

## Organic Stereochemistry

Stereochemistry of Organic Compounds The first fully referenced, comprehensive book on this subject in more than thirty years, Stereochemistry of Organic Compounds contains up-to-date coverage and insightful exposition of all important new concepts, developments, and tools in the rapidly advancing field of stereochemistry, including: \* Asymmetric and diastereoselective synthesis \* Conformational analysis \* Properties of enantiomers and racemates \* Separation and analysis of enantiomers and diastereoisomers \* Developments in spectroscopy (including NMR), chromatography, and molecular mechanics as applied to stereochemistry \* Prostereoisomerism \* Conceptual foundations of stereochemistry, including terminology and symmetry concepts \* Chiroptical properties Written by the leading authorities in the field, the text includes more than 4,000 references, 1,000 illustrations, and a glossary of stereochemical terms.

Stereochemistry: Basic Concepts and Applications is a three-chapter text that introduces the basic principles and concepts of stereochemistry, as well as its application to organic chemistry application. Chapter 1 describes first the stereochemistry of the ground state, specifically the configuration and conformation of organic compounds, as well as the most important methods for its investigation. This chapter also deals with the kinetics of conformational changes and provides an overview of the so-called "applied stereochemistry". Chapter 2 focuses on the analysis of the internal motions of the molecules and of the corresponding activation energies. This chapter also examines the principles of intramolecular symmetry. Chapter 3 considers the stereochemical aspect of several enzymic processes and the stereoisomerism of monotonic polymers and inorganic complexes. This book will be of great value to organic chemists and organic chemistry graduate students.

Adopting a novel approach to the topic by combining theoretical knowledge and practical results, this book presents the most popular and useful computational and experimental methods applied for studying the stereochemistry of chemical reactions and compounds. The text is clearly divided into three sections on fundamentals, spectroscopic and computational techniques, and applications in organic synthesis. The first part provides a brief introduction to the field of chirality and stereochemistry, while the second part covers the different methodologies, such as optical rotation, electronic circular dichroism, vibrational circular dichroism, and Raman spectroscopy. The third section then goes on to describe selective examples in organic synthesis, classified by reaction type, i.e. enantioselective, chemoselective and stereoselective reactions. A final chapter on total synthesis of natural products rounds off the book. A valuable reference for researchers in academia and industry working in the field of organic synthesis, computational chemistry, spectroscopy or medicinal chemistry.

CHEMISTRY STUDENT GUIDES. GUIDED BY STUDENTS Why did the drug thalidomide cause birth defects? What is the chemical difference between sucrose and lactose in your food? Stereochemistry holds the answer and is essential to the understanding of the chemistry of life. Stereochemistry is an important concept that often causes confusion amongst students when they learn it for the first time. Unlike most other areas of chemistry, it requires the chemist to visualise molecules in 3D, which can be difficult. In this book we deal with tricky concepts like conformation and configuration, how to represent them accurately and how to use the correct terms to describe them in both organic and inorganic chemistry. We involved students in the writing process to ensure we deal with areas that you find difficult, in an understandable language. With problems designed to focus on common errors and misconceptions, real life examples, and practical hands-on exercises coupled with visualisation tips, our intention is to give you the tools to become confident in stereochemistry. Complementing mainstream organic textbooks, or self-study, this book is for anyone who has struggled with describing alkenes as E or Z, assigning R and S absolute configurations, drawing Newman projections or chair representations of cyclohexanes, axial chirality, understanding the stereochemistry of octahedral metal complexes and indeed explaining complexities observed in NMR spectra. Chemistry Student Guides are written with current students involved at every stage, guiding the books towards the most challenging aspects of the topic. Student co-authors for Introduction to Stereochemistry are Caroline Akamune, Michael Lloyd and Matthew Taylor.

The role of the computer in the practice of organic chemistry has been firmly established over the past decade. Its uses as a large scale information storage and retrieval device in chemistry have been too numerous to mention. More recently, the applicability of computers to the problem of discovering valid and reasonable synthesis routes for organic molecules has been demonstrated. This has been both as an adjunct to the 1 chemist in the on-line interactive mode ,2,3 and also as a wholly computer-directed system seeking to simulate the intelligent prob- 4 lem-solving activity of the human organic synthetic chemist. ,5 In all of these computer applications to organic chemistry, it has been necessary to devise some computer-compatible repres- tation of an organic molecule that is both canonical and c- venient for table look-ups. This is in order that entities that have been constructed at different times under different circumstances can be identified and classified, with identical molecules being recognized as such even if their connection matrices list the elements of the molecule in different orders. E. J. Corey and W. T. Wipke, Science, 166, 178 (1969). 2 E. J. Corey, W. T. Wipke, R. D. Cramer III and W. J. Howe, J. Americ. Chern. Soc. , 94, 421 (1972) and 431 (1972). 3 E. J. Corey, R. D. Cramer III and W. J. Howe, ~. Americ. Chern. Soc. , 94, 440 (1972). 4 H. L. Gelernter, N. S. Sridharan and A. J.

In the last quarter century there have been only two seminal contributions in the field of organic stereochemistry - both by Kurt Mislow and his coworkers - ones that have clarified the basic concepts of stereotopicity and chirotopicity. Notwithstanding a few other sporadic contributions by others, to date there have been no systematic attempts to unify and develop the conceptual framework and terminology of organic stereochemistry. Existing terms are frequently misused or abused, needed terms - redundant, confusing or controversial - are invented randomly, and yet other needed terms have not seen the light of day. This three-part work presents the elements of a simple, uniform and comprehensive language of the stereochemical underpinnings of organic chemistry. It is essential reading for industrial chemists, graduate students, university professors and industrial researchers in the field of Organic Stereochemistry. \* Presents the elements of a simple, uniform and comprehensive language of organic stereochemistry. \* Unifies and develops a comprehensive language of organic stereochemistry \* Presents concepts and classifications which are universal.

"This book should become an indispensable asset on the bookshelves of pharmaceutical laboratories in academia and in industry, as well as of laboratories devoted to plant protection. I am convinced that studying this book will be an eye-opener for many scientists in the field of life sciences. Furthermore, for teachers in this area it will not only be a useful compilation of the various languages and definitions of organic stereochemistry, but also a welcome source of examples for demonstrating to their students the intricate and intriguing role stereochemistry plays in the chemistry of life." –Prof. Dr. Dieter Seebach, Laboratory of Organic Chemistry, ETH Zurich, Switzerland This textbook presents the molecular scale of matter in the broad diversity and richness of its three dimensions, giving due attention when relevant to the temporal dimension in which molecules exist, act, and react. The focus is on two significant fields of three-dimensional chemistry: a presentation of the guiding principles in organic stereochemistry, followed by a focus on the biochemical and medicinal relevance of this discipline. The treatment of Guiding Principles gives priority to didactic clarity and nomenclature issues, as detailed and illustrated in Parts 1 to 4: 'Symmetry Elements and Operations, Classification of Stereoisomers' 'Stereoisomerism Resulting from One or Several Stereogenic Centers' 'Other Stereogenic Elements: Axes of Chirality, Planes of Chirality, Helicity, and (E,Z)-Diastereoisomerism' 'Isomerisms about Single Bonds and in Cyclic Systems' This is followed by Parts 5 to 8 which focus on the biomedical relevance of stereochemistry, with special reference to the biochemistry and pharmacology of medicinal compounds. Here, examples and applications are discussed and

illustrated based on their relevance to a given specific stereochemical aspect: 'Chirality in Molecular and Clinical Pharmacology' 'The Conformational Factor in Molecular Pharmacology' 'The Concept of Substrate Stereoselectivity in Biochemistry and Xenobiotic Metabolism' 'Prostereoisomerism and the Concept of Product Stereoselectivity in Xenobiotic Metabolism' Finally, the book contains a gift for broad-minded readers with an interest in the historical roots of stereochemistry: Part 9: 'Molecular Chirality in Chemistry and Biology: Historical Milestones' Key features: Consists entirely of beautifully produced colored figures Includes marginal notes, giving clear-cut short definitions of terms used in the corresponding caption Provides an alphabetic glossary of terms Offers an extensive index

Written by a well-respected and experienced author, this textbook fills the gap for a concise introduction to the key concepts of organic stereochemistry and the most important classical and modern methods in stereoselective synthesis. The concepts are extensively illustrated in color, with practical examples and question-answer sets to help consolidate the reader's knowledge. In addition, animations are available from the Wiley website. A must-have for students in chemistry, biochemistry, and life sciences, as well as researchers in pharmaceutical and agrochemical companies in need of a quick introduction to the field.

Introductory text reviews molecular architecture, classifies stereoisomers according to symmetry properties and nature of barriers, and explores conceptual basis of asymmetric syntheses and kinetic resolutions. Exercises with answers. 1965 edition.

A unique guide to variable temperature CD spectroscopy and its application in organic chemistry This timely, original, thought-provoking work looks at organic stereochemistry from the perspective of circular dichroism (CD), using variable temperature CD spectroscopy to determine the conformation or absolute configuration of chiral molecules. With an emphasis on the analysis of optically active ketones and the carbonyl chromophore, the authors demonstrate the advantages of this highly sensitive spectroscopic tool for obtaining stereochemical information in diverse areas of organic chemistry, biochemistry, and medicinal/pharmaceutical chemistry. They combine detailed examples of stereochemical analysis with clear, thorough presentations, correlating chiroptical data with molecular mechanics calculations as well as data from NMR spectroscopy and other spectroscopic techniques. In addition, they provide a systematic survey of the professional literature, featuring an extraordinary collection of original CD spectra run at varying temperatures. Coverage includes: \* Chiroptical measurements: CD and ORD (Optical Rotatory Dispersion) \* Conformational analysis of compounds ranging from simple cyclic ketones to polycyclics \* Conjugated and homoconjugated systems \* Stereochemistry of the carbon-carbon double bond \* Stereochemistry from exciton coupling of two or more chromophores \* An interesting historical account of the development of stereochemical concepts

Confused about organic stereochemistry? The Cahn-Ingold-Prelog priority rules got you down? This workbook, written by two award-winning instructors at the University of British Columbia, has been used to help organic chemistry students for years. Using a step-by-step approach, suitable to be used in conjunction with any textbook, this workbook helps students learn critical concepts at their own pace. It is suitable for any introductory-level organic student who wants to understand the smart approach to understanding the details of stereochemistry and configuration.

Stereochemistry and Organic Reactions Conformation, Configuration, Stereoelectronic Effects and Asymmetric Synthesis Academic Press

Written in a concise and student-friendly way, this textbook focuses on the underlying principles of organic chemistry and provides the tools for understanding the nature of organic reactions. The author utilizes an integrated approach for organic chemistry, uniting in a logical manner the main reaction types and their mechanisms, compound classes and their typical reactions, organic spectroscopy and principles of structure elucidation.

During Recent Years, Stereochemistry Has Undergone A Phenomenal Growth Both In Theory And Practice, With A Concomitant Increase Of Interest Among The Organic Chemists, Biological Chemists, Medicinal Chemists, And Pharmacologists. The Present Text Provides An Up-To-Date, Coherent; And Comprehensive Account Of The Subject Starting From The Fundamentals And Leading Up To The Latest Development As Far As Practicable. Emphasis Has Been Placed On Symmetry-Based Approach To Molecular Chirality, Stereochemical Terminologies (Modern Stereochemistry Is Replete, With Them), Topicity And Prostereoisomerism, Conformational Analysis, Dynamic Stereochemistry, Chiroptical Properties, And Assignment Of Absolute Configuration To Chiral Molecules. Dynamic Stereochemistry Has Been Discussed With Reference To Conformation-Reactivity Correlation, Stereoselective Syntheses, And Pericyclic Reactions. A Large Cross Section Of Organic Reactions With Stereochemical Implication Has Been Incorporated. Attempts Have Been Made To Familiarise The Readers With Modern Instrumental Techniques, Nuclear Magnetic Resonance In Particular, Used For Stereochemical Investigation. Each Chapter Is Provided With A Summary Which Highlights The Main Points Of The Text. Selective References, Mostly Of Textbooks, Monographs, Review Articles, And Significant Original Papers Have Been Given Extending Sometimes To Early 1991. The Book Is Expected To Fulfil The Long-Felt Need For A Comprehensive Text On Modern Organic Stereochemistry Which Is Conspicuously Absent Since The Publication Of Professor Eliels Book In 1962. The Text May Be Adopted At Any Stage Of The University Teaching And At The Same Time Be Useful To The Practising Organic Chemists.

Market\_Desc: · Organic Chemists, Researchers in Pharmaceutical, Medicinal, Agricultural and Pesticide· Instructors · Graduate Students

A Practical Introduction to Stereochemistry Stereoisomers are compounds with the same chemical formula and connectivity but with different arrangements of their atoms in 3-dimensional space. Stereochemistry encompasses the study of stereoisomers and their properties. Despite having an identical chemical formula, stereoisomers can have drastically different biological, medicinal, and chemical properties. Basic Organic Stereochemistry explains in clear, concise terms the concepts and properties of stereoisomers. Ideal both as a text for advanced undergraduate or graduate students and as a handy guide for researchers in industry, this superb text covers: \* Polarimetry and optical rotation \* Internal coordinates, configuration, and conformation \* Nature of stereoisomers \* Barriers between stereoisomers and residual stereoisomers \* Symmetry operators and symmetry point groups \* Properties of stereoisomers and stereoisomer discrimination \* Separation of stereoisomers, resolution, and racemization Suitable for students in organic and biological chemistry, Basic Organic Stereochemistry is unparalleled as a convenient text.

In the last quarter century there have been only two seminal contributions in the field of organic stereochemistry - both by Kurt Mislow and his coworkers - ones that have clarified the basic concepts of stereotopicity and chirotopicity. Notwithstanding a few other sporadic contributions by others, to date there have been no systematic attempts to unify and develop the conceptual framework and terminology of organic stereochemistry. Existing terms are frequently misused or abused, needed terms - redundant, confusing or controversial - are invented randomly, and yet other needed terms have not seen the light of day. This

three-part work presents the elements of a simple, uniform and comprehensive language of the stereochemical underpinnings of organic chemistry. (Midwest).

Topics in Stereochemistry, previously edited by "the father of stereochemistry" Ernest L. Eliel, is a longstanding, successful series covering the most important advances in the field. The much-anticipated Volume 25 includes chapters on the following topics: \* Stereochemistry of Molecules in Inclusion Crystals \* Torsional Motion of Stilbene-type Molecules in Crystals \* Supramolecular Networks of Porphyrins \* Homo- and Heterochirality in Crystals \* Supramolecular Synthesis of 1D Chains and 2D Layers in Hydrogen Bond Networks of Ureas and 2-D Pyrimidinones \* Chiral Auxiliaries Powerful for Both Enantioresolution and Determination of Absolutely Stereochemistry by X-Ray Crystallograph \* Engineering Stereospecific Reactions in Crystals: Synthesis of Compounds with Adjacent Stereogenic Quaternary Centers by Photodecarbonylation of Crystalline Ketones \* The CH/ Hydrogen Bond: An Important Molecular Force in Controlling the Crystal Conformation of Organic Compounds and Three-Dimensional Structure of Biopolymers \* Stereoselective Thermal Solid-State Reactions \* Crystal Structures and Functionalities of Platinum (II) Complexes Controlled by Various Intermolecular Interactions

This book is an account for students of how the three-dimensional shapes of molecules influence their chemical and physical properties. It begins with the structures of molecules and then describes how such structures can be changed. Class-tested and thoughtfully designed for student engagement, Principles of Organic Chemistry provides the tools and foundations needed by students in a short course or one-semester class on the subject. This book does not dilute the material or rely on rote memorization. Rather, it focuses on the underlying principles in order to make accessible the science that underpins so much of our day-to-day lives, as well as present further study and practice in medical and scientific fields. This book provides context and structure for learning the fundamental principles of organic chemistry, enabling the reader to proceed from simple to complex examples in a systematic and logical way. Utilizing clear and consistently colored figures, Principles of Organic Chemistry begins by exploring the step-by-step processes (or mechanisms) by which reactions occur to create molecular structures. It then describes some of the many ways these reactions make new compounds, examined by functional groups and corresponding common reaction mechanisms. Throughout, this book includes biochemical and pharmaceutical examples with varying degrees of difficulty, with worked answers and without, as well as advanced topics in later chapters for optional coverage. Incorporates valuable and engaging applications of the content to biological and industrial uses Includes a wealth of useful figures and problems to support reader comprehension and study Provides a high quality chapter on stereochemistry as well as advanced topics such as synthetic polymers and spectroscopy for class customization

Takes the reader step-by-step from the structures of simple molecules, such as methane, to the basic shapes of biologically important macromolecules, such as proteins and nucleic acids. Deals with the concept of chirality, which is often overlooked by many texts. Chirality is approached by firstly explaining the stereochemistry of compounds with one stereogenic centre, then dealing with compounds having two or more stereogenic centres before focusing on compounds possessing axes of chirality. The importance of stereochemistry in a wide variety of transformations (for example addition reactions, eliminations, and cycloadditions), is discussed. The final chapters describe the application of stereocontrol in asymmetric synthesis, indicating the use of chiral auxiliaries and chiral catalysts in modern chemistry.

Stereochemistry: The Three-Dimensional Chemistry draws on the knowledge of its expert authors, providing a systematic treatment on the fundamental aspects of stereochemistry, covering conformational aspects, configurational aspects, effects of bulkiness, stereoelectronic effects on properties of molecules, and the genesis of enantiomerism, among other topics. Visuals and exercises are included to consolidate the principles learned, and the contents are carefully structured to prepare readers for predicting and organizing reaction components to obtain desired stereochemical outcomes. This book is an indispensable guide for all those exploring stereochemistry within their work. The principles of stereochemistry are fundamental to understanding chemical behavior and can provide insights into a whole range of problems, from unusual selectivity and unexpected behaviors, to abnormally fast reactions and surprising biochemical preferences. However, understanding and exploring these 3D effects can be difficult within a 2D medium. This book has been designed to address this problem, providing foundational guidance on the principles and applications of stereochemistry that are fully supported by multimedia visuals. Combines foundational concepts and definitions with examples of stereochemistry in practice Highlights the conformational and configurational impact of atomic arrangement on chemical behavior Outlines methods of analysis Provides practical exercises and detailed multimedia visuals to support learning A thorough understanding of stereochemistry is essential for the comprehension of almost all aspects of modern organic chemistry. It is also of great significance in many biochemical and medicinal disciplines, since the stereoisomers of a compound can have dramatically different biological properties. This text explains how the different properties of stereoisomers of a compound arise, and what processes can be used to prepare and analyze stereoisomerically pure compounds. It also presents prominent coverage of the stereochemistry of inorganic and organometallic compounds, which is likely to increase in importance, as these compounds are used as symmetric catalysts in asymmetric synthesis. Modern stereochemical terminology is used throughout, although reference is also made to older terms which are still widely used. A set of problems at the end of each chapter aims to further the reader's understanding of how the content can be applied. The book is designed mainly as a textbook for undergraduate students and as a reference source for more advanced levels, but is also intended for academic and professional organic chemists.

Stereochemistry has always occupied a central position and is pivotal to the practice of organic chemistry. A solid understanding of this subject is indeed critical to subsequent success in a science career. Stereochemistry is, therefore, a core constituent both at the undergraduate and postgraduate chemistry courses. This seventh edition is extensively revised and enlarged by adding new material to take account of recent developments and extensive amendments have been made to improve clarity. The key features of this new addition are: a brand new design. Incorporation of basic principles in boxes directly links the students to the main text; and a large number of exercises with their solutions have

been now added in each chapter. These exercises are set at appropriate places so that the students can test their command of a particular topic. New problems have been added at the end of each chapter. Chemical illustrations have been modified and developed for clarity and information. Generally the figures contain text as well, to decrease the need to refer back and forth to the text and for better understanding.

This English edition of a best-selling and award-winning German textbook *Reaction Mechanisms: Organic Reactions · Stereochemistry · Modern Synthetic Methods* is aimed at those who desire to learn organic chemistry through an approach that is facile to understand and easily committed to memory. Michael Harmata, Norman Rabjohn Distinguished Professor of Organic Chemistry (University of Missouri) surveyed the accuracy of the translation, made certain contributions, and above all adapted its rationalizations to those prevalent in the organic chemistry community in the English-speaking world. Throughout the book fundamental and advanced reaction mechanisms are presented with meticulous precision. The systematic use of red "electron-pushing arrows" allows students to follow each transformation elementary step by elementary step. Mechanisms are not only presented in the traditional contexts of rate laws and substituent effects but, whenever possible, are illustrated using practical, useful and state-of-the-art reactions. The abundance of stereoselective reactions included in the treatise makes the reader familiar with key concepts of stereochemistry. The fundamental topics of the book address the needs of upper-level undergraduate students, while its advanced sections are intended for graduate-level audiences. Accordingly, this book is an essential learning tool for students and a unique addition to the reference desk of practicing organic chemists, who as life-long learners desire to keep abreast of both fundamental and applied aspects of our science. In addition, it will well serve ambitious students in chemistry-related fields such as biochemistry, medicinal chemistry and pharmaceutical chemistry. From the reviews: "Professor Bruckner has further refined his already masterful synthetic organic chemistry classic; the additions are seamless and the text retains the magnificent clarity, rigour and precision which were the hallmark of previous editions. The strength of the book stems from Professor Bruckner's ability to provide lucid explanations based on a deep understanding of physical organic chemistry and to limit discussion to very carefully selected reaction classes illuminated by exquisitely pertinent examples, often from the recent literature. The panoply of organic synthesis is analysed and dissected according to fundamental structural, orbital, kinetic and thermodynamic principles with an effortless coherence that yields great insight and never over-simplifies. The perfect source text for advanced Undergraduate and Masters/PhD students who want to understand, in depth, the art of synthesis ." Alan C. Spivey, Imperial College London "Bruckner's 'Organic Mechanisms' accurately reflects the way practicing organic chemists think and speak about organic reactions. The figures are beautifully drawn and show the way organic chemists graphically depict reactions. It uses a combination of basic valence bond pictures with more sophisticated molecular orbital treatments. It handles mechanisms both from the "electron pushing perspective" and from a kinetic and energetic view. The book will be very useful to new US graduate students and will help bring them to the level of sophistication needed to be serious researchers in organic chemistry." Charles P. Casey, University of Wisconsin-Madison "This is an excellent advanced organic chemistry textbook that provides a key resource for students and teachers alike." Mark Rizzacasa, University of Melbourne, Australia.

The Book Provides A Self-Study Of Different Topics Of Organic Chemistry Viab Problem Solving. The Present 4Th Edition Has Been Completely Rewritten According To The Organic Chemistry Syllabus Of The Net (Csir) Examination. This Necessitated The Deletion Of Several Topics From The Third Edition And Incorporation Of New Ones. Emphasis Has Been Laid On A Variety Of New Reactions, Name Reactions, Reagents In Organic Synthesis And Incorporation Of Their Knowledge In The Entire Coverage Of Organic Chemistry In A Unique Way. A Thorough Study Of The Book Is Expected To Help The Student To Excel Not Only In The University Examination Including The Net Examination, But Also In His Learning Of Various Topics And Before Interview Boards. Several Topics Like Aromaticity, Pericyclic Reactions And Heterocyclic Chemistry Have Now Been Brought Up To Date And The Material Provided Is Complete In Itself. The Presentation Has Been So Designed So As To Thread Through The Entire Organic Chemistry By The Application Of The Knowledge Learnt In One Topic To Newer Situations In Other Topics. The Present Revised Edition Also Includes Numerous Important Developments Since The Third Edition Of The Book Was Published.

This text for undergraduate students presents an introduction to stereochemistry--the study of the three-dimensional structure of molecules--with a focus on organic chemistry. In eight chapters, Morris (U. of Glasgow) discusses topics such as the hybridization, conformation, and configuration of simple molecules; chiral molecules; molecules with two or more stereogenic centers; stereoisomerism in cyclic structures; and substitution reactions at saturated carbon. Coverage extends to the use of NMR spectroscopy in stereochemistry. c. Book News Inc.

This text deals with the new concepts and terminology that have been introduced into the treatment of organic stereochemistry over the last decade. Organic reaction mechanisms, as they relate to stereochemistry, are included, and the pericyclic reaction using the frontier molecular orbital approach is explained. The text does not assume a strong grounding in organic chemistry and will therefore be useful to a broader spectrum of students - both graduate and undergraduate. The volume features numerous illustrations and programmed problems.

*Stereochemistry and Organic Reactions: Conformation, Configuration, Stereoelectronic Effects and Asymmetric Synthesis* provides coverage on the stereochemistry of reactions of all mechanistic types, ranging from ionic, pericyclic and transition metal-catalyzed to radical and photochemical. Chapters cover acyclic molecules, cyclic molecules, the stereochemistry of organic reactions, the perturbation molecular orbital theory for the origin of stereoelectronic effects, and an introduction to the principles of stereoselectivity and hierarchical levels of asymmetric synthesis. Each chapter includes problems that reinforce main themes, making it valuable to students, teachers and researchers working in organic, biological and medicinal chemistry, as well as biologists, pharmacologists, polymer chemists and chemists.

Presents a holistic and unified approach to stereochemical understanding and predictions, covering reactions of all mechanistic classes Includes two background chapters on perturbation theory and stereoselective principles, along with asymmetric designs Features novel rules and mnemonics to delineate product stereochemistry Includes up-to-date coverage with over 1300 selective references

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