Rapid Distinguishing between Rhodium and Palladium in Highly Contaminated Waters Using Amperometry

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A rapid, electrochemical method for determination of RhCl₃ and PdCl₂ was developed. With respect to behavior of studied PGEs in the environment, we chose acetate and borate buffer with different pH to investigate their electrochemical behavior using planar glassy carbon electrode. Rh was determined without difficulties in the first step, which was based on the application of borate buffer (pH 7) and detection potential of 1000 mV. In the second step mobile phase is changed from borate to acetate buffer (pH 4) and detection potential is increased to 1100 mV. Based on these, we are able to distinguish the metals.

Keywords: Flow Injection Analysis with Electrochemical Detection; Hydrodynamic Voltammograms; Rapid Distinguishing; Palladium; Rhodium

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