

SUPPORTING INFORMATION

Colorimetric and visual detection of cyanide ions based on the morphological transformation of gold nanobipyramids to gold nanoparticles

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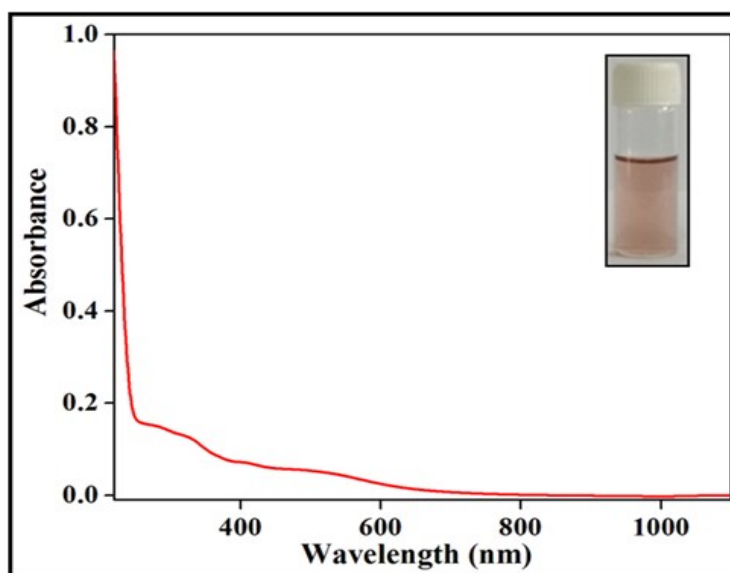


Fig. S1. The absorption spectrum of CTAB-stabilized gold nano seeds. Inset: the photographic image of gold seeds.

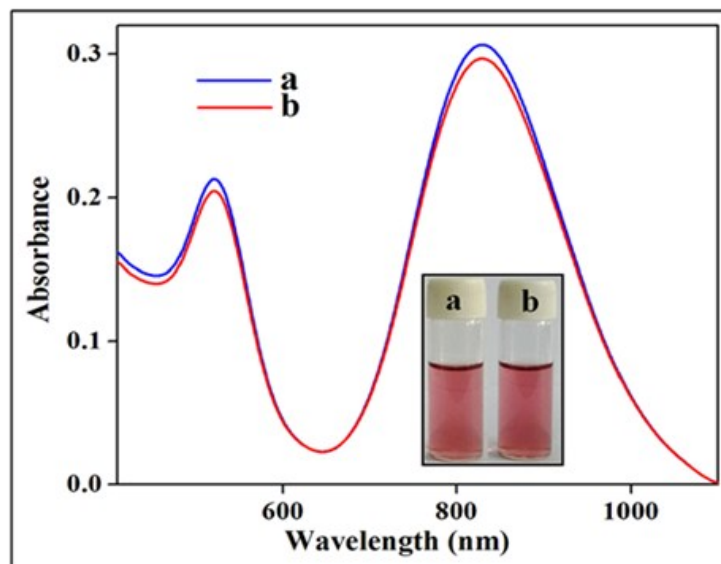


Fig. S2. Absorption spectra of Au NBPs (a) and after 3 months aged (b). Inset: the photographs a newly prepared Au NBPs (a) and 3 months aged (b).

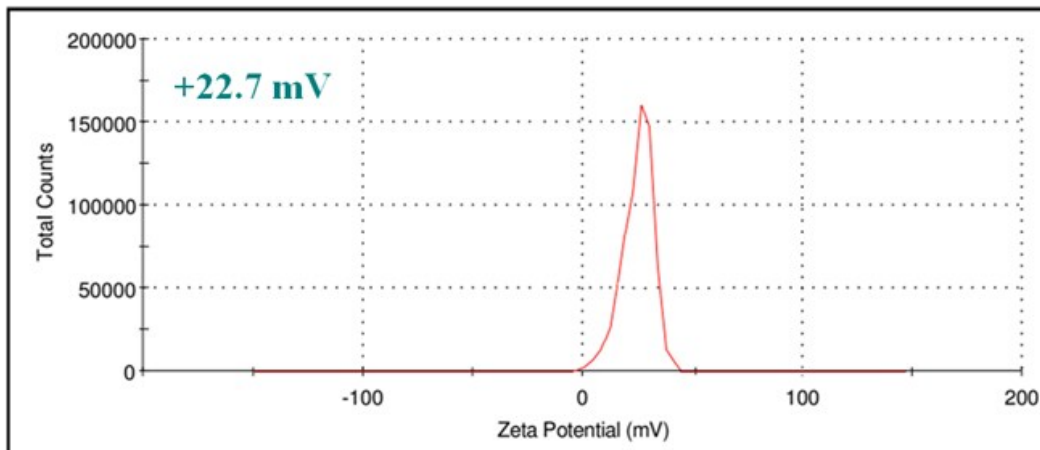


Fig. S3. Zeta potential measurement of Au NBPs.

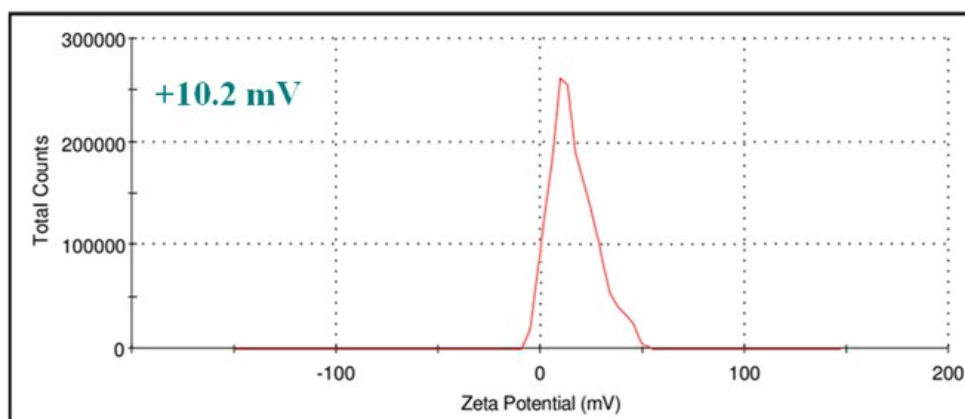


Fig. S4. Zeta potential measurement of Au NBPs in the presence of CN^- ions.

Table S1. Comparison of different spectral methods for the determination of CN^- ions.

S. No.	Detection Method	Probe	Real sample	Linear range (μM)	Limit of Detection (nM)	Ref.
1.	Electrochemistry	Au electrodes	Albumin, blood	Up to 400	3800.00	1
2.	Electrochemistry	Ag working electrode	Tap, mineral, table water	0.17-200	50.00, 120.00	2
3	Electrochemistry	Carbon paste electrode	Spring water	15-10000	9000.00	3
4.	Chromatography	Isotope Dilution- GC-MS	Blood	Up to 2600	7800.00	4
5.	Chromatography	solid-supported liquid-liquid extraction (SLE) and gas chromatography-mass spectrometry (GC-MS)	Plasma and urine	0.1-20, 0.02-10	40, 10	5
6.	Fluorimetry	BSA-stabilized AuNCs	Tap, ground, lake and pond water	0.2-9.5	200.00	6
7.	Fluorimetry	lysozyme-stabilized AuNCs	-	5.0-120.00	190.00	7
8.	Fluorimetry	L-amino acid oxidase-protected AuNCs	River, Tap water	3.2-34 and 38.1-104	180 .00	8
9.	Fluorimetry	BSA-Ce/Au NCs	Drinking and pond water	0.1-15	50.00	9
10.	Fluorimetry	Cu (PcTs) and GSH-AuNCs	Rain, Rodbal dam water and human blood serum	0.1-220.00	75.00	10

11.	Fluorimetry	CdSe QDs	-	1.1-250	1100.00	11
12.	Fluorimetry	InP quantum wires	-	0-0.11	2100.00	12
13.	Fluorimetry and Colorimetry	phosphorescent molecular gold(I) cluster in a macroporous polymer film	Red wine, coffee and juice samples	-	2000 .00	13
14.	Fluorimetry	Blue-emitting copper nanoparticles	River water	0.5 to 18.00	370.00	14
15.	Fluorimetry	Gold-nanoparticle based fluorescent probes	Sea, pond and tap water	0-10	1000.00	15
16.	Fluorimetry	Ag NPs	Tap water	0.5-600	250	16
17.	Colorimetry	Au@Ag core/shell nanoparticles	Industrial, lake and sea water	-	400.00	17
18.	Colorimetry	Ag NPs	Dam water	16.7-113.3	1800.00	18
19.	Colorimetry	Au NBPs	Tap, drinking and sea water	1 to 15	1.58	This work

Reference

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