Electronic Supplementary Material (ESI) for Analyst.

Supporting Information (SI)

Three-dimensional interpenetrating electrode of reduced graphene oxide for selective detection of dopamine

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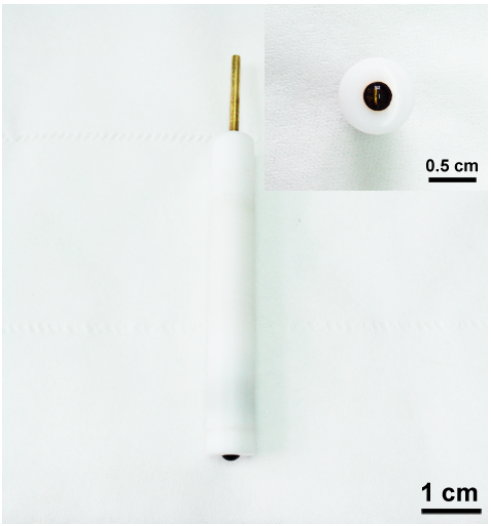

Fig. S1 Photograph of an ErGO electrode; inset is the top-view.

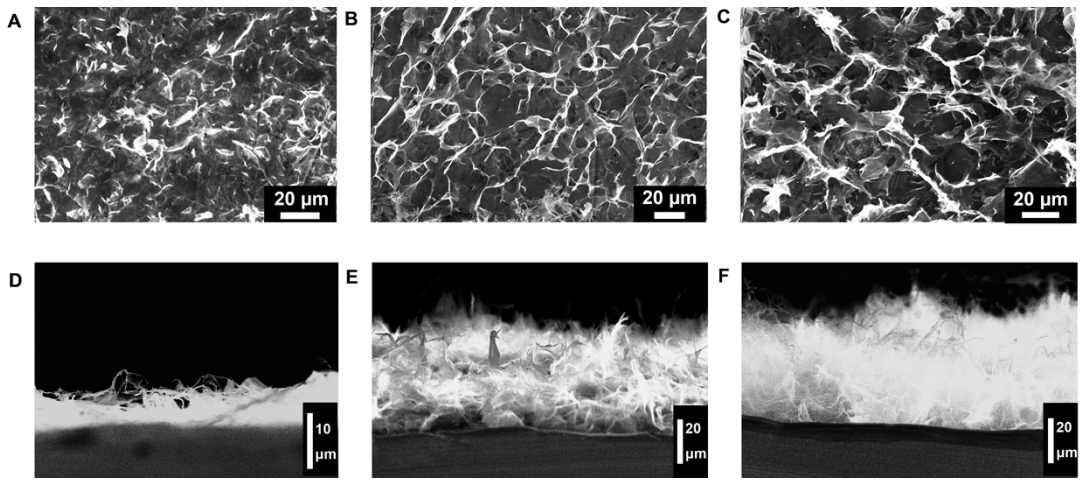

Fig. S2 SEM images of ErGO electrodes prepared by electrodeposition for different time. (A, D) 5 s; (B, E) 20 s; (C, F) 40 s.

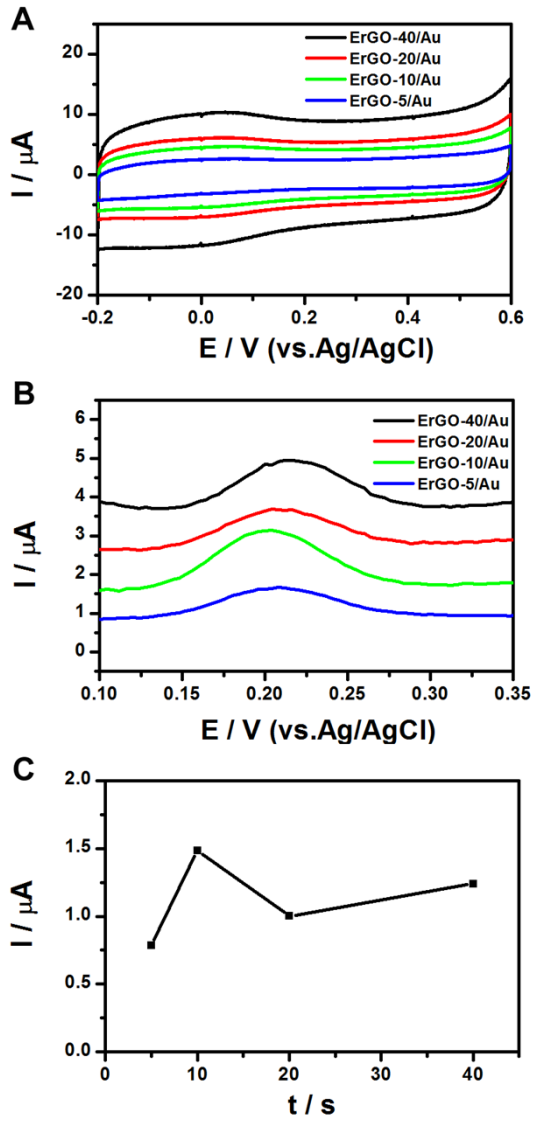

Fig. S3 (A) CVs of ErGO electrodes prepared by electrodeposition for different time in 0.1 M pH 7.0 PBS. (B) DPVs of ErGO electrodes prepared by electrodeposition for different time in 0.1 M pH 7.0 PBS containing 10 μM DA. (C) Plot of DPV peak current versus deposition time.

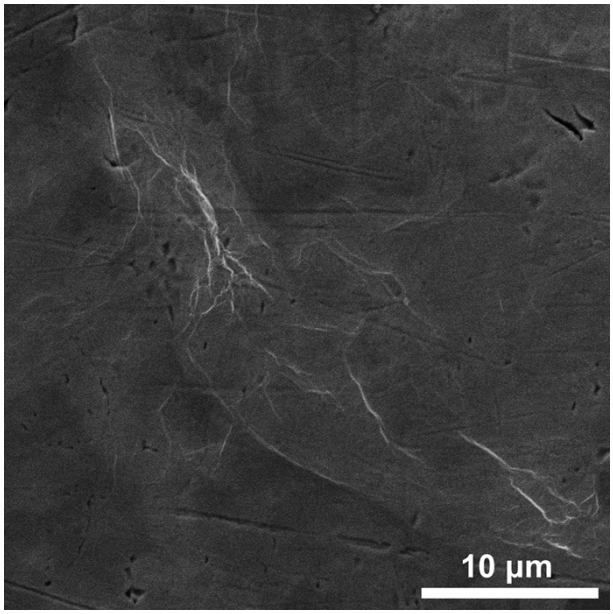

Fig. S4 SEM image of ErGO-10 electrode after drying in air.

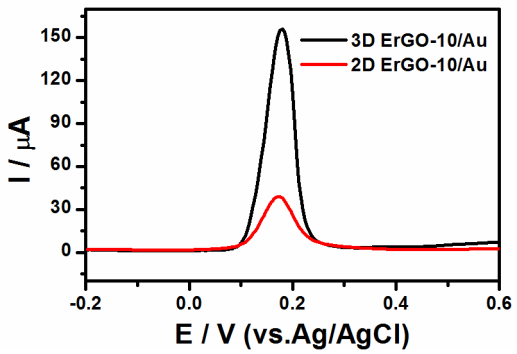

Fig. S5 DPVs of 1 mM DA at an ErGO-10 electrode before (3D ErGO-10) and after (2D ErGO-10) drying in air. .

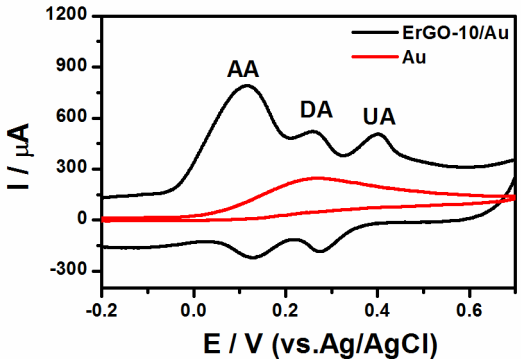

Fig. S6 CVs for a mixed solution containing 5 mM AA, 0.1 mM DA, and 0.1 mM UA at ErGO-10 or Au electrode. Electrolyte = 0.1 M pH 7.0 PBS; Scan rate = 1000 mV s^{-1}.

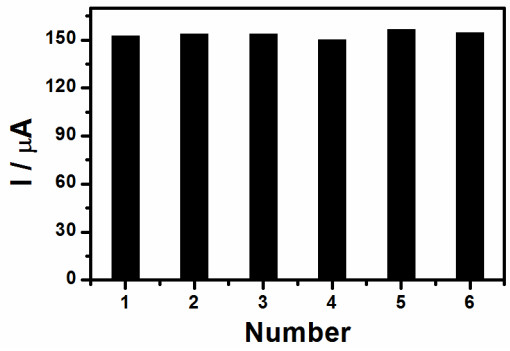

Fig. S7 Reproducibility of 6 ErGO-10 electrodes toward 1 mM DA.

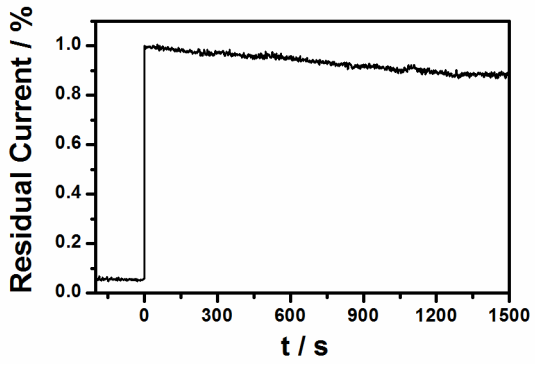

Fig. S8 The current response of 50 μM DA in 0.1 M pH 7.0 PBS under stirring at ErGO-10 electrode recorded during a time period of 0 to 1500 s; applied potential: +0.2 V.

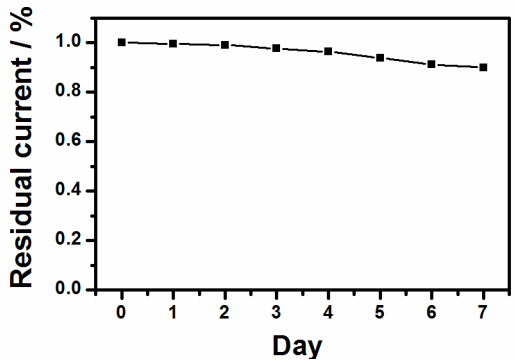

Fig. S9 The stability test of an ErGO-10 electrode during a period of storing in pH 7.0 PBS at 4 ^{o}C for 7 days by measuring the DPV current of 1 mM DA.

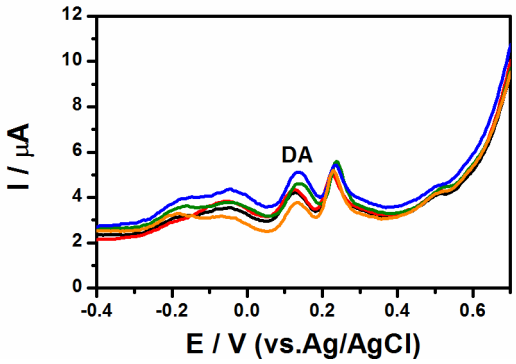

Fig. S 10 DPVs of 10 μM DA in human serum at ErGO-10 electrodes.