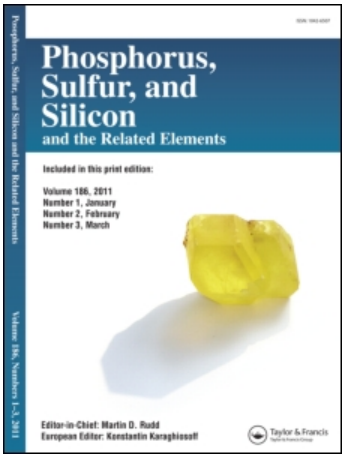

Phosphorus, Sulfur, and Silicon and the Related Elements

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Synthesis and Intramolecular Interactions of 1,3,2-Dioxaborinanes Containing Exocyclic Phosphinogroups

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SYNTHESIS AND INTRAMOLECULAR INTERACTIONS OF 1,3,2-DIOXABORINANES CONTAINING EXOCYCLIC PHOSPHINOGROUPS.

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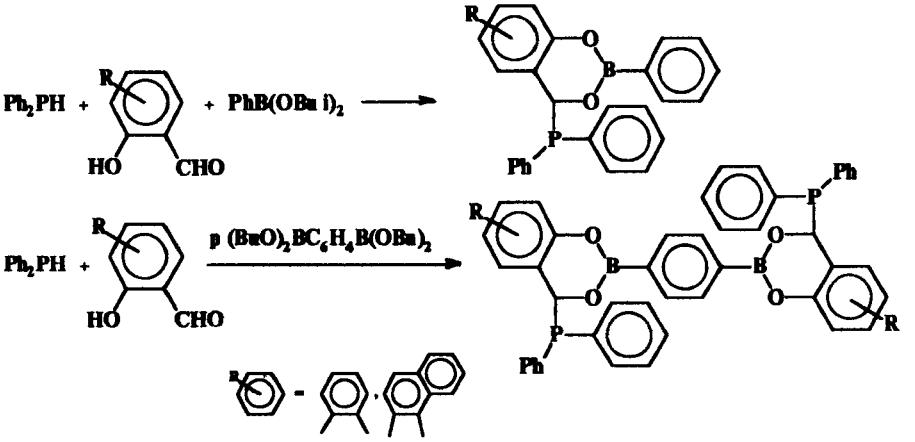
Abstract The intramolecular dispersion interaction between the aryl group at phosphorus and the oxyboryl fragment is observed for 4-phosphino-1,3,2-dioxaborinanes.

The X-ray analysis and NMR spectra of 4-phosphino-1,3,2-dioxaborinanes prepared from primary or secondary arylphosphines, aromatic aldehydes containing an ortho-hydroxygroup and phenylboronic or benzene-1,4-diboronic acid esters indicate the unusual intramolecular dispersion interaction between the π-systems of the boronic ester fragment and the phenyl group at phosphorus.



The absence of such interactions in conformationally labile 4-diphenylphosphino-6-methyl-2-phenyl-1,3,2-dioxaborinane indicates that the planarity of the dioxaborinane ring due to the presence of the condensed rigid aromatic fragment is essential to the realization of the intramolecular stacking-interaction.