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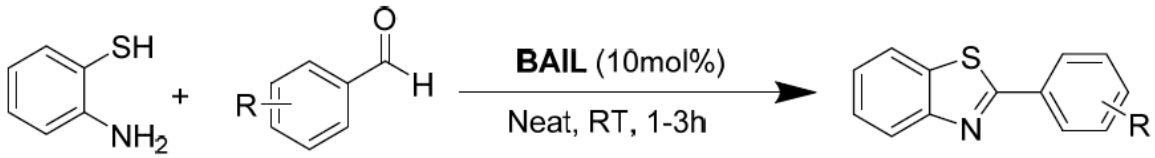
BRØNSTED ACIDICIONIC LIQUID CATALYZED SIMPLE AND GREEN SYNTHESIS OF BENZOTHIAZOLE IN NEAT CONDITION

Satyajit Pal,[1] Sougata Santra,[2] Grigory V. Zyryanov,[2,3] Adinath Majee[1]

[1]Department of Chemistry; Visva-Bharati (A Central University), Santiniketan 731235, India.
[2]Ural Federal University, 19 Mira St., Yekaterinburg, 620002, Russian Federation.
[3]Ya. Postovsky Institute of Organic Synthesis UB RAS, S. Kovalevskoy / Akademicheskaya St., 20/22, Yekaterinburg, 620990, Russian Federation.
E-mail: palsatyajit18@gmail.com

Abstract. Nowadays benzothiazole derivatives have special attention due to their various biological and pharmacological properties in medicinal and agricultural chemistry.[1] Further industrial applications as antioxidants[2] vulcanization accelerators[3], and a dopant in a light-emitting organic electroluminescent devices[4] have also been reported. Previously reported in the kinds of literature about the synthesis of benzothiazole which involves the condensation of *o*-aminothiophenols with substituted nitriles, aldehydes, carboxylic acids, acyl chlorides, or esters in the presence of a catalyst such as *p*-toluenesulfonic acid (PTSA) in an organic solvent.[5] Hence we have developed another method in which Brønsted acidic ionic liquid (BAIL) acting as catalyst. Herein, we have performed the synthesis of benzothiazole using *o*-aminothiophenols and various types of aldehydes in the presence of ionic liquid without any solvent and room temperature (Scheme 1).



Scheme 1. Brønsted acidic ionic liquid-catalyzed Synthesis of Benzothiazole

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