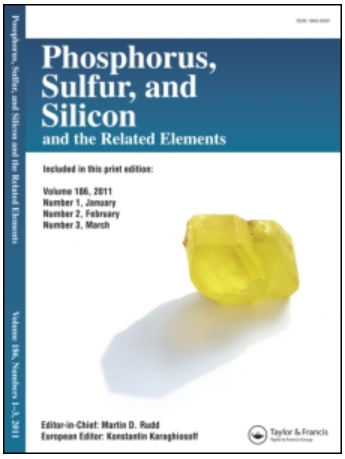

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Synthesis and Reactivity of a 2,5-Dihydro-1,2,5-phospha-diborole Derivative

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Synthesis and Reactivity of a 2,5-Dihydro-1,2,5-phospha-diborole Derivative

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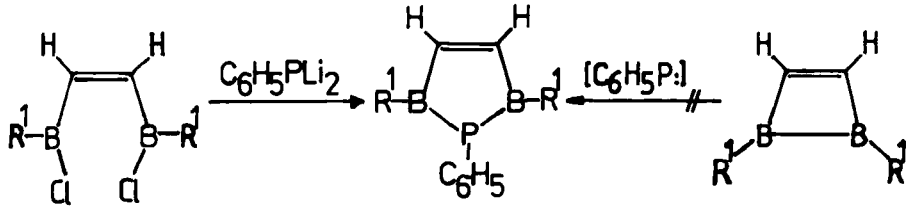
In the heterocycle $(EtC)_2(MeB)_2S$ the sulfur atom may be replaced by a CR_2 or a NR group; however, attempts to prepare the corresponding phosphorus compound via this route were unsuccessful. Also insertion of phenyl-phosphinidene $[C_6H_5P]$ into the B-B bond of the 1,2-dihydro-1,2-diborete 2 (R^1=N(CHMe$_2$)$_2$) failed. The reaction between the cis-diborylethene 3 (R^1=N(CHMe$_2$)) and $C_6H_5PLi_2$ in C_6H_6 results in the formation of 1 in 84% yield. The yellowish compound can be sublimed, it is moderately stable in air due to electronic and steric shielding of the boron atoms by the amino groups.



3 **1** **2**

In the NMR spectra long-range P-H couplings and a high-field ^{31}P signal are observed. 1 acts as a four-electron donor forming complexes with the 14e complex fragments $Fe(CO)_3$ and $Co(C_5H_5)$.