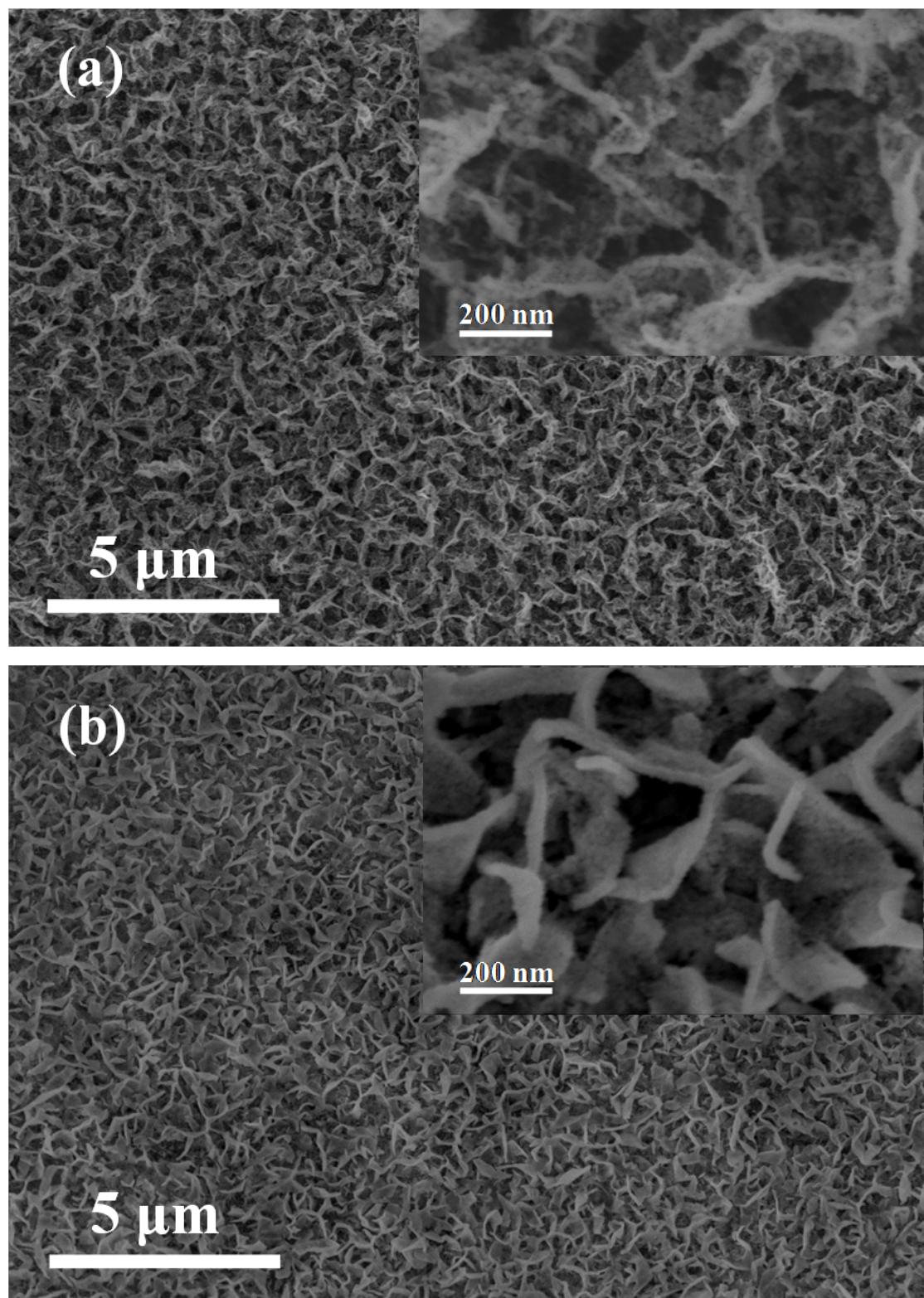
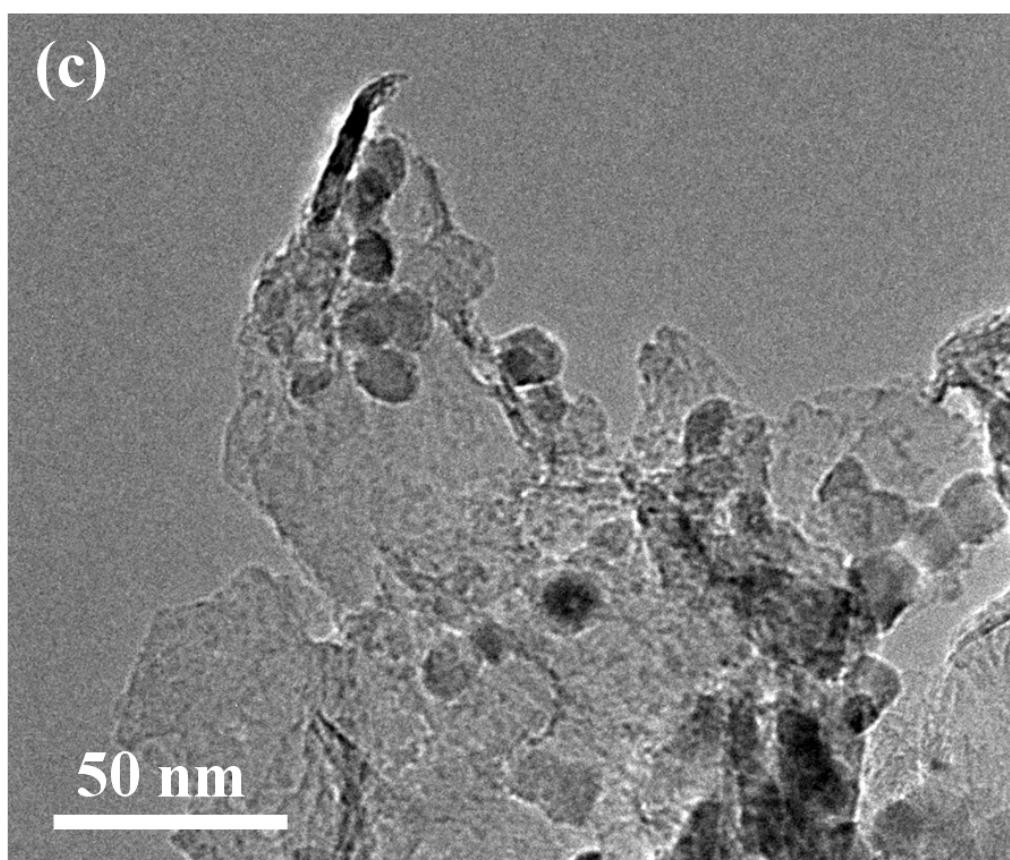


## Supporting information

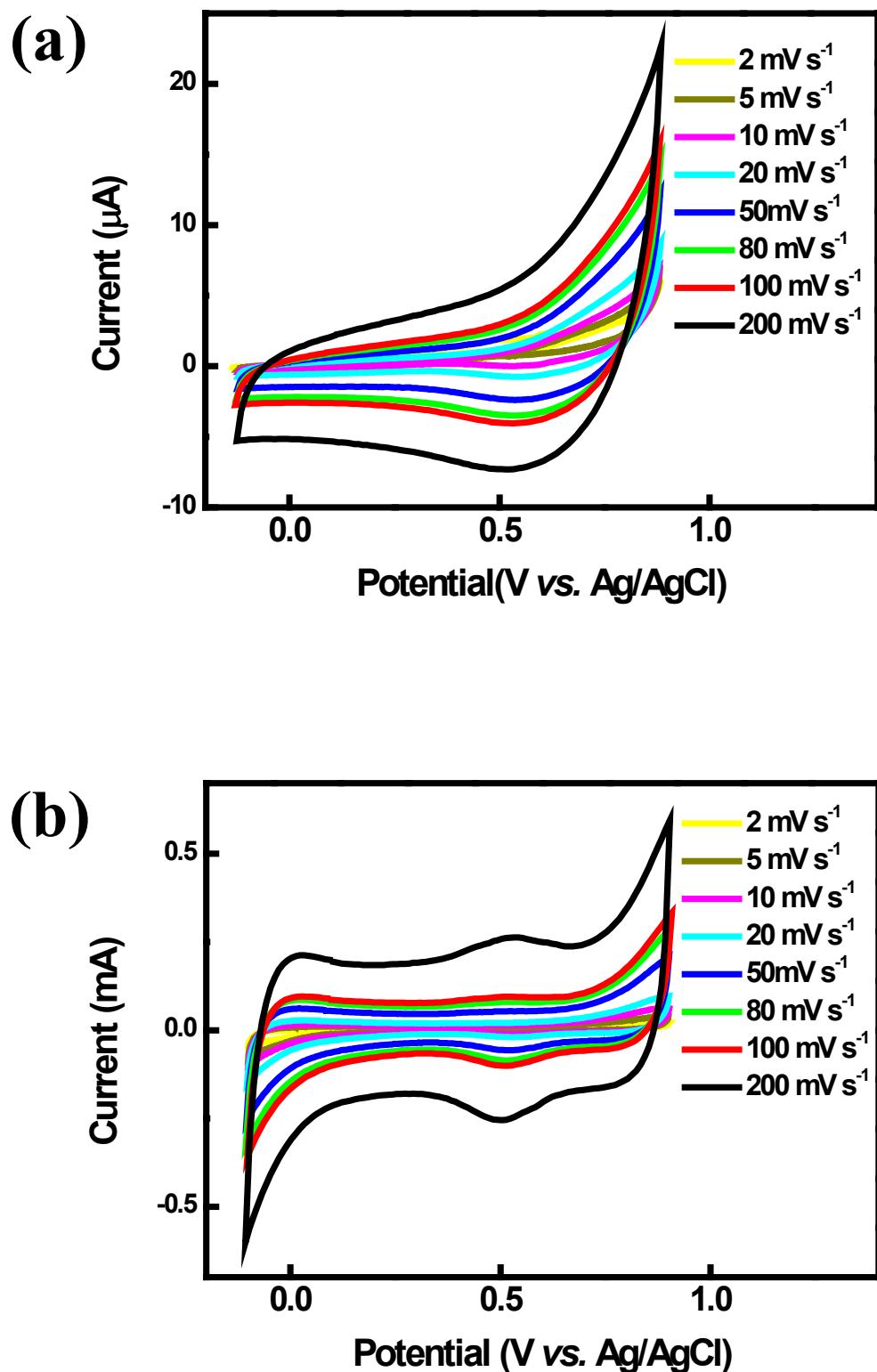
**Figure S1.** (a) Low- and high-resolution SEM images of MnO-37% (b) Low- and high-resolution SEM images of MnO-80%, (c) TEM image of MnO-37%..

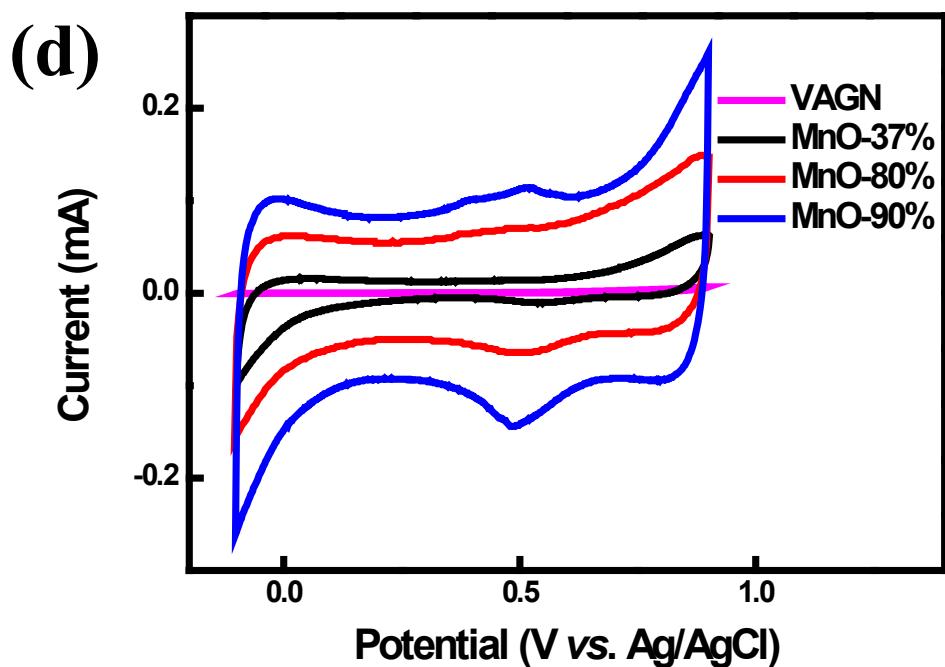
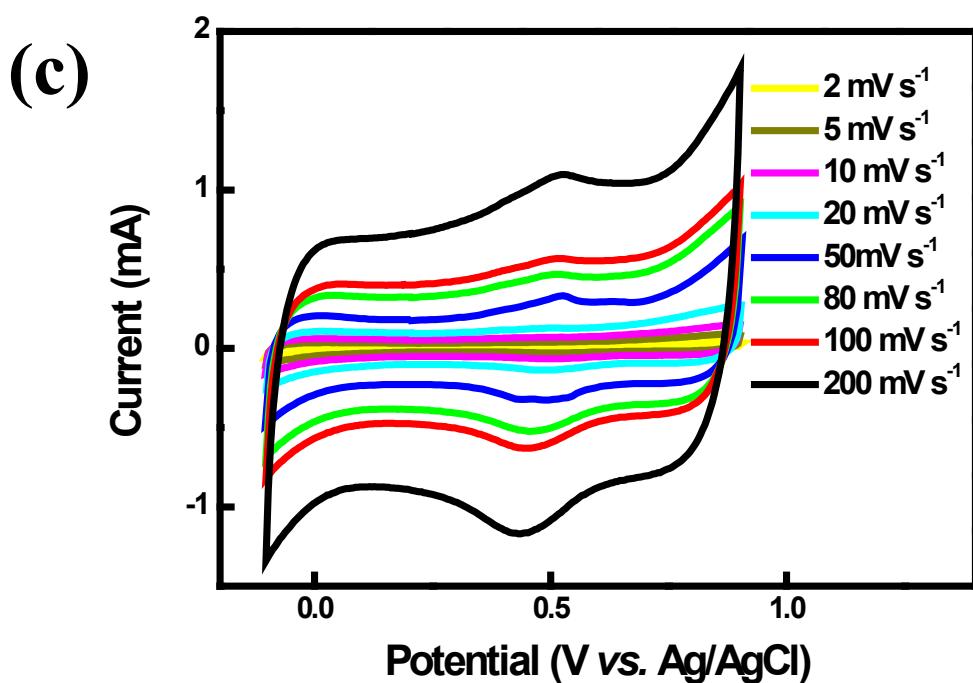
**Figure S2.** (a,b,c) CVs of (a)VAGN, (b)MnO-37% and (c)MnO-80% electrodes at scan rates from  $2 \text{ mV s}^{-1}$  to  $200 \text{ mVs}^{-1}$ , (d) CVs of various VAGN/MnO composites at rate  $10 \text{ mV s}^{-1}$ , (e) bode phase plots of various VAGN/MnO composites;(f) bode magnitude plots of various VAGN/MnO composites.





**Figure S1**





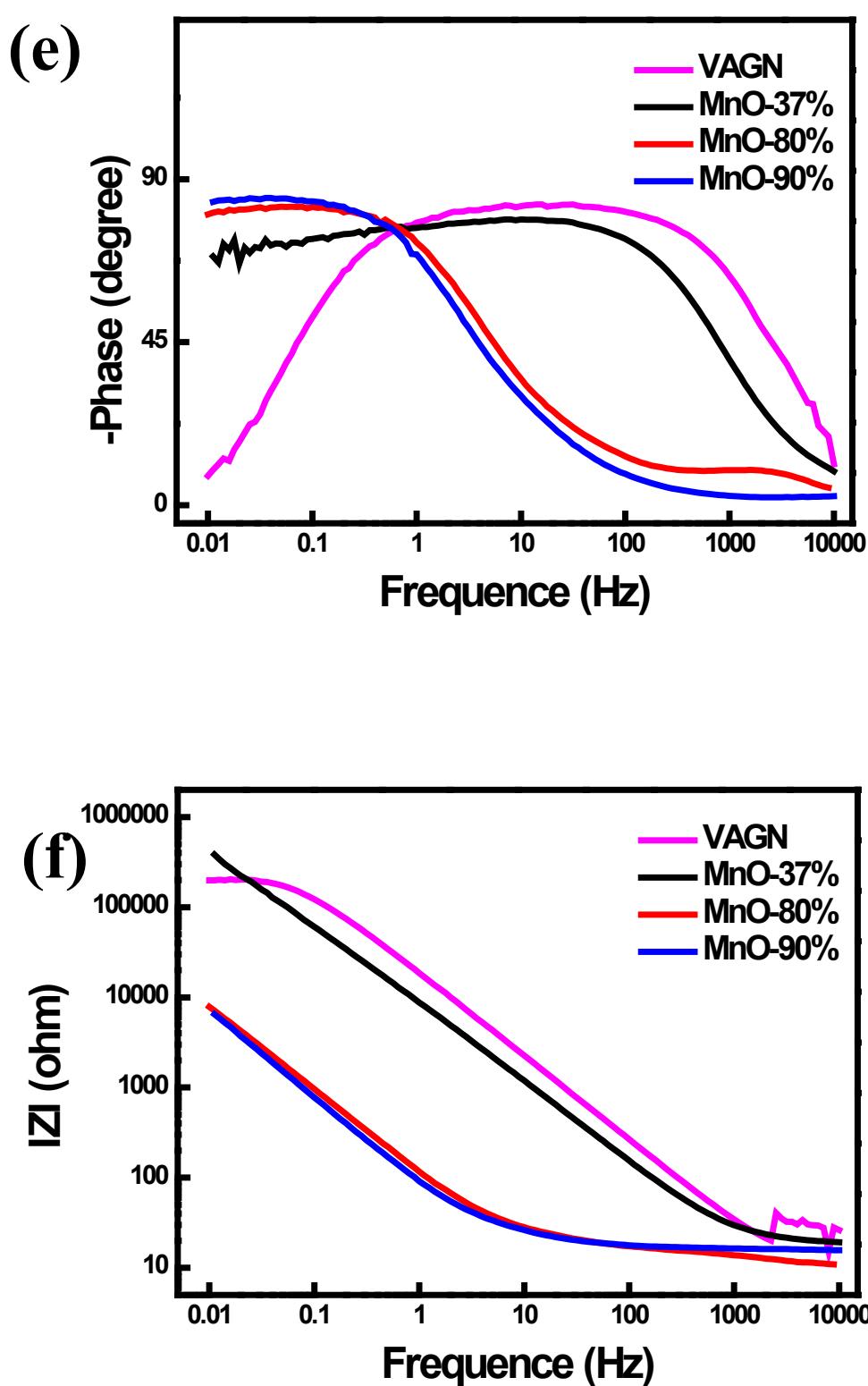


Figure S2