

ANALYSIS REPORT

Particulars of the Client	Description of the determination	Order number
EMEN MACIEJ NIEMCZYK ul. Luboszycka 36 45-215 Opole	Quantitative determination CBD, CBDA, CBDV, CBDVA, CBG, CBGA, CBN, THC, THCVA, Δ9-THC, Δ8-THC, CBC, THCA, CBCA.	ZO 2020/03/000060

The analyses have been conducted by:
Laboratorium Analiz Chemicznych Spark-Lab Sp. z o.o.
Research and Development Dept.

Date of receipt of samples	19.03.2020
Data of commencement of analyses	30.03.2020
Date of completion of the analyses	06.04.2020

Sample identification:

Sample signature	Client's designation	Sample collection method	Additional information
2020/03/0024/005	5% CBD Biokonopia 1940-01-0502-02 01/2021	Sample collected by the client	Not applicable

Results:

Sample signature	Subject of determination	Method identification*	The result of the analysis	Uncertainty	Unit
2020/03/0024/005	CBD	modified SL/2019/036, wyd. 1 z dnia 06.12.2019, NA	5,4	0,5	%
	CBDA		< 0,25	0,02	
	CBG		0,059	0,014	
	CBGA		< 0,005	0,002	
	CBDV		0,058	0,014	
	CBDVA		< 0,005	0,002	
	CBN		< 0,013	0,003	
	Δ9 - THC		0,10	0,03	
	Δ8 - THC		< 0,05	0,02	
	THCV		< 0,004	0,001	
	THCVA		not analysed	—	
	THCA		< 0,005	0,002	
	CBC		0,11	0,03	
	CBCA		< 0,005	0,002	
	ΣCBD		5,4	0,5	
ΣTHC	0,10	0,03			
ΣCBG	0,059	0,014			

* Determination method: A-accredited, NA-non-accredited, AS-accredited by the subcontractor, NAS-not accredited by the subcontractor.

Supplements, method deviations:

- Matrix of analysed sample was different than sample matrix described in SL/2019/036 ed. 1 of 06.12.2019.
- Method SL/2019/036 ed. 1 of 06.12.2019 was expanded with extra analytes: CBC, CBCA.
- Determination of THCVA was not possible due to high CBD content.
- Quantitation limit for THC d8 was increased.

Additional information:

Abbreviations and applied formulas for the calculation of the sum:

CBD – Cannabidiol
CBG – Cannabigerol

CBDA – Cannabidiolic acid
CBGA – Cannabigerolic acid

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CBDV – Cannabidivarin
CBN – Cannabinol
Δ8-THC – Delta-8-tetrahydrocannabinol
THCV – Tetrahydrocannabivarin
CBC – Cannabichromene

CBDVA –Cannabidivarinic acid
THCA – Tetrahydrocannabinolic acid
Δ9-THC – Delta-9-tetrahydrocannabinol
THCVA – Tetrahydrocannabivarinic acid
CBCA – Cannabichromenic acid

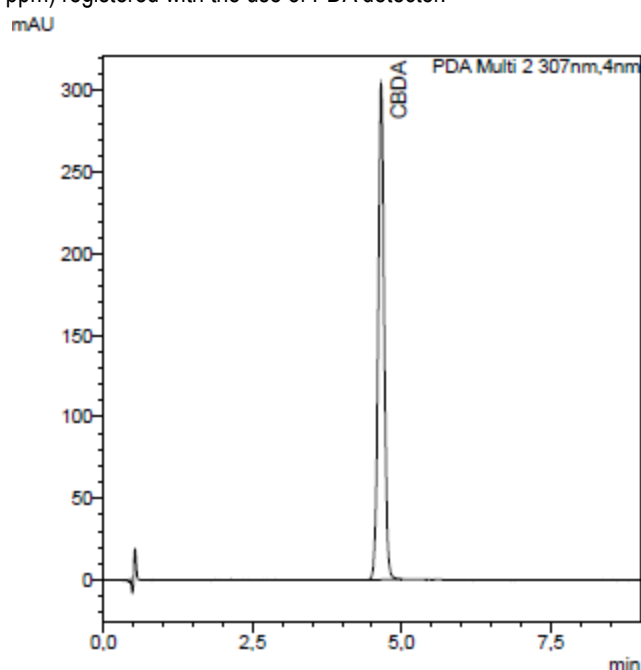
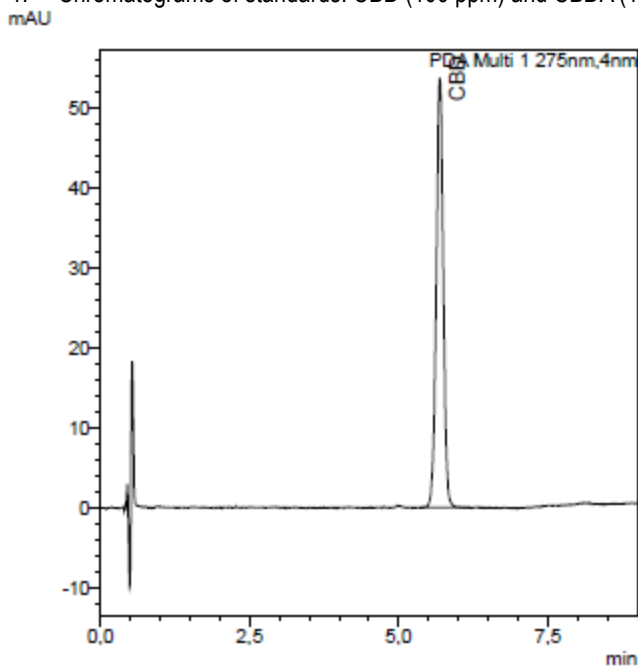
$$\Sigma\text{THC} = \% \text{THC} + (\% \text{THCA} \times 0,877)$$

$$\Sigma\text{CBD} = \% \text{CBD} + (\% \text{CBDA} \times 0,877)$$

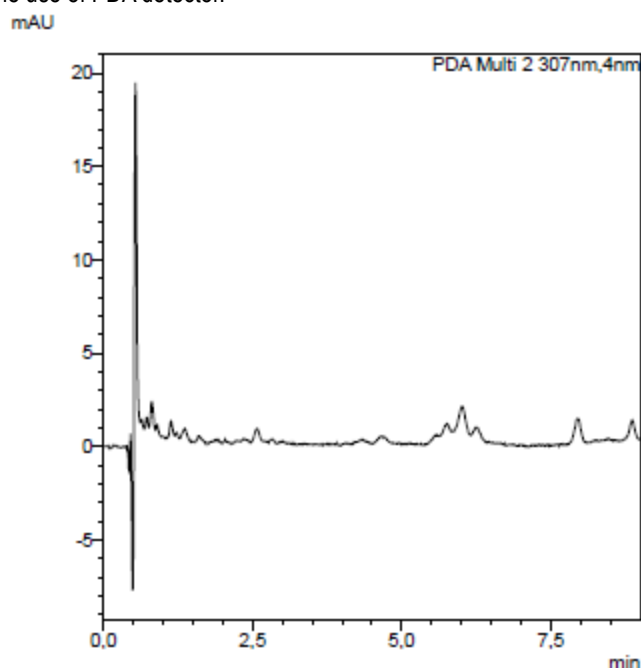
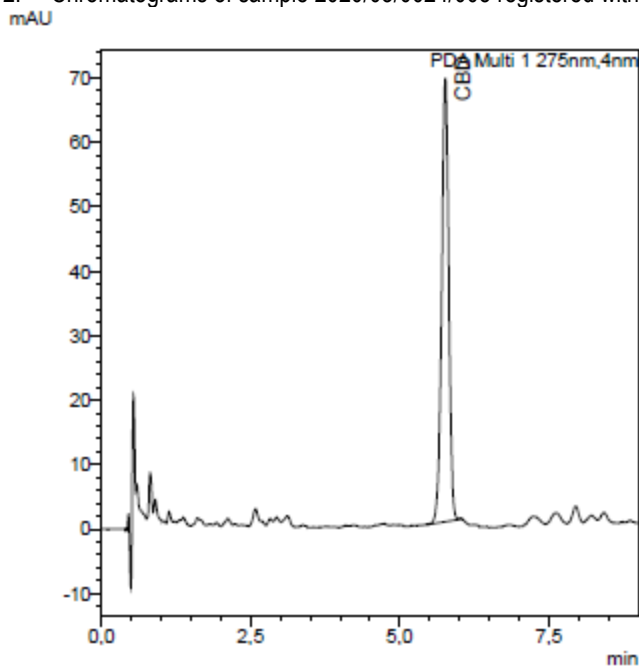
$$\Sigma\text{CBG} = \% \text{CBG} + (\% \text{CBGA} \times 0,878)$$

Chromatograms:

1. Chromatograms of standards: CBD (100 ppm) and CBDA (100 ppm) registered with the use of PDA detector.

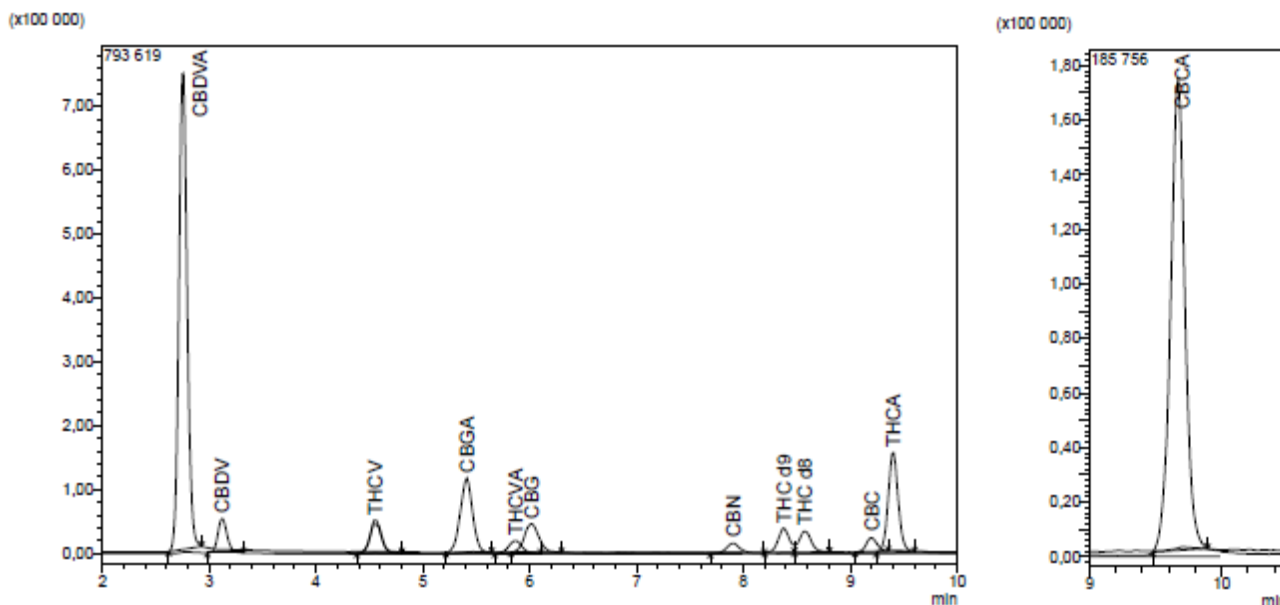


2. Chromatograms of sample 2020/03/0024/005 registered with the use of PDA detector.

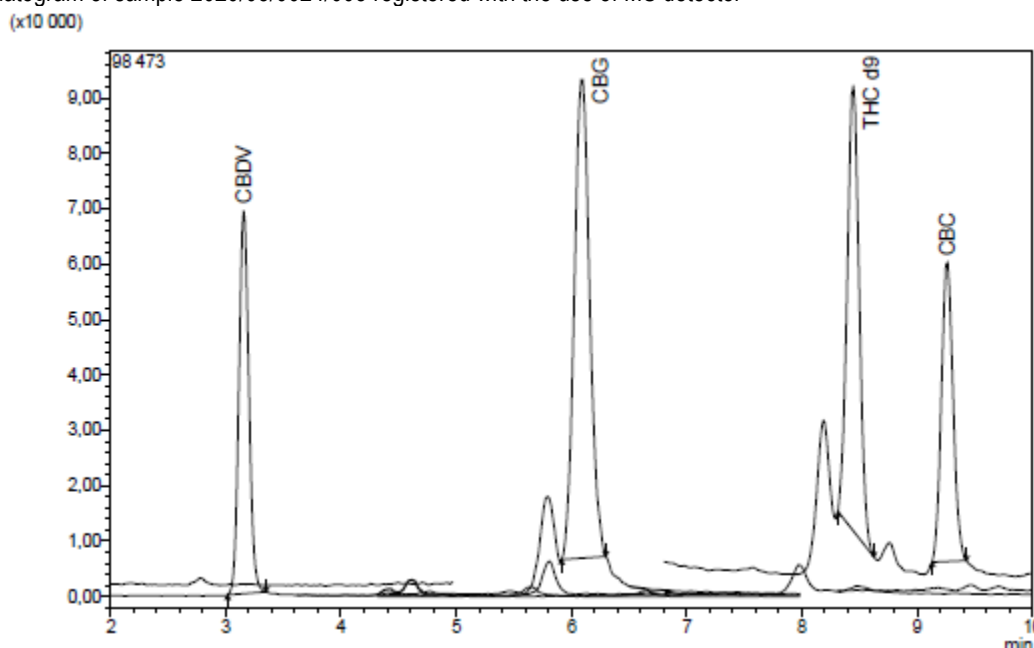


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3. Chromatogram of standards: CBDV, CBDVA, CBG, CBGA, CBN, THCV, THCVA, Δ9-THC, Δ8-THC, CBC, THCA, CBCA registered with the use of MS detector.



4. Chromatogram of sample 2020/03/0024/005 registered with the use of MS detector



<p>Approved of the results and report</p>		
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END OF REPORT

The Client has the right to submit complaints within 14 days from the date of receipt of the Report in digital form. The laboratory gives measurement uncertainty when it is relevant to the validity of the analyses result or for compliance with the specified limit values and at the Client's request. The report may not be published, in whole or in part, without the written consent of Laboratorium Analiz Chemicznych Spark-Lab Sp. z o.o. The report may not be reproduced or distributed, in part, without the prior written permission of the Laboratorium Analiz Chemicznych Spark-Lab Sp. z o.o. The obtained result applies only to the tested (received) samples. The laboratory is not responsible for the collection and transport of the sample if the sample has been collected and provided by the Client. The tests results do not include the sampling stage.