Přírodovědecká fakulta
Faculty of Science

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

OPPONENT'S REVIEW ON BACHELOR THESIS

Name of the student: Isabela Vlasak

Thesis title: Identifying and quantifying the degradation efficiency of chitinase in *Pseudomonas*
Supervisor: Doc. Ing. Jiří Bárta, PhD.

Referee: Doc. Ing. Martin Halecký, PhD.
Referee`s affiliation: Department of Biotechnology, University of Chemistry and Technology, Prague

	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	2
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

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

Experimental difficulty of the thesis, independence in experimental work	0-3	3
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	3
Practical requirements – points in total		25
POINTS IN TOTAL (MAX/AWARDED)	**48**	**46**

Comments of the reviewer on the student and the thesis:

The work is logically structured, clear and almost without typos. The English language is of a high standard. The Introduction is excellently prepared using a considerable number of relevant references. Author got many interesting results that are very well described and discussed. I only miss some information in chapter of Materials and Methods: What was the source of "shrimp shells"? What was exact product number of "Fluorometric chitinase assay kit" from Sigma-Aldrich?

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

It is stated the procedure for cell-associated enzymes obtaining as "Then, 1 mL of the prepared saline solution was added to the remaining pellet and quickly vortexed to produce a solution with the enzymes bound to the cells." Typically, some (non-denaturing) surfactant is added to intensify the cell-bonded enzyme release. Is the author sure that cell-bonded enzymes were released with enough efficiency? Could the author suggest a suitable surfactant(s) for (potentially improved) cell-associated enzyme release?

Degradation of insoluble substrates such as chitin is often associated with biofilm formation and associated with specific enzyme production (even with certain specificity in many cases) as well. Cell-associated enzymes then plays an important role in substrate degradation, and they are typically as endo enzymes. Shrimp shell looks to be suitable biofilm carrier. Could the author briefly discuss results from the point of view of (potential) biofilm formation?

Conclusion:

In conclusion, I

r e c o m m e n d

the thesis for the defense and I suggest the grade excellent.

In Prague date **September 5th 2023**

signature