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| Nota di contenuto       | Ruthenium in Organic Synthesis; Contents; Preface; List of Contributors; 1 Introduction; 2 Hydrogenation and Transfer Hydrogenation; 2.1 Introduction; 2.2 Hydrogenation; 2.2.1 Unfunctionalized Olefins; 2.2.2 Functionalized Olefins; 2.2.3 Unfunctionalized Ketones and Aldehydes; 2.2.4 Functionalized Ketones; 2.2.5 Imines; 2.2.6 Others; 2.3 Transfer Hydrogenation; 2.3.1 Olefins; 2.3.2 Ketones and Aldehydes; 2.3.3 Imines; 2.3.4 Others; 2.4 Concluding Remarks; 3 Oxidation Reactions; 3.1 Introduction; 3.2 Dehydrogenative Oxidation; 3.2.1 Oxidation of Alcohols; 3.2.2 Oxidative Amination of Alcohols<br>3.2.3 Oxidation of Secondary and Primary Amines<br>3.3 Oxidation with RuO(4); 3.4 Oxidation with Ruthenium Complex Catalysts and Oxidants; 3.4.1 Oxidation of Alcohols; 3.4.2 Oxidation of Alkenes; 3.4.3 Oxidation of Amines; 3.4.4 Oxidation of Amides and -Lactams; 3.4.5 Oxidation of Phenols; 3.4.6 Oxidation of Hydrocarbons; 3.5 Conclusions; 4 Carbon-Carbon Bond Formations via Ruthenacycle Intermediates; 4.1 Introduction; 4.2 C-C Bond Formations Involving Ruthenacyclopentadiene/Ruthenacyclopentatriene; 4.2.1 Alkyne Cyclotrimerizations |

4.2.2 Cyclocotrimerizations of Alkynes with Other Unsaturated Molecules and Related Reactions; 4.2.3 Miscellaneous Reactions; 4.3 C-C Bond Formations Involving Ruthenacyclopentene; 4.3.1 Coupling Reactions Between Alkynes and Alkenes; 4.3.2 Three-Component Couplings of Alkynes, Alkenes, and Other Unsaturated Molecules; 4.3.3 Intramolecular Coupling of Alkynes with Enones and Vinylcyclopropanes; 4.4 C-C Bond Formations Involving Ruthenacyclopentane; 4.5 C-C Bond Formations Involving Ruthenacyclopentenedione and Ruthenacyclobutenone; 4.6 Conclusion

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6.2 Ruthenium Olefin Metathesis Catalysts

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Sommario/riassunto

In this comprehensive book, one of the leading experts, Shun-Ichi Murahashi, presents all the important facets of modern synthetic chemistry using Ruthenium, ranging from hydrogenation to metathesis. In 14 contributions, written by an international authorship, readers will find all the information they need about this fascinating and extraordinary chemistry. The result is a high quality information source and an indispensable reading for everyone working in organometallic chemistry. From the contents: Introduction (S.-I. Murahashi) Hydrogenation and Transfer Hydrogenation (M. K

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