INSTITUT BIOLOGI SISTEM INBIOSIS INSTITUTE OF SYSTEMS BIOLOGY	INB/SERV/0001	Issue: 2	Effective date: 15.07.2020
	GC-MS TEST REPORT		
	Lab Ref. No: UKM-INBIO-2021-NA-0100		

Sample name : relivz_gritz
Sample description : GRITZ Relivz Essential Oil
Date of sample analysed : 16/7/2021

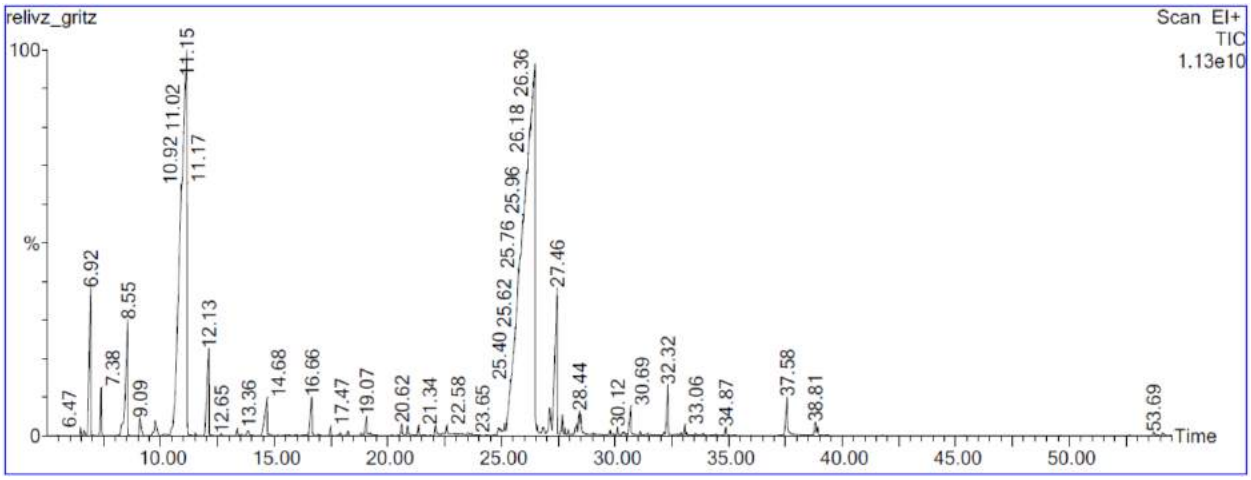

Figure 1. Representative chromatogram of Relivz EO

Table 1. List of component detected in Relivz EO using GC-MS

RT	Compound Name	Composition %
6.475	Cyclene	0.075
6.629	Sabinene	0.075
6.918	alpha-Pinene dimer	2.363
7.377	Camphene	0.542
8.125	Benzaldehyde	0.01
8.555	alpha-Pinene	2.983
9.087	Myrcene	0.373
9.758	3-Carene	0.438
10.128	(+)-4-Carene	0.05
11.152	D-Limonene	25.487
11.196	Bicyclo[3.1.1]hept-2-ene, 3,6,6-trimethyl-	0.038
11.53	cis-beta-Ocimene	0.03
12.128	gamma-Terpinene	2.057
12.653	cis-Linalool oxide	0.029
13.364	Terpinolene	0.088
13.548	trans-Linalool oxide	0.018
13.841	Linalool	0.113

14.047	alpha-Pinene epoxide	0.008
14.681	Linolool	0.977
15.151	Isofenchol	0.006
15.518	3-Octyl acetate	0.02
15.664	Fumaric acid, di(2-methylcyclohex-1-enylmethyl) ester	0.008
15.976	Limonene epoxide	0.016
16.281	1-Terpineol	0.01
16.42	Pinocarveol	0.012
16.655	Camphor	0.8
17.477	Isoborneol	0.103
17.906	Borneol	0.036
18.251	1-Terpineol	0.061
18.834	Cymen-8-ol	0.032
19.069	alpha-Terrpineol	0.288
19.164	Estragole	0.008
19.241	gamma-Terpineol	0.021
20.17	trans-3-Caren-2-ol	0.009
20.621	(R)-citronellol	0.178
20.878	Beta-Citral	0.134
21.028	D-Carvone	0.009
21.344	Linalyl anthranilate	0.1
21.564	Geraniol	0.009
22.096	alpha-Citral	0.185
22.584	Bornyl acetate	0.238
23.519	Thymol	0.055
24.876	alpha-erpinyl acetate	0.141
24.986	Cinnamic alcohol	0.089
25.137	Clovene	0.233
26.483	3-Allylguaiacol	52.074
26.586	Nerol acetate	0.074
26.707	Humulene	0.008
26.843	Isocaryophillene	0.129
27.129	1S,2S,5R-1,4,4-Trimethyltricyclo[6.3.1.0(2,5)]dodec-8(9)-ene	0.483
27.459	Caryophyllene	3.722
27.617	Bicyclo[7.2.0]undecane, 10,10-dimethyl-2,6-bis(methylene)-	0.033
27.69	1R,3Z,9S-2,6,10,10-Tetramethylbicyclo[7.2.0]undeca-2,6-diene	0.191
27.804	alpha-Bergamotene	0.066

27.951	Caryophyllene-(I1)	0.056
28.266	Humulen-(v1)	0.093
28.325	alpha-Panasinsene	0.117
28.442	beta-Caryophyllene	0.379
28.519	trans-Cinnamyl acetate	0.247
29.033	Isoeugenol	0.019
29.121	D-longifolene	0.012
29.33	Aromadendrene	0.007
29.437	1H-Benzocycloheptene, 2,4a,5,6,9a-hexahydro-3,5,5,9-tetramethyl-, deriv.	0.006
29.792	beta-Himachalene	0.063
29.954	Phenol, 5-methyl-2,4-diisopropyl	0.015
30.119	beta-Bisabolene	0.101
30.343	Caryophyllene oxide	0.025
30.398	delta-Cadinene	0.035
30.508	alpha-Ionene	0.008
30.688	Acetyleugenol	0.447
31.102	alpha-Bisabolene (Z)	0.044
31.443	2,3,3a,4,5,6,7,7a-Octahydro-1H-cyclopenta[a]pentalen-7-ol	0.018
31.572	Cyclohexane, 1,2-dimethyl-3,5-bis(1-methylethenyl)-, (1à,2á,3á,5à)-	0.008
31.785	Tricyclo[7.2.0.0(2,6)]undecan-5-ol, 2,6,10,10-tetramethyl- (isomer 2)	0.008
32.151	Diepicedrene-1-oxide	0.041
32.324	Caryophyllene oxide	0.847
32.632	1s,4R,7R,11R-8-Hydroxy-1,3,4,7-tetramethyltricyclo[5.3.1.0(4,11)]undec-2-ene	0.009
32.746	Caryophyllene oxide	0.015
32.907	3,3,6,8-Tetramethyl-1-tetralone	0.026
33.061	Humulene epoxide 2	0.095
33.153	trans-Isolongifolanone	0.025
33.538	trans-Isolongifolanone	0.021
33.78	4,4-Dimethyltetracyclo-(6,3,2,0)(2,5)0(1,8)tridecan-9-ol	0.007
33.89	4,4-Dimethyltetracyclo-(6,3,2,0)(2,5)0(1,8)tridecan-9-ol	0.022
34.444	Isoaromadendrene epoxide	0.017
34.874	Isoaromadendrene epoxide	0.112
35.303	alpha-Bisabolol	0.008
37.306	Coniferaldehyde	0.009
37.585	Benzyl Benzoate	0.886
38.806	Benzene, 1-(1,1-dimethylethyl)-2-methoxy-4-methyl-3,5-dinitro-	0.128

38.843	2-Hydroxycyclopentadecanone	0.112
38.924	Ethanone, 1-(1,2,3,4,7,7a-hexahydro-1,4,4,5-tetramethyl-1,3a-ethano-3aH-inden-6-yl)-	0.088

Findings/Summary : **No adulterant, contaminant or diluent were detected using GC-MS**

Analyzed by

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