Electronic Supplementary Information

Bio-inspired sensor based on surfactant film and Pd nanoparticles

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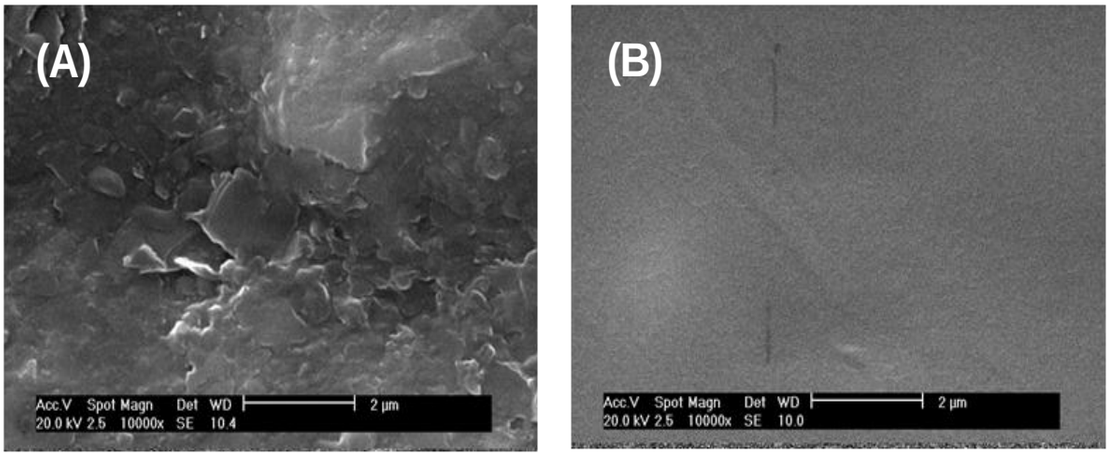

Fig. S1. SEM micrograph of (A) bare GCE (B) and GCE coated with Pd/ImS3-14 observed at 10 kV with magnification of 10K.

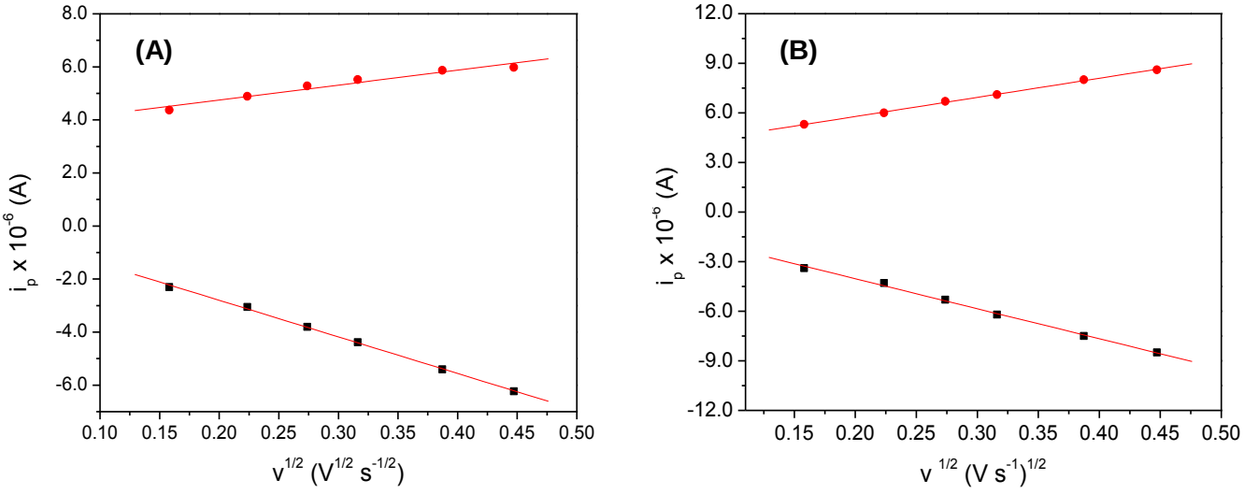

Fig. S2. Randles-Sevcik plot of (A) HQ and (B) CC, for Pd/ImS3-14/($Fe^{III}Cu^{II}$)/GCE with a scan rate in range of 25–200 mV s^{-1}.

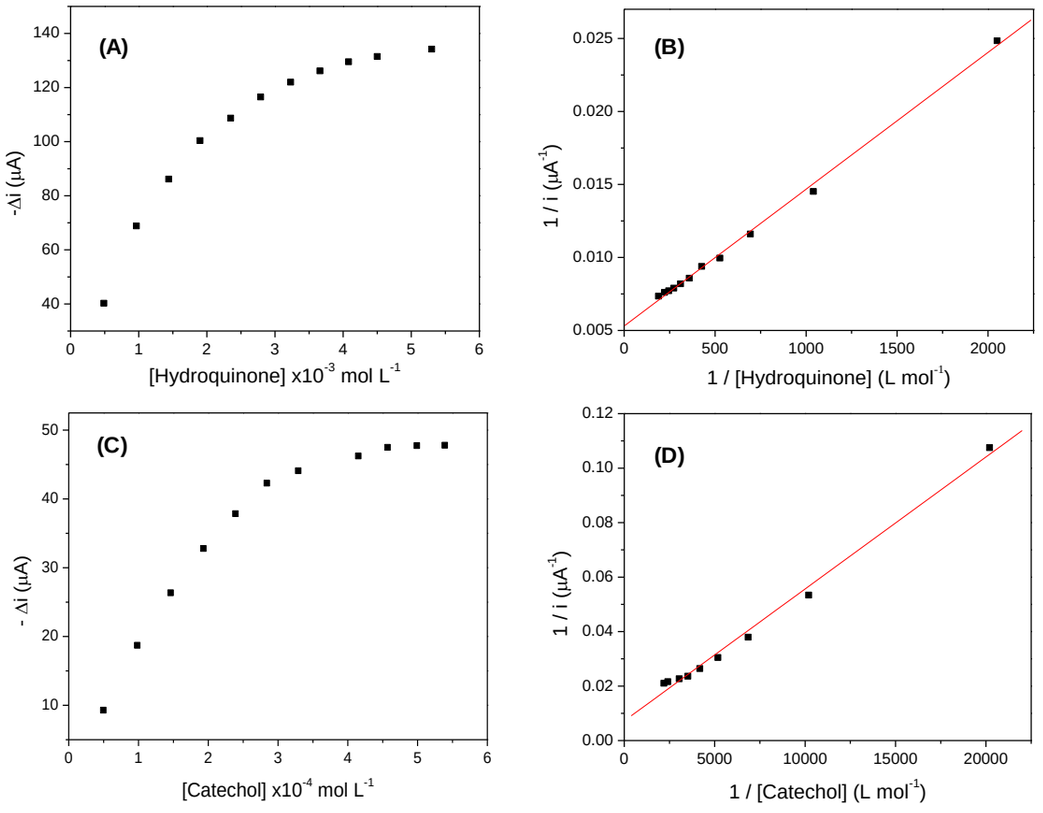

Fig. S3. Kinetic activity of complex as catecholoxidase and Lineweaver-Burk plot using solutions of HQ (A and B) and CC (C and D) in phosphate buffer (0.1 mol L-1, pH 7.0).

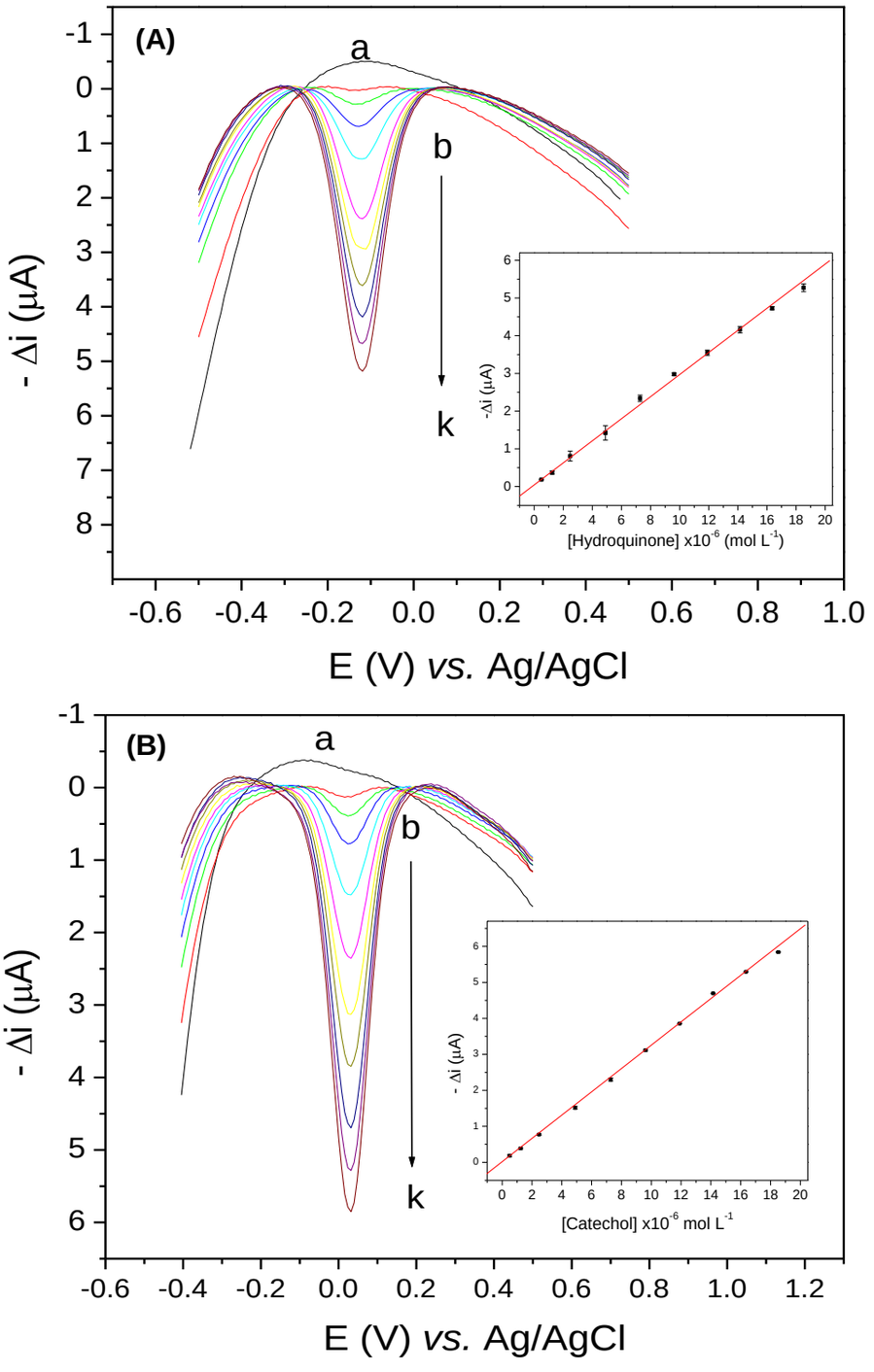

Fig. S4. Square-wave voltammograms obtained using the Pd/ImS3-14/($Fe^{III}Cu^{II}$)/GCE sensor in (a) phosphate buffer solution only (0.1 mol L^{-1}, pH 7.0) and in solutions containing diphenol in the range of $4.99x10^{-7}$ to $1.85x10^{-5}$ mol L^{-1} (curves b-k). The insert shows the calibration curve. (A) HQ; (B) CC.

Table S1. CC an HQ recovery in cigarette filter extracts using the proposed sensor

Sample	CC ($x10^{-6}$ mol L^{-1})			HQ ($x10^{-6}$ mol L^{-1})		
	Added	Found[a]	Recovery (%)[b]	Added	Found[a]	Recovery (%)[b]
A	1.87	1.78±0.17	98.20±3.74	1.87	1.72±0.10	91.67±5.40
	3.70	3.92±0.13	105.90±3.53	3.70	4.09±0.15	99.42±4.09
	5.50	5.41±0.03	98.40±0.51	5.50	5.80±0.04	105.55±3.17
B	1.87	1.97±0.04	105.30±1.91	1.87	1.79±0.04	95.70±2.02
	3.70	3.88±0.12	104.80±3.34	3.70	3.60±0.05	97.30±1.29
	5.50	5.48±0.05	99.60±0.84	5.50	5.49±0.05	99.80±0.96
C	1.87	1.91±0.01	102.10±1.91	1.87	1.93±0.07	103.20±3.50
	3.70	3.83±0.06	103.50±3.83	3.70	3.73±0.21	100.80±0.96
	5.50	5.31±0.11	96.60±5.31	5.50	5.56±0.11	101.10±2.08

[a] Mean ± standard deviation; n=3.
[b] Recovery = (mean found value / added value) x 100%.