Short Communication

Preparation of Nano-Ag₄Bi₂O₅/Graphene Oxide Composite and Study of Its Catalytic Performance for Oxygen Reduction Reaction

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A nano-Ag₄Bi₂O₅/graphene oxide (ABO/GO) composite has been synthesized by a co-precipitation method in which the ABO was homogeneously precipitated on the surface of suspended graphene oxide. The structure, morphology, composition, and electrochemical properties have been systematically investigated by XRD, Raman spectroscopy, SEM, EDS and EDX mapping, XPS, and electrochemical measurements. The results showed that ABO had been successfully loaded on GO to form an ABO/GO composite. The obtained ABO/GO hybrid exhibited excellent electrocatalytic performance for the oxygen reduction reaction (ORR). Analytical results obtained with a rotating disk electrode (RDE) showed that the ORR took place via a four-electron pathway on the surface of the ABO/GO electrocatalyst.

Keywords: Co-precipitation method; Nano-Ag₄Bi₂O₅/graphene oxide composite; Electrocatalysis; Oxygen reduction

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