Electronic supplementary material

A novel substitution sensing for hydroquinone and catechol based on Poly(3-aminophenylboronic acid)/MWCNTs modified electrode

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Table S1 Comparison with other sensors for the determination of CC.

Method	Calibration range (mol/L)	Detection limit (mol/L)	References
A sensor based on as-grown and nanograss array BDD electrode	5.0×10^{-6} ~1.0×10^{-4}	1.3×10^{-6}	[1]
A GCE modified with multi-walled carbon nanotubes	2.0×10^{-5} ~1.2×10^{-3}	1.0×10^{-5}	[2]
A CNCs-RGO/GCE	1.0×10^{-6} ~4.0×10^{-4}	4.0×10^{-7}	[3]
A laccase biosensor based on AgNPs-CMC/cellulose composite nanofibrous mats	5.0×10^{-6} ~3.7×10^{-3}	1.6×10^{-6}	[4]
A screen-printed prussian blue modified electrode	1.0×10^{-6} ~9.0×10^{-5}	4.3×10^{-7}	[5]
A nanotubes/carbon paper composite electrochemical sensor	1.0×10^{-6} ~1.0×10^{-4}	2.9×10^{-7}	[6]
A BphC/GCE constructed by polyvinyl alcohol/SiO_2 sol–gel method	2.0×10^{-6} ~8.0×10^{-4}	4.3×10^{-7}	[7]
MWCNTs-PDDA-GR/GCE	5.0×10^{-7} ~4.0×10^{-4}	1.8×10^{-8}	[8]
A photoelectrochemical senser based on CdS quantum dots, DNA and pristine graphene nanocomposite film modified electrode	1.0×10^{-8} ~1.0×10^{-6}	4.9×10^{-9}	[9]
pAPBA/MWCNTs/GCE	4.0×10^{-8} ~1.7×10^{-5}	4.3×10^{-9}	This work

References

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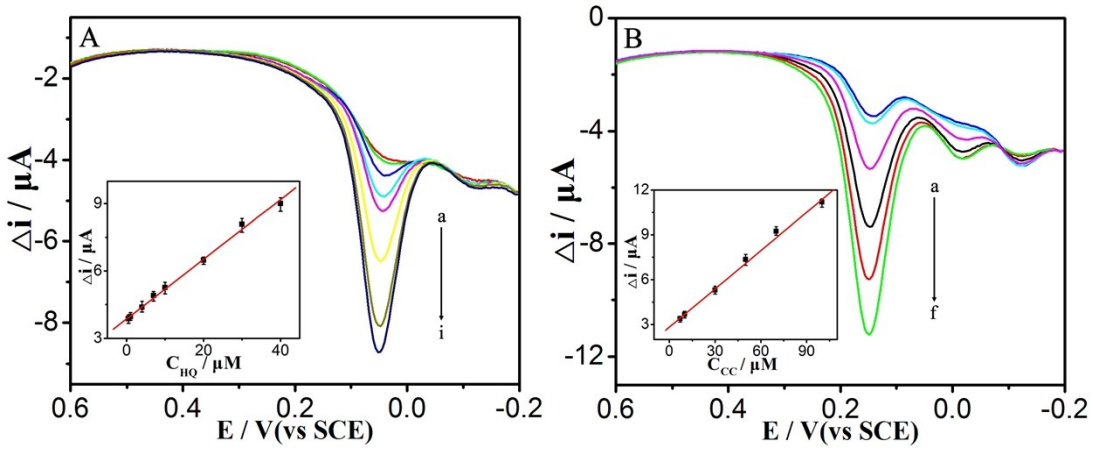

Fig. S1 (A) DPV curves of HQ recorded on pAPBA/MWCNTs/GCE with different concentration (a-i were 5.0×10^{-7} to 4.0×10^{-5} mol L^{-1}). Inset: The calibration curve for HQ; (B) DPV curves of CC recorded on pAPBA/MWCNTs/GCE with different concentration (a-f were 7.0×10^{-6} to 1.0×10^{-4} mol L^{-1}). Inset: The calibration curve for CC.

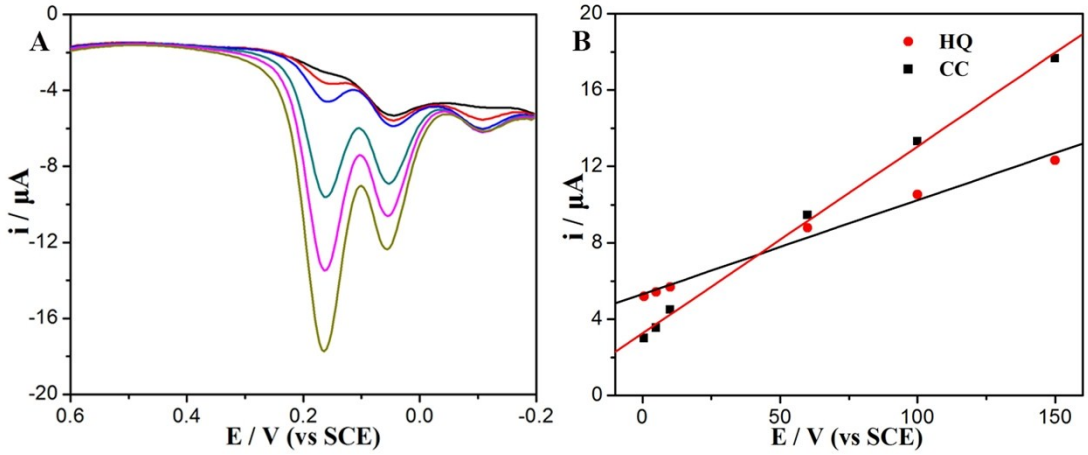

Fig. S2 (A) DPV curves of simultaneous detection of HQ and CC on pAPBA/MWCNTs/GCE with different concentration of HQ and CC (Concentrations were 5.0×10^{-7} to 1.5×10^{-5} mol L^{-1}). (B) The calibration curve for HQ and CC.

Table S2 Application of the sensor to competitively determine CC in five kinds of real water samples spiked with different amounts of CC.

Samples	Added (μM)	Founded* (μM)	Recovery (%)
Tap Water	0.5	0.475	95.0
	5	5.18	103.6
	10	10.2	102.0
Jinghu Lake Water	0.5	0.522	104.0
	5	5.26	105.3
	10	9.85	98.5
Wenjin Lake Water	0.5	0.476	95.1
	5	5.39	107.9
	10	10.1	101.0
Changjiang River Water	0.5	0.515	103.0
	5	5.41	108.2
	10	9.78	97.8
Sanitary Wastewater	0.5	0.490	98.0
	5	4.95	99.0
	10	9.91	99.1

* Average value of three determination