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The Path to a Sustainable Future

Editorial by Y. T. Lee and A. W.-C. Yang

NHC-Boranes

Review by D. P. Curran, E. Lacôte et al.

Highlights: Pseudorotation • Ammonia-Borane

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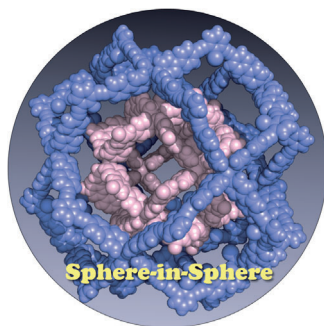
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Back Cover

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Cover Picture

Dennis P. Curran,* Andrey Solovyev, Malika Makhoulf Brahmi, Louis Fensterbank,* Max Malacria, and Emmanuel Lacôte*

Like the sugaro cactus the chemistry of carbene boranes sprouted from barren ground and grew slowly for several decades. The rains came in 2008, and now the various branches of the field are all blossoming. In their Review on page 10294 ff. D. P. Curran and co-workers discuss the synthesis, application, and characterization of N-heterocyclic carbene-borane complexes. Unusual boron species are stabilized by carbenes, and carbene boranes themselves are reagents for organic synthesis and co-initiators for radical photopolymerization. The cover was created by Dr. Julien Monot and Mr. Andrey Solovyev.

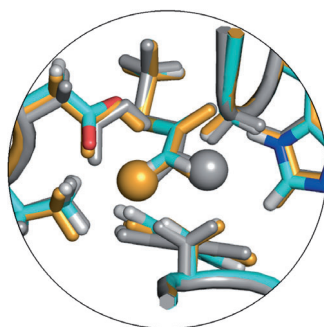
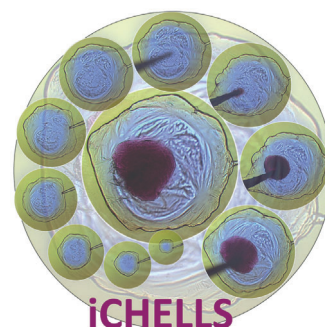


Self-Assembly

M. Fujita and co-workers describe in their Communication on page 10318 ff. the self-assembly of a sphere-in-sphere complex. Two covalently tethered ligands enforce structural subdivisions that ensure formation of the complex with high fidelity.

Inorganic “Cells”

Highly modular inorganic chemical “cells” with controllable functionality and porosity that allow the compartmentalization of chemical reactions are described by L. Cronin and co-workers in their Communication on page 10373 ff.



Computer-Supported Enzymology

The stereospecific synthesis of fluorocitrate by the enzyme citrate synthase is explained by A. J. Mulholland et al. in their Communication on page 10349 ff. through the use of ab initio calculations.