سامية محمد مصطفى

شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

سامية محمد مصطفى

شبكة المعلومات الجامعية

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

سامية محمد مصطفى

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

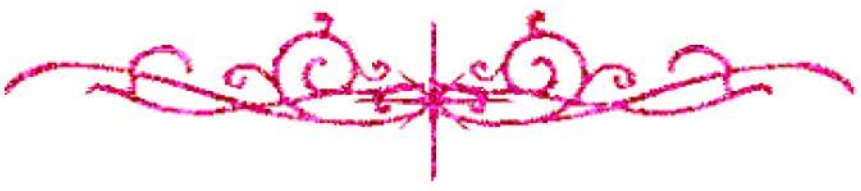
يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

سامية محمد مصطفى

شبكة المعلومات الجامعية

بعض الوثائق الأصلية تالفة



سامية محمد مصطفى

شبكة المعلومات الجامعية

بالرسالة صفحات لم ترد بالأصل

Electrochemical Studies of Some Schiff-Base Complexes Prepared By Sacrificied Anodes

A Thesis
Submitted In Partial Fulfilment For The Requirements of
The Master Of Science
In
Physical Chemistry

By
Mohamed Ahmed Hamed Asker
B.Sc. (Chemistry) 1992

Supervised by

Dr. Magdi Abdel Azzem
Professor of Physical Chemistry

Dr.Mohamed I. Ayad
Assistant Professor of Inorganic Chemistry

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Lecturer of Physical Chemistry

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Lecturer of Physical Chemistry

DEDICATION

I dedicate my thesis

to

My lovely family

Contents

Acknowledgment

I am deeply thankful to God, by the grace whom of progress and success of this work was possible.

I wish to express my sincere gratitude and deep thanks to Dr. Magdi Abdel Azzem Professor of Physical Chemistry and Vice Deen, Menoufia University who suggested and planned the electrochemical part of the thesis. Also, I acknowledge his honest supervision and valuable advice given during the achievement of this study.

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My deepest gratitude to all colleagues and staff members of chemistry department for facilities they provided during this work.

Mohamed A. Asker

Note

Besides the present work , the candidate Mohamed Ahmed Hamed Asker had attended post graduate courses for one year in physical chemistry , covering the following topics :-

- Solid state Chemistry
- Chemical Spectroscopy
- Electrochemistry
- Advanced Analytical Chemistry
- Quantum Chemistry
- Thermodynamic Chemistry
- Surface Chemistry
- Advanced Physical Chemistry
- Physical Organic Chemistry
- Chemical Kinetics.
- Topics in Physical Chemistry.
- Statistics
- Computer Science
- English Language

Head of Chemistry Department

Prof. Dr. Farag A. Ali

AIM OF THE WORK

AIM OF WORK

The aim of the present study was divided into three parts:

I- Preparation of the organic ligands.

II- Preparation of Cu(II), Co(II) and Ni(II) complexes with hydrazone derivatives by sacrificial anode method.

The structures of the investigated complexes were elucidated by:-

1- Elemental analysis.

2- IR spectroscopy.

3- Electronic spectra.

4- Magnetism and esr studies.

5- Differential thermal analysis (DTA).

6- Thermogravimetric analysis (TGA).

III- Studying the cyclic voltammetric behaviour of some complexes.

SUMMARY

SUMMARY

The thesis mainly comprises three chapters :-

I- Introduction

In this chapter, a literature survey was made on the history of the Schiff-base complexes of hydrazone derivatives.

II –Experimental

In this chapter, the methods used for preparation of the ligands and their Cu(II), Co(II) and Ni(II) complexes were described . The techniques and equipments used for analytical, spectral, magnetic and electrochemical measurements were also reported.

III - Results and discussion

This chapter is subdivided into two main parts

First part

This part includes the characterization of Cu(II), Co(II) and Ni(II) complexes of ligands 1-5.

The analytical, spectral and magnetic data show that L_1 reacts with copper sheet in acetone and acetonitrile to give the corresponding metal complexes with composition 1:2 (metal: ligand) while in the presence