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Interfacial engineering to construct IrO_x/WO_3 hetero-structured catalyst for efficient acidic OER catalysis

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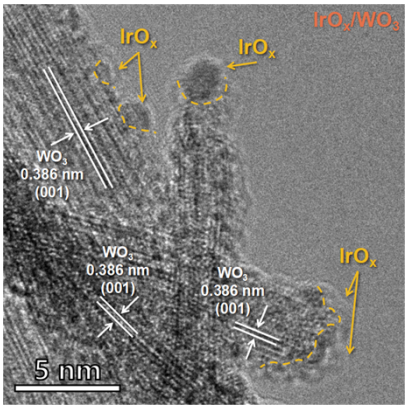

Figure S1. The The lattice spacing of $IrO_x/WO_3 \cdot xH_2O$.

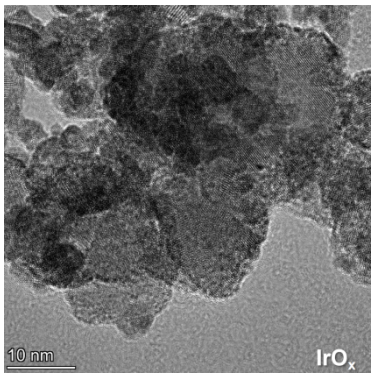

Figure S2. The HAADF-STEM image of IrO_x.

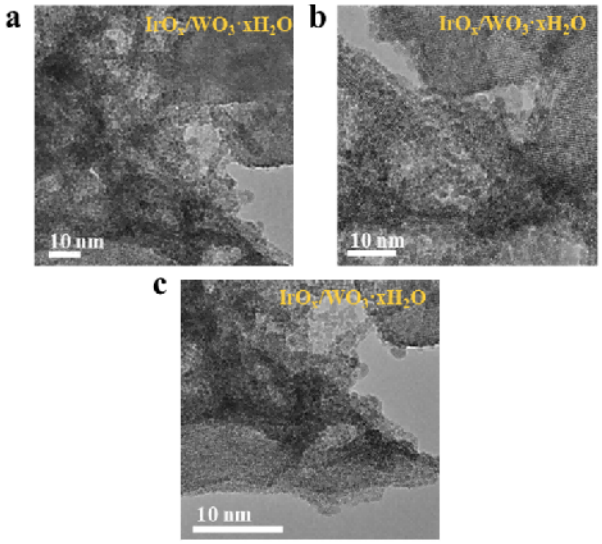

Figure S3. The HR-TEM pictures of $IrO_x/WO_3 \cdot xH_2O$.

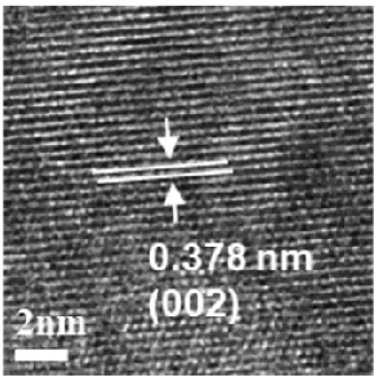

Figure S4. The (002) lattice spacing of $IrO_x/WO_3 \cdot xH_2O$.

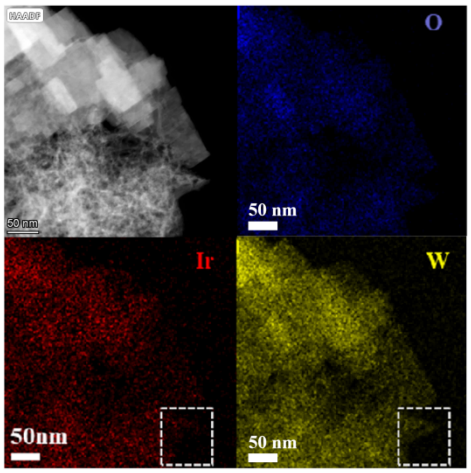

Figure S5. The elements mapping images of $IrO_x/WO_3 \cdot xH_2O$.

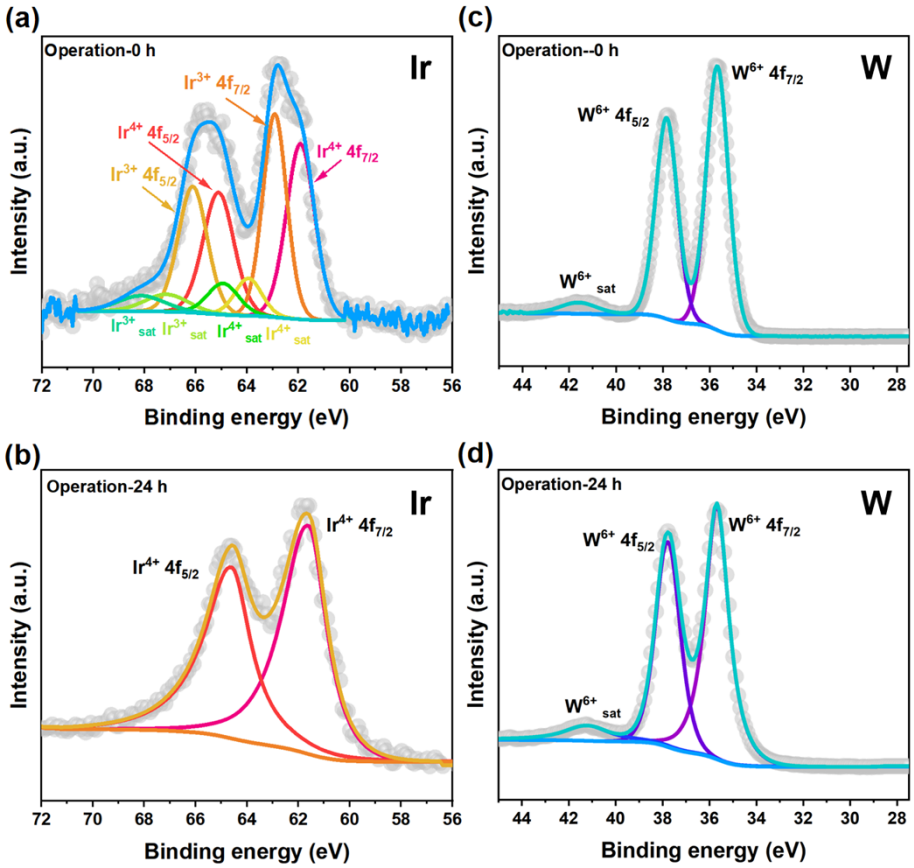

Figure S6. a-d) The XPS analyses of Ir and W for the surface structure during the OER chronopotentiometric test.

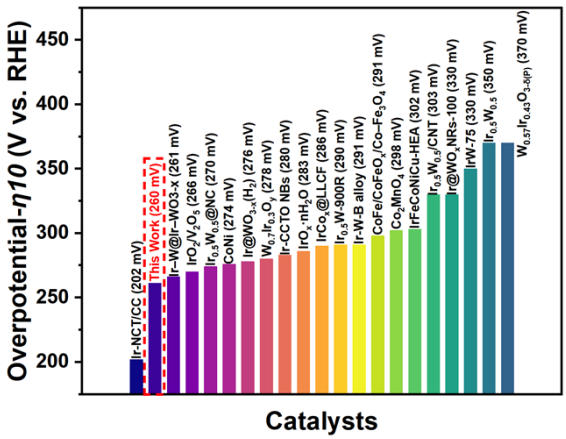

Figure S7. The comparison of overpotentials at 10 mA cm^{-2} for IrO_x/WO_3 with latest reported OER catalysts.[1-20]

Table S1 The element content composition of the IrO_x/WO_3 catalyst.

element	mass fraction (wt%)	atom fraction (at%)
Ir	18.1	8.9
W	72.8	37.7

Table S2 The corresponding parameter of the fitting equivalent circuit.

Samples	$R_s(\Omega)$	$R_{ct}(\Omega)$
IrO_x/WO_3	1.30	5.35
IrO_2	1.32	36.1
$IrO_x/WO_3 \cdot xH_2O$	1.31	70.6
WO_3	1.30	132.1
$WO_3 \cdot xH_2O$	1.42	117.9

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