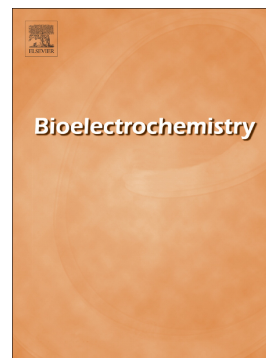


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Modification of *Aspergillus niger* by Conducting Polymer – Polypyrrole, and the Evaluation of Electrochemical Properties of Modified Cells

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Abstract

The enhancement of bioelectrochemical properties of microorganism by *in situ* formation of conducting polymer within the cell structures (cell wall and periplasm) was performed. The synthesis of polypyrrole (Ppy) within fungi (*Aspergillus niger*) cells was achieved. Two different *Aspergillus niger* strains were selected due to their ability to produce glucose oxidase, which initiated the Ppy formation through products of enzymatic reaction. The evolution of Ppy structural features was investigated by absorption spectroscopy, cyclic voltammetry and Fourier transform infrared spectroscopy.

Keywords: Conducting polymers; Polypyrrole synthesis; Fungi cells modification; *Aspergillus niger*; *In situ* polymerization; Biocatalysis.

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