

Flow-injection determination of water-soluble vitamins B1, B2, and B6 from the electrocatalytic response of a graphite electrode modified with a ruthenium(III) hexacyanoruthenate(II) film

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Abstract

The electrochemical behavior of water-soluble vitamins B1, B2, and B6 at an unmodified graphite electrode and a graphite electrode modified with an inorganic film of ruthenium(III) hexacyanoruthenate(II) was studied. The electrocatalytic activity of the metal complex in the oxidation of vitamins was found. Ru(IV) species act as a catalyst. Conditions for recording voltammograms and hydrodynamic conditions for detecting the maximum catalytic current in flow-injection analysis (FIA) were selected. Procedures for the amperometric detection of thiamine, riboflavin, and pyridoxine were proposed. © Pleiades Publishing, Inc., 2006.

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