Supporting Information

A Fluorimetric Test Strip with Suppressed "Coffee Ring Effect" for Selective Mercury Ion Analysis

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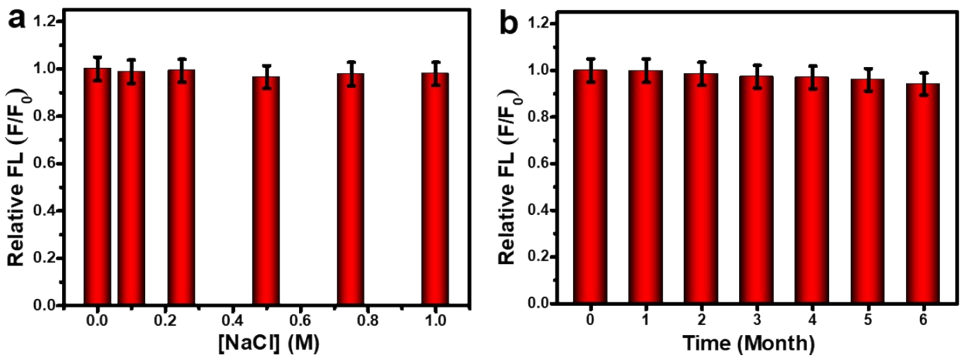

Figure S1. Enviormental stability investigation on AgNCs stored (a) in the different ionic strengths and (b) in water over the different time intervals at 4 ℃.

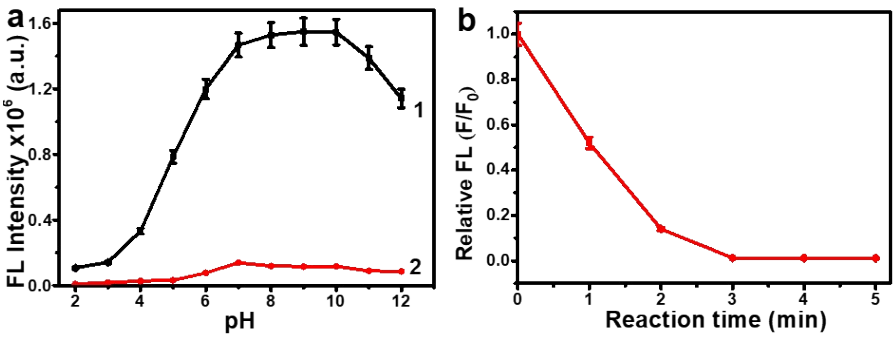

Figure S2. (a) Optimization of the fluorimetric sensing conditions of the pH-dependent fluorescence intensities for AgNCs in the (1) absence and (2) presence of Hg^{2+} ions. (b) Reaction time-dependent relative fluorescence intensities for AgNCs with Hg^{2+} ions.

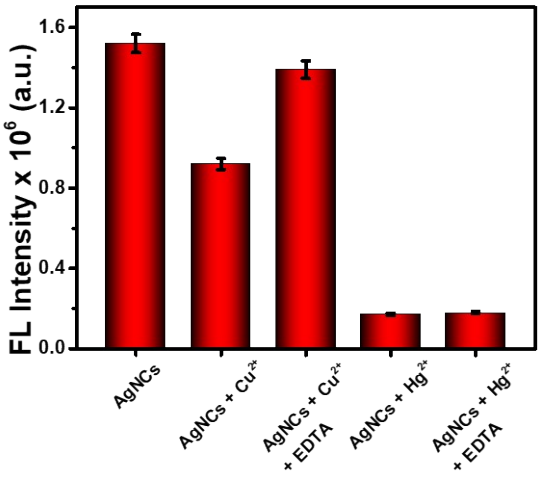

Figure S3. Fluorescence intensity of AgNCs in the absence and presence of Cu^{2+} ions, Cu^{2+} ions with EDTA, Hg^{2+} ions, and Hg^{2+} ions with EDTA, where 5.0 μM Cu^{2+} or Hg^{2+} ions and 10 μM EDTA were used.

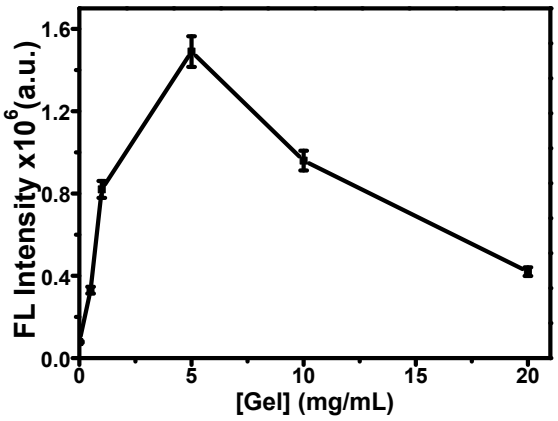

Figure S4. Optimization of Gel concentrations for the preparation of Gel/AgNCs test strips.

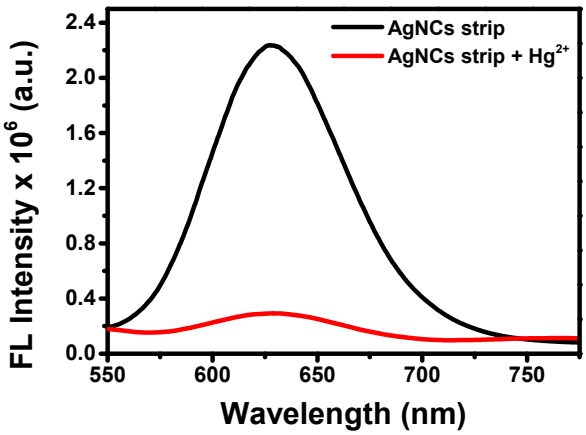

Figure S5. The fluorescence intensities of Gel/AgNCs test strips in the absence and presence of Hg^{2+} ions.

Table S1 Comparison of analytical performances among different detection methods for Hg^{2+}

Detection methods	Probe materials	Linear range (nM)	LOD (nM)	References
Fluorimetry	Amino acid–based probe	0.0-500	9.1	[1]
Colorimetry	AuNPs	25-750	50	[2]
Electrochemistry	MB-DNA/GO	0.5-50	0.12	[3]
Raman spectroscopy	Fe_3O_4@Ag-DMcT	1.0-100000	1.0	[4]
Fluorimetry	Gel/AgNCs test strips	20-312500	12	This work

References

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[2] G. H. Chen, W. Y. Chen, Y. C. Yen, C. W. Wang, H. T. Chang and C. F. Chen, *Anal. Chem.*, 2014, **86**, 6843-6849.

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