Bioelectrochemical Characterization of Heavy Metals Resistant yeast: *Hansenula fabianii* Isolated from Tannery Wastewater

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To date, heavy metals present a main drawback for bioelectrochemical systems (BESs) performances. Therefore, our results confirm, for the first time, that *Hansenula fabianii* is an electrochemical active yeast that has a potential tolerance against various heavy metals. The bioreactor inoculated by *Hansenula fabianii* in mediatorless conditions provided a maximum current density of 32 mA/m²; up to 300 mA/m² in the presence of methylene blue. In mediatorless conditions, cyclic voltammetry (CV) on a yeast pellet showed a single oxidative peak at 450mV and a pair peak, the CV of the supernatant confirmed that *Hansenula fabianii* secreted its own mediator. The obtained results proved that *Hansenula fabianii* based biofuel cell could be used for simultaneous current generation and heavy metal bioremediation.

Keywords: Electrochemical active yeast; heavy metals; *Hansenula fabianii*; mediatorless condition.

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