Anti-Biofouling Electrochemical Sensor Based on the Binary Nanocomposite of Silica Nanochannel Array and Graphene for Doxorubicin Detection in Human Serum and Urine Samples

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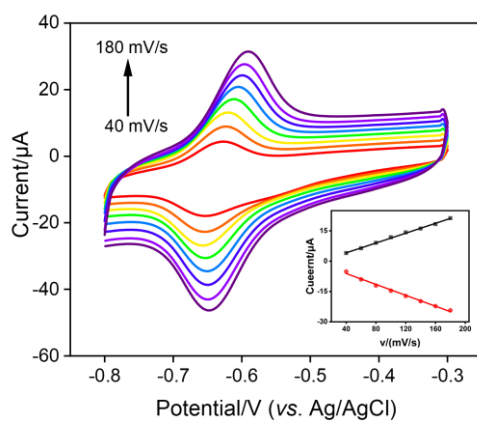
S1. Effect of scan rate on the CV responses

Figure S1 Effect of the scan rate on the CV responses obtained from the VMSF/ErGO/SPCE in 0.1 M PBS (pH = 6.0) containing 10 μM DOX. The inset is the dependence of anodic and cathodic peak currents on scan rate.

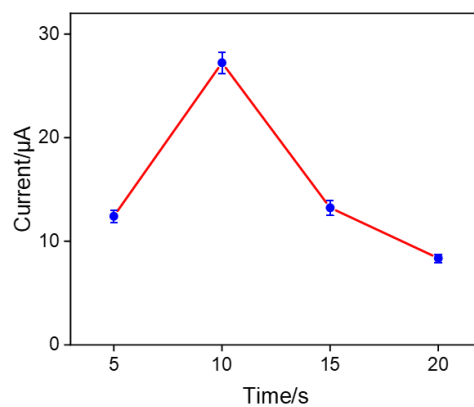**S2. Effect of growth time of VMSF on the detection performance**

Figure S2 Effect of growth time of VMSF on the current response of 10 μM DOX in 0.1 M PBS (pH = 6.0). The error bars represent the standard deviations of three measurements.

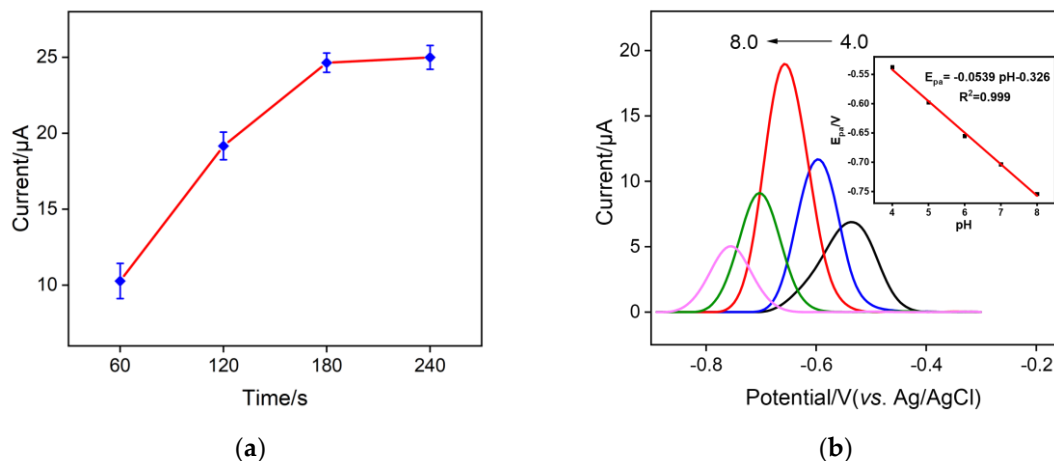## S3 Optimization of preconcentration time and pH value of supporting electrolyte

(a)

(b)

Figure S3 (**a**) Effect of stirring time on the current response of 10 μM DOX in 0.1 M PBS (pH = 6.0). (**b**) DPV curves of VMSF/ErGO/SPCE in 0.1 M PBS solution containing 10 μM DOX at different pH values. The inset shows the linear dependence of anodic peak potential (E_{pa}) on pH value. The error bars represent the standard deviations of three measurements.