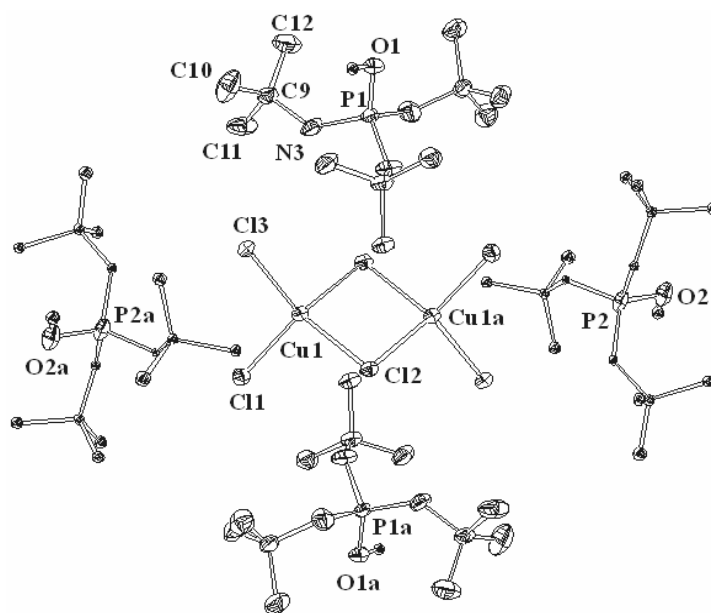


**Synthesis of 1** A mixture of  $\text{CuCl}_2 \cdot 2\text{H}_2\text{O}$  (0.170 g, 1.00 mmol) and  $\text{OP}[\text{N}(\text{H})^t\text{Bu}]_3$  (0.263 g, 1.00 mmol) in toluene (10 mL) in a polytetrafluoroethylene-lined Parr acid digestion vessel (23 mL) was heated to  $80^\circ\text{C}$  for 38 h, and then cooled to room temperature over a period of 24h. Yellow block-like crystals of **1** were obtained (0.093g, 0.149 mmol, 45%). Anal. Calcd for  $\text{C}_8\text{H}_{27}\text{Cl}_7\text{Cu}_3\text{N}_2\text{O}_2$ : C, 15.45; H, 4.38; N, 4.50. Found: C, 16.12; H, 4.10; N, 4.86. IR ( $\text{cm}^{-1}$ ): 3515 [ $\nu(\text{O-H})$ ], 3123 [ $\nu(\text{N-H})$ ].

**Synthesis of 2** Compound **2** was synthesized by employing the same procedure except for the use of



**Fig** ORTEP drawing of the  $[\text{P}(\text{OH})(\text{NH}^t\text{Bu})_3]_4[\text{Cu}_2\text{Cl}_6]$  structure showing the labeling scheme of the atoms.

$[\text{BuNH}_3]\text{Cl}$  instead of  $\text{OP}[\text{N}(\text{H})^t\text{Bu}]_3$ . Red needle-like crystals were isolated (0.129g, 0.530mmol, 53%). Anal. Calcd for  $\text{C}_4\text{H}_{12}\text{Cl}_3\text{CuN}$ : C, 19.69; H, 4.96; N, 5.74. Found: C, 19.52; H, 4.83; N, 5.59. IR ( $\text{cm}^{-1}$ ): 3102 [ $\nu(\text{N-H})$ ].

**Synthesis of 3** Pale yellow crystals of **3** were isolated from the mother liquor in the synthesis of **1**. IR ( $\text{cm}^{-1}$ ): 3504 [ $\nu(\text{O-H})$ ], 3381 [ $\nu(\text{N-H})$ ].