

Dr. Duke's Phytochemical and Ethnobotanical Database

List of Plants for BETA-PHELLANDRENE

Plant	Part	Low PPM	High PPM	StdDev	Reference
Abies alba	Plant	32	46	-0.387752999228035	--
Abies balsamea	Gum	--	--		--
Agathosma betulina	Leaf Essent. Oil	--	--		--
Allium sativum var. sativum	Bulb	--	--		Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Anethum graveolens	Fruit	168	1925	-0.1401637043460988	--
Anethum graveolens	Root	168	1925		--
Anethum graveolens	Leaf	120	2100	4.5514578733129	--
Anethum graveolens	Seed	25	1925	-0.06920272549899337	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Anethum graveolens	Essential Oil	--	31600	1.724225349934716	--
Anethum graveolens	Shoot Essent. Oil	82100	169300	1	--
Anethum graveolens	Root Essent. Oil	--	--		--
Anethum graveolens	Seed Essent. Oil	--	--		--
Angelica archangelica	Root	50	1000	1	--
Angelica archangelica	Fruit	--	--		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Angelica archangelica	Root Essent. Oil	--	--		--
Apium graveolens	Fruit	--	2000	-0.1272127645580522	--
Apium graveolens	Seed Essent. Oil	200	2000	-1.027685692005648	--
Artemisia dracunculus	Shoot	100	1070	4.04416490771926	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Boswellia sacra	Essential Oil	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Boswellia serrata	Essential Oil	--	--		--
Canarium indicum	Essential Oil	800	2000	-1.0729833292578388	--
Carica papaya	Fruit	--	--		--
Carum carvi	Seed	--	--		Wealth of India.
Cinnamomum verum	Leaf	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Cistus ladaniferus	Plant	2	140	0.5096601921671527	--
Citrus aurantiifolia	Fruit	90	90	-0.45703003116030555	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Citrus limon	Essential Oil	80	80	-1.254423892232491	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Citrus limon	Pericarp Essent. Oil	--	65900		Jim Duke's personal files.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Citrus limon	Leaf Essent. Oil	--	3300	-0.6449387865926303	Jim Duke's personal files.
Citrus limon	Petiole	--	8		--
Citrus paradisi	Pericarp	--	--		--
Coleus barbatus	Root Essent. Oil	--	10000	1	Jim Duke's personal files.
Coriandrum sativum	Fruit	1	13	-0.4703263293427	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Coriandrum sativum	Essential Oil	--	--		--
Coriandrum sativum	Seed Essent. Oil	400	18600	-0.3304275521980012	--
Cuminum cyminum	Fruit	90	279	-0.4243936628944281	--
Cuminum cyminum	Seed	90	279	-0.9915321681819333	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Cuminum cyminum	Seed Essent. Oil	--	700	-1.0822902451231144	--
Daucus carota	Shoot	177	177	0.14375394815958314	--
Elettaria cardamomum	Seed Essent. Oil	--	32500	0.2534211311349079	--
Eucalyptus angulosa	Leaf	--	1.5	-0.4607470278878015	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

Plant	Part	Low PPM	High PPM	StdDev	Reference
Eucalyptus behriana	Leaf	2.7	2.7	-0.45788086354115354	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 ceratocorys	Leaf	--	80	-0.2732521102112444	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	Leaf Essent. Oil	--	12000	0.07288220829298371	--
Eucalyptus cuprea	Leaf	6.4	6.4	-0.4490435234723222	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 desquamata	Leaf	0	15	-0.4285026789880114	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 dolichorhyncha	Leaf	--	6	-0.4499989115878715	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	--	7	-0.44761044129899813	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

Plant	Part	Low PPM	High PPM	StdDev	Reference
Eucalyptus fasciculosa	Leaf	0	1.3	-0.4612247219455761	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 forrestiana	Leaf	--	95	-0.2374250558781443	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	Fruit Essent. Oil	--	34300	-0.6379877744813619	--
Eucalyptus globulus	Essential Oil	--	--		--
Eucalyptus globulus	Leaf Essent. Oil	--	36000	2.0530780562532986	--
Eucalyptus incrassata	Leaf	--	14	-0.43089114927688477	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	-0.45119314673230815	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	430	430	0.5627124908944243	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	-0.4533427699922941	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 leucoxylon	Leaf	10	10	-0.4404450304323781	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 melanophloia	Leaf	0	0.8	-0.4624189570900128	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 ochrophloia	Leaf	0.5	0.5	-0.4631354981766748	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 odorata	Leaf	4.4	4.4	-0.4538204640500689	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 populnea	Leaf	1.8	1.8	-0.46003048680113945	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	10	10	-0.4404450304323781	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 sparsa	Leaf	100	100	-0.2254827044337776	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	--	13	-0.4332796195657581	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 tetraptera	Leaf	--	100	-0.2254827044337776	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 viridis	Leaf	0	0.5	-0.4631354981766748	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	Fruit	170	1020	-0.2964383777885277	--
Foeniculum vulgare	Seed	170	1020	-0.5763158151879731	--
Gossypium sp	Plant	--	--		--
Hedeoma drummondii	Plant	9	31	-0.5309572318974799	--
Hyssopus officinalis	Flower	34	348		Flavour and Fragrance Journal, 6: 69.
Hyssopus officinalis	Leaf	1	800	1.4464464977775597	--
Hyssopus officinalis	Shoot	330	330	0.8120214473898526	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	--	190	0.20053484678699166	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	--	280	0.5936333757459736	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	--	380	1.0304095190337315	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	0.8120214473898526	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	--	290	0.6373109900747495	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	--	50	-0.41095175381586924	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	--	60	-0.3672741394870935	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	--	50	-0.41095175381586924	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	0.1	0.1	-0.6289030493164603	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.
Hyssopus officinalis	Essential Oil	--	--		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Illicium verum</i>	Fruit	220	835	-0.32838402926570937	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
<i>Juniperus communis</i>	Fruit	66	660	-0.3586028887711514	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Juniperus communis</i>	Leaf Essent. Oil	--	--		--
<i>Juniperus communis</i>	Essential Oil	--	--		--
<i>Juniperus communis</i>	Fruit Essent. Oil	--	--		--
<i>Laurus nobilis</i>	Leaf	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Lavandula angustifolia</i>	Flower	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Levisticum officinale</i>	Root	24	240	-1	--
<i>Lindera benzoin</i>	Fruit	400	545	-0.37846099644615616	--
<i>Lycopus uniflorus</i>	Plant	107	154	0.643317475991968	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Melaleuca alternifolia</i>	Leaf	75	75	-0.2851944616556111	--
<i>Melaleuca alternifolia</i>	Root Essent. Oil	--	6300	-1	--
<i>Melaleuca alternifolia</i>	Essential Oil	--	5800	-0.713882215037173	--
<i>Mentha arvensis</i> var. <i>piperascens</i>	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Mentha pulegium	Plant	3	400	2.9918668917708637	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
Mentha pulegium	Essential Oil	800	20000	0.6280219486295257	--
Micromeria teneriffae	Leaf	20	20	-0.41656032754364475	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 varia	Shoot	15	15	-0.5638234039665844	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	--	15	-0.5638234039665844	--
Murraya koenigii	Leaf	140	560	0.8732136284479584	--
Myrciaria dubia	Fruit	--	--		--
Myristica fragrans	Essential Oil	--	20000	0.6280219486295257	--
Myristica fragrans	Seed Essent. Oil	--	34000	0.31642638473198437	--
Ocimum gratissimum	Plant	5	30	-0.5405041807421095	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Oenanthe aquatica	Fruit	8000	20000	2.9810127845731307	--
Origanum majorana	Plant	27	155	0.6528644248365976	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Origanum majorana	Essential Oil	--	14000	0.06102018933373759	--
Origanum onites	Shoot	38	38	-0.4633648910104002	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.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Origanum syriacum	Shoot	60	60	-0.3672741394870935	Fleisher, A. & Fleisher, Z. 1991. Chemical Composition of Origanum syriacum L. Essential Oil. J. Ess. Oil Res. 3: 121-123.
Origanum syriacum	Shoot	--	60	-0.3672741394870935	Fleisher, A. & Fleisher, Z. 1991. Chemical Composition of Origanum syriacum L. Essential Oil. J. Ess. Oil Res. 3: 121-123.
Origanum vulgare	Plant	1	1	-0.8173656972363698	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	60	60	-0.2540957154032198	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	4	4	-0.7887248507024808	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	5	5	-0.7791779018578511	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	12	60	-0.2540957154032198	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Origanum vulgare	Shoot Essent. Oil	--	800	-1	--
Pastinaca sativa	Root	--	--		--
Pelargonium citrosum	Shoot	--	4	-0.6118687797282377	Matsuda, B. M., et al. 1996. Essential Oil Analysis and Field Evaluation of the Citrosa Plant 'Pelargonium citrosum' as a Repellent Against Populations of Aedes Mosquitoes. J. Am. Mosq. Contr. Assoc. 12(1):69-74.
Pelargonium graveolens	Essential Oil	--	--		--
Petroselinum crispum	Leaf	60	530	0.8015595197817582	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Petroselinum crispum	Seed	43	4970	1.6370507088688995	--
Petroselinum crispum	Fruit Essent. Oil	--	35100	-0.618205207830777	--
Petroselinum crispum	Seed Essent. Oil	--	71000	1.8705559734598718	--
Pimenta dioica	Plant	--	--		--
Pimenta dioica	Fruit	--	--		--
Pimenta racemosa	Leaf	230	780	1.398677092000093	--
Pinus mugo	Leaf	--	--		Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
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 sylvestris	Resin, Exudate, Sap	--	--		--
Pinus sylvestris	Leaf Essent. Oil	--	13000	0.1553903686246635	--
Pinus sylvestris	Essential Oil	--	--		--
Pinus sylvestris	Flower	--	--		--
Pinus sylvestris	Twig	--	--		--
Piper auritum	Leaf	--	--		Tramil

Plant	Part	Low PPM	High PPM	StdDev	Reference
Piper cubeba	Fruit Essent. Oil	120000	130000	1.7285017610948525	--
Piper cubeba	Fruit	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Piper nigrum	Seed Essent. Oil	--	--		--
Piper nigrum	Fruit Essent. Oil	--	41000	-0.47230877878271366	--
Ribes nigrum	Fruit	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Ribes nigrum	Leaf	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Ribes nigrum	Bud	--	--		--
Rosmarinus officinalis	Plant	--	--		--
Rosmarinus officinalis	Leaf Essent. Oil	--	--		--
Salvia officinalis	Leaf	5	28	-0.39745256523265804	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
Salvia officinalis	Leaf Essent. Oil	--	1000	-0.8347075553554938	--
Sassafras albidum	Root	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Sassafras albidum	Leaf	--	0	-0.4643297333211115	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Satureja hortensis	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Satureja obovata	Leaf	110	110	-0.2015980015450442	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	--	360	0.3955195706732905	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	--	300	0.2522113533408902	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	--	110	-0.2015980015450442	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.
Schinus molle	Fruit	--	--		--
Skimmia arborescens	Leaf	325	1560	3.2616839173212973	--
Tagetes minuta	Plant	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Tagetes minuta	Shoot Essent. Oil	--	--		--
Tagetes minuta	Leaf Essent. Oil	--	--		Zygodlo, J. S., Guzman, C. A., Grosso, N. R. 1994. Antifungal Properties of the Leaf Oils of Tagetes Minuta L. and T. filifolia Lag. J. Essent. Oil Res. 6 6: 617-621. Cat Quim Org Fac Cien Exact Univ Nacion Cordoba Cordoba 5000 Argentina.
Teucrium cyprium	Leaf	50	50	-0.34490621887744455	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	12	12	-0.43566808985463146	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	18	18	-0.4213372681213914	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	0	0	-0.4643297333211115	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.
Thymus capitatus	Plant	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Thymus capitatus	Shoot	0	0	-0.629339825459748	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.
Thymus longicaulis	Shoot	3	3	-0.6162365411611153	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	-0.6162365411611153	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	-0.629339825459748	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 riatarum	Shoot	35	35	-0.4764681753090329	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 vulgaris	Plant	--	--		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
Thymus vulgaris	Essential Oil	--	--		--
Trachyspermum ammi	Plant	--	--		--
Trichostemma dichotomum	Shoot	18	18	-0.5507201196679516	Tucker, A.O. and Maciarelo, M.J. 1990. The Essential Oil of Trichostemma dichotomum. J. Ess. Oil Res. 2: 149-150.
Umbellularia californica	Plant	10	40	-0.44503469229581294	--
Valeriana officinalis	Root	--	--		--
Valeriana officinalis	Leaf Essent. Oil	--	1400	-0.8017042912228218	--
Valeriana officinalis	Leaf	--	35	-0.3807332732105446	Father Nature's Farmacy: The aggregate of all these three-letter citations.
Vitex agnus-castus	Leaf	--	1.4	-0.4609858749166889	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.
Zingiber officinale	Rhizome	32	2850		--
Zingiber officinale	Rhizome Essent. Oil	57000	106700		--