



Department: School of Chemical Engineering

Professional field: Electrochemistry

E-mail: huihuili@ecust.edu.cn

## Profile

We focuses on the development of new energy materials with defined structure and surface that enable efficient electrochemical conversion of oxygen, hydrogen and carbon dioxide to valuable fuels and chemicals. Combining the efforts in materials design and synthesis, in-situ advanced characterization, and systems engineering, we aim to explore the dynamic environment at the catalysts surface and elucidate the mechanism of the electrochemical conversion of small molecule.

## Research Field

Electrocatalysis

## Research results and selected published papers

1. Hui-Hui Li, Shu-Hong Yu\*, "Recent Advances on Controlled Synthesis and Engineering of Hollow Aligned Nanotubes for Electrocatalysis." *Adv. Mater.*, 2019, 31, 1803503.
2. Hui-Hui Li, Si-Yue Ma, Qi-Qi Fu, Xiao-Jing Liu, Liang Wu, Shu-Hong Yu\*, Scalable Bromide-Triggered Synthesis of Pd@Pt Core-Shell Ultrathin Nanowires with Enhanced Electrocatalytic Performance toward Oxygen Reduction Reaction, *J. Am. Chem. Soc.*, 2015, 137, 7862-7868. (ISI Highly Cited Paper)
3. Hui-Hui Li, Shuo Zhao, Ming Gong, Chun-Hua Cui, Da He, Hai-Wei Liang, Liang Wu, Shu-Hong Yu\*, Ultrathin PtPdTe Nanowires as Superior Catalysts for Methanol Electrooxidation, *Angew. Chem. Int. Ed.*, 2013, 52, 7472-7476.
4. Hui-Hui Li,† Qi-Qi Fu,† Liang Xu, Si-Yue Ma, Ya-Rong Zheng, Xiao-Jing Liu, Shu-Hong Yu\*, Highly crystalline PtCu nanotubes with three dimensional molecular accessible and restructured surface as methanol oxidation catalysts, *Energy Environ. Sci.*, 2017, 10, 1751-1756.
5. Si-Yue Ma#, Hui-Hui Li#, Bi-Cheng Hu, Xiang Cheng, Qi-Qi Fu, Shu-Hong Yu\*, Synthesis of Low Pt-based Quaternary PtPdRuTe Nanotubes with Optimized Incorporation of Pd for Enhanced Electrocatalytic Activity, *J. Am. Chem. Soc.*, 2017, 139, 5890-5895. (ISI Highly Cited Paper)
6. Hui-Hui Li#, Mao-Lin Xie#, Chun-Hua Cui#, Da He, Ming Gong, Jun Jiang\*, Ya-Rong Zheng, Gang Chen, Yong Lei, and Shu-Hong Yu\*, Surface Charge Polarization at the Interface: Enhancing the Oxygen Reduction via Precise Synthesis of Heterogeneous Ultrathin Pt/PtTe Nanowire, *Chem. Mater.*, 2016, 28, 8890-8898. (Front Cover)