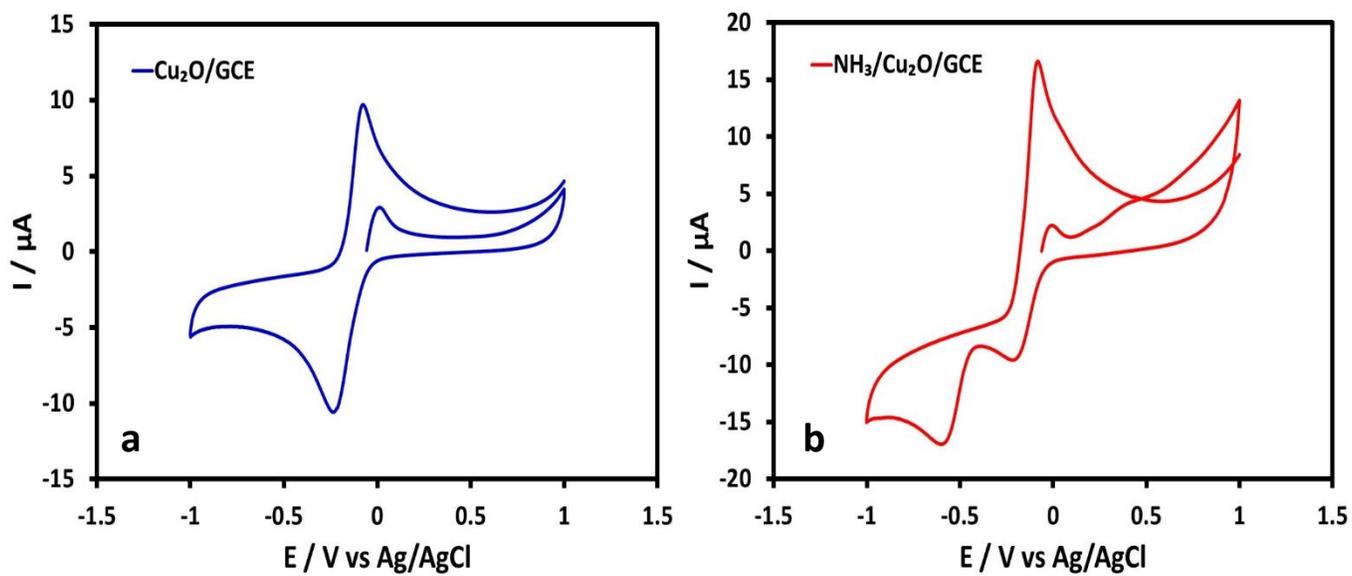
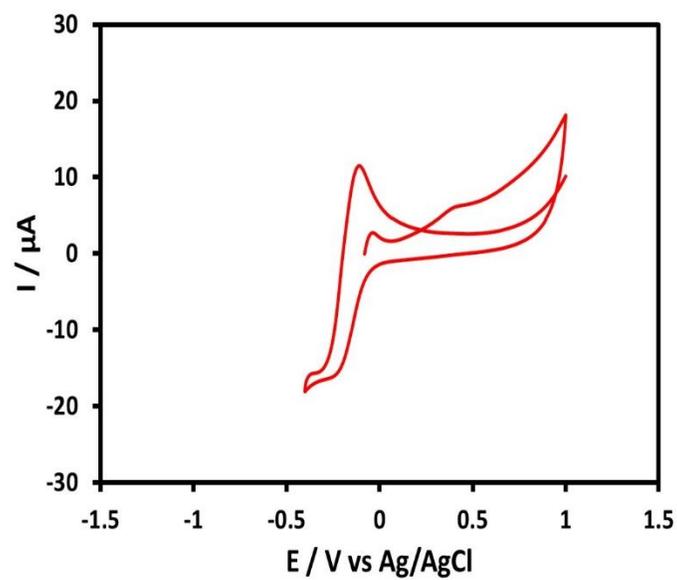


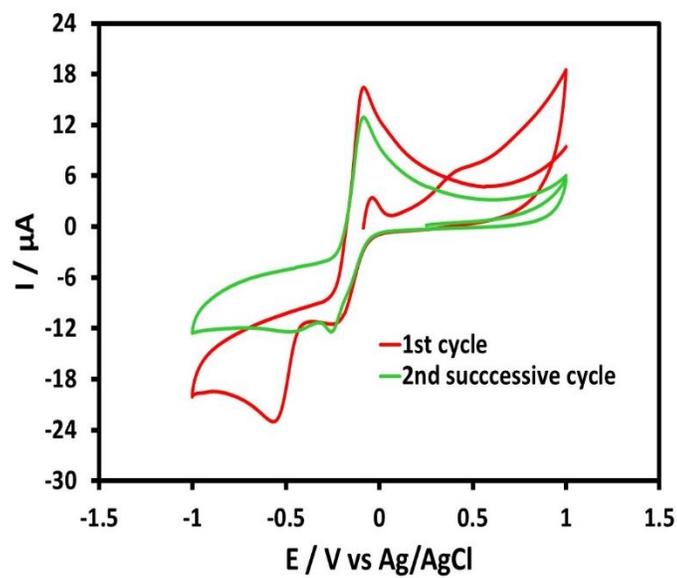
**Figure. S1.** SEM image of bare GCE.



**Figure. S2.** CV curves of  $\text{Cu}_2\text{O}/\text{GCE}$  and  $\text{NH}_3/\text{Cu}_2\text{O}/\text{GCE}$  initiated at open circuit voltage to a vertex potential +1.0 V and end at +1.0 V.



**Figure. S3.** CV curves of  $\text{NH}_3/\text{Cu}_2\text{O}/\text{GCE}$  initiated at open circuit voltage to a vertex potential +1.0 V and end at +1.0 V. The second vertex potential was -0.4 V.



**Figure. S4.** Two successive CV curves of  $\text{NH}_3/\text{Cu}_2\text{O}/\text{GCE}$  initiated at open circuit voltage to a vertex potential +1.0 V and end at +1.0 V.