



Mechanism of 3,4-diarylpyrrole electrooxidation.

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Streszczenie

The purpose of this study was to investigate 3,4-diarylpyrrole electropolymerization and simultaneous or subsequent intramolecular oxidative coupling leading to poly(phenanthropyrrole). Small amounts of π -conjugated products were obtained only under the conditions of increased concentration of the monomer and increased rate of potential sweep, which enabled both processes – monomer oxidation and deprotonation of the σ -dimer. The combined electrochemistry, UV-vis-NIR, ESR and TD-DFT results show, that the α,α' -coupling of 3,4-diarylpyrrole derivatives is inhibited by the stability of the σ -dimer dication, inhibition of the deprotonation and the reversal of the σ bond formation resulting in regeneration of the monomer. The addition of pyridine did not result in σ -dimer deprotonation in 2- and 2'-position.

Słowa kluczowe

3,4-Diarylpyrroles, Phenanthropyrroles, Electropolymerization, σ -Dimer, Pyridine

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