An Improved and Green Preparation of 3-(Alkylthio)propionic Acids

Matti J. P. Vaismaa, Sanna M. Yliniemelä, and Marja K. Lajunen

Department of Chemistry, University of Oulu, P. O. Box 3000, FIN-90014 Oulun yliopisto, Finland

Reprint requests to Prof. M. Lajunen. Fax: +358 8 553 1629. E-mail: marja.lajunen@oulu.fi

Z. Naturforsch. **2007**, *62b,* 1317 – 1323; received March 3, 2007

An efficient, facile microwave-assisted synthesis has been developed for the preparation of unsymmetrical sulfide derivatives from 3-mercaptopropionic acid and a wide variety of alkyl, allyl or aryl chlorides or bromides. The synthesis performed in ethanol at 80 or 120 °C using sodium hydroxide as a base, selectively without an offensive smell, generates 3-(alkylthio)propionic acids in good yields. Effects of reaction components, temperature, and the heating technique on the formation of the product and side-products were studied.

Key words: Thio-alkylation, Microwave-assisted Synthesis, Unsymmetrical Sulfide, β-(Alkylthio)carboxylic Acid