

ABSTRACT

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Diploma thesis: Alkaloids of family Amaryllidaceae and their biological activity

The aim of this diploma thesis was to compile assigned fraction of alkaloidal extract obtained from *Chlidanthus fragrans* and isolation of at least two alkaloids for testing their biological activity.

For the processing of the extract and isolation of the alkaloids contained in it was used preparative TLC. The obtained substances were then undergone structure analysis, specifically, there were used EI-MS and NMR methods. Based on the results obtained were isolated substances identified and prepared for screening of their biological activity, which was not part of this diploma thesis anymore.

The isolated alkaloids were identified as 6 α -hydroxybuphanidrine, crinamidine and crinine. 6 α -Hydroxybuphanidrine failed to get enough for biological testing. Inhibitory activity of crinamidine and crinine against erythrocyte AChE and serum BuChE was quite weak. Equally, neither of alkaloids showed stronger ability to inhibit the POP, where for crinamidine was determined $IC_{50} = 0,790 \pm 0,062$ mM and for crinine $IC_{50} = 1,473 \pm 0,122$ mM. The measurement of cytotoxic activity has been carried out only with crinine, so far. There was determined $IC_{50} = 64,54 \pm 17,78$ μ M against the cell line Caco-2 and $IC_{50} = 50,84 \pm 1,42$ μ M against cell line HT-29. Towards healthy fibroblast FHS-47int appeared as inactive.

Key words: Amaryllidaceae, *Chlidanthus fragrans*, AChE, BuChE, POP, cytotoxicity, 6 α -hydroxybuphanidrine, crinine, crinamidine