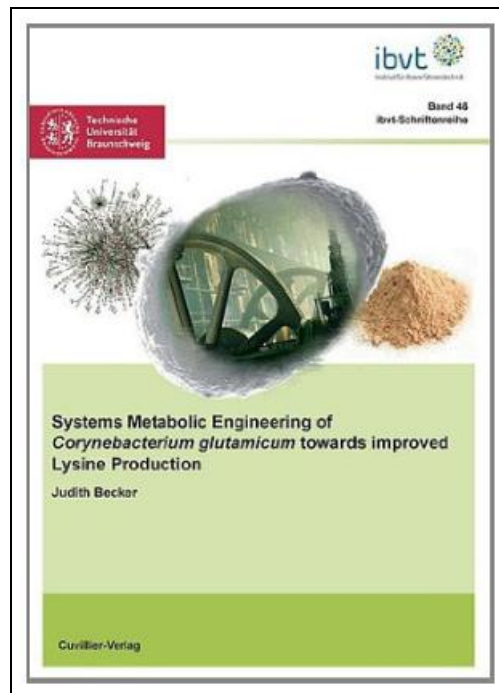


Systems Metabolic Engineering of *Corynebacterium glutamicum* towards improved Lysine Production



Filesize: 2 MB

Reviews

This book is really gripping and fascinating. I was able to comprehend every little thing out of this published e pdf. Your life span will likely be transform when you full looking at this ebook.
(Mrs. Heaven Schmeler)

SYSTEMS METABOLIC ENGINEERING OF CORYNEBACTERIUM GLUTAMICUM TOWARDS IMPROVED LYSINE PRODUCTION



To read **Systems Metabolic Engineering of Corynebacterium glutamicum towards improved Lysine Production** eBook, you should follow the link beneath and download the ebook or get access to additional information which might be relevant to SYSTEMS METABOLIC ENGINEERING OF CORYNEBACTERIUM GLUTAMICUM TOWARDS IMPROVED LYSINE PRODUCTION ebook.

Cuvillier Verlag Aug 2010, 2010. Taschenbuch. Condition: Neu. Neuware - L-lysine is an essential amino acid which is mainly applied as supplement in animal feed. With a worldmarket of around 1,000,000 t/a it is one of the most important fermentation products. The gram positive soilbacterium *Corynebacterium glutamicum* thereby serves as major production organism. The aim of the present work was rational strain engineering of lysine production by *C. glutamicum* using a systems-oriented approach. Detailed studies on this organism exposed lysine biosynthesis, NADPH metabolism, TCA cycle and precursor supply as key pathways. The central role for strain characterization can here be assigned to ^{13}C metabolic flux analysis, which was also applied in this work to obtain a detailed insight into the cellular physiology. Based on an existing model, the network for flux determination was extended in the present study to increase the number of estimable flux parameters. With regard to strain optimization, targeted modulation of enzyme activities within the cell is crucial to increase or reduce carbon conversion of the selected pathways. The common toolbox such as overexpression by promoter exchange or gene deletion was complemented with the method of start codon exchange allowing permanent modulation of enzyme activity. As host-strains for target evaluation, genetically defined, wild type based lysine producers were used which all express a feedback-deregulated variant of aspartate kinase. The most beneficial modifications identified in this work comprised overexpression of diaminopimelate dehydrogenase, down-regulation of TCA cycle by attenuation of isocitrate dehydrogenase and engineering of the NADPH metabolism. By subsequent implementation of beneficial targets in a single strain, a rationally designed lysine hyper-producer was created. This exhibited remarkable production properties such as a lysine-HCl titre of 120 g L⁻¹ and a carbon conversion yield of up to 55 %. 180 pp. Englisch.



[Read Systems Metabolic Engineering of Corynebacterium glutamicum towards improved Lysine Production Online](#)



[Download PDF Systems Metabolic Engineering of Corynebacterium glutamicum towards improved Lysine Production](#)

Other eBooks



[PDF] **Index to the Classified Subject Catalogue of the Buffalo Library; The Whole System Being Adopted from the Classification and Subject Index of Mr. Melvil Dewey, with Some Modifications .**

Click the web link under to download and read "Index to the Classified Subject Catalogue of the Buffalo Library; The Whole System Being Adopted from the Classification and Subject Index of Mr. Melvil Dewey, with Some Modifications ." PDF file.

[Download Document »](#)



[PDF] **Crochet: Learn How to Make Money with Crochet and Create 10 Most Popular Crochet Patterns for Sale: (Learn to Read Crochet Patterns, Charts, and Graphs, Beginner s Crochet Guide with Pictures)**

Click the web link under to download and read "Crochet: Learn How to Make Money with Crochet and Create 10 Most Popular Crochet Patterns for Sale: (Learn to Read Crochet Patterns, Charts, and Graphs, Beginner s Crochet Guide with Pictures)" PDF file.

[Download Document »](#)



[PDF] **Games with Books : 28 of the Best Childrens Books and How to Use Them to Help Your Child Learn - From Preschool to Third Grade**

Click the web link under to download and read "Games with Books : 28 of the Best Childrens Books and How to Use Them to Help Your Child Learn - From Preschool to Third Grade" PDF file.

[Download Document »](#)



[PDF] **Games with Books : Twenty-Eight of the Best Childrens Books and How to Use Them to Help Your Child Learn - from Preschool to Third Grade**

Click the web link under to download and read "Games with Books : Twenty-Eight of the Best Childrens Books and How to Use Them to Help Your Child Learn - from Preschool to Third Grade" PDF file.

[Download Document »](#)



[PDF] **Pickles To Pittsburgh: Cloudy with a Chance of Meatballs 2**

Click the web link under to download and read "Pickles To Pittsburgh: Cloudy with a Chance of Meatballs 2" PDF file.

[Download Document »](#)



[PDF] **The Trouble with Trucks: First Reading Book for 3 to 5 Year Olds**

Click the web link under to download and read "The Trouble with Trucks: First Reading Book for 3 to 5 Year Olds" PDF file.

[Download Document »](#)