

1. Record Nr.	UNINA9910137967603321
Titolo	Organoselenium chemistry [[electronic resource]] : synthesis and reactions / / edited by Thomas Wirth
Pubbl/distr/stampa	Weinheim, : Wiley-VCH, c2012
ISBN	3-527-64195-5 1-283-86988-8 3-527-64196-3 3-527-64194-7
Descrizione fisica	1 online resource (464 p.)
Altri autori (Persone)	WirthThomas <1964->
Disciplina	547.05724
Soggetti	Organoselenium compounds Selenium compounds
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 and index.
Nota di contenuto	Organoselenium Chemistry: Synthesis and Reactions; Contents; Preface; List of Contributors; 1: Electrophilic Selenium; 1.1 General Introduction; 1.1.1 Synthesis of Electrophilic Selenium Reagents; 1.1.2 Reactivity and Properties; 1.2 Addition Reactions to Double Bonds; 1.2.1 Addition Reaction Involving Oxygen-Centered Nucleophiles; 1.2.2 Addition Reaction Involving Nitrogen-Centered Nucleophiles; 1.2.3 Addition Reactions Involving Carbon-Centered Nucleophiles; 1.2.4 Addition Reaction Involving Chiral Nucleophiles or Chiral Substrates; 1.3 Selenocyclizations; 1.3.1 Oxygen Nucleophiles 1.3.2 Nitrogen Nucleophiles1.3.3 Competition between Oxygen and Nitrogen Nucleophiles; 1.3.4 Carbon Nucleophiles; 1.3.5 Double Cyclization Reactions; References; 2: Nucleophilic Selenium; 2.1 Introduction; 2.1.1 Development of Nucleophilic Selenium Reagents; 2.1.2 Examples of Recent Applications; 2.2 Properties of Selenols and Selenolates; 2.2.1 Electronegativity of Selenium; 2.2.2 Tautomerism of Selenols; 2.2.3 Nucleophilicity of Selenolates; 2.3 Inorganic Nucleophilic Selenium Reagents; 2.3.1 Conventional Reagents; 2.3.2 New Reagents; 2.4 Organic Nucleophilic Selenium Reagents 2.4.1 Preparation 2.4.2 Structure; 2.4.3 Ammonium Selenolates

(NH₄⁺); 2.4.4 Selenolates of Group 1 Elements (Li, Na, K, and Cs); 2.4.5 Selenolates of Group 2 Elements (Mg, Ca, and Ba); 2.4.6 Selenolates of Group 3 Elements (Sm, Ce, Pr, Nb, and U); 2.4.7 Selenolates of Group 4 Elements (Ti, Zr, and Hf); 2.4.8 Selenolates of Group 5 Elements (V, Nb, and Ta); 2.4.9 Selenolates of Group 6 Elements (Mo and W); 2.4.10 Selenolates of Group 7 Elements (Mn and Re); 2.4.11 Selenolates of Group 8 Elements (Fe, Ru, and Os); 2.4.12 Selenolates of Group 9 Elements (Co, Rh, and Ir); 2.4.13 Selenolates of Group 10 Elements (Ni, Pd, and Pt); 2.4.14 Selenolates of Group 11 Elements (Cu, Ag, and Au); 2.4.15 Selenolates of Group 12 Elements (Zn, Cd, and Hg); 2.4.16 Selenolates of Group 13 Elements (B, Al, Ga, and In); 2.4.17 Selenolates of Group 14 Elements (Si, Ge, Sn, and Pb); 2.4.18 Selenolates of Group 15 Elements (P, As, Sb, and Bi); References; 3: Selenium Compounds in Radical Reactions; 3.1 Homolytic Substitution at Selenium to Generate Radical Precursors; 3.1.1 Bimolecular SH₂ Reactions: Synthetic Considerations; 3.1.1.1 Radical Reagents; 3.1.2 Alkyl Radicals from Selenide Precursors; 3.1.3 Acyl Radicals from Acyl Selenide Precursors; 3.1.4 Imidoyl Radicals from Imidoyl Selenides; 3.1.5 Other Radicals from Selenide Precursors; 3.2 Selenide Building Blocks; 3.3 Solid-Phase Synthesis; 3.4 Selenide Precursors in Radical Domino Reactions; 3.5 Homolytic Substitution at Selenium for the Synthesis of Se-Containing Products; 3.5.1 Intermolecular SH₂ onto Se; 3.5.2 Intramolecular SH₂: Cyclization onto Se; 3.6 Seleno Group Transfer onto Alkenes and Alkynes; 3.6.1 Seleno-Selenation; 3.6.2 Seleno-Sulfonation; 3.6.3 Seleno-Alkylation; 3.7 PhSeH in Radical Reactions

Sommario/riassunto

Selenium-based methods in synthetic chemistry have developed rapidly over the past years and are now offering highly useful tools for organic synthesis. Filling the gap for a comprehensive handbook and ready reference, this book covers all modern developments within the field, including biochemical aspects. The chemistry chapters are organized according to the different reactivities of various selenium compounds and reagents, with each chapter dealing with a special reaction type. Also includes a table with ⁷⁷Se NMR shifts to aid in practical problems. From the Contents
