Characterization of thermodynamic interactions between stimuli-sensitive fatty acid-based microparticles and a phospholipid bilayer

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Abstract

The solid lipid microparticles combined with superparamagnetic iron oxide nanoparticles give a possibility of active drug delivery and release with the potential to enhance the efficacy while simultaneously reducing side effects. I will present a study in which the anticancer drug Paclitaxel was loaded into the microparticles fabricated from either lauric acid or a mixture of myristic and palmitic acids. The Isothermal Titration Calorimetry was used to evaluate the thermodynamics of the substance release from microparticles. To model the particulates environment in lungs, aqueous suspensions of albumin or liposomes formed from phosphatidylcholine were used.

About the presenter

Paulina Dałek is a PhD student in the Department of Biomedical Engineering, Wrocław University of Science and Technology and a member of the Laboratory for Biophysics of Lipid Aggregates. Her research interests are focused on properties and behaviour of biological membranes, especially their thermodynamics and mechanics.