2004 Ketones

Ketones Q 0350 17- 075

Eng.) — Mais

Organic Reactions in Ionic Liquids: Ionic Liquid-Accelerated Nucleophilic Substitution Reaction of α-Tosyloxyketones with Potassium Salts of Aromatic Acids.

— The use of [bmim]BF₄ as recyclable alternative to classical solvents is investigated for nucleophilic substitution of α-tosyloxy ketones (I) with potassium salts (II) of aromatic carboxylic acids. Significant rate enhancement and improved yields are obtained. The formation of the tosyloxyketone and the subsequent nucleophilic substitution can be achieved in one pot. — (LIU, Z.; CHEN*, Z.-C.; ZHENG, Q.-G.; Synthesis 2004, 1, 33-36; Ningbo Inst. Technol., Zhejiang Univ., Ningbo 315104, Peop. Rep. China;

$$\begin{array}{c} Ar^{1} & O \\ \hline Ar^{2} & O_{OK} & (II), \ [bmim]BF_{4} \\ \hline I & III \\ \hline a \ Ar^{1}: \ -Ph; \ Ar^{2}: \ -- NO_{2} \\ \hline b \ Ar^{1}: \ -Ph; \ Ar^{2}: \ -- Ph \\ \hline c \ Ar^{1}: \ -- O-Me; \ Ar^{2}: \ -Ph \\ \hline d \ Ar^{1}: \ -- O-Me; \ Ar^{2}: \ -Ph \\ \hline \end{bmatrix} & 83\% \\ \hline Ar^{1} & CH_{3} \\ \hline IVa,d & 1. \ Ph-I(OH)(O-Tos), \ [bmim]BF_{4}, \ 80^{\circ}C, \ [40 \ min] \\ \hline \end{bmatrix} & IIIa, d \\ a \ 76\% \\ d \ 80\% \end{array}$$