Ain Shams University
Faculty of Education
Department of Chemistry

# Synthetic Approaches and Biological Evaluation of Some Novel 3,4-Disubstituted Quinolin-2(1*H*)-one Derivatives

A Thesis Submitted
By

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**B.Sc., Ed. 2008; MSc. 2013**

**In partial Fulfillment for**
Requirements of Doctor of philosophy Degree for Teacher's Preparation in Science
(Organic Chemistry)

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*Approval Sheet*

# Synthetic Approaches and Biological Evaluation of Some Novel 3,4-Disubstituted Quinolin-2(1H)-one Derivatives

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The thesis was approved Approval date / / 2016

Approved by Council of Faculty Approved by Council of University

Date / / 2016 Date / / 2016

**Ain Shams University**
**Faculty of Education**
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# Title Sheet

**Title of thesis: Synthetic Approaches and Biological Evaluation of Some Novel 3,4-Disubstituted Quinolin-2(1*H*)-one Derivatives**

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**Degree**: Requirements of Doctor of philosophy Degree for Teacher's Preparation in Science

**Department**: Chemistry

**Highest University Degree**: M.Sc. 2013(Organic Chemistry)

**Colleague**: Education

**University**: Ain Shams


رب أوزعني أن أشكر نعمتك
التي أنعمت علي وعلى والدي
وأن أعمل صالحا ترضاه
وأدخلني برحمتك في عبادك الصالحين
النمل/19


First of all, deep and
Grateful thanks come from
all my heart to Allah
For offering me
Great parents
Great professor
Dr.Mohamed
Pretty sister
Smart brother & his wife
lovely Hassan and omar

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## Theoretical Studies

**The Student had successfully studied the following Programs and courses:**

**1. General Diploma for Teacher's Preparation in Science (Chemistry):**

i. Organic Chemistry 1: Natural Products and Polymer Chemistry
ii. Organic Chemistry 2: Reaction Mechanism and Stereochemistry
iii. Physical Chemistry 1: Catalysis Chemistry and Electrochemistry
iv. Physical Chemistry 2: Quantum Chemistry
v. Inorganic Chemistry 1: Polarography
vi. Inorganic Chemistry 2: Organometallic Compounds
vii. Inorganic Chemistry 3: Chemistry of Solutions
viii. Inorganic Chemistry 4: Metal Chelates
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x. Educational Course II
xi. English Language

**2. Special Diploma for Teacher's Preparation in Science (Organic Chemistry):**

i. Organic Chemistry 1: Spectroscopy I: IR, UV and Mass Spectrometry
ii. Organic Chemistry 2: Spectroscopy II: NMR Spectrometry
iii. Organic Chemistry 3: Chemistry of Heterocyclic Compounds
iv. Organic Chemistry 4: Selected Topics: Aromaticity, Tautomerism and, Delocalized Chemical bonding.
v. Organic Chemistry 5: Stereochemistry
vi. Organic Chemistry 6: Organic Reactions
vii. Organic Chemistry 7: Free Radicals Reactions
viii. Organic Chemistry 8: Sulfur and Phosphorus and Organic Analytical Chemistry
ix. Organic Chemistry 9: Review Article
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xii. English Language

**3. Master Degree for Teacher's Preparation in Science (Organic Chemistry):**