



Poster

Electronic properties of Naphthalimide derivatives

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Abstract:

Molecular systems have proven to be efficient active materials in electronics, making them suitable substitutes of the inorganic semiconductors used nowadays in electronic devices. For this reason, organic electronics has emerged as a research field with great potential and interest. In this project we have studied, both experimentally and theoretically, two ladder-type compounds functionalized with naphthalimides¹ (Figure 1). The two molecular systems have been implemented in organic field effect transistors² (OFETs), to assess their potential as active materials in organic electronics. Both compounds show p-type type mobility, moreover, NDI-TP-Ph-TP material also displays low n-type mobility, presenting a certain ambipolar character. The nature and stability of the charged species involved in the charge transport process have also been studied by spectroelectrochemical experiments.

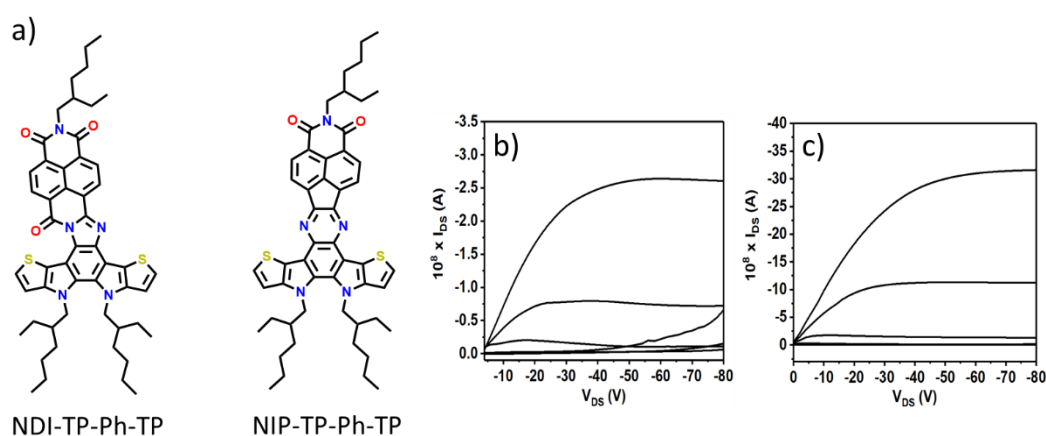


Figure 1: a) Chemical structures of the studied ladder-type systems, b) and c) OFET output curves for NDI-TP-Ph-TP and NIP-TP-Ph-TP respectively (V_{GS} ranges from 0 to 80 V in steps of 10V)

References:

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