

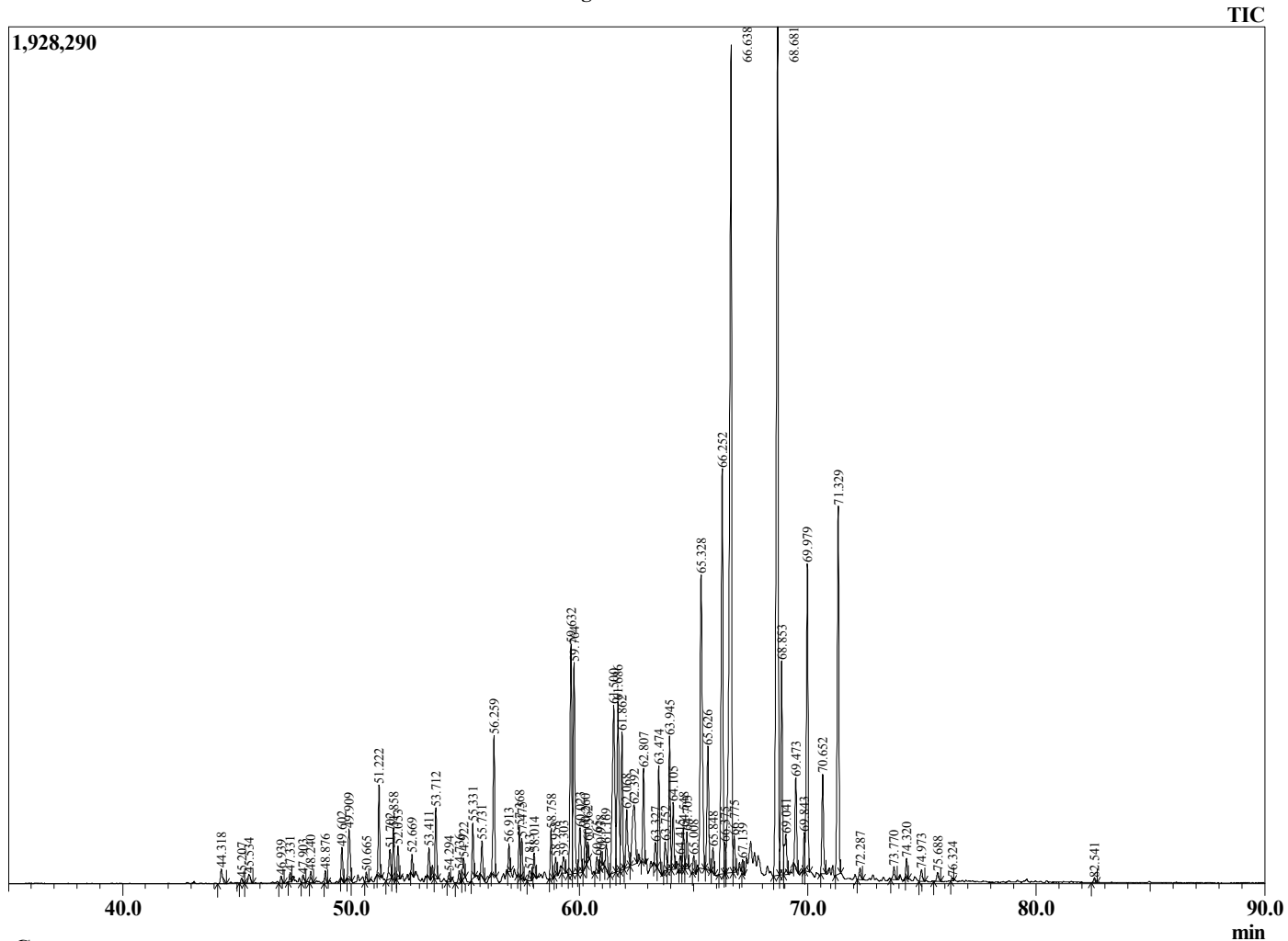
Sample Information

Analyzed by : Dr. Robert S. Pappas  
 Analyzed : 9/26/2019 6:31:22 AM  
 Sample Type : Essential Oil  
 Sample Name : Vetiver - Barefut  
 Sample ID : 0105  
 Injection Volume : 0.10  
 Instrument ID : GC-2



This report is valid for 1 year from the analyzed date.

Chromatogram Vetiver - Barefut



R.Time	Name	Peak Report TIC	Area%
15.121	3-Carene		0.01
21.097	Limonene		0.02
44.318	Isoledene		0.25
45.207	alpha-Funebrene		0.07
45.534	Vetiver unidentified		0.18
46.939	beta-Elemene		0.10
47.331	alpha-Cedrene		0.12
47.903	beta-Cedrene		0.12
48.240	epi-Bicyclosquiphellandrene		0.14
48.876	6,9-Guaijene		0.15
49.602	Prezizaene		0.38
49.909	Khusimene		0.83
50.665	(E)-Eremophila-1(10),7(11)-dien-12-yl acetat		0.12
51.222	alpha-Amorphene		1.08
51.702	delta-Selinene		0.46
51.858	beta-Vetispirene		0.60
52.053	Valencene		0.41
52.669	delta-Amorphene		0.21
53.411	Vetiver unidentified		0.35
53.712	beta-Guaiene		0.85
54.294	Vetiver unidentified		0.12
54.736	Selina-4(15),7(11)-diene		0.17
54.922	Vetiver unidentified		0.25
55.331	alpha-Elemol		0.67
55.731	beta-Vetivenene		0.43
56.259	cis-Eudesm-6-en-11-ol		1.84
56.913	Vetiver unidentified		0.29
57.368	Vetiver unidentified		0.63
57.475	3,5,11-Eudesmatriene		0.48
57.813	Vetiver unidentified		0.21
58.014	Vetiver unidentified		0.28
58.758	Khusimone		0.60
58.958	Vetiver unidentified		0.22
59.303	Vetiver unidentified		0.26
59.632	Germacrene D-4-ol		3.19
59.764	Selina-6-en-4-ol		2.99
60.023	Vetiver unidentified		0.73
60.260	Eudesm-5-en-11-ol		0.50
60.362	Vetiver unidentified		0.20
60.765	Vetiver unidentified		0.25
60.938	alpha-Funebren-15-al		0.15
61.169	Spathulenol		0.40
61.500	alpha-Cadinol		3.54
61.686	Cyclocopacamphan-12-ol <epimer A>		2.80
61.862	Cyclocopacamphan-12-ol <epimer B>		1.79
62.068	Vetiver unidentified		0.96
62.392	Vetiver unidentified		1.55
62.807	2-epi-Ziza-6(13)-en-3-alpha-ol		1.16
63.327	Vetiver unidentified		0.30
63.474	Khusian-2-ol		1.36
63.752	Zizanal		0.46
63.945	Selin-7(11)-en-4-ol		1.79
64.105	2-epi-Ziza-6(13)-en-3-beta-ol		0.87
64.415	Vetiver unidentified		0.16
64.548	13-nor-Eudesma-4,6-dien-11-one		0.47
64.703	Nootkatol		0.46
65.008	Isovetiselinenol		0.22
65.328	Vetiselinenol		5.29
65.626	Vetiver unidentified		1.91
65.848	Vetiver unidentified		0.29
66.252	Zizanal		6.00
66.375	Vetiver unidentified		0.34

Comments

The analysis of this Vetiver batch sample meets the expected chemical profile for authentic essential oil of *Vetiveria zizanioides*. No contamination or adulteration was detected.

R.Time	Name	Area%
66.638	Khusimol	14.98
66.775	Vetiver unidentified	0.46
67.139	Vetiver unidentified	0.16
68.681	E-Isovalencenol	14.48
68.853	Vetiver unidentified	2.96
69.041	Vetiver unidentified	0.82
69.473	Vetiver unidentified	1.23
69.843	Z-Isovalencenal	0.43
69.979	beta-Vetivone	4.09
70.652	E-Isovalencenal	1.32
71.329	alpha-Vetivone	5.00
72.287	Vetiver unidentified	0.18
73.770	Vetiver unidentified	0.19
74.320	Isovalencenyl formate	0.22
74.973	Vetiver unidentified	0.18
75.688	Vetiver unidentified	0.15
76.324	Vetiver unidentified	0.04
82.541	Vetiver unidentified	0.06
		100.00