

# List of Plants

## OLEANOLIC-ACID

### Chemid

OLEANOLICACID

\*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
Achyranthes bidentata	Fruit	--	--		*
Achyranthes aspera	Plant	--	--		*
Agastache rugosa	Root	--	10.0	-0.86	Jim Duke's personal files.
Akebia quinata	Stem	--	--		*
Albizia lebeckk	Seed	--	--		Wealth of India.
Allium cepa	Bulb	--	--		*
Allium sativum var. sativum	Plant	--	--		Stitt, Paul. Why George should eat broccoli.
Apocynum cannabinum	Root	--	--		*
Arctostaphylos uva-ursi	Leaf	--	--		*
Arctostaphylos uva-ursi	Plant	--	--		*
Arctostaphylos uva-ursi	Shoot	--	--		*
Arctostaphylos uva-ursi	Tissue Culture	--	454.5		*
Artemisia annua	Plant	--	--		Wright,C.W.(Ed)2002.Medicinal&Aromatic Plants-Industrial Profiles.Artemisia.344pp.Maffei,M.(Ed)2002.Vetiveria.The Genus Vetiveria.Taylor&Francis.NY,NY.191pp.Southwell,I.,Lowe,R.(Eds)1999.Tea Tree.The Genus Melaleuca.Harwood Acad.Pub.Amsterdam,Netherlands.
Calendula officinalis	Flower	--	--		*
Catharanthus roseus	Plant	--	--		Rizk, A.F.M., The Phytochemistry of the Flora of Qatar, Scientific and Applied Research Centre, University of Qatar, Kingprint, Richmond, UK, 1986.
Centaurium erythraea	Plant	--	--		*
Chenopodium quinoa	Fruit	--	--		Jim Duke's personal files.
Chenopodium quinoa	Root	--	--		Jim Duke's personal files.
Chenopodium album	Plant	--	--		*
Chenopodium quinoa	Tissue Culture	--	--		Jim Duke's personal files.
Chimaphila umbellata	Shoot	--	--		*
Citrullus colocynthis	Plant	--	--		*
Cnicus benedictus	Plant	--	--		*
Cnicus benedictus	Shoot	--	--		Jim Duke's personal files.

<i>Cornus officinalis</i>	Seed	--	--		*
<i>Crataegus monogyna</i>	Plant	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
<i>Crataegus monogyna</i>	Inflorescence	--	--		*
<i>Crataegus laevigata</i>	Plant	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
<i>Crocus sativus</i>	Silk Stigma Style	--	--		Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
<i>Cyperus rotundus</i>	Tuber	--	--		*
<i>Daemonorops draco</i>	Fruit	--	--		*
<i>Elaeagnus pungens</i>	Leaf	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
<i>Elaeagnus angustifolia</i>	Bark	--	2140.0	1.0	Zhong, J. F., Jin, J. H., Li, X. P. 1991. Determination of Oleanolic Acid in Russian Olive ( <i>Elaeagnus angustifolia</i> ) by TLC-Scanning. Chung Ts'ao Yao 22 3: 398-399. Gansu Inst New Med Pharm Sci Lanzhou 730050 China.
<i>Elaeagnus angustifolia</i>	Plant	--	--		Hetherington, M and Steck, W. 1997. Natural chemicals from northern prairie plants - the phytochemical contents of one thousand North American species. 277 pp. Ag-West Biotech, Inc. Saskatoon, Canada. Fytokem Products, Saskatoon.
<i>Eleutherococcus senticosus</i>	Leaf	--	--		*
<i>Eleutherococcus senticosus</i>	Root	--	84.0	-0.68	*
<i>Eriobotrya japonica</i>	Leaf	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
<i>Eucalyptus globulus</i>	Leaf	--	--		*
<i>Ficus carica</i>	Leaf	--	--		*
<i>Forsythia suspensa</i>	Fruit	--	--		*
<i>Glechoma hederacea</i>	Plant	--	360.0	-1.1	*
<i>Harpagophytum procumbens</i>	Tuber	--	--		*
<i>Harpagophytum procumbens</i>	Root	--	--		*
<i>Hedera helix</i>	Leaf	--	--		*
<i>Helianthus annuus</i>	Flower	--	--		Rizk, A.F.M. and Al-Nowaihi, A.S., The Phytochemistry of the Horticultural Plants of Qatar, Scientific and Applied Research Centre, University of Qatar.
<i>Humulus lupulus</i>	Stem	--	--		*
<i>Hyssopus officinalis</i>	Plant	--	--		*
<i>Lavandula latifolia</i>	Leaf	--	4900.0	2.14	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Leonurus cardiaca</i>	Plant	--	--		*
<i>Ligustrum japonicum</i>	Fruit	--	--		*
<i>Ligustrum lucidum</i>	Plant	--	--		*
<i>Ligustrum lucidum</i>	Leaf	--	--		*
<i>Ligustrum lucidum</i>	Fruit	0.7	80400.0	1.0	*
<i>Ligustrum lucidum</i>	Seed	--	--		*

Liquidambar styraciflua	Resin, Exudate, Sap	--	--		*
Liquidambar orientalis	Resin, Exudate, Sap	--	--		*
Luffa aegyptiaca	Seed	--	--		*
Matricaria recutita	Flower	--	--		*
Melaleuca leucadendra	Plant	--	--		*
Melilotus officinalis	Leaf	--	--		Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
Melissa officinalis	Shoot	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Mentha spicata	Shoot	--	--		*
Mentha x rotundifolia	Tissue Culture	--	--		Jim Duke's personal files.
Mentha spicata	Leaf	--	--		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
Myristica fragrans	Seed	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
Myroxylon balsamum	Plant	--	--		*
Nerium oleander	Plant	--	--		*
Ocimum suave	Leaf	--	--		J. Nat. Prod. 44: 308.
Ocimum tenuiflorum	Leaf	--	2180.0	0.49	*
Ocimum basilicum	Leaf	--	1700.0	0.19	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Ocimum basilicum	Flower	--	1300.0	-0.64	*
Olea europaea	Petiole	--	--		*
Olea europaea	Hull Husk	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Origanum vulgare	Plant	--	--		*
Origanum majorana	Plant	--	4700.0	0.19	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
Panax quinquefolius	Root	600.0	980.0	1.54	*
Panax japonicus	Rhizome	--	--		*
Panax ginseng	Root	150.0	700.0	0.85	*
Panax quinquefolius	Plant	--	20.0	-1.2	*
Phoradendron juniperinum	Shoot	--	3.0	-1.36	Kashiwada, Y., et. al. 1998. Anti-AIDS Agents. 30. Anti-HIV Activity of Oleanolic Acid, Pomolic Acid, and Structurally Related Triterpenoids. J. Nat. Prod., 61 (9): 1090-1095.
Phytolacca americana	Root	--	--		*
Pistacia lentiscus	Plant	--	--		*
Plantago major	Leaf	--	--		*
Plectranthus amboinicus	Plant	--	--		J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
Prosopis glandulosa	Stem	--	--		Zirvi, K. A., Jewers, K., Nagler, M. J. 1977. Phytochemical Investigation of Prosopis glandulosa Stems. Planta Med. Suppl. 32: 244-246.
Prosopis glandulosa	Flower	--	--		Ahmed, N., Razaq, S. 1986. Chemical Investigation of Prosopis glandulosa Flowers. Fitoterapia 57 6: 457.

<i>Prosopis glandulosa</i>	Shoot	--	15.0	0.33	Kashiwada, Y., et. al. 1998. Anti-AIDS Agents. 30. Anti-HIV Activity of Oleanolic Acid, Pomolic Acid, and Structurally Related Triterpenoids. J. Nat. Prod., 61 (9): 1090-1095.
<i>Prunella vulgaris</i>	Plant	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
<i>Prunus cerasus</i>	Fruit	--	--		*
<i>Prunus africana</i>	Bark	--	--		*
<i>Psidium guajava</i>	Fruit	--	--		*
<i>Psidium guajava</i>	Leaf	--	--		*
<i>Psidium guajava</i>	Heart Wood	--	--		*
<i>Psidium guajava</i>	Flower	--	--		*
<i>Punica granatum</i>	Flower	--	--		*
<i>Quisqualis indica</i>	Fruit	--	--		*
<i>Rosa woodsii</i>	Leaf	--	65.0	-0.8	Kashiwada, Y., et. al. 1998. Anti-AIDS Agents. 30. Anti-HIV Activity of Oleanolic Acid, Pomolic Acid, and Structurally Related Triterpenoids. J. Nat. Prod., 61 (9): 1090-1095.
<i>Rosmarinus officinalis</i>	Shoot	--	20.0	1.03	*
<i>Rosmarinus officinalis</i>	Plant	--	10500.0	1.91	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Salvia sclarea</i>	Plant	--	--		CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
<i>Salvia officinalis</i>	Stem	--	400.0	1.0	*
<i>Salvia officinalis</i>	Leaf	140.0	786.0	-0.36	*
<i>Salvia triloba</i>	Plant	--	5200.0	0.34	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Sambucus canadensis</i>	Leaf	--	--		*
<i>Sambucus nigra</i>	Leaf	--	--		*
<i>Sambucus nigra</i>	Flower	--	--		*
<i>Sambucus nigra</i>	Bark	--	503.0	-1.0	*
<i>Satureja montana</i>	Plant	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Satureja hortensis</i>	Plant	--	600.0	-1.03	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Syzygium aromaticum</i>	Fruit	35.0	20000.0	-1.0	*
<i>Syzygium aromaticum</i>	Flower	--	20000.0	1.41	*
<i>Syzygium aromaticum</i>	Seed	--	7.0	-1.0	*
<i>Syzygium claviflorum</i>	Leaf	--	14.0	-0.83	Kashiwada, Y., et. al. 1998. Anti-AIDS Agents. 30. Anti-HIV Activity of Oleanolic Acid, Pomolic Acid, and Structurally Related Triterpenoids. J. Nat. Prod., 61 (9): 1090-1095.
<i>Syzygium aromaticum</i>	Essential Oil	--	10000.0		*
<i>Terminalia arjuna</i>	Seed	--	17.5	1.0	Tripathi, V. K., Pandey, V. B., Udupa, K. N., Rucker, G. 1992. Arjunolitin, a Triterpene Glycoside from <i>Terminalia arjuna</i> . Phytochemistry 31 1: 349-351.
<i>Terminalia catappa</i>	Bark	--	--		Diyabalanaga, T. K. K., Jayasinghe, U. L. B., Simmonds, P. M., Wannigama, G. P., Wickramasinghe, A. 1997. Chemical Investigation of <i>Terminalia catappa</i> . Acgc. Chem. Res. Commun. 6: 26-28.
<i>Terminalia arjuna</i>	Root Bark	--	10.0	-1.0	Anjaneyulu, A. S. R., Rama Prasad, A. V. 1982. Chemical Examination of Roots of <i>Terminalia arjuna</i> (Roxb.) Wight & Arnot: Part I-Characterization of Two New Triterpenoid Glycosides. Indian J. Chem. 21B 6: 530-533.
<i>Terminalia arjuna</i>	Leaf	--	17.5	-0.83	*
<i>Terminalia pallida</i>	Fruit	--	--		*

<i>Terminalia arjuna</i>	Stem	--	17.5	-1.0	Tripathi, V. K., Pandey, V. B., Udupa, K. N., Rucker, G. 1992. Arjunolitin, a Triterpene Glycoside from <i>Terminalia arjuna</i> . <i>Phytochemistry</i> 31 1: 349-351.
<i>Terminalia arjuna</i>	Flower	--	17.5	-0.78	Tripathi, V. K., Pandey, V. B., Udupa, K. N., Rucker, G. 1992. Arjunolitin, a Triterpene Glycoside from <i>Terminalia arjuna</i> . <i>Phytochemistry</i> 31 1: 349-351.
<i>Ternstroemia gymnanthera</i>	Shoot	--	--		Kashiwada, Y., et. al. 1998. Anti-AIDS Agents. 30. Anti-HIV Activity of Oleanolic Acid, Pomolic Acid, and Structurally Related Triterpenoids. <i>J. Nat. Prod.</i> , 61 (9): 1090-1095.
<i>Thymus vulgaris</i>	Plant	--	6300.0	0.67	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Thymus serpyllum</i>	Plant	--	4800.0	0.22	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Uncaria tomentosa</i>	Root Bark	100.0	150.0	1.0	*
<i>Uncaria tomentosa</i>	Plant	--	--		*
<i>Urtica dioica</i>	Flower	--	--		Blaschek, W., Hansel, R., Keller, K., Reichling, J., Rimpler, H., and Schneider, G. eds. 1998. Hager's Handbuch der Pharmazeutischen Praxis, Auflage Band 2 (A-K), 909 pp., (L-Z), 858 pp. Springer-Verlag, Berlin.
<i>Urtica dioica</i>	Root	--	20.0	-0.84	*
<i>Vaccinium corymbosum</i>	Plant	--	--		*
<i>Vaccinium macrocarpon</i>	Fruit	--	--		*
<i>Vaccinium myrtillus</i>	Leaf	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Verbascum thapsus</i>	Flower	--	--		*
<i>Viburnum prunifolium</i>	Bark	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Viburnum prunifolium</i>	Root Bark	--	--		*
<i>Viscum album</i>	Resin, Exudate, Sap	--	--		*
<i>Vitis vinifera</i>	Leaf Wax	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Vitis vinifera</i>	Pericarp	--	--		*
<i>Zea mays</i>	Silk Stigma Style	--	--		*
<i>Zizyphus jujuba</i>	Plant	--	--		*