

Electronic Supplementary Information

One pot synthesis of gold hollow nanospheres with efficient and reusable catalysis

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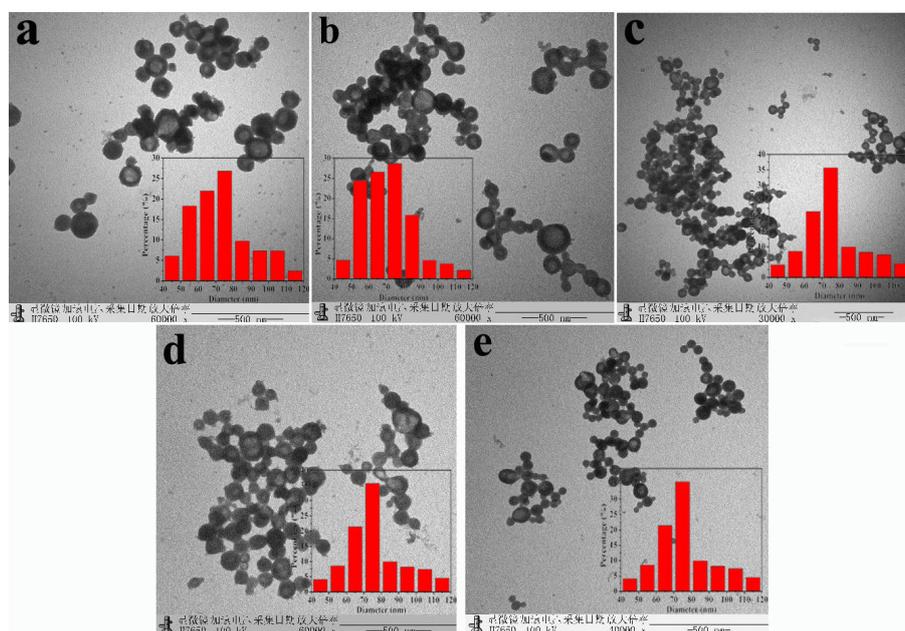


Fig. S1 TEM images of GHNSs at different reaction time for (a) 1 min, (b) 5 min, (c) 30 min, (d) 1 h, (e) 2 h, and corresponding size distribution histogram of GHNSs.

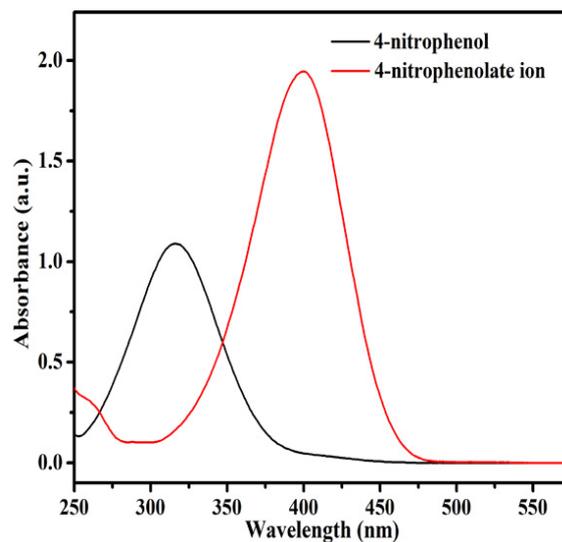


Fig. S2 The UV-vis characteristic peaks of freshly prepared 4-nitrophenol and 4-nitrophenolate ion aqueous solution at 317 and 400 nm, respectively.

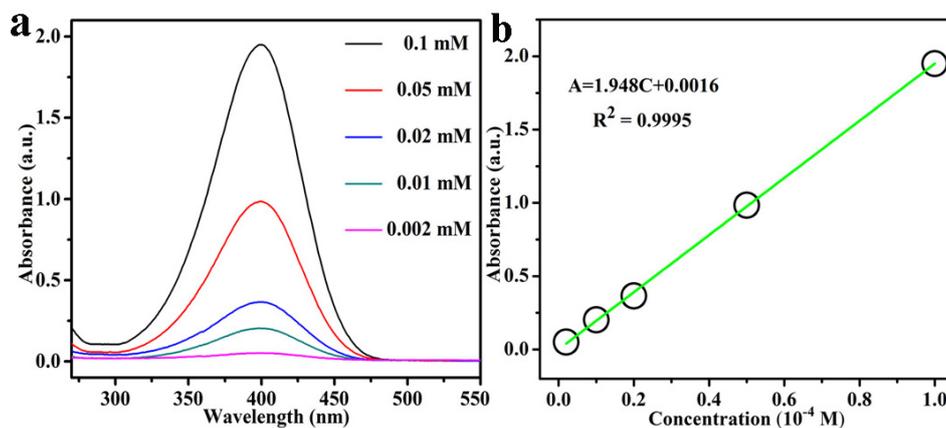


Fig. S3 (a) Absorption spectra of aqueous mixture solutions of 4-NP and NaBH_4 at different concentrations of 4-NP. (b) Plot of the peak absorbance against the concentration of 4-NP.

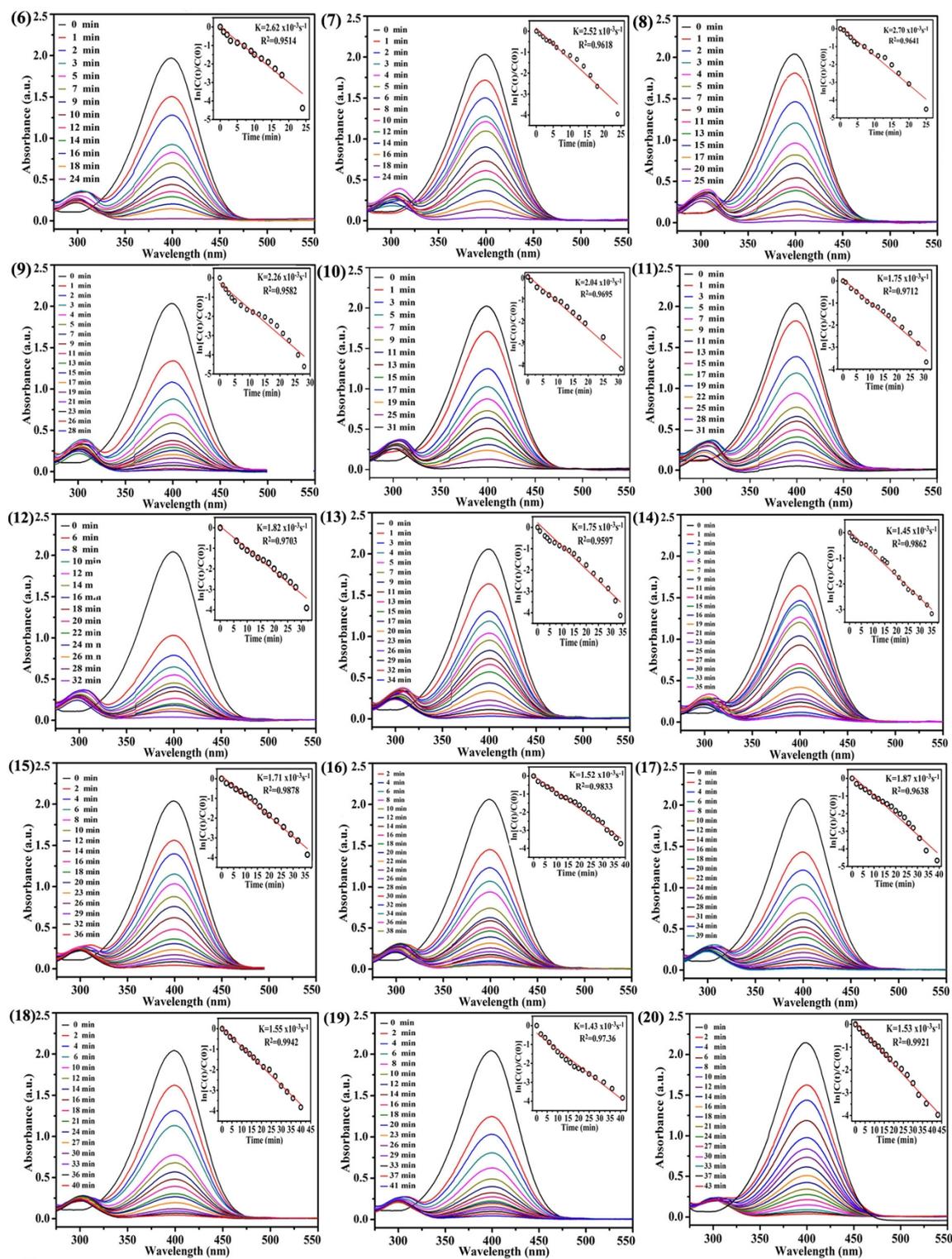


Fig. S4 the UV-vis spectra and kinetic rate of reduction of 4-NP by NaBH_4 under the catalysis of GHNSs for 6-20 times.

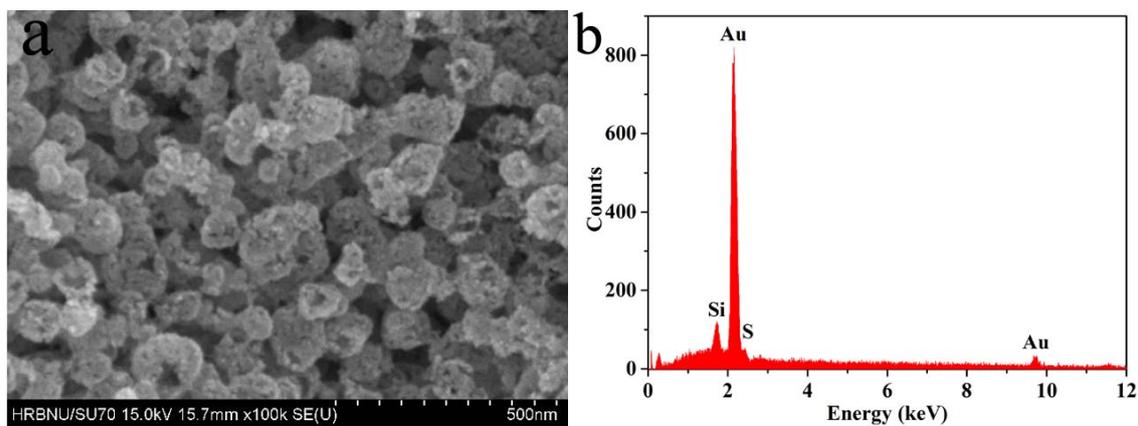


Fig. S5 The SEM (a) and EDX (b) of the GHNSs as catalyst after reused 5 times.

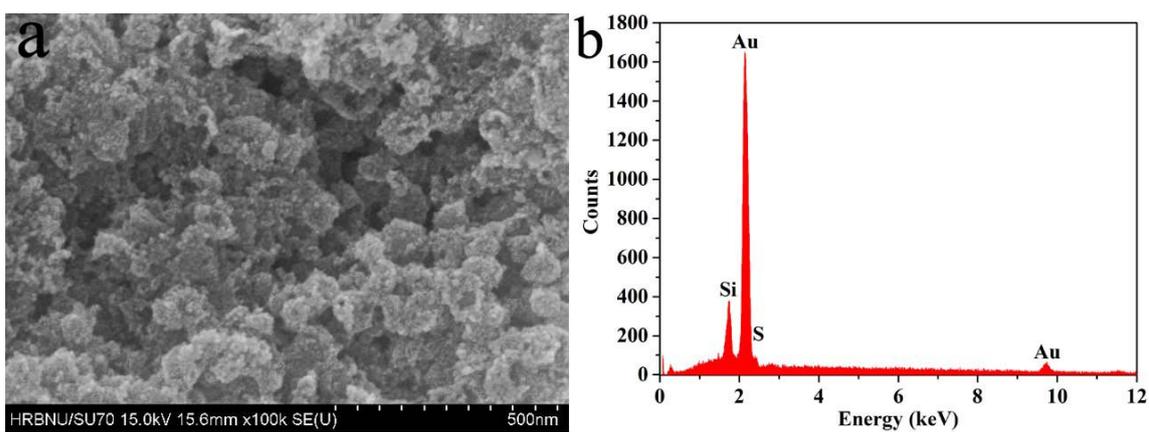


Fig. S6 The SEM (a) and EDX (b) of the GHNSs as catalyst after reused 10 times.

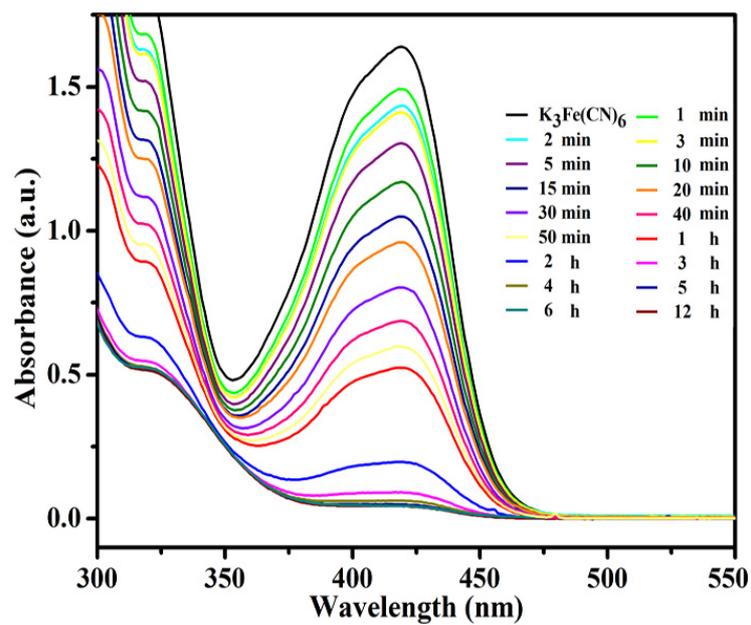


Fig. S7 UV-vis spectra of the reduction of $K_3Fe(CN)_6$ solution upon the addition of $NaBH_4$ recorded at different times from 1 min to 12 h at $25^\circ C$, $[Fe(CN)_6^{3-}] = 3 \times 10^{-3} M$, $[BH_4^-] = 0.04 M$ in the absence of catalyst, GHNSs.