Ain Shams University
Faculty of Science
Chemistry Department

Novel study of some drugs and their complexes with certain transition metals “synthesis, characterization and biological activity”

Thesis submitted for the degree of PhD
In
Inorganic chemistry

Presented by

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Hoda Ahmed Mohamed El-Sawy

For the Degree of PhD of science in

(Inorganic Chemistry)

To

Department of Chemistry

Faculty of Science

Ain Shams University

2017

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A Thesis Title

Novel study of some drugs and their complexes with certain transition metals "synthesis, characterization and biological activity"

Researcher Name: **Hoda Ahmed Mohamed Elsawy**

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Faculty of Science
Chemistry Department

Approval Sheet

Title of Ph.D Thesis

Novel study of some drugs and their complexes with certain transition metals "synthesis, characterization and biological activity"

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Submitted for Ph.D Degree of Science in Chemistry (Inorganic Chemistry)

To Chemistry Department, Faculty of Science, Ain Shams University.

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Page of Title

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B.Sc. in chemistry- Faculty of Science-Cairo university-2007

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Dedication

To my first tutor ever, to my Mom, my inspiration and my continuous support

To my biggest support system ever, my Dad

To my husband and my beloved sons who are always supports me

To my Sister who is always a guide and a support

To my colleagues who witnessed the journey, and without whom I would not have been able to finish the work.

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Hoda Ahmed Elsawy

Abstract

Candidate Name: Hoda Ahmed Mohamed Elsawy

Title of Thesis: Novel study of some drugs and their complexes with certain transition metals “synthesis, characterization and biological activity”

Degree: (Ph.D): The Ph.D of Science in Inorganic Chemistry, Faculty of Science, Ain Shams University, 2017.

Two novel Schiff bases of (trans-4-[(2-(2-hydroxybenzimino)-3,5-dibromobenzyl)amino]cyclohexanol) (H_2L^1) and (trans-4-[(2-(2-quinolinoimino)-3,5-dibromobenzyl)amino]cyclohexanol) (HL^2) with their complexes with Cr(III), Mn(II), Fe(III), Co(II), Ni(II), Cu(II), Zn(II), Cd(II) La(III), Er(III) and Yb(III) were sensitizes and characterized by using many analytical techniques including elemental analyses, mass spectroscopy, IR, ^{1}H NMR, magnetic moment, molar conductance and thermal analyses. The prepared complexes were found to have octahedral geometry. The biological activity (antimicrobial and anticancer activities) of the ligands and their complexes were also screened.

Key Words: Schiff base complexes, Elemental analysis, IR, ^{1}H NMR, Thermal analyses, mass spectroscopy, and Biological activity.

Table of Contents

List of Tables

List of Figures