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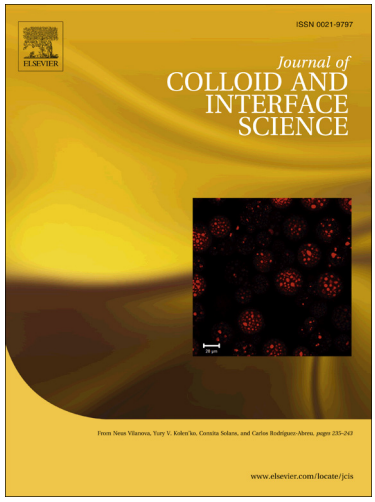

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Amorphous Flower-like Molybdenum-Sulfide-@-Nitrogen-doped-carbon-nanofiber Film for Use in the Hydrogen-evolution Reaction

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Abstract

A novel amorphous flower-like molybdenum sulfides@nitrogen doped carbon nanofibers (MoS_x@NCNFs) films are successfully synthesized by combining electrospinning, carbonization and a mild hydrothermal process. NCNFs, as a conductive substrate, can accelerate the electron transfer rate and depress the aggregation of MoS_x nanoparticles. The resultant amorphous flower-like MoS_x on NCNFs exposes abundant S^{2-}/S_2^{2-} active edge sites which is of great importance for hydrogen evolution reaction (HER) catalytic performance. Electrochemical measurements demonstrate the superior electrocatalytic activity of MoS_x@NCNFs toward HER deriving from the synergistic effect between NCNFs and amorphous

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