Supporting information

Zinc ion mediated synthesis of cuprous oxide crystals for non-enzymatic glucose detection

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Table s1. The required reagents for different Cu_2O samples

Sample name	Ratio of Zn^{2+}: Cu^{2+}	$CuCl_2$ (0.1 M)/ ml	$ZnCl_2$ (0.1 M)/ml	Deionized water/ml	NaOH (0.4 M) /ml	AA (0.1 M) /ml
C-Cu_2O	0	1	0	43	1	5
P-Cu_2O	1: 4	1	0.25	42.75	1	5
H-Cu_2O	1: 2	1	0.5	42.5	1	5

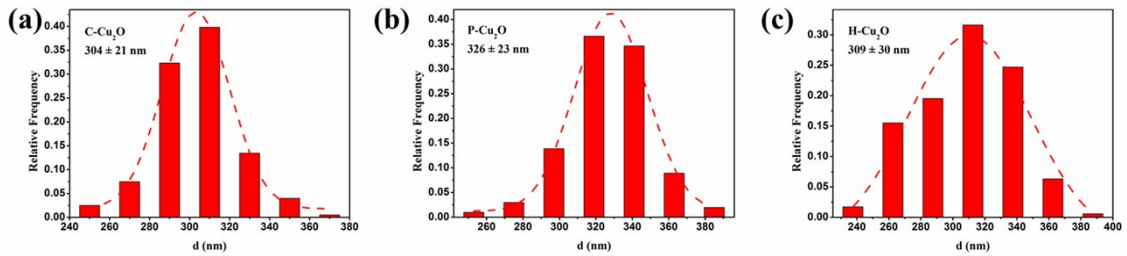

Figure s1. Size distributions of different Cu_2O: (a) C-Cu_2O, (b) P-Cu_2O and (c) H-Cu_2O.

Table s2. Morphological and surface area characteristics of the different samples

Sample	Morphology	Diameter (nm)	Surface area (m^2g^{-1})
C-Cu_2O	Concave cube-like	304 ± 21	5.487
P-Cu_2O	Porous	326 ± 23	8.397
H-Cu_2O	Hierarchical	309 ± 30	49.577

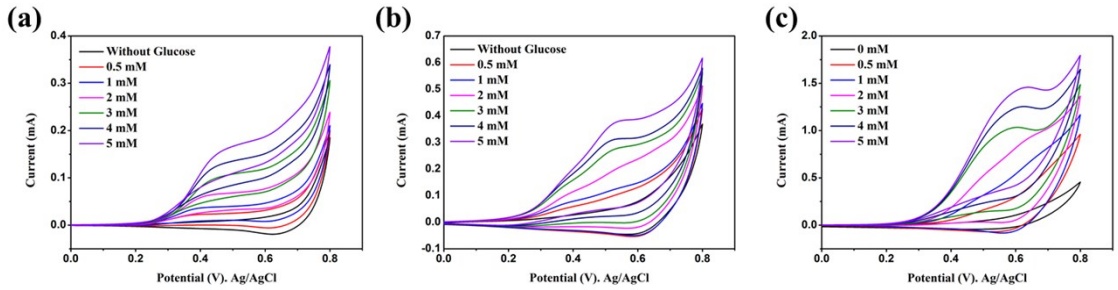

Figure s2. CVs of three different three electrodes with the increase of the concentration of glucose from 0 to 5 mM in 0.1 M NaOH solution at the scan rate of 50 $mV.s^{-1}$: (a) the C-Cu_2O/Nafion/GCE electrode, (b) P-Cu_2O/Nafion/GCE electrode and H-Cu_2O/Nafion/GCE electrode.

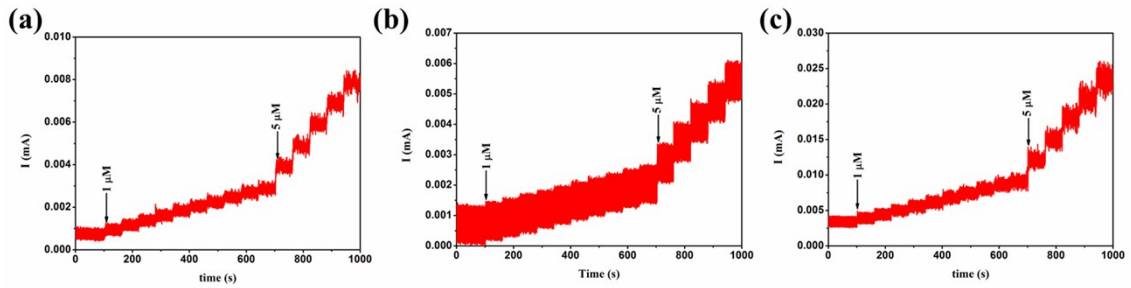

Figure s3. The amperometric responses of three electrodes at low concentration of glucose: (a) the C-Cu_2O/Nafion/GCE electrode, (b) P-Cu_2O/Nafion/GCE electrode and (c) H-Cu_2O/Nafion/GCE electrode.

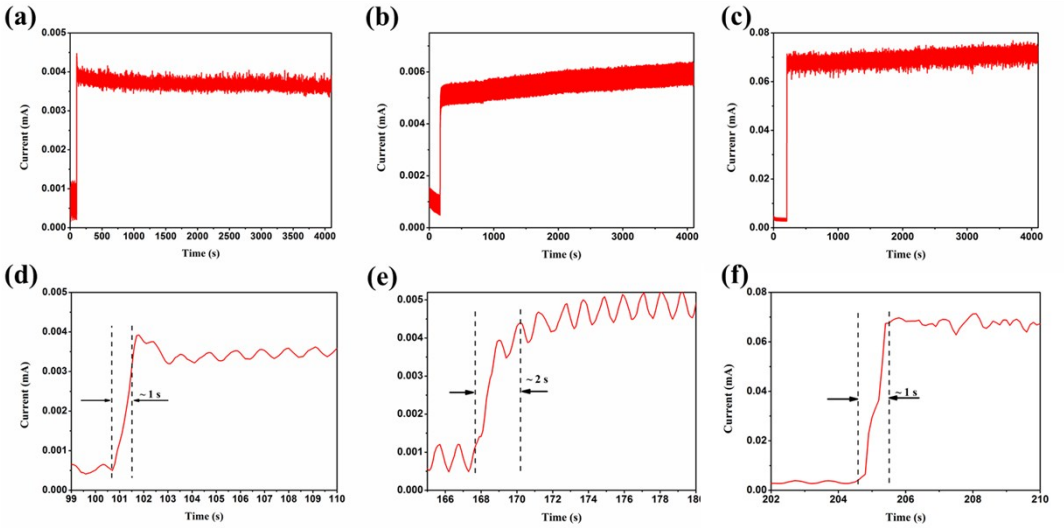

Figure s4. Amperometric responses of three electrodes for 0.1 mM glucose in 0.1 mM NaOH at +0.55 V over a long running time of 2000 s :(a) the C-Cu_2O/Nafion/GCE electrode, (b) P-Cu_2O/Nafion/GCE electrode and (c) H-Cu_2O/Nafion/GCE electrode. (d), (e) and (f) corresponding response times of three electrodes.

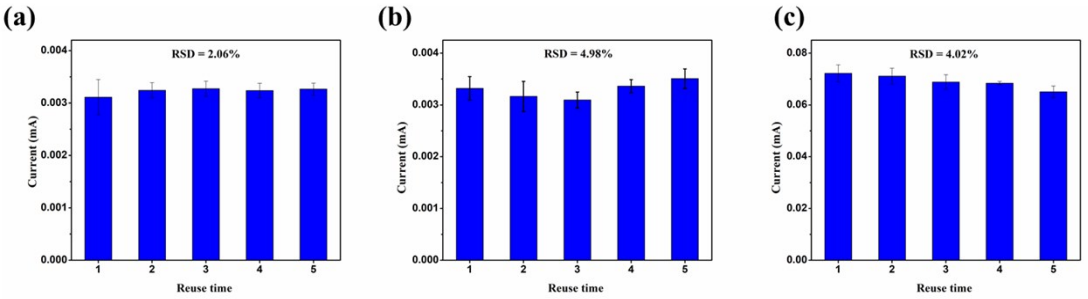

Figure s5. The reuse stability of three types of Cu_2O electrodes towards 0.1 mM glucose in 0.1 M NaOH: (a) the C-Cu_2O/Nafion/GCE electrode, (b) P-Cu_2O/Nafion/GCE electrode and (c) H-Cu_2O/Nafion/GCE electrode