

## IMPROVEMENT OF POLYMER SURFACE CYTOCOMPATIBILITY BY GRAFTING OF VICINAL COMPOUNDS

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### Abstract

Polymers are well known and useful for their excellent bulk properties. They are frequently employed in industry, biotechnology, tissue engineering studies, medicine, etc. However, inert nature of most polymer surfaces may limit their use. Surface chemistry, polarity, roughness and morphology strongly influence cell adhesion, proliferation and they are important for many potential applications of polymers in medicine and related fields [1]. Many modification techniques have been developed to improve surface properties. Grafting plasma treated polymers with vicinal compounds is expected to provide new materials of excellent properties for potential usage in tissue engineering. Some selected vicinal compounds were grafted on polymer foils previously activated by plasma. Surface properties changed significantly and were studied using various methods, by X-ray photoelectron spectroscopy, electrokinetic analysis, goniometry, atomic force microscopy. Representatives of unmodified and modified polymers were used for in vitro study of adhesion and proliferation of vascular smooth muscle cells. Plasma treatment and cysteamine grafting improved dramatically surface cytocompatibility [2].

**Keywords:** Surface properties, plasma treatment, grafting of vicinal compounds, cell adhesion and proliferation

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