

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in Theobroma cacao

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
38	(-)-EPICATECHIN	Leaf				--
1	(-)-SALSOLINOL	Seed	0.007	40.0		--
0	1-BUTYRIC-ACID	Plant				--
5	24-METHYLENE-CYCLOARTANOL	Sprout Seedling				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	3-ALPHA-L-ARABINOSIDYL-CYANIDIN	Seed		1000.0		--
0	3-ALPHA-L-ARABINOSIDYL-CYANIDIN	Leaf				--
0	3-ALPHA-L-ARABINOSIDYL-CYANIDIN	Flower				--
0	3-BETA-D-GALACTOSIDYL-CYANIDIN	Seed		1000.0		--
0	3-BETA-D-GALACTOSIDYL-CYANIDIN	Leaf				--
0	3-BETA-D-GALACTOSIDYL-CYANIDIN	Flower				--
0	4-HYDROXY-3-METHOXY-BENZOIC-ACID	Seed				Jim Duke's personal files.
16	ACETIC-ACID	Seed	1520.0	7100.0	1.3864579714312821	--
3	ALANINE	Seed		10400.0	0.051822040311835675	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	ALKALOIDS	Leaf		10000.0	0.062309440096893175	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
0	ALKALOIDS	Seed	30000.0	40000.0	1.258570715061275	--
0	ALPHA-SITOSTEROL	Sprout Seedling				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	ALPHA-THEOSTEROL	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	AMYL-ACETATE	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	AMYL-ALCOHOL	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
3	AMYL-BUTYRATE	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	AMYLASE	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
30	ANTHOCYANINS	Seed		4000.0	1.0	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
2	APIGENIN-7-O-GLUCOSIDE	Plant				J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.
0	ARABINOSE	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	ARACHIDIC-ACID	Plant				--
14	ARGININE	Seed		800.0	-1.009489821300081	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
112	ASCORBIC-ACID	Seed		31.0	-0.3198458318942361	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
112	ASCORBIC-ACID	Fruit	30.0	70.0	-0.2801366159826427	J Cell Biochem VOL. 22=1995
0	ASCORBIC-ACID-OXIDASE	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	ASH	Fruit	38000.0	90475.0	0.8755538014219674	J Cell Biochem VOL. 22=1995
0	ASPARIGINASE	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	BEHENIC-ACID	Plant				Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
53	BETA-CAROTENE	Plant				--
0	BETA-PHENYLETHYLAMINE	Seed	0.0	22.0		--
47	BETA-SITOSTEROL	Sprout Seedling				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	BETA-THEOSTEROL	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
4	BIOTIN	Sprout Seedling				--
102	CAFFEIC-ACID	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
62	CAFFEINE	Testa	130.0	723.0	1.364120501373702	--
62	CAFFEINE	Seed	500.0	12900.0	-0.4658272368460845	--
62	CAFFEINE	Petiole	51.0	252.0	1.3383130789607725	--
28	CALCIUM	Seed	800.0	1100.0	-0.5594989895943375	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
28	CALCIUM	Fruit	1300.0	3095.0	-0.1756747356051228	J Cell Biochem VOL. 22=1995
2	CAMPESTEROL	Sprout Seedling				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	CARBOHYDRATES	Seed	347000.0	445000.0	-0.3115865270747604	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	CARBOHYDRATES	Fruit	343000.0	816665.0	0.18065678536256444	J Cell Biochem VOL. 22=1995
1	CATALASE	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	CATECHIN-TANNINS	Seed				--
1	CATECHINS	Seed	30000.0	40000.0	1.0	--
22	CATECHOL	Plant				Grenand, P., Moretti, C., and Jacquemin, H. 1987. Pharmacopees Traditionnelles en Guyane. L'ORSTROM, Paris. 569 pp.
0	CELLULASE	Plant				--
1	CELLULOSE	Seed		90000.0	-0.23884916161035874	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	CELLULOSE	Plant				--
0	CHLORIDE	Seed		120.0	-0.6613721823540172	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
77	CHLOROGENIC-ACID	Seed				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
77	CHLOROGENIC-ACID	Leaf				--
1	CHOLESTEROL	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	CHOLESTEROL	Oil	0.0	2800.0	1.0	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
1	CHRYSOERIOL-7-O-GLUCOSIDE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
23	CITRIC-ACID	Seed	4500.0	7500.0	0.007355725552878182	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
12	COPPER	Seed		24.0	0.8331720560940928	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
57	COUMARIN	Seed				Grenand, P., Moretti, C., and Jacquemin, H. 1987. Pharmacopees Traditionnelles en Guyane. l'ORSTROM, Paris. 569 pp.
7	CYANIDIN	Plant				--
0	CYANIDIN-3-BETA-L-ARABINOSIDE	Seed				--
0	CYANIDIN-3-BETA-L-ARABINOSIDE	Leaf				--
0	CYANIDIN-3-GALACTOSIDE	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	CYANIDIN-3-GALACTOSIDE	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	CYANIDIN-GLYCOSIDE	Seed	4000.0	5000.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	CYCLOARTANOL	Sprout Seedling				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	D-GALACTOSE	Plant				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	DECARBOXYLASE	Plant				--
0	DEXTRINASE	Plant				--
2	DIACETYL	Plant				--
20	DOPAMINE	Seed				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
0	EO	Plant		10.0	-0.7393686069051985	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
40	EPICATECHIN	Leaf				Grenand, P., Moretti, C., and Jacquemin, H. 1987. Pharmacopees Traditionnelles en Guyane. I'ORSTROM, Paris. 569 pp.
6	EPIGALLOCATECHIN	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
5	ERGOSTEROL	Seed				Grenand, P., Moretti, C., and Jacquemin, H. 1987. Pharmacopees Traditionnelles en Guyane. I'ORSTROM, Paris. 569 pp.
30	ESCULETIN	Seed				Grenand, P., Moretti, C., and Jacquemin, H. 1987. Pharmacopees Traditionnelles en Guyane. I'ORSTROM, Paris. 569 pp.
0	FAT	Seed	371000.0	582300.0	1.6692910162467098	--
0	FAT	Fruit	44000.0	104760.0	0.15889636363871001	J Cell Biochem VOL. 22=1995
61	FERULIC-ACID	Seed				--
15	FIBER	Seed	59000.0	89000.0	-0.36147740264683753	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	FIBER	Fruit	43000.0	102380.0	-0.3708195428012696	J Cell Biochem VOL. 22=1995

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
13	FORMIC-ACID	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
8	FRUCTOSE	Plant				--
8	FRUCTOSE	Seed		2000.0	-0.5987994606248948	--
6	FURFURAL	Exocarp		90000.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	FURFUROL	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	GALACTURONIC-ACID	Plant				--
0	GALLOCATECHIN	Plant				--
0	GALLOCATECHIN	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
8	GENTISIC-ACID	Leaf				--
7	GLUCOSE	Seed	1000.0	3000.0	-0.5077819441641488	--
8	GLUTAMIC-ACID	Seed		10200.0	-1.3295703563860357	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	GLYCERIN	Plant				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	GLYCEROPHOSPHATASE	Plant				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
12	GLYCINE	Seed		900.0	-1.4533713326030981	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
4	GLYCOLIC-ACID	Leaf				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	GLYCOSIDASE	Plant				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	HAEMATIN	Seed				Grenand, P., Moretti, C., and Jacquemin, H. 1987. Pharmacopees Traditionnelles en Guyane. I'ORSTROM, Paris. 569 pp.
0	HAEMATIN	Plant				--
0	HAEMIN	Plant				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
7	HISTIDINE	Seed		800.0	-1.4153953454644674	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	HYDROLASE	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	I-BUTYRIC-ACID	Plant				--
0	IDAEIN	Flower				Chemical Constituents of Oriental Herbs (3 diff. books)
0	INVERTASE	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
6	IRON	Seed	36.0	37.0	-0.5287176209786577	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	IRON-OXIDE	Seed		40.0	-1.0	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
3	ISOBUTYL-ACETATE	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	ISOLEUCINE	Seed		5600.0	-0.624169861411402	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
4	ISOPROPYL-ACETATE	Plant				--
4	ISOVITEXIN	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
75	KAEMPFEROL	Leaf				Grenand, P., Moretti, C., and Jacquemin, H. 1987. Pharmacopees Traditionnelles en Guyane. l'ORSTROM, Paris. 569 pp.
0	KILOCALORIES	Fruit	531.0	5310.0	2.5052266068859748	J Cell Biochem VOL. 22=1995
0	L-EPICATECHIN	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	L-EPICATECHIN	Flower		27000.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
8	LACTIC-ACID	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
20	LECITHIN	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	LEUCINE	Plant		4500.0	-0.9511481830727361	--
0	LEUCOCYANIDINS	Seed	14000.0	35000.0		--
0	LINALOL	Seed		5.0	-0.6999883964509279	--
53	LINALOOL	Seed		5.0	-0.5895891599202989	--
27	LINOLEIC-ACID	Seed	7420.0	29115.0	-0.6683734051471023	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
27	LINOLEIC-ACID	Plant	10700.0	12230.0	-0.39147043061187325	--
0	LINOLENIC-ACID	Plant				Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
0	LIPASE	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
78	LUTEOLIN	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
2	LUTEOLIN-7-O-GLUCOSIDE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
4	LYSINE	Seed		800.0	-1.5304571248204542	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	LYSOPHOSPHATIDYLCHOLINE	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	MALEIC-ACID	Plant				--
0	MANNAN	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	MANNINOTRIOSE	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
3	MANNOSE	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.

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0	MELIBIOSE	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	MESO-INOSITOL	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	METHYL-HEPTENONE	Seed				Grenand, P., Moretti, C., and Jacquemin, H. 1987. Pharmacopees Traditionnelles en Guyane. l'ORSTROM, Paris. 569 pp.
0	METHYL-STEROLS	Seed				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
1	N-BUTYLACETATE	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	N-NONACOSANE	Seed				Grenand, P., Moretti, C., and Jacquemin, H. 1987. Pharmacopees Traditionnelles en Guyane. l'ORSTROM, Paris. 569 pp.
39	NIACIN	Seed	17.0	50.0	0.21294979342958875	--
39	NIACIN	Fruit	19.0	45.0	-0.20985653043855088	J Cell Biochem VOL. 22=1995
2	NICOTINAMIDE	Seed		21.0	-1.0	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
11	NICOTINIC-ACID	Plant				--
0	NITROGEN	Seed		22800.0	-0.10548081217201899	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
2	NONANOIC-ACID	Seed				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	O-HYDROXYPHENYLACETIC-ACID	Seed				Jim Duke's personal files.
0	OCTOIC-ACID	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
18	OLEIC-ACID	Seed	122430.0	227100.0	0.8877951296368191	--
0	OLEO-DIPALMATIN	Seed	76500.0	92800.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	OLEOPALMITOSTEARIN	Seed				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
25	OPCS	Seed		80000.0		--
0	OXALATES	Seed	6000.0	10000.0		--
9	OXALIC-ACID	Seed	1520.0	5000.0	0.3447985152060364	--
0	OXALURIC-ACID	Plant				Gruenwald, J. et al. 1998. PDR for Herbal Medicine. 1st ed. Medical Economics Co., Montvale, NJ. 1244 pp. (abbreviated as PHR or Physicians Herbal Reference in my mind)
0	P-ANISIC-ACID	Seed				Jim Duke's personal files.
25	P-COUMARIC-ACID	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	P-COUMARYL-QUINIC-ACID	Leaf				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
13	P-HYDROXY-BENZOIC-ACID	Seed				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	P-HYDROXYPHENYLACETIC-ACID	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
13	PALMITIC-ACID	Seed	89040.0	180500.0	3.024699622330506	--
0	PALMITODIOLEN	Seed				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
11	PANTOTHENIC-ACID	Seed	13.0	20.0	0.34109708334068634	--
24	PECTIN	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	PENTOSANS	Seed		15000.0	-1.3271673489237144	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	PENTOSE	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	PEROXIDASE	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	PHENOLICS	Seed		130000.0	1.0	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
2	PHENYLACETIC-ACID	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
7	PHENYLALANINE	Seed		5600.0	-0.7093928366416996	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
4	PHENYLETHYLAMINE	Seed				--
0	PHLOBAPHENE	Plant				--
0	PHLOBAPHENE	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	PHOSPHATIDYL-CHOLINE	Seed	92.0	1328.0	-1.0	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	PHOSPHATIDYL-ETHANOLAMINE	Plant				--
0	PHOSPHATIDYL-INOSITOL	Plant				--
0	PHOSPHOLIPIDS	Plant	255.0	3319.0	-1.7600853913673296	--
0	PHOSPHOLIPIDS	Seed	255.0	3319.0	-0.6578549027249627	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
4	PHOSPHORUS	Seed	3600.0	5571.0	0.05751506388486866	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	PHOSPHORUS	Fruit	500.0	5000.0	0.5418734067690828	J Cell Biochem VOL. 22=1995
5	PHYLLOQUINONE	Seed		0.02	-1.1351915229662497	--
0	PHYTASE	Plant				--
0	PHYTATE	Seed	10.0	530.0	-1.5112480559438948	Phytate in Food. Harland & Oberleas. Wld. Rev. Nutr. Diet, 52: 235-259.
0	PLANTEOSE	Plant				--
0	POLYGALACTURONATE	Plant				--
0	POLYHYDROXYPHENOLS	Seed	20000.0	60000.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	POLYPHENOL-OXIDASE	Plant				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
30	POLYPHENOLS	Seed	78000.0	100000.0	1.0	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
34	PROANTHOCYANIDINS	Plant				Gruenwald, J. et al. 1998. PDR for Herbal Medicine. 1st ed. Medical Economics Co., Montvale, NJ. 1244 pp. (abbreviated as PHR or Physicians Herbal Reference in my mind)
0	PROLINE	Seed		7200.0	-0.8125279763894483	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
6	PROPIONIC-ACID	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	PROPYL-ACETATE	Plant				--
0	PROPYL-ACETATE	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	PROTEIN	Seed	100000.0	180000.0	-0.4785438804290316	--
0	PROTEIN	Fruit	12000.0	28570.0	-1.0848822697889617	J Cell Biochem VOL. 22=1995
0	PROTEINASE	Seed				--
43	PROTocatechuic-ACID	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	PURINE	Seed	30000.0	40000.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	PURINE	Root		14000.0		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
43	PYRIDOXINE	Seed		1.0	-1.1536599429026273	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
176	QUERCETIN	Leaf				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
2	QUERCETIN-3-O-GALACTOSIDE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	QUERCETIN-3-O-GLUCOSIDE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
44	QUERCITRIN	Leaf				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	RAFFINASE	Plant				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	RAFFINOSE	Plant				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	REDUCTASE	Plant				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	RHAMNOSE	Plant				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
15	RIBOFLAVIN	Seed	1.0	4.0	0.18234587940570884	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
15	RIBOFLAVIN	Fruit	1.6	3.8	-0.25899158592219057	J Cell Biochem VOL. 22=1995
87	RUTIN	Leaf				--
4	RUTOSIDE	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	SACCHAROSE	Plant				--
7	SALICYLATES	Seed		0.0	-0.3401776874861938	--
3	SALSOLINOL	Seed				--
1	SERINE	Seed		8800.0	-0.3400469562928065	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
26	SEROTONIN	Seed				--
26	SEROTONIN	Plant				--
9	SINAPIC-ACID	Plant				--
1	STACHYOSE	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
5	STARCH	Seed	50000.0	90000.0	-0.891522967457591	--
5	STARCH	Hb		60000.0		--
8	STEARIC-ACID	Seed	111300.0	215450.0	4.109143355899089	--
8	STEARIC-ACID	Plant				--
0	STEARODIOLEIN	Seed				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
12	STIGMASTEROL	Seed				Grenand, P., Moretti, C., and Jacquemin, H. 1987. Pharmacopees Traditionnelles en Guyane. l'ORSTROM, Paris. 569 pp.
12	STIGMASTEROL	Plant				--
14	SUCROSE	Seed	18000.0	37000.0	-0.17153022515909322	--
14	SUCROSE	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	SUGARS	Seed	20000.0	40000.0	-0.4051939134225381	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
6	SYRINGIC-ACID	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	TANNINS	Seed		75400.0	0.46682727652711586	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
6	TARTARIC-ACID	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
21	THEOBROMINE	Testa	936.0	13000.0	1.0376929371594854	--
21	THEOBROMINE	Seed	10000.0	35000.0	2.234049191141325	--
21	THEOBROMINE	Petiole	174.0	223.0	1.2182825031280367	--
36	THEOPHYLLINE	Testa	130.0	257.0	1.0617119603565899	--
36	THEOPHYLLINE	Seed	0.0	4739.0	1.7330040388042545	--
36	THEOPHYLLINE	Plant				--
36	THEOPHYLLINE	Petiole	58.0	188.0	0.1867718419094071	--
1	THEOSTEROL	Testa				Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
31	THIAMIN	Seed	1.0	3.0	-0.8551170555321612	--
31	THIAMIN	Fruit	1.8	4.2	-0.14499283258341247	J Cell Biochem VOL. 22=1995

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	THREONINE	Seed		1400.0	-1.5071309379745554	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
15	TRIGONELLINE	Seed				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
4	TRYPTAMINE	Seed				--
11	TYRAMINE	Plant				--
11	TYRAMINE	Seed				--
8	TYROSINE	Seed		5700.0	-0.4728461096051886	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	VALERIANIC-ACID	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
9	VALERIC-ACID	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
3	VALINE	Seed		5700.0	-0.7773276247624422	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
24	VANILLIC-ACID	Seed				--
1	VERBASCOSE	Seed				--
0	VERBASCOTETROSE	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
18	VITEXIN	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	WATER	Seed		36000.0	-0.7352763653505671	--
0	WATER	Fruit		580000.0	-0.8286411411444385	J Cell Biochem VOL. 22=1995

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	XYLOSE	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.