

Dr. Ajaz Hussain
PhD approved Supervisor by HEC Pakistan



Personal Information

Ajaz Hussain S/O
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Date of Birth
12-03-1982

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Religion
Islam

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Multan

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Married

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Academic Qualification

Degree/Certificate	Institution/Board	Year of Passing
Ph. D.	HEJ Research Institute University of Karachi	2011
M. Sc.	BZU Multan	2005
B. Sc	BZU Multan	2003
F. Sc	BISE Multan	2001
Matric	BISE Multan	1999

Employment Record

Designation	Department/ Organization	Scale	Duration	Responsibilities
Junior Scientific Officer	Pakistan Navy	17	31-01-2011 to 31-01-2012	Routine Testing
Assistant Professor	Govt. College University Faisalabad	19	14-02-2012 to 31-08-2015	Teaching BS, M. Sc., M. Phil., Ph. D. Courses and Research supervision
Assistant Professor	Khwaja Fareed University of Engineering & Information Technology Rahim Yar Khan	19	01-09-2015 to 18-11-2016	Teaching BS, M. Sc. Courses
Assistant Professor	Bahauddin Zakariya University Multan	19	21-11-2016 to 25-07-2022	Teaching BS, M. Sc., M. Phil., Ph. D. Courses and Research supervision
Associate Professor	Bahauddin Zakariya University Multan	20	26-07-2022 to date	Teaching BS, M. Sc., M. Phil., Ph. D. Courses and Research supervision

Research Interests

Synthetic Organic Chemistry
Natural product Isolation
Biotransformation
Computational Studies

List of Publications

2009:

1. **Ajaz Hussain**, Shagufta perveen, Abdul Malik, Nighat Afza, Lubna Iqbal and Rasool Bakhsh Tareen., **Urease inhibitory Flavone glucosides from *Marrubium anisodon***, *Polish J. Chem.*, 2009, 83,1329-1335. IF=0.4

2010:

2. **Ajaz Hussain**, Shagufta perveen, Abdul Malik, Amna Nisar Khan and Rasool Bakhsh Tareen.,

Marrusidins A and B, New epimeric Labdane type diterpenes from *Marrubium anisodon*, *Helvetica Chimica Acta.*, 2010, 93, 1101-1104. IF=1.8

2011:

3. Shagufta Perveen , Nawal Musayeib, Itrat Fatima, Muhammad Nasir, **Ajaz Hussain, Antioxidant, anti-glycation and Anti-inflammatory Activities of Phenolic Constituents from *Cordia sinensis*.**, *Molecules.*, 2011, 16, 10214-10226. IF=4.6

4. Gamal A. El-Hiti , **Ajaz Hussain**, Amany S. Hegazy & Mohammad H. Alotaibi., **Thioxoquinazolines: synthesis, reactions and biological activities.**, *J Sulfur Chem.*, 2011, 32, 361-395. IF=2.2

2012:

5. Bakhat Ali, Rashad Mehmood, Riaz Hussain, Abdul Malik, Muhammad Imran, Haq Nawaz, **and Ajaz Hussain**, “**New Sphingolipids from *Abutilon pakistanicum*”**, *Z. Naturforsch.*, 2012, 67b, 433-437. IF=0.8

6. Itrat Anis, Nighat Afza, Muhammad Aslam, Muhammad Raza Shah, Muhammad Tahir Hussain, Tanveer Hussain Bokhari, **Ajaz Hussain** and Muhammad Safder; **Effect of zirconium nanoparticles on the mechanical properties of light cured resin based dental composites materials**, *Journal of the Chemical Society of Pakistan* 2012, 34, 634-638. IF=0.68

7. Muhammad Aslam, Itrat Anis, Nighat Afza, **Ajaz Hussain**, Waseem Ahmed and Muhammad Nadeem Arshad, **[4,4/- (Ethane-1,2-diyldinitrilo) bis (pent-2-en-2-olato)]copper(II) 0.25-hydrate**, *Acta Cryst.*, 2012, E68, m670.

8. Muhammad Shafiq, Islam Ullah Khan, William T. A. Harrison, **Ajaz Hussain** and Hina Ashraf, **6-Bromo-4-[2-(4-fluorobenzylidene)-hydrazin-1-ylidene]-1-methyl-3,4-dihydro-1H-2 λ6, 1-benzothiazine-2,2-dione**, *Acta cryst.*, 2012, E68, o2851.

9. Muhammad Aslam¹, Itrat Anis, Nighat Afza, Muhammad Tahir Hussain, Lubna Iqbal, **Ajaz Hussain**, Samina Iqbal, Tanveer Hussain Bokhari, Muhammad Khalid, **Synthesis, antibacterial, lipoxygenase and urease inhibitory activities of 2 amino phenol derivatives**, *Medicinal Chemistry and Drug Discovery*, 2012, 3, 80-86.

10. R. Ashraf, K. M. Ashfaq, T. A. Malik, A. H. Chaudhry, M. Aslam, M. S. Akhtar, **A. Hussain**, **Effect of pH and time on the Dissolution studies of Lansoprazole**, *International Journal of Current Pharmaceutical Research*, 2012, 4, 27-28.

11. Muhammad Aslam, Itrat Anis, Nighat Afza, **Ajaz Hussain**, Lubna Iqbal, Jamshed Iqbal, Zaitoon Ilyas, Samina Iqbal, Asif Hanif Chaudhry and Muhammad Niaz, **Structure-Activity relationship**

Study: Synthesis, Characterization and Biological Investigation of Schiff Bases derived from 2-Aminophenol and 4-Haloacetophenones, *Int Current Pharm Res*, 2012, 4, 42-48.

12. Muhammad Aslam, Itrat Anis, Nighat Afza, **Ajaz Hussain**, Shazia Yasmeen, Muhammad Safder, Asif Hanif Chaudhry, Mehroze Ahmed Khan and Muhammad Niaz, **Synthesis and Characterization of Schiff bases derived from 7-[[2-(2-Amino-1,3-Thiazol-4-YL)-2-(Carboxymethoxyimino)Acetyl]Amino]-3-Ethenyl-8-Oxo-5-Thia-1-Azabicyclo [4.2.0] Oct-2-ene-2-Carboxylic Acid, *Int Current Pharm Res*, 2012, 4, 53-55.**

13. I. Anis, M. Aslam, N. Afza, **A. Hussain**, F. S. Ahmad, L. Iqbal, M. Lateef, M. T. Hussain and T. H. Bokhari, **A One-Pot Synthesis, Characterization and Pharmacological Investigations: Schiff Bases, *International Journal of Pharmaceutical Chemistry*, 2012, 2, 73-77.**

14. Shoukat Parvez, Itrat Anis, Nighat Afza*, Muhammad Aslam, Muhammad Tahir Hussain, **Ajaz Hussain**, Tauqir Ali Sherazi, Muhammad Raza Shah, Muhammad Khalid and Tanveer Hussain Bokhari., **Synthesis, Characterization and Biological Activities of a Bidentate Schiff Base Ligand: N,N'-Bis(1-phenylethylidene)ethane-1,2-diamine and its Transition Metals (II) Complexes, *Journal of Chemical Society of Pakistan* 2012, 34,1502-1509. IF=0.68**

15. M. Aslam, N. Afza, I. Anis, M. Khalid, A. Hussain, T. H. Bokhari, M. Ibrahim, B. Ali, M. Niaz, A. H. Chaudhry and M. Arshad, Study of antioxidant activity of essential oil of *Thymus serpyllum*, *Pakistan Journal of Chemistry*, 2(3), 122-125 (2012).

16. **M. Aslam**, I. Anis, N. Afza, M. Khalid, A. Hussain, T. H. Bokhari, M. Niaz and A. H. Chaudhry, **Study of Antifungal Activity of Essential Oil of *Thymus Serpyllum*, *Pakistan Journal of Chemistry*, 2012, 2, 174-177.**

2013

17. M. Aslam, I. Anis, N. Afza, Z. Noreen, L. Iqbal, S. Iqbal, **A. Hussain**, M. Khalid, **Antioxidant and lipoygenase inhibitory activities of 2-[(2-methoxybenzylidene) amino] phenol derivatives, *Molecular and clinical pharmacology*, 2013, 4, 26-31.**

18. Elliott, Mark; Smith, Keith; Jones, Dyfyr; **Hussain, Ajaz**; Saleh, Basil, **“Factors affecting Migration of Tertiary Alkyl Groups from Boron to Carbon”, *Journal of Organic Chemistry*, 2013, 78, 3057-3064. IF=4.1**

19. M. Aslam, I. Anis, N. Afza, L. Iqbal, **A. Hussain**, M. Safder, A. H. Chaudhry, M. Khalid, S. S. U. Rahman, M. Niaz, **Synthesis, Spectroscopic characterization, Antioxidant and lipoygenase inhibition activity of N'-[(Z)-(1,5-Dimethyl-3-oxo-2-phenyl-2,3-dihydro-1Hpyrazol-4-yl)methylidene]-2-hydroxybenzohydrazide, *International Journal of pharmaceutical research*, 2013,**

5, 13-15.

20. Itrat Anis, Muhammad Aslam, Zahra Noreen, Nighat Afza, **Ajaz Hussain**, Asif Hanif Chaudhry, Muhammad Safder, **A review – Use of Schiff base transition metal complexes as a catalyst**, *International Journal of Current Pharmaceutical Research*, 5(2), 30-39 (2013).

21. Itrat Anis, Muhammad Aslam, Nighat Afza, Lubna Iqbal, Zahra Noreen, **Ajaz Hussain**, Muhammad Safder, **A review – An overview of biological activities Schiff base transition metal complexes**, *International Journal of Current Pharmaceutical Research*, 5(2), 48-57 (2013).

22. N. Afza, I. Anis, M. Aslam, L. Iqbal, Z. Noreen, **A. Hussain**, M. Safder, A. H. Chaudhry, **Convenient one-pot synthesis, antioxidant and urease inhibition activities of Schiff bases derived from 2-amino-5-chlorobenzophenone and monohalobenzaldehydes**, *International Journal of Current Pharmaceutical Research*, 5(2), 80-82 (2013).

23. N. Afza, I. Anis, M. Aslam, L. Iqbal, M. Lateef, Z. Noreen, **A. Hussain**, M. Safder, **A potent urease inhibitor: 2-[(2-[(E)-(2-hydroxyphenyl)methylidene]amino)ethyl]imino methyl}phenol-copper (II) complex**, *International Journal of Current Pharmaceutical Research*, 5(2), 83-85 (2013).

24. Muhammad Aslam, Itrat Anis, Nighat Afza, Muhammad Tahir Hussain, Rashad Mehmood, **Ajaz Hussain**, Sammer Yousuf, Lubna Iqbal, Samina Iqbal and Inamullah Khan, **Synthesis, X-Ray crystallography, molecular docking and biological screening of 2-aminophenol based Schiff bases**, *Journal of The Chilean Chemical Society*, 58(N° 3), 1651-1655 (2013). IF=1.4

25. Itrat Anis, Muhammad Aslam, Nighat Afza, Zahra Noreen, **Ajaz Hussain**, Muhammad Tahir Hussain, Tauqir Ali Sherazi and Muhammad Raza Shah, **Synthesis, Characterization, Antimicrobial and Cytotoxic Evaluation of a Bidentate Schiff Base Ligand: {5-Chloro-2-[(4-nitrobenzylidene)-amino]phenyl}(phenyl)methanone and its Transition Metal (II) Complexes**, *Journal of Chemical Society of Pakistan* 2013, 35, 1508-1515. IF=0.68

2015:

26. Muhammad Aslam, Itrat Anis, Nighat Afza, Rashad Mehmood, **Ajaz Hussain**, Tanveer Hussain Bokhari, Muhammad Tahir Hussain, Haq Nawaz, Muhammad Khalid, **“Synthesis, characterization and antibacterial investigation of divalent metal complexes of NO-donor ligand: {5-chloro-2-[(4-chlorobenzylidene)-amino]phenyl}(phenyl) methanone”**, *Journal of Saudi Chemical Society*, 2015, 19, 322-326. IF=5.6

27. Sadia Hanif, Muhammad Usman, Ajaz Hussain, Nasir Rasool, Muhammad Zubair, Usman Ali Rana, **“Solubilization of Benzothiazole (BNZ) by micellar media of Sodium dodecyl sulphate and Cetyl trimethylammonium bromide”** *Journal of Molecular liquids*, 2015, 211, 7-14. IF=6.0

28. Muhammad Aslam, Itrat Anis, Zahra Noreen, Abrar Hussain, Lubna Iqbal, **Ajaz Hussain**, Naresh Kumar, Samina Iqbal, **Potent Enzyme Inhibitors: Synthesis and Spectral Analysis of Some New Schiff Bases having Nucleus of Azomethine and Screened their Biological Evaluation**, *International Journal of Pharmaceutical Sciences Review and Research*, 2015, 32, 148-152.

29. Atif M, Ali I, Hussain A, Hyder SV, Niaz B, Khan FA, Maalik A, Farooq U., **Pharmacological assessment of hispidulin--a natural bioactive flavone**, *Acta Poloniae Pharmaceutica*. 2016, 73, 565-578. **IF=0.4**

2016:

30. Muhammad Aslam, Itrat Anis, Nighat Afza, Lubna Iqbal, Samina Iqbal, **Ajaz Hussain**, Rashad Mehmood, Muhammad Tahir Hussain, Muhammad Khalid and Haq Nawaz, **Biological Evaluation of Potent Antioxidant, Lipoxygenase Inhibitor and Antibacterial: A Comparative Study**, *J. Saudi Chem. Soc*, 2016, 20, 45-48. **IF=5.6**

31. Sadia Hanif, Muhammad Usman, **Ajaz Hussain**, Nasir Rasool, Abbas Khan, Muhammad Asghar Jamal, Abdallah Mohamed Elgorban, Usman Ali Rana, **"Spectroscopic study of benzothiophene partitioning in sodium dodecyl sulfate and cetyl trimethyl ammonium bromide micellar media"**, *Journal of Surfactants and Detergents*, 2016,19,1033-1041. **IF=1.6**

2017:

32. Naveed ul Haq, Muhammad Usman, **Ajaz Hussain**, Zahoor Hussain Farooqi, Muhammad Saeed, Sadia Hanif, Muhammad Irfan, Mohammad Siddiq, Usman Ali Rana, **Partitioning of Reactive Yellow 86 between Aqueous and Micellar Media studied by Differential Absorption Spectroscopy**, *Canadian Journal of Chemistry*, 2017, 95(6): 697-703. **IF=1.1**

2018:

33. Muhammad Ibrahim, Mazhar Abbas, Muhammad Khalid, Muhammad Nawaz Tahir, Muhammad Usman Khan, **Ajaz Hussain**, Asmat Ullah and Amjad Hussain, **Phytochemical, Crystal Structure, Spectroscopic, DFT Based Non Covalent Interactions and Non-Linear Optical Studies of Neurada procumbens**, *Journal of Chemical Society of Pakistan*, 2018, 40, 749-760. **IF=0.68**

34. Muhammad Imran Khan, Shagufta Zafar, Majeda Khraisheh, Muhammad Ali Khan, Abdul Rehman Buzdar, Munir Ullah Khan, Aziz ur Rehman, Prasert Prapamonthon, Warda Hassan, Abida Aziz, Muhammad Farooq Azhar, **Ajaz Hussain**, Junaid Tariq, **Development and surface modification of anion exchange membrane for enhancement of antifouling potential in electro dialysis process**, *Fresenius Environmental Bulletin*, 2018, 27, 6751-6761. **IF=0.49**

35. Muhammad Ibrahim, Shanza Siddique, Kanwal Rehman, Muhammad Husnain, **Ajaz Hussain**, Muhammad Sajid Hameed Akash, Farooq Azam, “**Comprehensive Analysis of phytochemical Constituents and Ethnopharmacological Investigation of Genus Datura**, *Critical Reviews in Eukaryotic Gene Expression*, 2018, 28, 223-283. IF=1.6

2019:

36. Muhammad Khalid, Riaz Hussain, Ajaz Hussain*, Bakhat Ali, Farrukh Jaleel, Muhammad Imran, Mohammed Ali Assiri, Muhammad Usman Khan, Saeed Ahmed, Saba Abid, Sadia Haq, Kaynat Saleem, Shumaila Majeed and Chaudhary Jahrukh Tariq, **Electron Donor and Acceptor Influence on the Nonlinear Optical Response of Diacetylene-Functionalized Organic Materials (DFOMs): Density Functional Theory Calculations**, *Molecules*, 2019, 24, 2096. IF=4.6

2020:

37. Burhan Khan, Muhammad Khalid, Muhammad Raza Shah, Muhammad Nawaz Tahir, Hafiz Muhammad Asif, Hossein Asghar Rahnamaye Aliabad, Ajaz Hussain, **Synthetic, spectroscopic, SC-XRD and nonlinear optical analysis of potent hydrazide derivatives: A comparative experimental and DFT/TD-DFT exploration**, *Journal of Molecular Structure* 2020, 1200, 127140. IF=3.8

38. Ajaz Hussain, Muhammad Usman Khan, Muhammad Ibrahim, Muhammad Khalid, Akbar Ali, Shafqat Hussain, Muhammad Saleem, Naseeb Ahmad, Shabbir Muhammad, Abdullah G. Al-Sehemi, Ayesha Sultan, **Structural parameters, electronic, linear and nonlinear optical exploration of thiopyrimidine derivatives: A comparison between DFT/TDDFT and experimental study**, *Journal of Molecular Structure*, 2020, 1201, 127183. IF=3.8

39. Ahmad Irfan, Muhammad Imran, Abdullah G. Al-Sehemi, Mohammed A. Assiri, Ajaz Hussain, Noreen Khalid, Sami Ullah and Ghulam Abbas, “**Quantum chemical, experimental exploration of biological activity and inhibitory potential of new cytotoxic kochiosides from Kochia prostrata (L.) Schrad**” *Journal of Theoretical and Computational Chemistry*, 2020, 19, 2050012. IF=0.9

40. Muhammad Tariq, Ahmad Kaleem Qureshi, Muhammad Hamid, Naseem Abbas, Ajaz Hussain, Muhammad Naeem Khan, “**Organotin (IV) based Rabeprazole and Pregabalin Complexes Formation and Biocidal Investigation**” *Acta Chemical Malaysia*, 2020, 4, 17. IF=

41. Muhammad Sajid, Muhammad Razzaq, Zeeshan Ali, Dilshad Hussain, Ajaz Hussain, Ahmad Yar, Muhammad Hayat, “**Determination of Neonicotinoid (Nitenpyram, Imidacloprid and Acetamiprid) Pesticides Residues in Five Dried Vegetables by High Performance Liquid Chromatography**”, *Journal of Chromatography and Separation Techniques*, 2020, 2, 431. IF=1.15

42. Saghir Hussain, Tariq Mahmood Ansari, Hina Sahar, Shamsa Kanwal, Farrukh Mansoor, Timur Darak, M. Zubair Iqbal, Fahim Khurshid Butt, Ajaz Hussain, Aun Muhammad, Sher Zaman, Ghulam Hasnain Tariq, Hafiz Muhammad Asif, “**Functionalisation of MWCNTs with piperazine and dopamine derivatives and their potential antibacterial activity**” *Micro & Nano Letters*, 2020, 15,

2021

43. Faiz Rasool, Muhammad Khalid, Muhammad Yar, Khurshid Ayub, Muhammad Tariq, Ajaz Hussain, Mehreen Latif, Muhammad Kashif, Sana Iqbal, **Facile Synthesis, DNA binding, Urease inhibition, antioxidant, molecular docking and DFT studies of 3-(3-Bromo-phenyl)-1-(2-trifluoromethyl-phenyl)-propenone and 3-(3-Bromo-5 chloro-phenyl)-1-(2-trifluoromethyl-phenyl)-propenone**, *Molecular Liquids*, 2021, 336, 116302. . IF=6.0
44. Khalid Mahmood, Atif Ali Altaf, Muhammad Nawaz Tahir, Ajaz Hussain, Muhammad Khalid, Muhammad Tariq, Muhammad Islam, Muhammad Yaqub, Amin Badshah, Samia Kausar, Muhammad Zaheer,. **2-Amino-6-methylpyridine based Salt Converted to Carbon Electrode Material for Supercapacitive Application**, *Journal of Molecular Structure*, 2021, 1244, 130895. . IF=3.8
45. Bakhat, Ali, Muhammad Khalid, Sumreen Asim, Muhammad Usman Khan, Zahid Iqbal, Ajaz Hussain, Riaz Hussain et al. **"Key Electronic, Linear and Nonlinear Optical Properties of Designed Disubstituted Quinoline with Carbazole Compounds."** *Molecules* 2021, 26, no. 9: 2760. IF=4.6
46. Muhammad Khalid, Muhammad Usman Khan, Iqra Shafiq, Riaz Hussain, Khalid Mahmood, Ajaz Hussain, Rifat Jawaria... **"NLO potential exploration for D- π -A heterocyclic organic compounds by incorporation of various π -linkers and acceptor units."** *Arabian Journal of Chemistry* 2021, 14, no. 8 (2021): 103295. IF=6
47. Naheed Ashraf, Sajjad Hussain Sumrra, Mohammad A. Assiri, Muhammad Usman, Riaz Hussain, Aziz, F., Hussain, A., Ghaffari, M.A., Qaisar, M.N., Imran, M. and Irfan, A., 2021. ***Digera muricata* (L.) Mart. mediated synthesis of antimicrobial and enzymatic inhibitory zinc oxide bionanoparticles.** *Green Processing and Synthesis*, 10(1), pp.476-484. IF=3.97

2022:

48. Abdul Sattar, Riaz Hussain, * Sahar Ishaq, Mohammed A. Assiri, Muhammad Imran, Ajaz Hussain, Mirza Arfan Yawer, Saleem Jan, Riaz Hussain, Muhammad Yasir Mehboob, Muhammad Khalid, and Khurshid Ayub, **Nonfullerene Near-Infrared Sensitive Acceptors "Octacyclic Naphtho[1,2-b:5,6-b] Dithiophene Core" for Organic Solar Cell Applications: In Silico Molecular Engineering**, *ACS OMEGA* 2022, 7, 16716-16727 IF=4.1
49. Wed Mohammed Ali ALaerjani, Khalid Ali Khan, Badria M. Al-Shehri, Hamed A. Ghramh, Ajaz Hussain, Mohammed Elimam Ahamed Mohammed, Muhammad Imran, Irfan Ahmad, Saboor Ahmad and Abdulrhaman S. Al-Awadi, **Chemical Profiling, Antioxidant, and Antimicrobial Activity of Saudi Propolis Collected by Arabian Honey Bee (*Apis mellifera jemenitica*) Colonies**, *Antioxidants* 2022, 11, 1413. IF=7
50. Muhammad Imran, Sana Iqbal, Ajaz Hussain, Jalal Uddin, Mohsin Shahzad, Tanwir Khaliq, Abdul Razzaq Ahmed, Laiba Mushtaq, Muhammad Kashif, Khalid Mahmood, **In silico screening, SAR and kinetic studies of naturally occurring flavonoids against SARS CoV-2 main protease**, *Arabian Journal of Chemistry* 2022, 15, 103473. IF=6
51. Faiz Rasool, Ajaz Hussain*, Khurshid Ayub, Muhammad Tariq, Khalid Mahmood, Sammer Yousuf, Muhammad Yar, Muhammad Khalid, Hafiza Saba Samreen, Mehreen Lateef, Abdul Malik, **Experimental and Theoretical investigations on (E)-3-(4-ethoxyphenyl)-1-(2-(trifluoromethyl)phenyl)prop-2-en-1-one and (E)-3-(naphthalen-2-yl)-1-(2-(trifluoromethyl) phenyl)prop-2-en-1-one: DNA binding, Urease inhibition and Promising NLO response**, *Journal of Molecular Structure* 2022, 1253, 132194. IF=3.8
52. Saira Khan, Riaz Hussain, Abdul Sattar, Mohammed A. Assiri, Muhammad Imran, Ajaz Hussain, Mirza Arfan Yawer, Riaz Hussain, Muhammad Yasir Mehboob, Sajjad Hussain Sumrra, Muhammad Khalid, Khurshid Ayub, **Quantum chemical designing of novel fullerene-free acceptor molecules for organic solar cell applications** *Journal of Molecular Modeling* 2022, 28, 67. IF=2.2
53. Khalid Mahmood, Umay Amara, Shahzadi Siddique, Muhammad Usman, Qiaohong Peng, Muhammad Khalid, Ajaz Hussain, Muhammad Ajmal, Adeel Ahmad, Sajjad H.Sumrra, Zheng-Ping Liu, Waheed S.Khan, Muhammad Naeem Ashiq, **Green synthesis of Ag@CdO nanocomposite and their application towards brilliant green dye degradation from wastewater**, *Journal of Nanostructure in Chemistry* 2022, 12, 329-341. IF=10.1
54. Faiz Rasool, Ajaz Hussain, Muhammad Yar, Khurshid Ayub, Muhammad Sajid, Muhammad Ali Khan, Hafiz Muhammad Asif, Muhammad Imran, Mohammed A. Assiri, **Nonlinear optical response of 9,10-bis(phenylethynyl)anthracene mediated by electron donating and electron withdrawing substituents: A density functional theory approach**, *Materials Science in Semiconductor Processing* 2022, 148, 106751. IF=4.1
55. Noreen kanwal, Riaz Hussain, Abdul Sattar, Mohammed A. Assiri, Muhammad Imran, Ajaz Hussain, Mirza

Arfan Yawer, Riaz Hussain, Muhammad Yasir Mehboob, Muhammad Khalid, Khurshid Ayub, Talha Hassan, **DFT based modeling of asymmetric non-fullerene acceptors for high-performance organic solar cell**, *Optical and Quantum Electronics* 2022,54, 546. **IF=2.7**

56. Uzma Saleem, Muhammad Tariq, Muhammad Nadeem, Shahid Hussain, Muhammad Ali Khan, Hafiz Muhammad Asif, Ajaz Hussain, Gaber A.M. Mersal, Islam H. El Azab, **Synthesis of photoactive Polyoxometalate-porphyrin hybrids to trigger the photocurrent by designing the ultra-thin films**, *Optical Materials* 2022, 134, 113005. **IF=3.9**

57. Muhammad Zubair, Sohail Shahzad, Ajaz Hussain, Rehan Ali Pradhan, Muhammad Arshad and Aman Ullah, **Current Trends in the Utilization of Essential Oils for Polysaccharide- and Protein-Derived Food Packaging Materials**, *polymers* 2022, 14, 1146. **IF=5**

2023:

58. Mustafai, Aleena, Muhammad Zubair, Ajaz Hussain, and Aman Ullah. "Recent Progress in Proteins-Based Micelles as Drug Delivery Carriers." *Polymers* 15, no. 4 (2023): 836. **IF=5**

59. Iqbal, Muniba, Ajaz Hussain, Asma Naz, Riaz Hussain, Muhammad Yar, Khurshid Ayub, M. Rehan H. Shah Gilani, Muhammad Imran, and Mohammed A. Assiri. "Tailoring the solar cell efficiency of Y-series based non-fullerene acceptors through end cap modification." *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 291 (2023): 122322. **IF=4.4**

60. Alarfaji, S. S., Rasool, F., Iqbal, B., Hussain, A., Hussain, R., Akhlaq, M., & Rehman, M. F. U. (2023). In Silico Designing of Thieno [2, 3-b] thiophene Core-Based Highly Conjugated, Fused-Ring, Near-Infrared Sensitive Non-fullerene Acceptors for Organic Solar Cells. *ACS omega*, 8(5), 4767-4781. **IF=4.1**

61. Iqbal, Muniba, Ajaz Hussain, Riaz Hussain, Khurshid Ayub, Muhammad Yar, Faiz Rasool, Muhammad Imran, Mohammed A. Assiri, and Abdul Sattar. "Computer aided design and evaluation of benzothiadiazole based non-fullerene acceptors for organic solar cells applications." *Solar Energy* 260 (2023): 34-48. **IF=6.7**

62. Sarfaraz, Sehrish, Muhammad Yar, Ajaz Hussain, Ahmed Lakhani, Adnan Gulzar, Muhammad Ans, Umer Rashid et al. "Metallofullerenes as Robust Single-Atom Catalysts for Adsorption and Dissociation of Hydrogen Molecules: A Density Functional Study." *ACS omega* (2023). **IF=4.1**

63. Mustafai, Aleena, Ajaz Hussain, Muhammad Yar, Riaz Hussain, Khurshid Ayub, Muhammad Imran, and Mohammed A. Assiri. "Triquinoxalinylene and Benzoquinone based Covalent Organic Framework as robust material for mitigation of environmental pollutants-A theoretical approach." *Journal of Molecular Liquids* (2023): 123304. **IF=6**

64. Farooq, Sadia, Ajaz Hussain, Muhammad Yar, Muhammad Tariq, Khalid Mahmood, Khurshid Ayub, Riaz Hussain, Faiz Rasool, Muhammad Imran, and Mohammed A. Assiri. "Nonlinear optical response of facially polarized all cis-1, 3, 5-trifluorocyclohexane doped with transition metals and calcium." *Journal of Molecular Liquids* 391 (2023): 123331. **IF=6**

65. Zeeshan, Muhammad, Sadia Ghazanfar, Muhammad Tariq, Hafiz Muhammad Asif, Ajaz Hussain, Muhammad Usman, Muhammad Ali Khan, Khalid Mahmood, Muhammad Sirajuddin, and Muhammad Imran. "Synthesis of novel ternary NiO-CdO-Nd₂O₃ nanocomposite for biodiesel production." *Renewable Energy* 210 (2023): 800-809. **IF=8.63**

66. Samreen, Hafiza Saba, Ajaz Hussain, Muhammad Yar, Mohammed Battah Alshammari, Khurshid Ayub, Muhammad Adeel, Muhammad Tariq, Mehreen Lateef, Mohammed Afroz Bakht, and Faiz Rasool. "Photophysical and biological aspects of α , β -unsaturated ketones: Experimental and in silico approach." *Journal of Biochemical and Molecular Toxicology* (2023): e23433. **IF=3.56**

67. Khan, Rabbia, Sonia Rani, Muhammad Tariq, Faiz Rasool, Ajaz Hussain, Khalid Mahmood, Hafiz Muhammad Asif, Muhammad Usman, and Muhammad Sirajuddin. "Experimental and theoretical studies on new organotin (IV) complexes with oxygen donor ligand: DNA binding, molecular docking and antimicrobial activity." *Journal of Chemical Sciences* 135, no. 3 (2023): 90. **IF=1.7**

68. Rasool, Faiz, Ajaz Hussain, Tania Shamim Rizvi, Muhammad Yar, Khurshid Ayub, Muhammad Khalid, Ahmed Al-Harrasi, Mehreen Lateef, and Sana Iqbal. "Combined experimental and computational approach toward biological, physicochemical and quantum chemical aspects of substituted 1-[5-phenyl-3-(2-trifluoromethyl-phenyl)-4, 5-dihydro-pyrazol-1-yl]-ethanone." *Results in Chemistry* 5 (2023): 100772. **IF=2.3**

69. Basri, Rabia, Nadeem Ahmed, Ajaz Hussain, Muhammad Yar, Khurshid Ayub, Aleena Mustafai, Mutasem Z. Bani-Fwaz et al. "Chromone-derived chemosensors: an experimental and theoretical study on cyanide detection." *Supramolecular Chemistry* 34, no. 7-8 (2023): 295-311. **IF=2.1**

2024:

70. Zubair, Muhammad, Sadia Farooq, Ajaz Hussain, Sadia Riaz, and Aman Ullah. "A Review of Current

- Developments in Graphene Oxide-Polysulfone Derived Membranes for Water Remediation." *Environmental Science: Advances* (2024).
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Book Chapter

1. **Muniba Iqbal, Sadia Farooq, Ajaz Hussain, "Advances in Protein and Lipid-based Materials for cosmetic applications", *Functional materials from Lipids and Proteins*, edited by Nandika Bandara and Aman Ullah, The Royal Society of Chemistry, 2024, pp 280-318.**

Conferences/Seminrs/trainings attended

1. Participated in the International symposia at HEJ Research Institute of chemistry 2009, 2011.
2. Oral presentation in 9th International and 21st National Chemistry Conference 2011 held in University of Karachi, Karachi- Pakistan
3. Poster entitled "Flavone glucosides and Epimeric Labdane type diterpenoids" (Presented in 12th International Symposium on Natural Product Chemistry at ICCBS Pakistan)
4. Participated in National Conference entitled "Divine religions and Environment" on 03-12-2012 in GCUF.
5. Participated in TELS workshop on "Professional development for teaching through the medium of English" held on 14-11-2012 in GCUF.
6. Participated in Conference on Chemistry and Industry held in GCUF.
7. Participated in NASIC workshop on modern spectroscopic techniques held at HEJ Research Institute of Chemistry, University of Karachi
8. Participated in National Workshop on Molecular modeling in GCU Lahore.
9. Oral talk in the International Chemistry Conference held at QAU Islamabad
10. Invited talk in University of Education, Vehari Campus entitled "Synthesis Methods and applications"
11. Member of Organizing Committee for "A day Long International Chemistry Conference entitled Recent Trends in Chemical Sciences at the Institute of Chemical Sciences, BZU Multan
12. Member of Organizing Committee during "Three Days International Chemistry Conference entitled Frontiers of Chemistry" at the Institute of Chemical Sciences, BZU Multan

Distinctions

- Bronze Medalist in M. Sc. From Bahauddin Zakariya University, Multan 2005.
- Third position in M. Phil courses from HEJ Research Institute 2006-2007.
- SPRA (Short term PhD research attachment programme) fellowship mutually funded by Higher Education Commission Pakistan and British Council Pakistan (Research work for 6 months in Cardiff University, UK).

Research Projects

- 0.5 M grant under Startup Research grant Program of Higher Education Commission, Pakistan.
- BZU Research grant of 0.165M for M.Phil student

Professional Experience

- Served for one year in Pakistan Navy Missile Complex as Junior Scientific Officer (*i.e.* 31-01-2011 to 16-01-2012).
- Served as Assistant Professor in Government College University, Faisalabad for a period of 3.5 Years and 17 days (*i.e.* 14-02-2012 to 31-08-2015).
- Served as Assistant Professor in Khwaja Fareed University of Engineering & Information Technology, Rahim Yar Khan, for a period of 01 Year 02 months and 18 days from 01-09-2015 to 18-11-2016.
- Serving as Assistant Professor in the Institute of Chemical Sciences Bahauddin Zakariya University Multan since 21-11-2016.

Supervision

- Supervised 11 M. Phil. students and 02 Undergraduate students
- Evaluated 10 M. Phil. thesis from other universities

Administrative Responsibilities

- Convener Disciplinary Committee, KFUEIT
- President Selection Committee for the post of Security Guards, KFUEIT
- President Selection Committee for the post of Drivers, KFUEIT
- President Selection Committee for the post of Sub-Engineer (Electrical), KFUEIT
- President Selection Committee for the post of Tube well/Turbine Operator, KFUEIT
- President Selection Committee for the post of Electrician, KFUEIT
- President Selection Committee for the post of Generator Operator, KFUEIT
- President Selection Committee for the post of Lab. Engineers/ Teaching Assistant, KFUEIT
- President Auction Committee for Trees, KFUEIT
- President Auction Committee for Old Building Material, KFUEIT
- Convener BoS, Department of Basic Sciences & Humanities, KFUEIT

- Member of Inquiry Committees, KFUEIT
- Member of Campus Construction Committee, KFUEIT
- Member of Officiating Committee in the absence of Vice Chancellor, KFUEIT
- Member of Local Purchase Committee, KFUEIT
- Member of Technical Evaluation committee for the purchase of Lab. Equipment, KFUEIT
- Resident Tutor of Sir Syed Hall, KFUEIT
- HoD in the Department of Basic Sciences & Humanities, KFUEIT

Lectures delivered to B. S and M. Sc students

- Acid/ Base Chemistry
- Aliphatic Electrophilic Substitution
- Basics of Stereochemistry
- Coordination Chemistry
- Introduction to spectroscopy
- Electrochemistry
- Quantum chemistry
- Nuclear Chemistry
- Aromaticity, Aromatic Electrophilic and Aromatic Nucleophilic Substitution reactions
- Aliphatic Nucleophilic substitution reactions
- Basic Concepts
- Elimination
- Named Reactions in Organic Chemistry
- Addition reactions
- Advanced Stereochemistry
- Oxidation Reduction reactions
- Retrosynthesis

Lectures delivered to M.Phil students

- Advanced Stereochemistry
- Symmetry Controlled Reactions
- Biosynthesis of secondary metabolites
- Reactive Intermediates

Lectures delivered to Ph. D. Students

- Natural Antioxidants
- Pericyclic Chemistry

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