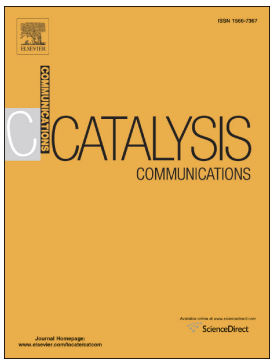

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Nano-silica Supported Palladium Nanoparticles: A Sustainable Nanocatalyst for Efficient Synthesis of 2,3-Diarylimidazo[1,2-*a*]pyridines at Low Catalyst Loading

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ABSTRACT

A novel, stable and reusable catalyst based on palladium nanoparticles supported on nano-silica, was synthesized and characterized. These nanoparticles were used at remarkably low catalyst loading for the synthesis of 2,3-diarylimidazo[1,2-*a*]pyridine derivatives *via* a multicomponent reaction under microwave irradiation. The nanocatalyst can be recovered from the reaction mixture and reused several times without any perceptible decrease in its catalytic activity.

Keywords: Imidazo[1,2-*a*]pyridines; Palladium nanocatalyst; Nano-silica support ; Multicomponent reaction

1. Introduction