

Phytocannabinoid Analytical Standards



Over 150 structurally and physiologically distinct cannabinoid compounds are unique to *Cannabis*, known collectively as phytocannabinoids. Cayman provides authentic reference standards for more than 120 unique phytocannabinoids for identification, detection, and quantification. Cayman also offers a suite of ISO 17034-produced multi-component CRM mixtures designed and engineered to the highest industry standards to streamline the quantitation of multiple phytocannabinoids.

ACCREDITED
ISO/IEC 17025 #AT-1773
ISO 17034 #AR-1774

More than 140 Phytocannabinoid Standards for:

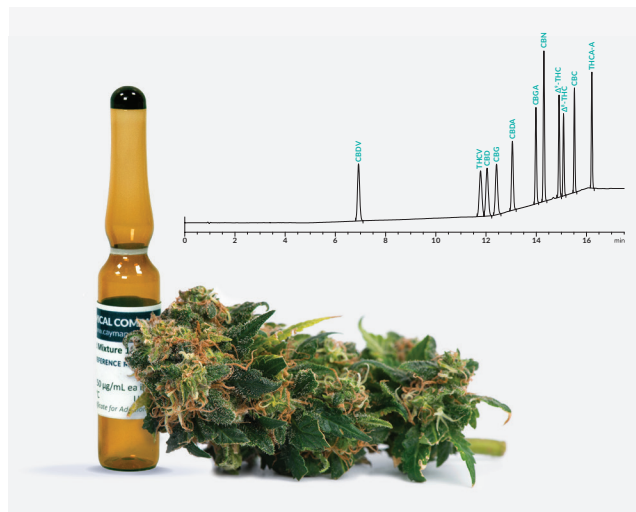
- Primary Constituents
- THC Isomers
- Clinical Metabolites
- CBD & THC Homologs
- Acids & Neutrals
- Degradants

Pre-made CRM Mixtures

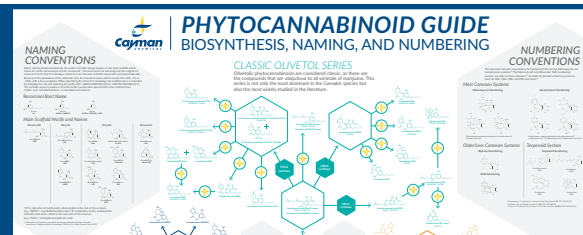
Discover the Difference with Cayman's Multi-component Reference Materials

- Streamline Your Workflow
- Quantify Up to 11 Phytocannabinoids Simultaneously
- Reduce Consumable Cost, Variability, & Time
- Improve Quantitation Accuracy
- Available for Neutrals, Acids, Metabolites, & More

NOW MORE THAN 10 MIXTURES AVAILABLE
LEARN MORE INSIDE!

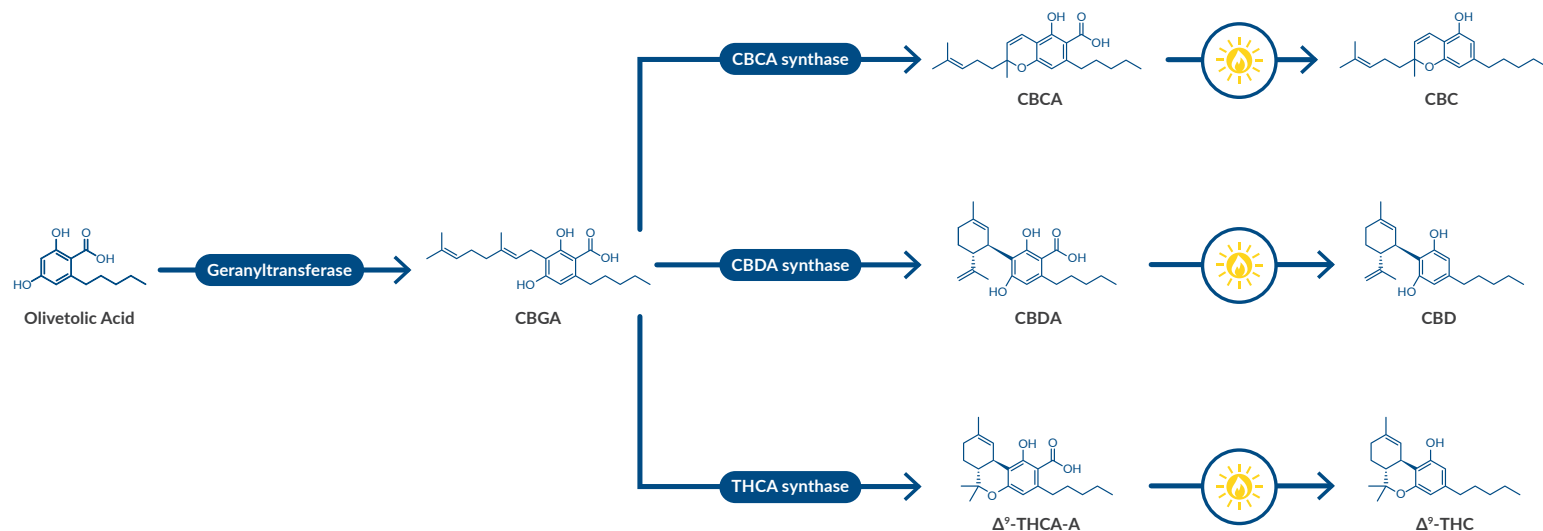


Download PDF or request a copy of the
Phytocannabinoid Guide:
Biosynthesis, Naming, and Numbering
wall poster at www.caymanchem.com/phytoposter



Custom Quantities, Formulations, and Mixtures Available
Email sales@caymanchem.com to discuss your specific project needs

Acidic & Neutral (Decarboxylated) Phytocannabinoids



Synthesis and decarboxylation of phytocannabinoid acids into their neutral forms.

			Available as Item No.	
Phytocannabinoid Acids		Neutral Phytocannabinoids	Acid	Neutral
Cannabigerovarinic Acid (CBGVA)	— —>	Cannabigerovarin (CBGV)	29787	29117
(±)-Cannabichromevarinic Acid (CBCVA)	— —>	(±)-Cannabichromevarin (CBCV)	32718	21974
Cannabidivarinic Acid (CBDVA)	— —>	Cannabidivarin (CBDV)	30245	20165
Δ^9 -Tetrahydrocannabivarinic Acid A (Δ^9 -THCVA-A)	— —>	Δ^9 -Tetrahydrocannabivarin (Δ^9 -THCV)	21259	18091
Δ^8 -Tetrahydrocannabivarinic Acid A (Δ^8 -THCVA-A)	— —>	Δ^8 -Tetrahydrocannabivarin (Δ^8 -THCV)	28580	27322
		Cannabivarin (CBV)		21664
Cannabidibutolic Acid (CBDDBA)	— —>	Cannabidibutol (CBDDB)	29032	32719
		Δ^9 -Tetrahydrocannabutol (Δ^9 -THCB)		33078
Cannabigerolic Acid (CBGA)	— —>	Cannabigerol (CBG)	20019	20164
(±)-Cannabichromenic Acid (CBCA)	— —>	(±)-Cannabichromene (CBC)	37558	ISO60163
Cannabidiolic Acid (CBDA)	— —>	Cannabidiol (CBD)	18090	ISO60156
Δ^9 -Tetrahydrocannabinolic Acid A (Δ^9 -THCA-A)	— —>	Δ^9 -Tetrahydrocannabinol (Δ^9 -THC)	ISO60175	ISO60157
Δ^8 -Tetrahydrocannabinolic Acid A (Δ^8 -THCA-A)	— —>	Δ^8 -Tetrahydrocannabinol (Δ^8 -THC)	25271	ISO60158
Cannabinolic Acid (CBNA)	— —>	Cannabinol (CBN)	21734	ISO60183
		Cannabinodiol (CBND)		9002479
		Cannabicitran (CBT)		21295
(±)-Cannabicyclolic Acid (CBLA)	— —>	(±)-Cannabicyclol (CBL)	35745	22036
Cannabidiphlorolic Acid (CBDPA)	— —>	Cannabidiphlorol (CBDP)	36237	33611
Δ^9 -Tetrahydrocannabiphlorolic Acid (Δ^9 -THCPA-A)	— —>	Δ^9 -Tetrahydrocannabiphlorol (Δ^9 -THCP)	36239	33691

Explore CRM Mixtures To Differentiate Acids & Neutrals On The Next Page

Phytocannabinoid Acids Mixture 6 - *Item No. 35470*

Phytocannabinoid Neutrals Mixture 8 - *Item No. 34043*

Which Pre-made Mixture is Right for You?

Quantify Up to 11 Prevalent Phytocannabinoids

Analytes Included in Mixtures	Mixture 11 (Item Nos. 21306, 32841, 32842)	Mixture 10 (Item No. 21305)	Mixture 6 (Item No. 25077)	Mixture 5 (Item No. 25076)	Mixture 3 (Item No. 23251)
CBD	✓	✓	✓	✓	✓
Δ^9 -THC	✓	✓	✓	✓	✓
CBN	✓	✓	✓	✓	✓
Δ^9 -THCA-A	✓	✓	✓	✓	
CBDA	✓	✓	✓	✓	
CBG	✓	✓	✓		
CBC	✓	✓			
CBDV	✓	✓			
CBGA	✓	✓			
Δ^8 -THC	✓	✓			
Δ^9 -THCV	✓				

Our Phytocannabinoid Mixture 11 (CRM) is available in three different concentrations to simplify your calibration protocol

Differentiate Acids & Neutrals

Analytes Included in Mixtures		Acids Mixture 6 (Item No. 35470)	Neutrals Mixture 8 (Item No. 34043)
Acids	Neutrals		
CBDA	CBD	✓	✓
CBGA	CBG	✓	✓
CBCA	CBC	✓	✓
CBDVA	CBDV	✓	✓
Δ^9 -THCVA	Δ^9 -THCV	✓	✓
Δ^9 -THCA-A	Δ^9 -THC	✓	✓
	Δ^8 -THC		✓
	CBN		✓

Quantify THC Metabolites

Analytes Included in Mixture	Δ^9 -THC Metabolite Mixture (Item No. 33167)
Δ^9 -THC	✓
($\pm$)-11-hydroxy- Δ^9 -THC	✓
($\pm$)-11-nor-9-carboxy- Δ^9 -THC	✓

Explore our range of CRM mixtures designed to simplify testing workflows at www.caymanchem.com/phytomix

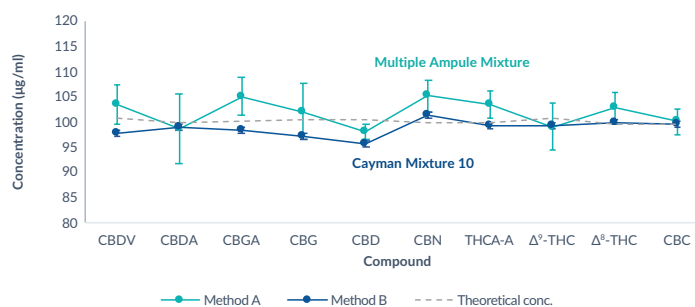
Improve Quantitation Accuracy & Reproducibility Using Pre-made, Multi-component Mixtures

We compared two methods to generate a standard curve to quantitate 10 phytocannabinoids and found pre-made CRM mixtures improve efficiency and eliminate pipetting errors.



Download the App Note:
www.caymanchem.com/accuratemix

100 μ g/ml Method Comparison



Primary Constituents & Related Novel Phytocannabinoids

Primary Constituents

Item No.	Product Name
ISO60156	Cannabidiol (CRM)
ISO60158	Δ^8 -THC (CRM)
ISO60157	Δ^9 -THC (CRM)

See all deuterated standards, acetates, and methyl esters at www.caymanchem.com

Hydrogenated Phytocannabinoids

Item No.	Product Name
27500	9(R)-Hexahydrocannabinol
27501	9(S)-Hexahydrocannabinol
36346	9(R)-Hexahydrocannabiphorol
36347	9(S)-Hexahydrocannabiphorol
36350	1(R)-THD (1(R)-H4-CBD)
36351	1(S)-THD (1(S)-H4-CBD)



Learn how our standards were used to characterize products resulting from Δ^8 - or Δ^9 -THC hydrogenation at www.caymanchem.com/HHCposter

Phytocannabinoid Acetates

Item No.	Product Name
36412	Cannabinol Acetate
35368	9(R)-Hexahydrocannabinol Acetate
36743	Δ^8 -THC Acetate (exempt preparation)
33784	Δ^9 -THC Acetate (exempt preparation)

Metabolites & Degradants

CBD & CBN Metabolites

Item No.	Product Name
27576	(-)-6 α -hydroxy Cannabidiol
33076	(-)-7-hydroxy Cannabidiol (CRM)
36661	Cannabielsoin (CRM)
34591	11-hydroxy Cannabinol

THC Metabolites

Item No.	Product Name
34023	(-)-11-hydroxy- Δ^8 -THC (CRM)
34024	(-)-11-nor-9-carboxy- Δ^8 -THC (CRM)
37635	8 β -hydroxy- Δ^9 -THC
21667	($\pm$)-11-hydroxy- Δ^9 -THC (CRM)
20754	($\pm$)-11-nor-9-carboxy- Δ^9 -THC (CRM)

THC Isomers

Item No.	Product Name
33011	(6aR,9R)- Δ^{10} -THC (CRM)
33012	(6aR,9S)- Δ^{10} -THC (CRM)
33013	9(R)- $\Delta^{6a,10a}$ -THC (CRM)
33014	9(S)- $\Delta^{6a,10a}$ -THC (CRM)
36898	exo-THC (CRM)
34076	9(R)- Δ^7 -THC
34077	9(S)- Δ^7 -THC
37046	(9,10a)- <i>anti</i> - $\Delta^{6a,7}$ -THC
37047	(9,10a)- <i>syn</i> - $\Delta^{6a,7}$ -THC
27074	($\pm$)- <i>cis</i> - Δ^9 -THC
33864	Δ^8 - <i>iso</i> -THC
33863	$\Delta^{4(8)}$ - <i>iso</i> -THC

CBD & THC Homologs

Item No.	Product Name	Alkyl Chain Length
20165	CBDV (CRM)	3
32719	CBDB (CRM)	4
34185	CBDH (CRM)	6
33611	CBDP (CRM)	7
18091	THCV (CRM)	3
33078	Δ^9 -THCB (CRM)	4
34186	Δ^9 -THCH (CRM)	6
33691	Δ^9 -THCP (CRM)	7

See all CBD & THC homologs at www.caymanchem.com

Δ^9 -THC Metabolite Mixture (CRM)

Item No. 33167

A mixture of Δ^9 -THC metabolites in a methanolic solution intended for HPLC-UV or LC- or GC-MS applications

Degradants/Oxidative Byproducts

Item No.	Product Name
30846	($\pm$)-CBCQ
36872	CBDVQ
31772	CBGAQ
30862	CBGQ
30863	CBNQ
10005673	HU-331