G. ERŐS, Y. KUSHIDA, J. W. BODE* (ETH ZÜRICH, SWITZERLAND)
A Reagent for the One-Step Preparation of Potassium Acyltrifluoroborates (KATs) from Aryl and Heteroarylhalides
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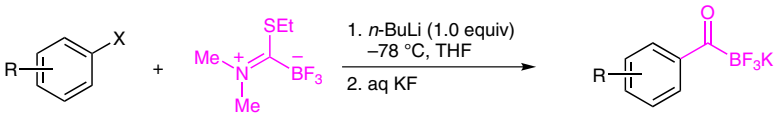
Category
Metal-Mediated Synthesis

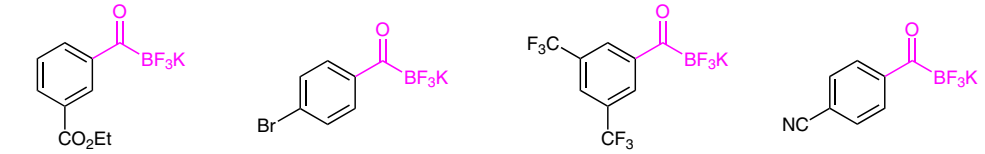
Key words
arenes
boron
lithiation

One-Step Preparation of Potassium Acyltrifluoroborates

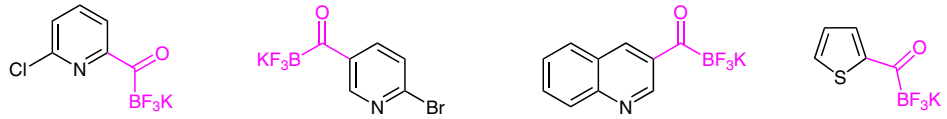


R = F, Br, OMe, CN, NO_2, CO_2Et, and various heterocycles
X = Br, I

Selected examples:



79% yield | 71% yield | 89% yield | 86% yield



81% yield | 95% yield | 77% yield | 89% yield

Significance: The authors report a novel reagent for the synthesis of potassium acyltrifluoroborates (KATs). These reagents are stable, soluble zwitterions prepared by S-alkylation of a thioformamide trifluoroboronate. Starting from aryl- and heteroaryl halides, the described protocol considerably expands the synthetic scope of acyl boron compounds.

Comment: Several new classes of boronates, including thioformamide, formamide, and imidate derivatives, were introduced in this work. The protocol is suitable for the preparation of KATs containing pyridines, esters, nitro groups, and halides.

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