

## Jacob Muskovitz

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### EDUCATION

#### CARNEGIE MELLON UNIVERSITY, May 2020

Pittsburgh, PA

B.S. in Biological Sciences with an additional major in Social and Political History

GPA: 3.38 (Dean's List Fall 2017, Spring 2018)

#### Washington Lee High School, June 2016

Arlington, VA

Advanced Studies Diploma, GPA: 4.28

### RESEARCH EXPERIENCE

#### Dr. Gordon Rule's Structural Biochemistry Lab (August 2018 - December 2018)

Pittsburgh, PA

Analyzed kinetics of hTMPK with ATP, TMP, and AZTMP substrates using a NADH-coupled spectrophotometer assay.

Analysis was carried out similarly in a reaction with hTMPK with a F105Y mutation to observe the change in Km and Kcat for AZTMP and TMP substrates.

#### Dr. Deborah Galson's Multiple Myeloma Bone Cancer Lab (January 2019 - Present)

Pittsburgh, PA

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### COURSEWORK

#### Experimental Biochemistry

#### Experimental Genetics and Molecular Biology

Worked primarily with *E. Coli C*, Lambda phage, and *Saccharomyces cerevisiae*. Induced a Lys2 mutation in yeast cells, characterized phenotype and genotype of the mutant, isolated and amplified plasmid DNA from *E. Coli C*, and transformed mutant yeast cells with isolated plasmid DNA.

**Relevant classes:** Genetics, Organic Chemistry I & II, Cell Biology, Honors Biochemistry, Physiology, Physics I & II, Principles of Computing, Statistical Reasoning and Practice

### SKILLS

Lab techniques: Work with bacteria and bacteriophage cultures; DNA purification and sequencing using PCR amplification, restriction enzyme digests, and agarose gel electrophoresis; fractionation of cells; recovering and purifying specific cellular material; separation and analysis techniques; titrations; spectroscopy; chromatography

Software: Microsoft Excel, basic Python knowledge, basic Matlab knowledge

First Aid and CPR certified - June 2016

### ACTIVITIES/LEADERSHIP

- Washington Lee High School Boys Soccer - 2016 State Champions
- AC Mellon Club Soccer Team
- West Penn Hospital Elder Life Program Volunteer
  - Made rounds on progressive care units of West Penn Hospital performing constructive interventions for patients over the age of 70 years old. Helped combat the acute onset of delirium due to dementia caused by extended stays in in-patient units. Volunteered for a total of 124 hours.
- Andrew Ambassador/Tour Guide
  - Worked as campus ambassador and tour guide for thousands of prospective high school students each year.
- Sigma Phi Epsilon Risk Manager
  - Coordinated and ran Risk Management sober monitors, wrote bylaws and policy for fraternity chapter involving safety, member and guest protection.
- Sigma Phi Epsilon Buggy Program: Head Mechanic
  - Lead a team of over 30 mechanics and pushers to compete in a relay race as part of a longstanding CMU carnival tradition.