

Accepted Manuscript

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PII: S1385-8947(17)31663-7
DOI: <https://doi.org/10.1016/j.cej.2017.09.164>
Reference: CEJ 17749

To appear in: *Chemical Engineering Journal*

Received Date: 22 June 2017
Revised Date: 11 September 2017
Accepted Date: 25 September 2017

Please cite this article as: Y. Lan, C. Coetsier, C. Causser, K. Groenen Serrano, An experimental and modelling study of the electrochemical oxidation of pharmaceuticals using a boron-doped diamond anode, *Chemical Engineering Journal* (2017), doi: <https://doi.org/10.1016/j.cej.2017.09.164>

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An experimental and modelling study of the electrochemical oxidation of pharmaceuticals using a boron-doped diamond anode

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Abstract

This paper deals with an experimental and modelling study on the electrochemical oxidation of refractory pharmaceuticals using a boron-doped diamond (BDD) anode. Different parameters have been investigated, such as the role of salts (sulfates), the presence of other organics, and the influence of applied current intensity. Ciprofloxacin (CIP), Sulfamethoxazole (SMX) and Salbutamol (SALBU) were used for models of pharmaceuticals, and urea as a model for a common organic. The complete removal of pharmaceuticals was observed in all electrolyses under galvanostatic conditions. The presence of common organic waste or other pharmaceutical has no significant impact on the

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