

Abstract

A compatibility has been found for a combination of carbon nanotube electrodes on a membrane support with a flow-injection analysis. A total amount of four kinds of PTFE membranes with carbon nanotubes has been used in two sizes of cells. Ascorbic acid was used as an electrochemical standard.

Optimisation of inner structure of a cell has been made and hydrodynamic voltammograms have been measured accordingly with an influence of a flow rate on current response. Conversion degree was calculated from the data acquired from the hydrodynamic voltammograms.

Further data acquired from the hydrodynamic voltammograms were the optimal potentials for each kind of a CNT membrane – $E = 0,5$ V for the CNT type 50-20 and $E = 0,9$ V for the CNT type M-Grade.

A thought concerning the impact of a size of a cell on a width of a peak has been confirmed. Further widening occurs with a slower flow rate.

The repeatability on a fixed potential input was very good: the relative standard deviation of a peak height for the number of measurements $n = 10$ was below 2 %.