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## Record 1 of 1

**Title:** In Situ Carbon Corrosion and Cu Leaching as a Strategy for Boosting Oxygen Evolution Reaction in Multimetal Electrocatalysts

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**Abstract:** The number of active sites and their intrinsic activity are key factors in designing high-performance catalysts for the oxygen evolution reaction (OER). The synthesis, properties, and in-depth characterization of a homogeneous CoNiFeCu catalyst are reported, demonstrating that multimetal synergistic effects improve the OER kinetics and the intrinsic activity. In situ carbon corrosion and Cu leaching during the OER lead to an enhanced electrochemically active surface area, providing favorable conditions for improved electronic interaction between the constituent metals. After activation, the catalyst exhibits excellent activity with a low overpotential of  $291.5 \pm 0.5$  mV at  $10\text{ mA cm}^{-2}$  and a Tafel slope of 43.9 mV dec $^{-1}$ . It shows superior stability compared to RuO<sub>2</sub> in 1 M KOH, which is even preserved for 120 h at  $500\text{ mA cm}^{-2}$  in 7 M KOH at 50 degrees C. Single particles of this CoNiFeCu after their placement on nanoelectrodes combined with identical location transmission electron microscopy before and after applying cyclic voltammetry are investigated. The improved catalytic performance is due to surface carbon corrosion and Cu leaching. The proposed catalyst design strategy combined with the unique single-nanoparticle technique contributes to the development and characterization of high-performance catalysts for electrochemical energy conversion.

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