
The pace of new research and level of innovation repeatedly introduced into the field of drug delivery to the lung is surprising given its state of maturity since the introduction of the pressurized metered dose inhaler over a half a century ago. It is clear that our understanding of pulmonary drug delivery has now evolved to the point that inhalation aerosols can be controlled both spatially and temporally to optimize their biological effects. These abilities include controlling lung deposition, by adopting formulation strategies or device technologies, and controlling drug uptake and release through sophisticated particle technologies. The large number of contributions to the scientific literature and variety of excellent texts published in recent years is evidence for the continued interest in pulmonary drug delivery research. This reference text endeavors to bring together the fundamental theory and practice of controlled drug delivery to the airways that is unavailable elsewhere. Collating and synthesizing the material in this rapidly evolving field presented a challenge and ultimately a sense of achievement that is hopefully reflected in the content of the volume.

All English-translated Chinese codes are available at: www.codeofchina.com

A textbook which is both comprehensive and comprehensible and that offers easy but scientifically sound reading to both students and professionals. Now in its 12th edition in its native German, Voigt's Pharmaceutical Technology is an interdisciplinary textbook covering the fundamental principles of pharmaceutical technology. Available for the first time in English, this edition is produced in full colour throughout, with a concise, clear structure developed after consultation with students, instructors and researchers. This book: Features clear chapter layouts and easily digestible content. Presents novel trends, devices and processes. Discusses classical and modern manufacturing processes. Covers all formulation principles including tablets, ointments, capsules, nanosystems and biopharmaceutics. Takes account of legal requirements for both qualitative and quantitative composition. Addresses quality assurance considerations. Uniquely relates contrasting international pharmacopoeia from EU, US and Japan to formulation principles. Includes examples and text boxes for quicker data assimilation. Written for both students studying pharmacy and industry professionals in the field as well as toxicologists, biochemists, medical lab technicians, Voigt’s Pharmaceutical Technology is the essential resource for understanding the various aspects of pharmaceutical technology.

Sesquiterpenes—Advances in Research and Application. 2012 Edition is a ScholarlyEditions™. EBook that delivers timely, authoritative, and comprehensive information about Sesquiterpenes. The editors have built Sesquiterpenes—Advances in Research and Application: 2012 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Sesquiterpenes in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Sesquiterpenes—Advances in Research and Application: 2012 Edition has been produced by the world’s leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at http://www.ScholarlyEditions.com.

Drug therapy via inhalation route is at the cutting edge of modern drug delivery research. There has been significant progress on the understanding of drug therapy via inhalation products. However, there are still problems associated with their formulation design, including the interaction between the active pharmaceutical ingredient(s) (APIs), excipients and devices. This book seeks to cover some of the most pertinent issues and challenges of such formulation design associated with industrial production and desirable clinical outcome. The chapter topics have been selected with a view to integrating the factors that require consideration in the selection and design of device and formulation components which impact upon patient usability and clinical effectiveness. The challenges involved with the delivery of macromolecules by inhalation to both adult and pediatric patients are also covered. Written by leading international experts from both academia and industry, the book will help readers (formulation design scientists, researchers and post-graduate and specialized undergraduate students) develop a deep understanding of key aspects of inhalation formulations as well as detail ongoing challenges and advances associated with their development.

Development of new drug molecules is costly and requires longitudinal, wide-ranging studies; therefore, designing advanced pharmaceutical formulations for existing and well-known drugs seems to be an attractive device for the pharmaceutical industry. Properly formulated drug delivery systems can improve pharmacological activity, efficacy and safety of the active substances. Advanced materials applied as pharmaceutical excipients in designing drug delivery systems can help solve problems concerning the required drug release—with the defined dissolution profile—achieved at the determined site. Novel drug carriers enable more effective delivery via enhanced dissolution. The challenge is not only to design a carrier system which not only dissolves uniformly in the human system, but also has the capability to control the release of the drug in a time-dependent manner.
drug delivery, with improved safety and with fewer side effects. Investigations concerning advanced materials represent a rapidly growing research field in material/polymer science, chemical engineering and pharmaceutical technology. Exploring novel materials or modifying and combining existing ones is now a crucial trend in pharmaceutical technology. Eleven articles included in the the Special Issue “Advanced Materials in Drug Release and Drug Delivery Systems” present the most recent insights into the utilization of different materials with promising potential in drug delivery and into different formulation approaches that can be used in the design of pharmaceutical formulations.

This volume contains the proceedings of the Eighth International Symposium on Cyclodextrins, held in Budapest, Hungary, March 31-April 2, 1996. The 147 papers collected here are milestones in the exponentially increasing cyclodextrin literature, and represent a summary of the last two years' achievement in this field, with applications in such diverse disciplines as pharmaceuticals, food, cosmetics, textiles, plastics, and chromatography. Some highlights: lipophilicity profiles of cyclodextrins by computer molecular graphics; recent toxicological studies on cyclodextrins; Buckminsterfullerene/cyclodextrin complexes; hydroxypropyl-beta-cyclodextrin; pharmacokinetics and toxicology; peracetylated cyclodextrins as drug carriers; cyclodextrins in nasal drug delivery; textile fibre surface modification by a reactive cyclodextrin: cyclodextrin-containing fabric care products; drug targeting by cyclodextrin-dimers for photodynamic cancer therapy; cyclodextrins in ophthalmologic drugs; new cyclodextrin derivatives and their potentials. Audience: This book will be of interest to researchers whose work involves pharmaceuticals, food chemicals and flavours, food additives, chromatographic methods, and biotechnology, as well as fundamental cyclodextrin research.

Profiles of Drug Substances, Excipients, and Related Methodology, Volume 45, presents comprehensive reviews of drug substances and additional materials, with critical review chapters that summarize information related to the characterization of drug substances and excipients. The series encompasses review articles, with this release focusing on Azilsartan Medoxomil, Piroxicam, Carbetapentane Citrate, Emtricitabine, Ertlotinib, Isotretinoin and Meloxicam. Contains contributions from leading authorities informs and updates on all the latest developments in the field of drug substances, excipients and methodologies

This document provides the comprehensive list of Chinese National Standards and Industry Standards (Total 17,000 standards).

Developing Solid Oral Dosage Forms: Pharmaceutical Theory and Practice, Second Edition illustrates how to develop high-quality, safe, and effective pharmaceutical products by discussing the latest techniques, tools, and scientific advances in preformulation investigation, formulation, process design, characterization, scale-up, and production operations. This book covers the essential principles of physical pharmacy, biopharmaceutics, and industrial pharmacy, and their application to the research and development process of oral dosage forms. Chapters have been added, combined, deleted, and completely revised as necessary to produce a comprehensive, well-organized, valuable reference for industry professionals and academics engaged in all aspects of the development process. New and important topics include spray drying, amorphous solid dispersion using hot-melt extrusion, modeling and simulation, bioequivalence of complex modified-released dosage forms, biowaivers, and much more. Written and edited by an international team of leading experts with experience and knowledge across industry, academia, and regulatory settings Includes new chapters covering the pharmaceutical applications of surface phenomenon, predictive biopharmaceutics and pharmacokinetics, the development of formulations for drug discovery support, and much more Presents new case studies throughout, and a section completely devoted to regulatory aspects, including global product regulation and international perspectives

There has not, until now, been a single up-to-date volume to provide those in drug R&D with practical information on all aspects of solid dispersion technology for drugs. This forthcoming volume finally provides such a guide and reference. The unified presentation by a team of specialists in this field is designed for practical application. Theoretical concepts are covered for a fuller understanding of current techniques. All significant recent developments are included.

This document provides the comprehensive list of Chinese Industry Standards - Category: JB; JB/T; JBT.

Chitin, Chitosan, and Related Enzymes documents the proceedings of a four-day joint United States-Japan seminar held at the University of Delaware. The said seminar is aimed to explore the potential of the application of chitin, chitosan, and related products in different scientific fields. The book is divided into six parts. Part I covers the application of chitin and chitosan to pharmaceutical preparations. Part II discusses the applications of chitin and its derivatives. Part III features chitin and chitosan in relation to enzymology and genetic engineering. Respectively covered in Parts IV, V, and VI are the chemical and physical structure of chitin and chitosan; biochemical and physiological properties of chitin and its derivatives; the effects of phosphate on chitin production; and the development of chitin as a suture as well as for orthopedic uses. The text is recommended for biochemists who would like to know more or make further studies about the different applications of chitin, chitosan, and related enzymes.

HTTP://WWW.CODEOFCHINA.COM EMAIL:COC@CODEOFCHINA.COM "Codeofchina Inc., a part of TransForyou (Beijing) Translation Co., Ltd., is a professional Chinese code translator in China. Now, Codeofchina Inc. is running a professional Chinese code website, www.codeofchina.com. Through this website, Codeofchina Inc. provides English-translated Chinese codes to clients worldwide. About TransForyou TransForyou (Beijing) Translation Co., Ltd., is a reliable language service provider for clients at home and abroad. Since our establishment, TransForyou has been aiming to build up a translation brand with our professional dedicated service. Currently, TransForyou is the director of China Association of Engineering Construction Standardization (CECS); the committee member of Localization Service Committee / Translators Association of China (TAC) and the member of Boya Translation Culture Salon (BTCS); and the field study center of the University of the University of International Business & Economics (UIBE) and Hebei University (HU). In 2016, TransForyou ranked 27th among Asian Language Service Providers by Common Sense Advisory. * The pharmacokinetics of digitalis glycosides have been the subject of extensive review (IISALO, 1977; ARONSON, 1980; PERRIER et al., 1977). Research on glycoside kinetics has progressed at a rapid pace, requiring continuing reevaluation of the state of our understanding of this problem. The present article focuses on the effect of disease states (renal, gastrointestinal, thyroid, and cardiac) on the absorption, distribution, and clearance of a number of digitalis glycosides. Evidence is critically
reviewed, and interpreted with respect to possible clinical implications. A. Renal Insufficiency I. Strophanthin Strophanthin disposition in renal failure has been evaluated in only two studies. KRAMER et al.(1970) determined an elimination half-life of 14 h in normals as compared to 60 h in anuric patients. Similar results were reported by BRASS and PMIPPS (1970) using tritiated strophanthin. They found a half-life value of 18 h in healthy individuals as compared to 68 h in anuric patients. The findings clearly indicate that the elimination half-life of strophanthin is prolonged in renal failure.

This book presents cutting-edge research and developments in the field of biomedical engineering, with a special emphasis on results achieved in Vietnam and neighboring low- and middle-income countries. Covering all fundamental and applied research, and focusing on the theme Healthcare technology for smart city in low- and middle-income countries, it reports on the design, fabrication, and application of low-cost and portable medical devices, IoT devices, and telemedicine systems, on improved methods for biological data acquisition and analysis, on nanomaterials for biological applications, and on new achievements in biomechanics, tissue engineering, and regeneration. It describes the developments of molecular and cellular biology techniques, and statistical and computational methods, including artificial intelligence, for biomedical applications, covers key public/occupational health issues and reports on cutting-edge neuroengineering techniques. Gathering the proceedings of the 8th International Conference on The Development of Biomedical Engineering in Vietnam, BME 8, 2020, Vietnam, the book offers important answers to current challenges in the field and a source of inspiration for scientists, engineers, and researchers with various backgrounds working in different research institutes, companies, and countries.

This volume presents the proceedings of the Fourth International Conference on the Development of Biomedical Engineering in Vietnam which was held in Ho Chi Minh City as a Mega-conference. It is kicked off by the Regenerative Medicine Conference with the theme "BUILDING A FACE" USING A REGENERATIVE MEDICINE APPROACH", endorsed mainly by the Tissue Engineering and Regenerative Medicine International Society (TERMIS). It is followed by the Computational Medicine Conference, endorsed mainly by the Computational Surgery International Network (COSINE) and the Computational Molecular Medicine of German National Funding Agency; and the General Biomedical Engineering Conference, endorsed mainly by the International Federation for Medical and Biological Engineering (IFMBE). It featured the contributions of 435 scientists from 30 countries, including: Australia, Austria, Belgium, Canada, China, Finland, France, Germany, Hungary, India, Iran, Italy, Japan, Jordan, Korea, Malaysia, Netherlands, Pakistan, Poland, Russian Federation, Singapore, Spain, Switzerland, Taiwan, Turkey, Ukraine, United Kingdom, United States, Uruguay and Viet Nam.

This book presents and discusses recent developments in the broad field of spectroscopy, providing the reader with an updated overview. The main objective is to introduce them to recent innovations and current trends in spectroscopy applied to molecules and materials. The book also brings together experimentalists and theoreticians to highlight the multidimensional aspects of spectroscopy and discuss the latest issues. Accordingly, it provides insights not only into the general goals of spectroscopy, but also into how the various spectroscopic techniques represent a toolbox that can be used to gain a more detailed understanding of molecular systems and complex chemical problems. Besides technical aspects, basic theoretical interpretations of spectroscopic results are also presented. The spectroscopy techniques discussed include UV-visible absorption spectroscopy, Raman spectroscopy, IR absorption spectroscopy, fluorescence spectroscopy, and time-resolved spectroscopy. In turn, basic tools like lasers and theoretical modeling approaches are also presented. Lastly, applications for the characterization of fundamental properties of molecules (environmental aspects, biomolecules, pharmaceutical drugs, hazardous molecules, etc.) and materials (nanomaterials, nuclear chemistry materials, biomaterials, etc.) are discussed. Given its scope, the book offers a valuable resource for researchers from various branches of science, and presents new techniques that can be applied to their specific problems.

This book is a printed edition of the Special Issue "Pharmacokinetics and Drug Metabolism in Canada: The Current Landscape" that was published in Pharmaceutics.

From a review of the previous edition: ‘For all the pharmacy students out there part of your pharmacy degree will be to study formulation design and pharmaceutics. This is the holy grail of pharmaceutical technology books. The text reads well and introduces difficult concepts in a more easy-to-understand way, it is definitely worth the money to help you get through the module, if you’re doing a research project in pharmaceutical then this would also be an excellent buy. This is essential for passing exams and developing professional competence.’ This is the best known text on pharmaceutics. Its strength lies mainly in being a complete course in one book. Reviewers consistently praise its comprehensiveness and its extremely high quality content. Pharmaceutics is one of the most diverse subject areas in pharmaceutical science and an understanding of it is vital for all pharmacists and scientists involved in converting drugs to medicines that can be safely delivered to a patient. The editorial and author team deliver a tour de force of accessibility, coverage and currency in this new edition of a world-class textbook. Relevant chemistry covered throughout reflects current and future use of biotechnology products throughout Covers ongoing changes in our understanding of biopharmaceutics, certain areas of drug delivery and the significance of the solid state includes the science of formulation and drug delivery Designed and written for newcomers to the design of dosage forms Key points boxes throughout Summaries at the end of each chapter Fully updated throughout, with particular focus on delivery of biopharmaceuticals, nanotechnology and nanomedicines, parenteral and ocular drug delivery mechanisms. Now comes with online access on StudentConsult.

Dosage Form Design Parameters, Volume I, examines the history and current state of the field within the pharmaceutical sciences, presenting key developments. Content includes drug development issues, the scale up of formulations, regulatory issues, intellectual property, solid state properties and polymorphism. Written by experts in the field, this volume in the Advances in Pharmaceutical Product Development and Research series deepens our understanding of dosage form design parameters. Chapters delve into a particular aspect of this fundamental field, covering principles, methodologies and the technologies employed by pharmaceutical scientists. In addition, the book contains a comprehensive examination suitable for researchers and advanced students working in pharmaceuticals, cosmetics, biotechnology and related industries. Examines the history and recent developments in drug dosage forms for pharmaceutical sciences Focuses on physicochemical aspects, preformulation solid state properties and polymorphism Contains extensive references for further discovery and learning that are appropriate for advanced undergraduates, graduate students and those interested in drug dosage design.

Explore the cutting-edge of dissolution testing in an authoritative, one-stop resource In Pharmaceutical Dissolution Testing,
Bioavailability, and Bioequivalence: Science, Applications, and Beyond, distinguished pharmaceutical advisor and consultant Dr. Umesh Banakar delivers a comprehensive and up-to-date reference covering the established and emerging roles of dissolution testing in pharmaceutical drug development. After discussing the fundamentals of the subject, the included resources go on to explore common testing practices and methods, along with their associated challenges and issues, in the drug development life cycle. Over 19 chapters and 3100 references allow practicing scientists to fully understand the role of dissolution, apart from mere quality control. Readers will discover a wide range of topics, including automation, generic and biosimilar drug development, patents, and clinical safety. This volume offers a one-stop resource for information otherwise scattered amongst several different regulatory regimes. It also includes: A thorough introduction to the fundamentals and essential applications of pharmaceutical dissolution testing Comprehensive explorations of the foundations and drug development applications of bioavailability and bioequivalence Practical discussions about solubility, dissolution, permeability, and classification systems in drug development In-depth examinations of the mechanics of dissolution, including mathematical models and simulations An elaborate assessment of biophysically relevant dissolution testing and IVIVCs, and their unique applications A complete understanding of the methods, requirements, and global regulatory expectations pertaining to dissolution testing of generic drug products Ideal for drug product development and formulation scientists, quality control and assurance professionals, and regulators, Pharmaceutical Dissolution Testing, Bioavailability, and Bioequivalence is also the perfect resource for intellectual property assessors.

Explore the latest research in biopharmaceutics from leading contributors in the field In Basic Biopharmaceutics, distinguished researcher Hannah Batchelor delivers a comprehensive examination of the tools used within the field of biopharmaceutics and their applications to drug development. This edited volume is an indispensable tool for anyone seeking to better understand the field of biopharmaceutics as it rapidly develops and evolves. Beginning with an expansive introduction to the basics of biopharmaceutics and the context that underpins the field, the included resources go on to discuss how biopharmaceutics are integrated into product development within the pharmaceutical industry. Explorations of how the regulatory aspects of biopharmaceutics function, as well as the impact of physiology and anatomy on the rate and extent of drug absorption, follow. Readers will find insightful discussions of physiologically based modeling as a valuable asset in the biopharmaceutics toolkit and how to apply the principles of the field to special populations. The book goes on to discuss: Thorough introductions to biopharmaceutics, basic pharmacokinetics, and biopharmaceutics measures Comprehensive explorations of solubility, permeability, and dissolution Practical discussions of the use of biopharmaceutics to inform candidate drug selection and optimization, as well as biopharmaceutics tools for rational formulation design In-depth examinations of biopharmaceutics classification systems and regulatory biopharmaceutics, as well as regulatory biopharmaceutics and the impact of anatomy and physiology Perfect for professionals working in the pharmaceutical and biopharmaceutical industries, Basic Biopharmaceutics is an incisive and up-to-date resource on the practical, pharmaceutical applications of the field.

Ketone Bodies: Advances in Research and Application: 2011 Edition is a ScholarlyBrief™ that delivers timely, authoritative, comprehensive, and specialized information about Ketone Bodies in a concise format. The editors have built Ketone Bodies: Advances in Research and Application: 2011 Edition on the vast information databases of ScholarlyNews™. You can expect the information about Ketone Bodies in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Ketone Bodies: Advances in Research and Application: 2011 Edition has been produced by the world’s leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at http://www.ScholarlyEditions.com/.

Written with practical experience of many of the systems it describes, this book provides coverage of all aspects of automation, from sample preparation, right through to data processing. The book also includes Coverage Of Robotics Computer Applications And Process Control, And The scope and limitations of each development are discussed. Three prac.

Mucoadhesive polymers are widely used in the design of dosage forms for transmucosal drug delivery to the eye, respiratory, gastrointestinal and reproductive tracts. These routes of drug administration offer a number of advantages including improved drug bioavailability, reduced frequency of administration, and the avoidance for the use of injections. This book represents a collection of reviews and original research articles in the area of mucoadhesive polymers and dosage forms. It covers the design of mucoadhesive forms from commercially-available water-soluble polymers, their mixture and complexes as well as some materials, whose mucoadhesive properties were enhanced through chemical modification. With contributions from leading experts in mucoadhesive polymers and formulations, this book will be a very useful source of information for researchers in polymer, pharmaceutical and formulation sciences.

There are unique challenges in the formulation, manufacture, analytical chemistry, and regulatory requirements of low-dose drugs. This book provides an overview of this specialized field and combines formulation, analytical, and regulatory aspects of low-dose development into a single reference book. It describes analytical methodologies like dissolution testing, solid state NMR, Raman microscopy, and LC-MS and presents manufacturing techniques such as granulation, compaction, and compression. Complete with case studies and a discussion of regulatory requirements, this is a core reference for pharmaceutical scientists, regulators, and graduate students.

The concept of flow injection analysis (FIA) was first proposed in 1975 by Ruzicka and Hansen, and this initiated a field of research that would, over more than three decades, involve thousands of researchers, and which has to date resulted in close to 20,000 publications in the international scientific literature. Since its introduction, a number of books, including some specialized monographs, have been published on this subject with the latest in 2000. However, in this decade there has been a number of significant advances in the flow analysis area, and in particular in sequential injection analysis (SIA) techniques, and more recently with the introduction of Lab on a Valve (LOV) and bead injection flow systems. This book aims to cover the most important and useful techniques, along with descriptions of the regulatory requirements for these new areas, as well as in classical FIA, which still remains the most popular flow analysis technique used in analytical practice. Topics covered in the 23 chapters include the fundamental and underlying principles of flow analysis and associated equipment, the fluid-dynamic theory of FIA, an extensive coverage of detection methods (e.g. atomic and molecular spectrometry, electroanalytical methods). In addition, there are several chapters on on-line separation (e.g. filtration,
gas diffusion, dialysis, pervaporation, solvent and membrane extraction, and chromatography), as well as on other sample pretreatment techniques, such as digestion. The book also incorporates several chapters on major areas of application of flow analysis in industrial process monitoring (e.g., food and beverages, drugs and pharmaceuticals), environmental and agricultural analysis and life sciences. The contributing authors, who include the founders of flow injection analysis, are all leading experts in flow analytical techniques, and their chapters not only provide a critical review of the current state of this area, but also suggest future trends. This adaptation of Bentley's Textbook of Pharmaceutics follows the same goals as those of the previous edition, albeit in a new look. The content of the old edition has been updated and expanded and several new chapters, viz. Complexations, Stability Testing as per ICH Guidelines, Parenteral Formulations, New Drug Delivery Systems and Pilot Plant Manufacturing, have been included, with an intention to make the book more informative for the modern pharmacists. The book has six sections: Section I deals with the physicochemical principles. Two new chapters: Complexations; and ICH Guidelines for Stability Testing have been added to make it more informative. Section II conveys the information regarding pharmaceutical unit operations and processes. Section III describes the area of pharmaceutical practice. Extensive recent updates have been included in many chapters of this section. Two new chapters: Parenteral Formulations and New Drug Delivery Systems, have been added. Section IV contains radioactivity principles and applications. Section V deals with microbiology and animal products. Section VI contains the formulation and packaging aspects of pharmaceuticals. Pilot Plant Manufacturing concepts are added as a new chapter, which may be beneficial to readers to understand the art of designing of a plant from the pilot plant model.

The word pharmacy is derived from the Greek word "Pharmakon", meaning medicine or drug. According to the dictionary pharmacy is defined as "the art and science of preparing and dispensing drugs". Pharmacy is a health profession concerned specifically with the knowledge of drugs and wisdom in their uses. This profession links the health with chemical sciences. Modern pharmacy services include patient care, clinical services, ensuring safety and efficacy of medications, and providing patients counseling and drug information. Today, the pharmacists are also considered as...

This is an introductory statistics book designed to provide scientists with practical information needed to apply the most common statistical tests to laboratory research data. The book is designed to be practical and applicable, so only minimal information is devoted to theory or equations. Emphasis is placed on the underlying principles for effective data analysis and survey the statistical tests. It is of special value for scientists who have access to Minitab software. Examples are provided for all the statistical tests and explanation of the interpretation of these results presented with Minitab (similar to results for any common software package). The book is specifically designed to contribute to the AAPS series on advances in the pharmaceutical sciences. It benefits professional scientists or graduate students who have not had a formal statistics class, who had bad experiences in such classes, or who just fear/don't understand statistics. Chapter 1 focuses on terminology and essential elements of statistical testing. Statistics is often complicated by synonyms and this chapter established the terms used in the book and how rudiments interact to create statistical tests. Chapter 2 discussed descriptive statistics that are used to organize and summarize sample results. Chapter 3 discussed basic assumptions of probability, characteristics of a normal distribution, alternative approaches for non-normal distributions and introduces the topic of making inferences about a larger population based on a small sample from that population. Chapter 4 discussed hypothesis testing where computer output is interpreted and decisions are made regarding statistical significance. This chapter also deals with the determination of appropriate sample sizes. The next three chapters focus on tests that make decisions about a population base on a small subset of information. Chapter 5 looks at statistical tests that evaluate where a significant difference exists. In Chapter 6 the tests try to determine the extent and importance of relationships. In contrast to fifth chapter, Chapter 7 presents tests that evaluate the equivalence, not the difference between levels being tested. The last chapter deals with potential outlier or aberrant values and how to statistically determine if they should be removed from the sample data. Each statistical test presented includes an example problem with the resultant software output and how to interpret the results. Minimal time is spent on the mathematical calculations or theory. For those interested in the associated equations, supplemental figures are presented for each test with respective formulas. In addition, Appendix D presents the equations and proof for every output result for the various examples. Examples and results from the appropriate statistical results are displayed using Minitab. In addition to the results, the required steps to analyze data using Minitab are presented with the examples for those having access to this software. Numerous other software packages are available, including based data analysis with Excel.

Drug Delivery Trends examines a drift in the pharmaceutical field across the wide range of dosage forms, drug delivery systems (micro and nanoparticulate), at the regulatory front and on new types of therapies in the market. This volume additionally covers the challenges on drug delivery systems in terms of preclinical and current ways of determining quality and the options to solve the challenges associated with this. Most small-medium scale industries and academics struggle with initial regulatory challenges so a detailed discussion on regulatory trend covers the necessary basic understanding of regulatory procedures and provides the required guidance. The series Expectations and Realities of Multifunctional Drug Delivery Systems examines the fabrication, optimization, biological aspects, regulatory and clinical success of wide range of drug delivery carriers. This series reviews multifunctionality and applications of drug delivery systems, industrial trends, regulatory challenges and in vivo success stories. Throughout the volumes discussions on diverse aspects of drug delivery carriers, such as clinical, engineering, and regulatory, facilitate insight sharing across expertise area and form a link for collaborations between industry-academic scientists and clinical researchers. Expectations and Realities of Multifunctional Drug Delivery Systems connects formulation scientists, regulatory experts, engineers, clinical experts and regulatory stake holders. The wide scope of the book ensures its as a valuable reference resource for researchers in both academia and the pharmaceutical industry who want to learn more about drug delivery systems. Encompasses trends in drug delivery systems and selected dosage forms Illustrates regulatory, preclinical and quality principles Contains in-depth investigation of upcoming types of drug delivery systems

Fast Dissolving/Disintegrating Dosage Forms (FDDFs) have been commercially available since the late 1990s. FDDFs were initially available as orodispersible tablets, and later, as orodispersible films for treating specific populations (pediatrics, geriatrics, and psychiatric patients). Granules, pellets and mini tablets are among latest additions to these dosage forms, which are still in the development pipeline. As drug delivery systems, FDDFs enable quicker onset of action, immediate drug delivery, and sometimes offer bioavailability benefits due to buccal/sublingual absorption. With time, FDDF have evolved to deliver drugs in a sustained and controlled manner. Their current market and application is increasing in demands with advances in age
adapted dosage forms for different patients and changing regulatory requirements that warrant mandatory assessments of new
drugs and drug products before commercial availability. This book presents detailed information about FDDFs from their
inception to recent developments. Readers will learn about the technical details of various FDDF manufacturing methods,
formulation aspects, evaluation and methods to conduct clinical studies. The authors also give examples of marketed fast
disintegrating/dissolving drug products in US, Europe, Japan, and India. This reference is ideal for pharmacology students at all
levels seeking information about this specific form of drug delivery and formulation.

The Quality Control of Medicines documents the proceedings of the 35th International Congress of Pharmaceutical Sciences,
organized by the Pharmaceutical Society of Ireland on behalf of the Federation Internationale Pharmaceutique, held in Dublin, on
1-5 September 1975. The theme chosen for the Congress was "the basis for the quality control of medicines", because of the
importance and relevance of quality control in the production and distribution of medicines at national and international levels.
This volume is arranged according to the manner in which the theme of the Congress was developed by the eminent invited
speakers. Following the inaugural address a main symposium was held where five speakers presented a review of the quality
control of medicines under the general headings of (i) chemical and physical aspects; (ii) biological aspects; (iii) control of drug
delivery systems; (iv) storage problems; and (v) problems of international control. Certain aspects of the content of the main
symposium were then developed in greater depth in parallel symposia. In the first parallel symposium some novel
physicochemical aspects of the quality control of medicines were treated under the headings of spectrofluorimetry, mass
spectrometry, detection in gas chromatography, and automation in pharmaceutical analysis. The second parallel symposium
developed certain microbiological aspects of quality control under the headings of sterility testing and microbiological control of
non-sterile products and ophthalmic preparations. The final symposium on submissions to regulatory bodies and international
aspects of drug control covered aspects of politics in submissions, regulatory problems in small countries, and various
pharmacopoeial problems.

This book collects the articles published in the Special Issue “ Polymeric Materials: Surfaces, Interfaces and Bioapplications”. It
shows the advances in polymeric materials, which have tremendous applications in agricultural films, food packaging, dental
restoration, antimicrobial systems, and tissue engineering. These polymeric materials are presented as films, coatings, particles,
fibers, hydrogels, or networks. The potential to modify and modulate their surfaces or their content by different techniques,
such as click chemistry, ozonation, breath figures, wrinkle formation, or electrospray, are also explained, taking into account the
relationship between the structure and properties in the final application. Moreover, new trends in the development of such
materials are presented, using more environmental friendly and safe methods, which, at the same time, have a high impact on
our society.

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