1. Record Nr. UNINA9910830440803321

Titolo	Ferrocenes [[electronic resource]] : homogeneous catalysis, organic synthesis, materials science / / edited by Antonio Togni and Tamio Hayashi
Pubbl/distr/stampa	Weinheim ; ; New York, : VCH Publishers, c1995
ISBN	1-281-75871-X 9786611758714 3-527-61559-8 3-527-61558-X
Descrizione fisica	1 online resource (562 p.)
Altri autori (Persone)	TogniAntonio HayashiTamio
Disciplina	547.05621
Soggetti	Ferrocene Organoiron compounds
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	Ferrocenes; Preface; Contents; List of Contributors; List of Abbreviations; Part 1. Homogeneous Catalysis; 1 1,1'-Bis (dipheny1phosphino)ferrocene - Coordination Chemistry, Organic Syntheses, and Catalysis; 1.1 Introduction; 1.2 Preparation and Complexation; 1.3 Structural Properties; 1.3.1 Modes of Coordination; 1.3.2 Geometrical Distortions; 1.4 Spectroscopic Characteristics; 1.4.1 Techniques; 1.4.1.1 31P NMR Spectroscopy; 1.4.1.2 1H NMR Spectroscopy; 1.4.1.3 Mossbauer Spectroscopy; 1.4.2 NMR Fluxionality; 1.5 Catalysis; 1.5.1 Cross Coupling 1.5.1.1 Organic Electrophile and Organometallic Coupling1.5.1.2 Arylation and Vinylation of Alkenes; 1.5.1.3 Carbonylation and Carbonylative Coupling; 1.5.1.4 Nucleophilic Substitution; 1.5.1.5 Polycondensation and Polymerization; 1.5.2 Olefin Functionalization; 1.5.2.1 Hydroformylation; 1.5.2.2 Hydrogenation and Reduction; 1.5.2.3 Hydroboration and Hydrosilylation; 1.5.2.4 Isomerization; 1.6 Cluster Complexes; 1.7 Electrochemistry; 1.8 Biomedical Applications; 1.9 Summary; References; 2 Asymmetric Catalysis with Chiral

Ferrocenylphosphine Ligands; 2.1 Introduction

2.2 Preparation of Chiral Ferrocenylphosphines2.3 Structure of Chiral Ferrocenylphosphines and their Transition-Metal Complexes; 2.4 Catalytic Asymmetric Reactions with Chiral Ferrocenylphosphine Ligands; 2.4.1 Cross-Coupling of Organometallics with Halides; 2.4.2 Allylic Substitution Reactions via -Ally1 Complexes; 2.4.3 Hydrogenation of Olefins and Ketones; 2.4.4 Hydrosilylation of Olefins and Ketones; 2.4.5 Aldol Reaction of -Isocyanocarboxylates; 2.4.6 Others; References; 3 Enantioselective Addition of Dialkylzinc to Aldehydes Catalyzed by Chiral Ferrocenyl Aminoalcohols

3.1 Introduction3.2 Chiral Ferrocenylzincs Bearing an Aminoethanol Auxiliary [12]; 3.2.1 Synthesis of the Catalysts; 3.2.2 Addition of Diethylzinc to Benzaldehyde; 3.3 N- (1-Ferrocenylalky1)-N-alk ylnorephedrines [13]; 3.3.1 Synthesis of the Catalysts; 3.3.2 Addition of Diethylzinc to Aldehydes; 3.4 Chiral Polymers Bearing N-Ferrocenylmethylephedrine [14]; 3.4.1 Synthesis of the Catalysts; 3.4.2 Addition of Diethylzinc to Benzaldehyde; 3.5 Chiral 1,2-Disubstituted Ferrocenyl Aminoalcohols [15]; 3.5.1 Synthesis of the Catalysts; 3.5.2 Addition of Dialkylzinc to Aldehydes

3.5.3 Addition of Dialkylzincs to o-Phthalaldehyde: A Facile Synthesis of Optically Active 3-Alkylphthalides [16]3.5.4 Enantio- and Diastereoselective Addition of Diethylzinc to Racemic -Thio- and -Selenoaldehydes [17]; 3.6 Summary; References; Part 2. Organic Synthesis - Selected Aspects; 4 Chiral Ferrocene Derivatives. An Introduction; 4.1 Central and Planar Chirality in Metallocenes; 4.2 a-Ferrocenylalkyl Carbocations; 4.2.1 Structure and Stability; 4.2.2 Stereochemistry; 4.3 Central Chiral Ferrocene Derivatives; 4.3.1 Syntheses; 4.3.1.1 By Resolution; 4.3.1.2 By Asymmetric Synthesis 4.3.1.3 From the Chiral Pool

Sommario/riassunto

With applications ranging from asymmetric catalysis to magnetic materials, ferrocene is one of the most versatile building blocks in synthesis. This book captures the multidisciplinary nature of ferrocene research, including topics such as ferrocene-containing polymers, ferrocene-containing thermotropic liquid crystals, chiral ferrocene derivatives, and ferrocene-containing charge-transfer materials.In addition, the reader will find* valuable information for planning syntheses* over 70 tables, making relevant data available at a glance * carefully selected references, provi