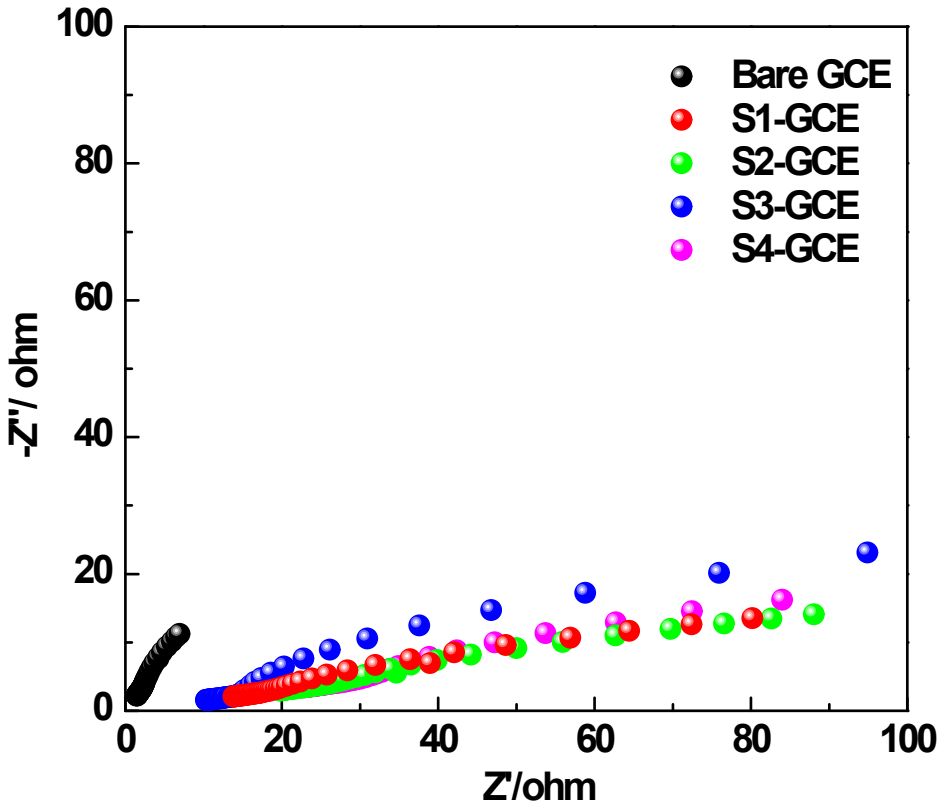
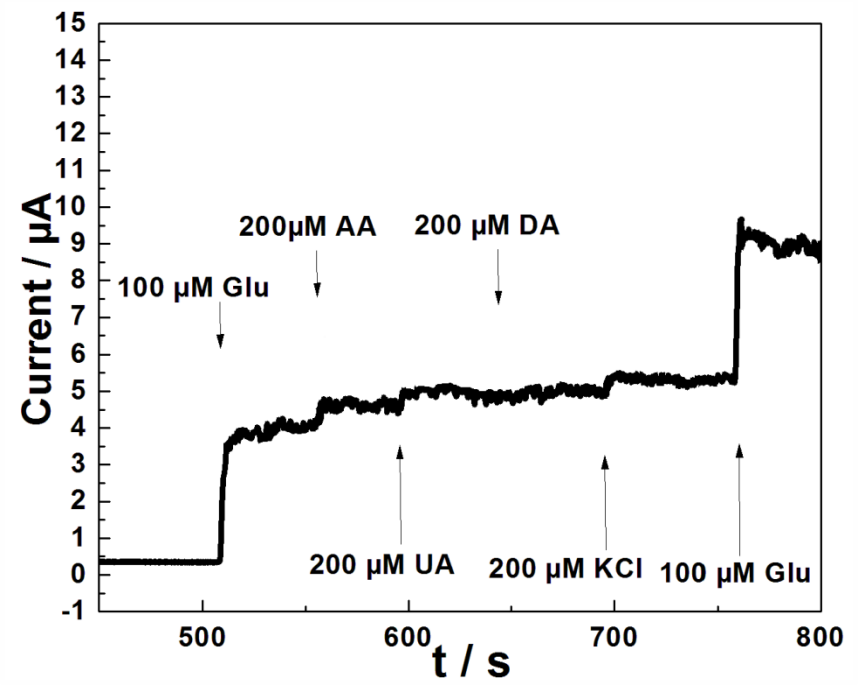
Electronic Supporting Information



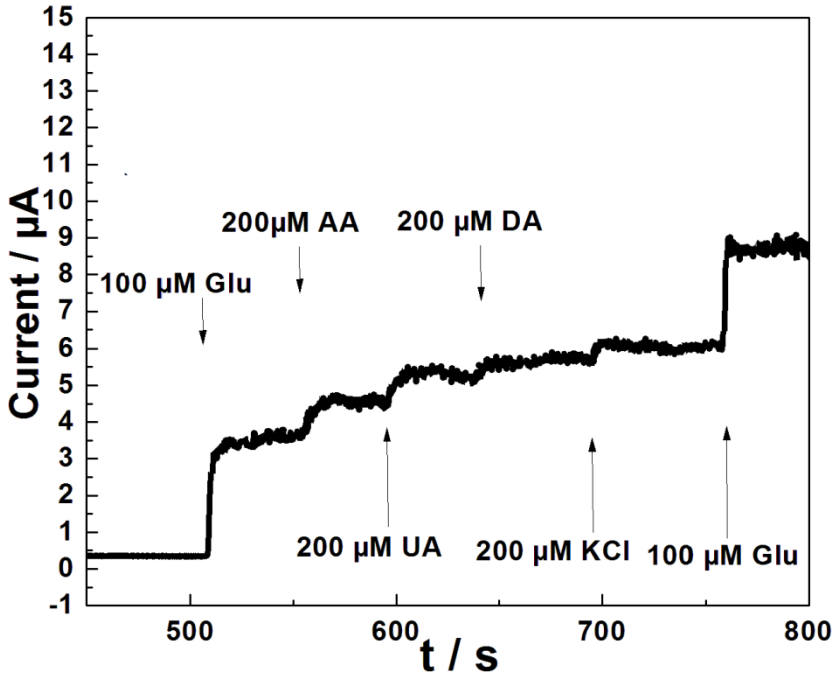
ESI Figure 1 The electrochemical impedance spectra of the as-prepared modified electrodes and the bare GCE at room temperature is conducted at open circuit voltage in the frequency range of 100 kHZ to 0.01 Hz with an AC voltage amplitude of 5 mV in 5×10^{-3} mol L^{-1} $[Fe(CN)_6]^{4-/3-}$ + 0.1 mol L^{-1} KCl + 10×10^{-3} mol L^{-1} PBS (pH = 7.2).

ESI Table 1 The charge-transfer-$\boldsymbol{R_{ct}}$ of different $[Cu_3(btc)_2]$ nanomaterial modified GCE and bare GCE.

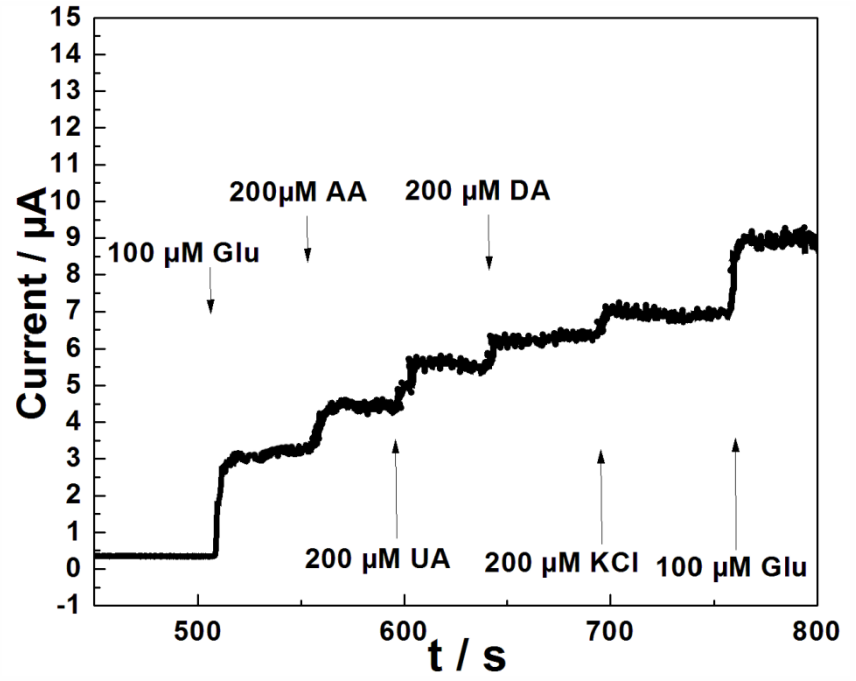
Electrode	S1-GCE	S2-GCE	S3-GCE	S4-GCE
$\boldsymbol{R_{ct}}$ **/ ohm**	11.8	15.6	19.2	32.6



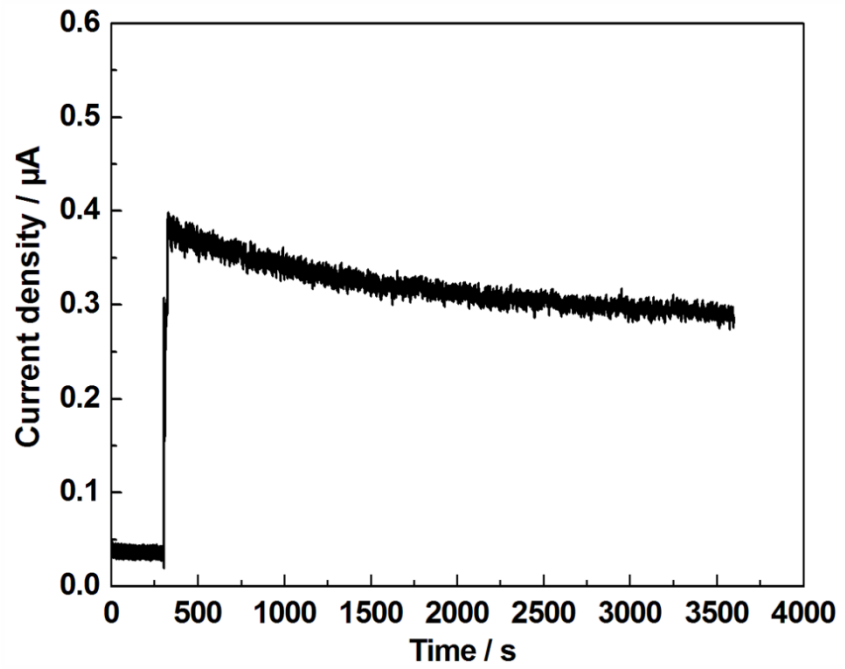
ESI Figure 2 Amperometric response of modified electrodes with successive addition of 100 μM glucose, 200 μM AA, 200 μM UA, 200 μM DA, 200 μM KCl and 100 μM glucose in 0.1 M NaOH solution, obtained on S2-GCE.



ESI Figure 3 Amperometric response of modified electrodes with successive addition of 100 μM glucose, 200 μM AA, 200 μM UA, 200 μM DA, 200 μM KCl and 100 μM glucose in 0.1 M NaOH solution, obtained on S3-GCE.



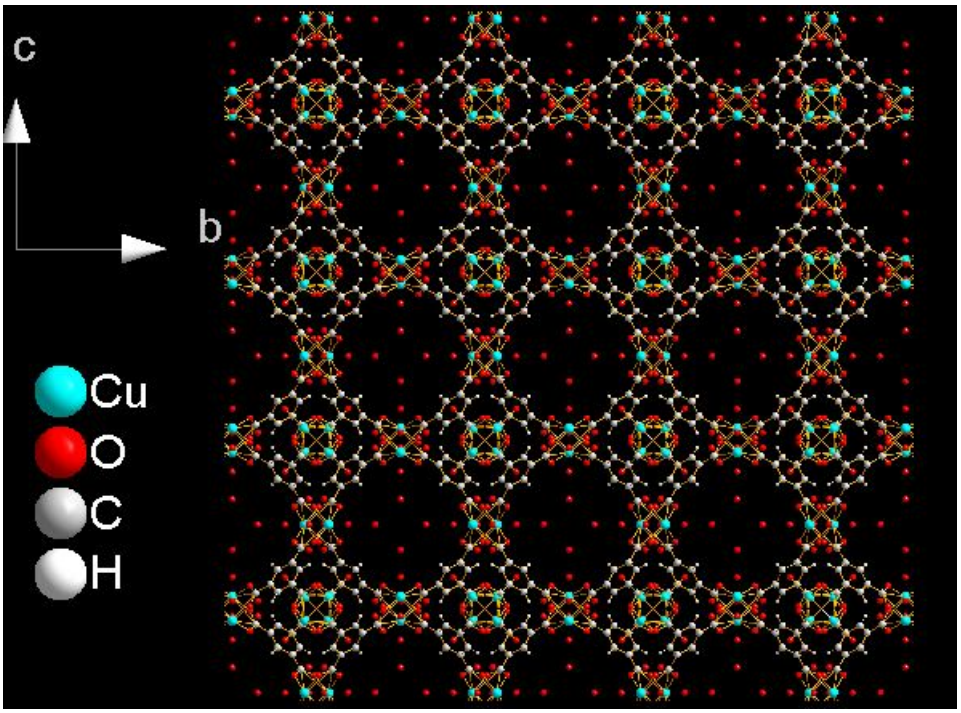
ESI Figure 4 Amperometric response of modified electrodes with successive addition of 100 μM glucose, 200 μM AA, 200 μM UA, 200 μM DA, 200 μM KCl and 100 μM glucose in 0.1 M NaOH solution, obtained on S4-GCE.



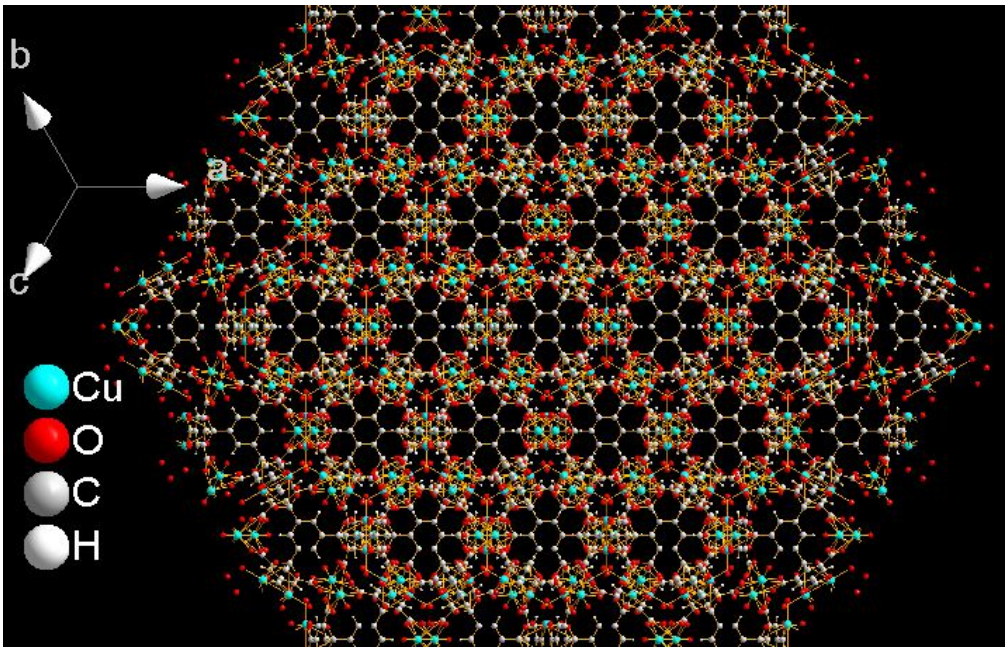
ESI Figure 5 The stability of the response current for S1-GCE after the addition glucose solution (320 μM) during 3200 seconds.

ESI Table 2 List of copper-based non-enzymatic glucose sensors

Electrode composition	Sensitivity /μAmM^{-1}	Linear range (mM)	LOD (μM)	Working potential	Year	Ref.
Cu microdendrites modifieed GCE	not given	1.4×10^{-3} ~3.8	1.4	+0.40 V	2012	1
Cu Polyhedron modifieed GCE	2.1064	0.2~4.2	70	+0.50 V	2011	2
	11.7629	4.2~32.1				
Pillar-like-structure Cu film modified ITO	699.4499	1×10^{-3}~5×10^{-1}	0.5	+0.40 V	2011	3
CuO/Cu electrode	761.9	2×10^{-3}~20	1	+0.70 V	2010	4
Cu nanobelt	0.0798	0.01~1.13	10	+0.40 V	2009	5
Cu implanted BDD	not given	1.0~5.0	not given	+0.60 V	2006	6
Cu/SAMs	not given	3×10^{-3} ~10	0.7	+0.70 V	2006	7
Cu-TOs	not given	2.5×10^{-4} ~8.0	0.1	+0.60 V	2009	8
Cu nanoporous	220	0.01~0.5	40	+0.45 V	2009	9
Cu wire	37.9	0.01~1.0	5.0×10^{-6}	+0.50 V	1997	10
Cu-BDD electrode	2.3	0.001~0.05	10	+0.65 V	2004	11
Electrochemically-oxidized Cu electrode	not given	2×10^{-10} ~1×10^{-6}	2.00×10^{-7}	+0.45 V	1996	12
Cu modified GCE	not given	not given	5.90×10^{-5}	+0.40 V	1994	13
Nafion/Cu-f/GCE	65.56	2×10^{-6} ~75×10^{-6}	1×10^{-6}	+0.70 V	2012	14
S-AuCu/CNTs/C electrode	22	0.08~9.26	4	+0.34 V	2010	15
PtPb/Nafion/PtPb/MWCNT	17.8	1.8×10^{-3}~5	1.8	-0.15 V	2007	16
Cu nps/SWCNTs/GC	0.256	5×10^{-4}~0.5	0.3	+0.50 V	2004	17
Cu_2S-nanocrystal-CNTs	0.035	1×10^{-3}~12	1	+0.50 V	2009	18
Cu–CNTs–GCE	17.76	7×10^{-4}~3.5	0.21	+0.65 V	2007	19
N-doped C-Cu nanohybrids	223.6	5 $\times10^{-3}$~2.1	5	+0.60 V	2014	20
$[Cu_3(btc)_2]$ nanocubes	549	1 $\times10^{-3}$~2.25	1	+0.60 V	This work	



ESI Figure 6 The schematic crystal structures of the 2×2×2 cell of $[Cu_3(btc)_2]$ viewed by {100} crystal plane.



ESI Figure 7 The schematic crystal structures of the 2×2×2 cell of $[Cu_3(btc)_2]$ viewed by {111} crystal plane.

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