

Dr. Duke's Phytochemical and Ethnobotanical Database

List of Plants for ALPHA-HUMULENE

Plant	Part	Low PPM	High PPM	StdDev	Reference
Achillea millefolium	Leaf	--	--		--
Acinos alpinus	Shoot	3	3	-0.39470951573514457	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	--	3	-0.39470951573514457	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.)
Acorus calamus	Plant	--	--		--
Acorus calamus	Rhizome	--	--		--
Agastache rugosa	Shoot	--	--		Jim Duke's personal files.
Alpinia galanga	Rhizome	--	--		--
Angelica archangelica	Root	18	50	1.4138559108869015	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Angelica archangelica	Root Essent. Oil	--	--		--
Apium graveolens	Leaf	266	2500	3.7785413446723948	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Apium graveolens	Seed	20	33		Charalambous, G. (Ed.). 1994. Spices, Herbs and Edible Fungi. Elsevier Science B. V. Amsterdam. 764 pp.
Aralia cordata	Root	11	11	-0.7344706030581312	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Artemisia annua	Leaf	1	285	0.016038059526224918	--
Artemisia capillaris	Essential Oil	--	--		--
Ballota nigra	Plant	8	8	-0.7037976499979834	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Boswellia sacra	Essential Oil	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Callicarpa americana	Leaf	--	110	-0.2812251797065425	--
Canarium indicum	Essential Oil	100	250	-0.4788836425108706	--
Centella asiatica	Shoot	--	--		Jim Duke's personal files.
Chrysanthemum parthenium	Shoot	--	--		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.
Cinnamomum verum	Leaf	--	55	-0.3746507691796979	Mallavarupu, G. R. et al. 1995. Investigation of the essential oil of cinnamon leaf grown at Bangalore and Hyderabad. Flav. & Fragr. J., 10: 239-242.
Cinnamomum verum	Leaf Essent. Oil	--	2000	-0.6471039886127844	--
Cinnamomum verum	Root Bark	--	--		--
Cinnamomum verum	Stem Bark	--	--		--
Citrus aurantium	Plant	--	--		--
Citrus limon	Essential Oil	10	10	-0.48105436900291004	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Citrus limon	Petiole	--	1.5		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Citrus paradisi	Leaf	--	29	-0.41881559329428053	--
Citrus paradisi	Pericarp	--	7		--
Citrus reticulata	Fruit	0.7	1	-0.598173569962584	--
Citrus sinensis	Fruit	0	0.1	-0.5986253681056065	--
Cleonia lusitanica	Leaf	1	1	-0.4663777115715233	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	--	84800	2.123092147042806	Jim Duke's personal files.
Coleus barbatus	Stem Essent. Oil	--	84800		Jim Duke's personal files.
Copaifera spp	Plant	--	--		--
Coridothymus capitatus	Shoot	0.1	0.1	-0.4228137675452841	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.
Daucus carota	Root	12	12	-0.6793853078287713	--
Elsholtzia blanda	Shoot	4	4	-0.3850183944213034	Bestman, H.J., Rauscher, J., Vostrowsky O., Pant, A.K., Dev. V., Parihar, 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	3	3	-0.39470951573514457	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.
Eucalyptus citriodora	Leaf Essent. Oil	--	2000	-0.6471039886127844	--
Foeniculum vulgare	Essential Oil	--	1600	-0.46667330599314866	Jim Duke's personal files.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Galeopsis tetrahit	Shoot	6	6	-0.365636151793621	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Gossypium sp	Essential Oil	25400	25400	-0.25140959553256953	--
Hedeoma pulegioides	Plant	30	150	0.6882757053085324	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Hedychium flavum	Shoot	--	230	1.8051750225068064	--
Humulus lupulus	Fruit	--	--		--
Humulus lupulus	Essential Oil	--	400000	3.136732670792344	--
Hypericum perforatum	Plant	1	18	-0.6057643151172428	--
Hyptis suaveolens	Shoot	6	6	-0.365636151793621	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	--	6	-0.365636151793621	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	Flower	1	12	-0.8529274950889835	--
Hyssopus officinalis	Leaf	1	140	-0.23026576726663947	--
Hyssopus officinalis	Shoot	0.1	0.1	-0.4228137675452841	Tsankova, E.T., Konatchiev, A.N. and Genova, E.M. 1993. Chemical Composition of the Essential Oils of Two Hyssopus officinalis 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 Hyssopus officinalis cultivars. J. Ess. Oil Res. 5: 609-611.
Illicium verum	Fruit	1	900	-0.1468774248768592	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Isanthus brachiatus	Plant	17	17	-0.6155676486053169	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Juniperus communis	Fruit	19	192	-0.5022919640544935	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Lavandula latifolia	Plant	0	51	-0.28225431001079904	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Leonotis leonurus	Se	39	39		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 Leonotis leonurus R. Br. J. Ess. Oil Res. 3: 451-3
Leonurus cardiaca	Plant	35	175	0.9333590425103838	--
Lepechinia calycina	Plant	10	10	-0.6841909830218353	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Leptospermum scoparium	Essential Oil	--	--		--
Lindera benzoin	Leaf	--	4	-0.461281770327533	--
Litsea glaucescens	Shoot	10	15	-0.2784160599690503	Tucker, et al, EB46(1):21-24.1992
Magnolia denudata	Bark	--	--		--
Magnolia denudata	Bulb	--	--		--
Magnolia denudata	Flower	--	--		--
Magnolia denudata	Leaf	--	--		--
Magnolia denudata	Twig	--	--		--
Melissa officinalis	Shoot	1	80	0.3515068254306274	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Mentha pulegium	Plant	70	140	0.5902423704277919	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
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	--	--		--
Micromeria fruticosa	Shoot	50	50	0.060773186015391556	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.
Micromeria fruticosa	Shoot	--	50	0.060773186015391556	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.
Micromeria myrtifolia	Shoot	9	9	-0.3365627878520974	Ozek, T., Kirimer, N., and Baser, K.H.C. 1992. Composition of the Essential Oil of Micromeria myrtifolia Boiss. et Hohen. J. Ess. Oil Res., 4: 79-80.
Micromeria varia	Shoot	18	18	-0.24934269602752668	Pedro, L.G., et al. 1995. Composition of the Essential oil of Micromeria varia Benth. ssp. thymoides (Sol. ex Lowe) Perez var. thymoides, and endemic species of the Madeira Archipelago. flav. & Fragr. J. 10(3): 199-202.
Micromeria varia	Shoot	--	18	-0.24934269602752668	--
Minthostachys mollis	Shoot	1	5	-0.3753272731074622	Alkire, B.H., Tucker, A.O., and Maciarello, M.J. 1994. Tipo (Minthostachys mollis (Lamiaceae): An Ecuadorian Mint. Econ. Bot. 48(1): 60-64.
Murraya koenigii	Leaf	--	14	-0.444295299514232	--
Myristica fragrans	Essential Oil	--	30000	-0.20980400443514668	--
Myrtus communis	Plant	3	4	-0.7430109839502796	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Nepeta cataria	Plant	18	170	0.8843423750700136	Bourrel, C., Perineau, F., Michel, G., Bessiere, J.M. 1993. Catnip (Nepeta cataria L.) Essential Oil: Analysis of Chemical Constituents, Bacteriostatic and Fungistatic Properties. J. Ess. Oil Res., 5: 159-167.
Nepeta racemosa	Shoot	16	16	-0.2687249386552091	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	--	16	-0.2687249386552091	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	16	16	-0.6253709820933909	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	--	16	-0.6253709820933909	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	--	5650	-0.5249878546134739	--
Ocimum basilicum	Essential Oil	--	31300	-0.1980459026032663	--
Ocimum basilicum	Shoot Essent. Oil	6700	11800	0.818288975563984	--
Ocimum gratissimum	Plant	1	9	-0.6939943165099094	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Ocimum kilimandscharicum	Flower	0	230	-0.1416107623827925	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	8	47	-0.3882399458303387	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	9	205	-0.11985370698018302	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Origanum majorana	Plant	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Origanum majorana	Essential Oil	--	--		--
Origanum onites	Shoot	20	20	-0.22996045339984428	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	--	20	-0.22996045339984428	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 syriacum	Shoot	55	55	0.10922879258459753	Fleisher, A. & Fleisher, Z. 1991. Chemical Composition of Origanum syriacum L. Essential Oil. J. Ess. Oil Res. 3: 121-123.
Origanum syriacum	Shoot	--	20	-0.22996045339984428	Fleisher, A. & Fleisher, Z. 1991. Chemical Composition of Origanum syriacum L. Essential Oil. J. Ess. Oil Res. 3: 121-123.
Origanum syriacum	Shoot	--	55	0.10922879258459753	Fleisher, A. & Fleisher, Z. 1991. Chemical Composition of Origanum syriacum L. Essential Oil. J. Ess. Oil Res. 3: 121-123.
Origanum vulgare	Plant	10	10	-0.6841909830218353	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	0	0	-0.42378287967666817	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	120	120	0.3941757006663108	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	40	40	-0.39009097837961365	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.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Origanum vulgare	Plant	24	24	-0.5469443141887985	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	6	376	2.903829073613269	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Origanum vulgare	Shoot Essent. Oil	--	5800	-0.5745433232683291	--
Panax ginseng	Root Essent. Oil	--	--		--
Panax ginseng	Plant	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Panax quinquefolius	Plant	--	--		--
Perilla frutescens	Shoot Essent. Oil	--	13000	1.096855435330446	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.
Petasites hybridus	Rhizome	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Pimenta dioica	Fruit	405	405	-0.3953664035391883	--
Pimenta dioica	Leaf Essent. Oil	--	--		--
Pimenta racemosa	Leaf	0	36	-0.40692506372496984	--
Pinus strobus	Leaf Essent. Oil	--	--		--
Pinus sylvestris	Leaf Essent. Oil	--	4600	-0.5601171534351933	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Piper nigrum	Fruit	--	--		--
Piper nigrum	Leaf Essent. Oil	--	--		--
Piper nigrum	Fruit Essent. Oil	2100	19500	-1	--
Plectranthus coleoides	Shoot	80	80	0.3515068254306274	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	25	25	-0.1815048468306383	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.
Psidium guajava	Fruit	--	6000	2.4133120522501676	--
Psidium guajava	Pericarp Essent. Oil	--	--		--
Ptychopetalum olacoides	Root Essent. Oil	--	92000		Uber Bucek, E., Fournier, G., Dadoun, H. 1987. Volatile Constituents of Ptychopetalum olacoides Root Oil. Planta Med. 53, 2: 231.
Pycnanthemum beadlei	Shoot	49	49	0.05108206470155036	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Pycnanthemum californicum	Shoot	468	468	4.111661895201011	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Pycnanthemum tenuifolium	Shoot	8	640	5.778534761181696	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Rheum palmatum	Rhizome	--	1		--
Rosmarinus eriocalyx	Shoot	22	80	0.3515068254306274	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.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Rosmarinus eriocalyx	Shoot	22	80	0.3515068254306274	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	12	12	-0.4476925936768922	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	--	12	-0.4476925936768922	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	Shoot	--	42	-0.016755784495338003	Tucker, A. O. and Maciarelo, M. J. 1998. The essential oils of some rosemary cultivars. Flavor and Fragrance Journal, 1: 137-142. 1986.
Rosmarinus officinalis	Shoot	19	38	-0.05552026975070278	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	--	13	-0.2977983025967326	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	50	0.060773186015391556	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 Essent. Oil	--	2500	-1.3406010876261014	--
Rosmarinus tomentosus	Shoot	0.1	0.1	-0.4228137675452841	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	3	40	-0.03613802712302039	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.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Rosmarinus x mendizabalii	Shoot	4	38	-0.05552026975070278	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	110	110	-0.2812251797065425	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	4.3	5.7	-0.3685434881877733	Tucker, A.O. & Maciarelo, M.J. 1994. The Essential Oil of Salvia dorisiana Standley. J. Ess. Oil Res. 6: 97-8.
Salvia officinalis	Leaf	110	616	0.5782902434464878	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Salvia officinalis	Leaf Essent. Oil	--	29000	0.25622083823143005	--
Salvia officinalis	Essential Oil	--	19300	-0.306582227205239	--
Salvia officinalis	Et	--	21000		--
Sassafras albidum	Leaf	0	8.4	-0.4538077231696806	--
Satureja montana	Plant	8	325	2.403859065721492	--
Satureja thymbra	Shoot	75	75	0.30305121886142145	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	--	--		--
Scutellaria churchilliana	Plant	11	11	-0.6743876495337613	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Scutellaria galericulata	Plant	16	16	-0.6253709820933909	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Scutellaria lateriflora	Essential Oil	--	42000	-0.101267679833174	--
Scutellaria parvula	Plant	19	19	-0.5959609816291688	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Sideritis mugronensis	Flower	10	15	-0.8431387327122928	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	10	15	-0.4425966524329019	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	3	3	-0.39470951573514457	Burzaco, A., Velasco-Negueruela, A. and Perez-Alonso, M.J. 1992. Essential Oil Analysis of Sideritis pauli Pau. FFJ7: 47-8. 1992.
Stevia rebaudiana	Flower	--	260	-0.04372313861588544	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	--	30	-0.4171169462129504	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	775	850	1.881400128799953	--
Syzygium aromaticum	Fruit	250	850	-0.1719773217114379	--
Syzygium aromaticum	Essential Oil	30000	30000	-0.20980400443514668	--
Syzygium aromaticum	Leaf	290	1740	2.4875695628615198	Charalambous, G. (Ed.). 1994. Spices, Herbs and Edible Fungi. Elsevier Science B. V. Amsterdam. 764 pp.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Tagetes filifolia	Essential Oil	--	5300	-0.43320793924087375	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	Shoot	--	12	-0.3074894239105738	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	Flower Essent. Oil	--	4000		--
Tamarindus indica	Fruit Essent. Oil	--	20000	1	--
Tanacetum parthenium	Shoot	--	--		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.
Teucrium arduini	Shoot	20	20	-0.22996045339984428	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	--	20	-0.22996045339984428	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 asiaticum	Shoot	1.92	1.92	-0.4051759267540931	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 cyprium	Leaf	50	50	-0.3831440045863484	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.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Teucrium divaricatum	Leaf	0	0	-0.4680763586528534	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 kotschyannum	Leaf	550	550	0.4661795360787012	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	44	44	-0.39333588707432904	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	0.96	0.96	-0.4144794032153807	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	--	--		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 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.
Teucrium pseudoscorodonia	Shoot	1.52	1.52	-0.4090523752796296	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	9.5	9.5	-0.3317172271951768	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	1.11	1.11	-0.4130257350183045	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.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Thymus capitatus	Plant	10	10	-0.6841909830218353	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Thymus capitatus	Shoot	10	10	-0.3268716665382562	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	16	16	-0.2687249386552091	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	--	16	-0.2687249386552091	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	0	0	-0.42378287967666817	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	--	0	-0.42378287967666817	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	--	0	-0.42378287967666817	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 orospedanus	Plant	--	--		J. Nat. Prod.
Thymus riatarum	Shoot	25	25	-0.1815048468306383	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.
Trichostemma dichotomum	Shoot	11	11	-0.317180545224415	Tucker, A.O. and Maciarelo, M.J. 1990. The Essential Oil of Trichostemma dichotomum. J. Ess. Oil Res. 2: 149-150.
Umbellularia californica	Plant	45	180	0.9823757099507541	--