Supporting Information

Stannylplumbylenes: bonding between tetravalent tin and divalent lead

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1. Experimental Details

All manipulations were performed using Schlenk line techniques under an atmosphere of dry nitrogen.

Preparation of $Pb[C_6H_3(O^iPr)_2\text{-}2,6]_2$ (**3**)

Lead(II)chloride (1.71 g, 6.2 mmol) was added in small portions to a solution of LiR (2.47 g, 12.3 mmol) in Et_2O (40ml) at 0°C. The suspension was stirred for 3 days at room temperature and subsequently filtered. After the removal of Et_2O in vacuo **3** was crystallised from hexane at -28°C to yield 2.44 g (67%). Characterization of **3**: orange-red crystalline solid; mp (nitrogen, sealed capillary): 94°C; NMR (C_6D_6, TMS, 300K): ^{1}H (400 MHz), δ = 1.09 (d, J = 6 Hz, 24H, CH*Me*$_2$), 4.24 (sept, J = 6 Hz, 4H, C*H*Me$_2$), 7.09 (d, J = 7.6 Hz, 4H$_{meta}$), 7.18 (t, J = 7.6 Hz, 2H$_{para}$); ^{13}C{^{1}H} (100.6 MHz), δ = 22.9 (CH*Me*$_2$), 69.8 (*C*HMe$_2$), 110.5, 162.3, 221.1 (C$_{phenyl}$); ^{207}Pb{^{1}H} (83.7 MHz), δ = 5859; EI-MS: m/z (%): 594 (3) $[M]^+$, 551 (5) $[M\text{-}^iPr]^+$.

2. Crystallographic Details

The crystallographic data were collected on a Siemens CCD diffractometer (SMART) at 223(2) K with Mo-Kα radiation (λ = 0.71073 Å), solved by direct methods and refined by full-matrix least squares on F^2.[1]

Crystallographic data for **3**: empirical formula $C_{24}H_{34}O_4Pb$, *FW* = 593.70, crystal system monoclinic, space group *Cc*, *a* = 14.645(3), *b* = 14.514(3), *c* = 11.599(2) Å, *α* = 90, *β* = 93.68(3)°, *γ* = 90°, *V* = 2460.4(8) Å^3, *Z* = 4, ρ_{calcd} = 1.603 Mg m^{-3}, 6913 reflections collected, 3395 independent reflections (R_{int} = 0.0530), final *R* indices ($I > 2\sigma(I)$): R_1 = 0.0383, wR_2 = 0.0945, *R* indices (all data): R_1 = 0.0457, wR_2 = 0.0996.

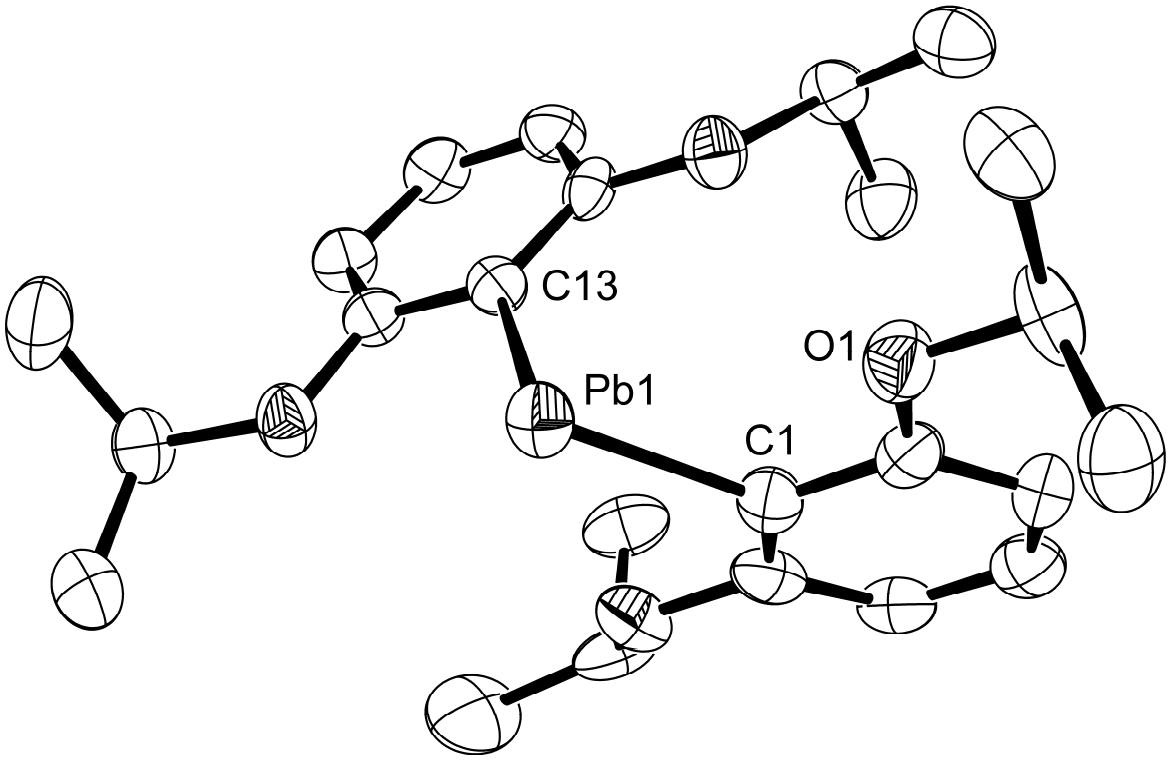

Figure S1: ORTEP representation of the molecular structure of **3** (40% thermal ellipsoids; hydrogen atoms omitted). Selected bond distances [Å] and angles [°]: Pb(1)–C(1) 2.253(10), Pb(1)–C(13) 2.276(10), Pb(1)···O(1) 3.000(8), C(1)–Pb(1)–C13 93.0(3).

Reference:

1 G.M. Sheldrick, *SHELXS-97* and *SHELXL-97*, Programs for crystal structure analysis, University of Göttingen, Germany, 1997.