

SUPPORTING INFORMATION

Monodisperse Magnetic Core/Shell Microspheres with Pd nanoparticles-incorporated-Carbon Shells

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Suzuki Cross-coupling Reaction: In a 10 mL glass flask were placed 1 mmol aryl halide, 1.2 mmol boronic acid, 2mmol Na_2CO_3 , and 0.1 mol % $\text{Fe}_3\text{O}_4@\text{C}/\text{Pd}$ in 1.5mL/1.5mL Dimethyl Ether (DME)- H_2O at 110°C for the appropriate time. The reaction was monitored by TLC, and after completion of the reaction, the catalyst was magnetically separated and the mixture was extracted with ethyl acetate three times. The combined organic extracts were dried over anhydrous Na_2SO_4 and evaporated under reduced pressure, and the mixture was then purified by column chromatography over silica gel to afford product with high purity.

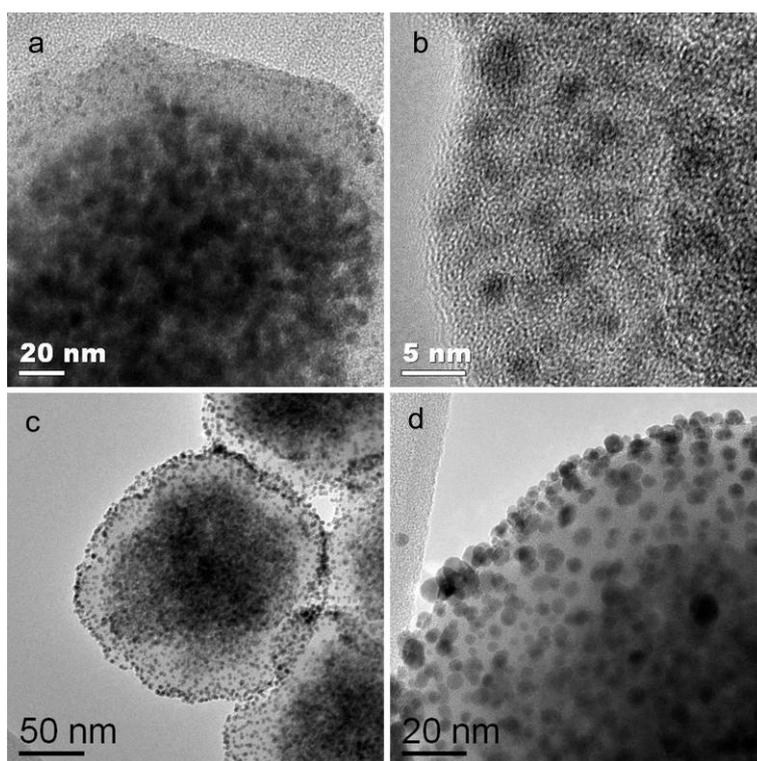


Figure S11. TEM images of the as-prepared $\text{Fe}_3\text{O}_4@\text{C}/\text{Pd}$ (a,b), $\text{Fe}_3\text{O}_4@\text{Polyaniline}/\text{Au}$ (c), $\text{Fe}_3\text{O}_4@\text{SiO}_2/\text{Au}$ microspheres (d).

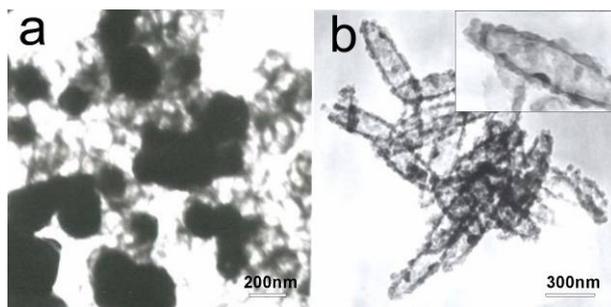


Figure SI2. TEM images of the products obtained by vacuum heating the Fe₂O₃@polyaniline precursors: a) the spherical Fe₂O₃@polyaniline and b) spindle Fe₂O₃@polyaniline.

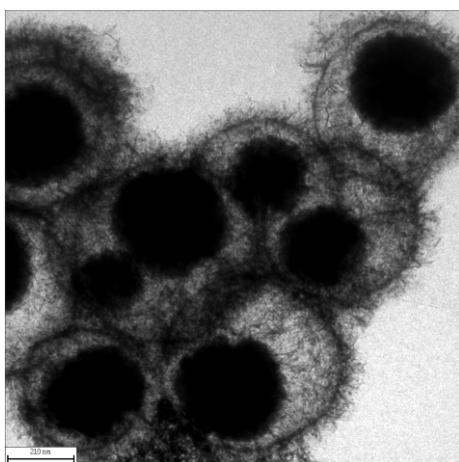


Figure SI3. TEM images of the Fe₃O₄@NiSiO₃/Pd microspheres with 4 nm Pd nanocrystals.