

## Physical Chemistry By Shailendra Kumar

Physical Chemistry A Laboratory Manual Alpha Science International Limited

This book gives a comprehensive overview of recent advances in influenza, as well as general concepts of molecular biology of influenza infections, epidemiology, immunopathology, prevention, and current clinical recommendations in management of influenza, including preparation of vaccines, assessment of the safety and quality of influenza vaccines and adjuvants highlighting the ongoing issues and recent advances, with future directions in prevention and therapeutic strategies. I hope that this work might increase the interest in this field of research and that the readers will find it useful for their investigations, management, and clinical usage.

Devoted to the cause of the advancement of glass, ceramics and allied sciences and industries.

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.

PHYSICAL CHEMISTRY: A Laboratory Manual has been designed to meet the need of graduate and postgraduate students. The language is simple and the students can perform the experiments themselves without much help from the teacher. In each chapter, complete theory has been introduced before the start of experiment. Each experiment has been designed in a format that is adopted by the students in writing their notebooks. The tables for experimental observations have also been provided. Important precautions, suggestions and further experimental works for advance workers or researchers have been included under heading 'Things to Remember'. The Appendix comprises of sufficient number of tables of physical constants that can help in completing experiments. The book will be very helpful for establishment of laboratory as the Appendix includes list of chemicals and apparatuses. At the end an Index has been provided to help students in searching the things they need.

A physics book that covers the optical properties of quantum-confined semiconductor nanostructures from both the theoretical and experimental points of view together with technological applications. Topics to be reviewed include quantum confinement effects in semiconductors, optical adsorption and emission properties of group IV, III-V, II-VI semiconductors, deep-etched and self assembled quantum dots, nanoclusters, and laser applications in optoelectronics.

Due to the increase in the consumption of herbal medicine, there is a need to know which scientifically based methods are appropriate for assessing the quality of herbal medicines. Fingerprinting has emerged as a suitable technique for quality estimation. Chemical markers are used for evaluation of herbal medicines. Identification and quantification of these chemical markers are crucial for quality control of herbal medicines. This book provides updated knowledge on methodology, quality assessment, toxicity analysis and medicinal values of natural compounds.

Faculties, publications and doctoral theses in departments or divisions of chemistry,

chemical engineering, biochemistry and pharmaceutical and/or medicinal chemistry at universities in the United States and Canada.

The book explores and exploits the synergy and boundary between biotechnology, bioprocessing and food engineering. Divided into three parts, *Advances in Food Bioproducts and Bioprocessing Technologies* includes contributions that deal with new developments in procedures, bioproducts, and bioprocesses that can be given quantitative expression. Its 40 chapters will describe how research results can be used in engineering design, include procedures to produce food additives and ingredients, and discuss accounts of experimental or theoretical research and recent advances in food bioproducts and bioprocessing technologies. *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

This volume brings together information on the available and newly emerging technologies related to using plant compounds that have a beneficial role in food production. It is divided into sections focusing on phytochemistry of cereals and legumes, phytochemistry of medicinal plants, and technological advances in phytochemical study. Topics include the role of anti-nutritional substances of legumes in human health and on the elimination of such through technological processing sorghum phytochemicals and their processing and use in the development of food products production of nutraceuticals and functional foods of pharmaceutical importance *T. cordifolia* in the development of its therapeutic use in the food, health, and pharmacology industries polyphenolic compounds of plants, including their biosynthesis process, their classification, function, and role as bioactive compounds *Contamination of Water: Health Risk Assessment and Treatment Strategies* takes an interconnected look at various pollutants, sources of contamination, the effects of contamination on aquatic ecosystems and human health, and potential mitigation strategies. The book begins by examining the sources of potential contamination, including the current scenario of dyes, heavy metals, pesticides and oils contamination as well as regions impacted due to industrialization, mining or urbanization. It then analyzes various methods of water contamination, assesses health risk and adverse effects on those impacted, and concludes with an exploration of efficient, low-cost treatment technologies that remove toxic pollutants from the water. This book incorporates both theoretical and practical information that will be useful for researchers, professors, graduate students and professionals working on water contamination, environmental and health impacts, and the management and treatment of water resources. Provides practical case studies of various types of contamination and sources in different regions Offers an overview of inorganic and organic contaminants and their impact on human health Evaluates several low-cost, efficient and effective water treatment technologies to remove toxins from water and minimize risk

Papers presented at the International Conference on Characterisation and

Quality Control of Nuclear Fuels, held at Hyderabad in 2002.

Thirty carefully selected, peer-reviewed contributions from the International Conference on Pure and Applied Chemistry (ICPAC 2016) are featured in this edited book of proceedings. ICPAC 2016, a biennial meeting, was held in Mauritius in July 2016. The chapters in this book reflect a wide range of fundamental and applied research in the chemical sciences and interdisciplinary subjects. This is a unique collection of full research papers as well as reviews. This comprehensive, fully updated text introduces the essential concepts of Molecular biology to students of life science and those pursuing courses related disciplines. The authors first review the relevant fundamentals of biochemistry and microbiology, introducing key principles that enable molecular biologist to achieve consistent control over biological activity. The text then reflects the advances that are transforming the field, ranging from nucleic acid to gene regulation. It introduces the comparative mechanism studies between prokaryotes and eukaryotes. It also covers multiple choice questions for the practice.

Includes entries for maps and atlases.

This book presents advanced synthesis techniques adopted to fabricate two-dimensional (2D) transition metal dichalcogenides (TMDs) materials with its enhanced properties towards their utilization in various applications such as, energy storage devices, photovoltaics, electrocatalysis, electronic devices, photocatalysts, sensing and biomedical applications. It provides detailed coverage on everything from the synthesis and properties to the applications and future prospects of research in 2D TMD nanomaterials.

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