



Thin Films of DNA:PEDOT-PSS - Electrical and Optical Properties

Submitted by Emmanuel Lemoine on Tue, 02/04/2014 - 16:14

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| Titre | Thin Films of DNA:PEDOT-PSS - Electrical and Optical Properties |
| Type de publication | Article de revue |
| Auteur | Kažukauskas, Vaidotas [1], Arlauskas, Andrius [2], Pranaitis, Mindaugas [3], Krupka, Oksana [4], Kajzar, François [5], Essaidi, Zacaria [6], Sahraoui, Bouchta [7] |
| Type | Article scientifique dans une revue à comité de lecture |
| Année | 2010 |
| Langue | Anglais |
| Date | 2010 |
| Numéro | 1 |
| Pagination | 203 - 210 |
| Volume | 522 |
| Titre de la revue | Molecular Crystals and Liquid Crystals |
| ISSN | 1542-1406 |
| Résumé en anglais | <p>Electrical, charge transport and optical properties of DNA:PEDOT-PSS thin films were investigated. Sample conductivity at room temperature was about $(1-5) \times 10^{-10} \Omega^{-1} \text{ cm}^{-1}$, IV curves being linear and symmetrical down to Liquid Nitrogen (LN) temperature. The thermal activation energy of the dark conduction near the room temperature was about 0.033 eV independently on the applied bias. The small effect of carrier trapping was evidenced by the Thermally Stimulated Current method, proving the fast recombination of light-generated carriers. Though, by constant light excitation a "bistable" photoconduction below the room temperature was identified. I.e., upon excitation by light from the spectral region $\sim 500-800 \text{ nm}$ a notable increase of the photocurrent could be observed below 140-160 K by cooling the samples. Meanwhile by heating the photosensitivity remained increased up to 230-240 K. Most probably such phenomenon could be attributed to the light-induced morphology changes of the samples.</p> |
| URL de la notice | http://okina.univ-angers.fr/publications/ua2024 [8] |
| DOI | 10.1080/15421401003724167 [9] |
| Lien vers le document | http://dx.doi.org/10.1080/15421401003724167 [9] |

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- [5] [http://okina.univ-angers.fr/publications?f\[author\]=2745](http://okina.univ-angers.fr/publications?f[author]=2745)

- [6] [http://okina.univ-angers.fr/publications?f\[author\]=2572](http://okina.univ-angers.fr/publications?f[author]=2572)
- [7] <http://okina.univ-angers.fr/bouchta.sahraoui/publications>
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- [9] <http://dx.doi.org/10.1080/15421401003724167>

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