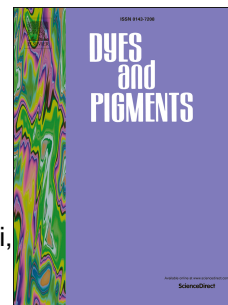


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## TTF based donor-pi-acceptor dyads synthesized for NLO Applications

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### Abstract

Two new TTF-pi-acceptor dyads that contain *p*-nitrophenyl group as acceptor and bis-(styryl)benzene system as an efficient  $\pi$ -conjugated bridge have been synthesized by multistep synthetic procedure and their electrochemical behavior has been studied by cyclic voltammetry (CV). The occurrence of an intramolecular charge transfer (ICT) in these molecules has been evidenced by UV-Visible electronic absorption spectroscopy and these studies were completed by DFT calculations in both gas phase and in solution. The nonlinear optical parameters obtained via SHG and THG measurements are described and indicate that these materials are valuable candidates for the construction of optoelectronic and photonic devices. The Optical Kerr Effect measurements indicate that these materials exhibit a great potential in the field of optical switchers construction, where the material's photoresponse time is a crucial parameter.

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