Amina Rafique

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Visa Status: Sponsored Spouse Visa [Sponsorship not required]
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EDUCATION

09.2020 - 04.2023 **MSc Chemistry (Organic and Computational Chemistry)** at University of Agriculture Faisalab
Thesis:
Exploring the Inhibitory Potential of Novel Piperidine-Derivatives Against SARS-CoV-2 via Molecular Docking, MD Simulations, and MMPBSA Analysis
GPA: 3.62/4

10.2016 - 09.2020 **Bachelor of Science[B.Sc] Chemistry** at Government Women University Faisalabad,Pakistan.
Organic Chemistry
Focus Areas:
Organic Chemistry, Spectroscopy, Analytical Chemistry, Thermodynamics
GPA: 3.65/4

RESEARCH AND TEACHING EXPERIENCE

06.2024 - Present **Production and QC Analyst** at EMCM B.V. Nijmegen, The Netherlands

- *Operating autoclaves for sterilization of materials and equipment.*
- *Performing environmental monitoring (viable and non-viable particle counting, microbiological sampling).*
- *Collecting and analyzing water samples for quality compliance.*
- *Following SOPs, GLP, and GMP protocols.*
- *Maintaining accurate batch records and documentation.*
- *Supporting quality investigations and continuous improvement initiatives.*

07.2023 -11.2023 **QC Analyst (Full-time)** at Genome Pharmaceuticals,Pakistan

- *Conducted pharmaceutical analysis using HPLC, GC, FTIR, and UV-Vis spectroscopy.*
- *Maintained accurate documentation for sample analysis and instrument calibration.*
- *Assisted in troubleshooting analytical instruments and method validation.*

08.2022 - 06.2023 **Research Assistant (internship, Part-time)** at University of Agriculture Faisalbad, Pakistan

- *Conducted computational chemistry research using Gaussian, PyRx, Multiwfn, AutoDock Vina.*
- *Performed molecular dynamics, quantum mechanics calculations, and ligand-receptor simulations.*
- *Provided training to team members on computational techniques.*

06.2021 - 07.2022 **Chemistry Teacher (Full-time)** at Ghazali Schools, Pakistan

- *Developed and delivered engaging chemistry lessons with hands-on laboratory sessions.*
- *Evaluated student performance and maintained academic records.*
- *Collaborate with parents, teachers, and professionals to support student success.*
- *Contribute to campus events and participate in school community activities.*

01.2018 - 02.2019 **Teaching Assistant (Part-time)** at Government College Women University Faislabad, Pakistan.

- *Assisted in teaching undergraduate chemistry courses and grading assessments.*
- *Supported curriculum development and student mentorship.*

SKILLS

Computational Chemistry and Molecular Modeling

ChemDraw, Gaussian, AutoDock Vina, PyRx, Multiwfn, pyMOlyze, OriginLab, Open Babel, Molecular Docking, DFT, MD Simulations, NLO Property Analysis, MMPBSA

Analytical and Laboratory Techniques

HPLC, GC, UV-Vis Spectroscopy, FTIR, Dissolution Testing, Disintegration Apparatus, pH Testing, Titration, Gravimetric Analysis, ELN Documentation, Instrument Calibration

Digital and Data Handling

MS Office Suite, Scientific Writing, Graphing and Visualization, Report Drafting

Soft Skills

Critical Thinking, Research Writing, Team Collaboration Initiative and Leadership, Time Management, Communication, Cross-cultural Work Environment Experience (Pakistan + Netherlands)

PUBLICATIONS

Research Article **Inhibitory Potential of Piperidine-Derivatives Against SARS-COV-2.**
Exploring the inhibitory potential of novel piperidine-derivatives against main protease (Mpro) of SARS-CoV-2: A hybrid approach consisting of molecular docking, MD simulations . . . .

Research Article **DFT Study of Alkaline Earth Metals Doped Adamanzane.**
DFT study of enhancement in nonlinear optical response of exohedrally and endohedrally alkaline earth metals (Be, Mg, Ca) doped adamanzane.

Research Article **DFT Study of Metals Doped 15-Crown-5.**
Novel endohedrally and exohedrally metals (Li, Na, and K, Ag) doped (15-crown-5) with remarkable electronic, static and dynamic NLO response.

Research Article **Efficient Donor-Acceptor NLO materials.**
Quantum chemical tailoring of intrinsic donor–acceptor configurations as efficient nonlinear optical materials.