Accepted Manuscript

Title: Gallium-modified chitosan/poly(acrylic acid) bilayer coatings for improved titanium implant performances

Authors: Maria A. Bonifacio, Stefania Cometa, Manuela



Dicarlo, Federico Baruzzi, Silvia de Candia, Antonio Gloria, Maria M. Giangregorio, Monica Mattioli-Belmonte, Elvira De Giglio

PII: DOI: Reference: S0144-8617(17)30257-6 http://dx.doi.org/doi:10.1016/j.carbpol.2017.03.009 **CARP 12098**

To appear in:

Received date:	30-7-2016
Revised date:	28-2-2017
Accepted date:	5-3-2017

Please cite this article as: Bonifacio, Maria A., Cometa, Stefania., Dicarlo, Manuela., Baruzzi, Federico., de Candia, Silvia., Gloria, Antonio., Giangregorio, Maria M., Mattioli-Belmonte, Monica., & De Giglio, Elvira., Gallium-modified chitosan/poly(acrylic acid) bilayer coatings for improved titanium implant performances. Carbohydrate Polymers http://dx.doi.org/10.1016/j.carbpol.2017.03.009

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.

ACCEPTED MANUSCRIPT

Gallium-modified chitosan/poly(acrylic acid) bilayer coatings for improved titanium implant performances

Maria A. Bonifacio,¹ Stefania Cometa,^{2§} Manuela Dicarlo,^{3§} Federico Baruzzi,⁴ Silvia de Candia,⁴ Antonio Gloria,⁵ Maria M. Giangregorio,⁶ Monica Mattioli-Belmonte,³ Elvira De Giglio^{1*}

^{1*}Dept. of Chemistry, University of Bari Aldo Moro, Bari, Italy

²Jaber Innovation srl, Roma, Italy

³Dept. of Clinical and Molecular Sciences, Università Politecnica delle Marche, Ancona, Italy

⁴Institute of Sciences of Food Production (ISPA-CNR), National Research Council of Italy, Bari,

⁵Institute of Polymers, Composites and Biomaterials (IPCB-CNR), National Research Council of Italy, Napoli, Italy

⁶Institute of Nanotechnology (NANOTEC-CNR), National Research Council of Italy, Bari, Italy

§ These authors equally contributed to the work.

* Corresponding author. Tel/Fax: +39 080 5442021.E-mail address: elvira.degiglio@uniba.it (E. De Giglio)

Highlights:

- A gallium-modified chitosan/poly(acrylic acid) bilayer was electrodeposited on Ti.
- Physico-chemical and mechanical properties of the bilayer were accurately studied.
- Gallium loading could be tuned changing deposition time during bilayer synthesis.
- The number of *E. coli* and *P. aeruginosa* cells reduced significantly on the bilayer.
- The proposed titanium coating showed remarkable biocompatibility on MG63 cells.

Download English Version:

https://daneshyari.com/en/article/5157365

Download Persian Version:

https://daneshyari.com/article/5157365

Daneshyari.com