بسم الله الرحمن الرحيم

شبكة المعلومـــــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قـــسـم ﴾

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون آية تغيرات

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في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

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15 – 25c and relative humidity 20-40 %

بعض الوثائق الأصلية تالفة

بالرسالة صفحات

لم ترد بالأصـــل

PHYSICO-ANALYTICAL STUDIES ON SOME THIOSEMICARBAZONE COMPLEXES

Thesis
Submitted in Partial fulfillment of the Requirements of the
Master of Science

in
Inorganic and Analytical Chemistry
By

Abd El-Monsef Ibrahim Abd El-Monsef Abd El-Kareem
B.Sc.(Chemistry) 1991

Supervised by

Prof. Dr. R.M. El-Bahnasawy
Professor of Inorganic Chemistry
Faculty of Science
El-Menoufia University

Prof. Dr. M.M. Wassel
Professor of Physical Chemistry
Faculty of Science
Al-Azhar University

Dr. A.S. El-Tabl
Lecturer of Inorganic Chemistry
Faculty of Science - El- Menoufia University

Chemistry Department
Faculty of Science
El-Menoufia University
(1995)

إهـــــــداء

إلى النور الذي أضاء لي طريقي في الحياة والصوت الذي
رسم معي أحلامي وطموحي

إلى أبـي الغالي

وإلى نبع الحب والحنان المتدفق إلى أمـي الحبيبة

إبنـكم البـار

NOTE

Besides the present work, the candidate *Abd El-Monsef Ibrahim Abd El-Monsef Abd El-Kareem* had attended post graduate courses for one year in Inorganic Chemistry, in covering the following topics:

- Advanced analytical chemistry.
- Advanced inorganic chemistry.
- Solid state chemistry.
- Electro-chemistry.
- Group theory.
- Catalytic chemistry.
- Spectroscopy.
- Nuclear chemistry.
- Coordination chemistry.
- Quantum chemistry.
- Statistics.
- Computer science.
- English language.

Head of Chemistry Department.

Prof. Dr. I.F. Zeid.

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Abd El Monsef

AIM OF THE WORK

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Thiosemicarbazones have been studied intensively due to their wide range of potential biological uses. Their metal complexes, especially those containing copper(II) are more active than the uncoordinated thiosemicarbazone molecules.

Also, platinum group metal complexes with thiosemicarbazones show pharmacological activity.

Thiosemicarbazones are class of compounds obtained by condensing thiosemicarbazide with suitable aldehyde or ketone.

The biological activity of thiosemicarbazones is thought to be due to their power of chelation with traces of metal ions present in biological system.

The present work is an attempt to study the ligands (thiosemicarbazones of salicylaldehyde, 2-hydroxy-1-naphthaldehyde and dehydroacetic acid).

The work concerns with:

1- Synthesis of the ligands and studying their structures.

2- Investigation of the coordination chemistry of these ligands with Cu(II), Pd(II) and Ru(III).

3- Studying the dc-electrical conductivity of the solid samples as a function of temperature and calculating their activation energies.

4- Studying the effect of the ligands and their complexes on gram-positive *(Bacillus Subtillus)*, gram-negative *(Eschirchia Coli)* and fungi *(Candida Libolitica)*.

CONTENTS

SUMMARY

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This thesis is divided into three main chapters

I- Introduction

A literature survey is given on thiosemicarbazones which play an important role as chelating agents for a variety of metal ions.

The survey concerned with the preparation and characterization of thiosemicarbazones and a number of their transition metal complexes which are known for their antibacterial, antitumour and antitubercular activities.

II- Experimental

In this chapter, the methods of preparation of the ligands and their Cu, Pd and Ru complexes are discussed. Also, the techniques for the spectral, thermal analytical methods, magnetic moment and dc electrical conductivity measurements are discribed.

III- Results and discussion

This chapter contains three parts

Part 1 about salicylaldehyde thiosemicarbazone complexes.

Part 2 about 2-hydroxy-1-naphthaldehyde thiosemicarbazone complexes.