

International Young Scientist Conference

**Developments in
Optics and
Communications 2013**

Book of Abstracts

Institute of Solid State Physics, University of Latvia

Riga, Latvia

April 10 – 12, 2013

Edited by Janis Zaharans and Inga Saknite
Institute of Atomic Physics and Spectroscopy, University of Latvia
4 Skunu Str., Riga, Latvia
Phone: +371 67 225 493
Fax: +371 67 225 217
2013

ISBN 978-9984-49-793-8

© Institute of Atomic Physics and Spectroscopy,
University of Latvia, 2013

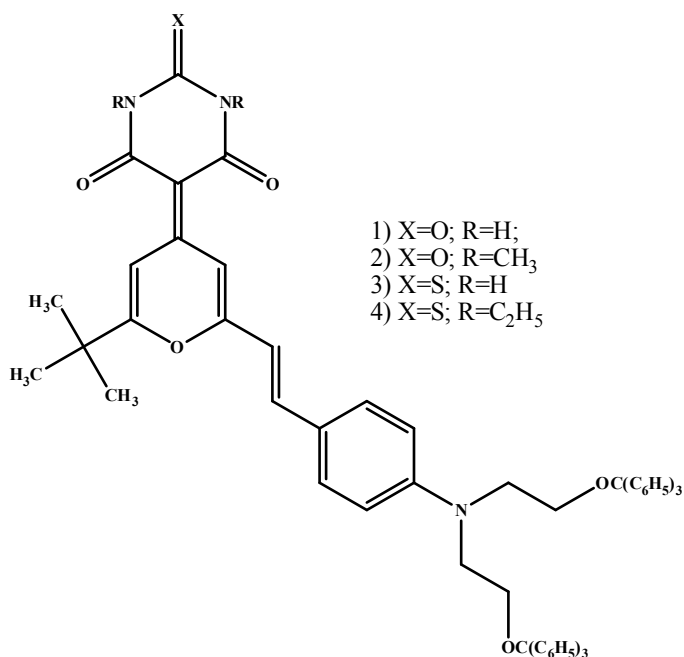
PROPERTIES OF THE PRODUCTS OBTAINED OF BARBITURIC ACID DERIVATIVES CONDENSATION REACTION WITH 2-TERT-BUTYL-6-METHYL-4H-PYRAN-4-ONE

Elina Misina, Elmars Zarins, Valdis Kokars

Institute of Applied Chemistry of Riga Technical University, Azenes 14, LV-1048 Riga, Latvia
e-mail: misina.elina@gmail.com

We synthesized new Knoevenagel condensation products which are shown in Fig. 1. These organic compounds contain D- π -A system, where electron donating group functions has fragment of 4-(bis(2-(trithyloxy)ethyl)aminobenzaldehyde, but as electron acceptor fragment - barbituric acid and its derivatives. Both fragments are bounded through 4H-pyran-4-ylidene (pyranilydene) π -conjugated system.

All of these compounds show light-emitting properties both liquid and solid state. In solid state compounds form thin amorphous film. All glasses show good thermal stability with thermal decomposition temperatures. The glass transition temperature of almost all compounds is higher than 125°C. These properties make them perspective not only for potential applications in organic light-emitting diodes, but also may make them useful for potential applications in other optical materials such as materials for nonlinear optics [1].



F
Fig.1 Chemical structures of Knoevenagel condensation products

References

1. E. Zarins, K. Siltane, E. Misina, V. Kokars, K. Lazdovica, A. Vembris, V. Kampars, I. Muzikante, M. Rutkis. Proc. SPIE, Vol 8435, 2012, pp. 84351Q-1-84351Q-7