



# Synthesis and Chain-Length Dependence of the Electronic Properties of $\pi$ -Conjugated Dithieno[3,2-b:2',3'-d]pyrrole (DTP) Oligomers

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Mots-clés	bandgap [4], bandgapdithienopyrrole [5], conjugated oligomers [6], electropolymerization [7], fluorescence [8]
Résumé en anglais	<p>N-(2-ethylhexyl)dithieno[3,2-b:2',3'-d]pyrrole has been prepared and its dimer and trimer have been synthesized by Stille coupling. The electrochemical and optical properties of these compounds have been investigated by cyclic voltammetry, UV-Vis, and fluorescence emission spectroscopies. The obtained results show that these strongly luminescent compounds can be oxidized into stable cation radical and dication state. The analysis of the chain length dependence of the electronic properties indicates that the predicted bandgap of an ideal polymer chain should be considerably smaller than the experimental results reported until now. This difference is discussed in terms of reactivity of the dithieno[3,2-b:2',3'-d]pyrrole (DTP) unit.</p>
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