

Contents

Genomics of Yeast Tolerance and In Situ Detoxification	1
Z. Lewis Liu	
Genetics and Regulation of Glycogen and Trehalose Metabolism in <i>Saccharomyces cerevisiae</i>	29
Jean Marie François, Thomas Walther, and Jean Luc Parrou	
Molecular Mechanisms of Programmed Cell Death Induced by Acetic Acid in <i>Saccharomyces cerevisiae</i>	57
Sergio Giannattasio, Nicoletta Guaragnella, and Ersilia Marra	
Molecular Mechanisms of Ethanol Tolerance in <i>Saccharomyces cerevisiae</i>	77
Menggen Ma and Z. Lewis Liu	
High Gravity Ethanol Fermentations and Yeast Tolerance	117
F.W. Bai and X.Q. Zhao	
Improving Biomass Sugar Utilization by Engineered <i>Saccharomyces cerevisiae</i>	137
Akinori Matsushika, Z. Lewis Liu, Shigeki Sawayama, and Jaewoong Moon	
Genomics on Pretreatment Inhibitor Tolerance of <i>Zymomonas mobilis</i>	161
Shihui Yang, Martin Keller, and Steven D. Brown	
Mechanisms and Applications of Microbial Solvent Tolerance	177
Mark Taylor, Jean-Baptiste Ramond, Marla Tuffin, Stephanie Burton, Kirsten Eley, and Don Cowan	

**Control of Stress Tolerance in Bacterial Host Organisms
for Bioproduction of Fuels** 209
Aindrila Mukhopadhyay, Nathan J. Hillson, and Jay D. Keasling

Metabolomics for Ethanologenic Yeast 239
Ying-Jin Yuan, Ming-Zhu Ding, Jin-Mei Xia, and Jing-Sheng Cheng

**Automated Systems of Plasmid-Based Functional Proteomics
to Improve Microbes for Biofuel Production** 259
Stephen R. Hughes, Tauseef R. Butt, Scott Bartoletti,
and Steven B. Riedmuller

**Unification of Gene Expression Data for Comparable Analyses
Under Stress Conditions** 279
Z. Lewis Liu

Index 301



<http://www.springer.com/978-3-642-21466-0>

Microbial Stress Tolerance for Biofuels

Systems Biology

Liu, Z.L. (Ed.)

2012, X, 310 p., Hardcover

ISBN: 978-3-642-21466-0