Efficient, eco-Friendly and Regioselective Method for Thiolysis of 1,2-Epoxides with Diaryl Disulfides in the Presence of Zn/Bi(TFA)₃-TBPB or Zn/Bi(OTf)₃-TBPB

Ahmad R. Khosropour, Mohammad M. Khodaei, and Kazem Ghozati

Department of Chemistry, Faculty of Science, Razi University, Kermanshah 67149, Iran

Reprint requests to Dr. A. R. Khosropour or Dr. M. M. Khodaei. Fax: +98-831-427-4559.
E-mail: arkhosropour@razi.ac.ir / mmkhoda@razi.ac.ir

Z. Naturforsch. 60b, 572 – 576 (2005); received September 19, 2004

Diaryl disulfides undergo regioselective ring-opening of 1,2-epoxides in the presence of zinc powder and 3-4 mol-% of bismuth(III) trifluoroacetate or 1 mol-% of bismuth(III) triflate in molten tetra-butylphosphonium bromide (TBPB) to afford the corresponding β-hydroxy thioethers in good to excellent yields.

Key words: Epoxide, Diaryl Disulfide, Thiolysis, Ionic Liquid, Bismuth(III) Compounds