Journal of the Serbian Chemical Society
JSCS@tmf.bg.ac.rs • www.shd.org.rs/JSCS
J. Serb. Chem. Soc. 86 (12) S585–S628 (2021) *Supplementary material*

SUPPLEMENTARY MATERIAL TO

Variations in the composition of essential oils of selected *Artemisia* species as a function of soil type

JOVANA D. ICKOVSKI[1], OLGA P. JOVANOVIĆ[1], BOJAN K. ZLATKOVIĆ[2], MILAN M. ĐORĐEVIĆ[3], KATARINA D. STEPIĆ[1], RADOMIR B. LJUPKOVIĆ[1] and GORDANA S. STOJANOVIĆ[1]*

[1]*Department of Chemistry, Faculty of Sciences and Mathematics, University of Niš, Serbia,* [2]*Department of Biology and Ecology, Faculty of Sciences and Mathematics, University of Niš, Serbia and* [3]*Department of Geography, Faculty of Sciences and Mathematics, University of Niš, Serbia*

J. Serb. Chem. Soc. 86 (12) (2021) 1259–1269

CHEMICAL COMPOSITION

Table S-I. The sample label, voucher specimen number, locality, longitude, latitude, and soil type according to WRB, and the yield of the essential oils

Plant specie	Sample	Voucher	Locality	Longitude, °	Latitude, °	WRB soil type	Yield, %
Artemisia alba Turra	AA1	13296	Kozarica, Dimitrovgrad	22.81958333	43.02902778	Pellic Vertisol (pv)	0.01
	AA2	13312	Niševac, Svrljig	22.1005	43.46488889	Rendzic Leptosol (rl)	0.05
	AA3	13313	Radov Dol, Sićevačka klisura	22.17586111	43.30177778	Calcaric Fluvisol (cf)	0.07
	AA4	13307	NULL, Kopaonik	20.82686111	43.26786111	Haplic Leptosol (hl)	0.11
	AA5	13311	Sudimlja, Kopaonik	20.95252778	43.25325	Dystric Cambisol (dc)	0.04
	AA6	14323	Put Vlkovija, Mojinci	22.90833333	43.08344444	Rendzic Leptosol (rl)	0.01
	AA7	14324	Rosomač	22.84122222	43.1535	Rendzic Leptosol (rl)	0.03
Artemisia absinthium L.	AB1	14311	Gornja Vrežina	22.01083333	43.319	Calcaric Phaeozem (cp)	0.15
	AB2	14313	Velepolje	21.84733333	43.44763889	Eutric Cambisol (ec)	0.07
	AB3	14314	Prosek	22.05511111	43.31727778	Rendzic Leptosol (rl)	0.06
	AB4	14321	Vrelo	22.04763889	43.38380556	Haplic Luvisol (hl)	0.07
	AB5	14315	Kopajkošara	21.98141667	43.44852778	Rendzic Leptosol (rl)	0.06
	AB6	14318	Lalinske pojate	21.76155556	43.35136111	Calcaric Fluvisol (cf)	0.07
	AB7	14312	Jovanovac	21.69152778	43.35183333	Pellic Vertisol (pv)	0.07
	AB8	14322	Paligrace	21.86908333	43.48055556	Eutric Cambisol (ec)	0.05
	AB9	14317	Brenica	21.92344444	43.37441667	Calcaric Phaeozem (cp)	0.06

* Corresponding author. E-mail: gordana.stojanovic@pmf.edu.rs
https://doi.org/10.2298/JSC210803094I

Available on line at www.shd.org.rs/JSCS/
(CC) 2021 SCS.

Plant specie	Sample	Voucher	Locality	Longitude, °	Latitude, °	WRB soil type	Yield, %
	AB10	14320	Subotinac	21.69241667	43.62577778	Pellic Vertisol (pv)	0.05
	AB11	14319	Donja Vrežina	21.97019444	43.32533333	Calcaric Phaeozem (cp)	0.07
	AB12	14316	Oblačinsko jezero	21.68008333	43.30286111	Pellic Vertisol (pv)	0.05
Artemisia annua L.	AN1	14334	Paljina	21.83569444	43.41491667	Eutric Cambisol (ec)	0.63
	AN2	14336	Stanci	21.80233333	43.53313889	Eutric Cambisol (ec)	0.51
	AN3	14335	Mozgovo	21.76130556	43.65319444	Pellic Vertisol (pv)	0.60
	AN4	14329	Lipovac	21.83516667	43.56119444	Dystric Cambisol (dc)	0.43
	AN5	14325	Tešica	21.74797222	43.45091667	Calcaric Fluvisol (cf)	0.92
	AN6	14327	Balajnac	21.79683333	43.26852778	Pellic Vertisol (pv)	1.09
	AN7	14326	Azbresnica	21.69172222	43.35211111	Pellic Vertisol (pv)	0.63
	AN8	14328	Selo Bovan	21.71675	43.63241667	Pellic Vertisol (pv)	1.56
	AN9	14333	Supovac	21.76605556	43.39669444	Calcaric Fluvisol (cf)	0.47
	AN10	14330	Naselje Broj Šest	21.98652778	43.30963889	Calcaric Phaeozem	0.86
	AN11	14331	Lalinac	21.78288889	43.34111111	Calcaric Fluvisol (cf)	0.45
	AN12	14332	Gornja Studena	22.09775	43.25388889	Rendzic Leptosol (rl)	0.75
Artemisia vulgaris L.	AV1	14359	Donji Krivodol	22.93530556	43.10255556	Rendzic Leptosol (rl)	0.12
	AV2	14353	Crnoklište	22.46238889	43.22963889	Calcaric Fluvisol (cf)	0.04
	AV3	14352	Visočka Ržana	22.67063889	43.17891667	Rendzic Leptosol (rl)	0.07
	AV4	14350	Miranovačka kula	22.35519444	43.35883333	Dystric Cambisol	0.11
	AV5	14351	Inovo	22.43183333	43.41002778	Calcaric Fluvisol (cf)	0.02
	AV6	14356	Kalna	22.41886111	43.38761111	Dystric Cambisol (dc)	0.16
	AV7	14355	Česma kod Gramade	22.05541667	43.39344444	Haplic Luvisol (hl)	0.08
	AV8	14354	Dimitrovgrad	22.81958333	43.02894444	Pellic Vertisol (pv)	0.10
	AV9	14357	Moklište	22.26555556	43.24369444	Calcaric Fluvisol (cf)	0.06
	AV10	14358	Slavinja	22.85625	43.13877778	Rendzic Leptosol (rl)	0.12
	AV11	14349	Velepolje	21.84716667	43.44777778	Eutric Cambisol (ec)	0.06
	AV12	14360	Gabrovačka reka, Ćele kula	21.92441667	43.31125	Calcaric Fluvisol (cf)	0.05
Artemisia scoparia Waldst. et Kit.	AS1	14345	Broj Šest	21.98569444	43.31013889	Calcaric Phaeozem (cp)	0.11
	AS2	14342	Čokot	21.81969444	43.30013889	Calcaric Fluvisol (cf)	0.12
	AS3	14343	Batušinac	21.82125	43.26411111	Calcaric Fluvisol (cf)	0.19
	AS4	14337	Draževac	21.79697222	43.44791667	Calcaric Fluvisol (cf)	0.17
	AS5	14344	Vinik	21.92972222	43.35038889	Calcaric Phaeozem (cp)	0.30
	AS6	14348	Trupale	21.80194444	43.35575	Calcaric Fluvisol (cf)	0.25
	AS7	14338	Supovac	21.76327778	43.37752778	Calcaric Fluvisol (cf)	0.22
	AS8	14340	Zaplanjska Toponica	21.90658333	43.15491667	Calcaric Fluvisol (cf)	0.31
	AS9	14339	Aleksandrovo	21.75272222	43.29711111	Pellic Vertisol (pv)	0.31
	AS10	14347	Aleksinac	21.70980556	43.52766667	Calcaric Fluvisol (cf)	0.25
	AS11	14346	Lalinac	21.78138889	43.34088889	Calcaric Fluvisol (cf)	0.33
	AS12	14341	Trnava	21.78633333	43.42166667	Calcaric Fluvisol (cf)	0.29

WRB World Reference Base for Soil Resources

(CC) 2021 SCS.

Table S-II. Chemical composition of seven *Artemisia alba* samples collected from different soil types according to the WRB

Class	Compound	RI	RIa	Content, % AA1	AA2	AA3	AA4	AA5	AA6	AA7
O	(*Z*)-2-Penten-1-ol	775	765	/	/	/	/	/	/	tr
O	3-methyl-2-Buten-1-ol	775	765	/	/	/	/	/	tr	tr
O	3-methyl-2-Butenal	788	778	tr	tr	/	/	/	0.2	tr
O	1-Octene	793	788	/	/	/	/	/	tr	/
O	Hexanal	801	801	tr	/	/	/	/	tr	tr
O	Furfural	833	828	tr	/	/	/	/	tr	tr
O	4-Hydroxy-4-methyl-2-pentanone	841	831	/	tr	0.3	/	/	/	/
CD	Ethyl 2-methylbutyrate	848	842*	/	/	/	/	/	tr	/
O	(*E*)-2-Hexenal	850	846	/	/	/	/	/	0.2	tr
O	(*Z*)-3-Hexenol	852	850	tr	tr	/	/	/	/	tr
O	*n*-Hexanol	867	863	tr	tr	/	/	/	tr	tr
CD	Isopentyl acetate	876	869	/	/	/	/	/	tr	/
CD	2-Methyl butyl acetate	879	875	/	/	/	/	/	tr	/
A	*n*-Nonane	900	900	/	/	/	/	/	tr	/
O	Heptanal	903	901	/	/	/	/	/	tr	/
M	Santolina Triene	909	906	tr	/	/	/	/	tr	/
M	Tricyclene	924	921	/	/	/	/	/	tr	tr
M	Artemisiatriene	928	922*	/	/	/	/	/	0.2	/
M	*α*-Thujene	928	924	tr	tr	/	/	/	/	/
M	*α*-Pinene	935	932	tr	tr	/	0.5	/	1.0	tr
M	Camphene	950	946	tr	tr	0.9	3.3	0.4	1.5	0.2
M	Thuja-2,4(10)-diene	956	953	/	tr	/	/	/	tr	/
O	(*E*)-2-Heptenal	957	947	/	/	/	/	/	/	tr
O	Benzaldehyde	962	952	tr	tr	/	/	/	tr	tr
O	*n*-Heptanol	969	959	tr	tr	/	/	/	tr	tr
M	Sabinene	975	969	tr	tr	/	0.6	/	tr	tr
MO	Artemiseole	977	971	tr	/	/	/	/	tr	tr
M	*β*-Pinene	979	974	tr	tr	/	3.8	/	1.2	0.4
O	1-Octen-3-ol	980	974	tr	/	/	/	/	tr	/
O	6-Methyl-5-Hepten-2-one	988	981	/	/	/	/	/	/	tr
O	2-Pentyl furan	993	984	/	/	/	/	/	0.4	tr
O	Mesitylene	996	994	/	tr	/	/	/	tr	/
MO	Yomogi alcohol	1001	999	tr	/	/	/	/	7.3	tr
O	*n*-Octanal	1004	998	tr	tr	/	/	/	tr	tr
M	*α*-Phellandrene	1006	1002	tr	tr	/	/	/	tr	tr
O	(*E,E*)-2,4-Heptadienal	1012	1005	/	/	/	/	/	tr	tr
CD	Hexyl acetate	1015	1007	/	/	/	/	/	tr	/
M	*α*-Terpinene	1019	1014	tr	tr	tr	/	/	0.4	tr
M	*o*-Cymene	1027	1022	tr	tr	/	0.1	/	0.9	0.3
M	*β*-Phellandrene	1032	1025	/	tr	/	/	/	/	tr
MO	1,8-Cineole	1033	1026	5.8	1.9	15.3	16.4	19.7	9.8	2.1
MO	Santolina alcohol	1037	1034	tr	/	/	/	/	tr	/
M	(*Z*)-*β*-Ocimene	1039	1032	/	tr	/	/	/	/	tr
MO	Lavender Lactone	1042	1034*	tr	tr	/	/	/	tr	tr
O	Benzene acetaldehyde	1046	1036	0.6	tr	/	/	/	0.2	0.4

(CC) 2021 SCS.

M	(*E*)-*β*-Ocimene	1050	1044	tr	tr	/	/	/	tr	tr
M	*γ*-Terpinene	1061	1054	0.3	tr	0.6	/	/	0.5	0.2
MO	Artemisia ketone	1063	1056	/	/	/	8.3	/	14.9	0.9
MO	*cis*-Sabinene hydrate	1069	1065	0.3	0.2	/	0.7	/	0.5	0.4
MO	*cis*-Linalool oxide	1074	1067	0.3	tr	/	/	/	tr	tr
O	*m*-Cresol	1080	1072	/	/	/	/	/	/	tr
MO	Artemisia alcohol	1085	1080	tr	/	/	/	/	6.6	tr
MO	*trans*-Linalool oxide	1090	1084	0.3	/	/	/	/	/	tr
M	Terpinolene	1091	1086	0.2	tr	/	/	/	0.2	0.2
CD	Isobutyl tiglate	1094	1088	/	/	/	/	/	/	tr
MO	*trans*-Sabinene hydrate	1100	1098	/	0.4	0.5	/	/	0.6	0.9
MO	Linalool	1103	1098	0.3	0.2	/	/	/	/	/
O	*n*-Nonanal	1105	1100	tr	tr	/	/	/	tr	tr
MO	Filifolone	1106	1103*	/	/	/	0.5	1.5	/	/
O	6-Methyl-(E)-3,5-heptadien-2-one	1107	*	/	/	/	/	/	0.5	0.5
MO	*cis*-Thujone	1108	1101	/	/	/	/	3.9	/	/
O	6-Ethenyldihydro-2,2,6-trimethyl-2H-Pyran-3(4H)-one	1110	1109*	/	/	/	/	/	0.3	/
O	Phenyl ethyl alcohol	1116	1106	/	/	/	/	/	/	tr
MO	*trans*-Thujone	1119	1112	/	/	/	1.5	2.6	0.2	tr
MO	*trans*-Chrysanthenol	1120	1114	/	/	28.3	/	/	/	/
MO	*trans*-*p*-Mentha-2,8-dien-1-ol	1121	1119	8.6	2.9	/	/	/	/	/
MO	*cis*-*p*-Menth-2-en-1-ol	1124	1118	0.3	0.6	/	/	/	0.3	0.9
MO	Chrysanthenone	1128	1124	0.2	tr	/	1.7	4.5	0.6	/
MO	*α*-Campholenal	1129	1122	tr	/	/	/	/	tr	0.2
MO	*cis*-*p*-Mentha-2,8-dien-1-ol	1135	1133	0.2	tr	/	/	/	/	/
O	Nopinone	1140	1135	/	tr	/	0.2	/	0.2	1.9
MO	*trans*-Pinocarveol	1141	1135	0.7	/	/	/	/	1.1	/
MO	*trans*-*p*-Menth-2-en-1-ol	1143	1136	/	tr	/	/	/	/	1.7
MO	*trans*-Verbenol	1147	1140	/	tr	0.3	/	/	/	/
MO	Camphor	1148	1141	3.0	1.6	22.7	27.9	51.6	8.9	14.1
MO	(*Z*)-Tagetone	1153	1148	tr	/	/	/	/	/	/
MO	Sabina ketone	1161	1154	/	tr	/	/	/	tr	tr
MO	*trans*-Pinocamphone	1165	1158	/	/	/	/	/	tr	tr
MO	Nerol oxide	1164	1154	tr	/	/	/	/	/	/
MO	Pinocarvone	1167	1160	0.8	0.2	/	0.5	/	1.4	1.0
MO	Borneol	1174	1165	/	1.6	1.5	2.7	/	3.2	3.7
MO	Artemisyl acetate	1175	1169	/	/	/	/	/	3.6	/
MO	Santalone	1177	1177	8.1	/	/	/	/	/	/
MO	cis-Pinocamphone	1178	1172	/	0.4	1.0	25.1	/	8.6	13.5
MO	Terpinen-4-ol	1181	1174	1.2	0.8	0.7	1.0	/	2.5	tr
MO	*p*-Cymen-8-ol	1188	1179	tr	0.2	0.3	/	/	0.2	tr
CD	(*Z*)-3-Hexenyl butanoate	1190	1184	0.2	/	/	/	/	0.3	/
MO	*trans*-*p*-Mentha-1(7),8-dien-2-ol	1191	1187	/	/	/	/	/	/	0.2
MO	*α*-Terpineol	1194	1186	0.2	tr	tr	/	/	0.2	0.3
CD	Methyl salicylate	1196	1190	/	/	/	/	/	tr	/
MO	Myrtenol	1197	1194	tr	tr	/	/	/	0.8	3.1
MO	*cis*-Piperitol	1199	1195	/	tr	/	/	/	/	tr
MO	Myrtenal	1200	1195	/	0.5	/	1.4	/	/	/
PP	Methyl chavicol	1202	1195	tr	/	/	/	/	tr	/
O	*n*-Decanal	1207	1201	tr	tr	/	/	/	/	/

(CC) 2021 SCS.

MO	*trans*-Piperitol	1210	1207	0.2	0.4	/	/	/	tr	0.4
MO	Verbenone	1213	1204	0.1	tr	/	/	/	tr	tr
MO	*trans*-Carveol	1222	1215	0.2	tr	/	/	/	0.2	0.5
O	*m*-Cumenol	1230	1224	tr	tr	/	/	/	tr	/
MO	*cis*-*p*-Mentha-1(7),8-dien-2-ol	1231	1227	/	/	/	/	/	/	0.3
MO	*cis*-Carveol	1234	1226	0.1	tr	/	/	/	tr	0.3
MO	*trans*-Chrysanthenyl acetate	1238	1235	0.2	tr	0.7	/	/	/	/
CD	Hexyl-2-methyl butyrate	1239	1233	/	/	/	/	/	/	tr
O	Cumin aldehyde	1244	1238	tr	tr	/	/	/	tr	tr
MO	Carvone	1248	1239	tr	tr	/	/	/	tr	tr
CD	Isoamyl hexanoate	1253	1246	tr	/	/	/	/	/	/
MO	*trans*-2-hydroxy-Pinocamphone	1254	1247	/	/	/	/	/	tr	0.1
MO	Geraniol	1257	1249	/	0.2	/	/	/	/	2.4
MO	Piperitone	1258	1249	tr	0.2	/	/	/	2.3	tr
O	(*E*)-2-Decenal	1263	1260	tr	tr	/	/	/	/	/
MO	*trans*-Myrtanol	1264	1258	tr	/	/	/	/	/	tr
MO	*cis*-Chrysanthenyl acetate	1265	1261	0.1	/	/	/	/	1.2	/
MO	Geranial	1273	1264	tr	tr	/	/	/	/	tr
MO	Perilla aldehyde	1279	1269	/	/	/	/	/	/	tr
MO	*cis*-Verbenyl acetate	1281	1280	5.3	/	/	/	/	/	/
MO	*trans*-*α*-Necrodol acetate	1287	1282	tr	/	/	/	/	/	/
MO	Bornyl acetate	1290	1287	/	tr	/	/	/	0.5	0.3
MO	*trans*-Linalool oxide acetate (pyranoid)	1291	1287	tr	/	/	/	/	/	/
MO	*p*-Cymen-7-ol	1291	1289	tr	/	/	/	/	/	/
O	(*E*,*Z*)-2,4-Decadienal	1296	1292	/	tr	/	/	/	/	/
MO	Thymol	1298	1289	/	tr	tr	/	/	tr	tr
MO	Perilla alcohol	1302	1294	0.2	/	/	/	/	/	0.3
MO	Terpinen-4-ol acetate	1303	1299	tr	/	/	/	/	0.2	/
MO	Carvacrol	1304	1298	tr	tr	/	/	/	/	0.2
O	Undecanal	1309	1305	tr	/	/	/	/	tr	/
MO	6-Hydroxy-Carvotanacetone	1315	1309	/	tr	/	/	/	/	tr
O	*p*-vinyl-Guaiacol	1318	1309	tr	/	/	/	/	/	/
O	(*E*,*E*)-2,4-Decadienal	1319	1315	tr	tr	/	/	/	tr	tr
MO	*δ*-Terpinyl acetate	1321	1316	tr	/	/	/	/	/	/
MO	Myrtenyl acetate	1330	1324	tr	/	/	/	/	tr	tr
MO	*p*-Mentha-1,4-dien-7-ol	1331	1325	tr	/	/	/	/	/	tr
S	Silphiperfol-5-ene	1332	1326	/	0.6	/	/	/	tr	/
CD	Hexyl tiglate	1333	1330	/	tr	/	/	/	/	/
S	Presilphiperfol-7-ene	1338	1334	/	tr	/	/	/	/	/
S	*δ*-Elemene	1343	1335	1.5	1.0	0.8	/	/	0.3	tr
S	7-epi-Silphiperfol-5-ene	1350	1345	/	0.2	/	/	/	tr	/
MO	*α*-Terpinyl acetate	1354	1346	0.2	tr	/	/	/	/	tr
S	*α*-Cubebene	1355	1345	tr	/	/	/	/	/	/
PP	Eugenol	1362	1356	0.2	tr	/	/	/	tr	0.2
S	Silphiperfol-4,7(14)-diene	1364	1358	/	0.2	/	/	/	/	/
MO	*cis*-Carvyl acetate	1367	1365	/	/	/	/	/	/	tr
S	*α*-Copaene	1380	1374	0.2	tr	/	/	/	tr	tr
S	Silphiperfol-6-ene	1382	1377	/	0.5	/	/	/	/	/
MO	Geranyl acetate	1386	1379	/	/	/	/	/	/	tr
S	*β*-Bourbonene	1392	1387	tr	tr	/	/	/	/	tr
S	*β*-Cubebene	1396	1387	0.2	/	/	/	/	/	/

(CC) 2021 SCS.

S	*β*-Elemene	1398	1389	0.6	0.2	/	/	/	0.4	0.8
O	(*Z*)-Jasmone	1401	1392	tr	/	/	/	/	/	tr
S	*iso*-Italicene	1405	1401	0.4	/	/	/	/	/	/
PP	Methyl eugenol	1407	1403	tr	tr	/	/	/	0.3	0.3
S	(*E*)-Caryophyllene	1427	1417	0.7	0.7	/	/	/	tr	0.5
S	*β*-Copaene	1437	1430	tr	tr	/	/	/	/	/
MO	Geranyl acetone	1456	1453	/	/	/	/	/	/	tr
S	(*E*)-*β*-Farnesene	1460	1454	/	/	/	/	/	tr	tr
S	*α*-Humulene	1462	1452	0.5	0.3	/	/	/	tr	tr
S	*allo*-Aromadendrene	1467	1458	tr	/	/	/	/	/	/
S	9-*epi*-(*E*)-Caryophyllene	1469	1464	tr	/	/	/	/	tr	/
S	*cis*-Muurola-4(14),5-diene	1471	1465	tr	/	/	/	/	/	/
S	*γ*-Himachalene	1487	1481	/	/	/	/	/	/	tr
S	Germacrene D	1490	1484	21.3	9.5	4.2	2.7	3.4	2.1	5.3
S	*β*-Selinene	1495	1489	/	/	/	/	/	tr	tr
S	*α*-Zingiberene	1498	1493	0.4	tr	/	/	/	/	/
SO	Indipone	1502	1496	/	/	/	/	/	0.3	/
S	Bicyclogermacrene	1505	1500	2.6	1.2	/	/	/	0.4	1.4
SO	*β*-dihydro Agarofuran	1510	1503	/	/	/	/	/	0.3	tr
S	Germacrene A	1514	1508	0.3	/	/	/	/	/	0.7
SO	Silphiperfolan-6-*α*-ol	1514	1507	/	1.9	/	/	/	0.2	/
S	*γ*-Cadinene	1522	1513	tr	/	/	/	/	/	/
S	*δ*-Cadinene	1531	1522	0.5	4.8	/	/	/	/	0.2
S	*trans*-Cadina-1,4-diene	1540	1533	tr	/	/	/	/	/	/
S	Presilphiperfolane-9-*α*-ol	1530	*	/	10.9	/	/	/	/	/
S	Silphiperfol-5-en-3-ol B	1543	1534	/	2.5	/	/	/	/	/
S	*α*-Calacorene	1551	1544	tr	/	/	/	/	tr	tr
SO	Elemol	1556	1548	5.2	/	/	/	/	0.4	0.4
SO	Silphiperfol-5-en-3-one B	1557	1550	/	2.9	/	/	/	0.3	/
SO	(*E*)-Nerolidol	1566	1561	tr	/	/	/	/	tr	0.2
SO	Silphiperfol-5-en-3-ol A	1567	1557	/	1.1	/	/	/	/	/
SO	*β*-Calacorene	1574	1564	/	/	/	/	/	tr	tr
SO	Zierone	1579	1574	0.2	/	/	/	/	/	/
SO	Silphiperfol-5-en-3-one A	1582	1574	/	35.0	2.9	/	/	0.9	/
SO	Spathulenol	1587	1577	tr	/	/	/	/	0.3	1.0
SO	Davanone	1591	1587	/	/	/	/	1.4	0.7	1.8
SO	Caryophyllene oxide	1592	1582	0.4	/	/	/	/	/	/
SO	Viridiflorol	1599	1592	tr	/	/	/	/	tr	0.2
SO	Humulene epoxide I	1603	1601*	/	0.7	/	/	/	/	/
SO	Ledol	1612	1602	/	/	/	/	/	/	tr
SO	Humulene epoxide II	1618	1608	/	/	/	/	/	tr	/
SO	10-*epi*-*γ*-Eudesmol	1631	1622	0.1	/	/	/	/	/	/
SO	Silphiperfol-6-en-5-one	1634	1624	/	0.3	/	/	/	/	/
SO	*γ*-Eudesmol	1640	1630	1.8	/	/	/	/	/	/
SO	Caryophylla-4(12),8(13)-dien-5-*α*-ol	1646	1639	/	0.3	/	/	/	/	0.4
SO	Caryophylla-4(12),8(13)-dien-5-*β*-ol	1649	1639	/	1.4	/	/	/	/	/
SO	*epi*-*α*-Murrolol	1650	1640	/	/	/	/	/	/	tr
SO	*β*-Eudesmol	1659	1649	1.3	/	/	/	/	tr	11.6
SO	*α*-Eudesmol	1662	1652	1.4	2.3	/	/	/	0.4	5.2
SO	14-hydroxy-(*Z*)-Caryophyllene	1672	1666	0.1	/	/	/	/	/	/
SO	Cadalene	1684	1675	/	/	/	/	/	tr	/

(CC) 2021 SCS.

SO	Elemol acetate	1686	1680	1.8	/	/	/	/	/	/
SO	α-Bisabolol	1691	1685	0.5	/	1.1	/	/	0.9	1.7
SO	Germacra-4(15),5,10(14)-trien-1-α-ol	1695	1685	/	/	/	/	/	/	0.2
O	Pentadecanal	1718	1715*	0.2	tr	/	/	/	/	/
SO	Cyclocolorenone	1761	1759	/	/	/	/	/	tr	tr
CD	Benzyl benzoate	1769	1759	/	tr	/	/	/	/	/
SO	14-oxy-α-Muurolene	1777	1767	/	/	/	/	/	/	0.2
SO	Hexahydrofarnesyl acetone	1848	1847	/	tr	/	/	/	tr	0.2
SO	(*E*,*E*)-5,9-Farnesylacetone	1923	1913	/	tr	/	/	/	/	/
SO	(*E*,*E*)-Geranyl linalool	2033	2026	/	tr	/	/	/	/	/
A	Heneicosane	2100	2100	/	tr	/	/	/	/	/
O	Phytol	2116	2114*	/	0.2	/	/	/	/	/
O	Eicosanal	2226	2224*	/	tr	/	/	/	/	/
O	1-Eicosanol	2287	2281*	/	tr	/	/	/	/	/
A	Tricosane	2300	2300	/	tr	/	/	/	/	/
A	Tetracosane	2400	2400	/	tr	/	/	/	/	/
O	Docosanal	2430	2426*	/	tr	/	/	/	/	/
O	1-Docosanol	2461	2456*	/	tr	/	/	/	/	/
A	Pentacosane	2500	2500	/	tr	/	/	/	/	/
O	Tetracosanal	2634	2632*	/	tr	/	/	/	/	/
O	1-Tetracosanol	2678	-	/	tr	/	/	/	/	/
A	Heptacosane	2700	2700	/	tr	/	/	/	/	/
A	Nonacosane	2900	2900	/	tr	/	/	/	/	/

RI-Experimental linear retention indices relative to C8-C40 alkanes. Ria-Literature indices-Adams' retention indices and * according to NIST data base. Tr- trace<0.05 % and not detected compounds are marked as (/). M-Hydrocarbon Monoterpenoids, MO-Oxygenated Monoterpenoids, S-Hydrocarbon Sesquiterpenoids, SO-Oxygenated Sesquiterpenoids, PP-Phenylpropanoids, CD-carboxylic acid derivatives, A-Alkanes, O-Other.

Table S-III. The number of identified components per sample of *A. alba*, the percentage of each class of compounds, and the percentage of total identified components

Sample	AA1	AA2	AA3	AA4	AA5	AA6	AA7
Contribution in total peaks area of ion chromatogram, %	81.0	90.8	82.1	98.7	89.1	91.7	83.8
Number of components	117	116	20	19	9	117	121
				Content, %			
Total monoterpenoids	37.6	12.3	72.8	95.8	84.2	81.4	48.9
Monoterpene hydrocarbons (M)	0.5	/	1.5	8.3	0.4	5.8	1.2
Oxygenated monoterpenes (MO)	37.1	12.3	71.2	87.5	83.8	75.6	47.6
Total sesquiterpenoids	42.1	78.2	9.1	2.7	4.9	7.8	31.6
Sesquiterpene hydrocarbons (S)	29.3	32.4	5.0	2.7	3.4	3.1	8.8
Oxygenated Sesquiterpene (SO)	12.8	45.8	4.1	/	1.4	4.7	22.9
Phenylpropanoids (PP)	0.2	/	/	/	/	0.3	0.5
Carboxylic acid derivatives (CD)	0.2	/	/	/	/	0.3	tr
n-Alkanes (A)	/	/	/	/	/	tr	/
Other (O)	0.9	0.2	0.3	0.2	/	1.9	2.8

(CC) 2021 SCS.

Table S-IV. Chemical composition of twelve *Artemisia absinthium* samples collected from different soil types according to the WRB

Class	Compound	RI	Ria	Content, %											
				AB1	AB2	AB3	AB4	AB5	AB6	AB7	AB8	AB9	AB10	AB11	AB12
O	3-Methyl-2-buten-1-ol	775	765	/	/	/	/	/	/	/	tr	/	tr	/	tr
O	Methyl 2-methyl-butyrate	784	780*	tr	tr	/	/	/	/	tr	tr	/	/	/	/
O	3-Methyl-2-butenal	788	778	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
O	1-Octene	793	788	tr	tr	tr	/	/	tr	tr	tr	tr	tr	tr	tr
O	Hexanal	801	801	tr	0.2	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
O	2-Methyl-1-pentanol	831	824*	/	/	/	/	/	/	/	/	/	tr	/	tr
O	4-Methyl-pentanol	834	830	/	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
CD	Methyl angelate	843	843	tr	/	/	/	/	/	/	/	/	/	/	/
CD	Ethyl-2-methylbutyrate	848	842*	/	/	tr	/	/	/	/	/	/	/	/	/
O	(*E*)-2-Hexenal	850	846	tr	0.7	0.7	0.2	0.2	0.7	tr	0.3	0.2	0.2	tr	0.3
O	(*Z*)-3-Hexenol	852	850	tr	0.3	0.2	0.2	0.2	0.4	tr	0.4	tr	0.2	/	0.2
O	7-methyl-1-Octene	855	852*	/	/	/	/	/	/	/	/	/	/	0.2	/
O	4-methyl-3-Pentenol	858	868*	/	/	/	/	/	/	/	tr	/	/	/	/
O	(*E*)-Salvene	861	858	/	/	/	/	/	/	tr	/	/	/	/	/
O	(*Z*)-2-Hexenol	865	859	/	tr	tr	tr	tr	0.3	tr	tr	tr	tr	tr	tr
O	*n*-Hexanol	867	863	tr	0.3	0.3	0.2	0.3	0.5	tr	0.4	tr	0.2	tr	0.2
A	*n*-Nonane	900	900	tr	tr	tr	/	/	/	tr	tr	/	/	/	/
O	Heptanal	903	901	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
O	(*E,E*)-2,4-Hexadienal	912	907	/	/	tr	tr	/	tr	tr	tr	tr	tr	/	/
CD	Isobutyl isobutyrate	915	908	tr	tr	tr	/	/	/	/	/	/	/	/	/
M	Tricyclene	924	921	/	tr	tr	tr	tr	tr	/	tr	tr	/	tr	/
M	*α*-Thujene	928	924	0.2	tr	0.2	tr	tr	0.2	tr	0.3	0.2	0.2	0.3	0.2
M	*α*-Pinene	935	932	0.3	0.2	0.2	tr	0.1	0.3	0.3	0.4	0.2	0.3	0.2	0.2
CD	Ethyl tiglate	939	929	tr	/	/	/	/	/	tr	/	/	/	/	tr
M	*α*-Fenchene	949	945	tr	tr	0.3	tr	tr	tr	tr	0.3	0.2	0.2	0.2	tr
M	Camphene	950	946	/	/	/	/	/	/	/	tr	/	/	/	/
CD	Butyl isobutyrate	953	952*	/	/	tr	/	/	/	/	/	/	/	/	/
O	(*E*)-2-Heptenal	957	947	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
O	Benzaldehyde	962	952	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
O	(*Z*)-4-Heptenol	966	959	tr	tr	/	/	/	/	/	/	/	/	/	/
O	*n*-Heptanol	969	959	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
CD	Isoamyl propionate	970	960	/	/	/	/	/	tr	/	/	/	/	/	/
CD	2-methylbutyl propanoate	973	968*	/	/	tr	/	/	/	/	/	/	/	/	/
M	Sabinene	975	969	18.9	17.6	16.1	5.7	13.9	15.3	9.5	18.5	17.0	16.4	18.2	12.1
O	1-Octen-3-ol	980	974	0.7	0.8	0.6	0.3	0.4	0.7	0.6	0.7	0.7	0.5	0.5	0.4
O	3-Octanone	988	979	/	/	/	/	/	/	tr	/	/	/	/	/
O	6-methyl-5-hepten-2-one	988	981	/	/	tr	tr	tr	tr	/	tr	tr	tr	tr	tr
M	Myrcene	992	988	2.9	14.8	6.7	2.4	2.7	4.0	0.8	4.5	2.2	1.2	4.7	1.0
M	*cis-m*-Mentha-2,8-diene	993	983	/	/	/	/	/	/	/	/	/	tr	/	tr
O	3-Octanol	995	988	tr	/	/	tr	tr	/	/	/	/	/	/	/
MO	Yomogi alcohol	1001	999	/	/	/	/	/	tr	/	/	/	/	/	/
O	*n*-Octanal	1004	998	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
M	*α*-Phellandrene	1006	1002	1.5	0.2	tr	0.3	0.7	2.2	1.5	2.5	2.4	0.2	0.8	0.6

(CC) 2021 SCS.

Class	Compound	RI	Ria	Content, %											
				AB1	AB2	AB3	AB4	AB5	AB6	AB7	AB8	AB9	AB10	AB11	AB12
O	(*E*,*E*)-2,4-Heptadienal	1012	1005	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
CD	Isoamyl isobutyrate	1014	1007	tr	tr	tr	tr	/	tr	tr	tr	/	/	/	/
CD	2-methylbutyl Isobutyrate	1017	1017*	/	/	/	/	/	/	/	/	/	tr	tr	/
M	*α*-Terpinene	1019	1014	0.6	tr	0.4	tr	0.3	0.4	0.3	0.6	0.5	0.3	0.8	0.4
M	*o*-Cymene	1027	1022	5.1	4.9	2.1	2.1	2.5	8.8	3.9	6.2	8.4	2.1	2.1	3.2
M	Limonene	1031	1024	/	tr	/	/	/	/	/	/	/	/	/	/
M	*β*-Phellandrene	1032	1025	0.4	/	0.3	tr	0.2	0.3	0.3	tr	0.3	0.2	0.3	0.2
MO	1,8-Cineole	1033	1026	0.4	4.5	0.3	0.2	0.3	1.5	0.6	6.9	1.3	0.3	0.2	0.3
O	Benzyl alcohol	1036	1026	/	/	/	tr	tr	tr	/	/	/	tr	/	tr
M	(*Z*)-*β*-Ocimene	1039	1032	tr	tr	tr	0.6	0.2	0.2	tr	0.4	0.2	2.1	0.6	0.5
O	Benzene acetaldehyde	1046	1036	tr	tr	tr	tr	tr	tr	tr	tr	tr	0.1	tr	tr
M	(*E*)-*β*-Ocimene	1050	1044	tr	tr	tr	tr	0.1	tr	tr	tr	0.2	0.2	tr	tr
CD	Prenyl isobutyrate	1055	1048	tr	/	/	/	/	/	tr	/	tr	tr	tr	tr
M	*γ*-Terpinene	1061	1054	1.5	0.5	1.1	0.4	0.9	1.0	0.7	1.4	1.3	0.7	1.6	0.9
MO	Artemisia ketone	1063	1056	tr	tr	/	/	/	0.3	/	/	/	/	/	/
MO	*cis*-Sabinene hydrate	1069	1065	tr	tr	tr	tr	0.5	tr	0.3	0.4	0.7	0.5	0.4	0.3
O	*n*-Octanol	1071	1063	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
MO	*cis*-Linalool oxide	1074	1067	tr	tr	0.3	0.1	tr	0.2	tr	0.3	tr	tr	tr	0.2
O	1-Nonen-3-ol	1082	1078*	0.4	tr	tr	tr	/	tr	tr	tr	tr	/	/	/
M	Terpinolene	1091	1086	0.3	0.2	0.5	0.2	0.3	0.4	tr	0.4	0.4	0.2	0.4	0.2
CD	Isobutyl tiglate	1094	1088	/	/	/	/	/	/	tr	/	/	/	/	/
MO	6,7-Epoxymyrcene	1095	1090	/	/	/	/	tr	tr	/	tr	/	tr	tr	tr
CD	Methyl benzoate	1098	1088	tr	tr	tr	tr	/	/	tr	tr	/	/	/	/
MO	*trans*-Sabinene hydrate	1100	1098	/	/	/	/	/	/	tr	/	/	/	/	/
MO	Linalool	1103	1098	2.1	15.1	29.8	12.5	21.6	28.9	6.0	13.2	12.8	4.3	6.6	5.3
O	*n*-Nonanal	1105	1100	0.3	0.4	0.4	tr	0.3	0.4	tr	0.3	0.4	0.4	0.4	0.2
MO	*cis*-Thujone	1108	1101	0.4	/	/	0.5	tr	/	1.1	/	/	/	/	0.5
CD	2-Methyl butyl isovalerate	1109	1103	/	tr	tr	/	/	tr	/	tr	tr	tr	tr	/
MO	*cis*-Rose oxide	1113	1106	tr	/	/	/	tr	/	/	tr	0.2	0.2	/	tr
CD	3-Methyl-3-butenyl 3-methyl butyrate	1115	1112	/	tr	tr	tr	/	/	/	/	/	/	/	/
MO	*trans*-Thujone	1119	1112	20.6	tr	tr	26.2	5.5	0.3	48.2	tr	0.3	tr	tr	21.7
MO	*cis*-*p*-Menth-2-en-1-ol	1124	1118	0.4	0.4	0.5	0.2	0.4	0.3	tr	0.6	0.5	0.3	0.4	0.2
MO	*trans*-Rose oxide	1128	1122	/	/	/	/	/	/	tr	tr	tr	tr	/	tr
MO	*α*-Campholenal	1129	1122	tr	tr	tr	tr	tr	/	/	/	/	/	/	/
MO	*cis*-Limonene oxide	1131	1132	/	/	/	/	/	tr	/	/	/	/	/	/
MO	(*Z*)-epoxy-Ocimene	1134	1128	/	/	/	5.9	9.6	0.9	5.3	7.6	2.3	25.6	27.2	29.5
MO	*iso*-3-Thujanol	1137	1134	tr	/	/	0.2	tr	tr	2.1	tr	tr	tr	tr	0.4
CD	Pentyl 2-methylbutyrate	1140	1136*	/	/	tr	/	/	/	/	/	/	/	/	/
MO	*trans*-Pinocarveol	1141	1135	/	/	/	0.5	/	/	/	0.9	/	/	/	/
MO	*trans*-*p*-Menth-2-en-1-ol	1143	1136	/	0.8	0.7	tr	tr	/	/	/	0.6	/	/	/
MO	*trans*-Sabinol	1144	1137	0.5	/	/	/	0.8	0.5	0.8	/	/	/	/	/

(CC) 2021 SCS.

Class	Compound	RI	Ria	Content, %											
				AB1	AB2	AB3	AB4	AB5	AB6	AB7	AB8	AB9	AB10	AB11	AB12
MO	(*E*)-epoxy-Ocimene	1145	1137	/	/	/	/	/	/	/	/	/	1.2	2.5	1.9
CD	(*Z*)-3-Hexenyl isobutyrate	1146	1142	tr	tr	tr	tr	tr	tr	tr	tr	tr	/	/	/
MO	*trans*-Verbenol	1147	1140	/	/	/	tr	/	/	/	/	/	/	/	/
MO	Camphor	1148	1141	tr	tr	tr	/	tr	tr	tr	/	/	tr	/	/
CD	Hexyl isobutyrate	1150	1147	tr	tr	0.3	tr	tr	tr	tr	tr	tr	tr	/	tr
MO	Nerol oxide	1157	1154	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
MO	Sabina ketone	1161	1154	tr	0.3	0.3	0.2	0.3	0.2	tr	0.2	0.4	0.3	0.5	0.4
MO	Isoborneol	1161	1155	tr	/	/	/	/	/	/	/	/	/	/	/
MO	Pinocarvone	1167	1160	tr	tr	tr	tr	tr	tr	tr	/	/	/	/	/
MO	Lavandulol	1172	1165	1.1	0.8	1.5	0.4	2.0	1.1	0.9	1.4	1.1	1.9	0.7	1.7
O	*n*-Nonanol	1173	1165	/	/	/	/	/	tr	/	/	/	/	/	/
MO	Borneol	1174	1165	tr	tr	tr	/	tr	tr	tr	tr	tr	/	/	/
MO	*cis*-Linalool oxide	1175	1170	tr	tr	tr	tr	/	/	/	/	/	/	/	/
MO	Rosefuran epoxide	1178	1173	tr	tr	tr	tr	tr	tr	tr	tr	tr	0.3	0.2	0.3
MO	Terpinen-4-ol	1181	1174	6.6	10.2	10.3	3.0	4.9	6.0	3.6	7.1	6.0	4.7	6.6	5.1
MO	*p*-Cymen-8-ol	1188	1179	/	0.3	/	/	/	/	/	/	/	/	/	/
MO	Thuj-3-en-10-al	1189	1181	tr	/	0.2	0.6	/	0.3	/	/	0.4	/	/	/
CD	(*Z*)-3-Hexenyl butyrate	1190	1184	/	tr	tr	/	tr	/	/	/	/	/	/	1.2
MO	*α*-Terpineol	1194	1186	0.5	1.4	0.6	0.3	0.4	0.6	0.4	1.4	0.4	0.4	0.4	0.3
CD	Methyl salicylate	1196	1190	tr	0.5	0.3	0.3	0.3	/	tr	0.3	0.4	0.3	tr	0.3
MO	Myrtenol	1197	1194	/	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
MO	*cis*-Piperitol	1199	1195	/	tr	tr	tr	tr	tr	tr	tr	tr	tr	0.2	tr
CD	4-Methylpentyl 2-methylbutyrate	1201	1197	tr	tr	tr	tr	/	tr	tr	tr	tr	tr	tr	tr
MO	Sabinyl acetate	1205	1298*	/	/	/	tr	tr	0.2	tr	tr	tr	/	/	/
O	*n*-Decanal	1207	1201	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
MO	*trans*-Piperitol	1210	1207	tr	0.3	0.3	tr	0.2	0.2	tr	0.3	0.2	0.2	tr	tr
MO	Fragranol	1217	1214	0.3	0.3	0.2	0.2	0.1	0.2	0.3	tr	0.2	0.3	0.2	0.2
MO	*γ*-Isogeraniol	1221	1222*	/	1.0	0.5	0.5	0.2	0.3	0.5	0.4	0.3	0.3	0.4	0.2
MO	*β*-Cyclocitral	1224	1217	/	/	/	/	/	/	tr	/	tr	/	/	/
MO	Nerol	1231	1227	0.9	1.2	0.5	0.5	0.8	0.7	1.4	1.5	2.5	2.3	1.1	1.0
CD	(*Z*)-3-Hexenyl 2-methyl butyrate	1234	1229	tr	0.2	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
CD	Hexyl 2-methyl butyrate	1239	1233	tr	tr	0.2	tr	0.1	tr	tr	tr	tr	0.2	0.1	tr
MO	Neral	1244	1235	0.5	/	/	0.2	/	/	0.3	0.3	0.7	0.4	0.3	0.2
O	Cumin aldehyde	1244	1238	/	0.6	0.5	/	0.4	0.4	/	/	/	/	/	/
MO	*cis*-Myrtanol	1247	1250	/	/	/	/	/	/	/	tr	tr	tr	tr	tr
CD	Heptyl isobutyrate	1248	1246	tr	/	/	/	/	/	/	/	/	/	/	/
MO	Carvotanacetone	1251	1244	tr	tr	/	tr	/	/	tr	/	/	/	/	tr
MO	Geraniol	1257	1249	0.4	0.5	0.2	0.2	0.2	0.5	0.4	0.6	0.7	0.4	0.4	0.3
CD	Benzyl propanoate	1261	1257	/	tr	/	/	/	/	/	/	/	/	/	/
MO	Carvenone	1262	1255	/	/	/	tr	/	/	/	/	/	/	/	/
MO	*cis*-Chrysanthenyl acetate	1265	1261	/	/	/	/	/	1.6	/	/	/	/	/	/
MO	*iso*-3-Thujanol acetate	1269	1267	tr	/	/	/	/	/	tr	/	/	/	/	/
MO	Geranial	1273	1264	0.5	0.7	0.5	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.2
MO	Perilla aldehyde	1279	1269	tr	0.3	tr	tr	0.1	tr	tr	tr	tr	0.2	0.2	tr
MO	*α*-Terpinen-7-al	1288	1283	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
MO	Bornyl acetate	1290	1287	/	/	0.2	/	/	/	/	tr	0.2	/	/	/
MO	Lavandulyl acetate	1292	1288	tr	tr	0.9	0.2	0.6	0.3	tr	0.4	0.9	0.4	0.1	tr

(CC) 2021 SCS.

Class	Compound	RI	Ria	Content, %											
				AB1	AB2	AB3	AB4	AB5	AB6	AB7	AB8	AB9	AB10	AB11	AB12
MO	*p*-Cymen-7-ol	1293	1289	tr	0.3	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
O	6-Undecanol	1294	1284	/	/	/	/	/	/	/	tr	tr	tr	tr	tr
O	(*E*,*Z*)-2,4-Decadienal	1296	1292	/	/	/	tr	tr	/	/	/	/	/	/	/
CD	Benzyl isobutyrate	1300	1297	tr	0.3	tr	tr	tr	tr	0.3	tr	tr	tr	tr	tr
MO	Perilla alcohol	1302	1294	/	tr	/	/	/	/	/	/	/	/	/	/
MO	Carvacrol	1304	1298	tr	tr	/	tr	tr	tr	tr	tr	tr	tr	tr	tr
CD	4-Methylhexyl 2-methylbutyrate	1308	1304	/	/	/	/	/	/	/	/	/	tr	/	/
CD	(*E*)-3-Hexenyl tiglate	1316	1315	tr	tr	tr	/	tr	/	tr	tr	tr	tr	tr	tr
O	(*E*,*E*)-2,4-Decadienal	1319	1315	/	/	/	tr	tr	/	tr	tr	tr	tr	tr	tr
MO	*cis*-2,3-Pinanediol	1320	1318	tr	0.2	/	/	/	/	/	/	tr	/	/	/
CD	(*Z*)-3-Hexenyl tiglate	1327	1319	tr	0.2	tr	/	0.2	tr	tr	tr	tr	0.2	tr	tr
MO	*p*-Mentha-1,4-dien-7-ol	1331	1325	tr	/	/	/	/	tr	/	/	tr	/	tr	/
CD	Hexyl tiglate	1333	1330	/	tr	tr	tr	0.2	tr	tr	tr	tr	0.2	tr	tr
CD	Heptyl 2-methyl-butyrate	1337	1336*	tr	tr	tr	/	tr	/	/	/	/	/	/	/
O	Fragranyl acetate	1348	1345*	tr	tr	tr	tr	tr	tr	tr	/	tr	0.1	tr	tr
MO	Citronellyl acetate	1355	1350	/	/	/	/	tr	0.2	tr	tr	tr	tr	tr	tr
CD	2-phenyl ethyl Propanoate	1355	1351	0.2	tr	tr	tr	/	tr	/	/	/	/	/	/
PP	Eugenol	1362	1356	0.3	tr	0.2	tr	0.2	tr	tr	tr	tr	tr	0.2	tr
MO	Neryl acetate	1366	1359	0.4	0.2	0.2	0.1	0.2	0.4	tr	tr	0.4	0.3	tr	tr
O	Methyl *p*-anisate	1379	1371	tr	/	/	/	/	/	/	/	/	/	/	/
MO	Myrtanyl acetate	1382	1381*	/	/	/	/	0.1	tr	tr	tr	tr	/	/	/
MO	Geranyl acetate	1386	1379	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
CD	Benzyl 2-methylbutyrate	1391	1392*	tr	0.3	tr	0.1	tr	0.2	tr	tr	0.2	0.1	0.2	tr
O	(*E*)-Jasmone	1395	1390	/	/	/	/	tr	/	/	/	/	/	/	/
S	7-*epi*-Sesquithujene	1395	1390	/	/	tr	tr	/	tr	/	/	/	tr	/	/
S	*β*-Cubebene	1396	1387	/	/	/	/	/	/	/	/	tr	/	/	/
S	*β*-Elemene	1398	1389	tr	0.6	0.6	tr	0.1	0.2	/	tr	0.2	tr	/	/
CD	Benzyl valerate	1398	1396*	/	/	/	/	/	/	tr	/	/	/	tr	tr
CD	Phenyl ethyl isobutyrate	1399	1393	/	/	/	tr	/	/	/	/	/	/	/	/
O	(*Z*)-Jasmone	1403	1392	tr	0.2	0.2	0.2	0.3	tr	tr	tr	tr	tr	tr	tr
S	Italicene	1411	1405	tr	/	tr	tr	tr	tr	tr	tr	tr	tr	/	tr
MO	Linalool butyrate	1425	1421	1.9	0.7	2.0	0.7	1.4	0.8	/	/	/	/	/	/
MO	Lavandulyl isobutyrate	1426	1421	/	/	/	/	/	/	0.8	1.9	2.2	1.4	1.0	0.6
S	(*E*)-Caryophyllene	1427	1417	0.9	0.9	tr	1.4	0.9	1.3	0.4	tr	1.0	0.8	0.9	0.6
S	*β*-Copaene	1437	1430	/	/	/	/	/	/	tr	/	tr	/	/	/
CD	2-Phenyl ethyl butyrate	1445	1439	/	tr	/	/	/	/	/	/	/	/	/	/
MO	Citronellyl propanoate	1445	1444	tr	/	/	/	tr	tr	/	/	tr	tr	tr	/
S	(*Z*)-*β*-Farnesene	1448	1440	tr	/	0.2	0.2	tr	tr	tr	tr	tr	0.1	/	tr
MO	Neryl propanoate	1456	1452	0.3	0.2	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
S	*α*-Humulene	1462	1452	tr	tr	tr	0.2	0.1	tr	tr	tr	tr	tr	tr	tr
O	*γ*-Decalactone	1472	1465	tr	/	/	/	/	/	/	/	/	/	/	/

(CC) 2021 SCS.

Class	Compound	RI	Ria	Content, %											
				AB1	AB2	AB3	AB4	AB5	AB6	AB7	AB8	AB9	AB10	AB11	AB12
SO	dehydro-Sesquicineole	1474	1469	/	/	0.3	0.2	0.1	tr	/	tr	0.2	tr	/	/
MO	Geranyl propanoate	1476	1476	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
S	*γ*-Selinene	1483	1479*	/	/	/	/	/	/	/	/	/	tr	tr	/
S	*γ*-Curcumene	1485	1481	0.4	/	0.3	0.5	0.1	0.3	0.3	0.3	0.5	0.2	/	tr
MO	Citronellol isobutyrate	1486	1482	/	tr	tr	/	/	/	/	/	/	/	/	/
S	*ar*-Curcumene	1489	1479	0.4	tr	0.9	1.0	0.2	0.6	0.6	0.3	1.1	0.7	/	tr
MO	Neryl isobutyrate	1493	1490	2.6	1.5	1.0	0.5	1.0	1.0	0.6	0.7	1.6	1.4	tr	0.3
S	*β*-selinene	1495	1489	0.7	1.2	1.6	1.2	0.4	0.6	0.3	1.1	1.5	1.0	4.4	0.7
CD	Benzyl tiglate	1503	1497	/	tr	/	tr	tr	/	tr	tr	tr	/	/	/
S	*α*-Selinene	1503	1498	/	/	tr	/	/	/	/	/	/	/	tr	/
S	Bicyclogermacrene	1505	1500	tr	/	/	/	/	tr	tr	/	/	/	/	tr
SO	Lavandulyl isovalerate	1513	1509	5.7	2.0	1.2	2.5	2.5	2.4	2.1	3.8	5.4	4.9	3.2	1.7
SO	Lavandulyl 2-methyl butyrate	1514	1511	tr	tr	0.6	tr	2.2	/	/	/	tr	tr	tr	tr
MO	Geranyl isobutyrate	1516	1514	tr	0.2	tr	tr	tr	tr	/	/	tr	/	/	tr
S	*α*-dehydro-*ar*-Himachalene	1521	1516	0.4	/	/	tr	0.2	tr	tr	0.3	0.2	tr	0.4	tr
SO	10-*epi*-Italicene ether	1523	1515	/	/	tr	tr	/	/	/	/	/	/	/	/
S	7-*epi*-*α*-Selinene	1527	1520	/	tr	/	/	/	tr	/	/	/	/	/	/
S	*β*-Sesqui-phellandrene	1530	1521	/	/	/	/	/	/	/	/	/	tr	/	/
S	*δ*-Cadinene	1531	1522	tr	tr	tr	tr	tr	tr	tr	tr	tr	/	/	/
SO	Italicene ether	1543	1536	tr	/	tr	tr	tr	tr	tr	tr	tr	tr	/	/
SO	Silphiperfo lan-6-*β*-ol	1547	1546	tr	/	/	/	/	/	/	/	/	/	/	/
SO	*cis*-Sesquisabinene hydrate	1550	1542	/	/	tr	tr	/	tr	tr	/	/	tr	/	/
SO	(*E*)-Nerolidol	1566	1561	0.3	0.4	0.2	0.3	0.5	0.2	0.3	0.4	0.4	0.2	0.2	0.2
SO	Citronellyl isovalerate	1573	1563	tr	/	tr	tr	0.1	tr	tr	tr	0.3	0.3	tr	tr
SO	*trans*-Sesquisa-binene hydrate	1586	1577	4.4	2.0	0.9	1.4	2.0	1.4	1.5	2.0	3.0	3.9	1.3	0.7
SO	Neryl isovalerate	1587	1582	2.4	0.9	0.9	1.2	1.6	1.1	0.9	1.1	2.2	2.3	0.7	0.4
SO	Caryophyllene oxide	1592	1582	0.6	1.2	0.5	0.9	1.0	1.3	0.3	0.5	1.5	0.8	0.9	0.4
SO	10-*epi*-Junenol	1593	1590*	/	0.2	/	0.2	0.2	0.2	tr	/	0.3	/	/	/
SO	Humulene epoxide I	1603	1601*	/	/	/	tr	tr	tr	tr	tr	/	/	tr	/
SO	Geranyl 2-methyl butyrate	1604	1601	0.6	tr	0.3	tr	0.2	tr	tr	0.2	0.3	0.3	0.2	tr
SO	Khusimone	1614	1604	tr	/	/	/	/	/	tr	tr	0.2	tr	tr	tr
SO	Geranyl isovalerate	1616	1606	0.8	0.5	0.5	0.3	0.4	0.4	tr	0.4	0.7	0.5	0.4	tr
SO	Humulene epoxide II	1618	1608	/	tr	tr	/	/	/	/	/	/	/	/	/
SO	Junenol	1628	1618	/	/	/	/	/	/	/	/	0.4	/	/	/
SO	Caryophylla-4(12), 8(13)-dien-5-*α*-ol	1646	1639	/	/	/	/	/	tr	/	/	tr	tr	tr	/
SO	*allo*-Aroma-dendrene epoxide	1647	1639	/	/	/	/	0.3	0.3	tr	/	/	/	/	/
SO	*β*-Eudesmol	1659	1649	/	/	0.6	/	/	/	/	/	tr	/	/	/
SO	*α*-Eudesmol	1662	1652	/	/	tr	tr	/	/	/	/	/	/	/	/
SO	*α*-Bisabolol oxide B	1663	1656	/	/	/	tr	tr	/	/	/	tr	0.2	/	/

(CC) 2021 SCS.

Class	Compound	RI	Ria	Content, %											
				AB1	AB2	AB3	AB4	AB5	AB6	AB7	AB8	AB9	AB10	AB11	AB12
SO	Intermedeol	1670	1665	0.4	tr	/	/	tr	0.3	tr	tr	0.4	0.2	tr	tr
SO	*epi*-*β*-Bisabolol	1678	1670	/	/	/	/	/	tr	tr	tr	tr	tr	/	/
SO	*β*-Bisabolol	1678	1674	/	/	0.2	0.1	0.3	/	/	/	/	/	/	/
SO	Elemol acetate	1686	1680	/	/	/	/	/	/	/	/	/	/	tr	/
SO	*epi*-*α*-Bisabolol	1690	1683	/	/	/	0.6	/	/	/	/	/	/	/	/
SO	*α*-Bisabolol	1691	1685	tr	/	1.3	0.4	0.5	0.2	tr	0.5	0.9	0.4	/	tr
SO	Germacrone	1694	1693	/	tr	/	/	/	/	/	/	/	/	tr	tr
SO	Shyobunol	1695	1687	/	/	/	/	/	/	/	/	0.3	0.2	/	/
SO	*β*-Sinensal	1709	1699	/	/	tr	/	/	/	/	/	/	/	/	/
O	Pentadecanal	1718	1715*	/	/	/	tr	/	/	/	/	/	/	/	/
O	Chamazulene	1740	1730	0.4	tr	tr	0.2	0.4	0.2	tr	0.3	0.3	0.2	0.2	tr
SO	Eudesma-2,4(15),11-triene	1751	*	/	/	tr	/	/	/	/	/	/	/	/	/
SO	*γ*-Costol	1755	1745	/	tr	tr	tr	/	tr	tr	tr	tr	tr	/	/
O	Eupatorio-chromene	1771	1761	tr	tr	tr	0.2	tr	tr	tr	tr	tr	tr	tr	tr
SO	*β*-Costol	1775	1765	tr	tr	tr	0.4	tr	tr	tr	tr	0.2	0.2	0.2	tr
O	Phenanthrene	1786	1784*	/	/	/	/	tr	/	/	/	/	/	/	/
SO	Bisabola-1(6),10-dien-*trans*-2,3-diol	1789	*	/	/	/	0.2	/	/	/	/	/	/	/	/
SO	Hexahydrofarnesyl acetone	1848	1846*	/	tr	tr	0.3	tr	tr	tr	tr	tr	0.1	tr	tr
SO	(*Z*)-Lanceol acetate	1861	1854	/	/	/	tr	tr	/	/	/	/	/	/	/
MO	Linalyl phenylacetate	1913	*	/	/	/	/	/	tr	/	/	/	/	/	/
O	(*E*)-3-Cembrene A	1957	1947	/	/	/	/	tr	/	/	/	/	/	/	/
O	Geranyl-*α*-terpinene	1962	1962	/	/	/	/	/	/	/	tr	tr	0.4	tr	tr
O	Geranyl-*p*-cymene	2003	1993*	/	/	1.0	1.8	0.8	0.7	tr	0.5	0.8	1.8	0.3	0.2

RI-Experimental linear retention indices relative to C8-C40 alkanes. Ria-Literature indices-Adams' retention indices and *according to NIST data base. Tr- trace<0.05 % and not detected compounds are marked as (/). M-Hydrocarbon Monoterpenoids, MO-Oxygenated Monoterpenoids, S-Hydrocarbon Sesquiterpenoids, SO-Oxygenated Sesquiterpenoids, PP-Phenylpropanoids, CD-carboxylic acid derivatives, A-Alkanes, O-Other

Table S-V. The number of identified components per sample of *A. absinthium*, the percentage of each class of compounds, and the percentage of total identified components

Sample	AB 1	AB 2	AB3	AB 4	AB5	AB6	AB7	AB8	AB9	AB10	AB11	AB12
Contribution in total peaks area of ion chromatogram, %	92.0	94.8	94.6	82.9	91.5	95.6	98.6	95.5	95.1	93.7	94.3	98.1
Number of components	134	131	142	143	138	142	141	136	144	137	119	127
	Content, %											
Total monoterpenoids	71.8	79.8	78.5	65.8	73.4	80.5	90.9	81.7	70.7	71.8	79.6	90.5
Monoterpene hydrocarbons (M)	31.7	38.4	27.9	11.6	21.8	33.0	17.1	35.4	33.6	24.1	29.9	19.4
Oxygenated monoterpenes (MO)	40.1	41.4	50.7	54.2	51.6	47.6	73.8	46.4	37.1	47.7	49.7	71.1
Total sesquiterpenoids	17.9	9.9	11.2	13.4	13.9	10.7	6.8	10.7	21.3	17.1	12.7	4.5
Sesquiterpene hydrocarbons (S)	2.5	2.7	3.6	4.4	2.1	3.1	1.6	1.9	4.6	2.8	5.7	1.3
Oxygenated Sesquiterpene (SO)	15.5	7.2	7.6	9.0	11.8	7.6	5.1	8.8	16.8	14.3	7.0	3.3
Phenylpropanoids (PP)	0.3	tr	0.2	tr	0.2	tr	tr	tr	tr	tr	0.2	tr
Carboxylic acid derivatives (CD)	0.2	1.6	0.7	0.5	0.8	0.2	0.3	0.3	0.6	0.9	0.3	1.5
n-Alkanes (A)	tr	tr	tr	/	/	/	tr	tr	/	/	/	/
Other (O)	1.8	3.4	4.0	3.2	3.1	4.2	0.6	2.8	2.4	4.0	1.5	1.6

(CC) 2021 SCS.

Table S-VI. Chemical composition of twelve *Artemisia annua* samples collected from different soil types according to the WRB

Class	Compound	RI	RIa	Content, %											
				AN1	AN2	AN3	AN4	AN5	AN6	AN7	AN8	AN9	AN10	AN11	AN12
O	3-Methyl-2-buten-1-ol	775	765	/	tr	/	/	/	tr	tr	/	tr	/	tr	/
CD	Methyl 2-methylbutyrate	784	780*	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
O	3-Methyl-2-butenal	788	778	/	tr	/	/	tr	tr	tr	tr	tr	tr	/	/
O	Hexanal	801	801	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
CD	Ethyl 2-methylbutyrate	848	842*	0.4	0.6	0.6	0.5	0.6	0.4	0.4	0.7	0.5	0.7	0.5	0.3
O	(*E*)-2-Hexenal	850	846	/	/	/	/	/	/	0.1	/	tr	/	/	tr
CD	Ethyl 3-methylbutyrate	851	849	tr	tr	tr	tr	0.1	/	/	0.1	/	tr	tr	/
O	(*Z*)-3-Hexenol	852	850	/	tr	/	/	/	/	tr	/	tr	/	tr	/
CD	Propyl isobutyrate	854	856*	/	/	0.1	0.1	tr	tr	/	0.1	/	tr	/	tr
O	(*E*)-2-Hexenol	864	854	/	/	/	/	/	tr	/	/	/	/	/	tr
O	(*Z*)-2-Hexenol	865	859	/	/	/	/	tr	/	tr	/	tr	/	/	/
O	*n*-Hexanol	867	863	tr	tr	tr	tr	0.1	0.1	0.1	tr	tr	tr	tr	tr
M	Santolina triene	909	906	0.4	0.2	tr	0.2	0.3	0.3	0.3	0.3	0.8	0.5	0.4	0.3
M	Tricyclene	924	921	0.1	tr	0.1	0.1	tr	0.1	tr	0.2	0.1	tr	0.1	0.1
M	α-Thujene	928	924	0.1	tr	0.1	tr	0.1	0.1	tr	0.1	0.1	0.1	0.1	tr
M	α-Pinene	935	932	12.8	12.2	20.3	3.8	14.9	10.9	13.4	10.1	8.6	16.4	23.3	9.0
CD	Ethyl tiglate	939	929	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	/	tr
CD	Propyl 2-methylbutyrate	946	944*	0.2	0.4	0.5	0.5	0.3	tr	0.2	0.4	0.3	0.4	0.3	0.1
M	Camphene	950	946	1.2	0.5	3.3	2.7	1.1	1.6	0.7	3.7	1.9	1.0	1.7	1.6
CD	Butyl isobutyrate	953	952*	/	/	tr	/	/	/	/	/	/	/	/	/
M	Thuja-2,4(10)-diene	956	953	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
O	Benzaldehyde	962	952	tr	/	tr	/	/	tr	tr	/	tr	tr	tr	tr
M	Sabinene	975	969	1.1	0.7	1.8	1.5	1.1	0.8	0.6	1.5	0.7	0.8	1.8	1.0
M	β-Pinene	979	974	1.2	1.1	2.4	0.7	1.3	1.0	1.1	1.4	1.0	1.3	2.1	0.9
O	6-Methyl-5-hepten-2-one	988	981	/	tr	/	/	/	/	/	/	/	/	/	/
M	Myrcene	992	988	0.9	0.4	2.9	0.5	1.5	1.0	0.7	4.3	0.1	0.7	0.6	0.7
MO	Yomogi alcohol	1001	999	0.6	1.2	0.2	0.9	1.1	1.1	1.0	0.9	1.0	1.0	0.4	0.6
CD	Isobutyl isovalerate	1005	1004*	/	/	/	/	/	/	/	/	tr	/	/	/
M	α-Phellandrene	1006	1002	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
M	δ-3-Carene	1013	1008	/	/	tr	/	/	/	/	/	/	/	/	/
M	α-Terpinene	1019	1014	0.1	0.2	0.3	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.2	0.1
M	*o*-Cymene	1027	1022	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	tr
M	Limonene	1031	1024	tr	tr	/	tr	tr	tr	tr	0.2	tr	tr	tr	tr
MO	1,8-Cineole	1033	1026	5.8	5.4	11.0	11.9	7.6	6.0	4.9	9.7	5.4	5.0	8.4	6.6
MO	Santolina alcohol	1037	1034	0.2	0.2	tr	0.1	0.2	0.2	0.2	0.1	0.3	0.3	0.1	0.2
M	(*Z*)-β-Ocimene	1039	1032	/	/	tr	/	/	/	/	/	/	/	/	/
CD	Butyl 2-methylbutyrate	1043	1041*	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
O	Benzene acetaldehyde	1046	1036	/	tr	tr	/	tr	tr	/	tr	tr	tr	0.1	tr
M	(*E*)-β-Ocimene	1050	1044	tr	/	tr	/	tr	tr	tr	tr	/	tr	tr	tr
CD	Prenyl isobutyrate	1055	1048	/	/	tr	/	/	/	/	tr	/	/	/	/
M	γ-Terpinene	1061	1054	tr	tr	0.4	tr	tr	tr	tr	tr	tr	tr	tr	tr
MO	Artemisia ketone	1063	1056	38.1	49.8	6.9	40.8	43.9	45.7	49.7	32.8	48.8	46.5	20.7	36.0
MO	*cis*-Sabinene hydrate	1069	1065	0.9	0.6	0.5	0.4	0.4	0.5	0.5	0.2	0.3	0.5	0.8	0.7
MO	*cis*-Linalool oxide	1074	1067	/	/	tr	/	/	/	/	/	/	/	/	/
MO	Artemisia alcohol	1085	1080	5.8	4.7	1.2	5.2	4.2	6.4	4.4	4.6	5.2	6.2	3.3	6.6
M	Terpinolene	1091	1086	tr	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	tr
MO	*trans*-Sabinene hydrate	1100	1098	0.4	0.2	0.3	0.2	0.2	tr	0.2	0.1	0.2	0.2	0.4	0.3
MO	α-Pinene oxide	1102	1099	/	tr	0.1	/	/	/	tr	/	/	tr	0.1	tr
CD	2-Methyl butyl 2-Methyl butyrate	1104	1100	tr	/	/	/	/	tr	tr	/	tr	tr	tr	tr
O	*n*-Nonanal	1105	1100	/	tr	/	tr	tr	/	/	/	/	/	/	/
CD	3-Methyl-3-butenyl	1115	1112	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.1

(CC) 2021 SCS.

Class	Compound	RI	RIa	Content, %											
				AN1	AN2	AN3	AN4	AN5	AN6	AN7	AN8	AN9	AN10	AN11	AN12
	3-Methyl butyrate														
MO	*exo*-Fenchol	1117	1114	tr	/	/	/	tr	/	tr	tr	tr	tr	tr	tr
MO	*trans*-Thujone	1119	1112	tr	/	/	/	/	/	/	/	/	/	/	/
MO	*trans*-*p*-Mentha-2, 8-dien-1-ol	1121	1119	/	0.1	tr	/	0.1	tr	tr	tr	/	/	/	/
MO	*cis*-*p*-Menth-2-en-1-ol	1124	1118	0.1	/	0.2	/	/	tr	/	0.1	0.1	/	0.1	tr
MO	*trans*-Pinene hydrate	1125	1119	/	/	/	/	/	/	0.1	/	/	0.1	/	0.1
MO	*α*-Campholenal	1129	1122	0.1	0.5	0.5	0.2	0.1	0.3	0.4	0.2	0.3	0.3	0.4	0.3
MO	*cis*-*p*-Mentha-2, 8-dien-1-ol	1135	1133	/	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
CD	Butyl 2-methylbutyrate	1140	1141*	/	/	/	/	/	tr	/	/	/	/	/	/
MO	*trans*-Pinocarveol	1141	1135	2.8	4.3	5.4	1.7	3.3	2.4	4.1	1.3	1.8	2.6	3.4	2.3
MO	Camphor	1148	1141	7.8	2.5	18.2	18.8	5.6	10.6	3.6	17.8	10.3	4.0	8.6	12.8
MO	*β*-Pinene oxide	1159	1154	tr	0.3	1.4	0.1	0.1	0.1	0.1	0.2	/	0.1	/	0.1
MO	Isoborneol	1161	1155	/	/	/	0.1	/	/	/	/	/	/	/	/
MO	*cis*-chrysanthenol	1166	1160	0.1	tr	/	/	0.1	0.1	tr	0.1	0.2	tr	0.1	0.1
MO	Pinocarvone	1167	1160	1.9	3.9	4.2	1.7	3.0	2.1	3.6	1.2	1.5	2.2	2.8	2.4
MO	*δ*-Terpineol	1171	1162	/	/	tr	/	/	/	/	/	/	/	/	/
MO	Lavandulol	1172	1165	1.1	tr	/	tr	0.8	0.7	0.6	0.6	tr	tr	tr	tr
MO	Borneol	1174	1165	tr	0.4	0.6	0.3	tr	tr	tr	tr	0.9	0.9	1.0	0.8
MO	Artemisyl acetate	1175	1169	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
MO	*cis*-Pinocamphone	1178	1172	0.4	tr	tr	tr	tr	tr	0.1	tr	0.1	0.1	0.3	tr
MO	Terpinen-4-ol	1181	1174	0.3	0.6	1.4	0.6	0.7	0.7	0.6	0.6	0.5	0.5	0.8	0.4
MO	*p*-Cymen-8-ol	1188	1179	tr	tr	/	/	/	/	/	/	tr	tr	0.1	/
MO	Thuj-3-en-10-al	1189	1181	/	/	0.1	tr	tr	tr	tr	tr	/	/	/	tr
MO	*trans*-*p*-Mentha-1(7), 8-dien-2-ol	1191	1187	/	/	tr	0.1	/	/	/	/	/	/	/	/
MO	*α*-Terpineol	1194	1186	0.5	0.2	0.6	0.3	0.5	0.4	0.2	0.4	0.3	0.4	0.9	0.5
MO	*p*-Mentha-1,5-dien-7-ol	1196	1191	/	/	0.1	0.1	/	/	tr	tr	tr	tr	/	/
MO	Myrtenol	1197	1194	tr	0.7	1.0	0.5	0.5	0.4	0.6	0.3	0.4	0.4	0.6	0.5
MO	Myrtenal	1200	1195	0.4	/	/	/	/	/	/	/	/	/	/	/
MO	*trans*-Piperitol	1210	1207	/	tr	tr	tr	tr	tr	tr	/	tr	tr	tr	/
MO	Verbenone	1213	1204	tr	tr	tr	/	tr	/	tr	/	tr	tr	tr	tr
MO	*trans*-Carveol	1222	1215	0.1	0.1	0.4	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.4	/
MO	*cis*-*p*-Mentha-1(7),8-dien-2-ol	1231	1227	/	tr	tr	tr	/	tr	tr	/	tr	tr	tr	tr
CD	(*Z*)-3-Hexenyl 2--methyl butyrate	1234	1229	0.1	0.2	0.3	0.1	/	/	0.1	/	0.2	0.1	0.3	0.2
CD	(*Z*)-3-Hexenyl 3-methyl butyrate	1238	1232	0.1	/	0.2	/	0.1	0.2	/	0.2	/	/	/	/
CD	Hexyl 2-methyl butyrate	1239	1233	/	0.2	/	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.3	0.1
O	Cumin aldehyde	1244	1238	/	/	/	tr	/	/	/	/	/	/	/	/
CD	Hexyl 3-methylbutyrate	1245	1241	tr	tr	0.1	tr	tr	tr	tr	tr	tr	tr	tr	tr
MO	Carvone	1248	1239	tr	tr	0.1	tr	tr	0.1	tr	tr	tr	tr	0.1	0.1
MO	Carvotanacetone	1251	1244	/	tr	/	/	/	/	/	/	/	/	/	/
MO	Geraniol	1257	1249	0.1	/	tr	tr	0.1	tr	tr	tr	tr	tr	0.1	0.1
MO	*cis*-Chrysanthenyl acetate	1265	1261	tr	tr	tr	tr	/	/	/	/	/	/	/	/
MO	Geranial	1273	1264	tr	/	/	/	tr	/	/	/	/	/	tr	/
MO	*cis*-Verbenyl acetate	1281	1280	/	/	0.1	/	/	/	/	/	/	/	/	/
MO	Isobornyl acetate	1289	1283	/	/	tr	0.1	/	/	/	/	/	/	/	/
MO	Bornyl acetate	1290	1287	tr	tr	tr	0.1	/	tr	tr	/	tr	/	tr	tr
O	1-Tridecene	1293	1290	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	0.1	0.1
CD	Benzyl isobutyrate	1300	1297	tr	/	tr	tr	tr	tr	/	/	/	/	/	/
MO	*trans*-Pinocarvyl acetate	1304	1298	0.1	0.2	0.4	0.2	0.1	0.1	0.2	/	0.1	tr	0.1	0.1

(CC) 2021 SCS.

Class	Compound	RI	RIa	Content, %											
				AN1	AN2	AN3	AN4	AN5	AN6	AN7	AN8	AN9	AN10	AN11	AN12
CD	(*Z*)-3-Hexenyl tiglate	1327	1319	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
MO	Myrtenyl acetate	1329	1324	/	/	tr	tr	/	/	/	/	/	/	/	/
CD	Hexyl tiglate	1333	1330	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
MO	*trans*-Carvyl acetate	1341	1339	/	/	tr	/	/	/	/	/	/	/	/	/
S	*α*-Cubebene	1355	1345	tr	/	tr	/	/	/	/	/	/	/	/	/
PP	Eugenol	1362	1356	0.4	0.2	0.3	0.2	0.2	0.3	0.2	0.1	0.2	0.2	0.3	0.4
S	*α*-Copaene	1380	1374	0.3	0.3	0.3	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.4	0.3
CD	Benzyl 2-methylbutyrate	1391	1392*	/	0.1	0.1	0.1	tr	0.1	0.1	0.1	0.1	0.1	0.1	0.1
S	*β*-Cubebene	1396	1387	/	0.1	0.1	tr	tr	tr	0.1	tr	tr	tr	0.1	0.1
S	*β*-Elemene	1398	1389	0.2	tr	tr	tr	tr	tr	tr	tr	0.1	tr	0.1	0.1
O	(*Z*)-Jasmone	1401	1392	0.1	tr	0.1	tr	tr	tr	tr	tr	0.1	0.1	0.1	0.1
S	*α*-Cedrene	1420	1410	/	/	tr	/	/	/	/	/	/	/	/	/
S	(*E*)-Caryophyllene	1427	1417	2.1	0.9	0.9	0.5	0.9	0.7	1.0	0.5	1.6	1.0	2.3	1.7
S	*β*-Copaene	1437	1430	tr	/	/	/	/	/	tr	/	/	tr	tr	tr
S	Amorpha-4,11-diene	1458	1449	/	/	/	/	/	/	/	/	/	0.4	0.3	/
S	(*E*)-*β*-Farnesene	1460	1454	0.5	/	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.2	0.5	0.5
S	*α*-Humulene	1462	1452	tr	0.1	0.1	0.1	0.3	0.4	0.1	tr	0.1	tr	tr	0.6
S	*cis*-Muurola-4(14), 5-diene	1471	1465	tr	tr	0.1	/	/	/	/	/	/	/	/	/
S	*γ*-Selinene	1483	1479*	0.5	tr	0.1	tr	0.3	0.2	0.2	0.1	0.5	0.4	1.1	0.6
S	Germacrene D	1490	1484	3.4	1.5	1.3	1.1	1.3	1.0	1.7	0.8	1.4	1.5	2.8	2.7
S	*β*-Selinene	1495	1489	2.2	2.1	3.6	0.5	0.5	0.7	0.2	2.1	0.3	0.6	0.4	0.5
SO	Indipone	1502	1496	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	0.1	0.1
S	Bicyclogermacrene	1505	1500	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2
S	(*E*,*E*)-*α*-Farnesene	1512	1505	/	tr	/	/	/	/	/	/	/	/	/	/
S	*β*-Bisabolene	1513	1505	/	/	/	/	tr	/	tr	/	/	/	/	/
S	Germacrene A	1514	1508	0.1	tr	tr	/	/	tr	/	/	tr	tr	0.1	0.1
SO	Cubenol	1522	1514	/	tr	/	/	tr	/	tr	tr	/	tr	0.1	tr
SO	Isobornyl isovalerate	1523	1521	tr	/	tr	tr	/	/	/	/	/	/	/	/
S	*δ*-Cadinene	1531	1522	0.1	tr	0.1	tr	tr	tr	tr	tr	tr	tr	0.1	0.1
S	*γ*-Cuprenene	1542	1532	/	/	/	/	/	/	/	/	tr	/	/	/
S	*α*-Calacorene	1551	1544	/	/	tr	/	/	/	/	/	/	/	/	/
SO	Bornyl angelate	1569	1564	tr	tr	tr	tr	tr	tr	/	tr	tr	tr	tr	tr
CD	(*Z*)-3-Hexenyl benzoate	1575	1565	tr	/	0.1	/	/	/	tr	/	/	/	/	/
SO	Germacrene D-4-ol	1584	1574	tr	/	/	/	/	/	/	/	/	/	/	0.2
SO	Spathulenol	1587	1577	/	/	tr	tr	/	/	/	tr	/	tr	tr	tr
SO	Thujopsan-2-*α*-ol	1590	1586	/	/	0.1	/	/	/	/	/	/	/	/	/
SO	Caryophyllene oxide	1592	1582	0.3	0.2	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.3	0.2
SO	*β*-Copaen-4-*α*-ol	1598	1590	/	tr	0.1	/	tr	/	/	/	/	/	/	/
SO	1,10-di-*epi*-Cubenol	1624	1618	/	/	/	/	/	/	/	/	/	/	tr	/
SO	*epi*-Cedrol	1626	1618	/	0.1	0.1	tr	/	/	/	/	/	/	/	/
SO	Muurola-4,10(14)-dien-1-*β*-ol	1637	1630	/	/	0.1	0.2	/	/	/	/	/	/	/	/
SO	Longifolenaldehyde	1635	1631*	/	/	/	/	/	/	0.2	/	0.3	0.2	0.5	0.5
SO	*cis*-Cadin-4-en-7-ol	1640	1635	0.1	0.1	0.1	tr	tr	0.1	tr	0.1	0.1	0.1	0.2	0.2
SO	Selina-3,11-dien-6-*α*-ol	1642	1642	/	0.2	0.1	0.3	0.2	0.2	0.4	tr	0.4	0.3	0.7	0.7
SO	Caryophylla-4(12),8(13)-dien-5-α-ol	1646	1639	0.1	0.1	0.1	0.1	/	tr	tr	tr	0.1	0.1	0.1	0.2
SO	*allo*-Aromadendrene epoxide	1647	1639	0.1	/	/	/	tr	/	/	/	/	/	/	/
SO	Pogostol	1655	1651	/	/	/	/	/	/	/	/	/	0.1	/	/
SO	Selin-11-en-4-*α*-ol	1665	1658	0.1	tr	0.1	0.1	0.1	tr	0.1	/	0.1	0.1	0.3	0.3
SO	Intermedeol	1670	1665	0.1	/	tr	/	/	/	/	/	/	/	/	/
SO	14-hydroxy-(*Z*)-	1672	1666	/	tr	/	/	/	/	/	/	/	/	/	/

(CC) 2021 SCS.

Class	Compound	RI	RIa	Content, %											
				AN1	AN2	AN3	AN4	AN5	AN6	AN7	AN8	AN9	AN10	AN11	AN12
	Caryophyllene														
SO	*epi*-Zizanone	1675	1668	tr	/	/	/	/	/	/	/	/	/	/	/
SO	(*Z*)-*α*-Santalol	1679	1674	0.1	/	/	/	tr	tr	0.1	/	0.1	0.1	0.3	/
SO	*α*-Bisabolol	1691	1685	0.1	/	/	/	/	/	/	/	/	/	0.2	0.2
SO	Germacra-4(15),5, 10(14)-trien-1-*α*-ol	1695	1685	0.4	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	tr	0.3	0.6
SO	Cedr-8(15)-en-9-yl-acetate	1746	1741	/	/	tr	/	/	/	/	/	/	/	/	/

RI-Experimental linear retention indices relative to C8-C40 alkanes. Ria-Literature indices-Adams' retention indices and * according to NIST data base. Tr- trace<0.05% and not detected compounds are marked as (/). M-Hydrocarbon Monoterpenoids, MO-Oxygenated Monoterpenoids, S-Hydrocarbon Sesquiterpenoids, SO-Oxygenated Sesquiterpenoids, PP-Phenylpropanoids, CD-carboxylic acid derivatives, A-Alkanes, O-Other

Table S-VII. The number of identified components per sample of *A. annua*, the percentage of each class of compounds, and the percentage of total identified components

Sample	AN1	AN2	AN3	AN4	AN5	AN6	AN7	AN8	AN9	AN10	AN11	AN12
Contribution in total peaks area of ion chromatogram, %	97.5	98.5	96.8	98.8	99.1	99.0	98.9	99.1	98.8	99.3	97.7	96.9
Number of components	98	97	114	94	94	94	99	87	96	99	99	97
	Content, %											
Total monoterpenoids	85.4	91.2	86.5	94.1	93.2	93.9	92.5	93.3	91.1	92.1	84.4	85.2
Monoterpene hydrocarbons (M)	17.9	15.2	32.0	9.8	20.7	16.0	17.1	22.0	13.5	21.0	30.5	13.6
Oxygenated monoterpenes (MO)	67.5	75.9	54.6	84.3	72.5	77.9	75.45	71.3	77.5	71.1	53.9	71.6
Total sesquiterpenoids	10.7	5.7	7.9	3.2	4.2	3.9	4.9	4.0	6.0	5.4	11.3	10.3
Sesquiterpene hydrocarbons (S)	9.4	5.0	6.6	2.4	3.7	3.4	3.8	3.8	4.5	4.5	8.4	7.2
Oxygenated Sesquiterpene (SO)	1.2	0.7	1.3	0.8	0.5	0.4	1.1	0.2	1.6	0.9	2.9	3.1
Phenylpropanoids (PP)	0.4	0.2	0.3	0.2	0.2	0.3	0.2	0.1	0.2	0.2	0.3	0.4
Carboxylic acid derivatives (CD)	1.0	1.5	2.0	1.4	1.3	1.0	1.1	1.7	1.4	1.6	1.6	0.9
Other (O)	0.1	tr	0.1	tr	0.1	0.1	0.1	tr	0.1	0.1	0.2	0.1

Table S-VIII. Chemical composition of twelve *Artemisia vulgaris* samples collected from different soil types according to the WRB

Class	Compound	RI	RIa	Content, %											
				AV1	AV2	AV3	AV4	AV5	AV6	AV7	AV8	AV9	AV10	AV11	AV12
O	(*Z*)-2-Penten-1-ol	775	765	/	/	/	/	/	/	/	/	/	/	0.2	/
O	3-Methyl-2-butenal	788	778	/	/	/	/	/	/	/	/	/	tr	tr	tr
O	1-Octene	793	788	/	/	/	/	/	/	tr	tr	tr	tr	/	tr
O	Hexanal	801	801	/	/	tr	/	tr	tr	tr	tr	tr	tr	tr	tr
O	Furfural	833	828	/	/	/	/	tr	/	/	/	/	/	/	/
O	4-Methyl-pentanol	834	830	/	tr	/	/	/	/	/	/	/	/	/	/
CD	Methyl 3-methyl-2-butyrate	843	842*	/	/	/	/	/	/	/	/	/	tr	tr	/
O	(*E*)-2-Hexenal	850	846	/	/	/	/	/	/	/	tr	tr	tr	0.8	/
O	(*E*)-3-Hexenal	851	846	tr	/	tr	/	/	/	/	/	/	/	/	/
O	(*Z*)-3-Hexenol	852	850	/	tr	/	/	tr	/	/	/	/	/	0.4	tr
O	7-Methyl-1-octene	853	852*	/	/	/	/	/	/	tr	tr	tr	tr	/	/
O	(*E*)-2-Hexenol	864	854	/	/	/	/	/	tr	/	/	/	/	/	/
O	(*Z*)-2-Hexenol	865	859	/	/	tr	/	tr	/	/	/	/	/	/	/
O	Cyclohexanol	865	869*	/	/	/	/	/	/	tr	tr	tr	tr	tr	tr
O	*n*-Hexanol	867	863	tr	tr	tr	/	tr	tr	tr	tr	tr	tr	0.4	tr
CD	Isopentyl acetate	876	869	/	/	/	/	/	/	/	tr	/	/	/	/
O	1-Hepten-3-ol	879	870*	/	/	/	/	/	/	/	/	/	/	/	tr
O	1-Nonene	892	892*	/	/	/	/	/	tr	tr	tr	tr	tr	/	/

(CC) 2021 SCS.

Class	Compound	RI	RIa	Content, %											
				AV1	AV2	AV3	AV4	AV5	AV6	AV7	AV8	AV9	AV10	AV11	AV12
O	(*Z*)-4-Heptenal	895	893	/	/	/	/	/	/	/	/	/	/	tr	tr
A	*n*-Nonane	900	900	/	/	/	/	/	/	/	/	/	/	/	tr
M	Santolina Triene	909	906	4.2	tr	1.5	0.4	/	3.4	tr	2.3	6.1	3.2	tr	/
O	(*E*,*E*)-2,4-Hexadienal	912	907	/	/	/	/	tr	/	/	/	/	/	tr	/
CD	Isobutyl isobutyrate	915	908	/	/	/	/	/	/	/	/	/	tr	/	/
O	2,5-diethenyl-2-methyl-Tetrahydrofuran	917	912	/	/	/	/	/	/	/	/	/	tr	/	/
M	Tricyclene	924	921	/	/	tr	tr	/	tr	tr	tr	tr	tr	/	tr
M	*α*-Thujene	928	924	tr	tr	tr	tr	tr	0.2	0.4	0.1	tr	0.2	tr	tr
M	*α*-Pinene	935	932	1.3	tr	0.4	tr	tr	1.5	4.5	1.0	1.6	2.3	tr	tr
M	Camphene	950	946	0.1	tr	0.2	tr	/	0.3	0.8	tr	0.4	0.2	tr	tr
M	Thuja-2,4(10)-diene	956	953	/	/	/	/	/	/	tr	tr	tr	tr	/	tr
O	(*E*)-2-Heptenal	957	947	/	/	/	/	tr	/	/	/	/	/	tr	tr
O	Benzaldehyde	962	952	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
CD	Isoamyl propionate	970	960	/	tr	tr	/	/	/	/	/	/	tr	/	/
M	Sabinene	975	969	2.5	tr	0.7	tr	tr	6.0	15.4	3.0	3.3	2.4	0.8	0.5
M	*β*-Pinene	979	974	0.9	tr	0.5	tr	tr	1.5	1.3	1.0	1.4	0.8	tr	0.4
O	1-Octen-3-ol	980	974	tr	0.2	tr	tr	0.2	tr	/	tr	/	tr	0.5	tr
O	6-methyl-5-Hepten-2-one	988	981	/	tr	tr	/	tr	tr	tr	tr	tr	tr	tr	tr
M	Myrcene	992	988	3.6	tr	1.0	1.6	0.7	2.6	4.9	0.7	1.4	3.3	0.6	2.0
O	3-Octanol	995	988	/	/	/	/	tr	tr	/	tr	tr	tr	tr	tr
O	Mesitylene	996	994	/	/	/	/	/	/	tr	/	/	/	/	tr
MO	Yomogi alcohol	1001	999	/	tr	/	/	/	/	tr	tr	tr	/	0.6	/
O	*n*-Octanal	1004	998	/	/	/	/	tr	/	/	/	/	/	tr	tr
CD	Isobutyl 2-methylbutanoate	1005	1004*	tr	tr	tr	tr	/	/	/	/	/	tr	/	/
M	*α*-Phellandrene	1006	1002	tr	tr	0.6	/	/	tr	tr	tr	tr	0.4	tr	tr
CD	(*Z*)-3-Hexenyl acetate	1008	1004	/	/	/	/	/	/	/	/	/	/	/	tr
O	(*E*,*E*)-2,4-Heptadienal	1012	1005	/	/	/	/	tr	/	/	/	/	/	tr	/
M	*δ*-3-Carene	1013	1008	/	/	/	/	tr	/	/	/	tr	/	/	/
CD	Isoamyl isobutyrate	1014	1007	/	/	tr	/	/	/	/	/	/	tr	/	/
CD	2-Methylbutyl isobutyrate	1017	1017*	tr	tr	tr	tr	/	/	/	/	/	tr	/	/
M	*α*-Terpinene	1019	1014	0.2	tr	tr	tr	tr	0.4	0.5	0.3	0.3	0.4	tr	tr
M	*o*-Cymene	1027	1022	0.5	tr	0.9	tr	0.1	0.8	0.3	0.5	0.7	1.4	0.2	tr
O	2-Ethylhexanol	1030	1027*	/	tr	/	/	tr	/	/	/	/	/	/	/
M	Limonene	1031	1024	tr	tr	tr	tr	tr	/	tr	/	/	/	tr	tr
MO	1,8-Cineole	1033	1026	16.2	2.6	6.9	0.9	1.0	31.5	8.3	16.1	23.1	23.8	1.4	3.5
MO	Santolina alcohol	1037	1034	/	/	/	/	/	/	/	/	/	/	tr	/
M	(*Z*)-*β*-Ocimene	1039	1032	tr	tr	tr	tr	tr	0.3	tr	tr	tr	0.2	tr	tr
MO	Lavender Lactone	1042	1034*	/	/	tr	tr	/	/	/	/	/	/	/	/
CD	Butyl 2-methylbutyrate	1043	1041*	/	tr	/	/	/	/	/	/	/	/	/	/
O	*β*-Isophorone	1043	1043*	/	/	/	/	/	/	/	/	/	/	/	tr
O	Benzene acetaldehyde	1046	1036	tr	tr	tr	tr	0.2	tr	/	tr	tr	tr	0.5	tr
M	(*E*)-*β*-Ocimene	1050	1044	0.5	1.2	0.3	tr	tr	1.9	0.3	0.3	0.8	1.8	tr	tr
MO	Santolina epoxide	1055	-	0.2	/	0.2	tr	/	tr	/	tr	0.2	tr	tr	/
MO	Bergamal	1055	1051	/	tr	/	/	/	/	/	/	/	/	/	/
M	*γ*-Terpinene	1061	1054	0.8	tr	0.2	tr	tr	1.2	1.2	0.8	1.0	1.1	tr	tr
MO	Artemisia ketone	1063	1056	tr	tr	/	/	/	/	/	/	/	/	16.3	tr
MO	*cis*-Sabinene hydrate	1069	1065	1.0	0.2	0.3	tr	0.2	0.8	1.5	0.3	0.4	0.3	1.0	tr

(CC) 2021 SCS.

Class	Compound	RI	RIa	Content, %											
				AV1	AV2	AV3	AV4	AV5	AV6	AV7	AV8	AV9	AV10	AV11	AV12
O	*n*-Octanol	1071	1063	/	tr	/	/	/	/	/	/	/	/	/	tr
MO	*trans*-Arbusculone	1072	1066	/	/	/	tr	/	/	/	/	/	/	/	/
MO	*cis*-Linalool oxide	1074	1067	/	tr	tr	tr	tr	tr	tr	tr	tr	0.2	tr	tr
O	1-Nonen-3-ol	1082	1078*	/	/	/	/	tr	tr	tr	/	/	tr	tr	tr
MO	Artemisia alcohol	1085	1080	tr	/	tr	/	/	/	/	/	/	tr	2.1	tr
MO	*trans*-Linalool oxide	1090	1084	/	tr	tr	/	tr	/	/	/	/	/	/	/
M	Terpinolene	1091	1086	0.2	/	/	tr	/	tr	0.3	0.2	tr	0.2	tr	tr
MO	6,7-Epoxymyrcene	1095	1090	0.2	/	tr	tr	tr	tr	0.1	tr	tr	0.2	tr	tr
MO	*trans*-Sabinene hydrate	1100	1098	0.7	tr	tr	tr	0.1	0.9	1.1	0.3	0.5	0.5	0.9	tr
MO	Linalool	1103	1098	/	0.4	1.0	tr	tr	/	/	/	/	/	/	0.4
CD	2-Methyl butyl-2-methyl butyrate	1104	1100	/	0.4	tr	tr	/	/	/	/	tr	tr	/	/
O	*n*-Nonanal	1105	1100	/	/	/	/	0.3	tr	tr	0.1	/	/	2.0	0.5
MO	Filifolone	1106	1103*	1.8	/	/	/	/	/	/	/	/	1.1	/	/
MO	*cis*-Thujone	1108	1101	5.9	/	3.3	0.4	1.2	0.2	tr	1.1	tr	/	/	/
CD	2-Methyl butyl isovalerate	1109	1103	/	tr	/	/	/	tr	/	/	tr	tr	/	/
O	1-Octen-3-yl acetate	1113	1110	/	0.8	/	/	/	/	tr	tr	tr	/	tr	0.6
O	Benzeneethanol	1116	1116*	/	tr	/	/	/	tr	tr	/	/	tr	/	/
MO	*trans*-Thujone	1119	1112	1.7	tr	1.5	10.3	22.5	4.5	0.9	23.3	2.8	/	0.3	tr
MO	*cis*-*p*-Menth-2-en-1-ol	1124	1118	0.1	tr	tr	tr	tr	tr	0.3	0.1	tr	tr	tr	tr
MO	Chrysanthenone	1128	1124	16.5	tr	tr	1.3	tr	/	tr	/	tr	3.0	/	1.5
MO	*α*-Campholenal	1129	1122	/	/	/	/	/	/	tr	tr	tr	/	tr	/
MO	(*Z*)-Epoxy-ocimene	1134	1128	/	/	/	/	/	/	/	/	/	/	tr	tr
MO	*trans*-*p*-Mentha-2,8-dien-1-ol	1134	1128*	/	/	/	/	/	/	/	/	tr	0.2	/	/
MO	*cis*-*p*-Mentha-2,8-dien-1-ol	1135	1133	/	/	0.4	/	/	tr	/	/	/	/	/	/
MO	1-Terpineol	1137	1130	/	/	/	/	/	/	/	/	/	tr	tr	/
MO	*iso*-3-Thujanol	1137	1134	0.1	/	0.2	2.7	10.0	0.9	0.3	3.7	0.3	/	/	/
CD	Pentyl 2-methylbutyrate	1140	1136*	/	tr	/	/	/	/	/	/	/	/	/	/
MO	*trans*-Pinocarveol	1141	1135	0.2	tr	tr	/	0.2	0.2	0.4	/	tr	0.2	0.5	tr
MO	*trans*-Sabinol	1144	1137	/	/	/	tr	/	/	/	0.7	/	/	/	/
MO	*cis*-Verbenol	1145	1137	/	/	/	/	tr	/	tr	/	/	/	/	tr
MO	(*E*)-Myroxide	1146	1140	/	/	/	/	/	tr	/	/	/	/	/	/
MO	*trans*-Verbenol	1147	1140	tr	tr	/	/	0.3	/	1.0	/	/	/	/	0.4
MO	Camphor	1148	1141	0.9	0.5	4.9	1.0	/	1.5	/	0.8	2.0	0.4	2.4	/
CD	3-Methyl-2-butenyl 3-methyl-butyrate	1152	1147	/	tr	/	/	/	/	/	/	/	/	/	/
MO	*neo*-3-Thujanol	1152	1149	/	/	tr	tr	/	/	/	/	/	/	/	/
MO	*p*-Mentha-1,5-dien-8-ol	1152	1159	/	/	/	/	/	/	/	/	/	tr	tr	tr
O	(*E*,*Z*)-2,6-Nonadienal	1155	1150	/	/	/	/	tr	/	/	/	/	/	tr	/
O	*m*-Cresol acetate	1159	1158	/	/	/	/	/	/	tr	/	/	/	/	/
MO	Sabina ketone	1161	1154	/	/	/	/	/	/	0.2	tr	/	/	/	tr
MO	Isoborneol	1161	1155	/	/	0.3	tr	/	0.2	/	/	tr	/	/	/
O	(*E*)-2-Nonen-1-al	1161	1157	/	tr	/	/	tr	/	/	/	/	/	/	/
MO	*trans*-Chrysanthenol	1162	1163*	0.2	/	/	/	/	/	/	/	0.2	0.2	1.0	tr
MO	*cis*-Chrysanthenol	1166	1160	0.2	/	0.2	tr	/	/	6.0	0.4	2.4	0.2	1.6	4.1
MO	Pinocarvone	1167	1160	/	tr	tr	tr	tr	0.2	/	tr	/	/	/	/
MO	*δ*-Terpineol	1171	1162	/	0.2	/	/	tr	/	/	0.7	tr	tr	tr	/
O	*n*-Nonanol	1173	1165	/	/	/	/	tr	/	/	/	/	/	/	/

(CC) 2021 SCS.

Class	Compound	RI	RIa	Content, %											
				AV1	AV2	AV3	AV4	AV5	AV6	AV7	AV8	AV9	AV10	AV11	AV12
MO	Borneol	1174	1165	1.9	/	1.0	1.3	0.2	3.1	8.0	tr	1.9	1.9	3.1	/
MO	*cis*-Pinocamphone	1178	1172	/	/	/	/	/	/	/	/	/	/	/	tr
MO	Terpinen-4-ol	1181	1174	1.4	0.6	0.7	tr	0.4	2.0	3.0	1.6	1.2	1.7	2.3	0.6
MO	*p*-Cymen-8-ol	1188	1179	/	tr	tr	tr	tr	tr	tr	/	/	tr	/	tr
MO	Thuj-3-en-10-al	1189	1181	tr	/	/	/	/	tr	tr	tr	tr	/	tr	tr
MO	*α*-Terpineol	1194	1186	2.2	0.5	1.9	0.3	0.3	5.5	1.2	2.2	3.3	3.7	0.3	tr
MO	*p*-Mentha-1, 5-dien-7-ol	1196	1191	tr	/	/	tr	tr	/	tr	tr	tr	/	/	/
MO	Myrtenol	1197	1194	0.2	0.1	tr	tr	tr	tr	0.4	tr	tr	tr	tr	tr
MO	*cis*-Piperitol	1199	1195	/	/	/	/	/	/	tr	tr	/	/	/	/
MO	Myrtenal	1200	1195	/	/	/	/	/	/	/	/	/	/	tr	tr
CD	4-Methylpentyl 2-methylbutyrate	1201	1197	/	tr	tr	/	/	/	/	tr	/	/	/	/
MO	Safranal	1203	1196	tr	/	/	tr	tr	/	tr	/	/	/	tr	tr
MO	*α*-Campholenol	1205	1202*	/	/	/	/	/	/	/	/	/	tr	0.4	tr
O	*n*-Decanal	1207	1201	/	tr	tr	/	0.1	/	/	tr	/	tr	tr	tr
MO	*trans*-Piperitol	1210	1207	tr	tr	/	tr	tr	tr	tr	tr	tr	tr	tr	tr
MO	Verbenone	1213	1204	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
MO	*trans*-Carveol	1222	1215	0.1	tr	tr	tr	tr	tr	0.1	tr	tr	tr	tr	tr
MO	*β*-Cyclocitral	1224	1217	/	tr	/	/	tr	/	/	/	/	tr	tr	/
MO	Nerol	1231	1227	/	tr	tr	/	/	tr	tr	tr	tr	tr	/	/
MO	*nor*-Davanone	1233	1228	/	/	/	tr	/	/	/	/	/	/	/	/
MO	*cis*-Carveol	1234	1226	0.1	/	tr	/	/	tr	tr	0.1	tr	0.2	/	tr
CD	(*Z*)-3-Hexenyl 2-methyl butyrate	1234	1229	/	tr	/	/	/	/	/	/	/	/	/	/
MO	Isogeraniol	1235	1232	/	/	/	/	tr	tr	/	/	/	/	tr	/
CD	(*Z*)-3-Hexenyl 3-methyl butyrate	1238	1232	/	tr	/	/	/	/	/	/	/	/	/	/
CD	Hexyl 2-methyl butyrate	1239	1233	/	/	/	tr	/	/	/	/	/	/	/	/
MO	*trans*-Chrysanthenyl acetate	1239	1235	0.4	tr	/	/	/	/	tr	/	/	/	/	tr
MO	Neral	1244	1235	0.2	0.8	/	/	/	/	/	tr	/	/	/	/
O	Cumin aldehyde	1244	1238	/	/	/	tr	tr	0.2	tr	0.1	tr	tr	tr	tr
O	2-Methyl-3-phenyl-propanal	1244	1244	/	/	tr	/	/	/	/	/	/	/	/	/
MO	Carvone	1248	1239	tr	/	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
MO	Carvotanacetone	1251	1244	/	/	/	/	tr	/	/	tr	/	/	/	/
MO	Geraniol	1257	1249	tr	1.6	/	tr	tr	tr	tr	tr	/	tr	tr	/
O	2-Phenyl ethyl acetate	1260	1254	/	tr	/	/	/	/	/	/	/	/	/	/
MO	Carvenone	1262	1255	/	/	/	/	/	/	/	tr	/	/	/	/
MO	*cis*-Chrysanthenyl acetate	1265	1261	0.6	0.3	/	/	tr	tr	24.8	tr	29.1	/	41.5	79.4
MO	*iso*-3-Thujanol acetate	1269	1267	/	/	/	/	1.9	/	/	/	/	/	/	/
MO	Geranial	1273	1264	tr	1.2	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
MO	Isopiperitenone	1276	1272*	0.2	/	/	/	/	/	/	/	/	tr	tr	tr
O	*α*-ethylidene-Benzeneacetaldehyde	1276	1274*	/	/	/	/	tr	tr	tr	/	tr	/	/	/
O	2-phenyl-2-butenal	1276	1274*	/	tr	/	/	/	/	/	/	/	/	/	/
MO	Perilla aldehyde	1279	1269	0.1	/	tr	tr	tr	0.2	tr	tr	tr	tr	tr	tr
MO	4-Thujen-2-*α*-yl acetate	1279	1275*	/	tr	/	/	/	/	/	/	/	/	/	/
MO	*cis*-Verbenyl acetate	1281	1280	/	/	/	/	/	/	tr	/	/	/	/	/

(CC) 2021 SCS.

Class	Compound	RI	RIa	Content, %											
				AV1	AV2	AV3	AV4	AV5	AV6	AV7	AV8	AV9	AV10	AV11	AV12
MO	*trans*-α-Necrodol acetate	1288	1282	/	/	/	/	/	/	/	tr	/	/	tr	/
MO	α-Terpinen-7-al	1288	1283	/	/	/	/	tr	tr	/	/	/	/	/	/
MO	Bornyl acetate	1290	1287	/	0.4	tr	tr	/	tr	0.3	tr	tr	tr	tr	tr
MO	Lavandulyl acetate	1292	1288	0.3	/	tr	/	/	tr	/	/	tr	tr	tr	tr
MO	*trans*-Sabinyl acetate	1295	1289	tr	tr	tr	tr	0.1	tr	tr	23.1	tr	tr	tr	tr
O	Indole	1300	1290	/	/	/	/	/	/	/	tr	/	/	tr	/
MO	Perilla alcohol	1302	1294	/	/	/	/	/	tr	/	/	/	/	/	/
MO	Carvacrol	1304	1298	/	/	tr	tr	tr	tr	tr	tr	/	tr	tr	/
O	Undecanal	1309	1305	/	tr	tr	tr	0.1	tr	/	tr	tr	tr	tr	tr
CD	(*E*)-3-Hexenyl tiglate	1316	1315	/	tr	/	/	/	/	/	/	/	/	/	/
O	(*E*,*E*)-2,4-Decadienal	1319	1315	/	tr	/	/	tr	/	/	/	/	/	tr	tr
MO	δ-Terpinyl acetate	1321	1316	/	/	0.2	/	/	/	tr	/	tr	/	/	/
MO	Myrtenyl acetate	1330	1324	/	tr	/	/	tr	/	0.2	tr	tr	/	tr	tr
MO	*p*-Mentha-1,4,-dien-7-ol	1331	1325	/	/	/	/	/	tr	tr	/	/	/	tr	/
MO	Silphiperfol-5-ene	1332	1326	/	/	/	/	/	/	/	/	/	/	tr	/
CD	Heptyl 2-methylbutyrate	1337	1336*	/	tr	/	/	/	/	/	/	/	/	/	/
MO	*trans*-Carvyl acetate	1341	1339	0.2	tr	/	/	/	/	0.5	tr	/	/	tr	tr
S	δ-Elemene	1343	1335	tr	0.2	/	tr	/	tr	tr	tr	tr	/	tr	tr
S	Bicycloelemene	1344	1336	/	/	/	/	tr	/	/	/	/	/	/	/
MO	*exo*-2-Hydroxycineole acetate	1346	1346*	/	tr	/	/	/	/	/	/	/	/	/	/
S	Silphinene	1351	1345	/	tr	/	/	/	/	/	/	/	/	/	/
MO	α-Terpinyl acetate	1354	1346	/	/	/	tr	tr	/	tr	tr	tr	/	tr	tr
S	α-Cubebene	1355	1345	tr	tr	tr	tr	tr	tr	tr	tr	/	tr	/	/
S	*cis*-Muurola-3,5-diene	1356	1348	/	/	/	/	/	/	/	tr	/	/	/	/
S	α-Longipinene	1358	1350	tr	/	/	/	/	/	/	/	/	/	/	/
PP	Eugenol	1362	1356	0.3	0.5	tr	tr	0.3	0.2	0.2	0.2	0.2	0.2	tr	tr
MO	*cis*-Carvyl acetate	1367	1365	0.1	0.6	/	/	/	/	tr	tr	tr	/	0.2	tr
S	Cyclosativene	1373	1369	/	/	/	/	tr	/	/	/	/	/	/	/
S	α-Ylangene	1378	1373	/	/	/	/	tr	/	/	/	/	tr	/	/
S	α-Copaene	1380	1374	0.4	0.1	0.5	tr	1.0	0.3	0.2	0.2	0.3	0.3	0.3	tr
MO	Geranyl acetate	1386	1379	tr	2.3	/	tr	/	/	tr	tr	tr	tr	/	tr
S	β-Bourbonene	1392	1387	0.2	tr	tr	tr	0.6	tr	tr	tr	tr	tr	tr	tr
S	α-Isocomene	1394	1387	/	tr	/	tr	tr	/	/	/	/	/	/	/
S	7-*epi*-Sesquithujene	1395	1390	/	/	/	/	/	/	/	0.2	/	/	/	/
S	β-Elemene	1398	1389	3.1	0.3	0.7	0.6	0.9	1.3	0.4	0.9	0.7	0.7	0.4	0.5
A	Tetradecane	1400	1400	/	tr	/	/	tr	/	/	/	/	/	/	/
PP	Methyl eugenol	1407	1403	/	tr	/	/	tr	tr	tr	/	/	tr	tr	/
S	Sesquithujene	1410	1405	tr	/	tr	tr	0.3	tr	tr	tr	tr	tr	tr	/
S	β-Isocomene	1415	1407	/	/	/	/	tr	/	/	/	/	/	/	/
S	(*Z*)-Caryophyllene	1415	1408	/	tr	/	/	/	/	/	/	/	/	/	/
S	α-Gurjunene	1417	1409	tr	/	/	/	/	/	tr	/	/	0.5	/	/
S	*cis*-α-Bergamotene	1421	1411	0.2	tr	0.3	tr	0.9	0.3	0.2	tr	tr	tr	0.2	tr
S	(*E*)-Caryophyllene	1427	1417	1.3	7.2	2.5	0.8	4.1	1.1	0.8	0.6	1.8	2.5	0.9	0.7
S	β-Copaene	1437	1430	tr	tr	tr	tr	0.2	tr	tr	tr	tr	tr	tr	tr
S	*trans*-α-Bergamotene	1441	1432	0.2	tr	0.2	tr	0.7	0.3	0.2	tr	tr	tr	tr	tr
S	Aromadendrene	1447	1439	tr	/	tr	tr	/	tr	/	/	/	tr	tr	tr
S	(*Z*)-β-Farnesene	1448	1440	/	/	/	/	/	tr	/	0.2	/	/	/	/
S	6,9-Guaiadiene	1452	1442	/	/	/	/	tr	/	/	/	/	/	/	/
S	*epi*-β-Santalene	1454	1445	/	/	/	/	tr	/	/	/	/	/	/	/

(CC) 2021 SCS.

Class	Compound	RI	RIa	Content, %											
				AV1	AV2	AV3	AV4	AV5	AV6	AV7	AV8	AV9	AV10	AV11	AV12
MO	Geranyl acetone	1456	1453	/	0.4	tr	tr	tr	tr	tr	tr	tr	tr	tr	/
S	(*E*)-*β*-Farnesene	1460	1454	tr	/	/	0.8	2.3	tr	tr	tr	tr	/	/	tr
S	*α*-Humulene	1462	1452	0.5	1.6	1.4	tr	tr	0.8	0.6	0.4	0.8	0.6	0.5	tr
S	9-*epi*-(*E*)-Caryophyllene	1469	1464	/	0.1	/	/	/	/	/	/	/	0.3	/	/
S	Dauca-5,8-diene	1471	1471	/	/	/	/	tr	/	/	/	/	/	/	/
S	10-*epi*-*β*-Acoradiene	1475	1474	/	/	/	/	/	/	/	tr	/	/	/	/
S	4,5-di-*epi*-Aristolochene	1478	1471	/	0.2	/	/	/	tr	/	tr	/	/	/	/
S	Selina-4,11-diene	1483	-	/	/	/	/	/	0.9	/	/	/	tr	tr	tr
S	*γ*-Selinene	1483	1479*	0.2	1.0	/	/	/	/	/	/	/	/	/	/
S	*γ*-Muurolene	1484	1478	/	/	/	tr	0.5	/	tr	/	tr	0.1	tr	tr
S	*γ*-Curcumene	1485	1481	/	/	/	/	/	/	/	1.1	/	/	/	/
S	*ar*-Curcumene	1489	1479	/	/	/	/	tr	/	/	/	/	/	/	/
S	Germacrene D	1490	1484	9.1	1.1	12.3	7.2	15.1	8.7	5.4	3.4	6.0	3.9	2.3	1.3
S	*δ*-Selinene	1498	1492	/	tr	/	/	/	/	/	/	/	/	/	/
S	*α*-Zingiberene	1498	1493	/	/	/	/	/	/	/	/	/	tr	/	/
S	*β*-Selinene	1495	1489	1.8	24.6	0.8	1.3	0.5	3.6	0.4	0.4	0.5	1.1	0.6	1.0
SO	10,11-epoxy-Calamenene	1498	1491	/	/	/	/	/	/	/	/	/	/	tr	/
SO	*epi*-Cubebol	1502	1493	/	tr	/	/	/	/	/	/	/	/	/	/
S	*α*-Selinene	1503	1498	/	/	/	/	/	tr	/	/	/	/	/	/
S	Bicyclogermacrene	1505	1500	1.8	0.8	2.1	1.4	2.8	1.3	0.6	1.3	1.4	1.3	0.4	tr
S	*α*-Muurolene	1507	1500	/	0.2	/	/	/	/	/	/	tr	/	/	/
S	(*E*,*E*)-*α*-Farnesene	1512	1505	/	0.5	tr	tr	0.2	0.2	tr	/	tr	tr	/	/
S	Germacrene A	1514	1508	0.4	0.2	0.8	0.6	0.8	0.6	0.3	0.2	0.3	0.7	tr	tr
SO	Davana ether isomer 1	1516	1514*	/	/	0.4	0.3	/	/	/	/	/	/	/	/
SO	Davana ether, isomer 2	1517	1517*	/	/	/	/	/	/	/	/	/	tr	/	/
S	*β*-Curcumene	1517	1514	/	/	/	/	/	/	tr	0.4	/	/	/	/
S	*γ*-Cadinene	1522	1513	tr	0.8	0.2	tr	0.5	tr	tr	tr	tr	tr	/	tr
SO	Isobornyl isovalerate	1523	1521	/	/	/	/	/	/	/	/	/	/	tr	/
S	7-*epi*-*α*-Selinene	1527	1520	/	/	/	/	/	tr	/	/	/	tr	tr	/
S	*δ*-Cadinene	1531	1522	0.3	1.1	0.4	0.5	0.9	0.3	0.4	0.3	0.2	0.2	0.3	tr
S	*trans*-Cadina-1,4-diene	1540	1533	/	tr	/	/	tr	tr	/	/	/	/	/	/
SO	Davana ether isomer 3	1536	1535*	/	/	0.2	tr	/	/	/	/	/	tr	/	/
S	(*E*)-*iso*-*γ*-Bisabolene	1538	1528	/	/	/	/	/	/	/	tr	/	/	/	/
S	*α*-Cadinene	1546	1537	/	tr	tr	/	tr	tr	/	tr	/	tr	/	/
SO	*cis*-Sesquisabinene hydrate	1550	1542	0.3	/	/	/	/	/	/	0.3	/	/	tr	/
S	*α*-Calacorene	1551	1544	/	tr	tr	tr	/	tr	tr	/	/	/	tr	tr
SO	Salviadienol	1562	1549*	0.2	0.3	0.6	/	1.0	0.4	tr	tr	tr	0.2	0.5	tr
SO	(*E*)-Nerolidol	1566	1561	tr	0.3	1.0	/	tr	tr	/	/	tr	/	0.2	/
S	*β*-Calacorene	1572	1564	/	tr	/	/	/	/	tr	/	/	/	tr	/
SO	Davanone B	1574	1564	/	/	0.2	0.8	/	/	/	/	/	0.4	/	/
SO	Palustrol	1577	1567	/	/	/	/	/	/	/	/	/	0.2	/	/
SO	Germacrene D-4-ol	1584	1574	/	0.5	tr	tr	tr	tr	/	/	/	/	/	/
SO	*trans*-Sesquisabinene hydrate	1586	1577	/	/	/	/	/	/	/	2.7	/	/	/	/
SO	Spathulenol	1587	1577	3.1	tr	2.9	1.9	3.9	1.4	0.6	tr	1.2	0.9	2.2	0.8
SO	Caryophyllene oxide	1592	1582	1.0	13.2	tr	tr	3.8	0.9	0.5	0.4	1.2	tr	3.1	0.9
SO	Davanone	1596	1587	/	/	32.1	59.8	tr	tr	/	/	/	27.4	tr	/

(CC) 2021 SCS.

Class	Compound	RI	RIa	Content, %											
				AV1	AV2	AV3	AV4	AV5	AV6	AV7	AV8	AV9	AV10	AV11	AV12
SO	*β*-Copaen-4-*α*-ol	1598	1590	/	0.2	/	/	/	/	tr	/	/	/	/	tr
SO	Viridiflorol	1599	1592	/	tr	/	/	/	/	/	/	/	/	/	/
SO	Fokienol	1601	1596	/	/	/	/	/	/	/	/	/	0.2	/	/
SO	Humulene epoxide I	1603	1601*	/	tr	/	/	/	/	/	/	/	/	/	/
SO	Ledol	1612	1602	/	/	/	/	/	/	/	/	/	0.3	tr	tr
SO	Salvial-4(14)-en-1-one	1613	1603*	0.1	tr	0.3	tr	0.4	tr	tr	tr	tr	tr	0.3	tr
SO	Torilenol	1614	1604	/	/	1.1	0.3	1.8	0.9	0.3	0.4	0.4	0.4	1.1	tr
SO	Geranyl isovalerate	1616	1606	/	0.3	/	/	/	/	/	/	/	/	/	/
SO	Humulene epoxide II	1618	1608	0.7	1.9	/	/	/	/	tr	tr	tr	tr	tr	/
O	Tetradecanal	1619	1611	/	tr	/	/	0.4	/	/	/	/	/	/	/
SO	1,10-di-*epi*-Cubenol	1624	1618	/	tr	tr	/	tr	/	/	/	tr	/	/	/
SO	*epi*-Cedrol	1626	1618	/	/	/	/	/	/	/	tr	/	/	tr	/
SO	1-*epi*-Cubenol	1637	1627*	/	/	/	tr	0.1	tr	/	tr	/	/	0.2	tr
SO	Guaia-6,10(14)-dien-4-*β*-ol	1638	1631*	tr	1.2	0.5	/	/	/	/	tr	/	/	/	/
SO	*cis*-Cadin-4-en-7-ol	1642	1635	/	/	/	/	/	/	/	/	/	/	/	tr
SO	*β*-Acorenol	1643	1636	/	/	/	/	/	/	/	tr	/	/	/	/
SO	*epi*-*α*-Cadinol	1648	1638	0.1	tr	/	/	/	tr	/	/	/	/	/	/
SO	Caryophylla-4(12),8(13)-dien-5-α-ol	1646	1639	tr	0.3	tr	/	tr	tr	/	/	/	tr	/	/
SO	*allo*-Aromadendrene epoxide	1647	1639	/	/	/	/	/	/	/	/	/	tr	tr	tr
SO	epi-*α*-Murrolol	1650	1640	/	/	0.5	/	0.6	tr	/	/	/	/	tr	tr
SO	Selina-3,11-dien-6-*α*-ol	1642	1642	/	/	/	/	/	tr	/	/	tr	/	/	tr
SO	*α*-Muurolol	1654	1644	0.2	0.2	/	/	/	/	/	/	/	/	/	/
SO	*β*-Eudesmol	1659	1649	tr	0.2	/	/	/	/	/	/	/	/	/	0.4
SO	*α*-Cadinol	1662	1652	4.2	1.4	/	0.5	2.0	0.8	0.2	0.4	0.4	0.3	0.6	tr
SO	Selin-11-en-4-*α*-ol	1665	1658	/	/	3.5	/	/	/	/	tr	tr	tr	tr	tr
SO	*cis*-Calamenen-10-ol	1668	1660	tr	0.2	/	/	/	/	/	/	/	/	/	/
SO	14-hydroxy-9-*epi*-(*E*)-Caryophyllene	1669	1668	0.3	1.6	/	tr	0.9	0.5	tr	tr	tr	tr	0.3	tr
SO	*trans*-Calamenen-10-ol	1677	1668	/	/	/	/	/	/	/	/	/	/	tr	tr
SO	*β*-Bisabolol	1678	1674	/	/	/	/	0.1	/	/	0.7	/	/	/	/
SO	(*Z*)-*α*-Santalol	1679	1674	/	/	/	/	/	/	/	/	/	/	0.4	/
SO	Mustakone	1686	1676	0.1	tr	/	/	/	/	/	/	/	/	/	/
SO	Longiborneol acetate	1690	1684	/	/	/	/	/	/	/	/	/	/	/	tr
SO	Eudesma-4(15),7-dien-1-*β*-ol	1691	1685	/	/	tr	tr	0.4	tr	tr	tr	tr	tr	tr	/
SO	Germacra-4(15),5,10(14)-trien-1-*α*-ol	1695	1685	0.6	0.8	1.2	0.4	2.3	0.8	0.2	0.3	0.4	0.2	0.8	tr
SO	(*Z*)-*α*-*trans*-Bergamotol	1698	1690	/	/	/	/	0.9	0.6	0.1	/	0.2	/	/	/
SO	(*Z,Z*)-2,6-Farnesol	1701	1698	/	/	/	/	/	/	/	/	/	tr	/	/
O	Pentadecanal	1718	1715*	0.2	0.5	0.3	/	1.2	/	/	/	/	/	0.3	tr
SO	(*E,Z*)-2,6-Farnesal	1721	1713	tr	1.3	tr	tr	/	tr	/	/	tr	/	/	/
SO	(*Z,E*)-2,6-Farnesal	1721	1715	/	/	/	/	/	/	/	/	/	tr	/	/
SO	*β*-Davanone-2-ol	1725	1718	/	/	0.7	0.7	/	/	/	/	/	tr	/	/
SO	(*Z,E*)-2,6-Farnesol	1728	1722	tr	4.6	/	/	/	/	/	/	/	/	/	/
SO	Longifolenaldehyde	1732	-	/	/	/	/	/	/	/	/	/	/	tr	tr
SO	(*E,E*)-2,6-Farnesal	1749	1740	tr	2.1	tr	tr	/	tr	/	/	tr	tr	/	/
SO	Mint sulfide	1750	1740	/	/	/	/	tr	/	tr	/	/	/	/	/

(CC) 2021 SCS.

Class	Compound	RI	RIa	Content, %											
				AV1	AV2	AV3	AV4	AV5	AV6	AV7	AV8	AV9	AV10	AV11	AV12
SO	*γ*-Costol	1755	1745	tr	2.3	tr	tr	tr	0.2	/	/	/	/	/	/
SO	Cyclocolorenone	1761	1759	/	/	/	/	/	/	/	/	/	/	tr	/
SO	*β*-Acoradienol	1765	1762	/	/	/	/	tr	/	/	/	/	/	/	/
SO	*β*-Costol	1775	1765	tr	5.4	tr	tr	0.3	0.2	/	tr	/	tr	tr	tr
SO	*α*-Costol	1782	1773	/	/	/	tr	0.1	tr	tr	tr	/	/	/	/
SO	2-*α*-hydroxy-Amorpha-4,7(11)-diene	1786	1775	/	/	/	/	tr	/	/	/	/	/	/	/
SO	14-hydroxy-*δ*-Cadinene	1810	1803	/	/	/	/	tr	/	/	/	/	/	/	/
O	Hexadecanal	1819	1818*	tr	tr	/	/	tr	/	/	/	/	/	/	/
SO	(*E*,*E*)-2,6-Farnesyl acetate	1846	1845	tr	0.9	/	/	/	/	/	/	/	/	/	/
SO	Hexahydrofarnesyl acetone	1848	1846*	tr	tr	/	/	tr	/	/	/	/	/	tr	tr
SO	(*Z*)-Lanceol acetate	1861	1854	/	/	/	tr	tr	/	/	/	/	/	/	/
A	Nonadecane	1900	1900	tr	0.2	/	/	0.4	/	/	/	/	/	tr	/
O	*m*-Camphorene	1960	1960*	/	/	tr	/	/	/	/	/	/	/	/	/
SO	(*E*,*Z*)-Geranyl linalool	1992	1987	/	/	/	/	tr	/	/	/	/	/	/	/
A	Eicosane	2000	2000	tr	tr	/	/	tr	/	/	/	/	/	/	/
A	Heneicosane	2100	2100	tr	0.8	/	/	0.5	/	/	/	/	/	/	/
O	Phytol	2116	2114*	tr	tr	tr	/	tr	/	/	/	/	/	/	/
O	(*Z*,*Z*)-9,12-octade-cadienoic acid	2156	2156*	/	/	/	/	tr	/	/	/	/	/	/	/
A	Tricosane	2300	2300	tr	0.2	/	/	tr	/	/	/	/	/	/	/
A	Pentacosane	2500	2500	tr	tr	/	/	tr	/	/	/	/	/	/	/
A	Heptacosane	2700	2700	tr	tr	/	/	tr	/	/	/	/	/	/	/
A	Nonacosane	2900	2900	/	/	/	/	tr	/	/	/	/	/	/	/

RI-Experimental linear retention indices relative to C8-C40 alkanes. Ria-Literature indices-Adams' retention indices and * according to NIST data base. Tr- trace<0.05% and not detected compounds are marked as (/). M-Hydrocarbon Monoterpenoids, MO-Oxygenated Monoterpenoids, S-Hydrocarbon Sesquiterpenoids, SO-Oxygenated Sesquiterpenoids, PP-Phenylpropanoids, CD-carboxylic acid derivatives, A-Alkanes, O-Other

Table S-IX. The number of identified components per sample of *A. vulgaris*, the percentage of each class of compounds, and the percentage of total identified components

	Content, %											
Sample	AV1	AV2	AV3	AV4	AV5	AV6	AV7	AV8	AV9	AV10	AV11	AV12
Contribution in total peaks area of ion chromatogram, %	99.1	96.3	96.8	98.0	93.6	98.5	99.8	99.7	100.0	98.4	97.8	99.5
Number of components	120	156	119	110	152	125	122	132	116	137	146	133
Total monoterpenoids	68.8	13.8	29.2	20.1	39.1	71.6	88.3	84.5	84.3	55.5	77.3	92.9
Monoterpene hydrocarbons (M)	14.7	1.2	6.3	1.9	0.8	19.9	29.9	10.1	16.8	17.8	1.6	2.9
Oxygenated monoterpenes (MO)	54.0	12.6	23.0	18.2	38.3	51.7	58.4	74.4	67.5	37.7	75.7	90.1
Total sesquiterpenoids	29.9	79.0	67.3	77.9	50.9	26.5	11.4	14.8	15.5	42.6	15.4	5.6
Sesquiterpene hydrocarbons (S)	19.1	40.0	22.1	13.2	32.4	19.7	9.4	9.7	11.8	12.2	5.8	3.5
Oxygenated Sesquiterpene (SO)	10.8	39.0	45.2	64.7	18.5	6.8	2.0	5.2	3.7	30.5	9.6	2.1
Phenylpropanoids (PP)	0.3	0.5	tr	tr	0.3	0.2	0.2	0.2	0.2	0.2	tr	tr
Carboxylic acid derivatives (CD)	tr	0.4	tr	tr	/	tr	/	tr	tr	tr	tr	tr
n-Alkanes (A)	tr	1.2	/	/	0.9	/	/	/	/	/	tr	tr
Other (O)	0.2	1.5	0.3	tr	2.5	0.2	tr	0.3	tr	/	5.1	1.1

(CC) 2021 SCS.

Table S-X. Chemical composition of twelve *Artemisia scoparia* samples collected from different soil types according to the WRB

Class	Compound	RI	RIa	Content, %											
				AS1	AS2	AS3	AS4	AS5	AS6	AS7	AS8	AS9	AS10	AS11	AS12
O	3-Methyl-2-butenal	788	778	/	/	tr	0.1	tr	/	/	tr	/	tr	tr	tr
A	*n*-Octane	800	800	/	/	/	/	/	/	/	/	tr	/	/	/
O	Hexanal	801	801	tr	tr	tr	0.1	tr	tr	tr	tr	tr	tr	tr	tr
O	1,3-Octadiene	829	827	/	tr	tr	tr	tr	tr	/	tr	tr	tr	tr	tr
CD	2-Methyl-butanoic acid	842	832	/	/	/	tr	tr	/	/	/	/	tr	/	/
O	(*E*)-2-Hexenal	850	846	tr	tr	tr	tr	tr	tr	/	tr	tr	tr	tr	tr
O	(*Z*)-3-Hexenol	852	850	tr	tr	tr	tr	tr	/	tr	tr	tr	tr	tr	tr
O	(*Z*)-2-Hexenol	865	859	/	/	tr	/	/	/	/	/	/	tr	tr	/
O	*n*-Hexanol	867	863	/	tr	tr	tr	tr	tr	/	tr	tr	tr	tr	tr
O	(*E,Z*)-1,3,5-Octatriene	882	880	/	/	/	/	tr	/	/	/	/	/	/	/
A	*n*-Nonane	900	900	/	/	/	/	/	/	/	/	/	tr	/	/
O	Heptanal	903	901	/	/	/	/	/	tr	/	/	/	/	/	/
M	Tricyclene	924	921	/	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
M	*α*-Thujene	928	924	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
M	*α*-Pinene	935	932	0.9	0.9	1.3	1.4	1.3	1.0	0.7	2.0	1.0	1.2	2.5	1.9
M	*α*-Fenchene	949	945	/	/	/	/	/	/	/	/	/	/	tr	/
M	Camphene	950	946	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
O	(*E*)-2-Heptenal	957	947	tr	/	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
O	Benzaldehyde	962	952	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
M	Sabinene	975	969	0.3	0.3	0.4	0.4	0.5	0.4	0.2	0.5	0.3	0.4	0.7	0.5
M	*β*-Pinene	979	974	7.3	4.7	7.9	8.0	11.6	8.3	5.3	10.6	8.5	9.7	16.9	14.8
O	6-Methyl-5-hepten-2-one	988	981	/	tr	/	/	/	/	/	tr	/	tr	tr	/
M	Myrcene	992	988	0.6	1.9	1.8	2.9	1.1	0.8	1.3	2.6	0.9	1.9	2.7	1.9
O	Mesitylene	996	994	/	/	/	/	/	/	/	/	/	/	tr	/
O	*n*-Octanal	1004	998	/	/	/	/	tr	/	/	/	/	/	/	/
M	*α*-Phellandrene	1006	1002	tr	tr	tr	/	/	tr	tr	tr	tr	tr	tr	tr
CD	(*E*)-3-Hexenyl acetate	1007	1001	/	/	/	tr	tr	/	/	/	/	/	/	/
CD	(*Z*)-3-Hexenyl acetate	1008	1004	tr	tr	/	/	/	/	/	/	/	tr	/	/
M	*α*-Terpinene	1019	1014	0.1	0.1	0.1	0.1	0.1	0.1	tr	0.1	0.1	0.1	0.1	0.1
M	*p*-Cymene	1027	1020	0.1	0.3	0.1	0.2	0.2	0.1	tr	0.3	0.2	0.2	0.2	0.1
M	Limonene	1031	1024	2.3	2.4	2.5	2.6	2.0	2.4	2.1	3.9	2.1	2.0	4.2	2.9
MO	1,8-Cineole	1033	1026	0.3	tr	0.1	0.3	0.4	tr	tr	0.2	0.2	0.2	0.1	0.2
M	(*Z*)-*β*-Ocimene	1039	1032	6.9	4.6	4.7	8.5	6.4	7.7	6.2	8.5	6.4	4.6	5.4	6.2
O	Benzene acetaldehyde	1046	1036	tr	tr	/	tr	tr	tr	tr	tr	tr	tr	tr	tr
M	(*E*)-*β*-Ocimene	1050	1044	0.4	0.3	0.4	0.5	0.3	0.4	0.4	0.7	0.4	0.5	0.7	0.4
M	*γ*-Terpinene	1061	1054	2.5	3.7	3.6	3.2	2.8	1.9	1.4	4.6	3.9	3.0	4.0	1.5
MO	*cis*-Sabinene hydrate	1069	1065	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
O	*n*-Octanol	1071	1063	/	/	/	/	/	/	/	tr	/	tr	tr	/
M	Terpinolene	1091	1086	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	/	0.1
MO	*trans*-Sabinene hydrate	1100	1098	/	/	tr	/	tr	tr	tr	/	tr	tr	/	tr
MO	Linalool	1103	1098	/	/	/	tr	/	/	/	tr	/	/	tr	tr
O	*n*-Nonanal	1105	1100	tr	tr	tr	tr	0.1	tr	tr	0.1	tr	tr	tr	tr
CD	2-Methyl butyl isovalerate	1109	1103	/	/	/	/	/	/	/	/	/	tr	/	tr
MO	*endo*-Fenchol	1116	1114	/	/	/	/	/	/	/	/	/	/	tr	tr
O	4,8-dimethyl-1,3,7-Nonatriene	1118	1114	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
MO	*cis*-*p*-Menth-2-en-1-ol	1124	1118	tr	/	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
M	*allo*-Ocimene	1131	1128	0.1	tr	tr	0.1	0.1	0.1	tr	0.1	0.1	tr	tr	0.1
MO	(*Z*)-epoxy-Ocimene	1134	1128	/	/	/	tr	/	tr	/	tr	/	/	tr	tr
MO	*trans*-Pinocarveol	1141	1135	/	/	tr	tr	tr	tr	tr	/	tr	/	/	/
MO	*trans*-*p*-Menth-2-en-1-ol	1143	1136	/	/	/	/	/	/	/	tr	/	/	/	/

(CC) 2021 SCS.

MO	*trans*-Sabinol	1144	1137	/	/	/	/	/	/	/	/	/	tr	tr	tr
MO	*neo-allo*-Ocimene	1144	1140	/	/	/	/	/	/	tr	/	/	/	/	/
CD	(*Z*)-3-Hexenyl isobutyrate	1146	1142	/	tr	/	/	/	/	/	/	/	tr	tr	tr
MO	Camphor	1148	1141	tr	/	tr	/	/	/	/	/	/	/	tr	/
MO	Camphene hydrate	1152	1145	/	/	/	/	/	/	/	/	/	/	tr	tr
O	pentyl-Benzene	1159	1152	/	/	/	/	/	/	tr	/	/	/	/	/
O	(*E*)-2-Nonen-1-al	1161	1157	/	/	tr	tr	/	tr	tr	tr	tr	tr	tr	tr
MO	Pinocarvone	1167	1160	/	/	/	/	tr	/	/	/	/	/	/	/
MO	Lavandulol	1172	1165	0.6	0.1	0.2	tr	0.2	0.3	0.1	0.3	0.2	0.1	0.2	tr
O	*n*-Nonanol	1173	1165	/	/	/	/	tr	/	/	/	/	/	/	/
MO	Umbellulone	1176	1167	/	tr	tr	/	/	tr	/	tr	tr	tr	tr	tr
MO	*cis*-Pinocamphone	1178	1172	tr	/	/	tr	/	tr	/	tr	tr	tr	tr	tr
MO	Terpinen-4-ol	1181	1174	0.1	tr	0.1	0.1	0.1	tr	tr	0.1	0.1	0.1	0.1	0.1
O	Naphthalene	1187	1178	/	/	/	/	/	/	tr	/	/	tr	tr	/
CD	(*Z*)-3-Hexenyl butyrate	1190	1184	/	tr	tr	tr	/	/	/	/	/	/	/	/
MO	*α*-Terpineol	1194	1186	tr	tr	tr	0.1	0.1	tr	tr	tr	tr	tr	0.1	0.1
MO	Myrtenol	1197	1194	/	/	/	tr	/	/	/	/	/	tr	tr	tr
MO	Myrtenal	1200	1195	/	/	/	/	/	tr	/	/	/	/	/	/
O	*n*-Decanal	1207	1201	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
MO	*trans*-Piperitol	1210	1207	/	/	/	/	/	/	tr	/	/	/	tr	/
MO	Citronellol	1230	1223	/	/	/	tr	tr	tr	/	tr	tr	/	tr	tr
CD	(*Z*)-3-Hexenyl 2-methyl butyrate	1234	1229	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
CD	(*Z*)-3-Hexenyl 3-methyl butyrate	1238	1232	tr	tr	tr	0.1	tr	tr	tr	tr	tr	0.1	tr	tr
CD	Hexyl 2-methyl butyrate	1239	1233	/	/	/	/	tr	/	/	/	/	/	/	/
CD	Hexyl 3-methylbutyrate	1245	1241	/	tr	tr	tr	/	tr	tr	tr	tr	tr	tr	/
CD	(*E*)-2-Hexenyl isovalerate	1246	1243	/	/	/	/	/	/	/	/	tr	tr	/	/
MO	Geraniol	1257	1249	/	/	tr	/	tr	/	/	/	/	/	/	/
MO	Piperitone	1258	1249	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
O	(*E*)-2-Decenal	1263	1260	/	/	/	tr	/	tr	/	/	/	/	/	/
MO	*cis*-Chrysanthenyl acetate	1265	1261	tr	/	/	/	/	/	/	/	/	/	/	/
MO	Citronellyl formate	1277	1271	/	/	/	tr	/	0.1	tr	tr	tr	/	/	tr
O	1-Decanol	1284	1274	/	/	/	/	tr	/	/	/	/	/	tr	/
P	2,4-pentadiynyl-Benzene	1290	1286	13.5	9.8	17.2	14.8	21.1	24.5	16.3	18.7	24.7	12.5	24.0	24.1
MO	Lavandulyl acetate	1292	1288	tr	tr	/	/	/	/	/	/	/	tr	/	/
O	(*E,Z*)-2,4-Decadienal	1296	1292	/	/	/	tr	/	/	/	/	/	/	/	/
O	2-methyl-Naphthalene	1299	1299	/	/	/	/	/	/	tr	/	/	/	/	/
MO	Geranyl formate	1304	1298	/	/	tr	/	/	/	/	tr	tr	/	tr	/
O	Undecanal	1309	1305	/	/	tr	tr	/	tr	tr	tr	/	/	tr	tr
O	*p*-vinyl-Guaiacol	1318	1309	/	/	/	/	/	/	/	/	/	/	tr	tr
CD	(*E*)-3-Hexenyl tiglate	1316	1315	tr	/	/	/	/	/	/	/	/	tr	/	/
O	(*E,E*)-2,4-decadienal	1319	1315	/	/	tr	tr	tr	tr	tr	tr	/	tr	tr	/
O	1-methyl-Naphthalene	1326	1317	/	/	/	/	/	/	tr	/	/	/	/	/
CD	(*Z*)-3-Hexenyl tiglate	1327	1319	0.2	0.1	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
P	1,3-Hexadienyl-benzene	1330	-	/	tr	/	/	tr	tr	/	/	tr	tr	tr	tr
CD	Hexyl tiglate	1333	1330	tr	/	/	tr	tr	/	/	/	tr	tr	/	/
S	*δ*-Elemene	1343	1335	/	/	/	/	tr	tr	tr	/	/	/	/	/
S	Bicycloelemene	1344	1336	tr	tr	tr	tr	/	/	/	tr	tr	tr	tr	tr
S	Silphinene	1351	1345	/	/	tr	tr	/	/	/	/	/	tr	/	/
MO	*α*-Terpinyl acetate	1354	1346	/	/	/	/	/	tr	/	/	/	/	/	/
MO	Citronellyl acetate	1355	1350	/	/	/	/	/	/	tr	/	/	/	/	tr

(CC) 2021 SCS.

PP	Eugenol	1362	1356	2.1	tr	1.1	tr	tr	0.4	0.4	0.3	0.7	1.1	1.6	0.7
S	Cyclosativene	1373	1369	/	/	/	/	/	/	/	/	/	tr	tr	tr
S	*α*-Ylangene	1378	1373	/	tr	/	/	/	/	tr	/	/	/	/	/
S	*α*-Copaene	1380	1374	tr	tr	tr	/	tr	tr	/	tr	tr	tr	tr	tr
CD	(*Z*)-3-Hexenyl hexenoate	1383	1378	/	/	/	tr	/	/	/	tr	/	/	/	/
S	Modheph-2-ene	1389	1382	tr	/	tr	tr	/	/	/	/	/	tr	/	/
S	*α*-Isocomene	1394	1387	tr	tr	tr	tr	/	/	/	tr	tr	tr	tr	/
S	*β*-Elemene	1398	1389	/	/	/	/	/	/	/	/	/	tr	/	/
O	2-ethyl-Naphthalene	1402	1398	tr	tr	/	/	/	/	/	/	/	/	/	/
O	2,6-dimethyl-Naphthalene	1405	1400	0.4	0.5	0.4	0.3	0.3	0.3	0.4	0.3	0.3	0.5	0.2	0.3
O	2,7-dimethyl-Naphthalene	1406	1402	/	/	/	tr	/	tr	/	tr	tr	tr	/	tr
PP	Methyl eugenol	1407	1403	tr	0.1	0.4	/	0.2	/	2.3	/	0.7	tr	tr	0.4
S	*β*-Isocomene	1415	1407	tr	/	tr	tr	/	/	/	/	/	tr	/	/
O	1,6-dimethyl-Naphthalene	1424	1419	/	/	/	/	/	/	tr	/	/	/	/	/
S	(*E*)-Caryophyllene	1427	1417	1.6	0.7	0.9	1.6	0.3	0.7	1.3	1.1	0.9	1.3	0.8	0.6
S	Aromadendrene	1447	1439	tr	tr	tr	/	/	/	/	/	/	/	/	/
O	2,3-dimethyl-Naphthalene	1444	1444	/	/	/	/	/	/	tr	/	/	/	/	/
MO	Citronellyl propanoate	1445	1444	/	/	tr	tr	/	tr	/	/	/	/	/	/
S	(*Z*)-*β*-Farnesene	1448	1440	/	/	/	tr	tr	tr	/	/	/	tr	tr	tr
S	6,9-Guaiadiene	1452	1442	/	/	/	/	/	/	/	tr	tr	/	/	/
O	1-Naphthalene carboxaldehyde	1457	1467	/	/	/	/	/	tr	/	/	/	/	/	/
S	(*E*)-*β*-Farnesene	1460	1454	/	/	/	/	/	/	tr	/	/	/	tr	/
S	*α*-Humulene	1462	1452	0.1	tr	0.1	0.2	tr	0.1	0.2	0.1	0.1	0.1	0.1	0.1
S	*γ*-Curcumene	1485	1481	0.3	0.1	0.3	0.4	0.4	0.3	0.2	0.1	0.3	0.3	0.4	0.3
S	Germacrene D	1490	1484	0.4	0.2	0.2	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.7	0.1
S	*β*-Selinene	1495	1489	0.1	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
P	Capillene	1503	1493	56.7	67.9	52.1	51.0	49.6	48.3	59.5	43.8	47.1	58.6	33.6	42.1
S	Bicyclogermacrene	1505	1500	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
SO	Lavandulyl isovalerate	1513	1509	tr	tr	/	/	/	tr	/	/	/	/	tr	/
SO	Lavandulyl 2-methyl butyrate	1514	1511	/	/	/	/	/	/	/	tr	tr	tr	tr	/
S	*β*-Curcumene	1517	1514	tr	/	/	/	/	/	/	/	tr	tr	tr	tr
SO	Shyobunone	1523	1519	/	tr	tr	/	/	/	/	tr	tr	tr	tr	tr
S	*δ*-Cadinene	1531	1522	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
O	2,3,6-trimethyl-Naphthalene	1533	1533	/	/	/	/	/	/	tr	/	/	/	/	/
O	1,3,6-trimethyl-Naphthalene	1537	MS	/	/	/	/	/	/	tr	/	/	/	/	/
SO	Italicene ether	1543	1536	/	/	tr	tr	/	/	tr	/	tr	tr	tr	tr
SO	*α*-Copaen-11-ol	1549	1539	/	/	/	/	/	/	/	/	/	/	/	tr
SO	*cis*-Sesquisabinene hydrate	1550	1542	/	/	tr	tr	/	tr	tr	/	/	/	/	/
SO	Italicene epoxide	1557	1547	/	tr	tr	tr	/	tr	tr	tr	tr	tr	tr	tr
SO	(*E*)-Nerolidol	1566	1561	0.1	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr	tr
SO	Citronellyl isovalerate	1573	1563	/	tr	tr	/	tr	tr	tr	tr	tr	tr	0.0	tr
SO	Germacrene D-4-ol	1584	1574	/	tr	tr	/	/	tr	/	/	/	/	/	/
SO	Spathulenol	1587	1577	0.3	tr	tr	0.6	0.1	tr	0.4	0.2	tr	tr	0.2	0.1
SO	Caryophyllene oxide	1592	1582	0.2	tr	tr	0.6	tr	tr	0.3	0.1	tr	tr	0.1	tr
SO	Viridiflorol	1599	1592	tr	tr	tr	0.1	tr	tr	tr	tr	tr	tr	tr	tr
SO	Ledol	1612	1602	/	tr	tr	0.1	/	tr	0.2	0.1	/	tr	tr	0.1
SO	Geranyl isovalerate	1616	1606	/	/	/	/	/	/	/	/	/	/	tr	/
SO	Junenol	1628	1618	0.2	/	/	/	/	/	/	/	/	/	/	/

(CC) 2021 SCS.

SO	1-*epi*-Cubenol	1637	1627*	/	/	/	0.1	/	/	/	/	/	/	/
SO	(*E*)-Sesquilavandulol	1639	1631	0.1	/	tr	/	tr	/	/	/	/	/	tr	/
SO	Caryophylla-4(12),8(13)-dien-5-*β*-ol	1649	1639	/	/	/	0.3	/	/	/	/	/	/	/	/
SO	*β*-Eudesmol	1659	1649	0.4	tr	0.6	0.7	0.1	tr	0.2	0.4	0.2	0.2	0.1	0.4
SO	(*E*)-Sesquilavandulyl acetate	1743	1739	/	/	tr	/	/	/	/	/	/	/	tr	/
SO	(*S,R*)-6,7-Bisabolone	1754	1748	/	/	tr	tr	/	/	/	/	/	/	/	/
CD	Butanoic acid, 2-methyl-, 2-methoxy-4-(2-propenyl)phenyl ester	1767	MS	/	tr	0.2	/	/	tr	0.1	/	0.1	0.1	0.1	/
SO	Hexahydrofarnesyl acetone	1848	1847	/	/	tr	tr	/	/	tr	/	/	/	/	/

RI-Experimental linear retention indices relative to C8-C40 alkanes. Ria-Literature indices-Adams' retention indices and * according to NIST data base. Tr- trace<0.05% and not detected compounds are marked as (/). M-Hydrocarbon Monoterpenoids, MO-Oxygenated Monoterpenoids, S-Hydrocarbon Sesquiterpenoids, SO-Oxygenated Sesquiterpenoids, PP-Phenylpropanoids, CD-carboxylic acid derivatives, A-Alkanes, O-Other

Table S-XI. The number of identified components per sample of *A. scoparia*, the percentage of each class of compounds, and the percentage of total identified components

Sample	AS1	AS2	AS3	AS4	AS5	AS6	AS7	AS8	AS9	AS10	AS11	AS12
Contribution in total peaks area of ion chromatogram, %	98.8	98.3	96.6	99.4	99.3	98.1	99.6	99.6	99.3	99.1	99.6	99.8
Number of components	69	73	86	87	74	81	78	79	79	95	98	85
						Content, %						
Total monoterpenoids	22.3	19.0	23.0	28.2	27.0	23.4	17.7	34.3	24.2	24.1	37.7	30.7
Monoterpene hydrocarbons (M)	21.4	18.9	22.7	27.7	26.2	23.1	17.6	33.7	23.8	23.7	37.3	30.3
Oxygenated monoterpenes (MO)	0.9	0.1	0.4	0.5	0.8	0.3	0.1	0.6	0.4	0.4	0.4	0.4
Total sesquiterpenoids	3.7	0.9	2.2	4.9	1.0	1.2	2.9	2.3	1.6	2.1	2.3	1.6
Sesquiterpene hydrocarbons (S)	2.4	0.9	1.5	2.4	0.9	1.2	1.8	1.5	1.4	1.9	1.9	1.0
Oxygenated Sesquiterpene (SO)	1.2	tr	0.6	2.4	0.1	tr	1.1	0.8	0.2	0.2	0.4	0.6
Phenyldiacetylenes (P)	70.3	77.7	69.3	65.8	70.7	72.8	75.8	62.4	71.7	71.1	57.6	66.2
Phenylpropanoids (PP)	2.1	0.1	1.5	tr	0.2	0.4	2.7	0.3	1.4	1.1	1.6	1.1
Carboxylic acid derivatives (CD)	0.2	0.1	0.2	0.1	tr	tr	0.1	tr	0.1	0.3	0.1	tr
Other (O)	0.4	0.5	0.4	0.5	0.4	0.3	0.4	0.3	0.3	0.5	0.2	0.3

(CC) 2021 SCS.

STATISTICAL ANALYSIS

Statistics on the content of compounds determined using GC/MS of the investigated Artemisia *species*

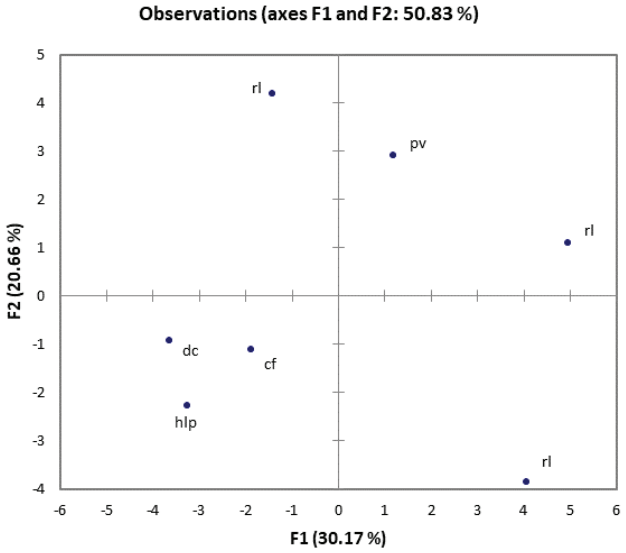

Fig. S-1. PCA plot of the analyzed *A. alba* samples showing correlations between the type of soil and percentages of components determined by GC/MS.

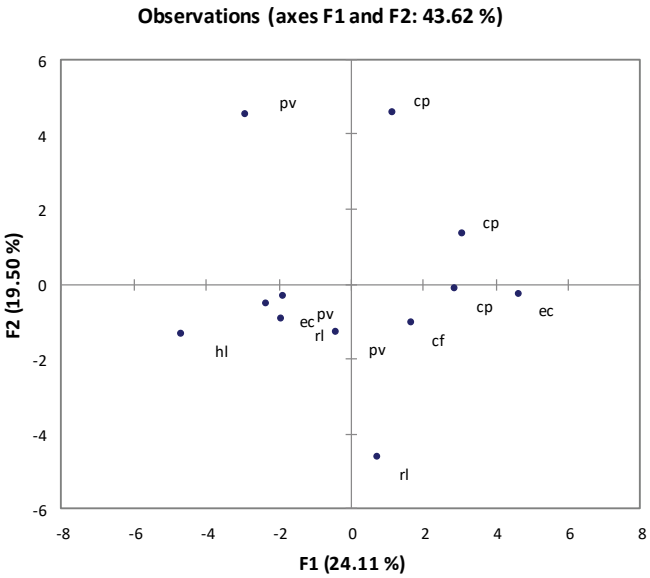

Fig. S-2. PCA plot of the analyzed *A. absinthium* samples showing correlations between the type of soil and percentages of components determined by GC/MS.

(CC) 2021 SCS.

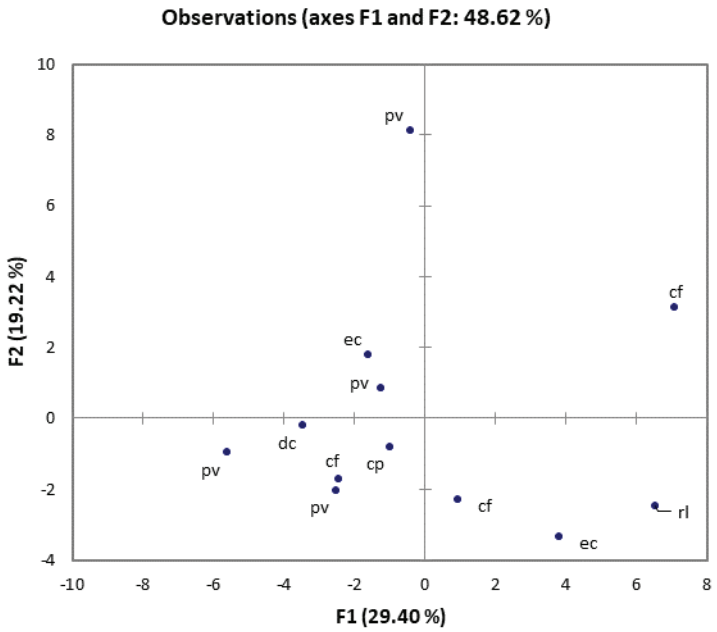

Fig. S-3. PCA plot of the analyzed *A. annua* samples showing correlations between the type of soil and percentages of components determined by GC/MS.

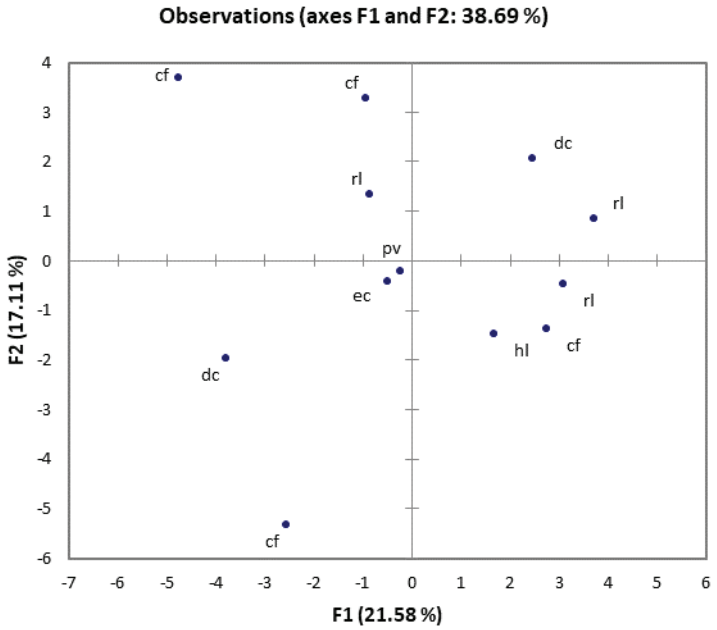

Fig. S-4. PCA plot of the analyzed *A. vulgaris* samples showing correlations between the type of soil and percentages of components determined by GC/MS.

(CC) 2021 SCS.

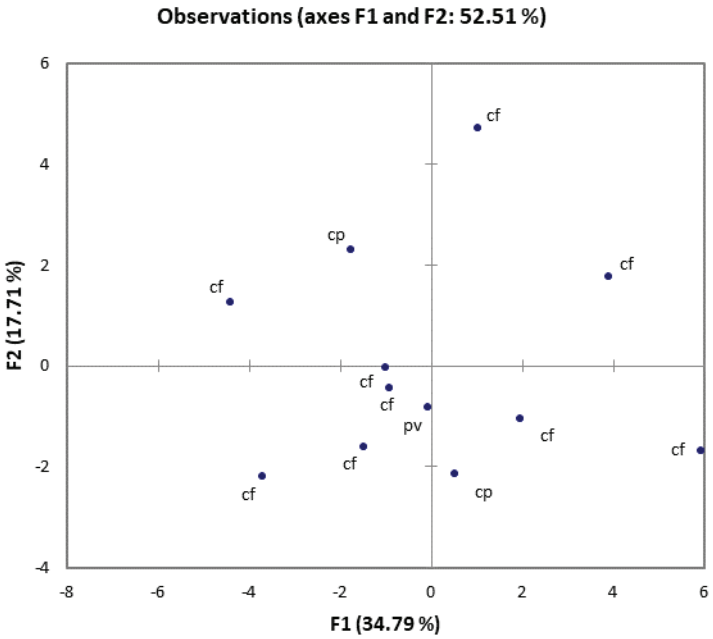

Fig. S-5. Dendrogram of the analyzed *A. scoparia* samples showing correlations between the type of soil and percentages of components determined by GC/MS.

Table S-XII. Factor loadings after Varimax rotation for *A. alba* regarding chemical composition

	D1	D2	D3	D4	D5	D6
α-Pinene	0.1938	-0.6191	0.1375	0.1642	0.6877	0.2457
Camphene	0.0856	-0.5571	0.2358	0.7642	-0.1188	0.1692
β-Pinene	0.5577	0.0453	0.3905	0.6752	-0.0508	0.2755
1,8-Cineole	-0.2921	0.5431	0.4334	0.1417	-0.6387	0.0623
Benzene acetaldehyde	0.8855	0.3982	-0.1786	0.0392	0.1083	-0.1101
γ-Terpinene	0.2631	-0.3127	-0.1656	0.8933	0.0078	-0.0866
Artemisia ketone	0.2380	-0.1518	0.5843	0.0148	0.7603	-0.0273
cis-Sabinene hydrate	0.3709	0.0493	0.1251	-0.2156	0.8932	0.0034
Terpinolene	0.9038	0.2226	0.0700	0.2592	0.2466	0.0276
trans-Sabinene hydrate	0.1481	0.4434	0.5186	0.7158	-0.0099	0.0044
Linalool	0.2593	0.4746	-0.7795	-0.2838	-0.1388	-0.0017
Filifolone	-0.2965	-0.5235	0.3726	-0.6795	-0.1747	0.0835
6-Methyl-(E)-3,5-heptadien-2-one	0.5148	0.1358	0.6550	0.4540	0.2669	0.1012
trans-Thujone	-0.2714	-0.6024	0.1955	-0.5835	0.4294	0.0160
cis-*p*-Menth-2-en-1-ol	0.3445	0.8956	0.2482	0.1256	-0.0390	0.0194
Chrysanthenone	0.1113	-0.1666	-0.3236	0.0722	0.9172	-0.0933
trans-Pinocarveol	0.7535	-0.2925	-0.3415	0.2526	0.3353	0.2320
Camphor	0.1029	0.5158	0.6124	-0.5162	-0.0756	0.2760
Pinocarvone	0.7815	0.1859	0.2017	0.1605	0.5352	0.0438
Borneol	-0.7503	-0.0901	-0.6290	0.0945	-0.1555	-0.0158

(CC) 2021 SCS.

	D1	D2	D3	D4	D5	D6
cis-Pinocamphone	0.0417	0.1726	0.3639	0.9132	-0.0423	-0.0187
Terpinen-4-ol	-0.0731	-0.1085	-0.9218	-0.0785	0.3534	-0.0461
p-Cymen-8-ol	-0.4062	-0.1794	-0.3259	0.8094	-0.1466	0.1413
α-Terpineol	0.7254	0.4006	0.4403	0.2915	0.1798	-0.0456
trans-Piperitol	0.1001	0.9755	-0.0263	-0.0706	-0.1808	-0.0058
δ-Elemene	-0.0029	0.2921	-0.8987	0.1991	-0.2576	-0.0301
β-Elemene	0.7339	0.6474	0.1113	0.1457	0.0832	-0.0416
(E)-Caryophyllene	0.2902	0.8441	-0.3783	-0.1773	-0.1641	-0.0415
Germacrene D	0.3656	-0.3543	-0.5067	-0.3579	0.5389	0.2559
Bicyclogermacrene	0.3101	0.9344	0.1229	0.0934	-0.0592	0.0589
Silphiperfol-5-en-3-one A	0.3820	-0.6487	0.2230	0.5245	0.3121	0.1053
Davanone	0.3385	-0.0035	0.9124	0.0578	-0.1731	0.1401
α-Eudesmol	-0.0010	-0.0526	-0.9512	-0.2247	-0.0461	0.1994
α-Bisabolol	0.4536	0.0882	0.2659	0.8304	0.0299	-0.1594

Table S-XIII. Factor loadings after Varimax rotation for *A. absinthium* regarding chemical composition

	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
(*E*)-2-Hexenal	0.0180	0.3112	-0.8737	-0.3306	0.0216	-0.0453	0.1033	-0.1073	0.0123	0.0371
n-Hexanol	-0.0183	0.2031	-0.9190	-0.1573	-0.0383	0.2734	0.0000	0.0560	0.0616	0.0776
α-Thujene	0.2340	0.5574	0.0353	0.7022	0.2697	0.1662	0.1475	0.1203	-0.0505	-0.0199
α-Pinene	0.7526	0.0056	0.1621	0.6124	-0.0471	0.0048	0.1479	-0.0115	-0.0499	-0.0003
α-Fenchene	0.0498	0.8976	0.0564	0.1387	0.0840	0.2744	0.2152	0.0905	0.0054	-0.1731
Sabinene	-0.3018	-0.3445	-0.2509	0.5433	-0.4420	0.0852	-0.2655	-0.3106	0.0833	0.2177
1-Octen-3-ol	0.8619	0.0343	-0.2070	0.1902	0.0596	-0.2479	0.0743	-0.3169	0.0686	0.0059
Myrcene	-0.3406	-0.2517	0.2302	-0.7574	-0.1050	-0.3071	0.2361	-0.1479	-0.0529	0.0780
α-Phellandrene	0.3237	-0.4365	0.4513	0.6592	-0.0737	-0.0441	-0.1229	-0.1446	0.0692	0.1109
α-Terpinene	0.1925	0.3126	0.2913	0.8729	0.0395	0.1007	0.0105	0.0139	-0.0792	-0.0045
o-Cymene	-0.6969	0.6473	-0.0025	-0.0065	-0.0038	0.1571	0.0214	0.2332	0.1178	-0.0043
β-Phellandrene	-0.2279	0.1383	0.4564	0.6699	-0.1455	-0.3842	0.1025	-0.2805	-0.0070	0.1088
(*Z*)-*β*-Ocimene	-0.4231	0.2909	0.3201	-0.1250	0.1046	0.2607	0.0629	0.7278	0.0150	-0.0048
γ-Terpinene	0.2284	0.4754	0.1596	0.8117	0.0266	0.0991	0.0107	-0.1230	-0.1040	0.0292
cis-Sabinene hydrate	-0.0753	0.3505	0.7530	0.0543	-0.4279	0.1911	0.0481	0.2619	-0.0285	0.1006
cis-Linalool oxide	-0.1509	0.3211	-0.7383	0.0912	0.1704	0.4565	0.2666	-0.0137	-0.0572	-0.0886
Terpinolene	0.0094	0.8014	-0.4191	0.3430	0.1999	0.1113	0.0087	-0.0928	-0.0504	-0.0225
Linalool	0.6809	-0.2684	0.3274	0.1679	0.1730	0.0894	-0.5091	-0.1734	-0.0277	-0.0162
n-Nonanal	0.1760	0.8896	-0.2975	0.0891	-0.0700	-0.2313	-0.0117	0.0310	-0.0415	0.1165
trans-Thujone	-0.0822	0.0074	-0.0438	0.0659	0.9905	-0.0630	-0.0180	0.0332	-0.0003	0.0203
(*Z*)-Epoxy-ocimene	0.3559	0.7525	-0.0238	0.4053	0.1514	0.1469	-0.1855	0.1946	0.1581	-0.0111
Sabina ketone	-0.2723	0.8408	-0.0568	-0.1916	-0.1719	0.0716	-0.0391	0.3137	-0.1634	0.0587
Terpinen-4-ol	0.4853	-0.0778	0.1925	0.5383	0.4695	0.3419	-0.2256	0.0592	0.0905	-0.1752
α-Terpineol	0.7907	0.1409	-0.5365	-0.1360	0.0297	0.1668	-0.0917	-0.0582	-0.0176	-0.0649
Methyl salicylate	-0.0249	0.2892	-0.2285	-0.9111	-0.0225	0.1250	0.0051	0.0461	-0.1155	0.0431
Fragranol	0.0624	-0.3642	0.3351	-0.1697	0.1741	-0.8094	0.0433	-0.1829	-0.0005	-0.0265
Nerol	0.7870	-0.4155	0.2364	0.1775	-0.2468	0.0744	-0.0623	0.1859	-0.1222	-0.0240
Neral	0.1952	-0.0187	0.8976	0.2573	0.2589	0.0023	0.1097	0.0816	0.0506	-0.0220
Geraniol	0.8572	0.2997	0.3127	0.2163	0.0341	0.0203	-0.0162	0.0674	0.1295	0.0412
Lavandulyl acetate	-0.3870	0.8565	-0.1119	-0.0707	-0.1243	0.1988	0.0680	-0.1588	0.1137	0.0309

(CC) 2021 SCS.

Table S-XIV. Factor loadings after Varimax rotation for *A. annua* regarding chemical composition

	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
Ethyl 2-methylbutyrate	-0.6822	0.2167	0.2977	-0.1518	0.1082	-0.5376	-0.0364	-0.0291	0.2304	0.1389
Santolina triene	0.1167	-0.8033	0.0687	0.4766	-0.2473	-0.0534	0.1341	-0.1643	-0.0127	-0.0068
Tricyclene	-0.1100	0.0655	0.1645	-0.1839	0.9391	-0.1437	-0.0433	-0.1136	-0.0425	0.0580
α-Thujene	0.1324	-0.2062	0.9355	0.0220	0.1453	-0.1593	-0.1255	0.0392	0.0076	0.0084
α-Pinene	0.2372	0.2592	-0.3630	-0.2580	-0.1279	0.0846	0.8085	-0.0144	-0.0031	-0.0040
Propyl 2-methylbutyrate	-0.3447	0.4152	0.0196	-0.1729	0.3551	-0.7286	0.0289	0.0779	0.1174	-0.0248
Camphene	0.5449	-0.4097	-0.0452	0.4144	-0.4640	0.3453	0.0132	0.0258	0.0067	-0.1594
Sabinene	0.0877	-0.0477	0.3809	-0.3281	0.7779	-0.1599	-0.1714	0.2598	0.0906	-0.0390
β-Pinene	-0.1388	-0.6140	0.3733	-0.1131	-0.5995	-0.0585	-0.0142	0.1444	-0.0507	0.2520
Yomogi alcohol	-0.7349	-0.4255	-0.1606	0.1479	-0.4562	0.0826	-0.0986	0.0365	-0.0638	0.0117
o-Cymene	-0.1723	0.7559	0.4259	-0.0737	0.1055	-0.4172	0.0941	-0.1196	-0.0128	-0.0580
1,8-Cineole	0.4104	-0.3706	0.3965	0.2713	0.0099	0.4011	-0.0987	0.5398	-0.0168	0.0137
Artemisia ketone	-0.2612	0.1093	0.6918	-0.3759	0.3254	-0.1738	-0.4027	0.0033	-0.0081	-0.0004
cis-Sabinene hydrate	0.9309	0.1129	-0.0403	0.0162	-0.2464	0.1921	-0.1095	0.0854	-0.0342	-0.0245
Artemisia alcohol	0.6132	0.4421	0.1466	-0.1791	0.3744	0.3264	0.0489	-0.2450	0.2554	-0.0232
Terpinolene	-0.5486	0.6120	0.3335	-0.2125	0.3339	-0.2153	0.0395	0.0701	0.0566	-0.0215
trans-Sabinene hydrate	0.9685	-0.0174	-0.0330	0.1401	0.0894	-0.1270	0.0522	0.1076	-0.0148	-0.0414
3-methyl-3-butenyl 3-Methyl butyrate	-0.5247	-0.0009	0.1864	-0.5965	0.3505	-0.3351	0.2187	-0.1553	0.0623	0.1522
α-Campholenal	0.0697	0.9619	-0.1061	0.1722	0.0180	-0.0539	0.0091	-0.1586	-0.0165	0.0121
trans-Pinocarveol	-0.1767	-0.9075	-0.0263	0.1178	0.3132	0.0921	-0.0743	-0.0942	0.0942	-0.0278
Camphor	0.9216	-0.0085	-0.1608	0.0883	-0.1538	-0.0147	-0.1792	0.1973	-0.1308	-0.0278
cis-Chrysanthenol	0.4180	-0.7689	0.0623	0.3427	0.0568	0.1267	0.2419	-0.0919	-0.1294	0.0657
Pinocarvone	0.0014	-0.9622	0.0936	0.1387	0.1287	0.0704	-0.1346	-0.0389	0.0342	-0.0555
Lavandulol	-0.2452	-0.5192	0.3195	-0.5458	-0.3087	0.2407	-0.0155	0.1752	-0.2833	0.0041
Terpinen-4-ol	-0.2949	0.8521	0.2455	-0.1180	0.3049	-0.1201	0.0216	0.0146	0.0554	-0.0385
α-Terpineol	0.7735	0.0849	0.4850	0.0411	0.3684	0.0434	-0.0198	0.1336	0.0298	0.0040
Myrtenol	-0.1718	0.9536	-0.0586	0.1435	0.1597	-0.0212	0.0478	0.0151	0.0902	-0.0200
trans-Carveol	0.3044	0.7931	0.4249	-0.0646	0.1220	-0.2564	0.0525	-0.0764	-0.0227	-0.0598
(*Z*)-3-Hexenyl 2-methyl butyrate	0.7141	0.5404	-0.0642	0.3050	0.1329	-0.1947	0.1411	-0.1476	0.0470	-0.0329
(*Z*)-3-Hexenyl 3-methyl butyrate	-0.4488	0.1197	0.4325	-0.6765	0.3433	0.1168	0.0446	-0.0012	-0.0414	0.0532
Hexyl 2-methyl butyrate	0.0108	0.0322	0.1615	0.8980	-0.2740	0.1431	-0.2115	0.0586	-0.1272	0.0504
Eugenol	0.8710	-0.1916	0.1024	-0.1467	-0.1118	0.3945	0.0174	-0.0148	0.0143	-0.0468
α-Copaene	0.9023	0.3024	0.1193	0.1258	-0.2178	-0.0943	0.0094	0.0338	-0.0645	0.0465
Benzyl 2-methylbutyrate	-0.1817	0.8103	-0.2223	0.3123	0.2408	-0.1262	-0.0644	-0.2859	0.0165	0.0347
β-Cubebene	0.3810	0.8541	-0.2382	0.1714	-0.1385	0.0261	0.0579	0.0036	-0.0783	0.0908
(*Z*)-Jasmone	0.9428	-0.0957	0.0981	0.0172	0.0960	-0.0835	0.1676	-0.1779	0.1260	-0.0122
(*E*)-Caryophyllene	0.6997	-0.0730	-0.2332	0.2487	-0.4106	0.1570	0.4018	-0.1662	0.0726	0.0303
(*E*)-β-Farnesene	0.8382	-0.4104	0.1498	0.1085	-0.1128	0.2654	-0.0347	0.0852	0.0216	-0.0156
α-Humulene	0.1602	-0.2868	-0.2928	0.2039	-0.0826	0.8436	0.1557	0.0978	0.1046	0.0168
γ-Selinene	0.7798	-0.3364	0.1819	0.4591	-0.1374	0.1092	0.0482	0.0155	0.0127	-0.0078
Bicyclogermacrene	0.9453	-0.1467	-0.0149	0.2128	-0.1521	0.1116	0.0087	0.0444	-0.0211	-0.0085
Caryophyllene oxide	0.9642	0.0517	0.0535	0.1398	-0.1018	0.0235	0.1507	-0.0203	-0.1040	-0.0015
Longifolenaldehyde	0.6864	-0.0738	-0.1116	0.6781	-0.0776	0.1505	0.0926	-0.0366	0.0567	0.0467
cis-Cadin-4-en-7-ol	0.8472	0.0124	0.0212	0.4486	0.1290	0.1480	0.0071	-0.1297	0.0976	0.1118
Selina-3,11-dien-6-*α*-ol	0.5870	0.0771	-0.1651	0.7459	-0.0527	0.2085	0.0693	0.0358	0.0837	-0.0430
Caryophylla-4(12),8(13)-dien-5-*α*-ol	0.8430	-0.0908	-0.3709	0.1978	0.1933	0.1266	0.1444	-0.0897	0.1419	-0.0030
Selin-11-en-4-*α*-ol	0.8131	-0.1004	-0.1099	0.5097	0.0327	0.1921	0.0950	0.0558	0.0586	0.0056
Germacra-4(15),5, 10(14)-trien-1-*α*-ol	0.8950	0.0438	-0.3035	0.0059	0.1026	0.2830	0.0959	0.0426	-0.0174	0.0444

(CC) 2021 SCS.

Table S-XV. Factor loadings after Varimax rotation for *A. vulgaris* regarding chemical composition

	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
Santolina Triene	-0.2772	-0.2757	-0.1478	0.3758	-0.6892	0.3505	-0.1951	0.1329	-0.1029	0.1144
α-Pinene	0.9612	0.0595	-0.1674	-0.0280	-0.1061	-0.0072	0.0994	0.1037	0.0959	0.0498
Sabinene	-0.0436	-0.3856	0.8492	0.0587	0.2394	0.0551	-0.2080	0.0155	0.0301	-0.0792
Myrcene	-0.0186	-0.3681	-0.4169	0.2618	-0.7107	-0.2995	-0.0367	0.1337	-0.0367	0.0691
α-Terpinene	0.5102	-0.0619	-0.1118	-0.2825	0.5888	0.4997	0.1970	-0.0895	-0.0114	-0.0142
o-Cymene	0.8156	-0.0932	0.0924	0.1412	0.2641	0.4297	0.2051	0.0157	-0.0018	-0.0249
1,8-Cineole	-0.8715	0.1752	0.0304	0.4209	-0.0064	-0.1174	-0.0475	0.0933	-0.0300	0.0703
(*E*)-*β*-Ocimene	0.6893	0.4567	-0.1082	-0.2236	0.2097	0.1996	0.3719	-0.0264	-0.1139	-0.1363
cis-Sabinene hydrate	0.1222	0.0750	0.3350	-0.0689	0.8821	0.1204	0.1896	0.1328	-0.0518	0.1162
trans-Sabinene hydrate	0.3035	-0.0918	0.1094	-0.1173	0.8881	0.1376	0.2273	0.1080	-0.0467	0.0224
cis-Thujone	-0.2486	0.0658	-0.7164	0.3175	-0.3189	0.0166	-0.4583	-0.0035	0.0805	0.0361
trans-Thujone	0.0179	-0.0034	0.9095	-0.0758	0.3539	0.1188	0.0907	0.0293	-0.0568	0.0512
Chrysanthenone	-0.4224	-0.5526	-0.3409	-0.1108	-0.5608	-0.1418	0.0775	-0.1710	0.0054	-0.1296
iso-3-Thujanol	0.1831	-0.1462	-0.0175	-0.1884	0.2474	0.0433	0.9179	-0.0539	0.0173	0.0210
trans-Pinocarveol	-0.2098	-0.1017	0.2954	0.1763	0.8981	-0.0111	-0.0068	0.0923	-0.0410	-0.0851
cis-Chrysanthenol	0.4611	-0.0025	0.1258	0.3940	0.2901	0.0221	-0.0608	0.7250	-0.0303	0.0089
Terpinen-4-ol	0.9518	0.0256	0.0510	-0.1099	0.2135	0.0012	-0.0161	0.1340	-0.1055	0.0198
α-Terpineol	-0.5379	0.2327	0.5926	0.0088	-0.0391	0.2270	-0.3608	0.1341	0.0820	0.3120
cis-Chrysanthenyl acetate	0.1599	0.8736	0.1236	0.1315	-0.0243	0.1455	-0.1052	-0.0838	0.3451	0.0658
Eugenol	0.2975	0.8894	-0.0593	-0.1656	0.2505	0.0489	-0.1027	-0.0678	-0.0077	-0.0808
β-Elemene	0.2867	-0.1361	-0.7762	0.4007	-0.3145	0.1727	0.0234	-0.0578	-0.0544	-0.0123
α-Humulene	0.4830	0.5076	0.3331	-0.0162	0.1865	0.2931	0.3812	0.2197	-0.2842	0.0478
Germacrene D	-0.4439	0.1964	-0.2378	0.0435	-0.3522	-0.7586	0.0404	-0.0049	0.0060	0.0006
β-Selinene	-0.0396	-0.7232	0.4828	0.0232	-0.1220	0.0730	-0.2724	-0.0902	0.3674	-0.0475
Bicyclogermacrene	0.6949	0.2742	-0.0998	-0.0941	0.0051	0.4853	0.2924	0.1618	0.2657	0.0732
Germacrene A	0.1517	0.2953	-0.2755	0.7033	-0.2570	0.3152	0.0248	-0.2174	0.3159	-0.0607
δ-Cadinene	-0.4660	0.7506	-0.1460	0.3307	-0.2354	-0.0743	-0.1555	0.0276	0.0271	-0.0241
Salviadienol	-0.1590	0.4052	-0.0102	0.8381	0.0086	-0.2388	-0.2186	0.0265	-0.0431	-0.0229
Spathulenol	0.2406	-0.6434	-0.0932	-0.3358	0.1619	0.0383	0.5989	0.0561	-0.0418	-0.1195
Caryophyllene oxide	0.4637	0.0069	0.0797	-0.7091	0.2506	-0.0531	0.4100	0.0041	-0.1542	0.1346
Torilenol	-0.1420	-0.1123	-0.2562	0.9159	0.0068	-0.0050	-0.1055	0.2015	-0.0865	0.0533
14-hydroxy-9-*epi*-(*E*)-Caryophyllene	-0.2365	0.8333	-0.1871	0.2260	0.0167	-0.3708	-0.0908	0.0168	-0.1193	-0.0566
Germacra-4(15),5, 10(14)-trien-1-*α*-ol	-0.1045	0.6423	0.1098	0.6767	-0.0611	-0.1659	0.0346	0.2334	-0.0484	0.1313

Table S-XVI. Factor loadings after Varimax rotation for *A. scoparia* regarding chemical composition

	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
α-Pinene	0.9260	-0.0139	0.3379	-0.1174	0.0461	-0.0187	-0.0186	0.1065	0.0149	0.0066
Sabinene	0.9233	-0.0542	0.2046	-0.2702	0.1440	-0.0278	0.0407	0.0730	0.0307	0.0113
β-Pinene	0.9328	-0.0336	0.1277	-0.2650	0.1881	0.0530	0.0230	0.0542	0.0066	0.0208
Myrcene	0.6055	-0.0032	0.5988	0.2391	-0.0971	-0.3527	0.0149	0.2831	0.0446	0.0355
α-Terpinene	0.5510	0.0784	0.7614	-0.2777	0.1389	0.0586	-0.0851	-0.0580	-0.0087	0.0086
p-Cymene	0.1293	0.0194	0.9550	-0.2279	0.0790	-0.0248	0.0558	0.0902	0.0094	0.0278
Limonene	0.8744	0.0516	0.4279	-0.0097	-0.1888	0.0049	-0.0194	0.1125	0.0020	-0.0280
1,8-Cineole	0.1209	0.3771	0.0862	0.0430	0.9129	0.0152	-0.0132	0.0061	-0.0078	-0.0032
(*Z*)-*β*-Ocimene	0.2708	0.8634	-0.0592	0.3877	0.0421	-0.0401	0.0358	-0.1455	-0.0249	-0.0080
(*E*)-*β*-Ocimene	0.8296	0.1114	0.4627	0.2604	-0.0526	0.0554	0.0743	0.0176	-0.0684	0.0310
γ-Terpinene	0.2588	-0.0611	0.9380	-0.1715	-0.0472	-0.0210	-0.0885	-0.0898	-0.0081	-0.0385
allo-Ocimene	0.3035	0.8617	0.0720	0.2770	0.2228	-0.0609	-0.0918	-0.1409	0.0238	0.0278

(CC) 2021 SCS.

	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
Terpinen-4-ol	0.8170	0.1263	0.3557	-0.0684	0.4142	0.0820	-0.0656	0.0364	-0.0332	0.0138
2,4-pentadiynyl-benzene	0.8787	0.1564	-0.1585	-0.3262	0.0652	0.0481	0.0115	-0.2546	0.0095	0.0040
Eugenol	0.3092	-0.6039	-0.0699	0.1665	0.0654	0.7082	0.0337	0.0048	0.0033	0.0047
2,6-dimethyl-Naphthalene	-0.9371	-0.2938	-0.0823	0.1159	-0.0345	-0.0671	-0.0023	0.0881	-0.0095	0.0425
(*E*)-Caryophyllene	-0.5272	0.0472	-0.0653	0.8205	-0.0661	0.1618	0.0815	0.0287	-0.0542	0.0359
α-Humulene	-0.2928	-0.0068	-0.2554	0.8929	-0.0948	0.1533	0.0868	-0.0777	-0.0667	0.0350
γ-Curcumene	0.5756	-0.1890	-0.3518	0.0096	0.5286	0.1058	0.4520	-0.0886	0.0782	0.0143
Capillene	-0.9681	-0.1159	-0.0941	0.1313	-0.0895	-0.0541	-0.0160	0.1092	-0.0137	-0.0004
Spathulenol	-0.1273	0.3686	-0.2848	0.8247	0.0018	-0.1411	0.2055	0.1235	-0.0318	-0.0894
β-Eudesmol	-0.0010	0.1352	-0.0465	0.9238	0.1670	-0.0639	-0.2841	-0.0102	0.1155	0.0078
Butanoic acid, 2-methyl-, 2-methoxy-4-(2-propenyl)phenyl ester	0.0199	-0.9682	0.0060	0.0591	-0.1394	0.0602	-0.0059	-0.1881	0.0000	0.0128

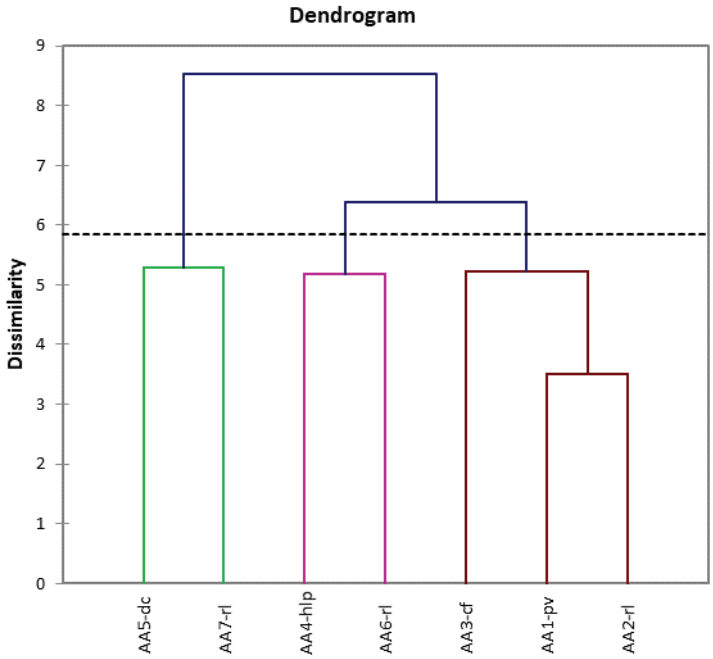

Fig. S-6. Dendrogram of the analyzed *A. alba* samples showing correlations between the type of soil and percentage of components determined by GC/MS.

(CC) 2021 SCS.

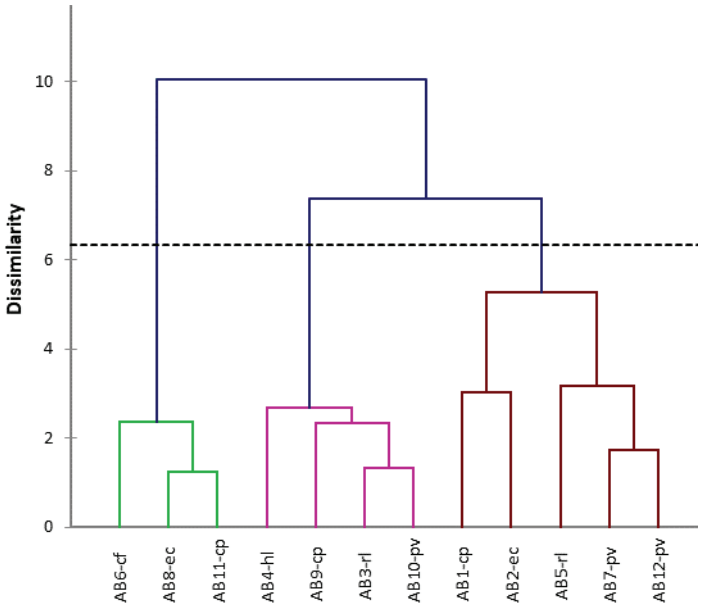

Fig. S-7. Dendrogram of the analyzed *A. absinthium* samples showing correlations between the type of soil and percentage of components determined by GC/MS.

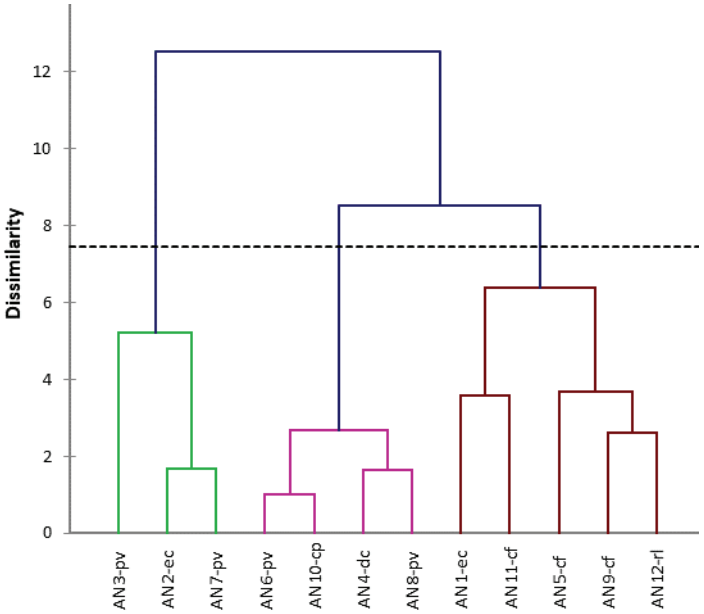

Fig. S-8. Dendrogram of the analyzed *A. annua* samples showing correlations between the type of soil and percentage of components determined by GC/MS.

(CC) 2021 SCS.

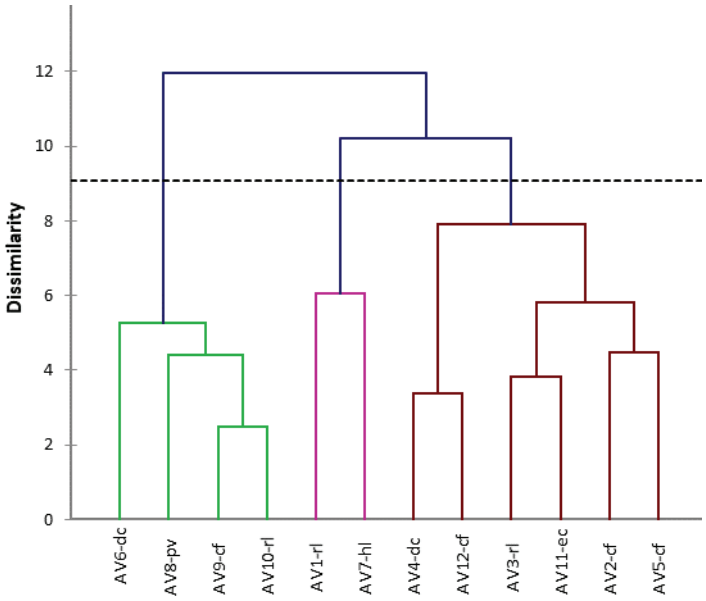

Fig. S-9. Dendrogram of the analyzed *A. vulgaris* samples showing correlations between the type of soil and components determined by GC/MS.

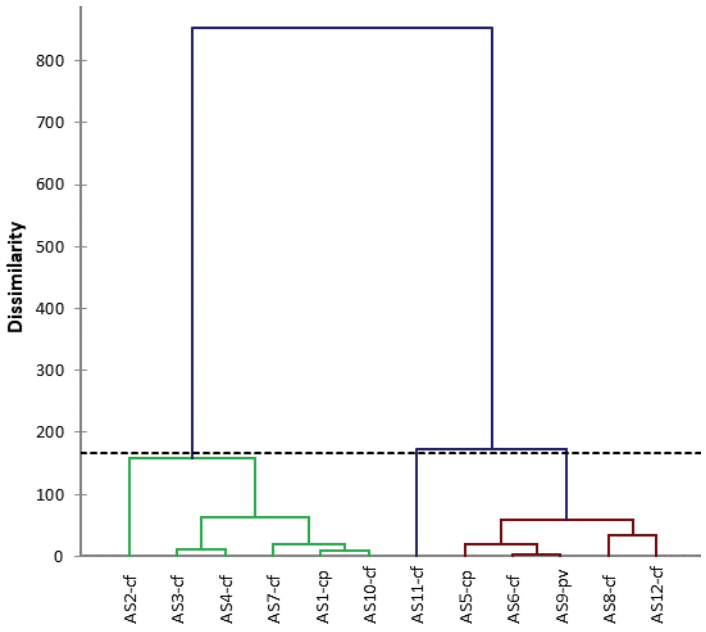

Fig. S-10. Dendrogram of the analyzed *A. scoparia* samples showing correlations between the type of soil and components.

(CC) 2021 SCS.

Statistics on the percentage of classes of compounds determined using GC/MS of the investigated Artemisia *species*

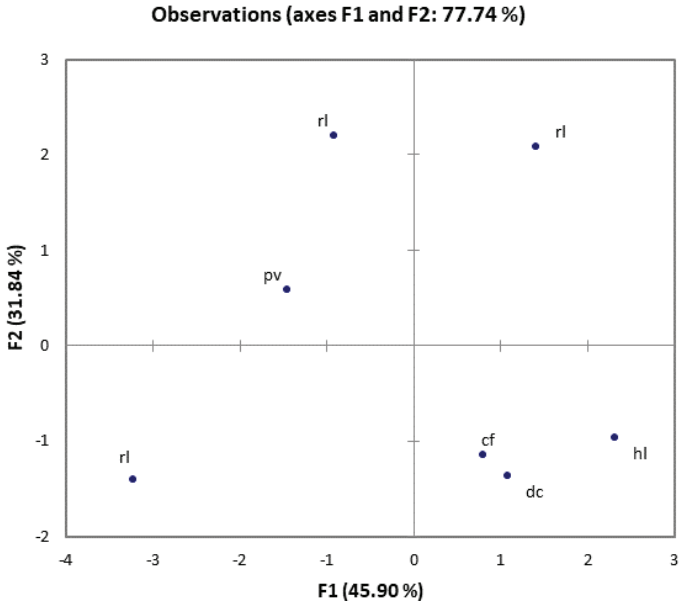

Fig. S-11. PCA plot of the analyzed *A. alba* samples showing correlations between the type of soil and percentage of classes of compounds determined by GC/MS.

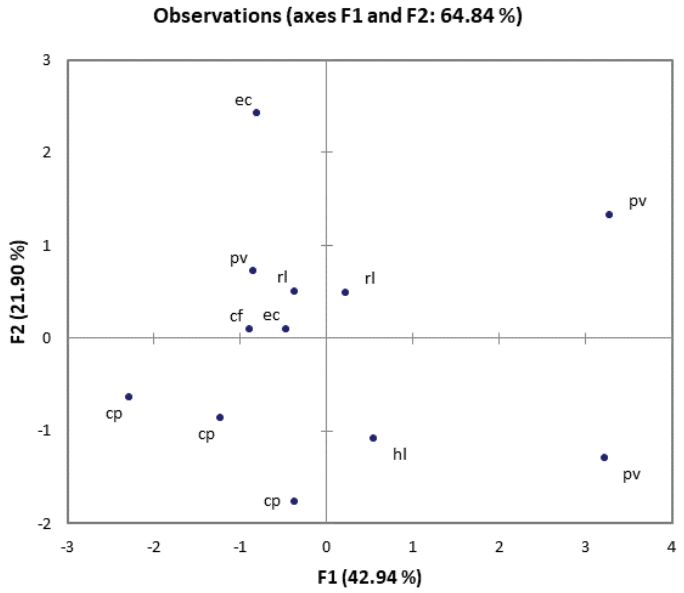

Fig. S-12. PCA plot of the analyzed *A. absinthium* samples showing correlations between the type of soil and percentage of classes of compounds determined by GC/MS.

(CC) 2021 SCS.

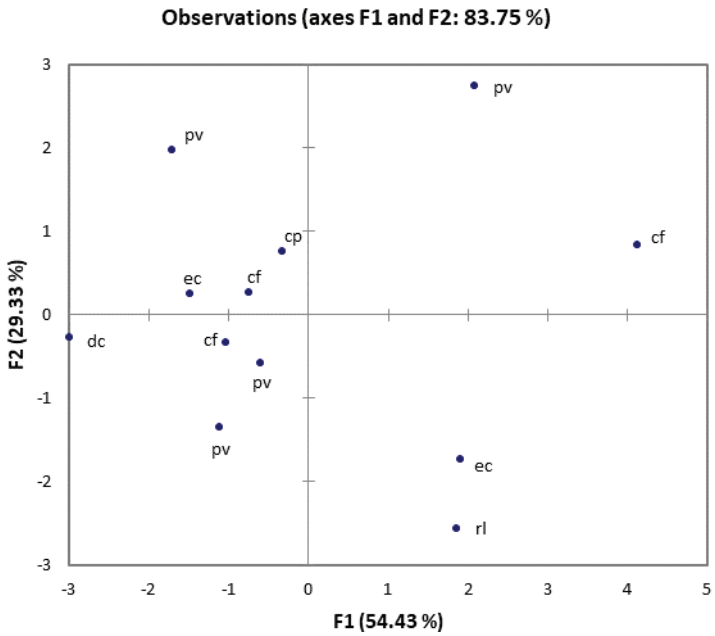

Fig. S-13. PCA plot of the analysed *A. annua* samples showing correlations between the type of soil and percentage of classes of compounds determined by GC/MS.

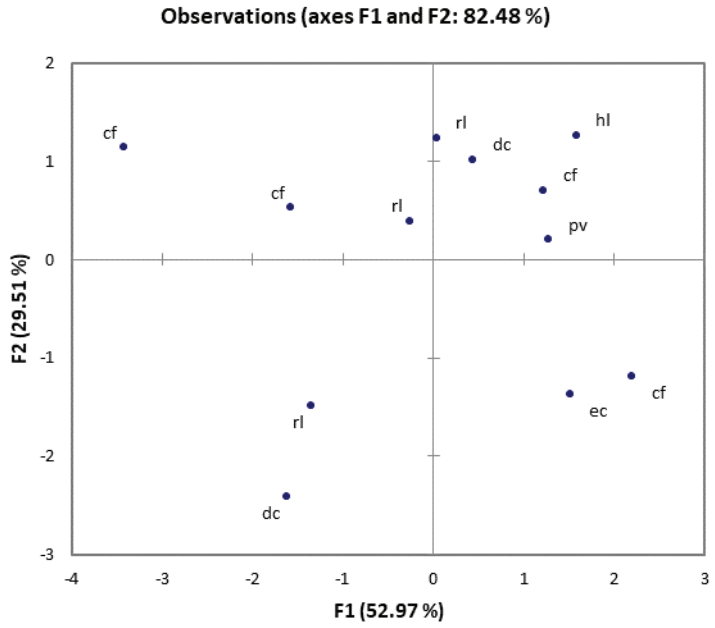

Fig. S-14. PCA plot of the analysed *A. vulgaris* samples showing correlations between the type of soil and percentage of classes of compounds determined by GC/MS.

(CC) 2021 SCS.

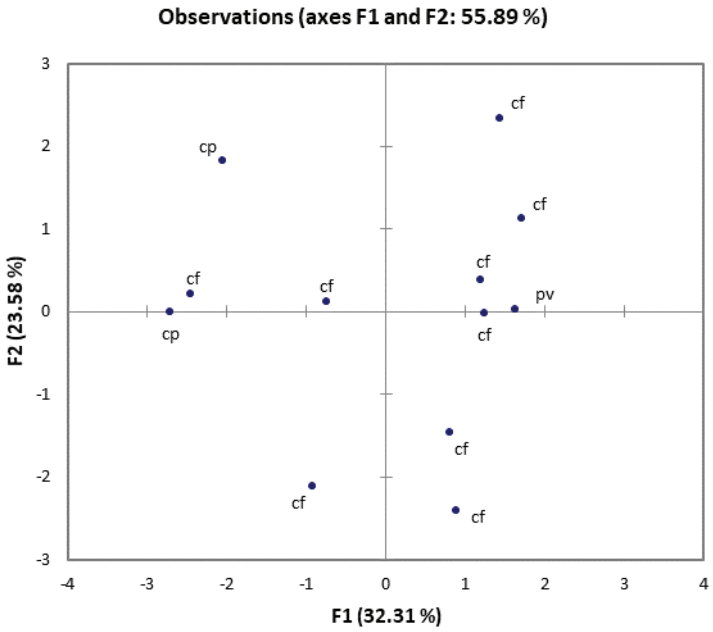

Fig. S-15. Dendrogram of the analysed *A. scoparia* samples showing correlations between the type of soil and percentage of classes of compounds determined by GC/MS.

Table S-XVII. Factor loadings after Varimax rotation for *A. alba* regarding classes of compounds

	D1	D2	D3	D4	D5
(M)	-0.9382	-0.1177	0.1259	0.2999	0.0102
(MO)	-0.9932	-0.0972	0.0506	-0.0398	-0.0049
(S)	0.9929	-0.0953	0.0436	0.0323	0.0452
(SO)	0.9711	0.0942	-0.1922	0.0960	-0.0446
(PP)	0.1271	0.9749	0.1781	-0.0336	0.0234
(CD)	-0.1331	0.2892	0.9479	0.0075	0.0019
(O)	-0.0031	0.9872	0.1561	0.0184	-0.0260

Table S-XVIII. Factor loadings after Varimax rotation for *A. absinthium* regarding classes of compounds

	D1	D2	D3	D4	D5
(M)	0.9286	-0.0407	0.2447	0.2434	0.1300
(MO)	-0.6451	0.1578	-0.3959	-0.5388	-0.3346
(S)	0.1959	-0.3743	0.1344	0.2137	0.8705
(SO)	0.3507	-0.2642	0.2421	0.8387	0.2125
(CD)	-0.0561	0.9318	0.0728	-0.1924	-0.2936
(O)	0.2801	0.0757	0.9278	0.2076	0.1088

(CC) 2021 SCS.

Table S-XIX. Factor loadings after Varimax rotation for *A. annua* regarding classes of compounds

	D1	D2	D3	D4	D5
(M)	0.3124	0.9294	0.1651	0.1063	0.0082
(MO)	-0.5520	-0.7793	-0.2926	-0.0450	-0.0189
(S)	0.7904	0.2756	0.5395	-0.0531	0.0734
(SO)	0.9783	0.0548	0.1908	-0.0540	-0.0221
(PP)	0.7135	-0.0801	0.6926	0.0659	-0.0211
(CD)	-0.3038	0.8973	-0.2910	-0.1333	-0.0030
(O)	0.9242	0.1853	0.2608	0.2079	0.0184

Table S-XX. Factor loadings after Varimax rotation for *A. vulgaris* regarding classes of compounds

	D1	D2	D3	D4
(M)	-0.3868	-0.0386	0.9213	-0.0122
(MO)	-0.8701	-0.4086	0.2724	-0.0421
(S)	0.5601	0.7415	-0.3519	0.1124
(SO)	0.9067	0.0872	-0.4124	-0.0153
(PP)	0.1149	0.9920	0.0478	-0.0216

Table S-XXI. Factor loadings after Varimax rotation for *A. scoparia* regarding classes of compounds

	D1	D2	D3	D4	D5
(M)	0.7929	0.0715	0.3921	0.1277	-0.4334
(MO)	0.9632	0.0595	-0.1786	0.1187	-0.1471
(S)	-0.7614	-0.3443	-0.4708	-0.2116	0.1639
(SO)	0.1838	-0.1822	-0.0513	0.9644	-0.0055
(P)	0.2062	0.9131	0.1729	-0.2389	0.1906
(PP)	-0.3526	0.1103	-0.7706	0.0201	0.5168
(CD)	-0.5047	0.4273	0.0501	0.0012	0.7449
(O)	-0.0793	0.2607	0.9469	-0.0814	0.1430

(CC) 2021 SCS.

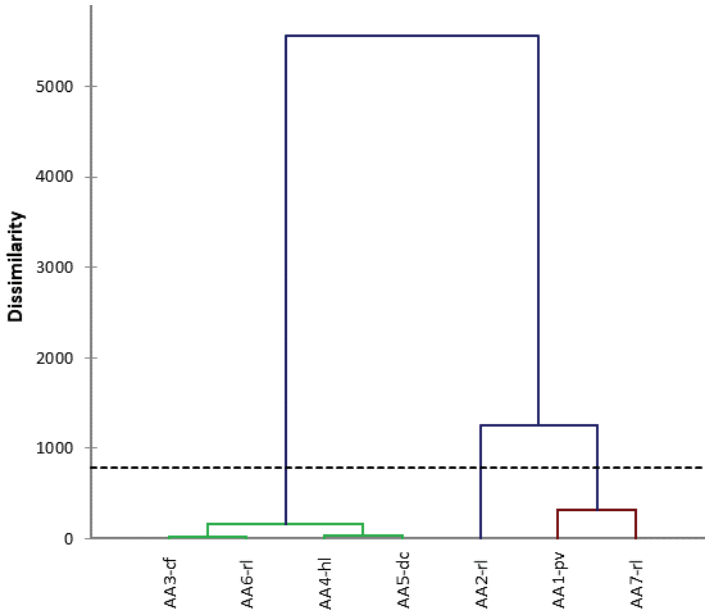

Fig. S-16. Dendrogram of the analysed *A. alba* samples showing correlations between the type of soil and percentage of classes of compounds determined by GC/MS.

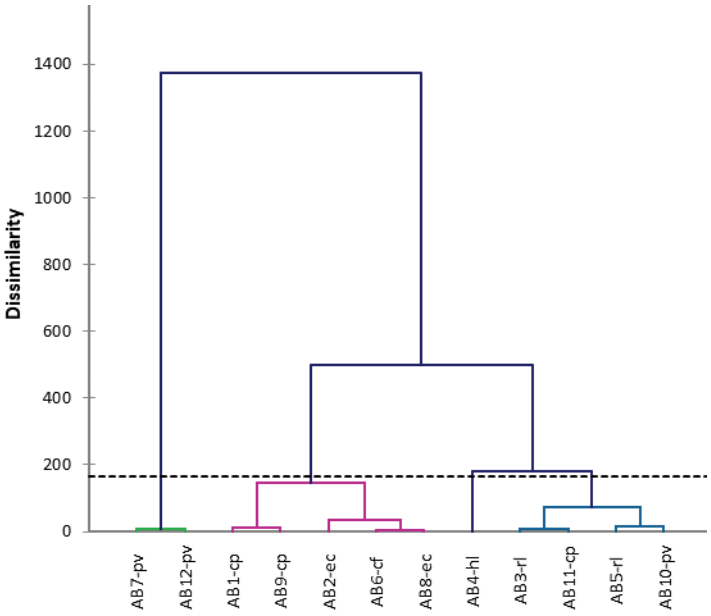

Fig. S-17. Dendrogram of the analysed *A. absinthium* samples showing correlations between the type of soil and percentage of classes of compounds determined by GC/MS.

(CC) 2021 SCS.

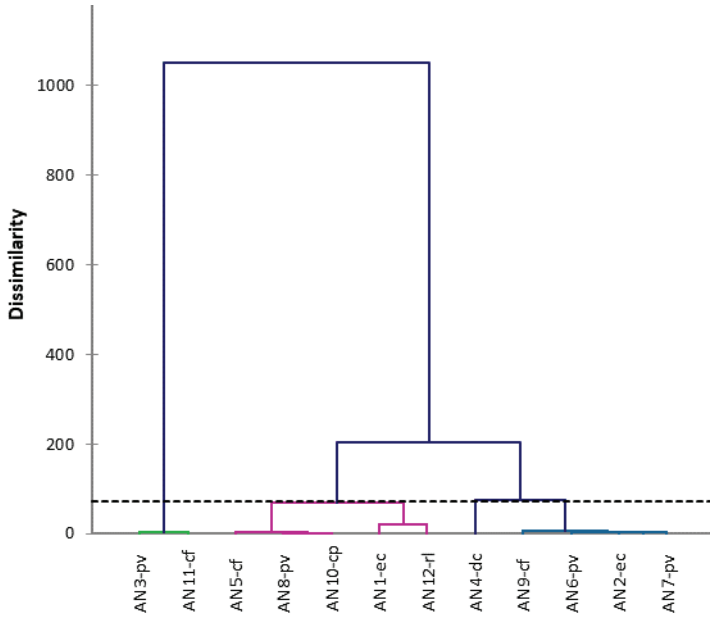

Fig. S-18. Dendrogram of the analysed *A. annua* samples showing correlations between the type of soil and percentage of classes of compounds determined by GC/MS.

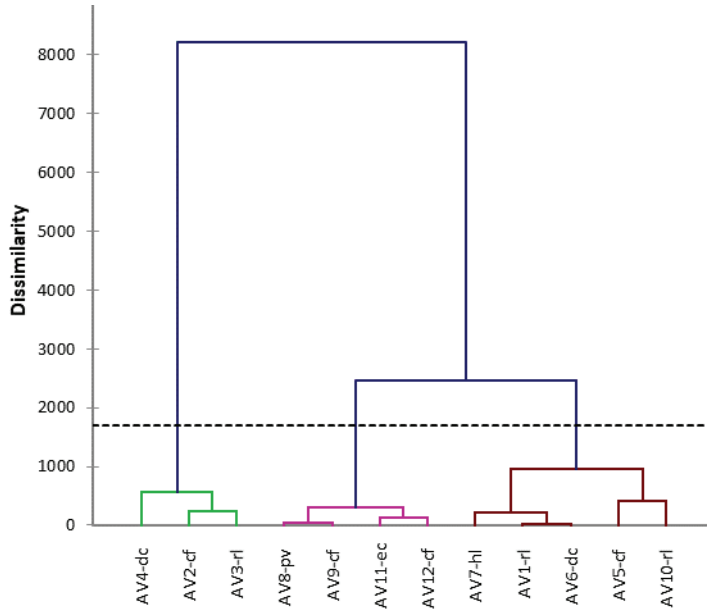

Fig. S-19. Dendrogram of the analysed *A. vulgaris* samples showing correlations between the type of soil and percentage of classes of compounds determined by GC/MS.

(CC) 2021 SCS.

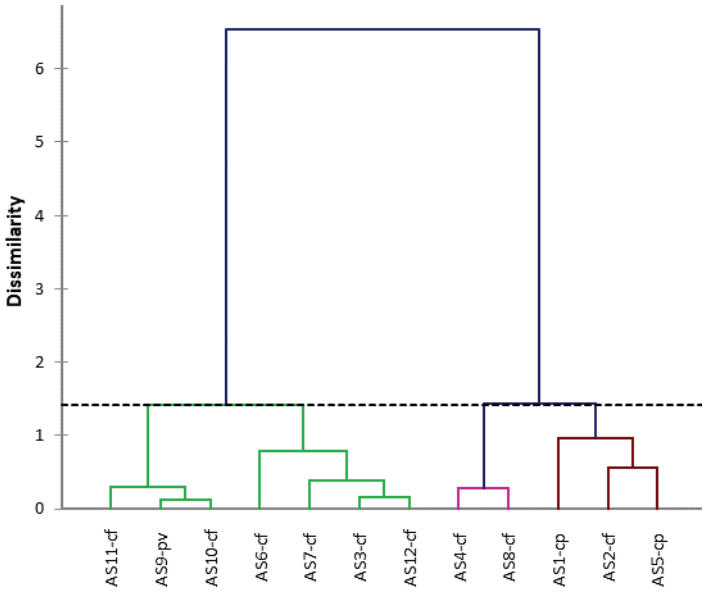

Fig. S-20. Dendrogram of the analysed *A. scoparia* samples showing correlations between the type of soil and percentage of classes of compounds determined by GC/MS.

(CC) 2021 SCS.