Accepted Manuscript

Title: Synthesis of copper-containing bioactive glass nanoparticles using a modified Stöber method for biomedical applications

Author: Kai Zheng Xinyi Dai Miao Lu Norbert Hüser Nicola

Taccardi Aldo. R. Boccaccini

PII: S0927-7765(16)30794-9

DOI: http://dx.doi.org/doi:10.1016/j.colsurfb.2016.11.016

Reference: COLSUB 8250

To appear in: Colloids and Surfaces B: Biointerfaces

Received date: 19-8-2016 Revised date: 7-11-2016 Accepted date: 14-11-2016

Please cite this article as: Kai Zheng, Xinyi Dai, Miao Lu, Norbert Hüser, Nicola Taccardi, Aldo.R.Boccaccini, Synthesis of copper-containing bioactive glass nanoparticles using a modified Stöber method for biomedical applications, Colloids and Surfaces B: Biointerfaces http://dx.doi.org/10.1016/j.colsurfb.2016.11.016

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

Synthesis of copper-containing bioactive glass nanoparticles using a modified Stöber method for biomedical applications

Kai Zhenga‡, Xinyi Daib‡, Miao Lub, Norbert Hüserb, Nicola Taccardic, Aldo. R. Boccaccinia*

^aInstitute of Biomaterials, Department of Materials Science and Engineering, University of

Erlangen-Nuremberg, Cauerstrasse 6, 91058 Erlangen, Germany

^bDepartment of Surgery, Klinikum rechts der Isar, Technische Universitaet München, Ismaninger Str.

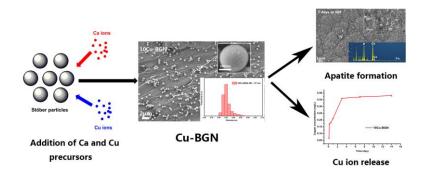
22, 81675 München, Germany

^cLehrstuhl für Chemische Reaktionstechnik, University of Erlangen-Nuremberg, Egerlandstrasse 3, 91058 Erlangen, Germany

*Corresponding author: Institute of Biomaterials, Department of Materials Science and Engineering, University of Erlangen-Nuremberg, Cauerstrasse 6, 91058 Erlangen, Germany. E-mail: aldo.boccaccini@ww.uni-erlangen.de. Tel.: +49 9131 85 28601; fax: +49 9131 85 28602

‡ These two authors contributed equally to this paper

Graphical abstract



Highlights

- 1. Cu-BGNs could be synthesized using a convenient modified Stöber method.
- 2. Cu-BGNs were highly dispersed with a uniformly spherical shape (400-450 nm).
- 3. Copper content in Cu-BGNs could be tailored.
- 4. Cu-BGNs exhibited a rapid apatite formation upon immersion in SBF.
- 5. Cu-BGNs could release copper ions for up to at least 14 days.

Download English Version:

https://daneshyari.com/en/article/4983378

Download Persian Version:

https://daneshyari.com/article/4983378

<u>Daneshyari.com</u>