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Ionic liquid i.e. 1-Pentyl-3-methylimidazolium bromide mediated synthesis of 2-phenylbenzoxazole

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Abstract

An efficient and green synthesis of 2-phenylbenzoxazole have been carried out by a simple condensation of 2- aminophenol and aromatic aldehyde in an inexpensive ionic liquid i.e. 1-pentyl-3-methylimidazolium bromide ([pmIm]Br) by microwave irradiation under solvent free condition. Initially, imidazolium based ionic liquid i.e. 1-Pentyl-3- methylimidazolium bromide [pmIm]Br have been synthesized by microwave irradiation from 1-methylimidazole and npentyl bromide. The structure of newly synthesized ionic liquid and 2-phenylbenzoxazole have been confirmed by spectral studies such as UV-Vis, FT-IR and 1H-NMR spectroscopy techniques. Ionic liquid i. e. [pmIm]Br as a reaction media offers several advantages including non-toxic, non-corrosive, shorter reaction time, high yield of the products, mild reaction conditions as well as simple experimental and isolation procedures.

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