



QC and potency testing of dried cannabis flowers

Results within a minute with near-infrared pre-calibrations

HIGHLIGHTS

- THC, CBD, CBG and moisture
- Reliable results from day one
- No chemicals or reagents required
- Straightforward and intuitive operation
- Optional: 21CFR Part 11
and USP<856> compliance

A dedicated solution to expedite and simplify quality control and potency testing of cannabis

Metrohm offers a turnkey solution for the determination of key parameters in dried cannabis, like THC, CBD, CBG and moisture. The measurement device consists of a DS2500 Solid Near-Infrared Analyzer with pre-calibrations models based on a large collection of real product spectra (n > 700). This solution enables cannabis processors, testing labs and dispensaries to save time and reduce the cost of their analysis. For companies working in a regulated environment, a version fully compliant to the 21CFR Part11 and USP<856> guidelines is available.

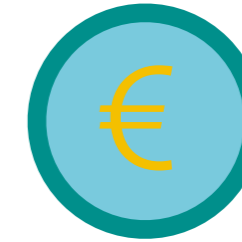
Legalization initiatives of cannabis for medical use and even recreational purposes lead to an increased importance of quality control and potency testing. Typically, potency testing is done by HPLC analysis. However, near-infrared spectroscopy is a preferred alternative because it provides results in less than a minute, does not require any reagents or chemicals and can even be operated by non-specialists.

To determine the key parameters by the Metrohm pre-calibration solution, one needs to grind a small amount of sample between 0.4g and 0.5 g and measure it in the mini sample cup by using a gold reflector of total 4 mm path length.



EASY TO USE

- Turnkey solution
- Measure at the push of a button
- No expertise required



COST-MINIMIZING

- No solvents, no reagents
- No waste disposal



FAST

- No sample preparation required
- Analysis results within one minute
- More than 15 minutes time saving compared to reference methods



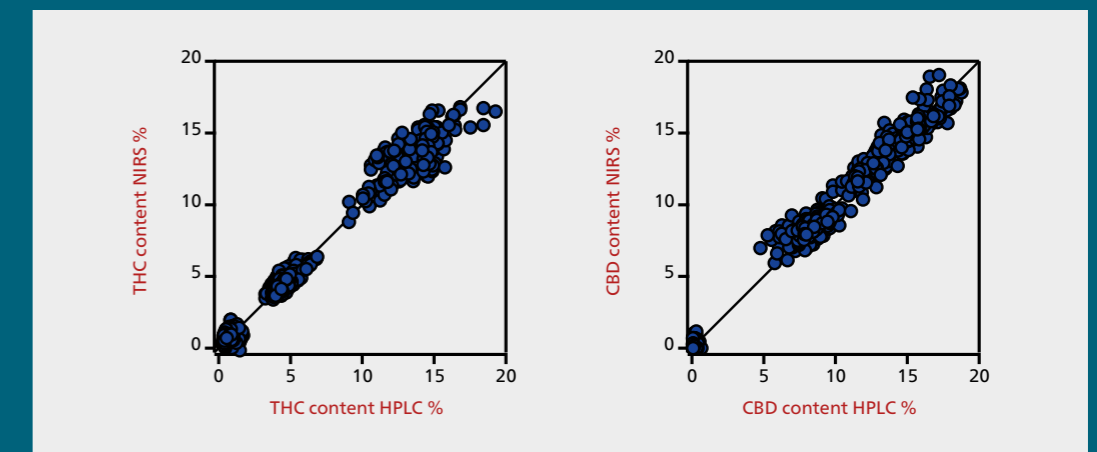
CLEAN

- Non-destructive, chemical-free method
- Minimum of impact on health and environment

Parameter	Range	SECV	R ²
THC	0.3 – 19.3 wt%	0.73 wt%	0.979
CBD	0.1 – 18.5 wt%	0.75 wt%	0.978
CBG	0.1 – 3.0 wt%	0.17 wt%	0.849
Moisture	5.4 – 7.5 wt%	0.21 wt%	0.953

wt% weight percentage
SECV Standard error of cross validation
R² Coefficient of determination

Samples		Operating procedure	Time	Sample number	THC [%]	CBD [%]	CBG [%]	Water [%]
		Cannabis	6/14/2022 5:08 PM	Cannabis 148	17.19	0.00	0.00	7.19
		Cannabis	6/14/2022 5:04 PM	Cannabis 147	9.48	4.73	0.00	6.06
		Cannabis	6/14/2022 4:54 PM	Cannabis 146	10.88	8.34	2.04	5.09
		Cannabis	6/14/2022 4:49 PM	Cannabis 145	0.00	9.48	0.00	5.52
		Cannabis	6/14/2022 4:48 PM	Cannabis 144	0.80	10.15	0.83	5.72
		Cannabis	6/14/2022 4:45 PM	Cannabis 143	6.26	18.13	0.00	6.14
		Cannabis	6/14/2022 4:33 PM	Cannabis 142	6.14	19.38	0.00	5.64
		Cannabis	6/14/2022 3:33 PM	Cannabis 141	17.69	3.90	1.77	5.52



Reliable results from day one

The robust pre-calibration models allow precise and accurate determination of different parameters with excellent reproducibility. The Metrohm solution can be used directly without any prior method development.

Straightforward and intuitive operation

The pre-calibrations are operated by the intuitive Vision Air software, which is tailored to the needs of different users. In the routine mode, workers can only start a measurement and get clear pass/fail results. In the manager mode, authorized users obtain full control of the instrument and can easily review and filter data.

Trust in our expertise

Pre-calibrations are calibration models based on numerous real product spectra. By using these solutions, you can benefit immediately from the experience Metrohm has gained with those applications.

Customized service and support

Metrohm supports users by updating the default pre-calibrations on demand with customer specific samples. This improves the performance of the method and/or extends it to additional quality parameters for cannabis.

ORDERING INFORMATION

Pre-calibration	
6.6072.313	NIRS pre-calibration for dried Cannabis
Requires hardware	
2.922.0010	DS2500 Solid Analyzer
Requires software	
6.6072.201	Vision Air
Recommended standard	
6.7450.000	NIRS reflection standard, set of 2
Accessories	
6.7420.020	NIRS gold diffuse reflector, 4 mm total pathlength
6.7425.100	NIRS mini sample cups, 10 pcs, including 100 disposable backs



NIRS mini sample cup with the NIRS diffuse gold reflector



DS2500 Solid Analyzer