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**Treatment of olive mill wastewater by the combination of ultrafiltration and bipolar electrochemical reactor processes**

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**ABSTRACT:**
The main purpose of this study was to investigate the removal of the chemical oxygen demand (COD) from olive mill wastewater (OMW) by the combination of ultrafiltration with electrocoagulation process. Ultrafiltration process equipped with CERAVER membrane was used as pre-treatment for electrochemical process. The obtained permeate from the ultrafiltration process allowed COD removal efficiency of about 96% from OMW. Obtained permeate with an average COD of about 1.1gdm-3 was treated by electrochemical reactor equipped with a reactor with bipolar iron plate electrodes. The effect of the experimental parameters such as current density, pH, surface electrode/reactor volume ratio and NaCl concentration on COD removal was assessed. The results showed that the optimum COD removal rate was obtained at a current density of 93.3Am-2 and pH ranging from 4.5 to 6.5. At the optimum operational parameters for the experiments, electrocoagulation process could reduce COD from 1.1gdm-3 to 78mgdm-3, allowing direct discharge of the treated OMW as that meets the Algerian wastewater discharge standards (<125mgdm-3).