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This book will provide the most recent knowledge and advances in Sample Preparation Techniques for Separation Science. Everyone working in a laboratory must be familiar with the basis of these technologies, and they often involve elaborate and time-consuming procedures that can take up to 80% of the total analysis time. Sample preparation is an essential step in most of the analytical methods for environmental and biomedical analysis, since the target analytes are often not detected in their in-situ forms, or the results are distorted by interfering species. In the past decade, modern sample preparation techniques have aimed to comply with green analytical chemistry principles, leading to simplification, miniaturization, easy manipulation of the analytical devices, low costs, strong reduction or absence of toxic organic solvents, as well as low sample volume requirements. Modern Sample Preparation Approaches for Separation Science also provides an invaluable reference tool for analytical chemists in the chemical, biological, pharmaceutical, environmental, and forensic sciences. Hypertension is a major health problem worldwide, increasing cardiovascular (CV) risk and mortality. Together with pharmacological treatments, non-pharmacological approaches, such as nutrient intake modifications, play an important role in optimizing treatment. A link has been demonstrated between hypertension and body weight as well as dietary habits. The aim of this Special Issue is to improve the understanding of the relationships between some nutrients and hypertension, and of the effects of different dietary approaches on hypertension regulation from different points of view.

Reactions catalyzed by metalloenzymes have great potential for applications in the biotechnology and pharmaceutical industries. While only a few of these enzymes have yet been used in such applications, in the last few decades numerous efficient, selective, environmentally friendly and economical synthetic analogues have been described, including supramolecular, polymeric, nanoparticulate and lowmolecular-weight organometallic complexes, and metal organic frameworks. In this Research Topic, we present a collection of original research and review articles that show significant recent advances made in the rational design of such artificial metalloenzymes.

Nanomedicine represents one of the most investigated areas in the last two decades in the field of pharmaceuticals. Several nanovectors have been developed and a growing number of products have been approved. It is well known that many biomaterials are able to self-organize under controlled conditions giving rise nanostructures. Polymers, lipids, inorganic materials, peptides and proteins, and surfactants are examples of such biomaterials and the self-assembling property can be exploited to design nanovectors that are useful for drug delivery. The self-organization of nanostructures is an attractive approach to preparing nanovectors, avoiding complex and high-energy-consuming preparation methods, and, in some cases, facilitating drug loading procedures. Moreover, preparations based on these biocompatible and pharmaceutical grade biomaterials allow an easy transfer from the lab to the industrial scale. This book reports ten different works, and a review, aiming to cover multiple strategies and pharmaceutical applications in the field of self-organizing nanovectors for drug delivery. For the majority of the world's population, medicinal and aromatic plants are the most important source of life-saving drugs. Biotechnological tools represent important resources for selecting, multiplying and conserving the critical genotypes of medicinal plants. In this regard, in-vitro regeneration holds tremendous potential for the production of high-quality plant-based medicines, while cryopreservation – a long-term conservation method using liquid nitrogen – provides an opportunity to conserve endangered medicinal and aromatic plants. In-vitro production of secondary metabolites in plant cell suspension cultures has been reported for various medicinal plants, and bioreactors represent a key step toward the commercial production of secondary metabolites by means of plant biotechnology. Addressing these key

aspects, the book contains 29 chapters, divided into three sections. Section 1: In-vitro production of secondary metabolites Section 2: In-vitro propagation, genetic transformation and germplasm conservation Section 3: Conventional and molecular approaches

This Topical Collection of Molecules provides the most recent advancements and trends within the framework of food analysis, confirming the growing public, academic, and industrial interest in this field. The articles broach topics related to sample preparation, separation science, spectroscopic techniques, sensors and biosensors, as well as investigations dealing with the characterization of macronutrients, micronutrients, and other biomolecules. It offers the latest updates regarding alternative food sources (e.g., algae), functional foods, effects of processing, chiral or achiral bioactive compounds, contaminants, and every topic related to food science that is appealing to readers. Nowadays, the increasing awareness of the close relation among diet, health, and social development is stimulating demands for high levels of quality and safety in agro-food production, as well as new studies to fill gaps in the actual body of knowledge about food composition. For these reasons, modern research in food science and human nutrition is moving from classical methodologies to advanced instrumental platforms for comprehensive characterization. Nondestructive spectroscopic and imaging technologies are also proposed for food process monitoring and quality control in real time. In the past decade, there has been an explosion of progress in understanding the roles of carbohydrates in biological systems. This explosive progress was made with the efforts in determining the roles of carbohydrates in immunology, neurobiology and many other disciplines, examining each unique system and employing new technology. This volume represents the first of three in the Methods in Enzymology series, including Glycomics (vol. 416) and Functional Glycomics (vol. 417), dedicated to disseminating information on methods in determining the biological roles of carbohydrates. These books are designed to provide an introduction of new methods to a large variety of readers who would like to participate in and contribute to the advancement of glycobiology. The methods covered include structural analysis of carbohydrates, biological and chemical synthesis of carbohydrates, expression and determination of ligands for carbohydrate-binding proteins, gene expression profiling including micro array, and generation of gene knockout mice and their phenotype analyses.

This book is a collection of 13 innovative papers describing the state of the art and the future perspectives in solid-phase extraction covering several analytical fields prior to the use of gas or liquid chromatographic analysis. New sorptive materials are presented including carbon nanohorn suprastructures on paper support, melamine sponge functionalized with urea–formaldehyde co-oligomers, chiral metal–organic frameworks, UiO-66-based metal–organic frameworks, and fabric phase sorptive media for various applications. Solid-phase extraction can be applied in several formats aside from the conventional cartridges or mini-column approach, e.g., online solid-phase extraction, dispersive solid-phase microextraction, and in-syringe micro-solid-phase extraction can be very helpful for analyte pre-concentration and sample clean-up. Polycyclic musks in aqueous samples, 8-Nitroguanine in DNA by chemical derivatization antibacterial diterpenes from the roots of *salvia prattii*, perfluoroalkyl substances (PFASs) in water samples by bamboo charcoal-based SPE, parabens in environmental water samples, benzotriazoles as environmental pollutants, organochlorine pesticide residues in various fruit juices and water samples and synthetic peptide purification are among the applications cited in this collection. All these outstanding contributions highlight the necessity of this analytical step, present the advantages and disadvantages of each method and focus on the green analytical chemistry guidelines that have to be fulfilled in current analytical practices.

A number of driving forces, including the soaring global crude oil prices and environmental concerns in both developed and developing nations has triggered a renewed interest in the recent years on the R&D of biofuel crops. In this regard, many countries across the globe are investing heavily in the bioenergy sector for R&D to increase their energy security and reduce their dependence on imported fossil fuels. Currently, most of the biofuel requirement is met by sugarcane in Brazil and corn in the United States, while biodiesel from rapeseed oil in Europe. Sweet sorghum has been identified as a unique biofuel feedstock in India since it is well adapted to Indian agro-climatic conditions and more importantly it does not jeopardize food security at the cost of fuel. Sweet sorghum [*Sorghum bicolor* (L.) Moench] is considered as a SMART new generation energy crop as it can accumulate sugars in its stalks similar to sugarcane, but without food-fuel trade-offs and can be cultivated in almost all temperate and tropical climatic conditions and has many other advantages. The grain can be harvested from the panicles at maturity. There is no single publication detailing the agronomic and biochemical traits of tropical sweet sorghum cultivars and hybrid parents. Hence, an attempt is made in this publication- "Characterization of improved sweet sorghum cultivars" to detail the complete description of cultivars. This book serves as a ready reference on the detailed characterization of different improved sweet sorghum genotypes following the PPVFRA guidelines for the researchers, entrepreneurs, farmers and other stakeholders to identify the available sweet sorghum cultivars and understand their yield potential in tropics.

The success of lignocellulosic biofuels and biochemical industries depends upon an economic and reliable supply of quality biomass. However, research and development efforts have historically focused on the utilization of agriculturally-derived, cellulosic feedstocks without consideration of their low energy density, high variations in physical and chemical characteristics and potential supply risks in terms of availability and affordability. This Research Topic will explore strategies that enable supply chain improvements in biomass quality and consistency through blending, preprocessing, diversity and landscape design for development of conversion-ready, lignocellulosic feedstocks for production of biofuels and bio-products. Biomass variability has proven a formidable challenge to the emerging biorefining industry, impeding continuous operation and reducing yields required for economical production of lignocellulosic biofuels at scale. Conventional supply systems lack the preprocessing capabilities necessary to ensure consistent biomass feedstocks with physical and chemical properties that are compatible with supply chain operations and conversion processes. Direct coupling of conventional feedstock supply systems with sophisticated conversion systems has reduced the operability of biorefining processes to less than 50%. As the bioeconomy grows, the inherent variability of biomass resources cannot be managed by passive means alone. As such, there is a need to fully recognize the magnitude of biomass variability and uncertainty, as well as the cost of failing to design feedstock supply systems that can mitigate biomass variability and uncertainty. A paradigm shift is needed, from biorefinery designs using raw, single-resource biomass, to advanced feedstock supply systems that harness diverse biomass resources to enable supply chain resilience and development of conversion-ready feedstocks. Blending and preprocessing (e.g., drying, sorting, sizing, fractionation, leaching, densification, etc.) can mitigate variable quality and performance in diverse resources when integrated

with downstream conversion systems. Decoupling feedstock supply from biorefining provides an opportunity to manage supply risks and incorporate value-added upgrading to develop feedstocks with improved convertibility and/ or market fungibility. Conversion-ready feedstocks have undergone the required preprocessing to ensure compatibility with conversion and utilization prior to delivery at the biorefinery and represent lignocellulosic biomass with physical and chemical properties that are tailored to meet the requirements of industrially-relevant handling and conversion systems.

There are diseases where both small molecules and proteins are found as disease indicators. In the usual analysis of small molecules, proteins are precipitated out during the sample preparation. In the small molecule quantitation, triple quadrupole mass spectrometers (QqQ- MS) are commonly used even in the clinical lab settings. Even though QqQ is giving only unit resolution, it is highly sensitive and specific specially when it is used in the multiple reaction monitoring (MRM) mode. In the liquid chromatography method development, automation of column and mobile phase screening could save significant amount of operators' time. The use of Shimadzu Nexera Method Scouting Solutions software to automate the column and mobile phase screening was evaluated. The selectivity differences among four reversed phase stationary phases, C18, biphenyl, polar embedded (IBD) and pentafluorophenyl propyl (PFPP) were studied using model analyte set which includes analytes from different classes depending on the functionality and physicochemical properties. It has shown that biphenyl phase shows similar selectivity behavior as C18 when acetonitrile is used as the organic mobile phase. Further, use of Type C silica based phases, (cholesterol, bidentate C18, diol and diamond hydride) for the small molecule separation under both reversed-phase as well as aqueous normal phase were explored. Four analytes, fentanyl, hydrocodone, hydromorphone and matrine showed dual mode retention with the all four phases studied. In our lab, new system was developed to analyze both small molecules and proteins simultaneously using QqQ- MS. Model analyte set which includes over 20 small molecules and five proteins, ubiquitin, myoglobin, cytochrome c, lactalbumin, lysozyme were used to prove that the system is working. Both small molecules and proteins were detected simultaneously on Shimadzu LCMS 8050 QqQ-MS using MRM mode. Restricted access media (RAM) columns were used to trap small molecules while excluding proteins in the developed multi-channel system. Among the four RAM columns explored, Shim pack MAYI C8 column gave overall the best exclusion percentage for the proteins explored. Further, two-dimensional liquid chromatography mass spectrometry (2DLC-MS) system was developed in our lab on the same LCMS 8050. Six proteins, ubiquitin, myoglobin, cytochrome c, [beta]-casein, carbonic anhydrase, [beta]-lactoglobulin A were used with same mobile phase in both dimension to prove that the system is working. Different reversed-phase stationary phase columns as well as several mobile phases were evaluated to use as the first-dimension column while keeping Restek ARC 18 column and mobile phases with 0.1% formic acid and 0.05% trifluoroacetic acid for the second-dimension. It has shown that the system is working but could not achieved desired separation with RP x RP combination. Therefore, exploring the use of other modes of liquid chromatography such as hydrophilic interaction chromatography (HIC) column for the first dimension is currently undergoing.

Selected, peer reviewed papers from the 3rd International Conference on Chemical

Engineering and Advanced Materials (CEAM 2013), July 6-7, 2013, Guangzhou, China
Phytochemicals from natural products are now widely used as food additives (antioxidants, pigments), food supplements, cosmetic ingredients, etc. Currently, the majority of the extraction processes implemented on an industrial scale for the production of bioactive-enriched extracts are based on solvents of petroleum origin. However, contemporary trends in green extraction techniques dictate a minimization of solvent use, low-energy processes and novel eco-friendly materials that are environmentally benign. The search for liquids and/or extraction technologies that could meet such requirements is, therefore, an intriguing concept. This book addresses the concept of recovering natural bioactive substances from plant resources, using state-of-the-art extraction technologies, with prospects in the food, cosmetic and pharmaceutical industries.

Edited by one of the leading experts in the field, this book fills the need for a book presenting the most important methods for high-throughput screenings and functional characterization of enzymes. It adopts an interdisciplinary approach, making it indispensable for all those involved in this expanding field, and reflects the major advances made over the past few years. For biochemists, analytical, organic and catalytic chemists, and biotechnologists.

These new volumes of *Methods in Enzymology* (554 and 555) on Hydrogen Sulfide Signaling continue the legacy established by previous volumes on another gasotransmitter, nitric oxide (*Methods in Enzymology* volumes 359, 396, 440, and 441), with quality chapters authored by leaders in the field of hydrogen sulfide research.

These volumes of *Methods in Enzymology* were designed as a compendium for hydrogen sulfide detection methods, the pharmacological activity of hydrogen sulfide donors, the redox biochemistry of hydrogen sulfide and its metabolism in mammalian tissues, the mechanisms inherent in hydrogen sulfide cell signaling and transcriptional pathways, and cell signaling in specific systems, such as cardiovascular and nervous system as well as its function in inflammatory responses. Two chapters are also devoted to hydrogen sulfide in plants and a newcomer, molecular hydrogen, its function as a novel antioxidant. Continues the legacy of this premier serial with quality chapters on hydrogen sulfide research authored by leaders in the field
Covers conventional and new hydrogen sulfide detection methods
Covers the pharmacological activity of hydrogen sulfide donors
Contains chapters on important topics on hydrogen sulfide modulation of cell signaling and transcriptional pathways, and the the role of hydrogen sulfide in the cardiovascular and nervous systems and in inflammation

A unique, unified and a single source laboratory handbook; providing handy analytical procedures on the gamut of important, diagnostic medicinal and economic plant chemicals. More than 300 experiments on about 70 groups of phytochemicals in about 100 important plants are explained in an understandable way. A brief review on the chemistry, various types of extraction, solvents used and important analytical instruments are specified in the beginning of the book. The experiments range from simple paper and TLC chromatographic procedures to advanced GC and HPLC methods, therefore, the experiments can be easily selected depending on the availability of instruments with oneself. This book will be a valuable handbook for all the ayurvedic and herbal manufacturers throughout the world for their quality control procedures; and for courses on biochemistry, botany, pharmacy, biotechnology and

organic chemistry. This can also serve as a reference book for phytochemistry, economic botany, medicinal plants and researchers.

The re-use of industrial food residues is essential in the general framework of rational waste handling and recycling, which aims at the minimizing environmental impact of food production and producing functional food ingredients. Agri-food processing waste has long been considered a valuable biomass with a significant polyphenol load and profile. Polyphenols, aside from being powerful antioxidants that confer inherent stability to a variety of foods, may possess versatile bioactivities including anti-inflammatory and chemopreventive properties. The valorization of agri-food waste as a prominent source of polyphenols stems from the enormous amount of food-related material discharged worldwide and the emerging eco-friendly technologies that allow high recovery, recycling, and sustainable use of these materials. This book addresses the concept of recovering natural polyphenolic antioxidants from waste biomass generated by agri-food and related industrial processes and presents state-of-the-art applications with prospect in the food, cosmetic, and pharmaceutical industries.

This book is a printed edition of the Special Issue "Health-Promoting Components of Fruits and Vegetables in Human Health" that was published in *Nutrients*

This publication is based on peer-reviewed manuscripts from the 2019 Conference on Drug Design & Discovery Technologies (CDDT) held at Ramaiah University of Applied Sciences, India. Providing a wide range of up to date topics on the latest advancements in drug design and discovery technologies, this book ensures the reader receives a good understanding of the scope of the field. Aimed at scientists, students, regulators, academics and consultants throughout the world, this book is an ideal resource for anyone interested in the state of the art in drug design and discovery.

Fullst.tit. Nordic Research Cooperation on Reproductive Disturbances in Fish. Undertit.: report from the Redfish project. Engelsk tekst.

Legumes have played an important part as human food and animal feed in cropping systems since the dawn of agriculture. The legume family is arguably one of the most abundantly domesticated crop plant families. Their ability to symbiotically fix nitrogen and improve soil fertility has been rewarded since antiquity and makes them a key protein source. Pea was the original model organism used in Mendel's discovery of the laws of inheritance, making it the foundation of modern plant genetics. This book based on Special Issue provides up-to-date information on legume biology, genetic advances, and the legacy of Mendel.

Modern Sample Preparation Approaches for Separation Science MDPI

This book includes both fundamental studies and applications in a multidisciplinary research field involving a high diversity of chiral compounds, including commercial substances with industrial applications, pharmaceuticals, and new chiral compounds with promising biological activities.

How can I use my HPLC/UHPLC equipment in an optimal way, where are the limitations of the technique? These questions are discussed in detail in the sequel of the successful "HPLC Expert" in twelve chapters written by experts in the respective fields. The topics encompass - complementary to the first volume - typical HPLC users' problems and questions such as gradient optimization and hyphenated techniques (LC-MS). An important key aspect of the book is UHPLC:

For which analytical problem is it essential, what should be considered? Besides presentation of latest developments directly from the main manufacturers, also UHPLC users and independent service engineers impart their knowledge. Consistent with the target groups, the level is advanced, but the emphasis is on practical applications.

This thesis studies the impact of food processing on the stability and antioxidant capacity of anthocyanins in aqueous and real food systems. It investigates the effects of temperature and pH on the stability and antioxidant capacity of anthocyanins in aqueous systems and in real semi-solid and solid food systems including bread and biscuits. The results of this thesis offer food manufacturers valuable guidelines on the production of functional foods containing anthocyanins, helping to reduce anthocyanins loss and achieve a desired amount of anthocyanins in foods with extra health benefits.

Dear Colleagues, In recent years, functional coating technology has attracted increased attention due to its effective potential for improved engineered materials. Growing demand for new materials with synergistic properties pushed research toward a new field to obtain innovative and smart coatings with functional capabilities that greatly differ from the conventional ones. In such a context, the expression of “functional coatings” has acquired specific relevance. This Special Issue will assess cutting-edge developments in this research area for the improvement and growth of actual performance, industrial scale-up, and marketability of functional coatings. This Special Issue is useful for researchers who are approaching this application context to improve their knowledge, with the aim of providing valuable scientific support for new research paths concerning functional surface engineering design and tailoring. Prof. Luigi Calabrese, Prof. Edoardo Proverbio Guest Editors

The Planctomycetes, Verrucomicrobia, Chlamydiae (PVC) and related phyla have recently emerged as fascinating subjects for research in evolutionary cell biology, ecology, biotechnology, evolution and human health. This interest is prompted by particular characteristics observed in the PVC superphylum that are otherwise rarely observed in bacteria but are however still poorly described or understood, such as the presence of a complex endomembrane system, or compacted DNA throughout most of the cell cycle. Therefore, the members of the PVC superphylum represent an excellent example of the value of studying bacteria other than ‘classical’ models.

Carotenoids are a group of natural pigments, consisting of more than 750 compounds. They are mostly yellow, orange, or red in color, due to the system of conjugated double bonds. This structural element is also responsible for the good antioxidant properties of many carotenoids. Carotenoids have shown numerous biological activities (not only as provitamin A), e.g., preventive properties of fruits and vegetables. As lipophilic compounds, their uptake and storage in the body are dependent on various conditions. In vitro and in vivo data showed stimulating and inhibitory effects of matrix compounds on bioaccessibility and bioavailability

of carotenoids. This Special Issue presents the most recent advances in carotenoids research, in addition to the search for antioxidant properties. Chapters present the photoprotective properties of carotenoids as well as the activities of carotenoids related to liver health. Research data on the effect of degree of ripeness on carotenoids pattern in rosehip and possibilities to use shrimp waste as source of carotenoids are presented. Other investigations characterized apocarotenoids in microalgae and the properties of inclusion complexes of lycopene and beta-cyclodextrin. Biological activities of synthesized retinoyl-flavonolignan hybrids were also reported. In addition, the effects of in vitro digestion of human milk on the micellization of carotenoids were investigated.

Biocatalysis is very appealing to the industry because it allows, in principle, the synthesis of products not accessible by chemical synthesis. Enzymes are very effective, as are precise biocatalysts, as they are enantioselective, with mild reaction conditions and green chemistry. Biocatalysis is currently widely used in the pharmaceutical industry, food industry, cosmetic industry, and textile industry. This includes enzyme production, biocatalytic process development, biotransformation, enzyme engineering, immobilization, the synthesis of fine chemicals and the recycling of biocatalysts. One of the most challenging problems in biocatalysis applications is process optimization. This Special Issue shows that an optimized biocatalysis process can provide an environmentally friendly, clean, highly efficient, low cost, and renewable process for the synthesis and production of valuable products. With further development and improvements, more biocatalysis processes may be applied in the future.

Introduces Groundbreaking Approaches for Assessing Lectin Function Lectins and their ligands are under quite a heavy microscope due to their potential applications to pharmacology, immunology, cancer therapy, and agriculture. With growing interest in the glycobiology field, the body of research related to lectin roles has grown at an explosive rate

This book introduces readers to the latest developments regarding pressure injury wounds, diabetic wounds, and negative pressure wound therapy. The first part exclusively deals with wounds from pressure ulcers, describing in detail their prevention, classification, and treatment. In turn, chapters addressing diabetic wounds form the middle part of the book. Here, the authors provide guidance on the medication and treatment (e.g. stem cells, laser) of patients suffering from this disease. The book's last part, which focuses on negative pressure wound therapy, addresses all major aspects of this approach, reflecting the latest research. Illustrated with a wealth of high-quality pictures throughout, the book offers a unique resource for both beginners and experienced plastic surgeons. Among the thousands of naturally occurring constituents so far identified in plants and exhibiting a long history of safe use, there are none that pose - or reasonably might be expected to pose - a significant risk to human health at current low levels of intake when used as flavoring substances. Due to their natural origin,

environmental and genetic factors will influence the chemical composition of the plant essential oils. Factors such as species and subspecies, geographical location, harvest time, plant part used and method of isolation all affect chemical composition of the crude material separated from the plant. The screening of plant extracts and natural products for antioxidative and antimicrobial activity has revealed the potential of higher plants as a source of new agents, to serve the processing of natural products.

We are very pleased to introduce the Book Version of our Special Issue in *Molecules* dedicated to the memory of the late Professor Dr. Charles D. Hufford. The issue has been a huge success, with 22 full-length peer-reviewed papers and a tribute by Professor Alice M. Clark. Authors, reviewers, and collaborators from many countries across the world have contributed to this endeavour, and we are truly grateful to all. This Special Issue is representative of the broad impact that “Charlie” had on the field of bioactive natural products. This Special Issue comprises papers from Professor Hufford’s former students, colleagues, and collaborators throughout the world who have utilized a wide array of state-of-the-art techniques to examine diverse natural sources to isolate and identify a variety of natural products with a wide spectrum of biological activities, including some new microbial transformations and insights into bioactive molecules. Many new bioactive compounds are described and reported here for the first time. Bioactivities reported include cytotoxicity, antimicrobial activity, anti-inflammatory activity, antileishmanial activity, antitrypanosomal activity, antimalarial activity, analgesic activity, and beneficial liver activities, just to name a few. This Special Issue will undoubtedly have a lasting impact on the field of bioactive natural products, as exemplified by the career of Dr. Hufford. Lastly, without the timely and outstanding contributions from all of you, this Special Issue would not have been possible. We thank you all very much for your contributions and your time devoted to this Special Issue in memory of a special person. Finally, we express our gratitude and thanks to the journal *Molecules* and their excellent team of expert reviewers for giving us the support and opportunity to make this Special Issue a huge success!

Several promising techniques have been developed to overcome the poor solubility and/or membrane permeability properties of new drug candidates, including different fiber formation methods. Electrospinning is one of the most commonly used spinning techniques for fiber formation, induced by the high voltage applied to the drug-loaded solution. With modifying the characteristics of the solution and the spinning parameters, the functionality-related properties of the formulated fibers can be finely tuned. The fiber properties (i.e., high specific surface area, porosity, and the possibility of controlling the crystalline–amorphous phase transitions of the loaded drugs) enable the improved rate and extent of solubility, causing a rapid onset of absorption. However, the enhanced molecular mobility of the amorphous drugs embedded into the fibers is also responsible for their physical–chemical instability. This Special Issue will address new

developments in the area of electrospun nanofibers for drug delivery and wound healing applications, covering recent advantages and future directions in electrospun fiber formulations and scalability. Moreover, it serves to highlight and capture the contemporary progress in electrospinning techniques, with particular attention to the industrial feasibility of developing pharmaceutical dosage forms. All aspects of small molecule or biologics-loaded fibrous dosage forms, focusing on the processability, structures and functions, and stability issues, are included.

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