Detection of Dopamine on a Poly(metanilic acid) Decorated Two-dimensional Gold Cavity Array Electrode

Dongli Fan, ShuangShuang Wu, Shu Tian*, Jingyang Zhou, Ju Yun, Chunjuan Ma,

and Jian Shi*

School of Chemistry and Chemical Engineering, Nantong University, Nantong

226007, P. R. China

*To whom correspondence should be addressed. *E-mail:* <u>tian0429@ntu.edu.cn;</u> shijianchuyu@163.com Tel: 86-513-85012856 Fax: 86-513-85012851



Firue S1 Gold seeds produced on the surface of ITO electrodes with the first pulse in (a) $10 \text{ mA} \cdot \text{cm}^{-2}$ and (b) $50 \text{ mA} \cdot \text{cm}^{-2}$ current density.



Figure S2 Typical UV-vis reflection spectra of the flat Au and gold cavity array substrates.



Figure S3 CV obtained at the GCA electrode in 0.1M PBS (pH 7.0) containing 50 μ M DA. Scan rate: 50 mV/s.



Figure S4 CV evolutions at the GCA electrode in 0.5 mM DA for 5 times of consecutive scanning. Scan rate: 50 mV/s.



Figure S5 CVs for the oxidation of 0.5 mM DA(blue dash), 1 mM UA (red short dash) at the GCA electrode, and a mixture of 50 μ M DA + 1 mM UA (black solid) at the poly(metanilic acid) nmodified GCA electrode. Scan rate: 50 mV/s.



Figure S6 SWVs of the modified GCA electrode in 0.1 M PBS (pH 7.0) solution containing 25 μ M DA and increasing concentrations of AA (0.05, 0.1, 0.2, 0.3, 0.4, and 0.5 mM), SWV (black short dash)and CV (red dot) of 2 mM AA at the modified GCA electrode.