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Polymer Supported DABCO as an Eco-Friendly and Green Catalyst for Synthesis of 2-arylbenzothiazole in Aqueous Media

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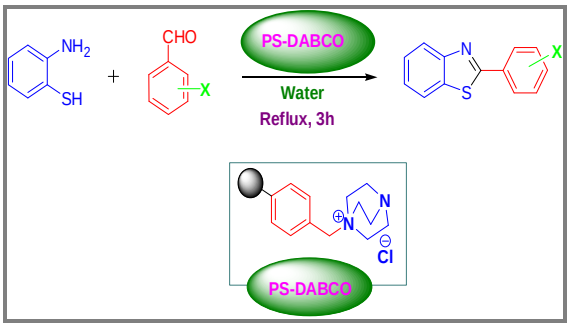
ABSTRACT

A new an efficient, high-yielding and rapid protocol has been developed for the synthesis of benzothiazoles via dehydrative C-N and C-S bond forming reaction of aryl aldehydes and 2-amino thiophenol by using PS-DABCO as green reusable heterogeneous catalyst in water as reaction solvent. An attempt is made to develop an environmentally friendly synthetic protocol representing a PS-DABCO catalyzed novel and very simple route for the preparation of 2-substituted benzothiazole derivatives. Absence of unwanted products, general applicability, reusability of the catalyst, green synthesis avoiding toxic reagents and improved and operational simplicity make this protocol a useful, greener, cost effective and practical for both academic as well as industrial purposes.

Graphical Abstract



Keywords: Heterogeneous catalyst, PS-DABCO, C-N bond forming reaction, Greener protocol, Benzothiazole.