

Analysis: Benzene-1

Path: Home/YL Research

Based on method: Triplets Method

Created	19-May-2019 15:05:39	visionCATSuser
Modified	01-Jun-2019 18:37:51	visionCATSuser
Last HPTLC log	01-Jun-2019 18:37:51	Analysis modified
Explorer notes		

Track	Vial ID	Description	Volume	Position	Type
1	MeOH blank	MeOH Blank	2.0 µl	A1	Sample
2	Mixture 100	Mixture	5.0 µl	A2	Sample
3	9-THC 100	D9-THC	5.0 µl	A3	Reference
4	CBD 100	CBD	5.0 µl	A4	Reference
5	CBN 100	CBN	5.0 µl	A5	Reference
6	CBG 100	CBG	5.0 µl	A6	Reference
7	CBC 100	CBC	5.0 µl	A7	Reference
8	THCV 100	THCV	5.0 µl	A8	Reference
9	CBDV 100	CBDV	5.0 µl	A9	Reference
10	8-THC 100	D8-THC	5.0 µl	A10	Reference
11	THCA-A 100	THCA-A	5.0 µl	A11	Reference
12	CBDA 100	CBDA	5.0 µl	B1	Reference
13	CBGA 100	CBGA	5.0 µl	B2	Reference
14	Mixture 100	Mixture	5.0 µl	A2	Sample
15	MeOH blank	MeOH Blank	2.0 µl	A1	Sample

Sequence table notes

A track marked with 🚩 means: the application type is overridden in some evaluation(s).

System setup:

Software	Server User-PC, version 2.5.18072.1
ATS4	S/N:080713
Chamber	N/A
Derivatization dip	N/A
Scanner3	S/N:031025
Visualizer	S/N:230515

Chromatography

Plate layout:

Stationary phase	Merck, HPTLC plates silica gel 60 F 254
Plate format	200.0 x 100.0 mm
Application type	User
Application	Position Y: 10.0 mm, length: 8.0 mm, width: 0.0 mm
Track	First position X: 20.0 mm, distance: 11.4 mm
Solvent front position	70.0 mm
Notes	

Take image clean plate 1a - Visualizer (S/N: 230515):

Benzene-1

visionCATS

Quality	Enhanced
RT White	auto capture, Auto, level 85 %, Band
R 254	auto capture, Auto, level 85 %, Band
Instrument diagnostics	Valid diagnostics
Documentation step label	
Notes	

Application 1 - ATS 4 (S/N: 080713):

Spray gas	NI
Sample solvent type	Methanol
Filling speed	15 µl/s
Predosage volume	200 nl
Retraction volume	200 nl
Dosage speed	150 nl/s
Filling quality	User
Rinsing cycles / vacuum	1 / 4 s
Filling cycles / vacuum	1 / 4 s
Rinsing solvent name	Methanol
Nozzle temperature	Unheated
Rack in use	Standard
Instrument diagnostics	Valid diagnostics
Notes	

Development 1 - Chamber:

Tank	TTC 20x10
Mobile phase	Benzene
Saturation time	20 min
Use saturation pad	true
Use smartALERT	false
Volume front through	10 ml
Volume rear through	20 ml
Drying time	5 min
Drying temperature	Room temperature
Notes	

Take image developed plate 1a - Visualizer (S/N: 230515):

Quality	Enhanced
RT White	auto capture, Auto, level 85 %, Band
R 254	auto capture, Auto, level 85 %, Band
R 366	auto capture, Auto, level 85 %, Band
Instrument diagnostics	Valid diagnostics
Documentation step label	
Notes	

Scan developed plate 1b - Scanner 3 (S/N: 031025):

Benzene-1

visionCATS

Scanner type	Single λ
Optimization for	Resolution
Measurement mode	Absorption
Filter	n/a
Detector mode	Automatic
Scanning speed	20 mm/s
Data resolution	100 $\mu\text{m}/\text{step}$
Slit	5 x 0.2 mm, micro
Partial scan	No
Lamp	Deuterium & Tungsten
Wavelength(s)	254 nm
Instrument diagnostics	Valid diagnostics
Documentation step label	
Notes	

Derivatization 1 - dip:

Reagent name	Fast Blue B Salt
Dipping speed	3
Dipping time	5 s
Reagent preparation	
Heating	100 °C for 3 min, heated after
Notes	

Take image derivatized plate 1a - Visualizer (S/N: 230515):

Quality	Enhanced
RT White	auto capture, Auto, level 85 %, Band
R 366	auto capture, Auto, level 85 %, Band
Instrument diagnostics	Valid diagnostics
Documentation step label	
Notes	

Scan derivatized plate 1b - Scanner 3 (S/N: 031025):

Scanner type	Single λ
Optimization for	Resolution
Measurement mode	Absorption
Filter	n/a
Detector mode	Automatic
Scanning speed	20 mm/s
Data resolution	100 $\mu\text{m}/\text{step}$
Slit	5 x 0.2 mm, micro
Partial scan	No
Lamp	Deuterium & Tungsten
Wavelength(s)	254 nm
Instrument diagnostics	Valid diagnostics
Documentation step label	
Notes	

System suitability tests:

SST settings:

SST tracks	
------------	--

Data acquisition

Application 1 - ATS 4 (S/N: 080713):

Executed

19-May-2019 15:08:55 visionCATSuser

Development 1 - Chamber:

Executed

19-May-2019 15:34:20 visionCATSuser

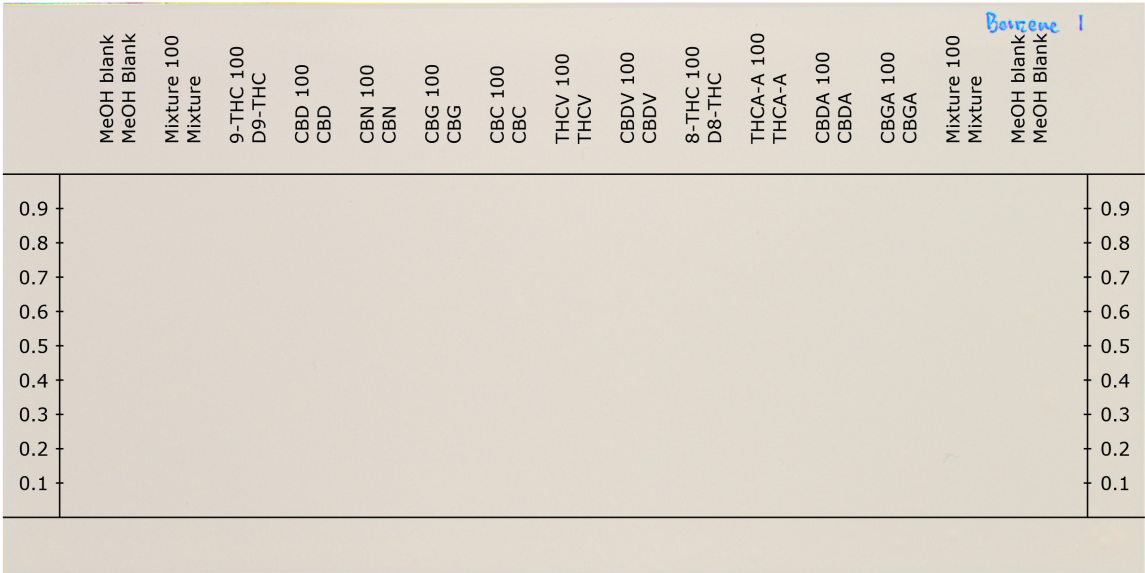
Take image developed plate 1a - Visualizer (S/N: 230515):

Executed

19-May-2019 16:35:16 visionCATSuser

RT White

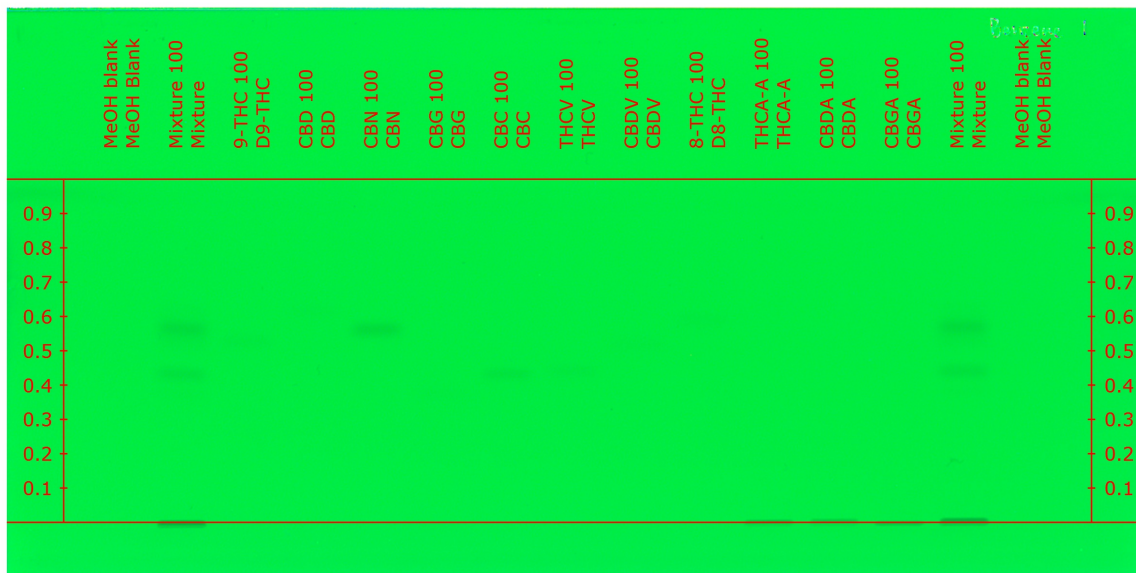
Developed, RemTransVis



Exposure	0.086 s
Contrast	1
Normalized exposure	Disabled
Clarify	Disabled
White balance	1.00, 1.00, 1.00

Benzene-1
R 254

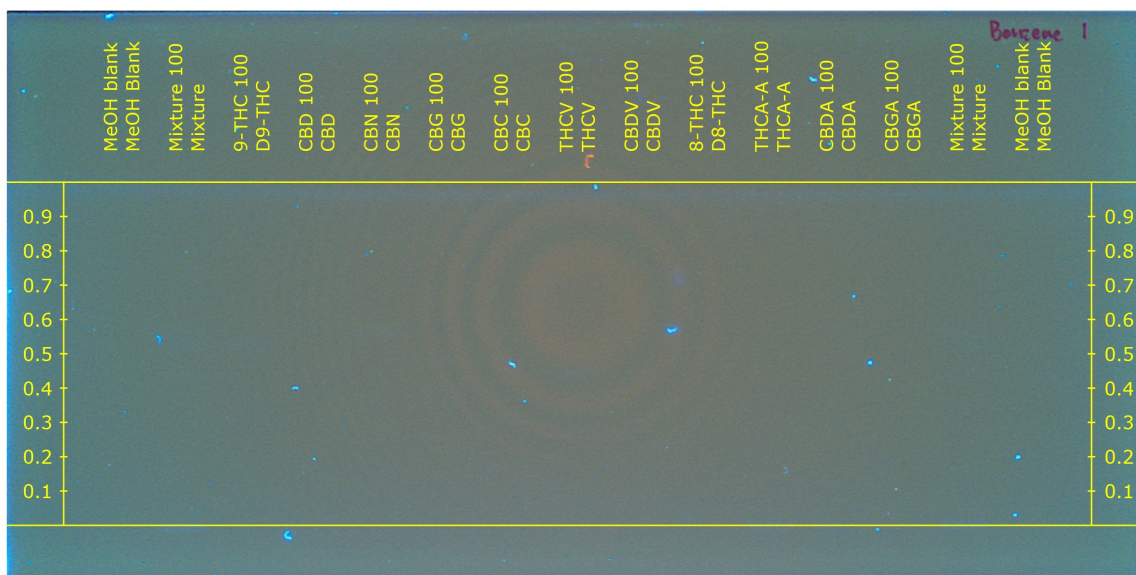
visionCATS
Developed, Remission254



Exposure	0.281 s
Contrast	1
Normalized exposure	Disabled
Clarify	Disabled
White balance	1.00, 1.00, 1.00

R 366

Developed, Remission366



Exposure	9.999 s
Contrast	1
Normalized exposure	Disabled
Clarify	Disabled
White balance	1.00, 1.00, 1.00

Scan developed plate 1b - Scanner 3 (S/N: 031025):

Benzene-1

visionCATS

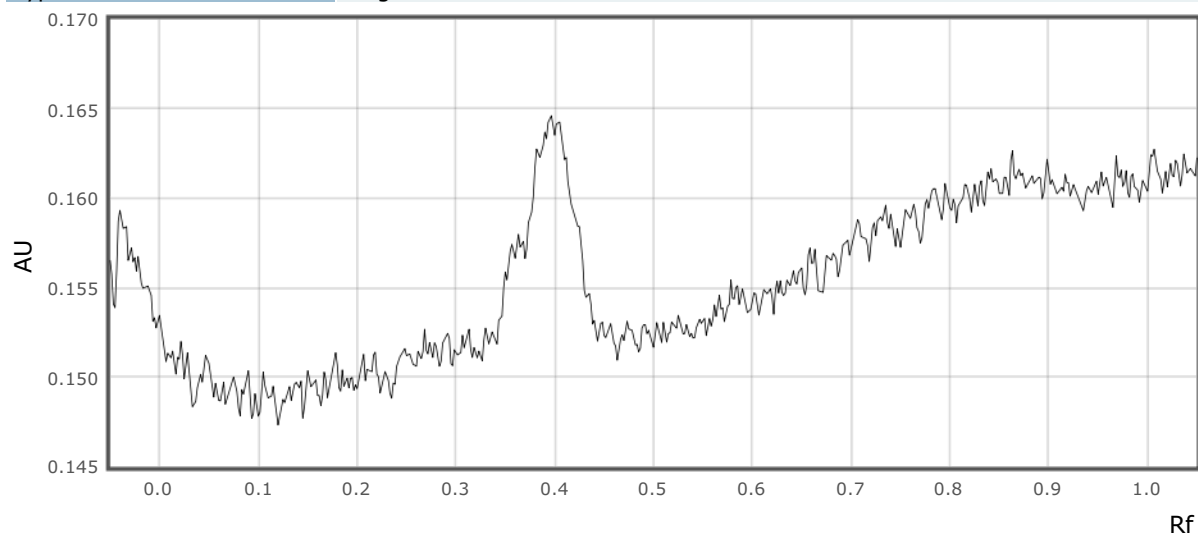
Executed 19-May-2019 16:36:49 visionCATSuser

Scan:

Wavelength 254 nm

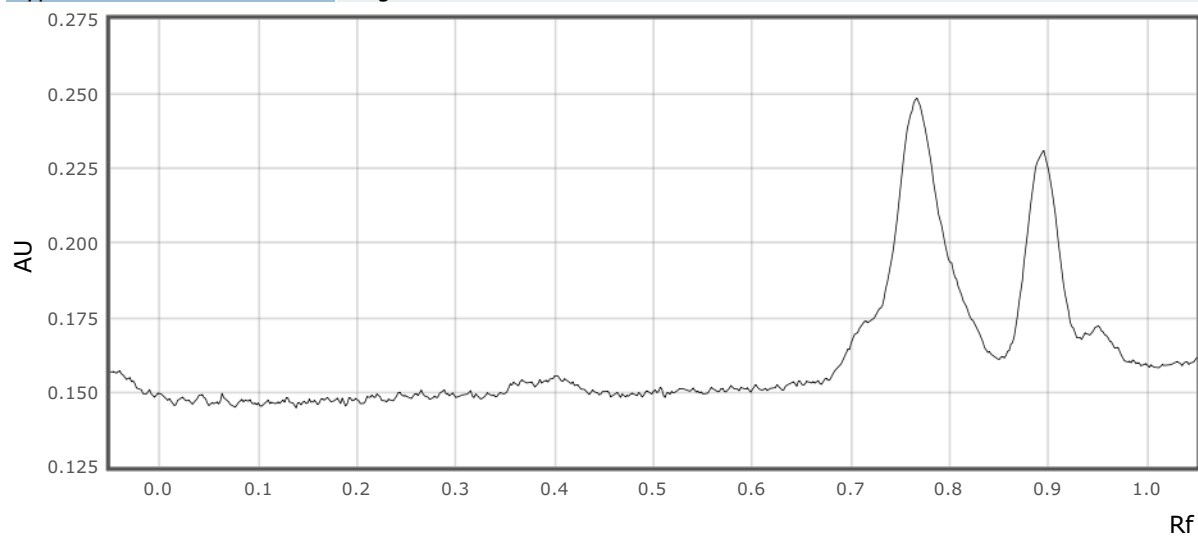
Track 1:

Type Single λ



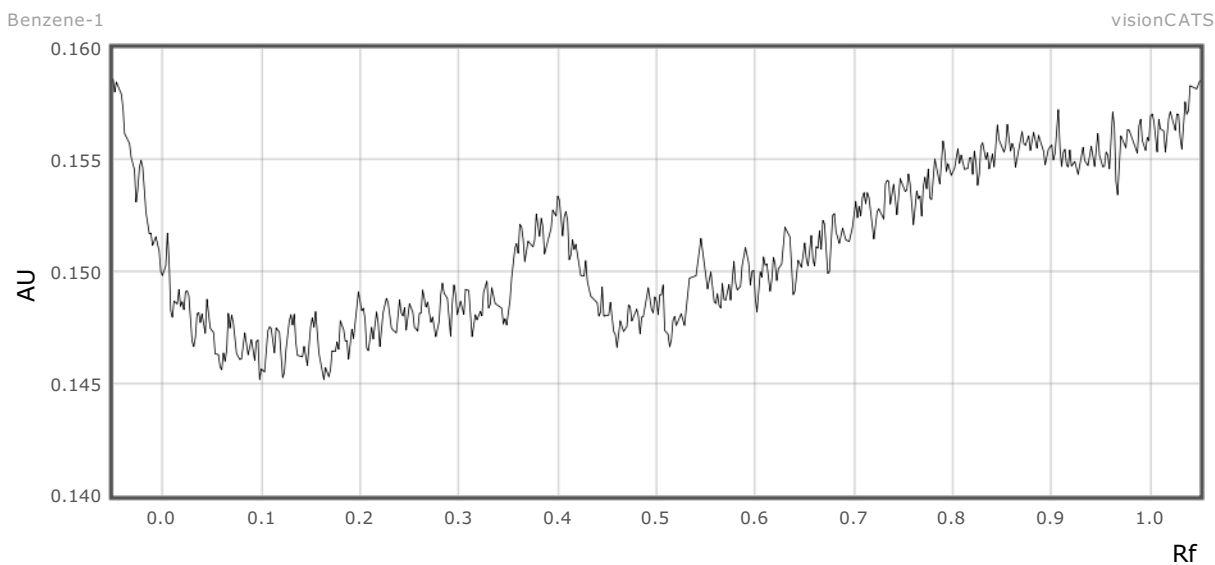
Track 2:

Type Single λ



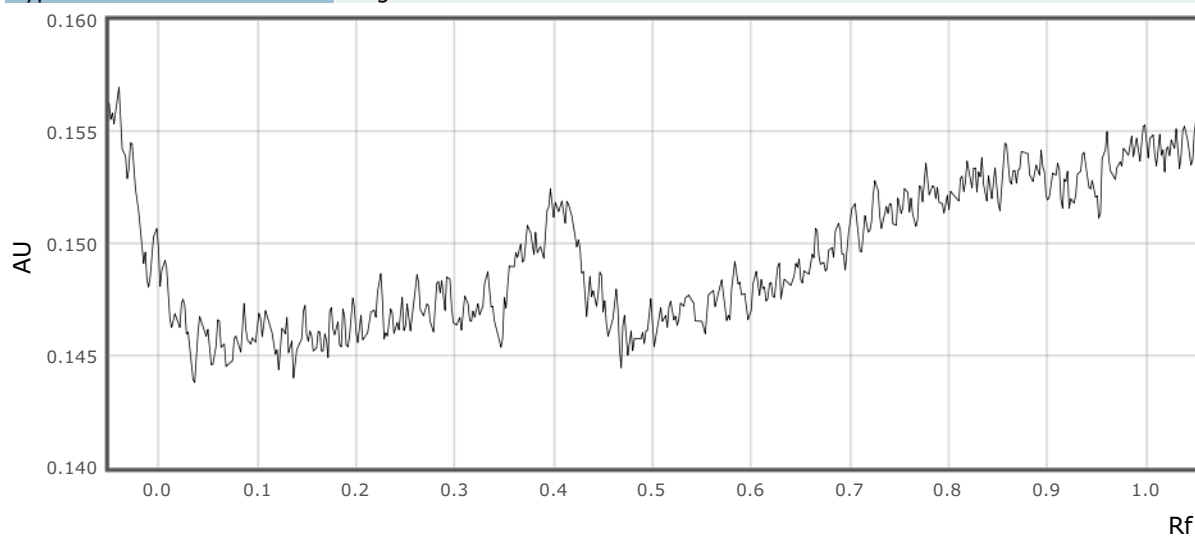
Track 3:

Type Single λ



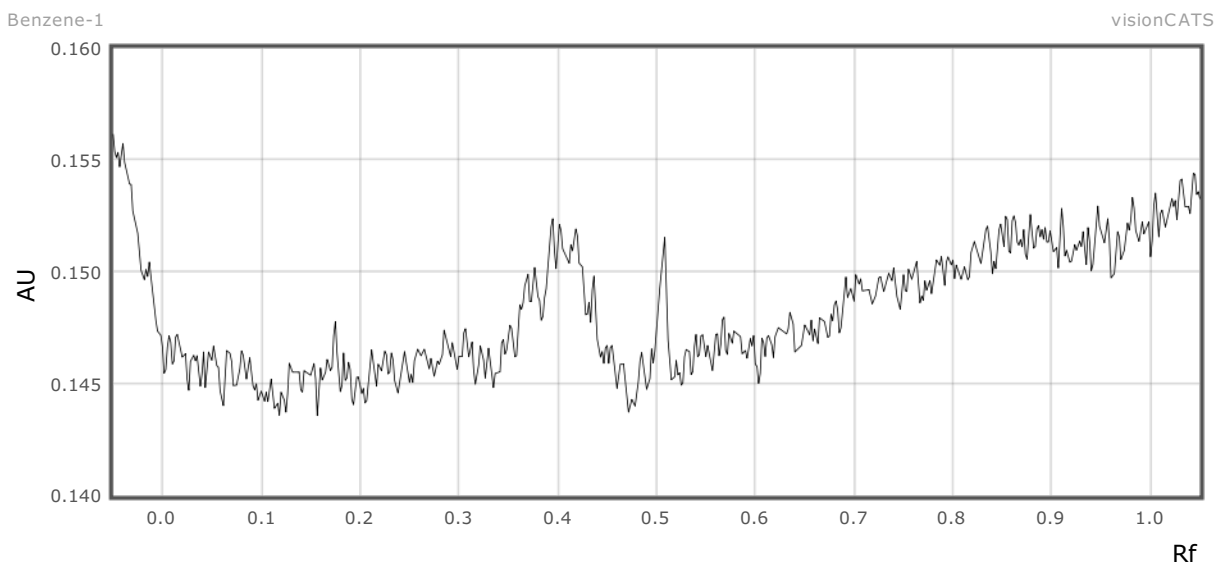
Track 4:

Type Single λ



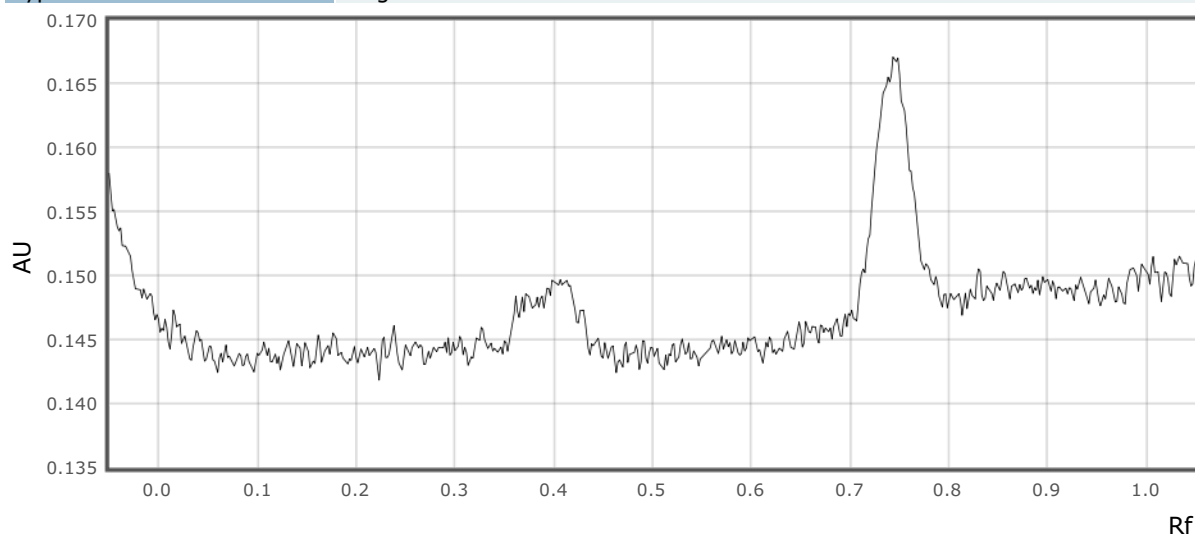
Track 5:

Type Single λ



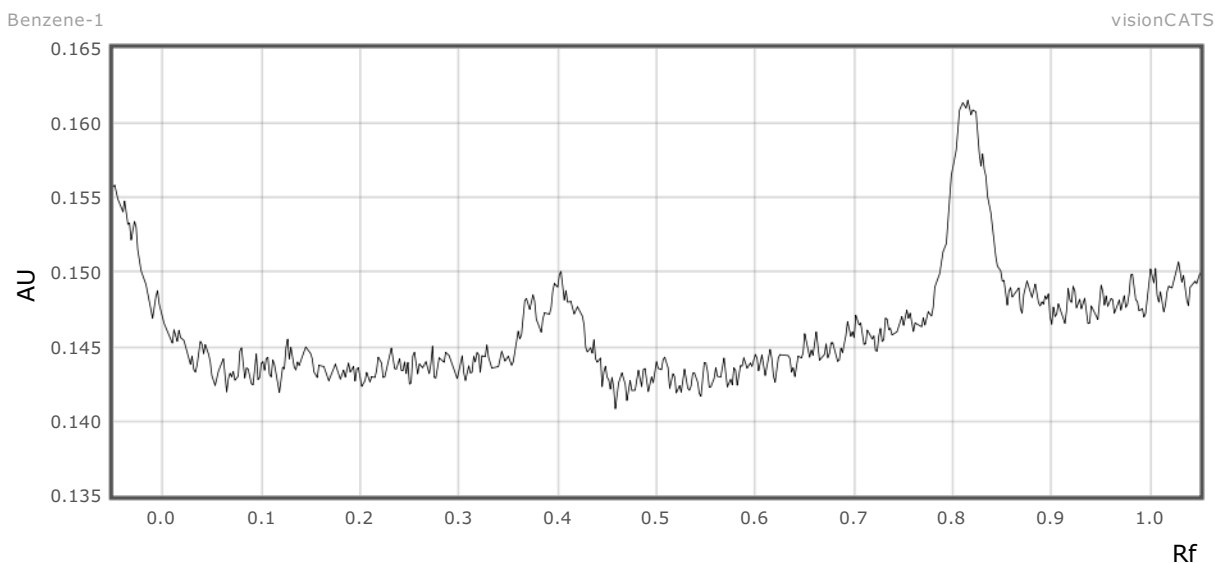
Track 6:

Type Single λ



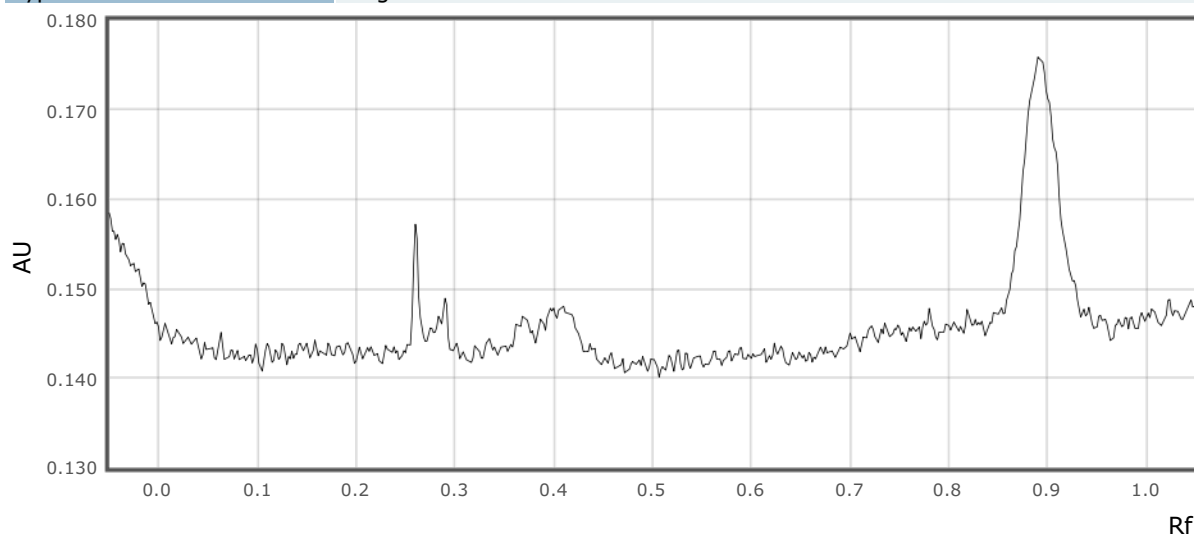
Track 7:

Type Single λ



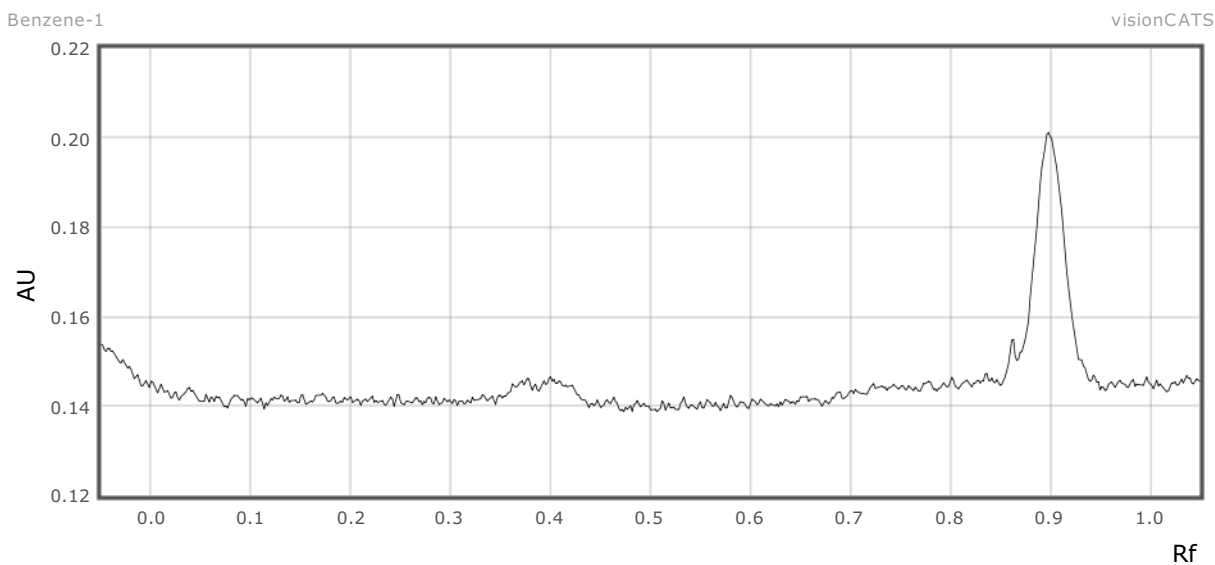
Track 8:

Type Single λ



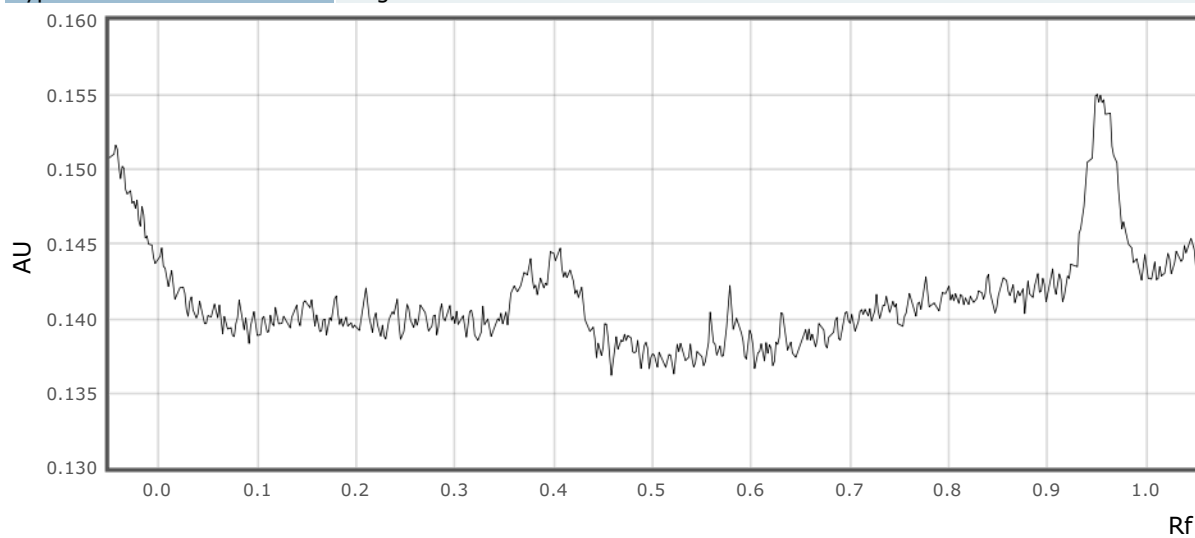
Track 9:

Type Single λ



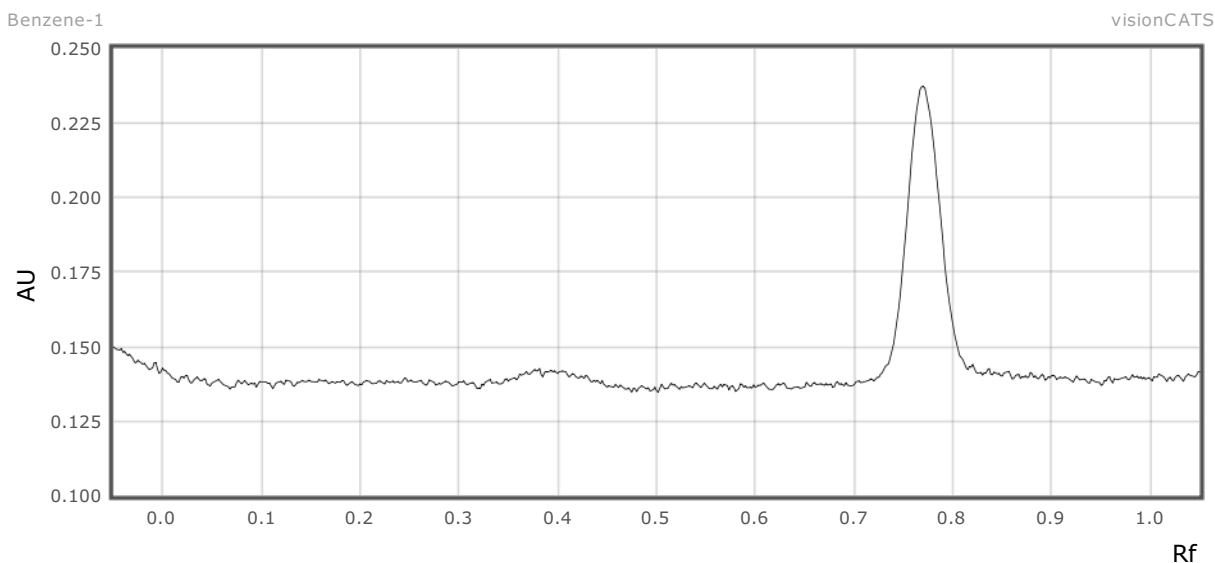
Track 10:

Type Single λ



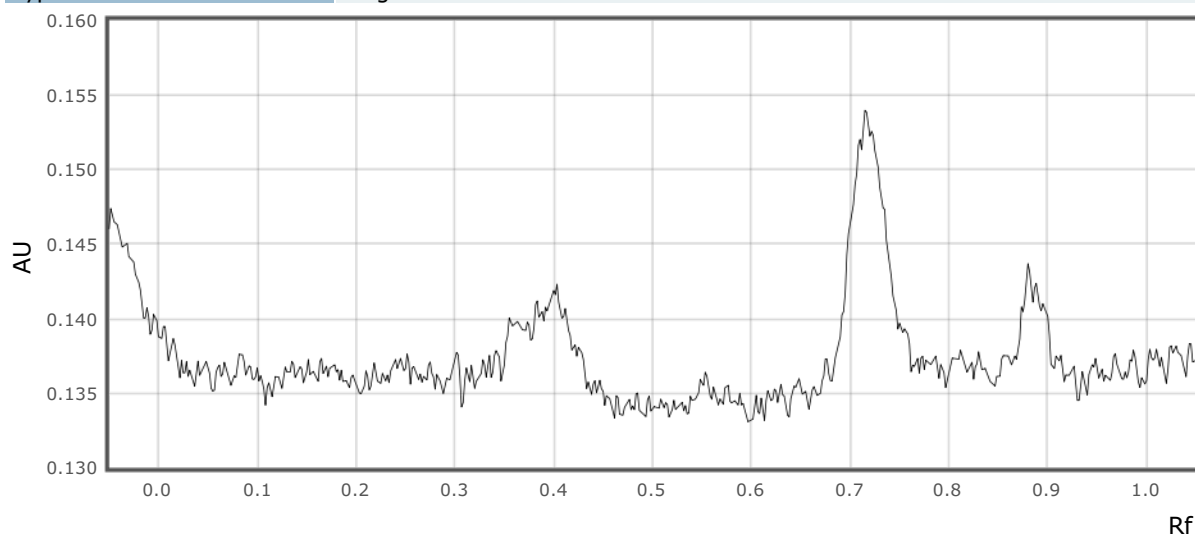
Track 11:

Type Single λ



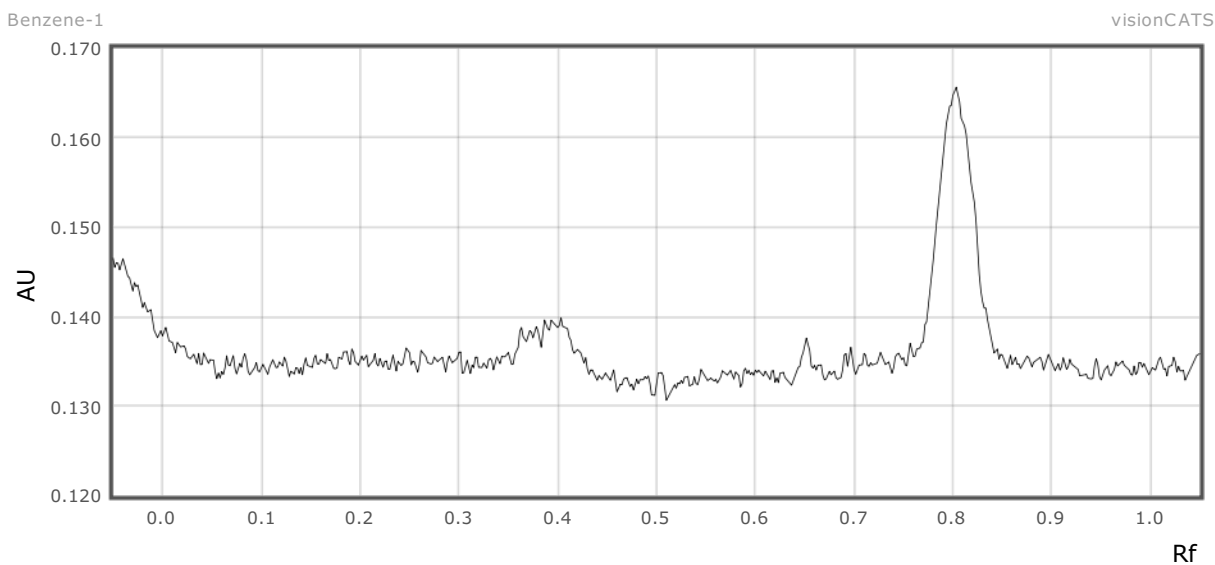
Track 12:

Type Single λ



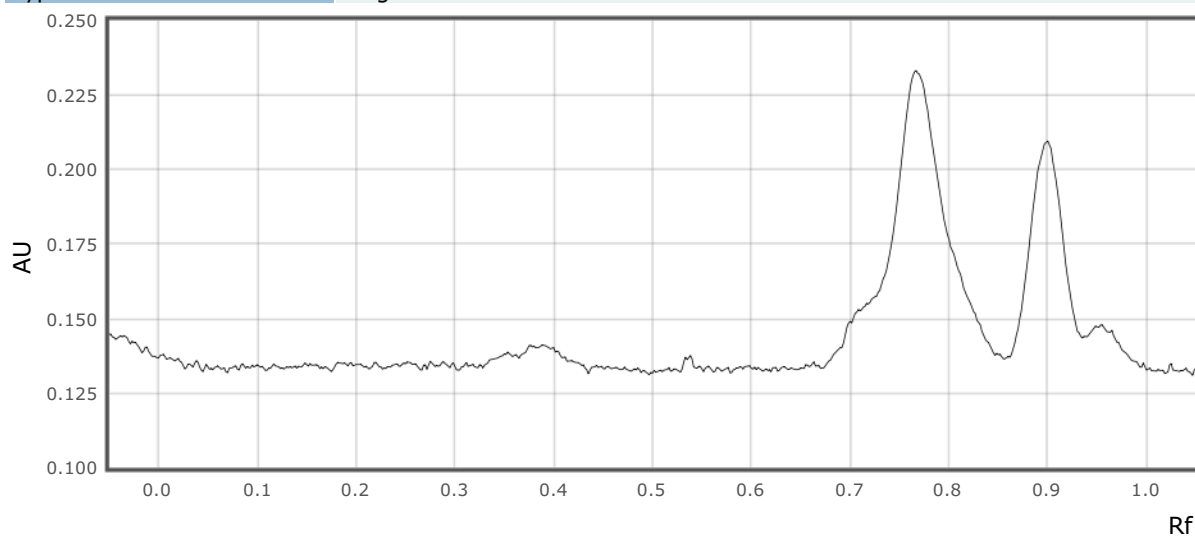
Track 13:

Type Single λ



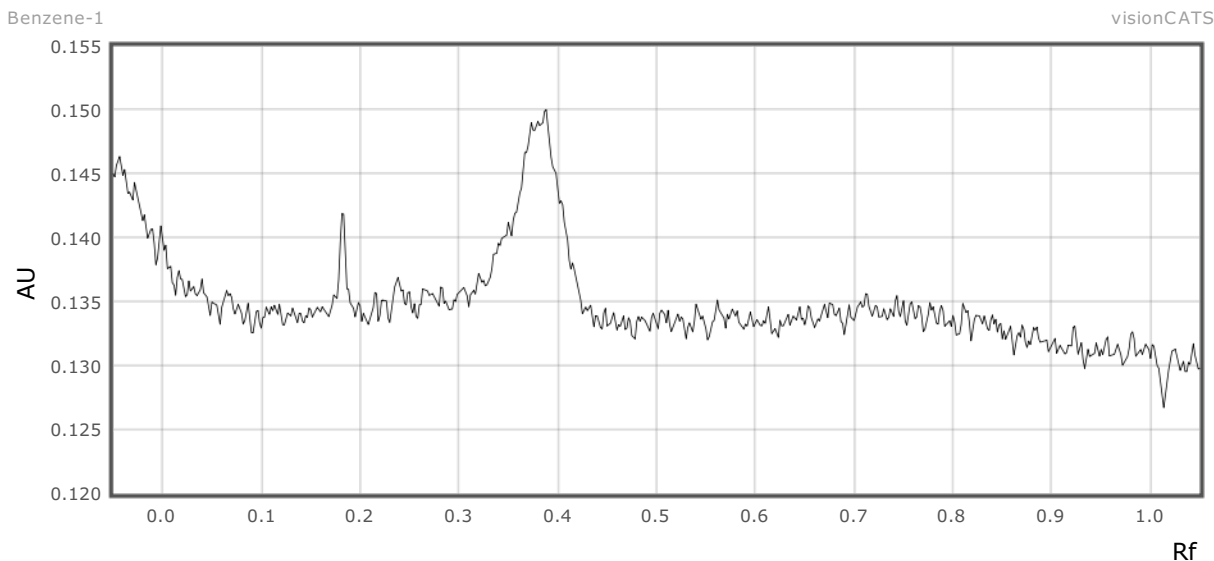
Track 14:

Type Single λ



Track 15:

Type Single λ



Derivatization 1 - dip:

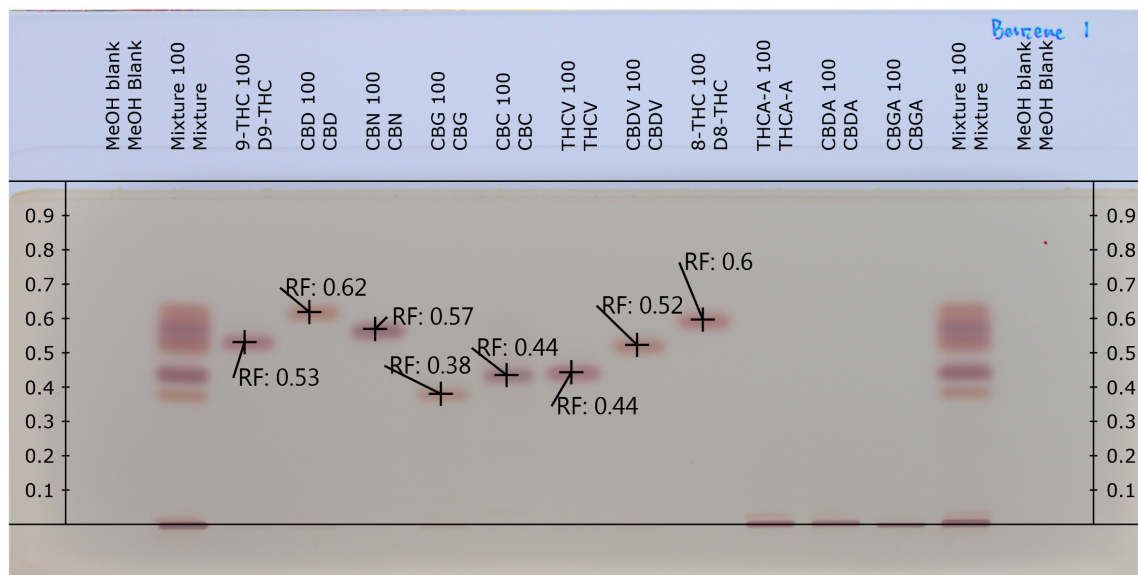
Executed 19-May-2019 16:41:19 visionCATSuser

Take image derivatized plate 1a - Visualizer (S/N: 230515):

Executed 19-May-2019 16:45:37 visionCATSuser

RT White

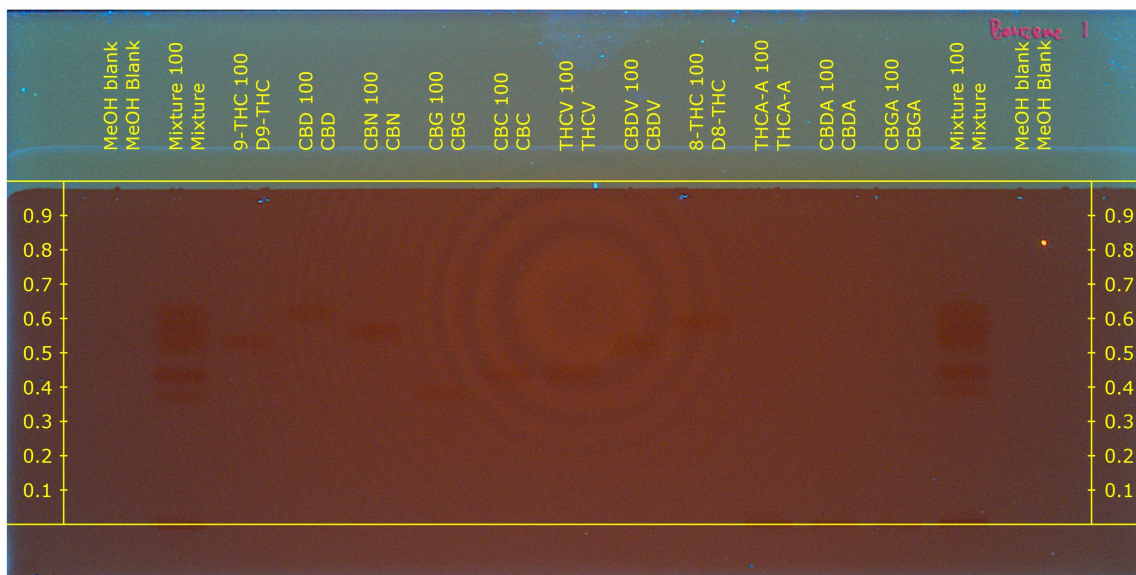
Derivatized, RemTransVis



Exposure	0.079 s
Contrast	1
Normalized exposure	Disabled
Clarify	Disabled
White balance	1.22, 1.08, 0.80

Benzene-1
R 366

visionCATS
Derivatized, Remission366



Exposure	9.999 s
Contrast	1
Normalized exposure	Disabled
Clarify	Disabled
White balance	1.00, 1.00, 1.00

Scan derivatized plate 1b - Scanner 3 (S/N: 031025):

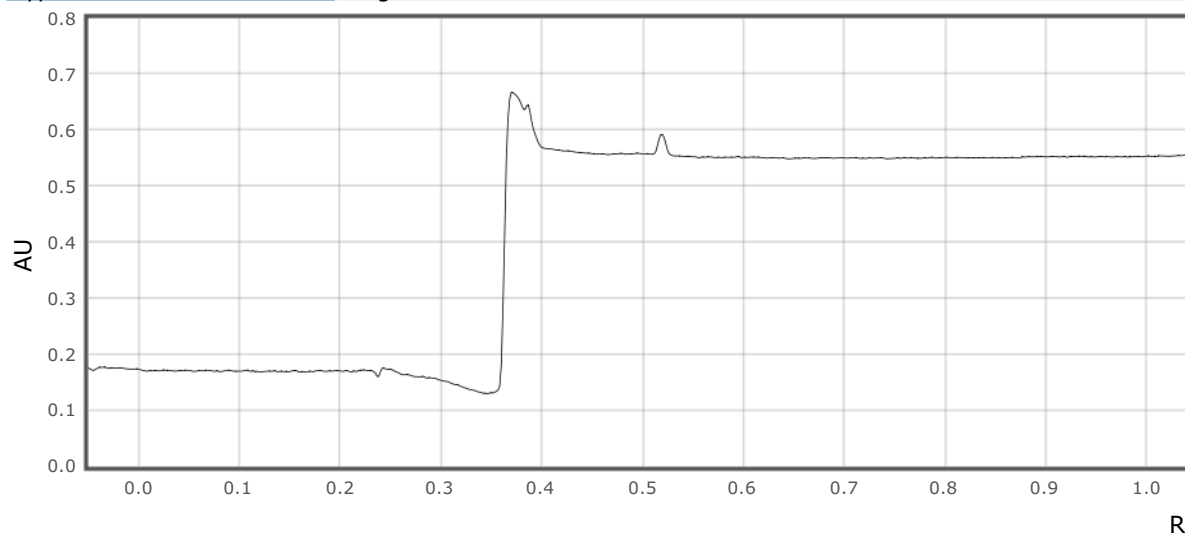
Executed	19-May-2019 16:46:46 visionCATSuser
----------	-------------------------------------

Scan:

Wavelength	254 nm
------------	--------

Track 1:

Type	Single λ
------	------------------

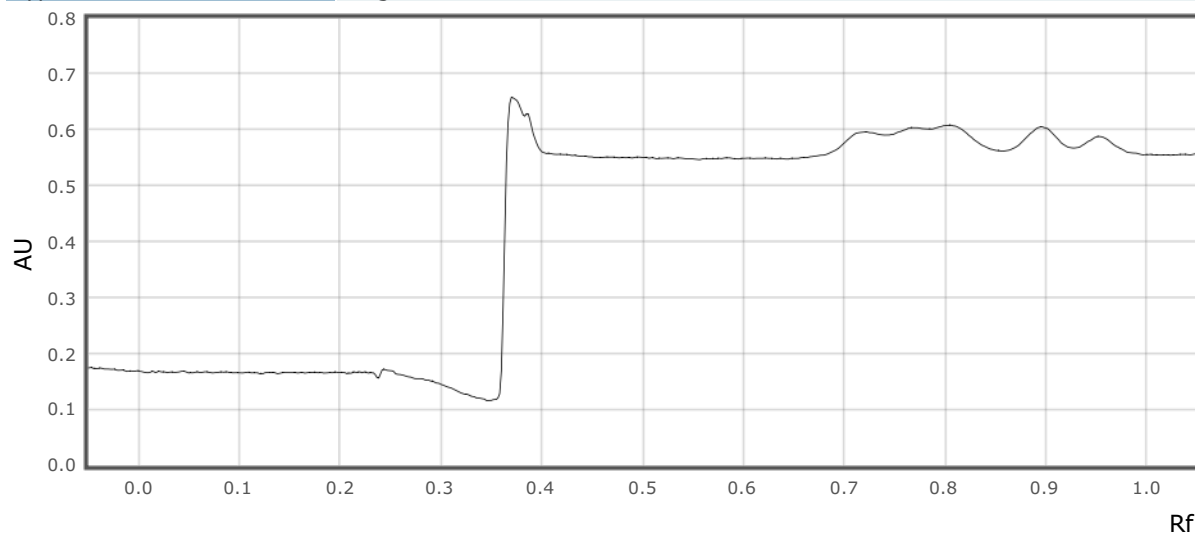


Benzene-1

visionCATS

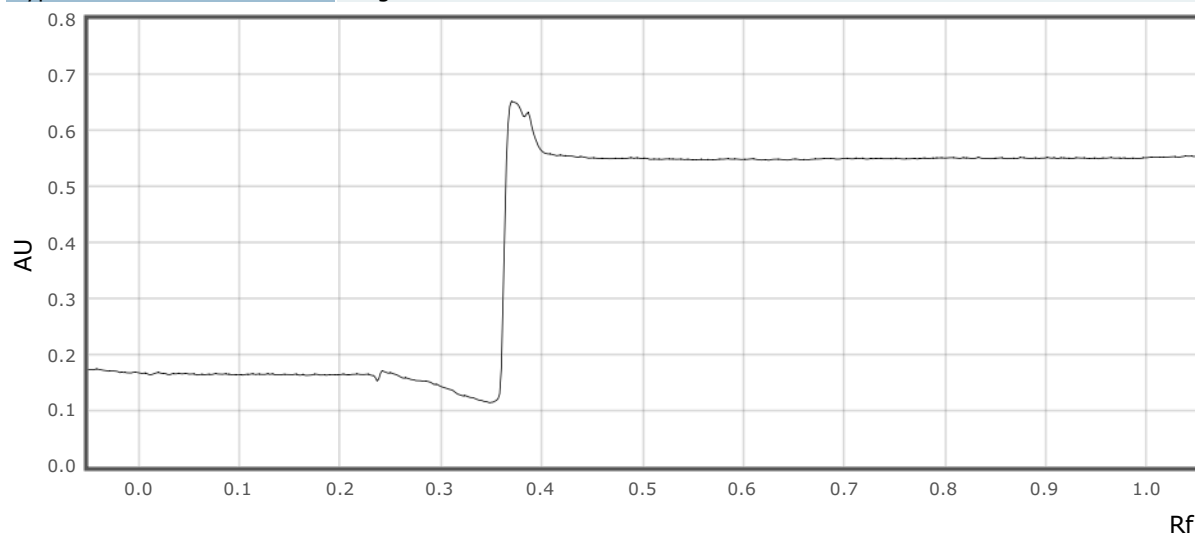
Track 2:

Type Single λ



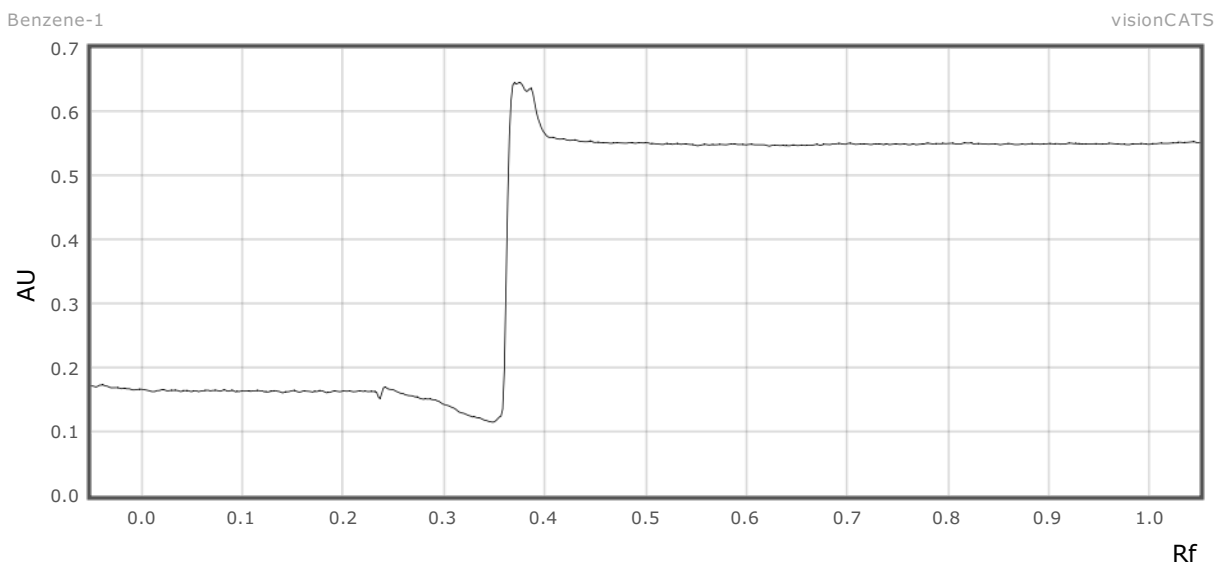
Track 3:

Type Single λ



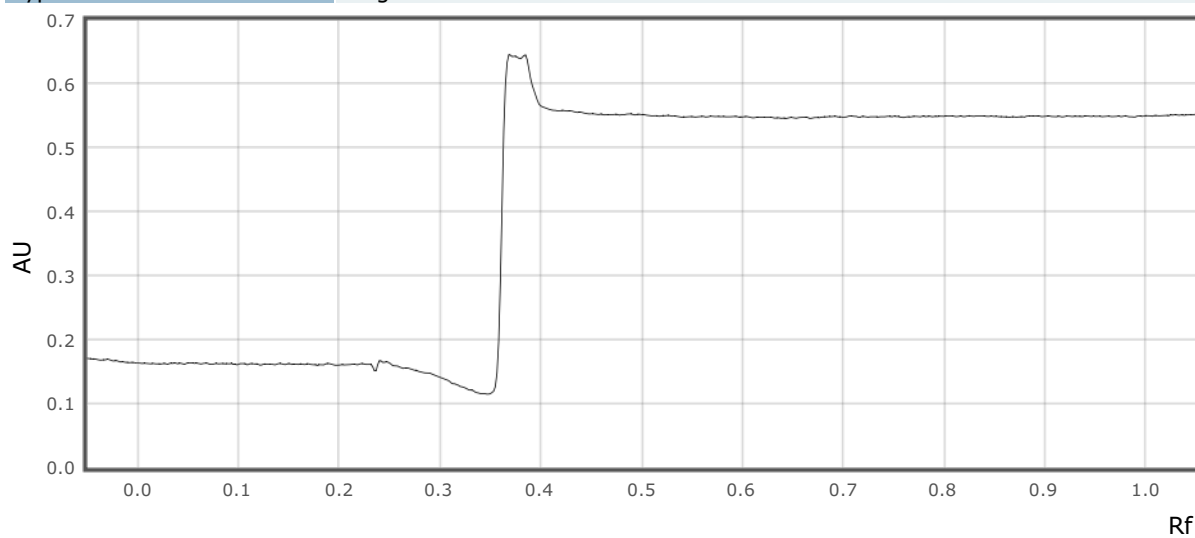
Track 4:

Type Single λ



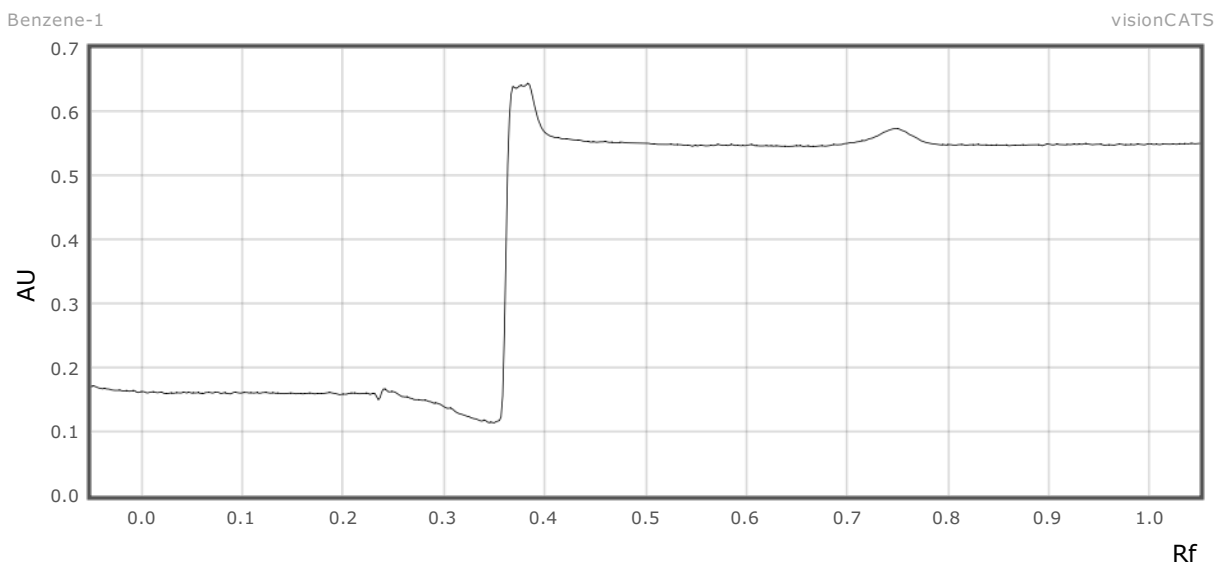
Track 5:

Type Single λ



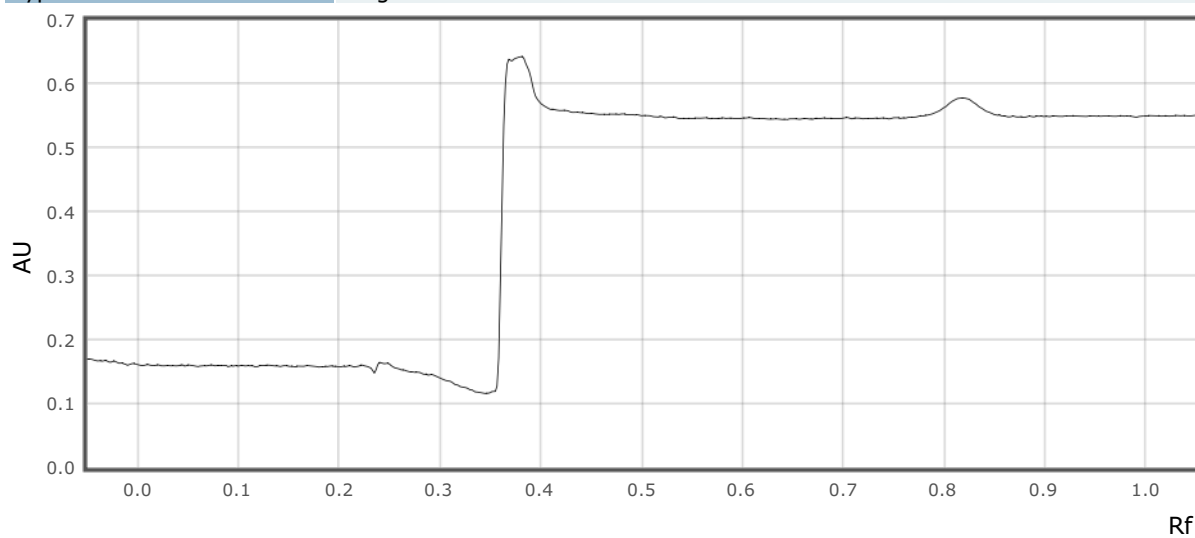
Track 6:

Type Single λ



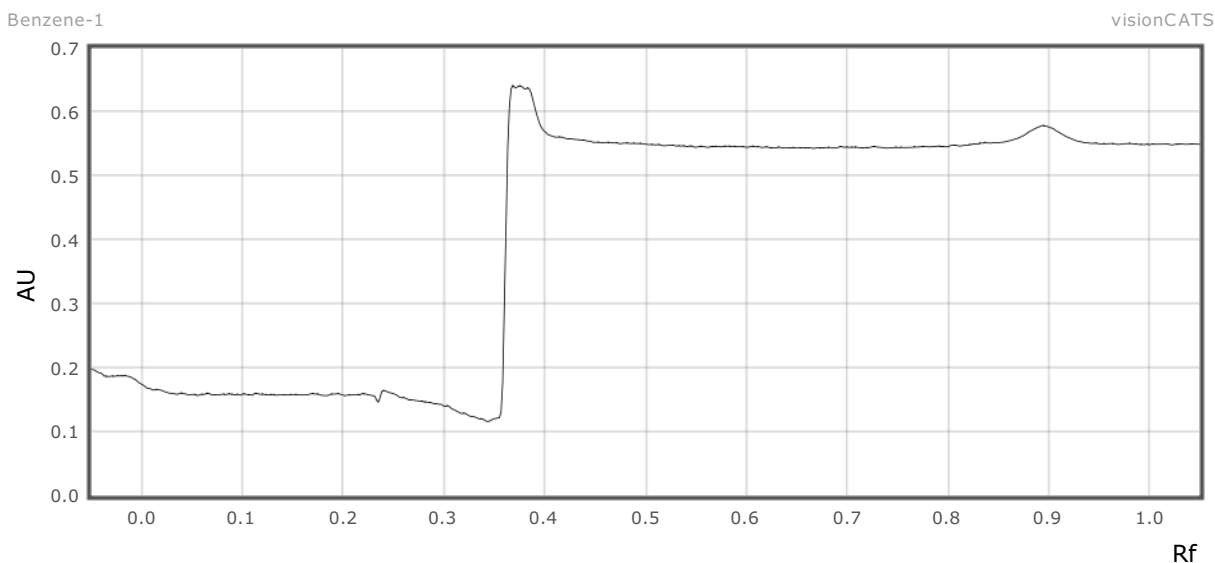
Track 7:

Type Single λ



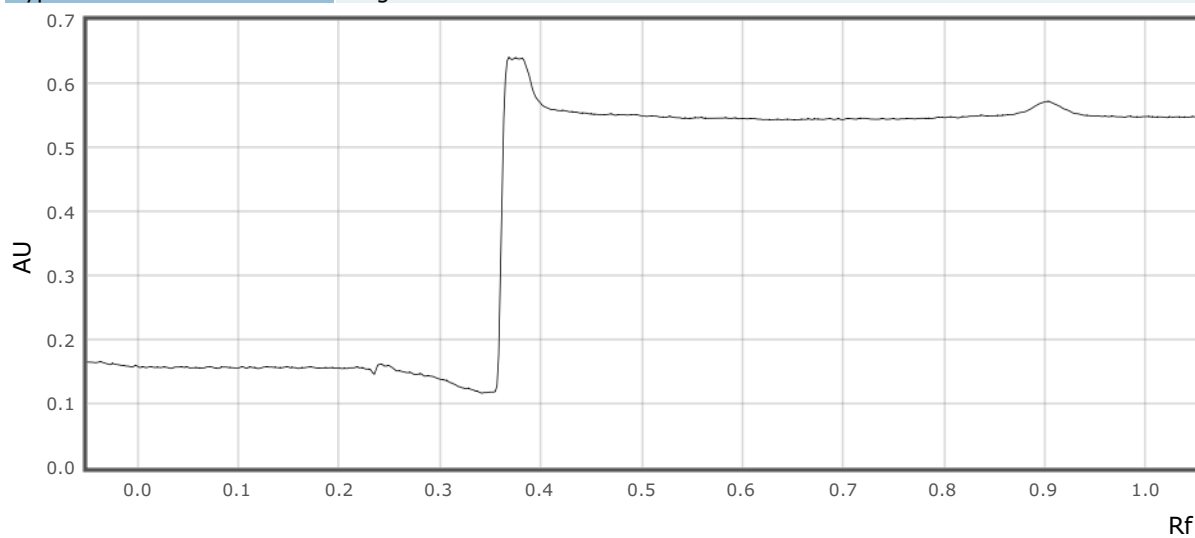
Track 8:

Type Single λ



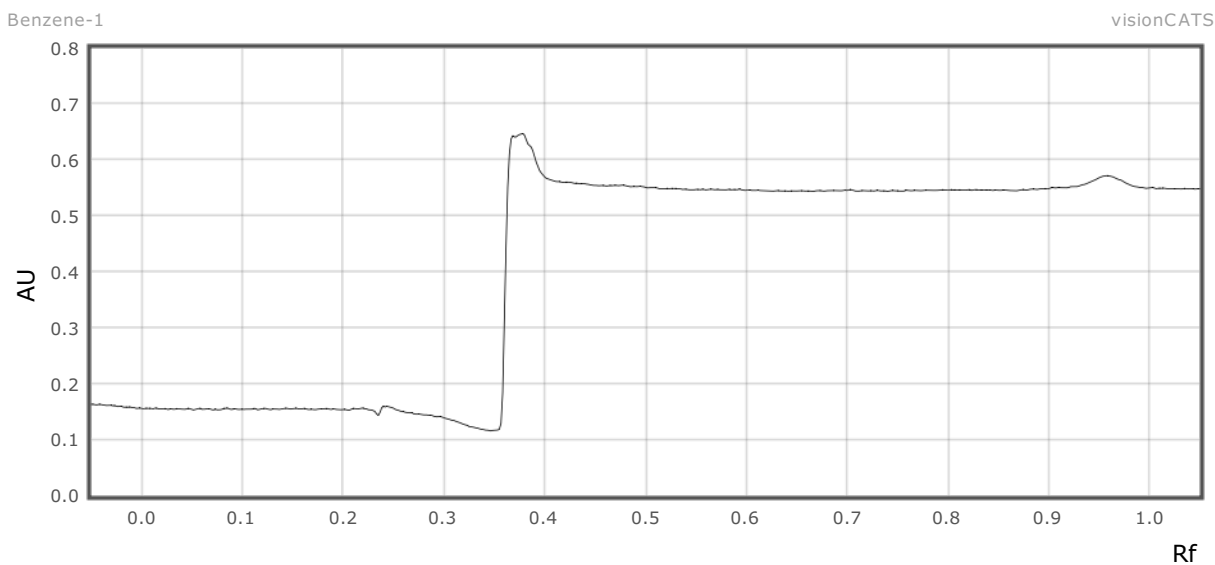
Track 9:

Type Single λ



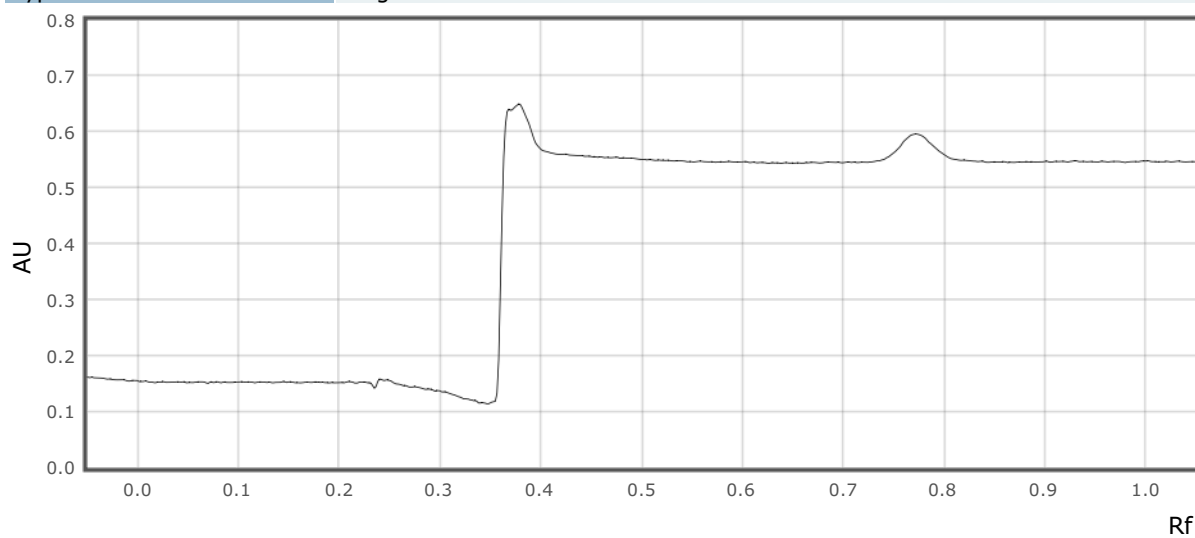
Track 10:

Type Single λ



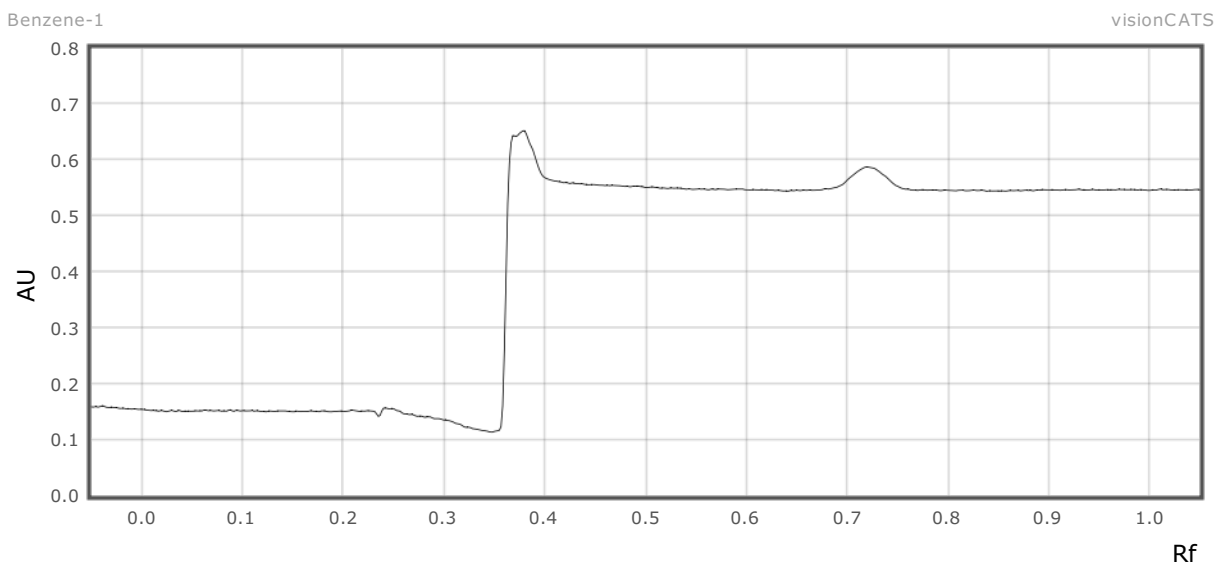
Track 11:

Type Single λ



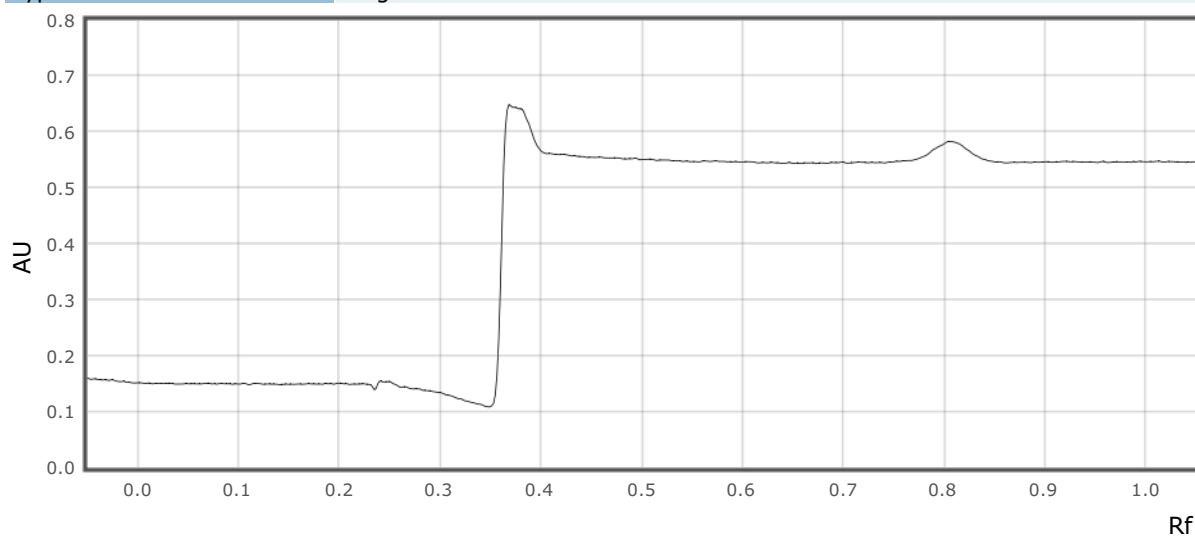
Track 12:

Type Single λ



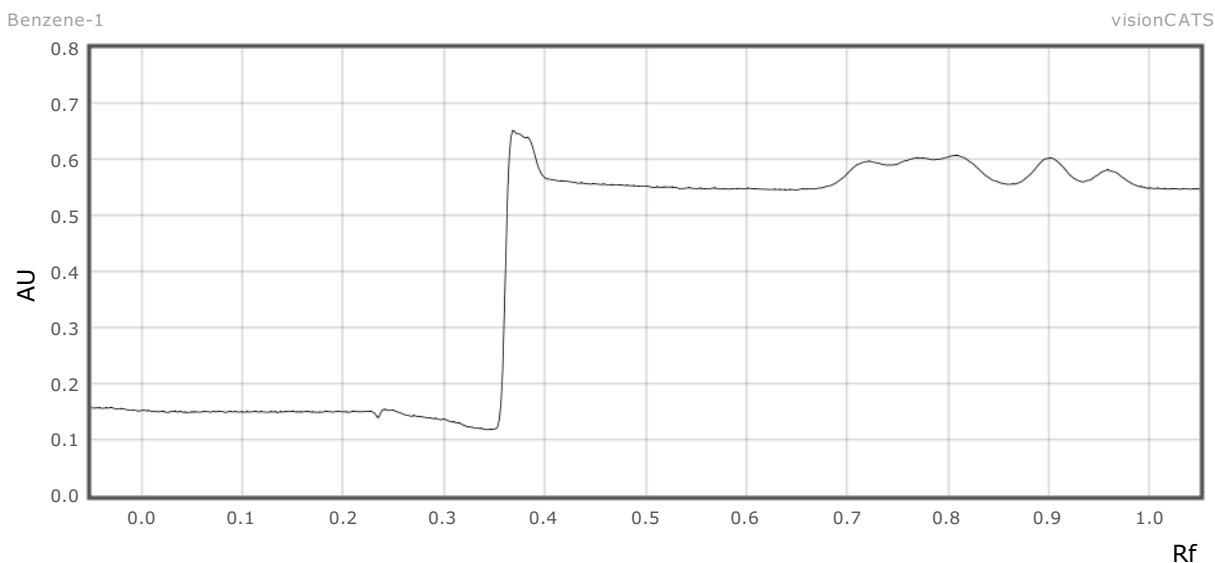
Track 13:

Type Single λ



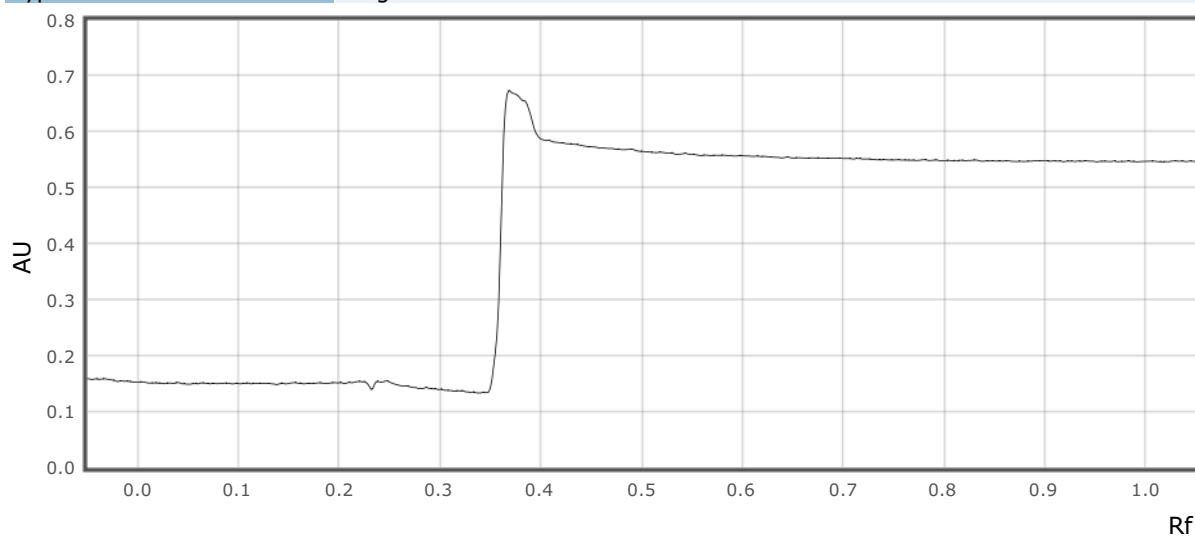
Track 14:

Type Single λ



Track 15:

Type Single λ



Evaluation 1 :

Validated	false
Step	Take image derivatized plate 1a
Concentration unit type	Mass / volume
Notes	

Definition:

References:

9-THC 100

Substance Name	Concentration	Purity
9-THC	100.000 $\mu\text{g/ml}$	100.00 %

Benzene-1

visionCATS

CBD 100		
Substance Name	Concentration	Purity
CBD	100.000 µg/ml	100.00 %

CBN 100		
Substance Name	Concentration	Purity
CBN	100.000 µg/ml	100.00 %

CBG 100		
Substance Name	Concentration	Purity
CBG	100.000 µg/ml	100.00 %

CBC 100		
Substance Name	Concentration	Purity
CBC	100.000 µg/ml	100.00 %

THCV 100		
Substance Name	Concentration	Purity
THCV	100.000 µg/ml	100.00 %

CBDV 100		
Substance Name	Concentration	Purity
CBDV	100.000 µg/ml	100.00 %

8-THC 100		
Substance Name	Concentration	Purity
8-THC	100.000 µg/ml	100.00 %

THCA-A 100		
Substance Name	Concentration	Purity
THCA-A	100.000 µg/ml	100.00 %

CBDA 100		
Substance Name	Concentration	Purity
CBDA	100.000 µg/ml	100.00 %

CBGA 100		
Substance Name	Concentration	Purity
CBGA	100.000 µg/ml	100.00 %

Samples:				
Vial ID	Amount	Volume solution	Reference amount	Related to
MeOH blank		0.00 ml		
Mixture 100		0.00 ml		

Integration parameters:	
Bounds	[0.000,1.000]
Smoothing	Savitzky-Golay of order 3 and window 7
Baseline correction	Lowest slope with noise 0.05
Profile subtraction	Profile subtraction from track 1
Peaks detection	Gauss (legacy) with sensitivity 0.1, separation 0.1 and threshold 0.1

Benzene-1

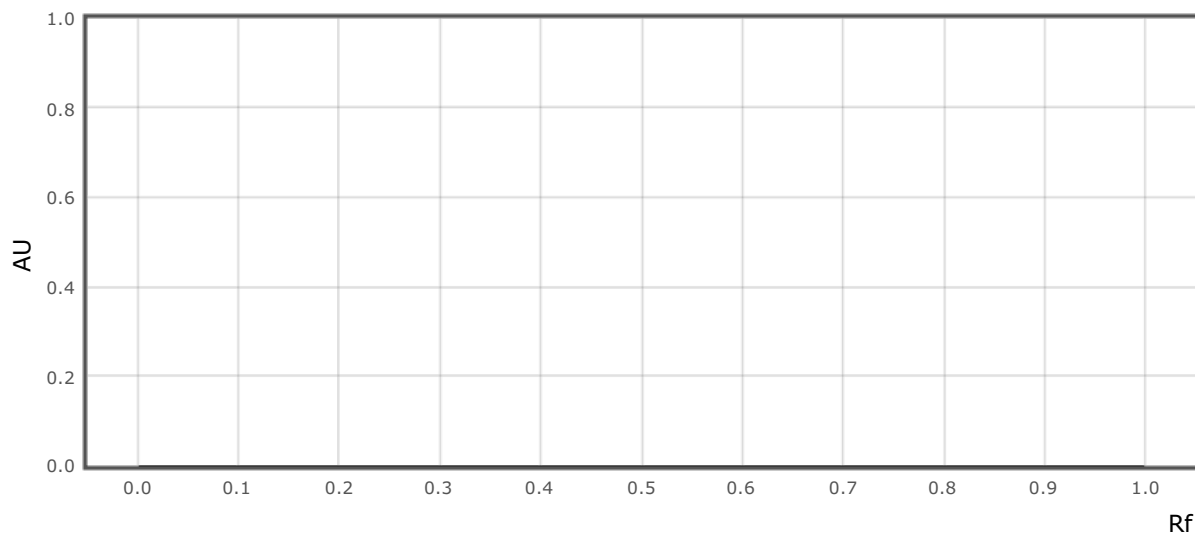
visionCATS

Scan:

Wavelength RT White

Track 1:

Type	Sample
Vial ID	MeOH blank
Description	MeOH Blank
Volume	2.0 µl



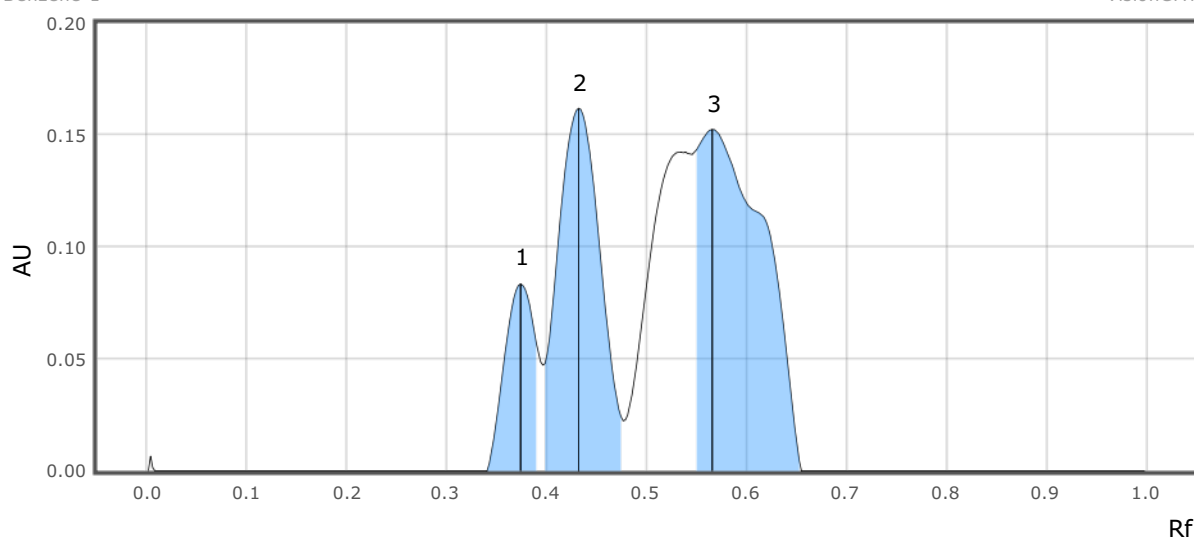
Peak #	Start		Max			End		Area		Manual peak	Substance Name
	Rf	H	Rf	H	%	Rf	H	A	%		

Track 2:

Type	Sample
Vial ID	Mixture 100
Description	Mixture
Volume	5.0 µl

Benzene-1

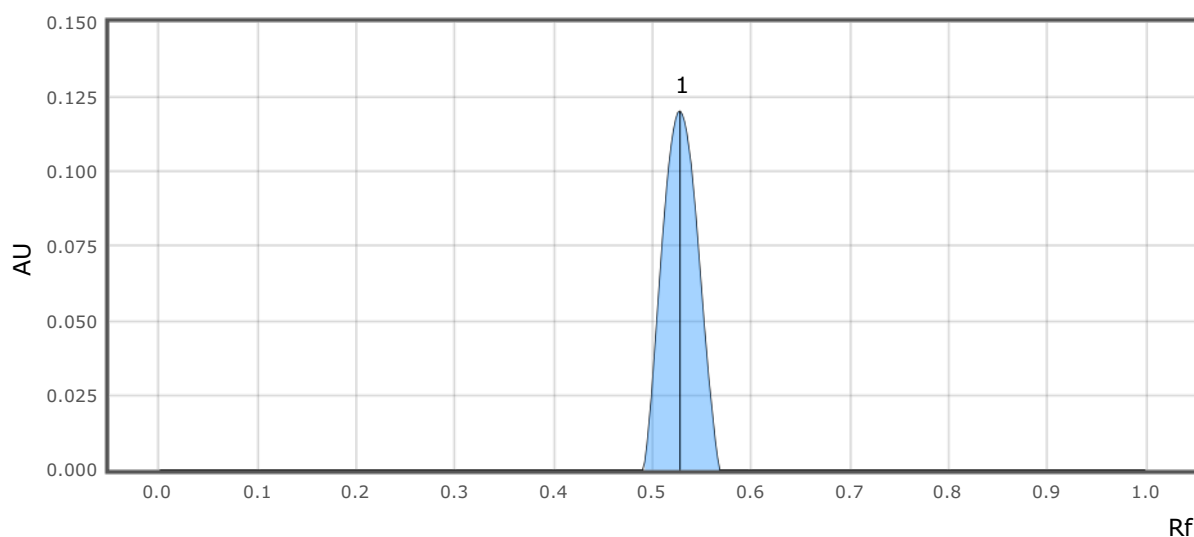
visionCATS



Peak #	Start		Max			End		Area		Manual peak	Substance Name
	Rf	H	Rf	H	%	Rf	H	A	%		
1	0.340	0.0000	0.374	0.0834	20.97	0.394	0.0487	0.00293	12.66	No	
2	0.396	0.0472	0.432	0.1619	40.72	0.477	0.0224	0.00807	34.95	No	
3	0.546	0.1413	0.566	0.1524	38.31	0.655	0.0000	0.01210	52.38	No	

Track 3:

Type	Reference
Vial ID	9-THC 100
Description	D9-THC
Volume	5.0 µl

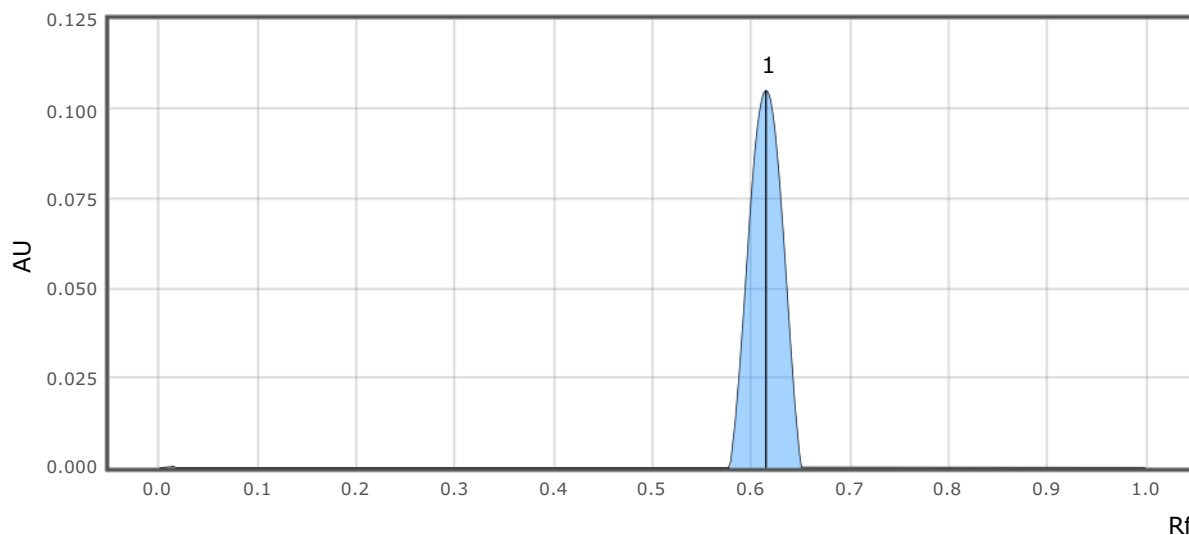


Peak #	Start		Max			End		Area		Manual peak	Substance Name
	Rf	H	Rf	H	%	Rf	H	A	%		
1	0.490	0.0000	0.528	0.1202	100.00	0.568	0.0000	0.00516	100.00	No	9-THC

Benzene-1

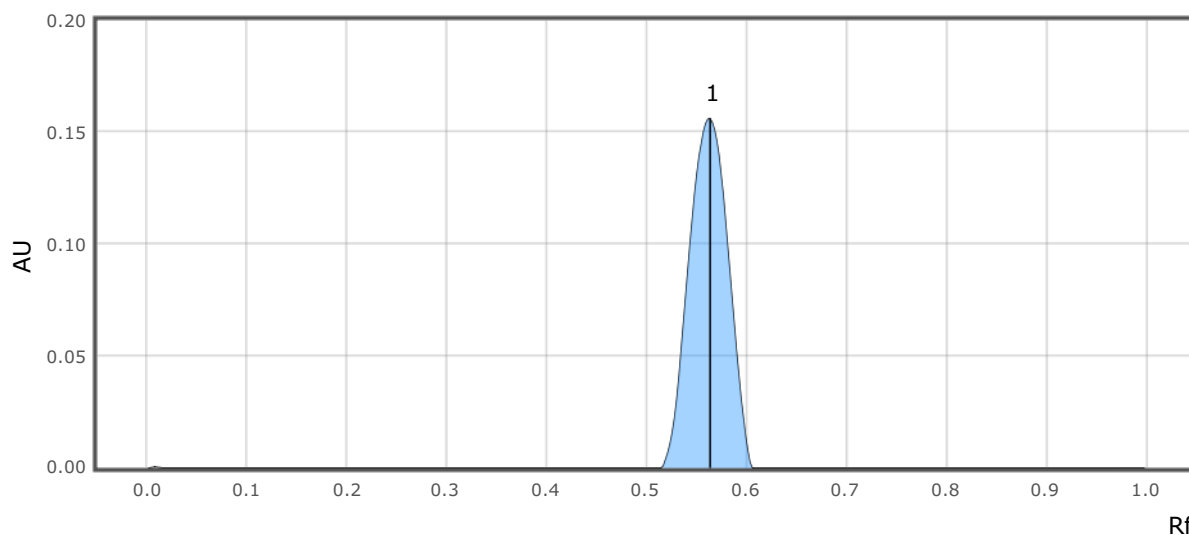
visionCATS

Track 4:	
Type	Reference
Vial ID	CBD 100
Description	CBD
Volume	5.0 µl



Peak #	Start		Max			End		Area		Manual peak	Substance Name
	Rf	H	Rf	H	%	Rf	H	A	%		
1	0.577	0.0000	0.615	0.1051	100.00	0.653	0.0000	0.00427	100.00	No	CBD

Track 5:	
Type	Reference
Vial ID	CBN 100
Description	CBN
Volume	5.0 µl



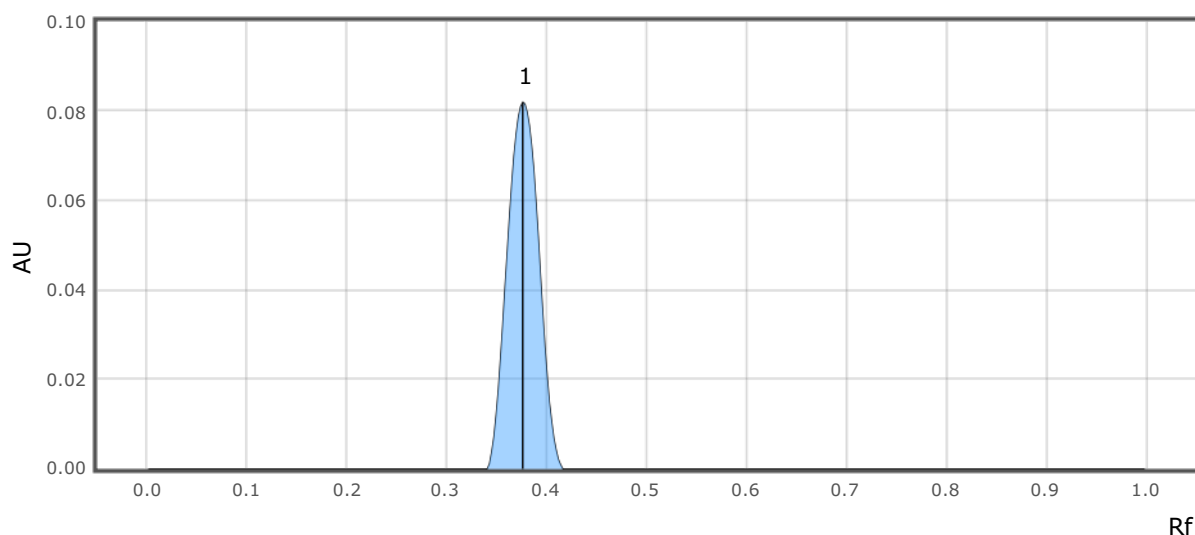
Benzene-1

visionCATS

Peak #	Start		Max			End		Area		Manual peak	Substance Name
	Rf	H	Rf	H	%	Rf	H	A	%		
1	0.515	0.0000	0.564	0.1559	100.00	0.606	0.0000	0.00719	100.00	No	CBN

Track 6:

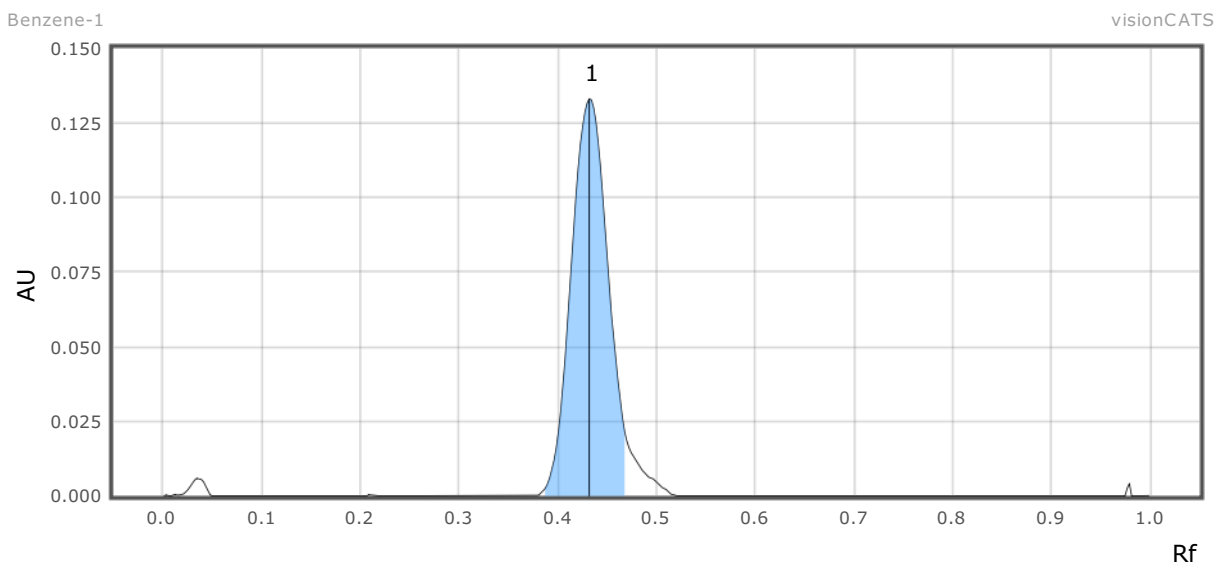
Type	Reference
Vial ID	CBG 100
Description	CBG
Volume	5.0 µl



Peak #	Start		Max			End		Area		Manual peak	Substance Name
	Rf	H	Rf	H	%	Rf	H	A	%		
1	0.340	0.0000	0.376	0.0819	100.00	0.416	0.0000	0.00301	100.00	No	CBG

Track 7:

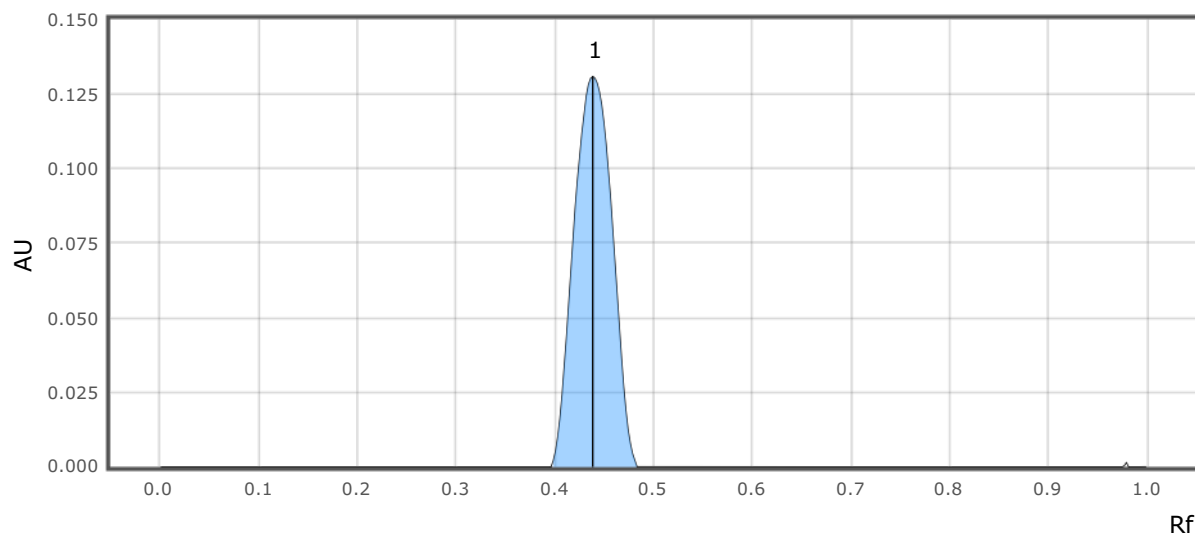
Type	Reference
Vial ID	CBC 100
Description	CBC
Volume	5.0 µl



Peak #	Start		Max			End		Area		Manual peak	Substance Name
	Rf	H	Rf	H	%	Rf	H	A	%		
1	0.387	0.0025	0.432	0.1330	100.00	0.468	0.0216	0.00567	100.00	Yes	CBC

Track 8:

Type	Reference
Vial ID	THCV 100
Description	THCV
Volume	5.0 µl



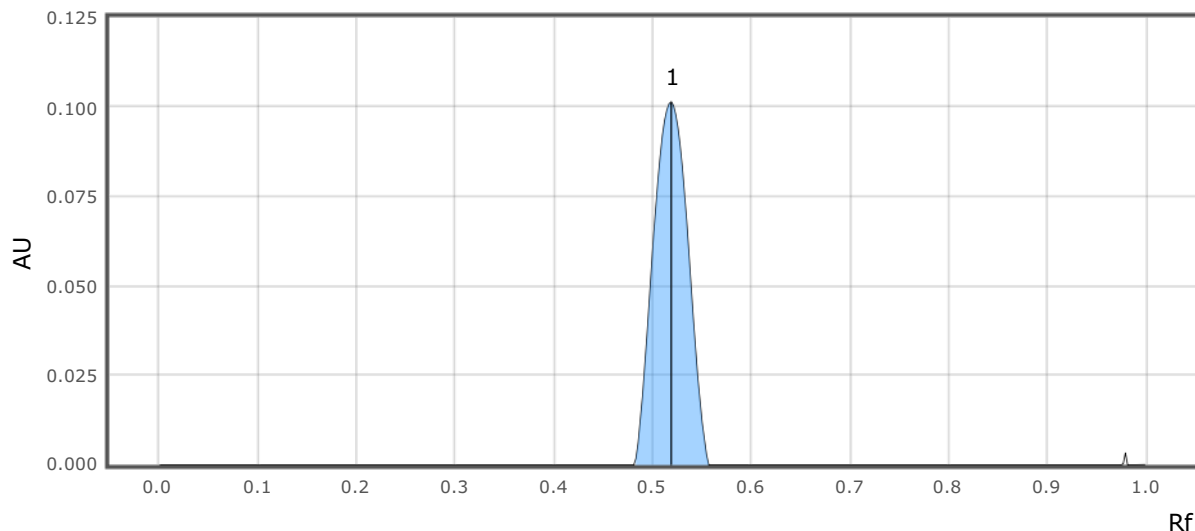
Peak #	Start		Max			End		Area		Manual peak	Substance Name
	Rf	H	Rf	H	%	Rf	H	A	%		
1	0.396	0.0000	0.439	0.1307	100.00	0.485	0.0000	0.00590	100.00	No	THCV

Track 9:

Benzene-1

visionCATS

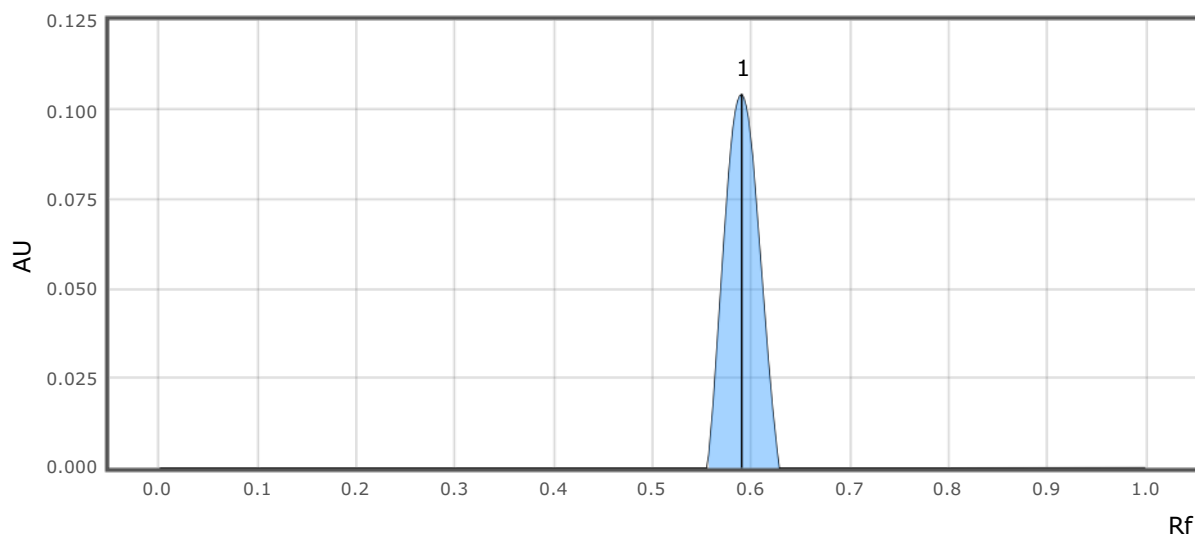
Type	Reference
Vial ID	CBDV 100
Description	CBDV
Volume	5.0 µl



Peak #	Start		Max			End		Area		Manual peak	Substance Name
	Rf	H	Rf	H	%	Rf	H	A	%		
1	0.481	0.0000	0.519	0.1013	100.00	0.557	0.0000	0.00413	100.00	No	CBDV

Track 10:

Type	Reference
Vial ID	8-THC 100
Description	D8-THC
Volume	5.0 µl



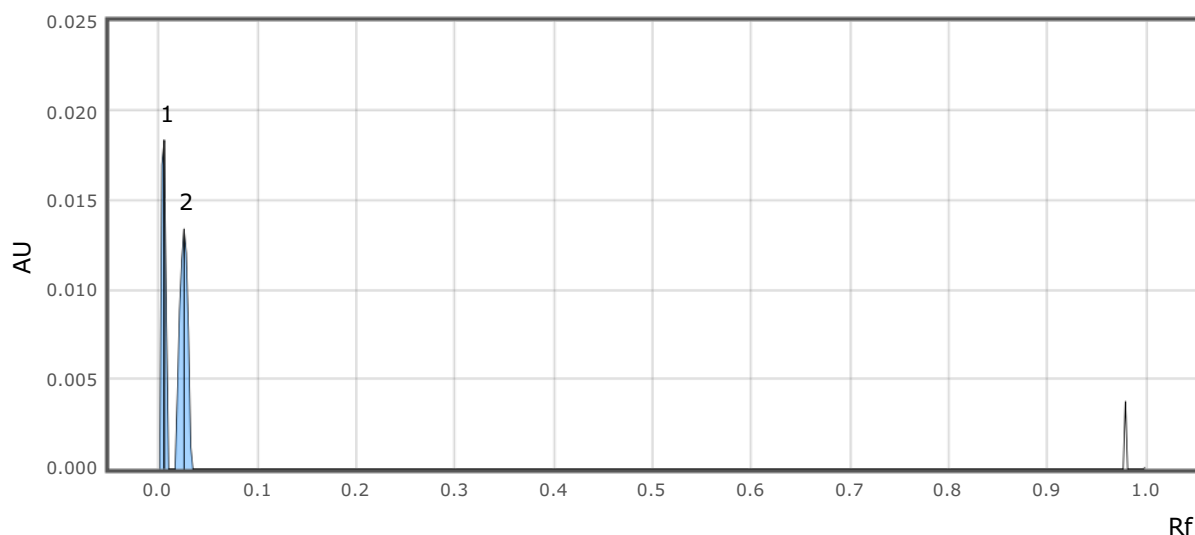
Benzene-1

visionCATS

Peak #	Start		Max			End		Area		Manual peak	Substance Name
	Rf	H	Rf	H	%	Rf	H	A	%		
1	0.555	0.0000	0.590	0.1042	100.00	0.628	0.0000	0.00430	100.00	No	8-THC

Track 11:

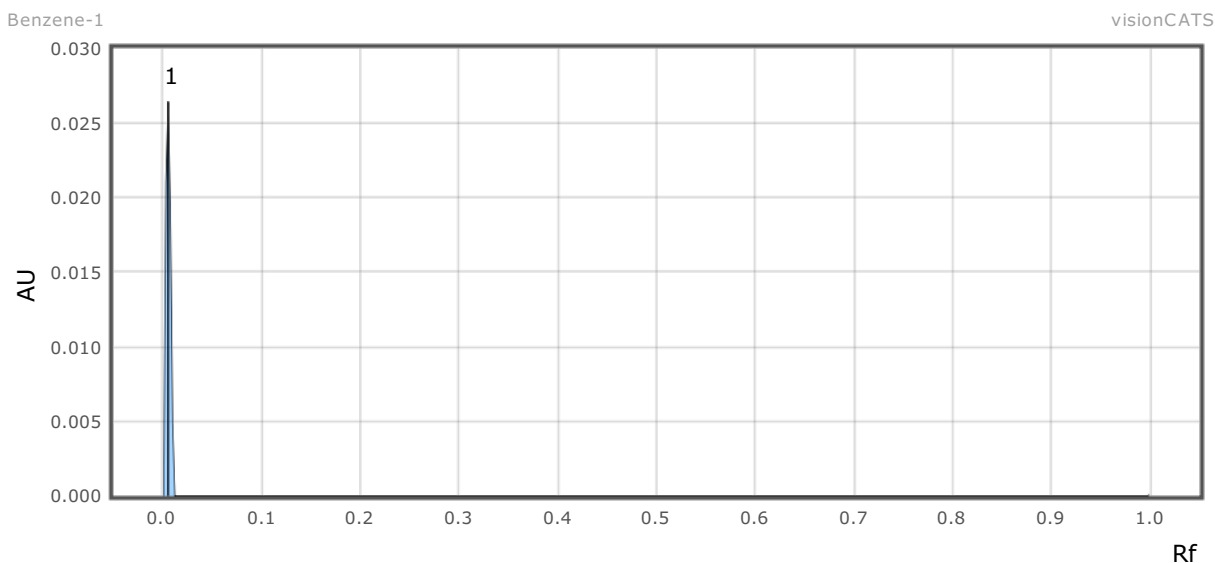
Type	Reference
Vial ID	THCA-A 100
Description	THCA-A
Volume	5.0 µl



Peak #	Start		Max			End		Area		Manual peak	Substance Name
	Rf	H	Rf	H	%	Rf	H	A	%		
1	0.001	0.0000	0.006	0.0183	57.81	0.010	0.0000	0.00010	42.60	No	THCA-A
2	0.017	0.0000	0.026	0.0134	42.19	0.035	0.0000	0.00013	57.40	No	

Track 12:

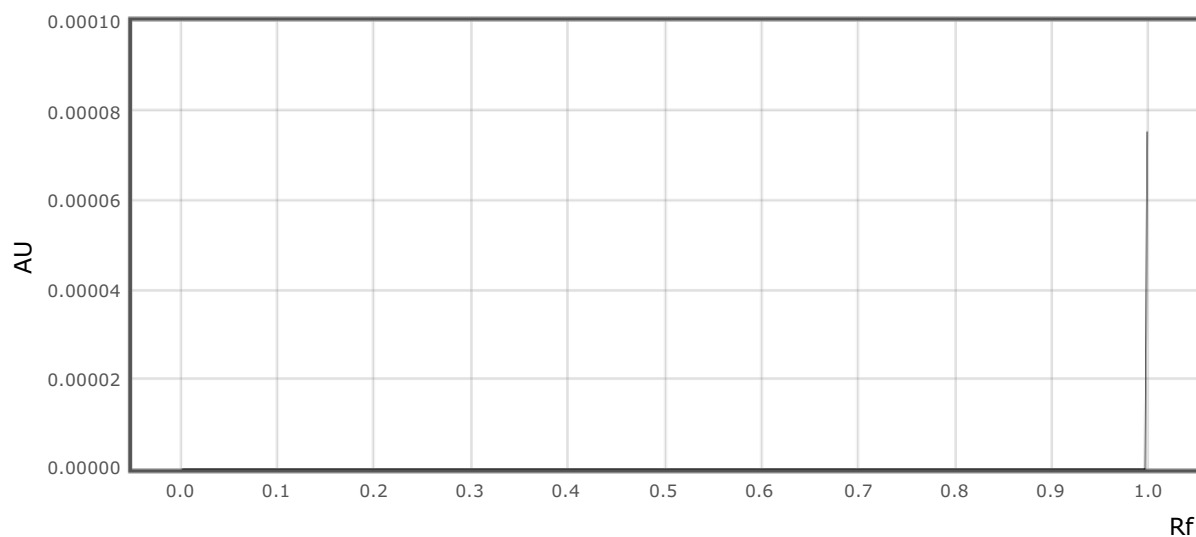
Type	Reference
Vial ID	CBDA 100
Description	CBDA
Volume	5.0 µl



Peak #	Start		Max			End		Area		Manual peak	Substance Name
	Rf	H	Rf	H	%	Rf	H	A	%		
1	0.001	0.0000	0.006	0.0264	100.00	0.012	0.0000	0.00016	100.00	No	CBDA

Track 13:

Type	Reference
Vial ID	CBGA 100
Description	CBGA
Volume	5.0 µl



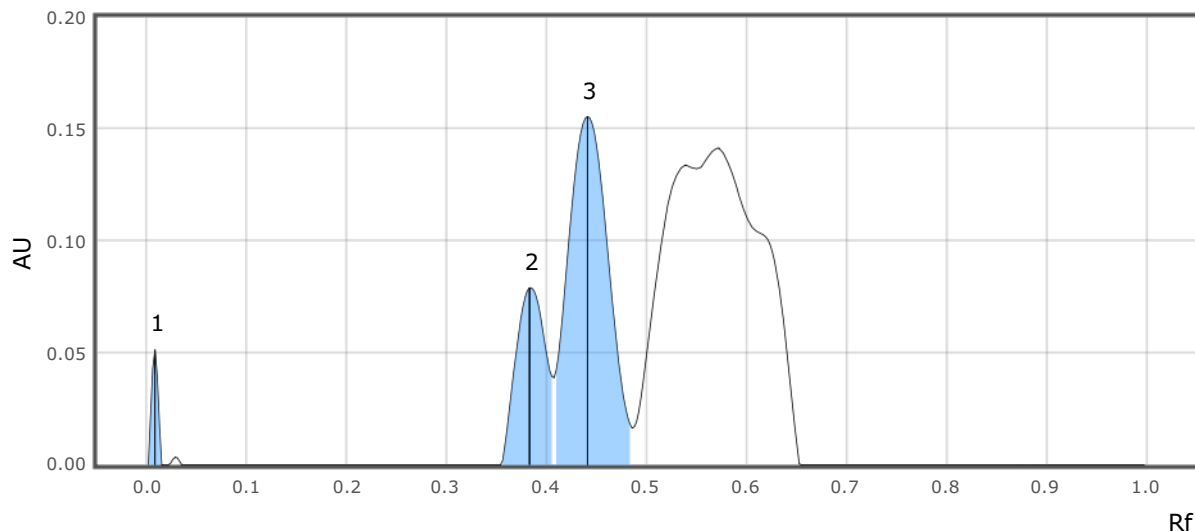
Peak #	Start		Max			End		Area		Manual peak	Substance Name
	Rf	H	Rf	H	%	Rf	H	A	%		

Track 14:

Benzene-1

visionCATS

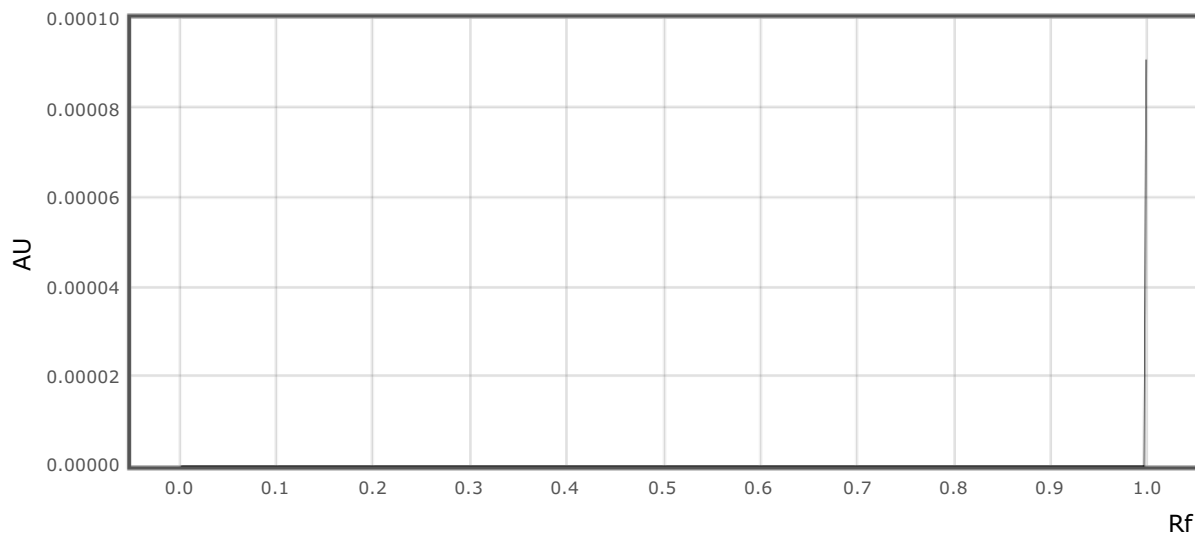
Type	Sample
Vial ID	Mixture 100
Description	Mixture
Volume	5.0 µl



Peak #	Start		Max			End		Area		Manual peak	Substance Name
	Rf	H	Rf	H	%	Rf	H	A	%		
1	0.001	0.0000	0.008	0.0513	17.94	0.015	0.0000	0.00039	3.71	No	
2	0.354	0.0000	0.383	0.0790	27.64	0.405	0.0395	0.00266	25.61	No	
3	0.407	0.0389	0.441	0.1556	54.42	0.485	0.0164	0.00734	70.67	No	

Track 15:

Type	Sample
Vial ID	MeOH blank
Description	MeOH Blank
Volume	2.0 µl



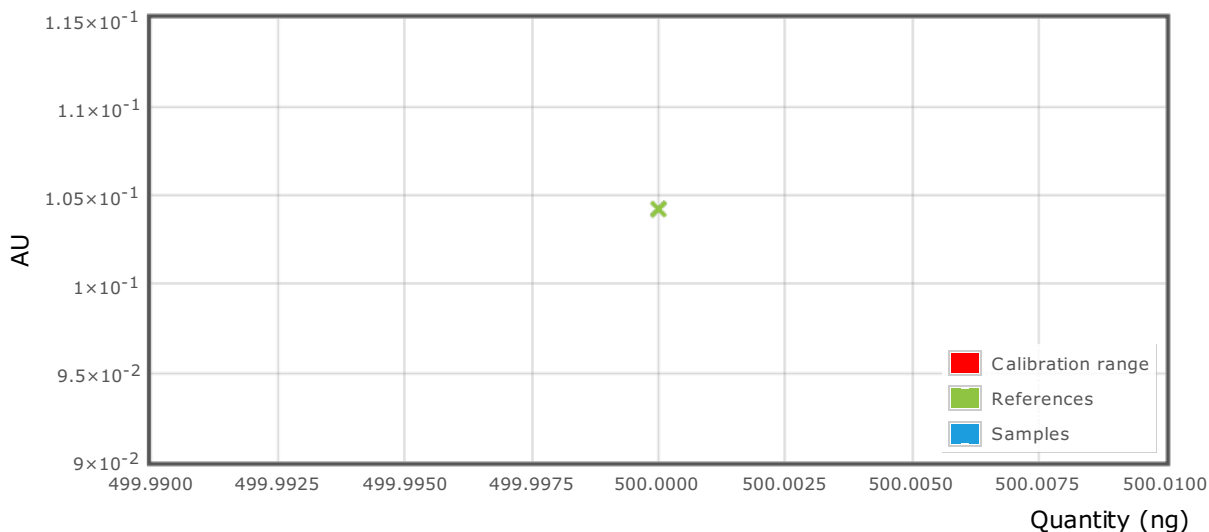
Benzene-1

visionCATS

Peak #	Start		Max			End		Area		Manual peak	Substance Name
	Rf	H	Rf	H	%	Rf	H	A	%		

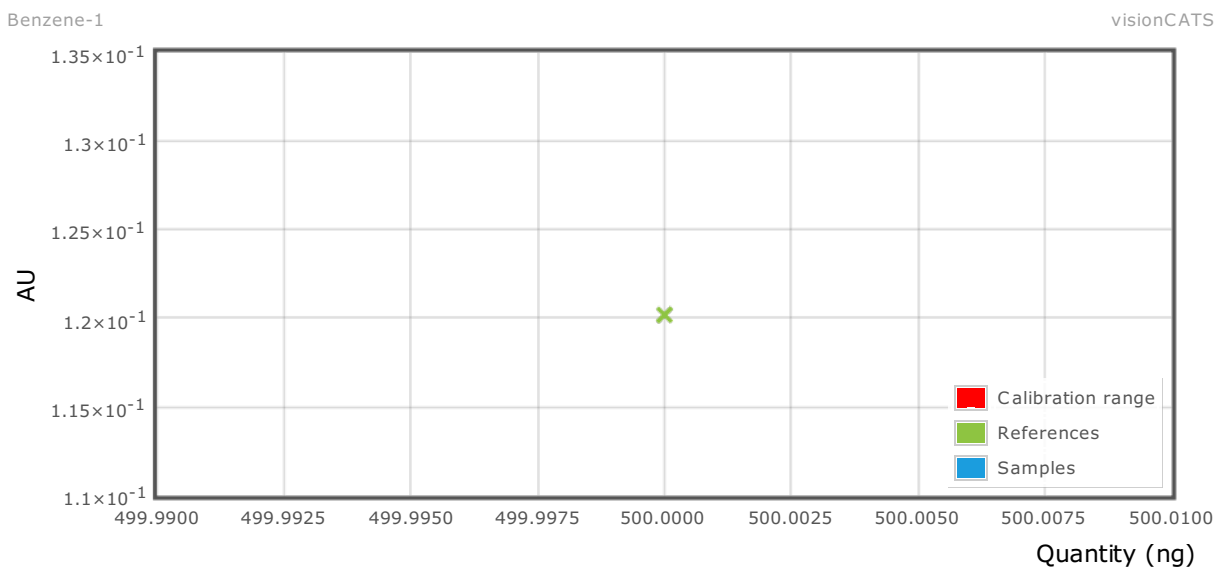
Calibration results:

Height calibration for substance 8-THC @ RT White:



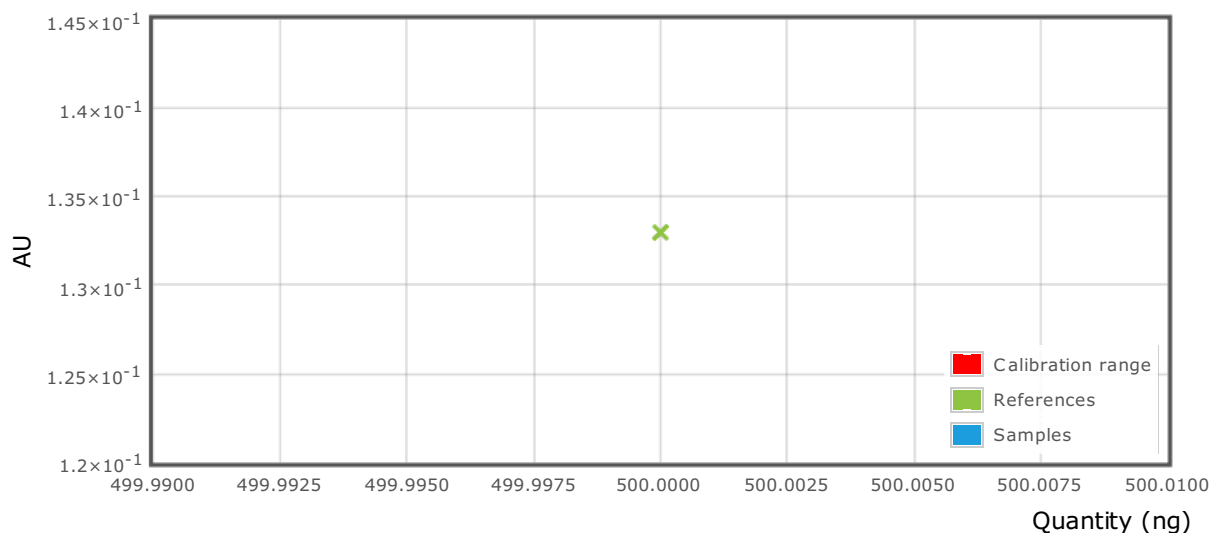
Regression mode	Linear-2
Range deviation	5.00 %
Related substances	Default
Number of references	1
Calibration function	$y=0x$
Coefficient of variation	CV 0.00 %
Correlation coefficient	n/a
	Unable to compute the results for this substance because there wasn't enough groups of references replicas (at least 1 for Linear-1, 2 for Linear2 and Mime-1 and 3 for Polynomial and MiMe-2)

Height calibration for substance 9-THC @ RT White:



Regression mode	Linear-2
Range deviation	5.00 %
Related substances	Default
Number of references	1
Calibration function	$y=0x$
Coefficient of variation	CV 0.00 %
Correlation coefficient	n/a
	Unable to compute the results for this substance because there wasn't enough groups of references replicas (at least 1 for Linear-1, 2 for Linear2 and Mime-1 and 3 for Polynomial and MiMe-2)

Height calibration for substance CBC @ RT White:

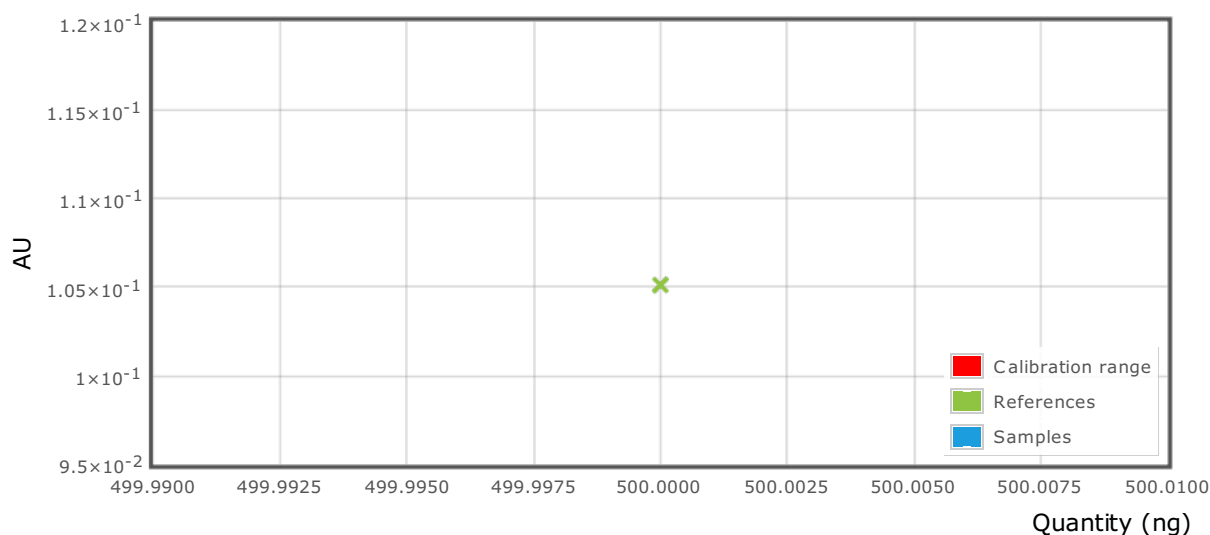


Benzene-1

visionCATS

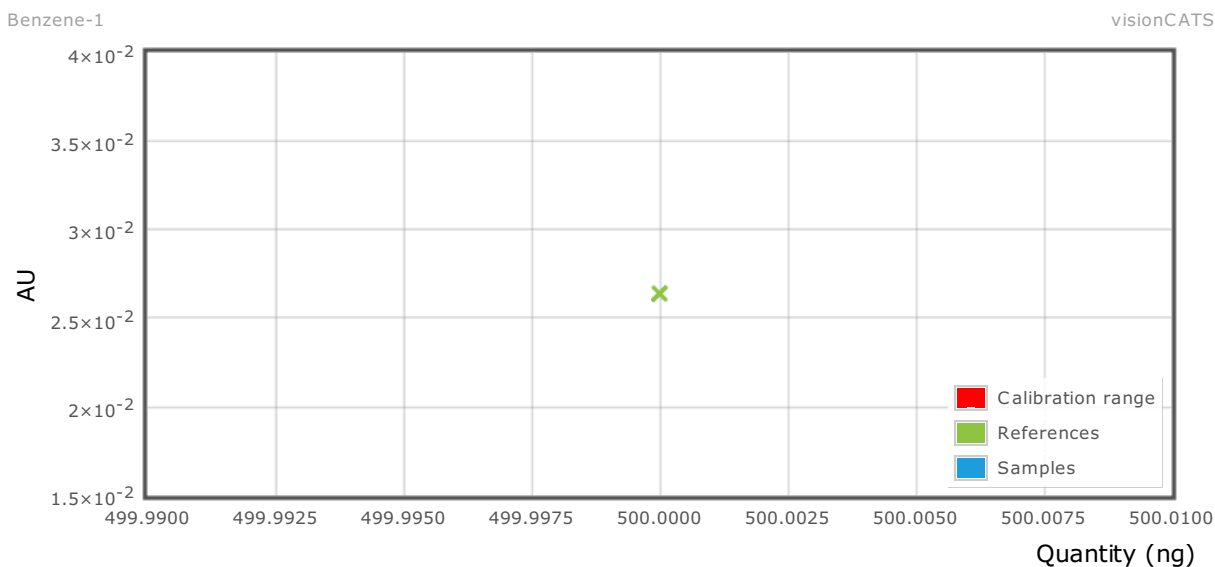
Regression mode	Linear-2
Range deviation	5.00 %
Related substances	Default
Number of references	1
Calibration function	$y=0x$
Coefficient of variation	CV 0.00 %
Correlation coefficient	n/a
	Unable to compute the results for this substance because there wasn't enough groups of references replicas (at least 1 for Linear-1, 2 for Linear2 and Mime-1 and 3 for Polynomial and MiMe-2)

Height calibration for substance CBD @ RT White:



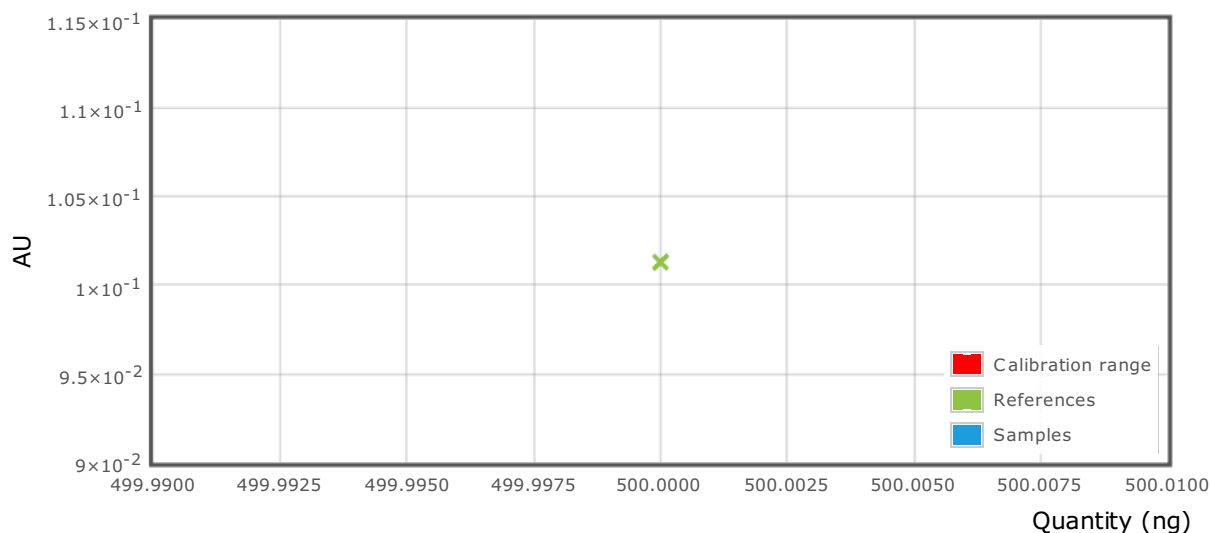
Regression mode	Linear-2
Range deviation	5.00 %
Related substances	Default
Number of references	1
Calibration function	$y=0x$
Coefficient of variation	CV 0.00 %
Correlation coefficient	n/a
	Unable to compute the results for this substance because there wasn't enough groups of references replicas (at least 1 for Linear-1, 2 for Linear2 and Mime-1 and 3 for Polynomial and MiMe-2)

Height calibration for substance CBDA @ RT White:



Regression mode	Linear-2
Range deviation	5.00 %
Related substances	Default
Number of references	1
Calibration function	$y=0x$
Coefficient of variation	CV 0.00 %
Correlation coefficient	n/a
	Unable to compute the results for this substance because there wasn't enough groups of references replicas (at least 1 for Linear-1, 2 for Linear2 and Mime-1 and 3 for Polynomial and MiMe-2)

Height calibration for substance CBDV @ RT White:

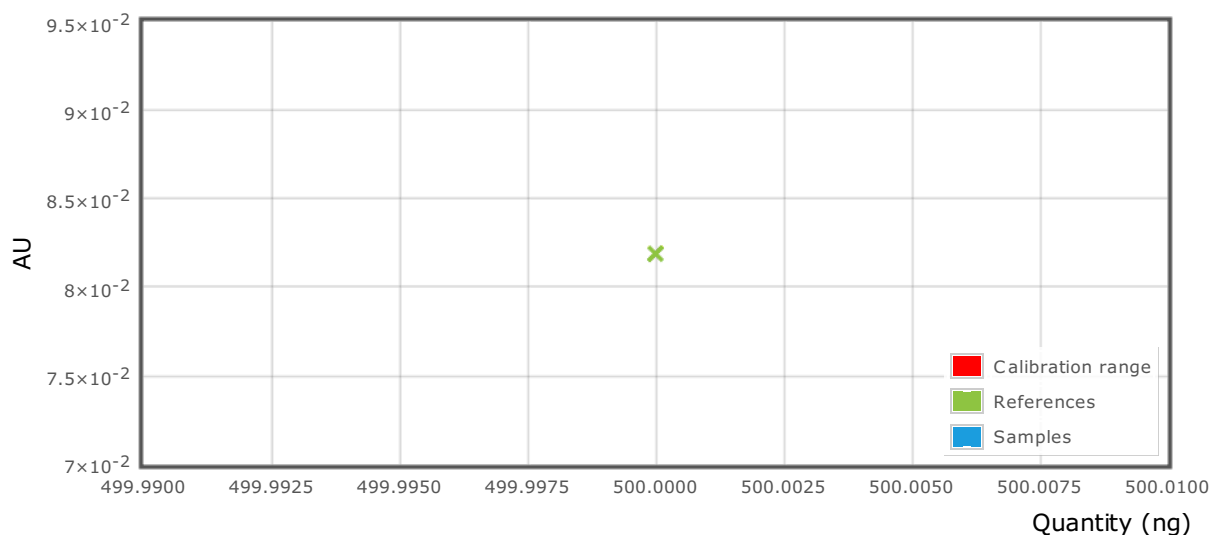


Benzene-1

visionCATS

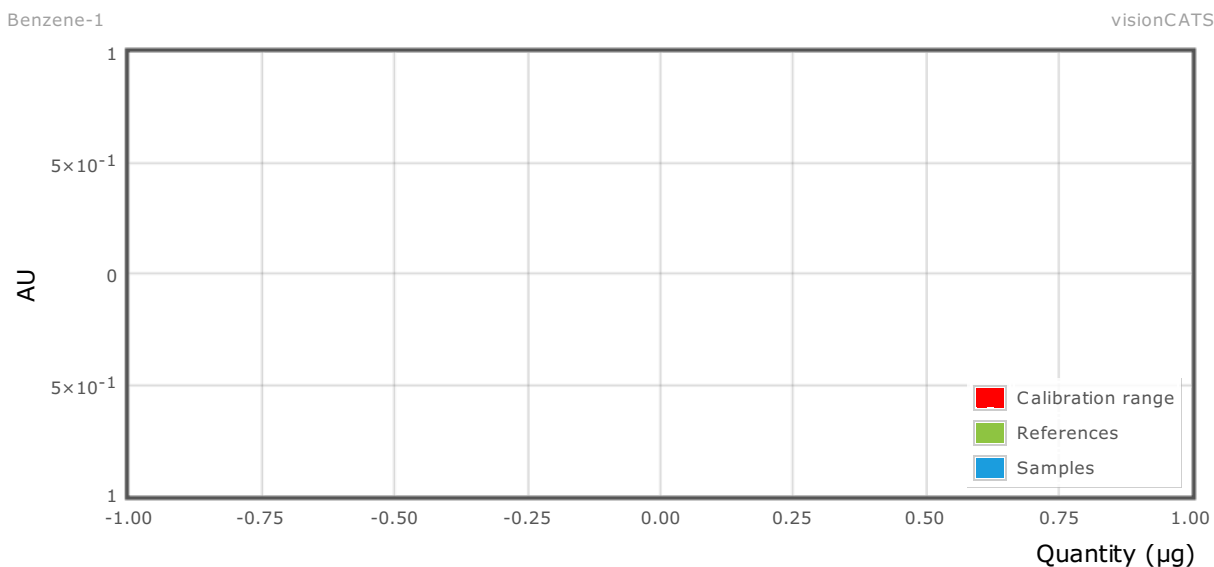
Regression mode	Linear-2
Range deviation	5.00 %
Related substances	Default
Number of references	1
Calibration function	$y=0x$
Coefficient of variation	CV 0.00 %
Correlation coefficient	n/a
	Unable to compute the results for this substance because there wasn't enough groups of references replicas (at least 1 for Linear-1, 2 for Linear2 and Mime-1 and 3 for Polynomial and MiMe-2)

Height calibration for substance CBG @ RT White:



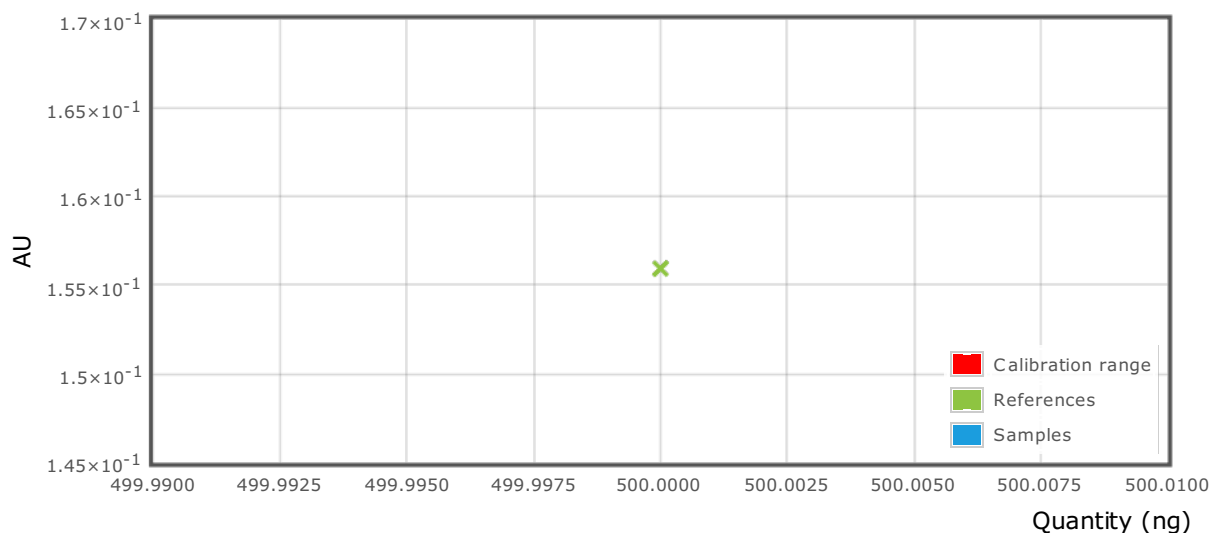
Regression mode	Linear-2
Range deviation	5.00 %
Related substances	Default
Number of references	1
Calibration function	$y=0x$
Coefficient of variation	CV 0.00 %
Correlation coefficient	n/a
	Unable to compute the results for this substance because there wasn't enough groups of references replicas (at least 1 for Linear-1, 2 for Linear2 and Mime-1 and 3 for Polynomial and MiMe-2)

Height calibration for substance CBGA @ RT White:



Regression mode	Linear-2
Range deviation	5.00 %
Related substances	Default
Number of references	0
Calibration function	$y=0x$
Coefficient of variation	CV 0.00 %
Correlation coefficient	n/a
	There wasn't any reference application available in the assignments for this substance. Please check that the peaks were correctly detected and assigned for this substance.

Height calibration for substance CBN @ RT White:

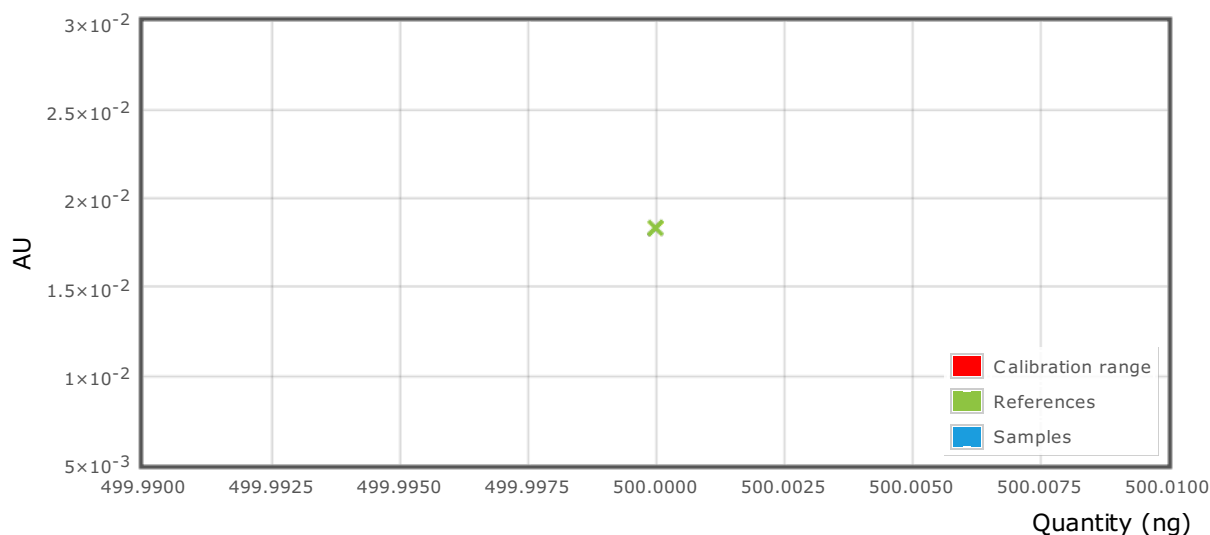


Benzene-1

visionCATS

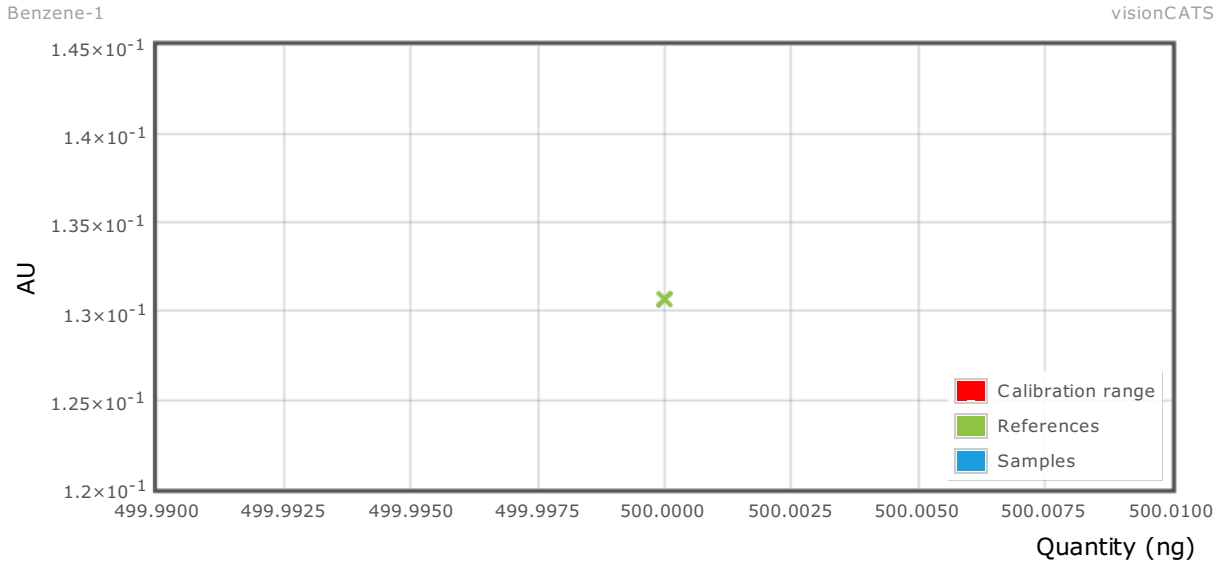
Regression mode	Linear-2
Range deviation	5.00 %
Related substances	Default
Number of references	1
Calibration function	$y=0x$
Coefficient of variation	CV 0.00 %
Correlation coefficient	n/a
	Unable to compute the results for this substance because there wasn't enough groups of references replicas (at least 1 for Linear-1, 2 for Linear2 and Mime-1 and 3 for Polynomial and MiMe-2)

Height calibration for substance THCA-A @ RT White:



Regression mode	Linear-2
Range deviation	5.00 %
Related substances	Default
Number of references	1
Calibration function	$y=0x$
Coefficient of variation	CV 0.00 %
Correlation coefficient	n/a
	Unable to compute the results for this substance because there wasn't enough groups of references replicas (at least 1 for Linear-1, 2 for Linear2 and Mime-1 and 3 for Polynomial and MiMe-2)

Height calibration for substance THCV @ RT White:



Regression mode	Camag_Platypus_Common_CalibrationMode_0
Range deviation	5.00 %
Related substances	Default
Number of references	1
Calibration function	
Coefficient of variation	CV 0.00 %
Correlation coefficient	n/a
	Unable to compute the results for this substance because there wasn't enough groups of references replicas (at least 1 for Linear-1, 2 for Linear2 and Mime-1 and 3 for Polynomial and MiMe-2)

Results:

Substance having no available results

	CBG	There wasn't any sample application available in the assignments for this substance. Please check that the peaks were correctly detected and assigned for this substance.
	CBGA	There wasn't any sample application available in the assignments for this substance. Please check that the peaks were correctly detected and assigned for this substance.
	8-THC	There wasn't any sample application available in the assignments for this substance. Please check that the peaks were correctly detected and assigned for this substance.
	9-THC	There wasn't any sample application available in the assignments for this substance. Please check that the peaks were correctly detected and assigned for this substance.
	CBDA	There wasn't any sample application available in the assignments for this substance. Please check that the peaks were correctly detected and assigned for this substance.
	CBDV	There wasn't any sample application available in the assignments for this substance. Please check that the peaks were correctly detected and assigned for this substance.
	CBD	There wasn't any sample application available in the assignments for this substance. Please check that the peaks were correctly detected and assigned for this substance.
	CBN	There wasn't any sample application available in the assignments for this substance. Please check that the peaks were correctly detected and assigned for this substance.
	THCV	There wasn't any sample application available in the assignments for this substance. Please check that the peaks were correctly detected and assigned for this substance.
	THCA-A	There wasn't any sample application available in the assignments for this substance. Please check that the peaks were correctly detected and assigned for this substance.
	CBC	There wasn't any sample application available in the assignments for this substance. Please check that the peaks were correctly detected and assigned for this substance.

A track marked with  means: this result is outside the regression range given by the reference assignments, but is included in the results because it is in the allowed range deviation.

Analyst:

Reviewer: