

1. Record Nr.	UNINA9910146268103321
Titolo	Supramolecular catalysis // edited by Piet W. N. M. van Leeuwen
Pubbl/distr/stampa	Weinheim, [Germany] : , : Wiley-VCH Verlag GmbH & Co. KGaA, , 2008 ©2008
ISBN	1-282-78442-0 9786612784422 3-527-62178-4 3-527-62179-2
Descrizione fisica	1 online resource (321 p.)
Disciplina	541.395
Soggetti	Catalysis Supramolecular 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	Supramolecular Catalysis; Contents; List of Authors; 1 Introduction to Supramolecular Catalysis; 1.1 Introduction; 1.2 Design Approaches to Supramolecular Catalysis; 1.2.1 Molecular Receptors that Place a Binding Site Close to a Catalytic Center; 1.2.2 Molecular Receptors that Promote the Reaction of two Simultaneously Complexed Reactants; 1.2.3 Preparation of the Catalyst Backbone via Supramolecular Interactions; 1.3 Artificial Biomacromolecules for Asymmetric Catalysis; 1.4 Summary and Outlook; References 2 Supramolecular Construction of Chelating Bidentate Ligand Libraries through Hydrogen Bonding: Concept and Applications in Homogeneous Metal Complex Catalysis 2.1 Introduction; 2.2 Emulation of Chelation through Self-Assembly of Monodentate Ligands; 2.3 Tautomeric Self-Complementary Interligand Hydrogen Bonding; 2.3.1 Hydroformylation; 2.3.2 Room Temperature/Ambient Pressure Hydroformylation; 2.3.3 Asymmetric Hydrogenation; 2.4 A-T Base Pair Analogous Complementary Hydrogen Bonding for the Construction of Heterodimeric Self-Assembling Ligands; 2.4.1 Aminopyridine/Isoquinolone Platform

3.3.2 X-Ray and other Techniques for Structural Characterization in the Solid State; 3.3.3 Structural Characterization in Solution by NMR; 3.3.4 Anion Exchange in the Solid State; 3.4 Preparation of Coordination Polymers with 2,3-Pyrazolylquinoxalines or 2,3-Pyrazolylpyrazines and Cu(I) or Ag(I); 3.4.1 Preparation and Characterization of Dinuclear Building Blocks and Coordination Polymers; 3.4.2 X-Ray and other Techniques for Structural Characterization; 3.5 Preparation of Supramolecular Structures with 2,4-Diamino-6-R-1,3,5-triazines and Ag(I); 3.5.1 Synthesis; 3.5.2 X-Ray Structure Determination; 3.5.3 Structural Characterization in Solution by NMR; 3.6 Conclusions; References; 4 Chiral Metallo-cycles for Asymmetric Catalysis; 4.1 Introduction; 4.2 Thermodynamically-Controlled Metallo-cycles; 4.3 Kinetically-Controlled Metallo-cycles; 4.4 General Synthetic Strategies for Chiral Metallo-cycles; 4.5 Self- and Directed-Assembly of Chiral Pt-Alkynyl Metallo-cycles; 4.6 Chiral Pt-Alkynyl Metallo-cycles for Asymmetric Catalysis; 4.7 Concluding Remarks; References; 5 Catalysis of Acyl Transfer Processes by Crown-Ether Supported Alkaline-Earth Metal Ions

5.1 Introduction

Sommario/riassunto

In the past few years, supramolecular chemistry has led to new approaches in homogeneous catalysis. While host-guest chemistry had already found applications in catalysis as a result of the pioneering work carried out by Professor Ronald Breslow and Nobel prizewinner Professor Jean-Marie Lehn that began some 40 years ago, the construction of catalysts by supramolecular forces has only recently become a powerful tool. This development paves the way for large numbers of new potential catalysts that can be varied in an expedient way by changing the constituting building blocks. Written by some
