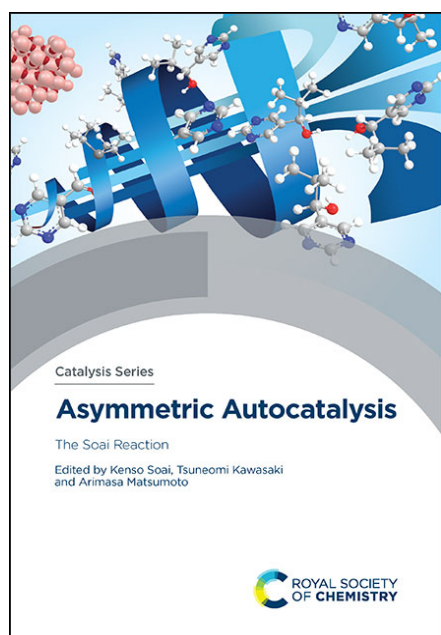


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THEMA: PNN, PNRD
BISAC: SCI013010, SCI013050

Asymmetric Autocatalysis The Soai Reaction

Kenso Soai Tokyo University of Science, Japan
Tsuneomi Kawasaki Tokyo University of Science, Japan
Arimasa Matsumoto Nara Women's University, Japan

Synopsis

Asymmetric autocatalysis is a reaction in which chiral compound acts as a chiral catalyst for its own production. The process is an automultiplication of the chiral compound. It has advantages over non-autocatalytic reactions because the amount of catalyst increases and no loss and deterioration of catalyst is observed. Providing a comprehensive introduction to the topic of autocatalysis and an in-depth review of the current state of the research this book is a great resource for anyone with an interest in organic synthesis, catalysis and chirality.

Brief Contents

- Asymmetric Autocatalysis: The Soai Reaction. An Overview
- Asymmetric Autocatalysis Initiated by Enantioenriched Chiral Organic Compounds: The Link Between Circularly Polarized Light and Nearly Enantiopure Organic Compounds
- Asymmetric Autocatalysis Triggered by the Chirality of Minerals, Organic Crystals and Surfaces
- Absolute Asymmetric Synthesis in the Soai Reaction
- Isotope Chirality and Cosmochemistry
- Reaction Mechanism in the Study of Amplifying Asymmetric Autocatalysis
- Spontaneous Emergence of Chirality in Autocatalytic Cycle Models of the Soai Reaction
- Mechanism of the Soai Reaction - DFT and Kinetic Computations of the Catalytic Cycle
- Stochastic Modelling of Asymmetric Autocatalysis in the Soai Reaction
- Demystifying the Soai Reaction
- Elucidation of Soai's Asymmetric Autocatalysis
- Structure Analysis of Asymmetric Autocatalysis by X-ray Crystallography and Circular Dichroism Spectroscopy
- Symmetry Breaking in a Heterogenous Phase: Intriguing Intermediates and Side-products During Asymmetric Amplification
- Unusual Aspects of Asymmetric Induction and Amplification Observed in the Soai Reaction

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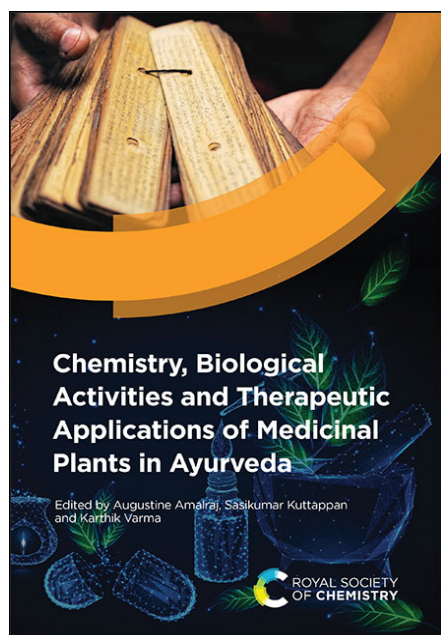
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BIC: PNN, PSB, PST
THEMA: PNN, PSB, PST
BISAC: SC1007000, SC1011000, SC1013040

Chemistry, Biological Activities and Therapeutic Applications of Medicinal Plants in Ayurveda

Augustine Amalraj Aurea Biolabs, India
Sasikumar Kuttappan Aurea Biolabs, India

Synopsis

Ayurvedic Medicine, or Ayurveda, is a traditional Indian health care system. Research into the medicinal plants utilised in Ayurveda is becoming a global endeavour, and large pharmaceutical companies are investing in novel drug discovery from Ayurvedic sources as a number of clinical studies have demonstrated efficacy of natural products from ayurvedic plant extracts against common ailments such as arthritis and diabetes. This book represents a comprehensive source on the biochemistry and mechanisms of the pharmacological effects of natural products from Ayurvedic sources. A valuable resource for researchers in natural products and alternative sources of bioactive compounds in drug discovery.

Brief Contents

- Introduction to Ayurvedic Formulations
- The Role of Turmeric in Ayurvedic Formulation and Phytochemistry
- Ginger and its Applications in the Development of Foods
- Phytochemistry and Therapeutic Potential of Boswellia
- Phytochemical and Therapeutic Potential of Withania Somnifera
- The Role of Ocimum sanctum in Ayurvedic Formulations
- Phytochemical Evaluation and use of Pepper Species
- Bacopa monnieri (Brahmi)
- Therapeutic Potential of Triphala in Ayurveda
- Pharmacological and Phytochemical Evaluation of Emblica Officinalis
- Galangal - The Promising Herb in Ayurvedic Formulations
- Phytochemical and Pharmacological Aspects of Cissus Quadrangularis
- Ayurvedic Knowledge Inspired Approach to Modern Drug Discovery
- Ayurvedic Formulation and Their Clinical Uses
- Ayurvedic and Traditional Evidences to Clinical Trials: An Overview

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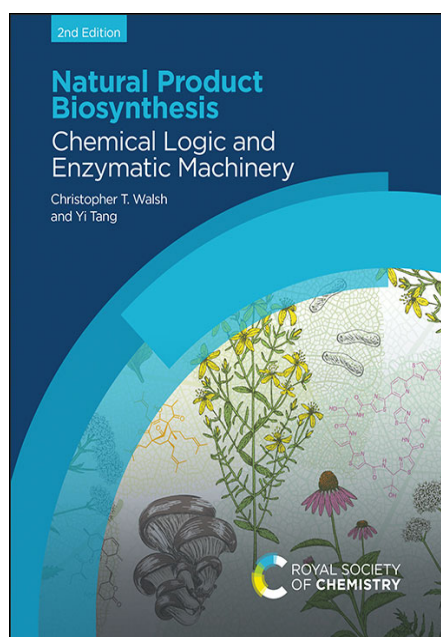
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BIC: PNN, PSBZ, PSD
THEMA: PNN, PSD, PSE
BISAC: SC1007000, SC1013040, SC1049000

Natural Product Biosynthesis Chemical Logic and Enzymatic Machinery

Christopher T Walsh Stanford University, USA
Yi Tang University of California Los Angeles, USA

Synopsis

This completely revised and updated edition provides a description of the types of natural products, the biosynthetic pathways that enable the production of these molecules, and an update on the discovery of novel products in the post-genomic era. This second edition integrates many new findings into the sets of principles of the first edition that parsed categories of natural product chemistries into the underlying enzymatic mechanisms and the catalytic machinery for building the varied and complex end product metabolites. This text will serve as a reference point for chemists of every subdiscipline, including synthetic organic chemists and medicinal chemists.

Brief Contents

- Major Classes of Natural Product Scaffolds and Enzymatic Biosynthetic Machinery
- The Chemical Logic for Major Reaction Types
- Polyketide Natural Products
- Peptide Natural Products I: RiPPs
- Peptide Natural Products II: Nonribosomal Peptides
- Isoprenoids/Terpenes
- Alkaloids I
- Purine- and Pyrimidine-derived Natural Products
- Phenylpropanoid Natural Product Biosynthesis
- Alkaloids II: Indole Terpenes
- Natural Product Oligosaccharides and Glycosides
- Oxygenases, Thwarted Oxygenases, and Oxygen-dependent Halogenases
- S-Adenosylmethionine
- Pericyclases in Natural Product Biosynthesis
- Isolation and Characterization: Gene-independent Approaches
- Natural Products in the Post Genomic Era

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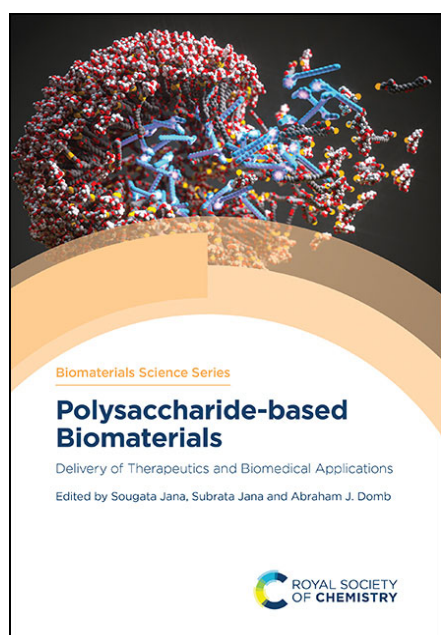
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Target Audience: Professional and scholarly

Format: Hardback

Size: 234 x 156 (Royal 8vo) mm

Pages: 579

BIC: TDCB, TDCW, TGM

THEMA: TDCW, TGML

BISAC: TEC021000, TEC059000

Polysaccharide-based Biomaterials Delivery of Therapeutics and Biomedical Applications

Sougata Jana Bangur Super Speciality Hospital, India
Subrata Jana Indira Gandhi National Tribal University, India

Abraham J Domb Hebrew University of Jerusalem, Israel

Synopsis

Addressing the properties that make polysaccharide-based biomaterials so desirable, from biodegradability to biocompatibility, this book looks at the benefits they bring across a range of applications, from imaging to tissue engineering and drug delivery. This book will appeal to those working in materials science, biomedical and chemical engineering, and pharmaceutical technologies.

Brief Contents

- Polysaccharide-based Biomaterials: Overview
- Alginate-based Carriers for Delivery of Therapeutics and Biomedicine
- Alginate-based Carriers for Transdermal Drug Delivery
- Chitosan-based Nanocarriers for Drug Delivery
- Hyaluronic Acid in Drug Delivery
- Dextran in Delivery of Therapeutics
- Guar Gum-based Biomaterials in Delivery of Therapeutics
- Gellan Gum Based Drug Delivery Carriers
- Locust Bean Gum-A Potential Drug Delivery Carrier
- Pectin-based Vehicles for Delivery of Therapeutics
- Pullulan in Delivery of Therapeutics
- Carrageenan-based Carriers for Therapeutic Delivery
- Xanthan Gum in Drug Carriers
- Cellulose-based Biomaterials in Drug Delivery Applications
- Starch-based Drug Delivery System
- Tamarind Seed Polysaccharide in Drug Delivery
- Chitosan-derived Biomaterials in Cancer Therapeutics and Imaging
- Polysaccharide-based Scaffolds for Tissue Engineering Application

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ISSN: 2398-0656

Publisher: Royal Society of Chemistry

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Price: £159.00 | \$220.00

Publishing date: 19/10/2022

Target Audience: Professional and scholarly

Format: Hardback

Size: 234 x 156 (Royal 8vo) mm

Pages: 255

BIC: KNDF, PNF, PSB

THEMA: KNAC, PNF, PSB

BISAC: SCI007000, SCI013010, TEC012020

Bio- and Nano-sensing Technologies for Food Processing and Packaging

Ashutosh Kumar Shukla Ewing Christian College, India

Synopsis

This edited volume presents a collection of ten chapters discussing the current trends of bio- and nano-sensing technologies for processing and packaging of food items. Starting with an overview chapter which introduces the field, the book then goes on to discuss novel applications related to preservation, authenticity and safety of foods. Intelligent food packaging and nano-based sensing are covered and the book finishes with a look towards the pros and cons of how this will revolutionise sensing throughout the food sector. It will be of benefit to scientists and practising professionals conducting research in the areas of food processing, contamination and food safety and academic researchers and graduate students studying food technology or food engineering.

Brief Contents

- Sensors for the Food Industry: An Introduction
- Bio and Nano Sensors in the Food Industry
- Bio-based Sensing - Role of Natural Dyes in Food Freshness Indicators
- Organic-Inorganic Hybrid Materials for Active Packaging Applications
- Bio-based and Nanostructured Hybrids for Green and Active Food Packaging
- Smart Food Sensing and IoT Technologies
- Nano-engineered Sensors for Food Processing
- Nanobiomaterials for Food Packaging Sensor Applications
- Nanotechnology to Detect the Microbial Toxins in Stored Food
- Precautionary Measures for Developing Nano-sensors for the Food Industry

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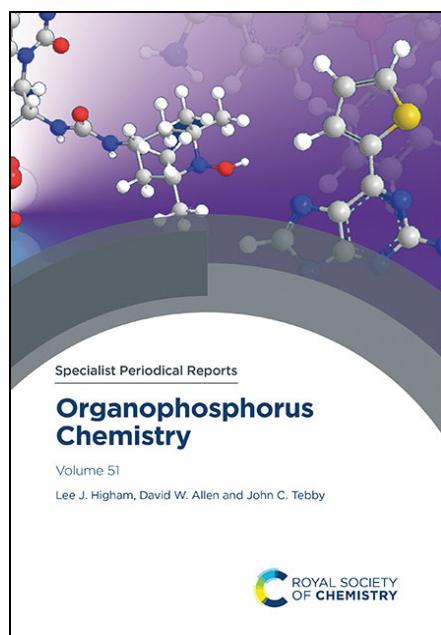
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Pages: 460
BIC: PNN, TDC
THEMA: PNN, TDC
BISAC: SCI013040

Organophosphorus Chemistry Volume 51

Lee J Higham Newcastle University, UK
David W Allen Sheffield Hallam University, 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, trivalent and quinquevalent phosphorus acids, phosphonium salts and P-Ylides to the recent developments in green synthetic approaches in organophosphorus chemistry. With an emphasis on interdisciplinary content, this book will appeal to the worldwide organic chemistry and engineering research communities.

Brief Contents

- Tertiary Phosphines: Preparation
- Trivalent Phosphorus Acid Derivatives
- Phosphine Chalcogenides
- Phosphonium Salts and P-Ylides
- Quinquevalent Phosphorus Acids
- Pentacoordinated and Hexacoordinated Compounds
- Phosphazenes
- Green Synthetic Approaches in Organophosphorus Chemistry: Recent Developments

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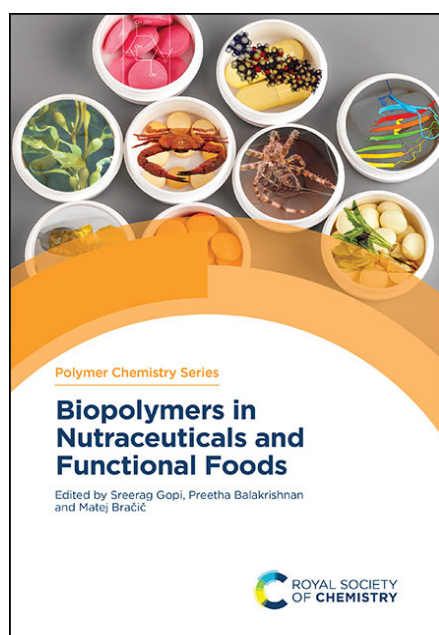
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BIC: KNDF, PNNP, PSB, TDCT

THEMA: PND, PNNP, PSB

BISAC: SC1007000, TEC012000, TEC021000

Biopolymers in Nutraceuticals and Functional Foods

Sreerag Gopi ADSO Naturals, India

Preetha Balakrishnan ADSO Naturals, India

Matej Bračič University of Maribor, Slovenia

Synopsis

This comprehensive book covers new applications of biopolymers in the research and development of industrial scale nutraceutical and functional food grade products. This is the first interdisciplinary book to address this area and it is essential reading for those who produce the functional biopolymer materials as well as those who seek to incorporate them into appropriate nutraceutical, food and drug delivery products.

Brief Contents

- Basic Aspects and Properties of Biopolymers
- Delivery Systems and Coatings for Improving Stability, Bioavailability and Efficacy
- Food-grade Biopolymers as Platforms for Nutrient Delivery
- Bioavailability and Delivery Mechanisms by Nanoparticles
- Plant-based Bioactive Components as Encapsulating Agents
- Adulteration and Safety Issues
- Biobased Technologies for the Prevention and Treatment of Cancer
- Microencapsulation Liposomal Technologies
- Physicochemical Properties, Characterizations, and Quantitative Analysis in Industrial Scale
- Plant- and Marine-based Biopolymers for Efficient Nutrient Delivery
- Industrial Wastes and By-products
- Technologies on Nutraceutical and Natural Plant-based Extracts
- Biopolymer-based Food Additives and their Uses
- Encapsulating and Binding Agents in Bioactive Compounds and Functional Food Products
- Controlled Delivery Systems for Nutraceutical Products and Functional Foods
- Food-based Polymers for Encapsulation and Delivery of Bioactive Compounds
- Nanotechnology-based Formulation for Alternative Medicines and Natural Products

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