

عنوان مقاله:

Highly Efficient Synthesis of 2-Substituted and 1,2-Disubstituted Benzimidazole Derivatives using Sulfonated Organic Heteropolyacid Salts: as a Recyclable and Green Solid Catalysts

محل انتشار:

همایش ملی نانو فناوری و شیمی سبز (سال: 1391)

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خلاصه مقاله:

In this paper, we introduce two nonconformist ionic liquid [MIMPS](3)PW(12)O(40) and [TEAPS](3)PW(12)O(40) as a green solid acid catalysts for the highly efficient and green synthesis of 2-substituted and 1,2-disubstituted benzimidazole derivatives via the one-pot condensation of 1,2-phenylenediamine and various aromatic aldehydes. Various aromatic aldehydes were utilized in the reaction and in all situations the desired product were synthesized successfully. This reaction has been carried out in the presence of 1 mol% of catalysts in water at room temperature. The reusability of the catalysts was demonstrated by a five-run test. The described novel synthesis method propose several advantages of safety, short reaction times, mild condition, high yields, simplicity and easy workup compared to the traditional synthesis method.

کلمات کلیدی:

Heteropolyacid salt; Ionic liquid; Green solid acid catalyst; 2-Substituted benzimidazole; 1,2-Disubstituted benzimidazole; Water solvent

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