Supporting Information

A New Detection Mode for Gold Nanoparticles-Linked Immunosorbent Assay(GNLISA) Based on Clock Reaction: Instrument- and Enzyme-free Visual Quantitative Detection of Prostate-Specific Antigen(PSA)

Tianxiang Wu* and Xiao-Yuan Li

Department of Chemistry, The Hong Kong University of Science and Technology, ClearWater Bay, Kowloon, Hong Kong S.A.R., The People's Republic of China

Authors' emails:

Tianxiang Wu: twuas@connect.ust.hk

Xiao-Yuan Li: chxyli@ust.hk

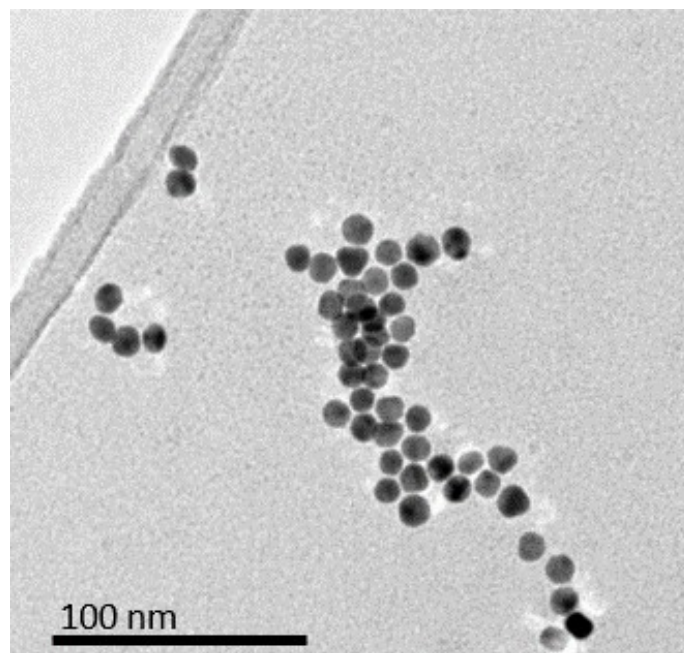**It contains 3 figures, 3 tables, and 5 pages.**

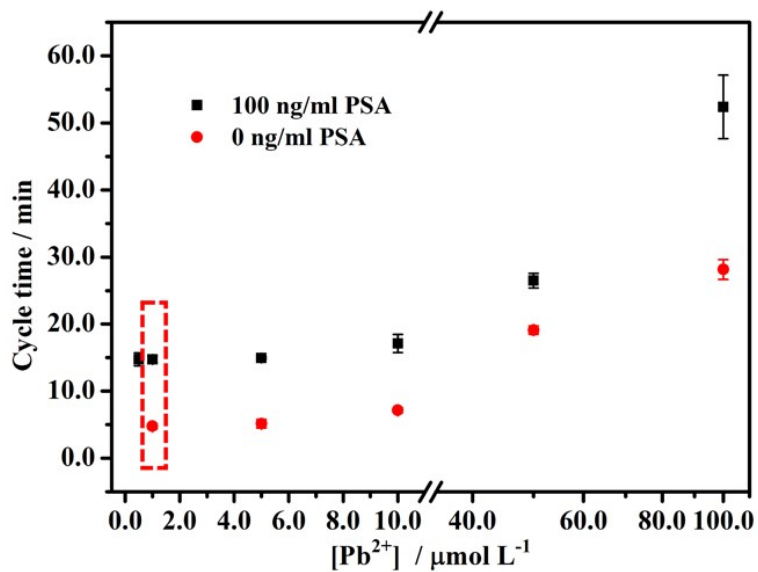Fig. S1. TEM of the prepared AuNPs with an average size of *ca.* 13 nm

Fig. S2 The effect of Pb^{2+}concentration on the cycle time. The conditions are 75 µL of pH 7.96 buffer (B-R buffer), 10 µL of different concentrations of Pb^{2+}, 5 µL of 0.10 M CTAB, 10 µL of 0.10 M Na$_2$S$_2$O$_3$, 3.5 µL of 0.450 mM MB$^+$, 40.0 min of leaching time, 20 µL of ω = 1.0% NaBH$_4$, and the temperature is at 22°C.
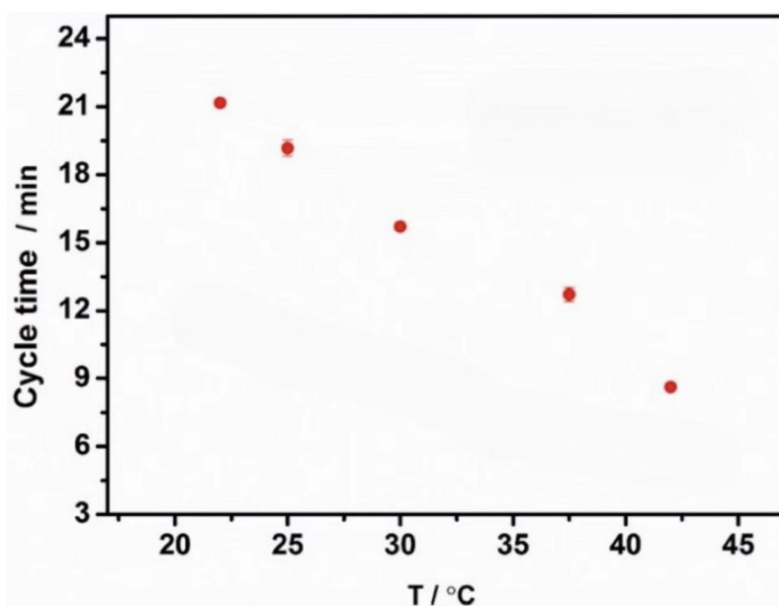

Fig. S3. The effect of the temperature on the cycle time.

Table S1. Cycle times of the blank experiment for different observers

Observer No.	Gender	Cycle time for the blank experiment (min)
1	M	6.3
2	M	6.4
3	F	6.8
4	F	6.8
One of the authors(TXW)	M	6.1

Table S2.　Comparison with other colorimetric detection methods for PSA

Linear range (ng/ml)	LOD (ng/ml)	Instrument-free quantitative detection	Enzyme-free	Ref.
——	0.0001	No	Yes	1
0.01-20	0.009	No	No	2
0.1-100	0.02	No	Yes	3
0.001-1	0.001	No	Yes	4
0.25-2500	0.23	No	Yes	5
0.00001-0.1	0.0000011	No	Yes	6
42-900	2.3	No	Yes	7
0.1-5	0.03	No	Yes	8
0.01-2	0.00103	No	No	9
1-100	**0.96**	**Yes**	**Yes**	**this work**

Table S3. Cycle times for individual interferent alone (a to f) and PSA + interferent (g to m)

Sample	Cycle time (min)	Standard deviation
a:1000 ng/ml UA	5.9	0.2
b:1000 ng/ml glucose	5.8	0.1
c:1000 ng/ml AA	6.2	0.2
d:1000 ng/ml IgG	5.7	0.1
e:1000 ng/ml CEA	6.0	0.2
f:1000 ng/ml AFP	5.9	0.2
g:25 ng/ml PSA	13.4	0.1
h:1000 ng/ml UA + 25 ng/ml PSA	13.6	0.2
i:1000 ng/ml glucose + 25 ng/ml PSA	13.5	0.2
j:1000 ng/ml AA + 25 ng/ml PSA	13.3	0.3
k:1000 ng/ml IgG + 25 ng/ml PSA	13.4	0.5
l:1000 ng/ml CEA + 25 ng/ml PSA	13.4	0.4
m:1000 ng/ml AFP + 25 ng/ml PSA	13.9	0.2

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