Carbon Nanotubes Interconnected NiCo Layered Double Hydroxide Rhombic Dodecahedral Nanocages for Efficient Oxygen Evolution Reaction

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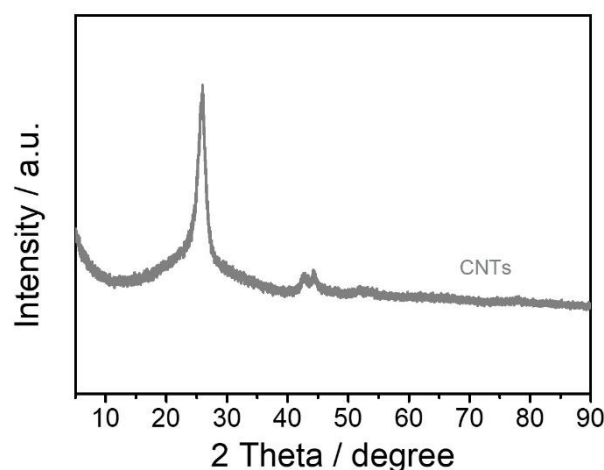† These authors contributed equally to this work.
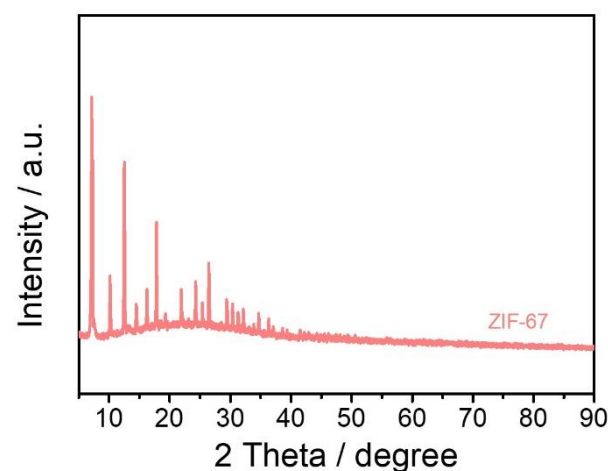
Figure S1. XRD pattern of CNTs.
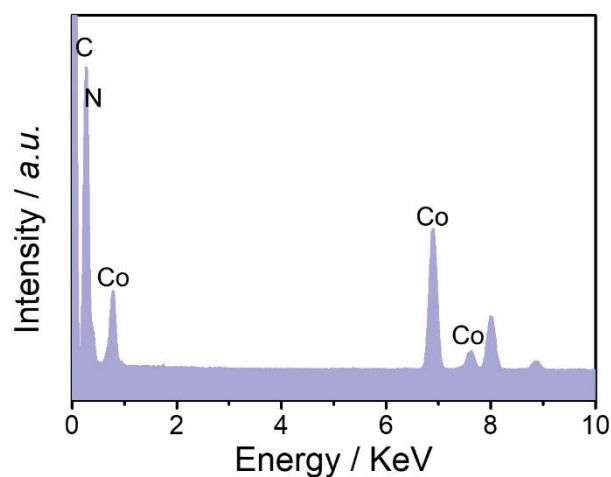

Figure S2. XRD pattern of ZIF-67.

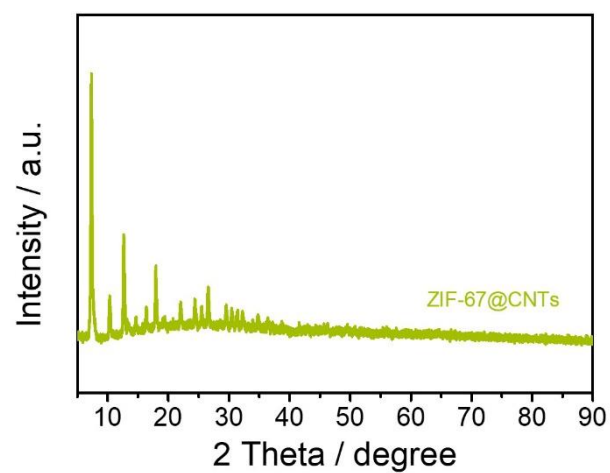**Figure S3.** EDS spectrum of ZIF-67@CNTs.

Figure S4. XRD pattern of ZIF-67@CNTs.

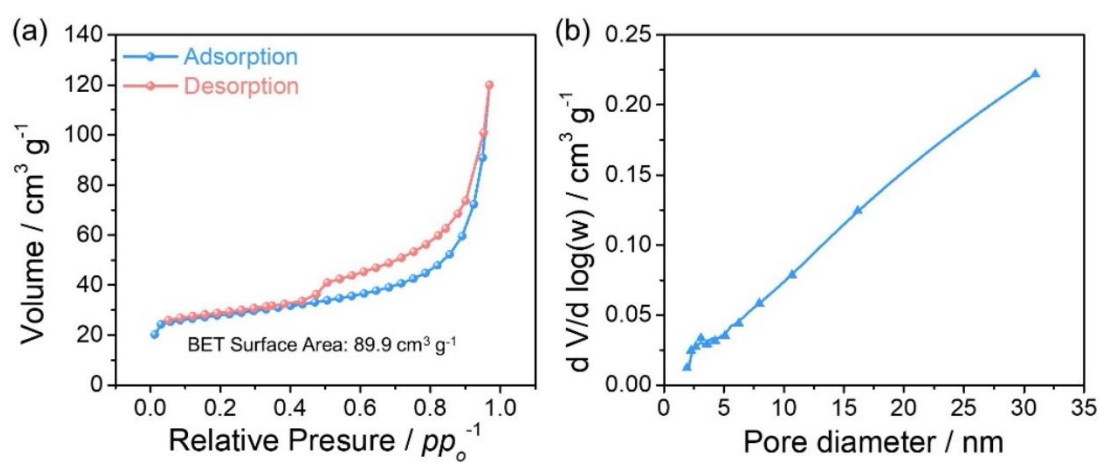**Figure S5.** (**a**) N₂ adsorption–desorption isotherms and (**b**) corresponding pore size distribution curve of NiCo-LDH RDC@CNTs.
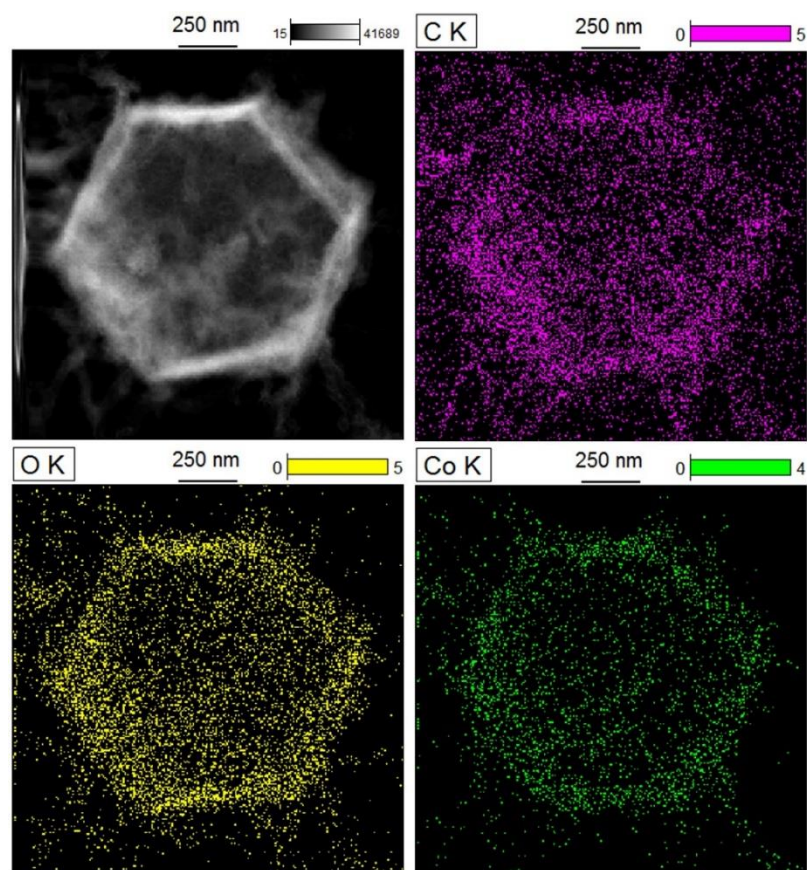
Figure S6. HADDF-STEM image and corresponding EDS elements mapping profiles of NiCo-LDH RDC@CNTs.
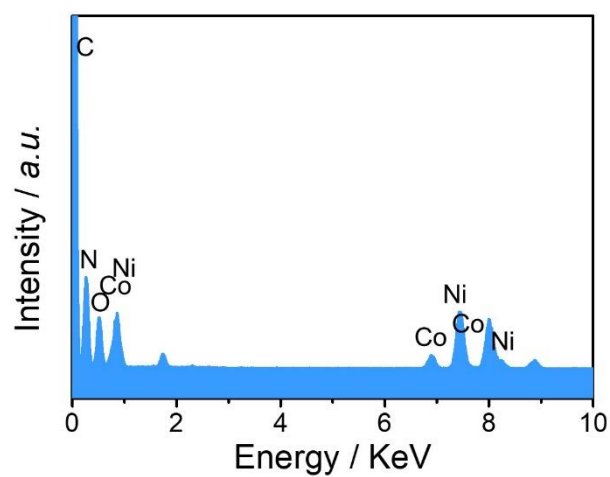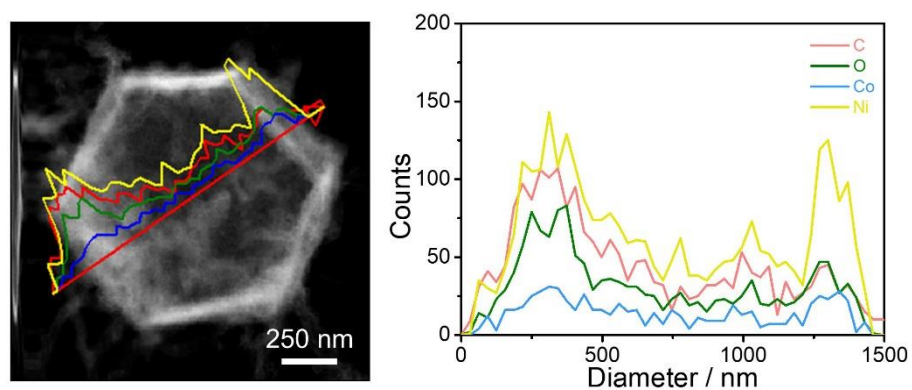

Figure S7. EDS spectrum of NiCo-LDH RDC@CNTs.

Figure S8. HADDF-STEM image and corresponding EDS linescan profiles of NiCo-LDH RDC@CNTs.
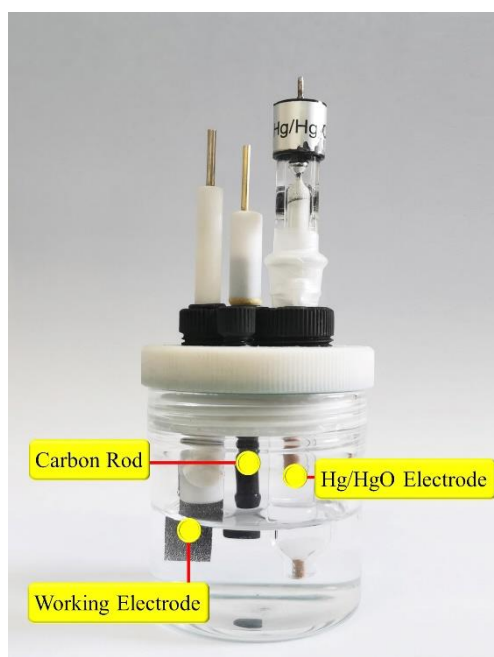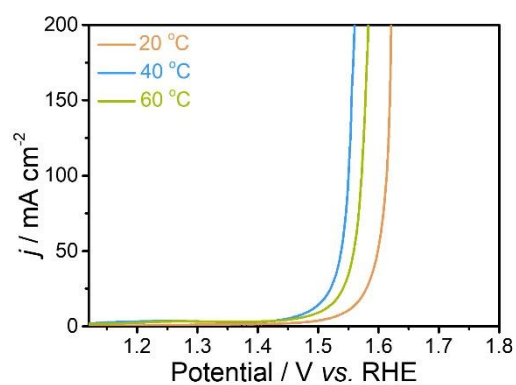

Figure S9. Digital image of OER electrolyzer.

Figure S10. The OER polarization curves of NiCo-LDH RDC@CNTs samples with different reaction temperature (20 °C, 40 °C and 60 °C).
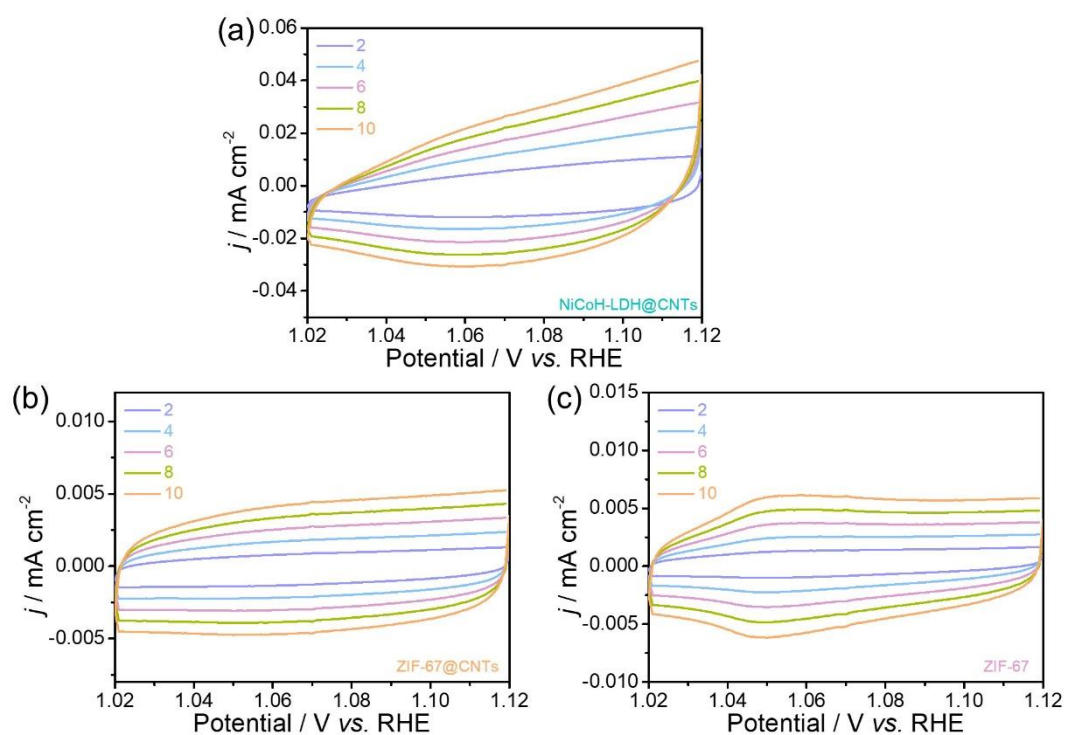
Figure S11. CVs at different sweeping rates from 2 mV s^{-1} to 10 mV s^{-1} of (a) NiCo-LDH RDC@CNTs, (b) ZIF-67@CNTs, (c) ZIF-67.
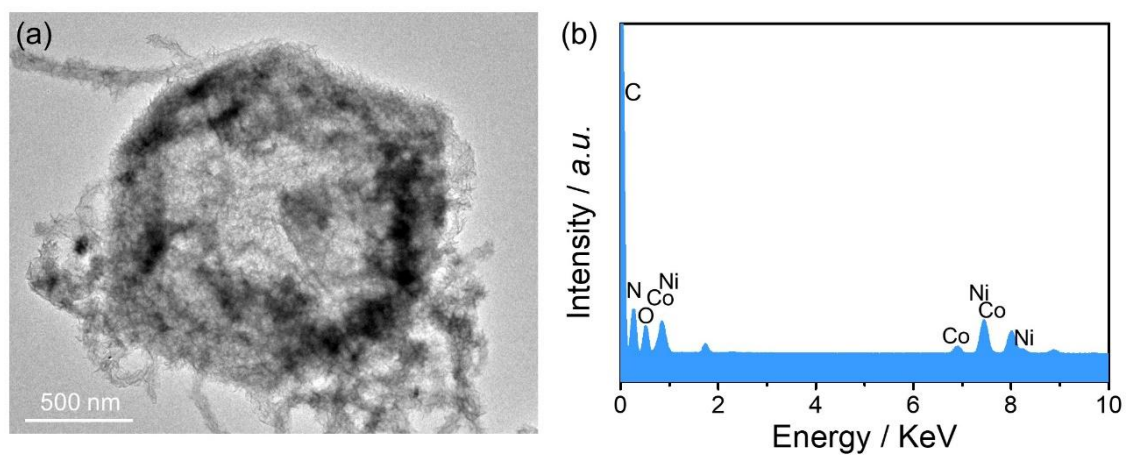

Figure S12. (a) TEM image and (b) EDS profile of recovered NiCo-LDH RDC@CNTs after stability test.

Table S1. Comparison of OER activity of NiCo-LDH RDC@CNTs with other catalysts reported.

Catalysts	η_j / mV at 10 mA cm^{-2}	Tafel slope / mV dec^{-1}	Reference
NiCo-LDH RDC@CNTs	255	78.23	This Work
M-Co$_3$O$_4$/NPC	302	83	Nano-Micro Lett. (2018) 10:15
GNiPy350N	320	136	J. Mater. Chem. A, 2021, 9, 11255‒11267
CuCo$_2$S$_4$	310	86	ACS Catal. 2017, 7, 5871.
graphene@NiCo$_2$S$_4$	264	80.3	J. Mater. Chem. A 2018, 6, 8109
A-CoS$_{4.6}$O$_{0.6}$	290	67	Angew. Chem. Int. Ed. 2017, 56, 4858- 4861
Co$_3$S$_4$	360	90	ACS Nano. 2014, 8, 10909-10919
FeOOH@Ni(OH)$_2$	310	70	Electrochim. Acta 2019, 301, 258-266
CeO$_x$/CoO$_x$	313	66	ACS Catal. 2018, 8, 5, 4257‒4265
NiCoP/C	330	96	Angew. Chem. Int. Ed. 2017, 56, 3897-3900
Co$_9$S$_8$/NSC-900	410	99	NPG Asia Mater. (2018) 10: 670-684
CoZn-NC-700	390	69	Adv. Funct. Mater. 2017, 27, 1700795