1. Record Nr. UNINA9910831037703321

Autore	Bakulev Vasiliy A
Titolo	The chemistry of 1,2,3-Thiadiazoles [[electronic resource] /] / Vasiliy A. Bakulev, Wim Dehaen
Pubbl/distr/stampa	Hoboken, N.J., : John Wiley & Sons, c2004
ISBN	1-280-54200-4 9786610542000 0-471-65699-2 0-471-65691-7
Descrizione fisica	1 online resource (261 p.)
Collana	The chemistry of heterocyclic compounds ; ; v. 62
Altri autori (Persone)	DehaenW (Wim)
Disciplina	547.59 547.594 547/.59/05
Soggetti	Thiadiazoles
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	THE CHEMISTRY OF 1,2,3-THIADIAZOLES; The Chemistry of Heterocyclic Compounds Introduction to the Series; Preface; Acknowledgments; Contents; 1 Synthesis of 1,2,3-thiadiazoles; 1.1 Cyclization of Hydrazones with Thionyl Chloride (Hurd-Mori Synthesis); 1.1.1 Scope and Limitations; 1.1.2 Mechanism of the Hurd-Mori Reaction; 1.1.3 Application of the Hurd-Mori Reaction in Organic Synthesis; 1.2 Cycloaddition of Diazoalkanes onto a C=S bond (Pechmann Synthesis); 1.3 Heterocyclization of -diazo Thiocarbonyl Compounds (Wolff Synthesis) 1.3.1 Introduction of a Diazo Function into Compounds Containing a C=S Bond1.3.2 Introduction of a C=S Bond in the -position to a Diazo Group; 1.3.3 Simultaneous Introduction of Diazo and Thiocarbonyl Functions; 1.4 Transformations of other Sulfur-containing Heterocyclic Compounds; 1.5 Elaboration of Preformed 1,2,3-Thiadiazoles; 1.5.1 Carboxylic Acids; 1.5.2 Functional Derivatives of Carboxylic Acids; 1.5.3 Aldehydes; 1.5.4 Amino-1,2,3-Thiadiazoles; 1.5.5 Halo Derivatives; 1.5.6 5-Hydrazino-, 5-Mercapto-1,2,3-Thiadiazoles and 5-Sulfide Derivatives

1.5.7 2-(1,2,3-Thiadiazol-5-yl)acetic Acid Derivatives1.5.8 Alkenyl-1,2,3-Thiadiazoles; 1.5.9 5-Hydroxyiminomethyl- and 5-Diazomethyl-1,2,3-Thiadiazoles; 1.5.10 4-Hydroxymethyl-1,2,3-Thiadiazoles; 1.6 Tables; 1.7 Selected Procedures; 1.7.1 1,2,3-Thiadiazole-4-Carbaldehyde; 1.7.2 4-Phenyl-1,2,3-Thiadiazole; 1.7.3 4-Phenyl-1,2,3-Thiadiazole-5-Carbaldehyde; 1.7.4 4-Phenyl-5-Oxyiminomethyl-1,2,3-Thiadiazole; 1.7.5 5-Phenyl-1,2,3-Thiadiazole-4-Carbaldehyde; 1.7.6 5-Chloro-1,2,3-Thiadiazole-4-Carbaldehyde; 1.7.7 Ethyl 5-amino-1,2,3-Thiadiazole-4-Carboxylate; 1.7.7.1 Pechmann Method
1.7.7.2 Wolff Method1.7.8 Ethyl 5-chloro-1,2,3-Thiadiazole-4-Carboxylate; 1.7.9 4-Phenyl-2-(2,4,6-Trichlorophenyl)-1,2,3-Thiadiazolium Chloride; 1.7.10 5-Amino-4-ethoxycarbonyl-2-phenyl-1,2,3-thiadiazolium bromide; References; 2 Structure of 1,2,3-Thiadiazoles; 2.1 Theoretical Methods; 2.2 Experimental Structural Methods; 2.2.1 X-ray Analysis; 2.2.2 Nuclear Magnetic Resonance Spectroscopy; 2.2.2.1 Proton NMR Spectroscopy; 2.2.2.2 Carbon-13 NMR Spectroscopy; 2.2.2.3 Nitrogen-14 NMR Spectroscopy; 2.2.2.4 Nitrogen-15 NMR Spectroscopy; 2.2.3 Mass Spectrometry; 2.2.4 Other Spectroscopic Data
References3 Chemical Properties of 1,2,3-Thiadiazoles; 3.1 Reactions due to the Reactivity of Ring Atoms; 3.1.1 Reactions with Electrophiles; 3.1.1.1 Protonation; 3.1.1.2 Complexation; 3.1.1.3 Alkylation; 3.1.1.4 Acylation; 3.1.1.5 Oxidation; 3.1.1.6 Electrophilic Substitution of Hydrogen; 3.1.2 Reactions with Nucleophiles; 3.1.2.1 Attack at the Sulfur Atom; 3.1.2.2 Attack at the C(5) Atom; 3.1.2.3 Attacks at H(4) and H(5); 3.1.2.4 Cycloaddition Reactions; 3.2 Reactions of Substituents; 3.2.1 5-Alkyl-1,2,3-thiadiazoles; 3.2.2 1,2,3-Thiadiazole-4-carbaldehyde
3.2.3 5-Amino-1,2,3-thiadiazole-4-carbothioamide

Sommario/riassunto

1,2,3-Thiadiazoles are a group of heterocycles whose derivatives are important in industry, medicine, and agriculture. This volume provides a complete treatment of this group of heterocycles with an emphasis on syntheses, structural data, properties, reactions, and applications.