A synergistic bimetallic MOF/MWCNT nanocomposite for sensitive electrochemical detection of baicalin

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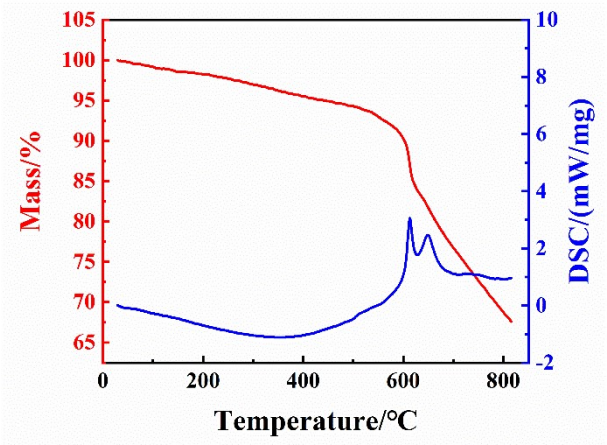

Fig. S1. TG-DSC curves of ZnNi-MOF@MWCNT.

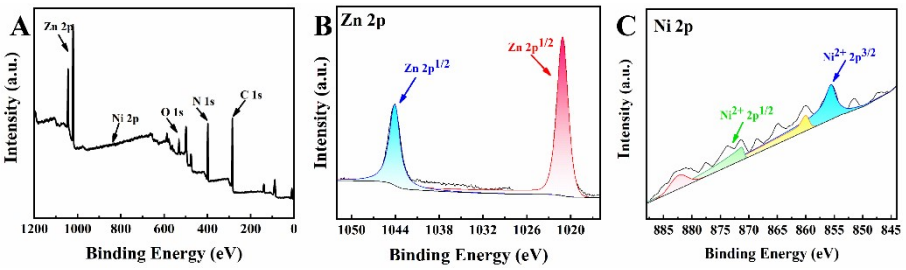

Fig. S2 (A) XPS survey, (B) Zn 2p and (C)Ni 2p spectrum of ZnNi-MOF@MWCNT.

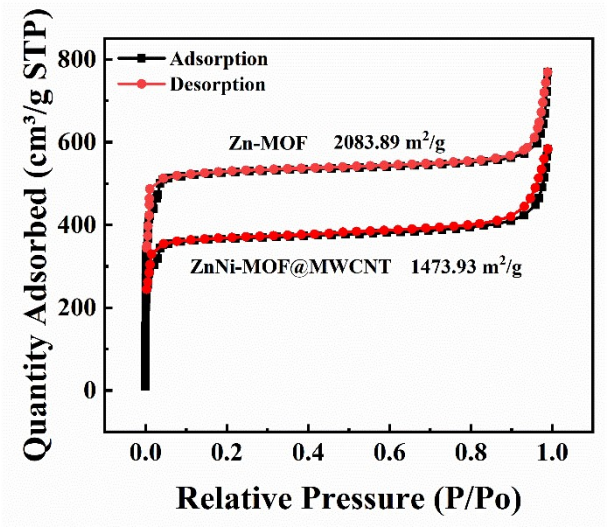

Fig. S3. N_2 adsorption-desorption isotherms of Zn-MOF and ZnNi-MOF@MWNCT.

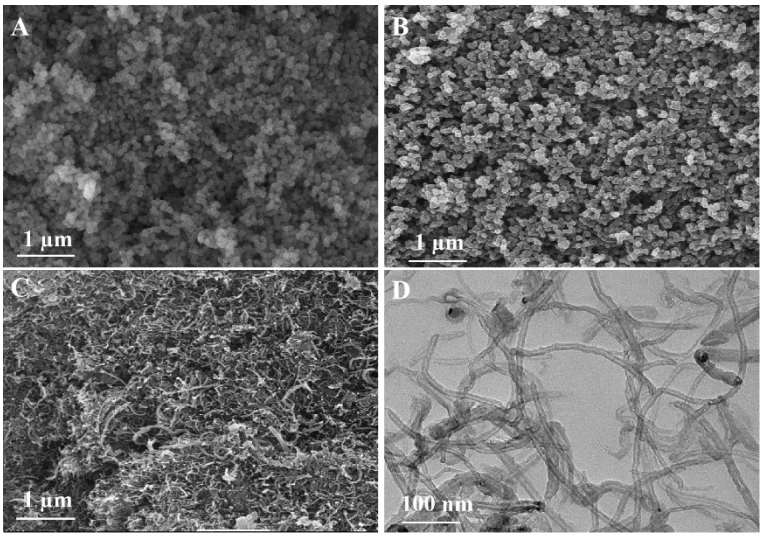

Fig. S4. SEM images of (A) Zn-MOF, (B) ZnNi-MOF and (C) MWCNT. (D) TEM images of MWCNT.

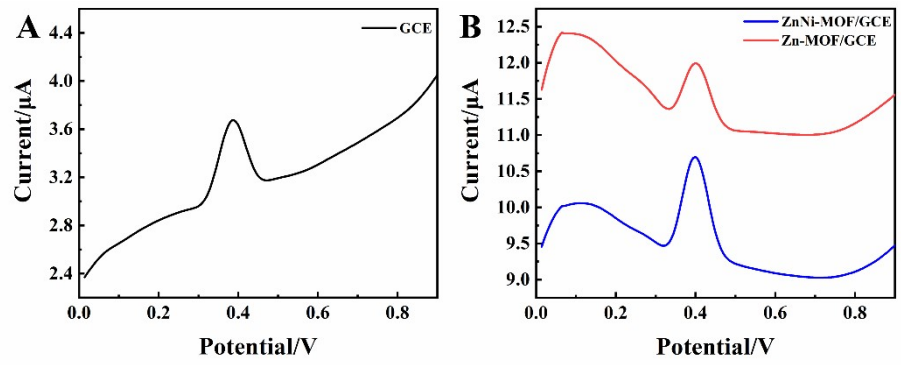

Fig. S5. Differential pulse voltammograms (DPV) of GCE, ZnNi-MOF/GCE, and Zn-MOF/GCE in 0.1 M PBS (pH = 2.5) containing 3×10^{-7} M Bn.

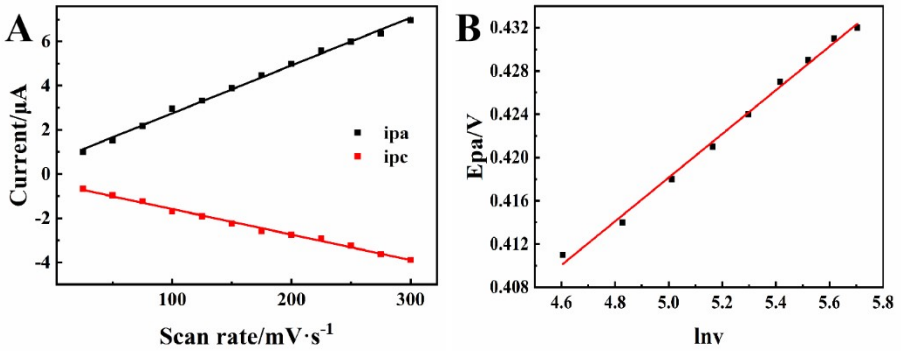

Fig. S6. (A) Relationship between oxidation peak potential and lnv. (B) Relationship between redox peak current and scan rate (v).

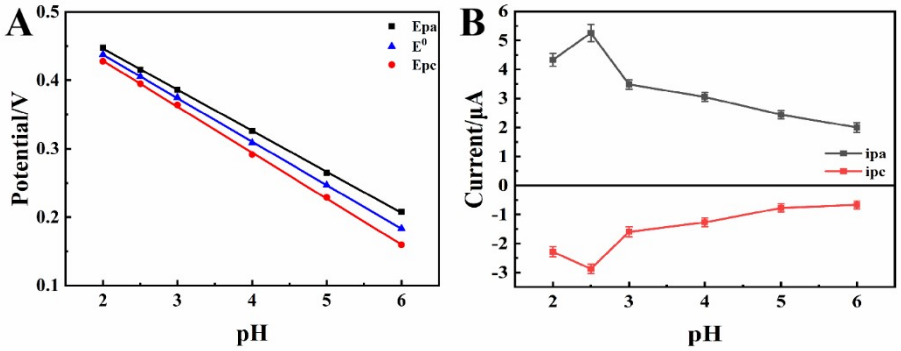

Fig. S7. (A) Relationship between oxidation peak potential (Epa), formal potential (E^{θ}), and reduction peak potential (Epc) with pH. (B) Relationship between redox peak current and pH.

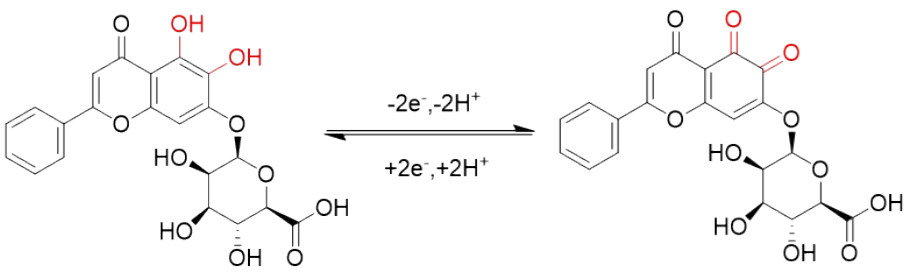

Fig. S8. The redox process of Bn on ZnNi-MOF@MWCNT/GCE.

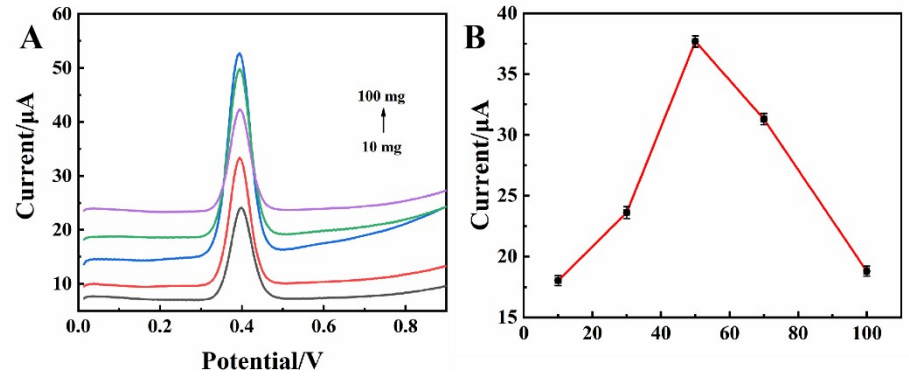

Fig. S9. (A) DPV curves of different MWCNT addition amounts. (B) Effect of the addition amount of MWCNT on the oxidation peak current of 3×10^{-7} M Bn.

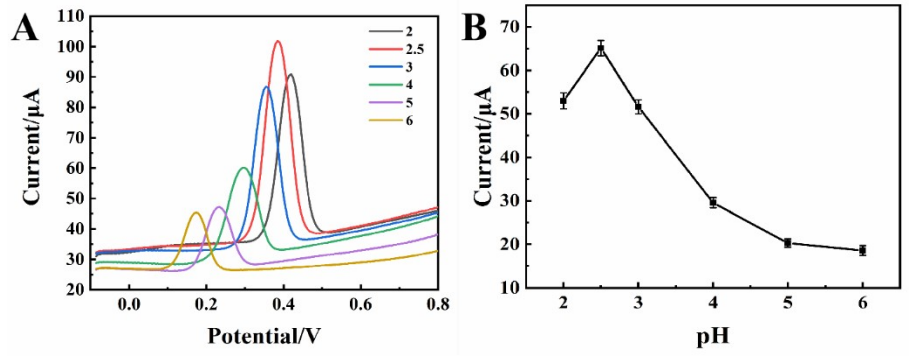

Fig. S10. (A) DPV of ZnNi-MOF@MWCNT/GCE in 0.1 M PBS containing 5×10^{-7} M Bn at different pH values (2, 2.5, 3, 4, 5 and 6). (B) Relationship between oxidation peak current and pH.

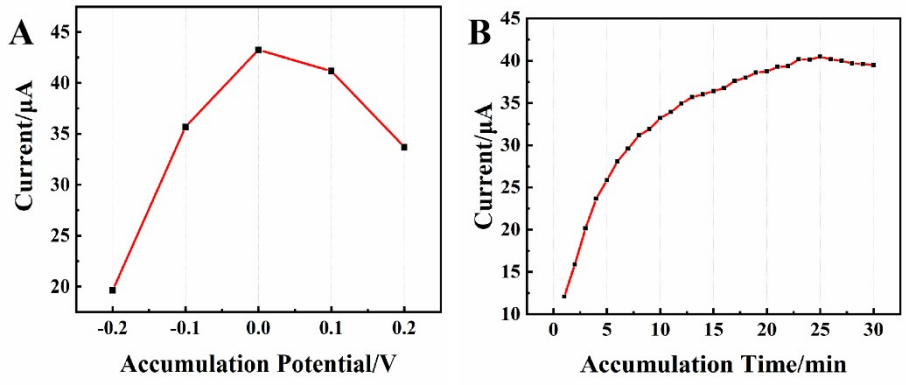

Fig. S11. Effect of (A) accumulation potential and (B) accumulation time on the oxidation peak current of 3×10^{-7} M Bn.

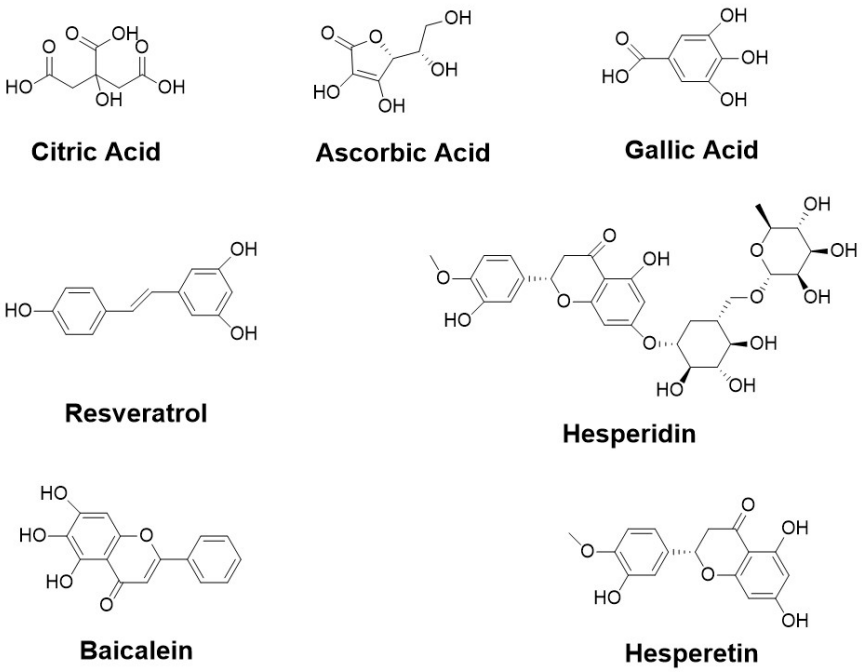

Fig. S12. Chemical structures of different polyphenolic compounds.

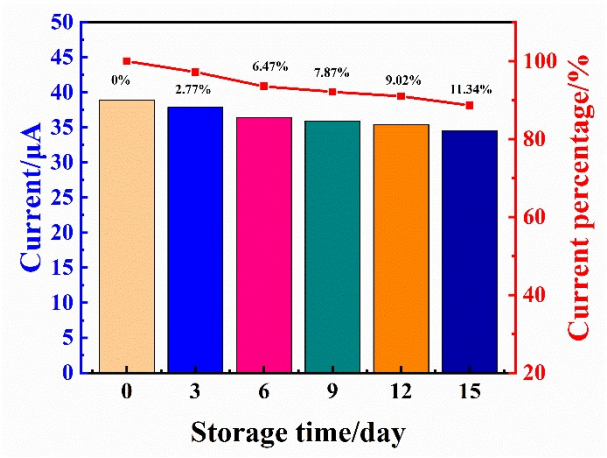

Fig. S13. DPV responses of same ZnNi-MOF@MWCNT/GCE at different storage times.