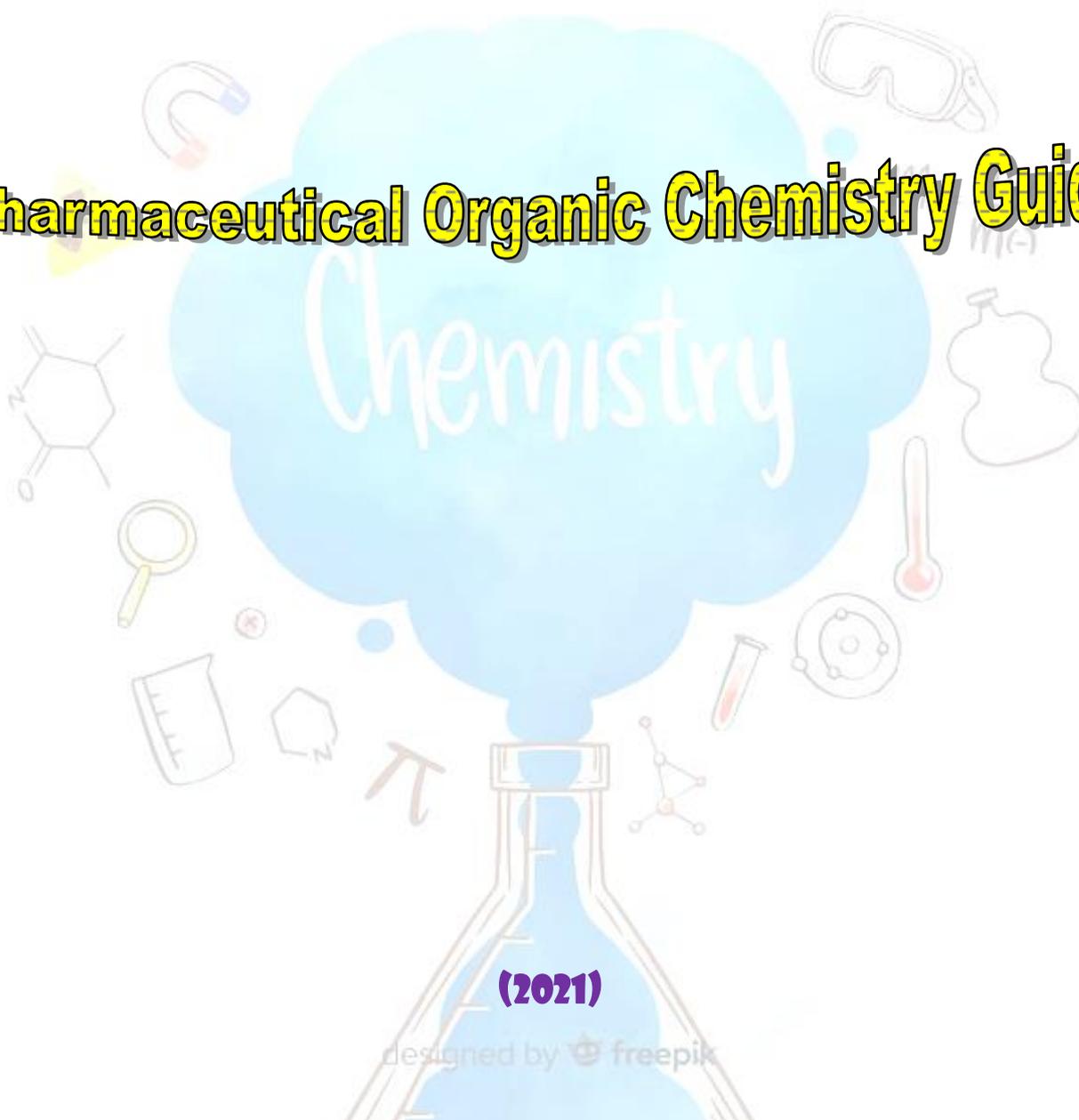




Mansoura University  
Faculty of Pharmacy  
Pharmaceutical Organic Chemistry department

# Pharmaceutical Organic Chemistry Guide



(2021)

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Mansoura University  
Faculty of Pharmacy

Pharmaceutical Organic Chemistry department

## College vision

Leadership and excellence in education, scientific research and community service locally and internationally in all pharmaceutical fields.

## College mission

The College of Pharmacy, Mansoura University, is committed to the continuous upgrading and development of its study programs, scientific research, and community service to graduate distinguished pharmacists to meet the needs of the labor market and the preparation of researchers at an internationally competitive level within the framework of academic standards and societal values.

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## Department Aims

The department is looking forward to contribute in providing the students with the tools and skills to understand and analyze different problems related to organic chemistry.

In addition, the department is aiming to achieve the Excellency in scientific research fields.

## Department Vission

The main mission of the department is summarized in supplying the students (under and graduate ones) with the basic information that qualify them to understand the chemistry concepts in the medicinal and pharmaceutical field.

The department is also devoted to perform state-of-art research in the field of drug design to find new potential drugs that can be used for therapeutic intervention.



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## Chairman of the Department of Pharmaceutical Organic Chemistry Speech

On behalf of the Department of Pharmaceutical Organic Chemistry, Faculty of Pharmacy, Mansoura University, I welcome you to the Department's website. In the light of the rapid development witnessed by the pharmacy profession in Egypt and hence constant increase in demand for qualified pharmacists to serve the medical care recipients efficiently, the Faculty of Pharmacy should therefore contribute positively to the preparation and graduation of qualified scientific pharmacists.

The Department of Pharmaceutical Organic Chemistry is one of the departments of the Faculty of Pharmacy which provides appropriate scientific and practical environment together with coherent syllabuses that work with other faculty departments in harmony to enable students to acquire pharmacy bachelor's degree, clinical pharmacy bachelor's degree or Pharm D degree. In addition to different undergraduate degrees, the department offers different postgraduate programs including; Chemistry Diploma as well as Master and PhD degrees in Pharmaceutical Sciences (Pharmaceutical Organic Chemistry).

These programs provide theoretical and applied advanced studies covering



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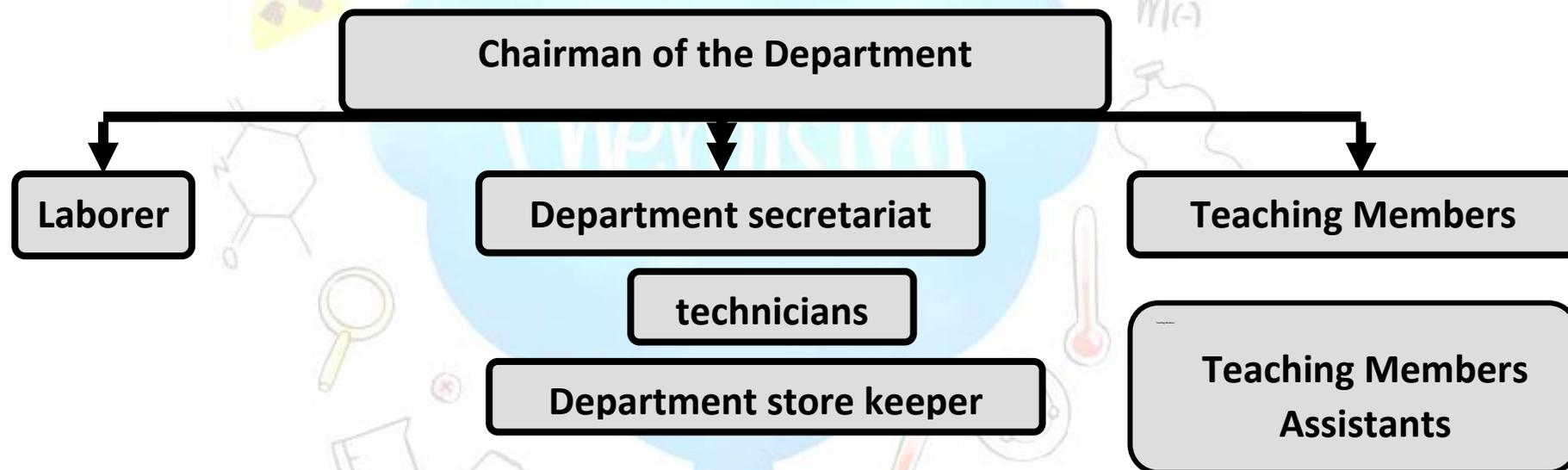
scientific updates to improve graduates' professional performance. The department is equipped with up-to-date laboratories with latest devices for analysis as well as most recent molecular modeling softwares that are used in developed world. The Department uses modern teaching methods to meet different educational purposes taking student to progressive levels of knowledge. The department is proud to include such distinguished group of professors in the various disciplines of pharmaceutical organic chemistry, who actively contribute to the teaching of bachelor's, master's and doctoral courses, and supervise the graduate students in the department.

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Mansoura University  
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## Organizational Chart





Mansoura University  
Faculty of Pharmacy  
Pharmaceutical Organic Chemistry department

## Infrastructure of the department

The Department of Pharmaceutical Organic Chemistry includes the first and second floors of Educational Building (C), which contains the following:

| Elements   | Used for   | Numbers |
|--|--|---------|
| Department board room on the first floor, upstairs | Meetings   | 1       |
| Faculty rooms                                      | Preparing for lectures and meeting students  | 10      |
| Faculty offices                                    | The use of faculty members   | 25      |
| Study laboratories                                 | Teaching the basics of organic chemistry to study the structural structures and typical reactions of important classes of organic compounds. Giving an overview of the different chemical and spectroscopic techniques in order to identify the identity of organic compounds and prove their structural structures. | 6       |
| research   | Design and   | 2       |



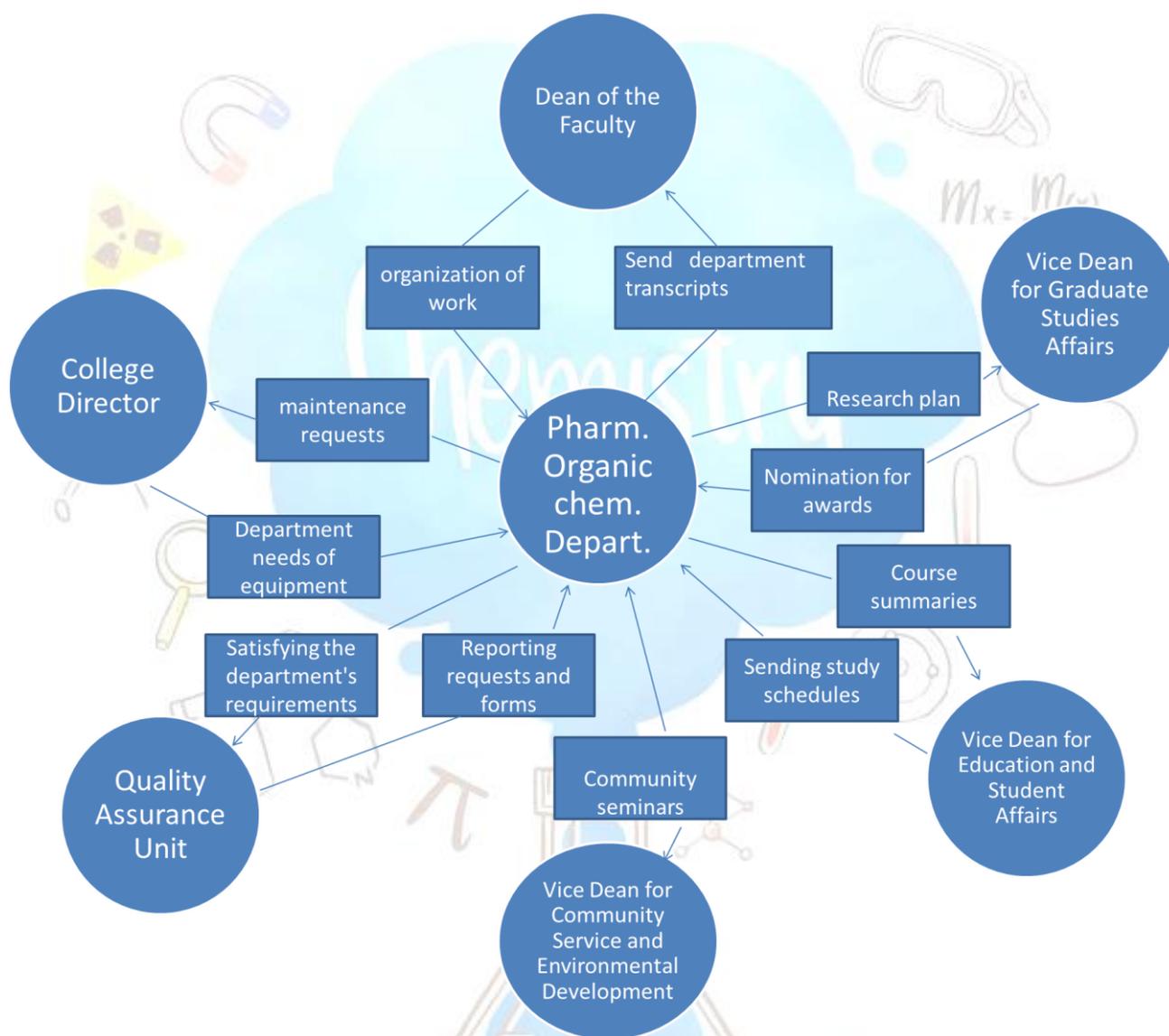
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|                               |  |   |
|-------------------------------|--|---|
| laboratories                  | construction of new compounds with different biological activity.            |   |
| Modeling laboratory           | Supports many courses for graduate students and scientific research          | 1 |
| preparation lab               | Preparing the reagents that the student needs to identify organic compounds. | 1 |
| Technicians and workers rooms | The use of technicians and workers   | 2 |



Exchange relations between the department and departments of the college



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Mansoura University  
Faculty of Pharmacy  
Pharmaceutical Organic Chemistry department

## Faculty Affairs

### Department Members

| Member  | Title/email/Tel.   | Picture   |
|---|--|---|
| Shahenda Elmesery<br>(Head of Department)                       | Professor<br><a href="mailto:selmessery@gmail.com">selmessery@gmail.com</a><br>Tel. 01001142636    |  |
| Magda Elsayed Abd El-Aziz                                       | Professor<br><a href="mailto:magdaaziz1@yahoo.com">magdaaziz1@yahoo.com</a><br>Tel. 0123184441     |  |
| Khalid B. Selim<br>(College Vice Dean for Postgraduate Studies) | Professor<br><a href="mailto:khbselim2000@yahoo.com">khbselim2000@yahoo.com</a><br>Tel. 0146001588 |  |



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|                     |  |   |
|---------------------|--|---|
| Atif S Tantawy      | Professor<br><a href="mailto:a_tantawy43@mans.edu.eg">a_tantawy43@mans.edu.eg</a><br>Tel. 0106240591   |    |
| Hassan M. Eisa      | Professor<br><a href="mailto:drhassaneisa@mans.edu.eg">drhassaneisa@mans.edu.eg</a><br>Tel. 0105787911 |    |
| Mohamed A M Massoud | Professor<br><a href="mailto:massoudmam@mans.edu.eg">massoudmam@mans.edu.eg</a><br>Tel. 0106696211     |  |
| Magdy Gineinah      | Professor<br><a href="mailto:maggineinah@yahoo.com">maggineinah@yahoo.com</a>                          |  |

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|                          |   |   |
|--------------------------|---|---|
| Magda N A Nasr           | <p>Professor</p> <p><a href="mailto:magdaahnasr@yahoo.com">magdaahnasr@yahoo.com</a></p> <p>Tel. 0105245696</p>       |    |
| Fatma Gouda              | <p>Professor</p> <p><a href="mailto:fatmagoda55@yahoo.com">fatmagoda55@yahoo.com</a></p> <p>Tel. 0105295737</p>       |   |
| Laila Mahmoud Gad        | <p>Professor</p>  |  |
| Abdelbasset<br>A.Farahat | <p>Professor</p> <p><a href="mailto:abdelbastahmed@yahoo.com">abdelbastahmed@yahoo.com</a></p> <p>Tel. 0197516928</p> |  |
| Laila A. Abou-Zeid       | <p>Assistant professor</p> <p><a href="mailto:labouzeid@yahoo.com">labouzeid@yahoo.com</a></p> <p>Tel. 0164154170</p> |  |



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|                   |  |   |
|-------------------|--|---|
| Walaa el houseiny | Assistant professor<br><a href="mailto:walaa@yahoo.com">www.walaa@yahoo.com</a><br>Tel. 0124740261             |    |
| Waleed A H Bayomi | Assistant professor<br><a href="mailto:waleedbayoumi@yahoo.com">waleedbayoumi@yahoo.com</a><br>Tel. 0124109860 |   |
| Amany Salah       | Assistant professor<br><a href="mailto:amansalah2002@yahoo.com">amansalah2002@yahoo.com</a><br>Tel. 0102849877 |  |
| Sahar M Badr      | Assistant professor<br><a href="mailto:saharmbadr@yahoo.com">saharmbadr@yahoo.com</a><br>Tel. 0105176576       |  |

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|                     |   |   |
|---------------------|---|---|
| Rania gomaa         | Lecturer<br><a href="mailto:rania_gom@yahoo.com">rania_gom@yahoo.com</a><br>Tel. 0123359024     |    |
| Mohamed Abdel-Wahab | Lecturer<br><a href="mailto:mwahhab95@gmail.com">mwahhab95@gmail.com</a><br>Tel. 0119696934     |   |
| Ahmed el kamhawy    | Lecturer<br><a href="mailto:a.elkamhawy@yahoo.com">a.elkamhawy@yahoo.com</a><br>Tel. 0125412137 |  |
| Morkos henen        | Lecturer<br><a href="mailto:morkos_henen@yahoo.com">morkos_henen@yahoo.com</a>                  |  |

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|               |  |   |
|---------------|--|---|
| Samar Samir   | Lecturer<br><a href="mailto:samarsamir84@yahoo.com">samarsamir84@yahoo.com</a><br>Tel. 0106277934      |    |
| Dina Othman   | Lecturer<br><a href="mailto:dondn_21@hotmail.com">dondn_21@hotmail.com</a><br>Tel. 0101897782          |   |
| Sherin Elfeky | Lecturer<br><a href="mailto:sherin_el_feky@yahoo.com">sherin_el_feky@yahoo.com</a><br>Tel. 01100045040 |  |
| Wafaa Ewes    | Lecturer<br><a href="mailto:Wafaa.ewes@yahoo.com">Wafaa.ewes@yahoo.com</a><br>01061246133              |  |

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|                   |   |   |
|-------------------|---|---|
| Abdelrahman Hamdi | Lecturer<br><a href="mailto:Abdelrahmanhamdi2012@yahoo.com">Abdelrahmanhamdi2012@yahoo.com</a><br>01006262885 |    |
| Sahar ahmed       | Assistant Lecturer<br>أجازة مرافقة زوج  |   |
| Lamia osama       | Assistant Lecturer<br><a href="mailto:lamia_osama2010@yahoo.com">lamia_osama2010@yahoo.com</a><br>01270242480 |  |
| Eman Nasr         | Assistant Lecturer<br><a href="mailto:emy.eladl25@yahoo.com">emy.eladl25@yahoo.com</a><br>01091300667         |  |
| Marwa ismail      | Assistant Lecturer<br><a href="mailto:dr_marwa_1992@yahoo.com">dr_marwa_1992@yahoo.com</a><br>01091401464     |   |
| Ola abdelaziz     | Assistant Lecturer<br><a href="mailto:olaabdelaziz123@gmail.com">olaabdelaziz123@gmail.com</a><br>01069841533 |  |



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|                 |   |   |
|-----------------|---|---|
|                 |   |   |
| Hamed El-Shafey | Assistant Lecturer<br><a href="mailto:drhamedelshafey55@gmail.com">drhamedelshafey55@gmail.com</a><br>01002561288 |    |
| Eman Mohamed    | Demonstrator<br><a href="mailto:emy.moh92@yahoo.com">emy.moh92@yahoo.com</a><br>01069842909                       |   |
| Samira nashaat  | Demonstrator<br><a href="mailto:samiranashaat2@gmail.com">samiranashaat2@gmail.com</a><br>01011509651             |   |
| Sara Sultan     | Demonstrator<br><a href="mailto:sara.sultan386@gmail.com">sara.sultan386@gmail.com</a><br>01119708861             |   |
| Dina saber      | <a href="mailto:Dinasaber216@gmail.com">Dinasaber216@gmail.com</a> Demonstrator<br>01128234228                    |  |



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|                |  |  |
|----------------|--|--|
| Alaa mohsen    | <b>Demonstrator</b><br><a href="mailto:AlaaMohsenAli95@gmail.com">AlaaMohsenAli95@gmail.com</a><br><a href="mailto:alaamohsen@mans.edu.eg">alaamohsen@mans.edu.eg</a><br>01007886396 |   |
| Fatma krakisha | <b>Demonstrator</b><br><a href="mailto:Fatma.krakisha@yahoo.com">Fatma.krakisha@yahoo.com</a><br>01097006883   |   |
| Badia Sami     | <b>Demonstrator</b><br><a href="mailto:Ayaa23101@gmail.com">Ayaa23101@gmail.com</a><br>01023780747   |  |

## Statistics of department members' staff

|       |             |            |  |  |
|-------|-------------|------------|--|--|
| Total | On vacation | On the job |  |  |
|-------|-------------|------------|--|--|



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|    |   |  |              |                     |
|----|---|--|--------------|---------------------|
| 6  | Atif S Tantawy  | Mohamed A M Massoud<br>Hassan M. Eisa<br>Fatma Gouda<br>Magda N A Nasr<br>Magdy Gineinah | متفرغ        | professors          |
| 1  | Magda Elsayed Abd El-Aziz   | ---  | عامل         |                     |
| 8  | Abdelbasset A.Farahat<br>Laila A. Abou-Zeid<br>Waleed A H Bayomi                        | Khalid B. Selim<br>Shahenda Elmesery<br>Walaa el houseiny<br>Amany Salah<br>Sahar M Badr | عامل         | Assistant proessors |
| 7  | Mohamed Abdel-Wahab<br>Rania gomaa<br>Ahmed el kamhawy<br>Morkos henen<br>Sherin Elfeky | Samar Samir<br>Dina Othman<br>Wafaa Ewes<br>Abdelrahman Hamdi                            |              | Lecturers           |
| 22 | 10  | 12   | Total number |                     |



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|    |             |  |                                   |                  |
|----|-------------|--|-----------------------------------|------------------|
| 7  | Sahar ahmed | Lamiaa osama<br>Eman Nasr<br>Marwa ismail<br>Ola abdelaziz<br>Hamed El-Shafey                              | Ass. Lecturer                     | Staff assistants |
| 7  | -----       | Eman Mohamed<br>Samira nashaat<br>Sara Sultan<br>Dina saber<br>Alaa mohsen<br>Fatma krakisha<br>Badia Sami | Demonstrators                     |                  |
| 14 | 2           | 12   | Total                             |                  |
| 36 | 12          | 24   | Total staff members of department |                  |

## Technicians and Administrators

| Name                              | Title                  |
|-----------------------------------|------------------------|
| Ahmed Ibrahim Ahmed Abdel Rahman  | Lab. Technician        |
| Iman Wahduh Abdul Majeed Al-Iraqi | Department secretariat |
| Sahar Ahmed Abdel Latif           | Lab. Technician        |
| Shaima Mohammed Al Shafei         | Lab. Technician        |



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Doaa Hady

Lab. Technician

## Laborers

| Name                             | م  |
|----------------------------------|----|
| Syed Salama Abdo Ramadan         | .1 |
| Wafaa Muhammad Al-Sayyid Al-Badi | .2 |
| Mohamed El Shahat                | .3 |
| Mohamed Saad Al-Mursi            | .4 |
| Doaa salah                       | .5 |
| Noha Jihad Aboul Fotouh          | .6 |

## The names of the heads of department

| Name                   | Tile      | Years of Heading the Department |
|------------------------|-----------|---------------------------------|
| Hassan M. Eisa         | Professor | 2002-2003                       |
| Magdy M Gineinah       | Professor | 2006-2010                       |
| Mohammed A. M. Massoud | Professor | 2004-2005                       |



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|                           |           |           |
|---------------------------|-----------|-----------|
| Ali Maher                 | Professor | 2005-2006 |
| Fatma Gouda               | Professor | 2010-2011 |
| Atif S. Tantawy           | Professor | 2011-2012 |
| Magda Elsayed Abd El-Aziz | Professor | 2013-2014 |
| Shahenda El-Messery       | Professor | 2014-2017 |

### Faculty members who held administrative positions in the college

| Name            | Title     | Administrative positions  |
|-----------------|-----------|---|
| Hassan M. Eisa  | Professor | <ul style="list-style-type: none"><li>Vice Dean for Community Service and Environmental Development</li></ul>   |
| Magda Nasr      | Professor | <ul style="list-style-type: none"><li>Vice Dean for Graduate Studies and Scientific Research</li><li>Dean of the College</li><li>Vice President for Postgraduate Studies and Research</li></ul> |
| Khalid B. Selim | Professor | <ul style="list-style-type: none"><li>Pharma D . Program Manager</li><li>Vice Dean for Graduate Studies and Scientific Research</li></ul>   |

## Department Annual Conference

The department's annual conference is held to present the department's achievements, discuss the latest scientific research and see the extent to which it can be applied on the ground and benefit from it. The scientific conference also aims at exchanging experiences between the faculty members in the department and enhancing ways of cooperation between them and other departments.



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**The department conference was held on the following dates:**

**9-9-2014**

**6-5-2018**

**24-3-2019**

**7-9-2021 and 11-9-2021 "4<sup>th</sup> Hybrid Scientific Conference"**

**The subjects taught and supervised by the department**

**A- Pharm D Pharmacy Program:**

- 1- Pharm. Organic Chemistry (1), code: PO111
- 2- Pharm. Organic Chemistry (2), code: PO122
- 3- Pharm. Organic Chemistry (3), code: PO213
- 4- Spectroscopy Elucidation, code PO314
- 5- Quantum Mechanics and Combinatorial Chemistry.
- 6- New Trends in Drug Synthesis

**B- Credit hour System:**

- 1- Pharm. Organic Chemistry (1), code: PO111
- 2- Pharm. Organic Chemistry (2), code: PO122
- 3- Pharm. Organic Chemistry (3), code: PO213
- 4- Heterocyclic Chemistry, code: PO224
- 5- Spectroscopy Elucidation, code PO315
- 6- Quantum Mechanics and Combinatorial Chemistry, code POE08
- 7- New Trends in Drug Synthesis, code POE09

**C- Clinical Pharmacy Program :**

- 1- Pharm. Organic Chemistry (1), code: PC102
- 2- Pharm. Organic Chemistry (2), code: PC203



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3- Pharm. Organic Chemistry (3), code: PC304

### **Scientific content of courses**

#### **Pharm. Organic Chemistry (1), code: PO111**

Course covers Atoms and bonding Electronic displacements factors Intermolecular forces Stability of carbon intermediate, acidity and basicity concepts Stereochemistry: Isomerism and Conformational Isomers Stereochemistry: Configurational Isomers Stereochemistry: Chirality in Systems lacking Stereogenic Centers Stereochemistry: Configurational Isomers in Cyclic Compounds Stereochemistry: Stereochemistry of Organic Reactions. Organic Reactions: Reactivity of Covalent Bonds and Nucleophilic Substitution at Saturated Carbon.

#### **Pharm. Organic Chemistry (2), code: PO122**

Course covers Alkenes Alkynes polyunsaturated hydrocarbons Aromaticity and its concepts Electrophilic aromatic substitution Arenes and polynuclear aromatic hydrocarbons Alcohols Phenols Thiols Ethers and epoxide.

#### **Pharm. Organic Chemistry (3), code: PO213**

Course covers ALIPHATIC AND AROMATIC Aldehydes & Ketones ALIPHATIC AND AROMATIC Carboxylic acids, HALO ACIDS, MONOBASIC HYDROXY ACIDS, UNSATURATED MONOCARBOXYLIC ACIDS & SATURATED DICARBOXYLIC ACIDS ALIPHATIC AND AROMATIC CARBOXYLIC ACID DERIVATIVES: ESTERS, THIOESTERS, AMIDES & lactams ALIPHATIC AND AROMATIC ACID HALIDES and ACID ANYDRIDES ALIPHATIC AND AROMATIC NITRO COMPOUNDS AND AMINES AMINO ACIDS AND PROTEIN CARBOHYDRATES.

#### **Spectroscopy Elucidation, code PO314**

Course covers Ultraviolet-visible spectroscopy Introduction Infrared spectroscopy Nuclear Magnetic Resonance spectroscopy -  $^1\text{H-NMR}$  Nuclear Magnetic Resonance spectroscopy -  $^{13}\text{C-NMR}$  Mass Spectroscopy and types of fragmentation. Deduction of chemical structure using spectroscopic data. Problems for structure determination.

#### **Heterocyclic Chemistry, code: PO224**

Course covers HETEROCYCLIC COMPOUNDS : Nomenclature and classification FIVE-MEMBERED HETEROCYCLES : Pyrrole, furan, thiophen and indole and its derivatives FUSED HETEROCYCLES OF PYRROLE AND ITS DERIVATIVES COMPOUNDS WITH TWO OR MORE HETEROATOMS SIX MEMBERED HETEROCYCLES QUINOLINES AND ISOQUINOLINES SIX-MEMBERED RINGS WITH ONE OXYGEN ATOM



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SIX-MEMBERED RINGS WITH TWO NITROGEN ATOMS SIX-MEMBERED RINGS WITH TWO DIFFERENT HETEROATOMS.

## Scientific content of master's degree courses

|   |  |                                 |                               |
|---|--|---------------------------------|-------------------------------|
| <b>POM-201</b>  | <b>Advanced Organic Chemistry</b>              | كيمياء عضوية متقدمة             | <b>Credit Hours ( 2 + 0 )</b> |
| The course is designed to discuss some new reactions and mechanisms in organic chemistry with special emphasis on reactions related to synthesis of pharmaceutical compounds. As pericyclic reactions, Radical and carbene reactions, The Role of Protective Groups in Organic Synthesis:   |  |                                 |                               |
| <b>POM-202</b>  | <b>Heterocyclic Chemistry</b>                  | الكيمياء الحلقية الغير متجانسة  | <b>Credit Hours ( 2 + 0 )</b> |
| The course covers an in-depth knowledge of the chemistry of heterocyclic compounds with particular emphasis on the synthesis, reactions, and stereochemistry of different three, four, five and six member heterocycles.  |  |                                 |                               |
| <b>POM-203</b>  | <b>Structural Elucidation of Drugs</b>         | إثبات التركيب البنائي للأدوية   | <b>Credit Hours ( 2 + 0 )</b> |
| Application of combined spectroscopic techniques e.g. UV, IR, <sup>1</sup> H-NMR, <sup>13</sup> C-NMR, TOCSY, MS, DEPT, APT, HMQC, HMBC, NOESY...etc in the identification of different classes of compounds.<br>This course covers the theory and background to chirality and provides an overview of the effects of enantiomers at biological receptors. It also includes the use of chiral compounds as drugs, and the application of chirality as a tool in Pharm. Organic Chemistry to obtain better potency, selectivity, and duration of action of drugs through the study of the topics:  |  |                                 |                               |
| <b>POM-204</b>  | <b>Molecular Modeling and Drug Development</b> | النمذجة الجزيئية وتطوير الأدوية | <b>Credit Hours ( 2 + 0 )</b> |
| The course covers the concepts of molecular modeling and simulation; and provides an overview of computational chemistry techniques, ranging from the fundamental theoretical basis of modeling techniques to their application. This course covers the drug discovery process from the beginning through the final stages of clinical trials. The various stages of identifying and selecting a target, selecting and optimizing a lead compound, carrying out of in-vitro and in-vivo testing to determine biological activity and/or toxicity and evaluating acceptable "drug-like" properties are discussed.  |  |                                 |                               |
| <b>POM-205</b>  | <b>Stereochemistry of Drugs</b>                | الكيمياء الفراغية للأدوية       | <b>Credit Hours ( 2 + 0 )</b> |
| This course covers the theory and background to chirality and provides an overview of the effects of enantiomers at biological receptors. It also includes the use of chiral compounds as drugs, and the application of chirality as a tool in Pharm. Organic Chemistry to obtain better potency, selectivity, and duration of action of drugs through the study of the topics:<br>Introduction, Chirality and chiral drug development, Elements of symmetry, Stereochemistry and chemical R, Conformation, isosterism, anomeric affect importance of chirality on bioactivity of pharmacologically active drugs, Stereochemistry and drug design, Resolution, Some synthetic routes for chiral drugs |  |                                 |                               |

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## The scientific content of the Doctor of Philosophy degree courses

| First Semester  | الفصل الدراسي الأول           |
|---|-------------------------------|
| <b>POP-301 Organometallic Chemistry</b>   | <b>Credit Hours ( 2 + 0 )</b> |
| Organometallic compounds, Coordination compounds with organic ligand, Structure and properties, Applications, Concepts and techniques: oxidative addition and reductive elimination, transmetalation, carbometalation, Hydrometalation, electron transfer, beta-hydride elimination, organometallic substitution reaction, carbon-hydrogen bond activation, cyclometalation, Migratory insertion, Organometallics   |                               |
| <b>POP -302 Bioorganic Chemistry</b>  | <b>Credit Hours ( 2 + 0 )</b> |
| <b>Carbohydrates</b><br>Classification of Carbohydrates, Fischer Projection for depicting Carbohydrate, Furanose and pyranose forms, Hemiacetal formation and cyclic structures of monosaccharides, Stereochemistry of monosaccharides, Mutarotation. Disaccharides and polysaccharides, Oxidation and reduction of carbohydrates, Chain extension and reduction, Other important carbohydrates, Carbohydrates on cell surface.   |                               |
| <b>Amino Acids</b><br>Classification of amino acids, Structure of amino acids, Dipolar structure, Isoelectric point, Synthesis of amino acids, Resolution of R,S amino acids, Covalent bonding in peptides, Reactions of amino acids, Peptide synthesis.  |                               |
| Second Semester   | الفصل الدراسي الثاني          |
| <b>POP -303 New Trends in Drug Synthesis</b>  | <b>Credit Hours ( 2 + 0 )</b> |
| <b>Nanochemistry</b><br>The course covers an in-depth knowledge of the chemistry of Fundamental concepts, Current research , Bottom-up approaches, Top-down approaches, Functional approaches, Biomimetic approaches, Speculative, Tools and techniques, Applications, Implications.  |                               |
| <b>Combinatorial Chemistry</b><br>The course focuses on the in-depth studies of Principle of combinatorial chemistry, Combinatorial synthesis on solid-phase, Synthesis of a combinatorial library, Determination of product structure, Range and evolution of solid-phase chemistry, Combinatorial synthesis in solution (carbamates library), Techniques for solution-phase synthesis, Solution Phase Synthesis: Scavenger Resins (ureas & sulfonamides synthesis), Solution Phase Synthesis: Fluorous technology |                               |
| <b>Green Chemistry</b><br>The course focuses on the in-depth studies of Principles, Presidential Green Chemistry Challenge Awards, Other awards, Trends, Laws, Examples, Supramolecular chemistry, Natural Product Synthesis, Reducing market barriers, Education, Laboratory chemicals, Organometallic chemicals, Scientific uncertainty   |                               |
| <b>POP -304 Advanced Heterocyclic Chemistry</b>   | <b>Credit Hours ( 2 + 0 )</b> |
| The course covers an in-depth knowledge of the chemistry of heterocyclic compounds with particular emphasis on the synthesis, reactions, and stereochemistry of different three, four, five and six member heterocycles.  |                               |
| <b>POP -305 Total Synthesis of Natural Products</b>   | <b>Credit Hours ( 2 + 0 )</b> |
| The course covers an in-depth knowledge of the chemistry of Natural Products with particular emphasis on Target selection, Retrosynthesis, Strategic bonds in rings, Asymmetric Synthesis, Multi-step Synthesis, Selected synthetic strategies.   |                               |



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## Supervising Theses

The department supervises a number of registered master's and doctoral students (internal and external).

### Master students:

| Name              | Registration date | Supervisors   | Title   |
|-------------------|-------------------|---|---|
| Farah Mohamed     | 2013              | Atif Eltantawy<br>Khalid B. Selim<br>Mohamed Abdel-Wahab    | Synthesis and study the biological effect of some quinazoline derivatives as anti-cancer agents |
| Yasmin aboelanwer | 2013              | Magda N A Nasr<br>Magda Elsayed Abd El-Aziz<br>Amany Salah  | Synthesis and Anti-Cancer Activity of New Heterocycles  |
| Aya Hosny         | 2014              | Magda Elsayed Abd El-Aziz<br>Khalid B. Selim<br>Rania gomaa | "Molecular Modeling, Design and Synthesis of Leflunomide Analogs as Antifibrotics"              |
| Eman Mohamed      | 2015              | Hassan M. Eisa<br>Magda N A Nasr<br>Khalid B. Selim         | " Synthesis and structure elucidation of heterocyclic compounds as antibreast cancer "          |
| Marwa AbdelKarim  | 2015              | Hassan M. Eisa<br>Khalid B. Selim<br>Mohamed                | "Design and Synthesis of novel nitrogenous heterocyclic compounds as anti-tumors"               |



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|                          |      | Abdel-Wahab   |  |
| Ahmed atif               | 2016 | Magda Elsayed<br>Abd El-Aziz<br>Khalid B. Selim<br>ahmed el kamhawy | "Design and synthesis of new heterocyclic compounds as potential kinase inhibitors"  |
| Samira nashaat           | 2017 | Hassan M. Eisa<br>Shahenda Elmesery<br>morkos henen                 | Design, synthesis and computational studies of novel heterocyclic compounds as anticancer agents   |
| Omar alaa                | 2017 | Shahenda Elmesery<br>Magda Elsayed<br>Abd El-Aziz<br>morkos henen   | Design, Synthesis and Computational Study of New Benzofuran derivatives as Anti-Cancer & Anti-Inflammatory agents  |
| Aliaa elsayed            | 2017 | Khalid B. Selim<br>Shahenda Elmesery                                | "Design, Synthesis and Molecular Modeling Study of New Heterocyclic Compounds with Dual Anti-inflammatory and Anti-Cancer effect"  |
| Hamed El-Shafey          | 2017 | Fatma Gouda<br>Shahenda Elmesery<br>Rania gomaa                     | Design, Synthesis and molecular modeling study of New nitrogenous Heterocyclic Compounds as Anticancer Agents<br><u>تغيير عنوان الرسالة بتاريخ 2020/2/13 ليصبح:</u><br>" Design ,Synthesis and Molecular Modeling Study of New 2-Thioquinazoline-4-one Based Derivatives as Anticancer Agents Targeting HSP90 Enzyme " |
| Heba-Allah<br>Ahmed saad | 2018 | Fatma Gouda<br>Khalid B. Selim<br>Samar Samir                       | "Design,Synthesis and Biological Evaluation of new Heterocyclic derivatives as multi-target agents for Alzheimer's Disease"  |



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| Nareman Abdelaziz | 2018 | Magda N A Nasr<br>Shahenda Elmesery<br>Amany Salah | Synthesis and Biological Evaluation of new Nitrogenous Heterocyclic Compounds as anticancer agents          |
| Sara Sultan       | 2019 | Magda N A Nasr<br>Khalid B. Selim<br>Samar Samir   | "New insights into the structural requirements for antibreast cancer agents containing heterocyclic rings " |
| Dina saber        | 2019 | Fatma Gouda<br>Khalid B. Selim<br>Dina Othman      | "Synthesis of New Nitrogenous Heterocyclic Compounds with Antitumor Activity "                              |

### PhD students:

| Name              | Registration date | Supervisors   | Title  |
|-------------------|-------------------|---|--|
| Mohamed Gamal     | 2016              | Magda N A Nasr<br>Magda Elsayed Abd El-Aziz<br>Khalid B. Selim<br>Amany Salah | Design , Synthesis and antiProliferative activity of new heterocyclic Derivatives  |
| Abdelrahman Hamdi | 2016              | Mohamed A M Massoud<br>Khalid B. Selim<br>Amany Salah<br>Gilles Dujardin      | Asymmetric Synthesis and Biological Evaluation of New Amino acids and Oxaproline - Based Tripeptides<br><u>تغيير العنوان بتاريخ 2020/6/10 ليصبح:</u><br>" Asymmetric Synthesis of Oxaproline Based-Tripeptide Analogs of Asunaprevir and their Biological Evaluation |



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| Wafaa Ewes         | 2017 | Magda N A Nasr<br>Shahenda Elmesery<br>Mohamed Abdel-Wahab  | Synthesis and Molecular Modeling Study of New Heterocyclic Compounds as Anticancer Agents<br><br><u>تغيير العنوان بتاريخ 2020/1/5 ليصبح:</u><br>" Synthesis andMolecular Modeling Study of New 2,4-disubstituted quinazolines and 3,5-disubstituted[1,2,4]triazoloquinazolines as EGFR Enzyme Inhibitors " |
| Lamia osama        | 2018 | Fatma Gouda<br>Shahenda Elmesery<br>Walaa el houseiny       | Synthesis and Molecular Modeling study of New Heterocyclic Compounds as Monamine oxidase Inhibitors  |
| Salma Fares        | 2018 | Mohamed A M Massoud<br>Khalid B. Selim<br>Walaa el houseiny | Design , Synthesis and Biological Evaluation of new Tacrine Derivatives  |
| Taghreed Abdelstar | 2018 | Hassan M. Eisa<br>Shahenda Elmesery<br>Amany Salah          | " Synthesis, Molecular Modeling Study and Biological Evaluation of New Heterocyclic Compounds as Anti Cancer Agents "  |
| Aya Elmatrey       | 2019 | Hassan M. Eisa<br>Khalid B. Selim<br>Walaa el houseiny      | "Design, synthesis and biological evaluation of nitrogenous heterocyclic derivatives as hypoxia-targeting agents in cancer cells."   |
| Faby Nabil         | 2019 | Magda N A Nasr<br>Shahenda                                  | "Synthesis and Molecular Modeling Study of New Heterocyclic Compounds as Anticancer Agents "   |



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|               |      | Elmesery<br>Waleed A H<br>Bayomi                     |   |
| Mohamed Zidan | 2019 | Fatma Gouda<br>Amany Salah<br>Dina Othman            | " Synthesis, Molecular Modeling and Biological Evaluation of New Heterocyclic Compounds as Tyrosine Kinase Inhibitors " |
| Eman Nasr     | 2019 | Mohamed A<br>M Massoud<br>Amany Salah<br>Samar Samir | "Design and Synthesis of New Thiazole Derivatives as Potential Anti-Alzheimer's Disease "                               |
| Ola abdelaziz | 2019 | Hassan M.<br>Eisa<br>Sahar M Badr<br>Dina Othman     | " Synthesis and Biological Evaluation of Some New Diphenyl Ether Derivatives "  |

## Theses given since 2019

| Name              | Supervisors   | Title   | Thesis type |
|-------------------|---|---|-------------|
| Marwa ismail      | Hassan M. Eisa<br>Mohamed A M<br>Massoud<br>Rania gomaa | " Design and Synthesis of certain novel 1,3,5-triazine derivatives as Antitumor Agents"               | Master      |
| Ola abdelaziz     | Hassan M. Eisa<br>Khalid B. Selim<br>Walaa el houseiny  | Design and synthesis of some heterocyclic derivatives as potential dihydrofolate reductase inhibitors | Master      |
| Mena-Allah Sherif | Fatma Gouda<br>Laila A. Abou-Zeid                       | "Synthesis and molecular modeling Studies of some 2-pyrazolyl benzofuran derivatives as anti-tumor    | Master      |



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|  | Samar Samir | agents" |  |
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## Department research plan

The department's scientific research team adopts modernization in the field of research and cooperation in the form of research groups for the construction and manufacture of new compounds with effectiveness against cancer and inflammatory diseases.

### Recent research published in local and international conferences and journals

|   | Author<br>Publication title<br>Publisher   |
|---|--|
| 1 | <a href="#">Walaa M. El-Husseiny</a> , <a href="#">Magda A.-A. El-Sayed</a> , <a href="#">Naglaa I. Abdel-Aziz</a> , <a href="#">Adel S. El-Azab</a> , <a href="#">Esam R. Ahmed</a> , and <a href="#">Alaa A.-M. Abdel-Aziz</a> "Synthesis, antitumor and antioxidant activities of novel $\alpha,\beta$ -unsaturated ketones and related heterocyclic analogs: EGFR inhibition and molecular modeling study". Journal of enzyme inhibition and medicinal chemistry 2018; 33 (1) 507-518. |
| 2 | <a href="#">Almatary AM</a> , <a href="#">Elmorsy MA</a> , <a href="#">El Husseiny WM</a> , <a href="#">Selim KB</a> , <a href="#">El-Sayed MA</a> "Design, synthesis, and molecular modeling of heterocyclic bioisostere as potent PDE4 inhibitors". Arch Pharm Chem Life Sci. 2018; 351: e1700403.   |
| 3 | <a href="#">El-Azab AS</a> , <a href="#">Abdel-Aziz AA</a> , <a href="#">Abou-Zeid LA</a> , <a href="#">El-Husseiny WM</a> , <a href="#">El Morsy AM</a> , <a href="#">El-Gendy MA</a> , <a href="#">El-Sayed MA</a> "Synthesis, antitumour activities and molecular docking of thiocarboxylic acid ester-based NSAID scaffolds: COX-2 inhibition and mechanistic studies". Journal of enzyme inhibition and medicinal chemistry 2018; 33 (1) 989-998.                                     |



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| 4  | <a href="#">El-Husseiny WM</a> , El-Sayed MA, <a href="#">Abdel-Aziz NI</a> , <a href="#">El-Azab AS</a> , <a href="#">Asiri YA</a> , <a href="#">Abdel-Aziz AA</a> “Structural alterations based on naproxen scaffold: Synthesis, evaluation of antitumor activity and COX-2 inhibition, and molecular docking”. European Journal of Medicinal Chemistry, 2018 (158): 134-143. |
| 5  | <a href="#">Ola A.Abdelaziz</a> , <a href="#">Walaa M.El Husseiny</a> , <a href="#">Khalid B.Selim</a> , <a href="#">Hassan M.Eisa</a> “Dihydrofolate reductase inhibition effect of 5-substituted pyrido[2,3-d]pyrimidines: synthesis, antitumor activity and molecular modeling study”. Journal of Bioorganic Chemistry, 2019.  |
| 6  | TRAGETING BREAST CANCER: SYNTHESIS, 3D NMR BINDING AND MOLECUCLR MODELING STUDY OF NEW BENZIMIDAZOLE DERIVATIVES Samira Nashaat a, Hassan Eisa a Morkos Henen a, Shahenda El-Messery 2nd International Pharma Conference (IPC 2018) Helwan University Faculty of Pharmacy, Cairo AirDefense House, 11-12 Sept.,2018   |
| 7  | Synthesis and Molecular docking study of new benzofuran derivatives as anticancer agents Omar A. El-Khouly , Magda A.-A. El-Sayed, Morkos A. Henen, Shahenda El-Messery PHARMA-EGYRUSS 2018, April, 28-29 2018  |
| 8  | Targeting Breast Cancer: Synthesis and Molecular docking studies of new fused pyrimidine and benzodiazepine analogues Aya A. Shalaby , Heba M. El-Hadedy , Ghada Sameh , Shahenda El-Messery, PHARMA-EGYRUSS 2018, April, 28-29 2018  |
| 9  | Synthesis, and antitumor activity of new fused pyrimidine and benzodiazepine analogues. Aya Ali Shalaby, Heba M. El-Hadedy, Ghada Sameh, Shahenda El-Messery, The International Conference on Advancing Pharmacy Education and Practice in BUE. 27 - 28 Jan 2018  |
| 10 | Sherin Elfeky, Tariq Sobahi, Magdy M Gineinah, Nesreen S Ahmed (2019) Ultrasound one pot synthesis of fused quinazolinones and quinazolinediones, screening and molecular docking study as phosphodiesterase 7A inhibitors. Egyptian Journal of Chemistry, in press.  |
| 11 | Abeer N. Al-Romaizan, Nesreen S. Ahmed, and Sherin M. Elfeky (2019) Design, Synthesis, and Biological Evaluation of Triazolyl- and Triazinyl-Quinazolinediones as Potential Antitumor Agents. Journal of Chemistry, vol. 2019   |
| 12 | Efficient Stereospecific H $\beta$ 2/3 NMR Assignment Strategy for Mid-Size Proteins<br>Born A, Henen MA, Nichols P, Wang J, Jones DN, Vögeli B. Magnetochemistry (Basel, Switzerland). 2018 June 01; 4(2):25.<br>My Bibliography [journal]   |



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| 13 | Nichols PJ, Henen MA, Born A, Strotz D, Güntert P, Vögeli B. High-resolution small RNA structures from exact nuclear Overhauser enhancement measurements without additional restraints. <i>Communications biology</i> . 2018; 1:61. PubMed [journal] PMID: 30271943, PMCID: PMC6123705   |
| 14 | Nichols PJ, Born A, Henen MA, Strotz D, Celestine CN, Güntert P, Vögeli B. Extending the Applicability of Exact Nuclear Overhauser Enhancements to Large Proteins and RNA. <i>Chembiochem : a European journal of chemical biology</i> . 2018; PubMed [journal] PMID: 29883016   |
| 15 | Born A, Nichols PJ, Henen MA, Chi CN, Strotz D, Bayer P, Tate SI, Peng JW, Vögeli B. Backbone and side-chain chemical shift assignments of full-length, apo, human Pin1, a phosphoprotein regulator with interdomain allostery   |
| 16 | Eman E. Nasr, Amany S. Mostafa, Magda A. A. El-Sayed, Mohammed A. M. Massoud, "Design, synthesis, and docking study of new quinoline derivatives as antitumor agents" <i>"Archiv der Pharmazie"</i> , 2019;352 (7):e1800355. doi. 10.1002/ardp.201800355   |
| 17 | Yasmin A. Abo-Elanwar, Amany S. Mostafa, Magda A. A. El-Sayed, Magda N.A. Nasr, "Synthesis and biological evaluation of new 2-(4-fluorophenyl) imidazol-5-ones as Anticancer Agents". <i>"Journal of Applied Pharmaceutical Science"</i> , 9 (5), 1–11, 2019.  |
| 18 | Mohamed A. Zeidan, Amany S. Mostafa, Rania M. Gomaa, Laila A. Abouzeid, Mohamed El-Mesery, Magda A. A. El-Sayed, Khalid B. Selim, "Design, synthesis and docking study of novel picolinamide derivatives as anticancer agents and VEGFR-2 inhibitors " <i>"European Journal of Medicinal Chemistry"</i> , 168, 315-329, 2019.  |
| 19 | Abdelrahman Hamdi; Mathieu Y. Laurent; Annie Hémon-Ribaud; Amany S. Mostafa; Mohammed A. M. Massoud; Khalid B. Selim; Gilles Dujardin, "1,3-Dipolar Cycloaddition of vinyloxy quinolines with $\alpha$ -alkoxy carbonyl aldonitrone or cyclic subrogates: a comparative study for an asymmetric access to trans 4-quinolinoxy oxaprolines" <i>"Tetrahedron"</i> , 75, 429-440, 2019. |



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| 20 | Amany S. Mostafa, Rania M. Gomaa, Mohammad A. Elmersy, "Design and synthesis of 2-phenyl benzimidazole derivatives as VEGFR-2 inhibitors with anti-breast cancer activity"<br>"Chemical Biology and Drug Design", 93, 454–463, 2019.  |
| 21 | Amany S. Mostafa, Waleed A. Bayoumi, Mohamed El-Mesery and Abdelaziz Elgaml, "Molecular Design and Synthesis of New 3,4-Dihydropyrimidin-2(1H)-Ones as Potential Anticancer Agents with VEGFR-2 Inhibiting Activity"<br>"Anti-cancer Agents in Medicinal Chemistry", 19 (3), 310-322, 2019.   |
| 22 | Amany S. Mostafa and Khalid B. Selim, "Synthesis and anticancer activity of new dihydropyrimidinone derivatives"<br>"European Journal of Medicinal Chemistry", 156, 304-315, 2018.  |
| 23 | Design, Synthesis and Molecular Modeling of New 1,3,5-Triazine Derivatives as Anticancer Agents <a href="#">Marwa I. Serag</a> , <a href="#">Rania M. Gomaa</a> , <a href="#">Mohammed A.M. Massoud</a> and <a href="#">Hassan M. Eisa</a> Der Pharma Chemica ( 2019) Volume 11, Issue 5  |
| 24 | "Synthesis and Anti-influenza Activity of Novel Thiadiazole, Oxadiazole and Triazole Based Scaffolds" <a href="#">Samar S. Tawfik</a> , <a href="#">Abdelbasset A. Farahat*</a> , <a href="#">Magda A.-A El-Sayed</a> , <a href="#">Atif S. Tantawy</a> , <a href="#">Ola Bagato</a> , <a href="#">Mohamed A. Ali</a> . Letters in Drug Design & Discovery Volume 15 , Issue 4 , 2018 |
| 25 | <a href="#">Repositioning of the antipsychotic trifluoperazine: Synthesis, biological evaluation and in silico study of trifluoperazine analogs as anti-glioblastoma agents</a> S Kang, JM Lee, B Jeon, A Elkamhawy, S Paik, J Hong, SJ Oh, SH Paek, European journal of medicinal chemistry 151, 186-198   |
| 26 | <a href="#">Design, synthesis and biological evaluation of novel thiazolidinedione derivatives as irreversible allosteric IKK-<math>\beta</math> modulators</a> A Elkamhawy, N youn Kim, AHE Hassan, J Park, JE Yang, KS Oh, BH Lee, European journal of medicinal chemistry 157, 691-704   |
| 27 | <a href="#">Pyrazinyl ureas revisited: 1-(3-(Benzyloxy) pyrazin-2-yl)-3-(3, 4-dichlorophenyl) urea, a new blocker of A<math>\beta</math>-induced mPTP opening for Alzheimer's disease</a> A Elkamhawy, J Park, AHE Hassan, AN Pae, J Lee, S Paik, BG Park, European journal of medicinal chemistry 157, 268-278   |



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| 28 | <a href="#">Synthesis and biological evaluation of novel 3-(quinolin-4-ylamino) benzenesulfonamides AQ3 as carbonic anhydrase isoforms I and II inhibitors</a><br>MM Al-Sanea, A Elkamhawy, S Paik, S Bua, S Ha Lee, MA Abdelgawad, ...<br>Journal of enzyme inhibition and medicinal chemistry 34 (1), 1457-1464   |
| 29 | <a href="#">G-quadruplex-binding small molecules ameliorate C9orf72 FTD/ALS pathology in vitro and in vivo</a><br>R Simone, R Balendra, TG Moens, E Preza, KM Wilson, A Heslegrave, ...<br>EMBO molecular medicine 10 (1), 22-31  |
| 30 | Design, Synthesis and Anticancer Evaluation of New Substituted Thiophene-quinoline Derivatives, Biorganic and Medicinal Chemistry, 2019   |
| 31 | Entesar M. Ahmed, Dina El-Naggar, Reham R. Khatta, , Shahenda M. El-Messery, ect Towards Breast Cancer Targeting: Synthesis of Tetrahydroindolo carbazoles, AntiBreast Cancer Evaluation, uPA Inhibition, Molecular Genetic and Molecular Modelling Studies Bioorganic Chemistry, Vol 93, December 2019, 103332   |
| 32 | Waad D. Alrohily, Mahmoud E. Habib, Shahenda M. El-Messery, Abdulmalik Alqurshe Hussein El-Sabagh El-Sayed E. Habib Antibacterial, antibiofilm and molecular modeling study of some antitumor thiazole based chalcones as a new class of DHFR inhibitors Microbial Pathogenesis 136 (2019) 103674.  |
| 33 | Dina M. Omran, Mariam A. Ghaly, Shahenda M. El-Messery, Farid A. Badria, Ehab Abdel-Latif, Ihsan A. Shehata Targeting Hepatocellular Carcinoma: Synthesis of New Pyrazole-Based Derivatives, Biological Evaluation, DNA Binding, and Molecular Modeling Studies. Bioorganic Chemistry 88 (2019) 102917  |
| 34 | Marwa A. M. Sh. El-Sharief, Samir Y. Abbas, Ahmed M. Sh. El-Sharief, Nermien M. Sabrya, Ziad Moussa, Shahenda M. El-Messery, Ahmed R. Elsheakh, Ghada S. Hassan, Mardia T. El-Sayed. 5-Thioxoimidazolidine-2-one derivatives: Synthesis, anti-inflammatory activity, analgesic activity, COX inhibition assay and molecular modelling study Bioorganic Chemistry 87 (2019) 679–687. |
| 35 | Marwa Ayman, Shahenda M. El-Messery, Elsayed E. Habib, Sara T. Al-Rashood, Abdulrahman A. Almehezia, Hamad M. Alkahtani, Ghada S. Hassan Targeting Microbial Resistance: Synthesis, Antibacterial Evaluation and Modeling Study of New Chalcone-based dithiocarbamate Derivatives Bioorganic Chemistry 85 (2019) 282–292  |
| 36 | Ola A. Abdelaziz, Walaa M. El Hussein, Khalid B. Selim, Hassan M. Eisa "Dihydrofolate reductase inhibition effect of 5-substituted pyrido[2,3-  |



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|    | d]pyrimidines: synthesis, antitumor activity and molecular modeling study".<br>Journal of Bioorganic Chemistry, 2019.   |
| 37 | Walaa M. El-Husseiny, Synthesis and Biological Evaluation of New 3-Phenylthiazolidin-4-One and 3-Phenylthiazole Derivatives as Antimicrobial Agents, POLYCYCLIC AROMATIC COMPOUNDS, (2020).   |
| 38 | Walaa M. El-Husseiny, Magda A.-A. El-Sayed, Adel S. El-Azab, Nawaf A. AlSaif, Mohammed M. Alanazi and Alaa A.-M. Abdel-Aziz, Synthesis, antitumor activity, and molecular docking study of 2-cyclopentyloxyanisole derivatives: mechanistic study of enzyme inhibition, JOURNAL OF ENZYME INHIBITION AND MEDICINAL CHEMISTRY, 35 (1) (2020), 744–758. |
| 39 | Sherin M. Elfeky, Tariq R. Sobahi, Magdy M. Gineinah, and Nesreen S. Ahmed. "Synthesis, biological screening, and molecular docking of quinazolinone and quinazolinethione as phosphodiesterase 7 inhibitors." <i>Archiv der Pharmazie</i> 353, no. 1 (2020): 1900211.  |
| 40 | Sherin Elfeky, Tariq Sobahi, Magdy M Gineinah, Nesreen S Ahmed (2019) Ultrasound one pot synthesis of fused quinazolinones and quinazoliniones, screening and molecular docking study as phosphodiesterase 7A inhibitors. <i>Egyptian Journal of Chemistry</i> , in press.  |
| 41 | Abeer N. Al-Romaizan, Nesreen S. Ahmed, and Sherin M. Elfeky (2019) Design, Synthesis, and Biological Evaluation of Triazolyl- and Triazinyl-Quinazoliniones as Potential Antitumor Agents. <i>Journal of Chemistry</i> , vol. 2019   |
| 42 | H.W. El-Shafey, R.M. Gomaa, S.M. El-Messery, F.E. Goda, Synthetic approaches, anticancer potential, HSP90 inhibition, multitarget evaluation, molecular modeling and apoptosis mechanistic study of thioquinazolinone skeleton: Promising antibreast cancer agent, <i>Bioorganic Chemistry</i> , 101 (2020) 103987.                                   |
| 43 | Wafaa A. Ewes, Mohammad A. Elmorsy, Shahenda M. El-Messery, Magda N. A. Nasr<br>Synthesis, biological evaluation and molecular modeling study of [1, 2, 4]-Triazolo [4, 3-c] quinazolines: New class of EGFR-TK inhibitors<br><i>Bioorg. &amp; Med. Chem.</i> 28 (2020) 115373.   |



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| 44 | H.W. El-Shafey, R.M. Gomaa, S.M. El-Messery, F.E. Goda, Quinazoline Based HSP90 Inhibitors: Synthesis, Modeling Study and ADME Calculations Towards Breast Cancer Targeting, <i>Bioorganic &amp; Medicinal Chemistry Letters</i> , 30 (2020) 127281.  |
| 45 | Born A, Nichols PJ, Henen MA, Chi CN, Strotz D, Bayer P, Tate SI, Peng JW, Vögeli<br>B. Backbone and side-chain chemical shift assignments of full-length, apo, human<br>Pin1, a phosphoprotein regulator with interdomain allostery  |
| 46 | Eman E. Nasr, Amany S. Mostafa, Magda A. A. El-Sayed, Mohammed A. M. Massoud, "Design, synthesis, and docking study of new quinoline derivatives as antitumor agents"<br><i>"Archiv der Pharmazie"</i> , 2019;352 (7):e1800355. doi.<br>10.1002/ardp.201800355  |
| 47 | Yasmin A. Abo-Elanwar, Amany S. Mostafa, Magda A. A. El-Sayed, Magda N.A. Nasr, "Synthesis and biological evaluation of new 2-(4-fluorophenyl) imidazol-5-ones as Anticancer Agents".<br><i>"Journal of Applied Pharmaceutical Science"</i> , 9 (5), 1–11, 2019.  |
| 48 | Mohamed A. Zeidan, Amany S. Mostafa, Rania M. Gomaa, Laila A. Abou-zeid, Mohamed El-Mesery, Magda A. A. El-Sayed, Khalid B. Selim, "Design, synthesis and docking study of novel picolinamide derivatives as anticancer agents and VEGFR-2 inhibitors "<br><i>"European Journal of Medicinal Chemistry"</i> , 168, 315-329, 2019  |
| 49 | Abdelrahman Hamdi; Mathieu Y. Laurent; Annie Hémon-Ribaud; Amany S. Mostafa; Mohammed A. M. Massoud; Khalid B. Selim; Gilles Dujardin, "1,3-Dipolar Cycloaddition of vinyloxy quinolines with $\alpha$ -alkoxy carbonyl aldonitrone or cyclic subrogates: a comparative study for an asymmetric access to trans 4-quinolinoxy oxaprolines"<br><i>"Tetrahedron"</i> , 75, 429-440, 2019. |
| 50 | Amany S. Mostafa, Rania M. Gomaa, Mohammad A. Elmorsy, "Design and synthesis of 2-phenyl benzimidazole derivatives as VEGFR-2 inhibitors with anti-breast cancer activity"<br><i>"Chemical Biology and Drug Design"</i> , 93, 454–463, 2019.  |



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| 51 | Amany S. Mostafa, Waleed A. Bayoumi, Mohamed El-Mesery and Abdelaziz Elgaml, "Molecular Design and Synthesis of New 3,4-Dihydropyrimidin-2(1H)-Ones as Potential Anticancer Agents with VEGFR-2 Inhibiting Activity"<br><i>"Anti-cancer Agents in Medicinal Chemistry"</i> , 19 (3), 310-322, 2019.  |
| 52 | Ahmed Elkamhawy, Ahmed HE Hassan, Sora Paik, Yong Sup Lee, Hwi-Ho Lee, Ji-Sun Shin, Kyung-Tae Lee, and Eun Joo Roh. "EGFR inhibitors from cancer to inflammation: discovery of 4-fluoro-N-(4-(3-(trifluoromethyl) phenoxy) pyrimidin-5-yl) benzamide as a novel anti-inflammatory EGFR inhibitor." <i>Bioorganic Chemistry</i> 86 (2019): 112-118.         |
| 53 | Design, Synthesis and Molecular Modeling of New 1,3,5-Triazine Derivatives as Anticancer Agents Marwa I. Serag, Rania M. Gomaa, Mohammed A.M. Massoud and Hassan M. Eisa Der Pharma Chemica ( 2019) Volume 11, Issue 5   |
| 54 | Nashaat S, Henen MA, El-Messery SM, Eisa H. Synthesis, State-of-The-Art NMR-Binding and Molecular Modeling Study of New Benzimidazole Core Derivatives as Pin1 Inhibitors: Targeting Breast Cancer. <i>Bioorganic &amp; Medicinal Chemistry</i> . 2020:115495  |
| 55 | Al-Sanea, Mohammad M., Ahmed Elkamhawy, Sora Paik, Kyeong Lee, Ahmed M. El Kerdawy, Bukhari Syed Nasir Abbas, Eun Joo Roh et al. "Sulfonamide-based 4-Anilinoquinoline Derivatives as Novel Dual Aurora Kinase (AURKA/B) Inhibitors: Synthesis, Biological Evaluation and In Silico Insights." <i>Bioorganic &amp; Medicinal Chemistry</i> (2020): 115525. |
| 56 | Ahmed Elkamhawy, Nam youn Kim, Ahmed HE Hassan, Jung-eun Park, Sora Paik, Jeong-Eun Yang, Kwang-Seok Oh et al. "Thiazolidine-2, 4-dione-based irreversible allosteric IKK- $\beta$ kinase inhibitors: Optimization into in vivo active anti-inflammatory agents." <i>European Journal of Medicinal Chemistry</i> 188 (2020): 111955.                       |
| 57 | Ahmed Elkamhawy, Nam Youn Kim, Ahmed HE Hassan, Jung-eun Park, Jeong-Eun Yang, Mohamed H. Elsherbeny, Sora Paik et al. "Optimization study towards more potent thiazolidine-2, 4-dione IKK- $\beta$ modulator: Synthesis, biological evaluation and in silico docking simulation." <i>Bioorganic chemistry</i> 92 (2019): 103261.                          |
| 58 | Al-Sanea, Mohammad M., Ahmed Elkamhawy, Sora Paik, Silvia Bua, So Ha Lee, Mohamed A. Abdelgawad, Eun Joo Roh, Wagdy M. Eldehna, and Claudiu T. Supuran. "Synthesis and biological evaluation of novel 3-(quinolin-4-ylamino) benzenesulfonamides as carbonic anhydrase isoforms I and II inhibitors." <i>Journal of enzyme inhibition and medicinal</i>    |



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|    | <i>chemistry</i> 34, no. 1 (2019): 1457-1464.  |
| 59 | Depauw, S., Lambert, M., Jambon, S., Paul, A., Peixoto, P., Farahat, A. A., ... & Billoré, B. (2019). Heterocyclic diamidine DNA ligands as HOXA9 transcription factor inhibitors: Design, molecular evaluation, and cellular consequences in a HOXA9-dependant leukemia cell model. <i>Journal of medicinal chemistry</i> , 62(3), 1306-1329. |
| 60 | Farahat, A. A., Guo, P., Shoeib, H., Paul, A., Boykin, D., & Wilson, W. D. (2019). Small Size Sequence-sensitive Compounds for Specific Recognition of G·C Base Pair in DNA Minor Groove. <i>Chemistry–A European Journal</i> .  |
| 61 | Guo, P., Farahat, A. A., Paul, A., Kumar, A., Boykin, D. W., & Wilson, W. D. (2020). Extending the $\sigma$ -Hole Motif for Sequence-Specific Recognition of the DNA Minor Groove. <i>Biochemistry</i> , 59(18), 1756-1768.  |
| 62 | Erlitzki, N., Farahat, A. A., Kumar, A., Boykin, D. W., & Poon, G. M. (2019). DNA recognition by linear indole-biphenyl DNA minor groove ligands. <i>Biophysical Chemistry</i> , 245, 6-16.  |
| 63 | Mizuta, R., Devos, J. M., Narayanan, T., Oliva, M., Gray, M., Webster, J., ... & Farahat, A. (2019, August). Hierarchical Nanotube Self-Assembly of DNA Minor Groove-Binding Ligand DB921 via Alkali Halide Triggering. In <i>Macromolecular Symposia</i> (Vol. 386, No. 1, p. 1800243).   |
| 64 | Nam, Y., Hwang, D., Kim, N., Seo, H. S., Selim, K. B., & Sim, T. (2019). Identification of 1 H-pyrazolo [3, 4-b] pyridine derivatives as potent ALK-L1196M inhibitors. <i>Journal of enzyme inhibition and medicinal chemistry</i> , 34(1), 1426-1438.   |
| 65 | Ashour, H. F., Abou-zeid, L. A., Magda, A. A., & Selim, K. B. (2020). 1, 2, 3-Triazole-Chalcone hybrids: Synthesis, in vitro cytotoxic activity and mechanistic investigation of apoptosis induction in multiple myeloma RPMI-8226. <i>European Journal of Medicinal Chemistry</i> , 189, 112062.  |
| 66 | Othman, D. I., Selim, K. B., Magda, A. A., Tantawy, A. S., Amen, Y., Shimizu, K., ... & Kitamura, M. (2019). Design, Synthesis and Anticancer Evaluation of New Substituted Thiophene-Quinoline Derivatives. <i>Bioorganic &amp; medicinal chemistry</i> , 27(19), 115026.   |

## Conferences and Training Courses

|   | Name              | Title/Place  |
|---|-------------------|--|
| 1 | Shahenda Elmesery | 1. Attending Ukranian Mini Symposium in Pharmacy, Monday 17th Feb 2020, Faculty of Pharmacy Mansoura |



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|   |                   |   |
|---|-------------------|---|
|   |                   | <p>University</p> <p>2. Attending Web of Science Research Quality &amp; Performance (Funding and Collaboration) Workshop, Tuesday 19th Nov., 2019, Pharco Hall, Fac. Of Pharmacy, Mansoura University</p> <p>3. Attending Work shop on "Use of Moodle for the electronic Mid term exam" Mon.,7th Oct., 2019 Fac. Of Pharmacy, Mansoura University</p> <p>4. Attending Work shop on "Question bank and how to write good MCQs" Fac. Of Monday, 23th, September 2019, Fac. Of Pharmacy, Mansoura University</p>   |
| 2 | Amany Salah       | <p><b>1</b> <i>2<sup>nd</sup> International Conference of Pharmaceutical Sciences, MU-PHARM, Mansoura University, Egypt, April 9<sup>th</sup>-12<sup>th</sup>, 2019</i></p> <p><b>2</b> <b>Workshop on</b> Computer-aided Drug Design, Faculty of Pharmacy, Mansoura University, Egypt , April 9<sup>th</sup>, <b>2019</b></p> <p><b>3</b> <b>Workshop on</b> "National Academic Reference Standards of Pharmacy Education 2<sup>nd</sup> Edition" by Prof. Gamal Elmaghraby, Mansoura University, Egypt, on February 4<sup>th</sup>, <b>2019</b>.</p>  |
| 3 | Samar Samir       | <p>2<sup>nd</sup> International Conference of Pharmaceutical Sciences, MU- PHARM, Mansoura University, Egypt, April 9th-12th, 2019</p>  |
| 4 | Dina Othman       | <p>2<sup>nd</sup> International Conference of Pharmaceutical Sciences, MU-PHARM, Mansoura University, Egypt, April 9th-12th, 2019 (poster).</p>   |
| 5 | Abdelrahman Hamdi | <p>1 .9<sup>th</sup> Francophone Symposium of Total Synthesis, Nantes, France, 23-24 May 2019. <i>Poster under the name of <b>Aza-Aromatic Building-Blocks for Multi-Step Synthesis: Practical Access to Vinyloxy and Allyl (iso)-Quinolines at Nantes. Authors are Abdelrahman Hamdi, Amany S. Mostafa, Khalid B. Selim, Mohammed A. M. Massoud, Mathieu Y. Laurent, Gilles Dujardin.</b></i></p> <p>2. Doctoral School Day 3M Nantes, France, 27 June 2019. <i>Scientific seminar.</i></p> <p>3. Organic Chemistry Days 2019 (JCO2019) Palaiseau, France, 29-31 October 2019. <i>Poster under the name of</i></p> |



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|   |   | <i>Asymmetric Synthesis and Biological Evaluation of New Amino acids and Oxaproline-Based Tripeptides at Palaiseau. Authors are Abdelrahman Hamdi, Amany S. Mostafa, Khalid B. Selim, Mohammed A. M. Massoud, Mathieu Y. Laurent, Gilles Dujardin.</i>   |
| 7 | Hamed El-Shafey                             | 2 <sup>nd</sup> International Conference of Pharmaceutical Sciences, Faculty of Pharmacy, Mansoura University (MU-PHARM 2019), April 2019, poster presentation. Title: Potential Antiproliferative Agents from Quinazolin-4-one Template: Synthesis and Pharmacokinetic Study.<br><br><b>Workshop on Computer Aided Drug Design in the 2<sup>nd</sup> International Conference of Pharmaceutical Sciences at Mansoura University held on 9<sup>th</sup> - 12<sup>th</sup> of April 2019.</b> |
| 8 | Wafaa Ewes<br>Lamiaa osthma<br>Marwa ismail | <b>Workshop on Computer Aided Drug Design in the 2<sup>nd</sup> International Conference of Pharmaceutical Sciences at Mansoura University held on 9<sup>th</sup> - 12<sup>th</sup> of April 2019</b>  |

## Research Projects

| Research Team  | Project name   |
|--|--|
| Khalid B. Selim<br>Laila A. Abou-Zeid<br>Amany Salah<br>Rania Gomaa<br>Mohamed ElMessery | “Design and synthesis of novel derivatives of 2-picolinic acid as kinase enzyme inhibitors with potential anticancer activity” |
| Magda Elsayed Abd El-Aziz  | Design and Synthesis of Heterocyclic Bio-isostere PDE4 inhibitors as tumor necrosis factor antagonist"                         |
| Atif S Tantawy<br>Magda Elsayed Abd El-Aziz  | Aloe vera natural products   |



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|------------------------------------|---|
| Laila A. Abou-Zeid<br>Ghada Seddik | One Pot Synthesis, Computational study and Biological Evaluation of New Niitrogenous Heterocyclcles as Potential Hepatic Fibrosis Inhibitor |
|------------------------------------|---|

## External Scholarships, Channels, Internal Scholarships, Grants, Post-Doctoral Assignments

### External Scholarships:

| Name                  | Place        |
|-----------------------|--------------|
| Khalid B. Selim       | Japan        |
| Ahmed Elkamhawy       | South Korea  |
| Sherin Elfeky         | Saudi arabia |
| Abdelrahman Hamdi     | France       |
| Shahenda M.El-Messery | USA          |
| Laila A. Abou-Zeid    | USA          |
| Abdelbasset A.Farahat | USA          |
| Morkos Henen          | Austria      |
| Dina Othman           | Japan        |

### Post-Doctoral Assignments:



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| Name                  | Place       |
|-----------------------|-------------|
| Khalid B. Selim       | France      |
| Ahmed Elkamhawy       | South Korea |
| Abdelbasset A.Farahat | USA         |
| Morkos Henen          | USA         |

### Awards received by faculty members in the department

| Name                  | Title               | Award                                     |
|-----------------------|---------------------|---|
| Khalid B. Selim       | Professor           | University Incentive Award                |
| Shahenda M.El-Messery | Professor           | University Incentive Award                |
| Abdelbasset A.Farahat | Professor           | State Incentive Award                     |
| Shahenda M.El-Messery | Professor           | University Award for Best Thesis (Master) |
| Amany Salah           | Assistant Professor | University Award for Best Thesis (PhD)    |

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## Department devices

|     | Name                            |
|-----|---------------------------------|
| 1.  | Hot plate with magnetic stirrer |
| 2.  | Hot plate                       |
| 3.  | Heidol PH Rotary Expener        |
| 4.  | PH mater                        |
| 5.  | Vacuum pump                     |
| 6.  | Electronic analytical           |
| 7.  | Mechanical stirrer              |
| 8.  | Long Heating calling            |
| 9.  | Aspirator Pump                  |
| 10. | Rotary evaporator               |
| 11. | Meting paint opp                |
| 12. | Heating mantle 50 ml            |
| 13. | Heating mantle 100 ml           |
| 14. | Heating mantle 250 ml           |
| 15. | Heating mantle 500 ml           |
| 16. | Monitor                         |
| 17. | Polmetric Red light             |
| 18. | Detaumeter Mecroscope osk 212   |
| 19. | Over head progoctor             |
| 20. | Tell farmask pipate             |

## The department's research plan

1. "Design, Synthesis, Computational and Multidimensional NMR Studies of New Benzimidazoles as PIN-1 Inhibitors Targeting Breast Cancer"
2. "Design, Synthesis of New thiadiazole derivatives and its bioisosteres as Antitumor agents"



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3. "Synthesis and Molecular Modeling of New Nitrogenous compounds of prospective Anti-COVID-19 activity"
4. Synthesis, molecular modeling and biological evaluation of new heterocyclic compounds with anti-coronavirus activity
5. "Design, Synthesis and evaluation of new multifunctional anti-Alzheimer's disease agents"
6. "Design, Synthesis and Biological Evaluation of New Heterocyclic Derivatives as Potential Antitumors"
7. "Synthesis, Biological Evaluation and Molecular Modeling Study of New Heterocyclic Compounds as Antiviral Agents"
8. Design, Synthesis and antiProliferative activity of new heterocyclic Derivatives

## Department Achievements

9. Update the vision and mission of the Department of Pharmaceutical Organic Chemistry.
10. Publishing many scientific researches in scientific fields with a high impact factor.
11. Complete the quality files in the department.
12. Publish googlescholar of staff members on the Faculty website
13. Participation with the competencies of the college graduates in the work of research groups within the department, which results in winning scientific conferences inside and outside the university and publishing in international conferences.
14. Existence of research projects in the department.
15. Develop department notebooks.
16. The department's participation in the college's nuclear magnetic resonance device project.
17. Completion of the electronic platform for the department's courses for college students and graduate students
18. Holding a training course for Dr. Sherine Abdel Hai El-Feki for teaching assistants on some computer programs for the practical part.
19. Participation of the department in the presence of a workshop entitled:  
(Okranian mini Symposim in pharmacy).



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## The proposed plan for the development of the department

To develop the workflow in the department, it is necessary to work in a team spirit of cooperation and integration among the department's members to achieve the desired goal, which is to advance the department in all aspects of education, research and integration with the community as shown in the following points:

1. Encouraging faculty members to apply for prizes.
2. Take the necessary steps towards reforming and developing the department's research laboratories.
3. Providing the equipment required to raise the level of scientific research performance for faculty members and their assistants.
4. Conducting specialized training courses to hone research skills, including: Molecular Docking and NMR analysis.
5. Participation in joint research with other departments.
6. The work of a research group within the department with the elite of distinguished students to stimulate students' skills in scientific research.
7. Doing international projects with foreign universities
8. Doing projects within the university and specialized bodies to obtain funding that would raise the efficiency of the research level within the department.
9. Increasing interest in university student activities to increase students' connection with the department and direct them to the appropriate labor market.
10. Create a guide for the department for reference that includes all the important points related to the organization of workflow in all areas within the department.
11. Responding to constructive criticism through corrective actions and the result of the educational process questionnaire.
12. Run the modeling lab.

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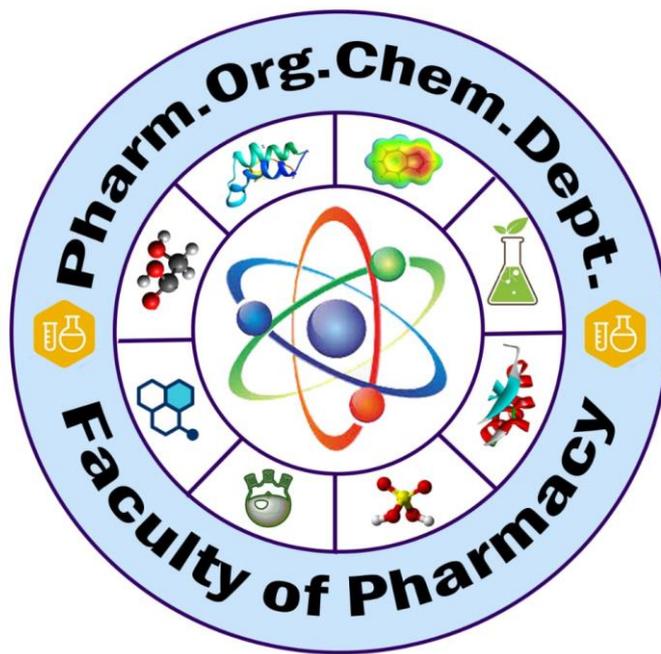
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