Supporting Information

Reactive Argon Plasma Activation of Screen-Printed Carbon Electrodes for Highly Selective Dopamine Determination

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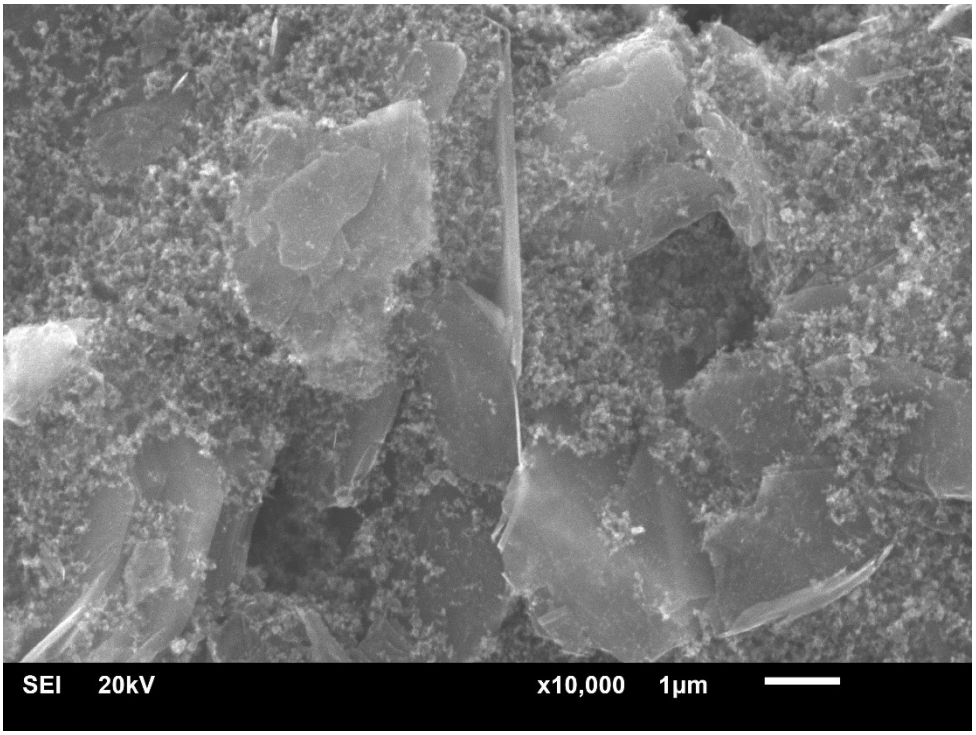


Fig. S1 Scanning electron micrograph of SPCEs after Ar plasma treatment at 50 w for 15 min. Carbon additives were more removed from the surface.

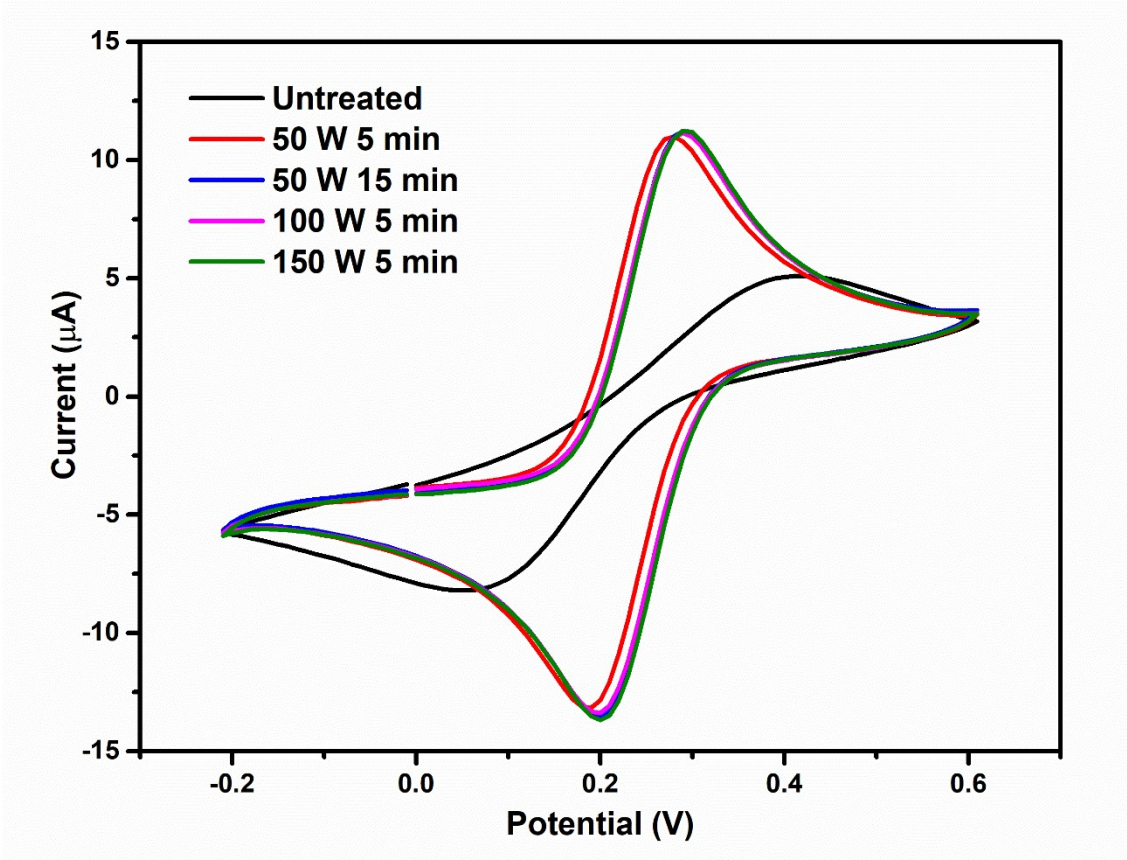
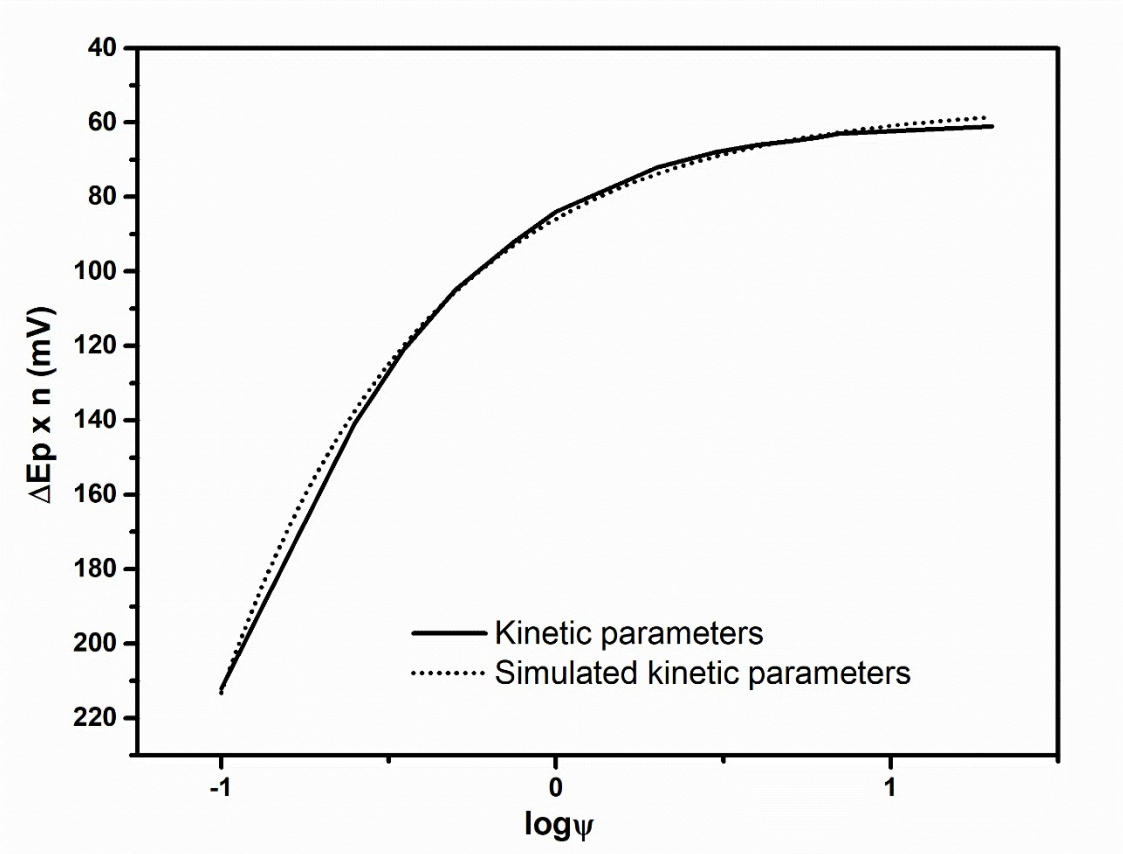


Fig. S2 Cyclic voltammograms of 5 mM ferricyanide in 1 M KCl at the scan rate of 50 mV/s using SPCEs treated with argon plasma at different conditions, untreated (black), 50 W 5 min (red), 50 W 15 min (blue), 100 W 5 min (pink), and 150 W 5 min (green).



25 Fig. S3 Relation of peak potential separation with dimensionless kinetic parameters

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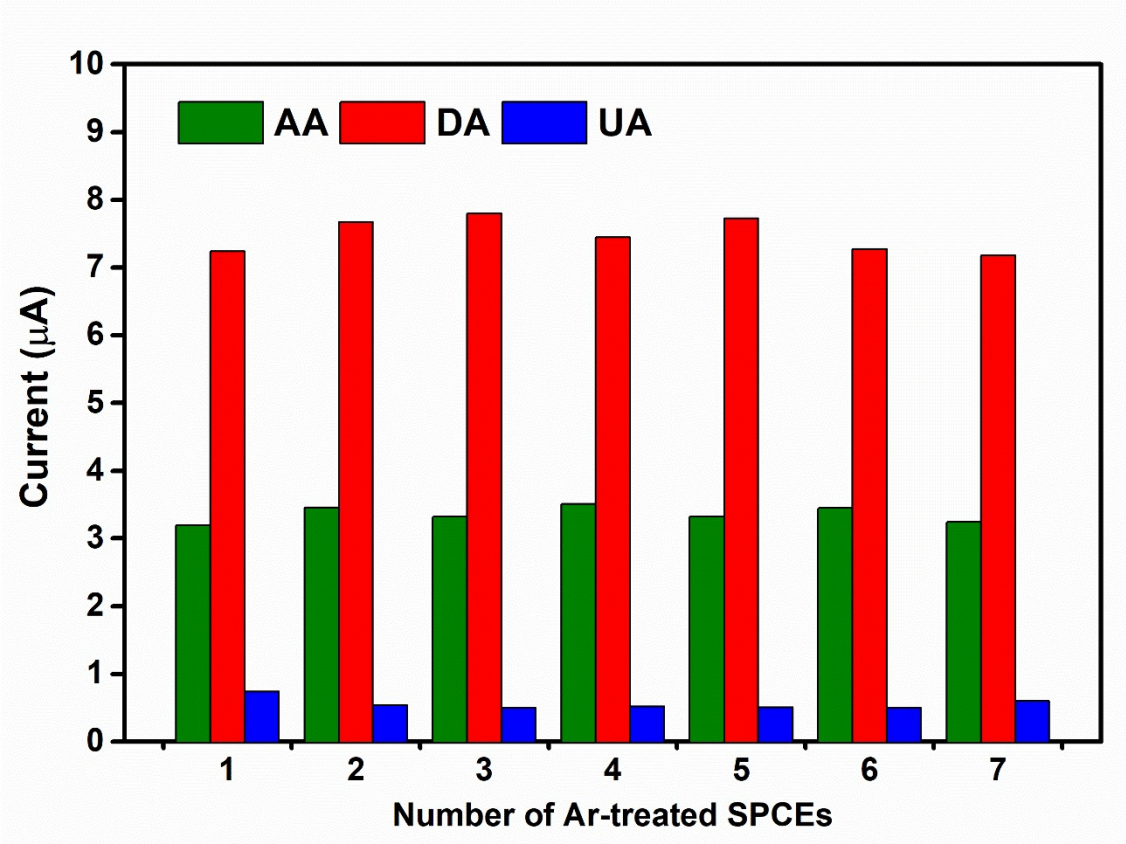

Fig S4. The reproducibility results of Ar-treated SPCEs (n=7) using DPV of a mixture of 100 μM AA, 10 μM DA, and 5 μM UA in 0.1 M PBS (pH 7.4)

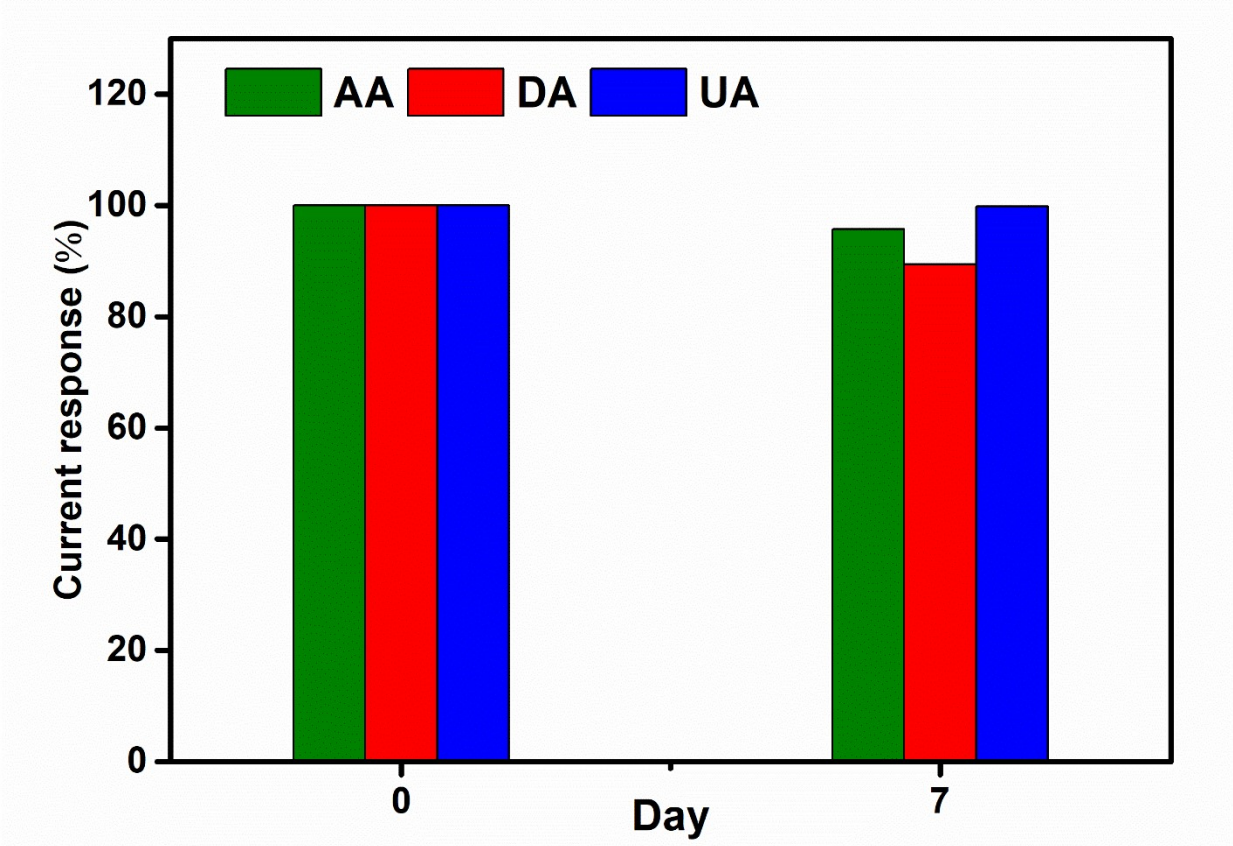

Fig S5. The stability tests of Ar-treated SPCEs (n=7) stored in a dessicated chamber for 7 days using DPV of a mixture of 100 μM AA, 10 μM DA, and 5 μM UA in 0.1 M PBS (pH 7.4)

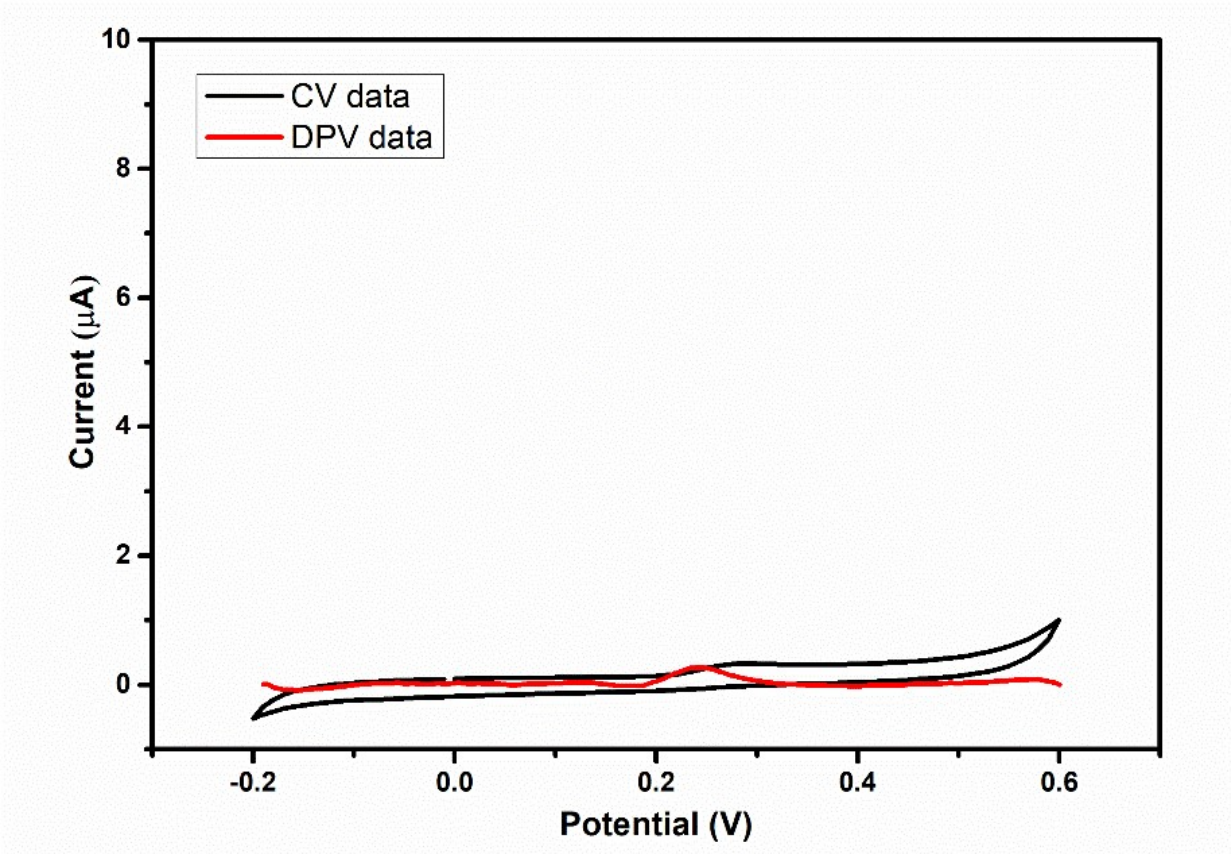

Fig S6. The CV (black) and DPV (red) data of human serum diluted 100 times in 0.1 M PBS (pH 7.4)

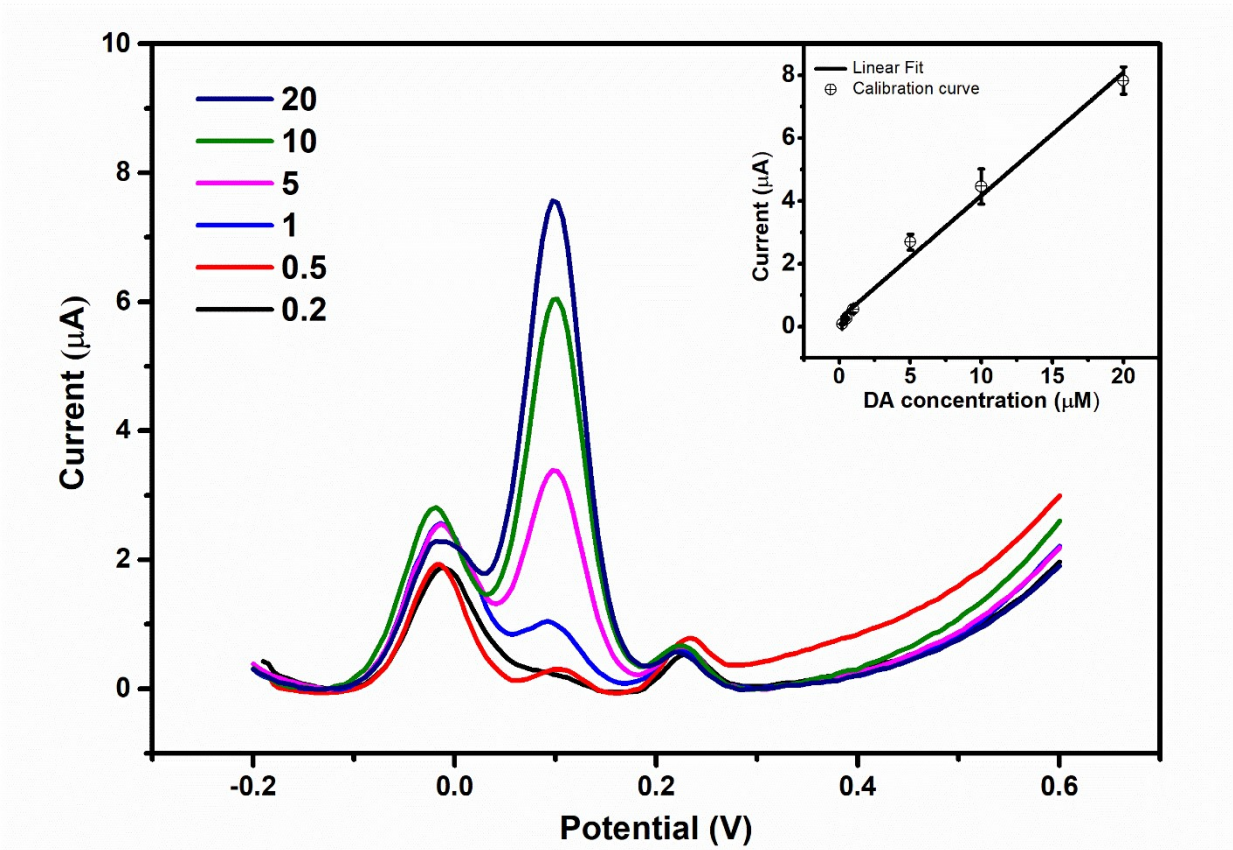

Fig S7. DPV of DA at different concentrations (0.2, 0.5, 1, 5, 10, and 20 μM) on Ar-treated SPCEs in the presence of 100 μM AA and 5 μM UA in diluted human serum. The inset displays the calibration curve for real sample analysis.