

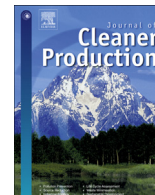


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Highly active bio-waste cellulose supported poly(amidoxime) palladium(II) complex for Heck reactions



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ABSTRACT

Corn-cob cellulose supported poly(amidoxime) Pd(II) complex was synthesized and characterized by field emission scanning electron microscopy (FE-SEM), high-resolution transmission electron microscopy (HR-TEM), energy dispersive X-ray (EDX), X-ray photoelectron spectroscopy (XPS), thermogravimetric analysis (TGA) and inductively coupled plasma atomic emission spectroscopy (ICP-AES) analyses. The cellulose supported heterogeneous Pd(II) complex showed high stability and catalytic activity towards Mizoroki-Heck reaction of aryl halides and arenediazonium tetrafluoroborate with a variety of olefins to give the corresponding cross-coupling products in up to 97% yield. The Pd(II) complex was separated from the reaction mixtures and repeatedly used up to seven times without any significant decrease of its catalytic performance.

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