

CURRICULM VITAE



PERSONAL

NAME: Khoulood A. Alkhamis

ADDRESS: Residence: Jubaiha
Amman, Jordan

Offices: Faculty of Pharmacy, Jordan
University of Science and Technology
(JUST), Irbid, 22110, Jordan

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EDUCATION

Ph.D. in Pharmaceutics, University of Iowa, December 1997-

Dr. Dale Eric Wurster, Major Professor.

Dr. Lloyd E. Matheson, Co-Major Professor.

B.S. in Pharmacy, University of Jordan, June 1991.

POSITIONS HELD

Training Manager and Technical Consultant, Jordan Uranium Mining Company, January 2018-September 2019.

Research specialist, The Jordanian Pharmaceutical Manufacturing Co., September 2011-September 2012

Professor, Jordan University of Science and Technology, Jan 2009 – present

Dean of Faculty of Pharmacy, Jordan University of Science and Technology, September 2007- August 2011

Vice Dean of Student Affairs, Jordan University of Science and Technology, September 2006-August 2007

Research specialist, University of Minnesota, USA, July 2005-August 2006

Associate Professor, Jordan University of Science and Technology, July 2003-Jan 2009

Assistant Dean, college of pharmacy, Jordan University of Science and Technology, September 1999-August 2002

Visiting Assistant Professor, University of Iowa, June 1999-August 1999

Assistant Professor, Jordan University of Science and Technology, December 1998-July 2003

Lecturer, Jordan University of Science and Technology, December 1997-December 1998

Visiting Assistant Professor, University of Iowa, June 1998-August 1998

Pharmacist, Hikma Pharmaceuticals, April 1992-December 1992.

TEACHING EXPERIENCE

Jordan University of Science and Technology

Advanced Physical Pharmacy, PHAR 751.

Advanced Physical Pharmacy, PHAR 851.

Compounding of Sterile Preparations Lab, PHMD 451

Drug Compounding Lab, PHMD 357

Drug Compounding Lab 1, PHAR 353

Drug Compounding Lab 2, PHAR 356

Ionic Equilibria, PHAR 952, PHAR 912

Pharmaceutics I, PHAR 351, PHAR 252, PHAR 353, PHMD 451

Pharmaceutics II, PHAR 354

Pharmaceutics III (PHAR 451, PHAR 354)

Pharmaceutical Technology, PHAR 458

Pharmacy Practice Lab I, PHAR 353

Pharmacy Practice Lab III, PHAR 454

Physical Pharmacy , PHAR 254, PHMD 352

Practical Pharmaceutical Application, PHAR 401

Surface and Interfacial Chemistry, PHAR 858.

Surface and Interfacial Phenomena, PHAR 965.

Various Experiments, PHAR 256.

Various Experiments, PHAR 355.

M.S. STUDENTS DIRECTED

Ashraf Abumhadi, (Fall 1999)

Wasfi Obeidat, (Fall 1999)

Rafeef Massadeh, (Spring 2000)

Udai Nuseirat, (Spring 2001)

Wafaa Almomani, (Spring 2002)
Nawzat Al-Jbour, (Fall 2004)
Shaimaa Abu Baker (Fall 2010)
Fatima Alzaharaa Gana (Spring 2011)
Kawthar Alzarini (Spring 2016)
Asal M Abdulraheem (Summer 2025)
Ghena Majdi Abualna'aj (Current)
Anwar Sa'ed Aljubeh (Current)

Ph.D STUDENTS DIRECTED

Mai Khanfar, (Spring 2004)
Rana Obeidat, (Spring 2004)
Suhair Al-Nimri, (Spring 2005)

COMMITTEES AND SERVICES

External

- Member, On-Site, Evaluation Committee for Faculty of Pharmacy, Jadara University, Irbid, Jordan, Higher Institutions Accreditation Bureau of Jordan, Amman, Jordan, 2022**
- Director, On-Site, Evaluation Committee for Faculty of Pharmacy, University of Jordan, Amman, Jordan, Higher Institutions Accreditation Bureau of Jordan, Amman, Jordan, 2018**
- Member, On-Site, Evaluation Committee for Faculty of Pharmacy, Al-Zaytoonah University, Amman, Jordan (for Quality Assurance Certificate), Higher Institutions Accreditation Bureau of Jordan, 2017**
- Member, Board of Trustees of Prince Al Hussein bin Abdullah II Technical University, 2016-2018.**

- Member, the Comprehensive Pharmacy Exam Committee, University of Kalamoon, Der-Atia, Syria (2009, 2010)
- Member, Higher Committee of Drugs in Jordan (2009–2011)
- Member, Certificate Equivalency Committee (2010-2011)
- Member, On-Site, Evaluation Committee for colleges of Pharmacy in Jordan, Ministry of Higher Education (2000-2002, 2004-2005)
- Reviewer, Journal of Pharmaceutical Sciences
- Reviewer, AAPS PharmSciTech
- Reviewer, Journal of Pharmacy & Pharmaceutical Sciences
- Reviewer, International Journal of Pharmaceutics
- Member, Local Advisory Board, Jordan Journal of Pharmaceutical Sciences

Jordan University of Science and Technology

- Member, Dean's Council (2007-2011)
- Director, Student affairs committee (2006-2007)
- Member, Student disciplinary committee (2000-2002)
- Member, Graduate studies committee (1999-2002)

Faculty of Pharmacy/Jordan University of Science and Technology

- Member, Faculty Council (2002-2003, 2019-2020, 2021-2022)
- Member, Advisory Committee (2021-present)
- Director, Peer Assessment Committee (2019-2020, 2021-2025)
- Member, Peer Assessment Committee (2020-2021, 2021-2025)
- Member, Assessment Committee (2021-2022)
- Member, Quality Assurance Committee (2021-present)
- Member, Accreditation Committee (2016-2017, 2019-2023)
- Director, Research Committee (2007-2011)
- Member, Research Committee (2024-present)
- Director, Faculty Council (2007-2011)
- Director, Graduate Studies Committee (2007-2011)

- Director, Library Committee. (1998-2005, 2012-2020)
- Member, Social Committee. (1998-2002)
- Safety committee. (2001-2002)
- Director, Tenders Committee, (1999-2002)

**Department of Pharmaceutical Technology/Faculty of Pharmacy/Jordan
University of Science and Technology**

- Leader, Pharmaceutics Focus Group (2022-2024)
- Member, Graduate Studies Committee (present)
- Member, Exam Assessment Committee (2022-2024)
- Member, Quality Assurance Committee (20022-present)
- Director, Research Committee (2016-2017)

University of Iowa

- 29th Pharmaceutics Graduate Student Research Meeting Committee, Iowa City, Iowa, 1997.
- AAPS secretary of the student chapter of College of Pharmacy, University of Iowa, 1997.

PROFESSIONAL ORGANIZATIONS:

- American Association of Pharmaceutical Scientists (AAPS)

HONORS

- Jordan University of Science and Technology Scholarship, 1992-1997.
- Member of board of trustees of Prince Al Hussein bin Abdullah II Technical University, 2016-2018.

FUNDED GRANTS AND CONTRACTS:

“Prediction of Multicomponent Adsorption by Activated Carbon Using Single Solute Isotherm Parameters II (Proposed Equation),” Khouloud A. Alkhamis, Dale Eric Wurster and Lloyd E. Matheson. JUST Research Grant 45/1998, Awarded May, 1998; 7360 JD.

“Prediction of Multicomponent Adsorption by Activated Carbon Using Single Solute Isotherm Parameters II (Proposed Equation),” Khouloud A. Alkhamis, Dale Eric Wurster. University of Iowa ; \$4500.

“The Application of Different Techniques for Improving the Solubility of Norethisterone Acetate starting with Polymorphism” Khouloud A. Alkhamis and Naji Najib. JUST Research Grant 105/1999, Awarded May, 1999; 4500 JD.

“An in Vitro Study of the Interaction Between Chitosan and Several Pharmaceutical Drugs”. Khouloud A. Alkhamis and Naji Najib. JUST Research Grant 124/1999, Awarded June, 1999; 7800 JD.

“Solid State Characterization of Fluconazole”. Khouloud A. Alkhamis and Aiman Obeidat. JUST Research Grant 50/2000, Awarded March, 2000; 5000 JD.

“ Bioequivalence evaluation of controlled release formulations of diltiazem HCl and diclofenac sodium developed by a novel approach: Controlled extraction and freeze drying”. Khouloud A. Alkhamis and Suhair Al-Nimri. ACDIMA Research Grant 3/2001, Awarded March, 2001; 15700 JD.

“Characterization of the Surface Properties of Chitosan Using Adsorption”. Khouloud A. Alkhamis, Mutaz Sheikh Salem and Mai Khanfar. JUST Research Grant 115/2001, Awarded October, 2001; 4350 JD.

“Micellar Solubilization of Gliclazide”. Hussien Allaboun, Khoulood A. Alkhamis and Wafa’a AlMomani. JUST Research Grant 160/2001, Awarded December, 2001; 3100 JD.

“Kinetics of Solid State Transformation of Fluconazole”. Mutaz Sheikh Salem, Khoulood A. Alkhamis and Rana Obaidat. JUST Research Grant 64/2002, Awarded July, 2002; 3000 JD.

“Dissolution of a Monodisperse Powder of Benzocaine”. Hussien Allaboun, Khoulood A. Alkhamis and Nawzat Al-Jbour. JUST Research Grant 105/2003, Awarded, 2003; 2650 JD.

“Influence of Solid State Acidity, Buffer and Ionic Strength on the Decomposition of Pharmaceutical Compounds in Lyophiles”. Khoulood A. Alkhamis, Bashar Altaani and Shaimaa Abu Baker. JUST Research Grant 116/2009, Awarded, 2009; 10,000 JD.

“The Effect of the Solid-State Acidity of Chitin-Metal Silicates on the Mechanical Strength of the Tablets, the Powder Compressibility and Plasticity”. Khoulood A. Alkhamis, Adnan Badwan and Fatima Z Gana. JUST Research Grant 191/2010, Awarded, 2010; 10,000 JD.

"The effect of specific surface area of chitin-metal silicate coprocessed excipient on the chemical decomposition of cefotaxime sodium". Khoulood A. Alkhamis, Suhair Al-Nimry and Kawthar Alzarieni. JUST Research Grant 17/2014, Awarded, 2014; 6700 JD + 2000 JD.

“Characterization of drug uptake and release from ion exchange resin”.

Khouloud A. Alkhamis, Suhair Al-Nimry and Hussein Allaboun. JUST Research Grant 189/2020, Awarded, 2020; 11,471.5 JD.

“Preparation of a modified release formulation of diltiazem hydrochloride using ion exchange resin” Khouloud A. Alkhamis, Suhair Al-Nimry. JUST Research Grant 580/2022, awarded, 2022; 9967 JD.

“Co-amorphous –metformin nanoparticles: preparation and characterization”

Khouloud A. Alkhamis, Mutaz Sheikh Salem. JUST Research Grant 445/2023, awarded, 2023; 9241 JD.

“Dissolution rate and stability improvement of hydrochlorothiazide and

valsartan by co-amorphous formulation” Khouloud A. Alkhamis, Suhair Al-Nimry, Asal M Abdulraheem. Research Grant 44/2024, awarded, 2024; 6497 JD.

“Stability and dissolution improvement of biopharmaceutics classification system class II drug: an application of co-amorphous system” Khouloud A.

Alkhamis, Ghena Majdi Abualna’aj. Research Grant 376/2025, awarded, 2025; 6426 JD.

RESEARCH INTERESTS

- Surface Phenomena (adsorption and micellar solubilization)**
- Polymorphism and Kinetics of Transformation**
- Contolled Release Formulations**
- Solid State Acidity and Kinetics**
- Microemulsions**
- Ion Exchange Resins**
- Co-amorphous systems**

PRESENTATIONS

1. **“Prediction of the Adsorption of Diazepam by Activated Carbon in Aqueous Media,” Khouloud A. Alkhamis, Dale Eric Wurster, Lloyd E. Matheson and Mary J. Berg, presented at the 28th Pharmaceutics Graduate Student Research Meeting, MA, June 1996.**
2. **“Prediction of the Adsorption of Diazepam by Activated Carbon in Aqueous Media,” Khouloud A. Alkhamis, Dale Eric Wurster, Lloyd E. Matheson and Mary J. Berg, presented at the 11th Annual Meeting of the American Association of Pharmaceutical Scientists, Seattle, WA, October 1996.
(Abstract published in Pharmaceutical Research 13, S-257 (1996).)**
3. **“Prediction of Multicomponent Adsorption by Activated Carbon Using Single Solute Parameters,” Khouloud A. Alkhamis, Dale Eric Wurster and Lloyd E. Matheson, presented at the 29th Pharmaceutics Graduate Student Research Meeting, Iowa City, IA, June 1997.**
4. **“Prediction of Multicomponent Adsorption by Activated Carbon Using Single Solute Parameters,” Khouloud A. Alkhamis, Dale Eric Wurster and Lloyd E. Matheson, presented at the 12th Annual Meeting of the American Association of Pharmaceutical Scientists, Boston, MA, November 1997.
(Abstract published in Pharmaceutical Research 14, S-490 (1997).)**
5. **“ The Adsorption of Ketotifen and Allopurinol by Chitosan,” Khouloud A. Alkhamis, Wasfi M. Obeidat and Naji M. Najib, presented at the 15th Annual Meeting of the American Association of Pharmaceutical Scientist, Indianapolis, In, November 2000.**

6. **"Solid State Characterization of Gliclazide," Khouloud A. Alkhamis, Rafeef K. Massadeh and Naji M. Najib, presented at the 15th Annual Meeting of the American Association of Pharmaceutical Scientist, Indianapolis, In, November 2000.**
7. **" Solid State Characterization of Fluconazole, " Khouloud A. Alkhamis, Aiman A. Obaidat and Adi F. Nuseirat, presented at the 16th Annual Meeting of the American Association of Pharmaceutical Scientist, Denver, CO, October 2001.8. " Determination of the Mechanism of Ketotifen Fumarate Uptake by Chitosan," Khouloud A. Alkhamis, Mutaz S. Salem and Mai S. Khanfar, presented at the 18th Annual Meeting of the American Association of Pharmaceutical Scientist, Salt Lake City, Utah, October 2003.**
9. **" Dehydration Kinetics of Fluconazole Monohydrate," Khouloud A. Alkhamis, Mutaz S. Salem and Rana M. Obaidat, presented at the 18th Annual Meeting of the American Association of Pharmaceutical Scientist, Salt Lake City, Utah, October 2003.**
10. **"Desolvation Kinetics Of Fluconazole Ethyl Acetate Solvate," Khouloud A. Annual Meeting of the American Association of Pharmaceutical Scientist, Baltimore, MD, November 2004.**
11. **"Studying Transformation Kinetics Of Fluconazole Polymorph II To Polymorph I Using Diffuse Reflectance Infrared Spectroscopy (drifts)," Khouloud A. Alkhamis, Mutaz S. Salem and Rana M. Obaidat, presented at the 19th Annual Meeting of the American Association of Pharmaceutical Scientist, Baltimore, MD, November 2004.**
12. **"Preparation of a Modified Release Dosage Form of Diltiazem Hydrochloride Using Cation Exchange Resins" Khouloud A. Alkhamis, Suhair S. Al-**

Nimry. PharmSci 360, Salt Lake City, Utah, October, 2024

PUBLICATIONS:

Thesis

Alkhamis, Khoulood A., "Prediction of the Adsorption Isotherm Parameters of Various Barbituric Acid Derivatives and Diazepam by Activated Carbon," Ph.D. Thesis, College of Pharmacy, University of Iowa, Iowa City, IA, 1997.

Journal Articles (Peer Reviewed)

1. Wurster, Dale Eric, Alkhamis, Khoulood A., Matheson, Lloyd E., "Prediction of multicomponent adsorption by activated carbon using single solute parameters." PharmSciTech, 2000, Volume 1, Issue 3, Article 27.
<https://doi.org/10.1208/pt010325>
2. Alkhamis, Khoulood A., Obeidat, Wasfi M., Najib, Naji M., " The Adsorption of Ketotifen and Allopurinol by Chitosan," PharmSciTech, 2001, Volume 2, Issue 1, Article 3. <https://doi.org/10.1208/pt020103>
3. Alkhamis, Khoulood A., Wurster, Dale Eric, "Prediction of multicomponent adsorption by activated carbon using single solute parameters. Part II- Proposed Equation." PharmSciTech, 2002, Volume 3, Issue 3, Article 23.
<https://doi.org/10.1208/pt030323>
4. Alkhamis, Khoulood A., Obaidat, Aiman, Nuseirat, Adi F., " Solid State Characterization of Fluconazole." Pharmaceutical Development and Technology, 2002, Volume 7, Issue 4, pp 491-503.
<https://doi.org/10.1081/PDT-120015052>
5. Alkhamis, Khoulood A., Allaboun, Hussien, AlMomani, Wafa'a. "Study of the Solubilization of Gliclazide by Aqueous Micellar Solutions." J. Pharm. Sci., 2003, Volume 92, Issue 4, pp 839-846. <https://doi.org/10.1002/jps.10350>

6. Alkhamis, Khoulood A., Wurster, Dale Eric, "Study of Multiple Component Adsorption on the Surface of Activated Carbon Using a Model System of Benzyl Alcohol and Phenobarbital." *Pharmaceutical Development and Technology*, 2003, Volume 8, Issue 2, pp 127-133.
<https://doi.org/10.1081/PDT-120018477>
7. Allaboun, Hussien, Alkhamis, Khoulood A., AlMomani, Wafa'a. "The Application of the Convective Diffusion Model and the Film Equilibrium Model to Surfactant-Facilitated Dissolution of Gliclazide." *European Journal of Pharmaceutical Sciences*, 2003, Volume 19, pp 231-236.
[https://doi.org/10.1016/S0928-0987\(03\)00107-6](https://doi.org/10.1016/S0928-0987(03)00107-6)
8. Wurster, Dale Eric, Alkhamis, Khoulood A., Matheson, Lloyd E., "Prediction of the Adsorption of Diazepam by Activated Carbon in Aqueous Media." *J. Pharm. Sci.*, 2003, Volume 92, Issue 10, pp 2008-2016.
<https://doi.org/10.1002/jps.10454>
9. Caira, Mino R., Alkhamis, Khoulood A., Obaidat, Rana M., "Preparation and Crystal Characterization of a Polymorph, a Monohydrate and an Ethyl Acetate Solvate of the Antifungal Fluconazole." *J. Pharm. Sci.*, 2004, Volume 93, Issue 3, pp 601-611. <https://doi.org/10.1002/jps.10541>
10. Alkhamis, Khoulood A., Salem Mutaz S., Obaidat Rana M., "Comparison Between Dehydration and Desolvation Kinetics of Fluconazole Monohydrate and Fluconazole Ethylacetate solvate Using Three Different Methods" *J. Pharm. Sci.*, 2006, Volume 95 , Issue 4 , pp. 859-870.
<https://doi.org/10.1002/jps.20605>
11. Allaboun, Hussein, Alkhamis, Khoulood A., Al Jbour, Nawzat D., "Effect of Surfactant Dissolution of Spherical Particles in Micellar Systems" *European J. of Pharmaceutics and Biopharmaceutics*, 2007, Volume 65, Issue 2, pp. 188-197. <https://doi.org/10.1016/j.ejpb.2006.07.017>

12. Alkhamis, Khoulood A., "Influence of Solid State Acidity on the Decomposition of Sucrose in Amorphous Systems (I) "International Journal of Pharmaceutics, 2008, Volume 362, pp. 74-80.
<https://doi.org/10.1016/j.ijpharm.2008.06.024>
13. Alkhamis, Khoulood A., Salem Mutaz S., Khanfar Mai S., "The Sorption of Ketotifen Fumarate by Chitosan", 2008, in AAPS PharmSciTech, 2008, Volume 9, Issue 3, pp. 866-869. <https://doi.org/10.1208/s12249-008-9123-z>
14. Alkhamis, Khoulood A., Salem Mutaz S., Khanfar Mai S., " Determination of the Mechanism of Uptake of Organic Vapors by Chitosan" Phrmaceutical Development and Technology, 2009, Volume 14, issue 1, pp 90-95.
<https://doi.org/10.1080/10837450802409453>
15. Alkhamis, Khoulood A., "Influence of Solid-State Acidity on the Decomposition of Sucrose in Amorphous Systems II (Effect of Buffer)" Drug Development and Industrial Pharmacy, 2009, Volume 35, issue 4, pp 408-416.
<https://doi.org/10.1080/03639040802422096>
16. Obaidat, Rana M., Alkhamis, Khoulood A., Salem Mutaz S., "Determination of Factors Affecting Kinetics of Solid State Transformation of Fluconazole Polymorph II to Polymorph I Using Diffuse Reflectance Fourier Transform Infrared Spectroscopy" Drug Development and Industrial Pharmacy, 2010, Volume 36, issue 5, pp 570-580. <https://doi.org/10.3109/03639040903358181>
17. Gana Fatima Z., Rashid Iyad, Badwan Adnan, Alkhamis Khoulood A., "Determination of Solid-State Acidity of Chitin-Metal Silicates and Their Effect on the Degradation of Cephalosporin Antibiotics" J. Pharm. Sci., 2012, Volume 101, issue 7, pp 2398-2407. <https://doi.org/10.1002/jps.23142>
18. Al-Nimry Suhair S., Alkhamis Khoulood A, Ibrahim Hussein G, Salem Mutaz S., "Development and Evaluation of a Novel Dosage Form of Diltiazem HCl Using Ethylene Vinyl Acetate Copolymer and Sodium Starch Glycolate (in

Vitro/ in Vivo Study)" J. applied polymer Science, 2013, Volume 127, issue 5, pp 4138-4149. <https://doi.org/10.1002/app.38013>

- 19. Al-Nimry Suhair S, Alkhamis Khoulood A, Alzarieni Kawthar Z., "The Effect of Specific Surface Area of Chitin-Metal Silicate Coprocessed Excipient on the Chemical Decomposition of Cefotaxime Sodium" J. Pharm. Sci., 2017, Volume 106, issue 2, pp 570-578. <https://doi.org/10.1016/j.xphs.2016.10.012>**
- 20. Al-Nimry Suhair S, Alkhamis Khoulood A, "Effect of Moisture Content of Chitin-Calcium Silicate on Rate of Degradation of Cefotaxime Sodium" AAPS PharmSciTech 2018, pp 1-7. <https://doi.org/10.1208/s12249-017-0948-1>**
- 21. Abu Fara Deeb, Rashid Iyad, Alkhamis Khoulood, Al-Omari Mahmoud, Chowdry B.Z., Badwan Adnan, "Modification of α -Lactose Monohydrate as a Direct Compression Excipient Using Roller Compaction" Drug Development and Industrial Pharmacy 2018, Volume 44, Issue 12, pp 2038-2047. <https://doi.org/10.1080/03639045.2018.1508224>**
- 22. Al-Nimry Suhair S, Alkhamis Khoulood A, Altaani Bashar M, "Solid Self-nanoemulsifying drug delivery system filled in enteric coated hard gelatin capsules for enhancing solubility and stability of omeprazole hydrochloride" Pharmaceutical Development and Technology 2020, Volume 25, Issue 5, pp 588-600. <https://doi.org/10.1080/10837450.2020.1721536>**
- 23. Altaani Bashar M, Almaaytah Ammar M, Dadou Suha, Alkhamis Khoulood, Daradka Mousa H, Hananeh Wael, "Oral delivery of teriparatide using a nanoemulsion system: design, in vitro and in vivo evaluation" Pharmaceutical Research 2020, Volume 37, Issue 80, pp 1-15. <https://doi.org/10.1007/s11095-020-02793-0>**
- 24. Altaani Bashar M, Alkhamis Khoulood A, Abu Baker Shaima'a, Haddad Razan, "The relationship between the Hammett acidity and the decomposition of cefotaxime sodium in the solid state" Drug Development and Industrial**

Pharmacy 2020, Volume 46, Issue 10, pp 1632-1638.

<https://doi.org/10.1080/03639045.2020.1813754>

- 25. Al-Nimry Suhair S., Alkhamis Khoulood A., Altaani Bashar M., “Validation of RP_HPLC method for determination of omeprazole in dissolution media and application to study in-vitro release from solid-SNEDDS” Current Pharmaceutical Analysis 2022, Volume 18, Issue 2, pp 208-217.
<http://dx.doi.org/10.2174/1573412917666210121151724>**
- 26. Allaboun Hussein, Alkhamis Khoulood A., Al-Nimry Suhair S., “Preparation of sustained release formulation of verapamil hydrochloride using ion exchange resins” AAPS PharmSciTech, 2023, Volume 24, Article 114, pp 1-10.
<https://doi.org/10.1208/s12249-023-02569-w>**
- 27. Alkhamis Khoulood A., Al-Nimry Suhair S., “ Preparation of diltiazem HCl modified release formulation using cation exchange resin as a single excipient” Pharmaceutical Development and Technology, 2025, Volume 30, Issue 3, pp 306-313. <https://doi.org/10.1080/10837450.2025.2474092>**
- 28. Asal M Abdulraheem, Khoulood A. Alkhamis, Suhair S. Al-Nimry., “Dissolution rate and stability improvement of hydrochlorothiazide and valsartan by co-amorphous formulation” Advances in Pharmacological and Pharmaceutical Sciences, 2026, Article DOI: 10.1155/adpp/9387077.**