Supporting Information

On the Structure of Trimethyltin Fluoride

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Fig. S1 (a) ${}^{1}H{{}^{19}F}$ MAS NMR spectrum of non-recrystallized (CH₃)₃SnF at a spinning rate of 24 kHz; and (b) ${}^{1}H{{}^{19}F}$ (${}^{19}F$ to ${}^{1}H$ CP) MAS NMR spectrum of (CH₃)₃SnF. The signal marked by an asterisk (*) arises from the VespelTM material of the end cap and drive tip. Daggers (†) denote spinning sidebands.



Fig. S2 ¹H{¹⁹F} MAS NMR spectrum of recrystallized (CH₃)₃SnF at a spinning rate of 24 kHz. The resonance marked by an asterisk (*) arises from the TorlonTM material of the end cap and drive tip. Daggers (†) denote spinning sidebands.



Fig. S3 (a) ${}^{13}C{}^{1}H, {}^{19}F{}$ MAS NMR spectrum of recrystallized (CH₃)₃SnF at a spinning rate of 24 kHz. (b) Deconvolution of the isotropic band in the ${}^{13}C{}^{1}H, {}^{19}F{}$ MAS NMR spectrum of recrystallized (CH₃)₃SnF.



Fig. S4 ¹⁹F{¹H} MAS NMR spectrum of non-recrystallized (CH₃)₃SnF at a spinning rate of 24 kHz. Insert shows the doublet and triplet ^{117,119}Sn satellites arising from the symmetric linear Sn–F–Sn moiety.



Fig. S5 (a) Simulated and (b) experimental ${}^{19}F{}^{1}H{}$ MAS NMR spectrum of non-recrystallized (CH₃)₃SnF at a spinning rate of 15.5 kHz at 20 °C.



Fig. S6 (a) Simulated and (b) experimental ${}^{19}F{}^{1}H$ MAS NMR spectrum of recrystallized (CH₃)₃SnF at a spinning rate of 15.5 kHz at 20 °C.



Fig. S7 (a) Simulated and (b) experimental $^{119}Sn\{^{19}F, ^{1}H\}$ MAS NMR spectrum of recrystallized (CH₃)₃SnF at a spinning rate of 15.5 kHz at 20 °C.



Fig. S8 (a) Simulated and (b) experimental $^{119}Sn{^{1}H}$ MAS NMR spectrum of recrystallized (CH₃)₃SnF at a spinning rate of 15.5 kHz at 20 °C.