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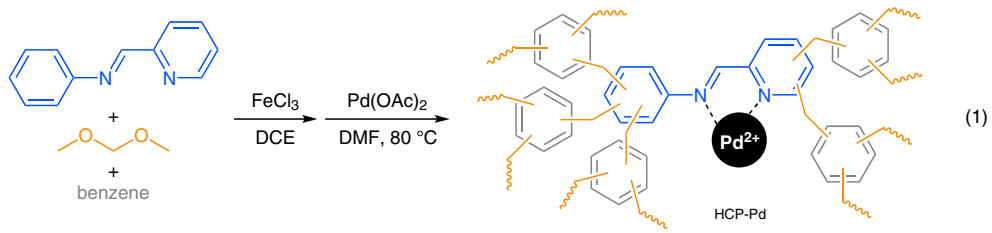
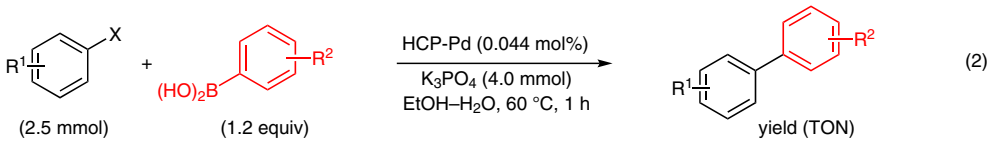
Efficient and Economical Preparation of Hypercrosslinked Polymers–Palladium Based on Schiff Base as Recyclable Catalyst for Suzuki–Miyaura Reactions
Chem. Lett. **2021**, *50*, 1879–1882, DOI: 10.1246/cl.210301.

Suzuki–Miyaura Cross-Coupling by a Pd–Schiff Base Complex Immobilized on a Hypercrosslinked Polymer

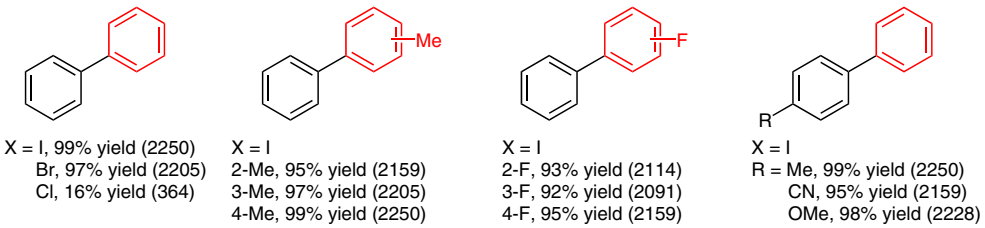


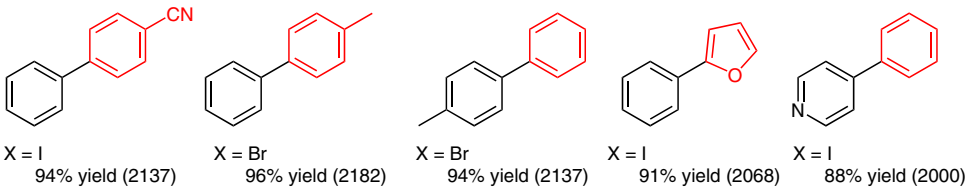
(1)



(2)

Results:





Significance: A palladium–Schiff base complex immobilized on hypercrosslinked polymer (HCP-Pd), prepared as shown in equation 1, catalyzed the Suzuki–Miyaura cross-coupling of aryl halides with arylboronic acids to give the corresponding biaryls in up to 99% yield with excellent turnover numbers (eq. 2).

Comment: HCP-Pd was characterized by means of IR, N_2 sorption, ICP, TGA, XPS, SEM, EDX, and TEM analyses. In the Suzuki–Miyaura cross-coupling of iodobenzene with phenylboronic acid, the catalyst was reused five times without significant loss of its catalytic activity. SEM, EDX, and XPS analyses of the recovered catalyst revealed that its structure remained almost intact during the reaction.

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Category

Polymer-Supported Synthesis

Key words

palladium catalysis
hypercrosslinked polymer
Schiff bases
Suzuki–Miyaura reaction
cross-coupling