

Dr. Duke's Phytochemical and Ethnobotanical Database

Chemicals Found in Panax ginseng

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
5	24-METHYLENE-CYCLOARTANOL	Seed Oil	--	--		
16	ACETIC-ACID	Shoot	--	--		
11	ADENINE	Root	--	--		
28	ADENOSINE	Rhizome	--	--		
28	ADENOSINE	Root	--	90	1	
3	ALANINE	Root	--	--		
3	ALANINE	Leaf	--	--		
2	ALPHA-HUMULENE	Root Essent. Oil	--	--		
2	ALPHA-HUMULENE	Plant	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
11	ALPHA-PHELLANDRENE	Root	--	--		
11	ALPHA-PHELLANDRENE	Root Essent. Oil	--	--		
11	ALPHA-PHELLANDRENE	Plant	--	--		Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
28	ALPHA-PINENE	Root	--	--		
28	ALPHA-PINENE	Root Essent. Oil	--	--		
3	ALPHA-SELINENE	Root Essent. Oil	--	--		
3	ALPHA-SELINENE	Flower Essent. Oil	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	ALPHA-SELINENE	Shoot	--	--		
3	ALPHA-SELINENE	Plant	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
5	ALUMINUM	Root	5	22	-0.30067595885157333	
14	ARGININE	Root	--	--		
14	ARGININE	Leaf	--	--		
3	AROMADENDRENE	Flower Essent. Oil	--	--		
3	AROMADENDRENE	Root Essent. Oil	--	--		
3	AROMADENDRENE	Plant	--	--		
2	ARSENIC	Root	--	--		
112	ASCORBIC-ACID	Root	--	--	-0.6459735820044326	
112	ASCORBIC-ACID	Leaf	--	--		
3	ASPARTIC-ACID	Root	--	--		
3	ASPARTIC-ACID	Leaf	--	--		
10	AZULENE	Shoot	--	--		
1	BEHENIC-ACID	Root	--	--		
24	BENZALDEHYDE	Shoot	--	--		
9	BETA-AMYRIN	Seed Oil	--	--		
6	BETA-BISABOLENE	Root Essent. Oil	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
6	BETA-BISABOLENE	Plant	--	--		
53	BETA-CAROTENE	Root	--	--		
5	BETA-ELEMENE	Root	--	--		
5	BETA-ELEMENE	Root Essent. Oil	--	150000	1	
5	BETA-ELEMENE	Shoot	--	--		
5	BETA-ELEMENE	Flower Essent. Oil	--	29000		
13	BETA-EUDES MOL	Plant	--	--		
13	BETA-EUDES MOL	Root Essent. Oil	--	--		
2	BETA-SANTALENE	Flower Essent. Oil	--	--		
3	BETA-SELINENE	Root Essent. Oil	--	80000		
3	BETA-SELINENE	Plant	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
47	BETA-SITOSTEROL	Root	--	--		
47	BETA-SITOSTEROL	Fruit	--	--		
47	BETA-SITOSTEROL	Rhizome	--	--		
4	BIOTIN	Root	0.9	0.9		
4	CADINENE	Shoot	--	--		
102	CAFFEIC-ACID	Root	--	--		
28	CALCIUM	Root	611	2880	-0.4953286858004708	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	CAMPESTEROL	Root	--	--		
31	CARYOPHYLLENE	Root Essent. Oil	--	--		
31	CARYOPHYLLENE	Plant	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
1	CARYOPHYLLENE-ALCOHOL	Root Essent. Oil	--	--		
1	CATALASE	Root	--	--		
21	CHLOROPHYLL	Leaf	--	--		
1	CHOLESTEROL	Seed Oil	--	--		
20	CHOLINE	Root	1000	2000	-0.17667432573797054	
24	CHROMIUM	Root	0.2	1.1	-0.34069526376445175	
53	CITRAL	Root Essent. Oil	--	--		
53	CITRAL	Root	--	--		Wichtl, M. 1984. Teedrogen. Ein Handbuch für Apotheker und Ärzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
23	CITRIC-ACID	Root	--	--		
1	CITROSTADIENOL	Seed Oil	--	--		
2	COBALT	Root	0.7	3.1	-0.477922970663694	
12	COPPER	Root	17	17	0.5844884448285068	
12	COPPER	Fruit	--	--		
12	COPPER	Inflorescence	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
12	COPPER	Flower	--	--		
12	COPPER	Leaf	--	--		
12	COPPER	Stem	--	--		
7	CYCLOARTENOL	Seed Oil	--	--		
3	CYCLOEUCALENOL	Seed Oil	--	--		
13	CYSTEINE	Root	--	--		
2	CYSTINE	Leaf	--	--		
2	CYSTINE	Root	--	--		
1	D-GLUCOSE	Root	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
5	DAUCOSTEROL	Root	--	--		
5	DAUCOSTEROL	Fruit	--	--		
5	DAUCOSTEROL	Rhizome	--	--		
5	DAUCOSTEROL	Tissue Culture	--	--		
9	DELTA-CADINENE	Root	--	--		
1	DIHYDROPANAXACOL	Tissue Culture	--	2		
3	ELEMENE	Root	--	--		
2	ERUCIC-ACID	Root	--	--		
3	ESTRADIOL	Root	--	--		
6	ESTRIOL	Root	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
8	ESTRONE	Root	--	--		
24	ETHANOL	Shoot	--	--		
1	ETHYLENE	Plant	--	--		
13	EUCALYPTOL	Plant	--	--		Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
76	EUGENOL	Root Essent. Oil	--	--		
16	FALCARINOL	Root	0.9	310	1.4051395916147116	
16	FALCARINOL	Rhizome	--	--		
61	FERULIC-ACID	Root	--	--		
15	FIBER	Root	72000	72000	-0.35781867764508235	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
3	FLUORIDE	Root	--	26.3	1.7190337938896858	
23	FOLIC-ACID	Root	--	--		
8	FRUCTOSE	Root	200	6000	-0.4913954846191467	
8	FRUCTOSE	Tissue Culture	--	--		
8	FRUCTOSE	Leaf	--	6500	-1.351589051251948	
8	FRUCTOSE	Stem	--	1800		
7	FUMARIC-ACID	Root	--	--		
1	GALACTOSE	Root	--	--		
22	GAMMA-AMINOBUTYRIC-ACID	Root	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
8	GENTISIC-ACID	Root	--	--		
4	GINSENOSIDE-R-O	Root	100	11000	1	
4	GINSENOSIDE-R-O	Flower	--	--		
4	GINSENOSIDE-R-O	Rhizome	18000	34000		
1	GINSENOSIDE-RB	Root	11300	40000		
1	GINSENOSIDE-RB	Rhizome	--	--		
1	GINSENOSIDE-RB	Tissue Culture	13100	15900		
14	GINSENOSIDE-RB-1	Bud	--	2000		
14	GINSENOSIDE-RB-1	Leaf	9	8000	1	
14	GINSENOSIDE-RB-1	Root	1700	83000	1	
14	GINSENOSIDE-RB-1	Fruit	--	--		
14	GINSENOSIDE-RB-1	Rhizome	8800	14000		
14	GINSENOSIDE-RB-1	Embryo	--	--		
14	GINSENOSIDE-RB-1	Tissue Culture	--	--		
14	GINSENOSIDE-RB-1	Flower	--	2000		
14	GINSENOSIDE-RB-1	Seed	--	--		
14	GINSENOSIDE-RB-1	Shoot	--	1000		
14	GINSENOSIDE-RB-1	Root Bark	--	--		
8	GINSENOSIDE-RB-2	Flower	--	2000		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
8	GINSENOSIDE-RB-2	Fruit	200	29500		
8	GINSENOSIDE-RB-2	Leaf	11	58300	1	
8	GINSENOSIDE-RB-2	Root	100	23000	1	
8	GINSENOSIDE-RB-2	Root Bark	--	--		
8	GINSENOSIDE-RB-2	Rhizome	4500	5700		
8	GINSENOSIDE-RB-2	Stem	--	3970		
8	GINSENOSIDE-RB-2	Shoot	--	4000	1	
8	GINSENOSIDE-RB-2	Embryo	--	--		
8	GINSENOSIDE-RB-2	Tissue Culture	--	--		
8	GINSENOSIDE-RB-2	Seed	--	--		
2	GINSENOSIDE-RB-3	Root	50	50	-1	
2	GINSENOSIDE-RB-3	Flower	--	136		
6	GINSENOSIDE-RC	Flower	672	2000		
6	GINSENOSIDE-RC	Fruit	1000	36700		
6	GINSENOSIDE-RC	Leaf	3.5	37700	1	
6	GINSENOSIDE-RC	Root	500	25000	1	
6	GINSENOSIDE-RC	Rhizome	--	4700		
6	GINSENOSIDE-RC	Root Bark	--	--		
6	GINSENOSIDE-RC	Embryo	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
6	GINSENOSIDE-RC	Pt	--	1900		
6	GINSENOSIDE-RC	Seed	--	--		
6	GINSENOSIDE-RC	Shoot	2000	2000		
6	GINSENOSIDE-RC	Tissue Culture	--	--		
3	GINSENOSIDE-RD	Flower	1000	5000		
3	GINSENOSIDE-RD	Fruit	1000	68800		
3	GINSENOSIDE-RD	Leaf	11	65800	1	
3	GINSENOSIDE-RD	Root	380	21200	1	
3	GINSENOSIDE-RD	Embryo	--	--		
3	GINSENOSIDE-RD	Rhizome	700	1600	-1	
3	GINSENOSIDE-RD	Root Bark	--	--		
3	GINSENOSIDE-RD	Seed	--	--		
3	GINSENOSIDE-RD	Shoot	--	15000	1	
3	GINSENOSIDE-RD	Pt	100	1070		
3	GINSENOSIDE-RD	Tissue Culture	--	--		
5	GINSENOSIDE-RE	Flower	25000	60000		
5	GINSENOSIDE-RE	Fruit	25000	60000		
5	GINSENOSIDE-RE	Leaf	15	151200	1	
5	GINSENOSIDE-RE	Root	680	84800	1	

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
5	GINSENOSIDE-RE	Pt	600	1410		
5	GINSENOSIDE-RE	Rhizome	4700	5700		
5	GINSENOSIDE-RE	Seed	--	--		
5	GINSENOSIDE-RE	Shoot	--	15000	1	
5	GINSENOSIDE-RE	Stem	--	700		
5	GINSENOSIDE-RE	Tissue Culture	--	--		
5	GINSENOSIDE-RE	Fruit Juice	--	--		
4	GINSENOSIDE-RF	Root	200	9200		
4	GINSENOSIDE-RF	Rhizome	--	1500		
4	GINSENOSIDE-RF	Leaf	24100	38300		
4	GINSENOSIDE-RF	Fruit	--	6900		
4	GINSENOSIDE-RF	Shoot	--	--		
4	GINSENOSIDE-RF	Tissue Culture	--	--		
4	GINSENOSIDE-RF	Flower	--	--		
1	GINSENOSIDE-RG	Root	4600	16300		
1	GINSENOSIDE-RG	Stem	--	700		
1	GINSENOSIDE-RG	Tissue Culture	12200	17300		
1	GINSENOSIDE-RG	Root Bark	--	34000		
13	GINSENOSIDE-RG-1	Flower	400	3000		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
13	GINSENOSIDE-RG-1	Fruit	400	287200		
13	GINSENOSIDE-RG-1	Leaf	5	72200	1	
13	GINSENOSIDE-RG-1	Root	320	58400	1	
13	GINSENOSIDE-RG-1	Pt	1000	3270		
13	GINSENOSIDE-RG-1	Rhizome	3800	4500		
13	GINSENOSIDE-RG-1	Root Bark	--	--		
13	GINSENOSIDE-RG-1	Tissue Culture	--	--		
13	GINSENOSIDE-RG-1	Embryo	--	--		
13	GINSENOSIDE-RG-1	Shoot	--	15000	1	
13	GINSENOSIDE-RG-1	Stem	--	2920		
3	GINSENOSIDE-RG-2	Root	100	26700	1	
3	GINSENOSIDE-RG-2	Rhizome	--	--		
3	GINSENOSIDE-RG-2	Flower	--	--		
3	GINSENOSIDE-RG-2	Shoot	--	--		
3	GINSENOSIDE-RG-2	Leaf	67	317.5		
2	GINSENOSIDE-RG-3	Leaf	25	195		
2	GINSENOSIDE-RG-3	Shoot	--	--		
2	GINSENOSIDE-RG-3	Root	3	30		
2	GINSENOSIDE-RH1	Root	--	15		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	GINSENOSIDE-RH1	Shoot	--	--		
2	GINSENOSIDE-RH1	Leaf	12.5	135		
2	GINSENOSIDE-RH1	Tissue Culture	--	--		
18	GINSENOSIDES	Root	10720	30000	-0.8754149693562976	
18	GINSENOSIDES	Tissue Culture	--	--		
18	GINSENOSIDES	Shoot	--	--		
18	GINSENOSIDES	Plant	--	--		
7	GLUCOSE	Root	100	9000	-0.5544082656198722	
7	GLUCOSE	Leaf	--	5800	-0.5922731387025567	
7	GLUCOSE	Stem	--	14700		
7	GLUCOSE	Tissue Culture	--	--		
8	GLUTAMIC-ACID	Root	--	--		
8	GLUTAMIC-ACID	Leaf	--	--		
12	GLYCINE	Root	--	--		
12	GLYCINE	Leaf	--	--		
1	GUANINE	Root	--	--		
7	HARMAN	Root	--	--		
1	HEPTADECANOIC-ACID	Root	--	--		
7	HISTIDINE	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
7	HISTIDINE	Root	--	20	-1.7257014002319866	
2	HUMULENE	Root Essent. Oil	--	24000	1	
2	HUMULENE	Leaf Essent. Oil	--	--		
2	HUMULENE	Stem Essent. Oil	--	--		
7	INDOLE-3-ACETIC-ACID	Tissue Culture	--	--		
1	INDOLE-ACETIC-ACID	Tissue Culture	--	--		
6	IRON	Root	--	--		
6	IRON	Leaf	--	--		
6	IRON	Pt	--	--		
6	IRON	Stem	--	--		
6	IRON	Fruit	--	--		
3	ISOLEUCINE	Root	--	--		
3	ISOLEUCINE	Leaf	--	--		
75	KAEMPFEROL	Leaf	--	--		
75	KAEMPFEROL	Shoot	--	--		
2	LEUCINE	Root	--	--		
2	LEUCINE	Leaf	--	--		
1	LIGNOCERIC-ACID	Root	--	--		
3	LIGUSTRAZINE	Root	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
60	LIMONENE	Root Essent. Oil	--	--		
60	LIMONENE	Root	--	--		Wichtl, M. 1984. Teedrogen. Ein Handbuch für Apotheker und Ärzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
53	LINALOOL	Root Essent. Oil	--	--		
27	LINOLEIC-ACID	Root	--	140	-1.1111121238776438	
21	LUPEOL	Seed Oil	--	--		
15	LUTEIN	Leaf	--	--		
7	LUTEOLIN-7-GLUCOSIDE	Leaf	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
4	LYSINE	Leaf	--	--		
4	LYSINE	Root	--	--		
65	MAGNESIUM	Root	102	481	-1.107068199242284	
15	MALIC-ACID	Root	--	--		
11	MALTOL	Root	--	--		
2	MALTOSE	Root	5100	199600	1	
2	MALTOSE	Stem	--	1300		
14	MANGANESE	Root	0.4	1.9	-0.5231856000816221	
14	MANGANESE	Fruit	--	--		
14	MANGANESE	Stem	--	--		
14	MANGANESE	Leaf	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
14	MANGANESE	Pt	--	--		
18	MANNITOL	Root	--	--		
15	METHIONINE	Leaf	--	--		
15	METHIONINE	Root	--	--		
2	MOLYBDENUM	Root	--	--		
2	MOLYBDENUM	Leaf	--	--		
2	MOLYBDENUM	Fruit	--	--		
2	MOLYBDENUM	Pt	--	--		
2	MOLYBDENUM	Stem	--	--		
6	MYRISTIC-ACID	Root	--	--		
1	N-NONACOSANE	Leaf	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
1	N-NONACOSANE	Rhizome	--	--		
1	N-NONACOSANE	Root	--	--		
2	NEOXANTHIN	Leaf	--	--		
11	NEROLIDOL	Shoot	--	--		
39	NIACIN	Root	17	80	0.8625453013144426	
2	NICOTINAMIDE	Root	--	--		
11	NICOTINIC-ACID	Root	--	--		
2	NORHARMAN	Root	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
64	OLEANOLIC-ACID	Root	150	700	0.845493216306878	
18	OLEIC-ACID	Root	--	--		
25	P-COUMARIC-ACID	Root	--	--		
1	P-HYDROXYCINNAMIC-ACID	Root	--	26		
13	PALMITIC-ACID	Root	--	--		
13	PALMITIC-ACID	Plant	--	--		
13	PALMITIC-ACID	Root Essent. Oil	--	86000	1.2911413065205417	
13	PALMITIC-ACID	Stem Essent. Oil	--	160000		
13	PALMITIC-ACID	Leaf Essent. Oil	--	160000		
2	PALMITOLEIC-ACID	Root	--	--		
1	PANACENE	Root	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
1	PANAXACOL	Root	--	--		
1	PANAXACOL	Tissue Culture	37	50		
1	PANAXAN-A	Root	--	--		
1	PANAXAN-B	Root	--	--		
1	PANAXAN-C	Root	--	--		
1	PANAXAN-D	Root	--	--		
1	PANAXAN-E	Root	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	PANAXIC-ACID	Root	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
5	PANAXIN	Root	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
1	PANAXYDOL	Root	357.1	440	-1	
1	PANAXYDOL	Tissue Culture	--	8		
3	PANAXYNOL	Root	--	--		Chemical Constituents of Oriental Herbs (3 diff. books)
1	PANAXYTRIOL	Root	14.2	250	0.9999999999999999	
11	PANTOTHENIC-ACID	Root	6.6	6.6	-1.5734087317737453	
2	PATCHOULENE	Root Essent. Oil	--	20000		
24	PECTIN	Root	--	--		
24	PECTIN	Plant	--	--		
1	PENTADECANOIC-ACID	Root	--	--		
2	PHENYL-ACETALDEHYDE	Shoot	--	--		
7	PHENYLALANINE	Root	--	--		
7	PHENYLALANINE	Leaf	--	--		
2	PHOSPHATIDYL-CHOLINE	Root	--	--		
4	PHOSPHORUS	Root	112	528	-0.5253256654441569	
14	POTASSIUM	Root	515	2430	-0.9774436969784575	
2	PYROGLUTAMIC-ACID	Root	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	PYRUVIC-ACID	Root	--	--		
15	RIBOFLAVIN	Root	0.4	1.8	-0.49776655351897503	
34	SALICYLIC-ACID	Root	--	3.4	-1	
5	SAPONINS	Root	--	20000	-0.6445017907060011	
5	SAPONINS	Shoot	--	--		
5	SAPONINS	Stem	16000	40000		
5	SAPONINS	Flower	--	69000		
5	SAPONINS	Leaf	--	128000	1.3249298643249272	
60	SELENIUM	Root	0.5	2.5	-0.18461140397934853	
1	SERINE	Root	--	--		
1	SERINE	Leaf	--	--		
4	SILICON	Root	--	--		
1	SODIUM	Root	5	24	-0.5015977269170404	
1	SPERMIDINE	Root	--	--		
1	SPERMINE	Root	--	--		
10	SQUALENE	Seed Oil	--	--		
5	STARCH	Rhizome	--	--		
5	STARCH	Root	25440	120000	-0.818804895582863	
8	STEARIC-ACID	Root	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
12	STIGMASTEROL	Root	--	--		
7	SUCCINIC-ACID	Root	--	--		
14	SUCROSE	Root	1300	226000	1.0351788500330728	
14	SUCROSE	Rhizome	--	--		
14	SUCROSE	Leaf	--	6400	-0.9162072066569106	
14	SUCROSE	Stem	--	3500		
5	SUPEROXIDE-DISMUTASE	Root	--	--		
41	TANNIC-ACID	Leaf	--	--		
6	TARTARIC-ACID	Root	--	--		
18	TERPINEOL	Root Essent. Oil	--	--		
18	TERPINEOL	Root	--	--		Wichtl, M. 1984. Teedrogen. Ein Handbuch für Apotheker und Ärzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
31	THIAMIN	Root	1.7	1.7	-0.4425168354864589	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
4	THREONINE	Leaf	--	--		
4	THREONINE	Root	--	--		
4	TIN	Root	3.4	16	-0.0494227816847916	
1	TOLUENE	Shoot	--	--		
2	TRANS-BETA-FARNESENE	Root Essent. Oil	--	80000	0.947568920739301	
2	TRANS-BETA-FARNESENE	Plant	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	TRIFOLIN	Leaf	--	--		
2	TRIFOLIN	Shoot	--	--		
8	TYROSINE	Root	--	--		
8	TYROSINE	Leaf	--	--		
3	VALINE	Leaf	--	--		
3	VALINE	Root	--	--		
24	VANILLIC-ACID	Root	--	55	0.9214964116563734	
24	VANILLIC-ACID	Plant	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
2	VIOLAXANTHIN	Leaf	--	--		
3	XYLOSE	Root	--	--		
3	XYLOSE	Tissue Culture	--	--		
77	ZINC	Root	--	--		
77	ZINC	Leaf	--	--		
77	ZINC	Fruit	--	--		
77	ZINC	Petiole	--	--		
77	ZINC	Stem	--	--		