

Accepted Manuscript

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

Musa Kamaci, Ismet Kaya

PII: S0014-3057(18)31250-3
DOI: <https://doi.org/10.1016/j.eurpolymj.2018.08.035>
Reference: EPJ 8548

To appear in: *European Polymer Journal*

Received Date: 6 July 2018
Revised Date: 2 August 2018
Accepted Date: 21 August 2018

Please cite this article as: Kamaci, M., Kaya, I., Melamine-Based Poly(azomethine) Hydrogels: Mechanical, Biodegradability, Drug Loading and Antibacterial Properties, *European Polymer Journal* (2018), doi: <https://doi.org/10.1016/j.eurpolymj.2018.08.035>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



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

Musa KAMACI^{a,b,*}, Ismet KAYA^b

^a Piri Reis University, 34940 Tuzla, Istanbul, Turkey

^b Polymer Synthesis and Analysis Lab., Department of Chemistry, Faculty of Science and Arts, Çanakkale Onsekiz Mart University, 17020, Çanakkale, Turkey

* Correspondence: mkamaci@pirireis.edu.tr (M. Kamaci); kayaismet@hotmail.com (I. Kaya)

Tel.: +90-216-581-00-50; Fax: +90-216-581-00-51

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

Download English Version:

<https://daneshyari.com/en/article/10128122>

Download Persian Version:

<https://daneshyari.com/article/10128122>

[Daneshyari.com](https://daneshyari.com)