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Profile

I studied porphyrin chemistry at Tianjin University from 2003 to 2012 for bachelor and doctoral degrees (supervisor Prof. Dr. Yaqing Feng), and then went to the University of Innsbruck (Austria) as postdoc working on the chemistry of chlorophyll catabolites in the group of Prof. Dr. Bernhard Kräutler (2012-2016). At the end of 2016, I joined the Porphyrin-Lab supervised by Prof. Dr. Yongshu Xie at East China University of Science and Technology. Our team mainly focus on the construction and application of novel conjugated systems (such as aromatic fused ring porphyrin/linear-oligopyrrole, polypyrrole, etc.) by using unique pyrrole modules. Based on the above research, we have published a number of papers, and have been supported financially by 2 national projects (the National Natural Science Foundation of China 2018-2020, 2021-2024) and 2 local projects (the Shanghai Science and Technology Commission, 2017 -2019 Shanghai Pujiang Program, 2020-2023 Shanghai Natural Science Foundation).

Research Field

The construction and application of novel conjugated systems (such as aromatic fused ring porphyrin/linear-oligopyrrole, polypyrrole, etc.) by using unique pyrrole modules.

Research results and main published thesis

- [1] Zou, J.#; Wang, Y.#; Baryshnikov, G.; Luo, J.; Wang, X.; Ågren, H.; Li, C.*; Xie, Y.* Efficient dye sensitized solar cells based on a new class of doubly concerted companion dyes, *ACS Applied Materials & Interfaces*, 2022, 14(29): 33274-33284.
- [2] Wang, X.; Wang, Y.; Zou, J.; Luo, J.; Li, C.*; Xie, Y.* Efficient solar cells sensitized by organic concerted companion dyes suitable for indoor lamps, *ChemSusChem*, 2022, e202201116.
- [3] Cao, G.; Baryshnikov, G.; Chen, C.; Chen, L.; Zhao, T.; Fu, S.; Jiang, Z.; Liu, X.*; Li, Q.; Xie, Y.; Li, C.* Porphyrindiene-based tandem Diels-Alder reaction for preparing low-symmetry π -extended porphyrins with push-pull skeletons. *The Journal of Organic Chemistry*, 2022, 87(14): 9001-9010.
- [4] Luo, J.; Xie, Z.; Zou, J.; Wu, X.*; Gong, X.*; Li, C.*; Xie, Y.* Efficient dye-sensitized solar cells based on concerted companion dyes: Systematic optimization of thiophene units in the organic dye components. *Chinese Chemical Letters*, 2022, 33(9): 4313-4316.
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- [13] Li, C.; Liu, X.; Shao, J.; Su, G.; Xie, Y.* Synthesis of a doubly SO₂-fused phlorin: Tuning the structure and properties by the SO₂ groups. *Journal of Porphyrins and Phthalocyanines*, 2018, 22(9-10): 799-806.
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