Review from a scientific consultant on Dana Kanzhigitova's dissertation work on the topic "Development of new functional hybrid materials based on conducting polymers," submitted for the degree of Doctor of Philosophy (PhD) in the specialty "8D05301-Chemistry."

Review

Conducting polymers is getting more attention in many science areas because of the unique ways they operate electrically, optically, and thermally. Because of this, a lot of research has been done on how they were made and how they are used. Nowadays, increasing the ordered conducting polymer chain is vital for improving conductivity, which is important for various applications. Dana developed various hypotheses to achieve this goal.

I am delighted to recognize Kanzhigitova Dana's outstanding contributions to the three published articles, emphasizing her major involvement in advancing our research efforts. Her novel ways of creating conducting polymer nanostructures using bicontinuous microemulsion systems and inorganic templates have resulted in influential articles that highlight her technical skills and perceptive contributions.

Furthermore, Dana created several conducting polymer structures, such as bowls, hollows, 2D and 3D nanomaterials with applications in delivering drugs and adhesive tape. Dana has consistently demonstrated proficiency in the use of XRD, XPS, AFM, NMR, confocal microscopy, SEM, and TEM, ensuring the reliability and accuracy of experimental data that is critical to the success of our research. Furthermore, her hard work on her dissertation demonstrates an extraordinary level of dedication and persistence. Dana not only understands the complexities of materials science but also demonstrates remarkable organizational abilities and a collaborative spirit that considerably enriches our research environment. I am convinced that her ongoing passion and expertise will bring our collaborative efforts to the very top of our field.

Department of Chemistry and
Technology of Organic Substances,
Natural Compounds, and Polymers,
C.C.CS., Assistant Professor Rakhmetullayeva R.K.

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