Triple Hierarchy and Double Synergies of NiFe/Co$_9$S$_8$/Carbon Cloth: A New and Efficient Electrocatalyst for Oxygen Evolution Reaction

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Fig. S1 XRD pattern of Co(CO)$_{0.35}$·Cl$_{0.20}$·(OH)$_{1.10}$·1.74H$_2$O precursor.

Fig. S2 SEM images of bare CC.

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Fig. S3 XPS spectra of (a) Co 2p; (b) S 2p of Co$_9$S$_8$/CC.

Fig. S4 XPS spectra of (a) Fe 2p; (b) C 1s of NiFe/Co$_9$S$_8$/CC.

Fig. S5 Raman of NiFe/Co$_9$S$_8$/CC, NiFe/CC, and Co$_9$S$_8$/CC.
Fig. S6 CV curves of different electrodes in double layer region at various scan rates ranging from 2 to 14 mV s$^{-1}$: (a) NiFe/CC; (b) Co$_9$S$_8$/CC; (c) NiFe/Co$_9$S$_8$/CC. (d) Stability of NiFe/Co$_9$S$_8$/CC at 10, 30, and 50 mA cm$^{-2}$.

Fig. S7 The polarization curve of NiFe/Co$_9$S$_8$/CC and Mixing Co$_9$S$_8$ and NiFe.
Fig. S8 SEM image of NiFe/Co$_9$S$_8$/CC after long-term stability test.

Fig. S9 XRD pattern of NiFe/Co$_9$S$_8$/CC after long-term stability test.
Fig. S10 XPS spectra of (a) Co 2p; (b) S 2p; (c) Ni 2p; (d) Fe 2p of NiFe/Co$_9$S$_8$/CC after long-term stability test.