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# Preparation, Characterizations of TS-1 Zeolite: An Effective Solid Acid Catalyst for the Synthesis of 1, 3, 5-Triaryl-2-Pyrazolins

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## ABSTRACT

A clean and efficient method has been developed for the synthesis 1, 3, 5-triaryl-2-pyrazoline derivatives via cyclocondensation of chalcone and phenyl hydrazine using TS-1 as solid heterogeneous reusable catalyst. The catalyst was synthesized by the hydrothermal method under autogenous pressure. The prepared catalyst was characterized by Powder-X-ray diffraction (XRD), Fourier-transform infrared spectroscopy, scanning electron microscope-Energy dispersive spectroscopy (EDAX) and Brunauer–Emmett–Teller surface area analysis. The present method offers significant advantages over the reported methods like easy separation

of catalyst, simple work-up procedure, and excellent yield of desired products.

Furthermore, catalyst could be reused without significant loss in activity.

**Q KEYWORDS:** Chalcone phenyl hydrazine TS-1 1, 3, 5-triaryl-2-pyrazoline

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