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On Biomineralization Heinz A. Lowenstam 1989-04-06 Focusing on the basic principles of mineral formation by organisms, this comprehensive volume explores questions that relate to a wide variety of fields, from biology and biochemistry, to paleontology, geology, and medical research. Preserved fossils are used to date geological deposits and archaeological artifacts. Materials scientists investigate mineralized tissues to determine the design principles used by organisms to form strong materials. Many medical problems are also associated with normal and pathological mineralization. Lowenstam, the pioneer researcher in biomineralization, and Weiner discuss the basic principles of mineral formation by organisms and compare various mineralization processes. Reference tables listing all known cases in which organisms form minerals are included.

Environmental Isotopes in Biodegradation and Bioremediation C. Marjorie Aelion 2009-11-04 Enhanced analytical capabilities and separation techniques, improved detection limits, and accessibility of instrumentation have led to massive strides in the use of isotopes to assess microbial processes in surface and subsurface sediments. Considering the rapid growth of research and commercial interest in stable isotope and radioisotope applications for contaminant hydrology and microbial ecology, an up-to-date overview of the field is long overdue. Environmental Isotopes in Biodegradation and Bioremediation comprehensively covers established and emerging isotope methods for environmental applications, focusing on biodegradation and bioremediation. This book is an invaluable tool for researchers, practitioners, and regulators who require an extensive understanding of the application of isotope methods to natural compounds and environmental contaminants. It addresses questions including: What amount of a compound comes from anthropogenic release? Do the chemicals involved undergo degradation in the environment? Do they persist and accumulate? This book is divided into four sections: Isotope Fundamentals covers important background and theoretical information needed to understand later chapters Isotopes and Microbial Processes discusses the application of isotopes to different environmental redox conditions that dictate the predominant microbial processes that will occur Isotopes in Field Applications describes the transformation of anthropogenic pollutants and the application of isotope tools to field sites Isotope Emerging Areas addresses the use of compounds labeled with stable isotopes, including stable isotope probing and the use of radiocarbon at natural abundance and novel stable isotopes This reference details how isotope tools can be used to gain insight into the origin and fate of natural compounds and contaminants in the environment. Integrating theoretical and practical knowledge, the authors examine the principles of isotope tools and then present an extensive overview of key environmental processes that can be investigated with isotope methods. They also discuss analytical and data evaluation procedures, addressing established and emerging applications. To illustrate concepts and methodology, the authors use a wide range of case studies and recent field and laboratory research from various disciplines currently employing these methods. This book is a valuable tool for expanding the application of both stable isotopes and radioisotopes into untapped areas.

Photovoltaic Engineering Handbook F Lasnier 2017-10-19 The Photovoltaic Engineering Handbook is the first book to look closely at the practical problems involved in evaluating and setting up a photovoltaic (PV) power system. The author's comprehensive knowledge of the subject provides a wealth of theoretical and practical insight into the different procedures and decisions that designers need to make. Unique in its coverage, the book presents technical information in a concise and simple way to enable engineers from a wide range of backgrounds to initiate, assess, analyze, and design a PV system. It is beneficial for energy planners making decisions on the most appropriate system for specific needs, PV applications engineers, and anyone confronting the practical difficulties of setting up a PV power system.

Bibliography of Agriculture 1999

Directory of Solvents B.P. Whim 2012-12-06 Organic solvents represent a class of compounds whose utility is central to industrial and academic chemistry. The impact of solvents in everyday products such as paints, surface coatings, adhesives, pharmaceuticals and cleaning products is enormous, and there is therefore much interest in their use. This volume is divided into two parts. Part 1 provides an authoritative review of the science and technology of solvents and related issues. The topics covered are solvency and its measurement, flammability, health and toxicology, environmental issues, legislative information, transport, storage, recovery and disposal, and a review of solvent applications. Part 2 provides reliable, up-to-date data, based on information provided by manufacturers and suppliers and is presented as a database of over 350 solvent products, subdivided by solvent group. The data are also presented in key parameter tables, covering boiling points, melting points, evaporation information, vapor pressure, flash points, solubility parameters, auto ignition temperatures, and names and addresses of manufacturers, with trade names. In recent years there has been increased interest in health and safety, environmental issues and aspects of the legislative control of chemicals, including solvents, and the choice of a given solvent has therefore become more complex. The Directory of Solvents aims to provide in one place a broad spread of physico-chemical data, together with transport, safety, environmental and classification information provided by major European and U.S. suppliers and manufacturers of industrial organic solvents.

Pinocchio, the Tale of a Puppet Carlo Collodi 2011-02 Pinocchio, The Tale of a Puppet follows the adventures of a talking wooden puppet whose nose grew longer whenever he told a lie and who wanted more than anything else to become a real boy.As carpenter Master Antonio begins to carve a block of pinewood into a leg for his table the log shouts out, "Don't strike me too hard!" Frightened by the talking log, Master Cherry does not know what to do until his neighbor Geppetto drops by looking for a piece of wood to build a marionette. Antonio gives the block to Geppetto. And thus begins the life of Pinocchio, the puppet that turns into a boy.Pinocchio, The Tale of a Puppet is a novel for children by Carlo Collodi is about the mischievous adventures of Pinocchio, an animated marionette, and his poor father and woodcarver Geppetto. It is considered a classic of children's literature and has spawned many derivative works of art. But this is not the story we've seen in film but the original version full of harrowing adventures faced by Pinnocchio. It includes 40 illustrations.

Angiogenesis Assays Carolyn A. Staton 2007-01-11 Angiogenesis, the development of new blood vessels from the existing vasculature, is essential for physiological growth and over 18,000 research articles have been published describing the role of angiogenesis in over 70 different diseases, including cancer, diabetic retinopathy, rheumatoid arthritis and psoriasis. One of the most important technical challenges in such studies has been finding suitable methods for assessing the effects of regulators of eh angiogenic response. While increasing numbers of angiogenesis assays are being described both in vitro and in vivo, it is often still necessary to use a combination of assays to identify the cellular and molecular events in angiogenesis and the full range of effects of a given test protein. Although the endothelial cell - its migration, proliferation, differentiation and structural rearrangement - is central to the angiogenic process, it is not the only cell type involved. the supporting cells, the extracellular matrix and the circulating blood with its cellular and humoral components also contribute. In this book, experts in the use of a diverse range of assays outline key components of these and give a critical appraisal of their strengths and weaknesses. Examples include assays for the proliferation, migration and differentiation of endothelial cells in vitro, vessel outgrowth from organ cultures, assessment of endothelial and mural cell interactions, and such in vivo assays as the chick chorioallantoic membrane, zebrafish, corneal, chamber and tumour angiogenesis models. These are followed by a critical analysis of the biological end-points currently being used in clinical trials to assess the clinical efficacy of anti-angiogenic drugs, which leads into a discussion of the direction future studies should take. This valuable book is of interest to research scientists currently working on angiogenesis in both the academic community and in the biotechnology and pharmaceutical industries. Relevant disciplines include cell and molecular biology, oncology, cardiovascular research, biotechnology, pharmacology, pathology and physiology.

Quality of Rivers of the United States, 1975 Water Year John Charles Briggs 1977

The Science Teachers' Handbook Andy Byers 1994 This practical handbook provides many exciting and practical ideas developed by teachers around the world to help demonstrate science to their pupils. It is suitable for both new and experienced teachers alongside standard textbooks.* Lots of ideas for experiments with simple, locally available materials and equipment* Easy to use with plenty of clear illustrations* Step-by-step guides to making clear experiments and activities work* Covers common biology, chemistry and physics syllabus topics* Essential for every junior and secondary level science teacher

Supported Catalysts and Their Applications David C Sherrington 2007-10-31 The need to improve both the efficiency and environmental acceptability of industrial processes is driving the development of heterogeneous catalysts across the chemical industry, including commodity, specialty and fine chemicals and in pharmaceuticals and agrochemicals. Drawing on international research, Supported Catalysts and their Applications discusses aspects of the design, synthesis and application of solid supported reagents and catalysts, including supported reagents for multi-step organic synthesis; selectivity in oxidation catalysis; mesoporous molecular sieve catalysts; and the use of Zeolite Beta in organic reactions. In addition, the two discrete areas of heterogeneous catalysis (inorganic oxide materials and polymer-based catalysts) that were developing in parallel are now shown to be converging, which will be of great benefit to the whole field. Providing a snapshot of the state-of-the-art in this fast-moving field, this book will be welcomed by industrialists and researchers, particularly in the agrochemicals and pharmaceuticals industries.

Temperature-Dependent Sex Determination in Vertebrates Nicole Valenzuela 2004 Edited by the world's foremost authorities on the subject, with essays by leading scholars in the field, this work shows how the sex of reptiles and many fish is determined not by the chromosomes they inherit but by the temperature at which incubation takes place.

Physical Chemistry Paul M. S. Monk 2008-03-11 Understanding Physical Chemistry is a gentle introduction to the principles and applications of physical chemistry. The book aims to introduce the concepts and theories in a structured manner through a wide range of carefully chosen examples and case studies drawn from everyday life. These real-life examples and applications are presented first, with any necessary chemical and mathematical theory discussed afterwards. This makes the book extremely accessible and directly relevant to the reader. Aimed at undergraduate students taking a first course in physical chemistry, this book offers an accessible applications/examples led approach to enhance understanding and encourage and inspire the reader to learn more about the subject. A comprehensive introduction to physical chemistry starting from first principles. Carefully structured into short, self-contained chapters. Introduces examples and applications first, followed by the necessary chemical theory.

Coastal Zone Space Edward D. Goldberg 1994 A comprehensive overview of problems related to the coastal zone. The study covers the rising population in the coastal zone; tourism and recreation; the role of the oceans in waste management; farming and ranching the sea; transportation; energy from the sea; commercial fishing; offshore minerals; use-

conflicts and regulatory mechanisms.

Experiments and Considerations Touching Colours Robert Boyle 2017-05-24 This work has been selected by scholars as being culturally important and is part of the knowledge base of civilization as we know it. This work is in the public domain in the United States of America, and possibly other nations. Within the United States, you may freely copy and distribute this work, as no entity (individual or corporate) has a copyright on the body of the work. Scholars believe, and we concur, that this work is important enough to be preserved, reproduced, and made generally available to the public. To ensure a quality reading experience, this work has been proofread and republished using a format that seamlessly blends the original graphical elements with text in an easy-to-read typeface. We appreciate your support of the preservation process, and thank you for being an important part of keeping this knowledge alive and relevant.

Biom mineralization Hiromichi Nagasawa 2020-10-09 This open access book is the proceedings of the 14th International Symposium on Biom mineralization (BIOMIN XIV) held in 2017 at Tsukuba. Over the past 45 years, biom mineralization research has unveiled details of the characteristics of the nano-structure of various biom minerals; the formation mechanism of this nano-structure, including the initial stage of crystallization; and the function of organic matrices in biom minerals, and this knowledge has been applied to dental, medical, pharmaceutical, materials, agricultural and environmental sciences and paleontology. As such, biom mineralization is an important interdisciplinary research area, and further advances are expected in both fundamental and applied research. This work was published by Saint Philip Street Press pursuant to a Creative Commons license permitting commercial use. All rights not granted by the work's license are retained by the author or authors.

The Exorcist William Peter Blatty 2011-10-04 Originally published in 1971, *The Exorcist* remains one of the most controversial novels ever written and went on to become a literary phenomenon. Inspired by a true story of a child's demonic possession in the 1940s, William Peter Blatty created an iconic novel that focuses on Regan, the eleven-year-old daughter of a movie actress residing in Washington, D.C. A small group of overwhelmed yet determined individuals must rescue Regan from her unspeakable fate, and the drama that ensues is gripping and unfailingly terrifying. Two years after its publication, *The Exorcist* was, of course, turned into a wildly popular motion picture, garnering ten Academy Award nominations. On opening day of the film, lines of the novel's fans stretched around city blocks. In Chicago, frustrated moviegoers used a battering ram to gain entry through the double side doors of a theater. In Kansas City, police used tear gas to disperse an impatient crowd who tried to force their way into a cinema. The three major television networks carried footage of these events; CBS's Walter Cronkite devoted almost ten minutes to the story. *The Exorcist* was, and is, more than just a novel and a film: it is a true landmark. Purposefully raw and profane, *The Exorcist* still has the extraordinary ability to disturb readers and cause them to forget that it is "just a story." Published here in this beautiful fortieth anniversary edition, it remains an unforgettable reading experience and will continue to shock and frighten a new generation of readers.

New Perspectives on Mineral Nucleation and Growth Alexander E.S. Van Driessche 2016-12-20 In the last decade, numerous studies have demonstrated the existence of alternative pathways to nucleation and crystallisation that oppose the classical view. Such proposed scenarios include multistage reactions proceeding via various precursor species and/or intermediate phases. The aim of this book is to review and discuss these recent advances in our understanding of the early stages of mineralisation through a series of contributions that address both experimental and theoretical studies about the formation and nature of initial precursor species (e.g., prenucleation clusters, dense liquid phases, amorphous nanoparticles, etc.) as well as their transformations leading to the stable mineral phase. Several chapters are devoted to cutting-edge analytical techniques used for investigating the above processes in situ, in real time and at conditions relevant to both natural and industrial processes. At the end of the book, the editors summarize the key questions that still need to be addressed in order to establish a complete picture of the nucleation and growth processes involved during the formation of minerals.

Green Engineering for Campus Sustainability Abu Zahrim Yaser 2019-04-23 This book highlights current efforts and research into achieving campus sustainability. The book starts with Introduction followed by two chapters discuss best governance and practices in enhancing campus sustainability, while subsequent chapters elaborate on green building and bioenergy. In addition, the book discusses several initiatives regarding campus waste management including sewage recycling potential.

Alternatives to Animal Use in Research, Testing, and Education 1986

Inquiry-based Experiments in Chemistry Valerie Ludwig Lechtanski 2000 *Inquiry-Based Experiments in Chemistry* is an alternative to those "cookbook" style lab manuals, providing a more accurate and realistic experience of scientific investigation and thought for the high school chemistry or physical science student."

Modern Analytical Chemistry David Harvey 2000 *Modern Analytical Chemistry* is a one-semester introductory text that meets the needs of all instructors. With coverage in both traditional topics and modern-day topics, instructors will have the flexibility to customize their course into what they feel is necessary for their students to comprehend the concepts of analytical chemistry.

Master Dentistry, Volume 1: Oral and Maxillofacial Surgery, Radiology, Pathology and Oral Medicine, 3rd Edition Paul Coulthard 2013 *Master Dentistry* is designed as a revision guide for dental students and presents the key elements of the curriculum in an easy-to-digest format. Based on sound educational principles, each volume in the series is fully illustrated throughout and is supported by extensive self-assessment questions which allow the reader to assess their own knowledge of the topic and perfect their exam techniques. This third edition has been fully updated throughout and addresses the oral and maxillofacial surgery, radiology, pathology and oral medicine aspects of dentistry. The *Master Dentistry* volumes are perfect for undergraduate students, vocational trainees and those preparing for post-graduate examinations such as the MJDF in the UK or international equivalent, and the ORE. Information presented in a style which facilitates easy recall for examination purposes and a ready understanding of the subject. Key facts are highlighted and principles of diagnosis and management emphasised. Gives the reader an understanding of evidence-based practice in an international context. Offers practical guidance on how to prepare for exams and make best use of the time available. Perfect for BDS exam preparation and candidates taking the MJDF, ORE or other post-graduate exams. Each chapter has been fully revised and updated to reflect new research evidence and provide an international context including use of drug names. The Human Disease and Patient Care chapter includes a new approach to medical risk assessment and updated guidance on the management of common medical emergencies. Particularly significant changes in other chapters include surgical flap design, CBCT, radiotherapy, bisphosphonates, odontogenic keratocyst classification, zygoma implants, and contemporary specialist referral systems.

Environmental Deterioration and Human Health Abdul Malik 2013-12-11 This book discusses the natural and anthropogenic determinants of the environment and their impact on human health. It throws light on the perspectives of climate change with case studies from Australia, India, Italy, and Latin America. Themes covered are ecology of antibiotic resistant microorganisms, pesticide and heavy metal (arsenic) problems in natural environment; molecular advances in understanding of microbial interactions; ecological studies of human/animal health and diseases; food security, technological developments and more. The various chapters incorporate both theoretical and applied aspects and may serve as baseline information for future research through which significant development is possible.

Polymer Fillers and Stiffening Agents Chris Defonseka 2020-07-20 This book presents both established and emerging technologies which show the immense possibilities of using non-traditional fillers and stiffening agents in the plastics industry. After an introduction to basic polymer chemistry, a range of non-petroleum-based fillers and stiffening agents for polymer products are identified and their optimal applications given.

Handbook of Smart Textiles Xiaoming Tao 2015-10-14 The "Handbook of Smart Textiles" aims to provide a comprehensive overview in the field of smart textile describing the state of the art in the research sector as well as the well-established techniques applied in industries. The handbook is planned to cover from fundamental theories, experimental techniques, characterization methods, as well as real applications with successful commercialized examples. The book is structured in a way in which it is appropriate for graduate students, PhD candidates, and professionals in diverse scientific and engineering communities devoted to relevant fields, including textile engineering, chemistry, bioengineering, material engineering, mechanical engineering, electrical engineering. The book will also provide a solid reference for industrial players who look for innovative technologies as well as environmental, safety concerns for the development of smart textile related products.

Green Adsorbents for Pollutant Removal Grégorio Crini 2018-07-31 This is the second volume on adsorption using green adsorbents and is written by international contributors who are the leading experts in the adsorption field. Together with the first volume they show a typical selection of green materials used in wastewater treatment, with emphasis on industrial effluents. This second volume focuses on innovative materials. It presents hemp-based materials for metal removal, and the use of leaves for metal removal. It describes the biosorption of metals and metalloids on various materials and discusses the recent advances in cellulose-based adsorbents used in environmental purposes. Furthermore, activated carbons from food wastes, aerogels and bones, and municipal solid waste biochar as efficient materials for pollutant removal, respectively are reviewed as well as biosorption of dyes onto microbial biosorbents and the use of mushroom biomass to remove pollutants are looked at. The volume also includes detailed review of green adsorbents for removal of antibiotics, pesticides and endocrine disruptors and the use of pillared interlayered clays as innovative materials for pollutant removal. Finally, the use of green adsorbents for radioactive pollutant removal from natural water is discussed. The audience for this book includes students, environmentalists, engineers, water scientists, civil and industrial personnel who wish to specialize in adsorption technology. Academically, this book will be of use to students in chemical and environmental engineering who wish to learn about adsorption and its fundamentals. It has also been compiled for practicing engineers who wish to know about recent developments on adsorbent materials in order to promote further research toward improving and developing newer adsorbents and processes for the efficient removal of pollutants from industrial effluents. It is hoped that the book will serve as a readable and useful presentation not only for undergraduate and postgraduate students but also for the water scientists and engineers and as a convenient reference handbook in the form of numerous recent examples and appended information.

Barron's AP Biology Deborah T. Goldberg 2017-08-30 *Barron's AP Biology* is one of the most popular test preparation guides around and a "must-have" manual for success on the Biology AP Test. In this updated book, test takers will find: Two full-length exams that follow the content and style of the new AP exam. All test questions answered and explained. An extensive review covering all AP test topics. Hundreds of additional multiple-choice and free-response practice questions with answer explanations. This manual can be purchased alone, or with an optional CD-ROM that includes two additional practice tests with answers and automatic scoring.

Hen Eggs Takehiko Yamamoto 2018-05-04 The egg is a chemical storehouse—within an incubating egg a complicated set of chemical reactions take place that convert the chemicals into a living animal. Using hen eggs as a model, this new text explores the use of eggs for food, industrial, and pharmaceutical applications. It covers the chemistry, biology, and function of lipids; carbohydrates; proteins; yolk antibody (IgY); and other materials of eggs. The novel merits of egg materials over others used in the same products are also discussed. These areas of egg technology have never been compiled before in one source.

Handbook of Biom mineralization Peter Behrens 2009-09-28 This first comprehensive overview of the modern aspects of biom mineralization represents life and materials science at its best: Bioinspired pathways are the hot topics in many disciplines and this holds especially true for biom mineralization. Here, the editors -- well-known members of associations and prestigious institutes -- have assembled an international team of renowned authors to provide first-hand research results. This second volume deals with biometric model systems in biom mineralization, including the biom mineral approach to bionics, bioinspired materials synthesis and bio-supported materials chemistry, encapsulation and the imaging of internal nanostructures of biom minerals. An interdisciplinary must-have account, for biochemists, bioinorganic chemists, lecturers in chemistry and biochemistry, materials scientists, biologists, and solid state physicists.

Nanotechnology in Catalysis Bing Zhou 2007-09-05 This volume continues the tradition formed in *Nanotechnology in Catalysis 1* and *2*. As with those books, this one is based upon an ACS symposium. Some of the most illustrious names in heterogeneous catalysis are among the contributors. The book covers: Design, synthesis, and control of catalysts

at nanoscale; understanding of catalytic reaction at nanometer scale; characterization of nanomaterials as catalysts; nanoparticle metal or metal oxides catalysts; nanomaterials as catalyst supports; new catalytic applications of nanomaterials.

Diseases of Poultry 2019-11-19 The most complete and definitive reference to all aspects of poultry diseases, *Diseases of Poultry*, Fourteenth Edition has been fully revised and updated to offer a comprehensive survey of current knowledge. Updates the definitive reference of poultry health and disease Provides more clinically relevant information on management of specific diseases, contributed by clinical poultry veterinarians Offers information on disease control in organic and antibiotic-free production Presents more concise, streamlined chapters for ease of use Incorporates advances in the field, from new diagnostic tools and information to changes brought about by the increasing globalization and the re-emergence of zoonotic pathogens

Commercial Poultry Nutrition S. Leeson 2009-04-01 Covering a variety of essential topics relating to commercial poultry nutrition and production—including feeding systems and poultry diets—this complete reference is ideal for professionals in the poultry-feed industries, veterinarians, nutritionists, and farm managers. Detailed and accessible, the guide analyzes commercial poultry production at a worldwide level and outlines the importance it holds for maintaining essential food supplies. With ingredient evaluations and diet formulations, the study's compressive models for feeding programs target a wide range of commercially prominent poultry, including laying hens, broiler chickens, turkeys, ducks, geese, and game birds, among others.

Clinical Problem Solving in Dentistry E-Book Avijit Banerjee 2010-01-25 The latest edition of this popular book continues to provide a highly visual step-by-step guide to the practical management of a wide variety of presentations seen in clinical dental practice. Containing over 350 high-quality photographs, line artworks and tables, *Clinical Problem Solving in Dentistry* is written in an easy-to read 'how to' style and contains a large number of real life clinical cases carefully presented to maximise learning outcomes for the reader. Covering all core aspects of practice, *Clinical Problem Solving in Dentistry*, 3rd edition will be of value to all general dental practitioners, both qualified and in training. More than 350 colour illustrations, artworks and tables present clinical, diagnostic and practical information in an easy-to-follow manner Designed to help the reader reorganise their knowledge into a clinically useful format Explores treatment alternatives and evaluates their advantages and disadvantages Integrates material from all the dental specialties in order to cover the full range of problems which will be seen in practice Practical approach to the subject makes learning especially easy Includes ten completely new problems, making the book almost twice as long as the first edition! All the chapters have been completely revised to account for new national guidelines, changes in legislation and advances in treatment Additional topics include Down's syndrome, bisphosphonate-induced osteonecrosis, headache and child protection

Bioactive Egg Compounds Rainer Huopalahti 2007-05-19 *Bioactive Egg Compounds* presents the latest results and concepts in the biotechnological use of egg compounds. Following an introduction to the different compounds of egg white, yolk and shell, the nutritive value of egg compounds is discussed. The text describes procedures for processing egg compounds to improve their nutritive value, including so-called enriched eggs. Also described is the isolation and application of egg compounds with special properties, such as antibiotic action.

Clinical Rheumatology Rohini Handa 2021-02-10 *Clinical Rheumatology* is a book written by a clinician for clinicians. It covers all the essential clinical aspects of Rheumatology in an engaging, clear, and concise manner, thereby fulfilling an unmet need. The focus of this book is to cover clinically pertinent and practically relevant issues while pruning unnecessary detail. Patient photographs, tables, and boxes enhance readability. The bedside clinical and investigative approach is discussed in a lucid fashion illustrated by clinical photographs, flowcharts, and algorithms. The evidence-based treatment is spelt out in an easy to comprehend fashion. Key messages have been listed at the beginning of each chapter. The book is intended for undergraduate and postgraduate medical students, residents, fellows, and clinicians who want to gain practical knowledge and clinical insight into rheumatic diseases. The book is likely to appeal to internists, rheumatologists, physiatrists, physiotherapists, occupational therapists, as well as orthopaedic surgeons. They will find their day to day questions answered in a knowledge format that can be applied straight away. Senior clinicians will find it a ready reckoner and a handy manual to refresh and update their knowledge. Basic scientists will find it useful to gain clinical insight into the rheumatic diseases they research without being intimidated by the size of the text. Teachers will find it full of helpful teaching messages. *Clinical Rheumatology* is a must-have book for all those who deal with rheumatic musculoskeletal diseases.

Faecal Sludge Management Linda Strande 2014-08-15 It is estimated that literally billions of residents in urban and peri-urban areas of Africa, Asia, and Latin America are served by onsite sanitation systems (e.g. various types of latrines and septic tanks). Until recently, the management of faecal sludge from these onsite systems has been grossly neglected, partially as a result of them being considered temporary solutions until sewer-based systems could be implemented. However, the perception of onsite or decentralized sanitation technologies for urban areas is gradually changing, and is increasingly being considered as long-term, sustainable options in urban areas, especially in low- and middle-income countries that lack sewer infrastructures. This is the first book dedicated to faecal sludge management. It compiles the current state of knowledge of the rapidly evolving field of faecal sludge management, and presents an integrated approach that includes technology, management, and planning based on Sandecs 20 years of experience in the field. *Faecal Sludge Management: Systems Approach for Implementation and Operation* addresses the organization of the entire faecal sludge management service chain, from the collection and transport of sludge, and the current state of knowledge of treatment options, to the final end use or disposal of treated sludge. The book also presents important factors to consider when evaluating and upscaling new treatment technology options. The book is designed for undergraduate and graduate students, and engineers and practitioners in the field who have some basic knowledge of environmental and/or wastewater engineering.

Osmotically Driven Membrane Processes Hongbo Du 2018-03-28 Osmotically driven membrane processes (ODMPs) including forward osmosis (FO) and pressure-retarded osmosis (PRO) have attracted increasing attention in fields such as water treatment, desalination, power generation, and life science. In contrast to pressure-driven membrane processes, e.g., reverse osmosis, which typically employs applied high pressure as driving force, ODMPs take advantages of naturally generated osmotic pressure as the sole source of driving force. In light of this, ODMPs possess many advantages over pressure-driven membrane processes. The advantages include low energy consumption, ease of equipment maintenance, low capital investment, high salt rejection, and high water flux. In the past decade, over 300 academic papers on ODMPs have been published in a variety of application fields. The number of such publications is still rapidly growing. The ODMPs' approach, fabrications, recent development and applications in wastewater treatment, power generation, seawater desalination, and gas absorption are presented in this book.

Introduction to Industrial Polypropylene Dennis B. Malpass 2012-07-02 This introductory text is an important resource for new engineers, chemists, students, and chemical industry personnel to understand the technical aspects of polypropylene which is the 2nd largest synthetic polymer in manufactured output. The book considers the following topics: What are the principal types of polypropylene and how do they differ? What catalysts are used to produce polypropylene and how do they function? What is the role of cocatalysts and how have they evolved over the years? How are industrial polypropylene catalysts tested and the resultant polymer evaluated? What processes are used in the manufacture of polypropylene? What are the biopolymer alternatives to polypropylene? What companies are the major industrial manufacturers of polypropylene? What is the environmental fate of polypropylene?

Advanced Higher Biology Scottish Qualifications Authority 2008-09-30 'Official SQA Past Papers' provide perfect exam preparation. As well as delivering at least three years of actual past papers - including the 2008 exam - all papers are accompanied by examiner-approved answers to show students how to write the best responses for the most marks.

Food Packaging Based on Nanomaterials Amparo López-Rubio 2018 The use of nanotechnologies in the food-packaging area has opened up a number of possibilities derived from the inherent characteristics of nanoadditives, which can either improve relevant properties of neat polymers (such as barrier or mechanical properties) or introduce new functionalities (for active and bioactive packaging applications or even for sensing). This is an exciting and rapidly growing field of study, and very interesting developments are unfolding. Although the aim of these novel materials is to improve packaged food quality and safety, the toxicological effects derived from their potential migration from the polymer structures is also under consideration. This Special Issue compiles a review and five original papers describing novel nanocomposites with improved packaging properties, the use of nanotechnologies for smart packaging applications, and nanoparticle migration studies from novel nanocomposites.