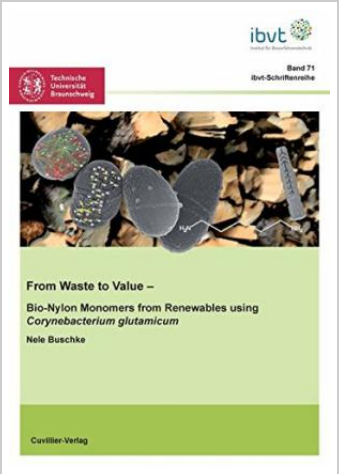

DOWNLOAD

From Waste to Value

By Nele Buschke

Cuvillier Verlag Jun 2013, 2013. Taschenbuch. Condition: Neu. Neuware - For the first time, 1,5-diaminopentane (polyamide monomer) production from xylose was achieved by a recombinant Corynebacterium glutamicum strain. Via rational metabolic engineering the product yield was increased by 54% and the productivity by 100%. The tailor-made strain finally accumulated 103 g L-1 diaminopentane in a fed-batch fermentation, the highest titer ever obtained on xylose. In a two-step process hemicellulose was used as substrate. The monosaccharides were first obtained by hydrolysis and then further used as substrate for the production of1,5-diaminopentane. Another resource tested was black liquor, a major industrial waste from pulp and paper manufacturing. It turned out that pre-treatment of the black liquor is necessary to obtain bioavailable sugars for subsequent production. The optimized C. glutamicum strain grew well on the black liquor hydrolysate and efficiently converted the containing carbon into 1,5-diaminopentane. The achieved product yield was about 120 % higher than on pure xylose. In this regard, the present work displays a milestone in industrial strain- and bioprocess engineering of C. glutamicum.Die Herstellung des Polyamidmonomers, 1,5-Diaminopentan, aus Xylose, wurde in dieser Arbeit zum ersten Mal, mit Hilfe eines rekombinanten Corynebacterium glutamicum Stammes realisiert. Durch gezieltes Metabolic Engineering konnte...

READ ONLINE
[1.49 MB]

Reviews

This book might be worth a read, and superior to other. Of course, it really is engage in, still an interesting and amazing literature. It is extremely difficult to leave it before concluding, once you begin to read the book.

-- ***Prof. Valentin Hane MD***

This pdf may be really worth a read, and superior to other. It generally does not price too much. Once you begin to read the book, it is extremely difficult to leave it before concluding.

-- ***Dylan Schaden***