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[Lab. of Pharm. Chemistry]

Meyer-Schuster Rearrangement of γ -Sulfur-substituted Propargyl Alcohols: A Convenient Synthesis of α, β -Unsaturated Thioesters

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γ -Sulfur-substituted propargyl alcohols reacted with polyphosphoric acid trimethylsilyl ester (PPSE) to give the α, β -unsaturated thioesters in good yields. However the reactions of 3,3-dibutyl-1-(phenylthio)propargyl alcohol and 1-(phenylthio)ethynyl-1-cycloalkanols with PPSE gave the enyne sulfides exclusively. The mechanism for formation of the α, β -unsaturated thioesters and the enyne sulfides is discussed.

[Tetrahedron Lett., **36**, 5559 - 5562 (1995)]

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Ring Transformation of 1,2-Thiazetidine 1,1-Dioxides with Lewis Acids: Formation of *trans*-1,2,3-Oxathiazolidine 2-Oxides and *cis*-Aziridines

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Treatment of 1,2-thiazetidine 1,1-dioxides (β -sultams) bearing a poor migratory substituent at C-3 with Lewis acids such as EtAlCl_2 and AlCl_3 provided *trans*-1,2,3-oxathiazolidine 2-oxides and/or *cis*-aziridines via the C-S bond cleavage and recyclization. *cis*-Aziridines and/or ketones were provided from the reactions of 3-aryl- β -sultams with SnCl_4 , depending on the migratory aptitude of the C-3 aryl substituent and configuration of C-3 and C-4 groups. Hydrolysis of (*2R**,*4S**,*5S**)-3-cyclohexyl-5-phenyl-4-(3-pyridyl)-1,2,3-oxathiazolidine 2-oxide with 1N HCl-THF provided (*1S**,*2S**)-2-aminoethanol derivative in 84% yield together with a small amount of (*1R**,*2S**)-isomer.

[Heteroatom Chemistry, **6**, 259 - 264 (1995)]

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A Useful Synthesis of α, β -Bis(methylseleno)alkanes and α, δ -Bis(methylseleno)alk-2-enes by the Reactions of Alkenes and 1,3-Dienes with $\text{B}(\text{SeMe})_3$ -Lewis Acid

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Reactions of tris(methylseleno)borane- SnCl_4 with alkenes gave α, β -bis(methylseleno)alkanes stereospecifically, and reactions with 1,3-dienes afforded α, δ -bis(methylseleno)alk-2-enes regioselectively. 1,4-Methylseleno groups of 1,4-bis(methylseleno)alk-2-enes could be changed to other functional groups. The methylation reaction of 1,4-bis(methylseleno)-2,3-diphenylbut-2-ene with various bases and MeI gave 2,3-diphenylbut-1,3-diene, and the reaction with NBS afforded 1,4-dibromo-2,3-diphenylbut-2-ene.