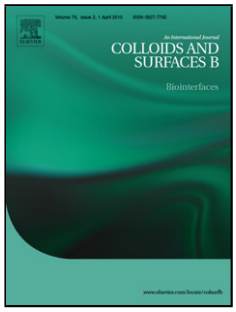
Accepted Manuscript



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Author: M.Carmen Morán Tatiana Tozar Agota Simon Andra Dinache Adriana Smarandache Ionut Relu Andrei Mihai Boni Mihail Lucian Pascu Francesca Cirisano Michele Ferrari

PII: S0927-7765(15)30001-1
DOI: http://dx.doi.org/doi:10.1016/j.colsurfb.2015.06.041
Reference: COLSUB 7171

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

Received date: 18-4-2015
Revised date: 15-6-2015
Accepted date: 22-6-2015

Please cite this article as: M.Carmen Morán, Tatiana Tozar, Agota Simon, Andra Dinache, Adriana Smarandache, Ionut Relu Andrei, Mihai Boni, Mihail Lucian Pascu, Francesca Cirisano, Michele Ferrari, Toxicity study in blood and tumor cells of laser produced medicines for application in fabrics, Colloids and Surfaces B: Biointerfaces http://dx.doi.org/10.1016/j.colsurfb.2015.06.041

Toxicity study in blood and tumor cells of laser produced medicines for application in fabrics

M. Carmen Morán[a,b,*],Tatiana Tozar[c,d], Agota Simon[c,d], Andra Dinache[c,d], Adriana Smarandache[c,d], Ionut Relu Andrei[c], Mihai Boni[c,d], Mihail Lucian Pascu[c,d], Francesca Cirisano[e] and Michele Ferrari[e]

[a]*Departament de Fisiologia; Facultat de Farmàcia, Universitat de Barcelona, Avda. Joan XXIII s/n, 08028-Barcelona-Spain*
[b]*Institut de Nanociència i Nanotecnologia-IN^{2}UB, Universitat de Barcelona, Avda. Joan XXIII s/n, 08028-Barcelona-Spain*
[c]*National Institute for Laser, Plasma and Radiation Physics, 077125 Magurele, Romania*
[d]*Faculty of Physics, University of Bucharest, 077125 Magurele, Romania*
[e]*CNR – Istituto per l' Energetica e le Interfasi, 16149 Genova, Italy*
*Corresponding author: **mcmoranb@ub.edu**

Highlights

► ► Phenothiazines water solutions exposed to UV laser beam are stable one month. ► Irradiation yields to stable photoproducts of CPZ and PZ, producing oxygen-independent photohaemolysis. ► Irradiation process of CPZ and PZ promotes the generation of substances with higher cytotoxic character that the parent ones. ► Irradiation results in an enhancement of the wetting and distribution of the CPZ and PMZ substances in the fabrics.

Abstract

Phenothiazine derivatives are non-antibiotics with antimicrobial, fungistatic and fungicidal effects. We exposed to a high energy UV laser beam phenothiazines solutions in water at 20 mg/mL concentration to increase antibacterial activity of resulting mixtures. Compared to previous results obtained on bacteria, more research is needed about UV laser irradiated phenothiazines applications on cancer cell cultures to evidence possible anticancerous properties. Evaluation of the safety of the newly obtained photoproducts in view of use on humans is also needed. Due to expensive animal testing in toxicology and pressure from general public and governments to develop alternatives to *in vivo* testing, *in vitro* cell-based models are attractive for