1. Record Nr. UNINA9910830879503321

Autore	Lin Guo-Qiang <1943->
Titolo	Principles and applications of asymmetric synthesis [[electronic resource] /] / Guo-Qiang Lin, Yue-Ming Li, Albert S.C. Chan
Pubbl/distr/stampa	New York, : Wiley-Interscience, c2001
ISBN	1-280-36767-9 9786610367672 0-470-24631-6 0-471-46524-0 0-471-22042-6
Descrizione fisica	1 online resource (535 p.)
Altri autori (Persone)	LiYue-Ming <1966-> ChanAlbert Sun-Chi <1950->
Disciplina	547.2 547/.2
Soggetti	Asymmetric synthesis Organic compounds - Synthesis
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	PRINCIPLES AND APPLICATIONS OF ASYMMETRIC SYNTHESIS; CONTENTS; Preface; Abbreviations; 1 Introduction; 1.1 The Significance of Chirality and Stereoisomeric Discrimination; 1.2 Asymmetry; 1.2.1 Conditions for Asymmetry; 1.2.2 Nomenclature; 1.3 Determining Enantiomer Composition; 1.3.1 Measuring Specific Rotation; 1.3.2 The Nuclear Magnetic Resonance Method; 1.3.3 Some Other Reagents for Nuclear Magnetic Resonance Analysis; 1.3.4 Determining the Enantiomer Composition of Chiral Glycols or Cyclic Ketones; 1.3.5 Chromatographic Methods Using Chiral Columns 1.3.6 Capillary Electrophoresis with Enantioselective Supporting Electrolytes1.4 Determining Absolute Configuration; 1.4.1 X-Ray Diffraction Methods; 1.4.2 Chiroptical Methods; 1.4.3 The Chemical Interrelation Method; 1.4.4 Prelog's Method; 1.4.5 Horeau's Method; 1.4.6 Nuclear Magnetic Resonance Method for Relative Configuration Determination; 1.5 General Strategies for Asymmetric Synthesis; 1.5.1 ""Chiron"" Approaches; 1.5.2 Acyclic Diastereoselective Approaches;

1.5.3 Double Asymmetric Synthesis; 1.6 Examples of Some Complicated Compounds
1.7 Some Common Definitions in Asymmetric Synthesis and Stereochemistry1.8 References; 2 a-Alkylation and Catalytic Alkylation of Carbonyl Compounds; 2.1 Introduction; 2.2 Chirality Transfer; 2.2.1 Intra-annular Chirality Transfer; 2.2.2 Extra-annular Chirality Transfer; 2.2.3 Chelation-Enforced Intra-annular Chirality Transfer; 2.3 Preparation of Quaternary Carbon Centers; 2.4 Preparation of a-Amino Acids; 2.5 Nucleophilic Substitution of Chiral Acetal; 2.6 Chiral Catalyst-Induced Aldehyde Alkylation: Asymmetric Nucleophilic Addition
2.7 Catalytic Asymmetric Additions of Dialkylzinc to Ketones: Enantioselective Formation of Tertiary Alcohols2.8 Asymmetric Cyanohydrination; 2.9 Asymmetric a-Hydroxyphosphonylation; 2.10 Summary; 2.11 References; 3 Aldol and Related Reactions; 3.1 Introduction; 3.2 Substrate-Controlled Aldol Reaction; 3.2.1 Oxazolidones as Chiral Auxiliaries: Chiral Auxiliary-Mediated Aldol-Type Reactions; 3.2.2 Pyrrolidines as Chiral Auxiliaries; 3.2.3 Aminoalcohols as the Chiral Auxiliaries; 3.2.4 Acylsultam Systems as the Chiral Auxiliaries; 3.2.5 a-Silyl Ketones; 3.3 Reagent-Controlled Aldol Reactions
3.3.1 Aldol Condensations Induced by Chiral Boron Compounds3.3.2 Aldol Reactions Controlled by Corey's Reagents; 3.3.3 Aldol Condensations Controlled by Miscellaneous Reagents; 3.4 Chiral Catalyst-Controlled Asymmetric Aldol Reaction; 3.4.1 Mukaiyama's System; 3.4.2 Asymmetric Aldol Reactions with a Chiral Ferrocenylphosphine-Gold(I) Complex; 3.4.3 Asymmetric Aldol Reactions Catalyzed by Chiral Lewis Acids; 3.4.4 Catalytic Asymmetric Aldol Reaction Promoted by Bimetallic Catalysts: Shibasaki's System; 3.5 Double Asymmetric Aldol Reactions; 3.6 Asymmetric Allylation Reactions
3.6.1 The Roush Reaction

Sommario/riassunto

Asymmetric synthesis remains a challenge to practicing scientists as the need for enantiomerically pure or enriched compounds continues to increase. Over the last decade, a large amount of literature has been published in this field. Principles and Applications of Asymmetric Synthesis consolidates and evaluates the most useful methodologies into a one-volume resource for the convenience of practicing scientists and students.Authored by internationally renowned scientists in the field, this reliable reference covers more than 450 reactions and includes important stoichiometric as well as ca