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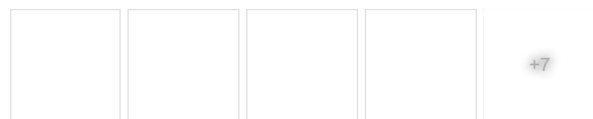
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Abstract and Figures

We have developed a SnO₂/SiO₂ catalyzed efficient and rapid protocol for the synthesis of pyrano[2,3-d]pyrimidinone derivatives by the three-component cyclocondensation of aromatic benzaldehydes, malononitrile, and barbituric acid in ethanol at room temperature. Nanocomposite SnO₂/SiO₂ catalytic materials were synthesized using the sol-gel method. The synthesized catalytic materials were well characterized by using a transmission electron microscope, X-ray diffraction spectroscopy, scanning electron microscopy, energy dispersive spectroscopy, Fourier transform infrared spectroscopy, temperature-programmed desorption (NH₃-TPD), and Brunauer-Emmett-Teller theory. This protocol has several advantages such as high yield, simple workup procedure, non-toxic, clean, and easy recovery and reusability of the catalytic system. Graphic abstract An efficient catalytic system has been developed for the synthesis of pyrano[2,3-d]pyrimidinone derivatives from one-pot three-component cyclocondensation of aromatic benzaldehydes, malononitrile, and barbituric acid in ethanol at room temperature using 15 wt% SnO₂/SiO₂.



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Abstract

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