## Enhanced Hydrogen Evolution Reaction Activity of Hydrogen-

## Annealed Vertical MoS<sub>2</sub> Nanosheets

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Supplementary Figures



Figure S1. Calculation of onset overpotential using the Tafel plot of the  $MoS_2$  sample in the region of low current densities.



**Figure S2.** XPS data of Mo 3d region for the re-sulfurized  $MoS_2$  nanosheets for the annealing time of (a) 5, (b) 10, (c) 15, (d) 20, (e) 25, (f) 30 and (g) 35 min, respectively.



Figure S3. Cathodic polarization curves of three  $H_2$ -annealed  $MoS_2$  samples. Annealing time: 20 min.