

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Zingiber officinale*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
176	QUERCETIN	Plant				Stitt, Paul. Why George should eat broccoli.
135	CURCUMIN	Plant				Stitt, Paul. Why George should eat broccoli.
135	CURCUMIN	Rhizome				--
112	ASCORBIC-ACID	Rhizome	0.0	317.0	-0.3087839350199982	--
112	ASCORBIC-ACID	Root	20.0	288.0	-0.48133996980232785	--
102	CAFFEIC-ACID	Rhizome				--
77	ZINC	Rhizome		57.0	-0.18700695320743768	--
77	CHLOROGENIC-ACID	Plant				Stitt, Paul. Why George should eat broccoli.
77	ZINC	Root				--
76	EUGENOL	Rhizome Essent. Oil				--
75	KAEMPFEROL	Plant				Stitt, Paul. Why George should eat broccoli.
67	1,8-CINEOLE	Rhizome		490.0	-0.7528854377140122	--
67	1,8-CINEOLE	Rhizome Essent. Oil	26000.0	100000.0		--
65	MAGNESIUM	Root	188.0	2690.0	0.0683510412136399	--
65	MAGNESIUM	Rhizome	430.0	2690.0	1.0779788333953992	--
61	FERULIC-ACID	Plant				Stitt, Paul. Why George should eat broccoli.
60	LIMONENE	Rhizome Essent. Oil		21000.0	1.411888259893775	--
60	LIMONENE	Rhizome	17.0	1050.0	0.6650265305559545	--
60	SELENIUM	Root	0.1	1.0	-0.29131634494743897	--
60	SELENIUM	Rhizome				--
53	BETA-CAROTENE	Root	0.1	1.0	-0.43002798118623115	--
53	LINALOOL	Root Essent. Oil				--
53	CITRAL	Rhizome Essent. Oil		130000.0		--
53	LINALOOL	Rhizome		50.0	-1.0	--
53	BETA-CAROTENE	Rhizome	0.0	4.0	-0.6667259338283312	--
53	CITRAL	Root	0.0	13500.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
53	CITRAL	Rhizome	0.0	13500.0		--
53	LINALOOL	Rhizome Essent. Oil	3200.0	30000.0	1.0	--
47	BETA-SITOSTEROL	Plant				--
47	BETA-SITOSTEROL	Root	100.0	500.0	-0.26375908041164936	--
44	CAPSAICIN	Plant				Stitt, Paul. Why George should eat broccoli.
44	CAPSAICIN	Rhizome				--
41	CAMPHOR	Rhizome Essent. Oil		1200.0	1.0	--
41	CAMPHOR	Rhizome	1.0	60.0		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
39	NIACIN	Rhizome	5.0	135.0	1.0692722579935732	--
39	NIACIN	Root	3.6	51.0	0.0220587467388613	--
35	GERANIOL	Rhizome	2.0	345.0		--
35	BORNEOL	Rhizome		180.0		--
35	BORNEOL	Rhizome Essent. Oil		18000.0		--
35	GERANIOL	Rhizome Essent. Oil		6900.0		--
34	MYRICETIN	Plant				Stitt, Paul. Why George should eat broccoli.
32	6-SHOAOL	Rhizome	40.0	330.0		--
31	THIAMIN	Root	0.0	3.0	-0.32687193108858614	--
31	THIAMIN	Rhizome	0.0	3.0	-0.9831353843426084	--
31	CARYOPHYLLENE	Essential Oil				--
29	TRYPTOPHAN	Root	120.0	693.0	-0.48600202664790343	USDA's Ag Handbook 8 and sequelae)
29	TRYPTOPHAN	Rhizome	120.0	693.0	-1.0	--
28	6-GINGEROL	Root Essent. Oil				--
28	6-GINGEROL	Root				--
28	6-GINGEROL	Essential Oil				--
28	ALPHA-PINENE	Rhizome		720.0	1.111167799007431	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
28	VANILLIN	Plant				Stitt, Paul. Why George should eat broccoli.
28	CALCIUM	Rhizome	150.0	3458.0	-0.7549394061569589	--
28	CALCIUM	Root	116.0	1650.0	-0.6300358799835268	--
28	ALPHA-PINENE	Rhizome Essent. Oil		39000.0	1.392186073629917	--
28	6-GINGEROL	Rhizome	130.0	7138.0		--
28	6-GINGEROL	Rhizome Essent. Oil				--
27	GINGEROL	Root Essent. Oil				--
27	LINOLEIC-ACID	Rhizome	1200.0	11220.0	1.0	--
27	GINGEROL	Root				--
27	GINGEROL	Rhizome				--
27	LINOLEIC-ACID	Root	1200.0	11220.0	3.017959618154365	USDA's Ag Handbook 8 and sequela)
25	P-COUMARIC-ACID	Rhizome		19.0	-1.0	--
24	CHROMIUM	Root		0.6	-0.44035111981195524	--
24	VANILLIC-ACID	Plant				Stitt, Paul. Why George should eat broccoli.
24	CHROMIUM	Rhizome	6.0	20.0	1.0	--
24	BENZALDEHYDE	Rhizome				--
23	ALPHA-TERPINEOL	Rhizome Essent. Oil		10000.0		--
23	TERPINEN-4-OL	Rhizome Essent. Oil				--
23	TERPINEN-4-OL	Rhizome				--
23	MELATONIN	Rhizome		0.001		Hattori, A., et. al. 1995. Identification of Melatonin in Plants and its Effects on Plasma Melatonin Levels and Binding to Melatonin Receptors in Vertebrates. Biochem. Mol. Biol. Int., 35(3): 627-634.
23	ALPHA-TERPINEOL	Rhizome	8.0	500.0	-0.26863716905966795	--
22	GAMMA-AMINOBUTYRIC-ACID	Rhizome				--
22	MYRCENE	Rf	2.0	950.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
22	MYRCENE	Rhizome Essent. Oil		19000.0	-1.0	--
22	GAMMA-AMINOBUTYRIC-ACID	Root				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
22	MYRCENE	Rhizome	2.0	950.0	-1.0	--
20	CITRONELLAL	Rhizome Essent. Oil		2900.0		--
20	LECITHIN	Root				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
20	LECITHIN	Rhizome				--
20	CITRONELLAL	Rhizome		10.0		--
18	SHOGAOL	Essential Oil				--
18	OLEIC-ACID	Rhizome	1190.0	11000.0	1.0	--
18	SHOGAOL	Rhizome Essent. Oil				--
18	OLEIC-ACID	Root	1190.0	11000.0	3.056426676222409	USDA's Ag Handbook 8 and sequelae)
18	SHOGAOL	Root Essent. Oil				--
18	SHOGAOL	Root				--
18	SHOGAOL	Rhizome				--
17	FARNESOL	Rhizome				--
17	FARNESOL	Rhizome Essent. Oil				--
17	FARNESOL	Root				Chemical Constituents of Oriental Herbs (3 diff. books)
16	P-CYMENE	Rhizome		90.0	-0.47413848530364283	--
16	ISOEUGENOL	Rhizome				--
16	ACETIC-ACID	Rhizome				--
16	P-CYMENE	Rhizome Essent. Oil		26000.0		--
16	ACETIC-ACID	Rhizome Essent. Oil				--
15	METHIONINE	Root	130.0	737.0	-0.5917219440063812	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
15	RIBOFLAVIN	Rhizome	0.0	5.0	-0.10465353747473792	--
15	CITRONELLOL	Rhizome	2.0	6500.0		--
15	ALPHA-LINOLENIC-ACID	Rhizome	340.0	3190.0		--
15	ALPHA-LINOLENIC-ACID	Root	340.0	3190.0	1.9620665358845129	USDA's Ag Handbook 8 and sequelae)
15	METHIONINE	Rhizome	130.0	737.0	-1.0	--
15	FIBER	Root	9000.0	171000.0	1.8408067359156413	--
15	FIBER	Rhizome	9000.0	171000.0	-0.07465068104411866	--
15	RIBOFLAVIN	Root	0.2	3.1	-0.21327168080429257	--
15	CITRONELLOL	Rhizome Essent. Oil	3000.0	130000.0		--
14	SUCROSE	Root				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
14	ARGININE	Rhizome	430.0	2486.0	-1.0	--
14	ARGININE	Tuber				--
14	SHIKIMIC-ACID	Leaf				--
14	ARGININE	Root	430.0	2486.0	-0.41425783754112155	USDA's Ag Handbook 8 and sequelae)
14	POTASSIUM	Root	1323.0	18900.0	0.22854620707535842	--
14	MANGANESE	Root	2.4	33.8	-0.14226990626562633	--
14	SUCROSE	Rhizome				--
14	MANGANESE	Rhizome	106.0	350.0	1.4980699854714286	--
14	POTASSIUM	Rhizome	2640.0	25079.0	1.345332062692374	--
13	ZINGERONE	Root Essent. Oil				--
13	ALPHA-TERPINENE	Rhizome	0.5	35.0	1.0	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
13	BETA-PINENE	Rhizome Essent. Oil		5300.0	1.248959633610851	--
13	PALMITIC-ACID	Rhizome	1200.0	11220.0	1.0	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
13	P-HYDROXY-BENZOIC-ACID	Plant				Stitt, Paul. Why George should eat broccoli.
13	BETA-EUDES MOL	Rhizome Essent. Oil		9300.0		--
13	MUFA	Root	1540.0	8400.0	2.513577974996003	USDA's Ag Handbook 8 and sequelae)
13	ZINGERONE	Rhizome Essent. Oil				--
13	MUFA	Rhizome	1540.0	8400.0	1.0	--
13	PALMITIC-ACID	Root	1200.0	11220.0	0.13536149219761523	USDA's Ag Handbook 8 and sequelae)
13	ALPHA-TERPINENE	Rhizome Essent. Oil		700.0		--
13	BETA-PINENE	Rhizome		100.0	0.1867718419094071	--
13	GERANIAL	Rhizome		980.0		--
13	CYSTEINE	Tuber				--
13	BETA-IONONE	Rhizome Essent. Oil				--
13	CYSTEINE	Shoot				--
13	BETA-IONONE	Rhizome				--
13	ZINGERONE	Rhizome				--
13	GERANIAL	Rhizome Essent. Oil	159000.0	400000.0		--
13	ZINGERONE	Essential Oil				--
13	BETA-EUDES MOL	Rhizome	7.0	465.0	1.0	--
12	GLYCINE	Rhizome	430.0	2486.0	-1.0	--
12	COPPER	Root	3.0	16.0	0.47378131766732856	--
12	COPPER	Rhizome	3.0	16.0	1.223047708525459	--
12	GLYCINE	Root	430.0	2486.0	-0.22589147640123697	USDA's Ag Handbook 8 and sequelae)
12	GLYCINE	Tuber				--
12	GLYCINE	Shoot				--
12	BORNYL-ACETATE	Root	2.0	105.0	-0.5636066792773037	--
12	BORNYL-ACETATE	Rhizome	2.0	105.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
12	STIGMASTEROL	Root	40.0	200.0	0.32535405334624357	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
11	PANTOTHENIC-ACID	Root	2.0	11.0	-0.9376231626080279	USDA's Ag Handbook 8 and sequelae)
11	NEROLIDOL	Rhizome Essent. Oil				--
11	PERILLALDEHYDE	Rhizome Essent. Oil				--
11	NEROLIDOL	Rhizome		60.0		--
11	ALPHA-PHELLANDRENE	Rhizome	3.0	200.0	-1.0	--
11	NEROLIDOL	Essential Oil				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
11	GAMMA-TERPINENE	Rhizome		1230.0	1.0	--
11	ALPHA-PHELLANDRENE	Rhizome Essent. Oil		4000.0		--
11	GAMMA-TERPINENE	Rhizome Essent. Oil		500.0		--
11	PANTOTHENIC-ACID	Rhizome	2.0	11.0		--
10	NEROL	Rhizome Essent. Oil				--
10	NEROL	Rhizome				--
9	DELTA-CADINENE	Rhizome Essent. Oil		1300.0		--
9	CAMPHENE	Rhizome		3080.0	1.0	--
9	OXALIC-ACID	Root		5000.0	2.5415261372448525	--
9	DELTA-CADINENE	Rhizome	1.0	65.0	-0.6681865179092669	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
9	TERPINOLENE	Rhizome Essent. Oil		1800.0		--
9	DELPHINIDIN	Plant				Stitt, Paul. Why George should eat broccoli.
9	CAMPHENE	Essential Oil				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
9	TERPINOLENE	Rhizome	1.0	90.0		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
9	OXALIC-ACID	Rhizome		5000.0		--
9	CAMPHENE	Rhizome Essent. Oil		126000.0		--
8	TYROSINE	Root	200.0	1122.0	-1.4340366854424644	USDA's Ag Handbook 8 and sequelae)
8	GLUTAMIC-ACID	Rhizome	1620.0	9328.0	1.0	--
8	GLUTAMIC-ACID	Root	1620.0	9328.0	-0.49975515668744586	USDA's Ag Handbook 8 and sequelae)
8	FRUCTOSE	Root				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
8	STEARIC-ACID	Root	170.0	1540.0	2.8114380671291452	USDA's Ag Handbook 8 and sequelae)
8	FRUCTOSE	Rhizome				--
8	TYROSINE	Rhizome	200.0	1122.0	-1.0	--
8	4-TERPINEOL	Rhizome				--
8	STEARIC-ACID	Rhizome	170.0	1540.0	1.0	--
7	SALICYLATES	Root	45.0	250.0	0.1478264757482174	--
7	ISOBORNEOL	Rhizome				--
7	LAURIC-ACID	Rhizome Essent. Oil		900.0		--
7	PHENYLALANINE	Root	450.0	2455.0	-0.39322284344633335	USDA's Ag Handbook 8 and sequelae)
7	HISTIDINE	Rhizome	300.0	1738.0	-1.0	--
7	GLUCOSE	Rhizome				--
7	PHENYLALANINE	Rhizome	450.0	2455.0	1.0	--
7	LAURIC-ACID	Rhizome	390.0	3630.0		--
7	HISTIDINE	Root	300.0	1738.0	-0.05270016889774364	USDA's Ag Handbook 8 and sequelae)
7	GLUCOSE	Root				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
7	ISOBORNEOL	Rhizome Essent. Oil				--
7	LAURIC-ACID	Root	390.0	3630.0	1.4134619657773633	USDA's Ag Handbook 8 and sequelae)
6	ACETALDEHYDE	Rhizome				--
6	MYRISTIC-ACID	Rhizome	180.0	1650.0	-1.0	--
6	IRON	Rhizome	4.0	162.0	-0.5945282624931012	--
6	IRON	Root	1.1	15.0	-0.4198613477374219	--
6	MYRISTIC-ACID	Root	180.0	1650.0	1.7305384293651185	USDA's Ag Handbook 8 and sequelae)
6	FURFURAL	Rhizome Essent. Oil				--
6	FURFURAL	Plant				--
6	ACETALDEHYDE	Essential Oil				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
6	ETHYL-ACETATE	Essential Oil				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
6	ZINGIBERENE	Rhizome	0.5	600.0	-1.0	--
6	BETA-BISABOLENE	Rhizome	5.0	3600.0	-1.0	--
6	ZINGIBERENE	Essential Oil				--
6	ZINGIBERENE	Rhizome Essent. Oil				--
6	BETA-BISABOLENE	Rhizome Essent. Oil	25000.0	105100.0	1.0	--
6	ZINGIBERENE	Root Essent. Oil				--
6	ETHYL-ACETATE	Rhizome				--
5	SABINENE	Rhizome		20.0		--
5	MYRTENAL	Rhizome	0.5	30.0		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.

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5	BETA-ELEMENE	Rhizome	2.0	500.0	0.26691736651361464	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
5	BETA-THUJONE	Rhizome				--
5	CAPRYLIC-ACID	Rhizome	70.0	380.0		--
5	BETA-SESQUIPHELLANDRENE	Rhizome		460.0		--
5	ALUMINUM	Root	46.0	663.0	0.04325697966835661	--
5	GERANYL-ACETATE	Rhizome				--
5	MYRTENAL	Rhizome Essent. Oil		600.0		--
5	CAPRYLIC-ACID	Root	70.0	380.0		USDA's Ag Handbook 8 and sequelae)
5	GERANYL-ACETATE	Rhizome Essent. Oil				--
5	CYANIN	Rhizome				--
5	STARCH	Root	35000.0	600000.0	1.18913249334548	--
5	SABINENE	Rhizome Essent. Oil		700.0		--
5	BETA-THUJONE	Rhizome Essent. Oil				--
5	ALUMINUM	Rhizome		663.0		--
5	CAPRYLIC-ACID	Rhizome Essent. Oil				--
5	8-GINGEROL	Rhizome Essent. Oil				--
5	BETA-SESQUIPHELLANDRENE	Rhizome Essent. Oil		43000.0		--
5	BETA-SESQUIPHELLANDRENE	Root Essent. Oil				--
5	BETA-ELEMENE	Rhizome Essent. Oil		3000.0		--
5	8-GINGEROL	Root				--
5	8-GINGEROL	Rhizome	110.0	1069.0		--
5	STARCH	Rhizome	123000.0	500000.0	0.41680828464384206	--
4	LYSINE	Rhizome	570.0	3110.0	-1.0	--
4	THREONINE	Shoot				--
4	THREONINE	Root	360.0	2057.0	-0.4948266685368329	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	GALANOLACTONE	Rhizome				--
4	SILICON	Rhizome		285.0		--
4	PHOSPHORUS	Rhizome	320.0	5323.0	0.4586280406131061	--
4	GALANOLACTONE	Root				--
4	LYSINE	Root	570.0	3110.0	-0.5755610272389462	USDA's Ag Handbook 8 and sequelae)
4	TIN	Rhizome		13.0		--
4	PATCHOULI-ALCOHOL	Rhizome Essent. Oil				--
4	TIN	Root	0.1	1.3	-1.5436732662398835	--
4	NERAL	Rhizome Essent. Oil	81000.0	260000.0		--
4	THREONINE	Rhizome	360.0	2057.0	-1.0	--
4	THREONINE	Tuber				--
4	PUFA	Rhizome	1540.0	8400.0	1.0	--
4	PUFA	Root	1540.0	8400.0	1.333787882042874	USDA's Ag Handbook 8 and sequelae)
4	BORON	Root	1.0	4.0	-0.7413065903382969	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).
4	NERAL	Rhizome		410.0		--
4	PHOSPHORUS	Root	181.0	2580.0	-0.1647701538167895	--
4	PATCHOULI-ALCOHOL	Rhizome				--
4	BORON	Rhizome	1.0	4.0		--
4	SILICON	Root	2.0	28.5	-0.2119845357116175	--
4	D-BORNEOL	Rhizome	14.0	1102.0	1.0	--
4	D-BORNEOL	Root	14.0	1102.0		--
3	ASPARTIC-ACID	Root	2080.0	11990.0	0.26543138626572105	USDA's Ag Handbook 8 and sequelae)
3	ASPARTIC-ACID	Tuber				--

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3	METHYL-ACETATE	Essential Oil				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
3	ISOLEUCINE	Root	510.0	2926.0	-0.2833451886291646	USDA's Ag Handbook 8 and sequelae)
3	GINGERENONE-A	Rhizome	118.0	136.0		--
3	AR-CURCUMENE	Rhizome Essent. Oil		25000.0		--
3	NICKEL	Root	2.0	5.2	1.752676229894103	--
3	ASPARTIC-ACID	Shoot				--
3	ALPHA-SELINENE	Rhizome				--
3	ALPHA-CURCUMENE	Rhizome Essent. Oil		19400.0		--
3	BETA-PHELLANDRENE	Rhizome Essent. Oil	57000.0	106700.0		--
3	AROMADENDRENE	Rhizome Essent. Oil				--
3	ISOLEUCINE	Tuber				--
3	ALANINE	Rhizome	310.0	1793.0	-1.0	--
3	AR-CURCUMENE	Rhizome	20.0	9520.0	1.0	--
3	CAPRIC-ACID	Rhizome	1800.0	1980.0		--
3	CHAVICOL	Rhizome Essent. Oil				--
3	GUAIOL	Rhizome Essent. Oil				--
3	NICKEL	Rhizome	2.0	5.2	1.0	--
3	ACETONE	Essential Oil				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
3	10-GINGEROL	Rhizome	2.6	1862.0		--
3	BETA-SELINENE	Rhizome				--
3	FLUORIDE	Rhizome		7.9	1.0	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	HEXANOL	Rhizome				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
3	METHYL-NONYL-KETONE	Rhizome Essent. Oil				--
3	VALINE	Tuber				--
3	AR-CURCUMENE	Root Essent. Oil				--
3	ALANINE	Root	310.0	1793.0	-0.8118285216311718	USDA's Ag Handbook 8 and sequelae)
3	ALPHA-CADINOL	Rhizome Essent. Oil				--
3	METHYL-NONYL-KETONE	Rhizome				--
3	VALINE	Root	730.0	4202.0	0.07599207749422336	USDA's Ag Handbook 8 and sequelae)
3	CAPRIC-ACID	Root	1800.0	1980.0		USDA's Ag Handbook 8 and sequelae)
3	VALINE	Shoot				--
3	VALINE	Rhizome	730.0	4202.0	1.0	--
3	AR-CURCUMENE	Root				--
3	ALPHA-SELINENE	Rhizome Essent. Oil				--
3	BETA-PHELLANDRENE	Rhizome	32.0	2850.0		--
3	METHYL-ACETATE	Rhizome				--
3	ALPHA-CURCUMENE	Rhizome		280.0		--
3	ASPARTIC-ACID	Rhizome	2080.0	11990.0	-1.0	--
3	10-DEHYDROGINGERDIONE	Rhizome				--
3	CHAVICOL	Rhizome				--
3	ISOLEUCINE	Rhizome	510.0	2926.0	1.0	--
3	PARADOL	Rhizome				--
3	ACETONE	Rhizome				--
3	BETA-SELINENE	Rhizome Essent. Oil				--
3	ALPHA-CADINOL	Rhizome				--
3	10-GINGEROL	Root				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	GINGERENONE-B	Rhizome		4.7		--
2	LEUCINE	Tuber				--
2	BETA-SANTALOL	Rhizome Essent. Oil		162000.0		--
2	PIPECOLIC-ACID	Rhizome		320.0		--
2	PALMITOLEIC-ACID	Rhizome	210.0	1145.0	1.0	--
2	9-OXO-NEROLIDOL	Rhizome Essent. Oil				--
2	PROPIONALDEHYDE	Rhizome				--
2	PHYTOSTEROLS	Rhizome	150.0	913.0		--
2	COBALT	Root	0.3	4.2	-0.454047411785451	--
2	FARNESENE	Rhizome	245.0	4910.0		--
2	HUMULENE	Rhizome				--
2	ZINGIBERONE	Rhizome	0.3	400.0		--
2	CAMPESTEROL	Root	10.0	100.0	-0.2945736885682078	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
2	HUMULENE	Root				--
2	LEUCINE	Rhizome	740.0	4257.0	1.0	--
2	COBALT	Rhizome	0.9	42.0	1.0	--
2	FARNESAL	Rhizome	1.0	100.0		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
2	ELEMOL	Rhizome Essent. Oil		3800.0		--
2	ZINGIBERONE	Rhizome Essent. Oil				--
2	CITRONELLYL-ACETATE	Rhizome				--
2	HEXAHYDROCURCUMIN	Rhizome Essent. Oil				--
2	6-DEHYDROGINGERDIONE	Rhizome				--
2	10-GINGERDIONE	Rhizome		11.0		--
2	10-GINGERDIONE	Root				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	FARNESENE	Essential Oil				--
2	METHYL-ISOBUTYL-KETONE	Essential Oil				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
2	HEXAHYDROCURCUMIN	Rhizome	21.3	25.1		--
2	PALMITOLEIC-ACID	Root	210.0	1145.0	0.05724502554235483	USDA's Ag Handbook 8 and sequelae)
2	PHYTOSTEROLS	Root	150.0	913.0	0.021969609312565776	USDA's Ag Handbook 8 and sequelae)
2	PROPIONALDEHYDE	Essential Oil				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
2	9-OXO-NEROLIDOL	Rhizome				--
2	BETA-MYRCENE	Rf	2.0	950.0		--
2	FARNESAL	Rhizome Essent. Oil		2000.0		--
2	TRANS-BETA-FARNESENE	Rhizome	1.0	1200.0	-1.0	--
2	BETA-MYRCENE	Rhizome Essent. Oil				--
2	CITRONELLYL-ACETATE	Rhizome Essent. Oil				--
2	LEUCINE	Root	740.0	4257.0	-0.0564322869347267	USDA's Ag Handbook 8 and sequelae)
2	ELEMOL	Rhizome	3.0	190.0		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
2	ASPARAGINE	Rhizome		500.0	-0.734470603058131	--
2	8-SHOGAOL	Rhizome	48.0	130.0		--
2	CYSTINE	Root	80.0	462.0	-0.8891832694867765	USDA's Ag Handbook 8 and sequelae)
2	METHYL-CAPRYLATE	Essential Oil				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
2	6-GINGERDIONE	Rhizome	3.3	10.0		--
2	BETA-MYRCENE	Rhizome		330.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	GINGERENONE-C	Rhizome		14.2		--
2	CYSTINE	Rhizome	80.0	462.0	-1.0	--
2	GAMMA-BISABOLENE	Rhizome Essent. Oil				--
2	ISOGINGERENONE-B	Rhizome		4.7		--
1	RAFFINOSE	Root				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	SODIUM	Rhizome	60.0	709.0	0.18755999323325184	--
1	PENTADECANOIC-ACID	Rhizome				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	CUMENE	Rhizome		1.0		--
1	8-BETA-17-EPOXY-LABD-TRANS-12-ENE-15,16-DIAL	Rhizome		400.0		--
1	DECAN-1-AL	Rhizome				--
1	LABDA-TRANS-8(17)-12-DIENE-15-16-DIAL	Rhizome				--
1	HEPTADECANOIC-ACID	Rhizome				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	RAFFINOSE	Rhizome				--
1	SERINE	Tuber				--
1	ETHYL-MYRISTATE	Rhizome				--
1	SERINE	Shoot				--
1	SODIUM	Root	30.0	423.0	-0.31581734202184225	--
1	6-GINGERDIOL	Rhizome				--
1	SERINE	Rhizome	450.0	2596.0	-1.0	--
1	SERINE	Root	450.0	2596.0	-0.4317372218630029	USDA's Ag Handbook 8 and sequelae)
1	ALPHA-ZINGIBERENE	Rhizome Essent. Oil		442600.0		--



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	ISOVALERALDEHYDE	Rhizome				--
1	ZINGIBAIN	Rhizome				--
1	N-HEPTANE	Rhizome				--
1	N-BUTYRALDEHYDE	Rhizome				--
1	ISOVALERALDEHYDE	Essential Oil				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
1	ALPHA-ZINGIBERENE	Rhizome	74.0	4600.0	1.0	--
1	ZINGIBAIN	Root				Abstract (See species file)
1	6-GINGESULFONIC-ACID	Rhizome		13.0		--
1	N-DECANAL	Essential Oil				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
1	ALPHA-ZINGIBERENE	Rhizome		200.0	-1.0	--
1	ETHYL-MYRISTATE	Rhizome Essent. Oil				--
1	N-BUTYRALDEHYDE	Essential Oil				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
1	CUMENE	Root		1.0		--
1	DODECANOIC-ACID	Rhizome				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	BETA-ZINGIBERENE	Rhizome				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	DECYL-ALDEHYDE	Root				--
0	NONANAL	Rhizome	2.0	50.0	1.0	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	3(R)-5(S)-DIACETOXY-1-(4-HYDROXY-3-METHOXY-PHENYL)-DECANE	Rhizome		41.8		--
0	PERILLENE	Rhizome Essent. Oil		1900.0		--
0	HEPTAN-2-OL	Rhizome Essent. Oil		2700.0		--
0	VIT-B-6	Root	1.6	8.7	-0.2586482502443934	USDA's Ag Handbook 8 and sequelae)
0	BETA-CARYOPHYLLENE	Rhizome Essent. Oil		900.0	-1.0	--
0	5-O-BETA-D-GLUCOPYRANOSYL-3-HYDROXY-1-(4-HYDROXYPHENYL)-DECANE	Rhizome		3.0		--
0	ALPHA-CADINENE	Rhizome				--
0	16-GINGEROL	Rhizome				--
0	TRAN-8-SHOGOAL	Rhizome		40.0		--
0	NITROGEN	Root	16000.0	24440.0	-0.453393339582228	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	GAMMA-EUDESOL	Rhizome Essent. Oil		2300.0		--
0	TRANS-OCTEN-2-AL	Rhizome Essent. Oil				--
0	6-GINGEDIOL-DIACETATE-METHYL-ETHER	Rhizome				--
0	N-PROPANOL	Essential Oil				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
0	TRICYCLEN	Rhizome	2.0	115.0		--
0	6-METHYLGINGEDIACETATE	Root				Chemical Constituents of Oriental Herbs (3 diff. books)
0	TRANS-3-(2-4-5-TRIMETHOXY-PHENYL)-4-(TRANS-3-4-DIMETHOXY-STYRYL)-CYCLOHEXENE	Rhizome		13.9		--
0	3(S)-5(S)-DIHYDROXY-1-7-BIS-(4-HYDROXY-3-METHOXY-PHENYL)-HEPTANE	Rhizome		5.3		--
0	NEOISOPULEGOLE	Rhizome Essent. Oil				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	FAT	Rhizome	7000.0	77000.0	0.7203322628500908	--
0	2-(3'-METHYL-2'-BUTENYL)-3-METHYL-FURAN	Rhizome				--
0	3-7-DIMETHYL-OCTA-3-CIS-6-DIEN-1-AL	Rhizome				--
0	8-GINGEDIOL	Rhizome				--
0	ISOEUGENOL-METHYL-ETHER	Rhizome	0.6	40.0		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	CIS-BETA-SESQUIPELLANDROL	Essential Oil				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
0	5-HYDROXY-7-(4-HYDROXY-3-5-DIMETHOXY-PHENYL)-1-(4-HYDROXY-3-METHOXY-PHENYL)-HEPTAN-3-ONE	Rhizome		0.52		--
0	CIS-SESQUISABINENE-HYDRATE	Rhizome Essent. Oil				--
0	DIHYDROGINGEROL	Rhizome				--
0	6-GINGEDIOL-ACETATE-METHYL-ETHER	Rhizome				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	CAR-3-ENE	Rhizome				--
0	CIS-GERANIC-ACID	Rhizome				--
0	SESQUITHUJENE	Rhizome				--
0	ROSEFURAN	Rhizome	1.0	90.0		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	NONAN-2-ONE	Rhizome	8.0	160.0		--
0	XANTHORRHIZOL	Rhizome	1.0	50.0		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	3(R)-5(S)-DIACETOXY-1-(3-4-DIMETHOXY-PHENYL)-DECANE	Rhizome		14.9		--
0	1-(4-O-BETA-D-GLUCOPYRANOSYL-3-METHOXYPHENYL)-3,5-DIHYDROXYDECANE	Rhizome		2.0		--
0	ALLO-AROMADENDRINE	Rhizome	1.0	70.0		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	14-GINGEROL	Rhizome				--
0	TRAN-6-SHOGOAL	Rhizome		40.0		--
0	ASH	Root	2450.0	35000.0	-0.9297321702301228	--
0	TRANS-BETA-SESQUIPELLANDROL	Rhizome Essent. Oil		7200.0		--
0	6-GINGEDIOL-DIACETATE	Rhizome		3.3		--
0	P-CYMEN-8-OL	Rhizome Essent. Oil		700.0		--
0	3(S)-5(S)-DIHYDROXY-1-(4'-HYDROXY-3'-5'-DIMETHOXY-PHENYL)-7-(4'-HYDROXY-3'-METHOXY-PHENYL)-HEPTANE	Rhizome		2.0		--
0	N-OCTANOL	Rhizome				--
0	BORNEOL-ACETATE	Rhizome Essent. Oil		2100.0		--
0	AROMADENDRINE	Rhizome				--
0	CIS-8-SHOGOAL	Rhizome		40.0		--
0	5-HYDROXY-1-(4-HYDROXY-3-5-DIMETHOXY-PHENYL)-7-(4-HYDROXY-3-METHOXY-PHENYL)-HEPTAN-3-ONE	Rhizome		0.52		--
0	CIS-SELINEN-4-OL	Rhizome				--
0	METHYL-8-SHOGOAL	Rhizome				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	DIETHYLSULFIDE	Essential Oil				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
0	6-GINGEDIOL-ACETATE	Rhizome				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	GLUTELIN	Rhizome	2506.0	23091.0		--
0	ZONARENE	Essential Oil				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	4-PHENYL-BENZALDEHYDE	Rhizome Essent. Oil				--
0	BETA-FARNESENE	Root Essent. Oil				--
0	TRANS-LINALOOL-OXIDE	Rhizome Essent. Oil				--
0	SESQUITERPENE-HYDROCARBON	Rhizome Essent. Oil				--
0	PERILLEN	Rhizome Essent. Oil				--
0	NONAN-2-OL	Rhizome		10.0		--
0	WATER	Rhizome	93090.0	930000.0	0.9531262707913175	--
0	PENTAN-2-OL	Rhizome				--
0	GINGERGLYCOLIPID-C	Rhizome		14.0		--
0	SHOGAOLS	Root		1800.0		--
0	ALBUMIN	Rhizome	4984.0	45924.0		--
0	LINALOL	Rhizome		50.0	-1.0	--
0	12-GINGEROL	Rhizome				--
0	GINGEDIACETATE	Rhizome				--
0	ANTI-METHYL-10-SHOAOL	Rhizome				--
0	TRANS-12-SHOAOL	Rhizome				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	3-EPIACETOXY-1,5-EPOXY-1-(3,4-DIHYDROXY-5-METHOXY-PHENYL)-7-(4-HYDROXY-3-METHOXY-PHENYL)-HEPTANE	Rhizome				--
0	CIS-3-(3-4-DIMETHOXY-PHENYL)-4-(TRANS-3-4-DIMETHOXY-STYRYL)-CYCLOHEXENE	Rhizome		50.6		--
0	3(S)-5(S)-DIACETOXY-1-7-BIS-(3-4-DIHYDROXY-PHENYL)-HEPTANE	Rhizome		15.7		--
0	N-OCTANE	Rhizome				--
0	BISABOLENE	Rhizome				--
0	7-GINGEROL	Rhizome				--
0	CIS-6-SHOGOAL	Rhizome		40.0		--
0	CIS-1-2-BIS-(TRANS-3-4-DIMETHOXY-STYRYL)-CYCLOBUTANE	Rhizome		13.9		--
0	2-6-DIMETHYL-HEPT-5-EN-1-AL	Rhizome				--
0	CIS-ROSE-OXIDE	Rhizome				--
0	METHYL-8-GINGEROL	Rhizome				--
0	DEMETHYL-HEXAHYDROCUCUMIN	Rhizome				--
0	6-GINGEDIOL	Rhizome	21.0	30.0		--
0	SHOGAOLS	Rhizome		1800.0		--
0	1-(4-HYDROXY-3-METHOXYPHENYL)-3,5-OCTANEDIOL	Root				Chemical Constituents of Oriental Herbs (3 diff. books)
0	3-PHENYL-BENZALDEHYDE	Rhizome Essent. Oil				--
0	P-MENTHA-2,8-DIEN-1-OL	Rhizome				--
0	SESQUIPELLANDRENE	Rhizome Essent. Oil				--
0	OCTAN-2-OL	Rhizome				--
0	NITROGEN	Rhizome	16000.0	24440.0		--
0	VIT-B-6	Rhizome	1.6	8.7		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	3-6-EPOXY-1-(4-HYDROXY-3-METHOXY-PHENYL)-DECA-3-5-DIENE	Rhizome				--
0	7-(3-4-DIHYDROXY-PHENYL)-1-(4-HYDROXY-3-METHOXY-PHENYL)-HEPT-4-EN-3-ONE	Rhizome		1.4		--
0	ALPHA-CUBEBENE	Rhizome Essent. Oil				--
0	ALPHA-YLANGENE	Rhizome				--
0	10-SHOGOAL	Rhizome				--
0	GERMANIUM	Rhizome	87.0	169.0		--
0	PHOSPHATIDIC-ACID	Rhizome				--
0	TRANS-8-SHOGAOL	Rhizome		40.0		--
0	3-ACETOXY-1,5-EPOXY-1-(3,4-DIHYDROXY-5-METHOXY-PHENYL)-7-(4-HYDROXY-3-METHOXY-PHENYL)-HEPTANE	Rhizome				--
0	(+)-ALPHA-CURCUMENE	Essential Oil				--
0	3(S)-5(S)-DIACETOXY-1-(4'-HYDROXY-3'-5'-DIMETHOXY-PHENYL)-7-(4'-HYDROXY-3'-METHOXY-PHENYL)-HEPTANE	Rhizome		20.0		--
0	N-NONANONE	Rhizome Essent. Oil				--
0	ANGELICOIDENOL-2-O-BETA-D-GLUCOPYRANOSIDE	Rhizome		14.0		--
0	CIS-12-SHOGOAL	Rhizome				--
0	METHYL-6-SHOGOAL	Rhizome				--
0	DELTA-CAR-3-ENE	Rhizome				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	6-DIHYDROGINGERDIONE	Rhizome				--
0	ZINGIBEROL	Rhizome	0.0	8000.0		--
0	ALPHA-FARNESENE	Root Essent. Oil				--
0	P-MENTHA-1,5-DIEN-7-OL	Rhizome				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	NONAN-2-ONE	Rhizome Essent. Oil		3200.0		--
0	GLOBULIN	Root	2366.0	21801.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	CIS-BETA-SESQUIPHELLANDROL	Rhizome Essent. Oil				--
0	TRANS-OCTEN-2-AL	Rhizome				--
0	PROTEIN	Root	7000.0	100000.0	-0.20677098370529998	--
0	CARBOHYDRATES	Root	47390.0	677000.0	-1.9641525828914683	--
0	BORNEOL-METHYL-ETHER	Rhizome				--
0	2-(2'-3'-EPOXY-3-METHYL-BUTYL)-3-METHYL-FURAN	Rhizome				--
0	2-6-DIMETHYL-OCTA-3-7-DIENE-1-6-DIOL	Rhizome				--
0	N-UNDECANONE	Rhizome Essent. Oil				--
0	TRANS-10-SHOGAOL	Rhizome				--
0	DEC-TRANS-2-EN-1-AL	Rhizome				--
0	HEXAN-1-OL	Rhizome Essent. Oil				--
0	ISOEUGENOL-METHYL-ETHER	Rhizome Essent. Oil		800.0		--
0	BETA-CARYOPHYLLENE	Rhizome	0.7	45.0	-1.0	--
0	N-OCTANE	Essential Oil				--
0	GADOLEIC-ACID	Rhizome	70.0	380.0	1.0	--
0	ALPHA-COPAENE	Rhizome Essent. Oil				--
0	ZINGIBEROL	Essential Oil				--
0	ALBUMIN	Root	4984.0	45924.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	12-GINGEDIOL	Rhizome				--
0	1-(4-HYDROXY-3-METHOXYPHENYL)-3,5-DIACETOXYOCTANE	Root				Chemical Constituents of Oriental Herbs (3 diff. books)



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	1-7-BIS-(4-HYDROXY-3-METHOXY-PHENYL)-HEPTANE-3(S)-DIOL	Rhizome		4.0		--
0	N-NONANOL	Rhizome				--
0	THIAMINE	Root	0.1	1.5	-0.5634413774971821	--
0	ANTI-METHYL-8-SHOGAOL	Rhizome				--
0	6-PARADOL	Rhizome		9.0		--
0	CIS-10-SHOGOAL	Rhizome				--
0	6-METHYLGINGEDIOL	Root				Chemical Constituents of Oriental Herbs (3 diff. books)
0	ALPHA-MUUROLENE	Rhizome				--
0	METHYL-6-GINGEROL	Rhizome				--
0	GLOBULIN	Rhizome	2366.0	21801.0		--
0	CAMPHENE-HYDRATE	Rhizome				--
0	SFA	Rhizome	2030.0	11085.0		--
0	GLUTELIN	Root	2506.0	23091.0		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	P-CYMEN-8-OL	Rhizome	0.5	35.0		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	ZINGIBERENOL	Rhizome		100.0		--
0	ALPHA-FARNESENE	Rhizome Essent. Oil		25000.0		--
0	N-PROPANOL	Rhizome				--
0	CEDOROL	Rhizome Essent. Oil				--
0	CIS-8-SHOGAOL	Rhizome		40.0		--
0	TRANS-NEROLIDOL	Rhizome	5.0	350.0		--
0	PROLINE	Root	410.0	2376.0	0.2837932421997398	USDA's Ag Handbook 8 and sequelae)
0	BISABOLENE	Essential Oil				--
0	2-6-DIMETHYL-OCTA-2-6-DIENE-1-8-DIOL	Rhizome				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	(+)-6-GINGEROL	Root				--
0	CIS-10-SHOGAOL	Rhizome				--
0	DODEC-TRANS-2-EN-1-AL	Rhizome				--
0	HEXAN-1-AL	Rhizome Essent. Oil	2.0	700.0		--
0	OCT-TRANS-2-EN-1-AL	Rhizome				--
0	N-NONANONE	Rhizome				--
0	ALPHA-CEDROL	Rhizome Essent. Oil				--
0	GINGERGLYCOLIPID-B	Rhizome	14.0	15.0		--
0	ZINGIBEROL	Rhizome Essent. Oil	2900.0	160000.0		--
0	ZERUMBODIENONE	Rhizome				--
0	PERILLENE	Rhizome	1.0	95.0		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	DEMETHYL-HEXAHYDROCURCUMIN	Root				--
0	2,2,4-TRIMETHYL-HEPTANE	Rhizome Essent. Oil				--
0	N-NONANE	Rhizome				--
0	SUGARS	Root	5600.0	80000.0	-0.231158975572398	--
0	ANTI-METHYL-6-SHOGAOL	Rhizome				--
0	ETHYL-ISOPROPYL-SULFIDE	Essential Oil				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	6-METHYLGINGEDIOL	Rhizome				--
0	HEXAN-1-AL	Rhizome	2.0	35.0		--
0	CINEOLE	Rhizome				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	TERT-BUTANOL	Essential Oil				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	METHYL-12-GINGEROL	Rhizome				--
0	6,10-DEHYDROGINGERDIONE	Rhizome				--
0	GLANOLACTONE	Rhizome		120.0		--
0	SESQUITHUJENE	Essential Oil				--
0	ZINGIBERENES	Rhizome	890.0	17836.0		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	METHYL-HEPTENONE	Rhizome Essent. Oil				--
0	SELINA-3,7(11)-DIENE	Rhizome Essent. Oil		1300.0		--
0	N-OCTANE	Rhizome Essent. Oil				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	CAR-3-ENE	Rhizome Essent. Oil				--
0	CIS-12-SHOGAOL	Rhizome				--
0	TRANS-LINALOL-OXIDE	Rhizome				--
0	PROTEIN	Rhizome	14000.0	129000.0	-0.1125496505640368	--
0	BISABOLENE	Root Essent. Oil				--
0	10-SHOGAOL	Rhizome		74.0		--
0	METHYL-12-GINGEDIOL	Rhizome				--
0	DIETHYLSULFIDE	Rhizome				--
0	CIS-HEXAN-3-OL	Rhizome Essent. Oil				--
0	OCTAN-1-OL-ACETATE	Rhizome				--
0	BETA-BISABOLOL	Rhizome	5.0	295.0		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	N-NONANOL	Essential Oil				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	FURANOGERMENONE	Rhizome				--
0	SFA	Root	2030.0	11085.0	3.076072794631063	USDA's Ag Handbook 8 and sequelae)
0	GINGERGLYCOLIPID-A	Rhizome		13.0		--
0	ZINGIBERINE	Root				--
0	URIDINE	Rhizome		11.0	1.0000000000000002	--
0	KILOCALORIES	Rhizome	690.0	3764.0	1.0	--
0	10-GINGEDIOL	Rhizome				--
0	PERILLEN	Rhizome				--
0	MENTHOL-ACETATE	Rhizome				--
0	ALPHA-CADINENE	Rhizome Essent. Oil				--
0	GAMMA-MUUROLENE	Rhizome Essent. Oil		9100.0		--
0	1,5-EPOXY-3-HYDROXY-1-(4-HYDROXY-3,5-DIMETHOXY-PHENYL)-7-(4-HYDROXY-3-METHOXY-PHENYL)-HEPTANE	Rhizome				--
0	GINGERONE	Root				--
0	2(R)-5(S)-DIHYDROXY-1-7-BIS-(4-HYDROXY-3-METHOXY-PHENYL)-HEPTANE	Rhizome		5.6		--
0	METHYL-ALLYL-SULFIDE	Rhizome				--
0	ANTI-METHYL-10-SHOGOAL	Rhizome				--
0	6-METHYLGINGEDIACETATE	Rhizome				--
0	METHYL-10-SHOGOAL	Rhizome				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	DECYL-ALDEHYDE	Rhizome				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	4-PHENYL-BENZALDEHYDE	Rhizome				--
0	GINGERONE	Rhizome				--
0	CALAMENEN	Rhizome				--
0	GINGEDIACETATE	Root				Chemical Constituents of Oriental Herbs (3 diff. books)
0	10-DIHYDROGINGERDIONE	Rhizome		6.3		--
0	METHYL-GINGEROL	Essential Oil				--
0	DIHYDROGINGEROL	Root Essent. Oil				--
0	ALPHA-FARNESENE	Rhizome	20.0	1250.0		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	TRANS-BETA-SESQUIPELLANDROL	Rhizome	6.0	360.0		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	BISABOLENE	Root				--
0	GERANIOL-ACETATE	Rhizome				--
0	(+)-BETA-PHELLANDRENE	Essential Oil				--
0	UNDECAN-2-ONE	Rhizome Essent. Oil				--
0	METHYL-10-GINGEROL	Rhizome				--
0	UNDECAN-2-ONE	Rhizome				--
0	OCTAN-1-AL	Rhizome Essent. Oil		800.0		--
0	N-NONANE	Essential Oil				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
0	(+)-BORNEOL	Rhizome Essent. Oil				--
0	6-10-GINGERDIONE	Root				--
0	ZINGIBERENOL	Rhizome Essent. Oil				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	10-EPIZONARENE	Essential Oil				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	ALLO-AROMADENDRENE	Rhizome Essent. Oil		1400.0		--
0	CIS-NEROLIDOL	Rhizome Essent. Oil				--
0	1,5-EPOXY-3-HYDROXY-1-(3,4-DIHYDROXY-5-METHOXY-PHENYL)-7-(4-HYDROXY-3-METHOXY-PHENYL)-HEPTANE	Rhizome				--
0	GADOLEIC-ACID	Root	70.0	380.0		USDA's Ag Handbook 8 and sequelae)
0	HEPTAN-2-ONE	Rhizome Essent. Oil				--
0	FIBER(DIETARY)	Root		242000.0	-1.7083639629745593	--
0	METHYL-HEPTENONE	Rhizome				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	EO	Rhizome		10000.0	-0.5317116167359565	--
0	6-METHYL-HEPT-5-EN-2-ONE	Rhizome	2.0	50.0		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	HEPTAN-2-ONE	Rhizome				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	PENTOSANS	Rhizome				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	DECANAL	Plant	5.0	100.0	1.0	--
0	4-GINGEROL	Rhizome				--
0	GINGEROLS	Rhizome		13200.0		--
0	SELINA-3,7(11)-DIENE	Rhizome	1.0	65.0		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	FLUORINE	Root		2.0	1.3347186593784242	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	5(S)-ACETOXY-3(R)-HYDROXY-1-(4-HYDROXY-3-METHOXY-PHENYL)-DECANE	Rhizome		15.8		--
0	ROSEFURAN	Rhizome Essent. Oil		1800.0		--
0	JUNIPER-CAMPHOR	Rhizome Essent. Oil				--
0	BETA-SESQUIPELLANDROL	Rhizome				--
0	PHOSPHATIDIC-ACID	Root				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
0	PROLINE	Rhizome	410.0	2376.0	-1.0	--
0	BETA-BISABOLOL	Rhizome Essent. Oil		5900.0		--
0	GERANIOL-ACETATE	Rhizome Essent. Oil		2000.0		--
0	TRANS-NEROLIDOL	Rhizome Essent. Oil	5.0	7000.0		--
0	UNDECAN-2-OL	Rhizome Essent. Oil		500.0		--
0	HUMULENE-EPOXIDE-2	Rhizome				--
0	UNDECAN-2-OL	Rhizome	1.0	25.0		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	BETA-HIMACHALENE	Rhizome Essent. Oil				--
0	NONYL-ALDEHYDE	Rhizome Essent. Oil				--
0	CITRONELLOL-ACETATE	Rhizome				--
0	FLUORINE	Rhizome		2.0		--
0	6,10-DEHYDROGINGERDIONE	Root				--
0	9-GINGEROL	Rhizome				--
0	CIS-SESQUISABINENE-HYDRATE	Plant				--
0	GAMMA-SELINENE	Rhizome	35.0	700.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	AFRAMODIAL	Seed		400.0	1.0	--
0	1,5-EPOXY-3-EPIHYDROXY-1-(3,4-DIHYDROXY-5-METHOXY-PHENYL)-7-(4-HYDROXY-3-METHOXY-PHENYL)-HEPTANE	Rhizome				--
0	6-METHYL-HEPT-5-EN-2-ONE	Rhizome Essent. Oil				--
0	FIBER(CRUDE)	Root		171000.0	1.7664789948967667	--
0	METHYL-GLYOXAL	Essential Oil				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	EO	Resin, Exudate, Sap		60000.0	-1.007598115442729	--
0	HEPTAN-2-OL	Rhizome	1.0	135.0		--
0	3-PHENYL-BENZALDEHYDE	Rhizome				--
0	GINGEROL-METHYL-ETHER	Rhizome				--
0	FAT	Root	5040.0	72000.0	1.6380886391848568	--
0	OCTAN-1-AL	Rhizome	2.0	40.0		--
0	5(S)-3(R)-DIHYDROXY-1-(4-HYDROXY-3-METHOXY-PHENYL)-DECANE	Rhizome		53.1		--
0	LINALOOL-PROPIONATE	Rhizome Essent. Oil				--
0	PROTEASE	Rhizome				--
0	HUMULENE-EPOXIDE-1	Rhizome				--
0	CAMPHENE-HYDRATE	Rhizome Essent. Oil				--
0	ALPHA-COPAENE	Rhizome				--
0	TRANS-12-SHOGOAL	Rhizome				--
0	PROLAMINE	Plant	1540.0	14190.0		--
0	P-MENTHA-1-8-DIEN-7-OL	Rhizome				--
0	TRICYCLENE	Rhizome Essent. Oil		2300.0		--
0	NEO-ISOPULEGOL	Rhizome				--



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	3-5-DIACETOXY-7-(3-4-DIHYDROXY-PHENYL)-1-(4-HYDROXY-3-METHOXY-PHENYL)-HEPTANE	Rhizome		3.5		--
0	NONAN-2-OL	Rhizome Essent. Oil		2000.0		--
0	CHRYSANTHEMIN	Rhizome				--
0	GAMMA-SELINENE	Root	35.0	700.0		--
0	4-GINGEROL	Rhizome Essent. Oil				--
0	XANTHORRHIZOL	Rhizome Essent. Oil		1000.0		--
0	CIS-SESQUIABINENE-HYDRATE	Rhizome				--
0	1-(4-HYDROXY-3-METHOXYPHENYL)-3,5-OCTANEDIOL	Rhizome				--
0	GAMMA-MUUROLENE	Rhizome	7.0	455.0	1.0	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	BETA-HIMACHALENE	Rhizome				--
0	CITRONELLOL-ACETATE	Rhizome Essent. Oil				--
0	6-METHYL-HEPT-5-EN-2-OL	Rhizome				--
0	ETHYL-ISOPROPYL-SULFIDE	Rhizome				--
0	MENTHOL-ACETATE	Rhizome Essent. Oil				--
0	EO	Or	800.0	50000.0		--
0	GUAIL	Rhizome				--
0	CEDOROL	Rhizome				--
0	TRANS-GERANIC-ACID	Rhizome				--
0	2,2,4-TRIMETHYL-HEPTANE	Rhizome				--
0	SEC-BUTANOL	Essential Oil				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	EO	Root	700.0	30000.0	0.7582862013339499	--
0	NONYL-ALDEHYDE	Rhizome				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	ZINGERBERONE	Essential Oil				--
0	3(R)-ACETOXY-5(S)-DYDROXY-1-(4-HYDROXY-3-METHOXY-PHENYL)-DECANE	Rhizome		15.8		--
0	LINALOOL-OXIDE	Rhizome				--
0	PIN-2-EN-5-OL	Rhizome				--
0	HEXAN-1-OL	Rhizome				--
0	WATER	Root		930000.0	1.052183415545071	--
0	CALAMENENE	Rhizome Essent. Oil				--
0	TRANS-10-SHOGOAL	Rhizome				--
0	NONANAL	Root	2.0	50.0		--
0	NEROL-OXIDE	Rhizome				--
0	TRANS-ROSE-OXIDE	Rhizome				--
0	N-UNDECANONE	Rhizome				--
0	TRANS-3-(3-4-DIMETHOXY-PHENYL)-4-(TRANS-3-4-DIMETHOXY-STYRYL)-CYCLOHEXENE	Rhizome		55.8		--
0	3-5-DIACETOXY-1-(4-HYDROXY-3-5-DIMETHOXY-PHENYL)-7-(4-HYDROXY-3-METHOXY-PHENYL)-HEPTANE	Rhizome		30.3		--
0	NONAN-1-AL	Rhizome				--
0	(+)-ANGELICOIDENOL	Rhizome		14.0		--
0	ASH	Rhizome	7700.0	200000.0	1.829986028498204	--
0	3-7-DIMETHYL-OCTA-3-TRANS-6-DIEN-1-AL	Rhizome				--
0	TRANS-6-SHOGAOL	Rhizome		40.0		--
0	CIS-HEXAN-3-OL	Rhizome				--
0	1-(4-HYDROXY-3-METHOXYPHENYL)-3,5-DIACETOXYOCTANE	Rhizome				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	GAMMA-EUDESOL	Rhizome	2.0	115.0		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	5-HYDROXY-7-(4-HYDROXY-PHENYL)-1-(4-HYDROXY-3-METHOXY-PHENYL)-HEPTAN-3-ONE	Rhizome		2.09		--
0	CIS-SESQUISABINENE-HYDRATE	Rhizome				--
0	METHYL-ALLYL-SULFIDE	Essential Oil				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
0	6-GINGEDIOL-METHYL-ETHER	Rhizome				--
0	GLYOXAL	Essential Oil				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	CARBOHYDRATES	Rhizome	92000.0	823240.0	0.675882053937855	--
0	KILOCALORIES	Root	690.0	3764.0	0.8753423179683022	USDA's Ag Handbook 8 and sequelae)
0	ALPHA-MUUROLENE	Rhizome Essent. Oil				--