

Poster Presentation

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Tetrakis(μ -2-phenylacetato- κ 2O:O') bis{(DMSO κ O')}copper(II)}(Cu-Cu)]

M. Benslimane¹, Y. Kheira Redjel¹, G. Denes^{1,2}, H. Merazig¹

¹Universite de Constantine 1, Departement de Chimie, Constantine, Algeria, ²Concordia University, Department of Chemistry and Biochemistry, Montreal, Canada

Carboxylate groups may interact as bridging ligands with divalent transition metals present in biological environments, thereby altering the bioavailability of drugs. Moreover, it is well known that many complexes of divalent transition metals are capable of catalyzing the hydrolysis of RNA (Stem et al., 1990; Kimura, 1994). The coordination chemistry of Cu²⁺ complexes bridged by phenylacetate has been reported. We have found only two reports of a dinuclear Co²⁺ complexes, namely tetrakis(phenylacetato)bis[(quinoline-N)-cobalt(II)](Cui et al., 1999), μ -aqua- κ 2O:O-di- μ -phenylacetato- κ 4O:O'-bis[[1,10-phenanthroline- κ 2N,N') (phenyl acetato- κ O)cobalt(II)](Kong et al., 2005) and dinuclear Cu²⁺ complex, namely tetrakis(phenylacetato)bis-[(N,N-dimethylformamide)copper(II)], in which all phenylacetate groups are in bidentate bridging modes. In this presentation, the crystal structure of a new dimeric complex obtained by reaction of phenylacetic acid with copper(II) acetate is described. Each Cu(II) atom is six-coordinated by five O atoms from carboxylate groups of the phenylacetate and DMSO ligands and is completed by a Cu-Cu bond in a strongly distorted octahedral coordination, in which an inversion center is located at the mid-point of the Cu-Cu bond with a Cu...Cu distance of 2.6321(4) Å. This is longer than the 2.251(2)Å distance found in the polymeric complex [Cu₂(C₈H₇O₂)₄]_n. However, it is similar to the 2.6414(8) Å and 2.6261(8)Å distances found in the complex [Cu₂(C₈H₇O₂)₄(C₃H₇NO)₂] (Kong et al., 2005). The Cu-O phenylacetate bond length lies in the range 1.9644(14) to 1.9734 (14) Å and the Cu-ODMSO bond length is 2.1319(13) Å.

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