

Supporting Information

pH-assisted crystallization of Cu₂O: chemical reactions control the evolution from nanowire to polyhedron

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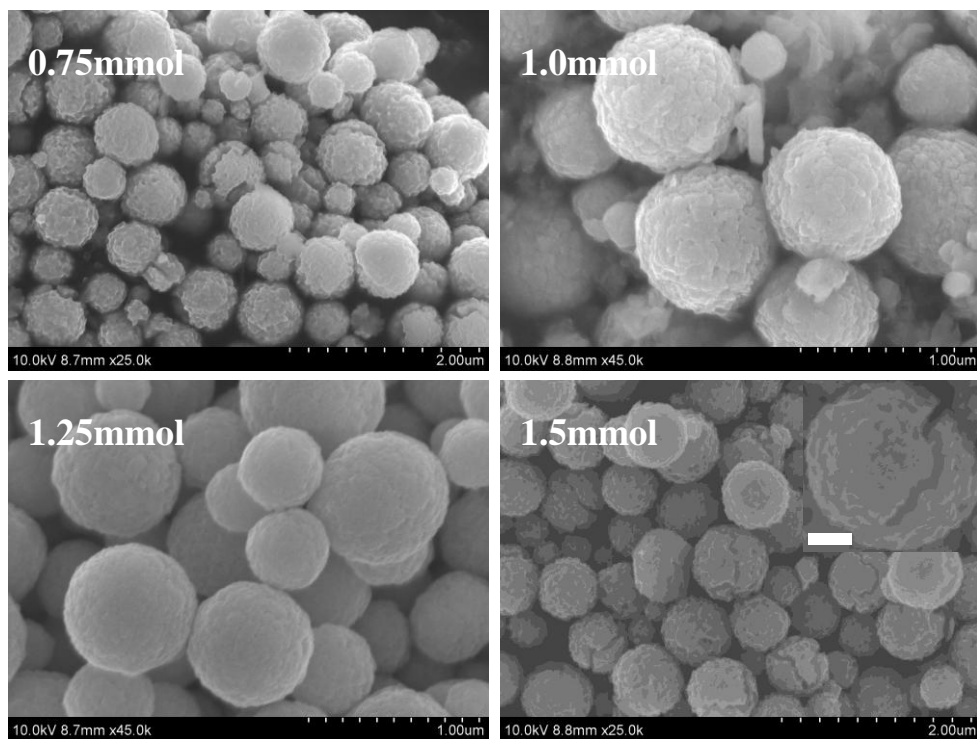


Figure S1. SEM images of different Cu₂O morphologies synthesized with starch as reducing agent at 100 °C solution reactions with adding different concentrations of NaOH (indicated in the graphs). Scale bar of inset is 200 nm.

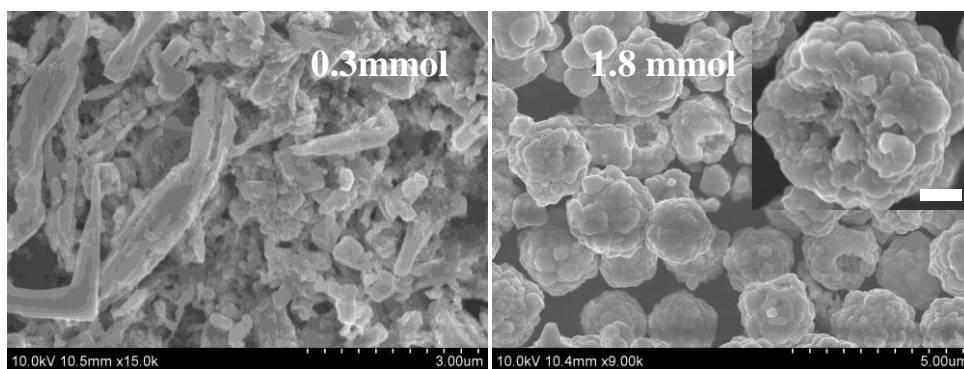
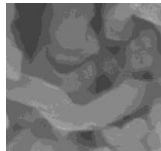
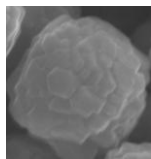
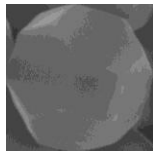
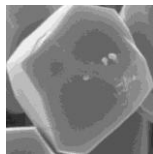


Fig. S2 SEM images of products synthesized with glucose as reducing agent and different amounts of Na_2CO_3 as alkali (indicated in the graphs) at 100 °C hydrothermal reactions. Scale bar of inset is 500 nm.

Table S1 Discharge capacity of Cu₂O electrodes with different compositions and morphologies as supercapacitor.

Sample	Discharge capacity F/g			Discharge curves
	1st	3rd	5th	
nanowires 	57.6	62.9	65.6	Fig. S3
nanoparticle-aggregated sphere 	32.1	34.0	35.6	Fig. S4
cuboctahedron 	35.9	38.2	40.2	Fig. S5
truncated octahedron 	26.8	29.4	30.8	Fig. S6

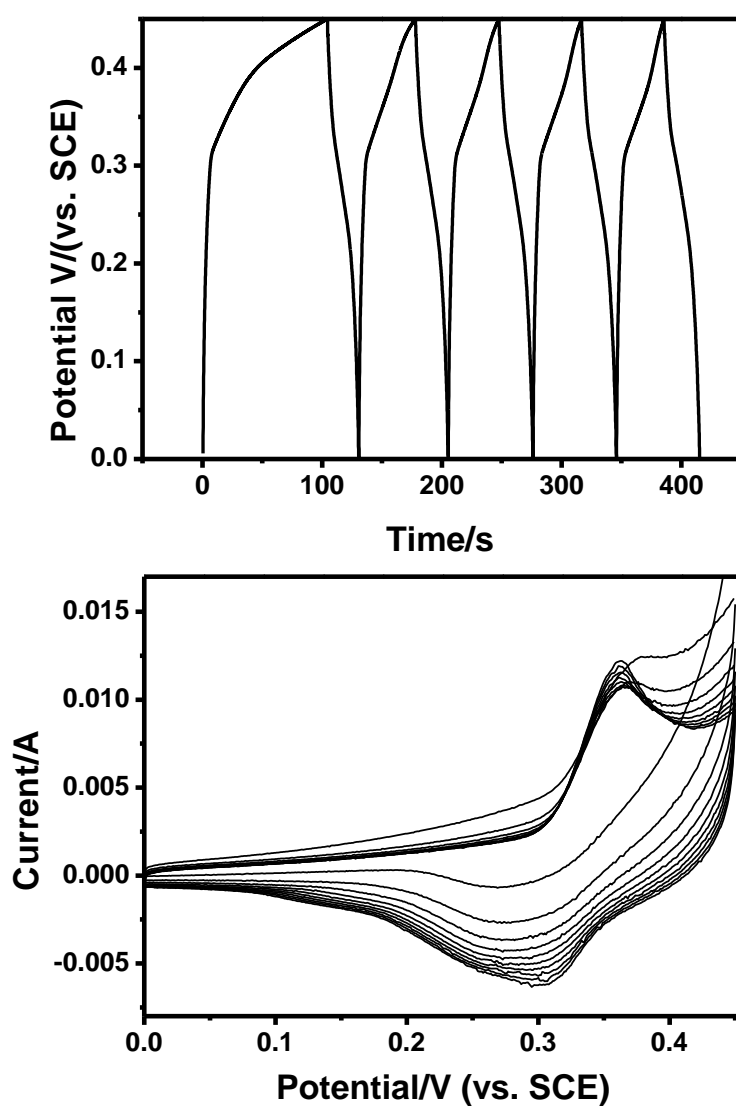


Fig. S3 Discharge curves and cyclic voltammograms of the nanowires electrode at current densities of 1 A/g and at a scan rate of 0.05 V/s in 1 M KOH solution.

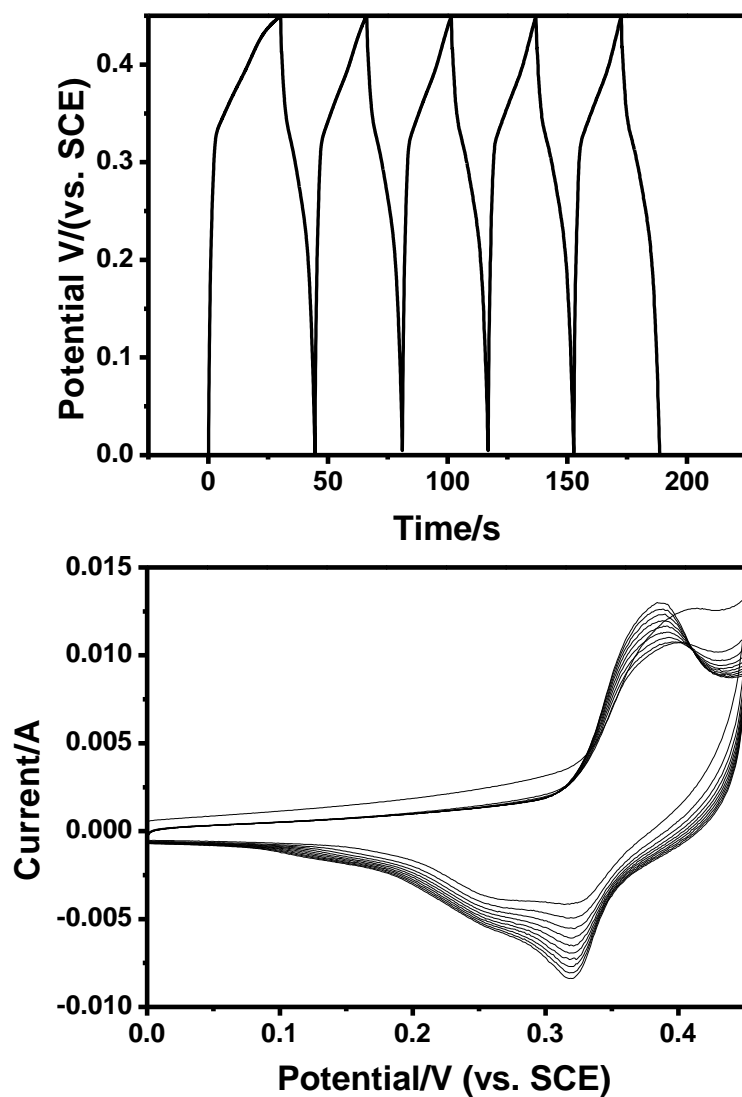


Fig. S4 Discharge curves and cyclic voltammograms of the nanoparticle-aggregated spheres electrode at current densities of 1 A/g and at a scan rate of 0.05 V/s in 1M KOH solution.

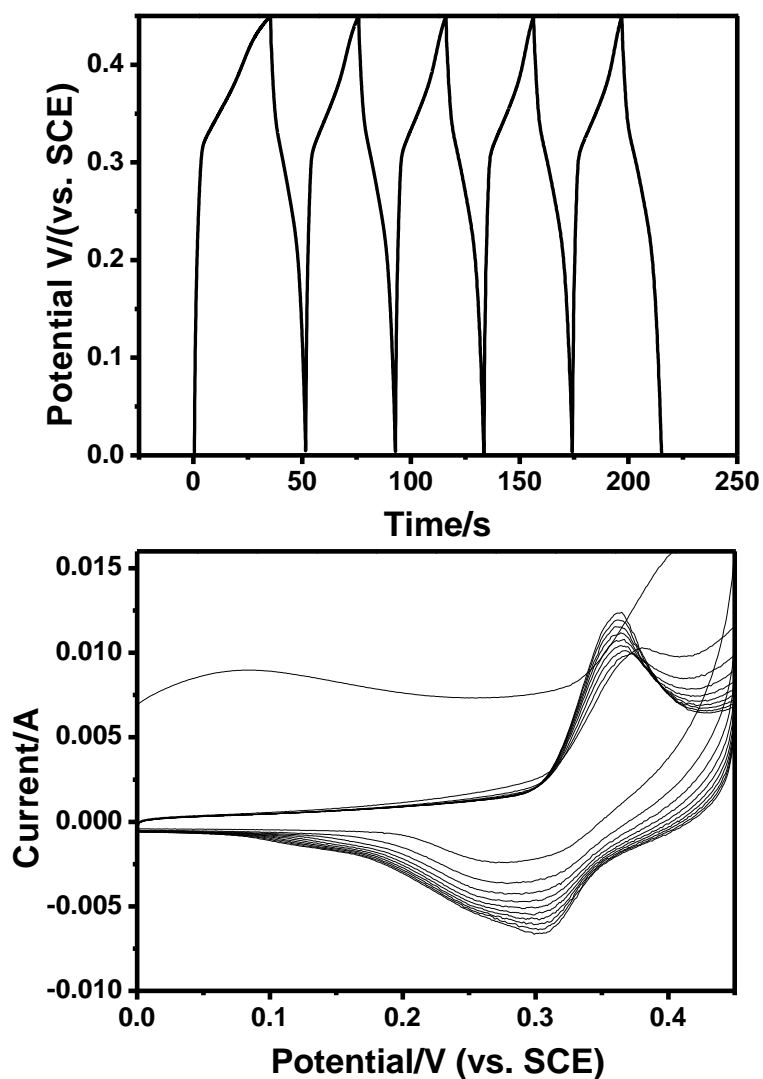


Fig. S5 Discharge curves and cyclic voltammograms of the cuboctahedrons electrode at current densities of 1 A/g and at a scan rate of 0.05 V/s in 1 M KOH solution.

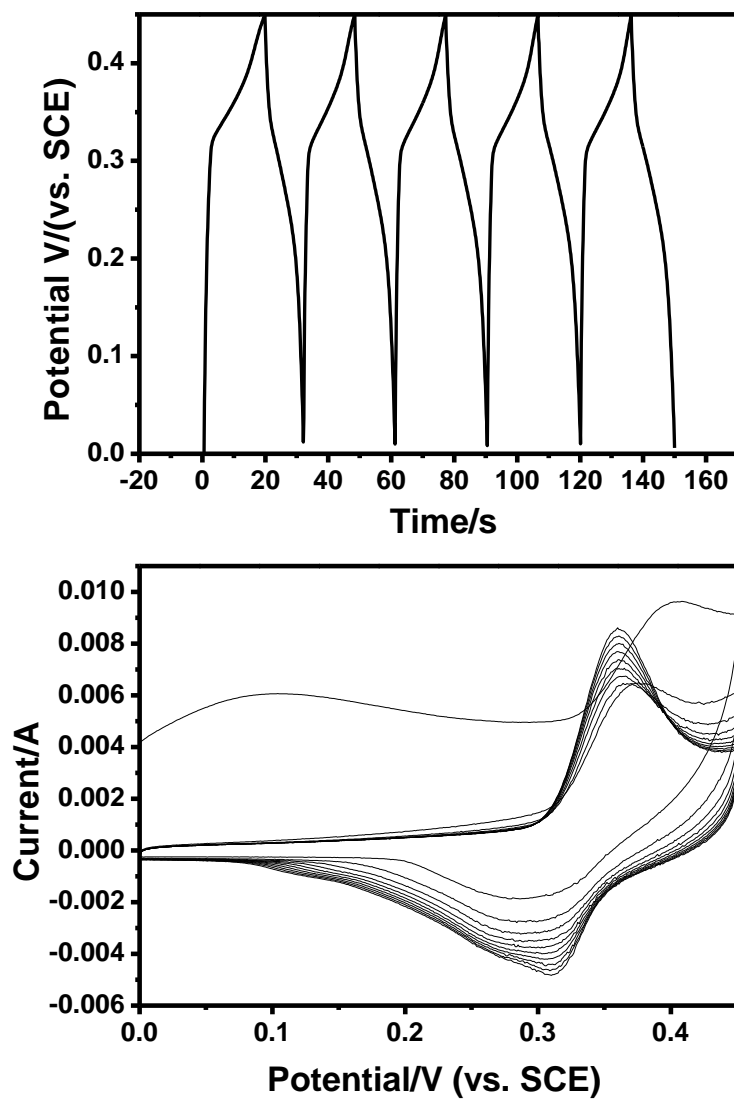


Fig. S6 Discharge curves and cyclic voltammograms of the truncated octahedrons electrode at current densities of 1 A/g and at a scan rate of 0.05 V/s in 1 M KOH solution.