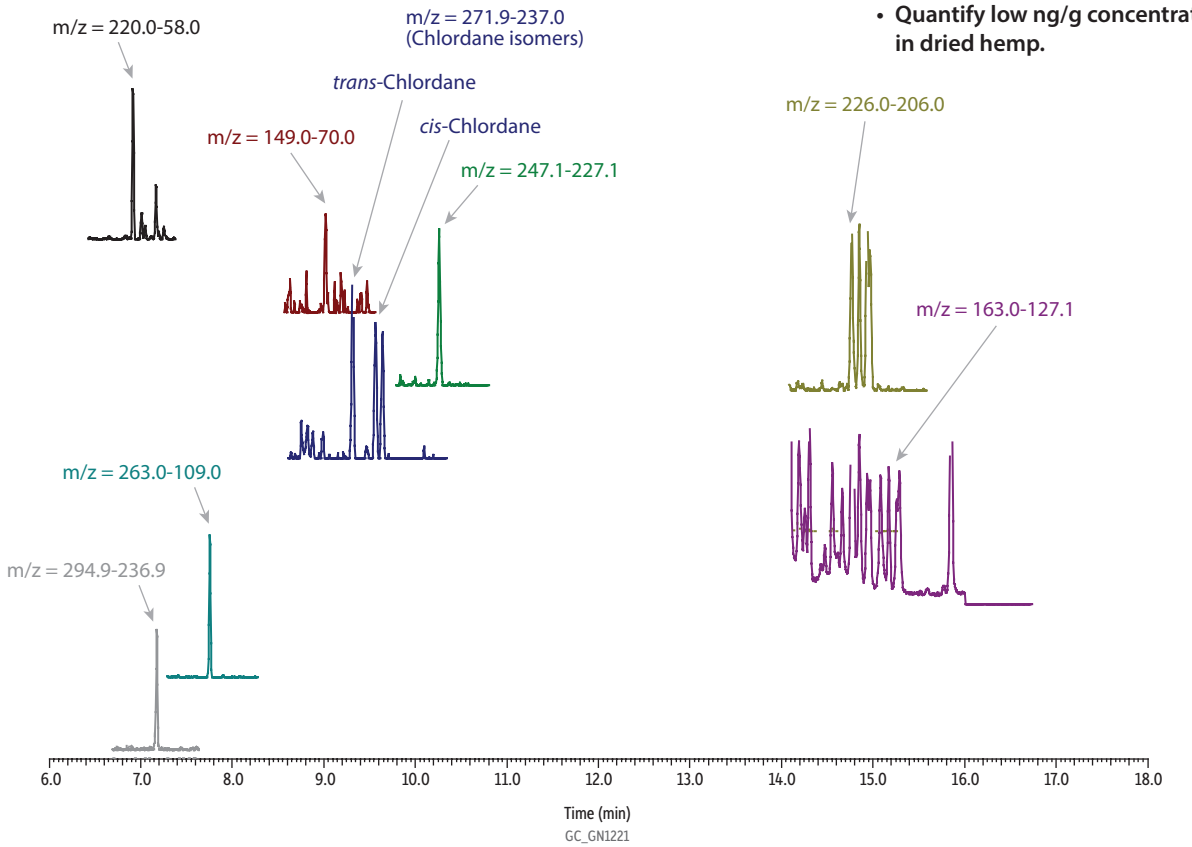
GC-Amenable Pesticides Regulated by California in Dried Hemp on Rxi-5ms

- GC-amenable pesticides regulated by California (2022).
- Quantify low ng/g concentrations in dried hemp.



Peaks	t_R (min)	Polarity	Precursor Ion	Product Ion	Transition Type	Precursor	Product	Transition Type
1. Atrazine-d5	6.91	Positive	220.0	58.0	Quantifier	205.0	127.0	Qualifier
2. Quintozene	7.17	Positive	294.9	236.9	Quantifier	236.8	118.9	Qualifier
3. Methyl parathion	7.75	Positive	263.0	109.0	Quantifier	263.0	79.0	Qualifier
4. Captan	9.03	Positive	149.0	70.0	Quantifier	149.0	79.0	Qualifier
5. *trans*-Chlordane	9.32	Positive	271.9	237.0	Quantifier	372.9	265.9	Qualifier
6. *cis*-Chlordane	9.56	Positive	271.9	237.0	Quantifier	372.9	265.9	Qualifier
7. Chlorfenapyr	10.26	Positive	247.1	227.1	Quantifier	59.1	31.1	Qualifier
8. Cyfluthrin	14.76	Positive	226.0	206.0	Quantifier	163.0	127.0	Qualifier
9. Cypermethrin	15.17	Positive	163.0	127.1	Quantifier	163.0	91.0	Qualifier

Column	Rxi-5ms, 30 m, 0.25 mm ID, 0.25 µm (cat.# 13423)
Standard/Sample	California pesticide standard #1 (cat.# 34124) California pesticide standard #2 (cat.# 34125) California pesticide standard #3 (cat.# 34126) California pesticide standard #4 (cat.# 34127) California pesticide standard #5 (cat.# 34128) California pesticide standard #6 (cat.# 34129) Atrazine-d5 (cat.# 31984)
Diluent:	1:1 Acetonitrile:(1:1 hexane:acetone, 1% acetic acid)
Conc.:	9 ng/mL Expected concentration range in extract of hemp initially spiked at 100 ng/g
Injection	
Inj. Vol.:	1 µL splitless
Liner:	Topaz 4.0 mm ID single taper inlet liner w/wool (cat.# 23447)
Inj. Temp.:	250 °C
Purge Flow:	5 mL/min
Oven	
Oven Temp.:	70 °C (hold 1 min) to 220 °C at 30 °C/min to 240 °C at 5 °C/min to 315 °C at 10 °C/min (hold 10 min)
Carrier Gas	He, constant flow
Flow Rate:	1.4 mL/min
Detector	MS/MS
Transfer Line Temp.:	290 °C
Analyzer Type:	Quadrupole
Source Temp.:	330 °C
Electron Energy:	70 eV
Tune Type:	PFTBA
Ionization Mode:	EI
Instrument	Thermo Scientific TSQ 8000 Triple Quadrupole GC-MS
Sample Preparation	Pulverized hemp (1 g) was weighed in a 15 mL polypropylene tube. The sample was fortified with pesticides and mycotoxins at 100 ng/g. A mix of internal standards was added at 100 ng/g. 5 mL of acetonitrile acidified with 1% acetic acid was added to the sample, and this was followed by 5 min vortex extraction at 2500 rpm. 200 µL of water were added to a 6 mL hydrophilic lipophilic balanced (HLB) Resprep polymeric SPE cartridge (200 mg) (Restek cat.# 28451). Then, 3 mL of hemp extract were transferred to the cartridge. Vacuum was applied to collect the cleaned extract. After collecting all the sample, the vacuum was stopped and 300 µL of methanol were added to help elute all the target analytes (vacuum was reapplied, and the rinsing solvent was collected with the rest of the extract). 1 mL of cleaned supernatant was transferred to a Q-sep QuEChERS dSPE tube containing magnesium sulfate and C18 (cat.# 26242). The sample was vortexed briefly and centrifuged for 5 min. Finally, the extract was diluted in a 1:1 ratio with a 1:1 hexane:acetone (1% acetic acid) solution, and 1 µL was injected into the GC-MS/MS system.