

## Supporting information

### Effects of $^{60}\text{Co}$ $\gamma$ -ray irradiation of thin-layers molybdenum disulfide for hydrogen evolution reaction

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### Supplementary Figures

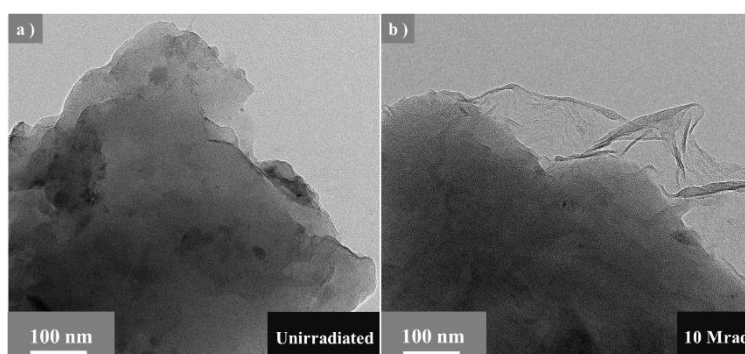


Figure S1 TEM images of MoS<sub>2</sub> NSs before and after  $\gamma$ -ray irradiation at a dose of 10 Mrad. (a) Pristine MoS<sub>2</sub> NSs; (b) MoS<sub>2</sub> NSs after 10 Mrad irradiation.

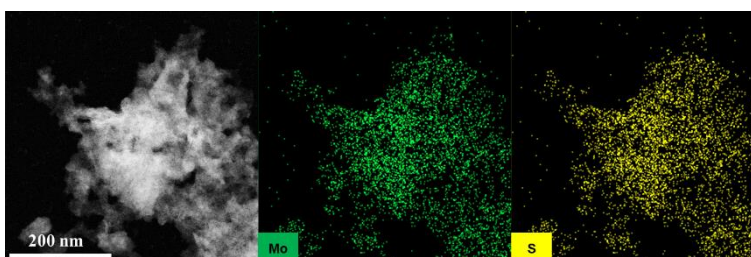


Figure S2 The EDX element mapping of pristine MoS<sub>2</sub> NSs.

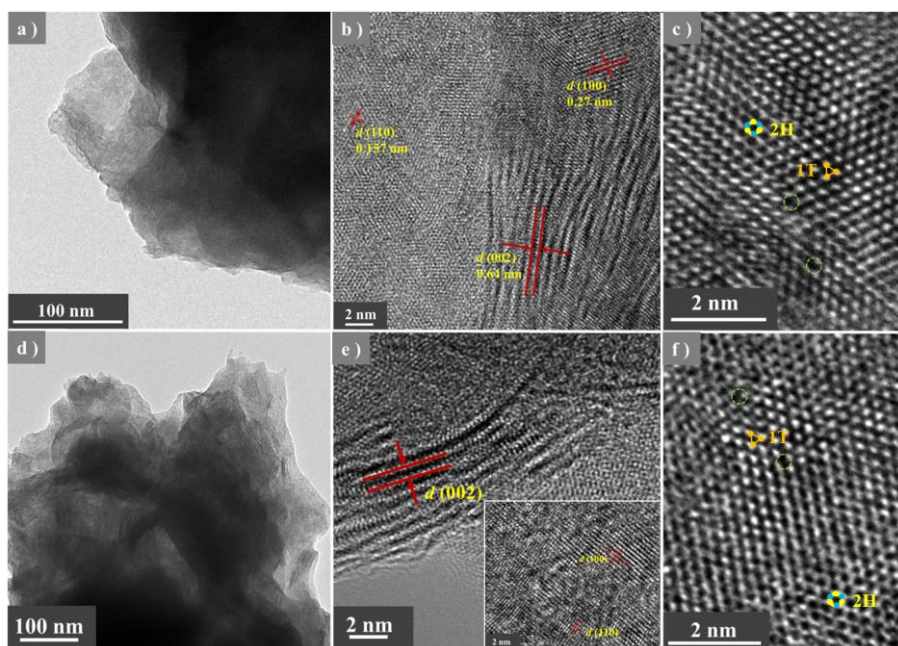


Figure S3 TEM images of irradiated MoS<sub>2</sub> NSs before and after stability test. (a) TEM image of irradiated MoS<sub>2</sub> NSs before stability test; (b) The typical lamellar structure within irradiated MoS<sub>2</sub> NSs before stability test; (c) HRTEM image of irradiated MoS<sub>2</sub> NSs before stability test; (d) TEM image of irradiated MoS<sub>2</sub> NSs after stability test; (e) The typical lamellar structure within irradiated MoS<sub>2</sub> NSs after stability test; (f) HRTEM image of irradiated MoS<sub>2</sub> NSs after stability test.

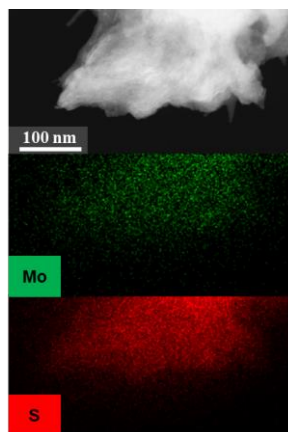


Figure S4 The EDX element mapping of irradiated MoS<sub>2</sub> NSs after stability test.