Removal of phenolic compounds from olive mill wastewater by a Fenton-like system H$_2$O$_2$/Cu(II)—thermodynamic and kinetic modeling

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**ABSTRACT**

The degradation of olive mill wastewater was investigated by a Fenton-like process using Cu (II) as a catalyst and hydrogen peroxide as an oxidant. Phenolic compounds degradation increased from 43% at 30°C to 62% at 50°C after 65 min treatment. Nonlinear regression methods allowed to accurately describe the experimental results and among the tested models, namely Lewis, Page-modified, Henderson/Pabis, and diffusion models, the most appropriate was found to be the Lewis model. The degradation was found to follow a first-order kinetic and the activation energy was 21 kJ/mol.

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