

# P Camellia sinensis

## Common Name(s)

Tea

## How Used

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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	--	--	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	--	--	
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	--	--	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	
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	--	--	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	--	--	
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	--	--	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	--	--	
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	--	--	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	--	--	
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	--	--	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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)
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	--	--	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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.
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	--	--	



Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	--	--	
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	--	--	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	--	--	
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	--	--	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	--	--	
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

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	--	--	
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	--	--	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	--	--	
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	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	
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	--	--	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
47	BETA-SITOSTEROL	Leaf	2130	2230	0.12619959164446916 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	--	--	
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	--	--	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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.
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	--	--	



Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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.
0	CHASAPONIN	Plant	--	--	
77	CHLOROGENIC-ACID	Leaf	--	--	
77	CHLOROGENIC-ACID	Tissue Culture	--	--	
21	CHLOROPHYLL	Leaf	--	5000	-0.6842987324142965
0	CHONDRILLASTEROL	Seed	--	--	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	--	--	
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	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	--	--	
0	DEXTRIN	Leaf	--	--	
0	DIHYDROACTINIDIOLIDE	Leaf	--	--	
0	DIHYDROACTINIDIOLIDE	Leaf Essent. Oil	--	--	
0	DIHYDROKAEMPFEROL	Shoot	--	--	Jim Duke's personal files.

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	
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.

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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.
0	EPICATECHOL-GALLATE	Shoot	--	--	Jim Duke's personal files.
6	EPIGALLOCATECHIN	Leaf	--	10866.7	
0	EPIGALLOCATECHIN-(4-BETA-8)-EPICATECHIN-3-O-GALLATE	Leaf	28	28	
0	EPIGALLOCATECHIN-3,3'-DI-O-GALLATE	Leaf	3	3	Jim Duke's personal files.

Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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)-EPICATECHIN-3-O-GALLATE	Plant	--	--	
0	EPIGALLOCATECHIN-3-O-GALLATE-(4-BETA-6)-EPICATECHIN-3-O-GALLATE	Leaf	--	4.2	
0	EPIGALLOCATECHIN-3-O-GALLATE-(4-BETA-8)-EPICATECHIN-3-O-GALLATE	Plant	--	--	
0	EPIGALLOCATECHIN-3-O-GALLATE-(4-BETA-8)-EPICATECHIN-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	
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	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	--	--	
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	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	--	--	
0	GALLOCATECHIN-(4-ALPHA-8)-EPICATECHIN	Leaf	8	37	
1	GALLOCATECHIN-GALLATE	Leaf	--	1880	
0	GALLOCATECHOL	Leaf	--	--	



Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	--	--	
0	GIBBERELLIN-A-8	Endosperm	--	--	
0	GIBBERELLIN-A-S	Endosperm	--	--	
0	GLUCOTHEASAPONIN	Seed	--	--	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	
0	HEX-CIS-3-EN-1-OL	Leaf	--	--	
0	HEX-CIS-3-EN-1-OL	Shoot	900	1300	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	--	--	
0	HEX-TRANS-2-ENYL-BUTYRATE	Leaf	--	--	
0	HEX-TRANS-2-ENYL-FORMATE	Leaf	--	--	
0	HEX-TRANS-2-ENYL-HEXANOATE	Leaf	--	--	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	--	--	
30	HYPEROSIDE	Leaf	--	--	
0	HYPOXANTHINE	Plant	--	--	
15	INDOLE	Leaf	--	--	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	--	--	
0	JASMONIC-ACID	Flower	--	--	
0	JASMONIC-ACID	Anther	--	--	
0	JASMONIC-ACID	Pollen Or Spore	--	--	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	--	--	
0	L-GALLOCATECHIN	Leaf	25974	25974	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
0	L-GALLOLATECHIN-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
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	--	--	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	--	--	
21	LUPEOL	Seed	--	--	
21	LUPEOL	Seed Oil	--	--	
15	LUTEIN	Leaf	--	--	
16	LYCOPENE	Leaf	--	--	



Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	
22	MYRCENE	Leaf	--	--	
34	MYRICETIN	Plant	--	--	
34	MYRICETIN	Leaf	--	340	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	--	--	
0	N-HEXADECANE	Leaf	--	--	
0	N-HEXANOL	Leaf	--	--	
0	N-HEXYL-ALCOHOL	Leaf	--	--	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	--	--	
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	--	--	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	--	--	
0	OCTA-TRANS-3-CIS-5-DIEN-2-ONE	Leaf	--	--	
0	OCTAN-2-ONE	Leaf	--	--	
0	OCTAN-3-OL	Leaf	--	--	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
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	--	--		

0	PECTINS	Leaf	65000	65000	1	
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ANON. 1948-1976.  
The Wealth of India  
raw materials.  
Publications and  
Information  
Directorate, CSIR, New  
Delhi. 11 volumes.

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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
4	PHOSPHORUS	Leaf	3200	4150	-0.15113693855670607 CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	PHYTOENE	Leaf	--	--	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	
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	--	--	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	--	--	
0	PYRROL-2-METHYLKETONE	Plant	--	--	
176	QUERCETIN	Leaf	--	10000	-0.19026306232771106
176	QUERCETIN	Plant	--	--	
176	QUERCETIN	Shoot	--	--	



Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.
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

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
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	--	--		
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	--	--		

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	TETRAMETHYLTRIOXPURINE	Leaf	--	--	
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	--	--	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	
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	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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
21	THEOBROMINE	Pericarp	--	--	
21	THEOBROMINE	Flower	--	--	
21	THEOBROMINE	Seed Coat	--	--	
21	THEOBROMINE	Seed	--	--	
21	THEOBROMINE	Stem	--	--	
21	THEOBROMINE	Anther	--	--	
0	THEOGALLIN	Leaf	6	56	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	--	--	
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	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference Citation
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	--	--	
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.

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
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	