

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Trifolium pratense*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
176	QUERCETIN	Flower				--
112	ASCORBIC-ACID	Flower	534.0	2966.0	0.07833639670796254	--
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.
102	CAFFEIC-ACID	Leaf				--
81	GENISTEIN	Leaf	22.0	23.0	-0.9500496298711887	--
81	GENISTEIN	Stem		62.0		--
81	GENISTEIN	Root		10.0	-1.0	--
81	GENISTEIN	Shoot				--
81	GENISTEIN	Flower		19.0		--
81	GENISTEIN	Plant				--
77	ZINC	Flower				--
77	CHLOROGENIC-ACID	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
76	EUGENOL	Flower				--
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.
75	KAEMPFEROL	Flower				--
65	MAGNESIUM	Hay	2400.0	8100.0	1.0	--
65	MAGNESIUM	Flower	628.0	3490.0	0.4898420957878223	--
60	SELENIUM	Stem		0.018	-0.4284717031857897	--
60	SELENIUM	Leaf		0.024	-0.3807027917986485	--
60	SELENIUM	Flower	0.1	0.8	-0.7014229662505338	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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
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.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
53	BETA-CAROTENE	Flower	2.0	12.0	-0.43685333121665465	--
47	BETA-SITOSTEROL	Flower				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
44	QUERCITRIN	Flower				--
39	NIACIN	Flower	23.0	125.0	0.30027617080224206	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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
34	MYRICETIN	Seed				--
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.
32	DAIDZEIN	Stem		334.0	-1.0	--
32	BIOCHANIN-A	Leaf	310.0	3250.0		--
32	BIOCHANIN-A	Shoot				--
32	BIOCHANIN-A	Plant		8000.0		--
32	BIOCHANIN-A	Flower		338.0		--
32	DAIDZEIN	Leaf		349.0	-1.0	--
32	ALPHA-TOCOPHEROL	Plant				--
32	DAIDZEIN	Flower		461.0		--
32	DAIDZEIN	Plant				--
32	ALPHA-TOCOPHEROL	Inflorescence	126.0	400.0		--
32	DAIDZEIN	Shoot				--
32	BIOCHANIN-A	Stem		68.0		--
32	BIOCHANIN-A	Root		31.0	1.0	--
31	CARYOPHYLLENE	Fruit				--
31	CARYOPHYLLENE	Flower				--
31	CARYOPHYLLENE	Leaf				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
31	THIAMIN	Flower		4.2	-0.32448493232300896	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
30	HYPEROSIDE	Flower				--
30	HYPEROSIDE	Plant				--
30	HYPEROSIDE	Leaf				--
29	TRYPTOPHAN	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
28	CALCIUM	Flower	2358.0	13100.0	2.0277064932464137	--
28	CALCIUM	Shoot	4800.0	22900.0	0.5954625659846638	--
27	LINOLEIC-ACID	Pollen Or Spore				--
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
25	P-COUMARIC-ACID	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
24	CHROMIUM	Flower	0.6	3.2	0.1253191187222141	--
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
22	ISOQUERCITRIN	Leaf				--
22	ISOQUERCITRIN	Flower				--
21	METHYL-SALICYLATE	Flower				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
20	CHOLINE	Plant				--
18	OLEIC-ACID	Pollen Or Spore				--
16	FORMONONETIN	Root		94.0	-0.6868766457286021	--
16	FORMONONETIN	Plant	800.0	7000.0		--
16	FORMONONETIN	Flower		391.0		--
16	FORMONONETIN	Shoot				--
16	FORMONONETIN	Leaf	270.0	2470.0		--
16	FORMONONETIN	Sprout Seedling				--
16	FORMONONETIN	Stem		280.0		--
16	ACETIC-ACID	Fruit				--
16	ACETIC-ACID	Root				--
15	RIBOFLAVIN	Flower	0.6	3.3	-0.6828377956128976	--
15	FIBER	Shoot	77000.0	301000.0	1.3664226044856718	--
15	METHIONINE	Plant				--
15	FIBER	Flower		99000.0	-0.39855791142456015	Pedersen, M. 1987. Nutritional Herbology. Pederson Publishing. Bountiful, Utah. 377 pp.
14	ARGININE	Plant				--
14	POTASSIUM	Shoot	5400.0	26700.0	0.19972594147646744	--
14	POTASSIUM	Flower	3600.0	20000.0	0.07485647549902923	--
14	MANGANESE	Hay	25.0	464.0	1.0000000000000002	--
14	MANGANESE	Flower	1.0	5.9	-0.37185317533053636	--
13	PALMITIC-ACID	Pollen Or Spore				--
13	MEDICARPIN	Plant				--
13	COUMESTROL	Leaf				--
13	MEDICARPIN	Root				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.
13	COUMESTROL	Shoot				--
13	MEDICARPIN	Leaf Diffusate	10.0	45.0		--
12	COPPER	Hay	7.0	18.0		--
12	ARACHIDONIC-ACID	Pollen Or Spore				--
12	ESTRAGOLE	Root				--
12	ALLANTOIN	Sprout Seedling				--
11	ISORHAMNETIN	Flower				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
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
11	ISORHAMNETIN	Plant				J.S. Glasby Dict. Pls Containing 2ndary Metabolite. 1991.
10	DAIDZIN	Flower				--
10	DAIDZIN	Leaf				--
9	BENZYL-ACETATE	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.Agrc.Food Chem.44:1827-8
9	BENZYL-ALCOHOL	Root				--
9	DELPHINIDIN	Plant				--
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
9	OXALIC-ACID	Plant				--
9	BENZYL-ALCOHOL	Plant				--
8	TYROSINE	Plant				--
8	STEARIC-ACID	Pollen Or Spore				--
8	GLUTAMIC-ACID	Plant				--
7	LAURIC-ACID	Pollen Or Spore				--
7	PHENYLALANINE	Plant				--
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.
7	HISTIDINE	Plant				--
7	CYANIDIN	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.Agrc.Food Chem.44:1827-8
6	MALVIDIN	Flower				--
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.
6	6-ALPHA-HYDROXYMEDICARPIN	Plant				--
6	MYRISTIC-ACID	Pollen Or Spore				--
6	IRON	Flower				--
6	6-ALPHA-HYDROXYMEDICARPIN	Leaf Diffusate		75.0		--
6	6-ALPHA-HYDROXYMEDICARPIN	Leaf				--
6	ACETOPHENONE	Fruit				--
6	ACETOPHENONE	Flower		41.0		--
5	EUGENOL-METHYL-ETHER	Root				--
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
5	ALUMINUM	Flower	25.0	137.0	0.6800025424215751	--
5	PINITOL	Shoot				--
5	PISATIN	Leaf				--



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
5	CITRULLINE	Shoot				--
4	SILICON	Flower	0.2	1.2	-0.6385118061807831	--
4	PHOSPHORUS	Flower	580.0	3220.0	-0.2058307284109949	--
4	IRILONE	Root				--
4	BORON	Stem		16.0	-1.0978789041988413	--
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.
4	SLAFRAMINE	Flower				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
4	BORON	Leaf		23.0	-1.0421614129310122	--
4	TIN	Flower	5.0	25.0	1.4368424162141988	--
4	IRILONE	Leaf				--
4	LYSINE	Plant				--
4	THREONINE	Plant				--
4	DAIDZEN	Plant				--
4	IRILONE	Flower				--
4	3-METHYLQUERCETIN	Flower				--
4	PHOSPHORUS	Shoot	900.0	4500.0	0.5039172570812402	--
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.
3	ISOLEUCINE	Plant				--
3	MEDICAGOL	Sprout Seedling				--
3	PSEUDOBAPTIGENIN	Leaf				--

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.Agrc.Food Chem.44:1827-8
3	GENISTIN	Flower				--
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.
3	GENISTIN	Root				--
3	VALINE	Plant				--
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
3	PSEUDOBAPTIGENIN	Flower				--
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.
3	PSEUDOBAPTIGENIN	Plant				--
3	GENISTIN	Leaf				--
3	PSEUDOBAPTIGENIN	Root				--
2	ONONIN	Flower				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	TRANS-BETA-FARNESENE	Leaf				--
2	MAACKIAIN	Leaf Diffusate	8.0	42.0		--
2	COBALT	Flower	0.3	1.8	-0.45121303121454254	--
2	MALTOSE	Leaf				--
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.
2	TRIFOLIRHIZIN	Flower				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
2	PRUNETIN	Leaf				--
2	MOLYBDENUM	Stem	0.12	0.15	-0.7462339475150717	--
2	6-ALPHA-HYDROXYMAACKIAIN	Plant				--
2	TRIFOLIRHIZIN	Root				--
2	ONONIN	Root		49.0	-0.7559178162475134	--
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.
2	PRUNETIN	Flower				--
2	MAACKIAIN	Plant				--
2	4-METHOXYMEDICARPIN	Root				--

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
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
2	HOMOPISATIN	Plant				--
2	LEUCINE	Plant				--
2	ONONIN	Leaf				--
2	CAMPESTEROL	Plant				--
2	6-ALPHA-HYDROXYMAACKIAIN	Leaf Diffusate		46.0		--
2	ONONIN	Plant				--
2	MAACKIAIN	Root				--
2	PIPECOLIC-ACID	Plant				--
2	PECTOLINARIGENIN	Flower				--
2	TRANS-BETA-FARNESENE	Fruit				--
2	ONONIN	Stem		31.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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
1	DECYL-ACETATE	Fruit				--
1	LAURIC-ACID-ETHYL-ESTER	Root				--
1	PENTADECANOIC-ACID	Pollen Or Spore				--
1	SERINE	Plant				--
1	MYRISTIC-ACID-ETHYL-ESTER	Root				--
1	MYRISTOLEIC-ACID	Pollen Or Spore				--
1	MELILOTIC-ACID	Plant		7060.0		--
1	CAPROIC-ACID	Root				--
1	PRATENSEIN	Flower				--
1	BEHENIC-ACID	Pollen Or Spore				--
1	HOMOSERINE	Plant				--
1	PRATENSEIN	Leaf	13.0	153.0		--
1	(-)-MAACKIAIN-3-O-GLUCOSIDE	Root				--
1	SODIUM	Flower	29.0	160.0	-0.5257596176552087	--
0	ISOQUERCITRIN-6"-O-MALONATE	Flower				--
0	FAT	Flower	6480.0	36000.0	-0.34244487720641337	--
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				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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	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	ALLANTOIC-ACID	Plant				--
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.Agrc.Food Chem.44:1827-8
0	CINNAMIC-ACID-METHYL-ESTER	Flower				--
0	FORMONONETIN-7-O-BETA-D-GLUCOSIDE-6"-O-MALONATE	Flower				--
0	VARIABILIN	Leaf				--
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
0	HEX-CIS-3-EN-1-OL-ACETATE	Leaf				--
0	HEX-CIS-3-EN-1-OL-ACETATE	Fruit				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.
0	SOYASAPOGENOL-C	Root				--
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.Agric.Food Chem.44:1827-8
0	TRIFOLIRHIZIN-GLUCOSIDE	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.
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.Agric.Food Chem.44:1827-8
0	2-PHENYLETHAN-1-OL	Root				--
0	BENZOIC-ACID-METHYL-ESTER	Root				--
0	PROTEIN	Flower	20700.0	115000.0	-0.322653241355452	--
0	6-ALPHA-7-DIHYDROXYMEDICARPIN	Leaf Diffusate		7.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	7-BETA-D-GLUCOSYL-5-,7-DIHYDROXY-4'-METHOXYISOFLAVONE	Plant				--
0	OCT-1-EN-3-OL	Fruit				--
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
0	2,4-METHYLENE-CHOLESTEROL	Pollen Or Spore				--
0	CIS-CLOVAMIDE	Leaf				--
0	PENTADECAN-1-AL	Root				--
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
0	HEX-CIS-3-EN-1-OL	Leaf				--
0	HEX-CIS-3-EN-1-OL	Flower				--
0	SOYASAPOGENOL-B	Root				--
0	FURFUROL	Plant				--
0	IRILONE-4'-O-BETA-D-GLUCOSIDE-6"-O-MALONATE	Leaf				--



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.Agrc.Food Chem.44:1827-8
0	ASH	Shoot		79000.0	-0.5458945326022187	--
0	SOYASAPOGENOL-F	Root				--
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	DODECYL-ACETATE	Fruit				--
0	THIAMINE	Flower	0.8	4.2	0.9436637744775491	--
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	6-ALPHA-7-DIHYDROXYMAACKIAIN	Leaf Diffusate		5.0		--
0	INERMIN	Root				--
0	ISOCHANIN-A	Leaf				--
0	CALYCOSIN-7-O-BETA-D-GLUCOSIDE	Leaf				--
0	PHASEOLIC-ACID	Plant				--

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
0	HEX-CIS-2-EN-AL	Fruit				--
0	HEX-2-EN-1-AL	Root				--
0	SISSOTRIN	Root		29.0		--
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.
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.
0	DEMETHYLPTEROCARPAN	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	9-O-METHYLCOUMESTROL	Sprout Seedling				--
0	ASH	Seed		41000.0	-0.20693751206665473	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
0	SOYASAPOGENOL-D	Root				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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.Agrc.Food Chem.44:1827-8
0	DODECAN-1-AL	Root				--
0	SUGARS	Flower	21600.0	120000.0	0.816496580927726	--
0	IRILONE-4'-O-BETA-D-GLUCOSIDE-6''-O-MALONATE	Flower				--
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.
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	HEPTAN-2-ONE	Flower				--
0	HEPTADECENOIC-ACID	Pollen Or Spore				--
0	BENZOIC-ACID-ETHYL-ESTER	Root				--
0	DEMETHYL-HOMOPTEROCARPIN	Plant				--
0	7-O-BETA-D-GLUCOSIDE-3-METHOXY-QUERCETIN	Plant				--
0	TRIFOLIANOL	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PSEUDOBAPTIGENIN-7-O-GLUCOSIDE	Root				--
0	ASH	Flower	8100.0	45000.0	-0.5367537976576187	--
0	SISSOTRIN	Stem		6.8		--
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
0	DOCOSENOIC-ACID	Pollen Or Spore				--
0	GUM	Flower	9000.0	50000.0		--
0	IRILONE-4'-O-BETA-D-GLUCOSIDE	Leaf				--
0	IONONE	Flower				--
0	3-P-COUMAROYLQUININE	Plant				J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.
0	HEXAN-2-ONE	Flower				--
0	MAACKIANIN-3-O-BETA-D-GALACTOSIDE	Root				--
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.Agric.Food Chem.44:1827-8
0	TRIFOSIDE-6"-O-MALONATE	Leaf				--
0	CALYCOSIN-7-GALATOSIDE	Plant				--
0	TRIFOLIAN	Root				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	BIOCHANIN-A-7-O-BETA-D-GLUCOSIDE-6"-O-MALONATE	Leaf				--
0	PAEONIDIN	Flower				--
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
0	PRATENSEIN-7-O-BETA-D-GLUCOSIDE-6"-O-MALONATE	Leaf				--
0	HOMOPTEROCARPIN	Root				--
0	PRUNETIN-4'-O-GLUCOSIDE	Leaf				--
0	OCTAN-3-ONE	Root				--
0	DAIDZEN-GLYCOSIDE	Plant				--
0	METHYL-N-METHYL-ANTHRALINATE	Flower				--
0	SALICYLIC-ACID-METHYL-ESTER	Leaf				--
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	DECANOIC-ACID-ETHYL-ESTER	Root				--
0	FIBER(DIETARY)	Flower		360000.0	0.523276626551118	--
0	WATER	Flower		820000.0	0.051372721135444006	--
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	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				--
0	CALYCOSIN	Flower				--
0	FORMONONETIN-7-O-BETA-D-GLUCOSIDE-6"-MALONATE	Stem		418.0		--
0	PRATENSEIN-7-O-BETA-D-GLUCOSIDE-6"-O-MALONATE	Flower				--
0	HOMOPTEROCARPIN	Leaf				--
0	SISSOTRIN	Flower				--
0	FLAVANOIDS	Hay				--
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				--
0	MEDICARPIN-GLUCOSIDE	Root				--
0	METHYL-ANTHRALINATE	Flower				--
0	FIBER(CRUDE)	Flower		99000.0	1.0814265763786892	--
0	ACETOIN	Fruit				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	CARBOHYDRATES	Shoot		743000.0	0.8594524253707005	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
0	CALYCOSIN	Root				--
0	HEXAN-1-OL	Leaf				--
0	TRIFOSIDE	Leaf				--
0	2-METHYL-BUTAN-1-OL	Fruit				--
0	AFROMORSIN-7-O-BETA-D-GLUCOSIDE	Leaf				--
0	FORMONONETIN-7-O-BETA-D-GLUCOSIDE-6"-MALONATE	Root		221.0		--
0	PRATENSEIN-7-O-BETA-D-GLUCOSIDE	Leaf				--
0	PRUNITRIN	Shoot				--
0	OCT-1-EN-3-OL	Leaf				--
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.
0	RHAMNOSE	Plant				--
0	FORMONONETIN-7-O-GLUCOSIDE-6"-MALONATE-METHYL-ESTER	Leaf				--
0	MARGARIC-ACID	Pollen Or Spore				--
0	ACETOIN	Root				--
0	CARBOHYDRATES	Flower	137340.0	763000.0	0.5520054843170712	--
0	CALYCOSIN	Leaf				--
0	HEXADECANOIC-ACID-ETHYL-ESTER	Root				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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	TRANS-CLOVAMIDE	Leaf				--
0	2-METHYL-BUTAN-1-OL	Root				--
0	TETRADECAN-1-AL	Root				--
0	AFROMORSIN	Flower				--
0	PRATENSIN	Shoot				--
0	SOYASAPOGENOLS	Plant				J.S. Glasby Dict.Pls Containing 2ndary Metabolite. 1991.
0	ISOFLAVONES	Stem		744.0		--
0	TRANS-BETA-OCIMENE	Fruit				--
0	OROBOL-4'-METHYLETHER	Plant				--
0	UNDEC-1-ENE	Root				--
0	ISOTRIFOLIN	Flower				ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
0	RESIN	Plant				--
0	FORMONONETIN-7-O-GLUCOSIDE-6"-MALONATE	Leaf				--
0	6-ALPHA-METHOXY-MAACKIAIN	Leaf				--
0	PENTADECENOIC-ACID	Pollen Or Spore				--
0	GENISTIN-6"-O-MALONATE	Leaf				--
0	ACETOIN	Flower				--
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	BIOCHANIN-A-7-O-BETA-D-GLUCOSIDE-6"-MALONATE	Stem		108.0		--
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.
0	4',5-DIHYDROXY-6,7-METHYLENEDIOXY-ISOFLAVONE	Root				--
0	PRATENOL-B	Shoot		1.2		--
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.
0	FAT	Shoot	11000.0	36000.0	-0.19906084026559623	--
0	ISOFLAVONES	Leaf		1067.0		--
0	BENZYL-FORMIATE	Plant				--
0	TRANS-BETA-OCIMENE	Flower				--
0	TRIDECAN-1-OIC-ACID	Pollen Or Spore				--
0	ISORHAMNETIN-GLYCOSIDE	Plant				--
0	ALPHA-KETO-GLUTARIC-ACID	Plant				--
0	PENT-1-EN-3-ONE	Fruit				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
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
0	GENISTIN-6"-O-MALONATE	Flower				--
0	TRIFOSIDE	Flower				--
0	CALYCOSIN	Plant				--
0	2-PHENYLETHANOL	Flower				--
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	BIOCHANIN-A-7-O-BETA-D-GLUCOSIDE-6"-MALONATE	Root		358.0		--
0	SOYASAPONIN-I	Seed				--
0	DODECADIENOIC-ACID	Pollen Or Spore				--
0	ISOQUERCITRIN-6"-O-MALONATE	Leaf				--
0	PRATENOL-A	Shoot		3.7		--
0	FAT	Seed		85000.0	-0.9501659675612444	Laferriere, J.E., 1988, Nutricomp Program, Nutricomp Database; reviewed in J. Ethnobiology 9(1):27-29.
0	SITOSTEROL-BETA-D-GLUCOSIDE	Plant				--
0	ISOFLAVONES	Flower		1209.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	CIS-BETA-OCIMENE	Fruit				--
0	TRANS-BETA-OCIMENE	Leaf				--
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
0	PROTEIN	Shoot	41000.0	280000.0	0.6236569419692796	--
0	LINOLENIC-ACID	Pollen Or Spore				--
0	TRIFOLITIN	Plant				--
0	1-PHENYLETHANOL	Flower				--
0	HEX-CIS-3-EN-1-OL-ACETATE	Flower				--
0	HEX-TRANS-2-EN-1-OL	Leaf				--
0	ROTHINDIN	Flower				--
0	SOYASAPOGENOL-E	Root				--
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.Agrc.Food Chem.44:1827-8