

Centennial Honors College
Thomas E. Helm Undergraduate Research Day 2024

ABSTRACT

Major: Forensic Chemistry

Poster

Faculty Mentor(s): Liguo Song

Quantification of Cannabidiol among Nineteen Cannabinoids in Hemp Infused Water by Liquid Chromatography Ultraviolet Detection

Maddy Kotler

A liquid chromatography ultraviolet detection (LC-UV) method was developed for quantification of cannabidiol (CBD) among nineteen cannabinoids in hemp infused water. The quantification was achieved using external standard calibration between 0.02 and 25 $\mu\text{g/mL}$. The limits of quantification (LOQ) was determined to be 0.0008% CBD in hemp infused water. To recover CBD, hemp infused water was combined with methanol to prepare a 25 mg/mL mixture. After ultrasonication, centrifugation and filtration, the extract was diluted to 2.5 mg/mL and analyzed by LC-UV. The relative standard deviation (RSD) of the measurement in triplicate was 1.9%. The method is not interfered by other cannabinoids present in the sample.