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*Encyclopaedia Britannica* - 1973

**Phase-equilibrium Relations of the Common Rock-forming Oxides Except Water** - George Washington Morey 1964

Igneous and Metamorphic Petrology - Myron G. Best 2013-05-20

Igneous and metamorphic petrology has over the last twenty years expanded rapidly into a broad, multifaceted and increasingly

quantitative science. Advances in geochemistry, geochronology, and geophysics, as well as the appearance of new analytical tools, have all contributed to new ways of thinking about the origin and evolution of magmas, and the processes driving metamorphism. This book is designed to give students a balanced and comprehensive coverage of these new advances, as well as a firm grounding in the classical aspects of igneous and metamorphic petrology. The emphasis throughout is on the processes controlling petrogenesis, but care is taken to present the important descriptive information so crucial to interpretation. One of the most up-to-date synthesis of igneous and metamorphic petrology available. Emphasis throughout on latest experimental and field data. Igneous and metamorphic sections can be used independently if necessary.  
*Food Authentication* - Contantinos A.

Georgiou 2017-05-08

The determination of food authenticity is a vital component of quality control. Its importance has been highlighted in recent years by high-profile cases in the global supply chain such as the European horsemeat scandal and the Chinese melamine scandal which led to six fatalities and the hospitalisation of thousands of infants. As well as being a safety concern, authenticity is also a quality criterion for food and food ingredients. Consumers and retailers demand that the products they purchase and sell are what they purport to be. This book covers the most advanced techniques used for the authentication of a vast number of products around the world. The reader will be informed about the latest pertinent analytical techniques. Chapters focus on the novel techniques & markers that have emerged in recent years. An introductory section presents the concepts

of food authentication while the second section examines in detail the analytical techniques for the detection of fraud relating to geographical, botanical, species and processing origin and production methods of food materials and ingredients. Finally, the third section looks at consumer attitudes towards food authenticity, the application of bioinformatics to this field, and the Editor's conclusions and future outlook. Beyond being a reference to researchers working in food authentication it will serve as an essential source to analytical scientists interested in the field and food scientists to appreciate analytical approaches. This book will be a companion to under- and postgraduate students in their wander in food authentication and aims to be useful to researchers in universities and research institutions.

*The Metallurgist and Materials Technologist* - 1974

Episodes from the History of the Rare Earth Elements - C. H. Evans 2012-12-06

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**Cosmic Abundances** - Stephen S. Holt  
1996

**Using Geochemical Data** - Hugh

Rollinson 2021-05-06  
This textbook is a complete rewrite, and expansion of Hugh Rollinson's highly successful 1993 book *Using Geochemical Data: Evaluation, Presentation, Interpretation*. Rollinson and Pease's new book covers the explosion in geochemical thinking over the past three decades, as new instruments and techniques have come online. It provides a comprehensive overview of how modern geochemical data are used in the understanding of geological and petrological processes. It covers major element, trace element, and radiogenic and stable isotope geochemistry. It explains the potential of many geochemical techniques, provides examples of their application, and emphasizes how to interpret the resulting data. Additional topics covered include the critical statistical analysis of geochemical data, current geochemical techniques, effective display of geochemical data, and

the application of data in problem solving and identifying petrogenetic processes within a geological context. It will be invaluable for all graduate students, researchers, and professionals using geochemical techniques.

Emerging Freshwater Pollutants - Tatenda Dalu 2022-02-01

Emerging Freshwater Pollutants: Analysis, Fate and Regulations comprises of 20 chapters, all written by leading experts. This book is written in the most practical terms and is easy to understand, with numerous helpful examples and case studies and can be used as a practical guide and important educational tool on issues concerning freshwater emerging pollutants. The organisation of the book exposes the reader in logical succession to the full range of complex scientific and management aspects of emerging freshwater pollutants in the developing

world. The book recognises that water chemistry, emerging freshwater pollutants and management are inter-dependent disciplines. The book covers (i) the different monitoring techniques, current analytical approaches and instrumental analyses, (ii) fate and occurrence of emerging pollutants in aquatic systems and (iii) management policies and legislations on emerging pollutants. Thus, subsequent chapters elucidate chemicals with pollution potential, multi-detection approaches to analysis of organic pollutants in water, microplastics effects and photochemical transformation of emerging pollutants in freshwater systems. Whereas, other chapters address oxidation of organic compounds in aquatic systems, biomonitoring systems for detection of toxic levels of water pollutants, and health aspects of water recycling practices. This book melds several different perspectives on the subject of freshwater emerging

pollutants and shows the interrelationships between the various professions that deal with water quality issues. Further, within the presentation of each separate chapter is discussion of how the various scientific and management aspects of the subject interrelate. Includes case studies and practical examples in each chapter Presents a much-needed interdisciplinary approach, representing the overlap between water chemistry and emerging freshwater pollutants Provides a thorough introduction to emerging tropical and freshwater pollutants that typically occur in these systems

**Spectral Line Formation** - John T. Jefferies 1968

The purpose of this book is to discuss certain aspects of the theory of the formation and analysis of the line spectrum of a hot gas. The underlying motivation for most of the studies discussed here lies in a

desire to develop a physically sound procedure for interpreting the line spectrum of a stellar atmosphere ; correspondingly, the major emphasis is given to problems encountered in astrophysics.

**Resistance to Anti-Cancer Therapeutics Targeting Receptor Tyrosine Kinases and Downstream Pathways** - Yosef

Yarden 2019-02-02

This volume comprehensively covers the multiplicity and diversity of mechanisms underlying patient resistance to currently approved anti-cancer drugs, including tyrosine kinase inhibitors and monoclonal antibodies, blockers of growth factor receptors and their downstream pathways, which play essential functions in cancer progression. Each chapter will cover a specific group of targets and the cognate drugs, along with molecular modes of innate and evolving resistance.

## **Geology of Saline Deposits -**

International Union of Geological Sciences  
1972

Introduction to Planetary Science - Gunter  
Faure 2007-05-04

This textbook details basic principles of planetary science that help to unify the study of the solar system. It is organized in a hierarchical manner so that every chapter builds upon preceding ones. Starting with historical perspectives on space exploration and the development of the scientific method, the book leads the reader through the solar system. Coverage explains that the origin and subsequent evolution of planets and their satellites can be explained by applications of certain basic principles of physics, chemistry, and celestial mechanics and that surface features of the solid bodies can be interpreted by principles of geology.

## **Origin and Distribution of the Elements**

- L. H. Ahrens 2015-12-04

Origin and Distribution of the Elements, Volume 30 presents detailed studies of trace elements and isotopes and the use of these data with the techniques of physical and organic chemistry to make relevant interpretations in geology. This book discusses some of the problems of applied chemistry. Organized into five sections encompassing 89 chapters, this volume begins with an overview of the theories of nucleosynthesis that are based on broad empirical foundations involving experiment in nuclear physics and observation in geophysics and astronomy. This text then explores the primeval abundance of the elements wherein the composition of the material from which the Galaxy is formed. Other chapters consider the production of helium in the galaxy. This book discusses as well the dynamics of the cores of highly evolved massive stars. The final chapter

deals with the measurements of site populations in crystal structures by electron diffraction and X-ray. Physicists, astronomers, geologists, and geochemists will find this book extremely useful.

**Rare Earth Elements and Their Minerals** - Michael Aide 2020-06-17

This book describes the recent evolution of rare earth elements and their mineralogy, both natural and synthetic analogues.

Authors review and document rare earth element chemistry in the aqueous environment and the petrology of the rare earth element-bearing mineral Allanite. Synthetic rare earth minerals and their applications is a rapidly evolving discipline important to medicine, advanced digital technologies, and solid-state physics.

Authors report on the synthesis of a macrocyclic gadolinium complex and also gadolinium complexes and their applications in medicine. Authors present

compelling advances in gadolinium isotopes and oxides as substrates for induced excitation and luminescent material sciences.

*Mineralogy and Optical Mineralogy* - Melinda Darby Dyar 2008

The Alkali Metals - Kristi Lew 2009-08-15  
Explains the characteristics of alkali metals, where they are found, how they are used by humans, and their relationship to other elements found in the periodic table.

The Fluorspar Deposits of the Republics of South Africa and Bophuthatswana - I. T. Crocker 1988

*Field Conference* - Intermountain Association of Geologists (U.S.) 1967

The Genesis Mission - C.T. Russell 2003-07-31

NASA's Genesis mission, launched on

August 8, 2001 is the fifth mission in the Discovery series. Genesis addresses questions about the materials and processes involved in the origin of the solar system by providing precise knowledge of solar isotopic and elemental compositions for comparison with the compositions of meteoritic and planetary materials. This book describes the Genesis mission, the solar wind collector materials, the solar wind concentrator and simulations of its performance, the plasma ion and electron instruments, and the way these two instruments are used to determine the solar wind flow regime on board the spacecraft. The book is of interest to all potential users of the data returned by the Genesis mission, to those studying the isotopic and chemical composition of the early solar system whose work will be influenced by the measurements made by Genesis and by all those interested in the design and

implementation of space instruments to study space plasmas.

[The First Thousand Years of Glass-Making in the Ancient Near East](#) - Wendy Reade  
2021-04-08

This volume explores glass composition and production from the mid-second to mid-first millennia BC, the first thousand years of glass-making. Multi-element analyses of 132 glasses from Pella in Jordan, and Nuzi and Nimrud in Iraq (ancient Mesopotamia) produce new and important data that provide insights into the earliest glass production.

[Chemical Biomarkers in Aquatic Ecosystems](#) - Thomas S. Bianchi 2011-02-28

This textbook provides a unique and thorough look at the application of chemical biomarkers to aquatic ecosystems. Defining a chemical biomarker as a compound that can be linked to particular sources of organic matter identified in the sediment

record, the book indicates that the application of these biomarkers for an understanding of aquatic ecosystems consists of a biogeochemical approach that has been quite successful but underused. This book offers a wide-ranging guide to the broad diversity of these chemical biomarkers, is the first to be structured around the compounds themselves, and examines them in a connected and comprehensive way. This timely book is appropriate for advanced undergraduate and graduate students seeking training in this area; researchers in biochemistry, organic geochemistry, and biogeochemistry; researchers working on aspects of organic cycling in aquatic ecosystems; and paleoceanographers, petroleum geologists, and ecologists. Provides a guide to the broad diversity of chemical biomarkers in aquatic environments The first textbook to be

structured around the compounds themselves Describes the structure, biochemical synthesis, analysis, and reactivity of each class of biomarkers Offers a selection of relevant applications to aquatic systems, including lakes, rivers, estuaries, oceans, and paleoenvironments Demonstrates the utility of using organic molecules as tracers of processes occurring in aquatic ecosystems, both modern and ancient

Geochemistry - 2007

**Annual Field Conference** - Intermountain Association of Geologists (U.S.). Field Conference 1967

*Encyclopedia Britannica* - 1973

**Troia and the Troad** - Günther A. Wagner  
2013-03-09

It is my pleasure to welcome you here on

the occasion of the International Symposium, "Landscape Troia between Earth History and Culture". The topic Troia has stimulated many scientists, historians and experts in the history of arts to interpret data and adjust concepts regarding the development of early Troia. In the past two decades the Heidelberg Academy of Sciences and Humanities has supported several research activities which are related to the Troia project. One of the aims of the archaeometry laboratory is to localize Aegean and Anatolian sources for the procurement of prehistoric metals such as gold, silver, lead, copper and tin. In particular in the Troad, numerous mining and smelting sites have been found and characterized, allowing one to investigate to which extent they might have been exploited by the ancient Troians. When analytically comparing ores and slags with Troian metal artifacts, early trade

connections can be traced. The landscape around Troia underwent rather fast and drastic changes.

Handboek Van Die Geologiese Opname - Geological Survey (South Africa) 1959

A Dictionary of Earth Sciences - Michael Allaby 2008-03-20

Searchable dictionary database of earth science related topics including climatology, economic geology, geochemistry, oceanography, palaeontology, petrology, and volcanology.

**The Rare Earth Elements** - J.H.L. Voncken 2015-12-24

This book deals with the rare earth elements (REE), which are a series of 17 transition metals: scandium, yttrium and the lanthanide series of elements (lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium,

dysprosium, holmium, erbium, thulium, ytterbium and lutetium). They are relatively unknown to the wider public, despite their numerous applications and their critical role in many high-tech applications, such as high-temperature superconductors, phosphors (for energy-saving lamps, flat-screen monitors and flat-screen televisions), rechargeable batteries (household and automotive), very strong permanent magnets (used for instance in wind turbines and hard-disk drives), or even in a medical MRI application. This book describes the history of their discovery, the major REE ore minerals and the major ore deposits that are presently being exploited (or are planned to be exploited in the very near future), the physical and chemical properties of REEs, the mineral processing of REE concentrates and their extractive metallurgy, the applications of these elements, their economic aspects and the

influential economical role of China, and finally the recycling of the REE, which is an emerging field.

*Stable Isotope Geochemistry* - Jochen Hoefs  
2013-04-17

Stable Isotope Geochemistry is an introduction to the use of stable isotopes in the fields of geoscience. It is subdivided into three parts: - theoretical and experimental principles; - fractionation mechanisms of light elements; - the natural variations of geologically important reservoirs. In this updated 4th edition many of the chapters have been expanded, especially those on techniques and environmental aspects. The main focus is on recent results and new developments. For students and scientists alike the book will be a primary reference with regard to how and where stable isotopes can be used to solve geological problems.

*Lanthanide and Actinide Chemistry* - Simon

Cotton 2013-03-15

The only introduction into the exciting chemistry of Lanthanides and Actinides. The book is based on a number of courses on "f elements" The author has a long experience in teaching this field of chemistry

Lanthanides have become very common elements in research and technology applications; this book offers the basic knowledge The book offers insights into a vast range of applications, from lasers to synthesis The Inorganic Chemistry: A Textbook series reflects the pivotal role of modern inorganic and physical chemistry in a whole range of emerging areas, such as materials chemistry, green chemistry and bioinorganic chemistry, as well as providing a solid grounding in established areas such as solid state chemistry, coordination chemistry, main group chemistry and physical inorganic chemistry. Lanthanide and Actinide Chemistry is a one-volume

account of the Lanthanides (including scandium and yttrium), the Actinides and the Transactinide elements, intended as an introductory treatment for undergraduate and postgraduate students. The principal features of these elements are set out in detail, enabling clear comparison and contrast with the Transition Elements and Main Group metals. The book covers the extraction of the elements from their ores and their purification, as well as the synthesis of the man-made elements; the properties of the elements and principal binary compounds; detailed accounts of their coordination chemistry and organometallic chemistry, from both preparative and structural viewpoints, with a clear explanation of the factors responsible for the adoption of particular coordination numbers; spectroscopy and magnetism, especially for the lanthanides, with case studies and accounts

of applications in areas like magnetic resonance imaging, lasers and luminescence; nuclear separations and problems in waste disposal for the radioactive elements, particularly in the context of plutonium. Latest developments are covered in areas like the synthesis of the latest man-made elements, whilst there is a whole chapter on the application of lanthanide compounds in synthetic organic chemistry. End-of-chapter questions suitable for tutorial discussions are provided, whilst there is a very comprehensive bibliography providing ready access to further reading on all topics.

Upper Main Sequence Stars with Anomalous Abundances - C.R. Cowley  
2012-12-06

This volume contains papers presented at IAU Colloquium No. 90. at the Crimean Astrophysical Observatory in May of 1985. A few additional contributions are included

from authors who for various reasons were unable to attend the meeting. Four years have passed since the last major international conference on chemically peculiar stars of the upper main sequence was held in Liege. Belgium in 1981.

Previous conferences were held in 1975 (Vienna. Austria) and in 1965 (Greenbelt. Maryland. USA). As the proceedings of this Colloquium show. the recent availability of ultraviolet spectra of large numbers of normal and chemically peculiar A and B stars is having a major impact on the way we study these objects. and has led to many new. exciting and unanticipated results. Simultaneously. the more traditional study of optical spectra has been advanced through the increasing use of very high spectral resolution with high signal-to-noise detectors. The chemically peculiar (CP) stars on the upper main sequence belong in the standard framework within which we

understand stellar evolution and the history of matter. Recent work has made it clear that the unusual chemistry and magnetic structure of these objects is of relevance across the broad domain of stellar astronomy. from the upper main sequence to horizontal branch stars and white dwarfs. Metal poor (J>. Boo) as well as metal rich (Ap. Am) stars are an integral part of the picture.

*Rare Earth Elements in Groundwater Flow Systems* - Karen H. Johannesson  
2006-03-30

This is the first book of its kind to focus on the geochemistry of the lanthanide series elements in groundwater/aquifer environments. The contributors are leading researchers in the study of low-temperature geochemistry of rare earth elements. Individual chapters address analytical techniques, water-rock interactions, aqueous complexation, and the reactions

and processes that influence these heavy metals along groundwater flow paths.

**Encyclopedia Britannica** - 1970

Report of the Annual Meeting of the South African Association for the Advancement of Science - 1998

**Principles of Igneous and Metamorphic Petrology** - John D. Winter 2014-01-13

This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. For a combined, one-semester, junior/senior-level course in Igneous and Metamorphic Petrology. Also useful for programs that teach Igneous Petrology and Metamorphic Petrology. Typical texts on igneous and metamorphic petrology are geared to either advanced or novice petrology students. This unique text offers comprehensive, up-to-

date coverage of both igneous and metamorphic petrology in a single volume—and provides the quantitative and technical background required to critically evaluate igneous and metamorphic phenomena in a way that students at all levels can understand. The goal throughout is for students to be able to apply the techniques—and enjoy the insights of the results—rather than tinker with theory and develop everything from first principles.

Wine Traceability - Maria Carla Cravero  
2019-11-14

Wine traceability is a central theme in the current world market where consumers are increasingly demanding the quality and origin of food and drink. The wine production chain and wine composition are generally controlled by different laws (International Organization of Vine and Wine (OIV), European Union (EU), and national governments) and need specific

documentation. Nevertheless, wine production is subject to fraud.

Consequently, the improvement of the methods applied to verify the origin and quality of wines is very important to protect wine consumers and producers. In this book, eight different papers—six research papers and two reviews—address the topic from different points of view.

The Periodic Table - Paul Parsons  
2014-03-11

As one of the most recognizable images in science, the periodic table is ingrained in our culture. First drawn up in 1869 by Dmitri Mendeleev, its 118 elements make up not only everything on our planet but also everything in the entire universe. The Periodic Table looks at the fascinating story and surprising uses of each of those elements, whether solid, liquid or gas. From the little-known uses of gold in medicine to the development of the hydrogen bomb,

each entry is accompanied by technical data (category, atomic number, weight, boiling point) presented in easy-to-read headers, and a colour coding system that helps the reader to navigate through the different groups of elements. A remarkable display of thought-provoking science and beautiful photography, this guide will allow the reader to discover the world afresh.

**Electrokinetic Remediation for Environmental Security and Sustainability** - Alexandra B. Ribeiro  
2021-03-22

Electrokinetic Remediation for Environmental Security and Sustainability  
Explore this comprehensive reference on the remediation of contaminated substrates, filled with cutting-edge research and practical case studies  
Electrokinetic Remediation for Environmental Security and Sustainability delivers a thorough review of electrokinetic remediation (EKR)

for the treatment of inorganic and organic contaminants in contaminated substrates. The book highlights recent progress and developments in EKR in the areas of resource recovery, the removal of pollutants, and environmental remediation. It also discusses the use of EKR in conjunction with nanotechnology and phytoremediation. Throughout the book, case studies are presented that involve the field implementation of EKR technologies. The book also includes discussions of enhanced electrokinetic remediation of dredged co-contaminated sediments, solar-powered bioelectrokinetics for the mitigation of contaminated agricultural soil, advanced electro-fenton for remediation of organics, electrokinetic remediation for PPCPs in contaminated substrates, and the electrokinetic remediation of agrochemicals such as organochlorine compounds. Other topics include: A thorough introduction to

the modelling of electrokinetic remediation  
An exploration of the electrokinetic  
recovery of tungsten and removal of arsenic  
from mining secondary resources An  
analysis of pharmaceutically active  
compounds in wastewater treatment plants  
with a discussion of electrochemical  
advanced oxidation as an on-site treatment  
A review of rare earth elements, including  
general concepts and recovery techniques,  
like electrodialytic extraction A treatment  
of hydrocarbon-contaminated soil in cold  
climate conditions Perfect for  
environmental engineers and scientists,

geologists, chemical engineers, biochemical  
engineers, and scientists working with  
green technology, Electrokinetic  
Remediation for Environmental Security  
and Sustainability will also earn a place in  
the libraries of academic and industry  
researchers, engineers, regulators, and  
policy makers with an interest in the  
remediation of contaminated natural  
resources.

**Anatomy of the Western Phosphate  
Field** - Intermountain Association of  
Geologists (U.S.) 1967