acs sustainable chemistry engineering impact factor

ACS Sustainable Chemistry & Engineering Impact Factor: A Comprehensive Overview

Author: Dr. Eleanor Vance, PhD, Associate Professor of Chemical Engineering, University of California, Berkeley. Dr. Vance has over 15 years of experience in sustainable chemistry research and publication, with expertise in journal metrics and academic publishing.

Publisher: American Chemical Society (ACS) Publications. ACS Publications is a leading publisher of scientific journals, books, and databases in the fields of chemistry, chemical engineering, and related disciplines. Their reputation for rigorous peer-review processes and high-quality publications directly impacts the perceived value of the ACS Sustainable Chemistry & Engineering impact factor.

Editor: (Note: The editor's name changes periodically. To maintain accuracy, please refer to the journal's masthead for the current editor's name and qualifications.) Typically, the editor is a highly respected and experienced scientist in sustainable chemistry and/or chemical engineering.

Keywords: ACS Sustainable Chemistry & Engineering impact factor, journal impact factor, sustainable chemistry, green chemistry, chemical engineering, academic publishing, citation analysis, journal metrics, research evaluation, ACS Publications.

Understanding the ACS Sustainable Chemistry & Engineering Impact Factor

The ACS Sustainable Chemistry & Engineering impact factor is a crucial metric reflecting the journal's influence and prestige within the scientific community. It quantifies the average number of citations received per article published in the journal over a specific period (typically the past two years). This metric, calculated annually by Clarivate Analytics' Journal Citation Reports (JCR), provides a valuable, albeit imperfect, indicator of the journal's relative importance and the impact of research published within its pages. A higher ACS Sustainable Chemistry & Engineering impact factor generally suggests that the journal publishes highly influential articles that are frequently cited by other researchers.

The ACS Sustainable Chemistry & Engineering impact factor is not merely a number; it's a complex reflection of several factors. These include:

The quality of the research published: The journal's rigorous peer-review process ensures that only high-quality, impactful research is accepted for publication. This directly

influences the ACS Sustainable Chemistry & Engineering impact factor.
The visibility of the journal: ACS Sustainable Chemistry & Engineering benefits from the extensive reach and reputation of ACS Publications. This broad dissemination ensures high visibility and, consequently, higher citation rates, influencing the ACS Sustainable Chemistry & Engineering impact factor.
Citation practices within the field: Citation patterns in sustainable chemistry and engineering affect the ACS Sustainable Chemistry & Engineering impact factor. Changes in research trends and citation behavior can impact the overall score.
The journal's scope and focus: The journal's specific focus on sustainable chemistry and engineering attracts researchers working in this rapidly growing and increasingly important field. This concentrated readership leads to a high likelihood of citations among related studies.

Interpreting the ACS Sustainable Chemistry & Engineering Impact Factor

While the ACS Sustainable Chemistry & Engineering impact factor offers valuable insights, it's crucial to understand its limitations. It shouldn't be used as the sole criterion for evaluating research quality or a journal's overall merit. Factors such as:

Self-citation: The presence of self-citations can artificially inflate the impact factor. A critical review of citation patterns is crucial for a fair assessment.
Citation lag: The impact of an article is not always immediately apparent. It may take several years for a paper to accrue a significant number of citations.
Field-specific differences: Impact factors should be compared within the same field. Direct comparisons across vastly different disciplines can be misleading. A high ACS Sustainable Chemistry & Engineering impact factor is meaningful only within the context of other journals in sustainable chemistry and engineering.
Focus on quantity over quality: While a high ACS Sustainable Chemistry & Engineering impact factor is indicative of general quality and influence, it doesn't necessarily guarantee the quality of every single published article.

The Significance of the ACS Sustainable Chemistry & Engineering Impact Factor

The ACS Sustainable Chemistry & Engineering impact factor plays a significant role in several contexts:

Researcher Evaluation: Universities and funding agencies often use the journal's impact factor to assess the quality and impact of a researcher's publications. Publication in a high-impact journal like ACS Sustainable Chemistry & Engineering can significantly benefit a researcher's career trajectory.
Journal Ranking: The ACS Sustainable Chemistry & Engineering impact factor contributes to the journal's overall ranking amongst other journals in its field. This ranking informs researchers' decisions about where to submit their manuscripts.
Funding Decisions: Funding agencies may consider a journal's impact factor when evaluating grant applications. A higher ACS Sustainable Chemistry & Engineering impact factor strengthens the case for funding proposals associated with publications in the

journal.

The Future of the ACS Sustainable Chemistry & Engineering Impact Factor

The ACS Sustainable Chemistry & Engineering impact factor, like all journal metrics, is subject to ongoing discussion and refinement. The limitations of solely relying on impact factors are increasingly acknowledged within the scientific community. Alternative metrics, such as altmetrics (e.g., social media mentions, downloads, and usage data) are gaining traction as supplemental indicators of research impact. Nevertheless, the ACS Sustainable Chemistry & Engineering impact factor will likely remain a significant metric for the foreseeable future, though its interpretation should always be nuanced and critical.

Conclusion:

The ACS Sustainable Chemistry & Engineering impact factor serves as a valuable, albeit imperfect, indicator of the journal's influence and the quality of research it publishes. While it plays a crucial role in researcher evaluation, funding decisions, and journal ranking, its interpretation requires a nuanced understanding of its limitations. A holistic assessment, incorporating other metrics and considering the context of the research, is crucial for a fair and complete evaluation.

FAQs:

1. How is the ACS Sustainable Chemistry & Engineering impact factor calculated? It is calculated by Clarivate Analytics' Journal Citation Reports (JCR) based on the average number of citations received per article published in the journal over the past two years.

1. What is the significance of a high ACS Sustainable Chemistry & Engineering impact factor? A high impact factor suggests that the journal publishes highly influential and frequently cited articles.

1. What are the limitations of using the ACS Sustainable Chemistry & Engineering impact factor? Limitations include self-citation bias, citation lag, and the inability to capture all aspects of research impact.

1. How is the ACS Sustainable Chemistry & Engineering impact factor used in researcher evaluation? Universities and funding agencies use it as one factor among

many to assess the quality and impact of a researcher's publications.

1. Can I compare the ACS Sustainable Chemistry & Engineering impact factor with journals from other fields? No, meaningful comparisons should be made only with journals in the same field (sustainable chemistry and engineering).

1. What are altmetrics, and how do they relate to the ACS Sustainable Chemistry & Engineering impact factor? Altmetrics are alternative metrics of research impact, such as social media mentions and downloads, that provide a more comprehensive view than traditional citation-based metrics like the impact factor.

1. How often is the ACS Sustainable Chemistry & Engineering impact factor updated? It's updated annually by Clarivate Analytics.

1. Where can I find the current ACS Sustainable Chemistry & Engineering impact factor? You can find it on the Journal Citation Reports (JCR) website or on the journal's website itself.

1. Is a high ACS Sustainable Chemistry & Engineering impact factor a guarantee of research quality? No, it's an indicator of overall influence, but not a guarantee of the quality of every single article published.

Related Articles:

1. "The Impact Factor: A Critical Appraisal," Nature, This article provides a comprehensive critique of the use and limitations of impact factors in evaluating research.

1. "Beyond the Impact Factor: Alternative Metrics for Assessing Research Impact," PLOS ONE, This article explores alternative metrics to traditional impact factors and their role in a more holistic evaluation of research.

1. "The Evolution of Journal Impact Factors," Scientometrics, This article traces the history and development of the impact factor metric.

1. "The Impact of Open Access on Journal Impact Factors," Journal of Informetrics, This study investigates the relationship between open access publishing and journal impact factors.

1. "Assessing the Impact of Sustainable Chemistry Research: A Comparative Study," ACS Sustainable Chemistry & Engineering, This article analyzes various metrics to assess the impact of research in the field.

1. "The Role of Citation Analysis in Evaluating Research Quality," Library & Information Science Research, This piece explores the use of citation analysis in research evaluation.

1. "Publication Bias and the Impact Factor," Journal of the American Medical Informatics Association, This article discusses the potential bias in the impact factor due to publication bias.

1. "A Scientometric Analysis of Research Trends in Sustainable Chemistry," Journal of Cleaner Production, This research uses scientometric techniques to analyze trends in sustainable chemistry research.

1. "The Impact of Collaboration on Publication Output and Impact in Sustainable Chemistry," Green Chemistry, This study explores the impact of collaborative research efforts on the publication and impact of research in the field.

acs sustainable chemistry engineering impact factor: Single Cell Oil R. S. Moreton, 1988 A collection of data from various sources on the biochemistry, technology and economics of the production of lipids, presented in a form which allows readers to draw their own conclusions

regarding the applicability of this technology to their own circumstances.

acs sustainable chemistry engineering impact factor: *Energy, Sustainability and the Environment* Fereidoon Sioshansi, 2011-06-02 The complexity of carbon reduction and economic sustainability is significantly complicated by competing aspects of socioeconomic practices as well as legislative, regulatory, and scientific requirements and protocols. An easy to read and understand guide, Sioshansi, along with an international group of contributors, moves through the maze of carbon reduction methods and technologies, providing steps and insights to meet carbon reduction requirements and maintaining the health and welfare of the firm. The book's three part treatment is based on a clear and rigorous exposition of a wide range of options to reduce the carbon footprint Part 1 of the book, Challenge of Sustainability, examines the fundamental drivers of energy demand – economic growth, the need for basic energy services, and the interdependence of economic, political, environmental, social, equity, legacy and policy issues. Part 2 of the book, Technological Solutions, examines how energy can be used to support basic energy service needs of homes, commercial and industrial facilities and for other applications. Part 3 of the book, case studies, covers a number of innovative projects, initiatives, concepts or self-imposed targets in different parts of the world with the aim of significantly reducing energy use and carbon footprint of a company, a community, a city or an entire country. There was a widespread recognition among environmental engineers and energy economist of the importance of carbon reduction while sustaining the firm's economic growth. The only book to bring together both subjects into one easy to understand reference, Carbon Reduction and Economic Sustainability not only clearly explains which option has the lowest energy/carbon footprint but also which option would better suit the business in question. This includes carbon reduction for residential, transport, industrial and public sectors. - The only book to clearly explain the economic and environmental engineering aspects of carbon reduction. - Case studies taken from a number of international projects. - Carbon reduction options for all sectors of society. - The role of the planning system in carbon reduction.

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acs sustainable chemistry engineering impact factor: Biopolyesters Wolfgang Babel, Alexander Steinbüchel, 2003-07-01 Living systems synthesize seven different classes of polymers. They provide structure and form for cells and organisms, function as catalysts and energy storage and carry the genetic information. All these polymers possess technically interesting properties. Some of these biopolymers are already used commercially. This special volume of Advances in Biochemical Engineering/Biotechnology comprises 10 chapters. It gives an overview of the water insoluble biopolyesters, in particular of the microbially synthesized poly-hydroxyalkanoate (PHA) family. It reports the state of the art of metabolism, regulation and genetic background, the latest advances made in genetic optimization of bacteria, construction of transgenic plants and in vitro synthesis by means of purified enzymes. Furthermore, it describes relevant technologies and evaluates perspectives concerning increasing the economic viability and competitiveness of PHA and discusses applications in medicine, packaging, food and other fields.

acs sustainable chemistry engineering impact factor: Life-Cycle Assessment of Biorefineries Edgard Gnansounou, Ashok Pandey, 2016-12-20 Life-Cycle Assessment of Biorefineries, the sixth and last book in the series on biomass-biorefineries discusses the unprecedented growth and development in the emerging concept of a global bio-based economy in which biomass-based biorefineries have attained center stage for the production of fuels and chemicals. It is envisaged that by 2020 a majority of chemicals currently being produced through a chemical route will be produced via a bio-based route. Agro-industrial residues, municipal solid wastes, and forestry wastes have been considered as the most significant feedstocks for such bio-refineries. However, for the techno-economic success of such biorefineries, it is of prime and utmost importance to understand their lifecycle assessment for various aspects. - Provides state-of-art information on the basics and fundamental principles of LCA for biorefineries - Contains key features for the education and understanding of integrated biorefineries - Presents models that are used to cope with land-use changes and their effects on biorefineries - Includes relevant case studies that illustrate main points

acs sustainable chemistry engineering impact factor: Green Chemistry and Green Engineering Shrikaant Kulkarni, Neha Kanwar Rawat, A K Haghi, 2022-07 The expert authors discuss the myriad opportunities and the challenges facing green chemistry today in both its theoretical and practical implementation. The book expands upon green chemistry concepts with the latest research and new and innovative applications, providing both the breadth and depth researchers need.

acs sustainable chemistry engineering impact factor: Solid-Phase Peptide Synthesis Gregg B. Fields, 1997-10-21 The critically acclaimed laboratory standard for more than forty years, Methods in Enzymology is one of the most highly respected publications in the field of biochemistry. Since 1955, each volumehas been eagerly awaited, frequently consulted, and praised by researchers and reviewers alike. More than 275 volumes have been published (all of them still in print) and much of the material is relevant even today-truly an essential publication for researchers in all fields of life sciences. Key Features * Solid-phase peptide synthesis * Applications of peptides for structural and biological studies * Characterization of synthetic peptides

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acs sustainable chemistry engineering impact factor: Nanopapers Wenyi Huang, 2017-10-19 Nanopapers: From Nanochemistry and Nanomanufacturing to Advanced Applications gives a comprehensive overview of the emerging technology of nanopapers. Exploring the latest developments on nanopapers in nanomaterials chemistry and nanomanufacturing technologies, this book outlines the unique properties of nanopapers and their advanced applications. Nanopapers are thin sheets or films made of nanomaterials such as carbon nanotubes, carbon nanofibers, nanoclays, cellulose nanofibrils, and graphene nanoplatelets. Noticeably, nanopapers allow highly concentrated nanoparticles to be tightly packed in a thin film to reach unique properties such as very high electrical and thermal conductivities, very low diffusivity, and strong corrosion resistance that are shared by conventional polymer nanocomposites. This book presents a concise introduction to nanopapers, covering concepts, terminology and applications. It outlines both current applications and future possibilities, and will be of great use to nanochemistry and nanomanufacturing researchers and engineers who want to learn more about how nanopapers can be applied. - Outlines the main uses of nanopapers, showing readers how this emerging technology should best be applied - Shows how the unique properties of nanopapers make them adaptable for use in a wide range of

applications - Explores methods for the nanomanufacture of nanopapers

acs sustainable chemistry engineering impact factor: Industrial Biocatalysis Peter Grunwald, 2014-12-11 Biocatalysis has become an essential tool in the chemical industry and is the core of industrial biotechnology, also known as white biotechnology, making use of biocatalysts in terms of enzymes or whole cells in chemical processes as an alternative to chemical catalysts. This shift can be seen in the many areas of daily life where biocatalysts-with

acs sustainable chemistry engineering impact factor: Silent Spring Rachel Carson, 2002 The essential, cornerstone book of modern environmentalism is now offered in a handsome 40th anniversary edition which features a new Introduction by activist Terry Tempest Williams and a new Afterword by Carson biographer Linda Lear.

acs sustainable chemistry engineering impact factor: Nanostructure Design Ehud Gazit, Ruth Nussinov, 2008-08-05 As one of the fastest growing fields of research in the 21st century, nanotechnology is sure to have an enormous impact on many aspects of our lives. Nanostructure Design: Methods and Protocols serves as a major reference for theoretical and experimental considerations in the design of biological and bio-inspired building blocks, the physical characterization of the formed structures, and the development of their technical applications. The chapters contributed by leading experts are divided into two sections, the first of which covers experimental aspects of nanostructure design and the second delves into computational methods. As a volume of the highly successful Methods in Molecular BiologyTM series, this collection pulls together cutting-edge protocols, written in a step-by-step, readily reproducible format certain to guide researchers to the desired results. Comprehensive and essential, Nanostructure Design: Methods and Protocols uses biological principles and vehicles on design to aid scientists in the great challenges still ahead.

acs sustainable chemistry engineering impact factor: Green Chemistry and Engineering Concepción Jiménez-González, David J. C. Constable, 2011-04-12 The past, present, and future of green chemistry and green engineering From college campuses to corporations, the past decade witnessed a rapidly growing interest in understanding sustainable chemistry and engineering. Green Chemistry and Engineering: A Practical Design Approach integrates the two disciplines into a single study tool for students and a practical guide for working chemists and engineers. In Green Chemistry and Engineering, the authors—each highly experienced in implementing green chemistry and engineering programs in industrial settings—provide the bottom-line thinking required to not only bring sustainable chemistry and engineering closer together, but to also move business towards more sustainable practices and products. Detailing an integrated, systems-oriented approach that bridges both chemical syntheses and manufacturing processes, this invaluable reference covers: Green chemistry and green engineering in the movement towards sustainability Designing greener, safer chemical synthesis Designing greener, safer chemical manufacturing processes Looking beyond current processes to a lifecycle thinking perspective Trends in chemical processing that may lead to more sustainable practices The authors also provide real-world examples and exercises to promote further thought and discussion. The EPA defines green chemistry as the design of chemical products and processes that reduce or eliminate the use or generation of hazardous substances. Green engineering is described as the design, commercialization, and use of products and processes that are feasible and economical while minimizing both the generation of pollution at the source and the risk to human health and the environment. While there is no shortage of books on either discipline, Green Chemistry and Engineering is the first to truly integrate the two.

acs sustainable chemistry engineering impact factor: Green Analytical Chemistry Justyna Płotka-Wasylka, Jacek Namieśnik, 2019-08-02 The book explains the principles and fundamentals of Green Analytical Chemistry (GAC) and highlights the current developments and future potential of the analytical green chemistry-oriented applications of various solutions. The book consists of sixteen chapters, including the history and milestones of GAC; issues related to teaching of green analytical chemistry and greening the university laboratories; evaluation of impact of analytical activities on the environmental and human health, direct techniques of detection, identification and

determination of trace constituents; new achievements in the field of extraction of trace analytes from samples characterized by complex composition of the matrix; “green” nature of the derivatization process in analytical chemistry; passive techniques of sampling of analytes; green sorption materials used in analytical procedures; new types of solvents in the field of analytical chemistry. In addition green chromatography and related techniques, fast tests for assessment of the wide spectrum of pollutants in the different types of the medium, remote monitoring of environmental pollutants, qualitative and comparative evaluation, quantitative assessment, and future trends and perspectives are discussed. This book appeals to a wide readership of the academic and industrial researchers. In addition, it can be used in the classroom for undergraduate and graduate Ph.D. students focusing on elaboration of new analytical procedures for organic and inorganic compounds determination in different kinds of samples characterized by complex matrices composition.Jacek Namieśnik was a Professor at the Department of Analytical Chemistry, Gdańsk University of Technology, Poland. Justyna Płotka-Wasylka is a teacher and researcher at the same department.

acs sustainable chemistry engineering impact factor: Green Toxicology Alexandra Maertens, 2022-02-01 Green toxicology is an integral part of green chemistry. One of the key goals of green chemistry is to design less toxic chemicals. Therefore, an understanding of toxicology and hazard assessment is important for any chemist working in green chemistry, but toxicology is rarely part of most chemists' education. As a consequence, chemists lack the toxicological lens necessary to view chemicals in order to design safer substitutions. This book seeks to fill that gap and demonstrate how a basic understanding of toxicology, as well as the tools of in silico and in vitro toxicology, can be an integral part of green chemistry. R&D chemists, product stewards, and toxicologists who work in the field of sustainability, can all benefit from integrating green toxicology principles into their work. Topics include in silico tools for hazard assessment, toxicity testing, and lifecycle considerations, this book aims to act as a bridge between green toxicologists and green chemists.

acs sustainable chemistry engineering impact factor: Green Extraction of Natural Products Farid Chemat, Jochen Strube, 2016-03-11 Extraction processes are essential steps in numerous industrial applications from perfume over pharmaceutical to fine chemical industry. Nowadays, there are three key aspects in industrial extraction processes: economy and quality, as well as environmental considerations. This book presents a complete picture of current knowledge on green extraction in terms of innovative processes, original methods, alternative solvents and safe products, and provides the necessary theoretical background as well as industrial application examples and environmental impacts. Each chapter is written by experts in the field and the strong focus on green chemistry throughout the book makes this book a unique reference source. This book is intended to be a first step towards a future cooperation in a new extraction of natural products, built to improve both fundamental and green parameters of the techniques and to increase the amount of extracts obtained from renewable resources with a minimum consumption of energy and solvents, and the maximum safety for operators and the environment.

acs sustainable chemistry engineering impact factor: Intermediate Temperature Solid Oxide Fuel Cells Gurbinder Kaur, 2019-11-21 Intermediate Temperature Solid Oxide Fuel Cells: Electrolytes, Electrodes and Interconnects introduces the fundamental principles of intermediate solid oxide fuel cells technology. It provides the reader with a broad understanding and practical knowledge of the electrodes, pyrochlore/perovskite/oxide electrolytes and interconnects which form the backbone of the Solid Oxide Fuel Cell (SOFC) unit. Opening with an introduction to the thermodynamics, physiochemical and electrochemical behavior of Solid Oxide Fuel Cells (SOFC), the book also discusses specific materials, including low temperature brownmillerites and aurivillius electrolytes, as well as pyrochlore interconnects. This book analyzes the basic concepts, providing cutting-edge information for both researchers and students. It is a complete reference for Intermediate Solid Oxide Fuel Cells technology that will be a vital resource for those working in materials science, fuel cells and solid state chemistry. - Provides a single source of information on

glass, electrolytes, interconnects, vanadates, pyrochlores and perovskite SOFC - Includes illustrations that provide a clear visual explanation of concepts being discussed - Progresses from a discussion of basic concepts that will enable readers to easily comprehend the subject matter

acs sustainable chemistry engineering impact factor: Photocatalytic Hydrogen Evolution Misook Kang, Vignesh Kumaravel, 2020-06-17 Energy crises and global warming pose serious challenges to researchers in their attempt to develop a sustainable society for the future. Solar energy conversion is a remarkable, clean, and sustainable way to nullify the effects of fossil fuels. The findings of photocatalytic hydrogen production (PCHP) by Fujishima and Honda propose that “water will be the coal for the future”. Hydrogen is a carbon-free clean fuel with a high specific energy of combustion. Titanium oxide (TiO2), graphitic-carbon nitride (g-C3N4) and cadmium sulfide (CdS) are three pillars of water splitting photocatalysts owing to their superior electronic and optical properties. Tremendous research efforts have been made in recent years to fabricate visible or solar-light, active photocatalysts. The significant features of various oxide, sulfide, and carbon based photocatalysts for cost-effective hydrogen production are presented in this Special Issue. The insights of sacrificial agents on the hydrogen production efficiency of catalysts are also presented in this issue.

acs sustainable chemistry engineering impact factor: *Polymer Particles* Masayoshi Okubo, 2005-02-10 In this special volume on polymer particles, recent trends and developments in the synthesis of nano- to micron-sized polymer particles by radical polymerization (Emulsion, Miniemulsion, Microemulsion, and Dispersion Polymerizations) of vinyl monomers in environmentally friendly heterogeneous aqueous and supercritical carbon dioxide fluid media are reviewed by prominent worldwide researchers. In addition to the important challenges and possibilities with regards to design and preparation of functionalized polymer particles of controlled size, the topics described are of great current interest due to the increased awareness of environmental issues.

acs sustainable chemistry engineering impact factor: OECD Series on Risk Management of Chemicals A Chemicals Perspective on Designing with Sustainable Plastics Goals, Considerations and Trade-offs OECD, 2021-12-07 The development of plastic products does not systematically take sustainability, particularly from a chemicals perspective, into account. This report seeks to enable the creation of inherently sustainable plastic products by integrating sustainable chemistry thinking in the design process.

acs sustainable chemistry engineering impact factor: Benign by Design Paul T. Anastas, American Chemical Society. Meeting, 1994 Describes the current status and potential of synthetic chemistry designed to use and to generate fewer hazardous substances. Examines new techniques for carrying out transformations in environmentally benign solvent systems. Presents research results on the replacement of hazardous feedstocks with biologically derived, innocuous feedstocks; of hazardous reagents with visible light; and of phosgene, benzene, and halogens in a variety of industrially important reactions. Provides examples of how alternative synthetic design for pollution prevention has been made commercially viable. Describes how to conduct a source-reduction assessment and analyzes computer-assisted synthetic design.

acs sustainable chemistry engineering impact factor: Microemulsion Systems Henri L. Rosano, Marc Clausse, 1987-03-27

acs sustainable chemistry engineering impact factor: Materials for a Sustainable Future Trevor M. Letcher, Janet L. Scott (Chemist), 2012 Aimed at students, lecturers, researchers, and policy makers, this work describes current developments and points the way forward for new developments regarding materials in our society and how they relate to sustainability.

acs sustainable chemistry engineering impact factor: Polymer Nanocomposites Xingyi Huang, Chunyi Zhi, 2016-05-06 This book focuses on the fundamental principles and recent progress in the field of electrical and thermal properties of polymer nanocomposites. The physical and chemical natures determining the electrical and thermal properties of polymer nanocomposites are discussed in detail. The authors describe the range of traditional and emerging polymer

nanocomposites from nanoparticle and polymer composites to novel nanostructure based polymer nanocomposites. They include novel properties and potential applications, such as high-k, low-k, high thermal conductivity, antistatic, high voltage insulation, electric stress control, and thermal energy conversion among others.

acs sustainable chemistry engineering impact factor: The Periodic Table of the Elements of Green and Sustainable Chemistry Julie B. Zimmerman, Paul T. Anastas, 2020-03-17 The field of Green and Sustainable Chemistry has demonstrated its ability to address some of greatest challenges as outlined by the United Nations Sustainability Development Goals (SDGs). The many aspects of Green and Sustainable Chemistry have been presented in the format of the Periodic Table of the Elements in order to illustrate the importance of each of the types of contributions. The book presents the Humanitarian Elements that underlie the reasons that drive the field of Green and Sustainable Chemistry, the scientific and technological elements of green chemistry and engineering the manifest the discovery and invention of new sustainable technologies, the Enabling Systems Conditions that allow sustainable solutions to go to scale, and the Noble Elements that are the vision for the sustainable world we strive for.

acs sustainable chemistry engineering impact factor: *Green Chemistry and Engineering* Mukesh Doble, Ken Rollins, Anil Kumar, 2010-07-27 Chemical processes provide a diverse array of valuable products and materials used in applications ranging from health care to transportation and food processing. Yet these same chemical processes that provide products and materials essential to modern economies, also generate substantial quantities of wastes and emissions. Green Chemistry is the utilization of a set of principles that reduces or eliminate the use or generation of hazardous substances in design. Due to extravagant costs needed to managing these wastes, tens of billions of dollars a year, there is a need to propose a way to create less waste. Emission and treatment standards continue to become more stringent, which causes these costs to continue to escalate. Green Chemistry and Engineering describes both the science (theory) and engineering (application) principles of Green Chemistry that lead to the generation of less waste. It explores the use of milder manufacturing conditions resulting from the use of smarter organic synthetic techniques and the maintenance of atom efficiency that can temper the effects of chemical processes. By implementing these techniques means less waste, which will save industry millions of dollars over time. - Chemical processes that provide products and materials essential to modern economies generate substantial quantities of wastes and emissions, this new book describes both the science (theory) and engineering (application) principles of Green Chemistry that lead to the generation of less waste - This book contains expert advise from scientists around the world, encompassing developments in the field since 2000 - Aids manufacturers, scientists, managers, and engineers on how to implement ongoing changes in a vast developing field that is important to the environment and our lives

acs sustainable chemistry engineering impact factor: Computational Catalysis Aravind Asthagiri, Michael Janik, 2014 This book presents a comprehensive review of the methods and approaches being adopted to push forward the boundaries of computational catalysis.

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chemical conception to final product. Of high interest to academics and chemists working in industry.

acs sustainable chemistry engineering impact factor: Selectivity in Catalysis Mark E. Davis, Steven L. Suib, American Chemical Society. Meeting, 1993 Discusses recent research and provides tutorial chapters on enhancing selectivity in catalysis through stereoselectivity, reaction pathway control, shape selectivity, and alloys and clusters. Presents an interdisciplinary approach to increasing selectivity in homogeneous and heterogeneous catalysis research. Includes an overview chapter that discusses the current state of the field and offers a perspective on future directions.

acs sustainable chemistry engineering impact factor: *Fast Pyrolysis of Biomass* Robert C Brown, Kaige Wang, 2017-07-07 Fast pyrolysis and related catalytic pyrolysis are of increasing interest as pathways to advanced biofuels that closely mimic traditional petroleum products. Research has moved from empirical investigations to more fundamental studies of pyrolysis mechanisms. Theories on the chemical and physical pathways from plant polymers to pyrolysis products have proliferated as a result. This book brings together the latest developments in pyrolysis science and technology. It examines, reviews and challenges the unresolved and sometimes controversial questions about pyrolysis, helping advance the understanding of this important technology and stimulating discussion on the various competing theories of thermal deconstruction of plant polymers. Beginning with an introduction to the biomass-to-biofuels process via fast pyrolysis and catalytic pyrolysis, chapters address prominent questions such as whether free radicals or concerted reactions dominate deconstruction reactions. Finally, the book concludes with an economic analysis of fast pyrolysis versus catalytic pyrolysis. This book will be of interest to advanced students and researchers interested in the science behind renewable fuel technology, and particularly the thermochemical processing of biomass.

acs sustainable chemistry engineering impact factor: Green Chemistry in the Pharmaceutical Industry Peter J. Dunn, Andrew Wells, Michael T. Williams, 2010-02-02 Edited by three of the world's leading pharmaceutical scientists, this is the first book on this important and hot topic, containing much previously unpublished information. As such, it covers all aspects of green chemistry in the pharmaceutical industry, from simple molecules to complex proteins, and from drug discovery to the fate of pharmaceuticals in the environment. Furthermore, this ready reference contains several convincing case studies from industry, such as Taxol, Pregabalin and Crestor, illustrating how this multidisciplinary approach has yielded efficient and environmentally-friendly processes. Finally, a section on technology and tools highlights the advantages of green chemistry.

acs sustainable chemistry engineering impact factor: *Detoxification of Chemical Warfare Agents* Dimitrios A. Giannakoudakis, Teresa J. Bandosz, 2017-12-28 This book presents a detailed history of chemical warfare development during the First World War and discusses design approaches to gas masks and the performance of new filter materials that decontaminate chemical warfare agents (CWA) when applied in the vapor phase. It describes multifunctional nanocomposites containing zinc and zirconium (hydr)oxides, graphite oxide and silver or gold nanoparticles as reactive adsorbents for the degradation of the CWAs vapors. In addition it examines in detail the surface properties that are most important in the mineralization performance.

acs sustainable chemistry engineering impact factor: *Green Engineering* David T. Allen, David R. Shonnard, 2001-09-06 A chemical engineer's guide to managing and minimizing environmental impact. Chemical processes are invaluable to modern society, yet they generate substantial quantities of wastes and emissions, and safely managing these wastes costs tens of millions of dollars annually. Green Engineering is a complete professional's guide to the cost-effective design, commercialization, and use of chemical processes in ways that minimize pollution at the source, and reduce impact on health and the environment. This book also offers powerful new insights into environmental risk-based considerations in design of processes and products. First conceived by the staff of the U.S. Environmental Protection Agency, Green Engineering draws on contributions from many leaders in the field and introduces advanced risk-based techniques including some currently in use at the EPA. Coverage includes: Engineering

chemical processes, products, and systems to reduce environmental impacts Approaches for evaluating emissions and hazards of chemicals and processes Defining effective environmental performance targets Advanced approaches and tools for evaluating environmental fate Early-stage design and development techniques that minimize costs and environmental impacts In-depth coverage of unit operation and flowsheet analysis The economics of environmental improvement projects Integration of chemical processes with other material processing operations Lifecycle assessments: beyond the boundaries of the plant Increasingly, chemical engineers are faced with the challenge of integrating environmental objectives into design decisions. Green Engineering gives them the technical tools they need to do so.

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feedstocks, and education, among others.

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