ALYSSA D. HUNT, YOUNG B. KIM, Ph. D. Department of Applied Sciences, School of Arts & Sciences, Bluefield State College, Bluefield, WV Selective Hydride Addition Reaction in Ester vs. Amide Chemical Functional Group

Cancer is among the leading causes of death in the United States. In fact, according to the Center for Disease Control, there was 599,108 cancer-related deaths in the year 2017. In addition to having a high mortality rate, the cost of cancer care has also continued to climb over the years and is estimated to reach 173 billion in 2020, according to the National Institute of Health. With that being said, more research and studies are needed to be conducted to find a more effective and inexpensive alternative, to contribute to the treatment of cancer. Natural products (NPs) have proven to be promising in drug discovery, particularly in the development of anti-cancer therapy. Therefore, in our research lab, we are interested in contributing to the development of a tripeptide natural product that could be used in oncology therapy. In fact, the main objective of this study is to evaluate the selective hydride addition reaction on those two functional groups which is a part of on-going synthetic NP synthesis of bio-active tripeptide. My senior project is involved with two chemical steps which is 1) Coupling reaction and 2) Hydride additional reaction. Thus far, we have successfully synthesized dipeptide and analytical data such as MS and NMR are presented in this poster with the most current update on this project on the hydride addition reaction. The outcome of this project provides us with the feasibility of possible NP peptide synthesis and a possible anti-cancer relevant analog development.