

Accepted Manuscript

Title: Rapid separation of bacteria from blood – Chemical aspects

Authors: Mahsa Alizadeh, Ryan L. Wood, Clara M. Buchanan, Colin G. Bledsoe, Madison E. Wood, Daniel S. McClellan, Rae Blanco, Tanner V. Ravsten, Ghaleb A. Hussein, Caroline L. Hickey, Richard A. Robison, William G. Pitt



PII: S0927-7765(17)30146-7
DOI: <http://dx.doi.org/doi:10.1016/j.colsurfb.2017.03.027>
Reference: COLSUB 8437

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

Received date: 15-11-2016
Revised date: 10-3-2017
Accepted date: 13-3-2017

Please cite this article as: Mahsa Alizadeh, Ryan L. Wood, Clara M. Buchanan, Colin G. Bledsoe, Madison E. Wood, Daniel S. McClellan, Rae Blanco, Tanner V. Ravsten, Ghaleb A. Hussein, Caroline L. Hickey, Richard A. Robison, William G. Pitt, Rapid separation of bacteria from blood – Chemical aspects, *Colloids and Surfaces B: Biointerfaces* <http://dx.doi.org/10.1016/j.colsurfb.2017.03.027>

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.

Rapid Separation of Bacteria from Blood – Chemical Aspects

Mahsa Alizadeh¹
Ryan L. Wood¹
Clara M. Buchanan¹
Colin G. Bledsoe¹
Madison E. Wood²
Daniel S. McClellan¹
Rae Blanco¹
Tanner V. Ravsten¹
Ghaleb A. Hussein³
Caroline L. Hickey¹
Richard A. Robison²
William G. Pitt*¹

¹ Chemical Engineering Department, Brigham Young University, Provo, UT 84602

² Department of Microbiology and Molecular Biology, Brigham Young University,
Provo, UT 84602

³ Chemical Engineering Department, American University of Sharjah, Sharjah, United
Arab Emirates

*Corresponding Author: 350 Clyde Bldg., Brigham Young University, Provo, UT 84602,
pitt@byu.edu 801-422-2589

Graphical abstract

Highlights for COLSUB-D-2016-02085

- Bacteria can be separated from blood cells in septic blood in less than 1 minute.
- When blood is spun in an open disk, blood cells sediment faster than bacteria.
- Controlled slowing of the disk allows separation of blood cells from the plasma containing the bacteria.
- Bacteria can be further processed to identify species and resistance profile.

Download English Version:

<https://daneshyari.com/en/article/4983347>

Download Persian Version:

<https://daneshyari.com/article/4983347>

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