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Nota di bibliografia	Includes bibliographical references and indexes.
Nota di contenuto	Inorganic Reactions and Methods; Contents; How to Use this book; Preface to the Series; Editorial Consultants to the Series; Contributors to Volume 16; Reactions Catalyzed by Inorganic Compounds; Introduction: Principles of Catalysis; Catalysis as a Kinetic Phenomenon; Basic Processes in Molecular Catalysis; Electron Transfer; Ligand Dissociation and Association Processes; Heterolytic Ligand Dissociation.; Homolytic Ligand Dissociation.; Promotion of Nucleophilic Reactions by Electron Withdrawal from Reactants; Catalysis of Electrophilic Reactions by Proton Loss from a Coordinated Ligand Oxidative Addition/Reductive Elimination Reactions One-Electron Oxidative Addition.; Two-Electron Oxidative Addition.; Free Radical Chain Mechanism of Oxidative Addition.; Insertion Reactions; Types of Catalysts; Introduction; Solid Catalysts; Metallic Catalysts; Metal Crystals and Films.; Supported Metal Catalysts.; Metal Oxide and Metal Sulfide Catalysts; Soluble Catalysts; Selectivity Advantages; Process Engineering and Product Recovery Problems; Supported Metal Complexes; Polymeric Supports; Metal Oxide Supports; Phase Transfer

## Catalysis; Catalysis in Microscopic Phases

Production of Catalysts and Supports; General Principles; Methods of Production of Nonmetal Catalysts and Supports; Precipitation and Gel Formation.; Impregnation.; Natural Materials, Leaching, Carbon supports.; Methods of Production of Supported Metal Catalysts; Relationships between Catalyst Production and Performance; Hydrogenation Reactions; Introduction; Dihydrogen Activation; Homolytic Cleavage to Give Metal-Hydrides; Heterolytic Cleavage to Give Metal-Hydrides; Molecular Hydrogen Complexes; Classes of Soluble Catalysts; Rhodium(I) Catalysts; Cobalt Cyanide Systems Cobalt Carbonyl Catalysts; Chromium(0) Carbonyl Catalysts; Ziegler Catalysts; Ruthenium(II) Catalysts; Hydrogenation of Aliphatic C-C Functions; In Simple Olefins; Isolated Double Bonds.; Olefins Conjugated to Carbonyl, Nitrile, Nitro.; Vinyl Functions.; In Conjugated Dienes; In Unconjugated Dienes; In Acetylenes and Cumulenes; In Triple Bonds.; In Allenes and Cumulenes.; By Asymmetric Hydrogenation; Hydrogenation of Arenes; By Cobalt Catalysts; By Ruthenium Catalysts; by Rhodium Catalysts; By Palladium and Platinum Catalysts; By Miscellaneous Catalysts; Hydrogenation of C=O Functions In Aldehydes; Saturated Aliphatic Aldehydes.; Aromatic Aldehydes.; Selectivity.; In Ketones; Hydrogenation to the Carbinol.; Hydrogenolysis and Miscellaneous Reactions.; Selectivity.; Stereochemistry and Asymmetric Hydrogenation.; In Carboxyl Derivatives; By Transfer Hydrogenation; Hydrogenation of Other Functional Groups; Nitrites; Hydrogenation to Primary Amines.; Coupling Reactions.; Reductive Hydrolysis.; Hydrogenolysis and Cyclizations.; Nitro Compounds; Hydrogenation to the Amine.; Selective and Partial Reductions.; Side Reactions in Polyfunctional Molecules.; Miscellaneous Addition Reactions

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### Sommario/riassunto

For the first time the discipline of modern inorganic chemistry has been systematized according to a plan constructed by a council of editorial advisors and consultants, among them three Nobel laureates (E.O. Fischer, H. Taube and G. Wilkinson). Rather than producing a collection of unrelated review articles, the series creates a framework which reflects the creative potential of this scientific discipline. Thus, it stimulates future development by identifying areas which are fruitful for further research. The work is indexed in a unique way by a structured system which maximizes its use

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