

Title of the Abstract: *Novel Magnetically Chitosan based N-Heterocyclic Carbene as Recyclable Nanocatalyst and Highly Efficient for Cross-Coupling Reaction*

Author Name:Pouria Zarshenas, Hatef Shahmohammadi, Bahareh Heidari, Roya Sedghi*
Affiliation: Faculty of Chemistry & Petroleum Sciences
University: Shahid Beheshti University
Country: Iran

Abstract:

In this paper, Novel Magnetically Chitosan@N-Heterocyclic Carbene-Palladium (NHC-Pd) Coated Multi-Walled Carbon Nanotube (MWCNTs) was synthesized in three steps:

1) the reaction of Chitosan, glyoxal and formaldehyde for synthesis of Chitosan@imidazol,

2) Synthesis of magnetic functionalized-MWCNTs and

3) the esterification reaction via the reaction of hydroxyl and carboxylic acid groups of Chitosan@imidazol and magnetic functionalized-MWCNTs respectively, and followed with the attachment of palladium chloride to compose of novel NHC ligand for the first time. Catalytic studies of Magnetic Chitosan@ NHC-Pd Coated MWCNTs for the Suzuki cross-coupling reaction of various aryl halides with aryl boronic acids have been evaluated in the ethanol–water solution. In general, our new catalyst showed superior reactivity for this model reaction. Moreover, the heterogeneous catalyst can be easily recovered by external magnet field and reused for subsequent use without any significant loss in catalytic activity.

Biography:

Pouria Zarshenas was born in 1994, Tehran-Iran.
He started B.Sc in 2013 at Shahid Beheshti University. He finished B.Sc in 2017.
He wants continue his academic education in Organic chemistry, the nano particles brench.
It should be noted that his apprenticeship course in B.Sc is on the Organic Nano particles.

Research Interests: Organic & Inorganic Nano particles

References:

1. J. Magano and J. R. Dunetz, Chem. Rev., 2011, 111, 2177.
2. C. Torborg and M. Beller, Adv. Synth. Catal., 2009, 351, 3027.
3. J. P. Corbet and G. Mignani, Chem. Rev., 2006, 106, 2651

Mail Id: dr.pouryazarshenas@yahoo.com

Contact Number: +989123701284