

FERMENTATION SUPERVISOR

QUALIFICATIONS PROFILE

Analytical and performance-focused professional, with extensive laboratory experience in biological chemistry. Demonstrate adeptness in fermentation and HPLC purification, with notable contributions in the areas of CoQ10, as well as yeast fermentation and food product analysis. Possess excellent analytical skills in product purification and identification, along with keen attention to detail. Exemplify strong leadership, communication, and presentation skills; with experience in training and instructing laboratory assistants and producing excellent written and oral reports. Armed with proficiency in Microsoft Office Suite, ChemDraw, and Jmol.

AREAS OF EXPERTISE

Process/Product Design and Development | Bacteria and Yeast Fermentation | Media and Strain Development
Molecular and Cell Biology | High-Pressure Liquid Chromatography | Mass Spectrometry | Method Development

PROFESSIONAL EXPERIENCE

INGREDIENT TECHNOLOGIES, SYRACUSE, NY, USA

Consultant, Quality Analysis and Method Development

2018

- Established an optimized HPLC method to purify anthocyanins from cherries and identify four specific anthocyanins through MS, NMR, and HPLC retention times.
- Made individual calibration curves for each anthocyanin to come up with more accurate anthocyanin quantification than two other sources.
- Recommended solutions to the procedure which was supposed to reproduce the results of another laboratory for quantification of anthocyanins from cherry powder, but did not produce the same results.
- Completed a final report upon fixing problems through HPLC method development, recognized by field experts as the most accurate, comprehensive, and trustworthy compared to reports from two other laboratories; subsequently influencing the decision of the company to further market the product.

SYRACUSE UNIVERSITY, SYRACUSE, NY, USA | IOGEN CORPORATION, OTTAWA, CANADA

Graduate Research

2016–2018

- Monitored cell cultures in bench-top shakers and a 1-liter fermentation unit and bioreactor (BioFlo110); including optical density (OD), oxygen levels, and pH levels.
- Supervised assistants and provided instructions in all aspects of cell culturing including fermentation; facilitated training on microbiology skills, from vector design and construction (PCR digestion, ligation, and transformation) to protein expression, purification, and characterization by spectroscopy and functionality.
- Performed purification by HPLC, LPLC/FPLC, IMAC, and AKTA.
- Conducted small molecule characterization through NMR, IR, and electronic absorption spectroscopy (UV-Vis); as well as mass spectrometry (ESI, APCI, and MALDI).
- Developed specialized media resulting to four-fold increased nutraceutical production; successfully translated bench-top results from 1 L to 14 L fermentations by changing the addition of the key media ingredient; and increased CoQ10 extraction efficiency tenfold by a change in solvent and cell drying.

IOWA STATE UNIVERSITY, AMES, IA, USA

Graduate Research Assistant

2011–2014

- Performed various processes in organic chemistry, including peptide synthesis, solution and solid phase synthesis, peptide cyclization, and organic synthesis.

EDUCATION

DOCTOR OF PHILOSOPHY IN BIOLOGICAL CHEMISTRY, 2018

Syracuse University, Syracuse, NY

MASTER OF SCIENCE IN CHEMISTRY, 2016

Syracuse University, Syracuse, NY

PROFESSIONAL AFFILIATION

Member, American Chemical Society