

# 演 題 : “Macrocyclic and Supramolecular Chemistry with Poly-NHC Ligands”

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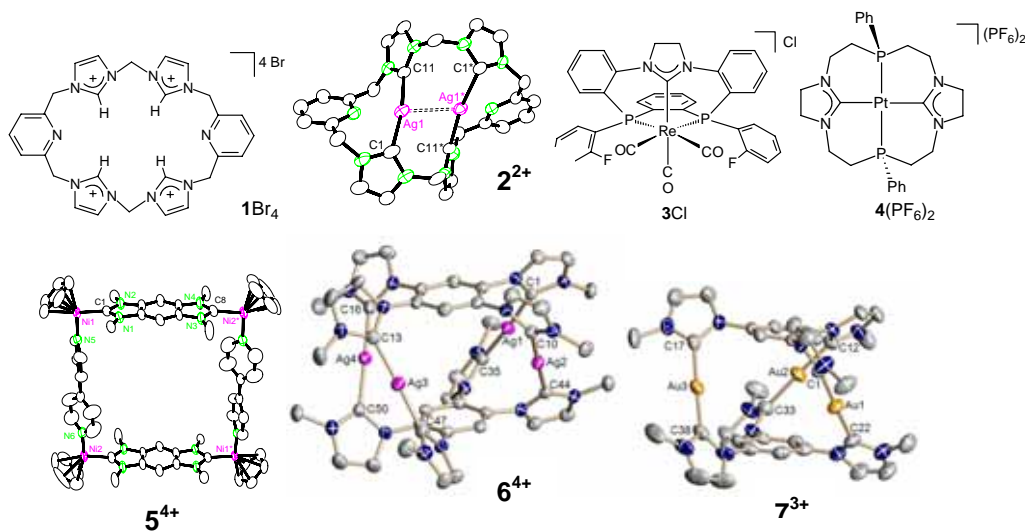
日 時 : 2010年6月11日(金) 16:00 - 17:00

場 所 : 工学部材料・化学棟 大講義室 (MC030)

主 催 : 触媒化学研究センター談話会・共 催 : 日本化学会北海道支部

Cyclic ligands with carbene donor functions are accessible from cyclic tetraimidazolium salts like  $1Br_4$ , which after C2 deprotonation react with metal ions to give, for example, the dinuclear disilver complex  $2^{2+}$ . We have extended this chemistry to complexes with cyclic ligands exhibiting a PPC donor set like [11]ane- $P_2C^{NHC}$  in  $3Cl$  or a PPCC donor set like [16]ane- $P_2C^{NHC}_2$  in  $4(PF_6)_2$ . Bidentate biscarbene ligands can be used for the generation of supramolecular structures like the molecular square  $5(BF_4)_2$  containing two biscarbene and two 4,4'-bipyridine building blocks.

Three-dimensional supramolecular assemblies  $6(PF_6)_4$  have been obtained from 1,2,4,5-tetra(imidazolium) substituted benzene and silver oxide. The silver atoms in  $6^{4+}$  can be exchanged for gold atoms without destruction of the supramolecular assembly. The same reactivity has been observed with a tricarbene ligand which forms the trisilver complex and reacts with  $[AuCl(SMe_2)]$  to give the trigold species  $7^{3+}$ . The inclusion of small substrates into the metallocupramolecular carbene complexes has been studied.



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