

A Sandwich-Shaped Hexanuclear Silver Complex Constructed from a Macrocycle with Six Inward Chelating Units

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The coordination linking of multiple macrocycles is a useful strategy to provide a large and well-defined inner space that cannot be created only by its macrocyclic component. We have recently reported hexapap, a macrocyclic hexamer of pap (2-[(pyridin-2-ylmethylene)amino]phenol).^{1,2)} In the previous studies, pap acted as a negatively-charged NNO tridentate metal-chelating ligand to zinc¹⁾ or palladium²⁾ upon deprotonation of the phenolic proton. Here, we would like to report the formation of a hexanuclear silver complex $[1_2Ag_6L_n]^{m+}$ (L: solvent or anion) formed from the hexapap **1** and Ag^+ ion (**Figure**).³⁾ Six silver ions are sandwiched by two molecules of a macrocyclic ligand possessing six pap chelating units, and the metals are arranged on the wall of the internal cavity. Various analytical techniques revealed that the 2:1 complexation between pap as an NN bidentate unit and Ag^+ ion effectively generated the sandwich-shaped structure with a giant cavity.

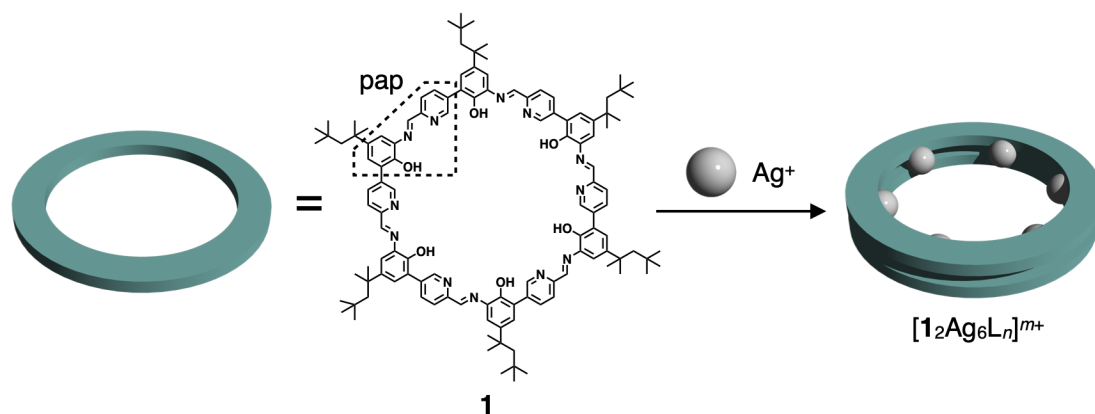


Figure. Sandwich-shaped hexanuclear silver complex $[1_2Ag_6L_n]^{m+}$ (L: solvent or anion) formed from hexapap **1** and Ag^+ ion.

References

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