

WIU CENTENNIAL HONORS COLLEGE
Thomas E. Helm Undergraduate Research Day 2022

Abstract

Poster

Major Forensic Chemistry

Faculty Mentor: Iguo Song

**quantification of cannabidiol among Sixteen Cannabinoids in Hemp oil by Liquid Chromatography
Ultraviolet Detection**

Savannah Cooper

A liquid chromatography ultraviolet detection (LC-UV) method was developed for the quantification of cannabidiol (CBD) among sixteen cannabinoids in hemp oil. The quantification was achieved using external standard calibration between 0.02 and 25 $\mu\text{g}/\text{mL}$. The limits of quantitation (LOQ) was determined to be 0.008% CBD in hemp oil. To recover CBD, hemp oil was combined with methanol to prepare a 25 mg/mL mixture. After ultrasonication, centrifugation, and filtration, the extract was serially diluted to 250 $\mu\text{g}/\text{mL}$ and analyzed by LC-UV. The measurement precision in triplicate was 5.7%. The method is not interfered with by other cannabinoids present in hemp oil.