

A Comparative Study of Photo and Electro-Fenton Reactions Efficiency in Degradation of Cationic Dyes Mixture

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Abstract : The aim of this work was to compare the degradation of a mixture of three cationic dyes by advanced oxidation processes (electro-Fenton, photo-Fenton) in aqueous solution. These processes are based on the in situ production of hydroxyl radical, a highly strong oxidant, which allows the degradation of organic pollutants until their mineralization into CO₂ and H₂O. Under optimal operating conditions, the evolution of total organic carbon (TOC) and electrical energy efficiency have been investigated for the two processes.

Keywords : photo-fenton, electro-fenton, energy efficiency, water treatment

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