



## Analysis of Electrical and Optical Properties of DNA:PDT-PSS Thin Films

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Auteur	Kažukauskas, Vaidotas [1], Arlauskas, Andrius [2], Pranaitis, Mindaugas [3], Krupka, Oksana [4], Kajzar, François [5], Essaidi, Zacaria [6], Sahraoui, Bouchta [7]
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Résumé en anglais	<p>We report investigations of functionalized DNA:PEDT-PSS films. The electrical conductivity of the sample material at the room temperature was about <math>(1-5) \times 10^{-10} \Omega^{-1} \text{cm}^{-1}</math>. The IV curves of the samples were linear and symmetrical in the region from the room temperature down to the liquid Nitrogen temperature. The thermal activation energy of the conductivity near the room temperature was about 0.033 eV independently on the applied bias. The weak carrier trapping was identified by the Thermally Stimulated Current method, proving the fast recombination of light-generated carriers. Notably, by constant light excitation a "bistable" photoconduction below the room temperature was evidenced. I.e., upon excitation by a white light a remarkable increase of the photocurrent could be observed below 145-155 K by cooling the samples. Meanwhile by heating the photosensitivity remained increased up to 235-245 K. Such phenomenon could presumably be attributed to the light-induced morphology changes of the sample material.</p>
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