Supporting Information

Electrochemiluminescence aptasensor for diethylstilbestrol detection based on resonance energy transfer between Ag_3PO_4-Cu-MOF(Ⅱ) and silver nanoparticles and its application

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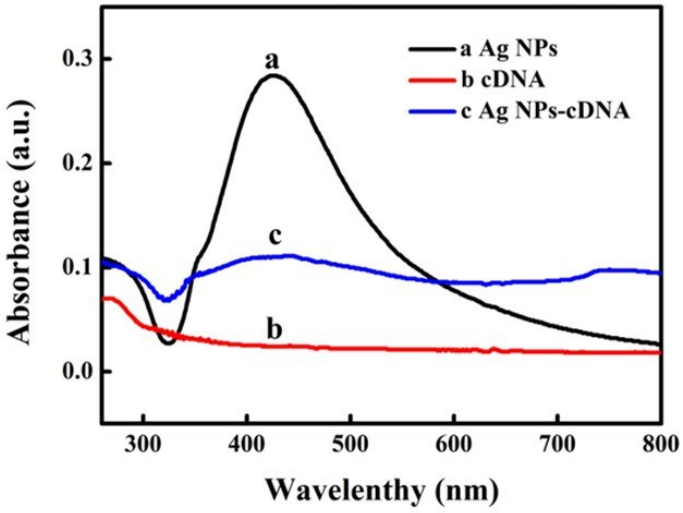

Figure S1. UV-Vis absorption spectra of Ag NPs (a), cDNA (b) and Ag NPs-cDNA (c)

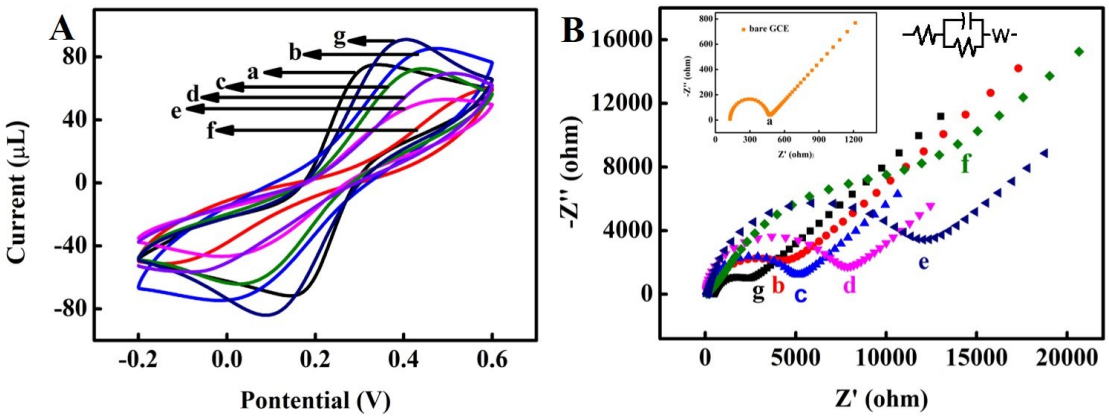

Figure S2. (A) CV curves and (B) EIS of different modified electrodes: (a) bare GCE; (b) Cu-MOF/GCE; (c) Ag_3PO_4/GCE; (d) Ag_3PO_4-Cu-MOF/GCE; (e) apt/Ag_3PO_4-Cu-MOF/GCE; (f) Ag NPs-cDNA/apt/Ag_3PO_4-Cu-MOF/GCE; (g) DES-Ag NPs-cDNA/apt/Ag_3PO_4-Cu-MOF/GCE

As can be seen in Figure S3, after modifying Ag_3PO_4(Figure S3(c)), the impedance of Ag_3PO_4-Cu-MOF did not change much compared with the single Ag_3PO_4, so the Cu-MOF did not affect the experiment.

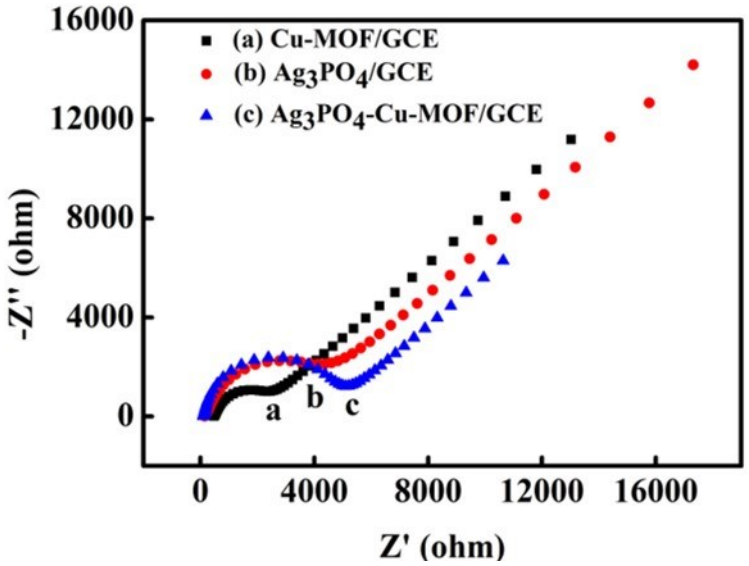

Figure S3. EIS of different modified electrodes: (a) Cu-MOF/GCE; (b) Ag_3PO_4/GCE; (d) Ag_3PO_4-Cu-MOF/GCE

Table S1. Comparison of this developed aptasensor with those in the literature for DES detection.

Method	Linear range	LOD	Reference
ECL	1×10^{-8}~1.2×10^{-6} M	4.6×10^{-9} M	[1]
DPV	2.0×10^{-9}~ 2×10^{-7} M	9×10^{-11} M	[2]
CV	2.0×10^{-5}~1.0×10^{-7} M	1.5×10^{-8} M	[3]
Electrochemical immunosensor	1.9×10^{-11}~1.9×10^{-9} M	6.98×10^{-12} M	[4]
ECL(MMIPs-QDs-Aptamer)	0.3~1.0×10^{5} pg/mL	0.1 pg/mL	[5]
ECL(CdTe@ZnS/r-GO)	1.8×10^{3}~25.0 nM	0.25 pM	[6]
ECL	1.0×10^{-12}~ 1.0×10^{-4}	7.2×10^{-13}	This work

Table S2 DES determination result table in fish pond water

Sample	Added value/fM	Measured value/fM	Recovery rate/%	RSD/%
Fishpond water	50.00	50.00	100.00	4.16
		52.00	102.00	
		48.00	98.00	

References

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