

Development of a Facile and Sensitive Method for Detecting Alkaline Phosphatase Activity in Serum with Fluorescent Gold Nanoclusters based on the inner filter effect

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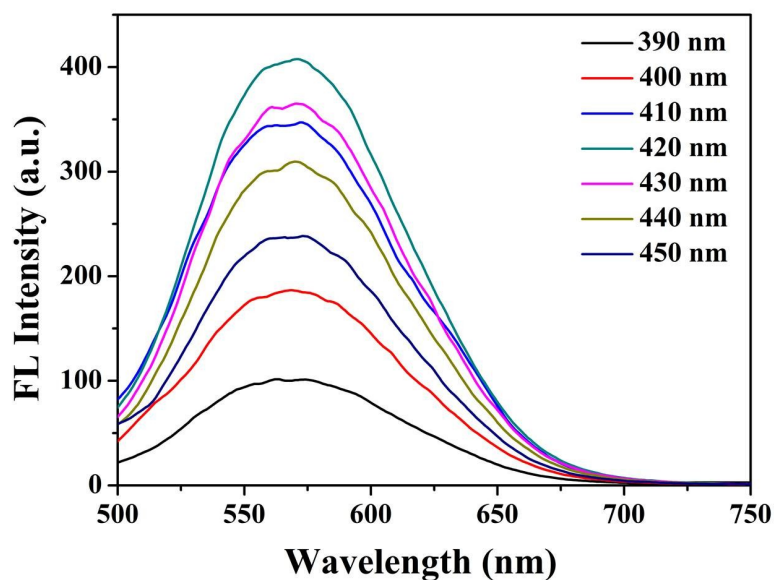


Figure S1. Fluorescence emission spectra of the AuNCs at various excitation wavelengths.

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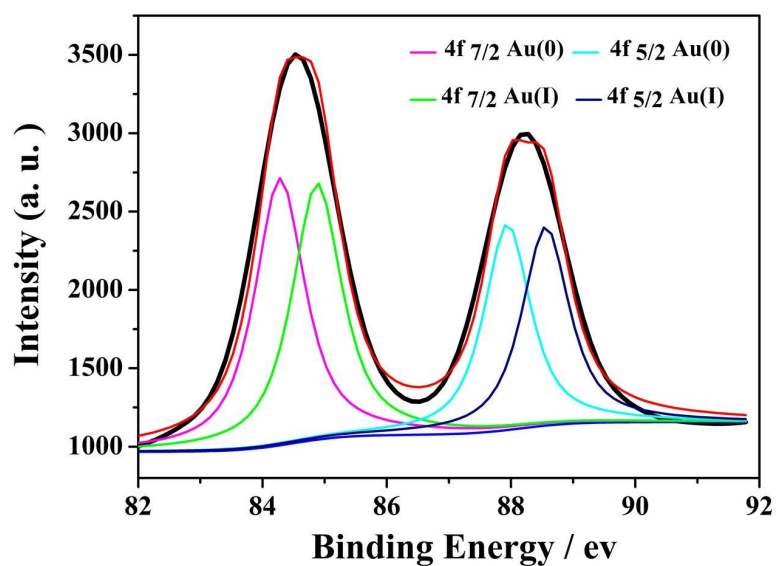


Figure S2. Au 4f XPS spectrum of AuNCs. Blank line: experimental spectrum; red line: fitted spectrum.

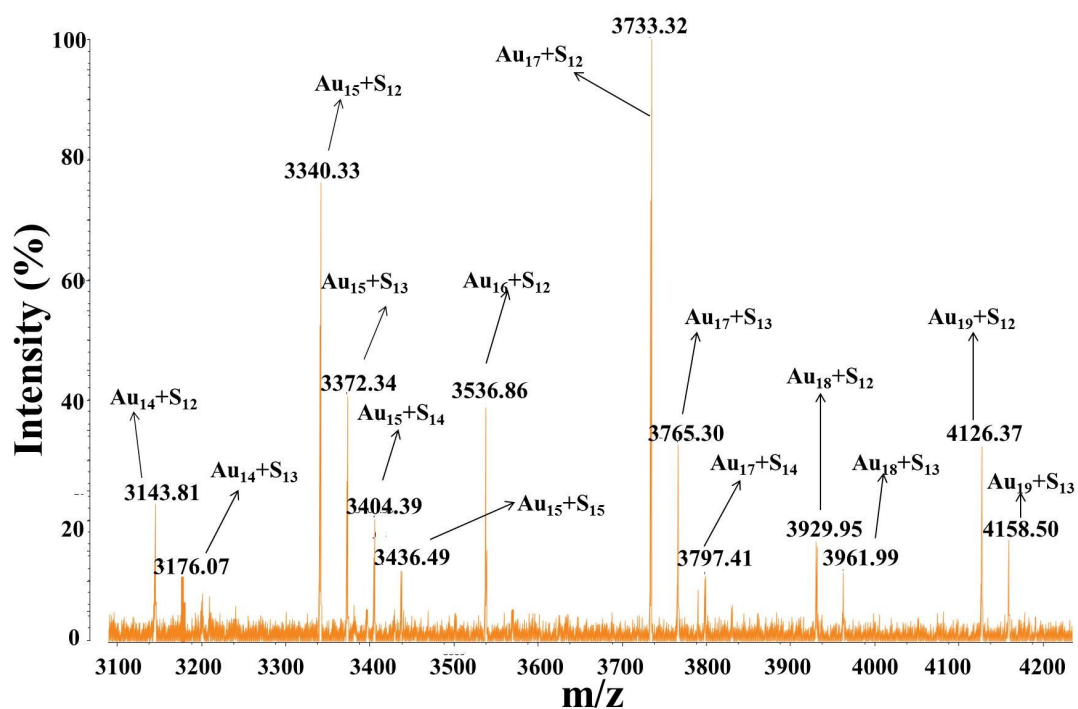


Figure S3. MALDI-TOF/TOF MS spectrum of the AuNCs using DCTB as a matrix in the negative-ion mode.

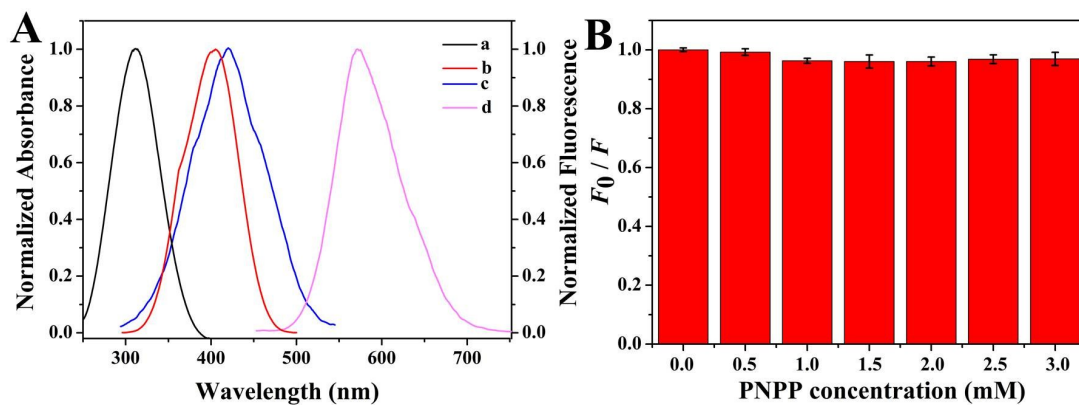


Figure S4. (A) Absorption spectrum of (a) p-nitrophenylphosphat, (b) p-nitrophenol and fluorescence (c) excitation spectrum, (d) emission spectrum of AuNCs. (B) The fluorescence change of AuNCs upon addition of various concentrations of PNPP from 0 to 3 mM.

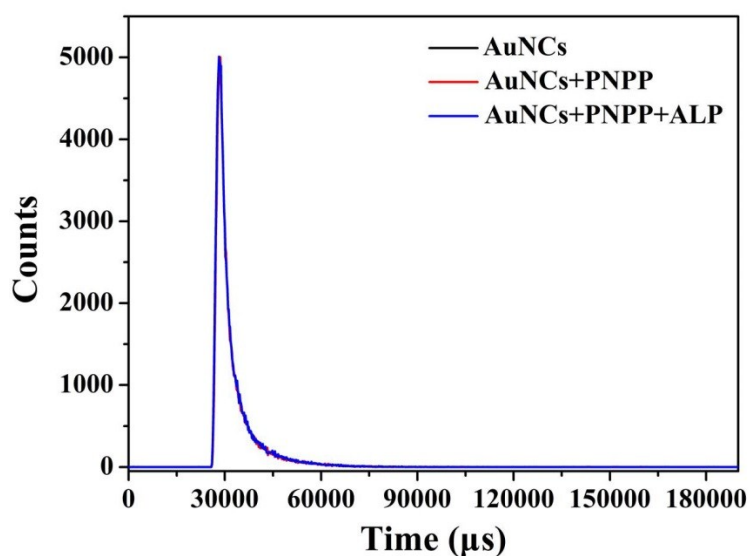


Figure S5. Time-resolved decay curves of AuNCs in the absence and presence of PNPP (1 mM), and in the presence of PNPP (1 mM) with ALP (5 U/L).

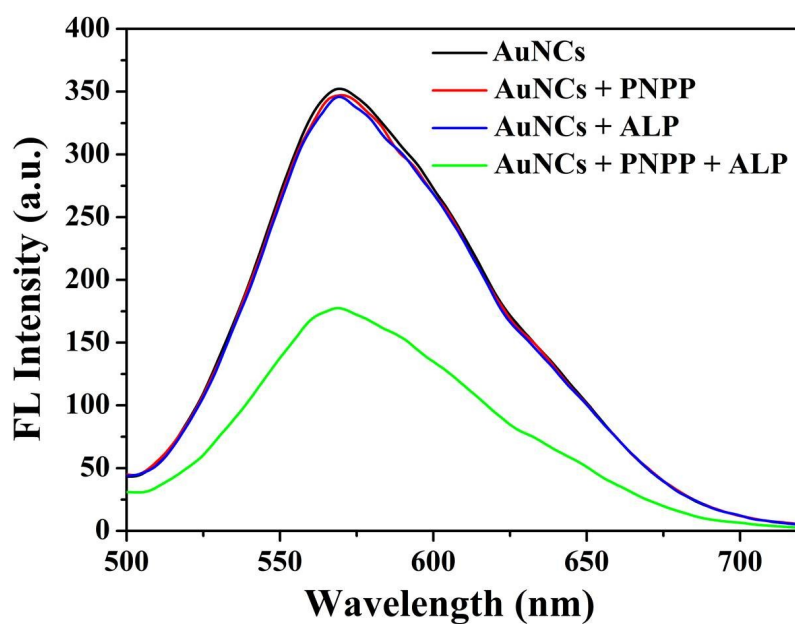


Figure S6. Fluorescence spectra of AuNCs (black line) in the presence of 1.0 mM PNPP (red line), 5.0 U/L ALP (blue line) and 1.0 mM PNPP + 5.0 U/L ALP (green line).

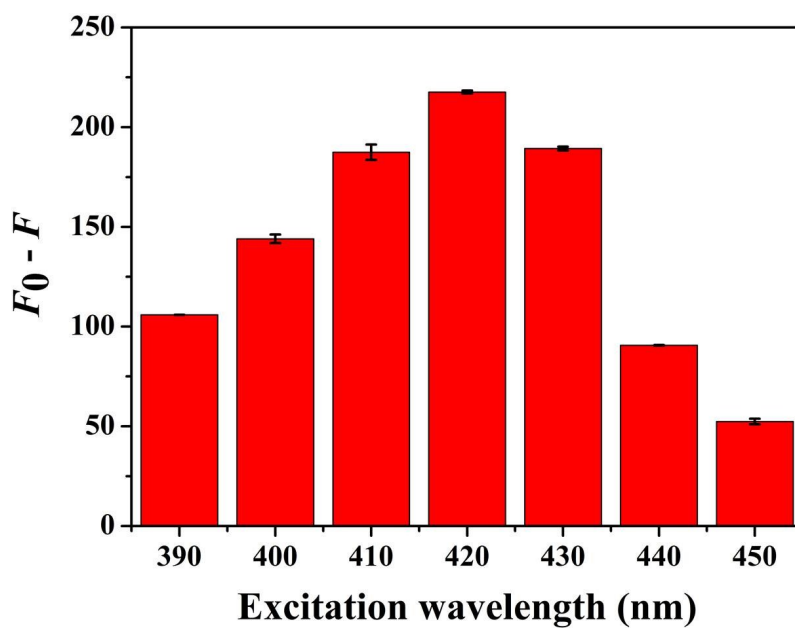


Figure S7. Fluorescence intensity change of AuNCs at different excitation wavelengths. F_0 and F are the fluorescence intensities of AuNCs in the absence and presence of ALP (5 U/L), respectively.

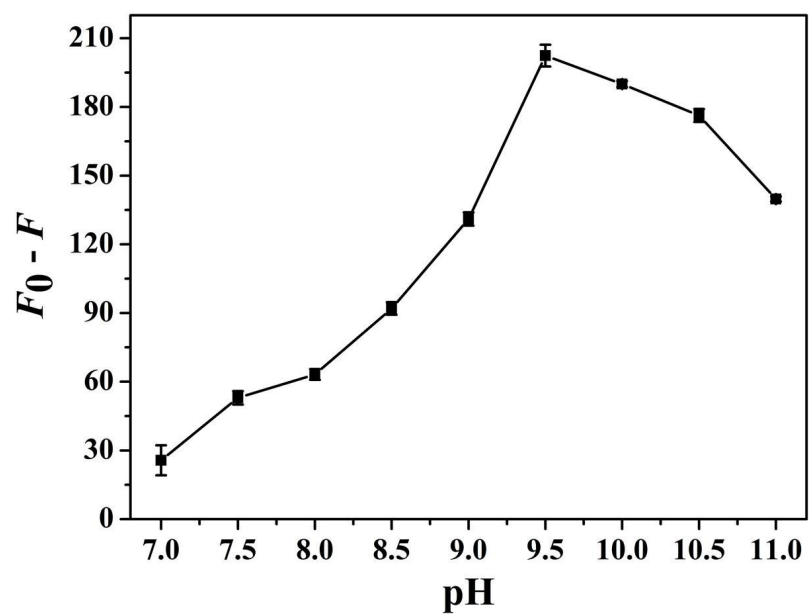


Figure S8. Fluorescence intensity change of AuNCs at different pH of Tris-HCl buffer.

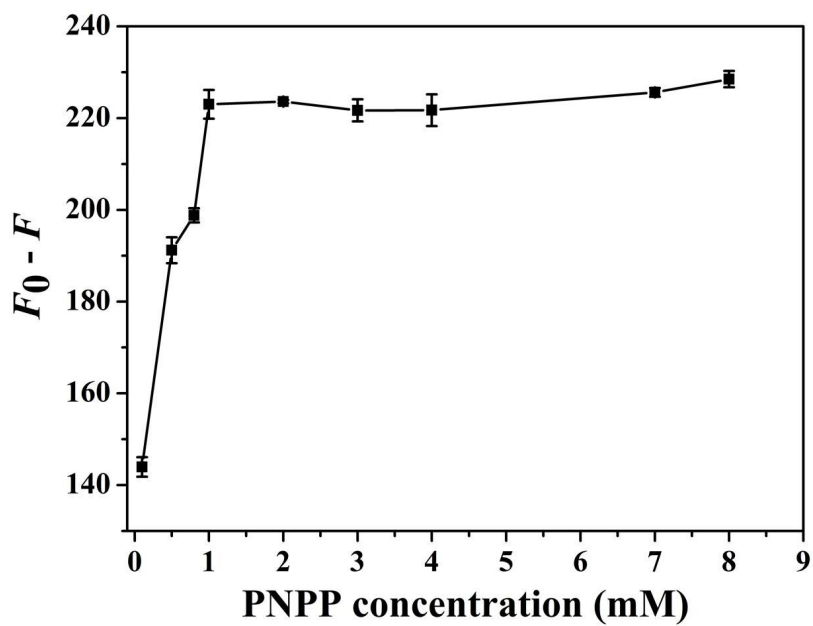


Figure S9. Optimization of the concentration of PNPP.

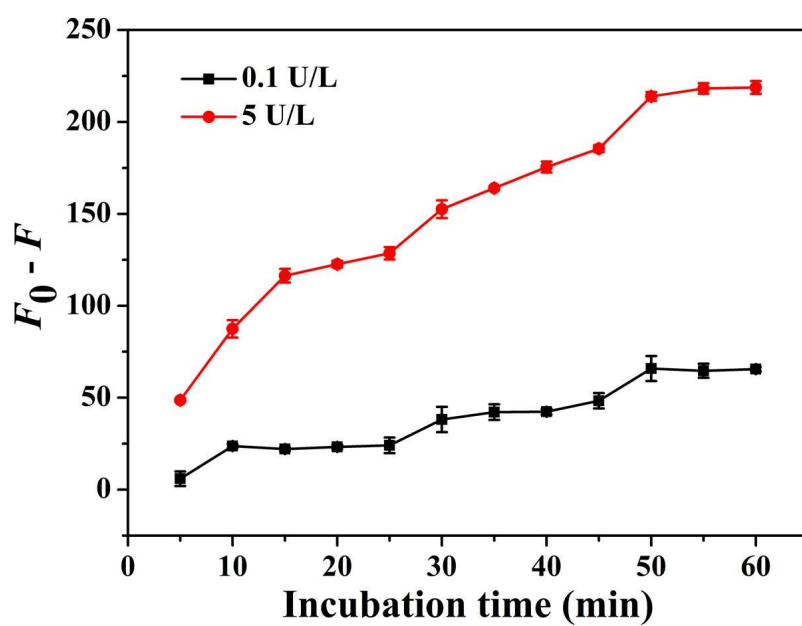


Figure S10. Incubation time in the presence of ALP.

Table S1. Influence of PNPP and PNPP+ALP on fluorescence lifetime of AuNCs

System	$\langle \tau \rangle$ (μs)				
	a_1	τ_1 (μs)	a_2	τ_2 (μs))
AuNCs	0.58	1.16	0.42	4.8	2.69
AuNCs+PNPP	0.62	1.26	0.38	4.91	2.65
AuNCs+PNPP+ALP	0.63	1.21	0.37	5.15	2.67