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70. # PEDOT:PSS Films treated by UV-Ozone: Electrical Behavior Analysis

E. R. Santos (1), E. C. Burini Junior (2), S. H. Wang (1)
(1) Escola Politécnica da Universidade de São Paulo, Departamento de Engenharia de Materiais, 05508-970, Cidade Universitária, São Paulo, SP
(2) Instituto de Eletrotécnica e Energia da Universidade de São Paulo, 05508-010, Cidade Universitária, São Paulo, SP
e-mail: elvo@iee.usp.br , emerson@lme.usp.br

The electroluminescent devices called P-OLEDs and organic photovoltaic are currently mounted using the base of organic electronic. They use a polymeric film known as PEDOT:PSS generally deposited by wet process. This layer has been deposited on another film called by TCO (transparent conductive oxide) deposited on glass substrate. Both layers have important electrical and optical properties as transparency and low sheet resistance, together they actuate as anode electrode during the polarization. The active polymeric material is deposited on the PEDOT:PSS and then, it is deposited a metallic film (aluminium or silver). In this work is presented a study of samples that it has the objective of optimization on the electrical performance of complete electrode anode (TCO - PEDOT:PSS). The processes parameters unchanged for the formation of PEDOT:PSS films were: time/rotation of spinner (for the formation of films), type/supplier of PEDOT:PSS, temperature and evaporation time of solvent (water) used inside the oven. Then the PEDOT:PSS films were placed inside the UV-Ozone reactor and were irradiated during a period of time and at this same period of time the electrical resistance of films were sampled [1,2]. The electrical resistance of PEDOT:PSS film deposited on the ITO (indium tin oxide used as TCO) presented a parabolic behavior of variation, it was produced during the elapsed time of exposition inside the UV-Ozone reactor. It was obtained different values of electrical resistance for different samples at different temperatures of annealing (range from 80°C to 160°C). Under the UV-Ozone reactor condition a decrease of the electrical resistance was observed (it was reduced by the haft way, at the middle, compared it initial value) and then an increase of the electrical resistance was obtained during the last part of the elapsed time.
The experimental methodology and all particular result will be presented with details.

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[1] SANTOS, Emerson Roberto et al. *Química Nova*, **33**, 1779-1783, (2010).
[2] BENOR, Amare et al. *Organic Electronics*, **11**, 938–945, (2010).