Supporting Information for:

Low-coordinate germylene and stannylene heterocycles featuring sterically tunable bis(amido)silyl ligands

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Table S1. Crystallographic Experimental Details for **$Li_2[NSiN]^{Dipp}$**

A. Crystal Data	
formula	$C_{54}H_{96}Li_2N_2O_6Si$
formula weight	911.30
crystal dimensions (mm)	0.31 × 0.31 × 0.27
crystal system	orthorhombic
space group	$P2_12_12_1$ (No. 19)
unit cell parameters[a]	
a (Å)	14.7015 (5)
b (Å)	18.1668 (6)
c (Å)	10.5297 (3)
V (Å^3)	2812.26 (16)
Z	2
ρ_{calcd} (g cm^{-3})	1.076
μ (mm^{-1})	0.087
B. Data Collection and Refinement Conditions	
diffractometer	Bruker D8/APEX II CCD[b]
radiation (λ [Å])	graphite-monochromated Mo Kα (0.71073)
temperature (°C)	–100
scan type	ω scans (0.3°) (20 s exposures)
data collection 2θ limit (deg)	55.16
total data collected	25138 (-18 ≤ h ≤ 18, -23 ≤ k ≤ 23, -13 ≤ l ≤ 13)
independent reflections	6490 (R_{int} = 0.0247)
number of observed reflections (*NO*)	5559 [$F_o^2 \geq 2\sigma(F_o^2)$]
structure solution method	direct methods (*SHELXS–97*[c])
refinement method	full-matrix least-squares on F^2 (*SHELXL–97*[c])
absorption correction method	Gaussian integration (face-indexed)
range of transmission factors	0.9768–0.9731
data/restraints/parameters	6490 / 0 / 303
Flack absolute structure parameter[d]	0.05(15)
goodness-of-fit (S)[e] [all data]	1.051
final R indices[f]	
R_1 [$F_o^2 \geq 2\sigma(F_o^2)$]	0.0491
wR_2 [all data]	0.1470
largest difference peak and hole	0.333 and –0.167 e Å^{-3}

[a]Obtained from least-squares refinement of 9987 reflections with 4.48° < 2θ < 48.14°.

[b]Programs for diffractometer operation, data collection, data reduction and absorption correction were those supplied by Bruker.

(continued)

Table S1. Crystallographic Experimental Details (continued)

[c]Sheldrick, G. M. *Acta Crystallogr.* **2008**, *A64*, 112–122.

[d]Flack, H. D. *Acta Crystallogr.* **1983**, *A39*, 876–881; Flack, H. D.; Bernardinelli, G. *Acta Crystallogr.* **1999**, *A55*, 908–915; Flack, H. D.; Bernardinelli, G. *J. Appl. Cryst.* **2000**, *33*, 1143–1148. The Flack parameter will refine to a value near zero if the structure is in the correct configuration and will refine to a value near one for the inverted configuration. In this case the relatively large standard uncertainty indicates that the structural data alone should not be used to confirm absolute stereochemistry, but should be used in conjunction with the established stereochemistry of the precursor compound.

[e]$S = [\mathrm{S}w(F_o^2 - F_c^2)^2/(n - p)]^{1/2}$ (n = number of data; p = number of parameters varied; $w = [\sigma^2(F_o^2) + (0.0816P)^2 + 0.5281P]^{-1}$ where $P = [\mathrm{Max}(F_o^2, 0) + 2F_c^2]/3$).

[f]$R_1 = \mathrm{S}||F_o| - |F_c||/\mathrm{S}|F_o|$; $wR_2 = [\mathrm{S}w(F_o^2 - F_c^2)^2/\mathrm{S}w(F_o^4)]^{1/2}$.

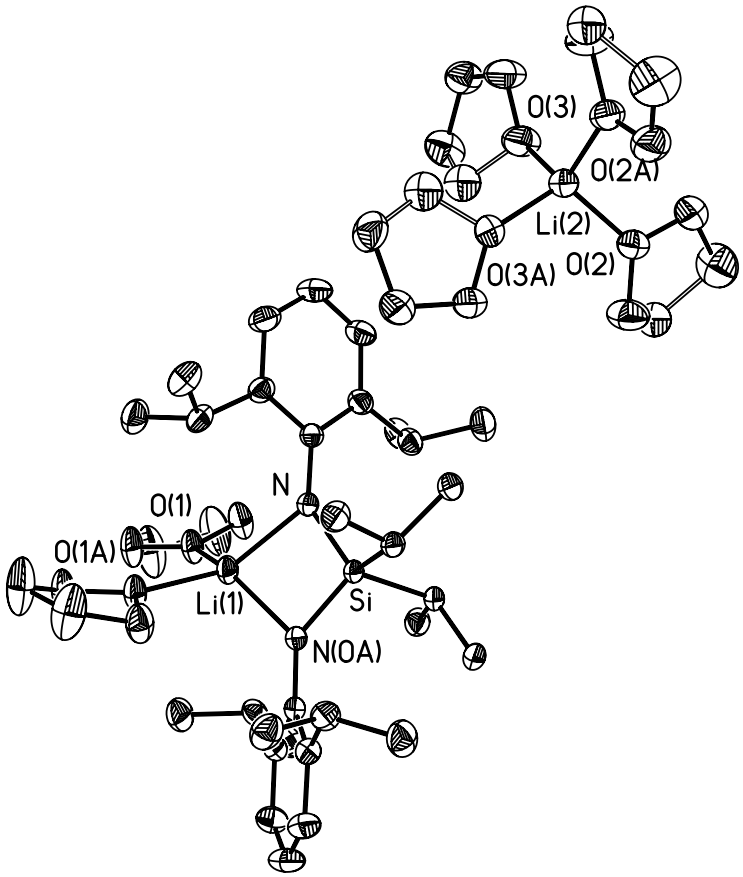

Figure S1. Molecular structure of $\mathbf{Li_2[NSiN]^{Dipp}}$ $[\{(DippN)_2Si^iPr_2\}Li(THF)_2][Li(THF)_4]$ with thermal ellipsoids at the 30 % probability level. All hydrogen atoms omitted for clarity. Primed atoms related to unprimed ones by the 2-fold axis at (1/2, 0, 0). Selected bond lengths (Å) and angles (°): Si(1)-N(1) 1.6971(15), Si(1)-C(1) 1.92257(19), N(1)-Li(1) 2.038(3), Li(1)-O(1) 2.038(3), Li(2)-O(2) 1.924(4), Li(2)-O(3) 1.901(4).