

List of Plants

PINOCARVONE

Chemid

PINOCARVONE

*Unless otherwise noted all references are to Duke, James A. 1992. Handbook of phytochemical constituents of GRAS herbs and other economic plants. Boca Raton, FL. CRC Press.

Plant	Part	Low PPM	High PPM	StdDev	*Reference
<i>Artemisia salsoloides</i>	Shoot	--	2100.0	1.63	V. Kaul, P. Weyerstahl, H. Wahlberg, H. Marschall, (1992); Volatile constituents of the essential oil and the absolute of <i>Aremisia salsoloides</i> Willd. from Ladakh, <i>Flavour and Fragrance journal</i> , Vol.7, 299-305.
<i>Callicarpa americana</i>	Leaf	--	2.0	-0.64	*
<i>Chrysanthemum parthenium</i>	Shoot	--	2.0	-0.63	Hendriks, H., Bos, R., and Woerdenbag, H. J. 1996. The Essential Oil of <i>Tanacetum parthenium</i> (L.) Schultz-Bip. <i>Flavor and Fragrance Journal</i> 11(6): 367-71.
<i>Elsholtzia polystachya</i>	Leaf	--	--	-0.67	Mathela,C.S., Melkani,A.B., Bisht,J.C., Pant,A.K., Bestmann,H.J., Erler,J., Kobold,U., Rauscher,J. and Vostrowsky,O. 1992. Chemical Varieties of Essential Oils from <i>Elsholtzia polystachya</i> from Two Different Locations in India. <i>Planta Medica</i> 58: 376-379.
<i>Elsholtzia pilosa</i>	Shoot	--	42.0	-0.59	*
<i>Elsholtzia polystachya</i>	Leaf	--	--	-0.67	Mathela,C.S., Melkani,A.B., Bisht,J.C., Pant,A.K., Bestmann,H.J., Erler,J., Kobold,U., Rauscher,J. and Vostrowsky,O. 1992. Chemical Varieties of Essential Oils from <i>Elsholtzia polystachya</i> from Two Different Locations in India. <i>Planta Medica</i> 58: 376-379.
<i>Eucalyptus incrassata</i>	Leaf	--	130.0	1.03	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>Symphyomyrtus</i> ,Section <i>Dumaria</i> ,Series <i>Incrassatae</i> . <i>Flavour and Fragrance J</i> .9(3):113-7
<i>Eucalyptus dolichorhyncha</i>	Leaf	--	100.0	0.64	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>Symphyomyrtus</i> ,Section <i>Dumaria</i> ,Series <i>Incrassatae</i> . <i>Flavour and Fragrance J</i> .9(3):113-7
<i>Eucalyptus brassiana</i>	Leaf	--	--	-0.67	Singh, A. K., Gupta, K. C., & Brophy, J. J. 1991. Chemical Constituents of the Leaf Essential Oil of <i>Eucalyptus brassiana</i> S. T. Blake. <i>Journal of Essential Oil Res.</i> 3: 45-7.
<i>Eucalyptus leucoxylo</i>	Leaf	--	45.0	-0.08	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>Symphyomyrtus</i> , Section <i>Adnataria</i> . <i>Flavour and Fragrance J.</i> 10(6):359-364
<i>Eucalyptus viridis</i>	Leaf	--	4.0	-0.62	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>Symphyomyrtus</i> , Section <i>Adnataria</i> . <i>Flavour and Fragrance J.</i> 10(6):359-364
<i>Eucalyptus intertexta</i>	Leaf	--	37.0	-0.19	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>Symphyomyrtus</i> , Section <i>Adnataria</i> . <i>Flavour and Fragrance J.</i> 10(6):359-364
<i>Eucalyptus porosa</i>	Leaf	--	10.0	-0.54	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>Symphyomyrtus</i> , Section <i>Adnataria</i> . <i>Flavour and Fragrance J.</i> 10(6):359-364
<i>Eucalyptus largisparsa</i>	Leaf	--	42.0	-0.12	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>Symphyomyrtus</i> , Section <i>Adnataria</i> . <i>Flavour and Fragrance J.</i> 10(6):359-364
<i>Eucalyptus forrestiana</i>	Leaf	--	80.0	0.37	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>Symphyomyrtus</i> ,Section <i>Dumaria</i> ,Series <i>Incrassatae</i> . <i>Flavour and Fragrance J</i> .9(3):113-7

<i>Eucalyptus tetraptera</i>	Leaf	--	50.0	-0.02	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>Symphyomyrtus</i> ,Section <i>Dumaria</i> ,Series <i>Incrassatae</i> .Flavour and Fragrance J.9(3):113-7
<i>Eucalyptus ceratocorys</i>	Leaf	--	410.0	4.68	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>Symphyomyrtus</i> ,Section <i>Dumaria</i> ,Series <i>Incrassatae</i> .Flavour and Fragrance J.9(3):113-7
<i>Eucalyptus angulosa</i>	Leaf	--	11.0	-0.52	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>Symphyomyrtus</i> ,Section <i>Dumaria</i> ,Series <i>Incrassatae</i> .Flavour and Fragrance J.9(3):113-7
<i>Eucalyptus fasciculosa</i>	Leaf	--	8.0	-0.56	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>Symphyomyrtus</i> , Section <i>Adnataria</i> . Flavour and Fragrance J. 10(6):359-364
<i>Eucalyptus desquamata</i>	Leaf	--	65.0	0.18	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>Symphyomyrtus</i> , Section <i>Adnataria</i> . Flavour and Fragrance J. 10(6):359-364
<i>Eucalyptus behriana</i>	Leaf	--	8.0	-0.56	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>Symphyomyrtus</i> , Section <i>Adnataria</i> . Flavour and Fragrance J. 10(6):359-364
<i>Eucalyptus lansdowneana</i>	Leaf	--	2.4	-0.64	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>Symphyomyrtus</i> , Section <i>Adnataria</i> . Flavour and Fragrance J. 10(6):359-364
<i>Eucalyptus sparsa</i>	Leaf	--	25.0	-0.34	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>Symphyomyrtus</i> , Section <i>Adnataria</i> . Flavour and Fragrance J. 10(6):359-364
<i>Eucalyptus erythrandra</i>	Leaf	--	40.0	-0.15	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>Symphyomyrtus</i> ,Section <i>Dumaria</i> ,Series <i>Incrassatae</i> .Flavour and Fragrance J.9(3):113-7
<i>Eucalyptus bridgesiana</i>	Leaf	--	27.0	-0.32	Singh, A. K., Gupta, K. C., & Brophy, J. J. 1991. Volatile Constituents of the Essential Oil of <i>Eucalyptus bridgesiana</i> Growing in India. Journal of Essential Oil Res. 3: 449-450.
<i>Eucalyptus stoatei</i>	Leaf	--	135.0	1.09	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>Symphyomyrtus</i> ,Section <i>Dumaria</i> ,Series <i>Incrassatae</i> .Flavour and Fragrance J.9(3):113-7
<i>Eucalyptus melanophloia</i>	Leaf	--	0.8	-0.66	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>Symphyomyrtus</i> , Section <i>Adnataria</i> . Flavour and Fragrance J. 10(6):359-364
<i>Eucalyptus odorata</i>	Leaf	--	75.0	0.31	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>Symphyomyrtus</i> , Section <i>Adnataria</i> . Flavour and Fragrance J. 10(6):359-364
<i>Eucalyptus cuprea</i>	Leaf	--	65.0	0.18	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>Symphyomyrtus</i> , Section <i>Adnataria</i> . Flavour and Fragrance J. 10(6):359-364
<i>Eucalyptus populnea</i>	Leaf	--	62.0	0.14	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>Symphyomyrtus</i> , Section <i>Adnataria</i> . Flavour and Fragrance J. 10(6):359-364
<i>Eucalyptus ochrophloia</i>	Leaf	--	4.0	-0.62	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>Symphyomyrtus</i> , Section <i>Adnataria</i> . Flavour and Fragrance J. 10(6):359-364
<i>Eucalyptus globulus</i>	Leaf	--	--		*
<i>Hyssopus officinalis</i>	Shoot	--	120.0	-0.5	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.

<i>Hyssopus officinalis</i>	Shoot	--	2530.0	2.1	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.
<i>Hyssopus officinalis</i>	Shoot	--	530.0	-0.06	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.
<i>Hyssopus officinalis</i>	Shoot	--	170.0	-0.45	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.
<i>Hyssopus officinalis</i>	Shoot	--	2620.0	2.2	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.
<i>Hyssopus officinalis</i>	Shoot	--	570.0	-0.02	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.
<i>Hyssopus officinalis</i>	Shoot	--	170.0	-0.45	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.
<i>Hyssopus officinalis</i>	Essential Oil	--	203000.0		*
<i>Hyssopus officinalis</i>	Shoot	--	220.0	-0.4	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.
<i>Hyssopus officinalis</i>	Shoot	--	2550.0	2.12	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.
<i>Hyssopus officinalis</i>	Shoot	--	560.0	-0.03	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.
<i>Laurus nobilis</i>	Leaf	35.0	170.0	1.55	Tucker, et al, EB46(1):21-24.1992
<i>Lavandula x hybrida</i>	Shoot	50.0	75.0	-0.55	Tucker, A.O., Maciarello, M.J., Angell, S., Espaillet, J.R., and French, E.C. 1993. The Essential Oil of <i>Lavandula x hybrida</i> Balb. ex Ging., a Distinct Hybrid from <i>L. x heterophylla</i> Poir. (Labiatae). J. Ess. Oil Res. 5: 443-445.
<i>Mentha spicata</i>	Leaf	--	--		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
<i>Mentha spicata</i>	Essential Oil	--	--		*
<i>Micromeria varia</i>	Shoot	--	12.0	-0.62	Pedro, L.G., et al. 1995. Composition of the Essential oil of <i>Micromeria varia</i> Benth. ssp. <i>thymoides</i> (Sol. ex Lowe) Perez var. <i>thymoides</i> , and endemic species of the Madeira Archipelago. flav. & Fragr. J. 10(3): 199-202.
<i>Micromeria varia</i>	Shoot	--	12.0	-0.62	*
<i>Stevia rebaudiana</i>	Leaf	--	--		Kinghorn, A. D. (Ed.) 2002. Medicinal and Aromatic Plants - Industrial Profiles. <i>Stevia</i> . The genus <i>Stevia</i> . Taylor & Francis. New York, NY. 211 pp.
<i>Stevia rebaudiana</i>	Flower	--	--		Kinghorn, A. D. (Ed.) 2002. Medicinal and Aromatic Plants - Industrial Profiles. <i>Stevia</i> . The genus <i>Stevia</i> . Taylor & Francis. New York, NY. 211 pp.
<i>Tanacetum parthenium</i>	Shoot	--	2.0	-0.63	Hendriks, H., Bos, R., and Woerdenbag, H. J. 1996. The Essential Oil of <i>Tanacetum parthenium</i> (L.) Schultz-Bip. Flavor and Fragrance Journal 11(6): 367-71.
<i>Tanacetum parthenium</i>	Essential Oil	--	--		*
<i>Tanacetum parthenium</i>	Fruit Essent. Oil	--	2000.0		*
<i>Teucrium cyprium</i>	Leaf	--	39.0	-0.16	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.
<i>Teucrium kotschyannum</i>	Leaf	--	--	-0.67	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.
<i>Teucrium polium</i>	Shoot	--	3.0	-0.63	Perez-Alonso, M.J. Velasco-Negueruela, A. and Lopez-Saez, J.A. 1993. The Essential Oils of Two Iberian <i>Teucrium</i> Species. J. Ess. Oil Res. 5: 397-402.
<i>Teucrium gnaphalodes</i>	Shoot	--	5.0	-0.63	Perez-Alonso, M.J. Velasco-Negueruela, A. and Lopez-Saez, J.A. 1993. The Essential Oils of Two Iberian <i>Teucrium</i> Species. J. Ess. Oil Res. 5: 397-402.

Teucrium micropodioides	Leaf	--	44.0	-0.09	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 divaricatum	Leaf	--	--	-0.67	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 funkii	Shoot	--	8.0	-0.62	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	--	8.0	-0.62	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	10.0	40.0		*