1. Record Nr. UNINA9910144450503321

Titolo	Asymmetric phase transfer catalysis / / edited by Keiji Maruoka
Pubbl/distr/stampa	Weinheim, [Germany] : , : Wiley-VCH Verlag GmbH & Co. KGaA, , 2008 ©2008
ISBN	1-281-94695-8 9786611946951 3-527-62262-4 3-527-62263-2
Descrizione fisica	1 online resource (230 p.)
Disciplina	547.215
Soggetti	Phase-transfer catalysis Asymmetry (Chemistry)
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 at the end of each chapters and index.
Nota di contenuto	Asymmetric Phase Transfer Catalysis; Contents; Preface; List of Contributors; 1 The Basic Principle of Phase-Transfer Catalysis and Some Mechanistic Aspects; 1.1 Introduction; 1.2 Inorganic Base-Promoted Activation of Acidic Organic Compounds; 1.2.1 Generation of Reactive Onium Carbanion Species; 1.2.2 Stability of the Onium Carbanion; 1.2.3 Reactivity of the Onium Carbanion; 1.2.4 Nuclueophilic Substitution Reaction; 1.2.5 Nucleophilic Addition to Electrophilic C=X Double Bonds; 1.3 Phase-Transfer-Catalyzed Addition of Anion Supplied as Metal Salt 1.4 Use of Crown Ether as Phase-Transfer CatalystReferences; 2 Cinchona-Derived Chiral Phase-Transfer Catalysts for Amino Acid Synthesis; 2.1 Introduction; 2.2 -Amino Acid Synthesis; 2.2.1 Monoalkylation of Schiff Bases Derived from Glycine; 2.2.2 Alkylation of Schiff Bases Derived from -Alkyl--Amino Acids; 2.2.3 Other Alkylations for -Amino Acid Synthesis; 2.2.4 Michael Reaction of Glycinate Benzophenone Schiff Bases; 2.2.5 Aldol and Related Reactions; 2.2.6 Aza-Henry Reaction; 2.2.7 Strecker Reaction; 2.2.8 Aziridination; 2.2.9 Radical Reaction; 2.3 -Amino Acid Synthesis

2.3.1 Mannich Reaction2.3.2 Cyclopropanation; 2.4 Conclusions; References; 3 Cinchona-Derived Chiral Phase-Transfer Catalysts for Other Asymmetric Synthesis; 3.1 Introduction; 3.2 Asymmetric Darzens Reaction; 3.3 Asymmetric Conjugated Addition; 3.4 Asymmetric Aldol Reaction; 3.5 Asymmetric Oxygen-Functionalization; 3.6 Asymmetric Alkylation; 3.7 Asymmetric Alkenylation and Alkynylation; 3.8 Asymmetric S(N) Aromatic Reaction; 3.9 Asymmetric Strecker Synthesis; 3.10 Asymmetric Fluorination; References; 4 Cinchona-Derived Chiral Poly(Phase-Transfer Catalysts) for Asymmetric Synthesis
4.1 Cinchona Alkaloids4.1.1 Cinchona Alkaloids in Asymmetric Phase-Transfer Catalysis; 4.1.2 The Origin of Stereoselectivity of Cinchona-PTCs; 4.2 Development of Dimeric Cinchona-PTCs by the Park-Jew Group; 4.2.1 Dimeric Cinchona-PTCs with Phenyl Linker; 4.2.2 1,3-Dimeric Cinchona-PTCs with Electronically Modified Phenyl Linker; 4.2.3 Polymeric Cinchona-PTCs with Other Linkers; 4.2.4 1,3-Phenyl- and 2,7-Naphthyl-Linked Dimeric Cinchona-PTCs; 4.3 Polymeric PTCs Developed by the Najera Group; 4.4 Polymeric PTCs Developed by the Siva Group; 4.5 Polymeric PTCs Developed by the Wang Group
4.6 Asymmetric Epoxidation with Polymeric Cinchona-PTCs4.7 Conclusions; References; 5 Binaphthyl- and Biphenyl-Modified Chiral Phase-Transfer Catalysts for Asymmetric Synthesis; 5.1 Introduction; 5.2 Alkylation; 5.2.1 Asymmetric Synthesis of -Alkyl -Amino Acids and Their Derivatives; 5.2.1.1 Asymmetric Monoalkylation of Glycine Ester Schiff Bases; 5.2.1.2 Asymmetric Monoalkylation of Glycine Amide Schiff Bases; 5.2.1.3 Diastereoselective Alkylation of Glycine Schiff Base with Optically Enriched Alkyl Halides; 5.2.1.4 Recyclable Catalysts and Reagents and Solid-Phase Synthesis
5.2.1.5 Application of Asymmetric Synthesis of -Amino Acids

Sommario/riassunto

Edited by the leading expert on the topic, this is the first book to present the latest developments in this exciting field. Alongside the theoretical aspects, the top contributors provide practical protocols to give readers additional important information otherwise unavailable.A must for every synthetic chemist in academia and industry.