

عنوان مقاله:

N1,N1,N2,N2-Tetramethyl-N1,N2-bis(sulfo)ethane-1,2-diaminium chloride as a highly effective catalyst for the (synthesis of 3,4-dihydropyrimidin-2-(1H)-ones (-thiones

محل انتشار:

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خلاصه مقاله:

The important class of N-heterocycles is 3,4-dihydropyrimidin-2-(1H)-ones (-thiones). These compounds have attracted considerable attention in organic and medicinal chemistry, because of their pharmacological and therapeutic properties; e.g. antiviral, antitumor, antibacterial, antihypertensive and anti-inflammatory activities. Moreover, 3,4-dihydropyrimidin-2-(1H)-ones (-thiones) are used as calcium channel blockers, adrenergic antagonists and neuropeptide Y (NPY) antagonists [1,2]. Ionic liquids (ILs) have been extensively as useful solvents and catalysts in organic synthesis, because of possessing various unique properties, including high thermal and chemical stability, non-flammability, non-volatility and enhanced reactivity. Brønsted acidic ILs are an important class of these compounds, which have been designed especially to apply as efficient catalysts for organic transformations [3]. In this work, Brønsted acidic ionic liquid N1,N1,N2,N2-tetramethyl-N1,N2-bis(sulfo)ethane-1,2-diaminium chloride {[TMBSED][Cl]}₂ has been used as a highly effective catalyst for the reaction of arylaldehydes with β-ketoesters and urea (or thiourea) under solvent-free conditions to synthesize 3,4-dihydropyrimidin-2-(1H)-ones (-thiones) (Scheme 1). Excellent yields, short reaction times, easy work-up and purification of the products, easy production of the catalyst and relatively mild conditions are some advantages of this procedure.

کلمات کلیدی:

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