Abstract

Properties of carbon fiber rod electrode (CFRE) were studied in this bachelor thesis. The potential window width in various basic electrolytes such as NaOH, KCl, and $HClO_4$ was measured. Cyclic voltammetry (CV) was employed to investigate the course of the electrode reaction as well as the influence of the size and modification of the electrode surface on the results of the measurement of a model redox system ferrocyanide/ferricyanide. The CFRE applicability was verified by the determination of pesticide 2,6-dichloro-4-nitroaniline (dichloran) using DC voltammetry (DCV) and differential pulse voltammetry (DPV). In the presence of BR buffer-methanol (9:1), dichloran provides one or two redox waves, whose position and height depend on the pH. pH 10 was selected as optimum for all further measurements. Hence, the reproducibility dependency was found in this medium.