Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics. This journal is © the Owner Societies 2023

Metal organic frameworks derived transition metal doped CoS_x nanocage for enhanced visible light assisted methanol electrocatalytic oxidation

Meng Li at, Quan Du at, Guanfeng Li a, Lei Qian*a, Ying Zeng a

a College of Materials and Chemistry & Chemical Engineering, Chengdu University

of Technology. Chengdu, Sichuan, 610059, China

* Corresponding authors. qianlei13@cdut.cn;

[‡] These authors contributed equally to this work.

Supporting Information



Figure S1 The photograph of double-layer electrochemical cell with recirculating water.

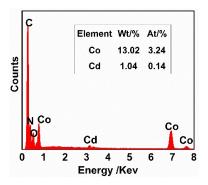


Figure S2 The EDS spectrum of Cd-ZIF-67

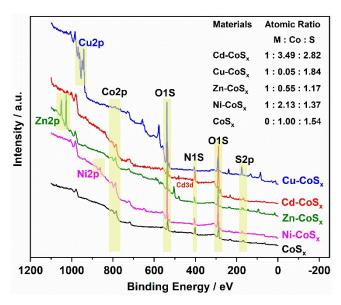


Figure S3 The XPS survery spectra and the atomic ratio of $Cu-CoS_x$, $Zn-CoS_x$, $Ni-CoS_x$ and undoped CoS_x .

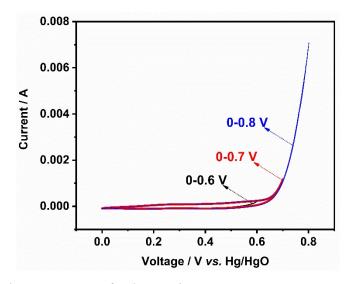


Figure S4 The CV curves of Cd-CoS_x in 1 M KOH at scan rate of 10 mV s⁻¹.

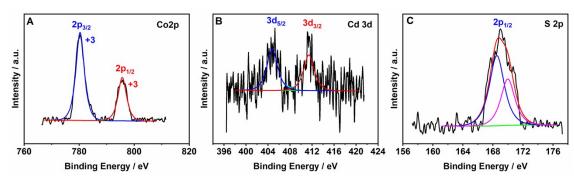


Figure S5 The high-resolution XPS spectra of Co 2p (A), Ni 3d (B) and S 2p (C) of Cd- CoS_x after reaction.

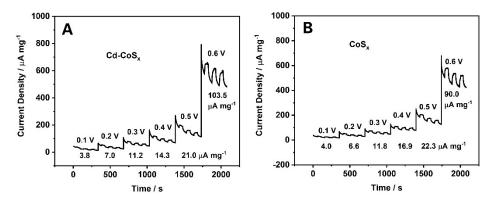


Figure S6 The photoresponse curves of $Cd-CoS_x$ (A) and CoS_x (B) at different potential and the photoresponse current density, the electrolyte was 1 M KOH.

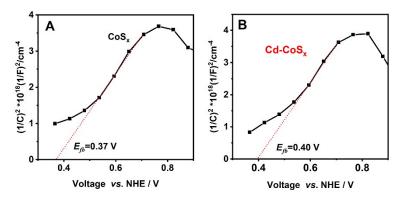


Figure S7 The Mott-Schottky plots of CoS_x and Cd-CoS_x.