

## **Structural Analysis of new early-late Heterobimetallic Tetranuclear Metallomacrocycles**

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Coordination-driven self-assembly has shown remarkable potential in the construction of solid-state architectures with interesting physico-chemical properties. Mononuclear complexes with strong covalently bound ligands and accessible donor sites have been used as building blocks for the synthesis of mixed heterometallic moieties using a modular approach.

Interestingly, very few heterometallic macrocycles containing metallocenes and late transition metals are known. A reduced number of Ti/Pt metallomacrocycles have been assembled using the flexible bis(pyridine-4-carboxylate)titanocene as building block; also  $\text{Cp}_2\text{MCl}_2$  ( $\text{M} = \text{Ti}, \text{Zr}$ ) complexes reacted with phosphino-alkylcyclopentadienyl ligands to produce tetranuclear M/Rh metallo-macrocycles.

We are studying the preparation and structural characteristics of new angular flexible metalloligands based on (alkoxymethyl)-diphenylphosphine ( $\mu\text{-OCH}_2\text{PPh}_2$ ) ligand, designed for the modular assembly of  $d^0$ - $d^8$  early-late metallomacrocycles. In our poster, we will describe the structural details of two analogous but different tetranuclear  $\text{Zr}_2\text{M}_2$  complexes,  $[\text{Cp}_2\text{Zr}(\mu\text{-OCH}_2\text{PPh}_2)\text{M}(\text{diolef})]_2(\text{BF}_4)_2$  ( $\text{M} = \text{Rh}, \text{Ir}$ ). We will analyze metal environments and the geometric characteristics of the bifunctional ligand.

**Keywords:** structure of coordination complexes, early-late metallomacrocycles, heterometallic compounds