

1. Record Nr.	UNINA9910787418703321
Titolo	Handbook of metathesis . Volume 1 : catalyst development and mechanism // edited by Robert H. Grubbs and Anna G. Wenzel
Pubbl/distr/stampa	Weinheim, Germany : , : Wiley-VCH Verlag GmbH & Co., , 2015 ©2015
ISBN	3-527-69399-8 3-527-69400-5
Edizione	[2nd ed.]
Descrizione fisica	1 online resource (444 p.)
Disciplina	660.299
Soggetti	Metathesis (Chemistry) Metal catalysts - Industrial applications
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	Cover; Contents; Preface; List of Contributors; Chapter 1 High-Oxidation State Molybdenum and Tungsten Complexes Relevant to Olefin Metathesis; 1.1 Introduction; 1.2 New Imido Ligands and Synthetic Approaches; 1.3 Bispyrrolide and Related Complexes; 1.4 Monoalkoxide Pyrrolide (MAP) Complexes; 1.5 Reactions of Alkylidenes with Olefins; 1.6 Olefin and Metallacyclopentane Complexes; 1.7 Tungsten Oxo Complexes; 1.8 Bisaryloxides; 1.9 Other Constructs; 1.10 Conclusions; Acknowledgments; References; Chapter 2 Alkane Metathesis; 2.1 Introduction; 2.2 Alkane Metathesis by Single-Catalyst Systems 2.2.1 Supported Metal Hydrides 2.2.1.1 Supported Zr-Polyhydrides; 2.2.1.2 Supported Ta-Polyhydrides; 2.2.1.3 Supported W-Polyhydrides; 2.2.2 Metal Alkylidene/Alkylidyne on Surface Oxide; 2.2.2.1 Structure-Activity Relationship of Alkylidene Complexes; 2.2.2.2 Stoichiometric Activity of Well-Defined, Metal Alkylidenes with Alkanes; 2.2.2.3 Synthesis of Supported WMe ₆ on Silica; 2.3 Alkane Metathesis by Tandem, Dual-Catalytic Systems; 2.3.1 Introduction; 2.3.2 The Chevron Process Using WO ₃ /SiO ₂ and Pt-Li/Al ₂ O ₃ 2.3.3 Tandem, Dual Catalytic System Using Ir-Pincer Ligands and Mo-Alkylidene Complexes 2.3.3.1 The Development of Robust, Iridium-Based Alkane Dehydrogenation Catalysts; 2.3.3.2 Cyclic and Cross-

Alkane Metathesis; 2.4 Conclusion; References; Chapter 3 Diastereocontrol in Olefin Metathesis: the Development of Z-Selective Ruthenium Catalysts; 3.1 Introduction; 3.2 The Challenge of Z-Selective Olefin Metathesis; 3.3 Previous Strategies; 3.4 A Serendipitous Discovery; 3.5 Catalyst Studies; 3.5.1 Summary of Substituent Effects; 3.5.1.1 Investigating the X-type Ligand; 3.5.1.2 Effect of the NHC 3.5.2 Decomposition of Z-Selective Ru Metathesis Catalysts 3.6 Applications of Z-Selective Ru Metathesis Catalysts; 3.6.1 Cross Metathesis; 3.6.1.1 Homodimerization or Homocoupling; 3.6.1.2 Other Cross-Metathesis Reactions; 3.6.2 Ring-Closing Metathesis (RCM); 3.6.3 Ring-Opening Metathesis Polymerization (ROMP); 3.7 Conclusion; References; Chapter 4 Ruthenium Olefin Metathesis Catalysts Supported by Cyclic Alkyl Aminocarbenes (CAACs); 4.1 Introduction; 4.2 Properties and Preparation of CAAC Ligands; 4.3 CAAC-Supported, Ruthenium Olefin Metathesis Catalysts 4.3.1 CAAC Catalyst Development and Their Application to Ring-Closing Metathesis 4.3.2 Application to Cross Metathesis, Ethenolysis, and Degenerate Metathesis; 4.4 Summary; References; Chapter 5 Supported Catalysts and Nontraditional Reaction Media; 5.1 Introduction; 5.2 Supported Catalyst Systems; 5.2.1 Supported Catalysts via Covalent Interactions; 5.2.1.1 Grubbs-Type, Ru-Based Systems; 5.2.1.2 Schrock-Type, Mo- or W-Based Systems; 5.2.2 Supported Catalysts via Non-covalent Interactions; 5.2.2.1 Grubbs-Type, Ru-Based Systems; 5.2.2.2 Early Transition-Metal Systems 5.3 Olefin Metathesis in Nontraditional Media

Sommario/riassunto

This is the second edition of the Handbook of Metathesis, edited by Nobel Prize Winner Robert H. Grubbs and his team, available as a 3 Volume set as well as as individual volumes: Volume 1: Catalyst Development Volume 2: Applications in Organic Synthesis Volume 3: Polymer Synthesis. Volume 1, edited by R. H. Grubbs together with A. G. Wenzel focusses on Catalyst Development and Mechanism. The new edition is completely updated (more than 80% new content) and expanded, with a special focus on industrial applications. Written by the "Who-is-Who" of metathesis, this book gives a comprehensiv
