



Přirodovědecká
fakulta
Faculty
of Science

Jihočeská univerzita
v Českých Budějovicích
University of South Bohemia
in České Budějovice

OPPONENT'S REVIEW ON BACHELOR/DIPLOMA* THESIS

Name of the student: Iryna Kondrashchenko
Thesis title: Evaluation of different methods of glycan enrichment to their subsequent MS identification
Supervisor: Mgr. Dmitry Loginov, Ph.D.
Referee: Filip Dyčka
Referee's affiliation: University of South Bohemia

	Point scale ¹	Points
(1) FORMAL REQUIREMENTS		
Extent of the thesis (for bachelor theses min. 18 pages, for masters theses min. 25 pages), balanced length of the thesis parts (recommended length of the theoretical part is max. 1/3 of the total length), logical structure of the thesis	0-3	3
Quality of the theoretical part (review) (number and relevancy of the references, recency of the references)	0-3	3
Accuracy in citing of the references (presence of uncited sources, uniform style of the references, use of correct journal titles and abbreviations)	0-3	3
Graphic layout of the text and of the figures/tables	0-3	3
Quality of the annotation	0-3	3
Language and stylistics, complying with the valid terminology	0-3	3
Accuracy and completeness of figures/tables legends (clarity without reading the rest of the text, explanation of the symbols and labeling, indication of the units)	0-3	3
Formal requirements - points in total		21
(2) PRACTICAL REQUIREMENTS		
Clarity and fulfillment of the aims	0-3	3
Ability to understand the results, their interpretation, and clarity of the results, discussion, and conclusions	0-3	3
Discussion quality - interpretation of the results and their discussion with the literature (absence of discussion with the literature is not acceptable)	0-3	3
Logic in the course of the experimental work	0-3	3
Completeness of the description of the used techniques	0-3	2
Experimental difficulty of the thesis, independence in experimental	0-3	3

* Choose one

¹ Mark as: 0-unsatisfactory, 1-satisfactory, 2-average, 3-excellent.

work		
Quality of experimental data presentation	0-3	3
The use of up-to-date techniques	0-3	3
Contribution of the thesis to the knowledge in the field and possibility to publish the results (after eventual supplementary experiments)	0-3	2
Practical requirements - points in total		25
POINTS IN TOTAL (MAX/AWARDED)	48	46

Comments of the reviewer on the student and the thesis:

The bachelor thesis of Iryna Kondrashchenko devotes to identification of glycans using MALDI TOF MS. Although, the thesis is focused only for method evaluation it is well-written. Only minor formal mistakes were found in the text, it follows a logical structure, the amount of information is adequate and the quality of graphs is high.

Suggestions and questions, to which the student has to answer during the defense. Mistakes, which the students should avoid in the future:

1. In the section Data processing it is written that deconvolution was done because of multiply-charged species observed in spectra. Is it true and multiple-charged glycans were produced by MALDI?
2. What database (data) were used for glycan identification? The same data analysis was done for both, transferrin and tick glycoproteins?
3. There are several ions in mass spectra and only minor of them are marked as glycans. Where they are coming from and did you try to identify them?
4. Did you try to use tandem mass spectrometry in glycan analysis?
5. How to get a list of glycosylated peptides using MS (even without knowledge what carbohydrate was bounded)? Can we use the advantage of MALDI to achieve this?

Conclusion:

In conclusion, I r e c o m m e n d

the thesis for the defense and I suggest the grade 1.²

In České Budějovice date 21. 7. 2020

² You can suggest a grade, which can be modified during the defense based on the presentation. However, if the reviewer is not present at the defense, the grade will not be counted. Grades: excellent (1), Very good (2), Good (3), Unsatisfactory/failed (4).