Electronic Supplementary Material (ESI) for Analyst.

Supporting Information

A simple electrochemical strategy for the cancer marker CA19-9 detection using copper organic framework nanocomposites signal amplification

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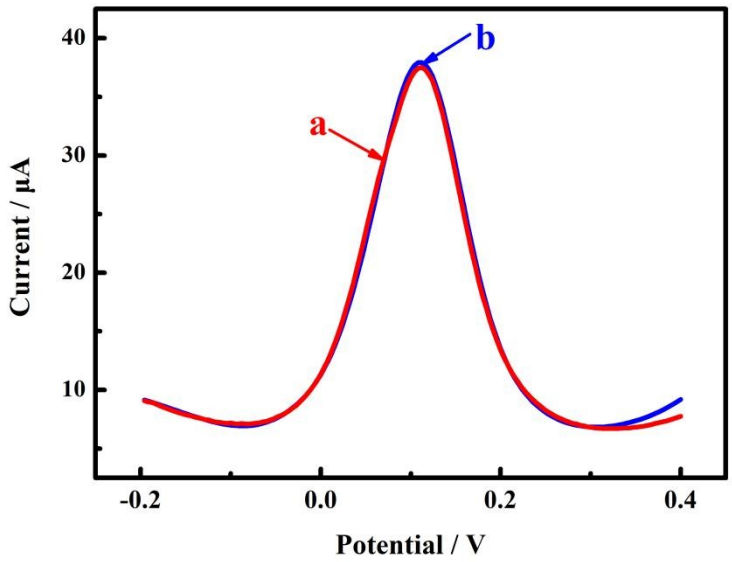

Fig. S1. DPVs recorded of the immunosensor in presence (curve a) and absence of nitrogen (curve b) in 1.0 mM $[Fe(CN)_6]^{3-/4-}$ solution. Condition: The concentration of CA19-9 was 0.1 U/mL; when the immunosensor in presence of N_2, it was passed into the solution for 10 min before the experiment and the N_2 atmosphere was maintained during the measurement.

Fig. S2 (A) CVs recorded of bare electrode, (C) N-GR@Au NPs@CS/GCE and (E) Cu-BTC@N-GR@Au NPs@CS/GCE at different scan rates from 10 to 100 mV/s in 5.0 mM $[Fe(CN)_6]^{3-/4-}$ solution. (B) , (D) and (F) show the linear plots of the oxidation peak currents vs the square root of the scan rate at the bare electrode, N-GR@Au NPs@CS/GCE or Cu-BTC@N-GR@Au NPs@CS/GCE, respectively.

Fig. S3. Optimization of experimental conditions (A) pH; (B) incubation time; (C) incubation temperature and (D) the composition ratio between Cu-MOF and N-GR. Condition: The concentration of CA19-9 was 10 U/mL, 10 μL of 1 mg/mL Cu-BTC@N-GR@Au NPs@CS nanocomposites.