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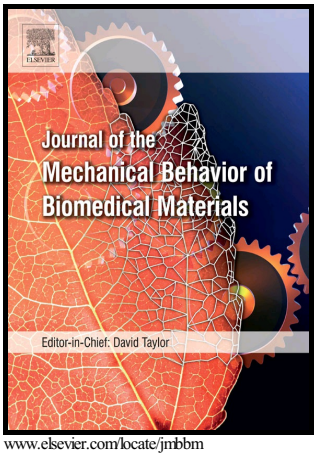

www.elsevier.com/locate/jmbbm

PII: S1751-6161(18)30470-3
DOI: https://doi.org/10.1016/j.jmbbm.2018.07.014
Reference: JMBBM2882

To appear in: *Journal of the Mechanical Behavior of Biomedical Materials*

Received date: 9 April 2018
Revised date: 9 July 2018
Accepted date: 10 July 2018

Cite this article as: Hamidreza Gharibi and Amir Abdolmaleki, Thermo-chemical modification of a natural biomembrane to induce mucoadhesion, pH sensitivity and anisotropic mechanical properties, *Journal of the Mechanical Behavior of Biomedical Materials,* https://doi.org/10.1016/j.jmbbm.2018.07.014

Thermo-chemical modification of a natural biomembrane to induce mucoadhesion, pH sensitivity and anisotropic mechanical properties

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Abstract

In the present study due to the distinctive mechanochemical/biological characteristics of natural biomembranes, we state the preparation, characterization and cytocompatibility of modified eggshell membrane (ESM) by citric acid (CA) for biomedical and pharmaceutical applications. FTIR spectroscopy and CHNS analysis demonstrated the successful reaction of ESM with CA. Also, successful modification of the ESM was observed by the change in thermogravimetric analysis. SEM micrographs of neat ESM and ESM-CA gave further insight into membranes morphology and revealed that aligned oriented fibrous frameworks were prepared using thermo-