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DEGRADATION OF THE PHARMACEUTICAL CAPTOPRIL VIA FENTON PROCESS

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Abstract

Emerging contaminants (ECs) can be present at trace levels in different aquatic environments with potential adverse effects for human and environmental health. Alternative wastewater treatments, as advanced oxidative processes, are required to degrade ECs. Thus, the goal of this research was to estimate the degradation rates of the captopril (CAP) utilizing the homogeneous Fenton process in deionized water. The choice of operational conditions were: [CAP] = 250 mg L^{-1}, pH = 2.8, [H_2O_2] = 134 mg L^{-1}, [H_2O_2/Fe^{2+}] = 5:1, time = 15 min, agitation = 150 rpm, temperature = 294 K. These could achieved 95% of CAP degradation. With these results, it is possible to conclude that the Fenton process is a promising technique for CAP degradation.

Key words: advanced oxidative process, captopril, emerging contaminants, Fenton process

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