

Dr. Duke's Phytochemical and Ethnobotanical Databases

List of Plants for BETA-CARYOPHYLLENE

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Bidens pilosa</i>	Leaf Essent. Oil		730000.0	3.9424235611188183	Jim Duke's personal files.
<i>Syzygium aromaticum</i>	Essential Oil		495000.0	2.8069272425728666	--
<i>Piper nigrum</i>	Fruit Essent. Oil	160000.0	352000.0	2.205325345517652	--
<i>Perilla frutescens</i>	Shoot Essent. Oil		167000.0	1.2291016085622715	Nguyen, X. D., La, D. M., Lu'u, D. C., Leclercq, P. A. 1995. Essential Oil Constituents from the Aerial Parts of <i>Perilla frutescens</i> (L.) Britton. <i>J. Essent. Oil Res.</i> , 7(4): 429-432.
<i>Rosmarinus officinalis</i>	Essential Oil	145000.0	153000.0	0.3911205209785834	--
<i>Lindera benzoin</i>	Shoot Essent. Oil		150000.0	0.9687636152211475	Tucker, A. O. and Debaggio, T. 2000. <i>The Big Book of Herbs</i> . Interweave Press, Inc. Loveland, CO. 688 pp.
<i>Centella asiatica</i>	Essential Oil		125000.0	0.1933351753509813	Jim Duke's personal files.
<i>Angelica archangelica</i>	Root Essent. Oil		110000.0	1.0368391024927353	--
<i>Coleus barbatus</i>	Leaf Essent. Oil		107100.0	0.23196291961468088	Jim Duke's personal files.
<i>Coleus barbatus</i>	Stem Essent. Oil		107100.0		Jim Duke's personal files.
<i>Origanum vulgare</i>	Shoot Essent. Oil	15000.0	90600.0	0.05911203848804346	--
<i>Ptychopetalum olacoides</i>	Root Essent. Oil		77000.0	0.31448110708963317	Uber Bucek, E., Fournier, G., Dadoun, H. 1987. Volatile Constituents of <i>Ptychopetalum olacoides</i> Root Oil. <i>Planta Med.</i> 53, 2: 231.
<i>Origanum vulgare</i>	Essential Oil		74500.0	-0.16338482301308704	--
<i>Ocimum basilicum</i>	Leaf Essent. Oil		70000.0	0.01096743109356414	--
<i>Syzygium aromaticum</i>	Fruit	2230.0	69365.0	1.9999529994158691	--
<i>Salvia officinalis</i>	Essential Oil	18900.0	66000.0	-0.22342680293575198	--
<i>Vitex agnus-castus</i>	Leaf Essent. Oil		63800.0	-0.025964429521824612	Jim Duke's personal files.
<i>Petroselinum crispum</i>	Fruit Essent. Oil	11000.0	62100.0	-0.1770999112945981	--
<i>Coriandrum sativum</i>	Seed Essent. Oil	1600.0	55470.0	1.0	--
<i>Boswellia sacra</i>	Resin, Exudate, Sap		49100.0		Chiavari, G., Gtalletti, G. C., Piccaglia, R., Mohamud, M. A. 1991. Differentiation Between Resins <i>Boswellia carterii</i> and <i>Boswellia frereana</i> (Frankincense) of Somali Origin. <i>J. Essent. Oil Res.</i> 3 (3):185-186.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Apium graveolens	Fruit Essent. Oil	5000.0	43000.0	-0.3340654939269333	--
Apium graveolens	Seed Essent. Oil	5000.0	43000.0	-1.0	--
Salvia officinalis	Et		41000.0		--
Perilla frutescens	Leaf Essent. Oil		38000.0	-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.
Ocimum basilicum	Essential Oil	6800.0	37700.0	-0.423331277266507	--
Eucalyptus citriodora	Leaf Essent. Oil	27000.0	35000.0	-0.19751887883201752	--
Piper cubeba	Fruit Essent. Oil		34000.0	-0.40802833391075616	--
Piper nigrum	Leaf Essent. Oil		30000.0	-0.22730263739281492	--
Cinnamomum verum	Leaf Essent. Oil		18500.0	-0.2958052820826489	--
Thymus vulgaris	Essential Oil		17800.0	-0.5639001479089814	--
Myrrhis odorata	Leaf Essent. Oil		17000.0	-0.3047404096508881	--
Syzygium aromaticum	Leaf	2295.0	14520.0	6.774430907684983	Charalambous, G. (Ed.). 1994. Spices, Herbs and Edible Fungi. Elsevier Science B. V. Amsterdam. 764 pp.
Ocimum basilicum	Shoot Essent. Oil	2300.0	13900.0	-1.1154717314686748	--
Pinus sylvestris	Leaf Essent. Oil		13900.0	-0.3232063399585825	--
Valeriana officinalis	Leaf Essent. Oil	2500.0	13600.0	-0.32499336547223034	--
Cinnamomum verum	Bark Essent. Oil		13500.0		--
Aesculus hippocastanum	Flower Essent. Oil		13000.0		Jim Duke's personal files.
Rosmarinus officinalis	Shoot Essent. Oil		12200.0	-1.1415055308027873	--
Salvia officinalis	Leaf Essent. Oil		11000.0	-0.34048091992384494	--
Murraya koenigii	Leaf	23.0	7540.0	3.356893908580301	--
Tagetes minuta	Fruit Essent. Oil		5800.0	-0.6397785658600676	--
Tamarindus indica	Fruit Essent. Oil		5000.0	-0.6463530405252964	--
Apium graveolens	Leaf Essent. Oil		5000.0	-0.3762214301968018	--
Melaleuca alternifolia	Essential Oil		4400.0	-0.6585545633164767	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Mentha longifolia	Shoot	30.0	4155.0	8.013638481250267	--
Citrus limon	Leaf Essent. Oil	100.0	3500.0	-0.38515655776504104	Jim Duke's personal files.
Ocimum tenuiflorum	Leaf	30.0	3060.0	1.163403112593341	--
Tagetes filifolia	Essential Oil		2700.0	-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.
Hedychium flavum	Shoot		2690.0	5.0435811312200975	--
Eucalyptus tetraptera	Leaf		2670.0	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 Incrassatae. Flavour and Fragrance J. 9(3):113-7
Micromeria fruticosa	Leaf		2640.0	0.9577633504695636	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.
Salvia triloba	Plant	500.0	2280.0	2.079325177430859	--
Artemisia annua	Plant	15.0	2240.0	2.028337893386577	--
Salvia canariensis	Leaf		2105.0	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, Barcelona Spain
Rosmarinus officinalis	Plant	12.0	2075.0	1.8180153467039157	--
Nepeta cataria	Plant		1800.0	1.4674777688994798	--
Satureja thymbra	Shoot		1590.0	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.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Carum carvi	Seed	20.0	1320.0	0.9233136232225039	--
Apium graveolens	Seed	55.0	1290.0	0.859268747623255	--
Alpinia galanga	Leaf Essent. Oil		1100.0	-0.3994527618742238	--
Alpinia galanga	Rhizome Essent. Oil		1100.0	1.0	--
Satureja montana	Plant	20.0	1050.0	0.5114661930691998	J. Ethnopharmacology, 39: 167.
Eucalyptus grandis	Leaf Essent. Oil		1000.0	-0.40004843704543974	--
Satureja obovata	Leaf		985.0	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.
Ocimum kilimandscharicum	Flower	25.0	945.0	2.540622635220822	Charles, D.J., and Simon, J.E. 1992. Essential Oil Constituents of Ocimum kilimandscharicum Guerke. J. Ess. Oil Res., 4: 125-128.
Zingiber officinale	Rhizome Essent. Oil		900.0	-1.0	--
Melaleuca alternifolia	Root Essent. Oil		900.0	-1.351320209582369	--
Melissa officinalis	Shoot	1.0	870.0	1.3538170513191368	--
Mentha aquatica	Leaf	70.0	850.0	0.08134626903727397	--
Petroselinum crispum	Seed	6.6	770.0	-0.2508424294303912	--
Salvia officinalis	Leaf	500.0	760.0	0.03728060572503595	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Origanum majorana	Plant	35.0	750.0	0.12906156273708783	--
Origanum vulgare	Plant		720.0	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.
Salvia gilliesii	Shoot		720.0	1.0497156161624641	Velasco-Negueruela, A. et al. 1993. The Essential Oil of Salvia gilliesii Benth. J. Ess. Oil Res. 5: 319-320.
Mentha arvensis var. piperascens	Leaf		700.0	0.007903496850210601	--
Hyssopus officinalis	Leaf	3.0	660.0	-0.011681242399672966	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Micromeria fruticosa	Shoot		645.0	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	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.
Eucalyptus forrestiana	Leaf		645.0	-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 <i>Eucalyptus</i> . Part I. Subgenus <i>Symphomyrtus</i> , Section <i>Dumaria</i> , Series <i>Incrassatae</i> . Flavour and Fragrance J. 9(3):113-7
Thymus vulgaris	Plant	15.0	605.0	-0.05576734192343301	--
Teucrium cyprium	Leaf		600.0	-0.04105835127449831	Arnold, N., Bellomaria, B., Velentini G. and Rafaiani, S.M. 1991. Comparative Study on Essential Oil of Some <i>Teucrium</i> Species from Cyprus. J. Ethnopharm. 35: 105-113.
Mentha rotundifolia	Leaf		600.0	-0.04105835127449831	--
Teucrium divaricatum	Leaf		530.0	-0.07533164496179456	Arnold, N., Bellomaria, B., Velentini G. and Rafaiani, S.M. 1991. Comparative Study on Essential Oil of Some <i>Teucrium</i> Species from Cyprus. J. Ethnopharm. 35: 105-113.
Humulus lupulus	Fruit		520.0	-0.4871544215252672	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
Artemisia salsoloides	Shoot		500.0	0.6037001779326777	V. Kaul, P. Weyerstahl, H. Wahlberg, H. Marschall, (1992); Volatile constituents of the essential oil and the absolute of <i>Artemisia salsoloides</i> Willd. from Ladakh, Flavour and Fragrance journal, Vol.7, 299-305.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Thymus zygis	Shoot	0.1	460.0	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.
Teucrium chamaedrys	Plant		420.0	-0.29158353062823544	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Eucalyptus dolichorhyncha	Leaf		415.0	-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
Hyssopus officinalis	Flower	40.0	415.0	0.7236924389584528	--
Origanum minutiflorum	Shoot	165.0	380.0	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.
Thymus x citriodorus	Plant		370.0	-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.
Origanum onites	Shoot		365.0	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.
Micromeria juliana	Leaf		365.0	-0.15611869436756426	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.
Origanum vulgare	Shoot		360.0	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.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Rosmarinus tomentosus	Shoot	55.0	355.0	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.
Alpinia galanga	Leaf		350.0	-0.1634629715862706	--
Eucalyptus incrassata	Leaf		350.0	-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
Valeriana officinalis	Leaf	6.0	345.0	-0.16591106399250605	Father Nature's Farmacy: The aggregate of all these three-letter citations.
Hyssopus officinalis	Shoot		330.0	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.
Ravensara aromatica	Leaf		300.0	-0.18794389564862507	--
Lippia alba	Leaf		300.0	-0.18794389564862507	Grenand, P., Moretti, C., and Jacquemin, H. 1987. Pharmacopees Traditionnelles en Guyane. l'ORSTROM, Paris. 569 pp.
Thymus riatarum	Shoot		300.0	0.19823159772378093	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.
Tagetes lucida	Leaf		280.0	-0.19773626527356686	Tramil
Hyssopus officinalis	Shoot		270.0	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
Eucalyptus stoatei	Leaf		270.0	-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 Incrassatae. Flavour and Fragrance J. 9(3):113-7
Ageratum conyzoides	Plant	34.0	270.0	-0.48278584579429146	--
Hyssopus officinalis	Shoot		260.0	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.
Rosmarinus eriocalyx	Shoot	50.0	260.0	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	50.0	260.0	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.
Eucalyptus dealbata	Shoot		250.0	0.09686445267155673	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.
Teucrium arduini	Shoot		245.0	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 kotschyannum	Leaf		245.0	-0.21487291211721496	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
Hyssopus officinalis	Shoot		240.0	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		240.0	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.
Rosmarinus x lavandulaceus	Shoot	29.0	240.0	0.0765910236611119	Soriano Cano, M.C., Sotomayor Sanchez, J.A., Sanchez Gomez, P. and Garcia Vallejo, M.C. 1993. Essential Oils of the <i>Rosmarinus eriocalyx-tomentosus</i> Complex in Southeast Spain. J. Ess. Oil Res. 5: 243-246.
Eucalyptus sideroxylon	Shoot		240.0	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.
Nepeta racemosa	Shoot		240.0	0.0765910236611119	Baser, K.H.C., Ozek, T., Akgul, A. and Tumen, G. 1993. Composition of the Essential Oil of <i>Nepeta racemosa</i> Lam. J. Ess. Oil Res. 5: 215-7.
Nepeta racemosa	Shoot		240.0	0.0765910236611119	Baser, K.H.C., Ozek, T., Akgul, A. and Tumen, G. 1993. Composition of the Essential Oil of <i>Nepeta racemosa</i> Lam. J. Ess. Oil Res. 5: 215-7.
Hyssopus officinalis	Shoot		230.0	0.056317594650667054	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.
Ocimum gratissimum	Flower	145.0	220.0	0.055199253541165755	Charles, D.J. and Simon, J.E. 1992. A New Geraniol Chemotype of <i>Ocimum gratissimum</i> L. J. Ess. Oil Res. 4: 231-234.
Ocimum gratissimum	Leaf	115.0	215.0	-0.22956146655462764	Charles, D.J. and Simon, J.E. 1992. A New Geraniol Chemotype of <i>Ocimum gratissimum</i> L. J. Ess. Oil Res. 4: 231-234.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Thymus funkii	Shoot		210.0	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	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.
Hyssopus officinalis	Shoot		210.0	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		200.0	-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.
Foeniculum vulgare	Essential Oil		200.0	-0.688222365160617	Jim Duke's personal files.
Hyssopus officinalis	Shoot		200.0	-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.
Thymus cilicicus	Shoot		200.0	-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.
Coridothymus capitatus	Shoot		200.0	-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.
Origanum syriacum	Shoot		200.0	-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		200.0	-0.004502692380667468	Fleisher, A. & Fleisher, Z. 1991. Chemical Composition of Origanum syriacum L. Essential Oil. J. Ess. Oil Res. 3: 121-123.
Laurus nobilis	Leaf Essent. Oil		200.0	-0.4048138384151673	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Eucalyptus porosa	Leaf		195.0	-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
Lantana camara	Shoot		188.0	-0.028830807193201274	--
Origanum syriacum	Shoot		185.0	-0.034912835896334725	Fleisher, A. & Fleisher, Z. 1991. Chemical Composition of Origanum syriacum L. Essential Oil. J. Ess. Oil Res. 3: 121-123.
Laurus nobilis	Leaf	4.0	180.0	-0.24669811339827577	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Eucalyptus leucoxylon	Leaf		170.0	-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
Teucrium micropodioides	Leaf		170.0	-0.25159429821074664	Arnold, N., Bellomaria, B., Velentini G. and Rifaiani, S.M. 1991. Comparative Study on Essential Oil of Some Teucrium Species from Cyprus. J. Ethnopharm. 35: 105-113.
Daucus carota	Seed	55.0	170.0	-1.5317399414153676	--
Ocimum kilimandscharicum	Leaf	90.0	165.0	-0.2540423906169821	Charles, D.J., and Simon, J.E. 1992. Essential Oil Constituents of Ocimum killimandscharicum Guerke. J. Ess. Oil Res., 4: 125-128.
Leonotis leonurus	Se		155.0		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
Micromeria varia	Shoot		155.0	-0.09573312292766925	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.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Micromeria varia	Shoot		155.0	-0.09573312292766925	--
Stevia rebaudiana	Flower		150.0	-0.18477265917273208	Kinghorn, A. D. (Ed.) 2002. Medicinal and Aromatic Plants - Industrial Profiles. Stevia. The genus Stevia. Taylor & Francis. New York, NY. 211 pp.
Rosmarinus officinalis	Shoot	31.0	150.0	-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.
Plectranthus coleoides	Shoot		150.0	-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.
Lindera benzoin	Fruit	60.0	135.0	-0.5010630039504591	--
Calamintha nepeta	Plant		135.0	-0.654867929443742	J. Ethnopharmacology, 39: 167.
Micromeria myrtifolia	Shoot		130.0	-0.14641669545378133	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.
Citrus paradisi	Pericarp		130.0		--
Teucrium arduini	Shoot		120.0	-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.
Mentha aquatica	Shoot		115.0	-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.
Salvia dorisiana	Shoot	90.0	115.0	-0.1768268389694486	Tucker, A.O. & Maciarello, M.J. 1994. The Essential Oil of Salvia dorisiana Standley. J. Ess. Oil Res. 6: 97-8.
Pimenta racemosa	Leaf	0.0	110.0	-0.280971407085572	--
Ocimum suave	Shoot		110.0	-0.18696355347467103	J. Nat. Prod. 44: 308.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Sideritis scardica</i>	Shoot		105.0	-0.19710026797989344	Menkovic, N., et al. 1991. The Essential Oil of <i>Sideritis scardica</i> . Pl. Med. 57. Suppl. 2. pp. A137-A132.
<i>Plectranthus incanus</i>	Shoot		100.0	-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.
<i>Lindera benzoin</i>	Leaf	30.0	100.0	-0.2858675918980429	--
<i>Rosmarinus officinalis</i>	Shoot	50.0	100.0	-0.20723698248511585	Soriano Cano, M.C., Sotomayor Sanchez, J.A., Sanchez Gomez, P. and Garcia Vallejo, M.C. 1993. Essential Oils of the <i>Rosmarinus eriocalyx-tomentosus</i> Complex in Southeast Spain. J. Ess. Oil Res. 5: 243-246.
<i>Satureja obovata</i>	Leaf		95.0	-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 <i>Satureja obovata</i> . Phytochemistry 35(1): 83.
<i>Satureja obovata</i>	Leaf		95.0	-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 <i>Satureja obovata</i> . Phytochemistry 35(1): 83.
<i>Rosmarinus officinalis</i>	Shoot	12.0	90.0	-0.2275104114955607	Soriano Cano, M.C., Sotomayor Sanchez, J.A., Sanchez Gomez, P. and Garcia Vallejo, M.C. 1993. Essential Oils of the <i>Rosmarinus eriocalyx-tomentosus</i> Complex in Southeast Spain. J. Ess. Oil Res. 5: 243-246.
<i>Sassafras albidum</i>	Leaf	30.0	90.0	-0.2907637767105138	--
<i>Eucalyptus erythrandra</i>	Leaf		85.0	-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 <i>Eucalyptus</i> . Part I. Subgenus <i>Symphomyrtus</i> , Section <i>Dumaria</i> , Series <i>Incrassatae</i> . Flavour and Fragrance J. 9(3):113-7

Plant	Part	Low PPM	High PPM	StdDev	Reference
Tagetes lucida	Shoot		80.0	-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.
Mentha x piperita	Leaf	8.0	80.0	-0.2956599615229847	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
Mentha aquatica	Shoot		75.0	-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		75.0	-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.
Hyssopus officinalis	Shoot		70.0	-0.26805726951645037	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		70.0	-0.26805726951645037	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.
Rosmarinus x mendizabali	Shoot	8.0	65.0	-0.2781939840216728	Soriano Cano, M.C., Sotomayor Sanchez, J.A., Sanchez Gomez, P. and Garcia Vallejo, M.C. 1993. Essential Oils of the Rosmarinus ericalyx-tomentosus Complex in Southeast Spain. J. Ess. Oil Res. 5: 243-246.
Satureja subspicata	Plant		65.0	-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.
Achillea millefolium	Leaf	1.0	65.0	-0.303004238741691	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Sideritis mugronensis	Leaf	20.0	65.0	-0.303004238741691	Manez, S., Jimenez, A., and Villar, A. 1991. Volatiles of Sideritis mugronensis Flower and Leaf. J. Ess. Oil Res., 3: 395-397.
Cinnamomum verum	Leaf	30.0	60.0	-0.30545233114792647	--
Teucrium gnaphalodes	Shoot		60.0	-0.28833069852689525	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.
Eucalyptus angulosa	Leaf		60.0	-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 fasciculosa	Leaf		60.0	-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
Dictamnus albus	Shoot		55.0	-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		55.0	-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
Satureja cilicica	Shoot		55.0	-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.
Monarda citriodora	Flower		50.0	-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 Monarda citriodora var. citriodora grown in the United Kingdom. J. Ess. Oil Res. 6: 27-9.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Monarda citriodora	Leaf		50.0	-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 Monarda citriodora var. citriodora grown in the United Kingdom. J. Ess. Oil Res. 6: 27-9.
Alpinia galanga	Rhizome		50.0	1.0	--
Sideritis germanicolpitana	Plant	23.0	47.0	-0.7670399543411615	J. Essential Oil, 4: 533.
Lavandula x hybrida	Shoot	20.0	45.0	-0.3187408420425625	Tucker, A.O., Maciarelo, M.J., Angell, S., Espaillat, J.R., and French, E.C. 1993. The Essential Oil of Lavandula x hybrida Balb. ex Ging., a Distinct Hybrid from L. x heterophylla Poir. (Labiatae). J. Ess. Oil Res. 5: 443-445.
Zingiber officinale	Rhizome	0.7	45.0	-1.0	--
Myrtus communis	Shoot	7.0	40.0	-0.3288775565477849	--
Eucalyptus sparsa	Leaf		40.0	-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
Eucalyptus polyanthemos	Shoot		40.0	-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.
Rosmarinus officinalis	Leaf		38.0	-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	-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.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Origanum vulgare</i>	Plant		35.0	-0.7823361395544459	Sezik, E., Tumen, G., Kirimer, N., Ozek, T., and Baser, K.H.C. 1993. Essential Oil Composition of Four <i>Origanum vulgare</i> Subspecies of Anatolian Origin. <i>J. Ess. Oil Res.</i> , 5: 425-431.
<i>Ocimum basilicum</i>	Plant		35.0	-0.7823361395544459	Die Nahrung. Pino, J., Rosado, A., Goire, I., Roncal, E., and Garcia, I. 1993. Analysis of the Essential Oil from Cuban Basil. <i>Die Nahrung</i> 37:(5): 501-504.
<i>Ocimum basilicum</i>	Plant		35.0	-0.7823361395544459	Die Nahrung. Pino, J., Rosado, A., Goire, I., Roncal, E., and Garcia, I. 1993. Analysis of the Essential Oil from Cuban Basil. <i>Die Nahrung</i> 37:(5): 501-504.
<i>Minthostachys mollis</i>	Shoot	11.0	32.0	-0.34509629975614076	Alkire, B.H., Tucker, A.O., and Maciarelo, M.J. 1994. Tipo (<i>Minthostachys mollis</i> (Lamiaceae): An Ecuadorian Mint. <i>Econ. Bot.</i> 48(1): 60-64.
<i>Mentha aquatica</i>	Shoot		32.0	-0.34509629975614076	Umemoto, K., Arai, T., Nii, H. and Furukawa, K. 1993. A New Chemotype of <i>Mentha aquatica</i> Containing Sesquiterpene Alcohols as Major Components. <i>Nippon Nogeikagaku Kaishi</i> 67(10): 1417-1419.
<i>Mentha aquatica</i>	Shoot		32.0	-0.34509629975614076	Umemoto, K., Arai, T., Nii, H. and Furukawa, K. 1993. A New Chemotype of <i>Mentha aquatica</i> Containing Sesquiterpene Alcohols as Major Components. <i>Nippon Nogeikagaku Kaishi</i> 67(10): 1417-1419.
<i>Eucalyptus maculata</i>	Shoot		30.0	-0.3491509855582297	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven <i>Eucalyptus</i> Species Grown in Morocco. <i>Journal of Essential Oil Res.</i> 4: 259-264.
<i>Salvia sclarea</i>	Plant	1.0	30.0	-0.7887095500599811	<i>Flavour and Fragrance Journal</i> , 6: 153.
<i>Monarda didyma</i>	Flower		30.0	-0.5961530809679855	<i>Flavour and Fragrance Journal</i> , 6: 80.
<i>Thymus longicaulis</i>	Shoot		28.0	-0.3532056713603187	Baser, K.H.C., Ozek, T., Kirimer, N. and Tumen, G. 1993. The Occurrence of Three Chemotypes of <i>Thymus longicaulis</i> C. Presl subsp. <i>longicaulis</i> in the same Population. <i>J. Ess. Oil Res.</i> 5: 291-5.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Thymus longicaulis	Shoot		28.0	-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.
Eucalyptus melanophloia	Leaf		27.0	-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
Daucus carota	Shoot		24.0	-0.3613150429644966	--
Dictamnus albus	Shoot		23.0	-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
Elsholtzia blanda	Shoot		23.0	-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
Ravensara aromatica	Bark		22.0		--
Eucalyptus desquamata	Leaf		22.0	-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
Thymus longicaulis	Shoot		22.0	-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.
Eucalyptus tereticornis	Shoot		22.0	-0.36536972876658563	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
Sideritis mugronensis	Flower	15.0	20.0	-0.6304347827842566	Manez, S., Jimenez, A., and Villar, A. 1991. Volatiles of Sideritis mugronensis Flower and Leaf. J. Ess. Oil Res., 3: 395-397.
Teucrium pseudoscorodonia	Shoot		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.
Rosmarinus officinalis	Shoot		18.0	-0.37347910037076365	Tucker, A. O. and Maciarelo, M. J. 1998. The essential oils of some rosemary cultivars. Flavor and Fragrance Journal, 1: 137-142. 1986.
Ephedra sinica	Shoot		15.0	-0.3795611290738971	--
Eucalyptus bosistoana	Shoot		15.0	-0.3795611290738971	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 ceratocorys	Leaf		14.0	-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 cuprea	Leaf		13.0	-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
Stevia rebaudiana	Leaf		13.0	-0.3284643997665397	Kinghorn, A. D. (Ed.) 2002. Medicinal and Aromatic Plants - Industrial Profiles. Stevia. The genus Stevia. Taylor & Francis. New York, NY. 211 pp.
Sideritis pauli	Shoot		13.0	-0.38361581487598606	Burzaco, A., Velasco-Negueruela, A. and Perez-Alonso, M.J. 1992. Essential Oil Analysis of Sideritis pauli Pau. FFJ7: 47-8. 1992.
Citrus limon	Petiole		13.0		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Chrysanthemum x morifolium	Plant	3.0	12.0	-0.8116538278799078	Wealth of India.
Eucalyptus moluccana	Shoot		12.0	-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.
Eucalyptus lansdowneana	Leaf		11.0	-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
Teucrium salviastrum	Shoot		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	-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.
Elsholtzia eriostachya	Shoot		9.0	-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.
Chrysanthemum parthenium	Shoot		8.0	-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	Shoot		8.0	-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.
Sideritis athoa	Shoot		7.0	-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.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Eucalyptus cladocalyx	Shoot		7.0	-0.395779872282253	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.
Hyptis suaveolens	Shoot		7.0	-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	-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.
Aralia cordata	Root		6.0		--
Eucalyptus intertexta	Leaf		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
Teucrium oxylepis	Shoot		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. Phytochemistry 29(4): 1165-9.
Satureja cuneifolia	Shoot		5.0	-0.39983455808434193	Tumen, G. 1991. The Volatile Constituents of Satureja cuneifolia. J. Ess. Oil Res., 3: 365-366.
Pelargonium citrosum	Shoot		5.0	-0.39983455808434193	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.
Cleonia lusitanica	Leaf	2.0	5.0	-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.
Eucalyptus brassiana	Leaf		5.0	-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.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Trifolium pratense	Flower		5.0	-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.Agrc.Food Chem.44:1827-8
Cinnamomum camphora	Leaf		5.0	-0.3323813476165163	--
Eucalyptus largisparsa	Leaf		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 odorata	Leaf		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
Teucrium polium	Shoot		4.0	-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.
Eucalyptus behriana	Leaf		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
Petroselinum crispum	Leaf		2.46	-0.33362497855888384	--
Vitex agnus-castus	Leaf		2.0	-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.
Citrus reticulata	Fruit	1.0	2.0	-0.5058677869700708	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Citrus sinensis	Fruit	1.0	2.0	-0.5058677869700708	--
Eucalyptus populnea	Leaf		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
Teucrium oxylepis	Shoot		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. Phytochemistry 29(4): 1165-9.
Origanum vulgare	Plant		1.0	-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.
Eucalyptus ochrophloia	Leaf		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
Eucalyptus viridis	Leaf	0.0	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
Teucrium asiaticum	Shoot		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. Phytochemistry 29(4): 1165-9.
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.

Plant	Part	Low PPM	High PPM	StdDev	Reference
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 camaldulensis	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 maideni	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 melliodora	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.
Thymus zygis	Shoot		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.
Eucalyptus citriodora	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 occidentalis	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 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
<i>Eucalyptus globulus</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 botryoides</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 oviformis</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 blakelyi</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 diversicolor</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>Lonicera japonica</i>	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.
<i>Pistacia lentiscus</i>	Plant				--
<i>Houttuynia cordata</i>	Shoot Essent. Oil				--
<i>Centella asiatica</i>	Shoot				Jim Duke's personal files.
<i>Tanacetum parthenium</i>	Essential Oil				--
<i>Teucrium polium</i>	Plant				Rizk, A.F.M., The Phytochemistry of the Flora of Qatar, Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986.
<i>Cinnamomum verum</i>	Stem Bark				--
<i>Origanum vulgare</i>	Plant				--
<i>Vitex agnus-castus</i>	Flower				Jim Duke's personal files.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Vitex agnus-castus	Fruit				Jim Duke's personal files.
Pimpinella anisum	Plant				--
Psidium guajava	Fruit				--
Ocimum gratissimum	Plant				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Humulus lupulus	Essential Oil				--
Croton lechleri	Plant				Taylor, Leslie. 2005. The Healing Power of Rainforest Herbs. SquareOne Publisher, Garden City Park, NY. 519 pp.
Syzygium aromaticum	Flower				--
Montanoa tomentosa	Plant				--
Pimenta dioica	Leaf Essent. Oil				--
Croton eluteria	Bark				--
Leptospermum scoparium	Essential Oil				--
Artemisia absinthium	Plant				--
Piper nigrum	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
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.
Agastache rugosa	Shoot				Jim Duke's personal files.
Piper nigrum	Seed				--
Piper nigrum	Essential Oil				--
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.
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.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Mentha spicata	Leaf				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
Annona squamosa	Leaf				--
Aloysia citrodora	Plant				Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
Monarda didyma	Leaf				Flavour and Fragrance Journal, 6: 80.
Centella asiatica	Plant				--
Elettaria cardamomum	Fruit Essent. Oil				--
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.
Mentha spicata	Essential Oil				--
Pimpinella anisum	Seed Essent. Oil				--
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.
Satureja hortensis	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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.
Chamaemelum nobile	Plant				--
Populus tacamahacca	Plant				--
Myrciaria dubia	Fruit				--
Anethum graveolens	Essential Oil				--
Zea mays	Root				--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Pinus sylvestris	Essential Oil				--
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.
Pinus strobus	Leaf Essent. Oil				--
Sambucus nigra	Flower Essent. Oil				--
Valeriana officinalis	Root Essent. Oil				--
Camellia sinensis	Leaf				--
Eruca sativa	Hs				--
Panax ginseng	Flower Essent. Oil				--
Rosmarinus officinalis	Resin, Exudate, Sap				--
Myristica fragrans	Seed				--
Panax ginseng	Shoot				--
Myristica fragrans	Seed Essent. Oil				--
Magnolia denudata	Bark				--
Magnolia denudata	Bulb				--
Magnolia denudata	Flower				--
Magnolia denudata	Leaf				--
Magnolia denudata	Twig				--
Artemisia capillaris	Essential Oil				--
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				--
Melia azedarach	Wood				--
Boswellia sacra	Essential Oil				--