Fakulta rybářství
a ochrany vod
Faculty of Fisheries
and Protection
of Waters

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

Confidential

Supervisor´s Review of USB RIFCH PhD Thesis

Surname of the PhD student: Bořík	Name of supervisor: **Roman Grabic**
Title of PhD thesis: Tracing pharmaceuticals and personal care products (PPCPs) from sources to recipients	

OVERALL COMMENTARY ON THE PhD THESIS

The thesis is based on three papers which tell focused story of development of highly novel methods for high throughput analysis. Adam Bořík is the first author of two published papers and a co-author of another one.

Adam was thrown into deep water of method development and let to swim or sink. Because of constantly increasing supervisor workload in different fields, he was forced to work to high extent independently. He gained detailed literature overview on principles and application of LDTD as it is documented in introduction part. The needs for presented thesis followed associated research on pharmaceuticals sorption and effect on fish behavior, which generate thousands of samples for analysis.

Adam applied literature knowledge to laborious LDTD/MS conditions optimization. At this point I have to mention that sometimes his focus was too detailed on particular LDTD/MS detection improvement compare to overall method performance and applicability. This was reflected in his approach to writing where stubbornly insisted on inclusion of some marginal details of method development into manuscript. It consequently led to long discussions with supervisor and co-authors and, later, to long answers and even paper rejection after manuscript review. However, Adam was enough ambitious and tenacious (and supervisor and co-authors patient) to publish in high ranked journals despite this was much longer and laborious way how to achieve requested number of first author publications. Finally, he achieved papers on high throughput methods in Q1 journals. The articles selected for this thesis are presented in logic order from multiresidual LC/MS method development in fish tissues through LDTD/HRMS determination single compound in fish brain to LDTD/MS pharmaceuticals determination in soil leachate.

Adam also helped with routine analyses and data processing as it is recorded in other his co-authorship papers included in publication list. Recently he is also involved in nontargeted screening method development as it is mentioned in discussion part of the thesis. Generally, data processing and software mining belong to his strengths.

I am convinced that Adam learnt a lot for five years of PhD study. I can state that writing style of thesis was a level different from his first manuscript. I am glad to say that Adam is on the way to become a good scientist in the field of environmental chemistry. I warmly recommend his thesis for defense.

FINAL RECOMMENDATION

☒ **can be recommended for defense of PhD Thesis**
☐ **can be recommended with reservations for defence of PhD Thesis**
☐ **cannot be recommended for defense of PhD Thesis**

Vodňany 4.6.2020
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Date and place

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surname and signature