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研究方向： 微生物合成生物学与代谢工程

个人简介：

周立邦，博士毕业于德国汉堡工业大学，先后在南京金斯瑞生物科技有限公司和北京软物质科学与工程高精尖创新中心（北京化工大学）从事科研工作，主要致力于微生物合成生物学与代谢工程等前沿新兴领域的研究，积极开发新的生物功能元件及其在绿色生物制造中的应用。目前，就职于南京农业大学食品科技学院，主要研究食品微生物优质菌种挖掘，高效合成多种高附加值食品化合物。

科研情况：

[1]北京市自然科学基金青年基金，巴氏固氮梭菌甘氨酸核糖开关动态调控基因表达的机制研究，No.2184117，2018.01-2019.12

科研成果：

[1] Zhang Y., Zhou L.B., Zhang C., Show P.L., Du A.N., Fu J.C. Preparation and characterization of curdlan/polyvinyl alcohol/ thyme essential oil blending film and its application to chilled meat preservation. Carbohydr. Polym., 247.

[2] Du H.C., Zhou L.B., Lu Z.X., Bie X.M., Zhao H.Z., Niu Y.D., Lv F.X. Transcriptomic and



- proteomic profiling response of methicillin-resistant *Staphylococcus aureus* (MRSA) to a novel bacteriocin, plantaricin GZ1-27 and its inhibition of biofilm formation. *Appl. Microbiol. Biotechnol.* 104 (18), 7957-7970.
- [3] Wu Y.B., Zhou L.B., Lv F.X., Bie X.M., Zhao H.Z., Zhang C., Lu Z.X. Discovery of a Novel Antimicrobial Lipopeptide, Brevibacillin V, from fmb70 and Its Application on the Preservation of Skim Milk. *J. Agric. Food Chem.* 67 (45), 12452-12460.
- [4] Wang C., Ren J., Zhou L.B., Li Z.D., Chen L., Zeng A.P. Aldolase-catalyzed new metabolic pathway for the assimilation of formaldehyde and methanol to synthesize 2-Keto-4-hydroxybutyrate and 1, 3-Propanediol in *Escherichia coli*. *ACS Synth. Biol.* 8 (11), 2483-2493.
- [5] Zhou L.B., Ren J., Li Z.D., Nie J.L., Wang C., Zeng A.P. Characterization and engineering of a *Clostridium* glycine riboswitch and its use to control a novel metabolic pathway for 5-aminolevulinic acid production in *Escherichia coli*. *ACS Synth. Biol.* 8 (10), 2327-2335.
- [6] Ren J., Zhou L.B., Wang C., Chen L., Li Z.D., Zeng A.P. An unnatural pathway for efficient 5-aminolevulinic acid biosynthesis with glycine from glyoxylate based on retrobiosynthetic design. *ACS Synth. Biol.* 7 (12), 2750-2757.
- [7] Ma C.W., Zhou L.B., Zeng A.P. Engineering biomolecular switches for dynamic metabolic control. *Synth. Biol.–Metab. Eng.*, 45-76.
- [8] Zhou L.B., Zeng A.P. Engineering a lysine-ON riboswitch for metabolic control of lysine production in *Corynebacterium glutamicum*. *ACS Synth. Biol.* 4 (12), 1335-1340.
- [9] Zhou L.B., Zeng A.P. Exploring lysine riboswitch for metabolic flux control and improvement of L-lysine synthesis in *Corynebacterium glutamicum*. *ACS Synth. Biol.* 4 (6), 729-734.