

CURRICULUM VITAE

Name Muhammad Tayyab
Nationality: China
Qualification Kind: Ph. D
Academic degree: Assistant professor
University: Tsinghua University, China
Specialization: Chemistry
Qualification Northeast Normal University, China
Place:
Mobile No.: +8618516642887
E. mail: m.tayyab72@stcrs.com.ly -
m.tayyab72@sz.tsinghua.edu.cn



Google Scholar link- : <https://scholar.google.com/citations?user=09CfTfIAAAAJ&hl=en>

Websites:

ResearchGate: <https://www.researchgate.net/profile/Muhammad-Tayyab-44>

LinkedIn: <https://www.linkedin.com/in/muhammad-tayyab-9620a088/>

Web of Science ResearcherID: <https://www.webofscience.com/wos/author/record/ABA-4372-2021>

Career Overview

Graduate study	East China University of Science and Technology Shanghai, People's Republic of China - 2016
Postgraduate (MSc)	M.Phil in Chemistry (18 Years of Education)
From	University of Gujrat, Punjab, (Pakistan) - 2018
Postgraduate study	PhD in Chemistry
(PhD) From	East China University of Science and Technology Shanghai, People's Republic of China - 2023

C. PROFESSIONAL EXPERIENCE

Postdoc at Tsinghua Shenzhen International Graduate School, Shenzhen, China (September ~ 2023present).

Research Associate at Tsinghua Shenzhen International Graduate School, Shenzhen, China (July 2023 ~ August 2023)

Research Associate at East China University of Science and Technology, Shanghai, China (September 2019 ~ May 2023).

Research Assistant at University of Gujrat, Punjab, Pakistan (May 2018 to May 2019).

- (1) **Muhammad Tayyab**, Seemal Mansoor, Zeeshan Akmal, Mazhar Khan, Liang Zhou, Juying Lei and Jinlong Zhang. A binary dumbbell visible light driven photocatalyst for simultaneous hydrogen production with the selective oxidation of benzyl alcohol to benzaldehyde. *Journal of Colloid and Interface Science*, 2024, 665, 911-921. (IF: 9.965) (Q1)
- (2) **Muhammad Tayyab**, Yujie Liu, Zhiguo Liu, Zehong Xu, Wenhui Yue, Liang Zhou, Juying Lei and Jinlong Zhang. A new breakthrough in photocatalytic hydrogen evolution by amorphous and chalcogenide enriched cocatalysts. *Chemical Engineering Journal*, 2023, 455, 140601. (IF: 16.744) (Q1)
- (3) **Muhammad Tayyab**, Yujie Liu, Zhiguo Liu, Lihan Pan, Zehong Xu, Wenhui Yue, Liang Zhou, Juying Lei and Jinlong Zhang. One-pot *in-situ* hydrothermal synthesis of ternary In₂S₃/Nb₂O₅/Nb₂C Schottky/S-scheme integrated heterojunction for efficient photocatalytic hydrogen production. *Journal of Colloid and Interface Science*, 2022, 628, 500-512. (IF: 9.965) (Q1)
- (4) **Muhammad Tayyab**, Yujie Liu, Shixiong Min, Rana Muhammad Irfan, Qiaohong Zhu, Liang Zhou, Juying Lei and Jinlong Zhang. Simultaneous hydrogen production with the selective oxidation of benzyl alcohol to benzaldehyde by a noble-metal-free photocatalyst VC/CdS nanowires. *Chinese Journal of Catalysis*, 2022, 43(4), 1165-1175. (IF: 12.92) (Q1)
- (5) **Muhammad Tayyab**, Umme Kulsoom, Yujie Liu, Seemal Mansoor, Mazhar Khan, Zeeshan Akmal, Asim Mushtaq, Muhammad Arif, Umair Shamriaz, Liang Zhou, Juying Lei and Jinlong Zhang. Visible light-driven photocatalytic H₂ evolution and dye degradation by electrostatic self-assembly of CdS nanowires on Nb₂C MXene. *International Journal of Hydrogen Energy*, 2024, 51, 1400-1413. (IF: 7.200) (Q1)
- (6) **Muhammad Tayyab**, Yujie Liu, Zehong Xu, Summan Aman, Wenhui Yue, Rana M. Irfan, Liang Zhou, and Jinlong Zhang. Integration of Redox Cocatalysts for Photocatalytic Hydrogen Evolution. **Book Chapter**, [10.1002/9783527837991.ch7](https://doi.org/10.1002/9783527837991.ch7). Wiley.
- (7) **Muhammad Tayyab**, Umme Kulsoom, Hummera Rafique, Ehsan Ullah Mughal, Summan Aman, Asim Mushtaq, Laila Noureen. Emerging MXene-Derived Photocatalysts for Harvesting Solar Energy into Chemical Energy. **Book Chapter**, [10.1201/9781003364825-8](https://doi.org/10.1201/9781003364825-8). Taylor & Francis Group.
- (8) Yujie Liu, **Muhammad Tayyab**, Wenkai Pei, Liang Zhou, Juying Lei, Lingzhi Wang, Yongdi Liu, and Jinlong Zhang. The Precision Defect Engineering with Nonmetallic Element Refilling Strategy in g-C₃N₄ for Enhanced Photocatalytic Hydrogen Production. *Small*, [10.1002/sml.202208117](https://doi.org/10.1002/sml.202208117). (IF: 15.153) (Q1)
- (9) Seemal Mansoor, **Muhammad Tayyab**, Mazhar Khan, Zeeshan Akmal, Liang Zhou, Juying Lei, Masakazu Anpo, and Jinlong Zhang. Recent advancement in Se- and Te-enriched cocatalysts for boosting photocatalytic splitting of water to produce hydrogen. *Research on Chemical Intermediate*, 2023, 49, 3723-3745. (IF: 3.300) (Q2)

(10) Yujie Liu, Qiaohong Zhu, **Muhammad Tayyab**, Liang Zhou, Juying Lei and Jinlong Zhang. Single-Atom Pt Loaded Zinc Vacancies ZnO–ZnS Induced Type-V Electron Transport for Efficiency Photocatalytic H₂ Evolution. *Solar RRL*, 2021, 5(11), 2100536.

(IF: 9.173) (Q1)

(11) Wenhui Yue, Zehong Xu, **Muhammad Tayyab**, Lingzhi Wang, Ziwei Ye and Jinlong Zhang. Schottky Junction Enhanced H₂ Evolution for Graphitic Carbon NitrideNiS Composite Photocatalysts. *Journal of Colloid and Interface Science*, 2024, 657,

133-141. (IF: 9.965) (Q1)

(12) Ziwei Ye, Wenhui Yue, **Muhammad Tayyab**, Jungang Zhang, and Jinlong Zhang. Simple one-pot, high-yield synthesis of 2D graphitic carbon nitride nanosheets for photocatalytic hydrogen production. *Dalton Transactions*, 2022, 51, 18542-18548. (IF: 4.569) (Q1)

(13) Guanhong Liu, Meiyun Feng, **Muhammad Tayyab**, Jianqiu Gong, Meng Zhang, Mingyang Yang and Kuangfei Lin. Direct and efficient reduction of perfluorooctanoic acid using bimetallic catalyst supported on carbon. *Journal of Hazardous Materials*,

2021, 412, 125224. (IF: 14.224) (Q1)

(14) Yujie Liu, Yifan Zheng, **Muhammad Tayyab**, Summan Aman, Liang Zhou, Juying Lei and Jinlong Zhang. Internal Electric Field Enhances B Refilling and Carbon Vacancy Double Modulation to Promote Photocatalytic Hydrogen Evolution. *Catalysis Letter*, 2023, 154, 798-807. (IF: 2.936) (Q2)

(15) Seemal Mansoor, Zixu Hu, Yifan Zheng, **Muhammad Tayyab**, Mazhar Khan, Zeeshan Akmal, Liang Zhou, Juying Lei and Jinlong Zhang. Comparative study of photocatalytic H₂ production by nickel chalcogenides_{1+x} based Zn₃In₂S₆ photocatalytic system.

Separation and Purification Technology, 2025, 353(A), 128357.

(16) Mazhar Khan, Zeeshan Akmal, **Muhammad Tayyab**, Seemal Mansoor, Adnan Zeb, Ziwei Ye, Jinlong Zhang, Shiqun Wu, and Lingzhi Wang. MOFs materials as photocatalysts for CO₂ reduction: Progress, challenges and perspectives. *Carbon Capture Science & Technology*, 2024, 11, 100191.

(17) Rana Muhammad Irfan, Muhammad Kashif Zaman, Mudassir Hussain Tahir, Ashfaq Ahmad, **Muhammad Tayyab**, Tanveer Ahmad, Majid Hussain, Ifzan Arshad, and Muhammad Ashraf Shaheen. Highly Efficient Photocatalytic Syngas Production from Formic Acid Using Iron-Porphyrins as Catalysts Integrated with CdS/CNTs

Heterojunctions under Visible Light. *ACS Applied Energy Materials*, 2023, 6(3), 18341844. (IF: 6.951) (Q1)

(18) Urooj Fatima, Hummera Rafique, Sadia Akram, Season Si Chen, Khalida Naseem, Jawayria Najeeb, and **Muhammad Tayyab**. Facile green synthesis of Phyllanthus emblica extract based Ag-NPs for antimicrobial and response surface methodology based catalytic reduction applications. *Journal of Cleaner Production*, 2024, 434, 140003. (IF: 11.1) (Q1)

- (19) Muhammad Danish, **Muhammad Tayyab**, Arusa Akhtar, Ataf Ali Altaf, Samia Kausar, Shafiq Ullah and Muhammad Iqbal. Effect of soft template variation on the synthesis, physical, and electrochemical properties of Mn₃O₄ nanomaterials. *Inorganic and Nano-Metal Chemistry*, 2021, 51(3), 359-365. (IF: 1.700)
- (20) Maqzia Bashir, Maria Batool, Nayab Arif, **Muhammad Tayyab**, Yu-Jia Zeng, Muhammad Nadeem Zafar. Strontium-based nanomaterials for the removal of organic/inorganic contaminants from water: A review. *Coordination Chemistry Review*, 2023, 492, 215286. (IF: 20.6)
- (21) Asim Mushtaq, Xuehua Ma, Jabeen Farheen, Xiaoqing Lin, **Muhammad Tayyab**, M. Zubair Iqbal, Xiangdong Kong. Facile synthesis of metformin loaded Mn₃O₄-HAp magnetic hydroxyapatite nanocomposites for T₁-magnetic resonance imaging guided targeted chemo-phototherapy *in vitro*. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 2023, 674, 131911. (IF: 5.2)
- (22) Syed Shoaib Ahmad Shah, Muhammad Altaf Nazir, Karim Khan, Iftikhar Hussain, **Muhammad Tayyab**, Saleh S. Alarfaji, Ahmed M. Hassan, Manzar Sohail, Muhammad Sufyan Javed, Tayyaba Najam. Solar energy storage to chemical: Photocatalytic CO₂ reduction over pristine metal-organic frameworks with mechanistic studies. *Journal of Energy Storage*, 2023, 75, 109725. (IF: 9.4)
- (23) Iqra Shakoor, Uzma Jabeen, Iqbal Ahmed, Saba Riaz, **Muhammad Tayyab**, Asad Syed, Ali H. Bakhi, Musarat Riaz, Rustem R. Zairov, Muhammad Nadeem Zaffar. ZnS and Fe-doped ZnS photocatalysts for improved visible light driven photocatalytic degradation of methylene blue. *Inorganica Chimica Acta*, 2023, 560, 121837. (IF: 2.8)
- (24) Muhamamd Hamza, Ataf Ali Altaf, Samia Kausar, Shahzad Murtaza, Amen Shahpal, Muhammad Hamayun, **Muhammad Tayyab**, Komal Rizwan, Hamza Shoukat and Anum Maqood. Mesoporous Cu-doped Manganese Oxide Nano Straws for photocatalytic Degradation of Hazardous Alizarin Red Dye. *ACS Omega*, 2023, 39(8), 35956-35963. (IF: 4.100)
- (25) Sheeza Masud, Hira Munir, Muhammad Irfan, and **Muhammad Tayyab**. Allium cepa-based zinc oxide nanoparticles: synthesis, characterization and biochemical potentials. *Bioinspired, Biomimetic and Nanobiomaterials*, 2023, 12(2), 82-93. (IF: 1.732)
- (26) Sumayyah Ihsan, Hira Munir, Zihui Meng, **Muhammad Tayyab**, Nadia Zeeshan, Ajwa Rehman, Sawaira Nadeem, Muhammad Irfan. Tragacanth gum-based copper oxide nanoparticles: Comprehensive characterization, antibiofilm, antimicrobial and photocatalytic potentials. *International Journal of Biological Macromolecules*, 2024, 268, 131600. (IF: 8.2)
- (27) Muhammad Naseem, Hummera Rafique, **Muhammad Tayyab**, Aamer Saeed, and Amara Mumtaz. Design, Synthesis, QSAR studies, and Molecular Modeling of Some Novel Bis Methyl 2-[3-(benzo[d]thiazol-2-yl)-2-terephthaloyl-bis-4-oxo-thiazoli-din-5ylidene] acetates and Screening of their Antioxidant and Enzyme In-hibition Properties. *Current Organic Synthesis*, 10.2174/1570179421666230905094559. (IF: 2.800)
- (28) Arshi Abbas, Syed Salman Shafqat, Muhammad Faizan Nazar, Hafeez Ullah Khan,

Asma Mukhtar, **Muhammad Tayyab**, Asad Syed, Muhammad Nadeem Zafar, Syeda Amna Masood, and Kashif Kamran. Molecular interaction of nonsteroidal antiinflammatory prodrug nepafenac with ionic surfactants. **International Journal of Chemical Kinetics**, 2024, 56, 417-431. (IF: 1.5)

(29) Ehsan Ullah Mughal, Hafiz Umar Farooq, Amina Sadiq, Hummera Rafique, Sajjad Hussain Sumrra, Muhammad Naveed Zafar, Nighat Fatima, Syed Aun Muhammad, Abdul Manan, Chaudhary Omer Javed and **Muhammad Tayyab**. An Efficient Protocol for the Synthesis, Biological Screening and Molecular Docking Study of 3,4Dihydropyrimidine-2-one/thione Derivative. **Litter in Drug Design & Discovery**, 2020, 17, 330-340. (IF: 1.099)

(30) Hummera Rafique, Aamer Saeed, Fouzia Perveen, Naghmana Kausar, Zaman Ashraf, Sadia Akram, Muhammad Naveed Zafar, **Muhammad Tayyab** and Ulrich Florke. Design, Synthesis, Crystal Structure, Fluorescence, Molecular Docking and DFT Studies of 3,6-Dinitro-N-octylcarbazole. **Current Organic Chemistry**, 2019, 23, 1681-1687. (IF:

2.600)

Conferences/Seminars/Workshops/Symposia, Organized/Attended:

-
23. October 19 Fundamental and Applied Problems of Modern Physics, Tashkent, 21, 2023 Uzbekistan
22. July 25-28, The 4th International Workshop Advances on Photocatalysis including 2023 Environmental and Energy Applications AdvPhotoCat-EE2023, HMU Heraklion, Greece
21. September Chinese Academy of Sciences-International Training Course on Solar -17, 2023 Thermal Power Technology, Beijing, China
20. November 4th Chinese Symposium on Photocatalysis Materials, Shanghai, China 19-21, 2021
19. October 101st Japan-China Symposium on Catalysis (1st JCSC) 12, 2021
18. April 9-10, Two Days National Workshop on “Material Modeling and Simulation” 2019 Department of Physics, University of Gujrat, Gujrat, Pakistan
17. February Three Day International Conference on “Materials Science and 18-20, 2019 Nanotechnology 2019” Department of Physics, Government College University Faisalabad, Faisalabad, Pakistan
16. January 29 Three Day Conference “Nanomaterials: New Trends in Development and 31, 2019 Application” at Forman Christian College Lahore (A Chartered University), Lahore, Pakistan
15. November First International Conference on Nanoscience and Nanotechnology 1-2, 2018 (ICONN 2018) at NUST, Islamabad, Pakistan
14. October 22 “International Conference on Modern Trends in Chemistry & Energy 23, 2018 Technologies” The Nishat Hotel, Lahore. COMSATS University Islamabad, Lahore Campus, Pakistan
13. September One Day 1st International Symposium on “Sensors and Biosensors” 11, 2018 COMSATS University Islamabad, Lahore Campus, Pakistan
12. August 16 Two Days Workshop on “Advanced Material Characterization

- 17, 2018 Techniques” At Hotel Elites, Nathiagali by National Centre of Excellence in Physical Chemistry, University of Peshawar, **Pakistan**
11. June 25, One Day International Symposium on “Advanced Energy Materials; 2018 Production to Storage” COMSATS University Islamabad, Lahore Campus, **Pakistan**
10. March 28 Two Days Workshop on “Risk Assessment and Emergency Response to 29, 2018 Chemicals, Biological and Environmental Hazards at Work Place” University of Gujrat, Gujrat, **Pakistan**
9. March 12, One Day Technical Workshop on “Endnote X8 and Mendeley” 2018 University of Gujrat, Gujrat, **Pakistan**
8. November Two Days International Symposium on “Developments in Contemporary 21-22, 2017 Chemistry” University of Gujrat, Gujrat, **Pakistan**
7. September One Day 10th Technical Workshop on “Endnote X8 and Statistical 17, 2017 Analysis” University of Sargodha, Women Campus Faisalabad, **Pakistan**
6. September One Day 9th Technical Workshop on “Spectroscopic Techniques” 10, 2017 University of Sargodha, Women Campus Faisalabad, **Pakistan**
5. May 22-23, Two Days Hands on Training Workshop on “Statistic Data Analysis and 2017 Experiments Design in SPSS” University of Gujrat, Gujrat, **Pakistan**
4. June 4, One Day Symposium “Chemistry-A Need of the Hour” 2015 University of Gujrat, Gujrat, **Pakistan**
3. March 11 Organized Two Days Workshop “Dye Sensitized Solar Cells Theory and 12, 2015 Fabrication” University of Gujrat, Gujrat, **Pakistan**
2. September Organized Five Days National Workshop “Training of the Trainers, 16-20, 2013 Research Design and Practical Handling” University of Gujrat, Gujrat, **Pakistan**
1. September Organized one day workshop on Basics of “Health Safety and 10, 2013 Environment” University of Gujrat, **Pakistan**