

## Dr. Duke's Phytochemical and Ethnobotanical Databases

### Chemicals found in *Valeriana officinalis*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
0	(+)-ACTINIDINE	Root				--
0	(+)-BETA-BISABOLENE	Root Essent. Oil				--
0	(+)-EREMOPHILENE	Root Essent. Oil				--
0	(+)-GAMMA-CADINENE	Root Essent. Oil				--
0	(+)-MAALIOXIDE	Plant				J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.
0	(-)-ACTINIDINE	Root				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	(-)-ALLOAROMADENDRENE	Root Essent. Oil				--
0	(-)-ALPHA-FENCHENE	Root Essent. Oil				--
0	(-)-ALPHA-PINENE	Root Essent. Oil				--
0	(-)-AR-CURCUMENE	Root Essent. Oil				--
0	(-)-BETA-ELEMENE	Root Essent. Oil				--
0	(-)-BETA-PHELLANDRENE	Root Essent. Oil				--
0	(-)-BETA-PINENE	Root Essent. Oil				--
3	(-)-BORNEOL	Root				--
3	(-)-BORNEOL	Root Essent. Oil				--
0	(-)-BORNEOL-ACETATE	Root				--
0	(-)-BORNEOL-ISOVALERATE	Root				--
0	(-)-BORNEOL-ISOVALERATE	Root Essent. Oil				--
0	(-)-CAMPHENE	Root Essent. Oil				--
0	(-)-CARYOPHYLLENE	Root Essent. Oil				--
0	(-)-LIMONENE	Root Essent. Oil				--
0	(-)-MYRTENOL	Leaf	3.0	60.0		Father Nature's Farmacy: The aggregate of all these three-letter citations.
0	(-)-MYRTENOL	Root				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	(-)-MYRTENOL	Leaf Essent. Oil	1200.0	2400.0		--
0	(-)-MYRTENOL-ISOVALERATE	Root				--
0	(-)-PACIFIGORGIOL	Essential Oil	7000.0	86000.0		--
0	(S)-(-)-ACTINIDINE	Root				--
0	1,8-CINEOL	Leaf Essent. Oil	37700.0	65100.0	-0.4818256731898833	--
67	1,8-CINEOLE	Leaf	85.0	1660.0	-0.31670589111205333	--
0	1-ALPHA-ACEVALTRATE	Root				--
0	2-ACETYL-PYRROLE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	7-BETA-ACEVALTRATE	Root				--
0	7-EPIDEACETYLIISOVALTRATE	Plant				--
0	7-EPIDEACETYLIISOVALTRATE	Root				--
0	8-EPIKESSANOL	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
16	ACETIC-ACID	Root				--
0	ACETOXY-VALEPOTRIATUM	Plant				--
0	ACETOXYVALERENIC-ACID	Root				--
0	ACETOXYVALERENOIC-ACID	Root	10.0	1680.0		--
0	ACETOXYVALTRATE	Root				--
0	ACETOXYVALTRATE	Rhizome				--
1	ACEVALTRATE	Plant				--
1	ACEVALTRATE	Tissue Culture	100.0	120.0		--
1	ACEVALTRATE	Root		120.0		--
4	ACTINIDINE	Rhizome		1.8		--
4	ACTINIDINE	Root		0.5		--
3	ALANINE	Rhizome				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	ALANINE	Root				--
0	ALKALOIDS	Root	500.0	2000.0	-0.8237252063158436	--
0	ALLO-AROMADENDRENE	Root Essent. Oil				--
0	ALLO-AROMADENDRENE	Leaf Essent. Oil		9700.0	-0.42565395460505273	--
0	ALLO-AROMADENDRENE	Root	0.0	195.0		Father Nature's Farmacy: The aggregate of all these three-letter citations.
3	ALPHA-CURCUMENE	Plant				--
3	ALPHA-CURCUMENE	Root				--
0	ALPHA-ELAEOSTEARIC- ACID	Seed Oil		446000.0		--
0	ALPHA-FENCHENE	Root				--
0	ALPHA-KERZYLALCOHOL	Root				--
0	ALPHA-KESSYL-ALCOHOL	Root				--
0	ALPHA-KESSYL-ALCOHOL	Plant				--
0	ALPHA-METHYL-2- PYRROLYL-KETONE	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	ALPHA-METHYL-KETONE- PYRROLE	Root				--
28	ALPHA-PINENE	Root	1.0	500.0	-0.5389356389673264	Father Nature's Farmacy: The aggregate of all these three-letter citations.
28	ALPHA-PINENE	Root Essent. Oil		25000.0	-0.9573580453647603	--
28	ALPHA-PINENE	Leaf	2.0	6095.0	0.17117059389793504	Father Nature's Farmacy: The aggregate of all these three-letter citations.
28	ALPHA-PINENE	Rhizome Essent. Oil				--
28	ALPHA-PINENE	Essential Oil				--
28	ALPHA-PINENE	Leaf Essent. Oil	1000.0	239100.0	0.5622004446693538	--
13	ALPHA-TERPINENE	Leaf		15.0	-0.30461131542122966	Father Nature's Farmacy: The aggregate of all these three-letter citations.
13	ALPHA-TERPINENE	Leaf Essent. Oil		600.0	-0.698535055754104	--
23	ALPHA-TERPINEOL	Leaf Essent. Oil	9500.0	75400.0	0.6587837647764052	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
23	ALPHA-TERPINEOL	Root	95.0	2365.0	1.9966237635178776	Father Nature's Farmacy: The aggregate of all these three-letter citations.
23	ALPHA-TERPINEOL	Root Essent. Oil				--
23	ALPHA-TERPINEOL	Leaf	22.0	1925.0	2.7888857564875424	Father Nature's Farmacy: The aggregate of all these three-letter citations.
32	ALPHA-TOCOPHEROL	Flower		221.0	1.0	--
0	ALPHA-VALENE	Root				--
5	ALUMINUM	Root	50.0	422.0	-0.0860532203055952	--
0	ANHYDROVALENOL- ISOVALERATE	Rhizome				--
3	AR-CURCUMENE	Root				--
14	ARGININE	Rhizome				--
112	ASCORBIC-ACID	Root		0.0	-0.6459735820044326	--
0	ASH	Root	16874.0	143000.0	2.1542605445719727	--
2	ASPARAGINE	Rhizome				--
3	ASPARTIC-ACID	Rhizome				--
10	AZULENE	Root				--
0	BALDRIANIC-ACID	Root				--
0	BALDRITANNIC-ACID	Root				--
3	BALDRINAL	Root				--
6	BETA-BISABOLENE	Leaf Essent. Oil	6200.0	9000.0	-0.21732019637969832	--
6	BETA-BISABOLENE	Root	2.0	165.0	1.2460935416054946	--
53	BETA-CAROTENE	Root				--
53	BETA-CAROTENE	Plant				--
0	BETA-CARYOPHYLLENE	Leaf	6.0	345.0	-0.16591106399250605	Father Nature's Farmacy: The aggregate of all these three-letter citations.
0	BETA-CARYOPHYLLENE	Leaf Essent. Oil	2500.0	13600.0	-0.32499336547223034	--
0	BETA-CARYOPHYLLENE	Root Essent. Oil				--
0	BETA-CUBEBENE	Leaf Essent. Oil	6500.0	13100.0	1.3377190100358967	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	BETA-CUBEBENE	Leaf	15.0	335.0	0.671116986901806	Father Nature's Farmacy: The aggregate of all these three-letter citations.
5	BETA-ELEMENE	Root				--
13	BETA-IONONE	Leaf	4.0	75.0	1.7125460902896001	Father Nature's Farmacy: The aggregate of all these three-letter citations.
13	BETA-IONONE	Leaf Essent. Oil	1800.0	3000.0	-1.0	--
13	BETA-IONONE	Root				--
0	BETA-METHYL-GLUCOSIDE	Leaf				--
0	BETA-METHYL-VALERIC- ACID	Root Essent. Oil				--
2	BETA-MYRCENE	Leaf	2.0	210.0	-0.32305897742328993	Father Nature's Farmacy: The aggregate of all these three-letter citations.
2	BETA-MYRCENE	Leaf Essent. Oil	900.0	8200.0	1.0	--
3	BETA-PHELLANDRENE	Leaf Essent. Oil		1400.0	-0.8017042912228218	--
3	BETA-PHELLANDRENE	Root				--
3	BETA-PHELLANDRENE	Leaf		35.0	-0.3807332732105446	Father Nature's Farmacy: The aggregate of all these three-letter citations.
13	BETA-PINENE	Root	50.0	960.0	0.40905564902771346	--
13	BETA-PINENE	Leaf	12.0	1100.0	1.193361081814098	Father Nature's Farmacy: The aggregate of all these three-letter citations.
13	BETA-PINENE	Root Essent. Oil		48000.0	-0.542129322911591	--
13	BETA-PINENE	Leaf Essent. Oil	5400.0	43000.0	1.0456103749959569	--
47	BETA-SITOSTEROL	Root				--
47	BETA-SITOSTEROL	Rhizome				--
47	BETA-SITOSTEROL	Plant				Lokar, L. C., Martini, F. 1997. Chemotaxonomic Investigations on the Genus Valeriana L. in the Northeastern Italy and in Tuscany. I. Phytosterols. Dept. of Biology, University of Trieste. Allionia 35: 103-115.
0	BETA-SITOSTEROL- STEARATE	Root				--
0	BETA-VALENE	Rhizome				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	BETA-VALENE	Root				--
0	BISABOLOL	Root				--
35	BORNEOL	Leaf Essent. Oil	18200.0	153000.0	1.4070251447294047	--
35	BORNEOL	Essential Oil				--
35	BORNEOL	Root	5.0	460.0		--
35	BORNEOL	Leaf	5.0	3900.0	4.352068614545992	Father Nature's Farmacy: The aggregate of all these three-letter citations.
35	BORNEOL	Root Essent. Oil				--
0	BORNEOL-ACETATE	Rhizome				--
0	BORNEOL-ACETATE	Essential Oil				--
0	BORNEOL-ACETATE	Root Essent. Oil		315000.0	1.4142135623730943	--
0	BORNEOL-ACETATE	Rhizome Essent. Oil				--
0	BORNEOL-ACETATE	Leaf Essent. Oil	4000.0	335900.0	2.416530768198088	--
0	BORNEOL-FORMATE	Root Essent. Oil				--
0	BORNEOL-ISOVALERATE	Essential Oil				--
0	BORNEOL-ISOVALERATE	Rhizome Essent. Oil				--
0	BORNEOL-ISOVALERIANATE	Root Essent. Oil		15000.0		--
12	BORNYL-ACETATE	Leaf	9.0	8565.0	4.276392512629336	--
12	BORNYL-ACETATE	Root	65.0	6300.0	1.731951097266349	--
0	BORNYL-BUTYRATE	Root				--
1	BORNYL-FORMATE	Root				--
0	BORNYL-ISOVALERATE	Root	250.0	9780.0	1.0	--
0	BORNYL-ISOVALERIANATE	Root	15.0	300.0		Father Nature's Farmacy: The aggregate of all these three-letter citations.
102	CAFFEIC-ACID	Plant				--
102	CAFFEIC-ACID	Root		5800.0	1.5698864543151345	--
28	CALCIUM	Root	4956.0	42000.0	3.7890171974850206	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	CAMPESTEROL	Plant				Lokar, L. C., Martini, F. 1997. Chemotaxonomic Investigations on the Genus Valeriana L. in the Northeastern Italy and in Tuscany. I. Phytosterols. Dept. of Biology, University of Trieste. Allionia 35: 103-115.
9	CAMPHENE	Leaf	0.0	130.0	-0.14355459328033415	Father Nature's Farmacy: The aggregate of all these three-letter citations.
9	CAMPHENE	Root	3.0	65.0	-0.7900657071763403	--
9	CAMPHENE	Leaf Essent. Oil		5000.0	-0.6992473325340675	--
9	CAMPHENE	Root Essent. Oil				--
9	CAMPHENE	Rhizome Essent. Oil				--
9	CAMPHENE	Essential Oil				--
0	CAPRONIC-ACID	Plant		204000.0		--
0	CARBOHYDRATES	Root	88500.0	750000.0	-1.02724083866397	--
37	CARVACROL	Root	10.0	195.0		--
19	CARVONE	Root	80.0	1640.0	1.4122006603747708	--
0	CARVYL-ACETATE	Root				--
31	CARYOPHYLLENE	Leaf Essent. Oil		51000.0	-0.5095909536194779	--
31	CARYOPHYLLENE	Rhizome Essent. Oil				--
31	CARYOPHYLLENE	Essential Oil				--
31	CARYOPHYLLENE	Root	29.0	1520.0	1.7213037548491001	Father Nature's Farmacy: The aggregate of all these three-letter citations.
31	CARYOPHYLLENE	Leaf	115.0	1300.0	0.05756656381480434	Father Nature's Farmacy: The aggregate of all these three-letter citations.
31	CARYOPHYLLENE	Root Essent. Oil		76000.0	1.0	--
1	CATALASE	Root				--
1	CATALASE	Plant				--
0	CHATINENE	Root				--
0	CHATININE	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	CHATININE	Root				--
77	CHLOROGENIC-ACID	Root		7300.0	0.9018283707528216	--
0	CHOLESTERIL-N-VALERATE	Plant				Lokar, L. C., Martini, F. 1997. Chemotaxonomic Investigations on the Genus Valeriana L. in the Northeastern Italy and in Tuscany. I. Phytosterols. Dept. of Biology, University of Trieste. Allionia 35: 103-115.
1	CHOLESTEROL	Plant				Lokar, L. C., Martini, F. 1997. Chemotaxonomic Investigations on the Genus Valeriana L. in the Northeastern Italy and in Tuscany. I. Phytosterols. Dept. of Biology, University of Trieste. Allionia 35: 103-115.
20	CHOLINE	Leaf	52000.0	58000.0	3.080709728318331	--
20	CHOLINE	Root	3540.0	30000.0	3.1398996373571895	--
20	CHOLINE	Stem		30000.0		--
24	CHROMIUM	Root	0.2	1.8	-0.20117706529794718	--
0	CIS-VALERENOL-ACETATE	Root				--
0	CIS-VALERENOL-ISOVALERATE	Root				--
0	CITRONELLOL-ISOVALERATE	Leaf	36.0	460.0		Father Nature's Farmacy: The aggregate of all these three-letter citations.
0	CITRONELLOL-ISOVALERATE	Leaf Essent. Oil	15900.0	18000.0		--
2	COBALT	Root	0.6	4.8	-0.4410243796700459	--
0	CRYPTOFAURONOL	Root				--
7	CYCLOARTENOL	Plant				Lokar, L. C., Martini, F. 1997. Chemotaxonomic Investigations on the Genus Valeriana L. in the Northeastern Italy and in Tuscany. I. Phytosterols. Dept. of Biology, University of Trieste. Allionia 35: 103-115.
19	D-LIMONENE	Leaf	125.0	1400.0		--
19	D-LIMONENE	Leaf Essent. Oil		55000.0	-1.0	--



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	DEACETYLSOLAVTRATE	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	DELTA-BISABOLENE	Root	8.0	150.0		Father Nature's Farmacy: The aggregate of all these three-letter citations.
9	DELTA-CADINENE	Root				--
0	DELTA-VALENE	Rhizome				--
0	DEOXYDODIDROVALTRATE	Root				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	DIDROVALTRATE	Root	50.0	1000.0		--
0	DIDROVALTRATE	Tissue Culture		40.0		--
1	DIHYDROCARVYL-ACETATE	Root				--
0	DIHYDROVALEPOTRIATUM	Plant				--
5	DIHYDROVALTRATE	Root				--
2	ELEMOL	Root				--
2	ELEMOL	Leaf	3.0	36.0	-1.0467417211593815	Father Nature's Farmacy: The aggregate of all these three-letter citations.
2	ELEMOL	Leaf Essent. Oil		1400.0	-1.0	--
2	ELEMOL	Essential Oil				--
2	ELEMOL	Root Essent. Oil				--
0	EO	Root	590.0	20000.0	0.2872600243161038	--
0	EO	Root Essent. Oil		5000.0		--
0	EO	Leaf	2300.0	28000.0	1.4482555378393345	--
0	EREMOPHILENE	Root				--
0	EREMOPHILENE	Plant				--
0	ERGNOPHYLINE	Root				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	EUDESMOL	Root				--
0	EUGENOL-ISOVALERATE	Root Essent. Oil				--
0	EUGENOL-ISOVALERATE	Leaf Essent. Oil				--
0	EUGENOL-VALERATE	Root Essent. Oil				--
6	EUGENYL-ACETATE	Root				--
0	EUGENYL-ISOVALERATE	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	FAT	Root	2714.0	23000.0	0.004007840419506115	--
0	FAURINOL	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	FAURINONE	Root	105.0	2080.0		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	FIBER	Root		79000.0	-0.20236031507008168	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	FIBER(CRUDE)	Root		79000.0	-0.9546329903137257	--
0	FIBER(DIETARY)	Root		423000.0	0.2683457549147254	--
13	FORMIC-ACID	Root				--
8	FRUCTOSE	Root		9000.0	-0.4564787045656782	--
22	GABA	Root				--
22	GAMMA-AMINOBUTYRIC-ACID	Rhizome				--
22	GAMMA-AMINOBUTYRIC-ACID	Root				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	GAMMA-CADINENE	Root				--
20	GAMMA-LINOLENIC-ACID	Plant		62000.0		--
11	GAMMA-TERPINENE	Root				--
11	GAMMA-TERPINENE	Root Essent. Oil				--
0	GAMMA-VALENE	Root				--
0	GAMMA-VALENE	Rhizome				--
35	GERANIOL	Root	1.0	120.0	-1.0	Father Nature's Farmacy: The aggregate of all these three-letter citations.
7	GLUCOSE	Root		15000.0	-0.18931013947995629	--
8	GLUTAMIC-ACID	Root				--
5	GLUTAMINE	Rhizome				--
5	GLUTAMINE	Root				--
6	GUAIAZULENE	Root Essent. Oil				--
3	GUAIOL	Root				--
0	GUM	Root	14160.0	120000.0	0.562939968780601	--
0	HOMOACEVALTRATE	Root		300.0		--
1	HOMOBALDRINAL	Root				--
0	HOMODEOXYDODIDROVALTRATE	Root				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	HOMODIDROVALTRATE	Root				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	HOMODIVALTRATE	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	HOMOVALTRATE	Root				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	HYDROXYVALERINIC-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.
6	IRON	Root	6.0	48.0	-0.3719192616723782	--
7	ISOBORNEOL	Leaf	42.0	3900.0	1.727525839430272	Father Nature's Farmacy: The aggregate of all these three-letter citations.
7	ISOBORNEOL	Leaf Essent. Oil	18200.0	153000.0	1.0	--
7	ISOBORNEOL	Root				Medline (post 1990 searches filed in my computer)
7	ISOBORNEOL	Root Essent. Oil				--
0	ISOBORNEOL-ACETATE	Leaf Essent. Oil	2600.0	8400.0		--
0	ISOBORNEOL-ACETATE	Root Essent. Oil				--
0	ISOBORNEOL-ISOVALERATE	Leaf Essent. Oil	112500.0	478000.0		--
0	ISOBORNEOL-ISOVALERATE	Root Essent. Oil				--
2	ISOBORNYL-ACETATE	Root	55.0	3030.0		--
0	ISOBORNYL-ISOVALERATE	Root				Medline (post 1990 searches filed in my computer)
0	ISOBORNYL-ISOVALERATE	Leaf	260.0	12190.0		Father Nature's Farmacy: The aggregate of all these three-letter citations.
0	ISOEUGENOL-ISOVALERATE	Root Essent. Oil				--
0	ISOEUGENOL-VALERATE	Root Essent. Oil				--
0	ISOEUGENYL-ISOVALERATE	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.
3	ISOLEUCINE	Rhizome				--
0	ISOVALERAMIDE	Root				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	ISOVALERIANIC-ACID	Leaf	0.0	215.0		Father Nature's Farmacy: The aggregate of all these three-letter citations.
0	ISOVALERIANIC-ACID	Root		200000.0		--
0	ISOVALERIANIC-ACID	Leaf Essent. Oil		8400.0		--
5	ISOVALERIC-ACID	Root				--
5	ISOVALERIC-ACID	Root Essent. Oil				--
0	ISOVALEROXY-DIHYDROVALTRATE	Rhizome				--
0	ISOVALEROXY-HYDROXY-DIDROVALTRATE	Root	25.0	1000.0		--
0	ISOVALEROXY-HYDROXY-DIHYDROVALTRATE	Root				--
0	ISOVALTRATE	Rhizome		5280.0		--
0	ISOVALTRATE	Root	500.0	6300.0		--
0	ISOVALTRATES	Root				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
75	KAEMPFEROL	Plant				--
0	KANOKOSIDES	Plant				J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.
0	KESSANE	Root Essent. Oil				--
0	KESSANE	Root				J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.
0	KESSANE	Plant				--
0	KESSENE	Plant				J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.
0	KESSYL-2-OL	Root				--
0	KESSYL-2-OL-ACETATE	Root				--
0	KESSYL-6-OL	Root				--
0	KESSYL-6-OL-ACETATE	Root				--
0	KESSYL-GLYCOL	Plant				J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	KESSYL-GLYCOL-DIACETATE	Root				--
0	KONGOL	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	LEDOL	Root				--
2	LEUCINE	Rhizome				--
60	LIMONENE	Leaf Essent. Oil	2300.0	25500.0	-0.5655050351348929	--
60	LIMONENE	Root				--
60	LIMONENE	Root Essent. Oil				--
27	LINOLEIC-ACID	Plant		165000.0	1.9964479270741882	--
0	LIPASE	Root				--
78	LUTEOLIN	Root				--
0	MAALI-ALCOHOL	Rhizome				--
0	MAALIOL	Root				--
65	MAGNESIUM	Root	375.0	3180.0	0.3290823349317941	--
15	MALIC-ACID	Root				--
14	MANGANESE	Root	0.7	5.6	-0.4790041559713029	--
22	MYRCENE	Plant				--
22	MYRCENE	Root Essent. Oil				--
22	MYRCENE	Root				--
0	MYRTEN-1-OL	Rhizome				--
0	MYRTEN-1-OL-ISOVALERATE	Rhizome				--
2	MYRTENOL	Root	3.0	85.0		Father Nature's Farmacy: The aggregate of all these three-letter citations.
2	MYRTENOL	Plant				--
1	MYRTENYL-ACETATE	Root				--
0	MYRTENYL-ISOVALERATE	Rhizome				--
0	MYRTENYL-ISOVALERIANATE	Root				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	N-(2-(4-HYDROXY-PHENYL)-ETHYL)-10-HYDROXY-ACTINIDINIUM	Root		10.0		--
0	N-(2-(4-HYDROXY-PHENYL)-ETHYL)-ACTINIDINIUM	Root		300.0		--
0	N-(BETA-(P-HYDROXYPHENYL)-ETHYL)-ACTINIDINE	Plant				--
1	N-(P-HYDROXYPHENETHYL)-ACTINIDINE	Root				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
1	N-BUTYL-VALERATE	Leaf Essent. Oil	4.0	24600.0		--
1	N-VALERALDEHYDE	Leaf Essent. Oil	2200.0	12300.0		--
1	N-VALERALDEHYDE	Leaf	5.0	315.0		Father Nature's Farmacy: The aggregate of all these three-letter citations.
39	NIACIN	Root	6.0	52.0	0.051041041724226174	--
18	OLEIC-ACID	Plant		3000.0	-0.3289098475993685	--
0	OXYDASE	Plant				--
0	OXYDASE	Root				--
25	P-COUMARIC-ACID	Plant				--
16	P-CYMENE	Root				--
16	P-CYMENE	Root Essent. Oil				--
0	P-CYMOL	Root				--
0	PACIFIGORGIOL	Leaf	16.0	2195.0		Father Nature's Farmacy: The aggregate of all these three-letter citations.
13	PALMITIC-ACID	Plant				--
13	PALMITIC-ACID	Root		83000.0	3.577003804191027	--
0	PATCHOLYL-ALCOHOL	Root				--
0	PATCHOULYL-ALCOHOL	Root				--
0	PENTYL-VALERATE	Leaf Essent. Oil	1800.0	22200.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PENTYL-VALERATE	Leaf	4.0	565.0		Father Nature's Farmacy: The aggregate of all these three-letter citations.
0	PEROXIDASE	Root				--
0	PEROXIDASE	Plant				--
7	PHENYLALANINE	Rhizome				--
4	PHOSPHORUS	Root	39.0	330.0	-0.560116109548552	--
14	POTASSIUM	Root	1215.0	10300.0	-0.4011752971664641	--
0	PROTEIN	Root	10148.0	86000.0	-0.3639841360982529	--
176	QUERCETIN	Plant				--
1	RAFFINOSE	Root		30000.0	-0.5987994606248946	--
0	RESIN	Root				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
15	RIBOFLAVIN	Root	0.1	1.2	-0.6290718793872899	--
5	SABINENE	Leaf	3.0	345.0	-0.041395703025686854	Father Nature's Farmacy: The aggregate of all these three-letter citations.
5	SABINENE	Leaf Essent. Oil	1200.0	13600.0	-0.41148866867411177	--
0	SACCHAROSE	Plant		50000.0		--
60	SELENIUM	Root	0.5	4.4	-0.04945181208643408	--
1	SERINE	Rhizome				--
4	SILICON	Root	0.1	0.9	-0.3387704380211594	--
0	SKYANTHINE	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.
1	SODIUM	Root	27.0	230.0	-0.40568103697114866	--



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
10	SQUALENE	Plant				Lokar, L. C., Martini, F. 1997. Chemotaxonomic Investigations on the Genus Valeriana L. in the Northeastern Italy and in Tuscany. I. Phytosterols. Dept. of Biology, University of Trieste. Allionia 35: 103-115.
8	STEARIC-ACID	Root				--
0	STIGMASTANOL	Plant				Lokar, L. C., Martini, F. 1997. Chemotaxonomic Investigations on the Genus Valeriana L. in the Northeastern Italy and in Tuscany. I. Phytosterols. Dept. of Biology, University of Trieste. Allionia 35: 103-115.
12	STIGMASTEROL	Plant				Lokar, L. C., Martini, F. 1997. Chemotaxonomic Investigations on the Genus Valeriana L. in the Northeastern Italy and in Tuscany. I. Phytosterols. Dept. of Biology, University of Trieste. Allionia 35: 103-115.
0	STIGMASTEROL-ACETATE	Plant				Lokar, L. C., Martini, F. 1997. Chemotaxonomic Investigations on the Genus Valeriana L. in the Northeastern Italy and in Tuscany. I. Phytosterols. Dept. of Biology, University of Trieste. Allionia 35: 103-115.
0	TANNINS	Root				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
9	TERPINOLENE	Leaf Essent. Oil	3100.0	9200.0	0.09987956540879277	--
9	TERPINOLENE	Root Essent. Oil				--
9	TERPINOLENE	Leaf	7.0	235.0	0.06726575623522042	Father Nature's Pharmacy: The aggregate of all these three-letter citations.
9	TERPINOLENE	Root				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
31	THIAMIN	Root		1.6	-0.45141259736321837	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	THIAMINE	Root	0.2	1.6	-0.5431066510912689	--
71	THYMOL	Root	3.0	860.0		--
4	TIN	Root	3.3	28.0	1.1703735322377322	--
0	TRANS-VALERENOL	Root				--
0	TRANS-VALERENOL-ACETATE	Root				--
0	TRANS-VALERENOL-ISOVALERATE	Root				--
0	TRIDECA-12-ENE-2-4-6-8-10-PENTAYNE	Root				--
0	TRIDECEN-(1)-PENTAIN(3,5,7,9,11)	Root				--
8	TYROSINE	Root				--
0	VALDIATE	Root				--
0	VALECHLORIN	Plant				--
0	VALECHLORINE	Root				--
0	VALENOL	Root				--
0	VALENOL	Rhizome				--
0	VALENOL-ISOVALERATE	Rhizome				--
6	VALEPOTRIATES	Root	1000.0	23600.0	-1.0	--
6	VALEPOTRIATES	Tissue Culture		103000.0		Medline (post 1990 searches filed in my computer)
6	VALEPOTRIATES	Rhizome				--
0	VALEPOTRIATUM	Plant				--
0	VALERANAL	Leaf Essent. Oil	56000.0	101500.0		--
0	VALERANAL	Leaf	130.0	2590.0		Father Nature's Farmacy: The aggregate of all these three-letter citations.
0	VALERANINE	Root				--
0	VALERANONE	Leaf Essent. Oil	30400.0	67500.0		--
0	VALERANONE	Rhizome				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	VALERANONE	Root	555.0	11120.0		--
0	VALERANONE	Root Essent. Oil				--
0	VALERANONE	Leaf	70.0	1720.0		Father Nature's Farmacy: The aggregate of all these three-letter citations.
0	VALERANONE	Essential Oil				--
0	VALERENAL	Plant				--
0	VALERENAL	Essential Oil				--
0	VALERENAL	Root Essent. Oil				--
0	VALERENAL	Root	30.0	4000.0		--
4	VALERENIC-ACID	Root				--
4	VALERENIC-ACID	Root Essent. Oil				--
0	VALERENOL	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	VALERENOL-HEXANDRATE	Root				--
0	VALERENOL-VALERATE	Root				--
0	VALERENOLIC-ACID	Root				--
0	VALERENOLIC-ACID	Root Essent. Oil				--
0	VALERENOLIC-ACID	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
2	VALERENONE	Rhizome				--
2	VALERENONE	Root				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	VALERENONIC-ACID	Root	190.0	1400.0		--
0	VALERIADIPYRIDONE	Rhizome				--
0	VALERIANA-PHENOL	Rhizome				--
0	VALERIANINE	Root				--
0	VALERIANOL	Root				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	VALERIANOL	Root Essent. Oil				--
0	VALERIANOLIC-ACID	Root				--
0	VALERIANONE	Root				--
9	VALERIC-ACID	Root				--
0	VALERIDINE	Root				--
0	VALERINE	Root				--
0	VALERINE	Leaf				--
0	VALEROSIDATE	Root		15000.0		--
0	VALEROSIDATUM	Root				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	VALEROSIDE-A	Root		440.0		--
0	VALEROSIDE-A	Rhizome		440.0		--
3	VALINE	Rhizome				--
2	VALTRATE	Plant				--
2	VALTRATE	Rhizome				--
2	VALTRATE	Tissue Culture	380.0	450.0		--
2	VALTRATE	Root	4000.0	18000.0		--
0	VALTRATE- ISOVALEROXYHYDRIN	Root				--
0	WATER	Root		882000.0	0.7380110340947351	--
77	ZINC	Root				--