

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Elettaria cardamomum*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	CARBOHYDRATES	Fruit	421000.0	778000.0	-0.026104839799594735	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	CARBOHYDRATES	Seed	685000.0	747000.0	0.8886224845650202	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
23	ALPHA-TERPINEOL	Seed Essent. Oil	44000.0	448400.0	2.14826195942333	--
0	ALPHA-TERPINEOL ACETATE	Fruit Essent. Oil	303300.0	430000.0	1.0	--
5	STARCH	Seed	200000.0	400000.0	0.3637981937344068	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
5	SABINENE	Root Essent. Oil		384000.0	-1.0	--
2	TERPINEOL-ACETATE	Seed Essent. Oil		382000.0		--
0	TERPENYL-ACETATE	Fruit Essent. Oil		377000.0		--
67	1,8-CINEOLE	Fruit Essent. Oil	342000.0	360000.0	-0.4996991087091834	--
67	1,8-CINEOLE	Seed Essent. Oil	23100.0	308000.0	1.0	--
22	MYRCENE	Seed Essent. Oil		271400.0	2.188477209267345	--
15	FIBER	Fruit	201000.0	251000.0	1.0316302183851198	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	(+)-LIMONENE	Root Essent. Oil		214000.0		--
22	MYRCENE	Root Essent. Oil		186000.0	1.9897792117406918	--
0	PROTEIN	Fruit	100000.0	128000.0	0.24802011650290137	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	FIBER	Seed	113000.0	123000.0	-0.09300759572615179	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
28	ALPHA-PINENE	Root Essent. Oil		123000.0	0.14189313736220527	--
0	PROTEIN	Seed	108000.0	118000.0	-1.0300659888675268	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	FAT	Seed	67000.0	100000.0	-0.8711556020733713	--
0	FAT	Fruit	10000.0	100000.0	0.12253986651771635	--
0	EO	Fruit	25000.0	100000.0	1.1237392472820933	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
60	LIMONENE	Seed Essent. Oil		84600.0	-0.5175355633899679	--
0	EO	Seed Essent. Oil		64500.0	1.0	--
53	LINALOOL	Fruit Essent. Oil	51000.0	64000.0	1.4140174751728773	--
18	OLEIC-ACID	Seed	41942.0	62600.0	-0.46449145602655795	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	ASH	Seed		58000.0	0.30438219732588906	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
30	MENTHONE	Seed Essent. Oil		57700.0		--
67	1,8-CINEOLE	Fruit	525.0	56000.0	2.8178415879493794	Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
0	ASH	Fruit		54000.0	-0.06897899594447202	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	ALPHA-TERPINYL-ACETATE	Fruit	1050.0	50000.0	1.4142077668473696	--
0	SUGAR	Seed		50000.0	-0.33796445974687406	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
5	SABINENE	Fruit Essent. Oil	27000.0	49000.0	-0.4324265291346702	--
11	GAMMA-TERPINENE	Root Essent. Oil		33000.0	-1.0	--
3	BETA-PHELLANDRENE	Seed Essent. Oil		32500.0	0.2534211311349079	--
0	LINALOOL-ACETATE	Fruit Essent. Oil	26000.0	31000.0		--
23	ALPHA-TERPINEOL	Fruit Essent. Oil	17000.0	28000.0	0.3488244464514957	--
16	P-CYMENE	Fruit	130.0	28000.0	3.1268626509574724	Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
13	BETA-PINENE	Root Essent. Oil		28000.0	-0.8323706430172229	--
23	TERPINEN-4-OL	Fruit Essent. Oil		27000.0	1.4135559855648545	--
13	BETA-PINENE	Seed Essent. Oil	3800.0	26000.0	-0.661153509784313	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	DELTA-LIMONENE	Seed Essent. Oil		26000.0		--
53	LINALOOL	Seed Essent. Oil		26000.0	-0.4608027687850245	--
60	LIMONENE	Fruit Essent. Oil		25000.0	-1.1610447246264288	--
23	TERPINEN-4-OL	Fruit	252.0	23200.0	3.155848425568043	--
5	SABINENE	Seed Essent. Oil		21100.0	-0.38732143908896777	--
22	MYRCENE	Fruit Essent. Oil	14000.0	19000.0	-0.7123427236991273	--
8	STEARIC-ACID	Seed	1830.0	18300.0	-0.16834218160275924	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	N-HEPTANE	Seed Essent. Oil		17900.0		--
28	ALPHA-PINENE	Seed Essent. Oil	6900.0	17000.0	-0.6246262641585064	--
28	ALPHA-PINENE	Fruit Essent. Oil	12000.0	16000.0	-0.6371982242858282	--
0	LINALOOL-ACETATE	Seed Essent. Oil		16000.0	-0.7015834378873093	--
23	TERPINEN-4-OL	Seed Essent. Oil		13000.0	-0.5404286322399808	--
14	POTASSIUM	Seed	11790.0	12857.0	0.025234953019076498	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
35	GERANIOL	Fruit Essent. Oil		12000.0		--
11	NEROLIDOL	Seed Essent. Oil		12000.0		--
0	ALPHA-THUJENE	Root Essent. Oil		11000.0	-0.638798325513007	--
27	LINOLEIC-ACID	Seed	7035.0	10500.0	-0.82786857321412	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
60	LIMONENE	Fruit	595.0	9481.0	0.6095312442214162	--
13	MUFA	Fruit	8700.0	9455.0	-0.11635628749295267	Revised USDA data received 1993.
18	OLEIC-ACID	Fruit	8500.0	9240.0	-0.4095293861159601	Revised USDA data received 1993.
13	PALMITIC-ACID	Seed	5828.0	8400.0	-0.5262817939159874	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
53	LINALOOL	Fruit	1288.0	8000.0	1.651823927016786	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
7	LINALYL-ACETATE	Plant	1197.0	8000.0	3.2689973925149545	--
35	BORNEOL	Fruit	32.0	8000.0	1.414213259765724	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	LINALOL	Fruit	1288.0	8000.0	0.7335098243244321	--
7	LINALYL-ACETATE	Fruit	1197.0	8000.0		--
0	SFA	Fruit	6800.0	7390.0	-0.2169348019998841	Revised USDA data received 1993.
13	ALPHA-TERPINENE	Root Essent. Oil		7000.0	-0.6459900875555472	--
16	P-CYMENE	Root Essent. Oil		7000.0	-0.5801460208228617	--
0	GERANIOL-ACETATE	Seed Essent. Oil		7000.0	-0.843229874438314	--
13	PALMITIC-ACID	Fruit	840.0	6195.0	-0.2690925616143795	Revised USDA data received 1993.
16	P-CYMENE	Fruit Essent. Oil		5000.0	-0.9962725072187498	--
35	GERANIOL	Seed Essent. Oil		5000.0	-1.2760191391363693	--
15	CITRONELLOL	Fruit Essent. Oil		5000.0	1.0	--
4	PUFA	Fruit	4300.0	4675.0	-0.5048519402783854	Revised USDA data received 1993.
23	ALPHA-TERPINEOL	Fruit	301.0	4300.0	3.129748982046047	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
20	CHOLINE	Seed		4195.0	2.3743243649568977	--
28	CALCIUM	Seed	3830.0	4177.0	0.005616516315891836	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
27	LINOLEIC-ACID	Fruit	3100.0	3370.0	-0.30785428228838985	Revised USDA data received 1993.
0	ALPHA-THUJENE	Plant	1330.0	3047.0	1.2969582121204046	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	ALPHA-THUJENE	Fruit	1330.0	3047.0	2.2243250322627803	Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
22	MYRCENE	Fruit	336.0	3000.0	0.08390905500959031	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
28	ALPHA-PINENE	Fruit	217.0	3000.0	0.06445786160358473	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
10	NEROL	Seed Essent. Oil		3000.0	-1.0	--
20	CHOLINE	Pericarp		2663.0	1.0	--
0	TRANS-SABINENE-HYDRATE	Fruit	875.0	2500.0	1.9988936839515734	--
4	PHOSPHORUS	Fruit	1600.0	2000.0	-0.3693459584082821	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	PHOSPHORUS	Seed	1780.0	1941.0	-0.90174516903946	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
28	CALCIUM	Fruit	1300.0	1625.0	-0.5148924842800362	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	CIS-P-MENTH-2-EN-1-OL	Fruit	525.0	1500.0		Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
5	GERANYL-ACETATE	Fruit	525.0	1500.0	1.586814525845496	Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
5	SABINENE	Fruit	500.0	1425.0	-0.08802822268836079	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	LINOLENIC-ACID	Fruit	1200.0	1305.0	-0.7476429173800373	Revised USDA data received 1993.
11	NEROLIDOL	Fruit	448.0	1280.0	-0.27992970059610406	Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
13	BETA-PINENE	Fruit	70.0	1094.0	-0.26279401706162475	Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
0	METHYL-HEPTENONE	Fruit Essent. Oil	300.0	1000.0		--
2	PALMITOLEIC-ACID	Fruit	200.0	650.0	-0.2266299178669845	Revised USDA data received 1993.
8	STEARIC-ACID	Fruit	600.0	650.0	-0.23611473454753784	Revised USDA data received 1993.
2	PHYTOSTEROLS	Seed	460.0	600.0	-0.4861647488503628	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
2	PHYTOSTEROLS	Fruit	460.0	500.0	-0.5737684759640957	Revised USDA data received 1993.
47	BETA-SITOSTEROL	Seed	360.0	480.0	-0.44678266643949144	--
6	MYRISTIC-ACID	Fruit	300.0	325.0	-0.2538115654361021	Revised USDA data received 1993.
14	MANGANESE	Fruit	66.0	280.0	1.4427459841229469	--
1	SODIUM	Seed	180.0	196.0	-0.4045824561803137	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
19	ACETYL-CHOLINE	Seed		165.0	1.8803761294063241	--
6	IRON	Seed	140.0	153.0	0.01025391749776786	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
11	GAMMA-TERPINENE	Fruit	49.0	140.0	-0.6255612447127588	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
35	GERANIOL	Plant	49.0	140.0	-0.42560309181043426	--
12	STIGMASTEROL	Seed	60.0	80.0	-0.4285915570564291	--
7	SALICYLATES	Fruit		75.0	-0.12168222884000186	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
19	ACETYL-CHOLINE	Pericarp		70.0	1.0	--
6	IRON	Fruit	42.0	66.0	-0.26568397107756236	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
13	ALPHA-TERPINENE	Fruit	21.0	60.0	-0.12467700979131179	Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
2	CAMPESTEROL	Seed	40.0	55.0	-0.5085407308824086	--
0	METHYL-HEPTENONE	Plant	18.0	51.0	-0.18660125966624988	--
0	METHYL-HEPTENONE	Seed	18.0	51.0		Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
15	CITRONELLOL	Fruit	14.0	40.0	2.194384347727115	--
9	CAMPHENE	Fruit	10.0	30.0	-0.33936437581442985	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
10	NEROL	Fruit	10.0	30.0	1.7314244526151554	Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
24	CHROMIUM	Fruit	20.5	29.5	3.6358814153792958	--
77	ZINC	Fruit	23.0	28.0	-0.06924407952072656	--
41	CAMPHOR	Fruit	7.0	20.0	-0.8661900913537282	Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
25	P-COUMARIC-ACID	Fruit		19.0	-0.682898261666777	--
12	COPPER	Fruit	3.8	15.4	0.20088141553943706	--
4	BORON	Seed	1.0	14.0	-0.4796351890415661	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).
39	NIACIN	Seed	11.0	12.0	-0.9245464566376991	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	RIBOFLAVIN	Seed	1.0	2.0	-0.5841625019907875	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
102	CAFFEIC-ACID	Fruit		2.0	-0.3385433113198586	--
31	THIAMIN	Seed	1.0	2.0	-1.0937002421726418	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
2	COBALT	Fruit	0.4	0.8	-0.43826781025666195	--
0	ARACHIDIC-ACID	Seed Oil				--
9	SINAPIC-ACID	Leaf				--
0	(+)-LIMONENE	Fruit Essent. Oil				--
0	METHYL-HEPTANONE	Fruit				Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
14	GAMMA-TOCOPHEROL	Seed				--
5	MYRTENAL	Fruit Essent. Oil				--
0	ALPHA-YLANGENE	Seed				--
0	N-TRICOSENE	Seed				--
15	ASCARIDOLE	Fruit				Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
0	D-ALPHA-TERPINYL-ACETATE	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
2	HEXANOIC-ACID	Fruit				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	1,4-CINEOLE	Fruit				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	P-MENTHENE	Fruit Essent. Oil				--
0	HEPTANONE	Fruit				Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
32	ALPHA-TOCOPHEROL	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	N-TRICOSANE	Seed				--
0	3-TRIDECANE	Fruit				Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
0	HEPTANOIC-ACID	Fruit				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	PHOSPHATIDYL-INOSITOL	Seed				--
0	P-MENTH-TRANS-2-EN-1-OL	Seed Essent. Oil				--
1	PERILLIC-ACID	Fruit				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	DELTA-TERPINEOL	Fruit Essent. Oil				--
7	LAURIC-ACID	Seed Oil				--
0	N-PENTACOSENE	Seed				--
31	CARYOPHYLLENE	Fruit Essent. Oil				--
0	2-UNDECANE	Fruit				Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
0	GERANIC-ACID	Fruit				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	PHOSPHATIDYL-ETHANOLAMINE	Seed				--
0	LYSOPHOSPHATIDYLCHOLINE	Seed				--
0	4-HYDROXY-BENZOIC-ACID	Leaf				--
0	P-MENTH-CIS-2-EN-1-OL	Seed Essent. Oil				--
3	BETA-TERPINEOL	Seed Essent. Oil				--
0	METHYL-HEPTENONE	Seed Essent. Oil				--
0	N-PENTACOSANE	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
19	CARVONE	Fruit Essent. Oil				--
0	(+)-ALPHA-TERPINEOL	Seed				--
1	DODECANOIC-ACID	Fruit				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	HUMULENE-OXIDE	Fruit Essent. Oil				--
1	PENTADECANOIC-ACID	Seed Oil				--
0	N-NONACOSENE	Seed				--
5	CAPRYLIC-ACID	Seed Oil				--
24	VANILLIC-ACID	Leaf				--
20	CITRONELLAL	Plant				--
3	DECANOIC-ACID	Fruit				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
2	HUMULENE	Fruit Essent. Oil				--
13	PALMITIC-ACID	Seed Oil				--
0	BISABOLENE	Seed				--
16	P-CYMENE	Seed Essent. Oil				--
1	N-NONACOSANE	Seed				--
3	CAPRIC-ACID	Seed Oil				--
0	CITRONELLIC-ACID	Fruit				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	1,4-CINEOLE	Seed Essent. Oil				--
18	OLEIC-ACID	Seed Oil				--
0	NERYLIC-ACID	Fruit				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
13	BETA-PINENE	Fruit Essent. Oil				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
27	LINOLEIC-ACID	Seed Oil				--
5	NERYL-ACETATE	Fruit				Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
6	EUGENYL-ACETATE	Seed				--
0	N-HEPTACOSENE	Seed				--
9	CAMPHENE	Seed Essent. Oil				--
6	BUTYRIC-ACID	Fruit				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	OCTAN-1-OL	Fruit Essent. Oil				--
0	BETA-SITOSTENONE	Seed				--
25	P-COUMARIC-ACID	Leaf				--
11	ALPHA-PHELLANDRENE	Fruit				Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
0	N-HEPTACOSANE	Seed				--
1	CHOLESTEROL	Seed				--
16	ACETIC-ACID	Fruit				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	3-(BUT-CIS-1-ENYL)-PYRIDINE	Essential Oil				--
5	NERYL-ACETATE	Seed Essent. Oil				--
0	ALPHA-COPAENE	Seed				--
0	DESMOSTEROL	Seed				--
0	N-HENTRIACTANE	Seed				--
35	BORNEOL	Seed Essent. Oil				--
0	CARDIOLIPIN	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	TRANS-P-MENTH-2-EN-1-OL	Fruit				Duke, J. A. and duCellier, J. L. 1993. CRC Handbook of Alternative Cash Crops. CRC Press. Boca Raton, FL 33431. 536 pp. US \$312.50.
1	PHYTOL	Seed				--
0	N-TRITRIACONTENE	Seed				--
7	CYANIDIN	Leaf				--
0	DELTA-5,7,22-CHOLESTATRIENOL	Seed				--
0	ALPHA-TERPINYL-ACETATE	Seed Essent. Oil				--
0	7-ERGOSTEROL	Seed				--
0	N-HENTRIACONTENE	Seed				--
0	BETA-CARYOPHYLLENE	Fruit Essent. Oil				--
8	STEARIC-ACID	Seed Oil				--
0	TERPINEOL-FORMIATE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
6	MYRISTIC-ACID	Seed Oil				--
0	N-TRITRIACONTANE	Seed				--
0	D-PHI-TERPINYL-ACETATE	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
0	ALPHA-TERPINEOL ACETATE	Seed				--