

## **Abstract**

This bachelor thesis focuses on the effect of the connection of a boron-doped diamond electrode (BDD) on the electrochemical behaviour of two bioactive organic substances: dopamine (DA) and ascorbic acid (AA). Cyclic voltammetry and electrochemical impedance spectroscopy methods were used for the study. The analysis examined three BDD electrodes that were deposited on glass or silicon substrates with different levels of boron doping (0 ppm, 500 ppm, 1000 ppm). The aim of this work was to investigate how different connection methods and different substrates affect the electrochemical behavior and to determine the surface characterization of the electrodes. The results show the influence of structure and doping on the reaction of the electrode with the analytes and validate the findings obtained so far for applications of BDD electrodes in electrochemistry.

## **Key words**

Boron doped diamond, dopamine, ascorbic acid, cyclic voltammetry