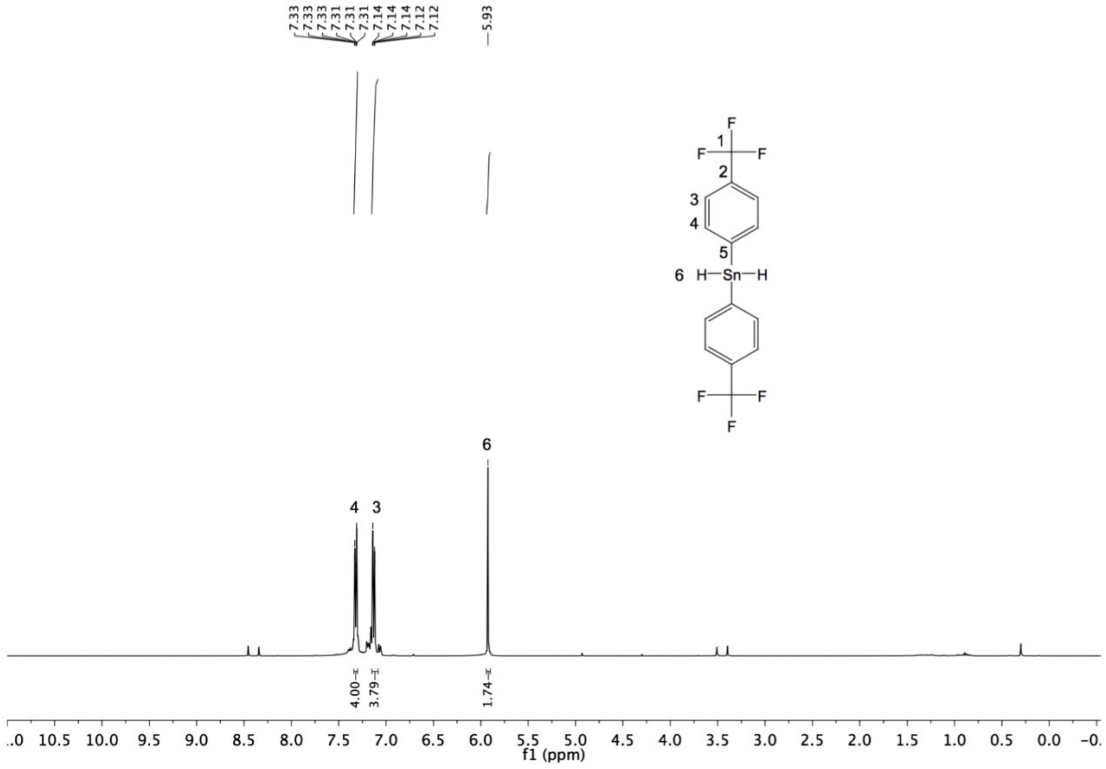

Figure A 18. ^{1}H NMR (C_6D_6) spectrum of compound **7**.

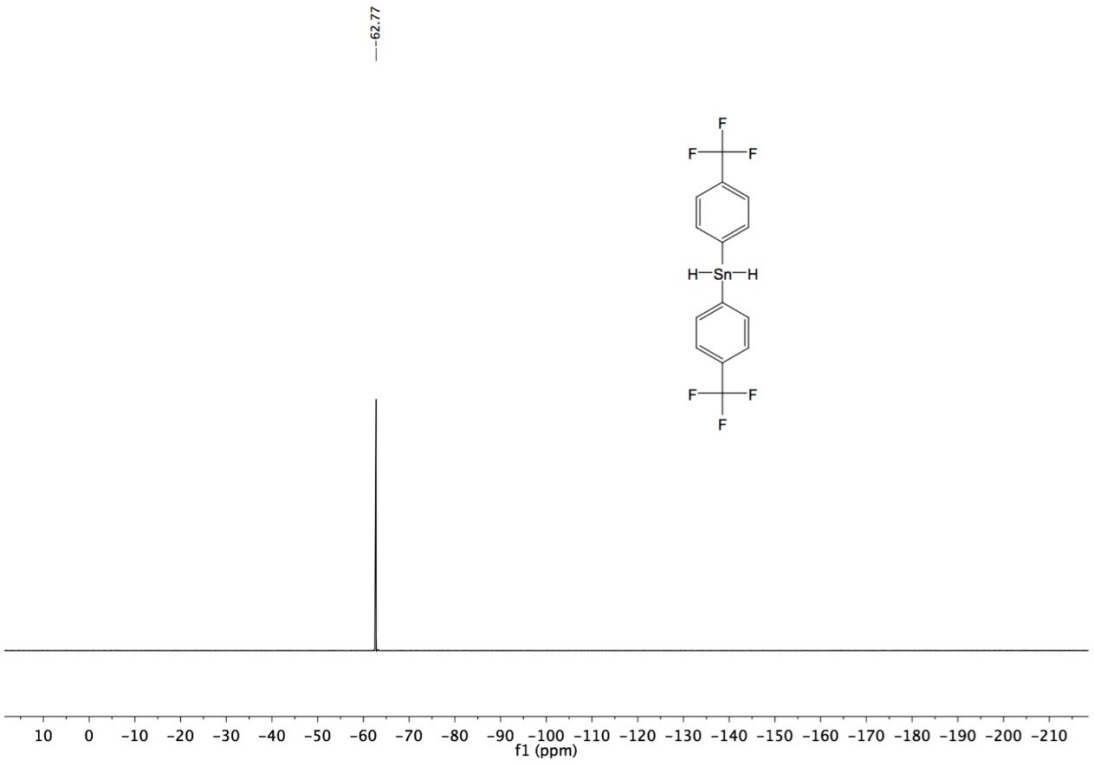

Figure A 19. ^{19}F NMR (C_6D_6) spectrum of compound **7**.

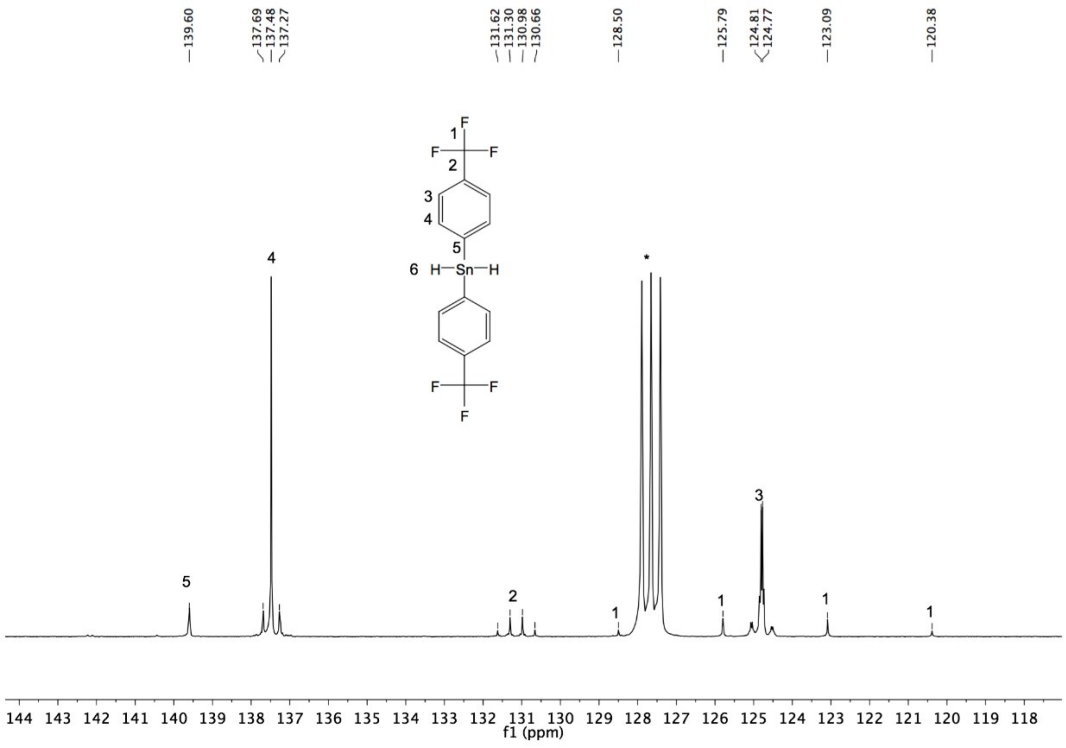

Figure A 20. ^{13}C NMR ($C_6D_6{}^*$) spectrum of compound **7**.

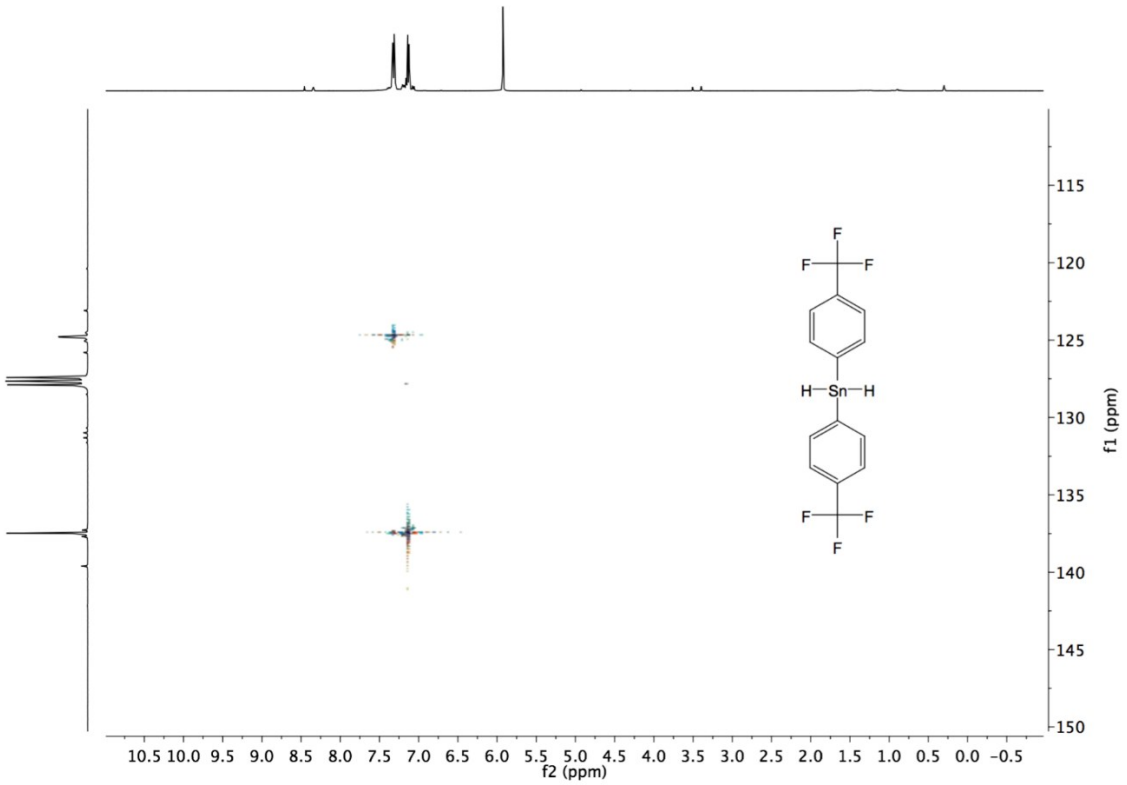

Figure A 21. HSQC (C_6D_6) spectrum of compound **7**.

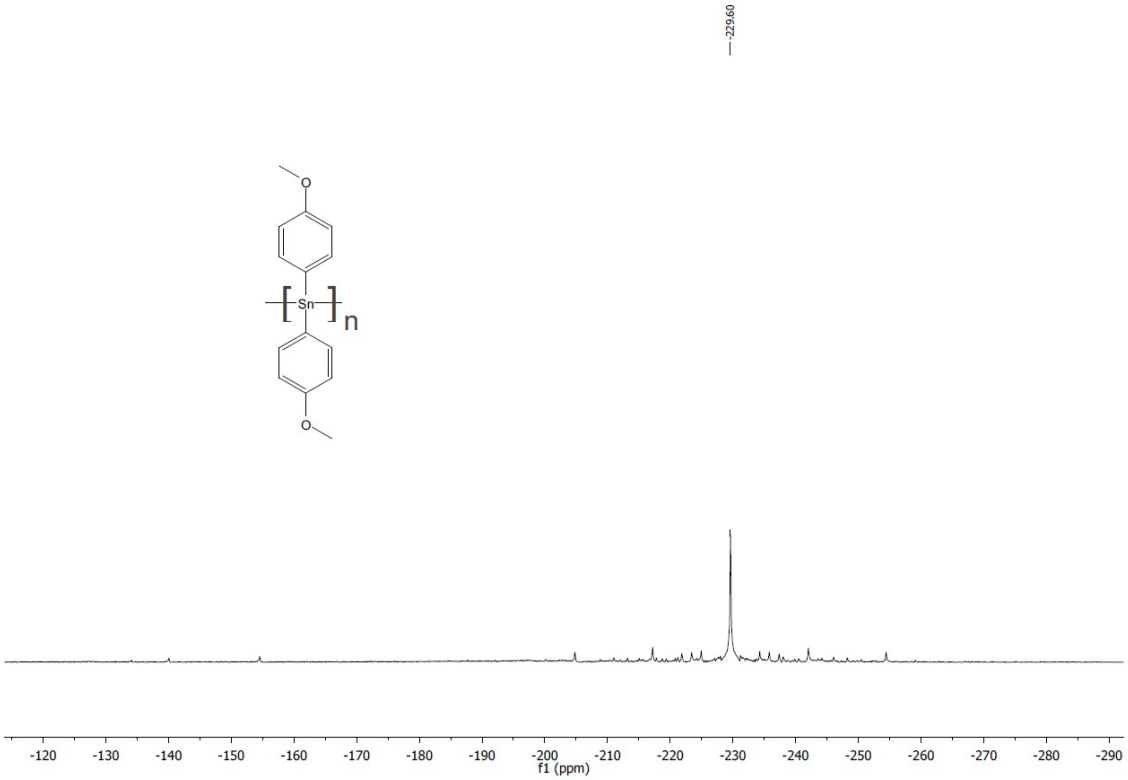

Figure A 22. ^{119}Sn NMR (C_6D_6) spectrum of compound **8**.

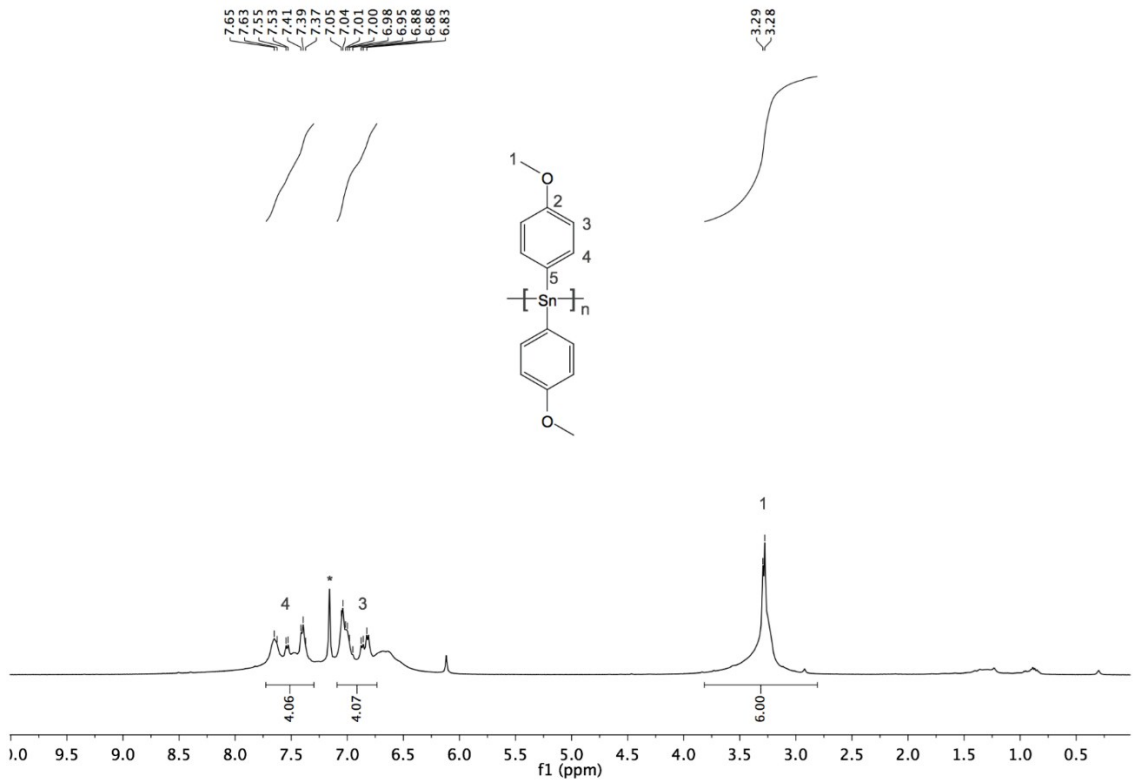

Figure A 23. ^{1}H NMR ($C_6D_6^*$) spectrum of compound **8**.

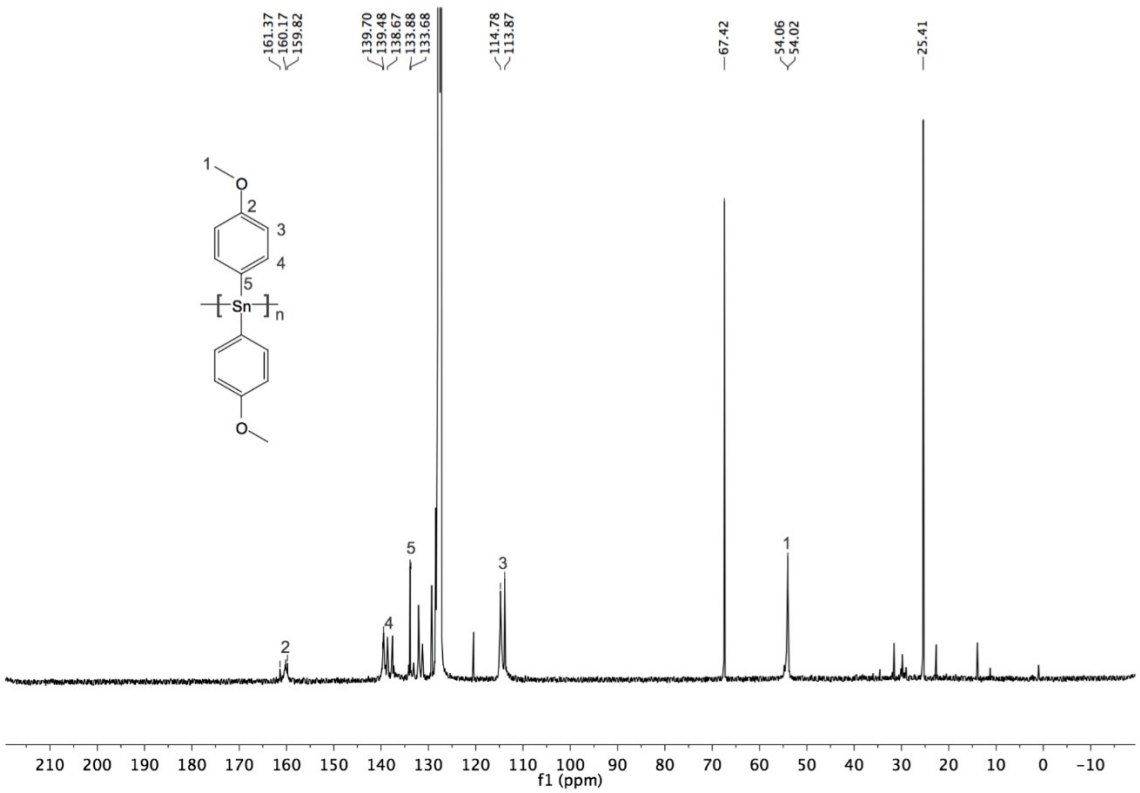

Figure A 24. ^{13}C NMR (C_6D_6) spectrum of compound **8.**

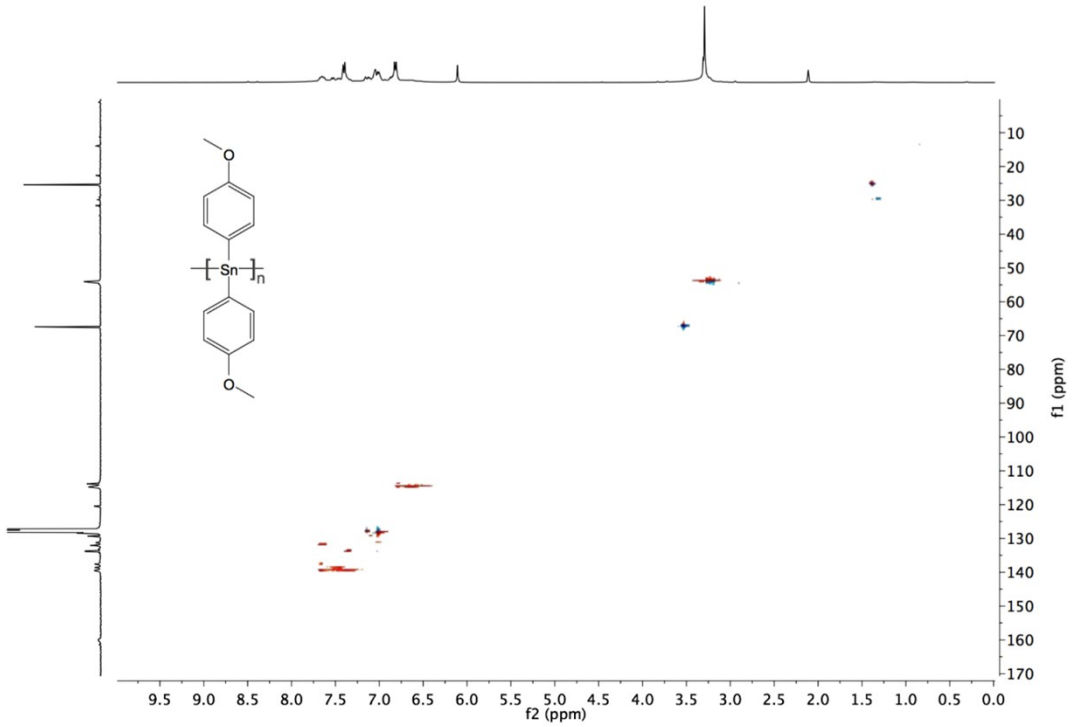

Figure A 25. HSQC (C_6D_6) spectrum of compound **8**.

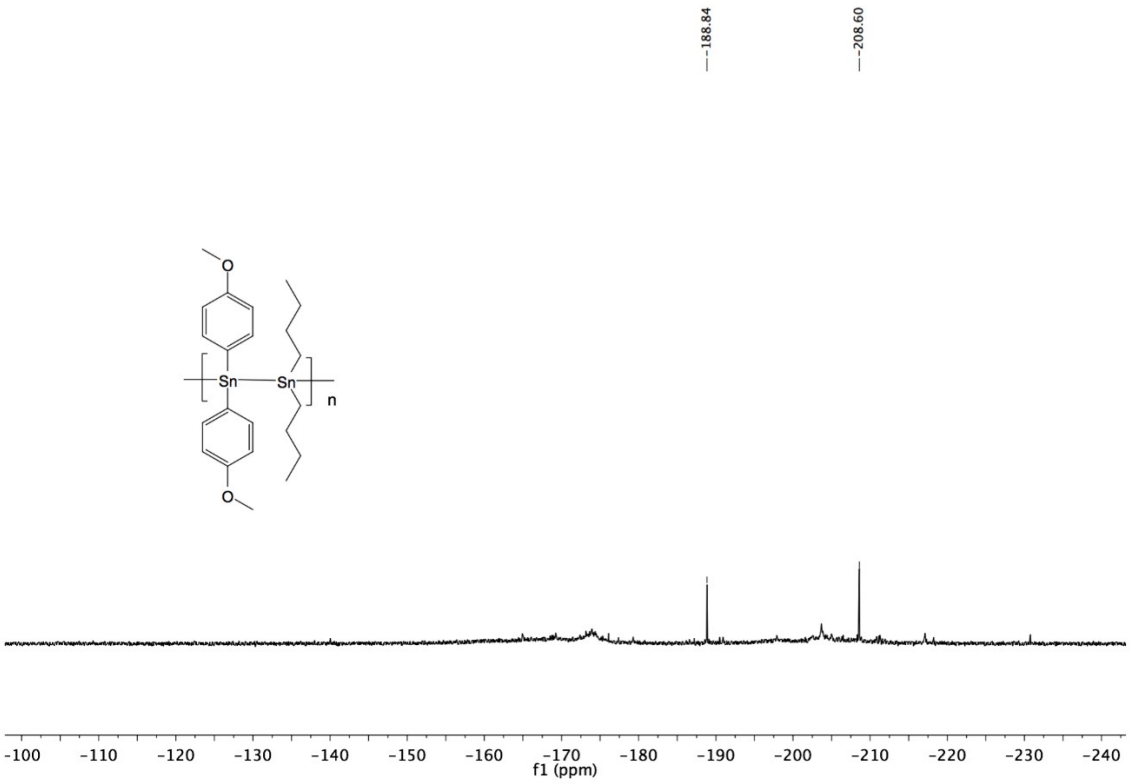

Figure A 26. ^{119}Sn NMR (C_6D_6) spectrum of crude compound **10.**

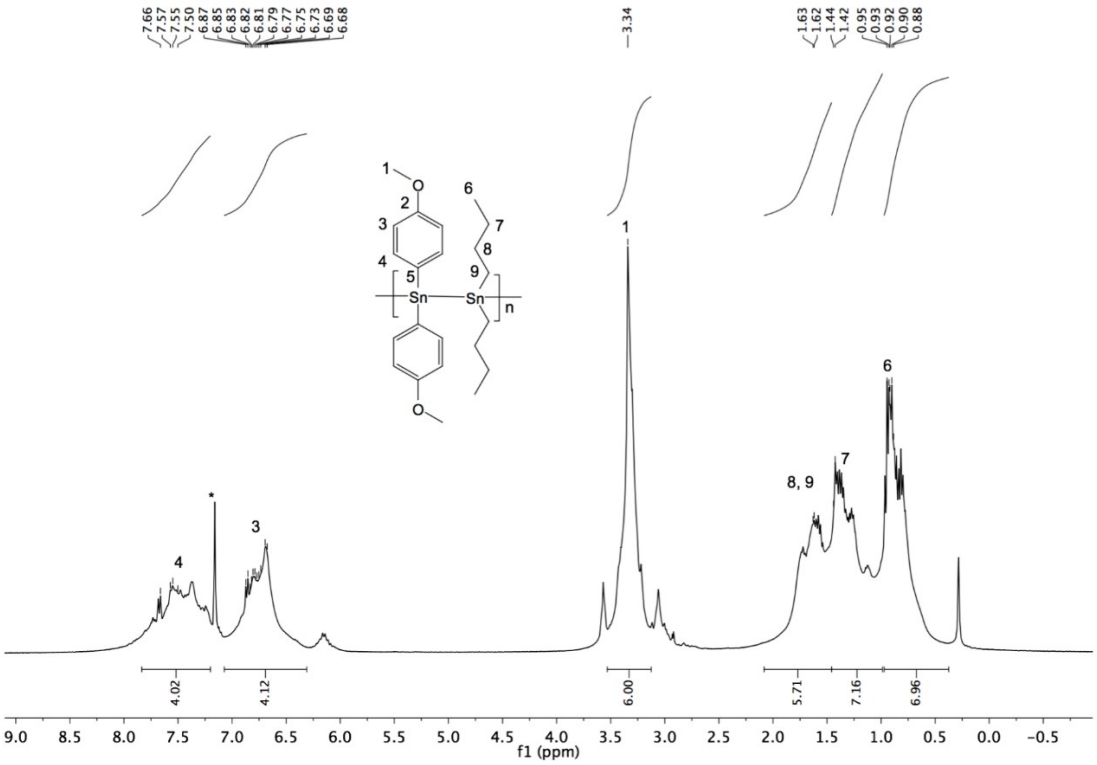

Figure A 27. ^{1}H NMR ($C_6D_6^*$) spectrum of compound **10**.

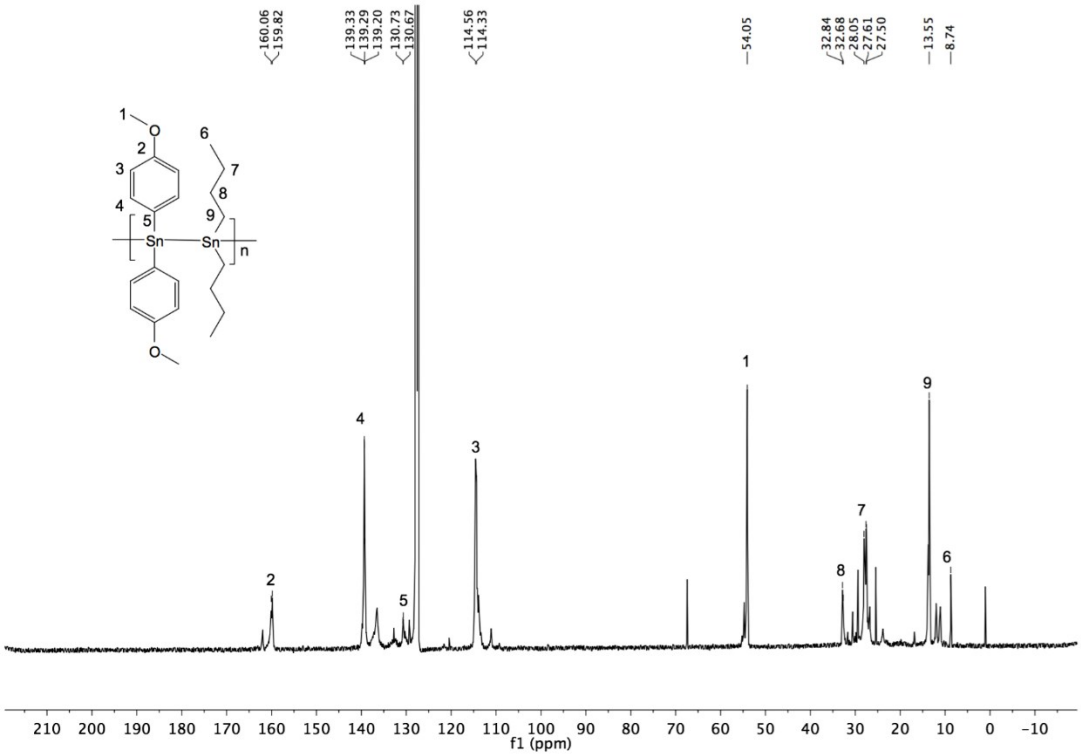

Figure A 28. ^{13}C NMR (C_6D_6) spectrum of compound **10**.

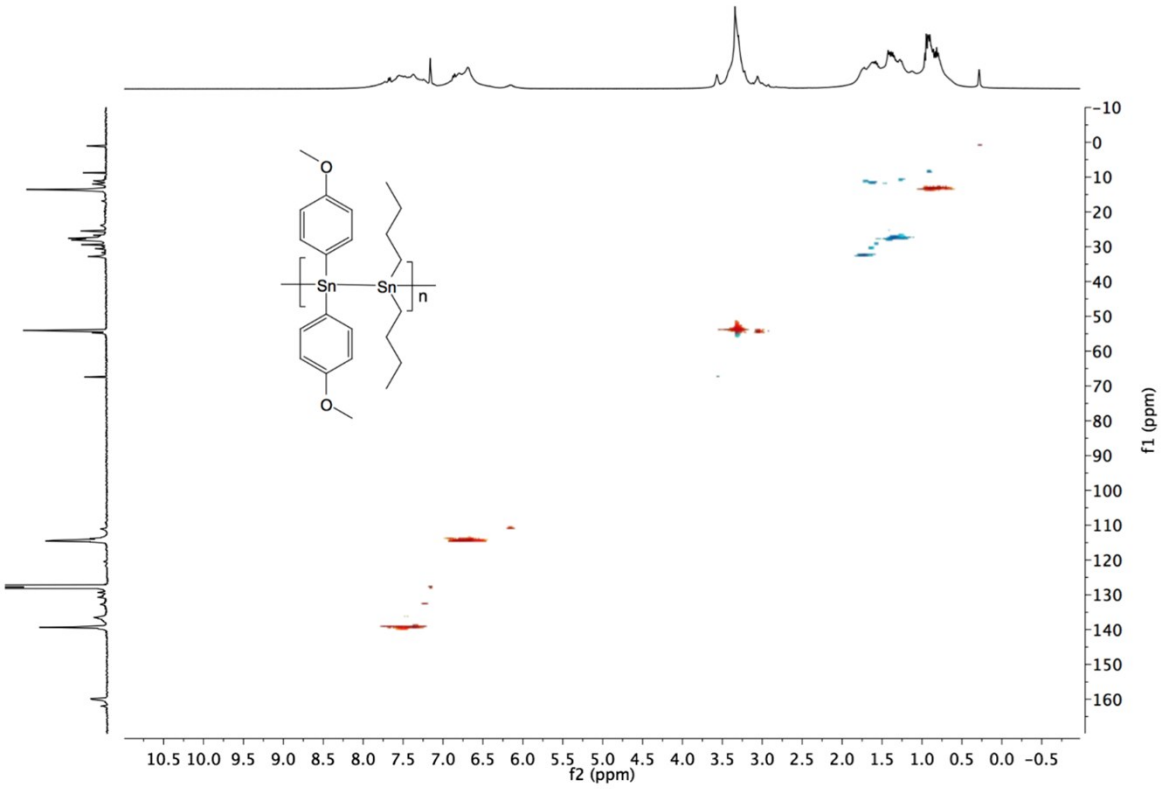

Figure A 29. HSQC (C_6D_6) spectrum of compound **10**.

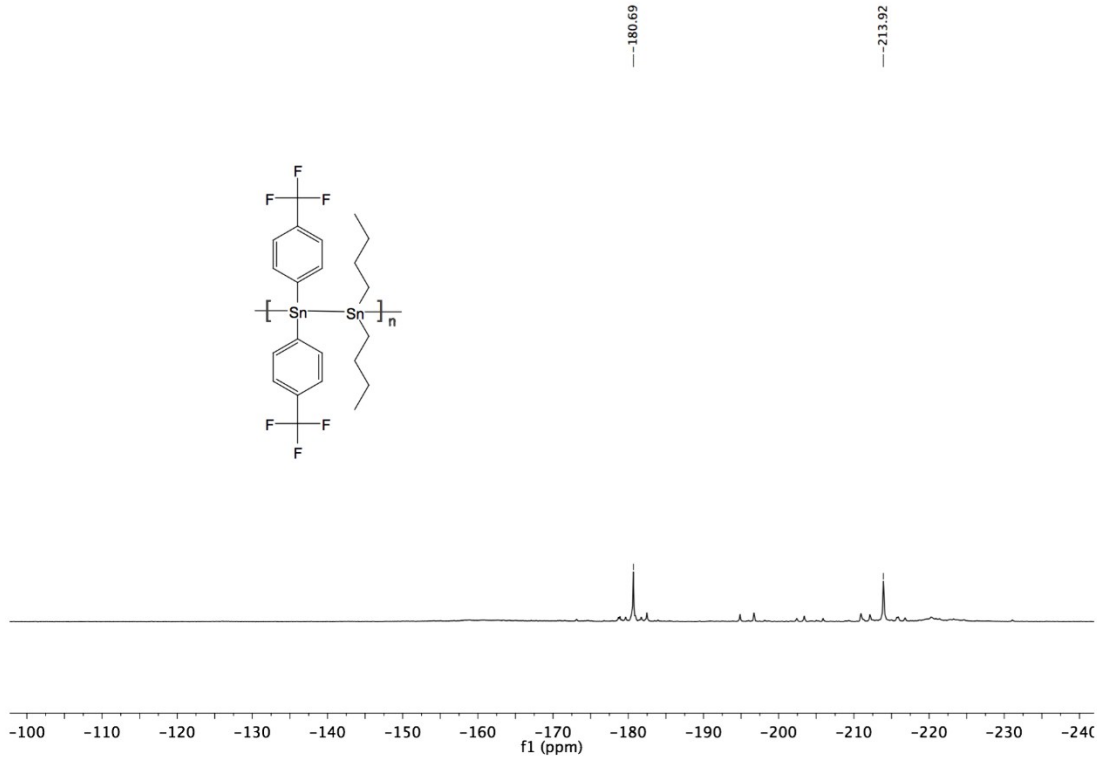

Figure A 30. ^{119}Sn NMR (C_6D_6) spectrum of compound **11**.

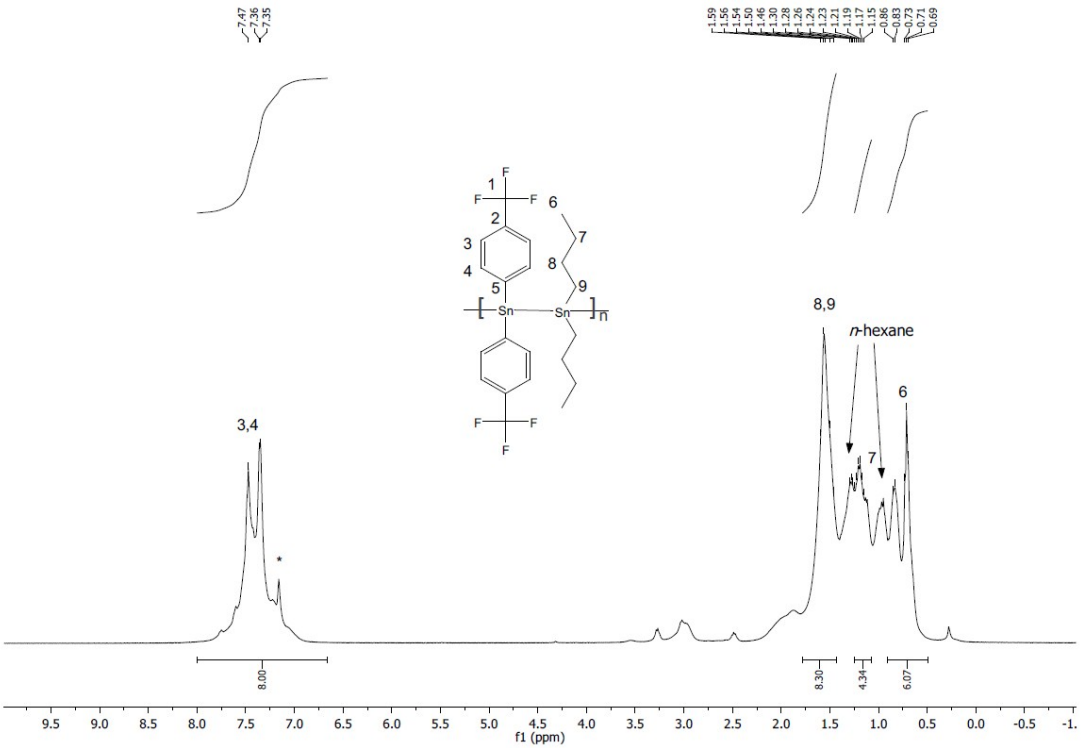

Figure A 31. ^{1}H NMR ($C_6D_6^*$) spectrum of compound **11**.

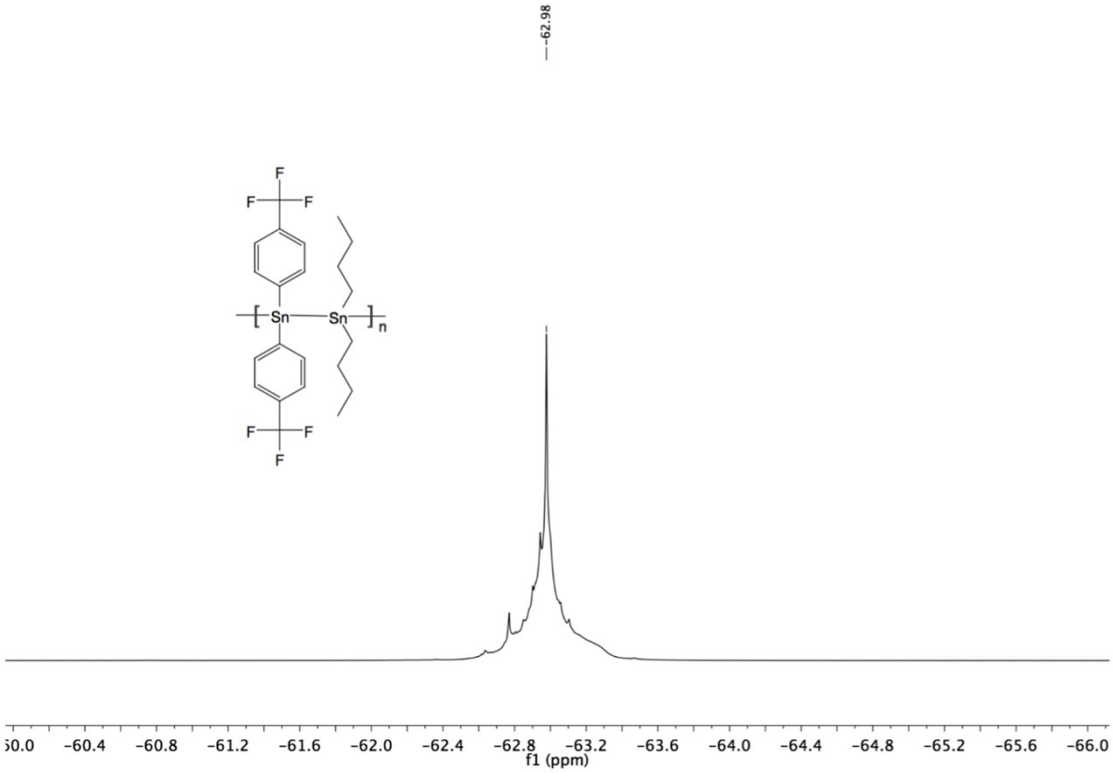

Figure A 32. ^{19}F NMR (C_6D_6) spectrum of compound **11**.

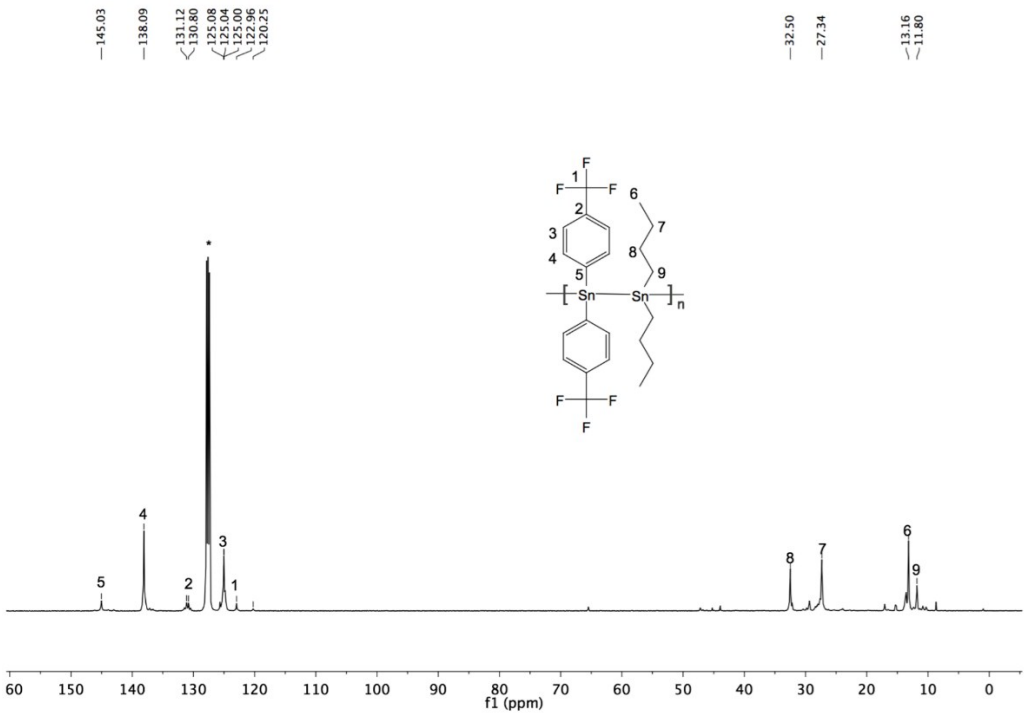

Figure A 33. ^{13}C NMR ($C_6D_6^*$) spectrum of compound **11**.

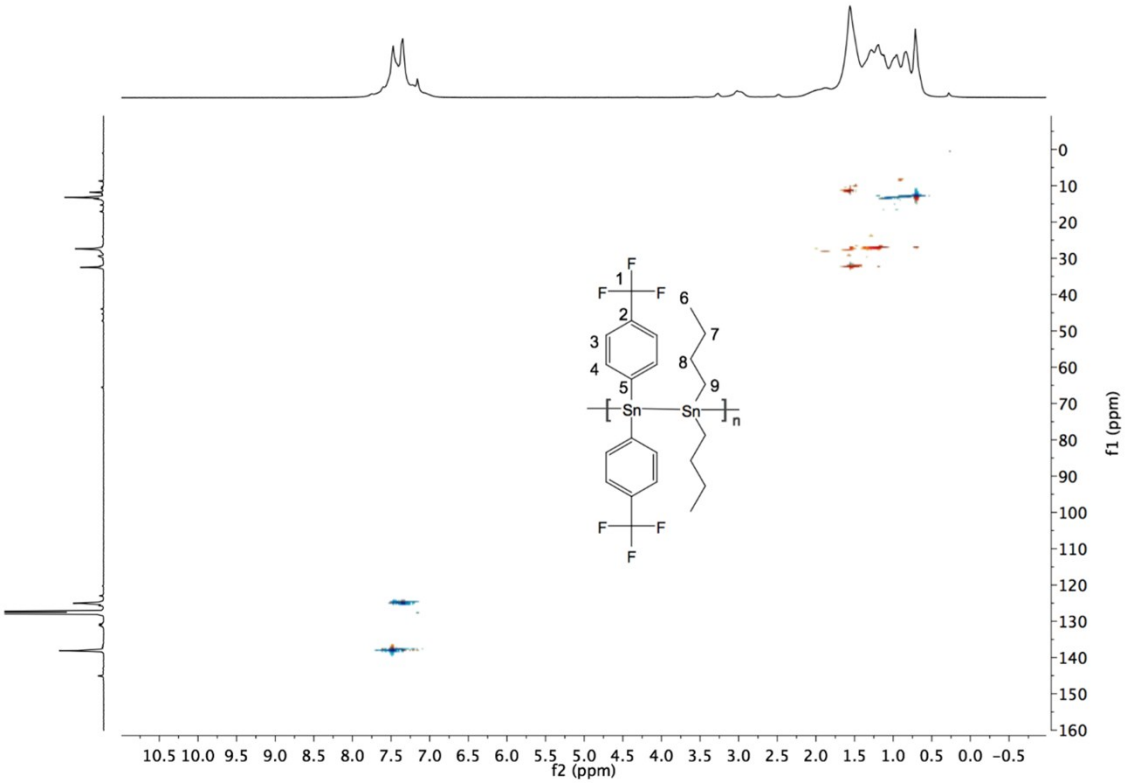

Figure A 34. HSQC (C_6D_6) spectrum of compound **11**.

Appendix B: UV-Visible Spectroscopy and Thermal Analysis

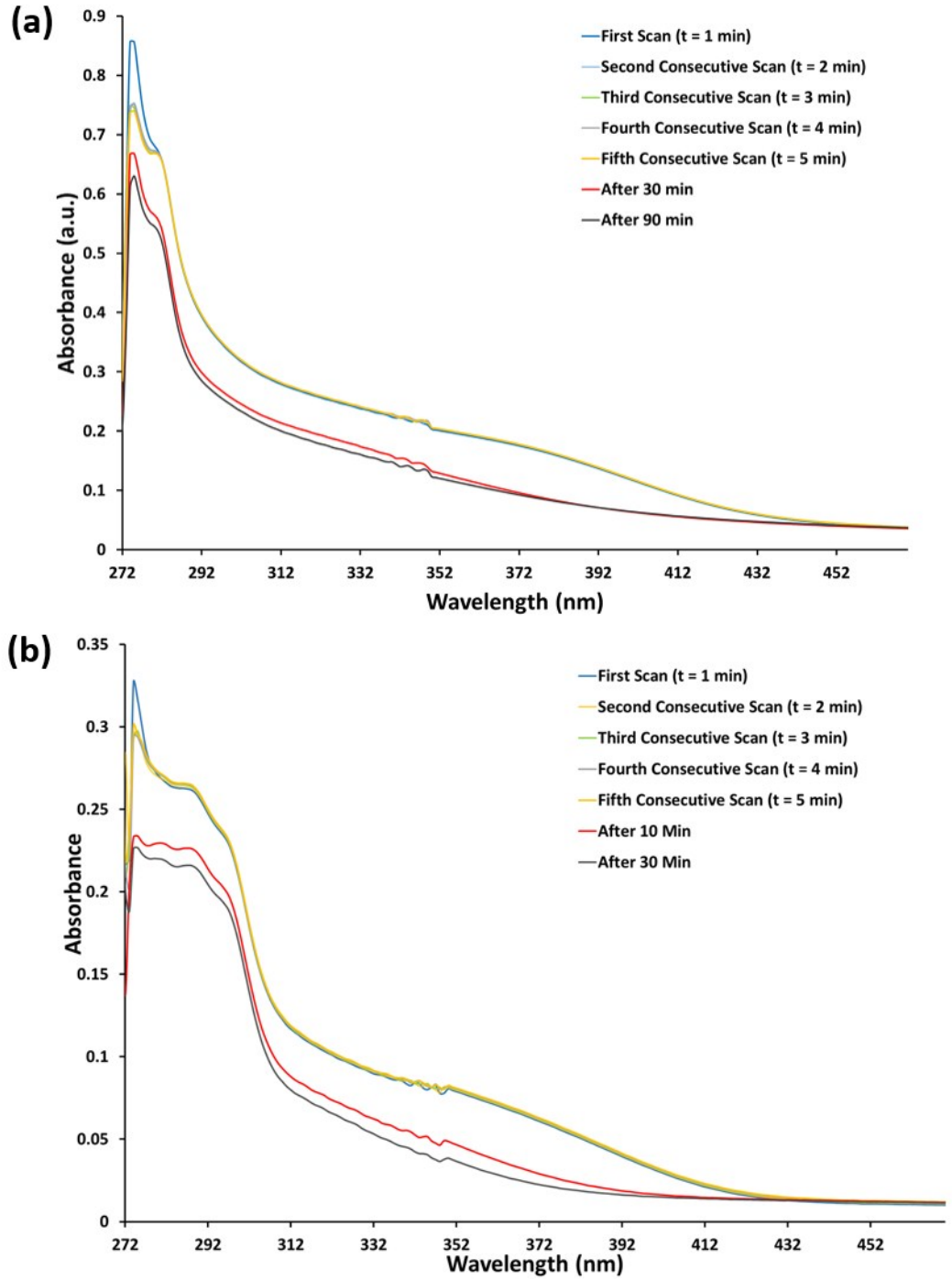

Figure B 1. UV-Vis spectroscopy of (a) polymer **8** and (b) polymer **10** in dry, degassed C_6H_6. The duration between consecutive scans is 1 min. UV samples were prepared in N_2 filled glove box, transferred to a sealed cuvette and their UV-Vis absorption spectra were recorded.

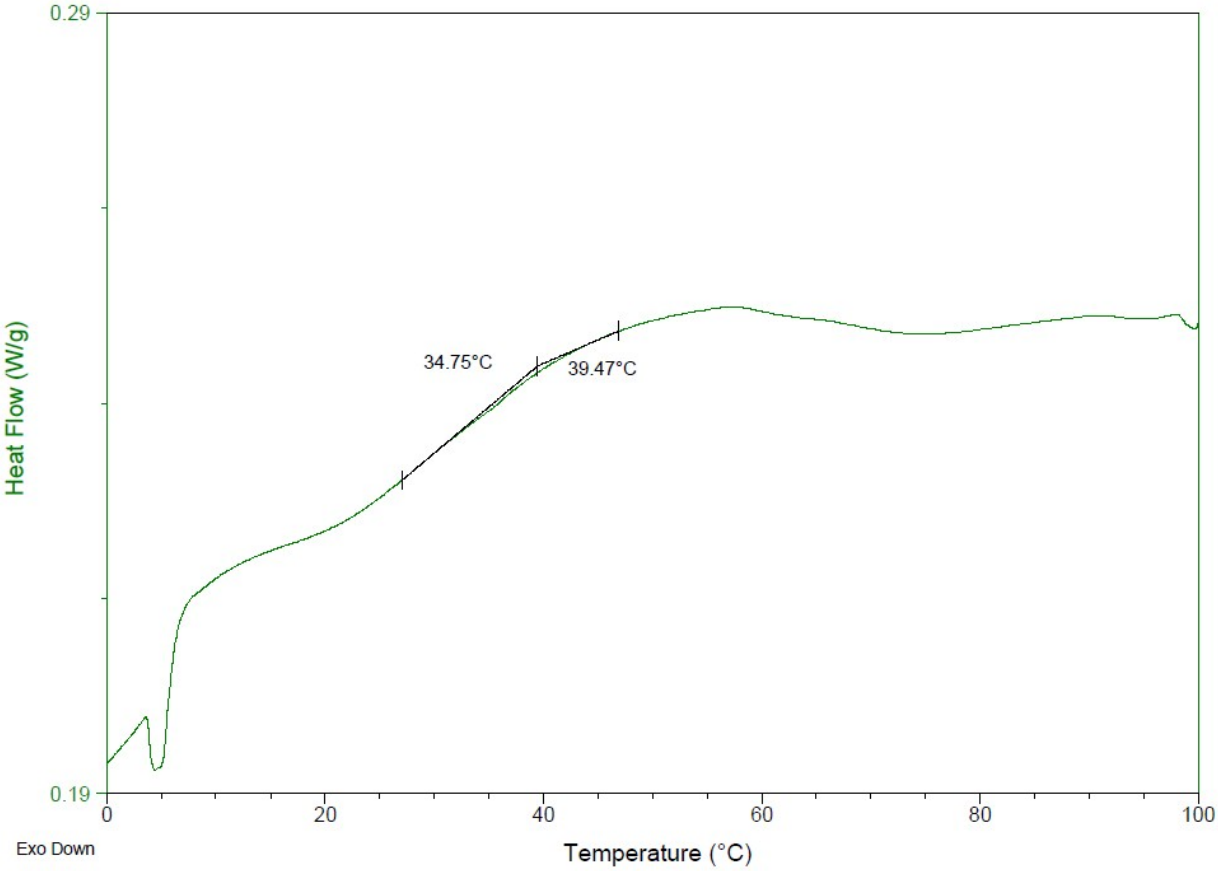

Figure B 2. Thermal Gravimetric Analysis of Polymer **8**.