

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Fragaria* spp

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	QUERCETIN-3-BETA-MONOGLUCOSIDE	Fruit				--
0	METHYL-FURFURAL	Plant				--
43	CATECHIN	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	PELARGONIDIN-3-MONOGLUCOSIDE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
7	CYANIDIN	Plant				--
0	QUERCETIN-3-BETA-GLUCURONIDE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	2-METHYL-NAPHTHALENE	Plant				--
0	LINALOL	Leaf				--
0	PELARGONIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
176	QUERCETIN	Leaf				--
0	2-HEXEN-1-AL	Plant				--
1	LEUCOANTHOCYANIN	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	PELARGONIDIN-3-GLUCOSIDE	Fruit				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	(+)-ABSCISIC-ACID	Plant				--
9	PEDUNCULAGIN	Leaf				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	NEO-CHLOROGENIC-ACID	Fruit				Jim Duke's personal files.
43	PROTOCATECHUIC-ACID	Fruit				Jim Duke's personal files.
0	MALVIDIN-3,5-DIGLUCOSIDE	Fruit				--
25	IMPERATORIN	Leaf				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
5	GLUTAMINE	Plant				--
0	EO	Plant				--
15	ARBUTIN	Leaf				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	N-OCTANOL	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	FLAVONOIDS	Plant				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
53	CITRAL	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
8	ELLAGITANNIN	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	ANTHOCYANIN	Plant				--
0	N-NONANOL	Leaf				--
0	KAEMPFEROL-7-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
2	CAMPESTEROL	Fruit				Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
0	CIS-3-HEXEN-1-OL	Plant				--
8	GENTISIC-ACID	Fruit				Jim Duke's personal files.
0	LUTEOFOROL	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
34	SALICYLIC-ACID	Fruit				Jim Duke's personal files.
0	N-NONAL	Leaf				--
0	KAEMPFEROL-3-BETA-MONOGLUCOSIDE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	CINNAMIC-ACID-METHYL-ESTER	Plant				--
0	POTASSIUM-OXIDE	Plant				--
22	GAMMA-AMINOBUTYRIC-ACID	Plant				--
0	KAEMPFEROL-3-BETA-GLUCURONIDE	Plant				--
7	AGRIMONIIN	Leaf				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
0	ASPARAGINIC-ACID	Plant				--
23	ALPHA-TERPINEOL	Leaf				--
75	KAEMPFEROL	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
53	LINALOOL	Leaf				--
77	CHLOROGENIC-ACID	Fruit				Jim Duke's personal files.
6	FURFURAL	Leaf				--
35	TANNIN	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	ASPARAGINE	Plant				--
0	DIHYDROTRIMETHYLNAPH THALENE	Leaf				--
44	QUERCITRIN	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
21	METHYL-SALICYLATE	Leaf				--
12	STIGMASTEROL	Fruit				Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
0	GALLOCATECHIN	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
22	CATECHOL	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
7	SALICYLATES	Fruit		0.0	-0.3367420403588193	--
60	SELENIUM	Fruit		0.002	-0.38569128420884563	ACTA AGRIC SCAND SUPPL 22: 1980
1	MERCURY	Fruit	0.0	0.009	-0.4128575999976608	ACTA AGRIC SCAND SUPPL 22: 1980
2	ARSENIC	Fruit		0.01	-0.5241085631054083	ACTA AGRIC SCAND SUPPL 22: 1980
5	PHYLLOQUINONE	Fruit		0.03	-0.22830354526872618	--
2	MOLYBDENUM	Fruit		0.1	-0.46519775248328327	ACTA AGRIC SCAND SUPPL 22: 1980
3	CADMIUM	Fruit	0.004	0.18	-0.11461814777859229	ACTA AGRIC SCAND SUPPL 22: 1980
24	CHROMIUM	Fruit	0.005	0.18	-0.4823507517358181	ACTA AGRIC SCAND SUPPL 22: 1980
15	FOLACIN	Fruit	0.1	0.2	-0.7547576455042277	USDA's Ag Handbook 8 and sequelae)
12	IODINE	Plant	0.157	0.23	-0.44667578476512965	--
3	NICKEL	Fruit	0.03	0.36	-0.669977781454973	ACTA AGRIC SCAND SUPPL 22: 1980
0	FLUORINE	Fruit	0.03	0.9	-0.4479948907171637	ACTA AGRIC SCAND SUPPL 22: 1980

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	BROMINE	Fruit		1.0	-0.42563543443835	ACTA AGRIC SCAND SUPPL 22: 1980
11	NICOTINIC-ACID	Plant		2.0	-0.7514645828078942	--
2	COBALT	Fruit	0.004	2.0	-0.29299669899909336	--
15	LUTEIN	Fruit	0.3	3.0	-0.575590894746515	--
31	THIAMIN	Fruit	0.2	4.0	-0.17059389090821606	--
0	RUBIDIUM	Fruit	0.2	6.5	-0.943358390882709	ACTA AGRIC SCAND SUPPL 22: 1980
0	VIT-B-6	Fruit	0.6	7.0	-0.2026929167328342	USDA's Ag Handbook 8 and sequelae)
53	BETA-CAROTENE	Fruit	0.089	7.0	-0.13726975525121177	--
15	RIBOFLAVIN	Fruit	0.7	8.0	0.6405083179917069	--
77	ZINC	Fruit	1.1	17.0	-0.40018873103446667	--
12	COPPER	Fruit	0.4	17.0	0.32540852631218337	USDA's Ag Handbook 8 and sequelae)
24	VANILLIC-ACID	Fruit	3.0	25.0	-1.0	Jim Duke's personal files.
39	NIACIN	Fruit	2.3	27.0	-0.45048529250390834	USDA's Ag Handbook 8 and sequelae)
102	CAFFEIC-ACID	Fruit	15.0	34.0	-0.3326188419425253	Jim Duke's personal files.
11	PANTOTHENIC-ACID	Fruit	3.4	40.0	1.396638129578948	USDA's Ag Handbook 8 and sequelae)
32	ALPHA-TOCOPHEROL	Fruit	1.0	54.0	-0.29043282933130465	--
5	ALUMINUM	Fruit	3.0	70.0	-0.20315689411885662	ACTA AGRIC SCAND SUPPL 22: 1980
6	IRON	Fruit	3.0	100.0	-0.1308151347506343	--
1	SODIUM	Fruit	8.0	106.0	-0.17389892550320743	--
13	P-HYDROXY-BENZOIC-ACID	Fruit	19.0	108.0	-0.6101426726864799	Jim Duke's personal files.
15	METHIONINE	Fruit	10.0	119.0	-1.0338107469929971	USDA's Ag Handbook 8 and sequelae)
2	PALMITOLEIC-ACID	Fruit	10.0	119.0	-0.32368130611992313	USDA's Ag Handbook 8 and sequelae)
62	GALLIC-ACID	Fruit	80.0	121.0	-1.0679444233170081	Jim Duke's personal files.
14	MANGANESE	Fruit	1.4	125.0	0.4206962038295751	--
25	P-COUMARIC-ACID	Fruit	63.0	125.0	-0.07737782584665391	Jim Duke's personal files.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	BORON	Fruit	1.0	160.0	2.417500456246469	--
0	PHYTATE	Fruit	60.0	230.0	-0.7115399295657975	--
4	SILICON	Fruit	10.0	270.0	0.26877965042190327	ACTA AGRIC SCAND SUPPL 22: 1980
8	STEARIC-ACID	Fruit	40.0	475.0	-0.247720388391621	USDA's Ag Handbook 8 and sequelae)
2	CYSTINE	Fruit	50.0	593.0	-0.4571950577473773	USDA's Ag Handbook 8 and sequelae)
20	LECITHIN	Fruit		620.0		--
29	TRYPTOPHAN	Fruit	70.0	830.0	-0.028696011182569342	USDA's Ag Handbook 8 and sequelae)
47	BETA-SITOSTEROL	Fruit	100.0	1000.0	0.5196399134210818	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
14	SULFUR	Fruit	77.0	1270.0	-0.1006191251666038	ACTA AGRIC SCAND SUPPL 22: 1980
7	HISTIDINE	Fruit	120.0	1423.0	-0.20305117000932518	USDA's Ag Handbook 8 and sequelae)
2	PHYTOSTEROLS	Fruit	120.0	1423.0	0.6153155617902918	USDA's Ag Handbook 8 and sequelae)
65	MAGNESIUM	Fruit	98.0	1545.0	-0.27076713097548605	--
13	PALMITIC-ACID	Fruit	140.0	1661.0	-0.339677352873796	USDA's Ag Handbook 8 and sequelae)
3	ISOLEUCINE	Fruit	140.0	1661.0	-0.5937234937471108	USDA's Ag Handbook 8 and sequelae)
0	PROLINE	Fruit	190.0	1898.0	-0.5790837750793335	USDA's Ag Handbook 8 and sequelae)
3	VALINE	Fruit	180.0	2135.0	-0.47826740141347635	USDA's Ag Handbook 8 and sequelae)
4	THREONINE	Fruit	190.0	2254.0	-0.3174631766963803	USDA's Ag Handbook 8 and sequelae)
0	SFA	Fruit	200.0	2372.0	-0.3270654285846573	USDA's Ag Handbook 8 and sequelae)
1	SERINE	Fruit	230.0	2728.0	-0.3230423473380366	USDA's Ag Handbook 8 and sequelae)
12	GLYCINE	Fruit	240.0	2847.0	-0.2930620299572446	USDA's Ag Handbook 8 and sequelae)
28	CALCIUM	Fruit	135.0	2900.0	-0.22067300838852968	--
4	LYSINE	Fruit	250.0	2966.0	-0.29744625237745853	USDA's Ag Handbook 8 and sequelae)
14	ARGININE	Fruit	260.0	3084.0	-0.3269566084197814	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	PHOSPHORUS	Fruit	185.0	3191.0	-0.007591870432868103	--
0	KILOCALORIES	Fruit	300.0	3559.0	-0.15423994717171058	USDA's Ag Handbook 8 and sequelae)
2	LEUCINE	Fruit	310.0	3667.0	-0.3048833842735342	USDA's Ag Handbook 8 and sequelae)
3	ALANINE	Fruit	310.0	3677.0	-0.011987357605646181	USDA's Ag Handbook 8 and sequelae)
112	ASCORBIC-ACID	Leaf	3190.0	4350.0	-0.04029552733240095	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
24	PECTIN	Fruit		5400.0	-0.5661356985488837	--
18	OLEIC-ACID	Fruit	510.0	6050.0	-0.434115784713792	USDA's Ag Handbook 8 and sequelae)
13	MUFA	Fruit	520.0	6168.0	-0.16420989440179143	USDA's Ag Handbook 8 and sequelae)
112	ASCORBIC-ACID	Fruit	400.0	6948.0	0.14751674001001847	--
23	CITRIC-ACID	Fruit	3500.0	8000.0	-0.520708647647458	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
15	MALIC-ACID	Fruit	3500.0	8000.0	-0.4309421885044489	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
51	ELLAGIC-ACID	Fruit	430.0	8430.0	1.727725460443337	--
15	ALPHA-LINOLENIC-ACID	Fruit	780.0	9253.0	3.0378584361502132	USDA's Ag Handbook 8 and sequelae)
18	OLEIC-ACID	Seed		9975.0	-0.8970998546316352	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	LINOLENIC-ACID	Seed		9975.0	-0.4057233720289396	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	NITROGEN	Fruit	880.0	10000.0	-0.32410478091260314	ACTA AGRIC SCAND SUPPL 22: 1980
8	GLUTAMIC-ACID	Fruit	900.0	10676.0	-0.19935362148704966	USDA's Ag Handbook 8 and sequelae)
27	LINOLEIC-ACID	Fruit	1080.0	12811.0	-0.17465609416514233	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	ASPARTIC-ACID	Fruit	1380.0	16370.0	0.8160338896556354	USDA's Ag Handbook 8 and sequelae)
51	ELLAGIC-ACID	Seed	1370.0	21650.0	1.0	--
4	PUFA	Fruit	1860.0	22064.0	0.7399869193808079	USDA's Ag Handbook 8 and sequelae)
14	POTASSIUM	Leaf	1400.0	22500.0	-0.34637690026129236	--
51	ELLAGIC-ACID	Leaf	8080.0	32300.0	1.4141864640925814	--
0	ASH	Fruit	3900.0	52065.0	-0.1190864932139459	--
0	FAT	Fruit	2350.0	59893.0	-0.18379417340490822	USDA's Ag Handbook 8 and sequelae)
0	PROTEIN	Fruit	5840.0	85000.0	-0.3284135816822552	--
27	LINOLEIC-ACID	Seed		153900.0	0.40079686330537195	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
15	FIBER	Fruit	5300.0	181000.0	0.3710765695959443	USDA's Ag Handbook 8 and sequelae)
0	FAT	Seed		190000.0	-0.3970934091461325	--
0	CARBOHYDRATES	Fruit	70200.0	850000.0	0.35891616140758126	--
0	WATER	Fruit	870000.0	917000.0	0.6366664032869477	--