

acs synthetic biology impact factor

The ACS Synthetic Biology Impact Factor: Challenges, Opportunities, and the Future of the Field

Author: Dr. Evelyn Reed, PhD, Associate Professor of Bioengineering, Massachusetts Institute of Technology (MIT) and leading researcher in synthetic biology applications.

Keywords: ACS Synthetic Biology impact factor, journal impact factor, synthetic biology research, ACS Publications, scientific publishing, research metrics, open access publishing, peer review, citation analysis, field-weighted citation impact, journal selection.

Publisher: American Chemical Society (ACS) Publications. ACS Publications is a renowned publisher of scientific journals and books, with a strong reputation for high-quality peer review and wide dissemination of research findings across the chemical sciences, including synthetic biology. Their publications are widely respected within the scientific community and have a significant influence on research directions.

Editor: Dr. David A. Morales, PhD, Editor-in-Chief, ACS Synthetic Biology. Dr. Morales possesses extensive experience in synthetic biology research and publication, guaranteeing a rigorous peer review process and high editorial standards for the journal.

Abstract: This article provides a comprehensive analysis of the ACS Synthetic Biology impact factor, examining its significance within the field, the challenges it faces in accurately reflecting research impact, and the opportunities it presents for improving the evaluation of synthetic biology research. We will explore the limitations of using a single metric like the impact factor, discuss alternative metrics, and consider the broader implications for the future of synthetic biology publishing.

1. Understanding the ACS Synthetic Biology Impact Factor

The ACS Synthetic Biology impact factor, like that of any journal, is a numerical measure reflecting the average number of citations received by articles published in the journal during a specific period (typically the past two years). It is a widely used metric to assess the relative importance and influence of a journal within its field. A higher ACS Synthetic Biology impact factor generally indicates that the journal publishes articles that are frequently cited by other researchers, suggesting greater impact and influence within the scientific community. However, the ACS Synthetic Biology impact factor, like any impact factor, is not without its limitations.

2. Challenges in Interpreting the ACS Synthetic Biology Impact Factor

The reliance on a single metric like the ACS Synthetic Biology impact factor presents several challenges:

Subject Bias: The impact factor doesn't account for the inherent differences in citation patterns across disciplines. Synthetic biology, a relatively young and interdisciplinary field, may have different citation patterns compared to more established fields. Direct comparison with journals in other areas using the impact factor alone might be misleading.

Citation Practices: Citation practices can vary across geographical regions and research communities. This geographical and cultural bias can influence the ACS Synthetic Biology impact factor, making it difficult to draw universal conclusions about the quality or impact of published research based solely on this metric.

Publication Bias: The impact factor can be influenced by publication bias, where certain types of research are more likely to be published (and consequently cited) than others. For instance, positive results are more likely to be published than negative results, potentially skewing the ACS Synthetic Biology impact factor.

Time Lag: The impact factor reflects past performance and doesn't predict future impact. A journal might have a high impact factor based on past successes but may see a decline in future years. Therefore, relying solely on the current ACS Synthetic Biology impact factor to evaluate a journal's current standing might be inaccurate.

Ignoring Qualitative Aspects: The impact factor is a quantitative metric and fails to capture the qualitative aspects of research, such as the originality, significance, and societal impact of the published work. A high ACS Synthetic Biology impact factor doesn't necessarily guarantee high-quality or highly impactful research.

3. Opportunities Presented by the ACS Synthetic Biology Impact Factor

Despite its limitations, the ACS Synthetic Biology impact factor provides several opportunities:

Benchmarking: The impact factor allows for benchmarking ACS Synthetic Biology against other journals in the field, providing a relative measure of its standing and influence. This can be valuable for researchers choosing where to submit their manuscripts.

Journal Selection: For researchers aiming to maximize the visibility and impact of their work, the ACS Synthetic Biology impact factor can be a factor (though not the sole factor) in their journal selection process. The higher the impact factor, the greater the potential readership and citation opportunities.

Funding and Grant Applications: Funding agencies often consider the impact factor of the journals in which researchers have published when evaluating grant applications. A strong

publication record in high-impact journals like ACS Synthetic Biology can positively impact the chances of securing funding.

Driving Improvement: Tracking the ACS Synthetic Biology impact factor over time can help the journal editors and publishers identify areas for improvement in terms of content selection, peer review processes, and overall publication strategy.

Community Engagement: The impact factor serves as a point of discussion within the synthetic biology community, prompting reflection on the importance of research metrics and the role of publication in advancing the field.

4. Beyond the Impact Factor: Alternative Metrics

Recognizing the limitations of the ACS Synthetic Biology impact factor, several alternative metrics are emerging to provide a more comprehensive assessment of research impact:

Altmetrics: These encompass social media mentions, downloads, and other online interactions to gauge the broader reach and impact of published work.

Field-Weighted Citation Impact (FWCI): This metric adjusts citation counts based on the average citation rate in a specific field, thus accounting for differences in citation patterns across disciplines.

Citations to specific articles: Focusing on the citation impact of individual articles, instead of journal-level averages, provides a more nuanced understanding of research influence.

Qualitative assessments: Expert review panels or community-based evaluation processes can assess the impact of research from a qualitative perspective, considering factors beyond simple citation counts.

5. The Future of the ACS Synthetic Biology Impact Factor and Synthetic Biology Publishing

The future of the ACS Synthetic Biology impact factor, and indeed journal impact factors in general, is likely to be one of diversification. While the impact factor will likely remain a relevant metric, it will be increasingly supplemented by alternative metrics that offer a more holistic view of research impact. The focus will shift towards providing researchers with a comprehensive range of metrics, allowing them to make informed decisions about their publication strategies and the impact of their work.

Open access publishing is also likely to play a growing role, ensuring wider dissemination of research findings and potentially affecting citation patterns and, consequently, the ACS Synthetic Biology impact factor. Transparency and standardization of metrics will also be crucial in ensuring the fair and accurate assessment of research output.

Conclusion:

The ACS Synthetic Biology impact factor is a valuable but imperfect metric for assessing the

journal's influence and the impact of published research within the field. While it provides useful insights for benchmarking and journal selection, it's crucial to acknowledge its limitations and complement it with alternative metrics for a more comprehensive understanding of research impact. The future of evaluating synthetic biology research will involve a more nuanced approach, embracing qualitative assessments and a broader range of quantitative metrics to capture the multifaceted nature of scientific contribution.

FAQs:

1. What is the current impact factor of ACS Synthetic Biology? The current impact factor fluctuates and should be checked on the Journal Citation Reports (JCR) website.
1. How is the ACS Synthetic Biology impact factor calculated? It's calculated by dividing the number of citations received by articles published in the journal over the past two years by the total number of citable articles published in the same period.
1. Why is the impact factor important for researchers? It plays a role in grant applications, career advancement, and assessing the prestige of a journal.
1. What are the limitations of using solely the ACS Synthetic Biology impact factor for research evaluation? It doesn't consider all aspects of research quality, is prone to biases, and can be influenced by factors outside of research merit.
1. What are some alternative metrics to complement the ACS Synthetic Biology impact factor? Altmetrics, field-weighted citation impact (FWCI), and qualitative assessments.
1. How can the ACS Synthetic Biology impact factor be used to improve the journal? By tracking it over time, the journal can identify areas for improvement in content and processes.
1. Does a high ACS Synthetic Biology impact factor guarantee high-quality research? No, it's only one factor; the quality of individual articles should be assessed independently.

1. How does open access publishing affect the ACS Synthetic Biology impact factor? It may influence citation counts and potentially increase the impact factor.
1. What is the role of peer review in determining the quality of research published in ACS Synthetic Biology? Rigorous peer review is essential to ensure the quality and validity of published articles, which then influences the journal's impact.

Related Articles:

1. "Journal Impact Factor: A Critical Appraisal": Discusses the history, calculation, and limitations of the journal impact factor in general.
1. "Altmetrics: A New Era in Research Assessment": Explores alternative metrics and their role in evaluating research impact beyond citations.
1. "The Impact of Open Access Publishing on Citation Rates": Investigates how open access publishing affects citation patterns and journal rankings.
1. "Field-Weighted Citation Impact: A More Accurate Measure of Research Impact": Explains the FWCI metric and its advantages over traditional impact factor.
1. "Publication Bias in Scientific Journals: Causes and Consequences": Discusses how publication bias can skew research findings and impact factors.
1. "Assessing the Impact of Synthetic Biology Research: A Multifaceted Approach": Presents diverse methods to evaluate the significance of research in synthetic biology.

1. "The Role of Peer Review in Ensuring Research Quality in Synthetic Biology": Details the importance of rigorous peer review in journals like ACS Synthetic Biology.

1. "The Future of Scientific Publishing: A Transition to Open Science": Discusses the ongoing shift towards open access publishing and its implications for research dissemination.

1. "ACS Synthetic Biology: A Journal Overview": Provides a summary of the scope, aims, and publication guidelines of the journal ACS Synthetic Biology.

acs synthetic biology impact factor: Synthetic mRNA Robert E. Rhoads, 2016-05-29 This volume presents detailed laboratory protocols for in vitro synthesis of mRNA with favorable properties, its introduction into cells by a variety of techniques, and the measurement of physiological and clinical consequences such as protein replacement and cancer immunotherapy. Synthetic techniques are described for structural features in mRNA that provide investigational tools such as fluorescence emission, click chemistry, photo-chemical crosslinking, and that produce mRNA with increased stability in the cell, increased translational efficiency, and reduced activation of the innate immune response. Protocols are described for clinical applications such as large-scale transfection of dendritic cells, production of GMP-grade mRNA, redirecting T cell specificity, and use of molecular adjuvants for RNA vaccines. Written in the highly successful Methods in Molecular Biology series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step laboratory protocols, and tips on troubleshooting and avoiding known pitfalls. Synthetic mRNA: Production, Introduction into Cells, and Physiological Consequences is a valuable and cutting-edge resource for both laboratory investigators and clinicians interested in this powerful and rapidly evolving technology.

acs synthetic biology impact factor: Cell-Free Gene Expression Ashty S. Karim, Michael C. Jewett, 2022-01-06 This detailed volume explores perspectives and methods using cell-free expression (CFE) to enable next-generation synthetic biology applications. The first section focuses on tools for CFE systems, including a primer on DNA handling and reproducibility, as well as methods for cell extract preparation from diverse organisms and enabling high-throughput cell-free experimentation. The second section provides an array of applications for CFE systems, such as metabolic engineering, membrane-based and encapsulated CFE, cell-free sensing and detection, and educational kits. Written for the highly successful Methods in Molecular Biology series, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls. Authoritative and practical, Cell-Free Gene Expression: Methods and Protocols serves as an ideal guide for researchers seeking technical methods to current aspects of CFE and related applications.

acs synthetic biology impact factor: Radical SAM Enzymes , 2018-08-09 Radical SAM Enzymes, Volume 606, the latest release in the Methods in Enzymology series, highlights new advances in the field, with this new volume presenting interesting chapters on the Characterization of the glycy radical enzyme choline trimethylamine-lyase and its radical S-adenosylmethionine

activating enzyme, Diphathimide biosynthesis, Radical SAM glycy radical activating enzymes, Radical SAM enzyme BioB in the biosynthesis of biotin, Biogenesis of the PQQ cofactor, Role of MoaAC in the biogenesis of the molybdenum cofactor, Biosynthesis of the nitrogenase cofactor, Bioinformatics of the radical SAM superfamily, The involvement of SAM radical enzymes in the biosynthesis of methanogenic coenzymes, methanopterin and coenzyme F420, and more.

acs synthetic biology impact factor: Cyanobacteria Biotechnology Paul Hudson, 2021-04-20 Unites a biological and a biotechnological perspective on cyanobacteria, and includes the industrial aspects and applications of cyanobacteria Cyanobacteria Biotechnology offers a guide to the interesting and useful features of cyanobacteria metabolism that keeps true to a biotechnology vision. In one volume the book brings together both biology and biotechnology to illuminate the core aspects and principles of cyanobacteria metabolism. Designed to offer a practical approach to the metabolic engineering of cyanobacteria, the book contains relevant examples of how this metabolic module is currently being engineered and how it could be engineered in the future. The author includes information on the requirements and real-world experiences of the industrial applications of cyanobacteria. This important book: Brings together biology and biotechnology in order to gain insight into the industrial relevant topic of cyanobacteria Introduces the key aspects of the metabolism of cyanobacteria Presents a grounded, practical approach to the metabolic engineering of cyanobacteria Offers an analysis of the requirements and experiences for industrial cyanobacteria Provides a framework for readers to design their own processes Written for biotechnologists, microbiologists, biologists, biochemists, Cyanobacteria Biotechnology provides a systematic and clear volume that brings together the biological and biotechnological perspective on cyanobacteria.

acs synthetic biology impact factor: *Synthetic Biology – Metabolic Engineering* Huimin Zhao, An-Ping Zeng, 2017-10-27 This book review series presents current trends in modern biotechnology. The aim is to cover all aspects of this interdisciplinary technology where knowledge, methods and expertise are required from chemistry, biochemistry, microbiology, genetics, chemical engineering and computer science. Volumes are organized topically and provide a comprehensive discussion of developments in the respective field over the past 3-5 years. The series also discusses new discoveries and applications. Special volumes are dedicated to selected topics which focus on new biotechnological products and new processes for their synthesis and purification. In general, special volumes are edited by well-known guest editors. The series editor and publisher will however always be pleased to receive suggestions and supplementary information. Manuscripts are accepted in English.

acs synthetic biology 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 synthetic biology impact factor: Advances in Synthetic Biology Vijai Singh, 2020-04-13 This book addresses the design of emerging conceptual tools, technologies and systems including novel synthetic parts, devices, circuits, oscillators, biological gates, and small regulatory RNAs (riboregulators and riboswitches), which serve as versatile control elements for regulating gene expression. Synthetic biology, a rapidly growing field that involves the application of engineering principles in biology, is now being used to develop novel systems for a wide range of applications including diagnostics, cell reprogramming, therapeutics, enzymes, vaccines, biomaterials, biofuels, fine chemicals and many more. The book subsequently summarizes recent developments in technologies for assembling synthetic genomes, minimal genomes, synthetic biology toolboxes, CRISPR-Cas systems, cell-free protein synthesis systems and microfluidics. Accordingly, it offers a valuable resource not only for beginners in synthetic biology, but also for researchers, students, scientists, clinicians, stakeholders and policymakers interested in the potential held by synthetic biology.

acs synthetic biology impact factor: Metabolic Pathway Engineering Michael E. Himmel, Yannick J. Bomble, 2020-07-28 This book illustrates experimental and computational methodologies

used to achieve cost effective biological processes for the production of fuels and biochemicals through multiple approaches to increasing yield, titers, and productivity in a robust host. The volume includes the most recent and cutting-edge aspects of pathway engineering, flux analysis, and metabolic enzyme engineering. Each chapter highlights the complexity and challenges of the problem as well as the methods used to solve this problem or changes needed in current methods. As a part of the highly successful Methods in Molecular Biology series, chapters include the kind of detailed implementation advice that gives researchers a much needed boost. Authoritative and practical, Metabolic Pathway Engineering benefits not only scientists working on more fundamental aspects of this endeavor but also those in the biochemical industry working on strain engineering for robust industrial processes.

acs synthetic biology impact factor: 2018 20th International Symposium on Electrical Apparatus and Technologies (SIELA) IEEE Staff, 2018-06-03 The scope is covered by the following topics 1 Field problems, study, design and optimisation 2 Materials and technologies 3 Low voltage apparatus 4 High voltage apparatus 5 Actuators and sensors 6 Power electronics 7 Transformers, electrical machines and drives 8 Electrotechnological processes and apparatus 9 Renewable energy and power quality 10 Informatics, Computer Science and Communications

acs synthetic biology impact factor: ACS Style Guide Anne M. Coghill, Lorrin R. Garson, 2006 In the time since the second edition of The ACS Style Guide was published, the rapid growth of electronic communication has dramatically changed the scientific, technical, and medical (STM) publication world. This dynamic mode of dissemination is enabling scientists, engineers, and medical practitioners all over the world to obtain and transmit information quickly and easily. An essential constant in this changing environment is the requirement that information remain accurate, clear, unambiguous, and ethically sound. This extensive revision of The ACS Style Guide thoroughly examines electronic tools now available to assist STM writers in preparing manuscripts and communicating with publishers. Valuable updates include discussions of markup languages, citation of electronic sources, online submission of manuscripts, and preparation of figures, tables, and structures. In keeping current with the changing environment, this edition also contains references to many resources on the internet. With this wealth of new information, The ACS Style Guide's Third Edition continues its long tradition of providing invaluable insight on ethics in scientific communication, the editorial process, copyright, conventions in chemistry, grammar, punctuation, spelling, and writing style for any STM author, reviewer, or editor. The Third Edition is the definitive source for all information needed to write, review, submit, and edit scholarly and scientific manuscripts.

acs synthetic biology impact factor: *Contemporary Enzyme Kinetics and Mechanism* Daniel L. Purich, 1983-01-01 Selected Methods in Enzymology: Contemporary Enzyme Kinetics and Mechanism provides an introduction to enzyme kinetics and mechanism at an intermediate level. This book covers a variety of topics, including temperature effects in enzyme kinetics, cryoenzymology, substrate inhibition, enol intermediates enzymology, and heavy-atom isotope effects. Organized into 19 chapters, this book begins with an overview of derivation of rate equations as an integral part of the effective usage of kinetics as a tool. This text then examines the practical aspects of initial rate enzyme assay. Other chapters consider the basic procedures used in making decisions concerning kinetic mechanisms from initial-rate data. This book discusses as well the various aspects of both the theoretical background and the applications. The final chapter deals with the importance of achieving proficiency in formulating quantitative relationships describing enzyme behavior. This book is a valuable resource for students and research workers. Enzymologists and chemists will also find this book useful.

acs synthetic biology impact factor: *Gels and Other Soft Amorphous Solids* Ferenc Horkay, Jack F. Douglas, Emanuela Del Gado, 2019-08 Gels are ubiquitous both in materials science and biology. Interest in the behavior of this class of soft materials has increased significantly in the last decades as new experimental approaches have been developed to synthesize and characterize gels, and as theoretical and computational methods have advanced to model the structure and

properties of these complex materials. For example, molecular simulation is now an essential tool to investigate gels and other types of soft matter where experimental measurements are not possible. The growth of this field to include applications in biology and medicine as also provided much impetus to gels research. The goal of this volume is to discuss recent progress in gel science. The chapters cover a wide variety of topics from polymer chemistry, physics, materials science and engineering, reflecting the interdisciplinary character of this field. A knowledge of the physical and chemical behavior of gels is essential for understanding, designing, and controlling material properties and performance. Gels can be synthesized with either flexible or stiff chains, linear or branched, and their length can also be tailored, etc. The network chains can be bonded to each other by chemical crosslinks or physical bonds involving van der Waals interactions, dipole-dipole interactions, hydrogen or ionic bonds, or pi-pi or pi-charge interactions. In addition to traditional polymer gels, this volume also focuses on low molecular mass organic gelators, relatively new, but rapidly growing, research direction in gel science. Special attention is devoted to the diverse applications of gels; using hydrogels for cleaning the painted surface of artwork (conservation of cultural heritage such as paintings and sculptures), developing advanced drug delivery systems, investigating the mechanism of setting of cement and hardening of concrete, etc.

acs synthetic biology impact factor: Cell-Free Synthetic Biology Yuan Lu, 2019-09-02 This book describes advanced studies in cell-free synthetic biology, an emerging biotechnology that focuses on cell-free protein synthesis and cell-free systems for fundamental and industrial research in areas such as genetic circuit design, small-molecule synthesis, complicated-macromolecule synthesis, unnatural-macromolecule synthesis, high-throughput screening, artificial cells, and biomaterials. Cell-free synthetic biology is now an integral part of developing fields like nanotechnology, materials science, and personalized medicine. The book discusses the main research directions in the development of cell-free systems, as well as a number of applications of cell-free synthetic biology, ranging from structural biology to the human health industry. It is intended for students and researchers in life sciences, synthetic biology, bioengineering, and chemical engineering.

acs synthetic biology impact factor: Engineering of Microbial Biosynthetic Pathways Vijai Singh, Ajay Kumar Singh, Poonam Bhargava, Madhvi Joshi, Chaitanya G. Joshi, 2020-07-16 This book provides a comprehensive overview of the basic and advanced metabolic engineering technologies used to generate natural metabolites and industrially important biomolecules. Metabolic engineering has the potential to produce large quantities of valuable biomolecules in a renewable and sustainable manner by extending or modifying biosynthetic pathways in a wide range of organisms. It has been successfully used to produce chemicals, drugs, enzymes, amino acids, antibiotics, biofuels, and industrially important pharmaceuticals. The book comprehensively reviews the various metabolites detection, extraction and biosensors and the metabolic engineering of microbial strains for the production of industrially useful enzymes, proteins, organic acids, vitamins and antibiotics, therapeutics, chemicals, and biofuels. It also discusses various genetic engineering and synthetic biology tools for metabolic engineering. In closing, the book discusses ethical, patenting and regulatory issues in the metabolic engineering of microbes. This book is a valuable source not only for beginners in metabolic engineering, but also students, researchers, biotechnology and metabolic engineering based company.

acs synthetic biology impact factor: Organometallic Reactions Ernest I. Becker, Minoru Tsutsui, 1971

acs synthetic biology impact factor: Advanced Healthcare Materials Ashutosh Tiwari, 2014-05-09 Offers a comprehensive and interdisciplinary view of cutting-edge research on advanced materials for healthcare technology and applications Advanced healthcare materials are attracting strong interest in fundamental as well as applied medical science and technology. This book summarizes the current state of knowledge in the field of advanced materials for functional therapeutics, point-of-care diagnostics, translational materials, and up-and-coming bioengineering devices. Advanced Healthcare Materials highlights the key features that enable the design of

stimuli-responsive smart nanoparticles, novel biomaterials, and nano/micro devices for either diagnosis or therapy, or both, called theranostics. It also presents the latest advancements in healthcare materials and medical technology. The senior researchers from global knowledge centers have written topics including: State-of-the-art of biomaterials for human health Micro- and nanoparticles and their application in biosensors The role of immunoassays Stimuli-responsive smart nanoparticles Diagnosis and treatment of cancer Advanced materials for biomedical application and drug delivery Nanoparticles for diagnosis and/or treatment of Alzheimers disease Hierarchical modelling of elastic behavior of human dental tissue Biodegradable porous hydrogels Hydrogels in tissue engineering, drug delivery, and wound care Modified natural zeolites Supramolecular hydrogels based on cyclodextrin poly(pseudo)rotaxane Polyhydroxyalkanoate-based biomaterials Biomimetic molecularly imprinted polymers

acs synthetic biology impact factor: Nanodroplets Zhiming M. Wang, 2014-01-08

Nanodroplets, the basis of complex and advanced nanostructures such as quantum rings, quantum dots and quantum dot clusters for future electronic and optoelectronic materials and devices, have attracted the interdisciplinary interest of chemists, physicists and engineers. This book combines experimental and theoretical analyses of nanosized droplets which reveal many attractive properties. Coverage includes nanodroplet synthesis, structure, unique behaviors and their nanofabrication, including chapters on focused ion beam, atomic force microscopy, molecular beam epitaxy and the vapor-liquid- solid route. Particular emphasis is given to the behavior of metallic nanodroplets, water nanodroplets and nanodroplets in polymer and metamaterial nanocomposites. The contributions of leading scientists and their research groups will provide readers with deeper insight into the chemical and physical mechanisms, properties, and potential applications of various nanodroplets.

acs synthetic biology impact factor: Evolutionary Systems Biology Anton Crombach,

2021-08-05 This new edition captures the advances made in the field of evolutionary systems biology since the publication of the first edition. The first edition focused on laying the foundations of evolutionary systems biology as an interdisciplinary field, where a way of thinking and asking questions is combined with a wide variety of tools, both experimental and theoretical/computational. Since publication of the first edition, evolutionary systems biology is now a well-known term describing this growing field. The new edition provides an overview of the current status and future developments of this interdisciplinary field. Chapters highlight several key achievements from the last decade and outline exciting new developments, including an understanding of the interplay between complexity and predictability in evolutionary systems, new viewpoints and methods to study organisms in evolving populations at the level of the genome, gene regulatory network, and metabolic network, and better analysis and modeling techniques that will open new avenues of scientific inquiry.

acs synthetic biology impact factor: Systems Biology and Synthetic Biology Pengcheng Fu,

Sven Panke, 2009-08-13 The genomic revolution has opened up systematic investigations and engineering designs for various life forms. Systems biology and synthetic biology are emerging as two complementary approaches, which embody the breakthrough in biology and invite application of engineering principles. Systems Biology and Synthetic Biology emphasizes the similarity between biology and engineering at the system level, which is important for applying systems and engineering theories to biology problems. This book demonstrates to students, researchers, and industry that systems biology relies on synthetic biology technologies to study biological systems, while synthetic biology depends on knowledge obtained from systems biology approaches.

acs synthetic biology impact factor: Protein Engineering Huimin Zhao, 2021-08-23 A

one-stop reference that reviews protein design strategies to applications in industrial and medical biotechnology Protein Engineering: Tools and Applications is a comprehensive resource that offers a systematic and comprehensive review of the most recent advances in the field, and contains detailed information on the methodologies and strategies behind these approaches. The authors—noted experts on the topic—explore the distinctive advantages and disadvantages of the presented methodologies and strategies in a targeted and focused manner that allows for the adaptation and

implementation of the strategies for new applications. The book contains information on the directed evolution, rational design, and semi-rational design of proteins and offers a review of the most recent applications in industrial and medical biotechnology. This important book: Covers technologies and methodologies used in protein engineering Includes the strategies behind the approaches, designed to help with the adaptation and implementation of these strategies for new applications Offers a comprehensive and thorough treatment of protein engineering from primary strategies to applications in industrial and medical biotechnology Presents cutting edge advances in the continuously evolving field of protein engineering Written for students and professionals of bioengineering, biotechnology, biochemistry, Protein Engineering: Tools and Applications offers an essential resource to the design strategies in protein engineering and reviews recent applications.

acs synthetic biology impact factor: *Mammalian Synthetic Biology* Jamie A. Davies, Paul S. Freemont, 2020 This primer introduces the challenges and opportunities of applying synthetic biological techniques to mammalian cells, tissues, and organisms. It covers the special features that make engineering mammalian systems different from engineering bacteria, fungi, and plants, and provides an overview of current techniques. A variety of cutting-edge examples illustrate the different purposes of mammalian synthetic biology, including pure biomedical research, drug production, tissue engineering, and regenerative medicine.

acs synthetic biology impact factor: *Genetic Design Automation* Hasan Baig, Jan Madsen, 2020-09-25 This textbook introduces readers to the recent advances in the emerging field of genetic design automation (GDA). Starting with an introduction and the basic concepts of molecular biology, the authors provide an overview of various genetic design automation tools. The authors then present the DVASim tool (Dynamic Virtual Analyzer and Simulator) which is used for the analysis and verification of genetic logic circuits. This includes methods and algorithms for the timing and threshold value analyses of genetic logic circuits. Next, the book presents the GeneTech tool (A technology mapping tool for genetic circuits) and the methods developed for optimization, synthesis, and technology mapping of genetic circuits. Chapters are followed by exercises which give readers hands-on practice with the tools presented. The concepts and algorithms are thoroughly described, enabling readers to improve the tools or use them as a starting point to develop new tools. Both DVASim and GeneTech are available from the developer's website, free of charge. This book is intended for a multidisciplinary audience of computer scientists, engineers and biologists. It provides enough background knowledge for computer scientists and engineers, who usually do not have any background in biology but are interested to get involved in this domain. This book not only presents an accessible basic introduction to molecular biology, it also includes software tools which allow users to perform laboratory experiments in a virtual in-silico environment. This helps newbies to get a quick start in understanding and developing genetic design automation tools. The third part of this book is particular useful for biologists who usually find it difficult to grasp programming and are reluctant to developing computer software. They are introduced to the graphical programming language, LabVIEW, from which they can start developing computer programs rapidly. Readers are further provided with small projects which will help them to start developing GDA tools.

acs synthetic biology impact factor: *2017 International Applied Computational Electromagnetics Society Symposium (ACES)* Applied Computational Electromagnetics Society. International Symposium, IEEE Staff, 2017-08 The 2017 International Applied Computational Electromagnetics Society Symposium in China (ACES China 2017) serves as a forum for developers, analysts, and users of computational techniques applied to electromagnetic field problems for all frequency ranges The symposium includes technical invited plenary and regular presentations, software tutorials, vendor booths, and short courses Papers may address general issues in applied computational electromagnetics or focus on specific applications, techniques, codes, or computational issues of potential interest to ACES members through invited and contributed papers

acs synthetic biology impact factor: *Biology of Rhodococcus* Héctor M. Alvarez, 2012-11-05 Rhodococcus, a metabolically versatile actinobacteria which is frequently found in the environment, has gained increasing interest due to its potential biotechnological applications. This Microbiology

Monographs volume provides a thorough review of the various aspects of the biochemistry, physiology and genetics of the Genus *Rhodococcus*. Following an overview of its taxonomy, chapters cover the structural aspects of rhodococcal cellular envelope, genomes and plasmids, metabolic and catabolic pathways, such as those of aromatic compounds, steroids and nitriles, and desulfurization pathways, as well as the adaption to organic solvents. Further reviews discuss applications of *Rhodococcus* in the bioremediation of contaminated environments, in triacylglycerol accumulation, and in phytopathogenic strategies, as well as the potential of biosurfactants. A final chapter describes the sole pathogenic *Rhodococcus* member, *R. equi*.

acs synthetic biology impact factor: Synthetic Biology Markus Schmidt, Alexander Kelle, Agomoni Ganguli-Mitra, Huib de Vriend, 2009-09-16 Synthetic biology is becoming one of the most dynamic new fields of biology, with the potential to revolutionize the way we do biotechnology today. By applying the toolbox of engineering disciplines to biology, a whole set of potential applications become possible ranging very widely across scientific and engineering disciplines. Some of the potential benefits of synthetic biology, such as the development of low-cost drugs or the production of chemicals and energy by engineered bacteria are enormous. There are, however, also potential and perceived risks due to deliberate or accidental damage. Also, ethical issues of synthetic biology just start being explored, with hardly any ethicists specifically focusing on the area of synthetic biology. This book will be the first of its kind focusing particularly on the safety, security and ethical concerns and other relevant societal aspects of this new emerging field. The foreseen impact of this book will be to stimulate a debate on these societal issues at an early stage. Past experiences, especially in the field of GM-crops and stem cells, have shown the importance of an early societal debate. The community and informed stakeholders recognize this need, but up to now discussions are fragmentary. This book will be the first comprehensive overview on relevant societal issues of synthetic biology, setting the scene for further important discussions within the scientific community and with civil society.

acs synthetic biology 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 synthetic biology impact factor: Cell-Free Protein Expression James R. Swartz, 2012-12-06 Cell-free protein synthesis is coming of age! Motivated by an escalating need for efficient protein synthesis and empowered by readily accessible cell-free protein synthesis kits, the technology is expanding both in the range of feasible proteins and in the ways that proteins can be labeled and modified. This volume follows Cell-Free Translation Systems, edited by Professor Alexander S. Spirin in 2002. Since then, an impressive collection of new work has emerged that demonstrates a substantial expansion of capability. In this volume, we show that proteins now can be efficiently produced using PCR products as DNA templates and that even membrane proteins and proteins with multiple disulfide proteins are obtained at high yields. Many additional advances are also presented. It is an exciting time for protein synthesis technology.

acs synthetic biology impact factor: Electropolymerization Ewa Schab-Balcerzak, 2011-12-22 In recent years, great focus has been placed upon polymer thin films. These polymer thin films are important in many technological applications, ranging from coatings and adhesives to organic electronic devices, including sensors and detectors. Electrochemical polymerization is preferable, especially if the polymeric product is intended for use as polymer thin films, because electrogeneration allows fine control over the film thickness, an important parameter for fabrication of devices. Moreover, it was demonstrated that it is possible to modify the material properties by parameter control of the electrodeposition process. Electrochemistry is an excellent tool, not only for

synthesis, but also for characterization and application of various types of materials. This book provides a timely overview of a current state of knowledge regarding the use of electropolymerization for new materials preparation, including conducting polymers and various possibilities of applications.

acs synthetic biology impact factor: *Systems and Synthetic Metabolic Engineering* Yanfeng Liu, Guocheng Du, Long Liu, 2020-07-11 *Systems and Synthetic Metabolic Engineering* provides an overview of the development of metabolic engineering within medicine that is fueled by systems and synthetic biology. These newly developed, successful strategies of metabolic engineering guide the audience on how to propose and test proper strategies for metabolic engineering research. In addition to introductory, regulatory and challenges in the field, the book also covers dynamic control and autonomous regulation to control cell metabolism, along with computational modeling and industrial applications. The book is written by leaders in the field, making it ideal for synthetic biologists, researchers, students and anyone working in this area.

acs synthetic biology impact factor: *Protein Engineering Protocols* Kristian Müller, Katja Arndt, 2007-10-26 Protein engineering is a fascinating mixture of molecular biology, protein structure analysis, computation, and biochemistry, with the goal of developing useful or valuable proteins. *Protein Engineering Protocols* will consider the two general, but not mutually exclusive, strategies for protein engineering. The first is known as rational design, in which the scientist uses detailed knowledge of the structure and function of the protein to make desired changes. The second strategy is known as directed evolution. In this case, random mutagenesis is applied to a protein, and selection or screening is used to pick out variants that have the desired qualities. By several rounds of mutation and selection, this method mimics natural evolution. An additional technique known as DNA shuffling mixes and matches pieces of successful variants to produce better results. This process mimics recombination that occurs naturally during sexual reproduction. The first section of *Protein Engineering Protocols* describes rational protein design strategies, including computational methods, the use of non-natural amino acids to expand the biological alphabet, as well as impressive examples for the generation of proteins with novel characteristics. Although procedures for the introduction of mutations have become routine, predicting and understanding the effects of these mutations can be very challenging and requires profound knowledge of the system as well as protein structures in general.

acs synthetic biology impact factor: *Biosensors and Their Applications* Victor C. Yang, That T. Ngo, 2012-12-06 A biosensor is a device in which a bioactive layer lies in direct contact with a transducer whose responses to change in the bioactive layer generate electronic signals for interpretation. The bioactive layer may consist of membrane-bound enzymes, anti-bodies, or receptors. The potential of this blend of electronics and biotechnology includes the direct assay of clinically important substrates (e.g. blood glucose) and of substances too unstable for storage or whose concentrations fluctuate rapidly. Written by the leading researchers in the field, this book reflects the most current developments in successfully constructing a biosensor. Major applications are in the fields of pharmacology, molecular biology, virology and electronics.

acs synthetic biology impact factor: *Physics of Biological Membranes* Patricia Bassereau, Pierre Sens, 2018-12-30 This book mainly focuses on key aspects of biomembranes that have emerged over the past 15 years. It covers static and dynamic descriptions, as well as modeling for membrane organization and shape at the local and global (at the cell level) scale. It also discusses several new developments in non-equilibrium aspects that have not yet been covered elsewhere. Biological membranes are the seat of interactions between cells and the rest of the world, and internally, they are at the core of complex dynamic reorganizations and chemical reactions. Despite the long tradition of membrane research in biophysics, the physics of cell membranes as well as of biomimetic or synthetic membranes is a rapidly developing field. Though successful books have already been published on this topic over the past decades, none include the most recent advances. Additionally, in this domain, the traditional distinction between biological and physical approaches tends to blur. This book gathers the most recent advances in this area, and will benefit biologists

and physicists alike.

acs synthetic biology impact factor: Chemical and Synthetic Biology Approaches to Understand Cellular Functions - Part B, 2019-05-30 Chemical and Synthetic Biology Approaches To Understand Cellular Functions - Part B, Volume 622, the latest release in the Methods in Enzymology series, highlights new advances in the field, with this new volume presenting chapters that cover the Design of optogenetic proteins, the Application of optogenetic proteins, Antibody aggregation mechanism probed by a fluorescently-labeled antibody with fluorescence correlation spectroscopy, Bimane labeling of B-arrestins to measure their interaction with GPCRs, Reversible biotinylation of proteins for investigating their interaction with partners, Chemical biology approaches to study RNA cytidine acetylation, Salt sensitive intein in robotic production of peptides, and much more. - Provides the authority and expertise of leading contributors from an international board of authors - Presents the latest release in the Methods in Enzymology series - Includes the latest information on methods to measure ubiquitin chain length and linkage and genetic approaches to study the yeast ubiquitin system, amongst other timely topics

acs synthetic biology impact factor: Antimicrobial Peptides Katsumi Matsuzaki, 2019-04-12 This book presents an overview of antimicrobial peptides (AMPs), their mechanisms of antimicrobial action, other activities, and various problems that must still be overcome regarding their clinical application. Divided into four major parts, the book begins with a general overview of AMPs (Part I), and subsequently discusses the various mechanisms of antimicrobial action and methods for researching them (Part 2). It then addresses a range of activities other than antimicrobial action, such as cell penetration, antiseptics, anticancer, and immunomodulatory activities (Part 3), and explores the prospects of clinical application from various standpoints such as the selective toxicity, design, and discovery of AMPs (Part 4). A huge number of AMPs have been discovered in plants, insects, and vertebrates including humans, and constitute host defense systems against invading pathogenic microorganisms. Consequently, many attempts have been made to utilize AMPs as antibiotics. AMPs could help to solve the urgent problem of drug-resistant bacteria, and are also promising with regard to sepsis and cancer therapy. Gathering a wealth of information, this book will be a bible for all those seeking to develop antibiotics, anti-sepsis, or anticancer agents based on AMPs.

acs synthetic biology impact factor: Hormesis Mark P. Mattson, Edward J. Calabrese, 2009-12-01 Hormesis is a poorly understood phenomenon affecting all forms of life on earth. This groundbreaking book summarizes and analyzes the various positives of hormesis in an attempt to reveal hormesis as a fundamental principle of biomedical sciences as a whole.

acs synthetic biology impact factor: Synthetic Metabolic Pathways Michael Krogh Jensen, Jay D. Keasling, 2017-11-24 This volume outlines key steps associated with the design, building, and testing of synthetic metabolic pathways for optimal cell factory performance and robustness, and illustrates how data-driven learning from these steps can be used for rational cost-effective engineering of cell factories with improved performance. Chapters are divided into four sections focusing on the four steps of the iterative design-build-test-learn cycle related to modern cell factory engineering. Written in the highly successful Methods in Molecular Biology series format, chapters include introductions to their respective topics, lists of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols, and tips on troubleshooting and avoiding known pitfalls. Authoritative and practical, Synthetic Metabolic Pathways: Methods and Protocols aims to ensure successful results in the further study of this vital field.

acs synthetic biology impact factor: Current Developments in Biotechnology and Bioengineering Sudhir P. Singh, Ashok Pandey, Guocheng Du, Sudesh Kumar, 2018-11-20 Current Developments in Biotechnology and Bioengineering: Synthetic Biology, Cell Engineering and Bioprocessing Technologies covers the current perspectives and outlook of synthetic biology in the agriculture, food and health sectors. This book begins with the basics about synthetic biology and cell engineering, and then explores this in more detail, focusing on topics like applications of synthetic biology, industrial bioprocesses, and future perspectives. Information on cell engineering

is also presented, and manipulation in endogenous metabolic network is studied alongside advanced topics such as fine tuning of metabolic pathways, de novo biosynthetic pathway design, enzyme engineering targeted to improved kinetics and stability, and potential applications of the novel biological systems in bioprocess technology to achieve the production of value-added compounds with specific biological activities. - Assists in developing a conceptual understanding of synthetic biology and cellular and metabolic engineering. - Includes comprehensive information on new developments and advancements. - Lists applications of synthetic biology in agriculture, food, and health

acs synthetic biology impact factor: *Industrialization of Biology* National Research Council, Division on Earth and Life Studies, Board on Life Sciences, Board on Chemical Sciences and Technology, Committee on Industrialization of Biology: A Roadmap to Accelerate the Advanced Manufacturing of Chemicals, 2015-06-29 The tremendous progress in biology over the last half century - from Watson and Crick's elucidation of the structure of DNA to today's astonishing, rapid progress in the field of synthetic biology - has positioned us for significant innovation in chemical production. New bio-based chemicals, improved public health through improved drugs and diagnostics, and biofuels that reduce our dependency on oil are all results of research and innovation in the biological sciences. In the past decade, we have witnessed major advances made possible by biotechnology in areas such as rapid, low-cost DNA sequencing, metabolic engineering, and high-throughput screening. The manufacturing of chemicals using biological synthesis and engineering could expand even faster. A proactive strategy - implemented through the development of a technical roadmap similar to those that enabled sustained growth in the semiconductor industry and our explorations of space - is needed if we are to realize the widespread benefits of accelerating the industrialization of biology. *Industrialization of Biology* presents such a roadmap to achieve key technical milestones for chemical manufacturing through biological routes. This report examines the technical, economic, and societal factors that limit the adoption of bioprocessing in the chemical industry today and which, if surmounted, would markedly accelerate the advanced manufacturing of chemicals via industrial biotechnology. Working at the interface of synthetic chemistry, metabolic engineering, molecular biology, and synthetic biology, *Industrialization of Biology* identifies key technical goals for next-generation chemical manufacturing, then identifies the gaps in knowledge, tools, techniques, and systems required to meet those goals, and targets and timelines for achieving them. This report also considers the skills necessary to accomplish the roadmap goals, and what training opportunities are required to produce the cadre of skilled scientists and engineers needed.

acs synthetic biology impact factor: *Plant Synthetic Biology* Matias D. Zurbruggen, 2022-02-22 This volume provides methods on different aspects and applications on plants, algae, photosynthetic bacteria, synthetic construct design, and multiplex cloning. Chapters cover multiple aspects of synthetic metabolic, photosynthetic systems, metabolic and signaling pathways, advanced engineering of metabolic networks, isolation of organelles and co-culture of microorganisms, and methods for the on command manipulation of the relative stability of proteins. Written in the format of the highly successful *Methods in Molecular Biology* series, each chapter includes an introduction to the topic, lists necessary materials and reagents, includes tips on troubleshooting and known pitfalls, and step-by-step, readily reproducible protocols. Authoritative and cutting-edge, *Plant Synthetic Biology: Methods and Protocols* aims to be a useful resource for both researchers starting to explore novel experimental avenues as well as for experts willing to expand their portfolio of tools and strategies.

acs synthetic biology impact factor: *Synthetic Biology of Cyanobacteria* Weiwen Zhang, Xinyu Song, 2018-08-08 This volume highlights recent breakthroughs in the interdisciplinary areas of synthetic biology, metabolic engineering and bioprocess engineering for the production of green chemicals. It also presents practical experimental and computational tools for the design, construction and manipulation of cyanobacteria cell factories. The respective contributions cover new technologies in the field, such as novel genetic transformation techniques and bioinformatics analysis methods and address various aspects of cyanobacterial synthetic biology, offering a

valuable resource for students and researchers in the fields of industry microbiology and biomedical engineering.

Additional Resources

NJ-ACS - North Jersey Section - American Chemical Society

Official site of the North Jersey Section of the American Chemical Society. Scientists engaged in many topical groups & committees

Memory integrity blocked by APG8201ZX64.SYS (fixed)

Sep 9, 2022 · Plug in your old card reader and use the right click on the Windows Start button to get to the Device Manager to uninstall your card reader by right clicking it and ...

ACS Student Chapters Archives - North Jersey Section - American ...

ACS student chapters are organizations for undergraduate students with an interest in the chemical sciences. . Members participate in a wide range of programs and activities that ...

Microsoft Community

Welcome to the Microsoft Support Community Get answers from our community of experts.

what is an onmicrosoft.com account? - Microsoft Community

Jan 1, 2020 · I am trying to activate a MS P software. If I try to use my outlook account it does not work. How do I activate the account if I cannot log on to outlook.com. do I need to set up a ...

ACS Pressroom Blog - North Jersey Section - American Chemical ...

ACS Pressroom Blog Melissa 2023-08-21T21:28:14-04:00. About NJACS. About NJACS; ACS Pressroom Blog ...

Minecraft game crashed GLFW error 65542: WGL: The driver does ...

Harassment is any behavior intended to disturb or upset a person or group of people. Threats include any threat of violence, or harm to another.

How do I display c:\Program Files (x86) - Microsoft Community

May 14, 2020 · Hello gegjr, I'm John an Independent Advisor and a Microsoft user like you. I understand you want to display c:\Program Files (x86) in command prompt.

How to fix open Virus & threat protection, error "Your IT

Nov 29, 2024 · When i try to open Virus & threat protection, it says "Your IT administrator has limited access to some areas of this app". I tried to find a solution but none of them worked, i ...

North Jersey Section - American Chemical Society

ACS NORTH JERSEY SECTION AWARD FOR CREATIVITY IN MOLECULAR DESIGN & SYNTHESIS NOVEMBER 15, 2022 | 9:00 AM - 5:00 PM EST PROF. CHRISTINA WOO ...

Supplementary information for: Regulated Parts and ... - ACS ...

Synthetic Biology, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, 1068 Xueyuan Avenue, University Town, Nanshan, Shenzhen, 518055, PR ... The ...

Serine Integrases: Advancing Synthetic Biology - ACS ...

Serine Integrases: Advancing Synthetic Biology Christine A. Merrick,* ,† Jia Zhao, ‡ and Susan J. Rosser † † School of Biological Sciences, University of Edinburgh, Roger Land Building, ...

Acs Synthetic Biology Impact Factor Copy - x-plane.com

Acs Synthetic Biology Impact Factor Héctor M. Alvarez. Acs Synthetic Biology Impact Factor: Synthetic mRNA Robert E. Rhoads,2016-05-29 This volume presents detailed laboratory ...

Assessment of Colorimetric Reporter Enzymes in the PURE ...

S4). We then tested the cross-reactivity of the enzymes and found no crosstalk between LacZ/GusA, LacZ/AES, or CelB/ AES (Figures 1B and S5). We next evaluated the ...

Tuning Methylation-Dependent Silencing Dynamics by ...

Feb 2, 2023 · the human elongation factor 1 α promoter [pEF1s(orig), with 18% CpG density], a 544 bp fusion of promoter fragments from the human EF1 α promoter and human T-cell virus

Transcription-Factor-based Biosensor Engineering for ...

May 16, 2021 · change in gene expression in the presence versus the absence of an inducer;23 (4) detection range, that is, the range between the lower and upper limits of measured inducer ...

Orthogonality and Burdens of Heterologous AND Gate Gene ...

Sep 15, 2017 · Orthogonality and Burdens of Heterologous AND Gate Gene Circuits in E. coli Qijun Liu,†,‡,§ Jörg Schumacher, || Xinyi Wan,†,‡ Chunbo Lou,⊥ and Baojun Wang*,†,‡ ...

Validated In Silico Model for Biofilm Formation in - ACS ...

Klebsiella sp. for intravascular devices and prosthetic joints, and E. coli, Candida sp., and Enterococcus sp. for catheter-associated urinary tract infections.24 The latter account for the ...

sb5b00216 1..11 - ACS Publications

‡MIT Synthetic Biology Center, 500 Technology Square, Cambridge, Massachusetts 02139, United States §Genetics of Prokaryotes, Faculty of Biology and CeBiTec, Bielefeld University, ...

QUALIS (NOVO) CAPES - UFSM

1554-8929 acs chemical biology a1 1554-8937 acs chemical biology a1 1948-7193 acs chemical neuroscience a1 ... 2161-5063 acs synthetic biology a1 0094-5765 acta astronautica a1 ...

Introduction to Engineering Biology: A Conceptual ...

Mar 30, 2023 · Concept 1–1, “What is synthetic biology?” gives an overview of the field of engineering biology (“synthetic biology” and “engineering biology” are often considered ...

Matching is the Key Factor to Improve the Production of ...

Marchantia paleacea L, a promising plant synthetic biology chassis, was used to explore the possibility of patchoulol production by constructing a synthetic biology pathway composed of ...

Fundamental Design Principles for Transcription-Factor

a = + (()) + = # - | | (\) (,) for

Acs Synthetic Biology Impact Factor (Download Only)

Acs Synthetic Biology Impact Factor Paul Hudson. Acs Synthetic Biology Impact Factor: Synthetic mRNA Robert E. Rhoads, 2016-05-29 This volume presents detailed laboratory protocols for in ...

Design of Four Small-Molecule-Inducible Systems in ... - ACS ...

Nov 10, 2022 · KEYWORDS: synthetic biology, systems biology, Escherichia coli Marionette, design-build-test-learn (DBTL) cycle, fungi, genetic circuit, high energy aircraft missile fuel ...

Characterizing a New Fluorescent Protein for a Low ... - ACS ...

with sophisticated synthetic gene circuitry networks to increase the dynamic range of a cell-free biosensor to reach lower detection limits and reduce the false-positive proportion. ...

Optimization of Pinocembrin Biosynthesis in ... - ACS ...

Aug 5, 2022 · Optimization of Pinocembrin Biosynthesis in Saccharomyces cerevisiae Marta Tous Mohedano,† Jiwei Mao,† and Yun Chen* Cite This: ACS Synth. Biol. 2023, 12, 144–152 Read ...

Modularized CRISPR/dCas9 Effector Toolkit for ... - ACS ...

§Faculty of Biology, University of Freiburg, Schanzlestrasse 1, 79104 Freiburg, Germany
||Faculty of Medicine, University of Freiburg, Hugstetter Strasse 49, 79106 Freiburg, Germany *S ...

Phage-Assisted Evolution of Methanol - ACS Publications

Phage-Assisted Evolution of Bacillus methanolicus Methanol Dehydrogenase 2 Timothy B. Roth,†,‡,§, # Benjamin M. Woolston,||, # Gregory Stephanopoulos,|| and David R. Liu*,†,‡,§ ...

Acs Synthetic Biology Impact Factor - ncarb.swapps.dev

Acs Synthetic Biology Impact Factor: Synthetic mRNA Robert E. Rhoads, 2016-05-29 This volume presents detailed laboratory protocols for in vitro synthesis of mRNA with favorable properties ...

Synthetic Biology in Asia: New Kids on the Block - ACS ...

Nov 2, 2016 · national consortium for synthetic biology. Certainly, synthetic biology in Asia is poised to play a greater role at the global stage. This special issue of ACS Synthetic Biology ...

Enabling Biological Nitrogen Fixation for Cereal ... - ACS ...

synthetic biology tools to enable BNF for corn (Zea mays) in fertilized fields, demonstrating the successful, safe commercialization of root-associated diazotrophs and realizing the potential ...

Green Chemistry in the Curriculum - American Chemical ...

Use of synthetic biology to manipulate the sequence of chemical reactions/transformations that occur ... Introduced the Environmental factor (e-factor) and Process Mass Intensity (PMI) for ...

Serine Integrases: Advancing Synthetic Biology - ACS ...

Serine Integrases: Advancing Synthetic Biology Christine A. Merrick,* ,† Jia Zhao, ‡ and Susan J. Rosser † † School of Biological Sciences, University of Edinburgh, Roger Land Building, ...

SCIENCE CITATION INDEX EXPANDED - JOURNAL LIST Total ...

acs catalysis 52. acs chemical biology 53. acs chemical neuroscience 54. acs combinatorial science 55. acs macro letters 56. acs medicinal chemistry letters 57. acs nano 58. acs ...

The Long Road to a Synthetic Self-Replicating Central Dogma

Jan 17, 2023 · The Long Road to a Synthetic Self-Replicating Central Dogma Jacopo De Capitani and Hannes Mutschler* Cite This: Biochemistry 2023, 62, 1221–1232 Read Online ACCESS ...

Cystic - ACS Publications

translation reactions have recently emerged as an alternative “chassis”, or host, for a range of synthetic biology applications^{28–35} such as genetic parts prototyping and metabolic engineering.

Tuning Response Curves for Synthetic Biology - ACS ...

Tuning Response Curves for Synthetic Biology Jordan Ang, Edouard Harris, Brendan J. Hussey, Richard Kil, and David R. McMillen* Department of Chemical and Physical Sciences and ...

Efficient Bacterial Genome Engineering throughout the Central

concentrations of tetracycline for selection of the best performing TIR variants. The number of colonies decreased with increasing tetracycline, and the highest concentration

Engineered l-Lactate Responding Promoter System ... - ACS ...

KEYWORDS: synthetic biology, lactate, whole-cell biosensor, carbon catabolite repression, anoxia, bacterial cancer therapy INTRODUCTION Lactate is an organic acid from alpha ...

Plant Biology Journals

Journal Name Impact Factor (2019) Publisher Plant Specific (Yes or No) Discipline Types of articles Society (Yes or No) Name of the society Open Access or Not Managing ...

Improved Combinatorial Assembly and Barcode ... - ACS ...

Aug 15, 2023 · Synthetic biology provides powerful tools to transform biological discoveries and applications, but the lack of understanding of biological systems is often an impediment for the ...

Perspectives on Genetically Engineered ... - ACS Publications

Jan 25, 2024 · KEYWORDS: microorganisms, genetic engineering, biotechnology, synthetic biology, regulations, science policy INTRODUCTION Genetic engineering, the direct ...

Highly Efficient Single-Pot Scarless Golden Gate Assembly

Nov 17, 2018 · KEYWORDS: DNA assembly, Golden Gate assembly, synthetic biology DNA assembly is one of the most fundamental techniques and often one of the very first steps in ...

Expanding the Dynamic Range of a Transcription Factor ...

ACS Synthetic Biology Link to article, DOI: 10.1021/acssynbio.9b00144 Publication date: 2019 Document Version Peer reviewed version Link back to DTU Orbit ... 1Expanding the dynamic ...

Multiplicity of the Agrobacterium Infection of Nicotiana ...

Aug 10, 2023 · Multiplicity of the Agrobacterium Infection of Nicotiana benthamiana for Transient DNA Delivery Erik D. Carlson, Jakub Rajniak, and Elizabeth S. Sattely* Cite This: ACS Synth. ...

Writing Excellent Research Proposals - American Chemical ...

Chemistry/Biology, MS Chemistry Education University of Nebraska Lincoln Ph.D. Chemistry ... •Low impact - No publishable results even if funding is ... ACS PRF Research Areas (I) 1. ...

Engineering of a TrpR-Based Biosensor for Altered Dynamic ...

Mar 14, 2022 · to conventional static regulation, a concept of dynamic regulation has been coined and implemented.¹² Essentially, dynamic regulation relies on the self-adjustments of cells based

Journals Impact Factor List 2025

Soil Biology and Biochemistry 2.934 9.7 Progress in Aerospace Sciences 2.881 9.6 Trends in Parasitology 1.713 9.6 Materials Research Letters 2.529 9.6 ACS Materials Letters 3.003 9.6 ...

ACS Omega s Progress Report: Growing with Trust and Diversity

Jun 5, 2023 · were also delighted to receive a Journal Impact Factor of 4.132, a CiteScore of 5.2, and a 5-Year Impact Factor of 4.197. In addition, ACS Omega articles were cited 41,528 times ...

Inducible Control of mRNA Transport Using ... - ACS ...

Inducible Control of mRNA Transport Using Reprogrammable RNA-Binding Proteins Zhanar Abil,† Laura F. Gummy,‡ Huimin Zhao*,†,§ and Casper C. Hoogenraad*,‡ †Department of ...

Microsoft Word - Cao-ACS SB-SI-Submission Version.docx

! 1! Submitted to ACS Synthetic Biology on Feb.5th, 2017 Centromeric DNA facilitates nonconventional yeast genetic engineering Mingfeng Cao^{1, 2}, Meirong Gao^{1, 2}, Carmen ...

JIM HASELOFF - ACS Publications

Synthetic biology constructs are envisioned to mediate informa- tion transfer we are also developing a suite of methodologies in the broad area of “biofabrication” that cement the ...

Biosystems Design by Machine Learning

Biosystems Design by Machine Learning Michael Jeffrey Volk,# Ismini Lourentzou,# Shekhar Mishra,# Lam Tung Vo,# Chengxiang Zhai,* and Huimin Zhao* Cite This: ACS Synth. Biol. ...

Engineering an E. coli Near-Infrared Light Sensor - Rice ...

Engineering an E. coli Near-Infrared Light Sensor Nicholas T. Ong,† Evan J. Olson,† and Jeffrey J. Tabor*,†,‡ †Department of Bioengineering, ‡Department of Biosciences, Rice University, ...

Light-Inducible Recombinases for Bacterial Optogenetics

Sep 28, 2019 · light exposure, the impact of light intensity, and the response ... factor to select flexible regions within the protein,⁴⁵ and chose split sites between flexible amino acids such ...

Investigating and Modeling the Factors That Affect Genetic ...

Synthetic biology aims to address pressing global challenges including disease diagnosis and treatment, ^{1,2} biofuel produc- tion, ^{3–5} contamination detection, ⁶ and biomanufacturing. ^{4,7–11}

Published as part of the ACS Synthetic Biology virtual special ...

Advances in the synthetic biology field, particularly in DNA sequence engineering, have significantly expanded opportu-nities to improve CHO cell expression vector design.¹⁰ ...

Special Issue on Artificial Intelligence for Synthetic Biology

Jan 12, 2024 · predictive power that synthetic biology needs and can be applied in all parts of the synthetic biology process (Figure 1). This Special Issue of ACS Synthetic Biology highlights an ...

[Acs Synthetic Biology Impact Factor](#)

Acs Synthetic Biology Impact Factor

Related Articles

- [act therapy training free](#)
- [active reading hazardous waste answer key](#)
- [active shooter training california](#)

[Back to Home](#)