

Principles Of Environmental Chemistry

Principles of Environmental Chemistry - Debang Solanki 2011

Elements of Environmental Chemistry - Ronald A. Hites 2007-06-29

The basics of environmental chemistry and a toolbox for solving problems Elements of Environmental Chemistry uses real-world examples to help readers master the quantitative aspects of environmental chemistry. Complex environmental issues are presented in simple terms to help readers grasp the basics and solve relevant problems. Topics covered include: steady- and non-steady-state modeling, chemical kinetics, stratospheric ozone, photochemical smog, the greenhouse effect, carbonate equilibria, the application of partition coefficients, pesticides, and toxic metals. Numerous sample problems help readers apply their skills. An interactive textbook for students, this is also a great refresher course for practitioners. A solutions manual is available for Academic Adopters. Please click the solutions manual link on the top left side of this page to request the manual.

Textbook of Environmental Chemistry - Balram Pani 2007

Textbook of Environmental Chemistry has been designed to provide fundamental knowledge of the principles related to environment and its chemistry so as to meet the challenging requirements of students as well as teachers of Environmental Sciences, Environmental Chemistry and Environmental Studies at graduate, postgraduate, polytechnic, and engineering levels at all Indian Universities. This book is also useful for the students and professors of general science. The book explores biological resources and their relationship with physical and chemical aspects of the environment. Due emphasis has been given to the regional as well as global environmental problems like water, air, soil and noise pollution, their types and sources, effects on the ecosystem. Key Features " The book deals with principles and chemical reactions that govern the behaviour of water, air and soil environment. " The book emphasizes on the origin of various pollutants and their control. " New and current fields of environmental science Green Chemistry, Environmental Biotechnology, Polymers for Environment. " It covers environmental impact, planning and laws to help readers understand how policies and plans are formulated to protect our environment. "

Environmental pollution abatement engineering and technology has been discussed in-depth

Chemical Principles of Environmental Pollution, Second Edition - Brian Alloway 1997-02-13

An authoritative introduction to the scientific principles underlying environmental pollution, this book covers the transport, toxicity, and analysis of pollutants and discusses the major types of contaminant chemicals. Students will gain an understanding of the scientific principles of pollution at the chemical level and be able to approach the contentious issues in a rational way. Taking a pollution oriented approach, the authors discuss legislative limits, analysis of metals, oestrogenic chemicals, indoor and vehicular pollution, pesticides, dioxin-like substances, and more.

Introductory Chemistry for the Environmental Sciences - Roy M. Harrison 1996-06-06

New edition of an undergraduate textbook introduces the basic chemical concepts underlying environmental science.

Chemistry of Environmental Systems - Jeffrey S. Gaffney 2019-11-04

A modern guide to environmental chemistry Chemistry of Environmental Systems: Fundamental Principles and Analytical Methods offers a comprehensive and authoritative review of modern environmental chemistry, discussing the chemistry and interconnections between the atmosphere, hydrosphere, geosphere and biosphere. Written by internationally recognized experts, the textbook explores the chemistries of the natural environmental systems and demonstrates how these chemical processes change when anthropogenic emissions are introduced into the whole earth system. This important text: Combines the key areas of environmental chemistry needed to understand the sources, fates, and impacts of contaminants in the environment Describes a range of environmental analytical methodologies Explores the

basic environmental effects of energy sources, including nuclear energy Encourages a proactive approach to environmental chemistry, with a focus on preventing future environmental problems Includes study questions at the end of each chapter Written for students of environmental chemistry, environmental science, environmental engineering, geoscience, earth and atmospheric sciences, Chemistry of Environmental Systems: Fundamental Principles and Analytical Methods covers the key aspects and mechanisms of currently identified environmental issues, which can be used to address both current and future environmental problems.

Principles of Environmental Geochemistry - G. Nelson Eby 2016-04-20

Many geochemists focus on natural systems with less emphasis on the human impact on those systems. Environmental chemists frequently approach their subject with less consideration of the historical record than geoscientists. The field of environmental geochemistry combines these approaches to address questions about the natural environment and anthropogenic effects on it. Eby provides students with a solid foundation in basic aqueous geochemistry before discussing the important role carbon compounds, isotopes, and minerals play in environmental issues. He then guides students through how these concepts apply to problems facing our atmosphere, continental lands, and oceans. Rather than broadly discussing a variety of environmental problems, the author focuses on principles throughout the text, leading students to understand processes and how knowledge of those processes can be applied to environmental problem solving. A wide variety of case studies and quantitative problems accompany each chapter, giving each instructor the flexibility to tailor the material to his/her course. Many problems have no single correct answer, illustrating the analytical nature of solving real-world environmental problems.

Environmental Chemistry - Gary W. VanLoon 2000

This is a comprehensive textbook for upper level undergraduates which discusses the nature of heterogeneous systems in the natural environment. The links between and within the various environmental compartments - air, water, soil - are emphasized. The book describes the chemistry of natural systems, their composition and the processes and reactions that operate within and between the various compartments. Without focusing specifically on pollution, it also discusses ways in which these systems respond to perturbations, either those that are natural or those that are caused by humans. Background material from subjects such as atmospheric science, limnology, and soil science is provided in order to establish a setting for a description of the relevant chemistry. Emphasis is on general principles that can be applied in a variety of circumstances. At the same time, these principles are illustrated with examples taken from around the world. Because of issues of the environment related to every society, care has been taken to relate the subject material to situations in urban and rural areas in both highly industrialized and low-income countries.

Principles of Environmental Chemistry - Jonathan Ayers 2020-09-15

The study of the biochemical and chemical phenomena that occur in natural places falls under the domain of environmental chemistry. It studies the sources, reactions, effects and transport of chemical species in diverse environments such as soil, air and water. It involves a better understanding of how the uncontaminated environment works. It also includes the study of chemicals in concentrations that are present naturally. It is an interdisciplinary field of science, which includes various branches of chemistry such as aquatic, soil and atmospheric chemistry. It also uses principles from analytical chemistry. Environmental chemistry observes the chemical processes occurring in the environment that are affected by human activities and causes various environmental changes. This textbook presents the complex subject of environmental chemistry in the most comprehensible and easy to understand language. Some of the diverse topics covered in this textbook address the varied branches that fall under this category. Those in search of information to further their knowledge will be greatly assisted by this book.

Principles of Environmental Chemistry - American University James E Girard 2013-04-11

Written For Science Majors Who Have Completed A General Chemistry Course, Principles Of Environmental Chemistry, Third Edition Enables Students To Understand The Underlying Chemical Processes That Are Operating In The Environment While Demonstrating How Difficult It Is To Measure These Systems. It Emphasizes That All Living And Nonliving Parts Of Our Environment Are Made Up Of Chemicals And That All Of The Natural Processes Continuously Occurring In The Environment Involve Chemical Reactions. With This Concept Of Interdependence, Students Begin To See That Without Some Understanding Of Chemistry, It Is Impossible To Fully Understand Environmental Issues Such As Ozone Depletion, Global Warming, Air And Water Pollution, And The Hazards Of Radioactivity. The Third Edition Includes A New Chapter On Green Chemistry As Well As Numerous Updates Throughout To Address The Changes In The Field. Key Features: - Includes A New Chapter On Green Chemistry. - A New Key Term Glossary Is Now Included At The End Of The Text. - New Feature Boxes Assess Students Understanding Of Chapter Material With Analytical Questions And Problems. - Includes Additional Chemical Equations Throughout The Text. - A New Electronic Student Study Guide And Solutions Manual Is Available With The Third Edition. - Instructor'S Resources Include Powerpoint? Lecture Outlines, Answers To End Of Chapter Problems, And A Testbank. - A Student Companion Website Includes Chapter Outlines, Interactive Glossary, Flashcards, And Weblinks.

Basic Concepts of Environmental Chemistry - Des W. Connell 2005-07-14

Basic Concepts of Environmental Chemistry, Second Edition provides a theoretical basis for the behavior and biological effects of natural chemical entities and contaminants in natural systems, concluding with a practical focus on risk assessment and the environmental management of chemicals. The text uses molecular properties such as pola

Principles of Environmental Chemistry - 2015

Principles of Environmental Chemistry - Roy M. Harrison 2007

Environmental chemistry is becoming increasingly important and is crucial in the understanding of a range of issues, ranging from climate change to local pollution problems. Principles of Environmental Chemistry draws upon sections of the authors' previous text (Understanding our Environment) and reflects the growing trend of a more sophisticated approach to teaching environmental science at university. This new, revised text book focuses on the chemistry involved in environmental problems. Written by leading experts in the field, the book provides an in depth introduction to the chemical processes influencing the atmosphere, freshwaters, salt waters and soils. Subsequent sections discuss the behaviour of organic chemicals in the environment and environmental transfer between compartments such as air, soil and water. Also included is a section on biogeochemical cycling, which is crucial in the understanding of the behaviour of chemicals in the environment. Complete with worked examples, the book is aimed at advanced undergraduate and graduate chemistry students studying environmental chemistry.

Environmental Inorganic Chemistry for Engineers - James G. Speight 2017-05-10

Environmental Inorganic Chemistry for Engineers explains the principles of inorganic contaminant behavior, also applying these principles to explore available remediation technologies, and providing the design, operation, and advantages or disadvantages of the various remediation technologies. Written for environmental engineers and researchers, this reference provides the tools and methods that are imperative to protect and improve the environment. The book's three-part treatment starts with a clear and rigorous exposition of metals, including topics such as preparations, structures and bonding, reactions and properties, and complex formation and sequestering. This coverage is followed by a self-contained section concerning complex formation, sequestering, and organometallics, including hydrides and carbonyls. Part Two, Non-Metals, provides an overview of chemical periodicity and the fundamentals of their structure and properties. Clearly explains the principles of inorganic contaminant behavior in order to explore available remediation technologies Provides the design, operation, and advantages or disadvantages of the various remediation technologies Presents a clear exposition of metals, including topics such as preparations, structures, and bonding, reaction and properties, and complex formation and sequestering

Introduction to Environmental Engineering - Stefan Fränzle 2012-01-24

Building on the first principles of environmental chemistry, engineering, and ecology, this volume fills the need for an advanced textbook introducing the modern, integrated environmental management approach, with a view towards long-term sustainability and within the framework of international regulations. As such, it presents the classic technologies alongside innovative ones that are just now coming into widespread use, such as photochemical technologies and carbon dioxide sequestration. Numerous case studies from the fields of air, water and soil engineering describe real-life solutions to problems in pollution prevention and remediation, as an aid to practicing professional skills. With its tabulated data, comprehensive list of further reading, and a glossary of terms, this book doubles as a reference for environmental engineers and consultants.

Chemical Principles of Environmental Pollution - B. J. Alloway 1993

This book provides a scientific approach and comprehensive introduction to the subject of environmental pollution and is written in a manner which should be accessible to chemists, environmental scientists, geologists and geographers. The coverage is pollutant-centred and this serves to focus attention on the essential chemical aspects of each topic. Particular attention is paid to the transport of pollutants in the environment. The sources, chemical properties and reactions of pollutants in soils, air and water are all discussed, along with their associated toxicological effects and methods of monitoring, analysis and disposal. Readers of the book should obtain an understanding of the scientific principles of this field at a chemical level and should be able to approach the contentious issues surrounding this subject in a rational way. The book is intended for chemists, environmental scientists, geologists and geographers. 9780751400137.

Environmental Chemistry - John Wright 2004-03

Offers an accessible introduction to chemical principles and concepts and makes the subject accessible to those with little or no previous knowledge of chemistry. It is highly-illustrated, with global case studies, figures and tables.

Principles of Environmental Chemistry - James Girard 2010

Planet Earth : rocks, life, and history -- The Earth's atmosphere -- Global warming and climate change -- Chemistry of the troposphere -- Chemistry of the stratosphere -- Analysis of air and air pollutants -- Water resources -- Water pollution and water treatment -- Analysis of water and wastewater -- Fossil fuels : our major source of energy -- Nuclear power -- Energy sources for the future -- Inorganic metals in the environment -- Organic chemicals in the environment -- Insecticides, herbicides, and insect control -- Toxicology -- Asbestos -- The disposal of dangerous wastes.

Studyguide for Principles of Environmental Chemistry by Girard, James E., ISBN 9781449650155

- Cram101 Textbook Reviews 2014-05-22

Never HIGHLIGHT a Book Again! Includes all testable terms, concepts, persons, places, and events. Cram101 Just the FACTS101 studyguides gives all of the outlines, highlights, and quizzes for your textbook with optional online comprehensive practice tests. Only Cram101 is Textbook Specific. Accompanies: 9781449650155. This item is printed on demand.

Key Concepts in Environmental Chemistry - Grady Hanrahan 2011-09-12

Key Concepts in Environmental Chemistry provides a modern and concise introduction to environmental chemistry principles and the dynamic nature of environmental systems. It offers an intense, one-semester examination of selected concepts encountered in this field of study and provides integrated tools in explaining complex chemical problems of environmental importance. Principles typically covered in more comprehensive textbooks are well integrated into general chapter topics and application areas. The goal of this textbook is to provide students with a valuable resource for learning the basic concepts of environmental chemistry from an easy to follow, condensed, application and inquiry-based perspective. Additional statistical, sampling, modeling and data analysis concepts and exercises will be introduced for greater understanding of the underlying processes of complex environmental systems and fundamental chemical principles. Each chapter will have problem-oriented exercises (with examples throughout the body of the chapter) that stress the important concepts covered and research applications/case studies from experts in the field. Research applications will be directly tied to theoretical concepts covered in the chapter. Overall, this text provides a condensed and integrated tool for student learning and covers key

concepts in the rapidly developing field of environmental chemistry. Intense, one-semester approach to

learning Application-based approach to learning theoretical concepts In depth analysis of field-based and in situ analytical techniques Introduction to environmental modeling

Principles Of Environmental Chemistry:

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