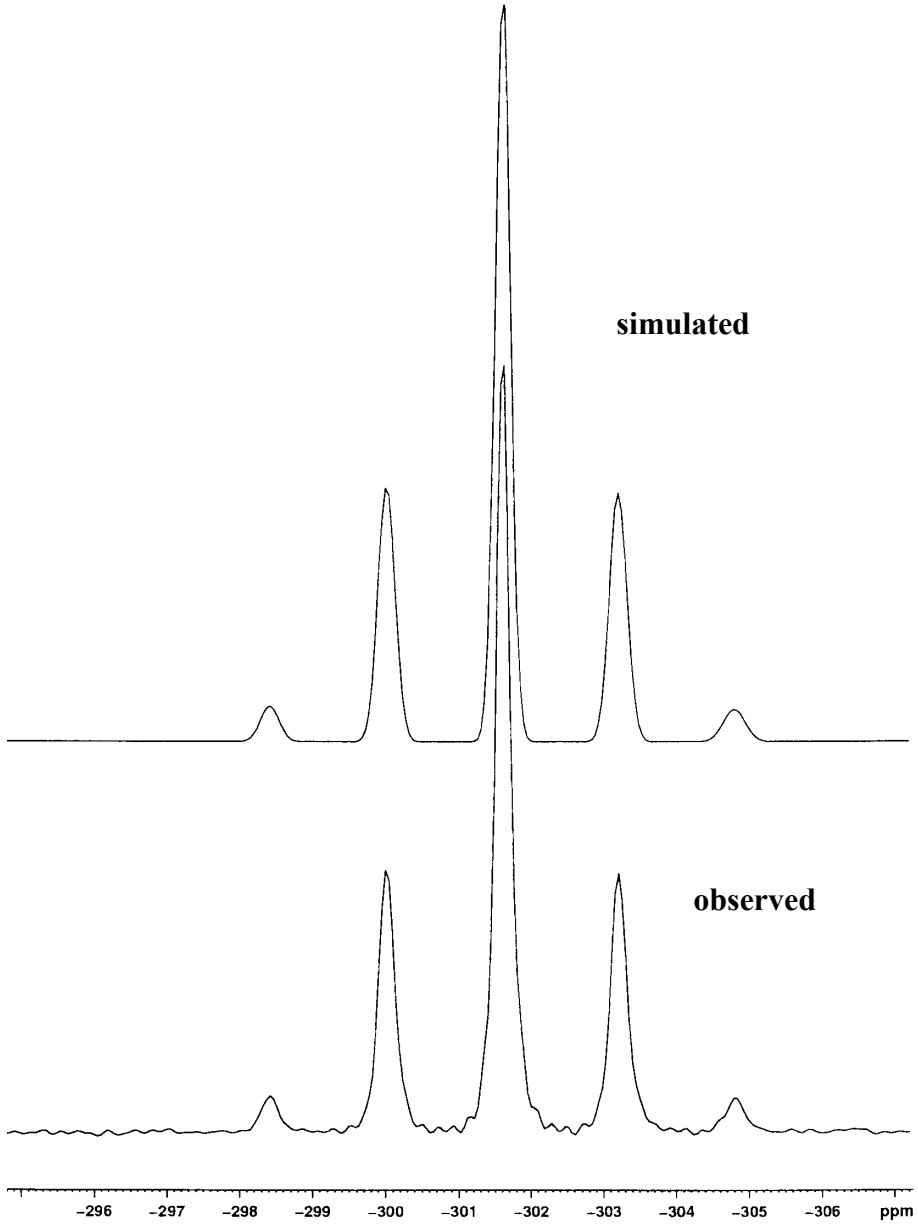
Synthesis of **1**: A solution of Is_2SnF_2 (1.58 g, 2.81 mmol) in 10 ml mesitylene is allowed to react with $Si(PH_2)_4$ (0.43 g, 2.69 mmol) at –30°C in a teflon-vessel. After the reaction mixture has reached room temperature (2h), the volatile components have been removed in vacuo (10^{-3} torr) leading to the desired product in the form of a colourless powder in quantitative yield. ^{1}H NMR (300K, C_6D_6): δ = 7.10 (s, 4H, arom. H), 3.35 (sept., ^{3}J(H, H) = 6.6 Hz, 4 H, Me_2CH), 2.72 (sept., ^{3}J(H, H) = 6.9 Hz, 2H, Me_2CH), 2.41 (dd, ^{1}J(H, P) = 121 Hz, 3J(H, F) = 12 Hz, 2H, PH_2), 1.23 (d, ^{3}J(H, H) = 6.9 Hz, 12H, Me_2CH), 1.27 (d, ^{3}J(H, H) = 6.6 Hz), 24H, Me_2CH). Selected MS(EI, 70 eV) data: m/z(%) = 559 ($[M-F]^+$, 5), 203 (Is^+, 100).
$C_{30}H_{48}FPSn$ (577.3): calc. C (62.41%), H (8.38%); obs. C (62.03%), H (8.32%).

Synthesis of **2**: A solution of **1** (2.22 mmol) in 5 ml THF is stirred for 3 d in a sealed glass tube. The desired product crystallises during the reaction time in the form of large colourless cubes. SiF_4 escapes after opening the tube and the solvent is removed in vacuo. Re crystallisation of the solid residue in hot THF furnishes analytically pure **2** in quantitative yield. ^{1}H NMR (300 K, C_6D_6): δ = 7.22 (s, 8H, arom. H), 4.38 (md, ^{1}J(H, P) = 121 Hz, 2H, PH), 3.76 (br.s, 8H, Me_2CH), 2.82 (sept., ^{3}J(H, H) = 7.1 Hz, 4H, Me_2CH), 1.29 (d, ^{3}J(H, H) = 7.0 Hz, 48 H, Me_2CH), 1.25 (d, ^{3}J(H, H) = 7.0 Hz, 48H, Me_2CH). Selected MS (EI, 70 eV) data: m/z (%) = 558 ($M/2^+$, 17), 545 ($[M/2-CH2]^+$, 23), 43 (iPr$^+$, 100).
$C_{60}H_{94}P_2Sn_2$ (1114.6): calc. C (64.73%), H (8.51%); obs. C (64.36%), H (8.40%).

Synthesis of **3**: A solution of **1** (2.81 mmol) in 10 ml benzene is allowed to react with $Si(PH_2)_4$ (5.62 mmol) at room temperature. After stirring for 16 h, the volatile components of the reaction mixture have been removed in vacuo and the solid residue has been re-crystallised in 5 ml hexane. The product can be isolated in the form of large colourless crystals in quantitative yield. M.p. = 50°C, decomp.>180°C. ^{1}H NMR (300K, C_6D_6): δ = 7.17 (s, 4H, arom. H), 3.45 (sept., ^{3}J(H, H) = 6.6 Hz, 4 H, Me_2CH), 2.86 (sept., ^{3}J(H, H) = 6.9 Hz, 2H, Me_2CH), 2.21 (md, ^{1}J(H, P) = 172.8 Hz, 4H, PH_2), 1.30 (d, ^{3}J(H, H) = 6.9 Hz, 12H, Me_2CH), 1.29 (d, ^{3}J(H, H) = 6.6 Hz), 24H, Me_2CH). Selected MS(EI, 70 eV) data: m/z(%) = 559 ($[M-PH_2]^+$, 100), 527 (Is_2Sn^+, 11).
$C_{30}H_{50}P_2Sn$ (591.3): calc. C (60.90%), H (8.50%); obs. C (60.90%), H (8.39%).

Synthesis of **4**: A solution of **3** (1.45 g, 2.45 mmol) in 10 ml THF is allowed to react with Me_3SnF (0.56 g, 3.07 mmol) in a glass-tube at room temperature. All of the insoluble Me_3SnF has been consumed after 4 h, leading to a clear solution. The sparingly soluble product precipitates quantitatively after 12 h. Re-crystallisation of the latter solid in hot THF furnishes large crystals. Alternatively, **4** is also suitable in quantitative yield by the reaction of a solution of $P(SnMe_3)_3$ (1.83 g, 3.50 mmol) with Me_3SnF (0.64 g, 3.50 mmol) in an atmosphere of SiF_4 at –20°C in 10 ml THF. Yield: 3.30 g (3.5 mmol). Decomp.>40°C. ^1H NMR (310 K, C_4D_8O): δ = 0.43 (s, $w_{1/2}$ = 4 Hz); $^{13}C\{^1H\}$ NMR: δ = -3.5 (s, $w_{1/2}$ = 24 Hz). $C_{12}H_{36}F_5PSiSn_4$ (809.24): calc. C (17.81%), H (4.48%) Sn (58.66%); obs. C (17.21%), H (4.32%), Sn (58.39%).



CP/MAS ^{31}P NMR of **4**

δ (^{31}P) = -301.55

J_{PSn} = 512 Hz