Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A.
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Electronic Supplementary Material (ESI)

Amorphous MoS_x Developed on $Co(OH)_2$ Nanosheets Generating Efficient Oxygen Evolution Catalyst

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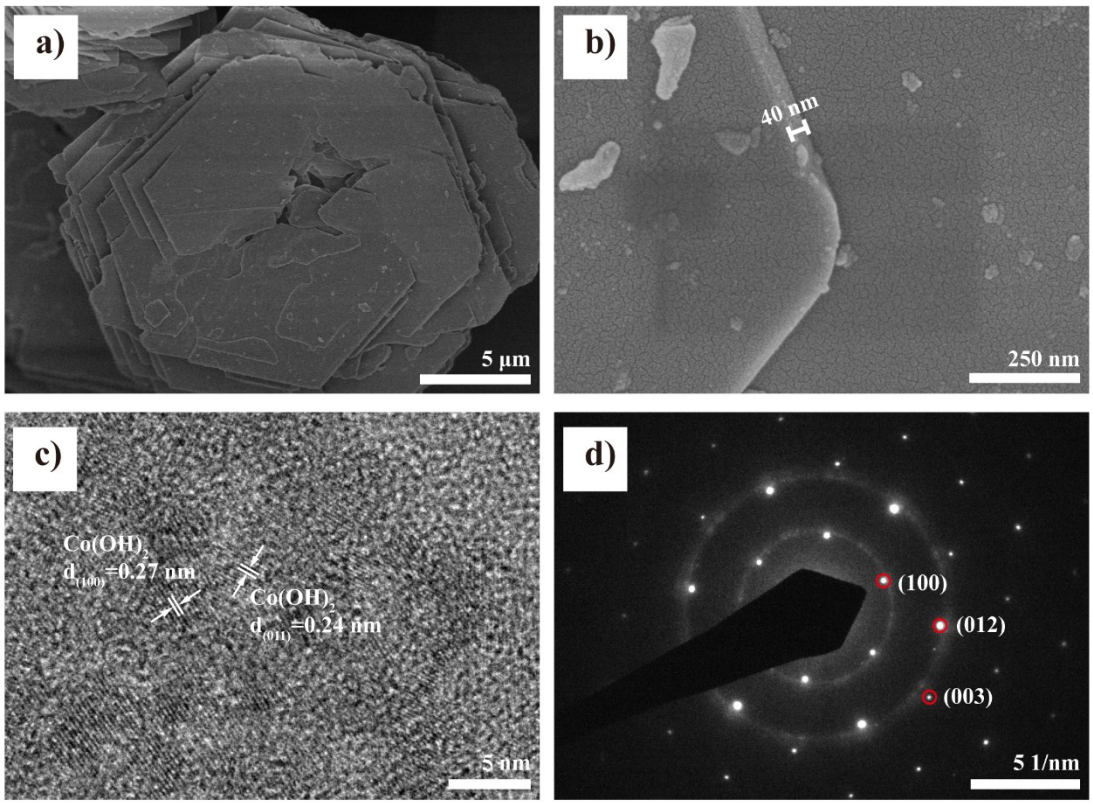

Fig. S1 a) and b) high-magnification SEM images, c) HRTEM image and d) SAED pattern of $Co(OH)_2$ NSs.

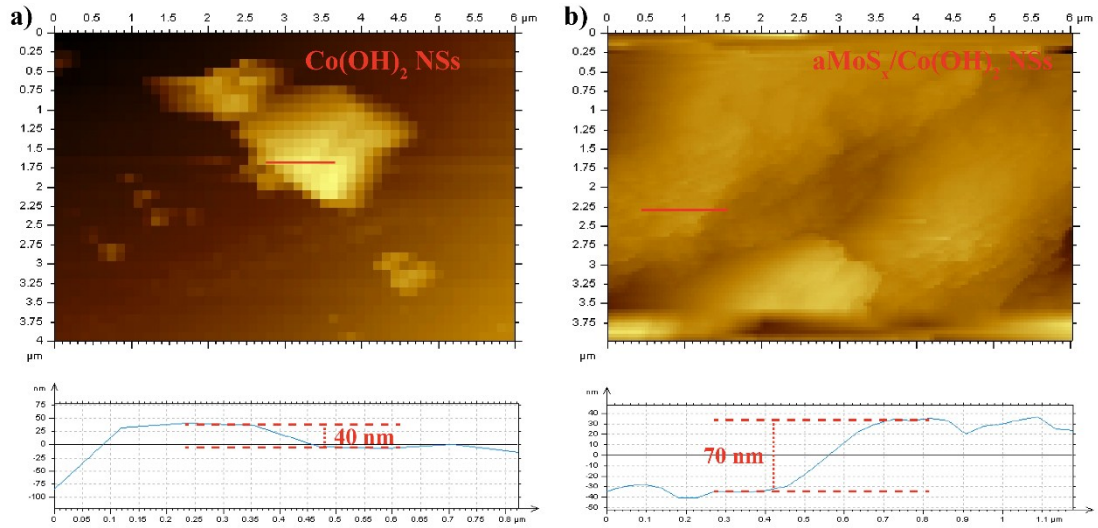

Fig. S2 AFM image and corresponding height profile of a) $Co(OH)_2$ NSs and b) $aMoS_x/Co(OH)_2$ NSs (Co/Mo 8).

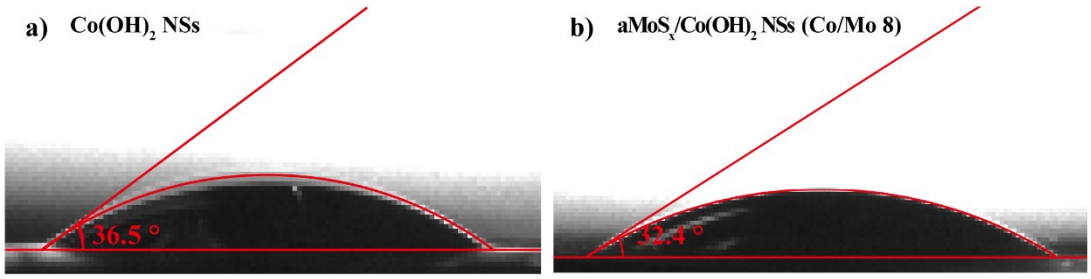

Fig. S3 Water contact angle measurements: images showing water droplets cast onto films of a) $Co(OH)_2$ NSs and b) $aMoS_x/Co(OH)_2$ NSs (Co/Mo 8).

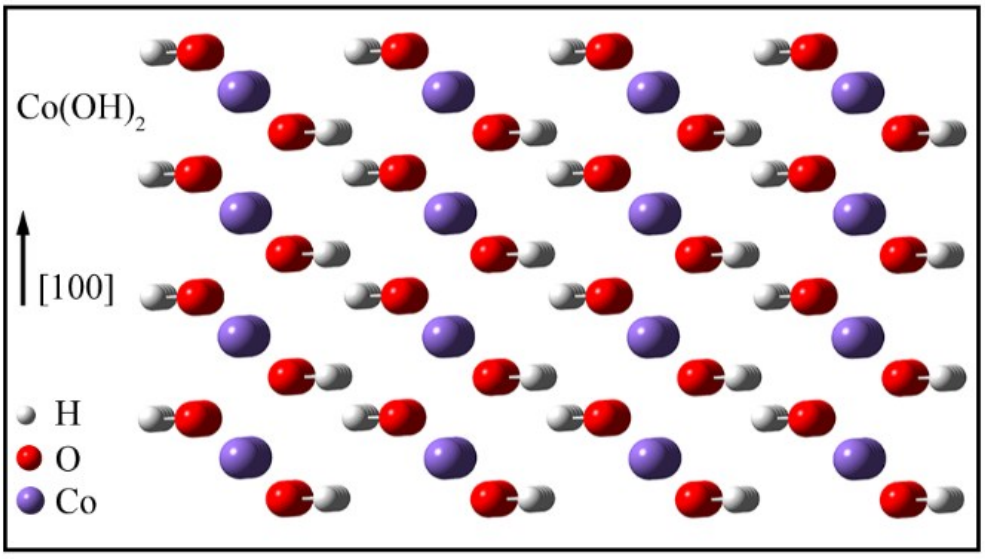

Fig. S4 The atom configuration of $Co(OH)_2$.

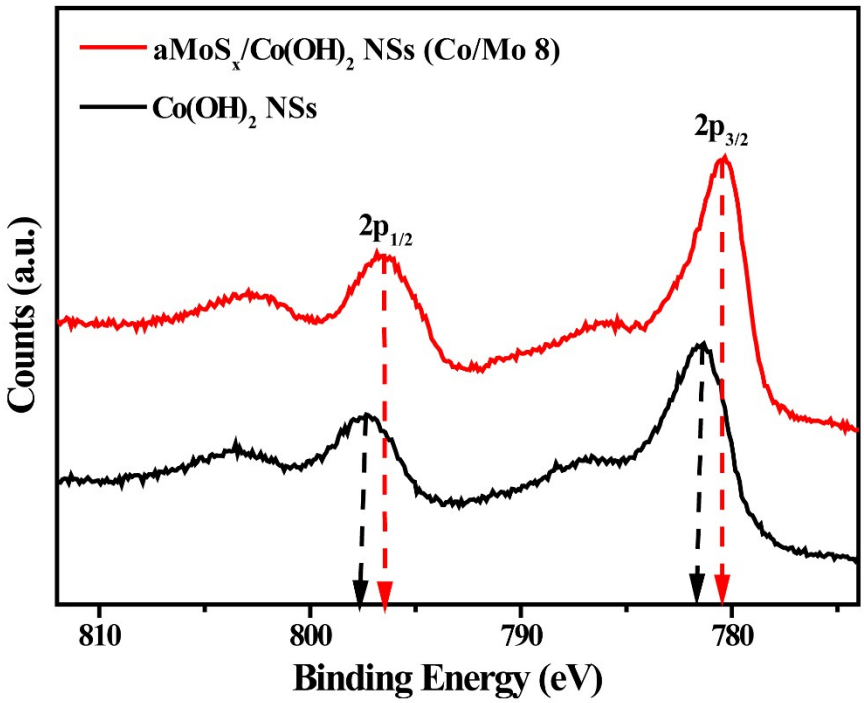

Fig. S5 High resolution Co 2p spectra of aMoS$_x$/Co(OH)$_2$ NSs (Co/Mo 8) and Co(OH)$_2$ NSs.

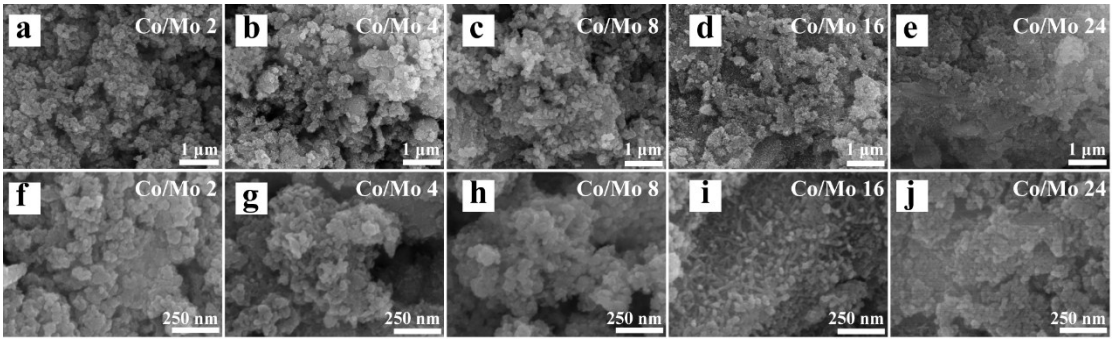

Fig. S6 SEM images with different scale bar of aMoS$_x$/Co(OH)$_2$ NSs. a) and f) Co/Mo 2, b) and g) Co/Mo 4, c) and h) Co/Mo 8, d) and i) Co/Mo 16, e) and j) Co/Mo 24.

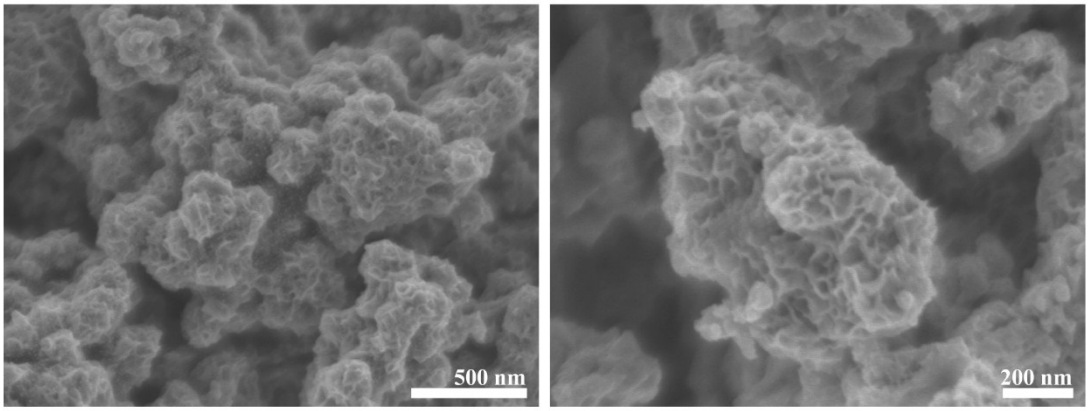

Fig. S7 SEM images of pure $aMoS_x$.

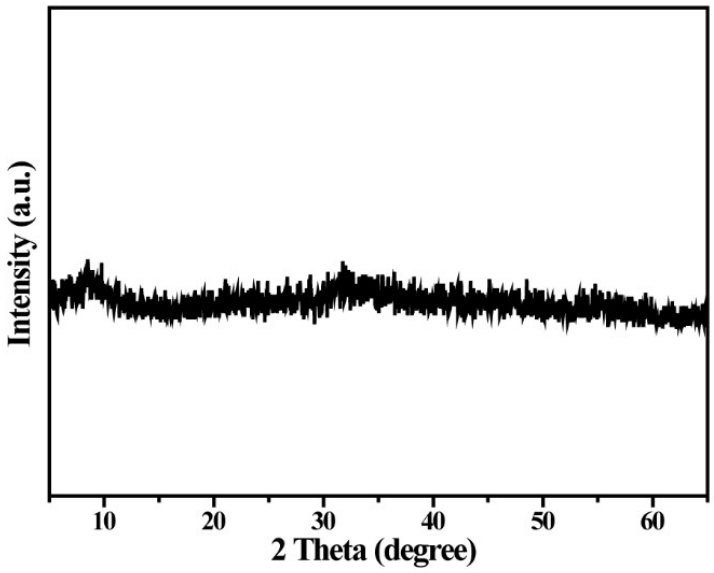

Fig. S8 XRD pattern of pure $aMoS_x$.

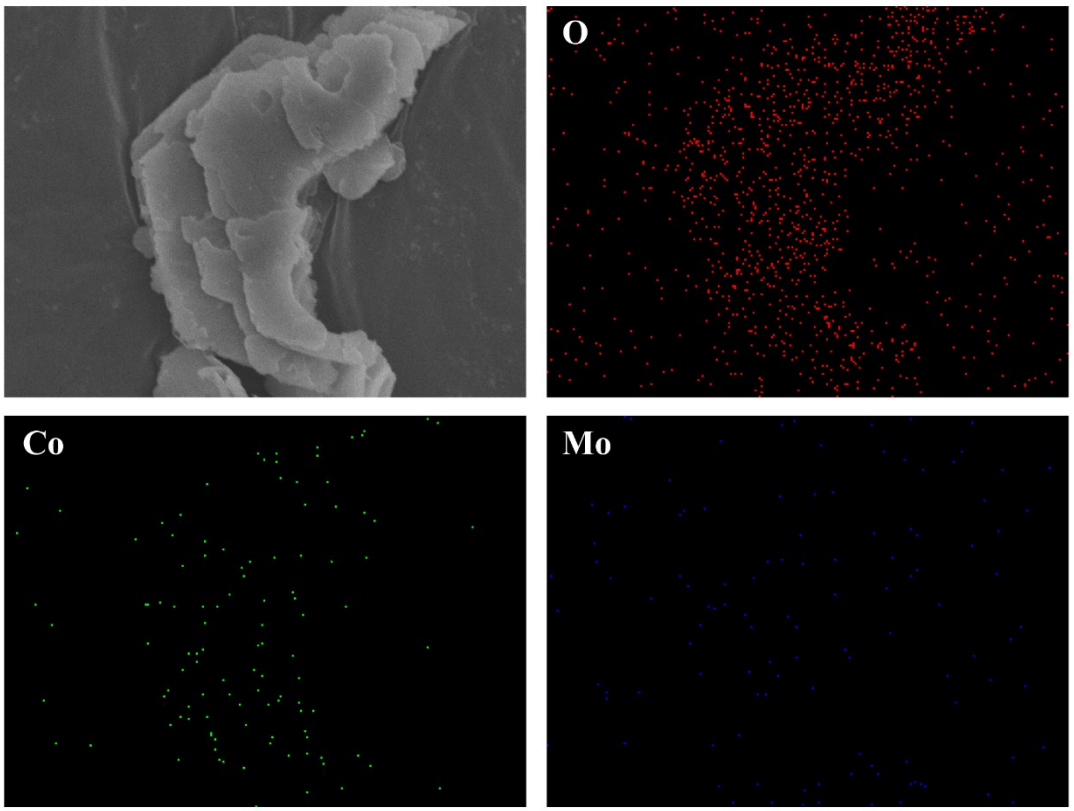

Fig. S9 Morphology and mapping images of $aMoO_x/Co(OH)_2NSs$ (Co/Mo 8).

Table S1. EDS analysis results of as-prepared $aMoS_x/Co(OH)_2$ NSs with different Co/Mo mole ratio.

Samples	Co Atom%	Mo Atom%	Co/Mo mole ratio
Co/Mo 2	18.80	8.67	2.17
Co/Mo 4	21.12	6.03	3.50
Co/Mo 8	22.64	2.73	8.29
Co/Mo 16	23.72	1.78	13.33
Co/Mo 24	25.39	0.97	26.18