

Triphenylamine–Oligothiophene Conjugated Systems as Organic Semiconductors for Opto-Electronics

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| Résumé en anglais | <p>Two novel “hybrid” systems consisting of a triphenylamine core carrying δ-conjugated terthienyl branches have been synthesized and characterized by differential scanning calorimetry, X-ray diffraction, cyclic voltammetry, UV-vis absorption, and fluorescence spectroscopy. The semiconductor potentialities of these compounds, which lead to glassy or amorphous films, have been evaluated by their implementation in very simple prototype devices that display electroluminescence at low voltage as well as a photovoltaic effect. Moreover, field-effect transistors based on one of these novel molecules display a high hole mobility ($1.1 \cdot 10^{-2} \text{ cm}^2 \text{ V}^{-1} \text{ s}^{-1}$). These results suggest that molecules leading to amorphous materials could represent a valid alternative as compared to systems that require control of the molecular orientation/organization</p> |
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[1] [http://okina.univ-angers.fr/publications?f\[author\]=2512](http://okina.univ-angers.fr/publications?f[author]=2512)

[2] [http://okina.univ-angers.fr/publications?f\[author\]=2850](http://okina.univ-angers.fr/publications?f[author]=2850)

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- [5] <http://okina.univ-angers.fr/pierre.frere/publications>
- [6] <http://okina.univ-angers.fr/jean.roncali/publications>
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