

Optimal construction of $\text{Co}_3\text{O}_4/\text{Cu}_2\text{O}$ photo-assisted electrode for aqueous Zn-ion hybrid capacitor: performance and mechanism

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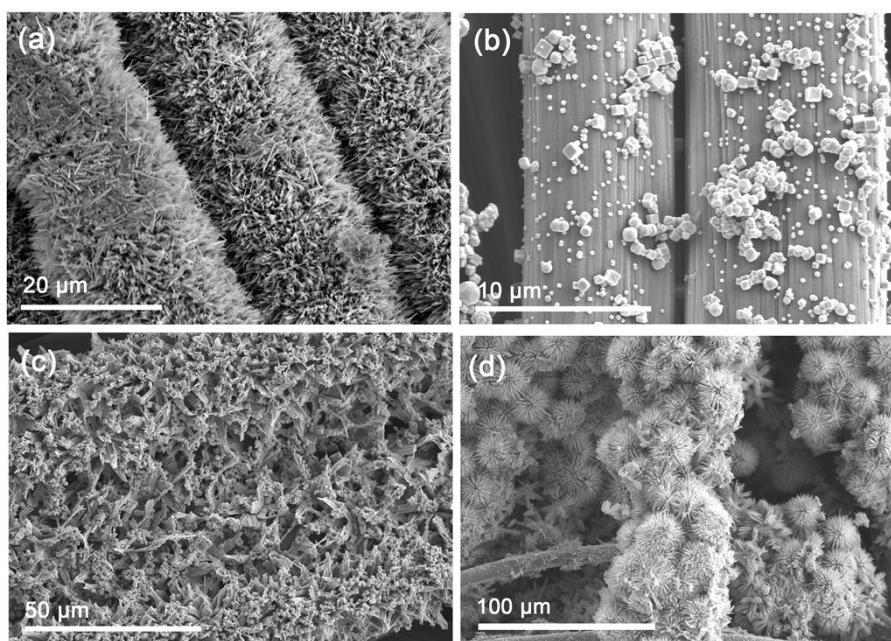


Fig.S1 SEM images of (a) Co_3O_4 , (b) Cu_2O , (c) OC2, and (d) UC2

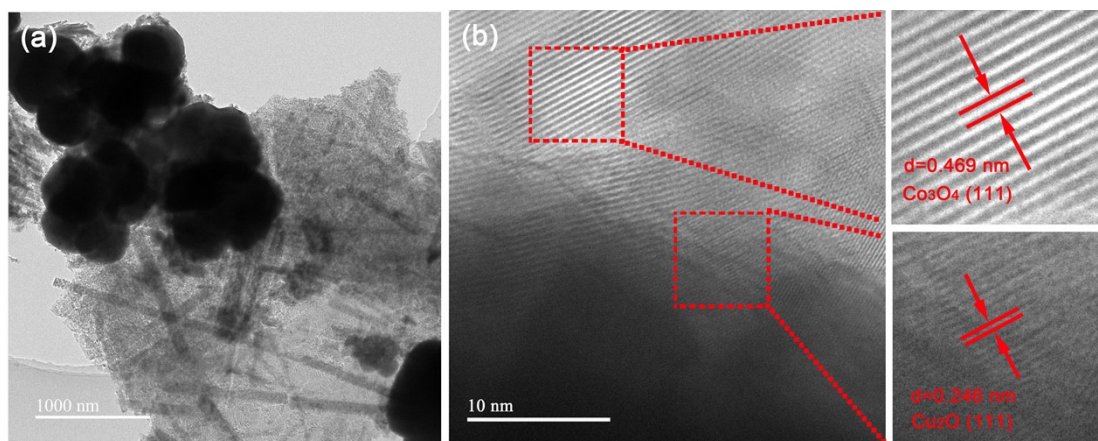


Fig.S2 (a) TEM image and (b) HRTEM image of UC2

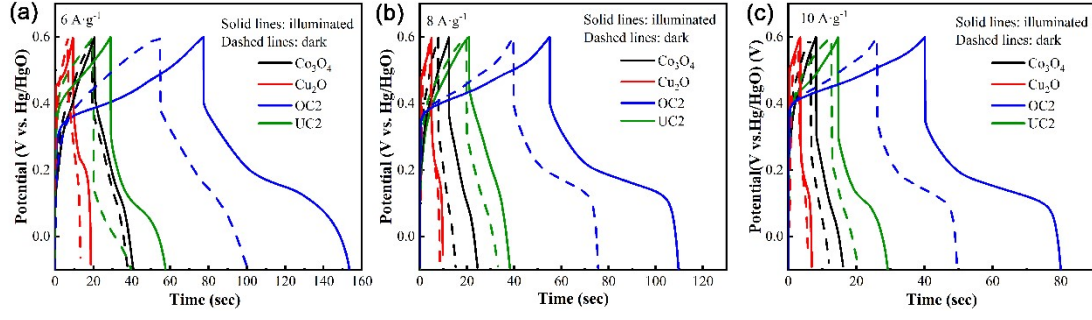


Fig.S3 GCD profiles of the electrodes measured in dark and under illumination at (a) $6 \text{ A} \cdot \text{g}^{-1}$, (b) $8 \text{ A} \cdot \text{g}^{-1}$, and (c) $10 \text{ A} \cdot \text{g}^{-1}$.

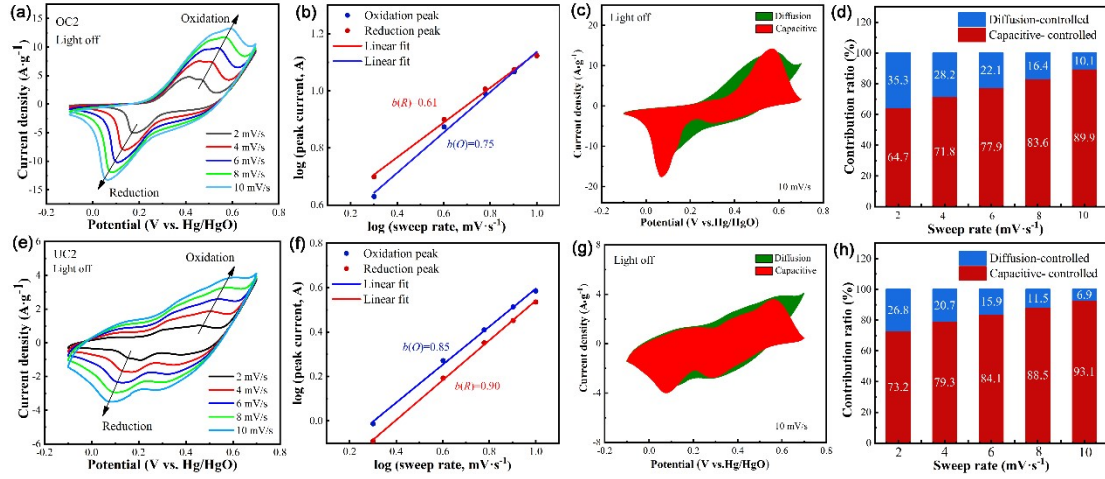


Fig.S4 CV curves at 2~10 mV/s (a, e), plots of $\lg i_p$ vs. $\lg v$ (b, f), the capacitive contribution at 10 $\text{mV} \cdot \text{s}^{-1}$ (c, g), and the quantitative surface and diffusion contributions at various scan rates (d, h) for OC2 and UC2 in dark, respectively.

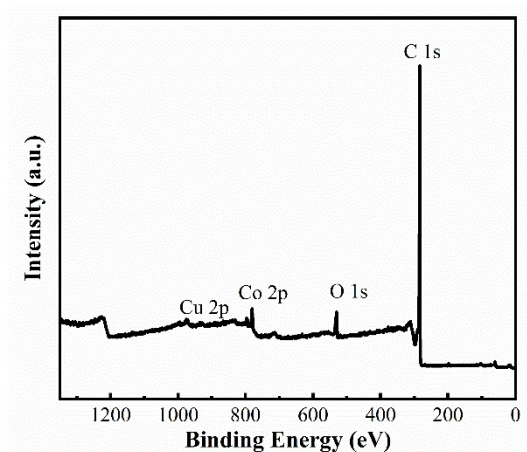


Fig.S5 XPS fully scanned spectra of charged OC2

Table S1 The fitted data of TRPL decay curves

Sample	τ (ns)	B	τ_{ave} (ns)	R_0
Co ₃ O ₄	$\tau_1=24.44949$	$B_1=0.29387$	148.3671	0.25739
	$\tau_1=160.45183$	$B_2=0.45895$		
Cu ₂ O	$\tau_1=26.45876$	$B_1=0.29319$	189.8003	0.34643
	$\tau_2=208.47588$	$B_2=0.32545$		
UC2	$\tau_1=0.64907$	$B_1=8.20768$	79.32489	0.13986
	$\tau_2=95.78667$	$B_2=0.26581$		
OC2	$\tau_1=0.54287$	$B_1=15.35492$	71.97886	0.0632
	$\tau_2=95.14085$	$B_2=0.27022$		