**Small Molecular Azobenzene and Indanedione Based Chromophores as Potential Non Linear Optics Materials**

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Research towards potential applications of small molecular organic materials (molecular glasses) as non linear optical (NLO) components in optoelectronic devices face certain unsolved problems: unsatisfactory thermoplastic properties and excessive dipole-dipole interactions diminishing molecular order achieved by external electric field polling. Introduction of bulky substitutes into small organic molecules creates steric forces between chromophores inhibiting unwanted interactions between them. This results in increased amorphous phase stability and reduced dipole interactions.



We present novel design of molecular glasses - triphenylmethyl and triphenylsilyl substituted small molecular N,N-dihydroxyethyl derivatives. As chromophores series of azobenzenes **Azo(1-4)** and benzylidene 1,3-indandione **Ind(1-2)** were synthesized (Fig. 1). Compounds show good solubility and amorphous phase forming abilities.

Results of quantum chemical calculations, synthesis, chemical characterization and experimentally obtained linear and nonlinear optical properties of materials will be presented.

Fig. 1. Chemical structures of synthesized

N,N-dihydroxyethyl derivatives.