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Towards microbial platforms for lignin valorization: *Pseudomonas putida* cell factories and *Bacillus* synthetic communities

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Citation

Zhou, Q. (2026, June 12). *Towards microbial platforms for lignin valorization: Pseudomonas putida cell factories and Bacillus synthetic communities.*

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Note: To cite this publication please use the final published version (if applicable).

Curriculum vitae

Qing Zhou was born on 22 November 1995 in Haining, China. She began her undergraduate studies in bioengineering in Jiangnan University in 2014. During her bachelor's studies, she developed a strong interest in molecular biology and biotechnology. Therefore, she continued her master's degree in the laboratory of Prof. Xiaoyuan Wang at Jiangnan University in 2017. Her master's research mainly focused on the genetic basis of antimicrobial resistance in the important food pathogen *Vibrio parahaemolyticus*, with particular focus on lipid A-related genes and lipid A structural characterization. Following her graduation, she was employed at Zhejiang Aland Biotechnology Co., Ltd. In 2021, she started her PhD with Prof. Han de Winde at the Institute of Biology, Leiden University, the Netherlands, to study lignin biodegradation, supported by a scholarship from the China Scholarship Council (CSC). The main findings of her doctoral research are presented in this thesis.

Publication list

- Zhou Q**, Fransen A, Innocenti P, Ram AFJ, de Winde JH. (2026) Utilization and valorization of lignin and lignin-derived compounds by *Pseudomonas putida* KT2440: A new role for glutathione peroxidase. *N biotechnology*, 92, 1–11.
(doi:10.1016/j.nbt.2026.01.002)
- Zhou Q**, Fransen A, de Winde H. (2025) Lignin-degrading enzymes and the potential of *Pseudomonas putida* as a cell factory for lignin degradation and valorization. *Microorganisms*, 13(4), 935.
(doi:10.3390/microorganisms13040935)
- Zhou Q**, Tan X, Meng X, Wang J, Ji F, Wang X. (2021). Identification of four secondary acyltransferases for lipid A biosynthesis in *Vibrio parahaemolyticus*. *Biotechnology and Applied Biochemistry*, 68(6), 1486–1500.
(doi:10.1002/bab.2070)
- Chen S, **Zhou Q**, Tan X, Li Y, Ren G, Wang X. (2018) The global response of *Cronobacter sakazakii* cells to amino acid deficiency. *Frontiers in microbiology*, 9, 1875.
(doi:10.3389/fmicb.2018.01875)
- Meng X, Huang D, **Zhou Q**, Ji F, Tan X, Wang J, Wang X. (2023) The influence of outer membrane protein on ampicillin resistance of *Vibrio parahaemolyticus*. *The Canadian journal of infectious diseases & medical microbiology*, 2023, 8079091.
(doi:10.1155/2023/8079091)
- Tan X, Qiao J, **Zhou Q**, Huang D, Li H, Wang J, Wang X. (2021) Identification of a phosphoethanolamine transferase for lipid A modification in *Vibrio parahaemolyticus*. *Food Control* 2021, 125, 108033.
(doi: 10.1016/j.foodcont.2021.108033)
- Ji F, Huang D, Tan X, Guo Y, Wang Z, **Zhou Q**, Wang X. (2023) Structure analysis of lipid A species in *Vibrio parahaemolyticus* by constructing mutants lacking multiple secondary acyltransferases of lipid A. *Biotechnology and applied biochemistry*, 70(2), 716–729.
(doi:10.1002/bab.2393)