

Dr. Duke's Phytochemical and Ethnobotanical Database

Chemicals Found in *Camellia sinensis*

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	(+)-3-(S)-7-DIMETHYL-OCTA-1,5-DIENE-3,7-DIOL	Leaf Essent. Oil	--	--		
30	(+)-CATECHIN	Leaf	85.2	13200		
30	(+)-CATECHIN	Tissue Culture	--	--		
30	(+)-CATECHIN	Stem	--	--		
30	(+)-CATECHIN	Anther	--	--		
4	(+)-CATECHOL	Tissue Culture	--	--		
0	(+)-EPIGALLOCATECHIN-GALLATE	Leaf	--	--		
7	(+)-GALLOCATECHIN	Leaf	--	2100		
0	(+)-GALLOCATECHOL	Shoot	--	--		
0	(-)-EPI-GALLO-CATECHOL	Shoot	--	--		
2	(-)-EPIAFZELECHIN	Leaf	6	6		
0	(-)-EPIAFZELECHIN-3-O-GALLATE	Leaf	37	37		
38	(-)-EPICATECHIN	Flower	--	--		
38	(-)-EPICATECHIN	Stem	0.1	--		
38	(-)-EPICATECHIN	Leaf	960	32500	1.4139218779018574	
38	(-)-EPICATECHIN	Tissue Culture	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	(-)-EPICATECHIN-3-GALLATE	Leaf	--	8200		
0	(-)-EPICATECHIN-3-O(3-O-METHYL)-GALLATE	Leaf	--	800		
0	(-)-EPICATECHIN-3-O-(4-O-METHYL)-GALLATE	Leaf	--	16		
7	(-)-EPICATECHIN-3-O-GALLATE	Leaf	3077	3188		
0	(-)-EPICATECHIN-3-O-P-HYDROXY-BENZOATE	Leaf	--	3.6		
2	(-)-EPICATECHIN-GALLATE	Leaf	15900	16600		
0	(-)-EPICATECHOL	Shoot	--	--		
0	(-)-EPICATECHOL	Tissue Culture	--	--		
0	(-)-EPICATECHOL-GALLATE	Shoot	--	--		
21	(-)-EPIGALLOCATECHIN	Leaf	880	31000		
0	(-)-EPIGALLOCATECHIN-3,3'-DI-O-GALLATE	Leaf	9	9		
0	(-)-EPIGALLOCATECHIN-3,4'-DI-O-GALLATE	Leaf	9	9		
2	(-)-EPIGALLOCATECHIN-3-GALLATE	Leaf	--	--		
0	(-)-EPIGALLOCATECHIN-3-O-CINNAMATE	Leaf	13	13.2		
8	(-)-EPIGALLOCATECHIN-3-O-GALLATE	Leaf	7140	8718		
0	(-)-EPIGALLOCATECHIN-3-O-P-COUMAROATE	Leaf	38.4	83.3		
41	(-)-EPIGALLOCATECHIN-GALLATE	Leaf	--	--		
0	(-)-EPIGALLOCATECHOL-GALLATE	Shoot	--	--		
0	(-)-GALLOCATECHIN-GALLATE	Leaf	1880	1880		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	(-)-QUINIC-ACID	Leaf	--	--		
0	(DL)-GALLOCATECHIN	Leaf	12876	12876		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	(R)-LINALOOL	Leaf	--	--		
0	1',2'-DIHYDRO-1',2'-EPOXY-BETA-IONONE	Leaf	--	--		
0	1',2'-DIHYDROXY-1',2'-THREO-BETA-IONONE	Leaf	--	--		
0	1,2,3-TRIMETHOXY-5-ETHYL-BENZENE	Leaf	--	--		
0	1,2,3-TRIMETHOXY-5-METHYL-BENZENE	Leaf	--	--		
0	1,2,3-TRIMETHOXY-BENZENE	Leaf	--	--		
1	1,2,4-TRIHYDROXY-BENZENE	Leaf	--	--		
0	1,2,5-TRIHYDROXY-BENZENE	Leaf	--	--		
0	1,2-DIMETHOXY-4-ETHYL-BENZENE	Leaf	--	--		
0	1,2-DIMETHOXY-4-METHYL-BENZENE	Leaf	--	--		
0	1,2-DIMETHOXY-BENZENE	Leaf	--	--		
0	1,3,4-TRIHYDROXY-BENZENE	Leaf	--	--		
1	1,3,5-TRIHYDROXY-BENZENE	Leaf	--	--		
0	1,3-DIACETYL-BENZENE	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	1,4,6-TRI-O-GAALLOYL-BETA-D-GLUCOSE	Leaf	--	5		
0	1,4,6-TRI-O-GALLOYL-BETA-D-GLUCOSE	Leaf	--	100		
0	1,4,6-TRI-O-GALLOYL-GLUCOSE	Leaf	5	10		Jim Duke's personal files.
0	1,4-DIACETYL-BENZENE	Leaf	--	--		
0	1,5,5,9-TETRAMETHYL-BICYCLO-(4,3,0)-NON-8-EN-7-ONE	Leaf	--	--		
0	1-ALPHA-O-GALLOYL-4,6-(S)-HEXAHYDROXY-DIPHENOYL-BETA-D-GLUCOSE	Plant	--	--		
0	1-ALPHA-O-GALLOYL-4,6-(S)-HEXAHYDROXY-DIPHENOYL-BETA-D-GLUCOSE	Leaf	--	30		Jim Duke's personal files.
0	1-EPICATECHIN-GALLATE	Leaf	8000	16650		
0	1-O-GALLOYL-4,6-(-)-HEXAHYDROXY-DIPHENOYL-BETA-D-GLUCOSE	Leaf	--	30		
0	1-O-GALLOYL-4,6-(S)-HEXAHYDROXY-DIPHENOYL-BETA-D-GLUCOSE	Leaf	16	16		Jim Duke's personal files.
0	1-OCTANOL	Leaf	--	--		
0	2,3-DIMETHYL-PYRAZINE	Leaf	--	--		
0	2,4,5-TRIMETHYL-THIAZOLE	Leaf	--	--		
0	2,4-DIMETHYL-ACETOPHENONE	Leaf	--	--		
0	2,4-DIMETHYL-PROPIOPHENONE	Leaf	--	--		
0	2,4-DIMETHYL-QUINOLINE	Leaf	--	--		
0	2,4-DIMETHYL-THIAZOLE	Leaf	--	--		
0	2,5-DIMETHYL-4-ETHYL-THIAZOLE	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	2,5-DIMETHYL-PYRAZINE	Leaf	--	--		
0	2,5-DIMETHYL-PYRIDINE	Leaf	--	--		
0	2,5-DIMETHYL-THIAZOLE	Leaf	--	--		
0	2,6,10,14-TETRAMETHYL-PENTADECANE	Leaf	--	--		
0	2,6,6-TRIMETHYL-CYCLOHEX-2-EN-1,4-DIONE	Leaf	--	--		
0	2,6,6-TRIMETHYL-CYCLOHEX-2-EN-1-ONE	Leaf	--	--		
0	2,6-DIEMTHYL-PYRAZINE	Leaf	--	--		
0	2,6-DIEMTHYL-PYRIDINE	Leaf	--	--		
0	2,6-DIMETHYL-PYRAZINE	Leaf	--	--		
0	2,6-DIMETHYL-PYRIDINE	Leaf	--	--		
0	2,6-DIMETHYL-QUINOLINE	Leaf	--	--		
0	2-ACETYL-FURAN	Leaf	--	--		
0	2-ACETYL-PYRIDINE	Leaf	--	--		
0	2-ACETYL-PYRROLE	Plant	--	--		
0	2-AMINO-5-(N-ETHYL-CARBOXAMIDO)-PENTANOIC-ACID	Leaf	120	120		
0	2-ETHYL-3,5-DIMETHYL-PYRAZINE	Leaf	--	--		
0	2-ETHYL-3,6-DIMETHYL-PYRAZINE	Leaf	--	--		
0	2-ETHYL-5-METHYL-PYRAZINE	Leaf	--	--		
0	2-ETHYL-6-METHYL-PYRAZINE	Leaf	--	--		
0	2-ETHYL-HEX-AN-1-OL	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	2-ETHYL-PYRIDINE	Leaf	--	--		
0	2-HYDROXY-2,6,6-TRIMETHYLCYCLOHEXYLIDEN-1-ACETOLACTONE	Leaf	--	--		
0	2-METHYL-5-ETHYL-PYRIDINE	Leaf	--	--		
0	2-METHYL-6-ETHYL-PYRIDINE	Leaf	--	--		
0	2-METHYL-BENZALDEHYDE	Leaf	--	--		
0	2-METHYL-BENZOTHAZOLE	Leaf	--	--		
0	2-METHYL-PENTAN-3-OL	Leaf	--	--		
0	2-METHYL-PYRIDINE	Leaf	--	--		
0	2-METHYL-QUINOLINE	Leaf	--	--		
0	2-O-(BETA-1-ARABINOPYRANOSYL)-MYOINOSITOL	Leaf	--	4000		
0	2-O-(BETA-L-ARABINOPYRANOSYL)-MYOINOSITOL	Leaf	4000	4000		
0	2-O-BETA-1-ARABINOPYRANOSIDE-MYOINOSITOL	Leaf	--	4000		
0	2-O-BETA-L-ARABINOPYRANOSIDE-MYOINOSITOL	Leaf	4000	4000		
0	2-O-BETA-L-ARABINOSIDE-MYOINOSITOL	Leaf	--	--		
0	2-PHENYL-PYRIDINE	Leaf	--	--		
0	2-PHENYLETHANOL	Leaf	--	--		
0	2-PHENYLETHYL-ALCOHOL	Shoot	1000	1300		
0	22,23-DIHYDROSPINASTEROL	Seed	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	22,23-DIHYDROSPINASTEROL	Seed Oil	--	--		
0	22,23-DIHYDROSPINASTERONE	Seed	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
0	22,23-DIHYDROSPINASTERONE	Seed Oil	--	--		
0	24(S)-ETHYL-BRASSINONE	Leaf	--	--		
0	24-ETHYL-BRASSINONE	Leaf	--	--		
0	24-METHYL-LATHOSTEROL	Seed	--	--		
0	24-METHYLENE-DAMMARENOL	Seed Oil	--	--		
0	28-NORBRASSINOLIDE	Leaf	--	--		
0	3'-O-GALLATE-PRODELPHINIDIN-B-2	Leaf	--	147.4		
0	3'-OXO-BETA-IONONE	Leaf	--	--		
0	3'-OXO-BETA-IONONE	Leaf Essent. Oil	--	--		
0	3,4-DIMETHOXY-ACETOPHENONE	Leaf	--	--		
0	3,5-DIMETHYL-2-ETHYL-PYRAZINE	Leaf	--	--		Jim Duke's personal files.
0	3,6-DIMETHYL-2-ETHYL-PYRAZINE	Leaf	--	--		Jim Duke's personal files.
0	3-(S)-7-DIMETHYL-OCTA-1,5,7-TRIEN-3-OL	Leaf	--	--		
0	3-(S)-7-DIMETHYL-OCTA-1,5-DIEN-3,7-DIOL	Leaf	--	--		Jim Duke's personal files.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	3-ETHYL-PYRIDINE	Leaf	--	--		
0	3-METHOXY-PYRIDINE	Leaf	--	--		
0	3-METHYL-PENTAN-2-OL	Leaf	--	--		
0	3-METHYL-PYRIDINE	Leaf	--	--		
0	3-N-BUTYL-PYRIDINE	Leaf	--	--		
0	3-N-PROPYL-QUINOLINE	Leaf	--	--		
0	3-PHENYL-PYRIDINE	Leaf	--	--		
0	30	Leaf	--	--		
0	4	Leaf	--	--		
0	4,8-DIMETHYL-QUINOLINE	Leaf	--	--		
0	4-ETHYL-7,11-DIMETHYL-DODECA-TRANS-2-TRANS-6,10-TRIENE-1-AL	Leaf	--	--		
0	4-ETHYL-7,11-DIMETHYL-DODECA-TRANS-2-TRANS-6,10-TRIEN-1-AL	Leaf	--	--		
0	4-ETHYL-GUAIACOL	Leaf	--	--		
0	4-GALLOCATECHOL	Leaf	--	--		Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
0	4-METHOXY-BENZALDEHYDE	Leaf	--	--		
0	4-METHYL-2-PHENYL-PENT-2-EN-1-AL	Leaf	--	--		
0	4-METHYL-HEX-5-EN-4-OLIDE	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	4-METHYL-PYRIDINE	Leaf	--	--		
0	4-N-BUTYL-QUINOLINE	Leaf	--	--		
8	4-TERPINEOL	Leaf	--	--		
0	4-VINYL-PYRIDINE	Leaf	--	--		
0	44	Leaf	--	--		
0	5-6	Leaf	--	--		
0	5-ALPHA-TIRUCALLA-7,24-DIEN-3-BETA-OL	Seed Oil	12	12		
0	5-DEHYDROSHIKIMIC-ACID-REDUCTASE	Plant	--	--		
0	5-ISOPROPYL-HEPTAN-2-ONE	Leaf	--	--		
0	5-METHYL-2-ETHYL-PYRAZINE	Leaf	--	--		Jim Duke's personal files.
0	5-METHYL-2-PHENYL-HEX-2-1-AL	Leaf	--	--		Jim Duke's personal files.
0	5-METHYL-2-PHENYL-HEX-2-EN-1-AL	Leaf	--	--		
0	5-METHYL-THIAZOLE	Leaf	--	--		
0	5-METHYLCYTOSINE	Leaf	--	--		
0	6,10-DIMETHYL-UNDECAN-2-ONE	Leaf	--	--		
0	6,7-EPOXY-DIHYDROTHEASPIRANE	Leaf	--	--		
0	6,8-DI-C-BETA-D-ARABINOPYRANOSYL-APIGENIN	Leaf	20	20		Jim Duke's personal files.
0	6-HYDROXY-DIHYDROTHEASPIRANE	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	6-KETO-28-HOMOBRASSINOLIDE	Leaf	--	--		
0	6-KETO-28-NORBRASSINOLIDE	Leaf	--	--		
0	6-KETO-BRASSINOLIDE	Leaf	--	--		
0	6-METHYL-2-ETHYL-PYRAZINE	Leaf	--	--		Jim Duke's personal files.
0	6-METHYL-QUINOLINE	Leaf	--	--		
0	8-C-ASCORBYL-EPIGALLOCATECHIN-3-O-GALLATE	Leaf	11	11.2		
6	ACETALDEHYDE	Leaf	--	--		
16	ACETIC-ACID	Plant	--	--		
0	ACETOIN	Leaf	--	--		
3	ACETONE	Leaf	--	--		
6	ACETOPHENONE	Plant	--	--		
11	ADENINE	Leaf	--	--		Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
3	ALANINE	Plant	--	--		
0	ALLANTOIC-ACID	Plant	--	--		
12	ALLANTOIN	Plant	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	ALPHA-AMINO-BUTYRIC-ACID	Plant	--	--		
10	ALPHA-AMYRIN	Seed Oil	--	--		
0	ALPHA-BETA-HEXENAL	Leaf	--	--		
0	ALPHA-DAMASCONE	Leaf	--	--		
0	ALPHA-DIHYDROERGOSTEROL	Leaf	--	--		
5	ALPHA-IONONE	Shoot	300	500		
5	ALPHA-IONONE	Leaf	--	--		
28	ALPHA-PINENE	Leaf	--	--		
2	ALPHA-SPINASTEROL	Leaf	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
0	ALPHA-SPINASTEROL-GENTIOBIOSIDE	Leaf	--	--		
23	ALPHA-TERPINEOL	Shoot	700	1000	0.7452365129535146	
23	ALPHA-TERPINEOL	Leaf	--	--		
5	ALUMINUM	Leaf	--	--		
0	AMINO-ACIDS	Leaf	40000	53000	-0.32888382504822705	
0	AMMONIA	Leaf	400	400	-1.29532264708716	
0	AMMONIA(NH3)	Leaf	--	400	-1	
1	ANGELIC-ACID	Plant	--	--		
0	ANILINE	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
101	APIGENIN	Leaf	--	--		
14	ARGININE	Plant	--	--		
3	AROMADENDRIN	Shoot	--	--		
112	ASCORBIC-ACID	Leaf	--	--		
0	ASPARAGIC-ACID	Plant	--	--		
2	ASPARAGINE	Plant	--	--		
0	ASSAMICAIN-A	Leaf	58	58		Jim Duke's personal files.
0	ASSAMICAIN-B	Leaf	77	77		Jim Duke's personal files.
0	ASSAMICAIN-C	Leaf	34	34		Jim Duke's personal files.
7	ASTRAGALIN	Leaf	--	--		
0	AVENASTEROL	Seed	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
0	BARRIGENOL-R1	Leaf	--	--		
0	BARRINGTOGENOL-C	Leaf	--	--		
24	BENZALDEHYDE	Shoot	2100	2300	5.505869120167252	
24	BENZALDEHYDE	Leaf	--	--		
0	BENZOAXAZOLE	Leaf	--	--		
20	BENZOIC-ACID	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	BENZOTHIAZOLE	Leaf	--	--		
0	BENZOXAZOLE	Leaf	--	--		
9	BENZYL-ACETATE	Leaf	--	--		
9	BENZYL-ALCOHOL	Leaf	--	--		
9	BENZYL-ALCOHOL	Shoot	900	1400	1	
9	BENZYL-ALCOHOL	Leaf Essent. Oil	--	10100		
1	BENZYL-BUTYRATE	Leaf	--	--		
0	BENZYL-ETHYL-KETONE	Leaf	--	--		
9	BETA-AMYRIN	Seed Oil	--	76		
53	BETA-CAROTENE	Leaf	27	84	-0.7721236413068051	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	BETA-CARYOPHYLLENE	Leaf	--	--		
0	BETA-CYCLOCITRAL	Shoot	800	1000	1.414206663153348	
0	BETA-CYCLOCITRAL	Leaf	--	--		
3	BETA-DAMASCENONE	Leaf	--	--		
0	BETA-DAMASCONE	Leaf	--	--		
0	BETA-GAMMA-HEXENOL	Leaf	--	--		
0	BETA-GLUCOGALLIN	Leaf	28	28.4		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
13	BETA-IONONE	Leaf	--	31	0.13674821696188616	
13	BETA-IONONE	Shoot	1700	2900	1.9998947757918648	
13	BETA-IONONE	Leaf Essent. Oil	200	3100	1	
5	BETA-SESQUIPELLANDRENE	Leaf	--	--		
47	BETA-SITOSTEROL	Seed	--	--		
47	BETA-SITOSTEROL	Seed Oil	--	--		
47	BETA-SITOSTEROL	Leaf	2130	2230	0.1261995916446916	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
0	BRASSICASTEROL	Seed	--	--		
0	BRASSICASTEROL	Seed Oil	--	--		
3	BRASSINOLIDE	Leaf	--	--		
0	BRASSINONE	Leaf	--	--		
0	BUTAN-2-OL	Leaf	--	--		
2	BUTYRALDEHYDE	Leaf	--	--		
6	BUTYRIC-ACID	Plant	--	--		
0	BUTYROIN	Leaf	--	--		
0	BUTYROSPERMOL	Seed	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	BUTYROSPERMOL	Seed Oil	--	--		
102	CAFFEIC-ACID	Plant	--	--		
62	CAFFEINE	Leaf	3810	93000	1.3844065007008324	
62	CAFFEINE	Shoot	38100	47900		
62	CAFFEINE	Seed	--	--		
62	CAFFEINE	Pericarp	--	--		
62	CAFFEINE	Anther	0.1	--		
62	CAFFEINE	Tissue Culture	--	--		
62	CAFFEINE	Seed Coat	--	--		
62	CAFFEINE	Flower	--	--		
62	CAFFEINE	Plant	--	--		
62	CAFFEINE	Stem	--	--		
28	CALCIUM	Leaf	327	2456	-1.0919564439929121	
0	CAMELLIA-GALACTOGLUCAN	Leaf	--	--		
0	CAMELLIA-POLYSACCHARIDE	Leaf	--	--		
0	CAMELLIA-SINENSIS-POLYSACCHARIDE-TSA	Leaf	--	--		
0	CAMELLIAGENIN-A	Leaf	--	--		
0	CAMELLIAGENIN-D	Plant	--	--		J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	CAMELLIANIN-A	Leaf	--	--		
0	CAMELLIANIN-B	Leaf	--	--		
0	CAMELLIASIDE-A	Seed	656	2733.3		
0	CAMELLIASIDE-B	Seed	291	3026.6		
0	CAMELLIASIDE-C	Seed	--	2.5		
2	CAMPESTEROL	Seed	--	--		
2	CAMPESTEROL	Seed Oil	--	--		
0	CAPROALDEHYDE	Leaf	--	--		
1	CAPROIC-ACID	Leaf	--	--		
0	CAPRYLLIC-ACID	Plant	--	--		
0	CARBOHYDRATES	Leaf	536000	590000	-0.17376198891887273	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
37	CARVACROL	Leaf	--	--		
0	CASTASTERONE	Leaf	0.1	--		
0	CATECHIN-(4-ALPHA-8)-EPIGALLOCATECHIN	Leaf	--	45.4		
0	CATECHIN-(4-ALPHA-8)-EPIGALLOCATECHIN-3-GALLATE	Leaf	--	--		
0	CATECHOL-TANNINS	Leaf	100000	200000	0.7071067811865474	Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	CHASAPONIN	Plant	--	--		
77	CHLOROGENIC-ACID	Leaf	--	--		
77	CHLOROGENIC-ACID	Tissue Culture	--	--		
21	CHLOROPHYLL	Leaf	--	5000	-0.6842987324142965	
0	CHONDRILLASTEROL	Seed	--	--		
0	CHONDRILLASTEROL	Seed Oil	--	--		
18	CINNAMIC-ACID	Leaf	--	--		
0	CIS-BETA-OCIMENE	Leaf	--	--		
0	CIS-JASMONE	Leaf	--	20	-0.4780785333346696	
0	CIS-JASMONE	Leaf Essent. Oil	500	2000		
0	CIS-JASMONENE	Leaf	--	--		
0	CIS-LINALOL-OXIDE	Shoot	600	1600	2.8189241635181457	
0	CIS-LINALOOL-OXIDE	Shoot	600	1600		
0	CITRAL-ALPHA	Leaf	--	--		
15	CITRONELLOL	Leaf	--	--		
12	COPPER	Leaf	20	20	-0.2107254556903997	
2	CRYPTOXANTHIN	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	CYCLOHEXANONES	Leaf	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
13	CYSTEINE	Leaf	--	--		
2	CYSTINE	Leaf	--	--		
0	D,L-CATECHIN	Leaf	2664	2664		
3	DAMMARADIENOL	Seed Oil	--	30		
0	DECA-TRANS-2-CIS-4-DIEN-1-AL	Leaf	--	--		
0	DECA-TRANS-2-CIS-4-DIENE-1-AL	Leaf	--	--		
0	DECA-TRANS-2-EN-1-AL	Leaf	--	--		
0	DEGALLOYL-THEAFLAVONIN	Leaf	--	17.5		
0	DEGALLOYL-THEASINENSIN-F	Leaf	1	2		Jim Duke's personal files.
0	DEHYDROVOMIFOLIOL	Leaf	--	--		
0	DEHYDROVOMIFOLIOL	Leaf Essent. Oil	--	--		
0	DELTA-7-STIGMASTENOL	Leaf	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
9	DELTA-CADINENE	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	DEXTRIN	Leaf	--	--		
0	DIHYDROACTINIDIOLIDE	Leaf	--	--		
0	DIHYDROACTINIDIOLIDE	Leaf Essent. Oil	--	--		
0	DIHYDROKAEMPFEROL	Shoot	--	--		Jim Duke's personal files.
2	DIMETHYL-SULFIDE	Leaf	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	DIMETHYLXANTHINE	Leaf	--	--		Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
3	DIPHENYLAMINE	Leaf	130	11700		
0	EO	Leaf	30	10000	-0.13502102138741875	
1	EPIAFZELECHIN	Leaf	--	6		
0	EPIAFZELECHIN-3-O-GALLATE	Leaf	37	500		
0	EPIAFZELECHIN-3-O-GALLATE-(4-BETA-6)-EPIGALLOCATECHIN-3-O-GALLATE	Plant	--	--		
0	EPIAFZELECHIN-3-O-GALLATE-(4-BETA-6)-EPIGALLOCATECHIN-3-O-GALLATE	Leaf	5.6	11		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
40	EPICATECHIN	Leaf	149	21250	1	
0	EPICATECHIN-(4-BETA-8)EPIGALLOCATECHIN-3-O-GALLATE	Leaf	21	20.8		
0	EPICATECHIN-3,5-DI-O-GALLATE	Leaf	4	4		Jim Duke's personal files.
0	EPICATECHIN-3-(3-O-METHYLGALLATE)	Leaf	47	47		Jim Duke's personal files.
0	EPICATECHIN-3-O(3-O-METHYL)-GALLATE	Leaf	71	71		Jim Duke's personal files.
0	EPICATECHIN-3-O-(4-O-METHYL)-GALLATE	Leaf	--	16		Jim Duke's personal files.
1	EPICATECHIN-3-O-GALLATE	Leaf	20	20		Jim Duke's personal files.
0	EPICATECHIN-3-O-GALLATE-(4-BETA-6)EPIGALLOCATECHIN-3-O-GALLATE	Plant	--	6		
0	EPICATECHIN-3-O-GALLATE-(4-BETA-6)EPIGALLOCATECHIN-3-O-GALLATE	Leaf	--	5.8		
0	EPICATECHIN-3-O-GALLATE-(4-BETA-8)EPIGALLOCATECHIN-3-O-GALLATE	Plant	4	4		
0	EPICATECHIN-3-O-GALLATE-(4-BETA-8)EPIGALLOCATECHIN-3-O-GALLATE	Leaf	--	3.6		
0	EPICATECHIN-3-O-P-HYDROXY-BENZOATE	Leaf	--	4		Jim Duke's personal files.
0	EPICATECHIN-EPIGALLOCATECHIN-(4-BETA-8)-3-O-GALLOYL	Leaf	50	50		
12	EPICATECHIN-GALLATE	Leaf	5417	31000		
0	EPICATECHOL	Shoot	--	--		Jim Duke's personal files.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	EPIGATECHOL-GALLATE	Shoot	--	--		Jim Duke's personal files.
6	EPIGALLOCATECHIN	Leaf	--	10866.7		
0	EPIGALLOCATECHIN-(4-BETA-8)-EPIGATECHIN-3-O-GALLATE	Leaf	28	28		
0	EPIGALLOCATECHIN-3,3'-DI-O-GALLATE	Leaf	3	3		Jim Duke's personal files.
0	EPIGALLOCATECHIN-3,4'-DI-O-GALLATE	Leaf	3	3		Jim Duke's personal files.
0	EPIGALLOCATECHIN-3,5-DI-O-GALLATE	Leaf	--	600		
0	EPIGALLOCATECHIN-3-(3-O-METHYL-GALLATE)	Leaf	197	197		Jim Duke's personal files.
0	EPIGALLOCATECHIN-3-O-CINNAMATE	Leaf	--	13		
3	EPIGALLOCATECHIN-3-O-GALLATE	Leaf	224	224		Jim Duke's personal files.
0	EPIGALLOCATECHIN-3-O-GALLATE-(4-BETA-6)-EPIGATECHIN-3-O-GALLATE	Plant	--	--		
0	EPIGALLOCATECHIN-3-O-GALLATE-(4-BETA-6)-EPIGATECHIN-3-O-GALLATE	Leaf	--	4.2		
0	EPIGALLOCATECHIN-3-O-GALLATE-(4-BETA-8)-EPIGATECHIN-3-O-GALLATE	Plant	--	--		
0	EPIGALLOCATECHIN-3-O-GALLATE-(4-BETA-8)-EPIGATECHIN-GALLATE	Leaf	--	44		
0	EPIGALLOCATECHIN-3-O-P-CAFFEOATE	Leaf	2	2		Jim Duke's personal files.
0	EPIGALLOCATECHIN-3-O-P-COUMARATE	Leaf	83	83		Jim Duke's personal files.
3	EPIGALLOCATECHIN-GALLATE	Leaf	16600	54300		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	EPIGALLOCATECHOL	Shoot	--	--		
0	EPIGALLOCATECHOL-GALLATE	Shoot	--	--		Jim Duke's personal files.
0	EPITHEAFLAGALLIN	Leaf	6	74		Jim Duke's personal files.
0	EPITHEAFLAGALLIN-3-O-GALLATE	Leaf	17	200		
0	EPITHEAFLAVIC-ACID	Leaf	--	--		
0	EPITHEAFLAVIC-ACID-GALLATE	Leaf	--	--		
2	ERUCIC-ACID	Seed	--	--		
2	ERUCIC-ACID	Seed Oil	--	--		
0	ETHER	Leaf	--	--		
0	ETHYL-3-HYDROXY-BUTYRATE	Leaf	--	--		
6	ETHYL-ACETATE	Leaf	--	--		
1	ETHYL-LACTATE	Leaf	--	--		
0	ETHYL-OCTANOATE	Leaf	--	--		
1	ETHYL-PHENYLACETATE	Leaf	--	--		
0	ETHYL-PYRAZINE	Leaf	--	--		
76	EUGENOL	Fruit	--	--		
76	EUGENOL	Fruit Essent. Oil	--	--		
1	EUPHOL	Seed	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	EUPHOL	Seed Oil	--	--		
17	FARNESOL	Leaf	--	--		
0	FAT	Leaf	20000	165000	2.1628114949847683	
15	FIBER	Leaf	87000	270000	1.712279492628632	
0	FLAVONOL-GLYCOSIDES	Leaf	500	4400		
0	FLAVONOLS	Leaf	--	400	-1	
3	FLUORIDE	Leaf	--	188	0.9999999999999997	
1	FURFURYL-ALCOHOL	Leaf	--	--		Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
0	GADOLEIC-ACID	Seed	--	--		
0	GADOLEIC-ACID	Seed Oil	--	--		
4	GALEGINE	Leaf	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
62	GALLIC-ACID	Leaf	--	3500	-0.7468561442003636	
0	GALLOCATECHIN	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	GALLOCATECHIN-(4-ALPHA-8)-EPICATECHIN	Leaf	8	37		
1	GALLOCATECHIN-GALLATE	Leaf	--	1880		
0	GALLOCATECHOL	Leaf	--	--		
13	GERANIAL	Leaf	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
35	GERANIOL	Leaf	2	2546	0.9520713467876748	
35	GERANIOL	Shoot	800	1200	0.24305714647507012	
35	GERANIOL	Leaf Essent. Oil	31600	1200	1.4840612491853453	
0	GERANIOL-BETA-D-GLUCOPYRANOSIDE	Shoot	--	--		
0	GERMANICOL	Seed Oil	25	25		
0	GERMANIUM	Leaf	--	--		
0	GIBBERELLIN-A-1	Endosperm	--	--		
0	GIBBERELLIN-A-19	Endosperm	--	--		
0	GIBBERELLIN-A-20	Endosperm	--	--		
0	GIBBERELLIN-A-3	Endosperm	--	--		
0	GIBBERELLIN-A-38	Endosperm	--	--		
0	GIBBERELLIN-A-44	Endosperm	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	GIBBERELLIN-A-8	Endosperm	--	--		
0	GIBBERELLIN-A-S	Endosperm	--	--		
0	GLUCOTHEASAPONIN	Seed	--	--		
5	GLUTAMINE	Leaf	--	--		
12	GLYCINE	Leaf	--	--		
18	GUAIACOL	Leaf	--	--		
0	GUM	Leaf	--	--		
0	HEPT-TRANS-2-EN-1-AL	Leaf	--	--		
0	HEPTA-2-TRANS-EN-1-AL	Leaf	--	--		
0	HEPTA-TRANS-2-TRANS-4-DIEN-1-AL	Shoot	600	1000		
0	HEPTA-TRANS-2-TRANSDIEN-4-1-AL	Shoot	600	1000		
0	HEPTAN-1-AL	Leaf	200	300		
0	HEPTAN-1-AL	Shoot	200	300		
0	HEPTAN-2-OL	Leaf	--	--		
0	HEPTAN-2-ONE	Shoot	--	--		
0	HEPTAN-2-ONE	Leaf	--	--		
0	HEPTAN-3-OL	Leaf	--	--		
0	HEPTANAL	Leaf	--	--		
0	HEX-1-EN-3-OL	Leaf	--	--		
0	HEX-CIS-3-EN-1-AL	Leaf	370	370		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	HEX-CIS-3-EN-1-OL	Leaf	--	--		
0	HEX-CIS-3-EN-1-OL	Shoot	900	1300		
0	HEX-CIS-3-EN-1-OL	Leaf Essent. Oil	21500	150000		
0	HEX-CIS-3-EN-1-OL-ACETATE	Leaf	--	--		
0	HEX-CIS-3-EN-1-OL-BETA-D-GLUCOSIDE	Leaf	--	--		
0	HEX-CIS-3-EN-1-OL-BUTYRATE	Leaf	--	--		
0	HEX-CIS-3-EN-1-OL-CAPROATE	Leaf	--	--		
0	HEX-CIS-3-EN-1-OL-HEXANOATE	Shoot	200	300		
0	HEX-CIS-3-ENYL-FORMATE	Leaf	--	--		
0	HEX-CIS-3-ENYL-HEX-TRANS-2-ENOATE	Leaf	--	--		
0	HEX-CIS-3-ENYL-HEX-TRANS-2-ENONATE	Leaf	--	--		
0	HEX-CIS-3-ENYL-PROPIONATE	Leaf	--	--		
0	HEX-TRANS-2-CIS-4-DIEN-1-AL	Leaf	--	--		
0	HEX-TRANS-2-EN-1-AL	Leaf	--	--		
0	HEX-TRANS-2-EN-1-AL	Shoot	20900	31000		
0	HEX-TRANS-2-EN-1-AL	Leaf Essent. Oil	11300	2548		
0	HEX-TRANS-2-EN-1-OL	Shoot	400	600		
0	HEX-TRANS-2-ENYL-ACETATE	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	HEX-TRANS-2-ENYL-BUTYRATE	Leaf	--	--		
0	HEX-TRANS-2-ENYL-FORMATE	Leaf	--	--		
0	HEX-TRANS-2-ENYL-HEXANOATE	Leaf	--	--		
0	HEX-TRANS-2-ENYL-PROPIONATE	Leaf	--	--		
0	HEX-TRANS-3-ENYL-2-METHYL-BUTYRATE	Leaf	--	--		
0	HEX-TRANS-3-ENYL-ACETATE	Leaf	--	--		
0	HEX-TRANS-3-ENYL-BUTYRATE	Leaf	--	--		
0	HEX-TRANS-3-ENYL-HEX-CIS-3-ENOATE	Leaf	--	--		
0	HEX-TRANS-3-ENYL-HEX-CIS-3-ENONATE	Leaf	--	--		
0	HEX-TRANS-3-ENYL-METHYL-BUTYRATE	Leaf	--	--		
0	HEX-TRANS-3-ENYL-PROPIONATE	Leaf	--	--		
0	HEXA-TRANS-2-CIS-4-DIEN-1-AL	Leaf	--	--		
0	HEXAN-1-AL	Shoot	5500	10300		
0	HEXAN-2-OL	Leaf	--	--		
0	HEXENOIC-ACID	Leaf	--	--		
0	HEXOIC-ACID	Leaf	--	--		
1	HEXYL-BUTYRATE	Leaf	--	--		
1	HEXYL-FORMATE	Leaf	--	--		
0	HEXYL-PHENYLACETATE	Leaf	--	--		
7	HISTIDINE	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
30	HYPEROSIDE	Leaf	--	--		
0	HYPOXANTHINE	Plant	--	--		
15	INDOLE	Leaf	--	--		
8	INOSITOL	Leaf	--	--		
6	IRON	Leaf	189	1500	2.8815281453439296	
2	ISOAMYL-ACETATE	Leaf	--	--		
3	ISOAMYL-ALCOHOL	Leaf	--	--		
2	ISOBUTYL-ALCOHOL	Leaf	--	--		
1	ISOBUTYRALDEHYDE	Leaf	--	--		
0	ISOCAPRONIC-ACID	Plant	--	--		
0	ISOGIBBERELLIN-A-3	Endosperm	--	--		
22	ISOQUERCITRIN	Leaf	--	1820	2.4455344686299503	
0	ISOSCHAFTOSIDE	Leaf	--	--		Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
0	ISOTHEFLAVIN	Leaf	--	--		
1	ISOVALERALDEHYDE	Leaf	--	--		
4	ISOVITEXIN	Leaf	--	--		
8	JASMONE	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	JASMONIC-ACID	Flower	--	--		
0	JASMONIC-ACID	Anther	--	--		
0	JASMONIC-ACID	Pollen Or Spore	--	--		
0	JASMONIC-ACID-METHYL-ESTER	Leaf	--	--		
0	JASMONIC-ACID-METHYL-ESTER	Pollen Or Spore	--	--		
0	JASMONIC-ACID-METHYL-ESTER	Anther	--	--		
1	KAEMPFERITRIN	Leaf	--	--		
75	KAEMPFEROL	Plant	--	--		
75	KAEMPFEROL	Leaf	--	520	1.8918097649170893	
75	KAEMPFEROL	Shoot	--	--		
0	KAEMPFEROL-3-O-RUTINOSIDE	Leaf	--	1010		
0	KAEMPFEROL-3-GLUCOSYL-(1-3)-RHAMNOSYL-(1-6)-GALACTOSIDE	Leaf	700	1330		
0	KAEMPFEROL-3-O-BETA-D-RUTINOSIDE	Leaf	--	--		
0	KAEMPFEROL-3-O-RHAMNODIGLUCOSIDE	Shoot	--	--		Jim Duke's personal files.
4	KAEMPFEROL-3-RHAMNOGLUCOSIDE	Leaf	--	4300		
0	KAEMPFEROL-3-TRIGLUCOSIDE	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	L-GALLOCATECHIN	Leaf	25974	25974		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	L-GALLOCATECHIN-GALLATE	Leaf	79920	79920		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	L-PIPECOLIC-ACID	Fruit	--	--		
7	LAURIC-ACID	Seed	--	--		
7	LAURIC-ACID	Seed Oil	--	--		
2	LEUCINE	Leaf	--	--		
13	LIGNIN	Leaf	--	65000		
3	LIGUSTRAZINE	Leaf	--	--		
60	LIMONENE	Leaf	--	--		
0	LINALOL	Leaf	6	1984	0.7325599784922869	
0	LINALOL	Shoot	4000	10300	1.6469669196291437	
53	LINALOOL	Leaf	6	1984	0.7264525313916458	
53	LINALOOL	Leaf Essent. Oil	82000	198400	0.5604322107337334	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
53	LINALOOL	Shoot	4000	10300	0.15629492685233945	
0	LINALOOL-BETA-D-GLUCOPYRANOSIDE	Shoot	--	--		
0	LINALOOL-OXIDE-(CIS-FURANOID)	Leaf	--	--		
0	LINALOOL-OXIDE-(CIS-PYRANOID)	Leaf	--	--		
0	LINALOOL-OXIDE-(TRANS-FURANOID)	Leaf	--	--		
0	LINALOOL-OXIDE-(TRANS-PYRANOID)	Leaf	--	--		
0	LINALOOL-OXIDE-A	Leaf	--	--		
0	LINALOOL-OXIDE-B	Leaf	--	--		
0	LINALOOL-OXIDE-C	Leaf	--	--		
0	LINALOOL-OXIDE-I	Leaf	--	--		
0	LINALOOL-OXIDE-II	Leaf	--	--		
0	LINALOOL-OXIDE-III	Leaf	--	--		
0	LINALOOL-OXIDE-IV	Leaf	--	--		
27	LINOLEIC-ACID	Seed	--	--		
27	LINOLEIC-ACID	Seed Oil	--	--		
27	LINOLEIC-ACID	Leaf	--	--		
0	LINOLENIC-ACID	Leaf	--	--		
2	LOLIOLIDE	Leaf	--	--		
2	LOLIOLIDE	Leaf Essent. Oil	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
21	LUPEOL	Seed	--	--		
21	LUPEOL	Seed Oil	--	--		
15	LUTEIN	Leaf	--	--		
16	LYCOPENE	Leaf	--	--		
4	LYSINE	Leaf	--	--		
8	M-CRESOL	Leaf	--	--		
0	M-DIGALLIC-ACID	Leaf	--	--		
65	MAGNESIUM	Leaf	2200	2200	-0.7435952472033982	
15	MALIC-ACID	Leaf	--	--		
14	MANGANESE	Leaf	1200	1200	1.5350642703885349	
63	MENTHOL	Leaf	--	--		
0	MESO-INOSITOL	Plant	--	--		
1	METHYL-AMINE	Leaf	50	50	1.6736724625222175	
1	METHYL-ETHYL-KETONE	Leaf	--	--		
0	METHYL-MERCAPTAN	Leaf	--	--		
0	METHYL-OCTANOATE	Leaf	--	--		
0	METHYL-PYRAZINE	Leaf	--	--		
21	METHYL-SALICYLATE	Leaf	--	--		
0	METHYL-TRANS-DIHYDROJASMONATE	Leaf	--	--		
0	METHYL-XANTHINES	Leaf	--	35000		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
22	MYRCENE	Leaf	--	--		
34	MYRICETIN	Plant	--	--		
34	MYRICETIN	Leaf	--	340		
0	MYRICETIN-3-GALACTOSIDE	Leaf	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	MYRICETIN-3-GLUCOSIDE	Leaf	--	--		
6	MYRISTIC-ACID	Seed	--	--		
6	MYRISTIC-ACID	Seed Oil	--	--		
6	MYRISTIC-ACID	Leaf	--	--		
0	N,N-DIMETHYL-BENZYLAMINE	Leaf	--	--		
0	N-1-DOTRIACONTANOL	Leaf	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
0	N-1-TRIACONTANOL	Leaf	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
0	N-ETHYL-ACETAMIDE	Leaf	--	--		
0	N-ETHYL-ANILINE	Leaf	--	--		
0	N-ETHYL-PROPIONAMIDE	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	N-HEXADECANE	Leaf	--	--		
0	N-HEXANOL	Leaf	--	--		
0	N-HEXYL-ALCOHOL	Leaf	--	--		
0	N-METHYL-ANILINE	Leaf	--	--		
0	N-OCTYL-ALCOHOL	Leaf	--	--		
0	N-P-COUMAROYL-GLUTAMIC-ACID	Leaf	--	--		
0	N-P-COUMARYL-GLUTAMIC-ACID	Leaf	--	--		
0	NADP-DEPENDENT-ALCOHOL-DEHYDROGENASE	Seed	--	--		
56	NARINGENIN	Shoot	--	--		
0	NARINGENIN-FRUCTOSYL-GLUCOSIDE	Leaf	--	--		
2	NEO-CHLOROGENIC-ACID	Leaf	--	--		
4	NERAL	Leaf	--	--		
10	NEROL	Leaf	--	--		
11	NEROLIDOL	Shoot	800	1200	3.236724073060916	
11	NEROLIDOL	Leaf	--	--		
0	NH3	Leaf	--	400		
39	NIACIN	Leaf	46	76	-0.2615265260323716	
0	NICOTIFLORIN	Leaf	--	--		
11	NICOTINIC-ACID	Leaf	--	--		
0	NONA-TRANS-2,CIS-6-DIEN-1-AL	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	NONA-TRANS-2-CIS-4-DIEN-1-AL	Leaf	--	--		
0	NONA-TRANS-2-EN-1-AL	Leaf	--	--		
0	NONA-TRANS-2-TRANS-4-DIEN-1-AL	Leaf	--	--		
0	NONAN-1-AL	Shoot	400	600		
0	NONAN-2-OL	Leaf	--	--		
0	NONAN-2-ONE	Leaf	--	--		
6	O-CRESOL	Leaf	--	--		
0	O-QUINONE	Leaf	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	O-TOLUIDENE	Leaf	--	--		
0	O-TOLUIDINE	Leaf	--	--		
0	O-XYLENOL	Leaf	--	--		
0	OCT-1-EN-3-OL	Leaf	--	--		
0	OCT-TRANS-2-ENOIC-ACID	Seed	--	--		
0	OCT-TRANS-2-ENOIC-ACID	Leaf	--	--		
0	OCTA-TRANS-2-CIS-4-DIEN-1-AL	Leaf	--	--		
0	OCTA-TRANS-2-TRANS-4-DIEN-1-AL	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	OCTA-TRANS-3-CIS-5-DIEN-2-ONE	Leaf	--	--		
0	OCTAN-2-ONE	Leaf	--	--		
0	OCTAN-3-OL	Leaf	--	--		
18	OLEIC-ACID	Seed	--	--		
18	OLEIC-ACID	Seed Oil	--	--		
18	OLEIC-ACID	Leaf	--	--		
0	OOLONGHOMOBISFLAVAN-A	Leaf	11	10.6		
0	OOLONGHOMOBISFLAVAN-B	Leaf	7	7.2		
0	OOLONGTHEANIN	Leaf	2	1.8		
25	OPCS	Plant	--	--		
9	OXALIC-ACID	Leaf	2192	10000	-0.18309165835827215	
0	P-COUMARYLQUININC-ACID	Plant	--	--		
8	P-CRESOL	Leaf	--	--		
0	P-ETHYL-ACETOPHENONE	Leaf	--	--		
0	P-ETHYL-PROPIOPHENONE	Leaf	--	--		
13	PALMITIC-ACID	Leaf	--	--		
13	PALMITIC-ACID	Seed Oil	--	--		
11	PANTOTHENIC-ACID	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PECTINS	Leaf	65000	65000	1	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
9	PEDUNCULAGIN	Plant	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	PENT-1-EN-3-OL	Shoot	2100	2300		
0	PENT-1-EN-3-OL	Leaf	--	--		
0	PENT-CIS-2-EN-1-OL	Shoot	1000	1400		
0	PENT-CIS-3-EN-1-AL	Shoot	2100	2300		
0	PENT-CIS-3-EN-1-AL	Leaf	2100	2300		
0	PENTAN-1-OL	Shoot	600	1100		
26	PHENOL	Leaf	--	--		
0	PHENOLS	Leaf	50000	270000	2.4482344573460764	
2	PHENYL-ACETALDEHYDE	Shoot	15200	17800		
0	PHENYLACETALDEHUDE	Shoot	15200	17800		
2	PHENYLACETIC-ACID	Leaf	1850	3130	0.9999999999999999	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	PHOSPHORUS	Leaf	3200	4150	-0.15113693855670607	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	PHYTOENE	Leaf	--	--		
0	PHYTOFLUENE	Leaf	--	--		
2	PHYTOSTEROLS	Leaf	2600	11400	3.0806495427319205	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
0	POLYPHENOL-OXIDASE	Plant	--	--		
30	POLYPHENOLS	Leaf	100000	390000		
0	POLYSACCHARIDE-T-B	Leaf	--	--		
14	POTASSIUM	Plant	17600	17600	-0.29271112666145865	
1	PROCYANIDIN-B-2	Leaf	--	5.8	-0.9999999999999999	
3	PROCYANIDIN-B-2-3'-O-GALLATE	Leaf	167	167		Jim Duke's personal files.
3	PROCYANIDIN-B-2-3,3'-DI-O-GALLATE	Leaf	160	160		Jim Duke's personal files.
2	PROCYANIDIN-B-3	Leaf	10.6	2100		
4	PROCYANIDIN-B-4	Leaf	--	46.6		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PROCYANIDIN-B-4-3'-O-GALLATE	Leaf	141	141		Jim Duke's personal files.
2	PROCYANIDIN-B-5-3,3'-DI-O-GALLATE	Leaf	141	141		Jim Duke's personal files.
0	PROCYANIDIN-C-1	Leaf	--	--		
0	PRODELPHINIDIN-A-2-3'-O-GALLATE	Leaf	4	4		Jim Duke's personal files.
0	PRODELPHINIDIN-B-2-3'-O-GALLATE	Leaf	18	238		Jim Duke's personal files.
0	PRODELPHINIDIN-B-2-3,3'-DI-O-GALLATE	Leaf	18	18		Jim Duke's personal files.
0	PRODELPHINIDIN-B-4	Leaf	56.8	800		
0	PRODELPHINIDIN-B-4-3'-O-GALLATE	Leaf	64	64		Jim Duke's personal files.
0	PRODELPHINIDIN-B-5-3,3'-DI-O-GALLATE	Leaf	30	30		Jim Duke's personal files.
0	PROLINE	Leaf	--	--		
2	PROPIONALDEHYDE	Leaf	--	--		
6	PROPIONIC-ACID	Leaf	--	--		
0	PROTEIN	Leaf	150000	283000	0.7098393841469764	
0	PSEUDOTARAXASTEROL	Seed	--	--		
0	PSEUDOTARAXASTEROL	Seed Oil	--	--		
3	PYRIDINE	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PYRROL-2-METHYLKETONE	Plant	--	--		
176	QUERCETIN	Leaf	--	10000	-0.19026306232771106	
176	QUERCETIN	Plant	--	--		
176	QUERCETIN	Shoot	--	--		
0	QUERCETIN-3-GLUCOSYL-(1-3)-RHAMNOSYL-(1-6)-GALACTOSIDE	Leaf	760	1000		
0	QUERCETIN-3-O-BETA-D-GALACTOSIDE	Leaf	--	--		Jim Duke's personal files.
2	QUERCETIN-3-O-BETA-D-GLUCOSIDE	Leaf	--	--		Jim Duke's personal files.
0	QUERCETIN-3-O-RHAMNODIGLUCOSIDE	Shoot	--	--		
0	QUERCETIN-3-O-RHAMNODIGLUCOSIDE	Leaf	--	3170		
0	QUERCETIN-FRUCTOSYL-GLUCOSIDE	Leaf	--	--		
0	QUERCETIN-TRIGLUCOSIDE	Leaf	--	--		
6	QUERCIMERITRIN	Leaf	--	--		
44	QUERCITRIN	Leaf	--	--		Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
1	QUINIC-ACID	Leaf	--	--		Jim Duke's personal files.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	QUINOLINE	Plant	--	--		
15	RIBOFLAVIN	Leaf	8	12	-0.12161169581967965	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
87	RUTIN	Leaf	1200	1580	-0.9064551745734906	
0	S-METHYL-METHIONINE	Leaf	70	245	1	
0	SAFRANAL	Leaf	--	--		
29	SAFROLE	Leaf	--	--		
5	SALICYLALDEHYDE	Leaf	--	--		
7	SALICYLATES	Leaf	5	65	-0.435551873962273	
34	SALICYLIC-ACID	Leaf	--	--		
1	SERINE	Leaf	--	--		
0	SILICA	Leaf	240	240	-1.3846840400200573	
1	SODIUM	Leaf	300	500	-0.5584814617442552	
0	SPINASTEROL	Seed Oil	--	--		
0	SPINASTERONE	Leaf	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
0	SPINASTERONE	Seed Oil	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
5	STARCH	Leaf	5000	5000	-0.820956985490708	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
8	STEARIC-ACID	Seed	--	--		
12	STIGMASTEROL	Seed Oil	--	--		
1	STRICTININ	Leaf	130	130	1.1769646985527409	
14	SULFUR	Leaf	880	880	-0.9292474159539728	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
41	TANNIC-ACID	Leaf	--	--		
35	TANNIN	Leaf	33800	270000	1.946796964817541	
0	TANNINS	Leaf	33800	270000	2.2543514008830754	
2	TARAXEROL	Seed Oil	20	20		
0	TEASTERONE	Leaf	--	--		
22	TETRAMETHYL-PYRAZINE	Leaf	--	--		Jim Duke's personal files.
0	TETRAMETHYLTRIOXYPURINE	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	THEAFLAGALLIN	Leaf	3	4		Jim Duke's personal files.
7	THEAFLAVIN	Leaf	5.4	19		
7	THEAFLAVIN	Shoot	1800	14000		
0	THEAFLAVIN-3'-O-GALLATE	Leaf	19	41		
0	THEAFLAVIN-3-3'-DI-O-GALLATE	Leaf	18	214		
0	THEAFLAVIN-3-GALLATE	Leaf	--	--		
0	THEAFLAVIN-ACID	Leaf	--	--		
3	THEAFLAVIN-DIGALLATE	Leaf	700	2500		
0	THEAFLAVIN-GALLATE-A	Leaf	1700	8300		
0	THEAFLAVIN-GALLATE-B	Leaf	2400	2500		
0	THEAFLAVIN-MONOGALLATE	Leaf	--	--		
0	THEAFLAVIN-MONOGALLATE-A	Leaf	--	--		
1	THEAFLAVIN-MONOGALLATE-B	Leaf	--	--		
0	THEAFLAVONIN	Leaf	--	11.5		
2	THEANINE	Cotyledon	5777	577		
2	THEANINE	Leaf	5000	13500		
2	THEANINE	Seed	4560	109		
2	THEANINE	Shoot	63	63		
2	THEANINE	Stem	35	0.035		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	THEANINE	Anther	16000	29000		
0	THEARUBIGENS	Leaf	17000	59400		
0	THEARUBIGIN	Leaf	--	--		
0	THEARUBIGIN	Shoot	135600	157400		
0	THEASAPONIN	Leaf	--	--		
0	THEASAPONIN	Seed	--	--		
0	THEASINENSIN-A	Leaf	3	48718		
0	THEASINENSIN-B	Leaf	128	154		
0	THEASINENSIN-C	Leaf	70	70		
0	THEASINENSIN-D	Leaf	18	18		
0	THEASINENSIN-E	Leaf	14	14		
0	THEASINENSIN-F	Leaf	20	20		
0	THEASINENSIN-G	Leaf	8	8		
0	THEASPIRANE	Leaf	--	--		
0	THEASPIRONE	Leaf	--	--		
0	THEASPIRONE	Leaf Essent. Oil	--	--		
0	THEIFERIN-A	Leaf	--	--		
0	THEIFERIN-B	Leaf	--	--		
21	THEOBROMINE	Leaf	500	1100	-1	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
21	THEOBROMINE	Pericarp	--	--		
21	THEOBROMINE	Flower	--	--		
21	THEOBROMINE	Seed Coat	--	--		
21	THEOBROMINE	Seed	--	--		
21	THEOBROMINE	Stem	--	--		
21	THEOBROMINE	Anther	--	--		
0	THEOGALLIN	Leaf	6	56		
36	THEOPHYLLINE	Leaf	2	4	-1	
36	THEOPHYLLINE	Seed	--	--		
31	THIAMIN	Leaf	1	4	-0.8971070751644596	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	THREONINE	Leaf	--	--		
71	THYMOL	Leaf	--	--		
0	TIRUCALLA-7,24-DIENOL	Seed	--	--		
0	TIRUCALLA-7-24-DIEN-3-BETA-OL	Seed Oil	--	--		
0	TIRUCALLOL	Seed	--	--		
0	TIRUCALLOL	Seed Oil	--	--		
0	TRANS,TRANS-ALPHA-FARNESENE	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	TRANS,TRANS-ALPHA-FARNESENE	Leaf Essent. Oil	--	--		
0	TRANS-2-OCTENAL	Leaf	--	--		
0	TRANS-BETA-OCIMENE	Leaf	--	--		
0	TRANS-GERANIC-ACID	Leaf	--	--		
0	TRANS-LINALOL-OXIDE	Leaf	2	423	0.9999999999999999	
0	TRANS-LINALOL-OXIDE	Shoot	1500	4300	2.6457430495786203	
0	TRANS-LINALOOL-OXIDE	Leaf Essent. Oil	31800	423		
0	TRANS-LINALOOL-OXIDE	Shoot	1500	4300		
1	TRIACONTAN-1-OL	Leaf	--	--		
0	TRICETIN	Shoot	--	--		
0	TRICETINIDIN	Leaf	--	--		
0	TRIMETHYL-PYRAZINE	Leaf	--	--		
0	TYPHASTEROL	Leaf	--	--		
22	UMBELLIFERONE	Leaf	--	--		
0	UNDECA-TRANS-2-EN-1-AL	Leaf	--	--		
0	UREA	Plant	--	--		
9	VALERIC-ACID	Leaf	--	--		
3	VALINE	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	VICENIN-3	Leaf	--	--		Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
2	VIOLAXANTHIN	Leaf	--	--		
0	VITAMIN-K-1	Leaf	3	17		
18	VITEXIN	Leaf	--	--		Jim Duke's personal files.
0	WATER	Leaf	40000	120000	-3.430611968273416	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
1	XANTHINE	Leaf	--	--		Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
5	ZEAXANTHIN	Leaf	--	--		
77	ZINC	Leaf	30	30	-0.34265757200682206	