

WIU CENTENNIAL HONORS COLLEGE
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Abstract

Poster

Major: Forensic Chemistry

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Antioxidant Capacity of Hot-Brew and Cold-Brew Tea (Prussian Blue Method)

Michael Combs

Prussian Blue is a pigment that has been synthesized throughout history for various uses in art, medicine, and chemistry. This pigment is primarily utilized as a colorimetric indicator that evaluates the concentration of phenols and polyphenols within a sample. These chemicals belong to a group called antioxidants that neutralize harmful free radicals in the human body. Teas are a well-known source of antioxidants that are consumed around the world. There are two competing methods regarding how tea is made. Hot-brewed tea and cold-brewed tea vary not only in temperature but also in how many tea leaves are used during the process. This affects the total concentration of antioxidants in the tea. This study is focused on determining the best method of synthesizing the Prussian Blue reagent in a range of concentrations to create a calibration curve. This calibration curve will be used to compare the antioxidant capacities of various cold-brew teas to hot-brew teas.