

# Lignocellulosic Biomass Treatment for Waste Management

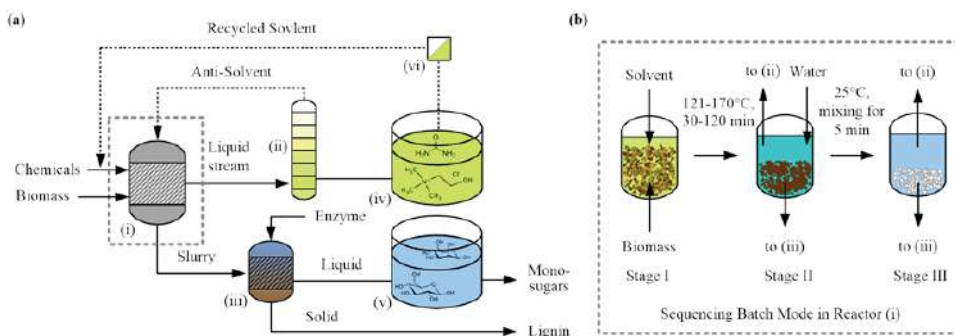
## 木質纖維素提取 適合用於廢物管理

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### Special features 技術特點

- ▶ Low operation pressure and high yield 低操作壓力和高產量
- ▶ Readily convertible into downstream products 可隨時轉換為下游產品

The technology aims to fractionate high-value lignin from wastes derived lignocelluloses. The overall biomass conversion is conducted by mixing the biomass with 1,4-butandiol (BDO) in reactor operated under a sequencing batch reactor mode for pretreatment, cellulose regeneration, and enzymatic hydrolysis. The regenerated substrate will be subjected to hydrolysis and the solvent in the spent liquor will be recycled.



In comparison with other organosolv processes, BDO show high feasibility to harvest reactive lignin (high solubility and favorable structure for downstream utilization) at high yield, which does not relate to the severity of pretreatment. The reaction condition of the process is considered mild, which preserve the potential value of the dissolved lignin and hydrolysability of cellulose. The specific features of non-biomass specific, low operation pressure, and high yield make the process particularly suitable to be applied in highly populated cities for waste management.

理大團隊成功發明了嶄新的提取方法以提取功能木質素與易水解纖維素的方法。其流程包括混合生物質與一種二醇(如1,4-丁二醇)再與酸觸媒進行預處理，纖維素再生和酶水解等程序。與其他溶劑相比，二醇可有效提取木質素並保持其高反應性和溶解度。此發明不限生物質種類且操作壓力低和高產量的特性，適合用於人口密集城市之廢物管理。



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