



The result of the mid-term assessment together with the justification

Wynik oceny śródkresowej wraz z uzasadnieniem

for the period 01.10.2019 to 31.08.2021

Emilia Krok

the Doctoral Student at PUT Doctoral School / Doktorant Szkoły Doktorskiej PP

discipline of science / dyscyplina naukowa: materials engineering / inżynieria materiałowa

The result of assessment / Wynik oceny

Positive / Pozytywna*	Negative / Negatywna*
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Justification / Uzasadnienie

The final assessment of doctoral student **is positive** due to Miss e. Krok achievements in research, activities in results dissemination and other organizational activities, which are as follows:

1. Scientific report delivered by M.Sc. E. Krok in the parts 2&3 proves that realization of her IRP is appropriately advanced to the time used for its realization. The quality of obtained results in characterization of the structural and molecular properties of biomimetic cell membranes using different but complementary techniques as Confocal Microscopy, Fluorescence Recovery After Photobleaching, Atomic Force Microscopy, and Dynamic Light Scattering (DLS) enable to join them to published already articles in high rank journals. M.Sc. E. Krok investigated the impact of a significant environmental parameter as the pH of the used liquid on the properties of the artificial cell membranes conditions. M.Sc. E. Krok found that a rise in pH causes an increment of the size of the domains of biomimetic cell membranes. Hydrophobic mismatch increases with the pH, but the changes in the pH do not inhibit lipids mobility. Moreover the obtained results proved for the first time that lipid membranes surviving desiccation could be prepared without mechanical or chemical modification, and the structure of the membranes under different hydration conditions remains intact. It seems that the extended and important part of IRP was realized.


2. Part 4th reporting scientific achievements and other activity directly related to implementation of doctoral dissertation was also positively assessed as Miss E. Krok is the co-author of 3 articles published in the high rank Journals as JACS and Biosensors. She is also the first co-author of an article published in Nanotechnology. She also published 4 conference papers, presented 4 talks and 7 posters during national and international conferences, mostly "on-line" due to Covid-19 pandemic restrictions. It is worth to point out her participation in preparing 3 patents applications (as the first co-author in one of them). She also took a part in 6 "on-line" courses organized by Polish and foreign scientific Institutions.

3. Her Individual Education Program (IEP) was realized fully as Miss E. Krok has gained maximum ECTS points possible to obtain within the first two years of studies at the PUT Doctoral School and she realized appropriate participation in teaching of classes with students. The other internships or practical trainings outside PUT were postponed due to COVID-19 pandemic.

The obtained scientific results up to now, publications and patent applications gives a very good base for grant applications with Miss E. Krok as head. We would suggest to apply for PRELUDIUM project at the first turn.

On behalf of the Commission / Za Komisję

September 14th, 2021
Date


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Legible signature of Head of Commission
prof.dr hab. Ryszard Czajka

* delete as appropriate / niepotrzebne skreślić