

Accepted Manuscript

Thermosensitive chitosan gels containing calcium glycerophosphate

Agata L. Skwarczynska, Slawomir Kuberski, Waldemar Maniukiewicz, Zofia Modrzejewska



PII: S1386-1425(18)30357-3
DOI: doi:[10.1016/j.saa.2018.04.050](https://doi.org/10.1016/j.saa.2018.04.050)
Reference: SAA 16007

To appear in: *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*

Received date: 24 November 2017
Revised date: 13 April 2018
Accepted date: 23 April 2018

Please cite this article as: Agata L. Skwarczynska, Slawomir Kuberski, Waldemar Maniukiewicz, Zofia Modrzejewska , Thermosensitive chitosan gels containing calcium glycerophosphate. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Saa(2017), doi:[10.1016/j.saa.2018.04.050](https://doi.org/10.1016/j.saa.2018.04.050)

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.

Thermosensitive chitosan gels containing calcium glycerophosphate

Agata L. Skwarczynska¹, Sławomir Kuberski², Waldemar Maniukiewicz³,
Zofia Modrzejewska⁴

¹*Department of Civil, Environmental Engineering and Architecture,*

Rzeszow University of Technology, Powstancow Warszawy 6, 35-959, Rzeszow, Poland

²*Department of Molecular Engineering, Faculty of Process and Environmental Engineering,
Lodz University of Technology, Wolczanska 175, 90-924 Lodz, Poland*

³*Institute of General and Ecological Chemistry, Lodz University of Technology,
Zeromskiego 116, 90-924, Lodz, Poland*

⁴*Lodz University of Technology, Zeromskiego 116, 90-924 Lodz, Poland*

Abstract

In this paper the properties of thermosensitive chitosan hydrogels, formulated with chitosan chloride with β -glycerophosphate disodium salt hydrate and chitosan chloride with β -glycerophosphate disodium salt hydrate enriched with calcium glycerophosphate, are presented. The study focused on the determination of the hydrogel structure after conditioning in water. The structure of the gels was investigated by Fourier transform infrared (FTIR) spectroscopy and scanning electron microscopy (SEM). The crystallinity of the gel structure was determined by X-ray diffraction analysis (XRD) and the thermal effects were determined based on DSC thermograms.

Keywords: *chitosan, thermosensitive chitosan gels, structural properties.*

Download English Version:

<https://daneshyari.com/en/article/7668609>

Download Persian Version:

<https://daneshyari.com/article/7668609>

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