This book discusses the synthesis of chitosan-based solid foams using foam templating. Solid foams with pore sizes between a few micrometres and a few millimetres are widely used in a range of established and emerging applications, including filtration, catalysis, sound and thermal insulation, human protection, and tissue engineering. [...] 


B. Bräuning

Structural and Biochemical Characterization of the YaxAB Pore-forming Toxin from Yersinia Enterocolitica

This book discusses the decoding of the lytic mechanism of an α-helical pore-forming toxin, YaxAB, composed of two different subunits. Pore-forming toxins (PFTs) are among the most common bacterial toxins. They are produced by a variety of pathogens, which infect a wide range of organisms including plants, insects and humans. [...] 


K. P. Bryliakov (Ed.)

Frontiers of Green Catalytic Selective Oxidations

The demand for novel efficient and environmentally sustainable chemo, regio- and stereoselective catalyst systems for the oxidation of organic substrates is continuously growing in line with toughening economic and environmental constraints. This book addresses these issues; it consists of eleven chapters written by world-recognized experts in green and sustainable oxidation catalysis. [...] 


S. Andrieux

Monodisperse Highly Ordered and Polydisperse Biobased Solid Foams

This book discusses the synthesis of chitosan-based solid foams using foam templating. Solid foams with pore sizes between a few micrometres and a few millimetres are widely used in a range of established and emerging applications, including filtration, catalysis, sound and thermal insulation, human protection, and tissue engineering. [...] 

2019. XXXIII, 137 p. 98 illus., 51 illus. in color. (Springer Theses) Hardcover € 129,99 | £ 109,99 € (D) 139,09 | € (A) 142,99 | CHF 153.50 ISBN 978-3-030-27831-1

V. Chandrasekhar, F. Pointillart (Eds.)

Organometallic Magnets

This volume highlights the recent advances and state of art in the experimental and theoretical studies of organometallic magnets. A plethora of organic ligands such as Mannich-base derivatives, redox-active chromophores, cyanides, Schiff base among others are used to coordinate to 3d transition metals, 4f lanthanides and 5f actinides to design the molecular magnets. [...] 


A. F. Charteris

15N Tracing of Microbial Assimilation, Partitioning and Transport of Fertilisers in Grassland Soils

This book presents innovative research on soil nitrogen cycling and nitrate leaching with a view to improving soil management and fertiliser nitrogen use efficiency and reducing nitrogen leaching losses. In this regard, nitrogen-15 (15N)-labelled fertiliser was used as a biochemical and physical stable isotope tracer in laboratory and field experiments. [...] 


S. Civiš, M. Ferus, A. Knížek

The Chemistry of CO2 and TiO2 From Breathing Minerals to Life on Mars

This book provides a comprehensive overview of the chemistry of CO2 in relation to surface interactions and photocatalytic transformation by UV radiation. The first part deals with the modelling of an anatase surface, its interaction with CO2, and the spontaneous exchange of oxygen atoms between the gas and solid phases. [...] 

This book highlights the potential of e-device technology to serve as a successful platform for multiplexed sensing, along with the methods for device fabrication, calibration, and assays in multiple applications. The subsequent sections describe e-device sensing platforms, explore their use, and outline existing limitations and future directions in device development. [...]
A. Inagawa
Ice Microfluidics
Ice as Size-Tunable Separation Field and Physicochemical Nature of Freeze Concentrated Solutions
This book explores the possibility of using micro/nanostructures formed on the doped ice surface as a novel separation platform. In addition, it provides comprehensive information on the nature of freeze-concentrated solutions (FCSs) and the ice/FCS interface, which play important roles in the natural environment and industrial processes alike. [...] 2019. XIII, 125 p. (Springer Theses) Hardcover € 119,99 | £ 109,99 € (D) 128,39 | € (A) 131,99 | CHF 141.50 ISBN 978-981-13-8808-8

H. Hong
Advances in Computational Toxicology
Methodologies and Applications in Regulatory Science
This book provides a comprehensive review of both traditional and cutting-edge methodologies that are currently used in computational toxicology and specifically features its application in regulatory decision making. [...] 2019. XVII, 412 p. (Challenges and Advances in Computational Chemistry and Physics, Volume 30) Hardcover € 229,99 | £ 199,99 € (D) 246,09 | € (A) 252,99 | CHF 271.50 ISBN 978-3-030-25123-9

J. Halet (Ed.)
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The legacy of Marcel Sergent
This volume dedicated to the memory of Marcel Sergent who was a leader in this field for many years, addresses past achievements and recent developments in this vibrant area of research. Large classes of ligated transition metal clusters are produced either exclusively or most reliably by means of high-temperature solid-state reactions. [...] 2019. IX, 193 p. 109 illus., 73 illus. in color. (Structure and Bonding, Volume 180) Hardcover € 229,99 | £ 199,99 € (D) 246,09 | € (A) 252,99 | CHF 271.50 ISBN 978-3-030-25123-9

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B. Halton
Some Forgotten Chemists
This book comprises seventeen independent essays on little remembered chemists whose contributions have had significant impact on chemistry and society. Among these chemists, readers will find names such as Alexander Borodin and Sir William Crookes, whose fame is known but not their chemistry. [...] 2020. VIII, 164 p. 45 illus., 15 illus. in color. (Perspectives on the History of Chemistry) Hardcover € 109,99 | £ 99,99 € (D) 117,69 | € (A) 120,99 | CHF 130.00 ISBN 978-3-030-16402-7

S. Francese (Ed.)
Emerging Technologies for the Analysis of Forensic Traces
This book provides a line of communication between academia and end users/practitioners to advance forensic science and boost its contribution to criminal investigations and court cases. [...] 2019. XXII, 275 p. 84 illus., 70 illus. in color. (Advanced Sciences and Technologies for Security Applications) Hardcover € 119,99 | £ 109,99 € (D) 128,39 | € (A) 131,99 | CHF 141.50 ISBN 978-3-030-20541-6

B. Han, T. Wu (Eds.)
Green Chemistry and Chemical Engineering
This expanded, revised, and updated second edition of Innovations in Green Chemistry and Green Engineering provides a comprehensive introduction to the state-of-the-art in this key area of sustainability research. Processes that meet the objectives of green chemistry and chemical engineering minimize waste and energy use, and eliminate toxic by-products. [...] 2nd ed. 2019. XIX, 700 p. 449 illus., 157 illus. in color. (Encyclopedia of Sustainability Science and Technology Series) Hardcover € 329,99 | £ 279,99 € (D) 353,09 | € (A) 362,99 | CHF 389.00 ISBN 978-1-4939-9059-7

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G. Levi

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This book explores novel computational strategies for simulating excess energy dissipation alongside transient structural changes in photoexcited molecules, and accompanying solvent rearrangements. It also demonstrates in detail the synergy between theoretical. [...] 2019. XXXVIII, 208 p. 63 illus., 56 illus. in color. (Springer Theses) Hardcover
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Progress in the Chemistry of Organic Natural Products 110
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This book comprehensively covers researches on enzymatic polymerization and related enzymatic approaches to produce well-defined polymers, which is valuable and promising for conducting green polymer chemistry. [...] 2019. X, 389 p. 224 illus., 56 illus. in color. (Green Chemistry and Sustainable Technology) Hardcover
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G. Lebon (Ed.)

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H. S. Joyner (Ed.)

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Rheology of Semisolid Foods comprehensively covers the rheological behaviors and rheological testing of semisolid foods. Individual chapters focus on semisolid food structure, rheological and sensory behaviors, testing of various semisolid food behaviors, and factors that impact those behaviors. [...] 2019. IX, 410 p. 146 illus., 106 illus. in color. (Food Engineering Series) Hardcover
€ 119,99 | £ 109,99
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ISBN 978-3-030-27133-6

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Progress in the Chemistry of Organic Natural Products 109
This volume comprises three reviews. The first describes isolation, structure determination, syntheses, and biochemistry of the low molecular weight compounds of the secretion of exocrine glands of termites with emphasis to pheromones and defensive compounds. [...] 2019. V, 450 p. 433 illus., 20 illus. in color. (Progress in the Chemistry of Organic Natural Products, Volume 109) Hardcover
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S. S. Muthu (Ed.)
Environmental Footprints of Recycled Polyester

This book examines the environmental footprints of recycled polyesters, highlighting the benefits and impact of recycling polyester waste and preparing it to replace virgin polyester in the raw material stage. It also discusses the importance of recycled polyester as a sustainable raw material in textile production.

2020. V, 99 p. 31 illus., 20 illus. in color. (Textile Science and Clothing Technology) Hardcover
€ 84,99 | £ 74,99
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J. McEntire, A. W. Kennedy (Eds.)
Food Traceability
From Binders to Blockchain

This book provides a picture of food traceability for all aspects of the food system, recognizing the unique differences, challenges, and “states of the industry” in different types of food products, as well as the different pressures and opportunities at different points in the supply chain and the research that has already been done. [...] 

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### Recycled Polyester
**Author:** S. S. Muthu (Ed.)
**Title:** Recycled Polyester
**Description:** This book provides an overview of recycled polyesters, which are an important sustainable raw material in textile production. It discusses the manufacturing methods and the unique properties of recycled polyesters manufactured using the different methods.
**Year:** 2020
**Pages:** V, 88 p.
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### Enzyme-Mediated Ligation Methods
**Author:** T. Nuijens, M. Schmidt (Eds.)
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**Description:** This volume discusses different enzyme-catalyzed ligation methodologies for a variety of different chemical transformations. This book wants readers to view enzymes as a powerful tool in both academic and industrial research.
**Year:** 2019
**Pages:** XI, 371 p.
**Format:** Molecular Biology, Volume 2012 Hardcover
**Price:** € 129.99 | £ 109.99
**ISBN:** 978-1-4939-9545-5

### Fluorescence in Industry
**Author:** B. Pedras (Ed.)
**Title:** Fluorescence in Industry
**Description:** This book gathers 12 outstanding contributions that reflect state-of-the-art industrial applications of fluorescence, ranging from the pharmaceutical and cosmetics industries to explosives detection, aeronautics, instrumentation development, lighting, photovoltaics, water treatment and much more.
**Year:** 2019
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**ISBN:** 978-3-030-20032-9

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**Pages:** VII, 53 p.
**Format:** Molecular Science Softcover
**Price:** € 49.99 | £ 44.99
**ISBN:** 978-3-030-22555-1

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**Title:** Mechanics of Fibrous Materials and Applications
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**Year:** 2020
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Dietary Patterns, Food Chemistry and Human Health

This brief discusses the influence of modern food production on dietary patterns and chronic diseases. In four concise chapters the authors explore different aspects of this topical issue. Chapter one highlights the importance of advanced glycation end products in food and describes how high levels of these complex molecules can lead to an increase in chronic diseases. [...]

2019. VI, 51 p. 10 illus., 2 illus. in color. (SpringerBriefs in Molecular Science) Softcover

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Modern awareness of nutrition issues can be understood correctly if considered the destination of a historic journey, the critical aspects and outcomes of which have led to the current situation. In fact, over time there have been changes to scientific knowledge, food availability and processing and preservation methods.

A. Tarabella

Food Products Evolution: Innovation Drivers and Market Trends

This book highlights the latest advances and outlines future trends in aqueous solvation studies from the perspective of hydrogen bond transition by charge injection, which reconciles the solvation dynamics, molecular nonbond interactions, and the extraordinary functionalities of various solutes on the solution bond network and properties.

C. Q. Sun

Solvation Dynamics

A Notion of Charge Injection

This book reviews the wide range of products and applications of solid state fermentation as well as the development of this cultivation technology over the last years. In this book, readers will also learn about the challenges of solid state fermentation, including process management, reactor design, scale-up and the formation of process-specific products.

S. Steudler, A. Werner, J. J. Cheng (Eds.)

Solid State Fermentation

Research and Industrial Applications

K. Spilling (Ed.)

Biofuels from Algae

Methods and Protocols

D. Steinborn

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S. D. Sharma, A. R. Bhagat, S. Parisi

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This book describes the consequences of an increased demand for food for human consumption for the global food industry. In four concise chapters, the authors explore the trend for the overproduction of food, the concomitant diminution of raw materials and the increase in environmental concerns. [...]
D. Zúñiga-Dávila, F. González-Andrés, E. Ormeño-Orrillo (Eds.)

Microbial Probiotics for Agricultural Systems
Advances in Agronomic Use

The book is a comprehensive compilation of the most recent advances in the practical approach of the use of microbial probiotics for agriculture. Unlike the rest of the publications about biofertilizers, this book bridges the gap between the lab studies (molecular, physiological, omics, etc.) and the agronomic application.

2019. XV, 256 p. 45 illus., 18 illus. in color. (Sustainability in Plant and Crop Protection) Hardcover
€ 109,99 | £ 99,99
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W. Zhang, W. Yi

Pot, Atom, and Step Economy (PASE) Synthesis

This book emphasizes the atom economy aspect of multicomponent reactions. It describes how this methodology has been applied to several named reactions. Among the “twelve principles of green chemistry”, atom economy addresses ‘synthetic efficiency’. A multicomponent reaction can be defined as an energy, cost, and time efficient method for organic synthesis. [...]

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J. Xu, Q. Wang, S. Li, F. Deng

Solid-State NMR in Zeolite Catalysis

Solid-State NMR Characterization of Heterogeneous Catalysts and Catalytic Reactions provides a comprehensive account of state-of-the-art solid-state NMR techniques and the application of these techniques in heterogeneous catalysts and related catalytic reactions. It includes an introduction to the basic theory of solid-state NMR and various frequently used techniques. [...]

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M. Tokeshi (Ed.)

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This book focuses on state-of-the-art microfluidic research in medical and biological applications. The top-level researchers in this research field explain carefully and clearly what can be done by using microfluidic devices. Beginners in the field—undergraduates, engineers, biologists, medical researchers—will easily learn to understand microfluidic-based medical and biological applications. [...]

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This book covers the topic of eddy current nondestructive evaluation, the most commonly practiced method of electromagnetic nondestructive evaluation (NDE). It emphasizes a clear presentation of the concepts, laws and relationships of electricity and magnetism upon which eddy current inspection methods are founded. [...]

Y. Estrin, Y. Bréchet, J. Dunlop, P. Fratzl (Eds.)
Architectured Materials in Nature and Engineering
Archimats
This book deals with a group of architectured materials. These are hybrid materials in which the constituents (even strongly dissimilar ones) are combined in a given topology and geometry to provide otherwise. [...] 2019. XIX, 452 p. 278 illus., 167 illus. in color. (Springer Series in Materials Science, Volume 282) Hardcover €159,99 | £139,99 € (D) 171,19 | € (A) 175,99 | CHF 189.00 ISBN 978-3-030-19969-2

J. Fu, Z. Jin, J. Wang (Eds.)
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A. Kopp Alves (Ed.)
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This book presents a wide range of synthesis and characterization techniques to produce ceramic nanomaterials specially developed to be used in environmental applications. The book covers synthesis using hydrothermal, chemical vapor deposition, sol-gel, emulsification, magneto-sputtering, among other processes and modern characterization techniques with detail. [...]
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H. Khanbareh, V. Y. Topolov, C. R. Bowen
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A. Nevin, M. Sawicki (Eds.)
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This volume highlights recent research efforts in the conservation and investigation of works of art on wood. Through eleven case studies it showcases different experimental methods ranging from X-ray analysis of objects to the study of cross-sections made from micro-samples. [...] 2019. X, 226 p. 107 illus., 85 illus. in color. (Cultural Heritage Science) Hardcover € 99,99 | £ 89,99 € (D) 106,99 | € (A) 109,99 | CHF 118.00 ISBN 978-3-030-11053-6

A. K. Nayak, M. S. Hasnain
Plant Polysaccharides-Based Multiple-Unit Systems for Oral Drug Delivery
This book explores the use of various plant polysaccharides for pharmaceutical purposes, including drug delivery. It examines the exploitation of plant polysaccharides’ auxiliary functions to enhance drug release, stability, bioavailability and target specificity. [...] 2019. XIII, 129 p. 81 illus., 60 illus. in color. (SpringerBriefs in Applied Sciences and Technology) Softcover € 49,99 | £ 44,99 € (D) 53,49 | € (A) 54,99 | CHF 59.00 ISBN 978-981-10-6783-9

J. D. Musgraves, J. Hu, L. Calvez (Eds.)
Springer Handbook of Glass
This handbook provides comprehensive treatment of the current state of glass science from the leading experts in the field. Opening with an enlightening contribution on the history of glass, the volume is then divided into eight parts. [...] 2019. XXXVI, 1841 p. 1400 illus. in color. (Springer Handbooks) Hardcover € 326,17 | £ 279,99 € (D) 349,00 | € (A) 358,79 | CHF 384.50 ISBN 978-3-319-93726-7

I. Moreno-Gomez
A Phenomenological Mathematical Modelling Framework for the Degradation of Bioresorbable Composites
This book presents a generalised computational model for the degradation of resorbable composites, using analytic expressions to represent the interwoven phenomena present during degradation. [...] 2019. XLIII, 325 p. 383 illus., 262 illus. in color. (Springer Theses) Hardcover € 169,99 | £ 149,99 € (D) 181,89 | € (A) 186,99 | CHF 200.50 ISBN 978-3-030-04989-8

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