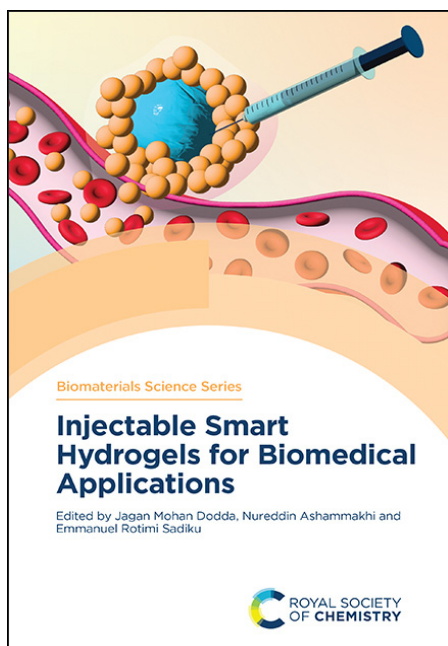


# Advance Book Information



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**Series:** Biomaterials Science Series

**ISSN:** 2397-1401

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**ISBN:** 978-1-83767-170-0

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**Format:** Hardback

**Size:** 234 x 156 (Royal 8vo) mm

**Pages:** 526

**BIC:** MM, PSB, TCB, TGB

**THEMA:** MK, PNB, TGM

**BISAC:** MED000000, TEC021000, TEC059000

## Injectable Smart Hydrogels for Biomedical Applications

Jagan Mohan Dodda University of West Bohemia, Czech Republic

Nureddin Ashammakhi University of California Los Angeles, USA

Emmanuel Rotimi Sadiku Tshwane University of Technology, South Africa

### Synopsis

Hydrogels have many biomedical uses, but implanting them involves invasive surgery. Smart injectable hydrogels offer a minimally invasive route to applications such as tissue engineering, regenerative medicine, and cancer treatment. This book demonstrates how synthetic chemistry and materials science have provided the answers to hydrogel formulation *in situ*. Drawing on expertise from around the world, readers in research, industry, and clinic will find strategies for designing and synthesising this new class of biomaterial, demonstrated by example applications.

### Brief Contents

- Introduction, Preparation, and Applications
- Physical, Chemical and Biological Properties
- Characterization of Injectable Smart Hydrogels
- Emerging Developments and Prospects for Bioelectronics
- Cross-linking Strategies for the Designing of Smart Injectable Hydrogels
- Click Chemistry-based Injectable Smart Hydrogels
- Polysaccharide-based Injectable Smart Hydrogels
- Protein-based Injectable Smart Hydrogels for Biomedical Applications
- Injectable Smart Nanocomposite Hydrogels for Biomedical Applications
- Injectable Smart Hydrogels for the Treatment of Microbial Infections
- Injectable Smart Hydrogels for Wound Management
- Injectable Smart Hydrogels for Ophthalmic Applications
- Injectable Smart Hydrogels for Bone and Cartilage Regeneration
- Smart Injectable Hydrogels for Craniomaxillofacial Bone Regeneration
- Injectable Smart Hydrogels for the Treatment of Osteoarthritis
- Injectable Smart Hydrogels for Myocardial Infarction Therapy
- Injectable Smart Hydrogels for Spinal Cord Regeneration
- Injectable Smart Hydrogels for Local Cancer Therapy
- Current and Future Prospects of Injectable Smart Hydrogels

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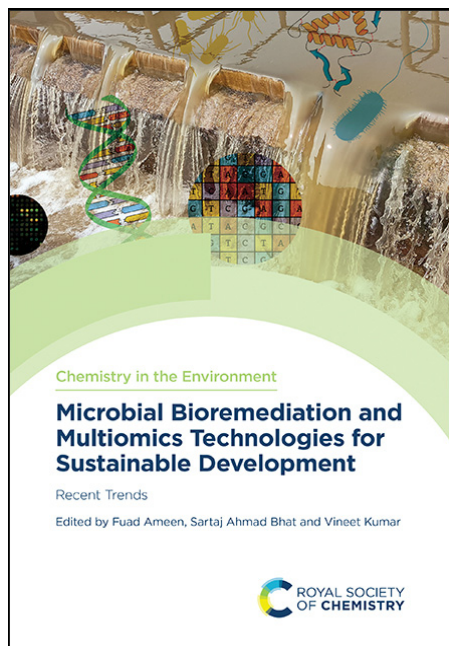
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**Series:** Chemistry in the Environment

**ISSN:** 2516-2624

**Publisher:** Royal Society of Chemistry

**ISBN:** 978-1-83767-271-4

**Price:** £179.00 | \$250.00

**Publishing date:** 02/08/2024

**Target Audience:** Professional and scholarly

**Format:** Hardback

**Size:** 234 x 156 (Royal 8vo) mm

**Pages:** 526

**BIC:** PSG, RNU, TQ

**THEMA:** PNC, PSG, RNU

**BISAC:** SC1013080, SC1045000

## Microbial Bioremediation and Multiomics Technologies for Sustainable Development: Recent Trends

Fuad Ameen King Saud University, Saudi Arabia

Sartaj Ahmad Bhat Gifu University, Japan

Vineet Kumar Central University of Rajasthan, India

### Synopsis

Microbial bioremediation utilizes diverse microbes to eliminate pollutants in contaminated environments. Modern multiomics technologies have produced valuable data, enhancing our grasp of degradation pathways and organism adaptability. This book highlights advancements in microbial bioremediation, emphasizing the burgeoning field of multiomics technologies.

### Brief Contents

- Microbial-mediated Pesticide Bioremediation
- Bioremediation of Microplastics by Microorganisms
- Microbial Bioremediation of Petroleum Contamination in the Niger Delta
- Earthworms and Their Associated Microorganisms
- Bioremediation of Petroleum Contamination by Microorganisms
- Microalgal Systems
- Bioremediation of Pesticides by Microorganisms
- Heavy Metal Remediation by Microorganisms in the Total Environment
- Microbial Assisted Phytoremediation of Contaminated Soils
- Floating Treatment Wetlands for Sustainable Wastewater Treatment
- Microbial Fuel Cells
- Nanobioremediation
- Biochar and Other Biosorbents for Bioremediation
- Proteomics Monitoring of Microbes During Biodegradation
- Gene Editing and Systems Biology Tools
- Nano-bioremediation and Multi-omics
- Metabolomics
- Metagenomics Insight into Microbial Community Analysis

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**Publisher:** Royal Society of Chemistry  
**ISBN:** 978-1-83916-486-6  
**Price:** £32.99 | \$46.00  
**Publishing date:** 24/07/2024  
**Target Audience:** Professional and scholarly, College/higher education  
**Format:** Hardback  
**Edition:** 3  
**Size:** 228 x 152 mm  
**Pages:** 207  
**BIC:** PDZ, PN, TDCT  
**THEMA:** PDZ, PND, TDCT  
**BISAC:** SCI013000, TEC012010, TEC012040

## The Science of Ice Cream

**Chris Clarke** Formerly Unilever Research and Development, UK  
**Andrew Cox** Unilever Research and Development, UK

### Synopsis

Ice cream as we recognise it today has been in existence for at least 300 years, though its origins probably go much further back in time. The updated version of this established text begins with the history of ice cream. Subsequent chapters explore the link between the microscopic and macroscopic properties and how these relate to the ultimate texture of the product. Information on nutritional aspects and developments in new products and processes for making ice cream are covered. The chapter on making ice cream better for you has been expanded and a new section on non-dairy (e.g. vegan or plant-based) ice cream is included. Additional experiments have also been added. Written by experienced industrial practitioners, the book is accessible, has authenticity and immediacy. It is ideal for undergraduate food science students and those working in the food industry.

### Brief Contents

- The Story of Ice Cream
- Colloidal Dispersions, Freezing and Rheology
- Ice Cream Ingredients
- Making Ice Cream in the Factory
- Product Assembly
- Measuring Ice Cream
- Ice Cream: A Complex Composite Material
- Nutritional Aspects of Ice Cream Formulations
- Experiments with Ice Cream and Ice Cream Products

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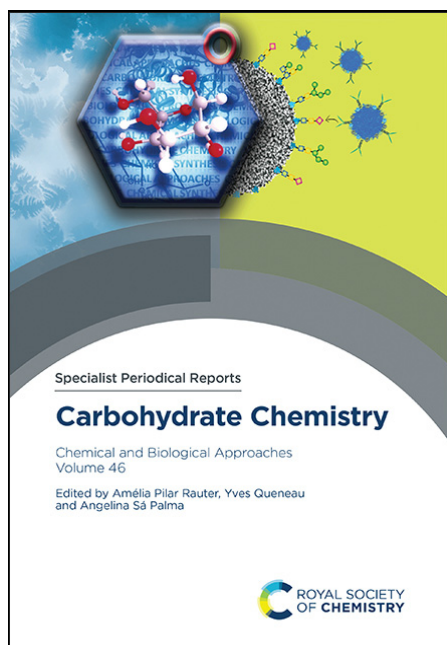
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**ISSN:** 0951-8428  
**Publisher:** Royal Society of Chemistry  
**ISBN:** 978-1-83767-217-2  
**Price:** £314.95 | \$440.00  
**Publishing date:** 19/06/2024  
**Target Audience:** Professional and scholarly  
**Format:** Hardback  
**Size:** 234 x 156 (Royal 8vo) mm  
**Pages:** 199  
**BIC:** PNN, PSBF  
**THEMA:** PNN, PSB  
**BISAC:** SC1007000, SC1013040

## Carbohydrate Chemistry Chemical and Biological Approaches Volume 46

**Amélia Pilar Rauter** Universidade de Lisboa, Portugal  
**Yves Queneau** INSA Lyon, France  
**Angelina Sá Palma** Universidade Nova de Lisboa, Portugal

### Synopsis

The understanding of the structure, recognition, and function of carbohydrates and glycoconjugates remains crucial in diverse areas at the interface of biology, chemistry and biotechnology and is driving innovation in biomedical and material sciences. This new volume contains critical reviews covering current state of the art and scientific advances in carbohydrate research. It demonstrates cross-disciplinary areas within the field of glycoscience. The book gathers contributions from speakers of the 14th International Meeting of the Portuguese Carbohydrate Group - GLUPOR 14, held in Lisbon last January and benefits any researcher who wishes to learn about the latest developments in the carbohydrate field from basic to more applied research.

### Brief Contents

- CBMcarb-DB: interface of the three-dimensional landscape of carbohydrate-binding modules
- Recent advances in stereoselective 1,2-*cis*-glycosylation
- Enabling technologies applied to glycosylation
- Sonogashira cross-coupling strategies towards nucleosides and analogues
- Gold nanocatalysed oxidation of free carbohydrates
- Polysaccharide-based films for food packaging application: the impact of carbon nanocomposites
- Brewer's yeast cell wall polysaccharides and their recognition by the innate immune system
- The bacterial toolkit for glycan recognition in the human gut

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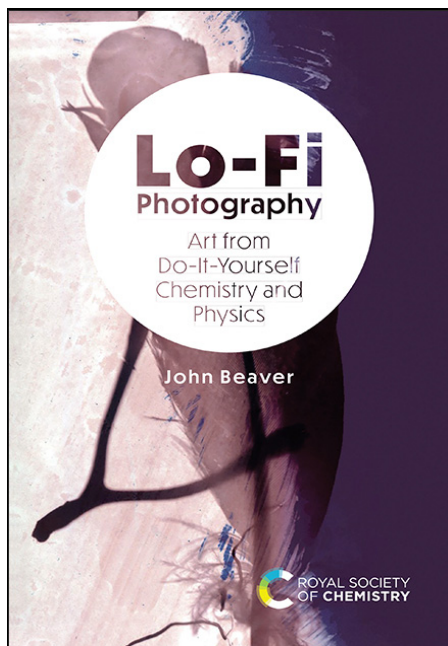
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## Lo-Fi Photography Art from Do-It-Yourself Chemistry and Physics

**John Beaver** University of Wisconsin Oshkosh, US

### Synopsis

Of all the arts, photography has perhaps the closest association with science and technology: the physics of light and colour combined with chemistry to capture images. This book is an ideal introduction to the science that lies behind photography and the array of simple methods that can be used to capture light and create images. From making homemade cameras to accessible techniques, it aims to provide all readers with access to this interesting form of creative photography via how-to guides, plans and some tips and tricks. In addition to the theory and hands-on guidance, this book also explores Lo-Fi photography as a distinct art form and provides further reading and excellent sources for diving even deeper into the world of experimental photography.

### Brief Contents

- The Art and Science of Lo-Fi Photography
- The Physics of Photography
- The Chemistry of Photography
- Victorian Photography and the Study of Light
- Safety and the Environment
- Prints, Photograms, and Cliche Verre
- Controlling Exposure for Camera-less Photography
- Anthotype and Chlorophyll Prints
- Cyanotype
- New Resinotype
- Lumen and Accelerated Lumen
- DIY Cameras: Some Principals
- Exposure Times for Slow Photography
- Cyanonegative Photography
- Ephemeral-process (EP) Photography
- Pinhole Photography
- Solargraphy
- How to Make a Tripod Mount
- Recipes and Resources
- A Camera for VLS Slow Photography

**Publisher:** Royal Society of Chemistry

**ISBN:** 978-1-83916-511-5

**Price:** £34.99 | \$48.99

**Publishing date:** 15/07/2024

**Target Audience:** General/Trade, College/higher education, Professional and scholarly

**Format:** Hback

**Size:** 228 x 152 mm

**Pages:** 328

**BIC:** AGZ, AJG, PDZ

**THEMA:** AJTF, PDZ

**BISAC:** PHO006000, PHO007000, PHO010000, PHO024000, SCIO00000

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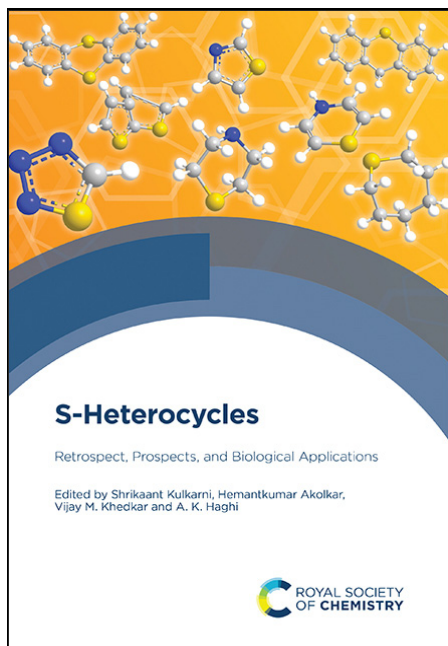
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**Publisher:** Royal Society of Chemistry

**ISBN:** 978-1-83767-401-5

**Price:** £179.00 | \$250.00

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**Target Audience:** Professional and scholarly, College/higher education

**Format:** Hardback

**Size:** 234 x 156 (Royal 8vo) mm

**Pages:** 490

**BIC:** MMG, PNN, PSB

**THEMA:** MKG, PNB, PSE

**BISAC:** MED071000, SCI007000, SCI013040

## S-Heterocycles Retrospect, Prospects, and Biological Applications

**Shrikaant Kulkarni** Filantrofia Sarvada Cleantech Pvt. Ltd., India

**Hemantkumar Akolkar** Abasaheb Marathe Arts & New Commerce Science College, India

**Vijay M Khedkar** Vishwakarma University, India

**A K Haghi** University of Coimbra, Portugal

### Synopsis

Heterocyclic compounds are vital in synthetic chemistry, pharmaceuticals, agrochemicals and materials science. This edited volume reports the latest developments in practical and selective reactions and methods involving carbenes and nitrenes and provides details of the structural diversity of heterocycles. Carbenes and nitrenes are highly reactive but controllable intermediates instrumental in a range of catalytic transformations. It will be of immense help to academics, researchers and students pursuing research and looking at the future of heterocyclic chemistry.

### Brief Contents

- Synthesis Properties and Biological Applications of 1,3-Thiazoles
- Synthesis, Properties, and Therapeutic Applications of Dithiazoles
- Isothiazole: Synthetic Strategies and Pharmacological Applications
- Synthesis Properties and biological applications of Benzothiazole
- Synthesis, Properties and Biological Applications of 2,4-Thiazolidinediones
- Synthesis Properties and biological applications of 1,2,4-Thiadiazole
- Synthesis, Properties, and Biological Applications of 1,3,4-Thiadiazole
- Synthesis Properties and Biological Applications of Thiopyrans
- Recent Developments in the Synthesis and Biological Applications of Thiazine
- Synthesis Properties and Biological Applications of Benzothiazepine
- Synthesis Properties and Biological Applications of Thiophene
- Synthesis, Properties and Biological Applications of Benzothiophene

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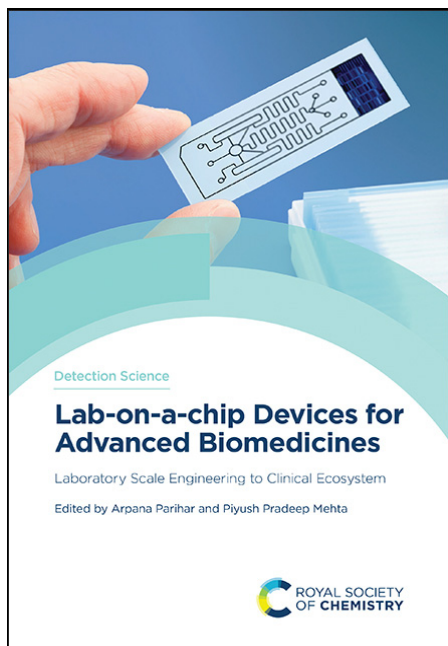
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**Series:** Detection Science

**ISSN:** 2052-3068

**Publisher:** Royal Society of Chemistry

**ISBN:** 978-1-83767-237-0

**Price:** £199.00 | \$275.00

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**Target Audience:** Professional and scholarly

**Format:** Hardback

**Size:** 234 x 156 (Royal 8vo) mm

**Pages:** 670

**BIC:** PNF, PSB, TDCW

**THEMA:** PNF, TDCW

**BISAC:** SCI013010, TEC072000

## Lab-on-a-chip Devices for Advanced Biomedicines Laboratory Scale Engineering to Clinical Ecosystem

**Arpana Parihar** CSIR-Advanced Materials and Processes Research Institute, India

**Piyush Pradeep Mehta** Cipla R & D, India

### Synopsis

Lab-on-a-chip has revolutionised the biomedical field and will transform the healthcare environment. This book offers an outlook on every phase from design to development and testing to marketplace. Aimed at career researchers looking for instruction in the topic and newcomers to the area, the book is also useful for undergraduate and postgraduate students embarking on new studies or for those interested in reading about the lab-on-a-chip platform.

### Brief Contents

- Reform, Perform, and Transform
- A Road Map of Silicon Chemistry to Multipurpose Microfluidic Chips
- Fabrication and Frontiers Aiming at Biomedicines
- Summary of 3D/4D Printed Biochips
- A Novel Platform for Disease Diagnosis
- Role of Microfluidics in Drug Encapsulation
- A Stepping Stone for Personalized Healthcare Management
- Lab-on-a-chip for *In-vitro* Diagnosis
- Artificial Intelligence and Computational Thinking for Quality Improvement in Healthcare
- An Emerging Analytical Tool for Drug Testing
- Preparation of Bioactive Compounds Using On-chip Flow Synthesis
- DIY Lab-on-a-chip Platforms
- Lab-on-a-chip Accelerating Space Research
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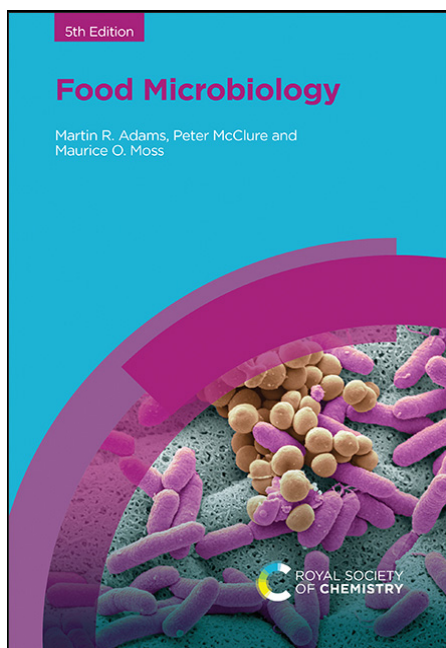
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**Publisher:** Royal Society of Chemistry

**ISBN:** 978-1-83767-182-3

**Price:** £44.99 | \$63.00

**Publishing date:** 07/08/2024

**Target Audience:** Professional and scholarly, College/higher education

**Format:** Hardback

**Edition:** 5

**Size:** 234 x 156 (Royal 8vo) mm

**Pages:** 486

**BIC:** PSG, TDCT

**THEMA:** PND, PSG, TDCT, 4CP, 4CT, 4TC

**BISAC:** SCI045000, TEC012000

## Food Microbiology

**Martin R Adams** Emeritus Professor Food Microbiology, University of Surrey, UK

**Peter McClure** Visiting Professor, University of Leeds, UK

**Maurice O Moss** Formerly University of Surrey, UK

### Synopsis

The fifth edition of this highly successful text covers the full range of topics encompassed in modern food microbiology. It provides updated and revised individual chapters and uses new examples to illustrate incidents with particular attention being paid to images. Recent statistical data on types of foodborne illness are being included as they have risen in importance since the last edition. The textbook is a thorough and accessible account designed for students in the biological sciences, biotechnology and food science. It will also be valuable to researchers, teachers and practising food microbiologists.

### Brief Contents

- The Scope of Food Microbiology
- Micro-organisms and Food Materials
- Factors Affecting the Growth and Survival of Micro-organisms in Foods
- The Microbiology of Food Preservation
- Microbiology of Primary Food Commodities
- Food Microbiology and Public Health
- Bacterial Agents of Foodborne Illness
- Non-bacterial Agents of Foodborne Illness
- Fermented and Microbial Foods
- Methods for the Microbiological Examination of Foods
- Controlling the Microbiological Quality of Foods
- Further Reading

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