

Supplementary Information

Preparation and characterization of magnetic gold shells using different sizes of gold nanoseeds and their corresponding effects on catalysis

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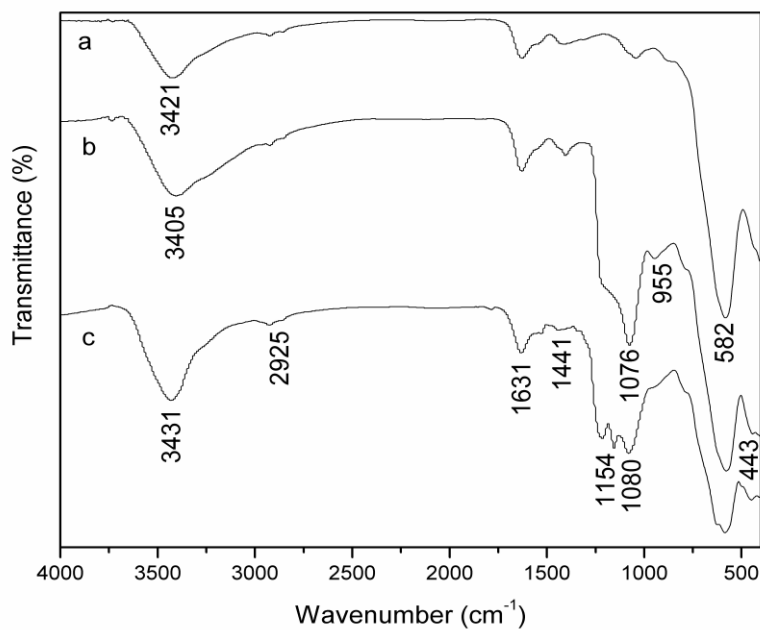


Fig. S1 FTIR spectra of (a) Fe_3O_4 , (b) $\text{Fe}_3\text{O}_4@\text{SiO}_2$, and (c) $\text{Fe}_3\text{O}_4@\text{SiO}_2\text{-NH}_2$.

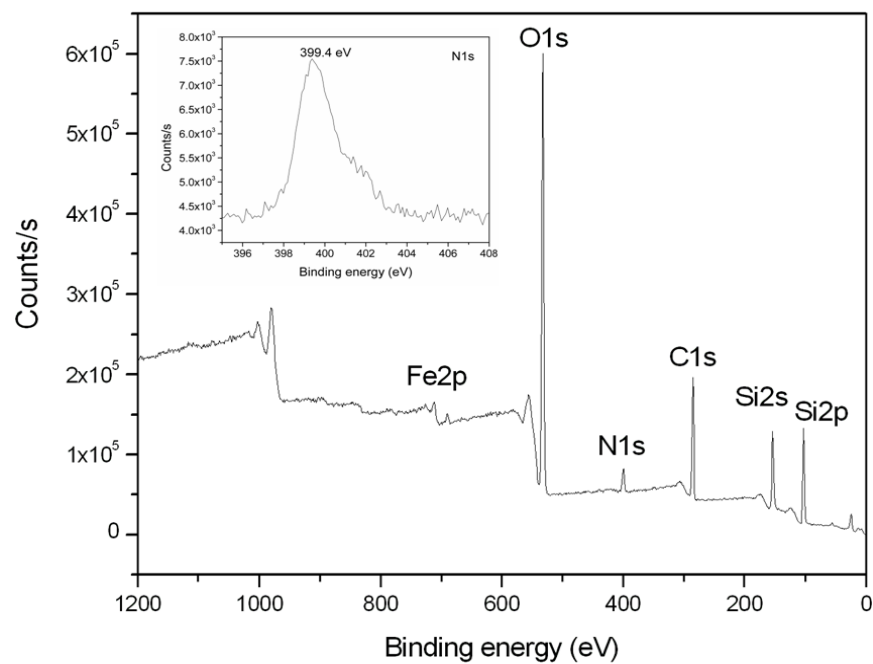


Fig. S2 XPS spectrum of $\text{Fe}_3\text{O}_4@\text{SiO}_2\text{-NH}_2$

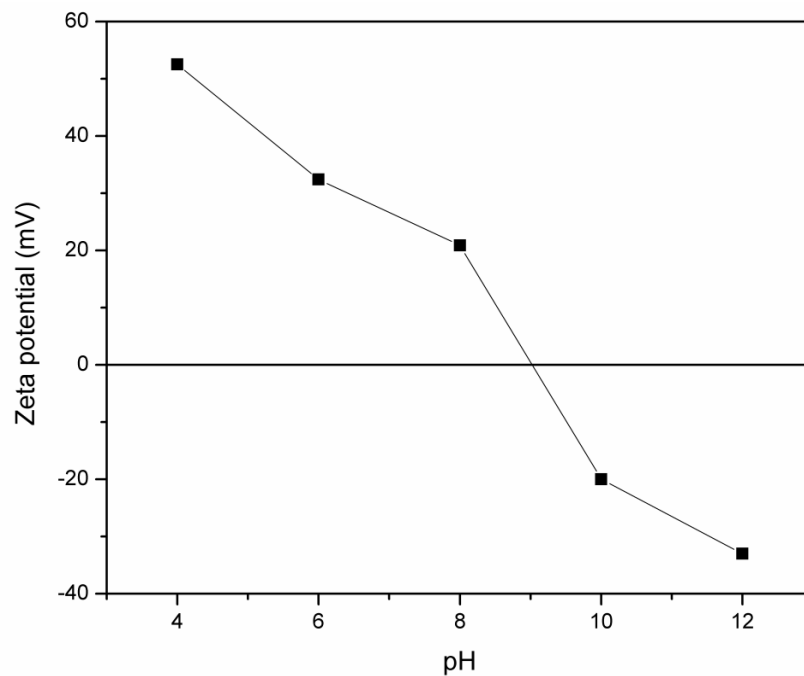


Fig. S3 Zeta potential of $\text{Fe}_3\text{O}_4@\text{SiO}_2\text{-NH}_2$ nanoparticles at different pH.

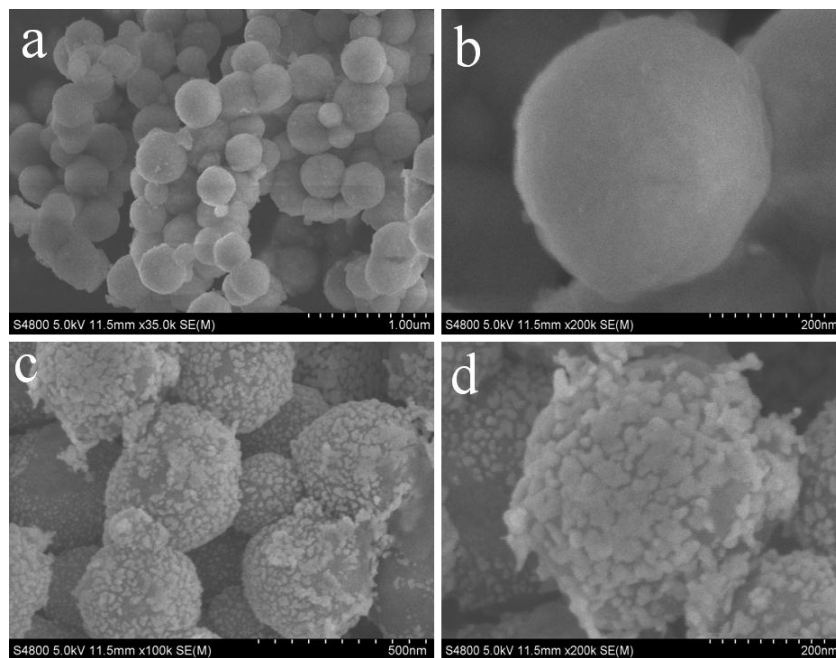


Fig. S4 SEM images of (a, b) Nanocomp-1 and (c, d) Nanocomp-2.

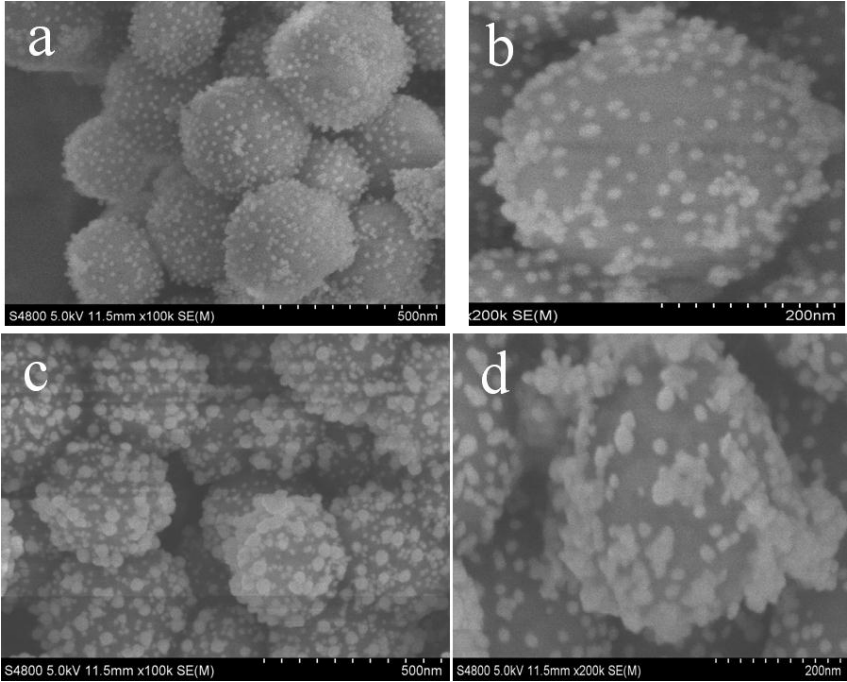
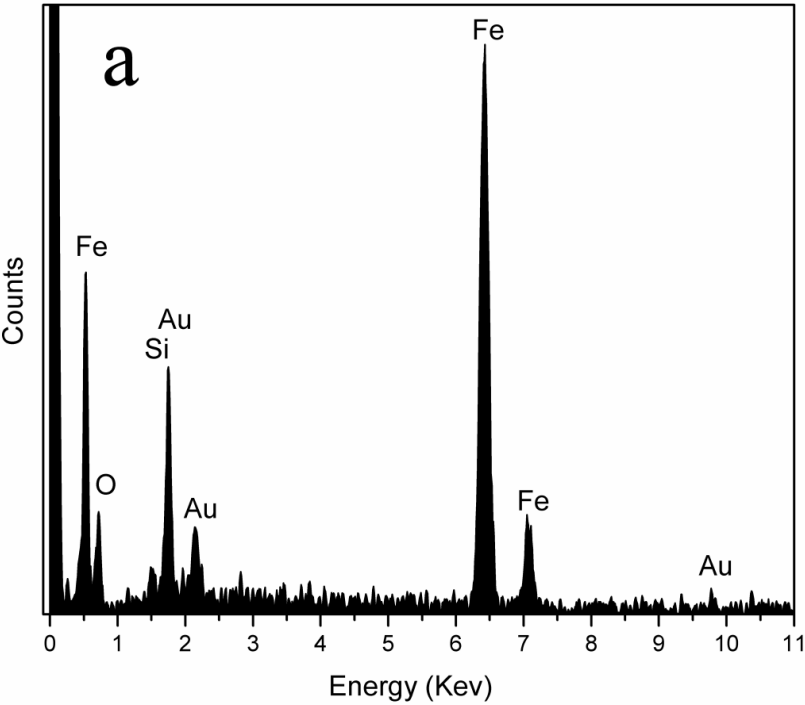
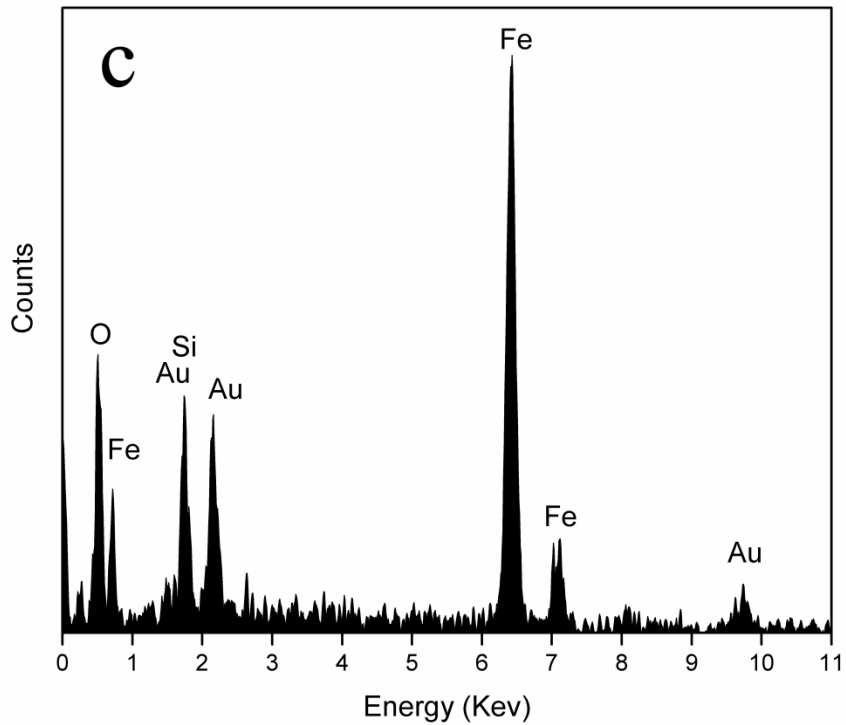
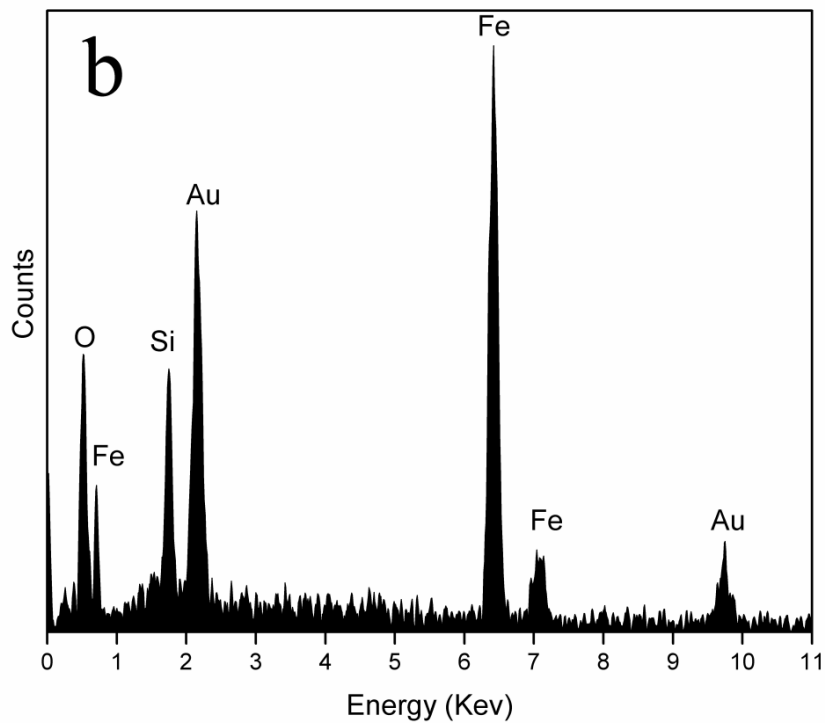


Fig. S5 SEM images of (a, b) Nanocomp-3 and (c, d) Nanocomp-4.





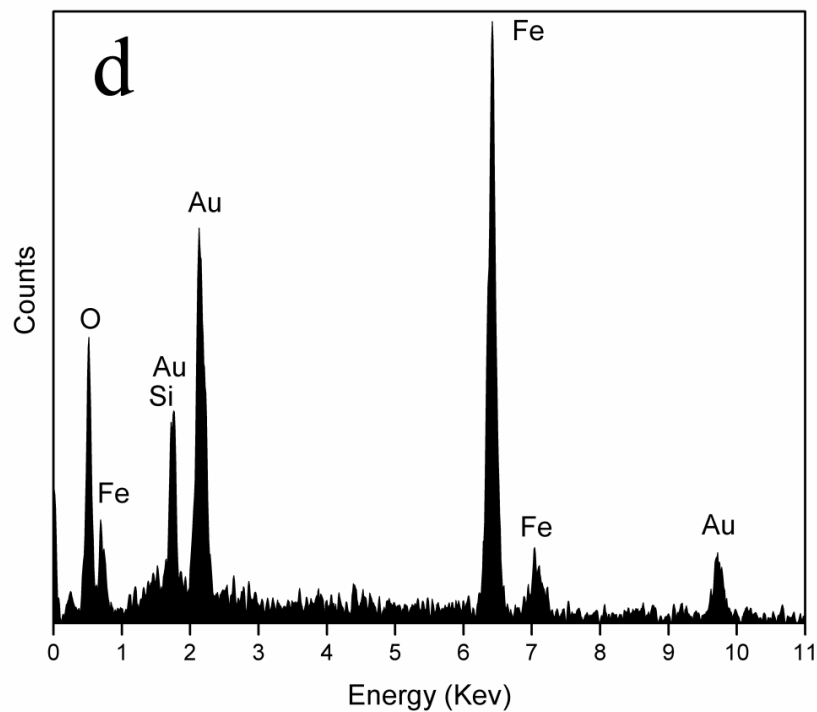


Fig. S6 EDX spectra of (a) Nanocomp-1, (b) Nanocomp-2, (c) Nanocomp-3, and (d) Nanocomp-4.

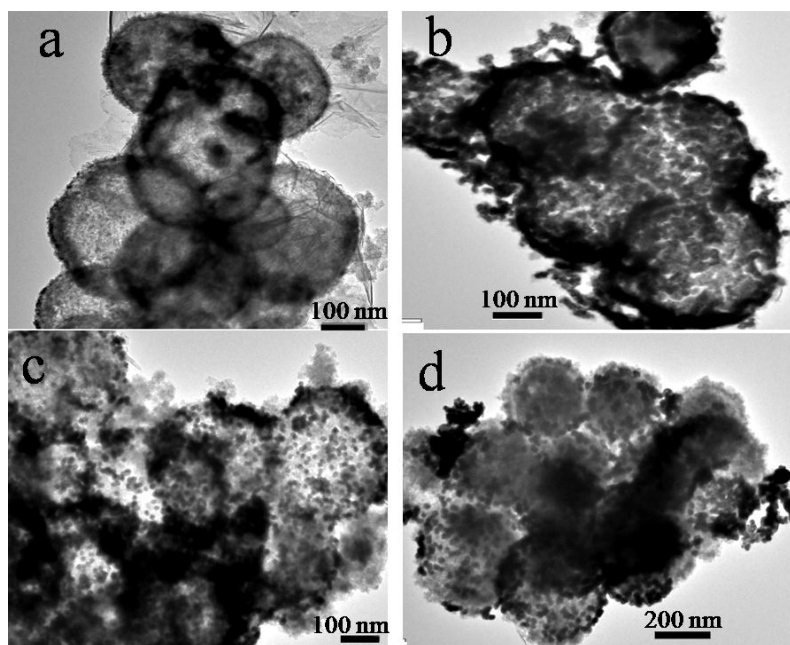


Fig. S7 TEM of (a) Nanocomp-1, (b) Nanocomp-2, (c) Nanocomp-3, and (d) Nanocomp-4 after reusing for 10 cycles.