



Terthiophene-cyanovinylene π -conjugated polymers as donor material for organic solar cells

Submitted by Emmanuel Lemoine on Tue, 02/04/2014 - 16:12

Titre	Terthiophene-cyanovinylene π -conjugated polymers as donor material for organic solar cells
Type de publication	Article de revue
Auteur	Bricaud, Quentin [1], Cravino, Antonio [2], Leriche, Philippe [3], Roncali, Jean [4]
Type	Article scientifique dans une revue à comité de lecture
Année	2009
Langue	Anglais
Date	2009/12
Numéro	23-24
Pagination	2534 - 2538
Volume	159
Titre de la revue	Synthetic Metals
ISSN	0379-6779
Mots-clés	Clean chemistry [5], conjugated polymers [6], Low band gap [7], Open-circuit voltage [8], Organic solar cells [9], Stability [10]
Résumé en anglais	Conjugated polymers of hybrid structure containing cyanovinylene linkages have been synthesized by Knoevenagel condensation of diformyl terthienyls with paracyanomethylbenzene. UV-vis and cyclic voltammetric data show that these polymers combine reduced band gap, improved light-harvesting properties and low lying HOMO level. Whereas the very low solubility of the polymers did not allow the fabrication of bulk heterojunction solar cells, bilayer heterojunction solar cells have been realized using thermally evaporated films of fullerene C60 as acceptor material. The best devices show a maximum external quantum efficiency of ~20% and a power conversion efficiency of 0.40% under simulated AM 1.5 solar illumination.
URL de la notice	http://okina.univ-angers.fr/publications/ua1962 [11]
DOI	10.1016/j.synthmet.2009.09.002 [12]
Lien vers le document	http://dx.doi.org/10.1016/j.synthmet.2009.09.002 [12]
Titre abrégé	Synthetic Metals

Liens

- [1] [http://okina.univ-angers.fr/publications?f\[author\]=2644](http://okina.univ-angers.fr/publications?f[author]=2644)
- [2] [http://okina.univ-angers.fr/publications?f\[author\]=2512](http://okina.univ-angers.fr/publications?f[author]=2512)
- [3] <http://okina.univ-angers.fr/philippe.leriche/publications>
- [4] <http://okina.univ-angers.fr/jean.roncali/publications>
- [5] [http://okina.univ-angers.fr/publications?f\[keyword\]=4887](http://okina.univ-angers.fr/publications?f[keyword]=4887)

- [6] [http://okina.univ-angers.fr/publications?f\[keyword\]=4888](http://okina.univ-angers.fr/publications?f[keyword]=4888)
- [7] [http://okina.univ-angers.fr/publications?f\[keyword\]=4889](http://okina.univ-angers.fr/publications?f[keyword]=4889)
- [8] [http://okina.univ-angers.fr/publications?f\[keyword\]=4890](http://okina.univ-angers.fr/publications?f[keyword]=4890)
- [9] [http://okina.univ-angers.fr/publications?f\[keyword\]=4891](http://okina.univ-angers.fr/publications?f[keyword]=4891)
- [10] [http://okina.univ-angers.fr/publications?f\[keyword\]=249](http://okina.univ-angers.fr/publications?f[keyword]=249)
- [11] <http://okina.univ-angers.fr/publications/ua1962>
- [12] <http://dx.doi.org/10.1016/j.synthmet.2009.09.002>

Publié sur *Okina* (<http://okina.univ-angers.fr>)