

Electronic Supplementary Information

Simultaneous determination of hydroquinone and catechol by reduced graphene oxide-polydopamine-carboxylated multi-walled carbon nanotube nanocomposite

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Table S1. The peak potential difference ΔE_{pa} and average peak oxidation current of HQ and CT at different electrodes

Electrode	ΔE_{pa} (mV)	I_{pa} (μ A)		RSD(%) (n=4)	
		HQ	CT	HQ	CT
GCE	-	18.66		0.52	
GO/GCE	105	8.833	13.54	0.38	0.35
RGO-PDA/GCE	105	40.33	49.00	0.34	0.41
cMWCNTs/GCE	107	58.59	63.81	0.16	0.18
RGO-PDA-cMWCNT/GCE	115	102.8	117.2	0.23	0.24

Table S2. Fitted parameters of ohmic resistance (R_s) and charge transfer resistance (R_{ct}) of different electrodes

Electrode	R_s (Ω)	R_{ct} (Ω)
GCE	31.8	165
GO/GCE	37.6	5300
PDA/GCE	37.7	3500
RGO-PDA /GCE	35.2	220
RGO-PDA-cMWCNT/GCE	35.6	196

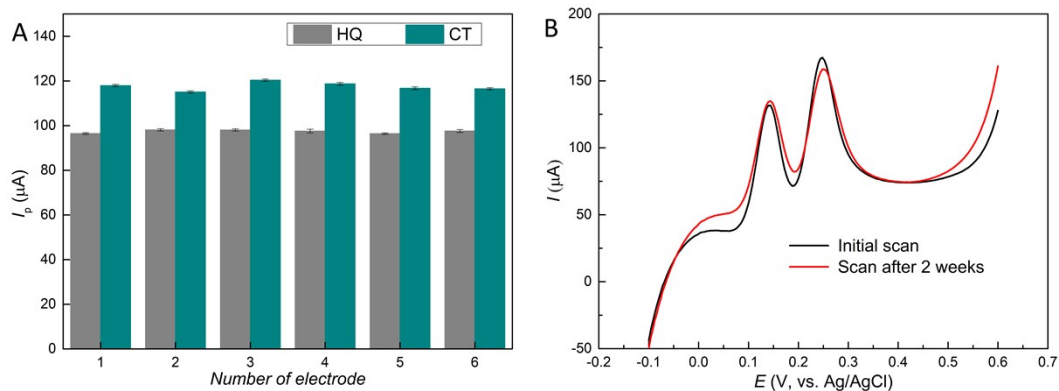


Fig. S1 (A) The peak currents of HQ and CT (each 0.500 mM) obtained by DPV using 6 RGO-PDA-cMWCNT/GCE prepared in parallel. (B) The DPV results of HQ and CT (each 0.500 mM) with the newly prepared RGO-PDA-cMWCNT/GCE and the same electrode kept for two weeks. The supporting electrolyte is 0.1 M PBS (pH 7.0).

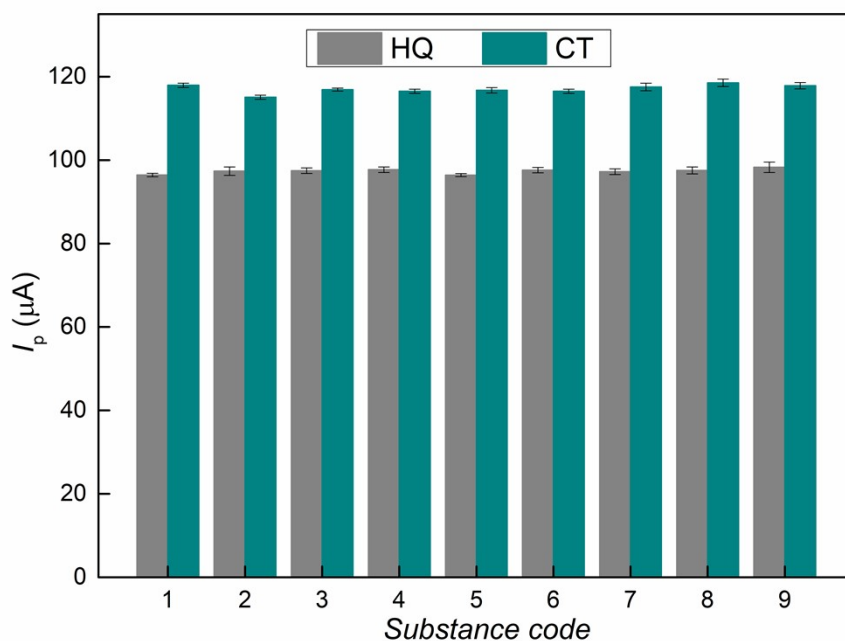


Fig. S2 The peak currents of HQ and CT (each 0.500 mM) obtained by DPV with 20-fold Na^+ (1), Mg^{2+} (2), Ca^{2+} (3), Cu^{2+} (4), Zn^{2+} (5), SO_4^{2-} (6), NO_3^- (7) and 10-fold phenol (8), resorcinol (9). The supporting electrolyte is 0.1 M PBS (pH 7.0).

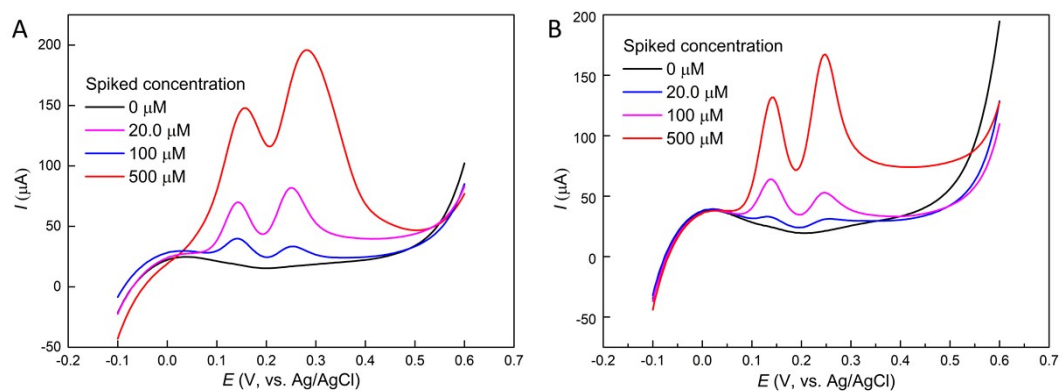


Fig. S3 The DPV results of tap water (A) and lake water (B) with and without spiked HQ and CT. The supporting electrolyte is 0.1 M PBS (pH 7.0).