

CURRICULUM VITAE

Maram Basem Alhawarri, Ph.D.

Medicinal Chemistry and Pharmacognosy

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OVERVIEW:

Dr. Maram B. Alhawari, Ph.D., is a graduate of the School of Pharmaceutical Sciences, Universiti Sains Malaysia (QS World University Ranking: **134**), where she earned her Doctor of Philosophy in Pharmaceutical Chemistry (**2022**). Her doctoral research focused on phytochemical investigation, bioassay evaluation, and *in silico* studies of *Cassia timoriensis* DC. and *Cassia grandis* L.f., with emphasis on anti-cholinesterase activities as potential therapeutic strategies for Alzheimer's disease. Her work involved the isolation and structural characterization of bioactive compounds, assessment of antioxidants, anti-inflammatory, and cholinesterase inhibitory properties, and advanced analytical profiling using LC-UPLC-QToF-MS and HPLC. Dr. Alhawari also holds a master's degree in Medicinal Chemistry from Jordan University of Science and Technology (**2018**), where her thesis investigated the chemical composition and anticancer potential of *Androcymbium palaestinum*. This research led to the identification of several new natural compounds with promising cytotoxic activity against cancer cell lines. She completed her Bachelor of Science in Pharmacy at the University of Jordan (**2014**). Her academic training and research expertise lies in **medicinal chemistry, drug discovery, and natural products chemistry**, with particular interest in phytochemicals as potential leads for neurodegenerative and oncological diseases. Her work integrates experimental techniques with computational approaches to provide insights into drug–target interactions and therapeutic applications of natural products.

EDUCATION:

2019-2022

Ph.D., Pharmaceutical Chemistry, School of Pharmaceutical Sciences, Universiti Sains Malaysia, Penang, Malaysia.

Thesis Title: “**PHYTOCHEMICAL, BIOASSAY AND *IN SILICO* STUDIES ON ANTI-CHOLINESTERASE ACTIVITIES OF *CASSIA TIMORIENSIS* DC. AND *CASSIA GRANDIS* L.F.**” (Research Mode)

Supervisor: Prof. Dr. Habibah A. Wahab

Brief Synopsis of Research: The project included isolation, characterization and biological evaluation of active components of two *Cassia* species (*Cassia timoriensis* and *Cassia grandis*). Five compounds from each plant extract were isolated and identified. The identified compounds were tested for their antioxidant, anti-inflammatory, anti-acetylcholinesterase, and anti-butyrylcholinesterase activity as a potential therapy for Alzheimer's disease. Moreover, qualitative and quantitative analysis of chemical composition of both plants were investigated using LC-UPLC-QToF-MS and HPLC.

- 2014-2018** **M.Sc.,** Medicinal Chemistry, (Cumulative Average 3.37 , Very good), Department of Medicinal Chemistry and Pharmacognosy, Faculty of Pharmacy, Jordan University of Science and Technology, Irbid, Jordan.
 Thesis Title: **“INVESTIGATING THE CHEMICAL COMPOSITION AND ANTICANCER POTENTIAL OF ANDROCYMBIUM PALAESTINUM LEAVES ”.**
 Supervisor: Dr. Tamam El-Elimat.
- Brief Synopsis of Research:** The project included isolation, characterization and biological evaluation of active components of *A. palaestinum* (Colchicaceae). Thirteen compounds were isolated and identified; of which two were new and three were new natural compounds. The identified compounds were tested for their general cytotoxicity against three cancer cell lines. Moreover, the general cytotoxicity of crude methanolic extract was tested using BSLT. Qualitative and quantitative analysis of colchicine content of the leaves and corms of *A. palaestinum* were done using LC-MS and HPLC respectively.
 Dissertation Committee: Dr. Tamam El-elimat, Dr Ahmad Alhusban, Dr. Suraya Alnabulsi, Dr. Sulaiman Olimat and Dr. Khaled Tawaha
- 2009-2014** **B.Sc.,** Pharmacy (Cumulative Average 3.31, Very good), Faculty of Pharmacy, University of Jordan, Amman, Jordan.
- 2009** **Jordanian General Secondary Education Certificate (Tawjihi),** Scientific Stream – 2009, Average: 95.8% (Zarqa, Russeifa District).

ACADEMIC EXPERIENCE

- 01/10/2025- Present** **Assistant Dean for Quality Affairs,** Faculty of Pharmacy, Jadara University, Irbid, Jordan.
- 01/10/2022 – Present** **Assistant Professor,** Faculty of Pharmacy, Jadara University, Irbid, Jordan.
- 08/2022 – Present** **Reviewer,** Active peer reviewer for Springer Nature journals.
- 08/2018 – 12/2018** **Part time-Lecturer,** Department of Medicinal Chemistry and Pharmacognosy at the Faculty of Pharmacy – Jordan University of Science and Technology, Irbid, Jordan.
- 09/2017 – 01/2018** **Graduate Research Assistant,** Department of Medicinal Chemistry and Pharmacognosy at the Faculty of Pharmacy – Jordan University of Science and Technology, Irbid, Jordan.

TAUGHT COURSES:

- Advanced Instrumental Analysis (Msc)
- Research Methodologies and Techniques (Msc)
- Medicinal Chemistry 1 & 2 (Bsc)
- Medicinal Chemistry Lab (Bsc)
- Instrumental Analysis & Instrumental Analysis Lab (Bsc)
- Analytical Chemistry (Bsc)
- Toxic Plant and Toxicology (Bsc)
- Natural Product Chemistry (Bsc)
- Phytotherapy (Bsc)

- Methods of Drug Design (Bsc)

RESEARCH SKILLS AND SCIENTIFIC TECHNIQUES:

- **Bioassay and Pharmacological Evaluation:** Extensive experience *in vitro* assays, including acetylcholinesterase and butyrylcholinesterase inhibition, antioxidant assays, antimicrobial screening, and cytotoxicity evaluation using the MTT assay. Skilled in assessing toxicity and efficacy of natural extracts and pure compounds.
- **Chromatographic and Analytical Techniques:** Expertise in modern chromatographic methods, including HPLC (analytical and preparative), UPLC, LC/MS, GC/MS, open column chromatography, preparative TLC, and flash chromatography, with experience in developing new chromatographic protocols.
- **Spectroscopic and Structural Elucidation:** Extensive experience in small molecule structure determination using 1D-NMR (¹H, ¹³C, DEPT) and 2D-NMR (HSQC, edited-HSQC, HMBC, COSY, NOESY), as well as HRMS, HRMS/MS, UV, and IR spectroscopy.
- **Computer-Aided Drug Design (CADD):** Skilled in molecular docking, molecular dynamics simulations, ADMET prediction, and rational drug design for natural and synthetic compounds.
- **Scientific Communication:** Experienced in academic writing, data interpretation and visualization, and peer review for international journals.

WORKSHOPS AND CONFERENCES

11-2024	The 6 th International Conference on Integrative Approaches in Pharmacy (ICIAP 2024)- Attendance.
10-2024	Al-Zaytoonah 9th International Pharmaceutical Conference (ZIPC 2024) – Attendance.
06-2024	The Medicinal and Aromatic Plants Seminar- Virtual Oral Presenter.
10- 2023	International Conference on <i>in silico</i> Trends and Approaches in Drug Discovery and Development – Poster Presenter
06 -2023	Recent Trends in Pharmaceutical Research conference – Poster Presenter
04-2022	Mass Spectrometry Based Metabolomics Methods for Natural Product Analysis: From basics to advanced mining tools.
01- 2022	Oral speaker at the 2nd International Seminar and Call for Paper (ISCP) UTA '45 Jakarta 2021.
08- 2021	The Asian Symposium on Medicinal Plants and Spices XVII (2021) – Virtual Conference.
11-2021	Using Concatenated NMR and MS Analytical Data for metabolomic-guided production and isolation of Bioactive Natural Products.
06- 2021	Metabolomics: Searching For Biomarkers.
06-2021	Metabolomics For Dummies 2021.
12- 2020	Structural Elucidation Camp 2020.
05-2018	Manuscript Writing and Research Integrity workshop.

PUBLICATIONS:

No.	Publication Details (Author(s), Year, Title, Journal, Volume, Pages)	Indexing
1.	Al-Anazi, Menier, Mohammad M. Ibrahim, Abdullah Al-Fawwaz, <u>Maram B. Alhawarri</u> , Hasan Abumahmoud, Ahmad Al Shra'ah, Fatimah Alotaibi, Mody Albalawi, Aliyah Alhawiti, and Wejdan Al-Anazi. "Synthesis, Characterization and Biological Evaluation of New Furo [2, 3-b] pyridine Derivative: Molecular Docking, Antioxidant and Antimicrobial Activity Enhanced by Silver Nanoparticle Formulation." <i>Current Drug Delivery</i> (2026).	Scopus Q2 ISI Expanded
2.	Al-Anazi, Menier, Mohammad M. Ibrahim, Abdullah Al-Fawwaz, <u>Maram B. Alhawarri</u> , Hasan Abumahmoud, Ahmad Al Shra'ah, Fatimah Alotaibi, Mody Albalawi, Aliyah Alhawiti, and Wejdan Al-Anazi. "Synthesis, Characterization and Biological Evaluation of New Furo [2, 3-b] pyridine Derivative: Molecular Docking, Antioxidant and Antimicrobial Activity Enhanced by Silver Nanoparticle Formulation." <i>Current Drug Delivery</i> (2026).	Scopus Q2 ISI Expanded
3.	Al-Thiabat, Mohammad G., and <u>Maram B. Alhawarri</u> . "Computational Insights Into New Portulaca oleracea Alkaloids as Potential SARS-CoV-2 PLpro Inhibitors." <i>Chemistry & Biodiversity</i> 23.2 (2026): e02908.	Scopus Q2 ISI Expanded
4.	<u>Maram B. Alhawarri</u> , Dubey, A., Tufail, A., & Al-Thiabat, M. G. (2025). In silico insights into (±)-zanthonitidumine B: anti-Inflammatory potency and enantiomeric selectivity through molecular docking, DFT, and MEP studies. <i>Kuwait Journal of Science</i> , 100516.	Scopus Q2 ISI Expanded
5.	<u>Maram B. Alhawarri</u> (2025). Hypothesis-Driven Insights and Clinical Trial Updates in Alzheimer's Disease Pathogenesis. <i>CNS & Neurological Disorders-Drug Targets</i> .	Scopus Q2 ISI Expanded
6.	<u>Maram B. Alhawarri</u> , (2025). Schweinfurthiamide as a Promising Anticancer Agent: Molecular Docking, Dynamics, and ADMET Insights Targeting MTHFD2. <i>Journal of Pharmaceutical Innovation</i> , 20(5): 189.	Scopus Q2 ISI Expanded
7.	<u>Maram B. Alhawarri</u> , Mohammad G. Al-Thiabat, Amit Dubey, Aisha Tufail, Katreen Banisalman, Ghazi A. Al Jabal, Eman Alkasasbeh, Esra'a Ibrahim Al-Trad, and Bilal Harieth Alrimawi, (2025). Targeting necroptosis in MCF-7 breast cancer cells: <i>In Silico</i> insights into 8,12-dimethoxysanguinarine from <i>Eomecon Chionantha</i> through molecular docking, dynamics, DFT, and MEP studies. <i>PLoS ONE</i> , 20(1): e0313094.	Scopus Q1 ISI Expanded
8.	Eman Sulaiman, Mohammad M. Ibrahim, Mahmoud Al-Refai, <u>Maram B. Alhawarri</u> , Nayyef Aljaar, Basem F. Ali, Eman Al-Masri, Ali Shuaib, and Mohamad Nurul Azmi, (2025). Synthesis, Characterization, Crystal Structure, Antioxidant and Antimicrobial Activity of 4-Aryl-2-cyanomethoxy-6-(2, 5-dichlorothiophen-3-yl) nicotinonitrile Derivatives. <i>Journal of Molecular Structure</i> , 142833.	Scopus Q1 ISI Expanded
9.	<u>Maram B. Alhawarri</u> , (2025). Hypothesis-Driven Insights and Clinical Trial Updates in Alzheimer's Disease Pathogenesis. <i>CNS & Neurological Disorders - Drug Targets</i> . (Accepted)	Scopus Q2 ISI Expanded
10.	<u>Maram B. Alhawarri</u> , Dania F. Alsaffar, and Mohammad G. Al-Thiabat, (2025). Exploring Potential Phytochemical Inhibitors of Sars-Cov-2 Main Protease (3CL ^{pro}) From Malaysian Plants. <i>Journal of Tropical Forest Science</i> , 37: 48-73.	Scopus Q3 ISI Expanded
11.	Abdulsalam Abuelsamen, <u>Maram B. Alhawarri</u> , Mohammad G. Al-Thiabat, Ghaseb N. Makhadmeh, Tariq AlZoubi, Bilal Harieth Alrimawi, and Mohammad A. Khaleel, (2025). Theranostic Potential of Copper-64 ATSM Targeting MTHFD2: An <i>In Silico</i> Perspective on Hypoxia-Selective Imaging and Therapy. <i>Cell Biochemistry and Biophysics</i> , 1-19.	Scopus Q2 ISI Expanded
12.	Mohammad G. Al-Thiabat, Ibrahim M. Abdulbaqi, <u>Maram B. Alhawarri</u> , Ghazi A. Al Jabal, (2025). Andrographolide as a Potential MTHFD2 Inhibitor: Insights from Molecular Docking, Dynamics Simulation, and MM-PBSA. <i>Current Computer-Aided Drug Design</i> . (Accepted)	Scopus Q3 ISI Expanded

13.	Maram B. Alhawarri , and Suleiman Olimat, (2024). Potential Serotonin 5-HT _{2A} Receptor Agonist of Psychoactive Components of <i>Silene undulata</i> Aiton: LC-MS/MS, ADMET, and Molecular Docking Studies. <i>Current Pharmaceutical Biotechnology</i> , 26(2): 260-275.	Scopus Q2 ISI Expanded
14.	Maram B. Alhawarri , Mohammad G. Al-Thiabat, Amit Dubey, Aisha Tufail, Dania Fouad, Bilal Harieth Alrimawi, and Mohamad Dayoob, (2024). ADME profiling, molecular docking, DFT, and MEP analysis reveal cissamaline, cissamanine, and cissamdine from <i>Cissampelos capensis</i> Lf as potential anti-Alzheimer's agents. <i>RSC advances</i> , 14, 9878-9891.	Scopus Q1 ISI Expanded
15.	Maram B. Alhawarri , (2024). Exploring the anticancer potential of furanpydone A: A computational study on its inhibition of MTHFD2 across diverse cancer cell lines. <i>Cell Biochemistry and Biophysics</i> , 83(1), pp.437-454.	Scopus Q2 ISI Expanded
16.	Mohammad M. Ibrahim, Mohamad Nurul Azmi, Maram B. Alhawarri , Nik Nur Syazni Nik Mohamed Kamal, and Hasan AbuMahmoud (2024). Synthesis, characterization and bioactivity of new pyridine-2 (H)-one, nicotinonitrile, and furo [2, 3-b] pyridine derivatives. <i>Molecular Diversity</i> , 1-19	Scopus Q1 ISI Expanded
17.	Mohammad Murwih Alidmat, Maram B. Alhawarri , Mahmoud Al-Refai, Iman A. Mansi, Qosay Al-Balas, and Mohammad M. Ibrahim, (2024). Synthesis, Characterization and Glyoxalase inhibitory activity of 4, 6-Diheteroarylpyrimidine-2-amine derivatives: <i>In vitro</i> and <i>in silico</i> studies. <i>Egyptian Journal of Chemistry</i> , 68(2), pp.183-192.	Scopus Q3 ISI Expanded
18.	Dania Alsaffar, Maram B. Alhawarri , Ahmed Yaseen, Nur Aziah Hanapi, Siti Rafidah Yusof, Roza Dianita, and Nur Hidayah Kaz Abdul Aziz, (2024). Isolation, Structural Characterisation and Wound Healing Activity of Flavonoid and its Glycoside from <i>Euphorbia hirta</i> L. Methanolic Extract. <i>Iraqi Journal of Pharmaceutical Sciences</i> , 33(3): 89-105.	Scopus Q3
19.	Farah Mejbel Al Jaber, Maram B. Alhawarri , Aidiahmad Dewa, Zurina Zainal, and Fauziahanim Zakaria, (2024). Anti-obesity, phytochemical profiling and acute toxicity study of ethanolic extract of saffron (<i>Crocus sativus</i> L.). <i>Pharmacological Research-Modern Chinese Medicine</i> , 100420.	Scopus Q2
20.	Mohammad G. Al-Thiabat, Mohit Agrawal, Kantrol Kumar Sahu, Maram B. Alhawarri , Katreen Banisalman, Ghazi A. Al Jabal, and Haya Saleh Elqaderi, (2024). Potential MAO-B Inhibitors from <i>Cissampelos capensis</i> Lf: ADMET, Molecular Docking, Dynamics, and DFT Insights. <i>Chemistry & Biodiversity</i> , p.e202402351.	Scopus Q2 ISI Expanded
21.	Maram B. Alhawarri , Dianita, R., Rawa, M.S.A., Nogawa, T. and Wahab, H.A., (2023). Potential Anti- Cholinesterase Activity of Bioactive Compounds Extracted from <i>Cassia grandis</i> Lf and <i>Cassia timoriensis</i> DC. <i>Plants</i> , 12(2), p.344.	Scopus Q1 ISI Expanded
22.	Maram B. Alhawarri , Roza Dianita, Khairul Niza Abd Razak, Suriani Mohamad, Toshihiko Nogawa, and Habibah A. Wahab, (2021). Antioxidant, Anti-Inflammatory, and Inhibition of Acetylcholinesterase Potentials of <i>Cassia timoriensis</i> DC. Flowers. <i>Molecules</i> , 26(9): 2594.	Scopus Q1 ISI Expanded
23.	Maram B. Alhawarri , Nurul Amira Nurul Azman, Mira Syahfrien Amir Rawa, Roza Dianita, Amirah Mohd Gazzali, Toshihiko Nogawa, and Habibah A. Wahab, (2021). Potential Anti-Acetylcholinesterase Activity of <i>Cassia timorensis</i> DC. <i>Molecules</i> , 25 (19): 4545.	Scopus Q1 ISI Expanded
24.	Tamam El-Elimat, Maram B. Alhawarri , José Rivera-Chávez, Joanna E. Burdette, Austin Czarnecki, Mohammad Al-Gharaibeh, Ahmed H. Al Sharie, Ahmed Alhusban, Feras Q. Alali, and Nicholas H. Oberlies, (2020). Phenethyisoquinoline alkaloids from the leaves of <i>Androcymbium palaestinum</i> . <i>Fitoterapia</i> , 146, 104706.	Scopus Q1 ISI Expanded

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25. El-Elimat, Tamam, José Rivera-Chávez, Joanna E. Burdette, Austin Czarnecki, **Maram B. Alhawarri**, Mohammad Al-Gharaibeh, Feras Alali, and Nicholas H. Oberlies. Cytotoxic homoisoflavonoids from the bulbs of *Bellevallia flexuosa*. *Fitoterapia*, 127, 201-206. Scopus **Q1**
ISI Expanded
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LANGUAGES:

- Arabic: Native proficiency.
- English: Professional working proficiency, IELTS Academic Score: 7.0

ADDITIONAL SKILLS:

- Experienced in using **MS Office** applications (Word, Excel, PowerPoint).
- Excellent knowledge of **scientific search engines** (PubMed, Scopus, Google Scholar).
- Well-versed in **research methodologies** and scientific writing.
- Excellent knowledge in the programs: **Sciensfinder, ChemDraw, Endnote, MestreNova, Biovia Discovery Studio, AutoDockTools, GraphPad Prism, Biorender.**

REFERENCES:

- *Prof. Mohammad Ibrahim*, Professor of Organic Chemistry, Department of Chemistry, Faculty of Science, Al al-Bayt University, Jordan.
Email: Mohammadibrahim@aabu.edu.jo **Tel:** 00962779210080
- *Prof. Tamam El-Elimat*, Professor of Natural Products Chemistry, Department of Medicinal Chemistry and Pharmacognosy, Faculty of Pharmacy, Jordan University of Science and Technology, Jordan.
Email: Telimat@just.edu.jo **Tel:** 00962775963266
- *Prof. Habibah A. Wahab*, Professor, Present Deputy Vice-Chancellor of Research and Innovation, Universiti Sains Malaysia (USM), Penang, Malaysia.
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