

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Matricaria recutita*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
176	QUERCETIN	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of <i>Glycyrrhiza-glabra</i> . <i>Nippon Gokeikagaku Kaishi</i> 61(9): 1119-1122.
112	ASCORBIC-ACID	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of <i>Glycyrrhiza-glabra</i> . <i>Nippon Gokeikagaku Kaishi</i> 61(9): 1119-1122.
102	CAFFEIC-ACID	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of <i>Glycyrrhiza-glabra</i> . <i>Nippon Gokeikagaku Kaishi</i> 61(9): 1119-1122.
101	APIGENIN	Flower	6.0	8400.0		Tramil
101	APIGENIN	Plant				--
87	RUTIN	Plant				--
87	RUTIN	Flower				--
78	LUTEOLIN	Plant				--
78	LUTEOLIN	Flower				--
77	CHLOROGENIC-ACID	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of <i>Glycyrrhiza-glabra</i> . <i>Nippon Gokeikagaku Kaishi</i> 61(9): 1119-1122.
75	KAEMPFEROL	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of <i>Glycyrrhiza-glabra</i> . <i>Nippon Gokeikagaku Kaishi</i> 61(9): 1119-1122.
64	OLEANOLIC-ACID	Flower				--
47	BETA-SITOSTEROL	Flower				--
39	NIACIN	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of <i>Glycyrrhiza-glabra</i> . <i>Nippon Gokeikagaku Kaishi</i> 61(9): 1119-1122.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
35	GERANIOL	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
35	TANNIN	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.
35	BORNEOL	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
34	SALICYLIC-ACID	Plant				--
31	THIAMIN	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
30	HYPEROSIDE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
27	LINOLEIC-ACID	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
25	P-COUMARIC-ACID	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
22	UMBELLIFERONE	Flower	20.0	290.0		--
22	UMBELLIFERONE	Plant				--
20	CHOLINE	Flower	3400.0	3800.0	0.9502552681394969	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
20	ALPHA-BISABOLOL	Flower	725.0	10000.0	1.0	--
18	OLEIC-ACID	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
17	FARNESOL	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
17	THUJONE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
15	MALIC-ACID	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
14	PERILLYL-ALCOHOL	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
13	PALMITIC-ACID	Plant				--
12	HERNIARIN	Plant				--
12	BORNYL-ACETATE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
12	STIGMASTEROL	Flower				--
12	HERNIARIN	Flower	320.0	915.0		--
11	ISORHAMNETIN	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
10	AZULENE	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
10	CHAMAZULENE	Flower	530.0	13200.0		--
10	CHAMAZULENE	Plant				--
9	SINAPIC-ACID	Plant				--
8	CHRYSOSPENETIN	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
8	GENTISIC-ACID	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
8	FRUCTOSE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
7	SALICYLATES	Flower		0.6		--
7	AXILLARIN	Plant				--
7	GLUCOSE	Flower		70000.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
7	LUTEOLIN-7-GLUCOSIDE	Plant				--
7	CHRYSOERIOL	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
7	AXILLARIN	Shoot				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
6	QUERCIMERITRIN	Flower				--
6	QUERCIMERITRIN	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
6	FURFURAL	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
6	GUAIAZULENE	Flower				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
5	CAPRYLIC-ACID	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
4	O-COUMARIC-ACID	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
4	APIIN	Flower				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
4	XANTHOXYLIN	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
4	ISOFERULIC-ACID	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
3	CHRYSOSPENOL	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
3	CAPRIC-ACID	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	D-GLUCOSAMINE	Flower				Gianits, L, Kocurik, S. 1979. Saccharides of the Flowers of Chamomile ( <i>Matricaria chamomilla</i> ). <i>Farm Obz</i> , 482: 63-67.
3	CIS-SPIROETHER	Plant				Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. <i>Herbal Medicine - A Guide for Health-care Professionals</i> . The Pharmaceutical Press, London. 296pp.
3	XYLOSE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of <i>Glycyrrhiza-glabra</i> . <i>Nippon Gogeikagaku Kaishi</i> 61(9): 1119-1122.
3	BETA-DAMASCENONE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of <i>Glycyrrhiza-glabra</i> . <i>Nippon Gogeikagaku Kaishi</i> 61(9): 1119-1122.
3	MUCILAGE	Flower		100000.0	0.8352459732035825	List, P.H. and Horhammer, L., <i>Hager's Handbuch der Pharmazeutischen Praxis</i> , Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
2	FARNESENE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of <i>Glycyrrhiza-glabra</i> . <i>Nippon Gogeikagaku Kaishi</i> 61(9): 1119-1122.
2	TRANS-BETA-FARNESENE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of <i>Glycyrrhiza-glabra</i> . <i>Nippon Gogeikagaku Kaishi</i> 61(9): 1119-1122.
2	PATULETIN	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of <i>Glycyrrhiza-glabra</i> . <i>Nippon Gogeikagaku Kaishi</i> 61(9): 1119-1122.
2	LUTEOLIN-7-O-GLUCOSIDE	Flower				Bisset, N.G., ed. 1994. <i>Herbal Drugs and Phytopharmaceuticals</i> . CRC Press. Boca Raton, FL. 566 pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	JACEIDIN	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
1	GALACTOSE	Flower		150000.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	DESACETYLMATRICARIN	Flower				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
1	ANTHEMIC-ACID	Plant				Tramil
1	ETHYL-PHENYLACETATE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
1	ANTHECOTULIDE	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	LUTEOLIN-4'-GLUCOSIDE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
1	ETHYL-PALMITATE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
1	ETHYL-BENZOATE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gokeikagaku Kaishi 61(9): 1119-1122.
1	GALACTOSE	Plant				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	APIGENIN-7-O-RUTINOSIDE	Flower				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
0	CIS-CARYOPHYLLENE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	APIGENIN-7-O-NEOHESPEROSIDE	Flower				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
0	ALPHA-BISABOLONEOXIDE-A	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	CATECHIN-TANNINS	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	TRIACONTANE	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	3-CARENE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	MATRICARIN	Plant				--
0	RHAMNOSE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	CHRYSOSPLENTIN	Plant				--



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	APIGENIN-7-ACETYLGLUCOSIDE	Flower				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	ALPHA-BISABOLOXIDE-C	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	PECTIC-ACID	Plant				--
0	QUERCETAGETIN-3,6,7,3'-TETRAMETHYLETHER	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	CARYOPHYLLENEPOXIDE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	TRANS-EN-YN-DICYCLOETHER	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	3,4-DIHYDROXYCINNAMIC-ACID	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	EUPATOLETIN	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	ALPHA-BISABOLOL-OXIDE-B	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	PATULETIN-7-GLUCOSIDE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	PROAZULENES	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	2,5-DIHYDROXYBENZOIC-ACID	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	LUTEOLIN-7-RHAMNOGLUCOSIDE	Plant				--
0	EUPALETIN	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	CHRYSOERIOL-7-RUTINOSIDE	Flower				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	APIGENIN-7-GLUCOSIDE-(3',4')-DIACETATE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	QUERCETRIN	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	CHRYSOERIOL-7-GLUCOSIDE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	ALPHA-BISABOLOL-OXIDE-A	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	TRANS-ALPHA-FARNESENE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	2,4-DIHYDROXYBENZOIC-ACID	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	APIGENIN-7-GLUCOSIDE-(2',3')-DIACETATE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	QUERCETIN-7-GLUCOSIDE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	6-METHOXYKAEMPFEROL	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	MATRICARIN	Flower				--
0	CALAMENE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	CHAMAVIOLIN	Flower				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	APIGENIN-7-GLUCOSIDE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	QUERCETIN-3-O-GALACTOSIDE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	6-HYDROXY-LUTEOLIN-7-GLUCOSIDE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	GALLIC-ACID-TANNIN	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	ETHYL-DECANOATE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	BISABOLOL	Flower	600.0	5000.0		Tramil
0	APIGENIN-7-APIOSYLGLUCOSIDE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	6,7-DIMETHOXYQUERCETIN	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	SPINACETIN	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	GALACTURONIC-ACID	Flower		750000.0		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	APIGENIN-7-(6'O-ACETYL)-GLUCOSIDE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	QUERCETAGETIN-33,6,7,3'-TETRAMETHYLEETHER	Plant				--
0	CHAMOMILLOL	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	6,3-DIMETHOXYQUERCETIN	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	BISABOLENE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	SPATHULENOL	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	LEVONENOL	Flower				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
0	EPSILON-1-(2,6-DIMETHYLPHENYL)-2-BUTEN-1-ONE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	QUERCETAGETIN-3,6,7,3',4'-PENTAMETHYLETHER	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	ISORHAMNETIN-7-GLUCOSIDE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	CHAMOMILLA-ESTER-II	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	4-METHOXYBENZOIC-ACID	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	BETA-SITOSTEROL-GLUCOSIDE	Flower				--
0	EO	Flower	2400.0	20000.0	0.24252114107316727	--
0	APIGETRIN	Flower				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
0	ALPHA-MUUROLENE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	QUERCETAGETIN-3,5,6,7,3',4'-HEXAMETHYLETHER	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	CHAMOMILLA-ESTER-I	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	4-HYDROXY-3-METHOXY-BENZOIC-ACID	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	BETA-CARYOPHYLLENE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	CIS-EN-YN-DICYCLOETHER	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	ALPHA-CUBEBENE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	POLYACETYLENE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	3-HYDROXY-2-METHYLIDENE-BUTYRIC-ACID-ANGELATE	Plant				Kameoka, H. and Nakai, K. 1987. Components of essential oil from the root of Glycyrrhiza-glabra. Nippon Gogeikagaku Kaishi 61(9): 1119-1122.
0	MATRICIN	Plant				--