Advance Book Information

Oral Processing and Consumer Perception
Biophysics, Food Microstructures and Health

Bettina Wolf University of Birmingham, UK
Serafim Bakalis The University of Nottingham, UK
Jianshe Chen Zhejiang Gongshang University, China

Synopsis
This book provides a comprehensive overview of food oral processing. It will be of interest to a diverse range of postgraduate students and researchers in academia and industry, with specialisms ranging from food process engineers to functional food developers, and professionals concerned with swallowing and taste disorders. The book includes some fundamental chapters at the beginning of each section to aid the understanding of the later more specific oral processing chapters.

Brief Contents
- Saliva Properties and Functions in Food Oral Processing
- Biomechanics of Tongue–Food Interactions
- Oral Processing - A Dental Perspective
- The Biophysics of Mouthfeel Perception
- The Biophysics of Flavour Perception
- The Metabolic Impact of Food Oral Processing
- Oral Processing and Consumer Perception - Lipid Based Systems
- Oral Processing of Chocolate Confectionary
- Food Microstructures – Emulsions
- Oral Processing of Dairy Products
- Oral Processing of Wine
- Oral Processing of Bread
- Oral Processing of Low Water Foods

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Advance Book Information

The Coronavirus Pandemic and the Future Virology, Epidemiology, Translational Toxicology and Therapeutics, Volume 1

Michael D Waters ILS Inc., USA
Alok Dhawan Centre of Biomedical Research, India
Tim Marrs Edentox Associates, UK
Diana Anderson University of Bradford, UK
Stafford Warren Chesapeake Cardiac Care, USA
Claude L Hughes IQVIA, USA

Synopsis
This volume chronicles the outbreak and world-wide spread of SARS-CoV-2 (COVID-19) and delineates the role of several disciplines in therapeutic and control measures.

Brief Contents
- What We Know About The Novel Human Coronavirus
- Severe Acute Respiratory Syndrome Coronavirus-2
- Epidemiological Lessons and China's COVID-19 Response
- Clinical Presentation, Pathophysiology and Histopathology
- Evaluation of the Disease, Sample Collection and Diagnostics
- Therapeutic Options Initially Available for COVID-19
- Clinical Epidemiology of Coronavirus Disease 2019
- SARS-CoV-2 Genomics and Host Cellular Susceptibility Factors
- Infection and Pathogenesis: An Immunological Perspective
- Neurological Manifestations in COVID-19
- COVID-19 and Coagulopathy
- COVID-19 Endocrinopathies: Implications for Care
- Potential Risks for COVID-19 Disease in Reproductive Health
- Clinical Autopsy in COVID-19
- COVID-19 Pharmacotherapy - Present and Future
- Knowledge from Human Relevant Cell, Tissue and Mathematics-based Methods

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The Coronavirus Pandemic and the Future
Virology, Epidemiology, Translational Toxicology and Therapeutics, Volume 2

Michael D Waters ILS Inc., USA
Alok Dhawan Centre of Biomedical Research, India
Tim Marrs Edentox Associates, UK
Diana Anderson University of Bradford, UK
Stafford Warren Chesapeake Cardiac Care, USA
Claude L Hughes IQVIA, USA

Synopsis
This volume chronicles the outbreak and world-wide spread of SARS-CoV-2 (COVID-19) and delineates the role of several disciplines in therapeutic and control measures.

Brief Contents
- In Silico Approaches for Drug Repurposing
- Vaccination and Vaccines for COVID-19
- Emergence of Viral Variants from a Genomic Perspective
- Susceptibility and Spread of SARS-CoV-2 in Animals
- Plant-based Immunomodulatory Bioactive Compounds
- Therapeutic Effects of Natural Products, Herbs and Mushrooms
- Application of Chinese Herbal Medicine in COVID-19
- COVID-19 Interventional and Therapeutic Clinical Trials
- A Trend Analysis of COVID-19 Pandemic in Turkey
- The Swedish Approach to COVID-19
- New Zealand’s Response to the First Wave of COVID-19
- Significant SARS-CoV-2 Variants Circulating Around the World
- Survival of SARS-CoV-2 Outside the Body
- U.S. Regulatory Approaches to Disinfectants for Coronavirus
- Diagnostic Strategies for Early and Point-of-care Detection
- Human Resource Management, Preparedness and Outcomes
- Role of Telehealth during the COVID-19 Pandemic
- Medical Education During the COVID Pandemic
- Containment Strategies to Prevent Spread
- Effective Health Education, Patient Education
- Strengthening the Biological and Toxin Weapons Convention
- COVID-19 Prevention
- Human Response to Pandemics in History
- The COVID-19 Pandemic - Global Lessons for the Future
Advance Book Information

The Coronavirus Pandemic and the Future Virology, Epidemiology, Translational Toxicology and Therapeutics, Two-volume Set

Michael D Waters ILS Inc., USA
Alok Dhawan Centre of Biomedical Research, India
Tim Marrs Edentox Associates, UK
Diana Anderson University of Bradford, UK
Stafford Warren Chesapeake Cardiac Care, USA
Claude L Hughes IQVIA, USA

Synopsis

This 2-volume set of books chronicles the outbreak and world-wide spread of SARS-Cov-2 (COVID-19) and delineates the role of several disciplines in therapeutic and control measures. By addressing considerations of efficacy and safety of drugs and chemicals used to combat COVID-19, virtually in real-time, these volumes document and highlight the advances in science and place the toxicology, pharmaceutical science, public health and medical community in a better position to advise in future epidemics.

Brief Contents

- The Coronavirus Pandemic and the Future Virology, Epidemiology, Translational Toxicology and Therapeutics
  Volume 1
- The Coronavirus Pandemic and the Future Virology, Epidemiology, Translational Toxicology and Therapeutics
  Volume 2

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Photothermal Nanomaterials

Enyi Ye A*STAR, Singapore
Zibiao Li A*STAR, Singapore

Synopsis

The exploration of photothermal nanomaterials with high light-to-heat conversion efficiency has paved the way for practical applications, including in cancer therapy, environmental remediation, catalysis, imaging and biomedicine. Covering the photothermal effect of different categories of light-absorbing nanomaterials, and focusing on metallic nanomaterials, 2D materials, semiconductors, carbon-based nanomaterials, polymeric nanomaterials and their composites, this book will be a valuable resource for scientists working on photothermal nanomaterials.

Brief Contents

- Introduction of Photothermal Nanomaterials
- Engineered Gold Nanoparticles for Photothermal Applications
- Branched Metallic Nanocrystals: Synthesis, Properties and Photothermal Applications
- Metal Oxide Semiconductor Nanomaterials for Photothermal Catalysis
- Copper Sulfide-based Nanomaterials for Photothermal Applications
- Two Dimensional Nanomaterials and Hybrids
- Polymer-Quantum Dot Hybrid Materials
- Near-infrared Upconversion Nanomaterials Mediated Photothermal Conversion for Various Applications
- Covalent Organic Frameworks (COFs) for Photothermal Therapy
- Carbon Based Nanomaterials
- Photothermal Nanomaterials for Oncological Hyperthermia

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Bisphenol A (BPA) is a high production volume endocrine-disrupting chemical present in numerous consumer products. Extensive use of BPA has led to wide-spread contamination in the air, soil, and water, leading to ubiquitous human exposure. Research into BPA has grown exponentially over the past ten years, with numerous modes of action being identified that impact human health and disease development. While BPA has estrogenic effects, emerging literature has identified several non-receptor mediated modes of action, such as epigenetic reprogramming, that can affect the long-term health of the population. This book highlights the multiple modes of action BPA can use to reprogram cells genetically and metabolically. By compiling critical studies in BPA and outlining the connections and disparities in the literature to build a broader understanding of this complex endocrine-disrupting chemical and its impact on the environment and human health, this book is an ideal resource for postgraduates and researchers in a range of disciplines from toxicology to epigenetics and cancer epidemiology.

Synopsis

Bisphenol A (BPA) is a high production volume endocrine-disrupting chemical present in numerous consumer products. Extensive use of BPA has led to wide-spread contamination in the air, soil, and water, leading to ubiquitous human exposure. Research into BPA has grown exponentially over the past ten years, with numerous modes of action being identified that impact human health and disease development. While BPA has estrogenic effects, emerging literature has identified several non-receptor mediated modes of action, such as epigenetic reprogramming, that can affect the long-term health of the population. This book highlights the multiple modes of action BPA can use to reprogram cells genetically and metabolically. By compiling critical studies in BPA and outlining the connections and disparities in the literature to build a broader understanding of this complex endocrine-disrupting chemical and its impact on the environment and human health, this book is an ideal resource for postgraduates and researchers in a range of disciplines from toxicology to epigenetics and cancer epidemiology.

Brief Contents

- Classical and Non-classical Estrogen Receptor Effects of Bisphenol A
- Genotoxicity and Mutagenicity of Bisphenol A
- Bisphenol A (BPA) Associated Signaling Pathways in Human Diseases
- Bisphenol A and its Impact on Human Telomerase, Telomere Length and Cell Aging
- The Role of Bisphenol A in Development of Autoimmunity
- A Novel Model for the Estrogenic Action of BPA in Developing Brain Following Maternal Ingestion
- Bisphenol A’s Pleiotropic Effects Alter Milk Synthesis and Production
Nucleic Acids in Chemistry and Biology

G Michael Blackburn University of Sheffield, UK
Martin Egli Vanderbilt University, USA
Michael J Gait MRC Laboratory of Molecular Biology (LMB), UK
Jonathan K Watts University of Massachusetts, USA

Synopsis

Revised, extended, updated and lavishly illustrated, this 4th Edition of *Nucleic Acids in Chemistry and Biology* is a long-awaited standard text for teaching and research in nucleic acids science. Written by an international team of leading experts, all with extensive teaching experience, this book provides up-to-date and extended coverage of the reactions and interactions of RNA and DNA with proteins and drugs. This authoritative volume presents topics in an integrated manner and readable style with full colour illustrations throughout. It is ideal for graduate and undergraduates students of chemistry and biochemistry, biophysics and biotechnology, and molecular biology and medicine.

Brief Contents

- Introduction and Overview
- DNA and RNA Structure
- Nucleosides and Nucleotides
- Genes and Genomes
- RNA Transcription, Processing, Modification and Translation
- Noncoding RNA
- Synthesis of Nucleic Acids
- DNA and RNA Sequencing
- Nucleic Acid Therapeutics
- In Vitro Evolution and Aptamers
- Covalent Modifications of Nucleic Acids and their Repair
- Reversible Small Molecule–Nucleic Acid Interactions
- Protein–DNA Interactions
- RNA-Protein Interactions
Drug Repurposing

David Cavalla Numedicus, UK

Synopsis

Drug repurposing is the development of existing drugs for new uses: given that 9 in 10 drugs that enter drug development are never marketed and therefore represent wasted effort, it is an attractive as well as inherently more efficient process. Three repurposed drugs can be brought to market for the same cost as one new chemical entity, and they can also be identified more quickly, an important benefit for patients whose diseases are progressing faster than therapeutic innovation. This book provides a single-source, comprehensive reference on the latest developments and innovations in drug repurposing ideal for students and researchers in pharmaceutical science and drug discovery.

Brief Contents

- Introduction and Historical Overview of Drug Repurposing Opportunities
- Role of Academia: Drug Repurposing to Induce Autophagy for Treatment of Neurodegenerative Diseases
- The Role of Clinical Medicine
- Role of Industry
- Collaboration Models for Repurposing
- Screening Technologies
- Cheminformatics Data Mining and Modeling for Drug Repurposing
- Using Artificial Intelligence for Drug Repurposing
- Field Discoveries (Case Reports)
- Preclinical. A Repurposed Novel Lyn Kinase Activator, MLR-1023, is a Model Example of Pharmacological Pleiotropy
- Harnessing the Potential of Early Access
- Adapting Payers’ and Producers’ Incentives to Drug Repurposing
- Intellectual Property Considerations
- Regulatory Considerations and Strategies for Drug Repositioning
- Future Perspectives in Drug Repurposing
Nanochemistry for Chemistry Educators

Riam Abu Much The Academic Arab College for Education, Israel
Kurt Winkelmann Florida Institute of Technology, USA
Muhamad Hugerat The Academic Arab College for Education, Israel

Synopsis

For the first time, this book sets out ways to teach the science of nanochemistry at a level suitable for pre-service and in-service teachers in middle and secondary school. The authors draw upon peer-reviewed science education literature for experiments, activities, educational research, and methods of teaching the subject.

Brief Contents

- Nanotechnology and Chemistry: The Unseen Scale with Magnificent Impact
- Nanochemistry as a Relevant Concept in Teaching Chemistry
- Teachers’ and Students’ Awareness of and Attitudes toward Nanoscience and Nanotechnology
- Challenges of Teaching Nanochemistry
- Methods for Teachers to Share Nanotechnology with Students
- Incorporating Nanochemistry in the Chemistry Curriculum
- Nanoliposomes as a Model for Teaching Nanochemistry
- Activities for Teaching Nanochemistry
- Social and Ethical Issues of Nanotechnology