

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Vitis vinifera*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.
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.
15	FIBER	Fruit	4210.0	24640.0	-1.104411552185134	USDA's Ag Handbook 8 and sequelae)
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.
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.
14	POTASSIUM	Fruit	1784.0	24640.0	0.5948517865626541	--
4	PUFA	Fruit	1690.0	8693.0	-0.21721248210881625	USDA's Ag Handbook 8 and sequelae)
13	PALMITIC-ACID	Fruit	1620.0	8333.0	-0.23580842316871725	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.
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.
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.
8	GLUTAMIC-ACID	Fruit	1380.0	7099.0	-0.47772044794013085	USDA's Ag Handbook 8 and sequelae)
27	LINOLEIC-ACID	Fruit	1300.0	6687.0	-0.26105644413514206	USDA's Ag Handbook 8 and sequelae)
3	ASPARTIC-ACID	Fruit	810.0	4167.0	-0.78714800256649	USDA's Ag Handbook 8 and sequelae)
14	ARGININE	Fruit	490.0	2520.0	-0.47739653189299114	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
15	ALPHA-LINOLENIC-ACID	Fruit	390.0	2006.0	-0.24402755757732797	USDA's Ag Handbook 8 and sequelae)
68	RESVERATROL	Leaf	375.0	90400.0		--
1	SERINE	Fruit	320.0	1646.0	-0.7050443362120865	USDA's Ag Handbook 8 and sequelae)
24	PECTIN	Fruit	300.0	3900.0	-0.5839446324584245	--
3	ALANINE	Fruit	280.0	1440.0	-0.8911912580591054	USDA's Ag Handbook 8 and sequelae)
7	HISTIDINE	Fruit	240.0	1235.0	-0.33486171560742833	USDA's Ag Handbook 8 and sequelae)
18	OLEIC-ACID	Plant	230.0	1183.0	-0.7096693225803793	--
13	MUFA	Fruit	230.0	1183.0	-0.23678373998760255	USDA's Ag Handbook 8 and sequelae)
15	METHIONINE	Fruit	220.0	1132.0	0.21362860728552646	USDA's Ag Handbook 8 and sequelae)
12	GLYCINE	Fruit	200.0	1029.0	-0.9963335342523983	USDA's Ag Handbook 8 and sequelae)
3	VALINE	Fruit	180.0	926.0	-0.7277174826511351	USDA's Ag Handbook 8 and sequelae)
4	THREONINE	Fruit	180.0	926.0	-0.8695024361765752	USDA's Ag Handbook 8 and sequelae)
25	OPCS	Leaf	170.0	640.0		--
4	LYSINE	Fruit	150.0	772.0	-0.8656782702911159	USDA's Ag Handbook 8 and sequelae)
2	LEUCINE	Fruit	140.0	720.0	-0.9313808451068529	USDA's Ag Handbook 8 and sequelae)
7	PHENYLALANINE	Fruit	140.0	720.0	-0.9037071292147459	USDA's Ag Handbook 8 and sequelae)
8	TYROSINE	Fruit	120.0	617.0	-0.7465880361585973	USDA's Ag Handbook 8 and sequelae)
4	PHOSPHORUS	Fruit	117.0	1848.0	-0.41551440624393526	--
2	CYSTINE	Fruit	110.0	566.0	-0.4853602292193013	USDA's Ag Handbook 8 and sequelae)
112	ASCORBIC-ACID	Fruit	99.0	600.0	-0.24718280983607235	USDA's Ag Handbook 8 and sequelae)
28	CALCIUM	Fruit	92.0	4774.0	0.2117719310786729	--
65	MAGNESIUM	Fruit	58.0	2310.0	0.08347231535472893	--
3	ISOLEUCINE	Fruit	50.0	257.0	-1.0154078969360296	USDA's Ag Handbook 8 and sequelae)
6	MYRISTIC-ACID	Fruit	50.0	257.0	-0.25701951929746253	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	PHYTOSTEROLS	Fruit	40.0	206.0	-0.9525233048912787	USDA's Ag Handbook 8 and sequelae)
47	BETA-SITOSTEROL	Fruit	30.0	150.0	-0.5971588891273873	--
29	TRYPTOPHAN	Fruit	30.0	154.0	-0.9774261540468739	USDA's Ag Handbook 8 and sequelae)
6	TARTARIC-ACID	Fruit	15.0	20.0	-0.657218517797534	--
14	SULFUR	Fruit	7.0	888.0	-0.3664842839566224	--
32	ALPHA-TOCOPHEROL	Fruit	6.0	31.0	-0.6444565233542005	--
39	NIACIN	Fruit	3.0	15.4	-0.605557161390472	USDA's Ag Handbook 8 and sequelae)
7	SALICYLATES	Fruit	2.0	80.0	-0.1073449080720807	--
1	SODIUM	Fruit	2.0	454.0	-0.1408984763342879	--
6	IRON	Fruit	1.5	154.0	0.08338831118036903	--
34	MYRICETIN	Fruit	1.0	9.3	0.39776676515655446	--
5	ALUMINUM	Fruit	1.0	154.0	-0.1787194752035278	--
4	BORON	Fruit	1.0	50.0	0.20278384568897864	--
4	SILICON	Fruit	1.0	28.0	-0.5174716882721563	ACTA AGRIC SCAND SUPPL 22: 1980
31	THIAMIN	Fruit	0.8	4.9	-0.05538912844659949	USDA's Ag Handbook 8 and sequelae)
15	LUTEIN	Fruit	0.7	7.0	-0.22996142536614406	--
12	COPPER	Fruit	0.7	11.6	-0.09487047254583593	--
15	RIBOFLAVIN	Plant	0.5	3.2	-0.5722447215531815	--
14	MANGANESE	Fruit	0.5	54.0	-0.047468534240292154	--
53	BETA-CAROTENE	Fruit	0.5	2.1	-0.14674136696680995	--
176	QUERCETIN	Fruit	0.5	16.0	-0.7176094612628865	--
77	ZINC	Fruit	0.4	27.0	-0.09932995693106657	--
11	PANTOTHENIC-ACID	Fruit	0.2	1.3	-1.0718946042703752	USDA's Ag Handbook 8 and sequelae)
2	MOLYBDENUM	Fruit	0.1	0.539	-0.37721248118680145	--
11	LITHIUM	Fruit	0.088	0.308	-0.672367806726868	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.
5	PHYLLOQUINONE	Fruit	0.04	0.09	-0.21889420119445582	--
15	FOLACIN	Fruit	0.03	0.23	-0.7424982313124213	USDA's Ag Handbook 8 and sequelae)
3	SILVER	Fruit	0.022	0.077	-0.5251184109620559	--
3	NICKEL	Fruit	0.01	0.77	-0.5452883169082009	--
24	CHROMIUM	Fruit	0.005	0.385	-0.45355683651553846	--
2	COBALT	Fruit	0.005	0.22	-0.5084821806978201	--
3	CADMIUM	Fruit	0.001	0.231	0.03526712239341311	--
2	ARSENIC	Fruit	0.001	0.889	0.6023550350459049	--
60	SELENIUM	Fruit	0.0	0.012	-0.3832115202693911	--
1	MERCURY	Fruit	0.0	0.011	-0.3194372671514748	--
5	CYANIN	Tissue Culture				--
31	THIAMIN	Stem		11.0	0.36791183185934545	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
13	FORMIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
102	CAFFEIC-ACID	Fruit				--
2	ZEATIN	Resin, Exudate, Sap				--
1	PROCYANIDIN-B-1	Leaf				--
20	LECITHIN	Seed				--
9	BENZYL-ALCOHOL	Leaf				--
1	QUINIC-ACID	Root				--
1	PYRROLIDINE	Fruit Juice				--
47	BETA-SITOSTEROL	Seed				--
77	CHLOROGENIC-ACID	Shoot				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	STACHYOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
4	D-CATECHIN	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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.
75	KAEMPFEROL	Fruit		2.0	-0.5794291374991353	--
68	RESVERATROL	Fruit		13.3		--
5	ZEAXANTHIN	Fruit				--
23	CITRIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	TARAXASTEROL	Stem				--
4	PROCYANIDIN-B-4	Seed				--
7	CYANIDIN	Pericarp				--
24	VANILLIC-ACID	Leaf				--
1	PETUNIDIN-3-O-BETA-D-GLUCOSIDE	Pericarp				--
1	OLEANOLIC-ACID-METHYL-ESTER	Leaf				--
8	LACTIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
5	CONIFERYL-ALDEHYDE	Fruit				--
20	BENZOIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
6	QUERCIMERITRIN	Leaf				--

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.
4	GLYCOLIC-ACID	Leaf				--
1	DELPHINIDIN-3-O-BETA-D-GLUCOSIDE	Pericarp				--
10	SQUALENE	Seed				--
7	PELARGONIDIN	Fruit				--
30	HYPEROSIDE	Leaf				--
28	VANILLIN	Fruit				--
3	XYLOSE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
34	SALICYLIC-ACID	Root				--
23	CITRIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
12	STIGMASTEROL	Root				--
2	PROCYANIDIN-B-3	Pericarp				--
77	CHLOROGENIC-ACID	Root				--
89	URSOLIC-ACID	Fruit				--
5	TRANS-RESVERATROL	Fruit				--
1	PETUNIDIN-3-O-BETA-D-GLUCOSIDE	Exocarp				--
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.
75	KAEMPFEROL	Leaf				--
60	CINNAMALDEHYDE	Fruit				--
176	QUERCETIN	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
19	PTEROSTILBENE	Leaf				--
35	GERANIOL	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
2	ERUCIC-ACID	Seed				--
3	CAFFEYOYL-TARTARIC-ACID	Fruit				Jim Duke's personal files.
1	SODIUM	Stem		156.0	-0.5194124752401025	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
7	CYCLOARTENOL	Stem				--
16	LYCOPENE	Fruit				--
8	GENTISIC-ACID	Leaf				--
2	VIOLAXANTHIN	Fruit				--
35	GERANIOL	Leaf Essent. Oil		145200.0	0.2933293044777782	--
87	RUTIN	Leaf				--
18	CINNAMIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
14	SHIKIMIC-ACID	Root				--
23	ALPHA-TERPINEOL	Leaf Essent. Oil		108000.0	1.3174552815097405	--
2	PROCYANIDIN-B-3	Leaf				--
77	CHLOROGENIC-ACID	Leaf				--
2	TARAXEROL	Leaf				--
61	FERULIC-ACID	Fruit				--
4	BIOTIN	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
6	TARTARIC-ACID	Leaf				--
1	PEONIDIN-3-O-BETA-D-GLUCOSIDE	Pericarp				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	NONACOSANE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
22	ISOQUERCITRIN	Leaf				--
1	CEPHALIN	Seed				--
112	ASCORBIC-ACID	Stem		310.0	-1.1858763373403332	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
43	PROTocatechuic-ACID	Leaf				--
27	PROCYANIDINS	Fruit				--
40	EPICATECHIN	Seed				--
44	QUERCITRIN	Fruit				--
7	CYANIDIN	Fruit				--
78	LUTEOLIN	Leaf				--
62	GALLIC-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.
8	GENTISIC-ACID	Hull Husk				--
15	RIBOFLAVIN	Stem		6.9	-0.48723714845751276	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
24	CHROMIUM	Stem		9.0	0.4664861453042604	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
1	PROCYANIDIN-B-1	Seed				--
2	PROCYANIDIN-B-3	Seed				--
2	TARAXASTEROL	Leaf				--
5	ERGOSTEROL	Fruit				--
1	PROTocatechualdehyde	Fruit				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
22	BETULINIC-ACID	Root				--
2	TARAXEROL	Stem				--
1	PEONIDIN-3-O-BETA-D-GLUCOSIDE	Exocarp				--
13	P-HYDROXY-BENZOIC-ACID	Leaf				--
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.)
1	PROTocatechualdehyde	Leaf				--
3	PROCYANIDIN-B-2-3'-O-GALLATE	Fruit				--
19	CYANIDIN-3-O-GLUCOSIDE	Leaf				Bruneton, J. 1999. Pharmacognosy, Phytochemistry, Medicinal Plants. 2nd Ed. Lavoisier Publishing, Paris. 1119 pp.
1	POTASSIUM-BITARTRATE	Leaf				--
9	SINAPIC-ACID	Root				--
2	CRYPTOXANTHIN	Fruit				--
62	GALLIC-ACID	Seed				--
2	GAMMA-CAROTENE	Fruit				--
7	PICEID	Fruit				--
7	ALPHA-CAROTENE	Fruit				--
3	PROCYANIDIN-B-2-3,3'-DI-O-GALLATE	Seed				--
35	TANNIN	Seed				--
4	EPSILON-VINIFERIN	Leaf		30900.0		--
14	BETAINE	Fruit Juice				--
6	SYRINGIC-ACID	Leaf				--
1	PEONIDIN-3-O-BETA-D-GLUCOSIDE	Tissue Culture				--
39	NIACIN	Stem				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	ISOCHLOROGENIC-ACID	Fruit		200.0	-1.0	--
13	P-HYDROXY-BENZOIC-ACID	Root				--
1	DIHYDROZEATIN	Resin, Exudate, Sap				--
14	POTASSIUM	Stem		20100.0	0.5104500914352443	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
14	MANGANESE	Stem		986.0	-0.3806285370071949	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 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.
4	KAEMPFEROL-3-O-GLUCOSIDE	Plant				--
57	COUMARIN	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	CAFTARIC-ACID	Fruit				--
21	LUPEOL	Leaf				--
62	GALLIC-ACID	Root				--
62	GALLIC-ACID	Fruit				--
1	CHOLESTEROL	Fruit				--
21	(-)-EPIGALLOCATECHIN	Leaf				--
10	ALPHA-AMYRIN	Stem				--
3	PROCYANIDIN-B-2-3'-O-GALLATE	Seed				--
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.
51	ELLAGIC-ACID	Fruit				--

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.
4	SYRINGALDEHYDE	Leaf				--
1	RAFFINOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
13	PALMITIC-ACID	Seed Oil				--
6	IRON	Stem		900.0	0.1561374515042096	--
1	METHYL-AMINE	Fruit Juice				--
3	CIS-RESVERATROL	Fruit				--
43	CATECHIN	Seed				--
60	LIMONENE	Plant				Stitt, Paul. Why George should eat broccoli.
4	SILICON	Stem		365.0	-0.5461064151412073	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
1	ASTILBIN	Pericarp				--
7	(+)-GALLOCATECHIN	Leaf				--
1	GALACTOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
77	CHLOROGENIC-ACID	Fruit		1400.0	0.11655949578196001	--
38	(-)-EPICATECHIN	Seed				--
1	PROCYANIDIN-B-2	Pericarp				--
13	P-HYDROXY-BENZOIC-ACID	Hull Husk				--
2	DIMETHYL-AMINE	Fruit Juice				--
3	PEONIDIN	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
13	BETA-IONONE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
8	STEARIC-ACID	Seed Oil				--
1	QUINIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
18	OLEIC-ACID	Seed Oil				--
10	NEROL	Leaf				--
102	CAFFEIC-ACID	Root				--
1	PROCYANIDIN-C-2	Seed				--
6	MALVIDIN	Fruit				--
2	CAMPESTEROL	Seed				--
8	INOSITOL	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	COBALT	Stem		33.0	0.7427055671504605	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
30	ANTHOCYANINS	Pericarp				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
30	(+)-CATECHIN	Pericarp				--
1	TRIACONTAN-1-OL	Root				--
22	GABA	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	CATALASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
38	(-)-EPICATECHIN	Leaf				--

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16	ACETIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	PROCYANIDIN-B-2	Leaf				--
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.
7	SUCCINIC-ACID	Fruit				--
2	DIETHYL-AMINE	Fruit Juice				--
53	BETA-CAROTENE	Stem		43.0	-0.5551411085990826	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
10	SQUALENE	Seed Oil				--
1	QUINIC-ACID	Fruit				Jim Duke's personal files.
64	OLEANOLIC-ACID	Pericarp				--
2	NEOXANTHIN	Fruit				--
102	CAFFEIC-ACID	Leaf				--
1	PROCYANIDIN-B-6	Seed				--
4	PHOSPHORUS	Stem		1710.0	-0.5945154579676041	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
15	MALIC-ACID	Plant				--
30	ANTHOCYANINS	Leaf		3000.0		Bruneton, J. 1999. Pharmacognosy, Phytochemistry, Medicinal Plants. 2nd Ed. Lavoisier Publishing, Paris. 1119 pp.
40	EPICATECHIN	Fruit				--
14	SHIKIMIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	EPICATECHIN-3-O-GALLATE	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
30	ANTHOCYANINS	Fruit				--
30	(+)-CATECHIN	Leaf				--
4	TIN	Stem		12.0	0.7071067811865475	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
7	FUMARIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
28	CALCIUM	Stem		17700.0	-0.11330590567075993	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
38	(-)-EPICATECHIN	Pericarp				--
1	PROCYANIDIN-B-2	Seed				--
9	OXALIC-ACID	Fruit		34.0	-0.3044741963579158	--
9	DELPHINIDIN	Plant				--
53	LINALOOL	Leaf Essent. Oil		273000.0	1.032803610048003	--
34	SALICYLIC-ACID	Leaf				--
44	QUERCITRIN	Leaf				--
21	LUPEOL	Root				--
2	NEO-CHLOROGENIC-ACID	Fruit		20.0		--
12	STIGMASTEROL	Seed				--
7	ASTRAGALIN	Leaf				--
12	STIGMASTEROL	Plant				--
4	PROCYANIDIN-B-4	Pericarp				--
21	LUPEOL	Stem				--
10	ANTHOCYANIDINS	Pericarp				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
77	ZINC	Stem		75.0	-0.6142974269256724	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	CITROSTADIENOL	Stem				--
1	EPICATECHIN-3-O-GALLATE	Fruit				--
1	ANTHERAXANTHIN	Fruit				--
30	(+)-CATECHIN	Seed				--
8	FRUCTOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
38	(-)-EPICATECHIN	Fruit				--
3	ABSCISSIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	PROCYANIDIN-B-1	Pericarp				--
1	LEUCOCYANIDIN	Plant				--
4	D-CATECHIN	Leaf				--
53	LINALOOL	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
9	BETA-AMYRIN	Stem				--
68	RESVERATROL	Shoot				--
3	GLYCERIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
24	PECTIN	Leaf				Bruneton, J. 1999. Pharmacognosy, Phytochemistry, Medicinal Plants. 2nd Ed. Lavoisier Publishing, Paris. 1119 pp.
3	4-HYDROXYBENZALDEHYDE	Leaf				--
65	MAGNESIUM	Stem		4360.0	-0.17001174539444178	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
27	LINOLEIC-ACID	Seed Oil				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
60	SELENIUM	Stem		18.0	1.924519185907645	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
15	CITRONELLOL	Leaf				--
9	BETA-AMYRIN	Leaf				--
5	ALUMINUM	Stem		1030.0	0.044464754302322065	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
4	PROCYANIDIN-B-4	Leaf				--