## Lewis Acid/Base Reactions of the Bis(amidinato)silylene [*i*PrNC(Ph)N*i*Pr]<sub>2</sub>Si and Bis(guanidinato)silylene [*i*PrNC(N*i*Pr<sub>2</sub>)N*i*Pr]<sub>2</sub>Si with ElPh<sub>3</sub> (El = B, Al)

Felix M. Mück, Johannes A. Baus, Rüdiger Bertermann, Christian Burschka,

and Reinhold Tacke\*

Institute of Inorganic Chemistry, University of Würzburg, Am Hubland, 97074 Würzburg, Germany

\*E-mail: r.tacke@uni-wuerzburg.de; Fax: +49-931-31-84609; Phone: +49-931-31-85250

# **Supporting Information**

#### **Table of Contents**

Page

| Table S1.  | Crystal Data and Experimental Parameters for the Crystal Structure |   |  |
|------------|--|---|--|
|            | Analyses of <b>5</b> , $6 \cdot 0.5 C_6 H_5 C H_3$ , and <b>7</b>  | 2 |  |
| Figure S1. | <sup>1</sup> H NMR spectrum of compound <b>4</b>                   | 3 |  |
| Figure S2. | <sup>13</sup> C NMR spectrum of compound <b>4</b>                  | 4 |  |
| Figure S3. | <sup>1</sup> H NMR spectrum of compound <b>5</b>                   | 5 |  |
| Figure S4. | <sup>13</sup> C NMR spectrum of compound <b>5</b>                  | 6 |  |

|  | 5                   | <b>6</b> •0.5C <sub>6</sub> H <sub>5</sub> CH <sub>3</sub> | 7                   |
|--|---------------------|--|---------------------|
| empirical formula                                  | C44H53AlN4Si        | C47.5H75BN6Si  | C44H71AlN6Si        |
| formula mass, g mol <sup>-1</sup>                  | 692.97              | 769.03   | 739.13              |
| collection T, K                                    | 100(2)              | 100(2)   | 100(2)              |
| λ(Μο Κα), Å  | 0.71073             | 0.71073  | 0.71073             |
| crystal system                                     | orthorhombic        | monoclinic   | monoclinic          |
| space group (no.)                                  | $Pca2_{1}(29)$      | $P2_{1}/c$ (14)  | $P2_1/n$ (14)       |
| <i>a,</i> Å  | 17.7123(9)          | 10.762(5)  | 11.635(8)           |
| <i>b,</i> Å  | 12.5593(7)          | 20.006(9)  | 23.239(15)          |
| <i>c,</i> Å  | 17.9008(9)          | 22.148(10)   | 16.351(11)          |
| $\beta$ , deg                                      | 90                  | 98.408(15)   | 90.39(2)            |
| V, Å <sup>3</sup>                                  | 3982.1(4)           | 4717(4)  | 4421(5)             |
| Z  | 4                   | 4  | 4                   |
| $\rho$ (calcd), g cm <sup>-3</sup>                 | 1.156               | 1.083  | 1.111               |
| $\mu$ , mm <sup>-1</sup>                           | 0.116               | 0.087  | 0.109               |
| <i>F</i> (000)                                     | 1488                | 1684   | 1616                |
| crystal dimensions, mm                             | 0.10 x 0.09 x 0.09  | 0.14 x 0.14 x 0.12   | 0.65 x 0.30 x 0.15  |
| $2\theta$ range, deg                               | 3.242-52.042        | 2.756-52.042   | 3.046-52.042        |
| index ranges                                       | $-14 \le h \le 21,$ | $-13 \le h \le 13,$  | $-14 \le h \le 12,$ |
|  | $-15 \le k \le 10,$ | $-24 \le k \le 24,$  | $-28 \le k \le 28,$ |
|  | $-21 \le l \le 22$  | $-27 \le l \le 27$   | $-20 \le l \le 20$  |
| number of collected reflections                    | 18566               | 64867  | 61497               |
| number of independent reflections                  | 7807                | 9290   | 8711                |
| R <sub>int</sub>                                   | 0.0453              | 0.0396   | 0.0341              |
| number of parameters                               | 459                 | 536  | 497                 |
| number of restraints                               | 1                   | 39   | 3                   |
| $S^{a}$  | 1.020               | 1.037  | 1.024               |
| weight parameters $a/b^b$                          | 0.0396/1.1026       | 0.0630/1.3374  | 0.0411/2.2050       |
| $R1^c [I > 2\sigma(I)]$                            | 0.0466              | 0.0429   | 0.0362              |
| $wR_2^d$ (all data)                                | 0.1030              | 0.1251   | 0.0949              |
| absolute structure parameter                       | -0.05(8)            |  |                     |
| max./min. residual electronic density $e^{A^{-3}}$ | +0.707/-0.390       | +0.533/-0.238  | +0.352/-0.296       |

Table S1. Crystal Data and Experimental Parameters for the Crystal Structure Analyses of 5,  $6 \cdot 0.5C_6H_5CH_3$ , and 7

 ${}^{a}S = \{\Sigma[w(F_{o}^{2} - F_{c}^{2})^{2}] / (n - p)\}^{0.5}; n = \text{number of reflections}; p = \text{number of parameters.}$   ${}^{b}w^{-1} = \sigma^{2}(F_{o}^{2}) + (aP)^{2} + bP, \text{ with } P = [\max(F_{o}^{2}, 0) + 2F_{c}^{2}] / 3. {}^{c}R_{1} = \Sigma ||F_{o}| - |F_{c}|| / \Sigma |F_{o}|.$  ${}^{d}wR_{2} = \{\Sigma[w(F_{o}^{2} - F_{c}^{2})^{2}] / \Sigma[w(F_{o}^{2})^{2}]\}^{0.5}.$ 

#### Figure S1. <sup>1</sup>H NMR spectrum of compound 4



3





#### Figure S3. <sup>1</sup>H NMR spectrum of compound 5





### Figure S4. <sup>13</sup>C NMR spectrum of compound 5