

Advance Book Information



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Boron

In Search of the Real Fifth Element

Stephen M Mansell Heriot-Watt University, UK

Synopsis

Classical alchemy divided matter into just four elements. Modern chemistry divides matter into a whole array of elements, commonly known as the periodic table. In this table boron is the fifth element. With uses from soap to rocket fuel and from superconductors to cancer treatments, boron is certainly not a boring element. Beginning with some basics of chemistry this book leads readers on an exciting journey exploring the history of this intriguing element and leading into modern uses that are all around us.

Key Features and Highlights

- Explores exciting stories featuring chemistry that relate back to everyday life
- Provides simple explanations and basic background needed for a general audience
- Uses both historical background and recent advances to excite and inspire the reader

Brief Contents

- What Is Matter? Particles, Atoms and Molecules
- Crucial Concepts in Chemistry
- Boron – What Is It and Where Is It Found?
- Going Nuclear
- How Boron Bonds Without Enough Electrons
- Anything but Boring: Boron-based Jet and Rocket Fuels
- Is Boron Good for You? Boron in Living Things and Medicines
- Boron in the Solid State: Glasses, Ceramics and High-tech Applications
- Boron: A Bright Future

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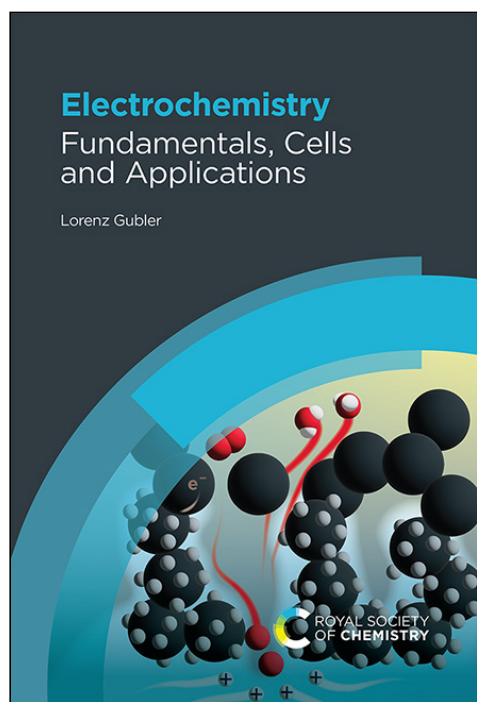
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Publication Date: 02 September 2026

Date:

Target Audience: College/higher education

Audience:

Size: 234 x 156 (Royal 8vo) mm

Pages: 322

BIC: PNRH, PNRS

THEMA: PNRH, PNRS, 4TC, 4CT

BISAC: SCI013050,

Electrochemistry

Fundamentals, Cells and Applications

Lorenz Gubler Paul Scherrer Institut, Switzerland

Synopsis

Based on comprehensive course lecture notes, this textbook offers an in-depth exploration of the conceptual understanding of electrochemistry, spanning the equivalent of thirteen weeks of lectures. Designed for students with a fundamental understanding of physical chemistry, it covers essential topics such as terminology, thermodynamics and kinetics, alongside application-oriented subjects like industrial electrochemistry, energy storage and conversion. The reader can explore technologies of current relevance, such as lithium-ion batteries and fuel cells, and discover additional topics in the appendices if seeking further information. Each chapter provides a structured and progressive learning experience, without the need for complex mathematical derivations, making the book ideal for students and professionals alike.

Key Features and Highlights

- Provides a textbook to accompany a lecture series on electrochemistry, with fundamentals and applied topics, which is not overbearing in mathematical derivations.
- The content aims primarily to develop the conceptual understanding of electrochemistry and, in particular, differences to chemical reactions.
- The assumptions and simplifications are clearly identified, and the reader is directed towards a more comprehensive treatment when appropriate.

Brief Contents

- Introduction
- Redox Reactions and Faraday's Laws
- Equilibrium Electrochemistry
- Electrodes and Interfaces
- Electrolytes
- Dynamic Electrochemistry
- Industrial Electrochemistry
- Energy Conversion and Storage
- Analytical Methods and Sensors
- Corrosion and Corrosion Protection

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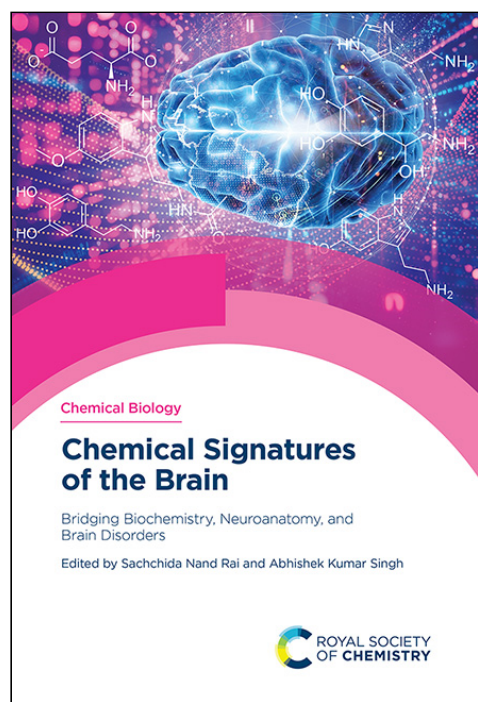
Advance Book Information

Chemical Signatures of the Brain

Bridging Biochemistry, Neuroanatomy, and Brain Disorders

Sachchida Nand Rai Banaras Hindu University, India

Abhishek Kumar Singh Manipal Academy of Higher Education, India



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Publisher: Royal Society of Chemistry

ISBN: HB 9781837071364
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Publication Date: 14 October 2026

Date:

Target Audience: Professional and scholarly

Audience:

Size: 234 x 156 (Royal 8vo) mm

Pages: 428

BIC: PSAN, PSF, PSD, MJN, PSB

THEMA: PSAN1, PSB, MKJ

BISAC: SCI007000, MED056000,
SCI089000, SCI017000,
SCI049000

Series: Chemical Biology Volume 26

Synopsis

Chemical Signatures of the Brain reveals how biochemistry and neuroanatomy shape brain disorders. This expertly edited volume explores neurotransmitters, neuropeptides, lipid signalling, and biomarkers, offering cutting-edge insights into neurodegenerative and psychiatric conditions. With global contributors and a strong translational focus, it connects molecular mechanisms to clinical applications, making it essential for neuroscientists, clinicians, and researchers.

Key Features and Highlights

- Provides a holistic understanding of brain disorders, enhancing readers' grasp of disease mechanisms, from molecular to structural levels.
- Covers the latest scientific advancements on neuropeptides, neurotransmitter pathways, lipidomics, and metabolic influences on brain function disease diagnosis and treatment.
- Translational focus on therapeutics and clinical applications making it highly relevant to neuroscientists, clinicians and drug developers.

Brief Contents

- Foundations of Neurochemistry and Neuroanatomy
- Neurotransmitter Systems in the Brain
- Neuropeptides and Their Role in Brain Function
- Neurochemical Pathways in Energy Metabolism and Mitochondrial Function
- Oxidative Stress, Neuroinflammation, and Neuroprotection
- Lipid Signaling and Brain Disorders
- Epigenetic and Transcriptomic Regulations in Brain Disorders
- Biomarkers and Precision Medicine in Neurology
- Environmental Influences on Neurochemistry
- Future Directions in Neurochemistry and Brain Disorders

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Polymer and Supramolecular Gels

Arun Kumar Nandi Indian Association for the Cultivation of Science, India

Synopsis

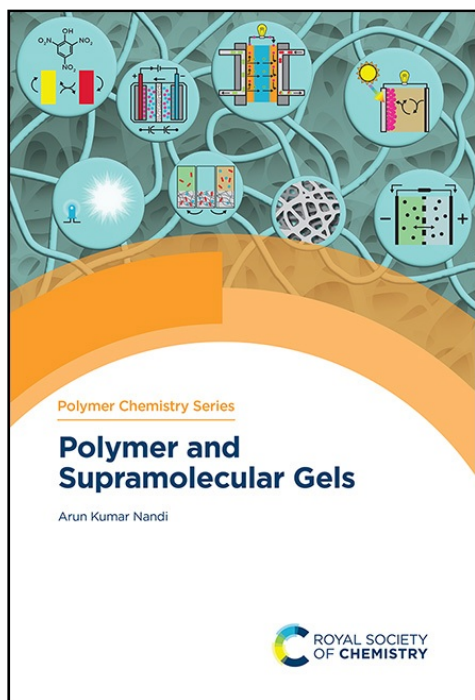
Polymer gels and supramolecular gels are fascinating materials currently seeing extensive research. This comprehensive work explores both polymer and supramolecular gels, highlighting their synthesis, properties, and wide-ranging applications.

Key Features and Highlights

- Offers a detailed analysis of the properties of both polymer and supramolecular gels.
- Covers diverse applications in energy, environment, biotechnology, and more.
- Highlights technological uses of hybrid gels and future development prospects.

Brief Contents

- Introduction: Gels
- Polymer Gels
- Supramolecular Gels
- Physical Properties of Polymer and Supramolecular Gels
- Mechanical Properties of Polymer and Supramolecular Gels
- Optical Properties of Polymer and Supramolecular Gels
- Electronic Properties of Polymer and Supramolecular Gels
- Hybrid Gels
- Applications in Making Multiporous Materials
- Applications in Energy
- Applications in Environment
- Applications in Biomedical and Bioengineering



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Target Audience: Professional and scholarly
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Pages: 520
BIC: PNNP, TGB, TDCP
THEMA: PNNP, TGMP
BISAC: TEC021000,
Series: Polymer Chemistry Series
Volume 47

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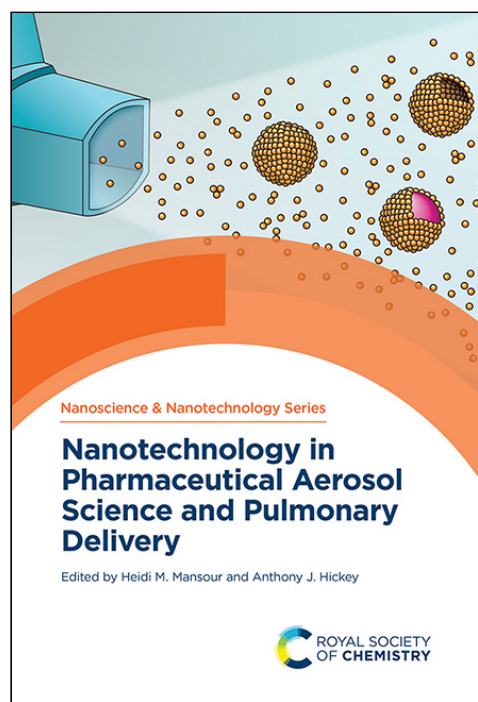
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Nanotechnology in Pharmaceutical Aerosol Science and Pulmonary Delivery

Heidi M Mansour Florida International University

Anthony J Hickey UNC-Chapel Hill

Synopsis

Nanotechnology in Pharmaceutical Aerosol Science and Pulmonary Delivery presents a comprehensive reference dedicated to the intersection of nanotechnology and inhalation drug delivery. Edited by internationally recognized experts Professors Heidi M. Mansour and Anthony J. Hickey, this authoritative volume explores the design, development, and evaluation of inhaled nanomedicines for targeted pulmonary therapy.

Key Features and Highlights

- The first comprehensive reference to systematically address nanotechnology in pulmonary drug delivery, integrating formulation science, biopharmaceutical evaluation and regulatory perspectives.
- The book features contributions from internationally recognized experts across academia and industry, covering cutting-edge topics such as inhaled biologics, nanocrystals, dendrimers and extracellular vesicles.
- Its interdisciplinary scope and global author base ensure relevance for researchers, clinicians and regulatory professionals working in pharmaceutical nanotechnology and respiratory therapeutics.

Brief Contents

- Introduction
- Nanomaterials Used in Inhaled Pulmonary Delivery Systems
- Inhaled Nanoliposomes for Treating Lung Disease Including a Case Study of Amikacin Liposome Inhalation Suspension (ALIS)
- Natural Killer Cells-derived Exosomes as Delivery Systems for Overcoming Resistance in NSCLC
- Inhaled Formulations of mRNA – Lipid Nanoparticles (LNPs): Barriers and Formulation Strategies
- Nanocharacterization of Pharmaceutical Inhalable Particles
- Multi-stage Cascade Impactors: Their Use and Limitations for the Development and Commercialization of Inhaled Pharmaceuticals Containing Formulations Based on Nanotechnology
- Dissolution Testing for Inhaled Nanoparticulate Drug Delivery Systems
- Pulmonary Surfactants and Pulmonary Drug Design and Delivery
- Harnessing Inhaled Nanoparticles for Enhanced Pharmacokinetics and Pharmacodynamics of Drugs
- Interactions of Nanoparticles with Structures of the Respiratory System, Nanoparticle Endocytosis by Cells and Cell Responses
- Polymeric Nanoparticles Targeting Lung Innate Immune Cells
- Inhalable Nanoparticles for Lung Immunotherapy
- General Conclusion

Publisher: Royal Society of Chemistry

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BIC: TBN, MJL, TDCW

THEMA: TBN, TDCW, MJL

BISAC: TEC027000, MED079000,
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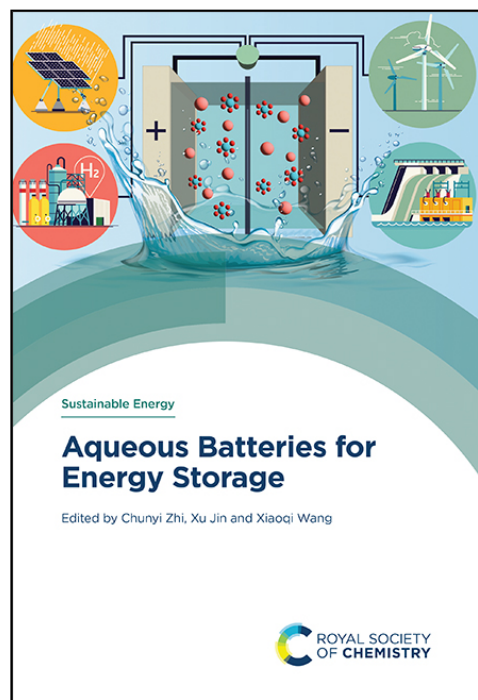
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Aqueous Batteries for Energy Storage

Chunyi Zhi City University of Hong Kong, Hong Kong

Xu Jin RIPED PetroChina, China

Xiaoqi Wang RIPED PetroChina, China

Synopsis

The principal aim of this book is to present a comprehensive coverage of aqueous battery developments. The book covers:

- Fundamental electrochemistry
- Technical developments and challenges in the field
- Prototypical systems

This book will have wide appeal for both academics and industry professionals working in the fields of sustainable energy, batteries, and electrochemistry.

Key Features and Highlights

- Offers the first dedicated resource on aqueous batteries, filling a unique gap in the current literature and providing focused insight into this emerging technology.
- Bridges academic and industrial perspectives with comprehensive coverage of scientific principles, technical challenges, and system-level developments.
- Guides readers from foundational electrochemistry through advanced battery architectures and research issues, making it a valuable reference for collaborative use in universities, corporations, and research labs.

Brief Contents

- Introduction
- Electrochemistry and Fundamentals of Aqueous Batteries
- Lead–Acid Batteries
- Aqueous Metal–Oxygen Batteries
- Aqueous Electrochemistry of Metal-free Inorganic Materials for Redox Flow Batteries
- Zinc-based Rechargeable Batteries
- Aqueous Na-ion and K-ion Batteries
- Aqueous Multivalent Ion (Mg^{2+} , Al^{3+} , Ca^{2+}) Batteries
- Aqueous H^+ and NH_4^+ Batteries
- Molecular Modelling of Aqueous Batteries
- Battery Module Design and Engineering

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Audience:

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THEMA: THY, THV, PNRH

BISAC: SCI024000, SCI013100, TEC031010, TEC021000, SCI013080

Series: Sustainable Energy Volume 8

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