

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in Piper nigrum

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
176	QUERCETIN	Fruit				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
112	ASCORBIC-ACID	Fruit		10.0	-0.2838672355464054	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
102	CAFFEIC-ACID	Fruit		6.0	-0.33780275264769194	--
87	RUTIN	Fruit				--
77	ZINC	Fruit	11.2	35.7	0.16241717653889182	--
76	EUGENOL	Leaf Essent. Oil				--
76	EUGENOL	Fruit				--
75	KAEMPFEROL	Fruit				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
67	1,8-CINEOLE	Fruit				--
65	MAGNESIUM	Fruit	1809.0	2319.0	0.08763983825273146	USDA's Ag Handbook 8 and sequelae)
61	PIPERINE	Seed Essent. Oil				--
61	PIPERINE	Seed				--
61	PIPERINE	Stem		1100.0		--
61	PIPERINE	Fruit	5000.0	150000.0	1.0	--
61	PIPERINE	Shoot				--
61	PIPERINE	Seed Oil				--
61	PIPERINE	Leaf				--
61	PIPERINE	Leaf Essent. Oil				--
61	PIPERINE	Root				--
60	LIMONENE	Fruit Essent. Oil	130500.0	210600.0	-0.6891296619826244	--
60	LIMONENE	Seed Essent. Oil				--
60	LIMONENE	Fruit	1500.0	8000.0	0.397130905101767	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
53	LINALOOL	Fruit Essent. Oil		2200.0	-0.6866142547714452	--
53	BETA-CAROTENE	Fruit	0.114	0.128	-0.1505532074368425	--
53	LINALOOL	Fruit		90.0	-0.5606025868093102	--
53	CITRAL	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
47	BETA-SITOSTEROL	Stem		160.0	-1.327402794862025	--
47	BETA-SITOSTEROL	Leaf				--
47	BETA-SITOSTEROL	Fruit	380.0	650.0	0.059781582959947475	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
44	QUERCITRIN	Fruit				--
41	CAMPHOR	Fruit				--
39	NIACIN	Fruit	2.0	14.5	-0.6175885994937399	--
37	CARVACROL	Fruit				--
35	BORNEOL	Fruit				--
35	BORNEOL	Fruit Essent. Oil				--
32	ALPHA-TOCOPHEROL	Resin, Exudate, Sap		1000.0		--
32	ALPHA-TOCOPHEROL	Fruit		0.054	-1.1207877074947452	Charalambous, G. (Ed.). 1994. Spices, Herbs and Edible Fungi. Elsevier Science B. V. Amsterdam. 764 pp.
31	THIAMIN	Fruit	0.5	1.6	-0.4778065908058602	--
31	MYRISTICIN	Fruit Essent. Oil				--
31	CARYOPHYLLENE	Fruit	1000.0	6000.0	-0.21726348790373295	--
31	CARYOPHYLLENE	Seed Essent. Oil				--
31	MYRISTICIN	Fruit				--
30	HYPEROSIDE	Fruit				--
29	SAFROLE	Fruit				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
29	SAFROLE	Fruit Essent. Oil				--
28	CALCIUM	Fruit	2700.0	4989.0	0.26138541132704457	--
28	ALPHA-PINENE	Seed Essent. Oil				--
28	ALPHA-PINENE	Fruit Essent. Oil	45000.0	94000.0	0.39522346445492856	--
28	ALPHA-PINENE	Essential Oil				--
28	ALPHA-PINENE	Fruit		3810.0	0.2759330241103953	--
27	LINOLEIC-ACID	Fruit	13200.0	14750.0	-0.1472997456034458	USDA's Ag Handbook 8 and sequelae)
25	P-COUMARIC-ACID	Fruit				--
24	CHROMIUM	Fruit	3.0	3.5	-0.01602978329031414	--
23	ALPHA-TERPINEOL	Fruit Essent. Oil		1000.0	-0.910301229242406	--
23	TERPINEN-4-OL	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
23	TERPINEN-4-OL	Fruit Essent. Oil		1900.0	-0.669433558721516	--
23	ALPHA-TERPINEOL	Fruit				--
22	MYRCENE	Fruit				--
22	GABA	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
22	MYRCENE	Seed Essent. Oil				--
22	MYRCENE	Fruit Essent. Oil	22300.0	64000.0	1.0393197116265955	--
22	ISOQUERCITRIN	Fruit				--
20	BENZOIC-ACID	Fruit				--
20	CHOLINE	Seed		1642.0	-0.028583716787024864	--
20	METHYL-EUGENOL	Fruit				--
20	CITRONELLAL	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
19	D-LIMONENE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
19	ACETYL-CHOLINE	Seed		23.0	-1.1887435300844578	--
19	CARVONE	Fruit				--
19	CARVONE	Fruit Essent. Oil		50.0	-0.7219111602348719	--
18	CINNAMIC-ACID	Fruit				--
18	OLEIC-ACID	Fruit	13700.0	15309.0	-0.3627535701002104	USDA's Ag Handbook 8 and sequelae)
18	RHAMNETIN	Fruit				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
16	P-CYMENE	Fruit Essent. Oil				--
16	P-CYMENE	Seed Essent. Oil				--
16	P-CYMENE	Fruit		150.0	-0.5599100466638004	--
15	CITRONELLOL	Essential Oil				--
15	ALPHA-LINOLENIC-ACID	Fruit	2200.0	2458.0	-0.03933424045785113	USDA's Ag Handbook 8 and sequelae)
15	FIBER	Fruit	130056.0	148449.0	0.06390968642828075	USDA's Ag Handbook 8 and sequelae)
15	RIBOFLAVIN	Fruit	0.4	2.8	-0.4731582297112136	--
15	CITRONELLOL	Fruit Essent. Oil		200.0	-1.0	--
14	POTASSIUM	Fruit	11718.0	15077.0	-0.251221490492334	USDA's Ag Handbook 8 and sequelae)
14	SULFUR	Fruit	1750.0	5760.0	3.0243404637527247	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
14	MANGANESE	Fruit	19.0	56.0	-0.03428079513973251	--
13	PALMITIC-ACID	Fruit	12200.0	13633.0	-0.1532986318862056	USDA's Ag Handbook 8 and sequelae)
13	BETA-PINENE	Fruit		2355.0	-0.2223943577434541	--
13	ALPHA-TERPINENE	Seed Essent. Oil				--
13	ALPHA-TERPINENE	Fruit Essent. Oil		3000.0	-0.5711872077128709	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
13	BETA-PINENE	Seed Essent. Oil				--
13	BETA-PINENE	Fruit Essent. Oil	85000.0	138000.0	0.9556217102868814	--
13	ALPHA-TERPINENE	Fruit				--
13	BETA-PINENE	Essential Oil				--
12	IODINE	Fruit		0.09	-0.2902538943414157	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
12	STIGMASTEROL	Fruit	140.0	210.0	1.7404035436813556	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
12	COPPER	Fruit	9.0	20.0	0.5588968590110831	--
11	ALPHA-PHELLANDRENE	Seed Essent. Oil				--
11	NEROLIDOL	Fruit				--
11	ALPHA-PHELLANDRENE	Fruit Essent. Oil	6800.0	36000.0	-0.5597624933275978	--
11	PERILLALDEHYDE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
11	NEROLIDOL	Fruit Essent. Oil				--
11	GAMMA-TERPINENE	Fruit Essent. Oil	100.0	11000.0	-0.34330658093433575	--
11	GAMMA-TERPINENE	Fruit				--
11	GAMMA-TERPINENE	Seed Essent. Oil				--
10	PIPERIDINE	Essential Oil				--
10	PIPERIDINE	Seed				--
10	PIPERIDINE	Fruit	606.0	2700.0	0.7468101297426346	--
9	CAMPHENE	Seed Essent. Oil				--
9	TERPINOLENE	Fruit				--
9	DELTA-CADINENE	Fruit Essent. Oil		1200.0		--
9	TERPINOLENE	Fruit Essent. Oil		1000.0	-0.7286391135831505	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
9	CAMPHENE	Fruit Essent. Oil	1000.0	1400.0	-1.0221892865520528	--
9	DELTA-CADINENE	Leaf Essent. Oil				--
9	TERPINOLENE	Seed Essent. Oil				--
9	CAMPHENE	Fruit		120.0	-0.3020426178192843	--
9	OXALIC-ACID	Fruit	4000.0	34000.0	1.5684920731098055	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
9	DELTA-CADINENE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
8	STEARIC-ACID	Fruit				=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
8	CARYOPHYLLENE-OXIDE	Fruit Essent. Oil		9000.0	1.0	--
8	CARYOPHYLLENE-OXIDE	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
8	UBIQUINONE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
8	DELTA-3-CARENE	Fruit	500.0	2000.0	2.7325194789368674	--
7	LINALYL-ACETATE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
7	ASTRAGALIN	Fruit				--
7	LAURIC-ACID	Fruit	400.0	447.0	-0.44001415319735687	USDA's Ag Handbook 8 and sequelae)
7	PIPERITONE	Fruit Essent. Oil		400.0	-1.0	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
7	CHLORINE	Fruit	2700.0	5100.0	2.9820406376676973	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
7	SALICYLATES	Fruit	10.0	65.0	-0.1503568703758442	--
6	IRON	Fruit	24.0	407.0	1.0869711226719216	--
6	BETA-BISABOLENE	Fruit Essent. Oil	21200.0	111600.0	1.0	--
6	ACETOPHENONE	Fruit Essent. Oil		5000.0		--
6	MYRISTIC-ACID	Fruit	700.0	782.0	-0.23225222845607665	USDA's Ag Handbook 8 and sequelae)
6	BUTYRIC-ACID	Fruit				--
6	BETA-BISABOLENE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
5	EUGENOL-METHYL-ETHER	Leaf Essent. Oil				--
5	SABINENE	Fruit	1500.0	10000.0	2.605271050216115	--
5	SABINENE	Seed Essent. Oil				--
5	SABINENE	Fruit Essent. Oil	85000.0	204000.0	0.47619676977008224	--
5	TERPINYL-ACETATE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
5	METHYL-CINNAMATE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
5	BETA-ELEMENE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
5	BETA-ELEMENE	Fruit Essent. Oil		900.0	-0.8343192281159078	--
5	STARCH	Fruit	280000.0	565000.0	0.4063516312545475	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
5	GERANYL-ACETATE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
5	MYRTENAL	Fruit				--
5	EUGENOL-METHYL-ETHER	Fruit Essent. Oil				--
4	BORON	Fruit	0.5	18.0	-0.44149735010956404	Betting on Boron, Unpublished draft by J. A. Duke on file at USDA, draft and papers relating to boron percentages. Includes Internat. Z. Vit. Ern. Forschung 43:1973 (boron).
4	2-UNDECANONE	Fruit				--
4	PHOSPHORUS	Fruit	700.0	2040.0	-0.3571963668725839	--
3	ELEMENE	Fruit		225.0		--
3	BETA-SELINENE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	CIS-OCIMENE	Fruit				--
3	CEDROL	Fruit Essent. Oil		700.0		--
3	N-HENTRIACONTANE	Stem		110.0		--
3	AR-CURCUMENE	Fruit				--
3	BETA-SELINENE	Fruit Essent. Oil		6400.0	-1.0	--
3	N-HENTRIACONTANE	Leaf				--
3	FLUORIDE	Fruit		3.6	1.4608696696245176	=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
3	AR-CURCUMENE	Fruit Essent. Oil		2600.0		--
3	ALPHA-SELINENE	Fruit Essent. Oil		700.0		--



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	ALPHA-SELINENE	Fruit				--
3	ISOPULEGOL	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	BETA-PHELLANDRENE	Fruit Essent. Oil		41000.0	-0.47230877878271366	--
3	NICKEL	Fruit	0.7	2.4	-0.04957166517347313	--
3	BETA-PHELLANDRENE	Seed Essent. Oil				--
2	PIPERONAL	Essential Oil				--
2	PHENYLACETIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	OCIMENE	Seed Essent. Oil				--
2	ALPHA-HUMULENE	Fruit				--
2	DIHYDROCARVEOL	Essential Oil				--
2	MYRTENOL	Fruit Essent. Oil		2000.0		--
2	ELEMOL	Fruit Essent. Oil		1100.0		--
2	TRANS-PINOCARVEOL	Fruit				--
2	DIHYDROCARVEOL	Fruit Essent. Oil		100.0	-1.0	--
2	P-METHYL-ACETOPHENONE	Fruit				--
2	HEXANOIC-ACID	Fruit				--
2	L-LIMONENE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	GERMACRENE-D	Fruit Essent. Oil	400.0	49300.0		--
2	CAMPESTEROL	Fruit	30.0	60.0	-0.14986892201478846	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
2	ALPHA-HUMULENE	Fruit Essent. Oil	2100.0	19500.0	-1.0	--
2	MYRTENOL	Fruit				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	DIHYDROCARVEOL	Fruit				--
2	COBALT	Fruit	0.3	0.4	-0.48669151400918487	--
2	ALPHA-HUMULENE	Leaf Essent. Oil				--
2	N-ISOBUTYL-OCTADECAN-2-TRANS-4-DIENAMIDE	Fruit				--
2	PHYTOSTEROLS	Fruit	550.0	1028.0	0.10644427802757993	--
2	CITRONELLYL-ACETATE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	PIPERONAL	Fruit				--
2	PHENYLACETIC-ACID	Essential Oil				--
2	PELLITORINE	Fruit				--
2	OCIMENE	Fruit Essent. Oil		1000.0		--
2	TRANS-PINOCARVEOL	Seed Essent. Oil				--
1	TRANS-CARVEOL	Fruit				--
1	TRANS-CARVEOL	Fruit Essent. Oil		100.0	-1.0	--
1	CARYOPHYLLENE-ALCOHOL	Fruit Essent. Oil		700.0		--
1	CUPARENE	Fruit Essent. Oil		13800.0		--
1	BEHENIC-ACID	Fruit				=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
1	SODIUM	Fruit	320.0	627.0	-0.1244930806267503	USDA's Ag Handbook 8 and sequelae)
1	CHAVICINE	Fruit				--
1	PYRROLIDINE	Seed				--
1	ISOCARYOPHYLLENE	Fruit Essent. Oil				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	ISOCARYOPHYLLENE	Fruit				--
1	ALPHA-ZINGIBERENE	Fruit Essent. Oil		50100.0		--
0	N-ISOBUTYL-11-(3,4-METHYLENEDIOXY-PHENYL)-UNDECA-TRANS-2-TRANS-4-TRANS-10-TRIENAMIDE	Fruit		7.0		--
0	TOCOPHEROLS	Fruit		0.3		Charalambous, G. (Ed.). 1994. Spices, Herbs and Edible Fungi. Elsevier Science B. V. Amsterdam. 764 pp.
0	N-FORMYLPIPERIDINE	Fruit				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	CIS-TRANS-PIPERINE	Fruit				--
0	POLYSACCHARIDES	Fruit		450000.0	1.0	--
0	(-)-PHELLANDRENE	Seed Essent. Oil				--
0	CIS-SABINENE-HYDRATE	Fruit				--
0	BETA-CARYOPHYLLENE	Leaf Essent. Oil		30000.0	-0.22730263739281492	--
0	P-MENTH-8-EN-1-OL	Fruit Essent. Oil		300.0		--
0	N-ISOBUTYL-EICOSA-TRANS-2-TRANS-4-CIS-8-TRIENAMIDE	Fruit		105.0		--
0	1(7),2-P-MENTHADIEN-4-OL	Fruit				--
0	PIPEROLEIN-A	Fruit				--
0	CARYOPHYLLA-3(12),7(15)DIEN-4-BETA-OL	Fruit				--
0	ALPHA-BISABOLENE	Fruit Essent. Oil		21200.0		--
0	HENTRIACONTAN-16-ONE	Stem		40.0		--
0	EPOXYDIHYDROCARYOPHYLLENE	Essential Oil				--
0	ISOBUTYL-ISOVALERATE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	ALPHA-THUJENE	Fruit Essent. Oil	7300.0	29000.0	-0.22630241280017493	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	TRANS-NEROLIDOL	Fruit Essent. Oil		1200.0		--
0	CIS-CARVEOL	Fruit Essent. Oil		50.0	-1.0	--
0	METHYL-OCTANOATE	Fruit				--
0	N-5-(4-HYDROXY-3-METHOXY-PHENYL)-PENT-TRANS-2-DIENOYL-PIPERIDINE	Fruit		9.0		--
0	MONOTERPENES	Fruit	7000.0	20800.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	2-METHYL-PENTANOIC-ACID	Fruit				--
0	CIS-NEROLIDOL	Fruit Essent. Oil		2000.0		--
0	LIPASE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	CIS-P-2-MENTHEN-1-OL	Fruit				--
0	BETA-CARYOPHYLLENE	Seed				--
0	N-HEPTADECENE	Fruit Essent. Oil		25300.0		--
0	ASH	Fruit	42932.0	60000.0	0.08639308861203618	--
0	CARBOHYDRATE	Fruit		648100.0	-0.7817175730480762	USDA's Ag Handbook 8 and sequelae)
0	N-(2-METHYLPROPYL)-DECA-TRANS-2-TRANS-4-DIENAMIDE	Fruit				--
0	CARYOPHYLLA-2,7(15)-DIEN-4-OL	Fruit				--
0	ALPHA-AMORPHENE	Fruit Essent. Oil		15100.0		--
0	HENTRIACONTAN-16-ONE	Leaf				--
0	N-TRIDECANE	Fruit				--
0	ISOBUTYL-CAPROATE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	ALPHA-TERPINEOL ACETATE	Fruit Essent. Oil		8600.0	-1.0	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	TRANS-CIS-PIPERINE	Fruit				--
0	METHYL-HEPTANOATE	Fruit				--
0	HENTRIACONTANONE	Stem				=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
0	FAT	Fruit	30940.0	100000.0	0.12253986651771635	--
0	8-TRANS-PIPERAMIDE-C-9-1	Fruit		197.0		--
0	BETA-PINONE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	2,8-P-MENTHADIEN-1-OL	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	LINALOL	Fruit				--
0	CUMAPERINE	Fruit				--
0	BETA-BISABOLOL	Fruit Essent. Oil		2000.0		--
0	N-HEPTADECANE	Fruit Essent. Oil		56600.0		--
0	(-)-3,4-DIMETHOXY-3,4-DEMETHYLENEDIOXY-CUBEBIN	Leaf				--
0	CARYOPHYLLA-2,7(15)-DIEN-4-BETA-OL	Fruit				--
0	HENTRIACONTAN-16-OL	Stem		40.0		--
0	ALPHA-GUAIENE	Fruit				--
0	N-NONANE	Fruit				--
0	NEROL-ACETATE	Fruit Essent. Oil		2000.0		--
0	THUJENE	Seed Essent. Oil				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	HENTRIACONTANOL	Stem				=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
0	6-TRANS-PIPERAMIDE-C-7-1	Fruit		98.0		--
0	ISOPIPERINE	Fruit				--
0	DELTA-ELEMENE	Fruit Essent. Oil		16200.0		--
0	1-TERPINEN-5-OL	Fruit				--
0	RESIN	Fruit		5000.0	-0.7191073491736661	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	CIS-CARVEOL	Fruit				--
0	(-)-CUBEBIN	Leaf				--
0	LIMONEN-4-OL	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	CARVETONACETONE	Fruit				--
0	GUINEENSINE	Fruit		31.0		--
0	ALPHA-CUBEBINE	Fruit				--
0	N-NONADECANE	Fruit				--
0	N-TRIDECANE	Fruit Essent. Oil		67800.0		--
0	PIPEROLEINE-B	Fruit				--
0	METHYL-CYCLOHEPTA-2,4-DIEN-6-ONE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	HENTRIACONTANE	Stem				=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
0	EPOXYDIHYDROCARYOPHYLLENE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	4-METHYL-TRITRIACONTANE	Leaf				--
0	RHAMNETIN-O-TRIGLUCOSIDE	Fruit				--
0	CUBEBINE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	DL-LIMONENE	Essential Oil				--
0	BETA-FARNESENE	Fruit				--
0	ISOCHAVICINE	Fruit				--
0	BETA-FARNESENE	Fruit Essent. Oil				--
0	1-TERPINEN-4-OL	Fruit				--
0	PROTEIN	Fruit	108386.0	123888.0	0.1928969684345906	USDA's Ag Handbook 8 and sequelae)
0	CIS-2,8-MENTHADIEN-2-OL	Fruit				--
0	ALPHA-TRANS-BERGAMOTENE	Fruit				--
0	P-CYMENE-8-OL	Fruit		15.0	-1.0	--
0	3,4-DIHYDROXY-6-(N-ETHYL-AMINO)-BENZAMIDE	Fruit				--
0	GLOBULOL	Fruit Essent. Oil		26200.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	ALPHA-COPAENE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	N-METHYL-PYRROLINE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	N-TRANS-FERULOYL-PIPERIDINE	Fruit		11.0		--
0	EO	Fruit		15000.0	-0.5284067258944188	--
0	2-TRANS-PIPERAMIDE-C-5-1	Fruit		75.0		--
0	RETROFRACTAMIDE-A	Fruit		4.0		--
0	CRYPTONE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	CALAMENENE	Fruit Essent. Oil				--
0	(+)-LIMONENE	Essential Oil				--
0	HENTRIACONTAN-16-ONE	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	1,8-MENTHADIEN-2-OL	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	1-(2,4-DODECADIENOYL)-PYRROLIDINE	Fruit		10.0		--
0	M-MENTHA-3(8),6-DIENE	Seed Essent. Oil				--
0	ALPHA-THUJENE	Fruit				--
0	P-CYMENE-8-METHYL-ETHER	Fruit				--
0	PIPERICINE	Fruit		0.4		--
0	ALPHA-CIS-BERGAMOTENE	Fruit				--



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	N-BUTYOPHENONE	Fruit				--
0	N-PENTADECENE	Fruit Essent. Oil		17900.0		--
0	HELIOTROPIN	Fruit				Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
0	CARBOHYDRATES	Fruit		648100.0	-0.7207468961442081	--
0	PIPERETTINE	Fruit	234.0	8200.0		--
0	METHYL-CARVACROL	Fruit				--
0	DIHYDROCARVONE	Fruit				--
0	2-TRANS-8-TRANS-PIPERAMIDE-C-9-2	Fruit		5.0		--
0	(+)-LIMONENE	Seed Essent. Oil				--
0	BETA-CUBEBINE	Fruit				--
0	PIPERYLINE	Fruit				--
0	1-(2,4-DECADIENOYL)-PYRROLIDINE	Fruit		30.0		--
0	ALPHA-CUBEBENE	Fruit Essent. Oil		16200.0	-1.0	--
0	PIPERCIDE	Fruit		13.0		--
0	L-ALPHA-PHELLANDRENE	Fruit				--
0	SESQUITERPENES	Fruit	2000.0	7800.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	GERMACRENE-B	Fruit Essent. Oil		18300.0		--
0	5,10(15)-CADINEN-4-OL	Fruit				--
0	CRYPTONE	Essential Oil				--
0	N-PENTADECANE	Fruit Essent. Oil		177800.0		--
0	ALPHA-SANTALENE	Fruit Essent. Oil				--
0	TERPIN-1-EN-4-OL	Fruit Essent. Oil				--
0	PIPERANINE	Fruit				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	METHYL-CAFFEIC-ACID-PIPERIDIDE	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	ARACHIDIC-ACID	Fruit				=ICMR(Indian Council of Medical Research). 1976. Medicinal Plants of India. Vol.1. Indian Council of Med. Res. Cambridge Printing Works, New Delhi. 487 pp; ICMR. 1987. Medicinal Plants of India. Vol.2. Indian Council of Med. Res. Cambr. Printing Works, New Delhi. 600pp
0	2-TRANS-6-TRANS-PIPERAMIDE-C-7-2	Fruit		80.0		--
0	QUERCETIN-3-O-ALPHA-D-GALACTOSIDE	Fruit				--
0	P-MENTH-TRANS-2-EN-1-OL	Fruit Essent. Oil		100.0		--
0	BETA-CARYOPHYLLENE-ALCOHOL	Fruit				--
0	1,8(9)-P-MENTHADIEN-5-OL	Fruit				--
0	PIPERONIC-ACID	Fruit				--
0	CARVONE-OXIDE	Fruit Essent. Oil		100.0		--
0	ALPHA-COPAENE	Fruit Essent. Oil	8200.0	15800.0	1.0	--
0	P-CYMEN-8-OL	Fruit Essent. Oil				--
0	PIPERANINE	Seed Oil		320.0		--
0	KILOCALORIES	Fruit	2550.0	2856.0	-1.2219755197031514	USDA's Ag Handbook 8 and sequelae)
0	TRICHOSTACHINE	Fruit				--
0	4,10,10-TRIMETHYL-7-METHYLENE-BICYCLO-(6.2.0)DECANE-4-CAR...	Plant				--
0	CRYPTONE	Fruit Essent. Oil				--
0	SPATHULENOL	Fruit Essent. Oil		29600.0		--
0	CALAMENENE	Fruit				--
0	GERANIOL-ACETATE	Fruit Essent. Oil		1200.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	DELTA-ELEMENE	Fruit				--
0	2-TRANS-4-TRANS-8-TRANS-PIPERAMIDE-C-9-3	Fruit		69.0		--
0	PYRROPERINE	Seed				--
0	BETA-CUBEBENE	Fruit Essent. Oil				--
0	P-MENTH-CIS-2-EN-1-OL	Seed Essent. Oil				--
0	BETA-CARYOPHYLLENE	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
0	(Z)-OCIMENOL	Fruit		135.0		--
0	ALPHA-GURJUNENE	Fruit Essent. Oil		7800.0		--
0	1,8(9)-P-MENTHADIEN-4-OL	Fruit				--
0	ALPHA-CIS-BERGAMOTENE	Seed Essent. Oil				--
0	WATER	Fruit	103109.0	107091.0	-2.8848937391548306	USDA's Ag Handbook 8 and sequela)
0	TRANS-TRANS-PIPERINE	Fruit		30000.0		--
0	3-METHYL-BUTYRIC-ACID	Fruit				--
0	SILICA	Fruit	750.0	3900.0	1.371867681308522	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	CLOVENE	Fruit Essent. Oil		1400.0		--
0	N-ISOBUTYL-13-(3,4-METHYLENEDIOXY-PHENYL)-TRIDECA-TRANS-2-TRANS-4-TRANS-12-TRIENAMIDE	Fruit				--
0	GAMMA-MUUROLENE	Fruit				--
0	SESQUISABINENE	Seed Essent. Oil				--
0	CALAMENE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	FERUPERINE	Fruit		17.0		--
0	GAMMA-MUUROLENE	Fruit Essent. Oil		7300.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	4-METHYL-TRIACONTANE	Plant				=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
0	1-PIPERYL-PYRROLIDINE	Fruit				--
0	BETA-CARYOPHYLLENE	Essential Oil				--
0	P-MENTH-CIS-2-EN-1-OL	Fruit Essent. Oil		200.0		--
0	ALPHA-GUAIENE	Fruit Essent. Oil		1100.0	-1.0	--
0	1,1,4-TRIMETHYLCYCLOHEPTA-2,4-DIEN-6-ONE	Fruit				--
0	PIPEROLEIN-C	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	CAR-3-ENE	Fruit Essent. Oil	28200.0	151000.0		--
0	PHYTIN-PHOSPHORUS	Fruit		1150.0	-0.13177293449153588	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	ALPHA-CIS-BERGAMOTENE	Fruit Essent. Oil				--
0	KAEMPFEROL-3-O-ARABINOSYL-7-O-RHAMNOSIDE	Fruit				--
0	ALPHA-SANTALENE	Fruit				--
0	ISOCHAVINIC-ACID	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	TRANS-SABINENE-HYDRATE	Fruit Essent. Oil		1400.0		--
0	3,8(9)-P-MENTHADIEN-1-OL	Fruit				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	SESQUISABINENE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	N-ISOBUTYL-11-(3,4-METHYLENEDIOXY-PHENYL)-UNDECA-TRANS-2-TRANS-4-TRANS-10-TRIENAMIDE	Seed				--
0	GAMMA-CADINENE	Fruit				--
0	SESQUISABINENE	Fruit				--
0	M-METHYL-ACETOPHENONE	Fruit				--
0	DIHYDROPIPERCIDE	Fruit				--
0	TOCOPHEROLS	Resin, Exudate, Sap		5400.0		--
0	1-ALPHA-PHELLANDRENE	Essential Oil				--
0	PIPERYLIN	Fruit				--
0	BETA-CARYOPHYLLENE	Fruit Essent. Oil	160000.0	352000.0	2.205325345517652	--
0	P-MENTH-8-EN-2-OL	Fruit Essent. Oil				--
0	N-ISOBUTYL-EICOSA-TRANS-2-TRANS-4-DIENAMIDE	Fruit		190.0		--
0	1(7),2-P-MENTHADIEN-6-OL	Fruit				--
0	PIPEROLEIN-B	Fruit		160.0		--
0	CAR-3-ENE	Seed Essent. Oil				--
0	CARYOPHYLLENE-KETONE	Fruit				--
0	ALPHA-BULNESENE	Fruit Essent. Oil		8200.0	-1.0	--
0	TRANS-SABINENE-HYDRATE	Fruit				--
0	GAMMA-CADINENE	Fruit Essent. Oil				--