

A three-dimensional flower-like NiCo-layered double hydroxide grow on nickel foam with MXene coating for enhancing oxygen evolution reaction electrocatalysis

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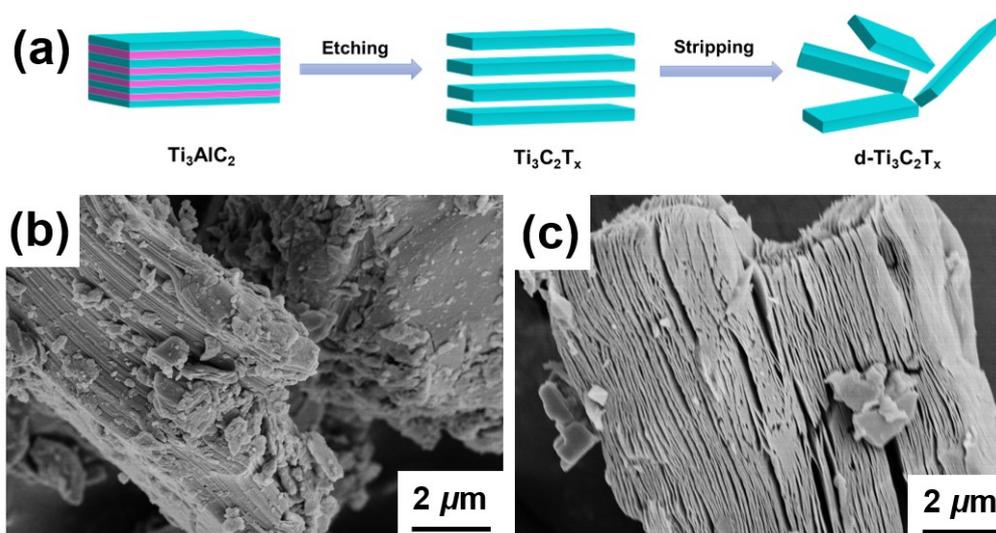


Fig. S1 (a) The etching and exfoliation process Ti_3AlC_2 , (b, c) SEM images of Ti_3AlC_2 and $\text{Ti}_3\text{C}_2\text{T}_x$.

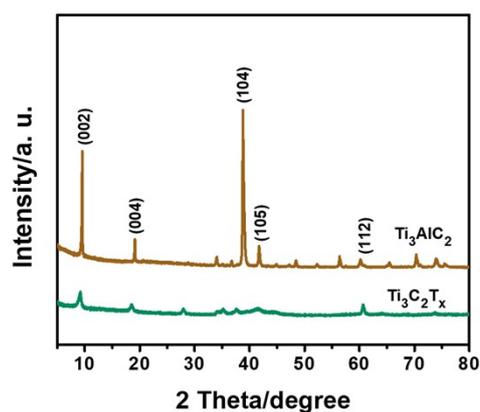


Fig. S2 XRD patterns of Ti_3AlC_2 and $\text{Ti}_3\text{C}_2\text{T}_x$.

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Electronic Supplementary Information (ESI) available: [details of any supplementary information available should be included here]. See DOI: 10.1039/x0xx00000x

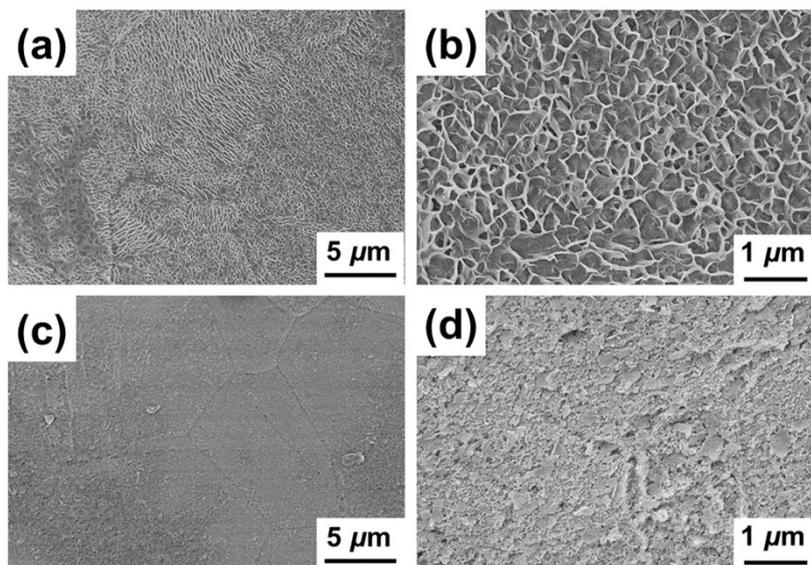


Fig. S3 SEM images of (a, b) bare NF and (c, d) $\text{Ti}_3\text{C}_2\text{T}_x/\text{NF}$.

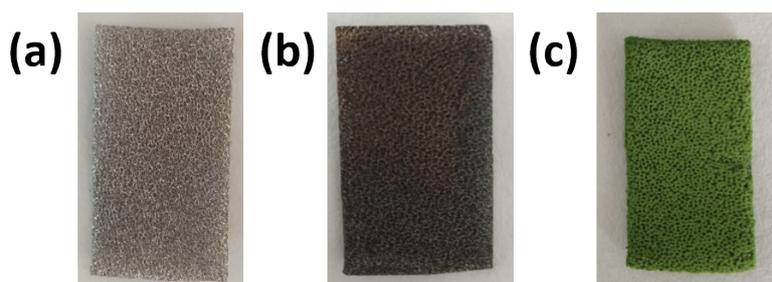


Fig. S4 Photographs of (a) bare NF, (b) $\text{Ti}_3\text{C}_2\text{T}_x/\text{NF}$, and (c) NiCo-LDH/ $\text{Ti}_3\text{C}_2\text{T}_x/\text{NF}$, respectively.

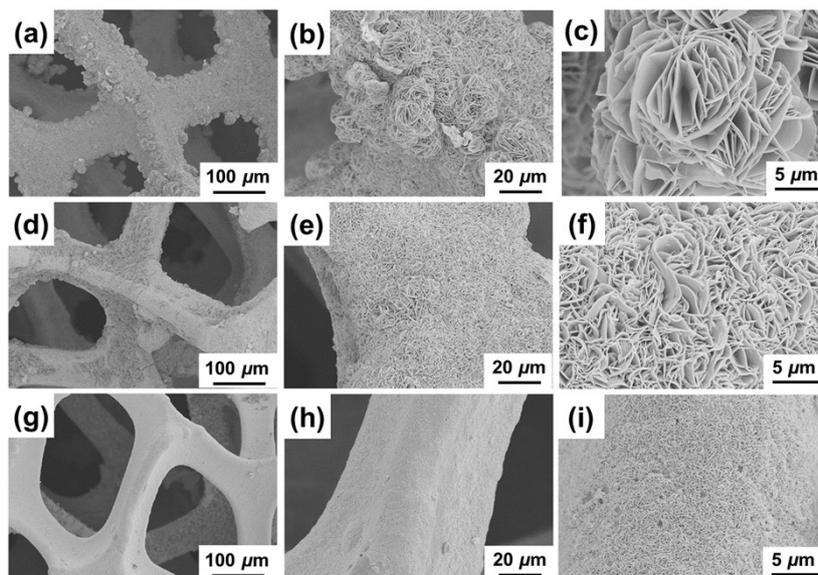


Fig. S5 SEM images of NiCo-LDH/ $\text{Ti}_3\text{C}_2\text{T}_x/\text{NF}$ with different molar amount of Ni and Co nitrate precursors: (a-c) 4.0 mmol, (d-f) 2.4 mmol, (g-i) 0.8 mmol, respectively.

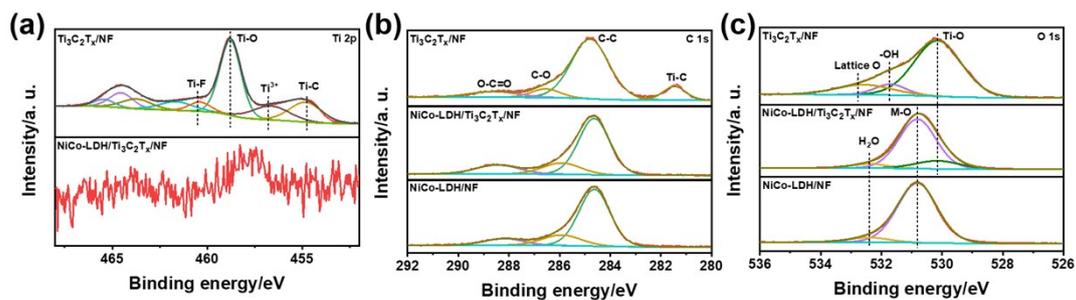


Fig. S6 (a) Ti 2p XPS spectra of $\text{Ti}_3\text{C}_2\text{T}_x/\text{NF}$ and $\text{NiCo-LDH}/\text{Ti}_3\text{C}_2\text{T}_x/\text{NF}$, (b, c) C 1s, and O 1s XPS spectra of $\text{Ti}_3\text{C}_2\text{T}_x/\text{NF}$, $\text{NiCo-LDH}/\text{Ti}_3\text{C}_2\text{T}_x/\text{NF}$ and NiCo-LDH , respectively.

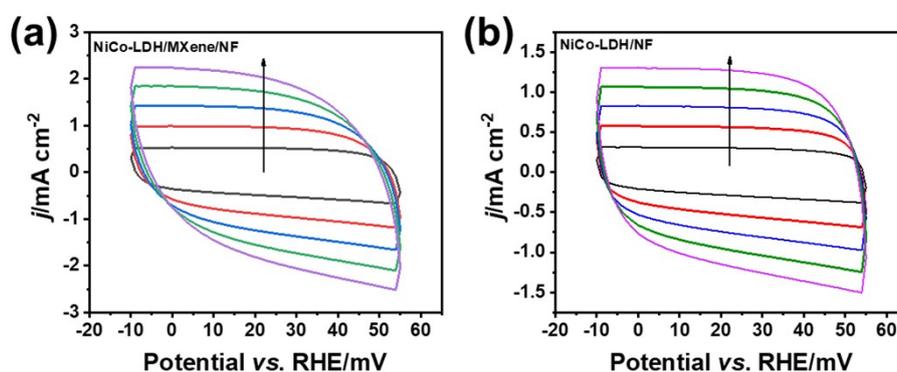


Fig. S7. (a, b) Cyclic voltammograms in the double layer region of the $\text{NiCo-LDH}/\text{Ti}_3\text{C}_2\text{T}_x/\text{NF}$ and $\text{Ti}_3\text{C}_2\text{T}_x/\text{NF}$ at different scan rates (2, 4, 6, 8, and 10 mV s^{-1} , respectively).

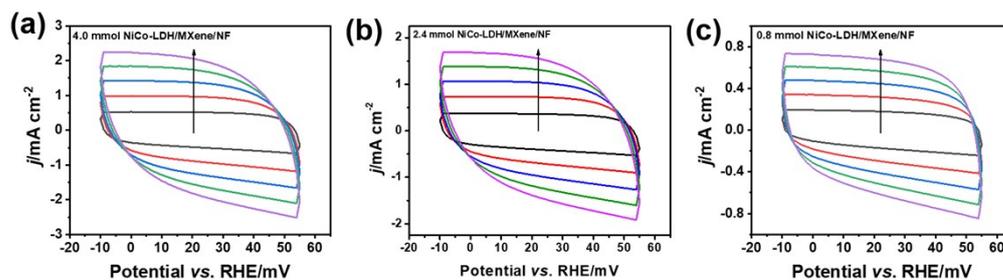


Fig. S8 (a, b, c) Cyclic voltammograms in the double layer region of the $\text{NiCo-LDH}/\text{Ti}_3\text{C}_2\text{T}_x/\text{NF}$ with different molar amount of Ni and Co nitrate precursors at different scan rates (2, 4, 6, 8, and 10 mV s^{-1} , respectively).