Introduction

1,1′-Butylenebis(3-methyl-3H imidazol-1-ium) Hydrogen Sulfate as an Efficient Binuclear Brönsted Acidic Ionic Liquid for Three-Component and One-Pot Synthesis of Benzo[f]indenoquinoline Derivatives

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1,1′-Butylenebis(3-methyl-3H-imidazol-1-ium) hydrogen sulfate as an efficient, halogen-free and reusable Brönsted ionic liquid catalyzed the synthesis of 13-(aryl)-12H-benzo[f]indeno[1,2-b]quinoline-12-one derivatives in ethanol under refluxing conditions. This method has the advantages of high yield, clean reaction, simple methodology, and short reaction time. The ionic liquid catalyst could be recycled and reused seven times without significant loss of activity. The structures of the new compounds were confirmed by IR, 1H NMR, 13C NMR and elemental analysis.

Key Words: 2-Naphthylamine, indane-1, 3-dione, indenoquinolines, ionic liquid, one-pot condensation, three-component reaction

INTRODUCTION

Quinoline and its derivatives are widely occurring natural alkaloids known for a wide range of pharmacological properties (1), useful dyes, and intermediates in organic synthesis (2–9).

Received 28 January 2014; accepted 20 May 2014.

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