

# Preface

This treatise considers the chemistry of confined organic and organometallic compounds. When molecules are confined, their reactivity is changed. These conditions provide a shielding effect which confines and inhibits undesirable interactions and increases the desired chemical capabilities.

This book is devoted to an important and well-developed area of organic and organometallic chemistry, which is now an indispensable part of this science. Calixarenes, pillararenes, cyclodextrins, cucurbiturils, and zeolites as confining agents are well known, but the corresponding new and demonstrative publications now deserve fresh attention. Inclusion of these topics is also important as a general approach to the themes considered.

This book has several distinctive features. First, it considers the unprecedentedly wide range of confinement effects. Second, emphasis is put on examples, which are representative for each kind of effect discussed. Third, the book includes previously avoided discussions concerning transformations within micelles, porous materials, solvent cages, hydrogen-bond or charge-transfer complexes, and resin-docking and template effects of organometallic compounds. Fourth, the author summarizes sorption effects, the role of solvents, crystal-lattice phenomena, and stereochemical changes upon confinement. Finally, relevant practical applications of confinement effects in microelectronics, pharmacchemistry, petrochemistry, and related fields are also considered. This is a comprehensive picture of the chemistry of confined organic and elemento-organic compounds, and I hope that it will be a valuable resource for a wide range of readers.

## Further Readings

There are already a wide range of books devoted to confinement by organic cavities such as calixarenes, cyclodextrins, and cucurbiturils, which testifies to the importance of this research area. For further reading, please see the following titles:

Gutsche (1989, 1998), Vicens and Boehmer, eds. (1991), Usawa and Yonemitsu, eds. (1992), Cram and Cram (1994), Easton and Lincoln (1999), Mandolini and Ungaro, eds. (2000), Asfari et al. eds. (2001), Guisnet and Gilson (2002), Vicens and Harrowfield, eds. (2006), Dodziuk, ed. (2008), Sliwa and Kozłowski (2009), Brinker and Miesset, eds. (2010), and Kim et al. (2011).



<http://www.springer.com/978-3-319-00157-9>

Organic Chemistry in Confining Media

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2013, XIII, 194 p., Hardcover

ISBN: 978-3-319-00157-9