

RESEARCH PAPERS

乙醇和PVA的光助Fenton降解机理

雷乐成, 沈学优, 何锋

Department of Environmental Engineering, Zhejiang University, Hangzhou, 310027, China

收稿日期 修回日期 网络版发布日期 接受日期

摘要 Contrast degradation experiments between ethanol and polyvinyl alcohol (PVA) were conducted during H₂O₂, UV/H₂O₂, Fenton, and Photo-Fenton processes in this study. UV/VIS spectra showed that complexes between Fe(III) and organics were easily formed and degraded within reaction time. Compared with the degradation of complex, hydroxyl radicals acted weakly in Fenton or Photo-Fenton process. Hydroxyl radicals involved in Photo-Fenton process were deemed to be generated from the split decomposition of H₂O₂, photolysis of Fe³⁺/aq, and degradation of hydrated Fe(IV)-complex but not traditional Fenton reaction. Experimental evidence to support this point was presented in this paper.

关键词 [mechanism](#) [Fenton reaction](#) [oxidation](#)

分类号

DOI:

Mechanism of Photo-Fenton Degradation of Ethanol and PVA

LEI Lecheng, SHEN Xueyou, HE Feng

Department of Environmental Engineering, Zhejiang University, Hangzhou, 310027, China

Received Revised Online Accepted

Abstract Contrast degradation experiments between ethanol and polyvinyl alcohol (PVA) were conducted during H₂O₂, UV/H₂O₂, Fenton, and Photo-Fenton processes in this study. UV/VIS spectra showed that complexes between Fe(III) and organics were easily formed and degraded within reaction time. Compared with the degradation of complex, hydroxyl radicals acted weakly in Fenton or Photo-Fenton process. Hydroxyl radicals involved in Photo-Fenton process were deemed to be generated from the split decomposition of H₂O₂, photolysis of Fe³⁺/aq, and degradation of hydrated Fe(IV)-complex but not traditional Fenton reaction. Experimental evidence to support this point was presented in this paper.

Key words [mechanism](#); [Fenton reaction](#); [oxidation](#)

通讯作者:

雷乐成 lclei@zju.edu.cn

作者个人主页: 雷乐成; 沈学优; 何锋

扩展功能

本文信息

▶ [Supporting info](#)

▶ [PDF](#) (1869KB)

▶ [\[HTML全文\]](#) (0KB)

▶ [参考文献](#)

服务与反馈

▶ [把本文推荐给朋友](#)

▶ [加入我的书架](#)

▶ [加入引用管理器](#)

▶ [引用本文](#)

▶ [Email Alert](#)

▶ [文章反馈](#)

▶ [浏览反馈信息](#)

相关信息

▶ [本刊中包含“mechanism”的相关文章](#)

▶ 本文作者相关文章

· [雷乐成](#)

· [沈学优](#)

· [何锋](#)