

Synthese, Struktur und Reaktivität von 2-Amino- und 2-Imino-2,3-dihydro-1*H*-1,3,2-diazaborolen

Synthesis, Structure and Reactivity of 2-Amino- and 2-Imino-2,3-dihydro-1*H*-1,3,2-diazaboroles

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The 2-halo-2,3-dihydro-1*H*-1,3,2-diazaboroles $\overline{\text{RN-CH=CH-N(R)BX}}$ (**1a'**: R = *t*Bu, X = Br; **1b**: R = 2,6-Me₂C₆H₃; X = I) were converted into the 2-amino-2,3-dihydro-1*H*-1,3,2-diazaboroles $\overline{\text{RN-CH=CH-N(R)B-NH}_2}$ (**2a**: R = *t*Bu; **2b**: 2,6-Me₂C₆H₃) by treatment with dry gaseous ammonia. Similarly reaction of **1a'** with 2,6-dimethylaniline or *t*BuNH₂ afforded the corresponding derivatives $\overline{t\text{BuN-CH=CH-N}(t\text{Bu})\text{BNHR}^1}$ (**3**; R¹ = 2,6-Me₂C₆H₃; **4**; R¹ = *t*Bu). The treatment of **1a'** with the ethylene diamine adduct of lithium acetylide led to the formation of $[\overline{t\text{BuN-CH=CH-N}(t\text{Bu})\text{BN(H)CH}_2}]_2$ (**5**). Lithiation of **2a** and subsequent silylation gave **6** (R¹ = SiMe₃), which was transformed to the diborolyamine $[\overline{t\text{BuN-CH=CH-N}(t\text{Bu})\text{B}}]_2\text{NH}$ (**7**) upon exposure to **1a'**. Borolyketimine $\overline{t\text{BuN-CH=CH-N}(t\text{Bu})\text{B-N=CPh}_2}$ (**8**) and borolycarbodiimide $\overline{t\text{BuN-CH=CHN}(t\text{Bu})\text{B-N=C=N-SiMe}_3}$ (**9**) resulted from **1a'** and Ph₂C=NSiMe₃ or Me₃SiN=C=NSiMe₃, respectively. All the new compounds were characterized by elemental analyses as well as spectroscopic data (IR, ¹H, ¹¹B, ¹³C NMR, MS). Heterocycle **5** was also subjected to an X-ray diffraction analysis.

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