

**Dr. Duke's Phytochemical and Ethnobotanical Database**

**List of Plants for BETA-CARYOPHYLLENE**

<b>Plant</b>	<b>Part</b>	<b>Low PPM</b>	<b>High PPM</b>	<b>StdDev</b>	<b>Reference</b>
Achillea millefolium	Leaf	1	65	-0.303004238741691	--
Aesculus hippocastanum	Flower Essent. Oil	--	13000		Jim Duke's personal files.
Agastache rugosa	Shoot	--	--		Jim Duke's personal files.
Ageratum conyzoides	Plant	34	270	-0.48278584579429146	--
Aloysia citrodora	Plant	--	--		Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
Alpinia galanga	Leaf	--	350	-0.1634629715862706	--
Alpinia galanga	Rhizome	--	50	1	--
Alpinia galanga	Leaf Essent. Oil	--	1100	-0.3994527618742238	--
Alpinia galanga	Rhizome Essent. Oil	--	1100	1	--
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.
Anethum graveolens	Essential Oil	--	--		--
Angelica archangelica	Seed	--	--		Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Angelica archangelica	Root Essent. Oil	--	110000	1.0368391024927353	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Annona squamosa	Leaf	--	--		--
Apium graveolens	Fruit Essent. Oil	5000	43000	-0.3340654939269333	--
Apium graveolens	Leaf Essent. Oil	--	5000	-0.3762214301968018	--
Apium graveolens	Seed	55	1075	0.859268747623255	--
Apium graveolens	Seed Essent. Oil	5000	43000	-1	--
Aralia cordata	Root	6	6		--
Artemisia absinthium	Plant	--	--		--
Artemisia annua	Plant	15	2240	2.028337893386577	--
Artemisia capillaris	Essential Oil	--	--		--
Artemisia salsoloides	Shoot	500	500	0.6037001779326777	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.
Bidens pilosa	Leaf Essent. Oil	--	730000	3.9424235611188183	Jim Duke's personal files.
Boswellia sacra	Resin, Exudate, Sap	--	49100		Chiavari, G., Gtalletti, G. C., Piccaglia, R., Mohamud, M. A. 1991. Differentiation Between Resins Boswellia carterii and Boswellia frereana (Frankincense) of Somali Origin. J. Essent. Oil Res. 3 (3):185-186.
Boswellia sacra	Essential Oil	--	--		--
Calamintha nepeta	Plant	135	135	-0.654867929443742	J. Ethnopharmacology, 39: 167.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Camellia sinensis	Leaf	--	--		--
Carum carvi	Seed	20	1320	0.9233136232225039	--
Centella asiatica	Plant	--	--		--
Centella asiatica	Essential Oil	--	125000	0.1933351753509813	Jim Duke's personal files.
Centella asiatica	Shoot	--	--		Jim Duke's personal files.
Chamaemelum nobile	Plant	--	--		--
Chrysanthemum parthenium	Shoot	--	8	-0.39375252938120847	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	3	12	-0.8116538278799078	Wealth of India.
Cinnamomum aromaticum	Leaf	--	--		Charalambous, G. (Ed.). 1994. Spices, Herbs and Edible Fungi. Elsevier Science B. V. Amsterdam. 764 pp.
Cinnamomum aromaticum	Stem Bark	--	--		Charalambous, G. (Ed.). 1994. Spices, Herbs and Edible Fungi. Elsevier Science B. V. Amsterdam. 764 pp.
Cinnamomum camphora	Leaf	--	5	-0.3323813476165163	--
Cinnamomum verum	Leaf	30	60	-0.30545233114792647	--
Cinnamomum verum	Leaf Essent. Oil	--	18500	-0.2958052820826489	--
Cinnamomum verum	Bark Essent. Oil	--	13500		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Cinnamomum verum	Stem Bark	--	--		--
Citrus limon	Leaf Essent. Oil	100	3500	-0.38515655776504104	Jim Duke's personal files.
Citrus limon	Petiole	--	13		--
Citrus paradisi	Pericarp	--	130		--
Citrus reticulata	Fruit	1	2	-0.5058677869700708	--
Citrus sinensis	Fruit	1	2	-0.5058677869700708	--
Cleonia lusitanica	Leaf	2	5	-0.3323813476165163	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	Leaf Essent. Oil	--	107100	0.23196291961468088	Jim Duke's personal files.
Coleus barbatus	Stem Essent. Oil	--	107100		Jim Duke's personal files.
Coriandrum sativum	Seed Essent. Oil	1600	55470	1	--
Coridothymus capitatus	Shoot	200	200	-0.004502692380667468	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.
Daucus carota	Seed	55	170	-1.5317399414153676	--
Daucus carota	Shoot	24	24	-0.3613150429644966	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Dictamnus albus	Shoot	55	55	-0.29846741303211766	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	--	23	-0.36334238586554113	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	--	55	-0.29846741303211766	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 Essent. Oil	--	--		--
Elsholtzia blanda	Shoot	23	23	-0.36334238586554113	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 eriostachya	Shoot	9	9	-0.391725186480164	Pant, A.K., Dev, V., Parihar, R., Mathela,C.S., Rauscher, J., Vostrowsky, O. and Bestmann, H.J. 1992. The Essential Oil from Elsholtzia eriostachya var. pusilla. J. Ess. Oil Res. 4: 547-549.
Ephedra sinica	Shoot	--	15	-0.3795611290738971	--
Eruca sativa	Hs	--	--		--
Eucalyptus albens	Shoot	--	0.1	-0.40976853829945986	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 angulosa	Leaf	--	60	-0.30545233114792647	Bignell,C.M.,Dunlop,P.J.,Brophy,J.J.,and Jackson, J.F.1994.Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus.Part I.Subgenus Symphyomyrtus,Section Dumaria,Series Incrassatae.Flavour and Fragrance J.9(3):113-7
Eucalyptus astringens	Shoot	--	0.1	-0.40976853829945986	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.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Eucalyptus behriana	Leaf	2.7	2.7	-0.33350747012338455	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364
Eucalyptus blakelyi	Shoot	--	0.1	-0.40976853829945986	Zrira, S. S., Benjlali, 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	--	15	-0.3795611290738971	Zrira, S. S., Benjlali, 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 botryoides	Shoot	--	0.1	-0.40976853829945986	Zrira, S. S., Benjlali, 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	--	5	-0.3323813476165163	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	-0.40976853829945986	Zrira, S. S., Benjlali, 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 ceratocorys	Leaf	--	14	-0.32797478128529256	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1994. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part I. Subgenus Symphyomyrtus, Section Dumaria, Series Incrassatae. Flavour and Fragrance J. 9(3):113-7
Eucalyptus citriodora	Shoot	--	0.1	-0.40976853829945986	Zrira, S. S., Benjlali, 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	27000	35000	-0.19751887883201752	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Eucalyptus cladocalyx	Shoot	--	7	-0.395779872282253	Zrira, S. S., Benjlali, 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 cuprea	Leaf	13	13	-0.3284643997665397	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364
Eucalyptus dealbata	Shoot	--	250	0.09686445267155673	Zrira, S. S., Benjlali, 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 desquamata	Leaf	22	22	-0.32405783343531586	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364
Eucalyptus diversicolor	Shoot	--	0.1	-0.40976853829945986	Zrira, S. S., Benjlali, 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 dolichorhyncha	Leaf	--	415	-0.13163777030520982	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1994. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part I. Subgenus Symphyomyrtus, Section Dumaria, Series Incrassatae. Flavour and Fragrance J. 9(3):113-7
Eucalyptus erythrandra	Leaf	--	85	-0.29321186911674924	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1994. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part I. Subgenus Symphyomyrtus, Section Dumaria, Series Incrassatae. Flavour and Fragrance J. 9(3):113-7
Eucalyptus fasciculosa	Leaf	60	60	-0.30545233114792647	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364

Plant	Part	Low PPM	High PPM	StdDev	Reference
Eucalyptus forrestiana	Leaf	--	645	-0.019025519618379304	Bignell,C.M.,Dunlop,P.J.,Brophy,J.J.,and Jackson, J.F.1994.Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus.Part I.Subgenus Symphyomyrtus,Section Dumaria,Series Incrassatae.Flavour and Fragrance J.9(3):113-7
Eucalyptus globulus	Shoot	--	0.1	-0.40976853829945986	Zrira, S. S., Benjlali, 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 grandis	Leaf Essent. Oil	--	1000	-0.40004843704543974	--
Eucalyptus incrassata	Leaf	--	350	-0.1634629715862706	Bignell,C.M.,Dunlop,P.J.,Brophy,J.J.,and Jackson, J.F.1994.Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus.Part I.Subgenus Symphyomyrtus,Section Dumaria,Series Incrassatae.Flavour and Fragrance J.9(3):113-7
Eucalyptus intertexta	Leaf	5.5	5.5	-0.3321365383758927	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364
Eucalyptus lansdowneana	Leaf	11	11	-0.3294436367290338	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364
Eucalyptus largisparsa	Leaf	4.6	4.6	-0.3325771950090151	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364
Eucalyptus leucoxyton	Leaf	170	170	-0.25159429821074664	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364



Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Eucalyptus maculata</i>	Shoot	--	30	-0.3491509855582297	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.
<i>Eucalyptus maideni</i>	Shoot	--	0.1	-0.40976853829945986	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.
<i>Eucalyptus melanophloia</i>	Leaf	27	27	-0.3216097410290804	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364
<i>Eucalyptus melliodora</i>	Shoot	--	0.1	-0.40976853829945986	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.
<i>Eucalyptus moluccana</i>	Shoot	--	12	-0.38564315777703057	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.
<i>Eucalyptus occidentalis</i>	Shoot	--	0.1	-0.40976853829945986	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.
<i>Eucalyptus ochrophloia</i>	Leaf	0.8	0.8	-0.33443774523775405	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364
<i>Eucalyptus odorata</i>	Leaf	4.4	4.4	-0.33267511870526445	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364

Plant	Part	Low PPM	High PPM	StdDev	Reference
Eucalyptus oviformis	Shoot	--	0.1	-0.40976853829945986	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	--	40	-0.3288775565477849	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 populnea	Leaf	1.8	1.8	-0.333948126756507	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364
Eucalyptus porosa	Leaf	195	195	-0.23935383617956943	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364
Eucalyptus punctata	Shoot	--	0.1	-0.40976853829945986	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	--	0.1	-0.40976853829945986	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	--	240	0.0765910236611119	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 sparsa	Leaf	40	40	-0.31524470077286826	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364

Plant	Part	Low PPM	High PPM	StdDev	Reference
Eucalyptus stoatei	Leaf	--	270	-0.20263245008603775	Bignell,C.M.,Dunlop,P.J.,Brophy,J.J.,and Jackson, J.F.1994.Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus.Part I.Subgenus Symphyomyrtus,Section Dumaria,Series Ingrassatae.Flavour and Fragrance J.9(3):113-7
Eucalyptus tereticornis	Shoot	--	22	-0.36536972876658563	Zrira, S. S., Benjlali, 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 tetraptera	Leaf	--	2670	0.9724519049069763	Bignell,C.M.,Dunlop,P.J.,Brophy,J.J.,and Jackson, J.F.1994.Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus.Part I.Subgenus Symphyomyrtus,Section Dumaria,Series Ingrassatae.Flavour and Fragrance J.9(3):113-7
Eucalyptus viridis	Leaf	0	0.5	-0.33458463078212813	Bignell, C.M., Dunlop, P.J., Brophy, J.J., and Jackson, J.F. 1995. Volatile Leaf Oils of Some South-western and Southern Australian Species of the Genus Eucalyptus. Part VI. Subgenus Symphyomyrtus, Section Adnataria. Flavour and Fragrance J. 10(6):359-364
Foeniculum vulgare	Essential Oil	--	200	-0.688222365160617	Jim Duke's personal files.
Hedychium flavum	Shoot	--	2690	5.0435811312200975	--
Houttuynia cordata	Shoot Essent. Oil	--	--		--
Humulus lupulus	Fruit	520	520	-0.4871544215252672	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
Humulus lupulus	Essential Oil	--	--		--
Hyptis suaveolens	Shoot	7	7	-0.395779872282253	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.
Hyptis suaveolens	Shoot	--	7	-0.395779872282253	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
Hyssopus officinalis	Flower	40	415	0.7236924389584528	--
Hyssopus officinalis	Leaf	3	660	-0.011681242399672966	--
Hyssopus officinalis	Shoot	240	240	0.0765910236611119	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	--	260	0.11713788168200157	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	--	200	-0.004502692380667468	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	--	230	0.056317594650667054	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	--	330	0.2590518847551154	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	--	200	-0.004502692380667468	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	--	210	0.015770736629777373	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	--	270	0.13741131069244641	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	--	240	0.0765910236611119	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	70	70	-0.26805726951645037	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	--	70	-0.26805726951645037	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.
Lantana camara	Shoot	--	188	-0.028830807193201274	--
Laurus nobilis	Leaf	4	180	-0.24669811339827577	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Laurus nobilis	Leaf Essent. Oil	--	200	-0.4048138384151673	--
Lavandula x hybrida	Shoot	20	45	-0.3187408420425625	Tucker, A.O., Maciarello, M.J., Angell, S., Espaillat, J.R., and French, E.C. 1993. The Essential Oil of <i>Lavandula x hybrida</i> Balb. ex Ging., a Distinct Hybrid from <i>L. x heterophylla</i> Poir. (Labiatae). J. Ess. Oil Res. 5: 443-445.
Leonotis leonurus	Se	155	155		Pedro, L.G., Barroso, J.G., Marques, N.T., Ascensao, L., Pais, M.S.S. and Scheffer, J.J.C. 1991. Composition of the Essential Oil from Sepals of <i>Leonotis leonurus</i> R. Br. J. Ess. Oil Res. 3: 451-3
Leptospermum scoparium	Essential Oil	--	--		--
Lindera benzoin	Fruit	60	135	-0.5010630039504591	--
Lindera benzoin	Leaf	30	100	-0.2858675918980429	--
Lindera benzoin	Shoot Essent. Oil	--	150000	0.9687636152211475	Tucker, A. O. and Debaggio, T. 2000. The Big Book of Herbs. Interweave Press, Inc. Loveland, CO. 688 pp.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Lippia alba	Leaf	300	300	-0.18794389564862507	Grenand, P., Moretti, C., and Jacquemin, H. 1987. Pharmacopees Traditionnelles en Guyane. l'ORSTROM, Paris. 569 pp.
Lonicera japonica	Flower	0.047	0.085	-0.6987067919513607	Schlotzhauer, W.S., S.D. Pair, and R.J. Horvat. 1996. Volatile constituents from the flowers of Japanese Honeysuckle. J. Agric. Food Chem. 44:206-209.
Magnolia denudata	Bark	--	--		--
Magnolia denudata	Bulb	--	--		--
Magnolia denudata	Flower	--	--		--
Magnolia denudata	Leaf	--	--		--
Magnolia denudata	Twig	--	--		--
Matricaria recutita	Plant	--	--		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
Melaleuca alternifolia	Root Essent. Oil	--	900	-1.351320209582369	--
Melaleuca alternifolia	Essential Oil	--	4400	-0.6585545633164767	--
Melia azedarach	Wood	--	--		--
Melissa officinalis	Shoot	1	870	1.3538170513191368	--
Mentha aquatica	Leaf	70	850	0.08134626903727397	--
Mentha aquatica	Shoot	32	32	-0.34509629975614076	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.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Mentha aquatica	Shoot	--	75	-0.25792055501122796	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	--	115	-0.1768268389694486	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	--	75	-0.25792055501122796	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	--	32	-0.34509629975614076	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 arvensis var. piperascens	Leaf	--	700	0.007903496850210601	--
Mentha longifolia	Shoot	30	5700	8.013638481250267	--
Mentha pulegium	Plant	--	--		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
Mentha pulegium	Essential Oil	--	--		--
Mentha rotundifolia	Leaf	--	600	-0.04105835127449831	--
Mentha spicata	Leaf	--	--		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
Mentha spicata	Essential Oil	--	--		--
Mentha x piperita	Leaf	8	80	-0.2956599615229847	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
Micromeria fruticosa	Leaf	2640	2640	0.9577633504695636	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 fruticosa	Shoot	645	645	0.8976648985841279	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 fruticosa	Shoot	--	645	0.8976648985841279	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	365	365	-0.15611869436756426	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	130	130	-0.14641669545378133	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 varia	Shoot	155	155	-0.09573312292766925	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	--	155	-0.09573312292766925	--
Minthostachys mollis	Shoot	11	32	-0.34509629975614076	Alkire, B.H., Tucker, A.O., and Maciarelllo, M.J. 1994. Tipo ( <i>Minthostachys mollis</i> (Lamiaceae): An Ecuadorian Mint. Econ. Bot. 48(1): 60-64.
Monarda citriodora	Flower	50	50	-0.5275896773354433	Collins, J.E., Bishop, C.D., Deans, S.G. and Svoboda, K.P. 1994. Composition of the Essential Oil from the Leaves and Flowers of <i>Monarda citriodora</i> var. <i>citriodora</i> grown in the United Kingdom. J. Ess. Oil Res. 6: 27-9.
Monarda citriodora	Leaf	50	50	-0.31034851596039736	Collins, J.E., Bishop, C.D., Deans, S.G. and Svoboda, K.P. 1994. Composition of the Essential Oil from the Leaves and Flowers of <i>Monarda citriodora</i> var. <i>citriodora</i> grown in the United Kingdom. J. Ess. Oil Res. 6: 27-9.
Monarda didyma	Flower	30	30	-0.5961530809679855	Flavour and Fragrance Journal, 6: 80.
Monarda didyma	Leaf	--	--		Flavour and Fragrance Journal, 6: 80.



Plant	Part	Low PPM	High PPM	StdDev	Reference
Montanoa tomentosa	Plant	--	--		--
Murraya koenigii	Leaf	23	7540	3.356893908580301	--
Myrciaria dubia	Fruit	--	--		--
Myristica fragrans	Seed	--	--		--
Myristica fragrans	Seed Essent. Oil	--	--		--
Myrrhis odorata	Leaf Essent. Oil	--	17000	-0.3047404096508881	--
Myrtus communis	Shoot	7	40	-0.3288775565477849	--
Nepeta cataria	Plant	--	1800	1.4674777688994798	--
Nepeta racemosa	Shoot	240	240	0.0765910236611119	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	--	240	0.0765910236611119	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	35	35	-0.7823361395544459	Die Nahrung. Pino, J., Rosado, A., Goire, I., Roncal, E., and Garcia, I. 1993. Analysis of the Essential Oil from Cuban Basil. Die Nahrung 37:(5): 501-504.
Ocimum basilicum	Plant	--	35	-0.7823361395544459	Die Nahrung. Pino, J., Rosado, A., Goire, I., Roncal, E., and Garcia, I. 1993. Analysis of the Essential Oil from Cuban Basil. Die Nahrung 37:(5): 501-504.
Ocimum basilicum	Leaf Essent. Oil	--	70000	0.01096743109356414	--
Ocimum basilicum	Essential Oil	6800	37700	-0.423331277266507	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Ocimum basilicum	Shoot Essent. Oil	2300	13900	-1.1154717314686748	--
Ocimum gratissimum	Flower	145	220	0.055199253541165755	Charles, D.J. and Simon, J.E. 1992. A New Geraniol Chemotype of Ocimum gratissimum L. J. Ess. Oil Res. 4: 231-234.
Ocimum gratissimum	Leaf	115	215	-0.22956146655462764	Charles, D.J. and Simon, J.E. 1992. A New Geraniol Chemotype of Ocimum gratissimum L. J. Ess. Oil Res. 4: 231-234.
Ocimum gratissimum	Plant	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Ocimum kilimandscharicum	Flower	25	945	2.540622635220822	Charles, D.J., and Simon, J.E. 1992. Essential Oil Constituents of Ocimum kilimandscharicum Guerke. J. Ess. Oil Res., 4: 125-128.
Ocimum kilimandscharicum	Leaf	90	165	-0.2540423906169821	Charles, D.J., and Simon, J.E. 1992. Essential Oil Constituents of Ocimum kilimandscharicum Guerke. J. Ess. Oil Res., 4: 125-128.
Ocimum suave	Shoot	110	110	-0.18696355347467103	J. Nat. Prod. 44: 308.
Ocimum tenuiflorum	Leaf	30	3060	1.163403112593341	--
Origanum majorana	Plant	35	750	0.12906156273708783	--
Origanum minutiflorum	Shoot	165	380	0.36041902980733964	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.
Origanum onites	Shoot	365	365	0.33000888629167235	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 syriacum	Shoot	200	200	-0.004502692380667468	Fleisher, A. & Fleisher, Z. 1991. Chemical Composition of Origanum syriacum L. Essential Oil. J. Ess. Oil Res. 3: 121-123.
Origanum syriacum	Shoot	--	185	-0.034912835896334725	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 syriacum	Shoot	--	200	-0.004502692380667468	Fleisher, A. & Fleisher, Z. 1991. Chemical Composition of Origanum syriacum L. Essential Oil. J. Ess. Oil Res. 3: 121-123.
Origanum vulgare	Plant	35	35	-0.7823361395544459	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	360	360	0.31987217178644994	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	720	720	0.09082109970387661	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	-0.8256753309920853	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	--	--		--
Origanum vulgare	Essential Oil	--	74500	-0.16338482301308704	--
Origanum vulgare	Shoot Essent. Oil	15000	90600	0.05911203848804346	--
Panax ginseng	Flower Essent. Oil	--	--		--
Panax ginseng	Shoot	--	--		--
Pelargonium citrosum	Shoot	--	5	-0.39983455808434193	Matsuda, B. M., et al. 1996. Essential Oil Analysis and Field Evaluation of the Citrosum Plant 'Pelargonium citrosum' as a Repellent Against Populations of Aedes Mosquitoes. J. Am. Mosq. Contr. Assoc. 12(1):69-74.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Perilla frutescens	Plant	--	--		Kang, R., Helms, R., Stout, M.J., Jaber, H., Chen, Z., and Nakatsu, T. 1992. Antimicrobial Activity of the Volatile Constituents of Perilla frutescens and Its Synergistic Effects with Polygodial. J. Agric. Food Chem., 40: 2328-2330.
Perilla frutescens	Leaf Essent. Oil	--	38000	-0.1796486236955391	Kang, R., Helms, R., Stout, M.J., Jaber, H., Chen, Z., and Nakatsu, T. 1992. Antimicrobial Activity of the Volatile Constituents of Perilla frutescens and Its Synergistic Effects with Polygodial. J. Agric. Food Chem., 40: 2328-2330.
Perilla frutescens	Shoot Essent. Oil	--	167000	1.2291016085622715	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	2.46	2.46	-0.33362497855888384	--
Petroselinum crispum	Seed	6.6	770	-0.2508424294303912	--
Petroselinum crispum	Fruit Essent. Oil	11000	62100	-0.1770999112945981	--
Pimenta dioica	Leaf Essent. Oil	--	--		--
Pimenta racemosa	Leaf	0	110	-0.280971407085572	--
Pimpinella anisum	Plant	--	--		--
Pimpinella anisum	Seed Essent. Oil	--	--		--
Pimpinella anisum	Seed	--	--		Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Pinus strobus	Leaf Essent. Oil	--	--		--
Pinus sylvestris	Leaf Essent. Oil	--	13900	-0.3232063399585825	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Pinus sylvestris	Essential Oil	--	--		--
Piper cubeba	Fruit Essent. Oil	34000	34000	-0.40802833391075616	--
Piper nigrum	Fruit	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
Piper nigrum	Seed	--	--		--
Piper nigrum	Leaf Essent. Oil	--	30000	-0.22730263739281492	--
Piper nigrum	Fruit Essent. Oil	160000	352000	2.205325345517652	--
Piper nigrum	Essential Oil	--	--		--
Pistacia lentiscus	Plant	--	--		--
Plectranthus coleoides	Shoot	150	150	-0.10586983743289166	Buchbauer, G., Jorovetz, L., Wasicky, M. and Nikiforov, A. 1993. Volatile Constituents of the Headspace and Essential Oil of Plectranthus coleoides Marginatus (Labiatae). J. Ess. Oil Res. 5: 311-313.
Plectranthus incanus	Shoot	100	100	-0.20723698248511585	Shah, G.C., Bhandari, R. & Mathela, C.S. 1992. 1,2-Epoxy-p-Menthane Derivatives from some Labiatae Species. J. Ess. Oil Res. 4: 57-59.
Populus tacamahacca	Plant	--	--		--
Psidium guajava	Fruit	--	--		--
Ptychopetalum olacoides	Root Essent. Oil	--	77000	0.31448110708963317	Uber Bucek, E., Fournier, G., Dadoun, H. 1987. Volatile Constituents of Ptychopetalum olacoides Root Oil. Planta Med. 53, 2: 231.
Ravensara aromatica	Bark	--	22		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Ravensara aromatica	Leaf	--	300	-0.18794389564862507	--
Rosmarinus eriocalyx	Shoot	50	260	0.11713788168200157	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	50	260	0.11713788168200157	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	38	38	-0.31622393773536245	Soliman, F.M., El-Kashoury, M.M., Fathy, M.M. and Gonaid, 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	--	38	-0.31622393773536245	Soliman, F.M., El-Kashoury, M.M., Fathy, M.M. and Gonaid, 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	12	2075	1.8180153467039157	--
Rosmarinus officinalis	Shoot	--	18	-0.37347910037076365	Tucker, A. O. and Maciarello, M. J. 1998. The essential oils of some rosemary cultivars. Flavor and Fragrance Journal, 1: 137-142. 1986.
Rosmarinus officinalis	Shoot	50	100	-0.20723698248511585	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	12	90	-0.2275104114955607	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	31	150	-0.10586983743289166	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	145000	153000	0.3911205209785834	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Rosmarinus officinalis	Resin, Exudate, Sap	--	--		--
Rosmarinus officinalis	Shoot Essent. Oil	--	12200	-1.1415055308027873	--
Rosmarinus tomentosus	Shoot	55	355	0.30973545728122753	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	29	240	0.0765910236611119	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	8	65	-0.2781939840216728	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	2105	2105	0.6958174630023709	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
Salvia dorisiana	Shoot	90	115	-0.1768268389694486	Tucker, A.O. & Maciarelo, M.J. 1994. The Essential Oil of Salvia dorisiana Standley. J. Ess. Oil Res. 6: 97-8.
Salvia gilliesii	Shoot	720	720	1.0497156161624641	Velasco-Negueruela, A. et al. 1993. The Essential Oil of Salvia gilliesii Benth. J. Ess. Oil Res. 5: 319-320.
Salvia officinalis	Leaf	500	760	0.03728060572503595	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Salvia officinalis	Leaf Essent. Oil	--	11000	-0.34048091992384494	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Salvia officinalis	Essential Oil	18900	66000	-0.22342680293575198	--
Salvia officinalis	Et	--	41000		--
Salvia sclarea	Plant	1	30	-0.7887095500599811	Flavour and Fragrance Journal, 6: 153.
Salvia triloba	Plant	500	2280	2.079325177430859	--
Sambucus nigra	Flower Essent. Oil	--	--		--
Sassafras albidum	Leaf	30	90	-0.2907637767105138	--
Satureja cilicica	Shoot	55	55	-0.29846741303211766	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	5	5	-0.39983455808434193	Tumen, G. 1991. The Volatile Constituents of Satureja cuneifolia. J. Ess. Oil Res., 3: 365-366.
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	20	1050	0.5114661930691998	J. Ethnopharmacology, 39: 167.
Satureja obovata	Leaf	95	95	-0.28831568430427834	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	--	--		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	--	985	0.147444764005631	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.



Plant	Part	Low PPM	High PPM	StdDev	Reference
Satureja obovata	Leaf	--	95	-0.28831568430427834	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 subspicata	Plant	65	65	-0.7440956765212348	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	1590	1590	2.813503940071165	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.
Sideritis athoa	Shoot	7	7	-0.395779872282253	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 germanicolpitana	Plant	23	47	-0.7670399543411615	J. Essential Oil, 4: 533.
Sideritis mugronensis	Flower	15	20	-0.6304347827842566	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	20	65	-0.303004238741691	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	13	13	-0.38361581487598606	Burzaco, A., Velasco-Negueruela, A. and Perez-Alonso, M.J. 1992. Essential Oil Analysis of Sideritis pauli Pau. FFJ7: 47-8. 1992.
Sideritis scardica	Shoot	105	105	-0.19710026797989344	Menkovic, N., et al. 1991. The Essential Oil of Sideritis scardica. Pl. Med. 57. Suppl. 2. pp. A137-A132.
Stevia rebaudiana	Flower	--	150	-0.18477265917273208	Kinghorn, A. D. (Ed.) 2002. Medicinal and Aromatic Plants - Industrial Profiles. Stevia. The genus Stevia. Taylor & Francis. New York, NY. 211 pp.
Stevia rebaudiana	Leaf	--	13	-0.3284643997665397	Kinghorn, A. D. (Ed.) 2002. Medicinal and Aromatic Plants - Industrial Profiles. Stevia. The genus Stevia. Taylor & Francis. New York, NY. 211 pp.
Syzygium aromaticum	Flower	--	--		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Syzygium aromaticum	Essential Oil	495000	495000	2.8069272425728666	--
Syzygium aromaticum	Fruit	2230	69365	1.9999529994158691	--
Syzygium aromaticum	Leaf	2295	14520	6.774430907684983	Charalambous, G. (Ed.). 1994. Spices, Herbs and Edible Fungi. Elsevier Science B. V. Amsterdam. 764 pp.
Tagetes filifolia	Essential Oil	--	2700	-0.6705629593010096	Hussain, R.A., et. al. 1990. Sweetening Agents of Plant Origin: Phenylpropanoid Constituents of Seven Sweet-Tasting Plants. Econ. Bot. 44 2: 174-182. Program Collab. Res. Pharm. Sci. Coll. Pharmacy Univ. Illinois at Chicago IL 60680, USA.
Tagetes lucida	Leaf	--	280	-0.19773626527356686	Tramil
Tagetes lucida	Shoot	--	80	-0.24778384050600555	Bicchi, C., Fresia, M., Rubiolo, P., Monti, D., Franz, C., Goehler, I. 1997. Constituents of Tagetes lucida Cav. ssp. lucida essential oil. Flavor & Fragrance, 12(1): 47-52.
Tagetes minuta	Fruit Essent. Oil	--	5800	-0.6397785658600676	--
Tamarindus indica	Fruit Essent. Oil	--	5000	-0.6463530405252964	--
Tanacetum parthenium	Shoot	--	8	-0.39375252938120847	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	Essential Oil	--	--		--
Teucrium arduini	Shoot	245	245	0.0867277381663343	Blazevic, N., Kalodera, Z., Petricic, J., and Plazibat, M. 1992. Essential Oil Content and Composition of Teucrium arduini L. J. Ess. Oil Res. 4: 223-225.
Teucrium arduini	Shoot	--	120	-0.16669012446422618	Blazevic, N., Kalodera, Z., Petricic, J., and Plazibat, M. 1992. Essential Oil Content and Composition of Teucrium arduini L. J. Ess. Oil Res. 4: 223-225.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Teucrium asiaticum	Shoot	0.15	0.15	-0.40966717115440776	Velasco-Negueruela, A. and Perez-Alonso, M.J. 1990. The Volatiles of Six Teucrium Species from the Iberian Peninsula and the Balearic Islands. <i>Phytochemistry</i> 29(4): 1165-9.
Teucrium chamaedrys	Plant	420	420	-0.29158353062823544	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Teucrium cyprum	Leaf	600	600	-0.04105835127449831	Arnold, N., Bellomaria, B., Velentini G. and Rafaiani, S.M. 1991. Comparative Study on Essential Oil of Some Teucrium Species from Cyprus. <i>J. Ethnopharm.</i> 35: 105-113.
Teucrium divaricatum	Leaf	530	530	-0.07533164496179456	Arnold, N., Bellomaria, B., Velentini G. and Rafaiani, S.M. 1991. Comparative Study on Essential Oil of Some Teucrium Species from Cyprus. <i>J. Ethnopharm.</i> 35: 105-113.
Teucrium gnaphalodes	Shoot	60	60	-0.28833069852689525	Perez-Alonso, M.J. Velasco-Negueruela, A. and Lopez-Saez, J.A. 1993. The Essential Oils of Two Iberian Teucrium Species. <i>J. Ess. Oil Res.</i> 5: 397-402.
Teucrium kotschyianum	Leaf	245	245	-0.21487291211721496	Arnold, N., Bellomaria, B., Velentini G. and Rafaiani, S.M. 1991. Comparative Study on Essential Oil of Some Teucrium Species from Cyprus. <i>J. Ethnopharm.</i> 35: 105-113.
Teucrium micropodioides	Leaf	170	170	-0.25159429821074664	Arnold, N., Bellomaria, B., Velentini G. and Rafaiani, S.M. 1991. Comparative Study on Essential Oil of Some Teucrium Species from Cyprus. <i>J. Ethnopharm.</i> 35: 105-113.
Teucrium oxylepis	Shoot	1.74	1.74	-0.40644369594174695	Velasco-Negueruela, A. and Perez-Alonso, M.J. 1990. The Volatiles of Six Teucrium Species from the Iberian Peninsula and the Balearic Islands. <i>Phytochemistry</i> 29(4): 1165-9.
Teucrium oxylepis	Shoot	5.2	5.2	-0.3994290895041331	Velasco-Negueruela, A. and Perez-Alonso, M.J. 1990. The Volatiles of Six Teucrium Species from the Iberian Peninsula and the Balearic Islands. <i>Phytochemistry</i> 29(4): 1165-9.
Teucrium polium	Plant	--	--		Rizk, A.F.M., The Phytochemistry of the Flora of Qatar, Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Teucrium polium	Shoot	4	4	-0.40186190098538643	Perez-Alonso, M.J. Velasco-Negueruela, A. and Lopez-Saez, J.A. 1993. The Essential Oils of Two Iberian Teucrium Species. J. Ess. Oil Res. 5: 397-402.
Teucrium pseudoscorodonia	Shoot	19.84	19.84	-0.36974878943284184	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	10.8	10.8	-0.3880759692582839	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	10.52	10.52	-0.38864362527057644	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.
Thymus cilicicus	Shoot	200	200	-0.004502692380667468	Tumen, G., Koyuncu, M., Kirimer, N., and Baser, K.H.C. 1994. Composition of the Essential Oil of Thymus cilicicus Boiss. & Bal. J. Ess. Oil Res. 6: 97-8.
Thymus funkii	Shoot	210	210	0.015770736629777373	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	--	210	0.015770736629777373	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	28	28	-0.3532056713603187	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	--	22	-0.36536972876658563	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	--	28	-0.3532056713603187	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.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Thymus riatarum	Shoot	300	300	0.19823159772378093	Iglesias, J., Vila, R., Canigual, S., Bellakdhar, and Il Idrissi, A. 1991. Analysis of the Essential Oil of Thymus riatarum. J. Ess. Oil Res. 3: 43-4.
Thymus vulgaris	Plant	15	605	-0.05576734192343301	--
Thymus vulgaris	Essential Oil	--	17800	-0.5639001479089814	--
Thymus x citriodorus	Plant	370	370	-0.35531763568358743	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	0.1	460	0.5226064618908983	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	-0.40976853829945986	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.
Trifolium pratense	Flower	--	5	-0.6818573355086633	Buchnauer, G., Jirovetz, L., Nikiforov, A. 1996. Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection, Gas Chromatography-Mass Spectrometry, and Gas Chrom.-Olfactometry. J. Agr. Food Chem. 44: 1827-8
Valeriana officinalis	Root Essent. Oil	--	--		--
Valeriana officinalis	Leaf Essent. Oil	2500	13600	-0.32499336547223034	--
Valeriana officinalis	Leaf	6	345	-0.16591106399250605	Father Nature's Pharmacy: The aggregate of all these three-letter citations.
Vitex agnus-castus	Leaf	--	2	-0.33385020306025753	Ekundayo, O., Laakso, I., Holopainen, M., Hiltunen, R., Oguntimein, B., and Kauppinen, V. 1990. The Chemical Composition and Antimicrobial Activity of the Leaf Oil of Vitex agnus-castus L. J. Essential Oil Research, 2: 115-119.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Vitex agnus-castus	Leaf Essent. Oil	--	63800	-0.025964429521824612	Jim Duke's personal files.
Vitex agnus-castus	Flower	--	--		Jim Duke's personal files.
Vitex agnus-castus	Fruit	--	--		Jim Duke's personal files.
Zea mays	Root	--	--		--
Zingiber officinale	Rhizome	0.7	45	-1	--
Zingiber officinale	Rhizome Essent. Oil	--	900	-1	--