Copper Complexes with the Ligand $[\text{Cp}_2\text{MoH}_2]$  

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The reaction of CuCl with $[\text{Cp}_2\text{MoH}_2]$ yields the complex $[\text{Cu(Cp}_2\text{MoH}_2)_2\text{Cl}]$. An X-ray structure analysis shows that the coordination of the copper(I) ion by two $[\text{Cp}_2\text{MoH}_2]$ ligands and the chloride ion is pseudo-trigonal planar. The hydride ligands were located by using difference Fourier methods. A manifold of reactions took place when an aqueous solution of CuSO$_4$ was treated with a solution of $[\text{Cp}_2\text{MoH}_2]$ in dichloromethane in a 1:2 molar ratio. The X-ray structure analysis established a polymeric structure of the complex $[\text{Cu(Cp}_2\text{MoH}_2)_2\text{Cu(Cp}_2\text{MoH}_2)\text{SO}_4]_n$ with two different copper centers.

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