

Supporting information

Ultra-sensitive and selective determination of phenolic food additive using protein capped gold nanoclusters: A dual in-line fluorometric and colorimetric sensing probe

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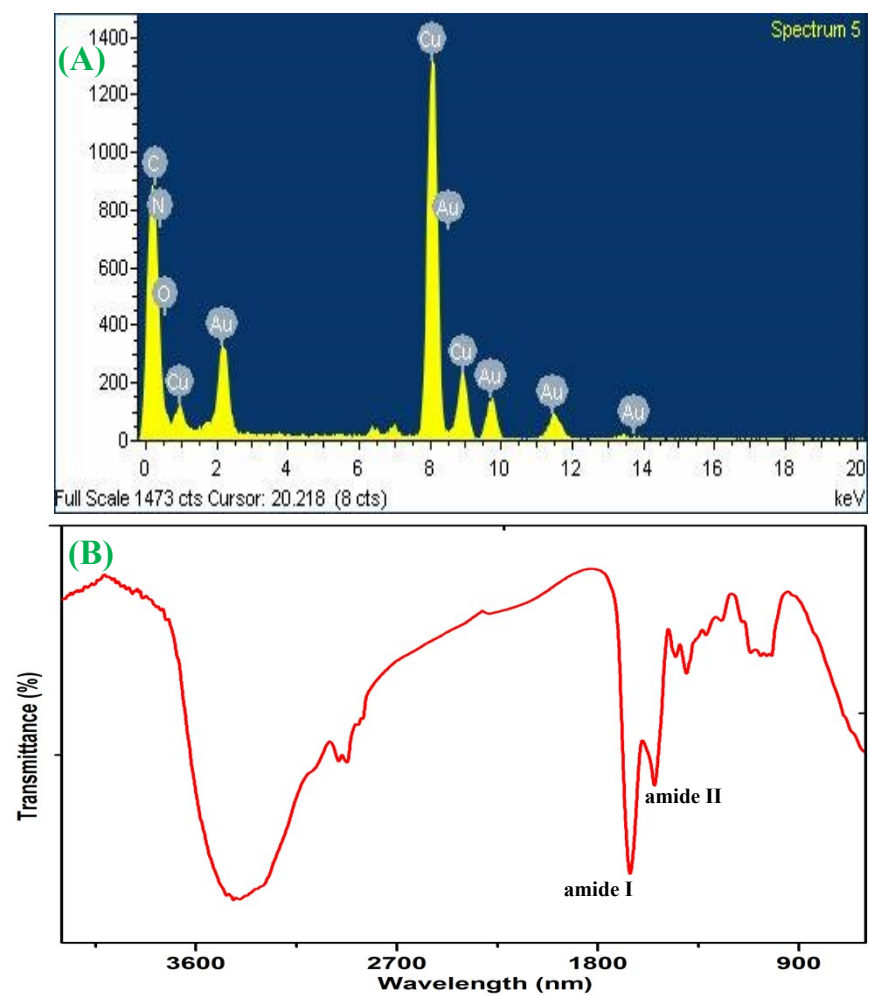


Fig.S1. EDS (A) and FT-IR (B) spectrum of BSA-AuNCs.

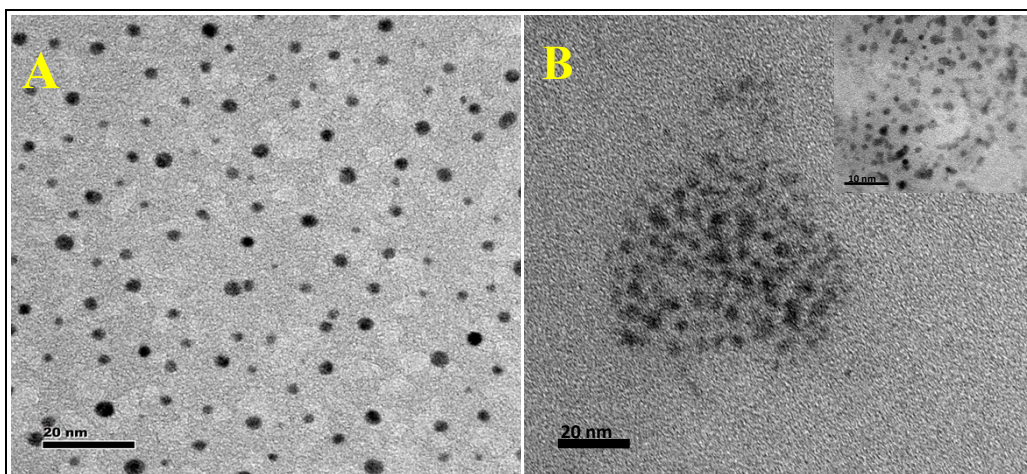


Fig.S2. HR-TEM images of colloidal BSA-AuNCs in the absence (A) and presence (B) of TBHQ.

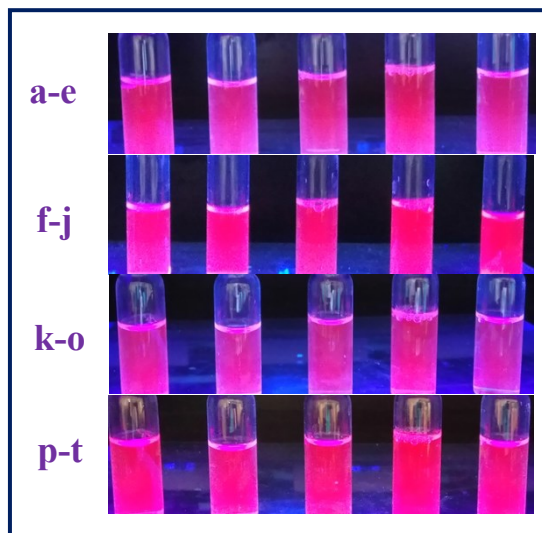


Fig.S3. Photographs of BSA-AuNCs in the presence of various interferences (a-e) Na^+ , Ni^{2+} , Zn^{2+} , Mg^{2+} , Fe^{3+} , (f-j) Mn^{2+} , CO_3^{2-} , Iso, Try, His, (k-o) Gly, Tyr, Lys, Vit-E, Vit-C, (p-t) Vit-B6, potassium sorbate, benzoic acid, cholestenone and oleic acid under UV light.

Table S1. Determination of TBHQ in edible and coconut oil samples.

Sample	Added (μM)	Found (μM)	Recovery (%)	RSD (%)
	-	7.5	-	-
Edible oil	5	12.3	98.4	1.35
	10	22.5	100.8	0.85
Coconut oil	5	4.95	99.0	0.96
	10	9.95	99.5	0.75
	15	14.90	99.3	0.60

Table S2. Validation of the present method of TBHQ determination with the standard GC-MS method.

TBHQ spiked ($\mu\text{g/L}$)	TBHQ measured ($\mu\text{g/L}$)		RSD %
	Present method	GC-MS method	
11.0	11.0 ± 0.20	11.1 ± 0.15	0.86
12.0	12.0 ± 0.40	12.0 ± 0.65	0.73
13.0	13.1 ± 0.35	13.1 ± 0.43	0.95
14.0	14.0 ± 0.15	13.9 ± 0.40	0.68

