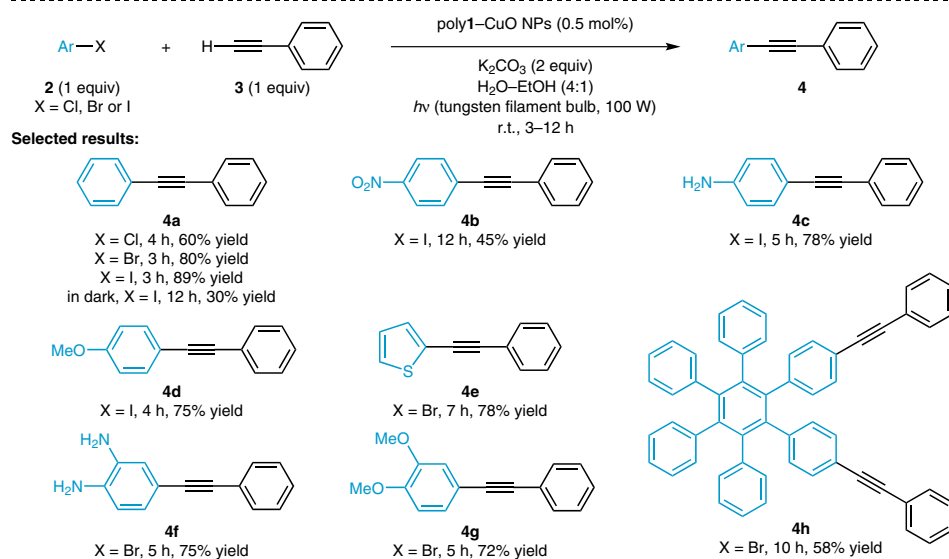
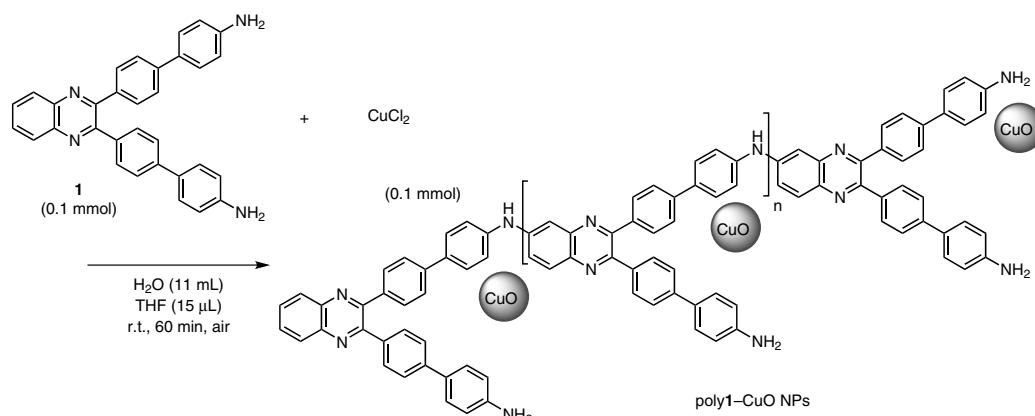


Photocatalytic Sonogashira Coupling on Polymeric Pyrazine–CuO Nanoparticles



Significance: CuO nanoparticles stabilized on a polymeric amine (poly1-CuO NPs) were prepared by treatment of CuCl_2 with the benzopyrazine-derived amine **1** in water under air. Poly1-CuO NPs promoted the photocatalytic Sonogashira coupling of aryl halides **2** with ethynylbenzene (**3**) under visible-light irradiation to give the corresponding products **4** in $\leq 89\%$ yield.

Comment: Poly1-CuO NPs were characterized by means of FT-IR and UV-vis, and fluorescence spectroscopy and XRD, SEM, and TEM analyses. The reaction of iodobenzene with **3** in darkness gave **4a** in 30% yield. In the absence of poly1, CuO nanoparticles catalyzed the reaction to give **4a** in 48% yield in 12 hours. Poly1-CuO NPs were reused five times without significant loss of their catalytic activity.

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Synfacts 2016, 12(09), 0977 Published online: 18.08.2016

DOI: 10.1055/s-0035-1562749; Reg-No.: Y10816SF