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Flower like nickel iron layered double hydroxide as an efficient OER electrocatalyst in alkaline media

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Water splitting is truly a good choice for the neat and clean H₂ base economy to address the associated environmental problems with fossils fuels. However, efficient, and cost effective electrocatalyst is direly needed for the viable water splitting process particularly the energy intense half-cell oxygen evolution reaction (OER). Here, we report the synthesis of Nickel Iron Layered Double Hydroxide with flower like morphology synthesized by hydrothermal process. Excitingly, low onset potential (1.5 V) and high

current density (180 mA/cm²) indicates the superior performance of NiFe LDH. We anticipate, that doping of Fe, high surface area and unique morphology significantly contribute to accelerate the OER process at low onset potential. We, believe, that by controlling the different morphology and their hybrid material with different conducting material will pave the way for sustainable redox reaction in energy conversion process.

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