Institute of SCIENCE TOKYO

講演会のお知らせ

“Self-assembly of low-symmetric Pd_nL_{2n} heteroleptic cages combining chirality and chromophores”

講演：Prof. Jacopo Tessarolo

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日時：3月16日(月) 16:00 – 17:30

場所：本館3階 理学院第2会議室

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Self-assembly of low-symmetric Pd_nL_{2n} heteroleptic cages combining chirality and chromophores

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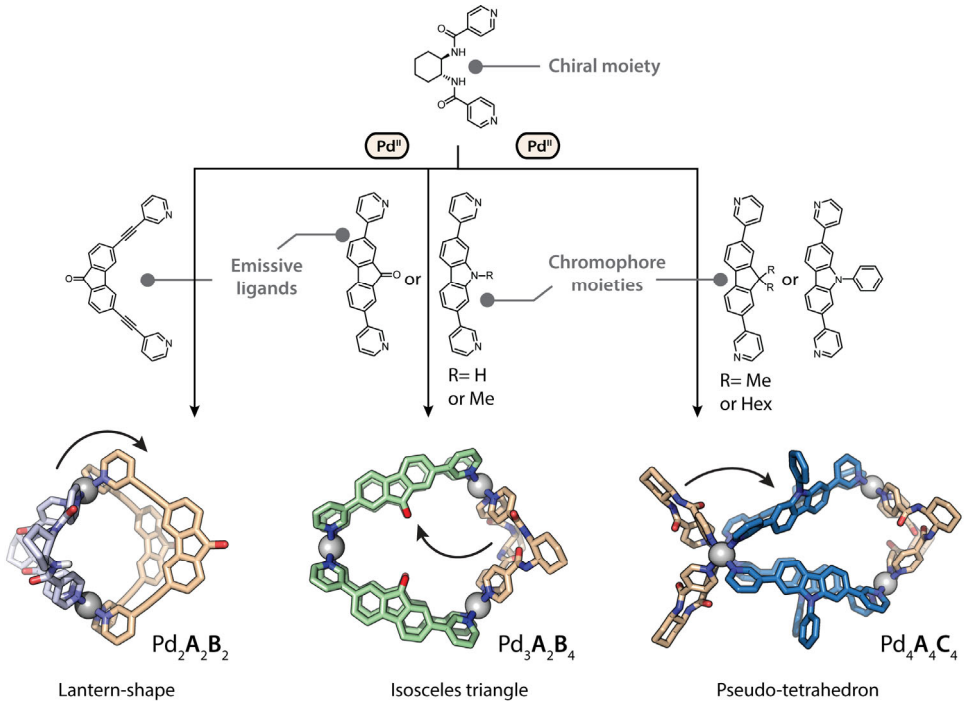
Metal-mediated self-assembly of supramolecular architectures is an efficient tool for developing new materials with well-defined shapes and geometries, depending on proper ligand design and the choice of metal centers.[1] Particularly, it is possible to assemble nanosized entities with molecular pockets able to host specific guest molecules. While most of the reported structures are highly symmetric, here we report strategies to assemble low-symmetric systems, combining multiple ligands avoiding the formation of statistical mixtures.[2] This allows to embed the systems with functional properties, introducing for instance chromophores or photoswitches.[3] In this work, chromophores are combined with chiral building blocks, resulting in a ligand-to-ligand chirality transfer.[4,5] Moreover, presence of steric bulk allows control over stoichiometry and nuclearity of the resulting metal-organic cage, thus modulating the degree of complexity of the system.



1) J. Tessarolo *et al. Chem. Sci.*, **2021**, *12*, 7269. 2) J. Tessarolo *et al. J. Am Chem. Soc.*, **2022**, *144*, 3099; 3) J. Tessarolo *et al. Nat. Chem.* **2024**, *16*, 13–21. 4) J. Tessarolo *et al. Angew. Chem. Int. Ed.,* **2022**, 61, e202205725. 5) J. Tessarolo *et al. Chem*, **2025**, 102780.