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Nota di contenuto	Metal-Catalyzed Cross-Coupling Reactions and More; Contents to Volume 1; Preface; List of Contributors; Chapter 1 Mechanistic Aspects of Metal-Catalyzed C,C- and C,X-Bond Forming Reactions; 1.1 Mechanisms of Cross-Coupling Reactions; 1.1.1 The Earlier Mechanistic Proposal: The Stille Reaction; 1.1.2 The Oxidative Addition; 1.1.2.1 Cis-Complexes in the Oxidative Addition; 1.1.2.2 The Role of Alkene and Anionic Ligands; 1.1.2.3 Cross-Couplings in the Presence of Bulky Phosphines; 1.1.2.4 N-Heterocyclic Carbenes as Ligands; 1.1.2.5 Palladacycles as Catalysts 1.1.2.6 Involvement of Pd(IV) in Catalytic Cycles 1.1.2.7 Oxidative Addition of Stannanes to Pd(0); 1.1.3 The Transmetalation in the Stille Reaction; 1.1.3.1 Isolation of the Transmetalation Step; 1.1.3.2 Dissociative Mechanistic Proposals; 1.1.3.3 Cyclic and Open Associative Transmetalation; 1.1.3.4 The Copper Effect; 1.1.3.5 Transmetalation in the Suzuki-Miyaura Reaction; 1.1.3.6 Transmetalation in the Negishi Reaction; 1.1.3.7 Transmetalation in the Hiyama Reaction; 1.1.3.8

Couplings Catalyzed by Copper and Gold; 1.1.3.9 Couplings Catalyzed by Iron and Cobalt
1.1.4 Reductive Elimination 1.2 Palladium-Catalyzed -Arylation of Carbonyl Compounds and Nitriles; 1.3 Formation of C-X (X = N, O, S) Bonds in Metal-Catalyzed Reactions; 1.3.1 Reductive Elimination to Generate C-N, C-O, and C-S Bonds from Organopalladium(II) Complexes; 1.3.2 Nickel- and Copper-Catalyzed Formation of C-X Bonds; 1.4 Summary and Outlook; List of Abbreviations; References; Chapter 2 State-of-the-Art in Metal-Catalyzed Cross-Coupling Reactions of Organoboron Compounds with Organic Electrophiles; 2.1 Introduction; 2.1.1 Catalytic Cycle
2.1.2 Improvements toward More Efficient Cross-Coupling Conditions
2.1.2.1 Development of New Phosphine and NHC Ligands; 2.1.2.2 Usage of Masked Boron Derivatives as Cross-Coupling Partners; 2.1.2.3 Lewis Acids as Additives; 2.1.2.4 Adjusting the Nucleophilicity of Organoboron Cross-Coupling Partners; 2.1.2.5 Copper Salts as Additives; 2.2 Advances in Cross-Coupling Reactions for the Formation of C(sp²)-C(sp²) Bonds; 2.2.1 Background; 2.2.2 Recent Developments in the Use of New Electrophilic Coupling Partners; 2.2.2.1 Chlorides; 2.2.2.2 Fluorides; 2.2.2.3 Pseudohalides
2.2.3 Recent Developments in Organoboron Cross-Coupling Partners
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2.3.2.2 Cross-Couplings between sp³ Alkyl Boron Derivatives with sp² Alkenyl or Aryl Halides

Sommario/riassunto

This is the follow-up handbook to the bestselling Metal-Catalyzed Cross Coupling Reactions, the definitive reference in the field. In line with the enormous developments in this area, this is not so much a new edition, but rather a new book in three volumes with over 50% more content. This new content includes C-H activation, shifting the focus away from typical cross-coupling reactions, while those topics and chapters found in Diederich/de Meijere's book have been updated and expanded. With its highly experienced editor team and the authors reading like an international Who's-Who in
