

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Glycyrrhiza glabra*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	1,7-DIMETHYL-7(4-METHYL-3-PENTENYL)-TRICYCLOHEPTANE	Root	0.1	6.0		--
0	1-(2-FURYL)-PROPAN-2-ONE	Root				--
0	1-(2-FURYL)-PROPAN-2-ONE	Root Essent. Oil				--
0	1-(5-METHYL-2-FURYL)-PROPANE-1,2-DIONE	Root Essent. Oil				--
0	1-(5-METHYL-2-FURYL)-PROPOANE-1,2-DIONE	Root				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	1-ACETILPYRROLE	Root				--
0	1-FURFURYL-2-ACETIL-PYRROLE	Root Essent. Oil				--
0	1-FURFURYL-2-ACETIL-PYRROLE	Root				--
0	1-FURFURYL-2-FORMYL-PYRROLE	Root Essent. Oil				--
0	1-FURFURYL-2-FORMYL-PYRROLE	Root				--
0	1-METHOXY-4-ISOPROPYL-BENZENE	Root				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	1-METHOXY-4-ISOPROPYL-CYCLOHEXANE	Root		2.0		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	1-METHYL-2-FORMYL-PYRROLE	Root				--
0	1-METHYL-2-FORMYL-PYRROLE	Root Essent. Oil				--
0	1-PENTADECANOL	Root		1.0		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	11-DEOXO-GLABROLIDE	Root				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	11-DESOXOGLYCYRRHETINIC-ACID	Plant				--
0	18-ALPHA-GLYCYRRHETINIC-ACID	Root	1300.0	7100.0		--
0	18-ALPHA-GLYCYRRHIZINIC-ACID	Root				--
0	18-BETA-GLYCYRRHETINIC-ACID	Root	39800.0	168000.0		--
0	18-BETA-GLYCYRRHIZINIC-ACID	Root				--
0	18ALPHA-HYDROXYGLYCYRRHETIC-ACID	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	2,2-DIFURYL-ETHANE	Root Essent. Oil				--
0	2,2-DIFURYL-ETHANE	Root				--
0	2,2-DIFURYL-ETHYLENE	Root Essent. Oil				--
0	2,2-DIFURYL-ETHYLENE	Root				--
0	2,2-DIFURYL-METHANE	Root Essent. Oil				--
0	2,2-DIFURYL-METHANE	Root				--
0	2,3-DIHYDRO-4-METHYL-FURAN	Root		2.0		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
1	2,3-DIHYDROBENZOFURAN	Root		1.0		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
1	2,3-DIHYDROBENZOFURAN	Root Essent. Oil				--
0	2,4-DIFURFURYL-FURAN	Root				--
0	2,4-DIFURFURYL-FURAN	Root Essent. Oil				--
0	2,4-DIHYDROXY-ACETOPHENONE	Root				--
0	2,4-DIHYDROXY-ACETOPHENONE	Root Essent. Oil				--
0	2,6-DIMETHYL-PYRAZINE	Root				--
0	2,6-DIMETHYL-PYRAZINE	Root Essent. Oil				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
0	2,7-DIHYDROXY-3',4'-DIMETHOXYISOFLAVONE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	2-ACETYL-5-METHYL-FURAN	Root Essent. Oil				--
0	2-ACETYL-5-METHYL-FURAN	Root				--
0	2-ACETYL-FURAN	Root Essent. Oil				--
0	2-ACETYL-FURAN	Root				--
0	2-ACETYL-PYRROLE	Root				--
0	2-ACETYL-PYRROLE	Root Essent. Oil				--
0	2-BETA-GLUCOSONOSYL-GLUCURONIC-ACID	Plant				--
0	2-BUTYL-2-OCTENAL	Root	0.0	2.0		--
0	2-ETHYL-1,4-DIMETHYL-BENZENE	Root		1.0		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	2-ETHYL-6-METHYL-PYRAZINE	Root Essent. Oil				--
0	2-ETHYL-6-METHYL-PYRAZINE	Root				--
0	2-FORMYL-5-METHYL-PYRROLE	Root Essent. Oil				--
0	2-FORMYL-5-METHYL-PYRROLE	Root				--
0	2-HEXANAL	Root		2.0		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	2-HYDROXY-4-METHYL-BENZALDEHYDE	Root		1.0		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	2-HYDROXY-5-METHYL-CYCLOPENT-2-EN-1-ONE	Root Essent. Oil				--
0	2-HYDROXY-5-METHYL-CYCLOPENT-2-EN-1-ONE	Root				--
0	2-METHALYL-PHENOL	Root		1.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	2-METHYL-3-DECEN-5-ONE	Root				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	2-METHYL-5-ISOPROPYL-2-CYCLOHEXEN-1-ONE	Root				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	2-METHYL-5-ISOPROPYL-PHENOL	Root		2.0		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	2-METHYL-6-METHYLENE-7-OCTEN-2-OL	Root		1.0		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	2-METHYL-PHENOL	Root		1.0		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	2-METHYL-PROPANOIC-ACID	Root				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	2-METHYL-TETRAHYDRO-FURAN-3-ONE	Root				--
0	2-PENTYL-FURAN	Root		2.0	-1.0	Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	2-PHENETHANOL	Root				--
0	2-PHENYLETHANOL	Root Essent. Oil				--
0	2-TETRAHYDRO-2-METHYL-FURAN-3-ONE	Root Essent. Oil				--
0	21-ALPHA-HYDROXY-ISOGLABROLIDE	Root				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	22,23-DIHYDROSTIGMASTEROL	Plant				--
0	22,23-DIHYDROSTIGMASTEROL	Root				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	23-HYDROXYGLYCYRRHETIC-ACID	Plant				J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.
0	24-HYDROXY-11-DEOXYGLYCYRRHETIC-ACID	Plant				J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.
0	24-HYDROXYGLYCYRRRHIZIN	Plant				--
0	24-HYDROXYGLYCYRRRHIZIN	Root				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
0	24-HYDROXYLIQUIRITIC-ACID	Root				--
0	28-HYDROXYGLYCYRRHETIC-ACID	Root				--
0	3'-METHOXYGLABRIDIN	Root		117.0		--
0	3,24-DIHYDROXY-OLEANA-11,13(18)-DIENOIC-ACID	Shoot				--
0	3,24-DIHYDROXY-OLEANA-9(11),12-DIENOIC-ACID	Shoot				--
0	3,5-OCTADIEN-2-ONE	Root				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	3-HYDRO-5-METHYL-FURAN-2-ONE	Root				--
0	3-HYDRO-5-METHYL-FURAN-2-ONE	Root Essent. Oil				--
0	3-HYDROXY-GLABROL	Rhizome		23.3		--
0	3-METHOXY-2-METHYL-PROPANE	Root		2.0		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	3-METHYL-3-HEPTEN-2-ONE	Root				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	3-METHYL-6-PROPYL-PHENOL	Root				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	4',7-DIHYDROXYFLAVONE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	4'-O-METHYLGLABRIDIN	Rhizome		169.0		--
0	4'-O-METHYLGLABRIDIN	Root				--
0	4-HYDROXY-4-METHYL-PENTAN-2-ONE	Root				--
0	4-HYDROXY-4-METHYL-PENTAN-2-ONE	Root Essent. Oil				--
0	4-HYDROXYCHALCONE	Root				--
0	4-HYDROXYCHALCONE	Plant				--
0	4-METHYL-ISOPROPYL-3-CYCLOHEXEN-1-OL	Root		6.0		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	4-PROPENYL-ANISOLE	Root				--
0	4-PROPENYL-TOLUENE	Root				--
0	5,7-DIHYDROXY-6(GAMMA,GAMMA)DIMETHYL-ALLYL-FLAVANONE	Shoot				--
0	5-METHYL-2-UNDECENE	Root		2.0		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	5-METHYL-FURFURAL	Root Essent. Oil				--
0	5-METHYL-FURFURAL	Root				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	5-O-METHYLGLYCYROL	Plant				--
0	5-PENTYLPYRAN-2-ONE	Root		1.0		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-(GAMMA,GAMMA-DIMETHYL-ALLYL)-5,7-DIHYDROXY-FLAVANONE	Shoot				--
0	6-METHYL-3,5-HEPTADIEN-2-ONE	Root		2.0		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-3-UNDECENE	Root				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-5-HEPTEN-2-ONE	Root				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
0	7-ACETOXY-2-METHYLISOFLAVONE	Root		17.0		--
0	7-HYDROXY-2-METHYLISOFLAVONE	Root		4.0		--
0	7-METHOXY-2-METHYLISOFLAVONE	Plant		25.0		--
0	7-METHOXY-2-METHYLISOFLAVONE	Root		25.0		--
0	7-METHOXY-3,7-DIMETHYL-OCTANAL	Root				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
1	9,12,13-TRIHYDROXY-10,11-EPOXY-OCTADECANOIC-ACID	Stem				--
1	9,12,13-TRIHYDROXY-10,11-EPOXY-OCTADECANOIC-ACID	Root				--
0	9,12,13-TRIHYDROXY-OCTADEC-TRANS-10-ENOIC-ACID	Stem				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	9,12,13-TRIHYDROXY-OCTADEC-TRANS-10-ENOIC-ACID	Root				--
0	9-METHYL-3-UNDECENE	Root		2.0		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
16	ACETIC-ACID	Root		2.0		--
0	ACETOIN	Root Essent. Oil				--
0	ACETOIN	Root				--
0	ACETOL	Root Essent. Oil				--
0	ACETOL	Root				--
6	ACETOPHENONE	Root				--
0	ALCOHOL	Root				--
23	ALPHA-TERPINEOL	Rhizome Essent. Oil				--
23	ALPHA-TERPINEOL	Root Essent. Oil				--
23	ALPHA-TERPINEOL	Root				--
0	ALPHA-TERPINOLENE	Root		0.1		--
5	ALUMINUM	Root	29.0	182.0	-0.21482686343318208	--
36	ANETHOLE	Root		1.0		--
101	APIGENIN	Root				--
1	APIOGLYCYRRHIZIN	Root		157.0	1.0	--
1	ARABOGLYCYRRHIZIN	Root		75.0	-1.0	--
112	ASCORBIC-ACID	Root	98.0	626.0	-0.2881241332595798	--
0	ASH	Root	16799.0	107000.0	1.1262629729712743	--



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	ASPARAGINE	Root	20000.0	40000.0	1.2247448713915892	=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
7	ASTRAGALIN	Shoot				--
24	BENZALDEHYDE	Root Essent. Oil				--
24	BENZALDEHYDE	Root				Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
24	BENZALDEHYDE	Rhizome Essent. Oil				--
20	BENZOIC-ACID	Root				--
20	BENZOIC-ACID	Root Essent. Oil				--
9	BENZYL-ALCOHOL	Root				--
9	BENZYL-ALCOHOL	Rhizome Essent. Oil				--
26	BERGAPTEN	Shoot				--
9	BETA-AMYRIN	Tissue Culture				--
9	BETA-AMYRIN	Root				--
53	BETA-CAROTENE	Seed		5.0	-0.11676226294423345	--
53	BETA-CAROTENE	Root				--
0	BETA-GLYCYRRHETINIC-ACID	Root	5300.0	43900.0		--
47	BETA-SITOSTEROL	Plant				--
47	BETA-SITOSTEROL	Root		500.0	-0.26375908041164936	--
47	BETA-SITOSTEROL	Shoot				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
14	BETAINE	Root				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
14	BETAINE	Plant				--
0	BETULIC-ACID	Plant				--
0	BETULIC-ACID	Tissue Culture				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
22	BETULINIC-ACID	Tissue Culture				--
0	BUTAN-1-OL-2-ONE	Root				--
0	BUTAN-1-OL-2-ONE	Root Essent. Oil				--
0	BUTAN-1-OL-3-ONE	Root				--
0	BUTAN-1-OL-3-ONE	Root Essent. Oil				--
0	BUTANE-2,3-DIOL	Root				--
0	BUTANE-2,3-DIOL	Root Essent. Oil				--
0	BUTANOIC-ACID	Root		2.0		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	BUTYL-PHTHALATE	Root Essent. Oil				--
0	BUTYL-PHTHALATE	Root				--
0	BUTYRIC-ANHYDRIDE	Root Essent. Oil				--
0	BUTYRIC-ANHYDRIDE	Root				--
28	CALCIUM	Root	1379.0	8780.0	0.15082777410199327	--
41	CAMPHOR	Root				--
1	CAPROIC-ACID	Root Essent. Oil				--
1	CAPROIC-ACID	Root				--
0	CARBOHYDRATES	Root	121361.0	773000.0	-0.7320494671950322	--
37	CARVACROL	Root Essent. Oil				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
37	CARVACROL	Root				--
1	CELLULOSE	Plant		300000.0	-0.03979603129559332	--
1	CELLULOSE	Root		300000.0	1.0	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
20	CHOLINE	Root				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
24	CHROMIUM	Root	0.3	1.7	-0.2211082365074478	--
2	COBALT	Root	2.0	10.1	-0.3259875959839659	--
5	CRESOL	Root				--
0	CUMIC-ALCOHOL	Root		4.0		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
0	D-SUCROSE	Rhizome				--
0	DECANE	Root				--
3	DECANOIC-ACID	Root		1.0		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
0	DESOXOGLABROLIDE	Plant				--
0	DIFURFURYL-ETHER	Root				--
0	DIFURFURYL-ETHER	Root Essent. Oil				--
0	DIHYDRO-5,5-DIMETHYL-2(3H)-FURANONE	Root		2.0		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
0	DIMETHYL-PHENYLETHYL-ALCOHOL	Root				--
0	DOCOSANE	Root	0.1	25.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	DODECANE	Root				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
1	DODECANOIC-ACID	Root				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
0	DOTRIACONTANE	Root	3.0	9.0		--
1	ECHINATIN	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	EICOSANE	Root	0.0	19.0	1.0	--
0	EO	Root	400.0	590.0	-0.6270017852755354	--
12	ESTRAGOLE	Root		1.0		--
6	ESTRIOL	Root				--
0	ETHYL-LINOLEATE	Root				--
0	ETHYL-LINOLENATE	Root				--
1	ETHYL-PALMITATE	Root				--
0	ETHYL-PHENOL	Root				--
1	ETHYL-PHENYLACETATE	Root				--
1	ETHYL-PHENYLACETATE	Root Essent. Oil				--
76	EUGENOL	Root		1.0		--
0	FAT	Root	1570.0	10000.0	-0.4295238000692604	--
6	FENCHONE	Root				--
61	FERULIC-ACID	Plant				--
15	FIBER	Root		84000.0	-0.09131862751650978	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	FIBER(CRUDE)	Root		84000.0	-0.8067464693783728	--
0	FIBER(DIETARY)	Root		323000.0	-0.8237590615986915	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	FLUORIDE	Root		4.2	-0.6333282398540948	--
16	FORMONONETIN	Root	33.0	1920.0	1.414022441541796	--
8	FRUCTOSE	Root				--
6	FURFURAL	Root		2.0	-1.0	Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
6	FURFURAL	Root Essent. Oil				--
0	FURFURYL-ACETATE	Root Essent. Oil				--
0	FURFURYL-ACETATE	Root				--
1	FURFURYL-ALCOHOL	Root Essent. Oil				--
1	FURFURYL-ALCOHOL	Root				Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
0	FURFURYL-BUTYRATE	Root				--
0	FURFURYL-BUTYRATE	Root Essent. Oil				--
0	FURFURYL-FORMATE	Root				--
0	FURFURYL-FORMATE	Root Essent. Oil				--
0	FURFURYL-PROPIONATE	Root				--
0	FURFURYL-PROPIONATE	Root Essent. Oil				--
0	FURYL-ETHYL-KETONE	Root Essent. Oil				--
0	FURYL-METHYL-KETONE	Root				--
13	GALANGIN	Shoot				--
0	GAMMA-BUTYROLACTONE	Root Essent. Oil				--
0	GAMMA-BUTYROLACTONE	Root				--
0	GAMMA-HEPTALACTONE	Root Essent. Oil				--
0	GAMMA-HEPTALACTONE	Root				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	GAMMA-HEXALACTONE	Root				--
2	GAMMA-NONALACTONE	Root		6.0		--
2	GAMMA-NONALACTONE	Root Essent. Oil				--
0	GAMMA-OCTALACTONE	Root				--
81	GENISTEIN	Shoot				--
35	GERANIOL	Root				--
35	GERANIOL	Rhizome Essent. Oil				--
0	GLABRALONIC-ACID	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
4	GLABRANIN	Root				--
4	GLABRANIN	Plant				--
4	GLABRANIN	Shoot		3100.0		--
0	GLABRANIN-A	Root				--
0	GLABRANIN-A	Shoot				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	GLABRANIN-B	Root				--
0	GLABRANIN-B	Shoot				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
5	GLABRENE	Root	80.0	800.0		--
5	GLABRENE	Rhizome	129.0	600.0		--
0	GLABRIC-ACID	Root				--
37	GLABRIDIN	Root	400.0	4000.0		--
37	GLABRIDIN	Rhizome	1433.0	5700.0		--
6	GLABROL	Root	129.0	440.0		--
0	GLABROLIDE	Root				--
0	GLABRONE	Root		12.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	GLUCOLIQUIRITIN-APIOSIDE	Root				--
7	GLUCOSE	Root	30000.0	42300.0	1.471886334456661	--
4	GLUCURONIC-ACID	Root				--
0	GLYCESTRONE	Shoot				--
0	GLYCOCOUMARIN	Root	110.0	710.0		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
5	GLYCYCOUMARIN	Root	110.0	710.0	-1.0	--
0	GLYCYRIN	Root				--
0	GLYCYROL	Root		80.0	-1.0	--
0	GLYCYRRAM	Root				--
29	GLYCYRRHETIC-ACID	Plant				--
32	GLYCYRRHETINIC-ACID	Root	6000.0	22400.0		--
32	GLYCYRRHETINIC-ACID	Rhizome				--
0	GLYCYRRHETINIC-ACID-MONOGLUCURONIDE	Root	6000.0	22400.0		--
0	GLYCYRRHETOL	Root				--
1	GLYCYRRHISOFLAVANONE	Root				--
8	GLYCYRRHISOFLAVONE	Root				--
0	GLYCYRRHIZA-GALACTOMANNAN	Seed		50000.0		--
0	GLYCYRRHIZA-GLABRATRITERPENE	Root		80.0		--
0	GLYCYRRHIZAN-GA	Rhizome				--
17	GLYCYRRHIZIC-ACID	Plant	100000.0	240000.0		--
57	GLYCYRRHIZIN	Root	360.0	520600.0	1.4022164518368727	--
57	GLYCYRRHIZIN	Tissue Culture				--
57	GLYCYRRHIZIN	Leaf				--
57	GLYCYRRHIZIN	Stem				--
57	GLYCYRRHIZIN	Rhizome	24000.0	27560.0	-0.34086713770350074	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
0	GLYZAGLABRIN	Root				--
0	GLYZARIN	Root				--
18	GUAIACOL	Root				--
0	GUM	Plant				--
4	HEDERASAPONIN-C	Root				--
0	HENEICOSANE	Root	0.1	7.0		--
0	HEPTACOSANE	Root	4.0	38.0		--
0	HEPTADECANE	Root	0.0	7.0		--
0	HEPTANE-1,2-DIOL	Root Essent. Oil				--
0	HEPTANE-1,2-DIOL	Root				--
0	HEPTANOIC-ACID	Root		12.0		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
0	HERANOL	Root				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
12	HERNIARIN	Root				--
0	HEX-TRANS-3-EN-1-OL	Rhizome Essent. Oil				--
0	HEX-TRANS-3-EN-OL	Root				--
0	HEXACOSANE	Root	5.0	40.0		--
0	HEXADECANE	Root	0.0	0.8	-0.9999999999999999	--
0	HEXADECANOIC-ACID	Root		16.0		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
0	HEXADECYL-ACETATE	Root				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
0	HEXAN-1-OL	Root				--



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	HEXAN-1-OL	Rhizome Essent. Oil				--
2	HEXANOIC-ACID	Root		148.0		--
3	HEXANOL	Root		8.0	-1.0	Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
1	HEXYL-FORMATE	Root		4.0		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
3	HISPAGLABRIDIN-A	Root				--
3	HISPAGLABRIDIN-A	Rhizome		127.0		--
3	HISPAGLABRIDIN-B	Rhizome		119.0		--
3	HISPAGLABRIDIN-B	Root				--
0	HISPAGLABRIN-A	Root		60.0		--
0	HISPAGLABRIN-A	Rhizome		127.0		--
0	HISPAGLABRIN-B	Root		60.0		--
0	HISPAGLABRIN-B	Rhizome		119.0		--
15	INDOLE	Root		2.0		--
6	IRON	Root	14.0	88.0	-0.313807642199598	--
0	ISOBUTYL-ADIPATE	Root		1.0		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	ISOGLABROLIDE	Root				--
0	ISOGLYCOUMARIN	Root		50.0		--
0	ISOGLYCYROL	Root		200.0		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	ISOGLYCYROL	Rhizome	80.0	200.0	-1.0	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	ISOLICOFLAVONOL	Rhizome				--
28	ISOLIQUIRITIGENIN	Root	1000.0	9610.0	1.0	--
28	ISOLIQUIRITIGENIN	Rhizome		160.0	-1.0	--
0	ISOLIQUIRITIGENIN-4-GLUCOSIDE	Root				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
6	ISOLIQUIRITIN	Rhizome		4250.0	-1.0	--
6	ISOLIQUIRITIN	Root	920.0	1400.0	-1.0	--
0	ISOLIQUIRITIN-APIOSIDE	Root				--
0	ISOLIQUIRITOSIDE	Root				--
3	ISOMUCRONULATOL	Root				--
3	ISOMUCRONULATOL	Leaf				--
0	ISONEOLIQUIRITIN	Root				--
22	ISOQUERCITRIN	Plant				Stitt, Paul. Why George should eat broccoli.
0	ISOSCHAFTOSIDE	Root				--
0	ISOVIOLANTHIN	Root				--
75	KAEMPFEROL	Root				--
75	KAEMPFEROL	Shoot				--
0	KANZONOL-R	Root		10.0		--
0	KILOCALORIES	Root		2680.0	-1.511824551042841	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	KUMATAKENIN	Root				--
0	L-ASPARTIC-ACID	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	LAVANDOLOL	Root				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	LAVANDULOL	Root				--
28	LICOCHALCONE-A	Root		250.0		--
2	LICOCHALCONE-B	Root				--
4	LICOCOUMARONE	Plant				Stitt, Paul. Why George should eat broccoli.
4	LICOCOUMARONE	Root				--
1	LICOFLAVANONE	Leaf		4900.0		--
0	LICOFLAVONE-B	Root				--
0	LICOFLAVONOL	Root				--
0	LICOISOFLAVANONE	Root				Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
4	LICOISOFLAVONE-A	Root				--
2	LICOISOFLAVONE-B	Root				--
0	LICOISOFLAVONE-C	Root				--
7	LICOPYRANOCOUMARIN	Rhizome				--
0	LICORIC-ACID	Root				Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
1	LICORICIDIN	Root				--
0	LICORICONE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
1	LICURASIDE	Root				Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	LICUROSIDE	Root				--
0	LICUROSIDE	Rhizome				--
13	LIGNIN	Root		180000.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
3	LIGUSTRAZINE	Rhizome				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
3	LIGUSTRAZINE	Rhizome Essent. Oil				--
0	LIKVIRITIN	Root				--
0	LINALOL	Root		2.0	-0.6720601732560163	--
0	LINALOL-A-OXIDE	Root				--
0	LINALOL-B-OXIDE	Root				--
53	LINALOOL	Root		2.0	-1.2001299669671104	--
0	LINALOOL-A-OXIDE	Rhizome Essent. Oil				--
0	LINALOOL-B-OXIDE	Rhizome Essent. Oil				--
0	LINALOOL-OXIDE	Root				--
0	LINOLEIC-ACID-ETHYL-ESTER	Root Essent. Oil				--
0	LINOLEIC-ACID-ETHYL-ESTER	Root				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	LINOLENIC-ACID-ETHYL-ESTER	Root Essent. Oil				--
0	LINOLENIC-ACID-ETHYL-ESTER	Root				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	LIQCOUMARIN	Root		23.0		--
0	LIQUIRAZIDE	Root				--
0	LIQUIRIDOLIC-ACID	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	LIQUIRITIC-ACID	Root				--
12	LIQUIRITIGENIN	Root		140.0	-1.0	--
3	LIQUIRITIN	Rhizome	100.0	470.0	-1.0	--
3	LIQUIRITIN	Root		2300.0	-1.0	--
0	LIQUIRITINIC-ACID	Plant				--
0	LIQUIRITOGENIN-4'-O-BETA-D-GLUCOSYL-APIOSIDE	Root				--
0	LIQUIRITOGENIN-CHALCONE	Plant				--
0	LIQUORIC-ACID	Root				--
21	LUPEOL	Tissue Culture				--
65	MAGNESIUM	Root	1515.0	9650.0	3.771799621373545	--
15	MALIC-ACID	Root				=ICMR(Indian Council of Medical Research).1976.Medicinal Plants of India.Vol.1.Indian Council of Med. Res.Cambridge Printing Works, New Delhi.487 pp;ICMR.1987.Medicinal Plants of India.Vol.2.Indian Council of Med. Res.Cambr. Printing Works,New Delhi.600pp
11	MALTOL	Plant				Stitt, Paul. Why George should eat broccoli.
11	MALTOL	Root Essent. Oil				--
2	MALTOSE	Root				--
14	MANGANESE	Root	0.7	4.7	-0.48975099372786696	--
18	MANNITOL	Plant				--
18	MANNITOL	Root				--
0	METHOXYPHASEOLLIN	Root				--
1	METHYL-ETHYL-KETONE	Root				--
1	METHYL-ETHYL-KETONE	Root Essent. Oil				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	METHYL-HEXADECANOATE	Root		1.0		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	METHYL-HEXANOATE	Root				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
21	METHYL-SALICYLATE	Plant				--
0	MUCIN	Plant				--
5	MYRTENAL	Root				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	N-METHYL-2-PYRROLIDONE	Root		5.0		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
1	N-NONACOSANE	Root				--
0	N-TETRADECANE	Root				--
56	NARINGENIN	Shoot				--
1	NEOSOLIQUIRITIN	Root				Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
0	NEOLICUROSIDE	Rhizome				--
1	NEOLIQUIRITIN	Root				--
0	NEOSOLIQUIRITIN	Root				--
39	NIACIN	Root	11.0	70.0	0.5727223514607939	--
11	NICOTINIC-ACID	Leaf	100.0	1000.0	0.4235889253321141	--
0	NONADECANE	Root	0.1	2.0	-1.0	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	NONANOIC-ACID	Root		2.0		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
2	NONANOIC-ACID	Root Essent. Oil				--
0	O-ACETYL-SALICYLIC-ACID	Rhizome	1500.0	1636.0		--
0	O-ACETYL-SALICYLIC-ACID	Root	1500.0	1636.0		--
6	O-CRESOL	Root				--
0	O-METHOXY-PHENOL	Root Essent. Oil				--
0	O-METHOXY-PHENOL	Root				--
0	O-TOLUNITRILE	Root		1.0		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
0	OCT-1-EN-3-OL	Rhizome Essent. Oil				--
0	OCT-1-EN-3-OL	Root				--
0	OCTACOSAN-1-OL	Root				--
0	OCTACOSANE	Root	4.0	34.0		--
0	OCTADECANAL	Root	0.0	15.0		--
0	OCTADECANE	Root				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
5	OCTANOIC-ACID	Root Essent. Oil				--
5	OCTANOIC-ACID	Root		7.0		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
5	OCTANOIC-ACID	Rhizome Essent. Oil		114000.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	ONOCERIN	Root				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
0	ONOCERIN	Plant				--
2	ONONIN	Root		320.0	-0.657145526853552	--
9	OXALIC-ACID	Plant				--
16	P-CYMENE	Root				--
0	P-CYMENOL	Root				--
13	P-HYDROXY-BENZOIC-ACID	Plant				Stitt, Paul. Why George should eat broccoli.
1	P-METHOXY-PHENOL	Root				--
1	P-METHOXY-PHENOL	Root Essent. Oil				--
20	PAEONOL	Rhizome Essent. Oil		89000.0		--
13	PALMITIC-ACID	Root				Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
1	PALMITIC-ACID-ETHYL-ESTER	Root Essent. Oil				--
1	PALMITIC-ACID-ETHYL-ESTER	Root				--
24	PECTIN	Root	14130.0	90000.0	-0.41908391872501777	--
24	PECTIN	Shoot		58000.0	1.0	--
0	PENTACOSANE	Root	0.1	41.0		--
0	PENTADECANE	Root				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
1	PENTADECANOIC-ACID	Root				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
0	PENTAN-1-OL	Rhizome Essent. Oil				--
0	PENTAN-1-OL	Root				--



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PENTANOIC-ACID	Root		4.0		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
0	PHASEOLLINISOFLAVAN	Rhizome		27.0		--
0	PHASEOLLINISOFLAVAN	Root				--
6	PHENETHYL-ALCOHOL	Rhizome Essent. Oil				--
6	PHENETHYL-ALCOHOL	Root		1.0		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
26	PHENOL	Root Essent. Oil				--
26	PHENOL	Root				--
2	PHENYL-ACETALDEHYDE	Root				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
0	PHENYL-ETHYL-ALCOHOL	Root				--
1	PHENYL-PROPIONIC-ACID	Root Essent. Oil				--
1	PHENYL-PROPIONIC-ACID	Root				--
4	PHOSPHORUS	Root	124.0	790.0	-0.47928982526561387	--
9	PINOCEMBRIN	Shoot	9500.0	9700.0	1.4141550732358925	--
9	PINOCEMBRIN	Plant				--
0	POLYSACCHARIDE	Shoot		8000.0		--
14	POTASSIUM	Root	1790.0	11400.0	-0.3206295233680915	--
14	POTASSIUM	Plant		11400.0	-0.7250936985389107	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	PRENYLLICOFLAVONE-A	Root				--
0	PRIMULA-ACID-A	Root				--
6	PROPIONIC-ACID	Root				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
6	PROPIONIC-ACID	Root Essent. Oil				--
0	PROTEIN	Root	17270.0	110000.0	-0.09447587485319071	--
2	PRUNETIN	Leaf				--
2	PRUNETIN	Plant				--
0	PSEUDOIONONE	Root		1.0		Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
0	PYRAZOLE	Root				--
0	PYRAZOLE	Root Essent. Oil				--
176	QUERCETIN	Root				--
176	QUERCETIN	Shoot				--
176	QUERCETIN	Plant				Stitt, Paul. Why George should eat broccoli.
0	RESIN	Plant				--
0	RHAMNOISOLIQURITIN	Root				Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
0	RHAMNOLIQUIRITIN	Root				Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
15	RIBOFLAVIN	Root	0.3	1.6	-0.5415349954750799	--
34	SALICYLIC-ACID	Root		567.0	0.9999999999999998	--
34	SALICYLIC-ACID	Rhizome		567.0		--
5	SAPONINS	Root	20000.0	150000.0	1.936393086666112	--
1	SCHAFTOSIDE	Root				--
60	SELENIUM	Root		0.1	-0.3553393095282933	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	SHINFLAVANONE	Root				--
0	SHINPTEROCARPIN	Root				--
4	SILICON	Root	2.5	15.8	-0.2703244255424574	--
9	SINAPIC-ACID	Plant				--
1	SODIUM	Root	1284.0	8180.0	3.295958210940695	--
4	SOYASAPONIN	Root	1000.0	7100.0		--
0	SOYASAPONIN-B	Seed		3600.0		Abstract (See species file)
0	SOYASAPONIN-I	Tissue Culture				--
0	SOYASAPONIN-II	Tissue Culture				--
0	SOYASAPONINS	Seed				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
5	STARCH	Shoot		15000.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
5	STARCH	Root	7850.0	200000.0	-0.48414866409480584	--
12	STIGMASTEROL	Root				--
14	SUCROSE	Root	24000.0	91700.0	-0.3296593573923472	--
0	SUGAR	Root	30000.0	140000.0	1.6410189969506086	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	SUGARS	Root	12560.0	120000.0	0.15600769178456209	--
0	TERPIN-1-EN-4-OL	Root				--
0	TERPIN-1-EN-4-OL	Rhizome Essent. Oil				--
23	TERPINEN-4-OL	Rhizome Essent. Oil		72000.0		--
0	TETRACOSAN-1-OL	Root				--
0	TETRACOSANE	Root	0.1	39.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	TETRADECANOIC-ACID	Root				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	TETRAHYDRO-2-METHYL-FURAN-3-ONE	Root				--
22	TETRAMETHYL-PYRAZINE	Root				--
31	THIAMIN	Root		2.1	-0.40693378797942115	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	THIAMINE	Root	0.3	2.1	-0.4414330190617021	--
17	THUJONE	Root				--
71	THYMOL	Root				--
0	TIGLALDEHYDE	Root				--
0	TIGLALDEHYDE	Root Essent. Oil				--
4	TIN	Root	4.0	24.0	0.7637747609302243	--
0	TRICOSANE	Root	0.1	34.0		--
0	TRIDECANE	Root				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
2	TRIDECANOIC-ACID	Root				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	TRIMETHYL-PYRAZINE	Root				--
0	TRIMETHYL-PYRAZINE	Root Essent. Oil				--
22	UMBELLIFERONE	Root				--
0	UNDECANE	Root				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	UNDECANOIC-ACID	Root				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	URALENIC-ACID	Shoot		15000.0		--
0	URALOZIDE-ACID	Shoot		15000.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	URALSAPONIN-B	Root		8130.0		--
0	URALSAPONIN-B	Rhizome		8130.0		--
18	VITEXIN	Plant				Stitt, Paul. Why George should eat broccoli.
0	WATER	Root		843000.0	0.48274597416633663	--
43	XANTHOTOXIN	Shoot				--
77	ZINC	Root	0.1	0.3	-1.0458068487141465	--