
A review of
„Preparation and Characterization of Antibacterial Surfaces“
by

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The thesis is focused on preparation and characterization of antibacterial surfaces based on LDPE with respect to the relation among structure and processing properties. The works addressing such concept are nowadays very demanding in the application sphere of food and medicine industries, and therefore the topic of the PhD work has been well selected.

The thesis presented is a monograph supported by two journal papers, where the applicant is the first author of the second publication, accomplishing thus a minimum required for the PhD degree.

The *Introduction* presents rather brief overview of the materials and techniques employed for the preparation of antibacterial surfaces. For the state-of-art I expect deeper introduction to the topic. In the section *Materials and Methods* the set of a number of methods used to evaluate the antibacterial properties of plasma treated surfaces brings the necessity to provide thesis with the list of the detailed description of the individual contribution of the author herself. Concerning the formal style of the thesis I appreciate high quality of drawings. However, the style of references should be unified, and the same applies for the author's bibliography.

To the Thesis itself I have the following remarks which should be clarified:

- Explain why the temperature of low-temperature plasma is slightly higher than room temperature when electron temperature is approximately 50 000 K.
- Give a more detailed explanation of the principle of terahertz spectroscopy for characterization of polymer substrates and summarize the advantages of this technique against the other spectroscopy types.

This thesis presents very interesting data on the subject, which however should be discussed more thoroughly with comprehensive references to the previous research in the field.

I recommend the thesis for the defense of PhD. degree during which Kateřina Sulovská shall hopefully demonstrate her ability to conduct careful and well-oriented scientific research to a satisfactory level.

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prof. Berenika Hausnerova