

1. Record Nr.	UNINA9910143508003321
Autore	Roberts Stanley M
Titolo	Catalysts for fine chemical synthesis [[electronic resource] ] : hydrolysis, oxidation and reduction
Pubbl/distr/stampa	Hoboken, : Wiley, 2003
ISBN	1-280-27032-2 9786610270323 0-470-36296-0 0-470-85579-7 0-470-85580-0
Descrizione fisica	1 online resource (245 p.)
Collana	Catalysts For Fine Chemicals Synthesis ; ; v.7
Altri autori (Persone)	PoignantGeraldine
Disciplina	660.634 660/.28443
Soggetti	Catalysts Chemistry, Organic Enzymes Hydrolysis Organic compounds Oxidation-reduction reaction Synthesis Biomedical Engineering Health & Biological Sciences Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di contenuto	Catalysts for Fine Chemical Synthesis Volume 1; Contents; Series Preface; Preface to Volume 1; Abbreviations; PART I: REVIEW; 1 The Integration of Biotransformations into the Catalyst Portfolio; 1.1 Hydrolysis of esters, amides, nitriles and oxiranes; 1.2 Reduction reactions; 1.2.1 Reduction of carbonyl compounds; 1.2.2 Reduction of alkenes; 1.3 Oxidative transformations; 1.4 Carbon-carbon bond-forming reactions; 1.5 Conclusions; References; PART II: PROCEDURES; 2 General Information; 3 Asymmetric Epoxidation; 3.1 Introduction;

References; 4 Epoxidation of  $\alpha$ ,  $\beta$ -Unsaturated Carbonyl Compounds  
4.1 Non-asymmetric epoxidation  
4.2 Asymmetric epoxidation using poly-D-leucine; 4.2.1 Synthesis of leucine N-carboxyanhydride; 4.2.2 Synthesis of immobilized poly-D-leucine; 4.2.3 Asymmetric epoxidation of (E)-benzylideneacetophenone; 4.2.4 Conclusion; 4.3 Asymmetric epoxidation using chiral modified diethylzinc; 4.3.1 Epoxidation of 2-isobutylidene-1-tetralone; 4.3.2 Conclusion; 4.4 Asymmetric epoxidation of (E)-benzylideneacetophenone using the La-(R)-BINOL-Ph(3)PO/cumene hydroperoxide system; 4.4.1 Merits of the system; References; 5 Epoxidation of Allylic Alcohols  
5.1 Non-asymmetric epoxidation  
5.2 Asymmetric epoxidation using a chiral titanium complex; 5.2.1 Epoxidation of cinnamyl alcohol; 5.2.2 Epoxidation of (E)-2-methyl-3-phenyl-2-propenol; 5.2.3 Epoxidation of (E)-2-hexen-1-ol; 5.2.4 Conclusion; 5.3 Asymmetric epoxidation of (E)-undec-2-en-1-ol using poly(octamethylene tartrate); 5.3.1 Synthesis of branched poly(octamethylene-L-(+)-tartrate); 5.3.2 Asymmetric epoxidation of (E)-undec-2-en-1-ol; References; 6 Epoxidation of Unfunctionalized Alkenes and  $\alpha$ ,  $\beta$ -Unsaturated Esters  
6.1 Asymmetric epoxidation of disubstituted Z-alkenes using a chiral salen-manganese complex  
6.1.1 Epoxidation of (Z)-methyl styrene; 6.1.2 Epoxidation of (Z)-ethyl cinnamate; 6.1.3 Conclusion; 6.2 Asymmetric epoxidation of disubstituted E-alkenes using a D-fructose based catalyst; 6.2.1 Epoxidation of (E)-stilbene; 6.2.2 Conclusion; 6.3 Enantioselective epoxidation of (E)- $\beta$ -methylstyrene by D(2)-symmetric chiral trans-dioxoruthenium(VI) porphyrins; 6.3.1 Preparation of the trans-dioxoruthenium(VI) complexes with D(2)-symmetric porphyrins (H(2)L(1-3))  
6.3.2 Enantioselective epoxidation of (E)- $\beta$ -methylstyrene  
6.3.3 Conclusion; References; 7 Asymmetric Hydroxylation and Aminohydroxylation; 7.1 Asymmetric aminohydroxylation of 4-methoxystyrene; 7.1.1 Conclusion; 7.2 Asymmetric dihydroxylation of (1-cyclohexenyl)acetonitrile; 7.2.1 (R,R)-(1,2-Dihydroxycyclohexyl) acetonitrile acetonide; 7.2.2 Conclusion; References; 8 Asymmetric Sulfoxidation; 8.1 Asymmetric oxidation of sulfides and kinetic resolution of sulfoxides; 8.1.1 Asymmetric oxidation of 4-bromothioanisole; 8.1.2 Kinetic resolution of racemic 4-bromophenyl methyl sulfoxide; References  
9 Asymmetric Reduction of Ketones Using Organometallic Catalysts

---

## Sommario/riassunto

Catalysts are increasingly used by chemists engaged in fine chemical synthesis within both industry and academia. Today, there exists a huge choice of high-tech catalysts, which add enormously to the repertoire of synthetic possibilities. However, catalysts are occasionally capricious, sometimes difficult to use and almost always require both skill and experience in order to achieve optimal results. This series aims to be a practical help for advanced undergraduate, graduate and postgraduate students, as well as experienced chemists in industry and academia working in organic and organometallic

---