

2018 Research Week Proposal

Title – Design and synthesis of non-estrogenic Bisphenol A mimics from renewable feedstocks.

Program of Study – Chemistry

Presentation Type – **Choose one of the following:** Print Poster

Mentor(s) and Mentor Email - Dr. Stephen T. Hobson (sthobson@liberty.edu)

Student name(s) and email(s) – Alec D. Basile (adbasile@liberty.edu), Joshua D. Hankey (jdhankey@liberty.edu), Samuel McIntyre (smcintyre1@liberty.edu), Israel Parish (ieparish@liberty.edu)

Category – **Choose one of the following:** Basic

Abstract

Researchers are determining a growing concern in the environmental friendliness of BPA. This is leading to growing interest in the synthetic creation of BPA like monomers. The research will be a collaborative effort between biology and chemistry. The goal is synthesizing new, more environmentally friendly, BPA like monomers. These created monomers are given to the biology team to be tested in a yeast assay. We will be testing if a more environmentally friendly BPA monomer can be created then how can we do this in the most efficient way. Once synthesized, the monomers were given to the Biology team to be tested in a yeast assay. The monomer with the best properties were determined and polymerized.

Christian worldview integration

Christians are told to be good stewards of all He has created. God also said to use our given gifts to His glory. Through this research both commands will be pursued. BPA is used for many different plastics but is harmful to the environment in multiple ways. BPA is harmful to animals as it affects the endocrine system and the assay will be what helps determine the environmental safety. BPA is also made using fossil fuels in most cases which are becoming very scarce, so an alternative is important. Some studies have been successful in synthesizing epoxy resins and that gives positive aspirations for the proposed synthesis. Through these studies it is hoped to protect the populations health as God wants. As research moves forward it is hoped that others in industry can use the results for their benefits. It is also important to show a collaboration of Christians working together for a greater cause.