

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Trifolium pratense*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	WATER	Flower		820000.0	0.051372721135444006	--
0	CARBOHYDRATES	Flower	137340.0	763000.0	0.5520054843170712	--
0	CARBOHYDRATES	Shoot		743000.0	0.8594524253707005	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
0	PROTEIN	Seed	360000.0	380000.0	1.3005596951790173	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	FIBER(DIETARY)	Flower		360000.0	0.523276626551118	--
15	FIBER	Shoot	77000.0	301000.0	1.3664226044856718	--
0	PROTEIN	Shoot	41000.0	280000.0	0.6236569419692796	--
0	SUGARS	Flower	21600.0	120000.0	0.816496580927726	--
0	PROTEIN	Flower	20700.0	115000.0	-0.322653241355452	--
0	FIBER(CRUDE)	Flower		99000.0	1.0814265763786892	--
15	FIBER	Flower		99000.0	-0.39855791142456015	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	FAT	Seed		85000.0	-0.9501659675612444	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
0	ASH	Shoot		79000.0	-0.5458945326022187	--
0	GUM	Flower	9000.0	50000.0		--
0	ASH	Flower	8100.0	45000.0	-0.5367537976576187	--
0	ASH	Seed		41000.0	-0.20693751206665473	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
0	FAT	Shoot	11000.0	36000.0	-0.19906084026559623	--
0	FAT	Flower	6480.0	36000.0	-0.34244487720641337	--
14	POTASSIUM	Shoot	5400.0	26700.0	0.19972594147646744	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
28	CALCIUM	Shoot	4800.0	22900.0	0.5954625659846638	--
14	POTASSIUM	Flower	3600.0	20000.0	0.07485647549902923	--
28	CALCIUM	Flower	2358.0	13100.0	2.0277064932464137	--
65	MAGNESIUM	Hay	2400.0	8100.0	1.0	--
32	BIOCHANIN-A	Plant		8000.0		--
1	MELILOTIC-ACID	Plant		7060.0		--
16	FORMONONETIN	Plant	800.0	7000.0		--
4	PHOSPHORUS	Shoot	900.0	4500.0	0.5039172570812402	--
65	MAGNESIUM	Flower	628.0	3490.0	0.4898420957878223	--
32	BIOCHANIN-A	Leaf	310.0	3250.0		--
4	PHOSPHORUS	Flower	580.0	3220.0	-0.2058307284109949	--
112	ASCORBIC-ACID	Flower	534.0	2966.0	0.07833639670796254	--
16	FORMONONETIN	Leaf	270.0	2470.0		--
6	IRON	Shoot	10.0	1850.0	1.8092404799960726	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	EO	Flower		1700.0	-0.36672560272657334	Buchnauer, G., Jirovetz, L., Nikiforov, A. 1996. Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection, Gas Chromatography-Mass Spectrometry, and Gas Chrom.-Olfactometry. J. Agr. Food Chem. 44:1827-8
0	ISOFLAVONES	Flower		1209.0		--
0	ISOFLAVONES	Leaf		1067.0		--
0	ISOFLAVONES	Stem		744.0		--
14	MANGANESE	Hay	25.0	464.0	1.0000000000000002	--
32	DAIDZEIN	Flower		461.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	FORMONONETIN-7-O-BETA-D-GLUCOSIDE-6"-MALONATE	Stem		418.0		--
32	ALPHA-TOCOPHEROL	Inflorescence	126.0	400.0		--
16	FORMONONETIN	Flower		391.0		--
0	BIOCHANIN-A-7-O-BETA-D-GLUCOSIDE-6"-MALONATE	Root		358.0		--
32	DAIDZEIN	Leaf		349.0	-1.0	--
32	BIOCHANIN-A	Flower		338.0		--
32	DAIDZEIN	Stem		334.0	-1.0	--
16	FORMONONETIN	Stem		280.0		--
0	FORMONONETIN-7-O-BETA-D-GLUCOSIDE-6"-MALONATE	Root		221.0		--
1	SODIUM	Flower	29.0	160.0	-0.5257596176552087	--
1	PRATENSEIN	Leaf	13.0	153.0		--
11	MALTOL	Flower		140.0		Buchnauer, G., Jirovetz, L., Nikiforov, A. 1996. Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection, Gas Chromatography-Mass Spectrometry, and Gas Chrom.-Olfactometry. J. Agrc. Food Chem. 44:1827-8
5	ALUMINUM	Flower	25.0	137.0	0.6800025424215751	--
39	NIACIN	Flower	23.0	125.0	0.30027617080224206	--
0	BIOCHANIN-A-7-O-BETA-D-GLUCOSIDE-6"-MALONATE	Stem		108.0		--
16	FORMONONETIN	Root		94.0	-0.6868766457286021	--
6	6-ALPHA-HYDROXYMEDICARPIN	Leaf Diffusate		75.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	LINALOL	Flower		70.0	-0.3766233489791954	Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agrc.Food Chem.44:1827-8
53	LINALOOL	Flower		70.0	-0.5766567688779776	Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agrc.Food Chem.44:1827-8
32	BIOCHANIN-A	Stem		68.0		--
81	GENISTEIN	Stem		62.0		--
0	1-PHENYLETHYL-ALCOHOL	Flower		55.0		Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agrc.Food Chem.44:1827-8
2	ONONIN	Root		49.0	-0.7559178162475134	--
26	PHENOL	Flower		49.0		Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agrc.Food Chem.44:1827-8

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PHENYLETHYL-ACETATE	Flower		46.0	1.2830859681126607	Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agrc.Food Chem.44:1827-8
2	6-ALPHA-HYDROXYMAACKIAIN	Leaf Diffusate		46.0		--
13	MEDICARPIN	Leaf Diffusate	10.0	45.0		--
2	MAACKIAIN	Leaf Diffusate	8.0	42.0		--
6	ACETOPHENONE	Flower		41.0		--
0	(Z)-3-HEXENYL-ACETATE	Flower		37.0		Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agrc.Food Chem.44:1827-8
0	2-PHENYLETHYL-ALCOHOL	Flower		32.0		Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agrc.Food Chem.44:1827-8
2	ONONIN	Stem		31.0		--
32	BIOCHANIN-A	Root		31.0	1.0	--
0	SISSOTRIN	Root		29.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	1-OCTEN-3-OL	Flower		29.0	0.29423194619643844	Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agrc.Food Chem.44:1827-8
3	HEXANOL	Flower		27.0	0.9999999999999998	Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agrc.Food Chem.44:1827-8
60	LIMONENE	Flower		27.0	-0.6377062548200526	Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agrc.Food Chem.44:1827-8
4	TIN	Flower	5.0	25.0	1.4368424162141988	--
2	ETHYL-CINNAMATE	Flower		25.0	-1.0	Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agrc.Food Chem.44:1827-8
4	BORON	Leaf		23.0	-1.0421614129310122	--
81	GENISTEIN	Leaf	22.0	23.0	-0.9500496298711887	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	CINNAMIC-ALCOHOL	Flower		22.0		Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agric.Food Chem.44:1827-8
9	BENZYL-ACETATE	Flower		22.0	-1.1788033227009656	Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agric.Food Chem.44:1827-8
0	(Z)-1-HEXEN-3-OL	Flower		22.0		Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agric.Food Chem.44:1827-8
57	COUMARIN	Flower		22.0		Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agric.Food Chem.44:1827-8

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	3-BUTYLPHTHALIDE	Flower		20.0		Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agrc.Food Chem.44:1827-8
2	(E)-2-HEXENAL	Flower		20.0	1.0	Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agrc.Food Chem.44:1827-8
81	GENISTEIN	Flower		19.0		--
0	(E)-LINALOL-OXIDE	Flower		19.0		Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agrc.Food Chem.44:1827-8
0	(E)-LINALOOL-OXIDE	Flower		19.0		Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agrc.Food Chem.44:1827-8

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	CINNAMIC-ALDEHYDE	Flower		19.0		Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agrc.Food Chem.44:1827-8
12	COPPER	Hay	7.0	18.0		--
4	BORON	Stem		16.0	-1.0978789041988413	--
9	BENZYL-ALCOHOL	Flower		15.0	-0.7590932524068246	Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agrc.Food Chem.44:1827-8
5	METHYL-CINNAMATE	Flower		15.0	1.0000000000000002	Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agrc.Food Chem.44:1827-8
0	(Z)-LINALOL-OXIDE	Flower		15.0		Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agrc.Food Chem.44:1827-8

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	(Z)-LINALOOL-OXIDE	Flower		15.0		Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agric.Food Chem.44:1827-8
0	(Z)-3-HEXENOL	Flower		14.0		Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agric.Food Chem.44:1827-8
7	LINALYL-ACETATE	Flower		14.0	-0.52919258398599	Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agric.Food Chem.44:1827-8
0	CINNAMYL-HEXANOATE	Flower		14.0		Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agric.Food Chem.44:1827-8

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	OCIMENE	Flower		12.0		Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agrc.Food Chem.44:1827-8
24	BENZALDEHYDE	Flower		12.0	1.0000000000000004	Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agrc.Food Chem.44:1827-8
53	BETA-CAROTENE	Flower	2.0	12.0	-0.43685333121665465	--
81	GENISTEIN	Root		10.0	-1.0	--
0	(E)-2-HEXENOL	Flower		7.0		Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agrc.Food Chem.44:1827-8
0	6-ALPHA-7-DIHYDROXYMEDICARPIN	Leaf Diffusate		7.0		--
0	SISSOTRIN	Stem		6.8		--
14	MANGANESE	Flower	1.0	5.9	-0.37185317533053636	--
0	6-ALPHA-7-DIHYDROXYMAACKIAIN	Leaf Diffusate		5.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	BETA-CARYOPHYLLENE	Flower		5.0	-0.6818573355086633	Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agrc.Food Chem.44:1827-8
0	THIAMINE	Flower	0.8	4.2	0.9436637744775491	--
31	THIAMIN	Flower		4.2	-0.32448493232300896	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
0	PRATENOL-A	Shoot		3.7		--
15	RIBOFLAVIN	Flower	0.6	3.3	-0.6828377956128976	--
24	CHROMIUM	Flower	0.6	3.2	0.1253191187222141	--
35	GERANIOL	Flower		3.0	-0.5150688773064958	Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agrc.Food Chem.44:1827-8
0	2-ETHYLHEXANAL	Flower		3.0		Buchnauer,G.,Jirovetz,L.,Nikiforov,A.1996.Comparative Investigation of Essential Clover Flower Oils from Austria Using Gas Chromatography-Flame Ionization Detection,Gas Chromatography-Mass Spectrometry,and Gas Chrom.-Olfactometry.J.Agrc.Food Chem.44:1827-8
2	COBALT	Flower	0.3	1.8	-0.45121303121454254	--
0	PRATENOL-B	Shoot		1.2		--
4	SILICON	Flower	0.2	1.2	-0.6385118061807831	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
60	SELENIUM	Flower	0.1	0.8	-0.7014229662505338	--
2	MOLYBDENUM	Stem	0.12	0.15	-0.7462339475150717	--
60	SELENIUM	Leaf		0.024	-0.3807027917986485	--
60	SELENIUM	Stem		0.018	-0.4284717031857897	--
4	IRILONE	Root				--
1	MYRISTIC-ACID-ETHYL-ESTER	Root				--
34	MYRICETIN	Seed				--
0	SOYASAPOGENOL-F	Root				--
0	DODECYL-ACETATE	Fruit				--
0	IRILONE-4'-O-BETA-D-GLUCOSIDE-6''-O-MALONATE	Leaf				--
30	HYPEROSIDE	Flower				--
6	6-ALPHA-HYDROXYMEDICARPIN	Plant				--
0	INERMIN	Root				--
1	MYRISTOLEIC-ACID	Pollen Or Spore				--
0	ISOCHANIN-A	Leaf				--
31	CARYOPHYLLENE	Leaf				--
0	CALYCOSIN-7-O-BETA-D-GLUCOSIDE	Leaf				--
0	CLOVAMIDE	Plant				--
0	PRATOL	Flower				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	FUFURAL	Flower				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.

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0	TRIFOLIIN	Flower				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	SLAFRAMINE	Flower				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
13	PALMITIC-ACID	Pollen Or Spore				--
0	PHASEOLIC-ACID	Plant				--
3	GENISTIN	Flower				--
0	HEX-CIS-2-EN-AL	Fruit				--
0	HEX-2-EN-1-AL	Root				--
2	PRUNETIN	Leaf				--
9	BENZYL-ALCOHOL	Root				--
4	GLUCURONIC-ACID	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.
0	DEMETHYLPTEROCARPAN	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	9-O-METHYLCOUMESTROL	Sprout Seedling				--
6	MYRISTIC-ACID	Pollen Or Spore				--
0	SOYASAPOGENOL-D	Root				--
0	DODECAN-1-AL	Root				--
0	IRILONE-4'-O-BETA-D-GLUCOSIDE-6"-O-MALONATE	Flower				--
7	GLUCOSE	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.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
30	HYPEROSIDE	Plant				--
1	CAPROIC-ACID	Root				--
2	TRIFOLIRHIZIN	Root				--
102	CAFFEIC-ACID	Leaf				--
6	IRON	Flower				--
13	MEDICARPIN	Plant				--
0	PRATENSOL	Flower				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	TRANS-CLOVAMIDE	Flower				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
2	6-ALPHA-HYDROXYMAACKIAIN	Plant				--
0	TRIFOLIANOL	Plant				--
0	PSEUDOBAPTIGENIN-7-O-GLUCOSIDE	Root				--
2	PECTOLINARIN	Flower				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	HEPTAN-2-ONE	Flower				--
0	HEPTADECENOIC-ACID	Pollen Or Spore				--
2	PRUNETIN	Flower				--
0	BENZOIC-ACID-ETHYL-ESTER	Root				--
0	DEMETHYL-HOMOPTEROCARPIN	Plant				--
0	7-O-BETA-D-GLUCOSIDE-3-METHOXY-QUERCETIN	Plant				--
9	DELPHINIDIN	Plant				--
6	6-ALPHA-HYDROXYMEDICARPIN	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
21	METHYL-SALICYLATE	Flower				--
0	DOCOSENOIC-ACID	Pollen Or Spore				--
0	IRILONE-4'-O-BETA-D-GLUCOSIDE	Leaf				--
0	HEXAN-2-ONE	Flower				--
2	MAACKIAIN	Plant				--
0	MAACKIANIN-3-O-BETA-D-GALACTOSIDE	Root				--
0	TRIFOSIDE-6"-O-MALONATE	Leaf				--
0	CALYCOSIN-7-GALATOSIDE	Plant				--
0	TRIFOLIAN	Root				--
0	BIOCHANIN-A-7-O-BETA-D-GLUCOSIDE-6"-O-MALONATE	Leaf				--
0	IONONE	Flower				--
77	ZINC	Flower				--
20	CHOLINE	Plant				--
1	PRATENSEIN	Flower				--
13	COUMESTROL	Leaf				--
0	3-P-COUMAROYLQUININE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	PRUNETIN-4'-O-GLUCOSIDE	Leaf				--
0	OCTAN-3-ONE	Root				--
0	PAEONIDIN	Flower				--
10	DAIDZIN	Flower				--
0	PRATENSEIN-7-O-BETA-D-GLUCOSIDE-6"-O-MALONATE	Leaf				--
1	BEHENIC-ACID	Pollen Or Spore				--
0	HOMOPTEROCARPIN	Root				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	XYLOSE	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.
0	DAIDZEN-GLYCOSIDE	Plant				--
34	SALICYLIC-ACID	Flower				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
3	GENISTIN	Root				--
2	4-METHOXYMEDICARPIN	Root				--
0	METHYL-N-METHYL-ANTHRALINATE	Flower				--
0	SALICYLIC-ACID-METHYL-ESTER	Leaf				--
0	DECANOIC-ACID-ETHYL-ESTER	Root				--
4	IRILONE	Leaf				--
4	LYSINE	Plant				--
0	LONGIFOLENE	Fruit				--
0	TRIFOSIDE-6"-O-MALONATE	Flower				--
0	BUTANE-2,3-DIOL	Flower				--
0	TRIDECAN-1-AL	Root				--
0	AFROMORSIN-7-O-BETA-D-GLUCOSIDE--6"-O-MALONATE	Flower				--
1	HOMOSERINE	Plant				--
6	ACETOPHENONE	Fruit				--
77	CHLOROGENIC-ACID	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	PRATENOL	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	CIS-CLOVAMIDE	Flower				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	HEXAN-1-OL	Flower				--
0	FLAVANOIDS	Hay				--
4	THREONINE	Plant				--
0	KAEMPFEROL-3-O-GALACTOSIDE	Leaf				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	OCT-1-EN-3-OL	Flower				--
25	P-COUMARIC-ACID	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	CALYCOSIN	Flower				--
81	GENISTEIN	Shoot				--
0	PRATENSEIN-7-O-BETA-D-GLUCOSIDE-6"-O-MALONATE	Flower				--
12	ARACHIDONIC-ACID	Pollen Or Spore				--
0	HOMOPTEROCARPIN	Leaf				--
0	SISSOTRIN	Flower				--
4	DAIDZEN	Plant				--
14	ARGININE	Plant				--
0	MEDICARPIN-GLUCOSIDE	Root				--
0	METHYL-ANTHRALINATE	Flower				--
4	IRILONE	Flower				--
0	TRIFOSIDE	Leaf				--
0	2-METHYL-BUTAN-1-OL	Fruit				--
32	ALPHA-TOCOPHEROL	Plant				--
0	AFROMORSIN-7-O-BETA-D-GLUCOSIDE	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	HOMOPISATIN	Plant				--
3	VALINE	Plant				--
0	ACETOIN	Fruit				--
0	CALYCOSIN	Root				--
0	HEXAN-1-OL	Leaf				--
2	LEUCINE	Plant				--
27	LINOLEIC-ACID	Pollen Or Spore				--
75	KAEMPFEROL	Leaf				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
47	BETA-SITOSTEROL	Flower				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	OCT-1-EN-3-OL	Leaf				--
9	OXALIC-ACID	Plant				--
0	ARABINOSE	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.
16	FORMONONETIN	Shoot				--
0	PRATENSEIN-7-O-BETA-D-GLUCOSIDE	Leaf				--
0	PRUNITRIN	Shoot				--
176	QUERCETIN	Flower				--
0	RHAMNOSE	Plant				--
0	FORMONONETIN-7-O-GLUCOSIDE-6"-MALONATE-METHYL-ESTER	Leaf				--
0	MARGARIC-ACID	Pollen Or Spore				--
15	METHIONINE	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
5	PINITOL	Shoot				--
32	DAIDZEIN	Plant				--
1	(-)-MAACKIAIN-3-O-GLUCOSIDE	Root				--
30	HYPEROSIDE	Leaf				--
0	TRANS-CLOVAMIDE	Leaf				--
0	2-METHYL-BUTAN-1-OL	Root				--
0	TETRADECAN-1-AL	Root				--
0	AFROMORSIN	Flower				--
7	HISTIDINE	Plant				--
8	TYROSINE	Plant				--
0	ACETOIN	Root				--
0	CALYCOSIN	Leaf				--
0	HEXADECANOIC-ACID-ETHYL-ESTER	Root				--
0	L-DOPA-CAFFEIC-ACID-CONJUGATE	Flower				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	INERMIN-GLUCOSIDE	Root				--
0	SOYASAPOGENOLS	Plant				J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.
0	TRANS-BETA-OCIMENE	Fruit				--
0	OROBOL-4'-METHYLETHER	Plant				--
0	UNDEC-1-ENE	Root				--
16	FORMONONETIN	Sprout Seedling				--
2	ONONIN	Leaf				--
0	PRATENSIN	Shoot				--
3	PSEUDOBAPTIGENIN	Flower				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
7	CYANIDIN	Plant				--
0	RESIN	Plant				--
0	FORMONONETIN-7-O-GLUCOSIDE-6"-MALONATE	Leaf				--
0	6-ALPHA-METHOXY-MAACKIAIN	Leaf				--
3	MEDICAGOL	Flower				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	PENTADECENOIC-ACID	Pollen Or Spore				--
32	DAIDZEIN	Shoot				--
13	MEDICARPIN	Root				--
0	GENISTIN-6"-O-MALONATE	Leaf				--
0	ISOTRIFOLIN	Flower				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
8	STEARIC-ACID	Pollen Or Spore				--
0	3-METHYLQUERCETIN-7-O-BETA-D-GLUCOSIDE-6"-O-MALONATE	Flower				--
0	HENTRIACONTANE	Flower				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
29	TRYPTOPHAN	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	ACETOIN	Flower				--
2	CAMPESTEROL	Plant				--
5	PISATIN	Leaf				--
0	BIOCHANIN-A-7-O-GLUCOSIDE-6"-MALONATE-METHYL-ESTER	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	HEX-TRANS-2-EN-1-OL	Flower				--
0	L-ASPARAGINE	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	HEXAN-1-OL	Root				--
0	SISSOTRIN	Leaf				--
0	BENZYL-FORMIATE	Plant				--
0	TRANS-BETA-OCIMENE	Flower				--
2	ONONIN	Plant				--
0	TRIDECAN-1-OIC-ACID	Pollen Or Spore				--
0	4',5-DIHYDROXY-6,7-METHYLENEDIOXY-ISOFLAVONE	Root				--
12	ESTRAGOLE	Root				--
75	KAEMPFEROL	Flower				--
0	PRATENSIN	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.
3	PSEUDOBAPTIGENIN	Plant				--
0	ALPHA-KETO-GLUTARIC-ACID	Plant				--
2	MAACKIAIN	Root				--
0	PENT-1-EN-3-ONE	Fruit				--
13	COUMESTROL	Shoot				--
0	GENISTIN-6"-O-MALONATE	Flower				--
0	ISORHAMNETIN-GLYCOSIDE	Plant				--
13	COUMESTROL	Flower				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	SOYASAPONIN-I	Seed				--
4	3-METHYLQUERCETIN	Flower				--
8	GLUTAMIC-ACID	Plant				--
0	TRIFOSIDE	Flower				--
16	ACETIC-ACID	Fruit				--
0	CALYCOSIN	Plant				--
0	2-PHENYLETHANOL	Flower				--
2	PIPECOLIC-ACID	Plant				--
0	BIOCHANIN-A-7-O-GLUCOSIDE-6"-MALONATE	Leaf				--
0	HEX-TRANS-2-EN-1-AL	Flower				--
0	HEXADECENOIC-ACID	Pollen Or Spore				--
0	RESINS	Plant				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	ROTHINDIN	Leaf				--
0	SITOSTEROL-BETA-D-GLUCOSIDE	Plant				--
9	BENZYL-ALCOHOL	Plant				--
0	CIS-BETA-OCIMENE	Fruit				--
0	TRANS-BETA-OCIMENE	Leaf				--
2	TRANS-BETA-FARNESENE	Fruit				--
0	DODECADIENOIC-ACID	Pollen Or Spore				--
0	ISOQUERCITRIN-6"-O-MALONATE	Leaf				--
2	PECTOLINARIGENIN	Flower				--
10	DAIDZIN	Leaf				--
12	ALLANTOIN	Sprout Seedling				--
0	LINOLENIC-ACID	Pollen Or Spore				--
5	CITRULLINE	Shoot				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	GENISTIN	Leaf				--
11	ISORHAMNETIN	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	SOYASAPOGENOL-E	Root				--
81	GENISTEIN	Plant				--
0	TRIFOLITIN	Plant				--
16	ACETIC-ACID	Root				--
0	1-PHENYLETHANOL	Flower				--
0	HEX-CIS-3-EN-1-OL-ACETATE	Flower				--
0	HEX-TRANS-2-EN-1-OL	Leaf				--
3	PSEUDOBAPTIGENIN	Root				--
0	ROTHINDIN	Flower				--
3	IROLONE	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
9	BENZYL-ACETATE	Plant				--
0	CIS-BETA-OCIMENE	Flower				--
0	N-HEPTACOSANE	Flower				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	TETRADECANOIC-ACID-ETHYL-ESTER	Root				--
5	EUGENOL-METHYL-ETHER	Root				--
1	DECYL-ACETATE	Fruit				--
0	ISOQUERCITRIN-6"-O-MALONATE	Flower				--
2	ONONIN	Flower				--
0	ALLANTOIC-ACID	Plant				--
1	LAURIC-ACID-ETHYL-ESTER	Root				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
6	MALVIDIN	Flower				--
18	OLEIC-ACID	Pollen Or Spore				--
0	CINNAMIC-ACID-METHYL-ESTER	Flower				--
31	CARYOPHYLENE	Fruit				--
0	FORMONONETIN-7-O-BETA-D-GLUCOSIDE-6"-O-MALONATE	Flower				--
11	ISORHAMNETIN	Flower				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	TRIFOLIRHIZIN-GLUCOSIDE	Plant				--
0	VARIABILIN	Leaf				--
1	PENTADECANOIC-ACID	Pollen Or Spore				--
0	HEX-CIS-3-EN-1-OL-ACETATE	Leaf				--
0	HEX-CIS-3-EN-1-OL-ACETATE	Fruit				--
0	PHASEOLIC-ACID	Flower				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
44	QUERCITRIN	Flower				--
0	SOYASAPOGENOL-C	Root				--
76	EUGENOL	Flower				--
1	SERINE	Plant				--
0	IRILONE-4'-O-GLUCOSIDE	Root				--
0	ASPARAGINIC-ACID	Plant				--
0	CIS-BETA-OCIMENE	Leaf				--
0	MYRICYL-ALCOHOL	Flower				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
2	TRANS-BETA-FARNESENE	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	2-PHENYLETHAN-1-OL	Root				--
0	BENZOIC-ACID-METHYL-ESTER	Root				--
22	ISOQUERCITRIN	Leaf				--
22	ISOQUERCITRIN	Flower				--
0	7-BETA-D-GLUCOSYL-5-,7-DIHYDROXY-4'-METHOXYISOFLAVONE	Plant				--
7	LAURIC-ACID	Pollen Or Spore				--
2	MALTOSE	Leaf				--
0	OCT-1-EN-3-OL	Fruit				--
0	2,4-METHYLENE-CHOLESTEROL	Pollen Or Spore				--
31	CARYOPHYLLENE	Flower				--
0	CIS-CLOVAMIDE	Leaf				--
3	ISOLEUCINE	Plant				--
0	FURFUROL	Plant				--
2	TRIFOLIRHIZIN	Flower				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
2	TRIFOLIN	Leaf				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
102	CAFFEIC-ACID	Flower				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	PENTADECAN-1-AL	Root				--
7	PHENYLALANINE	Plant				--
0	HEX-CIS-3-EN-1-OL	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
0	HEX-CIS-3-EN-1-OL	Flower				--
3	MEDICAGOL	Sprout Seedling				--
3	PSEUDOBAPTIGENIN	Leaf				--
32	BIOCHANIN-A	Shoot				--
0	SOYASAPOGENOL-B	Root				--