

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Pimpinella anisum*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
36	ANETHOLE	Seed Essent. Oil	800000.0	900000.0	1.0	--
8	TRANS-ANETHOLE	Shoot Essent. Oil		875000.0	1.0	--
8	TRANS-ANETHOLE	Leaf Essent. Oil		825000.0	0.6789462696628319	--
12	ESTRAGOLE	Essential Oil		815000.0	0.5522423148479244	--
8	TRANS-ANETHOLE	Seed Essent. Oil		752000.0	-1.0	--
0	CARBOHYDRATES	Seed	453000.0	552000.0	0.1136530896320493	--
0	CARBOHYDRATES	Fruit	509000.0	552000.0	-1.234642982477675	--
0	PETROSELINIC-ACID	Seed	18800.0	489000.0	-0.22397009450778158	--
0	FAT	Fruit	176000.0	304000.0	1.680675457417445	--
0	FAT	Seed	80000.0	304000.0	0.20338536856170333	--
15	FIBER	Seed	120000.0	250000.0	0.9098060948305273	--
18	OLEIC-ACID	Seed	44800.0	217000.0	0.8047671994532317	--
0	PROTEIN	Fruit	188000.0	213000.0	1.3874820780316992	--
0	PROTEIN	Seed	188000.0	213000.0	-0.1849917904537036	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	PREGEIJERENE	Root Essent. Oil		164000.0		--
15	FIBER	Fruit		161000.0	0.1823469556561799	--
0	EO	Seed	6100.0	140000.0	1.219367244545378	--
8	TRANS-ANETHOLE	Seed	14000.0	126000.0	1.1233240836084317	--
0	WATER	Seed	95000.0	110000.0	-0.45130749753349714	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	ASH	Seed	60000.0	100000.0	1.5676426558251149	--
8	TRANS-ANETHOLE	Essential Oil		98000.0	-0.9178041314476871	--
0	ASH	Fruit	66000.0	77000.0	0.526613994855476	--
0	EO	Plant	10000.0	60000.0	3.819765018088099	--
8	TRANS-ANETHOLE	Plant	14000.0	54000.0	2.4367165173216563	--
27	LINOLEIC-ACID	Seed	13700.0	52000.0	-0.47229245316140794	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	SUGAR	Seed	30000.0	50000.0	-0.33796445974687406	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
5	STARCH	Seed		50000.0	-1.0534998914823648	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
12	ESTRAGOLE	Seed Essent. Oil		40000.0	-1.2234041605170691	--
6	FURFURAL	Fruit		30000.0	1.4142119041181418	--
6	FURFURAL	Seed		30000.0	1.0	--
44	SCOPOLETIN	Tissue Culture		25000.0		--
14	POTASSIUM	Fruit		15923.0	-0.1763728036379452	--
14	POTASSIUM	Seed	14410.0	15923.0	0.2948697302111889	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	4-METHOXY-2-(PROP-TRANS-1-ENYL)-PHENYL-(DL)-2-METHYL-BUTANOATE	Shoot Essent. Oil		15000.0		--
13	PALMITIC-ACID	Seed	2560.0	9730.0	-0.4988395784388936	--
0	4-(BETA-D-GLUCOPYRANOSYLOXY)-BENZOIC-ACID	Seed		9000.0	1.4141463884894743	--
28	CALCIUM	Seed	6460.0	7843.0	0.6789065535817028	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
28	CALCIUM	Fruit	7138.0	7843.0	0.9199755165775227	--
26	BERGAPTEN	Tissue Culture		5000.0		--
22	UMBELLIFERONE	Tissue Culture		5000.0		--
4	PHOSPHORUS	Fruit		4862.0	0.4999573159709243	--
4	PHOSPHORUS	Seed	4400.0	4862.0	-0.12984457940531013	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
0	CARVENE	Seed		4240.0		--
0	CARVENE	Fruit		4240.0		--
0	KILOCALORIES	Seed	3370.0	4150.0	-0.5547236655567672	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
20	CHOLINE	Seed		3950.0	2.1437280155533487	--
0	PSEUDOISOEUGENOL-(2-METHYL-BUTYRATE)	Seed	500.0	3000.0		Wichtl, M. 1984. Teedrogen. Ein Handbuch für Apotheker und Ärzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
102	CAFFEIC-ACID	Seed		2060.0	1.1988438057610096	--
7	ANISALDEHYDE	Seed	140.0	1960.0	1.383989134171019	--
65	MAGNESIUM	Fruit		1878.0	-0.11656878374939247	--
65	MAGNESIUM	Seed		1878.0	-0.42200084611180505	--
2	ANISYL-ALCOHOL	Fruit	100.0	1750.0	1.0	--
2	ANISYL-ALCOHOL	Seed	100.0	1750.0		--
0	LUTEOLIN-7-O-BETA-D-XYLOSIDE	Seed		1580.0		--
3	CYNAROSIDE	Seed		1280.0	1.0	--
78	LUTEOLIN	Seed		1250.0		--
0	GAMMA-HIMACHALENE	Seed	200.0	1200.0		Wichtl, M. 1984. Teedrogen. Ein Handbuch für Apotheker und Ärzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
6	METHYL-CHAVICOL	Seed	100.0	1200.0	-0.32819721111182903	--
6	METHYL-CHAVICOL	Fruit		1050.0	-0.5040863930849152	--
77	CHLOROGENIC-ACID	Seed		1000.0	-0.58319807588173	--
25	P-COUMARIC-ACID	Seed		737.0	1.636780984285061	--
0	ANISKETONE	Fruit		731.0		--
0	ANISKETONE	Seed		731.0		--
60	LIMONENE	Fruit	25.0	459.0	-0.6843754806519635	--
60	LIMONENE	Seed	25.0	459.0	-0.7313417774490227	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
6	IRON	Seed	348.0	409.0	1.1997083472388452	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
6	IRON	Fruit	391.0	409.0	1.0949045836323292	--
4	PHELLANDRENE	Fruit		408.0		--
4	PHELLANDRENE	Seed		408.0		--
28	ALPHA-PINENE	Seed	1.0	306.0	-0.47075335776323696	--
28	ALPHA-PINENE	Fruit	1.0	306.0	-0.6388928640672148	--
7	ANISALDEHYDE	Fruit		300.0	-1.3470948397420839	--
0	ISOCHAVIBETOL	Seed		250.0		--
0	ISOCHAVIBETOL	Fruit		250.0		--
7	SALICYLATES	Seed	30.0	230.0	0.8938405258857307	--
1	CIS-ANETHOLE	Fruit		200.0	-0.20203050891044272	--
3	AR-CURCUMENE	Fruit		200.0		--
3	AR-CURCUMENE	Seed		200.0		Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
1	CIS-ANETHOLE	Seed		200.0	-1.0	--
1	SODIUM	Seed	160.0	177.0	-0.43474340055439425	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
1	SODIUM	Fruit		177.0	-0.16716607524173246	--
9	CAMPHENE	Seed		119.0	-1.1787017615236954	--
9	CAMPHENE	Fruit		119.0	-0.30245730401923043	--
0	ACETOANISOLE	Seed		100.0		--
0	ACETOANISOLE	Fruit		100.0		--
19	ACETYL-CHOLINE	Seed		64.0	-0.30258926220331656	--
77	ZINC	Seed		59.0	0.39371381474900113	--
77	ZINC	Fruit		59.0	0.8634181201998136	--
53	LINALOOL	Seed		50.0	-0.5278640443024313	--
0	LINALOL	Fruit		50.0	-0.631067806170924	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	CIS-OCIMENE	Fruit		25.0	-1.0	--
3	CIS-OCIMENE	Seed		25.0	-1.0	--
14	MANGANESE	Fruit		23.0	-0.25187849029896653	--
14	MANGANESE	Seed		23.0	-0.38019666348740133	USDA's Ag Handbook 8 and sequelae)
4	BORON	Fruit		20.0	-0.4012297753721551	--
4	BORON	Seed		20.0	-0.19502544137632458	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).
12	COPPER	Seed		9.0	-0.5274011339177476	USDA's Ag Handbook 8 and sequelae)
112	ASCORBIC-ACID	Seed	8.0	9.0	-0.33305350561319974	--
112	ASCORBIC-ACID	Fruit	8.0	9.0	-0.2839294125391348	--
13	BETA-PINENE	Fruit		1.0	-0.2978113268433539	--
13	BETA-PINENE	Seed		1.0	-0.6922432681985977	--
23	ALPHA-TERPINEOL	Seed		1.0	-0.5030431687010171	--
5	SABINENE	Fruit		1.0	-0.5352886500488243	--
5	SABINENE	Seed		1.0	-0.44137425565894484	--
23	ALPHA-TERPINEOL	Fruit		1.0	-0.40768751823050187	--
0	ABSCISIC-ACID	Seed		0.2	0.09148552676223409	--
1	DIANETHOLE	Fruit				--
4	ISOVITEXIN	Seed				--
0	411/	Plant				--
0	HYDROQUINONE-METHYL-ETHER	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
3	SESELIN	Leaf				--
1	CIS-ANETHOLE	Essential Oil				--
71	THYMOL	Essential Oil				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	ALPHA-TOCOQUINONE	Tissue Culture				--
76	EUGENOL	Essential Oil				--
176	QUERCETIN	Seed				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
0	PRISTANE	Plant				--
0	PHOTOANETHOLE	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.
9	CAMPHENE	Essential Oil				--
2	QUERCETIN-3-O-BETA-D-GLUCURONIDE	Seed				--
0	PSEUDOISOEUGENOL-(2-METHYL-BUTYRATE)	Shoot				--
5	CRESOL	Plant				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
32	HYDROQUINONE	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	PHOTOANETHOLE	Fruit				--
7	D-CARVONE	Plant				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.
4	ISOORIENTIN	Seed				--
0	4-METHOXY-2-(TRANS-1-PROPENYL)-PHENYL-2-METHYLBUTYRATE	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
76	EUGENOL	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
44	SCOPOLETIN	Leaf				--
1	CIS-ANETHOLE	Seed Essent. Oil				--
29	SAFROLE	Essential Oil				--
32	ALPHA-TOCOPHEROL	Leaf				--
0	1-(1-METHYL-CYCLOHEXYL)-2-HYDROXY-4-METHYL-BENZENE-METHYL-CHAV	Plant				--
10	5-METHOXY-PSORALEN	Seed				--
0	1,4-BENZOQUINONE	Leaf				--
0	COUMARINS	Seed				Wichtl, M. 1984. Teedrogen. Ein Handbuch für Apotheker und Ärzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
0	GAMMA-HIMACHALENE	Plant				--
31	MYRISTICIN	Seed				--
0	4-(BETA-D-GLUCOPYRANOSYLOXY)-BENZOIC-ACID	Plant				--
0	CAFFEYOYLQUINIC-ACID	Seed				--
44	SCOPOLETIN	Fruit				--
36	ANETHOLE	Tissue Culture				--
0	PLASTOHYDROQUINONE-9	Leaf				--
0	LUTEOLIN-7-GLYCOSIDE	Plant				--
32	ALPHA-TOCOPHEROL	Root				--
0	BETA-FARNESENE	Plant				--
1	P-METHOXYPHENYLACETONE	Seed				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
6	ANISIC-ACID	Fruit				--
0	1,4-BENZOQUINONE	Root				--
0	BISABOLENE	Seed				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
0	PLASTOQUINONE 9	Leaf				--
31	MYRISTICIN	Tissue Culture				--
0	2,6,10,14-TETRAMETHYL-PENTADECANE	Plant				--
0	CADALENE	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
22	SCOPARONE	Leaf				--
36	ANETHOLE	Root				--
0	LUTEOLIN-7-0-XYLOSIDE	Plant				--
12	STIGMASTEROL	Tissue Culture				--
32	ALPHA-TOCOPHEROL	Tissue Culture				--
0	BETA-CARYOPHYLLENE	Plant				--
0	EO	Tissue Culture				--
0	P-ANISIC-ACID	Seed Essent. Oil				--
0	1,4-BENZOQUINONE	Tissue Culture				--
0	BETA-HIMACHALENE	Seed				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
0	PLASTOQUINONE 9	Root				--
1	P-METHOXYPHENYLACETONE	Plant				--
76	EUGENOL	Seed Essent. Oil				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	LUTEOLIN-7-O-BETA-D-XYLOXIDE	Seed				--
0	1-PROPENYL-2-HYDROXY-5-METHOXY-BENZENE-2-(2-METHYL-BUTYRATE)	Fruit				--
6	BUTYRIC-ACID	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
26	BERGAPTEN	Seed				--
0	ALPHA-THUJENE	Essential Oil				--
6	BETA-BISABOLENE	Plant				--
5	BETA-ELEMENE	Seed Essent. Oil				--
11	P-ANISALDEHYDE	Seed				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	UMBELLIPRENINE	Plant				--
7	ANISALDEHYDE	Essential Oil				--
0	BETA-CARYOPHYLLENE	Seed				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
0	PLASTOQUINONE 9	Tissue Culture				--
0	ANETHOL-GLYCOL	Plant				--
6	PROPIONIC-ACID	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
8	P-CRESOL	Plant				--
0	BETA-CARYOPHYLLENE	Seed Essent. Oil				--
20	CHOLINE	Plant				--
0	1-METHYL-4-ISOBUTYLBENZENE	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
10	AZULENE	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
87	RUTIN	Fruit				--
36	ANETHOLE	Shoot				--
53	LINALOOL	Seed Essent. Oil				--
4	ISOVITEXIN	Fruit				--
44	SCOPOLETIN	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.
18	TERPINEOL	Essential Oil				--
9	BETA-AMYRIN	Plant				--
6	BETA-BISABOLENE	Essential Oil				--
0	LUTEOLIN-7-O-XYLOSIDE	Plant				--
43	XANTHOTOXIN	Seed				--
22	UMBELLIFERONE	Fruit				--
101	APIGENIN	Seed				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
76	EUGENOL	Plant				--
0	PLASTOHYDROQUINONE-9	Root				--
1	ALPHA-ZINGIBERENE	Plant				--
0	P-CREOSOL	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
77	CHLOROGENIC-ACID	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	GLUCINOL	Tissue Culture				--
0	1-METHYL-4-(1-PROPENYL)-BENZENE	Plant				--
0	TRANS-ALPHA-BERGAMOTENE	Seed Essent. Oil				--
0	QUERCETIN-GLUCOSIDES	Fruit				--
36	ANETHOLE	Seed				--
60	LIMONENE	Essential Oil				--
4	ISOORIENTIN	Plant				--
13	ALPHA-TERPINENE	Essential Oil				--
26	BERGAPTEN	Fruit				--
6	CINNAMYL-ALCOHOL	Seed Essent. Oil				--
15	ISOPIMPINELLIN	Root				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	VITAMIN-K-1	Leaf				--
0	ANISYL KETONE	Seed Essent. Oil				--
12	ESTRAGOLE	Fruit				--
0	PLASTOHYDROQUINONE-9	Tissue Culture				--
6	MYRISTIC-ACID	Seed				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
31	MYRISTICIN	Plant				--
2	APIGENIN-7-O-GLUCOSIDE	Seed				--
0	BETA-FARNESENE	Seed				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
0	1-(1-METHYL-CYCLOHEXYL)-2-HYDROXY-4-METHYL-BENZENE-MET.-CHAV	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	STIGMASTEROL- STEARATE	Seed				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
0	QUERCETIN-3- GLUCURONIDE	Plant				--
36	ANETHOLE	Essential Oil				--
60	LIMONENE	Seed Essent. Oil				--
87	RUTIN	Seed				--
0	4-4'-DIMETHOXY-STILBENE	Seed Essent. Oil				--
60	CINNAMALDEHYDE	Seed Essent. Oil				--
12	ESTRAGOLE	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.
0	VITAMIN-K-1	Root				--
6	ANISIC-ACID	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.
0	EPOXY- PSEUDOISOEUGENOL-(2- METHYL-BUTYRATE)	Plant				--
0	4-METHOXY-2-(TRANS-1- PROPENYL)-PHENYL-2- METHYLBUTYRATE	Seed				--
28	ALPHA-PINENE	Essential Oil				--
2	LUTEOLIN-7-O-GLUCOSIDE	Seed				--
12	STIGMASTEROL	Plant				--
0	MYRICANOL	Root				--
0	FOENICULIN	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	STIGMASTEROL-PALMITATE	Seed				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
0	PSEUDOISOEUGENOL-(2-METHYL-BUTYRATE)	Plant				--
1	ISOCARYOPHYLLENE	Plant				--
0	QUERCETIN-GLUCOSIDES	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.
47	BETA-SITOSTEROL	Tissue Culture				--
0	DIHYDROCARVONE-ACETATE	Seed Essent. Oil				--
0	VITAMIN-K-1	Tissue Culture				--
36	ANETHOLE	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
10	SQUALENE	Plant				--
6	ACETALDEHYDE	Seed				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
0	ALPHA-TOCOQUINONE	Leaf				--
1	DIANETHOLE	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.
6	FENCHONE	Seed Essent. Oil				--
12	STIGMASTEROL	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
9	BETA-AMYRIN	Seed				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
19	CARVONE	Seed Essent. Oil				--
6	ANISIC-ACID	Essential Oil				--
10	CHAMAZULENE	Essential Oil				--
0	DIANISOIN	Seed				Wichtl, M. 1984. Teedrogen. Ein Handbuch für Apotheker und Ärzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
1	DIHYDROCARVYL-ACETATE	Plant				--
4	PHELLANDRENE	Seed Essent. Oil				--
6	ACETALDEHYDE	Fruit				--
0	ALPHA-HIMACHALENE	Seed				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
18	MANNITOL	Root				--
22	UMBELLIFERONE	Seed				--
0	ALPHA-TOCOQUINONE	Root				--
102	CAFFEIC-ACID	Plant				--
0	PSEUDOISOEUGENOL-(2-METHYL-BUTYRATE)	Root				--
0	PROAZULENE	Plant				--
0	UMBELLIPRENINE	Seed				--
41	CAMPHOR	Seed Essent. Oil				--
0	1-PROPENYL-2-HYDROXY-5-METHOXY-BENZENE-2-(2-METHYL-BUTYRATE)	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.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
22	ISOQUERCITRIN	Leaf				--
0	APIGENIN-7-GLUCOSIDE	Fruit				--
6	BETA-BISABOLENE	Tissue Culture				--
0	DELTA-ELEMENE	Seed				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
25	IMPERATORIN	Leaf				--