

SOL-GEL COATED FIBEROPTIC APPLICATOR FOR PHOTODYNAMIC MEDICINE - OPTICAL AND AFM CHARACTERIZATION

Marta Kopaczyńska, Iwona Hołowacz, Agnieszka Ulatowska-Jarża, Igor Buzalewicz,
Halina Podbielska

*Institute of Biomedical Engineering and Instrumentation, Wrocław University of Technology,
Wrocław, Poland*

Abstract

The application of spectroscopic study, microscopic and AFM imaging for examination of fiberoptic applicators is presented. The potential carriers of photoactive agents for photodynamic medicine in form of sol-gel coatings of fiberoptic applicators, are proposed. Optical and morphological properties of the proposed sol-gel coatings doped with photosensitizer Photolon, are characterized. The influence of pH and oxygen changes on entrapped Photolon properties, was examined, as well. The morphology of the applicator coating was examined by using atomic force microscopy. The light distribution from an applicator was studied by means of computer aided image analysis.

Keywords: photosensitizer, Photolon, biocarrier, fiberoptic applicator, PDT