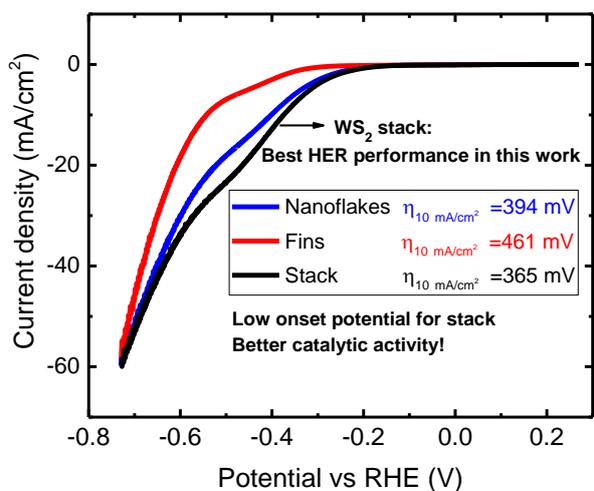


Fig.1. (a, b) Scheme for the WS<sub>2</sub> nanoflakes and WS<sub>2</sub> fin growth. (c, d) Cross-section transmission electron microscopy (TEM) images of WS<sub>2</sub> nanoflakes and fins. (e, f, g) Top-view TEM images of WS<sub>2</sub> nanoflakes, fins and stack (nanoflakes on top of fins), respectively.



WS <sub>2</sub> nanostructure	S: W	Density (g/cm <sup>3</sup> )
Nanoflakes	2.2±0.1	5.3±0.1
Fins	1.9	5.0

Table 1

Fig.2. Hydrogen evolution reaction (HER) performance of WS<sub>2</sub> nanostructures – nanoflakes, fins, and stack (nanoflakes on fins), shown in a typical linear sweep voltammetry (LSV) plot. Table 1. Sulfur to tungsten ratio and mass density of WS<sub>2</sub> nanoflakes and fins, as deduced from Rutherford backscattering spectroscopy (RBS) measurements.