

Niloofar Shirali

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Exceptionally focused and skilled Chemical/Polymer Engineer with more than three years of experience, an outstanding problem-solving skill, strong research and analytical abilities and wide breadth of knowledge in industrial chemical processes.

PROFESSIONAL EXPERIENCE

Analytical Chemist (QC) || Toronto Research Chemicals || Toronto, ON **Oct 2019 - Aug 2021**

- **Material Analysis:** Performed the development and validation of analytical testing procedure for chemicals
- **Performed Analytical Experiments:** Executed analytical experiments following the ISO 9001, designed experiments
- **Instrument Operation:** Operated equipment for the variety of analytical techniques and performed calibration
- **Analyze and Troubleshoot Analytical Results:** Investigated out of specification (OOS) laboratory results, analyzed and troubleshoot out-of-trend (OOT) results and communicated findings
- **Method Development:** Developed and optimized non-routine conditions, led in literature search for the development and optimization of novel techniques

Research Assistance || Queen's University || Kingston, ON **Sep 2017 - April 2019**

- **Process Development:** Developed a new polymerization process to manufacture dispersant, implemented and scaled the developed process at Nippon company in Singapore (NIPSEA) ***The results were published as a patent on May 2019**
- **Reaction Design and Performance:** Designed and performed polymerization reactions, performed material synthesis and processing in lab scales, designed and planned tests and experiments to improve the reaction system
- **Data Analysis, Reporting and Technical Documentation:** Performed quantitative and qualitative data analysis, generate progress reports, presentations and develop SOPs for new formulation and procedures
- **Failure Mode Analysis & Product Improvement:** Conducted root cause analysis via designing new experiments and characterization to optimize the process and improve product quality and reproducibility
- **Collaboration & Teamwork:** Trained junior researchers on chemical reactions, supervised a team of three researchers to optimize the reaction system, communicated regularly with Singapore site to give an update on research progress

Chemical Engineer (R&D) || Khosh Paint & Resins|| Tehran, Iran **July 2016 - July 2017**

- **Materials R&D Support:** Provided material selection, quality control of raw material and final products
- **Product Development:** Conducted research to discover, develop, refine and evaluate new products such as a novel coating formulation with specific characterizations.
- **Manufacturing Support:** Prepared multiple engineering drawing sets, process flow diagrams and P&ID for assuring most efficient and cost-effecting design and manufacturing process

EDUCATION

PhD Candidate, Chemical Engineering **Sep 2021 - Current**
University of Toronto, Canada

Master's of Science, Chemical Engineering **Sep 2017 - April 2019**
Queen's University, Canada

Bachelor of Applied Science, Polymer Engineering **Sep 2012 - June 2016**
Polytechnic University of Tehran, Iran