

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Vitis vinifera*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
77	ZINC	Stem		75.0	-0.6142974269256724	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
77	ZINC	Fruit	0.4	27.0	-0.09932995693106657	--
5	ZEAXANTHIN	Fruit				--
2	ZEATIN	Resin, Exudate, Sap				--
3	XYLOSE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	VIOLAXANTHIN	Fruit				--
28	VANILLIN	Fruit				--
24	VANILLIC-ACID	Leaf				--
24	VANILLIC-ACID	Hull Husk				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	VALINE	Fruit	180.0	926.0	-0.7277174826511351	USDA's Ag Handbook 8 and sequelae)
89	URSOLIC-ACID	Fruit				--
8	TYROSINE	Fruit	120.0	617.0	-0.7465880361585973	USDA's Ag Handbook 8 and sequelae)
29	TRYPTOPHAN	Fruit	30.0	154.0	-0.9774261540468739	USDA's Ag Handbook 8 and sequelae)
1	TRIACONTAN-1-OL	Root				--
5	TRANS-RESVERATROL	Fruit				--
4	TIN	Stem		12.0	0.7071067811865475	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
4	THREONINE	Fruit	180.0	926.0	-0.8695024361765752	USDA's Ag Handbook 8 and sequelae)
31	THIAMIN	Fruit	0.8	4.9	-0.05538912844659949	USDA's Ag Handbook 8 and sequelae)
31	THIAMIN	Stem		11.0	0.36791183185934545	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
6	TARTARIC-ACID	Fruit	15.0	20.0	-0.657218517797534	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
6	TARTARIC-ACID	Leaf				--
2	TARAXEROL	Leaf				--
2	TARAXEROL	Stem				--
2	TARAXASTEROL	Stem				--
2	TARAXASTEROL	Leaf				--
35	TANNIN	Seed				--
6	SYRINGIC-ACID	Leaf				--
6	SYRINGIC-ACID	Hull Husk				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
4	SYRINGALDEHYDE	Leaf				--
14	SULFUR	Fruit	7.0	888.0	-0.3664842839566224	--
7	SUCCINIC-ACID	Fruit				--
12	STIGMASTEROL	Root				--
12	STIGMASTEROL	Plant				--
12	STIGMASTEROL	Seed				--
8	STEARIC-ACID	Seed Oil				--
8	STEARIC-ACID	Seed	1440.0	4800.0	-0.4612463396361093	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	STACHYOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
10	SQUALENE	Seed				--
10	SQUALENE	Seed Oil				--
1	SODIUM	Stem		156.0	-0.5194124752401025	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
1	SODIUM	Fruit	2.0	454.0	-0.1408984763342879	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
9	SINAPIC-ACID	Root				--
3	SILVER	Fruit	0.022	0.077	-0.5251184109620559	--
4	SILICON	Stem		365.0	-0.5461064151412073	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
4	SILICON	Fruit	1.0	28.0	-0.5174716882721563	ACTA AGRIC SCAND SUPPL 22: 1980
14	SHIKIMIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
14	SHIKIMIC-ACID	Root				--
1	SERINE	Fruit	320.0	1646.0	-0.7050443362120865	USDA's Ag Handbook 8 and sequelae)
60	SELENIUM	Stem		18.0	1.924519185907645	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
60	SELENIUM	Fruit	0.0	0.012	-0.3832115202693911	--
34	SALICYLIC-ACID	Root				--
34	SALICYLIC-ACID	Leaf				--
7	SALICYLATES	Fruit	2.0	80.0	-0.1073449080720807	--
87	RUTIN	Leaf				--
15	RIBOFLAVIN	Stem		6.9	-0.48723714845751276	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
15	RIBOFLAVIN	Plant	0.5	3.2	-0.5722447215531815	--
68	RESVERATROL	Fruit Juice	0.06	3.3		Creasy, L. L., Creasy, M. T. 1998. Grape Chemistry and the Significance of Resveratrol: An Overview. Pharm. Biol., 36: 8-13.
68	RESVERATROL	Fruit		13.3		--
68	RESVERATROL	Leaf	375.0	90400.0		--
68	RESVERATROL	Shoot				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	RAFFINOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	QUINIC-ACID	Root				--
1	QUINIC-ACID	Fruit				Jim Duke's personal files.
1	QUINIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
44	QUERCITRIN	Leaf				--
44	QUERCITRIN	Fruit				--
6	QUERCIMERITRIN	Leaf				--
176	QUERCETIN	Leaf				--
176	QUERCETIN	Fruit	0.5	16.0	-0.7176094612628865	--
1	PYRROLIDINE	Fruit Juice				--
4	PUFA	Fruit	1690.0	8693.0	-0.21721248210881625	USDA's Ag Handbook 8 and sequelae)
19	PTEROSTILBENE	Leaf				--
43	PROTocatechuic-ACID	Leaf				--
1	PROTocatechualdehyde	Leaf				--
1	PROTocatechualdehyde	Fruit				--
27	PROCYANIDINS	Fruit				--
1	PROCYANIDIN-C-2	Seed				--
1	PROCYANIDIN-B-6	Seed				--
4	PROCYANIDIN-B-4	Seed				--
4	PROCYANIDIN-B-4	Pericarp				--
4	PROCYANIDIN-B-4	Leaf				--
2	PROCYANIDIN-B-3	Pericarp				--
2	PROCYANIDIN-B-3	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	PROCYANIDIN-B-3	Seed				--
3	PROCYANIDIN-B-2-3,3'-DI-O-GALLATE	Seed				--
3	PROCYANIDIN-B-2-3'-O-GALLATE	Seed				--
3	PROCYANIDIN-B-2-3'-O-GALLATE	Fruit				--
1	PROCYANIDIN-B-2	Pericarp				--
1	PROCYANIDIN-B-2	Leaf				--
1	PROCYANIDIN-B-2	Seed				--
1	PROCYANIDIN-B-1	Leaf				--
1	PROCYANIDIN-B-1	Seed				--
1	PROCYANIDIN-B-1	Pericarp				--
1	POTASSIUM-BITARTRATE	Leaf				--
14	POTASSIUM	Stem		20100.0	0.5104500914352443	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
14	POTASSIUM	Fruit	1784.0	24640.0	0.5948517865626541	--
7	PICEID	Fruit				--
2	PHYTOSTEROLS	Fruit	40.0	206.0	-0.9525233048912787	USDA's Ag Handbook 8 and sequelae)
5	PHYLLOQUINONE	Fruit	0.04	0.09	-0.21889420119445582	--
4	PHOSPHORUS	Stem		1710.0	-0.5945154579676041	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
4	PHOSPHORUS	Fruit	117.0	1848.0	-0.41551440624393526	--
7	PHENYLALANINE	Fruit	140.0	720.0	-0.9037071292147459	USDA's Ag Handbook 8 and sequelae)
1	PETUNIDIN-3-O-BETA-D-GLUCOSIDE	Pericarp				--
1	PETUNIDIN-3-O-BETA-D-GLUCOSIDE	Exocarp				--
1	PETUNIDIN-3-O-BETA-D-GLUCOSIDE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	PETUNIDIN	Pericarp				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
1	PEONIDIN-3-O-BETA-D-GLUCOSIDE	Pericarp				--
1	PEONIDIN-3-O-BETA-D-GLUCOSIDE	Exocarp				--
1	PEONIDIN-3-O-BETA-D-GLUCOSIDE	Tissue Culture				--
3	PEONIDIN	Pericarp				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
7	PELARGONIDIN	Fruit				--
24	PECTIN	Fruit	300.0	3900.0	-0.5839446324584245	--
24	PECTIN	Leaf				Bruneton, J. 1999. Pharmacognosy, Phytochemistry, Medicinal Plants. 2nd Ed. Lavoisier Publishing, Paris. 1119 pp.
11	PANTOTHENIC-ACID	Fruit	0.2	1.3	-1.0718946042703752	USDA's Ag Handbook 8 and sequelae)
13	PALMITIC-ACID	Seed Oil				--
13	PALMITIC-ACID	Seed	3300.0	11000.0	-0.472635357644977	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
13	PALMITIC-ACID	Fruit	1620.0	8333.0	-0.23580842316871725	USDA's Ag Handbook 8 and sequelae)
13	P-HYDROXY-BENZOIC-ACID	Leaf				--
13	P-HYDROXY-BENZOIC-ACID	Root				--
13	P-HYDROXY-BENZOIC-ACID	Hull Husk				--
25	P-COUMARIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
9	OXALIC-ACID	Fruit		34.0	-0.3044741963579158	--
25	OPCS	Leaf	170.0	640.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
18	OLEIC-ACID	Seed	22200.0	74000.0	-0.3707767625520139	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
18	OLEIC-ACID	Plant	230.0	1183.0	-0.7096693225803793	--
18	OLEIC-ACID	Seed Oil				--
1	OLEANOLIC-ACID-METHYL-ESTER	Leaf				--
64	OLEANOLIC-ACID	Leaf Wax				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
64	OLEANOLIC-ACID	Pericarp				--
2	NONACOSANE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
3	NICKEL	Fruit	0.01	0.77	-0.5452883169082009	--
39	NIACIN	Stem				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
39	NIACIN	Fruit	3.0	15.4	-0.605557161390472	USDA's Ag Handbook 8 and sequelae)
10	NEROL	Leaf				--
2	NEOXANTHIN	Fruit				--
2	NEO-CHLOROGENIC-ACID	Fruit		20.0		--
6	MYRISTIC-ACID	Fruit	50.0	257.0	-0.25701951929746253	USDA's Ag Handbook 8 and sequelae)
34	MYRICETIN	Fruit	1.0	9.3	0.39776676515655446	--
13	MUFA	Fruit	230.0	1183.0	-0.23678373998760255	USDA's Ag Handbook 8 and sequelae)
2	MOLYBDENUM	Fruit	0.1	0.539	-0.37721248118680145	--
1	METHYL-AMINE	Fruit Juice				--
15	METHIONINE	Fruit	220.0	1132.0	0.21362860728552646	USDA's Ag Handbook 8 and sequelae)
1	MERCURY	Fruit	0.0	0.011	-0.3194372671514748	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
14	MANGANESE	Stem		986.0	-0.3806285370071949	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
14	MANGANESE	Fruit	0.5	54.0	-0.047468534240292154	--
6	MALVIDIN	Fruit				--
15	MALIC-ACID	Plant				--
15	MALIC-ACID	Fruit	1500.0	2000.0	-0.8215787018847368	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
65	MAGNESIUM	Stem		4360.0	-0.17001174539444178	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
65	MAGNESIUM	Fruit	58.0	2310.0	0.08347231535472893	--
4	LYSINE	Fruit	150.0	772.0	-0.8656782702911159	USDA's Ag Handbook 8 and sequelae)
16	LYCOPENE	Fruit				--
78	LUTEOLIN	Leaf				--
15	LUTEIN	Fruit	0.7	7.0	-0.22996142536614406	--
21	LUPEOL	Leaf				--
21	LUPEOL	Root				--
21	LUPEOL	Stem				--
11	LITHIUM	Fruit	0.088	0.308	-0.672367806726868	--
27	LINOLEIC-ACID	Seed Oil				--
27	LINOLEIC-ACID	Fruit	1300.0	6687.0	-0.26105644413514206	USDA's Ag Handbook 8 and sequelae)
27	LINOLEIC-ACID	Seed	33000.0	110000.0	0.02465730498455117	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
53	LINALOOL	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
53	LINALOOL	Leaf Essent. Oil		273000.0	1.032803610048003	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
60	LIMONENE	Plant				Stitt, Paul. Why George should eat broccoli.
1	LEUCOCYANIDIN	Plant				--
2	LEUCINE	Fruit	140.0	720.0	-0.9313808451068529	USDA's Ag Handbook 8 and sequelae)
20	LECITHIN	Seed				--
8	LACTIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
4	KAEMPFEROL-3-O-GLUCOSIDE	Plant				--
75	KAEMPFEROL	Fruit		2.0	-0.5794291374991353	--
75	KAEMPFEROL	Leaf				--
22	ISOQUERCITRIN	Leaf				--
3	ISOLEUCINE	Fruit	50.0	257.0	-1.0154078969360296	USDA's Ag Handbook 8 and sequelae)
4	ISOCHLOROGENIC-ACID	Fruit		200.0	-1.0	--
6	IRON	Stem		900.0	0.1561374515042096	--
6	IRON	Fruit	1.5	154.0	0.08338831118036903	--
8	INOSITOL	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
30	HYPEROSIDE	Leaf				--
7	HISTIDINE	Fruit	240.0	1235.0	-0.33486171560742833	USDA's Ag Handbook 8 and sequelae)
4	GLYCOLIC-ACID	Leaf				--
12	GLYCINE	Fruit	200.0	1029.0	-0.9963335342523983	USDA's Ag Handbook 8 and sequelae)
3	GLYCERIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
8	GLUTAMIC-ACID	Fruit	1380.0	7099.0	-0.47772044794013085	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
7	GLUCOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
35	GERANIOL	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
35	GERANIOL	Leaf Essent. Oil		145200.0	0.2933293044777782	--
8	GENTISIC-ACID	Leaf				--
8	GENTISIC-ACID	Hull Husk				--
2	GAMMA-CAROTENE	Fruit				--
62	GALLIC-ACID	Leaf				--
62	GALLIC-ACID	Seed				--
62	GALLIC-ACID	Root				--
62	GALLIC-ACID	Fruit				--
1	GALACTOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
22	GABA	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
7	FUMARIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
8	FRUCTOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
13	FORMIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
15	FOLACIN	Fruit	0.03	0.23	-0.7424982313124213	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
15	FIBER	Fruit	4210.0	24640.0	-1.104411552185134	USDA's Ag Handbook 8 and sequelae)
61	FERULIC-ACID	Fruit				--
2	ERUCIC-ACID	Seed				--
5	ERGOSTEROL	Fruit				--
4	EPSILON-VINIFERIN	Leaf		30900.0		--
1	EPICATECHIN-3-O-GALLATE	Seed				--
1	EPICATECHIN-3-O-GALLATE	Fruit				--
40	EPICATECHIN	Seed				--
40	EPICATECHIN	Fruit				--
51	ELLAGIC-ACID	Fruit				--
2	DIMETHYL-AMINE	Fruit Juice				--
1	DIHYDROZEATIN	Resin, Exudate, Sap				--
2	DIETHYL-AMINE	Fruit Juice				--
1	DELPHINIDIN-3-O-BETA-D-GLUCOSIDE	Pericarp				--
9	DELPHINIDIN	Plant				--
4	D-CATECHIN	Leaf				--
4	D-CATECHIN	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	CYSTINE	Fruit	110.0	566.0	-0.4853602292193013	USDA's Ag Handbook 8 and sequelae)
7	CYCLOARTENOL	Stem				--
5	CYANIN	Tissue Culture				--
19	CYANIDIN-3-O-GLUCOSIDE	Leaf				Bruneton, J. 1999. Pharmacognosy, Phytochemistry, Medicinal Plants. 2nd Ed. Lavoisier Publishing, Paris. 1119 pp.
19	CYANIDIN-3-O-GLUCOSIDE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
7	CYANIDIN	Pericarp				--
7	CYANIDIN	Fruit				--
2	CRYPTOXANTHIN	Fruit				--
57	COUMARIN	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
12	COPPER	Fruit	0.7	11.6	-0.09487047254583593	--
5	CONIFERYL-ALDEHYDE	Fruit				--
2	COBALT	Stem		33.0	0.7427055671504605	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
2	COBALT	Fruit	0.005	0.22	-0.5084821806978201	--
1	CITROSTADIENOL	Stem				--
15	CITRONELLOL	Leaf				--
23	CITRIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
23	CITRIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	CIS-RESVERATROL	Fruit				--
18	CINNAMIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
60	CINNAMALDEHYDE	Fruit				--
24	CHROMIUM	Stem		9.0	0.4664861453042604	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
24	CHROMIUM	Fruit	0.005	0.385	-0.45355683651553846	--
1	CHOLESTEROL	Fruit				--
77	CHLOROGENIC-ACID	Shoot				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
77	CHLOROGENIC-ACID	Root				--
77	CHLOROGENIC-ACID	Leaf				--
77	CHLOROGENIC-ACID	Fruit		1400.0	0.11655949578196001	--
1	CEPHALIN	Seed				--
43	CATECHIN	Seed				--
1	CATALASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
2	CAMPESTEROL	Plant				Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
2	CAMPESTEROL	Seed				--
28	CALCIUM	Stem		17700.0	-0.11330590567075993	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
28	CALCIUM	Fruit	92.0	4774.0	0.2117719310786729	--
3	CAFTARIC-ACID	Fruit				--
3	CAFFEYOYL TARTARIC-ACID	Fruit				Jim Duke's personal files.
102	CAFFEIC-ACID	Fruit				--
102	CAFFEIC-ACID	Root				--
102	CAFFEIC-ACID	Leaf				--
3	CADMIUM	Fruit	0.001	0.231	0.03526712239341311	--
4	BORON	Fruit	1.0	50.0	0.20278384568897864	--
4	BIOTIN	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
22	BETULINIC-ACID	Root				--
14	BETAINE	Fruit Juice				--
47	BETA-SITOSTEROL	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
47	BETA-SITOSTEROL	Fruit	30.0	150.0	-0.5971588891273873	--
13	BETA-IONONE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
53	BETA-CAROTENE	Fruit	0.5	2.1	-0.14674136696680995	--
53	BETA-CAROTENE	Stem		43.0	-0.5551411085990826	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
9	BETA-AMYRIN	Leaf				--
9	BETA-AMYRIN	Stem				--
9	BENZYL-ALCOHOL	Leaf				--
20	BENZOIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
7	ASTRAGALIN	Leaf				--
1	ASTILBIN	Pericarp				--
3	ASPARTIC-ACID	Fruit	810.0	4167.0	-0.78714800256649	USDA's Ag Handbook 8 and sequelae)
112	ASCORBIC-ACID	Stem		310.0	-1.1858763373403332	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
112	ASCORBIC-ACID	Leaf	3490.0	3870.0	-0.08483341087930922	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
112	ASCORBIC-ACID	Fruit	99.0	600.0	-0.24718280983607235	USDA's Ag Handbook 8 and sequelae)
2	ARSENIC	Fruit	0.001	0.889	0.6023550350459049	--
14	ARGININE	Fruit	490.0	2520.0	-0.47739653189299114	USDA's Ag Handbook 8 and sequelae)
30	ANTHOCYANINS	Pericarp				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
30	ANTHOCYANINS	Leaf		3000.0		Bruneton, J. 1999. Pharmacognosy, Phytochemistry, Medicinal Plants. 2nd Ed. Lavoisier Publishing, Paris. 1119 pp.
30	ANTHOCYANINS	Fruit				--
10	ANTHOCYANIDINS	Pericarp				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
1	ANTHERAXANTHIN	Fruit				--
5	ALUMINUM	Stem		1030.0	0.044464754302322065	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
5	ALUMINUM	Fruit	1.0	154.0	-0.1787194752035278	--
32	ALPHA-TOCOPHEROL	Fruit	6.0	31.0	-0.6444565233542005	--
23	ALPHA-TERPINEOL	Leaf Essent. Oil		108000.0	1.3174552815097405	--
15	ALPHA-LINOLENIC-ACID	Fruit	390.0	2006.0	-0.24402755757732797	USDA's Ag Handbook 8 and sequelae)
7	ALPHA-CAROTENE	Fruit				--
10	ALPHA-AMYRIN	Stem				--
3	ALANINE	Fruit	280.0	1440.0	-0.8911912580591054	USDA's Ag Handbook 8 and sequelae)
16	ACETIC-ACID	Fruit	1500.0	2000.0	-0.06645757225743394	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
16	ACETIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	ABSCISSIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	4-HYDROXYBENZALDEHYDE	Leaf				--
21	(-)-EPIGALLOCATECHIN	Leaf				--
38	(-)-EPICATECHIN	Fruit				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
38	(-)-EPICATECHIN	Seed				--
38	(-)-EPICATECHIN	Leaf				--
38	(-)-EPICATECHIN	Pericarp				--
7	(+)-GALLOCATECHIN	Leaf				--
30	(+)-CATECHIN	Pericarp				--
30	(+)-CATECHIN	Leaf				--
30	(+)-CATECHIN	Seed				--