Tian Tian

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Education

PhD Candidate October 2015, Expected Graduation 2019
Department of Chemistry and Applied Biosciences, ETH Zürich

M.Sc. of Chemistry August 2012-July 2015
Department of Chemistry, Tsinghua University

B.Sc. of Chemical Biology August 2008-July 2012
Department of Chemistry, Tsinghua University

Minor in Computer Technology and Application August 2010-July 2012
Department of Computer Science and Technology, Tsinghua University

Research Experience

Research Intern June 2017-September 2017
Supervisor: Prof. Elton G. J. Santos (Queen's University Belfast, United Kindom)
Nanoscale Modeling of 2D Materials

- Dielectric response of 2D materials
- Assymetric electric screening of 2D van der Waals heterostructures

Doctoral Projects 2015-Current
Supervisor: Prof. Chih-Jen Shih (ETH Zürich, Switzerland)
Interfacial Research of 2D Materials

- Multiscale modeling of 2D materials interfaces
- Theory-oriented study of macroscopic phenomena on 2D materials
- 2D material-based functional devices

Master Work 2012-2015
Supervisor: Prof. Guangtao Li (Tsinghua University, China)
Thesis Title: Multi-functional Photonic Crystal Frameworks Based on Chemical Reaction

- Responsive polymer photonic crystal and for acetylcholinesterase assay
- Chemical and structural design in colloidal crystal microfluidic spheres using etching-reaction approach
- Multi-functional patterned photonic crystal by alternative photolysis-reaction strategy

Laboratory Internship Summer 2012
Supervisor: Prof. Bart Jan Ravoo (WWU Münster, Germany)
Research Topic: Synthesis of Guest Molecules with Tri-Responsiveness in Cyclodextrin Vesicle Linking

Bachelor Work 2011-2012
Supervisor: Prof. Guangtao Li (Tsinghua University, China)
Thesis Title: Synthesis of Functional Main-Chain Bile Acid Polymer by Click Reaction

- Synthesis of main-chain bile acid polymers using Cu-free click chemistry with improvement of stereo selectivity

- Supramolecular assembly of main-chain bile acid polymers

Research Interests

Multiscale simulations, Two-dimensional materials, Functional material and devices, Self assembly in varied scales, Organic synthesis with rational design

Skills

Chemistry and Chemical Engineering
Organic synthesis, chemical vapor deposition, SEM, TEM, organic field transistor
Modeling and Programming
C++, Matlab, Python, COMSOL, First principles codes (VASP, Quantum Espresso, GPAW)

Academic Awards

- Teijin Academic Scholarship (first-class academic scholarship) October 2014
- Outstanding Graduate of Tsinghua University July 2012
- Tsinghua School Scholarship for elite students January 2012
- First-class National Scholarship November 2011
- Third-class Academic Scholarship November 2010
- Dingye Mailin Academic Scholarship November 2009

Language Level

English (IELTS score: 7.5, tested on November 2014)

Publications

1. Griffin, A.; Harvey, A.; Cunningham, B.; Scullion, D.; **Tian, T.** Shih, C.-J.; Gruening, M.; Donega, J.; Santos, E.; Backes, C. Coleman, J. *Chem. Mater.* **2018**, *30*, 1998-2005
2. Li, LH.; **Tian, T.**; Cai, Q.; Shih, C.-J.; Santos, EJG. *Nat. Commun.* **2018**, *9*, 1271
3. Jagielski, J.; Kumar, S.; Wang, M.; Scullion, D.; Lawrence, R.; Li, Y.-T.; Yakunin, S.; **Tian, T.**; Covalenko, M.; Chiu, Y.-C.; Santos, EJG. Lin, S.; Shih, C.-J.; *Sci. Adv.* **2017**, *3*, eaaq0208
4. **Tian, T.**; Lin, S.; Li, S.; Zhao, L.; Santos E.;, Shih, C.-J. *Langmuir 33* 12827-12837
5. **Tian, T.**; Shih, C.-J. *Ind. Eng. Chem. Res.* **2017**, *56*, 10552-10581.
6. Wang, Y.; **Tian, T.**; Cabane, E. *ACS Sustainable Chem. Eng.* **2017**, 10.1021/acssuschemeng.7b03104
7. Sudhir K.; Jagielski, J.; Kallikounis, N.; Kim, Y.-H.; Wolf, C.; Jenny, F.; **Tian Tian**.; Hofer, C.; Chiu, Y.-C.; Stark, W.; Lee, T.-W.; Shih, C.-J. *Nano Lett.* **2017**, *17* 5277-5284.
8. Gao,N. **Tian, T.**; Cui, J.; Zhang, W.; Yin, X.; Wang, S.; Ji, J.; Li, G. *Angew. Chem. Int. Ed.* **2017**, *56*, 3880-3885.
9. **Tian, T.**; Rice, P. Santos, E.J.; Shih, C.-J. *Nano Lett.* **2016**, *16*, 5044-5052.
10. **Tian, T.**; Gao, N.; Gu, C.; Li, J.; Wang, H.; Lan, Y.; Yin, X.; Li, G.; *ACS Appl. Mater. Interfaces* **2015**, *7*, 19516-19525.
11. Wang, H.; Zhu, W.; Li, J.; **Tian, T.**; Lan, Y.; Gao, N.; Wang, C.; Zhang, M.; Faul, C. F.; Li, G. *Chem. Sci.* **2015**, *6*, 1910-1916.
12. Zhang, M.; Yin, X.; **Tian, T.**; Liang, Y.; Li, W.; Lan, Y.; Li, J.; Zhou, M.; Ju, Y.; Li, G. *Chem. Commun.* **2015**, *51*, 10210-10213.
13. Wang, C.; Shang, J.; Lan, Y.; **Tian, T.**; Wang, H.; Gu, J.-Y.; Liu, J. Z.; Wan L.-J.; Zhu, W.; Li, G. *Adv. Funct. Mater.* **2015**, *25*, 6009-6017.

14. **Tian, T.**; Li, X.; Cui, J.; Li, J.; Lan, Y.; Wang, C.; Zhang, M.; Wang, H.; Li, G. *ACS Appl. Mater. Interfaces* **2014**, *50*, 15456-15465.
15. Li, W.; **Tian, T.**; Lan, Y.; Zhu, W.; Li, J.; Zhang, M.; Ju, Y.; Li, G. *Polym. Chem.* **2014**, *5*, 743-751.
16. Wang, C.; Zhu, W.; Lan, Y.; Zhang, M.; **Tian, T.**; Wang, H.; Li, G. *J. Phys. Chem. C* **2014**, *118*, 10754-10763.
17. Xu, D.; Zhu, W.; Wang, C.; **Tian, T.**; Cui, J.; Li, J.; Wang, H.; Li, G. *Chem. Eur. J.* **2014**, *20*, 16620-16625.
18. Xu, D.; Zhu, W.; Wang, C.; **Tian, T.**; Li, J.; Lan, Y.; Zhang, G.; Zhang, D.; Li, G. *Chem. Commun.* **2014**, *50*, 14133-14136.
19. Yang, H.; Li, X.; Lan, Y.; **Tian, T.**; Cui, J.; Zhu, T.; Shen, D.; Li, G. *J. Mater. Chem. C* **2013**, *1*, 6120-6128.
20. Li, W.; **Tian, T.**; Zhu, W.; Cui, J.; Ju, Y.; Li, G. *Polym. Chem.* **2013**, *4*, 3057-3068.
21. Zhu, T.; Xu, D.; Wu, Y.; Li, J.; Zhou, M.; **Tian, T.**; Jiang, Y.; Li, F.; Li, G. *J. Mater. Chem. B* **2013**, *1*, 6449-6458.
22. Li, X.; Peng, L.; Cui, J.; Li, W.; Lin, C.; Xu, D.; **Tian, T.**; Zhang, G.; Zhang, D.; Li, G. *Small* **2012**, *8*, 612-618.