ABSTRACT

Charles University

Faculty of Pharmacy in Hradec Králové

Department of Pharmaceutical botany

Candidate: Anežka Klátilová

Supervisor: doc. Ing. Lucie Cahlíková Ph. D.

Title of diploma thesis: Alcaloids of *Vinca minor* (Apocynaceae) and their biological activities

The aim of this diploma thesis was to process the assigned fraction isolated from the *Vinca minor* L. plant and to isolate at least one alkaloid to test its biological activity.

Using preparative TLC, the alkaloid was sequentially isolated from the fraction, which was then subjected to a structural analysis. NMR and EI-MS methods were used herein. Thanks to these analyzes, the alkaloid was identified as venoterpine. Furthermore, the alkaloid was prepared to test for biological activity.

Thus, the isolated alkaloid was identified as venoterpine and tested for biological activity. The observed inhibitory concentration (IC50) to HuAChE and HuBuChe was more than 500 μM, indicating that venoterpine does not rank as a significant inhibitor of cholinesterase. Likewise, the value of cytotoxic activity, when this activity was found to be greater than 10 μM to colorectal cancer cells as well as to healthy cells, is not significant.

Key words: *Vinca minor*, Apocynaceae, alkaloids, biological activities