

The Preparation of 2H-Indazolo [2, 1-b] Phthalazinetriones by One-Pot 4,4'-Bipyridinium Dichloride Ordered Mesoporous Silica

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Abstract : Preparation of multicomponent reactions (MCRs) via a simple one-pot strategy is considered a novel procedure which has attracted a lot of interest from organic and medicinal chemists. Due to the great importance of phthalazine triones, it was decided to introduce a novel and cost-effective green procedure for the preparation of these derivatives. In this methodology, an efficient 4,4'-Bipyridinium Dichloride Ordered Mesoporous Silica functionalized catalyst (BP-SBA-15) was utilized. The catalyst was characterized by X-ray diffraction analysis (XRD), field emission scanning electron microscopy (FESEM), transmission electron microscopy (TEM), thermo-gravimetric analysis (TGA), and Fourier-transform infrared spectroscopy (FT-IR) analysis. In conclusion, it should be mentioned that this methodology has some advantages, including short reaction time, high yield of the products, recyclable catalyst, green procedure, and facile work-up procedure. The catalyst was successfully utilized for the one-pot preparation of various phthalazinetrione derivatives.

Keywords : dimedone, green procedure, multicomponent reactions, phthalhydrazide

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