

Phenylboration of Monoalkyn-1-yltin Compounds

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The 1 : 1 reactions of triphenylborane **1** with monoalkyn-1-yltin compounds $\text{Me}_3\text{Sn}-\text{C}\equiv\text{C}-\text{R}^1$ **2** [$\text{R}^1 = t\text{Bu}$ (**a**), Ph (**b**), ferrocenyl (**c**), $\text{Si}(\text{H})\text{Me}_2$ (**d**), SnMe_3 (**e**)] afford mainly (> 80 %) the corresponding alkene derivatives **3** by 1,1-phenylboration. Exchange $\text{B-Ph/Sn}-\text{C}\equiv\text{C}-\text{R}^1$ takes place as a side reaction. The corresponding 1 : 2 reaction with **2b** leads to the dialkenylborane **4b** ($\text{R}^1 = \text{Ph}$), of which the molecular structure could be determined by X-ray analysis. In contrast, the 1 : 2 reaction with **2e** gave an allene derivative **5e**. The solution-state structures of compounds **3–5** have been confirmed by ^1H , ^{11}B , ^{13}C and ^{119}Sn NMR spectroscopy.

Key words: Triphenylborane, Organoboration, Alkynes, Organotin, NMR, X-Ray