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Articles

Efficient atom-economic one-pot multicomponent synthesis of benzylpyrazolyl coumarins and novel pyrano[2,3-c]pyrazoles catalysed by 2-aminoethanesulfonic acid (taurine) as a bio-organic catalyst

Asha V. Chate , Badrodin Ayyub Shaikh, Giribala M. Bondle & Sunil M. Sangle

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Abstract

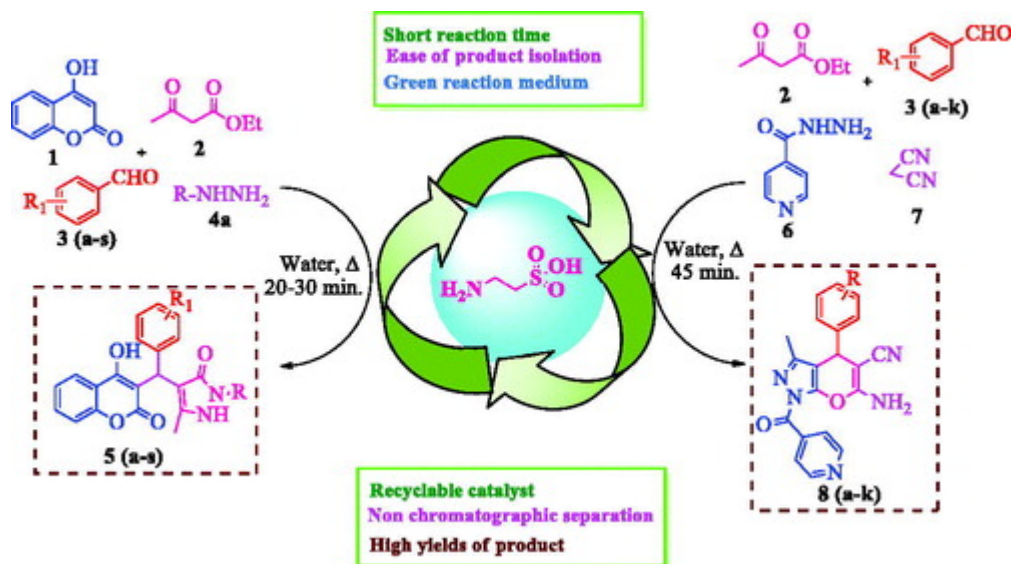
The present work describes eco-friendly multicomponent protocol for the synthesis of benzylpyrazolyl coumarins in excellent yields of structurally diverse benzylpyrazolyl coumarin **5 (a-s)** involving the reaction of 4-hydroxycoumarin, ethyl acetoacetate, hydrazine hydrate/phenylhydrazine hydrate and aldehydes, also novel pyrano[2,3-c]pyrazole derivatives **8 (a-k)**

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integrated by isonicotinic acid hydrazide from reaction of aldehyde, ethyl acetoacetate, malononitrile with isoniazid, employing water as a reaction medium and 2-aminoethanesulfonic acid (taurine) as the catalyst. This new methodology endowed the advantages such as short reaction time, recovery of catalysts after catalytic reaction and reusing them without losing their activity and alleviate of operation.

Graphical Abstract



Q Keywords: 2-Aminoethanesulfonic acid benzylpyrazolyl coumarin green reaction multicomponent reaction pyrano[2,3-c]pyrazoles

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