



ESSENTIAL VALIDATION SERVICES | 747 SW 2<sup>ND</sup> AVE GAINESVILLE, FLORIDA 32601 | 317-361-5044

### Sample:

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Client: | Nature's Gift  
Sample: | Ruh Khus (Vetiveria zizanioides)  
Batch # | IN-58646  
Cas Number | 8016-96-4  
Type: | Essential Oil

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### Conclusion:

- No adulterants, diluents, or contaminants were detected via this method.
- This oil meets the expected profile for genuine essential oil of Ruh Khus (Vetiveria zizanioides).

X

Validated By:



Essential Validation Services

747 SW 2nd Ave, Gainesville, FL 32601

Phone: 317-361-5044 E-mail: Adam@essentialvalidationservices.com

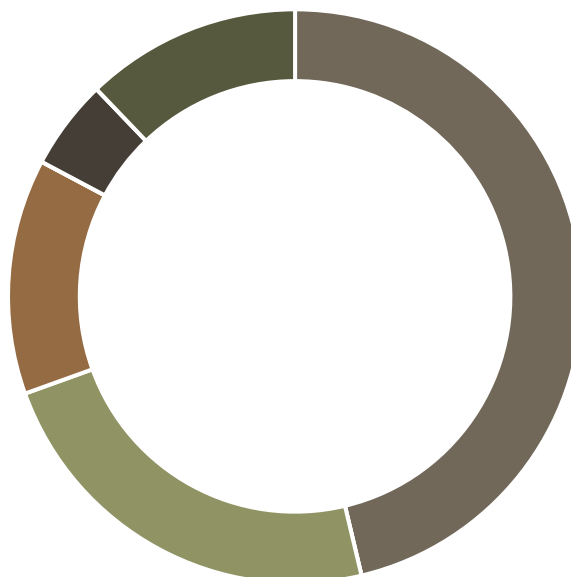
### Summary of Analyses

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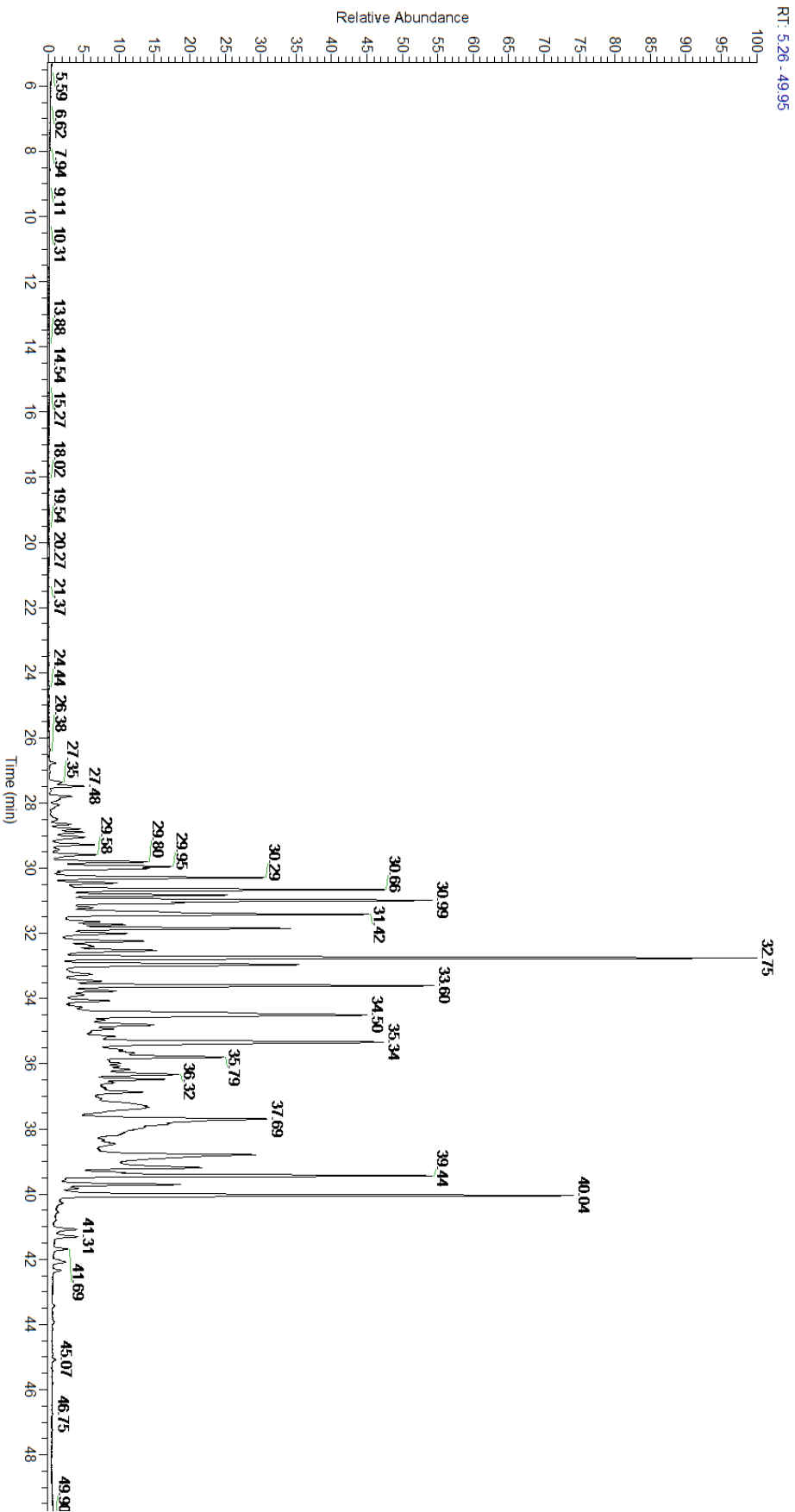
A fresh sample of Ruh Khus (Vetiveria zizanioides) Essential Oil (10 uL in .5to.5 mL Hexane + ETOH) was prepared and analyzed via split injection GC/EI-MS.

Main Compounds	Percentages
beta-Vetivenene	7.85%
alpha-Vetivone	6.30%
10-epi-gamma-Eudesmol	6.12%
beta-Eudesmol	5.00%
Zizanoicacid	4.74%
beta-Vetispirene	4.54%
delta-Amorphene	4.40%
beta-Vetivenene isomer II	4.10%
(E)-Isovalencenal	3.96%
alpha-Amorphene	3.82%
Khusimol	3.81%
beta-Vetivenene isomer I	3.27%
delta-Cadinene	2.59%

Monoterpenes	Sesquiterpenes	Monoterpenols	Sesquiterpenols	Ketones
0.00%	46.28%	0.00%	23.22%	13.27%
Esters	Ethers	Aldehydes	Phenols	Other
0.00%	0.00%	5.07%	0.00%	12.16%



- Monoterpenes
- Sesquiterpenes
- Monoterpenols
- Sesquiterpenols
- Ketones
- Esters
- Ethers
- Phenols
- Other



Total Percentage		93.03%			
Peak Number	RT	Area %	Compound Name	RI	Chemical Family
1	26.78	0.06%	alpha-Cubebene	1355.71	Sesquiterpene
2	27.35	0.19%	12-Norisoziza-5-ene	1365.50	Norsesquiterpene
3	27.48	0.35%	alpha-Ylangene	1371.33	Sesquiterpene
4	27.79	0.26%	Nigritene	1376.00	Norsesquiterpene
5	27.88	0.10%	alpha-Copaene	1379.00	Sesquiterpene
6	28.07	0.18%	beta-Elemene	1389.20	Sesquiterpene
7	28.64	0.18%	Acora-3,7(14)-diene	1407.00	Sesquiterpene
8	28.79	0.29%	beta-Funebrene	1413.00	Sesquiterpene
9	28.89	0.37%	alpha-Gurjunene	1412.00	Sesquiterpene
10	29.05	0.44%	UK Ruh Khus		
11	29.28	0.45%	beta-Cedrene	1419.50	Sesquiterpene
12	29.43	0.06%	beta-Gurjunene	1437.71	Sesquiterpene
13	29.58	0.49%	Prezizaene	1444.10	Sesquiterpene
14	29.80	1.03%	6,9-Guaiadiene	1446.00	Sesquiterpene
15	29.95	1.33%	Khusimene	1460.50	Sesquiterpene
16	30.01	0.92%	UK Ruh Khus		
17	30.12	0.04%	alpha-Acoradiene	1463.00	Sesquiterpene
18	30.29	2.43%	beta-Acoradiene	1475.00	Sesquiterpene
19	30.45	0.62%	gamma-Muurolene	1478.86	Sesquiterpene
20	30.66	3.82%	alpha-Amorphene	1481.75	Sesquiterpene
21	30.82	1.87%	alpha-Vetispirene	1490.10	Sesquiterpene
22	30.99	4.54%	beta-Vetispirene	1492.00	Sesquiterpene
23	31.07	1.08%	gamma-Amorphene	1493.00	Sesquiterpene
24	31.20	0.41%	Eudesma-2,4(15),11-triene	1497.50	Sesquiterpene
25	31.42	4.40%	delta-Amorphene	1509.00	Sesquiterpene
26	31.64	0.35%	Nootkatene	1504.50	Sesquiterpene
27	31.73	0.60%	delta-Guaiene	1511.50	Sesquiterpene
28	31.85	2.59%	delta-Cadinene	1524.14	Sesquiterpene
29	32.00	0.79%	gamma-Vetivenene	1532.00	Sesquiterpene
30	32.24	0.96%	alpha-Calacorene	1537.14	Sesquiterpene
31	32.36	0.24%	Elemol	1538.00	Sesquiterpenol
32	32.40	0.31%	gamma-Calacorene	1540.12	Sesquiterpene
33	32.53	1.36%	beta-Calacorene	1555.50	Sesquiterpene
34	32.75	7.85%	beta-Vetivenene	1570.05	Sesquiterpene
35	32.95	3.27%	beta-Vetivenene isomer I	1573.30	Sesquiterpene
36	33.26	0.35%	UK Ruh Khus		
37	33.46	0.44%	UK Ruh Khus		
38	33.60	4.10%	beta-Vetivenene isomer II	1585.30	Sesquiterpene
39	33.76	0.56%	Spathulenol	1587.00	Sesquiterpenol
40	33.88	0.21%	Guaiol	1603.86	Sesquiterpenol
41	34.07	0.47%	Khusimone	1604.00	Normonoterpene Ketone
42	34.50	6.12%	10-epi-gamma-Eudesmol	1620.00	Sesquiterpenol
43	34.50	Co-Eluting	Junenol	1625.00	Sesquiterpenol

