

Accepted Manuscript

Photoimmobilization of zwitterionic polymers on surfaces to reduce cell adhesion

Patrik Sobolčiak, Anton Popelka, Matej Mičušík, Monika Sláviková, Igor Krupa, Jaroslav Mosnáček, Ján Tkáč, Igor Lacík, Peter Kasák

PII: S0021-9797(17)30412-5
DOI: <http://dx.doi.org/10.1016/j.jcis.2017.04.020>
Reference: YJCIS 22232

To appear in: *Journal of Colloid and Interface Science*

Received Date: 8 February 2017
Revised Date: 6 April 2017
Accepted Date: 6 April 2017

Please cite this article as: P. Sobolčiak, A. Popelka, M. Mičušík, M. Sláviková, I. Krupa, J. Mosnáček, J. Tkáč, I. Lacík, P. Kasák, Photoimmobilization of zwitterionic polymers on surfaces to reduce cell adhesion, *Journal of Colloid and Interface Science* (2017), doi: <http://dx.doi.org/10.1016/j.jcis.2017.04.020>

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.



Photoimmobilization of zwitterionic polymers on surfaces to reduce cell adhesion

Patrik Sobolčiak¹, Anton Popelka¹, Matej Mičušík², Monika Sláviková³, Igor Krupa¹,
Jaroslav Mosnáček², Ján Tkáč⁴, Igor Lacík^{2,*}, Peter Kasák^{1,*}

1) Center for Advanced Materials, Qatar University, P.O. Box 2713, Doha, Qatar

*2) Polymer Institute of the Slovak Academy of Sciences, Dúbravská cesta 9, 845 41
Bratislava, Slovak Republic*

*3) Institute of Virology, Biomedical Research Centre of the Slovak Academy of Sciences,
Dúbravská cesta 9, 845 05 Bratislava, Slovak Republic*

*4) Department of Glycobiotechnology, Institute of Chemistry of the Slovak Academy of
Sciences, Dúbravská cesta 9, 845 38 Bratislava, Slovak Republic*

*Corresponding authors: email: peter.kasak@qu.edu.qa, phone: +974 4403 5674;
email: igor.lacik@savba.sk, phone: +421 2 3229 4308.

Abstract

Simple and robust methods for modifying hydrophobic polymer surfaces with zwitterionic polymers using UV irradiation were developed. Two random zwitterionic copolymers consisting of either carboxybetaine or sulfobetaine methacrylamide monomers and monomers bearing a photolabile azidophenyl group were directly photoimmobilized on polymeric surfaces (polyester, polyethylene and polystyrene) via covalent interactions in a spatially controlled manner. These copolymers were also electrospun to form self-standing mats. The modified surfaces were characterized by X-

Download English Version:

<https://daneshyari.com/en/article/4984692>

Download Persian Version:

<https://daneshyari.com/article/4984692>

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