Yi Tang

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Education

2002 PhD, Chemical Engineering, California Institute of Technology
2006 B.S., Chemical Engineering, Material Science and Engineering, Pennsylvania State University

Professional Experience

2012-Present Chancellor Professor, Department of Chemical and Biomolecular Engineering
Professor, Department of Bioengineering
Director, NIH Predoctoral Biotechnology Training Grant

2012-2016 Vice Chair, Department of Chemical and Biomolecular Engineering
2010-Present Professor, Department of Chemical and Biomolecular Engineering
Professor, Department of Chemistry and Biochemistry
2009-2012 Samueli Fellow, UCLA School of Engineering and Applied Science
2009-Present Member, California NanoSystems Institute (CNSI)
2008-Present Member, Jonsson Comprehensive Cancer Center, Cancer Cell Biology Program
2008-2010 Associate Professor, Department of Chemical and Biomolecular Engineering
2004-2008 Assistant Professor, Department of Chemical and Biomolecular Engineering

Selected Awards & Honors

2025 Marvin J. Johnson Award in Microbial and Biochemical Technology
2022 American Association for the Advancement of Science Fellow
2021 Royal Society of Chemistry Horizon Prize: Bioorganic Chemistry Award
2016 Mr. & Mrs. Sun Chan Memorial Award in Organic Chemistry, the 14th International Symposium for Chinese Organic Chemists (ISCOC)

2016 High-end Foreign Experts supported by State Administration of Foreign Experts Affairs P. R. China
2015 California Institute of Technology Chemical Engineering Robert W. Vaughan Lectureship
2014 American Chemical Society Eli Lilly Award in Biological Chemistry
2012 National Institute of Health Director's Office Pioneer Award (DP1)
2012 Presidential Green Chemistry Challenge Award, the United States Environmental Protection Agency
2012 American Chemical Society (ACS) Arthur C. Cope Scholar Award
2011 The Saville Lecturer at Department of Chemical and Biological Engineering, Princeton University
2011 American Chemical Society Division of Biochemical Technology (BIOT) Young Investigator Award
2010 National Academy of Engineering (NAE) Frontiers in Engineering Invitee
2010 Society for Industrial Microbiology (SIM) Young Investigator Award
2009 American Institute of Chemical Engineers (AIChE) Allan P. Colburn Award
2009 Sloan Research Fellowship
2008 Department of Defense Breast Cancer Research Program (BCRP) Concept Award
2008 The Camille Dreyfus Teacher Scholar Award
2007 The David and Lucile Packard Foundation Fellowship
2007 UCLA Faculty Career Development Award
2006 Presidential Early Career Award in Science and Engineering (PECASE)
2006 National Science Foundation CAREER Award
2005, 2006 UCLA AIChE Student Chapter Professor of the Year Award
2005-2009 American Heart Association National Scientist Development Grant Award
2002-20024 National Research Service Award, National Institute of Health
1997-2002 Whitaker Graduate Research Fellowship in Biomedical Engineering

Selected Publications

1. Genome Mining and Natural Product Biosynthesis.

Zhang, Y., Lin, W., Kerr, T., Garg, N. K., Tang, Y.* "Fragment-Guided Genome Mining of Octacyclic Cyclophane Alkaloids from Fungi." J. Am. Chem. Soc. 2024, 146, 23933–23942.

Yee, D. A. Niwa, K., Perlatti, B., Chen, M., Li, Y., Tang, Y.* "Genome Mining of Unknown Unknown Natural Products." Nat. Chem. Biol. 2023, 19, 633-640.

Yan, C. Han, W., Zhou, Q., Niwa, K. Tang, M. J., Burch, J. E., Zhang, Y., Delgadillo, D. A., Sun, Z., Wu, Z., Jacobsen, S. E., Nelson, H. M., Houk, K. N., Tang, Y.* "Genome Mining from Agriculturally Relevant Fungi Led to a d-Glucose Esterified Polyketide with a Terpene-like Core Structure." 2023, J. Am. Chem. Soc. 145, 25080–25085.

Yan, Y,# Liu, Q.#, Zang, X.#, Yuan, S., Bat-Erdene, U., Nguyen, C. Gan, J., Zhou, J.*, Jacobsen, S. E.*, Tang, Y.*, " Resistance-Gene Directed Discovery of a Natural Product Herbicide with a New Mode of Action." Nature, 2018, 559, 415-418.

2. Enzyme Discovery and Biocatalysis

Chiang, C. Y. Ohashi, M.*, Le J., Chen, P., Zhou, Q., Qu, S., Bat-Urdene, U., Hematian, S., Rodriguez, J. A., Houk, K., N., Guo, Y., Loo, J. A., Tang, Y.*, "Copper-dependent halogenase catalyses unactivated C−H bond functionalization." Nature, 2025, 638, 126-132.

Chiang, C. Y., Ohashi, M.*, Tang, Y.* "Fungal RiPPs Side Chain Macrocyclization Catalyzed by Copper-Dependent DUF3328 Enzyme." J. Am. Chem. Soc. 2025, 147, 10, 8113–8117

Sun, Z.,#, Zang, X.,#, Zhou, Q., Ohashi, M., Houk, K. N.*, Zhou, J.*, Tang, Y.* "Iminium catalysis in natural Diels–Alderase." Nature Catalysis. 2025, 8, 218–228.

Abad, A. Seshadri, K., Ohashi, M.*, Delgadillo, D., de Moraes, L., Nagasawa, K., Liu, M., Johnson, S., Nelson, H., Tang, Y.* "Discovery and Characterization of Pyridoxal 5'-Phosphate-Dependent Cycloleucine Synthases." 2024, J. Am. Chem. Soc. 146, 14672–14684.

Ohashi, M., Liu, F., Hai, Y., Chen, M., Tang, M-C., Yang, Z., Sato, M., Watanabe, K.*, Houk, K. N.*, Tang, Y.*, "SAM-Dependent Enzyme-Catalysed Pericyclic Reactions in Natural Product Biosynthesis." Nature. 2017, 549, 502–506.

3. Metabolic Engineering

Dror, M., Misa, J., Yee, D. A., Chu, A. M., Yu, R. K., Chan, B. B., Aoyama, L. S., Chaparala, A. P., O'Connor, S. E., Tang, Y.* "Engineered Biosynthesis of Plant Heteroyohimbine and Corynantheine Alkaloids in Saccharomyces cerevisiae." 2024, J. Ind. Microb. Biotechnol. vol 51, kuad047.

Seshadri, K.#, Abad, A. N.#, Nagasawa, K. K.#, Yost, K., Johnson, C. W., Dror, M., Tang, Y.*, "Synthetic Biology in Natural Product Biosynthesis." Chem. Rev. 2025,

Yee, D. A., DeNicola, A. B., Billingsley, J. M., Creso, J. G., Subrahmanyam, V., Tang, Y.* " Engineered Mitochondrial Production of Monoterpenes in Saccharomyces cerevisiae." Metab. Eng. 2019, 55, 76-84.