

[Synlett., 121-122 (1993)]

[Lab. of Pharm. Chemistry]

A Useful Synthetic Method for α -Cyano Selenides.

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α -Cyano selenides and α -cyano selenoacetals were synthesized by the reaction of selenoacetals and seleno ortho esters with trimethylsilyl cyanide in the presence of a Lewis acid (SnCl_4 , TiCl_4 , and SbCl_5) in high yields, respectively. α -Cyano selenoacetals were very stable toward various Lewis acids at room temperature.

[Chem. Lett., 1491-1494 (1993)]

[Lab. of Pharm. Chemistry]

1,7-Acetal Carbon Rearrangement via 1,5-Hydride Transfer in an Oxocanyl Carbenium Ion. Conversion of *O*-(5-Hexenyl)-*Se*, *O*-heteroacetals or *O,O*-Acetals into 7-Oxoheptanols or 7-Oxoheptyl Chlorides.

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Oxacyclooctyl (oxocanyl) carbenium ions generated by treatment of *O*-(5-hexenyl)-*Se*, *O*-heteroacetals with SnCl_4 underwent intramolecular 1,5-hydride transfer, and the α -oxy carbenium ions newly formed were hydrolyzed to give the 7-oxoheptanols or 7-oxoheptyl chlorides in good yields. Various *O*-(5-hexenyl)-*Se*, *O*-heteroacetals or *O,O*-acetals were converted into 7-oxoheptanols or 7-oxoheptyl chlorides.

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[Lab. of Pharm. Chemistry]

Generation and Alkylation of α -Lithio-*Se*, *O*-heteroacetals, and Stereoselective Cyclization of Olefinic *Se*, *O*-Heteroacetals.

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Generation of α -lithio-*Se*, *O*-heteroacetals was accomplished by direct deprotonation of *O*-methoxyethylselenoacetals with lithium 2,2,6,6-tetramethylpiperidide. Alkylation of the α -lithioheteroacetals smoothly proceeded. Olefinic *Se*, *O*-heteroacetals were cyclized via α -seleno carbenium ions generated by selective C-O bond cleavage with titanium tetrachloride to provide the cyclohexane derivatives.