THIRTEENTH ANNUAL CONFERENCE

YUCOMAT 2011

Hunguest Hotel Sun Resort Herceg Novi, Montenegro,
September 5-9, 2011
http://www.mrs-serbia.org.rs

Programme
and
The Book of Abstracts

Organised by:
Materials Research Society of Serbia

under the auspices of
Federation of European Material Societies
and
Materials Research Society

Title: THE THIRTEENTH ANNUAL CONFERENCE
YUCOMAT 2011
Programme and The Book of Abstracts

Publisher: Materials Research Society of Serbia
Knez Mihailova 35/IV, 11000 Belgrade, Serbia
Phone: +381 11 2185-437; Fax: + 381 11 2185-263
http://www.mrs-serbia.org.rs

Editor: Prof. Dr. Dragan P. Uskoković

Technical editor: Aleksandra Stojičić

Cover page: Aleksandra Stojičić and Milica Ševkušić

Acknowledgment:

Printed in: Biro Konto
Sutorina bb, Igalo – Herceg Novi, Montenegro
Phones: +382-31-670123, 670025, E-mail: bkonto@t-com.me
Circulation: 250 copies. The end of printing: August 2011

P.S.A.25.

LAYERED CORE-SHELL MODEL FOR DELIVERING NANOBIOMATERIALS

S. Armaković[1], A.J. Šetrajčić-Tomić[2], Lj.D. Džambas[3],
J.P. Šetrajčić[1,*], S. Krnetić[4], S.M. Vučenović[5]
[1]*University of Novi Sad, Faculty of Sciences, Department of Physics, Vojvodina – Serbia*
[2]*University of Novi Sad, Medical Faculty, Department of Pharmacy, Vojvodina – Serbia*
[3]*University of Novi Sad, Medical Faculty, Department of Dentistry, Vojvodina – Serbia*
[4]*University of Banja Luka, Faculty of Sciences – Chemistry, Republic of Srpska – B&H*
[5]*University of Banja Luka, Faculty of Sciences – Physics, Republic of Srpska – B&H*
**Academy of Sciences and Arts of the Republic of Srpska – B&H*

In this paper we will analyze application of nanomaterials in biomedicine, that is to say we will present the recent accomplishments in basic and clinical nanomedicine. Numerous novel nanomedicine-related applications are under development or are in the research phase, and the process of converting basic research in nanomedicine into commercially viable products will be long and difficult. Achieving full potential of nanomedicine may be years of even decades away, however, potential advances in drug delivery, diagnosis, and development of nanotechnology-related drugs start to change the landscape of medicine. Implants, especially in dentistry, due to new biomaterials and thin coatings with specific tasks, but are now widely used. Based on our research in ultrathin crystalline structures performed so far, superlattices, quantum wires and Q-dots, we will consider the core-shell multilayer materials that can act as carriers for medicines and tagged substances.

P.S.A.26.

ELECTROCHEMICAL PROPERTIES OF ANODICALLY GROWN TiO_2

N. Cvjetićanin[1], T. Barudžija[2], D. Jugović[3], M. Mitrić[2]
[1]*Faculty of Physical Chemistry, University of Belgrade, Serbia*
[2]*The Vinča Institute of Nuclear Sciences, University of Belgrade, Serbia*
[3]*Institute of Technical Sciences of SASA, Belgrade, Serbia*

Nanostructured amorphous and anatase TiO_2 are both considered as high rate Li-insertion/extraction electrode materials. Here we present the preparation of titania on titanium substrate by the anodic oxidation method. The anodization was conducted using a two-electrode configuration under a constant voltage. Highly viscous fluoride containing glycerol electrolyte was used to anodically grow amorphous TiO_2 on titanium substrate. The crystal structure was characterized by X-ray diffraction. After thermal treatment at 400 °C amorphous TiO_2 crystallizes to anatase phase. The surface morphology was observed by scanning electron microscopy. Electrochemical properties of the as-prepared substrates directly used as anode in lithium-ion cell were examined through galvanostatic discharge/charge tests.