

1. Record Nr.	UNINA9910840524803321
Titolo	Activating unreactive substrates [[electronic resource] ] : the role of secondary interactions // edited by Carsten Bolm and F. Ekkehardt Hahn
Pubbl/distr/stampa	Weinheim, : Wiley-VCH, c2009
ISBN	1-282-02201-6 9786612022012 3-527-62546-1 3-527-62547-X
Descrizione fisica	1 online resource (483 p.)
Altri autori (Persone)	BolmCarsten HahnF. Ekkehardt
Disciplina	541.395
Soggetti	Catalysis Activation (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 and index.
Nota di contenuto	Activating Unreactive Substrates: The Role of Secondary Interactions; Contents; Preface; List of Contributors; 1 Chemistry of Metalated Container Molecules; 1.1 Introduction; 1.2 Metalated Container Molecules: A Brief Overview; 1.3 Metalated Container Molecules of Binucleating Supporting Ligands; 1.3.1 Synthesis; 1.3.2 Coordination Chemistry of Binucleating Supporting Ligands; 1.3.3 Effects of N-alkylation on the Molecular and Electronic Structures of the Complexes; 1.3.4 The Ligand Matrix as a Medium; 1.3.5 Variation, Coordination Modes and Activation of Coligands 1.3.6 Reactivity of the Complexes 1.4 Conclusions; References; 2 The Chemistry of Superbasic Guanidines; 2.1 Properties of the Guanidine Functionality; 2.2 Design of Superbasic Proton Sponges; 2.3 Some Perspectives in Proton Sponge Chemistry; 2.4 Multidentate Superbasic Guanidine Ligands as Receptors for Metal Cations; 2.5 The Chemistry of Guanidine Copper Complexes; 2.6 The Chemistry of Guanidine Zinc Complexes; 2.7 Conclusions; References; 3 Iron Complexes and Dioxygen Activation; 3.1 Introduction; 3.2 Dinuclear Iron Peroxo

Complexes; 3.3 Tripodal Tetradentate Ligands and Derivatives  
3.3.1 Tmpa3.3.2 Uns-penp; 3.4 Mononuclear Iron Peroxo Complexes;  
3.5 Mononuclear Iron Oxo Species; 3.6 Work in Progress; 3.7  
Conclusions; References; 4 Tuning of Structures and Properties of  
Bispidine Complexes; 4.1 Introduction; 4.2 Jahn-Teller Isomerism with  
Copper(II) Bispidines; 4.3 Stabilization of High-spin Ferryl Complexes;  
4.4 Jahn-Teller-distorted Cobalt(III) Complexes; 4.5 Conclusions;  
References; 5 Novel Phosphorus and Nitrogen Donor Ligands Bearing  
Secondary Functionalities for Applications in Homogeneous Catalysis;  
5.1 Introduction; 5.2 Phosphine Ligands  
5.2.1 Cooperative Effects for Ligand Self-organization5.2.2 Phosphines  
with Pyrazole and Pyrimidine Substituents; 5.3 Nitrogen Donor Ligands  
Without Phosphorus Sites; 5.4 Conclusion; References; 6 Square-  
Pyramidal Coordinated Phosphine Iron Fragments: A Tale of the  
Unexpected; 6.1 Introduction; 6.2 Polyphosphine Ligands with Three  
and Four Coordinating Arms; 6.3 C-P Bond Activation and Agostic  
Interactions in Iron Complexes of Polypodal Phosphine Ligands; 6.4  
Mechanistic Considerations; 6.5 Conclusion; References  
7 Regioselective Catalytic Activity of Complexes with NH,NR-  
substituted Heterocyclic Carbene Ligands7.1 Introduction; 7.2 Concept  
of Regioselective Substrate Activation; 7.3 Synthesis of Complexes with  
NH,NR-stabilized NHC Ligands; 7.4 Preparation of Substrates for  
Catalytic Experiments; 7.5 Catalysis Experiments; 7.6 Conclusions and  
Summary; References; 8 Functionalized Cycloheptatrienyl-  
Cyclopentadienyl Sandwich Complexes as Building Blocks in Metallo-  
supramolecular Chemistry; 8.1 Introduction  
8.2 Syntheses and Electronic Structures of Group 4 Cycloheptatrienyl-  
Cyclopentadienyl Sandwich Complexes

---

Sommario/riassunto

The use of secondary interactions for the activation of non-reactive substrates constitutes a new and modern approach in catalysis. This first comprehensive treatment of this important research field covers the entire field and reveals the links between the various chemical disciplines. It thus adopts an interdisciplinary approach, making it of interest to the whole chemical community. A must for organic, inorganic, catalytic and complex chemists, as well as those working with/on organometallics.

---