

Electronic Supplementary Information

An electrochemical anodization strategy towards high-activity porous MoS₂ electrodes for hydrogen evolution reaction

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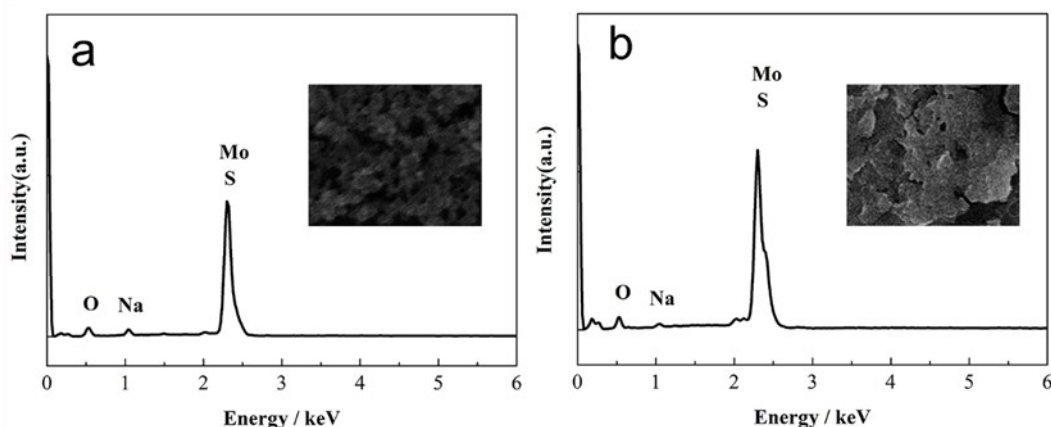


Figure S1. The EDX spectra of (a) nanosized particles and (b) microsized blocks. Our results confirmed the existence of Mo and S elements in particles and blocks by the overlapped characteristic peaks of Mo and S at ~2.3 keV.

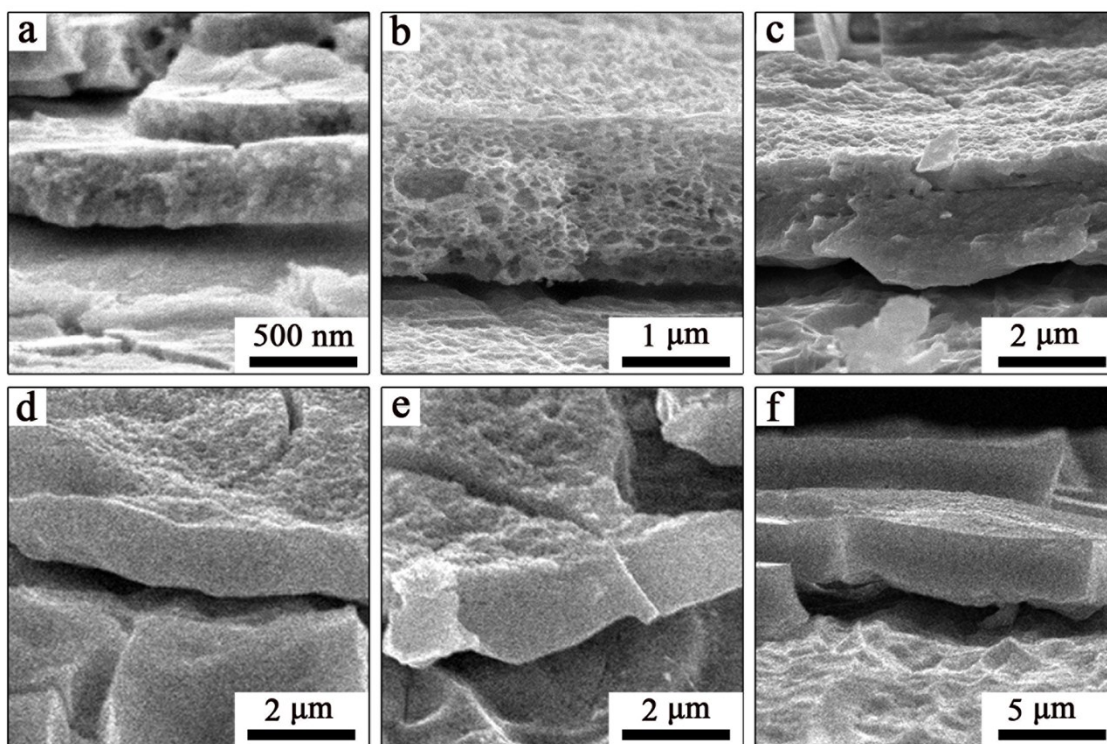


Figure S2. Representative cross-sectional SEM images of MoS₂ electrodes prepared by anodization at (a) 1.5, (b) 2.5 and (c) 3.0 V for 10 min, and at 2.5 V for 5 (d), 15 (e) and 20 min (f) respectively.

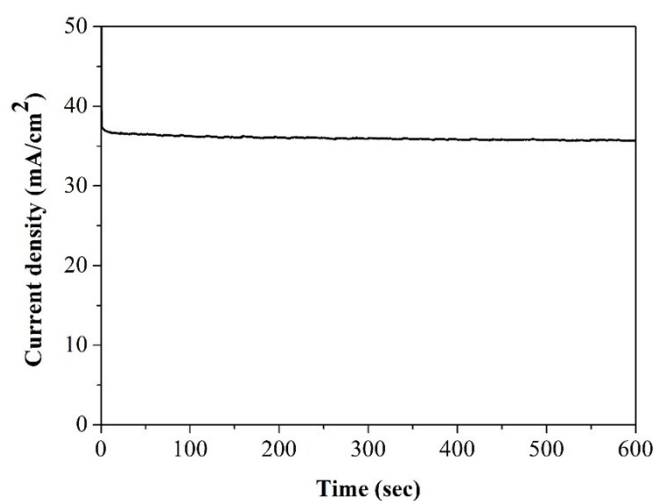


Figure S3. The stability of MoS₂ electrode prepared by anodization at 2.5 V for 15 min. The potential for HER was -0.3 V (vs. RHE). The current density (~35 mA/cm²) remains almost a constant in 600 s.

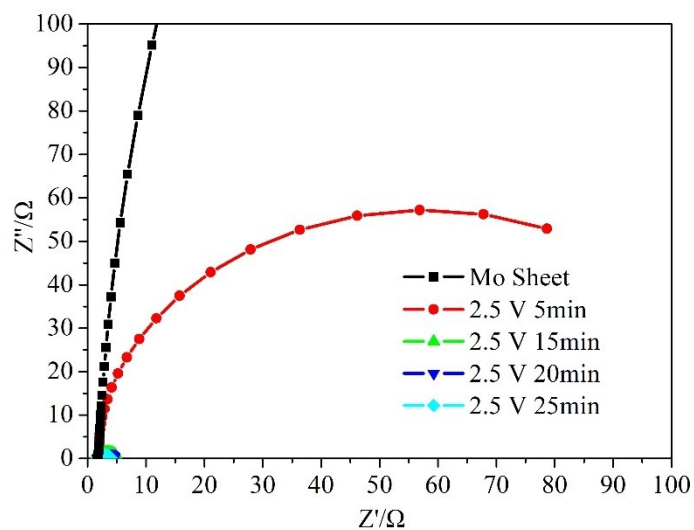


Figure S4. EIS spectra of original Mo sheet and MoS₂ electrodes at a potential of -0.2 V (vs. RHE) in 0.5 M H₂SO₄ electrolyte. MoS₂ electrodes were prepared by anodizing Mo sheet in Na₂S solution at 2.5 V for 5, 15, 20 and 25 min. The charge transfer resistance of MoS₂ electrode in HER was reduced obviously by the anodization reaction.