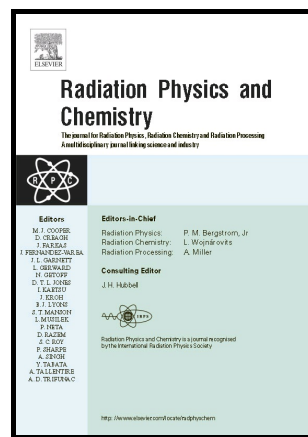


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Radiation-grafting of vinyl monomers separately onto polypropylene monofilament sutures

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## Abstract

N-isopropylacrylamide (NIPAAm), 2-hydroxyethylmethacrylate (HEMA) and N-vinylimidazole (NVIIm) were grafted separately onto polypropylene (PP) monofilament sutures. These grafted copolymers have properties with potential application in the synthesis of new biomedical devices. Co-60 gamma radiation was employed with dose rate of  $9.2 \text{ kGy h}^{-1}$  in synthesis of copolymers with different grafting percentages: PP-g-PNIPAAm from 11 to 175%, PP-g-PHEMA from 6 to 130%, and PP-g-PNVIIm from 10 to 17%. Both NIPAAm and HEMA were grafted applying the pre-irradiation method under different reaction conditions: dose, temperature, monomer concentration and reaction time; NVIIm was grafted by simultaneous method with doses from 20 up to 60 kGy. Grafted polymers were

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