

Electrocatalytic Response of a Glassy-Carbon Electrode Modified with a Polyvinylpyridine Film with Electrodeposited Palladium in the Oxidation of Oxalic Acid

Shaidarova L., Gedmina A., Chelnokova I., Budnikov G.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

The electrochemical properties of a glassy-carbon electrode modified with a polyvinylpyridine film with electrodeposited palladium were studied. Conditions were selected for preparing a composite film on a glassy-carbon surface. It was found that palladium particles deposited on the polyvinylpyridine film exhibited electrocatalytic activity in the oxidation of H₂C₂O₄. Compared to an unmodified electrode, the oxidation potential of oxalic acid decreased and the current of its oxidation multiply increased. The catalytic current of oxalic acid oxidation was a linear function of its concentration in the range from 1×10^{-2} to 1×10^{-6} M.

<http://dx.doi.org/10.1023/A:1025649620711>
