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PII: S1385-8947(18)31531-6
DOI: https://doi.org/10.1016/j.cej.2018.08.057
Reference: CEJ 19671

To appear in: *Chemical Engineering Journal*

Received Date: 23 May 2018
Revised Date: 1 August 2018
Accepted Date: 9 August 2018

Please cite this article as: L. Ioannou-Ttofa, S. Raj, H. Prakash, D.F. Kassinos, Solar photo-Fenton oxidation for the removal of ampicillin, total cultivable and resistant *E. coli* and ecotoxicity from secondary-treated wastewater effluents, *Chemical Engineering Journal* (2018), doi: https://doi.org/10.1016/j.cej.2018.08.057

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Abstract

Urban, hospital and pharmaceutical industry wastewater effluents are among the main sources of antibiotics' and other antimicrobial agents' contamination in soil and water ecosystems, especially in countries where wastewater reuse is applied. Ampicillin (AMP), which is the first semi-synthetic broad spectrum penicillin that was released on the market in 1961 has been detected in treated wastewater effluents worldwide, at concentrations ranging from sub-ng/L up to 27 μg/L, as well as in various environmental aqueous matrices up to 13.7 μg/L, highlighting its recalcitrance to conventional biological treatment. Nevertheless, the degradation potential of AMP via advanced chemical oxidation processes, which are widely considered as promising alternatives of conventional technologies, hardly has been investigated. Thus, this study aims at