

Defective layered double hydroxide based nanostructured photocatalysts

Tierui ZHANG

Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Beijing 10190, CHINA
tierui@mail.ipc.ac.cn



Since the interests in harvesting and conversion of solar energy revive promptly in recent years, photocatalysis technology, which can directly convert solar energy into chemical energy, has received much attention. The key to the practical application of green photocatalytic technology is to develop low cost and high efficiency photocatalytic materials. Layered double hydroxide (LDH) based nanostructured materials have been considered as very promising photocatalysts for chemical fuels and products. Recently, a series of LDH-based nanostructured photocatalysts have been designed and synthesized in my group for efficient CO₂ and N₂ reduction into high value-added heavy hydrocarbons, light olefins and ammonia, respectively, by introducing oxygen vacancies to activate reactants and intermediate species [1-10].

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tierui@mail.ipc.ac.cn



BIO

Zhang Tierui received his PhD in Chemistry from Jilin University in 2003. He is currently a professor and doctoral supervisor of Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, and Director of Key Laboratory of Photochemical Conversion and Optoelectronic Materials, CAS. He was named a fellow of the Royal Society of Chemistry (FRSC) in 2017 and a fellow of the Chinese Chemical Society (FCCS) in 2023. He was selected into the national "10,000 People Plan" scientific and technological innovation leading talent program. He has won the Science and Technology Award of China Photographic Society - Grand Prize (The first winner of the award) and other awards. He is the project leader of Royal Society-Newton Advanced Fellowship, "Outstanding Young Scholars" of the National Science Fund and Key Project of International Cooperation of National Natural Science Foundation, and a chief scientist of key special projects of the National Key Research and Development Plan. He is also the associate editor of Science Bulletin, Industrial Chemistry & Materials, Nano Research Energy and Transactions of Tianjin University, and also serves as an editorial board member for peer-reviewed journals including Advanced Energy Materials, Advanced Science, Chemical Science, Carbon Energy, Small Methods, Small Structures, Solar RRL, Scientific Reports, Materials Chemistry Frontiers, ChemPhysChem, The Innovation, and SmartMat. Currently, he holds academic positions such as Deputy Director Standing Committee of Photochemistry Professional Committee of China Renewable Energy Society, Secretary-General of Energy Chemistry Professional Committee of Chinese Chemical Society, and Chairman of Photocatalysis Professional Committee of China Photographic Society. He is mainly engaged in the research of energy conversion nanocatalytic materials, and has published more than 350 SCI papers in Nat. Catal., Nat. Commun., Adv. Mater., Angew. Chem., JACS and other journals, which have been cited more than 42000 times, with an H index of 114. He was named in the annual Highly Cited Researchers 2018-2023 List by Clarivate Analytics; 53 national invention patents were authorized. More information can be found from his homepage <http://zhanglab.ipc.ac.cn>. His ORCID No.: <https://orcid.org/0000-0002-7948-9413>