Cytotoxic Payloads for Antibody–Drug Conjugates

David E Thurston King’s College London, UK
Paul J M Jackson FemtoGenix Ltd, UK

Synopsis
The antibody–drug conjugates (ADCs) field is one of the fastest growing areas of drug discovery and represents a large body of research. ADCs deliver a cytotoxic payload, a key component of the overall ADC design, specifically to cancer cells by attaching it to an antibody targeted to antigens on the cell surface. This book discusses the range of payloads used to date along with their advantages and disadvantages, and describes novel payloads at the research stage that may be used clinically in the near future.

Brief Contents
- Introduction to ADCs and their Components
- Design Factors Important for ADC Payloads
- The Use of Molecular Modelling Techniques in ADC Payload Discovery and Development
- Auristatin Payloads for Antibody-Drug Conjugates
- Maytansinoid Payloads
- Colchicine, Vinblastine and Taxol-Based Payloads
- Traditional Cytotoxic Agents as ADC Payloads
- Topoisomerase Inhibitors as ADC Payloads
- Duocarmycins

To order

USA and Canada
Please contact: Ingram Publisher Services
Customer Service, Box 631
14 Ingram Blvd
La Vergne, TN 37086, USA
Tel: +1 (866) 400 5351
Fax: +1 (800) 838 1149
Email: ips@ingramcontent.com

www.rsc.org/books
Registered charity number: 207890
Synopsis
Highlighting sustainable technologies and applications of renewable raw materials within the framework of green and sustainable chemistry, circular economy and resource efficiency, provides a cradle-to-cradle perspective. From potential feedstocks to recycling/reuse opportunities and the de-manufacture of adhesives and solvents, the book applies green chemistry principles to all aspects of adhesive and sealant manufacture. The book is ideal for researchers and industrialists working in green chemistry, industrial coatings, adhesives and inks and printing technologies.

Brief Contents
- Adhesives and Sealants
- Biosilicate Binders for Biocomposites
- Bioadhesives from Pulp and Paper Residues
- Special Aspects
- Concluding Remarks

To order
Royal Society of Chemistry
Marston Book Services Ltd
160 Eastern Avenue, Milton Park
Abingdon
Oxfordshire
OX14 4SB, UK
Tel: +44 (0) 1235 465522
Fax: +44 (0) 1235 465555
Email: enquiries@marston.co.uk
www.marston.co.uk

USA and Canada
Please contact:
Ingram Publisher Services
Customer Service, Box 631
14 Ingram Blvd
La Vergne, TN 37086, USA
Tel: +1 (866) 400 5351
Fax: +1 (800) 838 1149
Email: ips@ingramcontent.com

www.rsc.org/books
Registered charity number: 207890

Advance Book Information July 2019

Green Chemistry for Surface Coatings, Inks and Adhesives
Sustainable Applications
Rainer Höfer
Editorial Ecosiris, Germany
Avtar Singh Matharu
University of York, UK
Zhanrong Zhang
Chinese Academy of Sciences, China

Series: Green Chemistry Series
ISSN: 1757-7039
Publisher: Royal Society of Chemistry
ISBN: 9781782629948
Price: £179.00 | $250.00
Publishing date: 25/06/2019
Target Audience: Professional and scholarly
Format: Hardback
Edition: 1
Size: 234 x 156mm
Pages: 300
BIC: RNU, TDCK
Green Synthetic Processes and Procedures

Roberto Ballini University of Camerino, Italy

Synopsis

There has been great growth in the field of Green Chemistry over the past few years, but now one of the biggest challenges is to embed the green chemistry ideals of safety and sustainability as standard, both in industry and academia. Providing a thorough overview of the current green synthetic toolbox, from biocatalysis to sonochemistry, this book is a useful resource for any chemist wishing to design cleaner and safer processes.

Brief Contents

- Sustainability of Green Synthetic Processes and Procedures
- Application of Step, Cumulative, and Global E-Factor and PMI Metrics to Gauge Synthesis Efficiency: L-DOPA and Apixaban Pharmaceutical Examples
- Pot, Atom and Step Economic (PASE) Organic Synthesis
- Microwave Dielectric Heating for Solvent-Free Organic Transformations
- Mechanochemical Synthesis of Biologically Relevant Heterocycles
- New Perspectives in Medicinal Chemistry: from Molecular Synthesis to Hybrid Materials by Mechanochemistry

To order

Royal Society of Chemistry
Marston Book Services Ltd
160 Eastern Avenue, Milton Park
Abingdon
Oxfordshire
OX14 4SB, UK
Tel: +44 (0) 1235 465522
Fax: +44 (0) 1235 465555
Email: enquiries@marston.co.uk
www.marston.co.uk

USA and Canada
Please contact:
Ingram Publisher Services
Customer Service, Box 631
14 Ingram Blvd
La Vergne, TN 37086, USA
Tel: +1 (866) 400 5351
Fax: +1 (800) 838 1149
Email: ips@ingramcontent.com

www.rsc.org/books
Registered charity number: 207890
Indoor Air Pollution

R M Harrison University of Birmingham, UK
R E Hester University of York, UK

Synopsis

Time-activity diaries kept by members of the general public indicate that on average people spend around 90% of their time indoors, this is associated with considerable exposure to air pollutants. Given its importance as a source of air pollution exposure, increasing attention is being given to pollution of the indoor environment. This volume will consider both chemical and biological pollutants in the indoor atmosphere from their sources to chemical and physical transformations, human exposure and potential effects on human health.

Brief Contents

- Indoor sources of pollutants
- Outdoor air as a source of indoor pollution
- Chemical and physical properties of indoor pollutants
- Indoor emissions as a source of outdoor pollution
- Chemical reactions in the indoor atmosphere
- Biological particles in the indoor atmosphere
- Indoor air as a contributor to air pollution exposure
- Health concerns over indoor air pollution

To order

Royal Society of Chemistry
Marston Book Services Ltd
160 Eastern Avenue, Milton Park
Abingdon
Oxfordshire
OX14 4SB, UK
Tel: +44 (0) 1235 465522
Fax: +44 (0) 1235 465555
Email: enquiries@marston.co.uk
www.marston.co.uk

USA and Canada

Please contact:
Ingram Publisher Services
Customer Service, Box 631
14 Ingram Blvd
La Vergne, TN 37086, USA
Tel: +1 (866) 400 5351
Fax: +1 (800) 838 1149
Email: ips@ingramcontent.com

www.rsc.org/books
Registered charity number: 207890
MicroRNAs in Diseases and Disorders

Emerging Therapeutic Targets

Philip V. Peplow University of Otago, New Zealand
Bridget Martinez University of California, Merced, USA
George A Calin MD Anderson Cancer Center, USA
Aurora Esquela-Kerscher East Virginia Medical School, USA

Synopsis
MicroRNAs have a distinct role in the development and progression of a variety of diseases including cancer, neurological disease and metabolic disease amongst others. As such, there is considerable interest in the potential utilisation of microRNAs in precision and personalised medicine, by increasing our understanding of the role of microRNA in the pathology of disease it allows an opportunity to identify potential therapeutic targets. With an international team of authors this book covers the global perspective from pathology to treatment with a comprehensive review of how drugs can be designed to target microRNAs in a variety of diseases.

Brief Contents
- Role of Nutrition, the Epigenome, and MicroRNAs in Cancer Pathogenesis
- Role of MicroRNAs in Metabolic Diseases
- Circulating MicroRNAs as Biomarkers of Coeliac Disease and Other Intestinal Pediatric Diseases - Experimental and Bioinformatics Challenges from the Bench to the Bedside
- MicroRNAs and Mycobacterial Infections in Humans and Domestic Animals
- Regulation and Function of MicroRNAs in Kidney Diseases
- Involvement of MicroRNAs in Autoimmune Diseases
- MicroRNAs in Ischemic Stroke, Hemorrhagic Stroke, and Traumatic Brain Injury
Nanoparticle Design and Characterization for Catalytic Applications in Sustainable Chemistry

Rafael Luque University of Córdoba, Spain
Pepijn Prinsen University of Córdoba, Spain

Synopsis
Nanoparticles exhibit a range of different properties when compared to bulk materials. Their high surface-area to volume ratio makes them particularly attractive for use as catalysts and recent years have seen an explosion of research in this area. This book presents an introduction to the preparation and characterisation of nanomaterials and their design for specific catalytic applications. It is a valuable resource for researchers working on catalytic reactions, industrial processes and nanomaterial applications.

Brief Contents
- Introduction to Design, Characterization and Application of Nanocatalysts
- Characterization of Nanomaterials: Advances
- Morphology-Dependent Nanocatalysts for Green Chemical Transformations
- Design of Metal Modified Zeolites and Mesoporous Aluminosilicates and Application in the Synthesis of Fine Chemicals
- Design of Metal-Free Nanocatalysts
- Nanoparticles in the Catalytic Valorization of Lignocellulosic Biomass
- Nanocatalysts for CO2 Conversion

To order
Royal Society of Chemistry
Marston Book Services Ltd
160 Eastern Avenue, Milton Park
Abingdon
Oxfordshire
OX14 4SB, UK
Tel: +44 (0) 1235 465522
Fax: +44 (0) 1235 465555
Email: enquiries@marston.co.uk
www.marston.co.uk

USA and Canada
Please contact:
Ingram Publisher Services
Customer Service, Box 631
14 Ingram Blvd
La Vergne, TN 37086, USA
Tel: +1 (866) 400 5351
Fax: +1 (800) 838 1149
Email: ips@ingramcontent.com

www.rsc.org/books
Registered charity number: 207890
Organophosphorus Chemistry

Volume 48

David W Allen  Sheffield Hallam University, UK
David Loakes  University of Cambridge, UK
John C Tebby  Sheffield Hallam University, UK

Synopsis

This annual review of the literature presents a comprehensive and critical survey of the vast field of study involving organophosphorus compounds, from phosphines and related P-C bonded compounds to phosphorus acids, phosphine chalcogenides and nucleotides. The Editors have added to the content with a timely chapter on the recent developments in green synthetic approaches in organophosphorus chemistry to reflect current interests in the area.

Brief Contents

- Phosphines: Preparation, Reactivity and Applications
- Tervalent Phosphorus Acid Derivatives
- Phosphine Chalcogenides
- Phosphonium Salts and P-Ylides
- Nucleotides and Nucleic Acids: Mononucleotides
- Quinquevalent Phosphorus Acids
- Pentacoordinated and Hexacoordinated Compounds
- Phosphazenes
- Green Synthetic Approaches in Organophosphorus Chemistry: Recent Developments

To order

Royal Society of Chemistry
Marston Book Services Ltd
160 Eastern Avenue, Milton Park
Abingdon
Oxfordshire
OX14 4SB, UK
Tel: +44 (0) 1235 465522
Fax: +44 (0) 1235 465555
Email: enquiries@marston.co.uk
www.marston.co.uk

USA and Canada
Please contact:
Ingram Publisher Services
Customer Service, Box 631
14 Ingram Blvd
La Vergne, TN 37086, USA
Tel: +1 (866) 400 5351
Fax: +1 (800) 838 1149
Email: ips@ingramcontent.com

www.rsc.org/books
Rapid Antibody-based Technologies in Food Analysis

Richard O’Kennedy Dublin City University, Ireland

Synopsis

There is a worldwide problem with food contamination, with an increasing number of outbreaks, and food safety. Consequently, there is a need for rapid tracing of foods as well as requirements for food authentication. This book provides a description of antibody-based technologies used in food analysis. It focuses on key applications outlining the approaches used, their advantages and limitations, and future areas for development. An expert in the field has written each chapter and a number of case studies demonstrating the utility of each of the methods described is included. It is for researchers and scientists in the field who have to acquire, verify and use technologies for food analysis, food producers and processors, food safety and testing laboratories, and government agencies.

Brief Contents

- Introduction to Antibody-based Food Analysis
- Production and Use of Antibodies
- The Importance of Bioanalytical Parameters and Statistical Analysis in Immunoassays for Food Analytes
- Designing the Appropriate Immunoassays for Food Analysis
- Targeting Marine Toxins and Other Adulterants in Fish
- Mycotoxins - Contamination, Control and Analyses
- New Chip-Based Technologies for Rapid Analysis of Food Contaminants
- Applications of Immuno-electrochemical Detection Strategies for Food Analysis
The Nature of the Chemical Concept
Re-constructing Chemical Knowledge in Teaching and Learning

Keith S Taber University of Cambridge, UK

Synopsis
All chemistry teachers know that chemistry is a conceptual subject, especially at the upper end of secondary school and at university level, and that some students struggle to understand many chemical ideas. This book offers a step-by-step analysis and discussion of just why some students find chemistry difficult, by examining the nature of chemistry concepts, and how they are communicated and learnt. The book considers the idea of concepts itself, draws upon case studies of how canonical chemical concepts have developed; explores how chemical concepts become represented in curriculum and in classroom teaching; and discusses how conceptual learning and development occurs. This book will be invaluable to anyone interested in teaching and learning and offers guidance to teachers looking to make sense of, and respond to, the challenges of teaching chemistry.

Brief Contents
- The challenge of teaching and learning chemical concepts
- What kind of things are concepts?
- What kinds of concepts are important in chemistry?
- Concepts as knowledge
- The origin of a chemical concept: The ongoing discovery of potassium
- Conceptualising acids: Reimagining a class of substances
- Concepts and ontology: what kind of things exist in the world of chemistry?
- Chemical meta-concepts: Imagining the relationships between chemical concepts
- Accessing chemical concepts for teaching and learning