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Copper(II)-Catalyzed Efficient Synthesis of Anilides in Presence of 1,3-Diketones as Acylation Agent

Shrishnu Kumar Kundu,* Kanchan Mitra

Department of Chemistry, Acharya Prafulla Chandra Roy Government College, Siliguri-734 010, India *E-mail: shrishnuk@gmail.com

Abstract. The importance and value of anilides or aromatic amide motifs can be understood from their wide occurrence in natural products, pharmaceuticals, polymers, and biological systems, and their wide range of applications as versatile building blocks in organic synthesis. An efficient copper(II)-catalyzed approach has been developed for the synthesis of anilides in good to excellent yields. A variety of anilides were obtained by the three component reaction between 1,3-diketones, anilines and diethylphosphite in presence of Cu(OAc)₂ in DMSO solvent under heating conditions (Scheme 1). This methodology is operationally simple, mild, environment friendly, compatibility with various functional groups, high yielding, and applicable to inexpensive and easily available reagents as catalyst.

R = H, Me, OMe, Br, NO2, CF3, COMe, COOMe etc.

Scheme 1. Three component synthesis of anilides in presence of Cu(OAc)₂.