

Table 5. Volatile compounds in the hydrodistilled oil of raw curry and its constitutes (Values expressed as relative area percentages to total Identified components)

Peak No.	KI ^a	Component	Row Curry	Tumeric	Fenugreek	Paprika	Black Pepper	Clove	Cinnamon	Bay Leaves	Ginger	Methods of Identification ^b
1	626	2-Methy-2-buten-1-ol	-	-	17.96	-	-	-	-	-	-	MS, KI
2	674	Pentanol	-	-	1.11	-	-	-	-	-	-	MS, KI
3	778	3-Methyl-2-buten-1-ol	-	-	0.68	-	-	-	-	-	-	MS, KI
4	890	Xylene	-	-	-	9.41	-	-	-	-	-	MS, KI
5	929	α -Thujene	0.29	-	-	-	0.18	-	0.35	0.36	-	MS, KI
6	939	α -Pinene	1.24	-	-	-	5.76	-	-	2.13	-	ST, MS, KI
7	977	Sabinene	-	-	-	-	0.27	-	-	2.79	-	MS, KI
8	982	β -Pinene	2.51	-	-	-	9.52	-	-	2.09	-	MS, KI
9	992	Myrecene	0.51	-	-	-	2.53	-	-	0.68	-	ST, MS, KI
10	1009	α -Phellandrene	2.18	0.33	-	-	4.51	-	0.65	-	0.74	MS, KI
11	1013	δ -Carene	8.30	-	-	-	24.81	-	-	-	-	MS, KI
12	1026	P-Cymene	-	-	-	-	0.78	-	-	0.54	-	ST, MS, KI
13	1033	Limonene	3.05	-	-	0.25	15.51	-	-	1.10	-	ST, MS, KI
14	1036	1,8-Cineole	-	-	0.27	-	0.80	-	-	35.37	-	ST, MS, KI
15	1064	γ -Terpinene	-	-	-	-	0.21	-	-	1.07	-	MS, KI
16	1097	Linalool	-	-	-	-	0.80	-	-	0.41	-	ST, MS, KI
17	1107	(Sotolone)	1.00	-	34.51	-	-	-	-	-	-	ST, MS, KI
18	1127	(E)-P-menth-2-en-1-ol	-	-	-	-	0.13	-	-	2.27	-	MS, KI
19	1158	4-Methyl benzaldehyd	-	-	-	-	0.50	-	-	-	-	MS, KI
20	1160	Furaneol	-	-	0.45	0.10	-	-	-	-	-	ST, MS, KI
21	1180	Terpinene-4-ol	-	-	-	-	-	-	-	5.21	-	MS, KI
22	1197	α -Terpineol	-	-	-	4.90	-	-	0.23	5.30	-	ST, MS, KI
23	1212	β -cyclocitral	-	-	-	6.00	-	-	-	-	-	MS, KI
24	1225	3-Amino-4,5-Dimethyl 2(5H)Furanone	-	-	0.77	-	-	-	-	-	-	MS, KI
25	1269	Geranial	-	-	0.45	1.45	-	-	-	-	2.22	ST, MS, KI

Table 5. Cont.

Peak No.	KIa	Component	Row Curry	Tumeric	Fenugreek	Paprika	Black Pepper	Clove	Cinnamon	Bay Leaves	Ginger	Methods of Identificationb
26	1300	2,4-decadienal	-	-	-	2.45	-	-	-	-	-	ST, MS, KI
27	1306	Cinnamaldehyde	0.89	-	-	-	-	-	90.20	-	-	MS, KI
28	1344	δ -Elemene	0.54	-	0.53	1.45	1.20	-	-	0.47	-	MS, KI
29	1351	α -Cubebene	-	-	-	2.00	-	-	-	-	-	MS, KI
30	1360	α -Terpinyl acetate	-	-	-	-	-	-	-	14.59	-	MS, KI
31	1365	Eugenol	20.60	-	-	-	-	82.82	2.20	11.72	-	ST, MS, KI
32	1370	δ -Nonalactone	-	-	0.54	-	-	-	-	-	-	MS, KI
33	1388	β -Cubebene	-	-	-	1.05	0.41	-	-	-	0.21	MS, KI
34	1402	β -Elemene	0.33	0.33	4.49	22.37	0.99	-	-	0.49	0.30	MS, KI
35	1437	β -Caryophyllene	17.82	2.12	10.16	2.00	27.33	14.46	2.18	7.86	1.05	ST, MS, KI
36	1446	β Farnesene	0.19	0.43	0.27	-	0.74	-	-	-	0.43	MS, KI
37	1454	α -Humulene	0.45	0.28	0.86	4.15	1.77	1.55	0.21	0.85	0.27	MS, KI
38	1480	γ -curcumene	-	0.33	-	-	-	-	-	-	1.73	MS, KI
39	1483	ar-curcumene	1.59	3.85	-	-	-	-	-	-	-	MS, KI
40	1486	β -Ionone	0.43	-	-	29.33	-	-	-	-	-	MS, KI
41	1495	α -Selinene	2.51	-	6.80	6.00	-	0.17	0.86	1.82	-	MS, KI
42	1497	α -Muuroolene	2.51	-	5.27	-	1.35	0.14	0.31	2.27	16.91	MS, KI
43	1499	α -Zingiberene	3.50	-	0.40	-	-	-	-	-	50.84	MS, KI
44	1507	α -Bisabolene	0.40	-	-	-	0.89	-	0.69	-	12.01	MS, KI
45	1512	β -curcumene	0.84	2.80	-	-	-	-	-	-	-	MS, KI
46	1515	γ -Cadinene	-	1.12	2.84	-	-	-	0.52	0.56	-	MS, KI
47	1530	δ -Cadinene	-	-	4.16	-	0.26	0.86	-	0.72	-	MS, KI
48	1532	β -Sesquiphellandrane	2.83	5.41	-	5.00	0.16	-	0.85	-	13.29	MS, KI
49	1578	ar-Turmerol	0.65	0.51	-	-	-	-	-	-	-	MS, KI
50	1581	Caryophyllene Oxide	0.38	0.56	-	2.50	-	-	0.43	0.23	-	MS, KI

Table 5. Cont.

Peak No.	KIa	Component	Row Curry	Tumeric	Fenugreek	Paprika	Black Pepper	Clove	Cinnamon	Bay Leaves	Ginger	Methods of Identificationb
51	1591	ar-Dihydro Turmerone	0.14	1.40	-	-	-	-	-	-	-	MS, KI
52	1658	α -Cadinol	1.29	0.58	0.49	-	-	-	-	-	-	MS, KI
53	1664	ar Turmenone	18.18	58.98	-	-	-	-	-	-	-	MS, KI
54	1671	Turmenone	3.63	16.79	-	-	-	-	-	-	-	MS, KI
55	1675	α -Bisabolol	-	-	6.07	-	-	-	-	-	-	MS, KI
56	1677	Spathulenol	-	-	-	-	-	-	0.14	0.11	-	MS, KI
57	1686	epi- α -Bisabolol	-	-	0.93	0.50	-	-	-	-	-	MS, KI
58	1726	Turmenol	3.63	1.23	-	-	-	-	-	-	-	MS, KI
59	1773	α -Atlantone(E)	0.34	2.95	-	-	-	-	-	-	-	MS, KI

Compounds listed according to their elution on DB5 column.

- : not detected

a : kovat index

b : compounds identified by GC-MS (MS) and / or kovat index on DB5 (KI) and / or by comparison of MS and KI of standard compound run under similar GC-MS conditions

Table 7. Volatile compounds in the hydrodistilled oil of seasoning blend (Raw, Oleoresin and Freeze dried) (Values expressed as relative area percentages to total Identified components)

Peak No.	KI ^a	Component	Raw Seasoning*	Oleoresin seasoning	Freeze dried Seasoning	Oregano	Methods of Identification ^b
1	929	α -Thujene	0.14	-	0.15	1.43	MS, KI
2	939	α -Pinene	2.00	-	0.03	0.51	ST, MS, KI
3	977	Sabinene	0.58	-	-	3.12	MS, KI
4	982	β -Pinene	4.04	-	-	0.44	MS, KI
5	992	Myrecene	0.59	-	-	0.69	ST, MS, KI
6	1005	Dimethyl trisulphide**	1.07	-	0.15	-	MS, KI
7	1009	α -Phellandrene	0.94	-	2.44	0.82	MS, KI
8	1013	δ -Carene	10.48	3.19	32.71	-	MS, KI
9	1026	P-Cymene	0.99	0.34	21.94	9.25	ST, MS, KI
10	1033	Limonene	1.36	0.33	0.18	3.42	ST, MS, KI
11	1036	1,8-Cineole	5.30	0.74	0.06	-	ST, MS, KI
12	1038	β - Ocimene	-	-	0.43	5.37	MS, KI
13	1064	γ -Terpinene	2.00	0.70	0.76	17.10	MS, KI
14	1085	Terpinolene	-	-	-	2.43	MS, KI
15	1097	Linalool	1.71	-	0.21	3.71	ST, MS, KI
16	1107	Sotolone	0.61	0.30	6.10	-	ST, MS, KI
17	1108	Diallyl disulphide**	-	0.02	0.34	-	MS, KI
18	1160	Furaneol	1.07	0.02	-	-	ST, MS, KI
19	1197	α -Terpineol	0.03	-	2.99	2.18	ST, MS, KI
20	1209	Geranial	1.14	0.83	-	-	ST, MS, KI
21	1257	linalyl acetate	-	-	-	7.54	MS, KI
22	1265	Dipropyl trisulfide**	1.50	0.90	0.51	-	MS, KI

Table 7. Cont.

Peak No.	KI ^a	Component	Raw Seasoning*	Oleoresin seasoning	Freeze dried Seasoning	Oregano	Methods of Identification ^b
23	1280	Diallyl trisulfide**	1.25	0.77	0.20	-	MS, KI
24	1290	Thymol	2.71	1.94	-	26.77	MS, KI
25	1299	Carvacrol	1.14	0.82	-	5.68	MS, KI
26	1306	Cinnamaldehyde	1.42	1.21	0.24	-	MS, KI
27	1337	Carvacryl acetate	-	1.03	-	5.20	MS, KI
28	1344	δ -Elemene	1.00	1.38	0.55	-	MS, KI
29	1360	Terpinylacetate	2.11	0.64	0.43	-	MS, KI
30	1365	Eugenol	4.38	5.82	7.29	-	ST, MS, KI
31	1402	β -Elemene	0.64	0.69	0.06	-	MS, KI
32	1437	β -Caryophyllene	18.77	21.89	0.73	3.35	ST, MS, KI
33	1446	β Farnesene	0.28	0.41	-	-	MS, KI
34	1454	α -Humulene	0.36	0.45	0.46	-	MS, KI
35	1480	γ -curcumene	1.71	2.11	-	0.26	MS, KI
36	1483	ar-curcumene	4.88	0.34	-	-	MS, KI
37	1486	β -Ionone	0.23	0.21	-	-	MS, KI
38	1495	α -Selinene	-	3.64	-	0.51	MS, KI
39	1497	α -Muurolene	1.77	3.22	0.55	0.29	MS, KI
40	1499	α -Zingiberene	2.73	3.64	2.08	-	MS, KI
41	1507	β -Bisabolene	-	0.91	-	-	MS, KI
42	1512	β -curcumene	1.23	1.07	0.27	-	MS, KI
43	1532	β -Sesquiphellandrane	4.50	3.90	0.95	-	MS, KI
44	1578	ar-Turmerol	0.84	0.53	0.18	-	MS, KI
45	1581	Caryophyllene Oxide	-	-	0.37	-	MS, KI

Table 7. Cont.

Peak No.	KI ^a	Component	Raw Seasoning*	Oleoresin seasoning	Freeze dried Seasoning	Oregano	Methods of Identification ^b
46	1591	ar-Dihydro Turmerone	0.79	-	0.27	-	MS, KI
47	1658	α -Cadinol	0.34	-	0.18	-	MS, KI
48	1664	ar Turmenone	6.73	27.62	13.40	-	MS, KI
49	1671	Turmeuol	1.14	2.25	0.43	-	MS, KI
50	1675	α -Bisabolol	-	-	0.43	0.27	MS, KI
51	1726	Turmenol	3.89	4.97	1.16	-	MS, KI
52	1773	α -Atlantone(E)	0.65	0.69	0.73	-	MS, KI

Compounds listed according to their elution on DB5 column.

- : not detected

a : kovat index

* Curry 3 in combination with black pepper, paprika, oregano, onion and garlic (HD oil of oregano is only represented in this table, the HD oils of the other spices are cited in Table 5)

** Compounds identified in onion and garlic oils (table 6)

b: compounds identified by GC-MS (MS) and / or kovat index on DB5 (KI)and / or by comparison of MS and KI of standard compound run under similar GC-MS conditions