

Ni_2P nanowire synthesized by cation exchange and phosphorization for overall water splitting

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Ni_2P nanowire is fabricated by cation exchange and phosphorization method. ZnO nanowire is growing up by hydrothermal method at Ni Foam first. ZnO nanowire is exchanged into NiO by cation exchange process in furnace at 600 °C 30 minutes. NiO is phosphorized in furnace at 450 °C 2 hours. Ni_2P sustain nanowire structure. Ni_2P is cheap and sustainable transition metal based catalyst. This material shows HER, OER catalyst with low overpotential and high stability in alkaline media. Ni_2P also test in overall water splitting process.