

This thesis deals with the study of microbial pigment violacein in the real sample of lyophilized microorganisms. The sample was investigated by using methods of vibrational spectroscopy with focusing on the applicability of surface enhanced and resonance micro-Raman spectroscopy. For this purpose several different systems for enhancing Raman intensity together with the set of excitation lasers emitting in the visible light region were used. The conclusion of this thesis are the recommendations connected with the appropriateness of using each amplifying systems and excitation wavelengths for the successful identification of violacein pigment in the sample.