

Metal nanoparticles (MNP) are potentially useful heterogeneous catalysts for organic synthesis due to their robustness; however, applicable transformations are limited. I developed organic polymer supported MNP catalysts and nitrogen-doped carbon supported MNP catalysts based on polymer-incarceration method where MNPs are physically enveloped and stabilized by multiple interactions from the polymer. The catalysts were applied for several organic transformation including C–C bond forming reactions and enantioselective reactions. The application to flow reactions were also demonstrated.