



**Structures, Spectral, Thermal and Radiochemical Studies
of Some Transition Metal Complexes of Biologically
Active Nucleic Acid Constituents**

A Thesis Submitted By
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M.Sc. Chemistry- Faculty of Science- Alexandria University (2008)

To
Chemistry Department
Faculty of Science
Ain Shams University

For Doctor Degree in
The Philosophy of Science
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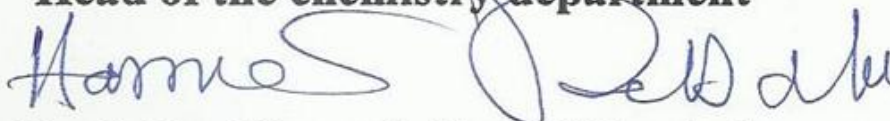
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LIST OF ABBREVIATIONS

ATU	: 6-Amino-2- Thiouracil.
AUH	: Aminouracil.
Bzpyhy	: Benzoic Pyridine-hydrazone.
C	: Cytosine.
CPCU	: Chemistry Process Control Unit.
CT	: <i>Charge-Transfer</i> .
DDP	: Dichlorodiammineplatinum.
DHU	: Dehydrouracil dehydrogenase.
DMA	: Dynamic Mechanical Analysis.
DMF	: <i>Dimethyl Formamide</i> .
DMSO	: Dimethyl Sulfoxide.
DNA	: Deoxyribonucleic Acids.
DSC	: Differential Scanning Calorimetry.
DsDNA	: double-stranded Deoxyribonucleic Acids.
DTA	: Differential Thermal Analysis.
DTG	: Derivative Thermogravimetry.
EC	: Electron Capture.
Et	: Ethyl.
EtOH	: Ethyl alcohol.
FDG	: ¹⁸ Fluorine-2-Fluoro-2-Deoxy-glucose.
G	: Guanine.
GC	: Gas Chromatography.
H ₂ L ₁	: D-glucose.
H ₂ L ₂	: Thiobarbituric acid.
H ₂ L ₄	: 5,5' Diethyl barbituric acid .

HEU	: Highly Enriched Uranium targetes.
His	: Amino Acid Histidine.
HLPC	: High-Performance Liquid Chromatography.
HNMR	: Proton- Nuclear Magnetic Resonance Spectroscopy.
IC	: Ion chromatography.
ICP-MS	: Inductively Coupled Plasma Mass Spectrometry.
ICTA	: The International Confederation of Thermal Analysis.
Im	: Imidazole.
IR	: Infra Red Spectroscopy.
K ₂₂₂	: Kryptofix.
LEU	: Low Enriched Uranium targetes.
MCA	: Multi Channel Analyzer.
MCC	: Multiple Correlation Coefficient.
MeCN	: <i>Acetonitrile</i> .
MeOH	: Methyl Alcohol.
NMR	: Nuclear Magnetic Resonance Spectroscopy.
OPRTase	: Orotate Phosphoribosyltransferase.
PET	: Positron Emission Tomography.
Pyhy	: Pyridine-hydrazone.
QMA	: Quaternary Ammonium Anion Exchange.
R _f	: Retardation Factor.
RNA	: Ribonucleic Acids.
SCE	: Saturated Calomel Electrode.
SPSS	: A Program of Statistical Package of Social Sciences.
SsDNA	: Single-stranded Deoxyribonucleic Acids.
T	: Thymine.
Tc	: Crystallization temperature.

Tg	: Glass transition temperature.
TG	: Thermogravimetry.
TLC	: Thin Layer Chromatography.
Tm	: Transition melting midpoint temperature.
TMA	: Thermomechanical Analysis.
TU	: Thiouracil.
UV	: Ultra Violet Spectroscopy.

LIST OF PUBLICATION

1. Masoud M. S., El-Shahat M. F. and **El-Kholany A. S.**, Physicochemical studies of the reaction of ^{99m}Tc with 5, 5'-diethyl barbituric acid, adenine, d-glucose and thiobarbituric acid at different temperatures, J. Spectrochimica Acta Part A, : 127 , 216–224(2014).
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