

Electronic Supplementary Information

**A new electro-generated *o*-dianisidine derivative stabilized
MWCNT-modified GCE for low potential gallic acid detection**

Sundaram Sornambikai^a, Jagannathan Madhanagopal^a, Mohammed Rafiq Abdul Kadir^{a,*}, Palanivel Sathishkumar^b, Tony Hadibarata^b and Abdul Rahim Mohammed Yusoff^b

^aMedical Devices and Technology Group (MEDITEG), Faculty of Biosciences and Medical Engineering, Universiti Teknologi Malaysia (UTM), 81310 Skudai, Johor Bahru, Johor, Malaysia.

^bCentre for Sustainable Environment and Water Security (IPASA), Research Institute for Sustainable Environment, Universiti Teknologi Malaysia, 81310 UTM Skudai, Johor, Malaysia.

Corresponding author. E-mail address: rafiq@biomedical.utm.my; Fax: +6075526222; Tel: +6075535961 (M.R.A. Kadir)

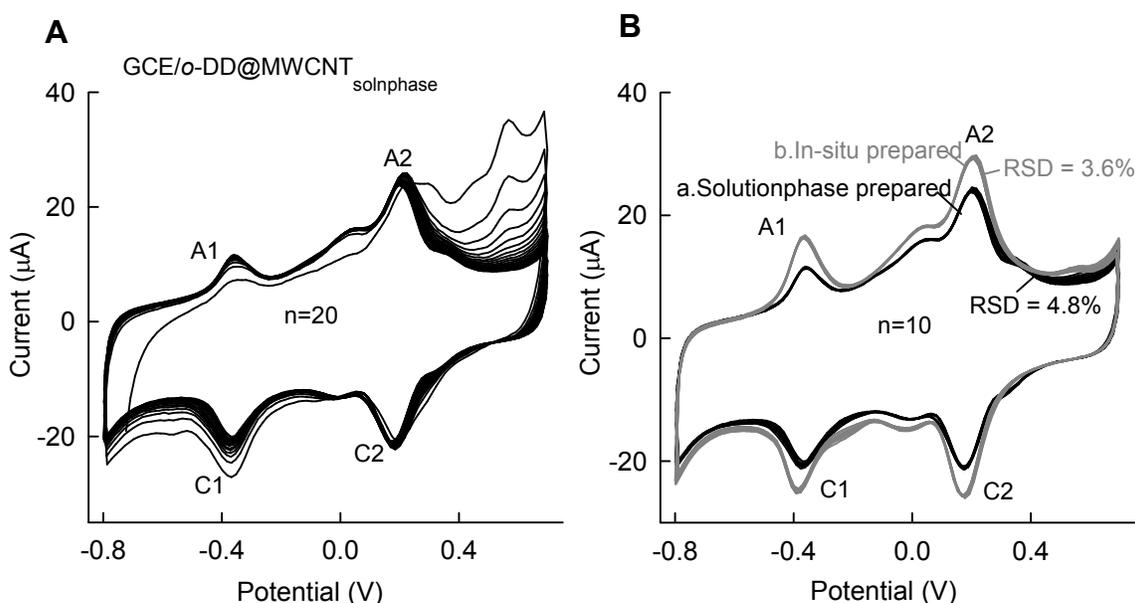


Figure S1. (A) Twenty continuous CV responses for GCE/*o*-DD@MWCNT modified using the solution phase prepared hybrid powder. (B) CV responses of GCE/*o*-DD@MWCNT modified using (a) the solution phase prepared hybrid powder and (b) an *in-situ* method in pH 7 PBS. All scans at $v=50 \text{ mV}\cdot\text{s}^{-1}$.

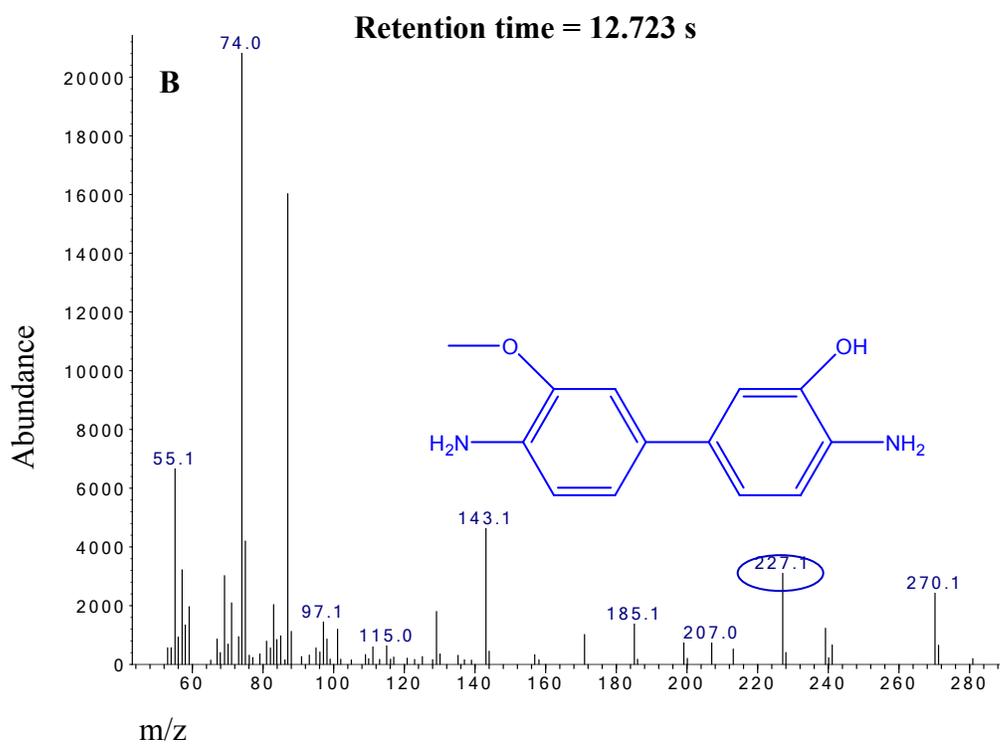
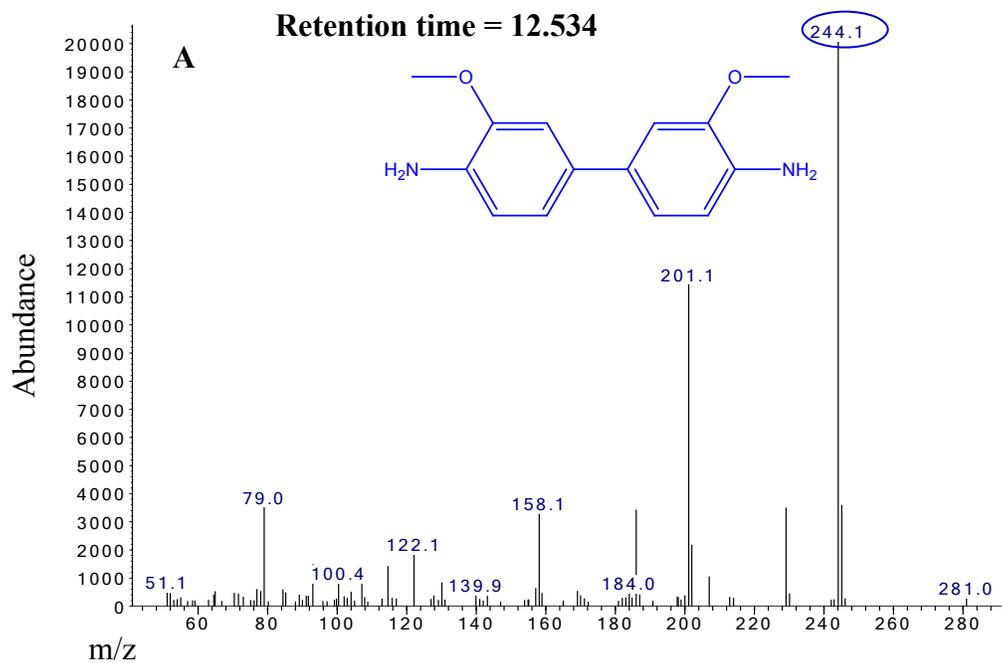


Figure S2. GC-MS spectra of (A) *o*-dianisidine and (B) *o*-DD@MWCNT filtered ethanol extracts. The x-axis corresponds to the m/z values, and the y-axis corresponds to the abundance.

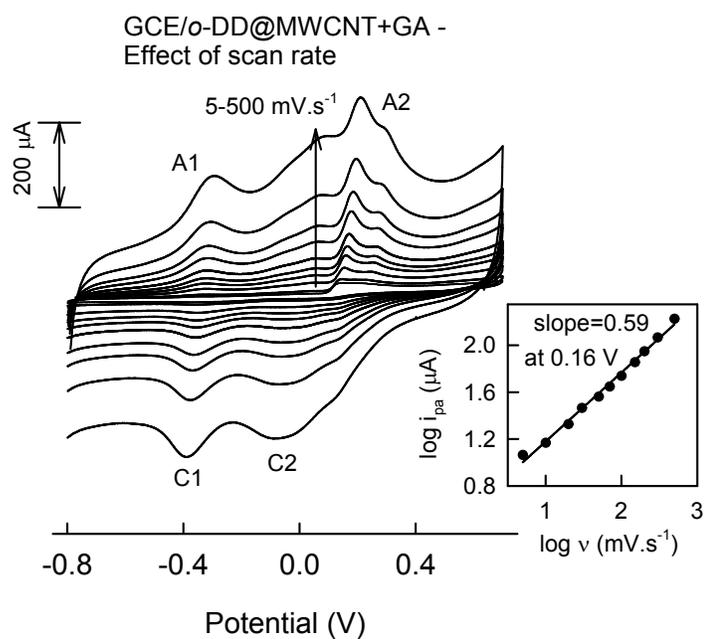


Figure S3. Effect of the scan rate on GCE/*o*-DD@MWCNT in the presence of 1 mM GA in pH 7 PBS. The scan rate was varied from 5-500 $\text{mV}\cdot\text{s}^{-1}$. The inset shows the calibration plot between the log anodic peak current and log scan rate.

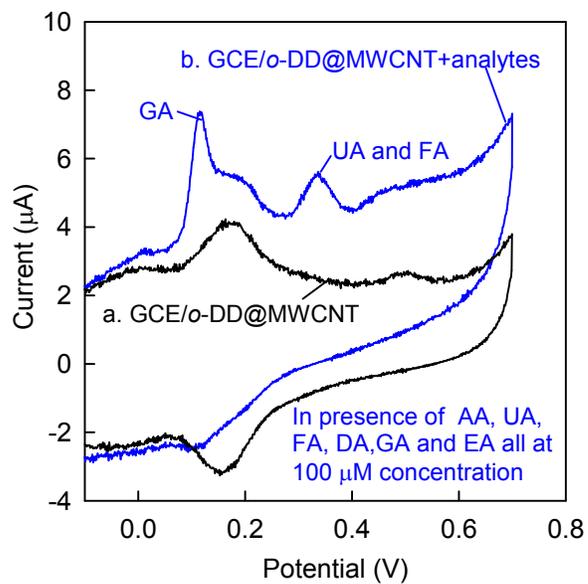


Figure S4. Comparison of the CV responses of GCE/*o*-DD@MWCNT in the absence (a) and presence (b) of interfering compounds (100 μM concentration), such as ascorbic acid (AA), uric acid (UA), ellagic acid (EA), dopamine (DA), ferulic acid (FA) and gallic acid (GA). Scan rate=10 $\text{mV}\cdot\text{s}^{-1}$. All of the analytes were added to the pH 7 PBS.