**Personal Statement**

The educational journey is often not a straight path, but I have been privileged to be submerged in school since my early years due to the support of my family. My grandparents financially rewarded my cousins and I for every A we received. Since my mom was a single parent, my grandparents traveled 30 minutes each way to take my brother and I to school. While I visited my dad occasionally, there is one significant lesson I from him, the importance of an education. My brother and I used to work with our dad doing landscaping in the hot, dry Arizona heat. We would sleep at his friend’s house all in one room. From those experiences, I chose to focus on my education as my mom, a registered nurse did. Due to my mom being the only financial supporter, there was no money available for me to attend college. So, I took my education into my own hands and submerged myself in sports, student council (Class President), and honors classes. *I was top ten in my high school class*, received the *Red and Blue Senior Scholarship* ($1,200) and the *Pima Merit Scholarship* which granted free tuition at Pima Community College (PCC).

During my time at Pima, I worked with a professor to read numerous papers in biochemistry and organic chemistry to find treatments for cardiovascular disease. Which led me to *publish an article in American Chemical Society**Journals*regarding "Is Organic Chemistry Helpful for Basic Understanding of Disease and Medical Education?" on January 14th, 2021. My research with Mehrnoosh Hashemzadeh entails making naturally occurring berberine more bioavailable by synthesizing a derivative of berberine that maintains its effectiveness in reducing cardiovascular disease.

Due to my involvement at PCC, I received a *scholarship from Phi Theta Kappa sponsored by Coca-Cola and placed top 50 in the nation*. I transferred to the UA) and had to maintain a 3.25 GPA every semester, which seemed easy at first, but my first semester at UA proved to be a challenge for me. I doubted my abilities and isolated myself from my peers; it felt like an endless battle.

At the time I was also debating majoring in chemistry or chemical engineering; I felt split. Three months into the semester, I was struggling to find motivation to study for my chemical engineering courses. I made the hard decision to withdraw from one chemical engineering course and vector calculus, as remaining in the classes would cause me to lose my scholarship. My first semester taught me that the times where we feel we cannot do something, are the time when we must show ourselves that we are strong and smart enough to fulfill our aspirations.

After the challenging semester I began to submerge myself in research once more. During my first semester at the UA (Fall 2021), I applied to a rigorous program called Undergraduate Research Opportunities Consortium (UROC) and became a scholar within UROC as part of the Ronald E. McNair Achievement Program. McNair is a year-round undergraduate research and mentoring program that provides UA students with opportunities and activities to develop the skills necessary to excel in their academic studies and assistance in admission into a graduate program. My research enthusiasm provided the opportunity to join UROC. As part of UROC, we were required to conduct research over the summer of 2022 and present our findings at a conference. I decided to focus my research on my field of study, chemistry, and joined the Lichtenberger lab. I tackled a graduate-level project addressing production of hydrogen in an electrolysis cell using a metallopolymer (combination of polymer with a metal center). The goal of the project is to replace rare and thus expensive platinum with a metallopolymer that mimics enzymes that produce hydrogen to eventually use hydrogen as the main energy carrier, eliminating fossil fuels. The electrolysis project I collaborated on with the Lichtenberger lab is preparing for the metallopolymer to be used industrially. Before then, the turnover number will need to be characterized to determine the number of molecules of product versus the number of molecules of catalyst.

The academic excellence and continuous involvement in research while actively giving back to my community, from preceptorships to my current involvement as an Undergraduate Research Ambassador, shows my enduring effort to pursue higher education. Graduate school will allow me to dedicate more time to my proposed graduate research while training undergraduates in the work I do. I know first-hand about the importance of having those more knowledge and skilled guide the next generation of chemists as they find their own pathways to educational success. Graduate school will allow for a career in academia to become a professor in chemistry, teaching the next generation and actively seeking out undergraduate and graduate students for my research lab. I plan to apply my future knowledge in polymer chemistry to develop materials/products that effectively degrade and are environmentally friendly such that they release no toxic chemicals.