

Article

Chemical variability of the essential oils from two Portuguese Apiaceae: *Coriandrum sativum* L. and *Foeniculum vulgare* Mill.

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Table S1. Percentage composition of the EOs isolated by hydrodistillation, from *Coriandrum sativum* fruits and vegetative aerial parts accessions grown at the experimental field of Escola Superior Agrária de Elvas. For samples codes, see Table 1.

Components	RI	Accessions										
		Fruits			Vegetative aerial parts							
		Cs21_fr1 2021	Cs21_fr2 2021	Cs21_fr3 2021	Cs22_lv1 2022	Cs22_lv2 2022	Cs22_lv3 2022	ROMA 2022	SANTO 2022	Cs22_lv4 2022	Cs22_lv5 2022	Cs22_lv6 2022
<i>n</i> -Octane	800				t	t	t	t	t	t	t	t
2- <i>trans</i> -Hexenal	866				0.1	0.2	0.1	0.1	0.1	0.1	t	0.2
<i>cis</i> -2-Hexen-1-ol	882				t	t	t	t	t	t	t	t
<i>n</i> -Hexanol	883				t	t	t	t	t	t	t	t
<i>n</i> -Heptanal	897	t	0.1	0.1	t	t	t	t	t	t	t	t
1-Nonene	899				t	t	t	t	t	t	t	t
<i>n</i> -Nonane	900	t	t	t	2.1	2.9	2.8	3.1	1.9	0.3	0.7	1.8
<i>trans</i> -3-Nonene *	901				t	t	t	t	t	t	t	t
Tricyclene	921	t	t	t								
α -Thujene	924	t	t	0.1								
α -Pinene	930	1.7	4.3	3.6	t	t	0.1	0.1	0.1	t	t	0.3
Camphene	938	0.1	0.4	0.3								
<i>n</i> -Heptanol	952	t	t	t	t	t	t	t	t	t	t	t
Sabinene	958	0.2	0.4	0.4	t	t	t	t	t	t	t	t
β -Pinene	963	0.3	0.5	0.5	t	t	t	t	t	t	t	t
3-Methyl nonane *	970				t	t	t	t	t	t	t	t
2-Pentyl furan	973	t	t	t								
<i>n</i> -Octanal	973	0.1	t	0.1	1.1	1.1	1.2	1.2	1.2	1.1	0.7	0.8
β -Myrcene	975	0.7	1.1	0.9	0.4	0.4	0.5	0.7	0.7	0.5	0.5	0.5
α -Phellandrene	995	t	t	t								
<i>n</i> -Decane	1000	t	t	t	0.1	0.2	0.2	0.2	0.1	t	0.1	0.1
Phenylacetaldehyde (Benzene acetaldehyde)	1002				t	t	t	t	t	t	t	t
α -Terpinene	1002	0.1	0.1	0.1								
<i>p</i> -Cymene	1003	1.6	1.4	2.1	t	t	t	t	t	t	t	t
1,8-Cineole	1005	t	t	t	t	t	t	t	t	0.1	0.1	t

Components	RI	Accessions										
		Fruits			Vegetative aerial parts							
		Cs21_fr1	Cs21_fr2	Cs21_fr3	Cs22_lv1	Cs22_lv2	Cs22_lv3	ROMA	SANTO	Cs22_lv4	Cs22_lv5	Cs22_lv6
		2021	2021	2021	2022	2022	2022	2022	2022	2022	2022	2022
β -Phellandrene	1005	0.1	0.1	0.1								
Limonene	1009	1.2	1.8	1.4	0.2	0.3	0.4	0.3	0.1	0.3	0.3	0.1
<i>cis</i> - β -Ocimene	1017	t	t	t								
<i>trans</i> - β -Ocimene	1027	0.1	t	0.1	t	t	t	t	t	t	t	0.1
γ -Terpinene	1035	10.4	8.1	12.0	t	t	t	t	t	t	t	0.3
<i>trans</i> -Sabinene hydrate	1037	t	t	t								
<i>n</i> -Octanol	1045	0.2	t	0.1	t	t	t	t	t	t	0.1	t
Terpinolene	1064	0.4	0.4	0.4	t	t	t	t	t	t	t	t
<i>n</i> -Nonanal	1073	1.1	0.4	0.4	0.6	0.7	1.0	0.6	0.6	0.4	0.6	0.5
Linalool	1074	64.0	72.6	59.6	0.1	0.2	0.1	0.1	0.1	t	t	0.4
<i>n</i> -Undecane	1100				t	t	t	0.1	t	t	t	t
Camphor	1102	1.3	2.1	0.9	t	t	t	t	t	t	t	t
Isopulegol	1121	0.1	0.1	t								
2- <i>trans</i> -Nonen-1-al	1124				t	0.1	0.1	0.1	0.1	0.1	t	t
Borneol	1134	t	t	t								
<i>n</i> -Nonanol	1148				0.1	0.1	0.1	0.1	0.1	t	t	t
Terpinen-4-ol	1148	0.2	0.2	0.1								
α -Terpineol	1159	0.1	0.2	0.1								
4- <i>cis</i> -Decenal	1163				0.7	1.1	1.0	1.1	1.1	1.0	1.1	0.6
<i>n</i> -Decanal	1180	1.9	0.7	1.6	30.2	28.1	26.2	29.4	29.3	13.2	19.3	23.5
Pulegone	1207				t	t	t	t	t	t	t	t
Citronellol	1211	0.2	0.1	0.1								
Geraniol	1236	0.8	t	0.9								
2- <i>trans</i> -Decenal	1236	3.3	1.9	1.4	40.1	40.7	39.2	36.7	38.0	63.3	49.3	39.1
2- <i>trans</i> -Decen-1-ol *	1256				1.0	1.2	1.7	1.8	1.7	0.6	0.7	0.5
<i>n</i> -Decanol	1259	0.2	0.1	0.4	1.3	1.3	1.7	1.7	1.8	0.6	0.5	0.3
<i>p</i> -Cymen-7-ol	1265	0.1	t	t								
4-Vinylguaiaicol	1285				0.1	0.1	0.1	0.1	0.1	t	t	0.1

Components	RI	Accessions										
		Fruits			Vegetative aerial parts							
		Cs21_fr1	Cs21_fr2	Cs21_fr3	Cs22_lv1	Cs22_lv2	Cs22_lv3	ROMA	SANTO	Cs22_lv4	Cs22_lv5	Cs22_lv6
		2021	2021	2021	2022	2022	2022	2022	2022	2022	2022	2022
<i>n</i> -Undecanal	1288	0.7	0.3	0.5	1.6	2.0	2.2	1.7	1.6	0.6	1.7	1.9
Myrtenyl acetate	1290	t	t	0.1								
2- <i>trans</i> -Undecenal	1334	0.1	t	0.1	3.7	4.0	5.0	2.6	3.0	4.4	6.2	6.0
<i>trans</i> -2-Undecen-1-ol	1355				0.1	0.2	0.3	0.2	0.2	t	0.1	t
1-Undecanol	1366				0.7	0.1	0.2	0.2	0.2	t	0.1	t
Geranyl acetate	1370	1.7	1.4	4.5								
<i>n</i> -Dodecanal	1397	0.3	0.1	0.2	1.6	1.4	1.7	1.9	1.8	1.4	1.9	2.4
β -Caryophyllene	1414	0.1	t	t								
2- <i>trans</i> -Dodecenal	1446	1.0	0.3	0.6	7.0	6.8	6.3	6.8	7.4	6.0	8.2	11.8
2- <i>trans</i> -Dodecen-1-ol	1448				0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1
1-Dodecanol	1468				t	t	t	t	t	t	t	t
α -Amorphene	1476				t	t	t	t	t	t	t	t
<i>n</i> -Tridecanal	1499	0.1	t	t	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2
<i>trans</i> -Nerolidol	1549	t	t	0.1								
2- <i>trans</i> -Tridecen-1-al	1550				0.3	0.3	0.5	0.4	0.4	0.2	0.3	0.6
β -Caryophyllene oxide	1561	0.3	t	t	t	t	t	t	t	t	t	t
<i>n</i> -Tetradecanal	1596	t	t	t	0.3	0.2	0.3	0.3	0.3	0.4	0.4	0.5
T-Cadinol	1616				t	0.1	0.1	0.1	0.1	t	t	t
α -Cadinol	1630				t	t	t	t	t	t	t	t
2- <i>trans</i> -Tetradecenal*	1643	0.2	0.1	0.2	3.2	2.5	3.0	4.1	4.0	2.5	2.8	3.7
Pentadecanal	1688				t	t	t	t	t	t	t	t
Tetradecanoic acid (Myristic acid)	1723	2.2	0.1	1.6								
11-Pentadecenal *	1735				0.3	0.3	0.2	0.4	0.4	0.2	0.3	0.4
Pentadecanoic acid *	1776	0.1	t	0.1								
Palmitic acid (Hexadecanoic acid)	1908	1.5	0.3	2.3								
Phytol acetate 2	2101				0.2	0.2	0.3	0.2	0.2	0.4	0.4	0.3
<i>n</i> -Nonadecanal *	2102				0.2	0.2	0.3	0.2	0.2	0.4	0.4	0.3
Linoleic acid	2108	t	t	0.2								

Components	RI	Accessions										
		Fruits			Vegetative aerial parts							
		Cs21_fr1	Cs21_fr2	Cs21_fr3	Cs22_lv1	Cs22_lv2	Cs22_lv3	ROMA	SANTO	Cs22_lv4	Cs22_lv5	Cs22_lv6
		2021	2021	2021	2022	2022	2022	2022	2022	2022	2022	2022
Petroselinic acid	2128	0.1	t	0.6								
Eicosanal	2200				t	t	t	t	t	t	t	t
% Identification		98.9	99.7	98.9	97.6	97.2	97.2	96.9	97.2	98.3	97.1	97.4
Grouped components												
Monoterpene hydrocarbons		16.9	18.6	22.0	0.6	0.7	1.0	1.1	0.9	0.8	0.8	1.3
Oxygen-containing monoterpenes		68.8	76.8	66.5	0.2	0.3	0.2	0.2	0.2	0.1	0.1	0.5
Sesquiterpene hydrocarbons		0.1	t	t	t	t	t	t	t	t	t	t
Oxygen-containing sesquiterpenes		0.3	t	0.1	t	0.1	0.1	0.1	0.1	t	t	t
Oxygen-containing diterpenes					0.2	0.2	0.3	0.2	0.2	0.4	0.4	0.3
Fatty acids		3.9	0.4	4.8								
Other fatty acid derivatives					94.3	92.6	92.5	91.8	93.7	96.6	95.0	93.2
Others		8.9	3.9	5.5	2.3	3.3	3.1	3.5	2.1	0.4	0.8	2.1

RI: In-lab calculated retention index relative to C₈-C₂₃ *n*-alkanes on the DB-1 column. t: traces (t < 0.05%). * Identification based on mass spectrum only. Bold: dominant compounds relevant for each cluster.

Table S2. Percentage composition of the EOs isolated by hydrodistillation, from *Foeniculum vulgare* fruit accessions grown at the experimental field of Banco Português de Germoplasma Vegetal. For samples codes, see Table 1.

Components	RI	Accessions																		
		Fv20	Fv20	Fv20	Fv20	Fv20	Fv20	Fv20	Fv20	Fv20	Fv20	Fv21	Fv21	Fv21	Fv21	Fv21	Fv21	Fv21	Fv21	Fv21
		_P1	_P2	_B	_VR1	_VR2	_VR3	_VC1	_VC2	_VC3	_CB	_VR1	_VR2	_VR3	_VR4	_VR5	_VC1	_VC2	_VC3	_VC4
		2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2021	2021	2021	2021	2021	2021	2021	2021	2021
α -Thujene	924	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t
α -Pinene	930	0.7	0.6	0.7	0.9	0.8	1.6	0.4	0.4	0.7	0.9	2.7	1.3	1.0	1.2	1.1	2.1	1.1	0.5	1.1
Camphene	938	0.3	0.3	0.2	0.3	0.1	0.3	0.2	0.1	0.1	0.3	0.1	0.2	0.2	0.4	0.3	0.3	0.3	0.2	0.3
Sabinene	958	0.3	0.2	0.3	0.2	0.1	0.5	0.2	0.2	0.1	0.4	0.3	0.5	0.6	0.6	0.6	0.4	0.4	0.6	0.3
β -Pinene	963	0.1	0.1	0.1	0.2	0.1	0.2	0.5	t	0.1	0.1	0.4	t	0.5	0.1	0.1	0.3	0.3	0.4	0.2
β -Myrcene	975	0.9	1.3	0.7	1.0	1.1	1.5	1.0	0.6	0.4	1.3	0.6	0.9	0.8	1.2	1.4	1.2	0.9	1.5	1.0
α -Phellandrene	995	0.3	0.2	0.4	0.4	0.3	0.3	0.4	0.3	0.2	0.3	0.4	0.6	0.4	0.8	0.5	0.8	0.5	1.2	0.6
α -Terpinene	1002	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t
<i>p</i> -Cymene	1003	0.1	t	0.1	0.2	t	0.1	0.1	0.1	0.1	0.2	0.1	t	0.2	t	0.2	0.1	t	0.1	0.1
1,8-Cineole	1005	0.8	0.3	0.7	0.7	1.0	1.6	0.5	0.8	0.3	1.2	0.6	1.1	1.0	2.0	1.6	t	1.1	1.3	1.0
β -Phellandrene	1005	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	1.1	t	t	t
Limonene	1009	3.6	4.9	3.1	3.4	3.5	3.3	2.8	1.4	1.9	2.5	1.3	2.1	7.1	5.1	2.6	2.2	2.7	3.8	2.2
<i>cis</i> - β -Ocimene	1017	t	t	t	0.1	t	0.1	t	t	t	0.1	t	t	t	t	t	t	t	t	t
<i>trans</i> - β -Ocimene	1027	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t
γ -Terpinene	1035	1.0	0.4	0.9	1.1	0.3	1.0	1.1	0.3	0.4	1.6	0.8	0.5	2.2	0.3	2.4	0.7	0.6	1.3	0.9
<i>trans</i> -Sabinene hydrate	1037	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	t	0.1	0.2	0.1	0.2	0.1	t	t	0.1
Fenchone	1050	32.1	34.1	21.0	22.5	29.6	22.5	26.2	17.5	17.3	25.9	15.8	26.8	23.1	28.9	24.4	17.8	19.2	13.6	27.3
6,7-Myrcene epoxide	1064											t	t	t	t	t	t	t	t	t
Terpinolene	1064	0.2	0.3	0.1	0.1	0.1	0.2	0.3	0.1	0.1	0.2	t	0.1	0.2	0.2	0.2	0.1	0.1	t	0.2
<i>cis</i> -Sabinene hydrate	1066	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t
Linalool	1074											t	0.4	t	0.1	t	t			t
Isopentyl isovalerate	1080											t		t	t	t	t	t	t	t
α -Fenchol (<i>endo</i> -Fenchol)	1085											t	t	0.2	t	0.2	t	t	t	t
Camphor	1102	0.7	0.7	0.4	0.5	0.6	0.5	0.5	0.4	0.2	0.5	0.3	0.5	0.5	0.5	0.5	0.3	0.4	0.2	0.5
δ -Terpineol	1134												t	t	t	t		t		
Terpinen-4-ol	1148	0.1	0.1	t	t	t	0.1	t	0.1	t	0.1	t	t	0.1	t	0.1	t	t	t	t

Components	RI	Accessions																		
		Fv20_P1	Fv20_P2	Fv20_B	Fv20_VR1	Fv20_VR2	Fv20_VR3	Fv20_VC1	Fv20_VC2	Fv20_VC3	Fv20_CB	Fv21_VR1	Fv21_VR2	Fv21_VR3	Fv21_VR4	Fv21_VR5	Fv21_VC1	Fv21_VC2	Fv21_VC3	Fv21_VC4
		2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2021	2021	2021	2021	2021	2021	2021	2021	2021
α -Terpineol	1159	t	t	t	t	t	t	t	t	t	t	t	0.1	0.1	0.1	0.2	t		t	t
Estragole (Methyl chavicol)	1163	3.2	6.2	22.5	11.9	37.0	34.0	56.7	68.5	51.7	45.0	75.5	42.3	23.1	14.8	34.1	59.4	57.5	35.1	27.1
<i>p</i> -Anisaldehyde	1210	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t
<i>cis</i> -Anethole	1220	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t
<i>trans</i> -Anethole	1254	55.3	50.1	48.5	56.3	25.2	32.0	8.9	8.9	26.2	19.2	1.0	22.4	38.4	43.5	29.2	13.0	14.8	40.1	37.0
Palmitic acid (Hexadecanoic acid)	1908	t	t	t	t	t	t	t	t	t	t									
% Identification		99.9	99.9	99.8	99.9	99.9	99.9	99.9	99.8	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
Grouped components																				
Monoterpene hydrocarbons		7.5	8.3	6.6	7.9	6.4	9.1	7.0	3.5	4.1	7.9	6.7	6.2	13.2	9.9	9.4	9.3	6.9	9.6	6.9
Oxygen-containing monoterpenes		33.9	35.3	22.2	23.8	31.3	24.8	27.3	18.9	17.9	27.8	16.7	29.0	25.2	31.7	27.2	18.2	20.7	15.1	28.9
Phenylpropanoids		58.5	56.3	71.0	68.2	62.2	66.0	65.6	77.4	77.9	64.2	76.5	64.7	61.5	58.3	63.3	72.4	72.3	75.2	64.1
Others		t	t	t	t	t	t	t	t	t	t									

RI: In-lab calculated retention index relative to C₉–C₂₀ *n*-alkanes on the DB-1 column. t: traces (t < 0.05%). Bold: dominant compounds relevant for each cluster.