

# C CAMPHENE

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CAMPHENE

\*Unless otherwise noted all references are to Duke, James A. 1992. Handbook of phytochemical constituents of GRAS herbs and other economic plants. Boca Raton, FL. CRC Press.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Abies alba	Leaf	528	738	0.08626138487834419	--
Abies balsamea	Plant	440	950	1.0192270400228702	--
Abies sachalinensis	Branches	4160	4680		--
Abies spectabilis	Leaf	175	465	-0.016929013209351848	--
Achillea millefolium	Leaf	2	600	0.03409920562522311	--
Acinos alpinus	Shoot	0.5	0.5	-0.13423018852172086	Velasco-Negueruela,A., Perez-Alonso,M.J., Jiminez,S.M. and Garcia,F.M. 1993. The Volatile Constituents of Acinus alpinus (L.) Moench ssp. meridionalis (Nyman). P.W. Ball Growing in Spain. Flav. & Frag. J. 8:127-130.)
Acinos alpinus	Shoot	--	0.5	-0.13423018852172086	Velasco-Negueruela,A., Perez-Alonso,M.J., Jiminez,S.M. and Garcia,F.M. 1993. The Volatile Constituents of Acinus alpinus (L.) Moench ssp. meridionalis (Nyman). P.W. Ball Growing in Spain. Flav. & Frag. J. 8:127-130.)
Acinos suaveolens	Shoot	900	900	-0.05123938711110241	Jim Duke's personal files.
Acorus calamus	Rhizome	10	460	-1	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Aesculus hippocastanum	Flower Essent. Oil	--	83000		Jim Duke's personal files.
Agastache foeniculum	Plant	1	35	-0.5459540576133597	--
Agastache nepetoides	Plant	1	1	-0.6041137923889136	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Agathosma betulina	Leaf	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Agathosma betulina	Leaf Essent. Oil	--	--		--
Ageratum conyzoides	Plant	5	38	-0.5408223163096343	--
Ageratum conyzoides	Shoot	--	3060	0.14804925218510195	R. Vera, (1993); Chemical composition of the essential oil Ageratum conyzoides L. (Asteraceae) from Reunion, Flavour Fragr. J., Vol.8, 257-260.
Aloysia citrodora	Plant	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Alpinia galanga	Rhizome	--	--		--
Alpinia officinarum	Rhizome	--	--		Wealth of India.
Amomum xanthioides	Seed	--	--		--
Anethum graveolens	Plant	--	--		Rizk, A.F.M., The Phytochemistry of the Flora of Qatar, Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986.
Angelica archangelica	Root	2	130	1.4108316199577506	--
Angelica archangelica	Root Essent. Oil	--	--		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Angelica archangelica	Fruit	--	--		--
Aniba rosaeodora	Essential Oil	--	--		--
Apium graveolens	Leaf Essent. Oil	--	1000	-0.8415153554301138	--
Apium graveolens	Seed Essent. Oil	--	--		--
Apium graveolens	Seed	--	--		Charalambous, G. (Ed.). 1994. Spices, Herbs and Edible Fungi. Elsevier Science B. V. Amsterdam. 764 pp.
Aralia cordata	Stem	3	3		--
Artemisia absinthium	Plant	--	--		--
Artemisia annua	Plant	12	920	0.9679096269856168	--
Artemisia capillaris	Essential Oil	--	--		--
Artemisia dracunculus	Leaf	--	--		--
Artemisia dracunculus	Leaf Essent. Oil	--	--		--
Artemisia dracunculus	Essential Oil	--	--		--
Artemisia salsoloides	Shoot	24500	24500	2.126173523717797	V. Kaul, P. Weyerstahl, H. Wahlberg, H. Marschall, (1992); Volatile constituents of the essential oil and the absolute of Artemisia salsoloides Willd. from Ladakh, Flavour and Fragrance journal, Vol.7, 299-305.
Barosma betulina	Leaf	--	--		--
Boswellia sacra	Resin Essent. Oil	--	0.7		Abdel Wahab, S. M., Aboutabl, E. A., El-Zalabani, S. M., Fouad, H. A., De Pooter, H. L., El-Fallaha, B. 1987. The Essential Oil of Olibanum. Plant Med. 53 (4): 382-384.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Boswellia serrata	Essential Oil	--	--		--
Calamintha nepeta	Leaf	--	--		Akgul, A., De Pooter, H.L., and De Buyck, L.F. 1991. The Essential Oils of Calamintha nepeta subsp. glandulosa and Ziziphora clinopodioides from Turkey. J. Ess. Oil Res., 3: 7-10.
Calamintha nepeta	Shoot	1	1	-0.13418405689225413	Kirimer, N., Baser, K.H.C., Ozek, T. and Kurkcuoglo, M. 1992. Composition of the Essential Oil of Calamintha nepeta subsp. glandulosa. J. Ess. Oil Res. 4:189-190
Callicarpa americana	Leaf	--	0.55	-0.19248498534059874	--
Cannabis sativa	Resin, Exudate, Sap	--	--		--
Cannabis sativa	Flower Essent. Oil	--	--		--
Cannabis sativa	Leaf Essent. Oil	--	--		--
Cannabis sativa	Essential Oil	--	--		--
Cannabis sativa	Plant	--	--		--
Capsicum annuum	Fruit	--	--		--
Carum carvi	Fruit	1	900	0.021412618138643334	--
Carum carvi	Plant	30	30	-0.5545069597862352	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Carum carvi	Seed	1	900	1.5222256000900138	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Centella asiatica	Shoot	--	--		Jim Duke's personal files.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Chamaemelum nobile	Plant	--	--		--
Chrysanthemum balsamita	Plant	--	--		--
Chrysanthemum parthenium	Shoot	--	95	-0.1255113105525119	Hendriks, H., Bos, R., and Woerdenbag, H. J. 1996. The Essential Oil of Tanacetum parthenium (L.) Schultz-Bip. Flavor and Fragrance Journal 11(6): 367-71.
Chrysanthemum x morifolium	Plant	8	30	-0.5545069597862352	Wealth of India.
Cinnamomum aromaticum	Plant	--	--		--
Cinnamomum camphora	Plant	--	--		--
Cinnamomum camphora	Leaf	--	5	-0.19080294405308876	--
Cinnamomum verum	Bark	18	72		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Cinnamomum verum	Leaf	20	40	-0.17757340583671746	--
Cinnamomum verum	Root Bark	--	--		--
Cinnamomum verum	Leaf Essent. Oil	--	--		--
Cinnamomum verum	Bark Essent. Oil	--	0		--
Cinnamomum verum	Stem Bark	--	--		--
Cistus ladaniferus	Leaf	11	770	0.09835696267616935	--
Citrus aurantiifolia	Fruit	50	80	-0.3186300658171268	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Citrus aurantium	Plant	--	--		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Citrus aurantium	Leaf	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Citrus limon	Essential Oil	2	50	-0.6924881415674572	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Citrus limon	Leaf Essent. Oil	--	--		Jim Duke's personal files.
Citrus limon	Petiole	--	3		--
Citrus paradisi	Pericarp	--	--		--
Citrus reticulata	Fruit	1	40	-0.3352175138149692	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Citrus sinensis	Fruit	--	0.1	-0.35176349319281713	--
Cleonia lusitanica	Leaf	1	5	-0.19080294405308876	Perez-Alonso, M., Velasco-Negueruela, A., and Lopez-Saez, A. 1991. The Essential Oil of Cleonia lusitanica. J. Ess. Oil Res., 3: 441-442.
Coleus barbatus	Root Essent. Oil	--	64000	-1	Jim Duke's personal files.
Coleus barbatus	Leaf Essent. Oil	--	11200	-0.47873189704519575	Jim Duke's personal files.
Coleus barbatus	Stem Essent. Oil	--	11200		Jim Duke's personal files.
Coriandrum sativum	Fruit	2	155	-0.2875286008211722	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Coriandrum sativum	Essential Oil	--	--		--
Coriandrum sativum	Seed Essent. Oil	2100	7600	1.2973683379921246	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Coridothymus capitatus	Shoot	22	22	-0.13224652845465215	Lagouri, V., Blekas, G., Tsimidou, M., Kokkini, S., and Boskou, D. 1993. Composition and Antioxidant Activity of Essential Oils from Oregano Plants Grown Wild in Greece. Z. Lebensm Unters Forsch 197: 20-23.
Croton eluteria	Bark	--	--		--
Croton lechleri	Plant	--	--		Taylor, Leslie. 2005. The Healing Power of Rainforest Herbs. SquareOne Publisher, Garden City Park, NY. 519 pp.
Cuminum cyminum	Seed Essent. Oil	--	400	-1.4910054033640832	--
Curcuma longa	Tuber	--	--		--
Curcuma longa	Rhizome	--	--		--
Cymbopogon nardus	Plant	150	960	1.0363328443686213	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Cyperus rotundus	Root	--	--		--
Daucus carota	Seed	1	70	-1.3481581516889602	--
Dictamnus albus	Shoot	0.7	0.7	-0.1342117358699341	Baser, K.H.C., Kosar, M.Malyer, H. & Ozek, T. 1994. The Essential Oil Composition of Dictamnus albus from Turkey. Planta Med. 60:481-2
Dictamnus albus	Shoot	--	1	-0.13418405689225413	Baser, K.H.C., Kosar, M.Malyer, H. & Ozek, T. 1994. The Essential Oil Composition of Dictamnus albus from Turkey. Planta Med. 60:481-2
Dictamnus albus	Shoot	--	0.7	-0.1342117358699341	Baser, K.H.C., Kosar, M.Malyer, H. & Ozek, T. 1994. The Essential Oil Composition of Dictamnus albus from Turkey. Planta Med. 60:481-2
Elettaria cardamomum	Fruit	10	30	-0.33936437581442985	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Elettaria cardamomum	Seed Essent. Oil	--	--		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Elsholtzia blanda	Shoot	0.4	0.4	-0.13423941484761423	Bestman, H.J., Rauscher, J., Vostrowsky O., Pant, A.K., Dev. V., Perihar, R. and Mathela, C.S. 1992. Constituents of the Essential Oil of Elsholtzia blanda Benth. (Labiatae). J. Ess. Oils Res. 4: 121-124
Elsholtzia cristata	Shoot	0.1	0.1	-0.1342670938252942	Kobold, U., Vostrowsky, O., Bestmann, H.J., Bisht, J.C., Pant, A.K., Melkani, A.B. and Mathela, C.S. 1987. Terpenoids from Elsholtzia Species; II. Constituents of Essential Oil from a New Chemotype of Elsholtzia cristata. Planta Medica 1987: 268-271.
Elsholtzia pilosa	Shoot	0.1	0.1	-0.1342670938252942	--
Elsholtzia polystachya	Leaf	0	0	-0.19269287808399893	Mathela, C.S., Melkani, A.B., Bisht, J.C., Pant, A.K., Bestmann, H.J., Erler, J., Kobold, U., Rauscher, J. and Vostrowsky, O. 1992. Chemical Varieties of Essential Oils from Elsholtzia polystachya from Two Different Locations in India. Planta Medica 58: 376-379.
Elsholtzia polystachya	Leaf	--	0	-0.19269287808399893	Mathela, C.S., Melkani, A.B., Bisht, J.C., Pant, A.K., Bestmann, H.J., Erler, J., Kobold, U., Rauscher, J. and Vostrowsky, O. 1992. Chemical Varieties of Essential Oils from Elsholtzia polystachya from Two Different Locations in India. Planta Medica 58: 376-379.
Eucalyptus albens	Shoot	--	9	-0.13344595082078672	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus astringens	Shoot	--	0.1	-0.1342670938252942	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus blakelyi	Shoot	--	3055	0.1475879358904348	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus bosistoana	Shoot	--	30	-0.13150842238318472	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.



<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Eucalyptus botryoides	Shoot	--	35	-0.13104710608851758	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus brassiana	Leaf	--	6	-0.1904249572469067	Singh, A. K., Gupta, K. C., & Brophy, J. J. 1991. Chemical Constituents of the Leaf Essential Oil of Eucalyptus brassiana S. T. Blake. Journal of Essential Oil Res. 3: 45-7.
Eucalyptus camaldulensis	Shoot	--	0.1	-0.1342670938252942	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus citriodora	Leaf	1	20	-0.18513314196035818	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Eucalyptus citriodora	Shoot	--	0.1	-0.1342670938252942	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus citriodora	Leaf Essent. Oil	--	--		--
Eucalyptus cladocalyx	Shoot	--	10	-0.13335368756185328	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus dealbata	Shoot	--	0.1	-0.1342670938252942	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus diversicolor	Shoot	--	25	-0.13196973867785186	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus globulus	Leaf	--	--		Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Eucalyptus globulus	Shoot	--	0.1	-0.1342670938252942	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus globulus	Fruit Essent. Oil	--	--	--	--
Eucalyptus globulus	Essential Oil	--	9000	-0.4234452941431629	--
Eucalyptus globulus	Leaf Essent. Oil	4000	5100	-0.6956906319616664	--
Eucalyptus maculata	Shoot	--	0.1	-0.1342670938252942	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus maideni	Shoot	--	0.1	-0.1342670938252942	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus melliodora	Shoot	--	35	-0.13104710608851758	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus moluccana	Shoot	--	0.1	-0.1342670938252942	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus nova-anglica	Leaf	8	15	-0.18702307599126838	Brophy, J. L., Lassak, E. V., & Boland, D. J. 1992. The Leaf Essential Oils of Eucalyptus nova-anglica. Deane & Maiden. Journal of Essential Oil Res. 4: 29-32.
Eucalyptus occidentalis	Shoot	--	0.1	-0.1342670938252942	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Eucalyptus oviformis	Shoot	--	40	-0.13058578979385044	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus paniculata	Shoot	--	10	-0.13335368756185328	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus polyanthemos	Shoot	--	0.1	-0.1342670938252942	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus punctata	Shoot	--	65	-0.12827920832051476	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus saligna	Shoot	--	27	-0.131785212159985	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus siderophloia	Shoot	--	11	-0.13326142430291985	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus sideroxylon	Shoot	--	0.1	-0.1342670938252942	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus tereticornis	Shoot	--	0.1	-0.1342670938252942	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Ferula gummosa	Essential Oil	--	--	--	--
Ferula jaeschkeana	Fruit	9500	9500	3.5877139376747698	--
Foeniculum vulgare	Fruit	10	540	-0.12787441384193868	--

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Foeniculum vulgare	Seed	10	540	0.27723987642684456	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Foeniculum vulgare	Seed Essent. Oil	--	--		Jim Duke's personal files.
Glechoma hederacea	Plant	1	3	-0.6006926315197634	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Gossypium sp	Plant	--	--		--
Hedeoma drummondii	Plant	0	900	0.9336980182941145	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Hedeoma hispida	Plant	66	66	-0.4929260641415311	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Hedeoma reverchonii	Plant	460	460	0.18104262708106403	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Helianthus annuus	Essential Oil	--	--		--
Houttuynia cordata	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Houttuynia cordata	Essential Oil	--	--		--
Houttuynia cordata	Shoot Essent. Oil	--	--		--
Hypericum perforatum	Plant	1	18	-0.5750339250011366	--
Hyptis suaveolens	Shoot	4	4	-0.13390726711545384	Mallvarapu, G.R., Ramesh, S., Kaul, P.N., Bhattacharya, A.K., and Rao, B.R.R. 1993. The Essential Oil of Hyptis suaveolens (L.) Poit. J. Ess. Oil Res. 5: 321.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Hyptis suaveolens	Shoot	--	4	-0.13390726711545384	Mallvarapu, G.R., Ramesh, S., Kaul, P.N., Bhattacharya, A.K., and Rao, B.R.R. 1993. The Essential Oil of Hyptis suaveolens (L.) Poit. J. Ess. Oil Res. 5: 321.
Hyssopus officinalis	Leaf	6	80	-0.162453933589436	--
Hyssopus officinalis	Shoot	--	115000	10.475998457193025	--
Hyssopus officinalis	Shoot	--	20	-0.132431054972519	Kerrola, K., Galambosi, B. and Kallio, H. 1994. Volatile Components and Odor Intensity of Four Phenotypes of Hyssop (Hyssopus officinalis L.) J. Agric. Food Chem. 42: 776-781.
Hyssopus officinalis	Shoot	--	20	-0.132431054972519	Kerrola, K., Galambosi, B. and Kallio, H. 1994. Volatile Components and Odor Intensity of Four Phenotypes of Hyssop (Hyssopus officinalis L.) J. Agric. Food Chem. 42: 776-781.
Hyssopus officinalis	Shoot	--	40	-0.13058578979385044	Kerrola, K., Galambosi, B. and Kallio, H. 1994. Volatile Components and Odor Intensity of Four Phenotypes of Hyssop (Hyssopus officinalis L.) J. Agric. Food Chem. 42: 776-781.
Hyssopus officinalis	Shoot	--	40	-0.13058578979385044	Kerrola, K., Galambosi, B. and Kallio, H. 1994. Volatile Components and Odor Intensity of Four Phenotypes of Hyssop (Hyssopus officinalis L.) J. Agric. Food Chem. 42: 776-781.
Hyssopus officinalis	Shoot	--	30	-0.13150842238318472	Kerrola, K., Galambosi, B. and Kallio, H. 1994. Volatile Components and Odor Intensity of Four Phenotypes of Hyssop (Hyssopus officinalis L.) J. Agric. Food Chem. 42: 776-781.
Hyssopus officinalis	Shoot	--	40	-0.13058578979385044	Kerrola, K., Galambosi, B. and Kallio, H. 1994. Volatile Components and Odor Intensity of Four Phenotypes of Hyssop (Hyssopus officinalis L.) J. Agric. Food Chem. 42: 776-781.
Hyssopus officinalis	Shoot	--	40	-0.13058578979385044	Kerrola, K., Galambosi, B. and Kallio, H. 1994. Volatile Components and Odor Intensity of Four Phenotypes of Hyssop (Hyssopus officinalis L.) J. Agric. Food Chem. 42: 776-781.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Hyssopus officinalis	Shoot	--	20	-0.132431054972519	Kerrola, K., Galambosi, B. and Kallio, H. 1994. Volatile Components and Odor Intensity of Four Phenotypes of Hyssop ( <i>Hyssopus officinalis</i> L.) J. Agric. Food Chem. 42: 776-781.
Hyssopus officinalis	Shoot	0.1	0.1	-0.1342670938252942	Tsankova, E.T., Konatchiev, A.N. and Genova, E.M. 1993. Chemical Composition of the Essential Oils of Two <i>Hyssopus officinalis</i> cultivars. J. Ess. Oil Res. 5: 609-611.
Hyssopus officinalis	Shoot	--	--		Tsankova, E.T., Konatchiev, A.N. and Genova, E.M. 1993. Chemical Composition of the Essential Oils of Two <i>Hyssopus officinalis</i> cultivars. J. Ess. Oil Res. 5: 609-611.
Hyssopus officinalis	Essential Oil	--	--		--
Illicium verum	Fruit	1	1	-0.3513902756128656	--
Juniperus communis	Fruit	1	100	-0.3103363418182056	--
Juniperus communis	Fruit Essent. Oil	--	--		--
Juniperus communis	Essential Oil	--	--		--
Juniperus sabina	Plant	--	--		--
Kaempferia galanga	Plant	--	--		--
Kaempferia galanga	Rhizome	--	--		--
Lantana camara	Shoot	--	13	-0.133076897785053	--
Larrea tridentata	Plant	--	--		--
Laurus nobilis	Leaf	24	186	-0.1223873321341401	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Laurus nobilis	Leaf Essent. Oil	--	7000	-0.6281133210860443	--
Lavandula angustifolia	Plant	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Lavandula latifolia	Plant	25	231	-0.21068029243663722	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Lavandula x hybrida	Shoot	55	85	-0.1264339431418462	Tucker, A.O., Maciarelo, M.J., Angell, S., Espaillat, J.R., and French, E.C. 1993. The Essential Oil of Lavandula x hybrida Balb. ex Ging., a Distinct Hybrid from L. x heterophylla Poir. (Labiatae). J. Ess. Oil Res. 5: 443-445.
Lavandula x intermedia	Plant	26	60	-0.5031895467489819	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Lepechinia calycina	Plant	390	390	0.061301996660806	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Lepechinia schiediana	Plant	40	40	-0.5374011554404841	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Levisticum officinale	Root	7	70	-0.6207659127814102	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Lindera benzoin	Fruit	22	40	-0.3352175138149692	--
Lindera benzoin	Leaf	--	2	-0.19193690447163486	--
Lindera benzoin	Twig	17	26		--
Litsea glaucescens	Shoot	2	4	-0.13390726711545384	Tucker, et al, EB46(1):21-24.1992
Lycopus virginicus	Plant	3	8	-0.5921397293468877	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Magnolia denudata	Bark	--	--		--
Magnolia denudata	Bulb	--	--		--
Magnolia denudata	Flower	--	--		--
Magnolia denudata	Leaf	--	--		--
Magnolia denudata	Twig	--	--		--
Magnolia officinalis	Essential Oil	--	--		--
Marrubium vulgare	Plant	--	--		--
Marrubium vulgare	Essential Oil	--	--		--
Melaleuca alternifolia	Leaf	0.001	0.001	-0.19269250009719266	--
Mentha aquatica	Shoot	0.1	0.1	-0.1342670938252942	Umemoto, K., Arai, T., Nii, H. and Furukawa, K. 1993. A New Chemotype of Mentha aquatica Containing Sesquiterpene Alcohols as Major Components. Nippon Nogeikagaku Kaishi 67(10): 1417-1419.
Mentha aquatica	Shoot	--	--		Umemoto, K., Arai, T., Nii, H. and Furukawa, K. 1993. A New Chemotype of Mentha aquatica Containing Sesquiterpene Alcohols as Major Components. Nippon Nogeikagaku Kaishi 67(10): 1417-1419.
Mentha aquatica	Shoot	--	--		Umemoto, K., Arai, T., Nii, H. and Furukawa, K. 1993. A New Chemotype of Mentha aquatica Containing Sesquiterpene Alcohols as Major Components. Nippon Nogeikagaku Kaishi 67(10): 1417-1419.
Mentha aquatica	Shoot	--	--		Umemoto, K., Arai, T., Nii, H. and Furukawa, K. 1993. A New Chemotype of Mentha aquatica Containing Sesquiterpene Alcohols as Major Components. Nippon Nogeikagaku Kaishi 67(10): 1417-1419.
Mentha aquatica	Shoot	--	--		Umemoto, K., Arai, T., Nii, H. and Furukawa, K. 1993. A New Chemotype of Mentha aquatica Containing Sesquiterpene Alcohols as Major Components. Nippon Nogeikagaku Kaishi 67(10): 1417-1419.



<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Mentha arvensis var. piperascens	Plant	--	--		Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
Mentha longifolia	Shoot	0	385	-0.0987549654618178	--
Mentha pulegium	Plant	1	70	-0.48608374240323066	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
Mentha pulegium	Shoot	--	--		--
Mentha pulegium	Essential Oil	100	7000	-0.483566600830156	--
Mentha spicata	Leaf	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Mentha spicata	Essential Oil	--	--		--
Mentha x piperita	Leaf	2	25	-0.183243207929448	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
Mentha x rotundifolia	Leaf	0	20	-0.18513314196035818	--
Micromeria congesta	Leaf	1	5	-0.19080294405308876	Kirimer, N., Ozek, T., and Baser, K.H.C. 1991. Composition of the Essential Oil of Micromeria congesta. J. Ess. Oil Res., 3: 387-393.
Micromeria croatica	Leaf	30	30	-0.18135327389853784	Kirimer, N., Ozek, T., and Baser, K.H.C. 1991. Composition of the Essential Oil of Micromeria congesta. J. Ess. Oil Res., 3: 387-393.
Micromeria dalmatica	Leaf	6	6	-0.1904249572469067	Kirimer, N., Ozek, T., and Baser, K.H.C. 1991. Composition of the Essential Oil of Micromeria congesta. J. Ess. Oil Res., 3: 387-393.
Micromeria fruticosa	Leaf	1	1	-0.1923148912778169	Kirimer, N., Ozek, T., and Baser, K.H.C. 1991. Composition of the Essential Oil of Micromeria congesta. J. Ess. Oil Res., 3: 387-393.
Micromeria fruticosa	Shoot	7	7	-0.13363047733865357	Fleisher, Z. and Fleisher, A. 1991. The Essential Oil of Micromeria fruticosa (L.) Druce subsp. barbata (Boiss et. Ky.), P.H. Davis. Aromatic Plants of the Holy Land and the Sinai. Part VII. J. Ess. Oil Res 3: 477-479.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Micromeria fruticosa	Shoot	--	7	-0.13363047733865357	Fleisher, Z. and Fleisher, A. 1991. The Essential Oil of <i>Micromeria fruticosa</i> (L.) Druce subsp. <i>barbata</i> (Boiss et. Ky.), P.H. Davis. Aromatic Plants of the Holy Land and the Sinai. Part VII. J. Ess. Oil Res 3: 477-479.
Micromeria juliana	Leaf	25	25	-0.183243207929448	Kirimer, N., Ozek, T., and Baser, K.H.C. 1991. Composition of the Essential Oil of <i>Micromeria congesta</i> . J. Ess. Oil Res., 3: 387-393.
Micromeria myrtifolia	Shoot	0.1	0.1	-0.1342670938252942	Ozek, T., Kirimer, N., and Baser, K.H.C. 1992. Composition of the Essential Oil of <i>Micromeria myrtifolia</i> Boiss. et Hohen. J. Ess. Oil Res., 4: 79-80.
Micromeria teneriffae	Leaf	470	470	-0.015039079178441665	Kirimer, N., Ozek, T., and Baser, K.H.C. 1991. Composition of the Essential Oil of <i>Micromeria congesta</i> . J. Ess. Oil Res., 3: 387-393.
Micromeria thymifolia	Leaf	1	1	-0.1923148912778169	Kirimer, N., Ozek, T., and Baser, K.H.C. 1991. Composition of the Essential Oil of <i>Micromeria congesta</i> . J. Ess. Oil Res., 3: 387-393.
Micromeria varia	Shoot	6	6	-0.133722740597587	Pedro, L.G., et al. 1995. Composition of the Essential oil of <i>Micromeria varia</i> Benth. ssp. <i>thymoides</i> (Sol. ex Lowe) Perez var. <i>thymoides</i> , and endemic species of the Madeira Archipelago. flav. & Fragr. J. 10(3): 199-202.
Micromeria varia	Shoot	--	6	-0.133722740597587	--
Monarda citriodora	Plant	6	25	-0.5630598619591108	--
Monarda clinopodia	Plant	88	88	-0.4552932945808786	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Monarda didyma	Flower	10	10	-0.6881569624054215	Flavour and Fragrance Journal, 6: 80.
Monarda didyma	Leaf	90	170	-0.12843512103305268	--
Monarda didyma	Plant	25	320	-0.05843863375945202	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Monarda fistulosa	Plant	1	856	0.8584324791728094	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Monarda lindheimeri	Plant	21	21	-0.5699021836974113	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Monarda media	Plant	15	231	-0.21068029243663722	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Monarda punctata	Plant	10	1080	1.241602496517635	--
Murraya koenigii	Leaf	--	5	-0.19080294405308876	--
Myrciaria dubia	Fruit	--	--		--
Myristica fragrans	Seed	80	640	0.6230692441110584	--
Myristica fragrans	Essential Oil	2000	4000	-0.5737485608606457	--
Myristica fragrans	Seed Essent. Oil	2000	4000	-0.09681853268597942	--
Myristica fragrans	Leaf Essent. Oil	--	--		--
Myrtus communis	Plant	8	30	-0.5545069597862352	--
Nepeta racemosa	Shoot	3	3	-0.13399953037438728	Baser, K.H.C., Ozek, T., Akgul, A. and Tumen, G. 1993. Composition of the Essential Oil of Nepeta racemosa Lam. J. Ess. Oil Res. 5: 215-7.
Nepeta racemosa	Shoot	--	3	-0.13399953037438728	Baser, K.H.C., Ozek, T., Akgul, A. and Tumen, G. 1993. Composition of the Essential Oil of Nepeta racemosa Lam. J. Ess. Oil Res. 5: 215-7.
Ocimum basilicum	Plant	0	400	0.07840780100655714	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Ocimum basilicum	Leaf Essent. Oil	300	900	-0.8450720560025149	--
Ocimum basilicum	Shoot Essent. Oil	--	500	-0.8123496252026575	--
Ocimum basilicum	Essential Oil	--	900	-0.666936586225485	--
Ocimum canum	Shoot	--	--		=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
Ocimum gratissimum	Plant	1	240	-0.19528506852546118	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Ocimum gratissimum	Shoot	29	29	-0.13160068564211816	Vostrowsky, O., Garbe, W., Bestmann, H.J. and Maia, J.G.S. 1990. Essential Oil of Alfavaca, Ocimum gratissimum, from Brazilian Amazon. Zeitschr. Naturforschung 45(C): 1073-6.
Ocimum kilimandscharicum	Flower	240	400	1.4140457687025239	Charles, D.J., and Simon, J.E. 1992. Essential Oil Constituents of Ocimum killimandscharicum Guerke. J. Ess. Oil Res., 4: 125-128.
Ocimum kilimandscharicum	Leaf	105	205	-0.1152055828166814	Charles, D.J., and Simon, J.E. 1992. Essential Oil Constituents of Ocimum killimandscharicum Guerke. J. Ess. Oil Res., 4: 125-128.
Ocimum tenuiflorum	Leaf	65	65	-0.16812373568216654	Brophy, J.J., Goldsack, R.J., and Clarkson, J.R. 1993. The Essential Oil of Ocimum tenuiflorum L. (Lamiaceae) Growing in Northern Australia, J. Ess. Oil Res. 5: 459-461.
Oenanthe aquatica	Fruit	--	--		--
Oenanthe javanica	Shoot	--	--		--
Origanum minutiflorum	Shoot	65	150	-0.12043683131117337	Baser, K.H.C., Tumen, G., Sezik, E. 1991. The Essential Oil of Origanum minutiflorum O. Schwarz and P.H. Davis. J. Ess. Oil Res. 3: 445-446.

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Origanum onites	Plant	28	28	-0.5579281206553854	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Origanum onites	Shoot	370	370	-0.10013891434581922	Biondi, D., Cianci, P., Geraci, C. and Ruberto, G. 1993. Antimicrobial Activity and Chemical Composition of Essential Oils from Sicilian Aromatic Plants. Flav. & Frag. J. 8: 331-7.
Origanum onites	Shoot	--	370	-0.10013891434581922	Biondi, D., Cianci, P., Geraci, C. and Ruberto, G. 1993. Antimicrobial Activity and Chemical Composition of Essential Oils from Sicilian Aromatic Plants. Flav. & Frag. J. 8: 331-7.
Origanum sipyleum	Shoot	590	590	-0.07984099738046507	Baser, K.H.C., Ozek, T., Kurkcuoglu, M. and Tumen, G. 1992. Composition of the Essential Oil of Origanum sipyleum of Turkish Origin. J. Ess. Oil Res. 4: 139-142.
Origanum sipyleum	Shoot	--	25	-0.13196973867785186	Baser, K.H.C., Ozek, T., Kurkcuoglu, M. and Tumen, G. 1992. Composition of the Essential Oil of Origanum sipyleum of Turkish Origin. J. Ess. Oil Res. 4: 139-142.
Origanum sipyleum	Shoot	--	590	-0.07984099738046507	Baser, K.H.C., Ozek, T., Kurkcuoglu, M. and Tumen, G. 1992. Composition of the Essential Oil of Origanum sipyleum of Turkish Origin. J. Ess. Oil Res. 4: 139-142.
Origanum sipyleum	Shoot	--	20	-0.132431054972519	Baser, K.H.C., Ozek, T., Kurkcuoglu, M. and Tumen, G. 1992. Composition of the Essential Oil of Origanum sipyleum of Turkish Origin. J. Ess. Oil Res. 4: 139-142.
Origanum syriacum	Shoot	40	40	-0.13058578979385044	Fleisher, A. & Fleisher, Z. 1991. Chemical Composition of Origanum syriacum L. Essential Oil. J. Ess. Oil Res. 3: 121-123.
Origanum syriacum	Shoot	--	25	-0.13196973867785186	Fleisher, A. & Fleisher, Z. 1991. Chemical Composition of Origanum syriacum L. Essential Oil. J. Ess. Oil Res. 3: 121-123.
Origanum syriacum	Shoot	--	40	-0.13058578979385044	Fleisher, A. & Fleisher, Z. 1991. Chemical Composition of Origanum syriacum L. Essential Oil. J. Ess. Oil Res. 3: 121-123.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Origanum vulgare	Plant	1	1	-0.6041137923889136	Sezik, E., Tumen, G., Kirimer, N., Ozek, T., and Baser, K.H.C. 1993. Essential Oil Composition of Four Origanum vulgare Subspecies of Anatolian Origin. J. Ess. Oil Res., 5: 425-431.
Origanum vulgare	Shoot	45	45	-0.1301244734991833	Lagouri, V., Blekas, G., Tsimidou, M., Kokkini, S., and Boskou, D. 1993. Composition and Antioxidant Activity of Essential Oils from Oregano Plants Grown Wild in Greece. Z. Lebensm Unters Forsch 197: 20-23.
Origanum vulgare	Plant	60	60	-0.5031895467489819	Sezik, E., Tumen, G., Kirimer, N., Ozek, T., and Baser, K.H.C. 1993. Essential Oil Composition of Four Origanum vulgare Subspecies of Anatolian Origin. J. Ess. Oil Res., 5: 425-431.
Origanum vulgare	Plant	1	1	-0.6041137923889136	Sezik, E., Tumen, G., Kirimer, N., Ozek, T., and Baser, K.H.C. 1993. Essential Oil Composition of Four Origanum vulgare Subspecies of Anatolian Origin. J. Ess. Oil Res., 5: 425-431.
Origanum vulgare	Plant	0.5	0.5	-0.6049690826062011	Sezik, E., Tumen, G., Kirimer, N., Ozek, T., and Baser, K.H.C. 1993. Essential Oil Composition of Four Origanum vulgare Subspecies of Anatolian Origin. J. Ess. Oil Res., 5: 425-431.
Origanum vulgare	Plant	1	64	-0.49634722501068135	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Origanum vulgare	Shoot Essent. Oil	1500	10500	-0.15055766984407706	--
Origanum vulgare	Essential Oil	--	5100	-0.5406818421827995	--
Pastinaca sativa	Root	--	--	--	--
Perilla frutescens	Shoot Essent. Oil	--	2000	-0.7130808318988705	Nguyen, X. D., La, D. M., Lu'u, D. C., Leclercq, P. A. 1995. Essential Oil Constituents from the Aerial Parts of Perilla frutescens (L.) Britton. J. Essent. Oil Res., 7(4): 429-432.
Petroselinum crispum	Leaf	0.24	0.24	-0.19260216125051532	--
Petroselinum crispum	Seed	3	490	0.10432519258473769	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Petroselinum crispum	Fruit	--	--		--
Petroselinum crispum	Seed Essent. Oil	--	5000	0.29045559805793825	--
Petroselinum crispum	Fruit Essent. Oil	7000	20800	1.3574673725411264	--
Peumus boldus	Leaf	30	150	-0.1359948571566934	--
Pimpinella anisum	Fruit	--	119	-0.30245730401923043	--
Pimpinella anisum	Seed	119	119	-1.1787017615236954	--
Pimpinella anisum	Essential Oil	--	--		--
Pinus elliottii	Leaf	--	--		CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
Pinus insularis	Resin, Exudate, Sap	10000	20000	-0.7071067811865472	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Pinus kesiya	Resin, Exudate, Sap	10000	20000	-0.7071067811865472	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Pinus mugo	Leaf	--	--		Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
Pinus palustris	Resin, Exudate, Sap	--	--		Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
Pinus roxburghii	Resin, Exudate, Sap	12000	55000	1.414213562373095	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Pinus sylvestris	Resin, Exudate, Sap	--	--		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Pinus sylvestris	Essential Oil	--	--		--
Pinus sylvestris	Leaf Essent. Oil	--	35000	0.3677628391862796	--
Piper auritum	Leaf	--	--		Tramil
Piper nigrum	Fruit	--	120	-0.3020426178192843	--
Piper nigrum	Fruit Essent. Oil	1000	1400	-1.0221892865520528	--
Piper nigrum	Seed Essent. Oil	--	--		--
Pogostemon cablin	Plant	--	--		--
Psidium guajava	Pericarp Essent. Oil	--	--		--
Ptychopetalum olacoides	Root Essent. Oil	--	66000	1	Uber Bucek, E., Fournier, G., Dadoun, H. 1987. Volatile Constituents of Ptychopetalum olacoides Root Oil. Planta Med. 53, 2: 231.
Pycnanthemum beadleii	Shoot	7	7	-0.13363047733865357	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Pycnanthemum curvipes	Shoot	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Pycnanthemum loomisii	Shoot	330	1260	-0.01802461389506835	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Pycnanthemum montanum	Shoot	833	952	-0.04644169764656416	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Pycnanthemum muticum	Shoot	1	50	-0.12966315720451616	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.



<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Pycnanthemum setosum	Shoot	20	31	-0.1314161591242513	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Pycnanthemum tenuifolium	Shoot	2	420	-0.09552575139914782	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Pycnanthemum torreyi	Shoot	10	10	-0.13335368756185328	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Pycnanthemum virginianum	Shoot	6	87	-0.12624941662397934	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Ribes nigrum	Fruit	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Rosa damascena	Essential Oil	--	--		--
Rosmarinus eriocalyx	Shoot	735	1375	-0.007414339117724136	Soriano Cano, M.C., Sotomayor Sanchez, J.A., Sanchez Gomez, P. and Garcia Vallejo, M.C. 1993. Essential Oils of the Rosmarinus eriocalyx-tomentosus Complex in Southeast Spain. J. Ess. Oil Res. 5: 243-246.
Rosmarinus eriocalyx	Shoot	735	1375	-0.007414339117724136	Soriano Cano, M.C., Sotomayor Sanchez, J.A., Sanchez Gomez, P. and Garcia Vallejo, M.C. 1993. Essential Oils of the Rosmarinus eriocalyx-tomentosus Complex in Southeast Spain. J. Ess. Oil Res. 5: 243-246.
Rosmarinus officinalis	Leaf	23	23	-0.18399918154181208	Soliman, F.M., El-Kashoury, M.M., Fathy, M.M. and Gonaïd, M.H. 1994. Analysis and Biological Activity of the Essential Oil of Rosmarinus officinalis L. from Egypt. Flavour and Fragrance J. 9: 29-33.
Rosmarinus officinalis	Leaf	--	23	-0.18399918154181208	Soliman, F.M., El-Kashoury, M.M., Fathy, M.M. and Gonaïd, M.H. 1994. Analysis and Biological Activity of the Essential Oil of Rosmarinus officinalis L. from Egypt. Flavour and Fragrance J. 9: 29-33.
Rosmarinus officinalis	Plant	23	2350	3.414039648428031	--
Rosmarinus officinalis	Shoot	--	335	-0.1033681284084892	Tucker, A. O. and Maciarello, M. J. 1998. The essential oils of some rosemary cultivars. Flavor and Fragrance Journal, 1: 137-142. 1986.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Rosmarinus officinalis	Shoot	355	1435	-0.0018785435817184589	Soriano Cano, M.C., Sotomayor Sanchez, J.A., Sanchez Gomez, P. and Garcia Vallejo, M.C. 1993. Essential Oils of the Rosmarinus eriocalyx-tomentosus Complex in Southeast Spain. J. Ess. Oil Res. 5: 243-246.
Rosmarinus officinalis	Shoot	1035	2280	0.07608391021702815	Soriano Cano, M.C., Sotomayor Sanchez, J.A., Sanchez Gomez, P. and Garcia Vallejo, M.C. 1993. Essential Oils of the Rosmarinus eriocalyx-tomentosus Complex in Southeast Spain. J. Ess. Oil Res. 5: 243-246.
Rosmarinus officinalis	Essential Oil	40000	106000	2.4924380801760044	--
Rosmarinus officinalis	Leaf Essent. Oil	--	85000	2.146113125386858	--
Rosmarinus officinalis	Shoot Essent. Oil	--	38100	1.6759881269456052	--
Rosmarinus officinalis	Resin, Exudate, Sap	--	--		--
Rosmarinus tomentosus	Shoot	590	960	-0.045703591575096736	Soriano Cano, M.C., Sotomayor Sanchez, J.A., Sanchez Gomez, P. and Garcia Vallejo, M.C. 1993. Essential Oils of the Rosmarinus eriocalyx-tomentosus Complex in Southeast Spain. J. Ess. Oil Res. 5: 243-246.
Rosmarinus x lavandulaceus	Shoot	210	1245	-0.019408562779069768	Soriano Cano, M.C., Sotomayor Sanchez, J.A., Sanchez Gomez, P. and Garcia Vallejo, M.C. 1993. Essential Oils of the Rosmarinus eriocalyx-tomentosus Complex in Southeast Spain. J. Ess. Oil Res. 5: 243-246.
Rosmarinus x mendizabalii	Shoot	430	605	-0.07845704849646365	Soriano Cano, M.C., Sotomayor Sanchez, J.A., Sanchez Gomez, P. and Garcia Vallejo, M.C. 1993. Essential Oils of the Rosmarinus eriocalyx-tomentosus Complex in Southeast Spain. J. Ess. Oil Res. 5: 243-246.
Salvia canariensis	Leaf	575	575	0.024649535470672192	Casnigueral,S., Iglesias,J., Vila,R., Virgili,A. and Ibanez,C.1994. The Essential Oil from Leaves of Salvia canariensis L. Flav. & Frag. J. 9:201-204. S. Canigueral, Facultat de Farmacia, Universitat de Barcelona, Ave.Diagonal 643,E-08028, Barcelone Spain

Plant	Part	Low PPM	High PPM	StdDev	Reference
Salvia dorisiana	Shoot	0.8	1	-0.13418405689225413	Tucker, A.O. & Maciarello, M.J. 1994. The Essential Oil of Salvia dorisiana Standley. J. Ess. Oil Res. 6: 97-8.
Salvia gilliesii	Shoot	3.5	3.5	-0.13395339874492057	Velasco-Negueruela, A. et al. 1993. The Essential Oil of Salvia gilliesii Benth. J. Ess. Oil Res. 5: 319-320.
Salvia officinalis	Leaf	20	18592	6.834837822452428	--
Salvia officinalis	Leaf Essent. Oil	28000	66400	1.484566818920243	--
Salvia officinalis	Essential Oil	30200	60700	1.1306904837156095	--
Salvia officinalis	Et	--	47000		--
Salvia sclarea	Plant	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Salvia triloba	Plant	170	1200	1.4468721486666487	--
Sassafras albidum	Leaf	--	0	-0.19269287808399893	--
Satureja cilicica	Shoot	60	60	-0.12874052461518187	Tumen, G. Baser, K.H.C. and Kirimer, N. 1993. The Essential Oil of Satureja cilicica P.H. Davis. J. Ess. Oil Res. 5: 547-548.
Satureja cuneifolia	Shoot	145	145	-0.12089814760584051	Tumen, G. 1991. The Volatile Constituents of Satureja cuneifolia. J. Ess. Oil Res., 3: 365-366.
Satureja douglasii	Plant	1183	2795	4.175247941813957	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Satureja hortensis	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Satureja montana	Plant	2	85	-0.46042503588460393	--
Satureja montana	Essential Oil	--	3100	-0.6008031488697926	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Satureja obovata	Leaf	170	170	-0.12843512103305268	Arrebola, M.L., Navaro, M.C., Jimenez, J. and Ocana, F.A. 1994. Variations in Yield and Composition of the Essential Oil of Satureja obovata. Phytochemistry 35(1): 83.
Satureja obovata	Leaf	--	520	0.003860261130660172	Arrebola, M.L., Navaro, M.C., Jimenez, J. and Ocana, F.A. 1994. Variations in Yield and Composition of the Essential Oil of Satureja obovata. Phytochemistry 35(1): 83.
Satureja obovata	Leaf	--	130	-0.14355459328033415	Arrebola, M.L., Navaro, M.C., Jimenez, J. and Ocana, F.A. 1994. Variations in Yield and Composition of the Essential Oil of Satureja obovata. Phytochemistry 35(1): 83.
Satureja obovata	Leaf	--	170	-0.12843512103305268	Arrebola, M.L., Navaro, M.C., Jimenez, J. and Ocana, F.A. 1994. Variations in Yield and Composition of the Essential Oil of Satureja obovata. Phytochemistry 35(1): 83.
Satureja obovata	Shoot	850	1305	-0.013872767243064093	Fitoterapia No.60: 277.
Satureja odora	Shoot	18	18	-0.13261558149038585	Zygodlo, J.A., Merino. E.F., Maestri, D.M., Guzman, C.A. and Espinar, L.A. 1993. The Essential Oils of Satureja odora and Satureja parvifolia from Argentina. J. Ess. Oil Res. 5: 549-51.
Satureja parvifolia	Shoot	19	19	-0.13252331823145244	Zygodlo, J.A., Merino. E.F., Maestri, D.M., Guzman, C.A. and Espinar, L.A. 1993. The Essential Oils of Satureja odora and Satureja parvifolia from Argentina. J. Ess. Oil Res. 5: 549-51.
Satureja subspicata	Plant	4	4	-0.5989820510851882	Stanic, G., Petricic, J., and Blazevic, N. 1991. Gas Chromatographic Investigations of Essential Oils of Satureja montana and Satureja subspicata from Yugoslavia. J. Ess. Oil Res., 3: 153-158.
Satureja thymbra	Shoot	150	150	-0.12043683131117337	Lagouri, V., Blekas, G., Tsimidou, M., Kokkini, S., and Boskou, D. 1993. Composition and Antioxidant Activity of Essential Oils from Oregano Plants Grown Wild in Greece. Z. Lebensm Unters Forsch 197: 20-23.
Saussurea lappa	Root Essent. Oil	--	--	--	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Schinus molle	Fruit	--	--		--
Sideritis athoa	Shoot	2	2	-0.13409179363332072	Ozek, T., Baser, K.H.C. and Tumen, G. 1993. The Essential Oil of Sideritis athoa Papanikolaou Et Kokkini. J. Ess. Oil Res. 5: 669-670.
Sideritis mugronensis	Flower	2	3	-0.7258888062971025	Manez, S., Jimenez, A., and Villar, A. 1991. Volatiles of Sideritis mugronensis Flower and Leaf. J. Ess. Oil Res., 3: 395-397.
Sideritis mugronensis	Leaf	0.5	1	-0.1923148912778169	Manez, S., Jimenez, A., and Villar, A. 1991. Volatiles of Sideritis mugronensis Flower and Leaf. J. Ess. Oil Res., 3: 395-397.
Sideritis pauli	Shoot	6	6	-0.133722740597587	Burzaco, A., Velasco-Negueruela, A. and Perez-Alonso, M.J. 1992. Essential Oil Analysis of Sideritis pauli Pau. FFJ7: 47-8. 1992.
Tagetes filifolia	Shoot	--	--		--
Tagetes minuta	Essential Oil	--	--		--
Tanacetum parthenium	Shoot	--	95	-0.1255113105525119	Hendriks, H., Bos, R., and Woerdenbag, H. J. 1996. The Essential Oil of Tanacetum parthenium (L.) Schultz-Bip. Flavor and Fragrance Journal 11(6): 367-71.
Tanacetum parthenium	Fruit Essent. Oil	--	7000	-0.3352780859890732	--
Tanacetum parthenium	Essential Oil	--	54000	0.9292841063141826	--
Tanacetum parthenium	Leaf Essent. Oil	--	30000	0.1899278105662218	--
Teucrium asiaticum	Shoot	--	--		Velasco-Negueruela, A. and Perez-Alonso, M.J. 1990. The Volatiles of Six Teucrium Species from the Iberian Peninsula and the Balearic Islands. Phytochemistry 29(4): 1165-9.
Teucrium cyprum	Leaf	0	0	-0.19269287808399893	Arnold, N., Bellomaria, B., Velentini G. and Rafaianni, S.M. 1991. Comparative Study on Essential Oil of Some Teucrium Species from Cyprus. J. Ethnopharm. 35: 105-113.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Teucrium divaricatum	Leaf	3	3	-0.19155891766545283	Arnold, N., Bellomaria, B., Velentini G. and Rafaiani, S.M. 1991. Comparative Study on Essential Oil of Some Teucrium Species from Cyprus. J. Ethnopharm. 35: 105-113.
Teucrium kotschyanum	Leaf	0	0	-0.19269287808399893	Arnold, N., Bellomaria, B., Velentini G. and Rafaiani, S.M. 1991. Comparative Study on Essential Oil of Some Teucrium Species from Cyprus. J. Ethnopharm. 35: 105-113.
Teucrium micropodioides	Leaf	8	8	-0.18966898363454263	Arnold, N., Bellomaria, B., Velentini G. and Rafaiani, S.M. 1991. Comparative Study on Essential Oil of Some Teucrium Species from Cyprus. J. Ethnopharm. 35: 105-113.
Teucrium oxylepis	Shoot	0.2	0.2	-0.1342578674994008	Velasco-Negueruela, A. and Perez-Alonso, M.J. 1990. The Volatiles of Six Teucrium Species from the Iberian Peninsula and the Balearic Islands. Phytochemistry 29(4): 1165-9.
Teucrium oxylepis	Shoot	0.39	0.39	-0.1342403374802036	Velasco-Negueruela, A. and Perez-Alonso, M.J. 1990. The Volatiles of Six Teucrium Species from the Iberian Peninsula and the Balearic Islands. Phytochemistry 29(4): 1165-9.
Teucrium pseudoscorodonia	Shoot	0.1	0.1	-0.1342670938252942	Velasco-Negueruela, A. and Perez-Alonso, M.J. 1990. The Volatiles of Six Teucrium Species from the Iberian Peninsula and the Balearic Islands. Phytochemistry 29(4): 1165-9.
Teucrium salviastrum	Shoot	--	--		Velasco-Negueruela, A. and Perez-Alonso, M.J. 1990. The Volatiles of Six Teucrium Species from the Iberian Peninsula and the Balearic Islands. Phytochemistry 29(4): 1165-9.
Teucrium scorodonia	Shoot	0.05	0.05	-0.13427170698824095	Velasco-Negueruela, A. and Perez-Alonso, M.J. 1990. The Volatiles of Six Teucrium Species from the Iberian Peninsula and the Balearic Islands. Phytochemistry 29(4): 1165-9.
Thuja occidentalis	Branches	--	--		--
Thymus broussonettii	Shoot	20	20	-0.132431054972519	Tantaoui-Elaraki, A., Lattaoui, N., Errifi, A. and Benjilali, B. 1993. Composition and Antimicrobial Activity of the Essential Oils of Thymus broussonettii, T. zygis and T. saturejoides. J. Ess. Oil Res. 5: 45-53.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Thymus capitatus	Plant	10	10	-0.5887185684777375	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Thymus capitatus	Shoot	7	7	-0.13363047733865357	Biondi, D., Cianci, P., Geraci, C. and Ruberto, G. 1993. Antimicrobial Activity and Chemical Composition of Essential Oils from Sicilian Aromatic Plants. Flav. & Fragr. J. 8: 331-7.
Thymus funkii	Shoot	470	470	-0.09091258845247643	Vila, R., et al. 1995. Composition and study of the variability of the essential oil of Thymus funkii Cousson. Flav. & Fragr. J. 10(6): 379-383.
Thymus funkii	Shoot	--	470	-0.09091258845247643	Vila, R., et al. 1995. Composition and study of the variability of the essential oil of Thymus funkii Cousson. Flav. & Fragr. J. 10(6): 379-383.
Thymus longicaulis	Shoot	8	8	-0.13353821407972014	Baser, K.H.C., Ozek, T., Kirimer, N. and Tumen, G. 1993. The Occurrence of Three Chemotypes of Thymus longicaulis C. Presl subsp. longicaulis in the same Population. J. Ess. Oil Res. 5: 291-5.
Thymus longicaulis	Shoot	--	40	-0.13058578979385044	Baser, K.H.C., Ozek, T., Kirimer, N. and Tumen, G. 1993. The Occurrence of Three Chemotypes of Thymus longicaulis C. Presl subsp. longicaulis in the same Population. J. Ess. Oil Res. 5: 291-5.
Thymus longicaulis	Shoot	--	3	-0.13399953037438728	Baser, K.H.C., Ozek, T., Kirimer, N. and Tumen, G. 1993. The Occurrence of Three Chemotypes of Thymus longicaulis C. Presl subsp. longicaulis in the same Population. J. Ess. Oil Res. 5: 291-5.
Thymus mastichina	Plant	20	140	-0.36634311198297265	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Thymus orospedanus	Plant	578	578	0.38289111836092754	J. Nat. Prod.
Thymus riatarum	Shoot	275	275	-0.10890392394449487	Iglesias, J., Vila, R., Canigueral, S., Bellakdhar, and Il Idrissi, A. 1991. Analysis of the Essential Oil of Thymus riatarum. J. Ess. Oil Res. 3: 43-4.
Thymus saturejoides	Shoot	2740	2740	0.11852500932640501	Tantaoui-Elaraki, A., Lattaoui, N., Errifi, A. and Benjilali, B. 1993. Composition and Antimicrobial Activity of the Essential Oils of Thymus broussonettii, T. zygis and T. saturejoides. J. Ess. Oil Res. 5: 45-53.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Thymus serpyllum	Plant	1	19	-0.5733233445665615	--
Thymus vulgaris	Plant	15	375	0.03564329014217928	--
Thymus vulgaris	Essential Oil	--	4100	-0.5707424955262961	--
Thymus x citriodorus	Plant	80	80	-0.4689779380574795	Stahl-Biskup, E. and Holthuijzen, J. 1995. Essential oil and glycosidally bound volatiles of lemon-scented thyme, Thymus x citriodorus (Pers.) Schreb. Flav. & Fragr. J. 10: 225-229.
Thymus zygis	Shoot	90	550	-0.08353152773780219	De Cunha, A.P. and Salguiero, L.R. 1991. The Chemical Polymorphism of Thymus zygis ssp. sylvestris from Central Portugal. J. Ess. Oil Res. 3: 409-12.
Thymus zygis	Shoot	0.1	0.1	-0.1342670938252942	Jimenez, J., Navarro, M.C., Montilla, M.P., Martin, A. and Martinez, A. 1993. Thymus zygis Oil: Its Effects on CCl4-Induced Hepatotoxicity and Free Radical Scavenger Activity. JEO5: 153-8.
Thymus zygis	Shoot	--	--		Jimenez, J., Navarro, M.C., Montilla, M.P., Martin, A. and Martinez, A. 1993. Thymus zygis Oil: Its Effects on CCl4-Induced Hepatotoxicity and Free Radical Scavenger Activity. JEO5: 153-8.
Trachyspermum ammi	Fruit	150	252	-0.24730403942640428	--
Valeriana officinalis	Root	3	65	-0.7900657071763403	--
Valeriana officinalis	Essential Oil	--	--		--
Valeriana officinalis	Rhizome Essent. Oil	--	--		--
Valeriana officinalis	Root Essent. Oil	--	--		--
Valeriana officinalis	Leaf Essent. Oil	--	5000	-0.6992473325340675	--



Plant	Part	Low PPM	High PPM	StdDev	Reference
Valeriana officinalis	Leaf	0	130	-0.14355459328033415	Father Nature's Farmacy: The aggregate of all these three-letter citations.
Vitex agnus-castus	Leaf	0.2	14	-0.18740106279745042	--
Zingiber officinale	Rhizome	--	3080	1	--
Zingiber officinale	Rhizome Essent. Oil	--	126000		--
Zingiber officinale	Essential Oil	--	--		--