

ALEC GOFFIN

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EDUCATION

Bowdoin College, Brunswick, ME

Bachelor of Arts, Major: Chemistry, Minor: Classics

May 2021

GPA 3.750

Relevant Coursework: Organic Chemistry I&II, Biochemistry and Cell Processes, Thermodynamics and Kinetics, Chemical Analysis, Advanced Inorganic Chemistry, Chemical Fate of Organic Molecules, Genetics and Molecular Biology, Quantum Chemistry and Spectroscopy

Awards: Sarah and James Bowdoin Scholar (2018-19; 2020-21): Placement in the top 20% of the class by grade point average (GPA) for the academic year.

INDUSTRY EXPERIENCE

Research Associate, Discovery Chemistry – Entrada Therapeutics, Boston, MA

July 2021 – June 2023

- Designing experiments to improve and streamline synthesis process of company platform Endosomal Escape Vehicle (EEV™), a peptide designed to effectively penetrate the cell membrane through intracellular target engagement. Versatile platform can be coupled with a wide-range of therapeutics used to treat devastating diseases, such as Duchenne's Muscular Dystrophy (DMD) and Myotonic Dystrophy 1 (DM1). Findings were presented in weekly group meetings and process improvements were incorporated into large-scale production of peptides.
- Responsible for both small-scale and process-scale synthesis and analysis of phosphorodiamidate morpholino (PMO) oligonucleotides used in the company's two lead clinical programs. Antisense oligonucleotides promote exon skipping of missing or damaged DNA, correcting the body's ability to produce desired protein. Conjugation of oligonucleotide to platform peptide enables high cellular uptake and endosomal escape, resulting in drastic increase of oligonucleotide capable of reaching the intended target.
- Discovering new and innovative automation and semi-automation methods and techniques for high throughput peptide and oligonucleotide synthesis.

STUDENT RESEARCH

Researcher – Physical Chemistry Lab, Bowdoin College Brunswick, ME

December 2020 – May 2021

- Conducted research in Physical Chemistry lab focused on behavior of photoacid 2-naphthol and its derivatives. The relationship between ground state pK_a and excited state pK_a^* of 2-naphthol was experimentally determined using the Förster Cycle, linking proton and electron transfer to electronic excitation states.
- A combination of absorption and steady-state emission spectroscopy to experimentally calculate ground state pK_a and excited state pK_a^* of 2-naphthol. Lifetime Emission Spectroscopy was used to investigate the kinetic properties of this compound.
- Acquired valuable problem-solving and team-building skills through collaboration with my peers in the laboratory.

Researcher – Organic Chemistry Lab, Bowdoin College Brunswick, ME

Spring 2019; Summer 2020*

- Accepted position to join Organic Chemistry lab for Summer research and Senior Thesis focused on novel peptidomimetic (peptoid) synthesis and analysis. *Due to the ongoing COVID-19 pandemic, further research under this position could not be explored.
- Designed, synthesized, and analyzed novel peptoid catalysts, which mimic enzymatic activity by enabling enantioselectivity during trifluoromethylation reactions. Goal is to help facilitate the discovery of burgeoning class of medicines.

PREVIOUS WORK EXPERIENCE

Chemistry Department Teaching Assistant, Bowdoin College, Brunswick, ME

Teaching Assistant: Organic Chemistry I & II

September 2020 – May 2021

- Enhanced student engagement in the curriculum by facilitating meaningful discussion on a broad range of rigorous topics covered in the Organic Chemistry curriculum, including, but not limited to stereochemistry, resonance structures, reaction mechanisms, and IR/NMR Spectroscopy.
- Headed study sessions with students individually or in small groups to develop critical skills and provide clarity on material in preparation for regularly occurring quizzes and exams.

Teaching Assistant: Inorganic Chemistry

January 2019 – May 2019

- Guided weekly study sessions to assist with course content and to develop critical thinking skills. Topics discussed include coordination complexes and crystal field theory, molecular orbital theory, electrochemistry, and acid-base chemistry.

Quantitative Analysis Instructor Bowdoin College Center for Learning and Teaching, Brunswick, ME

September 2019 – May 2021

Q-Tutor

- Enhanced students learning in the fields of Chemistry, Biology, Calculus, and Statistics by providing personalized instruction that maximized learning experiences. These individualized meetings were in coordination with the course department and faculty.
- Promoted the use of different problem-solving techniques and critical thinking skills, as well as incorporating study strategies to help students on problem sets, course concepts, and exam preparation.

Technical Skills: Experience in Microsoft Office programs (Word/Excel/PowerPoint; Proficient), computer programming language R (Proficient), and photo editing program Photoshop (Advanced). Substantial experience in Chemistry and Biology Lab.