

Chiral Intermediates

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Cynthia A.
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Chiral Intermediates

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Chiral Intermediates:

Chiral Intermediates Cynthia A. Challener, 2001-09 In the early twentieth century the relevance of chirality to the pharmaceutical industry was established by the fact that one enantiomer of hyoscyamine possessed greater pharmacological activity than the other Today most new drugs and those under development consist of a single optically active isomer and chirality is also becoming an issue for the agrochemical and other industries Regulatory agencies throughout the world are currently reviewing the importance of chirality with regard to pharmaceutical and agrochemical products New guidelines from such agencies have been key drivers for the focus on single enantiomer products in these industries These scientific and regulatory developments have created the need for a guide for workers in the pharmaceutical and chemical industries seeking information on chiral molecules processes and commercially available chiral chemicals Chiral Intermediates presents the chemical professional with a comprehensive listing of over 4700 available chiral chemicals including specific data of interest for each entry in the listing Its companion volume Chiral Drugs presents the same detailed information for over 2000 chiral drugs The Chiral Pool of readily available relatively inexpensive chiral compounds has been expanding at a rapid rate as more and more products are produced in large quantities at economical prices New developments in various technologies for isolating preparing and purifying chiral materials have greatly increased the opportunities for utilizing optically pure compounds in commercial applications Novel techniques for classical resolution new methodologies for developing selective enzymes for biocatalysis advances in the application of microorganisms for chemical production and continued progress in the area of asymmetric synthesis have all contributed to the growth of this field Part I contains four chapters which provide an introduction to topics relevant to the field of chiral chemistry and includes a brief overview of chirality a short discussion on the current market drivers in the area of chiral chemistry and a basic presentation of the various sources and methods for obtaining chiral compounds Part II presents entries for 4700 commercially available chiral compounds For each main entry the chemical name and a list of trade names and synonyms is provided the CAS Registry Number the European Inventory of Existing Commercial Chemical Substances EINECS number and the Merck Index 12th edition number are given when available The physical properties including specific rotation of each compound are described and indicated applications are presented The structure of nearly every compound is provided and the manufacturers and suppliers of the compounds are also given Indexes including a master index of names and synonyms and an index of custom manufacturing services for production of chiral compounds are appended Chiral Intermediates provides an introduction to the types of sources and methods currently in use for obtaining chiral molecules and is an invaluable resource for information on available chiral molecules Chiral Intermediates and Chiral Drugs are the most comprehensive and detailed guides to chiral compounds available

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of chirality to the pharmaceutical industry was established by the fact that one enantiomer of hyoscyamine possessed greater pharmacological activity than the other Today most new drugs and those under development consist of a single optically active isomer and chirality is also becoming an issue for the agrochemical and other industries Regulatory agencies throughout the world are currently reviewing the importance of chirality with regard to pharmaceutical and agrochemical products New guidelines from such agencies have been key drivers for the focus on single enantiomer products in these industries Chiral Intermediates provides an introduction to the types of sources and methods currently in use for obtaining chiral molecules and is an invaluable resource for information on available chiral molecules Chiral Intermediates and Chiral Drugs are the most comprehensive and detailed guides to chiral compounds available Provided by publisher Chiral Intermediates and Chiral Drugs, 2 Volume Set Cynthia A. Challener,2001-12-01 In the early 20th century the relevance of chirality to the pharmaceutical industry was established by the fact that one enantiomer of hyoscyamine possessed greater pharmacological activity than the other Today most new drugs and those under development consist of a single optically active isomer and chirality is also becoming an issue for the agrochemical and other industries Regulatory agencies throughout the world are currently reviewing the importance of chirality with regard to pharmaceutical and agrochemical products New guidelines from such agencies have been key drivers for the focus on single enantiomer products in these industries Chiral Drugs Cynthia A Challener,2017-10-23 This title was first published in 2001 In the early twentieth century the relevance of chirality to the pharmaceutical industry was established by the fact that one enantiomer of hyoscyamine possessed greater pharmacological activity than the other Today most new drugs and those under development consist of a single optically active isomer and chirality is also becoming an issue for the agrochemical and other industries Regulatory agencies throughout the world are currently reviewing the importance of chirality with regard to pharmaceutical and agrochemical products New guidelines from such agencies have been key drivers for the focus on single enantiomer products in these industries These scientific and regulatory developments have created the need for a guide for workers in the pharmaceutical and chemical industries seeking information on chiral molecules processes and commercially available chiral chemicals Chiral Drugs is a comprehensive listing of over 2500 chiral drugs classified by therapeutic class and including structures and physical properties for each entry in the listing Its companion volume Chiral Intermediates presents the same detailed information for over 4700 commercially available chiral chemicals The Chiral Pool of readily available relatively inexpensive chiral compounds has been expanding at a rapid rate as more and more products are produced in large quantities at economical prices New developments in various technologies for isolating preparing and purifying chiral materials have greatly increased the opportunities for utilizing optically pure compounds in commercial applications Novel techniques for classical resolution new methodologies for developing selective enzymes for biocatalysis advances in the application of microorganisms for chemical production and continued progress in the area of asymmetric synthesis have all

contributed to the growth of this field Part One of each book contains four chapters which provide an introduction to topics relevant to the field of chiral chemistry and includes a brief overview of chirality a short discussion on the current market drivers in the area of chiral chemistry and a basic presentation of the various sources and methods for obtaining chiral compounds Part Two presents entries for over 2500 chiral drugs classified by therapeutic class For each main entry the chemical name and a list of trade names and synonyms is provided the CAS Registry Number the European Inventory of Existing Commercial Chemical Substances EINECS number and the Merck Index 12th edition number are given when available The physical properties including specific rotation of each compound are described and indicated applications are presented The structure of nearly every compound is provided and the manufacturers and suppliers of the compounds are also given Indexes including a master index of names and synonyms and an index of custom manufacturing services for production of chiral compounds are appended Chiral Drugs provides an introduction to the types of sources and methods currently in use for obtaining chiral molecules and is an invaluable resource for researchers in the pharmaceutical and biotechnology sectors as well as to those working in the basic biochemical sciences Chiral Intermediates provides an introduction to the types of sources and methods currently in use for obtaining chiral molecules and is an invaluable resource for information on available chiral molecules Chiral Intermediates and Chiral Drugs are the most comprehensive and detailed guides to chiral compounds available

Stereochemical Aspects of Organolithium Compounds Robert E.

Gawley,2010-04-16 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 26 on stereochemical aspects of organolithium compounds includes chapters on the following topics Asymmetric Deprotonations Using Chiral Lithium Amide Bases Self Regeneration of Stereocenters SRS via Stereolabile Axially Chiral Intermediates Overview of Carbanion Dynamics and Electrophilic Substitutions in Chiral Organolithium Compounds Oxiranyllithiums as Chiral Synthons for Asymmetric Synthesis Test on the Configurational Stability Lability of Organolithium Compounds Mechanism and Stereochemical Features in Asymmetric Deprotonation Using RLi Sparteine Bases Dynamic Resolutions of Chiral Organolithiums Volume 26 of Topics in Stereochemistry marks the end of an era while developing a bridge to the next generation A new generation in publishing parallel to a new generation in Stereochemistry mandated a new venue and modus operandi for Topics Zurich the home of Werner and Wislicenus has a unique heritage in Stereochemistry Fortunately the Wiley family s publishing partnerships include Verlag Helvetica Chimica Acta a house with a reputation for superior quality in publishing Indeed within the pages of its namesake periodical Helvetica Chimica Acta one finds many of the seminal research works of stereochemistry s giants As such a transfer of editorial operations to Zurich and a collaboration bringing Topics as a series closer to periodical status provides a growth platform for the future

Catalytic Asymmetric Synthesis Takahiko Akiyama,Iwao Ojima,2022-05-27 Catalytic Asymmetric Synthesis Seminal text presenting detailed

accounts of the most important catalytic asymmetric reactions known today This book covers the preparation of enantiomerically pure or enriched chemical compounds by use of chiral catalyst molecules While reviewing the most important catalytic methods for asymmetric organic synthesis this book highlights the most important and recent developments in catalytic asymmetric synthesis Edited by two well qualified experts sample topics covered in the work include Metal catalysis organocatalysis photoredox catalysis enzyme catalysis C H bond functionalization reactions Carbon carbon bond formation reactions carbon halogen bond formation reactions hydrogenations polymerizations flow reactions Axially chiral compounds Retaining the best of its predecessors but now thoroughly up to date with the important and recent developments in catalytic asymmetric synthesis the 4th edition of *Catalytic Asymmetric Synthesis* serves as an excellent desktop reference and text for researchers and students from upper level undergraduates all the way to experienced professionals in industry or academia

Chirality in Industry II A. N. Collins, Gary Sheldrake, J. Crosby, 1998-02-04 This second volume of *Chirality in Industry* contains new case histories from a wide range of contributors from industry or with strong industrial connections While it is intended that the new volume will stand on its own Volumes I and II taken together present an up to date and comprehensive picture of the technologies required to produce optically active compounds on a multi kilogramme to high tonnage scale as well as illustrating the breadth of application of these technologies the pharmaceuticals agrochemicals electronics food flavour and fragrance industries are all represented *Chirality in Industry II* All new case histories Unique industrial perspective on chiral technology Emphasis on scale up and process development Comparison of biocatalysis asymmetric synthesis and classical resolution approaches The chiral infrastructure is now largely in place and there is no reason why large scale production should not be possible for even moderately priced single enantiomer products The successful industrial application of chiral chemistry depends on the integration of a range of supporting technologies and there are many examples in this volume of how widely the industrial practitioner must cast the net to achieve practical production methods As with Volume I this new volume is of particular interest to those professionally involved in the scale up processes for single enantiomers However students and researchers involved in a more academic pursuit of optical activity will also benefit from some of the facets of large scale thinking An economic solution is still most likely to be a simple elegant solution

Microbial Enzymes and Metabolites for Health and Well-Being Ranjna Sirohi, Amit Kumar Rai, Luciana Porto de Souza Vandenberghe, Binod Parameswaran, 2023-06-07 This up to date reference book discusses the synthesis production and application of various microbial enzymes and metabolites for health Microorganisms like bacteria lactic acid bacteria Bacillus species yeasts and filamentous fungi have been globally exploited for their biotechnological applications This book discusses ways to use them commercially Chapters include the production of fibrinolytic enzymes microbial lipases bacteriocin production by lactic acid bacteria and bioactives produced It also covers microbial synthesis of alkaloids terpenoids and steroids This book is useful for researchers academicians and industry

experts in microbiology and biotechnology **Drug Discovery Research** Ziwei Huang, 2007-05-23 Post Genomics Drug Discovery and Research explores and discusses some of the most important topics in post genomics life and biopharmaceutical sciences It provides an introduction to the field outlining examples of many techniques currently used as well as those still under development which are important for the research of biopharmaceutical discovery in the post genomics era Integrates several developing and cutting edge technologies and methods like bioinformatics experimental therapeutics and molecular recognition Includes discussion on topics such as computer aided ligand design peptide and protein chemistry and synthesis synthesis of active natural products and the use of emerging technologies like proteomics nanotechnology or bioengineering **A Practical Approach to Chiral Separations by Liquid Chromatography** G. Subramanian, 1994-10-17 Both analytical and preparative scale enantioseparation techniques are covered in a down to earth practical way The most important aspects of design economics and safety are considered with emphasis on current European and North American legislation In addition the theory of chiral separation is covered in sufficient detail to guide the practising chromatographer interested in developing new techniques A team of experts from academic and industrial laboratories throughout the world have compiled their findings and experience to make this book an exceptionally timely and unique contribution to the field Applied Biocatalysis in Specialty Chemicals and Pharmaceuticals Badal C. Saha, 2001 Written for a wide variety of biotechnologists this book provides a major review of the state of the art in bioethanol production technologies enzymatic biomass conversion and biodiesel It also provides a detailed explanation of a breakthrough in photosynthetic water splitting which could result in a doubling of the efficiency of solar energy conversion by green plants The book covers production of lactic acid succinic acid 1 3 propanediol 2 3 butanediol and polyhydroxybutyrate and xylitol It also includes a chapter on synthesis gas fermentation **Current Organic Chemistry**, 2009 Provides in depth reviews on current progress in the fields of asymmetric synthesis organometallic chemistry bioorganic chemistry heterocyclic chemistry natural product chemistry and analytical methods in organic chemistry Each issue is edited by an appointed Executive Guest Editor **Asymmetric Synthesis and Application of Alpha-Amino Acids** Vadim A Soloshonok, Kunisuke Izawa, American Chemical Society. Meeting, 2009-07-09 This volume presents the most recent and comprehensive collection of reviews on methodological developments in the field of alpha amino acids **Studies of Chirality, Supramolecular Structure, Order and Reactivity in and from Biological Systems** Jie Song, 1999 *The Chemistry of Organolithium Compounds* Zvi Rappoport, Ilan Marek, 2004 This is the first volume in the series to concentrate on organo lithium compounds the sub series The chemistry of the metal carbon bond 5 vol treated organometallics in general *Worldwide Biotech Industry Reporting Service*, 2000 Alphabetical listing of biotechnology corporations Entries cover such information as management facilities investments research and development products in development and subject terms Subject geographic and investor indexes *the worldwide biotech industry reporting service*, 2002 *Enzyme*

Engineering XI Douglas S. Clark, David A. Estell, 1992 This volume is the result of the proceedings of a conference sponsored by the Engineering Foundation The papers cover such topics as enzyme structure and function improved biocatalysts through genetic engineering enzyme stability and stabilization and enzymes under unusual conditions

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