nanomaterials

Galvanic Replacement of Electrochemically Restructured Copper Electrodes with Gold and its Electrocatalytic Activity for Nitrate Ion Reduction

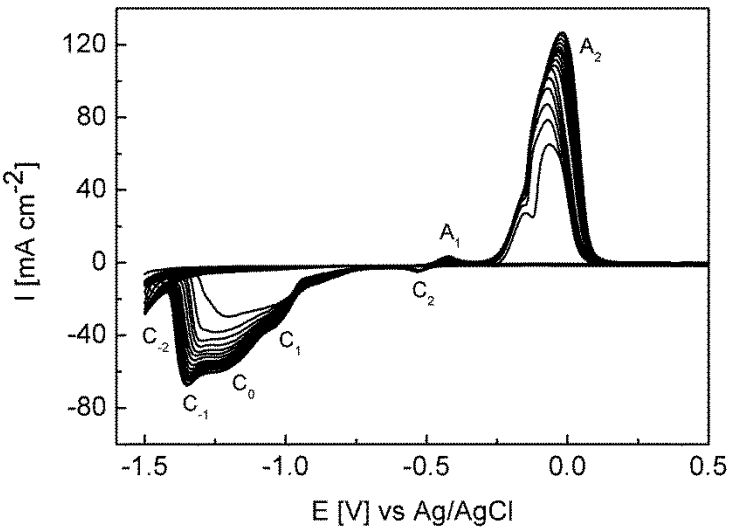


Figure S1. Repetitive cyclic voltammograms (20 cycles), recorded at a Cu foil electrode in 1 M NaOH at 10 mV s^{-1}.

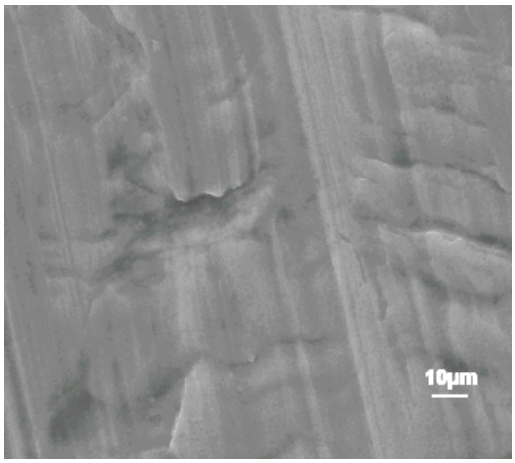
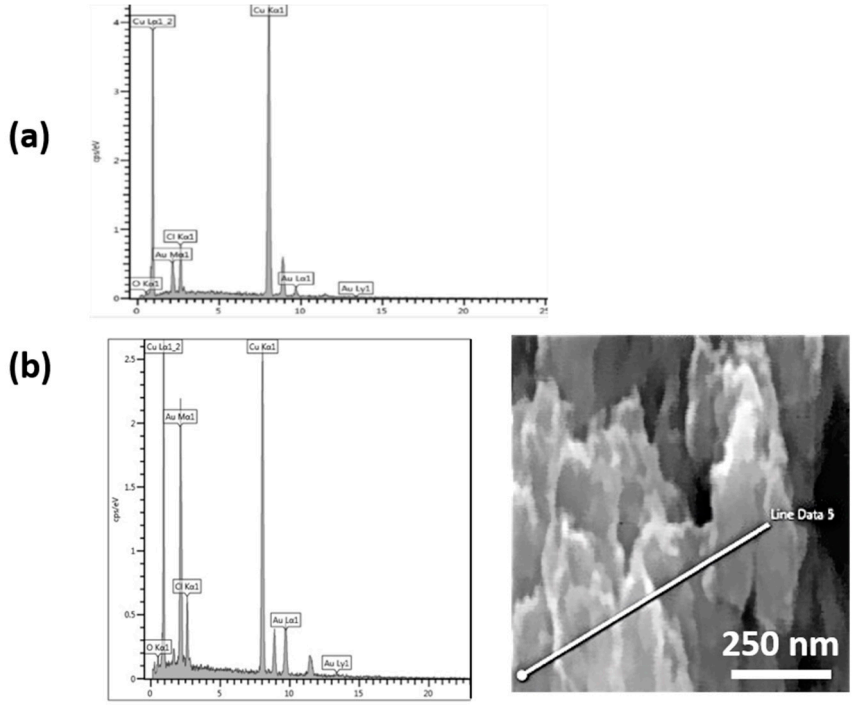


Figure S2. Scanning electron microscopy (SEM) image of an unmodified Cu electrode.



Spectrum label	Line sum spectrum
O	0.81
Cl	3.75
Cu	58.41
Au	37.03
Total	100.00

Figure S3. (**a**) EDX spectrum for a restructured Cu foil galvanically replaced with gold via immersion in an aqueous solution of $HAuCl_4$ for 3 min, and (**b**) a line spectrum taken through a deposit on the surface which indicates a high concentration of gold.

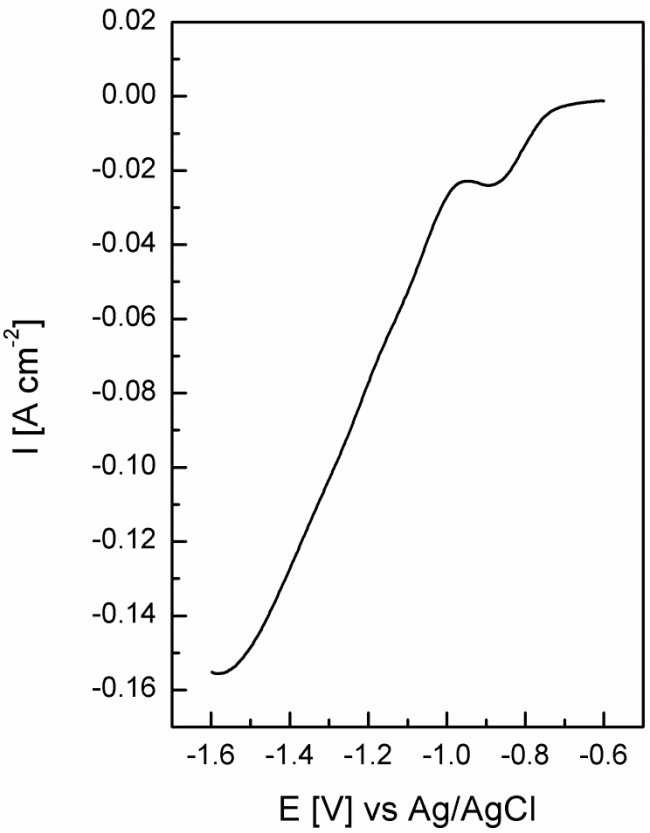


Figure S4. Linear sweep voltammogram recorded at 100 mV s^{-1} in 1 M NaOH in the presence of 0.1 M KNO_3 at a Cu foil electrode galvanically replaced with gold via immersion in an aqueous solution of $HAuCl_4$ for 3 min.

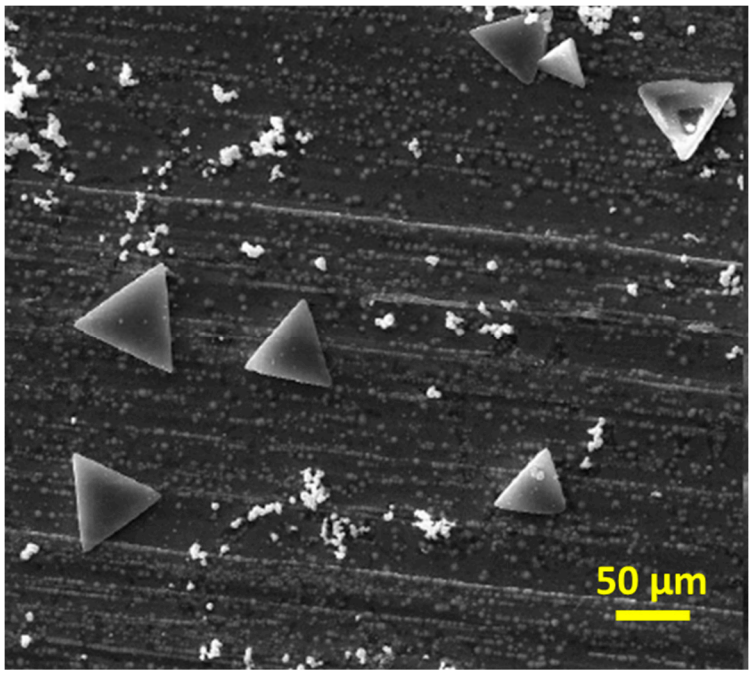


Figure S5. SEM image of a Cu foil electrode galvanically replaced with gold via immersion in an aqueous solution of $HAuCl_4$ for 3 min.