



Department: School of Biotechnology

Professional field: Biocatalysis and Enzyme Engineering

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Profile

Prof. Jian-He Xu graduated from Tsinghua University in 1987 and got his Ph.D. degree from East China University of Science and Technology (ECUST) in 1995, with partial research performed in Kyoto University during 1992–1994. He then joined the State Key Laboratory of Bioreactor (SKLBE) at ECUST and acted as the Director of SKLBE during 2006–2017. Currently he serves as the Editor-in-Chief of Bioresources and Bioprocessing. He has published more than 300 peer-reviewed papers and got a lot of prizes, including “Du Pont/Genencor Award for Outstanding Achievement in Enzyme Engineering of China” (2013) and “Shanghai Municipal Prize for Technological Innovation (First Class)” (2018).

Research Field

- Genome Mining for and Molecular Evolution of New Enzymes;
- Synthetic Biotechnology of Pharmaceutical/Natural Compounds;
- Engineering Research and Development of Biotransformations.

Research results and selected published papers

1. You ZN, Qi Chen, Shi SC, Zheng MN, Pan J, Qian XL, Li CX, and Xu JH. Switching cofactor dependence of 7 α -hydroxysteroid dehydrogenase for cost-effective production of ursodeoxycholic acid. *ACS Catal.* 2019, 9, 466–473.
2. Yu HL, Li T, Chen FF, Luo XJ, Li AT, Zheng GW, Xu JH. Bioamination of alkane with ammonium by an artificially designed multienzyme cascade. *Metab. Eng.* 2018, 47, 184–189.
3. Luo XJ, Zhao J, Li CX, YP Bai, Reetz MT, Yu HL, Xu JH. Combinatorial evolution of phosphotriesterase toward a robust malathion degrader by hierarchical iteration mutagenesis. *Biotechnol. Bioeng.* 2016, 113, 2350–2357.
4. Kong XD, Li L, Chen S, Yuan S, Xu JH, Zhou J. Engineering of an epoxide hydrolase for efficient bioreolution of bulky pharmaco substrates. *Proc. Natl. Acad. Sci. USA*, 2014, 111, 15717–15722.
5. Kong XD, Ma Q, Zhou JH, Zeng BB, Xu JH. A smart library of epoxide hydrolase variants and the top hits for synthesis of (S)-beta-blocker precursors. *Angew. Chem. Int. Ed.* 2014, 53, 6641–6644.