

Dr. Duke's Phytochemical and Ethnobotanical Databases

List of Plants for BETA-ELEMENE

Plant	Part	Low PPM	High PPM	StdDev	Reference
Achillea millefolium	Leaf				--
Acinos alpinus	Shoot		10.0	-0.30609371712231803	Velasco-Negueruela, A., Perez-Alonso, M.J., Jimenez, S.M. and Garcia, F.M. 1993. The Volatile Constituents of <i>Acinus alpinus</i> (L.) Moench ssp. meridionalis (Nyman). P.W. Ball Growing in Spain. Flav. & Frag. J. 8:127-130.)
Acorus calamus	Rhizome	60.0	750.0	1.0692741796807936	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Agastache rugosa	Essential Oil				Jim Duke's personal files.
Agastache rugosa	Tissue Culture				Jim Duke's personal files.
Agathosma betulina	Leaf Essent. Oil				--
Ageratum conyzoides	Plant	2.0	16.0	-0.41647408954357296	--
Alpinia officinarum	Rhizome				Wealth of India.
Anethum graveolens	Fruit	12.0	77.0	-0.4611977234510915	--
Anethum graveolens	Seed	12.0	77.0	-0.6456318401912606	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Angelica archangelica	Root Essent. Oil				--
Angelica archangelica	Root	0.0	90.0	-1.0	--
Aniba rosaeodora	Essential Oil				--
Apium graveolens	Leaf Essent. Oil				--
Apium graveolens	Seed	1.0	875.0	1.4124808434543825	--
Apium graveolens	Leaf				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Apium graveolens	Seed Essent. Oil		35000.0		--
Apium graveolens	Fruit Essent. Oil		35000.0	1.6778472777341984	--
Arctium lappa	Root				Jim Duke's personal files.
Artemisia annua	Plant	3.0	80.0	-0.17954660749211812	--
Artemisia capillaris	Essential Oil				--
Boswellia sacra	Essential Oil				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Carum carvi	Essential Oil				--
Carum carvi	Seed Essent. Oil				--
Centella asiatica	Leaf				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
Centella asiatica	Essential Oil		30000.0	-0.48593246550536906	Jim Duke's personal files.
Chrysanthemum x morifolium	Flower				Wealth of India.
Chrysanthemum x morifolium	Plant	2.0	6.0	-0.45349400861411276	Wealth of India.
Cinnamomum verum	Leaf		120.0	0.21030818830483441	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 camphora	Leaf				--
Citrus reticulata	Fruit	0.7	1.0	-0.565275335737646	--
Citrus aurantium	Plant				--
Citrus sinensis	Pericarp Essent. Oil				Jim Duke's personal files.
Citrus limon	Essential Oil				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Citrus sinensis	Fruit	0.7	1.0	-0.565275335737646	--
Coleus barbatus	Root Essent. Oil		14000.0	-1.0	Jim Duke's personal files.
Collinsonia canadensis	Plant		16.0	-0.41647408954357296	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Copaifera spp	Gum	3900.0	14400.0		--
Croton eluteria	Bark				--
Croton lechleri	Plant				Taylor, Leslie. 2005. The Healing Power of Rainforest Herbs. SquareOne Publisher, Garden City Park, NY. 519 pp.
Cuminum cyminum	Seed		30.0	-0.7668490032631218	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Cuminum cyminum	Fruit		30.0	-0.5255615099967239	--
Cymbopogon winterianus	Plant	40.0	70.0	-0.21656652656265793	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Daucus carota	Plant				--
Dracocephalum thymiflora	Plant		148.0	0.07218884218755264	--
Eucalyptus viridis	Leaf	0.0	0.5	-0.41735054870946686	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 tereticornis	Shoot		35.0	-0.2212925362044112	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus globulus	Shoot		0.1	-0.3396749847658091	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	-0.3396749847658091	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 dolichorhyncha	Leaf		65.0	-0.0785724019527937	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 polyanthemus	Shoot		0.1	-0.3396749847658091	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	-0.3396749847658091	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 cladocalyx</i>	Shoot		0.1	-0.3396749847658091	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 camaldulensis</i>	Shoot		0.1	-0.3396749847658091	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
<i>Eucalyptus maideni</i>	Shoot		0.1	-0.3396749847658091	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	-0.3396749847658091	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 cuprea</i>	Leaf		10.0	-0.367452992210422	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 <i>Eucalyptus</i> . Part VI. Subgenus <i>Symphomyrtus</i> , Section <i>Adnataria</i> . Flavour and Fragrance J. 10(6):359-364
<i>Eucalyptus behriana</i>	Leaf		2.7	-0.40579532509916183	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 <i>Eucalyptus</i> . Part VI. Subgenus <i>Symphomyrtus</i> , Section <i>Adnataria</i> . Flavour and Fragrance J. 10(6):359-364
<i>Eucalyptus albens</i>	Shoot		0.1	-0.3396749847658091	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 fasciculosa	Leaf	0.0	1.3	-0.4131486492148104	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		8.0	-0.377957740947063	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	0.0	15.0	-0.34119112036881943	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 stoatei	Leaf		150.0	0.36787941935444984	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 forrestiana	Leaf		55.0	-0.13109614563599886	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 saligna	Shoot		0.1	-0.3396749847658091	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 diversicolor	Shoot		0.1	-0.3396749847658091	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus paniculata	Shoot		6.0	-0.31966190606918315	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus moluccana	Shoot		0.1	-0.3396749847658091	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus citriodora	Shoot		0.1	-0.3396749847658091	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 odorata	Leaf		4.4	-0.3968662886730168	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 botryoides	Shoot		0.1	-0.3396749847658091	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 maculata	Shoot		0.1	-0.3396749847658091	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		85.0	-0.05169017436859748	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 ochrophloia	Leaf		0.5	-0.41735054870946686	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		85.0	0.026475085413616428	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		1.0	-0.4147243615253066	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		10.0	-0.367452992210422	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 tetraptera	Leaf		120.0	0.21030818830483441	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 sideroxylon	Shoot		40.0	-0.20433230002082983	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 erythrandra	Leaf		44.0	-0.1888722636875245	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 punctata	Shoot		0.1	-0.3396749847658091	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus dealbata	Shoot		0.1	-0.3396749847658091	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 oviformis	Shoot		0.1	-0.3396749847658091	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	-0.3396749847658091	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		26.0	-0.2834150023172938	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 lansdowneana	Leaf		2.4	-0.40737103740965785	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 bosistoana	Shoot		0.1	-0.3396749847658091	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 incrassata	Leaf		240.0	0.8405931125032962	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 angulosa	Leaf		22.0	-0.30442449979057584	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	-0.3910886768678643	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 leucoxydon	Leaf	0.0	5.5	-0.3910886768678643	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		25.0	-0.28866737668561426	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
Glechoma hederacea	Plant	9.0	53.0	-0.2795003889825756	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Hedera helix	Leaf				--
Hypericum perforatum	Plant	0.25	4.5	-0.4590469964746937	--
Hyssopus officinalis	Shoot		42.0	-0.19754820554739727	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		42.0	-0.19754820554739727	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	Plant				--
Illicium verum	Fruit	1.0	650.0	0.32349269549885196	--
Juniperus communis	Fruit	10.0	100.0	-0.4297005513117395	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Laurus nobilis	Plant				--
Laurus nobilis	Leaf Essent. Oil				--
Levisticum officinale	Root	12.0	125.0	1.0	Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
Lindera benzoin	Fruit	50.0	105.0	-0.4228533399770978	--
Lindera benzoin	Leaf		0.5	-0.41735054870946686	--
Lycium chinense	Fruit		360.0	-0.07364556191036901	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
Magnolia denudata	Bulb				--
Magnolia denudata	Twig				--
Magnolia denudata	Bark				--
Magnolia denudata	Leaf				--
Marrubium vulgare	Plant				--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Melaleuca alternifolia	Leaf		0.001	-0.4199714835192588	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Melissa officinalis	Shoot	4.0	32.0	-0.23146867791456002	Deutsche Apot. Ziti. 129(4):155-163. W. Schulze et al. Die Melisse.
Mentha aquatica	Shoot		65.0	-0.11953111910292297	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 longifolia	Shoot	0.0	275.0	0.5927988006074945	--
Mentha aquatica	Shoot		29.0	-0.24164481962470882	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		65.0	-0.11953111910292297	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		55.0	-0.1534515914700857	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		29.0	-0.24164481962470882	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 spicata	Essential Oil				--
Mentha spicata	Leaf				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Metrosideros sclerocarpa	Leaf	47.0	188.0	0.5674696453506294	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Micromeria varia	Shoot		0.0	-0.3400141894894808	Pedro, L.G., et al. 1995. Composition of the Essential oil of <i>Micromeria varia</i> Benth. ssp. <i>thymoides</i> (Sol. ex Lowe) Perez var. <i>thymoides</i> , and endemic species of the Madeira Archipelago. <i>flav. & Fragr. J.</i> 10(3): 199-202.
Micromeria varia	Shoot	0.0			--
Moldavica thymiflora	Plant		148.0	0.07218884218755264	Lawrence, B.M., <i>Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.</i>
Murraya koenigii	Leaf	5.0	155.0	0.3941412911960524	--
Myroxylon balsamum	Plant				--
Myrtus communis	Plant	3.0	4.0	-0.4608979924282207	--
Nepeta cataria	Plant	4.0	155.0	0.09810278553693051	Bourrel, C., Perineau, F., Michel, G., Bessiere, J.M. 1993. Catnip (<i>Nepeta cataria</i> L.) Essential Oil: Analysis of Chemical Constituents, Bacteriostatic and Fungistatic Properties. <i>J. Ess. Oil Res.</i> , 5: 159-167.
Ocimum basilicum	Plant		12.0	-0.43128205717178886	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.
Ocimum basilicum	Essential Oil		16100.0	-0.9072086362241611	--
Ocimum gratissimum	Shoot		425.0	1.1016058861149356	Vostrowsky, O., Garbe, W., Bestmann, H.J. and Maia, J.G.S. 1990. Essential Oil of <i>Alfavaca</i> , <i>Ocimum gratissimum</i> , from Brazilian Amazon. <i>Zeitschr. Naturforschung</i> 45(C): 1073-6.
Ocimum tenuiflorum	Leaf	120.0	1080.0	5.252587581892528	--
Ocimum basilicum	Shoot Essent. Oil	4900.0	81600.0	1.4135003647459183	--
Ocimum gratissimum	Plant	5.0	65.0	-0.23507648609792783	Lawrence, B.M., <i>Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.</i>
Opopanax chironium	Essential Oil				--
Origanum vulgare	Plant	6.0	30.0	-0.3646462028448172	Lawrence, B.M., <i>Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.</i>
Origanum vulgare	Shoot Essent. Oil		1100.0	-0.7456415586325718	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Panax quinquefolius	Plant				--
Panax ginseng	Flower Essent. Oil		29000.0		--
Panax ginseng	Root				--
Panax ginseng	Shoot				--
Panax ginseng	Root Essent. Oil		150000.0	1.0	--
Pelargonium graveolens	Essential Oil				--
Perilla frutescens	Shoot Essent. Oil		4000.0	-0.6678588061133466	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.
Petroselinum crispum	Leaf		5.4	-0.39161391430469633	--
Pimenta dioica	Plant				--
Pimpinella anisum	Seed Essent. Oil				--
Pinus sylvestris	Essential Oil				--
Piper nigrum	Fruit Essent. Oil		900.0	-0.8343192281159078	--
Piper nigrum	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Piper cubeba	Fruit Essent. Oil		10000.0	-0.16391702274241896	--
Piper cubeba	Fruit	1200.0	2400.0	2.7200166626234608	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Pogostemon cablin	Plant				--
Pycnanthemum pilosum	Leaf	28.0	105.0	0.13152257278002671	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Pycnanthemum pilosum	Flower	28.0	105.0	-1.0	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Pycnanthemum virginianum</i>	Shoot	240.0	1160.0	3.5947606051013974	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Pycnanthemum incanum</i>	Shoot	22.0	190.0	0.30447478548661133	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Pycnanthemum tenuifolium</i>	Shoot	16.0	1600.0	5.087261389256558	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Rheum palmatum</i>	Rhizome		0.5	-1.3361915461944083	--
<i>Rosmarinus officinalis</i>	Resin, Exudate, Sap				--
<i>Rosmarinus officinalis</i>	Shoot	3.0	200.0	0.33839525785377406	Bandoni, A.L., Mizrahi, I., and Juarez, M.A. 1991. The Essential Oil of <i>Rosmarinus officinalis</i> Growing in Argentina. J. Ess. Oil Res., 3: 11.
<i>Salvia gilliesii</i>	Shoot		5.5	-0.3213579296875413	Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320.
<i>Saussurea lappa</i>	Root				--
<i>Scutellaria lateriflora</i>	Essential Oil		92000.0	1.3931411017295305	--
<i>Scutellaria baicalensis</i>	Root Essent. Oil				--
<i>Stevia rebaudiana</i>	Leaf		6.0	-0.38846248968370406	Kinghorn, A. D. (Ed.) 2002. Medicinal and Aromatic Plants - Industrial Profiles. Stevia. The genus Stevia. Taylor & Francis. New York, NY. 211 pp.
<i>Stevia rebaudiana</i>	Flower		110.0	1.0	Kinghorn, A. D. (Ed.) 2002. Medicinal and Aromatic Plants - Industrial Profiles. Stevia. The genus Stevia. Taylor & Francis. New York, NY. 211 pp.
<i>Tagetes lucida</i>	Shoot		18.0	-0.27895733922858784	Bicchi, C., Fresia, M., Rubiolo, P., Monti, D., Franz, C., Goehler, I. 1997. Constituents of <i>Tagetes lucida</i> Cav. ssp. <i>lucida</i> essential oil. Flavor & Fragrance, 12(1): 47-52.
<i>Tamarindus indica</i>	Fruit Essent. Oil		3000.0	-0.6796110268758718	--
<i>Tanacetum vulgare</i>	Plant				--
<i>Thymus funkii</i>	Shoot		0.0	-0.3400141894894808	Vila, R., et al. 1995. Composition and study of the variability of the essential oil of <i>Thymus funkii</i> Cousson. Flav. & Fragr. J. 10(6): 379-383.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Thymus funkii	Shoot		0.0	-0.3400141894894808	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.
Umbellularia californica	Plant	280.0	1120.0	3.6705249758440224	--
Valeriana officinalis	Root				--
Zingiber officinale	Rhizome Essent. Oil		3000.0		--
Zingiber officinale	Rhizome	2.0	500.0	0.26691736651361464	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.