



PLANT THERAPY

100% PURE ESSENTIAL OILS

GC/MS BATCH NUMBER: B30101

ESSENTIAL OIL: BERGAMOT

BOTANICAL NAME: CITRUS AURANTIUM BERGAMIA

ORIGIN: ITALY

KEY CONSTITUENTS IN THIS BATCH OF BERGAMOT OIL	%
LIMONENE	40.7
LINALYL ACETATE	28.8
LINALOOL	11.4
β -PINENE	7.2
γ -TERPINENE	6.5
α -PINENE	1.1
SABINENE	1.1
β -BISABOLENE	0.02
GERANIAL	0.02

Comments from Robert Tisserand: An excellent bergamot oil with the typical mellow citrus odor. The constituents are typical for bergapten-free bergamot.

CUSTOMER :

**PLANT THERAPY
126 Locust Street South
Twin Falls, ID 83 301
USA**

Sample nature: ESSENTIAL OIL
Botanical species: CITRUS AURANTIUM BERGAMIA
Reference name: BERGAMOT
Batch number: B30101
Origin: ITALY
Part: PEEL
Pyre^essences reference : D910
Date of reception: 06/09/2015
Date analysis: 06/15/2015
Packaging: Amber flask of 5 ml – ambient temperature
Analysis: GC Classic

Validated report by :

Daniel DANTIN



GAS CHROMATOGRAPHY norm NF ISO 11024

Analysis conditions :

CPG 6890 / MS 5973 AGILENT – Column : VF WAX polar 60 m × 0,25 mm × 0,5 µm

CPG 6890 FID AGILENT - Column : VF WAX polar 60 m × 0,25 mm × 0,5 µm

Temperature program : 6 min à 60°C – 2°C/min→250°C – 10 min 250 °C

Carrier gas He : 23 psis/MS – 30 psis/FID

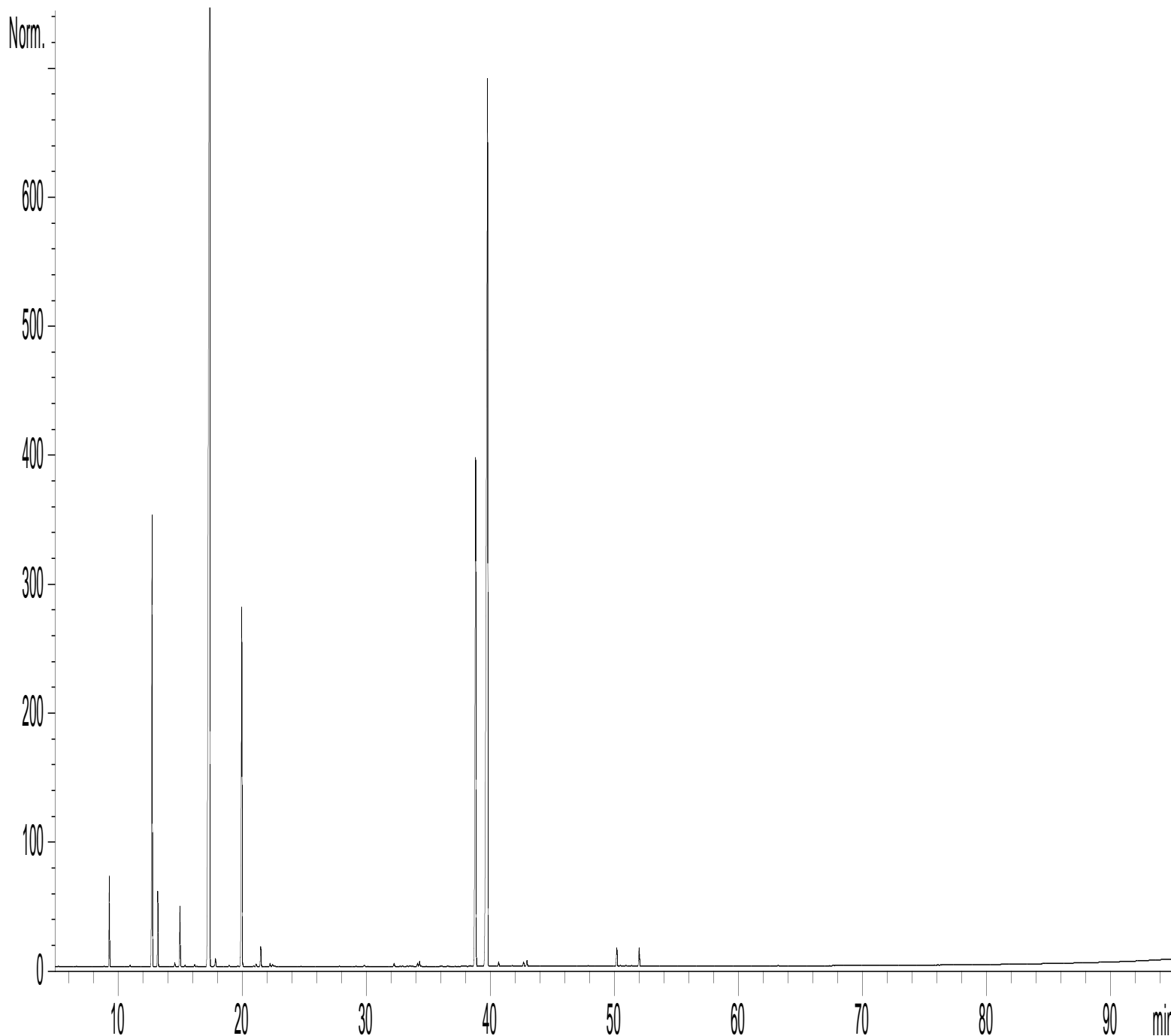
Sample injection / split : 1 µl of 10% solution in hexane,

Mass range : 30 to 350, Oil components are identified by a combination of retention times (our own database) and mass spectra library NKS 75 000 records,

Percentages are calculated from GC/FID peaks areas without using corrections factors,

Chromatographic profile (GC/FID)

FID1 A, (Z:\PLANTHER\CB24D910.D)



Identification results 1 : BERGAMOT BATCH B30101

Peak	RT (min)	Compound name	%	Norm (%)	Allergens (%)
1	9,2	α -PINENE	1,10		
2	9,3	α -THUYENE	0,05		
3	10,9	CAMPHENE	0,02		
4	12,7	β-PINENE	7,15	5,5 – 9,5	
5	13,2	SABINENE	1,07		
6	14,5	Δ^3 -CARENE	0,05		
7	15,0	β -MYRCENE	0,90		
8	15,4	α -PHELLANDRENE	0,02		
9	16,2	α -TERPINENE	0,02		
10	17,4	LIMONENE	40,70	30 - 45	40,70
11	17,8	1,8-CINEOLE + β -PHELLANDRENE	0,16		
12	19,0	Cis- β -OCIMENE	0,02		
13	20,0	γ-TERPINENE	6,53	6 - 10	
14	20,1	Trans- β -OCIMENE	0,10		
15	21,1	MENTHATRIENE ISOMERE	0,03		
16	21,5	p-CYMENE	0,33		
17	22,2	TERPINOLENE	0,05		
18	22,5	OCTANAL	0,03		
19	24,7	PINOL	0,01		
20	29,8	FENCHONE	0,02		
21	32,2	LINALOOL cis-OXIDE	0,05		
22	32,9	LIMONENE cis-1,2-EPOXIDE	0,01		
23	33,6	LIMONENE trans-1,2-EPOXIDE	0,01		
24	34,1	LINALOOL trans-OXIDE	0,05		
25	31,3	OCTYL ACETATE	0,09		
26	36,6	Z-SOLANONE	0,01		
27	38,3	E-SOLANONE	0,02		
28	38,8	LINALOOL	11,42	3 - 15	11,42
29	39,1	Cis-THUYANOL	0,02		
30	39,7	LINALYL ACETATE	28,76	22 - 36	
31	39,8	α ,cis-BERGAMOTENE	0,05		
32	40,6	TERPENIC EPOXIDE Mw=152	0,07		
33	41,8	α ,trans-BERGAMOTENE	0,02		
34	42,7	ALIPHATIC KETONE	0,08		
35	42,9	β -CARYOPHYLLENE	0,12		
36	44,3	Cis-p-2,8-MENTHADIEN-1-OL	0,01		
37	46,9	Trans- p-2,8-MENTHADIEN-1-OL	0,01		
38	47,9	NERAL	0,01		0,01
39	48,5	α -TERPINEOL	0,01		
40	48,7	TERPENYL ACETATE	0,01		
41	50,2	NERYL ACETATE	0,35		
42	50,5	β-BISABOLENE	0,02	0,30 – 0,55	
43	50,9	GERANIAL	0,02	0,25 – 0,50	0,02
44	51,4	CARVONE	0,02		
45	52,0	GERANYL ACETATE	0,33		

Identification results 2 : BERGAMOT BATCH B30101

Peak	RT (min)	Compound name	%	Norm (%)	Allergens (%)
46	54,5	NEROL	0,01		
47	55,0	LINALYL cis-EPOXY ACETATE	0,01		
48	55,3	LINALYL trans-EPOXY ACETATE	0,01		
49	56,7	Trans-CARVEOL	0,01		
50	62,6	3,7-OCTADIENE-2,6-DIOL, 2,6-DIMETHYL	0,01		
51	58,9	CAPRYLIC ACID	0,01		
		TOTAL	99,99		52,15