

Electronic Supplementary Information

Facile Fabrication of CuO/Cu₂O Composites with High Catalytic Performances

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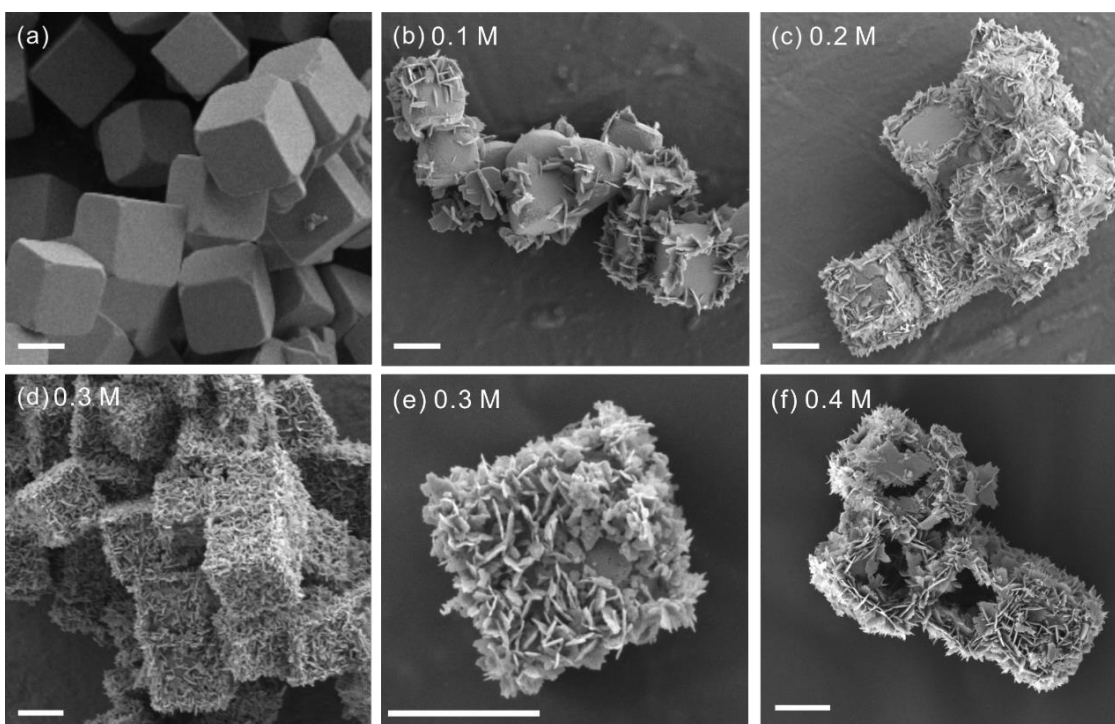


Fig. S1 FE-SEM images of pristine Cu₂O cubes (a), and CuO/Cu₂O composites prepared at respectively indicated concentrations of NaOH(aq) (b-f). Each scale bar indicates 1 μm.

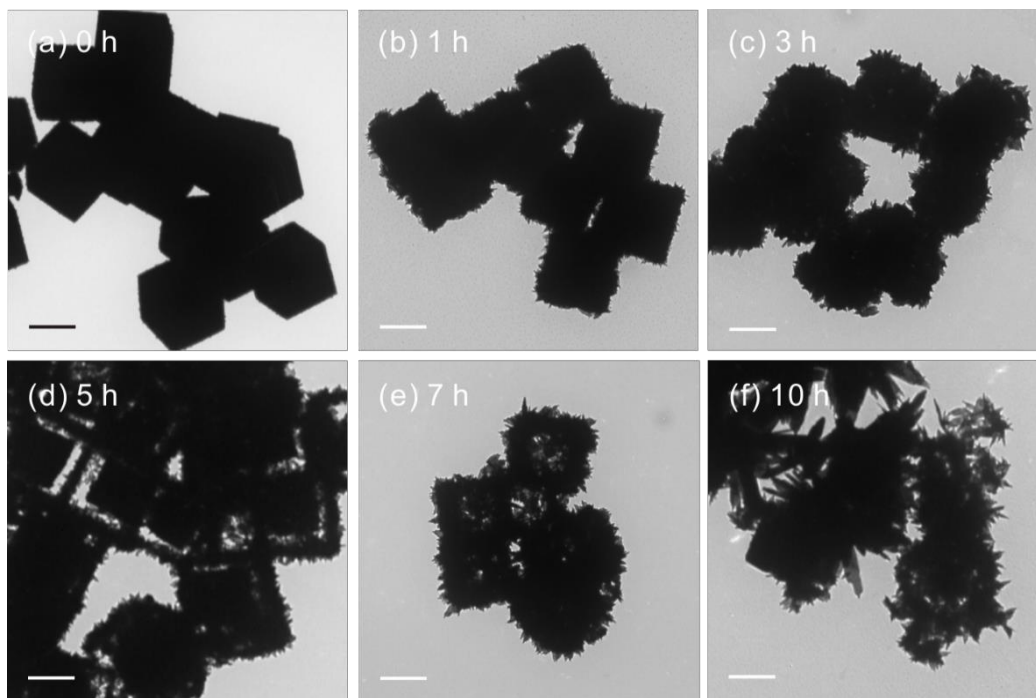


Fig. S2 TEM images of CuO/Cu₂O(0.3 M) composites prepared via the wet etching of Cu₂O cubes for indicated durations.

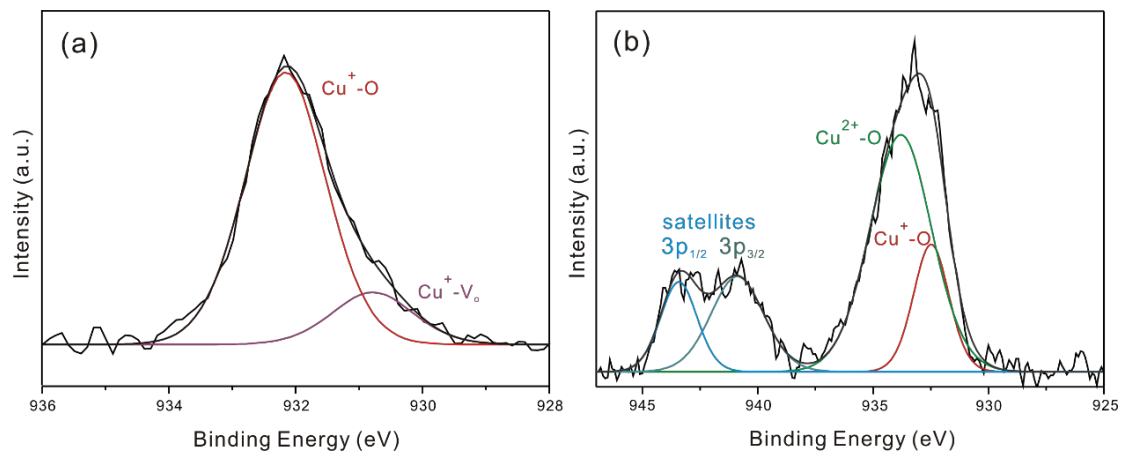


Fig. S3 Deconvoluted Cu 2p_{3/2} XPS curves of pristine Cu₂O cubes (a), and CuO/Cu₂O(0.3 M) composites (b).

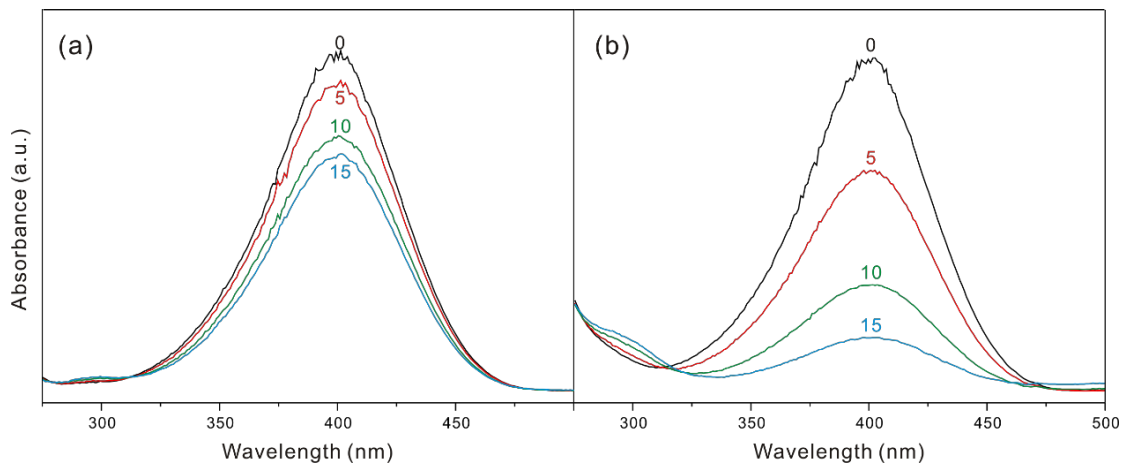


Fig. S4 Absorption spectra at 30 °C of NaBH₄-added aqueous 4-NP solutions, measured at elapsed times indicated in the units of min after adding aqueous colloidal solutions of pristine Cu₂O cubes (a) and CuO/Cu₂O(0.3 M) composites (b).

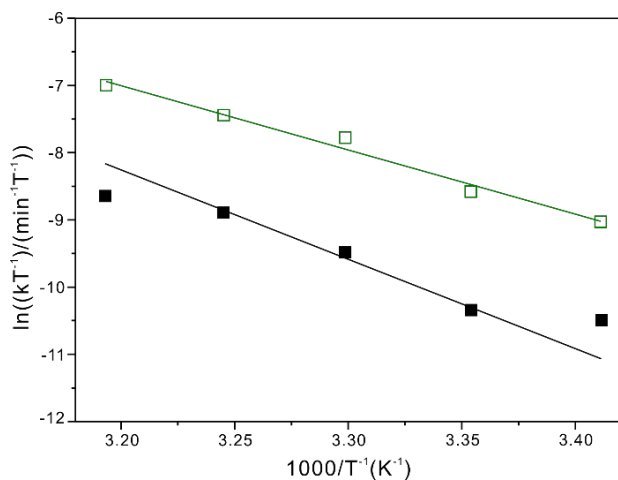


Fig. S5 Eyring plot for the catalytic reduction reactions of 80 μM 4-NP(aq) catalyzed via pristine Cu₂O cubes (closed) and CuO/Cu₂O(0.3 M) composites (open) in the presence of NaBH₄.

Table S1 Comparison of the catalytic activity of CuO/Cu₂O(0.3 M) composites with literature values

Catalyst	k (min⁻¹)	Concentration of 4- nitrophenol (μM)	Concentration of NaBH₄ (mM)	A dose of catalyst (mg L⁻¹)	Reference
CuO/Cu ₂ O(0.3 M)	0.126	80	2.0	18	this work
CuO	0.088	100	5.0	333	9
MnO ₂	0.022	100	5.0	333	9
CuO	0.142	60	5.0	100	1