Supplementary data

One-step hydrothermal method for novel Cu-Co bimetallic sulfides to improve the power performance of microbial fuel cells

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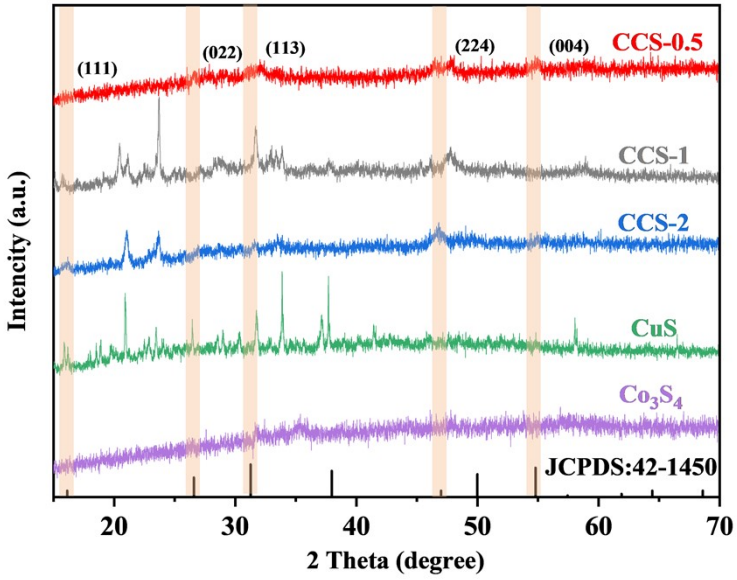

Fig S1 XRD patterns of the five catalysts

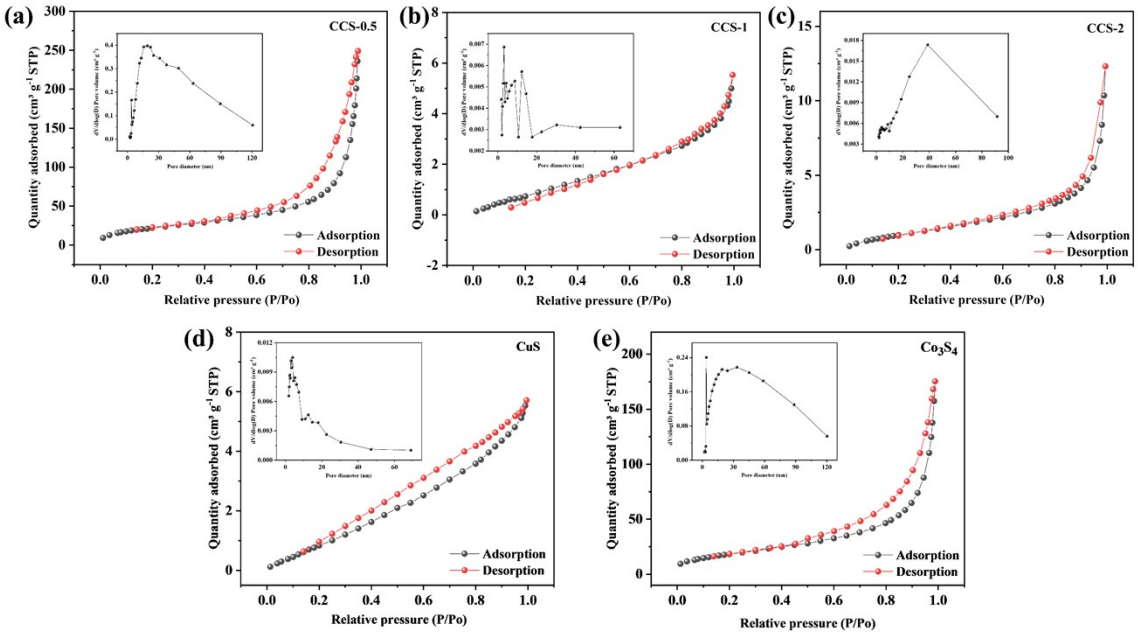

Fig. S2: (a) Nitrogen adsorption-desorption isotherms and pore size distribution of CCS-0.5, (b) Nitrogen adsorption-desorption isotherms and pore size distribution of CCS-1, (c) Nitrogen adsorption-desorption isotherms and pore size distribution of CCS-2, (d) Nitrogen adsorption-desorption isotherms and pore size distribution of CuS, (e) Nitrogen adsorption-desorption isotherms and pore size distribution of Co_3S_4.

Table S1. ICP-MS results of different ratios of CCS-M

Sample	Cu/Co ratio in catalysts
CCS-0.5	0.58
CCS-1	1.48
CCS-2	2.61

Table S2. BET surface area (S_{BET}), total pore volume (Vtotal) and average pore diameter (APD) of different materials.

Catalyst	SBET (m^2 g^{-1})	Vtotal (cm^3 g^{-1})	APD (nm)
CCS-0.5	82.67	0.39	15.77
CCS-1	3.89	0.0082	6.08
CCS-2	4.44	0.019	13.20
CuS	5.73	0.087	4.41
Co_3S_4	68.91	0.27	12.97

Table S3. Exchange current density derived from Tafel curve fitting.

Cathode	Linear equation	R^2	i_0 ($\times 10^{-5}$ A cm^{-2})
CCS-0.5	y=6.7817x-3.4969	0.9914	31.85
CCS-1	y=5.6391x-4.1951	0.9927	6.38
CCS-2	y=6.2018x-3.8905	0.9826	12.87
CuS	y=1.3714x-3.9894	0.9828	10.25
Co_3S_4	y=4.3206x-5.9453	0.9989	0.11