

Recommendation of Supervisor

I have read the Diploma Thesis written by Mr. Evren Boyraz under my supervision attentively and evaluated the importance of the thesis for the field of science.

Compared to literature, it has been suggested a new method to prepare self-cleaning membranes using nanofiber web. For this aim, the nanofiber web was laminated on a textile surface to improve their mechanical strength. The prepared membranes were characterized, and their performance for the separation of oily wastewater was measured. In this work, 4 different polymeric nanofibers with two different nanofiber web densities (g/m^2) were used. Two of them were selected for the further step to change surface for the self-cleaning property. The surface was modified using chemical modification, and super hydrophilic membranes were prepared. In the second step, TiO_2 nanoparticles were attached to the surface to improve the antibacterial property of the membranes. The modification method used in this thesis is quite promising. Using this method not only one type or property but also various nanoparticles with various functionalities can be used.

This thesis aimed to develop a facile method which was developed to functionalize nanofibrous to produce a versatile and effective self-cleaning membrane for separation of oil/water emulsion to protect the environment.

The symbols, list of tables and figures are given clearly within the thesis. The tables and figures represent the results of the experimental work. The findings and conclusions are explained clearly and carefully within the text contributing to easily understanding the aim of the scientific work. The discussion part could be extended more in details, but still, it is in enough level for Diploma Thesis.

The plagiarism was check by the Library of the Technical University of Liberec. The results indicated that there is no plagiarism on this thesis.

Depending on the below evaluation, I consider the Diploma Thesis on “Preparation of Nanofibrous Membranes for Oil/Water Separation” is a valuable scientific work and I highly recommend it for defense. The proposed grade for the thesis is “excellent (1)”.



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