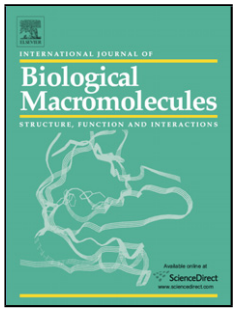

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Authors: Hojat Veisi, Sayed Ahmmad Mirshokraee, Hossein Ahmadian

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Synthesis of biaryls using palladium nanoparticles immobilized on metformine-functionalized polystyrene resin as a reusable and efficient nanocatalyst

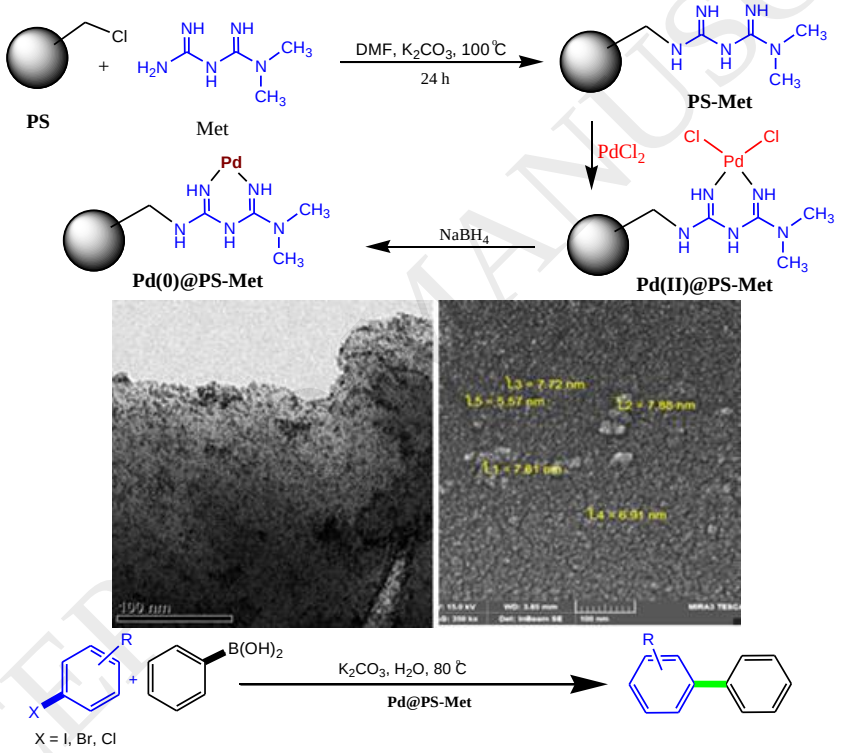
Hojat Veisi,* Sayed Ahmmad Mirshokraee, Hossein Ahmadian

Department of Chemistry, Payame Noor University, 19395-4697 Tehran, Iran
E-mail: hojatveisi@yahoo.com

Graphical Abstract

Synthesis of biaryls using palladium nanoparticles immobilized on metformine-functionalized polystyrene resin as a reusable and efficient nanocatalyst

Hojat Veisi,* Sayed Ahmmad Mirshokraee, Hossein Ahmadian



Abstract. This study includes the procedure performed for the Pd@PS-Met preparation as a novel polymeric nanocatalyst, in which to entrapped palladium nanoparticles (Pd NPs) without agglomeration, metformine groups are applied (as linkers). The obtained catalyst could be evaluated using transmission electron microscopy (TEM), wavelength-dispersive X-ray spectroscopy (WDX), scanning electron microscopy (SEM), X-ray powder diffraction (XRD), inductively coupled plasma (ICP), fourier transform infrared (FTIR), and Energy-dispersive X-ray spectroscopy (EDS). For Suzuki cross-coupling reaction, the catalyst showed an excellent catalytic stability and activity in water under ambient condition.