
Electrospinning Method To Produce Drug Loaded Nanofibers

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Melt Electrospinning

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Electrospinning

Electrospun Materials and Their Allied Applications

Handbook of Nanofibers

Physical Principles of Electrospinning (Electrospinning as a Nano-Scale Technology of the Twenty-First Century)

Synthesis and Applications of Electrospun Nanofibers

Nanofiber Research

Electrospinning: Nanofabrication and Applications

Introduction to Nanofiber Materials

Temperature-Responsive Polymers

Electrospinning

Novel Nanomaterials

An Introduction to Electrospinning and Nanofibers

Electrospinning

Polymeric Materials with Antimicrobial Activity

Recent Development of Electrospinning for Drug Delivery

Electrospinning for Tissue Regeneration

Needleless Electrospinning of Nanofibers

Nanowires for Energy Applications

Nanofibers

Electrospun Nanofibers

Emerging Nanotechnologies for Diagnostics, Drug Delivery and Medical Devices

*Electrospinning Method
To Produce Drug
Loaded Nanofibers*

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LILLIANNA CRUZ

CRC Press

This book comprehensively addresses advanced nanofiber manufacturing based on electrospinning technology. The principles, relationships between process parameters and structure, morphology and performance of electrospun nanofibers and nanomaterials, and the methods for enhanced field intensity and uniform distribution are discussed. The electric field intensity and distribution during electrospinning is also analyzed based on finite element analysis on both the needle and the needleless electrospinning. Furthermore, the modification techniques for improved nanomaterials strength are covered, aiming to provide effective avenues towards the manufacture of stronger nanofiber or nanomaterial products.

Biomedical Nanostructures Royal Society of Chemistry

The book covers the basic electrospinning theory, electrospinning technologies that have potential for large scale production of nanofibers, and the functional applications of electrospun nanofibers in different fields. An important needleless electrospinning technique using a rotary fiber generator such as ball, cylinder, disc and wire coil, and the effects of the fiber generator, its shape and dimension, as well as operating parameters on electrospinning performance, fiber morphology and productivity are described. A method to calculate the electric field and analyze electric field profiles in an electrospinning zone is provided. The influence of the fiber collector on fiber

quality is also discussed.

Protein Delivery ACS Symposium

This Handbook covers all aspects related to Nanofibers, from the experimental set-up for their fabrication to their potential industrial applications. It describes several kinds of nanostructured fibers such as metal oxides, natural polymers, synthetic polymers and hybrid inorganic-polymers or carbon-based materials. The first part of the Handbook covers the fundamental aspects, experimental setup, synthesis, properties and physico-chemical characterization of nanofibers.

Specifically, this part details the history of nanofibers, different techniques to design nanofibers, self-assembly in nanofibers, critical parameters of synthesis, fiber alignment, modeling and simulation, types and classifications of nanofibers, and signature physical and chemical properties (i.e. mechanical, electrical, optical and magnetic), toxicity and regulations, bulk and surface functionalization and other treatments to allow them to a practical use.

Characterization methods are also deeply discussed here. The second part of the Handbook deals with global markets and technologies and emerging applications of nanofibers, such as in energy production and storage, aerospace, automotive, sensors, smart textile design, energy conversion, tissue engineering, medical implants, pharmacy and cosmetics. Attention is given to the future of research in these areas in order to improve and spread the applications of nanofibers and their commercialization.

Electrospun Polymer Nanofibers BoD - Books on Demand

Electrospinning Unique resource highlighting new methods and emerging applications of electrospinning, such as

manufacturing of nanofiber yarn, solar steam generation, thermoelectric generators, water-induced electric generators, actuators, and biomedical applications. Electrospinning introduces the basic principles and state-of-the-art methods of electrospinning in depth and continues on to highlight the most relevant and recent applications associated with the remarkable features of nanofibers. Written by two highly qualified authors with significant experience in the field, *Electrospinning* includes information on: History and development of the electrospinning theories and the state-of-the-art methods for fiber structure regulation, mass production of electrospun fibers, and manufacturing of electrospun fiber yarns Electrospinning nanofiber-based evaporators for interfacial solar-driven steam generation and preparation and application of electrospun nanofibers in heat insulation Research progress on sound absorption of electrospun fibrous materials and electrospun nanofiber-based triboelectric nanogenerator Preparation and application of thermoelectric materials and devices based on electrospun fibers and electrospun nanofiber-based water-induced electric-generation Providing a comprehensive overview of electrospinning, including the principle, methods, and latest applications, *Electrospinning* is an essential resource for materials scientists, polymer chemists, chemists in industry, electrochemists, catalytic chemists, and electronics engineers.

Electrospun Materials for Tissue Engineering and Biomedical Applications

BoD – Books on Demand
In recent years there has been an explosion of interest in the production of nanoscale fibres for drug delivery and

tissue engineering. *Nanofibres in Drug Delivery* aims to outline to new researchers in the field the utility of nanofibres in drug delivery, and to explain to them how to prepare fibres in the laboratory. The book begins with a brief discussion of the main concepts in pharmaceutical science. The authors then introduce the key techniques that can be used for fibre production and explain briefly the theory behind them. They discuss the experimental implementation of fibre production, starting with the simplest possible set-up and then moving on to consider more complex arrangements. As they do so, they offer advice from their own experience of fibre production, and use examples from current literature to show how each particular type of fibre can be applied to drug delivery. They also consider how fibre production could be moved beyond the research laboratory into industry, discussing regulatory and scale-up aspects.

Electrospun Nanofibers John Wiley & Sons

This is a timely, an informative, an interesting, and a well-managed book. The book not only offers an in-depth review of the current status of the knowledge of electrospinning and its biomedical applications but also discusses the emerging ideas and features, both from the East and West, with a focus on the needless electrospinning for the production of uniform fibers. The book is equally helpful to the experts of this field, who wish to enhance their understanding of the emerging technologies, and to the new comers, who can use this book as a reference.

Nanorods and Nanocomposites John Wiley & Sons

This book is a supplement of the

previous book *Nanofibers: Production, Properties and Functional Applications* (published by InTech in 2011). It reports on novel methods of fabricating nanofibers, nanofiber yarns, and collagen nanofibers; functionalities of photochromic nanofibers, bead-on-string nanofibers, and bio-regeneration nanofibers; as well as piezoelectric nanoparticle-reinforced nanofibers. I deeply appreciate the authors' great contributions to nanofiber discipline.

Electrospinning Springer

After introducing the history and process of electrospinning, this book, Volume 41.2 of the journal *Textiles Progress*, highlights the self-organization of fluid in electrospinning. It then describes the jet path and its possible control by special collectors and spinning electrodes. The authors also discuss two electrospinning variants (melt and core-shell electrospinning) as well as two exceptional features of electrospinning (electric wind and accompanying irradiations). The book concludes with a discussion on the quality of polymeric solutions for electrospinning from the standpoint of Hansen solubility parameters and entanglements among polymeric chains.

Nanobiomaterials in Soft Tissue

Engineering Academic Press

Electrospun Nanofibers covers advances in the electrospinning process including characterization, testing and modeling of electrospun nanofibers, and electrospinning for particular fiber types and applications. *Electrospun Nanofibers* offers systematic and comprehensive coverage for academic researchers, industry professionals, and postgraduate students working in the field of fiber science. Electrospinning is the most commercially successful process for the production of nanofibers and rising

demand is driving research and development in this field. Rapid progress is being made both in terms of the electrospinning process and in the production of nanofibers with superior chemical and physical properties.

Electrospinning is becoming more efficient and more specialized in order to produce particular fiber types such as bicomponent and composite fibers, patterned and 3D nanofibers, carbon nanofibers and nanotubes, and nanofibers derived from chitosan. -

Provides systematic and comprehensive coverage of the manufacture, properties, and applications of nanofibers - Covers recent developments in nanofiber materials including electrospinning of bicomponent, chitosan, carbon, and conductive fibers - Brings together expertise from academia and industry to provide comprehensive, up-to-date information on nanofiber research and development - Offers systematic and comprehensive coverage for academic researchers, industry professionals, and postgraduate students working in the field of fiber science

Electrospinning BoD – Books on Demand

Presenting the latest coverage of the fundamentals and applications of nanofibrous materials and their structures for graduate students and researchers, this book bridges the communication gap between fiber technologists and materials scientists and engineers. Featuring intensive coverage of electroactive, bioactive and structural nanofibers, it provides a comprehensive collection of processing conditions for electrospinning and includes recent advances in nanoparticle-/nanotube-based nanofibers. The book also covers mechanical properties of fibers and fibrous assemblies, as well as

characterization methods.

Therapeutic Dressings and Wound Healing Applications Woodhead Publishing

The book provides an up-to-date account of the various techniques of fabrication & functionalization of electrospun nanofibers as well as recent advancements. An overview of the advanced applications of such techniques in different areas is also presented. Both experimental and theoretical approaches related to electrospun nanofibers are covered along with a discussion on the inherent properties of electrospun nanofibers. Therefore, this book provides a unique resource not only to established researchers but also newcomers starting out in this field.

Photochromic Materials Elsevier

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.

Electrospinning Method Used to Create Functional Nanocomposites Films Springer Science & Business Media

Discussing the electrospinning process, the book covers in great depth the current research interest in nanoscience and nanotechnology, especially electrospinning of polymer nanofibers. The main distinction of the proposed book from others devoted to the electrospinning process is in the consideration of the problem in question from the physical point of view. Focusing on physical aspects, the book contains physical basics regarding the unique features of electrospun polymer nanofibers and the electrospinning resulting in fabrication of these nanofibers.

Advanced Nanofibrous Materials

Manufacture Technology based on

Electrospinning Woodhead Publishing

Emerging Nanotechnologies for

Diagnostics, Drug Delivery and Medical

Devices covers the modern micro and

nanotechnologies used for diagnosis,

drug delivery, and theranostics using

micro, nano, and implantable systems.

In-depth coverage of all aspects of

disease treatment is included. In addition, the book covers cutting-edge research and technology that will help readers gain knowledge of novel approaches and their applications to improve drug/agent specificity for diagnosis and efficient disease treatment. It is a comprehensive guide for medical specialists, the pharmaceutical-industry, and academic researchers discussing the impact of nanotechnology on diagnosis, drug delivery, and theranostics. - Gives readers working in immunology, drug delivery, and medicine a greater awareness on how novel nanotechnology orientated methods can help improve treatment - Provides readers with backgrounds in nanotechnology, chemistry, and materials science an understanding on how nanotechnology is used in immunology and drug delivery - Includes focused coverage of the use of nanodevices in diagnostics, therapeutics, and theranostics not offered by other books

Electrospinning and Electrospaying

John Wiley & Sons

A comprehensive overview of different antimicrobial polymeric materials, their antimicrobial action modes and applications.

Nanocosmetics and Nanomedicines John Wiley & Sons

Melt Electrospinning: A Green Method to Produce Superfine Fibers introduces the latest results from a leading research group in this area, exploring the structure, equipment polymer properties and spinning conditions of melt electrospinning. Sections introduce the invention of melt electrospinning, including the independent development of centrifugal melt electrospinning and upward melt electrospinning, discuss electro magnetization of melt and the

testing method of fiber performance by means of different polymers and self-designed devices, cover simulation, and introduce principle methods and improvement measures of centrifugal melt electrospinning. - Presents melt electrospinning, a green nanofiber fabrication technology - Introduces the invention of melt electrospinning, including centrifugal melt electrospinning and upward melt electrospinning - Describes optimization techniques, electro magnetization of melt, testing methods, DPD simulation and improvement methods - Provides a useful introduction to contemporary electrospinning research with a view to its many potential applications

Polymeric Nanofibers Royal Society of Chemistry

Summarizing all the latest trends and recent topics in one handy volume, this book covers everything needed for a solid understanding of photochromic materials. Following a general introduction to organic photochromic materials, the authors move on to discuss not only the underlying theory but also the properties of such materials. After a selection of applications, they look at the latest achievements in traditional solution-phase applications, including photochromic-based molecular logic operations and memory, optically modulated supramolecular system and sensors, as well as light-tunable chemical reactions. The book then describes the hotspot areas of photo-switchable surfaces and nanomaterials, photochromic-based luminescence/electronic devices and bulk materials together with light-regulated biological and bio-chemical systems. The authors conclude with a focus on current industrial applications and the future outlook for these

materials. Written with both senior researchers and entrants to the field in mind.

Melt Electrospinning Elsevier

An authoritative resource that offers an understanding of the chemistry, properties and applications of temperature-responsive polymers With contributions from a distinguished panel of experts, *Temperature-Responsive Polymers* puts the focus on hydrophilic polymers capable of changing their physicochemical properties in response to changes in environmental temperature. The contributors review the chemistry of these systems, and discuss a variety of synthetic approaches for preparation of temperature-responsive polymers, physicochemical methods of their characterisation and potential applications in biomedical areas. The text reviews a wide-variety of topics including: The characterisation of temperature-responsive polymers; Infrared and Raman spectroscopy; Applications of temperature-responsive polymers grafted onto solid core nanoparticles; and much more. The contributors also explore how temperature-responsive polymers can be used in the biomedical field for applications such as tissue engineering. This important resource: Offers an important synthesis of the current research on temperature-responsive polymers Covers the chemistry, the synthetic approaches for presentation and the physicochemical method of temperature-responsive polymers Includes a review of the fundamental characteristics of temperature-responsive polymers Explores many of the potential applications in biomedical science, including drug delivery and gene therapy Written for polymer scientists in both academia and industry

as well as postgraduate students working in the area of stimuli-responsive materials, this vital text offers an exploration of the chemistry, properties and current applications of temperature-responsive polymers.

Nanofibres in Drug Delivery CRC Press

Focuses on basic aspects of nano/microfibers made by electrospinning with details on spinning recipes, characterization techniques and chemistry of the polymers in use. The basic understanding provided in the book, is useful for producing 1D and 3D fibrous structures with specific properties for applications, e.g. textiles, membranes, reinforcements, catalysis, filters or biomedical uses. Students and practitioners will find great value in the step by step instructions how to manufacture nanofibers. -

Electrospinning equipment - History of electrospinning and nanofibers - characterization-fundamentals of electrospun fibers - Ready-made recipes for spinning solutions - Conditions for the productions of highly diverse fiber morphologies and arrangements - Chemistry of fiber forming materials
Electrospinning Cambridge University Press

Nanobiomaterials in Soft Tissue Engineering brings together recent developments and the latest approaches in the field of soft tissue engineering at the nanoscale, offering a new perspective on the evolution of current and future applications. Leading researchers from around the world present the latest research and share new insights. This book covers the major conventional and unconventional fabrication methods of typical three-dimensional scaffolds used in regenerative medicine. Surface modification and spatial properties are

included in an up-to-date overview, with the latest in vivo applications of engineered 3D scaffolds discussed. The book also considers the impact, advantages and future scope of the various methods. This book will be of interest to postdoctoral researchers, professors and students engaged in the fields of materials science, biotechnology and applied chemistry. It will also be highly valuable to those working in industry, including

pharmaceutics and biotechnology companies, medical researchers, biomedical engineers and advanced clinicians. - An informative handbook for researchers, practitioners and students working in biomedical, biotechnological and engineering fields. - A detailed and invaluable overview of soft tissue engineering, including the most recent scientific developments. - Proposes novel opportunities and ideas for developing or improving technologies in nanomedicine and nanobiology.

Best Sellers - Books :

- [Little Blue Truck's Springtime: An Easter And Springtime Book For Kids By Alice Schertle](#)
- [Fahrenheit 451](#)
- [November 9: A Novel](#)
- [Bluey And Bingo's Fancy Restaurant Cookbook: Yummy Recipes, For Real Life By Penguin Young Readers Licenses](#)
- [The Last Thing He Told Me: A Novel](#)
- [Beyond The Story: 10-year Record Of Bts By Bts](#)
- [8 Rules Of Love: How To Find It, Keep It, And Let It Go By Jay Shetty](#)
- [The Courage To Be Free: Florida's Blueprint For America's Revival By Ron Desantis](#)
- [Leigh Howard And The Ghosts Of Simmons-pierce Manor By Shawn M. Warner](#)
- [If He Had Been With Me](#)