FACULTY OF SCIENCE Charles University

Supervisor's report on a dissertation

MSc. Marianna Gerina has demonstrated a high level of scientific competence and dedication in her research on

synthesizing and characterizing multifunctional core-shell nanoparticles. Her work, which spans a significant period

of focused study, highlights her ability to master complex synthesis techniques and utilize advanced characterization

methods, particularly emphasizing small-angle scattering of polarized neutrons. This technique, known for its

precision in revealing structural and magnetic properties at the nanoscale, was employed expertly by the candidate,

showcasing her advanced technical skills and deep understanding of the material science involved.

Throughout her research, MSc. Gerina has exhibited a strong ability to work independently. She synthesized and

characterized the nanoparticles and took the initiative to analyze and interpret the experimental results critically. Her

capacity to work autonomously while maintaining a high standard of scientific rigor has been evident throughout the

project. She has authored two manuscripts and contributed significantly to three published works, with additional

findings submitted to peer-reviewed journals.

The quality of her thesis is of a high standard, reflecting both her scientific rigor and commitment. I am confident in

recommending this work for defense without reservation, as it is well-prepared and showcases her scientific

competence and dedication.

In Prague 15.09.2024

Dr. rer. nat. Dominika Zákutná

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