

Electronic supplementary information for

**Phosphatidylserine-functionalized Fe₃O₄@SiO₂ nanoparticles combined with
enzyme encapsulated liposome for the visual detection of Cu²⁺**

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Table S1: Comparison on the sensitivity among previous visual methods for detecting Cu²⁺ and this study.

Assay method	Visual detection limit	Ref.
Colorimetric recognition of Cu(II) by (2-dimethylaminoethyl)amino appended anthracene-9,10-diones	About 5 μ M	[1]
Visual method based on azide- and alkyne-functionalized polydiacetylene vesicles	5 μ M	[2]
Visual Detection of Copper(II) by Azide- and Alkyne-Functionalized Gold Nanoparticles Using Click Chemistry	50 μ M	[3]
Colorimetric Cu ²⁺ detection with a ligation DNAzyme and nanoparticles	10 μ M	[4]
Visual detection based on phosphatidylserine-functionalized AuNPs	30 μ M	[5]
Method by combined Fe ₃ O ₄ NPs-Based Solid Phase Extraction with a Functionalized Gold Nanoparticle Probe	About 3.2 nM by using 200 mL sample	[6]
Method based on spiro rhodamine B lactam derivative (RhBLA)-functionalized Fe ₃ O ₄ NPs	50 nM by using 100 mL sample	[7]
Visual detection based on Phosphatidylserine-functionalized Fe ₃ O ₄ @SiO ₂ nanoparticles and HRP encapsulated liposome	0.1-0.5 μ M by using 2 mL sample (the visual detection limit can be further reduced by using a greater volume of water sample)	This study

References:

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