

**CHARLES UNIVERSITY**  
**FACULTY OF PHARMACY IN HRADEC KRALOVE**  
Department of Pharmaceutical Chemistry and Pharmaceutical Analysis

Study program: Pharmacy

**Opinion of the Thesis Tutor/Consultant about the Diploma Thesis**

Year of assignment: 2021/2022

Year of the defense: 2024

Student: **Michaela Hříbková**  
Thesis Tutor: PharmDr. Lukáš Lochman, Ph.D.  
Consultant: Larissa Silva Maciel, Ph.D.  
Opponent: RNDr. Ondřej Horáček  
Thesis title: **Miniaturized solid-phase extraction in analysis of amino compounds by LC-MS/MS**

Scope of work, number of: 91 pages, 23 figures, 8 tables, 62 citations

**Evaluation of experimental work:**

- |   |           |
|---|-----------|
| a) Evaluation of methodological procedures:                   | Excellent |
| b) Skill in the laboratory or in obtaining experimental data: | Excellent |
| c) Independence:  | Excellent |
| d) Initiative:  | Excellent |
| e) Diligence and conscientiousness:                           | Excellent |

**Evaluating the processing of results and writing up the thesis:**

- |   |           |
|---|-----------|
| a) Processing of results (diligence and independence):        | Excellent |
| b) Interpretation and discussion of results:                  | Excellent |
| c) Literary research:   | Excellent |
| d) Text processing (stylistic level):                         | Excellent |
| e) Formal level of the work (text structure, graphic design): | Excellent |

I recommend the thesis for recognition as a rigorous thesis

Verbal evaluation, distinctive features of the author, and the thesis:

Michaela joined our research group as a volunteer in her 3rd year of master's study. She was involved in the development and validation of the method for rifampicin and its metabolite evaluation. Michaela learned all basic laboratory skills, including handling HPLC very fast and subsequently processing the work independently. Partial results of the work were presented at The Student Scientific Conference 2022.

In 2022, during the Erasmus+ exchange, Michaela visited the research group of prof. Ivo Leito (University of Tartu, Faculty of Science and Technology, Estonia). She worked under the supervision of Larissa Silva Maciel, Ph.D., who also served as a consultant for this thesis. During this stay, Michaela investigated the possibility to use miniaturized solid-phase extraction in a home-made pipette tip for analysis of amino compounds. Her work included the preparation of extraction devices, optimization of the extraction, LC-MS analysis, and final verification of the method's applicability to real honey samples. All proposed goals of this project were fulfilled and became the base for the preparation of the theses.

The thesis was written without any problems according to the work plan. All the notes from the thesis tutor have been incorporated into the text. Minor corrections were necessary for the finalization of the theses. The results from the stay abroad were presented at The

Student Scientific Conference 2023, and Míša won 3rd place. Míša demonstrated excellent skills and enthusiasm during the work, and the obtained results will be part of the prepared impacted publication.

The Theses similarity check shows a cumulative similarity of 20% (58 records, maximal similarity <4%). The Turnitin system indicates a cumulative similarity of 31% (maximal similarity <2%), including the matches found in the list of cited literature. Both similarity protocols were carefully examined, and I note that the matches found are insignificant and located in the understandable parts of the work. Therefore, I deem this thesis an original work and highly recommend it for the defense.

**Evaluation of the thesis: Excellent**

**For the        Recommend  
defense:**

In Hradec Kralove

9. září 2024

signature of the opponent