Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Supporting Information

Dual-emissive gold nanoclusters for separation-free and label-free ratiometric fluorescent sensing of 4-nitrophenol based on inner filter effect

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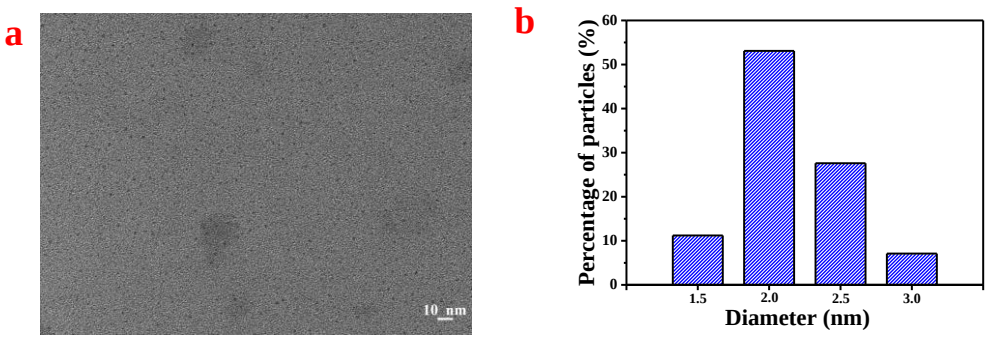

Figure S1. a) TEM image of the GNCs@BSA taken on a JEOL JEM-2010 microscope. b) The corresponding histogram of size distribution of the AuNCs@BSA.

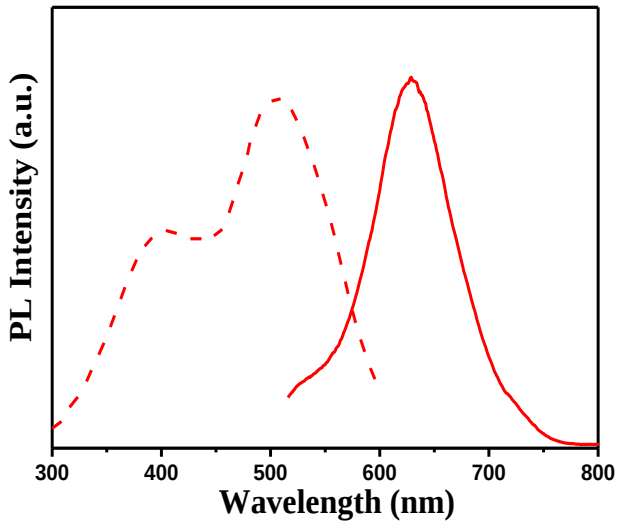

Figure S2. PL emission (solid line) and excitation (dash line) spectra of the 4-fold diluted GNCs@BSA stock solution.

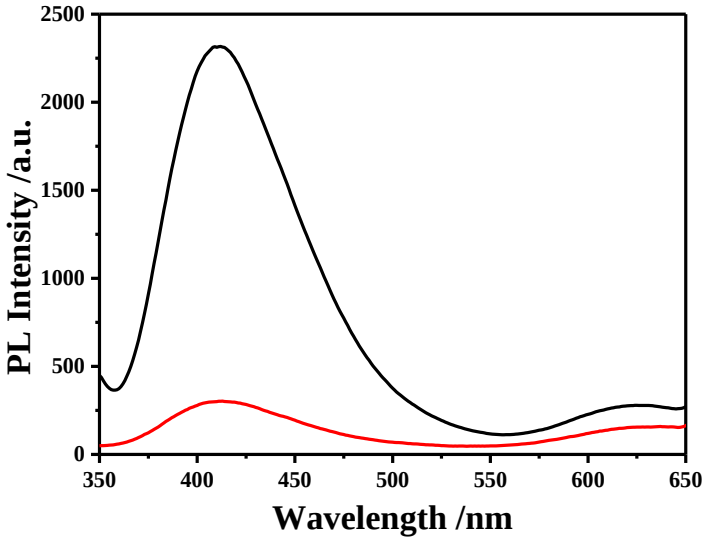

Figure S3. PL emission spectra of the 4-fold (red) and 10-fold (black) diluted GNCs@BSA stock solution excited at 330 nm.

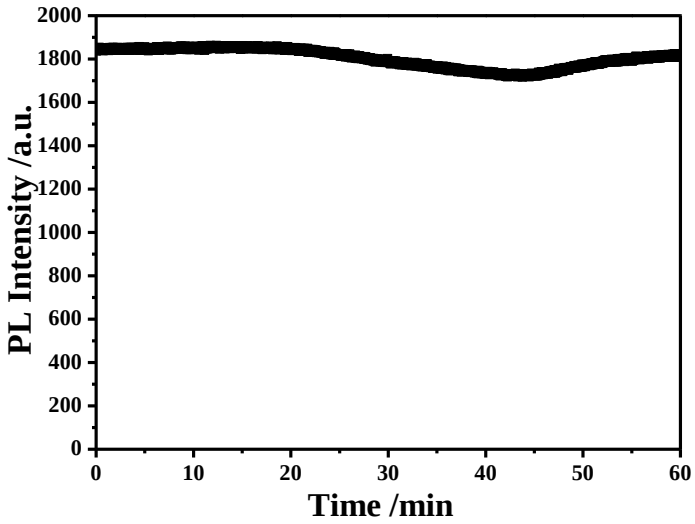

Figure S4. Photostability of the 410-nm emission of the GNCs@BSA in tri-HCl buffer solution at pH 8.0.

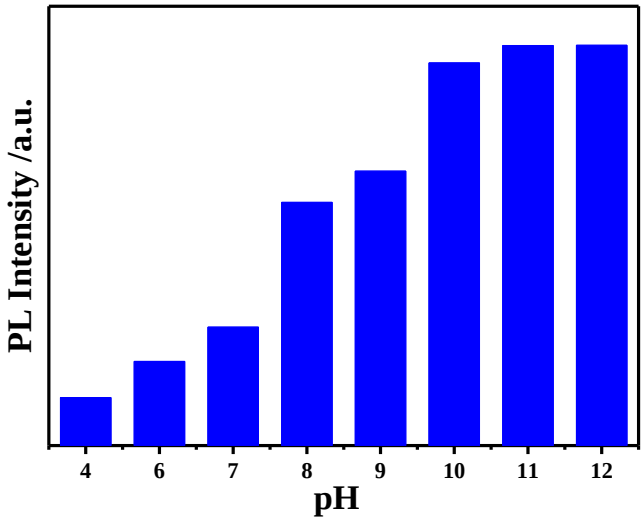

Figure S5. Bar plot of varied pH values on the 410-nm emission intensity of the GNCs@BSA.

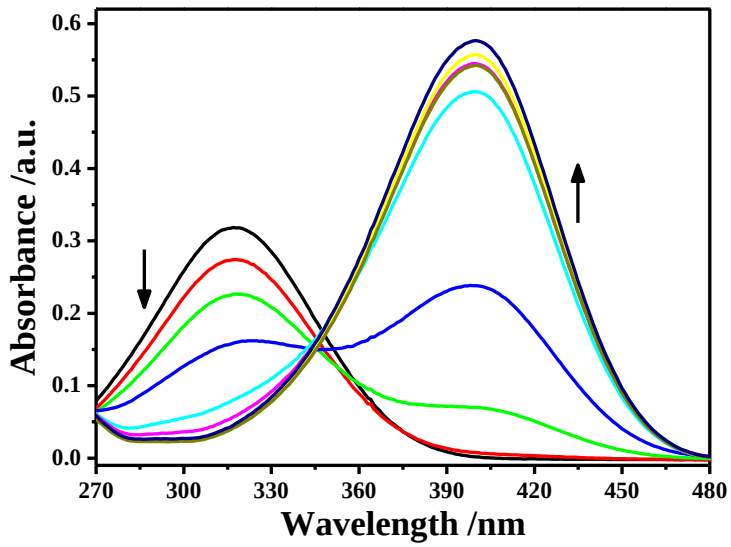

Figure S6. UV-vis absorption spectra of 3.3 μM 4-NP at varied pH values (left arrow: from up to bottom, pH = 4, 5, 6, 7, 8, 9, 10, 11, 12, respectively).

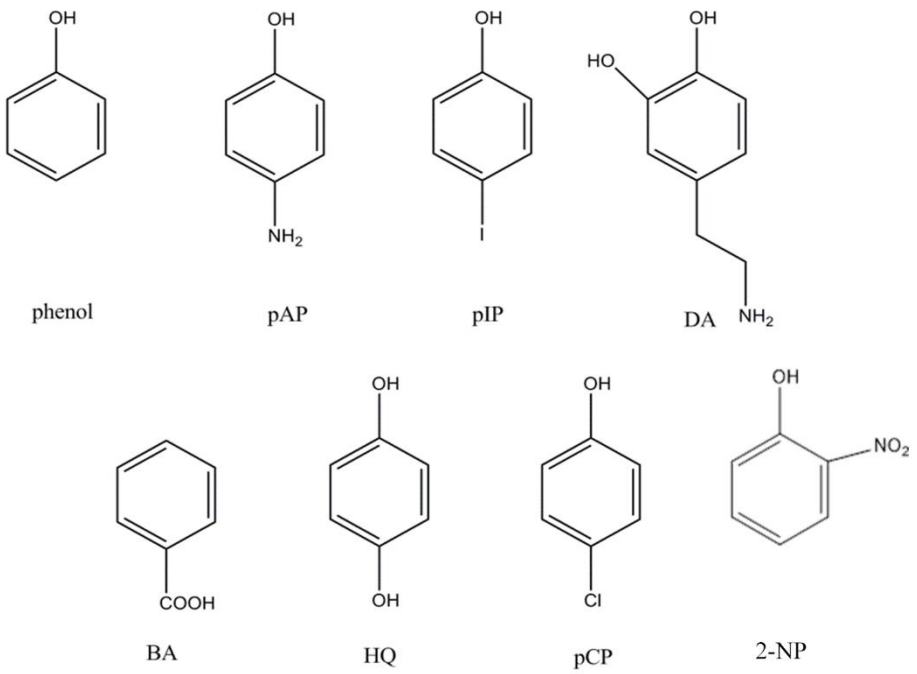

Figure S7. The molecular structures of of phenol, pAP, pIP, DA, BA, HQ, pCP and 2-NP.

Table S1. Spiked recoveries and RSDs (%, n=3) for the determination of 4-NP in tap water and local river water samples using the ratiometric sensor.

Samples	Spiked (μM)	Found (μM, average value)	Recovery[a] (%)	RSD (%)
Tap water	0	ND[b]	/	/
	0.680	0.682	100.2	1.3
River water	0	ND	/	/
	0.680	0.676	99.4	1.6

[a] Average value from three individual experiments.

[b] ND: non detected.