

**Dr. Duke's Phytochemical and Ethnobotanical Database**

**Chemicals Found in Cocos nucifera**

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	1,3-DIPHENYLUREA?	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	2,3,5-TRIMETHYLPYRAZINE	Endosperm	--	--		Jim Duke's personal files.
0	2-(3-METHYL-BUT-2-ENYL-AMINO)-PURIN-6-ONE	Juice	--	--		Jim Duke's personal files.
0	24-METHYLENE-CYCLOARTENOL	Seed Oil	--	--		Jim Duke's personal files.
0	ACETOIN	Endosperm	--	--		Jim Duke's personal files.
0	ACETOSYRINGONE	Leaf	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	ACETOVANILLONE	Leaf	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	ALANINE	Endosperm	--	--		Jim Duke's personal files.
3	ALANINE	Leaf	--	--		Jim Duke's personal files.
3	ALANINE	Seed	1700	3205	-1.4776910288536462	USDA's Ag Handbook 8 and sequelae)
10	ALPHA-AMYRIN	Seed Oil	--	--		Jim Duke's personal files.
23	ALPHA-TERPINEOL	Fruit	--	--		Jim Duke's personal files.
32	ALPHA-TOCOPHEROL	Seed	7	13	-0.6896654823517182	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
32	ALPHA-TOCOPHEROL	Oil	--	18	-0.6737505559360731	
32	ALPHA-TOCOPHEROL	Seed Oil	--	--		Jim Duke's personal files.
5	ALUMINUM	Leaf	--	--		Jim Duke's personal files.
5	ALUMINUM	Seed	7.2	7.2	-0.3516653417103102	
0	ANTIMONY	Seed	0.1	0.1	-0.16686477174992723	Furr, A.K., et al. 1979
14	ARGININE	Leaf	--	--		Jim Duke's personal files.
14	ARGININE	Seed	5460	10300	-0.6072249141458423	USDA's Ag Handbook 8 and sequelae)
14	ARGININE	Endosperm	--	--		Jim Duke's personal files.
2	ARSENIC	Seed	0.02	0.02	-0.6237689826185465	Furr, A.K., et al. 1979
112	ASCORBIC-ACID	Seed	20	88	-0.2856259499860121	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	ASH	Seed	9000	22000	-0.7784124813877332	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
3	ASPARTIC-ACID	Endosperm	--	--		Jim Duke's personal files.
3	ASPARTIC-ACID	Seed	3250	6130	-1.4611540528862226	USDA's Ag Handbook 8 and sequelae)
3	ASPARTIC-ACID	Leaf	--	--		Jim Duke's personal files.
0	BARIUM	Seed	0.1	0.1	-0.27939450847576075	Furr, A.K., et al. 1979
9	BETA-AMYRIN	Seed Oil	--	--		Jim Duke's personal files.
47	BETA-SITOSTEROL	Seed Oil	--	--		Jim Duke's personal files.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
47	BETA-SITOSTEROL	Fruit	--	270	-0.43949317582642705	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
4	BORON	Seed	3	5.2	-0.8970628189505873	
0	BROMINE	Seed	4	4	-0.36819583850065973	Furr, A.K., et al. 1979
0	BUTANE-2,3-DIOL	Endosperm	--	--		Jim Duke's personal files.
0	BUTANE-2,3-DIONE	Endosperm	--	--		Jim Duke's personal files.
0	BUTYROIN	Fruit	--	--		Jim Duke's personal files.
3	CADMIUM	Seed	0.03	0.03	-0.33359741952043553	Furr, A.K., et al. 1979
28	CALCIUM	Seed	71	476	-0.6741015491289437	
0	CALCIUM-OXIDE	Leaf	2700	2700	-1	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
2	CAMPESTEROL	Seed Oil	--	--		Jim Duke's personal files.
2	CAMPESTEROL	Fruit	--	30	-0.4046460894399287	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
3	CAPRIC-ACID	Seed	2628	69743	2.633904573975057	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	CAPROIC-ACID	Endosperm	--	--		Jim Duke's personal files.
1	CAPROIC-ACID	Seed	117	3595	-0.34501465200156417	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
5	CAPRYLIC-ACID	Seed	3154	68305	1.9870944275459317	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	CARBOHYDRATES	Seed	94000	331000	-0.7646455579586512	
1	CELLULOSE	Hull Husk	266000	266000	-1.1355499479153377	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	CESIUM	Seed	0.1	0.1	-0.3427209689454117	Furr, A.K., et al. 1979
7	CHLORINE	Seed	1007	1007	1.3276510863378361	Furr, A.K., et al. 1979
24	CHROMIUM	Seed	0.2	0.2	-0.6533762381344975	Furr, A.K., et al. 1979
23	CITRIC-ACID	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	COBALT	Seed	0.2	0.2	-0.19726970453812753	Furr, A.K., et al. 1979
12	COPPER	Seed	3.2	33	1.6495159701011972	
7	CYCLOARTENOL	Seed Oil	--	--		Jim Duke's personal files.
2	CYSTINE	Seed	660	1245	-1.3252475351434945	USDA's Ag Handbook 8 and sequelae)
0	D-GALACTOSE	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	D-GALACTURONIC-ACID	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	D-SORBITOL	Endosperm	--	15000		
3	DECANOIC-ACID	Endosperm	--	--		Jim Duke's personal files.
3	DECANOIC-ACID	Seed	4100	50330	1	
1	DELTA-DECALACTONE	Endosperm	--	--		Jim Duke's personal files.
1	DELTA-DODECALACTONE	Endosperm	--	--		Jim Duke's personal files.
0	DELTA-OCTALACTONE	Endosperm	--	--		Jim Duke's personal files.
0	DIHYDRO-PHASEIC-ACID	Resin, Exudate, Sap	--	--		Jim Duke's personal files.
0	EHTYL-LACTATE	Fruit	--	--		Jim Duke's personal files.
0	EUROPIUM	Seed	0.1	0.1	1.4740366676721104	Furr, A.K., et al. 1979
0	FAT	Seed	58400	719000	2.3893388137261935	
61	FERULIC-ACID	Leaf	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
15	FIBER	Seed	30000	115000	-0.15617696206043077	
0	FLUORINE	Seed	2.7	2.7	1.3555425831264722	Furr, A.K., et al. 1979

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
8	FRUCTOSE	Resin, Exudate, Sap	2100	2100		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
8	FRUCTOSE	Juice	22200	22200		Jim Duke's personal files.
8	FRUCTOSE	Root	--	--		Jim Duke's personal files.
0	FUCOSTEROL	Pollen Or Spore	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
22	GABA	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	GALACTITOL	Endosperm	--	--		Jim Duke's personal files.
0	GALACTOMANNAN	Seed	16000	16000	-1	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	GAMMA-NONALACTONE	Seed	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
14	GAMMA-TOCOPHEROL	Oil	--	--		
8	GENTISIC-ACID	Leaf	--	--		Jim Duke's personal files.
7	GLUCOSE	Juice	19700	19700		Jim Duke's personal files.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
7	GLUCOSE	Root	--	--		Jim Duke's personal files.
7	GLUCOSE	Resin, Exudate, Sap	2400	2400		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
8	GLUTAMIC-ACID	Seed	7610	14355	-1.154267228968401	USDA's Ag Handbook 8 and sequelae)
8	GLUTAMIC-ACID	Endosperm	--	--		Jim Duke's personal files.
8	GLUTAMIC-ACID	Leaf	--	--		Jim Duke's personal files.
12	GLYCINE	Seed	1580	2980	-1.1526395672471974	USDA's Ag Handbook 8 and sequelae)
12	GLYCINE	Endosperm	--	--		Jim Duke's personal files.
12	GLYCINE	Leaf	--	--		Jim Duke's personal files.
3	GOLD	Plant	--	--		
0	HEPTAN-2-OL	Fruit	--	--		Jim Duke's personal files.
2	HEXANOIC-ACID	Seed	585	7190		
7	HISTIDINE	Leaf	--	--		Jim Duke's personal files.
7	HISTIDINE	Seed	770	1455	-1.2412650733514448	USDA's Ag Handbook 8 and sequelae)
0	HYDROXYPHASEIC-ACID	Resin, Exudate, Sap	--	--		Jim Duke's personal files.
1	HYDROXYPROLINE	Endosperm	--	--		Jim Duke's personal files.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
8	INOSITOL	Resin, Exudate, Sap	690	690		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
12	IODINE	Seed	0.3	0.3	-0.2504859725466935	Furr, A.K., et al. 1979
6	IRON	Seed	20	33	-0.4683156382183686	
3	ISOLEUCINE	Seed	1310	2470	-1.0235626374582578	USDA's Ag Handbook 8 and sequelae)
3	ISOLEUCINE	Endosperm	--	--		Jim Duke's personal files.
0	KILOCALORIES	Seed	2960	7050	1.714930755646975	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	L-RHAMNOSE	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
4	LACTOSE	Root	--	--		Jim Duke's personal files.
0	LANTHANUM	Seed	0.03	0.03	-0.1663780661615404	Furr, A.K., et al. 1979
7	LAURIC-ACID	Seed	25754	368847	3.356450956978854	
7	LAURIC-ACID	Endosperm	--	--		Jim Duke's personal files.
0	LEAD	Seed	0.7	0.7	-0.5037706810794316	Furr, A.K., et al. 1979
2	LEUCINE	Seed	2470	4660	-1.1889665424024416	USDA's Ag Handbook 8 and sequelae)
2	LEUCINE	Leaf	--	--		Jim Duke's personal files.



Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
13	LIGNIN	Hull Husk	294000	294000	1	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
3	LIGUSTRAZINE	Endosperm	--	--		Jim Duke's personal files.
60	LIMONENE	Fruit	--	--		Jim Duke's personal files.
0	LINAMARASE	Endosperm	--	--		Jim Duke's personal files.
27	LINOLEIC-ACID	Seed	584	18694	-0.7576615677270858	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	LUTETIUM	Seed	0.01	0.01	0.06665021185544043	Furr, A.K., et al. 1979
4	LYSINE	Seed	1470	2775	-1.2629328431370264	USDA's Ag Handbook 8 and sequelae)
4	LYSINE	Endosperm	--	--		Jim Duke's personal files.
4	LYSINE	Leaf	--	--		Jim Duke's personal files.
65	MAGNESIUM	Seed	300	770	-0.8597643812861001	Furr, A.K., et al. 1979
0	MAGNESIUM-OXIDE	Leaf	5700	5700		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
15	MALIC-ACID	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
14	MANGANESE	Seed	9	21	2.833645212569222	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	MANNAN	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
63	MENTHOL	Fruit	--	--		Jim Duke's personal files.
1	MERCURY	Seed	0.1	0.1	-0.12385851994600533	Furr, A.K., et al. 1979
0	MESO-INOSITOL	Endosperm	100	100		
15	METHIONINE	Leaf	--	--		Jim Duke's personal files.
15	METHIONINE	Seed	620	1170	-0.8120468095481715	USDA's Ag Handbook 8 and sequelae)
15	METHIONINE	Endosperm	--	--		Jim Duke's personal files.
0	METHOXYL	Hull Husk	56000	56000		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
2	MOLYBDENUM	Seed	0.03	0.03	-0.8557155877274645	Furr, A.K., et al. 1979
13	MUFA	Seed	14250	26880	-0.5971507316122795	USDA's Ag Handbook 8 and sequelae)
6	MYRISTIC-ACID	Seed Oil	--	--		Jim Duke's personal files.
6	MYRISTIC-ACID	Seed	7650	133015	1.4452781690520207	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	N-DOCASANE	Seed Oil	--	--		Jim Duke's personal files.
0	N-DOTRIACONTANE	Seed Oil	--	--		Jim Duke's personal files.
0	N-EICOSANE	Seed Oil	--	--		Jim Duke's personal files.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	N-HENEICOSANE	Seed Oil	--	--		Jim Duke's personal files.
3	N-HENTRIACONTANE	Seed Oil	--	--		Jim Duke's personal files.
0	N-HEPTACOSANE	Seed Oil	--	--		Jim Duke's personal files.
0	N-HEPTADECANE	Seed Oil	--	--		Jim Duke's personal files.
2	N-HEXACOSANE	Seed Oil	--	--		Jim Duke's personal files.
1	N-NONACOSANE	Seed Oil	--	--		Jim Duke's personal files.
0	N-NONADECANE	Seed Oil	--	--		Jim Duke's personal files.
0	N-OCTACOSANE	Seed Oil	--	--		Jim Duke's personal files.
0	N-OCTADECANE	Seed Oil	--	--		Jim Duke's personal files.
0	N-PENTACOSANE	Seed Oil	--	--		Jim Duke's personal files.
0	N-TETRACOSANE	Seed Oil	--	--		Jim Duke's personal files.
0	N-TRIACONTANE	Seed Oil	--	--		Jim Duke's personal files.
0	N-TRICOSANE	Seed Oil	--	--		Jim Duke's personal files.
39	NIACIN	Seed	5	10	-0.9844146803254511	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
3	NICKEL	Seed	2.1	2.1	-0.5073146937660691	Furr, A.K., et al. 1979
0	NITROGEN	Hull Husk	1100	1100		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
5	OCTANOIC-ACID	Seed	4670	57520		
5	OCTANOIC-ACID	Endosperm	--	--		Jim Duke's personal files.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
18	OLEIC-ACID	Seed	2920	58958	-0.4944308344155307	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
25	P-COUMARIC-ACID	Leaf	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
13	P-HYDROXY-BENZOIC-ACID	Leaf	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
13	PALMITIC-ACID	Seed	4380	75495	0.858105760546874	
24	PECTIN	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	PENTOSANS	Hull Husk	277000	277000	-1	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
7	PHENYLALANINE	Leaf	--	--		Jim Duke's personal files.
7	PHENYLALANINE	Seed	1690	3190	-0.9971896280936104	USDA's Ag Handbook 8 and sequelae)
4	PHOSPHORUS	Seed	830	2400	-0.7804502800829126	
0	PHOSPHORUS-OXIDE-(P2O5)	Leaf	1700	1700		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
5	PHYLLOQUINONE	Oil	--	0.005	-1.0944932984058764	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PHYTATE	Seed	2300	2370	-1.2776088102133165	
2	PHYTOSTEROLS	Seed	470	885	-0.40781205023024353	USDA's Ag Handbook 8 and sequelae)
14	POTASSIUM	Seed	2560	11491	-0.09489587073970547	
0	POTASSIUM-OXIDE-(K2O)	Leaf	52300	52300		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	PROLINE	Leaf	--	--		Jim Duke's personal files.
0	PROLINE	Seed	1380	2605	-1.7152581345146969	USDA's Ag Handbook 8 and sequelae)
0	PROTEIN	Seed	32000	77000	-1.3947822218671768	
4	PUFA	Seed	3660	26880	-0.601249593588963	USDA's Ag Handbook 8 and sequelae)
1	QUINIC-ACID	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	RAFFINOSE	Resin, Exudate, Sap	900	900		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	RAFFINOSE	Root	--	--		Jim Duke's personal files.
15	RIBOFLAVIN	Seed	0.2	0.7	-1.0823929498985099	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	RUBIDIUM	Seed	16	16	-0.02826125946521563	Furr, A.K., et al. 1979
7	SALICYLATES	Seed	2	3	-0.32408179774656004	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	SAMARIUM	Seed	0.04	0.04	-0.3314596066672648	Furr, A.K., et al. 1979
0	SCANDIUM	Seed	0.002	0.002	-0.6367962615099008	Furr, A.K., et al. 1979
0	SCYLLITOL	Leaf	3200	3200	1	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	SCYLLITOL	Juice	--	500		
0	SCYLLITOL	Endosperm	500	500		
60	SELENIUM	Seed	0.02	0.02	-0.2635767939811563	Furr, A.K., et al. 1979
1	SERINE	Endosperm	--	--		Jim Duke's personal files.
1	SERINE	Leaf	--	--		Jim Duke's personal files.
1	SERINE	Seed	1720	3245	-1.4046655429596806	USDA's Ag Handbook 8 and sequelae)
0	SFA	Seed	296980	560235	4.92625755934881	USDA's Ag Handbook 8 and sequelae)
14	SHIKIMIC-ACID	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
4	SILICON	Seed	370	370	-0.5747786449558462	Furr, A.K., et al. 1979
1	SODIUM	Seed	145	626	0.2780073375488779	
11	SORBITOL	Endosperm	--	--		Jim Duke's personal files.
10	SQUALENE	Seed	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
10	SQUALENE	Seed Oil	--	--		Jim Duke's personal files.
8	STEARIC-ACID	Seed	584	23008	0.14430588634246846	
12	STIGMASTEROL	Seed Oil	--	--		Jim Duke's personal files.
0	STRONTIUM	Seed	2.8	2.8	-0.751622808700869	Furr, A.K., et al. 1979
7	SUCCINIC-ACID	Root	--	--		Jim Duke's personal files.
7	SUCCINIC-ACID	Seed	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
14	SUCROSE	Resin, Exudate, Sap	134000	134000		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
14	SUCROSE	Juice	4300	4300		Jim Duke's personal files.
14	SULFUR	Seed	440	1370	-0.6588697590248107	
4	SYRINGALDEHYDE	Leaf	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
6	SYRINGIC-ACID	Leaf	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
35	TANNIN	Plant	--	--		Jim Duke's personal files.
0	TANTALUM	Plant	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
31	THIAMIN	Seed	0.3	1	-1.3322834288131225	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	THORIUM	Plant	--	--		
4	THREONINE	Seed	1210	2285	-1.3091612941527981	USDA's Ag Handbook 8 and sequelae)
4	THREONINE	Leaf	--	--		Jim Duke's personal files.
4	TIN	Seed	1.5	1.5	-0.442152019568875	Furr, A.K., et al. 1979
0	TITANIUM	Seed	5.6	5.6	-0.45186158232568946	Furr, A.K., et al. 1979
2	TRIDECANOIC-ACID	Seed	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
29	TRYPTOPHAN	Seed	390	735	-0.8833088946354036	USDA's Ag Handbook 8 and sequelae)
0	TUNGSTEN	Seed	0.3	0.3	2.89737971498178	Furr, A.K., et al. 1979
8	TYROSINE	Leaf	--	--		Jim Duke's personal files.
8	TYROSINE	Seed	1030	1945	-1.3427005948815731	USDA's Ag Handbook 8 and sequelae)
0	UNDECANOIC-ACID	Seed	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	URONIC-ANHYDRIDES	Hull Husk	35000	35000		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
3	VALINE	Endosperm	--	--		Jim Duke's personal files.
3	VALINE	Leaf	--	--		Jim Duke's personal files.



Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	VALINE	Seed	2020	3810	-1.0100996922183336	USDA's Ag Handbook 8 and sequelae)
16	VANADIUM	Seed	0.004	0.004	-0.5871182787387549	Furr, A.K., et al. 1979
24	VANILLIC-ACID	Leaf	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
28	VANILLIN	Leaf	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	VIT-E	Seed	2	2		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	WATER	Hull Husk	80000	80000	-1	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	WATER	Leaf	84500	84500	-3.6077208272203345	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	WATER	Seed	363000	546000	1.2218063723076176	
0	YTTERBIUM	Seed	0.1	0.1	-0.2826900050957917	Furr, A.K., et al. 1979
77	ZINC	Seed	9	17	-0.5715529290009757	