

1. Record Nr.	UNINA9910830570903321
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Titolo	Phosphorus ylides : chemistry and application in organic synthesis // Oleg I. Kolodiaznyi
Pubbl/distr/stampa	Weinheim, [Germany] : , : Wiley-VCH, , 1999 ©1999
ISBN	1-281-84249-4 9786611842499 3-527-61390-0 3-527-61391-9
Descrizione fisica	1 online resource (569 p.)
Disciplina	547.05 547.07 547.070459
Soggetti	Ylides Organophosphorus compounds Organophosphorus compounds - Synthesis
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	Phosphorus Ylides; Contents; 1 Introduction; 1.1 Historiography; 1.2 Types of Phosphorus Ylides and Structure of Book; 1.3 Nomenclature; References; 2 C,P-Carbo-Substituted Phosphorus Ylides; 2.1 Introduction; 2.1.1 Types of C,P-Carbo-Substituted Phosphorus Ylides; 2.2 Preparation; 2.2.1 Synthesis from Phosphonium Salts; 2.2.1.1 Dehydrohalogenation of Phosphonium Salts; 2.2.1.2 Synthesis from $\alpha$ -Silyl and $\alpha$ -Stannyl-Substituted Phosphonium Salts; 2.2.1.3 Preparation in Heterogeneous Media; 2.2.1.4 Electrochemical Method; 2.2.1.5 Ultrasound; 2.2.2 Modification of Simple Phosphorus Ylides 2.2.2.1 Acylation 2.2.2.2 Alkylation; 2.2.2.3 Arylation; 2.2.3 Addition of Tertiary Phosphines to Compounds Containing Multiple Bonds; 2.2.3.1 Alkenes; 2.2.3.2 Alkynes; 2.2.4 Reaction of Tetracoordinated Phosphorus Compounds with Multiple-Bonded Compounds; 2.2.5 Modification of the Side-Chain; 2.2.6 Miscellaneous Methods; 2.2.6.1 Formation from

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2.3.2.3 Oxidation-Industrial Synthesis of B-Carotene; 2.3.2.4 Reactions with Elemental Sulfur and Selenium; 2.3.2.5 Reduction; 2.3.3.6 Hydrolysis of Ylides; 2.3.2.7 Applications in Organic Synthesis; 2.3.3 Substitution at the Ylidic Carbon Atom; 2.3.3.1 Reactions with Alkylation Reagents; 2.3.3.2 Reactions with Acylation Reagents; 2.3.3.3 Examples in Natural Compound Synthesis; 2.3.4 Reactions with Compounds Containing Multiple Bonds; 2.3.4.1 Compounds Containing Carbon-Carbon Multiple Bonds; 2.3.4.2 Reactions with Compounds Containing Carbon-Heteroatom or Heteroatom-Heteroatom Multiple Bonds  
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4.2.3 Ylides Containing Group IVA Elements

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## Sommario/riassunto

When Wittig first developed and described phosphorus ylides, nobody could have imagined how useful and versatile this class of compounds could be. This book provides a comprehensive and up-to-date compilation of the chemistry and applications of phosphorus ylides in organic synthesis. The ylides are discussed as reagents in the synthesis of a broad range of substances, amongst them olefins, acetylenes, cyclic and heterocyclic compounds, in such naturally occurring compounds as pheromones, steroids and carotenoids, and pharmaceutically and biologically active compounds such as antibiotics and p

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