

1. Record Nr.	UNINA9910138988103321
Titolo	Metal-catalyzed cross-coupling reactions and more / / edited by Armin de Meijere, Stefan Bräse, and Martin Oestreich
Pubbl/distr/stampa	Weinheim an der Bergstrasse, Germany : , : Wiley-VCH, , 2014 ©2014
ISBN	3-527-65560-3 3-527-65558-1 3-527-65561-1
Descrizione fisica	1 online resource (3 volumes)
Altri autori (Persone)	MeijereA. de BräseStefan OestreichMartin
Disciplina	547.2
Soggetti	Organic compounds - Synthesis Metal catalysts
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 at the end of each chapters and index
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 Transmetallation in the Stille Reaction; 1.1.3.1 Isolation of the Transmetallation Step; 1.1.3.2 Dissociative Mechanistic Proposals; 1.1.3.3 Cyclic and Open Associative Transmetallation; 1.1.3.4 The Copper Effect; 1.1.3.5 Transmetallation in the Suzuki-Miyaura Reaction; 1.1.3.6 Transmetallation in the Negishi Reaction; 1.1.3.7 Transmetallation 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
2.2.3.1 Trifluoroborate Salts; 2.2.3.2 N-Methyliminodiacetic Acid (MIDA) Boronates; 2.2.3.3 Other Organoboron Cross-Coupling Partners; 2.2.4 Synthesis of Enantiomerically Enriched Atropisomers; 2.3 Advances in the Cross-Coupling Reactions for the Formation of C(sp₃)-C(sp₂) or C(sp₃)-C(sp₃) Bonds; 2.3.1 Background; 2.3.1.1 Stereochemistry; 2.3.2 Cross-Couplings between Unsaturated sp₂ Carbon Centers and sp₃ Carbon Centers; 2.3.2.1 Cross-Couplings between sp₃ Alkyl Halides and sp₂ Alkenyl or Aryl Boron Derivatives
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
