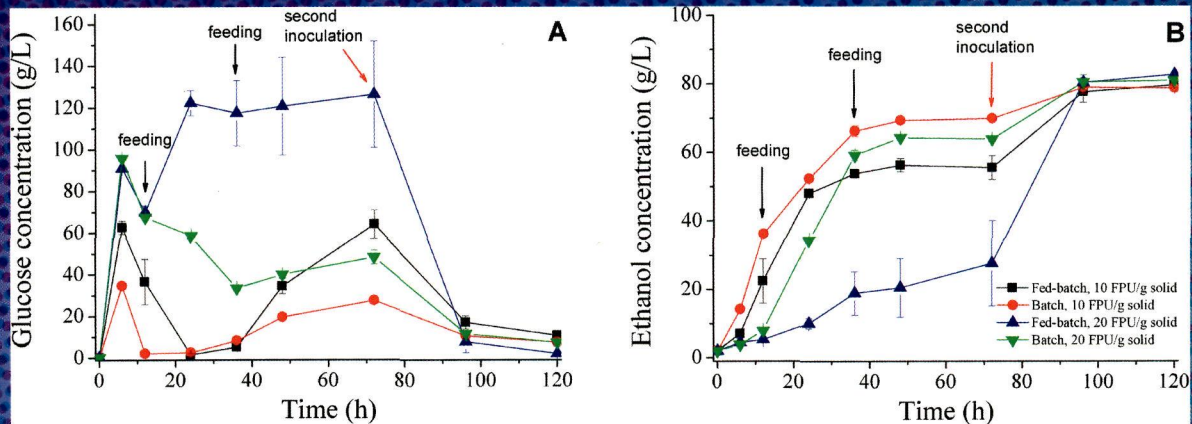




BIORESOURCE TECHNOLOGY

applied microbiology ■ bioconversion/biocatalysis ■ biofuels ■
 biological engineering ■ biological waste treatment ■ biomass ■
 bioprocesses ■ thermo-chemical treatment



Special Issue on Biorefineries

Available online at www.sciencedirect.com

SciVerse ScienceDirect



(Abstracted/Indexed in: *AGRICOLA* database; *Agricultural Engineering Abstracts*; *Analytical Abstracts* (Royal Society of Chemistry Information Services); *BIOSIS* (Biological Abstracts); *CAB Abstracts* database; *Elsevier BIOBASE/Current Awareness in Biological Sciences*; *Cambridge Scientific Abstracts*; *Chemical Abstracts*; *Current Contents/Agriculture, Biology and Environmental Sciences*; *Ecological Abstracts*; *Energy from Biomass and Municipal Wastes*; *Energy Information Abstracts*; *Engineering Index*; *Environmental Periodicals Bibliography*; *EMBASE/Excerpta Medica*; *Forestry Abstracts*; *Fuel and Energy Abstracts*; *Gas Abstracts*; *GEOBASE*; *Science Citation Index*; *SciSearch*; *Selected Water Resources Abstracts*). Also covered in the abstract and citation database *SciVerse Scopus*[®]. Full text available on *SciVerse ScienceDirect*[®].

For a full and complete Guide for Authors, please refer to *BITE*, Vol 121C. The instructions can also be found at:
<http://www.elsevier.com/locate/biortech>

CONTENTS

Volume 135, May 2013

Preface

- 1 Biorefineries
 J.-M. PARK (Republic of Korea), A. KONDO (Japan), J.-S. CHANG (Taiwan), C. PERRY CHOU (Canada), P. MONSAN (France)

Pretreatment and Hydrolysis of Feedstocks

- 2 Immobilization of β -glucosidase on a magnetic nanoparticle improves thermostability: Application in cellobiose hydrolysis
 M. L. VERMA, R. CHAUDHARY, T. TSUZUKI, C. J. BARROW & M. PURI (Australia)
- 7 Biological delignification of paddy straw and *Parthenium* sp. using a novel micromycete *Myrothecium roridum* LG7 for enhanced saccharification
 R. TIWARI, S. RANA, S. SINGH, A. ARORA, R. KAUSHIK, V. V. AGRAWAL, A. K. SAXENA & L. NAIN (India)
- 12 *Streptomyces griseorubens* mediated delignification of paddy straw for improved enzymatic saccharification yields
 M. SARITHA, A. ARORA, S. SINGH & L. NAIN (India)
- 18 Enzymatic saccharification of sugarcane bagasse by *N*-methylmorpholine-*N*-oxide-tolerant cellulase from a newly isolated *Galactomyces* sp. CCZU11-1
 Y.-C. HE, D.-Q. XIA, C.-L. MA, L. GONG, T. GONG, M.-X. WU, Y. ZHANG, Y.-J. TANG, J.-H. XU & Y.-Y. LIU (PR China)
- 23 Aqueous-ammonia delignification of miscanthus followed by enzymatic hydrolysis to sugars
 Z. LIU (USA, PR China), S. PADMANABHAN, K. CHENG, P. SCHWYTER, M. PAULY, A. T. BELL & J. M. PRAUSNITZ (USA)
- 30 Fractionation of cellulase and fermentation inhibitors from steam pretreated mixed hardwood
 Y. KIM, T. KREKE, R. HENDRICKSON, J. PARENTI & M. R. LADISCH (United States)
- 39 Fungal pretreatment of switchgrass for improved saccharification and simultaneous enzyme production
 J. LIU (United States, China), M. L. WANG, B. TONNIS, M. HABTESELASSIE (United States), X. LIAO (China) & Q. HUANG (United States)
- 46 Diluted phosphoric acid pretreatment for production of fermentable sugars in a sugarcane-based biorefinery
 S. M. DE VASCONCELOS, A. M. P. SANTOS, G. J. M. ROCHA & A. M. SOUTO-MAIOR (Brazil)

(Continued on inside back cover)

For further information about *Bioresource Technology* or other Elsevier products, why not access the COMPLETE ELSEVIER CATALOGUE via the INTERNET?

WWW: <http://www.elsevier.com>



ELSEVIER

CONTENTS (continued from outside back cover)

- 53 Behavior of lignin-binding cellulase in the presence of fresh cellulosic substrate
H. NONAKA, A. KOBAYASHI & M. FUNAOKA (Japan)
- 58 Ethanol-based organosolv fractionation of wheat straw for the production of lignin and enzymatically digestible cellulose
J. WILDSCHUT, A. T. SMIT, J. H. REITH & W. J. J. HUIJGEN (The Netherlands)
- 67 A novel surfactant-assisted ultrasound pretreatment of sugarcane tops for improved enzymatic release of sugars
R. SINDHU, M. KUTTIRAJA, V. ELIZABETH PREETI, S. VANI, R. K. SUKUMARAN & P. BINOD (India)
- 73 Hydrothermal treatment and enzymatic hydrolysis of *Tamarix ramosissima*: Evaluation of the process as a conversion method in a biorefinery concept
L.-P. XIAO, Z.-J. SHI, F. XU & R.-C. SUN (China)
- 82 Effect of different pretreatments on delignification pattern and enzymatic hydrolysability of miscanthus, oil palm biomass and typha grass
Y. P. TIMILSENA, C. J. ABEYWICKRAMA (Thailand), S. K. RAKSHIT (Canada) & N. BROSSE (France)
- 89 The promoting effects of manganese on biological pretreatment with *Irpex lacteus* and enzymatic hydrolysis of corn stover
L. SONG, F. MA, Y. ZENG, X. ZHANG & H. YU (PR China)
- 93 Enhanced bioethanol production from pretreated corn stover via multi-positive effect of casein micelles
A. D. ECKARD, K. MUTHUKUMARAPPAN & W. GIBBONS (USA)
- 103 Low melting point pyridinium ionic liquid pretreatment for enhancing enzymatic saccharification of cellulosic biomass
UJU, A. NAKAMOTO, Y. SHODA, M. GOTO, W. TOKUHARA, Y. NORITAKE, S. KATAHIRA, N. ISHIDA, C. OGINO & N. KAMIYA (Japan)
- 109 Sodium sulfite-formaldehyde pretreatment of mixed hardwoods and its effect on enzymatic hydrolysis
Y. JIN (China, USA), L. YANG (China), H. JAMEEL (USA), H.-M. CHANG (China, USA) & R. PHILLIPS (USA)
- 116 Comparative study of various pretreatment reagents on rice husk and structural changes assessment of the optimized pretreated rice husk
T. N. ANG, G. C. NGOH & A. S. M. CHUA (Malaysia)

Algae-Based Biofuels

- 120 Techno-economic assessment of biofuel development by anaerobic digestion of European marine cold-water seaweeds
A. DAVE, Y. HUANG, S. REZVANI, D. MCILVEEN-WRIGHT, M. NOVAES & N. HEWITT (UK)
- 128 A biorefinery from *Nannochloropsis* sp. microalga – Extraction of oils and pigments. Production of biohydrogen from the leftover biomass
B. P. NOBRE (Portugal), F. VILLALOBOS, B. E. BARRAGÁN (Mexico), A. C. OLIVEIRA, A. P. BATISTA, P. A. S. S. MARQUES, R. L. MENDES (Portugal), H. SOVOVÁ (Czech Republic), A. F. PALAVRA & L. GOUVEIA (Portugal)
- 137 Separation of microalgae with different lipid contents by dielectrophoresis
Y.-L. DENG, J.-S. CHANG & Y.-J. JUANG (Taiwan)
- 142 Biorefinery of microalgae for food and fuel
M. VANTHOOR-KOOPMANS (The Netherlands, Mexico), R. H. WIJFFELS, M. J. BARBOSA & M. H. M. EPPINK (The Netherlands)
- 150 Bioethanol production from *Gracilaria verrucosa*, a red alga, in a biorefinery approach
S. KUMAR, R. GUPTA, G. KUMAR, D. SAHOO & R. C. KUHAD (India)
- 157 Characterization and optimization of carbohydrate production from an indigenous microalga *Chlorella vulgaris* FSP-E
S.-H. HO, S.-W. HUANG, C.-Y. CHEN (Taiwan), T. HASUNUMA, A. KONDO (Japan) & J.-S. CHANG (Taiwan)
- 166 Microalgae-based biorefinery – From biofuels to natural products
H.-W. YEN, I.-C. HU, C.-Y. CHEN, S.-H. HO, D.-J. LEE & J.-S. CHANG (Taiwan)

(Continued on facing page)

CONTENTS (continued from inside back cover)

- 175 A strategy for urban outdoor production of high-concentration algal biomass for green biorefining
C. Y. LIM, C.-L. CHEN & J.-Y. WANG (Singapore)
- 182 Potentials of macroalgae as feedstocks for biorefinery
K. A. JUNG, S.-R. LIM, Y. KIM & J. M. PARK (South Korea)
- 191 Bioethanol production using carbohydrate-rich microalgae biomass as feedstock
S.-H. HO, S.-W. HUANG, C.-Y. CHEN (Taiwan, ROC), T. HASUNUMA, A. KONDO (Japan) & J.-S. CHANG (Taiwan, ROC)
- 199 Bioethanol production from mannitol by a newly isolated bacterium, *Enterobacter* sp. JMP3
J. WANG, Y. M. KIM, H. S. RHEE, M. W. LEE & J. M. PARK (South Korea)
- 207 Biofloculant production from *Solibacillus silvestris* W01 and its application in cost-effective harvest of marine microalga *Nannochloropsis oceanica* by flocculation
C. WAN, X.-Q. ZHAO, S.-L. GUO, MD. ASRAFUL ALAM & F.-W. BAI (China)
- 213 Effect of solvents and oil content on direct transesterification of wet oil-bearing microalgal biomass of *Chlorella vulgaris* ESP-31 for biodiesel synthesis using immobilized lipase as the biocatalyst
D.-T. TRAN, C.-L. CHEN & J.-S. CHANG (Taiwan)
- 222 Anaerobic conversion of microalgal biomass to sustainable energy carriers – A review
A.-M. LAKANIEMI (Finland), O. H. TUOVINEN (USA) & J. A. PUHAKKA (Finland)
- 232 Phycoremediation and biogas potential of native algal isolates from soil and wastewater
S. K. PRAJAPATI, P. KAUSHIK, A. MALIK & V. K. VIJAY (India)

Biofuels Production from Lignocellulosic and Other Feedstocks

- 239 Comparing cell viability and ethanol fermentation of the thermotolerant yeast *Kluyveromyces marxianus* and *Saccharomyces cerevisiae* on steam-exploded biomass treated with laccase
A. D. MORENO, D. IBARRA, I. BALLESTEROS, A. GONZÁLEZ & M. BALLESTEROS (Spain)
- 246 Coupled production of single cell oil as biodiesel feedstock, xylitol and xylanase from sugarcane bagasse in a biorefinery concept using fungi from the tropical mangrove wetlands
S. KAMAT, M. KHOT, S. ZINJARDE, A. RAVIKUMAR & W. N. GADE (India)
- 254 Butanol production from acid hydrolyzed corn fiber with *Clostridium beijerinckii* mutant
T.-F. DU, A.-Y. HE, H. WU, J.-N. CHEN, X.-P. KONG, J.-L. LIU, M. JIANG & P.-K. OUYANG (People's Republic of China)
- 262 Evaluation of biobutanol production from non-pretreated rice straw hydrolysate under non-sterile environmental conditions
W.-H. CHEN, Y.-C. CHEN & J.-G. LIN (Taiwan)
- 269 A novel fed-batch process based on the biology of *Aurantiochytrium* sp. KRS101 for the production of biodiesel and docosahexaenoic acid
K. KIM, E. JUNG KIM, B.-G. RYU, S. PARK, Y.-E. CHOI & J.-W. YANG (Republic of Korea)
- 275 Pretreatment of empty fruit bunch from oil palm for fuel ethanol production and proposed biorefinery process
L. TAN, Y. YU, X. LI, J. ZHAO, Y. QU (China), Y. M. CHOO & S. K. LOH (Malaysia)
- 283 Pilot-scale chemical–biological system for efficient H₂S removal from biogas
W.-C. LIN, Y.-P. CHEN & C.-P. TSENG (Taiwan)
- 292 States and challenges for high-value biohythane production from waste biomass by dark fermentation technology
Z. LIU, C. ZHANG, Y. LU, X. WU, L. WANG, L. WANG, B. HAN & X.-H. XING (China)
- 304 Cultivation and lipid production of yeast *Cryptococcus curvatus* using pretreated waste active sludge supernatant
Y. H. SEO, I. G. LEE & J. I. HAN (Republic of Korea)

(continued on previous page)

CONTENTS (continued from last page)

- 309 Characterization of a thermostable xylanase from a newly isolated *Kluyvera* species and its application for biobutanol production
F. XIN & J. HE (Singapore)
- 316 Butanol production in a first-generation Brazilian sugarcane biorefinery: Technical aspects and economics of greenfield projects
A. P. MARIANO, M. O. S. DIAS, T. L. JUNQUEIRA, M. P. CUNHA, A. BONOMI & R. M. FILHO (Brazil)
- 324 Enhancing butanol production with *Clostridium pasteurianum* CH4 using sequential glucose–glycerol addition and simultaneous dual-substrate cultivation strategies
W.-C. KAO, D.-S. LIN, C.-L. CHENG, B.-Y. CHEN, C.-Y. LIN & J.-S. CHANG (Taiwan)
- 331 Bioconversion characteristics of *Rhodospseudomonas palustris* CQK 01 entrapped in a photobioreactor for hydrogen production
Y.-Z. WANG, Q. LIAO, X. ZHU, R. CHEN, C.-L. GUO & J. ZHOU (China)
- 339 Microbial synthesis of *n*-butanol, isobutanol, and other higher alcohols from diverse resources
E. I. LAN & J. C. LIAO (USA)
- 350 Batch and multi-step fed-batch enzymatic saccharification of Formiline-pretreated sugarcane bagasse at high solid loadings for high sugar and ethanol titers
X. ZHAO, L. DONG, L. CHEN & D. LIU (China)
- 357 High-cell-density cultivation of oleaginous yeast *Cryptococcus curvatus* for biodiesel production using organic waste from the brewery industry
B.-G. RYU, J. KIM, K. KIM, Y.-E. CHOI, J.-I. HAN & J.-W. YANG (Republic of Korea)
- 365 Optimization of ethanol production from carob pod extract using immobilized *Saccharomyces cerevisiae* cells in a stirred tank bioreactor
Y. ERCAN, T. IRFAN & K. MUSTAFA (Turkey)
- 372 Characterization of a butanol–acetone-producing *Clostridium* strain and identification of its solventogenic genes
T. K. CHUA, D.-W. LIANG, C. QI, K.-L. YANG & J. HE (Singapore)
- 379 Butanol production from hemicellulosic hydrolysate of corn fiber by a *Clostridium beijerinckii* mutant with high inhibitor-tolerance
T. GUO, A.-Y. HE, T.-F. DU, D.-W. ZHU, D.-F. LIANG, M. JIANG, P. WEI & P.-K. OUYANG (PR China)
- 386 Enzymatic biodiesel production: An overview of potential feedstocks and process development
S. HAMA & A. KONDO (Japan)
- 396 Two-stage *in situ* gas stripping for enhanced butanol fermentation and energy-saving product recovery
C. XUE (China, USA), J. ZHAO, F. LIU, C. LU, S.-T. YANG (USA) & F.-W. BAI (China)
- 403 Cell recycle batch fermentation of high-solid lignocellulose using a recombinant cellulase-displaying yeast strain for high yield ethanol production in consolidated bioprocessing
Y. MATANO, T. HASUNUMA & A. KONDO (Japan)
- 410 Production of biodiesel from plant oil hydrolysates using an *Aspergillus oryzae* whole-cell biocatalyst highly expressing *Candida antarctica* lipase B
D. ADACHI, S. HAMA, K. NAKASHIMA, T. BOGAKI, C. OGINO & A. KONDO (Japan)
- 417 Enzymatic production of biodiesel from waste cooking oil in a packed-bed reactor: An engineering approach to separation of hydrophilic impurities
S. HAMA, A. YOSHIDA, N. TAMADANI, H. NODA & A. KONDO (Japan)

(continued on previous page)

CONTENTS (continued from following page)

Bio-Based Chemicals Production

- 422 Itaconic acid – A biotechnological process in change
T. KLEMENT & J. BÜCHS (Germany)
- 432 Biosynthesis of 3-hydroxypropionic acid from glycerol in recombinant *Escherichia coli* expressing *Lactobacillus brevis* *dhaB* and *dhaR* gene clusters and *E. coli* K-12 *aldH*
S. KWAK, Y.-C. PARK & J.-H. SEO (Republic of Korea)
- 440 Chain elongation of acetate and ethanol in an upflow anaerobic filter for high rate MCFA production
T. I. M. GROOTSCHOLTEN, K. J. J. STEINBUSCH, H. V. M. HAMELERS & C. J. N. BUISMAN (The Netherlands)
- 446 Method of 2,3-butanediol production from glycerol and acid-pretreated rice straw hydrolysate by newly isolated strains: Pre-evaluation as an integrated biorefinery process
C.-F. HUANG, Y.-F. JIANG, G.-L. GUO & W.-S. HWANG (Taiwan, ROC)
- 454 Lactic acid production on liquid distillery stillage by *Lactobacillus rhamnosus* immobilized onto zeolite
A. P. DJUKIĆ-VUKOVIĆ, L. V. MOJOVIĆ, B. M. JOKIĆ, S. B. NIKOLIĆ & J. D. PEJIN (Serbia)
- 459 Improved acid tolerance of *Lactobacillus pentosus* by error-prone whole genome amplification
L. YE, H. ZHAO, Z. LI & J. C. WU (Singapore)
- 464 Biotransformation of wheat straw to bacterial cellulose and its mechanism
L. CHEN, F. HONG, X.-X. YANG & S.-F. HAN (PR China)
- 469 Succinic acid production from cellobiose by *Actinobacillus succinogenes*
M. JIANG, R. XU, Y.-L. XI, J.-H. ZHANG, W.-Y. DAI, Y.-J. WAN, K.-Q. CHEN & P. WEI (PR China)
- 475 Open fermentative production of L-lactic acid by *Bacillus* sp. strain NL01 using lignocellulosic hydrolyzates as low-cost raw material
J. OUYANG, R. MA, Z. ZHENG, C. CAI, M. ZHANG & T. JIANG (People's Republic of China)
- 481 Simultaneous saccharification and high titer lactic acid fermentation of corn stover using a newly isolated lactic acid bacterium *Pediococcus acidilactici* DQ2
K. ZHAO, Q. QIAO, D. CHU, H. GU, T. H. DAO, J. ZHANG & J. BAO (China)
- 490 Potential of bioethanol as a chemical building block for biorefineries: Preliminary sustainability assessment of 12 bioethanol-based products
J. A. POSADA, A. D. PATEL, A. ROES, K. BLOK, A. P. C. FAAIJ & M. K. PATEL (The Netherlands)
- 500 Effects of pH and dissolved CO₂ level on simultaneous production of 2,3-butanediol and succinic acid using *Klebsiella pneumoniae*
K.-K. CHENG, J. WU, G.-Y. WANG, W.-Y. LI, J. FENG & J.-A. ZHANG (China)
- 504 An economical biorefinery process for propionic acid production from glycerol and potato juice using high cell density fermentation
T. DISHISHA, Å. STÅHL, S. LUNDMARK & R. HATTI-KAUL (Sweden)
- 513 A review of enzymes and microbes for lignocellulosic biorefinery and the possibility of their application to consolidated bioprocessing technology
T. HASUNUMA, F. OKAZAKI, N. OKAI, K. Y. HARA, J. ISHII & A. KONDO (Japan)
- 523 Zygomycetes-based biorefinery: Present status and future prospects
J. A. FERREIRA, P. R. LENNARTSSON, L. EDEBO & M. J. TAHERZADEH (Sweden)
- 533 Techno-economic analysis for a sugarcane biorefinery: Colombian case
J. MONCADA (Colombia), M. M. EL-HALWAGI (United States) & C. A. CARDONA (Colombia)

(continued on previous page)

CONTENTS (continued from following page)

Metabolic Engineering Approaches

- 544 Metabolic engineering of industrial platform microorganisms for biorefinery applications – Optimization of substrate spectrum and process robustness by rational and evolutive strategies
N. BUSCHKE, R. SCHÄFER, J. BECKER & C. WITTMANN (Germany)
- 555 Simultaneous production of 3-hydroxypropionic acid and 1,3-propanediol from glycerol using resting cells of the lactate dehydrogenase-deficient recombinant *Klebsiella pneumoniae* overexpressing an aldehyde dehydrogenase
V. KUMAR, M. SANKARANARAYANAN, M. DURGAPAL, S. ZHOU, Y. KO, S. ASHOK, R. SARKAR & S. PARK (South Korea)
- 564 Engineered *Escherichia coli* for simultaneous utilization of galactose and glucose
H. G. LIM, S. W. SEO & G. Y. JUNG (South Korea)
- 568 Refactoring redox cofactor regeneration for high-yield biocatalysis of glucose to butyric acid in *Escherichia coli*
J. H. LIM, S. W. SEO, S. Y. KIM & G. Y. JUNG (South Korea)
- 574 Succinate production by metabolically engineered *Escherichia coli* using sugarcane bagasse hydrolysate as the carbon source
R. LIU, L. LIANG, W. CAO, M. WU, K. CHEN, J. MA, M. JIANG, P. WEI & P. OUYANG (China)

Waste Treatment and Reutilization

- 578 Landfills as a biorefinery to produce biomass and capture biogas
N. S. BOLAN, R. THANGARAJAN, B. SESHADRI (Australia), U. JENA, K. C. DAS (USA), H. WANG (China) & R. NAIDU (Australia)
- 588 Understanding biorefining efficiency – The case of agrifood waste
M. KUJISMA, H. KAHILUOTO, J. HAVUKAINEN, E. LEHTONEN, M. LUORANEN, T. MYLLYMAA, J. GRÖNROOS & M. HORTTANAINEN (Finland)
- 598 Treatment of agro-industrial wastewater using microalgae–bacteria consortium combined with anaerobic digestion of the produced biomass
D. HERNÁNDEZ, B. RIAÑO, M. COCA & M. C. GARCÍA-GONZÁLEZ (Spain)
- 604 Efficient decolorization and deproteinization using uniform polymer microspheres in the succinic acid biorefinery from bio-waste cotton (*Gossypium hirsutum* L.) stalks
Q. LI, J. LEI, R. ZHANG, J. LI, J. XING, F. GAO, F. GONG, X. YAN, D. WANG, Z. SU & G. MA (PR China)
- 610 Co-fermentation of water hyacinth and beverage wastewater in powder and pellet form for hydrogen production
C.-H. LAY (Finland, Taiwan, ROC), B. SEN, C.-C. CHEN, J.-H. WU, S.-C. LEE & C.-Y. LIN (Taiwan, ROC)
- 616 Spectroscopic analysis and biodegradation potential study of dissolved organic matters in sewage sludge treated with high-pressure homogenization
Y. ZHANG, P. ZHANG, J. GUO, W. MA & L. XIAO (China)
- 622 Potential utilization of waste sweetpotato vines hydrolysate as a new source for single cell oils production by *Trichosporon fermentans*
J. ZHAN, H. LIN, Q. SHEN, Q. ZHOU & Y. ZHAO (People's Republic of China)

Microbial Fuel Cells

- 630 Ferric iron enhances electricity generation by *Shewanella oneidensis* MR-1 in MFCs
D. WU, D. XING, L. LU, M. WEI, B. LIU & N. REN (China)
- 635 Generation of electricity from FeCl₃ pretreatment of rice straw using a fuel cell system
I. KIM, M. S. U. REHMAN, K. H. KIM & J.-I. HAN (Republic of Korea)
- 640 Characteristics of the photosynthesis microbial fuel cell with a *Spirulina platensis* biofilm
C.-C. LIN, C.-H. WEI, C.-I. CHEN, C.-J. SHIEH & Y.-C. LIU (Taiwan)

(continued on previous page)

CONTENTS (continued from following page)

Physico-Chemical Conversion of Biomass

- 644 Conversion of pine sawdust bio-oil (raw and thermally processed) over equilibrium FCC catalysts
M. BERTERO & U. SEDRAN (Argentina)
- 652 Microcapsule with a heterogeneous catalyst for the methanolysis of rapeseed oil
F. KURAYAMA, T. YOSHIKAWA, T. FURUSAWA (Japan), N. M. BAHADUR (Japan, Bangladesh), H. HANDA, M. SATO & N. SUZUKI (Japan)
- 659 The effects of torrefaction on compositions of bio-oil and syngas from biomass pyrolysis by microwave heating
S. REN, H. LEI, L. WANG, Q. BU, S. CHEN, J. WU, J. JULSON & R. RUAN (USA)
- 665 Potential of hot water extraction of birch wood to produce high-purity dissolving pulp after alkaline pulping
M. BORREGA, L. K. TOLONEN (Finland), F. BARDOT (Finland, France), L. TESTOVA & H. SIXTA (Finland)
- 672 Integration of extrusion and clean fractionation processes as a pre-treatment technology for prairie cordgrass
G. BRUDECKI, I. CYBULSKA & K. ROSENTRATER (USA)
- 683 Chemical, structural and combustion characteristics of carbonaceous products obtained by hydrothermal carbonization of palm empty fruit bunches
G. K. PARSHETTI (Singapore), S. KENT HOEKMAN (USA) & R. BALASUBRAMANIAN (Singapore)
- 690 Optimization of lignin production from empty fruit bunch via liquefaction with ionic liquid
D. A. B. SIDIK, N. NGADI & N. A. S. AMIN (Malaysia)
- 697 High glucose selectivity in pressurized water hydrolysis of cellulose using ultra-fast reactors
D. A. CANTERO (Spain, Argentina), M. DOLORES BERMEJO & M. JOSÉ COCERO (Spain)
- 704 Towards understanding structural changes of photoperiod-sensitive sorghum biomass during sulfuric acid pretreatment
F. XU, Y.-C. SHI & D. WANG (USA)
- 710 Hydrothermal processing of duckweed: Effect of reaction conditions on product distribution and composition
P. DUAN, Z. CHANG, Y. XU, X. BAI, F. WANG & L. ZHANG (PR China)
- 720 Algal biomass dehydration
K.-Y. SHOW (Malaysia), D.-J. LEE & J.-S. CHANG (Taiwan)
- 730 Production and recovery of monosaccharides from lignocellulose hot water extracts in a pulp mill biorefinery
T. SAINIO, M. KALLIOINEN, O. NAKARI & M. MÄNTTÄRI (Finland)
- 738 Separation and characterization of lignin from bio-ethanol production residue
G. GUO, S. LI, L. WANG, S. REN & G. FANG (PR China)

Cover figure: Batch and fed-batch SSF of Formiline-pretreated sugarcane bagasse for ethanol production at 20% solid loading: (A) glucose concentration; (B) ethanol concentration. See the article "Batch and multi-step fed-batch enzymatic saccharification of Formiline-pretreated sugarcane bagasse at high solid loadings for high sugar and ethanol titers" by X. Zhao et al.