

Accepted Manuscript

Title: Photocatalytic and photoelectrocatalytic degradation of the drug omeprazole on nanocrystalline titania films in alkaline media: effect of applied electrical bias on degradation and transformation products

Author: Iosif Tantis Leda Bousiakou Zacharias Frontistis
Dionissios Mantzavinos Ioannis Konstaninou Maria
Antonopoulou George-Albert Karikas Panagiotis Lianos

PII: S0304-3894(15)00247-2
DOI: <http://dx.doi.org/doi:10.1016/j.jhazmat.2015.03.042>
Reference: HAZMAT 16690

To appear in: *Journal of Hazardous Materials*

Received date: 12-2-2015
Revised date: 19-3-2015
Accepted date: 21-3-2015

Please cite this article as: Iosif Tantis, Leda Bousiakou, Zacharias Frontistis, Dionissios Mantzavinos, Ioannis Konstaninou, Maria Antonopoulou, George-Albert Karikas, Panagiotis Lianos, Photocatalytic and photoelectrocatalytic degradation of the drug omeprazole on nanocrystalline titania films in alkaline media: effect of applied electrical bias on degradation and transformation products, *Journal of Hazardous Materials* <http://dx.doi.org/10.1016/j.jhazmat.2015.03.042>

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.



Photocatalytic and photoelectrocatalytic degradation of the drug omeprazole on nanocrystalline titania films in alkaline media: effect of applied electrical bias on degradation and transformation products

Iosif Tantis^a, Leda Bousiakou^{b,c}, Zacharias Frontistis^a, Dionissios Mantzavinos^a, Ioannis Konstaninou^d, Maria Antonopoulou^d, George-Albert Karikas^e, Panagiotis Lianos^{a,f*}

^aDepartment of Chemical Engineering, University of Patras, Caratheodory 1, University Campus, GR-26504 Patras Greece

^bDepartment of Physics and Astronomy, King Saud University, Riyadh, Saudi Arabia

^cDepartment of Automation Engineering, Technological Educational Institute of Pireaus, GR-12244 Athens, Greece

^dDepartment of Environmental and Natural Resources Management, University of Patras, GR-30100 Agrinio, Greece

^eDepartment of Medical Laboratories Technology, Technological Educational Institute of Athens, 12210 Athens, Greece

^fFORTH/ICE-HT, P.O. Box 1414, GR-26504 Patras Greece

* **Correspondence:** lianos@upatras.gr

Graphical abstract

fx1

Highlights

- Photocatalytic and photoelectrocatalytic degradation of the proton pump Omeprazole
- Improvement of photocatalysis rate by applying a moderate forward bias
- Highlighting of the advantages of photoelectrocatalysis in a straightforward manner
- HPLC and HR-LC-MS analysis of transformation products

Download English Version:

<https://daneshyari.com/en/article/576003>

Download Persian Version:

<https://daneshyari.com/article/576003>

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