

WIU CENTENNIAL HONORS COLLEGE
Thomas E. Helm Undergraduate Research Day 2023

Abstract

Podium

Major: Forensic Chemistry

Faculty Mentor(s): Ligu Song

**Potency Testing of Cannabidiol Acid in Dried Hemp Flowers among Sixteen Cannabinoids by
Liquid Chromatography Ultraviolet Detection**

Aaron Weseloh

A liquid chromatography ultraviolet detection (LC-UV) method was developed for potency testing of cannabidiolic acid (CBDA) in dried hemp flowers among sixteen cannabinoids. The potency testing was achieved using external standard calibration between 0.02 and 25 $\mu\text{g}/\text{mL}$. The limits of quantification (LOQ) were determined to be 0.04% CBDA in dried hemp flowers. To recover CBDA, dried hemp flowers were combined with methanol to prepare a 25 mg/ml mixture. After ultrasonication, centrifugation and filtration, the extract was serially diluted to 50 $\mu\text{g}/\text{mL}$ and analyzed by LC-UV. The measurement precision in triplicate was 5.1%. The method was not interfered by other cannabinoids present in dried hemp flowers.