

Suzuki–Miyaura Coupling in Water Using an NHC-Pd Polymer

Category

Polymer-Supported Synthesis

Key words

water

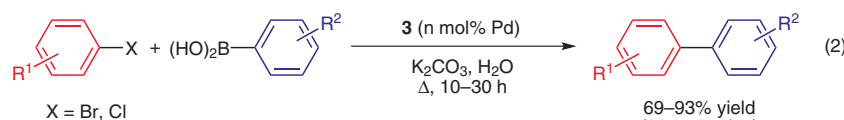
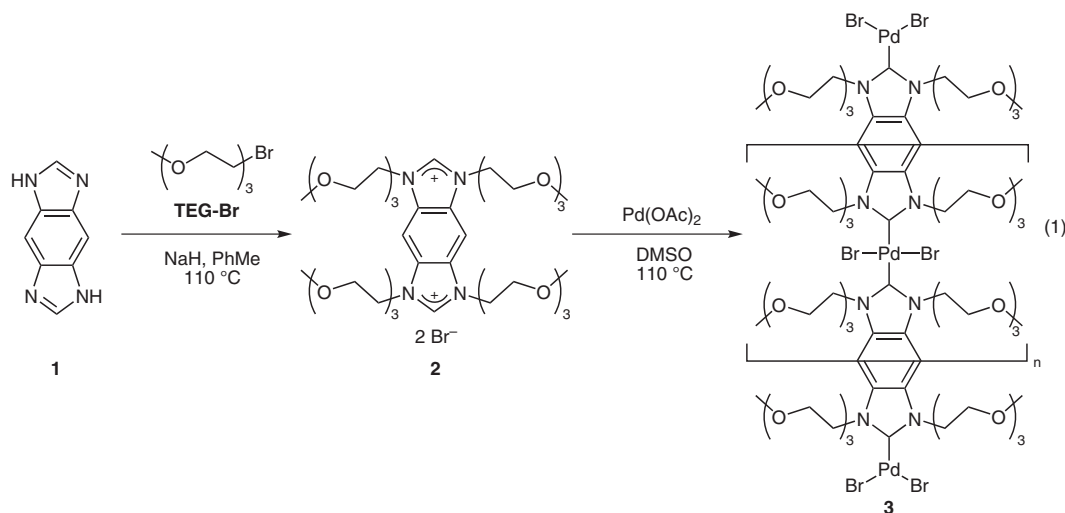
NHC-Pd polymer

Suzuki–Miyaura coupling

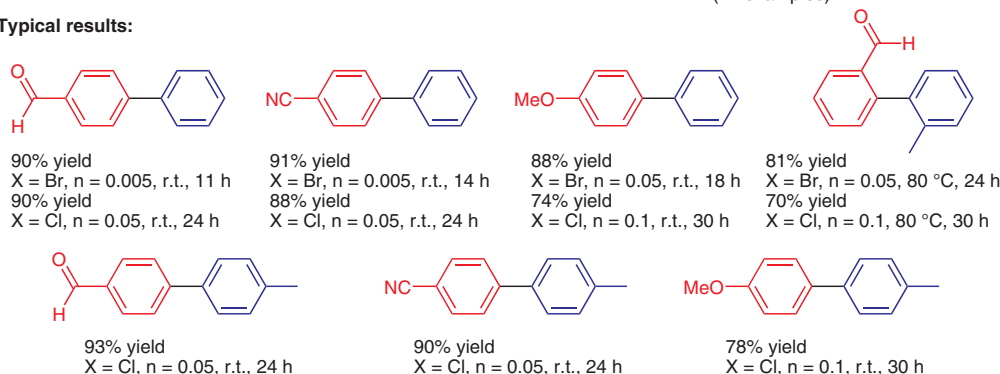
aryl halides

arylboronic acids

SYNFACT
of the month



Typical results:



Significance: A water-soluble NHC-Pd polymer **3** was prepared by the reaction of **1** with TEG-Br in the presence of NaH followed by treatment with Pd(OAc)₂ (eq. 1). The NHC-Pd polymer **3** catalyzed the Suzuki–Miyaura coupling of aryl bromides or aryl chlorides with arylboronic acids in water to give the corresponding biaryls in 69–93% yield (21 examples, eq. 2).

SYNFACTS Contributors: Yasuhiro Uozumi, Takao Osako
Synfacts 2011, 9, 1025–1025 Published online: 19.08.2011
DOI: 10.1055/s-0030-1260893; Reg-No.: Y08211SF

Comment: GPC analysis revealed that the average molecular weight of the NHC-Pd polymer **3** was around 107000 Da. After the reaction of 4-chlorobenzaldehyde with phenylboronic acid, the product was extracted with *n*-hexane and the resulting aqueous solution containing **3** was subjected to the recycling runs.