

## Nanooptics and nanophotonics

### Synthesis of styrylquinoline containing polymers for photonic application

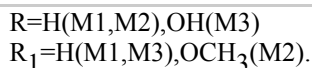
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The development of modern technologies enables us to create polymer materials with a number of properties, which would be impossible to realize in a single polymer. Also it should be noted, that in the last few years there has been a growing research interest in developing materials which exhibit nonlinear optical (NLO) properties for applications such as optical signal processing and information storage [1,2]. Photochromic materials have potential applications for information storage, the controlled on/off digital switching of synthesized molecules by photo-irradiation. Therefore, our current research interests concern new polymer materials for photonics applications.

Our work was devoted to obtaining styrylquinoline containing monomers and investigation their polymerizations properties. The common structure of synthesized methacrylic monomers is representing below:



The polymerization ability of the new monomers was investigated kinetically for radical homopolymerization and copolymerization with MMA by dilatometric method.

1. *Toussaere E., Labb P.* Linear and non-linear gratings in DR1 side chain polymers // *Opt. Mat.*-1999.-**12**.-P.357-362.
2. *Ubukata T., Seki T., Ichimura K.* Surface Relief Gratings in Host-Guest Supramolecular Materials // *Adv. Mater.*-2000.- **12**. P.1675-1678.