

Modulated azo-polymer surfaces used for cell cultures applications

Azo-polymeric films constitutes the ideal candidates for cell cultures. Polysiloxanes and linear poly(p-chloromethyl) styrene with azobenzene unit attached to the lateral chains were synthesized and characterized. Due to the presence of photo-responsive azobenzene moieties, the films of these polymers showed different responses under UV light by matter reorganization at the nano level. A surface relief grating was obtained under controlled light irradiation. The SRG process is highly complex and depends on a variety of factors.

The nanostructured azopolymeric films (deposited on glass or olymethylnmethacrylate surfaces) are suitable for cell culture applications. The cell response has been evaluated for different azopolymers having various film thicknesses and topographies.

The film elasticity is influenced by the chemical structure of the main polymer chain, while the adhesion properties are adjusted by the type of grafted azo-phenol. The surface relief, elasticity, and adhesion properties control the bio-cultures development.

Biography

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