

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

Abstract

Poster

Major: Forensic Chemistry

Faculty Mentor(s): Liguo Song

**Quantification of Cannabigerolic Acid among Sixteen Cannabinoids in Dried Hemp Flowers by
Liquid Chromatography Ultraviolet Detection**

Lindsey LeBlanc

A liquid chromatography ultraviolet detection (LC-UV) method was developed for quantification of cannabigerolic acid (CBGA) among sixteen cannabinoids in dried hemp flowers. The quantification was achieved using external standard calibration between 0.02 and 25 $\mu\text{g/mL}$. The limits of quantification (LOQ) were determined to be 0.04% CBGA in dried hemp flowers. To recover CBGA, dried hemp flowers was combined with methanol to prepare a 25 mg/mL mixture. After ultrasonication, centrifugation and filtration, the extract was serially diluted to 50 $\mu\text{g/mL}$ and analyzed by LC-UV. The measurement precision in triplicate was 1.7%. The method was not interfered by other cannabinoids present in dried hemp flowers.