

Aqueous-phase synthesis of layered double hydroxide nanoplates as catalysts for the oxygen evolution reaction

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Transition metal layered double hydroxide (LDH) nanomaterials have been considered as good catalytic materials for various applications; however, there has been a limit in the economic efficiency and convenience of the synthetic method. In this work, we report a facile aqueous-phase route to the synthesis of transition metal LDH nanoplates including Mn-Ni and Zn-Ni. Electrochemical characterization of the synthesized Mn-Ni LDHs with different intercalated halogen anions was carried out for the oxygen evolution reaction (OER) and a Tafel slope of about 80 mV per decade was obtained which is comparable to those of the previously reported LDH nanoplates.