

Supporting Information

Single-Walled Carbon Nanotubes Wrapped CoFe₂O₄ Nanorods with Enriched Oxygen Vacancies for Efficient Overall Water Splitting

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Table S1. Content of different elements in CoFe_2O_4 carbon nanorods

Element	Co	Fe	O
Content	14.471%	28.304%	57.225%

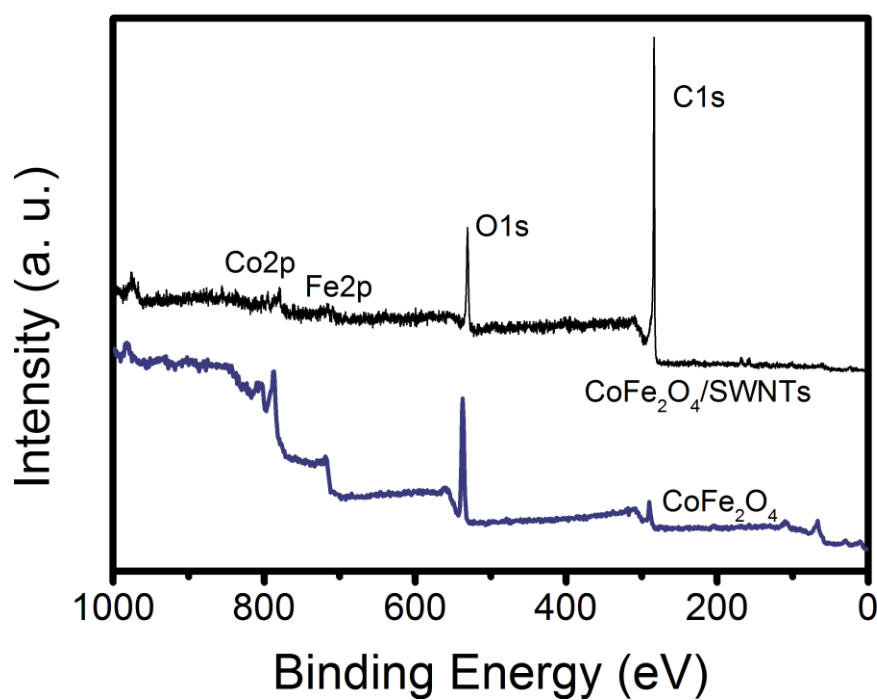


Figure S1. XPS survey spectra of the CoFe_2O_4 and $\text{CoFe}_2\text{O}_4/\text{SWNTs}$.

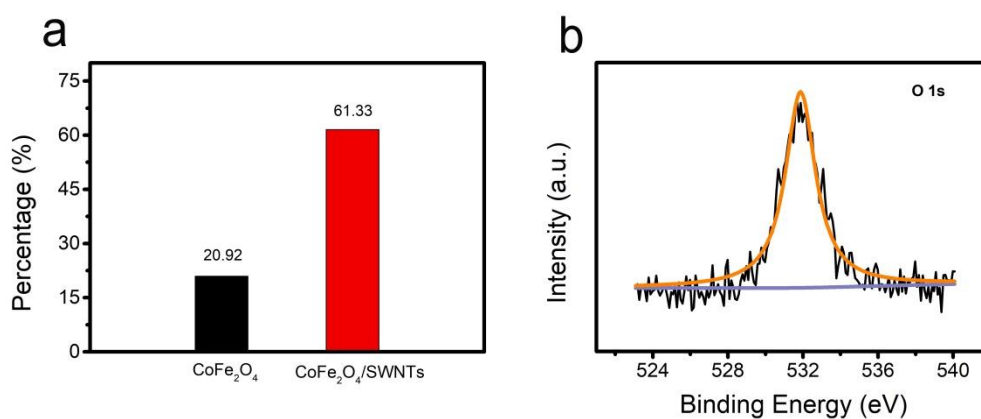


Figure S2. (a) The percentage of O2 in O 1s XPS spectrum of CoFe_2O_4 (black) and $\text{SWNTs}/\text{CoFe}_2\text{O}_4$ (red). (b) the O 1s spectrum of the SWNTs.

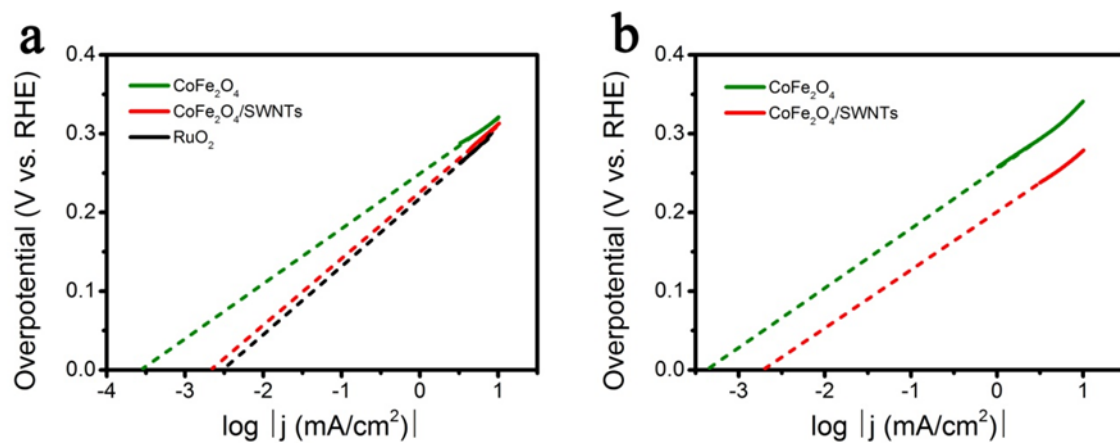


Figure S3. Exchange current densities for OER (a) and HER (b) calculated from Tafel plots by extrapolation method.

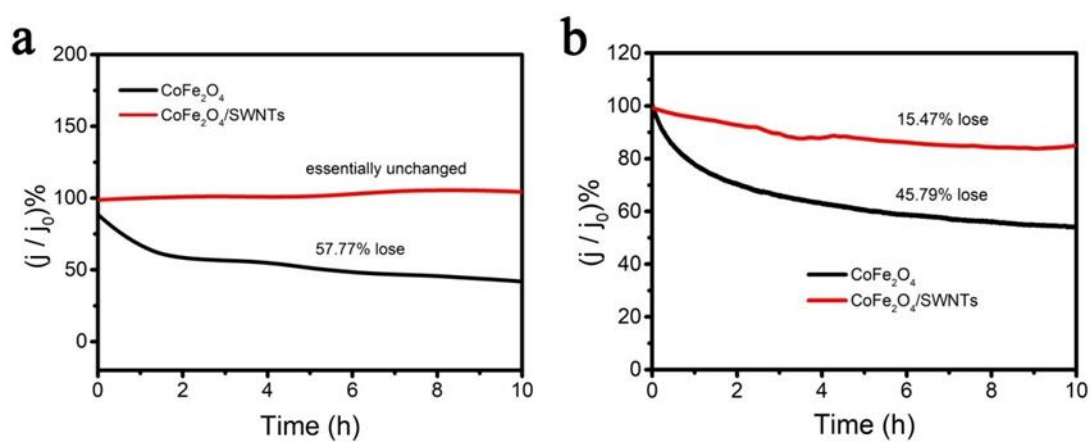


Figure S4. I-t curves of the $\text{CoFe}_2\text{O}_4/\text{SWNTs}$ and CoFe_2O_4 catalysts for OER (a) and HER (b) in 1.0 M KOH.

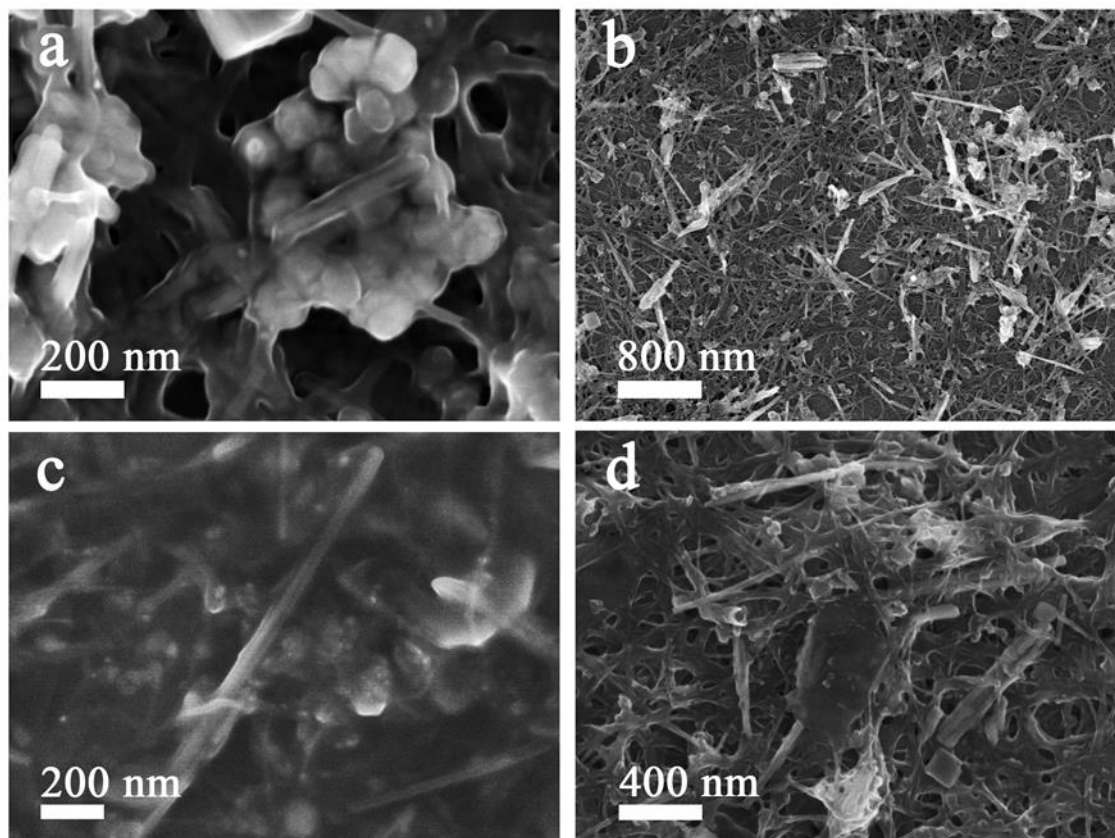


Figure S5. (a, b) SEM images of the CoFe_2O_4 nanorods and $\text{CoFe}_2\text{O}_4/\text{SWNTs}$ composites after stability tests for OER. (c, d) The SEM images of the CoFe_2O_4 nanorods and $\text{CoFe}_2\text{O}_4/\text{SWNTs}$ composites after stability tests for HER in 1.0 M KOH.

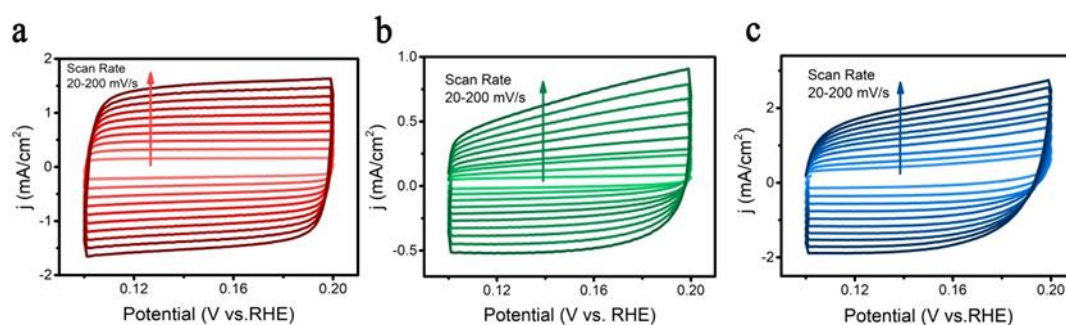


Figure S6. CV curves at various scan rates of a) $\text{CoFe}_2\text{O}_4/\text{SWNTs}$ and b) CoFe_2O_4 , c) SWNTs, in the range of 0.1-0.2 V vs. RHE

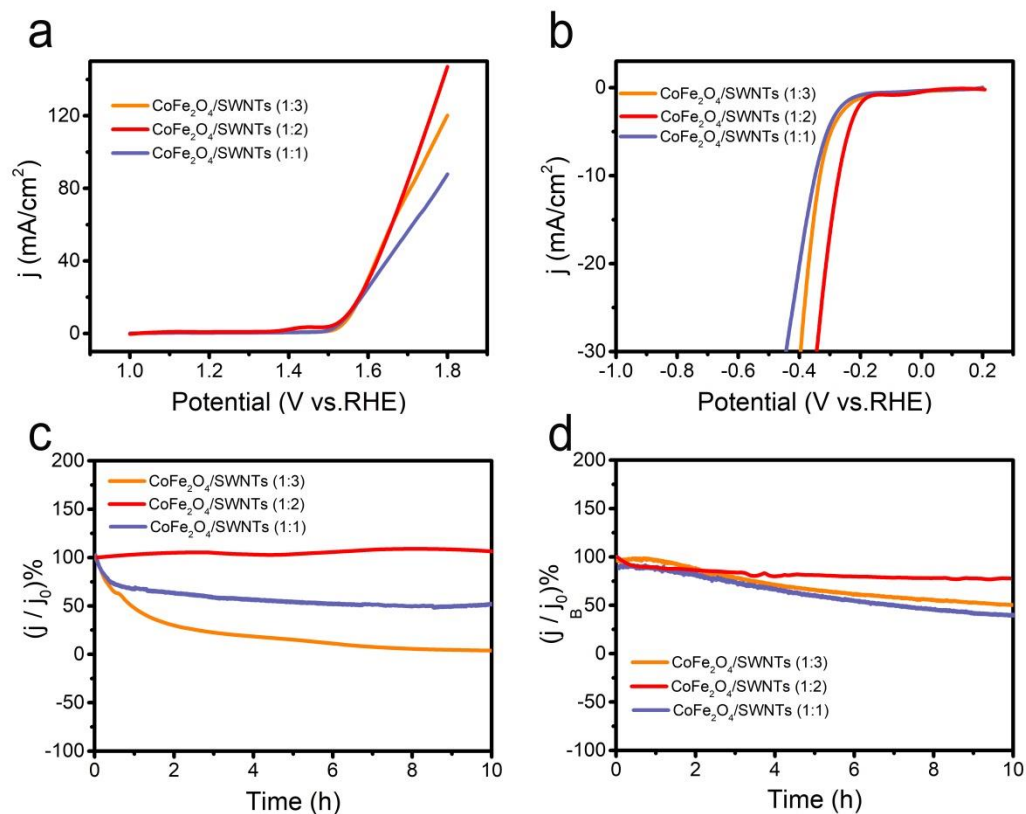


Figure S7. The polarization curves of (a) OER and (b) HER of different proportions of SWNTs/CoFe₂O₄ in 1.0 M KOH, and the loadings of different catalysts for electrochemical tests are all 20uL with concentration of 2mg/mL. I-t curves of the different proportions of CoFe₂O₄/SWNTs catalysts for (c) OER and (d) HER in 1.0 M KOH.