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	Formation from a P,C-Palladacycle
	Formation from a P,C-Palladacycle 1.5.2 Catalytic Cycle1.6 Mechanism of the Mizoroki-Heck Reaction when the Ligand is an N-Heterocyclic Carbene; 1.6.1 Oxidative Addition; 1.6.2 Complexation/Insertion of the Alkene; 1.6.3 Catalytic Cycles; 1.7 Mechanism of the Mizoroki-Heck Reaction when the Ligand is a Bulky and Electron-Rich Monophosphine; 1.7.1 Oxidative Addition; 1.7.2 Complexation/Insertion of the Alkene; 1.7.3 Role of the Base in the Recycling of the Pd(0) Complex; 1.7.4 Catalytic Cycle; 1.8 Conclusion; References; 2 Focus on Catalyst Development and Ligand Design; 2.1 Introduction 2.2 General Considerations: Types of Catalytic System2.2.1 Substrate Dependence; 2.2.2 Ancillary Ligands; 2.2.3 Bases; 2.2.4 Additives; 2.2.5 Media; 2.2.6 Temperature; 2.3 Four Types of Intermolecular Mizoroki-Heck Catalytic System; 2.3.1 The Type 1 Catalytic System; 2.3.2 The Type 2 Catalytic System; 2.3.3 The Type 3 Catalytic System; 2.3.4 The Type 4 Catalytic System; 2.4.4 Palladium Precatalysts in Type 1 and Type 2 Mizoroki-Heck Reactions; 2.4.1 SRPCs; 2.4.2 Nanoparticles; 2.4.3 Supported Catalysts: Leaching versus Recycling; 2.4.4 Carbene Complexes 2.4.4.1 N-Heterocyclic Carbene-based Complexes; 2.4.5.3 Carbocyclic Carbene-Based Pincer Complexes; 2.4.5.1 C,P-, C,S- and C,N-Palladacycles; 2.4.5.2 Pincer Palladacycles; 2.4.5.3 Palladacycle- Phosphine Complexes; 2.4.6 Nonphosphine Complexes; 3 Focus on Regioselectivity and Product Outcome in Organic Synthesis;
	 3.1 Introduction; 3.2 Mechanistic Aspects; 3.2.1 Oxidative Addition; 3.2.2 -Complex Formation and Migratory Insertion; 3.2.3 -H- Elimination and Palladium(0) Recycling 3.2.4 Cyclic Alkenes and Double-Bond Migration
Sommario/riassunto	Exploring the importance of Richard F. Heck's carbon coupling reaction, this book highlights the subject of the 2010 Nobel Prize in Chemistry for palladium-catalyzed cross couplings in organic synthesis, and includes a foreword from Nobel Prize winner Richard F. Heck. The Mizoroki-Heck reaction is a palladium-catalyzed carbon-carbon bond forming process which is widely used in organic and organometallic synthesis. It has seen increasing use in the past decade as chemists look for strategies enabling the controlled construction of complex carbon skeletons. The Mizoroki-Heck Reaction is