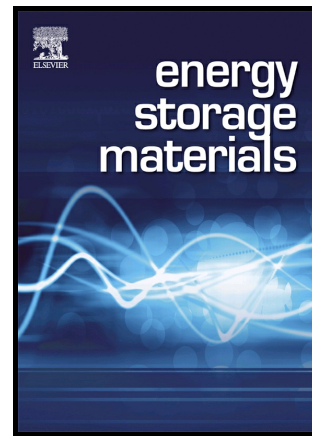


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Co ion-intercalation amorphous and ultrathin microstructure for high-rate oxygen evolution

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Abstract: Large-scale electrochemical water splitting for hydrogen generation requires cost-effective and efficient catalysts to boost the sluggish kinetics associated with the oxygen evolution reaction (OER). The transition metal oxides hold promise as catalysts for the replacement of noble-metal catalysts with high activity for OER. One of the challenges is how to finely design and tune the micro-structure of the kind of catalysts with enhanced electrochemical activities. Herein, we report on the tuned synthesis of ultrathin nanosheets made of amorphous cobalt manganese oxide (as-CoMnO) with an average thickness of *ca.* 0.69 nm, of which the potential in the OER reaction has been demonstrated. The results indicate that it is the Co ion-intercalation effects that help to tailor the structure of the amorphous ultrathin as-CoMnO nanosheets at the atomic- and nano-scale, resulting in enhanced activity for OER due to the active sites that are highly exposed and easily accessible. Benefiting from these combined characteristics, the as-CoMnO nanosheets catalysts

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