

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Zingiber officinale*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
0	WATER	Rhizome	93090.0	930000.0	0.9531262707913175	--
0	WATER	Root		930000.0	1.052183415545071	--
0	CARBOHYDRATES	Rhizome	92000.0	823240.0	0.675882053937855	--
0	CARBOHYDRATES	Root	47390.0	677000.0	-1.9641525828914683	--
5	STARCH	Root	35000.0	600000.0	1.18913249334548	--
5	STARCH	Rhizome	123000.0	500000.0	0.41680828464384206	--
1	ALPHA-ZINGIBERENE	Rhizome Essent. Oil		442600.0		--
13	GERANIAL	Rhizome Essent. Oil	159000.0	400000.0		--
4	NERAL	Rhizome Essent. Oil	81000.0	260000.0		--
0	FIBER(DIETARY)	Root		242000.0	-1.7083639629745593	--
0	ASH	Rhizome	7700.0	200000.0	1.829986028498204	--
15	FIBER	Root	9000.0	171000.0	1.8408067359156413	--
0	FIBER(CRUDE)	Root		171000.0	1.7664789948967667	--
15	FIBER	Rhizome	9000.0	171000.0	-0.07465068104411866	--
2	BETA-SANTALOL	Rhizome Essent. Oil		162000.0		--
0	ZINGIBEROL	Rhizome Essent. Oil	2900.0	160000.0		--
53	CITRAL	Rhizome Essent. Oil		130000.0		--
15	CITRONELLOL	Rhizome Essent. Oil	3000.0	130000.0		--
0	PROTEIN	Rhizome	14000.0	129000.0	-0.1125496505640368	--
9	CAMPHENE	Rhizome Essent. Oil		126000.0		--
3	BETA-PHELLANDRENE	Rhizome Essent. Oil	57000.0	106700.0		--
6	BETA-BISABOLENE	Rhizome Essent. Oil	25000.0	105100.0	1.0	--
0	PROTEIN	Root	7000.0	100000.0	-0.20677098370529998	--
67	1,8-CINEOLE	Rhizome Essent. Oil	26000.0	100000.0		--
0	SUGARS	Root	5600.0	80000.0	-0.231158975572398	--
0	FAT	Rhizome	7000.0	77000.0	0.7203322628500908	--
0	FAT	Root	5040.0	72000.0	1.6380886391848568	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	EO	Resin, Exudate, Sap		60000.0	-1.007598115442729	--
0	EO	Or	800.0	50000.0		--
0	ALBUMIN	Rhizome	4984.0	45924.0		--
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.
5	BETA-SESQUIPHELLANDRENE	Rhizome Essent. Oil		43000.0		--
28	ALPHA-PINENE	Rhizome Essent. Oil		39000.0	1.392186073629917	--
0	ASH	Root	2450.0	35000.0	-0.9297321702301228	--
0	EO	Root	700.0	30000.0	0.7582862013339499	--
53	LINALOOL	Rhizome Essent. Oil	3200.0	30000.0	1.0	--
16	P-CYMENE	Rhizome Essent. Oil		26000.0		--
14	POTASSIUM	Rhizome	2640.0	25079.0	1.345332062692374	--
3	AR-CURCUMENE	Rhizome Essent. Oil		25000.0		--
0	ALPHA-FARNESENE	Rhizome Essent. Oil		25000.0		--
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	NITROGEN	Rhizome	16000.0	24440.0		--
0	GLUTELIN	Rhizome	2506.0	23091.0		--
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	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	GLOBULIN	Rhizome	2366.0	21801.0		--
60	LIMONENE	Rhizome Essent. Oil		21000.0	1.411888259893775	--
3	ALPHA-CURCUMENE	Rhizome Essent. Oil		19400.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
22	MYRCENE	Rhizome Essent. Oil		19000.0	-1.0	--
14	POTASSIUM	Root	1323.0	18900.0	0.22854620707535842	--
35	BORNEOL	Rhizome Essent. Oil		18000.0		--
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	PROLAMINE	Plant	1540.0	14190.0		--
53	CITRAL	Root	0.0	13500.0		--
53	CITRAL	Rhizome	0.0	13500.0		--
0	GINGEROLS	Rhizome		13200.0		--
3	ASPARTIC-ACID	Root	2080.0	11990.0	0.26543138626572105	USDA's Ag Handbook 8 and sequelae)
3	ASPARTIC-ACID	Rhizome	2080.0	11990.0	-1.0	--
27	LINOLEIC-ACID	Rhizome	1200.0	11220.0	1.0	--
13	PALMITIC-ACID	Rhizome	1200.0	11220.0	1.0	--
13	PALMITIC-ACID	Root	1200.0	11220.0	0.13536149219761523	USDA's Ag Handbook 8 and sequelae)
27	LINOLEIC-ACID	Root	1200.0	11220.0	3.017959618154365	USDA's Ag Handbook 8 and sequelae)
0	SFA	Rhizome	2030.0	11085.0		--
0	SFA	Root	2030.0	11085.0	3.076072794631063	USDA's Ag Handbook 8 and sequelae)
18	OLEIC-ACID	Rhizome	1190.0	11000.0	1.0	--
18	OLEIC-ACID	Root	1190.0	11000.0	3.056426676222409	USDA's Ag Handbook 8 and sequelae)
23	ALPHA-TERPINEOL	Rhizome Essent. Oil		10000.0		--
0	EO	Rhizome		10000.0	-0.5317116167359565	--
3	AR-CURCUMENE	Rhizome	20.0	9520.0	1.0	--
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)
13	BETA-EUDESOL	Rhizome Essent. Oil		9300.0		--
0	GAMMA-MUUROLENE	Rhizome Essent. Oil		9100.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
13	MUFA	Root	1540.0	8400.0	2.513577974996003	USDA's Ag Handbook 8 and sequelae)
13	MUFA	Rhizome	1540.0	8400.0	1.0	--
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)
0	ZINGIBEROL	Rhizome	0.0	8000.0		--
0	TRANS-BETA-SESQUIPHELLANDROL	Rhizome Essent. Oil		7200.0		--
28	6-GINGEROL	Rhizome	130.0	7138.0		--
0	TRANS-NEROLIDOL	Rhizome Essent. Oil	5.0	7000.0		--
35	GERANIOL	Rhizome Essent. Oil		6900.0		--
15	CITRONELLOL	Rhizome	2.0	6500.0		--
0	BETA-BISABOLOL	Rhizome Essent. Oil		5900.0		--
4	PHOSPHORUS	Rhizome	320.0	5323.0	0.4586280406131061	--
13	BETA-PINENE	Rhizome Essent. Oil		5300.0	1.248959633610851	--
9	OXALIC-ACID	Root		5000.0	2.5415261372448525	--
9	OXALIC-ACID	Rhizome		5000.0		--
2	FARNESENE	Rhizome	245.0	4910.0		--
1	ALPHA-ZINGIBERENE	Rhizome	74.0	4600.0	1.0	--
2	LEUCINE	Rhizome	740.0	4257.0	1.0	--
2	LEUCINE	Root	740.0	4257.0	-0.0564322869347267	USDA's Ag Handbook 8 and sequelae)
3	VALINE	Root	730.0	4202.0	0.07599207749422336	USDA's Ag Handbook 8 and sequelae)
3	VALINE	Rhizome	730.0	4202.0	1.0	--
11	ALPHA-PHELLANDRENE	Rhizome Essent. Oil		4000.0		--
2	ELEMOL	Rhizome Essent. Oil		3800.0		--
0	KILOCALORIES	Rhizome	690.0	3764.0	1.0	--
0	KILOCALORIES	Root	690.0	3764.0	0.8753423179683022	USDA's Ag Handbook 8 and sequelae)
7	LAURIC-ACID	Rhizome	390.0	3630.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
7	LAURIC-ACID	Root	390.0	3630.0	1.4134619657773633	USDA's Ag Handbook 8 and sequelae)
6	BETA-BISABOLENE	Rhizome	5.0	3600.0	-1.0	--
28	CALCIUM	Rhizome	150.0	3458.0	-0.7549394061569589	--
0	NONAN-2-ONE	Rhizome Essent. Oil		3200.0		--
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)
4	LYSINE	Rhizome	570.0	3110.0	-1.0	--
4	LYSINE	Root	570.0	3110.0	-0.5755610272389462	USDA's Ag Handbook 8 and sequelae)
9	CAMPHENE	Rhizome		3080.0	1.0	--
5	BETA-ELEMENE	Rhizome Essent. Oil		3000.0		--
3	ISOLEUCINE	Root	510.0	2926.0	-0.2833451886291646	USDA's Ag Handbook 8 and sequelae)
3	ISOLEUCINE	Rhizome	510.0	2926.0	1.0	--
20	CITRONELLAL	Rhizome Essent. Oil		2900.0		--
3	BETA-PHELLANDRENE	Rhizome	32.0	2850.0		--
0	HEPTAN-2-OL	Rhizome Essent. Oil		2700.0		--
65	MAGNESIUM	Root	188.0	2690.0	0.0683510412136399	--
65	MAGNESIUM	Rhizome	430.0	2690.0	1.0779788333953992	--
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)
4	PHOSPHORUS	Root	181.0	2580.0	-0.1647701538167895	--
12	GLYCINE	Rhizome	430.0	2486.0	-1.0	--
14	ARGININE	Rhizome	430.0	2486.0	-1.0	--
12	GLYCINE	Root	430.0	2486.0	-0.22589147640123697	USDA's Ag Handbook 8 and sequelae)
14	ARGININE	Root	430.0	2486.0	-0.41425783754112155	USDA's Ag Handbook 8 and sequelae)
7	PHENYLALANINE	Root	450.0	2455.0	-0.39322284344633335	USDA's Ag Handbook 8 and sequelae)
7	PHENYLALANINE	Rhizome	450.0	2455.0	1.0	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PROLINE	Root	410.0	2376.0	0.2837932421997398	USDA's Ag Handbook 8 and sequelae)
0	PROLINE	Rhizome	410.0	2376.0	-1.0	--
0	GAMMA-EUDES MOL	Rhizome Essent. Oil		2300.0		--
0	TRICYCLEN E	Rhizome Essent. Oil		2300.0		--
0	BORNEOL-ACETATE	Rhizome Essent. Oil		2100.0		--
4	THREONINE	Root	360.0	2057.0	-0.4948266685368329	USDA's Ag Handbook 8 and sequelae)
4	THREONINE	Rhizome	360.0	2057.0	-1.0	--
2	FARNESAL	Rhizome Essent. Oil		2000.0		--
0	GERANIOL-ACETATE	Rhizome Essent. Oil		2000.0		--
0	NONAN-2-OL	Rhizome Essent. Oil		2000.0		--
3	CAPRIC-ACID	Rhizome	1800.0	1980.0		--
3	CAPRIC-ACID	Root	1800.0	1980.0		USDA's Ag Handbook 8 and sequelae)
0	PERILLENE	Rhizome Essent. Oil		1900.0		--
3	10-GINGEROL	Rhizome	2.6	1862.0		--
0	SHOGAOLS	Root		1800.0		--
0	SHOGAOLS	Rhizome		1800.0		--
9	TERPINOLENE	Rhizome Essent. Oil		1800.0		--
0	ROSEFURAN	Rhizome Essent. Oil		1800.0		--
3	ALANINE	Rhizome	310.0	1793.0	-1.0	--
3	ALANINE	Root	310.0	1793.0	-0.8118285216311718	USDA's Ag Handbook 8 and sequelae)
7	HISTIDINE	Rhizome	300.0	1738.0	-1.0	--
7	HISTIDINE	Root	300.0	1738.0	-0.05270016889774364	USDA's Ag Handbook 8 and sequelae)
6	MYRISTIC-ACID	Rhizome	180.0	1650.0	-1.0	--
6	MYRISTIC-ACID	Root	180.0	1650.0	1.7305384293651185	USDA's Ag Handbook 8 and sequelae)
28	CALCIUM	Root	116.0	1650.0	-0.6300358799835268	--
8	STEARIC-ACID	Root	170.0	1540.0	2.8114380671291452	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
8	STEARIC-ACID	Rhizome	170.0	1540.0	1.0	--
0	ALLO-AROMADENDRENE	Rhizome Essent. Oil		1400.0		--
9	DELTA-CADINENE	Rhizome Essent. Oil		1300.0		--
0	SELINA-3,7(11)-DIENE	Rhizome Essent. Oil		1300.0		--
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.
11	GAMMA-TERPINENE	Rhizome		1230.0	1.0	--
41	CAMPHOR	Rhizome Essent. Oil		1200.0	1.0	--
2	TRANS-BETA-FARNESENE	Rhizome	1.0	1200.0	-1.0	--
2	PALMITOLEIC-ACID	Rhizome	210.0	1145.0	1.0	--
2	PALMITOLEIC-ACID	Root	210.0	1145.0	0.05724502554235483	USDA's Ag Handbook 8 and sequelae)
8	TYROSINE	Root	200.0	1122.0	-1.4340366854424644	USDA's Ag Handbook 8 and sequelae)
8	TYROSINE	Rhizome	200.0	1122.0	-1.0	--
4	D-BORNEOL	Rhizome	14.0	1102.0	1.0	--
4	D-BORNEOL	Root	14.0	1102.0		--
5	8-GINGEROL	Rhizome	110.0	1069.0		--
60	LIMONENE	Rhizome	17.0	1050.0	0.6650265305559545	--
0	XANTHORRHIZOL	Rhizome Essent. Oil		1000.0		--
13	GERANIAL	Rhizome		980.0		--
22	MYRCENE	Rf	2.0	950.0		--
2	BETA-MYRCENE	Rf	2.0	950.0		--
22	MYRCENE	Rhizome	2.0	950.0	-1.0	--
2	PHYTOSTEROLS	Rhizome	150.0	913.0		--
2	PHYTOSTEROLS	Root	150.0	913.0	0.021969609312565776	USDA's Ag Handbook 8 and sequelae)
0	BETA-CARYOPHYLLENE	Rhizome Essent. Oil		900.0	-1.0	--
7	LAURIC-ACID	Rhizome Essent. Oil		900.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	ISOEUGENOL-METHYL-ETHER	Rhizome Essent. Oil		800.0		--
0	OCTAN-1-AL	Rhizome Essent. Oil		800.0		--
15	METHIONINE	Root	130.0	737.0	-0.5917219440063812	USDA's Ag Handbook 8 and sequelae)
15	METHIONINE	Rhizome	130.0	737.0	-1.0	--
28	ALPHA-PINENE	Rhizome		720.0	1.111167799007431	--
1	SODIUM	Rhizome	60.0	709.0	0.18755999323325184	--
0	P-CYMEN-8-OL	Rhizome Essent. Oil		700.0		--
0	HEXAN-1-AL	Rhizome Essent. Oil	2.0	700.0		--
13	ALPHA-TERPINENE	Rhizome Essent. Oil		700.0		--
5	SABINENE	Rhizome Essent. Oil		700.0		--
0	GAMMA-SELINENE	Rhizome	35.0	700.0		--
0	GAMMA-SELINENE	Root	35.0	700.0		--
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	--
5	ALUMINUM	Root	46.0	663.0	0.04325697966835661	--
5	ALUMINUM	Rhizome		663.0		--
5	MYRTENAL	Rhizome Essent. Oil		600.0		--
6	ZINGIBERENE	Rhizome	0.5	600.0	-1.0	--
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.
47	BETA-SITOSTEROL	Root	100.0	500.0	-0.26375908041164936	--
0	UNDECAN-2-OL	Rhizome Essent. Oil		500.0		--
11	GAMMA-TERPINENE	Rhizome Essent. Oil		500.0		--
2	ASPARAGINE	Rhizome		500.0	-0.734470603058131	--
23	ALPHA-TERPINEOL	Rhizome	8.0	500.0	-0.26863716905966795	--
67	1,8-CINEOLE	Rhizome		490.0	-0.7528854377140122	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
13	BETA-EUDES MOL	Rhizome	7.0	465.0	1.0	--
2	CYSTINE	Root	80.0	462.0	-0.8891832694867765	USDA's Ag Handbook 8 and sequelae)
2	CYSTINE	Rhizome	80.0	462.0	-1.0	--
5	BETA-SESQUIPELLANDRENE	Rhizome		460.0		--
0	GAMMA-MUROLENE	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.
1	SODIUM	Root	30.0	423.0	-0.31581734202184225	--
4	NERAL	Rhizome		410.0		--
1	8-BETA-17-EPOXY-LABD-TRANS-12-ENE-15,16-DIAL	Rhizome		400.0		--
2	ZINGIBERONE	Rhizome	0.3	400.0		--
0	AFRAMODIAL	Seed		400.0	1.0	--
5	CAPRYLIC-ACID	Rhizome	70.0	380.0		--
0	GADOLEIC-ACID	Rhizome	70.0	380.0	1.0	--
5	CAPRYLIC-ACID	Root	70.0	380.0		USDA's Ag Handbook 8 and sequelae)
0	GADOLEIC-ACID	Root	70.0	380.0		USDA's Ag Handbook 8 and sequelae)
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	TRANS-NEROLIDOL	Rhizome	5.0	350.0		--
14	MANGANESE	Rhizome	106.0	350.0	1.4980699854714286	--
35	GERANIOL	Rhizome	2.0	345.0		--
32	6-SHOAOL	Rhizome	40.0	330.0		--
2	BETA-MYRCENE	Rhizome		330.0		--
2	PIPECOLIC-ACID	Rhizome		320.0		--
112	ASCORBIC-ACID	Rhizome	0.0	317.0	-0.3087839350199982	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.
112	ASCORBIC-ACID	Root	20.0	288.0	-0.48133996980232785	--
4	SILICON	Rhizome		285.0		--
3	ALPHA-CURCUMENE	Rhizome		280.0		--
7	SALICYLATES	Root	45.0	250.0	0.1478264757482174	--
11	ALPHA-PHELLANDRENE	Rhizome	3.0	200.0	-1.0	--
1	ALPHA-ZINGIBERENE	Rhizome		200.0	-1.0	--
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.)
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.
35	BORNEOL	Rhizome		180.0		--
0	GERMANIUM	Rhizome	87.0	169.0		--
6	IRON	Rhizome	4.0	162.0	-0.5945282624931012	--
0	NONAN-2-ONE	Rhizome	8.0	160.0		--
3	GINGERENONE-A	Rhizome	118.0	136.0		--
39	NIACIN	Rhizome	5.0	135.0	1.0692722579935732	--
0	HEPTAN-2-OL	Rhizome	1.0	135.0		--
2	8-SHOAOL	Rhizome	48.0	130.0		--
0	GLANOLACTONE	Rhizome		120.0		--
0	TRICYCLENE	Rhizome	2.0	115.0		--
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.
12	BORNYL-ACETATE	Root	2.0	105.0	-0.5636066792773037	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
12	BORNYL-ACETATE	Rhizome	2.0	105.0		--
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	FARNESAL	Rhizome	1.0	100.0		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	ZINGIBERENOL	Rhizome		100.0		--
13	BETA-PINENE	Rhizome		100.0	0.1867718419094071	--
0	DECANAL	Plant	5.0	100.0	1.0	--
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	ROSEFURAN	Rhizome	1.0	90.0		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
16	P-CYMENE	Rhizome		90.0	-0.47413848530364283	--
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.
0	10-SHOAOL	Rhizome		74.0		--
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.
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.
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
11	NEROLIDOL	Rhizome		60.0		--
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.
77	ZINC	Rhizome		57.0	-0.18700695320743768	--
0	TRANS-3-(3-4-DIMETHOXY-PHENYL)-4-(TRANS-3-4-DIMETHOXY-STYRYL)-CYCLOHEXENE	Rhizome		55.8		--
0	5(S)-3(R)-DIHYDROXY-1-(4-HYDROXY-3-METHOXY-PHENYL)-DECANE	Rhizome		53.1		--
39	NIACIN	Root	3.6	51.0	0.0220587467388613	--
0	CIS-3-(3-4-DIMETHOXY-PHENYL)-4-(TRANS-3-4-DIMETHOXY-STYRYL)-CYCLOHEXENE	Rhizome		50.6		--
0	NONANAL	Rhizome	2.0	50.0	1.0	--
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.
53	LINALOOL	Rhizome		50.0	-1.0	--
0	LINALOL	Rhizome		50.0	-1.0	--
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	NONANAL	Root	2.0	50.0		--
0	BETA-CARYOPHYLLENE	Rhizome	0.7	45.0	-1.0	--
2	COBALT	Rhizome	0.9	42.0	1.0	--
0	3(R)-5(S)-DIACETOXY-1-(4-HYDROXY-3-METHOXY-PHENYL)-DECANE	Rhizome		41.8		--
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.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	TRAN-8-SHOGOAL	Rhizome		40.0		--
0	TRAN-6-SHOGOAL	Rhizome		40.0		--
0	CIS-8-SHOGOAL	Rhizome		40.0		--
0	CIS-6-SHOGOAL	Rhizome		40.0		--
0	TRANS-8-SHOGAOL	Rhizome		40.0		--
0	CIS-8-SHOGAOL	Rhizome		40.0		--
0	OCTAN-1-AL	Rhizome	2.0	40.0		--
0	TRANS-6-SHOGAOL	Rhizome		40.0		--
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.
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	HEXAN-1-AL	Rhizome	2.0	35.0		--
14	MANGANESE	Root	2.4	33.8	-0.14226990626562633	--
0	3-5-DIACETOXY-1-(4-HYDROXY-3-5-DIMETHOXY-PHENYL)-7-(4-HYDROXY-3-METHOXY-PHENYL)-HEPTANE	Rhizome		30.3		--
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.
0	6-GINGEDIOL	Rhizome	21.0	30.0		--
4	SILICON	Root	2.0	28.5	-0.2119845357116175	--
2	HEXAHYDROCURCUMIN	Rhizome	21.3	25.1		--
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.
5	SABINENE	Rhizome		20.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	3(S)-5(S)-DIACETOXY-1-(4'-HYDROXY-3'-5'-DIMETHOXY-PHENYL)-7-(4'-HYDROXY-3'-METHOXY-PHENYL)-HEPTANE	Rhizome		20.0		--
24	CHROMIUM	Rhizome	6.0	20.0	1.0	--
25	P-COUMARIC-ACID	Rhizome		19.0	-1.0	--
12	COPPER	Root	3.0	16.0	0.47378131766732856	--
12	COPPER	Rhizome	3.0	16.0	1.223047708525459	--
0	5(S)-ACETOXY-3(R)-HYDROXY-1-(4-HYDROXY-3-METHOXY-PHENYL)-DECANE	Rhizome		15.8		--
0	3(R)-ACETOXY-5(S)-HYDROXY-1-(4-HYDROXY-3-METHOXY-PHENYL)-DECANE	Rhizome		15.8		--
0	3(S)-5(S)-DIACETOXY-1-7-BIS-(3-4-DIHYDROXY-PHENYL)-HEPTANE	Rhizome		15.7		--
6	IRON	Root	1.1	15.0	-0.4198613477374219	--
0	GINGERGLYCOLIPID-B	Rhizome	14.0	15.0		--
0	3(R)-5(S)-DIACETOXY-1-(3-4-DIMETHOXY-PHENYL)-DECANE	Rhizome		14.9		--
2	GINGERENONE-C	Rhizome		14.2		--
0	GINGERGLYCOLIPID-C	Rhizome		14.0		--
0	ANGELICOIDENOL-2-O-BETA-D-GLUCOPYRANOSIDE	Rhizome		14.0		--
0	(+)-ANGELICOIDENOL	Rhizome		14.0		--
0	TRANS-3-(2-4-5-TRIMETHOXY-PHENYL)-4-(TRANS-3-4-DIMETHOXY-STYRYL)-CYCLOHEXENE	Rhizome		13.9		--
0	CIS-1-2-BIS-(TRANS-3-4-DIMETHOXY-STYRYL)-CYCLOBUTANE	Rhizome		13.9		--
4	TIN	Rhizome		13.0		--
0	GINGERGLYCOLIPID-A	Rhizome		13.0		--
1	6-GINGESULFONIC-ACID	Rhizome		13.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
11	PANTOTHENIC-ACID	Root	2.0	11.0	-0.9376231626080279	USDA's Ag Handbook 8 and sequelae)
2	10-GINGERDIONE	Rhizome		11.0		--
0	URIDINE	Rhizome		11.0	1.0000000000000002	--
11	PANTOTHENIC-ACID	Rhizome	2.0	11.0		--
0	NONAN-2-OL	Rhizome		10.0		--
20	CITRONELLAL	Rhizome		10.0		--
2	6-GINGERDIONE	Rhizome	3.3	10.0		--
0	6-PARADOL	Rhizome		9.0		--
0	VIT-B-6	Root	1.6	8.7	-0.2586482502443934	USDA's Ag Handbook 8 and sequelae)
0	VIT-B-6	Rhizome	1.6	8.7		--
3	FLUORIDE	Rhizome		7.9	1.0	--
0	10-DIHYDROGINGERDIONE	Rhizome		6.3		--
0	2(R)-5(S)-DIHYDROXY-1-7-BIS-(4-HYDROXY-3-METHOXY-PHENYL)-HEPTANE	Rhizome		5.6		--
0	3(S)-5(S)-DIHYDROXY-1-7-BIS-(4-HYDROXY-3-METHOXY-PHENYL)-HEPTANE	Rhizome		5.3		--
3	NICKEL	Root	2.0	5.2	1.752676229894103	--
3	NICKEL	Rhizome	2.0	5.2	1.0	--
15	RIBOFLAVIN	Rhizome	0.0	5.0	-0.10465353747473792	--
2	GINGERENONE-B	Rhizome		4.7		--
2	ISOGINGERENONE-B	Rhizome		4.7		--
2	COBALT	Root	0.3	4.2	-0.454047411785451	--
0	1-7-BIS-(4-HYDROXY-3-METHOXY-PHENYL)-HEPTANE-3(S)-DIOL	Rhizome		4.0		--
53	BETA-CAROTENE	Rhizome	0.0	4.0	-0.6667259338283312	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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	BORON	Rhizome	1.0	4.0		--
0	3-5-DIACETOXY-7-(3-4-DIHYDROXY-PHENYL)-1-(4-HYDROXY-3-METHOXY-PHENYL)-HEPTANE	Rhizome		3.5		--
0	6-GINGEDIOL-DIACETATE	Rhizome		3.3		--
15	RIBOFLAVIN	Root	0.2	3.1	-0.21327168080429257	--
0	5-O-BETA-D-GLUCOPYRANOSYL-3-HYDROXY-1-(4-HYDROXYPHENYL)-DECANE	Rhizome		3.0		--
31	THIAMIN	Root	0.0	3.0	-0.32687193108858614	--
31	THIAMIN	Rhizome	0.0	3.0	-0.9831353843426084	--
0	5-HYDROXY-7-(4-HYDROXY-PHENYL)-1-(4-HYDROXY-3-METHOXY-PHENYL)-HEPTAN-3-ONE	Rhizome		2.09		--
0	1-(4-O-BETA-D-GLUCOPYRANOSYL-3-METHOXYPHENYL)-3,5-DIHYDROXYDECANE	Rhizome		2.0		--
0	3(S)-5(S)-DIHYDROXY-1-(4'-HYDROXY-3'-5'-DIMETHOXY-PHENYL)-7-(4'-HYDROXY-3'-METHOXY-PHENYL)-HEPTANE	Rhizome		2.0		--
0	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	FLUORINE	Rhizome		2.0		--
0	THIAMINE	Root	0.1	1.5	-0.5634413774971821	--
0	7-(3-4-DIHYDROXY-PHENYL)-1-(4-HYDROXY-3-METHOXY-PHENYL)-HEPT-4-EN-3-ONE	Rhizome		1.4		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	TIN	Root	0.1	1.3	-1.5436732662398835	--
53	BETA-CAROTENE	Root	0.1	1.0	-0.43002798118623115	--
1	CUMENE	Rhizome		1.0		--
60	SELENIUM	Root	0.1	1.0	-0.29131634494743897	--
1	CUMENE	Root		1.0		--
24	CHROMIUM	Root		0.6	-0.44035111981195524	--
0	5-HYDROXY-7-(4-HYDROXY-3-5-DIMETHOXY-PHENYL)-1-(4-HYDROXY-3-METHOXY-PHENYL)-HEPTAN-3-ONE	Rhizome		0.52		--
0	5-HYDROXY-1-(4-HYDROXY-3-5-DIMETHOXY-PHENYL)-7-(4-HYDROXY-3-METHOXY-PHENYL)-HEPTAN-3-ONE	Rhizome		0.52		--
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.
0	DECYL-ALDEHYDE	Root				--
135	CURCUMIN	Plant				Stitt, Paul. Why George should eat broccoli.
2	LEUCINE	Tuber				--
0	ALPHA-CADINENE	Rhizome				--
0	BETA-ZINGIBERENE	Rhizome				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
28	6-GINGEROL	Root Essent. Oil				--
0	16-GINGEROL	Rhizome				--
0	CIS-BETA-SESQUIPELLANDROL	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.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	NEOISOPULEGOLE	Rhizome Essent. Oil				--
7	ISOBORNEOL	Rhizome				--
0	8-GINGEDIOL	Rhizome				--
0	2-(3'-METHYL-2'-BUTENYL)-3-METHYL-FURAN	Rhizome				--
0	3-7-DIMETHYL-OCTA-3-CIS-6-DIEN-1-AL	Rhizome				--
13	ZINGERONE	Root Essent. Oil				--
22	GAMMA-AMINOBUTYRIC-ACID	Rhizome				--
3	ASPARTIC-ACID	Tuber				--
0	6-METHYLGINGEDIACETATE	Root				Chemical Constituents of Oriental Herbs (3 diff. books)
4	THREONINE	Shoot				--
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.
1	RAFFINOSE	Root				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
11	NEROLIDOL	Rhizome Essent. Oil				--
0	TRANS-OCTEN-2-AL	Rhizome Essent. Oil				--
0	6-GINGEDIOL-DIACETATE-METHYL-ETHER	Rhizome				--
6	ACETALDEHYDE	Rhizome				--
0	CIS-GERANIC-ACID	Rhizome				--
0	DIHYDROGINGEROL	Rhizome				--
2	9-OXO-NEROLIDOL	Rhizome Essent. Oil				--
0	SESQUITHUJENE	Rhizome				--
2	PROPIONALDEHYDE	Rhizome				--
0	CAR-3-ENE	Rhizome				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.
0	CIS-SESQUISABINENE-HYDRATE	Rhizome Essent. Oil				--
53	LINALOOL	Root Essent. Oil				--
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.
11	PERILLALDEHYDE	Rhizome Essent. Oil				--
27	GINGEROL	Root Essent. Oil				--
5	BETA-THUJONE	Rhizome				--
28	6-GINGEROL	Root				--
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.
0	14-GINGEROL	Rhizome				--
0	N-OCTANOL	Rhizome				--
3	ASPARTIC-ACID	Shoot				--
4	GALANOLACTONE	Rhizome				--
17	FARNESOL	Rhizome				--
0	AROMADENDRINE	Rhizome				--
0	4-PHENYL-BENZALDEHYDE	Rhizome Essent. Oil				--
0	BETA-FARNESENE	Root Essent. Oil				--
0	DIETHYLSULFIDE	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.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	ZONARENE	Essential Oil				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	TRANS-LINALOOL-OXIDE	Rhizome Essent. Oil				--
0	SESQUITERPENE-HYDROCARBON	Rhizome Essent. Oil				--
0	PERILLEN	Rhizome Essent. Oil				--
3	ALPHA-SELINENE	Rhizome				--
44	CAPSAICIN	Plant				Stitt, Paul. Why George should eat broccoli.
0	METHYL-8-SHOGOAL	Rhizome				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	CIS-SELINEN-4-OL	Rhizome				--
0	6-GINGEDIOL-ACETATE	Rhizome				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
1	LABDA-TRANS-8(17)-12-DIENE-15-16-DIAL	Rhizome				--
0	PENTAN-2-OL	Rhizome				--
47	BETA-SITOSTEROL	Plant				--
28	6-GINGEROL	Essential Oil				--
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.
0	12-GINGEROL	Rhizome				--
0	GINGEDIACETATE	Rhizome				--
14	SUCROSE	Root				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	DECAN-1-AL	Rhizome				--
0	N-OCTANE	Rhizome				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	BISABOLENE	Rhizome				--
0	7-GINGEROL	Rhizome				--
2	HUMULENE	Rhizome				--
3	AROMADENDRENE	Rhizome Essent. Oil				--
4	GALANOLACTONE	Root				--
0	ANTI-METHYL-10-SHOAOL	Rhizome				--
10	NEROL	Rhizome Essent. Oil				--
0	TRANS-12-SHOAOL	Rhizome				--
0	3-EPIACETOXY-1,5-EPOXY-1-(3,4-DIHYDROXY-5-METHOXY-PHENYL)-7-(4-HYDROXY-3-METHOXY-PHENYL)-HEPTANE	Rhizome				--
34	MYRICETIN	Plant				Stitt, Paul. Why George should eat broccoli.
0	3-PHENYL-BENZALDEHYDE	Rhizome Essent. Oil				--
13	P-HYDROXY-BENZOIC-ACID	Plant				Stitt, Paul. Why George should eat broccoli.
0	1-(4-HYDROXY-3-METHOXYPHENYL)-3,5-OCTANEDIOL	Root				Chemical Constituents of Oriental Herbs (3 diff. books)
0	DEMETHYL-HEXAHYDROCURCUMIN	Rhizome				--
0	P-MENTHA-2,8-DIEN-1-OL	Rhizome				--
0	SESQUIPELLANDRENE	Rhizome Essent. Oil				--
0	OCTAN-2-OL	Rhizome				--
0	METHYL-8-GINGEROL	Rhizome				--
0	2-6-DIMETHYL-HEPT-5-EN-1-AL	Rhizome				--
0	CIS-ROSE-OXIDE	Rhizome				--
3	ISOLEUCINE	Tuber				--
4	PATCHOULI-ALCOHOL	Rhizome Essent. Oil				--
27	GINGEROL	Root				--
0	ALPHA-YLANGENE	Rhizome				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	10-SHOGOAL	Rhizome				--
1	RAFFINOSE	Rhizome				--
0	3-6-EPOXY-1-(4-HYDROXY-3-METHOXY-PHENYL)-DECA-3-5-DIENE	Rhizome				--
2	HUMULENE	Root				--
0	ALPHA-CUBEBENE	Rhizome Essent. Oil				--
0	N-NONANONE	Rhizome Essent. Oil				--
14	ARGININE	Tuber				--
6	FURFURAL	Rhizome Essent. Oil				--
0	PHOSPHATIDIC-ACID	Rhizome				--
20	LECITHIN	Root				Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
0	(+)-ALPHA-CURCUMENE	Essential Oil				--
0	3-ACETOXY-1,5-EPOXY-1-(3,4-DIHYDROXY-5-METHOXY-PHENYL)-7-(4-HYDROXY-3-METHOXY-PHENYL)-HEPTANE	Rhizome				--
0	CIS-12-SHOGOAL	Rhizome				--
3	CHAVICOL	Rhizome Essent. Oil				--
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	P-MENTHA-1,5-DIEN-7-OL	Rhizome				--
1	SERINE	Tuber				--
0	METHYL-6-SHOGOAL	Rhizome				--
3	GUAIOL	Rhizome Essent. Oil				--
0	CIS-BETA-SESQUIPELLANDROL	Rhizome Essent. Oil				--
0	6-DIHYDROGINGERDIONE	Rhizome				--
7	GLUCOSE	Rhizome				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
14	SHIKIMIC-ACID	Leaf				--
0	ALPHA-FARNESENE	Root Essent. Oil				--
0	2-6-DIMETHYL-OCTA-3-7-DIENE-1-6-DIOL	Rhizome				--
13	ZINGERONE	Rhizome Essent. Oil				--
0	N-UNDECANONE	Rhizome Essent. Oil				--
2	CITRONELLYL-ACETATE	Rhizome				--
0	N-OCTANE	Essential Oil				--
28	VANILLIN	Plant				Stitt, Paul. Why George should eat broccoli.
0	HEXAN-1-OL	Rhizome Essent. Oil				--
3	ACETONE	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.
3	BETA-SELINENE	Rhizome				--
20	LECITHIN	Rhizome				--
27	GINGEROL	Rhizome				--
2	ZINGIBERONE	Rhizome Essent. Oil				--
0	TRANS-OCTEN-2-AL	Rhizome				--
5	GERANYL-ACETATE	Rhizome				--
0	BORNEOL-METHYL-ETHER	Rhizome				--
0	2-(2'-3'-EPOXY-3-METHYL-BUTYL)-3-METHYL-FURAN	Rhizome				--
176	QUERCETIN	Plant				Stitt, Paul. Why George should eat broccoli.
0	TRANS-10-SHOGAOL	Rhizome				--
0	DEC-TRANS-2-EN-1-AL	Rhizome				--
0	ZINGIBEROL	Essential Oil				--
0	ALPHA-COPAENE	Rhizome Essent. Oil				--
0	N-NONANOL	Rhizome				--

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.
0	1-(4-HYDROXY-3-METHOXYPHENYL)-3,5-DIACETOXYOCTANE	Root				Chemical Constituents of Oriental Herbs (3 diff. books)
2	HEXAHYDROCURCUMIN	Rhizome Essent. Oil				--
0	6-METHYLGINGEDIOL	Root				Chemical Constituents of Oriental Herbs (3 diff. books)
1	ETHYL-MYRISTATE	Rhizome				--
4	THREONINE	Tuber				--
0	12-GINGEDIOL	Rhizome				--
0	ANTI-METHYL-8-SHOGAOL	Rhizome				--
0	CIS-10-SHOGOAL	Rhizome				--
8	FRUCTOSE	Root				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	CEDOROL	Rhizome Essent. Oil				--
3	METHYL-NONYL-KETONE	Rhizome Essent. Oil				--
1	SERINE	Shoot				--
0	N-PROPANOL	Rhizome				--
0	ALPHA-MUUROLENE	Rhizome				--
0	CAMPHENE-HYDRATE	Rhizome				--
0	METHYL-6-GINGEROL	Rhizome				--
12	GLYCINE	Tuber				--
2	6-DEHYDROGINGERDIONE	Rhizome				--
6	FURFURAL	Plant				--
0	2-6-DIMETHYL-OCTA-2-6-DIENE-1-8-DIOL	Rhizome				--
3	VALINE	Tuber				--
0	(+)-6-GINGEROL	Root				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	N-NONANONE	Rhizome				--
24	VANILLIC-ACID	Plant				Stitt, Paul. Why George should eat broccoli.
0	OCT-TRANS-2-EN-1-AL	Rhizome				--
3	AR-CURCUMENE	Root Essent. Oil				--
16	ACETIC-ACID	Rhizome				--
0	BISABOLENE	Essential Oil				--
16	ISOEUGENOL	Rhizome				--
0	CIS-10-SHOGAOL	Rhizome				--
0	DODEC-TRANS-2-EN-1-AL	Rhizome				--
0	ZERUMBODIENONE	Rhizome				--
0	ALPHA-CEDROL	Rhizome Essent. Oil				--
0	TERT-BUTANOL	Essential Oil				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
3	ALPHA-CADINOL	Rhizome Essent. Oil				--
17	FARNESOL	Rhizome Essent. Oil				--
0	DEMETHYL- HEXAHYDROCURCUMIN	Root				--
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.
2	10-GINGERDIONE	Root				--
0	ANTI-METHYL-6-SHOGAOL	Rhizome				--
0	CINEOLE	Rhizome				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
3	METHYL-NONYL-KETONE	Rhizome				--
0	2,2,4-TRIMETHYL- HEPTANE	Rhizome Essent. Oil				--
0	N-NONANE	Rhizome				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	6-METHYLGINGEDIOL	Rhizome				--
17	FARNESOL	Root				Chemical Constituents of Oriental Herbs (3 diff. books)
0	CAR-3-ENE	Rhizome Essent. Oil				--
7	GLUCOSE	Root				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
9	DELPHINIDIN	Plant				Stitt, Paul. Why George should eat broccoli.
0	METHYL-HEPTENONE	Rhizome Essent. Oil				--
0	N-OCTANE	Rhizome Essent. 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	METHYL-12-GINGEROL	Rhizome				--
12	GLYCINE	Shoot				--
0	CIS-12-SHOGAOL	Rhizome				--
9	CAMPHENE	Essential Oil				--
0	6,10-DEHYDROGINGERDIONE	Rhizome				--
0	SESQUITHUJENE	Essential Oil				--
1	6-GINGERDIOL	Rhizome				--
0	FURANOGERMENONE	Rhizome				--
3	VALINE	Shoot				--
0	METHYL-12-GINGEDIOL	Rhizome				--
0	N-NONANOL	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	CIS-HEXAN-3-OL	Rhizome Essent. Oil				--
0	OCTAN-1-OL-ACETATE	Rhizome				--
3	AR-CURCUMENE	Root				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
6	ACETALDEHYDE	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.
3	ALPHA-SELINENE	Rhizome Essent. Oil				--
0	ZINGIBERINE	Root				--
0	10-GINGEDIOL	Rhizome				--
0	TRANS-LINALOL-OXIDE	Rhizome				--
0	BISABOLENE	Root Essent. Oil				--
5	GERANYL-ACETATE	Rhizome Essent. Oil				--
0	DIETHYLSULFIDE	Rhizome				--
11	NEROLIDOL	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	ALPHA-CADINENE	Rhizome Essent. Oil				--
2	FARNESENE	Essential Oil				--
0	PERILLEN	Rhizome				--
0	GINGERONE	Root				--
5	CYANIN	Rhizome				--
6	ETHYL-ACETATE	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	MENTHOL-ACETATE	Rhizome				--
23	TERPINEN-4-OL	Rhizome Essent. Oil				--
0	1,5-EPOXY-3-HYDROXY-1-(4-HYDROXY-3,5-DIMETHOXY-PHENYL)-7-(4-HYDROXY-3-METHOXY-PHENYL)-HEPTANE	Rhizome				--
0	ANTI-METHYL-10-SHOGOAL	Rhizome				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	METHYL-ISOBUTYL-KETONE	Essential Oil				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	METHYL-ALLYL-SULFIDE	Rhizome				--
0	6-METHYLGINGEDIACETATE	Rhizome				--
44	CAPSAICIN	Rhizome				--
0	GINGEDIACETATE	Root				Chemical Constituents of Oriental Herbs (3 diff. books)
0	DECYL-ALDEHYDE	Rhizome				--
3	METHYL-ACETATE	Rhizome				--
0	METHYL-GINGEROL	Essential Oil				--
0	CALAMENEN	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	DIHYDROGINGEROL	Root Essent. Oil				--
5	BETA-THUJONE	Rhizome Essent. Oil				--
0	4-PHENYL-BENZALDEHYDE	Rhizome				--
0	GINGERONE	Rhizome				--
0	(+)-BETA-PHELLANDRENE	Essential Oil				--
0	UNDECAN-2-ONE	Rhizome Essent. Oil				--
0	METHYL-10-GINGEROL	Rhizome				--
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	UNDECAN-2-ONE	Rhizome				--
13	BETA-IONONE	Rhizome Essent. Oil				--
2	9-OXO-NEROLIDOL	Rhizome				--
75	KAEMPFEROL	Plant				Stitt, Paul. Why George should eat broccoli.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	6-10-GINGERDIONE	Root				--
0	ZINGIBERENOL	Rhizome Essent. Oil				--
0	10-EPIZONARENE	Essential Oil				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	BISABOLENE	Root				--
0	GERANIOL-ACETATE	Rhizome				--
2	PROPIONALDEHYDE	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.
13	CYSTEINE	Tuber				--
10	NEROL	Rhizome				--
0	(+)-BORNEOL	Rhizome Essent. Oil				--
8	FRUCTOSE	Rhizome				--
23	TERPINEN-4-OL	Rhizome				--
0	PENTOSANS	Rhizome				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
135	CURCUMIN	Rhizome				--
0	CIS-NEROLIDOL	Rhizome Essent. Oil				--
18	SHOGAOL	Essential Oil				--
0	1,5-EPOXY-3-HYDROXY-1-(3,4-DIHYDROXY-5-METHOXY-PHENYL)-7-(4-HYDROXY-3-METHOXY-PHENYL)-HEPTANE	Rhizome				--
77	CHLOROGENIC-ACID	Plant				Stitt, Paul. Why George should eat broccoli.
0	METHYL-HEPTENONE	Rhizome				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	HEPTAN-2-ONE	Rhizome Essent. Oil				--
1	ISOVALERALDEHYDE	Rhizome				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	HEPTAN-2-ONE	Rhizome				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
22	GAMMA-AMINOBUTYRIC-ACID	Root				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
5	CAPRYLIC-ACID	Rhizome Essent. Oil				--
1	ZINGIBAIN	Rhizome				--
0	JUNIPER-CAMPHOR	Rhizome Essent. Oil				--
102	CAFFEIC-ACID	Rhizome				--
5	8-GINGEROL	Rhizome Essent. Oil				--
0	BETA-SESQUIPHELLANDROL	Rhizome				--
0	4-GINGEROL	Rhizome				--
0	HUMULENE-EPOXIDE-2	Rhizome				--
0	CIS-SESQUISABINENE-HYDRATE	Plant				--
1	N-HEPTANE	Rhizome				--
0	BETA-HIMACHALENE	Rhizome Essent. Oil				--
0	NONYL-ALDEHYDE	Rhizome Essent. Oil				--
0	CITRONELLOL-ACETATE	Rhizome				--
0	9-GINGEROL	Rhizome				--
13	BETA-IONONE	Rhizome				--
1	ISOVALERALDEHYDE	Essential Oil				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of <i>Glycyrrhiza-glabra</i> . <i>Nippon Gogeikagaku Kaishi</i> 61(9): 1119-1122.
0	6,10-DEHYDROGINGERDIONE	Root				--
6	ZINGIBERENE	Essential Oil				--
3	10-DEHYDROGINGERDIONE	Rhizome				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
13	CYSTEINE	Shoot				--
6	ZINGIBERENE	Rhizome Essent. Oil				--
1	N-BUTYRALDEHYDE	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.
14	SUCROSE	Rhizome				--
76	EUGENOL	Rhizome Essent. Oil				--
4	PATCHOULI-ALCOHOL	Rhizome				--
2	CITRONELLYL-ACETATE	Rhizome Essent. Oil				--
2	BETA-MYRCENE	Rhizome Essent. Oil				--
18	SHOGAOL	Rhizome Essent. Oil				--
0	1,5-EPOXY-3-EPIHYDROXY-1-(3,4-DIHYDROXY-5-METHOXY-PHENYL)-7-(4-HYDROXY-3-METHOXY-PHENYL)-HEPTANE	Rhizome				--
3	CHAVICOL	Rhizome				--
0	METHYL-GLYOXAL	Essential Oil				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	6-METHYL-HEPT-5-EN-2-ONE	Rhizome Essent. Oil				--
13	ZINGERONE	Rhizome				--
0	LINALOOL-PROPIONATE	Rhizome Essent. Oil				--
0	PROTEASE	Rhizome				--
0	HUMULENE-EPOXIDE-1	Rhizome				--
0	ALPHA-COPAENE	Rhizome				--
0	3-PHENYL-BENZALDEHYDE	Rhizome				--
0	GINGEROL-METHYL-ETHER	Rhizome				--
60	SELENIUM	Rhizome				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
1	ZINGIBAIN	Root				Abstract (See species file)
0	CAMPHENE-HYDRATE	Rhizome Essent. Oil				--
0	P-MENTHA-1-8-DIEN-7-OL	Rhizome				--
5	BETA-SESQUIPELLANDRENE	Root Essent. Oil				--
0	CIS-SESQUIABINENE-HYDRATE	Rhizome				--
1	N-DECANAL	Essential Oil				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of <i>Glycyrrhiza-glabra</i> . <i>Nippon Gogeikagaku Kaishi</i> 61(9): 1119-1122.
0	CHRYSANTHEMIN	Rhizome				--
0	BETA-HIMACHALENE	Rhizome				--
0	4-GINGEROL	Rhizome Essent. Oil				--
8	4-TERPINEOL	Rhizome				--
6	ZINGIBERENE	Root Essent. Oil				--
0	1-(4-HYDROXY-3-METHOXYPHENYL)-3,5-OCTANEDIOL	Rhizome				--
0	TRANS-12-SHOGOAL	Rhizome				--
0	NEO-ISOPULEGOL	Rhizome				--
7	ISOBORNEOL	Rhizome Essent. Oil				--
3	ACETONE	Rhizome				--
1	ETHYL-MYRISTATE	Rhizome Essent. Oil				--
3	PARADOL	Rhizome				--
0	CITRONELLOL-ACETATE	Rhizome Essent. Oil				--
31	CARYOPHYLLENE	Essential Oil				--
18	SHOGAOL	Root Essent. Oil				--
0	TRANS-GERANIC-ACID	Rhizome				--
0	CEDOROL	Rhizome				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	METHYL-CAPRYLATE	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-METHYL-HEPT-5-EN-2-OL	Rhizome				--
0	ETHYL-ISOPROPYL-SULFIDE	Rhizome				--
0	MENTHOL-ACETATE	Rhizome Essent. Oil				--
0	GUAIL	Rhizome				--
0	ZINGERBERONE	Essential Oil				--
0	LINALOOL-OXIDE	Rhizome				--
0	PIN-2-EN-5-OL	Rhizome				--
0	HEXAN-1-OL	Rhizome				--
3	ALPHA-CADINOL	Rhizome				--
28	6-GINGEROL	Rhizome Essent. Oil				--
3	BETA-SELINENE	Rhizome Essent. Oil				--
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.
77	ZINC	Root				--
0	NONYL-ALDEHYDE	Rhizome				--
0	CALAMENENE	Rhizome Essent. Oil				--
0	NEROL-OXIDE	Rhizome				--
0	TRANS-ROSE-OXIDE	Rhizome				--
5	8-GINGEROL	Root				--
0	CIS-HEXAN-3-OL	Rhizome				--
1	N-BUTYRALDEHYDE	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.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	NONAN-1-AL	Rhizome				--
3	10-GINGEROL	Root				--
0	3-7-DIMETHYL-OCTA-3-TRANS-6-DIEN-1-AL	Rhizome				--
13	ZINGERONE	Essential Oil				--
0	1-(4-HYDROXY-3-METHOXYPHENYL)-3,5-DIACETOXYOCTANE	Rhizome				--
0	TRANS-10-SHOGOAL	Rhizome				--
24	BENZALDEHYDE	Rhizome				--
0	N-UNDECANONE	Rhizome				--
2	GAMMA-BISABOLENE	Rhizome Essent. Oil				--
61	FERULIC-ACID	Plant				Stitt, Paul. Why George should eat broccoli.
16	ACETIC-ACID	Rhizome Essent. Oil				--
6	ETHYL-ACETATE	Rhizome				--
1	DODECANOIC-ACID	Rhizome				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	ALPHA-MUUROLENE	Rhizome Essent. Oil				--
18	SHOGAOL	Root				--
18	SHOGAOL	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	CIS-SESQUISABINENE-HYDRATE	Rhizome				--
0	6-GINGEDIOL-METHYL-ETHER	Rhizome				--
0	GLYOXAL	Essential Oil				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.