Synthesen und Strukturen von 1,3,5-Trihalogeno-1,3,5-triboracyclohexan-Derivaten

Syntheses and Structures of 1,3,5-Trihalogeno-1,3,5-triboracyclohexane Derivatives

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On heating bis(diiodoboryl)methane (**1c**) and 1,1-bis(diiodoboryl)alkanes **1i, l** (alkane = propane, butane) under reduced pressure elimination of BI_3 takes place and the corresponding 1,3,5-triiodo-1,3,5-triboracyclohexane derivatives **2c**; **2i, i'**; **2l, l'** are formed. Starting with bis(dichloroboryl)- and bis(dibromoboryl)methane (**1a**, **1b**) only small amounts of the trimerization products $(H_2C\text{-}BCl)_3$ (**2a**) and $(H_2C\text{-}BBr)_3$ (**2b**) are detectable which can not be separated from **1a**,**b** and by-products. Reaction of 1,3,5-trichloro-2,4,6-trimethyl-1,3,5-triboracyclohexane (**2d**) with BBr_3 provides the corresponding bromo derivative **2e** in high yield. An attempt to react 2,4-bis(dichloroboryl)-3-chloro-3-borapentane (**4d**) with 1,1-bis(trimethylstannyl)-2,2-diphenylethene does not lead to the expected trichloro-triboracyclohexane, but the divinylchloroborane $ClB(CH{=}CPh_2)_2$ **6a**, is formed. The compositions of the products follow from analytical data and X-ray structure analyses of **2i**, **2c**, **2e**, and **6a**.

Key words: 1,3,5-Trihalogeno-1,3,5-triboracyclohexane, Divinylchloroborane, Trimerization