Exploring the Fuel Flexibility of Microbial Fuel Cells

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A microbial fuel cell (MFC) utilizes the catalytic action of microorganisms to convert the chemical energy of fuel into electrical energy [1]. MFC’s can offer application flexibility because inherent microbial physiology allows many microbes and microbial communities to use several different chemical compounds as fuel. Additionally, microbes used as catalysts have the ability to self repair and quickly adapt to varying operational conditions. This study compares the performance of an MFC employing Shewanella oneidensis MR-1 (MR-1) as the biocatalyst while using different organic compounds as fuel.