

Reduction of Chlordecone Rates in Bioelectrochemicals Systems from Water and Sediment Swamp Mangrove in Absence of a Redox Mediator

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Abstract : Chlordecone is an organochlorine pesticide with a bishomocubane structure which led to high stability in organic matter. Microbial fuel cell is a type of electrochemical system that can convert organic matters into electricity thanks to electroactive bacteria. This technique has been used with mangrove swamp from Martinique to try to reduce chlordecone rates. Those experiments led to characterize the behavior of the electroactive biofilm formed at the cathode, without added redox mediator. The designed bioelectrochemical system seems to provide the necessary conditions for chlordecone degradation.

Keywords : bioelectrochemistry, bioremediation, chlordecone, mangrove swamp

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