Fabrication of Zn-Cu bimetallic MOF-based flexible electrodes for serotonin detection in serum samples

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Supplementary table

Table S1. XPS analysis of surface atomic percentage of ZnCuMOF.

Elements	Atomic %
Zn	4.63
Cu	0.89
N	11.65
C	71.33
O	11.49

Table S2. Analytical results of 5-HT in spiked serum sample.

Spiked (µM)	Found (µM)	% Recovery	RSD*
0.01	0.009332	93.32322	2.439024
0.025	0.024163	96.65193	0.392157
0.05	0.044295	88.5898	0.680272
0.1	0.092973	92.97297	0.503503
0.2	0.193642	96.82081	0.298507
0.4	0.370313	92.57822	0.244466
0.6	0.587871	97.97844	0.137552
0.8	0.785593	98.19915	0.107875
1.0	0.965407	96.5407	0.090334

*Relative Standard Deviation

Supplementary Figures

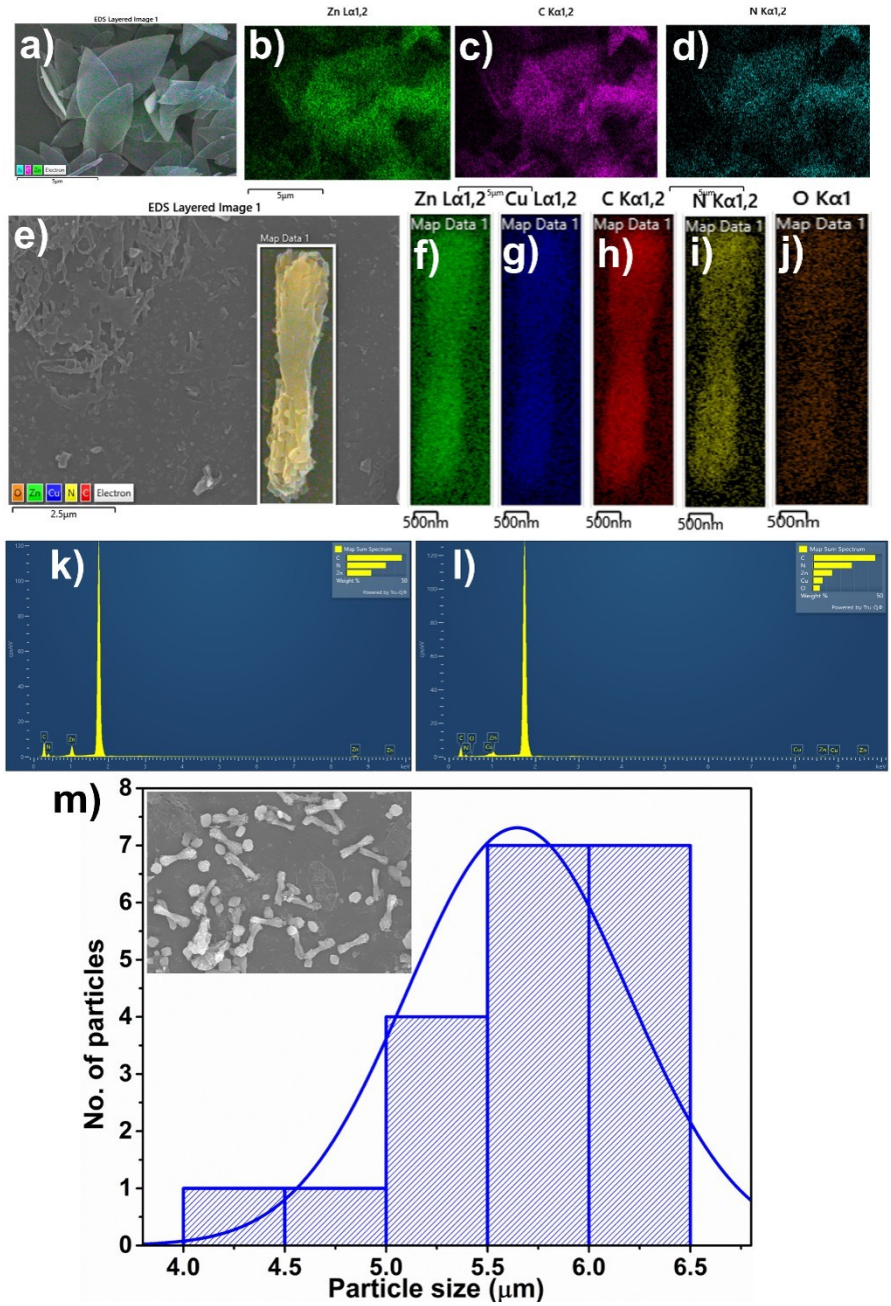

Fig. S1 Elemental mapping of ZnMOF respective zone a) Overlay b) Zn, c) C d) N elements. Elemental mapping of ZnCuMOF respective zone e) Overlay, f) Zn, g) Cu, h) C, i) N, j) O elements. Energy dispersive x-ray spectroscopy (EDS) analysis with SEM on the selected spot of k) ZnMOF, l) ZnCuMOF.

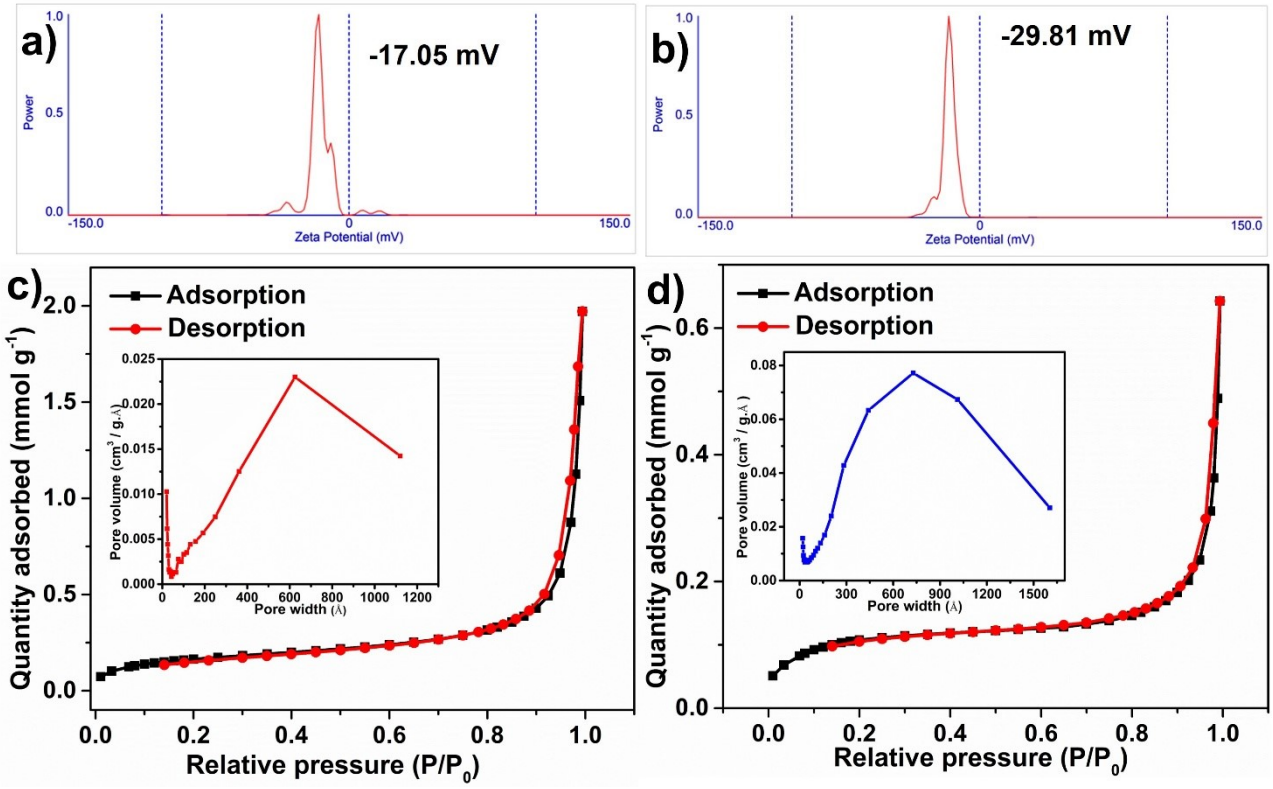

Fig. S2 Zeta potential of (a) ZnMOF, (b) ZnCuMOF respectively. N_2 adsorption-desorption isotherms of (c) ZnMOF and (d) ZnCuMOF. Insets in (c) and (d) show the corresponding pore size distribution curves.

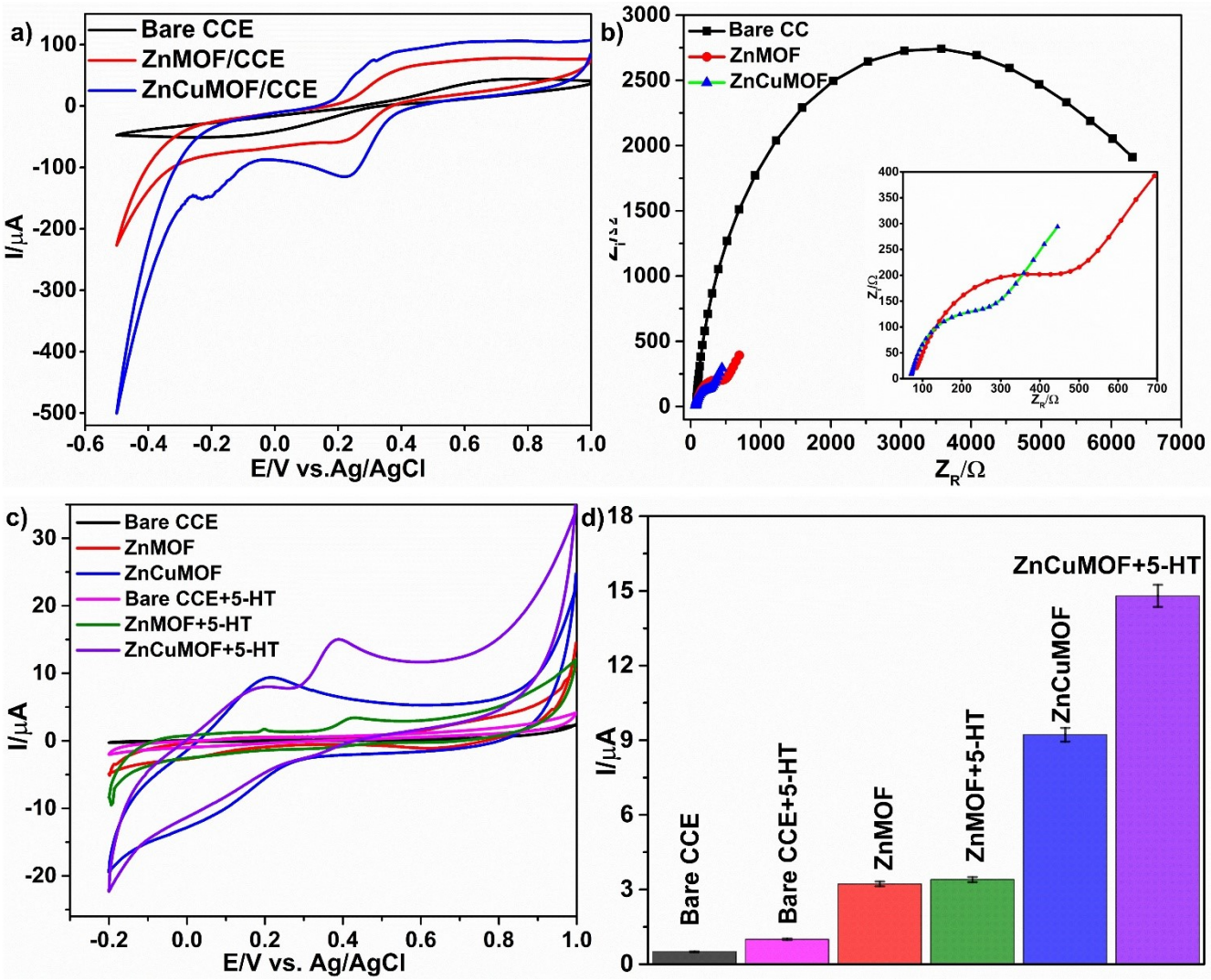

Fig. S3 (a) CV and b) EIS of ZnMOF and ZnCuMOF modified CCE in 1 mM $K_3Fe(CN)_6$ and $K_4Fe(CN)_6$ along with supporting electrolyte 0.1 M KCl, maximized Nyquist plot of ZnMOF ZnCuMOF (Fig. b insert), c) CV of ZnMOF and ZnCuMOF modified CCE compared with bare CCE absence and presence of 5-HT in 0.01 M PBS, d) respective bar diagram representing current (I/μA).

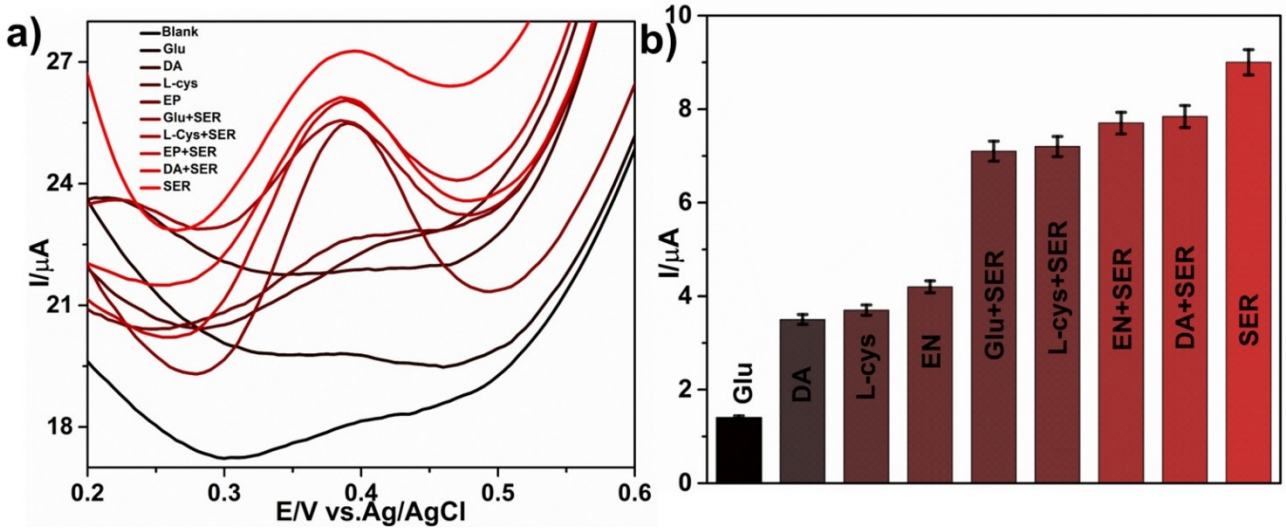

Fig. S4 a) DPV of different interference ZnCuMOF modified CCE presence and absence of SER b) corresponding bar chart diagram of interference. (Glu-Glucose; DA-Dopamine; L-cys-L-cystine; EP-Epinephrine).

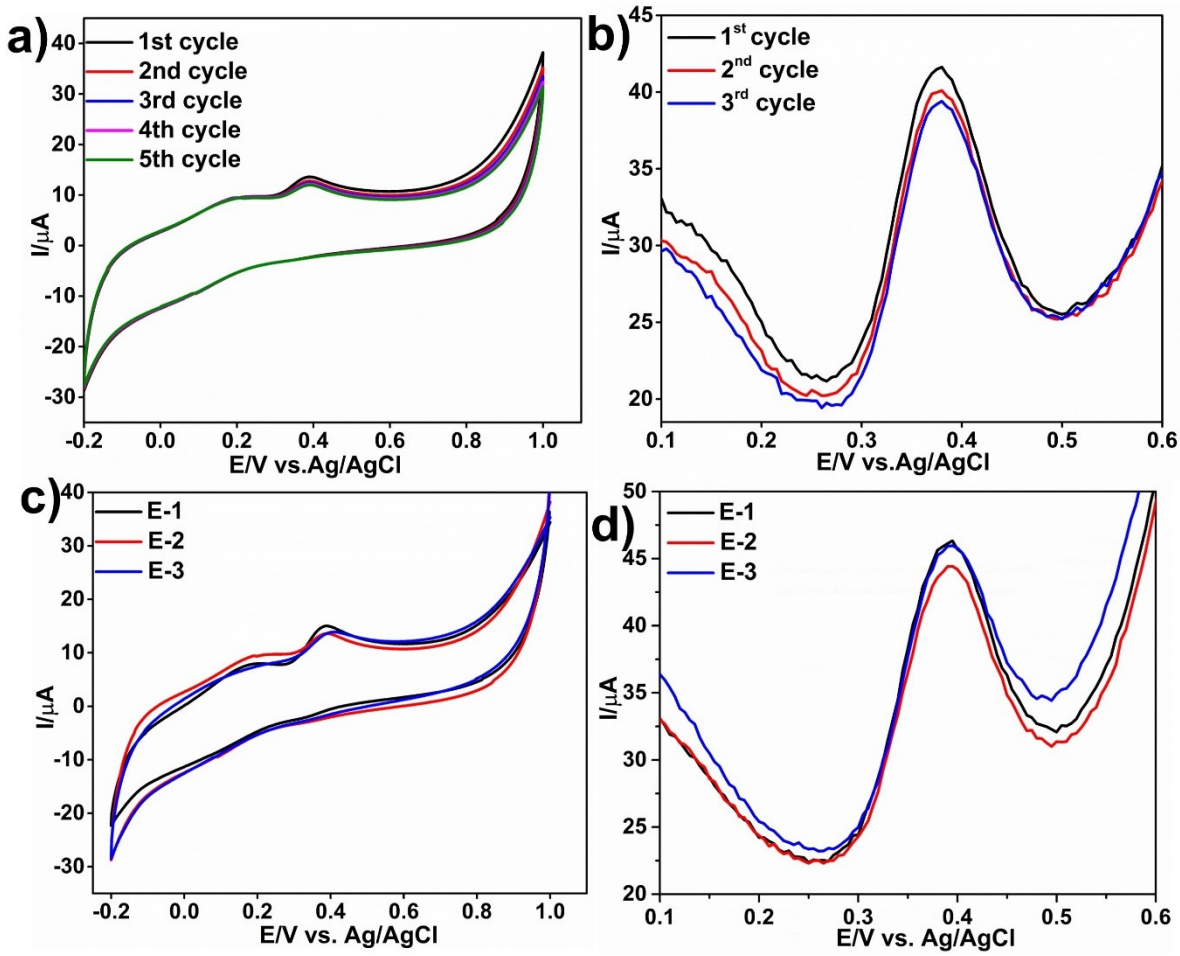

Fig. S5 CV and DPV analysis of repeatability (a, b) and reproducibility (c, d) (3 different electrode) of ZnCuMOF modified CCE presence of 5-HT respectively.