

### Synthesis and biological evaluations of some novel phosphorus compounds containing chromene ring

A thesis submitted

By

#### Noha Mohamed Ahmed Hassanin

B.Sc. & Ed. 2013

For in partial fulfillment for requirements of MSc Degree of Teacher's Preparation in Science (Organic Chemistry)

#### **Supervisors**

#### Prof. Dr. Hafez Mohamed El-Metwally El-Shaaer

Professor of Organic Chemistry, Department of Chemistry, Faculty of Education, Ain Shams University.

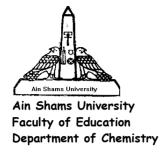
#### Prof. Dr. Tarik El-Sayed Ali Ismail

Professor of Organic Chemistry, Department of Chemistry, Faculty of Education, Ain Shams University.

#### Dr. Mohamed Mahmoud Hassan

Assistant Professor of Organic Chemistry, Department of Chemistry, Faculty of Education, Ain Shams University.

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Supervisors

#### Approval Sheet

## Synthesis and biological evaluations of some novel phosphorus compounds containing chromene ring

Signature

Supervisors	513.144.11			
Prof. Dr. Hafez Mohamed El-M	etwally El-Shaaer			
Department of Chemistry, Faculty of Education, Ain Shams University.				
Prof. Dr. Tarik El-Sayed Ali Isn	nail			
Department of Chemistry, Faculty of	Education, Ain Shams University.			
Prof. Assistant. Mohamed Mah	moud Hassan			
Department of Chemistry, Faculty of Education, Ain Shams University.				
	nistry Department hmoud Mashaly			
Higher studies:				
The thesis was approved	Approval date / / 2018			
Approved by Council of Faculty	Approved by Council of University			
Date / / 2018	Date / / 2018			

## بسم الله الرحمن الرحيم

((قَالُ هَلُ يَسْتَمِي الَّذِينَ يَعْلَمُونَ مَالَّذِينَ لَا يَعْلَمُونَ أَ إِنَّهَا يَتَذَكَّرُ أُولُو الْأَلْبَائِدِ)) أُولُو الْأَلْبَائِدِ))

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# Dedication

To my parent
To my husband
To my children
And
To my lovers

#### **ACKNOWLEDGEMENTS**

I am deeply thankful to almighty God for showing me the right path and help me to complete this work.

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## The candidate has successfully passed examinations in the following topics in the post graduate studies

I) Topics of General Diploma for Teacher's Preparation in Science (Chemistry):

#### **Organic Chemistry 1**

- (A) Natural Products
- (B) Polymer Chemistry

#### **Organic Chemistry 2**

- (A) Reaction Mechanism
- (B) Stereochemistry

#### **Physical Chemistry 1**

- (A) Catalysis Chemistry
- (B) Electrochemistry

#### **Physical Chemistry 2**

**Quantum Chemistry** 

#### **Inorganic Chemistry 1**

**Polarography** 

#### **Inorganic Chemistry 2**

Organometallic Compounds

#### **Inorganic Chemistry 3**

Solutions

#### **Inorganic Chemistry 4**

Metal Chelates

مقرر تربوی 1

مقرر تربوي 2

**English Language** 

## II) Topics of Special Diploma for Teacher's Preparation in Science (Organic Chemistry)

#### **Organic Chemistry 1**

Spectroscopy I: IR, UV and Mass Spectrometry

#### **Organic Chemistry 2**

Spectroscopy II: NMR Spectrometry

#### **Organic Chemistry 3**

Heterocyclic Chemistry

#### **Organic Chemistry 4**

Selected Topics: Aromaticity, Delocalized Chemical bonding, and Aromatic Nucleophilic Substitution

#### **Organic Chemistry 5**

Stereochemistry

#### **Organic Chemistry 6**

**Organic Reactions** 

#### **Organic Chemistry 7**

Free Radicals Reactions

#### **Organic Chemistry 8**

- (A) Sulfur and Phosphorous Compounds
- (B) Organic Analytical Chemistry

#### **Organic Chemistry 9**

Review Article

مقرر تربوی 1

مقرر تربوي 2

#### **English Language**

## III) Topics of Master for Teacher's Preparation in Science (Organic Chemistry)

#### **Organic Chemistry 1**

Physical-organic chemistry

#### Organic Chemistry 2

- (A) Microanalysis
- (B) Modern organic Synthesis

#### **Organic Chemistry 3**

Advanced Organic Spectroscopy

#### **Organic Chemistry 4**

Pericyclic reactions

مقرر تربوي 1

مقرر تربوي 2

كفاءة لغوية

**English Language** 

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"The synthetic methods of 1,3,2- diazaphosphinine systems"

#### 1. Introduction

#### 2. Synthetic approach

- 2.1. Cyclization of 1,3-diamine compounds via phosphorus halides and/or sulfides.
- 2.2. Cyclization of 1,2-aminoamide compounds via phosphorus halides and/or sulfides.
- 2.3. Cyclization of 1,2-aminonitrile compounds via phosphorus halides and/or sulfides.
- 2.4. Miscellaneous methods.

#### > The original work

29-58

- **Part I:** Reaction of 2-imino-2*H*-chromene-3-carboxamide with some phosphorus sulfides: Synthesis of some novel 2-sulfido-2,3-dihydro-4*H*-chromeno[2,3-*d*][1,3,2]diazaphosphinines.
- **Part II**: Reaction of 2-imino-2*H*-chromene-3-carboxamide with phosphorus halides and phosphorus isothiocyanates: First synthesis of novel chromenes-linked to 1,3,2-diazaphosphinines, 1,2-azaphosphole, pyrimidinyl phosphine and pyrimidotriazaphosphinine.
- **Part III**: Reaction of 2-imino-2*H*-chromene-3-carboxamide with some phosphorus esters: Synthesis of some novel chromenes containing phosphorus heterocycles and phosphonate groups.

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