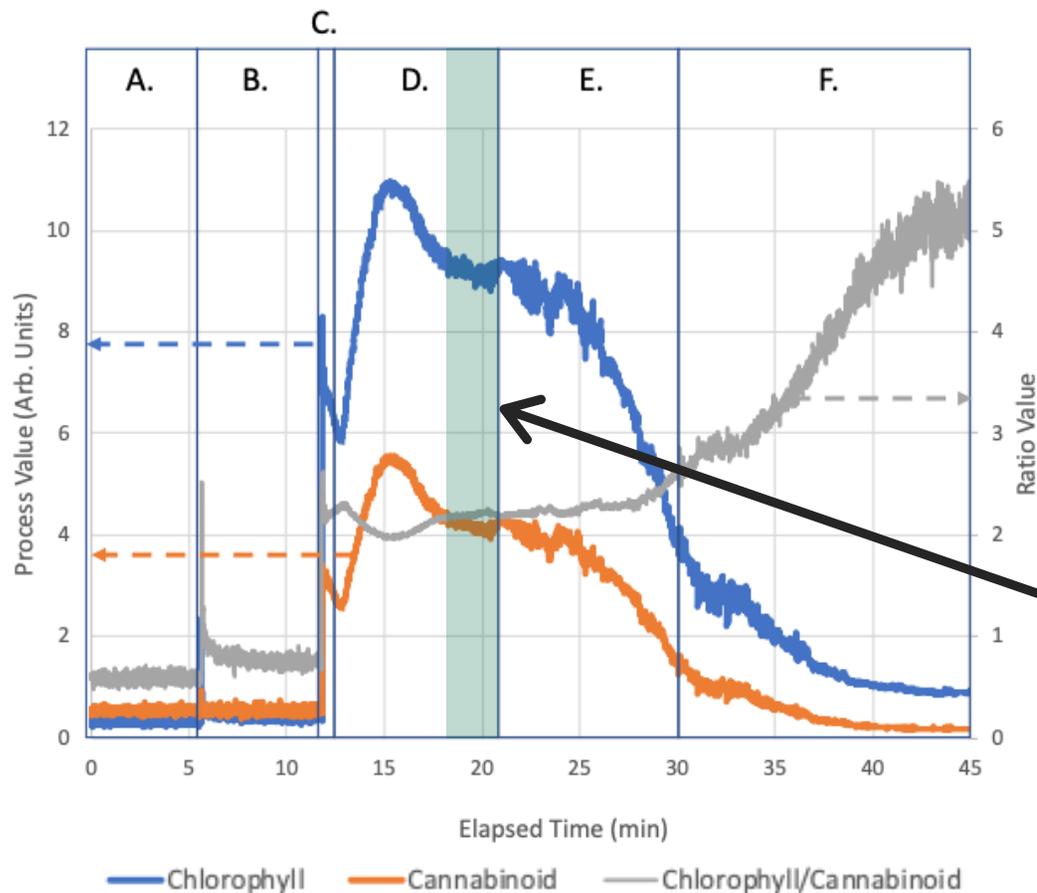


AROMETRIX EXTRACTION FINDER MONITORING SOLVENT SATURATION



A. Filling Extractor with Ethanol (Flow Off)

- No flow over sensor; no signal

B. Agitating Extractor Then Soak Cycle (Flow Off)

- No flow over sensor
- Initial signal noise due to mechanical vibrations

C. Flow Started/Equilibrating Flow

- Full flow over sensor
- Signal spikes then drops after initial fluid flow

D. Recirculating Ethanol

- Full flow over sensor; signal increases/decreases as Cannabinoid concentration equilibrates and becomes homogeneous in ethanol
- *Extraction end point (solvent saturation) determined by Cannabinoid and/or Chlorophyll levels plateauing and stabilizing over time.*

E. Emptying System Using N² Gas

- Extractor being emptied with nitrogen gas and system no longer chilled
- Both Cannabinoids and Chlorophyll signals decrease

F. Emptying Residual Alcohol from Reservoir

- Decrease in both Cannabinoid and Chlorophyll signals
- Increase in ratio of Chlorophyll to Cannabinoid from system heating (ethanol preferentially extracting Chlorophyll in the extractor reservoir)



EXTRACTION
FINDER

CONCLUSIONS



Model 1 Extraction Finder - Polycarbonate Enclosure

Summary

The EXTRACTION FINDER sensor was installed in-line on the ethanol extractor's discharge line, in order to analyze real-time Cannabinoid and Chlorophyll levels. The live data readings were used to determine when the ethanol was no longer extracting from the plant matter (solvent saturation). This was determined by the signal intensities leveling out over time.

Outcome

This actionable information was used to shorten the extraction time. The extraction technician would previously recirculate ethanol for ~30 minutes. After just one week of using the EXTRACTION FINDER, the technician was able to shave his extraction run time down to ~8 minutes because he observed no increase in Cannabinoid levels in the readout. This SOP optimization completely changed how his company operated their extractions, leading to savings in process duration and amount of solvent used.

Customer Quote

"We shortened the time of our extraction to match when the unit was showing us we had absorbed the majority of the Cannabinoids."

— Mac Bunbury, Extraction Lab Manager, Timeless Vapes