

**Dr. Duke's Phytochemical and Ethnobotanical Database**

**Chemicals Found in Coriandrum sativum**

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	(-)-BORNEOL	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	-1	
10	5-METHOXY-PSORALEN	Fruit	--	--		
16	ACETIC-ACID	Fruit	1	1	-0.6428126249807119	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
19	ACETYL-CHOLINE	Seed	--	43	-0.7564731555082913	
3	ALANINE	Fruit	--	--		
11	ALPHA-PHELLANDRENE	Fruit	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
11	ALPHA-PHELLANDRENE	Essential Oil	--	--		
28	ALPHA-PINENE	Fruit	819	13780	2.8789050860769403	
28	ALPHA-PINENE	Seed Essent. Oil	11400	52980	-0.3763795265608634	
28	ALPHA-PINENE	Essential Oil	--	--		
13	ALPHA-TERPINENE	Fruit	1	15	-0.37657545814518684	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
13	ALPHA-TERPINENE	Seed Essent. Oil	200	19700	0.21421162836665333	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
13	ALPHA-TERPINENE	Essential Oil	--	--		
23	ALPHA-TERPINEOL	Fruit	36	44	-0.3723049247176171	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
23	ALPHA-TERPINEOL	Seed Essent. Oil	--	23200	-0.591786991122015	
23	ALPHA-TERPINEOL	Essential Oil	--	--		
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	Leaf	--	--		
14	ARGININE	Fruit	--	--		
112	ASCORBIC-ACID	Leaf	780	6290	0.13971175200302013	
112	ASCORBIC-ACID	Fruit	--	920	-0.22728617216267144	
3	ASPARTIC-ACID	Fruit	--	--		
26	BERGAPTEN	Fruit	--	--		
53	BETA-CAROTENE	Leaf	29	228	-0.14501134388228565	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
53	BETA-CAROTENE	Seed	--	--	-0.42930857989782434	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	BETA-PHELLANDRENE	Fruit	1	13	-0.4703263293427	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	BETA-PHELLANDRENE	Essential Oil	--	--		
3	BETA-PHELLANDRENE	Seed Essent. Oil	400	18600	-0.3304275521980012	
13	BETA-PINENE	Fruit	69	83	-0.2951842276648527	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
13	BETA-PINENE	Essential Oil	--	--		
13	BETA-PINENE	Seed Essent. Oil	2100	13400	-0.7558724890143567	
47	BETA-SITOSTEROL	Fruit	--	220	-0.5051872230351605	
47	BETA-SITOSTEROL	Seed	--	--		
35	BORNEOL	Fruit	2	54	-0.7079078334166587	
35	BORNEOL	Seed Essent. Oil	15500	70100		
35	BORNEOL	Essential Oil	--	--		
12	BORNYL-ACETATE	Fruit	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
4	BORON	Seed	9	29	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	Fruit	--	770	-0.1963560462638582	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
102	CAFFEIC-ACID	Leaf	--	--		
102	CAFFEIC-ACID	Shoot	--	--		
28	CALCIUM	Leaf	1330	13441	-0.34137725941345665	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
28	CALCIUM	Seed	6465	14469	1.8958241168450043	
2	CAMPESTEROL	Fruit	--	30	-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	Fruit	2	155	-0.2875286008211722	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
9	CAMPHENE	Essential Oil	--	--		
9	CAMPHENE	Seed Essent. Oil	2100	7600	1.2973683379921246	
41	CAMPHOR	Fruit	100	1300	1.6456434313757062	
41	CAMPHOR	Seed Essent. Oil	--	58300	1	
41	CAMPHOR	Essential Oil	--	--		
19	CARVONE	Fruit	21	26	-0.4990970041084822	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
31	CARYOPHYLLENE	Fruit	1	8	-0.39580267370453653	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
31	CARYOPHYLLENE	Essential Oil	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.
8	CARYOPHYLLENE-OXIDE	Seed Essent. Oil	--	3610		
77	CHLOROGENIC-ACID	Plant	305	320	-0.6800911873139804	Abstract (See species file)
77	CHLOROGENIC-ACID	Shoot	--	--		
20	CHOLINE	Seed	--	1387	-0.26859216208459646	
24	CHROMIUM	Seed	28.8	28.8	3.513354178720076	
18	CINNAMIC-ACID	Plant	40	40	1	Abstract (See species file)
3	CIS-OCIMENE	Fruit	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
15	CITRONELLOL	Fruit	--	8	-0.021396130240373637	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
15	CITRONELLOL	Seed Essent. Oil	6150	14620		
15	CITRONELLOL	Essential Oil	--	--		
2	COBALT	Fruit	0.9	0.9	-0.42616188431853125	
12	COPPER	Fruit	10	13	0.014090749380317144	
12	COPPER	Leaf	18	18	-0.2657646170188676	USDA's Ag Handbook 8 and sequelae)
1	CORIANDRIN	Shoot	4.2	106.6		
1	CORIANDRIN	Plant	--	0.5		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	CORIANDROL	Fruit	400	10250		
2	CYSTINE	Fruit	--	--		
5	DAUCOSTEROL	Seed	--	--		
1	DECAN-1-AL	Essential Oil	--	--		
1	DECAN-1-AL	Seed Essent. Oil	--	1500		
6	DILLAPIOL	Seed Essent. Oil	--	4500		
7	DIPENTENE	Fruit	--	--		
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.
3	DIPHENYLAMINE	Fruit	--	9500		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.
2	DODECANAL	Leaf	1627	1627		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
1	DODECANOL	Fruit	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
2	ELEMOL	Fruit	--	--		Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	ELEMOL	Seed Essent. Oil	--	4130		
1	ETHYL-MYRISTATE	Fruit	12	153	1	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
1	ETHYL-MYRISTATE	Essential Oil	--	--		
1	ETHYL-PALMITATE	Fruit	46	598	1.4140633715418722	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
61	FERULIC-ACID	Plant	--	11	-1.3788754333101605	
15	FIBER	Fruit	291000	319000	1.6733109057803188	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
15	FIBER	Leaf	16000	129000	-0.4023315981418849	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
8	FRUCTOSE	Fruit	--	--		
11	GAMMA-TERPINENE	Fruit	762	2626	-0.16808278013485026	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
11	GAMMA-TERPINENE	Essential Oil	--	--		
11	GAMMA-TERPINENE	Seed Essent. Oil	--	40800	-0.2831900813123795	
13	GERANIAL	Fruit	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
13	GERANIAL	Seed Essent. Oil	--	1300		
35	GERANIOL	Fruit	34	442	2.099882842620517	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
35	GERANIOL	Essential Oil	--	--		
35	GERANIOL	Seed Essent. Oil	6720	69700	0.1099647159636269	
5	GERANYL-ACETATE	Fruit	52	988	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	--	--		
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	Fruit	112	227	0.3729596362352439	
6	IRON	Leaf	30	528	0.41776327197286667	
3	ISOLEUCINE	Leaf	--	--		
3	ISOLEUCINE	Fruit	--	--		
22	ISOQUERCITRIN	Fruit	--	--		
1	ISOSCOPOLETIN	Plant	--	0.1		
2	LEUCINE	Leaf	--	--		
2	LEUCINE	Fruit	--	--		



Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
60	LIMONENE	Fruit	34	1238	-0.5726537627760642	
60	LIMONENE	Essential Oil	--	--		
60	LIMONENE	Seed Essent. Oil	15500	18950	-0.7918374700341749	
53	LINALOOL	Fruit	400	16900	2.2811487887245883	
53	LINALOOL	Essential Oil	--	568000	1.9636483678850598	
53	LINALOOL	Seed Essent. Oil	414190	742300	2.216550400992289	
27	LINOLEIC-ACID	Fruit	13030	18260	-0.09777897022873985	
27	LINOLEIC-ACID	Seed	--	132000	0.2131554891088805	
4	LYSINE	Fruit	--	--		
4	LYSINE	Leaf	--	--		
65	MAGNESIUM	Fruit	2939	4016	0.8734494335760973	USDA's Ag Handbook 8 and sequelae)
65	MAGNESIUM	Leaf	6940	7488	1.2982818168844166	USDA's Ag Handbook 8 and sequelae)
14	MANGANESE	Fruit	18	19	-0.27825396850008577	
14	MANGANESE	Leaf	64	64	-0.35348854285141834	USDA's Ag Handbook 8 and sequelae)
15	METHIONINE	Leaf	--	--		
22	MYRCENE	Fruit	13	169	-0.3581922077232703	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
22	MYRCENE	Seed Essent. Oil	--	6500	-0.6568116875911565	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
22	MYRCENE	Essential Oil	--	--		
6	MYRISTIC-ACID	Fruit	200	219	-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		
10	NEROL	Fruit	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
10	NEROL	Seed Essent. Oil	--	6150	1	
10	NEROL	Essential Oil	--	--		
11	NEROLIDOL	Fruit	14	17	-0.7181710539929176	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
39	NIACIN	Fruit	21	23	-0.5039583507406544	USDA's Ag Handbook 8 and sequelae)
39	NIACIN	Leaf	13	136	0.468288830503172	
3	NICKEL	Fruit	2.4	2.4	-0.04957166517347313	
2	OCIMENE	Fruit	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
18	OLEIC-ACID	Fruit	39930	167819	0.8126920882556948	
18	OLEIC-ACID	Seed Oil	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
18	OLEIC-ACID	Seed	--	94000	-0.20636501961421735	
9	OXALIC-ACID	Leaf	50	50	-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.
9	OXALIC-ACID	Fruit	--	120	-0.29973195119586477	
25	P-COUMARIC-ACID	Fruit	--	16	-0.700035632491875	
16	P-CYMENE	Fruit	74	728	-0.4833946204797754	
16	P-CYMENE	Seed Essent. Oil	--	900	-1.547238257753332	
16	P-CYMENE	Essential Oil	--	--		
13	P-HYDROXY-BENZOIC-ACID	Fruit	960	960	1.409967005275492	Abstract (See species file)
13	P-HYDROXY-BENZOIC-ACID	Plant	252	333	-1	Abstract (See species file)
1	P-HYDROXYCINNAMIC-ACID	Plant	--	1.1	-1.00000000000000002	
13	PALMITIC-ACID	Fruit	2160	16800	-0.10399513962361799	
13	PALMITIC-ACID	Seed Essent. Oil	--	58200		
1	PALMITIC-ACID-ETHYL-ESTER	Essential Oil	--	--		
2	PALMITOLEIC-ACID	Fruit	1000	1097	-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.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
7	PHENYLALANINE	Leaf	--	--		
7	PHENYLALANINE	Fruit	--	--		
4	PHOSPHORUS	Fruit	3907	4687	0.4468028530022447	USDA's Ag Handbook 8 and sequelae)
4	PHOSPHORUS	Leaf	720	6452	0.27240108248500583	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
2	PHYTOSTEROLS	Fruit	--	460	-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	Fruit	11866	14781	-0.27740968352885775	USDA's Ag Handbook 8 and sequelae)
14	POTASSIUM	Leaf	5600	48177	0.7874620147860205	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
43	PROTocatechuic-acid	Fruit	760	760	0.9999999999999999	Abstract (See species file)
43	PROTocatechuic-acid	Plant	167	179	0.8781551128951783	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	--	--		
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	Shoot	--	--		
176	QUERCETIN	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	QUERCETIN-3-O-BETA-D-GLUCURONIDE	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	Fruit	3	4	-0.21615825716438572	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
15	RIBOFLAVIN	Leaf	1	21	-0.07942432526480918	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
87	RUTIN	Fruit	--	--		
87	RUTIN	Shoot	--	--		
5	SABINENE	Fruit	1	83	-0.509533484990146	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
5	SABINENE	Seed Essent. Oil	--	1400	-0.4936167585696178	
5	SABINENE	Essential Oil	--	--		
44	SCOPOLETIN	Fruit	--	--		
44	SCOPOLETIN	Shoot	--	--		
1	SERINE	Fruit	--	--		
1	SODIUM	Fruit	308	430	-0.14317436938042027	USDA's Ag Handbook 8 and sequelae)
1	SODIUM	Leaf	940	7581	0.6991528552357646	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
5	STARCH	Fruit	100000	100000	-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	1207	-0.1991755963123703	USDA's Ag Handbook 8 and sequelae)
8	STEARIC-ACID	Seed Essent. Oil	--	2000		
12	STIGMASTEROL	Fruit	--	180	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	--	--		
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	80	-0.34623106760257755	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
23	TERPINEN-4-OL	Seed Essent. Oil	--	13800	-0.5326666411126562	
23	TERPINEN-4-OL	Essential Oil	--	--		
9	TERPINOLENE	Fruit	13	26	-0.5876858204442595	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
9	TERPINOLENE	Essential Oil	--	--		
9	TERPINOLENE	Seed Essent. Oil	--	5300	-0.303409676929149	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
31	THIAMIN	Fruit	2	3	-0.29859918253223444	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
31	THIAMIN	Leaf	1	16	1.6037378639175852	
4	THREONINE	Leaf	--	--		
71	THYMOL	Seed Essent. Oil	--	68140	1.4139493228546411	
1	TOLUENE	Leaf	117	117		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
8	TRANS-ANETHOLE	Fruit	1	2	-0.9957288082990997	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
1	TRIACONTAN-1-OL	Seed	--	--		
3	TRIACONTANOL	Fruit	--	--		Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
29	TRYPTOPHAN	Leaf	--	--		
8	TYROSINE	Fruit	--	--		
22	UMBELLIFERONE	Fruit	--	--		
22	UMBELLIFERONE	Shoot	--	--		
22	UMBELLIFERONE	Plant	--	0.1		
2	UNDECANAL	Fruit	1	8	1.4065369194811357	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
2	UNDECANAL	Leaf	304	304		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	VALINE	Leaf	--	--		
3	VALINE	Fruit	--	--		
24	VANILLIC-ACID	Fruit	960	960	1	Abstract (See species file)
24	VANILLIC-ACID	Plant	221	347	1.4132666574417567	Abstract (See species file)
43	XANTHOTOXIN	Fruit	--	--		
77	ZINC	Fruit	34	52	0.6528169783274335	