

VII-E Large Macrocyclic Formation Assisted by Coordination Bonds

There has been still continuous interest in large macrocyclic molecules due to their cavities formed inside the macrocycle capable of accommodating second molecules as a substrate. The macrocycles often exhibit size and/or shape selectivity, so-called molecular recognition, when binding to the substrate. However, the synthetic complexity of large macrocycles, *e.g.*, the multi-step reactions and the low yield in the ring-closure step, impedes progress in molecular recognition of rather large substrates. Coordination bonds which are slightly weaker than covalent bonds but are easy to form and sensitive to angle seem the most likely candidate for the bond in the ring-closure step. Here we report on a large macrocycle formation from a pair of ligand and metal through coordination bonds. The ligand is bidentate but impossible to be coordinated to a metal simultaneously due to the structure. A 2:2 metal-ligand complex possessing the macrocyclic cavity was thus selectively formed although an infinite ligand-metal array was also possible.

VII-E-1 Solution and Solid-State Characterization of a Dicopper Receptor for Large Substrates

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Ligand **2** contains two metal-binding domains separated by a rigid spacer and assembles into a dicopper receptor **3** with a large central cavity with no evidence of catenation.

