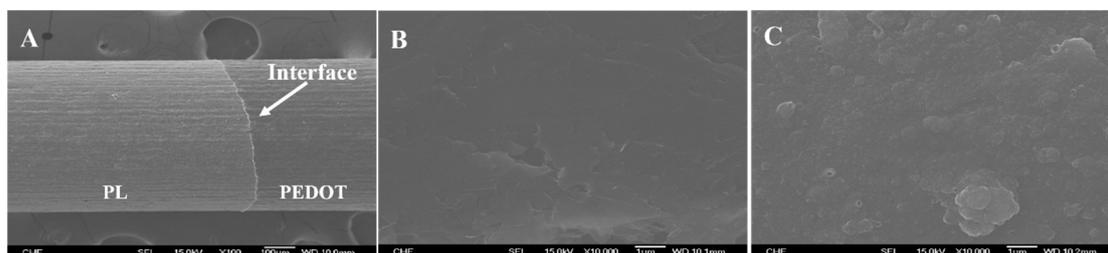


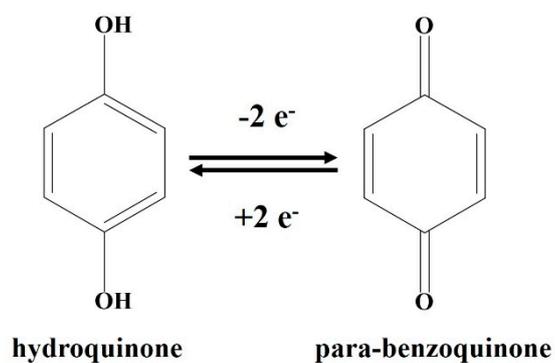
## **Supplementary materials**

### **Fabrication of an extremely cheap poly(3,4-ethylenedioxythiophene) modified pencil lead electrode for effective hydroquinone sensing**

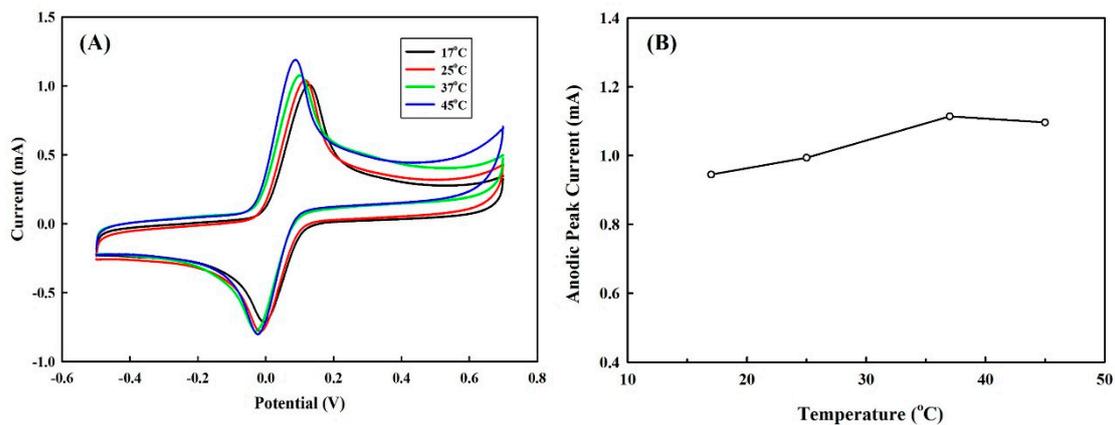
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**Figure S1.** The surface images of PL and PEDOT/PL electrodes by SEM. (A) the interface of PEDOT film on the PL electrode. (B) and (C) were the enlarged images of PL and PEDOT film, respectively.



**Figure S2.** The oxidation and reduction mechanism for hydroquinone and para-benzoquinone



**Figure S3.** (A) The effect of temperature on the performance of PEDOT/PL electrode for the detection of 6 mM of hydroquinone in 100 mM of PBS buffer. The potential was swept from  $-0.5\sim 0.7$  V with different scan rate (B) The effect of temperature on the anodic peak current.