

Supplementary Information:

Nanostructured Molybdenum Oxides from Aluminium-Based Intermetallic Compound: Synthesis and Application in Hydrogen Evolution Reaction

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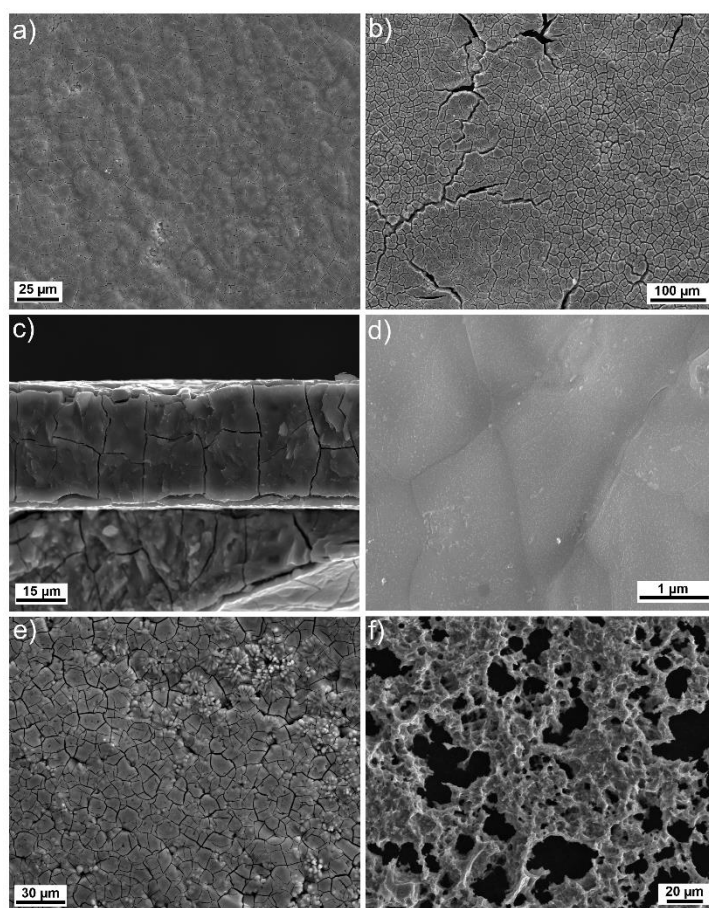


Figure S1. SEM images of sample obtained by **a)** free corrosion in 1 M KOH for 6 h at 70 °C; **b)** electrochemical corrosion at 0.8 V in 1 M KOH for 2 h at room temperature; **c)** electrochemical corrosion at -0.4 V in 1 M HF for 1 h at 70 °C; **d)** electrochemical corrosion at 0.15 V in 1 M H₂SO₄ for 1 h at 70 °C; **e)** free corrosion in 1 M Na₂S for 6 h at 70 °C; and **f)** free corrosion in piranha solution (3:1) for 18 h at room temperature.

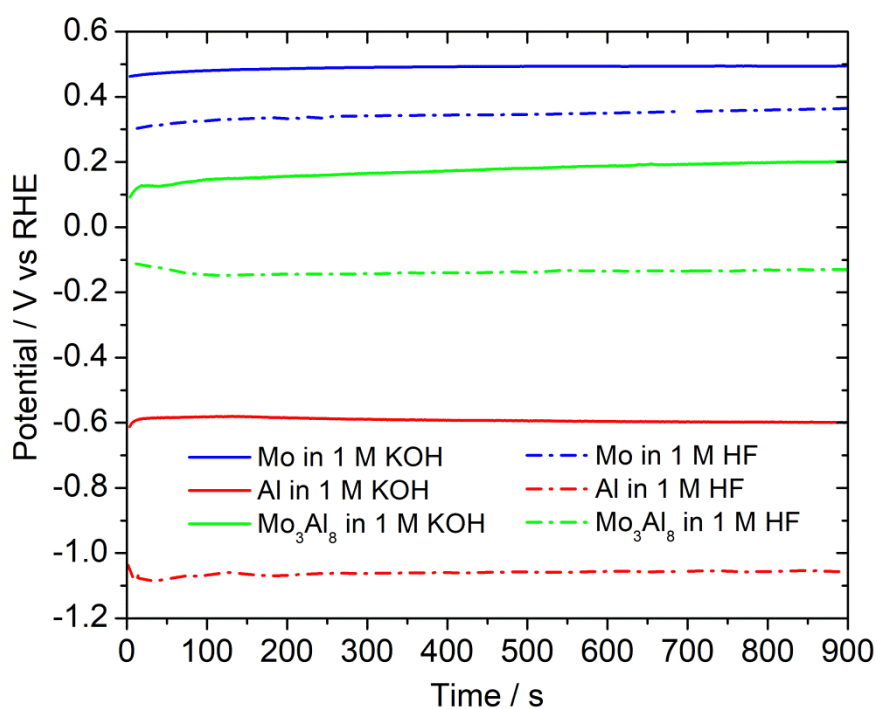


Figure S2. Evolution of the open-circuit potential (vs RHE) of pure Al and Mo, as references, and the as-quenched Mo₃Al₈ ribbon vs RHE for 15 h

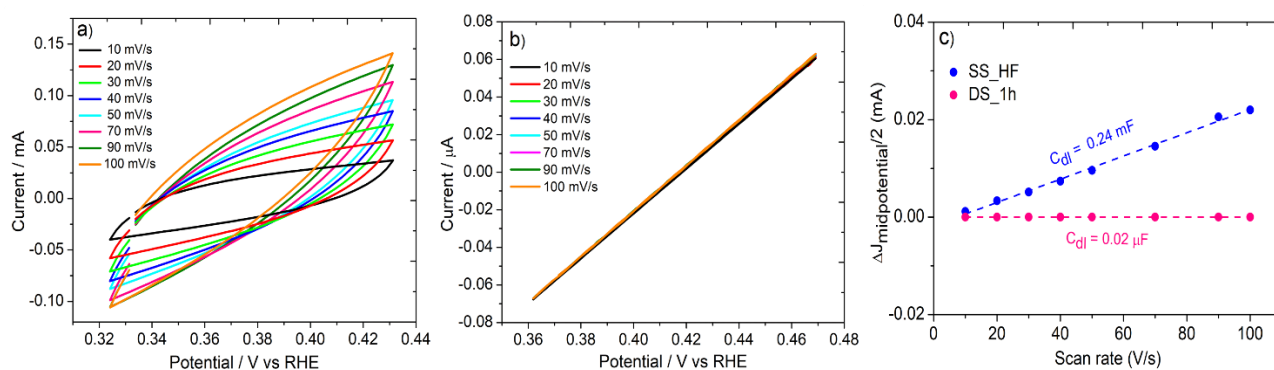


Figure S3. ECSA analysis of SS_HF and DS_1h: CV curves for **a)** SS_HF, **b)** DS_1h and **c)** corresponding dependence of $\Delta J_{\text{midpotential}}/2$ and scan rate for SS_HF and DS_1h

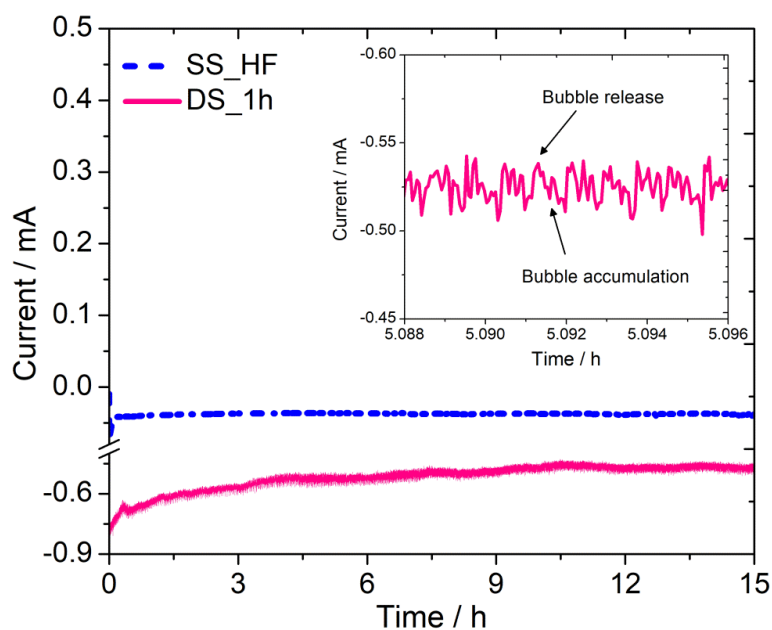


Figure S4. Chronoamperometric measurements for SS_HF and DS_1h in 0.5 M H₂SO₄ at -0.48 V vs RHE

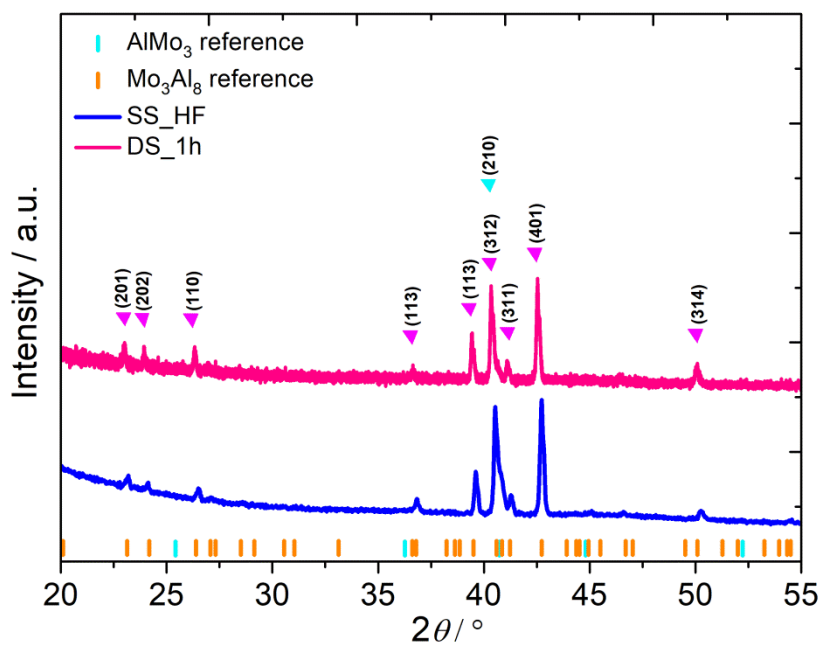


Figure S5. XRD patterns of SS_HF and DS_1h after the chronoamperometric stability test in 0.5 M H₂SO₄ at -0.48 V vs RHE for 15 h

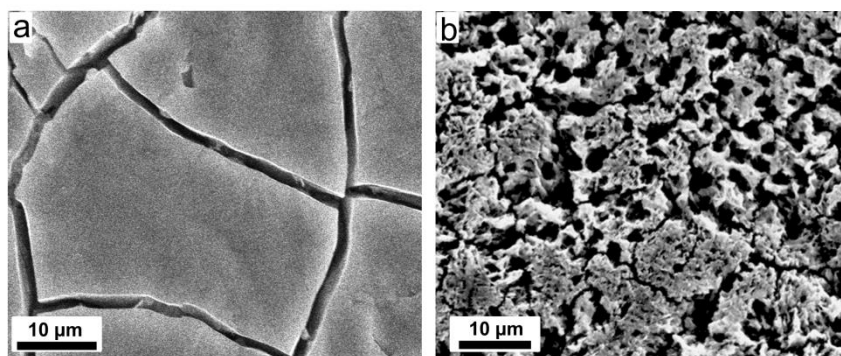


Figure S6. SEM images of SS_HF and DS_1h after the chronoamperometric stability test in 0.5 M H_2SO_4 at -0.48 V vs RHE for 15 h