NING (ELSA) DING

EDUCATION AND RESEARCH EXPERIENCE

Ph.D. in Food Science and Technology, Jiangnan University **06/2022**

Structure-based study of enzymatic specificity and cold adaptation.

Joint-training Ph.D. in Chemical and Biomolecular Engineering, Rice University **06/2020**

Development of single base editing tools with precise accuracy.

Development of ultra-sensitive CRISPR-based detection methods for food pathogens.

Biosynthesis of quinolactacin.

M.S. in Food Science and Technology, Jiangnan University **06/2016**

Heterologous expression and biochemical characterization of glucoside hydrolases.

B.S. in Food Science and Technology, Jiangnan University **06/2014**

Physicochemical characterization of starch.

Exchange student in the Center for Advanced Biotechnology and Medicine, Rutgers University **08/2012**

Proteomics and functional genomics.

PUBLICATIONS

Ding N, Zhao B, Han X, Li C, Gu Z, Li Z. Starch-binding domain modulates the specificity of maltopentaose production at moderate temperature. ***Journal of Agricultural and Food Chemistry***, 2022, 70(29): 9057-9065. *doi*:10.1021/acs.jafc.2c03031 (IF: 5.895)

Han X[1], **Ding N[1]**, Ban X, Gu Z, Cheng L, Hong Y, Li C, Li Z. Fusion of maltooligosaccharide-forming amylases from two origins for the improvement of maltopentaose synthesis. ***Food Research International***, 2021, 150: 110735. *doi*:10.1016/j.foodres.2021.110735 (IF: 7.425)

Ding N, Zhao B, Ban X, Li C, Prasad BV, Gu Z, Li Z. Carbohydrate-binding module and linker allow cold adaptation and salt tolerance of maltopentaose-forming amylase from marine bacterium *Saccharophagus degradans* 2-40^{T}. ***Frontiers in Microbiology***, 2021, 12: 708480. *doi*:10.3389/fmicb.2021.708480 (IF: 6.064)

Ding N[1], Lee S[1], Lieber-Kotz M, Yang J, Gao X. Advances in genome editing for genetic hearing loss. ***Advanced Drug Delivery Reviews***, 2021, 168: 118-133. *doi*:10.1016/j.addr.2020.05.001 (IF: 17.873)

Lee S[1], **Ding N[1]**, Sun Y, Yuan T, Li J, Yuan Q, Liu L, Yang J, Wang Q, Kolomeisky AB, Hilton IB, Zuo E, Gao X. Single C-to-T substitution using engineered APOBEC3G-nCas9 base editors with minimum genome- and transcriptome-wide off-target effects. ***Science Advances***, 2020, 6(29): eaba1773. *doi*:10.1126/sciadv.aba1773 (IF: 14.957)

Pan S[1], **Ding N[1]**, Ren J, Gu Z, Li C, Hong Y, Cheng L, Tod PH, Li Z. Maltooligosaccharide-forming amylase: Characteristics, preparation, and application. ***Biotechnology Advances***, 2017, 35(5): 619-632. *doi*:10.1016/j.biotechadv.2017.04.004 (IF: 17.681)

Zhao F, Liu Z, Yang S, **Ding N**, Gao X. Quinolactacin biosynthesis involves NRPSs catalyzed dieckmann condensation to form the quinolone-γ-lactam hybrid. ***Angewandte Chemie International Edition***, 2020, 59(43): 19108-19114. *doi*:10.1002/anie.202005770 (IF: 16.823)

Yao Y, An C, Evans D, Liu W, Wang W, Wei G, **Ding N**, Houk KN, Gao S. Catalase involved in oxidative cyclization of the tetracyclic ergoline of fungal ergot alkaloids. ***Journal of the American Chemical Society***, 2019, 144(44): 17157-17521. *doi*:10.1021/jacs.9b10217 (IF: 16.383)

Pan S, Gu Z, **Ding N**, Zhang Z, Chen D, Li C, Hong Y, Cheng L, Li Z. Calcium and sodium ions synergistically enhance the thermostability of a maltooligosaccharide-forming amylase from *Bacillus stearothermophilus* STB04. ***Food Chemistry***, 2019, 283: 170-176. *doi*:10.1016/j.foodchem.2019.01.023 (IF: 9.231)

PATENTS

Gao X, Lee S, **Ding N**. “Single base editing tools with precise accuracy.” (published).

Li Z, Gu Z, **Ding N**. “A genetically engineered bacteria producing maltooligosaccharide-forming amylase and its application” (licensed).

CONFERENCES

Poster presentation: **Ding N**, Pan S, Gu Z, Li C, Li Z. Effects of CBM20 binding on the catalysis of maltooligosaccharide-forming amylases. ***International Biotechnology Symposium & Exhibition***. Melbourne, Australia. **10/2016**

Poster presentation: **Ding N**, Pan S, Gu Z, Li C, Li Z. Effects of substrate structure on the enzymatic production of maltooligosaccharides. ***International Symposium in Food and Health***. Shanghai, China. **05/2016**