

1. Record Nr.	UNINA9910139047403321
Titolo	Modern methods in stereoselective aldol reactions [[electronic resource] /] / edited by Rainer Mahrwald
Pubbl/distr/stampa	Weinheim, : Wiley-VCH, 2013
ISBN	3-527-65671-5 3-527-65673-1 1-299-40214-3 3-527-65674-X
Descrizione fisica	1 online resource (552 p.)
Altri autori (Persone)	MahrwaldRainer
Disciplina	547.036
Soggetti	Aldol condensation Aldehydes
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	Modern Methods in Stereoselective Aldol Reactions; Contents; Preface; List of Contributors; 1 Stereoselective Acetate Aldol Reactions; 1.1 Introduction; 1.2 Mukaiyama Aldol Reaction; 1.2.1 Concept and Mechanism; 1.2.2 Chiral Auxiliaries; 1.2.3 Chiral Methyl Ketones; 1.2.4 Chiral Aldehydes; 1.2.4.1 1,2-Asymmetric Induction; 1.2.4.2 1,3-Asymmetric Induction; 1.2.4.3 Merged 1,2- and 1,3-Asymmetric Induction; 1.2.5 Chiral Lewis Acids; 1.2.6 Chiral Lewis Bases; 1.3 Metal Enolates; 1.3.1 Concept and Mechanism; 1.3.2 Chiral Auxiliaries; 1.3.3 Stoichiometric Lewis Acids; 1.3.4 Catalytic Lewis Acids 1.3.5 Chiral Aldehydes 1.3.6 Chiral Methyl Ketones; 1.3.6.1 a-Methyl Ketones; 1.3.6.2 a-Hydroxy Ketones; 1.3.6.3 b-Hydroxy Ketones; 1.3.6.4 b-Hydroxy a-Methyl Ketones; 1.3.6.5 a,b-Dihydroxy Ketones; 1.3.6.6 Remote Stereocontrol; 1.4 Conclusions; References; 2 The Vinylogous Mukaiyama Aldol Reaction in Natural Product Synthesis; 2.1 Introduction; 2.2 Aldehyde-Derived Silyl Dienol Ethers; 2.2.1 Aldehyde-Derived Silyl Dienol Ethers - Diastereoselective Processes; 2.2.2 Aldehyde-Derived Silyl Dienol Ethers - Enantioselective Processes; 2.3 Ester-Derived Silyl Dienol Ethers 2.3.1 Ester-Derived Silyl Dienol Ethers - Diastereoselective Processes

3.2 Ester-Derived Silyl Dienol Ethers - Enantioselective Processes; 2.3.3 Ester-Derived Silyl Dienol Ethers - Enantioselective and Substrate-Controlled Processes; 2.4 Amide-Derived Silyl Dienol Ethers - Vinylketene Silyl N,O-Acetals; 2.4.1 Model Systems - Kobayashi's Pioneering Studies; 2.4.2 Total Syntheses; 2.5 Acyclic Acetoacetate-Derived Silyl Dienolates - Chan's Diene; 2.5.1 Chan's Diene in Diastereoselective Processes; 2.5.2 Chan's Diene in Enantioselective Processes  
2.5.3 Chan's Diene in Enantioselective and Substrate-Controlled Processes  
2.6 Cyclic Acetoacetate-Derived Dienolates; 2.6.1 Cyclic Acetoacetate-Derived Dienolates - Diastereoselective Processes; 2.6.2 Cyclic Acetoacetate-Derived Dienolates - Enantioselective Processes; 2.6.3 Cyclic Acetoacetate-Derived Dienolates - Enantioselective and Substrate-Controlled Processes; 2.7 Furan-Derived Silyloxy Dienes; 2.7.1 Furan-Derived Silyloxy Dienes - Diastereoselective Processes; 2.7.2 Furan-Derived Silyloxy Dienes - Enantioselective Processes  
2.7.3 Furan-Derived Silyloxy Dienes - Enantioselective and Substrate-Controlled Processes  
2.8 Pyrrole-Based 2-Silyloxy Dienes; 2.9 Comparison with Other Methods; References; 3 Organocatalyzed Aldol Reactions; 3.1 Introduction; 3.2 Proline as Organocatalyst; 3.2.1 Intramolecular Reactions; 3.2.1.1 Intramolecular Proposed Mechanism; 3.2.1.2 Application to Natural Product Synthesis; 3.2.2 Intermolecular Reactions; 3.2.2.1 Ketones as Source of Nucleophile; 3.2.2.2 Aldehydes as Source of Nucleophile; 3.2.2.3 Intermolecular Reaction Mechanism; 3.2.2.4 Application to Natural Product Synthesis  
3.3 Proline Derivatives as Organocatalysts

---

Sommario/riassunto

This sequel to the highly successful and much appreciated "Modern Aldol Reactions" continues to provide a systematic overview of methodologies for installing a required configuration during an aldol addition step, but shifts the focus so as to cover the latest developments. As such, it presents a set of brand new tools, including vinylogous Mukaiyama-aldol reactions, substrate-controlled aldol reactions and asymmetric induction in aldol additions. Furthermore, novel developments in existing stereoselective aldol additions are described, such as the deployment of supersilyl groups or organ

---