

البحث الرابع (رقم 37 في قائمة البحوث الكلية)

Title	New dicationic DABCO-based ionic liquids: a scalable metal-free one-pot synthesis of bis-2-amino-5-arylidene-thiazol-4-ones
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Herein, a novel DABCO-based dicationic ionic liquid (bis-DIL) was easily prepared from the sonication of DABCO with 1,3-dichloro-2-propanol and then characterized by several techniques. Thereafter, under the ultimate green conditions, the performance of the bis-DIL was examined for the sono-synthesis of a new library of bis-2-amino-5-arylidene-thiazol-4-ones via one-pot pseudo-five-component Knoevenagel condensation reaction of appropriate dialdehydes, rhodanine and amines. This protocol is tolerant towards several mono- and dialdehydes, excellently high yielding and affording access to the desired products in a single step within a short reaction time. Compared with the conventional methodologies, the proposed method displayed several remarkable merits such as milder reaction conditions without any side product, green solvent media, recording well in a variety of green metrics and applicability in gram-scale production. The recyclability of the bis-DIL was also investigated with an average recovered yield of 97% for six sequential cycles without any significant loss of the activity.