

**Supporting Information**

**Tunable Near-Infrared Fluorescent Gold Nanoclusters:  
Temperature Sensor and Targeted Bioimaging**

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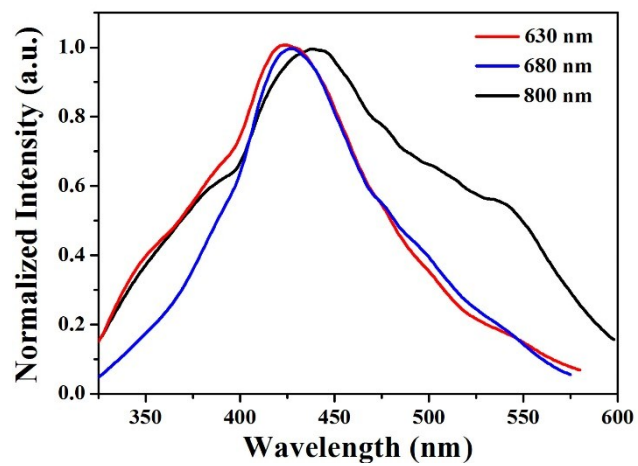
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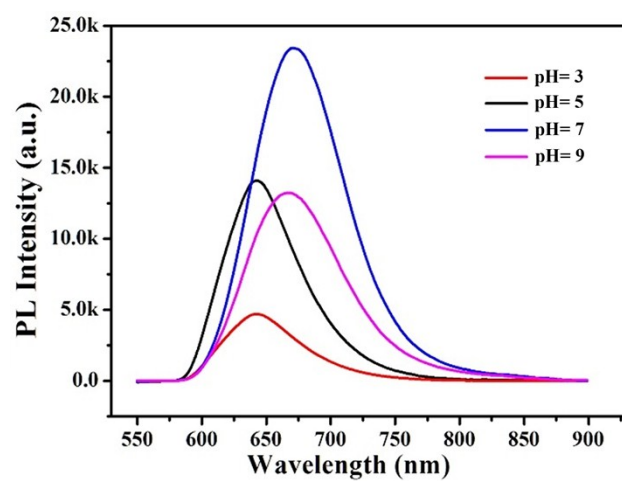
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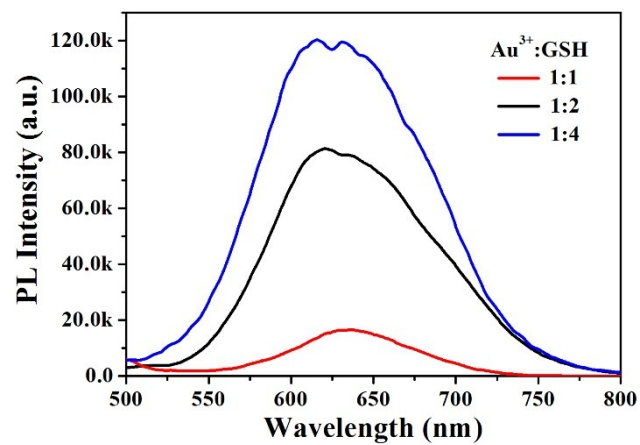
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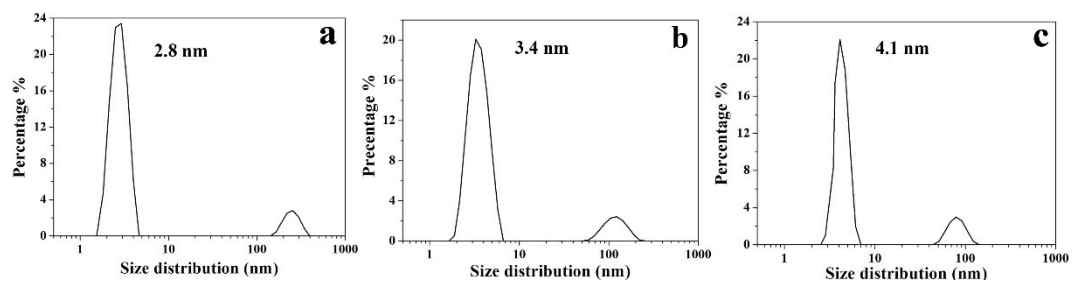
**Fig. S1.** Fluorescence excitation spectra of GSH-AuNCs with various emission wavelength: 630 nm (red line); 680 nm (blue line); 800 nm (black line).



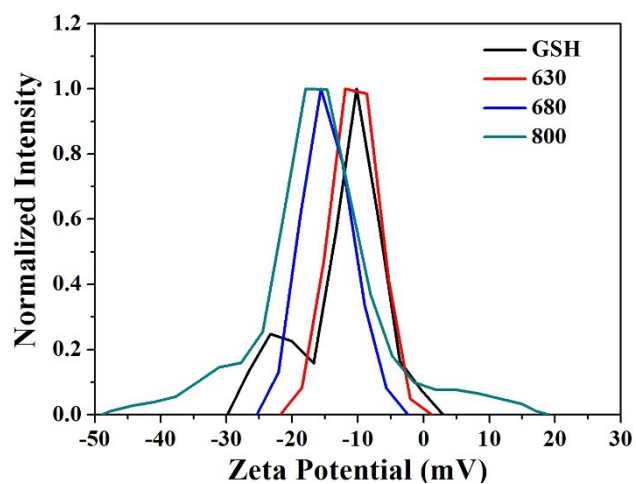
**Fig. S2.** Fluorescent spectra of resultant GSH-AuNCs prepared by various pH values.



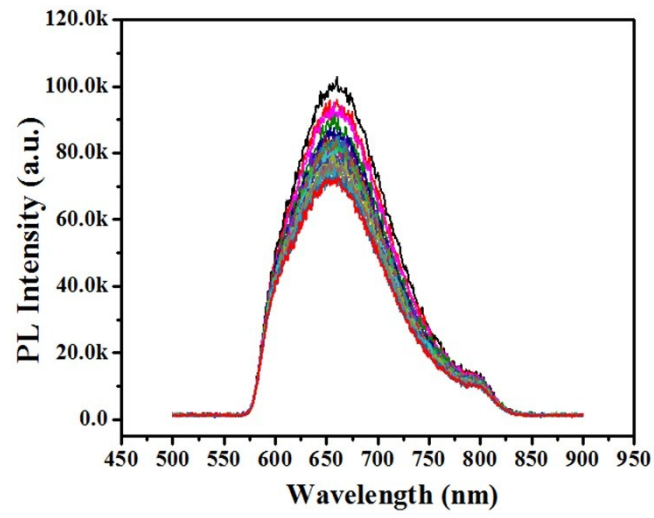
**Fig. S3.** Fluorescence spectrum of GSH-AuNCs with various mole ratio of Au<sup>3+</sup>/GSH: 1:1 (red line), 1:2 (black line) and 1:4 (blue line).



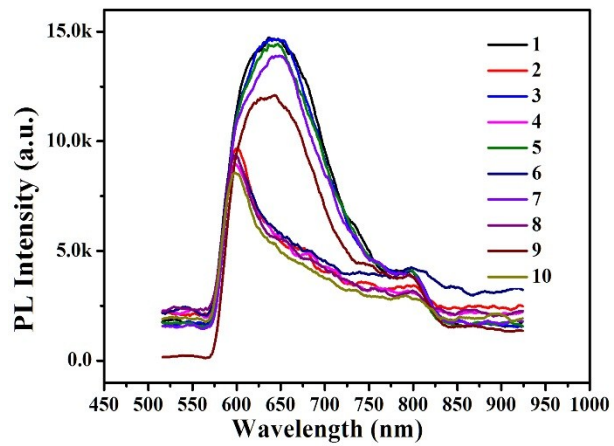
**Fig. S4.** DLS data of GSH-AuNCs with various emission wavelengths: a, 630 nm; b, 680 nm; c, 800 nm.



**Fig. S5.** Zeta potentials of pure GSH (black line) and GSH-AuNCs with various emission wavelengths: 630 nm (red line), 680 nm (blue line) and 800 nm (green line).

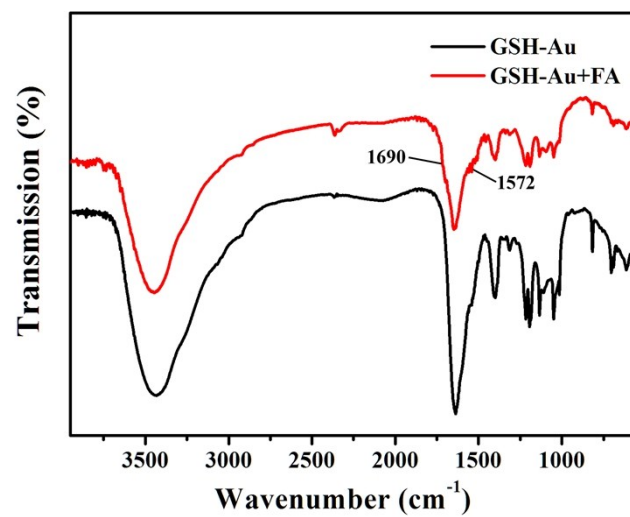


**Fig. S6.** Fluorescence spectra of GSH-AuNCs under 450 W Xe lamp irradiation for different time (time interval: 10 min).

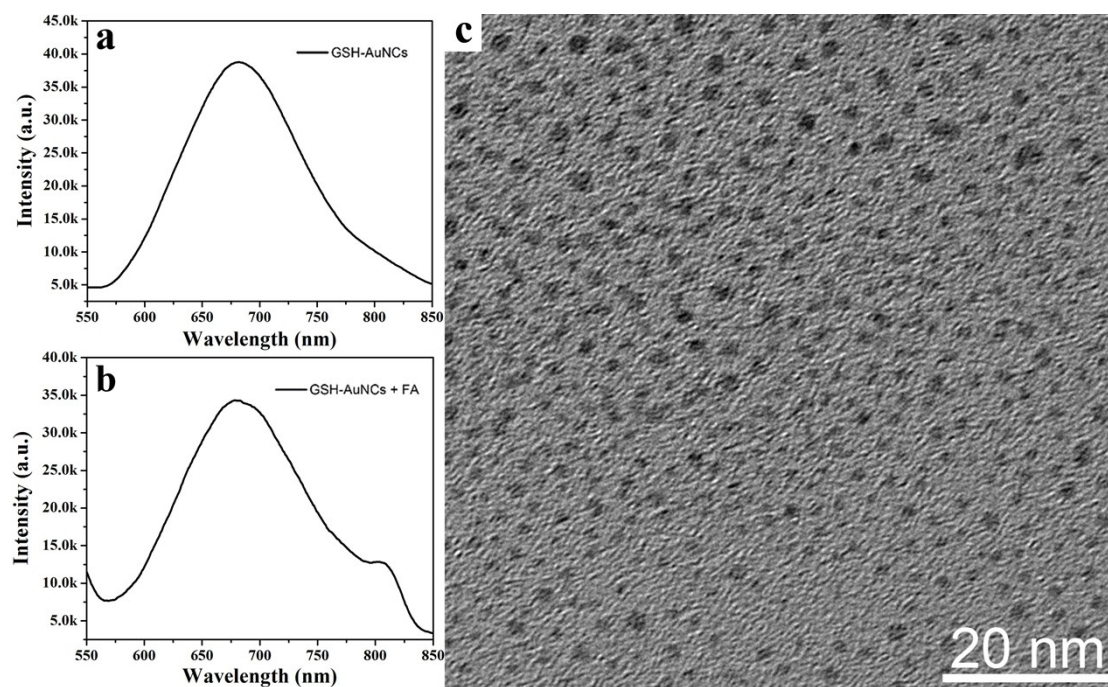


**Fig. S7.** Fluorescence spectra of the aqueous solution of GSH-AuNCs during five heat-up and cool-down cycles.

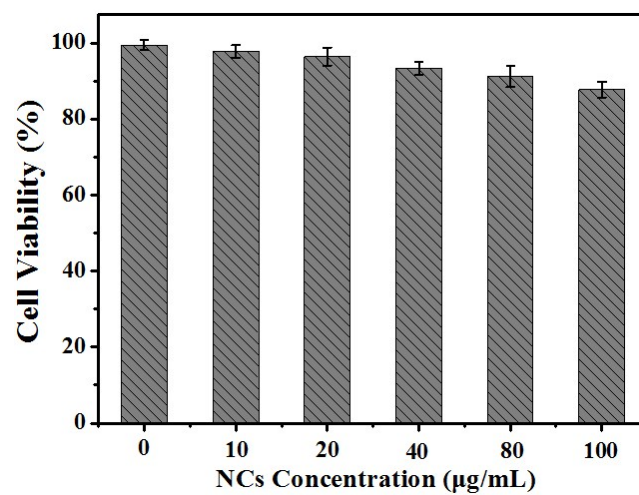




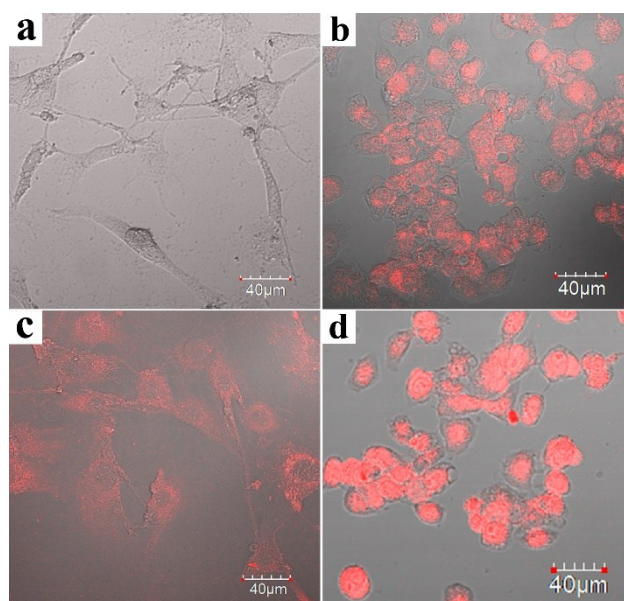
**Fig. S8.** FTIR spectra of GSH–AuNCs and FA-conjugated GSH–AuNCs.



**Fig. S9.** The fluorescent spectra of (a) AuNCs and (b) FA-conjugated GSH-AuNCs; c, TEM image of FA-conjugated GSH-AuNCs.



**Fig. S10.** Viability of HeLa cells after incubation with different concentrations of FA-conjugated GSH-AuNCs for 24 h in the cell medium as determined by a MTT assay.



**Fig. S11.** Fluorescence imaging showing the delivery of GSH–AuNCs with NIR fluorescence into the (a, c) 3T3 cells and (b, d) HeLa cells; the concentration of GSH–AuNCs is 20 μg/mL and the incubation time is (a, b) 4 h and (c, d) 12 h.