



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: Laura Nübl
Study program: Biological Chemistry
Department/Institute: University of South Bohemia/Faculty of Science/Dept. of Chemistry
Thesis title: An analysis of fungal exudate and carbon use efficiency

Supervisor: Travis B. Meador
Supervisor's affiliation: Biology Centre - Czech Academy of Sciences, Soil & Water Research Infrastructure & University of South Bohemia, Faculty of Science, Dept. Ecosystem Biology, Ceske Budejovice, Czechia

Point scale¹ 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	3
Formal requirements – points in total		6

(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	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	2
Practical requirements – points in total		13

POINTS IN TOTAL (MAX/AWARDED)

24

19²

* 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:

Laura demonstrated strong initiative, vision, and determination throughout her thesis work. Together with these qualities, her logic and research skills tremendously furthered and even led the progress and productivity of ongoing projects. Indeed, the workflow in the lab for GC-MS analysis of unknown polar compounds was not yet established and was being developed during her project, an attribute to the novelty of her work in the field of organic geochemistry. She accomplished 5 of 6 aims outlined for her thesis, with the sixth aim being unattainable due an extended period of instability and repair of the isotope ratio mass spectrometer (IRMS). She consistently made strong efforts to remain quantitative with her analyses, starting with the GC-FID analysis of headspace CO₂. The lack of stable isotope data changed the course of the thesis and led to more extensive exploration of compounds detectable by GC-MS, for which Laura aptly developed new skills to create a list of targets and identify known compounds.

This thesis advances the scope of fungal production in soil ecosystems by exploring the release of reduced C (energy) stored as dissolved redox active compounds. The literature review of the written thesis may lack this focus, for example, the framing and scope of the introduction could be supported by figures explaining the known fungal contributions to soil ecosystems. I am nonetheless confident that Laura comprehends this aspect and impact of her thesis research. The cultivation, extraction, spectrometric, and GC-MS work will support ongoing LC-MS and IRMS analyses as the project moves forward.

Conclusion:

In conclusion, I

~~recommend / do not recommend*~~

the thesis for the defense.

In date

Česká Budějovice
14.6.22



signature