Supporting Information

Targeted anchoring of Cu sites in imine-based covalent organic frameworks as catalytic centers for efficient Li-CO_2 batteries

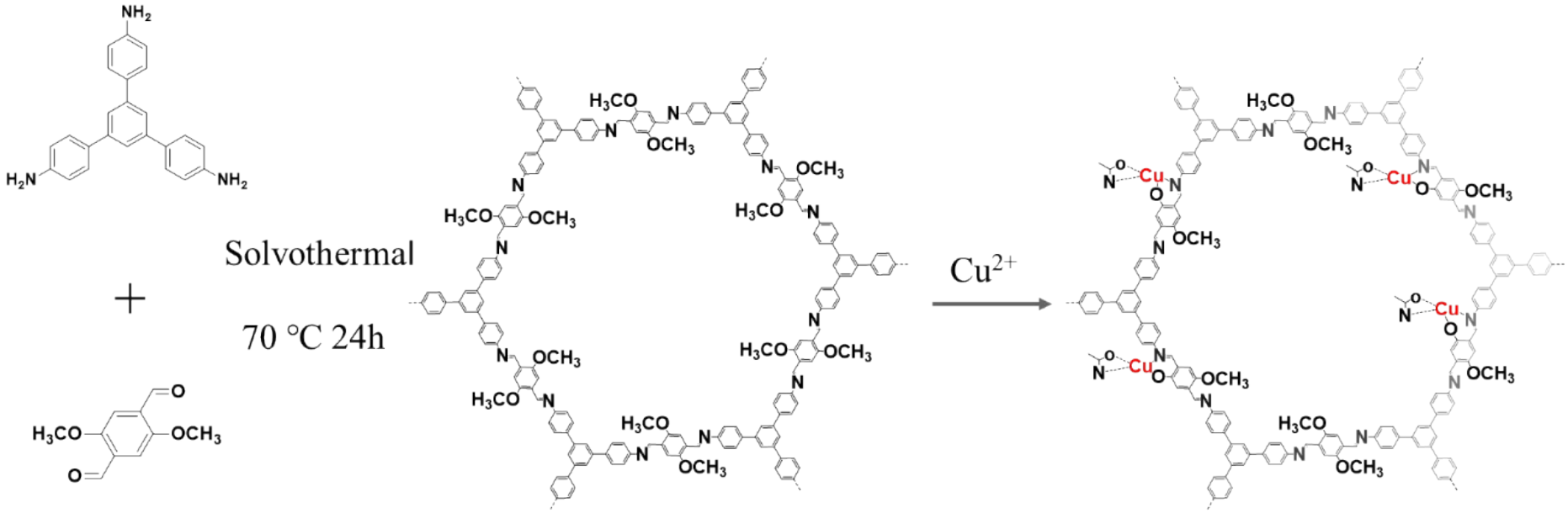

Fig. S1 Schematic synthesis of Cu-TDCOF.

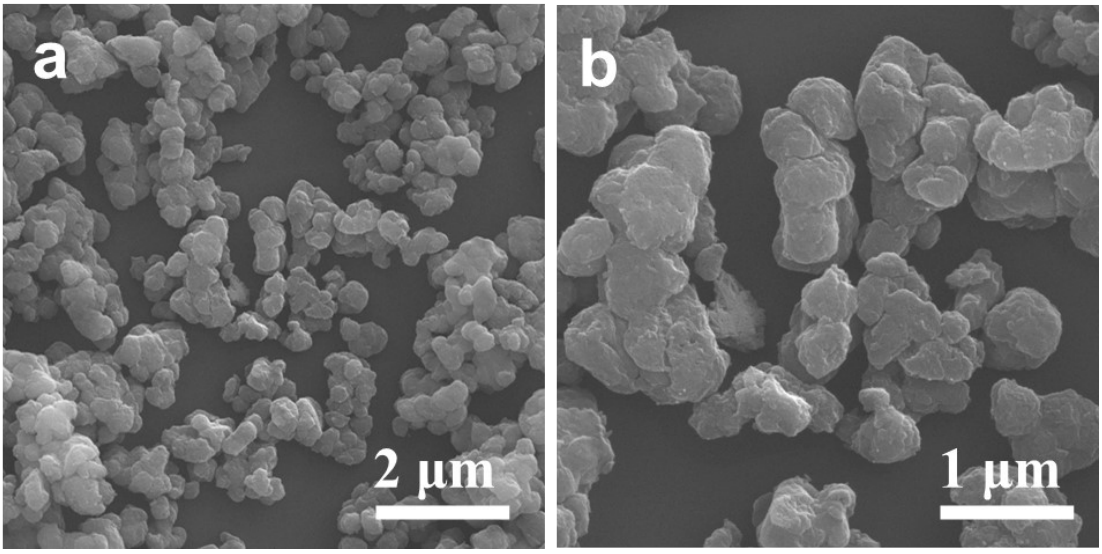

Fig. S2 The SEM images of (a, b) TDCOF.

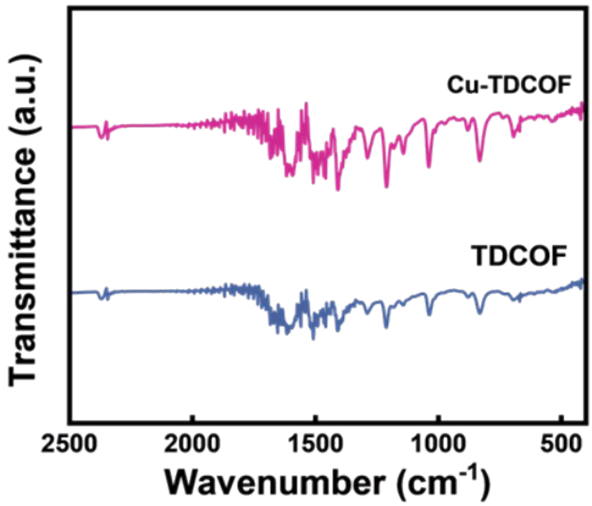

Fig. S3 The FT-IR spectrogram of Cu-TDCOF and TDCOF.

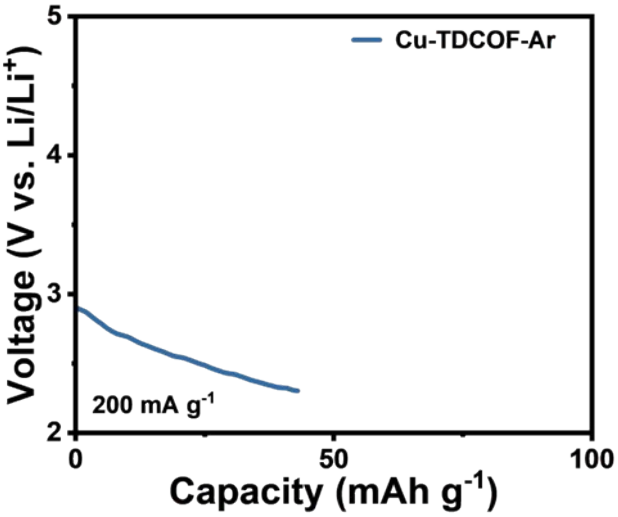

Fig. S4 The full discharge capacities of Cu-TDCOF at 200 mA g^{-1} under Ar atmosphere.

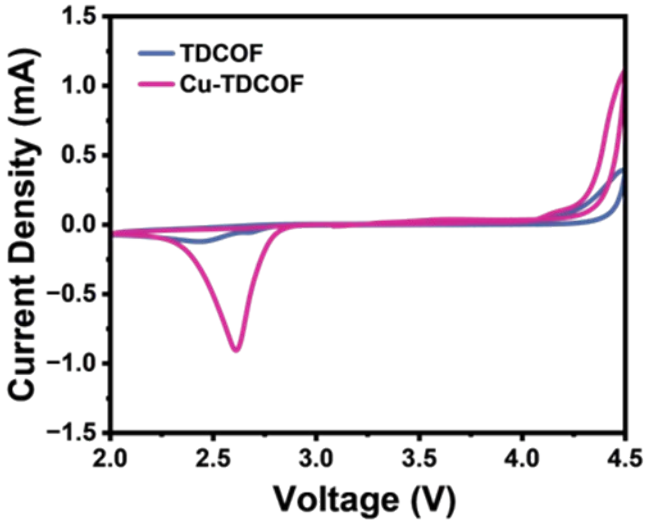

Fig. S5 The CV curves of Cu-TDCOF, and TDCOF under the scan rate of 0.1 mV s^{-1}.

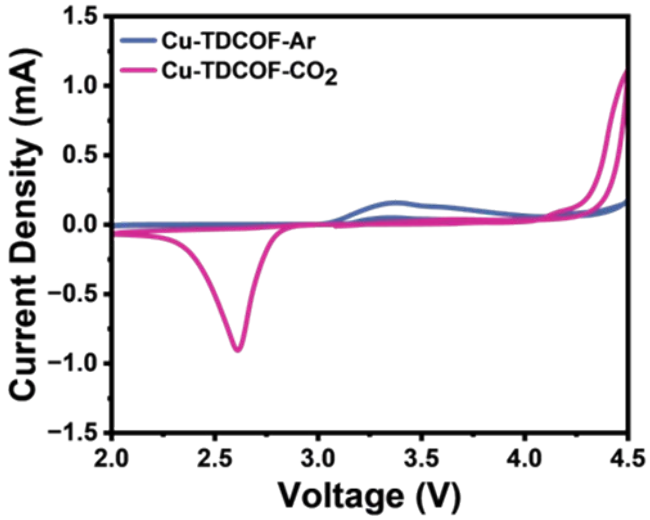

Fig. S6 The CV curves of Cu-TDCOF under the scan rate of 0.1 mV s^{-1} under CO_2, and Ar atmosphere.

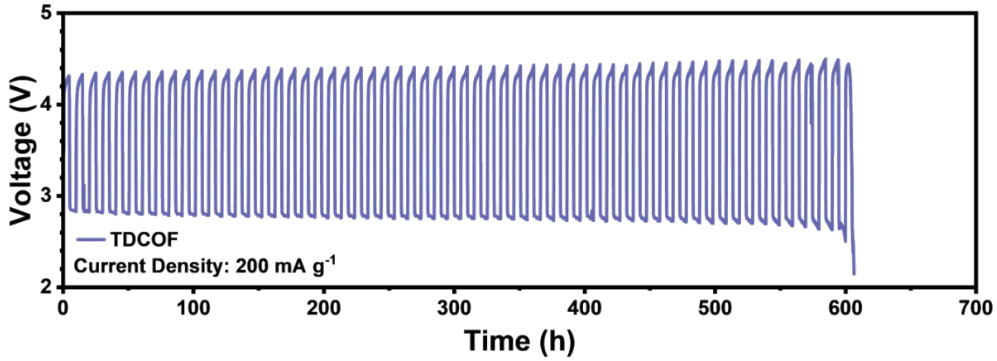

Fig. S7 The voltage/time curves of TDCOF at 200 mA g^{-1} with limited capacity of 1000 mAh g^{-1}.

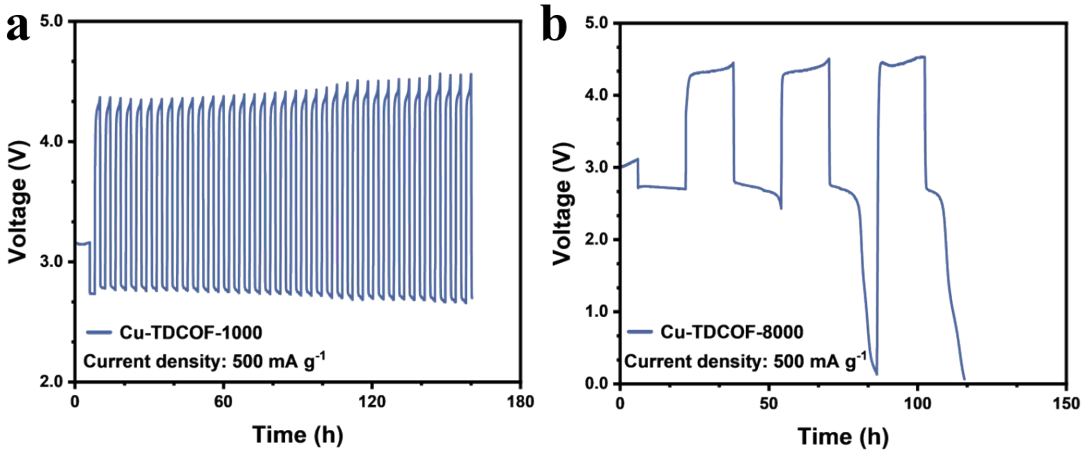

Fig. S8 The voltage/time curves of Cu-TDCOF at 500 mA g^{-1} under a limited capacity of (a)1000 mAh g^{-1}, (b) 8000 mAh g^{-1}.

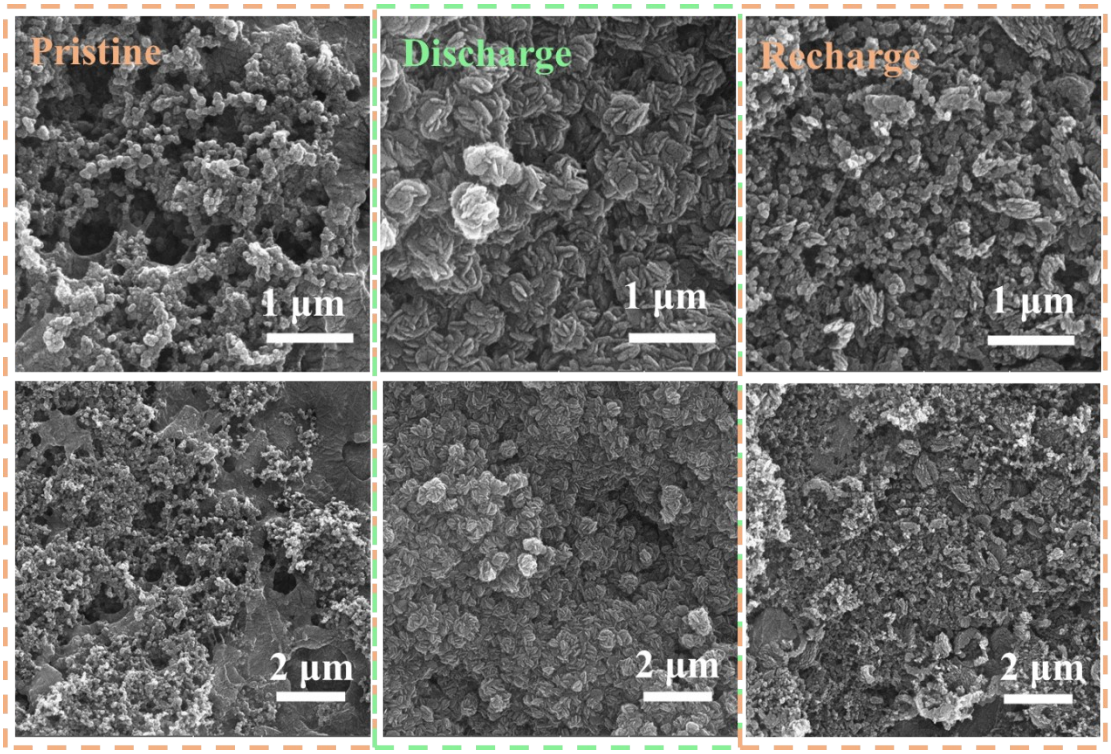

Fig. S9 The SEM images of Cu-TDCOF in pristine, discharge, and recharge.

Table S1 The comparison of electrochemical performances for different cathode catalysts of Li-CO_2 batteries.[1–9]

Cathode (#)	**Capacity/mAh g^{-1} (*)**	**Cycling time/h (*)**	**Reference**
Graphene (1000)	6600 (100)	800 (50)	[1]
CFB@NCNT-Mo_2N (50μAh cm^{-2})	5586.0 μAh cm^{-2} (10 μAh cm^{-2})	675 (40μAh cm^{-2})	[2]
RuAC+SA@NCB (500)	10651.9 (100)	230 (300)	[3]
Mo_2N@$Ti_3C_2O_2$ (500)	8186 (300)	800(300)	[4]
$Co_{0.1}Ni_{0.9}O_x$/CNT (500)	9655.26 (50)	250 (200)	[5]
Ru/ACNF (1000)	11495 (200)	1000 (100)	[6]
ZnS QDs/N-rGO (1000)	10310 (100)	950 (400)	[7]
$CuCo_2S_4$-Co_9S_8 (500)	3480 (20 μAh cm^{-2})	480 (50 μA cm^{-2})	[8]
RuCo NSs/CNT (500)	8057 (100)	180 (100)	[9]
Cu-TDCOF (1000)	**12980 (200)**	**1100 (200)**	**This work**

(*)/mA g^{-1} represents current density.

(#)/mA g^{-1} represents current density.

Reference

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