

# R68-29-7

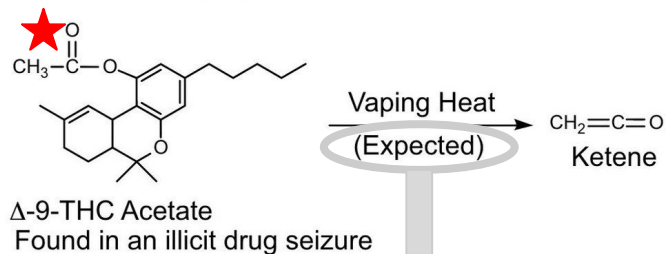
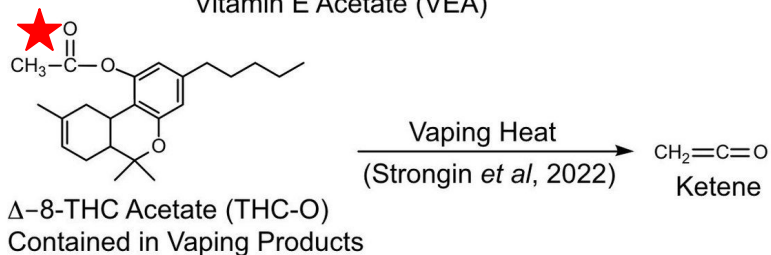
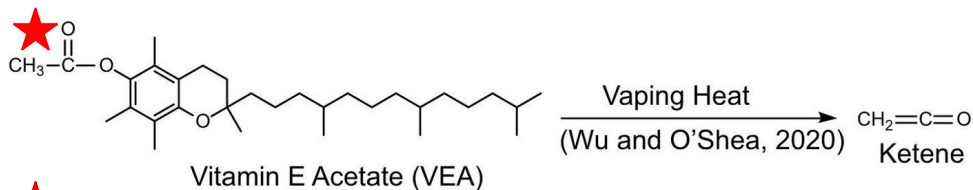
(2) A lot or batch of cannabis plant product, cannabis concentrate, or cannabis product fail quality assurance testing for cannabinoid content if:

- (a) it is not analyzed for each of the analytes listed in Table 2;
- (b) the determined amount of any analyte exceeds its action level given in Table 2;
- (c) it is found to contain a detectable amount of any of the artificially derived cannabinoids listed in Table 3 as determined by liquid chromatography-mass spectroscopy; or
- (d) greater than 10% of the total cannabinoid peak area is comprised of unknown cannabinoids after peaks smaller than 1% of the total peak area have been excluded as determined by high-performance liquid chromatography with a diode array detector (HPLC-DAD).

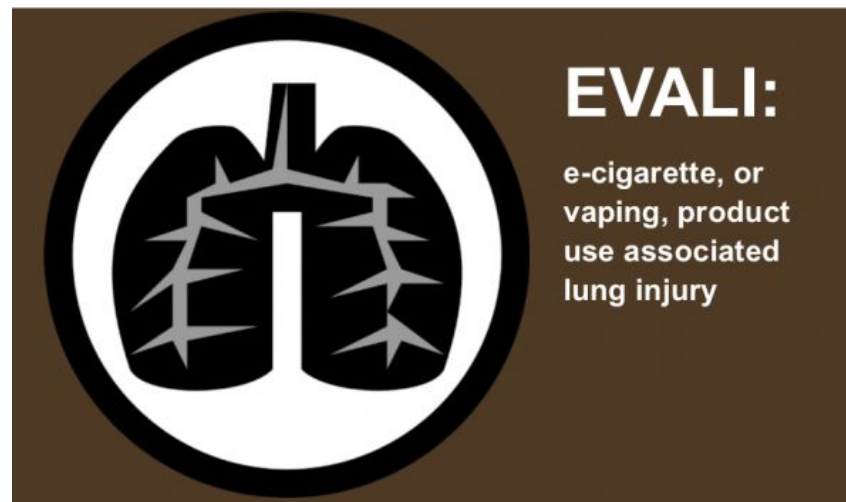
Analyte	Chemical Abstract Service
Hexahydrocannabinol (HHC)	36403-90-4, 36403-91-5
Tetrahydrocannabinol acetate (THC-OAc)	23132-17-4
3-Heptyl-delta(1)-tetrahydrocannabinol (THCP)	54763-99-4, 51768-60-6



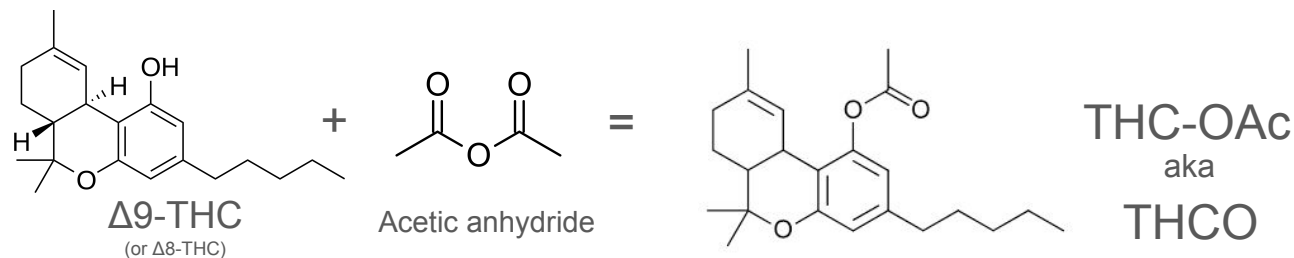
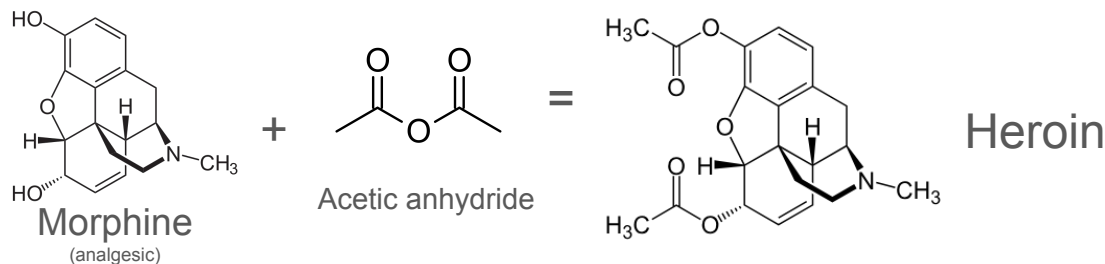
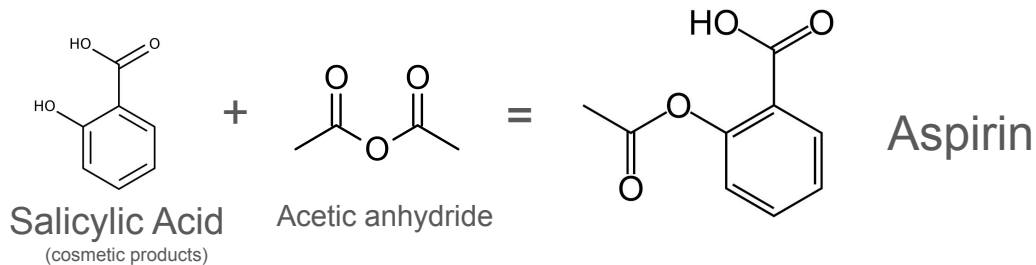
# Why do we care?



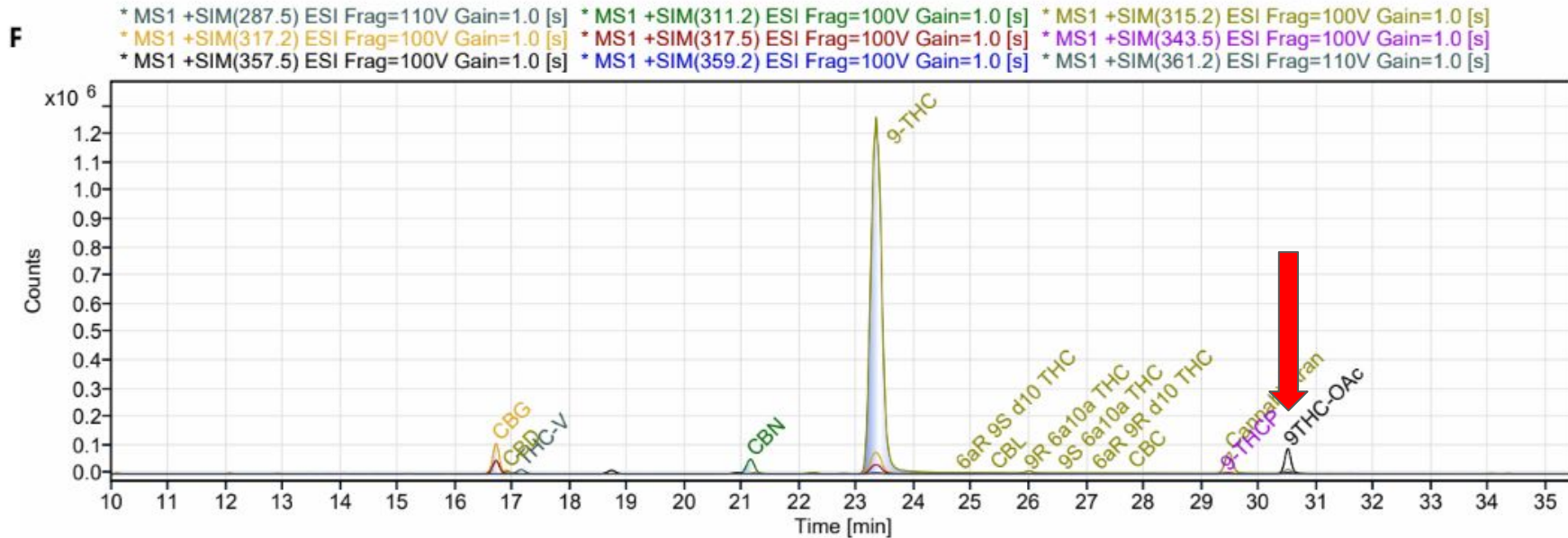
No published work (yet) on Δ9THCOAc  
producing ketene, but *very likely*



# Some notable acetylation reactions



# What have we found in context to the other cannabinoids?

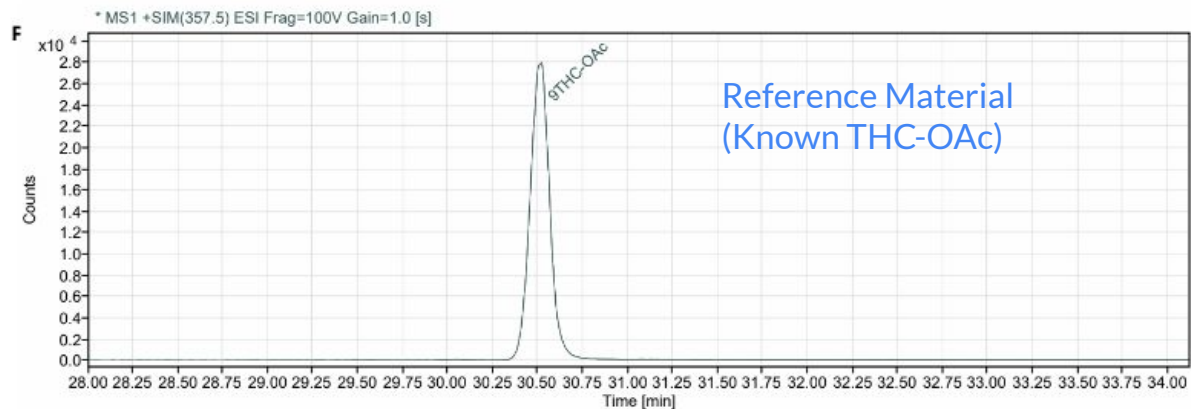


Not a large component, *but definitely present*

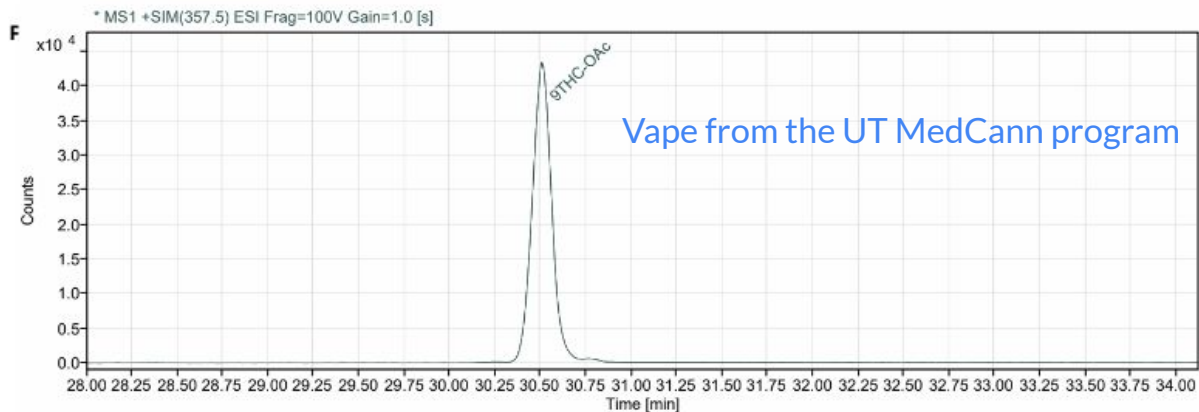


# What have we found?

Extremely high  
confidence in  
match



Confirmed by  
LC-DAD, LC-MS,  
GC-MS/MS  
(and APRC)



# Where have we found it?

Sample ID	Producer	Product name	THCOAc Peak Area	Rough quant
CN24053-11			1874000	0.88%
CN24053-17			1836000	0.86%
CN24053-18			1771000	0.83%
CN24053-10			1697000	0.80%
CN24057-10			1659000	0.79%
CN24057-12			1353000	0.64%
CN24057-11			1349000	0.64%
CN24057-13			1117000	0.53%
CN24057-9			992700	0.47%
CN24057-18			934500	0.44%
CN24057-28			934400	0.44%
CN24053-13			858400	0.40%
CN24057-3			836100	0.40%
CN24057-22			606600	0.29%
CN24057-25			597700	0.28%
CN24057-26			556900	0.26%
CN24057-29			431400	0.20%
CN24057-5			429900	0.20%
CN24057-27			407700	0.19%
CN24047-1			324200	0.15%
CN24057-7			321500	0.15%
CN24057-8			313900	0.15%
CN24057-23			247300	0.12%
CN24057-14			246700	0.12%
CN24044-2			245000	0.12%
CN24057-24			234100	0.11%
CN24057-2			231800	0.11%
CN24053-15			228300	0.11%
CN24057-1			222200	0.11%
CN24057-4			214500	0.10%
CN24057-6			179200	0.08%
CN24053-18			174800	0.08%
CN24059-14			157200	0.07%
CN24053-14			149400	0.07%
CN24053-12			148500	0.07%
CN24059-15			145700	0.07%
CN24059-17			134600	0.06%
CN24059-16			122600	0.06%
CN24057-15			84220	0.04%
CN24057-19			65280	0.03%
CN24057-16			48570	0.02%
CN24057-17			27380	0.01%
CN24057-21			22950	0.01%

Not unique to any single producer

Very low levels in “live resin” type products

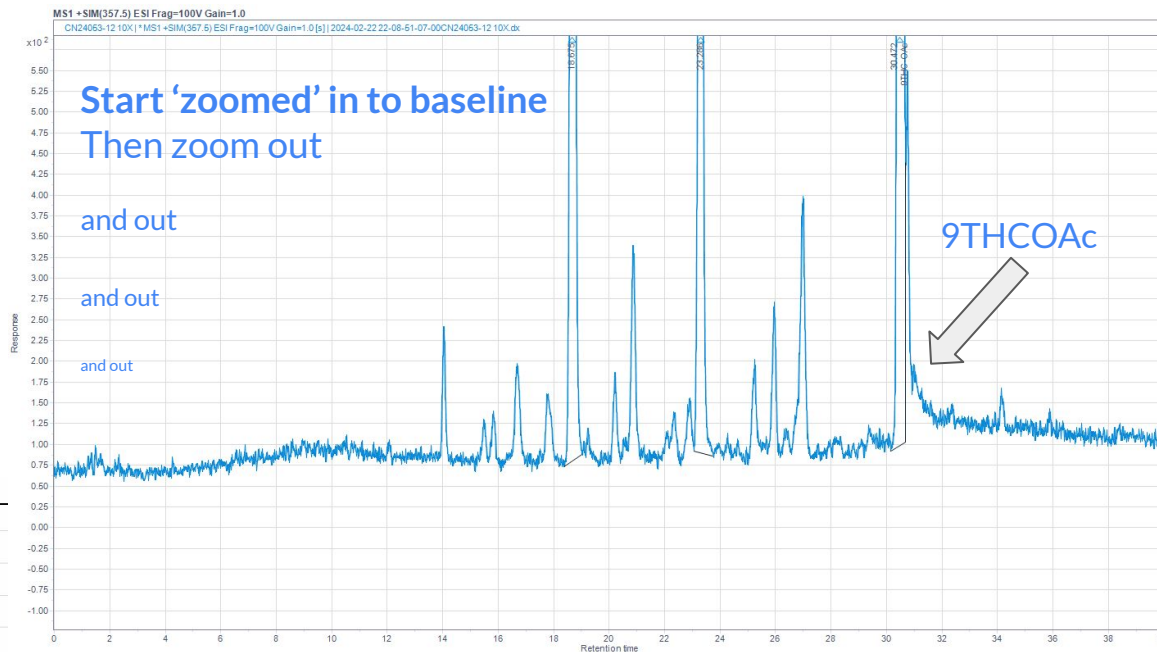
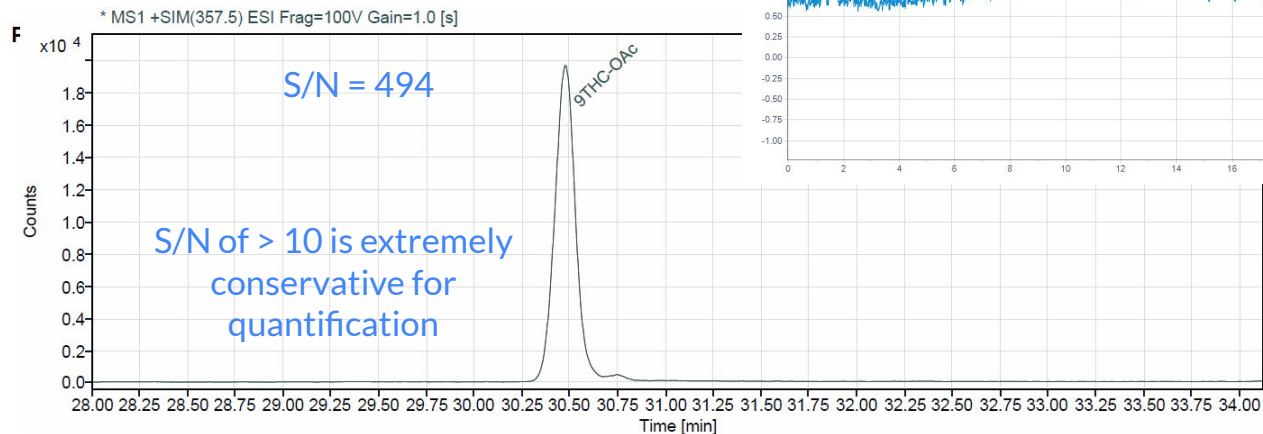
Undetectable in biomass



# Testing sensitivity example

Relatively low levels of THCOAc  
(0.07% relative peak area via LC-UV)

LC-MS is extremely sensitive and specific





## Next steps

- An emergency rule is needed to keep any products other than flower and some live resins available to patients.
- UDAF would like to set a low but achievable limit for THC-OAc in cannabinoid concentrates with progressively lower targets set for coming years.
- UDAF would like to require a special warning on inhalable forms if they contain THC-OAc.
- Identify the source and mechanism of THC-OAc contamination and work with processors to reduce or eliminate it.