Carbazolylsilane: Synthese und Kristallstrukturen

Carbazolylsilanes: Synthesis and Crystal Structures

Verena Liebau, Mathias Noltemeyer, Jörg Magull, and Uwe Klingebiel

Institut für Anorganische Chemie der Universität Göttingen,
Tammannstr. 4. D-37077 Göttingen, Germany

Sonderdruckanforderungen an Prof. Dr. U. Klingebiel. Fax: +49 (0)551/39-3373.
E-mail: uklinge@gwdg.de

Z. Naturforsch. **59b,** 1045 – 1050 (2004); eingegangen am 3. Mai 2004

Carbazole reacts with *n*-BuLi and fluorosilanes to give the lithium carbazolide (**1**) which crystallizes as a dimer from THF. In the reactions of **1** and difluorosilanes, F_2SiR_2, the carbazolylsilanes $C_{12}H_8N$-$SiFR_2$ (**2** – **4** R = Me (**2**), i Pr (**3**), *t*-Bu (**4**)), are obtained. Bis(carbazolyl)silanes, $(C_{12}H_8N)_2SiFR$, are formed in the reaction of **1** with trifluorosilanes, F_3SiR, in a molar ratio of 2:1, R = *t*-Bu (**5**), Ph (**6**), Me (**7**). Using F_3SiMe and **1** in a molar ratio of 1:3 the tris(carbazolyl)silane $(C_{12}H_8N)_3SiMe$ (**8**) is isolated. The carbazolylfluorosilane **3** reacts with *n*-BuLi to give **1** and *n*-butyldiisopropylfluorosilane, or with lithium pyrrolide to give carbazolyl(-diisopropyl)pyrrolylsilane (**9**). Lithiumpyrrolide cleaves the Si-$NC_{12}H_8$-bond of **9** and forms the diisopropyl-bis(pyrrolyl)silane **10**.

The crystal structures of **5**, **6** and **7** have been determined and are discussed.

Key words: Carbazolylsilanes, Heterocycles