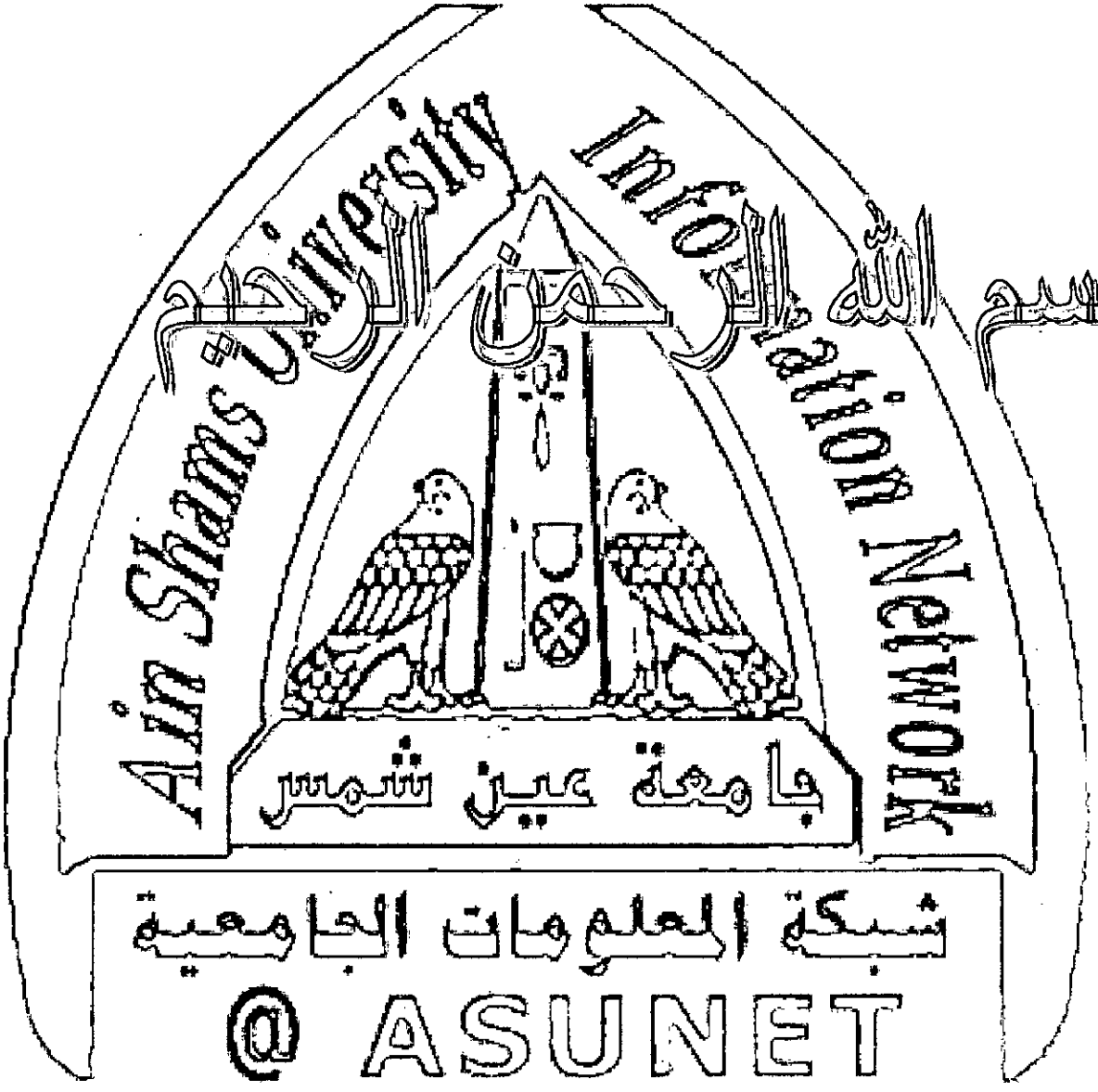
شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم



شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

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

يجب أن

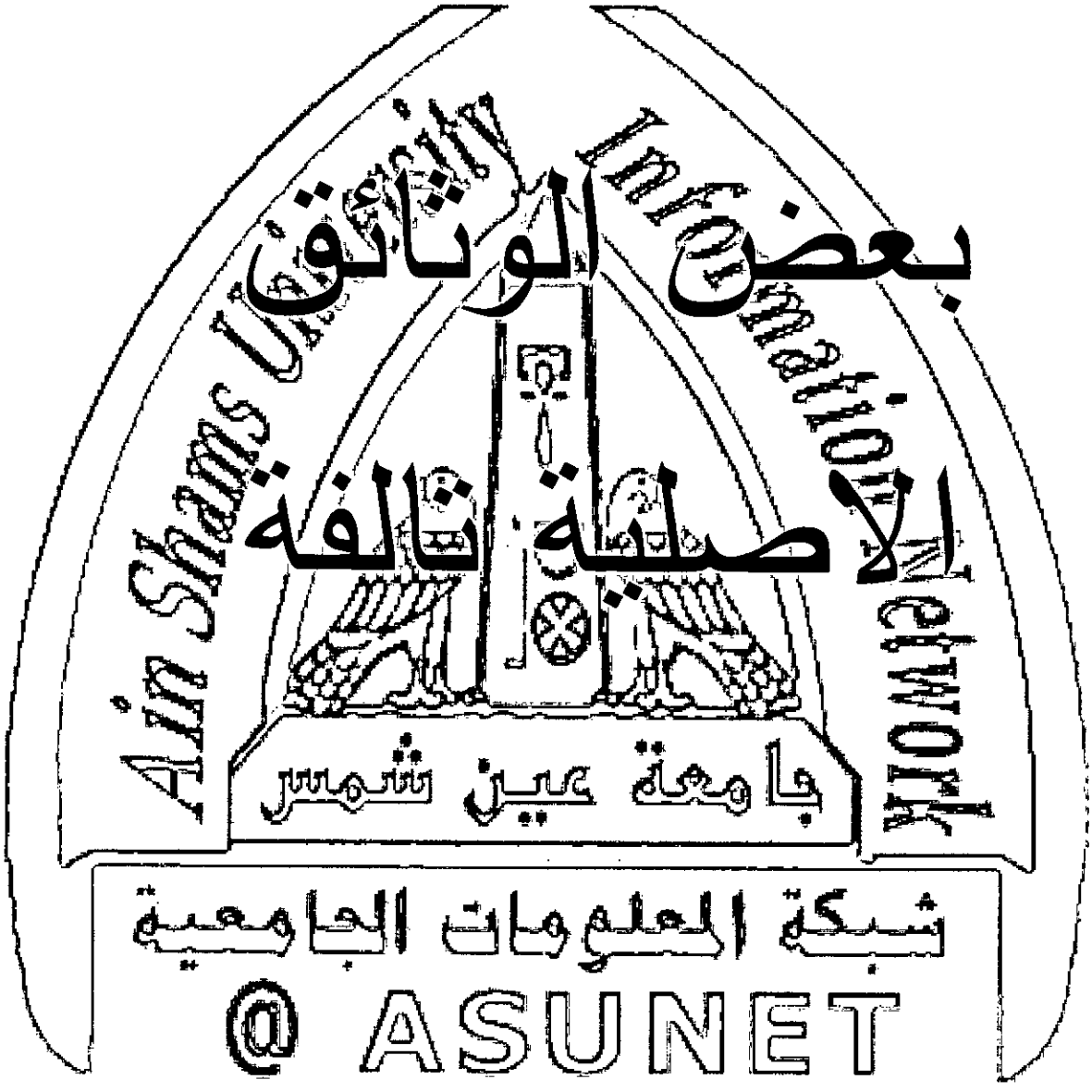
تحفظ هذه الأفلام بعيدا عن الغبار

في درجة حرارة من ١٥-٢٥ مئوية ورطوبة نسبية من ٢٠-٤٠%

To be Kept away from Dust in Dry Cool place of 15-25- c and relative humidity 20-40%

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم



بعض الوثائق الأصلية تالفة

"Preparation of New ESR Dosimetry Systems"

547

A Thesis Submitted to
Faculty of Science
Cairo University

In Partial fulfillment of the requirements of the
Ph. D. Degree of Science
(Organic Chemistry)

By
Hanaa Mahmoud Hassan Salem
B.Sc. Chemistry – Physics, 1999
M.Sc. Organic Chemistry, 2004

2009

بسم الله الرحمن الرحيم

" سبحانك لا علم لنا إلا ما علمتنا
إنك أنت العليم الحكيم "

صدق الله العظيم

(سورة البقرة – الأية 32)

Acknolegment

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To My Dear
Husband
And
Mother

APPROVAL SHEET FOR SUBMISSION

TITLE OF (Ph.D) Thesis:

"Preparation of New ESR Dosimetry Systems"

Name of the candidate:

Hanaa Mahmoud Hassan Salem Korayem

This thesis has been approved for submission by the supervisors:

1. Prof. Dr. Rifaat Hassan Hilal

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Chairman of Chemistry Department

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ABSTRACT

ABSTRACT

ABSTRACT

Name: Hanaa Mahmoud Hassan Salem Korayem
Title of thesis: "Preparation of New ESR Dosimetry Systems"
Degree: (Ph.D) thesis, Faculty of Science, Cairo University, 2009.

The aim of this work is to study the radiation-induced paramagnetic properties in arginine monohydrochloride and to investigate the possibility of binding this arginine monohydrochloride powder in rods shape for use as a radiation dosimetry system for gamma radiation processing. The study is extended to investigate its dosimetric characteristics such as dose response function, effect of environmental conditions during irradiation, post-irradiation stability at different storage conditions, as well as assessment of overall uncertainty of absorbed dose measurement by using ESR spectrometer.

Key Words: (1) Arginine Monohydrochloride, (2) ESR, (3) Dosimeters, (4) Dosimetry, (5) Uncertainty, (6) Gamma Radiation, (7) Stability

Supervisors: 1. R. A. Hilal 2. 3. 4.

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