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**ABSTRACT BOOK**

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## Synthesis, characterization and crystal structure of *cis*-Bis[*N*-(dipropylcarbamothioyl)cyclohexane carboxamido- $\kappa^2$ O,S]copper(II)

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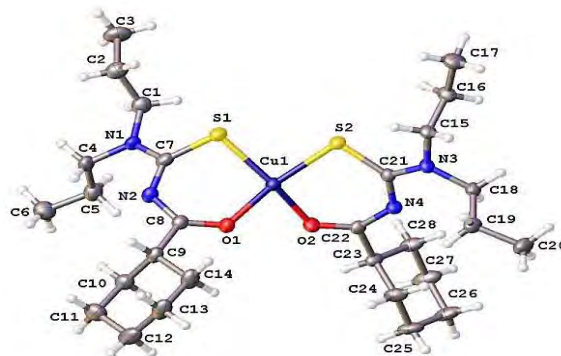
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*cis*-Bis[*N*-(dipropylcarbamothioyl)cyclohexanecarboxamido- $\kappa^2$ O,S] copper(II) has been synthesized and characterized by elemental analyses, FT-IR and NMR methods [1]. The obtained metal complex was also characterized by a single crystal X-ray diffraction study. Molecule formula of the title compound, C<sub>28</sub>H<sub>50</sub>CuN<sub>4</sub>O<sub>2</sub>S<sub>2</sub>: monoclinic, space group P2<sub>1</sub>/n (no. 14),  $a = 10.025(2)$  Å,  $b = 21.724(4)$  Å,  $c = 14.848(3)$  Å,  $\beta = 100.60(3)^\circ$ ,  $V = 3178.5(11)$  Å<sup>3</sup>,  $Z = 4$ ,  $\mu(\text{Mo K}\alpha) = 0.848$  mm<sup>-1</sup>,  $D_{\text{calc}} = 1.259$  g/mm<sup>3</sup>, 22069 reflections measured ( $5.88 \leq 2\theta \leq 50.2$ ), 5639 unique ( $R_{\text{int}} = 0.0630$ ) which were used in all calculations. The final  $R_1$  was 0.0488 ( $>2\sigma(I)$ ) and  $wR_2$  was 0.1277 (all data). Title compound shows the Cu ion is four-coordinated by two O and two S atoms (S(1)-Cu-O(2) 155.91(8)°, O(1)-Cu-S(2) 157.47(8)°). The dihedral angle between the S(1)Cu(1)O(1) and S(2)Cu(1)O(2) planes of 31.7(1)° indicates strong distortion from square planar towards tetrahedral geometry.



**Figure 1.** Molecular structure of title compound.

**Keywords:** Copper complex, Thiourea, Cyclohexanecarboxamide, X-ray single crystal diffraction, Synthesis.

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[1] C.K. Özer, *Synthesis and characterization of the transition group metal complexes of the various thiourea derivatives*, MSc. Thesis, Mersin University, Mersin, Turkey, **2008**.