Aqueous Pretreatment of Plant Biomass for Biological and Chemical Conversion to Fuels and Chemicals
Charles E. Wyman (Editor)

E-Book
March 2013
$141.99

Hardcover
ISBN: 978-0-470-97202-1
May 2013
$176.75

O-Book
ISBN: 978-0-470-97583-1
April 2013
Available on Wiley Online Library

DESCRIPTION

Plant biomass is attracting increasing attention as a sustainable resource for large-scale production of renewable fuels and chemicals. However, in order to successfully compete with petroleum, it is vital that biomass conversion processes are designed to minimize costs and maximize yields. Advances in pretreatment technology are critical in order to develop high-yielding, cost-competitive routes to renewable fuels and chemicals.

*Aqueous Pretreatment of Plant Biomass for Biological and Chemical Conversion to Fuels and Chemicals* presents a comprehensive overview of the currently available aqueous pretreatment technologies for cellulosic biomass, highlighting the fundamental chemistry and biology of each method, key attributes and limitations, and opportunities for future advances.

Topics covered include:

- The importance of biomass conversion to fuels
- The role of pretreatment in biological and chemical conversion of biomass
- Composition and structure of biomass, and recalcitrance to conversion
- Fundamentals of biomass pretreatment at low, neutral and high pH
- Ionic liquid and organosolv pretreatments to fractionate biomass
• Comparative data for application of leading pretreatments and effect of enzyme formulations
• Physical and chemical features of pretreated biomass
• Economics of pretreatment for biological processing
• Methods of analysis and enzymatic conversion of biomass streams
• Experimental pretreatment systems from multiwell plates to pilot plant operations

This comprehensive reference book provides an authoritative source of information on the pretreatment of cellulosic biomass to aid those experienced in the field to access the most current information on the topic. It will also be invaluable to those entering the growing field of biomass conversion.

关于作者

教授查尔斯·怀曼教授致力于生物转化技术的开发，以减少生物燃料和其它产品对石油的依赖。他的大部分研究集中在最昂贵和最关键的操作单元上：预处理和纤维素和半纤维素的水解。怀曼教授是加州大学河滨分校环境工程学教授。

系列

Wiley Series in Renewable Resource

更多信息，请访问 https://www.wiley.com/en-us