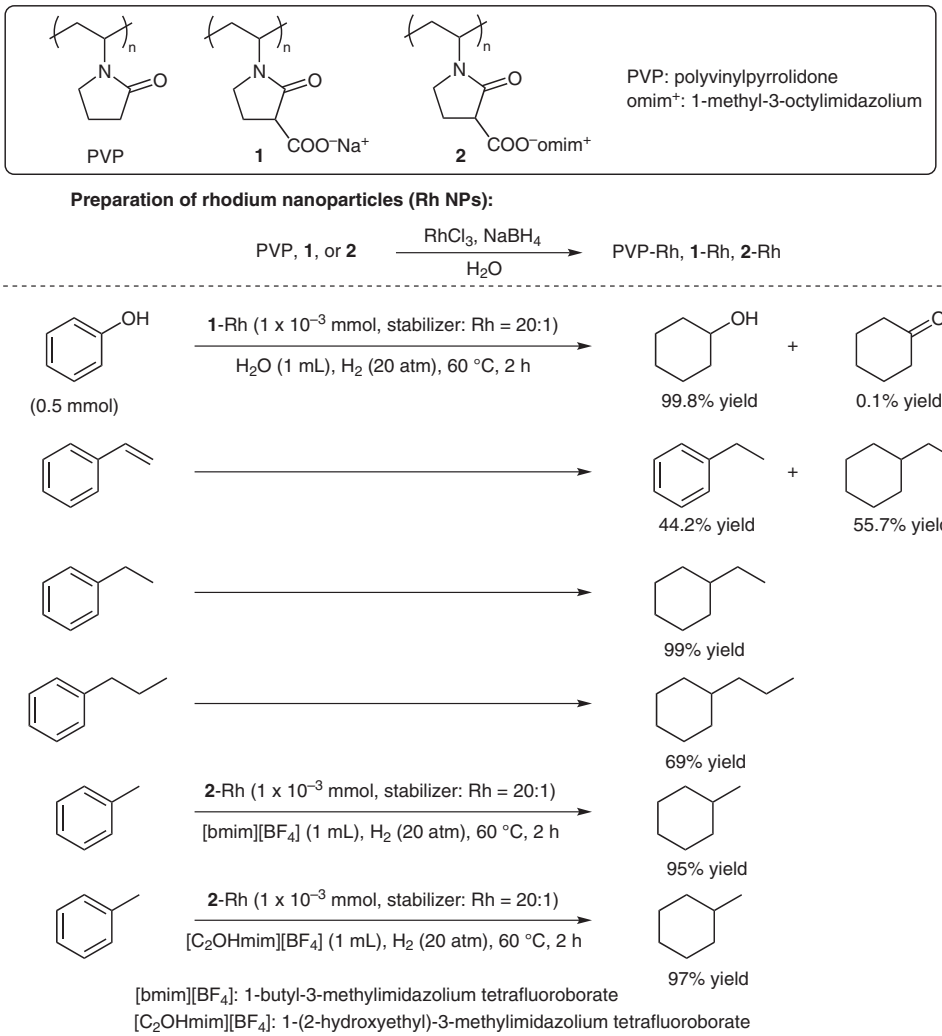
N. YAN,* Y. YUAN, P. J. DYSON* (ECOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE, SWITZERLAND)

Rhodium Nanoparticle Catalysts Stabilized with a Polymer that Enhances Stability without Compromising Activity
Chem. Commun. **2011**, *47*, 2529-2531.

Rhodium Nanoparticle Catalysts Stabilized with Modified Polyvinylpyrrolidones



Significance: Rhodium nanoparticle catalysts coated with a modified polyvinylpyrrolidone (PVP) were developed. The Rh nanoparticles (NPs) coated with **1** (**1**-Rh) exhibited thermal and catalytic stability compared to Rh NPs coated with PVP (PVP-Rh). Hydrogenation of aromatic substrates was performed with **1**-Rh, or **2**-Rh to give the corresponding cyclohexanes.

Comment: Rh NPs were characterized by X-ray photoelectron spectrometry (XPS), transmission electron microscopy (TEM), and high-resolution transmission electron microscopy (HRTEM). Catalyst **1**-Rh was reused without loss of catalytic activity in the hydrogenation of phenol (14 times) and toluene (8 times) while PVP-Rh showed significant loss of catalytic activity.

SYNFACTS Contributors: Yasuhiro Uozumi, Yoichi M. A. Yamada, Maki Minakawa
Synfacts 2011, 5, 0563-0563 Published online: 15.04.2011
DOI: 10.1055/s-0030-1259817; **Reg-No.:** Y03611SF

Category
Polymer-Supported Synthesis

Key words
rhodium
nanoparticles
polyvinylpyrrolidones
hydrogenation