Poster Presentation P28

BISMUTH(III) TRIFLATE CATALYZED SYNTHESIS OF HOMOALLYL ALLYL ETHERS AND THEIR REACTIONS

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The synthesis of homoallyl ethers via allylation of acetals and aldehydes is an important synthetic transformation that has been the subject of several studies. The original method proposed for the allylation of these functional groups utilizes highly corrosive Lewis acid catalysts such as $TiCl_4$ and TMSOTf. However, we have recently reported the use of bismuth(III) triflate as a non-toxic and easy-to-handle Lewis acid catalyst for the allylation of acetals and aldehydes. Using this methodology, we plan to synthesize a variety of homoallyl ethers. These homoallyl ethers should serve as useful substrates for epoxidation followed by Lewis-acid induced olefin epoxide cyclization. This cyclization has been the subject of intense study ever since its discovery in biosynthetic pathways, such as cholesterol biosynthesis. The results of these studies will be presented.

