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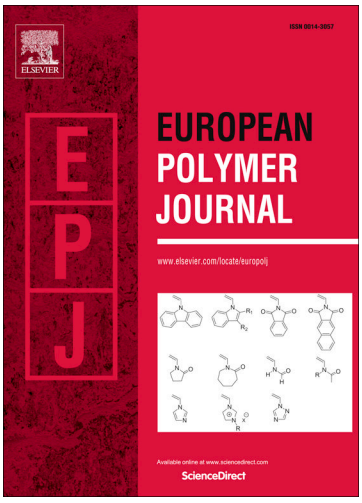

Melamine-Based Poly(azomethine) Hydrogels: Mechanical, Biodegradability, Drug Loading and Antibacterial Properties

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Melamine-Based Poly(azomethine) Hydrogels: Mechanical, Biodegradability, Drug Loading and Antibacterial Properties

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ABSTRACT

In the present paper, a new series of biodegradable poly(azomethine) gels were prepared to investigate the usability as biomaterials. The structures of the hydrogels were characterized by using FT-IR and SEM analyses. Contact angle measurements were also performed to investigate hydrophobicity of the hydrogels. Thermal behavior of melamine-based poly(azomethine)s and hydrogels was performed using TG-DTA and DSC techniques. Mechanical properties of poly(azomethine) hydrogels were investigated using a tensile testing method. Biodegradability, drug loading or release performance, protein absorption, water uptake and antibacterial properties were also studied due to investigate usability of melamine-based hydrogels as biomaterials.

Keywords: Melamine; Hydrogel; Drug-release; Biodegradability; 5-Fluoro uracil