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

Zbynek Heger^{1,2,3}, Marketa Kominkova^{1,2,3}, Ondrej Zitka^{1,2,3}, Miroslava Beklova^{1,2,3}, Vojtech Adam^{1,3},
Rene Kizek^{1,3,*}

¹ Department of Chemistry and Biochemistry, Faculty of Agronomy, Mendel University in Brno, Zemedelska 1, CZ-613 00 Brno, Czech Republic, European Union

² Department of Ecology and Diseases of Game, Fish and Bees, Faculty of Veterinary Hygiene and Ecology, University of Veterinary and Pharmaceutical Sciences, Palackeho 1–3, CZ-612 42 Brno, Czech Republic, European Union

³ Central European Institute of Technology, Brno University of Technology, Technicka 3058/10, CZ-616 00 Brno, Czech Republic, European Union

*E-mail: kizek@sci.muni.cz

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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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