

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Vitis vinifera*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
30	(+)-CATECHIN	Pericarp				--
30	(+)-CATECHIN	Leaf				--
30	(+)-CATECHIN	Seed				--
7	(+)-GALLOCATECHIN	Leaf				--
38	(-)-EPICATECHIN	Seed				--
38	(-)-EPICATECHIN	Leaf				--
38	(-)-EPICATECHIN	Pericarp				--
38	(-)-EPICATECHIN	Fruit				--
0	(-)-EPICATECHIN-3-GALLATE	Leaf				--
21	(-)-EPIGALLOCATECHIN	Leaf				--
0	(-)-GALLOCATECHIN	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	(DL)-GALLOCATECHIN	Leaf				--
0	16-BETA-HYDROXY-3-OXOLEAN-1-12-DIEN-28-OIC-ACID	Pericarp				--
0	16-BETA-HYDROXY-3-OXOLEAN-12-EN-28-OIC-ACID	Pericarp				--
0	2,2,6-TRIMETHYL-8-(1-HYDRFOXY-ETHYL)-7-OXABICYCLO-(4,3,0)-NONA-4,9-DIENE	Fruit				--
0	2,2,6-TRIMETHYL-8-(1-HYDROXY-ETHYL)-7-OXABICYCLO-(4,3,0)-NONA-4,9-DIENE	Fruit				--
0	2,6-DIMETHYL-TRANS,TRANS-OCTA-2,6-DIEN-1,8-DIOL	Fruit				--
0	2,6-DIMETHYL-TRANS-OCTA-2,7-DIEN-1,6-DIOL-6-O-ALPHA-D-ARABINOFURANOSYL-BETA-D-BETA-D-GLUCOPYRANOSIDE	Fruit				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	2,6-DIMETHYL-TRANS-OCTA-2,7-DIEN-1,6-DIOL-BETA-D-GLUCOPYRANOSIDE	Fruit				--
0	2,6-DIMETHYL-TRANS-OCTA-2,7-DIEN-1,6-DIOL-BETA-D-GLUCOPYRANOSIDE	Plant				--
0	2-METHOXY-3-ISOBUTYL-PYRAZINE	Stem				--
0	2-PHENYLETHAN-1-OL	Leaf				--
0	2-PHENYLETHAN-2-OL-6-BETA-D-APIOFURANOSYL-BETA-D-GLUCOSIDE	Fruit				--
0	2-PHENYLETHAN-2-OL-6-BETA-D-APIOFURANOSYL-BETA-D-GLUCOSIDE	Fruit Juice				--
0	2-PHENYLETHYL-AMINE	Fruit Juice				--
0	2-TRANS-4-CIS-DECADIENAL	Seed				--
0	2-TRANS-DECENAL	Seed				--
0	2-TRANS-HEPTANAL	Seed				--
0	24-METHYL-CYCLOARTENOL	Stem				--
0	3,7-DIMETHYL-OCT-1-ENE-3,6,7-TRIOL	Fruit				--
0	3,7-DIMETHYL-OCT-1-ENE-3,7-DIOL	Fruit				--
0	3,7-DIMETHYL-OCTA-1,5,7-TRIEN-3-OL	Fruit				--
0	3,7-DIMETHYL-OCTA-1,5-DIEN-3,7-DIOL	Fruit				--
0	3,7-DIMETHYL-OCTA-1,6-DIEN-3,5-DIOL	Fruit				--
0	3,7-DIMETHYL-OCTA-1,7-DIEN-3,6-DIOL	Fruit				--
0	3-BETA-29-DIHYDROXY-OLEAN-12-EN-28-OIC-ACID	Pericarp				--
0	3-BETA-HYDROXY-OLEAN-12-EN-28-ALDEHYDE	Pericarp				--
0	3-HYDROXY-BETA-DAMASCONE	Fruit Juice				--
0	3-OXO-ALPHA-IONOL	Fruit				--
0	3-OXO-BETA-DAMASCONE	Fruit Juice				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	3-OXO-OLEAN-12-EN-28-OIC-ACID	Pericarp				--
0	30-NOR-LUPAN-3-BETA-OL-20-ONE	Root				--
3	4-HYDROXYBENZALDEHYDE	Leaf				--
0	6-9-DIHYDROXY-MEGASTIGM-7-EN-3-ONE	Fruit				--
0	9-HYDROXY-MEGASTIGM-4,6,7-TRIEN-3-ONE	Fruit Juice				--
0	A-HEMICELLULOSE	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.
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.
0	ACUMINOSIDE	Fruit Juice				--
3	ALANINE	Fruit	280.0	1440.0	-0.8911912580591054	USDA's Ag Handbook 8 and sequelae)
0	ALPHA-3-OXO-DAMASCONE	Fruit Juice				--
0	ALPHA-3-OXO-IONONE	Fruit Juice				--
0	ALPHA-AMYL-AMINE	Fruit Juice				--
10	ALPHA-AMYRIN	Stem				--
7	ALPHA-CAROTENE	Fruit				--
0	ALPHA-HYDROXY-CAROTENE	Fruit				--
15	ALPHA-LINOLENIC-ACID	Fruit	390.0	2006.0	-0.24402755757732797	USDA's Ag Handbook 8 and sequelae)
23	ALPHA-TERPINEOL	Leaf Essent. Oil		108000.0	1.3174552815097405	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
32	ALPHA-TOCOPHEROL	Fruit	6.0	31.0	-0.6444565233542005	--
0	ALPHA-VINIFERIN	Leaf		23400.0		--
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	--
1	ANTHERAXANTHIN	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.
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	ANTHOCYANINS	Leaf		3000.0		Bruneton, J. 1999. Pharmacognosy, Phytochemistry, Medicinal Plants. 2nd Ed. Lavoisier Publishing, Paris. 1119 pp.
30	ANTHOCYANINS	Fruit				--
14	ARGININE	Fruit	490.0	2520.0	-0.47739653189299114	USDA's Ag Handbook 8 and sequelae)
2	ARSENIC	Fruit	0.001	0.889	0.6023550350459049	--
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)
0	ASCORBIC-ACID-OXIDASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	ASH	Stem		88000.0	0.9172643481683129	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	ASH	Fruit	4290.0	77000.0	0.526613994855476	--
3	ASPARTIC-ACID	Fruit	810.0	4167.0	-0.78714800256649	USDA's Ag Handbook 8 and sequelae)
0	ASRAGALIN	Flower				--
1	ASTILBIN	Pericarp				--
7	ASTRAGALIN	Leaf				--
0	B-HEMICELLULOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	BARIUM	Fruit	0.66	15.4	-0.5127937102474286	--
20	BENZOIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	BENZYL-6-O-BETA-D-APIOFURANOSYL-BETA-D-GLUCOSIDE	Fruit Juice				--
9	BENZYL-ALCOHOL	Leaf				--
0	BENZYL-ALCOHOL-6-O-L-ARABINOFURANOSYL-BETA-D-GLUCOPYRANOSIDE	Leaf				--
0	BENZYL-ALCOHOL-BETA-D-GLUCOSIDE	Leaf				--
0	BENZYL-ALCOHOL-BETA-D-RUTINOSIDE	Leaf				--
0	BETA-3-OXO-DAMASCONE	Fruit Juice				--
9	BETA-AMYRIN	Stem				--
9	BETA-AMYRIN	Leaf				--
53	BETA-CAROTENE	Stem		43.0	-0.5551411085990826	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
53	BETA-CAROTENE	Fruit	0.5	2.1	-0.14674136696680995	--
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	BETA-PHENYLETHANOL-6-BETA-D-ARABINOFURANOSYL-BETA-D-GLUCOPYRANOSIDE	Fruit Juice				--
0	BETA-PHENYLETHANOL-BETA-D-GLUCOSIDE	Fruit Juice				--
0	BETA-PHENYLETHANOL-BETA-D-RUTINOSIDE	Fruit Juice				--
47	BETA-SITOSTEROL	Seed				--
47	BETA-SITOSTEROL	Fruit	30.0	150.0	-0.5971588891273873	--
14	BETAINE	Fruit Juice				--
22	BETULINIC-ACID	Root				--
4	BIOTIN	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
4	BORON	Fruit	1.0	50.0	0.20278384568897864	--
0	BREVILAGIN-I	Leaf		533.3		--
0	BROMINE	Fruit		1.0	-0.42563543443835	USDA's Ag Handbook 8 and sequelae)
3	CADMIUM	Fruit	0.001	0.231	0.03526712239341311	--
102	CAFFEIC-ACID	Root				--
102	CAFFEIC-ACID	Leaf				--
102	CAFFEIC-ACID	Fruit				--
0	CAFFEOYL-TARTRATE	Fruit				Jim Duke's personal files.
3	CAFFEOYL TARTARIC-ACID	Fruit				Jim Duke's personal files.
0	CAFFEYL TARTARIC-ACID	Fruit				--
3	CAFTARIC-ACID	Fruit				--
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	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	CALCIUM-PECTATE	Leaf		69000.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
2	CAMPESTEROL	Seed				--
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	CARBOHYDRATES	Fruit	177700.0	914095.0	0.7016650651905534	USDA's Ag Handbook 8 and sequelae)
1	CATALASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
43	CATECHIN	Seed				--
0	CATECHOL-OXIDASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	CEPHALIN	Seed				--
77	CHLOROGENIC-ACID	Fruit		1400.0	0.11655949578196001	--
77	CHLOROGENIC-ACID	Root				--
77	CHLOROGENIC-ACID	Leaf				--
77	CHLOROGENIC-ACID	Shoot				--
1	CHOLESTEROL	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	--
60	CINNAMALDEHYDE	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.
0	CIS-CAFFEIC-ACID	Fruit				Jim Duke's personal files.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	CIS-CAFTARIC-ACID	Fruit Juice				--
0	CIS-COUTARIC-ACID	Fruit Juice				--
0	CIS-PICEID	Fruit				--
3	CIS-RESVERATROL	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.
23	CITRIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
15	CITRONELLOL	Leaf				--
1	CITROSTADIENOL	Stem				--
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	--
5	CONIFERYL-ALDEHYDE	Fruit				--
12	COPPER	Fruit	0.7	11.6	-0.09487047254583593	--
57	COUMARIN	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	CRYPTOCHLOROGENIC-ACID	Fruit				Jim Duke's personal files.
2	CRYPTOXANTHIN	Fruit				--
7	CYANIDIN	Pericarp				--
7	CYANIDIN	Fruit				--
0	CYANIDIN-3-GALACTOSIDE	Fruit				--
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.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.
5	CYANIN	Tissue Culture				--
7	CYCLOARTENOL	Stem				--
2	CYSTINE	Fruit	110.0	566.0	-0.4853602292193013	USDA's Ag Handbook 8 and sequelae)
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.
0	DAMASCENONE	Fruit Juice	0.013	0.085		--
0	DEHYDROHEXAHYDROXY DIPHENIC-ACID	Leaf				Bruneton, J. 1999. Pharmacognosy, Phytochemistry, Medicinal Plants. 2nd Ed. Lavoisier Publishing, Paris. 1119 pp.
0	DEHYDROVOMIFOLIOL	Fruit				--
9	DELPHINIDIN	Plant				--
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.
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.
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.
0	DELPHINIDIN-3-0-BETA-D-GLUCOSIDE	Fruit				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.
1	DELPHINIDIN-3-O-BETA-D-GLUCOSIDE	Pericarp				--
2	DIETHYL-AMINE	Fruit Juice				--
0	DIHYDROFURAN-I	Fruit Juice				--
0	DIHYDROKAEMPFEROL-3-RHAMNOSIDE	Pericarp				--
0	DIHYDROPHASEIC-ACID-4'-BETA-D-GLUCOSIDE	Fruit				--
0	DIHYDROQUERCETIN-3-RHAMNOSIDE	Pericarp				--
1	DIHYDROZEATIN	Resin, Exudate, Sap				--
2	DIMETHYL-AMINE	Fruit Juice				--
0	ELEMOL-ACETATE	Leaf Essent. Oil		130200.0		--
51	ELLAGIC-ACID	Fruit				--
0	ENGELETIN	Pericarp				--
0	ENOMELANIN	Fruit				--
0	ENOMELANIN	Plant				--
0	ENOTANNIN	Seed				--
0	EPI-CATECHIN-(4-BETA-6)-EPI-CATECHIN-(4-BETA-8)-CATECHIN	Seed				--
0	EPI-CATECHIN-(4-BETA-6)-EPI-CATECHIN-(4-BETA-8)-EPI-CATECHIN	Seed				--
0	EPI-CATECHIN-(4-BETA-8)-EPI-CATECHIN-(4-BETA-6)-CATECHIN	Seed				--
0	EPI-CATECHIN-(4-BETA-8)-EPI-CATECHIN-(4-BETA-6)-EPI-CATECHIN	Seed				--
0	EPI-CATECHIN-(4-BETA-8)-EPI-CATECHIN-(4-BETA-8)-CATECHIN	Seed				--
0	EPI-CATECHIN-(4-BETA-8)-EPI-CATECHIN-3-O-GALLATE-(4-BETA-8)-CATECHIN	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
40	EPICATECHIN	Fruit				--
40	EPICATECHIN	Seed				--
0	EPICATECHIN-3-GALLATE	Seed				--
0	EPICATECHIN-3-GALLATE	Fruit				--
1	EPICATECHIN-3-O-GALLATE	Seed				--
1	EPICATECHIN-3-O-GALLATE	Fruit				--
4	EPSILON-VINIFERIN	Leaf		30900.0		--
5	ERGOSTEROL	Fruit				--
2	ERUCIC-ACID	Seed				--
0	ETHYL-AMINE	Fruit Juice				--
0	FAT	Fruit	5010.0	33898.0	-0.3823418924511751	USDA's Ag Handbook 8 and sequelae)
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	FERTARIC-ACID	Fruit				--
61	FERULIC-ACID	Fruit				--
0	FERULOYL-SUCCINIC-ACID	Plant				--
15	FIBER	Fruit	4210.0	24640.0	-1.104411552185134	USDA's Ag Handbook 8 and sequelae)
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.
0	FLAVONOL-GLUCOSIDES	Leaf				Bruneton, J. 1999. Pharmacognosy, Phytochemistry, Medicinal Plants. 2nd Ed. Lavoisier Publishing, Paris. 1119 pp.
0	FLUORINE	Fruit	0.1	0.6	-0.744462097809404	ACTA AGRIC SCAND SUPPL 22: 1980
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
13	FORMIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	FR	Plant				--
8	FRUCTOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
7	FUMARIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
22	GABA	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	GALACTOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	GALACTURONIC-ACID	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
62	GALLIC-ACID	Leaf				--
62	GALLIC-ACID	Seed				--
62	GALLIC-ACID	Root				--
62	GALLIC-ACID	Fruit				--
0	GALLOLATECHIN	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	GALLOLATECHIN	Leaf				--
0	GALLOLATECHIN	Hr				--
0	GALLOYL-PROCYANIDIN	Leaf				--
2	GAMMA-CAROTENE	Fruit				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
8	GENTISIC-ACID	Leaf				--
8	GENTISIC-ACID	Hull Husk				--
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	--
0	GERANIOL-6-O-ALPHA-L-ARABINOFURANOSYL-BETA-D-GLUCOPYRANOSIDE	Fruit				--
0	GERANIOL-6-O-ALPHA-L-RHAMNOPYRANOSYL-BETA-D-GLUCOPYRANOSIDE	Fruit				--
0	GERANIOL-BETA-D-GLUCOSIDE	Fruit Juice				--
0	GERMANICOL	Stem				--
7	GLUCOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	GLUCOSE-6-PHOSPHATE-DEHYDROGENASE	Fruit				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)
3	GLYCERIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
12	GLYCINE	Fruit	200.0	1029.0	-0.9963335342523983	USDA's Ag Handbook 8 and sequelae)
4	GLYCOLIC-ACID	Leaf				--
0	GRASSHOPPER-KETONE	Fruit Juice				--
0	HENTRIACONTANE	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	HEPTACOSAN-1-OL	Root				--
0	HEXOKINASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	HIRSUTRIN	Leaf				--
7	HISTIDINE	Fruit	240.0	1235.0	-0.33486171560742833	USDA's Ag Handbook 8 and sequelae)
0	HYDROXY-CITRONELLOL	Essential Oil				--
30	HYPEROSIDE	Leaf				--
8	INOSITOL	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
6	IRON	Stem		900.0	0.1561374515042096	--
6	IRON	Fruit	1.5	154.0	0.08338831118036903	--
0	ISOAMYL-AMINE	Fruit Juice				--
0	ISOBUTYL-AMINE	Fruit Juice				--
4	ISOCHLOROGENIC-ACID	Fruit		200.0	-1.0	--
3	ISOLEUCINE	Fruit	50.0	257.0	-1.0154078969360296	USDA's Ag Handbook 8 and sequelae)
22	ISOQUERCITRIN	Leaf				--
0	ISOVITILAGIN	Leaf		163.0		--
0	JASMONIC-ACID	Bud				--
0	JU	Plant				--
75	KAEMPFEROL	Leaf				--
75	KAEMPFEROL	Fruit		2.0	-0.5794291374991353	--
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.
4	KAEMPFEROL-3-O-GLUCOSIDE	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
8	LACTIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	LEAD	Fruit	0.02	9.0	0.04188042425593692	--
20	LECITHIN	Seed				--
2	LEUCINE	Fruit	140.0	720.0	-0.9313808451068529	USDA's Ag Handbook 8 and sequelae)
0	LEUCOANTHOCYANIDOLE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	LEUCOCYANIDIN	Plant				--
60	LIMONENE	Plant				Stitt, Paul. Why George should eat broccoli.
0	LINALOL	Fruit				--
0	LINALOL	Leaf Essent. Oil		273000.0	1.0	--
0	LINALOL-6-O-ALPHA-L-ARABINOFURANOSYL-BETA-D-GLUCOPYRANOSIDE	Fruit				--
0	LINALOL-6-O-ALPHA-L-RHAMNOPYRANOSYL-BETA-D-GLUCOPYRANOSIDE	Fruit				--
0	LINALOL-6-O-BETA-D-APIOFURANOSYL-BETA-D-GLUCOSIDE	Fruit Juice				--
0	LINALOL-BETA-D-GLUCOSIDE	Fruit Juice				--
53	LINALOOL	Leaf Essent. Oil		273000.0	1.032803610048003	--
53	LINALOOL	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	LINALOOL-6-O-ALPHA-L-ARABINOFURANOSYL-BETA-D-GLUCOPYRANOSIDE	Fruit Juice				--
0	LINALOOL-6-O-ALPHA-L-RHAMNOPYRANOSYL-BETA-D-GLUCOPYRANOSIDE	Fruit Juice				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	LINALOOL-6-O-BETA-D-APIOFURANOSYL-BETA-D-GLUCOSIDE	Fruit Juice				--
0	LINALOOL-BETA-D-GLUCOSIDE	Fruit Juice				--
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.
27	LINOLEIC-ACID	Fruit	1300.0	6687.0	-0.26105644413514206	USDA's Ag Handbook 8 and sequelae)
27	LINOLEIC-ACID	Seed Oil				--
0	LINOLEIC-ACID-ETHYL-ESTER	Seed				--
0	LINOLENIC-ACID	Seed Oil				--
11	LITHIUM	Fruit	0.088	0.308	-0.672367806726868	--
21	LUPEOL	Leaf				--
21	LUPEOL	Root				--
21	LUPEOL	Stem				--
15	LUTEIN	Fruit	0.7	7.0	-0.22996142536614406	--
0	LUTEIN-5,6-EPOXIDE	Fruit				--
0	LUTEIN-5-8-EPOXIDE	Fruit				--
78	LUTEOLIN	Leaf				--
0	LUTEOXANTHIN	Fruit				--
16	LYCOPENE	Fruit				--
4	LYSINE	Fruit	150.0	772.0	-0.8656782702911159	USDA's Ag Handbook 8 and sequelae)
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	--
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.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
6	MALVIDIN	Fruit				--
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-(P-COUMAROYLGLUCOSIDE)	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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	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.
0	MALVIDIN-3-GLUCOSIDE	Fruit				--
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.
0	MALVIDIN-3-O-BETA-D-GLUCOSIDE	Pericarp				--
0	MALVIDIN-3-O-BETA-D-GLUCOSIDE	Exocarp				--
0	MALVIDIN-MONOGLUCOSIDE	Tissue Culture				--
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	--
0	MEGASTIGM-5-EN-7-YNE-3,9-DIOL	Fruit Juice				--
0	MELIBIOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	MERCURY	Fruit	0.0	0.011	-0.3194372671514748	--
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
1	METHYL-AMINE	Fruit Juice				--
2	MOLYBDENUM	Fruit	0.1	0.539	-0.37721248118680145	--
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.
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.
0	MONOCAFFEIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	MONOCAFFEIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	MONOCAFFEYOILTARTARIC-ACID	Leaf				Bruneton, J. 1999. Pharmacognosy, Phytochemistry, Medicinal Plants. 2nd Ed. Lavoisier Publishing, Paris. 1119 pp.
0	MONOFERULYLSUCCINIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
13	MUFA	Fruit	230.0	1183.0	-0.23678373998760255	USDA's Ag Handbook 8 and sequelae)
0	MUTATOXANTHIN	Fruit				--
34	MYRICETIN	Fruit	1.0	9.3	0.39776676515655446	--
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.
0	MYRICETIN-3-O-BETA-D-GLUCOSIDE	Leaf				--
6	MYRISTIC-ACID	Fruit	50.0	257.0	-0.25701951929746253	USDA's Ag Handbook 8 and sequelae)
0	N(6)-ISO-PENTENYL-ADENINE	Resin, Exudate, Sap				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	N-PROPYL-AMINE	Fruit Juice				--
2	NEO-CHLOROGENIC-ACID	Fruit		20.0		--
2	NEOXANTHIN	Fruit				--
10	NEROL	Leaf				--
0	NEROL-6-O-ALPHA-L-ARABINOFURANOSYL-BETA-D-GLUCOPYRANOSIDE	Fruit				--
0	NEROL-6-O-ALPHA-L-RHAMNOPYRANOSYL-BETA-D-GLUCOPYRANOSIDE	Fruit				--
0	NEROL-6-O-BETA-D-APIOFURANOSYL-BETA-D-GLUCOSIDE	Fruit Juice				--
0	NEROL-6-O-ALPHA-L-ARABINOFURANOSYL-BETA-D-GLUCOPYRANOSIDE	Fruit Juice				--
0	NEROL-6-O-ALPHA-L-RHAMNOPYRANOSYL-BETA-D-GLUCOPYRANOSIDE	Fruit Juice				--
0	NEROL-6-O-BETA-D-APIOFURANOSYL-BETA-D-GLUCOSIDE	Fruit Juice				--
0	NEROL-BETA-D-GLUCOSIDE	Fruit Juice				--
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)
3	NICKEL	Fruit	0.01	0.77	-0.5452883169082009	--
0	NITROGEN	Fruit	1100.0	7220.0	-0.519032430701182	ACTA AGRIC SCAND SUPPL 22: 1980
2	NONACOSANE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	NONANAL	Seed				--
0	NUCLEOTIDE-PYROPHOSPHATASE	Root				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.
0	OBTUSIFOLIOL	Stem				--
0	OCTAN-1-OL	Stem				--
0	OENIN	Petiole				--
0	OENIN	Pericarp				Chemical Constituents of Oriental Herbs (3 diff. books)
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				--
1	OLEANOLIC-ACID-METHYL-ESTER	Leaf				--
0	OLEANOLIC-ALDEHYDE	Stem				--
18	OLEIC-ACID	Seed Oil				--
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	--
25	OPCS	Leaf	170.0	640.0		--
9	OXALIC-ACID	Fruit		34.0	-0.3044741963579158	--
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.
0	P-COUMAROYL-CIS-TARTRATE	Fruit				--
0	P-COUMAROYL-TRANS-TARTRATE	Fruit				--
13	P-HYDROXY-BENZOIC-ACID	Hull Husk				--
13	P-HYDROXY-BENZOIC-ACID	Leaf				--
13	P-HYDROXY-BENZOIC-ACID	Root				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PAEONIDIN	Fruit				--
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.
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.
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.
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.
0	PAEONIDIN-3-O-GLUCOSIDE	Leaf				Bruneton, J. 1999. Pharmacognosy, Phytochemistry, Medicinal Plants. 2nd Ed. Lavoisier Publishing, Paris. 1119 pp.
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)
0	PALMITIC-ACID-BUTYL-ESTER	Seed				--
11	PANTOTHENIC-ACID	Fruit	0.2	1.3	-1.0718946042703752	USDA's Ag Handbook 8 and sequelae)
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.
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.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
7	PELARGONIDIN	Fruit				--
3	PEONIDIN	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	Exocarp				--
1	PEONIDIN-3-O-BETA-D-GLUCOSIDE	Tissue Culture				--
1	PEONIDIN-3-O-BETA-D-GLUCOSIDE	Pericarp				--
0	PEONIDIN-3-P-COUMAROYL-GLUCOSIDE	Tissue Culture				--
0	PEROXIDASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
3	PETUNIDIN	Pericarp				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
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.
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.
0	PETUNIDIN-3-CAFFEOYLGLUCOSIDE	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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.
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.
1	PETUNIDIN-3-O-BETA-D-GLUCOSIDE	Pericarp				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	PETUNIDIN-3-O-BETA-D-GLUCOSIDE	Exocarp				--
7	PHENYLALANINE	Fruit	140.0	720.0	-0.9037071292147459	USDA's Ag Handbook 8 and sequelae)
0	PHENYLPROPANOIC-ACIDS	Leaf				Bruneton, J. 1999. Pharmacognosy, Phytochemistry, Medicinal Plants. 2nd Ed. Lavoisier Publishing, Paris. 1119 pp.
0	PHOSPHATIDYL-INOSITOL	Seed				--
0	PHOSPHATIDYL-SERINE	Seed				--
0	PHOSPHODIESTERASE	Root				--
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	--
5	PHYLLOQUINONE	Fruit	0.04	0.09	-0.21889420119445582	--
0	PHYTOENE	Fruit				--
0	PHYTOFLUENE	Fruit				--
2	PHYTOSTEROLS	Fruit	40.0	206.0	-0.9525233048912787	USDA's Ag Handbook 8 and sequelae)
7	PICEID	Fruit				--
0	POLYPHENOL-OXIDASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	POPULNIN	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	--
1	POTASSIUM-BITARTRATE	Leaf				--
0	PROANTHOCYANIDIN-B1	Leaf	88.0	333.0		--
0	PROANTHOCYANIDIN-B1-3-O-GALLATE	Leaf	0.0	6.0		--
0	PROANTHOCYANIDIN-B2	Leaf	17.0	94.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PROANTHOCYANIDIN-B2-3'-O-GALLATE	Leaf	3.0	25.0		--
0	PROANTHOCYANIDIN-B2-3,3'-O-GALLATE	Leaf	0.0	4.0		--
0	PROANTHOCYANIDIN-B3	Leaf	7.0	37.0		--
0	PROANTHOCYANIDIN-B4	Leaf	7.0	37.0		--
0	PROANTHOCYANIDIN-POLYMER	Fruit				--
1	PROCYANIDIN-B-1	Seed				--
1	PROCYANIDIN-B-1	Pericarp				--
1	PROCYANIDIN-B-1	Leaf				--
1	PROCYANIDIN-B-2	Pericarp				--
1	PROCYANIDIN-B-2	Leaf				--
1	PROCYANIDIN-B-2	Seed				--
0	PROCYANIDIN-B-2-3'-GALLATE	Leaf				--
3	PROCYANIDIN-B-2-3'-O-GALLATE	Fruit				--
3	PROCYANIDIN-B-2-3'-O-GALLATE	Seed				--
3	PROCYANIDIN-B-2-3,3'-DI-O-GALLATE	Seed				--
2	PROCYANIDIN-B-3	Pericarp				--
2	PROCYANIDIN-B-3	Leaf				--
2	PROCYANIDIN-B-3	Seed				--
4	PROCYANIDIN-B-4	Pericarp				--
4	PROCYANIDIN-B-4	Leaf				--
4	PROCYANIDIN-B-4	Seed				--
0	PROCYANIDIN-B-4-3'-GALLATE	Seed				--
0	PROCYANIDIN-B-5	Seed				--
1	PROCYANIDIN-B-6	Seed				--
0	PROCYANIDIN-B-7	Seed				--
0	PROCYANIDIN-B-8	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PROCYANIDIN-B1,3'-O-GALLATE	Seed				--
0	PROCYANIDIN-C-1	Leaf				--
0	PROCYANIDIN-C-1	Seed				--
1	PROCYANIDIN-C-2	Seed				--
0	PROCYANIDIN-G	Pericarp				--
27	PROCYANIDINS	Fruit				--
0	PROLINE	Fruit	220.0	1132.0	-0.7893812127923229	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	PROTEIN	Fruit	6350.0	35236.0	-0.9955216411354211	USDA's Ag Handbook 8 and sequelae)
0	PROTEIN	Stem		89000.0	-0.7071067811865476	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
1	PROTocatechualdehyde	Leaf				--
1	PROTocatechualdehyde	Fruit				--
43	PROTocatechuic-acid	Leaf				--
0	PROTOpectinase	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
19	PTEROSTILBENE	Leaf				--
4	PUFA	Fruit	1690.0	8693.0	-0.21721248210881625	USDA's Ag Handbook 8 and sequelae)
0	PYROPHOSPHATASE-NUCLEOTIDE	Root				--
1	PYRROLIDINE	Fruit Juice				--
176	QUERCETIN	Fruit	0.5	16.0	-0.7176094612628865	--
176	QUERCETIN	Leaf				--
0	QUERCETIN-3-GLUCURONIDE	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	QUERCETIN-3-O-GLUCOSIDE	Plant				--
0	QUERCETIN-GLUCURONOSIDE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
6	QUERCIMERITRIN	Leaf				--
44	QUERCITRIN	Leaf				--
44	QUERCITRIN	Fruit				--
1	QUINIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	QUINIC-ACID	Fruit				Jim Duke's personal files.
1	QUINIC-ACID	Root				--
1	RAFFINOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
68	RESVERATROL	Shoot				--
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		--
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	--
0	ROSEOSIDE	Fruit				--
0	RUBIDIUM	Fruit	0.4	5.5	-1.0186549557194133	ACTA AGRIC SCAND SUPPL 22: 1980
87	RUTIN	Leaf				--
7	SALICYLATES	Fruit	2.0	80.0	-0.1073449080720807	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
34	SALICYLIC-ACID	Leaf				--
34	SALICYLIC-ACID	Root				--
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	--
1	SERINE	Fruit	320.0	1646.0	-0.7050443362120865	USDA's Ag Handbook 8 and sequelae)
0	SFA	Fruit	1890.0	9722.0	-0.16575412818647417	USDA's Ag Handbook 8 and sequelae)
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				--
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
3	SILVER	Fruit	0.022	0.077	-0.5251184109620559	--
9	SINAPIC-ACID	Root				--
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	--
10	SQUALENE	Seed Oil				--
10	SQUALENE	Seed				--
1	STACHYOSE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
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.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	STEARIC-ACID-BUTYL-ESTER	Seed				--
12	STIGMASTEROL	Seed				--
12	STIGMASTEROL	Plant				--
12	STIGMASTEROL	Root				--
0	STRONTIUM	Fruit	1.54	38.5	-0.4672073193158673	--
0	SUCCINDEHYDROGENASE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
7	SUCCINIC-ACID	Fruit				--
0	SUGAR	Fruit	30000.0	189000.0	0.005740941518907065	--
14	SULFUR	Fruit	7.0	888.0	-0.3664842839566224	--
4	SYRINGALDEHYDE	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.
6	SYRINGIC-ACID	Leaf				--
35	TANNIN	Seed				--
2	TARAXASTEROL	Stem				--
2	TARAXASTEROL	Leaf				--
2	TARAXEROL	Leaf				--
2	TARAXEROL	Stem				--
6	TARTARIC-ACID	Fruit	15.0	20.0	-0.657218517797534	--
6	TARTARIC-ACID	Leaf				--
0	TARTARIC-ACID-CAFFEOYL-ESTER	Fruit	15.0	20.0		--
31	THIAMIN	Stem		11.0	0.36791183185934545	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
31	THIAMIN	Fruit	0.8	4.9	-0.05538912844659949	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	THREONINE	Fruit	180.0	926.0	-0.8695024361765752	USDA's Ag Handbook 8 and sequelae)
4	TIN	Stem		12.0	0.7071067811865475	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	TITANIUM	Fruit	0.11	7.7	-0.5795941269861224	--
0	TRANS-CAFFEIC-ACID	Fruit				Jim Duke's personal files.
0	TRANS-CAFTARIC-ACID	Fruit Juice				--
0	TRANS-COUTARIC-ACID	Fruit Juice				--
0	TRANS-PICEID	Fruit				--
5	TRANS-RESVERATROL	Fruit				--
1	TRIACONTAN-1-OL	Root				--
0	TRIACONTAN-1-OL-TRIDECANOATE	Root				--
29	TRYPTOPHAN	Fruit	30.0	154.0	-0.9774261540468739	USDA's Ag Handbook 8 and sequelae)
8	TYROSINE	Fruit	120.0	617.0	-0.7465880361585973	USDA's Ag Handbook 8 and sequelae)
89	URSOLIC-ACID	Fruit				--
0	URSOLIC-ALDEHYDE	Stem				--
3	VALINE	Fruit	180.0	926.0	-0.7277174826511351	USDA's Ag Handbook 8 and sequelae)
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.
24	VANILLIC-ACID	Leaf				--
0	VANILLIC-ALDEHYDE	Leaf				--
28	VANILLIN	Fruit				--
2	VIOLAXANTHIN	Fruit				--
0	VIT-B-6	Fruit	1.0	6.0	-0.3708031557292606	--
0	VITAMIN-B-6	Fruit	1.0	6.0		USDA's Ag Handbook 8 and sequelae)
0	VITILAGIN	Leaf		89.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	VITIS-ARABINOGALACTAN-PROTEIN-AG-P	Fruit				--
0	VITISPIRANE	Plant				Chemical Constituents of Oriental Herbs (3 diff. books)
0	VOMIFOLIOL	Fruit				--
0	WATER	Stem		792000.0	0.21078766023930146	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	WATER	Fruit	761000.0	897000.0	0.5497045312138683	--
3	XYLOSE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	ZEATIN	Resin, Exudate, Sap				--
0	ZEATIN-RIBOSIDE	Resin, Exudate, Sap				--
5	ZEAXANTHIN	Fruit				--
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	--
0	ZIRCONIUM	Fruit	0.44	1.54	-0.41983235298720856	--