

**Prompting peroxidase-like activity of gold nanorod composite by
localized surface plasmon resonance for fast colorimetric detection of
prostate specific antigen**

Fang Tan,^a Yan Yang,^a Xiaoxue Xie,^a Linqian Wang,^b Keqin Deng,^a Xiaodong Xia,^a
Xiumei Yang,^a Haowen Huang^{a*}

*a Key Laboratory of Theoretical Organic Chemistry and Function Molecule, Ministry
of Education, Hunan Provincial Key Laboratory of Controllable Preparation and
Functional Application of Fine Polymers, School of Chemistry and Chemical
Engineering, Hunan University of Science and Technology, Xiangtan, China, 411201.*

*b Department of Laboratory, Hunan Provincial Tumor Hospital, the Affiliated
Tumor Hospital of Xiangya Medical School of Central South University, Changsha,
Hunan Province, China*

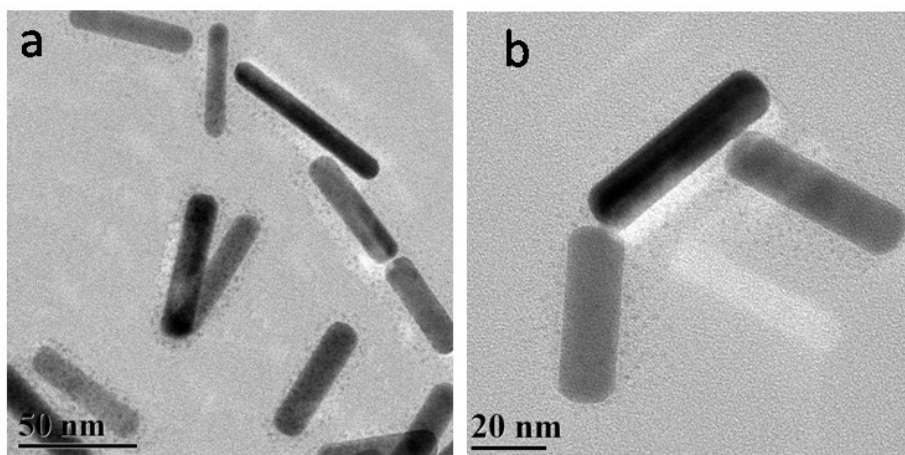


Fig. S1. TEM images of AuNC/GNRs heterostructure.

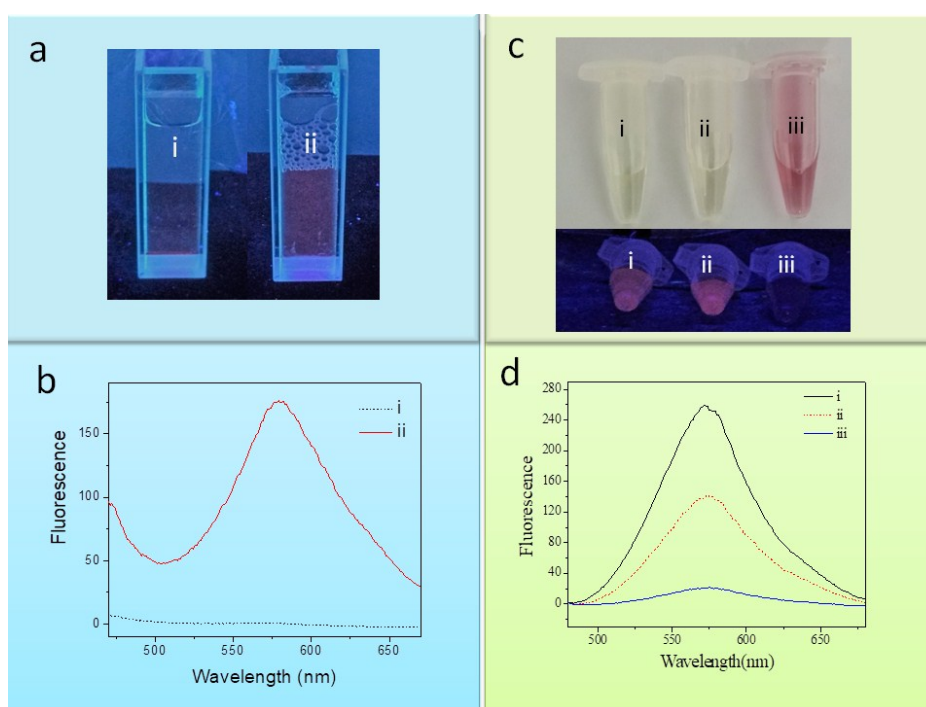


Fig. S2. (a) Photograph of AuNC/GNRs sediment (i) and suspension (ii) under UV irradiation ($\lambda = 365$ nm) and their corresponding fluorescent spectra (b). (c) AuNCs simply mixed with GNRs without activated reagents (EDC and NHS), (i) AuNCs, (ii) supernate by centrifugation from the simple mixture of AuNCs and GNRs, (iii) GNRs obtained from the centrifugation of the mixture of AuNCs and GNRs, (d) fluorescent spectra corresponding to (c).

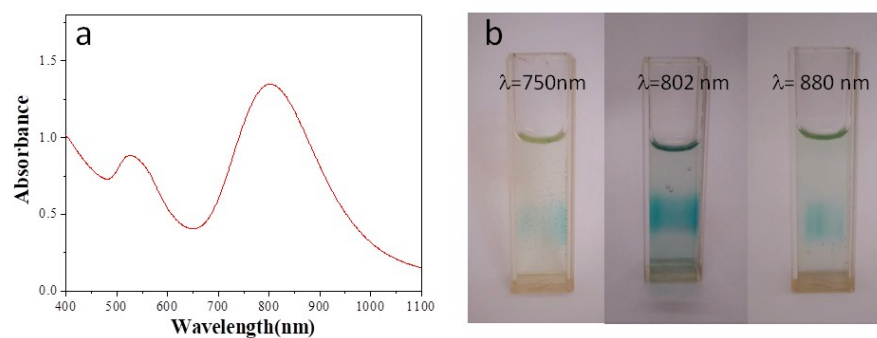


Fig. S3. (a) LSPR spectrum of AuNC/GNRs heterostructure. (b) Photographs of blue ribbon appeared in cuvettes as the monochromatic light spot ($\lambda=750$, 802, 880 nm) pass through the solution containing TMB, H_2O_2 and AuNC/GNRs heterostructure after 10 min.