

1. Record Nr.	UNINA9910144324603321
Titolo	Quaternary stereocenters [[electronic resource]] : challenges and solutions for organic synthesis // edited by Jens Christoffers, Angelika Baro
Pubbl/distr/stampa	Weinheim, : Wiley-VCH Chichester, : John Wiley, c2005
ISBN	1-280-85406-5 9786610854066 3-527-60685-8 3-527-60697-1
Descrizione fisica	1 online resource (362 p.)
Altri autori (Persone)	ChristoffersJens BaroAngelika
Disciplina	547.1223
Soggetti	Stereochemistry Organic compounds - Synthesis Electronic books.
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	Quaternary Stereocenters; Contents; Foreword; Preface; List of Contributors; Symbols and Abbreviations; 1 Important Natural Products; 1.1 Introduction; 1.2 Alkylation of Tertiary Carbon Centers; 1.3 Cycloaddition to Alkenes; 1.3.1 Diels-Alder Reaction; 1.3.2 Other Types of Cycloaddition; 1.4 Rearrangement Reactions; 1.5 Carbometallation Reactions; 1.5.1 Addition of a Carbon Nucleophile to a ,-Disubstituted ,-Unsaturated Enone; 1.5.2 Asymmetric and Diastereomeric Addition of a Carbon Nucleophile to Unactivated Alkenes Catalyzed by Palladium [42]; 1.6 C-H Functionalization Reactions 1.7 Asymmetric Modification of Enantiotopic/Diastereotopic Substituents of Quaternary Carbon Centers 1.8 Summary; 2 Important Pharmaceuticals and Intermediates; 2.1 The Chirality of Drugs and Agrochemicals; 2.2 Steroids; 2.3 Pharmaceuticals and Agrochemicals Based on -Dialkylated Amino Acids; 2.4 Azole Antimycotics; 2.5

Alkaloids; 2.6 HIV Inhibitors; 2.7 β -Lactam Antibiotics; 2.8 The Tetracyclines; 2.9 Summary and Outlook; 3 Aldol Reactions; 3.1 Introduction; 3.2 Metal Enolates; 3.2.1 Lithium Enolates; 3.2.2 Titanium and Zirconium Enolates; 3.2.3 Boron Enolates; 3.3 Catalytic Aldol Additions
3.3.1 Fluoride-ion-mediated Aldol Addition
3.3.2 Lewis-acid-mediated Mukaiyama-type Aldol Reactions; 3.3.3 Direct Aldol Additions; 3.3.4 Organocatalysis; 3.3.5 Enzyme and Antibody Catalysis; 3.4 Conclusions; 3.5 Note Added in Proof; 4 Michael Reactions and Conjugate Additions; 4.1 Introduction; 4.2 Chiral Bronsted Bases; 4.2.1 Cinchona Alkaloids; 4.2.2 Polymer-bound Alkaloids; 4.2.3 Organocatalysis; 4.2.4 Miscellaneous Examples; 4.3 Chiral Metal Complexes; 4.3.1 Cobalt and Copper Catalysis; 4.3.2 Rhodium Catalysis; 4.3.3 Heterobimetallic Catalysis; 4.3.4 Miscellaneous Examples
4.4 Chiral Auxiliaries
4.4.1 β -Phenethylamine; 4.4.2 L-Valine Ester; 4.4.3 L-Valine Diethylamide; 4.4.4 Miscellaneous Examples; 5 Rearrangement Reactions; 5.1 Introduction; 5.2 Applications; 5.2.1 The Claisen Rearrangement; 5.2.2 The Overman Rearrangement; 5.2.3 The Cope Rearrangement; 5.2.4 The Wittig Rearrangement; 5.2.5 Semipinacol Rearrangements; 5.2.6 Miscellaneous; 5.3 Summary; 6 Cycloaddition Reactions; 6.1 Introduction; 6.2 [2+1] Cycloaddition Reactions; 6.3 [2+2] Cycloaddition Reactions; 6.4 1,3-Dipolar Cycloaddition Reactions; 6.4.1 Nitron Cycloadditions
6.4.2 Other 1,3-Dipolar Cycloadditions
6.5 Diels-Alder Reactions; 6.6 Hetero-Diels-Alder Reactions; 6.6.1 The Carbonyl Group as Dienophile; 6.6.2 α,β -Unsaturated Carbonyl Derivatives as Heterodienes; 6.6.3 Imine Derivatives as Heterodienophiles; 6.7 Consecutive Cycloaddition Reactions; 7 Asymmetric Cross-coupling and Mizoroki-Heck Reactions; 7.1 The Asymmetric Heck Reaction; 7.1.1 Introduction; 7.1.2 Mizoroki-Heck Reaction Mechanism; 7.1.3 Asymmetric Formation of Quaternary Carbon Centers; 7.2 Metal-catalyzed Cross-coupling Reactions; 7.2.1 Palladium-catalyzed β -Arylation
7.2.2 Palladium-catalyzed β -Vinylation

Sommario/riassunto

Filling the gap in the literature, this book presents everything there is to know about this topic. By comprehensively covering the quaternary stereocenters found in a range of important and useful molecules in pharmaceutical and medicinal applications, as well as in thousands of natural products, the book provides the know-how chemists need to synthesize challenging molecules with numerous applications. A must for organic chemists in academia, the pharmaceutical industry and medicine. From the Contents: Important Natural Products, Important Pharmaceuticals and Intermediates
