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Nota di contenuto	Modern Carbonyl Olefination; Contents; Preface; List of Authors; 1 The Wittig Reaction; 1.1 Introduction; 1.2 The ""Classic"" Wittig Reaction; 1.2.1 Mechanism and Stereoselectivity; 1.2.2 Nature of the Ylide and Carbonyl Compound; 1.2.3 Reagents and Reaction Conditions; 1.3 Horner-Wadsworth-Emmons Reaction; 1.3.1 Mechanism and Stereochemistry; 1.3.2 Reagents and Reaction Conditions; 1.4 Horner-Wittig (HW) Reaction; 1.4.1 Mechanism and Stereochemistry; 1.4.2 Reagents and Reaction Conditions; 1.5 Conclusion; References; 2 The Peterson and Related Reactions; 2.1 Introduction 2.2 Stereochemistry and the Reaction Mechanism of the Peterson Reaction2.2.1 Stereochemistry and the Reaction Mechanism of the Peterson Reaction of -Hydroxyalkylsilanes; 2.2.1.1 Stepwise Mechanism; 2.2.1.2 Reaction Mechanism via a 1,2-Oxasiletanide; 2.2.2 Reaction Mechanism of the Addition Step of an -Silyl Carbanion to a Carbonyl Compound; 2.2.2.1 Approach Control of the Transition State; 2.2.2.2 Concerted Mechanism; 2.2.2.3 Chelation Control Mechanism; 2.2.3 Theoretical Calculations on the Reaction Mechanism; 2.2.4 Convergently Stereoselective Peterson Reactions

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Sommario/riassunto

While this important reaction class is among the most important and most widely used in organic chemistry, this is the first book to summarize the many different olefination methods, including:* Wittig reaction* Peterson reaction* Julia olefination * Utilizing the Tebbe and related reagents* Low-valent chromium, zinc or titanium mediated olefination* McMurry coupling plus the related reactions in each case and the application to asymmetric synthesis. It thus collates in one ready reference the current level of knowledge as well as new developments in this constantly