University Distinguished Professor
Shanghai Jiao Tong University
School of Life Science and Biotechnology
800 Dongchuan Rd., Shanghai 200240, China
Tel: 00-86-3420 8028; Fax: 00-86-3420 5709
Email: fwbai@sjtu.edu.cn

Education Background

05/2005–04/2007: PhD in Biochemical Engineering
University of Waterloo, Canada
Department of Chemical Engineering

09/1985–06/1988: MS in Biochemical Engineering
Dalian University of Technology, China
School of Chemical Engineering

09/1981–07/1985: BS in Chemical & Mechanical Engineering
Dalian University of Technology, China
Department of Chemical Engineering

Working Experience

01/2013–Present Distinguished Professor
School of Life Science and Biotechnology
Shanghai Jiao Tong University, China

08/1999–12/2012: Professor
School of Life Science and Biotechnology
Dalian University of Technology, China

04/2010–12/2010: Visiting Professor
Massachusetts Institute of Technology (MIT), USA
Chemical Engineering Department

10/2002–07/2003: Visiting Scholar
University of Waterloo, Canada
Chemical Engineering Department

02/2000–08/1999: Visiting Scholar
Ohio University, USA
Chemical Engineering Department

07/1995–07/1999: Associate Professor
Dalian University of Technology, China
School of Life Science and Biotechnology

06/1988–06/1995: Assistant Professor
Dalian University of Technology, China
School of Chemical Engineering

Professional Activities

Chair: Subcommittee on Biotechnology
International Union of Pure and Applied Chemistry (IUPAC, www.iupac.org)
Executive Board Member:Asian Federation of Biotechnology (AFOB, www.afob.org)
Chair: AFOB Division of Bioprocess and Bioseparation
Editor: Biotechnology Advances (Elsevier, SCI IF 12.831)

Review Articles:

1. Liu CG, Xiao Y, Xia XX, Zhao XQ, Peng L, Srinophakun P, **Bai FW**. Cellulosic ethanol production: Progress, challenges and strategies for solutions. *Biotechnology Advances* 2019, 37: 491–504.
2. Xia J, Yang YF, Liu CG, Yang SH, **Bai FW**. Engineering *Zymomonas mobilis* for robust cellulosic ethanol production. *Trends in Biotechnology* 2019, 37: 960–972.
3. Chen BL, Wan C, Mehmood MA, Chang JS, **Bai FW**, Zhao XQ. Manipulating environmental stresses and stress tolerance of microalgae for enhanced efficiency of biorefinery-A review. *Bioresource Technology* 2017, 244: 1198–1206.
4. Xue C, Zhao JB, Chen LJ, Yang ST, **Bai FW**. Recent advances and state-of-the-art strategies in strain and process for biofuels production. *Biotechnology Advances* 2017, 35: 210–222.
5. Zhao XQ, Xiong L, Zhang MM, **Bai FW**. Towards efficient bioethanol production from agricultural and forestry residues: Exploration of unique natural microorganisms in combination with advanced strain engineering. *Bioresource Technology* 2016, 215: 84–91.
6. Wan C, Alam MA, Zhao XQ, Chang JS, **Bai FW**. Current progress and future prospect of microalgal biomass harvest using various flocculation technologies. *Bioresource Technology* 2015, 184: 251–257.
7. Xue C, Zhao JB, Chen LJ, **Bai FW**, Yang ST, Sun JX. Integrated butanol recovery for an advanced biofuel: current state and prospects. *Applied Microbiology and Biotechnology* 2014, 98: 3463–3474.
8. Xue C, Zhao XQ, Chen LJ, **Bai FW**. Prospective and development of butanol as an advanced biofuel. *Biotechnology Advances* 2013, 31: 1575–1584.
9. Chen CY, Zhao XQ, Yen HW, Ho SH, Cheng CL, Lee DJ, **Bai FW**, Chang JS. Microalgae-based carbohydrates for biofuel production. *Biochemical Engineering Journal* 2013, 78: 1–10.
10. Liu CG, Xue C, **Bai FW**, Lin YH. Redox potential control and applications in micro-aerobic and anaerobic fermentations. *Biotechnology Advances* 2013, 31: 257–265.
11. Zhao XQ, **Bai FW**. Zinc and yeast stress tolerance: micronutrient plays a big role. *Journal of Biotechnology* 2012, 158: 176–183.
12. Zhao XQ, **Bai FW**. Yeast flocculation: New story in fuel ethanol production. *Biotechnology Advances* 2009, 27: 849–856.
13. Zhao XQ, **Bai FW**. Mechanisms of yeast stress tolerance and its manipulation for efficient ethanol production. *Journal of Biotechnology* 2009, 144: 23–30.
14. **Bai FW**, Anderson WA, Moo-Young M. Ethanol fermentation technologies from sugar and starch feedstocks. *Biotechnology Advances* 2008, 26: 89–105.

Research Articles

1. Li K, Zhang JW, Liu CG, Mehmood MA, **Bai FW**. Elucidating the molecular mechanism of TEMPOL-mediated improvement on tolerance under oxidative stress in *Saccharomyces cerevisiae*. *Chemical Engineering Science* 2020, 211, 115306.
2.

3. Xia J, Liu CG, Zhao XQ, Xiao Y, Xia XX, **Bai FW**. Contribution of cellulose synthesis, formation of fibrils and their entanglement to the self-flocculation of *Zymomonas mobilis*. *Biotechnology and Bioengineering* 2018, 115: 2714–2725.
4. Li K, Xia J, Mehmood MA, Zhao XQ, Liu CG, **Bai FW**. Extracellular redox potential regulation improves yeast tolerance to furfural. *Chemical Engineering Science* 2018, 196: 54–63.
5. Meng QS, Liu CG, Zhao XQ, **Bai FW**. Engineering *Trichoderma reesei* Rut-C30 with the overexpression of egl1 at the ace1 locus to relieve repression on cellulase production and to adjust the ratio of cellulolytic enzymes for more efficient hydrolysis of lignocellulosic biomass. *Journal of Biotechnology* 2018, 285: 56–63.
6. Ahmad MS, Mehmood MA, Liu CG, Tawab A, **Bai FW**, Sakdaronnarong C, Xu J, Rahimuddin SA, Gull M. Bioenergy potential of *Wolffia arrhiza* appraised through pyrolysis, kinetics, thermodynamics parameters and TG-FTIR-MS study of the evolved gases. *Bioresource Technology* 2018, 253: 297–303.
7. Cheng C, Tang RQ, Xiong L, Hector RE, **Bai FW**, Zhao XQ. Association of improved oxidative stress tolerance and alleviation of glucose repression with superior xylose-utilization capability by a natural isolate of *Saccharomyces cerevisiae*. *Biotechnology for Biofuels* 2018, 11: 28.
8. Liu CG, Li ZY, Hao Y, Xia J, **Bai FW**, Mehmood MA. Computer simulation elucidates yeast flocculation and sedimentation for efficient industrial fermentation. *Biotechnology Journal* 2018, 13(5): e1700697.
9. Xiong L, Zeng Y, Tang RQ, Apler HS, **Bai FW**, Zhao XQ. Condition-specific promoter activities in *Saccharomyces cerevisiae*. *Microbial Cell Factories* 2018, 17: 58.
10. Xu JR, He LY, Liu CG, Zhao XQ, **Bai FW**. Genome Sequence of the self-flocculating strain *Saccharomyces cerevisiae* SPSC01. *Genome Announcements* 2018, 6(20): e00367–18.
11. Zhang F, Zhao XQ, **Bai FW**. Improvement of cellulase production in *Trichoderma reesei*, Rut-C30 by overexpression of a novel regulatory gene *Trvib-1*. *Bioresource Technology* 2018, 247: 676–683.
12. Li YH, Zhang XY, Zhang F, Peng LC, Zhang DB, Kondo K, **Bai FW**, Zhao XQ. Optimization of cellulolytic enzyme components through engineering *Trichoderma*

performance under stresses of multiple lignocellulose-derived inhibitors by overexpression of a typical 2-Cys peroxiredoxin from *Kluyveromyces marxianus*. *Biotechnology for Biofuels* 2017, 10: 79.

18. **Bai FW**, Alper Hal. Harnessing microbial cells through advanced technologies and conventional strategies. *Biotechnology Journal* 2017, 12(10).
19. Chen LJ, Wu YD, Xue C, **Bai FW**. Improving fructose utilization and butanol production by *Clostridium acetobutylicum* via extracellular redox potential regulation and intracellular metabolite analysis. *Biotechnology Journal* 2017, 12(10): 1700268.
20. Li YH, Zhang XY, Xiong L, Mehmood MA, Zhao XQ, **Bai FW**. On-site cellulase production and efficient saccharification of corn stover by cbh2 overexpressing *Trichoderma reesei* with novel induction system. *Bioresource Technology* 2017, 238: 643–649.
21. Li YM, Yuan WJ, Gao JQ, Fan C, Wu WZ, **Bai FW**. Production of L-alanyl-L-glutamine by recycling *E. coli* expressing alpha-amino acid ester acyltransferase. *Bioresource Technology* 2017, 245: 1603–1609.
22. Gao JQ, Yuan WJ, Li YM, **Bai FW**, Jiang Y. Synergistic effect of thioredoxin and its reductase from *Kluyveromyces marxianus* on enhanced tolerance to multiple lignocellulose-derived inhibitors. *Microbial Cell Factories* 2017, 16: 181.
23. Zhang MM, Zhang KY, Mehmood MA, Zhao ZK, **Bai FW**, Zhao XQ. Deletion of acetate transporter gene *ADY2* improved tolerance of *Saccharomyces cerevisiae* against multiple stresses and enhanced ethanol production in the presence of acetic acid. *Bioresource Technology* 2017, 245: 1461–1468.

31. Zhang XY, Zhao XQ, Wan C, Chen BL, **Bai FW**. Efficient biosorption of cadmium by the self-flocculating microalga *Scenedesmus obliquus* AS-6-1. *Algal Research-Biomass Biofuels and Bioproducts* 2016, 16: 427–433.
32. Zhang F, **Bai FW**, Zhao XQ. Enhanced cellulase production from *Trichoderma reesei* Rut-C30 by engineering with an artificial zinc finger protein library. *Biotechnology Journal* 2016, 11(10): 1282–1290.
33. Wu YD, Xue C, Chen LJ, **Bai FW**. Impact of zinc supplementation on the improved fructose/xylose utilization and butanol production during acetone-butanol-ethanol fermentation. *Journal of Bioscience and Bioengineering* 2016, 121: 66–72.
34. Wu YD, Xue C, Chen LJ, Yuan WJ, **Bai FW**. Improvements of metabolites tolerance in *Clostridium acetobutylicum* by micronutrient zinc supplementation. *Biotechnology and Bioprocess Engineering* 2016, 21: 60–67.
35. Xue C, Wang ZX, Fan LH, Ren JG, **Bai FW**. Integration of ethanol removal using carbon nanotube-mixed membrane and ethanol fermentation by self-flocculating yeast for antifouling ethanol recovery. *Process Biochemistry* 2016, 51: 1140–1146.
36. Wu YD, Xue C, Chen LJ, Yuan WJ, **Bai FW**. Synergistic effect of calcium and zinc on glucose/xylose utilization and butanol tolerance of *Clostridium acetobutylicum*. *FEMS Microbiology Letters* 2016, 363(5): 1–7.
37. Xue C, Wang ZX, Wang SD, Zhang XT, Chen LJ, Mu Y, **Bai FW**. The vital role of citrate buffer in acetone-butanol-

37.

46. Wan C, Zhang MM, Fang Qing, Xiong Ling, Zhao XQ, Hasunuma T, **Bai FW**, Kondo A. The impact of zinc sulfate addition on the dynamic metabolic profiling of *Saccharomyces cerevisiae* subjected to long term acetic acid stress treatment and identification of key metabolites involved in the antioxidant effect of zinc. *Metallomics* 2015, 7: 322–332.
47. Wu YD, Xue C, Chen LJ, Wan HH, **Bai FW**. Transcriptional analysis of micronutrient zinc-associated response for enhanced carbohydrate utilization and earlier solventogenesis in *Clostridium acetobutylicum*. *Scientific Reports* 2015, 5: 16598.
48. Gao JQ, Yuan WJ, Li YM, Xiang RJ, Hou SB, Zhong SJ, **Bai FW**. Transcriptional analysis of Kluyveromyces marxianus for ethanol production from inulin using consolidated bioprocessing technology. *Biotechnology for Biofuels* 2015, 8: 115.
49. Ma C, Wei XW, Sun CH, Zhang F, Xu JR, Zhao XQ, **Bai FW**. Improvement of acetic acid tolerance of *Saccharomyces cerevisiae* using a zinc-finger-based artificial transcription factor and identification of novel genes involved in acetic acid tolerance. *Applied Microbiology and Biotechnology* 2015, 99: 2441–2449.
50. Yang XB, Jin GJ, Gong ZW, Shen HW, **Bai FW**, Zhao ZK. Recycling microbial lipid production-derived resources to cultivate oleaginous yeasts. *Bioresource Technology* 2015, 175, 91–96.
51. Khatun MM, Li YH, Liu CG,Zhao XQ, **Bai FW**. Fed-batch saccharification and ethanol fermentation of Jerusalem artichoke stalks by an inulinase producing *Saccharomyces cerevisiae* MK01. *RSC Advances* 2015, 5, 107112–107118.
52. Alam MA, Wan C, Zhao XQ, Chen LJ, Chang JS, **Bai FW**. Enhanced removal of Zn^{2+} or Cd^{2+} by the self-flocculating *Chlorella vulgaris* JSC-7. *Journal of Hazardous Materials* 2015, 289: 38–45.
53. Liu CG, Liu LY, Lin YH, **Bai FW**. Kinetic modeling for redox potential-controlled repeated batch ethanol fermentation using flocculating yeast. *Process Biochemistry* 2015, 50: 1–7.
54. Yang XB, Jin GJ, Gong ZW, Shen HW, Song YH, **Bai FW**, Zhao ZK. Simultaneous utilization of glucose and mannose from spent yeast cell mass for lipid production by *Lipomyces starkeyi*. *Bioresource Technology* 2014, 158, 383–387.
55. Chen HX, Xiu ZL, **Bai FW**. Improved ethanol production from xylose by *Candida shehatae* induced by dielectric barrier discharge air plasma. *Plasma Science and Technology* 2014.6, 16(6): 602–607.
56. Yang XB, Jin GJ, Gong ZW, Shen HW, **Bai FW**, Zhao ZK. Recycling biodiesel-derived glycerol by the oleaginous yeast *Rhodosporidium toruloides Y4* through the two-stage lipid production process. *Biochemical Engeering Journal* 2014, 91, 86–91.
57. Xue C, Du GQ, Sun JX, Chen LJ, Gao SS, Yang ST, **Bai F**W. Characterization of gas stripping and its integration with acetone-butanol-ethanol fermentation for high efficient butanol production and recovery. *Biochemical Engineering Journal* 2014, 83: 55–61.
58. Xue C, Du GQ, Chen LJ, Ren JG, Sun JX, **Bai FW**, Yang ST. A carbon nanotube filled polydimethylsiloxane hybrid membrane for enhanced butanol recovery. *Scientific Reports* 2014, 4: 5925.
59. Xue C, Du GQ, Chen LJ, Ren JG, **Bai FW**. Evaluation of asymmetric

polydimethylsiloxane-polyvinylidene fluoride composite membrane and incorporated with acetone-butanol-ethanol fermentation for butanol recovery. *Journal of Biotechnology* 2014, 188: 158–165.

60. Alam MA, Wan C, Guo SL, Zhao XQ, Huang ZY, Yang YL, Chang JS, **Bai FW**. Characterization of the flocculating agent from the spontaneously flocculating *Chlorella vulgaris* ESP-6. *Journal of Bioscience and Bioengineering* 2014, 118: 29–33.
61. Liu CG, Liu LY, **Bai FW**. Assessment and regression analysis on instant catapult steam explosion pretreatment on corn stover. *Bioresource Technology* 2014, 166: 368–372.
62. Zhao N, Y Bai, CG Liu, JF Xu, Zhao XQ, **Bai FW**. The flocculating *Zymomonas mobilis* is a promising host for fuel ethanol production from lignocellulosic biomass. *Biotechnology Journal* 2014, 9: 362–371.
63. Liu CG, Lin YH, **Bai FW**. Global gene expression analysis of *Saccharomyces cerevisiae* grown under redox potential-controlled very-high-gravity conditions. *Biotechnology Journal* 2013, 8: 1132–1140.
64. Zuo Q, Zhao XQ, **Bai FW**. Fine-tuning of xylose metabolism in genetically engineered *Saccharomyces cerevisiae* by scattered integration of xylose assimilation genes. *Biochemical and Biophysical Research Communications* 2013, 440: 241–244.
65. Shen HW, Gong ZW, Yang XB, Jin GJ, **Bai FW**, Zhao ZK. Kinetics of continuous cultivation of the oleaginous yeast *Rhodosporidium toruloides*. *Journal of Biotechnology* 2013, 168: 85–89.
66. Wang L, Xue C, **Bai FW**. Impact of ethanol inhibition and osmotic stress on sustained oscillation of continuous very-high-gravity ethanol fermentation by *Saccharomyces cerevisiae*. *Biotechnology for Biofuels* 2013, 6: 133.
67. Yuan WJ, Zhao XQ, Chen LJ, **Bai FW**. Overexpression of inulinase gene in *Kluyveromyces marxianus* to improve ethanol production from Jerusalem artichoke tubers using a consolidated bioprocessing strategy. *Biotechnology and Bioprocess Engineering* 2013, 18: 721–727.
68. Guo SL, Zhao XQ, **Bai FW**. Characterization of flocculating agent from the self-flocculating microlga *Scenedesmus obliquus* AS-6-1 for efficient biomass harvest. *Bioresource Technology* 2013, 145: 285–289.
69. Yuan WJ, Zhao XQ, Chen LJ, **Bai FW**. Ethanol fermentation from Jerusalem artichoke tubers by recombinant *Saccharomyces cerevisiae* expressing inulinase gene of *Kluyveromyces marxianus*. *Engineering in Life Sciences* 2013, 13: 472–478.
70. Zi LH, Liu CG, Xin CB, **Bai FW**. Stillage backset and its impact on ethanol fermentation by the flocculating yeast. *Process Biochemistry* 2013, 48: 753–758.
71. Liu Z, Zhao XQ, **Bai FW**. Identification of an alkaline tolerant marine-derived *Streptomyces* strain as a xylanase producer and improvement of its xylanase production by ribosome engineering. *Applied Microbiology and Biotechnology* 2013, 97: 4361–4368.
72. Wan C, Zhao XQ, Guo SL, Alam MA, **Bai FW**. Bioflocculant production from *Solibacillus silvestris* W01 and its application in cost-effective harvest of marine microalga *Nannochloropsis oceanica* by flocculation. *Bioresource Technology* 2013,

135: 207–212.

73. Xue C, Zhao JB, Liu FF, Lu CC, Yang ST, **Bai FW**. Two-stage in situ gas stripping for enhanced butanol fermentation and energy-saving product recovery. *Bioresource Technology* 2013, 135: 396–402.
74. Wu YD, Xue C, Chen LJ, **Bai FW**. Effects of zinc supplementation on batch acetone-butanol-ethanol fermentation. *Journal of Biotechnology* 2013, 165: 18–21.
75. Guo SL, Zhao XQ, Tang Y, Alam MA, Wan, Ho SH, **Bai FW**, Chang JS. Establishment of an efficient genetic transformation system in *Scenedesmus obliquus*. *Journal of Biotechnology* 2013, 163: 61–68.
76. Zhao XQ, Li Q, He LY, Li F, Que WW, **Bai FW**. Exploration of a natural reservoir of flocculating genes from various *Saccharomyces cerevisiae* strains and improved ethanol fermentation using stable genetically engineered flocculating yeast strains. *Process Biochemistry* 2012, 47: 1612–1619.
77. Zhao N, Bai Y, Zhao XQ, **Bai FW**. Draft genome sequence of the flocculating *Zymomonas mobilis* strain ZM401. *Journal of Bacteriology* 2012, 194: 7008–7009.
78. Shen Y, Guo JS, Chen YP, Zhang HD, Zheng XX, Zhang XM, **Bai FW**. Application of low-cost algal nitrogen source feeding in fuel ethanol production using high gravity sweet potato medium. *Journal of Biotechnology* 2012, 160: 229–235.
79. Xue C, Zhao JB, Lu CC, Yang ST, **Bai FW**, Tang IC. High-titer n-butanol production by *Clostridium acetobutylicum* JB200 in fed-batch fermentation with intermittent gas stripping. *Biotechnology and Bioengineering* 2012, 109: 2746–2756.
80. He LY, Zhao XQ, **Bai FW**. Engineering industrial *Saccharomyces cerevisiae* strain with the *FLO1*-derivative gene isolated from the flocculating yeast SPSC01 for constitutive flocculation and fuel ethanol production. *Applied Energy* 2012, 100: 33–40.
81. Liu CG, Wang N, Lin YH, **Bai FW**. Very-high-gravity ethanol fermentation by flocculating yeast under redox potential-controlled conditions. *Biotechnology for Biofuels* 2012, 5: 61.
82. He LY, Zhao XQ, Ge XM, **Bai FW**. Identification and functional study of a new *FLO10*-derivative gene from the industrial flocculating yeast SPSC01. *Journal of Industrial Microbiology and Biotechnology* 2012, 39: 1135–1140.
83. Xie HB, Shen HW, Gong ZW, Wang Q, Zhao ZK, **Bai FW**. Enzymatic hydrolysates of corn stover pretreated by a N-methylpyrrolidone-ionic liquid solution for microbial lipid production. *Green Chemistry* 2012, 14: 1202–1210.
84. Li Q, Zhao XQ, Chang AK, Zhang QM, **Bai FW**. Ethanol-induced yeast flocculation directed by the promoter of *TPS1* encoding trehalose-6-phosphate synthase 1 for efficient ethanol production. *Metabolic Engineering* 2012, 14: 1–8.
85. Yuan WJ, Chang BL, Ren JG, Liu JP, **Bai FW**, Li YY. Consolidated bioprocessing strategy for ethanol production from Jerusalem artichoke tubers by *Kluyveromyces marxianus* under high gravity conditions. *Journal of Applied Microbiology* 2012, 112: 38–44.
86. Liu CG, Lin YH, **Bai FW**. Ageing vessel design and optimization for continuous very-high-gravity ethanol fermentation processes. *Process Biochemistry* 2012, 47: 57-61.

87. Liu CG, Lin YH, **Bai FW**. A kinetic growth model for *Saccharomyces cerevisiae* grown under redox potential-controlled very-high-gravity environment.

seawater and freshwater. *Journal of Applied Microbiology* 2008, 105: 2076–83.

101. Lei JJ, Zhao XQ, Ge XM, **Bai FW**. Ethanol tolerance and the variation of plasma membrane composition of yeast floc populations with different size distribution. *Journal of Biotechnology* 2007, 131: 270–275.
102. Li YH, Zhao ZB, **Bai FW**. High-density cultivation of oleaginous yeast *Rhodosporidium toruloides* Y4 in fed-batch culture. *Enzyme and Microbial Technology* 2007, 41: 312–317.
103. Ge XM, **Bai FW**. Intrinsic kinetics of continuous ethanol fermentation using a self-flocculating fusant yeast strain SPSC01. *Journal of Biotechnology* 2006, 124: 363–372.
104. Ge XM, Zhang L, **FW Bai**. Impacts of temperature, pH, divalent cations, sugars and ethanol on the flocculating of SPSC01. *Enzyme and Microbial Technology* 2006, 39: 783–787.
105. Ge XM, Zhang L, **Bai FW**. Impact of the floc size distributions on observed substrate uptake and product formation rates. *Enzyme Microbial Technology* 2006, 39: 289–295.
106. Chen LJ, Xu YL, **Bai FW**, Anderson WA, Moo-Young M. Observed quasi-steady kinetics of yeast cell growth and ethanol formation under very high gravity fermentation condition. *Biotechnology and Bioprocess Engineering* 2005, 10: 115–121.
107. Yu F, Zhang DY, **Bai FW**, An LJ. The accumulation of isocamptothecin A and B in suspension cell culture of *Camptotheca acuminate*. *Plant Cell, Tissue and Organ Culture* 2005, 81:159–163.
108. Xu TJ, Zhao XQ, **Bai FW**. Continuous ethanol fermentation using a fusant self-flocculating yeast strain and multi-stage tanks in series bioreactor system. *Enzyme and Microbial Technology* 2005, 37: 634–640.
109. Ge XM, Zhao XQ, **Bai FW**. Online monitoring and characterization of flocculating yeast cells during continuous ethanol fermentation. *Biotechnology and Bioengineering* 2005, 90: 523–531.
110. Benchapattarapong N, Anderson WA, **Bai FW**, Moo-Young M. Rheology and hydrodynamic properties of *Tolypocladium inflatum* fermentation broth and its simulation, *Bioprocess and Biosystem Engineering* 2005, 27: 239–247.
111. **Bai FW**, Chen LJ, Anderson WA, Moo-Young M. Parameter oscillations in a very high gravity medium continuous ethanol fermentation and their attenuation on a multistage packed column bioreactor system. *Biotechnology and Bioengineering* 2004, 88: 558–566.
112. Wang Y, Shi WL, Liu XY, Shen Y, Bao XM, **Bai FW**, Qu YB. Establishment of a xylose metabolic pathway in an industrial strain of *Saccharomyces cerevisiae*. Biotechnology Letters 2004, 26: 885–890.
113. **Bai FW**, Chen LJ, Zhang Z, Anderson WA, Moo-Young M. Continuous ethanol production and evaluation of yeast cell lysis and viability loss under very high gravity medium conditions. *Journal of Biotechnology* 2004, 110: 287–293.
114. Hu CK, **Bai FW**, An LJ. Enhancing ethanol tolerance of a self-flocculating fusant of *Schizosaccharomyces pombe* and *Saccharomyces cerevisia*e by Mg^{2+} via reduction in plasma membrane permeability. *Biotechnology Letters* 2003, 25: 1191–1194
115. **Bai FW**, Wang LP, Huang HJ, Xu JF, Caesar J, Ridgway D, Gu TY, Moo-Young M. Oxygen mass-transfer performance of low viscosity gas-liquid-solid system in a split-cylinder airlift bioreactor. *Biotechnology Letters* 2001, 23: 1109–1113.

Book Volumes

1. Moreira A, **Bai FW** (Section Editor). 2019. Industrial Biotechnology and Commodity Products. Comprehensive Biotechnology III, 3rd Edition. Elsevier.
2. **Bai FW**, Huang H, Tsao G. 2012. Biotechnology in China III: Biofuels and Bioenergy. *Advances in Biochemical Engineering/Biotechnology*. Vol. 128. Springer.
3. Moreira A, **Bai FW** (Section Editor), Cordoba-Rodriguez R, Lee K. 2011. Industrial Biotechnology and Commodity Products. Comprehensive Biotechnology III. Elsevier.
4. Zhong JJ, **Bai FW**, Zhang W. 2009. Biotechnology in China II: From Bioreaction to Bioseparation and Bioremediation. *Advances in Biochemical Engineering /Biotechnology*. Vol. 113. Springer.

Book Chapters

1. **Bai FW**, Yang SH, Ho NYW. 2019. Fuel ethanol production from lignocellulosic biomass. In: Comprehensive Biotechnology, 3rd Edition, Volume III: Industrial Biotechnology and Commodity Products, 49–65. Elsevier.
2. Zhao XQ, Zhang XY, Zhang F, Zhang R, Jiang BJ, **Bai FW**. 2018. Metabolic engineering of fungal strains for efficient production of cellulolytic enzymes. Fang X et al (ed.) Fungal Cellulolytic Enzymes, 27–41. Springer.
3. Mehmood AM, Shahid A, Xiong L, Ahmad N, Liu CG, **Bai FW**, Zhao XQ. 2017. Development of synthetic microbial platforms to convert lignocellulosic biomass to biofuels. Li YB et al (ed.) Advances in Bioenergy Vol 2: 233–278. Elsevier.
4. Zhao XQ, Zi LH, **Bai FW**, Lin HL, Hao XM, Yue GJ, Ho NWY. 2012. Bioethanol from lignocellulosic biomass. Bai FW et al (ed.) Biotechnology in China III: Biofuels and Bioenergy. *Advances in Biochemical Engineering/Biotechnology* Vol 128: 25–52. Springer.
5. Wang BW, Shi AQ, Tu R, Zhang XL, Wang QH, **Bai FW**. 2012. Branched-chain Higher Alcohols. Bai FW et al (ed.) Biotechnology in China III: Biofuels and Bioenergy. Advances in Biochemical Engineering/Biotechnology Vol 128: 101–118. Springer.
6. **Bai FW**, Zhao XQ. 2012. High gravity ethanol fermentations and yeast tolerance. Liu ZL (ed.) Microbial stress tolerance for biofuels. *Microbiology Monographs* 22:117–135. Springer.
7. **Bai FW**, Zhao XQ, JF Xu. 2011. Immobilization technology: Cells. Moo-Young M (ed.) *Comprehensive Biotechnology*. 2nd edn, Vol 2:477–489. Elsevier.