

## Supporting Information

### Enhanced oxygen evolution reaction via the tunability of spin polarization and electronic states in a flexible van der Waals membranous catalyst

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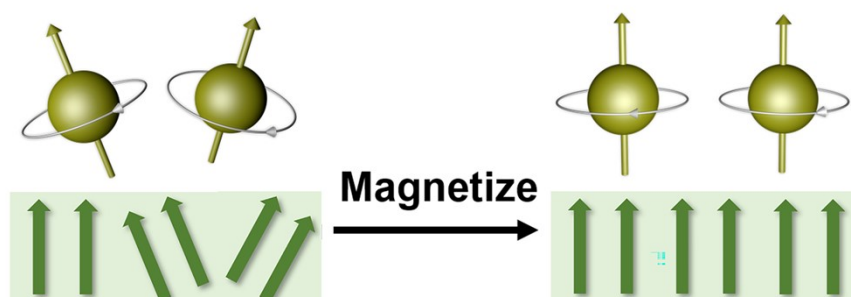
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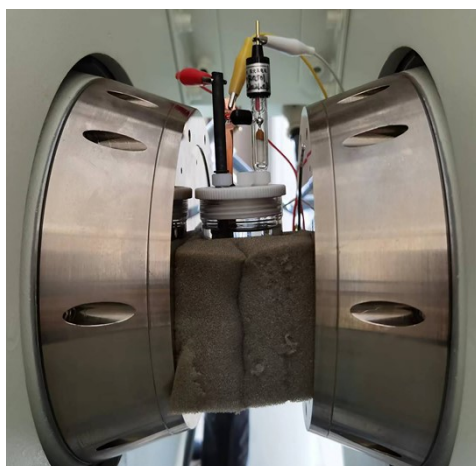
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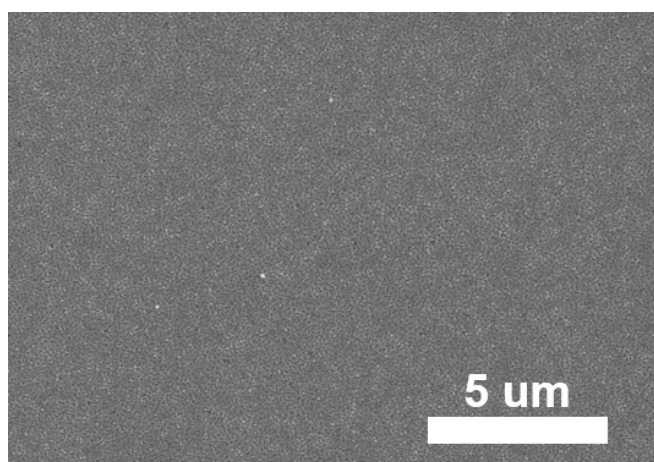
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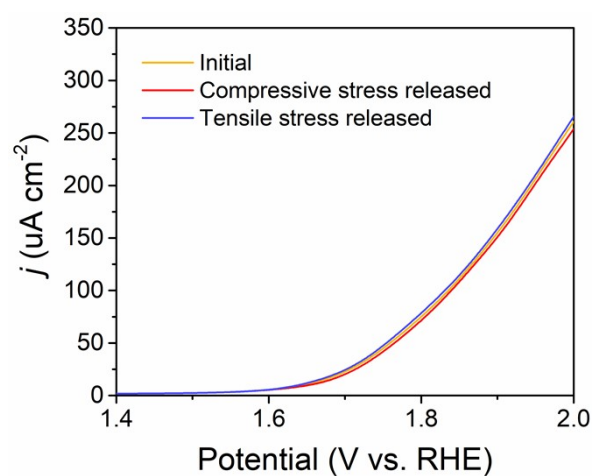
**Fig. S1** Schematic illustration of the spin-related OER mechanism of a TMO catalyst in alkaline conditions.



**Fig. S2** Electrochemical characterization under external magnetic field on OER performance of LSMO.



**Fig. S3** SEM image of LSMO thin film.



**Fig. S4** OER activity of LSMO thin film after stresses are released.