Photodynamic Medicine
Carbonic Anhydrase
Fundamentals of Medicinal Chemistry
Sequence-specific DNA Binding Agents
Medicinal Chemistry
The Organic Chemistry of Drug Design and Drug Action
Neglected Tropical Diseases
Recent Advances in Medicinal Chemistry
An Introduction to Medicinal Chemistry
Textbook of Medicinal Chemistry
Advances in Structure and Activity Relationship of Coumarin Derivatives
Frontiers in Cardiovascular Drug Discovery
Green Chemistry: Synthesis of Bioactive Heterocycles
The Chemistry of Imaging Probes
Medicinal Chemistry
Antibiotics
Principles of Organic Medicinal Chemistry
Name Reactions in Heterocyclic Chemistry
Bioorganic Chemistry: Nucleic Acids
Chemical Epigenetics
Structure-based Drug Discovery
PRINCIPLES OF MEDICINAL CHEMISTRY Vol. - I
Textbook of Organic Medicinal and Pharmaceutical Chemistry
Asymmetric Organocatalysis
Bioactive Heterocyclic Compound Classes
Handbook of Reagents for Organic Synthesis
Medicinal Chemistry
Medicinal Chemistry of Anticancer Drugs
HIV-1 Integrase
Archiv Der Pharmazie
Essentials of Medicinal Chemistry
Principles of Medicinal Chemistry Volume-I
Medicinal Chemistry Textbook of Medicinal Chemistry Vol II - E-Book
Medicinal Chemistry for Practitioners
Evolving Corporate Education Strategies for Developing Countries

1. General Principles
2. Topical Anti-Infective Agents
3. Chemotherapy of Parasitic Diseases
4. Sulphonamides and Urinary Tract Antiseptics
5. Antibiotics
6. Modes of Action of Antibiotics
7. Anitfungal Agents
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10. Tuberculosis and Antileprotic Agents
11. Insulin and Oral Hypoglycemic Agents
12. Diuretics
13. Drugs Acting on Blood
14. Drugs Acting on GIT
15. Drugs Acting on Respiratory Tract
16. Diagnostic Agents
17. Immuno-M odulators
18. Adverse Effects
19. Quantitative Structure Activity Relationship
20. Vitamins
21. Synthesis of Drugs (Appendix)

This book presents an authoritative review of the most significant findings about all the epigenetic targets (writers, readers, and erasers) and their implication in physiology and pathology. The book also covers the design, synthesis and biological validation of epigenetic chemical modulators, which can be useful as novel chemotherapeutic agents. Particular attention is given to the chemical mechanisms of action of these molecules and to the drug discovery process which allows their identification. This book will appeal to students who want to know the extensive progresses made by epigenetics (targets and modulators) in the last years from the beginning, and to specialized scientists who need an instrument to quickly search and check historical and/or updated notices about epigenetics.

Frontiers in Cardiovascular Drug Discovery is an eBook series devoted to publishing the latest advances in cardiovascular drug design and discovery. Each volume brings reviews on the biochemistry, in-silico drug design, combinatorial chemistry, high-throughput screening, drug targets, recent important patents, and structure-activity relationships of molecules used in cardiovascular therapy. The eBook series should prove to be of great interest to all medicinal chemists and pharmaceutical scientists involved in preclinical and clinical research in cardiology. The third volume of the series covers the following topics: - P2Y12 receptor agonists - Heart failure pharmacotherapy - Vasopressin and the cardiovascular system - Cerebral small vessel disease - Complement blocking therapeutic strategies - New antiplatelet and anticoagulating agents for gastrointestinal treatments

The chemistry of heterocycles is an important branch of organic chemistry. This is due to the fact that a large number of natural products, e.g. hormones, antibiotics, vitamins, etc. are composed of heterocyclic structures. Often, these compounds show beneficial properties and are therefore applied as pharmaceuticals to treat diseases or as insecticides, herbicides or fungicides in crop protection. This volume presents important agrochemicals. Each of the 21 chapters covers in a concise manner one class of heterocycles, clearly structured as follows: * Structural formulas of most important examples (market products) * Short background of history or discovery * Typical syntheses of important examples * Mode of action * Characteristic biological activity * Structure-activity relationship * Additional chemistry information (e.g. further transformations, alternative syntheses, metabolic pathways, etc.) * References A valuable one-stop reference source for researchers in academia and industry as well as for graduate students with career aspirations in the agrochemical chemistry.
Comprehensive Series in Photochemical and Photobiological Sciences. Photodynamic therapy (PDT) is increasingly being used amongst health practitioners in combating a variety of disease. This book reviews the current state of development of PDT, and also presents the foreseeable advancements of the field in the next decade. Practitioners in biological sciences, biotechnology and medicinal and pharmaceutical chemistry will find this book an invaluable source of information. Chapters are drawn from research discusses at the 10th International Symposium on Photodynamic Therapy and Photodiagnosis in Clinical Practice in Brixen and are written and edited by leaders in the field. Mirroring the philosophy of that meeting, this book contains an informative balance of the basic sciences and clinical applications of PDT. Following an introduction to PDT, its history, and how techniques have developed, chapter serve as a practical guide for practitioners, covering topics such as sensitizer dosage and light dosage, and examples of relevant studies. The text goes further to explore areas outside the medical field, such as the impact of PDT on society and the environment, and the economics of therapies. This book is dedicated to the memory of Professor Giulio Jori, an expert in this field, who sadly passed away on the 23rd December 2014.

The second edition of Medicinal Chemistry is based on the core module of pharmacy syllabi of various technical universities, and targets undergraduate B Pharma students across India. The current edition has been designed by authors based on the opinion of the experts to include the latest developments in the field of medicinal chemistry, detailed synthesis mechanism of the drugs and their mode of action inside the body.

This is a new approach to the teaching of medicinal chemistry. The knowledge of the physical organic chemical basis of drug design and drug action allows the reader to extrapolate to the many related classes of drugs described in standard medicinal chemistry texts. Students gain a solid foundation to base future research endeavors upon: drugs not yet developed are thus covered! n Emphasizes the use of the principles of physical organic chemistry as a basis for drug design n Discusses organic reaction mechanisms of clinically important drugs with mechanistic schemes n Uses figures and literature references extensively throughout n This text is not merely a "compilation of drugs and uses," but features selected drugs as examples of the organic chemical basis for any and all drug design applications

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Educational commissions continue to press the need for growth in higher education. In particular, universities in developing countries persist in putting their academic theory into practice by aiming to integrate their intellectual and cultural traditions into higher education. Evolving Corporate Education Strategies for Developing Countries: The Role of Universities presents the theories and opportunites for integrating corporate education into traditional universities as well as highlighting the professional development in different subject areas. This book provides relevant research important for policy makers, practitioners and scholars of higher education.

This book discusses diverse modes of binding of antibiotics and drugs to DNA, emphasising matters that are important or promising for cancer treatment.

Originally published by Bentham and now distributed by Elsevier, Recent Advances in Medicinal Chemistry, Volume 1 covers leading-edge research and recent developments in rational drug design, synthetic chemistry, bioorganic chemistry, high-throughput screening, combinatorial chemistry, drug targets, and natural product research and structure-activity relationship studies. The fourteen updated reviews include unique experimental data and references, and each article highlights an important topic in current medicinal chemistry research. Topics covered include: aureolic acid group of anti-cancer antibiotics and non-steroidal anti-inflammatory drugs; aromatase inhibitors in adjuvant endocrine treatment of early-stage breast cancer in postmenopausal women; Rho GTPases and statins in targeting and developing therapies for tumors; and more. Edited and written by leading experts in medicinal chemistry research Reviews recent advances in the field, including the characterization of inorganic nanomaterials as therapeutic vehicles Covers a variety of topical areas, such as HPLC and in the analysis of tricyclic antidepressants in biological samples, and tannins and their influence on health.
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.

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 Rigidity of 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 Skillfully 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.

This text/reference presents fundamental aspects of medicinal chemistry and contains comprehensive information on approximately 5,000 drugs currently in use, describing their therapeutic uses, their mechanisms of action, and their main side and harmful effects. Employs the latest World Health Organization (WHO) pharmacological classification and provides extensive information for drugs on WHO's latest list of basic or essential pharmaceuticals, including history: chemical, trade and generic names; chemical structure; obtention; physical and chemical properties; mechanisms of action; therapeutic uses; adverse reactions; biotransformation; chemical and pharmacological incompatibilities; bioavailability; dosage; storage; and assay.

The up-to-date guide to name reactions in heterocyclic chemistry. Name Reactions in Heterocyclic Chemistry II presents a comprehensive treatise on name reactions in heterocyclic chemistry, one of the most exciting—and important—fields within organic chemistry today. The book not only covers fresh ground, but also provides extensive information on new and/or expanded reactions in: Three- and four-membered heterocycles Five-membered heterocycles (pyrroles and pyrrolidines, indoles, furans, thiophenes, and oxazoles) Six-membered heterocycles, including pyridines, quinolines, and isoquinolines. Featuring contributions from the leading authorities in heterocyclic chemistry, each section includes a description of the given reaction, as well as the relevant historical perspective, mechanism, variations and improvements, synthetic utilities, experimental details, and references to the current primary literature. The reactions covered in Name Reactions in Heterocyclic Chemistry have been widely adopted in all areas of organic synthesis, from the medicinal/pharmaceutical field, to agriculture, to fine chemicals, and the book brings the most cutting-edge knowledge to practicing synthetic chemists and students, along with the tools needed to synthesize new and useful molecules.

The textbook of medicinal chemistry is a much-awaited masterpiece in its arena. Targeted mainly to B. Pharmacy students, the book would also be useful for M. Pharmacy as well as M. Sc. Organic Chemistry/Pharmaceutical Chemistry students. It aims at eliminating the inadequacies in teaching and learning of medicinal chemistry by providing enormous information on all the topics in medicinal chemistry of synthetic drugs. A bout the Author: - Prof. Dr. V. Alagarsamy, M. Pharm., Ph.D., FIC., D.O.M.H., is Professor and Principal of MNR College of Pharmacy, Gr. Hyderabad, Sangareddy. He has been teaching Medicinal Chemistry and performing research work in Synthetic Medicinal Chemistry on novel heterocyclic bioactive compounds for more than a decade. His research activities are collaboratively with various research laboratories/organisations like National Cancer Institute, USA; Rega Institute for Medical Research, Belgium and Southern Research Institute, USA. He is a recipient of Young Scientist award from the Department of Science and Technology, New Delhi. His research publications in journals and presentations in conferences, put together, exceed hundred. His research activities are supported by the funding agencies like CSIR, DST and DSIR. He is a doctoral committee member and recognized Research guide for Ph.D. students in various universities.

The Book Principles of Organic Medicinal Chemistry Describes the Principles and Concepts of Chemistry, Synthetic Schemes, Structure Activity Relationships, Mechanism Of
Carbonic Anhydrase: Its Inhibitors and Activators provides a state-of-the-art overview of the latest developments and challenges in carbonic anhydrase research. Authors describe the mechanisms of action of specific inhibitors in relation to physiological function, and present previously unpublished research on CA activators. Written by a team of...
synthetic methodologies, like microwave, ultrasonic, water mediated, ionic liquids, etc. The book also provides an insight of how green chemistry techniques are specific to the bioactive heterocyclic compounds.

Based upon the latest developments in the field of medicinal chemistry, detailed synthesis mechanism of drugs and their mode of action inside the body, this book treats many aspects of organic medicinal compounds; their discovery, action, and development into clinical agents. All the principles discussed in the book are based on fundamental organic chemistry, physical chemistry and biochemistry. Medicinal chemistry plays a key role in pharmaceutical research and new drug discovery; the structural modification may help in increasing the potency of desired active and/or to decrease the intensity of adverse effects. This book presents a review of basic principles of medicinal chemistry and to explain the effects of structural modification of the lead nucleus on the selectivity of action, duration of action and frequency of adverse effect. An effort has been made to stress upon basic pharmacology in detail wherever needed.

As nucleophiles, simple alkenes are typically so unreactive that only highly active electrophiles, such as carbocations, peroxides, and halogens will react with them. For the generation of carbon-carbon bonds, milder methods will often be required. Fortunately, it is possible to increase the reactivity of alkene-type p-nucleophiles by introducing electron-donating substituents. Substitution of one H with an OH or OR gives an enol or a vinyl ether, which are already much better nucleophiles. Using nitrogen instead of oxygen, one obtains even better nucleophiles, enamines. Enamines are among the most reactive neutral carbon nucleophiles, exhibiting rates that are even comparable to some charged nucleophiles, such as enolates [1, 2]. Most enamines, unfortunately, are sensitive to hydrolysis. The parent enamine, N,N-dimethylvinylamine, has in fact been prepared [3], but appears to be unstable. Enamines of cyclic ketones and many aldehydes can readily be isolated, however [4–7]. The instability of enamines might at first appear to diminish the utility of enamines as nucleophiles, but actually this property can be viewed as an added benefit: enamines can be readily and rapidly generated catalytically by using a suitable amine and a carbonyl compound. The condensation of aldehydes or ketones with amines initially affords an imine or iminium ion, which then rapidly loses a proton to afford the corresponding enamine (Scheme 1).

Provides a concise introduction to the chemistry of therapeutically active compounds, written in a readable and accessible style. The title begins by reviewing the structures and nomenclature of the more common classes of naturally occurring compounds found in biological organisms. An overview of medicinal chemistry is followed by chapters covering the discovery and design of drugs, pharmacokinetics and drug metabolism. The book concludes with a chapter on organic synthesis, followed by a brief look at drug development from the research stage through to marketing the final product. The text assumes little in the way of prior biological knowledge. Relevant biology is included through biological topics, examples and the Appendices. Incorporates summary sections, examples, applications and problems. Each chapter contains an additional summary section and solutions to the questions are provided at the end of the text. Invaluable for undergraduates studying within the chemical, pharmaceutical and life sciences.

This book comprehensively covers the mechanisms of action and inhibitor design for HIV-1 integrase. It serves as a resource for scientists facing challenging drug design issues and researchers in antiviral drug discovery. Despite numerous review articles and isolated book chapters dealing with HIV-1 integrase, there has not been a single source for those working to devise anti-AIDS drugs against this promising target. But this book fills that gap and offers a valuable introduction to the field for the interdisciplinary scientists who will need to work together to design drugs that target HIV-1 integrase.

This book describes some of the most exciting developments for the discovery of new drugs, such as Fragment-based methods. It contains the latest developments in technologies that can be used to obtain the 3-D structures. This book includes experimental approaches using X-ray crystallography and NMR for Fragment-based screening as well as other biophysical methods for studying protein/ligand interactions.

The amide bond represents a privileged motif in chemistry. The recent years have witnessed an explosion of interest in the development of new chemical transformations of amides.
These developments cover an impressive range of catalytic N–C bond activation in electrophilic, Lewis acid, radical, and nucleophilic reaction pathways, among other transformations. Equally relevant are structural and theoretical studies that provide the basis for chemoselective manipulation of amide resonance. This monograph on amide bonds offers a broad survey of recent advances in activation of amides and addresses various approaches in the field.

Dr Alagarsamy's Textbook of Medicinal Chemistry is a much-awaited masterpiece in its arena. Targeted mainly to B. Pharm. students, this book will also be useful for M. Pharm. as well as M. Sc. organic chemistry and pharmaceutical chemistry students. It aims at eliminating the inadequacies in teaching and learning of medicinal chemistry by providing enormous information on all the topics in medicinal chemistry of synthetic drugs. Salient Features Contains clear classification, synthetic schemes, mode of action, metabolism, assay, pharmacological uses with the dose and structure–activity relationship (SAR) of the following classes of drugs: Drugs acting on inflammation Drugs acting on digestive system Drugs acting on blood and blood-forming organs Drugs acting on endocrine system Contains a complete section on chemotherapy and the various classes of chemotherapeutic agents. Also includes recent topics like anti-HIV agents Contains brief introduction about the physiological and pathophysiological conditions of diseases and their treatment under each topic Provides well-illustrated synthetic schemes and alternative synthetic routes for majority of drugs that help in quick and enhanced understanding of the subject Covers the syllabi of majority of Indian universities

This popular textbook for pharmacy students provides all the information they need to know about medicinal chemistry. The third edition features new layout and design in an attractive two-colour presentation. It contains clear classifications, synthetic schemes, modes of action, metabolism, assay, pharmacological uses with the dose and structure–activity relationship (SAR) of the drugs for the various body systems. - Contains a complete section on drug design, describing the new drug development. - Includes an introduction to the physiological and pathophysiological conditions of diseases and their treatment. - Provides well-illustrated synthetic schemes and alternative synthetic routes for the majority of drugs. - Additional physico-chemical parameters have been explained.

This book provides an overview of DNA and RNA including coverage of biosynthesis, structure, and their functions in information storage and transmission. A review of fundamental material is presented in the first half of each chapter followed by a fairly detailed research example selected by the chapter author from current research.

Presenting both a panoramic introduction to the essential disciplines of drug discovery for novice medicinal chemists as well as a useful reference for veteran drug hunters, this book summarizes the state-of-the-art of medicinal chemistry. It covers key drug targets including enzymes, receptors, and ion channels, and hit and lead discovery. The book hen surveys a drug's pharmacokinetics and toxicity, with a solid chapter covering fundamental bioisosteres as a guide to structure-activity relationship investigations.

Medicinal Chemistry of Anticancer Drugs, Second Edition, provides an updated treatment from the point of view of medicinal chemistry and drug design, focusing on the mechanism of action of antitumor drugs from the molecular level, and on the relationship between chemical structure and chemical and biochemical reactivity of antitumor agents. Antitumor chemotherapy is a very active field of research, and a huge amount of information on the topic is generated every year. Cytotoxic chemotherapy is gradually being supplemented by a new generation of drugs that recognize specific targets on the surface or inside cancer cells, and resistance to antitumor drugs continues to be investigated. While these therapies are in their infancy, they hold promise of more effective therapies with fewer side effects. Although many books are available that deal with clinical aspects of cancer chemotherapy, this book provides a sorely needed update from the point of view of medicinal chemistry and drug design. Presents information in a clear and concise way using a large number of figures Historical background provides insights on how the process of drug discovery in the anticancer field has evolved Extensive references to primary literature

A drug discovery reference to the crippling tropical diseases that affect more than 1 billion people. Neglected Tropical Diseases is the first book of its kind to offer a guide that follows the World Health Organization's list of neglected tropical diseases. The authors?all are experts on the topic?address the development of effective treatments for 12
crippling infectious diseases that affect almost 20% of the world's population. The book includes information on the common approaches and the most important factors that lead to the development of new drugs for treating tropical diseases. Individual chapters review 12 neglected tropical diseases that are grouped by infectious agent, from viruses to bacteria to eukaryotic parasites. For each of these diseases, the book explains the unmet medical need and explores the current and potential drug discovery strategies. The book also includes information on potential drug compounds derived from natural products. This important book:

- Ties together information from different sources for developing novel treatments for neglected tropical diseases
- Is aligned with WHO's initiative to eradicate tropical diseases
- Outlines current and potential drugs for treating tropical diseases
- Provides a standard reference for the entire field written for medicinal chemists, pharmaceutical chemists, pharmaceutical industry, virologists, parasitologists, and specialists on tropical medicine

Neglected Tropical Diseases offers an essential guide and a systematic reference for the development of successful treatments for 12 crippling infectious diseases.

Advances in Structure and Activity Relationship of Coumarin Derivatives covers the structural behavior of various coumarin derivatives for various potential pharmaceutical applications. Based on substitution targeted for active sites, the book takes a rational approach for designing new and specific potent drugs, optimizing existing ones, and developing novel reactions. This focused primer describes the chemical structure and activity of coumarin derivatives to explore the effects of different substituents at specific positions, and their properties for effective bioactivity. A accessible and current coverage of coumarin derivatives from structure to potential applications. Application of SAR technology to predict bioactivity of the derivatives based on its chemical structure Information for researchers in medicinal chemistry, pharmaceutical sciences, and related fields

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 antitubercular 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 in a better, bigger, and confident place for itself amongst its valued readers.