



Green Protocol Synthesis of (*E*)-2-Arylmethylene) Hydrazinecarbothioamides Using Reusable Heterogeneous Ceria Promoted Lanthanum Catalyst

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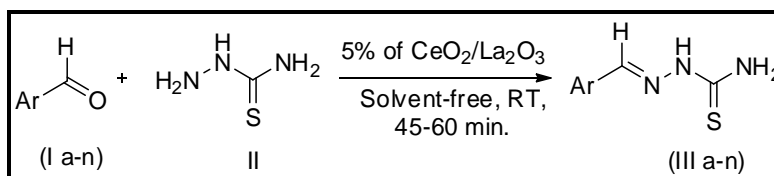
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ABSTRACT

A series of (*E*)-2-(Arylmethylene)hydrazinecarbothioamide compounds were synthesized by condensation of thiosemicarbazide with substituted aromatic aldehydes by using 5% of CeO₂/La₂O₃ as heterogeneous reusable catalyst under solvent-free condition. The synthesized compounds were characterized by spectral data such as IR and NMR spectra and the catalyst was characterized by using X-ray powder diffraction (XRD), Fourier transform infrared spectroscopy (FT-IR), Scanning electron microscopy (SEM), Brunauer-Emmett-Teller (BET) Surface Area, Energy Dispersive X-ray Spectrometry (EDS) and UV-Visible DRS.

Graphical Abstract



Synthesis of (*E*)-2-(Arylmethylene)hydrazinecarbothioamide (IIIa-n)

Keywords: Schiff's bases, Thiosemicarbazide, Ceria promoted Lanthanum catalyst, Solvent-free reactions.