

A Review on Electrical Behavior of Different Substrates, Electrodes and Membranes in Microbial Fuel Cell

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Abstract : The devices, which convert the energy in the form of electricity from organic matters, are called microbial fuel cell (MFC). Recently, MFCs have been given a lot of attention due to their mild operating conditions, and various types of biodegradable substrates have been used in the form of fuel. Traditional MFCs were included in anode and cathode chambers, but there are single chamber MFCs. Microorganisms actively catabolize substrate, and bioelectricities are produced. In the field of power generation from non-conventional sources, apart from the benefits of this technique, it is still facing practical constraints such as low potential and power. In this study, most suitable, natural, low cost MFCs components are electrodes (anode and cathode), organic substrates, membranes and its design is selected on the basis of maximum potential (voltage) as an electrical parameter, which indicates a vital role of affecting factor in MFC for sustainable power production.

Keywords : substrates, electrodes, membranes, MFCs design, voltage

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