

# Monographs in Supramolecular Chemistry

## Get to the core of supramolecular chemistry

Supramolecular chemistry examines the structure and function of molecular assemblies formed through weak interactions. There is great interest in the applications for materials chemistry, nanoscience, catalysis and medicine, which has led to a rapid expansion in research in this area. To enable further developments of new applications, an understanding of the fundamentals and a comprehensive overview of the latest research is needed. With contributions from high profile international scientists working within the field, each book in the series covers a key concept for graduate level students and above, and all researchers interested in supramolecular chemistry and its diverse applications.

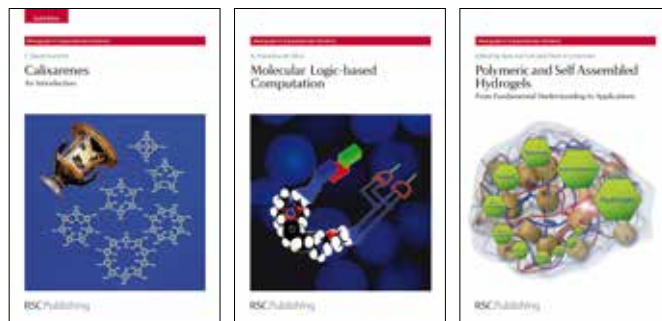
### Series Editors:

Professor Philip Gale, University of Southampton, UK

Professor Jonathan Steed, Durham University, UK

### Key Features

- Listed in ISI Books Citation Index<sup>SM</sup> and SciVerse Scopus
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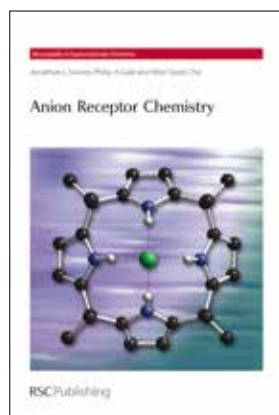


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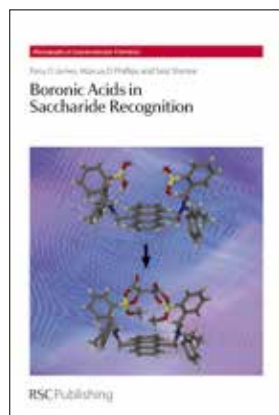


## Anion Receptor Chemistry

Ian M Atkinson, University of Texas at Austin, USA | Phillip Gale, University of Southampton, UK | Won-Seob Cho, University of California at Los Angeles, USA

This book traces the origins of anion recognition chemistry as a unique sub-field in supramolecular chemistry while illustrating the basic approaches currently being used to effect receptor design. The combination of biological overview and summary of current synthetic approaches provides a coverage that is both comprehensive and highly comprehensible. Providing as it does a detailed review for practitioners in the field and a concise introduction to the topic for newcomers, this book reflects the current state-of-the-art. Fully referenced and illustrated in colour, it is a welcome addition to the literature.

Hardback | 430 pages | ISBN 9780854049745 | 2006 | £144.99

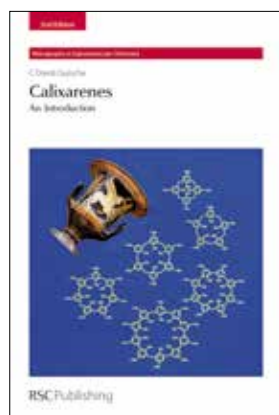


## Boronic Acids in Saccharide Recognition

Tony James, University of Bath, UK | Marcus Phillips, Clariant UK Ltd | Seiji Shinkai, Kyushu University, Japan

The desire to quantify the presence of analytes within diverse physiological, environmental and industrial systems has led to the development of many novel detection methods. In this arena, saccharide analysis has exploited the pair-wise interaction between boronic acids and saccharides. This book provides a comprehensive review and critical analysis of the current developments in this field. It also assesses the potential of this innovative approach, outlining future lines of research and possible applications. It is a comprehensive resource for researchers both academic and industrial who require a comprehensive overview of the subject.

Hardback | 184 pages | ISBN 9780854045372 | 2006 | £121.99

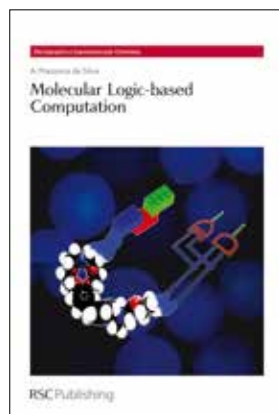


## Calixarenes An Introduction

C David Gutsche

Calixarenes belong to a family of macrocyclic compounds based on a hydroxyalkylation product of a phenol and an aldehyde, and are probably the world's most readily available synthetic molecular basket. These basket shaped compounds possess the ability to hold metal ions, as well as molecules, in their interior and as a result of their extraordinarily easy synthesis from phenols and aldehydes are receiving increasingly wide attention. Calixarenes are appealing subjects for research since they can be functionalized in myriad ways to provide interesting and useful materials. As a result of their ease of synthesis they have attracted worldwide attention. This book is a second edition of the popular title and a must for advanced undergraduates and postgraduates studying bio-organic and supramolecular chemistry.

Hardback | 282 pages | ISBN 9780854042586 | 2008 | £87.99

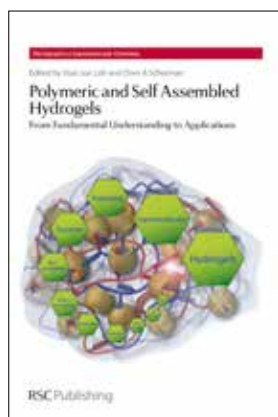


## Molecular Logic-based Computation

A Prasanna de Silva, Queen's University Belfast, Ireland

Molecular logic-based computation is a growing branch of chemical science highlighting the connection between information technology (engineering and biological) and chemistry. The author and co-workers of this publication launched molecular logic as an experimental field by publishing the first research in the primary literature in 1993 and are uniquely placed to recount how the field has grown. It shows how designed molecules can play the role of information processors in a wide variety of situations, once we are educated by those information processors already available in the semiconductor electronics business and in the natural world. This book is an authoritative, state of the art, reference and a 'one-stop-shop' concerning the current state of the field for scientists, academics and postgraduate students.

Hardback | 300 pages | ISBN 9781849731485 | 2012 | £153.99



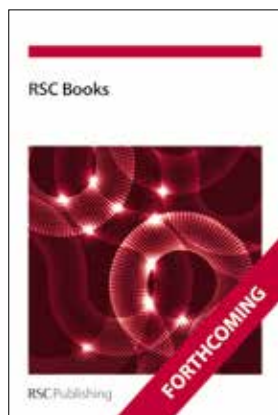
## Polymeric and Self Assembled Hydrogels From Fundamental Understanding to Applications

Edited by Xian Jun Loh, Institute of Materials Research and Engineering, Singapore | Oren A Scherman, University of Cambridge, UK

Rapid expansion of the field has created a gap between the current knowledge and understanding of hydrogel research and its future outlook. This book captures the entire landscape of hydrogels research providing a guidebook for academics, industrialists and postgraduates interested in the area. With contributions from the top authorities in the field, it details the fundamental principles of both synthetic and natural polymeric networks and supramolecular hydrogels from either surfactants or peptides, along with examples of their major applications. The book to give you everything you need to know about hydrogel research.

Hardback | 250 pages | ISBN 9781849735612 | 2012 | £134.99

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## Solid State Supramolecular Interactions A Holistic View

Kari Rissanen, Philip Topic, University of Jyväskylä, Finland

Intermolecular interactions are at the foundation of supramolecular chemistry and although this is a mature field, information about the different interactions is scattered in the literature. Solid State Supramolecular Interactions presents the reader with a wider view of the supramolecular interactions in the solid state showing that the crystal structures and supramolecular assemblies are results of several combined interactions rather than isolated individual interactions. Written by a leading expert in the field, the book introduces the key concepts using up-to-date examples from the literature. By providing a holistic perspective of the subject, the book will appeal to supramolecular chemists, crystal engineers and chemists, especially those interested in new functional systems.

Hardback | 250 pages | ISBN 9781849736558 | 2013 | £139.99

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## Supramolecular Systems in Biomedical Fields

Edited by Hans-Jörg Schneider, Saarland University, Germany

The ability to design synthetic host compounds to selectively interact within biological systems has gained wide appeal due to the vast number of potential applications. Uses in the life sciences include sensing of bioactive analytes (from metals to proteins), drug delivery systems, supramolecular ligands for biopolymers, drugs based on macrocyclic hosts, diagnostic tools, selective markers and bioassays. In Supramolecular Systems for Biomedical Fields, internationally renowned experts cover each of the different applications providing a comprehensive overview of the topic. This timely publication will appeal to researchers from chemical, pharmaceutical, biological, and medicinal fields.

Hardback | 400 pages | ISBN 9781849736589 | 2013 | £159.99

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Beatriu Escuder, Juan F Miravet, Universitat Jaume I, Spain

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Wayne Hayes, Barnaby W Greenland, University of Reading, UK

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Yadong Yin, University of California, Riverside, USA

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