PS-04.01.21 A STRUCTURAL INVESTIGATION ON THE 
α-KETOGLUTARIC ACID THIOSEMICARBAZONE IN 
METAL COMPLEXES By M. Belcchi Ferrari, G. Gasparini Fava, 
C. Pelizzi, P. Tarasconi and G. Polato, Istituto di Chimica Generale ed Inorganica, Centro di Studi per la Sintetistica Diffaratometrica del CNR, Viale delle Scienze, 43014 Parma, Italy

Thiosemicarbazones present biological and chemical properties which cover a broad spectrum of potential new chemotherapeutic properties (antibacterial, antiviral, cytotoxic, antimalarial, antituberculous) [1]. The present work aims at the understanding of the correlation between the structural features and the biological properties of this class of compounds under different experimental conditions. Some pyruvic acid and pyridylthiosemicarbazone complexes have already been synthesized and characterized. Some of them containing copper or cobalt, tested in vitro, have shown an inhibitory effect on E.C. (Friend erythroleukemia cell) cytoxid differentiation and a suppressive effect on their proliferation [2]. X-ray diffraction analysis of 2',5'-diformyl-5'-thiosemicarbazone (TM) complexes with copper(II) and nickel(II) has been performed [3]. The present work is focused on the synthesis and characterization of new complexes of the thiosemicarbazone, a ligand which presents many potential donor atoms and a variety of potential conformations, in complexes with different co-coordinating ions such as zinc, copper and nickel. All of the cited compounds have been synthesized and characterized spectroscopically and their crystal structures have been determined by X-ray analysis.

PS-04.01.22 CRYSTAL STRUCTURE OF A QUINOLONE DERIVATIVE WITH ANTIMALARIAL ACTIVITY. By Mario V. Copparelli (Fac. Ciencias, Univ. Central de Venezuela, Caracas 1050, Venezuela) and Duilio Cavano (Molec. Biology Inst., UCLA, Los Angeles, CA 90024, USA)

According to the World Health Organization malaria is still the chief cause of human death, aside from natural causes. The antimalarial drugs currently in use, mainly artemisinin derivatives, pyrimidines, sulfonamides and sulphonides, are being rendered increasingly ineffective by the appearance of resistant strains of Plasmodium. A number of new N-methylated quinolones were synthesized as a part of a program to develop more active and less toxic new antimalarial drugs. These compounds were tested in vitro for antimalarial activity and seven of them were found to be active against 100% and 75% of the strain of Plasmodium falciparum. The crystal structure of one of the active compounds, viz. 2,4-diamino-10-(methyl)-9-methoxyquinoline(45)-quinolone (activity 98%), was determined. The tricyclic molecule is essentially planar, with both methyl groups out of the plane. Bond lengths and angles are within normal values; the C=O distance, 1.263(2) Å, indicates a weakened double bond. The molecules are stacked along [101], with N-H...O and N-H...N bonds connecting molecules in adjacent piles.

PS-04.01.24 BETICOLINS, A NEW CLASS OF TOXINS PRODUCED BY CERCOSPORA BETICOLA, A PARASITIC STRAIN OF SUGAR BEETS. By A. Neumann1, T. Prange2, M. M. Miller3, J. Eithorn4, J. P. Blein5, 1Chimie Biotolologique (URA 1430 CNRS) UFR Biotechnologie, 93620 BOIGNY CEDEX, France; 2Laboratoire de Phytopharmacie, I.N.R.A., F-78026 VERSAILLES CEDEX, France; 3Laboratoire de Phytopharmacie, I.N.R.A., Bv 1540, 21034-DION CEDEX, France

Cercospora beticola is a parasitic fungus responsible for leaf spot disease on sugar beets. The pathogen produces, in addition to the red cercosporin, several yellow toxic metabolites with a new