

Handbook Of Nuclear Chemistry Vol 1 Basics Of Nuclear Science Vol 2 Elements And Isotopes Formation Transformation Distribution Vol 3 Nuclear Energy Production And Safety Issues

Fundamentals and Applications

Doe Fundamentals Handbook - Chemistry (Volume 2 of 2)

Geochemistry

Volume I: Triterpenoids

Isotope Effects In Chemistry and Biology

Handbook of Prompt Gamma Activation Analysis

Handbook of Radioactivity Analysis

Concepts and Applications

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Nato Handbook - an Alliance for the 1990s

Handbook of Nuclear Chemistry

CRC Handbook of Radioanalytical Chemistry Volume 1

Routledge Handbook of Nuclear Proliferation and Policy

Radiochemistry and Nuclear Chemistry - Volume I

Fundamentals of Nuclear Pharmacy

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Introduction to Nuclear Science

Handbook of Spectroscopy

Science and Technology

Recent Achievements and Perspectives in Nuclear Physics

Vol. 1: Basics of Nuclear Science; Vol. 2: Elements and Isotopes: Formation, Transformation, Distribution; Vol. 3: Chemical Applications of Nuclear Reactions and Radiation; Vol. 4: Radiochemistry and Radiopharmaceutical Chemistry in Life Sciences; Vol. 5: Instrumentation, Separation Techniques, Environmental Issues; Vol. 6: Nuclear Energy Production and Safety Issues.

The Chemistry of Superheavy Elements

Handbook of Nuclear Engineering

Handbook of Radioactivity Analysis

Implementing Legislation

Handbook on Radiation Probing, Gauging, Imaging and Analysis

Volume I: Basics and Techniques

Springer Handbook of Metrology and Testing

Handbook of Nuclear Chemistry

Handbook of Generation IV Nuclear Reactors

Nuclear Engineering Handbook, Second Edition

Handbook of Nuclear Medicine and Molecular Imaging for Physicists

Comprehensive Nuclear Materials

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STRICKLAND KAELYN

Fundamentals and Applications EOLSS Publications

Mathematical modelling is an important part of nuclear medicine. Therefore, several chapters of this book have been dedicated towards describing this topic. In these chapters, an emphasis has been put on describing the mathematical modelling of the radiation transport of photons and electrons, as well as on the transportation of radiopharmaceuticals between different organs and compartments. It also includes computer models of patient dosimetry. Two chapters of this book are devoted towards introducing the concept of biostatistics and radiobiology. These chapters are followed by chapters detailing dosimetry procedures commonly used in the context of diagnostic imaging, as well as patient-specific dosimetry for radiotherapy treatments. For safety reasons, many of the methods used in nuclear medicine and molecular imaging are tightly regulated. Therefore, this volume also highlights the basic principles for radiation protection. It discusses the process of how guidelines and regulations aimed at minimizing radiation exposure are determined and implemented by international organisations. Finally, this book describes how different dosimetry methods may be utilized depending on the intended target, including whole-body or organ-specific imaging, as well as small-scale to cellular dosimetry. This text will be an invaluable resource for libraries, institutions, and clinical and academic medical physicists searching for a complete account of what defines nuclear medicine. The most comprehensive reference available providing a state-of-the-art overview of the field of nuclear medicine Edited by a leader in the field, with contributions from a team of experienced medical physicists, chemists, engineers, scientists, and clinical medical personnel Includes the latest practical research in the field, in addition to explaining fundamental theory and the field's history

Doe Fundamentals Handbook - Chemistry (Volume 2 of 2) CRC Press

This is an authoritative compilation of information regarding methods and data used in all phases of nuclear engineering. Addressing nuclear engineers and scientists at all levels, this book provides a condensed reference on nuclear engineering since 1958.

Geochemistry Elsevier

Established as a classic text on nuclear chemistry and pharmacy, Fundamentals of Nuclear Pharmacy has been thoroughly revised with new information added covering innovations in imaging technology and clinical applications in the field. The Sixth Edition also eliminates outdated information from previous editions on radiopharmaceuticals now discontinued from the market. Dr. Gopal B. Saha's books have continually been praised for their clarity and accuracy while setting new standards for making complex theoretical concepts readily understandable to the reader. Like past editions, this book is intended to be used as a textbook on nuclear chemistry and pharmacy for nuclear medicine residents and students and as a reference book for nuclear medicine physicians and radiologists. New sections in the Sixth Edition include: • PET/CT and SPECT/CT • Digital Imaging • Exploratory IND • Nanoparticle Imaging • Treatment of liver cancer with 90Y-TheraSpheres and 90Y-SIR-Spheres • Treatment of Non-Hodgkin's lymphoma with 131I-Bexxar

Volume I: Triterpenoids Routledge

Handbook of Generation IV Nuclear Reactors presents information on the current fleet of Nuclear Power Plants (NPPs) with water-cooled reactors (Generation III and III+) (96% of 430 power reactors in the world) that have relatively low thermal efficiencies (within the range of 32-36%) compared to those of modern advanced thermal power plants (combined cycle gas-fired power plants - up to 62% and supercritical pressure coal-fired power plants - up to 55%). Moreover, thermal efficiency of the current fleet of NPPs with water-cooled reactors cannot be increased significantly without completely different innovative designs, which are Generation IV reactors. Nuclear power is vital for generating electrical energy without carbon emissions. Complete with the latest research, development, and design, and written by an international team of experts, this handbook is completely dedicated to Generation IV reactors. Presents the first comprehensive handbook dedicated entirely to generation IV nuclear reactors Reviews the latest trends and developments Complete with the latest research, development, and design information in generation IV nuclear reactors Written by an international team of experts in the field

Isotope Effects In Chemistry and Biology Lulu.com

The Chemistry Handbook was developed to assist nuclear facility operating contractors in providing operators, maintenance personnel, and the technical staff with the necessary fundamentals training to ensure a basic understanding of chemistry. The handbook includes information on the atomic structure of matter; chemical bonding; chemical equations; chemical interactions involved with corrosion processes; water chemistry control, including the principles of water treatment; the hazards of chemicals and gases, and basic gaseous diffusion processes. This information will provide personnel with a foundation for understanding the chemical properties of materials and the way these properties can impose limitations on the operation of equipment and systems.

Handbook of Prompt Gamma Activation Analysis Walter de Gruyter GmbH & Co KG

Impressive in its overall size and scope, this five-volume reference work provides researchers with the tools to push them into the forefront of the latest research. The Handbook covers all of the chemical aspects of nuclear science starting from the physical basics and including such diverse areas as the chemistry of transactinides and exotic atoms as well as radioactive waste management and radiopharmaceutical chemistry relevant to nuclear medicine. The nuclear methods of the investigation of chemical structure also receive ample space and attention. The international team of authors consists of 77 world-renowned experts - nuclear chemists, radiopharmaceutical chemists and physicists - from Austria, Belgium, Germany, Great Britain, Hungary, Holland, Japan, Russia, Sweden, Switzerland and the United States. The Handbook is an invaluable reference for nuclear scientists, biologists, chemists, physicists, physicians practicing nuclear medicine, graduate students and teachers - virtually all who are involved in the chemical and radiopharmaceutical aspects of nuclear science. The Handbook also provides for further reading through its rich selection of references.

Handbook of Radioactivity Analysis Springer Science & Business Media

The second edition of "The Chemistry of the Superheavy Elements" provides a complete coverage of the chemistry of a series of elements beginning with atomic number 104 - the transactinides or superheavy elements - including their nuclear properties and production in nuclear reactions at heavy-ion accelerators. The contributors to this work include many renowned scientists who, during the last decades, have made vast contributions towards understanding the physics and chemistry of these elusive elements, both experimentally and theoretically. The main emphasis here is on

demonstrating the fascinating studies involved in probing the architecture of the Periodic Table at its uppermost end, where relativistic effects drastically influence chemical properties. All known chemical properties of these elements are described together with the experimental techniques applied to study these short-lived man-made elements one atom-at-a-time. The status of theoretical chemistry and of empirical models is presented as well as aspects of nuclear physics. In addition, one chapter outlines the meanderings in this field from a historical perspective and the search for superheavy elements in Nature.

Concepts and Applications Butterworth-Heinemann

This revised and extended 6 volume handbook set is the most comprehensive and voluminous reference work of its kind in the field of nuclear chemistry. The Handbook set covers all of the chemical aspects of nuclear science starting from the physical basics and including such diverse areas as the chemistry of transactinides and exotic atoms as well as radioactive waste management and radiopharmaceutical chemistry relevant to nuclear medicine. The nuclear methods of the investigation of chemical structure also receive ample space and attention. The international team of authors consists of scores of world-renowned experts - nuclear chemists, radiopharmaceutical chemists and physicists - from Europe, USA, and Asia. The Handbook set is an invaluable reference for nuclear scientists, biologists, chemists, physicists, physicians practicing nuclear medicine, graduate students and teachers - virtually all who are involved in the chemical and radiopharmaceutical aspects of nuclear science. The Handbook set also provides further reading via the rich selection of references.

Medical Radionuclide Production Springer Science & Business Media

This book aims to explore basic principles, concepts and applications of geochemistry. Topics include chemical weathering, impacts on living beings and water, geochemical cycles, oxidation and redox reactions in geochemistry, isotopes, analytical techniques, medicinal, inorganic, marine, atmospheric, and environmental applications, as well as case studies. This book helps in understanding the chemical composition of the earth and its applications. It also includes beneficial effects, bottlenecks, solutions, and future directions in geochemistry.

Handbook of Nuclear Chemistry Springer Science & Business Media

Building upon the success of the first edition, the Nuclear Engineering Handbook, Second Edition, provides a comprehensive, up-to-date overview of nuclear power engineering. Consisting of chapters written by leading experts, this volume spans a wide range of topics in the areas of nuclear power reactor design and operation, nuclear fuel cycles, and radiation detection. Plant safety issues are addressed, and the economics of nuclear power generation in the 21st century are presented. The Second Edition also includes full coverage of Generation IV reactor designs, and new information on MRS technologies, small modular reactors, and fast reactors.

John Wiley & Sons

This handbook is a practical aid to legislative drafting that brings together, for the first time, model texts of provisions covering all aspects of nuclear law in a consolidated form. Organised along the same lines as the Handbook on Nuclear Law, published by the IAEA in 2003, and containing updated material on new legal developments, this publication represents an important companion resource for the development of new or revised nuclear legislation, as well as for instruction in the fundamentals of nuclear law. It will be particularly useful for those Member States embarking on new or expanding existing nuclear programmes.

Handbook of Terpenoids John Wiley & Sons

Prompt gamma activation analysis (PGAA) is a unique, non-destructive nuclear analytical method with multi-element capabilities. It is most effective if intense neutron beams (especially cold beams) of nuclear reactors are used to induce the prompt gamma radiation. Based largely on the authors' pioneering research in cold neutron PGAA, the handbook describes the methodology in self-contained manner and reviews recent applications. The library of prompt gamma ray data and spectra for all natural elements is a unique aid to the practitioner. The level is understandable by a broad audience, which facilitates teaching and training. The Handbook of Prompt Gamma Activation Analysis is a comprehensive handbook written for those practising the method, wanting to implement it at a reactor facility, or just looking for a powerful non-destructive method of element analysis. The book is also useful for nuclear physics, chemistry and engineering scientists, scholars and graduate students interested in neutron-induced gamma ray spectroscopy and nuclear analytical methods.

Nato Handbook - an Alliance for the 1990s Springer Science & Business Media

Radiochemistry and Nuclear Chemistry theme is a component of Encyclopedia of Chemical Sciences, Engineering and Technology Resources in the global Encyclopedia of Life Support Systems (EOLSS), which is an integrated compendium of twenty one Encyclopedias. The content of the Theme on Radiochemistry and Nuclear Chemistry provides the essential aspects and a myriad of issues of great relevance to our world such as: Isotope Effects, Isotope Separation and Isotope Fractionation; Radiometric Dating and Tracing; Radiochemical Techniques; Radionuclides in Chemical Research; Nuclear Methods in Material Research; Radiation Chemistry; Radiation Biology and Radiation Protection; Radiochemistry and Radiopharmaceutical Chemistry for Medicine; Chemistry of the Actinide Elements; Production And Chemistry Of Transactinide Elements; Nuclear Waste Management and the Nuclear Fuel Cycle; High-intensity Lasers in Nuclear Science; Nuclear Forensics; Nuclear Processes in Nature; Subatomic Particles, Nuclear Structure and Stability. These two volumes are aimed at the following five major target audiences: University and College students Educators, Professional practitioners, Research personnel and Policy analysts, managers, and decision makers and NGOs.

Handbook of Nuclear Chemistry Springer Science & Business Media

Handbook of Radioactivity Analysis is written by experts in the measurement of radioactivity. The book describes the broad scope of analytical methods available and instructs the reader on how to select the proper technique. It is intended as a practical manual for research which requires the accurate measurement of radioactivity at all levels, from the low levels encountered in the environment to the high levels measured in radioisotope research. This book contains sample preparation procedures, recommendations on steps to follow, necessary calculations, computer controlled analysis, and high sample throughput techniques. Each chapter includes practical techniques for application to nuclear safety, nuclear safeguards, environmental analysis, weapons disarmament, and assays required for research in biomedicine and agriculture. The fundamentals of radioactivity properties, radionuclide decay, and methods of detection are included to provide the basis for a thorough understanding of the analytical procedures described in the book. Therefore,

the Handbook can also be used as a teaching text. Key Features * Includes sample preparation techniques for matrices such as soil, air, plant, water, animal tissue, and surface swipes * Provides procedures and guidelines for the analysis of commonly encountered na
CRC Handbook of Radioanalytical Chemistry Volume 1 Woodhead Publishing
Radiochemistry and Nuclear Chemistry theme is a component of Encyclopedia of Chemical Sciences, Engineering and Technology Resources in the global Encyclopedia of Life Support Systems (EOLSS), which is an integrated compendium of twenty one Encyclopedias. The content of the Theme on Radiochemistry and Nuclear Chemistry provides the essential aspects and a myriad of issues of great relevance to our world such as: Isotope Effects, Isotope Separation and Isotope Fractionation; Radiometric Dating and Tracing; Radiochemical Techniques; Radionuclides in Chemical Research; Nuclear Methods in Material Research; Radiation Chemistry; Radiation Biology and Radiation Protection; Radiochemistry and Radiopharmaceutical Chemistry for Medicine; Chemistry of the Actinide Elements; Production And Chemistry Of Transactinide Elements; Nuclear Waste Management and the Nuclear Fuel Cycle; High-intensity Lasers in Nuclear Science; Nuclear Forensics; Nuclear Processes in Nature; Subatomic Particles, Nuclear Structure and Stability. These two volumes are aimed at the following five major target audiences: University and College students Educators, Professional practitioners, Research personnel and Policy analysts, managers, and decision makers and NGOs.

Routledge Handbook of Nuclear Proliferation and Policy Academic Press

A comprehensive, authoritative and up-to-date reference for the newcomer to radiopharmaceuticals and those already in the field. Radiopharmaceuticals are used to detect and characterise disease processes, or normal biological function, in living cells, animals or humans. Used as tracer molecules, they map the distribution, uptake and metabolism of the molecule in clinical studies, basic research or applied research. The area of radiopharmaceuticals is expanding rapidly. The number of PET centers in the world is increasing at 20% per year, and many drug companies are utilising PET and other forms of radiopharmaceutical imaging to evaluate products. * Readers will find coverage on a number of important topics such as radionuclide production, PET and drug development, and regulations * Explains how to use radiopharmaceuticals for the diagnosis and therapy of cancer and other diseases * The editors and a majority of the contributors are from the United States

Radiochemistry and Nuclear Chemistry - Volume I Handbook of Nuclear Chemistry Vol. 1: Basics of Nuclear Science; Vol. 2: Elements and Isotopes: Formation, Transformation, Distribution; Vol. 3: Chemical Applications of Nuclear Reactions and Radiation; Vol. 4: Radiochemistry and Radiopharmaceutical Chemistry in Life Sciences; Vol. 5: Instrumentation, Separation Techniques, Environmental Issues; Vol. 6: Nuclear Energy Production and Safety Issues.

Written to provide students who have limited backgrounds in the physical sciences and math with an accessible textbook on nuclear science, this edition continues to provide a clear and complete introduction to nuclear chemistry and physics, from basic concepts to nuclear power and medical applications. Incorporating suggestions from adopting profes

Fundamentals of Nuclear Pharmacy Springer

Handbook of Radioactivity Analysis: Radiation Physics and Detectors, Volume One, and Radioanalytical Applications, Volume Two, Fourth Edition, constitute an authoritative reference on the principles, practical techniques and procedures for the accurate measurement of radioactivity - everything from the very low levels encountered in the environment, to higher levels measured in radioisotope research, clinical laboratories, biological sciences, radionuclide standardization, nuclear medicine, nuclear power, and fuel cycle facilities, and in the implementation of nuclear forensic analysis and nuclear safeguards. It includes sample preparation techniques for all types of matrices found in the environment, including soil, water, air, plant matter and animal tissue, and surface swipes. Users will find the latest advances in the applications of radioactivity analysis across various fields, including environmental monitoring, radiochemical standardization, high-resolution beta imaging, automated radiochemical separation, nuclear forensics, and more. Spans two volumes, Radiation Physics and Detectors and Radioanalytical Applications Includes a new chapter on the analysis of environmental radionuclides Provides the latest advances in the applications of liquid and solid scintillation analysis, alpha- and gamma spectrometry, mass spectrometric analysis, Cherenkov counting, flow-cell radionuclide analysis, radionuclide standardization, aerosol analysis, high-resolution beta imaging techniques, analytical techniques in nuclear forensics, and nuclear safeguards Describes the timesaving techniques of computer-controlled automatic separation and activity analysis of radionuclides Provides an extensive table of the radiation characteristics of most radionuclides of interest for the radioanalytical chemist

Radiochemistry and Nuclear Chemistry - Volume II Elsevier

This new Handbook is a comprehensive examination of the rich and complex issues of nuclear proliferation in the early 21st century. The future of the decades-long effort to prevent the further spread of weapons of mass destruction is at a crossroads today. If international nonproliferation efforts are to be successful, an integrated, multi-tiered response will almost certainly be necessary. A serious, thorough, and clear-eyed examination of the range of threats, challenges, and opportunities facing the international community is a necessary first step. This Handbook, which presents the most up-to-date analysis and policy recommendations on these critical issues by recognized, leading scholars in the field, intends to provide such an examination. The volume is divided into three major parts: Part I presents detailed threat assessments of proliferation risks across the globe, including specific regions and countries. Part II explains the various tools developed by the international community to address these proliferation threats. Part III addresses the proliferation risks and political challenges arising from nuclear energy production, including potential proliferation by aspiring states and nonstate groups. This Handbook will be of great interest to students and practitioners of nuclear proliferation, arms control, global governance, diplomacy, and global security and IR general.

Handbook of Radioactivity Analysis Springer Science & Business Media

This Handbook, pinpoints salient features of known information about Terpenoids in a readily accessible and readable format. Terpenoids have singularly enriched organic chemistry by its variety of structural types, by its wealth of unexpected reactions, rearrangements and spectral features, and by offering exciting targets for synthesis. Much imaginative experimental work has been invested in exploring their natural pathways. Recent years have revealed an increasingly important biological and ecological role for several of its members.

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