

Supplementary Material

Simultaneous determination of dopamine and uric acid in presence of high concentration of ascorbic acid using cetyltrimethylammonium bromide–polyaniline/activated charcoal composite

Mani Govindasamy¹, Shen-Ming Chen^{1}, Veerappan Mani^{1,2*}, Anandaraj Sathiyaraj³, Johnson Princy Merlin³, Fahad M.A. Al-Hemaid⁴, M. Ajmal Ali⁴*

¹Department of Chemical Engineering and Biotechnology, National Taipei University of Technology, Taipei, Taiwan (ROC)

²Graduate Institute of Biomedical and Biochemical Engineering, National Taipei University of Technology, Taipei, Taiwan (ROC)

³Department of Chemistry, Bishop Heber College (Autonomous), Tiruchirappalli-620 017, Tamil Nadu, India

⁴Department of Botany and Microbiology, College of Science, King Saud University, Riyadh 11451, Saudi Arabia

Corresponding author: V. Mani, Email: veera.678@gmail.com Tel.: +886 2271-2171 2525; Fax: +886-02-2731-7117. S.-M. Chen, Email: smchen78@ms15.hinet.net Tel: +886 2270 17147, Fax: +886 2270 25238

Table S1 Comparison of electrocatalytic parameters obtained at CTAB–PANI/AC with control electrodes. The potentials are referred to Ag/AgCl (saturated KCl) reference electrode.

Electrodes	Dopamine				Uric acid			
	$I_{pa}/\mu\text{A}$	$I_{pc}/\mu\text{A}$	E_{pa}/V	E_{pc}/V	$I_{pa}/\mu\text{A}$	$I_{pc}/\mu\text{A}$	E_{pa}/V	E_{pc}/V
Bare GCE	6.237	-1.048	0.384	-0.078	4.057	–	0.566	–
CTAB–PANI	10.47	-2.048	0.315	-0.083	4.585	–	0.400	–
CTAB–PANI/AC	11.88	-3.991	0.218	-0.149	9.587	-1.414	0.335	0.276

I_{pa} = anodic peak current, I_{pc} = cathodic peak current, E_{pa} = anodic peak potential and E_{pc} = cathodic peak potential

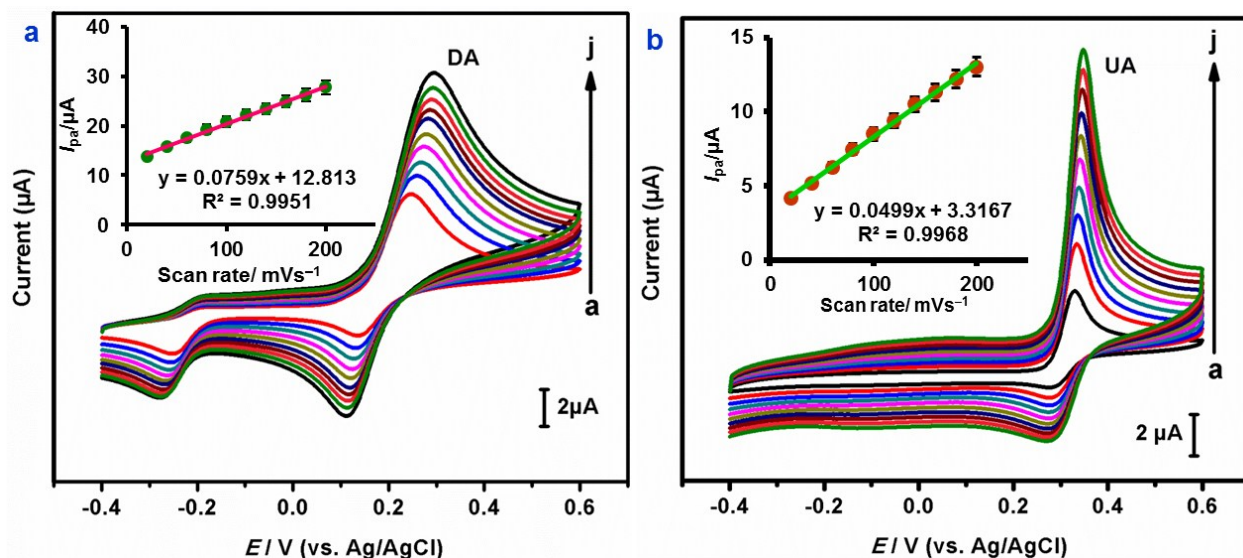


Fig. S1 CVs obtained CTAB–PANI/AC/GCE in phosphate buffer (pH 7.0) containing 2 mM DA (a) and 200 μM UA (b) at different scan rates from (a=20, b=40, c=60, d=80, e=100, f=120, g=140, h=160, i=180, j=200 mV s^{-1}). Insets: Plots between I_{pa} (μA) vs. scan rate (mV s^{-1})

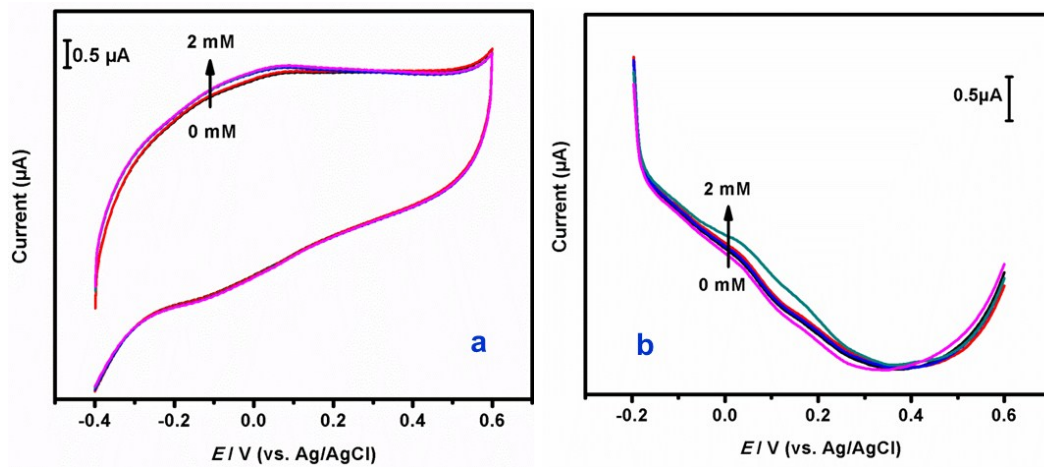


Fig. S2 Cyclic voltammograms (a) and differential pulse voltammograms (b) obtained at CTAB–PANI/AC/GCE in phosphate buffer (pH 7.0) containing of different concentrations of AA (0.5, 1.0, 1.5 and 2.0 mM).