



## Structural Control of the Horizontal Double Fixation of Oligothiophenes on Gold

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Auteur	Tran, Truong-Khoa [1], Ocafrain, Maitena [2], Karpe, Sandrine [3], Blanchard, Philippe [4], Roncali, Jean [5], Lenfant, Stéphane [6], Godey, Sylvie [7], Vuillaume, Dominique [8]
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Résumé en anglais	Quaterthiophenes bearing one (1) or two (2) alkanethiol chains attached at the internal $\beta$ -position of the outermost thiophene ring through a sulfide linkage have been synthesized. Cyclic voltammetric analysis of their electrochemical behavior in solution suggests that electrooxidation of the doubly substituted oligomer 2 leads to electrodeposition of a poly(disulfide) on the anode surface. Monolayers of 1 or 2 on gold surfaces have been investigated and characterized by cyclic voltammetry, ellipsometry, contact angle measurement, and X-ray photoelectron spectroscopy. The results of these investigations indicate that introduction of two thiol groups in the structure leads to double fixation of the oligothiophene chain with the main axis of the conjugated system oriented parallel to the surface. The effects of single versus double fixation of the quaterthiophene chain on the electrochemical properties and stability of the corresponding monolayers are discussed.
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