

特別講演会のお知らせ



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演題：“Formation of Rings, Chains and Nanotubes by Self-Assembly of Transition Metal Bis-Phospholane Complexes”

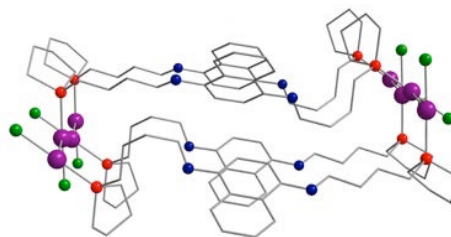
日時：平成 28 年 10 月 27 日（木）16:00～

場所：理学部 B301 講義室

Since the development of the chiral bis-phosphine ligand DuPHOS by Burk et al. at DuPont, phospholane chemistry has been in the focus of interest. Phospholanes are five-membered rings containing phosphorus and belong to the so-called “privileged structures”. Due to the rigidity of the phospholane moiety, their corresponding transition metal complexes have found a wide range of applications in asymmetric catalysis, e.g., in hydroformylation.

However, bis-phospholane ligands with long flexible, semi-flexible or rigid spacers are scarce. These ligands are expected to combine the excellent properties of phospholanes with a backbone which allows them to be used as bridging ligands between metal complex fragments.

Selective formation of macrocycles, cages or chains is observed, without using high-dilution techniques, depending on the ligand backbone of bis-phospholane ligands. For gold(I), additionally polymeric chains, nanotubes (Fig. 1) or molecular wires are formed via aurophilic interactions. Examples of the fascinating coordination chemistry of highly flexible as well as semi-flexible bis-phospholane ligands with transition metals (e.g., Rh, Ni, Pd, Pt, Cu, Ag, Au) will be presented.



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