Electronic Supplementary Material (ESI) for New Journal of Chemistry.

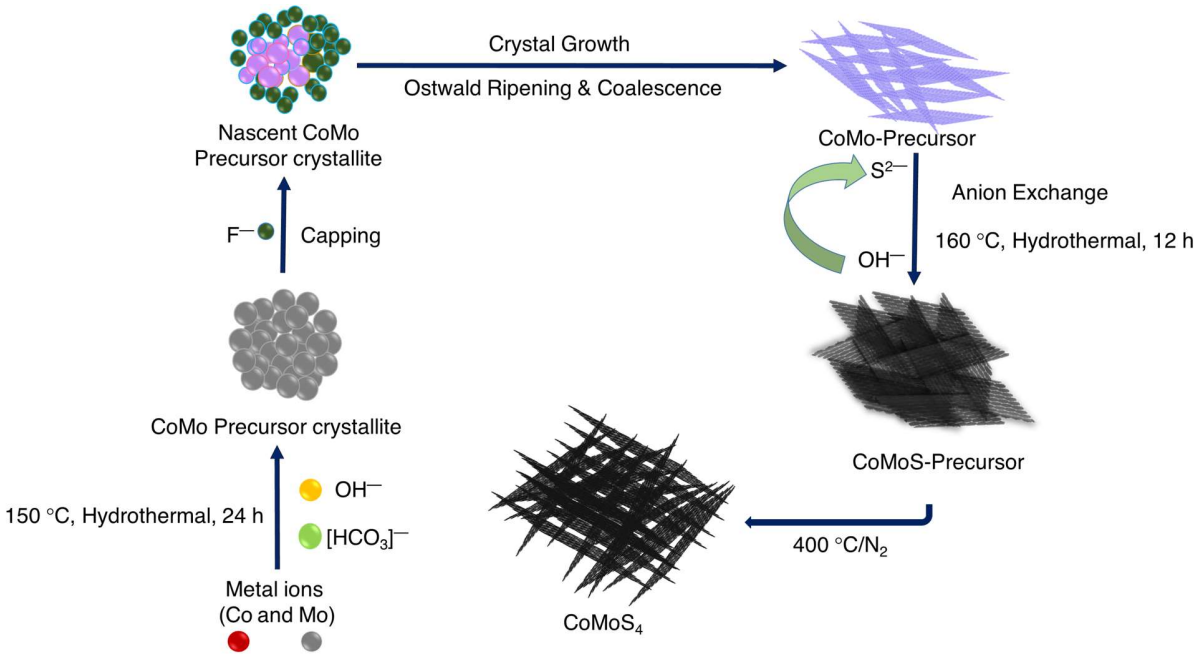
Supplementary Information

Hierarchical $CoMoS_4$ flakes with rich physico-electrochemical physiognomies for electrocatalytic oxygen evolution reaction

Yogesh Kumar Sonia,[a] Siddhant Srivastav[a] and Sumanta Kumar Meher*[a]

[a]Materials Electrochemistry & Energy storage Laboratory, Department of Chemistry, Malaviya National Institute of Technology Jaipur, Rajasthan 302017, India

Email*: skmeher.chy@mnit.ac.in



Scheme 1. Plausible mechanism for the formation of $CoMoS_4$ flake-like microstructure.

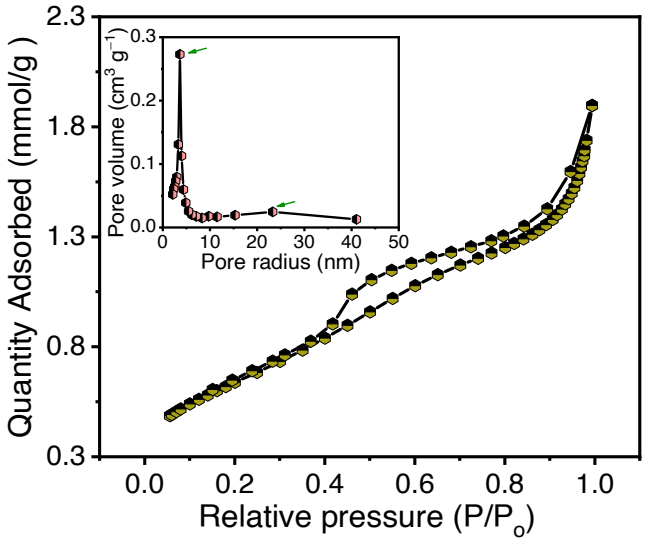


Fig. S1 Nitrogen adsorption-desorption isotherm of $CoMoS_4$; the BJH pore size distribution plot of $CoMoS_4$ is shown in the inset.

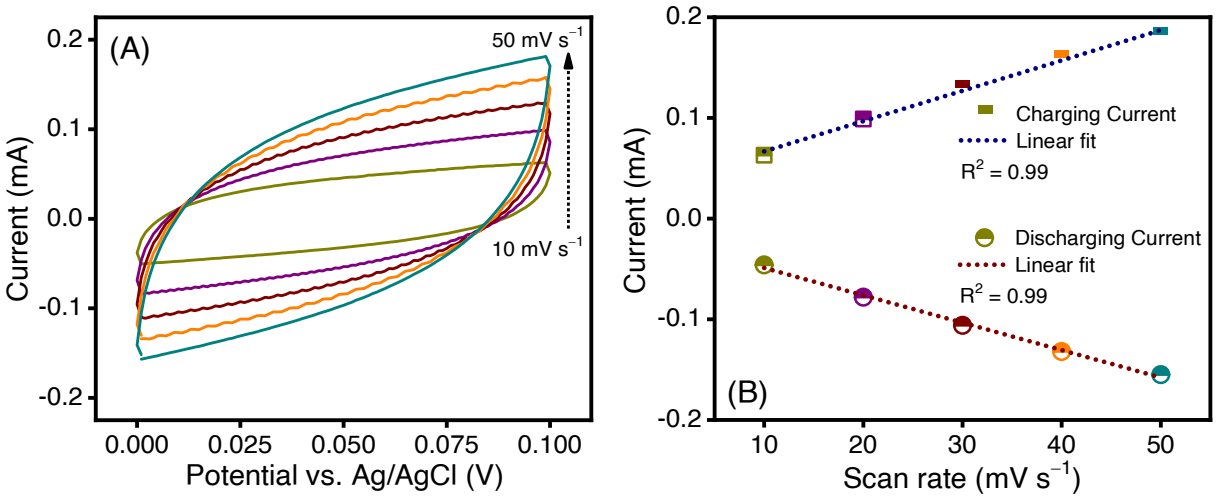


Fig. S2. (A) CV profiles of $CoMoS_4$ in non-Faradic potential region; (B) Charging current (anodic and cathodic current density) vs. scan rate plots for $CoMoS_4$.

Table S1. The comparison of the electrocatalytic OER efficiency of the flake-like $CoMoS_4$ with the reported Co- and Mo-based sulfide/oxide electrocatalysts.

Sl. No.	***Material***	***Measured current density (mA cm^{-2})***	***Overpotential (mV)***	***Reference***
1	Li_xMoO_3	10	485	s1
2	Mo doped Mn_2O_3	10	570	s2
3	$FeSe_2/CoSe_2$@CC	10	407	s3
4	Mn_2O_3	10	730	s4
5	$MoS_2/NiS–Ni_3S_2$	10	460	s5
6	CoS	10	440	s6
7	$rGO/CoMoO_4$	10	475	s7
8	$CoMoO_4$	8.93	550	s8
9	CoMoS	10	520	s9
10	CoSSIL/CNT	10	410	s10
11	Ru doped MnO_2	10	680	s11
12	$CaMn_xO_y$	10	550	s12
13	$NiCo_2O_4/NiO$	10	430	s13
14	**Flake-like $CoMoS_4$**	**10**	**430**	**Present work**

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