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HIGH-ENTROPY NiFeCoCuW LAYERED DOUBLE HYDROXIDE PROMISES ADVANCED OXYGEN EVOLUTION IN ALKALINE WATER AND ALKALINE SEAWATER

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Supplementary Material

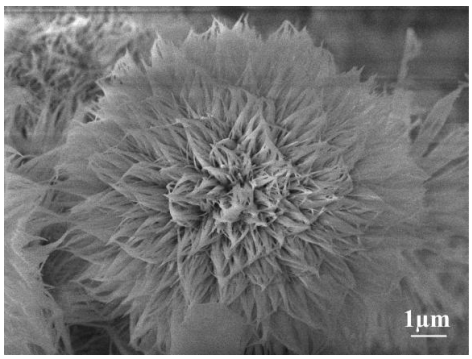

Figure 1S. *SEM of NiFeCoCu-LDH*

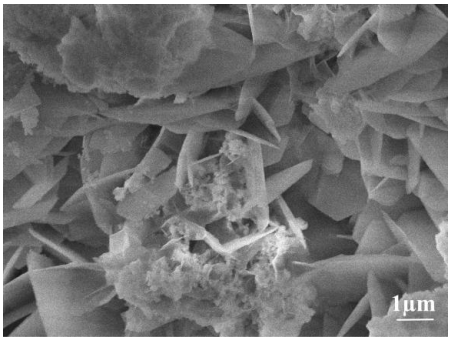

Figure 2S. *SEM of NiFeCoW-LDH*

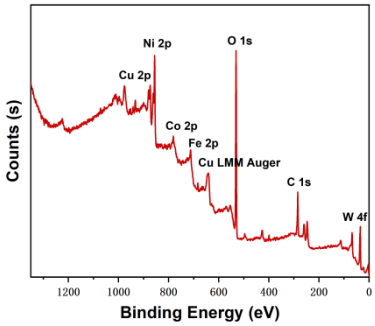

Figure 3S. *Survey XPS spectrum of NiFeCoCuW-LDH*

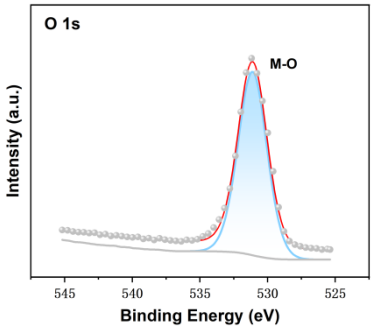

Figure 4S. *O 1s spectrum of NiFeCoCuW-LDH*

Table 1S. Comparison of the electrochemical water splitting performances between the developed NiFeCoCuW-LDH and recently reported LDH-based electrocatalysts in alkaline media

Sample	Electrolyte	OER η_{10} / mV	Stability / %	Reference
NiFeCoCuW-LDH	alkaline water	118	97.41	this work
NiFeCoCuW-LDH	alkaline seawater	122	99.63	this work
FeAlNiCoMn-HE-LDH/CNT	alkaline water	243	98.00	1
$(FeCoNi)_3(FeCr)$-LDH	alkaline water	230	94.30	2
P-NiFeCoMnCu-LDH/NF	alkaline water	198	N/A	3
FeCoNi-LDH	alkaline water	228	N/A	4
MoCoNiCuZn-LDH	alkaline water	186	N/A	5
MnFeCoNiCu-LDH	alkaline water	234	91.00	6
Au@MnFeCoNiCu-LDH	alkaline water	202	94.30	7
MnO_2-NiFe-LDH/CC	alkaline seawater	284	N/A	8
MgAlCe-LDH/beta-$Ni(OH)_2$	alkaline seawater	80	N/A	9

η_{10}: overpotential at a current density of 10 mA cm^{-2}; OER: oxygen evolution reaction; N/A: not applicable; LDH: layered double hydroxides; CNT: carbon nanotube; CC: carbon fiber cloth.

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