

Fig.S1
Cyclic voltammograms of (A) NiHCF/AuNP_{modified} carbon paste electrode (B) NiHCF/AuNP_{modified} carbon paste electrode in 0.1 M KNO₃ at various scan rates between 0.01 - 0.5 Vs^{sup}. Insets show the corresponding plot of peak current density versus scan rate.

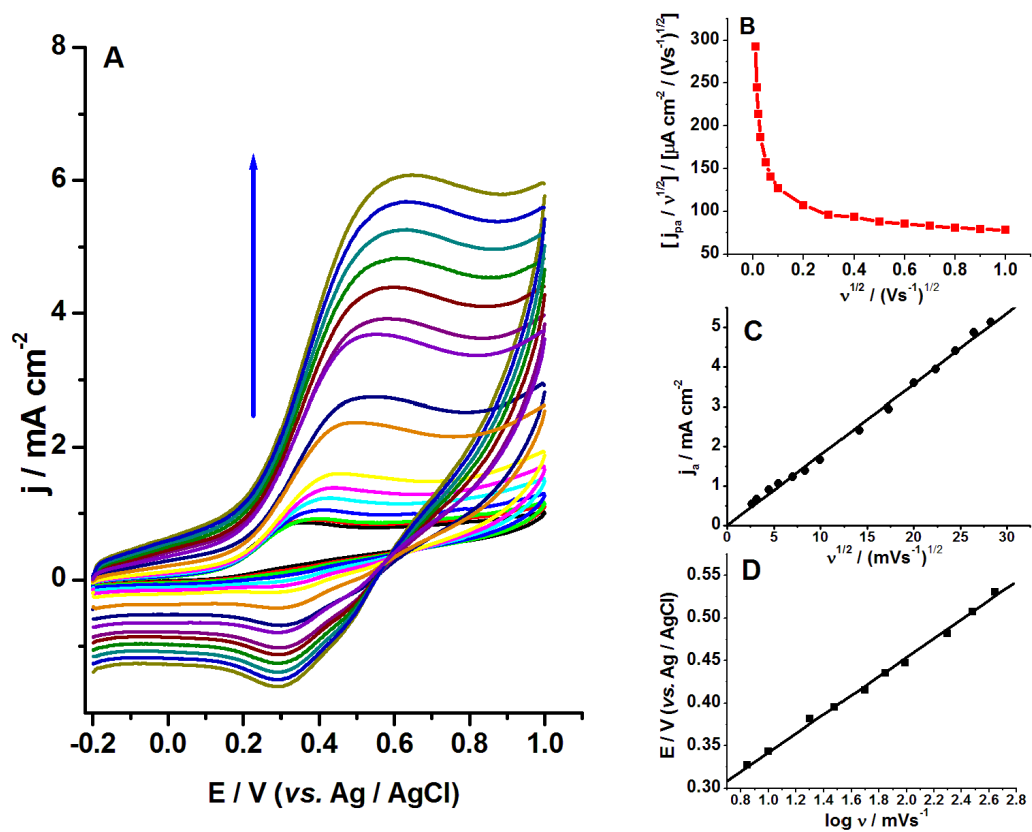


Fig.S2

A) Cyclic voltammograms of NiHCF/AuNP system in 0.1 M NaNO₃ pH 7.0 on the addition of 2mM hydrazine at various scan rate between (0.01-1V/s); (B) Plot of current function versus square root of scan rate; (C) Plot of the anodic peak current versus square root of scan rate (D) Plot of the anodic peak potential versus log of scan rate.

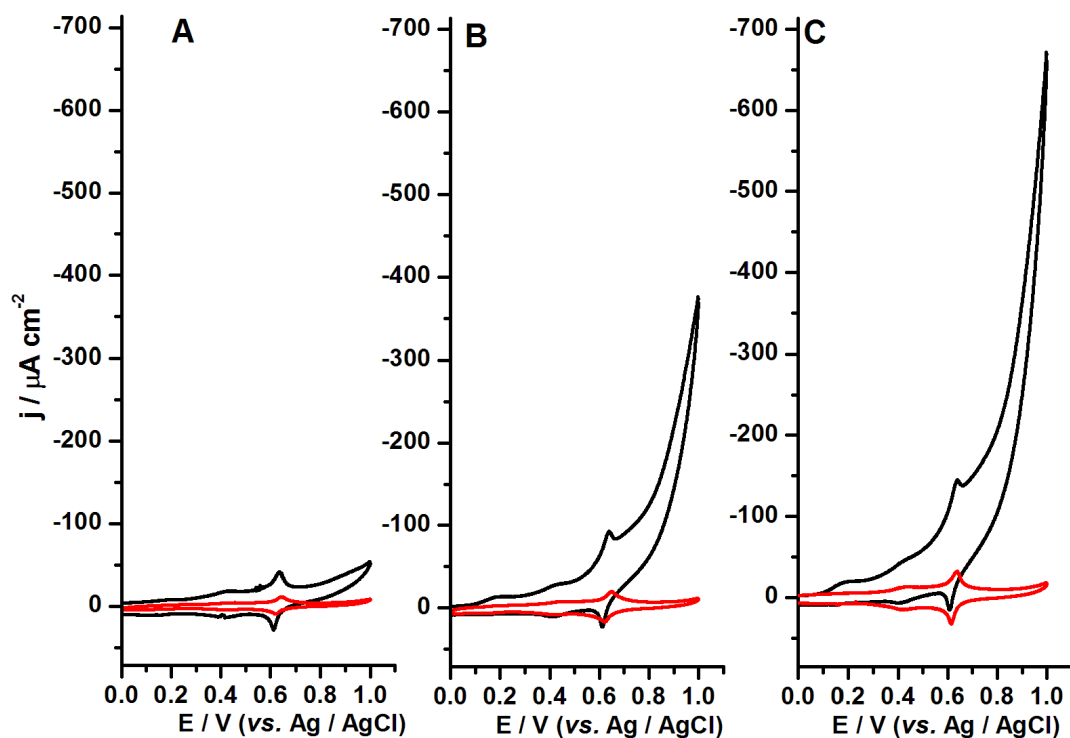


Fig.S3
Cyclic voltammograms of (A) NiHCF, (B) NiHCF/AuNP_{sub} and (C) NiHCF/AuNP_{sub} systems in absence and the presence of 2mM GSH recorded in 0.1 M phthalate buffer pH 4.0 at 25 deg C

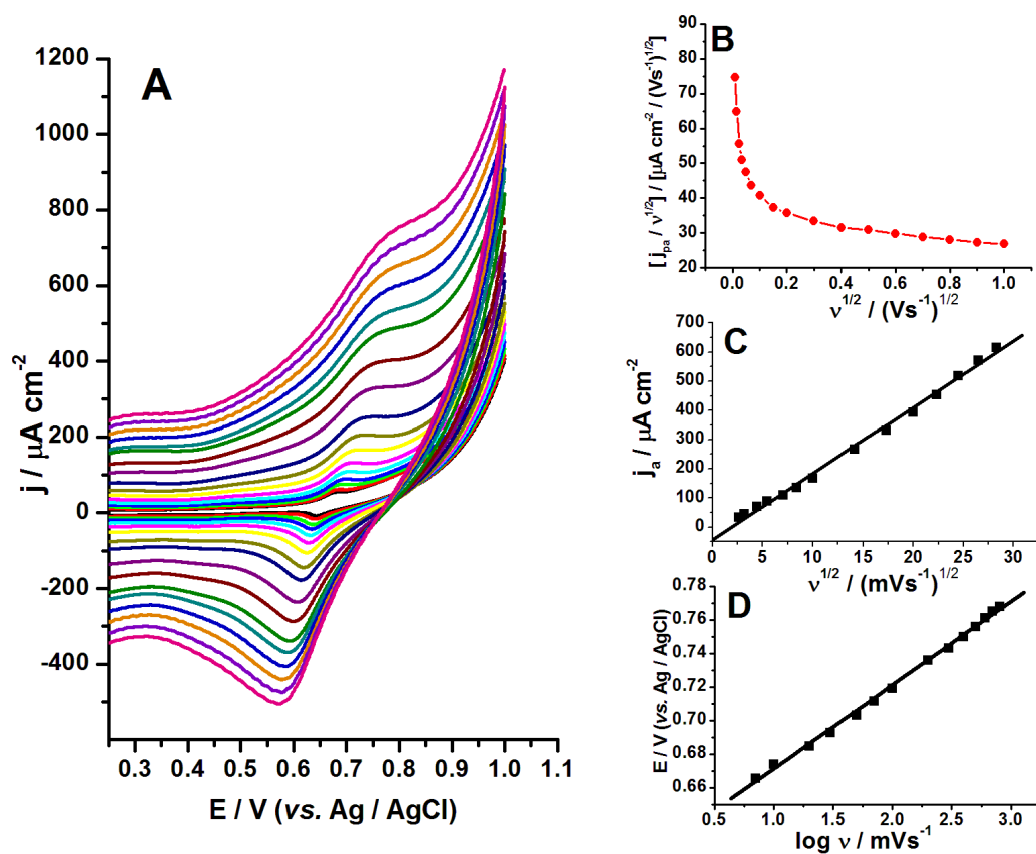


Fig.S4

A) Cyclic voltammograms of NiHCF/AuNP_{system} in 0.1 M phthalate buffer pH 4.0 on the addition of fixed concentrations (1mM) of GSH at various scan rate (0.01- 1.0V/s^{sup}). (B) Plot of current function versus square root of scan rate. (C) Plot of the anodic peak current versus square root of scan rate (D) Plot of the anodic peak potential versus log of scan rate.

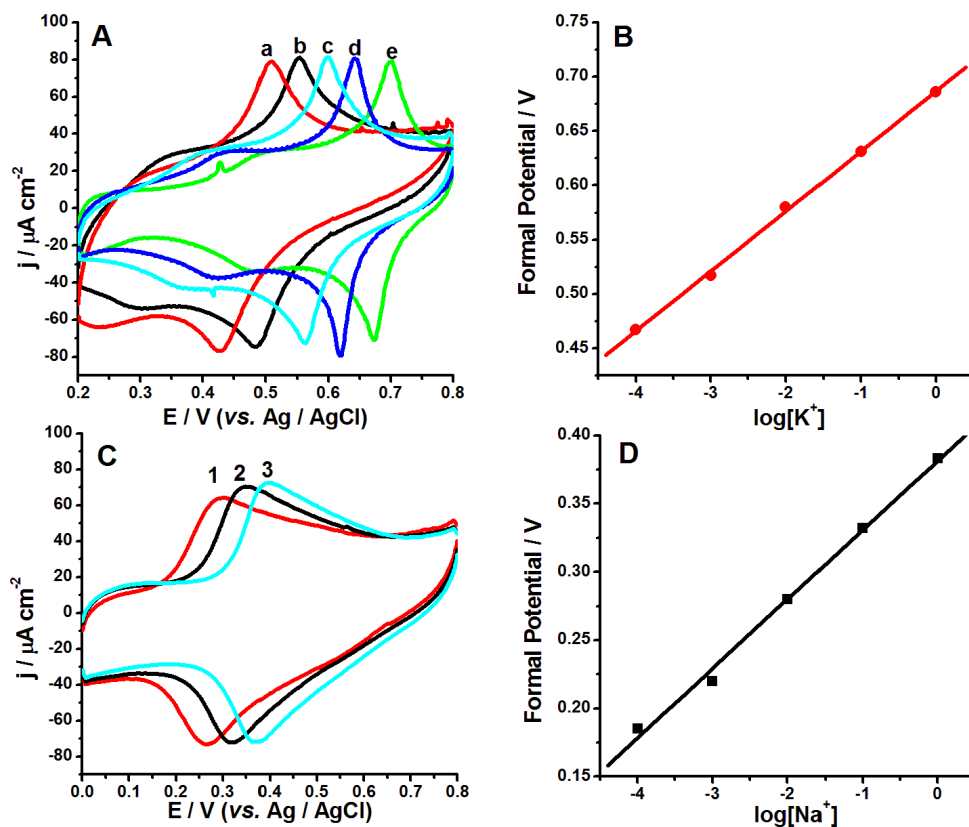


Fig.S5

(A) Cyclic voltammograms (CVs) of the NiHCF/AuNP_{system} in (e) 1.0M, (d) 0.1M, (c) 0.01M, (b) 0.001 M, and (a) 0.0001 M KNO₃ solutions. Scan rate: 0.01V/s. (B) The plot of formal potential vs. $\log [K^+]$. (C) CVs of the NiHCF/AuNP_{system} in (3) 1.0M, (2) 0.1M, (1) 0.01M NaNO₃ solutions at scan rate 0.01V/s. (D) The plot of formal potential vs. $\log [Na^+]$