

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Coriandrum sativum*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	(+)-LINALOOL	Essential Oil				--
0	(-)-4(R)-BETA-HYDROXY-PHENETHYL-FERULIC-ACID	Plant		3.0		--
3	(-)-BORNEOL	Essential Oil				--
0	(R)-LINALOOL	Essential Oil				--
0	(S)-(+)-LINALOOL	Essential Oil				--
67	1,8-CINEOLE	Fruit				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
67	1,8-CINEOLE	Seed Essent. Oil		13780.0	-1.0	--
0	1-(4-HYDROXY-PHENYL)-ETHANE-1,2-DIOL	Plant		4.0		--
0	2-(4-HYDROXY-PHENYL)-2-METHOXY-ETHANOL	Plant		12.0		--
0	2-(4-HYDROXY-PHENYL)-ETHANOL	Plant		0.2		--
0	2-DODECANAL	Leaf				Chemical Constituents of Oriental Herbs (3 diff. books)
0	2-DODECANAL	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
0	3',4'-DIMETHOXYQUERCETIN	Leaf				--
0	3'-METHOXY-QUERCETIN	Leaf				--
0	3,6-UNDECADIENAL	Leaf		342.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	3-O-METHYLKAEMPFEROL	Fruit				Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
0	3-OCTENAL	Leaf		97.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	4-HYDROXY-BENZOIC-ACID	Plant		0.9		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	5,8-TRIDECADIENAL	Leaf		561.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	5-DECENAL	Leaf		101.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
10	5-METHOXY-PSORALEN	Fruit				--
0	6-UNDECENAL	Leaf		130.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	7-DODECENAL	Leaf		2131.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	8-METHYNON-5-ENAL	Leaf		96.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	9-TETRADECENAL	Leaf		924.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	ABSCISIC-ACID	Fruit		0.03	-1.0	--
16	ACETIC-ACID	Fruit		1.0	-0.6428126249807119	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	ACETIC-ACID-ESTER	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
19	ACETYL-CHOLINE	Seed		43.0	-0.7564731555082913	--
3	ALANINE	Fruit				--
11	ALPHA-PHELLANDRENE	Essential Oil				--
11	ALPHA-PHELLANDRENE	Fruit				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
28	ALPHA-PINENE	Essential Oil				--
28	ALPHA-PINENE	Seed Essent. Oil	11400.0	52980.0	-0.3763795265608634	--
28	ALPHA-PINENE	Fruit	819.0	13780.0	2.8789050860769403	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
13	ALPHA-TERPINENE	Essential Oil				--
13	ALPHA-TERPINENE	Seed Essent. Oil	200.0	19700.0	0.21421162836665333	--
13	ALPHA-TERPINENE	Fruit	1.0	15.0	-0.37657545814518684	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
23	ALPHA-TERPINEOL	Essential Oil				--
23	ALPHA-TERPINEOL	Seed Essent. Oil		23200.0	-0.591786991122015	--
23	ALPHA-TERPINEOL	Fruit	36.0	44.0	-0.3723049247176171	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	ALPHA-THUJENE	Essential Oil				--
0	ALPHA-THUJENE	Fruit				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
17	ANGELICIN	Fruit				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
17	ANGELICIN	Seed				--
101	APIGENIN	Fruit				Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
14	ARGININE	Fruit				--
14	ARGININE	Leaf				--
112	ASCORBIC-ACID	Leaf	780.0	6290.0	0.13971175200302013	--
112	ASCORBIC-ACID	Fruit		920.0	-0.22728617216267144	--
0	ASH	Leaf	19000.0	153000.0	0.6016512590064101	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	ASH	Seed	6000.0	6600.0	-1.2416079828374493	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
3	ASPARTIC-ACID	Fruit				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	BENZOIC-ACID-4-O-BETA-D-GLUCOSIDE	Fruit		8.0		--
26	BERGAPTEN	Fruit				--
53	BETA-CAROTENE	Seed		0.0	-0.42930857989782434	--
53	BETA-CAROTENE	Leaf	29.0	228.0	-0.14501134388228565	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	BETA-CARYOPHYLLENE	Seed Essent. Oil	1600.0	55470.0	1.0	--
3	BETA-PHELLANDRENE	Seed Essent. Oil	400.0	18600.0	-0.3304275521980012	--
3	BETA-PHELLANDRENE	Essential Oil				--
3	BETA-PHELLANDRENE	Fruit	1.0	13.0	-0.4703263293427	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
13	BETA-PINENE	Essential Oil				--
13	BETA-PINENE	Fruit	69.0	83.0	-0.2951842276648527	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
13	BETA-PINENE	Seed Essent. Oil	2100.0	13400.0	-0.7558724890143567	--
47	BETA-SITOSTEROL	Fruit		220.0	-0.5051872230351605	--
47	BETA-SITOSTEROL	Seed				--
0	BETA-SITOSTEROL-D-GLYCOSIDE	Fruit				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
0	BICYCLOGERMACRENE	Seed Essent. Oil		400.0		--
35	BORNEOL	Fruit	2.0	54.0	-0.7079078334166587	--
35	BORNEOL	Essential Oil				--
35	BORNEOL	Seed Essent. Oil	15500.0	70100.0		--
12	BORNYL-ACETATE	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	BORON	Seed	9.0	29.0	0.23188918012153775	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).
102	CAFFEIC-ACID	Leaf				--
102	CAFFEIC-ACID	Fruit		770.0	-0.1963560462638582	--
102	CAFFEIC-ACID	Shoot				--
28	CALCIUM	Seed	6465.0	14469.0	1.8958241168450043	--
28	CALCIUM	Leaf	1330.0	13441.0	-0.34137725941345665	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
2	CAMPESTEROL	Fruit		30.0	-0.4046460894399287	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
9	CAMPHENE	Essential Oil				--
9	CAMPHENE	Fruit	2.0	155.0	-0.2875286008211722	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
9	CAMPHENE	Seed Essent. Oil	2100.0	7600.0	1.2973683379921246	--
41	CAMPHOR	Fruit	100.0	1300.0	1.6456434313757062	--
41	CAMPHOR	Essential Oil				--
41	CAMPHOR	Seed Essent. Oil		58300.0	1.0	--
0	CAPRINALDEHYDE	Fruit				Chemical Constituents of Oriental Herbs (3 diff. books)
0	CAR-3-ENE	Essential Oil				--
0	CARBOHYDRATES	Leaf	73000.0	589000.0	-0.18171460401226272	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	CARBOHYDRATES	Fruit	549900.0	603240.0	-0.9606363699519014	USDA's Ag Handbook 8 and sequelae)
19	CARVONE	Fruit	21.0	26.0	-0.4990970041084822	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
31	CARYOPHYLLENE	Essential Oil				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
31	CARYOPHYLLENE	Fruit	1.0	8.0	-0.39580267370453653	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
8	CARYOPHYLLENE-OXIDE	Seed Essent. Oil		3610.0		--
8	CARYOPHYLLENE-OXIDE	Fruit				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
77	CHLOROGENIC-ACID	Shoot				--
77	CHLOROGENIC-ACID	Plant	305.0	320.0	-0.6800911873139804	Abstract (See species file)
20	CHOLINE	Seed		1387.0	-0.26859216208459646	--
24	CHROMIUM	Seed		28.8	3.513354178720076	--
18	CINNAMIC-ACID	Plant		40.0	1.0	Abstract (See species file)
0	CIS-FERULIC-ACID	Plant		467.0		Abstract (See species file)
0	CIS-FERULIC-ACID	Fruit		1360.0		Abstract (See species file)
0	CIS-LINALOOL-OXIDE	Seed Essent. Oil		1800.0		--
3	CIS-OCIMENE	Fruit				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	CIS-P-COUMARIC-ACID	Plant		273.0		Abstract (See species file)
0	CIS-P-COUMARIC-ACID	Fruit		1440.0		Abstract (See species file)
15	CITRONELLOL	Seed Essent. Oil	6150.0	14620.0		--
15	CITRONELLOL	Fruit	0.0	8.0	-0.021396130240373637	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
15	CITRONELLOL	Essential Oil				--
2	COBALT	Fruit		0.9	-0.42616188431853125	--
12	COPPER	Leaf		18.0	-0.2657646170188676	USDA's Ag Handbook 8 and sequelae)
12	COPPER	Fruit	10.0	13.0	0.014090749380317144	--
1	CORIANDRIN	Plant		0.5		--
1	CORIANDRIN	Shoot	4.2	106.6		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	CORIANDRINOL	Fruit				--
0	CORIANDRINONEDIOL	Seed		60.0		--
1	CORIANDROL	Fruit	400.0	10250.0		--
0	CORIANDRONE-A	Plant		13.0		--
0	CORIANDRONE-A	Shoot		94.0		--
0	CORIANDRONE-B	Plant		1.3		--
0	CORIANDRONE-B	Shoot		50.0		--
0	CORIANDRONE-C	Plant		0.12		--
0	CORIANDRONE-D	Plant		0.09		--
0	CORIANDRONE-E	Plant		0.6		--
2	CYSTINE	Fruit				--
0	D-DECYLALDEHYDE	Fruit				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	D-MANNITOL	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	DAPHNETIN-8-O-BETA-D-GLUCOSIDE	Plant		0.12		--
5	DAUCOSTEROL	Seed				--
0	DEC-TRANS-2-EN-1-AL	Essential Oil				--
1	DECAN-1-AL	Seed Essent. Oil		1500.0		--
1	DECAN-1-AL	Essential Oil				--
0	DECAN-1-OL	Essential Oil				--
0	DECANAL	Leaf		1005.0	1.4142130678317626	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	DECANAL	Fruit	6.0	80.0	0.4493870962844483	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	DECYL-ALDEHYDE	Seed Essent. Oil		70100.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	DECYL-ALDEHYDE	Fruit	2.0	27.0		--
0	DECYLIC-ACID-ESTER	Fruit				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	DELTA-5,6-OCTADECENIC-ACID	Fruit				--
0	DELTA-5,6-OCTADECENOIC-ACID	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	DELTA-SITOSTEROL	Fruit				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
0	DIHYDROCORIANDRIN	Shoot	0.2	113.0		--
0	DIHYDROCORIANDRIN	Plant		0.4		--
6	DILLAPIOL	Seed Essent. Oil		4500.0		--
7	DIPENTENE	Fruit				--
3	DIPHENYLAMINE	Fruit		9500.0		Karawy, M. S., Ehayyal, A. S. E., Farrag, N. M., Ayad, M. M. 1986. Screening of Diphenylamine as an Antihyperglycaemic Agent in Certain Edible Plant Organs. Acta. Pharm. Hung, 56: 55-58.
3	DIPHENYLAMINE	Plant				Karawva, M. S., Khayyal, S. E., Farrag, N. M., Ayad, M. M. 1986. Screening of Diphenylamine as an Antihyperglycemic in Certain Edible Plant Organs. Egypt J. Pharm. Sci., 25(1,2,3): 21-25.
0	DODEC-TRANS-2-EN-1-AL	Essential Oil				--
0	DODECAN-1-AL	Seed Essent. Oil		2000.0		--
0	DODECAN-1-AL	Essential Oil				--
0	DODECAN-1-OL	Essential Oil				--
2	DODECANAL	Leaf		1627.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	DODECANOL	Fruit				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
2	ELEMOL	Seed Essent. Oil		4130.0		--
2	ELEMOL	Fruit				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
0	EO	Seed Essent. Oil	100.0	14900.0	-1.0	--
0	EO	Seed				--
0	EO	Leaf		10000.0	-0.13502102138741875	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	EO	Fruit	2000.0	26000.0	-0.31459959995392905	--
0	ESCLETIN-DIMETHYL-ETHER	Plant		0.2		--
0	ETHYL-LINOLATE	Fruit	13.0	166.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
1	ETHYL-MYRISTATE	Fruit	12.0	153.0	1.0	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
1	ETHYL-MYRISTATE	Essential Oil				--
1	ETHYL-PALMITATE	Fruit	46.0	598.0	1.4140633715418722	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	ETHYL-PENTADECANOATE	Essential Oil				--
0	ETHYL-PENTEDECANOATE	Fruit	0.0	5.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	ETHYL-STEARATE	Fruit	42.0	546.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	ETHYL-UNDECANOATE	Essential Oil				--
0	FAT	Leaf	6000.0	50000.0	-0.12876910250125184	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	FAT	Fruit	110000.0	210000.0	0.9627110184734524	--
61	FERULIC-ACID	Plant		11.0	-1.3788754333101605	--
15	FIBER	Leaf	16000.0	129000.0	-0.4023315981418849	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	FIBER	Fruit	291000.0	319000.0	1.6733109057803188	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
8	FRUCTOSE	Fruit				--
0	FURFUROL	Fruit		60000.0	1.0	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	GAMMA-SITOSTEROL	Fruit				--
11	GAMMA-TERPINENE	Seed Essent. Oil		40800.0	-0.2831900813123795	--
11	GAMMA-TERPINENE	Fruit	762.0	2626.0	-0.16808278013485026	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
11	GAMMA-TERPINENE	Essential Oil				--
13	GERANIAL	Seed Essent. Oil		1300.0		--
13	GERANIAL	Fruit				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
35	GERANIOL	Seed Essent. Oil	6720.0	69700.0	0.1099647159636269	--
35	GERANIOL	Essential Oil				--
35	GERANIOL	Fruit	34.0	442.0	2.099882842620517	--
0	GERANIOL-ACETATE	Essential Oil				--
0	GERANIOL-ACETATE	Seed Essent. Oil	10850.0	49600.0	0.5110243254136062	--
5	GERANYL-ACETATE	Fruit	52.0	988.0	0.7226725134299015	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
7	GLUCOSE	Fruit				--
8	GLUTAMIC-ACID	Fruit				--
12	GLYCINE	Fruit				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	HEPTADECANE	Fruit				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
7	HISTIDINE	Fruit				--
3	HOMOERIODICTYOL	Fruit				Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
6	IRON	Leaf	30.0	528.0	0.41776327197286667	--
6	IRON	Fruit	112.0	227.0	0.3729596362352439	--
3	ISOLEUCINE	Fruit				--
3	ISOLEUCINE	Leaf				--
22	ISOQUERCITRIN	Fruit				--
1	ISOSCOPOLETIN	Plant		0.1		--
0	KAEMPFEROL-3-O-ALPHA-L-(2,3-DI-TRANS-P-COUMAROYL-RHAMNOPYRANOSIDE)	Plant		8.0		--
0	KAEMPFEROL-3-O-ALPHA-L-(3-TRANS-P-COUMAROYL-RHAMNOPYRANOSIDE)	Plant		2.0		--
2	LEUCINE	Fruit				--
2	LEUCINE	Leaf				--
60	LIMONENE	Seed Essent. Oil	15500.0	18950.0	-0.7918374700341749	--
60	LIMONENE	Essential Oil				--
60	LIMONENE	Fruit	34.0	1238.0	-0.5726537627760642	--
0	LINALOL	Fruit	4060.0	16900.0	2.2611501905393587	--
0	LINALOL-OXIDE	Fruit	2.0	21.0		--
53	LINALOOL	Seed Essent. Oil	414190.0	742300.0	2.216550400992289	--
53	LINALOOL	Essential Oil		568000.0	1.9636483678850598	--
53	LINALOOL	Fruit	400.0	10250.0	2.2811487887245883	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	LINALOOL-ACETATE	Seed Essent. Oil		207780.0	1.4141992183349599	--
0	LINALOOL-OXIDE	Essential Oil				--
0	LINALOOL-OXIDE	Fruit	2.0	21.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
27	LINOLEIC-ACID	Fruit	13030.0	18260.0	-0.09777897022873985	--
27	LINOLEIC-ACID	Seed		132000.0	0.2131554891088805	--
0	LINOLEIC-ACID-ETHYL-ESTER	Essential Oil				--
4	LYSINE	Leaf				--
4	LYSINE	Fruit				--
65	MAGNESIUM	Leaf	6940.0	7488.0	1.2982818168844166	USDA's Ag Handbook 8 and sequelae)
65	MAGNESIUM	Fruit	2939.0	4016.0	0.8734494335760973	USDA's Ag Handbook 8 and sequelae)
14	MANGANESE	Leaf		64.0	-0.35348854285141834	USDA's Ag Handbook 8 and sequelae)
14	MANGANESE	Fruit	18.0	19.0	-0.27825396850008577	--
15	METHIONINE	Leaf				--
22	MYRCENE	Essential Oil				--
22	MYRCENE	Fruit	13.0	169.0	-0.3581922077232703	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
22	MYRCENE	Seed Essent. Oil		6500.0	-0.6568116875911565	--
6	MYRISTIC-ACID	Fruit	200.0	219.0	-0.2588121993964581	USDA's Ag Handbook 8 and sequelae)
31	MYRISTICIN	Fruit				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
31	MYRISTICIN	Essential Oil				--
5	MYRTENAL	Seed Essent. Oil		1600.0		--
0	N-HEPTADECANE	Essential Oil				--
0	N-OCTADECANE	Essential Oil				--
0	N-TETRADECANOIC-ACID	Seed Essent. Oil		5700.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	N-TRIACONTANE	Seed				--
0	NEOCNIDILIDE	Fruit				Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
10	NEROL	Fruit				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
10	NEROL	Essential Oil				--
10	NEROL	Seed Essent. Oil		6150.0	1.0	--
0	NEROL-ACETATE	Seed Essent. Oil		1900.0		--
11	NEROLIDOL	Fruit	14.0	17.0	-0.7181710539929176	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
39	NIACIN	Leaf	13.0	136.0	0.468288830503172	--
39	NIACIN	Fruit	21.0	23.0	-0.5039583507406544	USDA's Ag Handbook 8 and sequelae)
3	NICKEL	Fruit		2.4	-0.04957166517347313	--
0	NONAN-1-AL	Essential Oil				--
0	NONANAL	Fruit	1.0	18.0	-0.06494936824868595	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	NONYL-ALDEHYDE	Leaf				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
2	OCIMENE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	OCTADECA-5,6-DIENOIC-ACID	Seed Oil				--
0	OCTADECANE	Fruit				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	OCTANOL	Leaf		504.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
18	OLEIC-ACID	Fruit	39930.0	167819.0	0.8126920882556948	--
18	OLEIC-ACID	Seed		94000.0	-0.20636501961421735	--
18	OLEIC-ACID	Seed Oil				--
9	OXALIC-ACID	Fruit		120.0	-0.29973195119586477	--
9	OXALIC-ACID	Leaf		50.0	-0.4746637714382876	Watt, J.M. and Breyer-Brandwijk, M.G. 1962. The Medicinal and Poisonous Plants of Southern and Eastern Africa. E. & S. Livingstone, Ltd. Edinburg & London. 1457 pp.
25	P-COUMARIC-ACID	Fruit		16.0	-0.700035632491875	--
16	P-CYMENE	Essential Oil				--
16	P-CYMENE	Seed Essent. Oil		900.0	-1.547238257753332	--
16	P-CYMENE	Fruit	74.0	728.0	-0.4833946204797754	--
0	P-CYMOL	Seed Essent. Oil		67300.0		--
13	P-HYDROXY-BENZOIC-ACID	Plant	252.0	333.0	-1.0	Abstract (See species file)
13	P-HYDROXY-BENZOIC-ACID	Fruit		960.0	1.409967005275492	Abstract (See species file)
1	P-HYDROXYCINNAMIC-ACID	Plant		1.1	-1.0000000000000002	--
13	PALMITIC-ACID	Seed Essent. Oil		58200.0		--
13	PALMITIC-ACID	Fruit	2160.0	16800.0	-0.10399513962361799	--
1	PALMITIC-ACID-ETHYL-ESTER	Essential Oil				--
2	PALMITOLEIC-ACID	Fruit	1000.0	1097.0	-0.14493129159756157	USDA's Ag Handbook 8 and sequelae)
24	PECTIN	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	PENTADECANAL	Leaf				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PENTOSANS	Fruit		100000.0	0.21063680874408397	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	PETROSELINIC-ACID	Seed		718000.0	0.7588317381879648	--
0	PETROSELINIC-ACID	Fruit	40700.0	111300.0	0.26077456937086446	--
0	PETROSELINIC-ACID	Seed Oil				--
7	PHENYLALANINE	Fruit				--
7	PHENYLALANINE	Leaf				--
4	PHOSPHORUS	Fruit	3907.0	4687.0	0.4468028530022447	USDA's Ag Handbook 8 and sequelae)
4	PHOSPHORUS	Leaf	720.0	6452.0	0.27240108248500583	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
2	PHYTOSTEROLS	Fruit		460.0	-0.6252997452058894	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
14	POTASSIUM	Leaf	5600.0	48177.0	0.7874620147860205	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
14	POTASSIUM	Fruit	11866.0	14781.0	-0.27740968352885775	USDA's Ag Handbook 8 and sequelae)
0	PROLINE	Fruit				--
0	PROTEIN	Leaf	26000.0	236000.0	0.24096897154066135	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	PROTEIN	Fruit	110000.0	170000.0	0.8110483798465427	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
43	PROTocatechuic-ACID	Plant	167.0	179.0	0.8781551128951783	Abstract (See species file)
43	PROTocatechuic-ACID	Fruit		760.0	0.9999999999999999	Abstract (See species file)
31	PSORALEN	Fruit				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
31	PSORALEN	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
176	QUERCETIN	Fruit				Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
176	QUERCETIN	Leaf				--
176	QUERCETIN	Shoot				--
0	QUERCETIN-3-GLUCURONIDE	Fruit				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
2	QUERCETIN-3-O-BETA-D-GLUCURONIDE	Fruit				--
0	QUERCETIN-GLYCOSIDE	Seed				--
0	QUERCETIN-GLYCOSIDE	Fruit				--
18	RHAMNETIN	Fruit				Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
15	RIBOFLAVIN	Leaf	1.0	21.0	-0.07942432526480918	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	RIBOFLAVIN	Fruit	3.0	4.0	-0.21615825716438572	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
87	RUTIN	Fruit				--
87	RUTIN	Shoot				--
5	SABINENE	Fruit	1.0	83.0	-0.509533484990146	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
5	SABINENE	Essential Oil				--
5	SABINENE	Seed Essent. Oil		1400.0	-0.4936167585696178	--



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	SACCHAROSE	Fruit				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
44	SCOPOLETIN	Fruit				--
44	SCOPOLETIN	Shoot				--
1	SERINE	Fruit				--
1	SODIUM	Leaf	940.0	7581.0	0.6991528552357646	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
1	SODIUM	Fruit	308.0	430.0	-0.14317436938042027	USDA's Ag Handbook 8 and sequelae)
5	STARCH	Fruit		100000.0	-0.30384740496903184	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
8	STEARIC-ACID	Fruit	1100.0	1207.0	-0.1991755963123703	USDA's Ag Handbook 8 and sequelae)
8	STEARIC-ACID	Seed Essent. Oil		2000.0		--
0	STEARIC-ACID-ETHYL-ESTER	Essential Oil				--
12	STIGMASTEROL	Fruit		180.0	1.3242602946608402	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
14	SUCROSE	Fruit				--
0	SUGARS	Fruit		200000.0	-0.058650417947657976	Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
4	SYRINGALDEHYDE	Plant		0.1		--
35	TANNIN	Fruit				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
23	TERPINEN-4-OL	Fruit	6.0	80.0	-0.34623106760257755	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
23	TERPINEN-4-OL	Essential Oil				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
23	TERPINEN-4-OL	Seed Essent. Oil		13800.0	-0.5326666411126562	--
9	TERPINOLENE	Fruit	13.0	26.0	-0.5876858204442595	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
9	TERPINOLENE	Seed Essent. Oil		5300.0	-0.303409676929149	--
9	TERPINOLENE	Essential Oil				--
0	TETRADECAN-1-AL	Seed Essent. Oil		1800.0		--
0	TETRADECANAL	Leaf		132.0	0.9999999999999998	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
31	THIAMIN	Leaf	1.0	16.0	1.6037378639175852	--
31	THIAMIN	Fruit	2.0	3.0	-0.29859918253223444	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
4	THREONINE	Leaf				--
71	THYMOL	Seed Essent. Oil		68140.0	1.4139493228546411	--
1	TOLUENE	Leaf		117.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	TRANS-2-DECANAL	Fruit	1.0	18.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	TRANS-2-DODECANAL	Fruit	9.0	114.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
8	TRANS-ANETHOLE	Fruit	1.0	2.0	-0.9957288082990997	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	TRANS-BETA-OCIMENE	Seed Essent. Oil		900.0		--
0	TRANS-CITRAL	Essential Oil				--
0	TRANS-OCIMENE	Fruit				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	TRANS-P-COUMARIC-ACID	Plant		173.0		Abstract (See species file)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	TRANS-P-COUMARIC-ACID	Fruit		1120.0		Abstract (See species file)
0	TRANS-TRIDEC-2-EN-1-AL	Fruit				--
0	TRANS-TRIDECEN-(2)-AL-(1)	Plant				--
1	TRIACONTAN-1-OL	Seed				--
0	TRIACONTANE	Fruit				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
3	TRIACONTANOL	Fruit				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
0	TRICOSAN-1-OL	Seed				--
0	TRICOSANOL	Fruit				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
0	TRIDECANAL	Leaf		168.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
29	TRYPTOPHAN	Leaf				--
8	TYROSINE	Fruit				--
22	UMBELLIFERONE	Plant		0.1		--
22	UMBELLIFERONE	Shoot				--
22	UMBELLIFERONE	Fruit				--
0	UMBELLIPRENIN	Fruit				--
0	UNDECAN-1-AL	Seed Essent. Oil		0.2		--
0	UNDECAN-1-AL	Essential Oil				--
2	UNDECANAL	Leaf		304.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
2	UNDECANAL	Fruit	1.0	8.0	1.4065369194811357	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	VALINE	Fruit				--
3	VALINE	Leaf				--
24	VANILLIC-ACID	Plant	221.0	347.0	1.4132666574417567	Abstract (See species file)
24	VANILLIC-ACID	Fruit		960.0	1.0	Abstract (See species file)
0	VERATRIC-ACID	Plant		0.3		--
0	WATER	Leaf		73000.0	-3.6650941195552518	USDA's Ag Handbook 8 and sequelae)
0	WATER	Fruit	86000.0	112000.0	-2.8635489476544933	--
43	XANTHOTOXIN	Fruit				--
77	ZINC	Fruit	34.0	52.0	0.6528169783274335	--