Preparation of Novel Fluorescent Nanocomposites Based on Au Nanoclusters and Their Application in Targeted Detection of Cancer Cells

Xiaoyu Wang,[#,†] Junhan Xia,[#,†] Chun Wang,[†] Lu Liu,[†] Shuxian Zhu,[†] Wei Feng*[‡,§] and Lidong Li*[†]

[†]State Key Laboratory for Advanced Metals and Materials, School of Materials Science and Engineering, University of Science and Technology Beijing, Beijing 100083, P. R. China.

[‡]School of Materials Science and Engineering, Tianjin University, Tianjin 300072, P. R. China.

[§]Collaborative Innovation Center of Chemical Science and Engineering (Tianjin), Tianjin 300072, P. R. China.

Corresponding Author

*E-mail: lidong@mater.ustb.edu.cn.
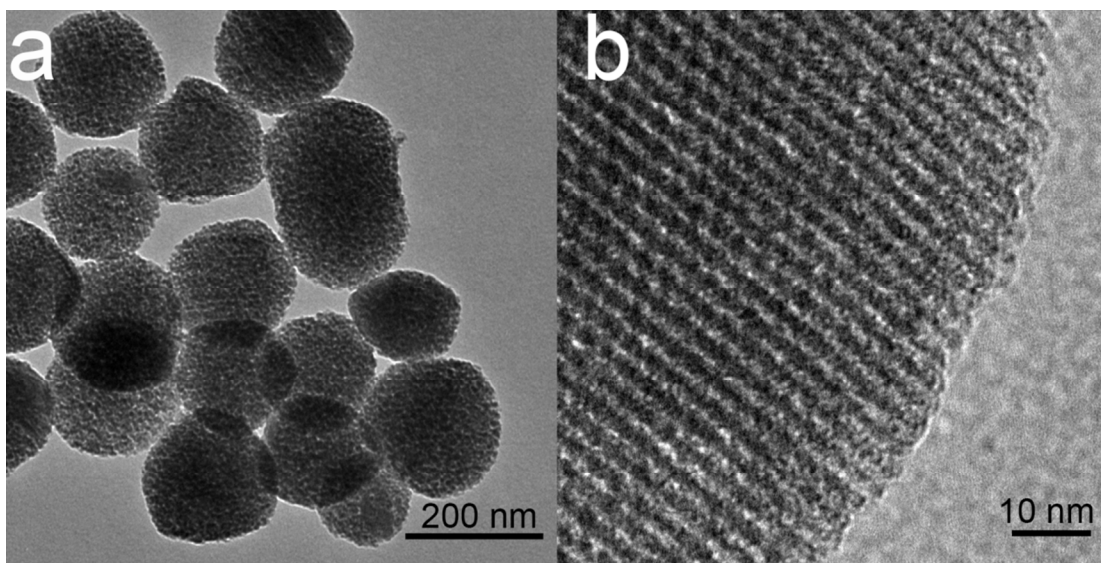
*E-mail: weifeng@tju.edu.cn.

Figure S1. TEM images of mSiO$_2$ nanospheres (a) and their mesoporous structure as characterized by HRTEM (b).
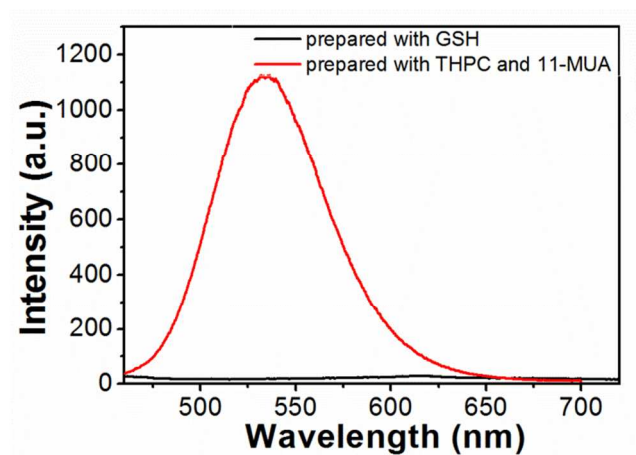

Figure S2. Fluorescence spectra of nanocomposites prepared with GSH under 420 nm excitation (black line), and with THPC and 11-MUA under 370 nm excitation (red line).
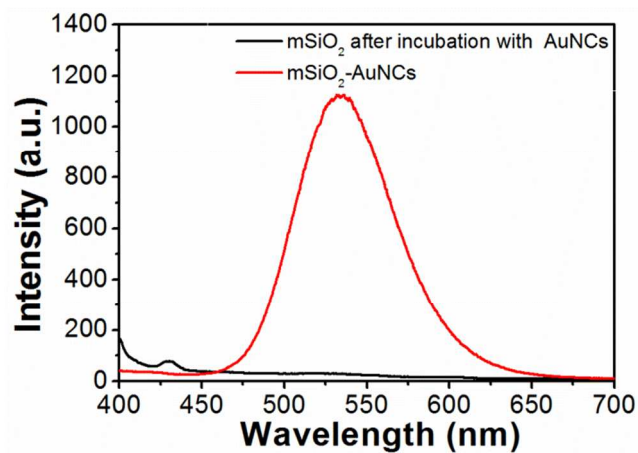
Figure S3. Fluorescence spectra of nanoparticles after incubation with free AuNCs (black line) and mSiO$_2$-AuNCs (red line) for 48 h, respectively. The excitation wavelength was 370 nm.
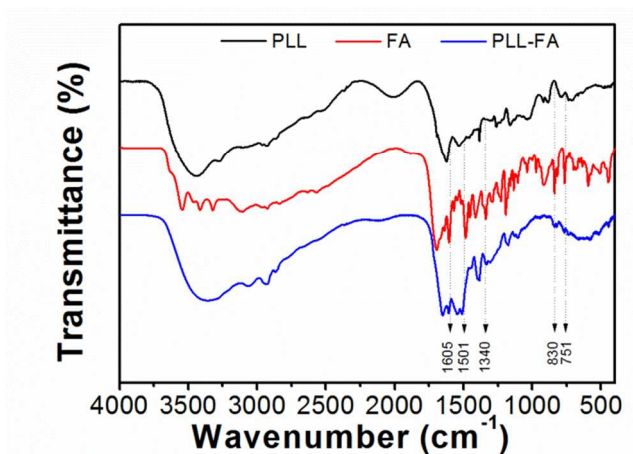

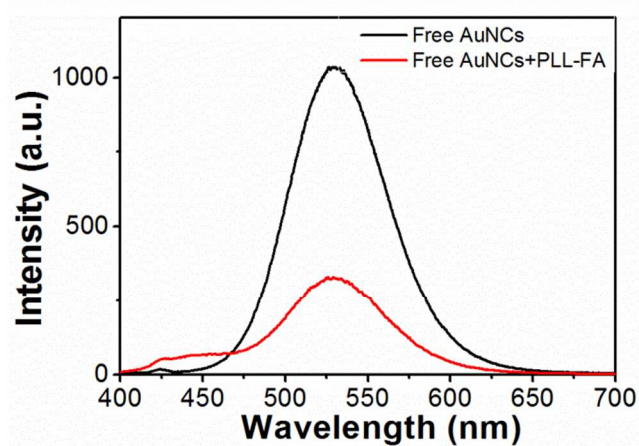**Figure S4.** FT-IR spectra of PLL, FA and PLL-FA.

Figure S5. Fluorescence spectra of Free AuNCs before and after adding PLL-FA, respectively. The excitation wavelength was 370 nm.
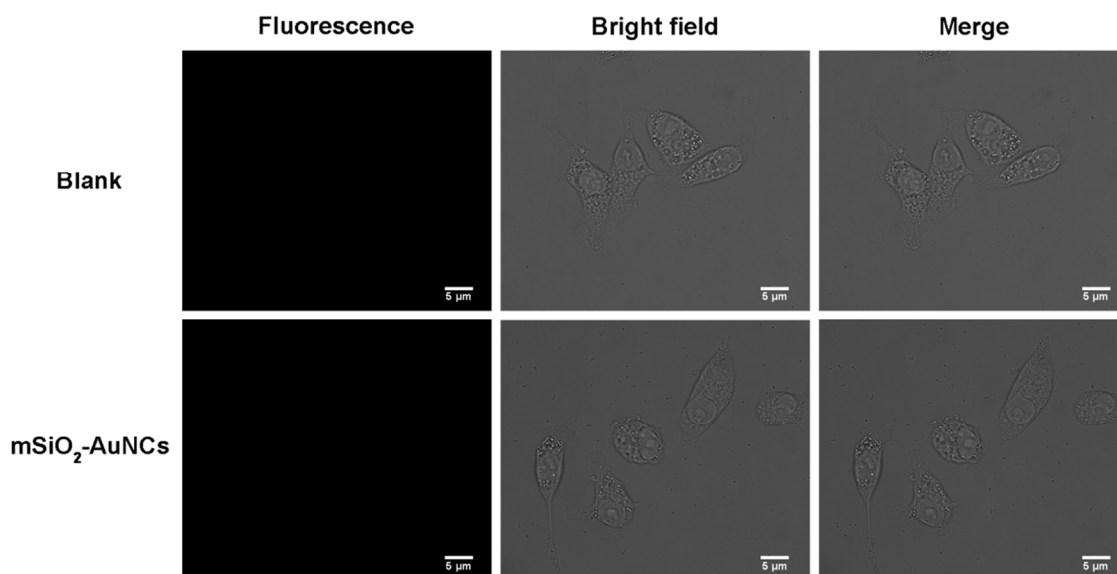

Figure S6. Fluorescence, bright field and overlay images of KB cells after incubation with mSiO$_2$-AuNCs nanocomposites for 2 h. Scale bars: 5 μm.