I am a member of The Rorrer Lab at the University of Washington, a research group dedicated to addressing the problem of plastic waste through chemical upcycling. Unfortunately, plastics are an extremely broad topic, so with all the different rabbit holes of information one can go down, the resources the library provides are vital for expanding my knowledge on my research.

When I began in the Rorrer Lab, in December of 2022, I started with my focus on a literature review. I joined this lab as a sophomore with no experience in my chemical engineering core classes. Almost everything went completely over my head. There is so much information out there and it was and continues to be overwhelming. I started by reading two papers a day, which looking back at, is a lot to absorb. I felt like I was playing a huge game of catch up, but after each paper I was slowly understanding more. However, this process started by reading papers published by my PI and those in my lab as well as papers sent directly to me. I wasn't as much seeking out information as I was given.

Eventually, I read everything handed to me and was left with the need to go out and search for information. This need was heightened by the fact that I was soon to give my first literature review presentation to my lab group. I utilized google scholar, having alerts on for specific buzz words that pertained to me. "PVC depolymerization", "mixed plastics", "tandem dechlorination", and even some generic ones such as "chemical upcycling". Keywords are critical to finding applicable articles, as if I were to just google "plastics" over three billion results come up. Through this searching, I soon ran into the inevitable issue that not every paper was fully available on google scholar. This is when my PI pointed me in the direction of the UW Libraries Search. My research experience was changed by the fact that every paper I wanted to read that I didn't have access to, I could just request through UW. The turnaround time is

extremely quick, typically getting papers full pdfs the next day.

I then adjusted my search process to more heavily rely on the UW Library Search. I continue to utilize keywords and have found success using other features. I was once having an issue with a pdf not actually being accessible, within minutes the “Chat with a librarian” helped me receive a pdf and fixed it for the future. As noted earlier there is a plethora of information out there, so sorting through what you actually want to find is difficult. I have found focusing on literature published within the last decade most effective as the study of depolymerization is constantly developing.

The UW Library also contributed greatly to the refining of my research topic. I began working under the umbrella of mixed plastics. After exploring this topic a bit, an article I got access from through the library discussed the difficulty of polyvinyl chloride (PVC). This sent me digging into the depolymerization of PVC. Using the advanced search feature, I was able to cut results from billions to hundreds and discover the papers that are the true inspiration for my current project.

My work in the lab is extremely rewarding as I continuously learn more about my specific topic, as well as what others in my lab are working on. The problem of plastic waste is such a large topic so it’s enthralling to see all the different pathways one can take. My project alone has led to endless conversations about different catalysts that can be used, whether it can be done in a single step, and even diving into characterization techniques. Each of these subsections have countless publications associated with them. The more I learn about my research the deeper my understanding grows of where I can take this passion for sustainability. I’ve become increasingly aware of the resources available and I am eager to explore them further. Receiving this scholarship would allow me to continue to dedicate myself to my project and also enhance my

motivation moving forward.