

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

**Chemicals Found in Citrus sinensis**

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	(E)-BETA-OCIMENE	Fruit	0.7	1	-0.795218715224166	
0	(Z)-BETA-OCIMENE	Fruit	2	3	-0.6648405774204937	
0	2'-TRANS-O-FERULOYL-GALACTARIC-ACID	Pericarp	--	--		Jim Duke's personal files.
0	2'-TRANS-O-P-COUMAROYL-GALACTARIC-ACID	Pericarp	--	--		Jim Duke's personal files.
0	2'-TRANS-O-P-COUMAROYL-GLUCARIC-ACID	Pericarp	--	--		Jim Duke's personal files.
0	2,4-TRANS,TRANS-O-FERULOYL-GLUCARIC-ACID	Pericarp	--	--		
0	2,4-TRANS-TRANS-O-DIFERULOYL-GLUCARIC-ACID	Pericarp	--	--		Jim Duke's personal files.
0	2-(METHYL-AMINO)-BENZYL-ALCOHOL	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
0	2-METHYL-1-PROPANOL	Fruit Juice	--	0.07		
0	2-METHYL-5-(1-METHYL-ETHENYL)-PYRIDINE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
0	2-METHYL-5-PHENYL-PYRIDINE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
0	2-PENTYLPYRIDINE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
0	2-PHENYL-PYRIDINE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	2-TRANS-O-FERULOYL-GLUCARIC-ACID	Pericarp	--	--		Jim Duke's personal files.
0	3,3',4,5,6,7,8-HEPTAMETHOXY-FLAVONE	Fruit	--	--		Jim Duke's personal files.
0	3,3',4,5,6,7,8-HEPTAMETHOXY-FLAVONE	Fruit Juice	--	--		Jim Duke's personal files.
0	3-(4-METHYL-HEXYL)-PYRIDINE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
0	3-(4-METHYL-PHENYL)-PYRIDINE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
0	3-(BUT-TRANS-1-ENYL)-PYRIDINE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
0	3-BUTYL-PYRIDINE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
0	3-HEPTYL-PYRIDINE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
0	3-HYDROXY-5,8-EPOXY-5,8-DIHYDRO-8'-APO-BETA-CAROTEN-8'-AL	Fruit Juice	--	--		Jim Duke's personal files.
0	3-HYDROXY-ETHYL-HEXANOATE	Fruit	--	--		Jim Duke's personal files.
0	3-HYDROXY-ETHYL-HEXANOATE	Fruit Juice	--	--		Jim Duke's personal files.
0	3-METHYL-BUT-1-ENE	Essential Oil	--	--		Jim Duke's personal files.
0	3-METHYL-BUTAN-1-OL	Fruit	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	3-METHYL-BUTAN-1-OL	Fruit Juice	--	--		Jim Duke's personal files.
0	3-METHYL-PYRIDINE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
0	3-OCTYL-PYRIDINE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
0	3-PENTYL-PYRIDINE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
0	3-PHENYL-PYRIDINE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
0	3-PROPYL-PYRIDINE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
0	4,7-DIMETHYL-BICYCLO(3.2.1)-OCT-CIS-3-EN-6-ONE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
0	4,7-DIMETHYL-BICYCLO(3.2.1)-OCT-TRANS-3-EN-6-ONE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
0	4-(3-METHYL-2-BUTENOXY)-ISO-NITROSO-ACETOPHENONE	Pericarp	48	48		Jim Duke's personal files.
0	4-PHENYL-PYRIDINE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
4	4-VINYL-GUAIACOL	Fruit Juice	--	--		Jim Duke's personal files.
0	5,6-DIHYDRO-BETA-BETA-CAROTEN-3,3',5,6-TETROL	Fruit Juice	--	--		
0	5,6-DIHYDRO-BETA-BETA-CAROTENE-3,3',5,6-TETROL	Fruit Juice	--	--		Jim Duke's personal files.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	5,8-EPOXY-5,5',8'-TETRAHYDRO-BETA-BETA-CAROTENE-3,3',5',6'-TETROL	Fruit Juice	--	--		Jim Duke's personal files.
0	5,8-EPOXY-5,5',8-TETRAHYDRO-BETA,BETA-CAROTEN-3,3',5',6'-TETROL	Plant	--	--		
0	5,8-EPOXY-5,8-DIHYDRO-10'-APO-BETA-CAROTEN-3,10'-DIOL	Fruit Juice	--	--		Jim Duke's personal files.
0	5,8-EPOXY-5,8-DIHYDRO-8'-APO-BETA-CAROTEN-3,10-DIOL	Fruit Juice	--	--		
0	5-ACETYL-2-METHYL-PYRIDINE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
0	5-HEXYL-2-METHYL-PYRIDINE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
1	6,7-DIMETHOXYCOUMARIN	Bark	162	162		Jim Duke's personal files.
0	ABSCISIC-ACID	Tissue Culture	--	--		Jim Duke's personal files.
6	ACETALDEHYDE	Fruit Juice	3	15	1	
16	ACETIC-ACID	Plant	--	--		
3	ALANINE	Fruit	30	3775	0.02652939797970876	
0	ALPHA-BERGAMOTENE	Fruit	6	6	-1	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
7	ALPHA-CAROTENE	Fruit	0.19	1.9	-0.26808750426637384	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
7	ALPHA-CAROTENE	Pericarp	--	--		Jim Duke's personal files.
0	ALPHA-COPAENE	Pericarp	--	--		
0	ALPHA-COPAENE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
0	ALPHA-COPAENE	Fruit	0.7	1	-0.6881248888845418	
0	ALPHA-CUBEBENE	Fruit	0.7	1	-0.6220320233548484	
2	ALPHA-HUMULENE	Fruit	--	0.1	-0.5986253681056065	
0	ALPHA-HYDROXY-CAROTENE	Pericarp	--	--		Jim Duke's personal files.
15	ALPHA-LINOLENIC-ACID	Fruit	70	528	-0.913356590105175	USDA's Ag Handbook 8 and sequelae)
11	ALPHA-PHELLANDRENE	Fruit	12	14	-0.5695870460921888	
28	ALPHA-PINENE	Fruit	35	40	-0.7083402631126611	
28	ALPHA-PINENE	Plant	--	--		
28	ALPHA-PINENE	Fruit Juice	--	0.22	-0.9999999999999999	
0	ALPHA-SINENSAL	Pericarp	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	ALPHA-SINENSAL	Fruit	1	2	-1	
0	ALPHA-SINESAL	Fruit	3	3	-1	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	ALPHA-SINESAL	Pericarp	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
13	ALPHA-TERPINENE	Fruit	1	2	-0.44934612100297294	
23	ALPHA-TERPINEOL	Fruit Juice	0.09	1.1	-0.6501250791550391	
23	ALPHA-TERPINEOL	Fruit	2	3	-0.40604181620664676	
0	ALPHA-THUJENE	Fruit	0.7	1	-0.5955809256752451	
32	ALPHA-TOCOPHEROL	Fruit	4	29	-0.6752411923996696	
0	ALPHA-YLANGENE	Pericarp	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
5	ALUMINUM	Fruit	1	165	-0.17551933701223474	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	ANTHERAXANTHIN	Fruit	--	--		
1	ANTHERAXANTHIN	Tissue Culture	--	--		Jim Duke's personal files.
0	ANTHRANILIC-ACID-METHYL-ESTER	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
0	APIGENIN-7-O-ALPHA-L-RHAMNO-GLUCOSIDE	Leaf	--	--		
0	APIGENIN-TRIMETHYL-ETHER	Pericarp	--	--		Jim Duke's personal files.
0	APOVIOLAXANTH-10'-AL	Pericarp	--	--		
0	ARABAN	Fruit	--	--		
14	ARGININE	Fruit	230	4908	0.15957250579145005	
2	ARSENIC	Fruit	0.001	0.154	-0.33956845146287234	
112	ASCORBIC-ACID	Fruit	500	4071	-0.03136646807240172	
0	ASH	Fruit	4100	36920	-0.5112715299819987	
2	ASPARAGINE	Fruit	200	1800	0.3373215168393527	
3	ASPARTIC-ACID	Fruit	70	8607	-0.2038383572771155	
8	AURAPTENE	Fruit	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	AURAPTENOL	Pericarp	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	AURAXANTHIN	Fruit	--	4		
0	BARIUM	Fruit	0.54	16.5	-0.456265269747712	USDA's Ag Handbook 8 and sequelae)
26	BERGAPTEN	Pericarp	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	BERGAPTOL	Fruit	--	--		
0	BETA-APO-8'-CAROTINAL	Pericarp	--	--		Jim Duke's personal files.
0	BETA-APO-CAROTEN-8-AL	Pericarp	--	--		
53	BETA-CAROTENE	Fruit	1	28	-0.0966771336129336	
53	BETA-CAROTENE	Pericarp	--	--		Jim Duke's personal files.
0	BETA-CARYOPHYLLENE	Fruit	1	2	-0.5058677869700708	
0	BETA-CITRAURIN	Pericarp	--	--		Jim Duke's personal files.



Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	BETA-CITRAURIN	Fruit Juice	--	--		Jim Duke's personal files.
2	BETA-CRYPTOXANTHIN	Pericarp	--	--		Jim Duke's personal files.
2	BETA-CRYPTOXANTHIN	Fruit	--	--		
0	BETA-CRYTOXANTHIN	Fruit	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	BETA-CUBEBENE	Fruit	10	10	-0.7068656261481132	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
5	BETA-ELEMENE	Fruit	0.7	1	-0.565275335737646	
5	BETA-ELEMENE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
2	BETA-MYRCENE	Fruit	--	--		Jim Duke's personal files.
13	BETA-PINENE	Fruit	11	13	-0.29742687330503664	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	BETA-SINENSAL	Pericarp	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	BETA-SINESAL	Fruit	6	6		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	BETA-SINESAL	Pericarp	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
47	BETA-SITOSTEROL	Fruit	--	170	-0.570881270243894	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
0	BETA-ZEACAROTENE	Pericarp	--	--		Jim Duke's personal files.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
14	BETAINE	Fruit	390	630	-1.0398613033298902	
4	BORON	Fruit	1.89	27.5	-0.25022637010687165	
3	BRASSINOLIDE	Pollen Or Spore	--	--		Jim Duke's personal files.
0	BRAYLIN	Root	--	--		Jim Duke's personal files.
0	BROMINE	Fruit	--	1	-0.42563543443835	ACTA AGRIC SCAND SUPPL 22: 1980
6	BUTYRIC-ACID	Fruit	--	--		
3	CADMIUM	Fruit	0.001	0.138	-0.23805307615553817	
102	CAFFEIC-ACID	Fruit	2	50	-0.3296566072538586	
102	CAFFEIC-ACID	Fruit Juice	--	--		Jim Duke's personal files.
62	CAFFEINE	Bud	--	0.3		Jim Duke's personal files.
62	CAFFEINE	Flower	--	62	1.0998533626601497	Jim Duke's personal files.
62	CAFFEINE	Leaf	--	6	-0.9423311788449318	Jim Duke's personal files.
28	CALCIUM	Fruit	210	5615	0.4058414049804431	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	CAMPESTEROL	Fruit	--	40	-0.31972036696488193	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	--	0.1	-0.35176349319281713	
3	CAPRIC-ACID	Fruit	--	--		
1	CAPROIC-ACID	Fruit	--	--		
5	CAPRYLIC-ACID	Fruit	--	--		
0	CARBOHYDRATES	Fruit	99000	887125	0.557442615155032	
0	CAROTENOIDS	Fruit	12	35	-0.5036534891621087	
0	CAROTENOIDS	Pericarp	12	35		
19	CARVONE	Fruit	2	10	-0.49999993853473	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
31	CARYOPHYLLENE	Pericarp	--	--		
31	CARYOPHYLLENE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
0	CASTASTERONE	Pollen Or Spore	--	--		Jim Duke's personal files.
7	CHLORINE	Fruit	12	32	-0.6800304631000254	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	CHOLESTEROL	Fruit	--	--		
20	CHOLINE	Fruit	70	160	-0.5734302834278399	
24	CHROMIUM	Fruit	0.005	0.385	-0.45355683651553846	
0	CIS-SABINENE-HYDRATE	Fruit	--	0.1	-0.7071067811865477	
0	CITFLAVANONE	Root Bark	--	--		
0	CITFLAVANONE	Root	--	--		Jim Duke's personal files.
0	CITRABASINE	Root Bark	14	14		
0	CITRACRIDONE-I	Root Bark	400	400		
23	CITRIC-ACID	Fruit	5600	9800	-0.4912433942967182	
20	CITRONELLAL	Fruit	4	5	-0.9952774234291415	
15	CITRONELLOL	Fruit	0.7	1	-0.5060981097957616	
2	CITRONELLYL-ACETATE	Fruit	--	0.1	-0.9999999999999998	
0	CITRUNOBIN	Root Bark	--	--		
0	CITRUSIN-II	Fruit	--	40		Jim Duke's personal files.
0	CITRUSIN-III	Fruit	--	13		Jim Duke's personal files.
0	CITRUSIN-IV	Fruit	--	6		Jim Duke's personal files.
0	CITRUSININE-I	Root Bark	80	80		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	CITRUSININE-II	Root Bark	40	40		
0	CITRUSINS	Plant	--	--		J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.
2	COBALT	Fruit	0.001	0.055	-0.5284569584957359	
2	CONIFERIN	Pericarp	--	--		Jim Duke's personal files.
12	COPPER	Fruit	0.44	5.5	-0.569630082366932	
0	COUMARIC-ACID	Fruit Juice	--	--		Jim Duke's personal files.
0	CRENULATIN	Root Bark	60	60		Jim Duke's personal files.
0	CRYPTOFLAVIN	Pericarp	--	--		
0	CRYPTOFLAVIN-A	Pericarp	--	--		Jim Duke's personal files.
0	CRYPTOFLAVIN-B	Pericarp	--	--		Jim Duke's personal files.
2	CRYPTOXANTHIN	Fruit	--	--		
0	CRYPTOXANTHIN-5,5',6,6'-DIEPOXIDE	Pericarp	--	--		Jim Duke's personal files.
0	CRYPTOXANTHIN-5,5',6,8'-DIEPOXIDE	Pericarp	--	--		Jim Duke's personal files.
0	CYANIDIN-3-GLUCOSIDE	Fruit	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	CYSTINE	Fruit	100	755	-0.2882040289158333	USDA's Ag Handbook 8 and sequelae)
19	D-LIMONENE	Fruit Juice	--	--		Jim Duke's personal files.
0	DEACETYL-NOMILIN	Seed	--	--		Jim Duke's personal files.
0	DECANAL	Fruit Juice	--	0.15	-1.0000000000000002	
0	DECANAL	Fruit	18	21	-0.6027493593021571	
1	DELPHINIDIN-3-GLUCOSIDE	Fruit	--	--		
8	DELTA-3-CARENE	Fruit	7	9	-0.5981394247478974	
9	DELTA-CADINENE	Pericarp	--	--		
9	DELTA-CADINENE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
0	DIHYDROKAEMPFEROL-4'-METHYL-ETHER-7-O-RHAMNOSIDE	Fruit	--	--		Jim Duke's personal files.
0	DIOSMETIN-7-O-ALPHA-L-RHAMNO-GLUCOSIDE	Leaf	--	--		Jim Duke's personal files.
34	DIOSMIN	Pericarp	--	--		
34	DIOSMIN	Flower	--	--		Jim Duke's personal files.

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2	DODECANAL	Fruit	5	20	0.9948320067476139	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
2	ELEMOL	Root Bark	28200	28200		Jim Duke's personal files.
0	EO	Fruit	7500	10000	-0.625591783140096	Guenther, E., The Essential Oils, 6 volumes, D. van Nostrand, New York, 1948-1952.
0	EO	Pericarp	15000	20000	1.2809893558000476	
0	EPOXY-NOOTKATONE	Pericarp	--	--		
0	EPOXY-NOOTKATONE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
0	EPOXY-VALENCENE	Fruit	--	--		
0	EPOXY-VALENCENE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
0	ERIOCITRIN	Flower	--	--		Jim Duke's personal files.
0	ERIOCITRIN	Pericarp	--	--		Jim Duke's personal files.
0	ETA-CAROTENE	Pericarp	--	--		
24	ETHANOL	Fruit Juice	64	900	1	



Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
6	ETHYL-ACETATE	Fruit Juice	0.01	0.58		
1	ETHYL-BUTYRATE	Fruit Juice	0.08	1.02		
0	ETHYL-SUBERENOL	Root Bark	700	700		Jim Duke's personal files.
0	ETROGOL	Root	--	--		Jim Duke's personal files.
2	FARNESENE	Fruit	--	0.1	-1	
0	FAT	Fruit	1100	16000	-0.5190453767939366	
61	FERULIC-ACID	Fruit	10	19	-0.7627700713964738	
61	FERULIC-ACID	Fruit Juice	--	--		Jim Duke's personal files.
61	FERULIC-ACID	Pericarp	20	180	1	
0	FERULOYL-PUTRESCINE	Fruit	--	5	1	
15	FIBER	Fruit	3740	47000	-0.8934118438004772	
0	FLAVOXANTHIN	Pericarp	--	--		Jim Duke's personal files.
0	FLUORINE	Fruit	0.04	0.76	-0.5863462540268758	ACTA AGRIC SCAND SUPPL 22: 1980
15	FOLACIN	Fruit	--	2	-0.019192793995839758	USDA's Ag Handbook 8 and sequelae)
0	FR	Juice	--	--		
8	FRUCTOSE	Fruit	23800	23800	-0.555436040816387	

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0	GALACTAN	Fruit	--	--		
1	GALACTOSE	Fruit	--	--		
0	GALACTURONIC-ACID	Fruit	--	--		
22	GAMMA-AMINOBUTYRIC-ACID	Fruit	40	730	-0.27868808492512787	
0	GAMMA-CADINENE	Fruit	1	2	-0.9084313290424243	
11	GAMMA-TERPINENE	Fruit Juice	0.04	0.46	-1	
11	GAMMA-TERPINENE	Fruit	1	2	-0.6509562680883627	
13	GERANIAL	Fruit	6	7	-0.9983227361677096	
35	GERANIOL	Fruit	0.7	1	-0.6057972802749785	
5	GERANYL-ACETATE	Fruit	--	0.1	-0.9446827484165164	
0	GERANYL-OXY-PYRANOCOUMARIN	Root	--	--		Jim Duke's personal files.
0	GIBBERELLIC-ACID	Fruit	--	--		Jim Duke's personal files.
0	GLUCOSAN	Fruit	--	--		
7	GLUCOSE	Fruit	23600	23600	-0.644631124988246	
8	GLUTAMIC-ACID	Fruit	60	7097	-0.4778760905604569	
5	GLUTAMINE	Fruit	30	630	0.1767951575504613	
12	GLYCINE	Fruit	50	7097	1.3509995174874219	
0	HEPTAMETHOXY-FLAVONE	Fruit Juice	--	--		Jim Duke's personal files.

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0	HEPTANAL	Fruit	3	5		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	HEPTULOSE	Fruit	--	--		
31	HESPERIDIN	Pericarp	--	63500	0.38878029269733505	Jim Duke's personal files.
31	HESPERIDIN	Fruit Juice	--	110		Jim Duke's personal files.
31	HESPERIDIN	Fruit	--	--		Jim Duke's personal files.
31	HESPERIDIN	Flower	--	--		Jim Duke's personal files.
0	HESPERIDIN-7-O-ALPHA-L-RHAMNO-GLUCOSIDE	Fruit	--	--		
0	HESPERIDIN-7-O-ALPHA-L-RHAMNO-GLUCOSIDE	Fruit Juice	--	--		Jim Duke's personal files.
5	HEXANAL	Fruit Juice	0.02	0.65		
5	HEXANAL	Fruit	1	2		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
3	HEXANOL	Fruit Juice	0.02	0.22		
7	HISTIDINE	Fruit	180	1359	-0.24792284510655177	USDA's Ag Handbook 8 and sequelae)

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
8	HORDENINE	Fruit	--	--		
1	HYDROXYPROLINE	Leaf	--	--		Jim Duke's personal files.
0	ICHANGIN-17-O-BETA-D-GLUCOSIDE	Seed	--	--		Jim Duke's personal files.
6	IRON	Fruit	1	8	-0.49575433892938076	
0	ISOCAPROIC-ACID	Fruit	--	--		
3	ISOLEUCINE	Fruit	250	1888	-0.5255451749979052	USDA's Ag Handbook 8 and sequelae)
0	ISOLUTEIN	Pericarp	--	--		Jim Duke's personal files.
0	ISOPENTENYL-PSORALENS	Fruit	--	--		
0	ISOPRENE	Essential Oil	--	--		Jim Duke's personal files.
0	ISORHOIFOLIN	Pericarp	--	--		
0	ISORHOIFOLIN	Flower	--	--		Jim Duke's personal files.
0	ISOSAKURANETIN	Fruit	--	--		
0	ISOSINENSETIN	Pericarp	--	--		Jim Duke's personal files.
0	JASMONIC-ACID	Fruit	--	--		Jim Duke's personal files.
0	LEAD	Fruit	0.02	1.1	-0.42525727293888926	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	LEUCINE	Fruit	230	1136	-0.8429441489050677	USDA's Ag Handbook 8 and sequelae)
60	LIMONENE	Fruit Juice	1	278		
60	LIMONENE	Fruit	8300	9700	0.6409395320453212	
0	LIMONEXIC-ACID	Fruit	--	--		
5	LIMONIN	Fruit	--	--		
5	LIMONIN	Root	--	--		Jim Duke's personal files.
5	LIMONIN	Bark	--	--		Jim Duke's personal files.
5	LIMONIN	Branches	--	--		Jim Duke's personal files.
5	LIMONIN	Twig	--	--		Jim Duke's personal files.
5	LIMONIN	Fruit Juice	--	--		Jim Duke's personal files.
5	LIMONIN	Seed	--	--		Jim Duke's personal files.
0	LIMONIN-17-O-BETA-D-GLUCOSIDE	Seed	--	--		Jim Duke's personal files.
0	LIMONIN-GLUCOSIDE	Fruit Juice	--	--		Jim Duke's personal files.
0	LIMONOATE-A-RING-LACTONE	Fruit	--	--		Jim Duke's personal files.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	LINALOL	Fruit Juice	0.15	4.69	1.0000000000000002	
0	LINALOL	Fruit	30	530	-0.5486782133862986	
53	LINALOOL	Fruit	30	530	-0.43753461385311765	
53	LINALOOL	Fruit Juice	0.15	4.69	1.0000000000000004	
27	LINOLEIC-ACID	Fruit	180	1359	-0.33622644162700344	USDA's Ag Handbook 8 and sequelae)
0	LINOMIN	Leaf	--	--		Jim Duke's personal files.
11	LITHIUM	Fruit	0.108	1.54	0.890343380696948	
0	LOCHNOCARPOL-A	Root	--	--		Jim Duke's personal files.
15	LUTEIN	Fruit	--	3	-0.575590894746515	
15	LUTEIN	Pericarp	--	--		Jim Duke's personal files.
0	LUTEOLIN-7-O-ALPHA-L-RHAMNO-GLUCOSIDE	Fruit	--	--		Jim Duke's personal files.
0	LUTEOLIN-7-O-BETA-D-RUTINOSIDE	Leaf	--	--		Jim Duke's personal files.
0	LUTEOXANTHINS	Fruit	--	6		
16	LYCOPENE	Pericarp	--	--		Jim Duke's personal files.
4	LYSINE	Fruit	470	3548	-0.1467119613903352	USDA's Ag Handbook 8 and sequelae)

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
65	MAGNESIUM	Fruit	98	1075	-0.4884044378711737	
15	MALIC-ACID	Fruit	600	2000	-0.8215787018847368	
1	MALONIC-ACID	Plant	--	--		
1	MALONIC-ACID	Fruit	--	--		
14	MANGANESE	Fruit	--	8	-0.3507865335531638	
3	MANNOSE	Fruit	--	--		
0	MERANZINE	Fruit	--	--		
1	MERCURY	Fruit	--	0.001	-0.7865389313824043	
2	METHANOL	Fruit Juice	0.8	80	1	
15	METHIONINE	Fruit	200	1510	0.6791094324753408	USDA's Ag Handbook 8 and sequelae)
2	METHYL-BUTYRATE	Fruit Juice	0.01	0.1		
0	METHYL-N-METHYL-ANTHRANILATE	Fruit	--	0.1		
0	MEVALONIC-ACID	Fruit	--	0.5	-0.6071834425016228	Jim Duke's personal files.
0	MEVALONIC-ACID	Pericarp	--	6		Jim Duke's personal files.
2	MOLYBDENUM	Fruit	0.1	0.385	-0.4080774738511709	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	MUTATOCHROME	Fruit	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	MUTATOXANTHIN	Fruit	2	2	-1	
0	MUTATOXANTHIN	Fruit Juice	--	--		Jim Duke's personal files.
0	MUTATOXANTHIN	Pericarp	--	--		Jim Duke's personal files.
22	MYRCENE	Fruit	130	140	-0.36272097374914564	
34	MYRICETIN	Fruit	--	0.5	-0.7536633445071549	Jim Duke's personal files.
0	N-METHYL-ANILINE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
1	N-METHYL-TYRAMINE	Fruit	--	2	-1	
1	N-METHYL-TYRAMINE	Pericarp	--	--		Jim Duke's personal files.
0	N-N-DIMETHYL-3-METHYL-ANILINE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
0	N-N-DIMETHYL-ANILINE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.



Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
56	NARINGENIN	Pericarp	35000	45800		Jim Duke's personal files.
0	NARINGENIN-4-BETA-D-GLUCOSIDE	Plant	--	--		
0	NARINGENIN-RUTINOSIDE	Fruit	--	--		
0	NARINGENIN-RUTINOSIDE-4-BETA-D-GLUCOSIDE	Fruit	--	--		
12	NARINGIN	Fruit	--	--		
12	NARINGIN	Fruit Juice	--	--		Jim Duke's personal files.
12	NARINGIN	Pericarp	--	--		Jim Duke's personal files.
12	NARINGIN	Flower	--	--		Jim Duke's personal files.
0	NARINGIN-7-O-ALPHA-L-RHAMNO-GLUCOSIDE	Fruit	--	--		
0	NARINGIN-7-O-ALPHA-L-RHAMNO-GLUCOSIDE	Fruit Juice	--	--		Jim Duke's personal files.
0	NARINGIN-GLUCOSIDE	Flower	--	--		Jim Duke's personal files.
1	NARIRUTIN	Pericarp	--	--		Jim Duke's personal files.
1	NARIRUTIN	Fruit Juice	--	--		Jim Duke's personal files.
0	NARIRUTIN-GLUCOSIDE	Flower	--	--		Jim Duke's personal files.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	NARIRUTIN-GLUCOSIDE	Pericarp	--	--		Jim Duke's personal files.
0	NEO-BETA-CAROTENE	Pericarp	--	--		Jim Duke's personal files.
0	NEOCHROME-A	Pericarp	--	--		Jim Duke's personal files.
0	NEOCHROME-B	Pericarp	--	--		Jim Duke's personal files.
0	NEOERIOCITRIN	Flower	--	--		Jim Duke's personal files.
6	NEOHESPERIDIN	Pericarp	--	28000		Jim Duke's personal files.
6	NEOHESPERIDIN	Fruit Juice	--	--		Jim Duke's personal files.
1	NEOHESPERIDIN-DIHYDROCHALCONE	Pericarp	--	--		Jim Duke's personal files.
0	NEOPONCIRIN	Pericarp	--	--		Jim Duke's personal files.
0	NEOXANTHIN-A	Pericarp	--	--		Jim Duke's personal files.
0	NEOXANTHIN-B	Pericarp	--	--		Jim Duke's personal files.
4	NERAL	Fruit	4	5	-0.8791176720401793	
10	NEROL	Fruit	0.7	1	-0.5477997473775594	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
11	NEROLIDOL	Flower	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
5	NERYL-ACETATE	Fruit	0.7	1	-0.724098948454428	
2	NERYL-FORMATE	Fruit	10	10	-1	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	NEUROSPORIN	Pericarp	--	--		Jim Duke's personal files.
39	NIACIN	Fruit	2	31	-0.39701223426716226	
3	NICKEL	Fruit	0.01	0.55	-0.6121948588601274	
0	NICOTINIC-ACID-ETHYL-ESTER	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
0	NITROGEN	Fruit	500	13845	-0.054501610611493154	
0	NOBELITIN	Fruit	--	--		
8	NOBILETIN	Fruit Juice	--	--		Jim Duke's personal files.
8	NOBILETIN	Pericarp	--	--		Jim Duke's personal files.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
8	NOBILETIN	Fruit	--	--		
2	NOMILIN	Seed	--	--		Jim Duke's personal files.
2	NOMILIN	Fruit Juice	--	--		Jim Duke's personal files.
0	NOMILIN-17-O-BETA-D-GLUCOSIDE	Seed	--	--		Jim Duke's personal files.
0	NOMILINIC-ACID-17-O-BETA-D-GLUCOSIDE	Seed	--	--		Jim Duke's personal files.
0	NOMILINIC-ACID-GLUCOSIDE	Fruit Juice	--	--		Jim Duke's personal files.
0	NONANAL	Fruit	3	4	-0.8226919978166914	
0	NONANOL	Fruit	10	10		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
2	NOOTKATOL	Fruit	--	--		Jim Duke's personal files.
3	NOOTKATONE	Fruit	1	1		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
3	NOOTKATONE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	NORDENTATIN	Root Bark	300	300		Jim Duke's personal files.
3	OBACUNONE	Seed	--	--		Jim Duke's personal files.
0	OBACUNONE-17-O-BETA-D-GLUCOSIDE	Seed	--	--		Jim Duke's personal files.
0	OBACUNONE-GLUCOSIDE	Fruit Juice	--	--		Jim Duke's personal files.
0	OCTADECADIENOIC-ACID	Pericarp	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	OCTAN-1-AL	Fruit	--	--		Jim Duke's personal files.
0	OCTANAL	Fruit Juice	--	0.28	-1	
0	OCTANAL	Fruit	12	14	-0.6131393394849658	
0	OCTANOL	Fruit	--	0.1	-0.7071067811865478	
0	OCTOPAMINE	Fruit	--	1	-1	
0	OCTYL-ACETATE	Fruit	10	10	-0.7063104401414774	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
18	OLEIC-ACID	Fruit	20	1510	-0.4691070855395464	USDA's Ag Handbook 8 and sequelae)
15	OSTHOL	Root	--	--		Jim Duke's personal files.
4	OSTHOLE	Root	--	--		
9	OXALIC-ACID	Fruit	87	87	-0.3015516499208378	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	5	17	-0.6943231755501756	
25	P-COUMARIC-ACID	Pericarp	5	17	1	
25	P-COUMARIC-ACID	Fruit Juice	--	--		Jim Duke's personal files.
16	P-CYMENE	Fruit	3590	4070	-0.04098189676522262	
0	P-HYDROQUINONE	Root Bark	80	80		Jim Duke's personal files.
13	PALMITIC-ACID	Fruit	130	982	-0.35024794688904615	USDA's Ag Handbook 8 and sequelae)
2	PALMITOLEIC-ACID	Fruit	30	226	-0.30412481168854	USDA's Ag Handbook 8 and sequelae)

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
11	PANTOTHENIC-ACID	Fruit	2	19	0.05712424299404392	USDA's Ag Handbook 8 and sequelae)
24	PECTIN	Fruit	1300	5900	-0.5601993872457034	
24	PECTIN	Pericarp	--	--		Jim Duke's personal files.
0	PECTINESTERASE	Fruit	--	--		Jim Duke's personal files.
11	PERILLALDEHYDE	Fruit	2	2	-0.7326583054413682	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
7	PHENYLALANINE	Fruit	310	2340	-0.34187787905261324	USDA's Ag Handbook 8 and sequelae)
0	PHLORIN	Plant	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
4	PHOSPHORUS	Fruit	136	1980	-0.3754207541761312	
5	PHYLLOQUINONE	Fruit	--	0.001	-0.23285139490462353	
0	PHYTOENE	Fruit	--	2		
0	PHYTOFLUENE	Fruit	--	4	-1	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PHYTOFLUENE-A	Pericarp	--	--		Jim Duke's personal files.
0	PHYTOFLUENE-B	Pericarp	--	--		Jim Duke's personal files.
2	PHYTOSTEROLS	Fruit	--	240	-0.9087217260357541	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
0	POLYGALACTURONIC-ACID	Fruit	--	--		
0	PONCITRIN	Root	--	--		Jim Duke's personal files.
14	POTASSIUM	Fruit	1400	13772	-0.3666795712783593	
0	PROLINE	Fruit	60	3473	-0.14668369100889192	
6	PROPIONIC-ACID	Plant	--	--		
0	PROTEIN	Fruit	9260	78000	-0.4222516255728621	
8	QUERCETAGETIN	Fruit Juice	--	--		Jim Duke's personal files.
176	QUERCETIN	Fruit	--	3.4	-0.7856446697799095	Jim Duke's personal files.
1	QUINIC-ACID	Fruit	--	--		
15	RIBOFLAVIN	Fruit	--	3	-0.4303249009534089	



Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	RUBIDIUM	Fruit	0.1	7.7	-0.8530025130786637	ACTA AGRIC SCAND SUPPL 22: 1980
87	RUTIN	Leaf	--	9000	-0.44580487824979076	Jim Duke's personal files.
87	RUTIN	Pericarp	--	6100		Jim Duke's personal files.
5	SABINENE	Fruit Juice	--	0.15		
5	SABINENE	Fruit	11	13	-0.5315196015036519	
7	SALICYLATES	Fruit	--	200	0.236750790358027	
22	SCOPARONE	Bark	--	162.5		Jim Duke's personal files.
7	SCUTELLAREIN	Fruit	--	--		
7	SCUTELLAREIN	Fruit Juice	--	--		Jim Duke's personal files.
60	SELENIUM	Fruit	--	0.002	-0.38569128420884563	
1	SERINE	Fruit	40	2410	-0.43531280247846904	
3	SESELIN	Root	--	--		Jim Duke's personal files.
0	SESLIN	Root	--	--		Jim Duke's personal files.
4	SILICON	Fruit	--	2	-0.6019449725946585	ACTA AGRIC SCAND SUPPL 22: 1980
3	SILVER	Fruit	0.027	0.055	-0.5875909007853288	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
9	SINAPIC-ACID	Fruit	7	19	0.784062560233975	
9	SINAPIC-ACID	Fruit Juice	--	--		Jim Duke's personal files.
9	SINAPIC-ACID	Pericarp	45	100	1	
2	SINENSETIN	Fruit	--	--		
2	SINENSETIN	Plant	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
2	SINENSETIN	Fruit Juice	--	--		Jim Duke's personal files.
2	SINENSETIN	Pericarp	--	--		Jim Duke's personal files.
0	SINENSIAXANTHIN	Fruit	--	--		
0	SINESETIN	Plant	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	SODIUM	Fruit	--	29	-0.1812007490262155	
6	STACHYDRINE	Fruit	--	--		
12	STIGMASTEROL	Fruit	--	20	-0.8951703667819086	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
0	STRONTIUM	Fruit	0.054	110	0.7328812786702326	
3	SUBAPHYLLIN	Fruit	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
3	SUBAPHYLLIN	Leaf	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	SUBERENOL	Root Bark	700	700		Jim Duke's personal files.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	SUBEROSIN	Root	--	--		Jim Duke's personal files.
7	SUCCINIC-ACID	Fruit	--	--		
14	SUCROSE	Fruit	47000	47000	-0.41357367622327157	
0	SUGARS	Fruit	39600	119800	-0.38969414389870244	
14	SULFUR	Fruit	46	1000	-0.28853428975640755	
5	SYNEPHRINE	Fruit	15	43		
5	SYNEPHRINE	Pericarp	--	--		Jim Duke's personal files.
15	TANGERETIN	Fruit	--	--		
15	TANGERETIN	Fruit Juice	--	--		Jim Duke's personal files.
15	TANGERETIN	Pericarp	--	--		Jim Duke's personal files.
0	TAU-CAROTENE	Pericarp	--	--		
23	TERPINEN-4-OL	Fruit	--	0.1	-0.358333842321623	
9	TERPINOLENE	Fruit	1	2	-0.7498060467737104	
0	TETRA-O-METHYL-SCUTELLAREIN	Fruit	--	--		
0	TETRA-O-METHYL-SCUTELLAREIN	Fruit Juice	--	--		Jim Duke's personal files.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	TETRADECANAL	Fruit	5	9	1	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
31	THIAMIN	Fruit	1	7	0.21342198396383905	
4	THREONINE	Fruit	150	1132	-0.7838698402029908	USDA's Ag Handbook 8 and sequelae)
71	THYMOL	Fruit	--	0.1	-0.7071067811865474	
0	TITANIUM	Fruit	0.135	3.85	-0.6666260908934968	
4	TRANS-2-HEXENAL	Pericarp	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
1	TRANS-2-HEXENOL	Fruit Juice	--	0.1		
0	TRANS-SABINENE-HYDRATE	Fruit	--	0.1	-0.5231287251565837	
29	TRYPTOPHAN	Fruit	90	680	-0.23921305471754814	USDA's Ag Handbook 8 and sequelae)
11	TYRAMINE	Fruit	--	1	0.7071067811865478	
8	TYROSINE	Fruit	160	1208	-0.501692988706999	USDA's Ag Handbook 8 and sequelae)
2	UNDECANAL	Fruit	0.7	1	-0.5758305509285185	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	URONIC-ACID	Fruit	--	--		
0	VALENCENE	Fruit Juice	0.04	15.3	0.9999999999999999	
0	VALENCENE	Fruit	3	4	-1	
0	VALENCENE	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
0	VALENCIACHROME	Plant	--	--		
0	VALENCIACHROME	Fruit	--	--		
0	VALENCIAXANTHIN	Fruit	3	3		
0	VALENCIC-ACID	Root	--	--		Jim Duke's personal files.
3	VALINE	Fruit	100	3020	-0.29566746601618277	
2	VIOLAXANTHIN	Fruit	--	--		
2	VIOLAXANTHIN	Tissue Culture	--	--		Jim Duke's personal files.
2	VIOLAXANTHIN	Pericarp	--	--		Jim Duke's personal files.
0	VIT-B-6	Fruit	1	5	-0.538913394725687	USDA's Ag Handbook 8 and sequelae)
0	VITEXIN-XYLOSIDE	Fruit	--	--		Jim Duke's personal files.
0	WATER	Fruit	839000	898000	0.5540526248175224	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	XANTHOXYLETIN	Root Bark	24000	24000		Jim Duke's personal files.
1	XANTHOXYLETIN	Root	--	--		Jim Duke's personal files.
1	XANTHYLETIN	Root Bark	45000	45000		Jim Duke's personal files.
1	XANTHYLETIN	Root	--	--		Jim Duke's personal files.
0	XYLAN	Fruit	--	--		
3	XYLOSE	Fruit	--	--		
0	XYLOSYL-VITEXIN	Leaf	--	--		Jim Duke's personal files.
5	ZEAXANTHIN	Fruit	2	2	-1	
5	ZEAXANTHIN	Tissue Culture	--	--		Jim Duke's personal files.
5	ZEAXANTHIN	Pericarp	--	--		Jim Duke's personal files.
0	ZETA-CAROTENE	Fruit	--	2	-1	
0	ZETA-CAROTENE-A	Pericarp	--	--		Jim Duke's personal files.
0	ZETA-CAROTENE-B	Pericarp	--	--		Jim Duke's personal files.
77	ZINC	Fruit	0.9	13	-0.5205322406758267	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	ZIRCONIUM	Fruit	0.5	1.1	-0.5018207810885003	