

**Centennial Honors College
Thomas E. Helm Undergraduate Research Day 2024**

ABSTRACT

Major: Forensic Chemistry

Poster

Faculty Mentor(s): Liguo Song

**Quantification of Cannabichromene among Nineteen Cannabinoids in Key Lime Pie Hemp Flowers
by Liquid Chromatography Ultraviolet Detection**

Jillian Mulholland

A liquid chromatography ultraviolet detection (LC-UV) method was developed for the quantification of cannabichromene (CBC) in key lime pie hemp flowers among nineteen cannabinoids. The quantification was achieved using external standard calibration between 0.02 and 25 $\mu\text{g/mL}$. The limit of quantitation (LOQ) was determined to be 0.04% CBC in hemp flowers. To recover CBC, the sample 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 CBC content in key lime pie hemp flowers was measured to be 0.59% with relative standard deviation (RSD) of 1.6% in triplicate. The method was not interfered by other cannabinoids present in hemp flowers.