ビピリジルアミドシクロデキストリン及びその金属錯体の置換基導入による構造制御

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Structural Control of Bipyridyl Amide Cyclodextrin and Its Metal Complexes by the Introduction of Substituents ([1]*Degree Programs in Pure and Applied Sciences, University of Tsukuba*, [2]*Faculty of Pure and Applied Sciences, University of Tsukuba*) ○Gaoxing Hu,[1] Takashi Nakamura[2]

Previously, our laboratory has succeeded in the selective synthesis of metal complexes with *fac*-Δ configuration by the reaction of cyclodextrin derivatives in which bipyridylamide groups with a methyl group at its 5 position are introduced and six-coordinate metals.[1)] Change in the molecular structures around coordination units is expected to lead to single metal complexes with different three-dimensional structures. In this work, amide cyclodextrin derivative **1**, whose methyl groups of the introduced bipyridyls are changed from 5 position to 6 position, were synthesized, and its metal complexation was investigated. The structures and steric configurations of the complexes formed by the reaction of the macrocyclic ligand **1** and four-coordinate or six-coordinate metals will be discussed in the presentation.
Keywords : Bipyridyl; Cyclodextrin; Metal Complex; Steric Configuration; Macrocycle

以前に当研究室では、5 位にメチル基をもつビピリジルアミド基を導入したシクロデキストリンと 6 配位金属の反応により、*fac*-Δの立体をもつ金属錯体の選択的合成に成功した[1)]。配位部位周りの分子構造を変更することで、異なる立体構造を持つ錯体の形成が期待される。本研究では、導入するビピリジルのメチル基を 5 位から 6 位へと変更したアミドシクロデキストリン誘導体 **1** を合成し、その金属錯形成を検討した。発表では、環状配位子 **1** と 4 配位あるいは 6 配位金属との反応により生成する金属錯体について、その構造と立体配置を考察・議論する。

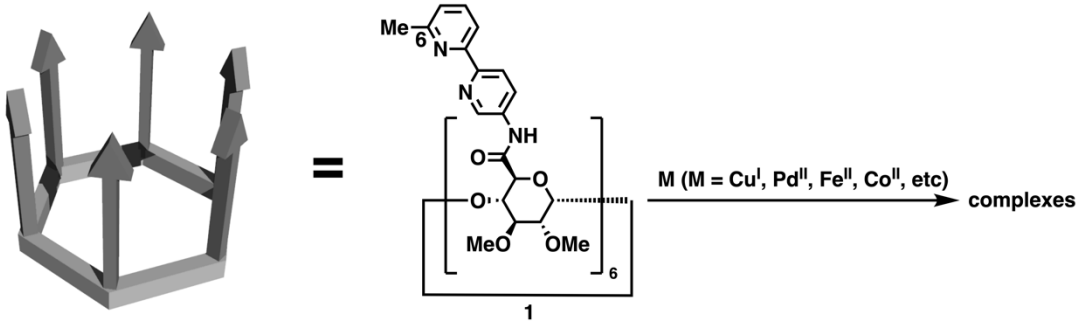

Figure. Complexation of amide cyclodextrin derivative **1**

1) T. Nakamura, S. Yonemura, S. Akatsuka, T. Nabeshima, *Angew. Chem. Int. Ed.* **2021**, *60*, 3080.