

Supporting Information for:

Synthesis and stability evaluation of size-controlled gold nanoparticles via
nonionic fluorosurfactant-assisted hydrogen peroxide reduction

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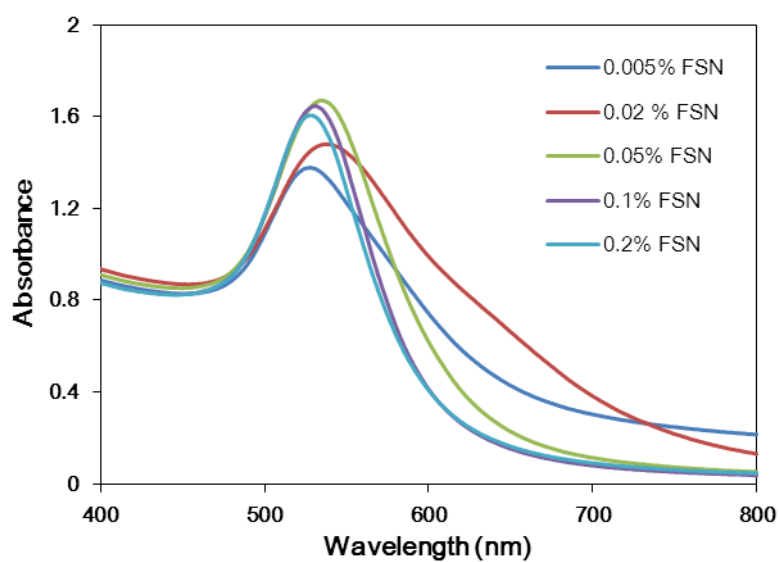


Fig. S1 UV-vis spectra of the FSN-stabilized AuNPs in different concentrations of FSN. Reaction conditions: 0.3 mM H_{AuCl}₄, 0.2 M H₂O₂, 100 $\square$, 1 min.

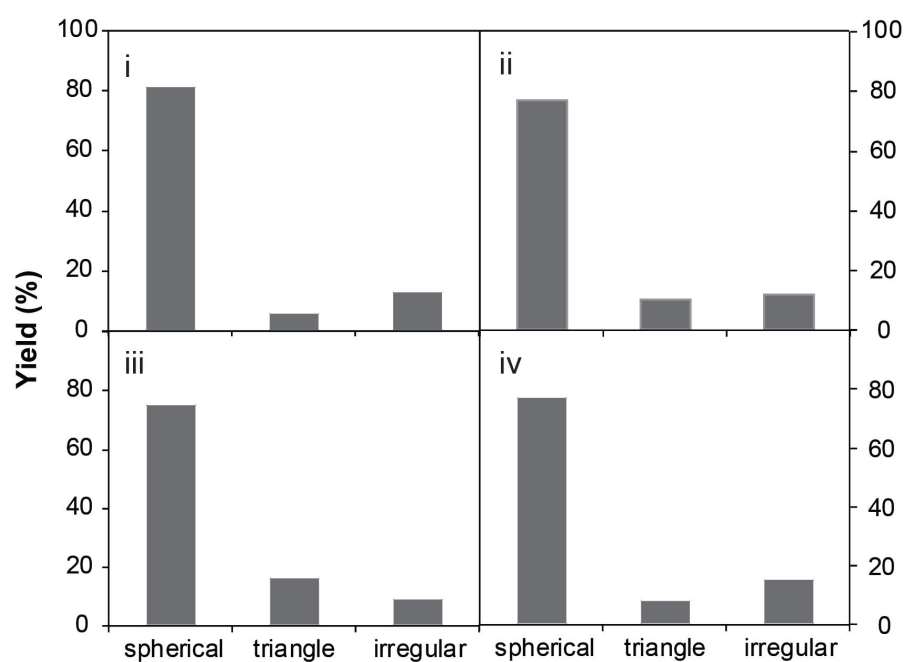


Fig. S2 The yield of different shapes of the FSN-stabilized AuNPs synthesized with different concentrations of H_2O_2 (200 particles have been counted): (i) 0.03 M, 36 ± 4.0 nm; (ii) 0.07 M, 29 ± 3.4 nm; (iii) 0.2 M, 23 ± 2.5 nm; (iiii) 0.6 M, 18 ± 3.8 nm. Reaction conditions: 0.3 mM HAuCl_4 , 0.05 % FSN, 100 °C, 60 s.

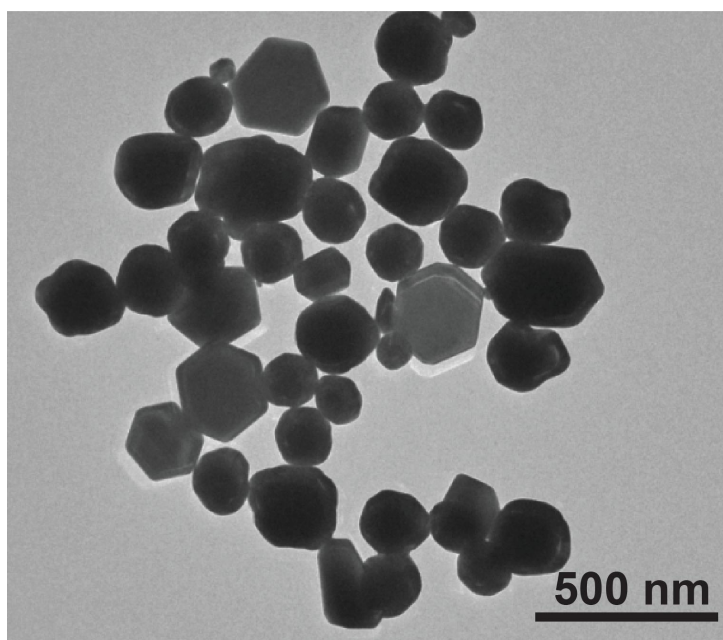


Fig. S3 TEM image of AuNPs synthesized by 0.2 M H_2O_2 and 0.3 mM HAuCl_4 at 100 °C for one minute, average size is 188 ± 90 nm.

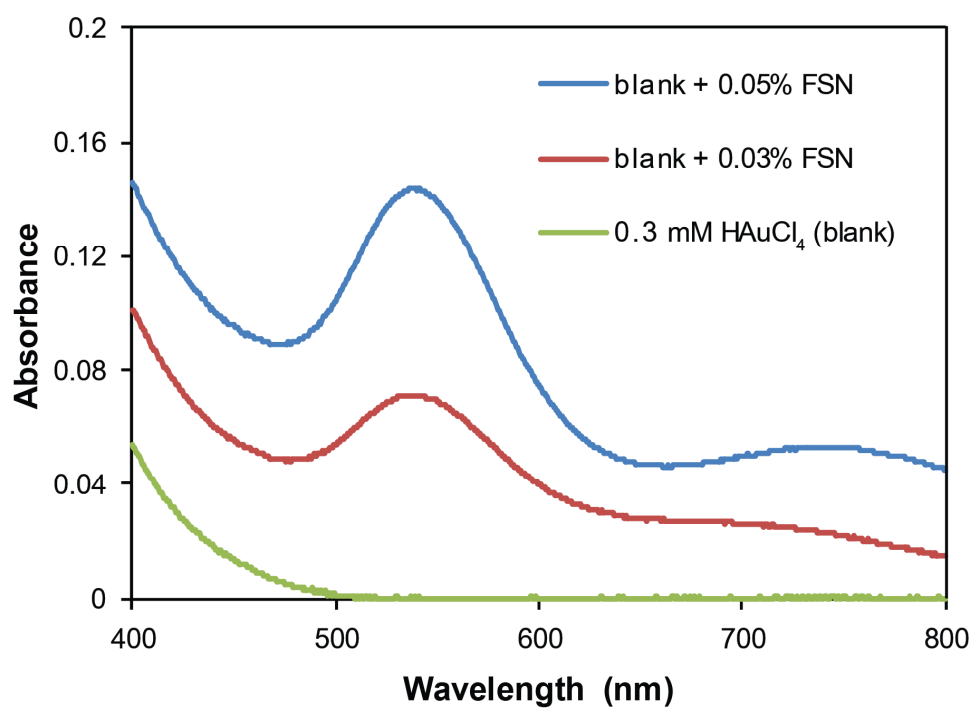


Fig. S4 UV-vis absorption spectra of 0.3 mM HAuCl₄, and AuNPs prepared by 0.03 % or 0.05 % FSN reduction of HAuCl₄ in the absence of H₂O₂ at room temperature for one day.

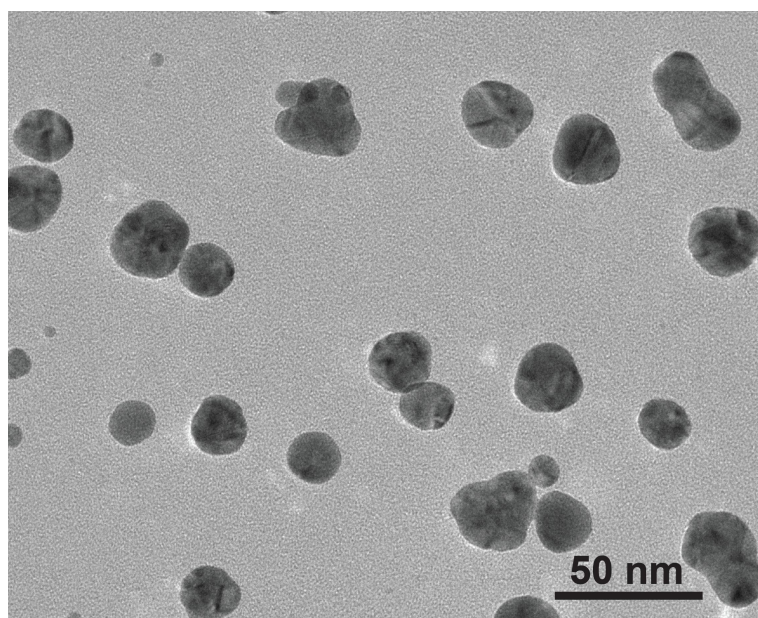


Fig. S5 TEM image of AuNPs synthesized by 0.1 % FSN reduction of HAuCl_4 in the absence of H_2O_2 at 100 °C for 5 min, average size is 21 ± 3.2 nm.

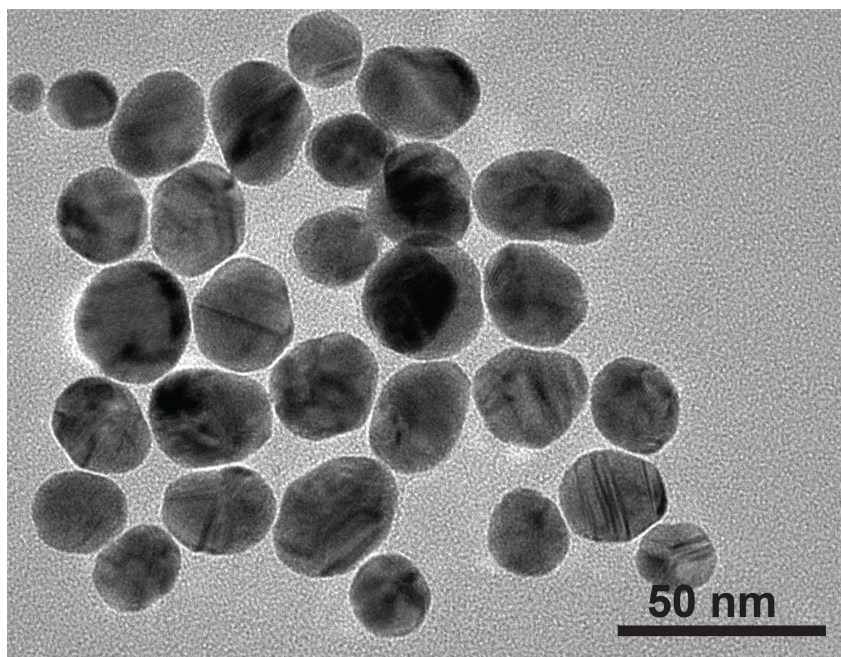


Fig. S6 TEM image of citrate-stabilized AuNPs synthesized by 0.018 % trisodium citrate and 0.3 mM HAuCl_4 at 100 °C for 15 min, average size is 23 ± 3.7 nm.