One-pot, three-component synthesis of substituted dihydropyrimidines using Cd quantum dots

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Dihydropyrimidines are the heterocyclic compounds possessing nitrogen linkage in the cycle and have received considerable attention due to their wide applications. One of the most popular and environmentally benign methods for their synthesis is the one-pot multi-component reaction (MCR). The present-day researchers are working to develop catalysts and reagents for MCR. We are also contributing in this direction by developing suitable catalysts for organic transformations.

The present work deals with the MCR of substituted benzaldehyde, ethyl acetoacetate, and thiourea using Cd based quantum dots as the catalyst to give dihydropyrimidines. Dihydropyrimidines exhibit important biological activities, like anticancer activity, antimicrobial, inhibitors of dihydrofolate reductase (DHFR). The reaction is rapid and completes with good to high yields of substituted dihydropyrimidines.

Biography

Poonam received her B.Sc. in Life Sciences from University of Delhi in 2013 and M.Sc. in Chemistry from Amity University in 2016. At present she is pursuing her Ph.D. under the supervision of Professor Ram Singh at Delhi Technological University, Delhi. Her research interests lie in the development of catalysts and their applications in the synthesis of heterocyclic molecules of medicinal importance

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