

Effect of microfiltration membrane on the behaviour of dual-chamber microbial fuel cells

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Abstract

In this work the construction of a new alternative in the field of renewable energy sources, called microbial fuel cell (MFC) and the replacement of the commonly used Nafion proton-selective membrane with PVDF microfiltration membrane are presented. The analysis of the electrochemical behavior of the different fuel cells was carried out by measuring of the polarization curves and main energetic parameters in the presence of organic acid (Na-acetate) substrate feeding. Furthermore, energetic utilization of organic-rich liquid fraction of pressed waste in MFCs was tested. Based on the results, it can be established, that the method was suitable for implementing the concept of reliable, more cost-effective MFCs.