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### 个人简介

张媛媛，2013年-2019年在北京理工大学化学与化工学院学习，并获得博士学位，其中2017年-2018年在美国西北大学化学系访问学习（联合培养博士）。现任北京理工大学前沿交叉科学研究院特别副研究员，硕士生导师。

### 科研方向

主要从事金属有机框架（MOF）、共价有机框架（COF）等功能多孔材料的可控制备和柔性加工，及其在分离、催化、智能响应、生物医药等领域的应用研究。具体研究内容包括：

- （1）新型柔性晶态多孔聚合物的设计、合成及功能化
- （2）MOF、COF材料的柔性化和薄膜化方法开发
- （3）功能多孔材料在分离、催化、智能响应、生物医药等领域中的应用研究

### 代表性学术成果

相关研究成果在 *JACS*, *Angew. Chem. Int. Ed.*, *Chem. Soc. Rev.*, *Chem. Sci.* 等学术期刊发表 SCI 论文 17 篇，其中 2 篇为 ESI 高被引论文，4 篇文章被选为杂志封面，相关研究被 *Nat. Mater.* 作为 research highlight 点评报道。

代表性论文：

- [1] **Y. Zhang**, S. Yuan, X. Feng, H. Li, J. Zhou, B. Wang,\* Preparation of Nanofibrous

Metal-Organic Framework Filters for Efficient Air Pollution Control, *J. Am. Chem. Soc.*, 2016, 138, 5785. (Emerging Applications of Metal-Organic Frameworks & Covalent Organic Frameworks, ACS Virtue Issue, ESI top 1%)

[2] **Y. Zhang**<sup>†</sup>, X. Zhang<sup>†</sup>, J. Lyu, K. Otake, X. Wang, L. R. Redfern, C. D. Malliakas, Z. Li, T. Islamoglu, B. Wang, O. K. Farha,\* Flexible Metal–Organic Framework with 4-Connected Zr<sub>6</sub> Nodes, *J. Am. Chem. Soc.*, 2018, 140, 11179. († contributed equally)

[3] **Y. Zhang**, X. Feng,\* H. Li, Y. Chen, J. Zhao, S. Wang, L. Wang and B. Wang\* Photoinduced Postsynthetic Polymerization of a Metal–Organic Framework toward a Flexible Stand-Alone Membrane, *Angew. Chem. Int. Ed.*, 2015, 54, 4259. (Hot paper, front cover, reported by *Nat. Mater.* as research highlights)

[4] **Y. Zhang**, J. Duan, D. Ma, P. Li, S. Li, H. Li, J. Zhou, X. Ma, X. Feng\*, B. Wang, Three-dimensional anionic cyclodextrin-covalent organic frameworks, *Angew. Chem. Int. Ed.*, 2017, 56, 16313.

[5] D. Ma, P. Li, X. Duan, J. Li, P. Shao, Z. Lang, L. Bao, **Y. Zhang**\*, Z. Lin\*, B. Wang\*, A Hydrolytically Stable Vanadium(IV) Metal-Organic Framework with Photocatalytic Bacteriostatic Activity for Autonomous Indoor Humidity Control, *Angew. Chem. Int. Ed.*, 2020, 59, 3905.

[6] Z. Guo<sup>†</sup>, **Y. Zhang**<sup>†</sup>, Y. Dong, J. Li, S. Li, P. Shao, X. Feng,\* and B. Wang\* Fast Ion Transport Pathway Provided by Polyethylene Glycol Confined in Covalent Organic Frameworks, *J. Am. Chem. Soc.*, 2019, 141, 1923. (†:contributed equally) (Cover paper)

[7] T. Kitao<sup>†</sup>, **Y. Zhang**<sup>†</sup>, S. Kitagawa, B. Wang\*, T. Uemura\*, Hybridization of MOFs and polymers, *Chem. Soc. Rev.*, 2017, 46, 3108. (†:contributed equally) (Cover paper, ESI top 1%)

[8] **Y. Zhang**, X. Zhang, Z. Chen, K. Otake, G. W. Peterson, Y. Chen, X. Wang, L. R. Redfern, S. Goswami, P. Li, T. Islamoglu, B. Wang, O. K. Farha\*, A Flexible Interpenetrated Zirconium-Based Metal–Organic Framework with High Affinity toward Ammonia, *ChemSusChem*, 2020, doi: 10.1002/cssc.202000306.

[9] **Y. Zhang**, X. Feng, S. Yuan, J. Zhou and B. Wang\*, Challenges and recent advances in MOF–polymer composite membranes for gas separation, *Inorg. Chem. Front.*, 2016, 3, 896.

- [10] M. Zhang, X. Jing, S. Zhao, P. Shao, **Y. Zhang**, S. Yuan, Y. Li, C. Gu, X. Wang, Y. Ye, X. Feng\*, B. Wang, Electropolymerization of Molecular-Sieving Polythiophene Membranes for H<sub>2</sub> Separation, *Angew. Chem. Int. Ed.*, 2019, 58, 8768.
- [11] X. Wang, X. Zhang, P. Li, K. I. Otake, Y. Cui, J. Lyu, M. D. Krzyaniak, **Y. Zhang**, Z. Li, J. Liu, C. T. Buru, T. Islamoglu, M. R. Wasielewski, Z. Li, O. K. Farha\*, Vanadium Catalyst on Isostructural Transition Metal, Lanthanide, and Actinide Based Metal-Organic Frameworks for Alcohol Oxidation, *J. Am. Chem. Soc.*, 2019, 141, 8306.
- [12] J. Lyu, X. Zhang, K.-i. Otake, X. Wang, P. Li, Z. Li, Z. Chen, **Y. Zhang**, M. C. Wasson, Y. Yang, P. Bai, X. Guo, T. Islamoglu, O. K. Farha\*, Topology and porosity control of metal–organic frameworks through linker functionalization, *Chem. Sci.*, 2019, 10, 1186.
- [13] L.-L. Tan, H. Li, Y. Zhou, **Y. Zhang**, X. Feng, B. Wang, Y. W. Yang\*, Zn(2+)-Triggered Drug Release from Biocompatible Zirconium MOFs Equipped with Supramolecular Gates, *Small*, 2015, 11, 3807.
- [14] J. Zhou, X. Yu, X. Fan, X. Wang, H. Li, **Y. Zhang**, W. Li, J. Zheng, B. Wang\*, X. Li\*, The impact of the particle size of a metal–organic framework for sulfur storage in Li–S batteries, *J. Mater. Chem. A*, 2015, 3, 8272.
- [15] D. Jung, F. Raffan-Montoya, R. Ramachandran, **Y. Zhang**, T. Islamoglu, G. Marin, E. A. Qian, R. M. Dziedzic, O. K. Farha, S. I. Stoliarov, A. M. Spokoyny\*, Cross-linked porous polyurethane materials featuring dodecaborate clusters as inorganic polyol equivalents, *Chem. Commun.*, 2019, 55, 8852.
- [16] H. Li, X. Feng\*, D. Ma, M. Zhang, **Y. Zhang**, Y. Liu, J. Zhang, B. Wang\*, Stable Aluminum Metal-Organic Frameworks (Al-MOFs) for Balanced CO<sub>2</sub> and Water Selectivity, *ACS Appl. Mater. Interfaces*, 2018, 10, 3160.
- [17] Q. Wang, J. Han, **Y. Zhang**, Z. Yan, E. Velasco, L. Yang\*, B. Wang\*, S. Q. Zang, Fabrication of Copper Azide Film through Metal-Organic Framework for Micro-Initiator Applications, *ACS Appl. Mater. Interfaces*, 2019, 11, 8081.