

Syntheses and Structural Characterizations of Heterometallic Copper(I)/Indium(III) Complexes Containing Phosphine Ligands

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Addition of anhydrous InCl_3 to a THF solution of CuCl and dppe (dppe = $\text{Ph}_2\text{PCH}_2\text{CH}_2\text{PPh}_2$), or CuCl and PPh_3 , resulted in the formation of the crystalline heterometallic copper(I)/indium(III) complexes $[(\text{dppeCu})_2(\mu\text{-Cl})(\mu\text{-dppe})][\text{InCl}_4]\cdot\text{THF}$ (**1**·THF) and $[\{\text{Cu}(\text{PPh}_3)_2\}_2(\mu\text{-Cl})_4(\text{InCl})]\cdot\text{THF}$ (**2**·THF), respectively, which have been characterized by X-ray diffraction. Compound **1** is composed of a dinuclear copper(I) complex cation and a mononuclear tetrahedral indium(III) complex anion. Complex **2** comprises an indium center in a quasi square-pyramidal chloride-coordination environment connected to two $\text{Cu}(\text{PPh})_3$ fragments *via* $\text{Cu}(\mu\text{-Cl})_2\text{In}$ bridges.

Key words: Synthesis, Crystal Structure, Copper(I) Complex, Indium(III) Complex, Heterometallic Complex