Supporting Information for

Oligonucleotide-stabilized fluorescent silver nanoclusters for specific and sensitive detection of biotin

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Supplementary figures and Table

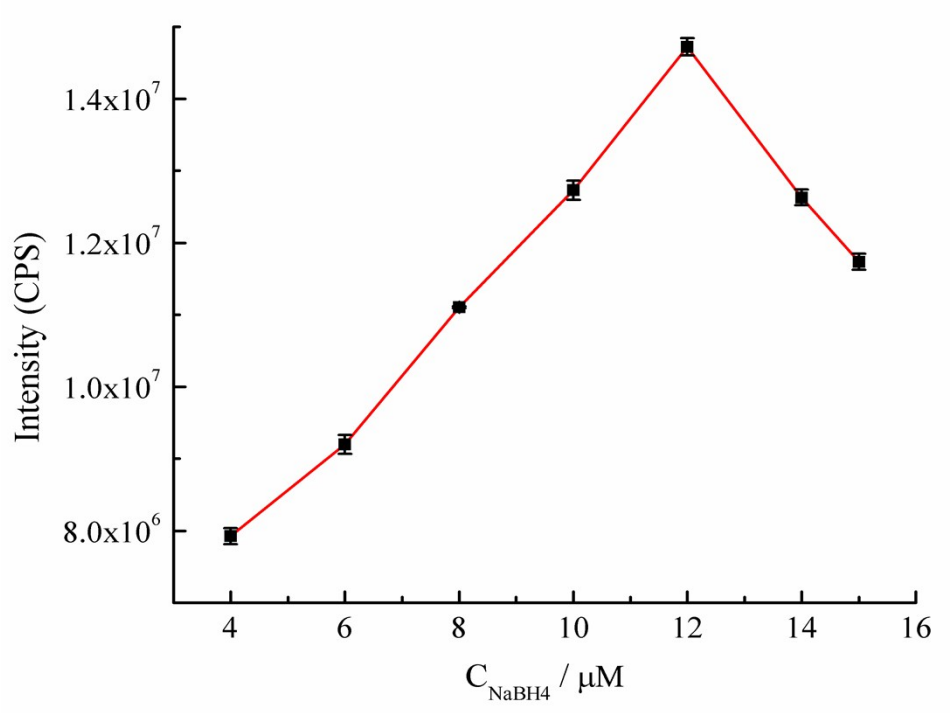

Figure S1. Fluorescence intensity of dT-Biotin-AgNCs under different dosages of $NaBH_4$. The dT-Biotin-AgNCs were prepared in 20 mM PBS (1 mM Mg^{2+}, pH 7.0) buffer. The concentrations of dT-Biotin-DNA12 and $AgNO_3$ were 5 μM and 30 μM, respectively.

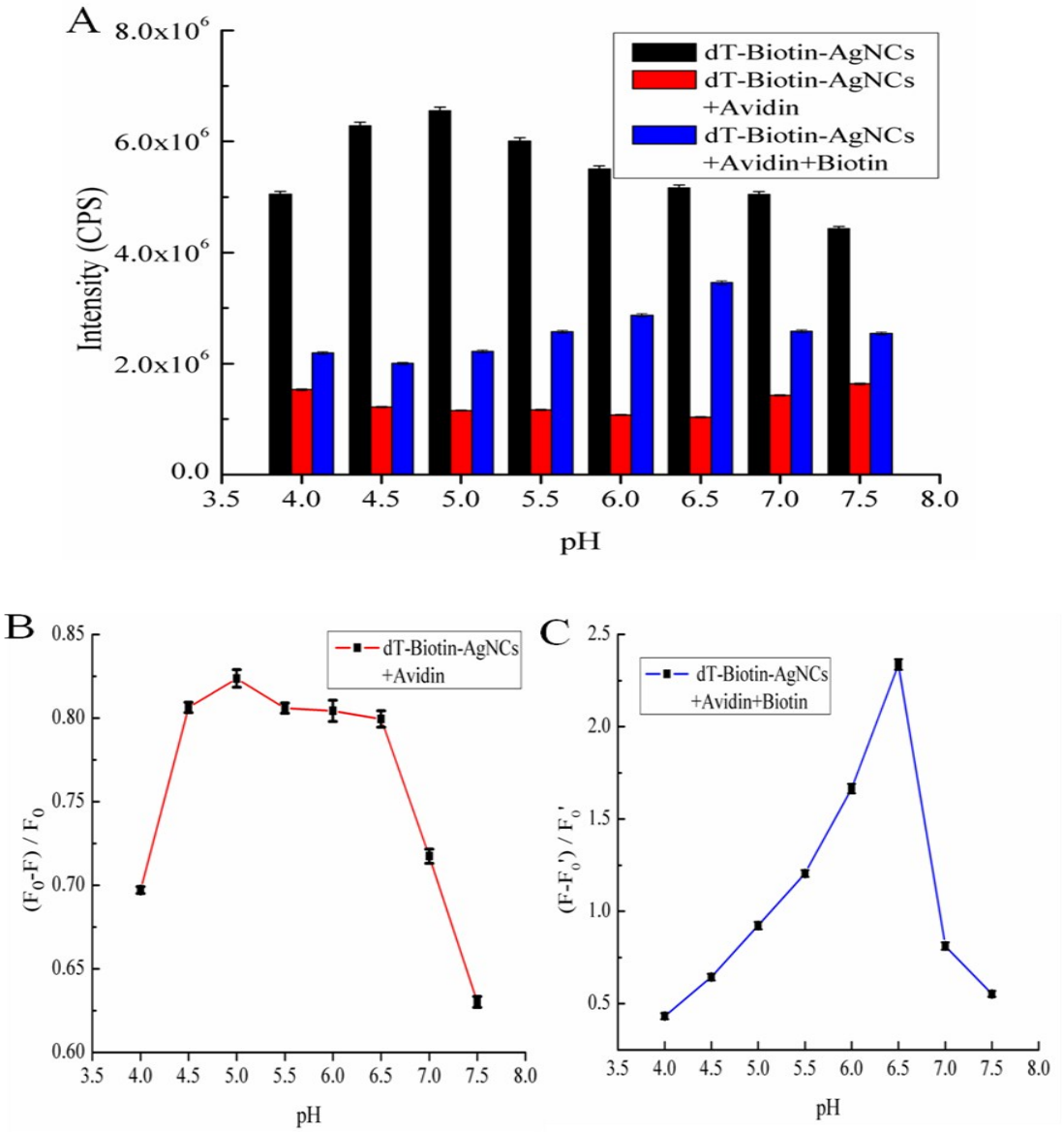

Figure S2. Fluorescence intensity of dT-Biotin-AgNCs in different systems (A), quenching efficiency of dT-Biotin-AgNCs by avidin (B) and the fluorescence recovery of dT-Biotin-AgNCs by biotin (C) under different pH conditions. The concentrations of dT-Biotin-AgNCs, avidin and biotin were 1 μM, 350 nM and 1μM, respectively.

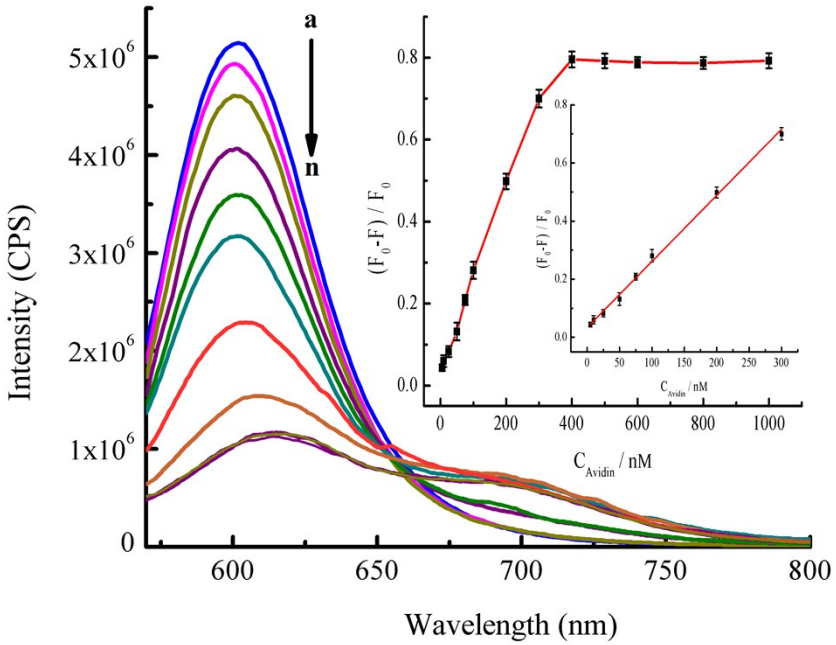

Figure S3. Fluorescence emission spectra of dT-Biotin-AgNCs in the presence of different concentrations of avidin. The concentrations of avidin are : (a→n) 0, 5, 10, 25, 50, 75, 100, 200, 300, 400, 500, 600, 800 and 1000 nM. The concentration of dT-Biotin-AgNCs was 1 μM, and the reaction was carried out in 20 mM PBS (pH 6.5) at room temperature for 30 min.

Table S1 The detection results of biotin in wheat flour

Sample	Found (μg/100 g)	Added (μg/100 g)	Found (μg/100 g)	Recovery (%)	RSD (%, n=5)
Wheat flour-1	18.5	3.0	21.4	96.7	3.5
		5.0	23.8	106	2.7
		8.0	26.3	97.5	4.2
Wheat flour-2	19.7	3.0	22.6	96.7	2.8
		5.0	24.8	102	3.3
		8.0	27.4	96.3	4.5
Wheat flour-3	18.9	3.0	22.1	107	4.2
		5.0	23.8	98.0	2.9
		8.0	26.7	97.5	3.7