



# MAPLE prepared heterostructures with oligoazomethine: Fullerene derivative mixed layer for photovoltaic applications

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Auteur	Stanculescu, Anca [1], Rasoga, Oana [2], Socol, Marcela [3], Vacareanu, L. [4], Grigoras, M. [5], Socol, G. [6], Stanculescu, Florin [7], Breazu, C. [8], Matei, E. [9], Preda, N. [10], Girtan, Mihaela [11]
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Résumé en anglais	Mixed layers of azomethine oligomers containing 2,5-diamino-3,4-dicyanothiophene as central unit and triphenylamine (LV5) or carbazol (LV4) at both ends as donor and fullerene derivative, [6,6]-phenyl-C61 butyric acid butyl ester ([C60]PCB-C4) as acceptor, have been prepared by Matrix Assisted Pulsed Laser Evaporation (MAPLE) on glass/ITO and Si substrates. The effect of weight ratio between donor and acceptor (1:1; 1:2) and solvent type (chloroform, dimethylsulphoxide) on the optical (UV-vis transmission/absorption, photoluminescence) and morphological properties of LV4 (LV5): [C60]PCB-C4 mixed layers has been evidenced. Dark and under illumination I-V characteristics of the heterostructures realized with these mixed layers sandwiched between ITO and Al electrodes have revealed a solar cell behavior for the heterostructures prepared with both LV4 and LV5 using chloroform as matrix solvent. The solar cell structure realized with oligomer LV5, glass/ITO/LV5: [C60]PCB-C4 (1:1) has shown the best parameters.
URL de la notice	<a href="http://okina.univ-angers.fr/publications/ua16330">http://okina.univ-angers.fr/publications/ua16330</a> [15]
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Titre abrégé	Appl. surf. sci.

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## Liens

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- [16] <http://dx.doi.org/10.1016/j.apsusc.2017.03.053>
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