

Supporting information for:

# Molecular Structures of the Pyridine-2-olates PhE(pyO)<sub>3</sub> (E = Si, Ge, Sn) – [4+3]-Coordination at Si, Ge vs. Heptacoordination at Sn

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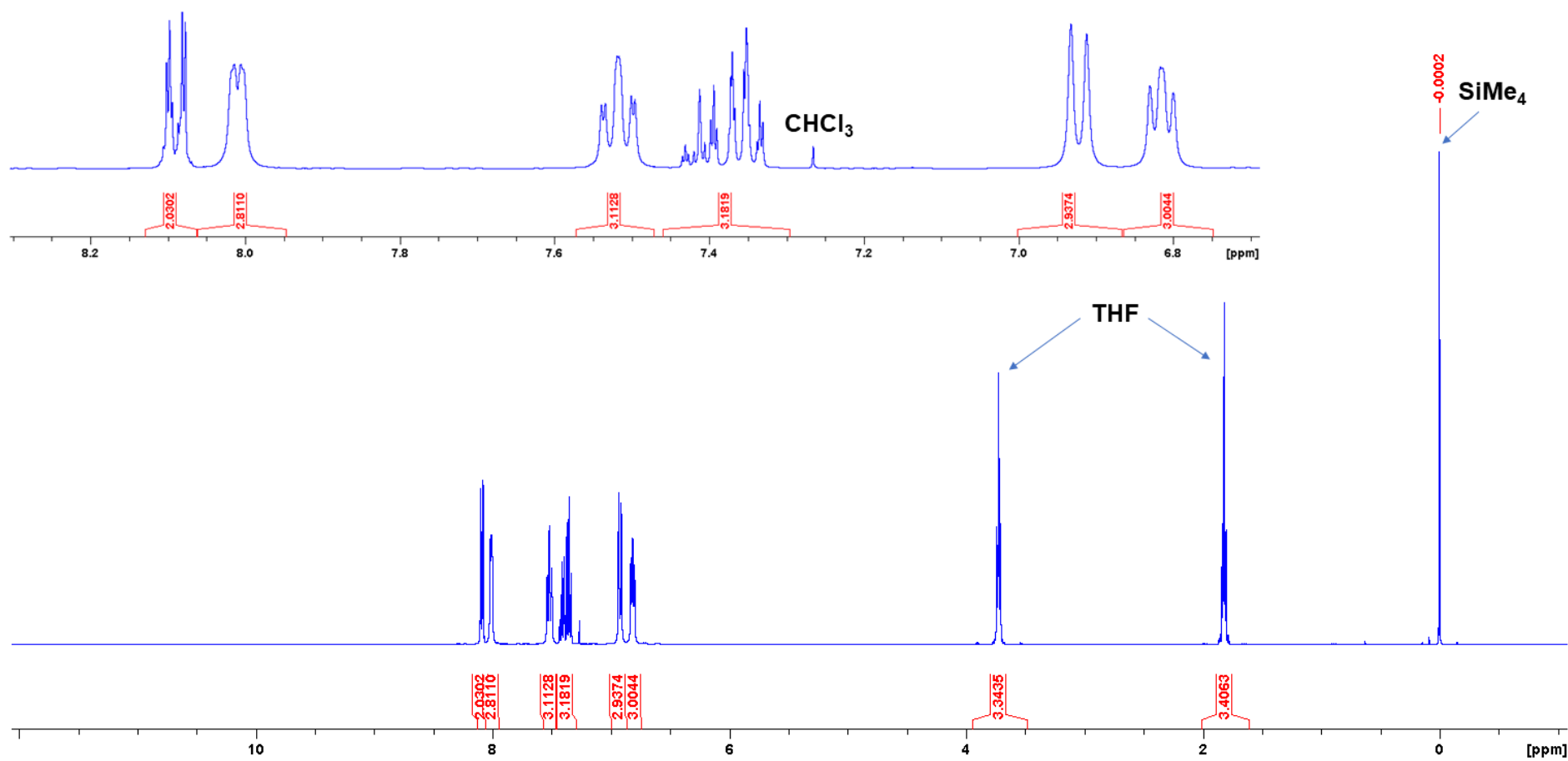
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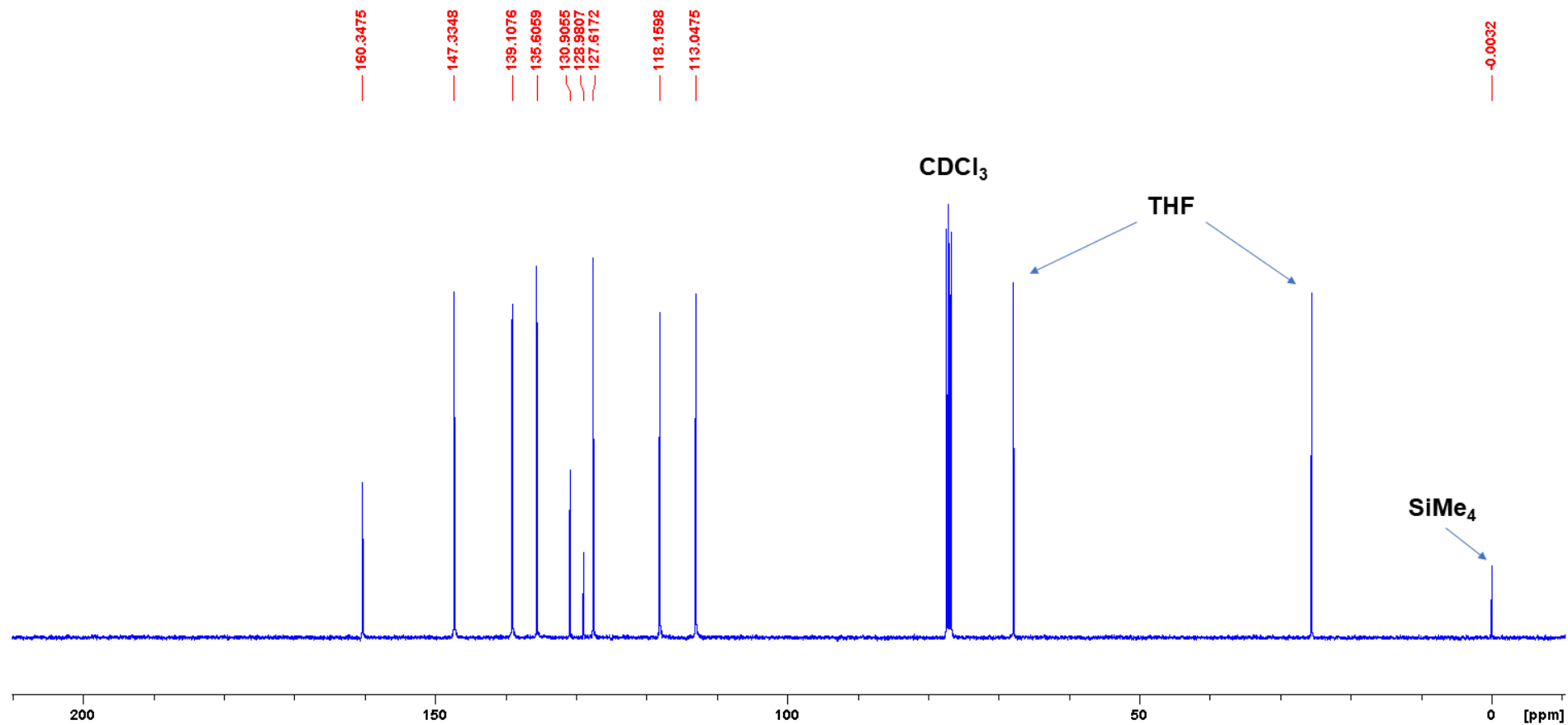
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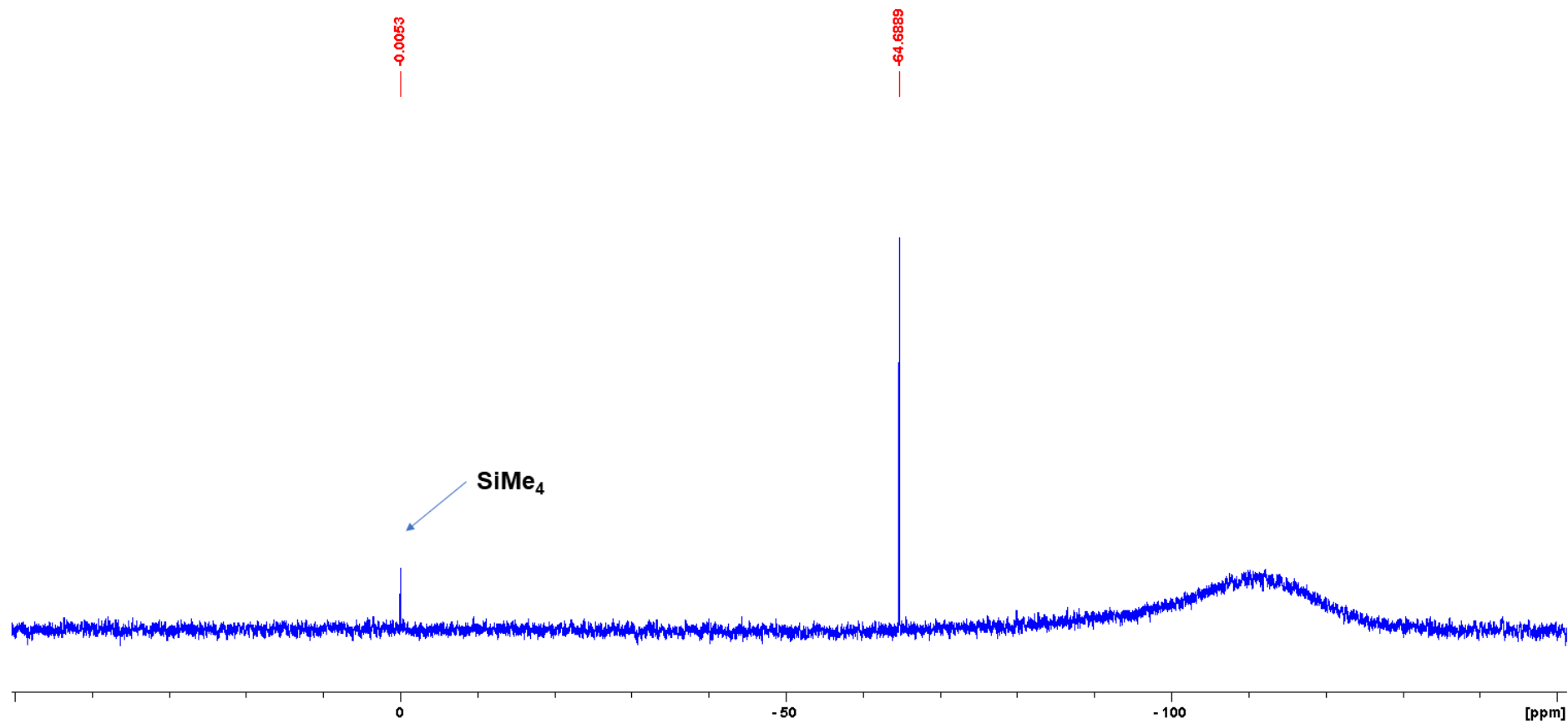
NMR spectra (<sup>1</sup>H, <sup>13</sup>C{<sup>1</sup>H} and, where applicable, <sup>29</sup>Si{<sup>1</sup>H} or <sup>119</sup>Sn{<sup>1</sup>H}) of CDCl<sub>3</sub> solutions of compounds PhSi(pyO)<sub>3</sub> (Figures S1 – S3), PhGe(pyO)<sub>3</sub> (Figures S4, S5), and PhSn(pyO)<sub>3</sub> (Figures S6 – S9).



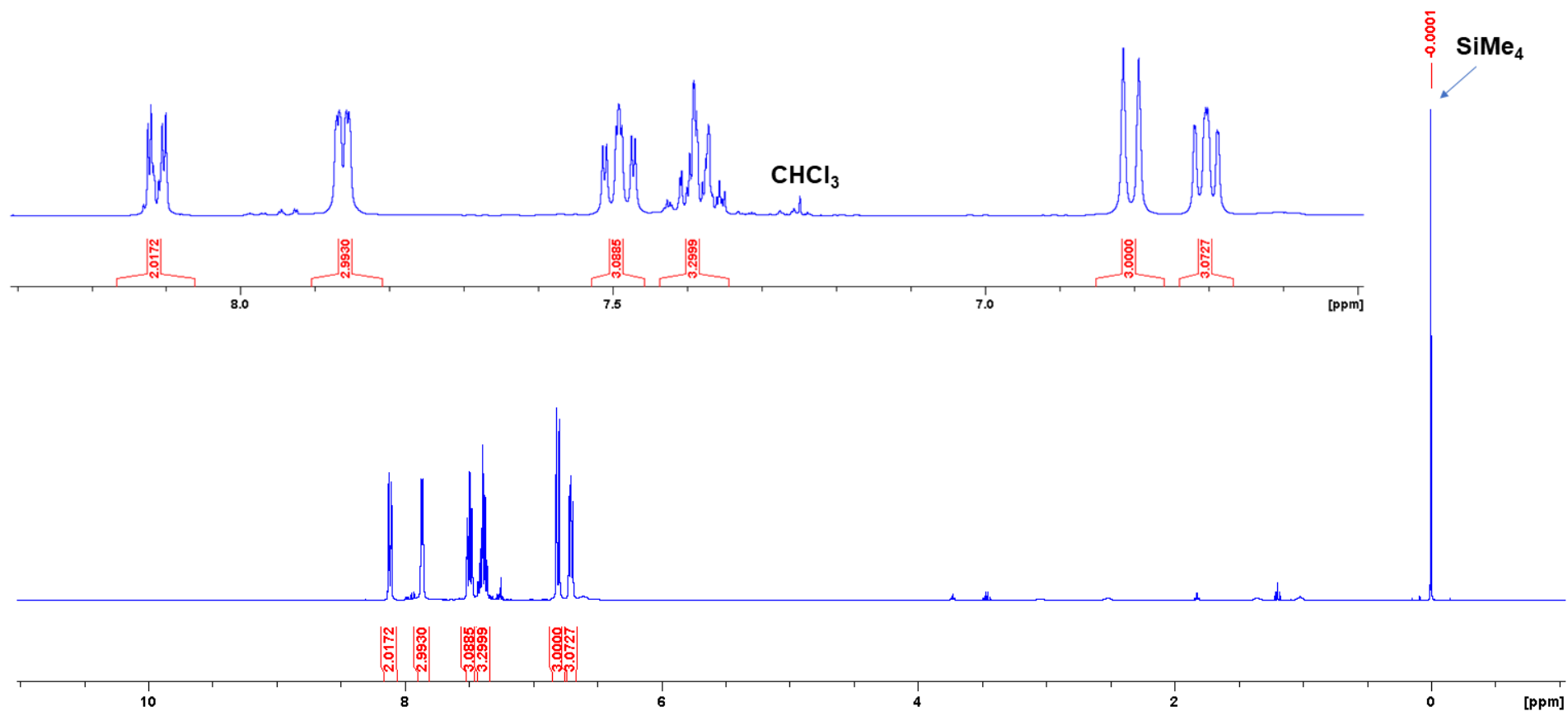
**Figure S1.**  $^1\text{H}$  NMR spectrum of  $\text{PhSi}(\text{pyO})_3$  (of its solvate  $\text{PhSi}(\text{pyO})_3 \cdot \text{THF}$ ) in  $\text{CDCl}_3$  (full spectrum and magnified inset of group of signals).



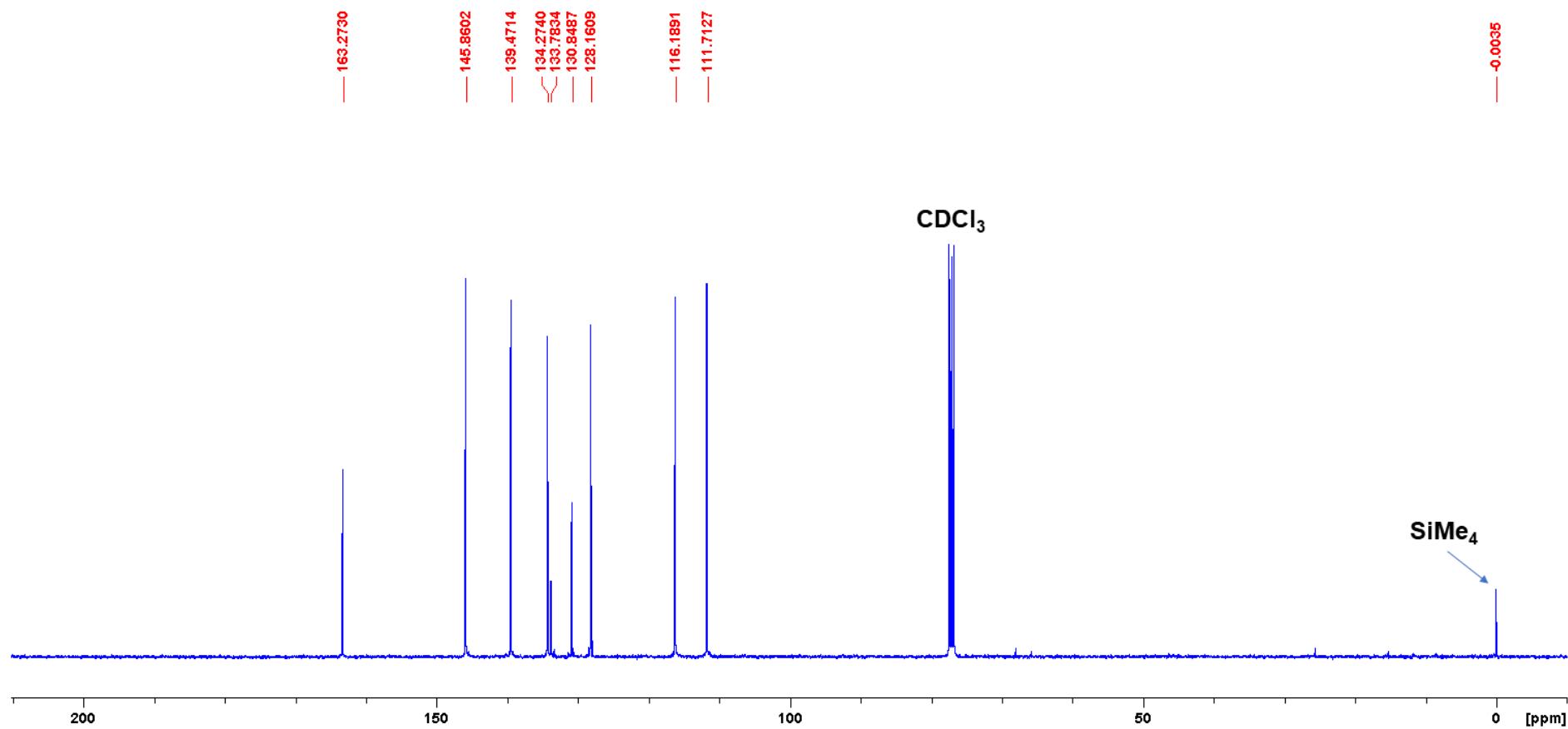
**Figure S2.** <sup>13</sup>C{<sup>1</sup>H} NMR spectrum of PhSi(pyO)<sub>3</sub> (of its solvate PhSi(pyO)<sub>3</sub> · THF) in CDCl<sub>3</sub>.



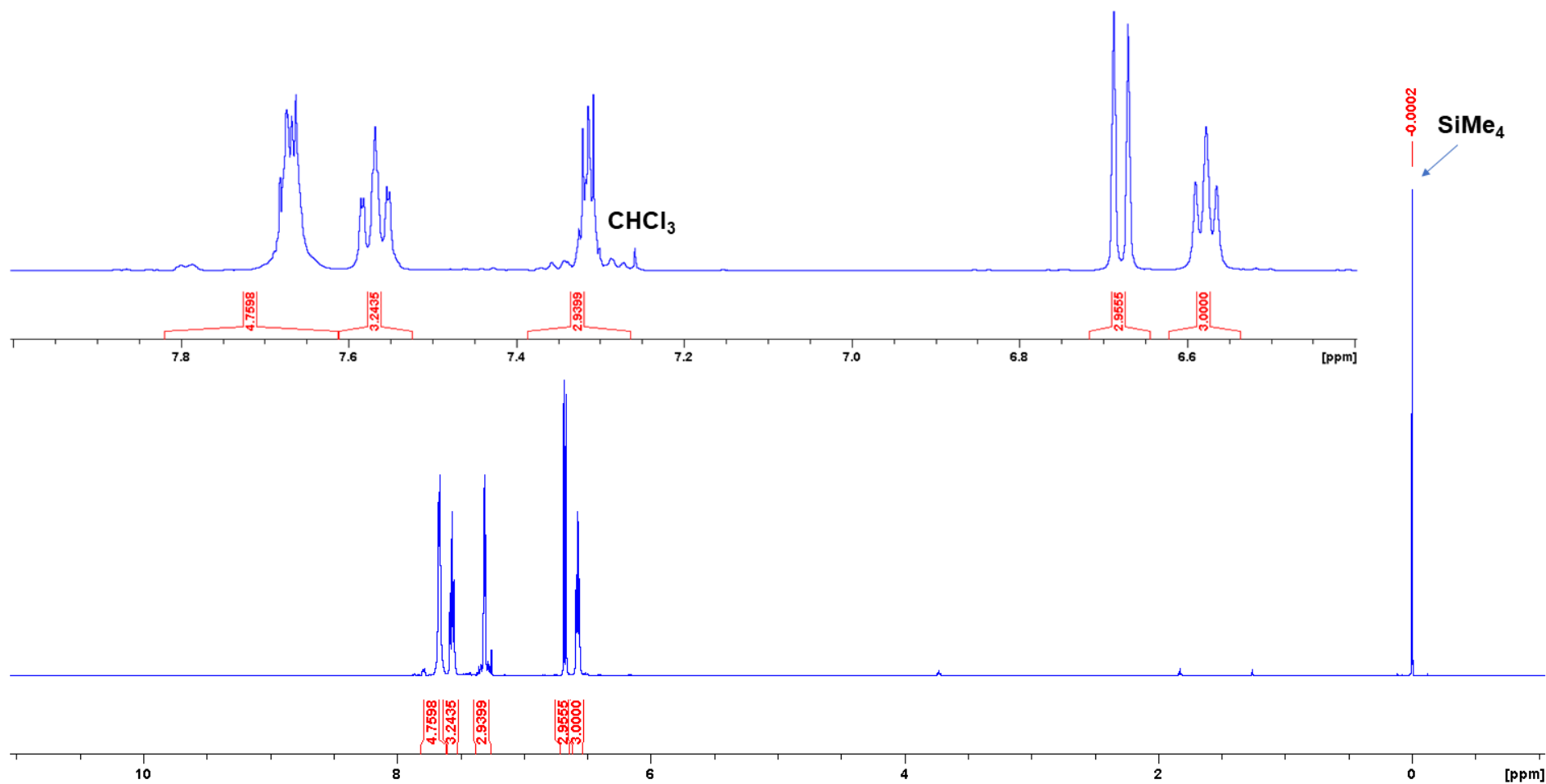
**Figure S3.**  $^{29}\text{Si}\{^1\text{H}\}$  NMR spectrum of  $\text{PhSi}(\text{pyO})_3$  (of its solvate  $\text{PhSi}(\text{pyO})_3 \cdot \text{THF}$ ) in  $\text{CDCl}_3$ .



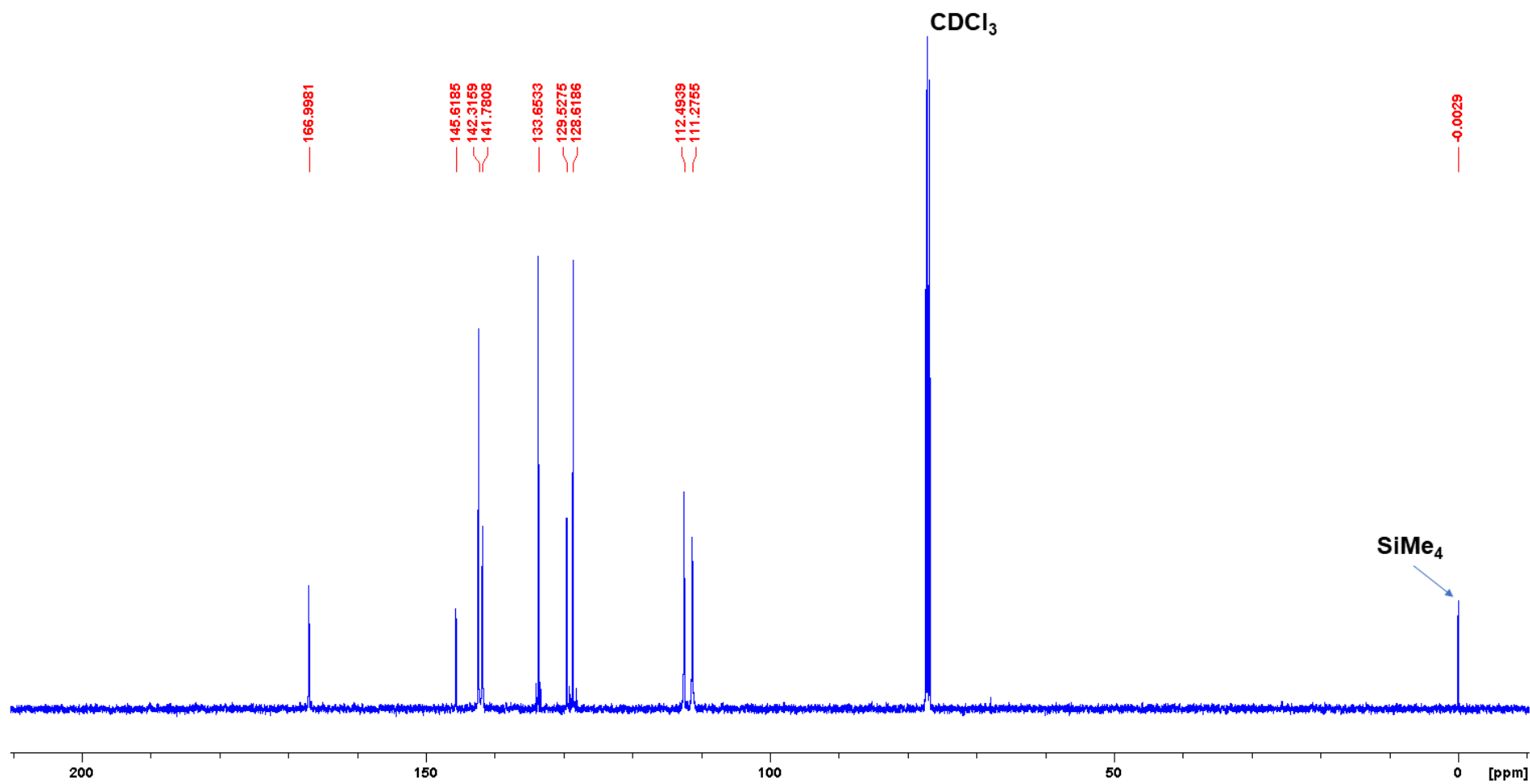
**Figure S4.**  $^1\text{H}$  NMR spectrum of  $\text{PhGe}(\text{pyO})_3$  in  $\text{CDCl}_3$  (full spectrum and magnified inset of group of signals).



**Figure S5.**  $^{13}\text{C}\{^1\text{H}\}$  NMR spectrum of  $\text{PhGe}(\text{pyO})_3$  in  $\text{CDCl}_3$ .

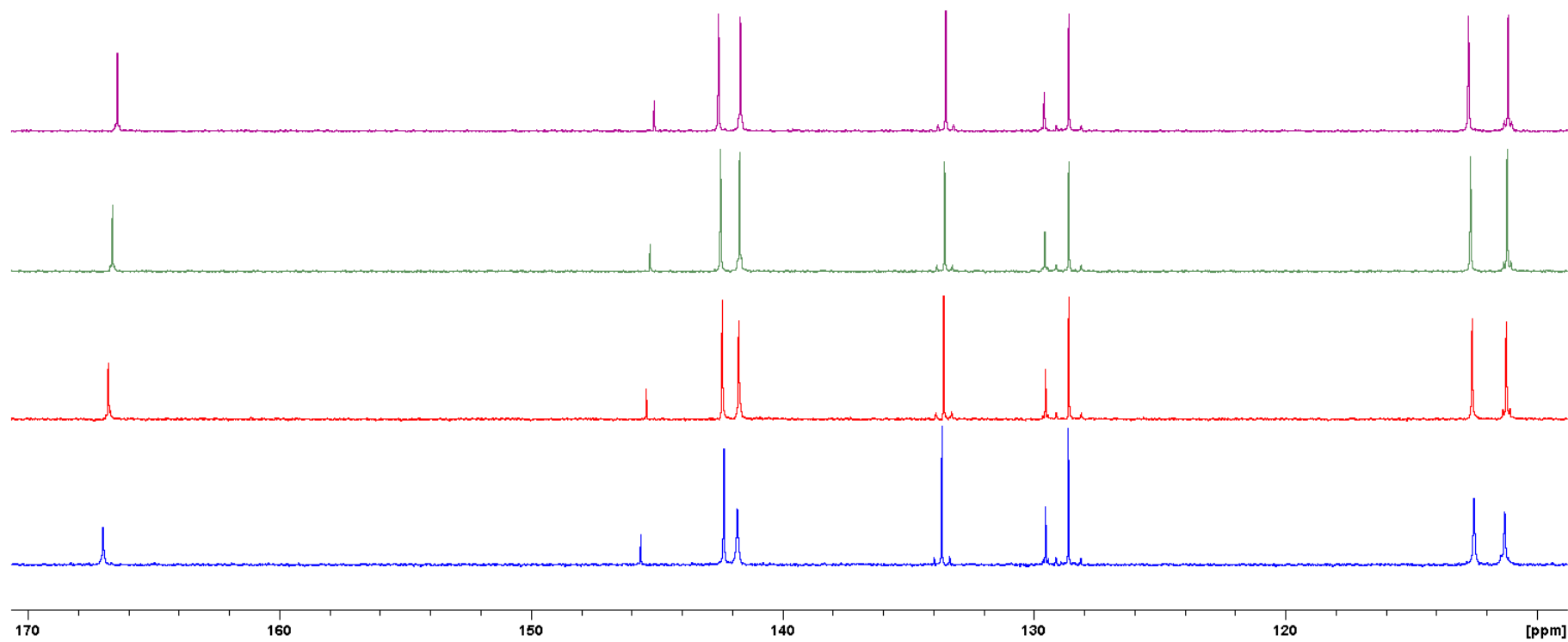


**Figure S6.**  $^1\text{H}$  NMR spectrum of  $\text{PhSn}(\text{pyO})_3$  in  $\text{CDCl}_3$  at room temperature (full spectrum and magnified inset of group of signals). Note: The surplus intensity (of ca. 0.24 H) of the signal at 7.57 ppm arises from  $^{117/119}\text{Sn}$  satellites of the adjacent signal, which therefore lacks this intensity.

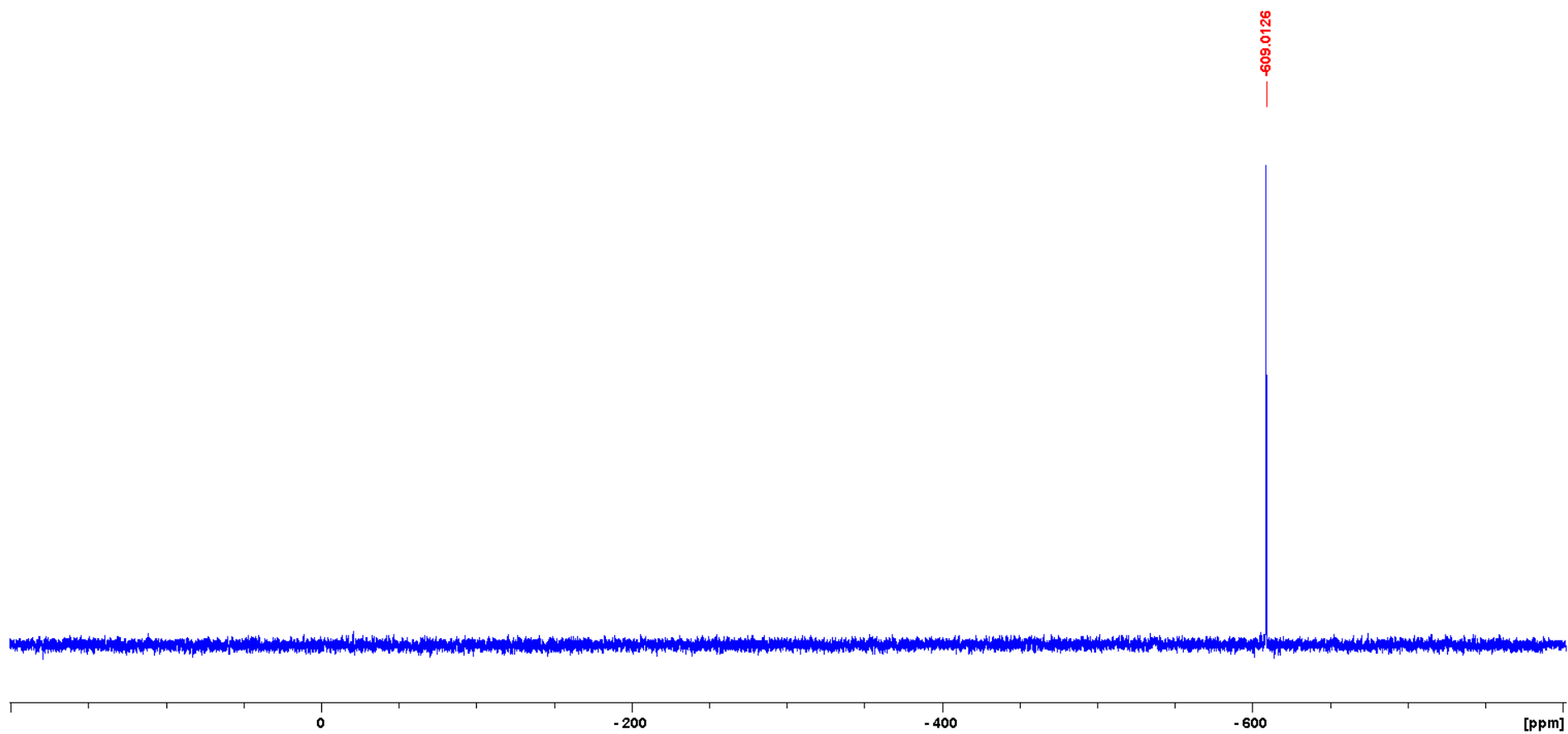


**Figure S7.**  $^{13}\text{C}\{^1\text{H}\}$  NMR spectrum of  $\text{PhSn}(\text{pyO})_3$  in  $\text{CDCl}_3$  at room temperature.





**Figure S8.**  $^{13}\text{C}\{^1\text{H}\}$  NMR spectrum of  $\text{PhSn}(\text{pyO})_3$  in  $\text{CDCl}_3$  at (from bottom to top) room temperature,  $0^\circ\text{C}$ ,  $-20^\circ\text{C}$  and  $-40^\circ\text{C}$ .



**Figure S9.**  $^{119}\text{Sn}\{^1\text{H}\}$  NMR spectrum of  $\text{PhSn}(\text{pyO})_3$  in  $\text{CDCl}_3$  at room temperature.