

CONVERSION OF BIOMASS AND CO₂ INTO VALUE-ADDED CHEMICALS AND FUELS

Buxing Han

Institute of Chemistry, Chinese Academy of Sciences, Beijing 100190, China

E-mail: hanbx@iccas.ac.cn

Biomass is abundant renewable carbon resource. Carbon dioxide (CO₂) is the main greenhouse gas, and it is also a renewable, abundant, and cheap C₁ feedstock. Use of biomass and CO₂ as carbon source to produce fuels and value-added chemicals is of great importance for the sustainable development of our society.

In recent years, we are very interested in physicochemical properties of green solvents and their applications in green chemistry, especially catalytic conversion biomass and CO₂. In this presentation, I would like to discuss some of the recent results[1-12].

Keywords: biomass; CO₂; chemicals; fuels

References

1. Q. Q. Mei, Y. D. Yang, H. Y. Liu, S. P. Li, H. Z. Liu, B. X. Han, *Sci. Adv.* **2018**, *4*, eaaq0266.
2. X. F. Sun, L. Lu, Q. G. Zhu, C. Y. Wu, D. X. Yang, C. J. Chen, B. X. Han, *Angew. Chem. Int. Ed.*, **2018**, *57*, 2427-2431.
3. X. C. Kang, X. F. Sun, X. X. Ma, P. Zhang, Z. R. Zhang, Q. L. Meng, B. X. Han, *Angew. Chem. Int. Ed.*, **2017**, *56*, 12683-12686.
4. Q. Q. Mei, H. Z. Liu, X. J. Shen, Q. L. Meng, H. Y. Liu, J. F. Xiang, B. X. Han, *Angew. Chem. Int. Ed.*, **2017**, *56*, 14868-14872.
5. Z. R. Zhang, J. L. Song, B. X. Han, *Chem. Rev.*, **2017**, *117*, 6834-6880.
6. Q. L. Meng, M. Q. Hou, H. Z. Liu, J. L. Song, B. X. Han, *Nat. Commun.* **2017**, *8*, 14190.
7. X. X. Sang, J. L. Zhang, J. F. Xiang, J. Cai, L. R. Zheng, J. Zhang, Z. H. Wu, Z. H. Li, G. Mo, Y. Xu, C. C. Liu, X. N. Tan, T. Luo, B. X. Zhang, B. X. Han, *Nat. Commun.* **2017**, *8*, 175.
8. Q. L. Qian, J. J. Zhang, M. Cui, B. X. Han, *Nat. Commun.*, **2016**, *7*, 11481.
9. X. C. Kang, H. Z. Liu, M. Q. Hou, X. F. Sun, H. L. Han, T. Jiang, Z. F. Zhang, B. X. Han, *Angew. Chem. Int. Ed.*, **2016**, *55*, 1080.
10. Z. H. He, Q. L. Qian, J. Ma, Q. L. Meng, H. C. Zhou, J. L. Song, Z. M. Liu, B. X. Han, *Angew. Chem. Int. Ed.*, **2016**, *55*, 737.
11. X. F. Sun, Q. G. Zhu, X. C. Kang, H. Z. Liu, Q. L. Qian, Z. F. Zhang, B. X. Han, *Angew. Chem. Int. Ed.*, **2016**, *55*, 6771.
12. Q. G. Zhu, J. Ma, X. C. Kang, X. F. Sun, H. Z. Liu, J. Y. Hu, Z. M. Liu, B. X. Han, *Angew. Chem. Int. Ed.*, **2016**, *55*, 9012.