Category

Polymer-Supported Synthesis

Key words

carbon nanotubes
hydrogenation
nitroarenes
ruthenium

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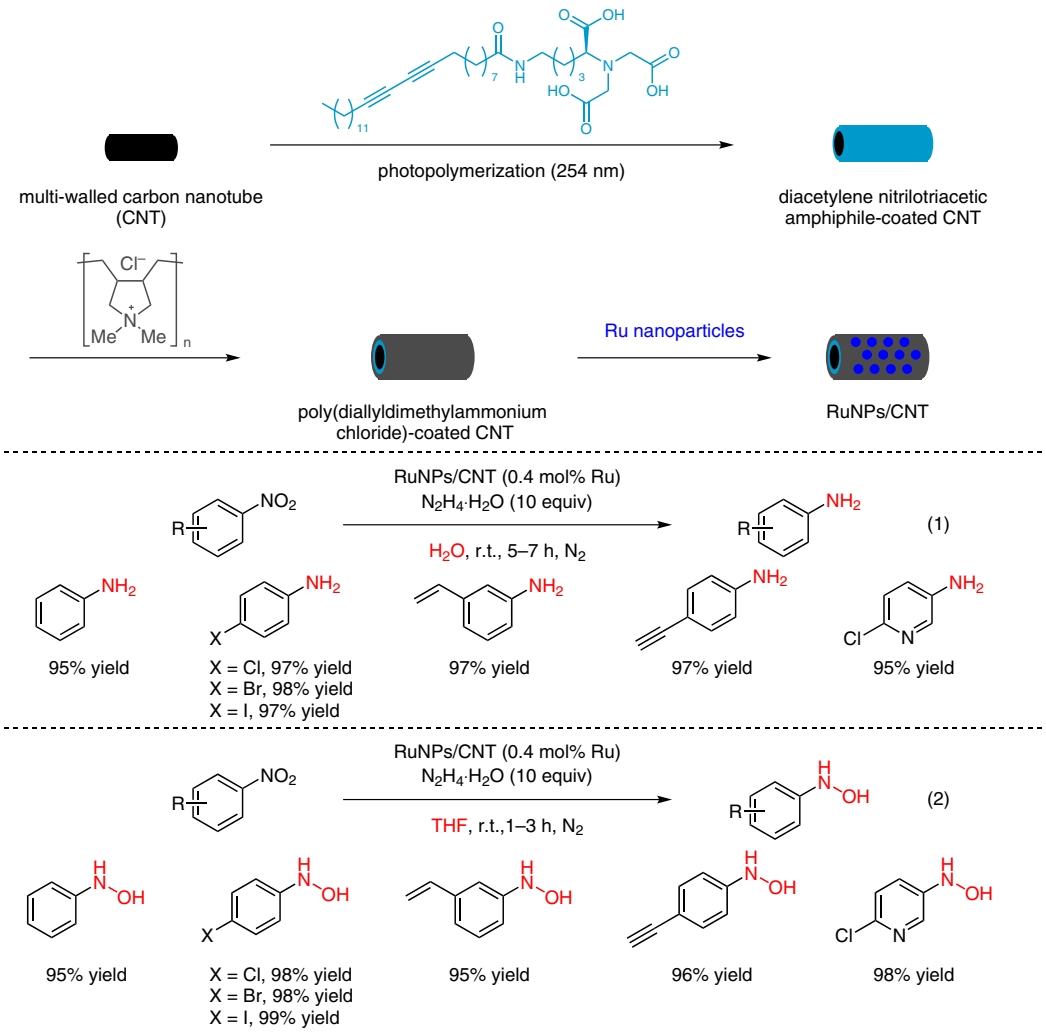
Selective Conversion of Nitroarenes Using a Carbon Nanotube–Ruthenium Nanohybrid
Chem. Commun. **2015**, *51*, 1739–1742.

Hydrogenation of Nitroarenes Using a Carbon Nanotube–Ruthenium Nanohybrid



Significance: Carbon nanotube supported ruthenium nanoparticles (RuNPs/CNT) were prepared and applied to the hydrogenation of nitroarenes with hydrazine monohydrate. The reduction of the nitro group proceeded to give the corresponding anilines (in water, 95–99% yield, eq.1) or *N*-aryl hydroxylamines (in THF, 95–99% yield, eq. 2).

Comment: The average diameter of the RuNPs was found to be 2 nm. RuNPs/CNT were recovered by centrifugation and reused four times without significant loss of catalytic activity both in water and THF. ICP-MS analysis of the reaction mixture showed no leaching of ruthenium during the reaction.

SYNFACTS Contributors: Yasuhiro Uozumi, Yoichi M. A. Yamada, Aya Ohno
Synfacts 2015, 11(4), 0442 Published online: 18.03.2015
DOI: 10.1055/s-0034-1380487; **Reg-No.:** Y02415SF

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