Polymer supported chlorosulfonic acid: an efficient catalyst for one-pot synthesis of hexahydroquinolines

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ABSTRACT Polyvinylpolypyrrolidone supported chlorosulfonic acid ([PVPP-SO3H] Cl-) was synthesized and evaluated as a recoverable catalyst for the one-pot synthesis of hexahydroquinolines by reaction of arylaldehydes, dimedone (5,5-dimethylcyclohexane-1,3-dione) or dimethyl cyclohexane-1,3-dione, ethylacetoacetate and ammonium acetate in high to excellent yield in ethanol at reflux temperature. The [PVPP-SO3H] Cl- catalyst was characterized via Fourier transform infrared spectroscopy (FT-IR) and thermal gravimetric analysis (TGA). Clean methodologies, easy work-up procedure, high yield and simple preparation of the catalyst are some advantages of this work. Keyword: Polyvinylpolypyrrolidone, Chlorosulfonic acid, Multicomponent reaction, Hexahydroquinolines

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