Comprehensive Supramolecular Chemistry

Supramolecular Chemistry: Jonathan W. Steed 2013-05-21 Supramolecular chemistry is 'chemistry beyond the molecule' - the chemistry of molecular assemblies and intermolecular bonds. It is one of today's fastest growing disciplines, crossing a range of subjects from biological chemistry to materials science, and from synthesis to spectroscopy. Supramolecular Chemistry is an up-to-date, integrated textbook that tells the newcomer to the field everything they need to know to get started. Assuming little in the way of prior knowledge, the book covers the concepts behind the subject, its breadth, applications and the latest contemporary thinking in the area. It also includes coverage of the more important experimental and instrumental techniques needed by supramolecular chemists. The book has been thoroughly updated for this second edition. In addition to the strengths of the very popular first edition, this comprehensive new version expands coverage into a broad range of emerging areas. Clear explanations of both fundamental and nascent concepts are supplemented by up-to-date coverage of exciting emerging trends in the literature. Numerous examples and problems are included throughout the book. A system of "key references" allows rapid access to the secondary literature, and of course comprehensive primary literature citations are provided. A selection of the topics covered is listed below. Cation, anion, ion-pair and molecular host-guest chemistry Crystal engineering Topological entanglement Clathrates Self-assembly Molecular devices Dendrimers Supramolecular polymers Microfabrication Nanoparticles Chemical emergence Metal-organic frameworks Gels Ionic liquids Supramolecular catalysis Molecular electronics Polymorphism Gas sorption Anion-pinteractions Nanochemistry Supramolecular Chemistry is a must for both students new to the field and for experienced researchers wanting to explore the origins and wider context of their work. Review: "At just under 1000 pages, the second edition of Steed and Atwood's Supramolecular Chemistry is the most comprehensive overview of the area available in textbook form...highly recommended." —Chemistry World, August 2009

Comprehensive Supramolecular Chemistry- 1996

Encyclopedia of Supramolecular Chemistry- J. L. Atwood 2004 Covers the fundamentals of supramolecular chemistry; supramolecular advancements and methods in the areas of chemistry, biochemistry, biology, environmental and materials science and engineering, physics, computer science, and applied mathematics.

Comprehensive Supermolecular Chemistry- 1996

Cucurbiturils- Kim Kimoon 2018-06-05 This book chronicles the history and development of cucurbiturils. It provides a general introduction and a field-wide overview of the synthesis, properties and applications of cucurbiturils. Beginning with a chronicled history in the development of the once little-known peculiarity to the forefront of supramolecular chemistry, followed by an in depth look at the preparation, properties and host-guest chemistry, the title showcases the uses of cucurbiturils in chemistry, materials science and biology. An essential resource for both new and experienced researchers, as it provides an overview of the diverse applications, new methodologies and research, as well as challenges in the field.

Analytical Methods in Supramolecular Chemistry- Christoph A. Schalley 2012-09-25 The second edition of "Analytical Methods in Supramolecular Chemistry" comes in two volumes and covers a broad range of modern methods and techniques now used for investigating supramolecular systems, e. g. NMR spectroscopy, mass spectrometry, extraction methods, crystallography, single molecule spectroscopy, electrochemistry, and many more. In this second edition, tutorial inserts have been introduced, making the book also suitable as supplementary reading for courses on supramolecular chemistry. All chapters have been revised and updated and four new chapters have been added. A must-have handbook for Organic and Analytical Chemists, Spectroscopists, Materials Scientists, and Ph.D. Students in Chemistry. From reviews of the first edition: "This timely book should have its place in laboratories dealing with supramolecular objects. It will be a source of reference for graduate students and more experienced researchers and could induce new ideas on the use of techniques other than those usually used in the laboratory." Journal of the American Chemical Society (2008) VOL.
Comprehensive Supramolecular Chemistry: Jerry L. Atwood 1996-07-30 Comprehensive Supramolecular Chemistry covers for the first time in eleven detailed volumes the exciting inter- and multidisciplinary area of modern supramolecular chemistry. This subject, which has now reached an astonishing diversity and complexity, has developed at a remarkably rapid pace following the initial discoveries of crown ethers and cryptands in the late sixties. The numerous references, including many recent citations, constitute an unrivalled in-depth source for direct entry to the widespread primary literature on any aspect of this most highly topical area. The many carefully selected illustrations and instructive schematic representations make the chapters easily readable.

Introduction to Supramolecular Chemistry: Helena Dodziuk 2007-05-08 A new rapidly progressing field on the crossroads among chemistry, biochemistry, physics and technology - supramolecular chemistry - has just emerged. You have to be involved, to know what's going on in this domain and to take part in the development. This book will show you in a condensed form exciting phenomena unthinkable within the realm of classical organic chemistry (for example, alkali metal anions or cyclobutadiene stable for month at room temperature) that not only provide the basis for revolutionizing numerous branches of industry but also improve our understanding of the functioning of living organisms and of the origin of life. Designing supramolecular systems with desired properties will among others make chemical industry cleaner and more safe, electronics smaller by developing devices composed of single molecule or molecular aggregate. It will also entirely change the way we use energy resources. In addition, it will also transform the pharmaceutical industry and medicine by developing new ways of drugs administration and new composite biocompatible materials which will serve as implants of new generation changing dentistry, surgery, and other branches of medicine. You cannot afford to stand apart. With its brief but comprehensive and vivid presentation including the latest development, Introduction to Supramolecular Chemistry is the best method to get into this domain. This book provides an excellent summary of information scattered across the literature. The brief but comprehensive coverage of the whole field including practically all important group of compounds forming aggregates (in particular crown ethers, cavatands, fullerenes, cyclodextrins and their complexes) provisioning full references for the discussed subjects make this book of value not only for Ph.D. students and non-specialists in this domain but also for those working in the field. The book has been found to be a particularly useful resource for students and more generally for those wanting to get the up-to-date concise account of this exciting field.

Supramolecular Organometallic Chemistry: Ionel Haiduc 2008-11-21 Supramolecular chemistry has become not only a major field of chemistry, but is also a vivid interface between chemistry, biology, physics, and materials science. Although still a relatively young field, termini such as molecular recognition, host-guest chemistry, or self-assembly are now common knowledge even for chemistry students, and research has already been honored with a Nobel Prize. This first book on supramolecular organometallic chemistry combines two areas in chemistry that are experiencing the fastest developments. It provides a comprehensive review of various organometallic assemblies, arranged according to the types of intermolecular bonding. Details on the synthesis, structures, and properties of these compounds will be a valuable asset to the scientific community. The broad spectrum of assemblies containing main group element, transition metal, or f-element metal and a diverse range of ligands, held together by different bonding interactions make this a fascinating compilation. Illustrated extensively, this book is a very easily accessible, yet wide-ranging source of information.

Comprehensive Supramolecular Chemistry: Cyclodextrins- 1996

Comprehensive Supramolecular Chemistry: Supramolecular reactivity and transport: bioinorganic systems-J. L. Atwood 1996

In this volume, an overview of the expanse of bioinorganic systems that involve supramolecular chemistry has been assembled. It commences with introductions to the supramolecular aspects of bioinorganic synthetic analogues and of metalloprotein structure and function. From there, a range of topics involving diverse metallobiomolecules (proteins, nucleic acids, and their synthetic analogues) are developed.

Supramolecular Chemistry in Water-Stefan Kubik 2019-05-13 Provides deep insight into the concepts and recent developments in the area of supramolecular chemistry in water. Written by experts in their respective field, this comprehensive reference covers various aspects of supramolecular chemistry in water?from fundamental aspects to applications. It provides readers with a basic introduction to the current understanding of the properties of water and how they influence molecular recognition, and examines the different receptor types available in water and the types of substrates that can be bound. It also looks at areas to where they can be applied, such as materials, optical sensing, medicinal imaging, and catalysis. Supramolecular Chemistry in Water offers five major sections that address important topics like water properties, molecular recognition, association and aggregation phenomena, optical detection and imaging, and supramolecular catalysis. It covers chemistry and physical chemistry of water; water-mediated molecular recognition; peptide and protein receptors; nucleotide receptors; carbohydrate receptors; and ion receptors. The book also teaches readers all about coordination compounds; self-assembled polymers and gels; foldamers; vesicles and micelles; and surface-modified nanoparticles. In addition, it provides in-depth information on indicators and optical probes, as well as probes for medical imaging. -Covers, in a timely manner, an emerging area in chemistry that is growing more important every day -Addresses topics such as molecular recognition, aggregation, catalysis, and more -Offers comprehensive coverage of everything from fundamental aspects of supramolecular chemistry in water to its applications -Edited by one of the leading international scientists in the field Supramolecular Chemistry in Water is a one-stop-resource for all polymer chemists, catalytic chemists, biochemists, water chemists, and physical chemists involved in this growing area of research.
Supramolecular Photochemistry-V. Ramamurthy 2011-07-07 This is the most updated, comprehensive collection of monographs on all aspects of photochemistry and photophysics related to natural and synthetic, inorganic, organic, and biological supramolecular systems. Supramolecular Photochemistry: Controlling Photochemical Processes addresses reactions in crystals, organized assemblies, monolayers, zeolites, clays, silica, micelles, polymers, dendrimers, organic hosts, supramolecular structures, organic glass, proteins and DNA, and applications of photosystems in confined media. This landmark publication describes the past, present, and future of this growing interdisciplinary area.

Comprehensive Coordination Chemistry III- 2021-07-29 Comprehensive Coordination Chemistry III describes the fundamentals of metal-ligand interactions, provides an overview of the systematic chemistry of this class of compounds, and details their importance in life processes, medicine, industry and materials science. This new edition spans across 9 volumes, 185 entries and 6600 printed pages. Comprehensive Coordination Chemistry III is not just an update of the second edition, it includes a significant amount of new content. In the descriptive sections 3-6, emphasis is placed upon material that has appeared in primary and secondary review literature since the previous edition published. The material in other sections is newly written, with an emphasis on modern aspects of coordination chemistry and the latest developments. The metal-ligand interaction is the link between the award of the 1913 Nobel Prize in Chemistry to Alfred Werner, the father of Coordination Chemistry, the 1987 prize for supramolecular chemistry and the 2016 award for molecular machines. The key role of coordination chemistry in the assembly of hierarchical nano- and micro-dimensioned structures lies at the core of these applications and so this Major Reference Work bridges several sub-disciplines of chemistry, thus targeting a truly interdisciplinary audience. Provides the go-to foundational resource on coordination chemistry research, providing insights into future directions of the field. Written and edited by renowned academics and practitioners from various fields and regions this authoritative and interdisciplinary work is of interest to a large audience, including coordination, supramolecular and molecular chemists. Presents content that is clearly structured, organized and cross-referenced to allow students, researchers and professionals to find relevant information quickly and easily.

Giants Vesicles-Pier Luigi Luisi 2008-04-30 Perspectives in Supramolecular Chemistry Founded by J.-M. Lehn Perspectives in Supramolecular Chemistry reflects research which develops supramolecular structures with specific new properties, such as recognition, transport and simulation of biosystems or new materials. The series covers all areas from theoretical and modelling aspects through organic and inorganic chemistry and biochemistry to materials, solid-state and polymer sciences reflecting the many and varied applications of supramolecular structures in modern chemistry. Giant Vesicles Edited by Pier Luigi Luisi and Peter Walde Institute für Polymere ETH-Zürich, Switzerland Giant vesicles or giant liposomes are supramolecular assemblies of amphiphiles, surface active substances which normally contain one or two hydrophobic chains and one hydrophilic head. Due to their relatively large size, giant vesicles are easily observed by light microscopy. This volume provides an overview of ideas and results obtained from experimental studies as well as theoretical approaches. A wide variety of aspects ranging from pure mathematics and physical considerations to biochemical and biological applications are covered. Historical and fundamental aspects are discussed as well as a range of experimental approaches including the micromanipulation and micro-puncturing of single giant vesicles. 87 international contributors comment on a wide range of issues contained under the five main part headings: Introduction Preparation Methods Basic Theoretical Aspects Physical Transport and Simulation of Biosystems or New Materials. The series covers all areas from theoretical and modelling aspects through organic and inorganic chemistry and biochemistry to materials, solid-state and polymer sciences reflecting the many and varied applications of supramolecular structures in modern chemistry. Giant Vesicles has been written for researchers in the fields of chemistry, biochemical and biophysical, working in supramolecular chemistry, surfactant science, liposome and pharmaceutical sciences.

Comprehensive Supramolecular Chemistry: Supramolecular technology- 1996

Comprehensive Supramolecular Chemistry: Cumulative subject indexJ. L. Atwood 1996

Anion Receptor Chemistry-Jonathan L Sessler 2007-10-31 Anion recognition plays a critical role in a range of biological processes, and a variety of receptors and carriers can be found throughout the natural world. Chemists working in the area of supramolecular chemistry have created a range of anion receptors, drawing inspiration from nature as well as their own inventive processes. 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 comprehensible. First, the authors detail the key design motifs that have been used to generate synthetic receptors and which are likely to provide the basis for further developments. They also highlight briefly some of the features that are present in naturally occurring anion recognition and transport systems and summarise the applications of anion recognition chemistry. Providing as it does a detailed review for practitioners in the field and a concise introduction to the topic for newcomers, Anion Receptor Chemistry reflects the current state of the art. Fully referenced and illustrated in colour, it is a welcome addition to the literature.

Out-of-Equilibrium (Supra)molecular Systems and Materials-Nicolas Giuseppone 2021-03-30 A must-have resource that covers everything from out-of-equilibrium chemical systems and materials to dissipative self-assembly Out-of-Equilibrium Supramolecular Systems and Materials presents a comprehensive overview of the synthetic approaches that use supramolecular bonds in various out-of-thermodynamic equilibrium situations. With contributions from noted experts on the topic, the text contains information on the design of dissipative self-assemblies that maintain their structures when fueled by an external source of energy. The contributors also examine molecules and nanoscale objects and materials that can produce mechanical work based on molecular machines. Additionally, the book explores non-equilibrium supramolecular polymers that can be trapped in kinetically stable states, as well as out-of-equilibrium chemical systems and oscillators that are important to understand the emergence of complex behaviors and, in particular, the origin of life. This important book: Offers comprehensive coverage of fields from design of dissipative self-assemblies to non-equilibrium supramolecular...
polymers. Present information on a highly emerging and interdisciplinary topic. Includes contributions from internationally renowned scientists. Written for chemists, physical chemists, biochemists, material scientists, Out-of-Equilibrium Supramolecular Systems and Materials is an indispensable resource written by top scientists in the field.

**Comprehensive Supramolecular Chemistry: Cyclodextrins** 1996

**Supramolecular Systems in Biomedical Fields** Hans-Jorg Schneider 2013-09-06 Non-covalent interactions, which are the heart of supramolecular chemistry are also the basis of most important functions of living systems. The ability to apply supramolecular chemistry to the life sciences, such as designing synthetic host compounds to selectively interact within biological targets, has gained wide appeal due to the vast number of potential applications. Supramolecular Systems for Biomedical Fields provides in sixteen chapters a comprehensive overview of these applications. Each chapter covers a specific topic and is written by internationally renowned experts in that area. Sensing of bioactive inorganic ions and organic substrates is the focus of several contributions, as well as interactions with proteins and nucleic acids. Specific chapters are devoted to cyclodextrins, calixarenes and cucurbiturils as most frequently used receptors, including applications such as drug delivery and protection, gene transfer and others. Other chapters address the use of combinatorial libraries, molecular imprinting techniques, enzyme assays, supramolecular gels, bioimaging, drug activation, photodynamic therapy, and antitumour metal complexes. This timely publication will appeal to graduate students and researchers from chemical, pharmaceutical, biological, and medicinal fields interested in the supramolecular chemistry of biological systems and their practical potentials.

**Supramolecular Chirogenesis in Chemical and Related Sciences** Victor Borovkov 2021-06-01

**Core Concepts in Supramolecular Chemistry and Nanochemistry** Jonathan W. Steed 2007-04-30 Supramolecular chemistry and nanotechnology are two strongly interrelated cutting edge frontiers in research in the chemical sciences. The results of recent work in the area are now an increasing part of modern degree courses and hugely important to researchers. Core Concepts in Supramolecular Chemistry and Nanochemistry clearly outlines the fundamentals that underlie supramolecular chemistry and nanotechnology and takes an umbrella view of the whole area. This concise textbook traces the fascinating modern practice of the chemistry of the non-covalent bond from its fundamental origins through to its expression in the emergence of nanochemistry. Fusing synthetic materials and supramolecular chemistry with crystal engineering and the emerging principles of nanotechnology, the book is an ideal introduction to current chemical thought for researchers and a superb resource for students entering these exciting areas for the first time. The book builds from first principles rather than adopting a review style and includes key references to guide the reader through influential work. Supplementary website featuring powerpoint slides of the figures in the book further references in each chapter builds from first principles rather than adopting a review style includes chapter on nanochemistry clear diagrams to highlight basic principles.

**Functional Supramolecular Materials** Rahul Banerjee 2017-05-05 Supramolecular materials have a great number of applications due to the reversibility of their non-covalent molecular interactions, such as reversible hydrogen bonding, host-guest interactions and electrostatic interactions. This book provides a comprehensive source of information on the structure and function of organic and metal-organic supramolecular materials. The chapters of this book provide an overview of supramolecular material assembly at various scales, including the formation of 2D polymers and molecular cages. The role of intermolecular interactions in solid and solution state self-assembly is discussed, as is the role of mechanochemistry on molecular and supramolecular architectures. Finally, novel applications of these materials in molecular recognition, catalysis, light harvesting and environmental remediation are covered. Functional Supramolecular Materials will be of interest to graduate students and researchers in academia and industry in the fields of supramolecular chemistry and functional materials science.

**Comprehensive Coordination Chemistry II** J. A. McCleverty 2003-12-03 Comprehensive Coordination Chemistry II (CCC II) is the sequel to what has become a classic in the field, Comprehensive Coordination Chemistry, published in 1987. CCC II builds on the first and surveys new developments authoritatively in over 200 newly commissioned chapters, with an emphasis on current trends in biology, materials science and other areas of contemporary scientific interest.

**Host-Guest Chemistry** Brian D. Wagner 2020-10-26 This textbook addresses the chemical and physicochemical principles of supramolecular host-guest chemistry in solution. It covers the thermodynamics and dynamics of inclusion and highlights several types of organic hosts. Various applications of host-guest chemistry in analytical and environmental chemistry as well as pharmaceutical and chemical industry demonstrate the versatile usability of molecular cages.

**Boron** Meng Li 2015-11-12 The ability to monitor analytes within physiological, environmental, and industrial scenarios is of prime importance in many scenarios. Chemists have striven to mimic nature’s ability to produce robust chemosensors with the capacity to detect molecules and signal their presence. The covalent coupling interaction between boronic acids and saccharides has been exploited to monitor saccharides. The boronic acid-and Lewis acid base interaction is also suitable for the capture and recognition of anions, which are involved in fundamental processes in all living things. There have been significant advances in the field of boronic acid based receptors and this book provides a comprehensive overview and update on the topic. Not only are the applications of boron in chemical molecular sensors covered in detail, but their synthesis and supramolecular self-assembly are also presented. Topics include: the
molecular recognition of saccharides, the complexation of boronic acids with saccharides, fluorescent sensors and the modular construct of fluorescent sensors, further sensory systems for saccharide recognition and an extensive bibliography. Edited by experts in the area and containing international contributions from leading research groups on the subject, this book provides a useful resource for graduate students, academic and industrial researchers in organic chemistry, supramolecular chemistry, materials science and bio-organic chemistry. Fluorescent sensors and the modular construct of fluorescent sensors, further sensory systems for saccharide recognition and an extensive bibliography. Edited by experts in the area and containing international contributions from leading research groups on the subject, this book provides a useful resource for graduate students, academic and industrial researchers in organic chemistry, supramolecular chemistry, materials science and bio-organic chemistry. Fluorescent sensors and the modular construct of fluorescent sensors, further sensory systems for saccharide recognition and an extensive bibliography. Edited by experts in the area and containing international contributions from leading research groups on the subject, this book provides a useful resource for graduate students, academic and industrial researchers in organic chemistry, supramolecular chemistry, materials science and bio-organic chemistry.

**Supramolecular Electrochemistry** - Angel E. Kaifer 2008-07-11 This book describes the electrochemical behavior of supramolecular systems. Special emphasis will be given to the electrochemistry of host-guest complexes, monolayer and multilayer assemblies, dendrimers, and other supramolecular assemblies. A fundamental theme throughout the book is to explore the effects that supramolecular structure exerts on the thermodynamics and kinetics of electrochemical reactions. Conversely, attention will be placed to the various ways in which electrochemical or redox conversions can be utilized to control or affect the structure or properties of supramolecular systems. This first book on this topic will be of value for graduate students and advanced researchers in both electrochemistry and supramolecular chemistry.

**Comprehensive Supramolecular Chemistry: Cumulative subject index** - 1996

**Chiral Photochemistry** - Yoshihisa Inoue 2004-08-30 Control of molecular chirality is central to contemporary chemistry, biology, and materials-related areas. Chiral photochemistry employs molecular and supramolecular chiral interactions in the electronically excited state to induce molecular chirality, providing new and versatile strategies and surprising results unattainable by conventional thermal methods.

**Supramolecular Chemistry of Anions** - Collectif 1997-01-31 Despite the central role anionic species have been shown to play in both mineralogical and biological processes, until now there have been no comprehensive references dealing exclusively with anionic coordination chemistry. Written by a group comprising pioneering researchers from the United States and Europe, Supramolecular Chemistry of Anions covers all theoretical and practical aspects of anion coordination, from thermodynamics and structure to catalysis and various applications. The authors begin with the 1967 discovery of halide inclusion by bicyclic diammonium receptors and trace the development of anion coordination chemistry through the most recent developments in the field. Topics covered in detail include: * Pre-supramolecular anion chemistry * Natural and artificial molecules that can act as anion receptors * Preorganization and chemical design * Structural, thermodynamic, electrochemical, and photochemical aspects of anion coordination * Computer methods for receptor design and multiple host-guest relations * Anion receptor catalysis and molecular recognition and transformation of nucleotides Supramolecular Chemistry of Anions is a valuable professional resource for organic and inorganic chemists, analytical chemists, biotechnologists, pharmaceutical scientists, and environmental chemists. It also serves as an excellent graduate-level text for students of molecular recognition, catalysis, and biomimetic chemistry.

**Comprehensive Supramolecular Chemistry: Templating, self-assembly, and self-organization** - 1996

**Comprehensive Supramolecular Chemistry: Molecular recognition: receptors for molecular guests** - 1996

**Comprehensive Supramolecular Chemistry: Physical methods in supramolecular chemistry** - 1996

**Comprehensive Supramolecular Chemistry** - D.N. Reinholdt 1999-04-02 In this last volume of the set, a state-of-the-art overview of (future) supramolecular technology and its current applications is given, but without attempting to cover all possible emerging new technologies. In the first part of this volume (Chapters 1-6) separation technologies based on selective molecular recognition are dealt with. The transduction of a chemical recognition phenomenon into a measurable signal is discussed in Chapters 7-10. The next section covers the area of supramolecular reactivity. The design of molecules that will fit the transition state of a chemical reaction is one of the major challenges in supramolecular chemistry. This stabilization leads to catalysis. Related to this topic are the contents of Chapters 12-14 where the activation of reactive anions by complexation of the cation, phase-transfer catalysis, and the storage of reagents are reviewed. Medical applications such as drug delivery from, or imaging and targeting by, supramolecular systems are described in Chapters 16 and 17. The last part of this volume covers different material properties ranging from inclusion polymerization to nonlinear optical materials.

Principles and Methods in Supramolecular Chemistry - Hans-Jörg Schneider 2000-04-14 Supramolecular chemistry is one of the most actively pursued fields of science. Its implications reach from molecular recognition in synthetic and natural complexes to exciting new applications in chemical technologies, materials, and biological and medical science. Principles and Methods in Supramolecular Chemistry gives a systematic and concise overview of this diverse subject. Particular emphasis is given to the physical principles and methods which are important in the design, characterization, and application of supramolecular systems. Features that make this monograph essential reading for graduates and researchers in this area include: * A comprehensive overview of non-covalent interactions in supramolecular complexes * A guide to characterizing such complexes by physical methods * Selected applications of synthetic supramolecular systems * Question and answer sections * Illustrations from the Author's webpage which compliment the book.

Hydrogen Bonded Supramolecular Structures - Zhan-Ting Li 2015-01-12 This book covers the advances in the studies of hydrogen-bonding-driven supramolecular systems made over the past decade. It is divided into four parts, with the first introducing the basics of hydrogen bonding and important hydrogen bonding patterns in solution as well as in the solid state. The second part covers molecular recognition and supramolecular structures driven by hydrogen bonding. The third part introduces the formation of hollow and giant macrocycles directed by hydrogen bonding, while the last part summarizes hydrogen bonded supramolecular polymers. This book is designed to bring together in a single volume the many important aspects of hydrogen bonding supramolecular chemistry and will be a valuable resource for graduates and researchers working in supramolecular and related sciences. Zhan-Ting Li, PhD, is a Professor of Organic Chemistry at the Department of Chemistry, Fudan University, China. Li-Zhu Wu, PhD, is a Professor of Organic Chemistry at the Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, China.

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