

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Myristica fragrans*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
0	(+)-BETA-PINENE	Seed Essent. Oil		680000.0		--
0	(+)-BORNEOL	Seed Essent. Oil				--
0	(+)-LIMONENE	Seed Essent. Oil		42000.0	-0.683696366889014	--
0	(+)-LINALOOL	Seed Essent. Oil				--
0	(+)-MYRISFRAGRANSIN	Seed				--
0	(+)-PINENE	Seed Essent. Oil				--
38	(-)-EPICATECHIN	Seed				--
0	1,8-CINEOL	Seed Essent. Oil	22000.0	32000.0		--
0	1,8-CINEOL	Essential Oil	22000.0	42000.0	-0.6187246057790443	--
0	1,8-CINEOL	Leaf Essent. Oil				--
67	1,8-CINEOLE	Seed	440.0	5600.0	0.18974198009521376	--
0	1-(3,4,5-TRIMETHOXYPHENYL)-2-(4-ALLYL-2,6-DIMETHOXY)PROPAN-1-OL	Plant				--
0	1-(3,4,5-TRIMETHOXYPHENYL)-2-(4-ALLYL-2,6-DIMETHOXY)PROPANE	Plant				--
0	1-(3,4-METHYLENEDIOXYPHENYL)-2-(4-ALLYL-2,6-DIMETHOXY)PROPYL-ACETATE	Plant				--
0	1-(3,4-METHYLENEDIOXYPHENYL)-2-(4-ALLYL-2,6-DIMETHOXY)BENZOATE	Plant				--
0	1-(4-HYDROXY-3-METHOXYPHENYL)-2-(4-ALLYL-2,6-DIMETHOXY)PROPAN-1-OL	Plant				--
0	1-(5-ACETOXY-3,4-DIMETHOXYPHENYL)-2-(4-ALLYL-2,6-DIMETHOXY)PROPYL-ACETATE	Plant				--
0	2-(4-ALLYL-2,6-DIMETHOXYPHENOXY)-1-(3,4,5-TRIMETHOXYPHENYL)-PROPANE	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	2-(4-ALLYL-2,6-DIMETHOXYPHENOXY)-1-(3,4-METHYLENEDIOXYPHENYL)-1-PROPANOL	Plant				--
0	2-(4-ALLYL-2,6-DIMETHOXYPHENOXY)-1-(3,4-METHYLENEDIOXYPHENYL)-ACETIC-ACID-PROPYL-ESTER	Seed				--
0	2-(4-ALLYL-2,6-DIMETHOXYPHENOXY)-1-(4-ACETOXY-3-METHOXYPHENYL)-ACETIC-ACID-PROPYL-ESTER	Seed				--
0	2-(4-ALLYL-2,6-DIMETHOXYPHENOXY)-1-(4-HYDROXY-3-METHOXYPHENYL)-1-PROPANOL	Plant				--
0	3-METHYL-ACETATE-DEC-4-EN-1-OL	Essential Oil				--
0	3-METHYL-DEC-4-EN-1-OL	Essential Oil				--
0	5-METHOXYDEHYDRODI-ISOEUGENOL	Aril				Chemical Constituents of Oriental Herbs (3 diff. books)
0	5-METHOXYDEHYDRODI-ISOEUGENOL	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
0	5-METHOXYEUGENOL	Essential Oil				--
0	6-METHOXYDIHYDROISOEUGENOL	Plant				--
16	ACETIC-ACID	Seed				--
16	ACETIC-ACID	Seed Essent. Oil				--
0	ALPHA-BERGAMOTENE	Essential Oil		20000.0	1.0	--
0	ALPHA-COPAENE	Essential Oil		3000.0	-0.5161346064767478	--
0	ALPHA-CUBEBENE	Essential Oil		10000.0	-0.2093041191378593	--
0	ALPHA-FARNESENE	Essential Oil		40000.0		--
2	ALPHA-HUMULENE	Essential Oil		30000.0	-0.20980400443514668	--
11	ALPHA-PHELLANDRENE	Leaf Essent. Oil				--
11	ALPHA-PHELLANDRENE	Seed Essent. Oil	4000.0	10000.0	1.1900603576383573	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
11	ALPHA-PHELLANDRENE	Seed	180.0	1440.0	-0.46169629087131775	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
11	ALPHA-PHELLANDRENE	Essential Oil	7000.0	16000.0	-0.28335092930230876	--
28	ALPHA-PINENE	Seed				--
28	ALPHA-PINENE	Essential Oil	132000.0	265000.0	1.7717899589754602	--
28	ALPHA-PINENE	Leaf Essent. Oil				--
28	ALPHA-PINENE	Seed Essent. Oil	106000.0	265000.0	1.0864685364033468	--
13	ALPHA-TERPINENE	Seed	400.0	3200.0	1.9998919730740246	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
13	ALPHA-TERPINENE	Essential Oil	14000.0	42000.0	0.4005162309634348	--
13	ALPHA-TERPINENE	Seed Essent. Oil	8000.0	40000.0	1.5419966835859091	--
23	ALPHA-TERPINEOL	Seed Essent. Oil	50000.0	77000.0	-0.24509218035216662	--
23	ALPHA-TERPINEOL	Seed	120.0	9600.0	2.4318339377092832	--
23	ALPHA-TERPINEOL	Essential Oil	6000.0	14000.0	-0.15304926088773244	--
0	ALPHA-TERPINEOL ACETATE	Essential Oil				--
0	ALPHA-THUJENE	Seed Essent. Oil		30000.0	1.0	--
0	ALPHA-THUJENE	Seed				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
0	AMYLODEXTRIN	Seed		250000.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
2	ARSENIC	Seed		0.01	-0.7399437215016571	Chen, H.C. and Lin, S.M. 1988. Determination of Mineral Elements in Certain Crude Drugs (Part 1), Kaohsiung J. Med. Sci., 4: 259-272.
6	BETA-BISABOLENE	Essential Oil				--
0	BETA-CARYOPHYLLENE	Seed Essent. Oil				--
0	BETA-CARYOPHYLLENE	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	BETA-PHELLANDRENE	Seed Essent. Oil		34000.0	0.31642638473198437	--
3	BETA-PHELLANDRENE	Essential Oil		20000.0	0.6280219486295257	--
13	BETA-PINENE	Leaf Essent. Oil				--
13	BETA-PINENE	Seed				--
13	BETA-PINENE	Seed Essent. Oil	78000.0	191000.0	0.5792140753710214	--
13	BETA-PINENE	Essential Oil	80000.0	150000.0	2.600267389132106	--
47	BETA-SITOSTEROL	Seed		460.0	-0.4544572566816562	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
47	BETA-SITOSTEROL	Aril		560.0		Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
3	BETA-TERPINEOL	Seed Essent. Oil				--
35	BORNEOL	Essential Oil				--
0	BORNEOL-ACETATE	Essential Oil				--
0	BORNEOL-ACETATE	Seed Essent. Oil		9000.0	-1.0	--
4	BORON	Seed	3.0	13.0	-0.527070146985773	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).
6	BUTYRIC-ACID	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
102	CAFFEIC-ACID	Plant		16.0	-1.0832422412570573	--
28	CALCIUM	Seed	1110.0	2000.0	-0.3942068364194249	--
28	CALCIUM	Aril		2400.0	1.0290157581919714	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
2	CAMPESTEROL	Seed		30.0	-0.5601817141925177	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	CAMPESTEROL	Aril		60.0		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	Seed	80.0	640.0	0.6230692441110584	--
9	CAMPHENE	Leaf Essent. Oil				--
9	CAMPHENE	Seed Essent. Oil	2000.0	4000.0	-0.09681853268597942	--
9	CAMPHENE	Essential Oil	2000.0	4000.0	-0.5737485608606457	--
41	CAMPHOR	Seed Essent. Oil		34000.0	-1.0	--
5	CAPRYLIC-ACID	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	CAR-3-ENE	Seed Essent. Oil		24000.0	1.0	--
0	CAR-3-ENE	Essential Oil		14000.0	-0.8351766229639247	--
0	CARBOHYDRATES	Seed		285000.0	-0.9474588511223264	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	CARBOHYDRATES	Aril		478000.0	-0.26538621350296304	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
31	CARYOPHYLLENE	Essential Oil				--
1	CATECHINS	Seed				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	CEROTIC-ACID	Seed				--
0	CEROTINIC-ACID	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
24	CHROMIUM	Seed		16.4	1.7067997322516597	--
24	CHROMIUM	Aril		13.2		--
0	CIS-ISOELEMICIN	Seed Essent. Oil				--
0	CIS-ISOELEMICIN	Essential Oil				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	CIS-P-MENT-2-EN-1-OL	Seed	20.0	160.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	CIS-PIPERITOL	Essential Oil	1000.0	12000.0	1.0	--
0	CIS-PIPERITOL	Seed Essent. Oil	1000.0	6000.0		--
0	CIS-PIPERITOL	Seed	20.0	160.0		--
0	CIS-SABINENE-HYDRATE	Seed Essent. Oil	2000.0	7000.0	1.0	--
0	CIS-SABINENE-HYDRATE	Essential Oil	2000.0	5000.0	-1.0	--
0	CIS-SABINENE-HYDRATE	Seed				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
15	CITRONELLOL	Essential Oil				--
15	CITRONELLOL	Seed Essent. Oil				--
0	CITRONELLOL-ACETATE	Essential Oil				--
2	COBALT	Seed		0.6	-0.1799211298921931	--
2	COBALT	Aril		0.4		--
1	COPAENE	Seed Essent. Oil	2000.0	3000.0		--
1	COPAENE	Seed				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.
1	COPAENE	Essential Oil	2000.0	8000.0	1.4001731038549101	--
12	COPPER	Seed	10.0	21.0	0.5610574180917248	--
12	COPPER	Aril	6.0	25.0		--
7	CYANIDIN	Plant				--
7	CYANIDIN	Seed				--
0	CYMENE	Seed				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	D-ALPHA-PINENE	Seed	2600.0	64000.0		--
0	D-BETA-PINENE	Seed	1800.0	64000.0		--
4	D-BORNEOL	Seed	4200.0	25600.0		--
0	DEHYDRODIISOEUGENOL	Fruit				--
3	DEHYDROISOEUGENOL	Seed				--
3	DEHYDROISOEUGENOL	Plant				--
9	DELPHINIDIN	Seed				--
9	DELTA-CADINENE	Essential Oil				--
0	DIARYLPROPANOIDS	Seed				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
7	DIPENTENE	Seed	3200.0	12800.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	DL-ALPHA-PINENE	Seed Essent. Oil		30000.0		--
0	DL-DEHYDROISOEUGENOL	Aril				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	DL-LIMONENE	Seed Essent. Oil	26000.0	80000.0		--
3	ELEMENE	Aril				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.
16	ELEMICIN	Fruit				--
16	ELEMICIN	Seed Essent. Oil	1000.0	21000.0		--
16	ELEMICIN	Essential Oil	1000.0	12000.0	1.0	--
16	ELEMICIN	Seed	20.0	4000.0	1.3156336050888344	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	EO	Seed	20000.0	160000.0	1.4722054513334344	--
0	EO	Leaf	4100.0	6200.0	-0.46926829500195555	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	EO	Bark		1400.0	-0.8428135102947424	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	EO	Aril	40000.0	150000.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
76	EUGENOL	Essential Oil	2000.0	3000.0	-0.7024628939882881	--
76	EUGENOL	Seed Essent. Oil	1000.0	38000.0		--
76	EUGENOL	Seed	40.0	320.0	-0.9281295905730291	--
5	EUGENOL-METHYL-ETHER	Fruit				--
5	EUGENOL-METHYL-ETHER	Seed				--
5	EUGENOL-METHYL-ETHER	Seed Essent. Oil	1000.0	6000.0		--
5	EUGENOL-METHYL-ETHER	Essential Oil	1000.0	3000.0	-0.6504264790408124	--
0	FAT	Aril	244000.0	324000.0	-0.0012580836022265188	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	FAT	Seed	250000.0	400000.0	0.7090517076840918	--
1	FENCHYL-ALCOHOL	Essential Oil				--
15	FIBER	Seed	40000.0	116000.0	-0.1482807912686459	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	FIBER	Aril	38000.0	48000.0	-0.5756191235157304	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
13	FORMIC-ACID	Seed Essent. Oil				--
13	FORMIC-ACID	Seed				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
6	FURFURAL	Seed		15000.0	-1.0	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	FURFUROL	Seed		15000.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
11	GAMMA-TERPINENE	Seed Essent. Oil	19000.0	68000.0	0.310243679218955	--
11	GAMMA-TERPINENE	Essential Oil	21000.0	47000.0	-0.18034222798075647	--
11	GAMMA-TERPINENE	Seed	580.0	4640.0	0.008532146585622945	--
8	GENTISIC-ACID	Leaf				Griffiths, L. A. 1959. On the Distribution of Gentisic Acid in Green Plants. J. Exp. Biol. 10: 437.
35	GERANIOL	Seed Essent. Oil	36000.0	119000.0	1.166054423172743	--
35	GERANIOL	Seed				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
35	GERANIOL	Essential Oil				--
0	GERANIOL-ACETATE	Seed Essent. Oil				--
0	GERANIOL-ACETATE	Essential Oil				--
5	GERANYL-ACETATE	Seed	20.0	160.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
2	GERMACRENE-D	Essential Oil				--
7	GLUCOSE	Seed				--
0	GLYCERYL-TRIMYRISTATE	Seed Essent. Oil				--
0	GLYCERYL-TRIMYRISTATE	Essential Oil				--
0	GLYCERYL-TRIMYRISTATE	Fruit				--
0	GUAIACIN	Aril				--
1	HEPTADECANOIC-ACID	Seed Essent. Oil				--
1	HEPTADECANOIC-ACID	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	HEXADECANOIC-ACID	Seed				CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	IPURANOL	Seed				--
6	IRON	Seed	30.0	45.0	-0.49154717004924897	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
6	IRON	Aril	126.0	140.0	0.8010516701400016	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	ISO-TRANS-EUGENOL	Essential Oil				--
3	ISOELEMICIN	Seed		150.0		CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
16	ISOEUGENOL	Seed	40.0	320.0		--
16	ISOEUGENOL	Essential Oil				--
16	ISOEUGENOL	Seed Essent. Oil	1000.0	2000.0		--
0	ISOEUGENOL-METHYL-ETHER	Seed				--
0	ISOEUGENOL-METHYL-ETHER	Essential Oil				--
75	KAEMPFEROL	Plant				--
7	LAURIC-ACID	Seed Essent. Oil				--
7	LAURIC-ACID	Seed	375.0	1600.0	-0.49798238492984703	--
2	LICARIN-A	Aril				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
1	LICARIN-B	Seed				--
60	LIMONENE	Seed	720.0	5760.0	-0.35141280144595843	--
60	LIMONENE	Essential Oil	36000.0	44000.0	-0.4838069631863494	--
60	LIMONENE	Seed Essent. Oil	31000.0	119000.0	-0.37380387125652204	--
60	LIMONENE	Leaf Essent. Oil				--
0	LINALOL	Seed				--
53	LINALOOL	Seed Essent. Oil	2000.0	106000.0	-0.16178245106593325	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
53	LINALOOL	Seed				--
53	LINALOOL	Essential Oil	2000.0	10000.0	-0.538306617674772	--
0	LINALOOL-ACETATE	Essential Oil				--
0	LINALOOL-ACETATE	Seed Essent. Oil		15000.0	-0.7126157804476506	--
27	LINOLEIC-ACID	Seed	0.0	6000.0	-0.8664250199668236	--
0	MACILENIC-ACID	Aril		50000.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	MACILOLIC-ACID	Aril		50000.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
65	MAGNESIUM	Aril		1630.0		CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
65	MAGNESIUM	Seed	1830.0	2030.0	-0.36194664273049376	--
4	MALABARICONE-B	Seed		172.0		--
4	MALABARICONE-C	Seed		172.0		--
14	MANGANESE	Seed	23.0	29.0	-0.30545615474189847	--
14	MANGANESE	Aril		14.0		--
0	METHOXYEUGENOL	Seed		400.0		CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
20	METHYL-EUGENOL	Seed	20.0	900.0		--
15	METHYL-ISOEUGENOL	Seed		550.0		CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
22	MYRCENE	Seed	740.0	5920.0	2.345991167533613	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
22	MYRCENE	Essential Oil	16000.0	37000.0	0.041079332889888936	--
22	MYRCENE	Seed Essent. Oil	25000.0	38000.0	-0.3184704257903154	--
6	MYRISTIC-ACID	Seed	60.0	320000.0	3.8930735310997324	--
6	MYRISTIC-ACID	Essential Oil				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
6	MYRISTIC-ACID	Seed Essent. Oil		3000.0	-1.0	--
31	MYRISTICIN	Leaf	410.0	620.0	-0.5531219396450161	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
31	MYRISTICIN	Leaf Essent. Oil				--
31	MYRISTICIN	Fruit				--
31	MYRISTICIN	Seed Essent. Oil	5000.0	124000.0	1.0	--
31	MYRISTICIN	Essential Oil	9000.0	140000.0	-1.0	--
31	MYRISTICIN	Seed	800.0	12800.0	0.5261119980916963	--
10	NEROL	Essential Oil				--
0	NEROL-ACETATE	Essential Oil				--
5	OCTANOIC-ACID	Seed Essent. Oil				--
64	OLEANOLIC-ACID	Seed				Chemical Constituents of Oriental Herbs (3 diff. books)
18	OLEIC-ACID	Seed	13000.0	176000.0	0.46772312643074876	--
18	OLEIC-ACID	Seed Essent. Oil				--
25	P-COUMARIC-ACID	Seed		7.0	-0.5214490785338048	--
0	P-CYMEN-8-OL	Essential Oil				--
16	P-CYMENE	Seed Essent. Oil	6000.0	43000.0	0.477275515406428	--
16	P-CYMENE	Essential Oil	5000.0	8000.0	-0.5673446390180718	--
16	P-CYMENE	Leaf Essent. Oil				--
16	P-CYMENE	Seed	120.0	960.0	-0.48494618071752577	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	P-MENTH-CIS-2-EN-1-OL	Seed Essent. Oil	1000.0	4000.0		--
0	P-MENTH-CIS-2-EN-1-OL	Essential Oil	1000.0	3000.0		--
0	P-MENTH-TRANS-2-EN-1-OL	Essential Oil				--
0	P-MENTH-TRANS-2-ENE-1,4-DIOL	Essential Oil				--
13	PALMITIC-ACID	Seed	25000.0	128000.0	1.9414542745504888	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
13	PALMITIC-ACID	Seed Essent. Oil				--
24	PECTIN	Seed	5000.0	6000.0	-0.9783303927231646	--
1	PENTADECANOIC-ACID	Seed Essent. Oil				--
1	PENTADECANOIC-ACID	Seed				--
0	PENTOSANS	Seed		22500.0	-1.1707496009868077	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
4	PHOSPHORUS	Seed	2130.0	2400.0	-0.7804502800829126	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
4	PHOSPHORUS	Aril	1000.0	1100.0	-1.325160187171999	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
2	PHYTOSTEROLS	Seed		620.0	-0.4806663138594772	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
2	PHYTOSTEROLS	Aril		730.0		CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
12	PINENE	Seed				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
14	POTASSIUM	Seed	3500.0	5210.0	-0.6472690069248516	--
14	POTASSIUM	Aril		4630.0		CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	PROANTHOCYANINS	Seed				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	PROTEIN	Seed	58000.0	75000.0	-1.4125732576232573	--
0	PROTEIN	Aril	65000.0	67000.0	-0.49678642491889624	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
176	QUERCETIN	Plant				--
15	RIBOFLAVIN	Aril	4.0	5.0	1.3970013970020942	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
15	RIBOFLAVIN	Seed	0.0	1.0	-0.9674166926890354	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
5	SABINENE	Essential Oil	210000.0	420000.0	2.3799502610756456	--
5	SABINENE	Seed Essent. Oil	178000.0	507000.0	2.2344499180505175	--
5	SABINENE	Seed	5420.0	62400.0	2.448238521283371	--
29	SAFROLE	Essential Oil	1000.0	33000.0		--
29	SAFROLE	Seed Essent. Oil	1000.0	60000.0		--
29	SAFROLE	Seed	120.0	2720.0		--
7	SALICYLATES	Seed	2.0	25.0	-0.20604527298924552	--
7	SALICYLATES	Aril	30.0	320.0		--
5	SCLAREOL	Seed				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
1	SODIUM	Seed	109.0	160.0	-0.4617295086785716	--
1	SODIUM	Aril		800.0		CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
5	STARCH	Seed		300000.0	-0.04114411632752793	Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
5	STARCH	Aril		317000.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
8	STEARIC-ACID	Seed				--
8	STEARIC-ACID	Seed Essent. Oil				--
12	STIGMASTEROL	Seed		130.0	-0.3650596814937978	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
12	STIGMASTEROL	Aril		110.0		Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
23	TERPINEN-4-OL	Seed	600.0	4800.0	1.9180648061337349	--
23	TERPINEN-4-OL	Seed Essent. Oil	30000.0	247000.0	1.729953772502488	--
23	TERPINEN-4-OL	Essential Oil	30000.0	63000.0	-0.0049821192011661975	--
0	TERPINEN-4-OL-ACETATE	Essential Oil	1000.0	2000.0	-1.0	--
0	TERPINEN-4-OL-ACETATE	Seed Essent. Oil		1000.0		--
0	TERPINEN-4-YL-ACETATE	Seed	20.0	160.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
18	TERPINEOL	Seed				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
9	TERPINOLENE	Essential Oil	10000.0	17000.0	-0.26806226806153055	--
9	TERPINOLENE	Seed	340.0	2720.0	1.6783192383826524	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
9	TERPINOLENE	Seed Essent. Oil	14000.0	26000.0	1.7063760230495335	--
31	THIAMIN	Seed	3.0	4.0	-0.6165338688916807	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
31	THIAMIN	Aril		3.0	0.23017413505937473	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	TRANS-ISOELEMICIN	Seed Essent. Oil		1000.0		--
0	TRANS-ISOELEMICIN	Essential Oil				--
0	TRANS-ISOEUGENOL	Essential Oil				--
0	TRANS-ISOEUGENOL-METHYL-ETHER	Essential Oil				--
0	TRANS-PIPERITOL	Essential Oil				--
0	TRANS-SABINENE-HYDRATE	Seed Essent. Oil	3000.0	8000.0	1.0	--
0	TRANS-SABINENE-HYDRATE	Essential Oil	3000.0	9000.0	-1.0	--
0	TRANS-SABINENE-HYDRATE	Seed	60.0	480.0	1.0	--
2	TRIDECANOIC-ACID	Seed Essent. Oil				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	TRIDECANOIC-ACID	Seed				--
0	TRIMYRISTIN	Essential Oil				--
0	TRIMYRISTIN	Seed				--
28	VANILLIN	Essential Oil				--
0	WATER	Seed	62000.0	143000.0	-0.3246727321556146	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	WATER	Aril	82000.0	159000.0	-1.3837024488653438	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
77	ZINC	Seed	13.0	20.0	-0.7135039207289134	--
77	ZINC	Aril		20.0		CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses