ESHAQ ALASHMALI, YOUNG B. KIM, Ph. D. Department of Applied Sciences, School of Arts & Sciences, Bluefield State College, Bluefield, WV. Chemical Approach to Separate Amino Alcohol Diastereomer Mixture

Identification of chiral compound has become the single most important research drug discovery since 1980. The advantage and disadvantage of having two isomers such as *S* or *R* rotation have been well documented in the literature. For example, Naproxen® commonly known as a nonsteroidal anti-inflammatory drug (NSAID). In its chemical structure, it has one chiral center which can provide a rotation of either *R* or *S* Naproxen®. The enantiomeric mixtures of Naproxen®, *S*-Naproxen® is one that used in pain relieve whereas the *R*- Naproxen® may give undesired side effect such as liver toxicity. Knowing how important separation of single isomer from the diastereomer mixture, my senior project is development of separating the diastereomer mixture using the chemical approach such as hydride mediated intramolecular cyclization. This project is a part of our on-going NP synthesis which has the significant relevant in anti-cancer research. In this poster, I am going to present three chemical steps leading into chemical separation of amino alcohol and provide with analytical data to confirm their chemical make-up.1$^{st}$ two chemical steps, CDI and $NaBH_4$ reaction, are completed with their final yield calculation with the analytical data such as $H^1$ NMR and $C^{13}$ NMR are included in this poster. Addition to above two chemical steps, last stop of this project will be discussed and future direction of my research.