[PDF] 1 Bioactive Phytocompounds New Approaches In The

Recognizing the pretentiousness ways to acquire this ebook 1 bioactive phytocompounds new approaches in the is additionally useful. You have remained in right site to begin getting this info. acquire the 1 bioactive phytocompounds new approaches in the associate that we pay for here and check out the link.

You could purchase lead 1 bioactive phytocompounds new approaches in the or get it as soon as feasible. You could speedily download this 1 bioactive phytocompounds new approaches in the after getting deal. So, considering you require the books swiftly, you can straight acquire it. Its therefore completely simple and in view of that fats, isnt it? You have to favor to in this announce

Modern Phytomedicine-Iqbal Ahmad 2006-12-13 This timely and original handbook paves the way to success in plant-based drug development, systematically addressing the issues facing a pharmaceutical scientist who wants to turn a plant compound into a safe and effective drug. Plant pharmacologists from around the world demonstrate the potentials and pitfalls involved, with many of the studies and experiments reported here published for the first time. The result is a valuable source of information unavailable elsewhere.

Nanophytomedicine-Sarwar Beg 2020-07-27 Nanophytomedicine is a field that involves the application of nanomedicine-based systems to phytotherapy and phytopharmacology. This book assesses the clinical successes and failures of nanophytomedicine and also highlights emerging concepts in this field. The content is divided into three sections, the first of which describes core issues in the pharmaceuticals industry in connection with the successes, failures and prospects of nanophytomedicine. The second section highlights recent advances in phytomedicine formulation development based on nanotechnology approaches, while also discussing a variety of nanocarrier systems for the successful delivery of phytomedicines. Focusing on the clinical perspective, the third section addresses the current clinical status of nanophytomedicine as a single drug therapy or combinatorial drug therapy, pharmacovigilance, pharmacokinetics, drug interactions and toxicological profiles, while also providing concluding remarks on recent experimental findings, and considering ethical issues & regulatory challenges in nanophytomedicine. Given its scope, the book offers a valuable guide for early career researchers, young scientists, master level students, academics and industrial scientists working in various healthcare fields, e.g. the pharmaceutical and biological sciences, life sciences, biotechnology, biomedical engineering, and nanobiotechnology.

Urban Health Risk and Resilience in Asian Cities-R.B. Singh 2020-04-06 This book focuses on understanding urban vulnerability and risk mitigation, advancing good health and wellbeing, and analysing resilience measures for various Asian cities. Today, cities are the dominant human habitat, where a large number of environmental, social, cultural and economic factors have impacts on human health and wellbeing. Cities consist of complex, dynamic, socio-ecological, and technological systems that serve multiple functions in human health and wellbeing. Currently half of Asia’s population is urban, and that figure is expected to rise to 66 percent by 2050. Since urban areas are often most vulnerable to hazards, the people living in them need good health infrastructure facilities and technological support at various scales. As such, the need of the hour is to enhance the adaptive capacity, strengthen resilience, reduce vulnerability, and take risk mitigation measures in urban areas, which requires a systematic approach based on science-policy interface that is
Transformative, trans-disciplinary and integrative for a sustainable urban future. Global sustainable development goals are closely tied to urban human health and wellbeing: (1) the third of the United Nations’ Sustainable Development Goals is to “Ensure healthy lives and promote wellbeing for all at all ages” and (2) the eleventh is to “Make cities inclusive, safe, resilient and sustainable”. By addressing these goals, this book offers a highly useful resource for anyone concerned with healthy and resilient cities in Asia, today and tomorrow.

Functional and Preservative Properties of Phytochemicals - Bhanu Prakash 2020-02-15

Functional and Preservative Properties of Phytochemicals examines the potential of plant-based bioactive compounds as functional food ingredients and preservative agents against food-spoiling microbes and oxidative deterioration. The book provides a unified and systematic accounting of plant-based bioactive compounds by illustrating the connections among the different disciplines, such as food science, nutrition, pharmacology, toxicology, combinatorial chemistry, nanotechnology and biotechnological approaches. Chapters present the varied sources of raw materials, biochemical properties, metabolism, health benefits, preservative efficacy, toxicological aspect, safety and Intellectual Property Right issue of plant-based bioactive compounds. Written by authorities within the field, the individual chapters of the book are organized according to the following practical and easy to consult format: introduction, chapter topics and text, conclusions (take-home lessons), and references cited for further reading. Provides collective information on recent advancements that increase the potential use of phytochemicals Fosters an understanding of plant-based dietary bioactive ingredients and their physiological effects on human health at the molecular level Thoroughly explores biotechnology, omics, and bioinformatics approaches to address the availability, cost, and mode of action of plant-based functional and preservative ingredients

Phytochemicals as Lead Compounds for New Drug Discovery - Chukwuebuka Eguna 2019-09-07

Phytochemicals as Lead Compounds for New Drug Discovery presents complete coverage of the recent advances in the discovery of phytochemicals from medicinal plants as models to the development of new drugs and chemical entities. Functional bioactive compounds of plant origin have been an invaluable source for many human therapeutic drugs and have played a major role in the treatment of diseases around the world. These compounds possess enormous structural and chemical diversity and have led to many important discoveries. This book presents fundamend concepts and factors affecting the choice for plant-based products, as well as recent advances in computer-aided drug discovery and FDA drug candidacy acceptance criteria. It also details the various bioactive lead compounds and molecular targets for a range of life-threatening diseases including cancer, diabetes, and neurodegenerative diseases. Written by a global team of experts, Phytochemicals as Lead Compounds for New Drug Discovery is an ideal resource for drug developers, phytochemists, plant biochemists, food and medicinal chemists, nutritionists and toxicologists, chemical ecologists, taxonomists, analytical chemists, and other researchers in those fields. It will also be very valuable to professors, students, and researchers in this domain. Presents fundamental concepts and factors affecting choice for plant-based products Details the FDA drug candidacy acceptance criteria, including bottlenecks and way forward Highlights recent advances in computational-based drug discovery Focuses on the discovery of new drugs and potential druggable targets for the treatment of chronic diseases of world importance

Translational Medicine - Robert A. Meyers 2018-03-02

This reference work gives a compete overview of the different stages of drug development using a translational approach. The book is structured in different parts, following the different stages in drug development. Almost half of the work is dedicated to core of drug discovery using a translational approach, the identification of appropriate targets and screening methods for the identification of compounds interacting with these targets. The rest of book covers the whole downstream pipeline after the identification of lead compounds, such as bioavailability issues, identification of appropriate drug delivery venues, production and scaling issues and preclinical trials. As has been the case with other works in the encyclopedia, the book is made up of long, comprehensive and authoritative chapters, written by outstanding researchers in the field.
**Phytopharmaceuticals**-Durgesh Nandini Chauhan 2021-05-13 Medicinal plants contain a variety of bioactive compounds, (also referred to as phytochemicals), in the leaves, stems, flowers and fruits. This book covers these bioactive compounds, their available sources, how the bioactive molecules are isolated from the plants, the biochemistry, structural composition and potential biological activities. Also discussed are the pharmacological aspects of medicinal plants, phytochemistry and biological activities of different natural products, ethnobotany and medicinal properties, as well as a novel dietary approach for various disease management and therapeutic potential. The importance of phytopharmaceuticals of plants and potential applications in the food and pharma industries is highlighted.

**Phytomedicine**-Parimelazhagan Thangaraj 2020-04-22 Phytomedicine has become more important and gained constant improvement today for the betterment of health. Herbal medicine plays a significant role in the development of new drugs, contrary to the modern medicinal systems. For more than a decade, there has been a drastic improvement in phytomedicine across the world. This growth has reached a higher level in development by pharmaceutical industries everywhere. People have drifted toward herbal medication and practices for their food and health care. Therefore, in order to create abundant interest in the research of phytosciences, this book is one of the better reference tools. The bioactive compounds in plants need to be explored to know the scientific value and therapeutic properties of the medicinal plants against many diseases. This book contains chapters that are relevant to the advanced research in herbal medicines and will enlighten readers to the importance of medicinal plants as daily sources of nutrition and cures for diseases. This book highlights the unique features of the plants that have not been studied so far for their therapeutic potential. To prove the efficacy of medicinal plants, they have to be studied, examined, and scientifically verified. Hence, this book will better serve the researchers working under different aspects of phytomedicine. Features • The information provided through scientific validation is useful to study the pharmacological activity of herbals and their administration in the modern era. • The readers can find clear understanding in the research and development of phytopharmaceutical drugs. • The ideas incorporated in each chapter reveal the knowledge gained in studying the biological activities of the compounds present in the plant, which are indeed most worthy for the development of drugs. • The harvesting of new ideology toward modern scientific technologies that are employed in the field of pharmacological research.

**Phytochemicals as Bioactive Agents**-Wayne R. Bidlack 2000-03-16 Phytochemicals as Bioactive Agents focuses on the mechanisms of action of phytochemicals identified as displaying bioactivity in the prevention of cancer, heart disease and other diseases, and the prospects for developing functional foods containing these bioactive compounds. An internationally recognized group of experts presents the latest research findings on the antimutagenic and anticarcinogenic effects of tea and tea constituents; chemoprevention provided by plants in the family Cruciferae and genus Allium by altering carcinogen metabolism; anticarcinogenic effects of carotenoids and curcuminoids; the chemistry and application of alfalfa saponins; the bioactive components of rice bran and rice oil; the effects of garlic on lowering serum cholesterol; and using phytochemicals to optimize gastrointestinal tract health and function. Also included are chapters on: strategies to identify bioactive phytochemicals in foods; the design, conduct and interpretation of clinical trials to test phytochemicals for expected bioactivity; compounds that have potential use as phytochemical antimicrobial agents (PAM) in food processing; and designing bioactive functional foods. This book will be of interest to food scientists and technologists, food process engineers, biochemists, nutritionists, public health professionals, and entrepreneurs involved in the design, processing, and marketing of new functional food products.

**Drug Discovery**-Omboon Vallisuta 2012-03-16 This book, Drug Discovery Research in Pharmacognosy provides a full picture of research in the area of pharmacognosy with the goal of drug discovery from natural products based on the traditional knowledge or practices. Several plants that have been used as food show their potential as chemopreventive agents and the claims of many medicinal plants used in traditional medicine are now supported by scientific studies. Drug Discovery Research in Pharmacognosy is a promising road map which will help us find medicine for all!
Bioactive Phytochemicals-Javed Ahamad 2020-10-28 Natural bioactive compounds from medicinal plants are inexplicably diverse in chemical structure and biological properties. The unmet therapeutic requirements for various diseases serve as a guide for researchers to study natural compounds. These studies are intended to isolate, identify the structural characterization and eventually discover the pharmacological activity of natural compounds from their plant sources with the goal of treating specific diseases. Bioactive Phytochemicals: Drug Discovery to Product Development explores the scope and approaches of drug discovery from natural products. Chapters in the book cover information about the cultivation, collection and processing of medicinal plants, the methods and high throughput techniques for isolation and characterization of bioactive phytochemicals and pharmacological screening for activity, formulation and quality control. Information about the regulations specified for natural medicinal products in different region of the world is also presented, followed by a concluding chapter devoted to the role of natural herbal products for treatment of human diseases such as cancer, cardiovascular diseases, diabetes, obesity, inflammation and neurological disorders. Each chapter concludes with a general reference section, which is a bibliographic guide to more advanced texts. The contributing authors for this volume are drawn from a rich blend of experts in various areas of herbal medicine which encompass herbal drug discovery to product development. The concise and organized layout along with a broad coverage of phytochemistry and drug discovery makes this book a suitable reference for students of medicinal chemistry, researchers and industry professionals interested in herbal product development.

A Compendium of Essays on Alternative Therapy-Arup Bhattacharya 2012-01-20 A Compendium of Essays on Alternative Therapy is aimed at both conventional and alternate therapy practitioners, besides serving as an educational tool for students and lay persons on the progress made in the field. While this resource is not all-inclusive, it does reflect the current theories from different international experts in the field. This will hopefully stimulate more research initiatives, funding, and critical insight in the already increasing demand for alternate therapies that has been evidenced worldwide.

Water Extraction of Bioactive Compounds-Herminia Dominguez 2017-09-20 Water Extraction of Bioactive Compounds: From Plants to Drug Development draws together the expert knowledge of researchers from around the world to outline the essential knowledge and techniques required to successfully extract bioactive compounds for further study. The book is a practical tool for medicinal chemists, biochemists, pharmaceutical scientists and academics working in the discovery and development of drugs from natural sources. The discovery and extraction of bioactive plant compounds from natural sources is of growing interest to drug developers, adding greater fuel to a simultaneous search for efficient, green technologies to support this. Particularly promising are aqueous based methods, as water is a cheap, safe and abundant solvent. The book is a detailed guide to the fundamental concepts and necessary equipment needed to successfully undertake such processes, supported by application examples and highlighting the most influential variables. Part 1 begins with a thorough introduction to plants as sources of drugs, highlighting strategies for the discovery of novel bioactive constituents of botanicals, the need for standardization and a move toward more rational and greener techniques in the field, the development of plant-based extraction processes and pretreatments for the efficient extraction. Part 2 then reviews a broad range of available techniques, including sections on conventional hot water extraction and pressurized hot water extraction in a range of settings. Intensified processes are then discussed in detail, including sections on microwave-assisted processes, ultrasound-assisted processes and enzyme assisted extraction. Covers the theoretical background and range of techniques available to researchers, helping them to select the most appropriate extraction method for their needs. Presents up-to-date and cutting edge applications by international experts. Highlights current use and future potential for industrial scale applications. Offers a thorough introduction to plants as sources of drugs, highlighting strategies for the discovery of novel bioactive constituents of botanicals.

Significance, Prevention and Control of Food Related Diseases-Hussaini Makun 2016-04-13 Food-borne diseases are major causes of morbidity and mortality in the world. It is estimated that about 2.2 million
people die yearly due to food and water contamination. Food safety and consequently food security are therefore of immense importance to public health, international trade and world economy. This book, which has 10 chapters, provides information on the incidence, health implications and effective prevention and control strategies of food-related diseases. The book will be useful to undergraduate and postgraduate students, educators and researchers in the fields of life sciences, medicine, agriculture, food science and technology, trade and economics. Policy makers and food regulatory officers will also find it useful in the course of their duties.

**Phytomedicine** - Rouf Ahmad Bhat 2021-03-01 Phytomedicine: A Treasure of Pharmacologically Active Products from Plants aims to present updated knowledge of plant-based medicines in terms of their research and development, production, and utilization, from the viewpoint of sustainability and by using the latest technologies. The book explores different phytometabolites on a mass scale, coupled with the efficacy, performance and applicability on target organisms to treat curable and fatal diseases. Readers will find a coherent package of phytotherapeutic information regarding inclusive assortment of research based, scientific amplitude of metabolites from the plant world encompassing various action plans. Information is presented sequentially regarding phytochemistry, biological activity and the serviceable aspects of bioactive compounds. The book also addresses various advancements and achievements of novel drugs from plants using molecular and enzymatic activities, and various technological tools in an eco-friendly fashion. Discusses phytotherapeutic properties for a wide range of medical conditions, including anti-pyretic, anti-infective, anti-malarial, Anti-AIDS, anti-diabetic, anti-cancerous, immune-modulatory applications Includes a discussion of synergistic effects of formulations and antagonistic drug interactions Addresses advancements and achievements of novel plant-based drugs using molecular, enzymatic activities and various technological tools in an eco-friendly fashion

**Fighting Multidrug Resistance with Herbal Extracts, Essential Oils and Their Components** - Lyndy McGaw 2013-05-24 Many bacterial diseases affect animals, causing important economic losses in livestock. Subtherapeutic antibiotic use in production animals as antibiotic growth promoters has been implicated as a causative factor in the development of resistance of bacterial pathogens toward several classes of antimicrobials, some of which are used therapeutically in humans. This has led to the banning of antibiotic growth promoters by the European Union, and such a precedent may be followed in other countries. Alternatives to antibiotic growth promoters are necessary to enable the production of animal protein to keep pace with the expanding world population. One approach is to use plant extracts or essential oils as supplements to provide beneficial effects, including direct antibacterial activity and stimulation of the immune system, or enhancement of ruminal digestion. The risk of resistance developing to a combination of phytochemicals is lower than the risk of resistance against a single antibiotic, and synergistic effects of plant constituents may contribute to the overall activity of the preparation.

**OMICS** - Debmalya Barh 2013-03-26 With the advent of new technologies and acquired knowledge, the number of fields in omics and their applications in diverse areas are rapidly increasing in the postgenomics era. Such emerging fields—including pharmacogenomics, toxicogenomics, regulomics, spliceomics, metagenomics, and environomics—present budding solutions to combat global challenges in biomedicine, agriculture, and the environment. OMICS: Applications in Biomedical, Agricultural, and Environmental Sciences provides valuable insights into the applications of modern omics technologies to real-world problems in the life sciences. Filling a gap in the literature, it offers a broad, multidisciplinary view of current and emerging applications of omics in a single volume. Written by highly experienced active researchers, each chapter describes a particular area of omics and the associated technologies and applications. Topics covered include: Proteomics, epigenomics, and pharmacogenomics Toxigenomics and the assessment of environmental pollutants Applications of plant metabolomics Nutrigenomics and its therapeutic applications Microalgae omics and omics approaches in biofuel production Next-generation sequencing and omics technology for transgenic plant analysis Omics approaches in crop improvement Engineering dark-operative chlorophyll synthesis Computational regulomics Omics techniques for the analysis of RNA splicing New fields, including metagenomics, glycomics, and miRNA Breast cancer biomarkers for early detection Environomics
strategies for environmental sustainability. This timely book explores a wide range of omics application areas in the biomedical, agricultural, and environmental sciences. Throughout, it highlights working solutions as well as open problems and future challenges. Demonstrating the diversity of omics, it introduces readers to state-of-the-art developments and trends in omics-driven research.

**Advances in Food and Nutrition Research** - Steve Taylor 2012 Details scientific developments in the broad areas of food science and nutrition and are intended to provide those in academia and industry with the latest information on emerging research in these constantly evolving sciences. This title provides information for food scientists and nutritionists.

**Olive and Olive Oil Bioactive Constituents** - Dimitrios Boskou 2015-08-15 The market is flooded with products posing as elixirs, supplements, functional foods, and olive oil alternatives containing phenols obtained from multiple olive sources. This technically-oriented book will be of value to nutritionists and researchers in the biosciences. It unravels the body of science pertaining to olive minor constituents in relation to new chemical knowledge, technological innovations, and novel methods of recovery, parallel to toxicology, pharmacology, efficacy, doses, claims, and regulation. Topics include: the biological importance of bioactive compounds present in olive products; developments and innovations to preserve the level of bioactives in table olives and olive oil; and importance of variety, maturity, processing of olives, storage, debittering of olives and table olives as a valuable source of bioactive compounds. Presents detailed information concerning the claimed benefits of olive oil and discusses the permitted health claim to EFSA on oils with natural phenolics. Recovery of bioactive constituents from olive waste is comprehensively described. Explores the relationship between phenolic levels and sensory evaluation. Features chapters on the clinical and cellular mechanisms and health effects of olive, important for functional foods research.

**Phytochemicals** - Toshiki Asao 2018-11-07 Phytochemicals provides original research work and reviews on the sources of phytochemicals, and their roles in disease prevention, supplementation, and accumulation in fruits and vegetables. The roles of anthocyanin, flavonoids, carotenoids, and taxol are presented in separate chapters. Antioxidative and free radical scavenging activity of phytochemicals is also discussed. The medicinal properties of Opuntia, soybean, sea buckthorn, and gooseberry are presented in a number of chapters. Supplementation of plant extract with phytochemical properties in broiler meals is discussed in one chapter. The final two chapters include the impact of agricultural practices and novel processing technologies on the accumulation of phytochemicals in fruits and vegetables. This book mainly focuses on medicinal plants and the disease-preventing properties of phytochemicals, which will be a useful resource to the reader.

**Bioactive Phytochemicals: Drug Discovery to Product Development** - Mahendra Rai 2013-05-24 Fighting Multidrug Resistance with Herbal Extracts, Essential Oils and their Components offers scientists a single source aimed at fighting specific multidrug-resistant (MDR) microorganisms such as bacteria, protozoans, viruses and fungi using natural products. This essential reference discusses herbal extracts and essential oils used or under investigation to treat MDR infections, as well as those containing antimicrobial activity that could be of potential interest in future studies against MDR microorganisms. The need to combat multidrug-resistant microorganisms is an urgent one and this book provides important coverage of mechanism of action, the advantages and disadvantages of using herbal extracts, essential oils and their components and more to aid researchers in effective antimicrobial drug discovery. Addresses the need to develop safe and effective approaches to coping with resistance to all classes of antimicrobial drugs. Provides readers with current evidence-based content aimed at using herbal extracts and essential oils in antimicrobial drug development. Includes chapters devoted to the activity of herbal products against herpes, AIDS, tuberculosis, drug-resistant cancer cells and more.
Natural bioactive compounds from medicinal plants are inexplicably diverse in chemical structure and biological properties. The unmet therapeutic requirements for various diseases serve as a guide for researchers to study natural compounds. These studies are intended to isolate, identify the structural characterization and eventually discover the pharmacological activity of natural compounds from their plant sources with the goal of treating specific diseases. Bioactive Phytochemicals: Drug Discovery to Product Development explores the scope and approaches of drug discovery from natural products. Chapters in the book cover information about the cultivation, collection and processing of medicinal plants, the methods and high throughput techniques for isolation and characterization of bioactive phytochemicals and pharmacological screening for activity, formulation and quality control. Information about the regulations specified for natural medicinal products in different region of the world is also presented, followed by a concluding chapter devoted to the role of natural herbal products for treatment of human diseases such as cancer, cardiovascular diseases, diabetes, obesity, inflammation and neurological disorders. Each chapter concludes with a general reference section, which is a bibliographic guide to more advanced texts. The contributing authors for this volume are drawn from a rich blend of experts in various areas of herbal medicine which encompass herbal drug discovery to product development. The concise and organized layout along with a broad coverage of phytochemistry and drug discovery makes this book a suitable reference for students of medicinal chemistry, researchers and industry professionals interested in herbal product development.

Phytochemicals in Vegetables: A Valuable Source of Bioactive Compounds-Spyridon A. Petropoulos 2018-11-15 Phytochemical compounds are secondary metabolites that plants usually synthesize for their own protection from pests and diseases. Phytochemical biosynthesis is also triggered under specific environmental conditions. They cannot be classified as essential nutrients since they are not required at specific amounts for life sustenance. Phytochemicals in Vegetables: A Valuable Source of Bioactive Compounds presents information about the phytochemical (common and scarce) content of several cultivated vegetables, as well as their health and therapeutic effects based on in vitro, in vivo, animal and clinical studies. Chapters also cover recent research findings about their mode of action, bioavailability, interactions with other biological matrices and pharmacokinetics. Moreover, the book gives special attention to the factors that may alter and modulate bioactive compound content, including both cultivation practices and post-harvest treatments that aim towards the production of high quality and healthy foods. Researchers, public health workers, consumers and members of the food industry will find this book to be a useful reference on the variety of phytochemicals present in vegetables.

Phytochemicals-Venketeshwer Rao 2015-09-30 Global dietary recommendations emphasize the consumption of plant-based foods for the prevention and management of chronic diseases. Plants contain many biologically active compounds referred to as phytochemicals or functional ingredients. These compounds play an important role in human health. Prior to establishing the safety and health benefits of these compounds, they must first be isolated, purified, and their physico-chemical properties established. Once identified, their mechanisms of actions are studied. The chapters are arranged in the order from isolation, purification and identification to in vivo and clinical studies, there by covering not only the analytical procedures used but also their nutraceutical and therapeutic properties.

Biotechnological Production of Bioactive Compounds-Madan L. Verma 2019-07-20 Biotechnological Production of Bioactive Compounds provides insights on the most recent innovations, trends, concerns, solutions and practical challenges encountered in the fields of enzyme technology and nanobiotechnology for the production of bioactive materials with extra health benefits. As nanobiotechnology has improved the bioactive extraction process significantly, many bioactives, including bioflavonoids, omega-3 fatty acids, biopigments and low calorie sugar substitutes are a pivotal part of the food industry. The book highlights the production of extra health benefits “bioactives” from plants and microbes and explains how the extraction efficiency of bioactives molecules improves significantly with the recent advances in nanobiotechnology. Researchers in the fields of biochemical engineering, biotechnology, bioremediation, environmental sustainability and those in pharma industries will find the information in this book very helpful and illuminating. Outlines technological advances in...
bioactives extraction Covers bioflavonoids, biopigments, omega-3-fatty acids and low sugar substitutes Explains the mechanisms of Green cargo (biogenic nanoparticles) for the delivery of bioactive molecules

Essential Oils-Mozaniel Santana de Oliveira 2020-09-09 Essential oils have been used for centuries by communities all over the world in various areas and for various purposes. These include uses in medicine, flavoring, perfumery, cosmetics, insecticides, fungicides, and bactericides, among others. They are natural and biodegradable substances, generally nontoxic or with low toxicity to humans and other animals. Therefore, constant research in these areas represents an alternative for new and more efficient drugs with less side effects as well as obtaining new products and supplies. This book provides a comprehensive overview of the diverse applications of essential oils in a variety of human activities with a focus on the most important evidence-based developments in the various fields of knowledge.

Health Benefits of Secondary Phytocompounds from Plant and Marine Sources-Hafiz Ansar Rasul Suleria 2021-01-21 This new volume, Health Benefits of Secondary Phytocompounds from Plant and Marine Sources, looks at a selection of important issues and research topics on phytochemicals in plant-based therapeutics, covering bioactive compounds from both plant and marine sources. Natural products and their bioactive compounds are increasingly utilized in preventive and therapeutic medication, as pharmaceutical supplements, as well as in functional foods and nutraceuticals, all of which have potentially positive effects on health and have preventive and curative properties for various diseases and health conditions. The first section of the book, on Bioactive Compounds from Plant Sources, describes the concept of extraction of bioactive molecules from plant sources, both conventional and modern extraction techniques, available sources, biochemistry, structural composition, and potential biological activities. Advanced extraction techniques, such as enzyme-assisted, microwave-assisted, ultrasound-assisted, pressurized liquid extraction, and super critical extraction techniques, are described in detail.

Preparation of Phytopharmaceuticals for the Management of Disorders-Chukwuebuka Egbuna 2020-11-03 Preparation of Phytopharmaceuticals for the Management of Disorders: The Development of Nutraceuticals and Traditional Medicine presents comprehensive coverage and recent advances surrounding phytopharmaceuticals, nutraceuticals and traditional and alternative systems of medicines. Sections cover the concepts of phytopharmaceuticals, their history, and current highlights in phytomedicine. Also included are classifications of crude drugs, herbal remedies and toxicity, traditional and alternative systems of medicine, nanotechnology applications, and herbal cosmetology. Final sections cover applications of microbiology and biotechnology in drug discovery. This book provides key information for everyone interested in drug discovery, including medicinal chemists, nutritionists, biochemists, toxicologists, drug developers and health care professionals. Students, professors and researchers working in the area of pharmaceutical sciences and beyond will also find the book useful. Includes the history and current highlights in phytomedicine, along with classifications of crude drugs, herbal drug technologies and herbal cosmetology Provides detailed information on herbal remedies and toxicity, traditional and alternative systems of medicine, and applications of microbiology and biotechnology in drug discovery Discusses the nutritional and health benefits of nutraceuticals and how they help in the management and treatment of metabolic diseases

Phytopharmaceuticals-Durgesh Nandini Chauhan 2021-06-29 Medicinal plants contain a variety of bioactive compounds, (also referred to as phytochemicals), in the leaves, stems, flowers and fruits. This book covers these bioactive compounds, their available sources, how the bioactive molecules are isolated from the plants, the biochemistry, structural composition and potential biological activities. Also discussed are the pharmacological aspects of medicinal plants, phytochemistry and biological activities of different natural products, ethnobotany and medicinal properties, as well as a novel dietary approach for various disease management and therapeutic potential. The importance of phytopharmaceutical of plants and potential applications in the food and pharma industries is highlighted.
Bioactive Phytochemicals-Vijay Kumar Gupta 2012-01-01 Plant kingdom represents a vast emporium of untapped medicinal potential and play a vital role for the development of new drugs. The medicinal value of drug plants is due to the presence of some chemical compounds in the plant tissue that produce a definite physiological action on human body. Early societies learned through trial and error that many plants contained substances with significant curative properties and over the years the natural products became used in more refined ways leading ultimately to the use of pure single component "active ingredient" as drugs. However, the demands of modern medicine requires the evaluation of these plant bioactives using scientific methodologies and assays in order to gauge their potential in the management of the disease. Therefore, extracts and biomolecules with promising activity are unscrupulously screened for efficacy in order to determine if these products have a potential for commercial development. The present book "Bioactive Phytochemicals: Perspectives for Modern Medicine Vol. 1" presents the vast body of research on the subject and includes fifteen research and review communications written by eminent scientists and researchers from India, Brazil, China, Japan, Mexico, Singapore and South Africa and includes topics like - Bioactive pregnanes and cardenolides from Nerium olander; Chemical characteristics and health promoting potentials of flavonoids in the management of diabetes; Limonene: A systematic overview for its chemistry and bioactivity; Phytochemicals against liver disease I: Recent progress in the treatment of AFLD and NAFLD by natural drug products and their active chemical entities, in China and other countries; Phytochemicals against liver disease II: Recent progress in the treatment of liver fibrosis by natural drug products and their active chemical entities, in China and other countries; Anti-allergic leads from Indian medicinal plant; Essential oils from Brazilian Amazonia; Phytochemical and pharmacological profile of plants belonging to Strychnos genus; Phytochemicals as natural antimicrobials; Biomedical potentials of filamentous marine cyanobacterial natural products; Natural bioactive compound from marine plants with anticancer potential; The lauraceae alkaloids; Phytochemical and pharmacological profile of Lepidium sativum Linn.; Chemistry and pharmacology of selected Asian and American medicinal species of Justicia; Biological activities of Anoectochilus formosanus Hayat and its active component. We hope that this volume shall generate further database and interest for the benefit of academicians, researchers and scientists working on bioactive phytochemicals who shall find the compendium very useful and indispensable in their relevant research pursuits.

Bioactive Compounds in Phytomedicine-Iraj Rasooli 2012-01-18 There are significant concerns regarding the potential side effects from the chronic use of conventional drugs such as corticosteroids, especially in children. Herbal therapy is less expensive, more readily available, and increasingly becoming common practice all over the world. Such practices have both their benefits and risks. However, herbal self-therapy might have serious health consequences due to incorrect self-diagnosis, inappropriate choice of herbal remedy or adulterated herbal product. In addition, absence of clinical trials and other traditional safety mechanisms before medicines are introduced to the wider market results in questionable safe dosage ranges which may produce adverse and unexpected outcomes. Therefore, the use of herbal remedies requires sufficient knowledge about the efficacy, safety and proper use of such products. Hence, it is necessary to have baseline data regarding the use of herbal remedies and to educate future health professionals about various aspects of herbal remedies.

Ingredients Extraction by Physicochemical Methods in Food-Alexandru Mihai Grumezescu 2017-07-26 Ingredients Extraction by Physicochemical Methods, Volume Four, the latest release in the Handbook of Food Bioengineering series, reveals the most investigated extraction methods of ingredients and their impact on the food industry. This resource describes types of ingredients that may be extracted through physico-chemical methods (i.e. specific plants, fruits, spices, etc.), along with their particularities to help readers understand their biological effect and solve research problems. The extraction methods of bioactive compounds and functional ingredients are discussed, along with information on green ingredient extraction strategies to help reduce harmful environmental and health effects. Extraction methods in this book can be applied for multiple purposes within the food industry, such as ingredients separation for food development, the purification and separation of toxic compounds from a food mixture, and the recovery of natural bioactive compounds. Offers
advanced knowledge and skills of physiochemical analysis for ingredient extraction. Presents various methods for food component analysis to evaluate structure function relations in changing environments. Discusses the importance of enzymes during processing and storage of foods. Includes methods to evaluate and enhance extraction, such as ultrasound, to produce novel foods more efficiently.

**Green Synthesis, Characterization and Applications of Nanoparticles** - Ashutosh Kumar Shukla 2018-11-26

Green Synthesis, Characterization and Applications of Nanoparticles shows how eco-friendly nanoparticles are engineered and used. In particular, metal nanoparticles, metal oxide nanoparticles, and other categories of nanoparticles are discussed. The book outlines a range of methodologies and explores the appropriate use of each. Characterization methods include spectroscopic, microscopic and diffraction methods, but magnetic resonance methods are also included as they can be used to understand the mechanism of nanoparticle synthesis using organisms. Applications covered include targeted drug delivery, water purification and hydrogen generation. This is an important research resource for those wishing to learn more about how eco-efficient nanoparticles can best be used. Theoretical details and mathematical derivations are kept to a necessary minimum to suit the need of interdisciplinary audiences and those who may be relatively new to the field. Explores recent trends in growth, characterization, properties and applications of nanoparticles. Gives readers an understanding on how they are applied through the use of case studies and examples. Assesses the advantages and disadvantages of a variety of synthesis and characterization techniques for green nanoparticles in different situations.

**Pharmacognosy** - Shagufta Perveen 2019-06-19

Pharmacognosy is a term derived from the Greek words for drug (pharmakon) and knowledge (gnosis). It is a field of study within Chemistry focused on natural products isolated from different sources and their biological activities. Research on natural products began more than a hundred years ago and has continued up to now with a plethora of research groups discovering new ideas and novel active constituents. This book compiles the latest research in the field and will be of interest to scientists, researchers, and students.

**Phytochemicals in Human Health** - Venketeshwer Rao 2020-02-12

Naturally present bioactive compounds in plants are referred to as "phytochemicals" and are being studied extensively for their role in human health. Studies have shown that they can have an important role to play in the prevention and management of several human diseases. Recognizing the increasing interest in this area, this book is being published in response to the need for more current information globally about phytochemicals and their role in human health. Chapters of the book are authored by internationally recognized authors who are experts in their respective fields of expertise. The chapters represent both original research as well as up-to-date and comprehensive reviews. We are sure that the book will be an important reference source meeting the needs of a wide range of interest groups.

**Sustainable Production of Bioactive Pigments** - Wee Sim Choo 2021-05-24

Cold Pressed Oils - Mohamed Fawzy Ramadan 2020-07-23

Cold Pressed Oils: Green Technology, Bioactive Compounds, Functionality, and Applications creates a multidisciplinary forum of discussion on recent advances in chemistry and the functionality of bioactive phytochemicals in lipids found in cold pressed oils. Chapters explore different cold pressed oil, focusing on cold press extraction and processing, composition, physicochemical characteristics, organoleptic attributes, nutritional quality, oxidative stability, food applications, and functional and health-promoting traits. Edited by a team of experts, the book brings a diversity of developments in food science to scientists, chemists, nutritionists, and students in nutrition, lipids chemistry and technology, agricultural science, pharmaceuticals, cosmetics, nutraceuticals and many other fields. Thoroughly explores novel and functional applications of cold pressed oils. Shows the difference between bioactive compounds in cold pressed oils and oils extracted with other traditional methods. Elucidates the stability of cold pressed oils in comparison with oils extracted using other traditional
Methods

Computational Phytochemistry - Satyajit Dey Sarker 2018-05-02
Computational Phytochemistry explores how recent advances in computational techniques and methods have been embraced by phytochemical researchers to enhance many of their operations, thus refocusing and expanding the possibilities of phytochemical studies. By applying computational aids and mathematical models to extraction, isolation, structure determination and bioactivity testing, researchers can extract highly detailed information about phytochemicals and optimize working approaches. This book aims to support and encourage researchers currently working with, or looking to incorporate, computational methods into their phytochemical work. Topics in this book include computational methods for predicting medicinal properties, optimizing extraction, isolating plant secondary metabolites and building dereplicated phytochemical libraries. The role of high-throughput screening, spectral data for structural prediction, plant metabolomics and biosynthesis are all reviewed, before the application of computational aids for assessing bioactivities and virtual screening are discussed. Illustrated with detailed figures and supported by practical examples, this book is an indispensable guide for all those involved with the identification, extraction and application of active agents from natural products. Includes step-by-step protocols for various computational and mathematical approaches applied to phytochemical research Features clearly illustrated chapters contributed by highly reputed researchers Covers all key areas in phytochemical research, including virtual screening and metabolomics

Phytochemicals as Bioactive Agents - Wayne R. Bidlack 2000-03-16
Phytochemicals as Bioactive Agents focuses on the mechanisms of action of phytochemicals identified as displaying bioactivity in the prevention of cancer, heart disease and other diseases, and the prospects for developing functional foods containing these bioactive compounds. An internationally recognized group of experts presents the latest research findings on the antimutagenic and anticarcinogenic effects of tea and tea constituents; chemoprevention provided by plants in the family Cruciferae and genus Allium by altering carcinogen metabolism; anticarcinogenic effects of carotenoids and curcumin; the chemistry and application of alfalfa saponins; the bioactive components of rice bran and rice oil; the effects of garlic on lowering serum cholesterol; and using phytochemicals to optimize gastrointestinal tract health and function. Also included are chapters on: strategies to identify bioactive phytochemicals in foods; the design, conduct and interpretation of clinical trials to test phytochemicals for expected bioactivity; compounds that have potential use as phytochemical antimicrobial agents (PAM) in food processing; and designing bioactive functional foods. This book will be of interest to food scientists and technologists, food process engineers, biochemists, nutritionists, public health professionals, and entrepreneurs involved in the design, processing, and marketing of new functional food products.

Risk Assessment of Phytochemicals in Food - Deutsche Forschungsgemeinschaft (DFG) 2011-08-24
Providing the scientific background on the risk and safety assessment of toxicity in phytochemicals in everyday food, this monograph contains the pros and cons of 20 testing methods, with comments by the internationally acknowledged and independent DFG Senate Commission on Food Safety. Supplemented by 40 poster contributions on phytochemicals and their effects.