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ABSTRACT: Mesoporous Ni-Co oxide (NCO) nanosheet electrodes are fabricated on Ni foam via an electrodeposition technique. Their bifunctional activities for electrochemical energy storage and electro-catalysis for water splitting in strong alkaline media are optimized by varying the ratio of concentrations of the Ni and Co precursors. The ratio-based changes vary the pore size of the NCO nanosheets between 92.5 and 200 nm, and structural analyses reveal that the electrode films have a spinel $NiCo_2O_4$ structure. The obtained specific capacitance varies dramatically between 613 and 2704 Fg^{-1} at 2 mA cm^{-2}, with good capacity retention (80–90 %) after 2000 cycles. The NCO nanosheet electrodes also exhibit a good oxygen evolution reaction at the surface. The lowest overpotential (315 mV at 10 mA cm^{-2}) is obtained with a Tafel slope of 59 mV dec^{-1}. The observed bifunctional activities of the new NCO nanosheet electrode are superior to those of nanostructured NCO electrodes prepared via hydrothermal and SILAR methods. The analyses regarding the electrochemically active surface area and electrochemical impedance spectroscopy, together with the observed