

Supporting Information

Sensitive colorimetric detection of glucose and cholesterol by using Au@Ag core-shell nanoparticles

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Fig. S1

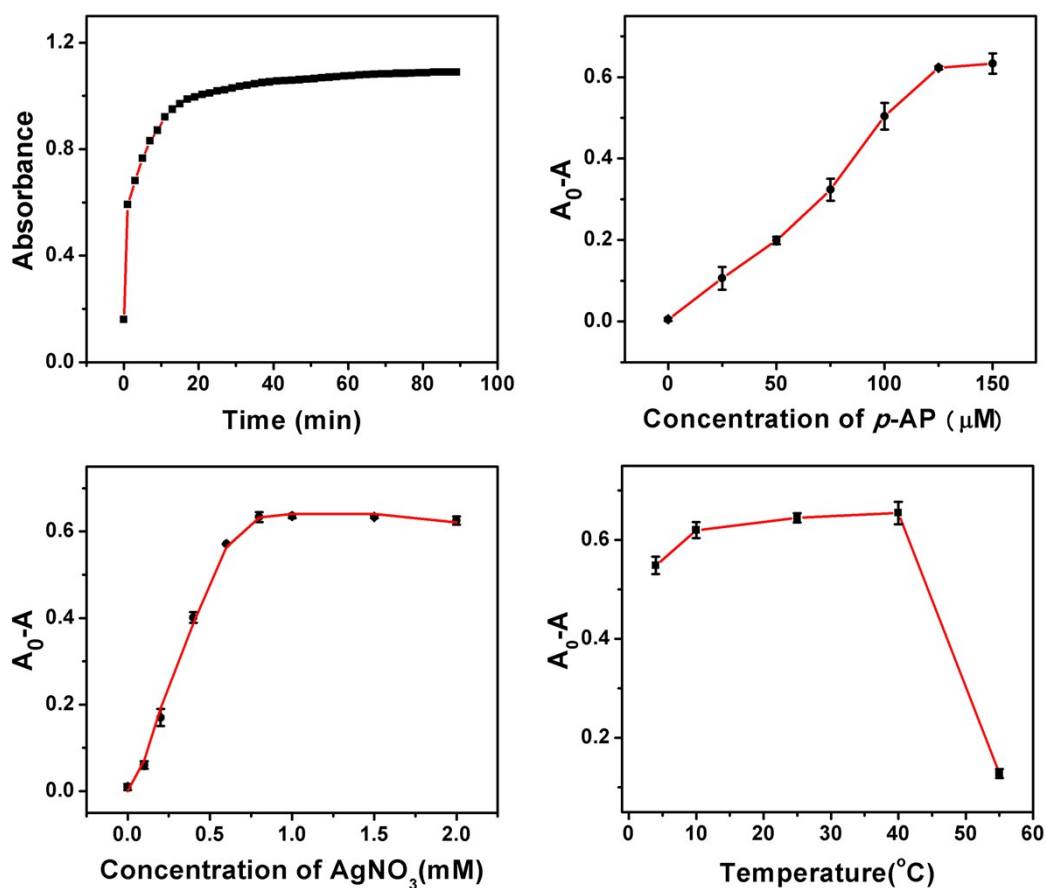


Fig. S1 Time dependence of the absorbance at 375 nm after the addition of AgNO_3 (1 mM) and p -AP (125 μM) to 4 nM AuNPs dispersion in DEA buffer (A). Impact of concentration of p -AP (B) AgNO_3 (C) and deposition temperature (D) on the absorbance decrease ($A_0 - A$) (A_0 and A are absorbance at 375 nm in the absence and the presence of 250 μM H_2O_2 , respectively) of Au@Ag NPs. Error bars represent the standard deviations of three repetitive experiments.

Fig. S2

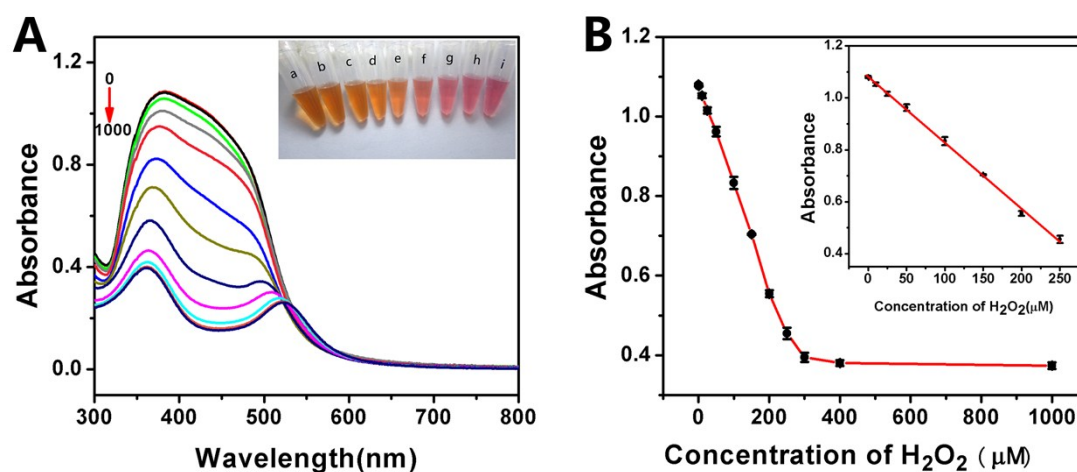


Fig. S2 (A) UV–vis absorption spectra of detection system after addition of various concentration of H₂O₂ (from top to bottom: 0, 0.5, 10, 25, 50, 100, 150, 200, 250, 300, 400, 1000 μM). The inset shows photographs of the colorimetric assay towards different concentrations of H₂O₂ (from a to i: 0, 0.5, 10, 25, 50, 100, 150, 200, 250 μM). (B) Plot of the absorbance (at 375nm) against the H₂O₂ concentration. The inset is linear response of the detection system to H₂O₂. Error bars represent the standard deviations of three repetitive experiments.

Table S1 Comparison of analytical performance of various sensing systems for the detection of glucose and cholesterol.

Analytes	Probe	Signal type	LOD(μM)	Linear range (μM)	Reference
glucose	Co ₂ Nx/NG	Electrochemistry	6.93	10~4750	1
	Carbon Nanodots	Electrochemistry	1.07±0.03	0~640	2
	CuNPs	Fluorescence	50	50~1600	3
	MnO ₂ -Modified UCNPs	FRET	3.7	0~400	4
	BA-functionalized BMFON	SERS	100	100~10000	5
	Hemin@HKUST-1	Chemiluminescence	7.5	7.5~750	6
	Gold Nanodot	Luminescence	1.0	30~1000	7
	SiQDs	Photoluminescence	0.68	5~650	8
	Positively-charged AuNPs	Colorimetry	4	18~1100	9
	Silver Nanoprism	Colorimetry	0.2	0.2~100	10
Au@AgNPs	Colorimetry	0.24	0.5~400	This work	
cholesterol	Grp/ β -CD/Methylene Blue	Electrochemistry	less than 1	1~100	11
	GA-MNP/PDDA/MWCNT	Electrochemistry	0.85	10~950	12
	Gold Nanocluster	Fluorescence	1.4	1~100	13
	AuNPs	ECL	1.1	3.3~1000	14
	CdTe-MWCNTs@rGONRs	ECL	0.33	1~1000	15
	CuO NPs	Chemiluminescence	0.17	0.625~12.5	16
	MoS ₂ NRs–Au NPs system	Colorimetry	15	40~1000	17
	DNAzymes	Colorimetry	0.10	1.0~30	18
	Au@AgNPs	Colorimetry	0.15	0.3~300	This work

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