



Přírodovědecká
fakulta
Faculty
of Science

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

SUPERVISOR'S STATEMENT ON BACHELOR THESIS

Name of the student: Andreea Adriana Avram
Study program: Biological Chemistry
Department/Institute: Institute of Chemistry
Thesis title: Novel photonic materials: Isolation, purification and imaging of native chlorin based antenna from *Chloroflexus aurantiacus*

Supervisor: David Kaftan
Supervisor's affiliation: University of South Bohemia, Faculty of Science

Point scale¹ Points

(1) FORMAL REQUIREMENTS

Formal and graphical quality of the thesis	0-3	2
Ability to work with literature	0-3	1
Language and stylistics	0-3	2
Formal requirements – points in total		5

(2) PRACTICAL REQUIREMENTS

Fulfillment of the aims	0-3	2
Ability to understand the results, their interpretation, and clarity of the results, discussion, and conclusions	0-3	1
Discussion quality – interpretation of results and their discussion with the literature	0-3	1
Experimental difficulty of the thesis, independence in experimental work	0-3	1
Contribution of the thesis to the knowledge in the field and the possibility to publish the results (after eventual supplementary experiments)	0-3	1
Practical requirements – points in total		6

POINTS IN TOTAL (MAX/AWARDED)

24

11

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

Comments of the supervisor on the student and the thesis:

The main goal of Andreea's project was to isolate and purify chlorosomes from thermophilic photosynthetic bacterium *Chloroflexus aurantiacus*. In the weeks following her admission, she quickly adopted all essential basic laboratory practices. She started by learning routine techniques of growth media preparation, assembly and sterilization of reaction vessel components. The semi-continual cultivation of the cell culture under challenging temperatures of 50°C proceeded flawlessly under Andreea's control. Andreea also mastered methods of fractionation of cellular compartments using centrifugation and ultracentrifugation including efficient recovery of the separated fractions. Andreea additionally gained experience in use of absorption spectroscopy in assessing purity of the chlorosomes. Finally, she was able to image the isolated chlorosomes using Atomic Force Microscope and to provide samples for Transmission Electron Microscopy imaging.

During her time with us her contribution has had a positive impact on the advancement of our research project. In her thesis, Andreea was undoubtedly able to capitalize all of her newly gained experience.

Conclusion:

In conclusion, I r e c o m m e n d
the thesis for the defense.

In České Budějovice date 20. 1. 2020



signature