Electronic Supplementary Material (ESI) for Analytical Methods.

Highly sensitive electrochemical sensor for dopamine with a double-stranded deoxyribonucleic acid/gold nanoparticle/graphene modified electrode

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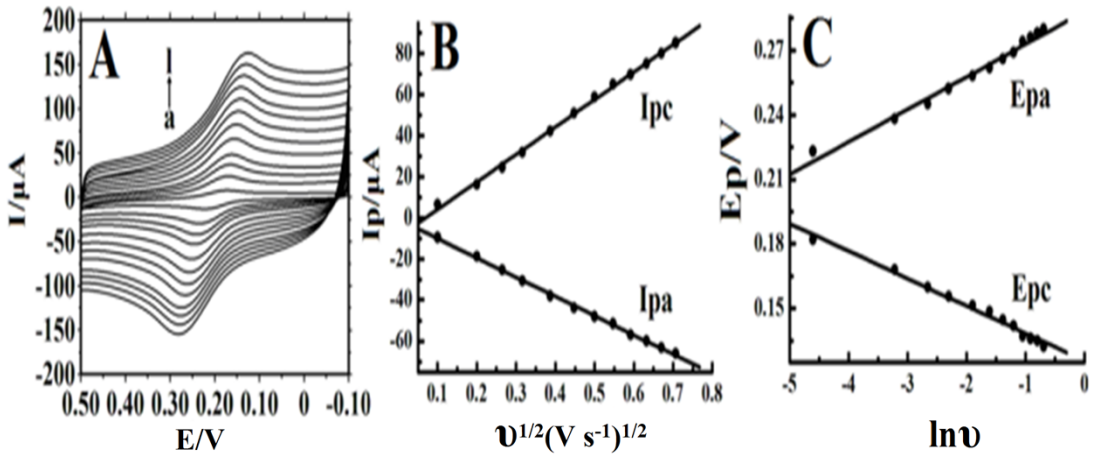

Fig. S1 (A) Cyclic voltammograms of 1.0×10^{-4} mol L^{-1} DA with different scan rate (υ) on dsDNA/Au/GR/CILE in pH 6.0 PBS (from a to l are 10, 40, 70, 100, 150, 200, 250, 300, 350, 400, 450, 500 mV s^{-1}, respectively); (B) Linear relationship of the redox peak current (Ip) versus $\upsilon^{1/2}$; (C) Linear relationship between the redox peak potentials (Ep) and lnυ.

Table S1 Influence of coexisting substances on the determination of 1.0×10^{-4} mol L^{-1} DA (n=3)

Coexisting substance	Concentration	Relative error (%)	Coexisting substance	Concentration	Relative error (%)
L-Glutamine	20.0 mg L^{-1}	1.66	Ca^{2+}	2.0×10^{-5} mol L^{-1}	-3.22
L-Cysteine	20.0 mg L^{-1}	3.03	Zn^{2+}	2.0×10^{-5} mol L^{-1}	-2.23
Citric acid	20.0 mg L^{-1}	1.56	K^{+}	2.0×10^{-2} mol L^{-1}	-1.74
Glucose	20.0 mg L^{-1}	-3.14	Na^{+}	2.0×10^{-2} mol L^{-1}	-2.16
SDS	20.0 mg L^{-1}	-2.11	NH_4^{+}	2.0×10^{-5} mol L^{-1}	-3.54
Fe^{2+}	2.0×10^{-5} mol L^{-1}	-1.74	NO_3^{-}	2.0×10^{-2} mol L^{-1}	2.19
Mg^{2+}	2.0×10^{-5} mol L^{-1}	-2.58	Cl^{-}	2.0×10^{-2} mol L^{-1}	3.17

Table S2 Determination of DA in the injection samples (n = 6)

Sample	Specified ($\mu mol\ L^{-1}$)	Detected ($\mu mol\ L^{-1}$)	Added ($\mu mol\ L^{-1}$)	Total ($\mu mol\ L^{-1}$)	RSD (%)	Recover **(%)**
1	63.28	64.52	20.0	83.99	1.96	97.4
2	63.28	63.23	40.0	103.87	1.89	101.6
3	63.28	62.86	60.0	124.15	2.02	102.2