Zwitterionic Amidinates as Effective Ligands for Platinum Nanoparticle Hydrogenation Catalysts


Zwitterionic Ligand Supported Platinum Nanoparticles as Hydrogenation Catalysts

**Significance:** Zwitterionic imidazolium amidinate ligand-supported platinum nanoparticle catalysts 2a–c [Pt/ICy–(Ar)NCN@] were prepared as shown in eq. 1. The hydrogenation of olefins, carbonyl or nitro compounds was carried out with platinum nanoparticles 2a–c to give the corresponding reduced products (eqs. 2–5).

**Comment:** The platinum nanoparticle catalyst 2b was characterized by means of $^{15}$N and $^{13}$C MAS NMR, TEM, HR-TEM, WAXS, TGA and elemental analyses. The authors have previously reported the synthesis of Ru–ICy–(p-Tol)NCN@ and its application in the hydrogenation of styrene (L. M. Martínez-Prieto et al. Chem. Commun. 2015, 51, 4647).