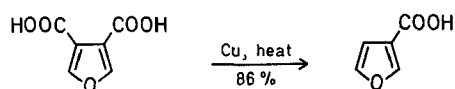


A Convenient Preparation of 3-Furoic Acid

L. W. DEADY and R. A. SHANKS

Division of Organic Chemistry, La Trobe University, Bundoora, Victoria 3083, Australia

A three-step synthesis of 3-furoic acid from diethyl furan-3,4-dicarboxylate has recently been reported¹ to be better than older methods of preparation through decarboxylation of polycarboxyfurans^{2,3}. These decarboxylations were carried out in high-boiling basic oils on acids which themselves had to be synthesised. However, during a study of 3-furan derivatives, we found that the now commercially available furan-3,4-dicarboxylic acid (Aldrich Chemical Company) could be smoothly mono-decarboxylated in high yield in the absence of any solvent. This simple method thus represents the most convenient synthesis of 3-furoic acid.



3-Furoic Acid:

Furan-3,4-dicarboxylic acid (x g; m.p. 210–214°) and copper powder (x/2 g) were mixed well and heated gently with a Bunsen flame at atmospheric pressure. Decarboxylation occurred readily and 3-furoic acid, m.p. 117–119° (Ref.¹, m.p. 122–123°) was collected as it sublimed from the reaction mixture. Yields of at least 86% were consistently obtained from 1 to 20 g (x g) lots of the diacid.

Received: June 13, 1972

¹ M. R. BOYD, T. M. HARRIS, B. J. WILSON, *Synthesis* **1971**, 545.

² H. GILMAN, R. R. BURTNER, *J. Amer. Chem. Soc.* **55**, 2903 (1933).