Dr. Simranjeet Singh Narang

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SUMMARY

I am an organic chemist professional researcher with multi-disciplinary research experience in computational and experimental techniques, with **three years** of **research & development** experience in pharmaceutical industry. I would like to employ these interdisciplinary skill set for the organization.

- A productive independent researcher with computational, and synthetic skills
- Intrinsic knowledge of the subject in research aspects in drug design, process development, cost cutting isolation and purification of isomers.
- Flexible to work collaboratively in a cross-functional teams (chemists, biologists, QA, ARD and program developers)
- Expertise with ChemDraw, scifinder, pubmed, PyMOL, AutoDock, ligplot, Gaussian, and GROMACS.
- Strong publication record in peer-reviewed, international journals
- Have fundamental knowledge/understanding of programming language python.
- Mg to kg scale reactions, including reactions like, oxime formation, nitration, hydrogenation, suzuki coupling, friedel craft reaction, Ullmann Reaction.
- Expertise with reverse phase/flash chromatography in isolation and purification of various unstable compounds.
- Engaged in rigorous peer review of cutting-edge research articles submitted to prestigious international journal across computational chemistry and experimental chemistry.
- Conducted an extensive review of existing scholarly works to contextualize and synthesize the current state of knowledge in the field

EMPLOYMENT HISTORY

Research and Development Executive | May 2022 - Dec 2023
IOL Chemical Pharmaceuticals, Punjab

- Plan safe, scale-able and commercially viable synthetic routes for the preparation of API and intermediates compounds.
- Design/performed lab experiments aimed at developing processes with maximum purity, yield and minimum waste
- Mentor lab technicians/chemists in executing laboratory experiments
- Maintain & report experimental data as per company requirements
- Maintain safety standards & lab discipline
- Collaborate with the Tech Transfer team in scaling up manufacturing processes.
- Collaborate with production team to troubleshoot the problems
- Isolation and purification of isomers

Research and Development Research Associate | Nov 2020 - April 2022
Pharmaffiliates Analytics & Synthetics (P) Ltd, Haryana

- Design route of synthesis, executes experiments of API impurities and analysis.
- Perform detailed analysis of synthesized solid support conjugates using developed assays.
- Maintain proper documentation using an electronic laboratory notebook using proper note taking practices.
- Presentation of results to R&D colleagues and company management.
- Performed purification of synthesized compounds with column and flash chromatography
- Proactively communicates observations and findings to group leader.
- Help management with project time lines and cost reports.
- Preparation of submission reports including synthetic and analytic reports.

EDUCATION

- **Ph. D.** (Chemistry) – Sri Guru Granth Sahib world university – Punjab, India   **September 2019**
- **M. Sc.** (Organic Chemistry) – Eternal University – Himachal Pradesh, India   **August 2012**
- **B. Sc.** (Medical) – Himachal Pradesh University – Himachal Pradesh, India   **April 2010**

SKILLS

- **Synthesis**: Multi-step synthesis of various API's and intermediate i.e., mesalazine, metformin, mica-ester and pantoprazole. Also synthesized the various impurities of API's i.e., fluconazole, cefixime, cefdinir, amoxicillin and cefuroxime.
- **Data Analysis**: Analyze the experimental NMR, HPLC, LCMS, IR, and UV data to confirm the desired product. And also analyzed the fluorescence data to investigate the biophysical properties.
- **Purification**: Column chromatographic, flash chromatography, crystallization and acid-base extraction (expertise in flash chromatography with degradable compounds).
- **Instrument handling:** Column, autoclave reactor, flash chromatography instrument, lyophilizer, FTIR spectrometer, UV spectroscopy instrument and vacuum rotary evaporator.
- I have successfully performed **process validation** efforts, I have contributed and supervised the **scaling up** laboratory processes to production scale.
- **Software handling:** I am proficient in scifinder, chemDraw, Gaussian, Empower HPLC software, word, powerpoint and electrical lab note book.
- **Molecular docking**: Expertise in docking methods and protocols using AutoDock, AutoDock Vina, Argues Lab, iGemdock etc.
- **Molecular Dynamics Simulations**: Expertise in classical MD simulations, pH-dependent MD simulations using GROMACS and simulation using NAMD to understand the molecular level interactions.

OTHER PROFESSIONAL ACTIVITIES

- Reviewer of the scientific reputed international journal "Journal of Biomolecular Structure and Dynamics".

AWARDS/ACHEVEMENTS

- Pharmaffiliates **star of the month award** for impeccable performance and excellence work in Dec. 2021.
- Selected as a participant in the ICMR-sponsored workshop on "**Bioinformatics in Drug Discovery**" held at Bio-Medical Informatics Centre, Department of Biophysics, All India Institute of Medical Sciences (AIIMS), New Delhi.
- Awarded with "**Maulana Azad National Fellowship** (MANF)" in 2014 for a period of five years (Award letter no.: MANF-2014-15-SIK-HIM-32950) by University Grants Commission (UGC) and Ministry of Minority Affairs, Government of India, New Delhi.
- Hold two certificates of Self-Paced eLearning on "Foundations of GMP: Quality Risk Management" and "Foundations of GMP: Active Pharmaceutical Ingredient (API)" from USP education (US Pharmacopeia).
- Hold the certificate of award, in recognition of successful completion of training on "**Basics Python Programming**".
- Published **eight** research articles in high-ranking peer-reviewed journals, contributing to the advancement of knowledge drug design.