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Synthesis and Structures of Disulfanilamide Glyoxime and Ni(II) and Cu(II) Complexes with This Ligand Stimulating the Proteolytic Properties of [Cu(DsamH₂)₃]SO₄·5H₂O

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Abstract

The reaction of dichloroglyoxime with sulfanilamide affords new glyoxime: disulfanilamide glyoxime (DsamH₂, L). Two coordination compounds are synthesized from DsamH₂: [Ni(DsamH)₂] \cdot 2H₂O (I) and [Cu(DsamH₂)₃]SO₄ \cdot 5H₂O (II). Their compositions and structures are determined by elemental analysis and IR, UV, and NMR spectroscopy. Compounds L and II are studied by XRD (CIF files CCDC nos. 2080777 and 2080778, respectively). Both bis(ligand) and tris(ligand) complexes with L are synthesized depending on the synthesis conditions. The different degrees of deprotonation of the DsamH₂ ligand in complexes I and II cause the formation of both molecular and ionic complexes. Complex II taken in optimum concentrations exerts a stimulating effect on the protease synthesis of the biotechnologically significant micromycete strains *Fusarium gibbosum* CNMN FD 12 and *Trichoderma koningii* Oudemans CNMN FD 15.