



Přírodovědecká
fakulta
Faculty
of Science

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

STATEMENT OF THE BACHELOR THESIS SUPERVISOR

Name of the student: Vladyslav Lazebnyk

Study programme: Biological Chemistry

Department/Institute: Institute of Parasitology

Thesis title: Assembly of the unique Trypanosoma brucei F₁-ATP synthase.

Supervisor: Alena Zíková

Supervisor's affiliation: Department of Molecular Biology and Genetics, CASR

	Point scale ¹	Points
(1) FORMAL REQUIREMENTS		
Formal and graphical quality of the thesis	0-3	2
Ability to work with literature	0-3	3
Language and stylistics	0-3	3
Formal requirements – points in total		8
(2) PRACTICAL REQUIREMENTS		
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 results and their discussion with the literature	0-3	3
Logic in the plan of the experimental work	0-3	3
Experimental difficulty of the thesis, independence in experimental work	0-3	3
Contribution of the thesis to the knowledge in the field and the possibility to publish the results (after eventual supplementary experiments)	0-3	2
Practical requirements – points in total		17
POINTS IN TOTAL (MAX/AWARDED)		27 (25)²

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

² Enter the number of points awarded.

Suggestions and questions, to which the student has to answer during the defense:

None

Eventual mistakes, which the students should avoid in the future:

None

Additional comments of the supervisor on the student and the thesis:

We always enjoy supervising the students from the Linz biological chemistry program. They are intelligent, dedicated and excited about science. Vlad was no exception, but due to COVID, both the supervisor and student were quite limited in the time available to complete experiments at the bench. Even under these extraordinary settings, Vlad was the first in the lab to detect *T. brucei* ATP synthase subcomplexes, a discovery that will help direct future experiments for this project. It should not go unnoticed that this achievement was accomplished with Blue Native western blot analyses, an advanced research method that requires even PhD candidates several attempts to generate high quality data. I am proud of the progress Vlad made, even if most of the data presented in the thesis is preliminary. Under normal situations, I am sure that Vlad would have continued to improve his skills at the bench and been able to verify these results.

Conclusion:

In conclusion, I r e c o m m e n d the thesis for the defense and I suggest the grade of 1.



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Signature

24.1.2022

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Date



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Jan 24, 2022

Dear committee members,

As so many others affected by the COVID pandemic, Vlad had the unenviable task of trying to complete a demanding research project with severely restricted time at the bench. Through Vlad's persistence and skill, he was able to achieve a significant discovery that will help direct future experiments concerning his research project investigating the assembly of the unique F_1 -ATP synthase in the human pathogen, *Trypanosoma brucei*.

While Vlad still needs to improve his ability to solve mathematical equations required for work in molecular biology, he also demonstrated great promise in working with his hands to generate meaningful results. His initial attempts to implement advanced research methods usually reserved for PhD candidates, proved fruitful. His qPCR analysis of the RNAi cell lines allowed us to qualify our interpretations of the ATP11 data, while his Blue Native western blot analyses provided the lab with the first direct evidence of ATP synthase subcomplexes that can be further analyzed. I am confident, that given more time at the bench, he could have also improved the initial data from the western blot analyses of denatured protein samples. By finding time to return to the lab in the early summer months, he also successfully cloned a new ATP11 RNAi plasmid and generated the resulting *T. brucei* RNAi cell lines. Despite the limited time available for both the student and supervisor, I am proud of the number and variety of experimental methods Vlad was able to incorporate into his thesis.

Even more important, it was a pleasure to work with Vlad. His easy-going demeanor and excellent use of the English language made it easy to communicate with him. He also did quite well writing the first drafts of the thesis and then quickly incorporating the comments I provided. For a BSc. student, he was quite adept at connecting subsequent thoughts and clearly expressing the significance of each paragraph.

We wish Vlad all the best in his future endeavors, wherever they may take him. We also hope that his family remains safe during these turbulent times in the Ukraine.

Alena Zíková, PhD

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