Advances in Biochemical Engineering Biotechnology
Series editor: T. Scheper
Volume 120
C. Wittmann, R. Krull, Technical University Braunschweig, Germany (Eds.)

Biosystems Engineering I
Creating Superior Biocatalysts

Features
► Covers trends in modern biotechnology
► All aspects of this interdisciplinary technology, where knowledge, methods and expertise are required from chemistry, biochemistry, microbiology, genetics, chemical engineering and computer science, are treated ► More information as well as the electronic version available at springer.com

Fields of interest
Biotechnology; Human Genetics; Molecular Medicine

Target groups
Research

Type of publication
Reviews

Due July 2010
2010. XII, 192 p. Hardcover
► € 189,95 | £171.00
► * € (D) 203,25 | € (A) 208,94 | sFr 295,00
ISBN 978-3-642-14230-7

Advances in Biochemical Engineering Biotechnology
Series editor: T. Scheper,
Volume 121
C. Wittmann, R. Krull, University of Braunschweig, Germany (Eds.)

Biosystems Engineering II
Linking Cellular Networks and Bioprocesses

Features
► Covers trends in modern Biotechnology.
► All aspects of this interdisciplinary technology, where knowledge, methods and expertise are required from chemistry, biochemistry, microbiology, genetics, chemical engineering and computer sciences, are treated. ► More information as well as the electronic version available at springer.com

Fields of interest
Biotechnology; Systems Biology

Target groups
Research

Type of publication
Contributed volume

Due July 2010
2010. XII, 176 p. Hardcover
► € 189,95 | £171.00
► * € (D) 203,25 | € (A) 208,94 | sFr 295,00
ISBN 978-3-642-13865-2

Advances in Polymer Science
Volume 230
K. Dusek, Academy of Sciences of the Czech Republic, Prague, Czech Republic; J. Joanny, Institut Curie, Paris, France (Eds.)

Polymer Characterization
Rheology, Laser Interferometry, Electrooptics

Features
► Highest Impact Factor of all publications ranked by ISI within Polymer Science ► Short and concise reports on physics and chemistry of polymers, each written by the world renowned experts ► Still valid and useful after 5 or 10 years ► The electronic version is available free of charge for standing order customers at: springer.com/series/12/

Contents
Shear-Induced Transitions and Instabilities in Surfactant Wormlike Micelles, by S. Lerouge, J.-F. Berret.
Laser-Interferometric Creep Rate Spectroscopy of Polymers, by V. A. Bershtein, P. N. Yakushev.

Fields of interest
Polymer Sciences; Optical and Electronic Materials; Soft and Granular Matter, Complex Fluids and Microfluidics

Target groups
Research

Type of publication
Contributed volume

Due July 2010
2010. XII, 280 p. Hardcover
► € 229,00 | £206.50
► * € (D) 245,03 | € (A) 251,90 | sFr 355,00
ISBN 978-3-642-13531-6
Advances in Polymer Science


Volume 231

K. Lee, Hanyang University, Daejeon, South Korea; S. Kobayashi, Kyoto Institute of Technology, Japan (Eds.)

Polymer Materials

Block-Copolymer, Nanocomposites, Organic/Inorganic Hybrids, Polymethylenes

Features

- Highest Impact Factor of all publications ranked by ISI within Polymer Science
- Short and concise reports on physics and chemistry of polymers, each written by the world renowned experts
- Still valid and useful after 5 or 10 years
- The electronic version is available free of charge for standing order customers at: springer.com/series/12/

Fields of interest

Polymer Sciences; Nanotechnology; Soft and Granular Matter, Complex Fluids and Microfluidics

Target groups

Research

Type of publication

Contributed volume

Due July 2010

2010. XII, 280 p. Hardcover

€ 229.00 | £206.50

ISBN 978-3-642-13626-9

Also available as softcover

€ 77.00 | £69.95

ISBN 978-3-642-13626-9

Advances in Polymer Science


Volume 232

A. Abe, Tokyo Institute of Polytechnics, Japan; K. Dusek, Academy of Sciences of the Czech Republic, Prague Czech Republic; S. Kobayashi, Kyoto Institute of Technology, Japan (Eds.)

Biopolymers

Lignin, Proteins, Bioactive Nanocomposites

Features

- Highest Impact Factor of all publications ranked by ISI within Polymer Science
- Short and concise reports on physics and chemistry of polymers, each written by the world renowned experts
- Still valid and useful after 5 or 10 years
- The electronic version is available free of charge for standing order customers at: springer.com/series/12/

Fields of interest

Polymer Sciences; Biomaterials; Protein Science

Target groups

Research

Type of publication

Contributed volume

Due August 2010

2010. XII, 210 p. Hardcover

€ 189.95 | £171.00

ISBN 978-3-642-13629-0

Also available as softcover

€ 69.95 | £62.99

ISBN 978-3-642-13626-9

Food Chain Security

This volume addresses a wide range of issues related to food terrorism, food security and safety in a comprehensive and up-to-date survey. Emerging issues in Food Chain Security relevant to all countries and stakeholders are summarized, including relevant technical information relating to the various strands. These include: risk assessment and vulnerability; food defence strategies; awareness and response aspects. The analyses, based on practices and strategies evolved in different countries, yield an objective and scientific treatment of this vital area.

Features

- Comprehensive and up-to-date information about food terrorism, food security and safety
- Excellent profiles of emerging issues in terms of Food Chain Security important to both NATO member and partner countries
- Various food chain security issues and up to date technical information are analyzed

From the contents


Fields of interest

Food Science; Quality Control, Reliability, Safety and Risk

Target groups

Research

Type of publication

Proceedings

Due September 2010


€ 139.95 | £126.00

Chiral Recognition in Separation Methods

Mechanisms and Applications

The importance of chiral interactions for both preparative and analytical separations, particularly for pharmaceutical applications, is underlined by numerous publications in this field. Here, for the first time, a team of experienced analysts from industry and academy presents a comprehensive review of the various mechanisms that result in enantiomer separations. A better understanding of these processes is crucial for setting as well as improving chiral separation procedures and also for developing new applications. The coverage in this book includes a range of separation methods, such as gas, liquid, or countercurrent chromatography, and capillary electrophoresis. The special case of chiral ionic liquids is examined in detail. Most modern chiral selectors are discussed, including derivatized polysaccharide- and cyclodextrin-based selectors, along with a newly introduced class of carbohydrates: the cyclofructose selectors.

Features
- The first monograph to focus on the mechanisms of chiral selection in separation processes
- Important reading for research and development departments of the pharmaceutical industry, but also for researchers in toxicology, environmental monitoring, or food research
- Written by a team of experienced experts from industry and academy

From the contents
Chiral recognition mechanisms in enantiomer separations: a general view.- Preparation and chiral recognition of polysaccharide-based Selectors.- Description and evaluation of chiral interactive sites on bonded cyclodextrin stationary phases for liquid chromatography.- Cyclofructans, a new class of chiral stationary phases.- Chiral recognition and enantioseparation mechanisms in capillary electrokinetic chromatography.

Fields of interest
Chromatography; Pharmacy; Pharmacology; Toxicology

Target groups
Research

Type of publication
Monograph

Due July 2010

2010. XV, 337 p. 280 illus., 140 in color. Hardcover
- € 139,95 | £126.00

Due September 2010

J. C. Boeyens, University of Pretoria, South Africa

Chemical Cosmology

The composition of the most remote objects brought into view by the Hubble telescope can no longer be reconciled with the nucleogenesis of standard cosmology and the alternative explanation, in terms of the Lambda-Cold-Dark-Matter model, has no recognizable chemical basis. A more rational scheme, based on the chemistry and periodicity of atomic matter, opens up an exciting new interpretation of the cosmos in terms of projective geometry and general relativity.

The response of atomic structure to environmental pressure predicts non-Doppler cosmical redshifts and equilibrium nucleogenesis by particle addition, in accord with observed periodic variation of nuclear abundance. Inferred cosmic self similarity elucidates the Bode & Titius law, general commensurability in the solar system and the occurrence of quantum phenomena on a cosmic scale. The generalized periodic function involves both matter and anti-matter in an involutional mapping to a closed projective plane. This topology ensures the same symmetrical balance in a chiral universe, wrapped around an achiral vacuum interface, without singularities.

Features
- Presents a synthesis of knowledge regarding the topic of cosmology in an interdisciplinary way
- Showcases the established scientific results of relevance often ignored by current cosmologies
- Written for those with a scientific or philosophical interest in cosmology

Contents

Fields of interest
Theoretical and Computational Chemistry; Classical and Quantum Gravitation, Relativity Theory

Target groups
Research

Type of publication
Proceedings

Due October 2010

- € 139,95 | £126.00
- *€ (D) 149,75 | € (A) 153,94 | sFr 217,50 ISBN 978-90-481-9733-6

Also available as softcover
- € 69,95 | £62.99
- *€ (D) 74,85 | € (A) 76,95 | sFr 109,00 ISBN 978-90-481-9734-3
Advanced Fluorescence Reporters in Chemistry and Biology I
Fundamentals and Molecular Design
With contributions by numerous experts

This volume is focused on one of the most important challenges in sensing and imaging technologies: the design of fluorescence reporters with advanced properties. Here organic dyes occupy leading positions, in tough competition with novel materials such as metal chelating complexes and semiconductor nanoparticles. 11 chapters written by top experts in the field show new possibilities in the design of organic dyes as fluorescent labels and reporters. They particularly highlight the progress that has been made in enhancing the response to intermolecular interactions and their excited-state reaction dynamics (intramolecular charge and proton transfers), and on the development of dyes with strong two-photon absorption and emitting in the near-IR region. Furthermore, fluorophores incorporated into new members of the green fluorescent protein family, an invaluable tool for live cell imaging, are examined.

Features
► A comprehensive review ► Written by experts ► Contains numerous color illustrations

Contents

Field of interest
Analytical Chemistry; Molecular Medicine; Medical Biochemistry

Target groups
Research

Type of publication
Reviews

Due August 2010


Approx. € 299.00 | £269.00
Approx. € (D) 319.93 | € (A) 328.90 | sFr 464.00
ISBN 978-3-642-04700-8

Due August 2010


Approx. € 299.00 | £269.00
Approx. € (D) 319.93 | € (A) 328.90 | sFr 464.00
ISBN 978-3-642-04700-8

Encyclopedia of Applied Electrochemistry

Editor-in-chief: K. Ota
G. Kreye, Technical University of Clausthal and former chief executive of DEHEMA; R. F. Savinell, Case Western University, Cleveland, OH, USA

Features
► First applications-oriented interdisciplinary reference on the critical technologies underlying advances such as energy efficiency (e.g. batteries for electric cars, fuel cells, capacitors, solar cells, etc.), green and sustainable chemical industries, and new materials (corrosion resistant and low-friction)
► Alphabetically organized for ready reference and comprehensiveness ► Fully international in scope (editors-in-chief from US, Europe, and Asia) and up-to-date Biocorrosion

Fields of interest
Electrochemistry; Power Engineering; Tribology, Corrosion and Coatings

Target groups
Research

Type of publication
Encyclopaedia

Due June 2011

2011. 4000 p. (In 5 volumes, not available separately)
Hardcover
Approx. € 2000.00 | £1801.00
Approx. € (D) 2140.00 | € (A) 2200.00 | sFr 3102.50

Due August 2010

2010. 4000 p. eReference. (In 5 volumes, not available separately)
Approx. € 2000.00 | £1800.00
Approx. € (D) 2380.00 | € (A) 2400.00 | sFr 3620.50
Nuclear Analytical Techniques for Metallomics and Metalloproteomics

Nuclear Analytical Techniques for Metallomics and Metalloproteomics provides readers with a comprehensive view of this relatively new and exciting area of bioanalytical and inorganic chemistry. It contains contributions from experts in disciplines as diverse as analytical chemistry, nuclear chemistry, environmental science, molecular biology and medicinal chemistry. Various nuclear analytical techniques are covered including neutron activation analysis, X-ray fluorescence, isotopic tracer, Mössbauer spectroscopy, X-ray absorption spectrometry, and neutron scattering and diffraction. They provide useful information both for chemical speciation analysis and structural characterization of metalloproteins and metals in biological systems.

Features
- Covers the latest developments
- Relevant for both, - chemists involved in nuclear techniques and speciation, and environmental, nutritional and clinical researchers and drug developers
- Includes many illustrations, tables and documents
- Well-organized bibliography

From the contents

Fields of interest
Analytical Chemistry; Biochemistry; general; Math. Applications in Chemistry

Target groups
Research

Type of publication
Monograph

Due July 2010

Only available in print

Modern Charge-Density Analysis

Modern Charge-Density Analysis focuses on state-of-the-art methods and applications of electron-density analysis. It is a field traditionally associated with understanding chemical bonding and the electrostatic properties of matter. Recently, it has also been related to predictions of properties and responses of materials (having an organic, inorganic or hybrid nature, as in modern materials and bio-science, and used for functional devices or biomaterials).

Features
- Provides an extensive and up-to-date overview of the interdisciplinary field of charge-density analysis
- A useful tool both for scientists already working in the field and scientists and PhD students who would like to familiarize themselves with the topic area
- Of interest to chemists, physicists, crystallographers, materials scientists and biochemists

From the contents

Fields of interest
Theoretical and Computational Chemistry; Crystallography; Materials Science, general

Target groups
Research

Type of publication
Monograph

Due November 2010

Pillared Clays and Related Catalysts

Since the first works introducing the aluminum intercalated clay family in the early 1970s, interest in the synthesis of pillared interlayered clays has increased tremendously, especially research into the properties and applications of new synthesis methods. The need for solids that could be used as cracking catalysts with larger pores than zeolitic materials has spurred the synthesis of new porous materials from clays.

Features
- All competition is outdated
- No review exists devoted solely to the catalytic properties of clay
- The founds of investigation into pillared clays and their uses as catalysts edit this book

From the contents

Fields of interest
Catalysis; Physical Chemistry; Inorganic Chemistry

Target groups
Research

Type of publication
Monograph

Due August 2010

2010. 550 p. 400 illus., 200 in color. Hardcover
- € 189.95 | £173.00
- [approx. €] 159.95 | £144.00
- [approx. €] 203.25 | £184.95 | sFr 298.00
ISBN 978-1-4419-6669-8
Green Analytical Chemistry

Concerns about environmental pollution, global warming and hazards to human health have increased demands for chemical analysis. The development of analytical chemistry continues apace and every new discovery in chemistry, physics, molecular biology, and materials science brings new applications. Contemporary analytical chemistry does not consume resources optimally. Indeed, usage of toxic compounds is at its highest rate to date. This makes the emerging field of green chemistry a hot topic in industrial and governmental laboratories as well as in academia.

Features
- Presents a hot topic in industrial and governmental laboratories as well as in academia
- Evaluates the current analytical methodologies
- Suggests application of the ideas and concepts of green chemistry in chemical analysis

Contents
Introduction to green chemistry - Concepts and trends in green analytical chemistry - "Greening" sample preparation - Green instrumental analysis - Separation methods in analytical chemistry - Greening analytical chemistry by improving signal acquisition and processing - Conclusions

Fields of interest
Analytical Chemistry; Environmental Health; Environmental Engineering/Biotechnology

Target groups
Research

Type of publication
Monograph

Biological Microarrays

Methods and Protocols

Recent developments in microarray technology have changed the landscape of biology and biomedical research, and they have revolutionized RNA and DNA research. In Biological Microarrays: Methods and Protocols, expert researchers explore exciting new developments in the field, providing a comprehensive approach to biological microarrays that conveys not only the state-of-the-art fundamentals, but also includes applications of the most innovative methods. Chapters address both the application of biological microarrays, including DNA/RNA, aptamer, proteins, tissues, oligonucleotides, carbohydrates, biomaterials, cells, bacteria, and virus microarrays, and also explore the different techniques used for generating microarray platforms. Composed in the highly successful Methods in Molecular Biology series format, each chapter contains a brief introduction, step-by-step methods, a list of necessary materials, and a Notes section which shares tips on troubleshooting and avoiding known pitfalls.

Features
- Comprehensive presentation of various biological microarrays and their applications
- Includes methods for analysis and characterization of the resulting arrays
- Provides description of synthesis methods and areas of use

From the contents
RNA and DNA Microarrays - Aptamer Arrays - Oligonucleotide microarrays for identification of microbial pathogens and detection of their virulence-associated or drug-resistance determinants - Protein MicroArrays printed from DNA MicroArrays - Lithographically-defined two- and three-dimensional tissue microarrays - Ratiometric lectin microarray analysis of the mammalian cell surface glycome

Fields of interest
Biotechnology; Human Genetics

Target groups
Professional/practitioner

Type of publication
Contributed volume

Due October 2010
2010. 340 p. 144 illus., 72 in color. (Methods in Molecular Biology, Volume 671) Hardcover

- € 103,00 | £92,50
- * € (D) 110,21 | € (A) 113,30 | sFr 160,00
ISBN 978-1-934115-95-4

Due August 2010
2010. 304 p. 144 illus., 72 in color. (Methods in Molecular Biology, Volume 761) Hardcover

- * € (D) 85,55 | € (A) 87,95 | sFr 125,50

M. Lancaster, University of York, UK

Green Chemistry
An Introductory Text

Aimed at undergraduate and postgraduate students, this introduction to green chemistry encourages new ways of thinking about how products and processes are developed. These include methods of waste minimization, use of renewable feedstocks and the role of catalysis in reducing raw material use. The text is easy to understand and particularly relevant to courses on Clean Technology and Green Chemistry. It includes case studies and real examples from industry to demonstrate how the techniques work in practice.

Features
- Encourages new ways of thinking about how products and processes are developed
- The text is easy to understand and particularly relevant to courses on Clean Technology and Green Chemistry
- Includes case studies and real examples from industry

Contents
Principles and concepts of green chemistry - Waste: production, problems, and prevention - Measuring and controlling environmental performance - Catalysis and green chemistry - Organic solvents: environmentally benign solutions - Renewable resources - Emerging greener technologies and alternative energy sources - Designing greener processes; industrial case studies - The future's green: an integrated approach to a greener chemical industry

Fields of interest
Organic Chemistry; Physical Chemistry

Target groups
Professional/practitioner

Type of publication
Monograph
Computational Chemistry
Introduction to the Theory and Applications of Molecular and Quantum Mechanics

This corrected second edition contains new material which includes solving aspects, the treatment of singlet diradicals, and the fundamentals of computational chemistry. The book provides an overview of the field, the basic underlying theory at a meaningful level that is not beyond beginners, and it has numerous comparisons of different methods with one another and with experiment. Topics are placed in a historical context, adding interest to them and removing much of their apparently arbitrary aspect. The large number of references, to all significant topics mentioned, should make this book useful not only to undergraduates but also to graduate students and academic and industrial researchers.

Features
- The second edition of this popular textbook takes a pedagogical approach.
- Includes questions (classed as ‘harder’ and ‘easier’) which are aimed at students of varying abilities.
- The only textbook on this subject to genuinely cover the basics.
- Each chapter is presented with an initial historical overview thus enlightening students and guiding them away from the usual ‘dry’ presentation of facts.
- A must for computational chemistry university lecturers.

Fields of interest
Theoretical and Computational Chemistry; Computer Applications in Chemistry; Organic Chemistry

Target groups
Graduate

Type of publication
Graduate/Advanced undergraduate textbook

Biotechnology for Fuels and Chemicals
The Thirty-First Symposium

In Biotechnology for Fuels and Chemicals: The Thirty-First Symposium, leading researchers from academia, industry, and government offer surveys and reviews of their cutting-edge research and latest applications in the production of fuels and chemicals through biotechnology. The book’s focus is on how best to improve and optimize these technologies and their economics to produce the fuels and chemicals so vital to many industrial sectors.

Features
- Offers state-of-the-art research by leading experts.
- Covers advanced feedstock production and processing.
- Details the latest research breakthroughs and results.
- Identifies new trends in thinking about integrated multiproduct biorefineries.
- Reviews international progress in producing liquid biofuels.
- Presents bioprocess research and development innovations.
- Discusses the development and commercialization of biobased products.

Fields of interest
Biotechnology; Biochemical Engineering

Target groups
Professional/practitioner

Type of publication
Contributed volume

Due September 2010


2nd ed. 2010. 600 p. Hardcover
- € 159,95 | £144.00
- * € (D) 171,15 l € (A) 175,95 | sFr 265,50

Due July 2010

Only available in print

2010. 984 p. (ABAB Symposium, Volume 16) Hardcover
- € 199,95 | £186.50
- * € (D) 213,95 l € (A) 219,94 | sFr 321,00
ISBN 978-1-4419-6233-1

Due August 2010

Only available in print

2010. 984 p. DVD (ABAB Symposium, Volume 16) Special type
- approx. € 139,95 | £126.50
- * approx. € (D) 166,54 l € (A) 167,94 | sFr 228,50
Biotechnology for Fuels and Chemicals

The Thirtieth Symposium

In Biotechnology for Fuels and Chemicals, leading researchers from academia, industry, and government offer surveys and reviews of their cutting-edge research and latest applications in the production of fuels and chemicals through biotechnology. The book’s focus is on how best to improve and optimize these technologies and their economics to produce the fuels and chemicals so vital to many industrial sectors.

Features
► Written by leading researchers from academia, industry, and government ► Collects surveys and reviews of cutting-edge research and latest applications in the production of fuels and chemicals through biotechnology ► Focuses on how best to improve and optimize these technologies and their economics to produce the fuels and chemicals so vital to many industrial sectors

From the contents

Fields of interest
Biotechnology; Biochemical Engineering

Target groups
Research

Type of publication
Monograph

Due September 2010

2010. 300 p. DVD. (ABAB Symposium) Special type
► approx. € 140,05 | £126.00
► appru ® € (D) 166,66 | € (A) 168,06 | sFr 228,50
ISBN 978-3-642-12619-2

Subscription price, valid for subscribers of the whole series
► € 199,95 | £180.00
► ® € (D) 213,95 | € (A) 219,94 | sFr 310,50
ISBN 978-3-642-11457-1

Due September 2010

2010. 470 p. Hardcover
► € 199,95 | £180.00
► ® € (D) 213,95 | € (A) 219,94 | sFr 310,50
ISBN 978-3-642-12619-2

Characterization and Design of Zeolite Catalysts

Solid Acidity, Shape Selectivity and Loading Properties

Zeolites are microporous, aluminosilicate minerals commonly used as commercial adsorbents. Zeolite-based catalysts are used by industrial chemical companies in the interconversion of hydrocarbons and the alkylation of aromatic compounds. The current book deals with the characterization of specific properties of Zeolites and calculations for the design of catalysts. Measurements and utilization of solid acidity, shape selectivity, and loading properties, that are three prominent properties of a Zeolite catalyst, are treated in detail. These features concern chemical vapor deposition of silica, shape selectivity, loading properties, solid activity, Brunsted-Lewis character, ammonia temperature programmed desorption, control of the pore-opening size by chemical vapor deposition of silica and XAFS analysis of metals being highly dispersed inside and outside a framework.

Features
► Summarizes the current knowledge on the characterization of Zeolite catalysts ► Gives a guidance to simulation calculations for catalysts ► Provides an overview of the application of catalysts ► Useful reference to researchers, chemical engineers and graduate students

Contents

Fields of interest
Physical Chemistry; Characterization and Evaluation of Materials; Condensed Matter Physics

Target groups
Research

Type of publication
Monograph

Due August 2010

2010. X, 200 p. 200 illus., 100 in color. (Springer Series in Materials Science, Volume 141) Hardcover
► € 99,95 | £90.00
► ® € (D) 106,95 | € (A) 109,95 | sFr 155,50
ISBN 978-3-642-11458-4
Interfacial Electrochemistry

Electrochemistry is an old branch of physical chemistry. Due to the development of surface sensitive techniques, and a technological interest in fuel cells and batteries, it has recently undergone a rapid development. This textbook treats the field from a modern, atomistic point of view while integrating the older, macroscopic concepts. The increasing role of theory is reflected in the presentation of the basic ideas in a way that should appeal to experimentalists and theorists alike. Special care is taken to make the subject comprehensible to scientists from neighboring disciplines, especially from surface science. The book is suitable for an advanced course at the master or Ph.D. level, but should also be useful for practicing electrochemists, as well as to any scientist who wants to understand modern electrochemistry.

Features
- new version of a successful textbook
- electrochemistry is a must for all chemistry students
- each chapter is supplemented by problems
- each written by the world’s renowned experts
- Short and concise reports, each written by the world’s renowned experts
- More information as well as the electronic version of the whole content available at: springerlink.com

Contents

Fields of interest
Inorganic Chemistry; Catalysis; Organometallic Chemistry

Type of publication
Research

Due July 2010

Structure and Bonding
Series editor: D. M. Mingos
Volume 137
P. Roesky, Technical University of Karlsruhe (Ed.)

Molecular Catalysis of Rare-Earth Elements

Features
- This series presents critical reviews of the present position and future trends in modern chemical research concerned with chemical structure and bonding
- Short and concise reports, each written by the world’s renowned experts
- Still valid and useful after 5 or 10 years
- More information as well as the electronic version of the whole content available at: springerlink.com

Contents

Fields of interest
Inorganic Chemistry; Catalysis; Organometallic Chemistry

Type of publication
Research

Due July 2010

Topics in Current Chemistry
Volume 293
M. Schröder, University of Nottingham, UK (Ed.)

Functional Metal-Organic Frameworks: Gas Storage, Separation and Catalysis

Features
- This series presents critical reviews of the present position and future trends in modern chemical research
- Short and concise reports on chemistry, each written by the world renowned experts
- Still valid and useful after 5 or 10 years
- More information as well as the electronic version of the whole content available at: springerlink.com

Field of interest
Organic Chemistry

Target groups
Professional/practitioner

Type of publication
Reviews

Due July 2010
Biocatalysis Based on Heme Peroxidases
Peroxidases as Potential Industrial Biocatalysts

This monograph describes many applications of peroxidase-based biocatalysis in the biotechnology industry. The need for such a book emerges from the considerable amount of new data regarding the phylogeny, reaction mechanisms, thermodynamic characterization and structural features of fungal and plant heme peroxidases that has been generated in the past 10 years, since the last specialized book on peroxidases was published. The aim of this book is to present recent advances on such basic aspects as evolution, structure-function relation and catalytic mechanism as well as applied aspects, such as bioreactor and protein engineering, to provide the tools for rational design of enhanced biocatalysts and biocatalytic processes.

Features
- First monograph on the subject for 10 years
- Especially covers the application in the biotechnology industry including the limitations
- Summarizes new data

Contents
1.- Introduction. MOLECULAR AND STRUCTURAL ASPECTS OF PEROXIDASES
2.- Molecular phylogeny of heme peroxidases (Marcel Zámocký and Christian Obinger)
3.- Structural and functional features of peroxidases with a potential as industrial biocatalysts (Francisco J. Ruiz-Dueñas and Angel T. Martínez)
4.- Redox potential of heme peroxidases (Marcela Ayala)
5.- Catalytic mechanisms of heme peroxidases (Paul R. Ortiz de Montellano)
6.- Potential applications of peroxidases in the fine chemicals industry (Luigi Casella, Enrico Monzani and Stefania Nicolis).

Fields of interest
Biotechnology; Enzymology; Physical Chemistry

Target groups
Research

Type of publication
Monograph

Due August 2010

2010. 325 p. Hardcover
- approx. € 139,95 | £126.00
- ISBN 978-3-642-12626-0

Quality Assurance in Analytical Chemistry
Training and Teaching

This new edition of a successful textbook has been completely revised and enlarged. In particular the chapters on measurement uncertainty, calibration and validation are practically all new. The authors provide an in-depth but easy to understand coverage of quality assurance for chemical measurements. This includes both internal as well as external quality assurance, necessary statistics as well as total quality management. All this is presented with more than 800 commented slides, which are also provided as downloadable Extra Material. The book will serve as an advanced textbook for analytical chemistry students and professionals in industry and service labs and as a reference text and source of course materials for lecturers.

Features
- Helps to get acquainted with this important topic quickly and easily
- Over 800 Powerpoint slides available for download
- Practically all-new chapters on measurement uncertainty, calibration and validation

Contents

Fields of interest
Analytical Chemistry; Monitoring/Environmental Analysis; Pharmaceutical Sciences/Technology

Target groups
Professional/practitioner

Type of publication
Graduate/Advanced undergraduate textbook

Due August 2010

2nd ed. 2010. 320 p. Hardcover
- € 69,95 | £62.99
- ISBN 978-3-642-13608-5