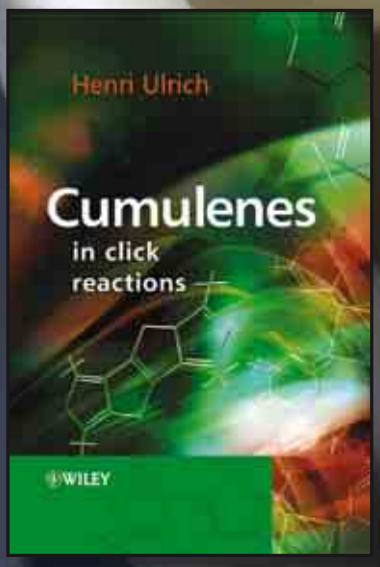
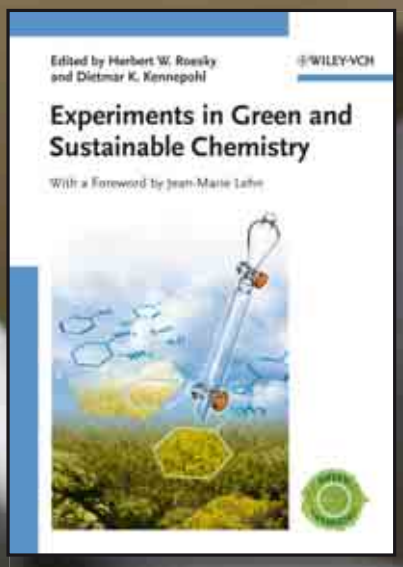
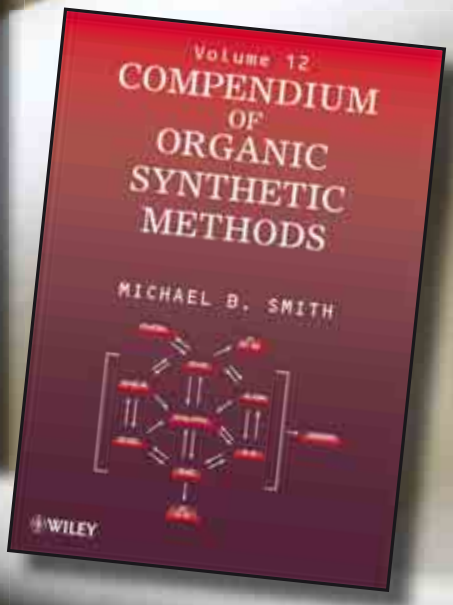
Organic & Inorganic Chemistry







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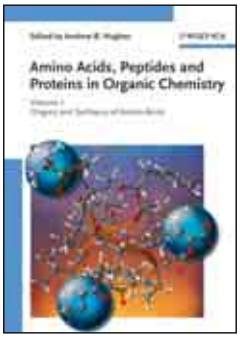


Amino Acids, Peptides and Proteins in Organic Chemistry

new

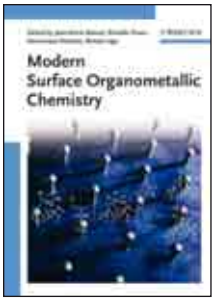
Origins and Synthesis of Amino Acids

VOLUME ONE

Andrew B. Hughes, *La Trobe Univ., Australia;* Series Editor

Answering the call for a definitive reference on this essential topic, Wiley's seminal new series is the only such series devoted to this essential subject. Drawing upon the combined expertise of amino acid researchers, it offers a comprehensive discussion of the occurrence, uses, and applications of amino acids and, by extension, their polymeric forms, peptides, and proteins. The practical value of each volume is heightened by the inclusion of experimental procedures. This first volume addresses the origins of amino acids and their synthesis, covering such topics as the synthesis of non-coding amino acids, the chemistry of aminoboronic acids, proteinogenic amino acid biosynthesis, and much, much more.

Hardcover 618 pp 2009 ISBN 978-3-527-32096-7 €159.00/£140.00



Modern Surface Organometallic Chemistry

new

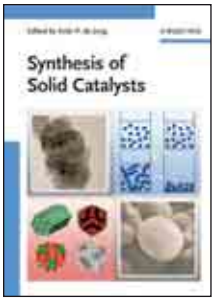
TWO-VOLUME SET

Jean-Marie Basset, *CPE-Lyon, France;* Rinaldo Psaro, *IMST-CNR, Italy;* Dominique Roberto, *Univ. degli Studi di Milano, Italy;* Renato Ugo, *Univ. degli Studi di Milano, Italy;* Editors

Covering everything from the basics to recent applications, this work affords readers an advanced overview of the field. Edited by internationally acclaimed experts respected throughout the community, the book is clearly divided into sections on fundamental and applied surface organometallic chemistry. Backed by numerous examples from the recent literature, this is a key reference for all chemists.

Hardcover 718 pp 2009 ISBN 978-3-527-31972-5 €229.00/£170.00

Online Book. *See ad on page 8 for ordering information.* **ISBN 978-3-527-62709-7**



Synthesis of Solid Catalysts

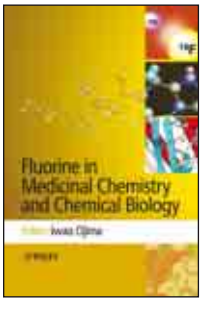
new

Krijn P. de Jong, *Univ. of Utrecht, The Netherlands;* Editor

This practical book combines recent progress in the synthesis of solid catalysts with a discussion of the general aspects of catalyst preparation. The first part deals with the basic principles of heterogeneous catalyst preparation, explaining the main aspects of sol-gel chemistry and interfacial chemistry, followed by such techniques as co-precipitation and immobilization. New tools for catalyst preparation, including microspectroscopy and high-throughput experimentation, are also taken into account. The second part heightens the practical relevance by providing ten case studies on such hot topics as the preparation of zeolites, hydrotreating catalysts, methanol catalyst, and gold catalysts.

Hardcover 422 pp 2009 ISBN 978-3-527-32040-0 €139.00/£120.00

Online Book. *See ad on page 8 for ordering information.* **ISBN 978-3-527-62685-4**



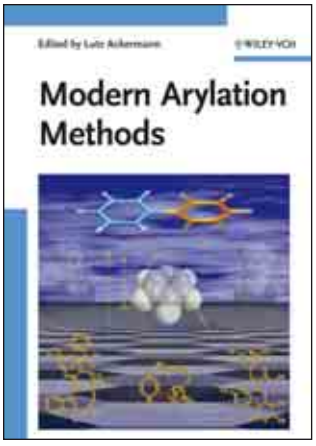
Fluorine in Medicinal Chemistry and Chemical Biology

new

Iwao Ojima, *State Univ. of New York, USA;* Editor

Essential for researchers who want to take advantage of the use of fluorine in biomedical research, this book contains comprehensive reviews on cutting-edge developments and future prospects of fluorine in bioorganic and medicinal chemistry. The extraordinary potential of fluorine-containing biologically relevant molecules in biology, medicinal chemistry, and medical applications has been recognized by researchers who are not in the traditional fluorine chemistry field, and thus a new wave of fluorine chemistry is expanding its biomedical frontiers.

Hardcover 640 pp 2009 ISBN 978-1-4051-6720-8 €155.00/£120.00



Modern Arylation Methods

Lutz Ackermann, *LMU München, Germany;* Editor

Today, arylation methods are among the most important reaction types in organic synthesis. In this seminal work, Professor Lutz Ackermann has gathered a number of top international authors who together present the first comprehensive work on the subject. Starting with a historical review, the book covers hot topics including the palladium-catalyzed arylation of N-H and alpha-C-H-acidic bonds, the copper-catalyzed arylation of N-H and O-H bonds, direct arylation reactions, carbanion aromatic synthesis, arylation reactions of alkenes, alkynes, and much more. It's a compact source of high-quality information that will prove indispensable to synthetic chemists and those working in the pharmaceutical and chemical industry.

Hardcover 561 pp 2009 ISBN 978-3-527-31937-4 €149.00/£130.00

Medicinal Natural Products

new

A Biosynthetic Approach

THIRD EDITION

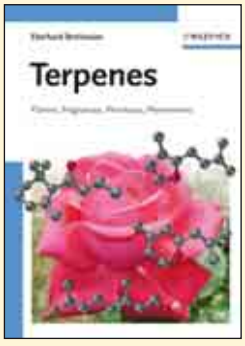
Paul M. Dewick, *Univ. of Nottingham, UK*

Medicinal Natural Products offers a comprehensive and balanced introduction to natural products from a biosynthetic perspective, focusing on the metabolic sequences leading to various classes of natural products. The book builds upon fundamental chemical principles and guides the reader through a wealth of diverse natural metabolites, emphasizing those used in medicine: sources, production methods, use as drugs, semi-synthetic derivatives and synthetic analogues, and modes of action are all extensively covered.

Hardcover 550 pp 2009 ISBN 978-0-470-74168-9 €109.00/£85.00

Paperback 550 pp 2009 ISBN 978-0-470-74167-2 €44.90/£34.95

Online Book. ***See ad on page 8 for ordering information.*** **ISBN 978-0-470-74276-1**



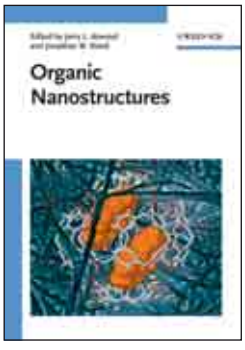
Terpenes

Flavors, Fragrances, Pharmaca, Pheromones

Eberhard Breitmaier

This introductory text provides a perfectly structured and concise overview of this fascinating class of natural products, together with their major applications. It covers both the structure, natural sources, biological, and pharmacological effects, as well as selected total syntheses and important industrial syntheses for odorous substances and vitamin A. The book includes sections on biogenesis, polycyclic terpenes, gingkoloids, and neo-hopanes, among others.

Hardcover 223 pp 2006 ISBN 978-3-527-31786-8 €49.90/£45.00

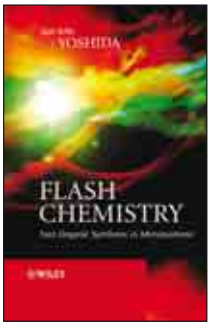


Organic Nanostructures

Jerry L. Atwood, *Univ. of Missouri-Columbia, USA;* Jonathan W. Steed, *Univ. of Durham, USA;* Editors

Filling the need for a volume on the organic side of nanotechnology, this comprehensive overview covers all major nanostructured materials in one handy volume. Alongside metal organic frameworks, this monograph also treats other modern aspects, such as rotaxanes, catenanes, nanoporosity, and catalysis. Detailed attention is paid to the chemistry, physics, and materials science throughout, making this a definite must-have for all chemists.

Hardcover 370 pp 2008 ISBN 978-3-527-31836-0 €139.00/£120.00



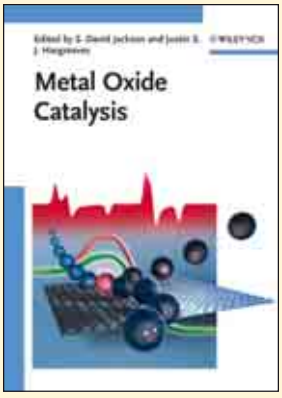
Flash Chemistry

Fast Organic Synthesis in Microsystems

Jun-ichi Yoshida, *Kyoto Univ., Japan*

Have you ever wished you could speed up your organic syntheses without losing control of the reaction? Flash chemistry can make it happen. It brings together the generation of highly reactive species and their reactions in microsystems to enable highly controlled organic syntheses on a preparative scale in timescales of a few seconds or less. This guide is the first dedicated to describing this exciting new technique and is an essential introduction for anyone working in organic synthesis, process chemistry, chemical engineering, and physical organic chemistry who is concerned with the fundamental aspects of chemical reactions and synthesis and the production of organic compounds.

Hardcover 244 pp 2008 ISBN 978-0-470-03586-3 €94.90/£75.00

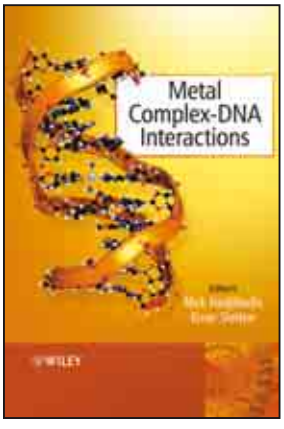


Metal Oxide Catalysis

S. David Jackson, Justin S. J. Hargreaves, *both of Univ. of Glasgow, UK;* Editors

Metal oxides are easy to handle and stable catalysts. Due to the ability to use "normal" metals, they do not have any detrimental effect on the natural world and therefore are more environmentally friendly catalytic systems than their heavy and noble metal counterpart catalysts. Furthermore, by developing new and more effective catalysts there is less pollution and a more effective use of resources. An up-to-date review of metal oxides in catalysis, this two-volume ready reference comprehensively covers characterizations and applications alike, while uniform editing throughout ensures that information is delivered in a consistent format.

Hardcover 887 pp 2009 ISBN 978-3-527-31815-5 €279.00/£240.00



Metal Complex-DNA Interactions

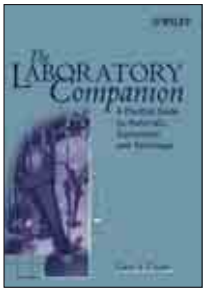
new

Nick Hadjiliadis, *Univ. of Ioannina;* Einar Sletten, *Univ. of Bergen;* Editors

This book offers a much-needed overview of metal-DNA interactions, the mechanism of their interaction, metal-based drugs and metal ion toxicity. It is essential reading for academic researchers in bioinorganic chemistry, biochemistry, biology, biotechnology and medicine, and pharmaceutical industries involved in developing metal-based drugs.

Hardcover 544 pp 2009 ISBN 978-1-4051-7629-3 €129.00/£100.00

Online Book. ***See ad on page 8 for ordering information.*** **ISBN 978-1-4443-1208-9**



The Laboratory Companion

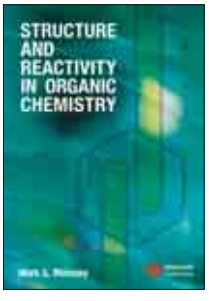
A Practical Guide to Materials, Equipment, and Technique

REVISED EDITION

Gary S. Coyne, *California State Univ. at Los Angeles, USA*

An updated version of the critically acclaimed *Laboratory Handbook*, this guide to laboratory materials, equipment, and techniques is an important resource for all who conduct chemical research. From vacuum technology and glass vacuum systems to volumetric glassware, gas-oxygen torches, and cryogenic tanks, the book provides complete coverage of all commonly used lab equipment, including essential information about its selection, use, cleaning, and maintenance. Readers will also find broad coverage of measurement systems, high- and low-temperature apparatus and techniques, compressed gases, vacuum systems, and other essential subjects.

Paperback 552 pp 2005 ISBN 978-0-471-78086-1 €67.90/£52.95



Structure and Reactivity in Organic Chemistry

Mark G. Moloney, *St. Peter's College, UK*

The jump from an understanding of organic chemistry at the undergraduate level to that required at the postgraduate level or in industry can be difficult. Many advanced texts are so detailed that they obscure the essential mechanistic framework that unites the whole of organic chemistry. *Structure and Reactivity in Organic Chemistry* aims to bridge that gap. Written by an expert educator with a sound understanding of the needs of different audiences, it presents the subject with clarity and precision, and in a highly practical manner, so that its relevance to undergraduates, postgraduates, and industrial organic chemists alike is unmatched.

Hardcover 320 pp 2008 ISBN 978-1-4051-8621-6 €115.00/£90.00

Paperback 320 pp 2008 ISBN 978-1-4051-1451-6 €42.90/£32.50

Mechanical Catalysis

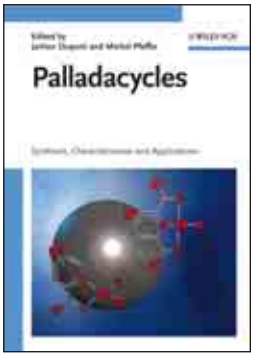
Methods of Enzymatic, Homogeneous, and Heterogeneous Catalysis

Gerhard Swiegers

In a lucid, coherent fashion, this seminal text unravels the mystery of enzymatic catalysis, including the fundamental processes at work, the way it has evolved, and how it relates to catalysis in man-made systems. It also explains how the 30 or so general theories of enzymatic catalysis knit together into a conceptually coherent whole. You'll discover ways to authentically mimic the underlying principles of enzymatic catalysis in man-made systems, including the design requirements for such catalysts, the difficulties you're likely to encounter, and the approaches that can be used to overcome those difficulties.

Hardcover 352 pp 2008 ISBN 978-0-470-26202-3 €84.90/£66.95

Online Book. ***See ad on page 8 for ordering information.*** **ISBN 978-0-470-38419-0**



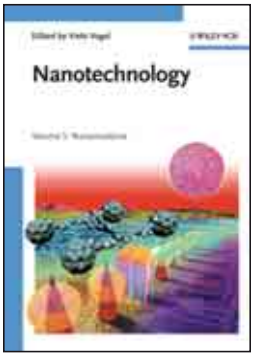
Palladacycles

Synthesis, Characterization and Applications

Jairton Dupont, *Federal Univ. of Rio Grande do Sul;* Michel Pfeffer, *Universite Louis Pasteur, France;* Editors

From synthesis to applications in catalysis, material science, and biology, this much-needed book is the first to comprehensively cover most everything you need to know about palladacycles. Here, two renowned authors contribute high-quality content, making this first-of-its-kind reference a must-have for everyone working in the field. Author Jairton Dupont has received the prestigious Simao Mathias Medal and the FAPERGS Award in Chemistry. Equally well-accomplished author Michel Pfeffer has penned more than 160 publications and received the bronze medal of the CNRS.

Hardcover 431 pp 2008 ISBN 978-3-527-31781-3 €139.00/£120.00



Nanotechnology

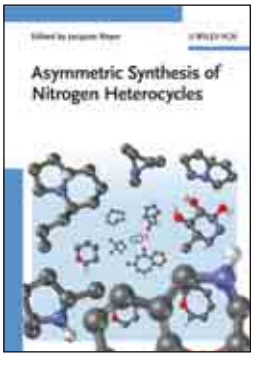
new

VOLUME FIVE: NANOMEDICINE

Viola Vogel, *ETH Zurich, Switzerland;* Editor

This book is clearly structured into four parts. The first gives a very understandable introduction into nanomedicine. The second deals with the role of engineered nanoparticles in diagnostics and disease treatment. The third addresses the imaging and probing of cells and the last speaks to innovative treatments and regenerative medicine.

Hardcover 445 pp 2009 ISBN 978-3-527-31736-3 €149.00/£130.00

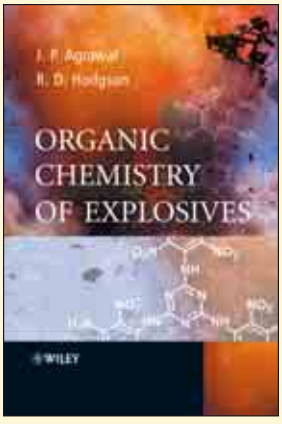


Asymmetric Synthesis of Nitrogen Heterocycles

Jacques Royer, *Faculté de Pharmacie, France;* Editor

Heterocycles play an important role in everyday life. Vitamins, antibiotics, pharmaceuticals, and other products contain heterocycles, and so asymmetric synthesis in particular has become a challenging facet of today's chemistry industry. Long awaited and truly needed, this is the only book to focus on this hot topic. Here, all aspects of asymmetric synthesis are presented in a compact manner, by an international team of authors that provides important experimental procedures, including industrial applications. Moreover, the book is clearly structured and divided into two sections: the asymmetric synthesis of heterocycles containing only one nitrogen and that of those with more than one nitrogen as a heteroatom.

Hardcover 425 pp 2009 ISBN 978-3-527-32036-3 €139.00/£120.00

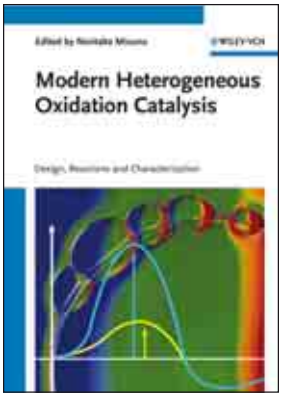


Organic Chemistry of Explosives

Jai Prakash Agrawal, Robert Hodgson, *both of Univ. of Central Lancashire, UK*

Organic Chemistry of Explosives is the first text that brings together in one volume the essential methods and routes used for the synthesis of organic explosives. Topics include the methods that can be used to introduce *C*-nitro, *O*-nitro, and *N*-nitro functionality into organic compounds; the synthesis of energetic compounds in the form of polynitropolycycloalkanes, caged and strained nitramines, and *N*-heterocycles; and the nitration with dinitrogen pentoxide and its likely significance for the future synthesis of energetic materials; among others. It also highlights important properties such as melting points, impact sensitivities, and velocities of detonation, etc., which are considered valuable from the end-use point of view.

Hardcover 414 pp 2007 ISBN 978-0-470-02967-1 €129.00/£100.00
Online Book. ***See ad on page 8 for ordering information.*** **ISBN 978-0-470-05936-4**



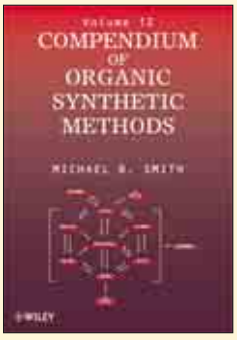
Modern Heterogeneous Oxidation Catalysis

Design, Reactions and Characterization

Noritaka Mizuno, *The Univ. of Tokyo, Japan*

Heterogeneous oxidation catalysis is one of the key reactions in chemistry, especially when it comes to industrial chemistry. This technology reduces chemical waste, making reactions much more efficient. Today, more than ever, there is a real need for novel environmentally friendly green oxidants, such as oxygen, hydrogen peroxide, and others. Filling a wide gap in the literature, this long-awaited, comprehensive reference covers all of the important catalyst classes, including metal oxides, polyoxometalates, and zeolites. Here, readers will find everything they need to know—from structure design to characterization, from immobilization to industrial processes.

Hardcover 356 pp 2009 ISBN 978-3-527-31859-9 €139.00/£120.00



Compendium of Organic Synthetic Methods:

new

VOLUME TWELVE

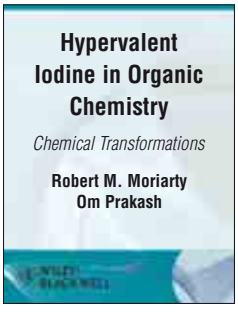
Michael B. Smith, *Univ. of Connecticut, USA*

The *Compendium of Organic Synthetic Methods* series facilitates the working chemist's search for the most useful functional group transformations in organic chemistry. Drawn from an exhaustive survey of the literature, *Compendium of Organic Synthetic Methods, Volume 12*, contains both functional group transformations and carbon-carbon bond-forming reactions. Author Michael Smith adheres to stringent criteria for listing reactions, including real synthetic utility and reagents that are either readily available or easily prepared and handled in the laboratory.

COMPENDIUM OF ORGANIC SYNTHETIC METHODS

Hardcover 594 pp 2009 ISBN 978-0-471-44530-2 €129.00/£100.00

Online Book. *See ad on page 8 for ordering information.* ISBN 978-0-470-50397-3



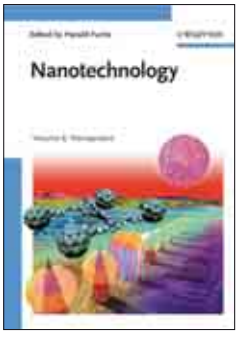
Hypervalent Iodine in Organic Chemistry

Chemical Transformations

Robert M. Moriarty, Om Prakash

The only comprehensive review and analysis of the use of hypervalent iodine in organic synthesis, this book takes a practical aim with a focus on synthesis, particularly in natural products and commercial applications. Written by leading experts in iodine chemistry, coverage includes addition reactions to carbon-carbon double bonds, cyclopropanation creation of the nitrogen, creation of electron deficient carbon, Dess-Martin reagent and Koser's reagent, and more.

Hardcover 500 pp 2011 ISBN 978-0-470-00722-8 €129.00/£100.00



Nanotechnology

new

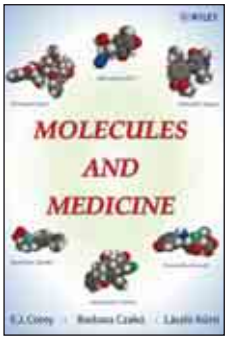
VOLUME SIX: NANOPROBES

Harald Fuchs, *Univ. of Muenster, Germany;* Editor

This work focuses on nanoprobes and imaging techniques for local quantitative analysis and surface modification. This collection of complementary nanoscopic methods represents the current state of the art for inspecting the mechanical, electrical, optical and dynamic properties of sub-nanometer structures, with high precision and accuracy. Materials scientists, chemists, physicists, and engineers alike will benefit from the incredible improvements in these technologies, which hold great promise for the future as well.

NANOTECHNOLOGY

Hardcover 388 pp 2009 ISBN 978-3-527-31733-2 €149.00/£130.00



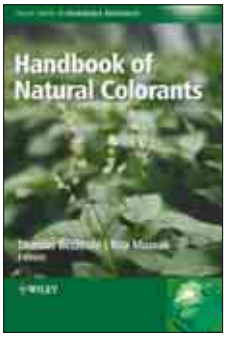
Molecules and Medicine

E. J. Corey, Barbara Czakó, Lázló Kürti, *all of Harvard Univ., USA*

Molecules and Medicine delves into the discovery, application, and mode of action of more than 100 of the most popular drugs now used in modern medicine. For each medication covered, you'll find vital information on the condition it treats, a summary of its industrial development, the year it became available, the biological target of the medicine, and interacting side effects and related drugs. A sampling of the many medications addressed includes acetylsalicylic acid (aspirin) and Naproxen (Aleve), Tiotropium Bromide (Spiriva) and Loratadine (Claritin), Clopidogrel Bisulfate (Plavix), Sildenafil (Viagra), Ranitidine (Zantac), and Acyclovir (Zovirax), plus dozens more.

Paperback 272 pp 2007 ISBN 978-0-470-22749-7 €42.90/£33.50

Hardcover 254 pp 2008 ISBN 978-0-470-26096-8 €84.90/£66.95



Handbook of Natural Colorants

new

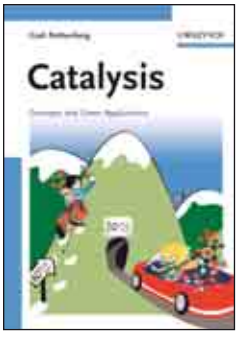
Rita Mussak; Thomas Bechtold, *Inst. for Textile Chemistry;* Editors

Written by scientists with specialized knowledge in the field, *Handbook of Natural Colorants* is a unique source of information that summarizes the current knowledge of natural colorants in depth. It offers easy access to the theory and practice of natural colorants from different viewpoints, including agricultural, economic, and legislative. Also included are the pros and cons of natural dyestuffs that offer some promising results and access the potential use of vegetable dyes as alternatives to chemical-based ones with a focus on green chemistry.

WILEY SERIES IN RENEWABLE RESOURCE

Hardcover 434 pp 2009 ISBN 978-0-470-51199-2 €129.00/£100.00

Online Book. *See ad on page 8 for ordering information.* ISBN 978-0-470-74497-0



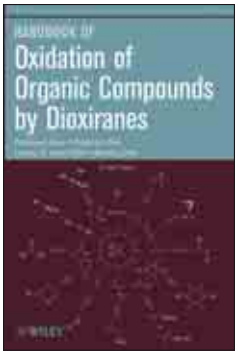
Catalysis

Concepts and Green Applications

Gadi Rothenberg, *Univ. of Amsterdam, The Netherlands*

This first textbook to cover all aspects of catalysis also bridges computational methods, industrial applications and green chemistry. The author teaches scientific writing, making him the ideal person to write such a textbook, and the practicability of his approach has been well proven in his courses. Following an introduction to green chemistry and the basics of catalysis, the text deals with bio-, homogeneous and heterogeneous catalysis as well as computer applications in catalysis research. Finally, the integrated questions and answers represent a vital aid to students in preparing for their exams.

Hardcover 292 pp 2008 ISBN 978-3-527-31824-7 €55.00/£50.00



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Waldemar Adam, *Univ. Warzburg;* Cong-Gui Zhao; Chantu R. Saha-Moller; Kavitha Jakka

This volume in our series covers the oxidation of alkenes and all other organic substrates. The authors are among the pioneers of dioxirane chemistry and draw on extensive firsthand knowledge of the subject. As with all Organic Reactions content, the presentation emphasizes the preparative aspects of the reactions and emphasizes substrate scope, limitations, structural and electronic influences, and stereochemical aspects. Detailed experimental procedures are provided and all known examples of dioxirane oxidations are compiled in easy-to-scan tables.

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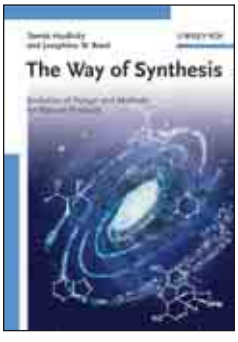

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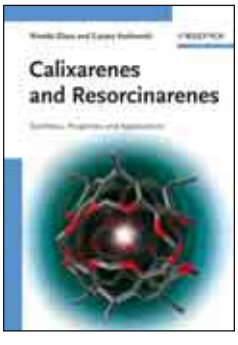

Calixarenes and Resorcinarenes

Synthesis, Properties and Applications

Wanda Sliwa, Cezary Kozlowski, *both of Jan Dlugosz Univ., Poland*

New trends in the chemistry of calixarenes and the modification of their structures are having an enourmous impact on practical applications in modern nano- and biotechnologies. Drawing on reports published since 2005, *Calixarenes and Resorcinarenes* is the only reference that covers the latest advances concerning the properties of calixarenes in various structures. The text highlights promising applications in science and new technologies, from separation sciences through laboratory works to industrial/technological processes. All of which makes this text a smart investment for practicing chemists and advanced students alike.

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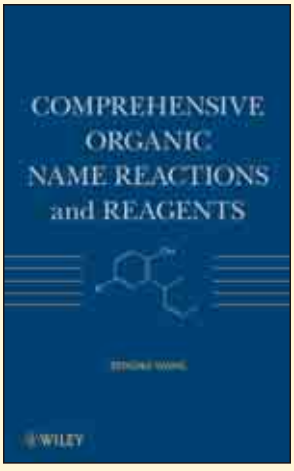

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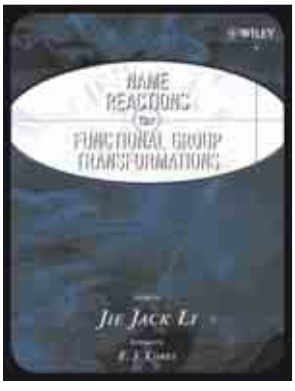

Name Reactions of Functional Group Transformations

Jie Jack Li, *Pfizer Global Research and Development, USA;* E. J. Corey, *Harvard Univ., USA.*

This well-organized nuts-and-bolts reference delves deeply into functional group transformations, providing all of the detailed information researchers need. Topics are organized into the following sections: oxidation, reduction, asymmetric synthesis, and functional group manipulations. Each section includes a description of the functional group transformation, the historical perspective, mechanisms, variations and improvements on the reaction, synthetic utilities and applications for the reaction, experimental details, and references to the primary literature. All contributors are well-known and respected for their work on each specific name reaction.

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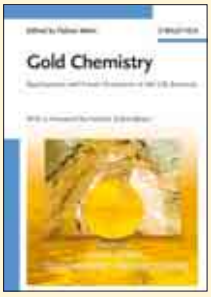

Gold Chemistry

new

Applications and Future Directions in the Life Sciences

Fabian Mohr, *Bergische Univ. Wuppertal, Germany;* Editor

Gold has been known to humanity for over three millennia, yet the chemistry of this element has only been studied seriously in the last thirty years. Nonetheless, enormous advances have been made over this period and gold compounds now find applications in medicine, technology and, more recently, catalysis. Written by world-class authors, this guide examines hot topics in gold chemistry, highlighting new and current trends as well as future directions. Comprehensive in its scope, its coverage ranges from supramolecular assemblies to sensors and medicinal applications.

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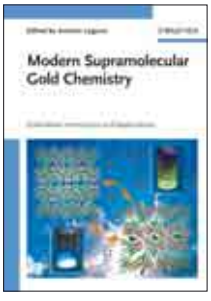

Modern Supramolecular Gold Chemistry

new

Gold-Metal Interactions and Applications

Antonio Laguna, *Univ. of Zaragoza, Spain;* Editor

A treatise on the fundamentals of the subject, this work also considers new applications of gold compounds in catalysis, as nanoparticles, and its potential application in luminescent compounds. Written by an eminent team of experts, the book analyzes the current status of gold chemistry--its special characteristics, oxidation states, and main type of complexes--before going on to explore the synthesis of supramolecular aggregates due to the formation of gold-gold, gold-metal interactions or other secondary bonds. Final sections deal with LEDs, solvoluminescent and electroluminescent materials, liquid crystals and catalysis.

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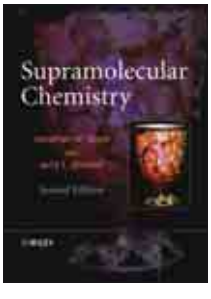

Supramolecular Chemistry

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Assuming little in the way of prior knowledge, this book covers the theory behind the subject, how the theory is applied, and includes coverage of the more important techniques needed by supramolecular chemists. Thoroughly updated for this second edition, it addresses all the latest developments in the field, now with five new chapters: ion pair receptors, molecular guests in solution, network solids, gels, and nanochemistry. A supplementary Website is also available, with additional information and powerpoint slides for instructors.

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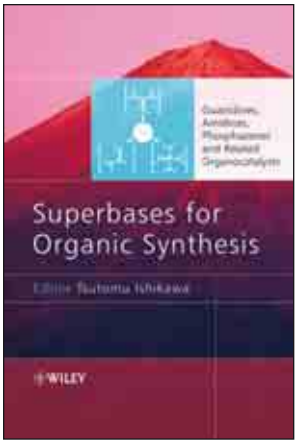

Superbases for Organic Synthesis

Guanidines, Amidines, Phosphazenes and Related Organocatalysts

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Essentially an expansion by the author of an enormously popular paper he first penned for the organic chemistry journal *Synthesis*, this seminal guide is the first to deal solely with the synthesis and chemistry of the superbases guanidines, amidines, and phosphazenes. Herein, readers will discover a wealth of details concerning the physical properties, biological roles, synthetic applications, appearance and synthesis as natural products, and the use in medicinal chemistry of these widely-used tools. Related organocatalysts and their derivatives and their uses are also discussed.

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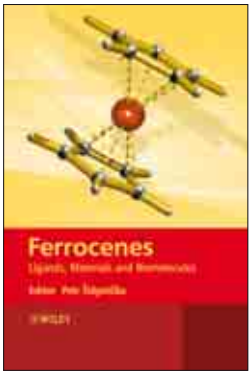

Ferrocenes

Ligands, Materials and Biomolecules

Petr Štepnicka, Editor

Although ferrocene—the prototypical metallocene—was first discovered more than 50 years ago, research into ferrocene-containing compounds continues apace, due largely to their successful applications in catalysis, materials science, and bioorganometallic chemistry. This landmark reference gives readers a strong overview of, and describes recent advances in, the development and application of ferrocene compounds, including the synthesis and catalytic utilisation of chiral and non-chiral ferrocene ligands. You also get expert information on the creation of ferrocene-based sensors, electro-optical materials, ferrocene polymers, liquid-crystalline materials, crystal engineering with ferrocene compounds, and the bioorganometallic chemistry of ferrocene.

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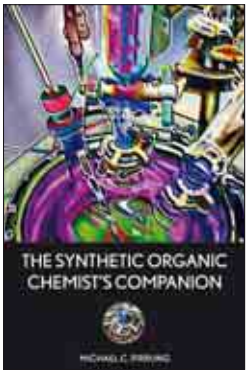

The Synthetic Organic Chemist's Companion

Michael C. Pirrung

*"I am certain that he [the author] will find well-worn copies in many labs, read and reread by both experienced and inexperienced chemists . . ."***—Journal of Chemical Education, November 2007**

Packed with data and practical tips, *The Synthetic Organic Chemists' Companion* is an indispensable resource for students and practitioners of organic synthesis. It gives readers all of the fundamentals and guides them through the entire process of organic synthesis. It includes clear, basic instructions on everything from handling reagents, gases, and solvents, to conducting and working up/purifying reactions, to applying analytical techniques in order to identify the reaction product. Real-world examples show you how to apply the information at hand. Color photos, drawings, charts, graphs, and tables complement the information.

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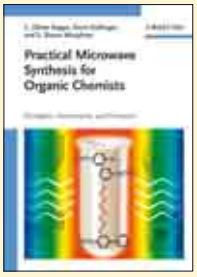

Practical Microwave Synthesis for Organic Chemists

Strategies, Instruments, and Protocols

C. Oliver Kappe, Doris Dallinger, *both of Univ. of Graz, Austria;* Shaun Murphree, *Allegheny College, Meadville, USA*

The use of microwaves to control and speed up chemical reactions has within only a few years revolutionized the organic synthesis laboratory, because the instrumentation is cheap and easily adapted to existing protocols. With just the right level of detail for beginners, this book combines basic facts with tried-and-tested protocols, allowing quick mastery of the technique for chemists who don't have the time to read through hundreds of pages of text before starting their first microwave experiment.

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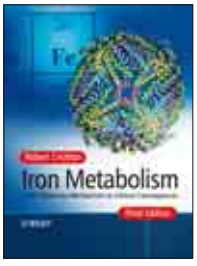

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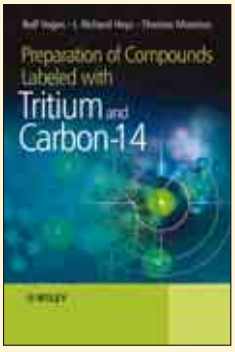

Preparation of Compounds Labeled with Tritium and Carbon-14

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Compounds tagged with carbon-14 and tritium are critical tools in research in biomedical sciences, discovery, and the development of pharmaceuticals and agrochemicals. They are also key to investigations into the nature of chemical reactions and the ways living organisms incorporate and modify biological components. To that end, *Preparation of Compounds Labeled with tritium and Carbon-14* is a solid, up-to-date guide to proven strategies and tactics used by chemists to prepare compounds tagged with the radioactive atoms carbon-14 and tritium.

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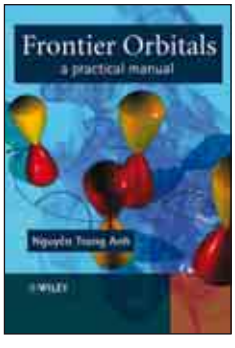

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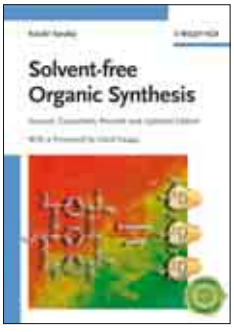

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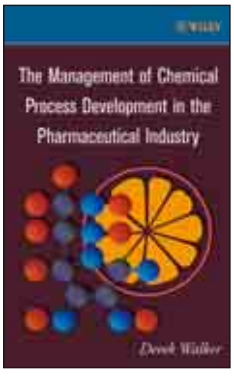

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Derek Walker

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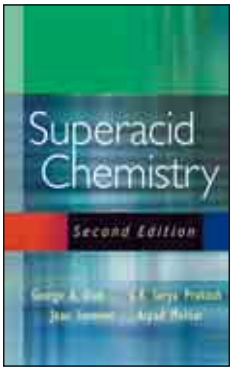

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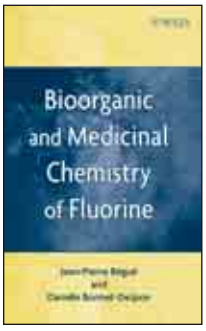

Bioorganic and Medicinal Chemistry of Fluorine

Jean-Pierre Bégué, Daniele Bonnet-Delpon

This book demonstrates the critical role fluorine plays in pharmaceutical science and development, including the classification of marketed and in-development fluorinated pharmaceuticals. The first part introduces the preparation of fluorinated compounds and their specific properties. The second part deals with fluorinated analogues of natural products, fluorinated amino acids and peptides, and derivatives of sugars. It also includes a detailed chapter on the conception of enzyme inhibitors. In the final part, the main fluorinated pharmaceuticals, marketed or in development, are classified according to their therapeutic classes.

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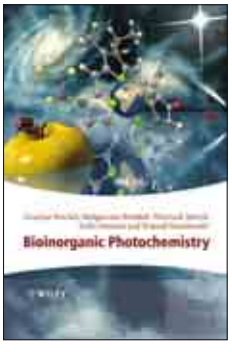

Bioinorganic Photochemistry

new

Grazyna Stochel, Zofia Stasicka, Malgorzata Brindell, Wojciech Macyk, Konrad Szacilowski, *all of Jagiellonian University*

Bioinorganic Photochemistry seeks to explain the interaction of select enzymes and proteins with light—most familiarly, photosynthesis—and presents a significant challenge to chemists in many areas. *Bioinorganic Photochemistry* offers a thorough overview of this important and exciting area of research, covering fundamental principles and concepts, and illustrating the applications in biological, medical, and environmental science. Written as a go-to guide for all those involved in the investigation or development of bioinorganic photochemical processes, the book can also serve as a key text for advanced courses in inorganic chemistry.

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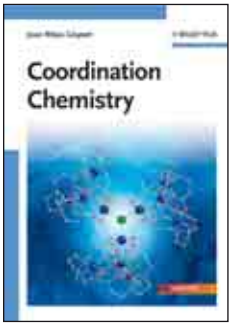

Coordination Chemistry

Joan Ribas Gispert, *Univ. of Barcelona, Spain*

The clear and concise concept makes this advanced textbook easy to read and easy to understand. Tedious mathematical or quantum mechanical equations are only utilized when absolutely necessary. With more than thirty years of experience in science and teaching, Joan Ribas Gispert aims to treat not only the traditional aspects that have shaped the field of coordination chemistry for decades, but also the modern approaches and topics like supramolecular and bio-coordination chemistry, photochemistry, and crystal engineering.

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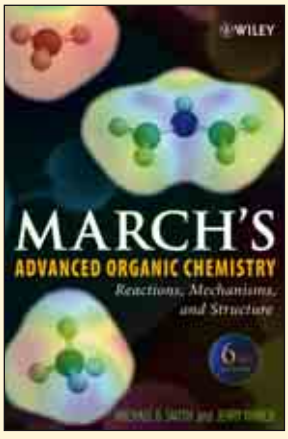

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Reactions, Mechanisms, and Structure

SIXTH EDITION

Michael B. Smith, *Univ. of Connecticut, USA;* Jerry March, *Adelphi Univ., USA*

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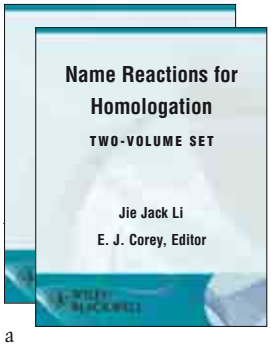

Name Reactions for Homologation

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TWO-VOLUME SET

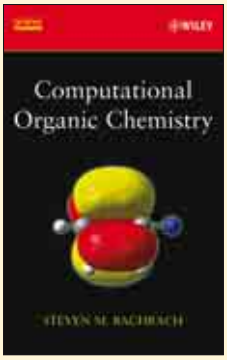
Jie Jack Li, *Pfizer Global Research and Development, USA, E. J. Corey, Harvard Univ., USA;* Editor

a comprehensive and authoritative review of name reactions on homologation. Each section includes a description of the reaction, the historical perspective, mechanism for the reaction, variations and improvements on the reaction, synthetic utilities of the reaction, experimental details, and current references to the primary literature. Primary topics include organometallics (palladium, organozinc, organocopper, other organometallics), carbon-chain homologation, (rearrangement, concerted rearrangement, cationic rearrangement, anionic rearrangement, other rearrangements), radical chemistry, asymmetric C-C bond formation, and other types (such as Cannizzaro disproportionation, Eschenmoser coupling, Mannich, Mitsunobu, Passerini, and Ugi).

COMPREHENSIVE NAME REACTIONS

Hardcover 1520 pp 2009 ISBN 978-0-470-46721-3 €195.00/£150.00

Online Book. *See ad on page 8 for ordering information.* **ISBN 978-0-470-48718-1**



Computational Organic Chemistry

Steven M. Bachrach

This text introduces computational modeling methods used as standard tools by organic chemists for finding, rationalizing, and predicting structure and reactivity of organic molecules. Moreover, it helps the reader develop a feel for the correct tool to use in the context of a typical problem in structure, activity, or reactivity. Topics discussed include simple molecular properties, pericyclic reactions, carbenes and radicals, anion chemistry, solvent effects, and more.

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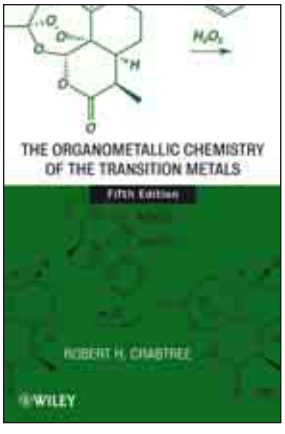

The Organometallic Chemistry of the Transition Metals

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FIFTH EDITION

Robert H. Crabtree, *Yale Univ., USA*

"One impressive and compressive book. . . . This review would have to be book size to do full justice to all the insights in this volume."
—Journal of Metals Online

Fully updated and expanded to reflect recent advances, the fifth edition of the classic text provides students and professional chemists with a comprehensive introduction to the principles and general properties of organometallic compounds and includes practical information on reaction mechanisms and contemporary applications. With an increased focus on organic synthesis applications, nanoparticle science, and green chemistry, the new edition brings the entire subject up to date.

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Practical Biotransformations

new

A Beginner's Guide

Gideon Grogan, *York Univ., UK*

Biotransformations are reactions catalysed by either enzymes or microbes that are of potential use to preparative synthetic chemistry. Biotransformation science can include microbiological and biochemical techniques with which the organic chemist is unfamiliar, but can result in significant research and economic benefits. This book assists chemistry postgraduates and researchers who understand biotransformation methodology and its value, but who do not know how to implement the relevant experimental techniques in the laboratory. It is written in an accessible and user-friendly way that will facilitate ready implementation.

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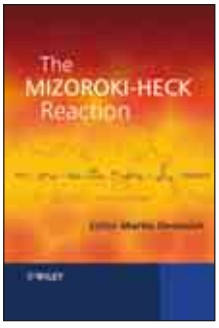
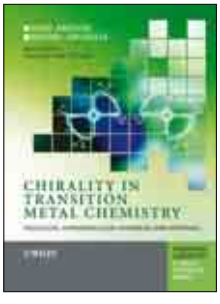


The Mizoroki-Heck Reaction

Martin Oestreich, *Inst. fur Organische Chemie, France;* Editor

The Mizoroki-Heck reaction is gaining ever-increasing importance in several areas of organometallic and organic chemistry. And this, the first volume dedicated solely this pivotal reaction, delivers a comprehensive summary of Mizoroki-Heck chemistry, including current mechanistic understanding; catalyst development and ligand design; inter- and intramolecular Mizoroki-Heck reactions; and regio-, diastereo-, and enantioselective variants. Readers will discover how they can create carbon-carbon bonds and complex carbon skeletons in a highly controlled way, making this guide a key resource for organic chemists and advanced undergraduate and postgraduate organic chemistry students.

Hardcover 608 pp 2009 ISBN 978-0-470-03394-4 €119.00/£95.00



Chirality in Transition Metal Chemistry

Molecules, Supramolecular Assemblies and Materials

Hani Amouri, Michel Gruselle, *both of Laboratoire de Chimie Inorganique, France*

Chirality in Transition Metal Chemistry is an essential introduction to this increasingly important field for students and researchers in inorganic chemistry. Emphasizing applications and real-world examples, the book begins with an overview of chirality, discussing of absolute configurations and system descriptors, physical properties enantiomers, and principles of resolution and preparation of enantiomers. The subsequent chapters deal with the specifics of chirality as it applies to transition metals.

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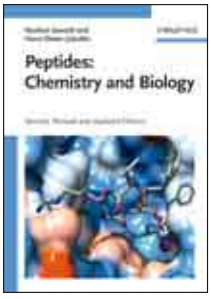

Peptides: Chemistry and Biology

new

Second Edition

Norbert Sewald, *Univ. of Bielefeld, Germany;* Hans-Dieter Jakubke, *formerly Univ. of Leipzig, Germany*

Thoroughly updated with 25 percent new material, this text is still the the only modern and scientifically up-to-date advanced work on peptide biochemistry available today. As such, it distills information found in hundreds of publications into a lucid synopsis of this diverse field. The authors explain the broad fundamentals of peptide synthesis and structure, systematically addressing important families of biologically active peptides, covering application areas in biotechnology, pharmaceutical science, and biomedicine. Touches on such hot research topics as pseudopeptides, peptidomimetics, and combinatorial synthesis.

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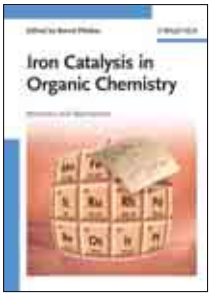

Iron Catalysis in Organic Chemistry

Reactions and Applications

Bernd Plietker, *Univ. Dortmund, Germany;* Editor

The first such work to cover this exciting field, this comprehensive reference deals in part with the biological aspects of the subject, such as enzymes with iron. Following an informative introduction, this handbook goes on to deal with reductions, oxidations of C, H- and C=C bonds, oxidative allylic oxygenation and amination, the oxidation of heteroatoms, cross coupling reactions, aromatic and nucleophilic substitutions, addition to carbonyl compounds, and cyclisations, as well as ring opening reactions. The chapters are clearly classified according to the reaction type, which makes desired information easy to locate.

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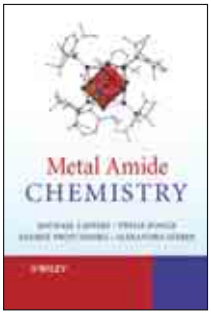

Metal Amide Chemistry

Michael Lappert, *Univ. of Sussex, UK;* Andrey Protchenko, *Univ. of Sussex, UK;* Philip Power, *Univ. of California at Davis, USA;* Alexandra Seeber

Written by internationally recognized leaders in the field, *Metal Amide Chemistry* is the authoritative survey of this important class of compounds. An introduction to the topic is followed by in-depth discussions of the amide compounds of alkali metals; alkaline earth metals; zinc, cadmium, and mercury; the transition metals; group 3 and lanthanide metals; group 13 metals; silicon and the group 14 metals; group 15 metals; and the actinide metals. Accompanied by a substantial bibliography, this is an essential guide for researchers and advanced students working in synthetic organometallic, organic and inorganic chemistry, materials chemistry, and catalysis.

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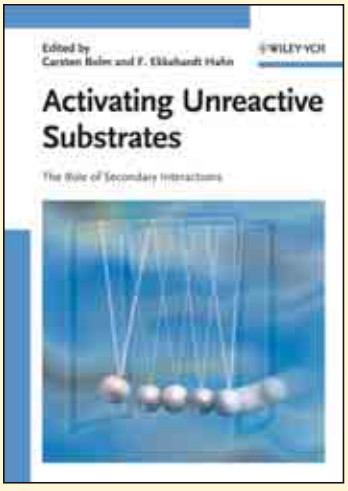


Activating Unreactive Substrates

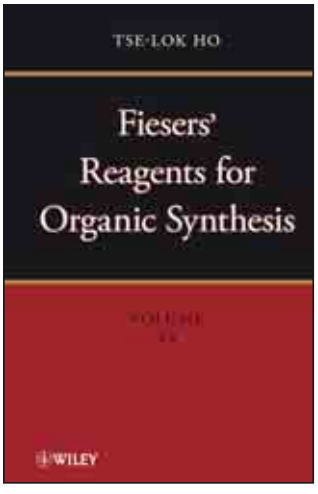
The Role of Secondary Interactions

Carsten Bolm, *RWTH Aachen, Germany;* F. Ekkehardt Hahn, *Univ. of Munster, Germany;* Editors

MM: Could use another line or two of copy here. Got a good endorsement?

The use of secondary interactions for the activation of non-reactive substrates constitutes a relatively new and modern approach in catalysis. *Activating Unreactive Substrates: The Role of Secondary Interactions,* is the first book to cover this new and important research topic in its entirety, revealing the links between the various disciplines. Because of its interdisciplinary approach, this reference covers a rather broad range of chemical disciplines, lending itself to the whole chemical community. A must for everyone working in the field.

Hardcover 481 pp 2009 ISBN 978-3-527-31823-0 €149.00/£130.00



Fiesers' Reagents for Organic Synthesis

VOLUME 24

Tse-Lok Ho, *The NutraSweet Co.*

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—Journal of the American Chemical Society

This highly successful series has provided generations of professional chemists with an up-to-date survey of the reagent literature. Now the series continues with its alphabetical listings, concise descriptions, and selected examples of applications, providing references to new reagents as well as to reagents included in previous volumes. This volume covers the synthetic literature from 2005 to 2006.

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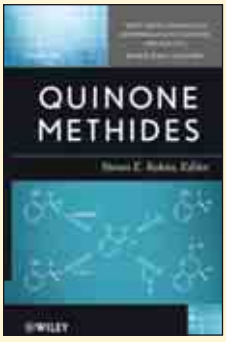

Quinone Methides

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S. E. Rokita

Quinone methides have cationic and anionic centers, providing an advantageous ability to react with both nucleophiles and electrophiles. These reactive intermediates are of particular interest and have found wide applications in organic synthesis. Featuring contributions from world-renowned leaders in the field, *Quinone Methides* covers a broad range of topics, including theoretical treatment, generation and detection of the intermediates, characterization, and applications in chemistry and biochemistry (including biological reactivity).

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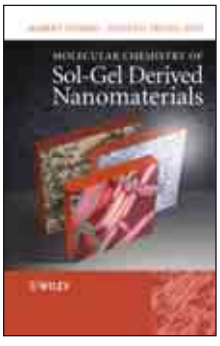

Molecular Chemistry of Sol-Gel Derived Nanomaterials

new

Robert Corriu, *Univ. Montpellier II;* Nguyen Trong Anh

Presenting the wide range of synthetic possibilities opened by sol-gel processes in the field of organic-inorganic materials, this guide discusses the state of the art in the synthesis of the various nanomaterials. The text includes examples of applications, including photoluminescent nanocomposites, grafted nanomaterials for selective separations of ions or isotopes, for cascade syntheses, chelation of transition metals and lanthanides by lamellar structured nanomaterials, and immobilized enzymes on mesoporous nanomaterials.

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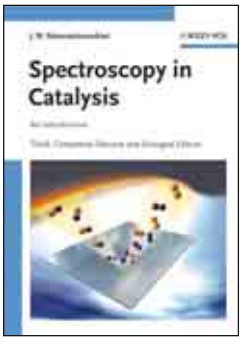

Spectroscopy in Catalysis

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An Introduction

THIRD, COMPLETELY REVISED AND ENLARGED EDITION

J. W. Niemantsverdriet, *Eindhoven Univ. of Technology, The Netherlands*

This third edition includes significant new developments and case studies, with all the chapters updated by way of recent examples and relevant new literature. *Spectroscopy in Catalysis* describes the most important modern analytical techniques used to investigate catalytic surfaces. These include electron, ion, and vibrational spectroscopy, mass spectrometry, temperature-programmed techniques, diffraction, and microscopy. With the focus on practical use, rather than theory, each chapter presents current applications and evaluates their possibilities and limitations.

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With more than one million copies sold, *The Merck Index* has been the go-to reference for generations of professionals looking for precise, comprehensive information on chemicals, drugs, and biologicals. This new edition has been extensively revised to ensure its accuracy and contains more than 10,000 monographs, thirty-two supplemental tables, 450 Organic Name Reactions, and now a companion CD! New to the fourteenth edition, you'll find over seven hundred new or completely revised monographs; thousands of new references, trademarks, uses, and physical properties added to existing monographs; more than thirty-five new monographs for Name Reagents; recalculated molecular weights using the 2005 IUPAC Table of Standard Atomic Weights; an updated Organic Name Reaction section, and much, much more.

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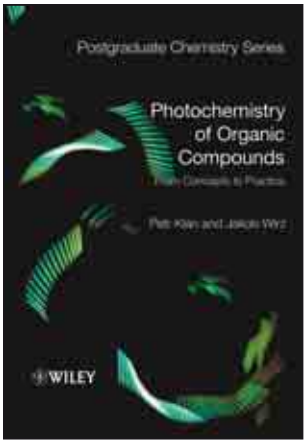

Photochemistry of Organic Compounds

From Concepts to Practice

Petr Klán, *Masaryk Univ.;* Jakob Wirz, *Univ. of Basel*

Photochemistry of Organic Compounds is a proven, hands-on guide to photochemistry and, by reference, its effective use in the synthesis of new organic compounds and in various applications. Working from basic principles, the book methodically illustrates key techniques of reactive intermediates and synthetic photochemical procedures. Case studies give real-world insight into the various applications of photochemistry in chemistry, environmental sciences, biochemistry, physics, medicine, and industry. The concluding chapter speaks to retrosynthetic photochemistry, listing key reactions to aid the reader in designing their own synthetic pathways.

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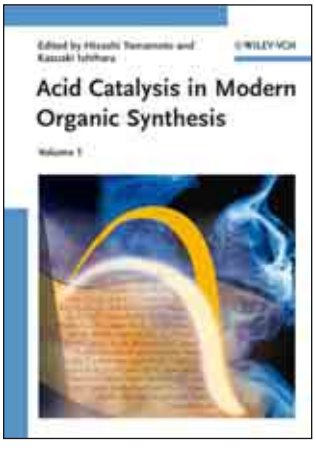

Acid Catalysis in Modern Organic Synthesis

TWO-VOLUME SET

Hisashi Yamamoto, *Univ. of Chicago, USA;* Kazuaki Ishihara, *Nagoya Univ., Japan;* Editors

This two-volume set covers all new developments and, in addition, includes the hot concept of combined Bronsted and Lewis acid catalysis, developed by Hisashi Yamamoto himself. The excellent editorial team has put together an equally top team of expert authors, resulting in a true treasure trove of essential information—making this a must for every chemist working in organic chemistry and catalysis, in academia as well as in industry.

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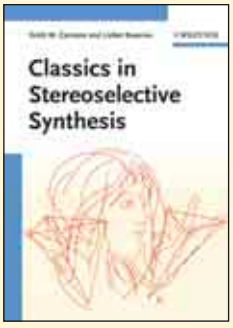

Classics in Stereoselective Synthesis

Erick M. Carreira, *Department of Organic Chemistry, ETH Hoenggerberg, Switzerland;* Lisbet Kvaerno, *Max-Planck-Institut für Kohlenforschung, Germany*

Stereoselective or asymmetric synthesis of organic molecules ideally leads to one of several possible steric structures of a target molecule, which is most important for economical multistep syntheses of natural products, drugs, and fine chemicals, that show activity only in a certain steric modification. Providing an excellent compilation of the most important and useful methods of modern stereoselective synthesis, this book features illustrative examples of drug and natural product syntheses, resulting in a rich source of stimulating ideas for the efficient use of asymmetric reactions in the users' own synthesis.

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Concepts of Modern Catalysis and Kinetics

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I. Chorkendorff, *Technical Univ., Denmark;* J. W. Niemantsverdriet, *Univ. of Technology, The Netherlands*

Spanning the full range from fundamentals of kinetics and heterogeneous catalysis via modern experimental and theoretical results of model studies to their equivalent large-scale industrial production processes. This second edition includes significant new developments, with all the chapters updated by way of recent examples and relevant new literature. With its focus on practical application, rather than theory, the result is key knowledge for students at technical universities and professionals already working in industry.

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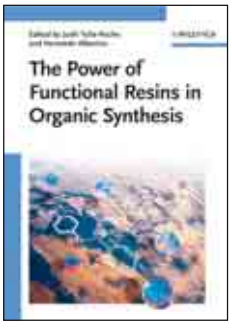

The Power of Functional Resins in Organic Synthesis

Fernando Albericio, Judit Tulla-Puche, *both of Univ. of Barcelona, Spain;* Editors

Since work-up procedures in industry are both time- and energy-consuming processes, the interest in solid phases for industrial purposes is very high. For this reason, fast and simple synthesis has become a major focus of research over the last few years. While many books cover solid phase synthesis and combinatorial synthesis, this guide is unique in exclusively covering the other aspects of solid-phase synthesis. As such, it covers virtually everything you need to know—from supported reagents to scavengers resins, and the synthesis of natural products.

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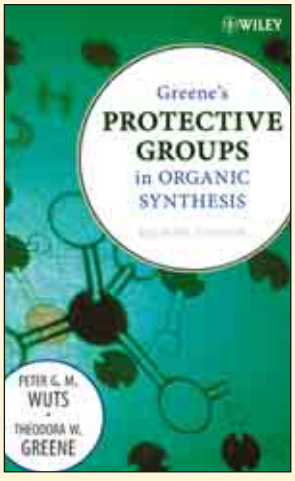

Greene's Protective Groups in Organic Synthesis

FOURTH EDITION

Peter G. M. Wuts, *Pfizer, USA;* Theodora W. Greene, *The Rowland Institute, USA*

This new edition offers the only comprehensive guide to this topic. Techniques for formation and cleavage of protective groups are provided, along with a useful reactivity chart and sections on potential undesired side reactions. The fourth edition has been updated to include 1,350 protective groups and over 8,000 references to the primary literature. It is an indispensable reference for any practicing synthetic organic or medicinal chemist.

- Includes coverage of the unexpected side reactions that occur with protective groups
- Updates protective group chemistry from the years 1998 forward
- Incorporates new protective groups now available, and updates the old protective group content with new methodology discussing the installation and cleavage of protective groups
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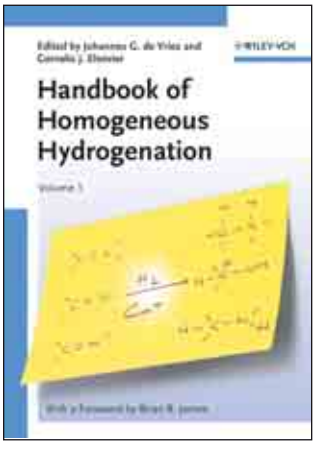


Handbook of Homogeneous Hydrogenation

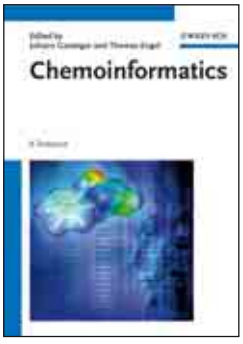
THREE-VOLUME SET

Johannes G. de Vries, *DSM Research, The Netherlands;* Cornelis J. Elsevier, *Univ. of Amsterdam, The Netherlands;* Editors

"This handbook should be on the shelves of every academic and industrial library, where I suspect it will be in high demand."—**Journal of the American Chemical Society**

This multivolume handbook is the first to cover all questions concerning homogeneous hydrogenation. As such, it presents the catalysts, the scope of their application, mechanistic aspects, asymmetric methods, combinatorials catalysis, recycling methods, and industrial examples. In 25 clearly structured chapters, the book includes all hydrogenation reactions catalyzed by soluble transition metal-based catalysts. The 36 authors adopt an applied approach, emphasizing those aspects important for industrial use. With some 2,000 illustrations and 50 tables, this is a must-have for everyone working in the chemicals and pharmaceutical industries, as well as for graduate students in chemistry.

Hardcover 1641 pp 2007 ISBN 978-3-527-31161-3 €499.00/£425.00



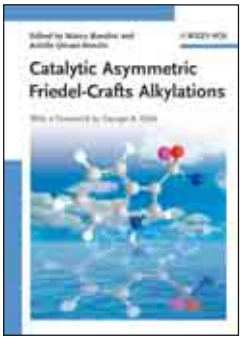
Chemoinformatics

A Textbook

Johann Gasteiger, Thomas Engel, *both of Univ. of Erlangen-Nuremberg, Germany;* Editors

Edited by Johann Gasteiger and Thomas Engel, *Chemoinformatics* provides an introduction to the representation of molecular structures and reactions, data types and databases/data sources, search methods, methods for data analysis, as well as such applications as structure elucidation, reaction simulation, synthesis planning, and drug design. A "hands-on" approach with step-by-step tutorials and detailed descriptions of software tools and Internet resources allows easy access for newcomers, advanced users, and lecturers alike.

Paperback 680 pp 2003 ISBN 978-3-527-30681-7 €84.90/£75.00



Catalytic Asymmetric Friedel-Crafts Alkylations

new

Marco Bandini; Achille Umani-Ronchi, *both of Univ. di Bologna, Italy;* Editors

This first comprehensive overview of this important synthetic reaction covers the whole spectrum of a modern and rapidly developing field. Clearly structured, the book presents all the known synthetic approaches for the construction of aromatic compounds bearing benzylic stereocenters with a defined configuration. With its representative synthetic procedures, organocatalysis, and industrial applications, it combines a theoretical basis with practical examples, offering valuable advice for beginners and experts alike. The ultimate source for every synthetic chemist in academia and industry.

Hardcover 317 pp 2009 ISBN 978-3-527-32380-7 €119.00/£105.00
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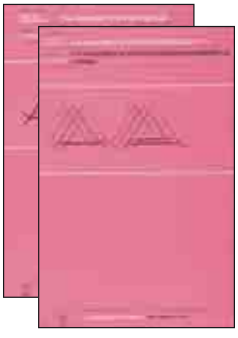

The Chemistry of the Cyclopropyl Group

VOLUME ONE

Zvi Rappoport, *The Hebrew Univ., Jerusalem;* Editor

This internationally authored edition consisting of contributions by leaders in the field, is now available online. Volume Two emphasizes the synthetic, analytical and physical properties of the cyclopropyl group.

CHEMISTRY OF FUNCTIONAL GROUPS

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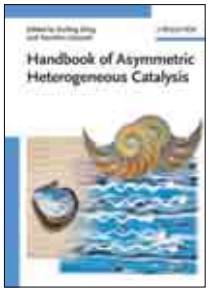
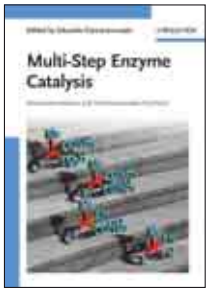


Handbook of Asymmetric Heterogeneous Catalysis

Kuiling Ding, ***Shanghai Institute of Organic Chemistry, P. R. China;*** **Yasuhiro Uozumi,** ***Institute for Molecular Science (IMS), Japan;*** **Editors**

Discover the most up-to-date methods for overcoming difficulties in separating and recycling chiral catalysts. This user-oriented guide thoroughly covers the most important approaches currently employed and includes data tables, applications, reaction types, and literature citations. A general introduction is followed by the principles of the immobilization and, finally, applications. In this way, this time-and-money-saving reference explores a variety of heterogenization techniques developed for the immobilization of enantioselective catalysts. Industrial chemists will, of course, find this book to be especially valuable in the course of their work.

Hardcover 466 pp 2008 ISBN 978-3-527-31913-8 €139.00/£120.00



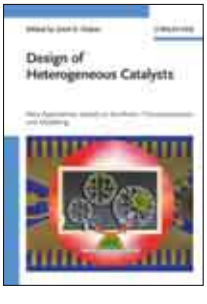
Multi-Step Enzyme Catalysis

Biotransformations and Chemoenzymatic Synthesis

Eduardo Garcia-Junceda, ***Departamento de Química Orgánica Biológica, CSIC, Madrid, Spain;*** **Editor**

In nature, enzymes are able to catalyze reaction sequences and cascades without the need for purification and isolation of intermediates—an essential advantage compared to chemical multi-step reactions. In multi-step enzyme catalysis, researchers copy this elegant method to make biocatalysis more effective. By combining enzymatic and synthetic organic steps, the use of multi-enzyme complexes and other techniques open the door for hitherto unknown reactions. This first comprehensive work on this unique field provides a complete overview, covering such topics as chemoenzymatic synthesis, the microbial production of DNA building blocks, asymmetric transformations by coupled enzymes, and much more.

Hardcover 256 pp 2008 ISBN 978-3-527-31921-3 €99.00/£85.00



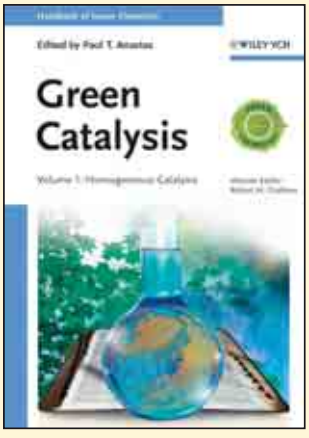
Design of Heterogeneous Catalysts

New Approaches Based on Synthesis, Characterization and Modeling

Umit S. Ozkan, ***Ohio State Univ., USA;*** **Editor**

This long-awaited reference is the first to focus on the availability of characterization techniques that can examine surface reactions at the molecular level. As such, it offers practical examples from a wide array of fields where catalyst design has been based on new insights and understandings and presents such modern and important topics as self-assembly, nature-inspired catalysis, the nano-scale architecture of surfaces, and theoretical methods. With its inclusion of all the useful and powerful tools for the rational design of catalysts, this is truly a must-have book for every researcher in the field.

Hardcover 340 pp 2009 ISBN 978-3-527-32079-0 €139.00/£120.00



Handbook of Green Chemistry

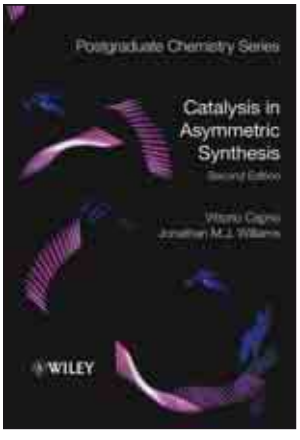
new

Green Catalysis

Robert H. Crabtree, ***Univ. of Yale, USA,*** **Paul T. Anastas,** ***Green Chemistry Institute, Washington, USA;*** **Editor**

In a world where the emphasis has shifted to being as green and environmentally friendly as possible, this important 12-volume *Handbook of Green Chemistry* proves essential reading for anyone wishing to gain an understanding of the world of green chemistry. This series summarises the significant body of work that has accumulated over the past decade that details the breakthroughs, innovation, and creativity within green chemistry and engineering. Edited by the well-known chemist, Professor Robert Crabtree, never before has the subject of green catalysis been so thoroughly covered.

Hardcover 1082 pp 2009 ISBN 978-3-527-31577-2 €499.00/£297.50



Catalysis in Asymmetric Synthesis

new

SECOND EDITION

Vittorio Caprio, ***Univ. of Auckland;*** **Jonathan Williams,** ***Univ. of Bath***

Controlling the stereochemical outcome of reactions in the synthesis of complex natural products or bioactive materials can often be a considerable intellectual and practical challenge for chemists. The stereochemical features of these products are usually essential to their bioactivity, so asymmetric synthesis has become a dominant feature of modern organic chemistry. This extensively referenced book is written from the point of view of the synthetic organic chemist, illustrating the transformations that can be achieved via asymmetric synthesis, rather than the organometallic chemistry that lies beneath. The emphasis is on non-enzymatic methods of asymmetric catalysis, although key references to enzyme-catalysed reactions have been incorporated where appropriate.

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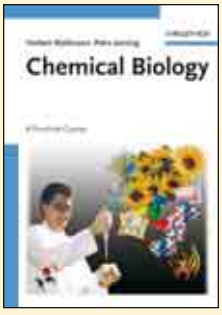


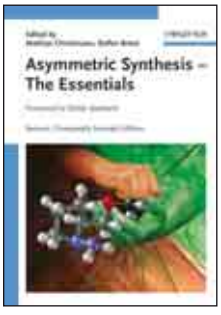
Chemical Biology

A Practical Course

Herbert Waldmann, Petra Janning, *both of Max Planck Institute for Molecular Physiology, Germany*

Take your first steps in combinatorial synthesis or synthesize bioactive molecules such as antibiotics. Search for mutations in DNA using chemical probes or perform a proteome analysis in yeast. The present selection of 12 inspiring experiments is tailored for maximum learning effect at minimal expense of time and equipment. Almost all currently used laboratory techniques in synthesis and analysis of bioactive compounds are represented at least once. Abundant practical hints are complemented by a thorough treatment of the underlying theory and mechanisms.

Paperback 230 pp 2004 ISBN 978-3-527-30778-4 €39.90/£34.95



Asymmetric Synthesis

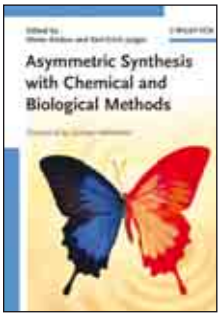
The Essentials

SECOND, COMPLETELY REVISED EDITION

Mathias Christmann, *Institute of Organic Chemistry, RWTH Aachen, Germany;* Stefan Bräse, *Institute of Organic Chemistry, Univ. of Karlsruhe, Germany;* Editors

A veritable who's who of asymmetric synthesis introduces the reader to the leaders in the field. Each chapter covers the key concepts of asymmetric synthesis diastereoselective methods, asymmetric catalysis, the focus then shifts to its application to the synthesis of natural products and industrial processes.

Paperback 395 pp 2008 ISBN 978-3-527-32093-6 €89.00/£80.00

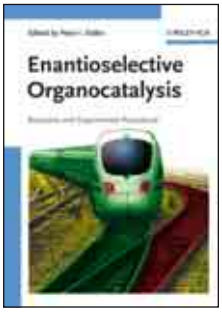


Asymmetric Synthesis with Chemical and Biological Methods

Dieter Enders, *RWTH Aachen, Germany;* Karl-Erich Jaeger, *Heinrich Heine Univ., Germany;* Editors

Providing an interdisciplinary insight into stoichiometric and catalytic reactions, this book covers aspects from classical organic chemistry, to process development, and from the theoretical background, to biological methods using enzymes. Includes the investigation of special technical and biotechnical aspects.

Hardcover 470 pp 2007 ISBN 978-3-527-31473-7 €155.00/£135.00



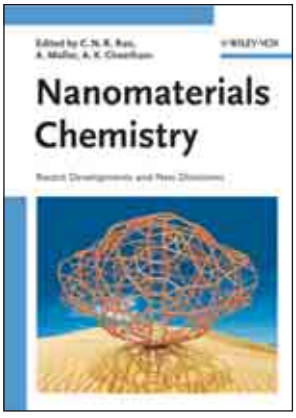
Enantioselective Organocatalysis

Reactions and Experimental Procedures

Peter I. Dalko, *ESPCI, Chimie Organique, France;* Editor

In this reference, a number of leading experts afford insight into one of the hottest topics in organic synthesis, focusing on the most important enantioselective reactions in the field. Clearly structured, each entry begins with a concise introduction, including a mechanistic discussion of the reaction. Experimental procedures are brought together in a concluding chapter. Preparative guidelines for newcomers, carefully selected working procedures with critical notes for bench chemists, rules of thumb, and tips and tricks are all included.

Hardcover 559 pp 2007 ISBN 978-3-527-31522-2 €149.00/£130.00



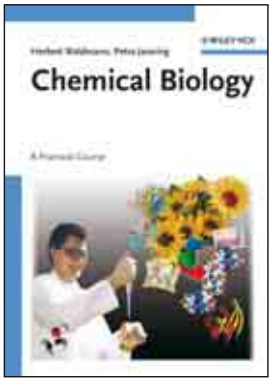
Nanomaterials Chemistry

Recent Developments and New Directions

C. N. R. Rao, *Nehru Centre for Advanced Scientific Research, India;* Achim Müller, *Univ. of Bielefeld, Germany;* Anthony K. Cheetham, *Univ. of California, Santa Barbara, USA;* Editors

Spanning the whole spectrum of nanomaterials research, from theory and synthesis via characterization through to applications, this book covers all important nanomaterial types: quantum dots, nanoparticles, nanoporous materials, nanowires, nanotubes, and nanostructured polymers. The result is recommended reading for everybody working in nanoscience: Newcomers to the field can acquaint themselves with this exciting subject, while specialists will find answers to all their questions as well as helpful suggestions for further research.

Hardcover 420 pp 2007 ISBN 978-3-527-31664-9 €145.00/£125.00



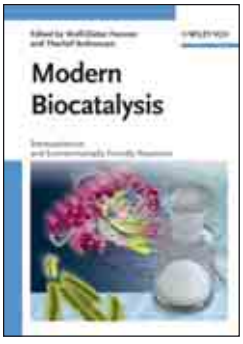
Chemical Biology new

Learning through Case Studies

Herbert Waldmann, Petra Janning, *both of Max-Planck-Inst. of Molecular Physiology, Germany;* Editors

For those with a penchant for hands-on learning, this first book to adopt a problem-based approach to chemical biology teaches the true basics of the subject by way of illustrated everyday case studies. The editors' extensive experience in writing textbooks and their close relationships to the authors ensure that the contributions here are presented in a uniform and highly motivating fashion. Each chapter introduces a different biological problem taken from everyday lab work, so that readers learn how to think for themselves in order to solve problems in biology by using powerful techniques and tools taken from actual practice.

Paperback 304 pp 2009 ISBN 978-3-527-32330-2 €39.90/£34.95



Modern Biocatalysis

Stereoselective and Environmentally Friendly Reactions

Wolf-Dieter Fessner, *Technical Univ., Germany;* Thorleif Anthonsen, *Norwegian Univ. of Science and Technology, Norway;* Editors

Biocatalysis is a rapidly growing area of industrial importance world-wide. Covering the wide and rapidly growing field of, *Modern Biocatalysis* combines complementary expertise from such areas as microbiology, enzymology, molecular biology, structural biology, and organic chemistry, thus highlighting the interdisciplinary nature of the subject. With its special focus on progress and new developments towards environmentally beneficial reactions with high levels of selectivity for the production of key compound classes, this book will enlighten both chemists and biologists as to the advances and opportunities existing in enzyme catalysis.

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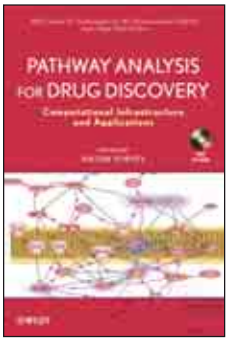

Pathway Analysis for Drug Discovery

Computational Infrastructure and Applications

Anton Yuryev

Explore the novel computational approaches of pathway analysis and learn the existing applications that can save time and money in the drug discovery process. Covers traditional computational methods and software for pathway analysis—microarray, proteomics, and metabolomics. Better understand pathway reconstruction of diseases and toxic states, pathway analysis in various phases, dynamic modeling of drug responses, and more. This is a core resource for drug discovery and pharmaceutical industry researchers, chemists, and biologists, and for professionals in related fields

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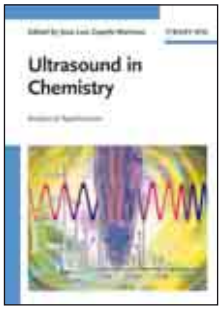

Ultrasound in Chemistry

new

Analytical Applications

Jose-Luis Capelo-Martinez, *Univ. Nova de Lisboa, Portugal;* Editor

All aspects of ultrasound for analytical applications, all at your disposal. Besides classical extraction techniques, this ready reference also provides an overview of ultrasound applications and devotes two chapters to proteomics and polymer technology. A sampling of chapter topics includes common ultrasonic devices, elemental speciation, on-line applications, accelerated extraction of semivolatile and volatile organics, solid-phase (micro) extraction, stir bar sorptive extraction, sonochemistry for organic and inorganic synthesis, electrochemical applications, applications to polymer science, and power ultrasound meets proteomics.

Hardcover 171 pp 2009 ISBN 978-3-527-31934-3 €139.00/£120.00

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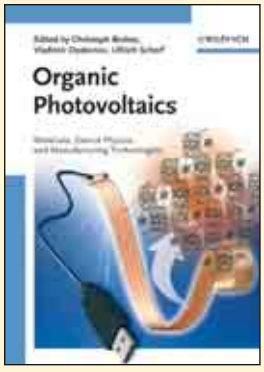

Organic Photovoltaics

new

Materials, Device Physics, and Manufacturing Technologies

Christoph Brabec, *Konarka Austria, Austria;* Ullrich Scherf, *Bergische Univ. Wuppertal, Germany;* Vladimir Dyakonov, *Julius-Maximilian-Univ. of Warzburg, Germany;* Editors

Combining complementary viewpoints from technological companies as well as academia, this reference covers the three most important aspects of successful device design: materials, device physics, and manufacturing technologies. In so doing, it closes the gap between basic academic material and device research and the technologies relevant for product development, providing insight into commercialization concerns such as packaging technologies, system integration, reel-to-reel large scale manufacturing issues, and production costs. Includes a contribution by Nobel laureate Alan Heeger.

Hardcover 597 pp 2008 ISBN 978-3-527-31675-5
€159.00/£140.00

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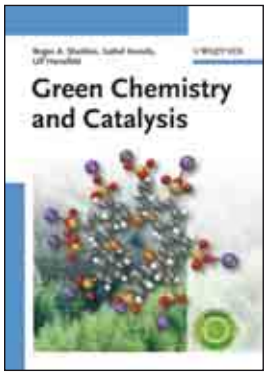

Green Chemistry and Catalysis

new

Roger Arthur Sheldon; Isabel Arends *both of Delft Univ. of Technology, The Netherlands;* Ulf Hanefeld, *TU Delft, The Netherlands*

"This book is the clear choice for any chemical professional or graduate students seriously interested in the emerging field of green chemistry."

—Journal of the American Chemical Society

The first book to focus on catalytic processes from the viewpoint of green chemistry! Written by Roger A. Sheldon and his co-workers, this is an indispensable resource for scientists looking to improve catalysis in both college and industry. Coverage includes numerous catalytic reductions and oxidation methods, solid-acid and solid-base catalysis, C-C bond formation reactions, biocatalysis, asymmetric catalysis, novel reaction media like ionic liquids, supercritical CO2, and renewable raw materials.

Hardcover 448 pp 2007 ISBN 978-3-527-30715-9
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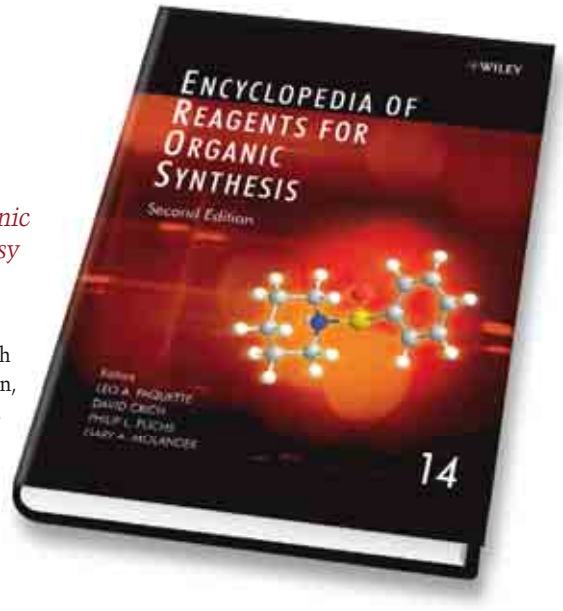
Encyclopedia of Reagents for Organic Synthesis

SECOND EDITION

Leo A. Paquette, ***The Ohio State Univ., USA;*** **David Crich**, ***Univ. of Illinois at Chicago, USA;*** **Philip L. Fuchs**, ***Purdue Univ., USA;*** **Gary Molander**, ***Univ. of Pennsylvania, USA***



*"This should find an honored place in every laboratory engaged in synthesis and in every chemistry library. Chemists working on organic synthesis will gain a competitive advantage by keeping it within easy reach."***—Angewandte Chemie**

At last, the long anticipated second edition of the highly successful *Encyclopedia of Reagents for Organic Synthesis* (EROS) is now available in print. With its wealth of valuable information, excellent editorial leadership and methodical classification, EROS is the authoritative reference regarding reagents and catalysts, which makes EROS vital reading for everyone working in organic sysnthesis.

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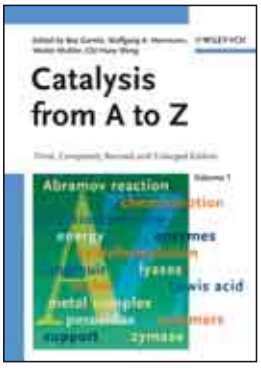


Catalysis from A to Z

new

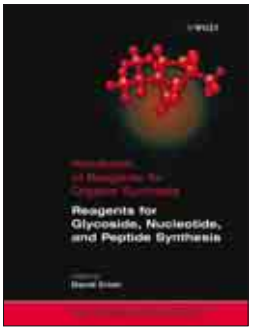
A Concise Encyclopedia

THIRD EDITION

Boy Cornils; Wolfgang A. Herrmann, ***Technical Univ. of Munich, Germany;*** **Martin Muhler,** ***Ruhr-Univ., Germany;*** **Chi-Huey Wong,** ***Scripps Res. Inst. La Jolla, USA;*** **Editors**

Designed as a first-stop source for all those whose permanent or occasional interest lies in catalysis, this encyclopedia is at once comprehensive, succinct, and easy to use. More than 200 top scientists from all over the world have contributed more than 8,000 entries with 3,300 cross references--providing important information, 20,000 citations, and numerous process schemes on all aspects of bio-, heterogeneous, and homogeneous catalysis, as well as on analytical methods and techniques and on industrial processes. Keywords are also given in German and French.

Hardcover 1560 pp 2007 ISBN 978-3-527-31438-6 €549.00/£470.00



Handbook of Reagents for Organic Synthesis

Reagents for Glycoside, Nucleotide, and Peptide Synthesis

David Crich, ***Univ. of Illinois at Chicago, USA;*** **Editor**

Now you can get, in one volume, short, informative articles on some 250 of the most widely used reagents in the field for syntheses on and with biomolecules. Each of the articles, drawn from the e-EROS database and written by an experienced professional in the area at hand, contains a summary of the most pertinent reactions for every reagent, with references to the original literature. Each article also contains an overview of the physical properties of the reagent, conditions for its storage, and purification methods. Additionally, in every article, you get key information on protection and deprotection, glycosidic bond formation, peptide bond formation, nucleotide bond formation, and polymer supports and linkers.

HANDBOOK OF REAGENTS FOR ORGANIC SYNTHESIS

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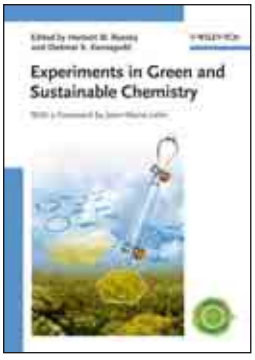


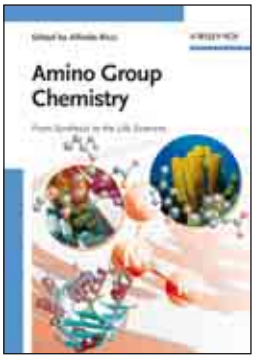
Experiments in Green and Sustainable Chemistry

new

Dietmar Kennepohl, *Athabasca University, Canada;* Herbert W. Roesky Editor

Encouraging a new attitude and approach to chemistry, this is the first collection of green and sustainable experiments designed for lab courses and progressive teaching. Here, experts from around the globe present more than 40 accessible teaching experiments, all clearly structured and divided into the five main principles of sustainable or green chemistry: catalysis, solvents, high yield and one-pot synthesis, limiting waste and exposure, and special topics. The book features a foreword by Nobel prize winner Jean Marie Lehn.

Hardcover 308 pp 2009 ISBN 978-3-527-32546-7 €32.90/£29.95



Amino Group Chemistry

From Synthesis to the Life Sciences

Alfredo Ricci, *Univ. di Bologna, Italy;* Editor

"A definite must-have for every chemist."
—Organic Chemistry Portal Chemistry Books

Here, what is probably the most important functional group in organic chemistry is discussed in one handy volume. The monograph covers its application—from natural products to synthetic pharmaceuticals—detailing complex syntheses using the amino group as templates and modern techniques focusing on the introduction of the amino group.

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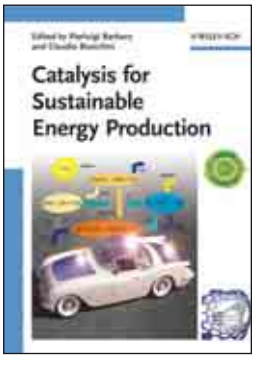
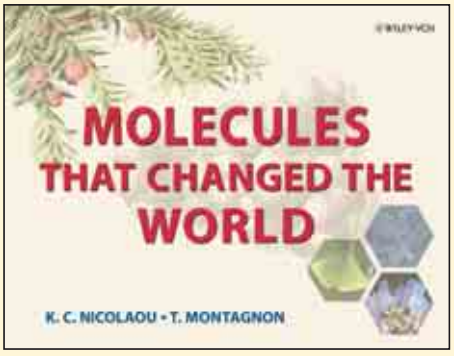


Catalysis for Sustainable Energy Production

Pierluigi Barbaro, Claudio Bianchini, *both of Istituto di Chimica dei Composti Organo Metallici, Italy;* Editors

This first book on this timely topic is a reliable roadmap for defining the role of catalysis in energy production. As such, it serves as a ready reference for researchers and engineers and covers all the hot topics from a broad perspective: fuel cells, hydrogen production and storage, methane storage, and industrial catalysis. With its analysis of new directions and opportunities in the area and its integration of industrial, governmental, and academic points of view, this work is a real must-have for everyone interested in greener energy production.

Hardcover 474 pp 2009 ISBN 978-3-527-32095-0 €149.00/£130.00



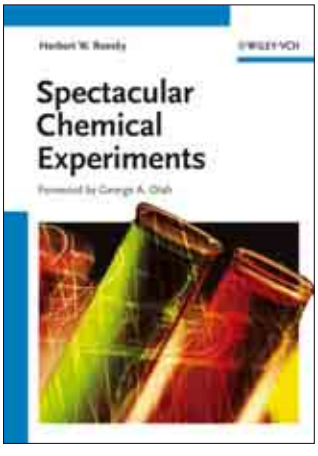
Molecules That Changed the World

K. C. Nicolaou, *The Scripps Research Institute and UC San Diego, USA;* Tamsyn Montagnon, *Univ. of Crete, Greece*

Get into the fascinating world of substances like aspirin, taxol and many more. This exciting new book introduces the world's most important molecules, showing the role certain compounds play in our everyday lives. For example, the story of aspirin is featured, beginning 3,500 years ago in Egypt through to its first synthesis and various applications. A must for every chemist and natural scientist, and everyone interested in the sciences.

- Presents interesting and entertaining information about facts, stories, and the people behind the scenes
- Includes 40 natural products, each of them with an enormous impact on our everyday lives

Hardcover 385 pp 2008 ISBN 978-3-527-30983-2 €34.90/£29.95



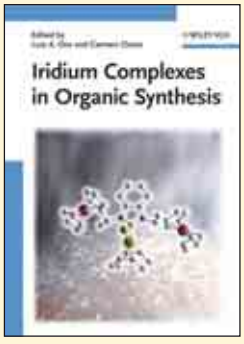
Spectacular Chemical Experiments

Herbert W. Roesky, *Univ. of Göttingen, Germany*

"Herbert Roesky has done us and the international chemistry community a big favor by translating his latest contribution in this area into English."
—Angewandte Chemie International Edition

Written by the author of the award-winning *Chemische Kabinettstücke*, this book demonstrates more than 80 enjoyable, impressive, and sometimes almost unbelievable chemical experiments for the classroom, lecture hall, or home. Every experiment is explained in full and has been tested several times such that the successful reproduction is guaranteed. Grouped into several cycles—water, the color blue, the color red, soles, and self-organization—the topics are perfect for experimental lectures or school projects. Detailed illustrations and the lively writing style make this book attractive to every reader interested in chemistry, leaving you spellbound and educated at the same time.

Hardcover 240 pp 2007 ISBN 978-3-527-31865-0 €29.90/£27.50



Iridium Complexes in Organic Synthesis

Luis A. Oro, *Univ. of Zaragoza, Spain;* Carmen Claver, *Univ. Rovira i Virgili, Spain;* Editors

This book is the first to comprehensively cover the topic of iridium in synthesis in more than a decade. With a depth of coverage that ranges from hydrogenation to hydroamination, cycloadditions and nanoparticles, this highly useful reference addresses every important advance in iridium-catalyzed reactions known. Iridium is extremely useful in synthesis due to its ability to catalyze an array of synthetic transformations, often with unique selectivity, which makes this handbook an essential resource for anyone working in the industry.

Hardcover 424 pp 2009 ISBN 978-3-527-31996-1 €139.00/£120.00

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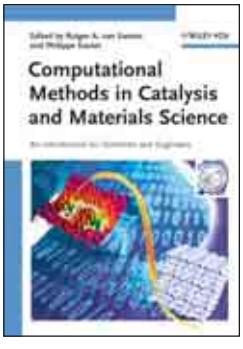

Computational Methods in Catalysis and Materials Science

new

An Introduction for Scientists and Engineers

Rutger A. van Santen, *Eindhoven Univ. of Technology, The Netherlands;* Philippe Sautet, *Ecole Normale Superieure de Lyon and CNRS, France;* Editors

This practical guide describes the basic computational methodologies for catalysis and materials science at an introductory level, presenting the methods with relevant applications, such as spectroscopic properties, chemical reactivity and transport properties of catalytically interesting materials. Edited and authored by internationally recognized scientists, the text provides examples that represent the state of the art in each field.

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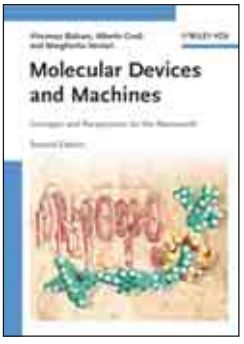

Molecular Devices and Machines

Concepts and Perspectives for the Nanoworld

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"This attractively produced volume offers much, either for browsers seeking to acquaint themselves with a new field or for experts seeking a different perspective."
—Journal of the American Chemical Society

Targeted at a broad audience ranging from chemists and biochemists to physicists and engineers, this book—written in everyday language—covers advanced research yet remains accessible to any researchers or graduate students in most any discipline. Following an introduction to the general concepts, the authors go on to discuss devices for processing electrons and electronic energy, memories, logic gates and related systems, and, finally, molecular-scale machines.

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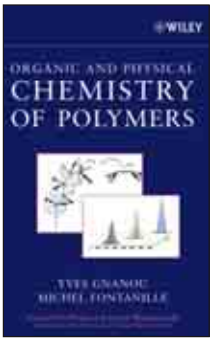

Organic and Physical Chemistry of Polymers

Yves Gnanou, Michel Fontanille

Covering a wide spectrum of modern polymer science, this book discusses such topics as: the structure of polymers, thermodynamics, conformation, morphology, measurements of molar masses, polymerization mechanisms, reactions of polymers, block and graft polymers, complex topologies, as well as mechanical properties, rheology, fabrication, molding, fibers, films, and various classes of industrially important polymers.

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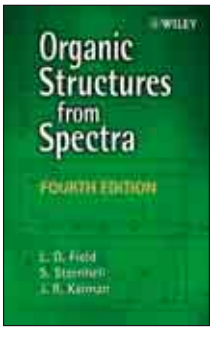

Organic Structures from Spectra

FOURTH EDITION

Leslie D. Field, *Univ. of Sydney, Australia;* Sev Sternhell, *Univ. of Sydney, Australia;* John R. Kalman, *CSIRO Division of Fossil Fuels*

Organic Structures from Spectra offers readers a carefully selected set of more than 300 structural problems that involve the use of all major spectroscopic techniques. The problems are designed to heighten the reader's understanding of organic spectroscopy, while the accompanying text addresses major spectroscopic techniques at a level sufficient to tackle the problem at hand. New to this edition is a significantly expanded section on 2D NMR spectroscopy focusing on COSY, NOESY and CH-Correlation.

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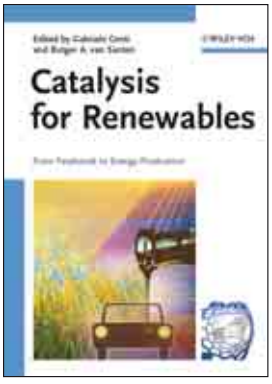
Paperback 468 pp 2008 ISBN 978-0-470-31927-7 €42.90/£32.50



Catalysis for Renewables

From Feedstock to Energy Production

Gabriele Centi, *Univ. Messina, Italy;* Rutger A. van Santen, *Eindhoven Univ. of Technology, The Netherlands;* Editors

The authority behind this practical work is the IDECAT Network of Excellence and the authors explain how the use of catalysis will promote the more extensive use of renewable feedstocks in chemical and energy production. You get full coverage of the latest applications and their implications for the future. A partial sampling of topics includes biomass conversion, fine chemicals from renewables, thermochemical conversion of biomass into fuels, bioethanol, solar energy as a source of hydrogen and for co2 conversion.

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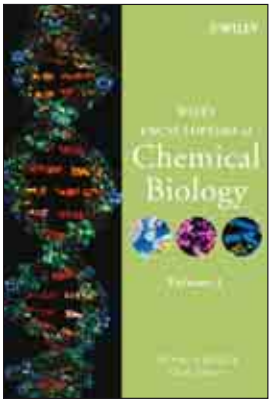

Wiley Encyclopedia of Chemical Biology

FOUR-VOLUME SET

Tadhg P. Begley

This *Encyclopedia* is an authoritative new work that illuminates the crucial role of chemistry and chemical techniques in the life sciences. The scope of the work reflects the multidimensional character of chemical biology, focusing in particular on the fundamental science of biological structures and systems. With over 300 articles designed to provide accessibility to the widest possible readership, this title will remain a mainstay of the field for years to come. Major topics covered include:

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- Synthetic Molecules as Tools for Chemical Biology
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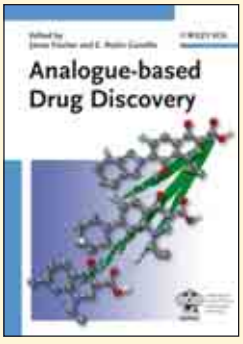

Analogue-based Drug Discovery

IUPAC; Janos Fischer, *Richter Co., Hungary;* C. Robin Ganellin, *Univ. College, UK;* Editors

This first authoritative and systematic overview of past and current strategies for successful drug development by modification spans all important drug classes and all major therapeutic fields. It discusses analog-based drug discovery for, among others, beta-blockers, ACE inhibitors, steroids, opiates, proton pump inhibitors, platinum compounds, and quinolones. Case studies on selected commercially successful drug analogs provide prime advice for new drug development projects based on modification.

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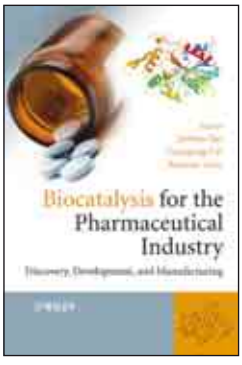

Biocatalysis for for the Pharmaceutical Industry

Discovery, Development and Manufacturing

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Taking the latest breakthroughs in genomics and proteomics into consideration, *Biocatalysis for the Pharmaceutical Industry* discusses modern application of biocatalysis in drug discovery, development, and manufacturing. Written by leading experts, coverage includes enzyme discovery, applications of enzymatic transformations for development of pharmaceutically active compounds, biocatalysis in synthesizing, screening, identifying and characterizing human drug metabolites, and much more.

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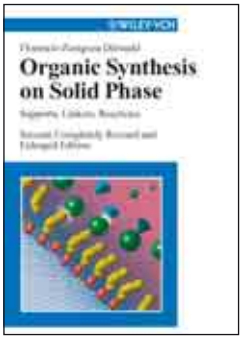

Organic Synthesis on Solid Phase

Supports, Linkers, Reactions

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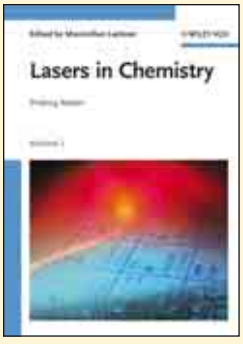

Lasers in Chemistry

Probing and Influencing Matter

Maximilian Lackner, *Vienna Univ. of Technology, Austria;* Editor

Since its invention in the 1960s, the laser has revolutionized many disciplines in science, technology, and everyday life. In chemistry, lasers can be used not only to study compounds and materials, but also to influence and even start reactions. By manipulating the reaction conditions, hitherto inaccessible material properties, reaction pathways, and improved results can be achieved. Using lasers to probe and manipulate matter are the broad subjects examined in-depth in these two volumes, with applications spanning chemistry, physics, materials science, biology, and medicine. You also get an equipment and peripherals overview for laser probing and laser chemistry setups.

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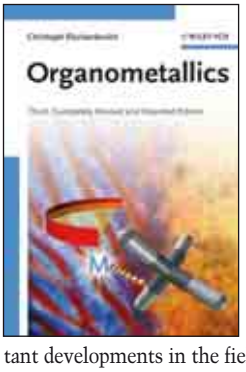

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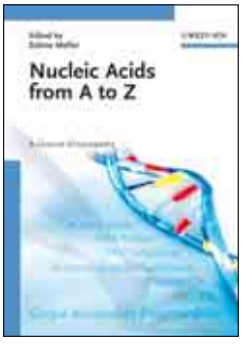
Paperback 817 pp 2006 ISBN 978-3-527-29390-2 €75.00/£49.00



Nucleic Acids from A to Z

A Concise Encyclopedia

Sabine Müller, *Ernst Moritz Arndt Univ., Germany;* Editor

Concise but complete, this mini-encyclopedia contains over 3,000 entries covering all important concepts, compounds, techniques, and acronyms for quick and easy reference. Guiding readers through the ever-increasing jungle of nucleic acid science and technology, it distills key information from the large body of primary literature into a single volume. A first-stop resource for everyone, from students to established researchers, as both a desktop and library reference.

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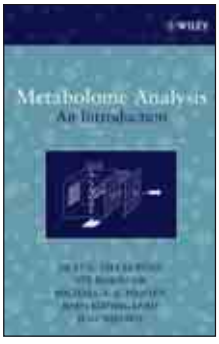

Metabolome Analysis

An Introduction

Silas G. Villas-Boas, *AgResearch Limited;* Jens Nielsen, *Center for Microbial Biotechnology;* Jorn Smedsgaard, *Center for Microbial Biotechnology;* Michael A. E. Hansen, *Center for Microbial Biotechnology;* Ute Roessner-Tunali, *Australian Centre for Plant Functional Genomies*

The book begins with an introduction to the concepts behind metabolomics; discusses metabolites from a chemical standpoint and the analytical challenges that they present; and then moves on to sampling, sample preparation, analytical tools, and data analysis and management.

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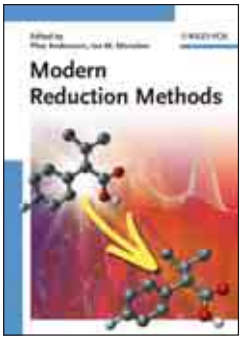

Modern Reduction Methods

Pher G. Andersson, Ian J. Munslow, *both of Uppsala Univ., Sweden;* Editors

With its comprehensive overview of modern reduction methods, this book lets readers find the reliable solutions they need quickly and easily. Covering most every recent development—focusing on general and synthetic reductions that chemists use often—it addresses the reduction of carbonyles, alkenes, and imines and alkynes, as well as reductive aminations, and cross and heck couplings. It also includes sections on kinetic resolutions and hydrogenolysis. An indispensable lab companion for every organic, catalytic, and natural products chemist, as well as chemists in industry.

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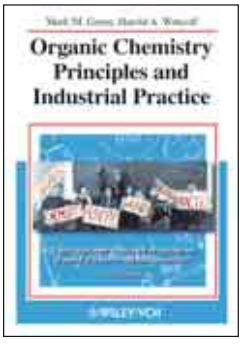

Organic Chemistry Principles and Industrial Practice

Mark M. Green, *Polytechnic Univ., USA;* Harold A. Wittcoff, *Nexant-ChemSystems, USA*

Have your students ever felt organic chemistry is dry, meaningless, and seemingly irrelevant? Do you feel the marvelous theoretical principles on which organic chemistry is based sometimes are not fully appreciated by students? With its didactic approach, this well-structured, easy-to-read introduction to the principles of organic chemistry offers valuable, novel ideas for lecturers concerned with the teaching of organic chemistry or the instruction of lab technicians. Chemistry students benefit from the exposure to the 'real world,' that is the chemical background of commercial processes, and thus gain a deeper, more complete understanding of organic chemistry. In addition, personal anecdotes from the authors' vast experience make this a fascinating and indispensable textbook for everyone wishing to enhance his or her appreciation of the subject.

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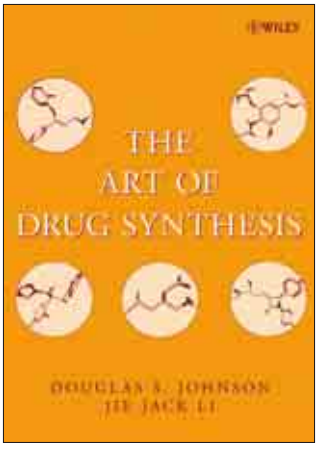

The Art of Drug Synthesis

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Edited by prominent scientists working in drug discovery for Pfizer, *The Art of Drug Synthesis* shows how chemistry, biology, pharmacokinetics, and a host of other disciplines come together to produce successful medicines. Organized into 21 therapeutic areas, the contents include synthetic strategies and basic principles, illustrated by real-world examples of the development of such prominent drugs as Actos, Levaquin and Avelox, Diflucan, Ritalin and Strattera, Detrol, and many others. An introduction to each drug is provided, as well as a background to the biology, pharmacology, pharmacokinetics, and drug metabolism, followed by a detailed account of the drug synthesis.

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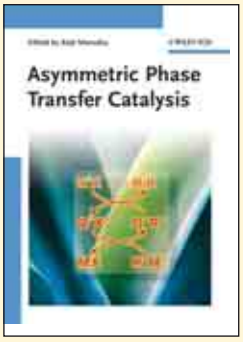

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Keiji Maruoka, *Kyoto Univ., Japan;* Editor

In contrast to ordinary metal-catalyzed reactions, phase transfer catalysis has several advantages, including its water-tolerable properties, operational simplicity with environmentally-benign catalysts, and the easy separation of products due to its biphasic nature. Edited by a leading expert on the topic, this timely book provides valuable information you won't find elsewhere, with top contributors exploring the latest developments in this exciting field. Alongside the theoretical aspects, they cover laboratory protocols as well as applications of the process chemistry and chiral technology in industry.

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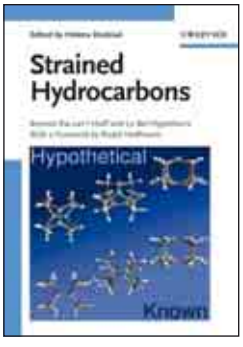

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new

Beyond the van't Hoff and Le Bel Hypothesis

Helena Dodziuk, *Inst. of Physical Chemistry, Poland;* Editor

In clearly structured chapters, this book covers the fascinating world of hydrocarbons, providing an insight into the fundamental principles of chemistry. You'll discover thorough coverage of all the modern aspects of the topic, such as carbon nanotubes, molecular flask inclusion, and fullerenes, with new synthetic procedures for the build-up of the structural lattice included. Major areas of discussion include distorted saturated hydrocarbons, distorted alkenes, strained aromatic molecules, fullerenes, carbon nanotubes, angle-strained cycloalkynes, molecules with labile bonds, molecules with nonstandard topological properties, and short-lived species stabilized in molecular or supramolecular flasks.

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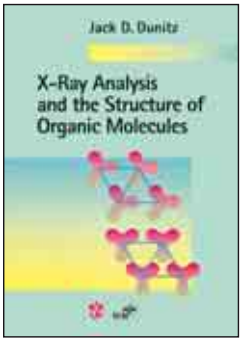

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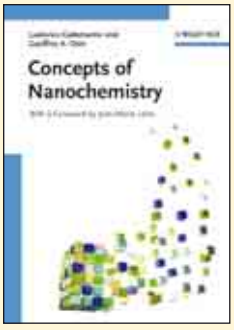

Concepts of Nanochemistry

Ludovico Cademartiri, *Harvard Univ., USA;* tGeoffrey A. Ozin, *Univ. of Toronto, Canada;* Foreword by Jean-Marie Lehn;

This interdisciplinary text bridges chemistry, materials science, physics, and biology. Adopting a visionary approach, this is a unique learning tool, focusing on just six concepts crucial for understanding nanochemistry: surface, size, shape, self-assembly, defects and the interface of biology and nanochemistry. These concepts are elucidated through the analysis of six materials representing the real life application of the nanochemistry concepts. The teaching questions included provide real food for thought, thus encouraging readers to think as researchers do and so develop problem-solving skills.

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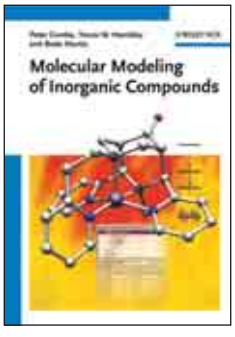

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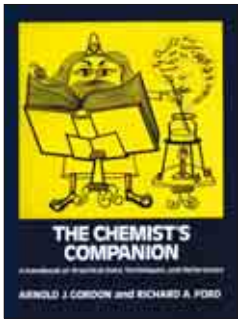

The Chemist's Companion

A Handbook of Practical Data, Techniques, and References

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Your resource for practical, everyday information. This book covers properties of atoms and molecules, spectroscopy, photochemistry, chromatography, kinetics and thermodynamics, experimental techniques, and mathematical and numerical information, including the definitions, values, and the International System of Units. Discussing physical, chemical, and mechanical properties of substances and systems, the authors answer:

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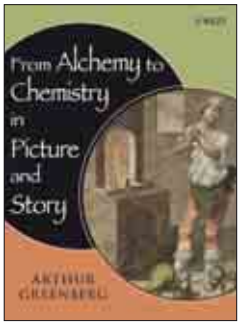

From Alchemy to Chemistry in Picture and Story

Arthur Greenberg, *Univ. of New Hampshire, USA*

From Alchemy to Chemistry in Picture and Story takes readers on an illustrated tour of how chemistry developed over the ages. Integrating the contents of his two earlier books, *A Chemical History Tour* and *The Art of Chemistry*, the author has included over 350 high-quality reproductions of figures from rare books spanning some 400 years of chemical publications included in his rare-book collection. The illuminating and entertaining essays that accompany each illustration explain the imagery's meaning and significance in the context of both historical scientific beliefs and modern chemical science. Several

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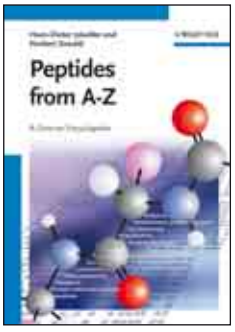

Peptides from A to Z

A Concise Encyclopedia

Hans-Dieter Jakubke, *Univ. of Leipzig, Germany;* Norbert Sewald, *Univ. of Bielefeld, Germany*

This mini-encyclopedia contains more than 1,500 alphabetical entries from the entire field of peptide science in one handy volume, as well as the technical terms, acronyms, and concepts used in peptide chemistry. It also features the complete sequence of more than 800 peptides, and numerous illustrations and cross-references. A sampling of topics covered includes biological peptides and small proteins, peptide hormones, pharmaceutical peptides, peptide antibiotics, synthesis and purification, analytical methods, and more. Condensed yet accessible, it displays only essential information extensively linked via references to the recent scientific literature for further study.

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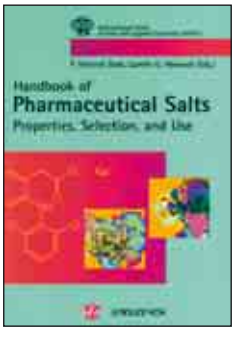

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P. Heinrich Stahl, Camille G. Wermuth; Editors

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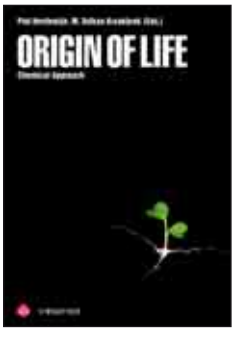

Origin of Life

Chemical Approach

Piet Herdewijn, *Rega Institute, Belgium;* M. Volkan Kisakürek, *Verlag Helvetica Chimica Acta, Switzerland;* Editors

Dedicated to one of the great pioneers of this science, Leslie Orgel, on the occasion of his 80th birthday, this compilation of reviews and original manuscripts provides an overview of the current state of the art, written by some of the major players in this creative domain of "explorative chemistry" (such as Christian De Duve, Albert Eschenmoser, and Günter Wächtershäuser). The majority of the articles reproduced in this volume originally appeared in a special issue of *Chemistry & Biodiversity* under the same title.

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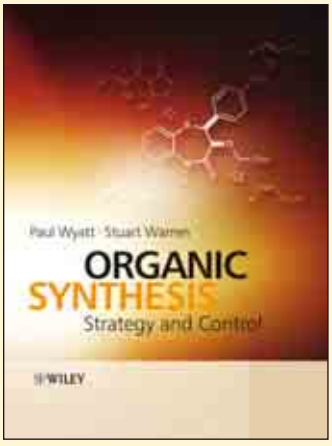

Organic Synthesis

Strategy and Control

Paul Wyatt, *Univ. of Bristol, UK;* Stuart Warren, *Univ. of Cambridge, UK*

Organic Synthesis: Strategy and Control is the long-awaited sequel to Stuart Warren's best seller, *Organic Synthesis: The Disconnection Approach*, which looked at the planning behind the synthesis of compounds. This unique book now provides a comprehensive, practical account of the key concepts involved in synthesizing compounds and focuses on putting the planning into practice. The two themes of the book are strategy and control: solving problems by either finding an alternative strategy or by controlling any established strategy to make it work. The book is divided into five sections that deal with selectivity, carbon-carbon single bonds, carbon-carbon double bonds, stereochemistry, and functional group strategy.

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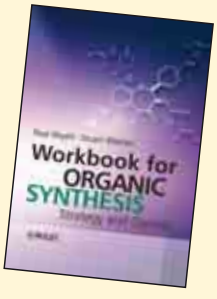

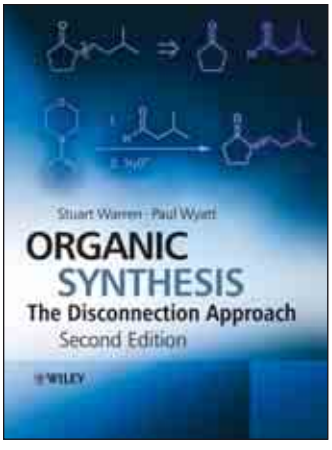

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Stuart Warren, *Cambridge Univ., UK;* Paul Wyatt, *Univ. of Bristol, UK*

Organic Synthesis: The Disconnection Approach is the long-awaited second edition of a classic textbook, the first to provide a structured course in retrosynthesis—now an important technique used by generations of organic chemists. Now fully revised and updated with a modern look, it reflects 25 years of advances in organic synthesis, with the addition of new examples and synthetic pathways. Additional material has been added to take the student to the level required by the bestselling sequel, *Organic Synthesis: Strategy and Control,* and the later chapters have extensive new material based on courses that the authors give to chemists in the pharmaceutical industry.

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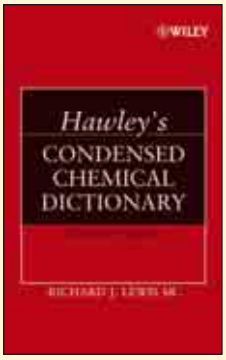

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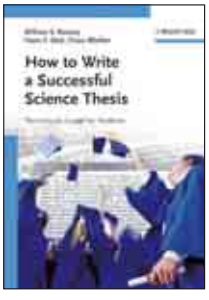

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William E. Russey, *Juniata College, USA;* Hans Friedrich Ebel, *VCH Publishers (retired), Germany;* Claus Bliefert, *Univ. of Münster, Germany*

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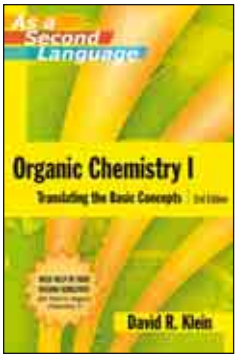

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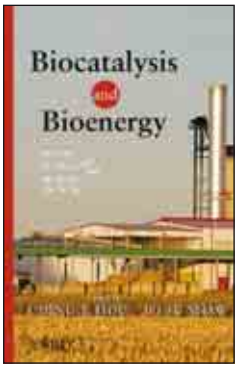

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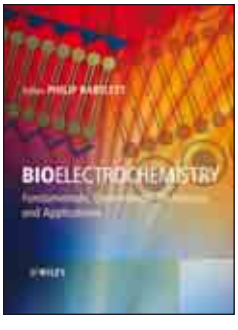

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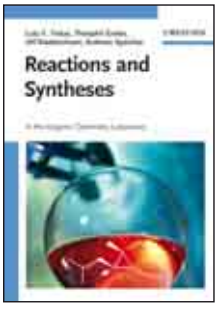

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Presenting a broad spectrum of modern total synthesis of natural products, pharmaceuticals, heterocycles, C-C bonding and biochemical reactions, this practical textbook readily guides readers to the necessary information. A list of keywords in each chapter and numerous tables summarize the contents, resulting in an excellent overview. Written with graduates in organic chemistry in mind, this is equally valuable for students and lecturers in chemistry, organic chemists, as well as lab technicians and chemists in the industry.

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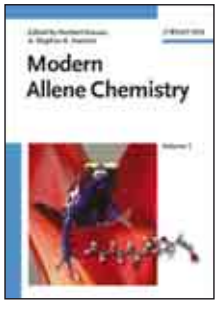

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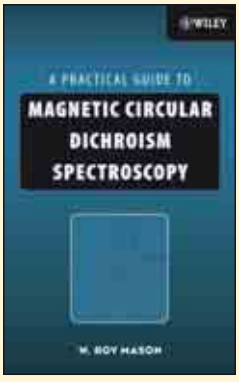

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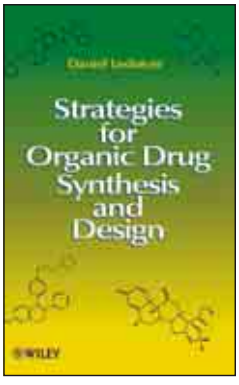

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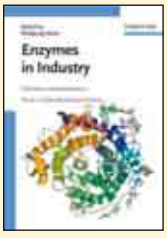

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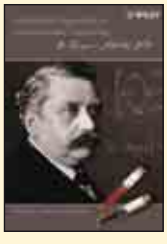

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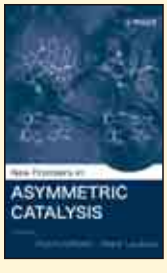

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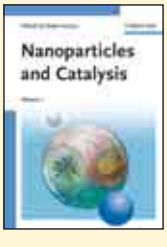

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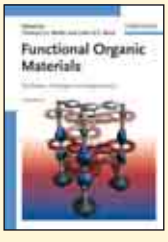

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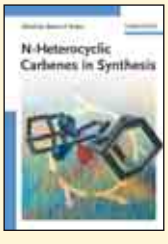

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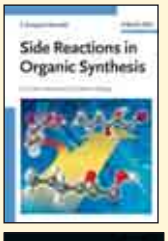

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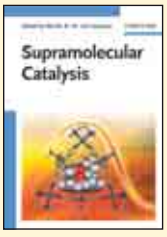

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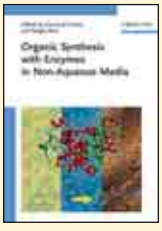

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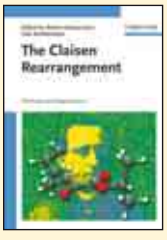

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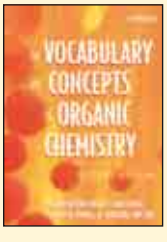

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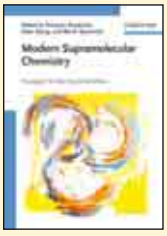

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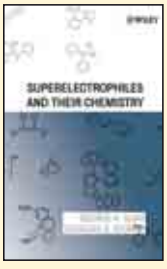

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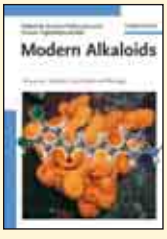

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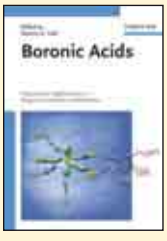

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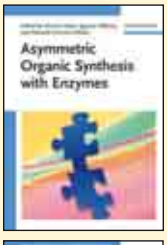

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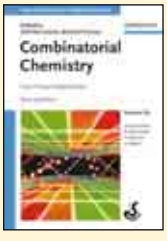

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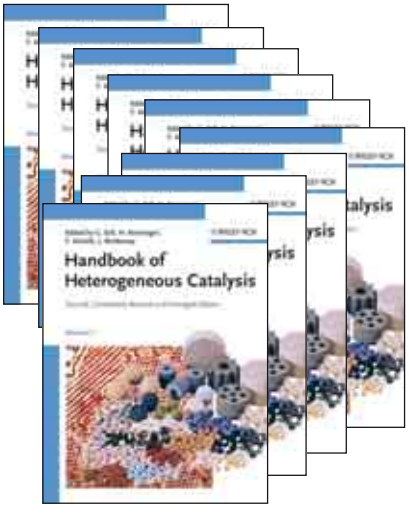

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