

Accepted Manuscript

Enhanced degradation of azo dye by a stacked microbial fuel cell-biofilm electrode reactor coupled system

Xian Cao, Hui Wang, Xiao-qi Li, Zhou Fang, Xian-ning Li

PII: S0960-8524(16)31713-8

DOI: <http://dx.doi.org/10.1016/j.biortech.2016.12.043>

Reference: BITE 17419

To appear in: *Bioresource Technology*

Received Date: 10 November 2016

Revised Date: 8 December 2016

Accepted Date: 11 December 2016

Please cite this article as: Cao, X., Wang, H., Li, X-q., Fang, Z., Li, X-n., Enhanced degradation of azo dye by a stacked microbial fuel cell-biofilm electrode reactor coupled system, *Bioresource Technology* (2016), doi: <http://dx.doi.org/10.1016/j.biortech.2016.12.043>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



Enhanced degradation of azo dye by a stacked microbial fuel cell-biofilm electrode reactor coupled system

*Xian Cao, Hui Wang, Xiao-qi Li, Zhou Fang, Xian-ning Li**

School of Energy and Environment, Southeast University, Nanjing 210096, China.

*Corresponding author address: School of Energy and Environment, Southeast

University, Nanjing 210096, China. Tel.: +86 13776650963; fax: +86 025 83795618.

E-mail addresses: lxnseu@163.com (X.-n. Li)

Corresponding Author

* Xian-ning Li.

Tel.: +86 13776650963; fax: +86 025 83795618. *E-mail addresses:* lxnseu@163.com

Abstract

In this study, a microbial fuel cell (MFC)-biofilm electrode reactor (BER) coupled system was established for degradation of the azo dye Reactive Brilliant Red X-3B. In this system, electrical energy generated by the MFC degrades the azo dye in the BER without the need for an external power supply, and the effluent from the BER was used as the inflow for the MFC, with further degradation. The results indicated that the X-3B removal efficiency was 29.87% higher using this coupled system than in a control group. Moreover, a method was developed to prevent voltage reversal in stacked MFCs. Current was the key factor influencing removal efficiency

Download English Version:

<https://daneshyari.com/en/article/4997680>

Download Persian Version:

<https://daneshyari.com/article/4997680>

[Daneshyari.com](https://daneshyari.com)