

生物化学工程与技术

添加表面活性剂对 α -熊果苷发酵的影响

韦祎, 张淑荣, 刘春巧, 张鹏

北京化工大学生命科学与技术学院

收稿日期 2007-1-29 修回日期 2007-5-10 网络版发布日期 2007-8-20 接受日期

摘要 探讨了不同表面活性剂对嗜麦芽黄单胞菌BT-112(*Xanthomonas maltophilia* BT-112) 催化合成 α -熊果苷的影响。通过比较不同种类、不同浓度的表面活性剂及其加入时间, 实验得出最佳表面活性剂为Tween80, 最适反应条件为: Tween80浓度为 $3 \text{ g} \cdot \text{L}^{-1}$, 加入时间为12h, 流加次数为3次, 每次浓度 $1 \text{ g} \cdot \text{L}^{-1}$ 。在此条件下对苯二酚的转化率为96.2%, 菌体对对苯二酚的最大耐受度为 $60 \text{ mmol} \cdot \text{L}^{-1}$, 分别比空白提高了3.53%和25.0%, 发酵周期为36h, 比空白缩短了25%。

关键词

[\$\alpha\$ -熊果苷](#) [黄单胞菌](#) [表面活性剂](#)

分类号

Effect of surfactants on α -arbutin production by *Xanthomonas* BT-112

WEI Yi, ZHANG Shurong, LIU Chunqiao, ZHANG Peng

Abstract

The effect of different surfactants on α -arbutin bio-catalytic synthesis by *Xanthomonas maltophilia* BT-112 was investigated. Tween80 was the best when compared with different kinds of surfactants at different concentrations and times of surfactant addition. Experimental results showed that the suitable conditions were as follows: adding $3 \text{ g} \cdot \text{L}^{-1}$ Tween80 during the 12 hours from the start of fermentation, fed-batch in three times, $1 \text{ g} \cdot \text{L}^{-1}$ every time. Under the conditions mentioned above, the product yield reached 96.2% against hydroquinone and increased by 3.53% and hydroquinone concentration reached $60 \text{ mmol} \cdot \text{L}^{-1}$ and increased by 25.0% as compared with the case without adding surfactant. The fermentation period was 36 h, 25% less than the case without adding surfactant.

Key words

[\$\alpha\$ -arbutin](#) [Xanthomonas](#) [surfactant](#)

DOI:

通讯作者 张鹏 zhangpeng@mail.buct.edu.cn

扩展功能

本文信息

▶ [Supporting info](#)

▶ [PDF\(630KB\)](#)

▶ [\[HTML全文\]\(0KB\)](#)

▶ [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](#)

▶ [复制索引](#)

▶ [Email Alert](#)

▶ [文章反馈](#)

▶ [浏览反馈信息](#)

相关信息

▶ [本刊中 包含“](#)

[\$\alpha\$ -熊果苷” 的相关文章](#)

▶ [本文作者相关文章](#)

· [韦祎](#)

· [张淑荣](#)

· [刘春巧](#)

· [张鹏](#)