

Versatile Chemistry of Phosphorus-Substituted Carboranes

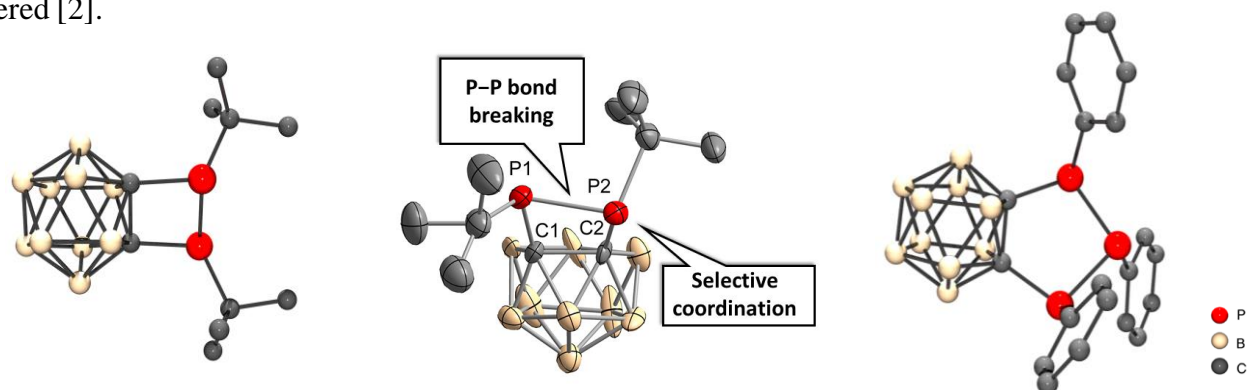
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Carboranyl derivatives with phosphorus-based substituents (phosphines, phosphites, phosphonates, etc.) can be employed as (chiral) ligands in catalysis or in medical areas. Furthermore, the carboranyl backbone allows the targeted synthesis of four- and five-membered phosphorus-containing heterocycles having endocyclic P–P bonds, which are difficult to obtain via other routes. In this presentation, 1,2-bisphosphanil-substituted *ortho*-carboranes, the precursors for 1,2-diphosphetanes, 1,2,3-triphospholanes, 1,2,3-triphospholanides, and other carboranyl-substituted heterocycles will be discussed [1]. Furthermore, the influence of the carboranyl backbone in redox reactions, ring-opening reactions, coordination chemistry, etc. will also be covered [2].



Scheme 1. Carborane-substituted 1,2-diphosphetane (left), the corresponding anionic *nido*-derivative (centre, cation omitted) and carborane-substituted 1,2,3-triphospholane (right). Hydrogen atoms are omitted.

References

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