

Oxford University Press Medicinal Chemistry Exams

This text charts the process of industrial chemical synthesis, from the first discovery of a molecule, or new chemical entity, to its entry in the marketplace as a drug, with all the development needs and problems that take place along the way.

The philosophy of chemistry has emerged in recent years as a new and autonomous field within the Anglo-American philosophical tradition. With the development of this new discipline, Eric Scerri and Grant Fisher's "Essays in the Philosophy of Chemistry" is a timely and definitive guide to all current thought in this field. This edited volume will serve to map out the distinctive features of the field and its connections to the philosophies of the natural sciences and general philosophy of science more broadly. It will be a reference for students and professional alike. Both the philosophy of chemistry and philosophies of scientific practice alike reflect the splitting of analytical and continental scholastic traditions, and some philosophers are turning for inspiration from the familiar resources of analytical philosophy to influences from the continental tradition and pragmatism. While philosophy of chemistry is practiced very much within the familiar analytical tradition, it is also capable of trail-

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blazing new philosophical approaches. In such a way, the seemingly disparate disciplines such as the "hard sciences" and philosophy become much more linked.

Pharmaceutical Chemistry provides a wide-ranging overview of organic chemistry as applied to the study and practice of pharmacy. Drugs are simply chemicals, so to fully understand their manufacture, formulation, and the way they work in our bodies, a knowledge of organic compounds and their reactions is essential.

Instant Notes in Medicinal Chemistry provides concise coverage for undergraduates studying medicinal chemistry as part of a science, pharmacy or medical course. It is a truly multidisciplinary subject involving such subject specialities as organic chemistry, pharmacology, biochemistry, physiology, microbiology, toxicology, genetics and computer mod

Oxford Desk Reference: Critical Care
The Rise and Fall of the Pharmaceutical Industry

Social Epidemiology

IB Chemistry Course Book

A Biochemical Approach

Of Minds and Molecules is the first anthology devoted exclusively to work in the philosophy of chemistry. The essays, written by both chemists and philosophers, adopt distinctive philosophical perspectives on chemistry and collectively

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offer both a conceptualization of and a justification for this emerging field. This volume provides an introduction to medicinal chemistry. It covers basic principles and background, and describes the general tactics and strategies involved in developing an effective drug. Complete, up-to-date coverage of the broad area of nucleic acid chemistry and biology. Assembling contributions from a collection of authors with expertise in all areas of nucleic acids, medicinal chemistry, and therapeutic applications, *Medicinal Chemistry of Nucleic Acids* presents a thorough overview of nucleic acid chemistry—a rapidly evolving and highly challenging discipline directly responsible for the development of antiviral and antitumor drugs. This reliable resource delves into a multitude of subject areas involving the study of nucleic acids—such as the new advances in genome sequencing, and the processes for creating RNA interference (RNAi) based drugs—to assist pharmaceutical researchers in removing roadblocks that hinder their ability to predict drug efficacy. Offering the latest cutting-edge science in this growing field, *Medicinal Chemistry of Nucleic Acids* includes: In-depth coverage of the development and application of

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modified nucleosides and nucleotides in medicinal chemistry A close look at a large range of current topics on nucleic acid chemistry and biology Essential information on the use of nucleic acid drugs to treat diseases like cancer A thorough exploration of siRNA for RNAi and the regulation of microRNA, non-coding RNA (ncRNA), a newly developing and exciting research area Thorough in its approach and promising in its message, Medicinal Chemistry of Nucleic Acids probes the new domains of pharmaceutical research—and exposes readers to a wealth of new drug discovery opportunities emerging in the dynamic field of nucleic acid chemistry. Organic chemistry is the chemistry of compounds of carbon. The ability of carbon to link together to form long chain molecules and ring compounds as well as bonding with many other elements has led to a vast array of organic compounds. These compounds are central to life, forming the basis for organic molecules such as nucleic acids, proteins, carbohydrates, and lipids. In this Very Short Introduction Graham Patrick covers the whole range of organic compounds and their roles. Beginning with the structures and properties of the basic groups of organic compounds, he goes on to consider

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organic compounds in the areas of pharmaceuticals, polymers, food and drink, petrochemicals, and nanotechnology. He looks at how new materials, in particular the single layer form of carbon called graphene, are opening up exciting new possibilities for applications, and discusses the particular challenges of working with carbon compounds, many of which are colourless. Patrick also discusses techniques used in the field.

ABOUT THE SERIES: The Very Short Introductions series from Oxford University Press contains hundreds of titles in almost every subject area. These pocket-sized books are the perfect way to get ahead in a new subject quickly. Our expert authors combine facts, analysis, perspective, new ideas, and enthusiasm to make interesting and challenging topics highly readable.

The Aqueous Chemistry of the Elements
A Molecular and Biochemical Approach
An Introduction to Medicinal Chemistry
Pharmacy Practice

The Evolution of Chemical Synthesis

The Practice of Medicinal Chemistry, Fourth Edition provides a practical and comprehensive overview of the daily issues facing pharmaceutical researchers and chemists. In addition to its thorough treatment of basic medicinal chemistry principles, this updated edition has been revised to provide new and expanded

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coverage of the latest technologies and approaches in drug discovery. With topics like high content screening, scoring, docking, binding free energy calculations, polypharmacology, QSAR, chemical collections and databases, and much more, this book is the go-to reference for all academic and pharmaceutical researchers who need a complete understanding of medicinal chemistry and its application to drug discovery and development. Includes updated and expanded material on systems biology, chemogenomics, computer-aided drug design, and other important recent advances in the field Incorporates extensive color figures, case studies, and practical examples to help users gain a further understanding of key concepts Provides high-quality content in a comprehensive manner, including contributions from international chapter authors to illustrate the global nature of medicinal chemistry and drug development research An image bank is available for instructors at www.textbooks.elsevier.com

Searching for reaction in organic synthesis has been made much easier in the current age of computer databases. However, the dilemma now is which procedure one selects among the ocean of choices. Especially for novices in the laboratory, it becomes a daunting task to decide what reaction conditions to experiment with first in order to have the best chance of success. This collection intends to serve as an "older and wiser lab-mate" one could have by compiling many of the most commonly used experimental procedures in organic synthesis. With chapters that cover such topics as functional group manipulations, oxidation, reduction, and carbon-carbon bond formation, *Modern Organic Synthesis in the Laboratory* will be useful for both graduate students and professors in organic chemistry and medicinal chemists in the pharmaceutical and agrochemical industries.

"This book uses the cases of several landmark drugs to discuss the history of the pharmaceutical industry, and discusses what could be next"--Provided by publisher.

The story of Oxford University Press spans five centuries of printing

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and publishing, leading from the early days of printing to worldwide publishing in academic research, education, and English language learning. How Oxford gained its Press Volume I begins with the successive attempts to establish printing at Oxford from 1478 onwards. Expert contributors chart the activities of individual printers, the eventual establishment of a university printing house, its relationship with the University, and developments in printing under Archbishop Laud, John Fell, and William Blackstone. They explore the Press's scholarly publications and place in the book trade, and its growing influence on the city of Oxford.

Bitter Pills

Combinatorial Chemistry

The Global War on Counterfeit Drugs

Medicinal Chemistry of Nucleic Acids

Drug Design and Development

The breadth of the pharmaceutical medicine can be daunting, but this book is designed to navigate a path through the speciality. Providing a broad overview of all topics relevant to the discipline of pharmaceutical medicine, it gives you the facts fast, in a user-friendly format, without having to dive through page upon page of dense text. With 136 chapters spread across 8 sections, the text offers a thorough grounding in issues ranging from medicines regulation to clinical trial design and data management. This makes it a useful revision aid for exams as well as giving you a taster of areas of pharmaceutical medicine adjacent to your current role. For healthcare professionals already working in the field, this book offers a guiding hand in difficult situations as well as supplying rapid access to the latest recommendations and guidelines. Written by authors with experience in the industry and drug

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regulation, this comprehensive and authoritative guide provides a shoulder to lean on throughout your pharmaceutical career.

Emphasizing the molecular action of drugs, this text incorporates recent findings from biochemical pharmacology along with the latest insights into the interactions of drugs with their receptors. It is organized by targets of drug action--endogenous messengers and their receptors, membranes, enzymes, and DNA, among others--and covers all drug groups and their therapeutic applications. This new edition has been thoroughly revised to provide expanded coverage of co-transmitters and neurohormones as well as adenosine receptors and calcium channel blockers. The chapter on drug distribution and metabolism has been extended, and the final chapter on principles of drug design outlines new methods, such as numerical techniques and computer graphics. Other new topics include atrial natriuretic factors, antiarrhythmic drugs, and DNA topoisomerase inhibitory mechanism of antitumor and antibacterial agents. The text is illustrated with hundreds of formulas and tables, and the index includes an extensive listing of drugs

An Introduction to Medicinal Chemistry Oxford University Press

Compiled for use on Stages 1 & 2 of the MPharm Programme and Years 1, 2 & 3 of the BSc course in Pharmaceutical Science, Technology and Business at Keele University

Organic Chemistry: A Very Short Introduction
Drug Delivery

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Pharmaceutical Chemistry

Blockbuster Drugs

For the IB diploma

Drug Design and Development outlines the processes involved in the design and development of new drugs and emphasises the significance of these processes to the practice of pharmacy.

Providing a clear explanation of the relevant medical science behind the individual medical specialties, **Basic Science for Core Medical Training and the MRCP**, is an indispensable part of a candidate's MRCP preparation. Directly linked to the Royal College exam, the book follows the same systems-based approach as the syllabus for accurate and effective revision. With full coverage of basic science for the medical specialities, the book features material on genetics, cellular, molecular and membrane biology, and biochemistry. Content is presented in an illustrated and easy-to-read format, ensuring that the basic science for each medical specialty is more approachable and accessible. A focus on how the basic sciences aid understanding of clinical practice is reinforced through key tables of differential diagnoses and pharmacology. Ten multiple choice questions at the end of each chapter

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consolidate learning and enable candidates to test their knowledge. The book also covers common examination errors and areas of misunderstanding to aid learning and help candidates avoid common pitfalls. **Pharmaceutics: the science of medicine design** explores the different forms that medicines can take, and demonstrates how being able to select the best form – be it a tablet, injectable liquid, or an inhaled gas – requires an understanding of how chemicals behave in different physical states.

An Introduction to Drug Synthesis explores the central role played by organic synthesis in the process of drug design and development – from the generation of novel drug structures to the improved efficiency of large scale synthesis.

Pharmaceutics

Nature's Chemicals

From Bench to Market

Beginnings to 1780

Engineering Principles for Drug Therapy

The discovery of novel drugs that fill unmet medical needs is important for the health and well-being of people everywhere. However, the general public knows too little about the pathways through which basic research

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discoveries are translated into products that protect or restore human health. In the second edition of Hallelujah Moments, Eugene H. Cordes reveals the processes and pitfalls on the route from the laboratory bench to the bedside. These are adventure stories in which wit and grit created several of the most important drugs in human medicine. This new edition adds four new tales of drug discovery: for therapy of cancer, hepatitis C, HIV/AIDS, and for weight control. The stories emphasize the integration of basic research in academe and applied research in the pharmaceutical industry and introduce the key scientists. In each case, success resulted from imagination, risk-taking, problem solving, and perseverance. Cordes shares his firsthand knowledge of the drug-discovery world, having spent a long and distinguished career in both academic and industrial settings. The eleven drug discovery tales take the reader from concept to clinic for some of the most important drugs in human health including the statins, ACE inhibitors, antibiotics, avermectins,

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Januvia, and Taxol. These stories offer exciting insights into the fascinating world of drug discovery.

Most fields of science, applied science, engineering, and technology deal with solutions in water. This volume is a comprehensive treatment of the aqueous solution chemistry of all the elements. The information on each element is centered around an E-pH diagram which is a novel aid to understanding. The contents are especially pertinent to agriculture, analytical chemistry, biochemistry, biology, biomedical science and engineering, chemical engineering, geochemistry, inorganic chemistry, environmental science and engineering, food science, materials science, mining engineering, metallurgy, nuclear science and engineering, nutrition, plant science, safety, and toxicology. This is the first monograph to describe Natural Products (NPs) as a group in an evolutionary context. It synthesizes a widely dispersed literature and provides a general picture of natural products encompassing evolution, history, ecology, and environmental

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issues, along with some deeper theory relevant to biochemistry.

Nobel laureate Roald Hoffmann's contributions to chemistry are well known. Less well known, however, is that over a career that spans nearly fifty years, Hoffmann has thought and written extensively about a wide variety of other topics, such as chemistry's relationship to philosophy, literature, and the arts, including the nature of chemical reasoning, the role of symbolism and writing in science, and the relationship between art and craft and science. In *Roald Hoffmann on the Philosophy, Art, and Science of Chemistry*, Jeffrey Kovac and Michael Weisberg bring together twenty-eight of Hoffmann's most important essays. Gathered here are Hoffmann's most philosophically significant and interesting essays and lectures, many of which are not widely accessible. In essays such as "Why Buy That Theory," "Nearly Circular Reasoning," "How Should Chemists Think," "The Metaphor, Unchained," "Art in Science," and "Molecular Beauty," we find the mature reflections of one of America's leading

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scientists. Organized under the general headings of Chemical Reasoning and Explanation, Writing and Communicating, Art and Science, Education, and Ethics, these stimulating essays provide invaluable insight into the teaching and practice of science.

*History of Oxford University Press:
Volume I*

*The Natural Products that Shaped Our
World*

*Essays in the Philosophy of Chemistry
Roald Hoffmann on the Philosophy, Art,
and Science of Chemistry*

The most comprehensive match to the new 2014 Chemistry syllabus, this completely revised edition gives you unrivalled support for the new concept-based approach, the Nature of science. The only DP Chemistry resource that includes support directly from the IB, focused exam practice, TOK links and real-life applications drive achievement.

Fully updated and rewritten by a basic scientist who is also a practicing physician, the third edition of this popular textbook remains comprehensive, authoritative and readable. Taking a receptor-based, target-centered approach, it presents the concepts central to the study of drug action in a logical, mechanistic way grounded on molecular and principles. Students of pharmacy, chemistry and pharmacology, as well as researchers interested in a

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better understanding of drug design, will find this book an invaluable resource. Starting with an overview of basic principles, Medicinal Chemistry examines the properties of drug molecules, the characteristics of drug receptors, and the nature of drug-receptor interactions. Then it systematically examines the various families of receptors involved in human disease and drug design. The first three classes of receptors are related to endogenous molecules: neurotransmitters, hormones and immunomodulators. Next, receptors associated with cellular organelles (mitochondria, cell nucleus), endogenous macromolecules (membrane proteins, cytoplasmic enzymes) and pathogens (viruses, bacteria) are examined. Through this evaluation of receptors, all the main types of human disease and all major categories of drugs are considered. There have been many changes in the third edition, including a new chapter on the immune system. Because of their increasingly prominent role in drug discovery, molecular modeling techniques, high throughput screening, neuropharmacology and genetics/genomics are given much more attention. The chapter on hormonal therapies has been thoroughly updated and re-organized. Emerging enzyme targets in drug design (e.g. kinases, caspases) are discussed, and recent information on voltage-gated and ligand-gated ion channels has been incorporated. The sections on antihypertensive, antiviral, antibacterial, anti-inflammatory, antiarrhythmic, and anticancer drugs, as well as treatments for hyperlipidemia and peptic ulcer, have been substantially expanded. One new feature will enhance the book's appeal to all readers: clinical-

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molecular interface sections that facilitate understanding of the treatment of human disease at a molecular level.

The Qualified Success And General Appeal Of Medicinal Chemistry Is Not Only Confined To The Indian Subcontinent, But It Has Also Won An Overwhelming Popularity In Other Parts Of The World. Specific Care Has Been Taken To Maintain And Sustain The Fundamental Philosophy Of The Textbook Embracing Rigidly The Original Pattern And Style Of Presentation With A Particular Expatiated Treatment Of Synthesis Of Potential Medicinal Compounds For The Ultimate Benefits Of The Teachers And The Taught Alike. The Present Thoroughly Revised And Skilfully Expanded Fourth Edition Essentially Contains Three New And Important Chapters, Namely : Molecular Modeling And Drug Design (Chapter 3), Adrenocortical Steroids (Chapter 24), And Antimycobacterial Agents (Chapter 26) So As To Make The Textbook More Useful To Its Readers. With The Advent Of Thirty Chapters The Present Updated Form Of Medicinal Chemistry Will Prove To Be An Asset For M. Pharm./B. Pharm. Degree Students, M. Sc. Pharmaceutical Chemistry, M.Sc. Applied Chemistry And M. Sc. Industrial Chemistry Throughout The Indian Universities. Medicinal Chemistry Appears As A Newly Designed And Artistically Presented In A Two-Colour Scheme So As To Facilitate A Distinctly More Effective Use Of The Book. This Highly Readable, Lucid, Handy, And Exceptionally Knowledgeable Textbook Will Definitely Win A Better, Bigger, And Confident Place For Itself Amongst Its Valued Readers. Synthetic materials are a tremendous potential resource for treating human disease. For the rational

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design of many of these biomaterials it is necessary to have an understanding of polymer chemistry and polymer physics. Equally important to those two fields is a quantitative understanding of the principles that govern rates of drug transport, reaction, and disappearance in physiological and pathological situations. This book is a synthesis of these principles, providing a working foundation for those in the field of drug delivery. It covers advanced drug delivery and contemporary biomaterials.

Organic and Medicinal Chemistry 2e Compiled for
Keele University

Medicinal Chemistry

Pharmaceutical Medicine

Tales of Drug Discovery

The Practice of Medicinal Chemistry

The Integrated Foundations of Pharmacy series is for those at the start of their journey to become a pharmacist. It helps students understand how a drug molecule is made and then turned into a medicine; the role they will have when dispensing; and how the medicine works in the body. Most importantly, it shows how all of these aspects come together.

Taking medication is a common occurrence for many people, whether it is to soothe an aching head, regulate blood sugars, or treat life-threatening conditions such as HIV or cancer. Examining how drugs are manufactured, formulated, and the way that they work in our bodies, Pharmaceutical Chemistry provides a wide-ranging overview of organic chemistry as it is applied to the study and practice of pharmacy. FEATURES * Supports an integrated pharmacy education * Focuses on the

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fundamental ideas that first-year students need to fully grasp before progressing in their studies * Demonstrates the connections between scientific concepts and principles and how they are applied to pharmacy *

Written and edited by experts who have a wealth of teaching experience COMPANION WEBSITE For registered adopters of the book: - Figures from the book, available to download For students: - Self-assessment questions for each chapter - Related additional resources ABOUT THE SERIES The Integrated Foundations of Pharmacy series supports those who are at the beginning of their journey to become a pharmacist. Students will begin to understand how a drug molecule is made; the process that turns it into a medicine; the role the pharmacist has when dispensing that medicine; and what happens in the body when it is taken. Most importantly, the series shows how each of these aspects are integrated, reflecting the most up-to-date teaching practices.

Critical care medicine is an evolving speciality in which the amount of available information is growing daily and spread across a myriad of books, journals and websites. This essential guide brings together this information in an easy-to-use format. Up-to-date, relevant, and evidence-based information on the management of the critically ill is combined in one resource, ideal for the use of Intensive Care Units, High Dependency Units, acute medical or surgical wards, Accident and Emergency departments and operating theatres. The book is designed such that each subject will form a self-contained topic in its own right, laid out across two or

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four pages to facilitate the key aim of rapid and easy access to information. This makes the information included simple to find, read and absorb, so that the book can be consulted in the clinic or ward setting for information on the optimum management of a particular condition. With chapters written by internationally renowned critical care specialists and edited by the three of the leading figures in UK Critical Care, this book should be an essential resource for all critical care physicians.

Fully updated, the third edition of this popular textbook remains comprehensive, authoritative and readable. Taking a receptor-based, target-centred approach, it presents the concepts central to the study of drug action in a logical, mechanistic way grounded on molecular and biochemical principles. The changes in this edition have been many and varied, including a new chapter on the immune system, updated discussions of molecular modelling techniques, and new clinical-molecular interface sections that facilitate understanding of the treatment of human disease at a molecular level. This book is designed for students of pharmacy, chemistry, and pharmacology.

Of Minds and Molecules

The Science of Medicine Design

Hallelujah Moments

Basic Sciences for Core Medical Training and the MRCP

Modern Organic Synthesis in the Laboratory

Long the scourge of developing countries, fake pills are now increasingly common in the United States. The explosion of Internet commerce, coupled with

globalization and increased pharmaceutical use has led to an unprecedented vulnerability in the U.S. drug supply. Today, an estimated 80% of our drugs are manufactured overseas, mostly in India and China. Every link along this supply chain offers an opportunity for counterfeiters, and increasingly, they are breaking in. In 2008, fake doses of the blood thinner Heparin killed 81 people worldwide and resulted in hundreds of severe allergic reactions in the United States. In 2012, a counterfeit version of the cancer drug Avastin, containing no active chemotherapy ingredient, was widely distributed in the United States. In early 2013, a drug trafficker named Francis Ortiz Gonzalez was sentenced to prison for distributing an assortment of counterfeit, Chinese-made pharmaceuticals across America. By the time he was arrested, he had already sold over 140,000 fake pills to customers. Even when the U.S. system works, as it mostly does, consumers are increasingly circumventing the safeguards. Skyrocketing health care costs in the U.S. have forced more Americans to become "medical tourists" seeking drugs, life-saving treatments and transplants abroad, sometimes in countries with rampant counterfeit drug problems and no FDA. Bitter Pills will heighten the public's awareness about counterfeit drugs, critically examine possible solutions, and help people protect themselves. Author Muhammad H. Zaman pays special attention to the science and engineering behind both counterfeit and legitimate drugs, and the role of a "technological fix" for the fake drug problem. Increasingly, fake drugs affect us all.

"Eleven fully updated chapters include entries on the

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links between health and discrimination, income inequality, social networks and emotion, while four all-new chapters examine the role of policies in shaping health, including how to translate evidence into action with multi-level interventions."

'Introduction to Drug Synthesis' explores the central role played by organic synthesis in the process of drug design and development - from the generation of novel drug structures to the improved efficiency of large scale synthesis.

Combinatorial chemistry, by accelerating the process of chemical synthesis, is having a profound effect on all branches of chemistry, but especially on drug discovery. This informative text explains the origins of combinatorial chemistry and puts the many diverse library methods into context. It explains why some techniques are generally applicable and others are for specialists only. It also focuses on the renaissance of solid phase chemistry and describes the range of available reactions. This is the first single author book in this important, growing field and it describes the beneficial impact of combinatorial chemistry, especially for the discovery and optimisation of biologically active molecules. This concise and comprehensive overview of combinatorial techniques is an essential text for final year undergraduates, postgraduates, academics and industrialists in chemistry, bio-organic chemistry, medicinal chemistry and drug discovery. It provides an accessible introduction to the area for those new to these methods and a valuable reference text to those experienced in this field.

New Philosophical Perspectives on Chemistry

BIOS Instant Notes in Medicinal Chemistry

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Keele

An Introduction to Drug Synthesis

For many people, taking some form of medication is part of everyday life, whether for mild or severe illness, acute or chronic disease, to target infection or to relieve pain. However for most it remains a mystery as to what happens once the drug has been taken into the body: how do the drugs actually work? Furthermore, by what processes are new drugs discovered and brought to market? An Introduction to Medicinal Chemistry, sixth edition, provides an accessible and comprehensive account of this fascinating multidisciplinary field. Assuming little prior knowledge, the text is ideal for those studying the subject for the first time. In addition to covering the key principles of drug design and drug action, the text also discusses important current topics in medicinal chemistry. The subject is brought to life throughout by engaging case studies highlighting particular classes of drugs, and the stories behind their discovery and development.