LOGAN BARTHOLOMEW

2210 Martin Luther King Jr Way, Berkeley, California, 94704
logan_bartholomew@berkeley.edu
502.994.9788
LinkedIn

EDUCATION

University of California, Berkeley August 2020–Present
Philosophical Doctorate, Organic Chemistry
Relevant Coursework: Fundamentals of Organic Chemistry, Organic Reactions I & II, Physical Organic Chemistry, Nuclear Magnetic Resonance Theory

George Washington University August 2016–May 2020
Bachelor of Science in Chemistry, ACS Certified GPA: 3.95/4.00
Biochemistry concentration, Biology minor Major GPA: 3.98/4.00
Relevant Coursework: Organic Chemistry I & II and Laboratories, Advanced Organic Chemistry (Graduate), Medicinal Chemistry (Graduate), Biomaterials (Graduate), Biology of Materials & Regenerative Medicine (Graduate), Biochemistry I & II, Physical Chemistry I & II, Instrumental Analytical Chemistry and Laboratory, Quantitative Analytical Chemistry and Laboratory, Descriptive Inorganic Chemistry, Python Programming, Multivariable Calculus, Physics w/ Biological Applications I & II (Calculus-based), Modern Physics, Neural Circuits and Behavior, Developmental Neurobiology

EXPERIENCE

George Washington University Department of Chemistry Washington, DC
Undergraduate Researcher, Dr. Cynthia Dowd December 2017 – August 2020
- Focused on phosphonate ester, retrohydroxamic acid Fosmidoycin derivatives as drug candidates combating malaria and tuberculosis; Prepared key intermediates and developed routes towards the synthesis of optimized α–β unsaturated fosmidomycin analogs; Evaluated the pharmacodynamic properties of a series of natural product analogs as bisubstrate inhibitors; Explored pro-drug derivatives of selected compounds

Vertex Pharmaceuticals, Inc. Boston, MA
Chemical Development Intern, Dr. David Stephens May 2020–August 2020
- Computationally evaluated the Buchwald-Hartwig amination in the synthesis of a stage 2 API; Outlined catalytic cycle energy profile using QM methods; Parameterized ligands for reactivity correlation using machine learning for multiple and non-linear regression analysis; Built and evaluated energetic mechanics of a model cycle; Investigated off-cycle pathways and sigmatropic rearrangements leading to undesired products; Built Python and Excel packages for data analysis distributed departmentally

Chemical Development Intern, Dr. Stefanie Roeper June 2019– August 2019
- Developed, executed, and optimized versatile efficient synthetic pathways for polysubstituted indoles and indazoles; Utilized Jacket Reactors, NMR, LCMS, HPLC, Flash Chromatography, EasyMax, ReactIR, EasySampler, Crystal16, and other instruments to prepare, isolate, and characterize compounds; Worked closely on chemical engineer teams to complete joint projects, Prepared oral, poster, and written presentations outlining work

George Washington University Department of Chemistry Washington, DC
Organic Laboratory Technician August 2018 – May 2020
- Set up weekly experiments for organic chemistry teaching laboratories; Prepared and managed all organic materials and reagents; Worked closely with the department chair to facilitate and update laboratory curriculum

George Washington University Departments of Chemistry, Physics Washington, DC
Undergraduate Teaching Assistant August 2017 – May 2020
- Assisted in Calculus-based Biophysics I & II and Organic Chemistries I & II; Held weekly office hours and review sessions as well as for midterms and final examinations

SKILLS

- Gaussian 16
- Schrodinger Maestro
- Jaguar
- Python 3 (Intermediate)
- PyMol, ORCA, SolidG, UCSF Chimera
- MestReNova, ChemOffice
- LaTeX
- Adobe Creative Suite
- Microsoft Office Suite
- Mandarin Chinese (Intermediate)

Activities

George Washington Undergraduate Review — Washington, DC
Annual Undergraduate Research Publication — January 2018 – December 2019
Founder, Managing Editor, Lead Natural Sciences and Engineering Editor

George Washington Innovation Center — Washington, DC
Fellow, Communications and Graphic Designer — May 2018 – May 2019

GeorgeHacks GW — Washington, DC
Undergraduate-led 24-Hour Medical Hackathon Organization — January 2018 – February 2019
2018 Victor, Photographer, and Graphic Designer

Phi Delta Theta — Washington, DC
Greek Organization — August 2017 – May 2019
President, Vice President, Secretary, Kleberg Leadership Conference Delegate, IFC Delegate, Founder

Recognitions

- **ACS Division of Organic Chemistry Award** — University, 2020
- **Alpha Chi Sigma Prize; Highest Academic Record in Chemistry Courses** — University, 2020
- **American Chemical Society Prize; Division of Analytical Chemistry** — National, 2020
- **American Institute of Chemists Prize; Graduating Undergraduate Student** — National, 2020
- **Biomedical Chemistry, First Prize** — Gulf Coast Undergraduate Research Symposium, 2019
- **Enosinian Scholarship** — Honors Thesis Fellowship, GWU, 2019
- **Goldwater Scholarship** — National STEM Scholarship, Senator Barry Goldwater Foundation, 2019
- **A.D. Britt Scholarship** — Summer Research Fellowship, GWU, Awarded both 2018 and 2019
- **Analytical Chemistry Award** — National Academic Recognition, American Chemical Society, 2019
- **Presidential Scholarship** — 4-Year Academic Merit Scholarship, GWU, 2016

Presentations

- **Virtual Presentation**, "A Computational Investigation of the Buchwald-Hartwig Amination in the synthesis of *a Stage 2 API*", Department of Chemical Development, Vertex Pharmaceuticals, 2020
- **Undergraduate Thesis Defense,** "Design and Synthesis of Fosmidomycin Analogues as Bisubstrate Dxr Inhibitors to Combat Malaria and Tuberculosis", Department of Chemistry, George Washington University, 2020.
- **Virtual Presentation**, "MEPicides; Natural Product Analogues as Potent Malaria Combatants", SciMeetings: Virtual Symposium, American Chemical Society Spring National Meeting and Expo, 2020
- **Oral Presentation**, "Novel Small Molecule Design and Synthesis to Selectively Inhibit Dxr and Combat Malaria and Tuberculosis", Gulf Coast Undergraduate Research Symposium, Rice University, 2019.
  - ***Awarded "Outstanding Presentation in Biomedical Chemistry"***
- **Poster Presentation**, "Developing a Robust Synthetic Strategy to Prepare Poly-Substituted Indole Derivatives", Department of Process Chemistry, Vertex Pharmaceuticals, 2019.
- **Poster Presentation**, "Novel Small Molecule Design and Synthesis to Selectively Inhibit Dxr and Combat Malaria and Tuberculosis", Research Days, George Washington University, 2019.
- **Poster Presentation**, "Novel Small Molecule Design and Synthesis to Selectively Inhibit Dxr and Combat Malaria and Tuberculosis", Undergraduate Research Symposium, George Washington University 2019.
- **Poster Presentation**, "Novel Small Molecule Design and Synthesis to Selectively Inhibit Dxr and Combat Malaria and Tuberculosis", Frontiers in Chemistry and Biology Interface Symposium, National Institutes of Health, 2019.