

Advanced Prediction Of Pulsed Extraction Column

Dynamic Modelling and Simulation of (pulsed and Stirred) Liquid-liquid Extraction Columns Using the Population Balance Equation **Liquid-Liquid Extraction Equipment** **Extraction '84 Mechanical Characteristics and Performance of Liquid-liquid Extraction Columns** **Extraction 2018 Pulse Column Design** *Recent Advances in Liquid-Liquid Extraction* **Enhancing Extraction Processes in the Food Industry** Natural Product Extraction *Pulsed Electric Fields Technology for the Food Industry* Green Extraction of Natural Products *Green Chemistry and Engineering* **Handbook of Solvent Extraction** **The Extraction of Cobalt from Nickel in a Pulse Column** **Liquid Extraction** Electrotechnologies for Extraction from Food Plants and Biomaterials **Separation, Extraction and Concentration Processes in the Food, Beverage and Nutraceutical Industries** **Natural Product Extraction** **Control of Liquid-liquid Extraction Columns** *The Numerical Design of a Resonant Extraction System for the MURA 50-Mev Electron Accelerator* Solvent Extraction 1990 **Intensification of Liquid-Liquid Processes** *Green Extraction and Valorization of By-Products from Food Processing* *Recent Advances in Micro- and Macroalgal Processing* *Ingredients Extraction by Physicochemical Methods in Food* *Parameter Extraction and Complex Nonlinear Transistor Models* **Enhancing Extraction Processes in the Food Industry** *Extraction Efficiency of a Pulse Column of Varied Geometry* **Water Extraction of Bioactive Compounds** *Liquid-liquid Systems* **Fruits and Vegetable Wastes** *Green Food Processing Techniques* Modern Techniques and Solvents for the Extraction of Microbial Oils **Alternative Solvents for Natural Products** **Extraction** *Food Processing* **Nonlinear Transistor Model** **Parameter Extraction** **Techniques** **Current Advances for Development of Functional Foods** **Modulating Inflammation and Oxidative Stress** **12th International Symposium on Process Systems Engineering and 25th European Symposium on Computer Aided Process Engineering** Standard Test Systems for Liquid Extraction On The Behavior Of A Extraction Column

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Enhancing Extraction Processes in the Food Industry Mar 20 2022 Extraction is an important operation in food engineering, enabling the recovery of valuable soluble components from raw materials. With increasing energy costs and environmental concerns, industry specialists are looking for improved techniques requiring less solvents and energy consumption. Enhancing Extraction Processes in the Food Industry is a

The Numerical Design of a Resonant Extraction System for the MURA 50-Mev Electron Accelerator Mar 08 2021 Detailed numerical investigations of a proposed half-integral resonant-extraction system for fixed-field, alternating-gradient synchrotrons verify the feasibility of extracting a high-quality beam from the MURA 50-Mev FFAG by this method. The half-integral resonance causes a large growth in the radial betatron amplitude, enabling the extraction of virtually the entire beam with an exceedingly small emittance. The method is complicated by the inclusion of time-varying parameters, required to maintain a relatively constant emittance and apparent source in the extracted beam over the extraction interval. Calculations were performed on an IBM-704 digital computer using measured magnetic fields.

Fruits and Vegetable Wastes Mar 28 2020 This book puts together all aspects of valorization of vegetable and fruit wastes (VFWs) into different biocommodities and platform chemicals using fermentation and non-fermentation processes. VFWs are a special group of solid waste (biomass) that needs to be characterized to understand the nature of applications as raw materials and to propose an appropriate methodology for bioprocessing into value-added commodities. VFWs provide favorable conditions for the growth of microorganisms, and this opens up great opportunities for their use in fermentation processes. For example, VFWs can be used as a solid support, carbon, and nutrient source in fermentation for the production of a variety of value-added biocommodities such as enzymes, single-cell proteins, bioadsorbents, phenolic bioactive compounds, aroma and flavor compounds, and platform chemicals like lactic acid, bioethanol, and biobutanol. Researchers and academics in the area of environmental science and engineering, chemical engineering, biotechnology, life science, and food science and technology, undergraduate and graduate students, industry professionals, and policymakers will find this publication useful. Bioprocessing of agro-wastes is a recent technology for developing novel bioproducts. This book will also be of interest to the general public as a reference for all those interested in waste management.

On The Behavior Of A Extraction Column Jun 18 2019

Natural Product Extraction Feb 19 2022 Natural products are used by the food, pharmaceutical and cosmetics industries, and extraction technologies and potential applications for plant extracts are of interest to many industrial sectors. Extraction of natural products in an economic and environmentally friendly way is of high importance to all industries involved. The second edition of this book presents an updated, holistic, in-depth view of the more environmentally benign techniques available for the extraction of natural products, along with their newest applications and case studies. Conventional and emerging extraction techniques are discussed in detail. New topics include enzymes, pulsed electric energy, and on-line/in-line analysis. Written for academics and industrialists working in both natural product extraction and green chemistry, this new edition provides a valuable update on current trends in the field.

Recent Advances in Liquid-Liquid Extraction Apr 21 2022 *Recent Advances in Liquid-liquid Extraction* focuses on the applications of liquid extraction. The selection first discusses solvent extraction. Concerns include organic and inorganic separations, mass transfer process, solvent extraction economics, and coalescence in liquid-liquid systems. The book focuses on the chemistry of solvent extraction. Extraction by acidic organophosphorus compounds; extraction by phosphorus-bonded oxygen-donor solvents; extraction by high-molecular weight amines; and synergistic extraction are elaborated. The book also focuses on industrial organic processes; industrial contacting equipment; response characteristics and control of extraction processes; and calculation of contactors with longitudinal mixing. The selection presents the study of longitudinal mixing in liquid-liquid contactors. Rotating disc contactors, packed columns, vibrating plate extractors, and Oldshue-Rushton columns

are described. The text also discusses heat transfer by direct liquid-liquid contact and the coalescence of liquid droplets and liquid dispersion. The selection is a vital source of data for readers interested in liquid extraction.

Pulse Column Design May 22 2022

Extraction Efficiency of a Pulse Column of Varied Geometry Jun 30 2020

Liquid-liquid Systems Apr 28 2020 Liquid-Liquid Systems

Enhancing Extraction Processes in the Food Industry Aug 01 2020 Extraction is an important operation in food engineering, enabling the recovery of valuable soluble components from raw materials. With increasing energy costs and environmental concerns, industry specialists are looking for improved techniques requiring less solvents and energy consumption. *Enhancing Extraction Processes in the Food Industry* is a comprehensive resource providing clear descriptions of the latest extraction methods and instruments used in food laboratories. The book begins with an overview of solvent extraction technology. It examines pulsed electric fields and their effect on food engineering, and the potential and limitations of microwave-assisted extraction. It explores diffusion processes and reviews what is known about electrical discharge processes in the extraction of biocompounds. Next, the book summarizes current knowledge on conventional and innovative techniques for the intensification of extractions from food and natural products, focusing on environmental impacts. It reviews recent developments in supercritical CO₂ extraction of food and food products, describes the pressurized hot water extraction (PHWE) process, and examines future trends for PHWE. The book also examines essential oil extraction, and the tools and techniques of high pressure-assisted extraction. The authors demonstrate its application using litchi and longan fruits as examples. The final chapters focus on extrusion-assisted extraction, gas-assisted mechanical expression, mechanochemically assisted extraction, reverse micellar extraction, and aqueous two-phase extraction. The book concludes with a chapter on the treatment of soybeans through enzyme-assisted aqueous processing, examining the economics involved as well as the development of the process. A solid review of modern approaches that enhance extraction processes, this volume is destined to pave the way for future research and development in the field.

Nonlinear Transistor Model Parameter Extraction Techniques Oct 23 2019 Achieve accurate and reliable parameter extraction using this complete survey of state-of-the-art techniques and methods. A team of experts from industry and academia provides you with insights into a range of key topics, including parasitics, intrinsic extraction, statistics, extraction uncertainty, nonlinear and DC parameters, self-heating and traps, noise, and package effects. Learn how similar approaches to parameter extraction can be applied to different technologies. A variety of real-world industrial examples and measurement results show you how the theories and methods presented can be used in practice. Whether you use transistor models for evaluation of device processing and you need to understand the methods behind the models you use, or you want to develop models for existing and new device types, this is your complete guide to parameter extraction.

Food Processing Nov 23 2019 Non-thermal operations in food processing are an alternative to thermal operations and similarly aimed at retaining the quality and organoleptic properties of food products. This volume covers different non-thermal processing technologies such as high-pressure processing, ultrasound, ohmic heating, pulse electric field, pulse light, membrane processing, cryogenic freezing, nanofiltration, and cold plasma processing technologies. The book focuses both on fundamentals and on recent advances in non-thermal food processing technologies. It also provides information with the description and results of research into new emerging technologies for both the academy and industry. Key features: Presents engineering focus on non-thermal food

processing technologies. Discusses sub-classification for recent trends and relevant industry information/examples. Different current research-oriented results are included as a key parameter. Covers high-pressure processing, pulse electric field, pulse light technology, irradiation, and ultrasonic techniques. Includes mathematical modeling and numerical simulations. Food Processing: Advances in Non-Thermal Technologies is aimed at graduate students, professionals in food engineering, food technology, and biological systems engineering.

Natural Product Extraction May 10 2021 Natural products are sought after by the food, pharmaceutical and cosmetics industries, and research continues into their potential for new applications. Extraction of natural products in an economic and environmentally-friendly way is of high importance to all industries involved. This book presents a holistic and in-depth view of the techniques available for extracting natural products, with modern and more environmentally-benign methods, such as ultrasound and supercritical fluids discussed alongside conventional methods. Examples and case studies are presented, along with the decision-making process needed to determine the most appropriate method. Where appropriate, scale-up and process integration is discussed. Relevant to researchers in academia and industry, and students aiming for either career path, Natural Product Extraction presents a handy digest of the current trends and latest developments in the field with concepts of Green Chemistry in mind.

Liquid-Liquid Extraction Equipment Sep 26 2022 In recent years the use of liquid—liquid extraction equipment has attracted widespread interest from all major chemical engineering, petroleum and pharmaceutical companies as well as university-based scientists and engineers. Liquid—Liquid Extraction Equipment presents : a critical analysis of all available information, including practical recommendations new ideas on performance enhancement and equipment selection an up-to-date review of research results on equipment performance illustrations of present understanding using well-known equipment a concise survey of past, present and forthcoming procedures The combination of the historical aspects of the subject, with extensive references and illustrations, make this a unique information source. All researchers, in industry and academia, using this type of equipment will find Liquid—Liquid Extraction Equipment an authoritative reference work and a solid basis for future research projects.

12th International Symposium on Process Systems Engineering and 25th European Symposium on Computer Aided Process Engineering Aug 21 2019 25th European Symposium on Computer-Aided Process Engineering contains the papers presented at the 12th Process Systems Engineering (PSE) and 25th European Society of Computer Aided Process Engineering (ESCAPE) Joint Event held in Copenhagen, Denmark, 31 May - 4 June 2015. The purpose of these series is to bring together the international community of researchers and engineers who are interested in computing-based methods in process engineering. This conference highlights the contributions of the PSE/CAPE community towards the sustainability of modern society. Contributors from academia and industry establish the core products of PSE/CAPE, define the new and changing scope of our results, and future challenges. Plenary and keynote lectures discuss real-world challenges (globalization, energy, environment, and health) and contribute to discussions on the widening scope of PSE/CAPE versus the consolidation of the core topics of PSE/CAPE. Highlights how the Process Systems Engineering/Computer-Aided Process Engineering community contributes to the sustainability of modern society Presents findings and discussions from both the 12th Process Systems Engineering (PSE) and 25th European Society of Computer-Aided Process Engineering (ESCAPE) Events Establishes the core products of Process Systems Engineering/Computer Aided Process Engineering Defines the future challenges of the Process Systems Engineering/Computer Aided Process

Engineering community

Standard Test Systems for Liquid Extraction Jul 20 2019

Electrotechnologies for Extraction from Food Plants and Biomaterials Jul 12 2021 Recently, the electrotechnologies based on the effects of pulsed electric fields (PEF), such as ohmic heating (OH) and DC electric field, have gained real interest in the field of food processing. These techniques efficiently enhance methods of extraction from food plants and dehydration of biosolids. The PEF and pulsed OH techniques preserve the nutritional, functional, structural and sensory properties of products better than conventional extraction technologies. The electrofiltration and electro-osmotic dewatering can be very effective for the separation of bioproducts and dehydration of food wastes. The first source book in the field, this book gives an overview the fundamental principles of electrical techniques, electrophysical properties of foods and agricultural products, application of various emerging electrotechnologies for enhancing the solid-liquid separation and drying processes, extraction techniques of pigments, processing methods of different in-plant tissues and biosolids, electro-osmotic dewatering and electrofiltration of biomaterials, recent industrial- scale gains, and other aspects. Each chapter is complementary to other chapters and addresses the latest efforts in the field.

Extraction 2018 Jun 23 2022 This three volume set presents papers from the first collaborative global metallurgy conference focused exclusively on extractive topics, including business and economic issues. Contributions examine new developments in foundational extractive metallurgy topics and techniques, and present the latest research and insights on emerging technologies and issues that are shaping the global extractive metallurgy industry. The book is organized around the following main themes: hydrometallurgy, pyrometallurgy, sulfide flotation, and extractive metallurgy markets and economics.

Ingredients Extraction by Physicochemical Methods in Food Oct 03 2020 *Ingredients Extraction by Physico-chemical Methods, Volume Four*, the latest release in the Handbook of Food Bioengineering series, reveals the most investigated extraction methods of ingredients and their impact on the food industry. This resource describes types of ingredients that may be extracted through physico-chemical methods (i.e. specific plants, fruits, spices, etc.), along with their particularities to help readers understand their biological effect and solve research problems. The extraction methods of bioactive compounds and functional ingredients are discussed, along with information on green ingredient extraction strategies to help reduce harmful environmental and health effects. Extraction methods in this book can be applied for multiple purposes within the food industry, such as ingredients separation for food development, the purification and separation of toxic compounds from a food mixture, and the recovery of natural bioactive compounds. Offers advanced knowledge and skills of physiochemical analysis for ingredient extraction Presents various methods for food component analysis to evaluate structure function relations in changing environments Discusses the importance of enzymes during processing and storage of foods Includes methods to evaluate and enhance extraction, such as ultrasound, to produce novel foods more efficiently

Alternative Solvents for Natural Products Extraction Dec 25 2019 This book presents a complete picture of the current state-of-the-art in alternative and green solvents used for laboratory and industrial natural product extraction in terms of the latest innovations, original methods and safe products. It provides the necessary theoretical background and details on extraction, techniques, mechanisms, protocols, industrial applications, safety precautions and environmental impacts. This book is aimed at professionals from industry, academicians engaged in extraction engineering or natural product chemistry research, and graduate level students. The individual chapters

complement one another, were written by respected international researchers and recognized professionals from the industry, and address the latest efforts in the field. It is also the first sourcebook to focus on the rapid developments in this field.

Separation, Extraction and Concentration Processes in the Food, Beverage and Nutraceutical Industries Jun 11 2021

Separation, extraction and concentration are essential processes in the preparation of key food ingredients. They play a vital role in the quality optimization of common foods and beverages and there is also increasing interest in their use for the production of high-value compounds, such as bioactive peptides from milk and whey, and the recovery of co-products from food processing wastes. Part one describes the latest advances in separation, extraction and concentration techniques, including supercritical fluid extraction, process chromatography and membrane technologies. It also reviews emerging techniques of particular interest, such as pervaporation and pressurised liquid extraction. Part two then focuses on advances in separation technologies and their applications in various sectors of the food, beverage and nutraceutical industries. Areas covered include dairy and egg processing, oilseed extraction, and brewing. This section discusses the characteristics of different foods and fluids, how food constituents are affected by separation processes and how separation processes can be designed and operated to optimize end product quality. With its team of experienced international contributors, Separation, extraction and concentration processes in the food, beverage and nutraceutical industries is an important reference source for professionals concerned with the development and optimisation of these processes. Describes the latest advances in separation, extraction and concentration techniques and their applications in various sectors of the food, beverage and nutraceutical industries Reviews emerging techniques of particular interest, such as pervaporation and pressurised liquid extraction Explores the characteristics of different foods and fluids and how food constituents are affected by separation processes

Current Advances for Development of Functional Foods Modulating

Inflammation and Oxidative Stress Sep 21 2019 Current Advances for Development of Functional Foods Modulating Inflammation and Oxidative Stress presents the nutritional and technological aspects related to the development of functional foods with anti-inflammatory and antioxidant effects. Specifically, analytical approaches for the characterization of anti-inflammatory and antioxidant properties of healthy foods and functional constituents, as well as technological strategies for the extraction of compounds and fractions from raw materials to produce anti-inflammatory and antioxidant ingredients are addressed. In addition, the molecular mechanisms by which foods and their components can modulate inflammation and their oxidative stress effects on disease prevention are explored. Finally, clinical research addressing nutritional needs in pathological subjects with inflammatory diseases are considered. Covers methods of analysis and extraction of anti-inflammatory and antioxidant compounds Offers an overview of the main anti-inflammatory and antioxidant compounds in foods Provides a guide on the mechanisms of action and health benefits of anti-inflammatory and antioxidant dietary bioactives

Green Food Processing Techniques Feb 25 2020 Green Food Processing Techniques: Preservation, Transformation and Extraction advances the ethics and practical objectives of "Green Food Processing" by offering a critical mass of research on a series of methodological and technological tools in innovative food processing techniques, along with their role in promoting the sustainable food industry. These techniques (such as microwave, ultrasound, pulse electric field, instant controlled pressure drop, supercritical fluid processing, extrusion...) lie on the frontier of food processing, food chemistry, and food microbiology, and are thus presented with tools to make preservation, transformation

and extraction greener. The Food Industry constantly needs to reshape and innovate itself in order to achieve the social, financial and environmental demands of the 21st century. Green Food Processing can respond to these challenges by enhancing shelf life and the nutritional quality of food products, while at the same time reducing energy use and unit operations for processing, eliminating wastes and byproducts, reducing water use in harvesting, washing and processing, and using naturally derived ingredients. Introduces the strategic concept of Green Food Processing to meet the challenges of the future of the food industry Presents innovative techniques for green food processing that can be used in academia, and in industry in R&D and processing Brings a multidisciplinary approach, with significant contributions from eminent scientists who are actively working on Green Food Processing techniques

Green Chemistry and Engineering Nov 16 2021 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 advice 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

Water Extraction of Bioactive Compounds May 30 2020 Water Extraction of Bioactive Compounds: From Plants to Drug Development draws together the expert knowledge of researchers from around the world to outline the essential knowledge and techniques required to successfully extract bioactive compounds for further study. The book is a practical tool for medicinal chemists, biochemists, pharmaceutical scientists and academics working in the discovery and development of drugs from natural sources. The discovery and extraction of bioactive plant compounds from natural sources is of growing interest to drug developers, adding greater fuel to a simultaneous search for efficient, green technologies to support this. Particularly promising are aqueous based methods, as water is a cheap, safe and abundant solvent. The book is a detailed guide to the fundamental concepts and necessary equipment needed to successfully undertake such processes, supported by application examples and highlighting the most influential variables. Part 1 begins with a thorough introduction to plants as sources of drugs, highlighting strategies for the discovery of novel bioactive constituents of botanicals, the need for standardization and a move toward more rational and greener techniques in the field, the development of plant-based extraction processes and pretreatments for the efficient extraction. Part 2 then reviews a broad range of available techniques, including

sections on conventional hot water extraction and pressurized hot water extraction in a range of settings. Intensified processes are then discussed in detail, including sections on microwave-assisted processes, ultrasound-assisted processes and enzyme assisted extraction. Covers the theoretical background and range of techniques available to researchers, helping them to select the most appropriate extraction method for their needs Presents up-to-date and cutting edge applications by international experts Highlights current use and future potential for industrial scale applications Offers a thorough introduction to plants as sources of drugs, highlighting strategies for the discovery of novel bioactive constituents of botanicals

Modern Techniques and Solvents for the Extraction of Microbial Oils Jan 26 2020 A valuable reference presenting many processes that facilitate lipid extraction from microorganisms. Amongst the techniques included are Folch, Bligh and Dyer methods, and the Soxhlet technique as well as intensified green processes (ultrasound, microwave, supercritical fluid extraction, agro-solvent, accelerated solvent extraction, enzyme-assisted extraction, instant controlled pressure drop, pulse electric field). In addition to a section featuring the analysis of fatty acids by Gas Chromatography and lipids by High-Performance Thin-Layer Chromatography (HPTLC), this brief contains a valuable bibliography on microorganisms (classes, structures) and their applications as a source of value added oils and compounds for food and non-food applications such as biojet fuel.

Parameter Extraction and Complex Nonlinear Transistor Models Sep 02 2020 All model parameters are fundamentally coupled together, so that directly measured individual parameters, although widely used and accepted, may initially only serve as good estimates. This comprehensive resource presents all aspects concerning the modeling of semiconductor field-effect device parameters based on gallium-arsenide (GaAs) and gallium nitride (GaN) technology. Metal-semiconductor field-effect transistors (MESFETs), high electron mobility transistors (HEMTs) and heterojunction bipolar transistors (HBTs), their structures and functions, and existing transistor models are also classified. The Shockley model is presented in order to give insight into semiconductor field-effect transistor (FET) device physics and explain the relationship between geometric and material parameters and device performance. Extraction of trapping and thermal time constants is discussed. A special section is devoted to standard nonlinear FET models applied to large-signal measurements, including static-/pulsed-DC and single-/two-tone stimulation. High power measurement setups for signal waveform measurement, wideband source-/load-pull measurement (including envelope source-/load pull) are also included, along with high-power intermodulation distortion (IMD) measurement setup (including envelope load-pull). Written by a world-renowned expert in the field, this book is the first to cover of all aspects of semiconductor FET device modeling in a single volume.

Solvent Extraction 1990 Feb 07 2021 Solvent extraction is employed very widely in both fundamental research and technology because of the remarkable features of this simple but very effective technique for the separation of different materials. The International Solvent Extraction Conference 1990 was a forum for the presentation of papers on up-to-date research in this field. The collection of the papers in these volumes will be invaluable because information on solvent extraction is often scattered in various journals and proceedings which make the following of developments difficult.

Mechanical Characteristics and Performance of Liquid-liquid Extraction Columns Jul 24 2022

Control of Liquid-liquid Extraction Columns Apr 09 2021 Covers the basic and more advanced aspects of identification theory, adaptive control and learning control, as well as the implementation of these different techniques for process control. Annotation copyrighted by Book News, Inc., Portland, OR

Intensification of Liquid-Liquid Processes Jan 06 2021 Explore and review novel techniques for intensifying transport and reaction in liquid-liquid and related systems with this essential toolkit. Topics include discussion of the principles of process intensification, the nexus between process intensification and sustainable engineering, and the fundamentals of liquid-liquid contacting, from an expert with over forty-five years' experience in the field. Providing promising directions for investment and for new research in process intensification, in addition to a unique review of the fundamentals of the topic, this book is the perfect guide for senior undergraduate students, graduate students, developers, and research staff in chemical engineering and biochemical engineering.

Recent Advances in Micro- and Macroalgal Processing Nov 04 2020 A comprehensive review of algae as novel and sustainable sources of algal ingredients, their extraction and processing This comprehensive text that offers an in-depth exploration of the research and issues surrounding the consumption, economics, composition, processing and the health effects of algae. With contributions from an international team of experts, the book explores the application of conventional and emerging technologies for algal processing. The book includes recent developments such as drying and milling technologies along with advancements in sustainable greener techniques. The text also highlights individual groups of compounds including polysaccharides, proteins, polyphenols, carotenoids, lipids and fibres from algae. The authors provide insightful reviews of the traditional and more recent applications of algae/algal extracts in food, feed, pharmaceutical and cosmetics products. Offering a holistic view of the various applications, the book looks at the economic feasibility, market trends and considerations, and health hazards associated with algae for industrial applications. This important book: Provides a comprehensive overview of algal biomolecules and the role of emerging processing technologies Explores the potential biological and health benefits of algae and their applications in food, pharmaceuticals and cosmetic products Includes a current review of algal bioactives and processing technologies for food and ingredient manufacturers Contains contributions from leading academic and industrial experts Written for food scientists, allied researchers and professional food technologists, this book offers a guide to the novel processing and extraction techniques for exploring and harnessing the immense potential of algae.

Extraction '84 Aug 25 2022 Extraction '84 presents the proceedings of the Symposium on Liquid-Liquid Extraction Science, held in Dounreay, Scotland, on November 27-29, 1984. This book discusses the principle involved in liquid-liquid extraction. Organized into 22 chapters, this compilation of papers begins with an overview of the performances of pulsed columns, including decontamination factors and recovery yields. This text then discusses the alternative ways of managing neptunium in the Purex process and reviews the main coordination and redox characteristics of neptunium in nitric medium. Other chapters consider the mass transfer measurements made in a pulsed plate liquid-liquid extraction column. This book discusses as well the extraction of uranium from wet process phosphoric acid. The final chapter deals with full-scale pulse column tests, which have been performed with uranium and simulated fission products to evaluate. This book is a valuable resource for chemical engineers, chemists, chemical physicists, and research workers.

Green Extraction of Natural Products Dec 17 2021 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.

The Extraction of Cobalt from Nickel in a Pulse Column Sep 14 2021

Liquid Extraction Aug 13 2021 This work has been selected by scholars as being culturally important and is part of the knowledge base of civilization as we know it. This work is in the public domain in the United States of America, and possibly other nations. Within the United States, you may freely copy and distribute this work, as no entity (individual or corporate) has a copyright on the body of the work. Scholars believe, and we concur, that this work is important enough to be preserved, reproduced, and made generally available to the public. To ensure a quality reading experience, this work has been proofread and republished using a format that seamlessly blends the original graphical elements with text in an easy-to-read typeface. We appreciate your support of the preservation process, and thank you for being an important part of keeping this knowledge alive and relevant.

Pulsed Electric Fields Technology for the Food Industry Jan 18 2022 Many novel technologies have been proposed in the attempt to improve existing food processing methods. Among emerging nonthermal technologies, high intensity pulsed electric fields (PEF) is appealing due to its short treatment times and reduced heating effects. This book presents information accumulated on PEF during the last 15 years by experienced microbiologists, biochemists, food technologists, and electrical and food engineers.

Green Extraction and Valorization of By-Products from Food Processing Dec 05 2020 Generating of agricultural wastes and by-products during the production, processing and consumption of agricultural commodities is unavoidable and over the last decades, an increased public interest has been shown in the challenge of food wastage. Apart from its significant quantities, the physicochemical characteristics of the various agricultural waste and by-products denote that there is immense potential for their reuse, recycle, and valorisation through various different processes. *Green Extraction and Valorization of By-Products from Food Processing* provides an overview about the valorization or reuse of agricultural wastes and by-products during the production, processing and consumption of agricultural commodities. Waste disposal and by-product management in food processing industry pose problems in the areas of environmental protection and sustainability. However, they could be a great source of valuable nutraceuticals, which can be used to deal with the prospects of feeding fast growing population in 21st century. Features: Gives detailed guidance and presents case-studies about valorization of food wastes and by-products Shows the main conventional and innovative extraction techniques for food waste and by-products valorization Provides an estimated idea regarding the recovery of high-added value compounds Discusses the recovery of high-added value compounds Perspectives originated from the enormous amounts of food related materials that are discharged worldwide and the existing technologies, which promise the recovery, recycling and sustainability of high-added value ingredients inside food chain will be discussed in this book. This book is of value to academics, research institutes, and food industry engineers particularly the research and development professionals who are looking for effective management and utilization of food processing wastes and byproducts. In addition, it is suitable for undergraduate, post-graduate students, research scholars, postdoctoral fellows and faculty members from universities and colleges who pursue

academic careers in Food Technology, Food Biotechnology, Fermentation and Bioengineering, Bioprocess Technology, Food science and Technology.

Handbook of Solvent Extraction Oct 15 2021 Covers all aspects of solvent extraction from fundamental principles to industrial and research applications. International authorities describe the most current equipment, plant design, processes, and engineering practice in applying solvent extraction. Extensively cross-referenced.

Dynamic Modelling and Simulation of (pulsed and Stirred) Liquid-liquid Extraction Columns Using the Population Balance Equation Oct 27 2022