S3-2.8

Accuracy Analysis of Measurements in Electrochemical Biosensing

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In the paper the results of research on accuracy analysis of measurements in electrochemical biosensing are presented. The scope of performed tests includes EIS (Electrochemical Impedance Spectroscopy) and chronoamperometry, widely used for determination of glucose concentration. Measurement results obtained with two microcontroller systems, designed within a research project, and one reference platform (Autolab system, Metrohm, Netherlands) are compared and discussed. As a result, optimal design solutions may be chosen for microcontroller-based biomeasurement system. In glucosensing, promising results were obtained with the EIS technique in experiments performed using the Autolab system.