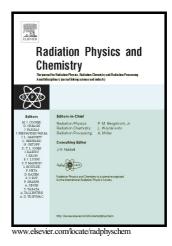
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Lysozyme immobilization onto PVC catheters grafted with NVCL and HEMA for reduction of bacterial adhesion

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Abstract

The aim of the present work was to functionalize poly(vinyl chloride) (PVC) urinary catheters with grafted copolymers that can improve the biocompatibility and serve as binding points of lysozyme. PVC catheters were modified by grafting a mixture of N-vinylcaprolactam (NVCL) and 2-hydroxyethylmethacrylate (HEMA) applying a gamma-ray pre-irradiation method. The effect of absorbed dose, monomer concentration, temperature, and reaction time on the grafting percentage was evaluated. The grafted catheters were characterized regarding surface composition (FTIR-ATR spectroscopy), thermal properties (DSC and TGA) and swelling in aqueous medium. Lysozyme was directly coupled onto PVC-g-(NVCL/HEMA) previously activated using

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