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GC ANALYSIS REPORT

DESCRIPTION / POPIS

NAME / NÁZEV	INCI NAME	CAS-No
Camphor	*Cinnamomum Camphora Wood Oil*	76-22-2

SPECIFICATION / SPECIFIKACE

ORIGIN / PŮVOD	COLOUR / BARVA	ODOUR / VŮNĚ, ZÁPACH
India	Clear	Characteristic

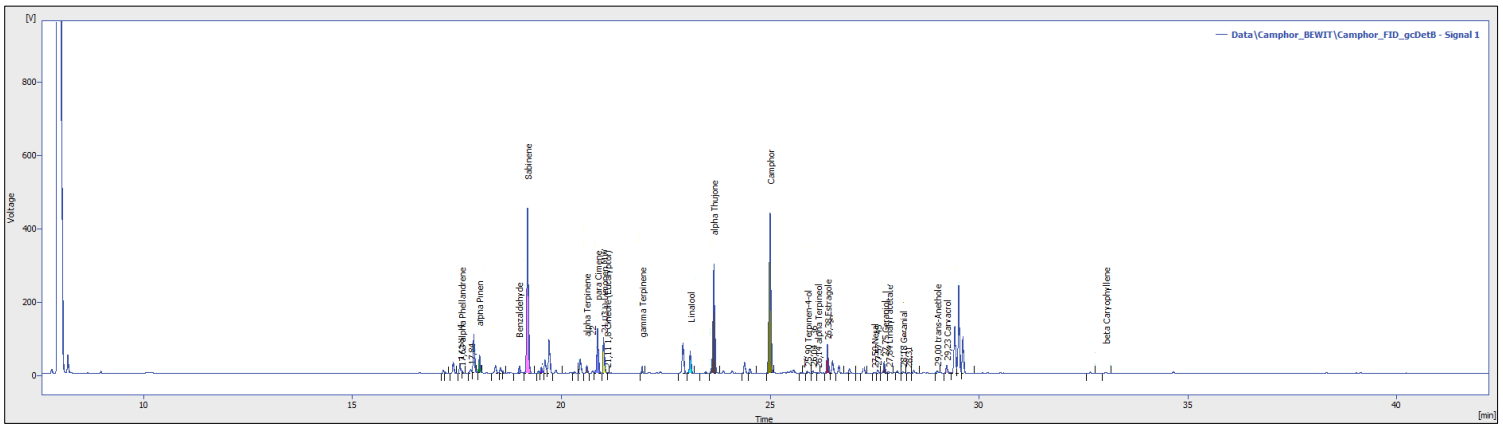
APPEARANCE / VZHLED	SOURCE / ZDROJ	PRODUCTION / VÝROBA
Clear liquid	Wood	Steam distilled

COMPONENTS / SLOŽKY

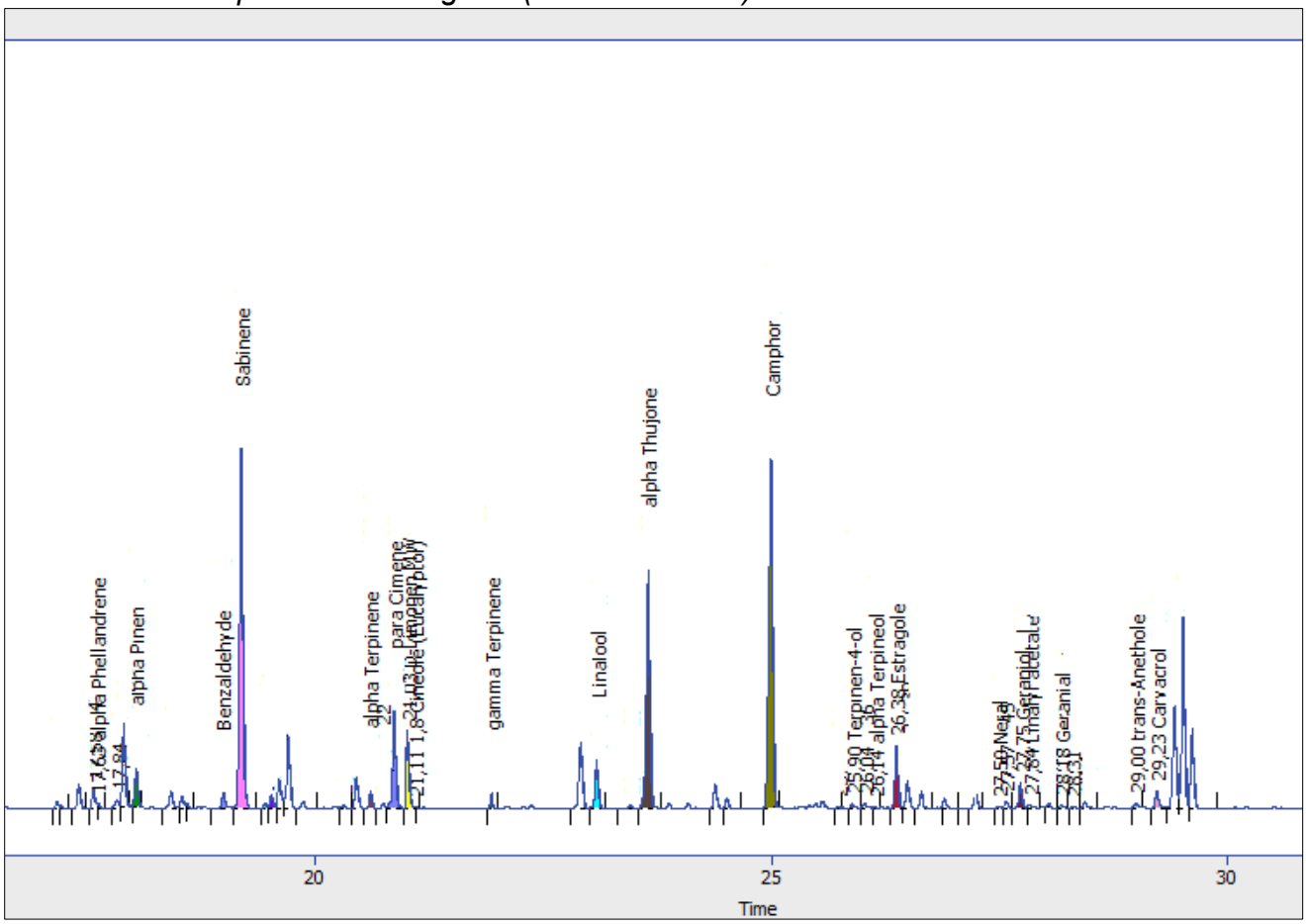
COMPOUD / SLOUČENINA	RELATIVE CONTENT / OBSAH [%]	RETENTION TIME / RETENČNÍ ČAS
Camphor	**16,6**	**25,01**
Sabinene	**15,0**	**19,21**
α-Thujone	**10,7**	**23,66**
***p*-Cymene**	**4,0**	**20,87**
D-Limonen	**3,1**	**21,03**
Estragole	**2,5**	**26,38**
Linalool	**1,9**	**23,09**
α-Pinen	**1,5**	**18,04**
Geraniol	**1,0**	**27,75**
Carvacrol	**0,8**	**29,23**
α -Terpinene	**0,7**	**20,62**
Benzaldehyde	**0,7**	**18,99**

CHROMATOGRAM WITH IDENTIFICATION PEAKS

Picture 1. – Camphor chromatogram (solvent used in the analysis, major representation of peaks)



Picture 2. – Camphor chromatogram (without solvent)



- **Comparison, scientific studies**

Picture 3. – Constituents identified from the essential oils of bark, leaves and fruits of Cinnamomum camphora [1]

Table 1. Constituents identified from the essential oils of barks (EB), leaves (EL), and fruits (EF) of *Cinnamomum camphora*.

No.	RI [1]	Compounds	Peak Area (%)			Identified Method [3]
			EB	EL [2]	EF	
1	927	Artemesia triene	1.0			MS; RI
2	939	α-Pinene		2.1		MS; RI
3	952	Camphene		1.0	0.2	MS; RI
4	967	2-Thujene		2.0	0.2	MS; RI
5	977	Sabenene		1.8		MS; RI
6	979	β-Pinene	0.3			MS; RI
7	1005	α-Phellandrene		0.4	2.6	MS; RI
8	1011	*p*-Mentha-2,4(8)-diene		0.4	0.3	MS; RI
9	1014	3-Carene			0.5	MS; RI
10	1018	4-Carene	0.2			MS; RI
11	1022	*o*-Cymene			2.7	MS; RI
12	1025	*m*-Cymene		0.4		MS; RI
13	1032	1,8-Cineole	4.3	11.3	5.3	MS; RI
14	1051	α-*trans*-Ocimene		0.1	0.2	MS; RI
15	1055	2,2-Dimethylheptane		0.1		MS; RI
16	1056	γ-Terpinen	0.3			MS; RI
17	1057	2,2,5-Trimethylhexane-3,4-dione		0.1		MS; RI

[1] Guo, Shanshan & Geng, Zhufeng & Zhang, Wenjuan & Liang, Junyu & Wang, Chengfang & Deng, Zhiwei & Du, Shushan. (2016). The Chemical Composition of Essential Oils from Cinnamomum camphora and Their Insecticidal Activity against the Stored Product Pests. International Journal of Molecular Sciences. 17. 1836. 10.3390/ijms17111836.

Picture 4. – Chemical composition of the essential oil of Cinnamomum camphora leaves [2]

TABLE 1: Chemical composition of the essential oil of *Cinnamomum camphora* leaves.

Compounds	RI*	Content (%)
α-Pinene	939	2.05
Camphene	952	1.00
2-Thujene	967	1.97
Sabinene	977	1.80
α-Phellandrene	1005	0.40
p-Mentha-2,4(8)-diene	1011	0.44
m-Cymene	1025	0.44
Cineole	1032	11.26
α-*trans*-Ocimene	1051	0.05
2,2-Dimethylheptane	1055	0.07
2,2,5-Trimethylhexane-3,4-dione	1057	0.03
4,7-Dimethyl-4,4a,5,6-tetrahydrocyclopenta[c]pyran-1,3-dione	1061	0.31
2,5,9-Trimethyldecane	1067	0.08
Linalool	1094	22.92
7,7-Dimethyl-2-methylene-norbornane	1130	0.05
D-Camphor	1146	40.54
endo-Borneol	1182	0.23
(*R*)-(−)-*p*-Menth-1-en-4-ol	1197	1.02
p-Menth-1-en-8-ol	1214	2.30
Elixene	1356	0.33
Dihydro-*cis*-α-copaene-8-ol	1379	0.61
α-Bourbonene	1382	0.03
(S,1Z,5E)-1,5-Dimethyl-8-isopropenyl-1,5-cyclodecadiene	1401	0.22
Caryophyllene	1420	2.16
γ-Elemene	1458	0.98
Germacrene D	1474	0.94
α-Caryophyllene	1478	0.24
3,5-Dimethyl-4-octanone	1578	0.05
Cadina-1(10),4-diene	1596	0.07
3,7,11-Trimethyl-3-hydroxy-6,10-dodecadien-1-yl acetate	1634	4.50
Oxalic acid, di(1-methyl) ester	1672	0.43
1,3,3-Trimethyl-2-hydroxymethyl-3,3-dimethyl-4-(3-methylbut-2-enyl)-cyclohexene	1691	0.10
Total		97.62

* RI: retention index as determined on a HP-5MS column using the homologous series of *n*-hydrocarbons.

[2] CHEN, Hai Ping, Kai YANG, Chun Xue YOU, et al. Chemical Constituents and Insecticidal Activities of the Essential Oil of Cinnamomum camphora Leaves against Lasioderma serricorne. *Journal of Chemistry* [online]. 2014, **2014**, 1-5 [cit. 2020-03-27]. DOI: 10.1155/2014/963729. ISSN 2090-9063. Dostupné z: http://www.hindawi.com/journals/jchem/2014/963729/