

Eco-Benign and Highly Efficient Procedures for the Synthesis of Amides Catalyzed by Heteropolyanion-Based Ionic Liquids under Solvent-Free Conditions

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Abstract : Two eco-benign and highly efficient routes for the synthesis of amides have been developed by treating amines with corresponding carboxylic acids or carboxamides in the presence of heteropolyanion-based ionic liquids (HPAILs) as catalysts. These practical reactions can tolerate a wide range of substrates. Thus, various amides were obtained in good to excellent yields under solvent-free conditions at heating. Moreover, recycling studies revealed that HPAILs are easily reusable for this two procedures. These methods provide green and much improved protocols over the existing methods.

Keywords : synthesis, amide, ionic liquid, catalyst

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