

Method of drop-coating deposition Raman spectroscopy is a special technique that employs deposition of a small droplet of the sample on a hydrophobic surface with subsequent solvent removal by evaporation. As a result the concentrated material forms a ring at the edge of the droplet. This technique has proven to be efficient for liposome studies at low concentrations. We focused on a study of spectral changes and ring formation in phosphatidylcholine liposomes due to increasing amount of cholesterol. Higher concentration of cholesterol didn't cause significant changes in membrane structure, such as phase transition, however the ring wasn't formed. Second part of this bachelor thesis concerns with the search for some alternative surface to previously used SpectRIMTM DCDR plates made by Tienta Sciences, Inc. which are no longer available. The polished calcium fluoride glass (CaF₂) seems to be the most suitable for the further use from all tested surfaces. Raman signal at the other surfaces was either weak or spectral bands that don't belong to lipid were observed.