

State Results Report: California

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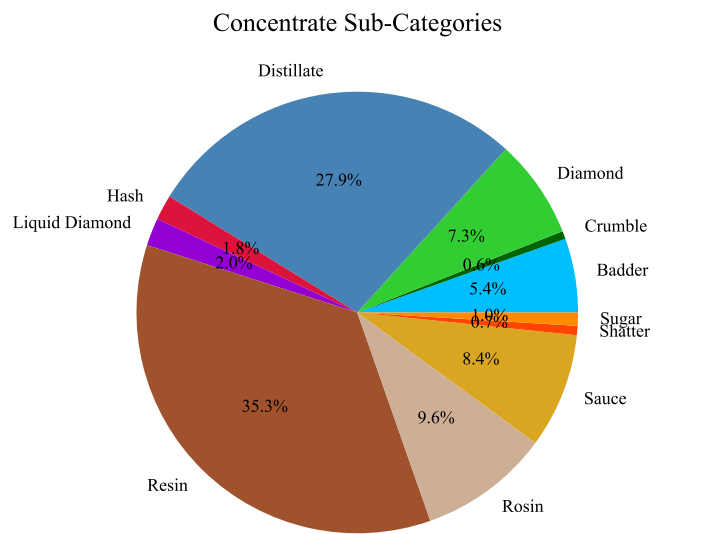
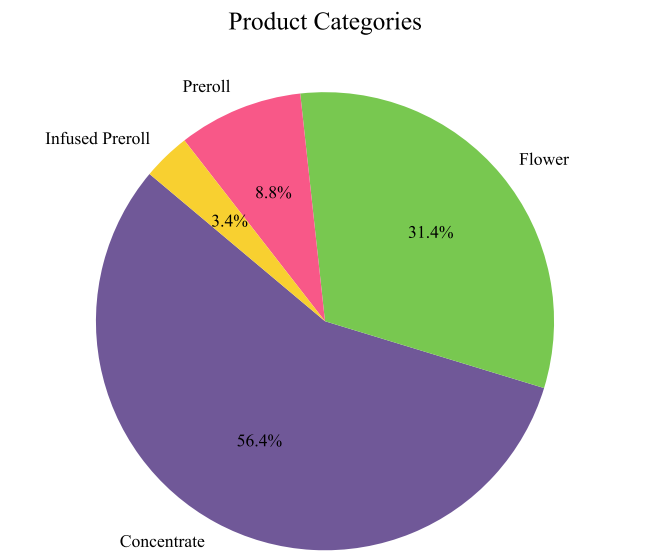
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Data

This is a report on California lab results, extracted from certificates of analysis (COAs) published by the Flower Company on their cannabis distribution website*, collected between December 15th, 2023 and February 20th 2024. We hope these statistics can help shed light on cannabis in California.

California Lab Result Data

Total Parsed COAs	2,321
Total Producers	116
Total Labs	17
Number of Cannabinoids	13
Number of Terpenes	38



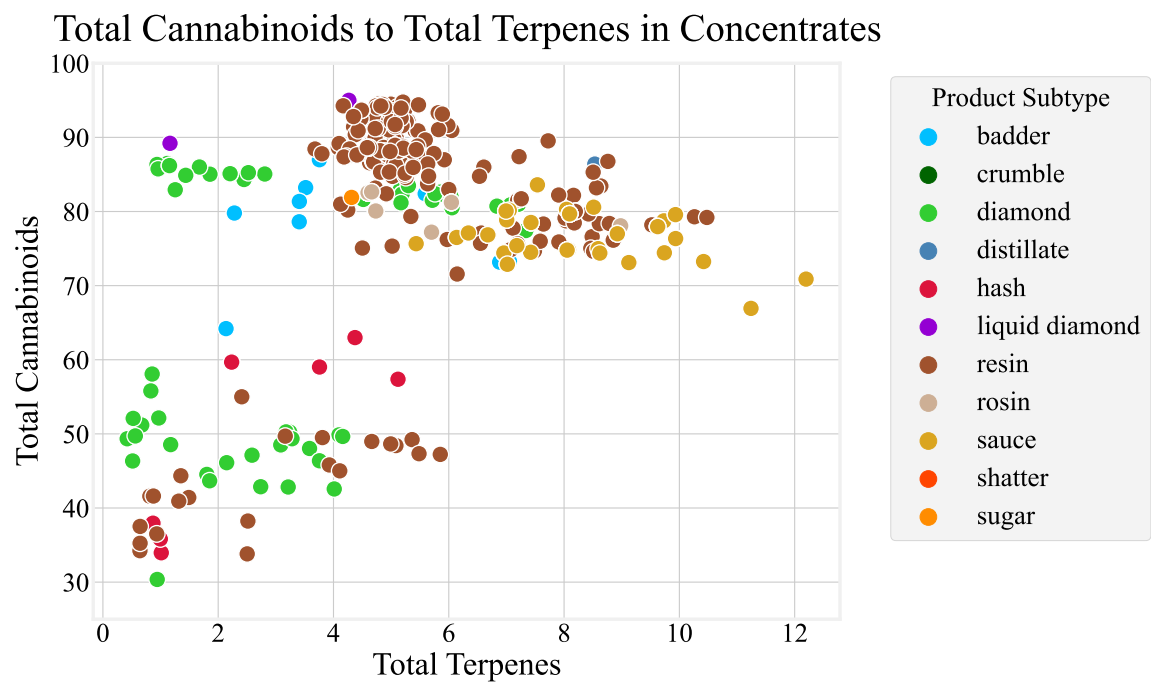
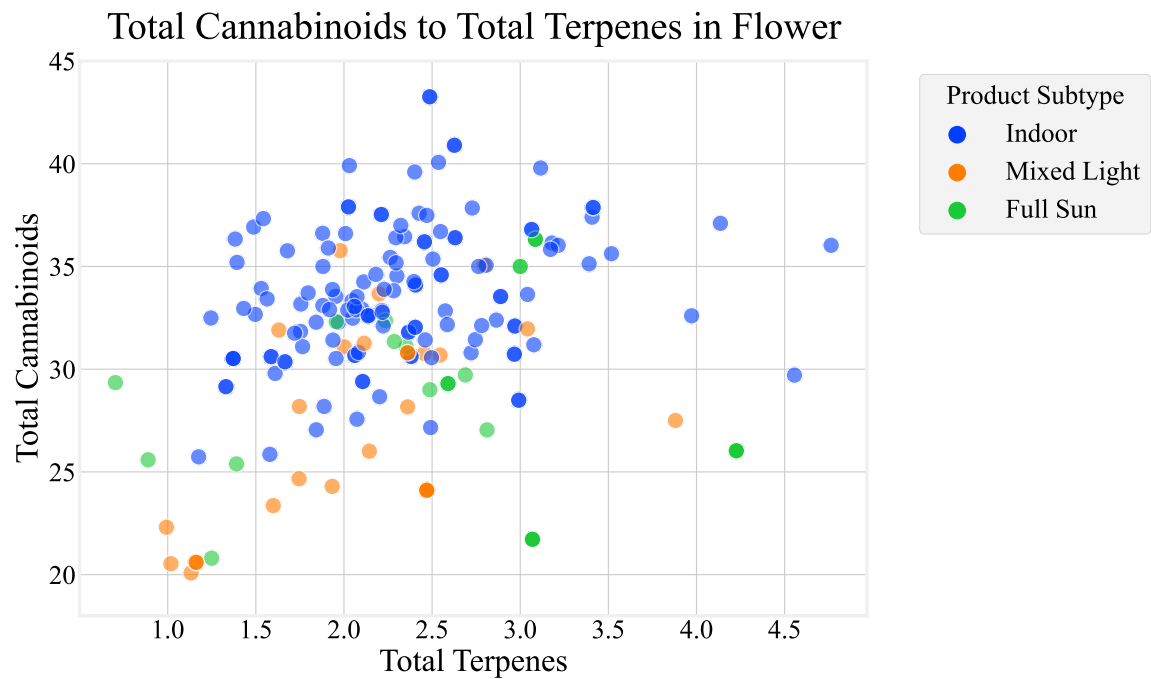
Top 15 Producers Observed	Observations
Ironworks Collective, Inc.	257
Central Coast Ag Products, LLC	209
Shield Management Group, LLC	168
Flower Company	142
FLUIDS MANUFACTURING, INC.	127
CRFT Manufacturing, Inc.	77
Industrial Court L11, LLC	73
Greenfield Distribution Inc	69
Green Spectrum Trading, Inc	64
Punch Edibles	62
CI Wellness, LLC	53
Downtown Inc.	51
Sunderstorm	48
VBR DHS Management LLC	47
ArcataX	46

Top 15 Labs Observed	Observations
SC Labs	420
Encore Labs	386
Verity Analytics	215
Excelbis Labs	178
BelCosta Labs	168
Decano Analytical Laboratories	158
CC Testing Labs, Inc.	150
2 River Labs, Inc	121
Caligreen Laboratory	118
Landau Laboratories, Inc.	103
Brightside Scientific Inc	63
SQRD Lab	62
Infinite Chemical Analysis Labs	48
Green Leaf Lab	42
ProForma Labs, LLC	38

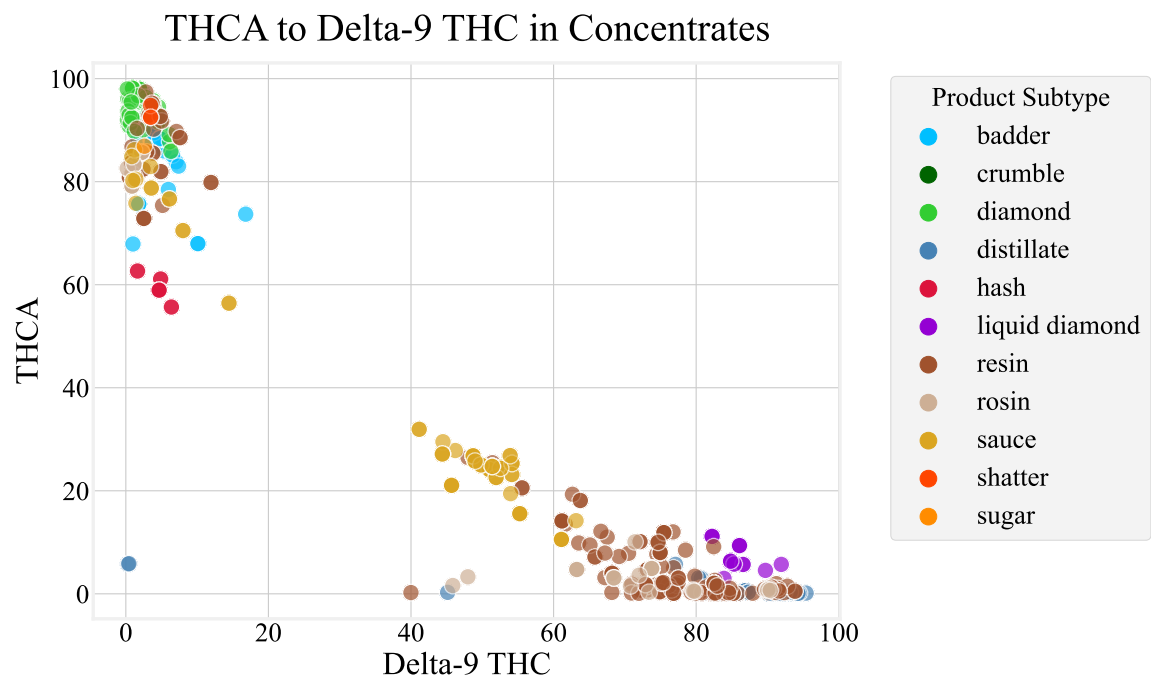
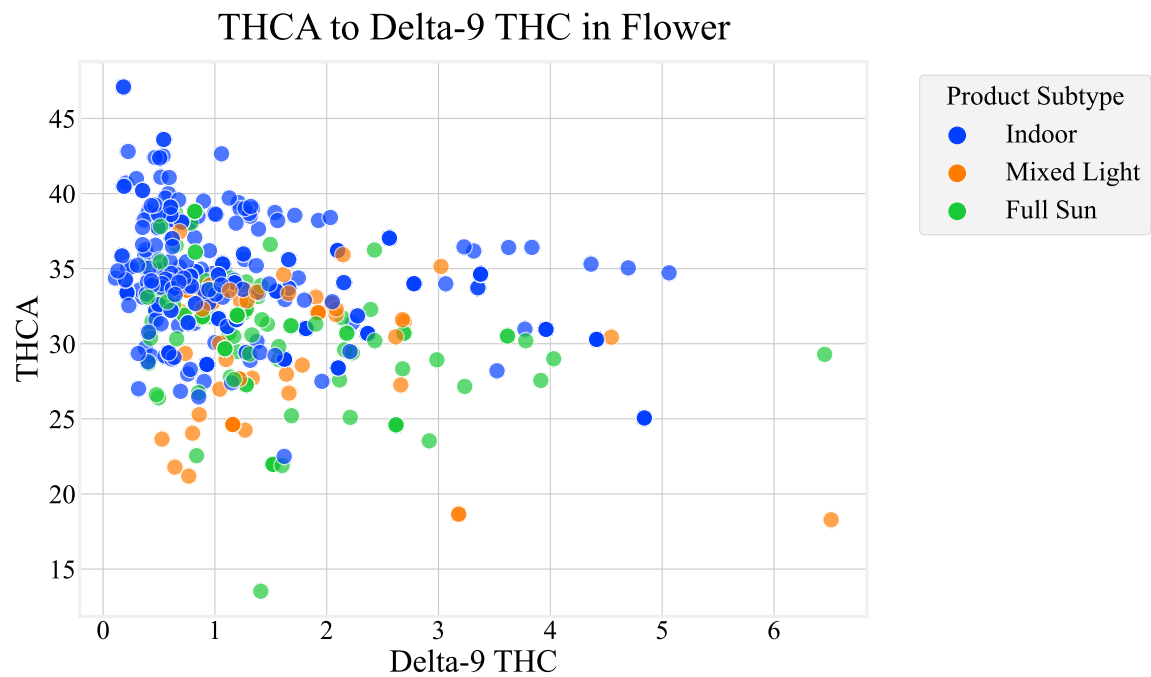
* Note: Data collected from <https://flowercompany.com>.

Chemical Analysis

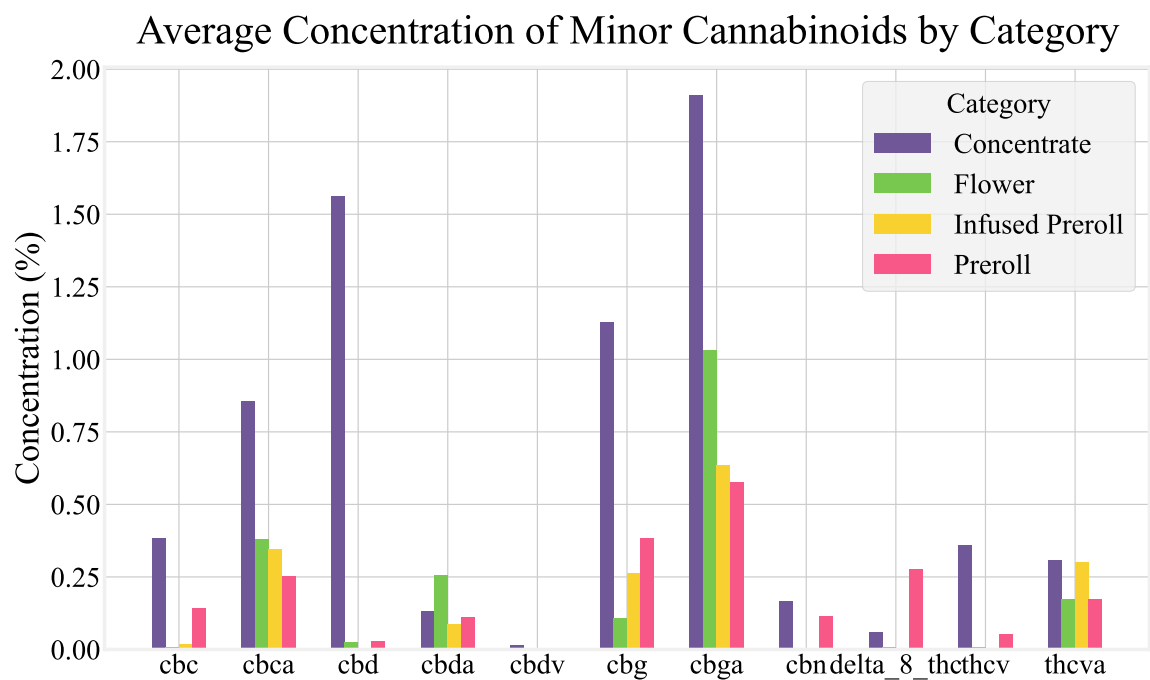
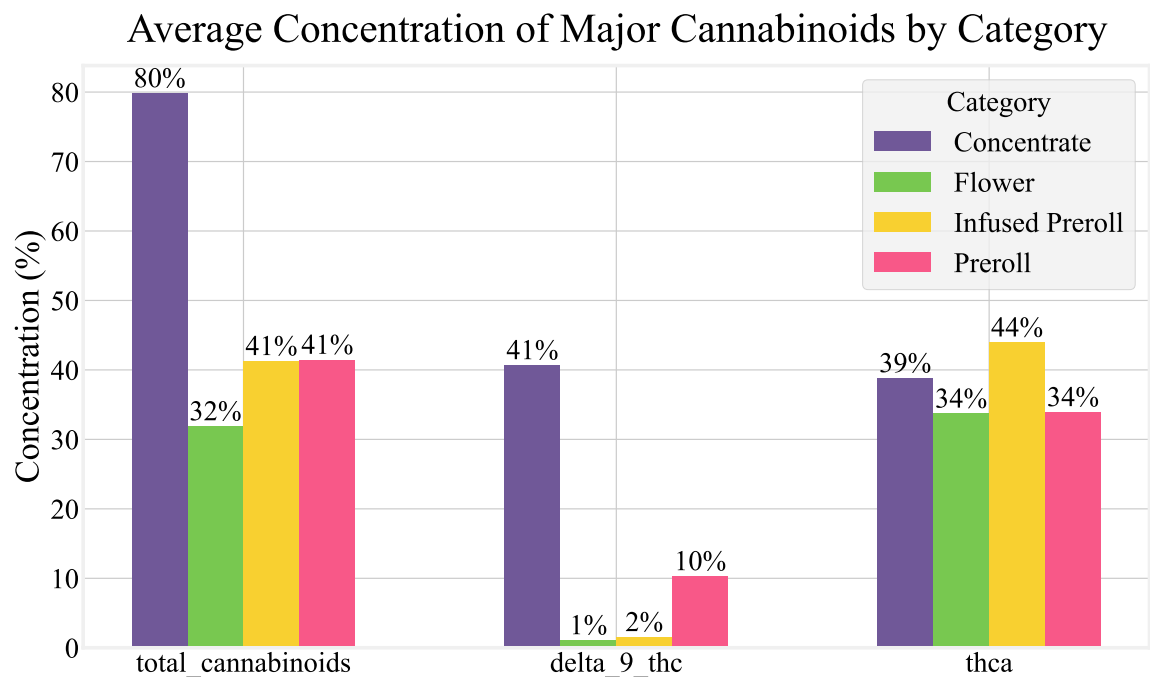
First, we examine total cannabinoids and total terpenes in flower and concentrates.



Next, we visualize THCA and Δ-9 THC concentrations.

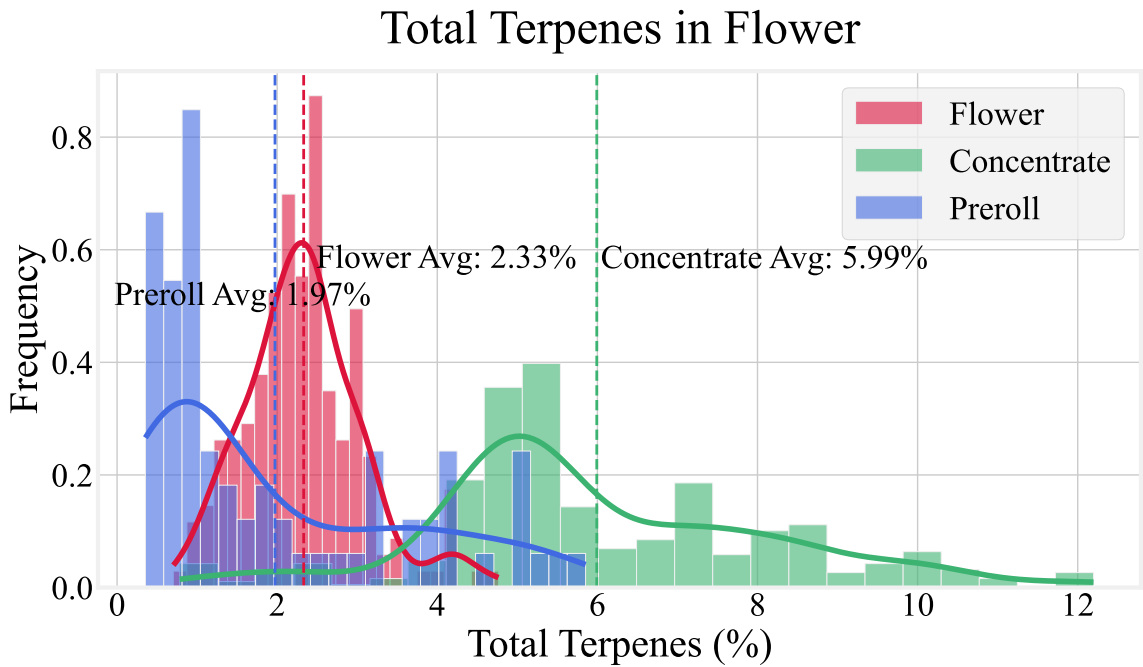


In addition to the major cannabinoids, we also visualize the average concentrations of minor cannabinoids by product category.

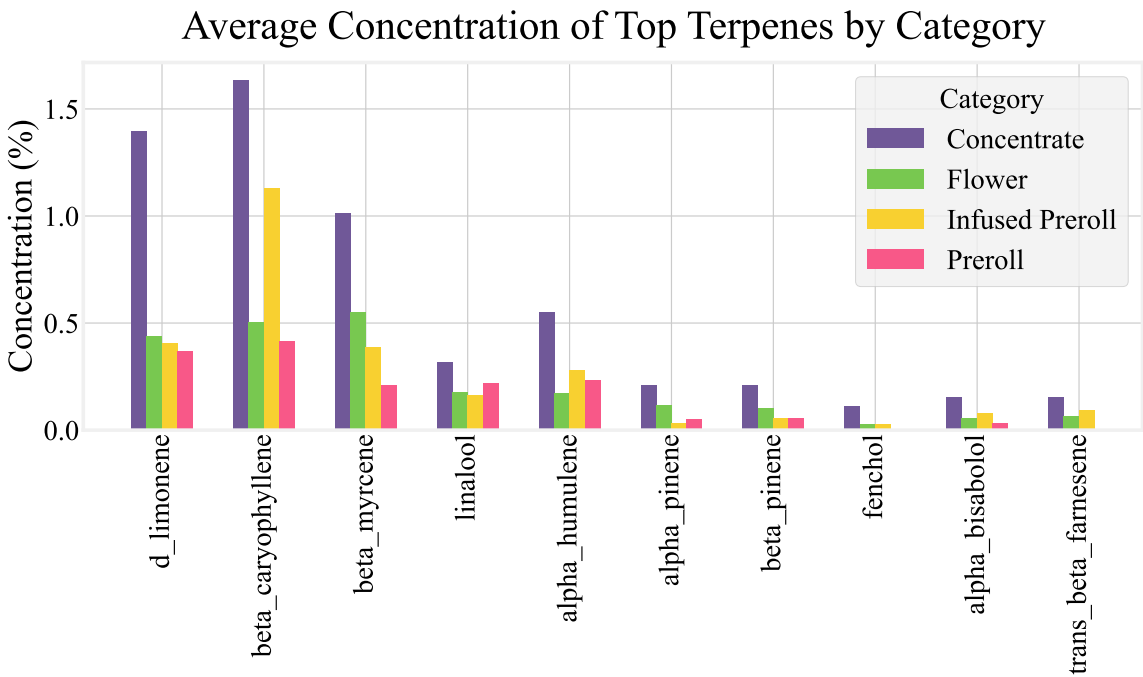


Terpene Analysis

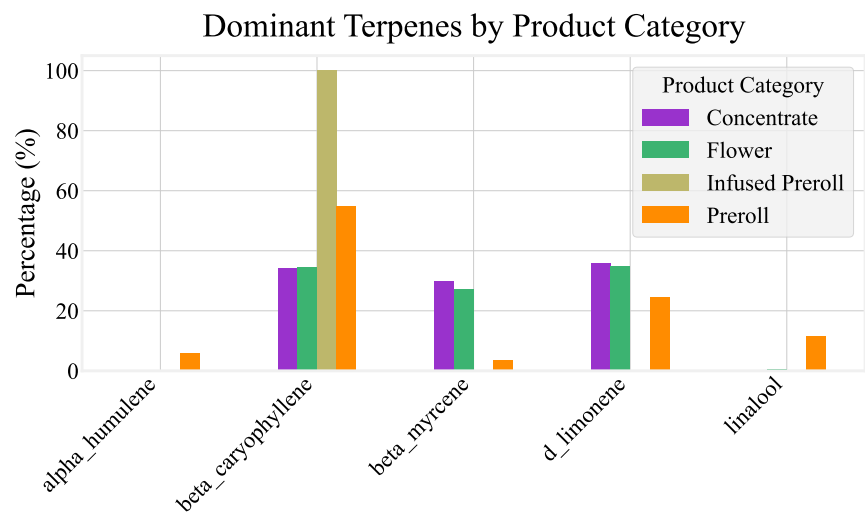
We turn our eyes now to total terpenes in flower, pre-rolls, and concentrates.



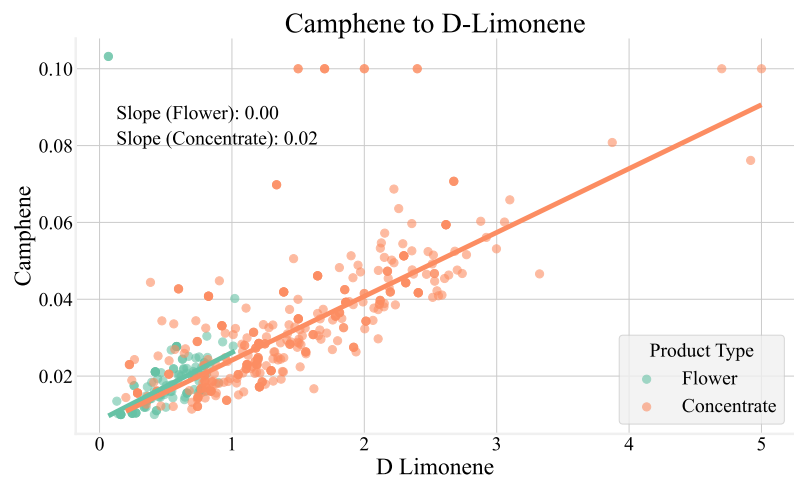
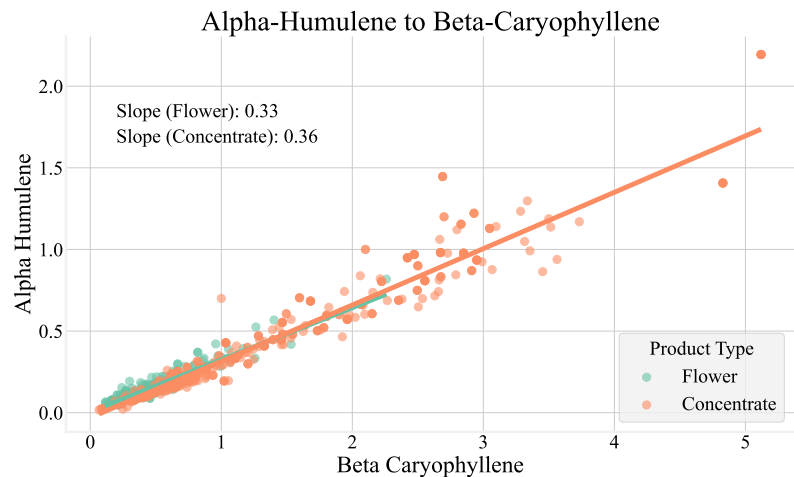
Here we visualize the average terpene concentrations by product category.



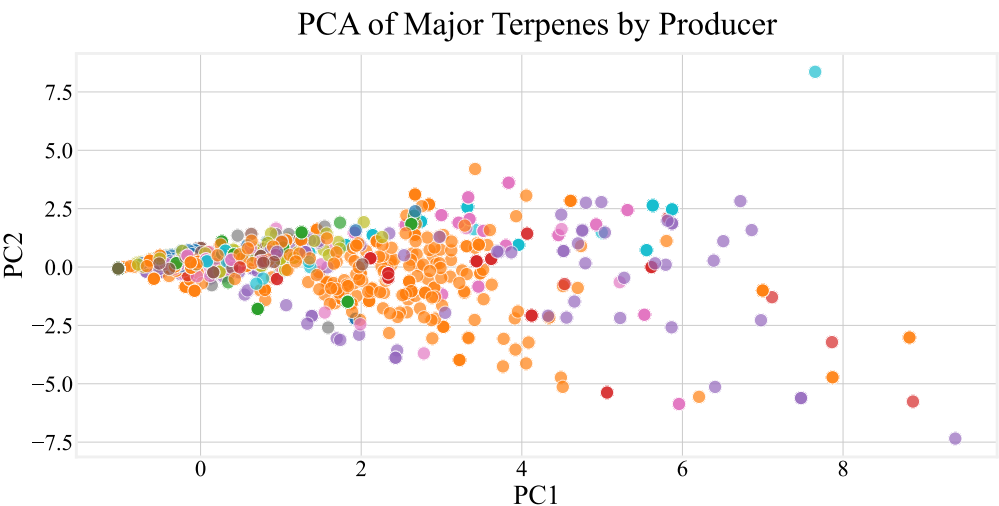
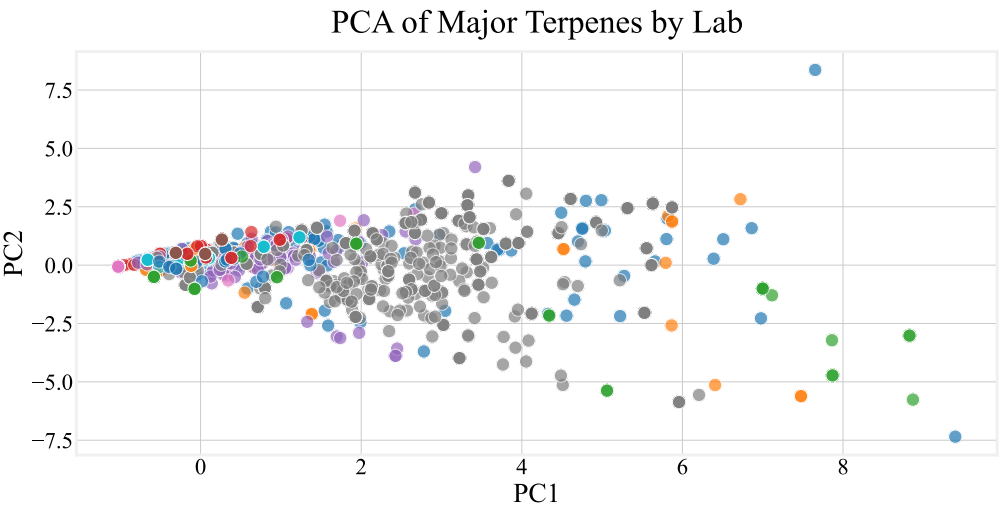
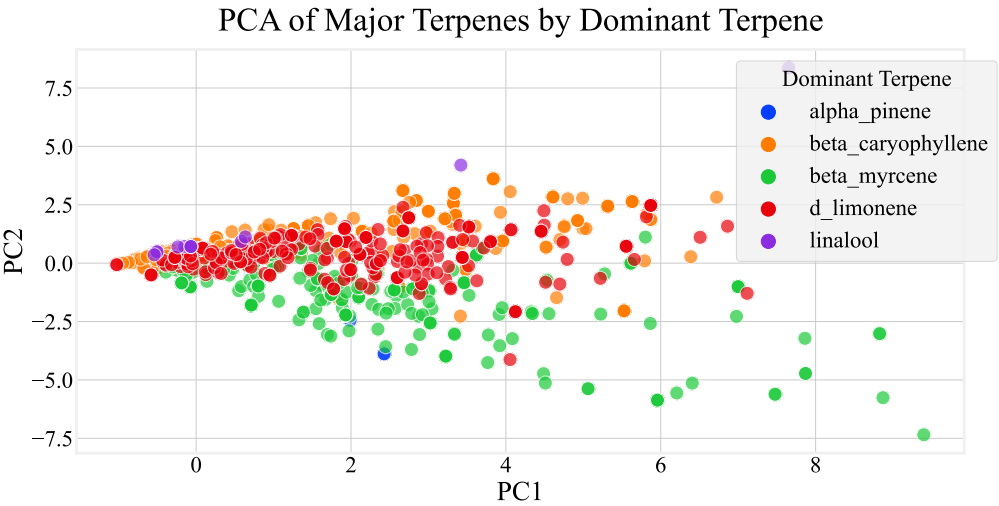
We also look at the prevalence of dominant terpenes by category.



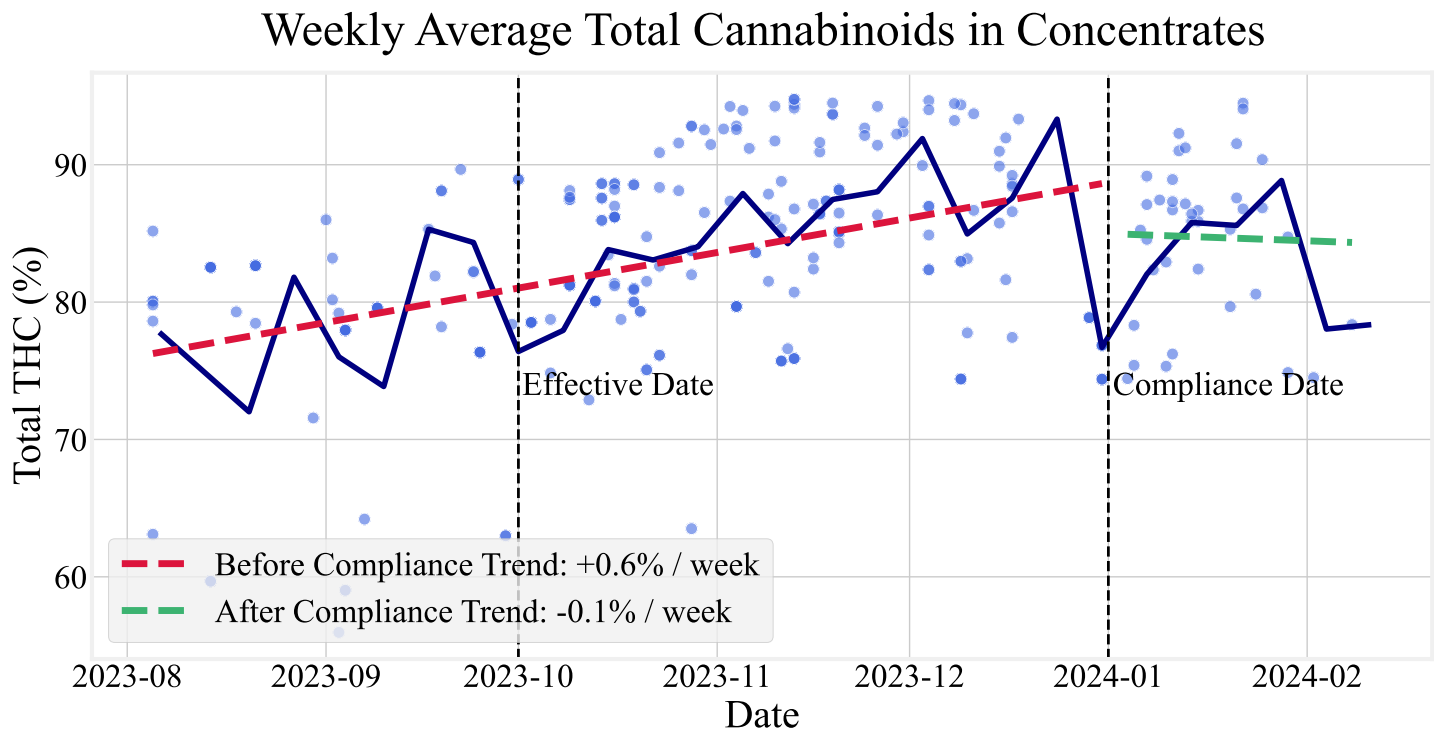
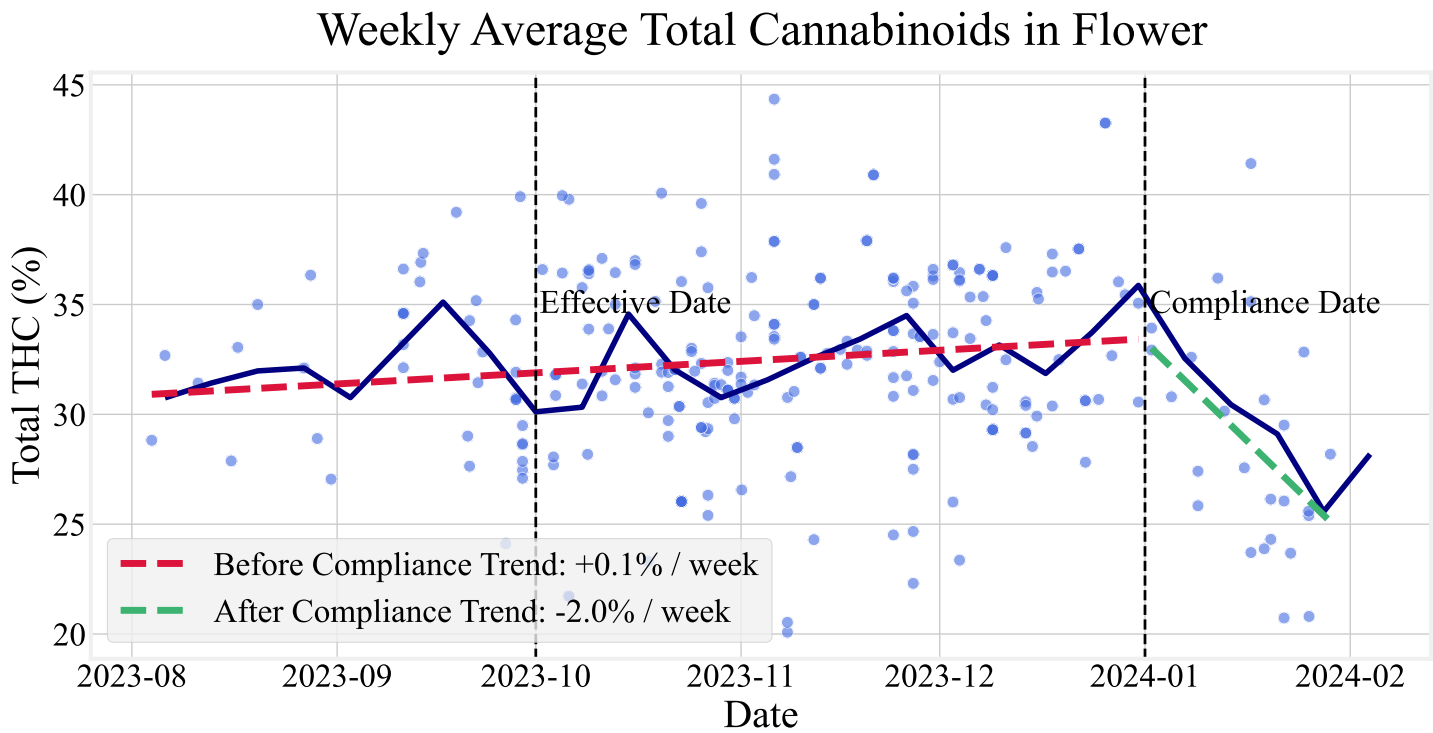
We can also visualize ratios of terpenes that are highly correlated.



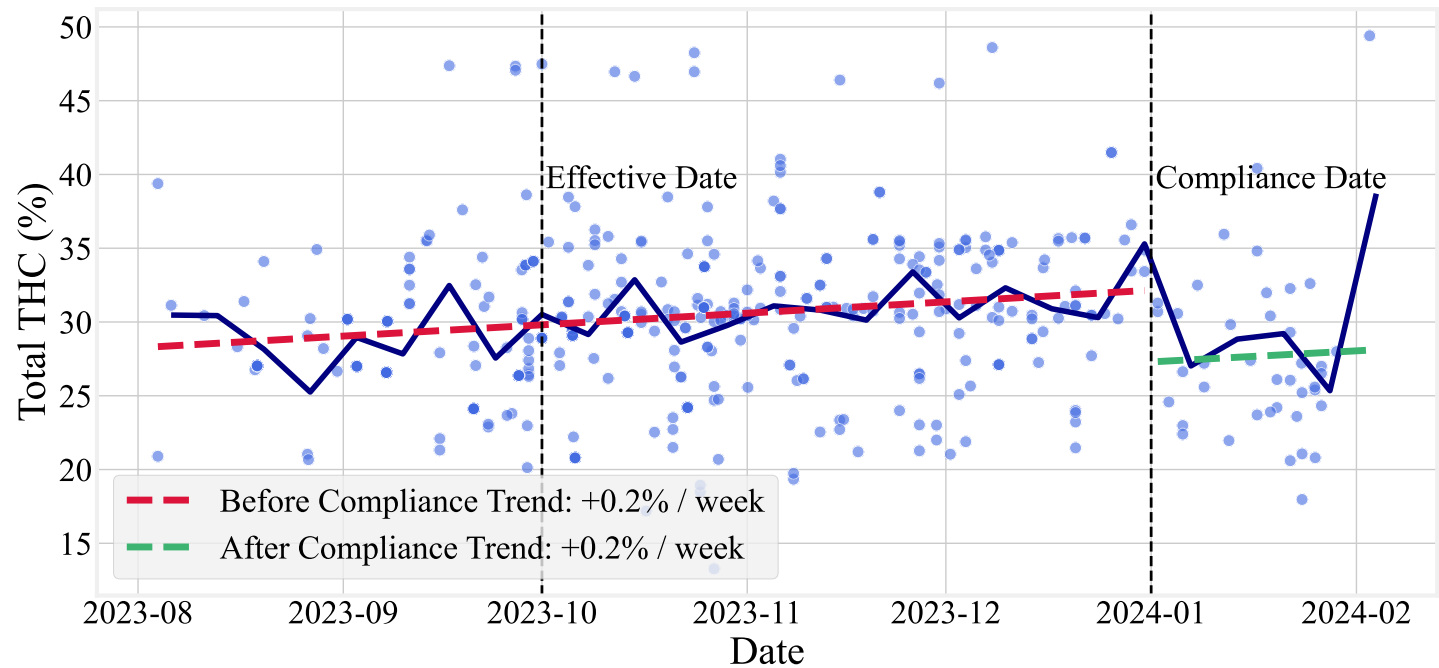
Here we use a principal component analysis (PCA) of major terpenes to visualize how lab results cluster by dominant terpene, lab, and producer.



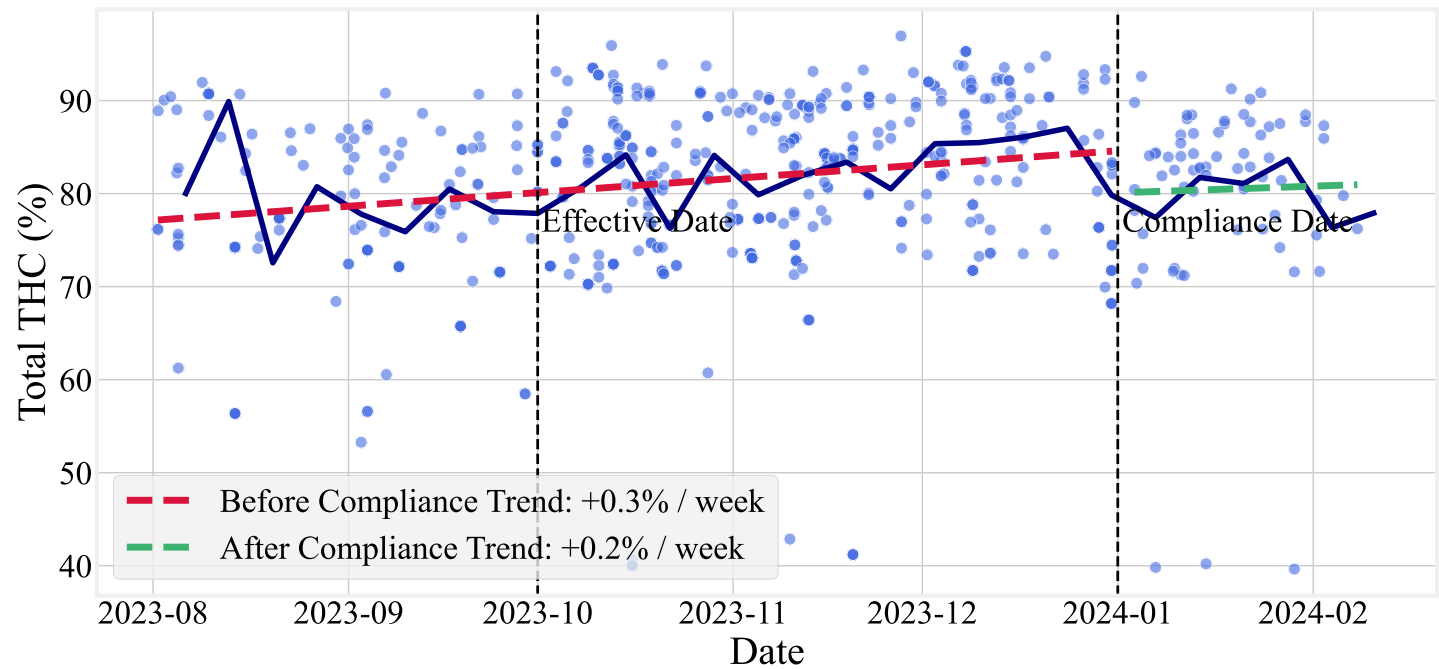
Trend Analysis



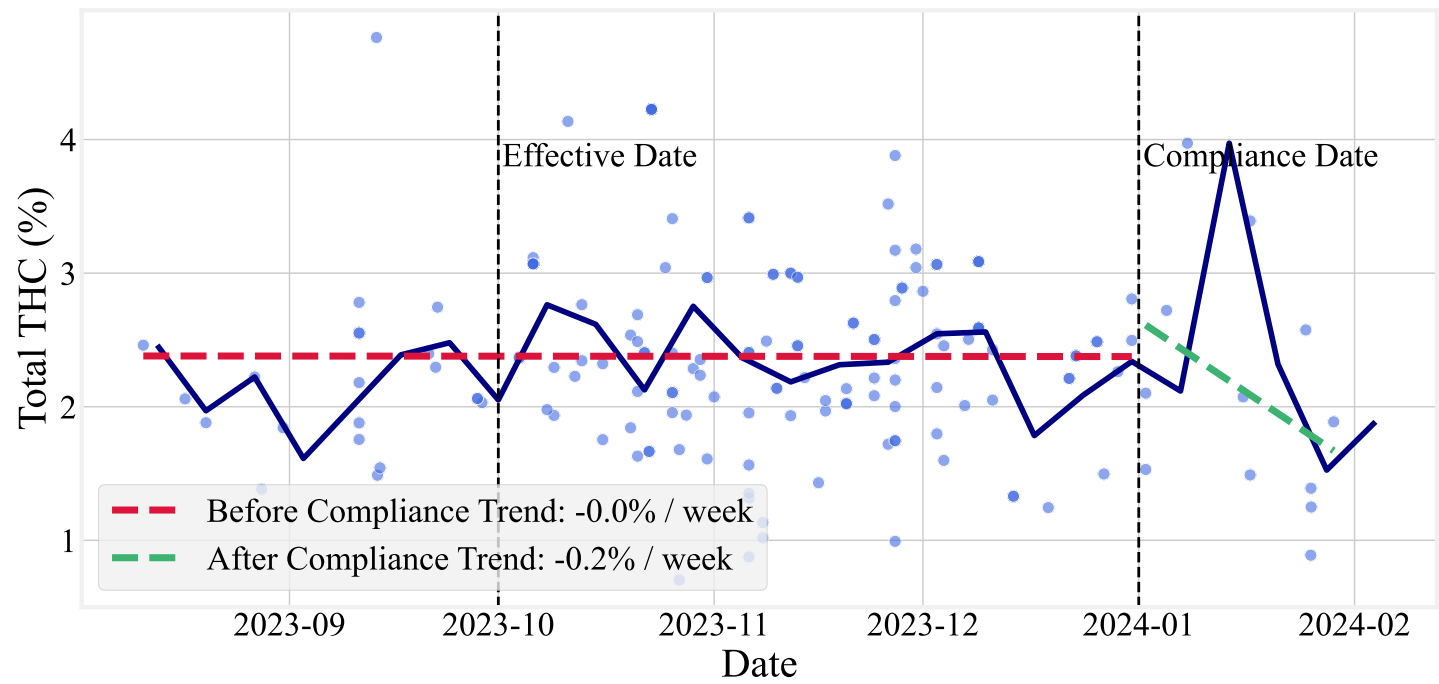
Weekly Average Total THC in Flower



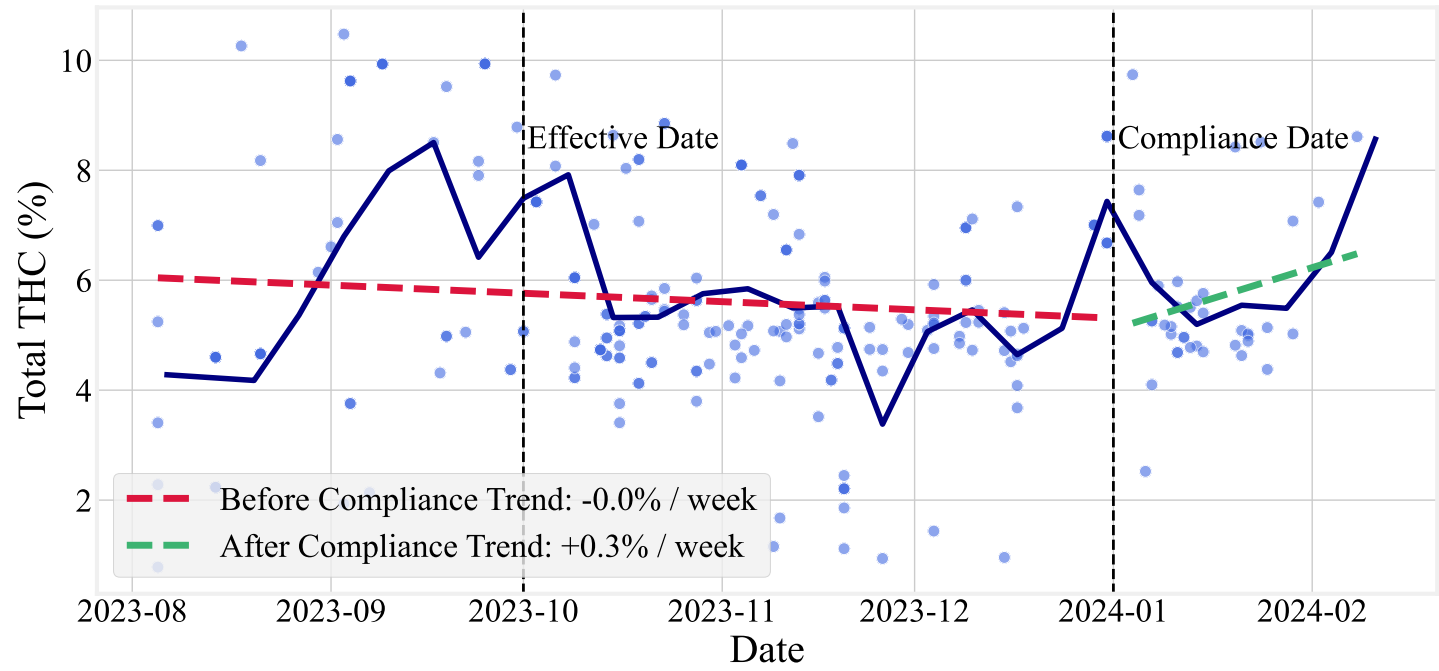
Weekly Average Total THC in Concentrates

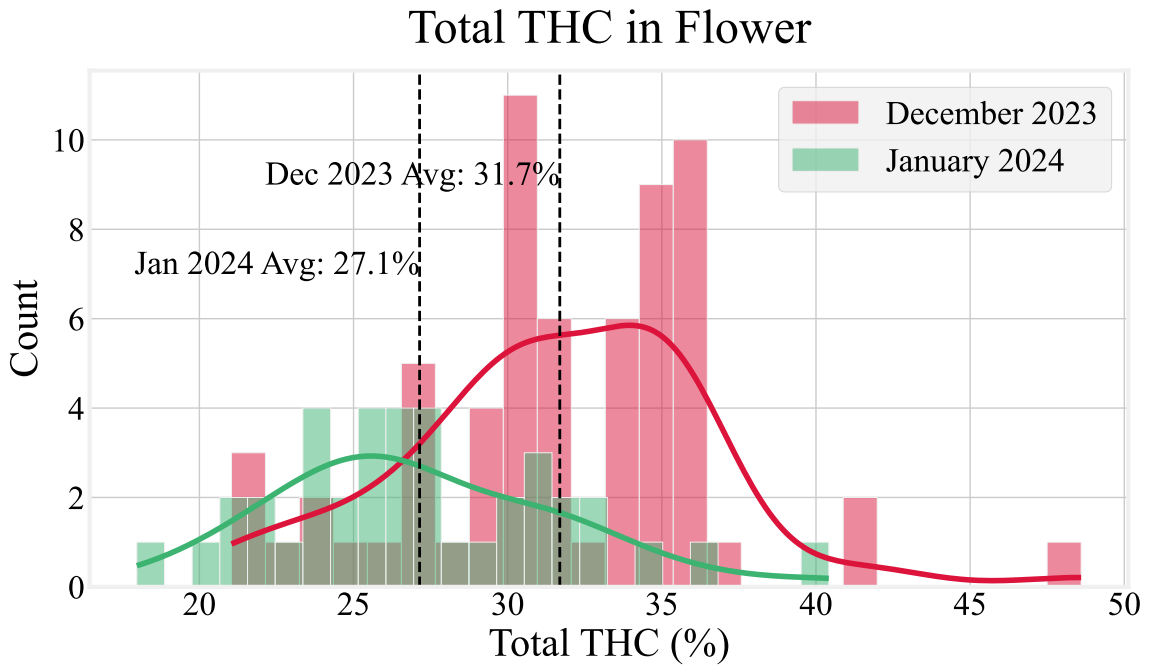
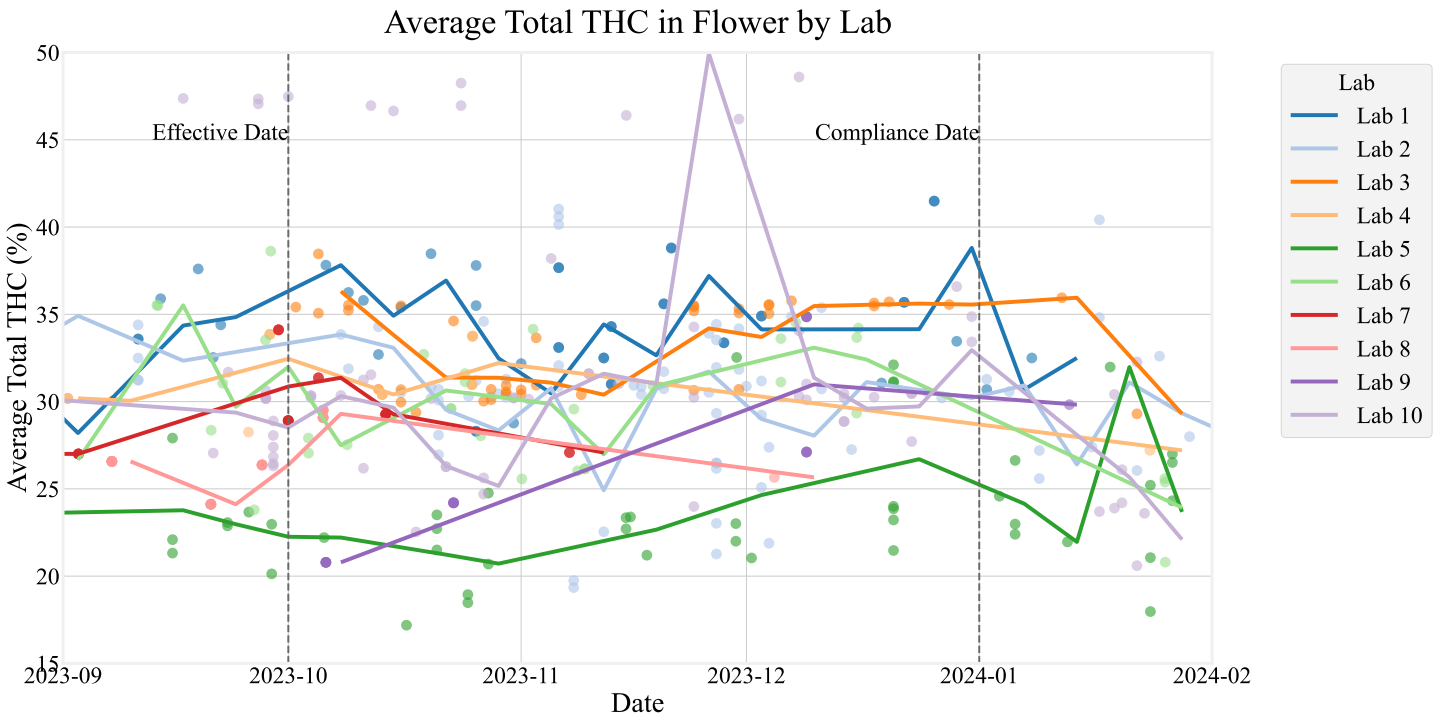


Weekly Average Total Terpenes in Flower



Weekly Average Total Terpenes in Concentrates





Finally, we can examine the average concentration of cannabinoids by category in December 2023 compared to January 2024.

Average Concentrations for December 2023			
	Flower	Preroll	Concentrate
Cannabinoids			
cbc	0.01	0.04	0.59
cbca	0.60	0.31	0.63
cbd	0.02	0.02	0.12
cbda	0.06	0.10	0.04
cbdV	0.00	0.00	0.00
cbg	0.11	0.19	1.81
cbga	1.21	0.33	0.70
cbn	0.01	0.04	0.37
delta_8_thc	0.00	0.00	0.06
delta_9_thc	1.36	5.05	68.40
thca	34.90	36.39	21.15
thcv	0.00	0.17	0.65
thcva	0.12	0.17	0.20

Average Concentrations for January 2024			
	Flower	Preroll	Concentrate
Cannabinoids			
cbc	0.02	0.10	0.49
cbca	0.35	0.29	0.90
cbd	0.01	0.00	2.43
cbda	0.05	0.05	0.06
cbdV	0.00	0.00	0.03
cbg	0.17	0.37	1.60
cbga	0.85	0.66	1.57
cbn	0.02	0.09	0.22
delta_8_thc	0.00	0.00	0.10
delta_9_thc	2.57	7.90	54.62
thca	29.62	30.06	45.04
thcv	0.04	0.04	0.61
thcva	0.15	0.24	0.41