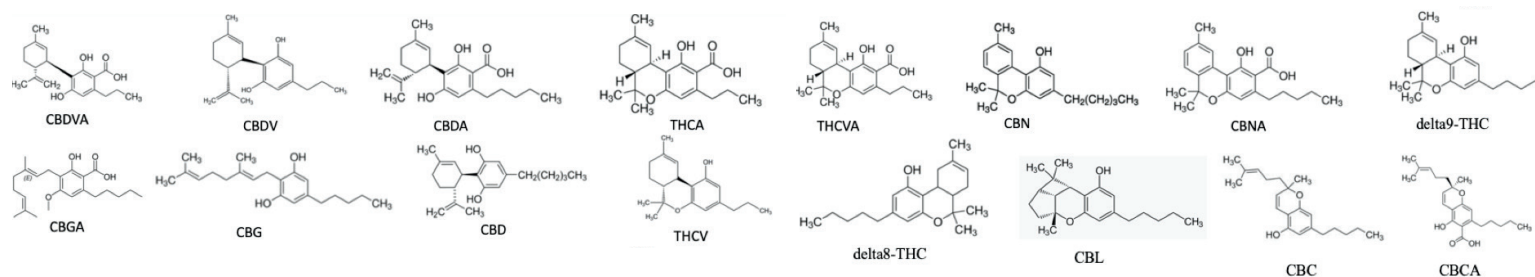


Dyad Labs CBD Methods Quantify 60% More Cannabinoids, in a Greater Variety of Product Matrices Than Any Other Method Available Today.

CBD / Hemp products have arrived. And the need to accurately measure individual cannabinoid levels (CBDs) in both raw materials and finished goods is more acute than ever. In 2018, AOAC published a method to quantify 10 cannabinoids (CBDs) with the range of 0.500-10.0 µg/mL in cannabis. However, there are more than 100 CBDs isolated from cannabis, with over a dozen of those being widely used in products today. Thus, the AOAC method may not cover various needs from different CBD products. In order to meet those needs, Dyad Labs has developed new UPLC-PDA and UPLC-MS/MS methods to quantify a wide variety of products with differing specifications and matrices -- including CBD oil, dietary supplement powders and botanical powders.



Dyad Labs presented the first validated method for a fast, comprehensive and accurate quantification of the 16 major CBDs in CBD oil, botanical and protein matrix using UPLC and LC-MS/MS at the AOAC's 133rd Annual Meeting on September 6-12, 2019.



The specific CBDs measured by the new Dyad Methods

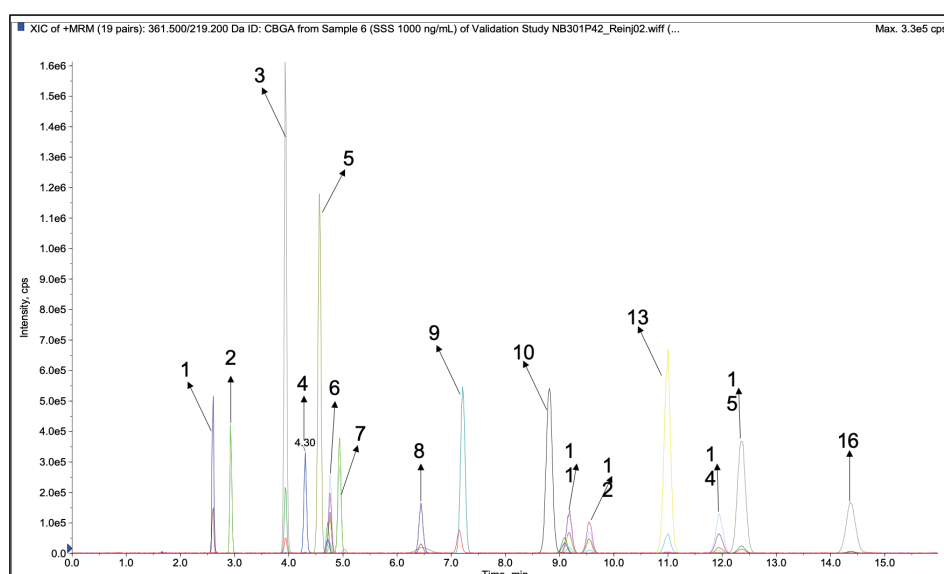
Analyte and IS	Abbreviation
Cannabidivarinic acid	CBDVA
Cannabidivarin	CBDV
Cannabidiolic acid	CBDA
Tetrahydrocannabinolic Acid	THCA
Cannabigerolic acid	CBGA
Cannabigerol	CBG
Cannabidiol	CBD
Tetrahydrocannabivarin	THCV
Tetrahydrocannabivarinic acid	THCVA
Cannabinol	CBN

Analyte and IS	Abbreviation
Cannabinolic Acid	CBNA
Delta-9-Tetrahydrocannabinol	delta9-THC
Delta-8-Tetrahydrocannabinol	delta8-THC
Cannabicyclol	CBL
Cannabichromene	CBC
Cannabichromenic Acid	CBCA
Cannabidiol-D3 (IS)	CBD-d3
Cannabinol-D3 (IS)	CBN-d3
Delta-9-Tetrahydrocannabinol-D3 (IS)	delta9-THC-d3

THE METHODS

The benefits of the new Dyad Labs CBD quantification method are several:

- ⊙ A 60% increase in CBDs measured over the existing AOAC method.... 16 CBD analytes vs. 10 analytes.
- ⊙ Utilizing both LC-MS/MS and UPLC-PDA technologies, the Dyad methods can quantify extremely low concentration levels as well as higher specifications.
- ⊙ The methods cover raw materials and a variety of finished good applications.
- ⊙ By going beyond the current AOAC requirements, the Dyad Labs method allows brands and manufactures to build in the testing data that will be required in the future.
- ⊙ THC testing to meet FDA regulations.



The Representative Chromatogram of 16 CBDs

Peak #	Analyte	RT (min)
1	CBDVA	2.65
2	CBDV	2.98
3	CBDA	3.96
4	CBGA	4.21
5	CBG	4.57
6	CBD	4.76
7	THCV	4.94
8	THCVA	6.39
9	CBN	7.15
10	CBNA	8.78
11	delta9-THC	9.07
12	delta8-THC	9.43
13	CBL	11.03
14	CBC	11.90
15	THCA	12.15
16	CBCA	14.38

Give your account manager a call today to get started.