Electronic Supplementary Material (ESI) for Dalton Transactions.

Higher stability within metalloid tin clusters via Cation-Anion interaction.

Roman Kimmich, Claudio Schrenk and Andreas Schnepf*

Prof. Dr. A. Schnepf, Chemistry Department, University Tübingen, Auf der Morgenstelle 18, D-72076 Tübingen, Germany; Tel.: Int. Code +49 (7071) 29 – 76635; Fax: Int. Code +49 (7071) 28 – 2436; Email: andreas.schnepf@uni-tuebingen.de.

Content

1. Spectroscopic data

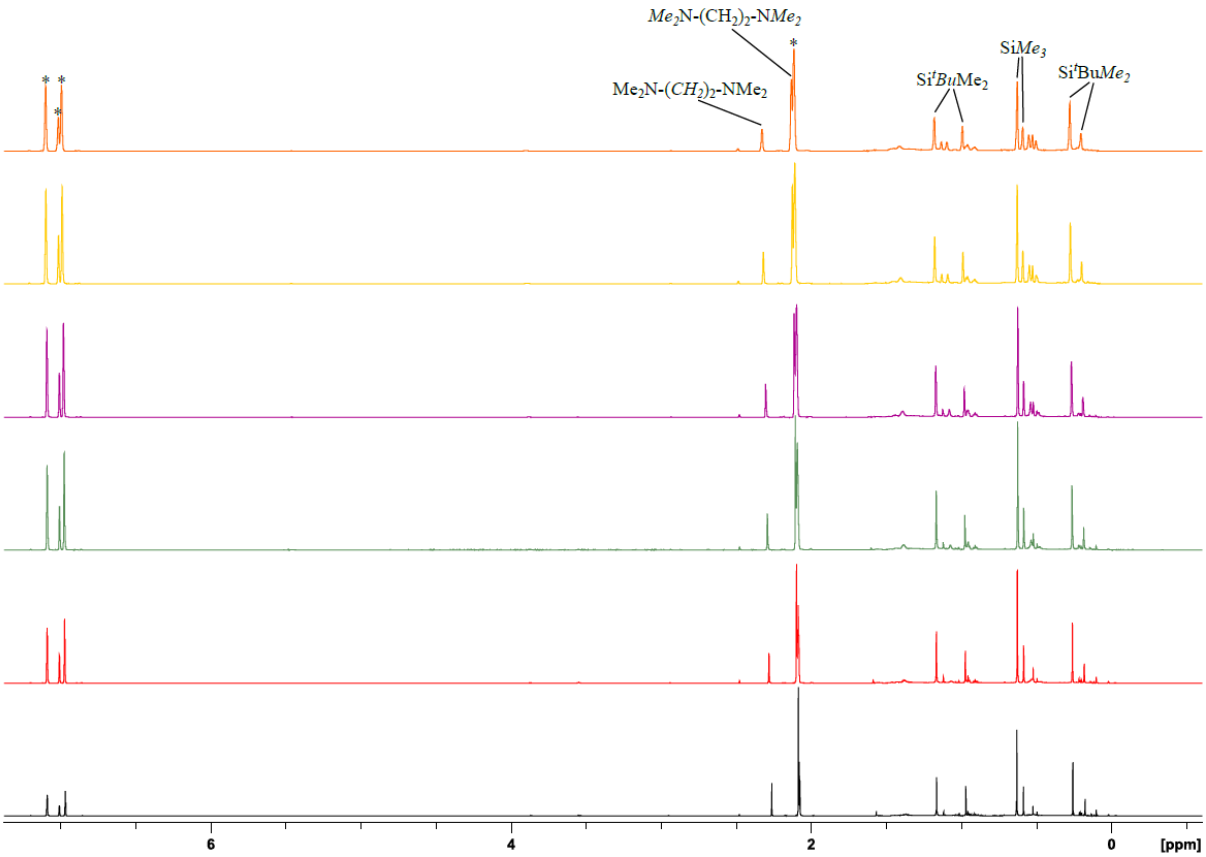

Figure S1: VT-Measurement of $\{K(TMEDA)_3\}\{K(TMEDA)Sn_{10}[Si(SiMe_3)_2(SitBuMe_2)]_4\}$ between 25 and 80 °C in toluene-d_8 (700 MHz).

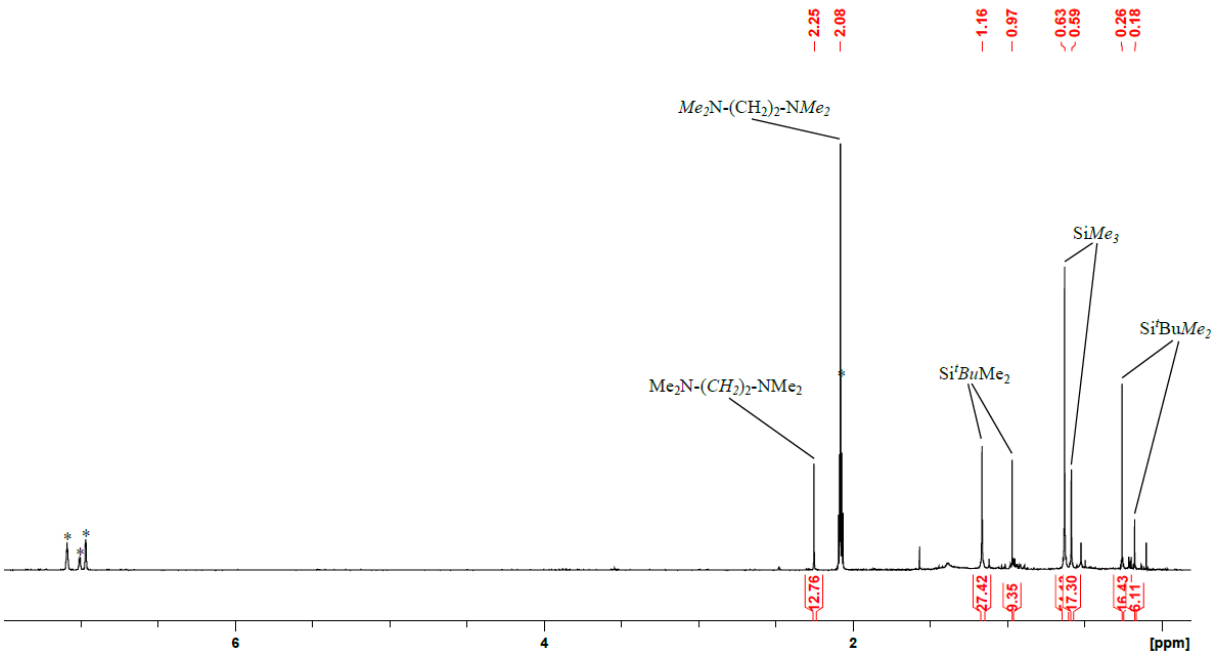

Figure S2: ^{1}H-NMR-spectra of {K(TMEDA)$_3$}{K(TMEDA)Sn$_{10}$[Si(SiMe$_3$)$_2$(Si*t*BuMe$_2$)]$_4$} in toluene-d$_8$ (300 MHz).

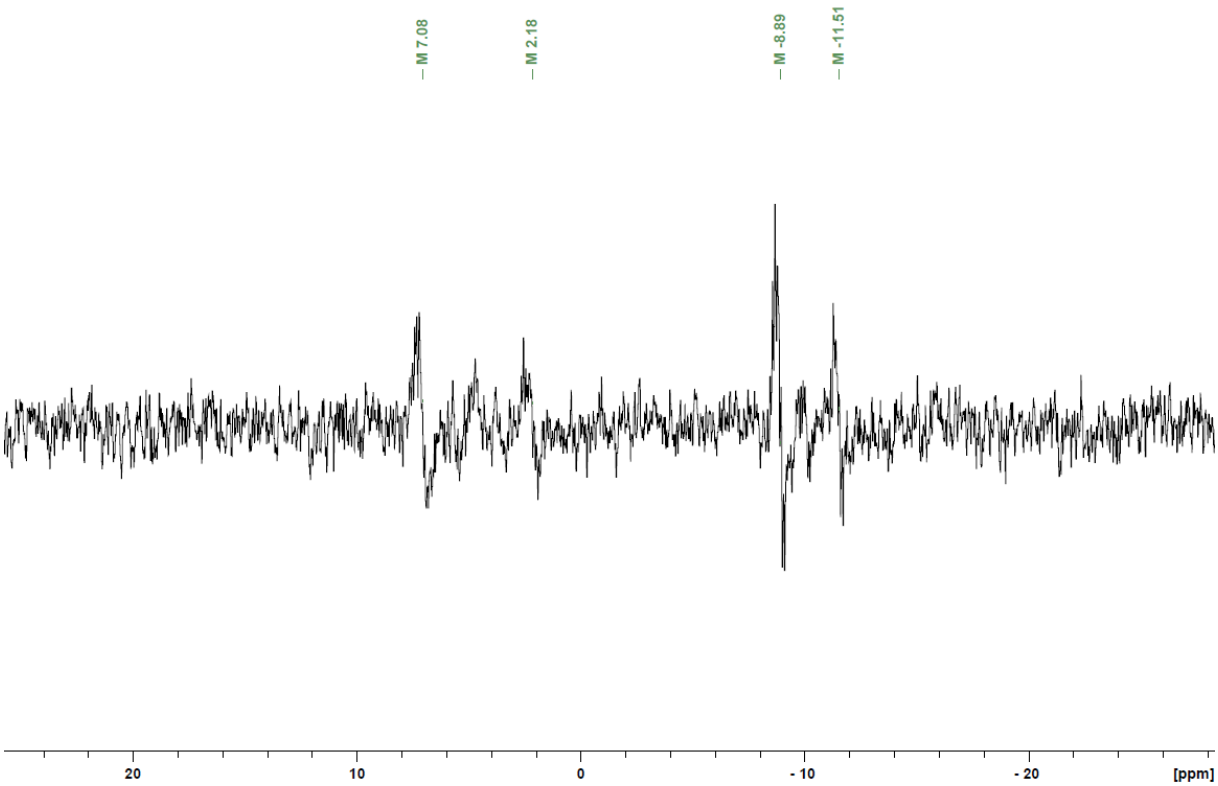

Figure S3: ^{29}Si-NMR-spectra of {K(TMEDA)$_3$}{K(TMEDA)Sn$_{10}$[Si(SiMe$_3$)$_2$(Si*t*BuMe$_2$)]$_4$} in toluene-d$_8$ (300 MHz).

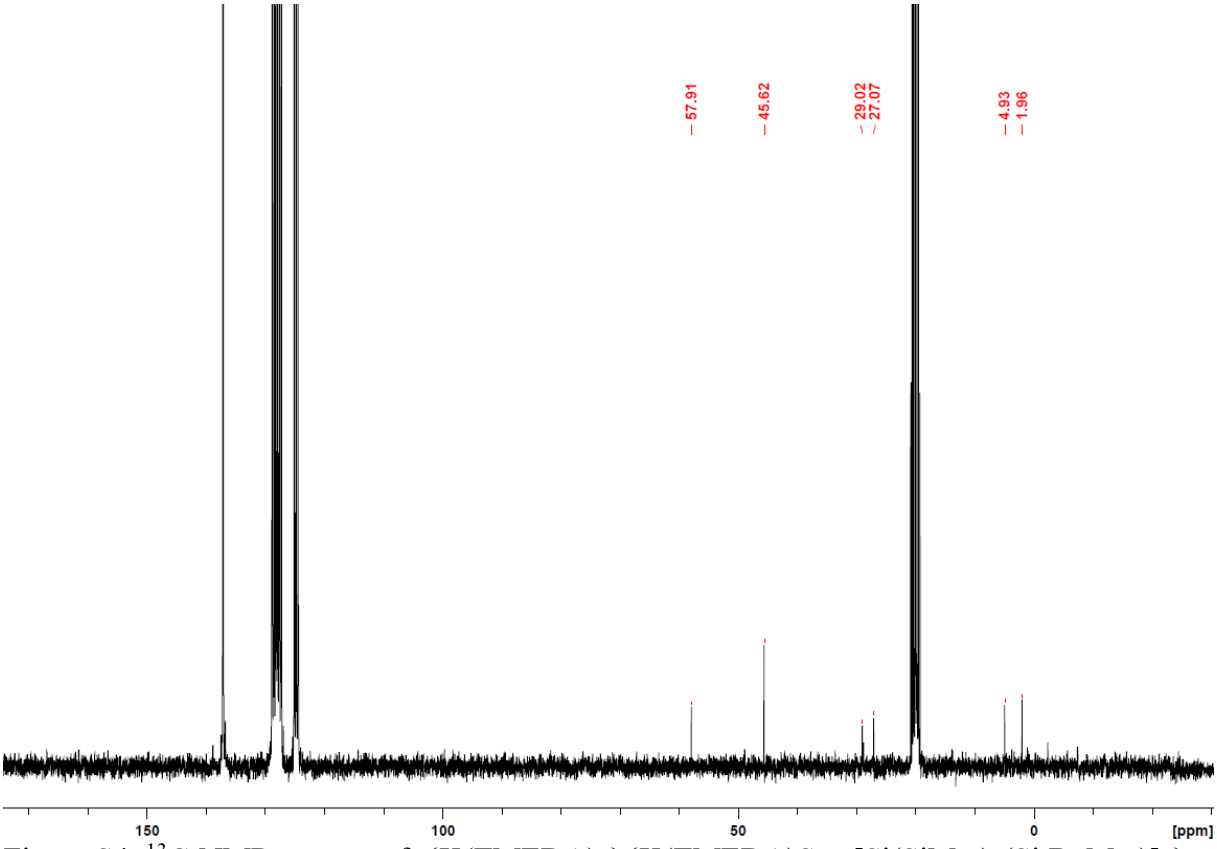

Figure S4: ^{13}C-NMR-spectra of {K(TMEDA)$_3$}{K(TMEDA)Sn$_{10}$[Si(SiMe$_3$)$_2$(Si*t*BuMe$_2$)]$_4$} in toluene-d$_8$ (300 MHz).

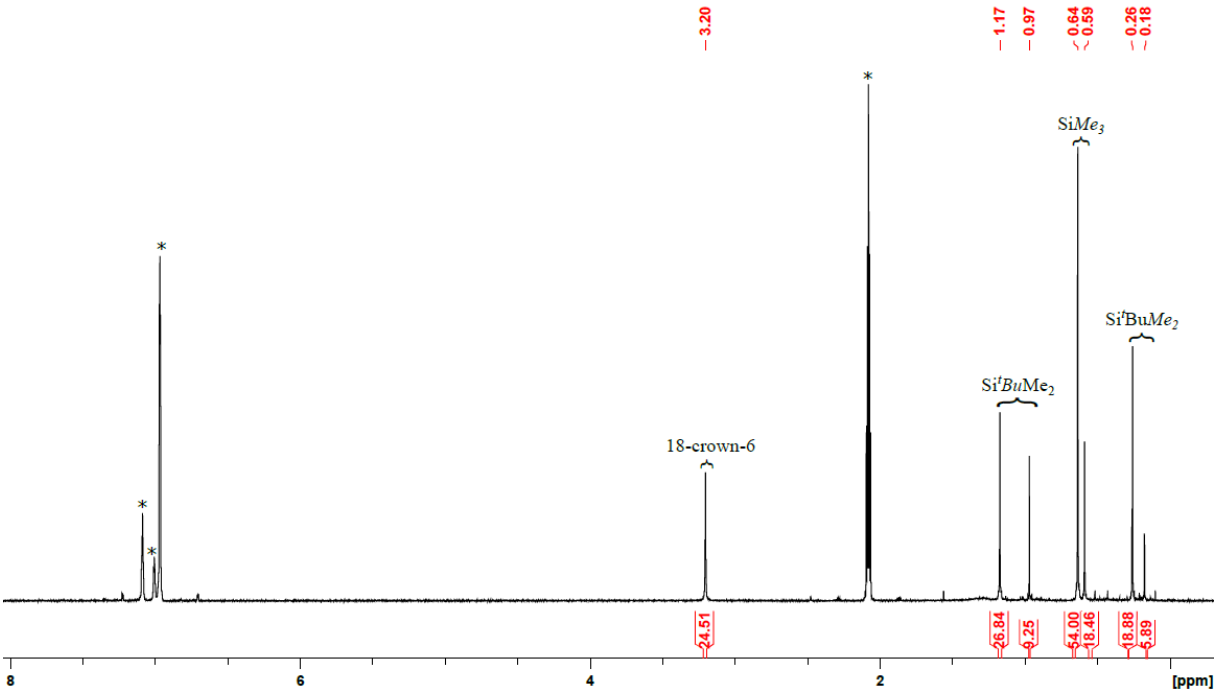

Figure S5: ^{1}H-NMR-spectra of K$_2$Sn$_{10}$[Si(SiMe$_3$)$_2$(Si*t*BuMe$_2$)]·18c-6 in toluene-d$_8$ (300 MHz).

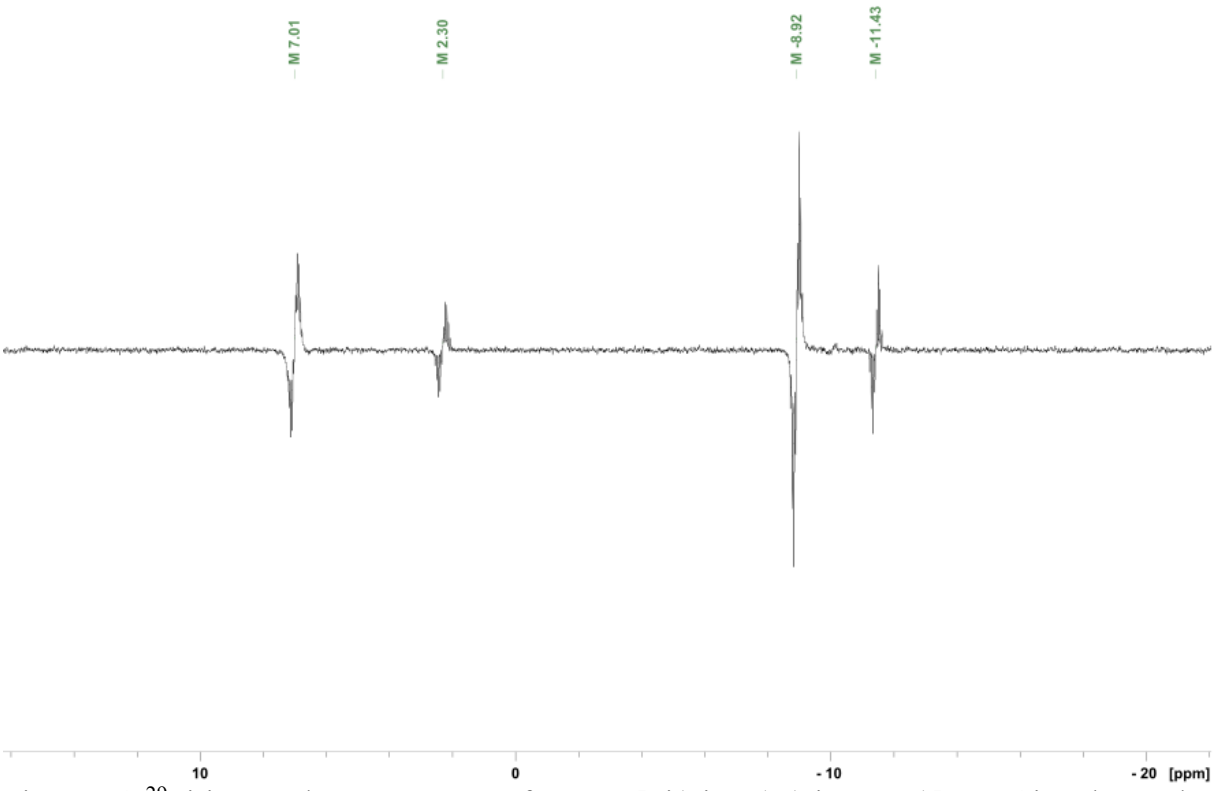

Figure S6: ^{29}Si-inept-nd-NMR-spectra of $K_2Sn_{10}[Si(SiMe_3)_2(SitBuMe_2)]\cdot 18c\text{-}6$ in toluene-d_8 (600 MHz).

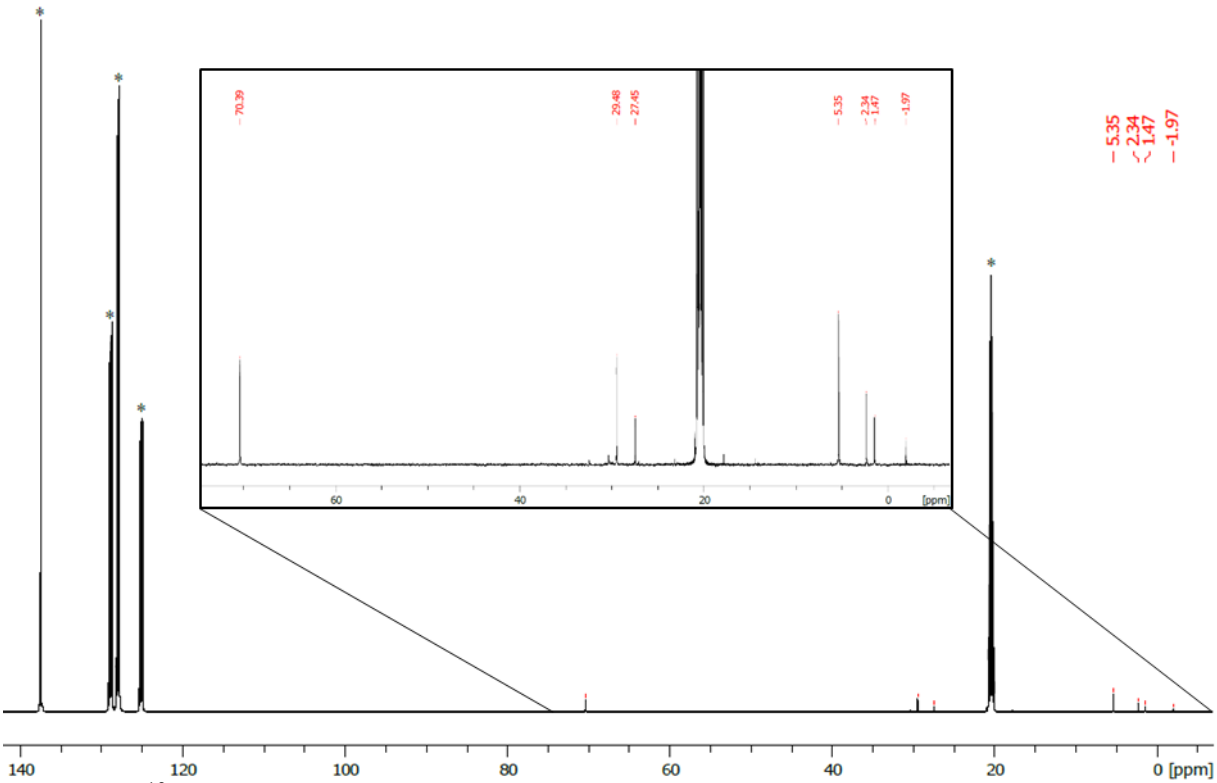

Figure S7: ^{13}C-udeft-NMR-spectra of $K_2Sn_{10}[Si(SiMe_3)_2(SitBuMe_2)]\cdot 18c\text{-}6$ in toluene-d_8 (600 MHz).

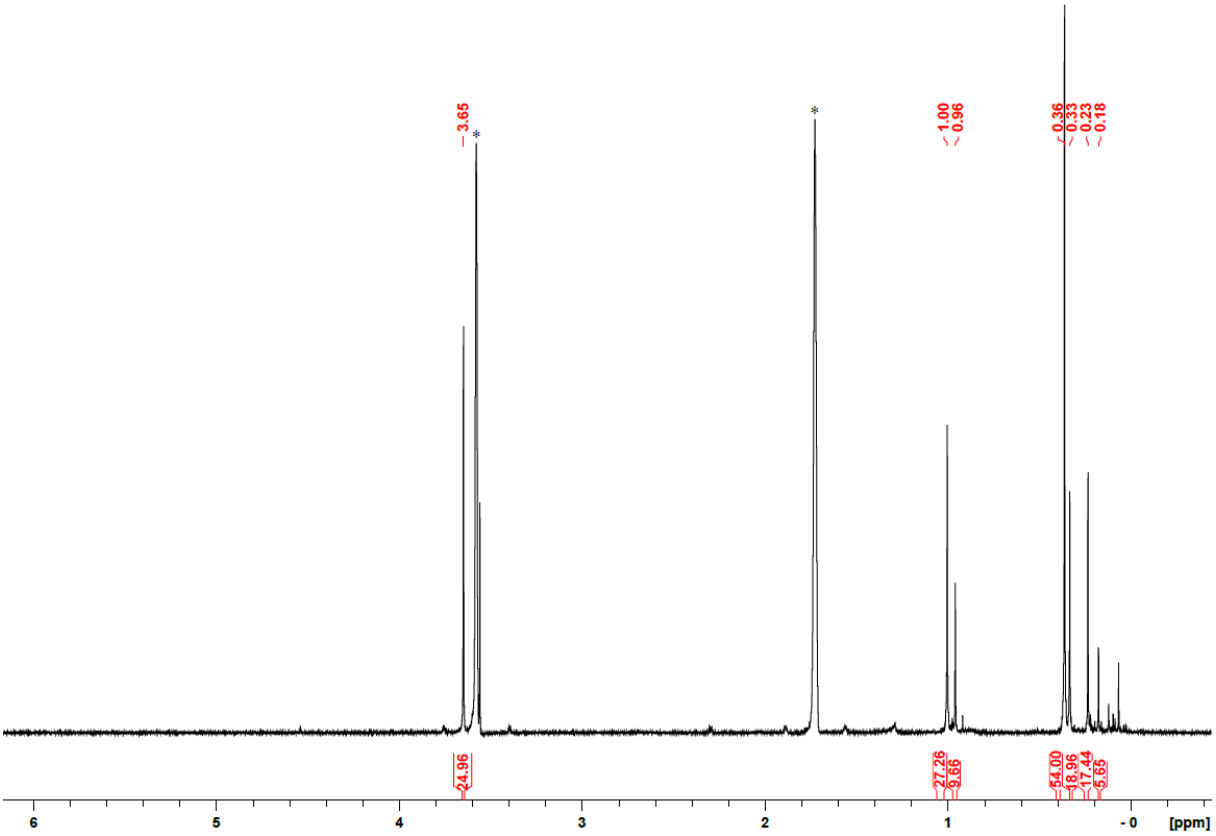

Figure S8: ^{1}H-NMR-spectra of $K_2Sn_{10}[Si(SiMe_3)_2(Si\mathit{t}BuMe_2)]\cdot 18c\text{-}6$ in thf-d_8 (400 MHz).

2. Tables

Table S1: Selected angles [°] of Sn-Atoms in Sn_{10}-Clusters.

Atoms	**$[Sn_{10}(Hyp^{tBuMe2})_4]^{2-}$-18c-6**	**$[Sn_{10}(Hyp^{tBuMe2})_4]^{2-}$-tmeda**	**$[Sn_{10}(Hyp^{Et3})_4]^{2-}$**
Sn(1)-Sn(2)-Sn(3)	101.96(2)	106.70(2)	102.03(4)
Sn(2)-Sn(3)-Sn(4)	75.33(2)	72.853(19)	76.67(3)
Sn(3)-Sn(4)-Sn(1)	105.46(2)	107.86(2)	105.61(4)
Sn(4)-Sn(1)-Sn(2)	77.22(2)	72.482(19)	75.62(3)
Sn(8)-Sn(10)-Sn(9)	60.20(2)	59.846(17)	59.08(3)
Sn(9)-Sn(10)-Sn(5)	56.031(19)	57.531(17)	57.25(3)
Sn(5)-Sn(10)-Sn(6)	56.324(19)	57.549(16)	57.55(3)
Sn(6)-Sn(10)-Sn(7)	59.546(19)	60.611(17)	59.42(3)
Sn(7)-Sn(10)-Sn(8)	59.974(18)	59.83(2)	59.94(3)