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Nota di contenuto	TRANSITION-METAL-MEDIATED AROMATIC RING CONSTRUCTION; CONTENTS; CONTRIBUTORS; PREFACE; PART I [2 + 2 + 2] AND RELATED CYCLOADDITION REACTIONS; 1 Cobalt-Mediated [2+2+2] Cycloaddition; 1.1 Introduction; 1.2 Synthesis of Benzenes; 1.2.1 New Catalytic Systems; 1.2.2 New Cyclization Partners; 1.2.3 Chemo- and Regioselectivity Issues; 1.3 Synthesis of Heterocycles; 1.3.1 New Catalytic Systems; 1.3.2 New Cyclization Partners; 1.3.3 Chemo- and Regioselectivity Issues; 1.4 Mechanistic Aspects; 1.5 Synthetic Applications; 1.5.1 Natural Products and Naturally Occurring Scaffolds; 1.5.2 Polyphenylenes 1.6 Summary and OutlookReferences; 2 Nickel-Mediated [2+2+2] Cycloaddition; 2.1 Introduction; 2.2 Synthesis of Benzenes; 2.3 Cycloaddition of Alkynes and Nitriles; 2.4 Cycloaddition of Alkynes and Imines; 2.5 Cycloaddition of Alkynes and Carbon Dioxide; 2.6 Cycloaddition of Alkynes and Isocyanates; 2.7 Cycloaddition of Alkynes and Carbodiimide; 2.8 Cycloaddition of Diynes and Ketenes; 2.9 Cycloaddition of Arynes; 2.10 Mechanism; 2.10.1 Coupling of Alkynes and Allene; 2.10.2 Cycloaddition of Alkyne and Nitrile; 2.10.3 Cycloaddition of Alkynes and Heterocumulenes; 2.10.4 Cycloaddition of Arynes 2.11 Summary and OutlookReferences; 3 Ruthenium-Mediated [2+2+2]

Cycloaddition; 3.1 Introduction; 3.2 Synthesis of Benzenes; 3.2.1 Cyclotrimerization; 3.2.2 Cross-Cyclotrimerization; 3.2.3 Partially Intramolecular Cyclotrimerizations; 3.2.4 Fully Intramolecular Cyclotrimerization; 3.2.5 Cyclotrimerization of Alkynylboronates and 1-Haloalkynes; 3.3 Synthesis of Heterocycles; 3.3.1 Cyclocotrimerization of Alkynes with Nitriles to Form Pyridines; 3.3.2 Cyclocotrimerization of Alkynes with Heterocumulenes; 3.4 Mechanism of Ruthenium-Catalyzed [2+2+2] Cycloadditions; 3.5 Synthetic Applications 3.5.1 Synthesis of Biologically Interesting Molecules 3.5.2 Synthesis of Polyaromatic Functional Molecules; 3.6 Summary and Outlook; References; 4 Rhodium-Mediated [2+2+2] Cycloaddition; 4.1 Introduction; 4.2 Synthesis of Benzenes; 4.2.1 Intermolecular Reactions Catalyzed by Neutral Rhodium Complexes; 4.2.2 Intermolecular Reactions Catalyzed by Cationic Rhodium Complexes; 4.2.3 Intramolecular Reactions Catalyzed by Neutral Rhodium Complexes; 4.2.4 Intramolecular Reactions Catalyzed by Cationic Rhodium Complexes; 4.3 Synthesis of Pyridines; 4.3.1 Intermolecular Reactions 4.3.2 Intramolecular Reactions 4.4 Synthesis of Pyridones and Related Heterocycles; 4.4.1 Intermolecular Reactions; 4.4.2 Intramolecular Reactions; 4.5 Summary and Outlook; References; 5 Iridium-Mediated [2+2+2] Cycloaddition; 5.1 Introduction; 5.2 Synthesis of Benzene Derivatives; 5.3 Synthesis of Heterocyclic Compounds; 5.4 Mechanistic Aspects; 5.5 Summary and Outlook; References; 6 [2+2+2] and Related Cycloadditions Mediated by Other Transition Metals; 6.1 Introduction; 6.2 Palladium-Catalyzed [2+2+2] and [2+2+1] Cycloadditions; 6.2.1 [2+2+2] Cycloaddition; 6.2.2 [2+2+1] Cycloaddition 6.3 Iron-Catalyzed [2+2+2] Cycloaddition

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## Sommario/riassunto

"Recent significant advances with transition-metal-mediated reactions have opened promising new routes to complex aromatic compounds and have been the subject of intense research in recent years. Featuring practical and efficient reactions to help organic chemists synthesize an important class of compounds, Transition-Metal-Mediated Aromatic Ring Construction provides a valuable guide to methods, synthetic routes, and strategies to construct aromatic rings. Chapters devoted to efficient and practical reactions demonstrate how to use them for the synthesis of various complex aromatic compounds"--

"This book covers transition-metal-mediated reactions with applications for constructing aromatic rings, which are an important class of industrial chemical compounds"--

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