

MoWS₂ electrocatalyst for hydrogen evolution reaction

오현정, 이상연, 이용걸^{1,†}

단국대학교; ¹단국대

(yolee@dankook.ac.kr[†])

Nano sized Mo_xW_(1-x)S₂ (x=0, 0.5, 0.75, 1) particles were synthesized and were applied for hydrogen evolution reaction (HER). The HER reaction was conducted in 0.5 M H₂SO₄ aqueous solution at room temperature with a rotation speed of 1600 rpm at a scan rate of 5 mV s⁻¹ under $-0.6 V_{RHE} < E < 0.1 V_{RHE}$. The Mo_xW_(1-x)S₂ samples were characterized by XRD and EXAFS. Overall, the HER over potential (η) measured for the Mo_xW_(1-x)S₂ (x=0, 0.5, 0.75, 1) to produce current densities of 20mA/cm² were $\eta = 170\text{mV}$, $\eta = 115\text{mV}$, $\eta = 114\text{mV}$, $\eta = 134\text{mV}$, respectively.