

Electronic Supplementary Information

**Convenient and sensitive colorimetric detection of melamine in dairy products
based on Cu(II)-H₂O₂-3,3',5,5'-tetramethylbenzidine system**

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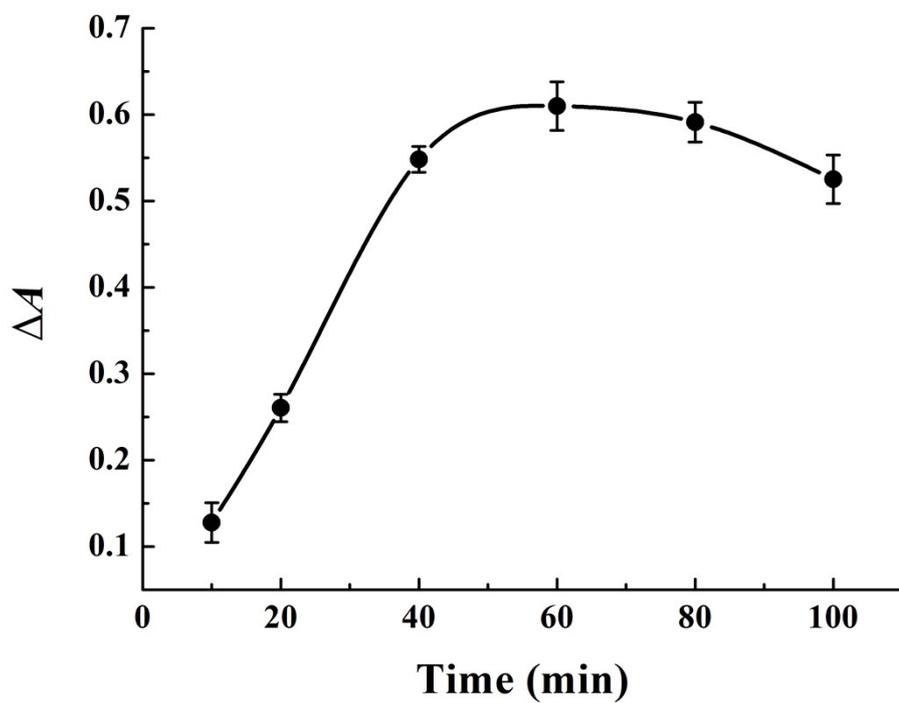


Fig. S1. Effect of the reaction time on the performance of the sensing system for melamine detection. Error bars were estimated from three replicate measurements.

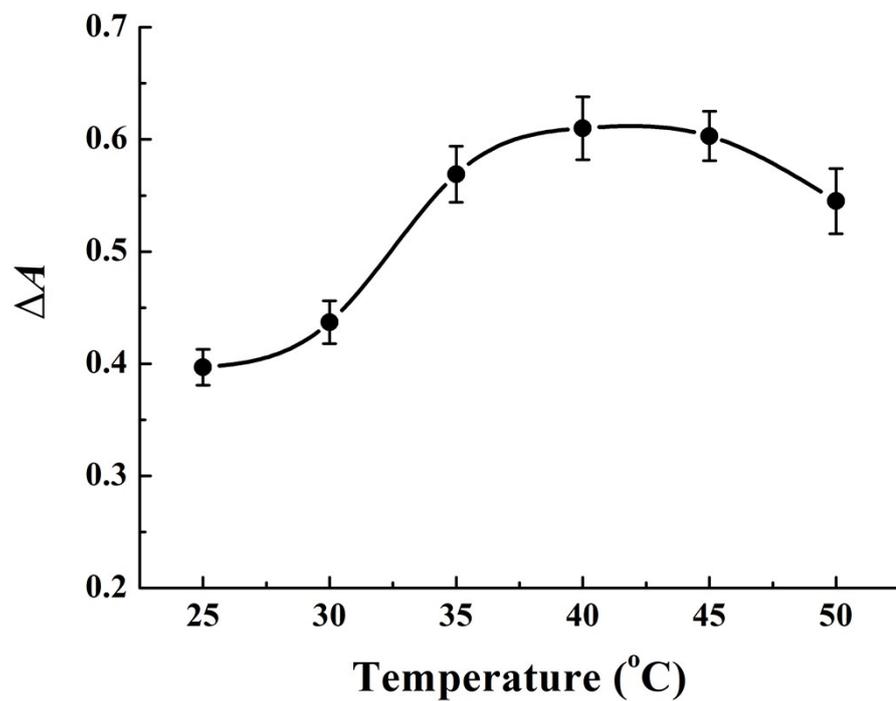


Fig. S2. Effect of the reaction temperature on the performance of the sensing system for melamine detection. Error bars were estimated from three replicate measurements.

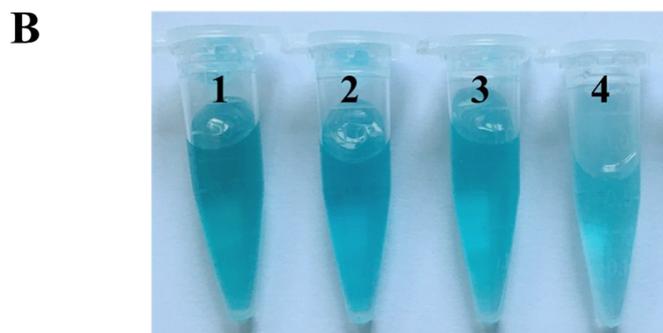
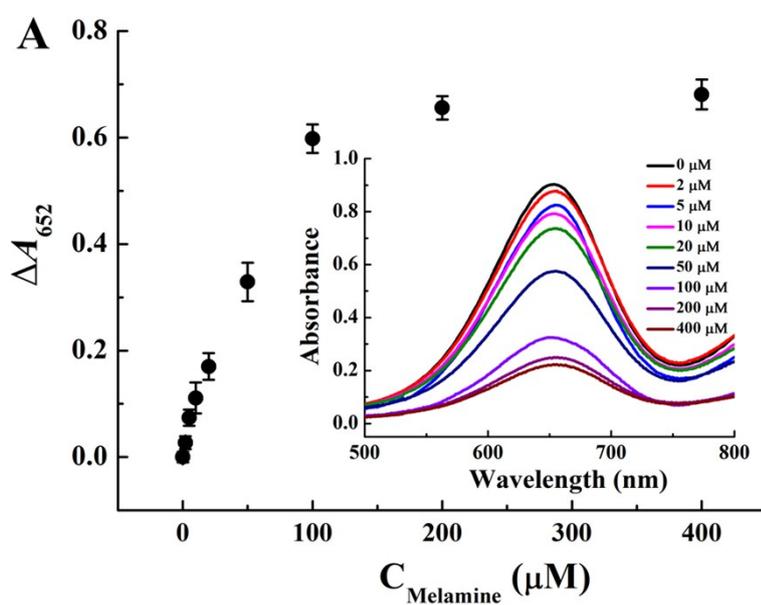


Fig. S3. (A) The UV-vis absorption spectra of the colorimetric sensing system for the detection of melamine in liquid milk samples. Inset: the relationship between melamine concentration and absorbance changes at 652 nm. the linear region at low melamine concentrations. Error bars were estimated from three replicate measurements. (B) Typical photographs for different concentrations of melamine in liquid milk samples, from 1 to 4 are 0, 20, 50 and 100 μM , respectively.

Table S1. Comparison of the assay performance of various methods for melamine detection

Method and materials	LOD	Linear range	Ref.
SERS (silver dendrite)	12 μM	5~50 μM	1
SERS (AuNPs)	1.3 μM	2.5~39.7 μM	2
Electrochemistry (methylene blue labeled DNA Triplex Structure)	0.43 nM	1 nM~0.5 μM	3
Electrochemistry (AuNPs/rGO/GCE, potassium hexacyanoferrate(III))	1.0 nM	5~50 nM	4
Colorimetry (DNA-SYBR Green I-TMB)	0.5 μM	0.5~100 μM	5
Colorimetry (chromotropic acid capped Ag nanoparticles)	0.036 μM	0.1~1.5 μM	6
Colorimetry (Ag nanoparticles)	2.32 μM	4.0~170 μM	7
Colorimetry (Fe_3O_4 nanoparticles- H_2O_2 -ABTS)	2.0 μM	2.0~40.0 μM	8
Fluorescence (ratiometric dual-emission quantum dot)	13 ng/mL (0.103 μM)	50~1000 ng/mL (0.397~7.94 μM)	9
Fluorescence (DNA-templated silver nanoclusters)	0.1 μM	0.2~4.0 μM	10
Fluorescence (Au nanoclusters)	0.15 μM	0.5~10 μM	11
Fluorescence (polymer-capped CdTe quantum dots)	0.6 μM	2.0~35 μM	12
Colorimetry (Cu^{2+} - H_2O_2 -TMB)	0.5 μM	1~100 μM	This work

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