Short Communication

Preparation and Catalytic Performance of Ni/NiO@C using Bamboo as source of Porous Carbon

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Hydrogen is the most potential clean energy, because of high combustion heat value and water is the only product after combustion. The method of hydrogen production by water electrolysis will become the main one. However, the energy consumption of hydrogen production by hydrolysis is too large, so appropriate electrode materials are needed to reduce the energy consumption. Bamboo carbon is an important biomass carbon material. Therefore, it is considered that Ni/NiO@C catalytic material can be synthesized by coating a layer of nickel oxide on the surface of bamboo carbon, which may increase the catalytic efficiency. The main raw material is bamboo carbon powder and loaded NiO onto carbon ball through in-situ synthesis to form Ni/NiO@C composite catalytic material. Linear scanning voltammetry, cyclic voltammetry and other methods were used to analyze and characterize the finished products. The catalytic effect of the materials in this experiment can be seen from the linear sweep voltammetry curve. At the current of 0.010 A, the overpotential is 0.249 v.

Keywords: Bamboo carbon, Hydrogen Evolution, Catalytic Performance

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