

Accepted Manuscript

Title: Biocompatible and fluorescent superparamagnetic iron oxide nanoparticles with superior magnetic properties coated with charged polysaccharide derivatives

Author: Dorota Lachowicz Agnieszka Szpak Katarzyna Małek-Ziętek Mariusz Kępczyński Robert N. Muller Sophie Laurent Maria Nowakowska Szczepan Zapotoczny



PII: S0927-7765(16)30779-2
DOI: <http://dx.doi.org/doi:10.1016/j.colsurfb.2016.11.003>
Reference: COLSUB 8236

To appear in: *Colloids and Surfaces B: Biointerfaces*

Received date: 8-6-2016
Revised date: 29-10-2016
Accepted date: 1-11-2016

Please cite this article as: Dorota Lachowicz, Agnieszka Szpak, Katarzyna Małek-Ziętek, Mariusz Kępczyński, Robert N.Muller, Sophie Laurent, Maria Nowakowska, Szczepan Zapotoczny, Biocompatible and fluorescent superparamagnetic iron oxide nanoparticles with superior magnetic properties coated with charged polysaccharide derivatives, *Colloids and Surfaces B: Biointerfaces* <http://dx.doi.org/10.1016/j.colsurfb.2016.11.003>

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.

Biocompatible and fluorescent superparamagnetic iron oxide nanoparticles with superior magnetic properties coated with charged polysaccharide derivatives

Dorota Lachowicz,^{†,‡} Agnieszka Szpak,[†] Katarzyna Małek-Ziętek,[#] Mariusz Kępczyński,[†] Robert N. Muller,^{§,∫} Sophie Laurent,^{§,∫} Maria Nowakowska,^{†,*} Szczepan Zapotoczny^{†,*}

[†]Faculty of Chemistry, Jagiellonian University, Ingardena 3, 30-060 Krakow, Poland

[‡]Academic Centre of Materials and Nanotechnology, AGH - University of Science and Technology, Kawory 30, 30-055 Krakow, Poland

[#]M. Smoluchowski Institute of Physics, Faculty of Physics, Astronomy and Applied Computer Science, Jagiellonian University, Łojasiewicza 11, 30-348 Krakow, Poland.

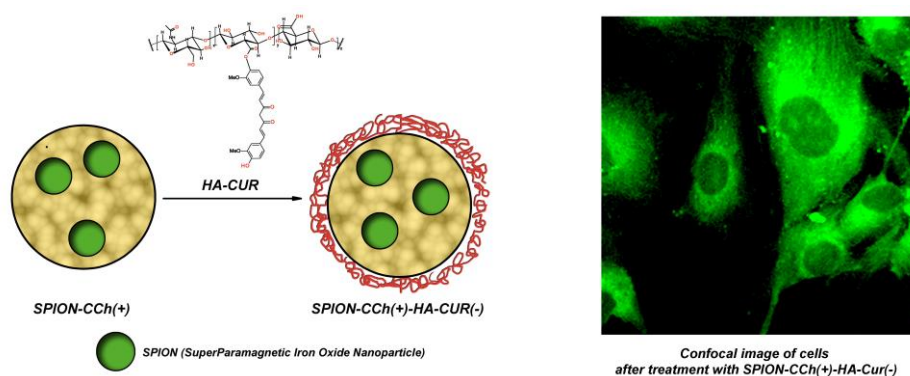
[§]Department of General, Organic and Biomedical Chemistry, NMR and Molecular Imaging Laboratory, University of Mons, Avenue Maistriau, 19, B-7000 Mons, Belgium

[∫]Center for Microscopy and Molecular Imaging (CMMI), Rue A. Bolland, 8, 6041 Gosselies, Belgium

Corresponding authors: email: zapotocz@chemia.uj.edu.pl

email: nowakows@chemia.uj.edu.pl

Graphical abstract



Highlights:

- superparamagnetic iron oxide nanoparticles labeled with cumarine were synthesized
- nanoparticles exhibit superior magnetic properties as contrast agents for MRI
- they easily penetrate cell membranes and can be tracked by fluorescence microscopy
- they were shown to be non-toxic due to hyaluronic acid coating

Download English Version:

<https://daneshyari.com/en/article/4983404>

Download Persian Version:

<https://daneshyari.com/article/4983404>

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