

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Vitis vinifera*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	WATER	Fruit	761000.0	897000.0	0.5497045312138683	--
0	CARBOHYDRATES	Fruit	177700.0	914095.0	0.7016650651905534	USDA's Ag Handbook 8 and sequelae)
0	PROTEIN	Seed	70000.0	100000.0	-1.190185310672251	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	FAT	Seed	60000.0	200000.0	-0.34441983215421706	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	FLAVONOIDS	Leaf	40000.0	50000.0	1.097856271722259	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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.
0	SUGAR	Fruit	30000.0	189000.0	0.005740941518907065	--
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.
0	PROTEIN	Fruit	6350.0	35236.0	-0.9955216411354211	USDA's Ag Handbook 8 and sequelae)
0	FAT	Fruit	5010.0	33898.0	-0.3823418924511751	USDA's Ag Handbook 8 and sequelae)
0	ASH	Fruit	4290.0	77000.0	0.526613994855476	--
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.
0	SFA	Fruit	1890.0	9722.0	-0.16575412818647417	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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)
0	NITROGEN	Fruit	1100.0	7220.0	-0.519032430701182	ACTA AGRIC SCAND SUPPL 22: 1980
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)
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)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PROLINE	Fruit	220.0	1132.0	-0.7893812127923229	USDA's Ag Handbook 8 and sequelae)
12	GLYCINE	Fruit	200.0	1029.0	-0.9963335342523983	USDA's Ag Handbook 8 and sequelae)
4	THREONINE	Fruit	180.0	926.0	-0.8695024361765752	USDA's Ag Handbook 8 and sequelae)
3	VALINE	Fruit	180.0	926.0	-0.7277174826511351	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	--
0	PROANTHOCYANIDIN-B1	Leaf	88.0	333.0		--
65	MAGNESIUM	Fruit	58.0	2310.0	0.08347231535472893	--
6	MYRISTIC-ACID	Fruit	50.0	257.0	-0.25701951929746253	USDA's Ag Handbook 8 and sequelae)
3	ISOLEUCINE	Fruit	50.0	257.0	-1.0154078969360296	USDA's Ag Handbook 8 and sequelae)
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)
0	PROANTHOCYANIDIN-B2	Leaf	17.0	94.0		--
0	TARTARIC-ACID-CAFFEOYL-ESTER	Fruit	15.0	20.0		--
6	TARTARIC-ACID	Fruit	15.0	20.0	-0.657218517797534	--
14	SULFUR	Fruit	7.0	888.0	-0.3664842839566224	--
0	PROANTHOCYANIDIN-B3	Leaf	7.0	37.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PROANTHOCYANIDIN-B4	Leaf	7.0	37.0		--
32	ALPHA-TOCOPHEROL	Fruit	6.0	31.0	-0.6444565233542005	--
0	PROANTHOCYANIDIN-B2-3'-O-GALLATE	Leaf	3.0	25.0		--
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	--
0	STRONTIUM	Fruit	1.54	38.5	-0.4672073193158673	--
6	IRON	Fruit	1.5	154.0	0.08338831118036903	--
5	ALUMINUM	Fruit	1.0	154.0	-0.1787194752035278	--
0	VIT-B-6	Fruit	1.0	6.0	-0.3708031557292606	--
34	MYRICETIN	Fruit	1.0	9.3	0.39776676515655446	--
4	SILICON	Fruit	1.0	28.0	-0.5174716882721563	ACTA AGRIC SCAND SUPPL 22: 1980
0	VITAMIN-B-6	Fruit	1.0	6.0		USDA's Ag Handbook 8 and sequelae)
4	BORON	Fruit	1.0	50.0	0.20278384568897864	--
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	--
0	BARIUM	Fruit	0.66	15.4	-0.5127937102474286	--
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	--
0	ZIRCONIUM	Fruit	0.44	1.54	-0.41983235298720856	--
0	RUBIDIUM	Fruit	0.4	5.5	-1.0186549557194133	ACTA AGRIC SCAND SUPPL 22: 1980
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)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	TITANIUM	Fruit	0.11	7.7	-0.5795941269861224	--
2	MOLYBDENUM	Fruit	0.1	0.539	-0.37721248118680145	--
0	FLUORINE	Fruit	0.1	0.6	-0.744462097809404	ACTA AGRIC SCAND SUPPL 22: 1980
11	LITHIUM	Fruit	0.088	0.308	-0.672367806726868	--
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	--
0	LEAD	Fruit	0.02	9.0	0.04188042425593692	--
0	DAMASCENONE	Fruit Juice	0.013	0.085		--
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	--
2	ARSENIC	Fruit	0.001	0.889	0.6023550350459049	--
3	CADMIUM	Fruit	0.001	0.231	0.03526712239341311	--
1	MERCURY	Fruit	0.0	0.011	-0.3194372671514748	--
0	PROANTHOCYANIDIN-B2-3,3'-O-GALLATE	Leaf	0.0	4.0		--
0	PROANTHOCYANIDIN-B1-3-O-GALLATE	Leaf	0.0	6.0		--
60	SELENIUM	Fruit	0.0	0.012	-0.3832115202693911	--
0	NEROL-6-O-ALPHA-L-RHAMNOPYRANOSYL-BETA-D-GLUCOPYRANOSIDE	Fruit Juice				--
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
0	2,6-DIMETHYL-TRANS-OCTA-2,7-DIEN-1,6-DIOL-6-O-ALPHA-D-ARABINOFURANOSYL-BETA-D-BETA-D-GLUCOPYRANOSIDE	Fruit				--
21	(-)-EPIGALLOCATECHIN	Leaf				--
5	ERGOSTEROL	Fruit				--
0	PROCYANIDIN-C-1	Leaf				--
40	EPICATECHIN	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.
30	ANTHOCYANINS	Leaf		3000.0		Bruneton, J. 1999. Pharmacognosy, Phytochemistry, Medicinal Plants. 2nd Ed. Lavoisier Publishing, Paris. 1119 pp.
0	LINALOL-6-O-ALPHA-L-ARABINOFURANOSYL-BETA-D-GLUCOPYRANOSIDE	Fruit				--
5	CONIFERYL-ALDEHYDE	Fruit				--
22	BETULINIC-ACID	Root				--
0	3-OXO-BETA-DAMASCONE	Fruit Juice				--
0	N-PROPYL-AMINE	Fruit Juice				--
0	DELPHINIDIN-3-O-BETA-D-GLUCOSIDE	Fruit				--
2	PROCYANIDIN-B-3	Leaf				--
0	CALCIUM-PECTATE	Leaf		69000.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
9	SINAPIC-ACID	Root				--
0	MALVIDIN-3-(P-COUMAROYLGLUCOSIDE)	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
0	MALVIDIN-MONOGLUCOSIDE	Tissue Culture				--
0	ISOVITILAGIN	Leaf		163.0		--
0	BENZYL-ALCOHOL-BETA-D-RUTINOSIDE	Leaf				--
0	TRANS-COUTARIC-ACID	Fruit Juice				--
1	PYRROLIDINE	Fruit Juice				--
0	GERANIOL-6-O-ALPHA-L-ARABINOFURANOSYL-BETA-D-GLUCOPYRANOSIDE	Fruit				--
0	VANILLIC-ALDEHYDE	Leaf				--
0	LUTEIN-5-8-EPOXIDE	Fruit				--
0	LINOLENIC-ACID	Seed Oil				--
0	HEXOKINASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	CIS-CAFTARIC-ACID	Fruit Juice				--
14	POTASSIUM	Stem		20100.0	0.5104500914352443	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	3,7-DIMETHYL-OCTA-1,5-DIEN-3,7-DIOL	Fruit				--
9	BETA-AMYRIN	Leaf				--
0	FR	Plant				--
1	QUINIC-ACID	Root				--
0	NONANAL	Seed				--
0	CYANIDIN-3-GALACTOSIDE	Fruit				--
0	POPULNIN	Leaf				--
4	TIN	Stem		12.0	0.7071067811865475	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	LINOLEIC-ACID-ETHYL-ESTER	Seed				--
0	ALPHA-VINIFERIN	Leaf		23400.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	NEROL-6-O-ALPHA-L-ARABINOFURANOSYL-BETA-D-GLUCOPYRANOSIDE	Fruit Juice				--
0	PETUNIDIN-3-GLUCOSIDE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	2,6-DIMETHYL-TRANS,TRANS-OCTA-2,6-DIEN-1,8-DIOL	Fruit				--
0	(-)-EPICATECHIN-3-GALLATE	Leaf				--
4	EPSILON-VINIFERIN	Leaf		30900.0		--
0	PROCYANIDIN-C-1	Seed				--
23	CITRIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
10	ANTHOCYANIDINS	Pericarp				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	LINALOL	Fruit				--
60	CINNAMALDEHYDE	Fruit				--
14	BETAINE	Fruit Juice				--
7	(+)-GALLOCATECHIN	Leaf				--
0	DELPHINIDIN-3-(P-COUMAROYLGLUCOSIDE)-5-GLUCOSIDE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	PROCYANIDIN-B-3	Seed				--
2	VIOLAXANTHIN	Fruit				--
28	CALCIUM	Stem		17700.0	-0.11330590567075993	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	MALVIDIN-3-(6-P-COUMAROYLGLUCOSIDE)-5-GLUCOSIDE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	MALVIDIN-3-O-BETA-D-GLUCOSIDE	Pericarp				--
22	ISOQUERCITRIN	Leaf				--
0	BENZYL-ALCOHOL-BETA-D-GLUCOSIDE	Leaf				--
5	CYANIN	Tissue Culture				--
0	PYROPHOSPHATASE-NUCLOETIDE	Root				--
0	ACUMINOSIDE	Fruit Juice				--
0	PAEONIDIN-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.
35	GERANIOL	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
24	VANILLIC-ACID	Leaf				--
0	LUTEIN-5,6-EPOXIDE	Fruit				--
53	LINALOOL	Leaf Essent. Oil		273000.0	1.032803610048003	--
27	LINOLEIC-ACID	Seed Oil				--
0	HEPTACOSAN-1-OL	Root				--
0	ASCORBIC-ACID-OXIDASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
102	CAFFEIC-ACID	Root				--
0	3,7-DIMETHYL-OCTA-1,5,7-TRIEN-3-OL	Fruit				--
0	TRANS-PICEID	Fruit				--
13	FORMIC-ACID	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
6	QUERCIMERITRIN	Leaf				--
4	KAEMPFEROL-3-O-GLUCOSIDE	Plant				--
7	CYANIDIN	Fruit				--
1	PETUNIDIN-3-O-BETA-D-GLUCOSIDE	Pericarp				--
4	GLYCOLIC-ACID	Leaf				--
0	ROSEOSIDE	Fruit				--
0	LINALOOL-6-O-ALPHA-L-RHAMNOPYRANOSYL-BETA-D-GLUCOPYRANOSIDE	Fruit Juice				--
0	PETUNIDIN-3-CAFFEYOYLGLUCOSIDE	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	2,2,6-TRIMETHYL-8-(1-HYDRFOXY-ETHYL)-7-OXA-BICYCLO-(4,3,0)-NONA-4,9-DIENE	Fruit				--
38	(-)-EPICATECHIN	Seed				--
39	NIACIN	Stem				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	ENOTANNIN	Seed				--
0	PROCYANIDIN-B-8	Seed				--
77	ZINC	Stem		75.0	-0.6142974269256724	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	CIS-CAFFEIC-ACID	Fruit				Jim Duke's personal files.
7	SUCCINIC-ACID	Fruit				--
0	2-TRANS-DECENAL	Seed				--
1	PETUNIDIN-3-O-BETA-D-GLUCOSIDE	Exocarp				--
0	LINALOL	Leaf Essent. Oil		273000.0	1.0	--
1	CEPHALIN	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	EPI-CATECHIN-(4-BETA-8)- EPI-CATECHIN-3-O- GALLATE-(4-BETA-8)- CATECHIN	Seed				--
0	DELPHINIDIN-3-(6-P- COUMAROYLGLUCOSIDE)	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	PROCYANIDIN-B-2-3,3'-DI- O-GALLATE	Seed				--
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.
4	SILICON	Stem		365.0	-0.5461064151412073	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
6	MALVIDIN	Fruit				--
0	MALVIDIN-3-O-BETA-D- GLUCOSIDE	Exocarp				--
0	BENZYL-ALCOHOL-6-O-L- ARABINOFURANOSYL- BETA-D- GLUCOPYRANOSIDE	Leaf				--
7	CYANIDIN	Pericarp				--
16	ACETIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	PAEONIDIN-3- CAFFEYOYLGLUCOSIDE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
35	GERANIOL	Leaf Essent. Oil		145200.0	0.2933293044777782	--
5	TRANS-RESVERATROL	Fruit				--
0	MYRICETIN-3- MONOGLUCOSIDE	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
53	LINALOOL	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
75	KAEMPFEROL	Fruit		2.0	-0.5794291374991353	--
0	HENTRIACONTANE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
112	ASCORBIC-ACID	Stem		310.0	-1.1858763373403332	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
102	CAFFEIC-ACID	Leaf				--
0	POLYPHENOL-OXIDASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	3,7-DIMETHYL-OCT-1-ENE-3,7-DIOL	Fruit				--
2	TARAXASTEROL	Stem				--
0	OLEANOLIC-ALDEHYDE	Stem				--
176	QUERCETIN	Leaf				--
0	FERULOYL-SUCCINIC-ACID	Plant				--
2	CRYPTOXANTHIN	Fruit				--
31	THIAMIN	Stem		11.0	0.36791183185934545	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	FLAVONOL-GLUCOSIDES	Leaf				Bruneton, J. 1999. Pharmacognosy, Phytochemistry, Medicinal Plants. 2nd Ed. Lavoisier Publishing, Paris. 1119 pp.
15	RIBOFLAVIN	Stem		6.9	-0.48723714845751276	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	PETUNIDIN-3-(6-P-COUMAROYLGLUCOSIDE)	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
0	(DL)-GALLOCATECHIN	Leaf				--
38	(-)-EPICATECHIN	Leaf				--
0	ENOMELANIN	Fruit				--
0	PROCYANIDIN-B-7	Seed				--
18	CINNAMIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	SUCCINDEHYDROGENASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	MELIBIOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	2-TRANS-4-CIS-DECADIENAL	Seed				--
1	PEONIDIN-3-O-BETA-D-GLUCOSIDE	Pericarp				--
1	LEUCOCYANIDIN	Plant				--
0	3-OXO-ALPHA-IONOL	Fruit				--
0	BETA-PHENYLETHANOL-BETA-D-RUTINOSIDE	Fruit Juice				--
0	EPI-CATECHIN-(4-BETA-8)-EPI-CATECHIN-(4-BETA-8)-CATECHIN	Seed				--
23	ALPHA-TERPINEOL	Leaf Essent. Oil		108000.0	1.3174552815097405	--
0	LINALOOL-BETA-D-GLUCOSIDE	Fruit Juice				--
0	DELPHINIDIN-3,5-DIGLUCOSIDE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	PROCYANIDIN-B-2-3'-O-GALLATE	Seed				--
0	CAFFEYL TARTARIC-ACID	Fruit				--
12	STIGMASTEROL	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
15	MALIC-ACID	Plant				--
0	6-9-DIHYDROXY- MEGASTIGM-7-EN-3-ONE	Fruit				--
4	ISOCHLOROGENIC-ACID	Fruit		200.0	-1.0	--
9	BENZYL-ALCOHOL	Leaf				--
0	CIS-COUTARIC-ACID	Fruit Juice				--
19	PTEROSTILBENE	Leaf				--
0	PAEONIDIN-3-5,- DIGLUCOSIDE	Fruit				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				--
6	TARTARIC-ACID	Leaf				--
21	LUPEOL	Leaf				--
20	LECITHIN	Seed				--
30	HYPEROSIDE	Leaf				--
7	ASTRAGALIN	Leaf				--
0	3,7-DIMETHYL-OCT-1-ENE- 3,6,7-TRIOL	Fruit				--
12	STIGMASTEROL	Root				--
1	OLEANOLIC-ACID-METHYL- ESTER	Leaf				--
43	PROTOCATECHUIC-ACID	Leaf				--
0	DEHYDROHEXAHYDROXY DIPHENIC-ACID	Leaf				Bruneton, J. 1999. Pharmacognosy, Phytochemistry, Medicinal Plants. 2nd Ed. Lavoisier Publishing, Paris. 1119 pp.
0	CRYPTOCHLOROGENIC- ACID	Fruit				Jim Duke's personal files.
0	MUTATOXANTHIN	Fruit				--
2	ERUCIC-ACID	Seed				--
0	PETUNIDIN-3,5- DIGLUCOSIDE	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
38	(-)-EPICATECHIN	Pericarp				--
0	NEROL-BETA-D-GLUCOSIDE	Fruit Juice				--
51	ELLAGIC-ACID	Fruit				--
1	PROCYANIDIN-B-6	Seed				--
5	ZEAXANTHIN	Fruit				--
24	CHROMIUM	Stem		9.0	0.4664861453042604	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	MEGASTIGM-5-EN-7-YNE-3,9-DIOL	Fruit Juice				--
1	PEONIDIN-3-O-BETA-D-GLUCOSIDE	Exocarp				--
0	LEUCOANTHOCYANIDOLE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	OENIN	Pericarp				Chemical Constituents of Oriental Herbs (3 diff. books)
0	BETA-PHENYLETHANOL-BETA-D-GLUCOSIDE	Fruit Juice				--
0	EPI-CATECHIN-(4-BETA-8)-EPI-CATECHIN-(4-BETA-6)-EPI-CATECHIN	Seed				--
0	LINALOOL-6-O-ALPHA-L-ARABINOFURANOSYL-BETA-D-GLUCOPYRANOSIDE	Fruit Juice				--
0	URSOLIC-ALDEHYDE	Stem				--
0	CAFFEOYL-TARTRATE	Fruit				Jim Duke's personal files.
0	STEARIC-ACID-BUTYL-ESTER	Seed				--
14	SHIKIMIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	3-OXO-OLEAN-12-EN-28-OIC-ACID	Pericarp				--
0	ISOBUTYL-AMINE	Fruit Juice				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	BENZYL-6-O-BETA-D- APIOFURANOSYL-BETA-D- GLUCOSIDE	Fruit Juice				--
77	CHLOROGENIC-ACID	Root				--
0	PROTOPECTINASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
3	ABSCISSIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	PAEONIDIN-3-(6-P- COUMAROYLGLUCOSIDE)	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	GAMMA-CAROTENE	Fruit				--
2	TARAXEROL	Stem				--
9	DELPHINIDIN	Plant				--
0	PROCYANIDIN-B-2-3'- GALLATE	Leaf				--
0	GALLOYL-PROCYANIDIN	Leaf				--
0	GRASSHOPPER-KETONE	Fruit Juice				--
3	GLYCERIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	4- HYDROXYBENZALDEHYDE	Leaf				--
0	PHYTOFLUENE	Fruit				--
0	24-METHYL- CYCLOARTENOL	Stem				--
14	SHIKIMIC-ACID	Root				--
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.
1	PROTocatechualdehyde	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
60	LIMONENE	Plant				Stitt, Paul. Why George should eat broccoli.
57	COUMARIN	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
40	EPICATECHIN	Seed				--
0	PEROXIDASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
38	(-)-EPICATECHIN	Fruit				--
0	NEROL-6-O-BETA-D- APIOFURANOSYL-BETA-D- GLUCOSIDE	Fruit Juice				--
0	ELEMOL-ACETATE	Leaf Essent. Oil		130200.0		--
0	PROCYANIDIN-B-5	Seed				--
3	XYLOSE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
12	STIGMASTEROL	Plant				--
14	MANGANESE	Stem		986.0	-0.3806285370071949	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
68	RESVERATROL	Fruit		13.3		--
1	PEONIDIN-3-O-BETA-D- GLUCOSIDE	Tissue Culture				--
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.)
0	BETA-PHENYLETHANOL-6- BETA-D- ARABINOFURANOSYL- BETA-D- GLUCOPYRANOSIDE	Fruit Juice				--
0	EPI-CATECHIN-(4-BETA-8)- EPI-CATECHIN-(4-BETA-6)- CATECHIN	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	ALPHA-HYDROXY-CAROTENE	Fruit				--
0	LINALOOL-6-O-BETA-D-APIOFURANOSYL-BETA-D-GLUCOSIDE	Fruit Juice				--
102	CAFFEIC-ACID	Fruit				--
0	QUERCETIN-3-O-GLUCOSIDE	Plant				--
65	MAGNESIUM	Stem		4360.0	-0.17001174539444178	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	3-BETA-HYDROXY-OLEAN-12-EN-28-ALDEHYDE	Pericarp				--
0	ISOAMYL-AMINE	Fruit Juice				--
20	BENZOIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
77	CHLOROGENIC-ACID	Leaf				--
0	PROTEIN	Stem		89000.0	-0.7071067811865476	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	A-HEMICELLULOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
3	CAFTARIC-ACID	Fruit				--
0	PAEONIDIN	Fruit				--
62	GALLIC-ACID	Fruit				--
6	SYRINGIC-ACID	Leaf				--
1	PROCYANIDIN-B-2	Pericarp				--
8	GENTISIC-ACID	Leaf				--
0	NEROL-6-O-BETA-D-APIOFURANOSYL-BETA-D-GLUCOSIDE	Fruit Juice				--
0	PHYTOENE	Fruit				--
0	2-PHENYLETHYL-AMINE	Fruit Juice				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	QUERCETIN-3-GLUCURONIDE	Leaf				--
0	OENIN	Petiole				--
0	NUCLEOTIDE-PYROPHOSPHATASE	Root				--
8	INOSITOL	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	MONOFERULYLSUCCINIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	2-TRANS-HEPTANAL	Seed				--
1	RAFFINOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	FERTARIC-ACID	Fruit				--
0	JASMONIC-ACID	Bud				--
0	NEROL-6-0-ALPHA-L-RHAMNOPYRANOSYL-BETA-D-GLUCOPYRANOSIDE	Fruit				--
2	DIMETHYL-AMINE	Fruit Juice				--
0	PROCYANIDIN-B-4-3'-GALLATE	Seed				--
0	WATER	Stem		792000.0	0.21078766023930146	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
1	CHOLESTEROL	Fruit				--
28	VANILLIN	Fruit				--
13	PALMITIC-ACID	Seed Oil				--
13	BETA-IONONE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	EPI-CATECHIN-(4-BETA-6)- EPI-CATECHIN-(4-BETA-8)- EPI-CATECHIN	Seed				--
1	QUINIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
7	ALPHA-CAROTENE	Fruit				--
0	2,6-DIMETHYL-TRANS- OCTA-2,7-DIEN-1,6-DIOL- BETA-D- GLUCOPYRANOSIDE	Fruit				--
7	PELARGONIDIN	Fruit				--
0	PHENYLPROPANOIC- ACIDS	Leaf				Bruneton, J. 1999. Pharmacognosy, Phytochemistry, Medicinal Plants. 2nd Ed. Lavoisier Publishing, Paris. 1119 pp.
0	3-BETA-29-DIHYDROXY- OLEAN-12-EN-28-OIC-ACID	Pericarp				--
6	IRON	Stem		900.0	0.1561374515042096	--
0	N(6)-ISO-PENTENYL- ADENINE	Resin, Exudate, Sap				--
0	9-HYDROXY-MEGASTIGM- 4,6,7-TRIEN-3-ONE	Fruit Juice				--
1	ASTILBIN	Pericarp				--
13	P-HYDROXY-BENZOIC- ACID	Hull Husk				--
0	GALACTURONIC-ACID	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
4	SYRINGALDEHYDE	Leaf				--
4	D-CATECHIN	Leaf				--
1	PROCYANIDIN-B-2	Leaf				--
0	BROMINE	Fruit		1.0	-0.42563543443835	USDA's Ag Handbook 8 and sequelae)
62	GALLIC-ACID	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	GLUCOSE-6-PHOSPHATE-DEHYDROGENASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
77	CHLOROGENIC-ACID	Shoot				--
4	PHOSPHORUS	Stem		1710.0	-0.5945154579676041	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	2-PHENYLETHAN-2-OL-6-BETA-D-APIOFURANOSYL-BETA-D-GLUCOSIDE	Fruit				--
1	PROCYANIDIN-B-1	Seed				--
0	OCTAN-1-OL	Stem				--
61	FERULIC-ACID	Fruit				--
1	DIHYDROZEATIN	Resin, Exudate, Sap				--
0	GALLOCATECHIN	Leaf				--
2	COBALT	Stem		33.0	0.7427055671504605	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
2	TARAXEROL	Leaf				--
0	MONOCAFFEIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
19	CYANIDIN-3-O-GLUCOSIDE	Leaf				Bruneton, J. 1999. Pharmacognosy, Phytochemistry, Medicinal Plants. 2nd Ed. Lavoisier Publishing, Paris. 1119 pp.
0	ENGELETIN	Pericarp				--
0	GALLOCATECHIN	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	NEROL-6-O-ALPHA-L-ARABINOFURANOSYL-BETA-D-GLUCOPYRANOSIDE	Fruit				--
0	DIHYDROPHASEIC-ACID-4'-BETA-D-GLUCOSIDE	Fruit				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	PROCYANIDIN-B-4	Pericarp				--
77	CHLOROGENIC-ACID	Fruit		1400.0	0.11655949578196001	--
1	STACHYOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	MALVIDIN-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.
89	URSOLIC-ACID	Fruit				--
18	OLEIC-ACID	Seed Oil				--
8	LACTIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
53	BETA-CAROTENE	Stem		43.0	-0.5551411085990826	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	EPI-CATECHIN-(4-BETA-6)-EPI-CATECHIN-(4-BETA-8)-CATECHIN	Seed				--
1	QUINIC-ACID	Fruit				Jim Duke's personal files.
10	ALPHA-AMYRIN	Stem				--
1	DELPHINIDIN-3-O-BETA-D-GLUCOSIDE	Pericarp				--
0	PECTIN-METHYL-ESTERASE	Fruit				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.
60	SELENIUM	Stem		18.0	1.924519185907645	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	PHOSPHATIDYL-SERINE	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	16-BETA-HYDROXY-3-OXO-OLEAN-12-EN-28-OIC-ACID	Pericarp				--
0	B-HEMICELLULOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	TRANS-CAFTARIC-ACID	Fruit Juice				--
0	30-NOR-LUPAN-3-BETA-OL-20-ONE	Root				--
30	ANTHOCYANINS	Pericarp				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	P-COUMAROYL-TRANS-TARTRATE	Fruit				--
1	GALACTOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
8	STEARIC-ACID	Seed Oil				--
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	PROCYANIDIN-B-2	Seed				--
0	TRIACONTAN-1-OL-TRIDECANOATE	Root				--
62	GALLIC-ACID	Seed				--
7	GLUCOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
30	ANTHOCYANINS	Fruit				--
0	2-PHENYLETHAN-1-OL	Leaf				--
7	PICEID	Fruit				--
0	OBTUSIFOLIOL	Stem				--
3	CIS-RESVERATROL	Fruit				--
0	GALLOCATECHIN	Hr				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	TARAXASTEROL	Leaf				--
0	MONOCAFFEIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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.
0	LINALOL-BETA-D-GLUCOSIDE	Fruit Juice				--
0	DIHYDROQUERCETIN-3-RHAMNOSIDE	Pericarp				--
0	BREVILAGIN-I	Leaf		533.3		--
0	ZEATIN-RIBOSIDE	Resin, Exudate, Sap				--
10	NEROL	Leaf				--
0	DIHYDROFURAN-I	Fruit Juice				--
4	PROCYANIDIN-B-4	Leaf				--
0	VOMIFOLIOL	Fruit				--
0	CATECHOL-OXIDASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
10	SQUALENE	Seed				--
0	MALVIDIN-3-GLUCOSIDE	Fruit				--
64	OLEANOLIC-ACID	Pericarp				--
0	KAEMPFEROL-3-MONOGLUCOSIDE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
30	(+)-CATECHIN	Pericarp				--
44	QUERCITRIN	Leaf				--
0	ALPHA-AMYL-AMINE	Fruit Juice				--
3	CAFFEYOILTARTARIC-ACID	Fruit				Jim Duke's personal files.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PALMITIC-ACID-BUTYL-ESTER	Seed				--
16	LYCOPENE	Fruit				--
0	PHOSPHATIDYL-INOSITOL	Seed				--
0	16-BETA-HYDROXY-3-OXO-OLEAN-1-12-DIEN-28-OIC-ACID	Pericarp				--
0	HYDROXY-CITRONELLOL	Essential Oil				--
0	ASRAGALIN	Flower				--
13	P-HYDROXY-BENZOIC-ACID	Leaf				--
0	3-HYDROXY-BETA-DAMASCONE	Fruit Juice				--
0	PROCYANIDIN-B1,3'-O-GALLATE	Seed				--
0	P-COUMAROYL-CIS-TARTRATE	Fruit				--
22	GABA	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
10	SQUALENE	Seed Oil				--
1	PROCYANIDIN-B-1	Pericarp				--
1	TRIACONTAN-1-OL	Root				--
0	GERMANICOL	Stem				--
1	ANTHERAXANTHIN	Fruit				--
0	2,2,6-TRIMETHYL-8-(1-HYDROXY-ETHYL)-7-OXA-BICYCLO-(4,3,0)-NONA-4,9-DIENE	Fruit				--
0	PHOSPHODIESTERASE	Root				--
0	2-METHOXY-3-ISOBUTYL-PYRAZINE	Stem				--
0	PEONIDIN-3-P-COUMAROYL-GLUCOSIDE	Tissue Culture				--
0	O-HYDROXYBENZOIC-ACID	Hull Husk				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
0	PROCYANIDIN-G	Pericarp				--
0	EPICATECHIN-3-GALLATE	Seed				--
1	CITROSTADIENOL	Stem				--
35	TANNIN	Seed				--
0	MONO-P-COUMARYL-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
43	CATECHIN	Seed				--
0	LINALOL-6-0-BETA-D-APIOFURANOSYL-BETA-D-GLUCOSIDE	Fruit Juice				--
0	DIHYDROKAEMPFEROL-3-RHAMNOSIDE	Pericarp				--
62	GALLIC-ACID	Root				--
2	ZEATIN	Resin, Exudate, Sap				--
2	NEOXANTHIN	Fruit				--
2	DIETHYL-AMINE	Fruit Juice				--
4	PROCYANIDIN-B-4	Seed				--
0	VITISPIRANE	Plant				Chemical Constituents of Oriental Herbs (3 diff. books)
1	CATALASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	SODIUM	Stem		156.0	-0.5194124752401025	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	MALVIDIN-3-CHLOROGENIC-ACID-GLUCOSIDE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	PROTocatechualdehyde	Fruit				--
0	CIS-PICEID	Fruit				--
75	KAEMPFEROL	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
9	BETA-AMYRIN	Stem				--
30	(+)-CATECHIN	Leaf				--
0	QUERCETIN-GLUCURONOSIDE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	ALPHA-3-OXO-IONONE	Fruit Juice				--
44	QUERCITRIN	Fruit				--
47	BETA-SITOSTEROL	Seed				--
34	SALICYLIC-ACID	Root				--
0	LUTEOXANTHIN	Fruit				--
3	PETUNIDIN	Pericarp				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
21	LUPEOL	Root				--
13	P-HYDROXY-BENZOIC-ACID	Root				--
27	PROCYANIDINS	Fruit				--
0	3,7-DIMETHYL-OCTA-1,7-DIEN-3,6-DIOL	Fruit				--
1	EPICATECHIN-3-O-GALLATE	Seed				--
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	FUMARIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
34	SALICYLIC-ACID	Leaf				--
1	POTASSIUM-BITARTRATE	Leaf				--
7	CYCLOARTENOL	Stem				--
1	PROCYANIDIN-B-1	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	TRANS-CAFFEIC-ACID	Fruit				Jim Duke's personal files.
0	GERANIOL-BETA-D-GLUCOSIDE	Fruit Juice				--
5	ALUMINUM	Stem		1030.0	0.044464754302322065	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	2-PHENYLETHAN-2-OL-6-BETA-D-APIOFURANOSYL-BETA-D-GLUCOSIDE	Fruit Juice				--
0	2,6-DIMETHYL-TRANS-OCTA-2,7-DIEN-1,6-DIOL-BETA-D-GLUCOPYRANOSIDE	Plant				--
0	(-)-GALLOCATECHIN	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	NONACOSANE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	ETHYL-AMINE	Fruit Juice				--
1	PROCYANIDIN-C-2	Seed				--
0	EPICATECHIN-3-GALLATE	Fruit				--
15	CITRONELLOL	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.
0	MONO-P-COUMARYL-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	CAMPESTEROL	Seed				--
0	LINALOL-6-O-ALPHA-L-RHAMNOPYRANOSYL-BETA-D-GLUCOPYRANOSIDE	Fruit				--
0	DEHYDROVOMIFOLIOL	Fruit				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	BIOTIN	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	ENOMELANIN	Plant				--
2	NEO-CHLOROGENIC-ACID	Fruit		20.0		--
0	DELPHINIDIN-3-CAFFEYOYLGLUCOSIDE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	PROCYANIDIN-B-3	Pericarp				--
0	VITILAGIN	Leaf		89.0		--
0	MALVIDIN-3-CAFFEYOYLGLUCOSIDE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	MYRICETIN-3-O-BETA-D-GLUCOSIDE	Leaf				--
0	JU	Plant				--
0	BETA-3-OXO-DAMASCONE	Fruit Juice				--
30	(+)-CATECHIN	Seed				--
0	ALPHA-3-OXO-DAMASCONE	Fruit Juice				--
0	GERANIOL-6-O-ALPHA-L-RHAMNOPYRANOSYL-BETA-D-GLUCOPYRANOSIDE	Fruit				--
0	VITIS-ARABINO GALACTAN-PROTEIN-AG-P	Fruit				--
0	MONOCAFFEYOYL TARTARIC-ACID	Leaf				Bruneton, J. 1999. Pharmacognosy, Phytochemistry, Medicinal Plants. 2nd Ed. Lavoisier Publishing, Paris. 1119 pp.
87	RUTIN	Leaf				--
78	LUTEOLIN	Leaf				--
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
21	LUPEOL	Stem				--
0	HIRSUTRIN	Leaf				--
0	ASH	Stem		88000.0	0.9172643481683129	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
1	METHYL-AMINE	Fruit Juice				--
3	PROCYANIDIN-B-2-3'-O-GALLATE	Fruit				--
0	3,7-DIMETHYL-OCTA-1,6-DIEN-3,5-DIOL	Fruit				--
1	EPICATECHIN-3-O-GALLATE	Fruit				--
9	OXALIC-ACID	Fruit		34.0	-0.3044741963579158	--
8	FRUCTOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
68	RESVERATROL	Shoot				--
0	PAEONIDIN-3-O-GLUCOSIDE	Leaf				Bruneton, J. 1999. Pharmacognosy, Phytochemistry, Medicinal Plants. 2nd Ed. Lavoisier Publishing, Paris. 1119 pp.
0	CYANIDIN-3-GLUCOSIDE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	PROANTHOCYANIDIN-POLYMER	Fruit				--