Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B

Supporting Information

Microwave-assisted Synthesis of Highly Luminescent AgInS2/ZnS Nanocrystals for Dynamic Intracellular Cu (II) Detection

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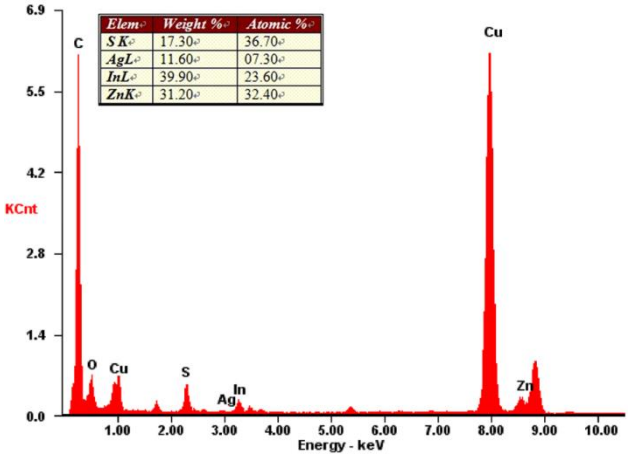
Fig. S1 EDS spectrum of the $AgInS_2$/ZnS NCs



The result indicated the presence of Ag, In, Zn and S.

Fig.S2 Photographs of water-soluble $AgInS_2$ NCs (a) and $AgInS_2$/ZnS NCs (b) under a 365 nm UV illumination.

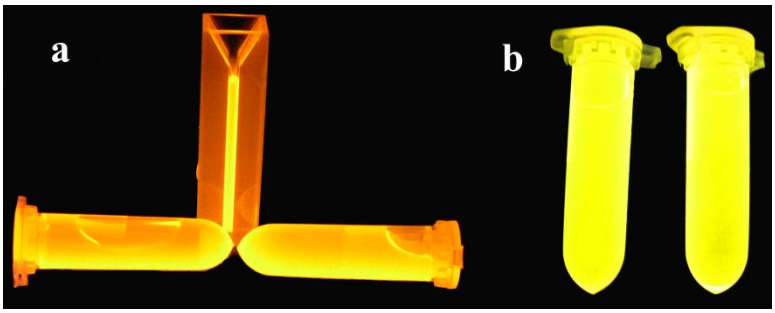


Fig. S3 Cell viability assay of HeLa cells incubated with different concentrations of $AgInS_2$/ZnS NCs for 24 h, respectively. Blank (A), 200 μg mL^{-1} (B), 100 μg mL^{-1} (C), 50 μg mL^{-1} (D), 25 μg mL^{-1} (E), 10 μg mL^{-1} (F), 5 μg mL^{-1} (G)

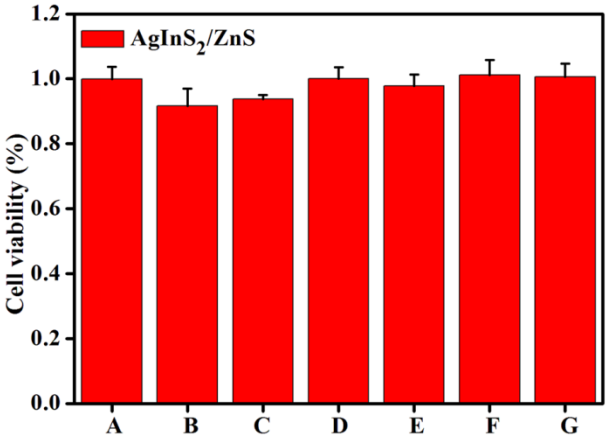
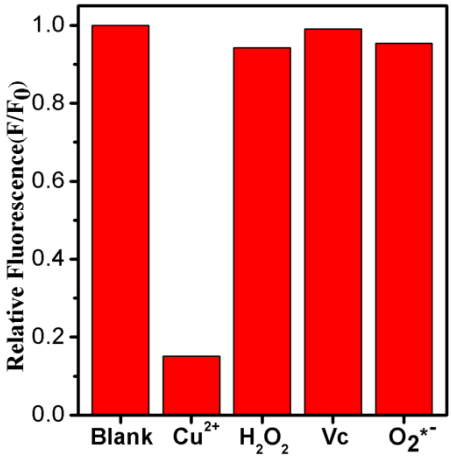


Fig. S4 Fluorescence responses of $AgInS_2$/ZnS NCs (0.02 mg mL^{-1}) towards ROS (10 μM H_2O_2, 10 μM Vc, and 10 μM O_2^{*-}, respectively)



In order to assess the effect of reactive oxygen species (ROS) on the PL intensity of $AgInS_2$/ZnS probes, the PL quenching effect of ROS to probes was investigated. The concentrations of H_2O_2, NaClO, and ascorbic acid (Vc) were all 10.0 μM. O_2^{*-} was generated by the reaction of H_2O_2 with NaClO as previously reported.[s1] As shown in Fig. S4, only a little change of the PL intensity was observed for the H_2O_2, 10 μM Vc, and 10 μM O_2^{*-}. This result ruled out the possibility of intracellular fluorescence quenching of the probes by ROS.

References

[S1] D. W. Li, L. X. Qin, Y. Li, R. P. Nia, Y. T. Long, H. Y. Chen, *Chem. Commun.*, 2011, **47**, 8539.