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To: President of the committee
of the doctoral dissertation thesis of Mrs. Jana Dzíbelová
Palacký University Olomouc
Czech Republic

Chania, 19 January 2024

Subject: Evaluation report concerning the PhD thesis of Mrs. Jana Dzíbelová

EVALUATION REPORT

I had the opportunity to study carefully and comprehensively Mrs. Jana Dzíbelová's PhD thesis entitled '2D Materials for Energy Storage and Photocatalysis: View into Intriguing Properties' and came to the conclusion that this is an outstanding scientific dissertation that is definitely admissible for defense. I base this judgment firstly on the fact that this is an exceptional, very well-written and scientifically complete thesis that focusing in one of the most interesting areas of nanoscience and nanotechnology, the development and study of novel 2D materials, such as graphene derivatives, MXenes and hematene (a new 2D non-van der Waals material), for energy storage and photocatalysis applications. The topics of her thesis cover a wide range of the blooming fields of materials chemistry and nanoscience including many different aspects of chemistry of nanostructured materials, photocatalysis as well as sustainable energy sciences. Her dissertation is well written, the figures easy to decipher and the reference list extensive; from the description of the experiments and the data treatment it is clear that she not only made all the different types of 2D materials she describes in her thesis, she was also deeply involved in the characterization experiments. The results are highly interesting, novel and testify to her capability of understanding and formulating scientific facts. In my opinion, and based on this dissertation, she seems to be an extraordinarily capable experimenter while she also demonstrated an outstanding ability to analyse experimental data with great

thoroughness and attention to detail, which then guided her to devise new measurements to complete the picture.

It is obvious that Mrs. Dzibelová has an excellent overview of the field and knows how to contribute with well thought out, difficult experiments that pinpoint specific questions. As can be seen from her publication list, she is very productive in terms of publications while the high quality of the thesis can be easily estimated by the publications she made in prestigious high impact factor scientific journals like Advanced Functional Materials (I.F. 19.0), Energy Environmental Science (I.F. 32.5), Applied Materials Today (I.F. 8.3), etc.

Based on the above, Mrs. Jana Dzibelová has certainly demonstrated her ability to conduct independent research and to present the results. She shows that she has an excellent knowledge of his field of specialization to which her work contributes in an important manner. There is therefore no doubt that she can be admitted to defend the assessed thesis and proceed to the next step of her PhD defense. Her thesis is far beyond the international standard requirements for doctoral thesis in the given field of research.



Prof. Dr. D. Gournis