Gas Chromatography Analysis

Dear Customer,

Attached you will find the results of gas chromatography analysis based on the information provided by our Producer/Laboratory for:

Sample Reference: 1935

We testify that the Chromatographic Analysis (GC) for the mentioned sample is identical with:

Product No.:	**1935**
Product Name:	**Labrador Tea (Ledum) organic**
Botanical Name:	**Ledum groenlandicum**
Batch No :	**1018593**

Bühl, 2019-04-11

Dr. David Nayan

Identification	Column: BP5		
	R.T.	R.I.	%
Tricyclene	3.22	915	0.12
α-Thujene	3.31	920	0.56
α-Pinene	3.42	927	5.32
Unknown (m/z = 91, 92 (49), 65 (12)... 134? (2))	3.64	940	0.08
Camphene	3.70	943	1.78
Thuja-2,4(10)-diene	3.80	949	0.01
Sabinene	4.20	973	39.90
β-Pinene	4.24	975	5.96
α-Phellandrene	4.75	1004	0.17
α-Terpinene	4.94	1015	1.28
Menthatriene analog A	5.09	1023	0.02
para-Cymene	5.14	1025	1.25
β-Phellandrene	5.17*	1027	0.76
Limonene	5.17*	1027	[0.76]
1,8-Cineole	5.20	1029	0.82
cis-β-Ocimene	5.35	1037	0.19
trans-β-Ocimene	5.53	1047	0.08
γ-Terpinene	5.73	1058	4.15
cis-Sabinene hydrate	6.05	1075	0.15
Terpinolene	6.20	1083	0.57
Linalool	6.69	1106	0.10
trans-Sabinene hydrate	6.78	1109	0.09
Dehydrosabinaketone	7.19	1124	0.81
cis-para-Menth-2-en-1-ol	7.27	1127	0.47
trans-para-Mentha-2,8-dien-1-ol	7.33	1129	0.09
trans-Pinocarveol	7.62	1140	1.21
trans-para-Menth-2-en-1-ol	7.74	1144	0.09
Sabinaketone	8.12	1158	0.41
Pinocarvone	8.21	1161	1.21
Borneol	8.66	1177	0.11
Terpinen-4-ol	8.83	1184	2.47
Thuj-3-en-10-al	8.97	1189	1.96
trans-para-Mentha-1(7),8-dien-2-ol	9.20	1197	0.09
Myrtenal	9.36	1201	2.95
α-Terpineol	9.45	1203	0.35
α-Phellandrene epoxide	9.93	1213	0.02
trans-Carveol	10.47	1225	0.03
cis-para-Mentha-1(7),8-	10.95	1236	0.04

dien-2-ol			
Cuminal	11.34	1244	0.78
Methyl citronellate	12.04	1260	0.10
Bornyl acetate	12.94	1280	2.67
Cuminol	14.46	1308	0.03
Myrtenyl acetate	15.39	1322	0.05
α-Cubebene	15.98	1331	0.02
para-Mentha-1,4-dien-7-ol	16.30	1336	0.22
α-Copaene	17.70	1357	0.16
β-Elemene	18.92	1376	0.07
Geranyl acetate	19.35	1382	0.05
α-Gurjunene	19.67	1387	0.14
β-Caryophyllene	20.58	1400	0.07
cis-Muurola-3,5-diene	22.99	1429	0.08
α-Humulene	23.40	1434	0.25
allo-Aromadendrene	23.66	1437	0.24
trans-β-Farnesene	24.53	1447	0.05
Eudesma-2,4,11-triene?	25.15	1455	0.14
Germacrene D	25.63	1460	0.10
β-Selinene	26.44	1470	8.55
α-Selinene	26.93	1476	0.97
Germacrene A	27.61	1484	0.19
α-Muurolene	27.80	1486	0.12
β-Bisabolene	28.89	1499	0.61
δ-Cadinene	29.37	1506	0.60
trans-Cadina-1,4-diene	30.28	1519	0.02
trans-α-Bisabolene	31.86	1541	0.03
Germacrene B	32.05	1544	0.06
Palustrol	32.51	1550	0.10
Unknown (m/z = 205, 43 (88), 41 (78), 67 (64), 91 (59), 109 (58), 69 (56), 93 (55), 55 (50)... 220(12))	35.05	1586	0.16
Rosifoliol	35.54	1593	0.34
Rosifoliol analog?	35.89	1598	0.68
Unknown (m/z = 159, 131 (66), 119 (32), 185 (31), 104 (30), 157 (28), 202 (28))	36.06	1602	0.12
Germacrone	39.15	1677	0.15
Unknown (m/z = 41, 55 (91), 93 (90), 67 (84), 107 (80), 81 (78)... 220 (49))	39.38	1683	0.08
Unknown (m/z = 109, 67 (99), 93 (99), 81 (99), 107 (97), 41 (94), 55 (81), 220 (75))	40.53	1715	0.30
Cyclocolorenone	41.30	1739	0.62
Eudesma-3,11-dien-2-one	42.64	1781	0.63
Total identified			**94.48%**

*: Two or more compounds are coeluting on this column

[xx]: Duplicate percentage due to coelutions, not taken account in the identified total

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