Rapid electrochemical quantifcation of trace Hg^{2+} using hairpin DNA probe and quantum dots modified screen-printed gold electrodes

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Table S1 The sequences for developed HP-QDs-SPGE electrochemical biosensor

Name	Sequence (5'-3')
Hairpin DNA probe	NH2-TTTTT CCTCAG GCTGCGTAGTTGTGCTGATG CTGAGG
Mismatched target	C**T**TC**T**GCAC**T**ACT**T**CGC**T**GC

Note: Bolded T's represent mismatched thymine residues and the underlined region represents the loop of the hairpin DNA probe.

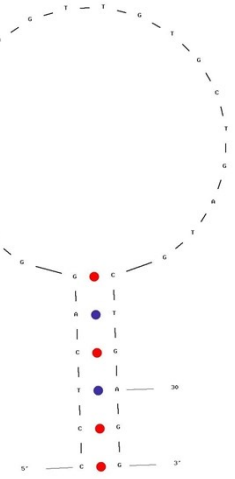

Fig. S1 The secondary structure of the hairpin DNA probe predicted by Oligo Analyzer.

Table S2 The LOD, linear range, reaction steps, detection time and complexity of various methods for the detection of Hg^{2+}.

Approaches	LOD	Linear range	Detection time	Reaction step	Complexity[a]	Ref
Paper-based approach	574 nM	574 nM - 10 μM	30 min	3	Simple	[1]
fluorescence detection approach	0.05 μM	0 –1.0 μM	–	1	Simple	[2]
Vsual detection approach	20 nM	0 – 100 nM	–	2	Simple	[3]
Molecular beacon-based fluorescent sensor	1.9 nM	6 Nm – 600 nM	40 min	2	Complex	[4]
Photoelectrochemical sensor	12 nM	20 nM - 550 nM	–	2	Complex	[5]
Luminescence-based approach	0.24 nM	10 nM to 600 nM	20 min	3	Complex	[6]
Developed approach	0.11 pM	10 pM to 1μM	15 min	2	Simple	This work

"–": The proper data was not provided.

a "Complex" and "simple" represent the experimental procedure of the Hg^{2+} approach is complex or easy.

LOD: Limit of detection;

Reference

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