Various Metal Nanoparticles Embedded into Porous Shells

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Various metal Nanoparticles continue to attract strong interest on account of their fascinating properties and potential applications in optical sensing, optoelectronics, biomedicine, imaging and catalysis applications. Especially, metal nanoparticles embedded in porous shells have been widely used in heterogeneous catalysis due to their remarkable catalytic activity and high surface area. However, the synthetic procedures are multistep and require sacrificial templates, leading to a high cost of the product and environmental pollution. Here, we have developed the facile fabrication method of high surface area core-shell particles with porous shell such as metal-organic framework. Our simple encapsulation strategy for the fabrication of metal core-porous shell particles can pave the way for mass production of heterocatalysts.