Enhancement of Enzymatic Process by Electric Potential Application J Bioprocess Biotech 4 (147), 2

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Description

The purpose of this study is to investigate a new bio-electrochemical technique based on the utilisation of electric potential to enhance the enzymatic reaction. The efficiency of bioelectrochemical reactor has been achieved by studying the production of reducing sugar by enzymatic hydrolysis of olive mill. The results indicate that the application of a continuous electric potential of about 50 mV allowed a significant increase of the saccharification efficiency by about 25% (compared to an enzymatic process without electric potential). For an electric potential higher than 60 mV, the saccharification efficiency decreased, suggesting that the enzyme, a biological substance, could be damaged at high electric potential. It has been shown that the kinetics of the bio-catalyzed reactions could be controlled by an applied electric potential.

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