Crystal Structure and Magnetic Properties of
(2,2'-Dipyridyl)-(2-acetylphenolato)copper(II) Perchlorate

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Mixed-Ligand Binuclear Copper(II) Complex, Crystal Structure, Antiferromagnetic Interaction

The mixed-ligand dinuclear complex (2,2'-dipyridyl)-(2-acetylphenolato)copper(II) perchlorate was synthesized and its crystal structures determined. The structure consists of a dimeric unit involving a planar Cu\textsubscript{2}O\textsubscript{2} group. The coordination sphere of the Cu atom can be described as an elongated octahedron where the basal plane is formed by the two N atoms of the 2,2'-dipyridyl molecule and the two O atoms of the acetophenon anion. Two apical Cu - O contacts complete the 4+2 coordination of the Cu atoms. They correspond to one of the O atoms of the perchlorate anion and to the O atom of the second unit. Magnetic susceptibility data obey the Curie-Weiss law with $\Theta = -8.1(2)$ K. The decreasing of the effective magnetic moment from 1.94(8) $\mu_B$ at 300 K to 1.86(8) $\mu_B$ at 70 K and the negative Weiss constant indicate weak antiferromagnetic interactions between the two copper atoms in the dimeric units.