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基本情况

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教育经历



2000.09-2005.06: 中山大学无机化学专业, 博士 (导师: 陈小明教授) ;
1996.09-2000.06: 中山大学应用化学专业, 学士。

工作经历

2011.01-现在: 中山大学化学与化学工程学院, 教授;
2007.11-2010.12: 中山大学化学与化学工程学院, 副教授;
2005.11-2007.11: 日本京都大学, JSPS博士后 (Prof. Susumu Kitagawa) 。

讲授课程

无机化学 (外院本科生, 2008-) ;
基础化学实验 (综合, 2008-2012) ;
基础化学实验 (无机, 2008-2009) ;
单晶结构分析 (研究生, 2008-2011) 。

科研方向

功能配位化学、晶体工程、多孔材料

科研项目

先后主持和参与国家自然科学基金、973项目子课题、教育部科技研究重点计划、教育部留学回国人员启动基金、中山大学百人计划启动基金及后备重点项目等。已发表论文超过100篇, 他引7500多次, H指数47。完整论文情况见<http://www.researcherid.com/rid/G-5251-2011>

获奖情况



Thomson Reuters Highly Cited Researcher Award (2015)

Thomson Reuters Highly Cited Researcher Award (2014)

日本化学会Distinguished Lectureship Award (2014)

广东省丁颖科技奖 (2013)

广东省青年五四奖章 (2013)

广东省科学技术一等奖 (2012, 第二完成人)

国家杰出青年科学基金 (2012)

中组部首批“青年拔尖人才支持计划” (2011)

中国化学会青年化学奖 (2011)

教育部“新世纪优秀人才支持计划” (2010)

国家自然科学基金二等奖 (2007, 第三完成人)

论著一览

综述:

1. Liu, S.-Y.; Zhang, J.-P.*; Chen, X.-M. Cu(I) 3,5-Diethyl-1,2,4-Triazolate (MAF-2): From Crystal Engineering to Multifunctional Materials. *Cryst. Growth Des.* **2017**, 17, 1441-1449
2. Lin, R.-B.; Liu, S.-Y.; Ye, J.-W.; Li, X.-Y.; Zhang, J.-P.* Photoluminescent Metal-Organic Frameworks for Gas Sensing. *Adv. Sci.* **2016**, 3, 1500434
3. Zhang, J.-P.*; Liao, P.-Q.; Zhou, H.-L.; Lin, R.-B.; Chen, X.-M.* Single-crystal X-ray diffraction studies on structural transformations of porous coordination polymers. *Chem. Soc. Rev.* **2014**, 16, 5789-5814
4. Zhang, J.-P.*; Chen, X.-M.* Metal-Organic Frameworks: From Design to Materials. *Struct. Bond.* **2014**, 157, 1-26
5. Zhang, Y.-B.; Zhang, J.-P.* Porous coordination polymers constructed from anisotropic metal-carboxylate-pyridyl clusters *Pure Appl. Chem.* **2013**, 85, 405-416



6. Zhang, J.-P.*; Zhang, Y.-B.; Lin, J.-B.; Chen, X.-M.* Metal Azolate Frameworks: From Crystal Engineering to Functional Materials. *Chem. Rev.* **2012**, 112, 1001-1033
7. Zhang, J.-P.; Huang, X.-C.; Chen, X.-M.* Supramolecular isomerism in coordination polymers. *Chem. Soc. Rev.* **2009**, 38, 2385-2396
8. Zhang, J.-P.; Chen, X.-M.* Crystal engineering of binary metal imidazolate and triazolate frameworks. *Chem. Commun.* **2006**, 1689-1699

代表性研究论文:

1. Lin, J.-M.; He, C.-T.*; Liu, Y.; Liao, P.-Q.; Zhou, D.-D.; Zhang, J.-P.*; Chen, X.-M. A Metal-Organic Framework with Pore Size/Shape Suitable for Strong Binding and Close Packing of Methane. *Angew. Chem. Int. Ed.* **2016**, 55, 4674 (Hot Paper)
2. Liao, P.-Q.; Zhang, W.-X.; Zhang, J.-P.*; Chen, X.-M. Efficient purification of ethene by an ethane-trapping metal-organic framework. *Nat. Commun.* **2015**, 6, 8697, doi:10.1038/ncomms9697
3. Wei, Y.-S.; Zhang, M.; Liao, P.-Q.; Lin, R.-B.; Li, T.-Y.; Shao, G.; Zhang, J.-P.*; Chen, X.-M. Coordination templated [2+2+2] cyclotrimerization in porous coordination framework. *Nat. Commun.* **2015**, 6, 8348, doi:10.1038/ncomms9348
4. He, C.-T.; Jiang, L.; Ye, Z.-M.; Krishna, R.; Zhong, Z.-S.; Liao, P.-Q.; Xu, J. Q.; Ouyang, G. F.; Zhang, J.-P.*; Chen, X.-M. Exceptional hydrophobicity of a large-pore metal-organic zeolite. *J. Am. Chem. Soc.* **2015**, 137, 7217
5. Zhou, H.-L.; Zhang, Y.-B.; Zhang, J.-P.*; Chen, X.-M. Supramolecular-jack-like guest in ultramicroporous crystal for exceptional thermal expansion behavior. *Nat. Commun.* **2015**, 6, 6917, doi:10.1038/ncomms7917
6. Liao, P.-Q.; Zhu, A.-X.; Zhang, W.-X.; Zhang, J.-P.*; Chen, X.-M. Self-catalyzed aerobic oxidation of organic linker in porous crystal for on-demand regulation of sorption



properties. *Nat. Commun.* **2015**, 6, 6350, doi:10.1038/ncomms7350

7. Liao, P.-Q.; Chen, H. Y.; Zhou, D.-D.; Liu, S.-Y.; He, C.-T.; Rui, Z. B.; Ji, H. B.; Zhang, J.-P.*; Chen, X.-M. Monodentate hydroxide as a super strong yet reversible active site for CO₂ capture from high-humidity flue gas. *Energy Environ. Sci.* **2015**, 8, 1011-1016

8. Lin, R.-B.; Li, T.-Y.; Zhou, H.-L.; He, C.-T.; Zhang, J.-P.*; Chen, X.-M. Tuning fluorocarbon adsorption in new isorecticular porous coordination frameworks for heat transformation applications. *Chem. Sci.* **2015**, 6, 2516-2521

9. He, C.-T.; Liao, P.-Q.; Zhou, D.-D.; Wang, B.-Y.; Zhang, W.-X.*; Zhang, J.-P.*; Chen, X.-M. Visualizing the distinctly different >> crystal-to-crystal structural dynamism and sorption behaviors of interpenetration-direction isomeric coordination networks. *Chem. Sci.* **2014**, 5, 4755-4762

10. Liu, S.-Y.; Qi, X.-L.; Lin, R.-B.; Cheng, X.-N.; Liao, P.-Q.; Zhang, J.-P.*; Chen, X.-M. Porous Cu(I) Triazolate Framework and Derived Hybrid Membrane with Exceptionally High Sensing Efficiency for Gaseous Oxygen. *Adv. Funct. Mater.* **2014**, 24, 5866-5872 (Back Cover)

span>11. Lin, R.-B.; Li, F.; Liu, S.-Y.; Qi, X.-L.; u>Zhang, J.-P.*; Chen, X.-M. A Noble-Metal-Free Porous Coordination Framework with Exceptional Sensing Efficiency for Oxygen. *Angew. Chem. Int. Ed.* **2013**, 52, 13429-13433 (Hot Paper)

span>12. Zhou, H.-L.; Lin, R.-B.; He, C.-T.; Zhang, Y.-B.; Feng, N. D.; Wang, Q.; Deng, F.; Zhang, J.-P.*; Chen, X.-M. Direct visualization of guest-triggered crystal deformation based on a flexible ultramicroporous framework. *Nat. Commun.* **2013**, 4, 2534, doi:10.1038/ncomms3534

13. Wei, Y.-S.; Chen, K.-J.; Liao, P.-Q.; Zhu, B.-Y.; Lin, R.-B.; Zhou, H.-L.; Wang, B.-Y.; Xue, W.; Zhang, J.-P.*; Chen, X.-M. Turning on the flexibility of isorecticular porous coordination frameworks for drastically tunable framework breathing and thermal expansion. *Chem. Sci.* **2013**, 4, 1539-1546

14. He, C.-T.; Tian, J.-Y.; Liu, S.-Y.; Ouyang, G. F.; Zhang, J.-P.*; Chen, X.-M. A porous



coordination framework for highly sensitive and selective solid-phase microextraction of non-polar volatile organic compounds. *Chem. Sci.* **2013**, 4, 351-356

15. Liao, P.-Q.; Zhou, D.-D.; Zhu, A.-X.; Jiang, L.; Lin, R.-B.; Zhang, J.-P.*; Chen, X.-M. Strong and Dynamic CO₂ Sorption in a Flexible Porous Framework Possessing Guest Chelating Claws. *J. Am. Chem. Soc.* **2012**, 134, 17380-17383

16. Zhang, Y.-B.; Zhou, H.-L.; Lin, R.-B.; Zhang, C.; Lin, J.-B.; Zhang, J.-P.*; Chen, X.-M. Geometry analysis and systematic synthesis of highly porous isorecticular frameworks with a unique topology. *Nat. Commun.* **2012**, 3, 642, doi:10.1038/ncomms1654

17. Qi, X.-L.; Lin, R.-B.; Chen, Q.; Lin, J.-B.; Zhang, J.-P.*; Chen, X.-M. A flexible metal azolate framework with drastic luminescence response toward solvent vapors and carbon dioxide. *Chem. Sci.* **2011**, 2, 2214-2218

18. Zhang, J.-P.*; Zhu, A.-X.; Lin, R.-B.; Qi, X.-L.; Chen, X.-M. Pore Surface Tailored SOD-type Metal-Organic Zeolites. *Adv. Mater.* **2011**, 23, 1268-1271

span>19. Lin, J.-B.; Zhang, J.-P.*; Chen, X.-M. Nonclassical Active Site for Enhanced Gas Sorption in Porous Coordination Polymer. *J. Am. Chem. Soc.* **2010**, 132, 6654-6656 (highlighted in Nature China)

20. Zhang, Y.-B.; Zhang, W.-X.; Feng, F.-Y.; Zhang, J.-P.*; Chen, X.-M.* A Highly Connected Porous Coordination Polymer with Unusual Channel structure and Sorption Properties. *Angew. Chem. Int. Ed.* **2009**, 48, 5587-5590 (highlighted in Nature Chemistry)

21. Zhang, J.-P.*; Chen, X.-M.* Optimized Acetylene/Carbon Dioxide Sorption in a Dynamic PorousCrystal. *J. Am. Chem. Soc.* **2009**, 131, 5516-5521 (highlighted in Nature China)

22. Zhang, J.-P.*; Chen, X.-M.* Exceptional framework flexibility and sorption behavior of a multifunctional cuprous triazolate framework. *J. Am. Chem. Soc.* **2008**, 130, 6010-6017

23. Zhang, J.-P.; Kitagawa, S.* Supramolecular isomerism, framework flexibility, unsaturated metal center, and porous property of Ag(I)/Cu(I) 3,3',5,5'-tetramethyl-4,4'-bipyrazolate. *J. Am.*



Chem. Soc. **2008**, 130, 907-917

24. Zhang, J.-P.; Horike, S.; Kitagawa, S.* A flexible porous coordination polymer functionalised by unsaturated metal clusters. Angew. Chem. Int. Ed. **2007**, 46, 889-892 (Hot Paper) link

25. Zhang, J.-P.; Lin, Y.-Y.; Zhang, W.-X.; Chen X.-M.* Temperature- or guest-induced drastic single-crystal-to-single-crystal transformations of a nanoporous coordination polymer. J. Am. Chem. Soc. **2005**, 127, 14162-14163

26. Zhang, J.-P.; Lin, Y.-Y.; Huang, X.-C.; Chen, X.-M.* Copper(I) 1,2,4-triazolates and related complexes: studies of the solvothermal ligand reactions, network topologies, and photoluminescence properties. J. Am. Chem. Soc. **2005**, 127, 5495-5506 (Hot Paper)

27. Zhang, J.-P.; Zheng, S.-L.; Huang, X.-C.; Chen, X.-M.* Two unprecedented 3-connected three-dimensional networks of copper(I) triazolates: in situ formation of ligands by cycloaddition of nitriles and ammonia. Angew. Chem. Int. Ed. **2004**, 43, 206-209 (2008 Thomson Reuters卓越研究奖)

相关成果

1. 张杰鹏, 朱爱新, 林锐标, 洪慧玲, 陈小明, 一种多氮唑锌/镉框架材料的合成方法, 中国发明专利, ZL-2010-1-0169244.4

2. 张杰鹏, 朱爱新, 洪慧玲, 陈小明, 一种方钠石型微孔配位聚合物材料及其制备方法和应用, 中国发明专利, ZL-2010-1-0156839.6

3. 张杰鹏, 林建斌, 林锐标, 洪慧玲, 陈小明, 一种金属多氮唑框架材料的无溶剂合成方法, 中国发明专利, ZL-2011-1-0185338.5

4. 张杰鹏, 柳思扬, 洪慧玲, 陈小明, 一种多孔配合物复合薄膜氧气传感器及其制备方法, 中国发明专利, ZL201410102307.2



