1. Record Nr. UNINA9910957229703321

Titolo	New developments in aldehydes research / / Luca Torrioni and Emilia Pescasseroli, editors
Pubbl/distr/stampa	Hauppauge, N.Y., : Nova Science Publishers, Inc., 2013
ISBN	1-62417-091-9
Edizione	[1st ed.]
Descrizione fisica	1 online resource (163 p.)
Collana	Chemical engineering methods and technology
Altri autori (Persone)	TorrioniLuca PescasseroliEmilia
Disciplina	547/.036
Soggetti	Aldehydes
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	Intro -- NEW DEVELOPMENTS IN ALDEHYDES RESEARCH -- NEW DEVELOPMENTS IN ALDEHYDES RESEARCH -- CONTENTS -- PREFACE -- SYNTHESIS AND PROPERTIES OF INTERMEDIATES IN REACTIONS OF ALDEHYDES WITH P (III) CHLORIDES -- ABSTRACT -- INTRODUCTION -- 1. THE BRIEF HISTORICAL SURVEY OF REACTIONS OF ALDEHYDES WITH P(III) CHLORIDES -- 2. SYNTHETIC METHODS AND STRUCTURE OF PRIMARY INTERMEDIATES -- 3. CHEMICAL PROPERTIES OF THEPRIMARY INTERMEDIATES -- 3.1. Interaction of Intermediates 12with Ethylene Oxide, Acetal, Trialkyl Orthoformates and Trialkyl Phosphites -- 3.2. Reactions of Intermediates10b-C with Acetals and Trialkyl Orthoformates -- 3.3. Oxidation of Primary Intermediates (R -- 3.4. Interaction of Intermediates 12f-Iwith Phosphorus Pentachloide and Chlorine -- 4. REACTIONS OF THE PRIMARY INTERMEDIATESWITH ALDEHYDES AND DETECTION OF THE SECONDARY INTERMEDIATES -- Conclusion -- 5. DESCRIPTION OF THE EXPERIMENTS -- 5.1. Removing of HCl Contaminant from P(III) Chlorides -- 5.1.1. By Treatment with Tertiary Amines -- 5.1.2. By Treatment with AVE Ethy -- 5.2. Reactions of P(III) Chlorides with Aldehydes -- 5.2.1. Interaction of P(III) Chlorides with Acetaldehyde in the Absence of Catalyst -- 5.2.2. Reaction of P(III) Chloride with Aldehydes in the Presence of Tertiary Amines -- General Procedure The -- 1-Chloro-2-Methylpropyl Phosphorodichloridite 10c -- 1-Chlorobutyl Phosphorodichloridite 10b -- 1-Chloroethyl Phosphorodichloridite 10a -- Di(1-chloroethyl) phosphorochloridite

11a The rea -- Tri(1-chloroethyl) Phosphite 12a 3 -- 5.2.3. Reaction of P(III) Chlorides with Aldehydes in Presence of EVE -- General Procedure Ethy -- Catechol 1-chloro-2,2-dimethylpropyl Phosphite 12i -- Catechol 1-chloro-2-methylpropyl Phosphite 12f. The reac -- 1-Chloro-2-methylpropyl bis(2,2,2-trichloroethyl) Phosphite 12b -- Di (1-chloroethyl) 2,2,2-trichloroethyl Phosphite 12e.
5.3. Reactions of Primary Intermediates with Nucleophiles -- 5.3.1. With Ethylene Oxide -- 5.3.2. With Trialkylphosphite -- 5.3.3. With the Acetals -- 5.3.4. With Trialkyl Orthoformate -- 5.3.5. With -Chlorodiethyl Ether -- 5.4. Oxidation of the Primary Intermediates -- 5.4.1. With Dimethylsulfoxide (DMSO) -- 1-Chloroethyl Dichlorophosphate 65a Benz -- 1-Chlorobutyl Dichlorophosphate 65b On anal -- 1-Chloro-2-methylpropyl Dichlorophosphate65c -- Catechol 1-chloroethyl Phosphate 65f O -- Catechol 1-chlorobutyl Phosphate 65g -- 1,2,2,2-Tetrachloroethyl Dichlorophosphate 65l -- Di(1-chloroethyl) Chlorophosphate 65d O -- Di(1-Chloro-2-Methylpropyl) 2,2,2-Trichloroethyl Phosphate 65n -- 1-Chloro-2-Methylpropyl Bis (2,2,2-Trichloroethyl) Phosphate 65h. -- Di(1-Chloroethyl) 2,2,2-Trichloroethyl Phosphate 65o. -- 5.4.2. With t-BuOCl -- 1-Chloroethyl Dichlorophosphate 65a BuO -- 1-Chlorobutyl Dichlorophosphate 65b O -- 1-Chloro-2-Methylpropyl Dimethyl Phosphate 65i -- 1-Chloro-2-Methylprophyl Diethyl Phosphate 65j -- Di(1-Chloroethyl) Methyl Phosphate 65m -- 1-Chloroethyl Dimethyl Phosphate 65k O -- 5.5. With PCl5 and Chlorine -- 5.6. Reactions of the Intermediates 11a, 12a and 12b with Aldehydes. Detection of the Secondary Intermediates -- REFERENCES -- SYNTHESIS OF HETEROCYCLIC COMPOUNDS BY INTERACTION OF ALDEHYDES WITH MONOTERPENOIDS -- ABSTRACT -- INTRODUCTION -- INTERACTION OF ALDEHYDES WITH ACYCLIC MONOTERPENOIDS -- INTERACTION OF ALDEHYDES WITH MONOCYCLIC MONOTERPENOIDS -- INTERACTION OF ALDEHYDES WITH BICYCLIC MONOTERPENOIDS -- Interaction of Aldehydes with Monoterpenoids with Pinane Framework -- INTERACTION OF ALDEHYDES WITH MONOTERPENOIDS WITH CAMPHANE FRAMEWORK -- INTERACTION OF ALDEHYDES WITH MONOTERPENOIDS CONTAINING CYCLOPROPANE RING -- CONCLUSION -- REFERENCES -- UPDATE ON ALIPHATIC ALDEHYDES IN LIPID FOODS -- ABSTRACT -- 1. INTRODUCTION.
2. SHORT-CHAIN ALIPHATIC ALDEHYDES -- Short-Chain Aldehyde Activities -- Volatile Aldehyde Isolation and Quantitative Determination -- 2. MEDIUM-CHAIN ALDEHYDES -- 3. LONG-CHAIN ALDEHYDES -- Analysis of Long-Chain Aldehydes -- Gas Chromatography Studies -- High Performance Liquid Chromatography -- Studies of LCAA by TLC -- Studies on the Identification of LCAA by GC-MS -- Studies on the Relationship of LCAA and Other Minor Compounds It has -- REFERENCES -- INHIBITION OF MICROBIAL BIOCATALYSTS BYBIOMASS-DERIVED ALDEHYDES AND METHODS FOR ENGINEERING TOLERANCE -- ABSTRACT -- INTRODUCTION -- FORMATION AND RELEASE OF ALDEHYDES DURING BIOMASS PROCESSING -- INHIBITION OF MICROBIAL BIOCATALYSTS BY ALDEHYDES -- SELECTIVE REMOVAL OF ALDEHYDES -- INCREASING MICROBIAL TOLERANCE TO ALDEHYDES -- Ethanologenic E. coli -- Yeast -- Clostridium -- CONCLUSION -- ACKNOWLEDGMENTS -- REFERENCES -- CO-OXIDATION PROCESSES PROMOTED BY N-HYDROXYPHTHALIMIDE/ ALDEHYDE SYSTEM -- ABSTRACT -- 1. INTRODUCTION -- 2. OXYGEN ACTIVATION USING SACRIFICIAL ALDEHYDES -- 2.1. Epoxidation of Olefins -- 2.2. Oxidation of Sulfides, Alcohols and Alkanes -- 3. SELECTIVE AEROBIC OXIDATION PROMOTED BY NHPI/ALDEHYDE SYSTEMS -- 3.1. Molecule-Induced Homolysis of NHPI -- 3.2. Selective Epoxidation of Olefins with

NHPI -- 3.3. Selective Hydroperoxidation of Secondary and Tertiary Alkylaromatics -- CONCLUSION -- REFERENCES -- SYNTHESIS AND STRUCTURE OF GOSSYPOL CONDENSATION BIS-PRODUCT WITH 2-AMINO-4,6-DIOXYPYRIMIDINE IN ACIDIC ENVIRONMENT -- ABSTRACT -- INTRODUCTION -- RESULTS AND DISCUSSION -- EXPERIMENTAL PART -- CONCLUSION -- REFERENCES -- INDEX.

Sommario/riassunto

In this book, the authors present topical research in the study of aldehydes. Topics discussed in this compilation include the synthesis and properties of intermediates in reactions of aldehydes with P(III) chlorides; synthesis of heterocyclic compounds by interaction of aldehydes with monoterpenoids; update on aliphatic aldehydes in lipid foods; inhibition of microbial biocatalysts by biomass-derived aldehydes and methods for engineering tolerance; co-oxidation processes promoted by N-hydroxyphthalimide/aldehyde systems; and the structure of gossypol condensation bis-product with 2-amino-4,6-dioxypyrimidine in acidic environment.