

Cannabis Potency Measurement at high concentrations (distillates and isolates) December 2020

Version 4.90Win10Cannabis is available at www.srigc.com as of December 1 2020.

This version is pre-set for cannabis potency testing at both high and low concentrations.

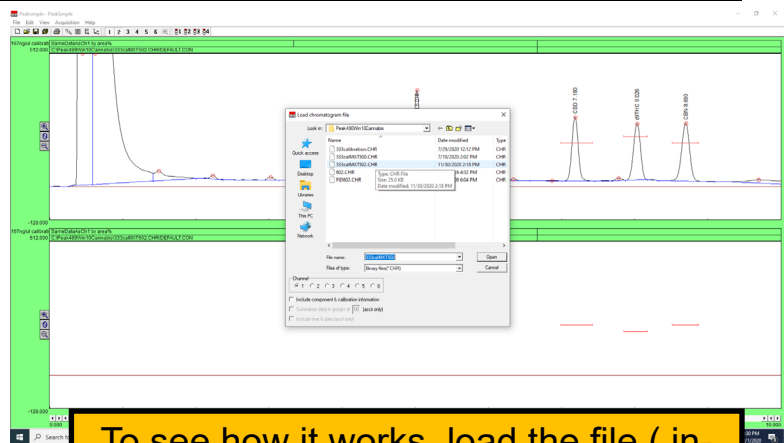
Channel 1 is setup to calibrate on the 333ng/ul internal standard mix as we have documented in other publications and on the you-tube videos..

Channel 2 is set up to calibrate on the same 333ng/ul standard, but using the normalized area percent calculation ignoring the internal standard peak.

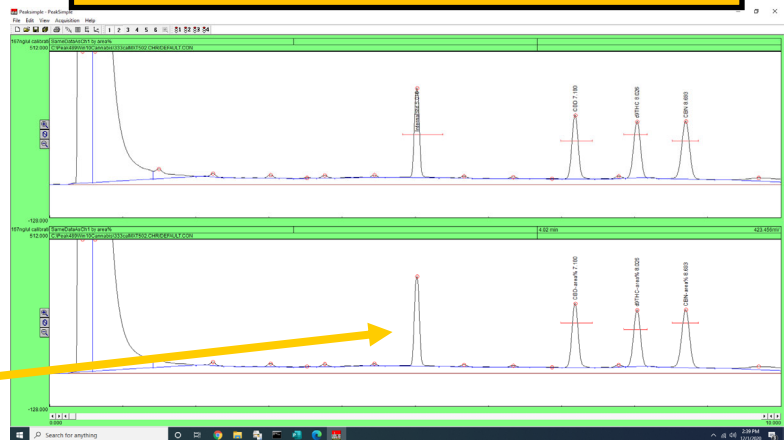
The Postrun screen for channel 1 is shown with Copy data to Channel 2 checked.

This automatically copies the real-time chromatogram in Channel 1 to Channel 2 at the conclusion of the run.

To follow this tutorial, manually load the same file onto both channel 1 and channel 2.



To see how it works, load the file (included in the download) named 333calMXT502.chr into both channel 1 and also channel 2



Channel 1 post-run actions

- Save file as: 333calMXT502.CHR Auto-increment
- Or use list of filenames: List
- Save results Use data file name Use fixed file name:
- Add to results log: CH1.LOG
- Print results Update DDE link Save picture
- Execute:
- Restart run after: 10.00 minutes 0 times total (0 remaining)
- Recalibrate at level: 1 Save results file to FTP site
- Smooth first Save data file to FTP site
- Copy data to channel: 2 Email
- Add to 3D display No On alarm condition Always
- Generate signature
- Match signatures

OK Cancel

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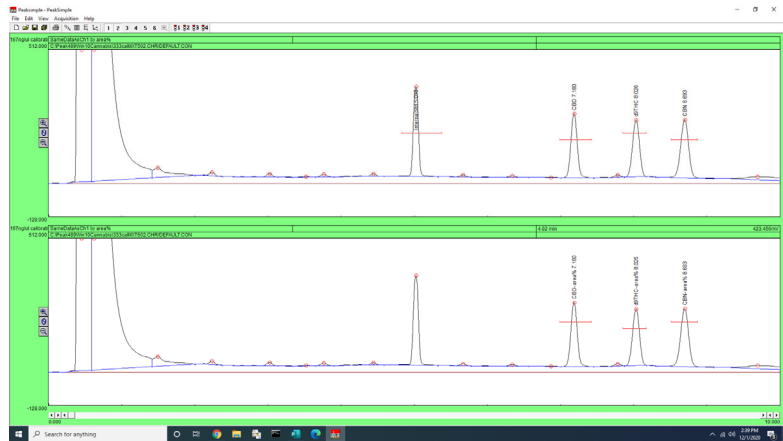
You can use the 333calMXT502.chr file which is included in the software download or you can use your own real-life calibration instead.

With the same data file loaded in each channel the screen will look like this.

The results for channel 1 will look like this because the calibration curve downloaded is only approximate and has a slope of 1.

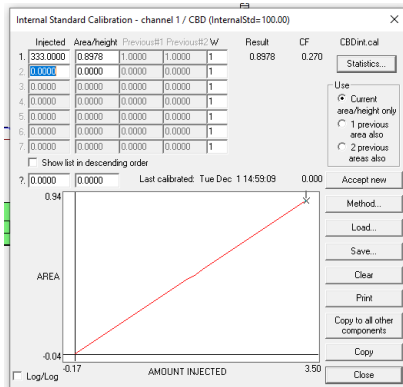
After you calibrate the CBD, d9THC and CBN, the results will look like this. All the results in the internal column will be 13.32%.

The new calibration curves will have a slope slightly different than 1.



Component	Retention	Area	Internal	Nom area %	Units
InternalStd	5.016	1503.4852	100.0000	72.8335	
CBD	7.180	1439.5488	11.9582	8.7096	%
d9THC	8.026	1393.8584	11.5786	8.4331	%
CBN	8.693	1656.7608	13.7625	10.0238	%
		6093.6532	137.2294	100.0000	

The results in the internal column will not be exactly 13.32%.

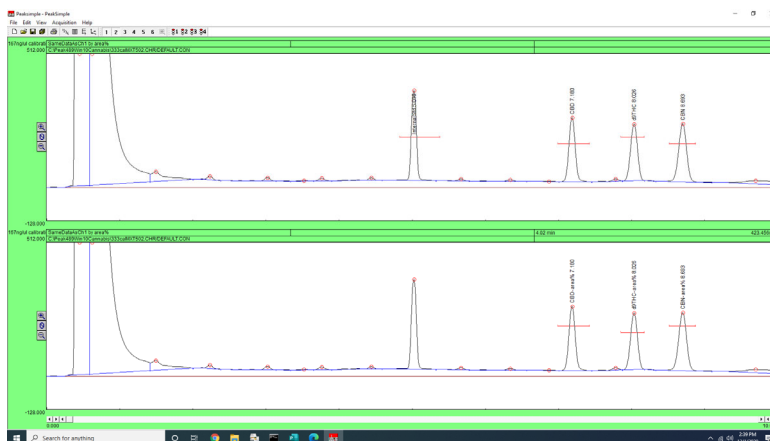


Component	Retention	Area	Internal	Nom area %	Units
InternalStd	5.016	1503.4852	100.0000	71.4490	
CBD	7.180	1439.5488	13.3200	9.5170	%
d9THC	8.026	1393.8584	13.3200	9.5170	%
CBN	8.693	1656.7608	13.3200	9.5170	%
		6093.6532	139.9600	100.0000	

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The results for channel 2 will look like this

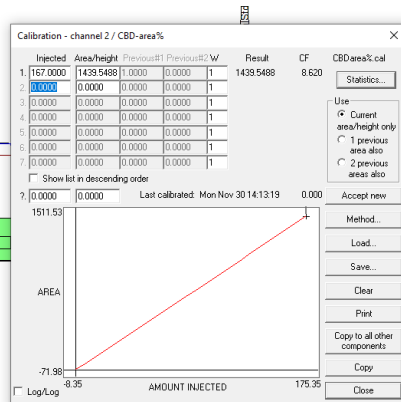
The calibration curves for channel 2 are calculated using the external standard method. In this case the amount injected on column is really 167ng for each peak even though for channel 1 calibration we enter an amount of 333. This is because the 3way dilution of the 1000ng/ul standards purchased from Restek/ Lipomed or other sources is diluted 3 ways then diluted again with the "dirty solvent". So the actual weight of each cannabinoid is 167ng/ul.



Component	Retention	Area	Internal	Norm area %	Units
CBD-area%	7.160	1439.5488	6.6800	33.3333	%
dTHC-area%	8.026	1393.8584	6.6800	33.3333	%
CBN-area%	8.693	1656.7698	6.6800	33.3333	%
		4490.1860	20.0400	100.0000	

Each row in this results table contains the calculated results for a

The results in the internal column will be 6.68 and 33.3% in the normalized column



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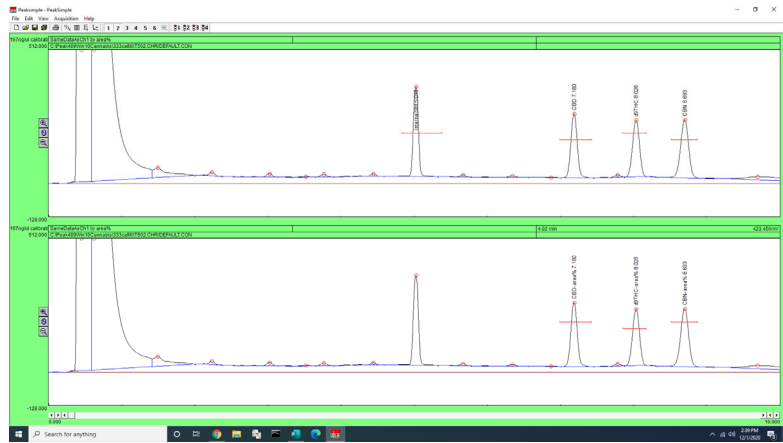
If you print the two chromatograms side by side you can compare the answers from the two different calculation methods.

The Internal Standard method is preferred for samples like biomass which have more constituents that are not measured, like chlorophyll, terpenes etc.

The “normalized area percent” method is better for samples like distillates and isolates where the constituents are just a few and are known to add up to 100%.

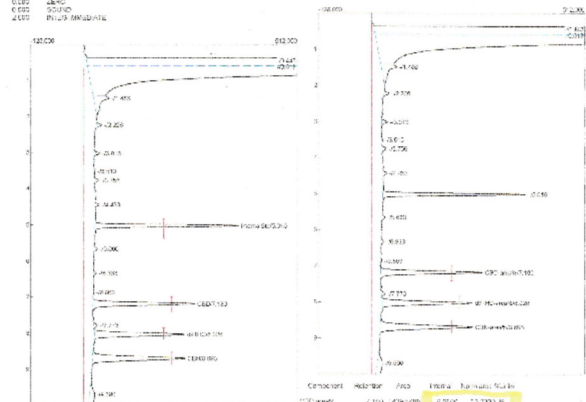
With the normalized area % method the peaks have to total up to exactly 100% and it makes the exact weight of the sample less important, so the error contributed by the balance is eliminated.

The system also calculates the “external standard” result which can be informative, but does depend on both an accurate sample weight and on a consistent injection volume.



<p>Exp name: SRI Isolates Client: SRI Fine est Client ID: N1511 Analysis date: 07/10/2020 11:45:57 Method: method by 2002 Description: Sample Data by user Column: SRI 1502 Carrier: H2O/0.1% Injection: 70ul, scan=15.0, Discard=50.0, Min area=10.00, Standard=4, Scale by: 1000000, Total Count (s), Sample: 107mg (ul) calibration</p>	<p>Lab name: SRI Isolates Client: SRI Fine est Client ID: N1511 Analysis date: 07/10/2020 11:45:57 Method: method by 2002 Description: Sample Data by user Column: SRI 1502 Carrier: H2O/0.1% Injection: 70ul, scan=15.0, Discard=50.0, Min area=10.00, Standard=4, Scale by: 1000000, Total Count (s), Sample: 107mg (ul) calibration</p>
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Concentration program				Temperature program			
Time	Flow	Temp	Temp	Temp	Flow	Temp	Temp
0.00	1.00	150.00	150.00	150.00	1.00	150.00	150.00
10.00	1.00	150.00	150.00	150.00	1.00	150.00	150.00
20.00	1.00	150.00	150.00	150.00	1.00	150.00	150.00
30.00	1.00	150.00	150.00	150.00	1.00	150.00	150.00



Retention	Area	External	Normalized
1.132	100.000	13.182	13.32%
2.132	100.000	13.182	13.32%
3.132	100.000	13.182	13.32%
4.132	100.000	13.182	13.32%
5.132	100.000	13.182	13.32%
6.132	100.000	13.182	13.32%
7.132	100.000	13.182	13.32%
8.132	100.000	13.182	13.32%
9.132	100.000	13.182	13.32%
10.132	100.000	13.182	13.32%
11.132	100.000	13.182	13.32%
12.132	100.000	13.182	13.32%
13.132	100.000	13.182	13.32%
14.132	100.000	13.182	13.32%
15.132	100.000	13.182	13.32%
16.132	100.000	13.182	13.32%
17.132	100.000	13.182	13.32%
18.132	100.000	13.182	13.32%
19.132	100.000	13.182	13.32%
20.132	100.000	13.182	13.32%
21.132	100.000	13.182	13.32%
22.132	100.000	13.182	13.32%
23.132	100.000	13.182	13.32%
24.132	100.000	13.182	13.32%
25.132	100.000	13.182	13.32%
26.132	100.000	13.182	13.32%
27.132	100.000	13.182	13.32%
28.132	100.000	13.182	13.32%
29.132	100.000	13.182	13.32%
30.132	100.000	13.182	13.32%

The results in the internal column will be 13.32%

The results in the external column will be 6.68 and 33.3% in the normalized column