Antiviral Compounds From Plants | 65e3baf6edc6202815bd3607324ddae5

First published in 1986, this book describes the most important medicinal plants in tropical West Africa and similar humid tropical climates. After a short introduction about early traditional medicine, the bulk of the book gives an account of locally occurring plants, grouped by their medicinal actions. Plants that affect the cardiovascular and nervous systems are discussed, as are those with antibiotic, insecticidal and molluscicidal properties. Those which affect the hormonal systems of humans are catalogued and so are others that act as adrenal-cortex, sex and thyroid hormones. There is a full botanical index, which includes the commonly found synonyms for many of the plants and the work is illustrated by the author's own water colours. It may be of particular interest and use to pharmacists, biochemists, botanists and pharmacologists and of great value to those who exploit locally available resources in treating diseases in tropical areas.

This book consists of an introductory overview of secondary metabolites, which are classified into four main sections: microbial secondary metabolites, plant secondary metabolites, secondary metabolites through tissue culture technique, and regulation of secondary metabolite production. This book provides a comprehensive account on the secondary metabolites of microorganisms, plants, and the production of secondary metabolites through biotechnological approach like the plant tissue culture method. The regulatory mechanisms of secondary metabolite production in plants and the pharmaceutical and other applications of various secondary metabolites are also highlighted. This book is considered as necessary reading for microbiologists, biotechnologists, biochemists, pharmacologists, and botanists who are doing research in secondary metabolites. It should also be useful to MSc students, MPhil and PhD scholars, scientists, and faculty members of various science disciplines.
This laboratory manual will be welcomed by all research scientists involved in the extraction, fractionation and isolation of compounds from natural materials, especially those working with plants. The book is clear and concise, and features practical exercises to illustrate the techniques described in every chapter. It will provide an invaluable research reference tool for those scientists investigating the potential benefits of ethnomedicine and the properties of chemicals isolated from natural flora.

This book was developed from the proceedings of the 2nd North American Tannin Conference held in Houghton, Michigan, June, 1991. The objective of this conference was to bring together people with a common interest in plant polyphenols and to promote interdisciplinary interactions that will lead to a better understanding of the importance of these substances. Another objective of this conference was to extend the 'tannin family' by making special efforts to encourage participation by scientists outside the United States, obtain more coverage of the hydrolyzable tannins, and further broaden the scope of coverage from the initial concentration on forestry and forest products. Comparison of the contents of this book with 'Chemistry and Significance of Condensed Tannins' that resulted from the proceedings of the 1st North American Tannin Conference shows the degree that these objectives were met. In developing the second conference, care was taken to assure that this book extends rather than duplicates the coverage of the first conference. Therefore, the two books should be taken together to obtain an up to date coverage of the broad area of chemistry and significance of plant polyphenols. Our thanks go to the authors who so kindly contributed chapters and so patiently responded to our requests. We thank the Conference Assistance Staff of Michigan Technological University for their help in planning and conducting the conference.

Antiviral chemotherapy is still far away from the high success rate of antibacterial therapy, but the situation is improving. In recent years, several new substances have been found to be active against a variety of viral infections. This special issue presents the current possibilities and the most promising new approaches for treatment of AIDS, hepatitis B and C, papillomas and infections by members of the Herpesviridae family. Most antiviral drugs continue to be nucleoside or nucleotide analogs. Lamivudine, e.g., originally developed against HIV, and famciclovir, developed against herpesviruses, have both turned out to be very effective against hepatitis B virus. Several new substances which have proven active against HIV, cytomegalovirus, varicella/zoster virus or herpes simplex virus, are described in detail. No adequate therapy currently exists against hepatitis C, but the expression of some potential target molecules of the virus opens up ways to search for specific inhibitors. Further topics considered are the use of immunostimulatory drugs, and the role of viral and cellular resistance mechanisms in long-term antiviral therapy. Providing the latest data on the usefulness and limitations of licensed and experimental drugs, this issue will be of interest to all medical virologists and infectious disease specialists as well as to hepatologists and transplantation specialists.

Flavonoids are abundant secondary metabolites found in plants and fungi that have various roles in these organisms, including pigmentation, cell signalling, plant defence and inter-organism communication. Due to their
abundance in nature, flavonoids are also important components of the human diet, and the last four decades have seen an intense study focused on the structure characterization of flavonoids and on their roles in mammal metabolism. This book reviews most of the well-established activities of flavonoids, and we also present more recent research studies on the area of flavonoids, including the chemical aspects of structure characterization of flavonoids, the biosynthesis of flavonoids in model plants as well as their role in abiotic stress situations and in agriculture, the role of flavonoids in metabolism and health and their importance in foods, from consumption to their use as bioactive components.

"Get the most from your study time, and experience a realistic USMLE simulation with Rapid Review Microbiology and Immunology, 3rd Edition, by Drs. Ken S. Rosenthal and Michael J. Tan. This new reference in the highly rated Rapid Review Series is formatted as a bulleted outline with photographs, tables and figures that address all the microbiology and immunology information you need to know for the USMLE. And with Student Consult functionality, you can become familiar with the look and feel of the actual exam by taking a timed or a practice test online that includes 400 USMLE-style questions."--Publisher's website.

During the past fifty years, thousands of natural products have been isolated from plants, fungi, and bacteria. Apart from intense searches by pharmaceutical companies for medicinals and the concentrated effort mounted by the National Cancer Institute, many of these have not been tested in biological systems. The major reasons for this appear to be, at least, twofold. First, individual researchers looking for biologically active natural products will often isolate only small amounts of material sufficient to determine a structure and calculate the specific activity for their particular bioassay systems: insufficient funds preclude re-isolating the compound unless industrial potential is foreseen. Second, the difficulty with which original structures were proved prior to 1972. This required the isolation of relatively large quantities of a natural product and there followed extensive degradation, elemental analyses of the parent and its fragments, then synthesis, piece by piece, of the molecule. All this took time and energy. No wonder that when the structure was proved the chemist was enervated. And coupled to this was the fact that many chemists were not trained to test their materials in biological systems. In contrast, today a natural product can be isolated, its mass and molecular formula determined and, if there is some serendipity, crystals may be obtained for single crystal x-ray analysis. If conditions are near perfect, it is possible to isolate and identify a novel compound in a month.

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 fundament 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

Since the advent of synthetic drugs, the use of natural products has diminished. However, the diversity of natural molecules still surpasses those from synthetic compounds, and this ensures that natural products will continue to be important for drug discovery. Besides, many of the currently used synthetic drugs have side-effects and often expensive. While there are several books on natural drugs, this volume covers multiple curative aspects of natural chemicals. It is a complete review of medicinally active metabolites produced by nature and looked at from different approaches. The book describes the effects of natural extracts and/or their isolated compounds and also gives an update of their modes of action, production and commercialisation.

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

Herpes simplex virus (HSV) infections comprise one of the most important health problems worldwide. HSV-1 and HSV-2 that are the types most frequently seen in disease, manifested by sores and blisters on the mouth, tongue, skin, and genitals of infected individuals. Moreover, herpetic infections can reach life-threatening levels; for instance, HSV-2 prevalence has increased greatly in human immunodeficiency virus-positive patients. This
indicates that the herpetic infection could be a major cause of morbidity in immunosuppressed patients. Unfortunately, resistance against antiherpetic drugs has recently been reported. Therefore there is an immediate need to search for new antiviral agents in order to cope with HSV infections. Recently, it has been demonstrated that traditional medicinal plants have strong antiviral activity and some are already being used in the treatment of viral infections, including herpes simplex infections. Accordingly, this chapter aims to present published information on various herbal compounds, investigate the antiherpetic effectiveness of these compounds, and determine the potential of plants as herpetic treatments in the future.

"The book is designed for use by advanced students, researchers and professionals in plant biochemistry, physiology, molecular biology, genetics, pharmacology, medicine, pharmacy and agriculture working in the academic and industrial sectors, including the pesticide and pharmaceutical industries."--Jacket.

This is the first book to focus entirely on viruses in foods. It collates information on the occurrence, detection, transmission, and epidemiology of viruses in various foods. Although methods for bacterial detection in food are available, methods for detection of viruses in food, with the exception of shellfish, are not available. It is important, therefore, to develop methods for direct examination of food for viruses and to explore alternate indicators that can accurately reflect the virological quality of food. This book addresses these issues along with strategies for the prevention and control of viral contamination of food.

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, thereby covering not only the analytical procedures used but also their nutraceutical and therapeutic properties.

This timely publication describes the botanical sources and chemical features of antiviral compounds. It covers their mechanisms of action and evaluates their therapeutic potential. Included is a discussion of synthetic analogues where appropriate. The book states that antiviral compounds in so-called medicinal plants may constitute some of their "active ingredients." It explains that many are photosensitizers, their antiviral activity dependent upon or augmented by light of specific wavelengths. This book is of value to microbiologists, phytochemists, virologists, natural-product chemists, ethnobotanists, pharmacologists, medical and veterinary researchers, and others interested in the application of plant compounds to therapy of infectious diseases.

This book provides a comprehensive overview of recent novel coronavirus (SARS-CoV-2) infection, their biology and associated challenges for their treatment and prevention of novel Coronavirus Disease 2019 (COVID-19). Discussing
various aspects of COVID-19 infection, including global epidemiology, genome organization, immunopathogenesis, transmission cycle, diagnosis, treatment, prevention, and control strategies, it highlights host-pathogen interactions, host immune response, and pathogen immune invasion strategies toward developing an immune intervention or preventive vaccine for COVID-19. An understanding of the topics covered in the book is imperative in the context of designing strategies to protect the human race from further losses and harm due to SARS-CoV-2 infection causing COVID-19.

Plants produce a vast number of bioactive compounds with different chemical scaffolds, which modulate a diverse range of molecular targets and are used as drugs for treating numerous diseases. Most present-day medicines are derived either from plant compounds or their derivatives, and plant compounds continue to offer limitless reserves for the discovery of new medicines. While different classes of plant compounds, like phenolics, flavonoids, saponins and alkaloids, and their potential pharmacological applications are currently being explored, their curative mechanisms are yet to be understood in detail. This book is divided into 2 volumes and offers detailed information on plant-derived bioactive compounds, including recent research findings. Volume 1, Plant-derived Bioactives: Chemistry and Mode of Action, discusses the chemistry of highly valued plant bioactive compounds and their mode of actions at the molecular level. Volume 2, Plant-derived Bioactives: Production, Properties and Therapeutic Applications, explores the sources, biosynthesis, production, biological properties and therapeutic applications of plant bioactives. Given their scope, these books are valuable resources for members of the scientific community wishing to further explore various medicinal plants and the therapeutic applications of their bioactive compounds. They appeal to scholars, teachers and scientists involved in plant product research, and facilitate the development of innovative new drugs.

With over 50,000 distinct species in sub-Saharan Africa alone, the African continent is endowed with an enormous wealth of plant resources. While more than 25 percent of known species have been used for several centuries in traditional African medicine for the prevention and treatment of diseases, Africa remains a minor player in the global natural products market largely due to lack of practical information. This updated and expanded second edition of the Handbook of African Medicinal Plants provides a comprehensive review of more than 2,000 species of plants employed in indigenous African medicine, with full-color photographs and references from over 1,100 publications. The first part of the book contains a catalog of the plants used as ingredients for the preparation of traditional remedies, including their medicinal uses and the parts of the plant used. This is followed by a pharmacognostical profile of 170 of the major herbs, with a brief description of the diagnostic features of the leaves, flowers, and fruits and monographs with botanical names, common names, synonyms, African names, habitat and distribution, ethnomedicinal uses, chemical constituents, and reported pharmacological activity. The second part of the book provides an introduction to African traditional medicine, outlining African cosmology and beliefs as they relate to healing and the use of herbs, health foods, and medicinal plants. This book presents scientific documentation of the correlation between the observed folk use and demonstrable biological activity, as well as the characterized constituents of the plants.
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An up-to-date overview of both basic research—including drug formulae, structure and biochemical activity—and clinical trials—usage and efficacy. Discusses future potential for treatment and development.

Wild and cultivated plants have provided humans with cures for thousands of years. Aspirin, for example, the most widely used drug in the Western pharmacopoeia, was first isolated from willows to treat fever, pain, and inflammation. Today it is synthesized in the laboratory, and its use as an anticoagulant eventually could overshadow its use as an analgesic. Other botanical medicines that became significant to human health and well-being are pain-relievers from opium and coca, muscle relaxants from curare, blood anticoagulants from sweet clover, anticancer alkaloids from Madagascar periwinkle and Pacific yew, tranquilizers from snakeroot, and oral contraceptives from molecular precursors in tropical yams.

Take control of your health with herbal antivirals. As traditional medications become less effective against today’s potent and aggressive viruses, natural alternatives are proving capable of fighting off many common viral threats. Stephen Harrod Buhner offers in-depth instructions on how to prepare and use herbal formulations to prevent and treat infections such as SARS, influenza, and encephalitis. These natural remedies will fight off disease and strengthen your immune system, keeping your family healthy and happy.

Plant virus disease is a worldwide threat to agriculture. Environment-Friendly Antiviral Agents for Plants systematically describes the basic theory, new ideas, and new methods to discover novel antiviral agents through research on plant immune activation. The cutting-edge research methodology, technology and progress on novel antiviral agent innovation are systematically described. With abundant illustrations and figures, the book is intended for researchers and practitioners in the fields of pesticide science, plant protection, organic chemistry, fine chemicals, applied chemistry, environment chemistry and agriculture science. Dr. Baoan Song and Dr. Song Yang are professors at the Center for R&D of Fine Chemicals, Guizhou University, China; Mr. Linhong Jin and Dr. Pinaki S. Bhadury are associate professors there.

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.

This book serves as essential reading for research scientists and biotechnologists from both academia and industry working in marine biotechnology and related disciplines. The book discusses recent advances and challenges in terms of science, technology, innovation, and policy for the development of the field; and how marine biotechnology may provide new solutions to some of the grand challenges faced by our society. Written in an accessible language, the book is also recommended as a reference text for decision-makers in government and
non-governmental organizations in their efforts to foster the development of a global blue economy. With less than 5% of the vast and rich marine environment explored, our seas and oceans represent a virtually unexplored resource for the discovery of novel products, processes, and development of bio-inspired synthetic drugs with biotechnological potential. As such, the marine environment has been considered Earth's last frontier of exploration. Recent advances in molecular techniques are providing the necessary tools to access on a larger scale the still-untapped ocean resources and, consequently, unveil the promise of the blue biotechnology. Governments are recognizing the potential of marine biotechnology to provide solutions to some of the Grand Challenges of the 21st Century such as sustainable energy and food sources, identification of novel drugs for improved health treatments, and providing new industrial materials and processes. For this reason, advances in marine biotechnology may foster the much-needed source of innovation and economic growth in many countries, and pave the way towards the development of a global blue economy, i.e., a new economic model based on the sustainable exploration of our ocean ecosystems.

Dietary Components and Immune Function focuses on immune modulation, immune mediated disease resistance, immune changes due to AIDS, immune modulated cancer therapy, and autoimmune diseases as modified by dietary supplement, bioactive foods, and supplements. The potential value of such approaches in maintaining wellness and preventing disease are addressed by examining their effects in vitro and in vivo on innate and adaptive immune responses. Emerging fields of science and important discoveries relating to early stages of new nutraceuticals in cancer prevention, prior to clinical trials are also covered. This volume represents a single source of material related to nutraceuticals and their constituents as they relate to cancer therapy and prevention. As such the book will be essential reading for nutritionists, pharmacologists, health care professionals, research scientists, cancer workers, pathologists, molecular or cellular biochemists, physicians, general practitioners as well as those interested in diet and nutrition in disease resistance via immune regulation.

Amino Acid - New Insights and Roles in Plant and Animal provides useful information on new aspects of amino acid structure, synthesis reactions, dietary application in animals, and metabolism in plants. Section I includes chapters that describe the therapeutic uses, antiallergic effects, new aspects in the D-amino acid structure, historical background of desmosines, and stereoselective synthesis of L-aminophosphonic acids. Section 2 presents the role of amino acids in plants, which includes new insights and aspects of D-amino acids, metabolism and transport in soybean, changes during energy storage compound accumulation of microalgae, and determination of amino acids from natural compounds. Section 3 describes the chapters on methodologies and requirement of dietary amino acids for Japanese quails, laying hens, and finishing pigs. The final chapter identifies potential importance of glutathione S-transferase activity for generating resistance to triclabendazole in Fasciola hepatica.

Humans have utilized the bioactive principles of different plants for various beneficial physiological properties including antimicrobial properties for many centuries. However, interests of using medicinal plants declined in
the 20th century with the availability of effective synthetic antimicrobial drugs. The development of microbial resistance to various drugs has accelerated research interests towards the use of phytochemicals as alternatives to synthetic drugs in the recent years. This book presents an comprehensive reviews on the antimicrobial and antiviral properties of numerous recently reported phytochemicals, and their mechanisms of antimicrobial actions. Some of the chapters have critically discussed the beneficial and adverse effects of antibacterial, and stimulatory activities of dietary phytochemicals on rumen microbial populations, and gut microbial populations of humans and animals. Microbial adaptation and resistance of microbes to phytochemicals has also been highlighted. On the applied aspects, the use of phytochemicals against drug resistance microbes, to treat microbial diseases, for food preservation, to inhibit methanogenic archaea in the rumen, and to modulate lipid biohydrogenating microbial populations to increase conjugated linoleic acids in animal-derived foods have been presented in different chapters.

This volume provides a contemporary overview of new strategies for traditional medicine development. It emphasizes the importance of cataloging ethnomedical information, determining the active principles, and examining the genetic diversity and range of actions of traditional medicines. It discusses the challenges of using traditional medicines for diseases where access to modern medicine is limited, and the research areas needed to improve quality, safety, and efficacy for enhancing healthcare. Affirming the importance of traditional medicines as an essential and integral component of healthcare systems, it explores the vast opportunities for their evidence-based development.

This book is a collection of chapters dealing with examples of RNA and DNA viruses, and issues such as how these gene packages have learnt to take advantage of their hosts, molecular recognition events that hosts may use to counterattack the viruses, and how researchers have developed strategies to use viruses or their parts as tools for different purposes.

The surfactants are among the materials that have a significant importance in everyday life of human. The rapid growth in science and technology has opened new horizons in a very wide range, in which the surfactants play a major and vital role. Hence, the increasing number of applications as well as arising environmental issues has made this relatively old topic still a hot research theme. In the first section of this book, some of the applications of surfactants in various fields such as biology and petroleum industry, as well as their environmental effects, are described. In Section 2 some experimental techniques used for characterization of the surfactants have been discussed.

Plant Drug Analysis has proven an invaluable and unique aid for all those involved with drug production and analysis, including pharmacists, chemical and pharmaceutical researchers and technicians, drug importers and exporters, governmental chemical control agencies, and health authorities. From the reviews of the German Edition: "The reviewer would like to recommend this excellent book to all chromatographers, as he considers it
highly relevant to the solution of numerous problems. Its main purpose is the demonstration of thin-layer chromatograms of the usual commercial drugs as an aid in testing for identity and purity. 165 colour plates, each showing 6 chromatograms and all of superb quality photographs " (Journal of Chromatography)

A crucial issue for antiviral therapy is the fact that all antiviral substances rapidly select for resistance; thus, monitoring and overcoming resistance has become a most important clinical paradigm of antiviral therapy. This calls for cautious use of antiviral drugs and implementation of combination therapies. In parallel, efforts in drug discovery have to be continued to develop compounds with novel mode-of-action and activity against resistant strains. This book reviews the current status of antiviral therapy, from the roads to development of new compounds to their clinical use and cost effectiveness. Individual chapters address in more detail all available drug classes and outline new approaches currently under development.

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.

This book covers interesting research topics and the use of natural resources for medical treatments in some severe diseases. The most important message is to have native foods which contain high amount of active compounds that can be used as a medicinal plant. Most pharmaceutical drugs were discovered from plants, and still ongoing research will have to predict such new active compounds as anti-diseases. I do believe this book will add significant knowledge to medical societies as well as can be used for postgraduate students.

Quality Control and Evaluation of Herbal Drugs: Approaches for Evaluating Natural Products and Traditional Medicine brings together current thinking and practice in the quality control and standardization of herbal drugs. As the use of herbal medicine in therapeutics is rising in both developed and developing countries, this book facilitates the development of quality standards for these medicines. Written by Pulok K. Mukherjee, a leader in the field, the book describes methods, techniques and approaches for evaluating their purity, quality, safety and efficacy. Particular attention is paid to methods that assess activity, the compounds responsible, and their underlying mechanisms of action. The book describes the quality control parameters followed in India and other countries, including Japan, China, Bangladesh, Srilanka and other Asian countries, as well as the regulatory profiles of the European Union and North America. Users will find it to be a comprehensive resource on
bio-prospecting for traditional-medicine-inspired drug discovery and development. Provides new information on the research and development of natural remedies Includes essential reading on the study and use of natural resources for preventative or healing purposes References global organizations, such as the WHO, USFDA, CDSCO, TCM and others to serve as a comprehensive document for enforcement agencies, NGOs and regulatory authorities Aids in developing basic knowledge of the various techniques of quality evaluation, such as macroscopy, microscopy, HPTLC, HPLC and LC-MS

The foundational textbook on the study of virology Basic Virology, 4th Edition cements this series’ position as the leading introductory virology textbook in the world. It’s easily read style, outstanding figures, and comprehensive coverage of fundamental topics in virology all account for its immense popularity. This undergraduate-accessible book covers all the foundational topics in virology, including: The basics of virology Virological techniques Molecular biology Pathogenesis of human viral disease The 4th edition includes new information on the SARS, MERS and COVID-19 coronaviruses, hepatitis C virus, influenza virus, as well as HIV and Ebola. New virological techniques including bioinformatics and advances in viral therapies for human disease are also explored in-depth. The book also includes entirely new sections on metapneumoviruses, dengue virus, and the chikungunya virus.

Phytochemicals from Medicinal Plants: Scope, Applications and Potential Health Claims explores the importance of medicinal plants and their potential benefits for human health. This book looks at bioactive compounds from medicinal plants, the health benefits of bioactive compounds, the applications of plant-based products in the food and pharmaceutical industries. The first section discusses available sources of bioactive compounds from medicinal plants, biochemistry, structural composition, potential biological activities, and how bioactive molecules are isolated from medicinal plants. The authors examine the applications of bioactive molecules from a health perspective, looking at the pharmacological aspects of medicinal plants, the phytochemical and biological activities of different natural products, and ethnobotany/and medicinal properties, and also present a novel dietary approach for disease management. The book goes on to examine the plant-based products are used and can be used in various sectors of the food and pharmaceutical industries.

To meet the challenge of feeding ever increasing human population, efficient, economical and environment friendly disease control methods are required. Pests are responsible for heavy crop losses and reduced food supplies, poorer quality of agricultural products, economic hardship for growers and processor. Generally, chemical control methods are neither always economical nor are they effective and may have associated unwanted health, safety and environmental risks. Biological control involves use of beneficial microorganism to control plant pathogens and diseases they cause and offers an environmental friendly approach to the effective management of plant diseases. This book provides a comprehensive account of interaction of host and its pathogens, induced host resistance, development of biological control agents for practical applications, the underlying mechanism and signal transduction. The book is useful to all those working in academia or industry related to crop protection.