

Supplementary Information

Conductive $\text{Cu}_3(\text{HHTP})_2$ Nanorods Anchored on Biomass-Derived Carbon Wood as a Binder-Free Cathode for High-Performance Li- CO_2 Batteries

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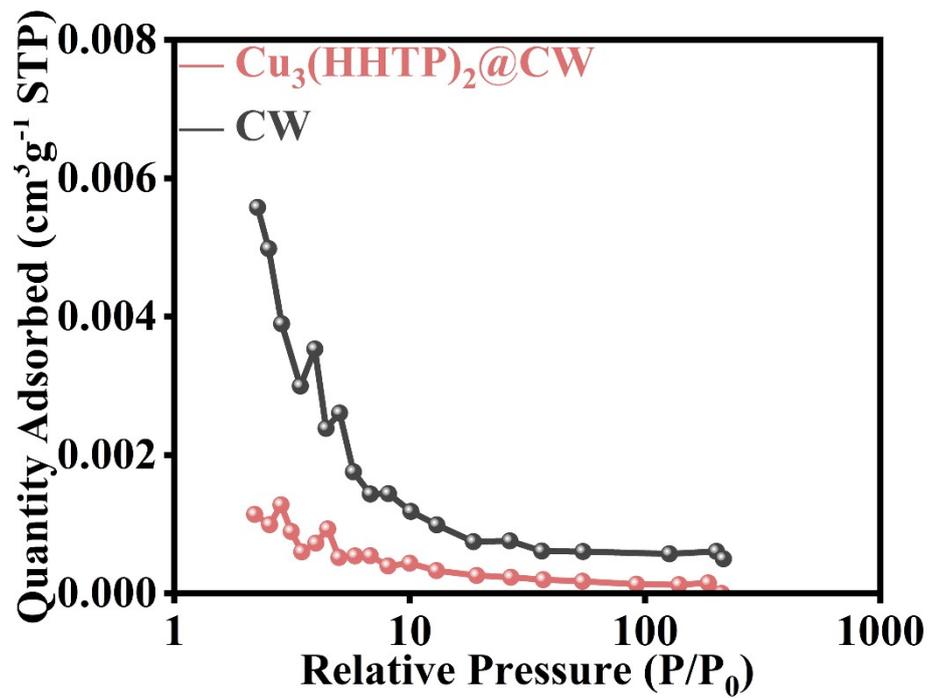


Figure S1 Pore size distributions of CW and Cu₃(HHTP)₂@CW composites

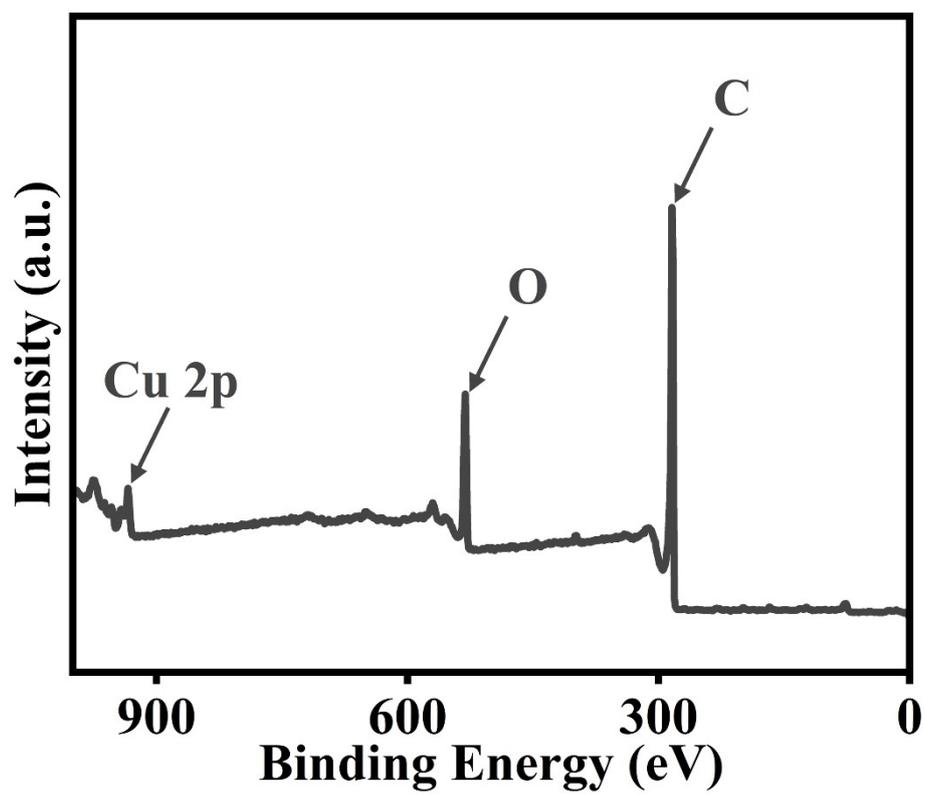


Figure S2 Full XPS spectrum of $\text{Cu}_3(\text{HHTP})_2@\text{CW}$ composite

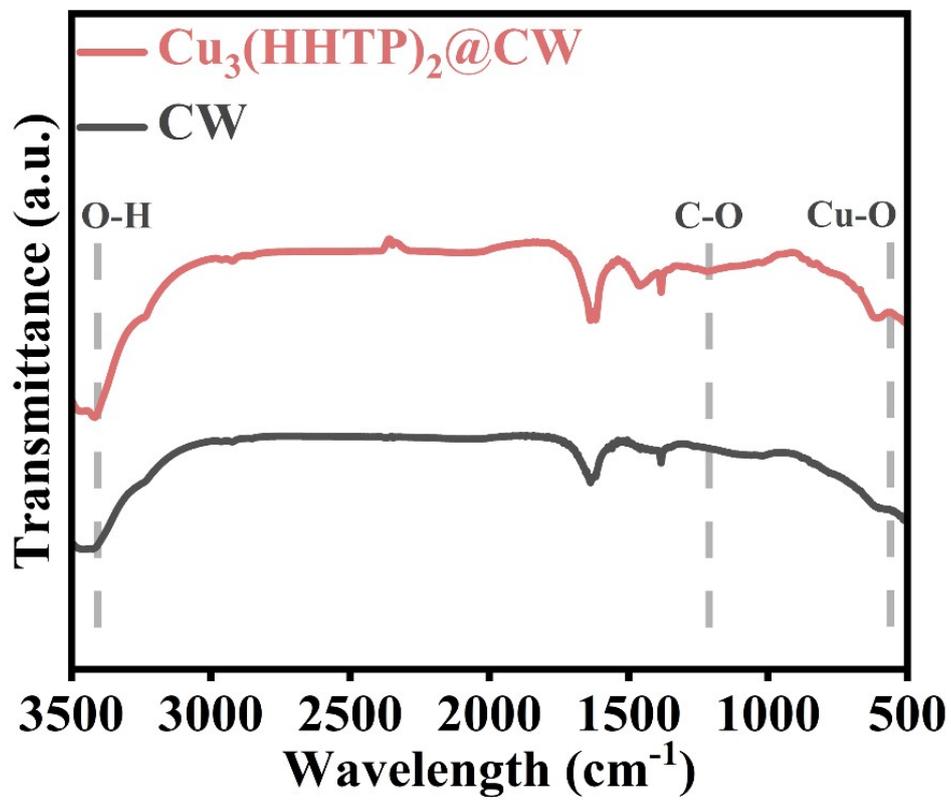


Figure S3 FTIR spectra of CW and $\text{Cu}_3(\text{HHTP})_2@\text{CW}$ composites

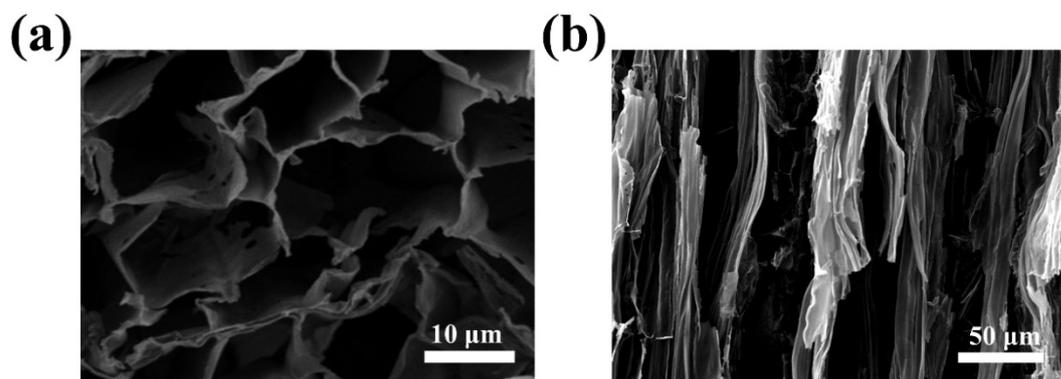


Figure S4 Cross-sectional and longitudinal SEM images of CW

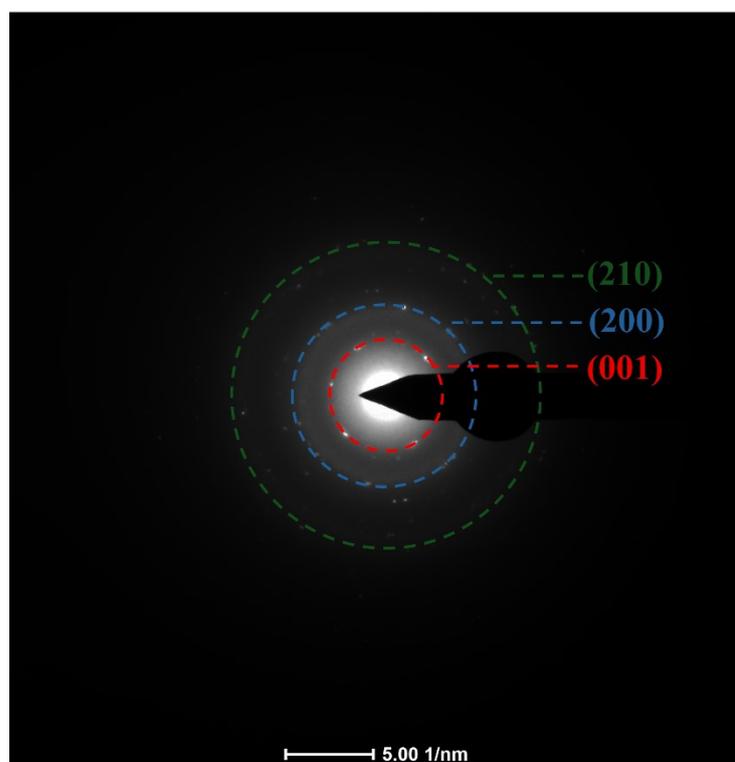


Figure S5 The SAED pattern of $\text{Cu}_3(\text{HHTP})_2@\text{CW}$ composite

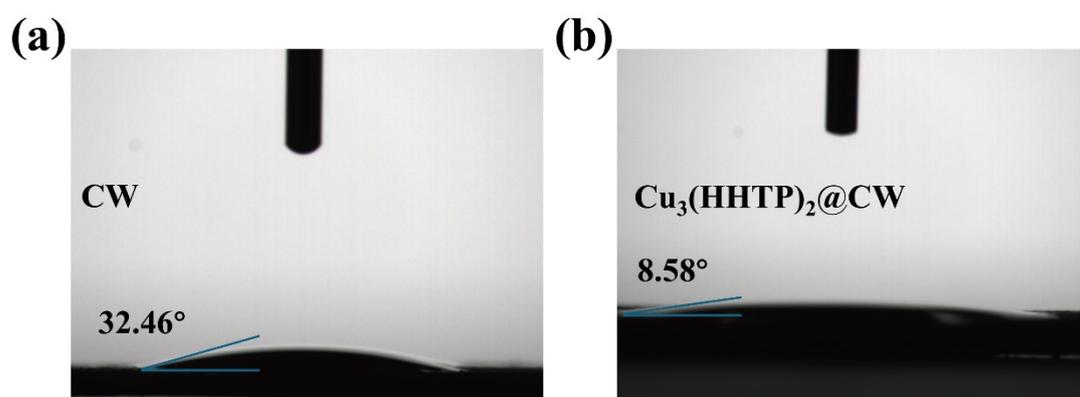


Figure S6 The contact angles of electrolyte of (a) CW and (b) $\text{Cu}_3(\text{HHTP})_2@CW$ cathodes

Table S1 Comparison of Li-CO₂ battery cathode performance reported in literatures

Cathode materials	Current density ($\mu\text{A cm}^{-2}$)	Capacity limit ($\mu\text{Ah cm}^{-2}$)	Cycle life (h)	References
Fe ₂ O ₃ @CoS	20	100	500	[S1]
Silk@Ir-JH	20	100	1100	[S2]
BCNT	20	100	1300	[S3]
rGO@LM@Ru	40	100	600	[S4]
Vs-Co ₂ CuS ₄	40	100	600	[S5]
NGCA	20	100	1500	[S6]
CIS	20	100	1000	[S7]
NiCo ₂ S ₄	100	100	600	[S8]
Cu ₃ (HHTP) ₂ @CW	100	100	2000	This work

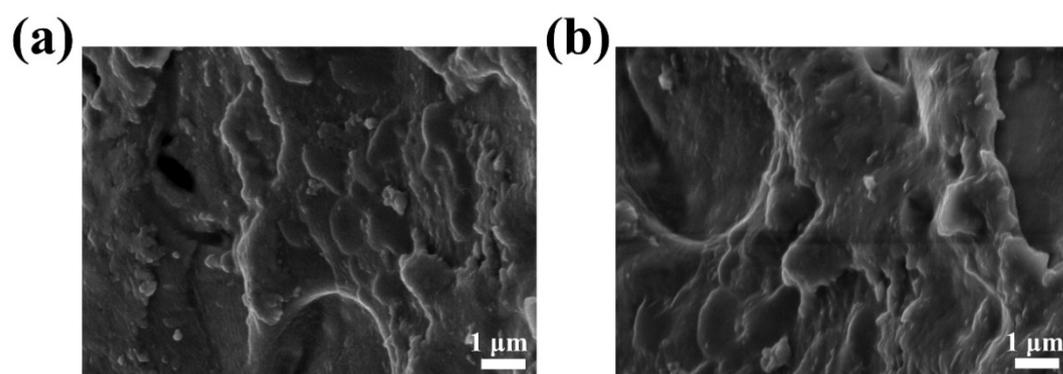


Figure S7 SEM images of CW cathode in (c) discharged and (d) charged states

References

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