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Synthesis of Zr-metal organic frameworks modified for the Suzuki and Heck reactions as an effective and heterogeneous catalyst

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Metal organic frameworks (MOFs) demonstrate an important class of crystalline porous compounds produced from organic ligands (linkers) and metal ions or clusters [1]. Functionalization of MOFs is crucial in searching their structural and chemical variety for aboundanc potential applications [2]. MOFs were commonly suitable for various reaction substrates with different substituents in both Suzuki and Heck reactions [3]. Herein, heterogeneous Zr- MOF (UiO-67) catalyst was synthesized to perform the Suzuki–Miyaura and Heck cross-coupling reactions. Nowadays, heterogeneous catalytic systems have attracted significant attention due to their facility of dissociation from liquid phase reaction matrices. Moreover, MOFs are also often utilized as the host of the catalytically active constituent [4]. The immobilized catalyst was recyclable for at least up to 5 cycles without reduction in the efficiency of the coupled product. Modified Zr- MOF (UiO-67) was synthesis on the basis of a mixture of 4,4 -biphenyldicarboxylic acid (H_2BPDC) ligand and $ZrCl_4$ by solvothermal method.

Keywords: Zr- MOF (UiO-67) catalyst**,** Suzuki–Miyaura and Heck cross-coupling reactions

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