



Přírodovědecká
fakulta
Faculty
of Science

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

SUPERVISOR'S STATEMENT ON BACHELOR/DIPLOMA* THESIS

Name of the student: Katharina Lehr
Study program: Biological Chemistry
Department/Institute: Institute of Chemistry
Thesis title: Trehalose as an important energy source for immune cells in *Drosophila melanogaster*
Supervisor: Tomáš Doležal
Supervisor's affiliation: Department of Molecular Biology and Genetics

	Point scale ¹	Points
(1) FORMAL REQUIREMENTS		
Formal and graphical quality of the thesis	0-3	1
Ability to work with literature	0-3	2
Language and stylistics	0-3	2
Formal requirements – points in total		5
(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	2
Discussion quality – interpretation of results and their discussion with the literature	0-3	2
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	3
Practical requirements – points in total		13
POINTS IN TOTAL (MAX/AWARDED)	24	18²

* Choose one

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

² Enter the number of points awarded.

Comments of the supervisor on the student and the thesis:

Katharina Lehr worked in our laboratory on a quite ambitious project when she started to test completely new idea which was never tested in any other work, i.e. the role of trehalose as an energy source for the privileged immune system in insect. She was supposed to test two important aspects of this hypothesis, which would lay down the ground for further work. For an experienced researcher, this would be quite basic sets of experiments. However, for a bachelor student without any practical experience and with just very basic knowledge of biology, it was not a primitive task. Katharina had to understand quite complex biological problem – the concept is not intuitive and its understanding requires some advanced knowledge in physiology and immunity, she had to learn basic *Drosophila* genetics, both theoretically and practically, experiments with infection, she had to learn basic PCR and qPCR and she was dealing with transcript-specific gene expression analysis, which surely represents a challenge for a fresh starting molecular biologist. In spite of these challenges, I tried to make sure that Katharina understands what she is doing and that she goes through all experiments by her own hands – and we achieved this goal even though it just seems pretty much impossible when student starts in November and must be done by summer. Of course, when Katharina was finally able to obtain reasonable results, she was supposed to return to Linz. She came back to lab in September for another couple weeks and that was the time when she basically obtained all the results presented in her thesis. And the results were excellent, they were well done and beautifully supported the hypothesis. They became part of my new grant proposal and my postdoc Michalina Kazek builds on them her whole project. I was very excited about them. Then Katharina disappeared for the whole year, forgetting most of the work she had done. Fortunately, she tried to start writing some parts throughout the year in Linz but still majority of the thesis she wrote while we were alternating on holidays. With the extremely short time for the experimental work, this is another aspect of the program which makes finishing the thesis quite challenging for both student and the mentor. In her first versions of the thesis, Katharina was trying to put into introduction all important topics from her work, worrying to have enough pages. I pushed her to stop worrying about number of pages and such formalities and asked her to re-write it in the way that she explains to a complete stranger what was her work about, why is interesting to work on it. She struggled with the concept of privileged immunity but at the end I was satisfied that she showed quite good understanding of it and that she was able to put into the written text of reasonable quality for a bachelor student. She was repeatedly mentioning that she must compare her results to some previous published works and since there is really nothing to compare it to (of course, with my knowledge, I would be able to put it into much broader context and compare it to something but that is not straightforward at all) I was rather pushing her to focus on good understanding and interpretations. I even asked her to delete one comparison, which was just too difficult and not clear – this eventually turned out as a big formal problem for Katharina, which I did not realize. I was quite happy with the final state of her understanding and putting it together in thesis. Honestly, I did not have time to carefully check the formal aspects of her thesis at the end (refusing it to read it under the tent during my holiday) and I have to admit that there are numerous formal mistakes and some aspects of presenting results and discussing them that I wish we would have much more time to improve. But in my eyes, although especially these formalities make Katharina's thesis not being excellent, I was happy with her work and I am convinced that she showed quite a good ability to put together a bachelor thesis with excellent results, good understanding (which is the most important to me) and quite satisfactory writing (which could and I am sure will be improved).

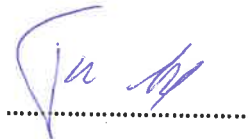
Conclusion:

In conclusion, I

~~recommend / do not recommend*~~

the thesis for the defense.

In České Budějovice date 17.9.2019



signature