

Opponent's Report on Habilitation Thesis

Author : Mgr. **Olivier Monfort, PhD.**
 Title : *THE USE OF INORGANIC COMPOUNDS IN OXIDATION PROCESSES FOR ENVIRONMENTAL REMEDIATION*
 Section: Inorganic Chemistry
 University : Faculty of Natural Sciences, Comenius University Bratislava

The subject of reviewed habilitation thesis is the use of inorganic compounds in oxidation processes for environmental remediation and it is quite up to date. The technologies used for pollutant degradation (mainly organic origin) has been improved in the past decades and various oxidation processes have been developed. This habilitation thesis summarizes the scientific results in the field of pollutant degradation by using different processes such as photocatalysis and Fenton-based reactions in homogeneous and heterogeneous systems. Question – why environmental remediation - was introduced in the first chapter of the thesis. Following chapters cover information about water treatments according to the photocatalytic route, the (photo)Fenton route and soil treatment.

Short Conclusion is in the end of the text part of the thesis together with the List of references (33 cited publications).

The habilitation thesis contains 14 peer-reviewed publications, the most of them are in rank Q1 with high Impact Factor, so there is no reason for me to comment them.

Due to a very high standard of the habilitation thesis I have only a few questions/comments:

- Page 15: BiVO₄ deposited onto TiO₂ (BV-T_{top}).... should be TiO₂ deposited onto BiVO₄ (BV-T_{top})....
- Page 28: From my personal point of view, it is very interesting to use ferrates for the remediation of PCB-contaminated soil (Annex 12). Have you any idea, how we can even more increase the degradation extent in this case?

This habilitation thesis gives clear evidence that the candidate is not only able to work efficiently in research team on a very high scientific level, but also he is able to lead the research team very effectively.

Submitted habilitation thesis of Mgr. Oliver Monfort, PhD. fulfils all requirements given in the official documents on habilitation thesis.

From the above reasons I recommend the Habilitation Committee

to accept

the habilitation thesis of Mgr. Oliver Monfort, PhD. for further steps and after successful defence I suggest to confer a degree “Associate Professor” in the field “Inorganic Chemistry”.

prof. Ing. Ján Híveš, PhD.