

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

Abstract

Poster

Major: Forensic Chemistry

Faculty Mentor(s): Ligu Song

**Potency Testing of Δ 8-Tetrahydrocannabinol in Delta 8 Concentrate among Nineteen
Cannabinoids by Liquid Chromatography Ultraviolet Detection**

Emily Jovanovich

A liquid chromatography ultraviolet detection (LC-UV) method was developed for potency testing of Δ 8-tetrahydrocannabinol (Δ 8-THC) in delta 8 concentrate among nineteen cannabinoids. The potency testing was achieved using external standard calibration between 0.02 and 25 $\mu\text{g}/\text{mL}$. The limits of quantitation (LOQ) were determined to be 0.08% Δ 8-THC in delta 8 concentrate. To recover Δ 8-THC, the sample was combined with methanol to prepare a 25 mg/mL mixture. After ultrasonication, centrifugation and filtration, the extract was serially diluted to 25 $\mu\text{g}/\text{mL}$ and analyzed by LC-UV. The measurement precision in triplicate was 7.2%. The method was not interfered by other cannabinoids present in the sample.